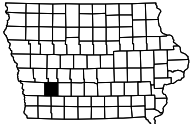


CASS COUNTY

Bridge Unspecified
IMX-080-2(277)72--02-15

LETTING DATE
11/21/2028



PLANS OF PROPOSED IMPROVEMENT ON THE
INTERSTATE ROAD SYSTEM
CASS COUNTY
Bridge Unspecified
770th St 1.7 mi E of IA 148 (EB/WB)

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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



770th St - AADT 15				
DESIGN DATA RURAL				
20 28	AADT	25,600	V.P.D.	
20 48	AADT	33,800	V.P.D.	
20 48	DHV	3,490	V.P.H.	
TRUCKS		41	%	
Total				
Design ESALs		-		

REVISIONS

TOTAL
--
PROJECT IDENTIFICATION NUMBER
23-15-080-020
PROJECT NUMBER
IMX-080-2(277)72--02-15
R.O.W. PROJECT NUMBER
IMN-080-2(280)72--0E-15
--
--

Schedule :

D3 : 01/28/2026

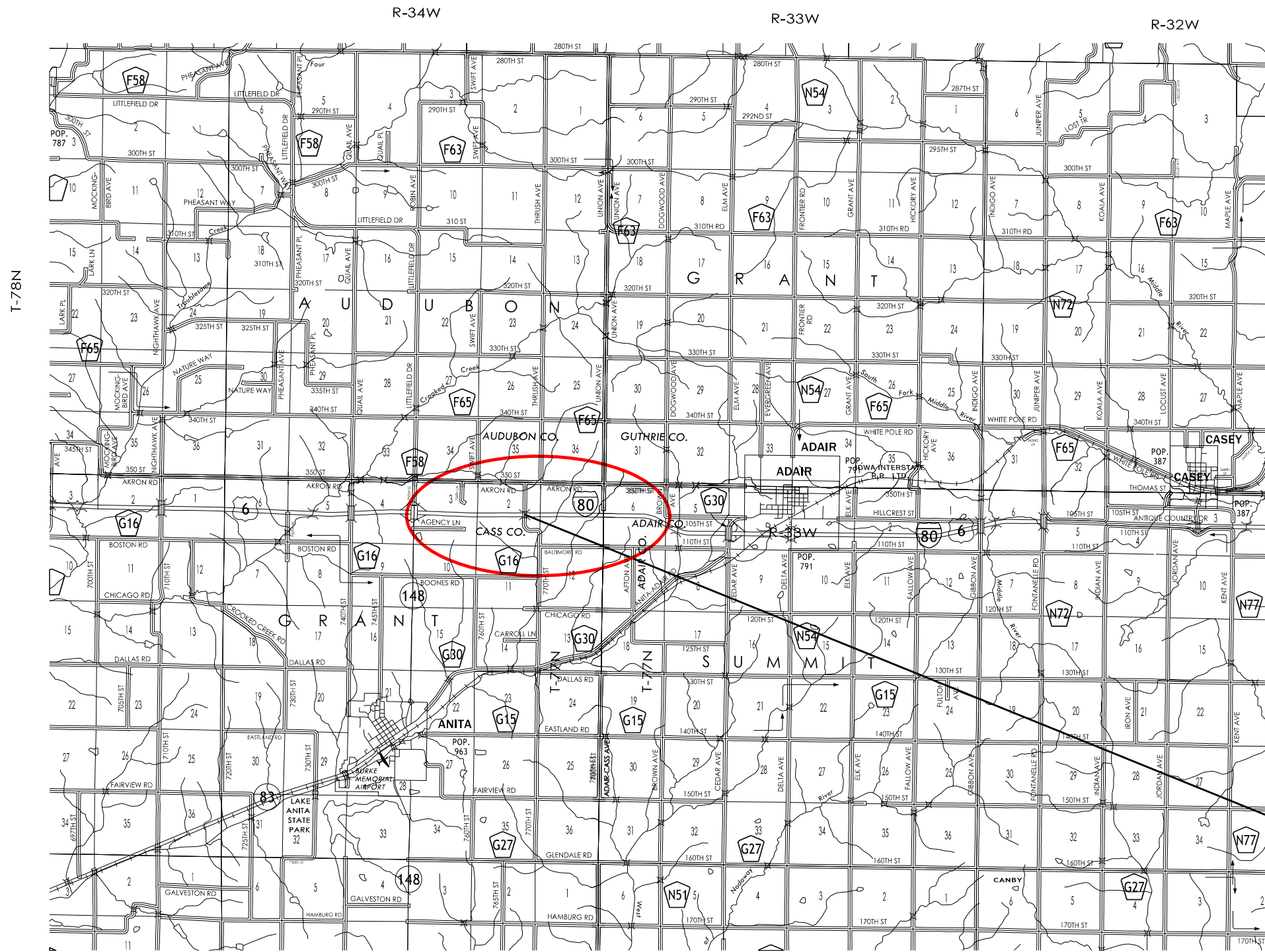
D5: 06/12/2026

D4: 07/11/2028

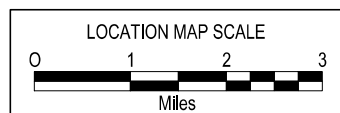
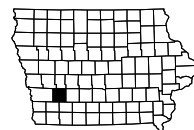
PRELIMINARY PLANS

Subject to change by final design.

D2 PLAN -01/20/2026



PROJECT LOCATION
FHWA No. 18210 (EB)
FHWA No. 18220 (WB)



IOWA DEPARTMENT OF TRANSPORTATION

TO OFFICE:

District 4

DATE:

May 15, 2025

ATTENTION:

Scott Schram

PROJECT:

Cass County
IMX-080-2(277)72--02-15
PIN: 23-15-080-020

FROM:

John E. Bartholomew

BUREAU:

Design

SUBJECT:

Project Concept Statement; (Final, D0)

This project involves the replacement of the eastbound and westbound I-80 bridges (Maint. No. 1572.1R080 (EB), 1572.2L080 (WB)) over 770th St., 1.7 mi E of IA 148.

A meeting was held on January 6, 2025. Those present included Wes Mayberry from the District 4 Office; Jimmy Ellis from the Bridges and Structures Bureau; Kyle Berg, Heidi Lane and Edward Sowder from HNTB; Luka Arroyo from the Project Management Bureau and John Bartholomew and Hollie Richey from the Design Bureau.

- There is only one Alternative for this project:
1.

Replace the eastbound and westbound I-80 bridges with dual 189 ft. x 54 ft. pretensioned prestressed concrete beam (PPCB) bridges utilizing staged construction. Estimated cost for this project is **\$8,888,000**.

Additional right of way may be required. Traffic will be maintained by staged construction.

The Draft Project Concept Statement was sent out for review and comment with concerns to be resolved by **Wednesday, May 14, 2025**. Comments received during the review period have been considered and resolved.

This project is recommended for construction in FY 2029. The Bridges and Structures Bureau will coordinate plan preparation with assistance from the Design Bureau.

JEB:hsr
Attach.
cc:

C. Purcell
M. Dell
M. A. Swenson
S. Majors
D. L. Newell
W. A. Sorenson
A. A. Welch
B. Hofer
H. Naraghi
J. Holst
T. Lovan
D. Dudley
J. Hauber
M. E. Khoda
J. Ellis
J. Sallach
J. Cihacek
S. Suhr
W. Mayberry
N. Mocha

K. D. Nicholson
J. S. Nelson
D. E. Sprengeler
A. Poole
A. Yates
E. C. Wright
J. Harris
G. Karssen
S. Anderson
R. Harris
M. Solberg
L. Armstrong
S. Sersland
M. Gordy
B. Asberry
J. Garton
D. Redmond
J. Woodcock
C. Schwienebart
FHWA

Y. Jia
M. Nop
C. C. Poole
K. Brink
J. W. Laaser-Webb
M. E. Ross
M. Van Dyke
D. Johnson
D. Stokes
B. Dolan
T. Gustafson
B. Smith
R. Meyer
M. Todsén
J. Keller
O. Lechnowsky
N. Epperson
C. Asberry
T. Frank

FINAL PROJECT CONCEPT STATEMENT

I-80 Bridge over 770th St., 1.7 miles east of IA 148 (EB/WB).

Cass County
IMX-080-2(277)72--02-15
PIN: 23-15-080-020
Maint. No. 1572.1R080 (EB), 1572.2L080 (WB)
FHWA No. 18210 (EB), 18220 (WB)

Highway Division
Design Bureau

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

May 15, 2025

Cass County
IMX-080-2(277)72--02-15
PIN: 23-15-080-020
Page 2

Photos from SIIMS



2019
Looking north at EB Bridge



2011
Left Profile N-F FHWA 18210 EB



2013
With Route FHWA 18210 EB



2013
Against Route FHWA 18210 EB

I. STUDY AREA

A. Project Description

This project involves the replacement of the eastbound and westbound I-80 bridges (Maint. No. 1572.1R080 (EB), 1572.2L080 (WB)) over 770th St., 1.7 mi E of IA 148.

Alternative 1 - Replace the eastbound and westbound I-80 bridges with dual 189 ft. x 54 ft. pretensioned prestressed concrete beam (PPCB) bridges utilizing staged construction. Estimated cost for this project is **\$8,888,000**.

B. Need for Project

I-80 EB is a 162 ft. x 30 ft. prestressed concrete beam bridge that was built in 1958. It was overlaid in 1982 and has now reached the end of its service life. The deck is thin with full depth patching and leaching cracks. The beams have spalls with exposed steel. The abutment has a large patch across the entire length. Due to the condition of the bridge, a replacement is recommended.

I-80 WB is a 162 ft. x 30 ft. prestressed concrete beam bridge that was built in 1958. It was overlaid in 1982 and has now reached the end of its service life. The deck is thin with leaching cracks and spalls with exposed steel. The beams have spalls with broken strands and corroding stirrups, leaching cracks, and hollows. The substructure has spalls with exposed steel and delamination. Due to the condition of the bridge, a replacement is recommended.



2011
With Route FHWA 18220 WB



2013
Right Profile N-F FHWA 18220 WB

C. Present Facility

The existing eastbound structure is a 162 ft. x 30 ft., prestressed concrete beam bridge constructed in 1958 and overlaid in 1982.

The existing westbound structure is a 162 ft. x 30 ft., prestressed concrete beam bridge constructed in 1958 and overlaid in 1982.

I-80 in the project area is 24 ft. wide PCC pavement with 6 ft. wide paved inside shoulders and 10 ft. paved outside shoulders and 3:1 foreslopes, 11.5 in. PCC reconstruction was accomplished in 1987 for I-80 westbound and 1988 for I-80 eastbound. HMA resurfacing of 1.5 in. was accomplished in 2022 on the I-80 eastbound lanes.

D. Traffic Estimates

The 2028 construction year and 2048 design year average daily traffic estimates are 25,600 ADT with 41% trucks and 33,800 ADT with 41% trucks, respectively.

E. Sufficiency Ratings

I-80 is classified as an interstate route and is a maintenance service level "A" roadway. The Bridge Condition Index is 63.7 (EB) and 59.0 (WB) and the Bridge Condition Rating is " Fair " for both EB and WB bridges.

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 were 11 crashes including, 1 fatal crashes, 3 personal injury crashes, and 7 personal property crashes. I-80 in the project area has a PCR level for all crashes of 1.393320 crash/mile/year and is listed as "High". The PCR level for severe crashes is 0.000000 and is listed as "Negligible".

II. PROJECT CONCEPT

A. Feasible Alternatives

Alternative #1 – Replace the eastbound and westbound I-80 bridges with dual 189 ft. x 54 ft. pretensioned prestressed concrete beam (PPCB) bridges utilizing staged construction

The existing 162 ft. x 30 ft., PPCB bridges will be replaced with 3 span, dual 189 ft. x 54 ft., PPCB bridges.

The typical cross section adjacent to the bridge approach will consist of a 24 ft. wide roadway with 10 ft. outside and 6 ft. wide inside shoulder.

This bridge will be constructed on the existing vertical and horizontal alignment. New bridge approaches will be constructed. The existing guardrail will be replaced with new guardrail and the shoulders will be paved 20 ft. beyond the ends of the guardrail. Class 10 will be necessary to flatten the existing foreslopes and to construct the new guardrail blisters. Class E revetment will be placed under the bridge for slope protection. New bridge end drains will be constructed on both corners on the east end of both bridges.

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

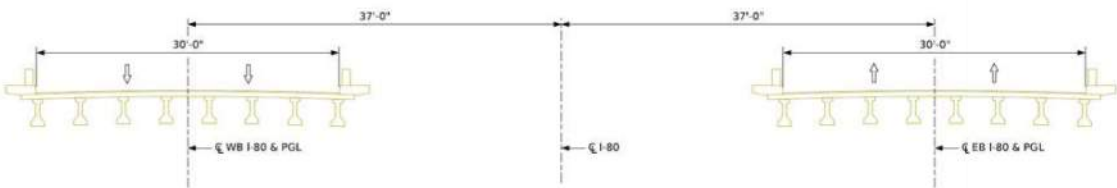
Right of Way appears to be required for this project. It is programmed for \$13,000.

Two lanes of traffic in each direction will be maintained via staged construction at all times. Nighttime work will be required with this project.

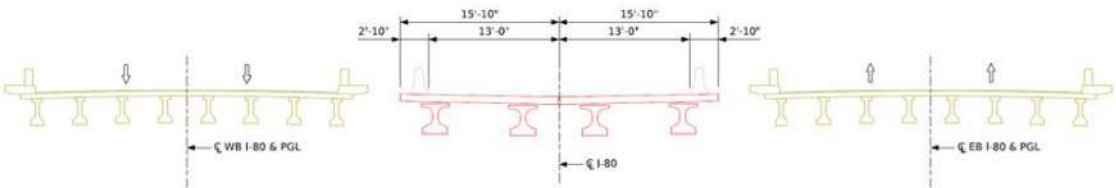
Bridge Items	Estimated Costs
New Bridge	\$ 3,842,000
Bridge Removal	214,000
Mobilization - 10%	406,000
M & C - 20%	892,000
Bridge Costs	\$ 5,354,000
Right of Way	\$12,000
Roadway Items	
Bridge Approaches	\$412,900
Removal of Pavement	22,700
Excavation Class 13 Waste	68,400
Embankment in Place, contractor furnished	101,400
Modified Subbase	166,500
Temporary Pavement	723,100
Slotted Drain	368,200
Guardrail (Includes Removal)	24,200
Paved Shoulders for Guardrail	55,700
Class 10 for Guardrail Blisters	20,000
Bridge End Drains	15,300
Seeding and Fertilizing	1,900
Erosion Control	50,000
Nightwork	435,100
Traffic Control - 5%	176,100
Mobilization - 5%	176,100
M & C - 20%	704,400
Roadway costs	\$ 3,522,000
Project Total	\$ 8,888,000

B. Staging Analysis

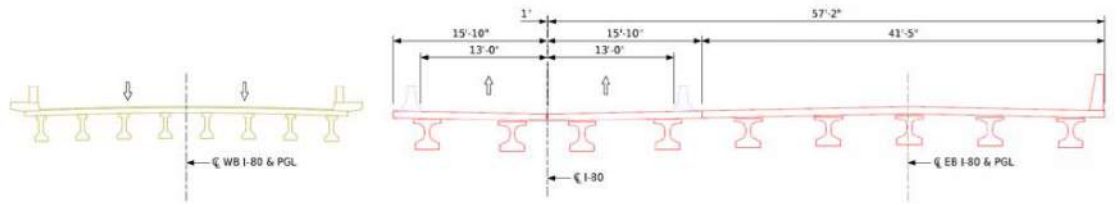
Existing condition:



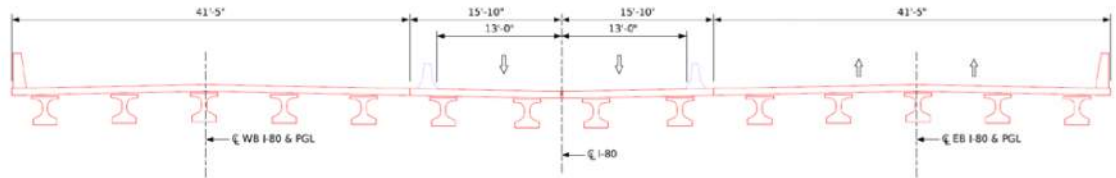
Stage 1: Construct median bridge.
Eastbound and westbound traffic will be on existing bridges.



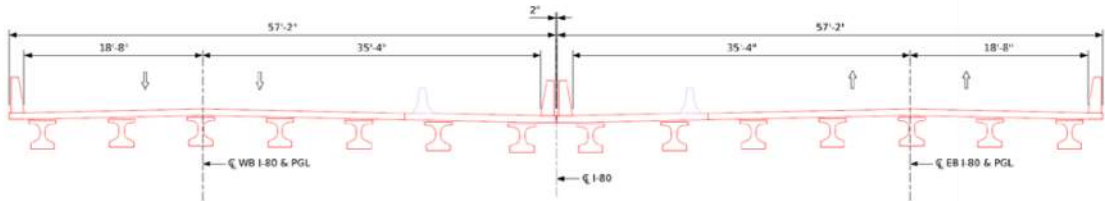
Stage 2: Eastbound traffic shifted onto median bridge. New eastbound bridge constructed. Westbound traffic maintained on existing bridge.



Stage 3: Westbound traffic shifted onto median bridge. Eastbound traffic shifted on to newly constructed eastbound bridge. New westbound bridge constructed.



Stage 4: Both eastbound and westbound traffic final layout.



C. Recommendations

It is recommended that the present structures be replaced, as described in Alternative No. 1. The estimated cost of alternative 1 is **\$8,888,000**.

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 I-80; therefore, no ADA accommodations are planned in conjunction with this project.

F. Special Considerations

This will be a traffic critical project.

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

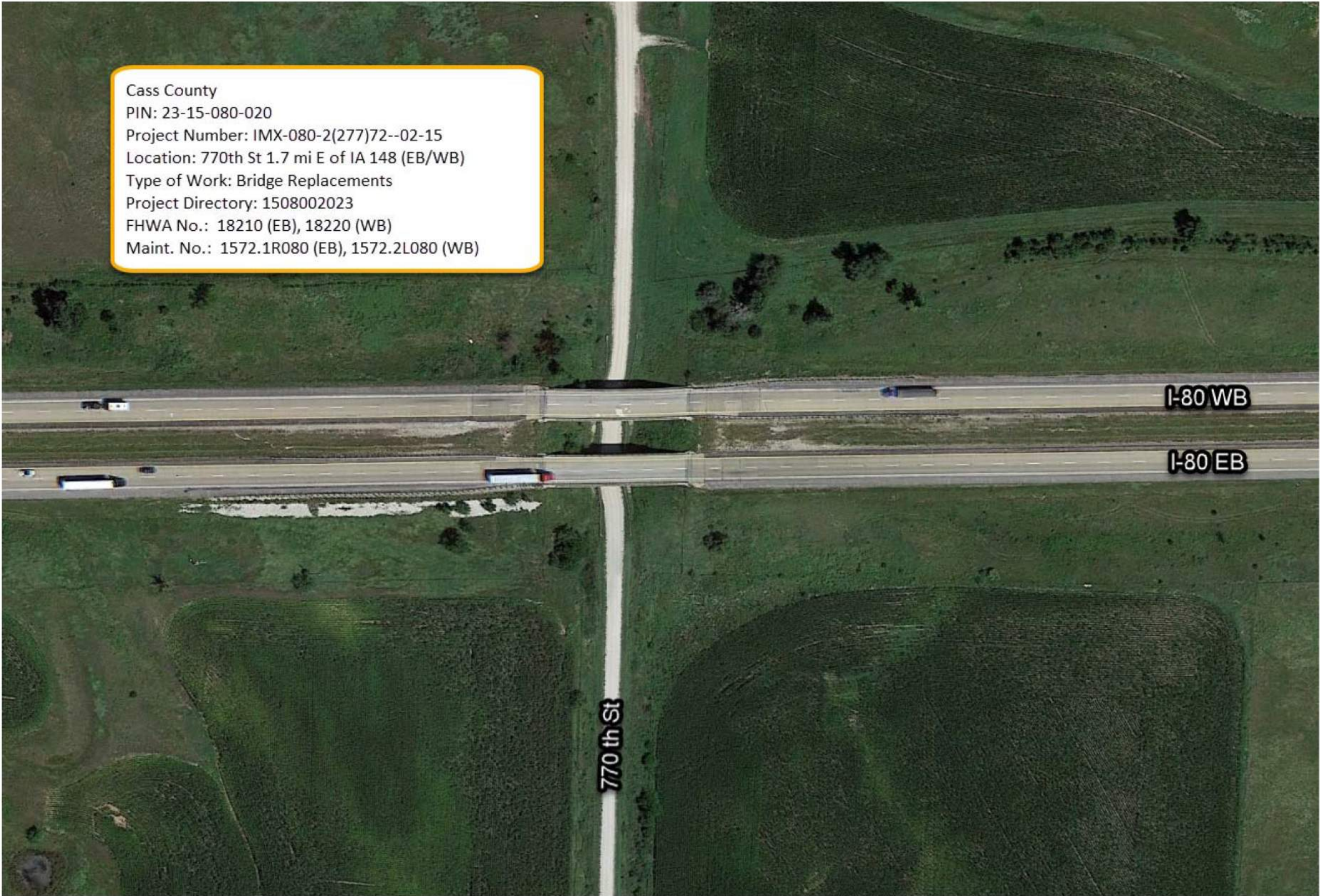
Right of Way appears to be required for this project. It is programmed for \$13,000.

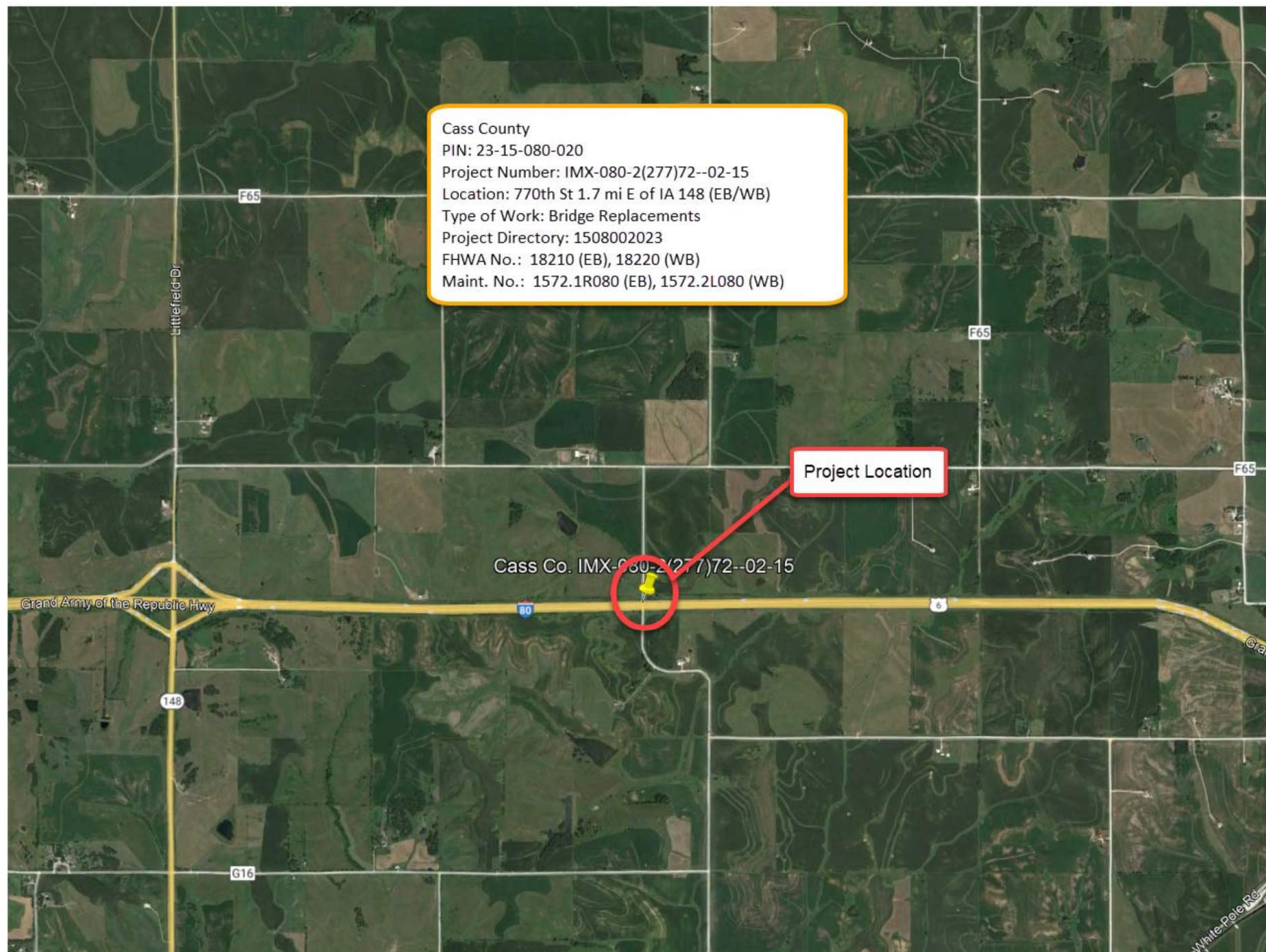
After review of the subject project, the Location and Environment Bureau has made a determination of NO 404 PERMIT REQUIRED. The proposed project is primarily a Bridge Replacement project that will not impact any regulated waters or natural resources.

