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PLANS OF PROPOSED IMPROVEMENT ON THE
PRIMARY ROAD SYSTEM
OSCEOLA COUNTY
Bridge-Unspecified
Drainage Ditch 2.6 mi N of Co Rd B14 (SB)

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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



REVISIONS

	TOTAL
	..
PROJECT IDENTIFICATION NUMBER	
23-72-060-030	
PROJECT NUMBER	
BRF-060-4(098)--38-72	
R.O.W. PROJECT NUMBER	
NHSX-060-4(099)--2R-72	

DESIGN DATA RURAL			
2028	AADT	5570	V.P.D.
2048	AADT	6450	V.P.D.
20	DHV	—	V.P.H.
TRUCKS		28	%
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

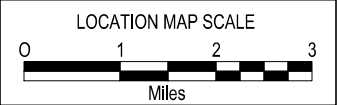
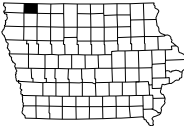
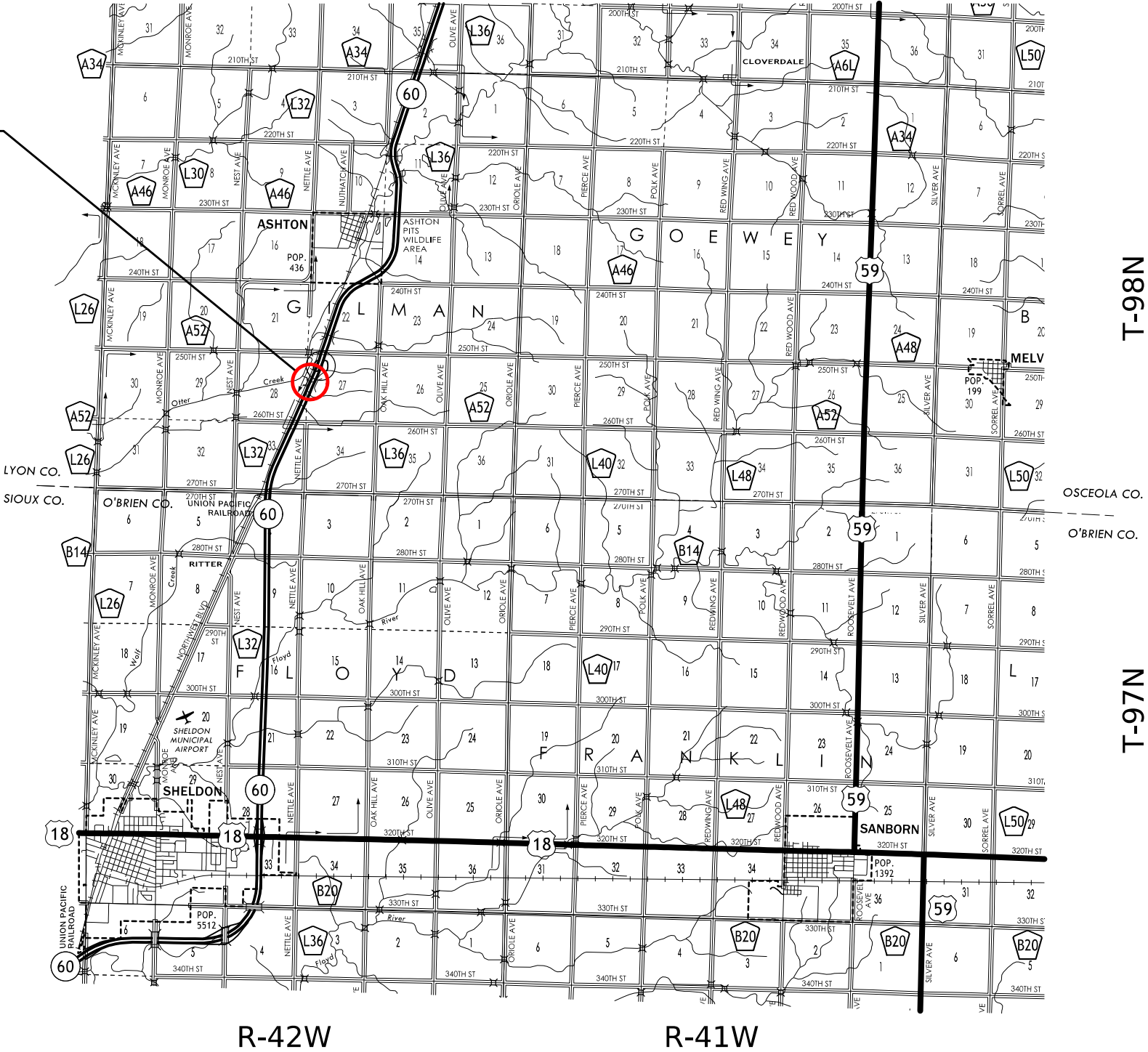
B01: Jan 16, 2026
D05: Feb 6, 2026
D04: Sep 7, 2027

PRELIMINARY PLANS

Subject to change by final design.

D2/D3 PLAN - Date: Jan 7, 2026

PROJECT LOCATION:
BRIDGE
IA-60 over Drainage Ditch
FHWA# 38520 (EXST)
MAINT. NO. 7241.0L060



IOWA DEPARTMENT OF TRANSPORTATION

TO OFFICE:

District 3

DATE:

April 21, 2025

ATTENTION:

Jessica Felix

PROJECT:

Osceola County
BRF-060-4(098)--38-72
PIN: 23-72-060-030

FROM:

John E Bartholomew

OFFICE:

Design

SUBJECT:

Project Concept Statement; (Final Approval, D0)

This project involves the replacement of the IA 60 bridge (Maint. No. 7241.0L060) over Drainage Ditch 2.6 mi N of Co Rd B14 (SB).

A concept review was held on 12/09/2024. Those present included Shane Tymkowicz, and Michael Thayer from The District 3 Office; Jimmy Ellis, and Mohamad Dokmak from The Bridges and Structures Bureau; Amanda Martin and Amanda Woods from Modal Transportation Bureau; Samuel Sturtz, Brock Struecker, Shawn Goetz, Jim Galliard, Marc Solberg, Christine Schwienebart, and Janee Becker from The Location and Environment Bureau; and John Bartholomew, Kevin Patel, and Hollie Richey, from The Design Bureau.

The alternative considered was:

1. The existing 38 ft. long 44 ft. wide, steel I-beam bridge will be replaced with a twin 10 ft. wide 8 ft. tall, 95 ft. long RCB (Reinforced Concrete Box) Placed at a 0 degree right ahead skew.
The cost of this alternative is estimated to be **\$896,600.**

Alternative 1 is the preferred alternative. Traffic will be maintained using median Crossovers

The Draft Project Concept Statement was sent out for review and comment with concerns to be resolved by **Wednesday, April 16, 2025.** Comments received during the review period have been considered and resolved.

This project is recommended for construction in FY 2028. The Office of Design will coordinate plan preparation with assistance from the Office of Bridges and Structures.

JEB:JDL
Attach.
cc:

C. Purcell	K. D. Nicholson	Y. Jia
M. Dell	J. S. Nelson	M. Nop
M. A. Swenson	D. E. Sprengeler	C. C. Poole
S. Majors	A. Poole	K. Brink
D. L. Newell	B. Bradley	J. W. Laaser-Webb
W. A. Sorenson	E. C. Wright	M. E. Ross
A. A. Welch	J. Harris	M. Van Dyke
B. Hofer	G. Karssen	H. Naraghi
S. Anderson	D. Stokes	R. Harris
M. Todsen	B. Dolan	T. Lovan
M. Solberg	T. Gustafson	D. Dudley
L. Armstrong	B. Smith	A. Yates
R. Meyer	J. Hauber	S. Sersland
M. E. Khoda	M. Gordy	J. Ellis
S. Tymkowicz	J. Becker	T. Huju
M. Thayer	B. Strueker	B. Waltersdorf
C. Schwienebart	J. Bartholomew	A. Woods

FINAL PROJECT CONCEPT STATEMENT

IA 60 Bridge over Drainage Ditch 2.6 mi N of Co Rd B14 (SB).

Osceola County
Proj. # BRF-060-4(098)—38-72
PIN: 23-72-060-030
Maint. No. 7241.0L060
FHWA No. 38520

Highway Division
Design Bureau

John Bartholomew, P.E.
515-239-1540

April 21, 2025

Osceola County
BRF-060-4(098)—38-44
PIN: 23-70-022-020
Page 2

Osceola County (38520)



Downstream Including
Railroad Bridge



Right Profile of bridge



Deterioration of far-
left abutment



Upstream including
north bound IA 60

I. STUDY AREA

A. Project Description

This project involves the replacement of the IA 60 bridge (Maint. No. 7241.0L060) over Drainage Ditch 2.6 mi N of Co Rd B14 (SB).

The alternative considered was:

1. The existing 38 ft. long 44 ft. wide, Steel I-beam bridge will be replaced with a twin 10 ft. wide 8 ft. tall, 95 ft. long RCB (Reinforced Concrete Box) Placed at a 0 degree right ahead skew.

The cost of this alternative is estimated to be **\$896,600**

B. Need for Project

This is a 38 ft. x 44 ft. steel beam bridge widened with prestressed concrete beams that was built in 1935 and reconstructed in 1961 and 1986. The deck has several leaching cracks, hollows, and spalling. The beams have rust. The substructure has spalling with exposed steel, area of hollow, and large leaching cracks. The bridge was designed for live loads below the current standards. Due to the condition of the bridge, a replacement is recommended. (see page 2 for imagery)

C. Present Facility

The existing structure is a 36 ft. x 44 ft., Steel I-beam bridge constructed in 1934 and widened in 1963.

The typical cross section of IA 60 over the culvert will consist of a 24 ft. wide roadway (26 ft. wide pavement) with 10 ft. effective outside shoulder (2 ft. outside pavement, 4 ft. additional paved and 4 ft. granular) and 6 ft. wide effective inside shoulder (4 ft. paved and 2 ft. granular).

D. Traffic Estimates

The 2028 construction year and 2048 design year average daily traffic estimates are 5570 ADT with 27 % trucks and 6450 ADT with 28 % trucks, respectively.

E. Sufficiency Ratings

IA 60 is classified as a Commercial and industrial route and is a maintenance service level "B" roadway. The Bridge Condition Index is 70.2, and the Bridge Condition Rating is "Fair".

F. Access Control

Access rights will not be acquired for this project.

G. Crash History

During the five-year study period from January 1, 2020, through December 31, 2024, there was 1 crash including, 0 fatal crashes, 1 personal injury crashes, and 1 personal property crashes. PCR is .0301 Crash/Mile/Year and is considered “negligible”.

II. PROJECT CONCEPT

A. Feasible Alternatives

Alternative #1 - Replace with a culvert

The existing 38 ft. long 44 ft. wide, steel I-beam bridge will be replaced with a twin 10 ft. wide 8 ft. tall, 95 ft. long RCB (Reinforced Concrete Box) Placed at a 0 degree right ahead skew.

The typical cross section of IA 60 over the culvert will consist of a 24 ft. wide roadway (26 ft. wide pavement) with 10 ft. effective outside shoulder (2 ft. outside pavement, 4 ft. additional paved and 4 ft. granular) and 6 ft. wide effective inside shoulder (4 ft. paved and 2 ft. granular).

This culvert will be constructed on the existing vertical and horizontal alignment.

Apply erosion control and rural seeding and fertilizing to all disturbed areas.

It appears that right of way will not be required for this project.

Traffic will be maintained by use of median crossovers.

Bridge Items	<u>Estimated Costs</u>
New Culvert	\$ 439,200
Bridge Removal	15,900
Revetment	25,000
Mobilization - 10%	48,000
M & C - 15%	<u>96,000</u>
Bridge Costs	\$ 624,100

Roadway Items	
Removal of Pavement	12,100
PCC Pavement	31,000
Modified Subbase	31,000
Flooded Backfill	22,300
Granular Shoulder	2,400
Embankment in place, contractor furnished	35,300
Excavation Class 13 Waste	3,400
Guardrail (Includes Removal)	6,100
Paved Shoulders	18,000
Pavement Markings	5,200
Seeding and Fertilizing	1,500
Erosion Control	10,000
Wetland Mitigation	50,000
Traffic Control - 5%	11,000
Mobilization - 5%	11,000
M & C - 20%	<u>22,200</u>
Roadway costs	\$ 282,500

Project Total	\$896,600
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C. Recommendations

It is recommended that the present structure be replaced, as described in Alternative No. 1.

D. Construction Sequence

It is anticipated that all work on this project will be awarded to one prime contractor. The Bridges and Structures Bureau will coordinate the plan preparation with assistance from the Design Bureau.

E. ADA Accommodations

There are no bike paths or sidewalks adjacent to IA 60; therefore, no ADA accommodations are planned in conjunction with this project.

F. Special Considerations

Special survey:
Include survey of existing railroad bridge downstream. Channel cross-section and low superstructure elevation.

This will not be a traffic critical project.

The ABC Rating Score of 15 is less than the first stage filter threshold of 50, therefore this bridge will not be eligible for accelerated bridge construction.

No bike path or sidewalk will be required as part of this project.

Waterway is not on a state water trail or paddling route.

Right of Way does not appear to be required for this project.

The Location and Environment Bureau has reviewed this project and (no) special concerns were noted.

G. Program Status

Site data has been developed by the Design Bureau. This project is listed in the 2024-2028 Iowa Transportation Improvement Program, with \$10000 programmed for right of way in FY 2028, and \$1250,000 for replacement in FY 2028. Costs for this project may be eligible for bridge replacement funds. A schedule of events will be developed following approval of the Project Concept.