G. Program Status

Site data has been developed by the Design Bureau. This project is listed in the Draft 2026-2030 Iowa Transportation Improvement Program, with \$12,000 programmed for right of way in FY 2029, and \$9,542,000 for replacement in FY 2029. 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:hsr





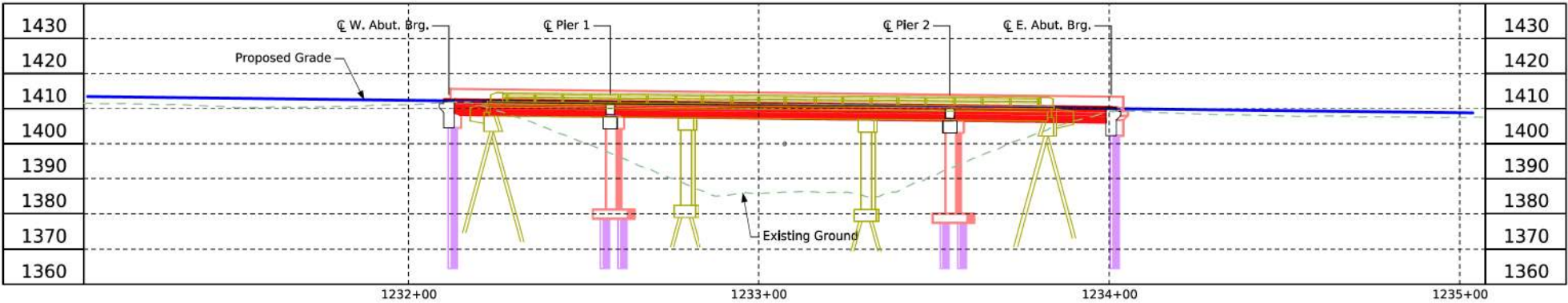
Utilities

Guthrie County Rural Electric Cooperative
(Electric Distribution)
Eldon Wolfe
Line Superintendent
1406 State Street
Guthrie Center, IA 50115
(641) 747-2206 Cell: (641) 757-0474
Gurecrew@netins.net

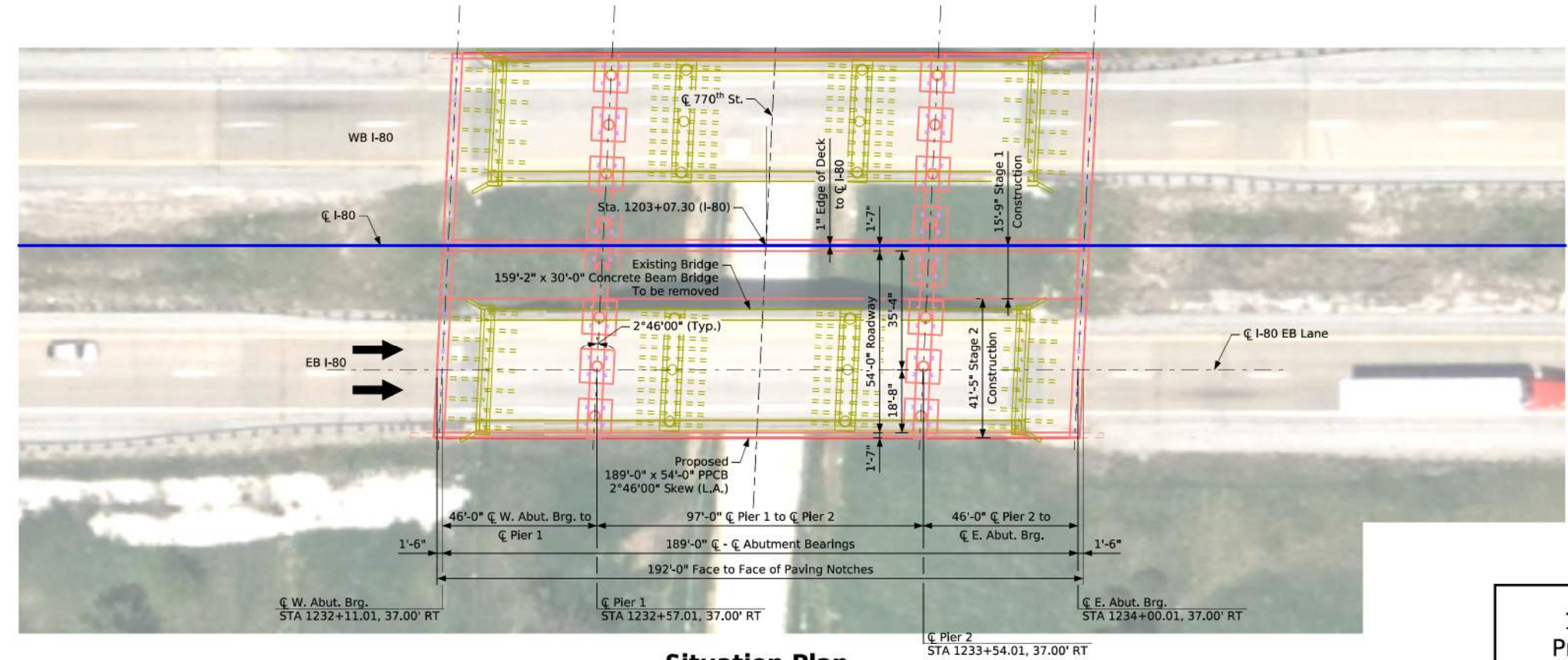
Iowa Department of Transportation
(Fiber Transmission)
Jason Dale
TEA - Office Of Traffic Operations
800 Lincoln Way
Ames, IA 50010
(515) 239-1995
Jason.Dale@iowadot.us

Iowa Communications Network
(Fiber Transmission)
David Augspurger
Telecom Specialist Sr - OSP Lead
400 E 14th St, Grimes State Office Building
Des Moines, IA 50319
(515) 725-4604 Cell: (515) 229-2013
david.augspurger@iowa.gov

WesTel Systems
(Fiber Distribution)
Ryan Barnholdt
Tech
307 Locust
Anita, IA 50020
rbarnholdt@westelsystems.com

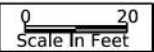


Longitudinal Section Along CL I-80 EB

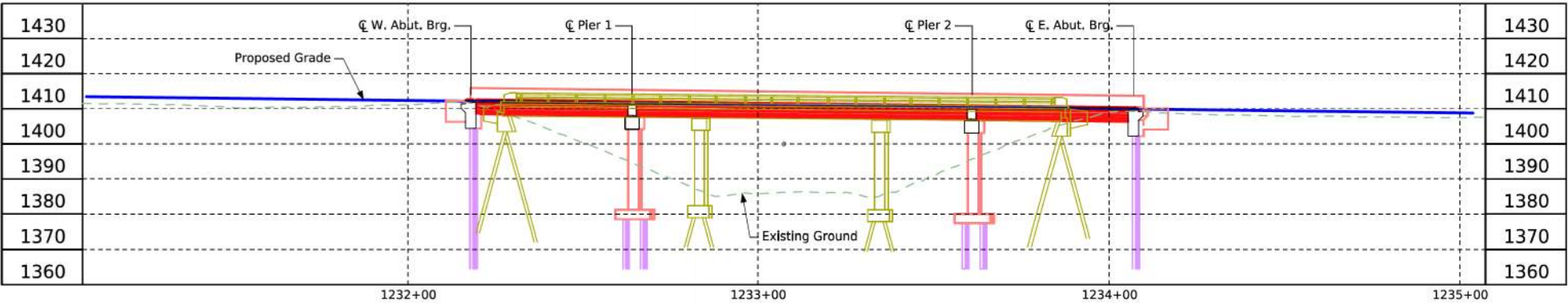


Situation Plan

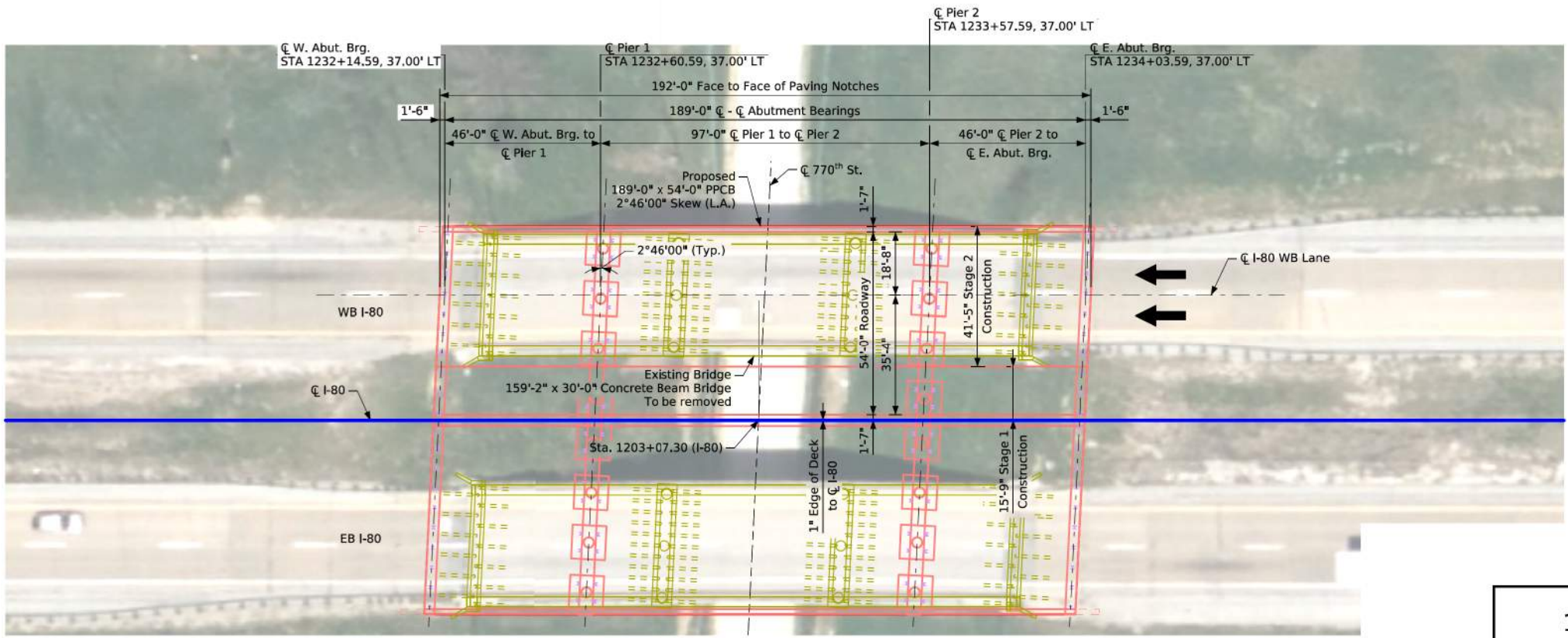
Design For 2*46' Skew (L.A.)
**189'-0" x 54'-0" Prestressed
Concrete Beam Bridge**
46'-0" End Spans 97'-0" Interior Span
Situation Plan
STA. 1233+05.51 (I-80) Turn-in Date: mmm yyyy
Cass County
IOWA DEPARTMENT OF TRANSPORTATION
Design No. ##### Design Sheet No. 1 of 1 FHWA No. #####



FILE NO. #####	ENGLISH	DESIGN TEAM HNTB	CASS COUNTY	PROJECT NUMBER IMX-080-2(277)72--02-15	SHEET NUMBER V.2
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Longitudinal Section Along CL I-80 WB



Situation Plan

Design For 2°46' Skew (L.A.)

189'-0" x 54'-0" Prestensioned
Prestressed Conc. Beam Bridge

46'-0" End Spans97'-0" Interior Span

Situation Plan

STA. 1233+09.09 (I-80)Turn-in Date: mmm yyyy

Cass County

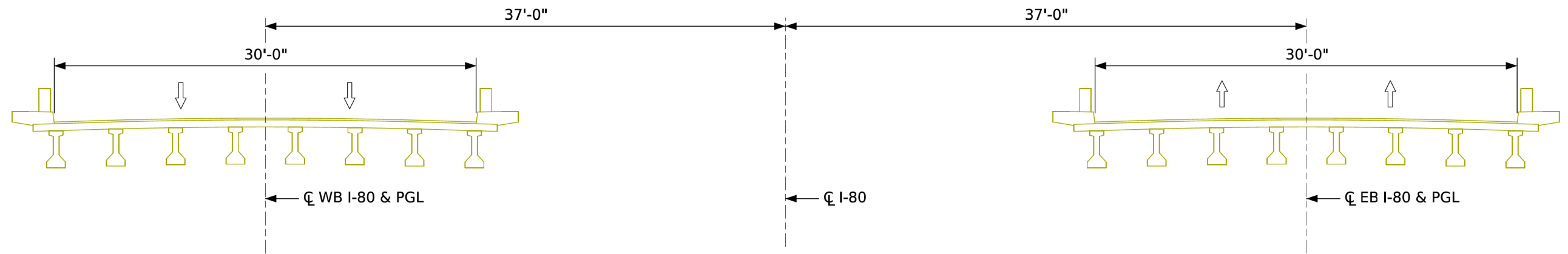
IOWA DEPARTMENT OF TRANSPORTATION

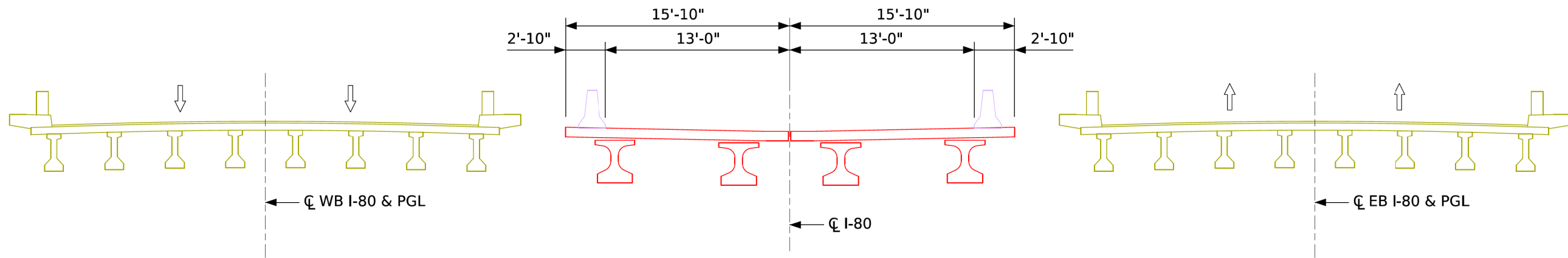
Design No. #####Design Sheet No. 1 of 1FHWA No. #####

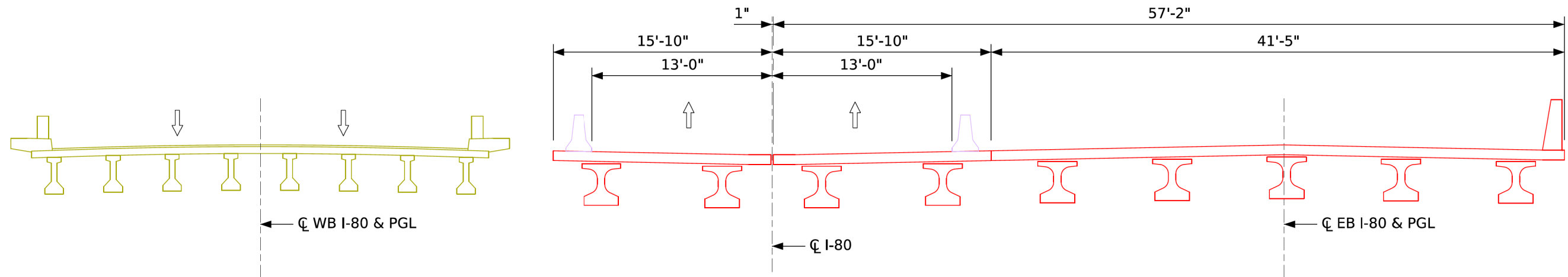
0 20
Scale In Feet

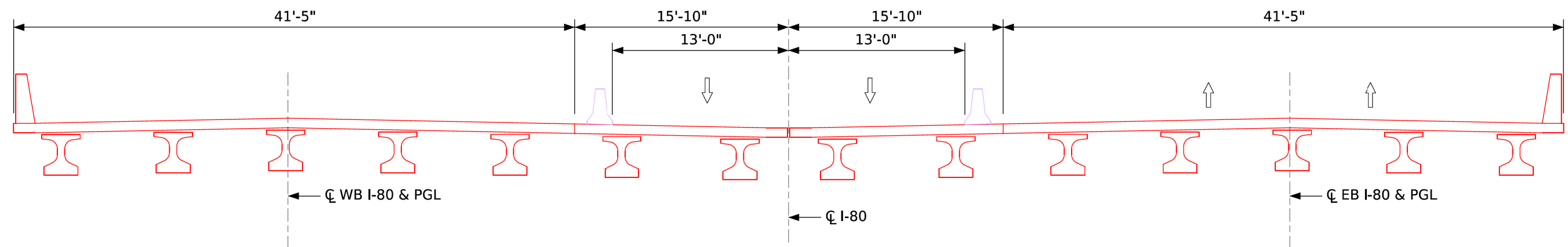
SHEET NUMBER V.1

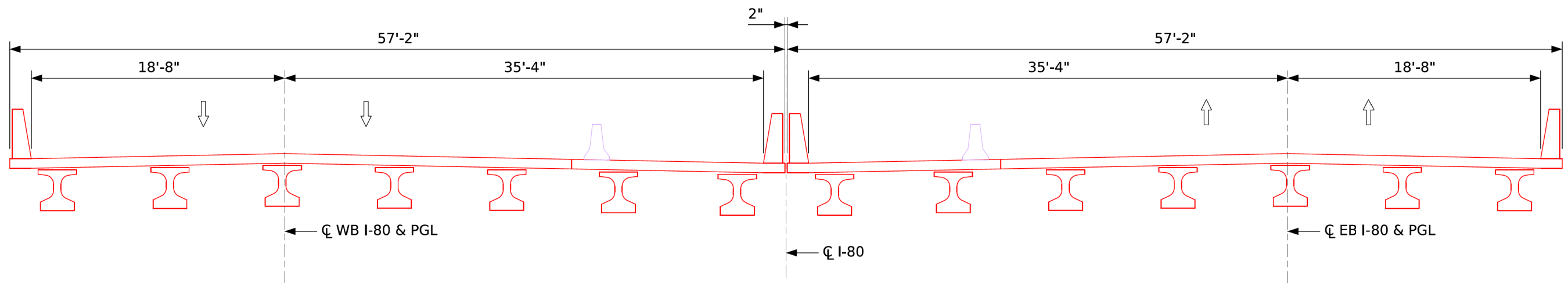
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Bridge Bureau Attachment for Concept Statement

Date: January 24, 2025
By: HNTB
Location: I-80 Bridges over 770th St., 1.7 miles east of IA 148 (EB/WB)

County: Cass County
Phase No.: IMX-080-2(277)72-02-15
Project Code: 23-15-080-020

1. Regulatory/Coordination
- a. Iowa DNR Flood Plain permit = No

b. Iowa DNR Sovereign Lands permit = No

c. Local Record of Coordination = No

d. Flood Insurance Study = No

e. Drainage District = No

f. Corps of Engineers Section 408 = No

g. State Water Trail or Paddling Route = No

h. Historic Structure = No

i. Federally owned land in vicinity = No

j. USGS or Iowa Flood Center (IFC) gage or sensor impacted? No

k. Obstruction Evaluation/Airport Airspace Analysis per FAA website = No
2. Hydrologic/Hydraulic Analysis/RIDB Dataset
- a. Design discharge methodology = N/A

b. Hydraulic analysis done = N/A

c. If DA > 10 sq. mi. Riverine Infrastructure Database (RIDB) dataset is required with B1 submittal = N/A

d. <If RIDB required = N/A
3. Structure/Roadway Layout Considerations
- a. Grade raise not anticipated

b. Proposed piers and abutments placed to miss existing foundations

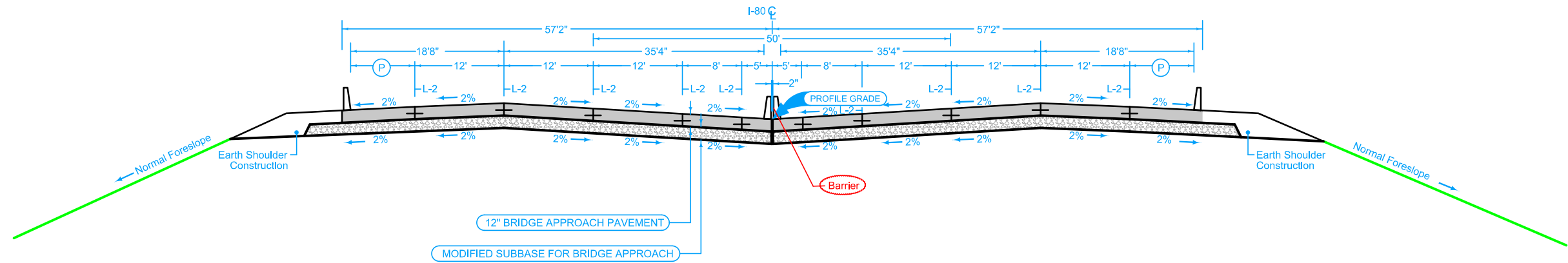
c. Proposed piers placed outside of 770th Street Clear Zone

d. Proposed Bridge Roadway Width = 54'-0"
4. Special construction issues
- a. It is desirable for new structure foundations to avoid existing foundations when possible.
5. Special survey = No
6. Aesthetic enhancements = No
7. Other
- a. Staged Construction

i. Median of both bounds to be built first with traffic on existing bridges.

ii. Traffic to be shifted to proposed median for one bound with the other bound of traffic on one of the existing bridges.

Special Survey: None



Full Depth PCC Shoulder

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

4_P_FullPCC_04-15-25			
Direction of Travel	BEGIN STATION	END STATION	(P) Feet

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

6DP_Closed_Modified	
BEGIN STATION	END STATION
1231+40.24	1232+12.01
1234+04.01	1234+75.79

Full Depth PCC Shoulder

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

4_P_FullPCC_04-15-25			
Direction of Travel	BEGIN STATION	END STATION	(P) Feet

BRIDGE APPROACH PAVING
I-80

Paved Shoulder at Guardrail

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

4_P_Guard_04-21-20			
Direction of Travel	BEGIN STATION	END STATION	(P) Feet

Full Depth PCC Shoulder

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

4_P_FullPCC_04-15-25			
Direction of Travel	BEGIN STATION	END STATION	(P) Feet
EB	1231+00.00	1231+40.24	6
EB	1234+75.79	1235+15.79	6
WB	1231+00.00	1231+40.24	6
WB	1234+75.79	1235+15.79	6

Paved Shoulder at Guardrail

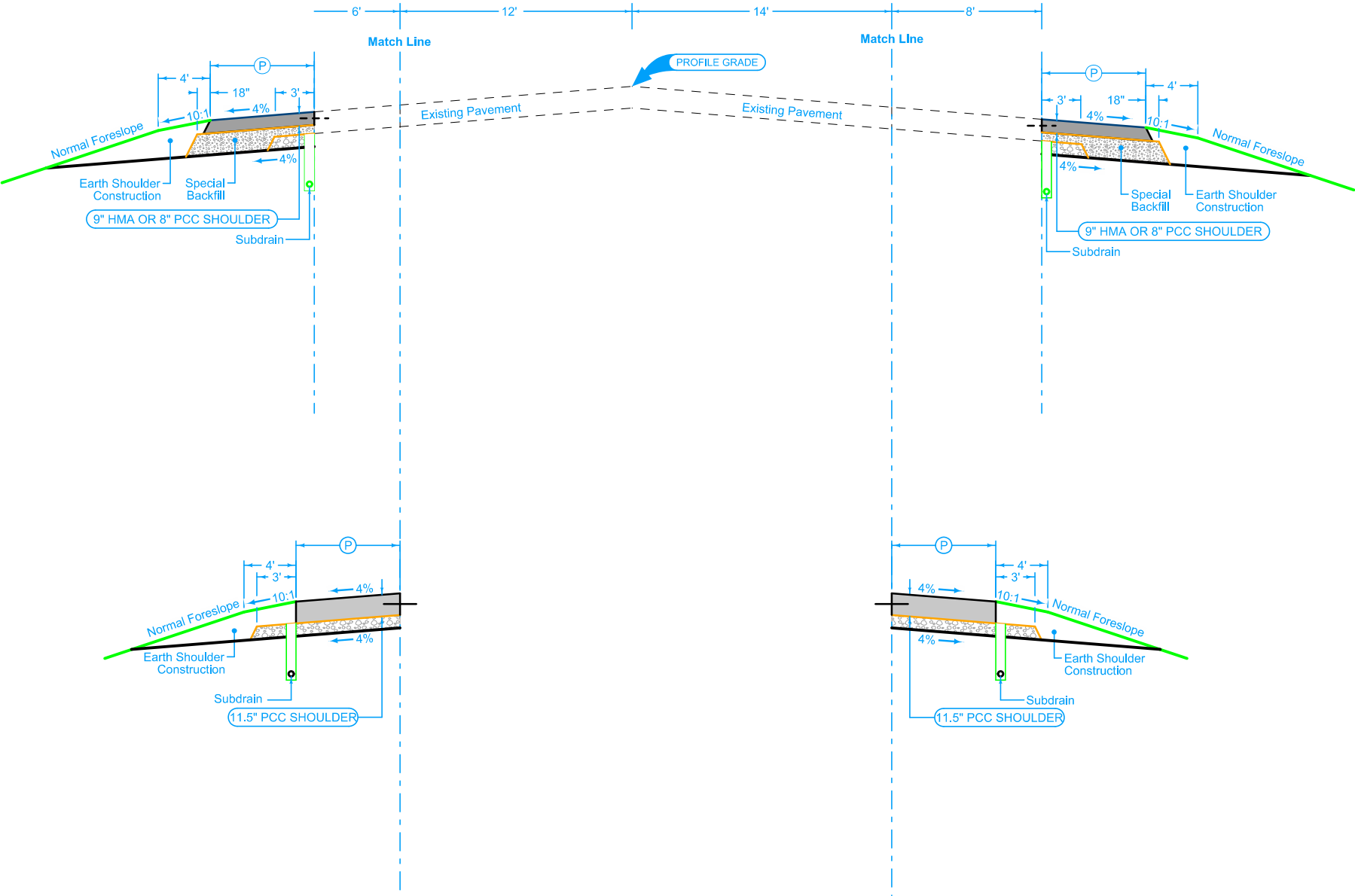
PCC Shoulder Jointing:
Longitudinal joint: BT-1 or BT-5
Transverse joints: C at mainline spacing
HMA Shoulder Jointing
Longitudinal joint: B

4_P_Guard_04-21-20			
Direction of Travel	BEGIN STATION	END STATION	(P) Feet

Full Depth PCC Shoulder

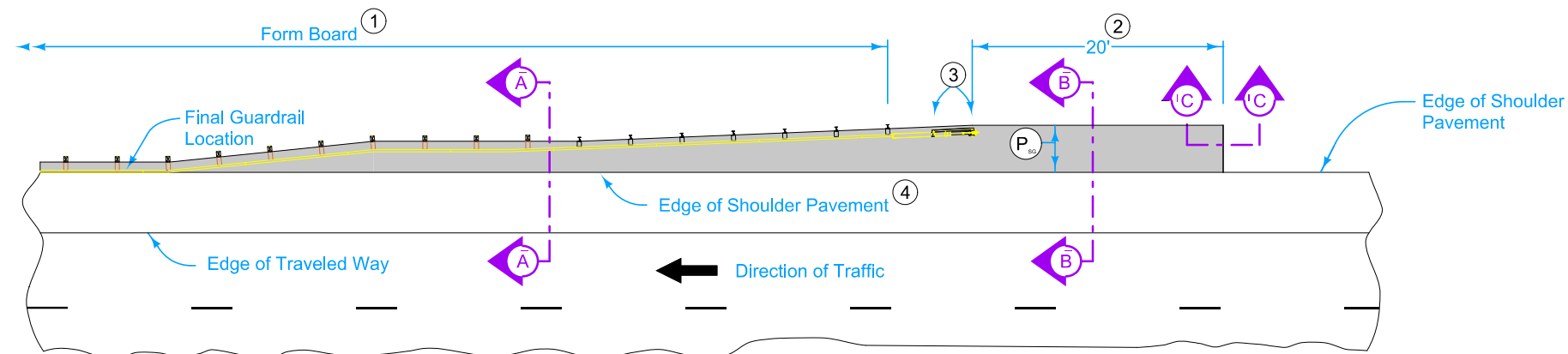
Shoulder Jointing:
Longitudinal joint: BT-2, or L-2
Transverse joints: C at 17' spacing

4_P_FullPCC_04-15-25			
Direction of Travel	BEGIN STATION	END STATION	(P) Feet
EB	1231+00.00	1231+40.24	8-6.3
EB	1234+75.79	1235+15.79	6.3-8
WB	1231+00.00	1231+40.24	8-6.3
WB	1234+75.79	1235+15.79	6.3-8

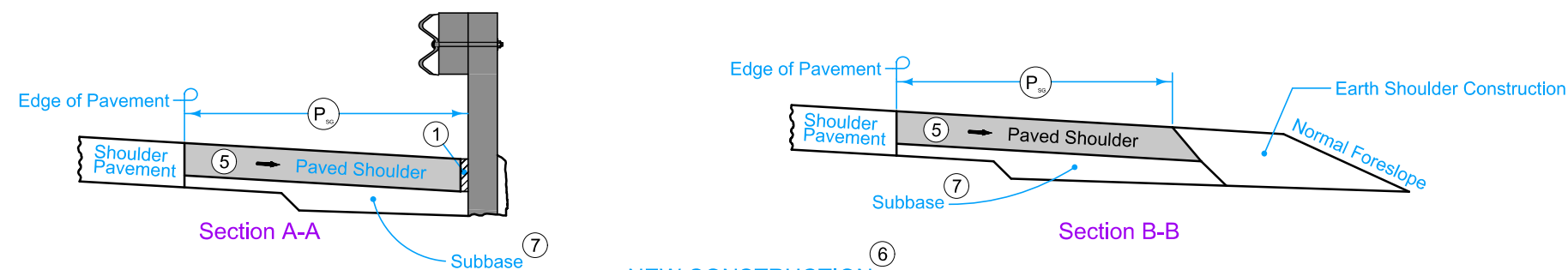


See Tab 100-24 or 100-25 for pavement quantities.
See Tab 112-9 for shoulder quantities.