JEB: JDL

Utilities

Frontier Communications (Telephone)
Trent Flockhart
(515) 573-1268 Cell: (515) 835-7530 Trent.Flockhart@ftr.com

Iowa Communications Network (Fiber Distribution)
Michael Dalen
(515) 725-4707 Cell: (515) 499-1642 mike.dalen@iowa.gov

Long Lines Ltd. (Fiber Distribution)
Tom Connors
(712) 333-1352 Cell: (712) 333-1352 tom.connors@longlines.biz

Lumen Centurylink (Fiber Transmission)
Steve Parker
(515) 265-0968 Cell: (507) 358-1978 Steven.Parker4@lumen.com

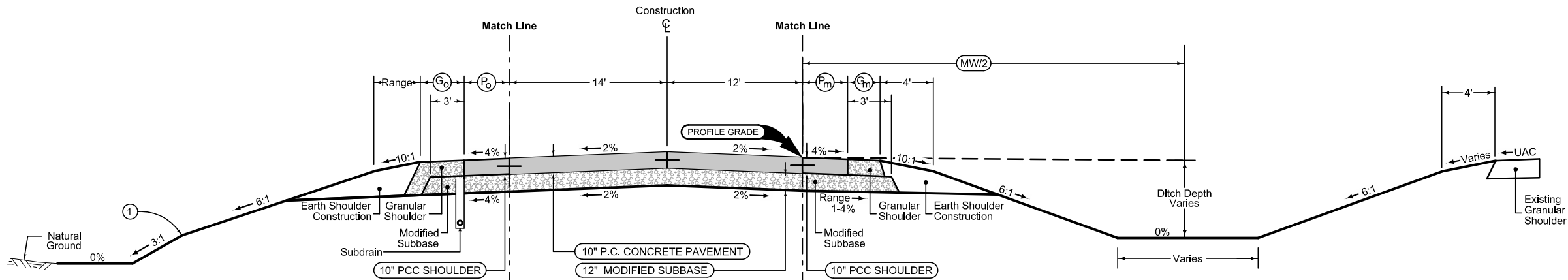
Premier Communications (Fiber Transmission)
Jake Van Roekel
(712) 722-3451 Cell: (712) 578-9005 jakevr@mypremieronline.com

Osceola Rural Water System (Water)
Doug Westerman
(712) 735-6795 Cell: (712) 261-1131 orwsdoug@windstream.net



Roadway	IA 60			
PIN Number	23-72-060-030		Submittal Date	
Project Number	BRF-060-4(098)--38-72			Approval Date
District	District 3	Assistant District Engineer	Shane Tymkowicz	
County	OSCEOLA	or		
Route	IA 60	Office Director		
Location	Drainage Ditch 2.6 mi N of Co Rd B14 (SB)			
Work Type	Bridge Replacement with Culvert			
Segment Manager	Paul Flattery			
Designer	Cory Tap			
Design Manual Section 1C-1 Last Updated: 04-29-19				
Rural Expressways (Rural Arterials)				
Design Element		Preferred	Acceptable Criteria	Project Values
Design speed (mph)		70	50	70
Maximum superelevation rate (Refer to Section 2A-2)		6%	8%	N/A
Design lane width (ft)		12	12	12
Full depth paved width (ft)	Outside lane	12'	12	14
	Inside lane(s)	12	12	12
Right turn lane or an auxiliary lane (ft)		12	10	N/A
Left turn lane (ft)		12	10	N/A
Pavement cross-slope (on tangent sections)	Through lanes	2%, However, when adjacent lanes slope in the same direction, increase slope by 0.5% per lane up to 3%	1.5% minimum, 3% maximum	2%
	Auxiliary and turn lanes	3%	3% maximum	N/A
	Crown break at centerline	4%	4% maximum	4%
Shoulder cross-slope (on tangent sections)		4%	Shoulder cross-slope cannot be less than the adjacent lane, 6% max for paved or granular shoulders, 8% max for earth shoulders	4%
Curb type (Refer to Section 3C-2)	Design speed = 50 or 55 mph	6-inch sloped	6-inch standard	N/A
	Design speed ≥ 60 mph	4-inch sloped	6-inch sloped	N/A
Foreslope (For fill areas greater than 40 ft, contact the Soils Design Section for assistance)	Adjacent to shoulder	10:1 for 4' then 6:1	3:1	Preferred
	Beyond standard ditch depth and design clear zone	3.5:1	3:1	2:1/3:1
	Curbed roadways	2%	not steeper than 3:1	N/A
Backslope (For cut areas greater than 25 feet, contact the Soils Design Section for assistance with backslope benches.)		3:1	2.5:1	N/A
Transverse Slopes	w/ drainage structures	8:1	6:1	10:1
	w/o drainage structures	10:1	6:1	N/A
Ditches (Refer to Section 3G-1)	Outside ditch (depth x width) (ft)	5 x 10	--	N/A
	Median ditch depth (ft)	4	2	2.5-5.5
Median width (ft) (Refer to Section 3E-1)		64	50	64
Bridge width—new*	Bridge length ≤ 200 ft	design lane widths + effective shoulder widths	design lane widths + effective shoulder widths	N/A
	Bridge length > 200 ft	design lane widths + effective shoulder widths	design lane width + 4' right and left of the design lane widths	N/A
Bridge width—existing*		design lane widths + no less than 2 ft left and right	design lane widths + 2 ft left and right of the design lane widths	36'
Vertical clearance (ft) (above lanes, shoulders and 25 feet left and right of the center of railroad tracks)	Over primary	16.5	16	N/A
	Over non-primary	16.5 at interchange locations, 15 at all other locations	14	N/A
	Over railroad	23.3	23.3	N/A
	Sign trusses and pedestrian crossings	17.5	17	N/A
Structural Capacity		Contact Office of Bridges and Structures	Contact Office of Bridges and Structures	
Level of Service		B	B	
*FHWA notification via email is required if acceptable criteria is not met on the NHS system (No formal design exception required)				

Design year ADT =										
Design Manual Section 1C-1 Last Updated: 04-29-19			Effective Shoulder Width and Type for Multilane Arterials							
Preferred (Values shown in feet)				Acceptable (Values shown in feet)					Project Values	
	Rural Roadways		Urban Roadways			Rural Roadways		Urban Roadways		
Auxiliary lanes or turn lanes with shoulders	6		6		Auxiliary lanes or turn lanes with shoulders	6		0		N/A
Turn lanes with curbs	6		See Section 3C-2			6		0		N/A
Expressways	Outside		Median Side		Expressways	Outside		Median Side		
	Effective Shoulder Width	Paved Width	Effective Shoulder Width	Paved Width		Effective Shoulder Width	Paved Width	Effective Shoulder Width	Paved Width	
Routes where bicycles are to be accommodated	10	10	6	6	Routes where bicycles are to be accommodated	8	4	4	4	8' (+2' to paint line; 10' total) Outside and 6' Inside
On roadways approaching urban areas (due to increased bike traffic)	10	10	6	6						
On all curves with a superelevation rate of 7.0% or greater	10	10	6	6	On all other Expressways (Multilane Arterials)	8	0*	4	4	
On roadways with design year ADT > 6500 vpd	10	6	6	6						
On all other Expressways (Multilane Arterials)	10	6	6	6						
*Requires safety edge-See Section 3C-6 Curbs should be located beyond the outer edge of the effective shoulder width in rural areas Refer to Section 3C-2 for curb offsets in urban areas										
Notes:										



Full Depth PCC Combination Shoulder

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

4_C_FullPCC_ 04-15-25			
BEGIN STATION	END STATION	G ₀ Feet	P ₀ Feet
2121+25.00	2123+10.00	4	4

Section shown in the direction of stationing.

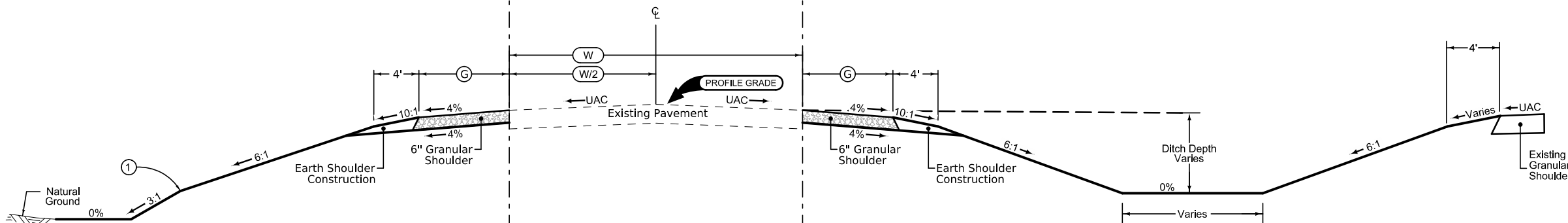
Mainline Jointing:
Transverse joints: CD at 17' spacing
Longitudinal joint: L-2

4DP_ 04-21-20			
Direction of Travel	BEGIN STATION	END STATION	MW Feet
SB	2121+25.00	2123+10.00	50

Full Depth PCC Combination Shoulder

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

4_C_FullPCC_ MODIFIED			
BEGIN STATION	END STATION	P _m Feet	G _n Feet
2121+25.00	2123+10.00	4	2



Granular Shoulder

2_G_ Modified		
STATION TO STATION		G Feet
2120+58.00	2121+25.00	2-4
2123+10.00	2124+75.00	4

Section shown in the direction of stationing.

2E_ 04-21-20		
STATION TO STATION		W Feet
2120+58.00	2121+25.00	32
2123+10.00	2124+75.00	32

Granular Shoulder

2_G_ Modified		
STATION TO STATION		G Feet
2120+58.00	2121+25.00	2
2123+10.00	2124+75.00	2

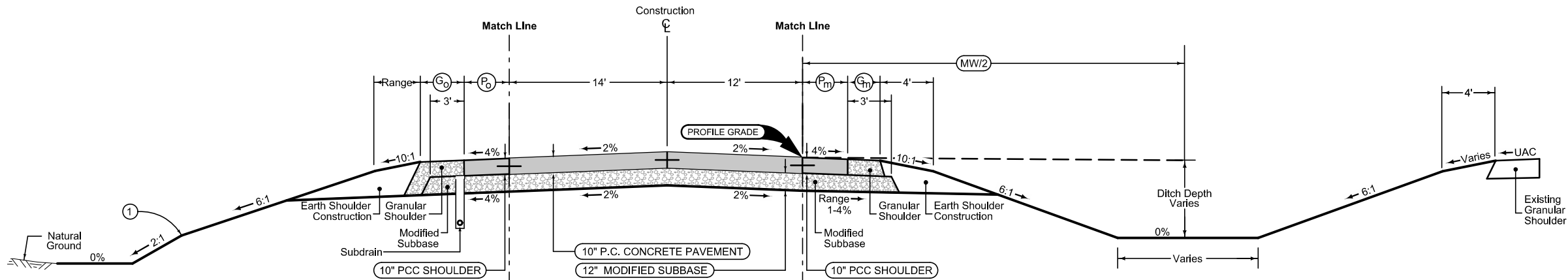
① Refer to project plan and cross sections for specific location of foreslope change.

Normal section shown may be modified appropriately in locations specifically designated by the Engineer.

See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

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

IA 60 Southbound
****Alternate 1****



Full Depth PCC Combination Shoulder

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

4_C_FullPCC_ 04-15-25			
BEGIN STATION	END STATION	G ₀ Feet	P ₀ Feet
2121+25.00	2123+10.00	4	4

Section shown in the direction of stationing.

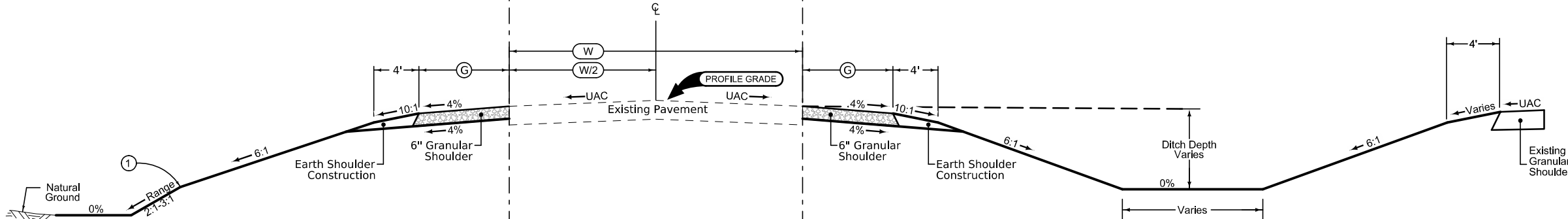
Mainline Jointing:
Transverse joints: CD at 17' spacing
Longitudinal joint: L-2

4DP_ 04-21-20			
Direction of Travel	BEGIN STATION	END STATION	MW Feet
SB	2121+25.00	2123+10.00	50

Full Depth PCC Combination Shoulder

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

4_C_FullPCC_ MODIFIED			
BEGIN STATION	END STATION	P _m Feet	G _m Feet
2121+25.00	2123+10.00	4	2



Granular Shoulder

2_G_ Modified		
STATION TO STATION		G Feet
2120+58.00	2121+25.00	2-4
2123+10.00	2124+75.00	4

Section shown in the direction of stationing.

2E_ 04-21-20		
STATION TO STATION		W Feet
2120+58.00	2121+25.00	32
2123+10.00	2124+75.00	32

Granular Shoulder

2_G_ Modified		
STATION TO STATION		G Feet
2120+58.00	2121+25.00	2
2123+10.00	2124+75.00	2

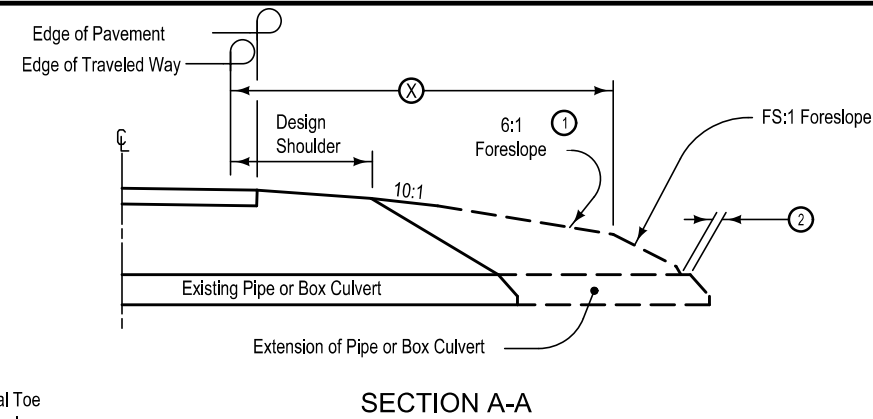
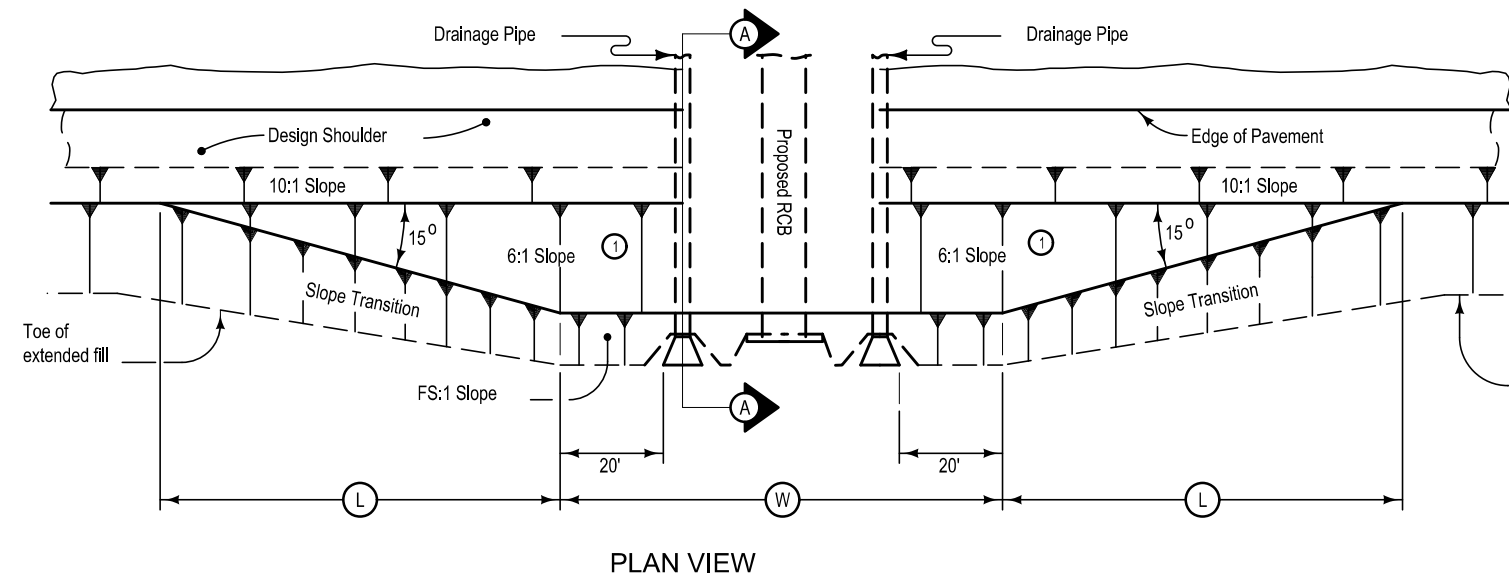
① Refer to project plan and cross sections for specific location of foreslope change.