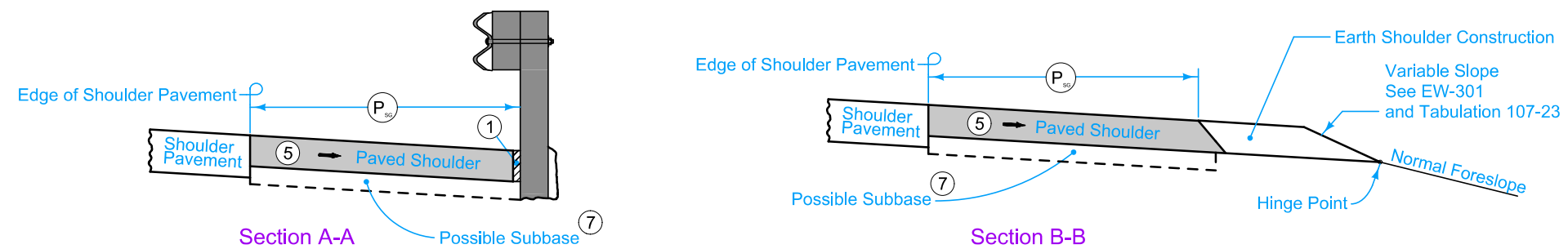
PAVED SHOULDER
I-80



PLAN VIEW



NEW CONSTRUCTION



EXISTING SHOULDER

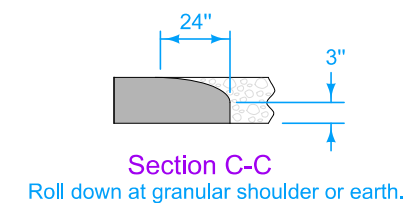
9" HMA Paved Shoulder at guardrail. 8" PCC may be substituted with the following jointing layout:

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

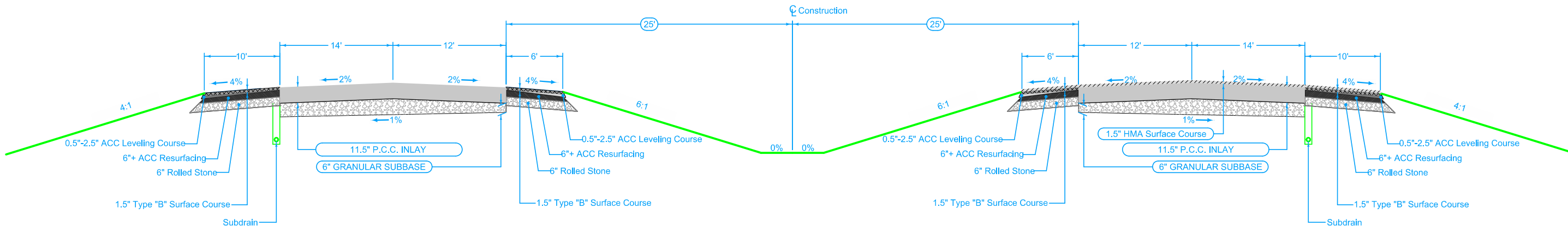
Compaction of HMA is required to face of guardrail post. Hand compaction will be allowed under guardrail. Removal and reinstallation of guardrail will be allowed with no additional payment.

Refer to Tabulation 112-9 for shoulder quantities.

- ① PCC option only: When guardrail posts are installed prior to construction of PCC paved shoulder, fasten form board to the face of guardrail posts for the length shown.
- ② Continue paved shoulder 20 feet beyond the center of the first post.
- ③ Shoulder may be notched for first 2 posts or post sleeves may be installed through pavement. Do not drive posts through pavement.
- ④ 'BT' (per PV-101) joint for PCC shoulder.
'B' (per PV-101) joint for HMA shoulder.
- ⑤ Match shoulder slope.
- ⑥ The Contractor has the option to pave the paved shoulder at guardrail and the full width paved shoulder as one operation.
- ⑦ Refer to other details in the plan.



PAVED SHOULDER AT GUARDRAIL
(ADJACENT TO FULL WIDTH PAVED SHOULDER)



Existing I-80
For Information Only

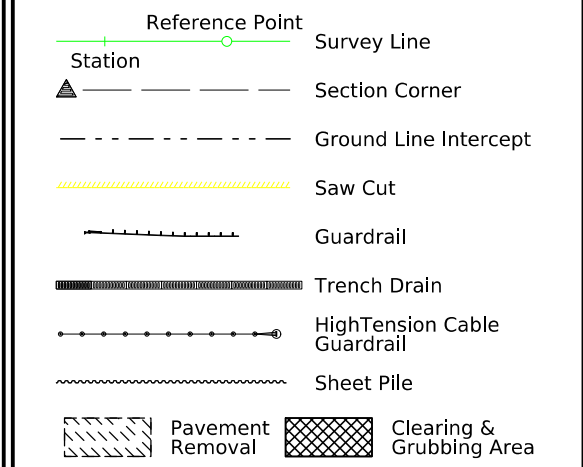
	Interstate Highway Symbol
	U.S. Highway Symbol
	Iowa Highway Symbol
	County Road Highway Symbol
	Evergreen Tree
	Deciduous Tree
	Fruit Tree
	Shrub (Bushes)
	Timber
	Hedge
	Stump
	Swamp
	Rock Outcrop
	Broken Concrete
	Revetment (Rip Rap)
	Cemetery
	Grave
	Cave
	Sink Hole
	Board Fence
	Chain Link or Security Fence
	Wire Fence
	Terrace
	Earth Dam or Dike (Existing)
	Tile Outlet
	Edge of Water
	Existing Drainage
	Right of Way Rail or Lot Corner
	Concrete Monument
	Well
	Windmill
	Beehive Intake
	Existing Intake
	Existing Utility Access (Manhole)
	Fire Hydrant
	Water Hydrant (Rural)

	Septic Tank
	Cistern
	L.P. Gas Tank (No Footing)
	Underground Storage Tank
	Latrine
	Satellite TV Dish
	Water Hook Up
	Radio Tower
	Tower Anchor
	Guardrail (Beam or Cable)
	Guard Post (one or two)
	Guard Post (over two)
	Filler Pipe
	Gas Valve
	Water Valve
	Speed Limit Sign
	Mile Marker Post
	Sign
	Traffic Signal Control Box
	Rail Road Signal Control Box
	Telephone Switch Box
	Electric Box

— E3(C) —	EL3C, Guthrie County Rural Electric - Quality C
— F0(C) —	FO1C, Iowa Communications Network - Quality C
— F02(C) —	FO2C, West Iowa Telephone - Quality C
— F0 —	FO1D, Iowa Communications Network - Quality D
— F02 —	FO2D, West Iowa Telephone - Quality D

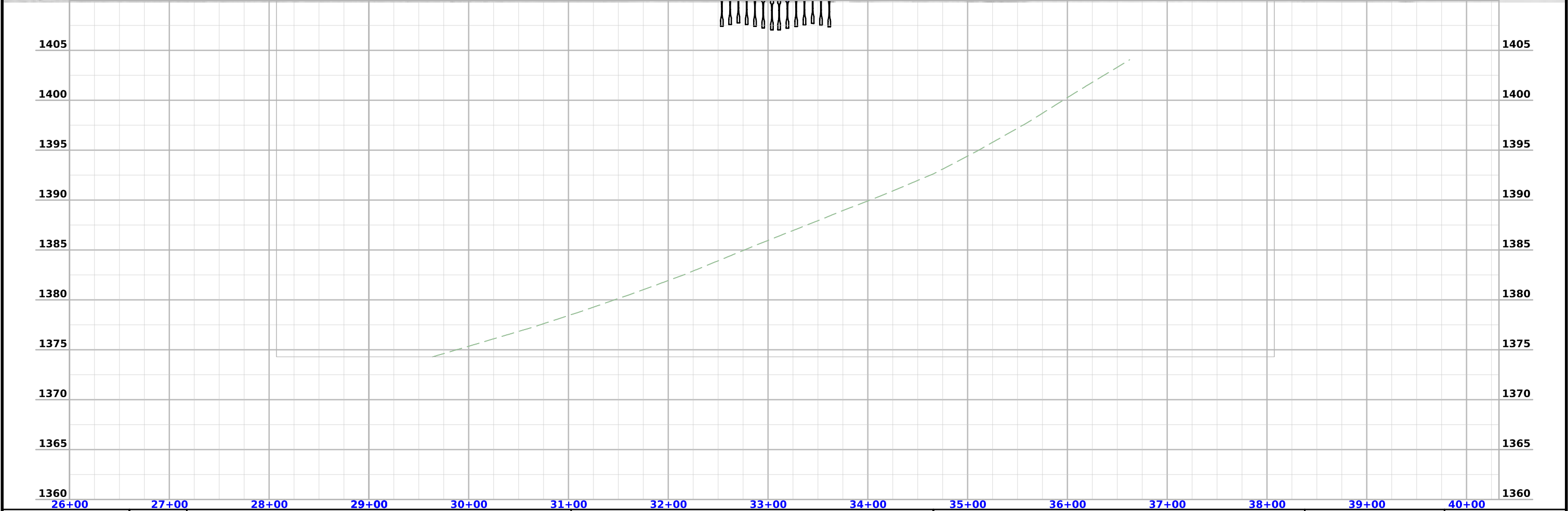
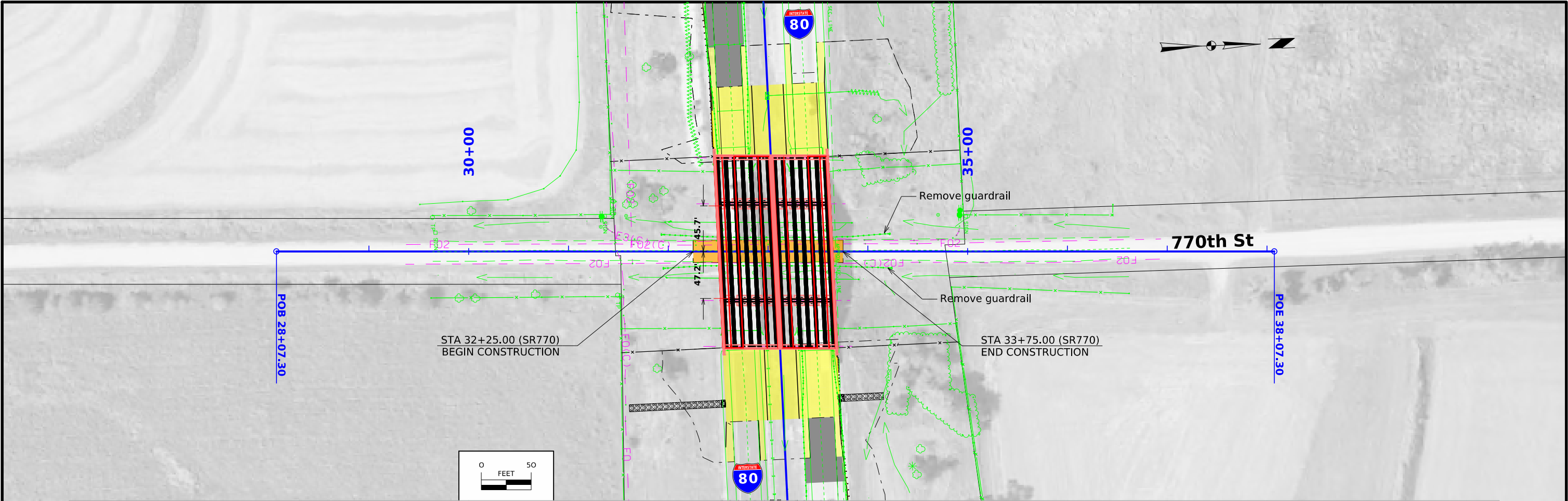
LINEWORK		Design Color No.		
Green	(2)		Existing Topographic Features and Labels	
Blue	(1)		Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation	
Magenta	(5)		Existing Utilities	
SHADING		Design Color No.		Transparency
Pink, Dark	(13)		Temporary Pavement Shading	50%
Yellow	(4)		Proposed 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%

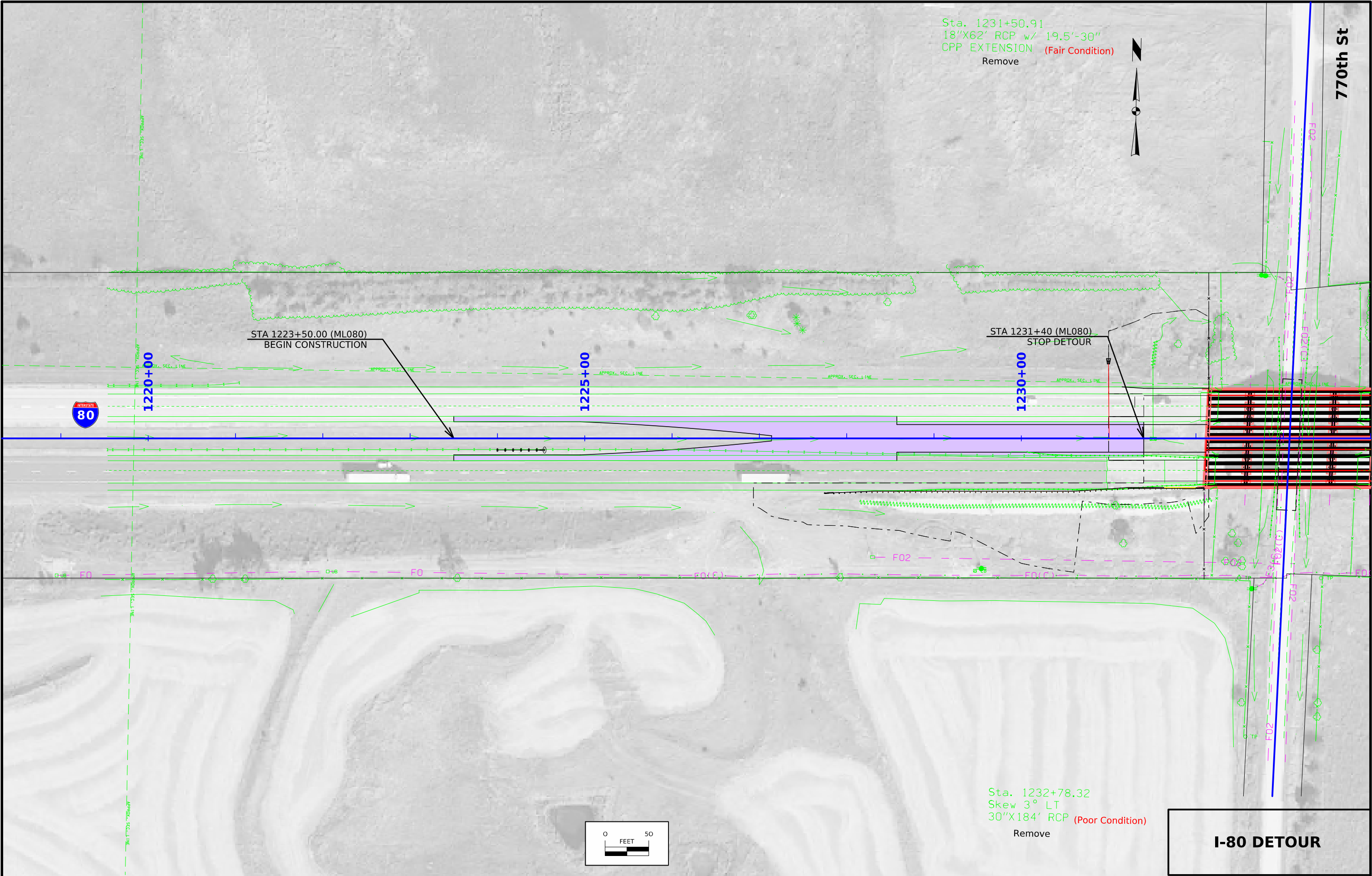
LINEWORK	Design Color No.
Green	(10) Existing Ground Line Profile
Blue	(1) Proposed Profile and Annotation
Magenta	(5) Existing Utilities
Blue, Light	(230) Proposed Ditch Grades, Left
Black	(0) Proposed Ditch Grades, Median
Rust	(14) Proposed Ditch Grades, Right



	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
	Access Control
	Property Line Symbol
	Property Line

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







Survey Information

SURVEY INDEX

Cass County
PIN 23-15-080-020
Project Number: IMX-080-2(277)72--02-15
Location: I-80, 770th St 1.7 mi E of IA 148 (EB/WB)
Type of Work: Preliminary Engineering Survey
Project Directory: 1508002023

Survey Personnel

Carson Lay, PLS – Survey Crew Chief	Primary Control, Secondary Control, Alignment Survey, Topographic Survey, Utility Survey
James Degenhardt, PLS - Survey Crew	Primary Control, Secondary Control, Alignment Survey, Topographic Survey, Utility Survey
Evan McCarthy - Survey Crew	Topographic Survey
Phillip Marshall – Survey Crew	Topographic Survey
Kevin Flood, IA PLS – Project Manager	Project Management

Date(s) of Survey

Field Survey	August 19, 2025 – September 17, 2025
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General Information

Survey to support planning and design efforts of Iowa DOT Project IMX-080-2(277)72--02-15 located in Cass County, Iowa. General project limits are along Interstate 80 approximately 1,300 feet East and West of the I-80 bridge over 770th Street and along 770th Street approximately 330 feet North and South of Interstate 80. Survey services included establishing primary and secondary control, establishing existing roadway alignments, a utility survey, and a full DTM topographic survey.

Utility Information

For logging data and other utility details see the utility report, Iowa One Call ticket information, and Iowa One Call member correspondence and provided information in the prelim survey project directory.

Project Control

The Iowa RTN system was utilized to establish horizontal coordinates on primary control points. Three five-minute observations were taken with a minimum two-hour time span between each observation and used in a weighted average to obtain final horizontal coordinate values. Vertical coordinates were established by running closed circuits with a digital level. The level circuit was then least-squares adjusted to establish final vertical coordinates.

PROJECT DATUM: NAD83(2011) EPOCH 2010 (IaRTN 2019 ADJUSTMENT)
COORDINATE SYSTEM: IOWA REGIONAL COORDINATE SYSTEM ZONE 7
(U.S. SURVEY FOOT)
VERTICAL DATUM: NAVD88
GEOID: GEOID18

Alignment Information

The horizontal alignment for this survey is a retracement of I-80 (As-built plan no. 80-2(8)70).

The I-80 alignment computed by Iowa DOT and shown in file [DIS_15080280Z07.dgn](#) was confirmed with found existing field monumentation.

770th Street South stationing was equated to plan P.O.T. Sta. 1233+07.3 (80-2(8)70) = Sta. 1233+07.31 (this survey) equals 30+00.00. Recovered 5/8” pin, 0.08’ South of I-80 alignment. Tangent was extended Southerly parallel to the computed 770th Street right of way in Iowa DOT file [DIS_15080280Z07.dgn](#) to Station 25+00.00.

770th Street North stationing was equated to Sta. 1233+06.30 (this survey) equals 10+00.00. Tangent was extended Northerly parallel to the computed 770th Street right of way in Iowa DOT file [DIS_15080280Z07.dgn](#) to Station 15+00.00.

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 (IaRTN 2019 Adjustment) - Iowa RCS Zone 7 (U.S. Survey Foot)

VERT. DATUM: NAVD88 - GEOID18

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

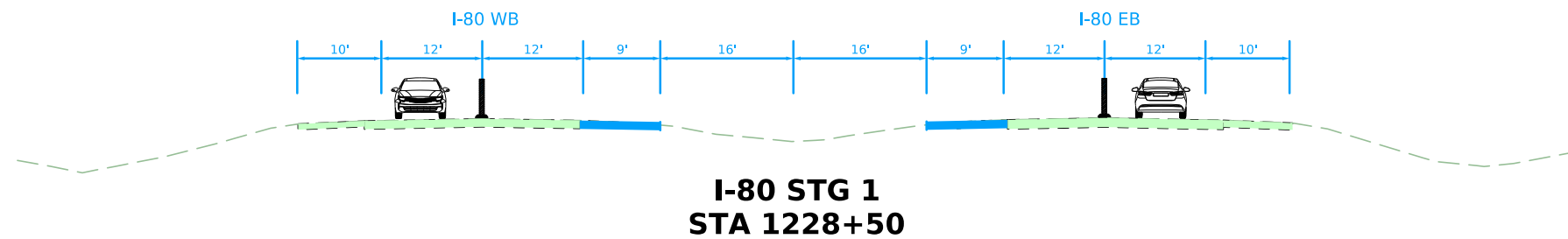
HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING
HORIZ. DATUM: NAD83(2011) for EPOCH 2010 (IaRTN 2019 Adjustment)
Ia. Regional Coordinate System Zone 7 (U.S. Survey Foot)
VERT. DATUM: NAVD88
GEOID18

Point Name	Northing	Easting	Elevation	Feature Code - Description
1	7254144.68	17473656.36	1434.37	FENO Set 6in Deep South of EBL I-80 near mm71.8
2	7254178.21	17474485.46	1413.01	FENO Set 4in Deep South of EBL I-80 near mm72.0
3	7254719.74	17475040.09	1407.55	FENO Set 4in Deep North of WBL I-80 on East Side 770th Street
4	7254468.62	17476705.96	1406.29	FENO Set 4in Deep North of WBL I-80 near mm72.4

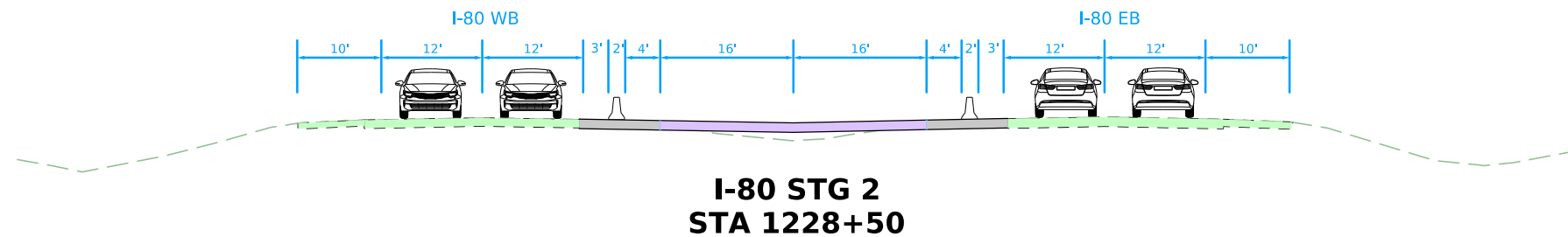
SPIRAL OR CIRCULAR CURVE DATA

FILE NO.	ENGLISH	DESIGN TEAM	Strum\Janus	CASS	COUNTY	PROJECT NUMBER	IMX-080-2(277)72--02-15	SHEET NUMBER	G.4
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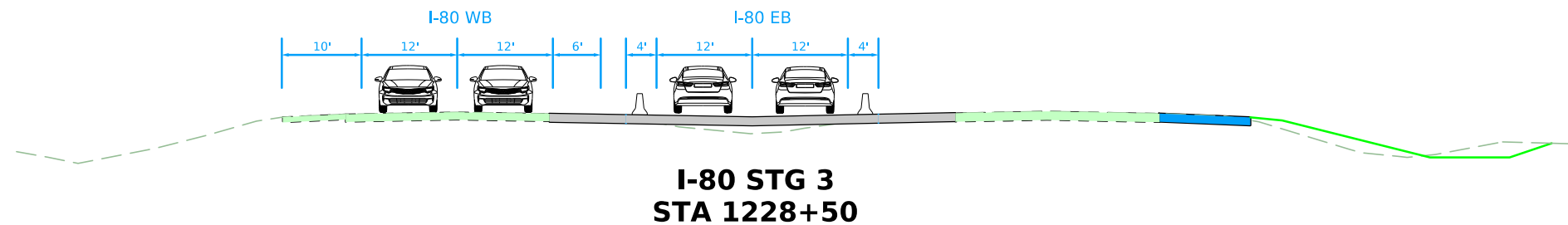
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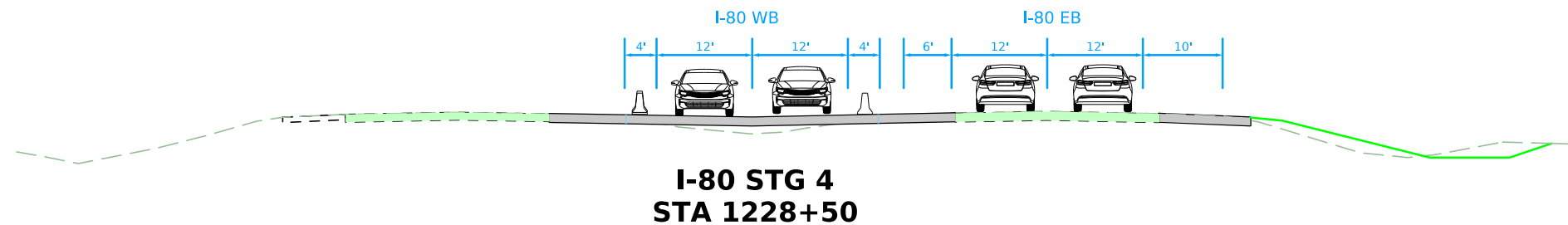
I-80 STG 1
STA 1228+50



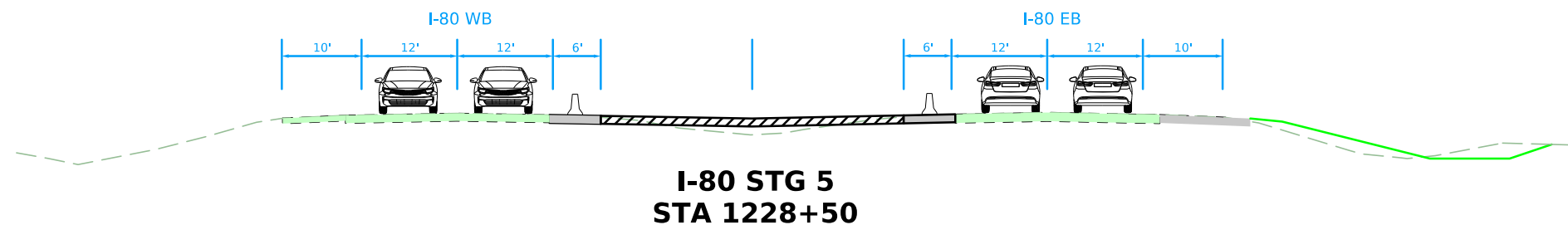
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STA 1228+50



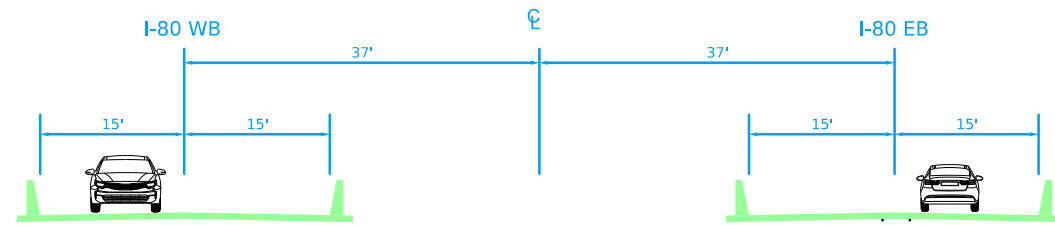
I-80 STG 3
STA 1228+50



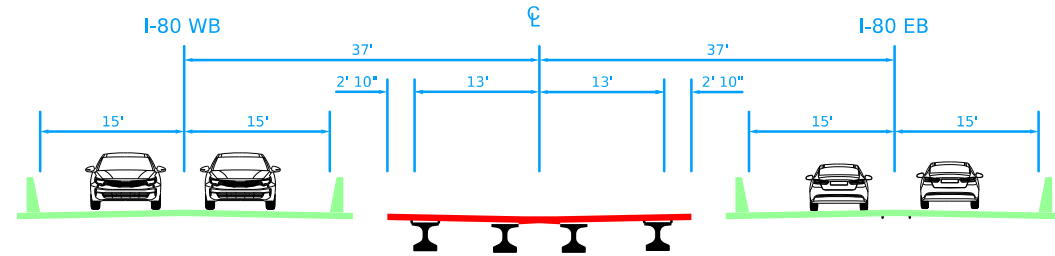
I-80 STG 4
STA 1228+50



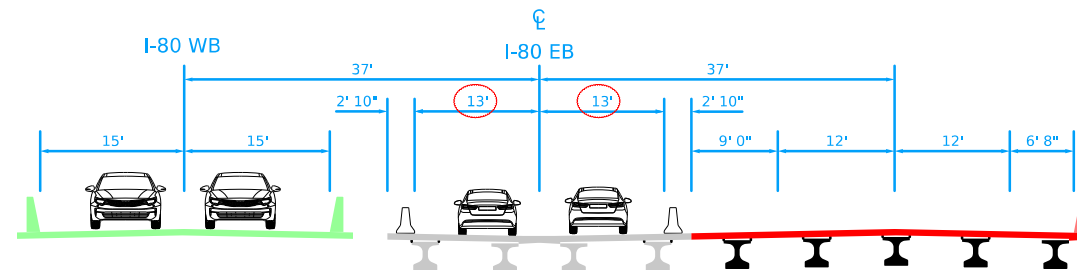
I-80 STG 5
STA 1228+50



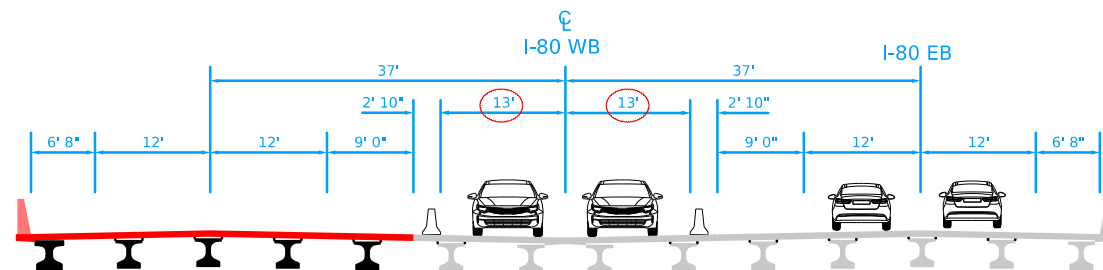
**I-80 STG 1
STA 1233+00**



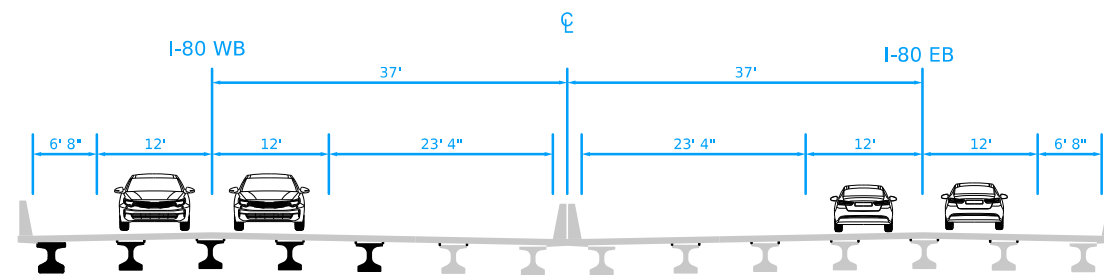
**I-80 STG 2
STA 1233+00**



**I-80 STG 3
STA 1233+00**



**I-80 STG 4
STA 1233+00**



I-80 STG 5
STA 1233+00

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

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

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

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

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

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

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

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

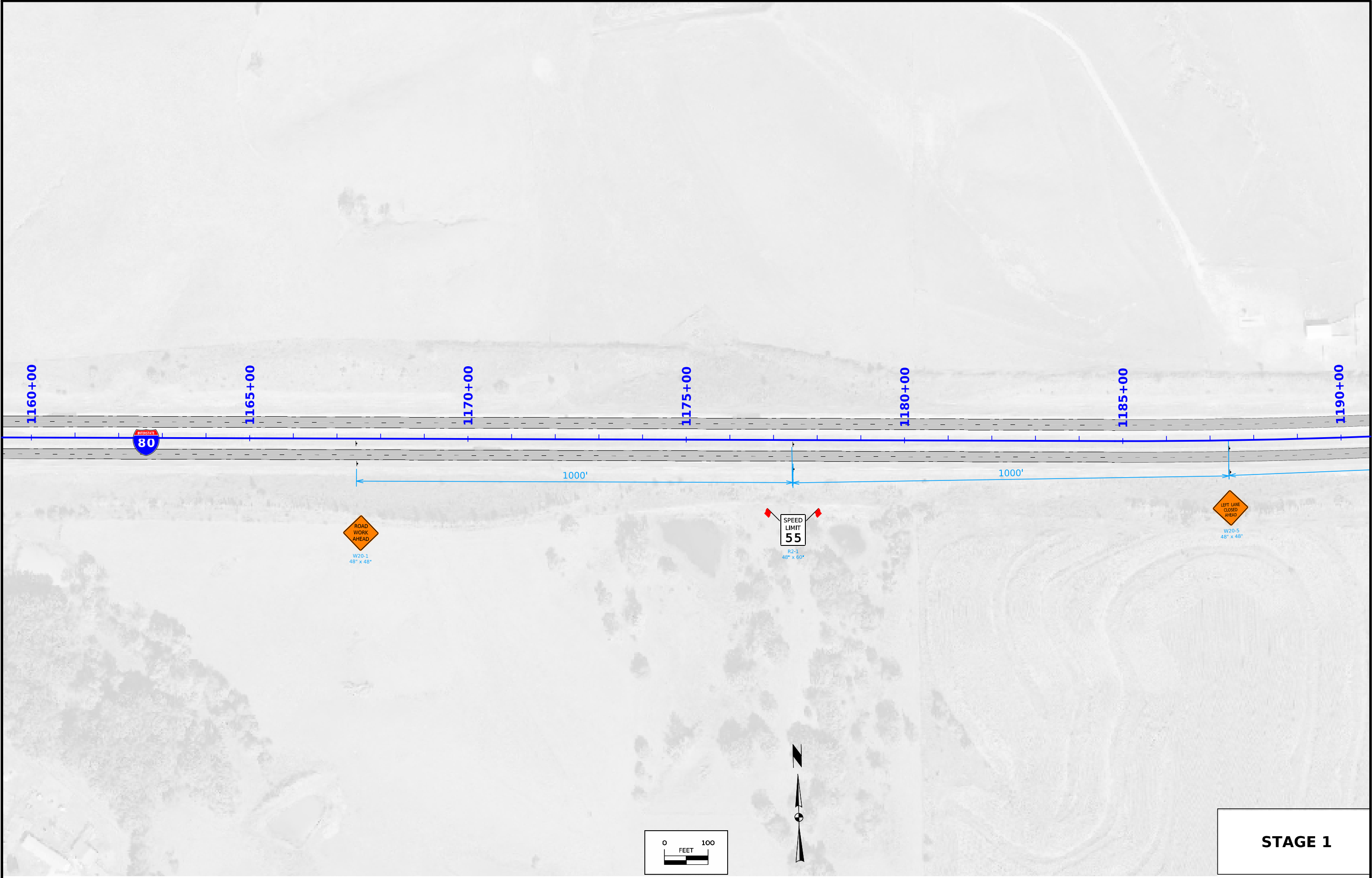
PLAN VIEW PATTERN AND SYMBOL LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS			
	Channelizing Device		Crash Cushion (Temp or Perm)
	Drum		Traffic Signal
	Temporary Lane Separator		Flagger
	Tubular Marker		Temporary Floodlighting
	Channelizer Marker		Traffic Sign
	Concrete Barrier Marker		Type III Barricade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

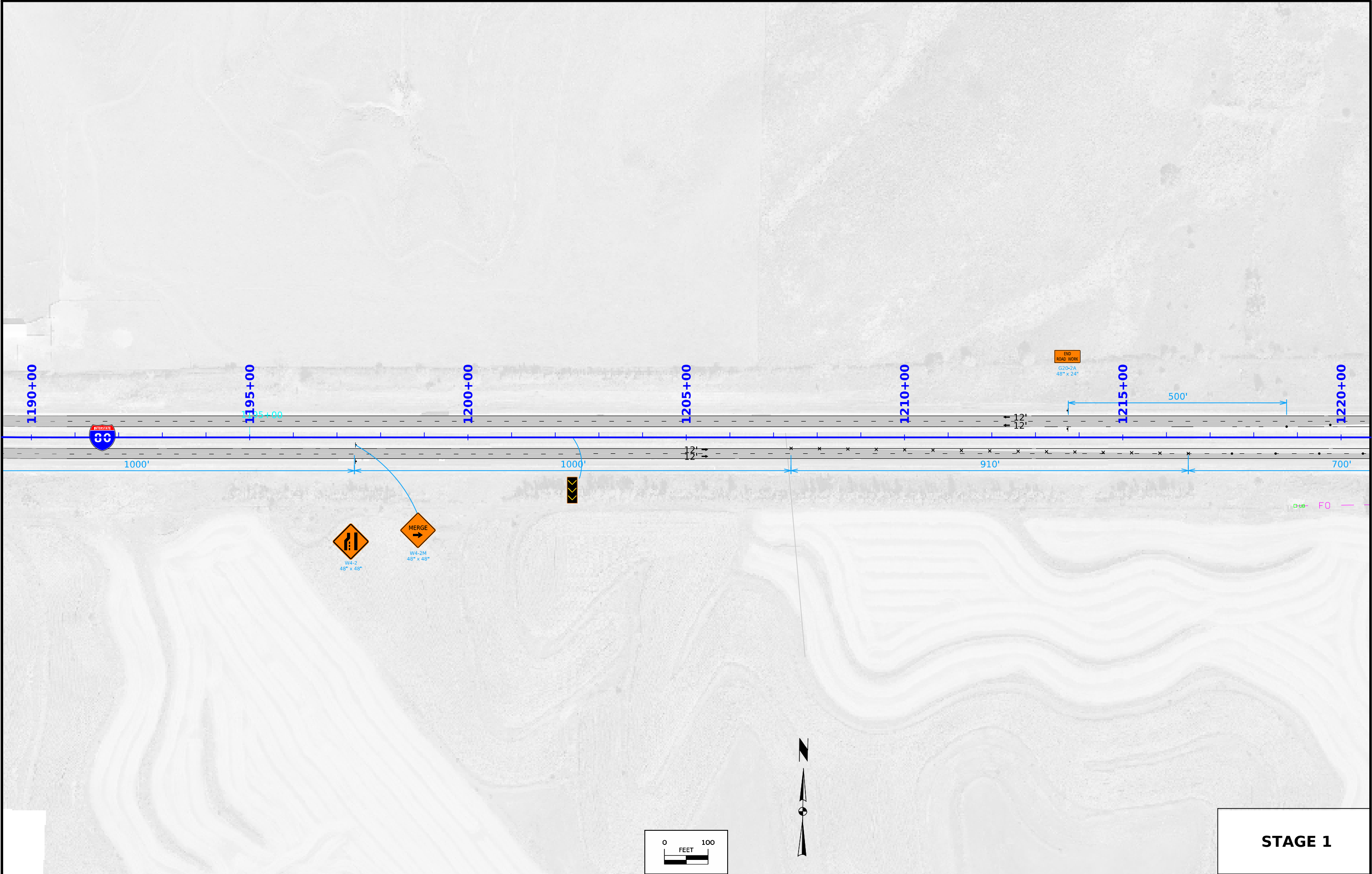
	Channelizing Device		Crash Cushion (Temp or Perm)
	Drum		Traffic Signal
	Temporary Lane Separator		Flagger
	Tubular Marker		Temporary Floodlighting
	Channelizer Marker		Traffic Sign
	Concrete Barrier Marker		Type III Barricade
	Delineator		Type A Warning Light
	Temporary Barrier Rail		Direction of Traffic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

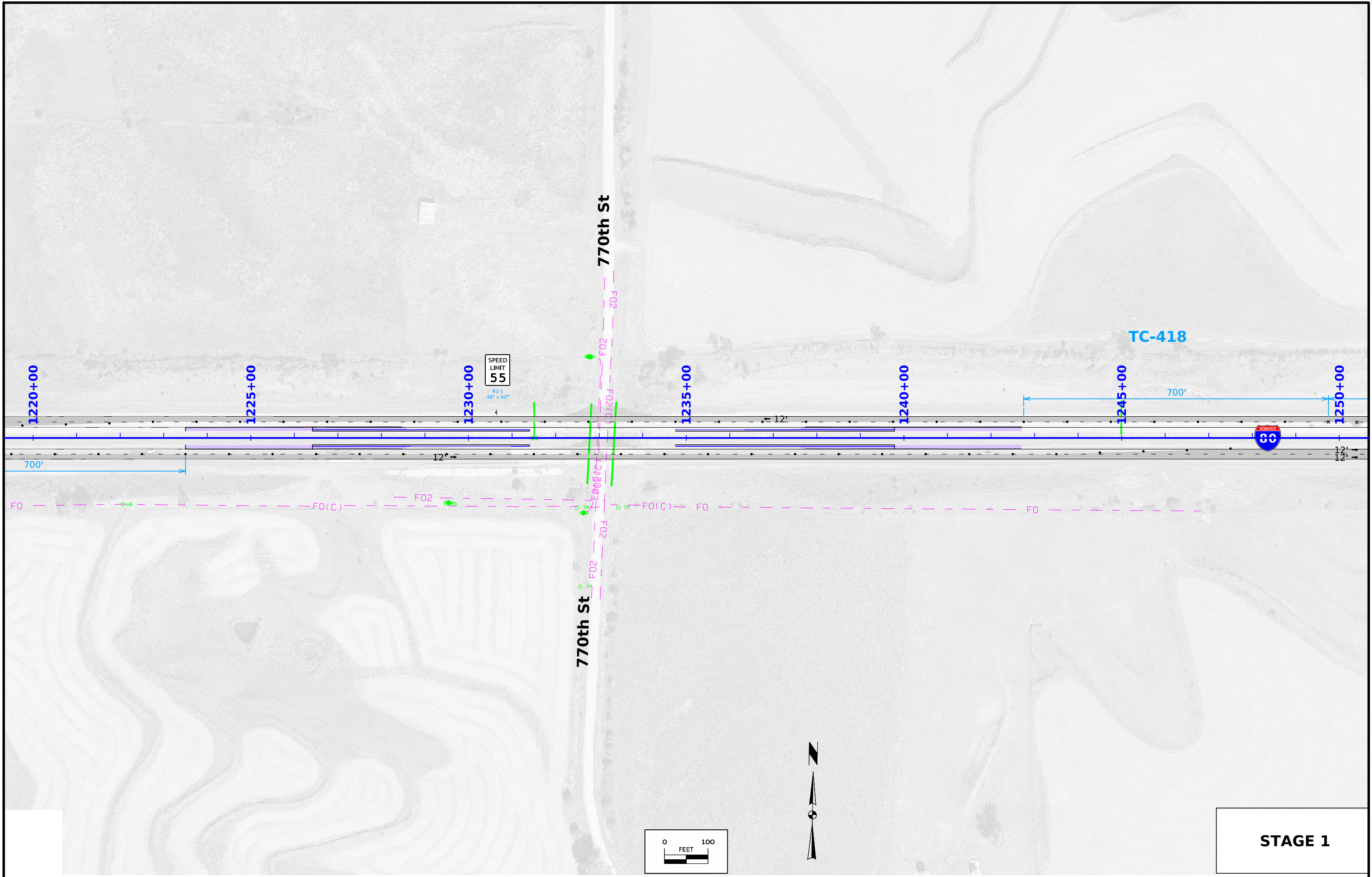
NOTE: Device spacing according to Standard Road Plans unless specifically dimensioned.

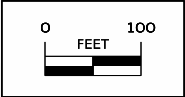
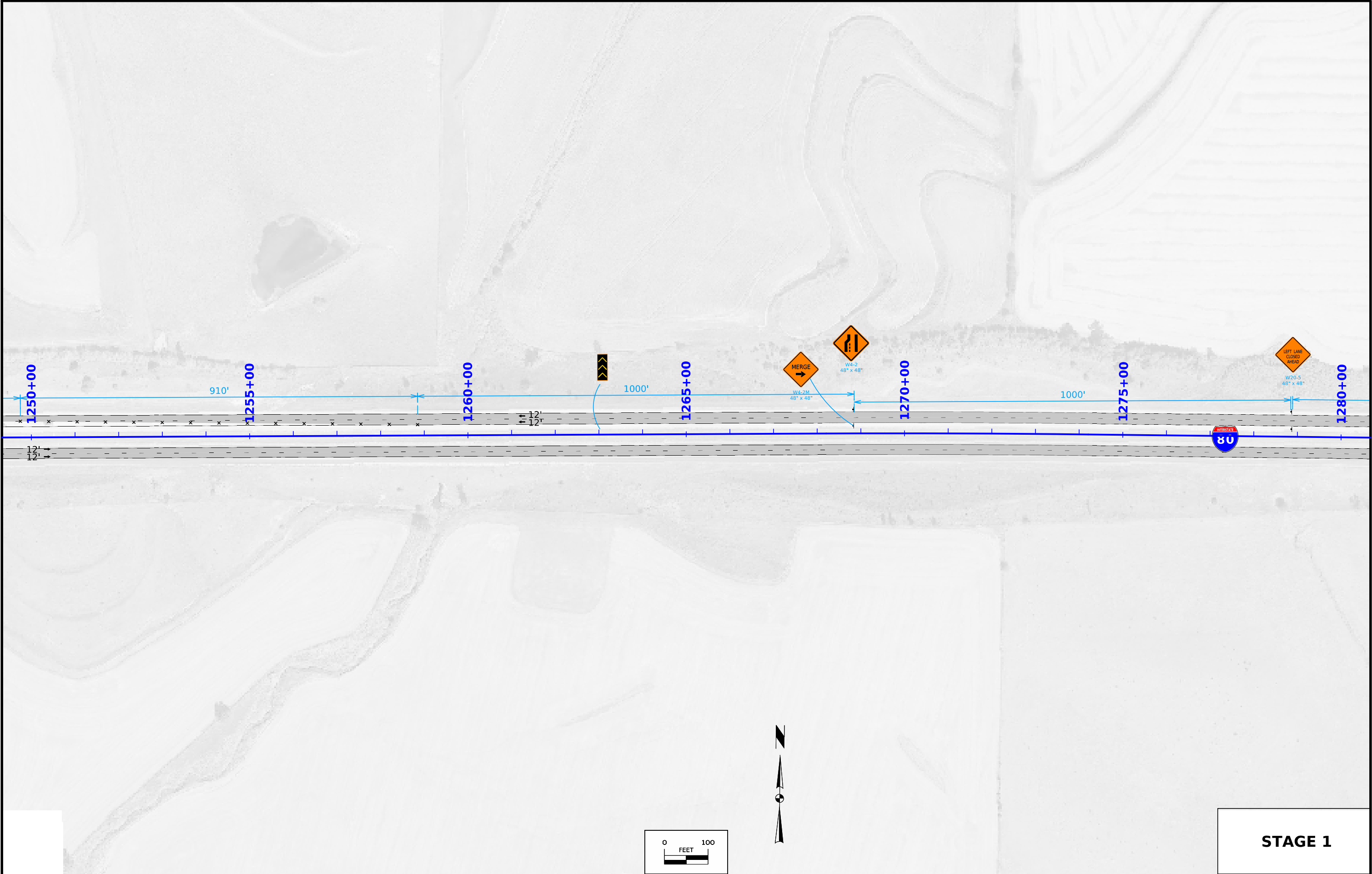
TRAFFIC CONTROL AND STAGING LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES J)