Normal section shown may be modified appropriately in locations specifically designated by the Engineer.

See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

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

IA 60 Southbound
Alternate 2



- Notes:
- At locations where an extended or newly constructed drainage structure extends beyond the normal foreslope cover, flatten the foreslope as indicated so as to cover the structure. Minimum earth cover is 6".
- **Distance is 26' if cable guardrail alternate used.
- ① Slope transitions to 8% around RCB.
- ② 6" Minimum for pipe installations or to top of headwall on R.C.B.
- W = Edge to Edge of pipe aprons plus 20 feet each side.

BARNROOF FORESLOPE
AT DRAINAGE STRUCTURE

STRUCTURE LOCATION		W	L	X	FS
STATION	SIDE	Feet	Feet	Feet	
2122+16.28	LT	144.50	82.1	30**	3:1

SURVEY SYMBOLS

	Interstate Highway Symbol		Septic Tank
	U.S. Highway Symbol		Cistern
	Iowa Highway Symbol		L.P. Gas Tank (No Footing)
	County Road Highway Symbol		Underground Storage Tank
	Evergreen Tree		Latrine
	Deciduous Tree		Satellite TV Dish
	Fruit Tree		Water Hook Up
	Shrub (Bushes)		Radio Tower
	Timber		Tower Anchor
	Hedge		Guardrail (Beam or Cable)
	Stump		Guard Post (one or two)
	Swamp		Guard Post (over two)
	Rock Outcrop		Filler Pipe
	Broken Concrete		Gas Valve
	Revetment (Rip Rap)		Water Valve
	Cemetery		Speed Limit Sign
	Grave		Mile Marker Post
	Cave		Sign
	Sink Hole		Traffic Signal Control Box
	Board Fence		Rail Road Signal Control Box
	Chain Link or Security Fence		Telephone Switch Box
	Wire Fence		Electric Box
	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)		

UTILITY LEGEND

SURVEYED UTILITY OWNER SYMBOLS

Sub-Surface Utility Mapping Quality Level is in accordance with C1/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

	FO1D, Iowa Communications Network - Quality D
	FO3D, Long Lines Broadband - Quality D
	EL1D, Osceola Electric Cooperative - Quality D
	WL1D, Osceola Rural Water - Quality D
	FO2D, Premier Communications - Quality D
	TL1D, Windstream Communications - Quality D
	FO4D, Zayo Group - Quality D
	ST1D, Osceola County Tile - Quality D

PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK	Design Color No.		
Green	(2)		Existing Topographic Features and Labels
Blue	(1)		Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)		Existing Utilities
SHADING	Design Color No.		Transparency
Pink, Dark	(13)		Temporary Pavement Shading 50%
Yellow	(4)		Proposed Pavement Shading 50%
Orange	(6)		Proposed Granular Shading 50%
Orange	(70)		Proposed Shoulder Granular Shading 50%
Yellow	(68)		Proposed Shoulder Paved Full Depth Shading 50%
Yellow	(132)		Proposed Shoulder Paved Partial Depth Shading 50%
Brown, Light	(236)		Grading Shading 50%
Orange, Light	(134)		Proposed Granular Entrance Shading 50%
Yellow	(220)		Proposed Paved Entrance Shading 50%
Tan	(8)		Proposed Sidewalk Shading 50%
Blue, Light	(230)		Proposed Sidewalk Landing Shading 50%
Pink	(11)		Proposed Sidewalk Ramp Shading 50%
Red	(3)		Proposed Structure Shading 50%
Red	(3)		Delineates Restricted Areas 0%

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

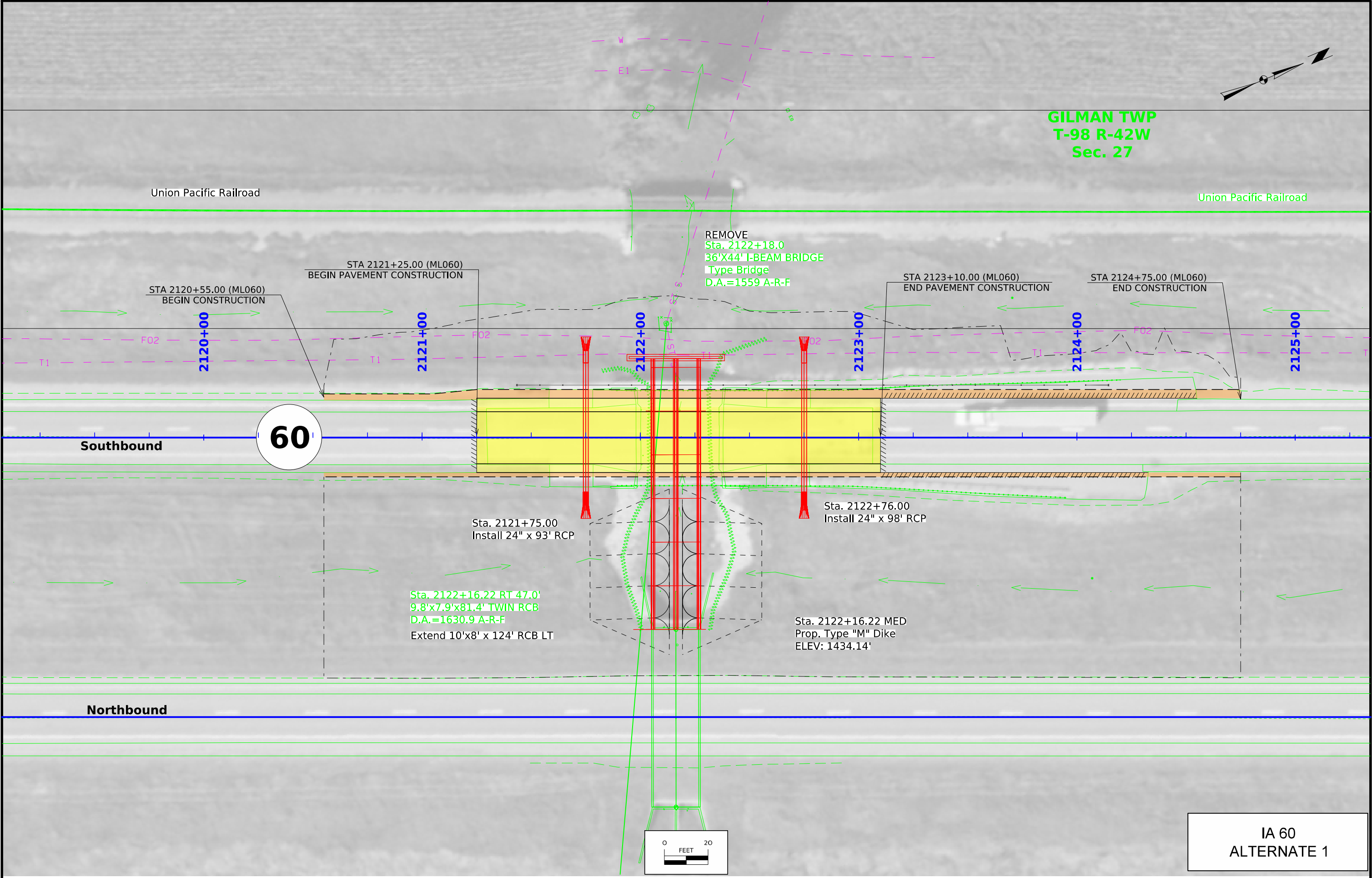
LINEWORK	Design Color No.		
Green	(10)		Existing Ground Line Profile
Blue	(1)		Proposed Profile and Annotation
Magenta	(5)		Existing Utilities
Blue, Light	(230)		Proposed Ditch Grades, Left
Black	(0)		Proposed Ditch Grades, Median
Rust	(14)		Proposed Ditch Grades, Right

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

	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

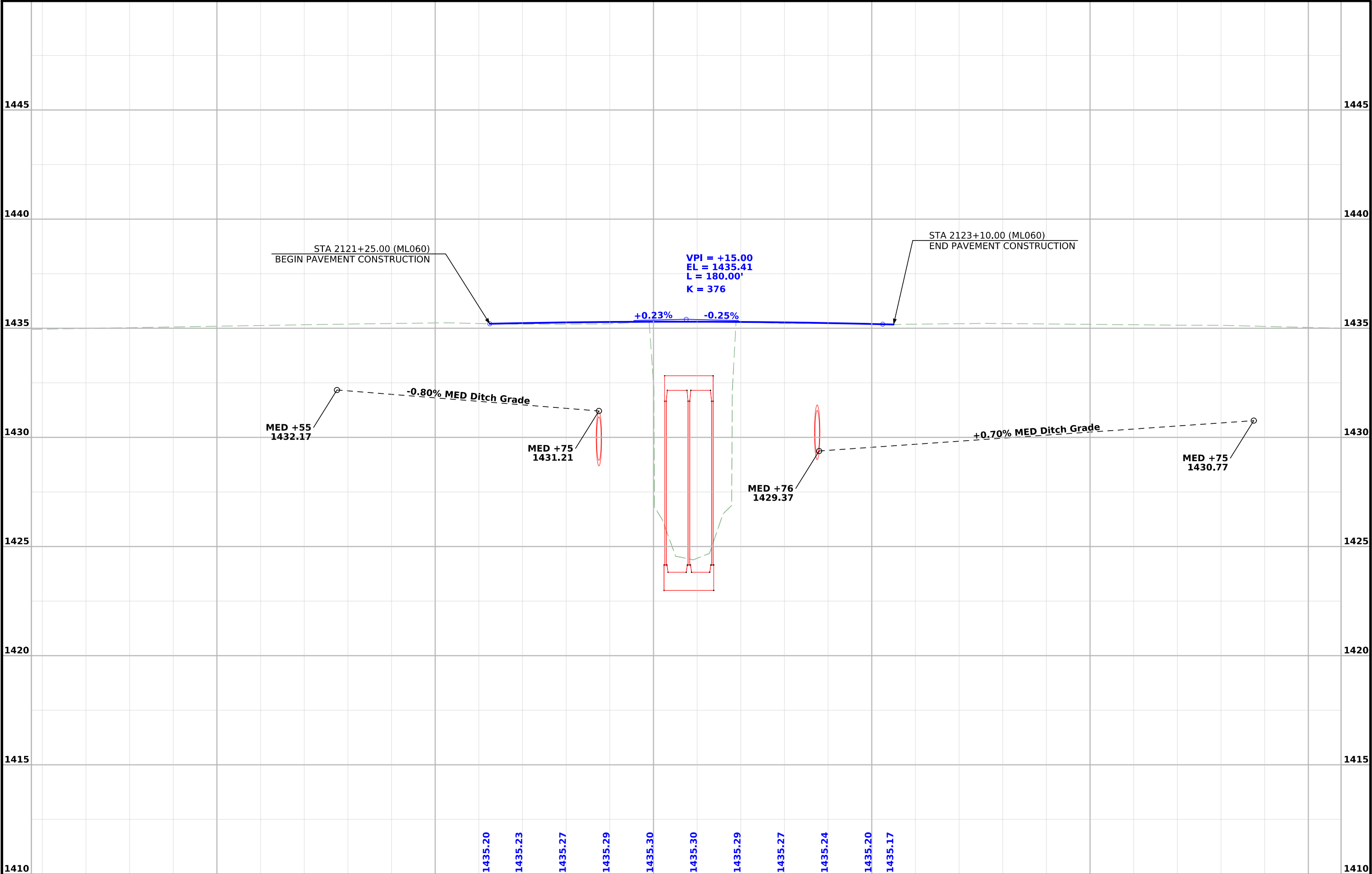
(COVERS SHEET SERIES D, E, F, & K)