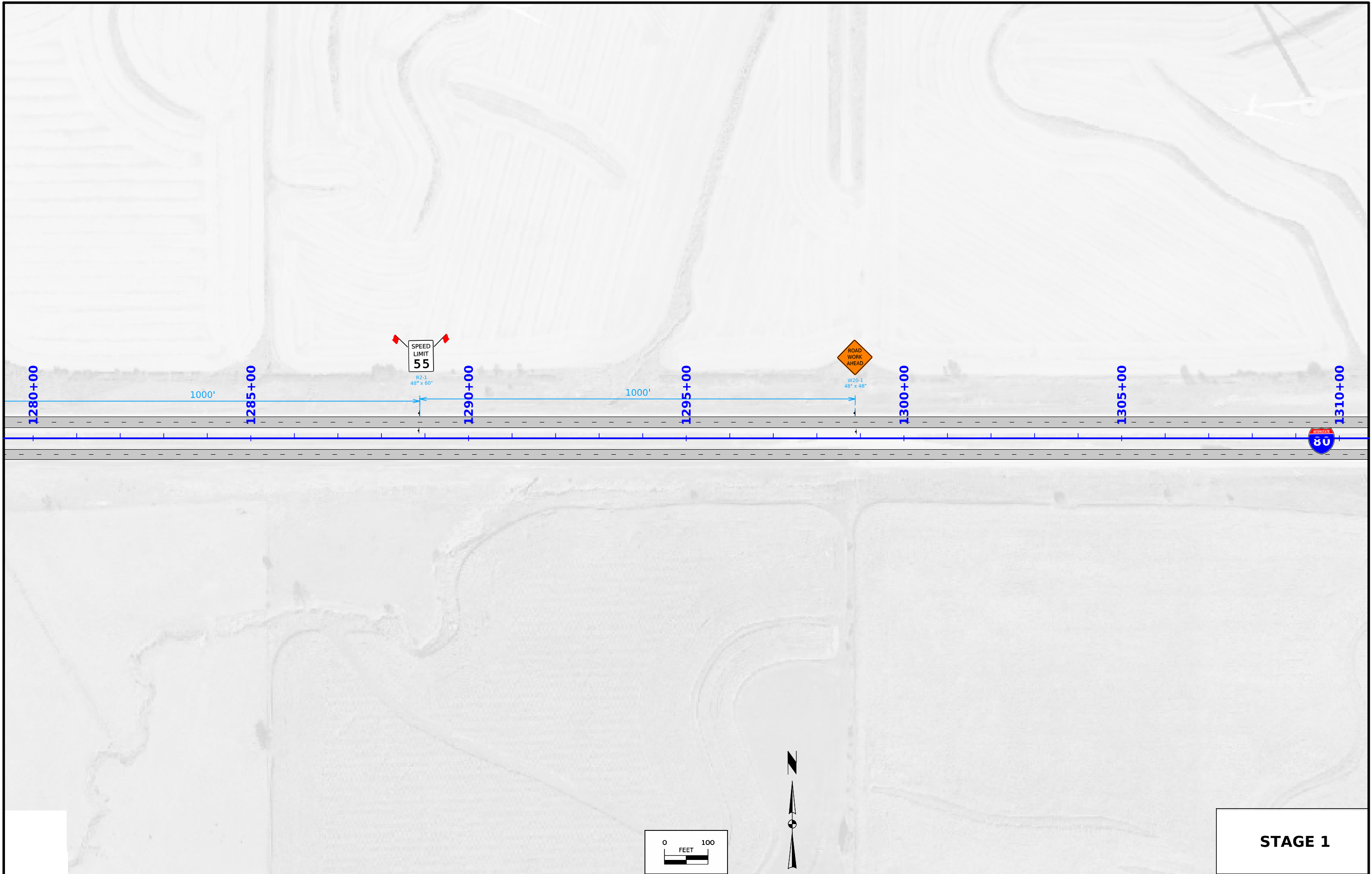


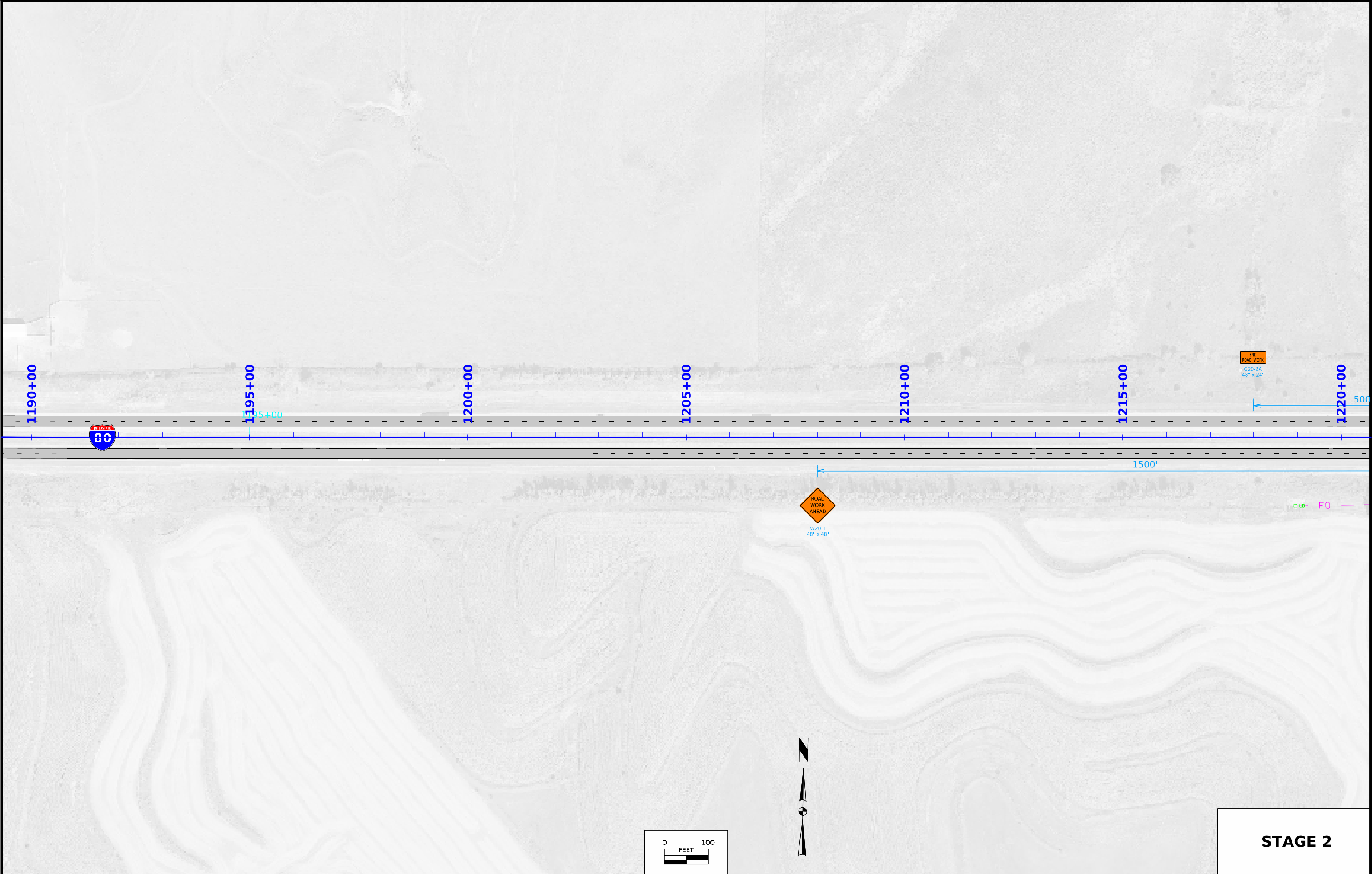


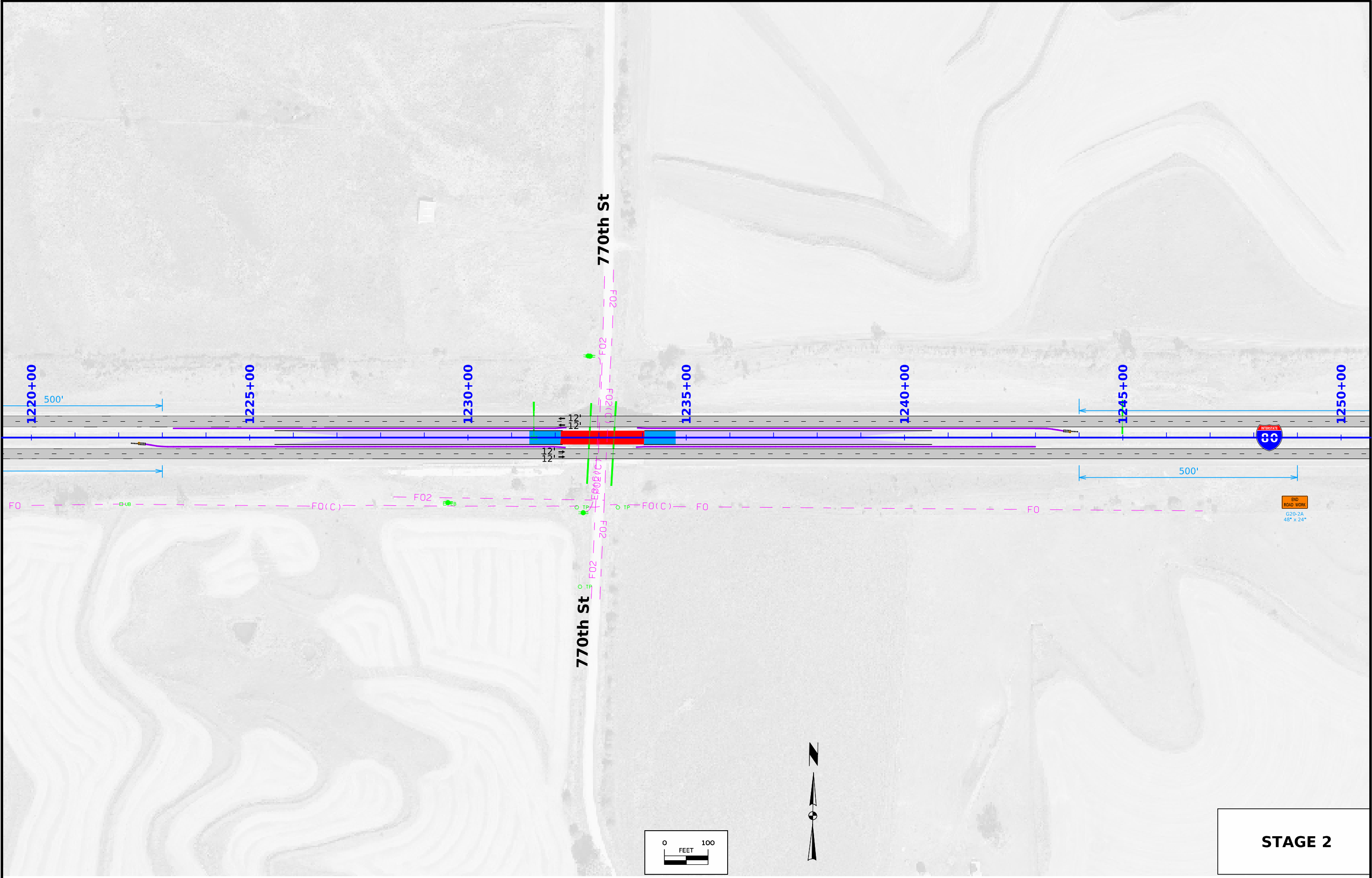


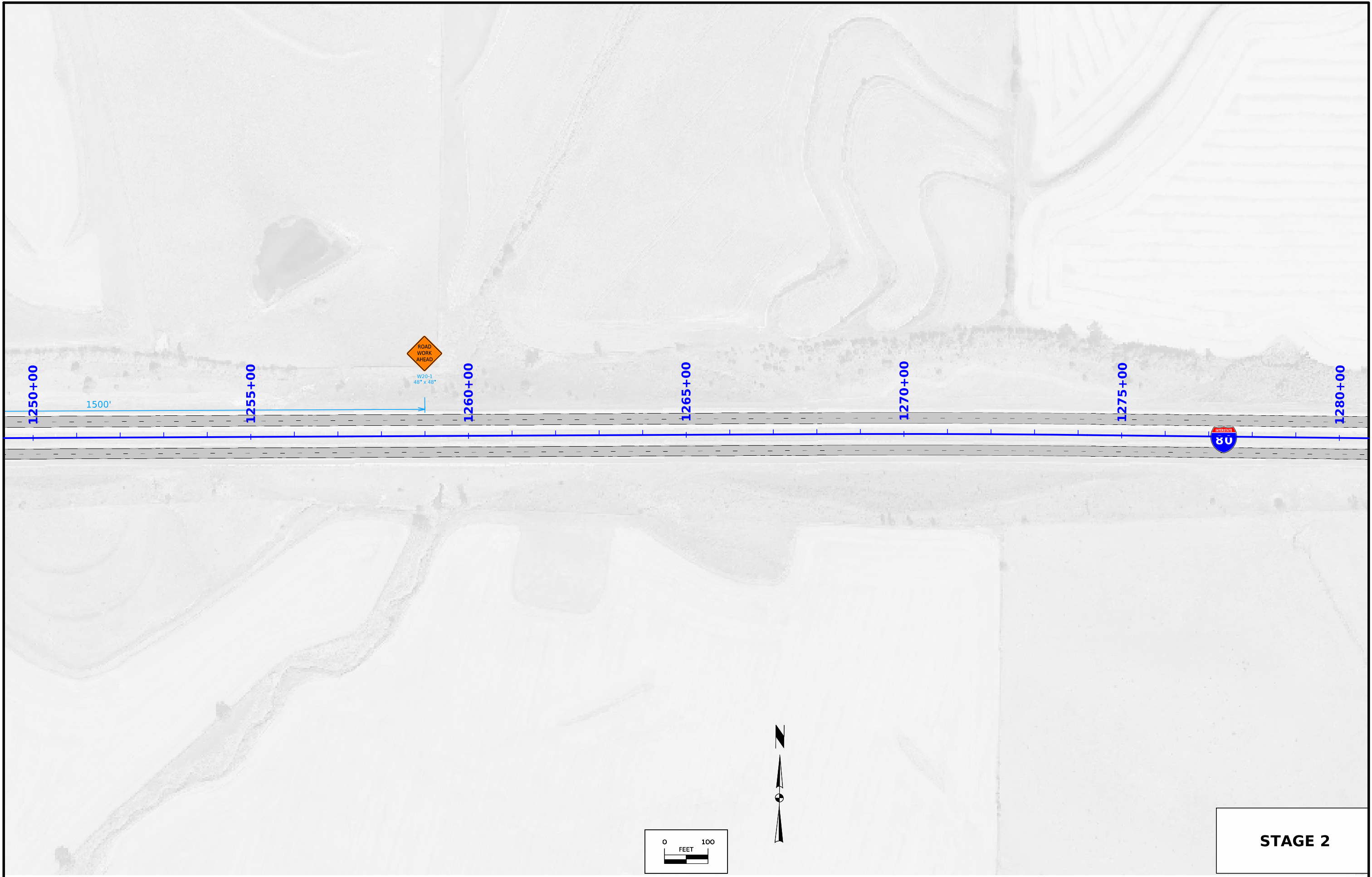


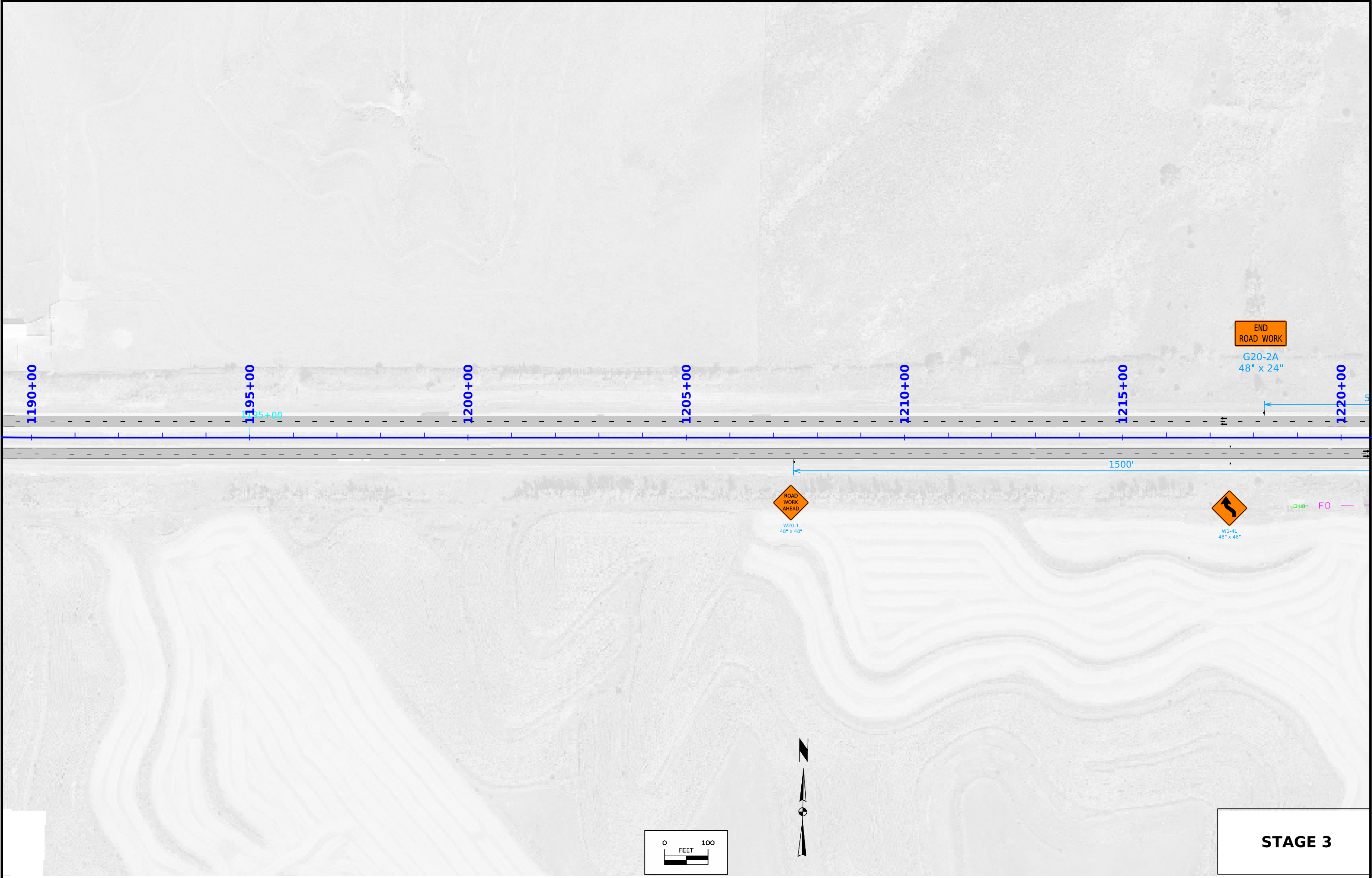
STAGE 1

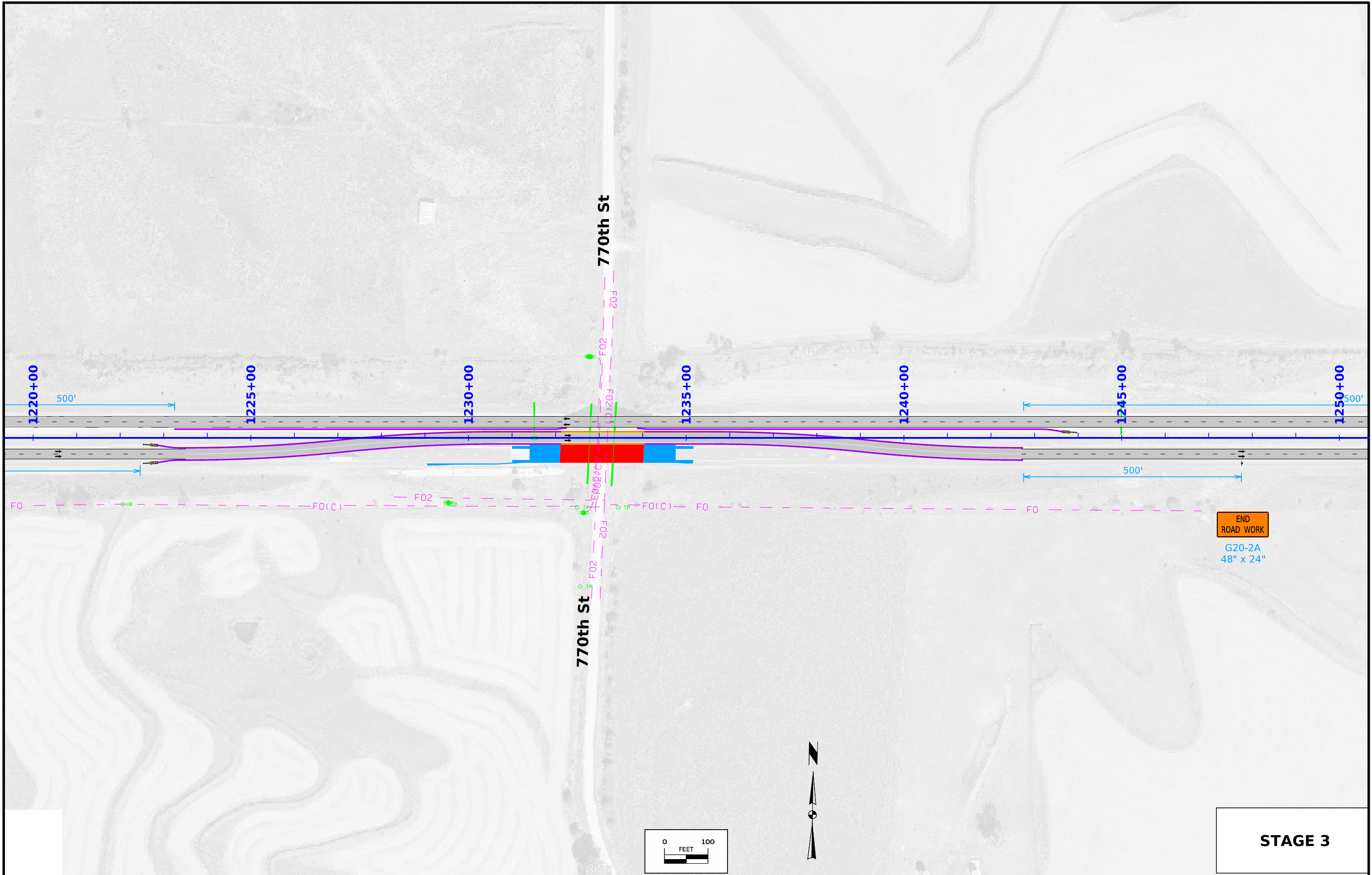


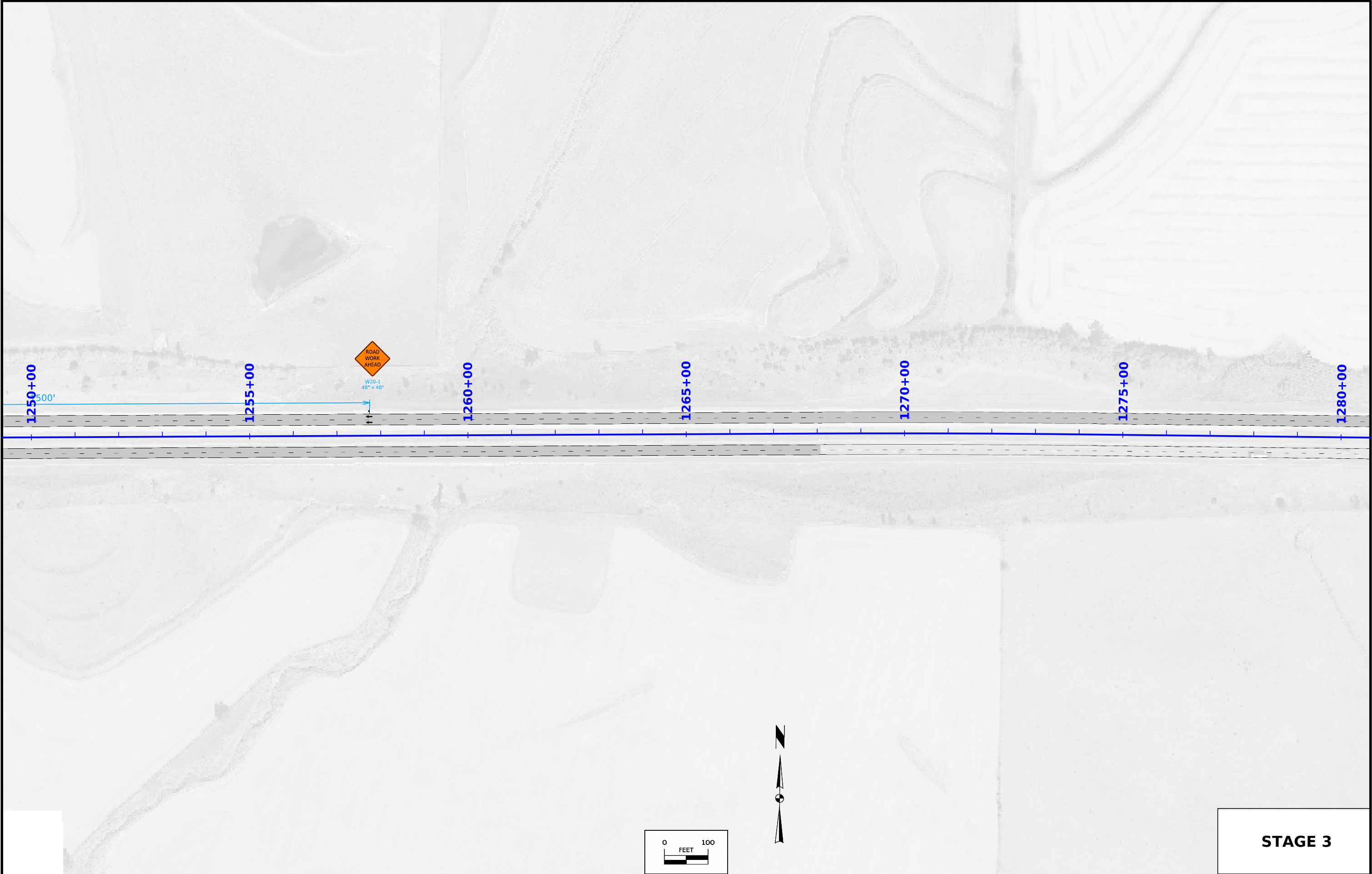




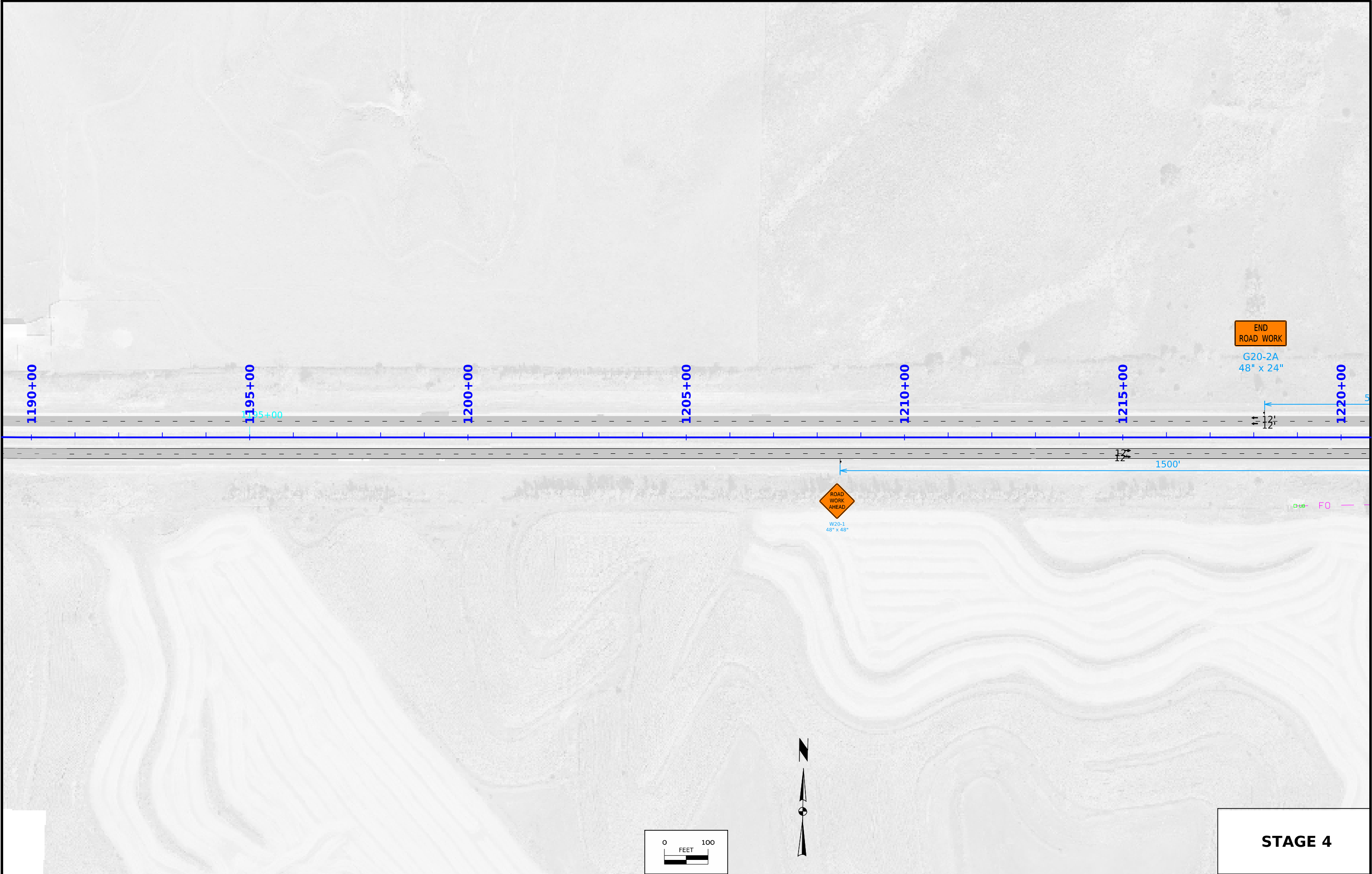


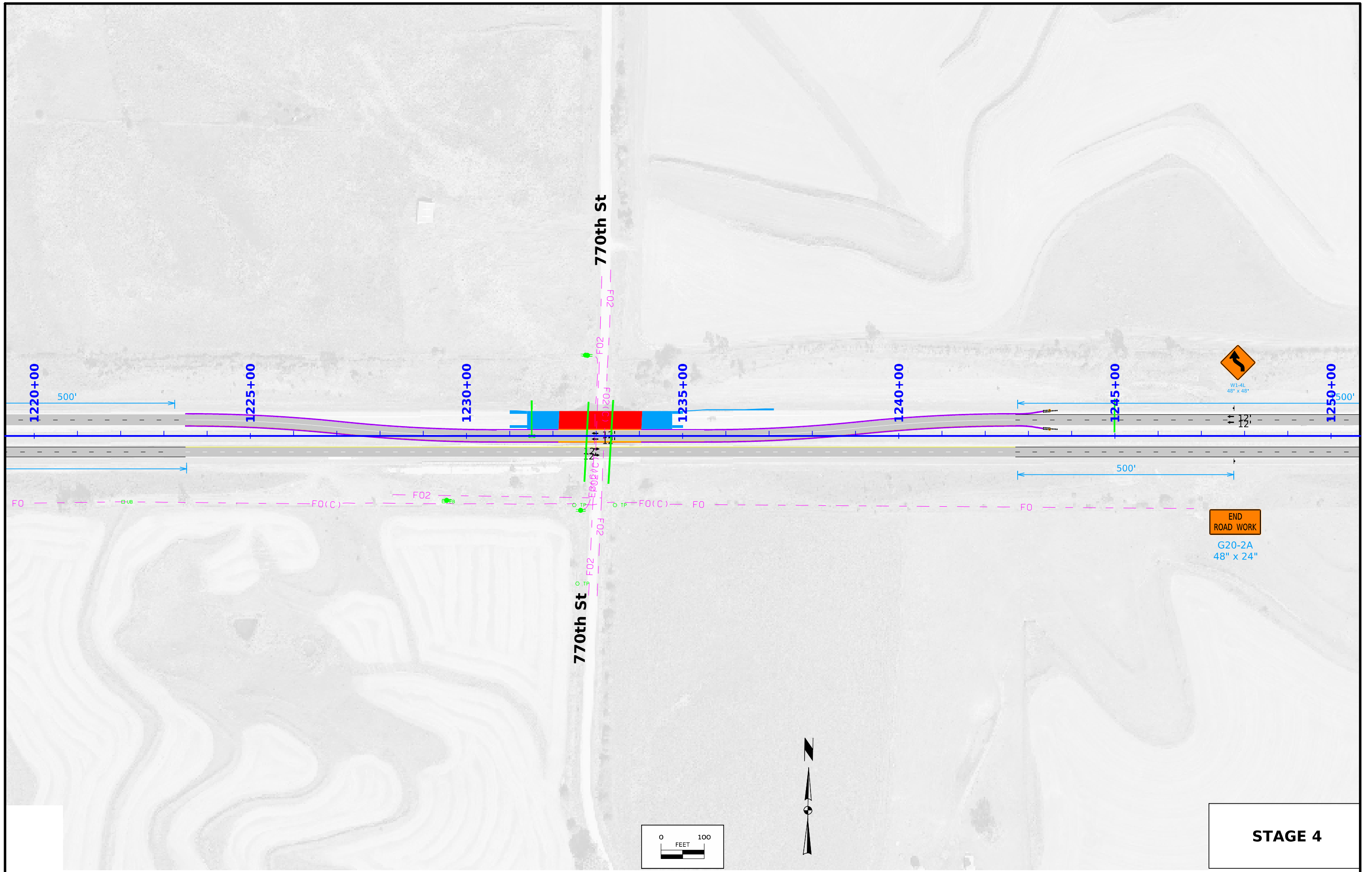




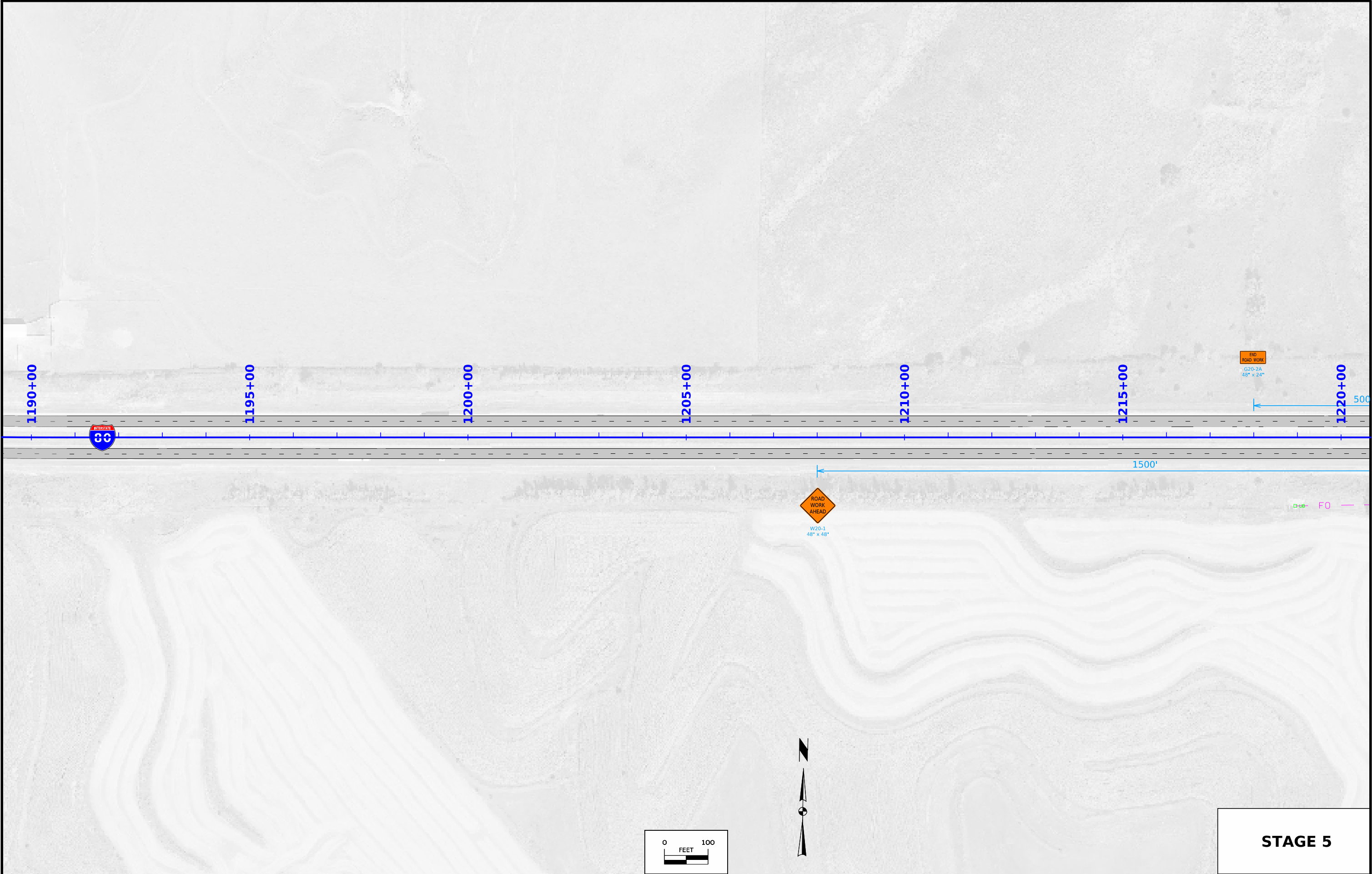


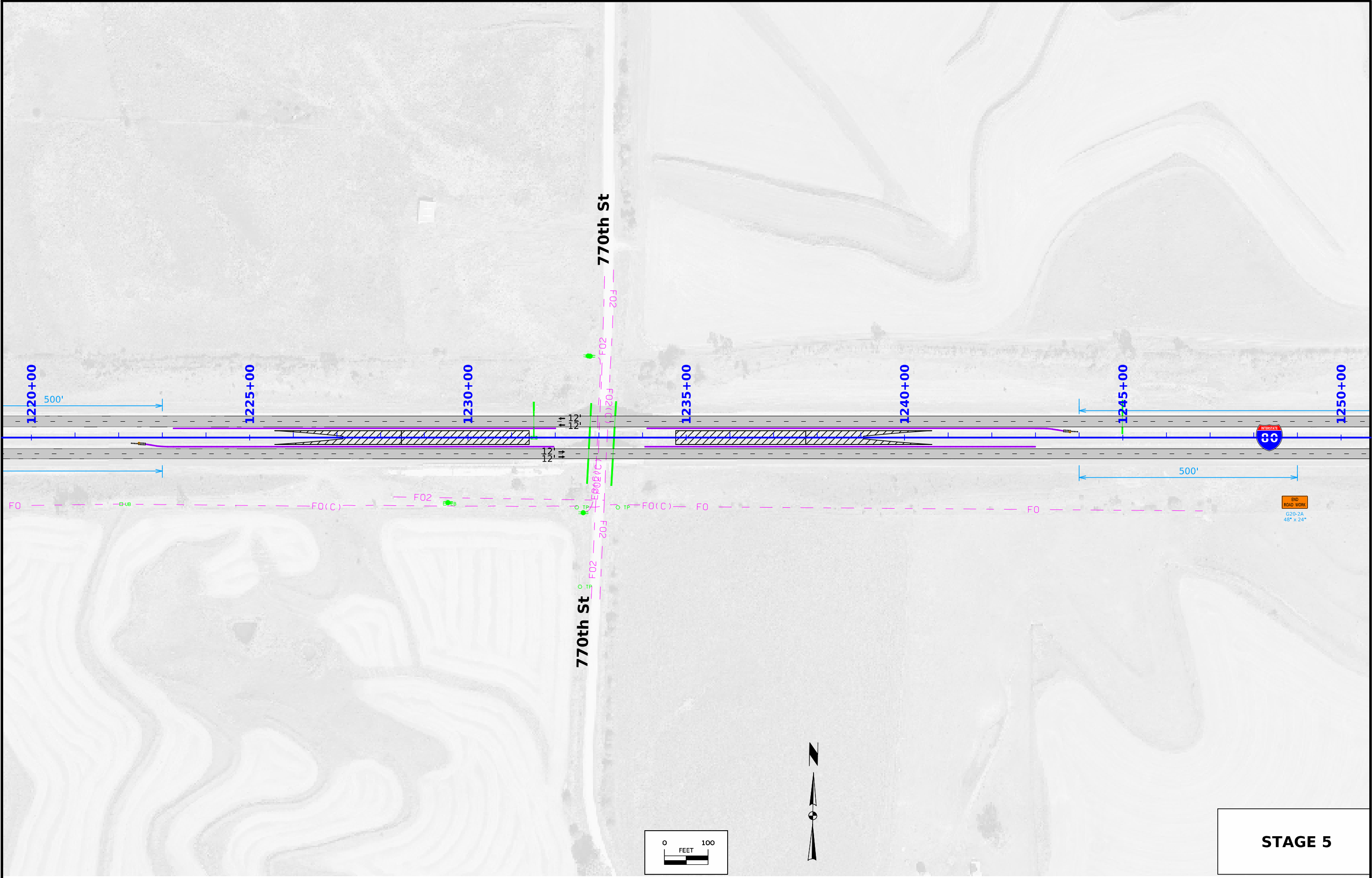
STAGE 3

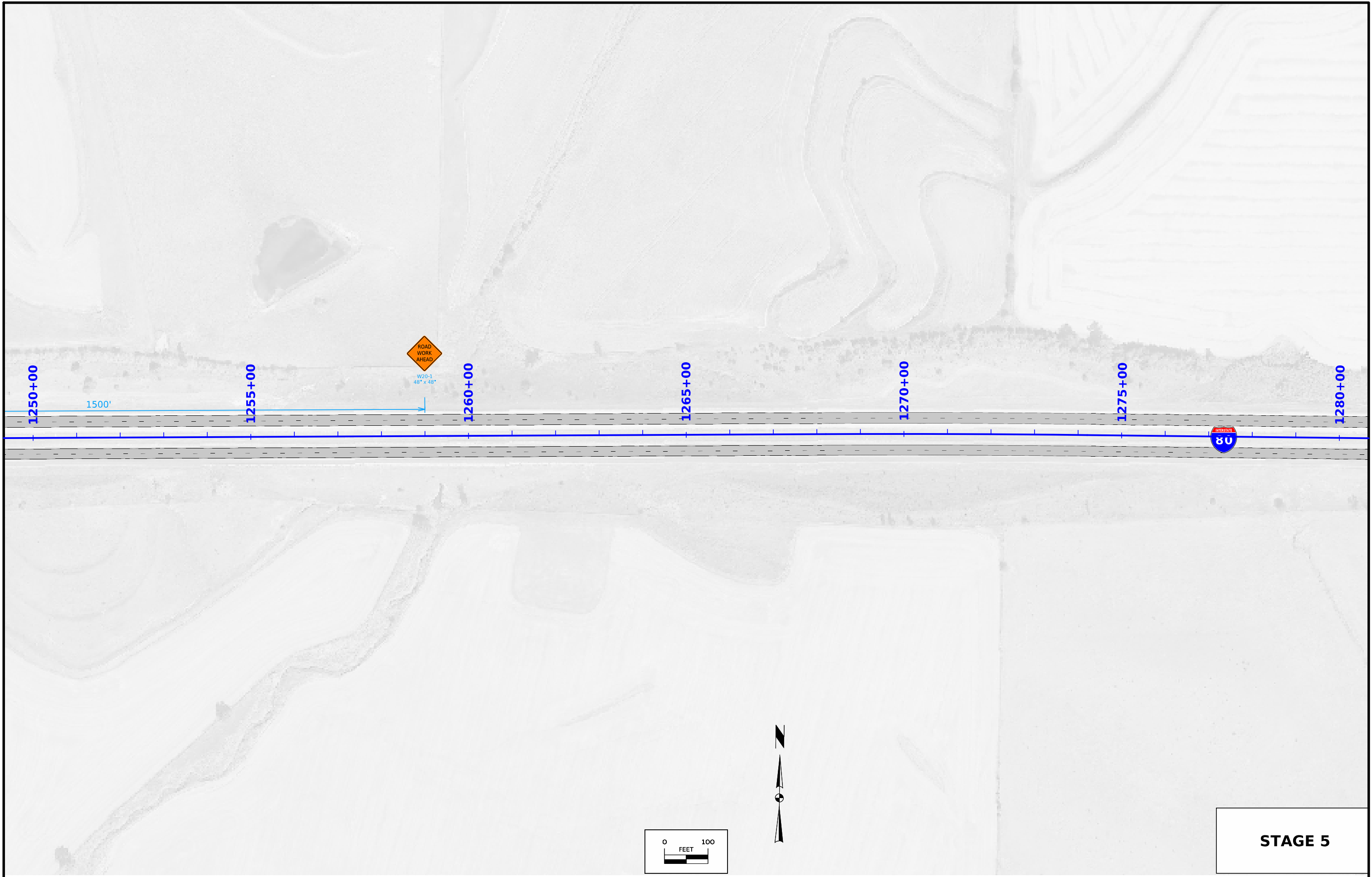












CROSS SECTION VIEW COLOR LEGEND			
Design Color No.	Feature	Design Color No.	Feature
Aggregate		Grading	
(64)	Choke Stone	(8)	Behind Curb Cut
(42)	Engineering Fabric	(6)	Granular
(8)	Flooded Backfill	(13)	Granular Back Fill
(92)	Macadam Stone	(48)	Rock Undercut
(20)	Modified	(8)	Shoulder Earth Fill
(12)	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:

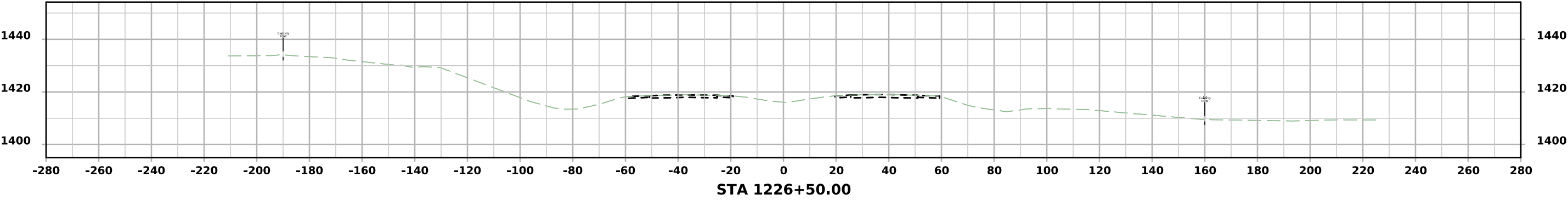
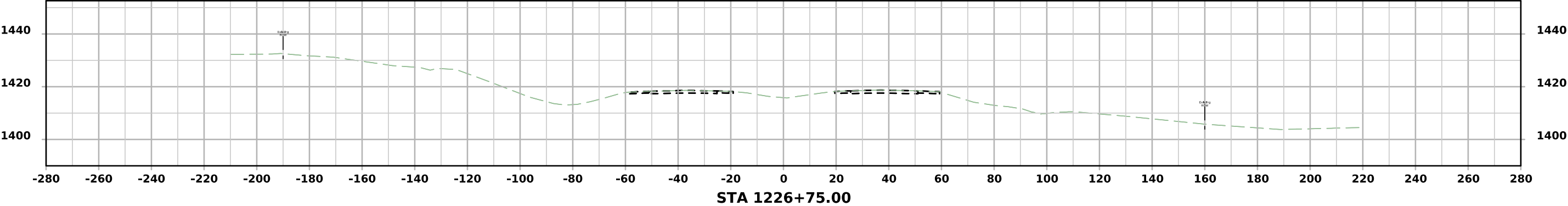
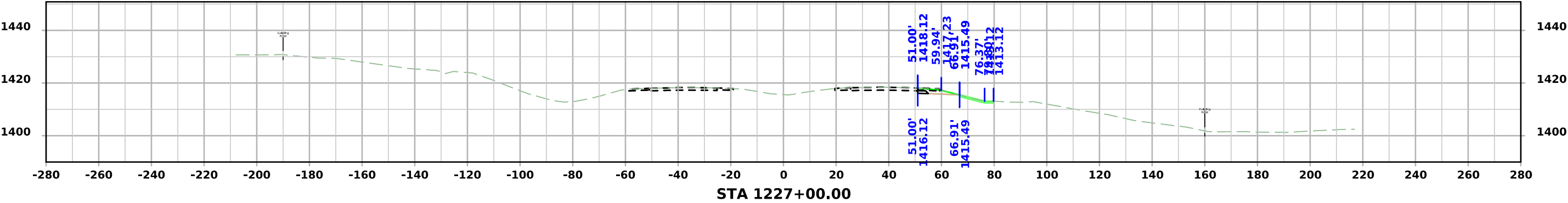
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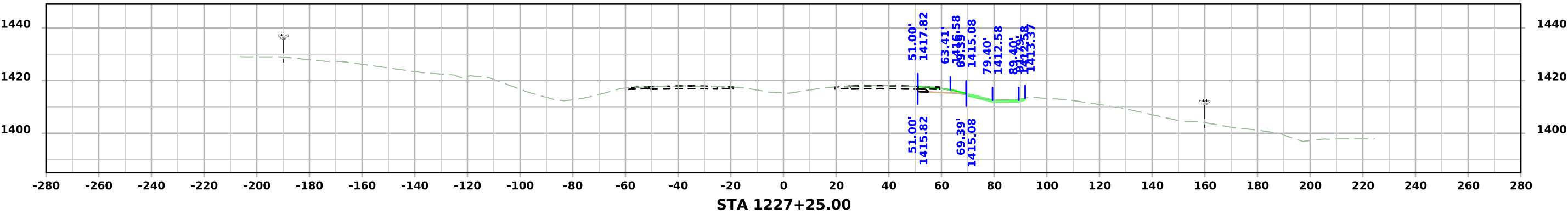
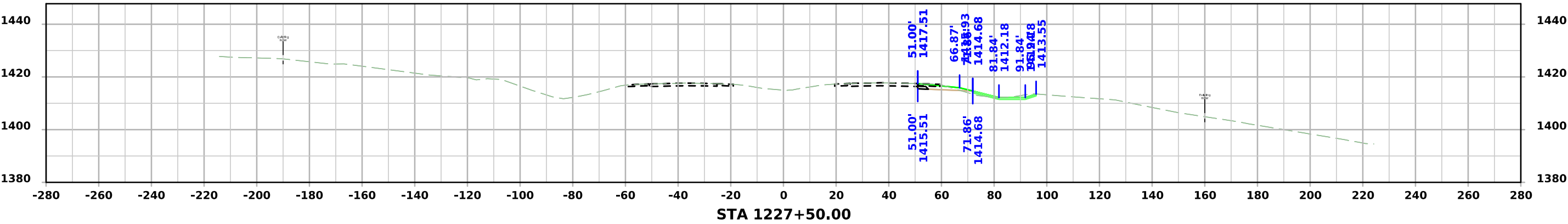
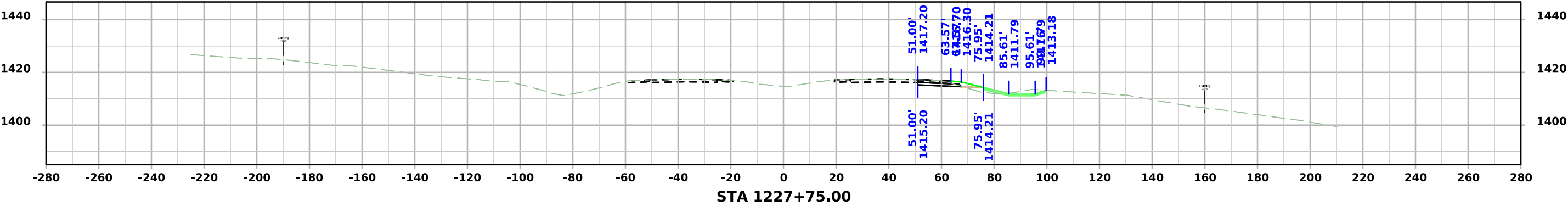
NOTES:

Text

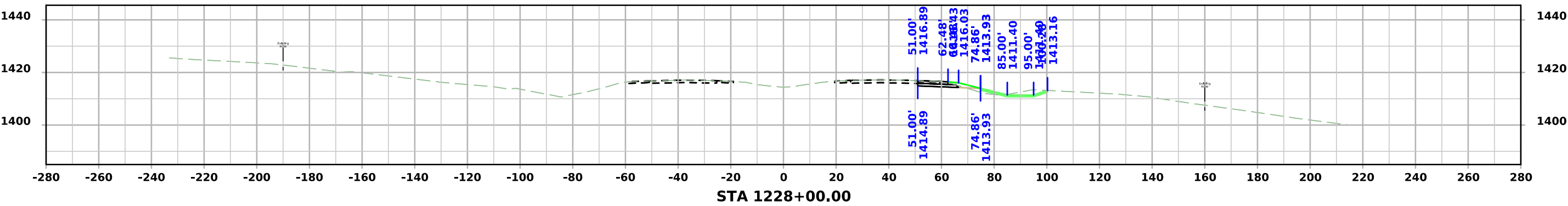
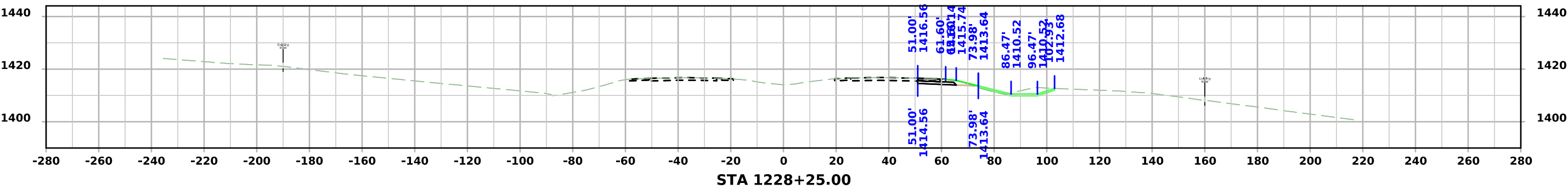
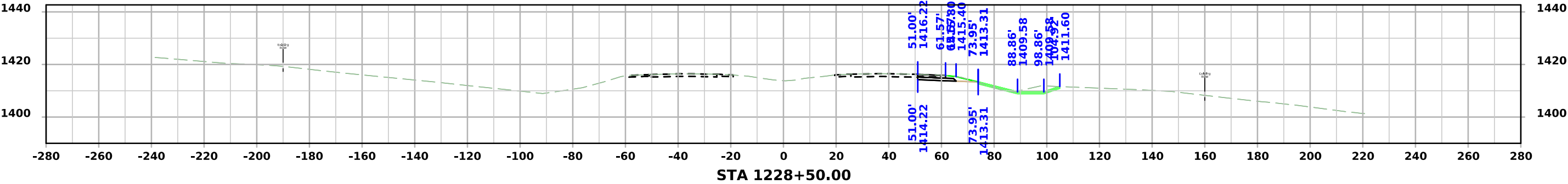
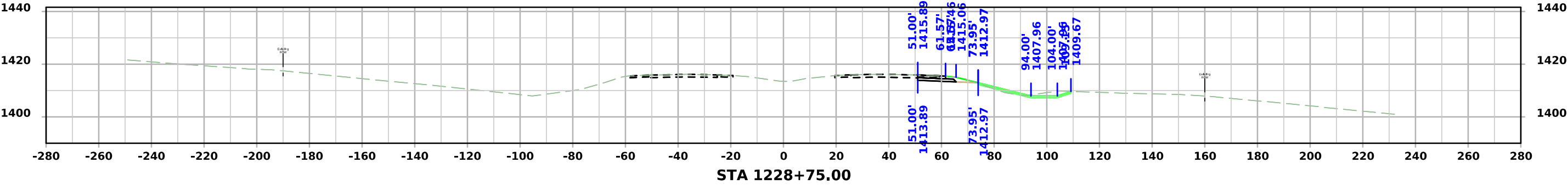
CROSS SECTIONS
LEGEND AND INFORMATION SHEET