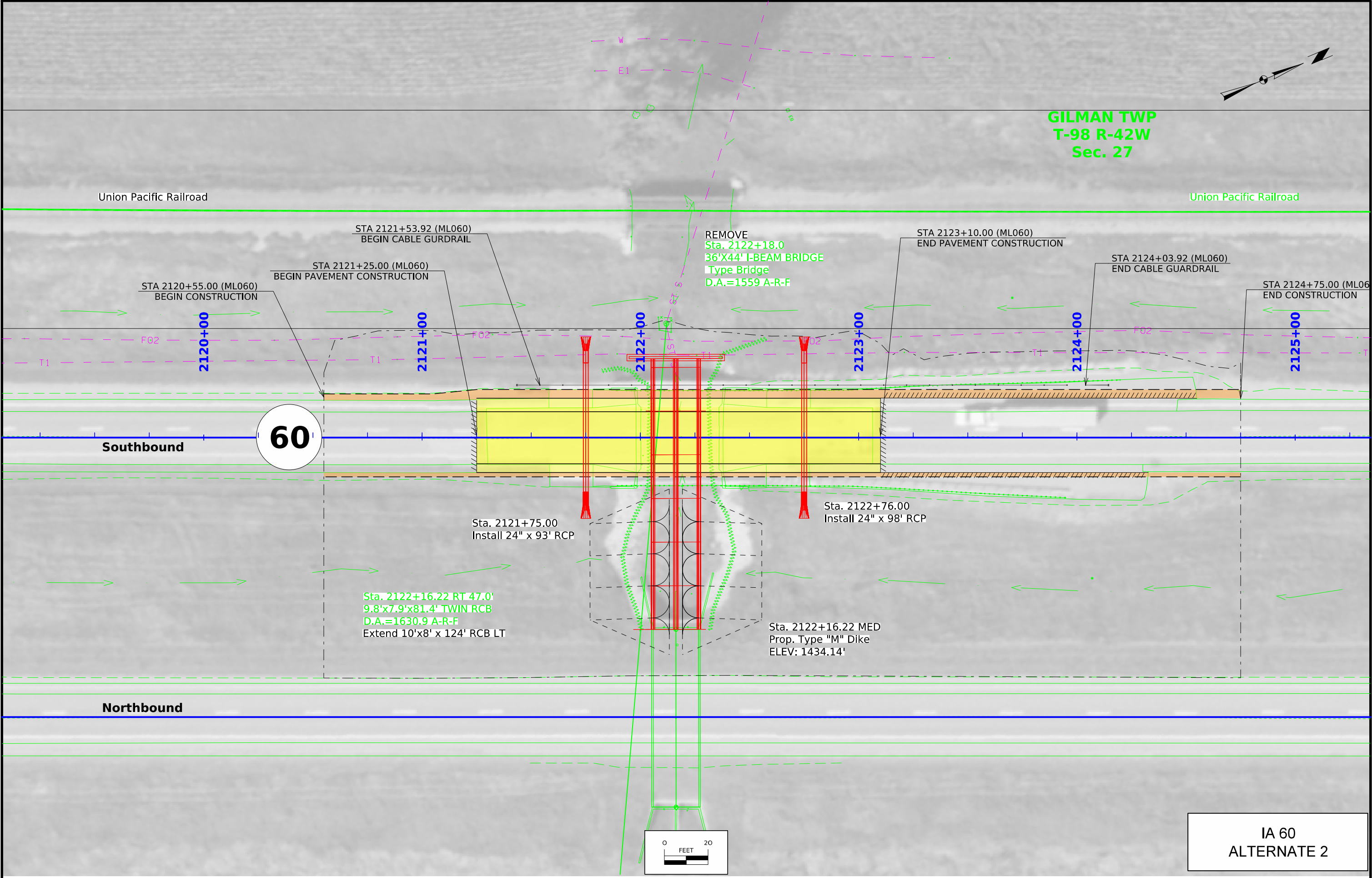


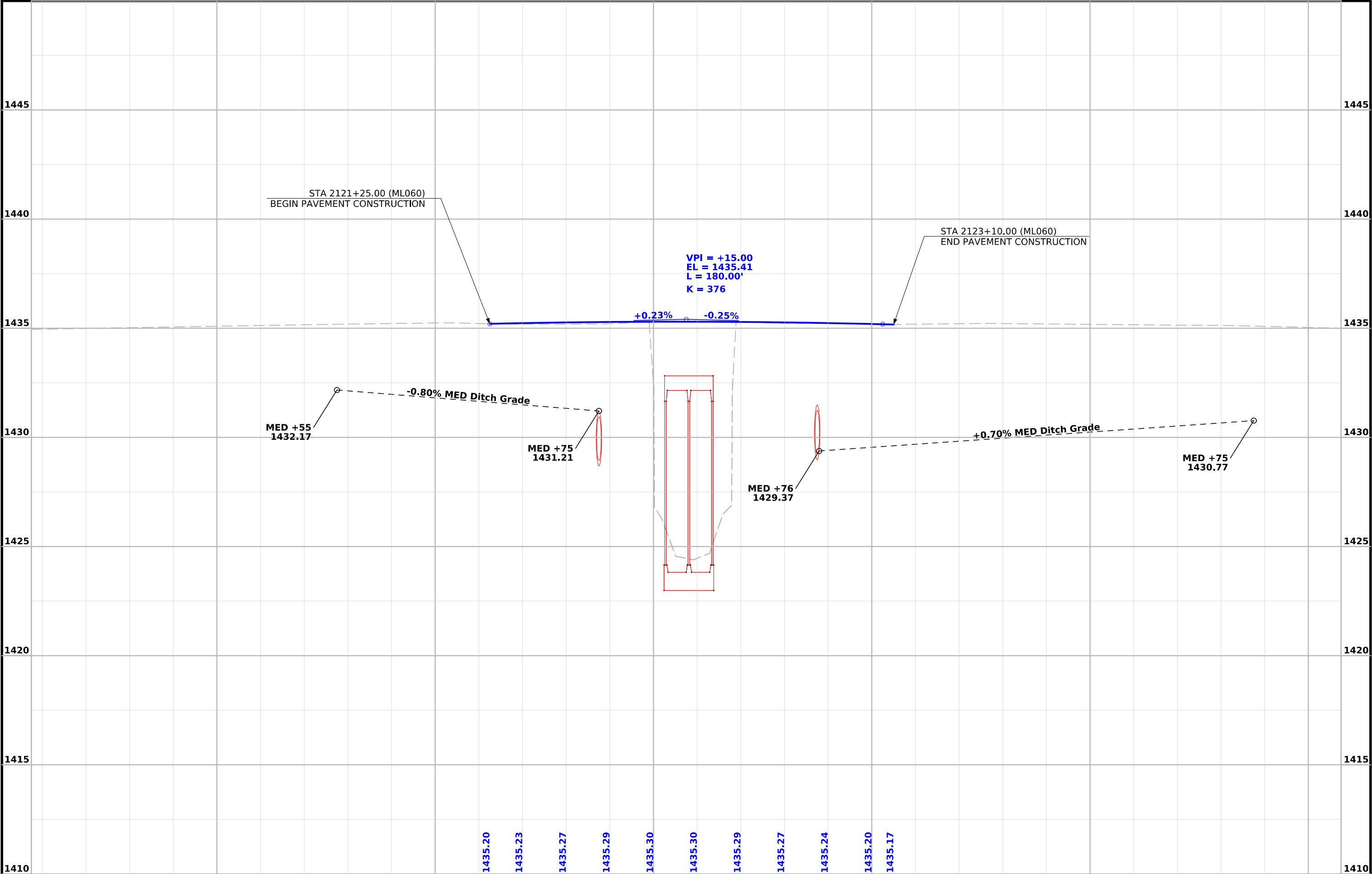
GILMAN TWP
T-98 R-42W
Sec. 27

60

IA 60
ALTERNATE 1







Survey Information

SURVEY INDEX

County: Osceola
Project Code: 23-72-060-030
Phase Number: BRF-060-4(098)--38-72
Location: Drainage Ditch 2.6 mi N of Co Rd B14 (SB)
Type of Work: Ditch-Unspecified
Project Directory: 7206003023

Survey Personnel

Daniel Duncan – Survey Party Chief

Date(s) of Survey

Begin Date 04/23/2024
End Date 8/07/2024

General Information

This survey is for IA Hwy 60 SB bridge over drainage ditch. 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 01
(U.S. SURVEY FOOT)
VERTICAL DATUM: NAVD88
GEOID MODEL: 2018u3

Alignment Information

SURMLA060

The horizontal alignment for Iowa Hwy 60 this survey is a best fit of Metric As-built Plans No. NHSX-60-4(31)—3H-72. Survey stationing was equated to the plan TS at Metric Sta. 648+67.507 and carried back without equation throughout the survey.

Survey stationing relates to as built plan stationing as follows:

TS Sta. 648+67.507 Metric As-built Plans Project NHSX-60-4(31)—3H-72
Converted to English TS Sta. 2128+19.48
Survey TS Sta. 2128+19.48

SURSBL060

The horizontal alignment for the south bound lanes of Iowa Hwy 60 this survey is a retrace of As-built Plans No. F-498(12). Survey stationing was equated to the plan PC at Sta. 2128+88.6 and carried back without equation throughout the survey.

Survey stationing relates to as built plan stationing as follows:

PC Sta. 2128+88.6 As-built Plans Project No. F-498(12)
Survey PC Sta. 2128+88.6

POT Sta. 2113+87.3 As-built Plans Project No. F-498(12)
Survey POT Sta. 2113+87.1

CONTROL POINT VICINITY MAP

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



HORIZ. DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 Adjustment) - Iowa RCS Zone 01 (U.S. Survey Foot)

VERT. DATUM: NAVD88 - Geoid Model: 2018u3

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

HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING
HORIZ. DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 Adjustment)
Ia. Regional Coordinate System Zone 01 (U.S. Survey Foot)
VERT. DATUM: NAVD88
Geoid Model: 2018u3

Point Name	Northing	Easting	Elevation	Feature Code - Description
125	9630560.95	11353324.00	1428.34	CP FND CONC REF MON IN GOOD CONDITION (SEE METRIC AS-BUILT PLANS NHSX-60-4(31)--3H-72)
126	9632197.52	11353876.04	1436.22	CP FND CONC REF MON IN GOOD CONDITION (SEE METRIC AS-BUILT PLANS NHSX-60-4(31)--3H-72)
720600410	9629588.17	11353043.08	1433.38	CP SET FENO MON IN MEDIAN NORTH SIDE CROSSOVER
R016	9626772.62	11351630.24	1439.67	CP FND NGS SECOND ORDER CLASS 0 VERTICAL MARK IN GOOD CONDITION (SEE METRIC AS-BUILT PLANS NHSX-60-4(31)--3H-72)

108-23A
08-01-08

TRAFFIC CONTROL PLAN

Traffic on IA 60 shall be maintained at all times via existing median crossovers at Sta. 2110+00.00 & Sta. 2168+56.00.

111-01
04-17-12

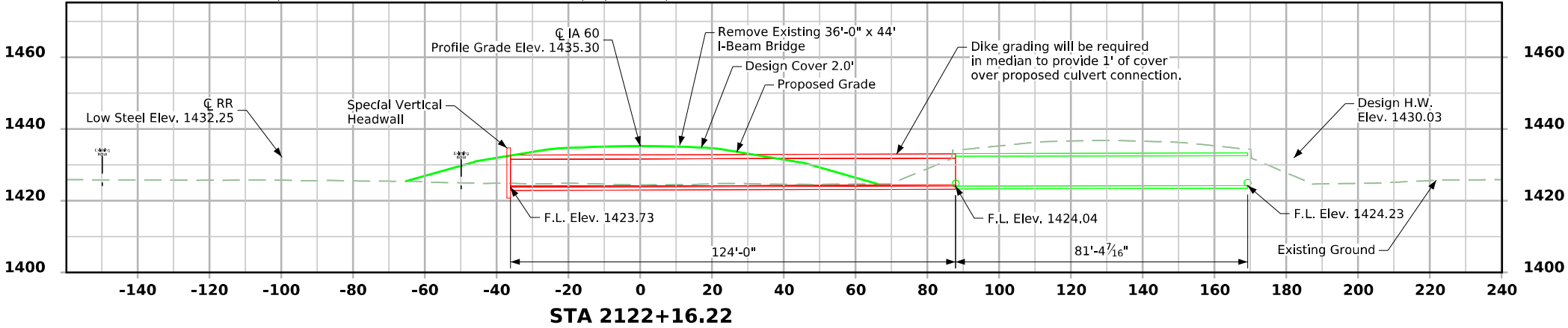
COORDINATED OPERATIONS

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

Project	Type of Work
None Provided	

511 TRAVEL RESTRICTIONS													108-25 10-21-14
Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks	
			No Travel Restrictions Expected										

Control Point: 125,CP FND CONC REF MON IN GOOD CONDITION (SEE METRIC AS-BUILT PLANS NHSX-60-4(31)--3H-72) N.9630560.954, E.11353323.999, Elev. 1428.335,



Longitudinal Section Along C Culvert

General Notes:

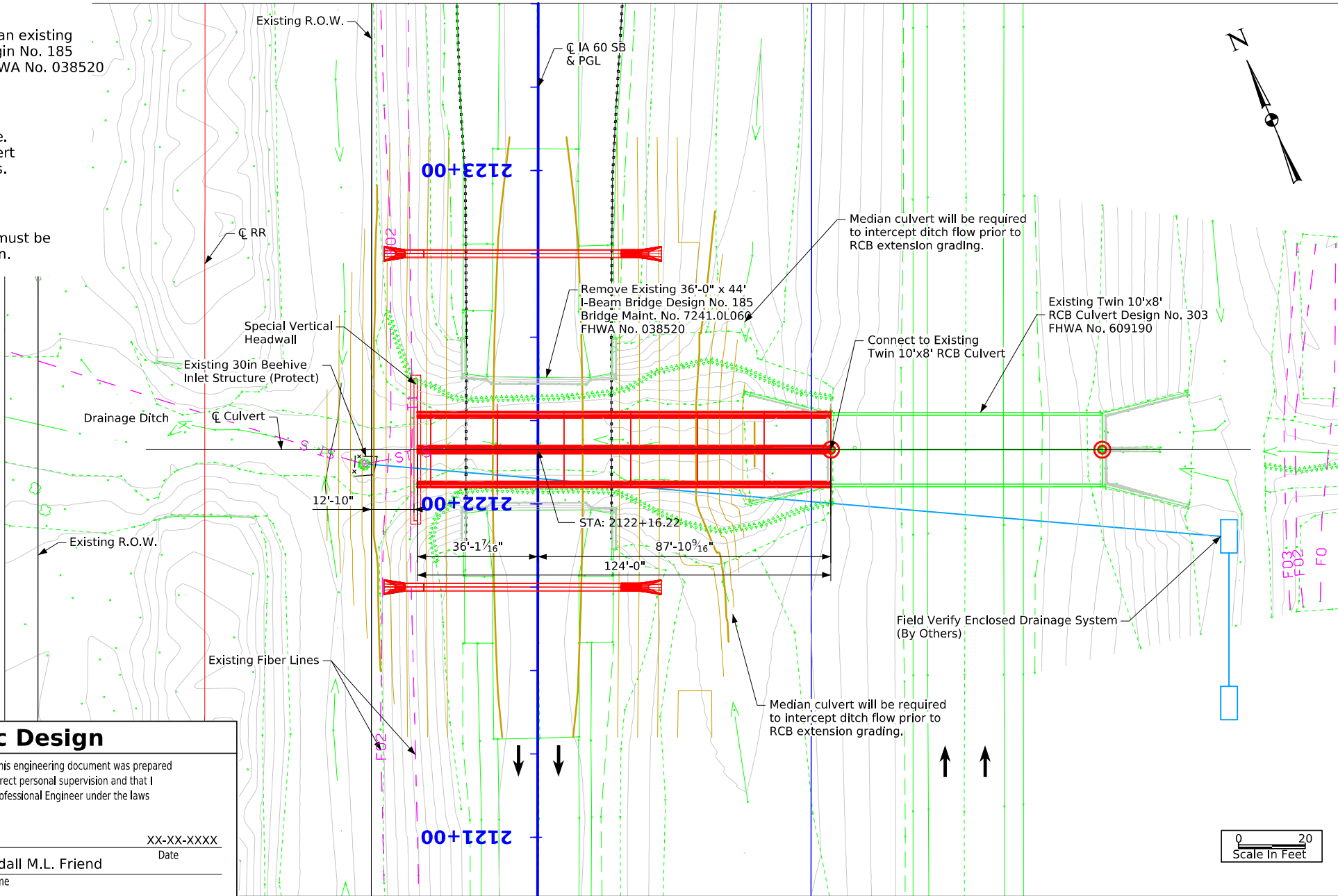
This design is for the replacement of an existing 36' steel I-beam bridge, Osceola Desgin No. 185 Bridge Maintance No. 7241.0L060 FHWA No. 038520

Design Notes:

1. Design fill for this C.I.P. is 2.0'
2. Anticipated Settlement is negligible.
3. Revetment is proposed at the culvert outlet due to high stream velocities.
4. Permanent acquisition is required.

Plan Notes:

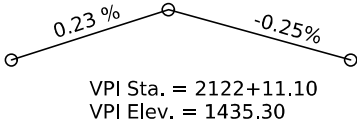
1. Drainage through culvert/channel must be maintained throughout construction.



Situation Plan

VPC Sta. = 2121+25.00
VPC Elev. = 1435.20

VPT Sta. = 2123+05.00
VPT Elev. = 1435.18



Proposed Profile Grade IA 60

Hydraulic Data

RIDB: Not Applicable
Drainage Area = 1600 Acres
Stream Slope = 28.80 Ft./Mi.
Q₅₀ = 1168 cfs
HW Elev. = 1431.81
Exit Velocity = 8.59 fps

Q₁₀₀ = 1425 cfs
HW Elev. = 1432.92
Exit Velocity = 9.79 fps

Location

IA 60 Over Drainage Ditch
T-98N R-42W
Section 27
Gilman Township
Osceola County
FHWA No. 038520
Bridge Maint. No.7241.0L060
Latitude 43.280739°
Longitude -95.801611°

Traffic Estimate

2028 AADT	5570 V.P.D.
2048 AADT	6450 V.P.D.
TRUCKS	28 %

Utilities Note:

Utilities shown on this sheet are for information only.See Road Design sheets for utility information.

General Utility Symbols:

E - Electric Line	FO - Fiber Optic Line
G - Gas Line	GHP - Gas High Pressure
SAN. - Sanitary Sewer	ST S - Storm Sewer
T - Telephone Line	TV - TV
W - Water Line	Power Poles

Hydraulic Design

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signature Randall M.L. Friend Date XX-XX-XXXX
Printed or Typed Name
My license renewal date is December 31, 2026



Pages or sheets covered by this seat: P28452
V.1 and V.2

Twin 10'x8' Reinforced Concrete Box Culvert Extension

Situation Plan - C.I.P.

STA. 2122+16.22 (IA 60) Turn-in Date: Aug 2025
Osceola County
IOWA DEPARTMENT OF TRANSPORTATION
Design No. 2222 Design Sheet No. 1 of 1 FHWA/Asset 038520

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

NOTES:

Text

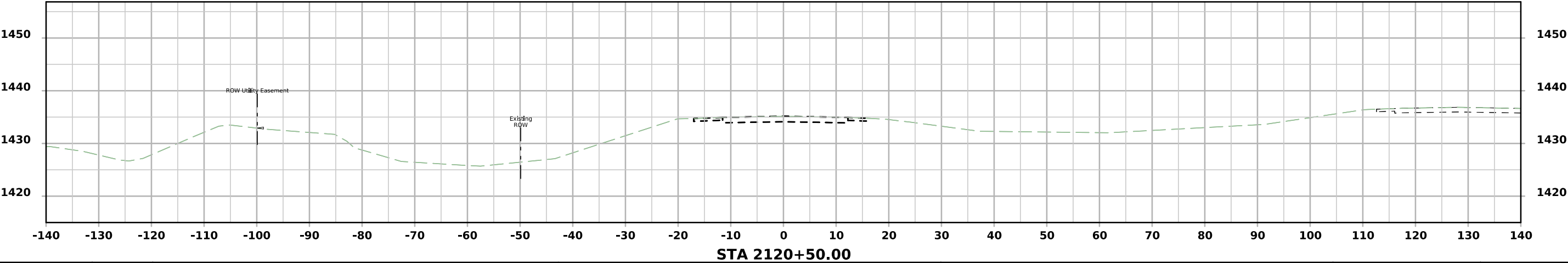
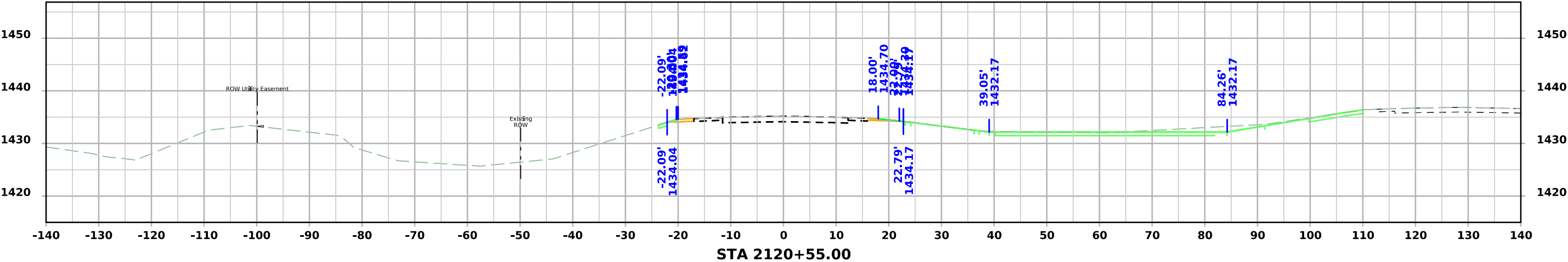
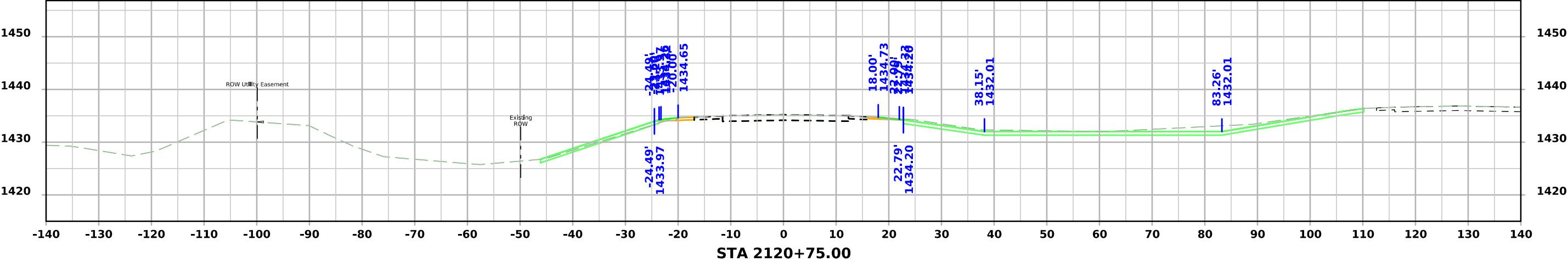
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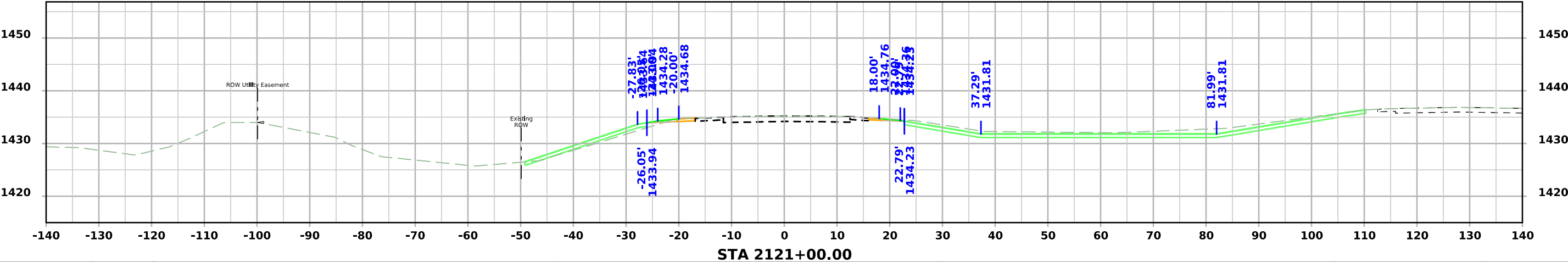
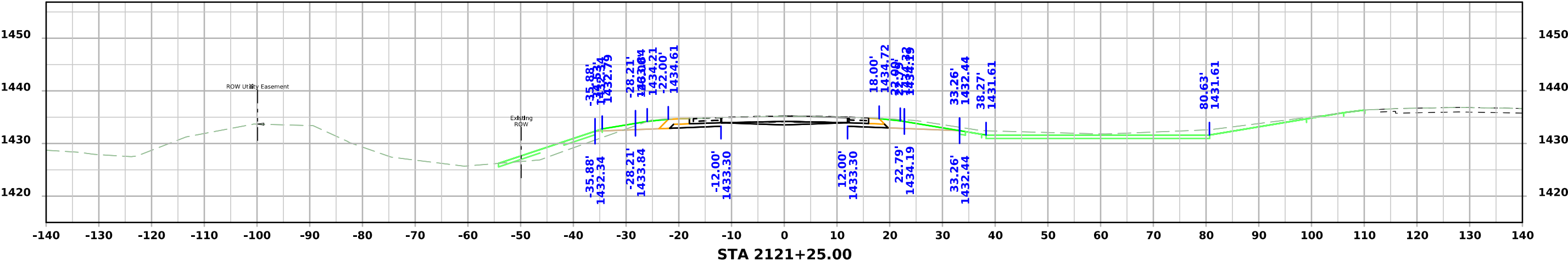
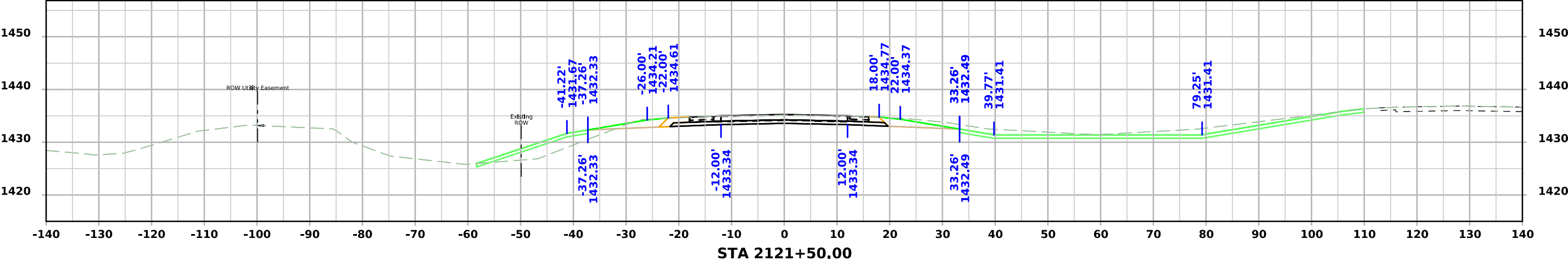
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LEGEND AND INFORMATION SHEET