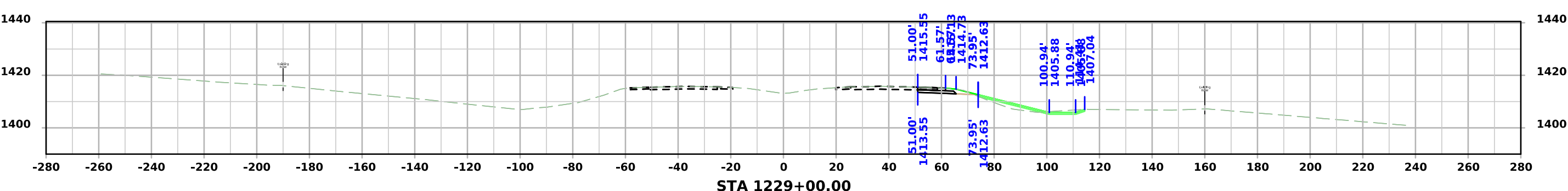
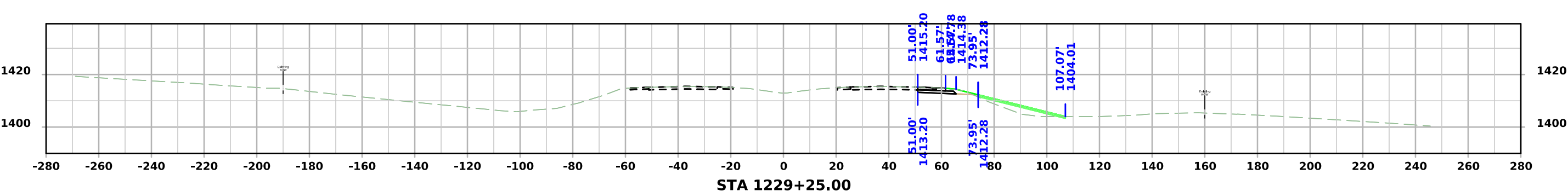
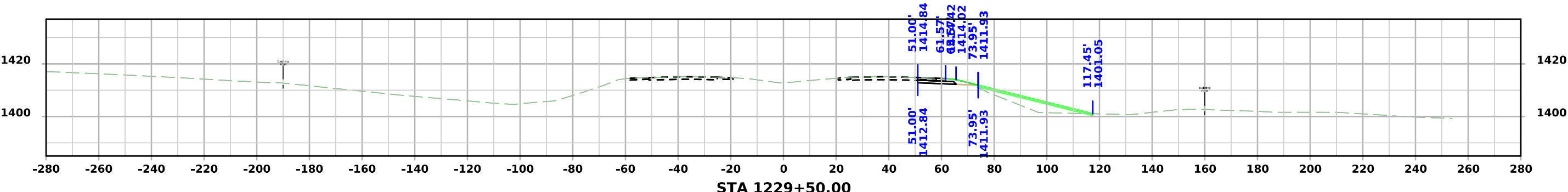
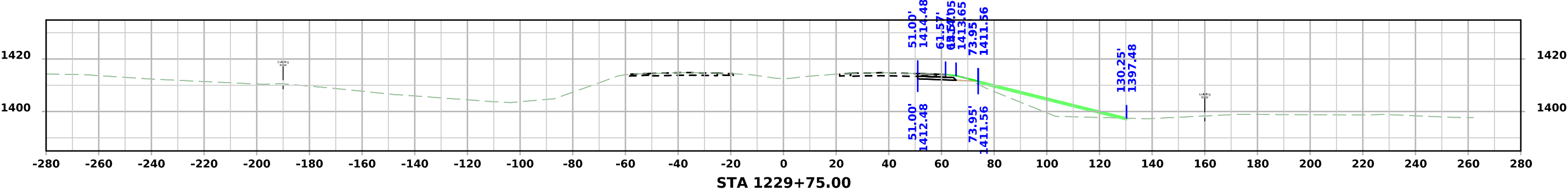
(COVERS SHEET SERIES W, X, Y, & Z)



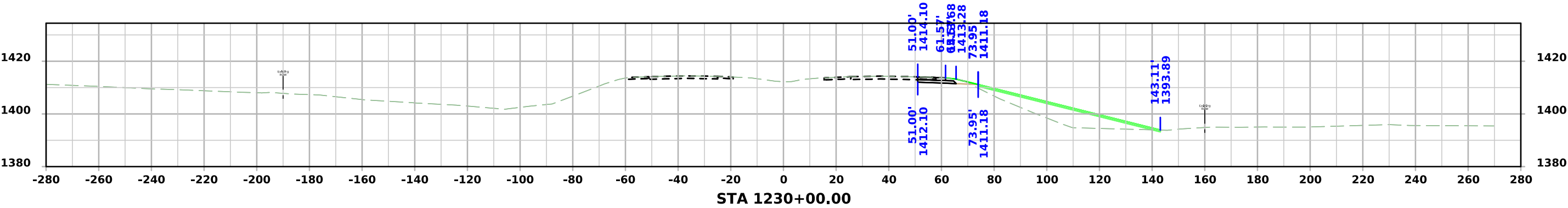
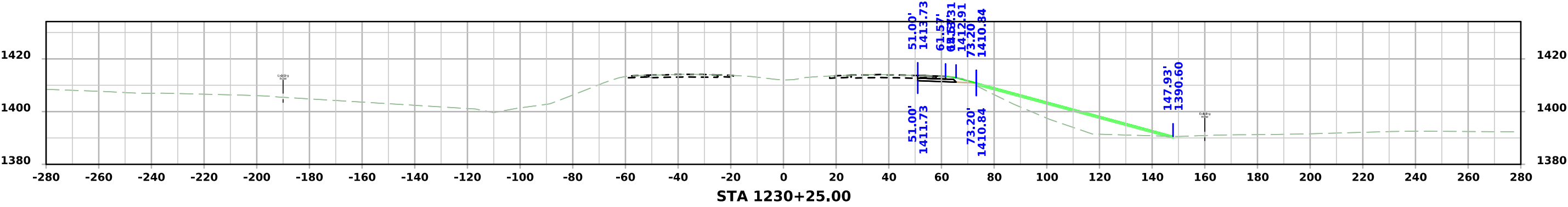
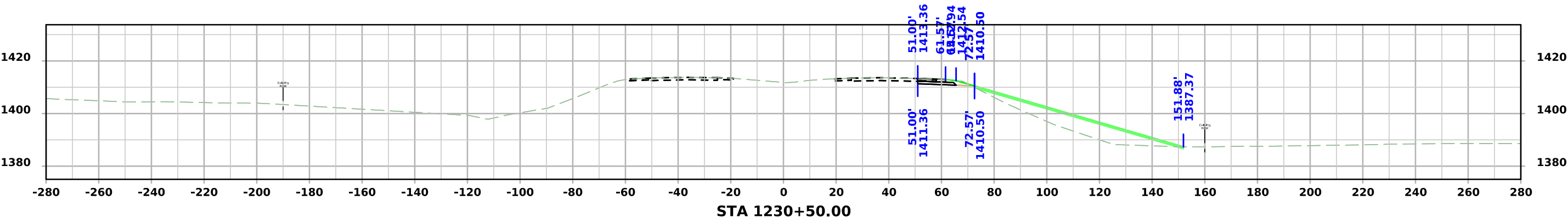
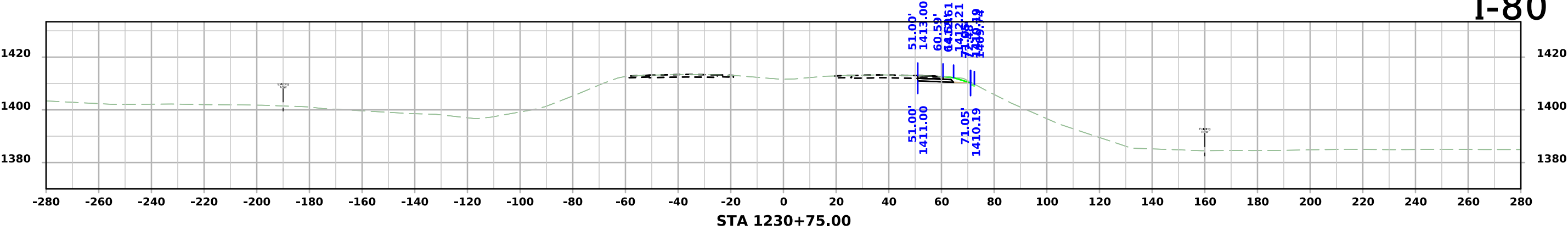


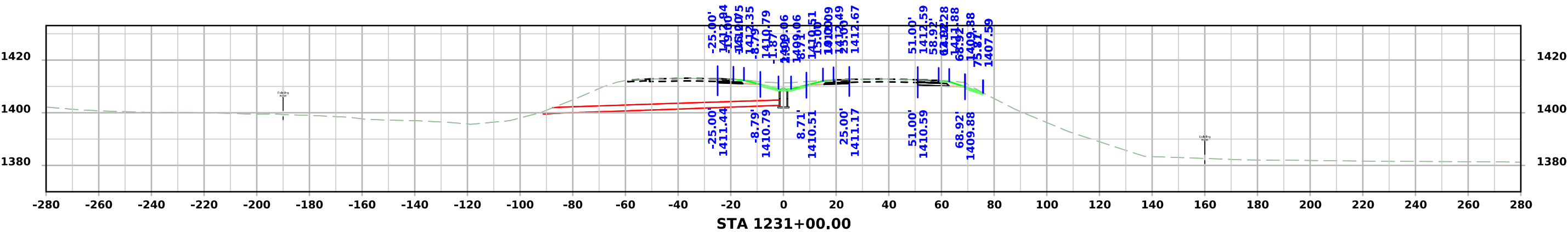
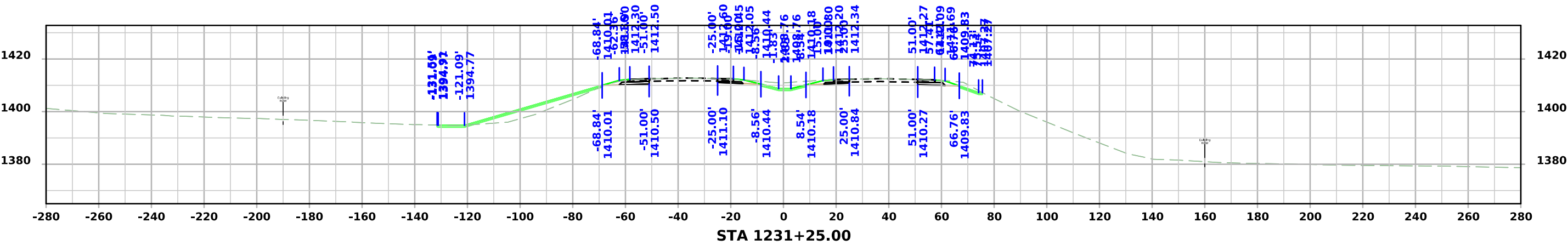
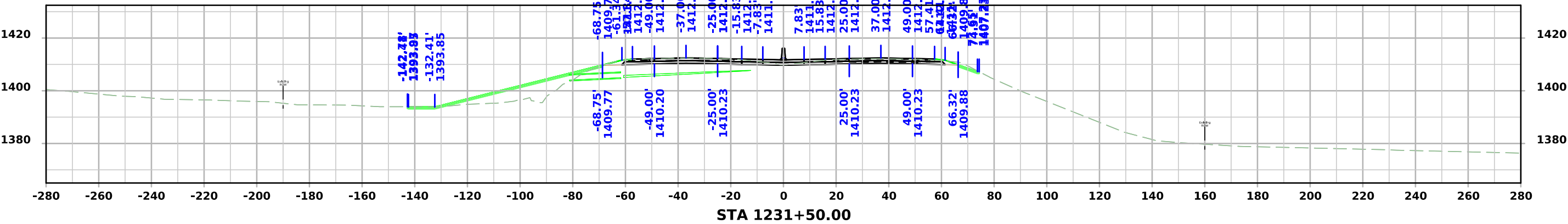
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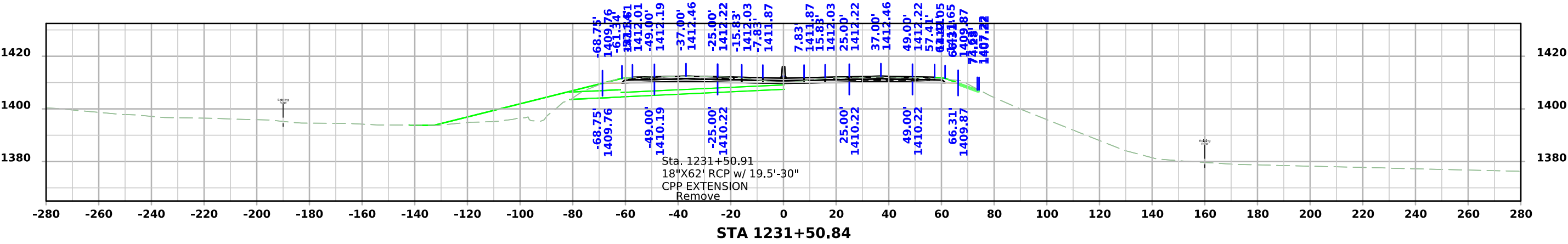
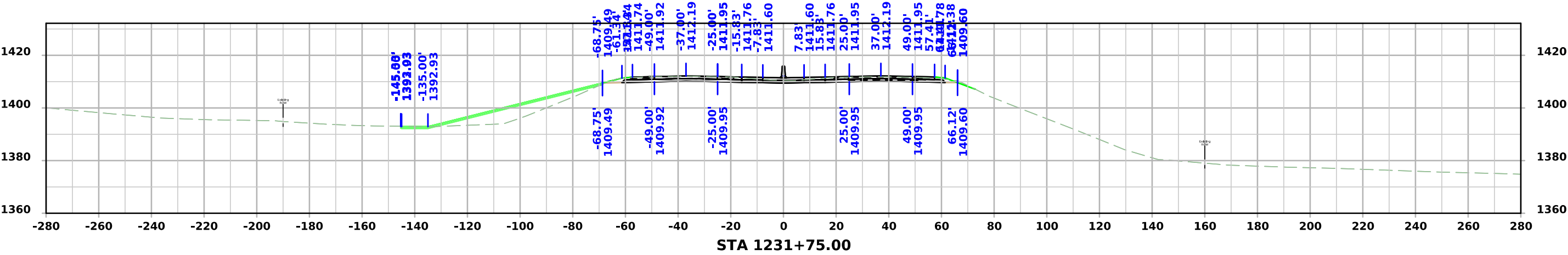
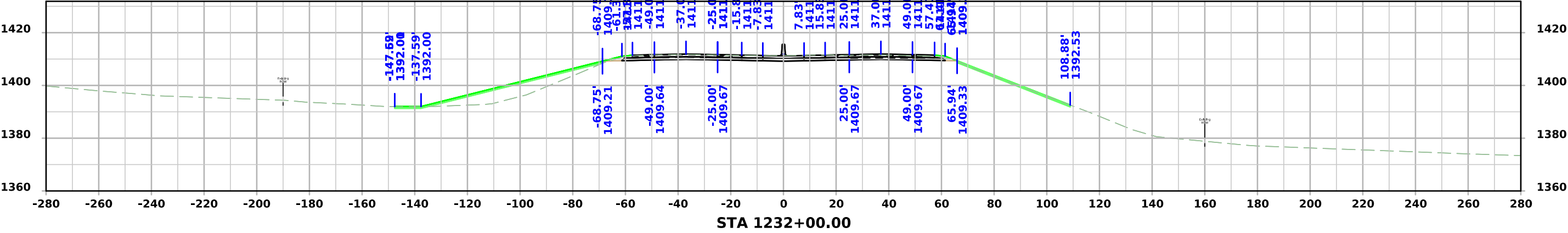


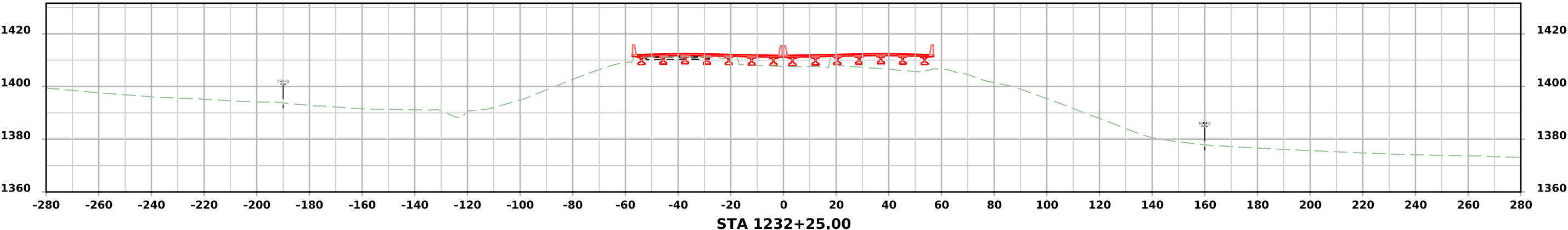
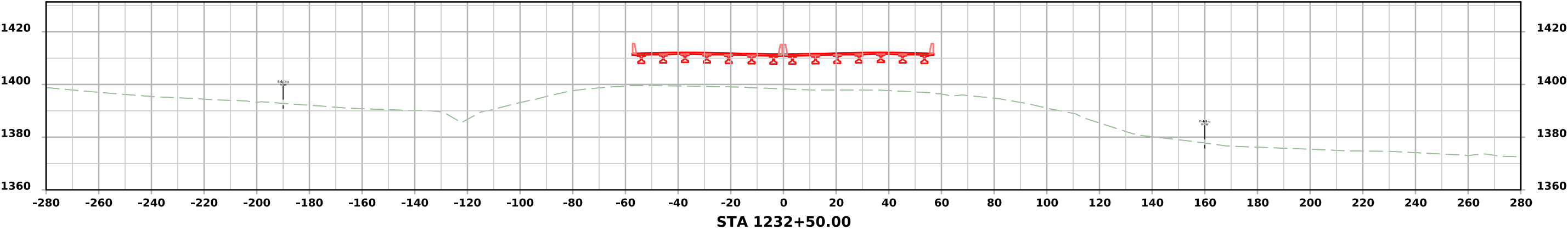
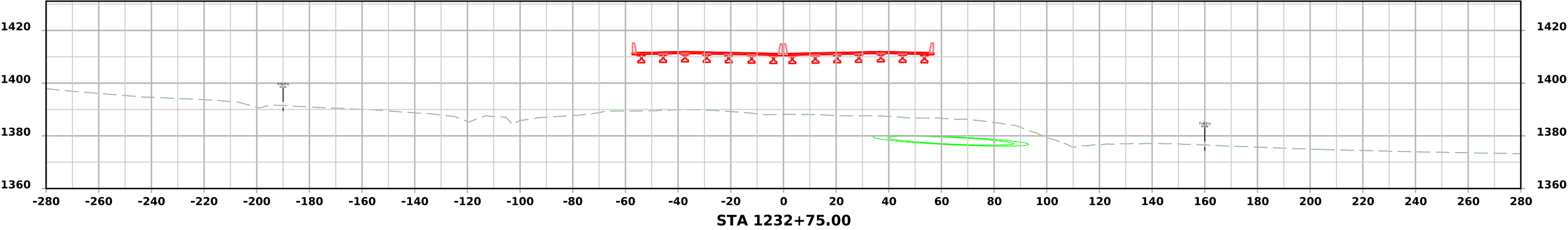


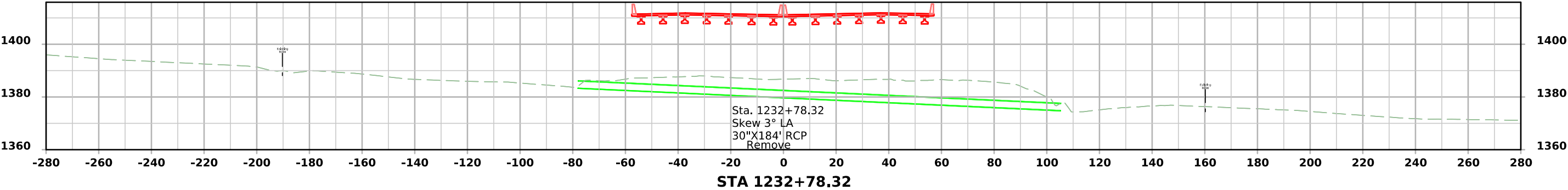
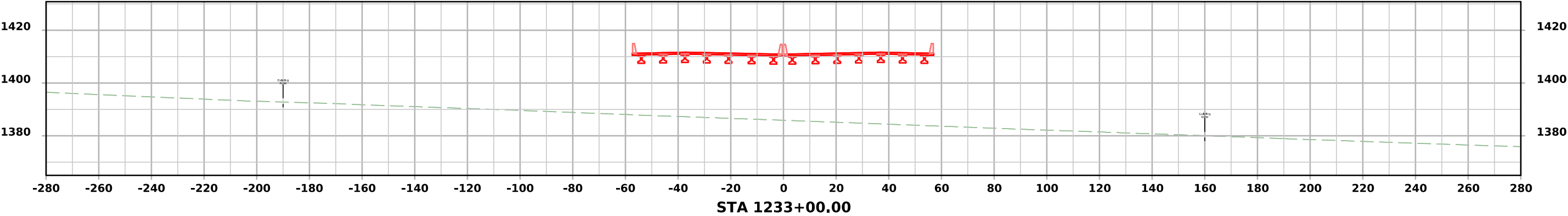
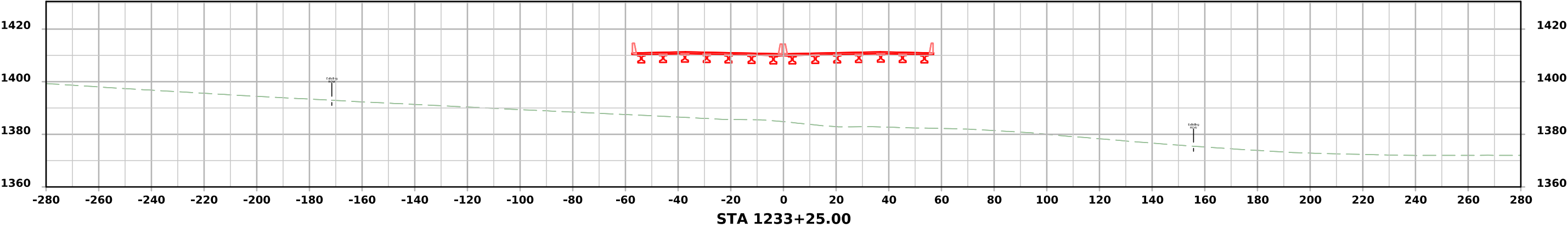
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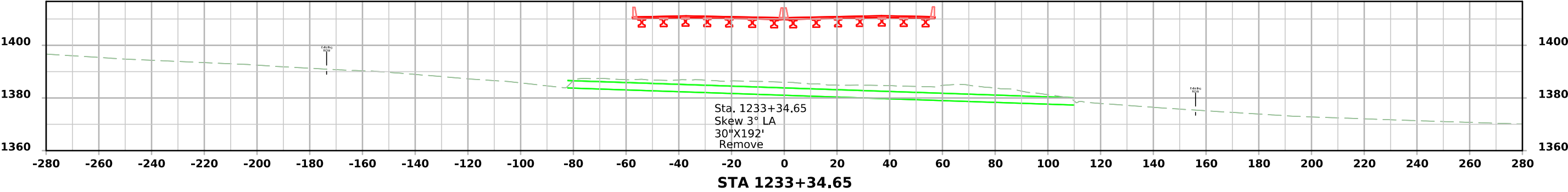
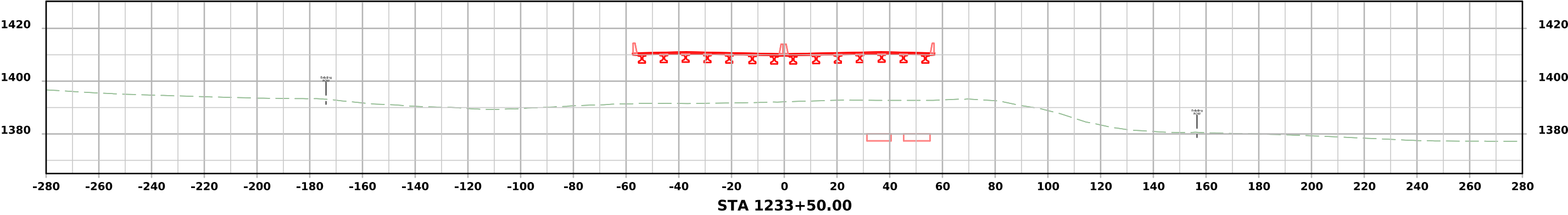
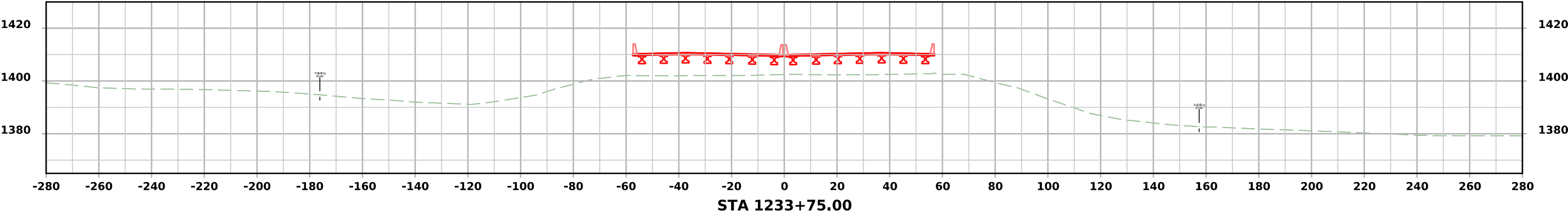