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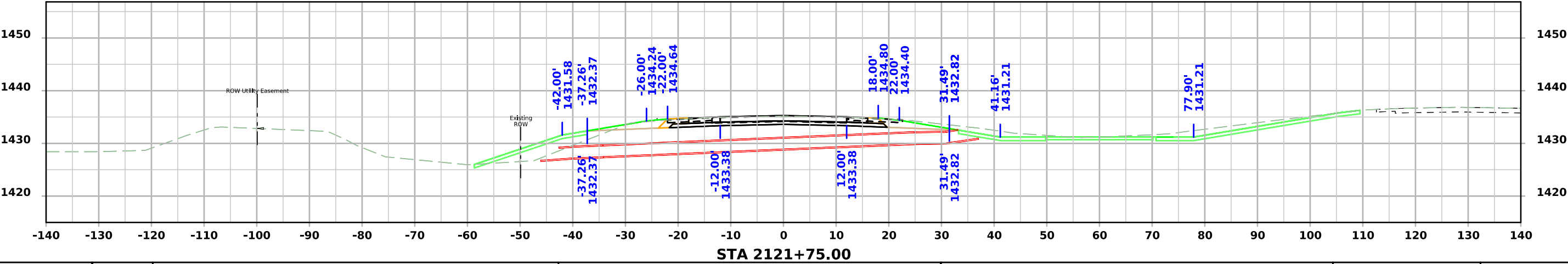
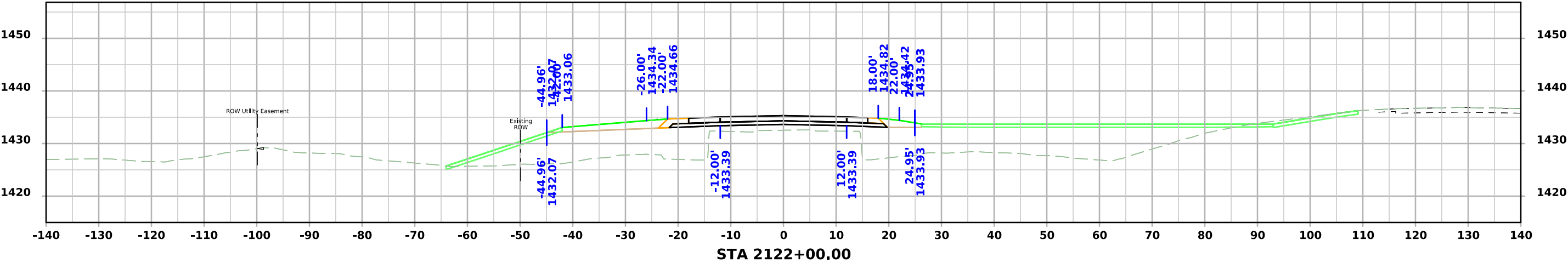
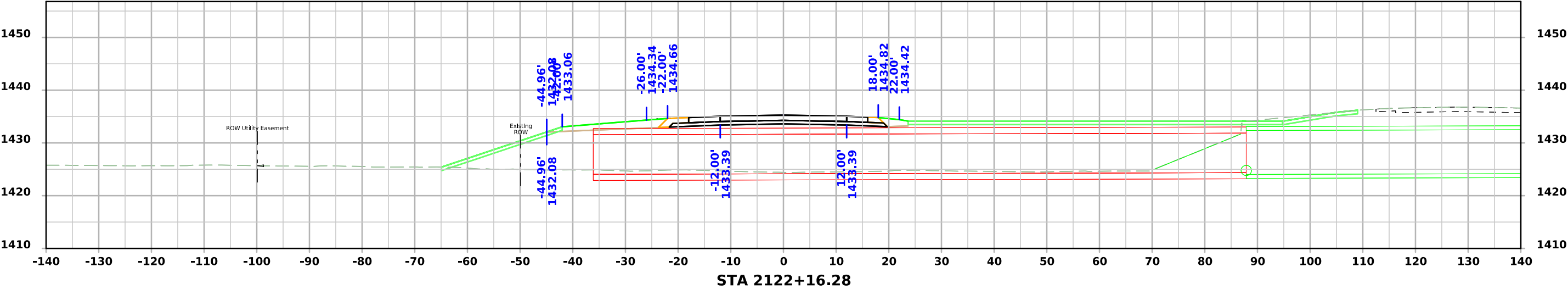
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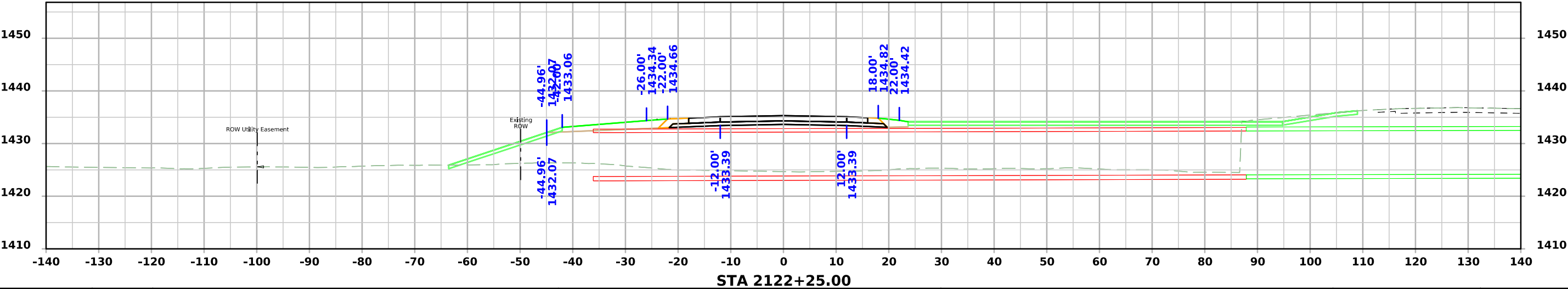
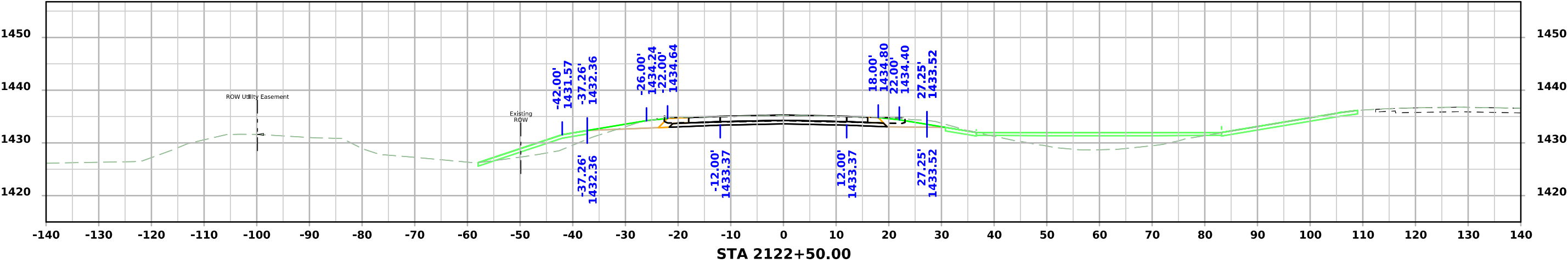
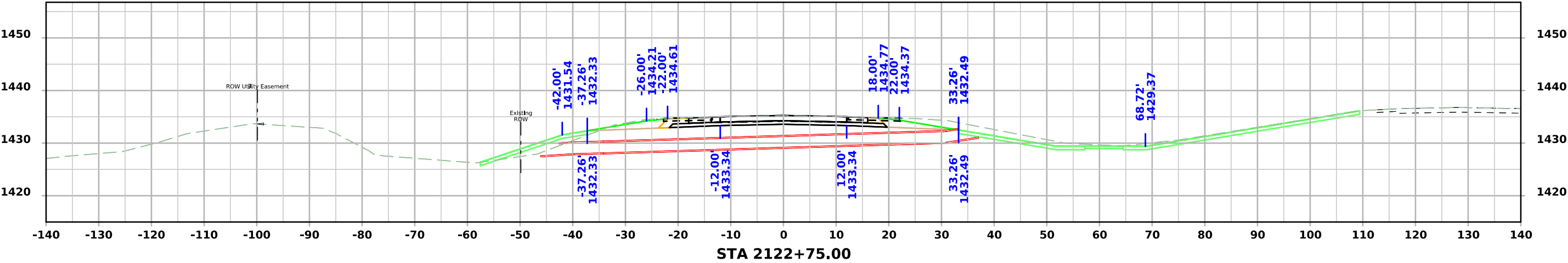
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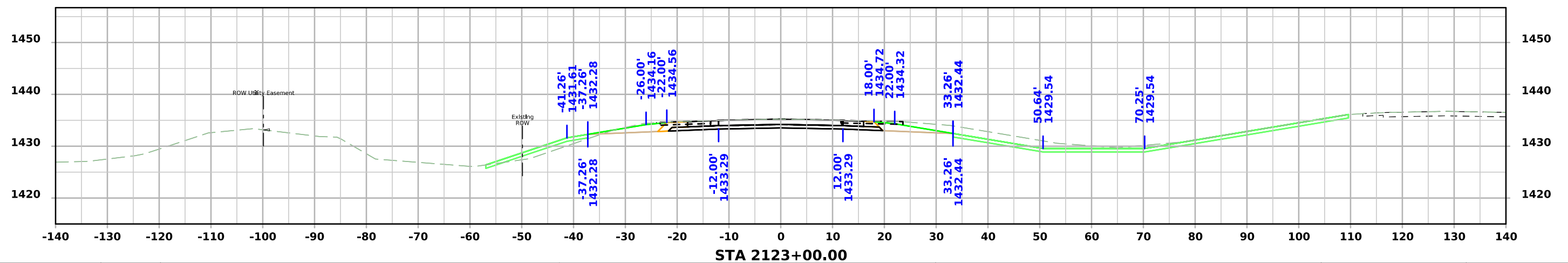
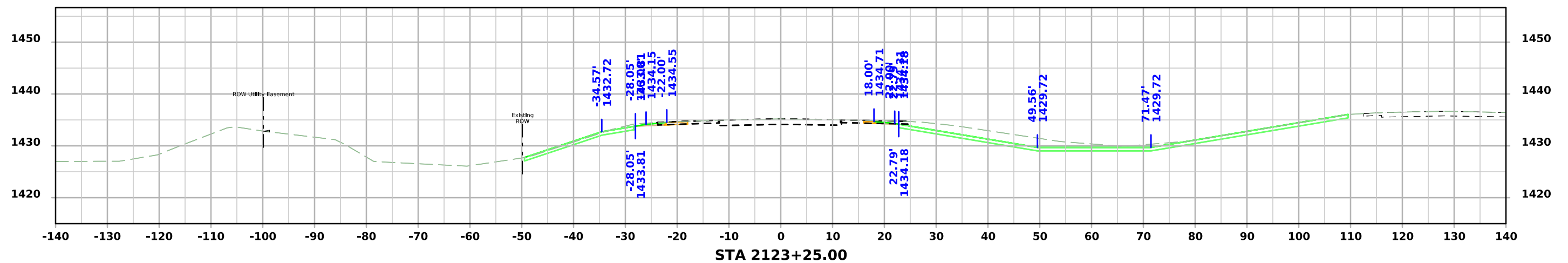
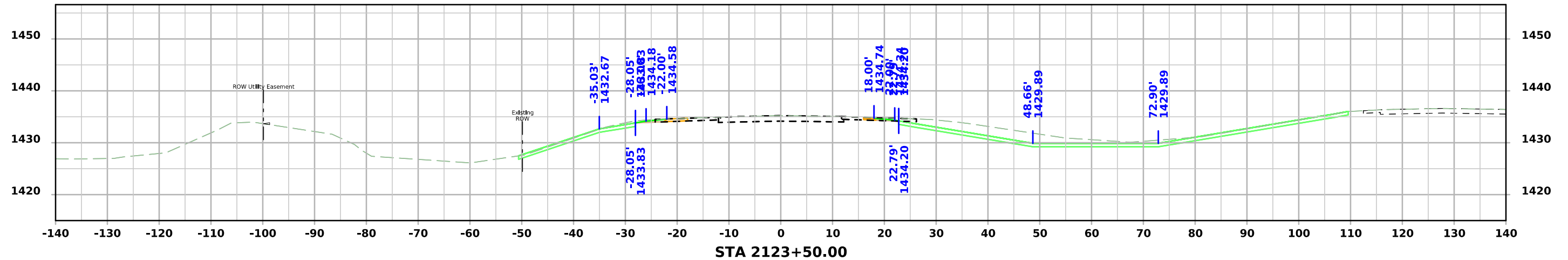
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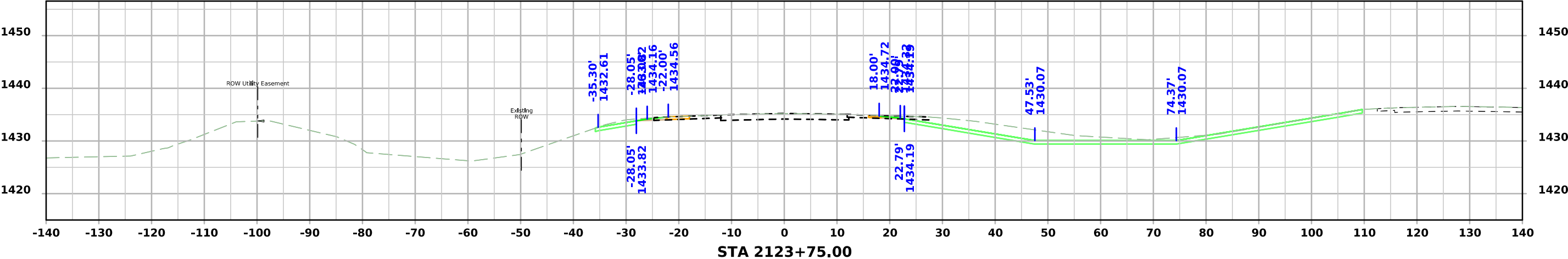
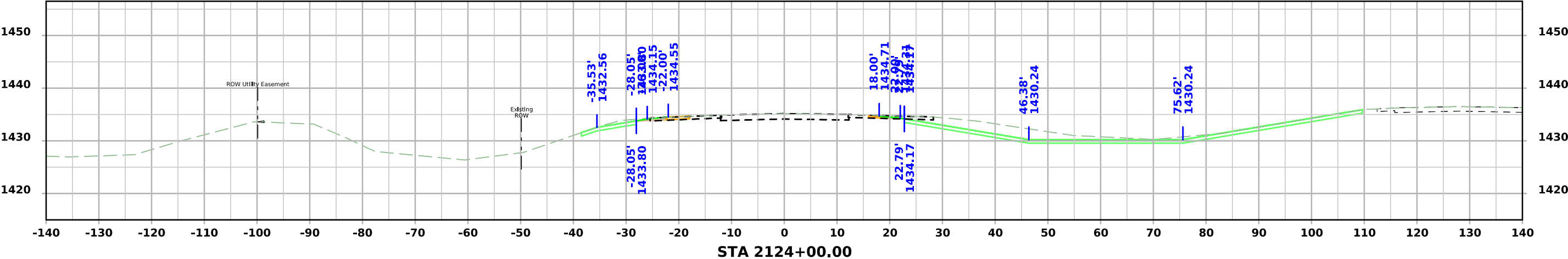
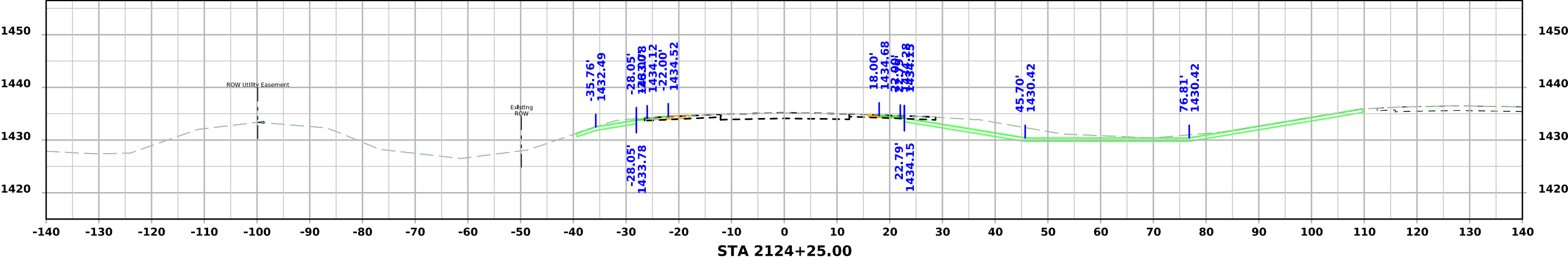
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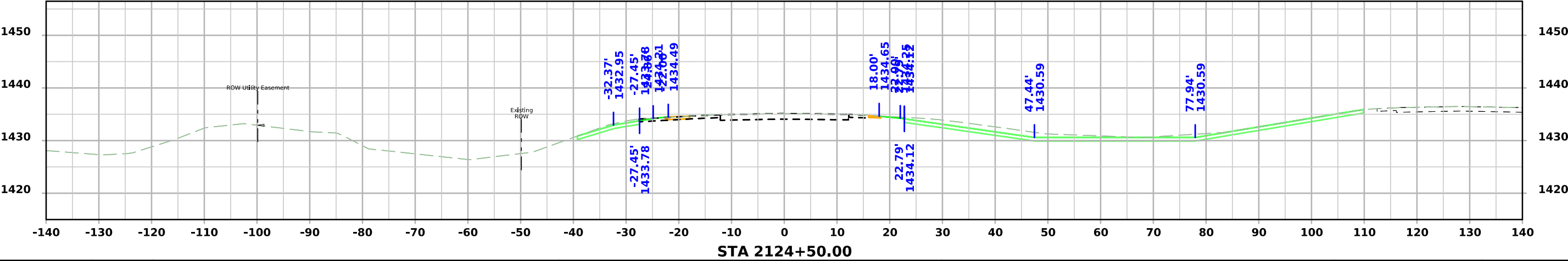
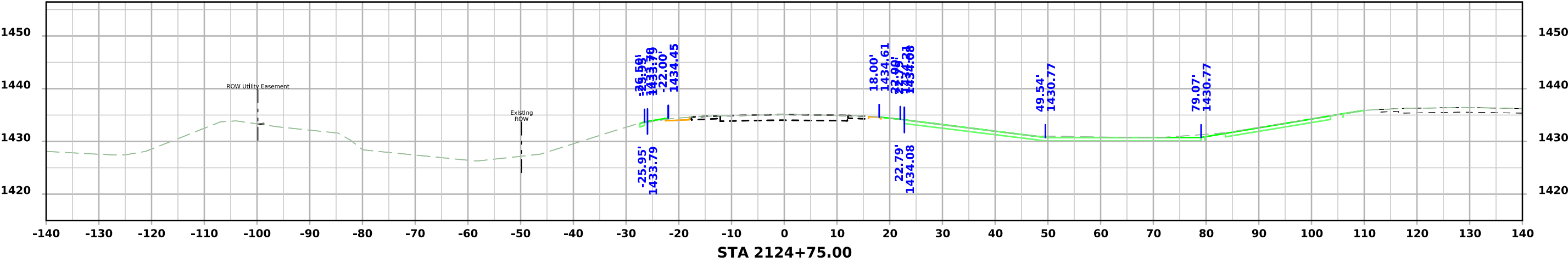
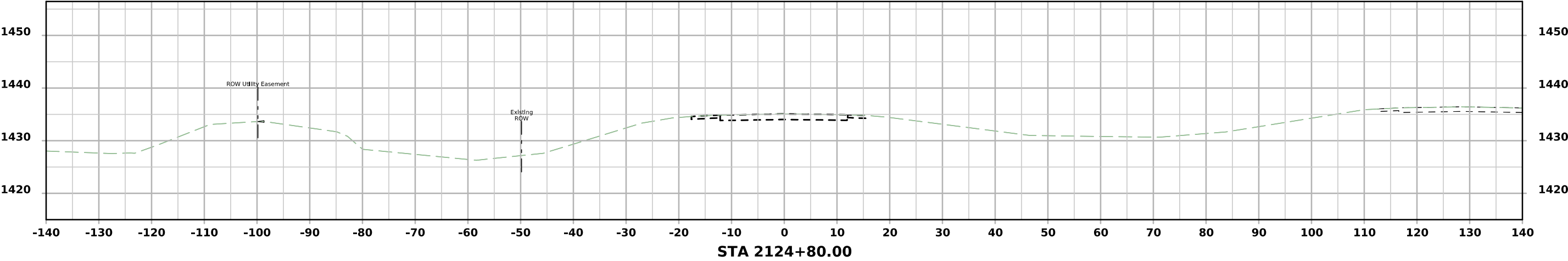
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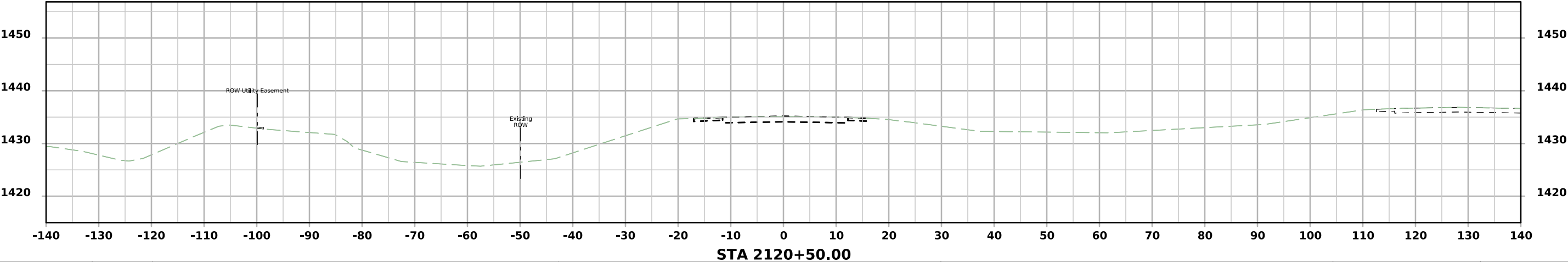
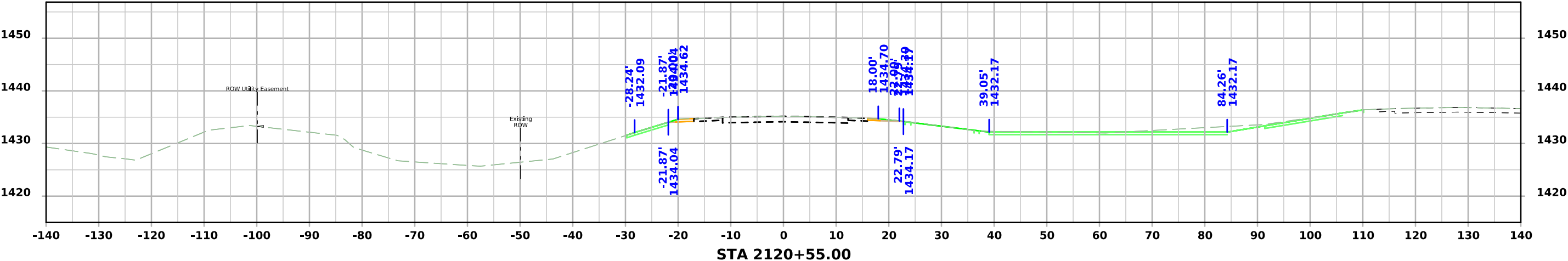
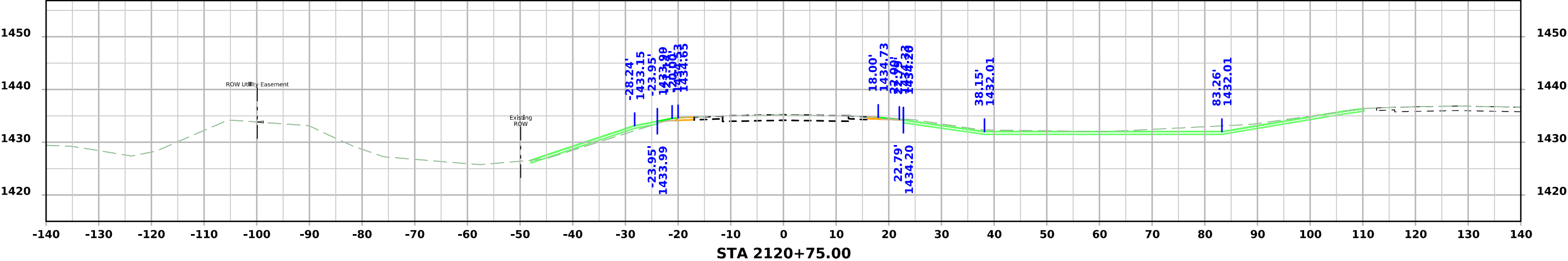
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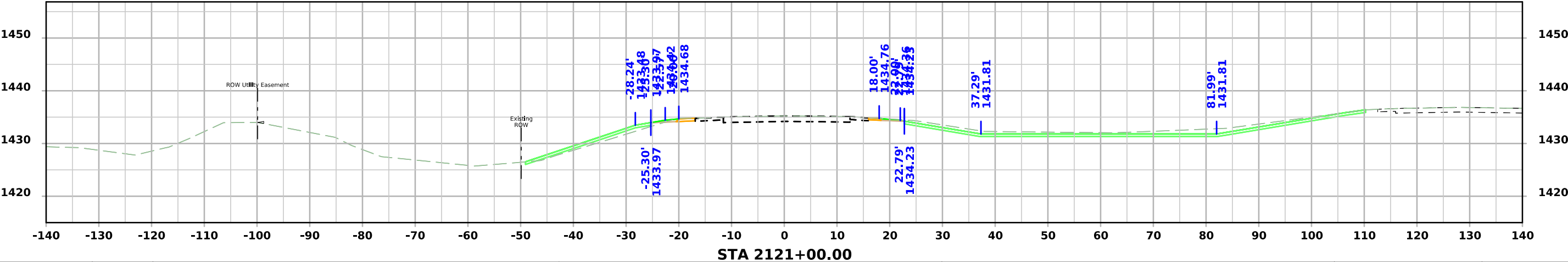
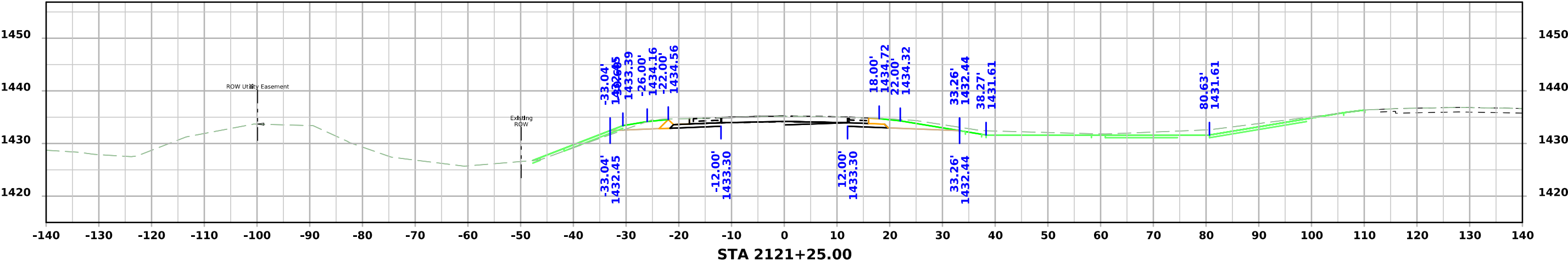
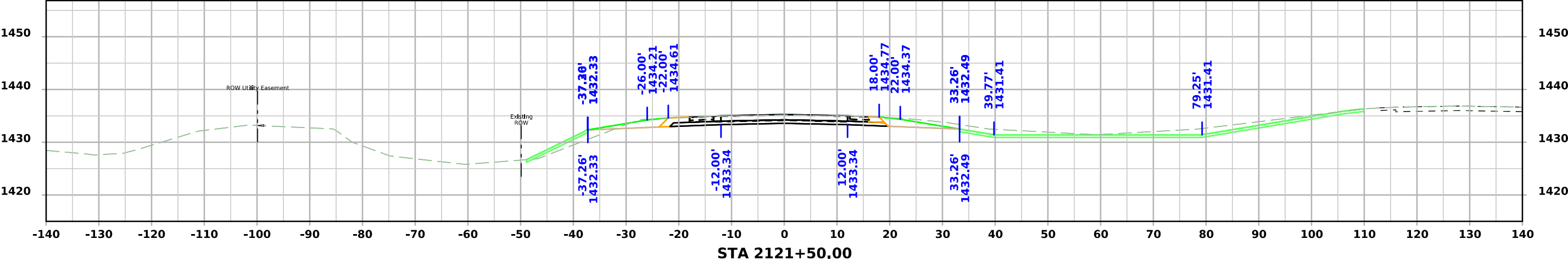
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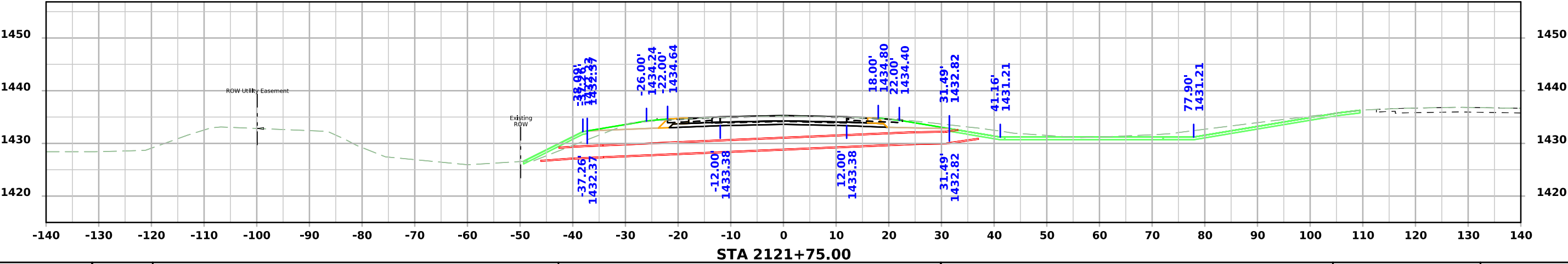
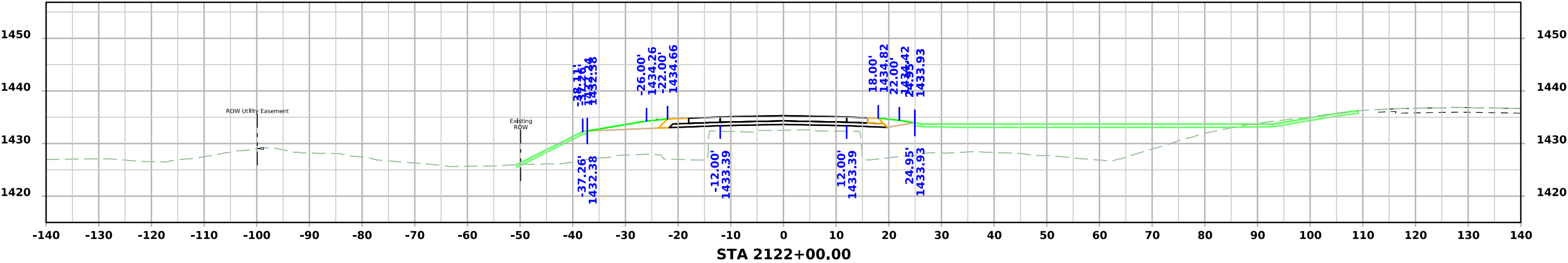
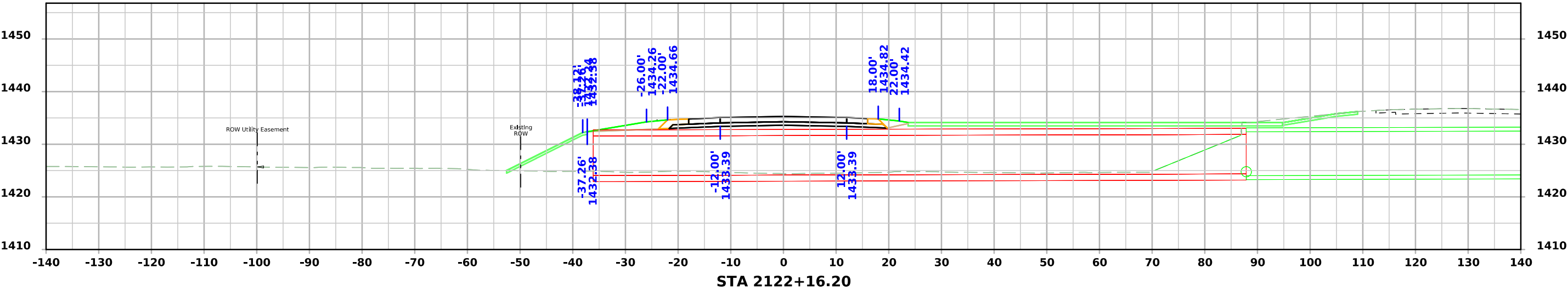
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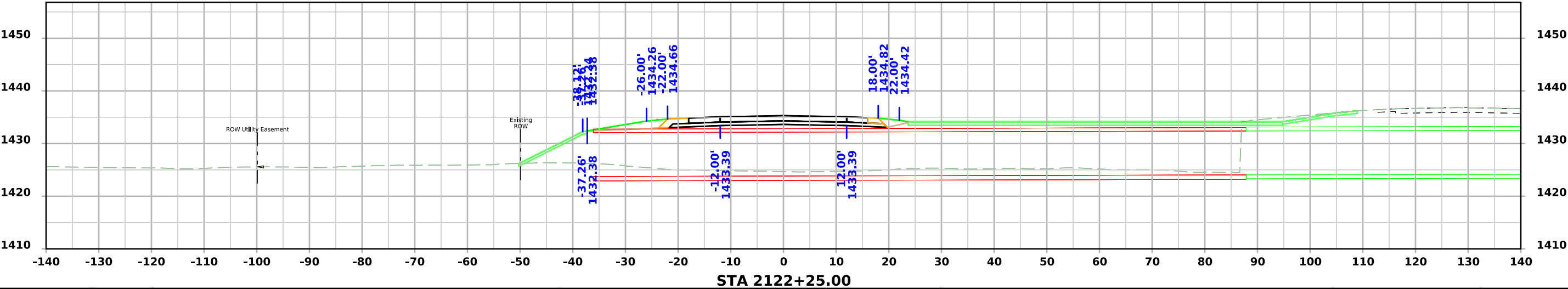
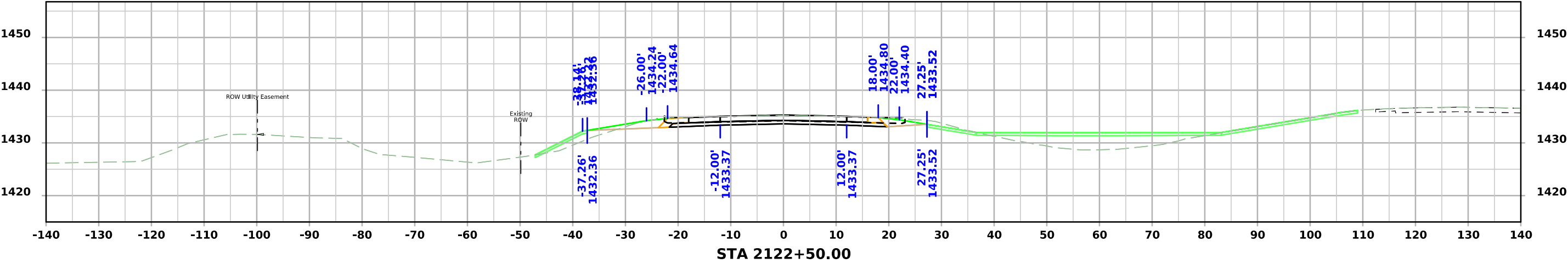
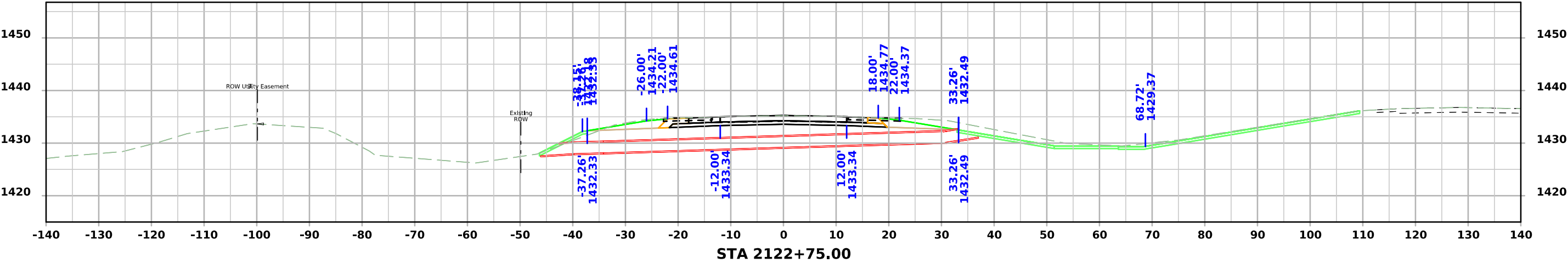
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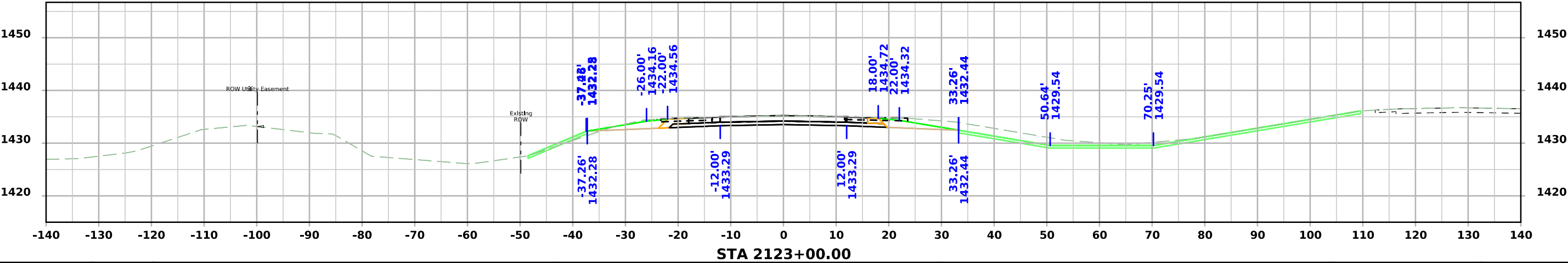
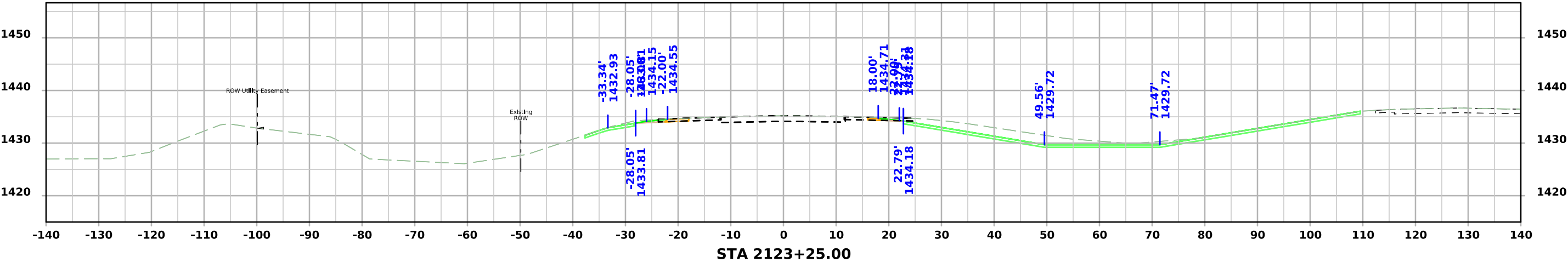
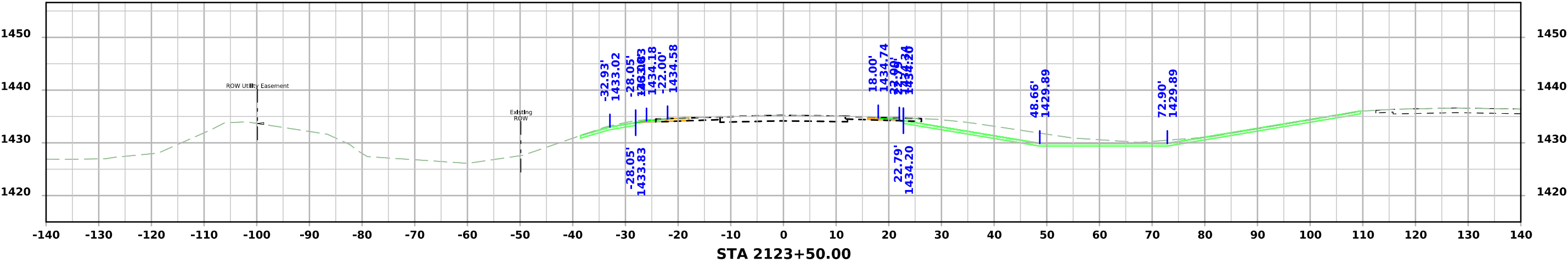
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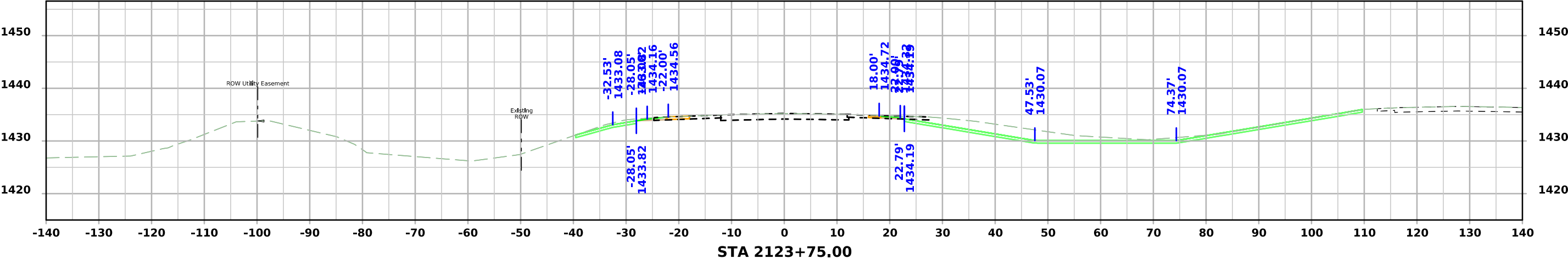
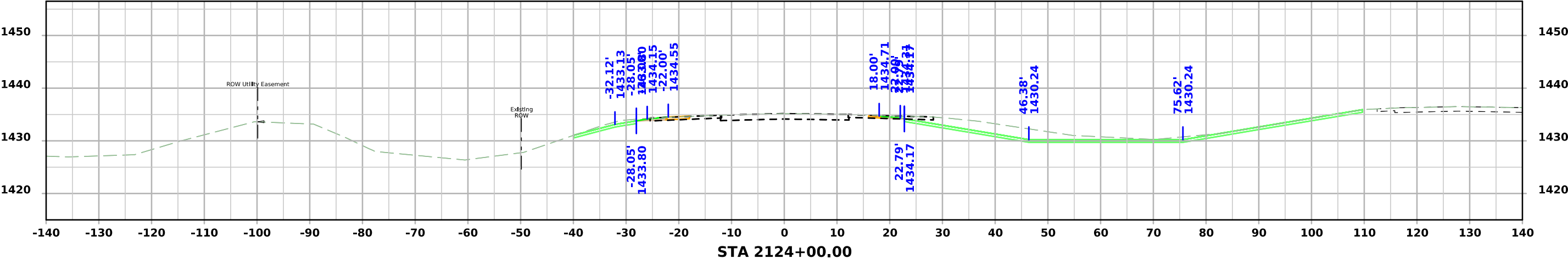
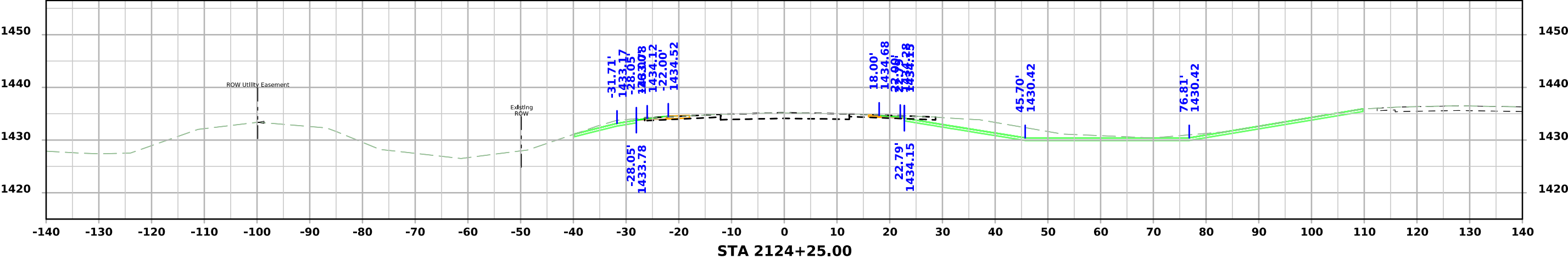
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IA 60 Alternate 2



IA 60 Alternate 2



IA 60 Alternate 2