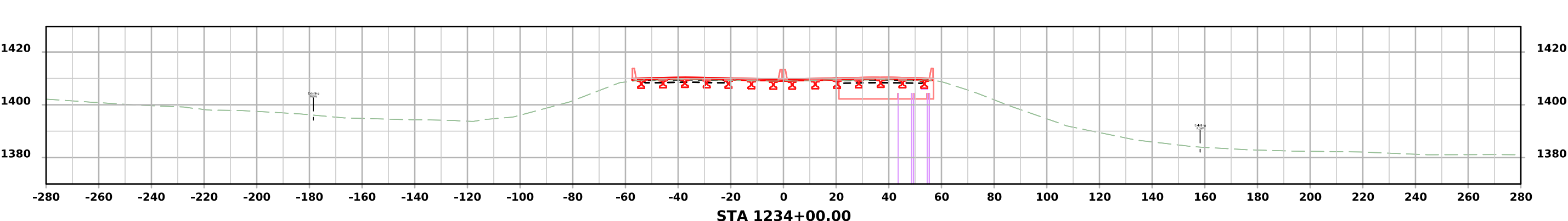
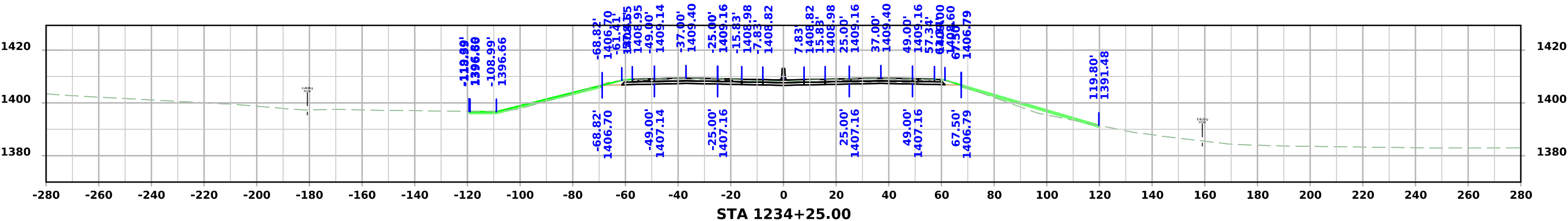
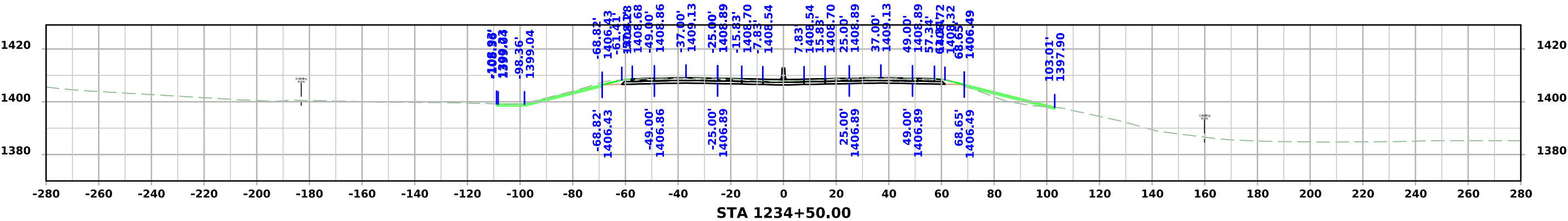
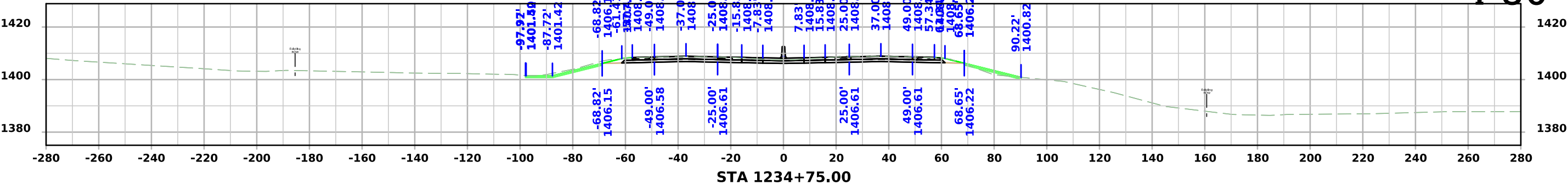




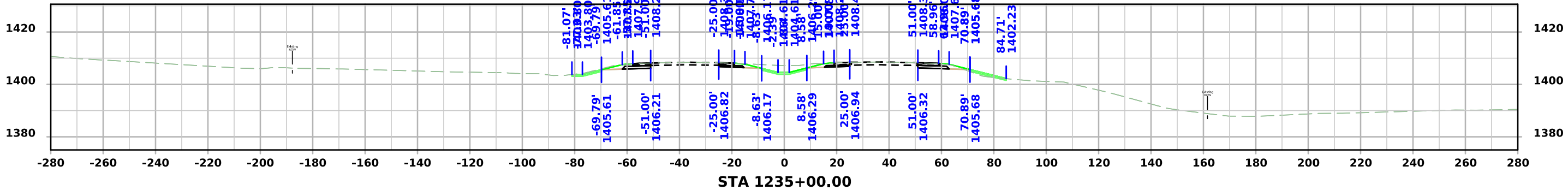
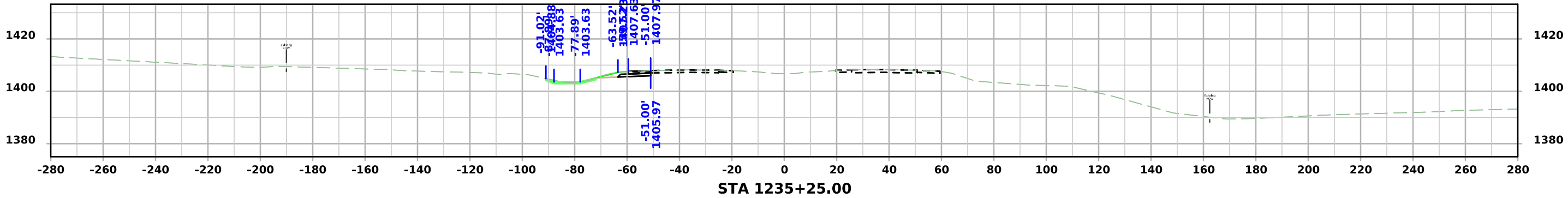
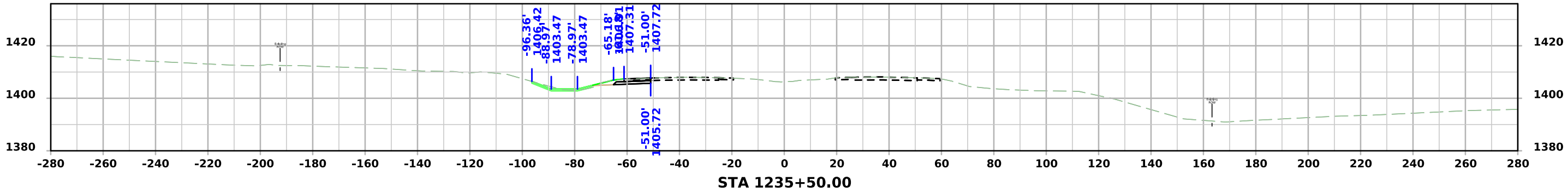
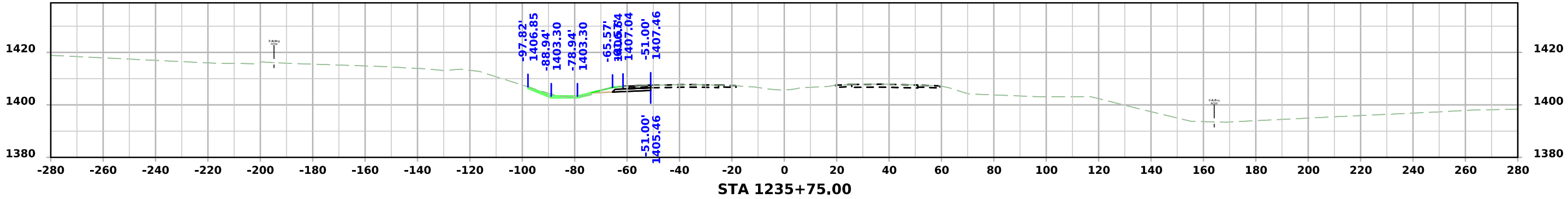




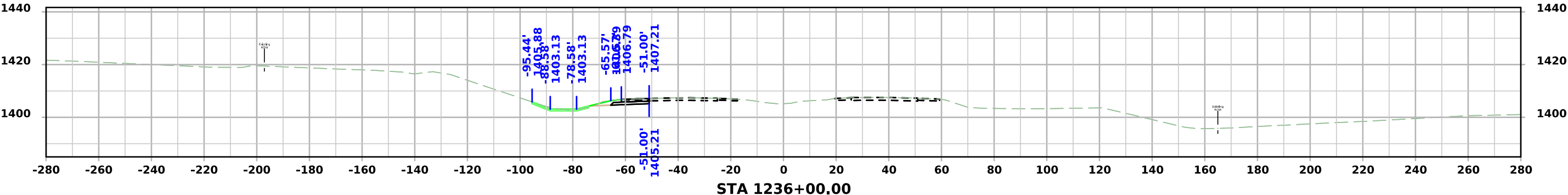
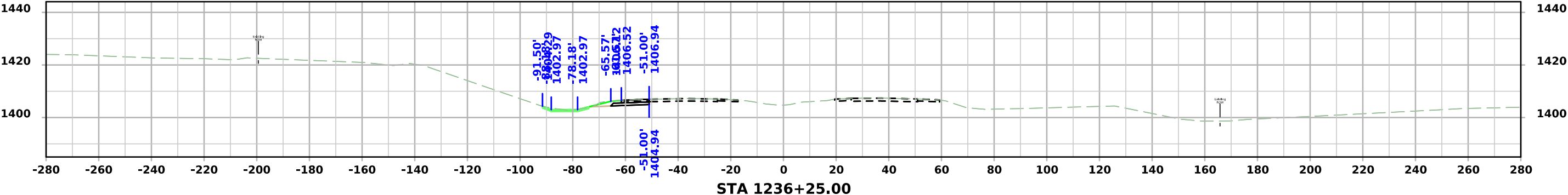
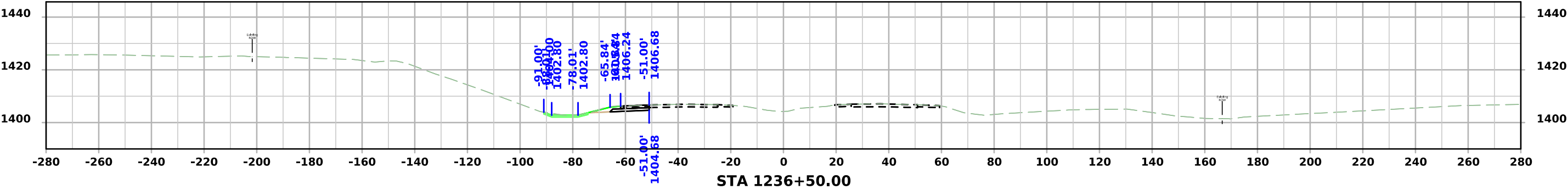
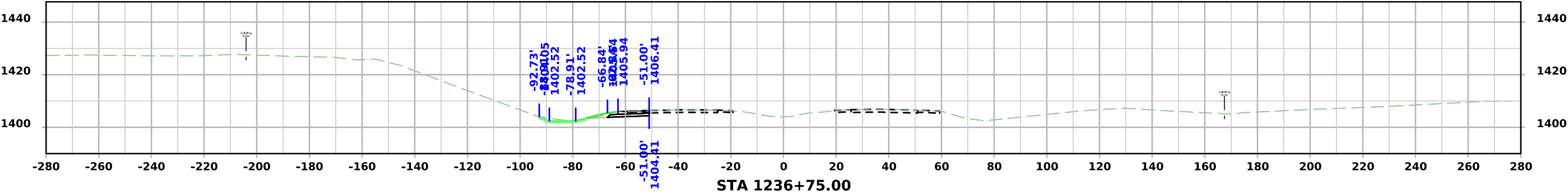
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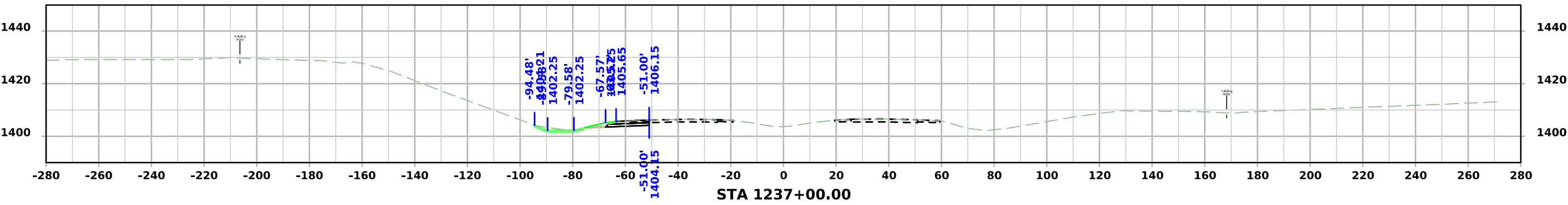
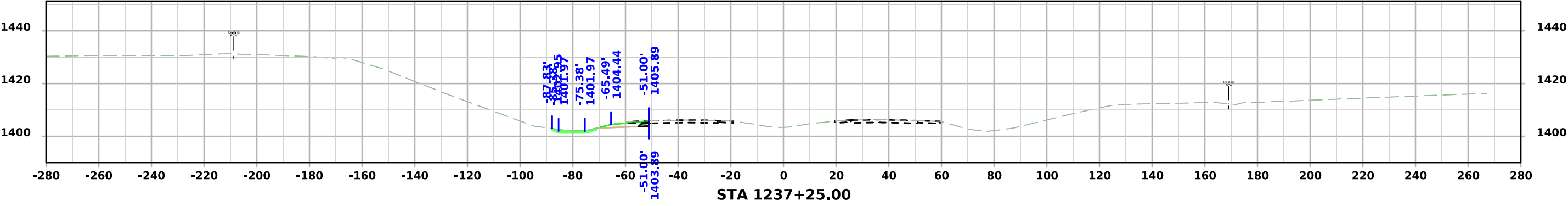
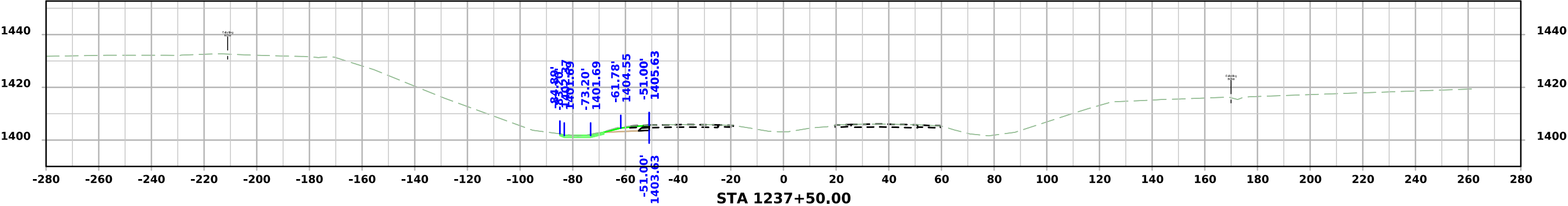


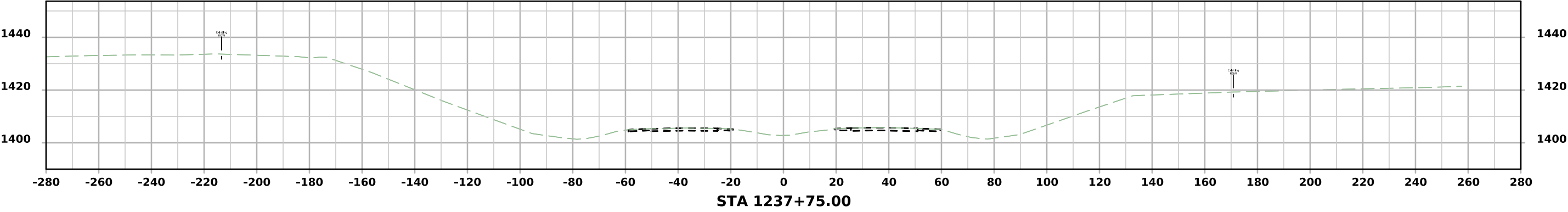
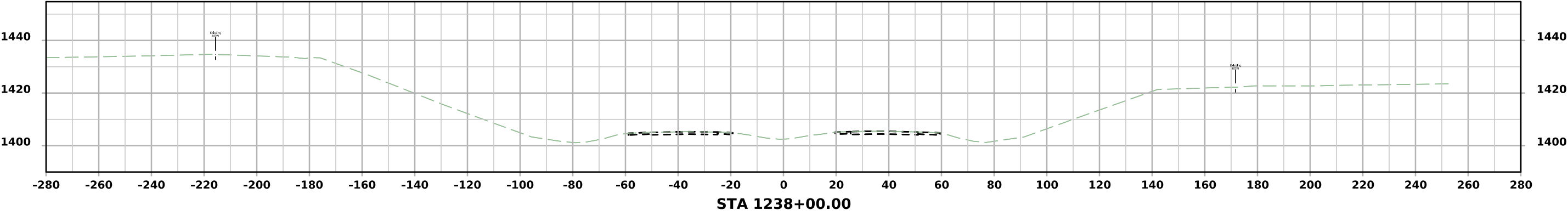
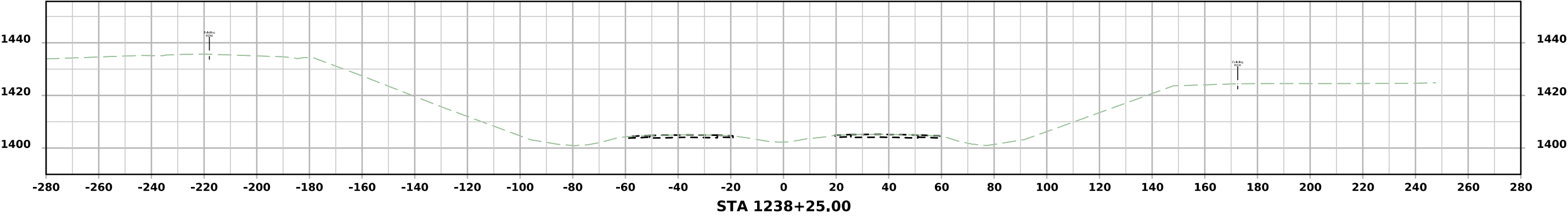
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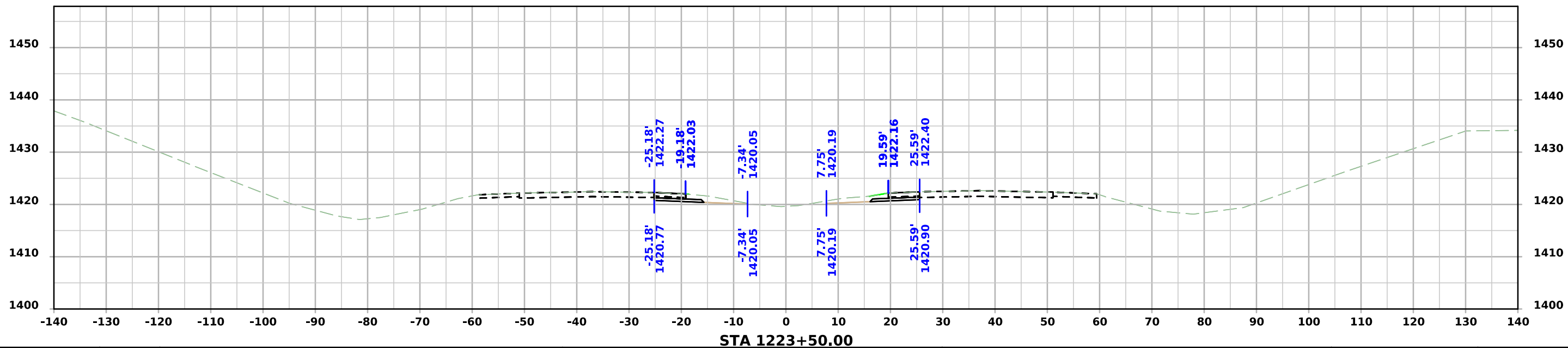
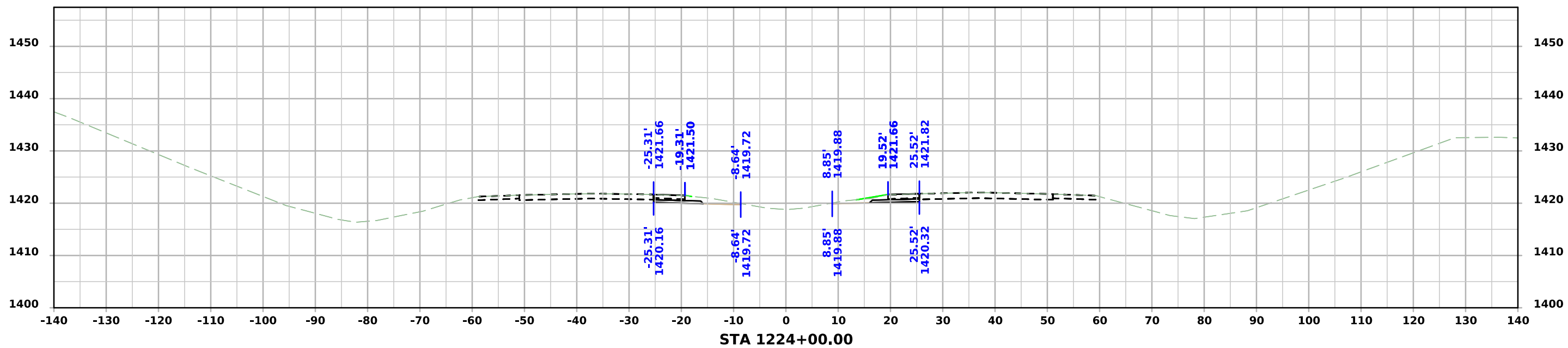
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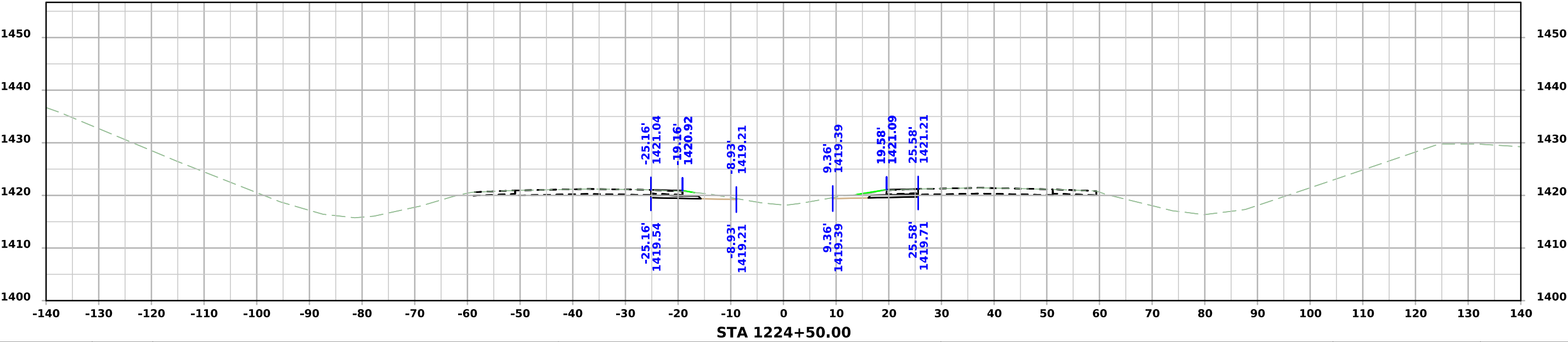
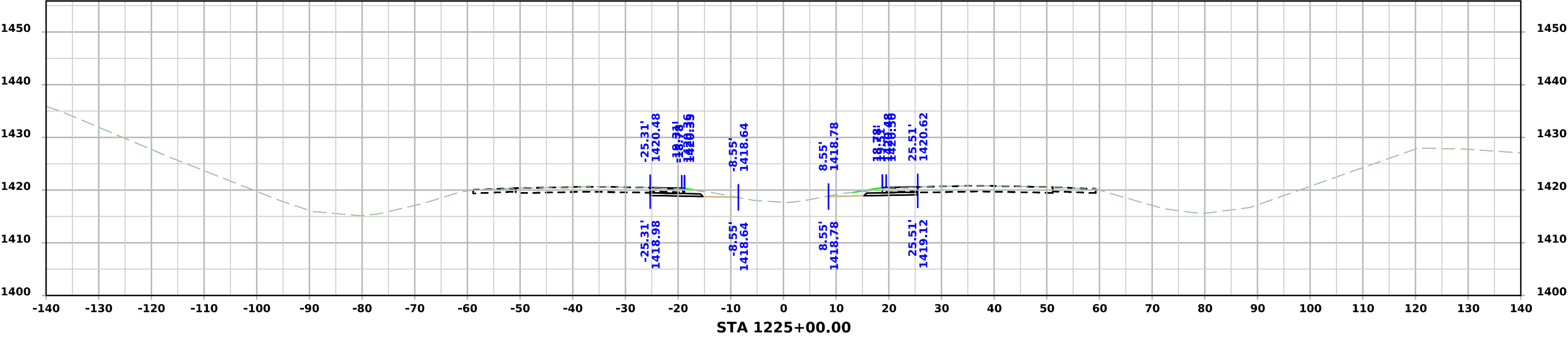




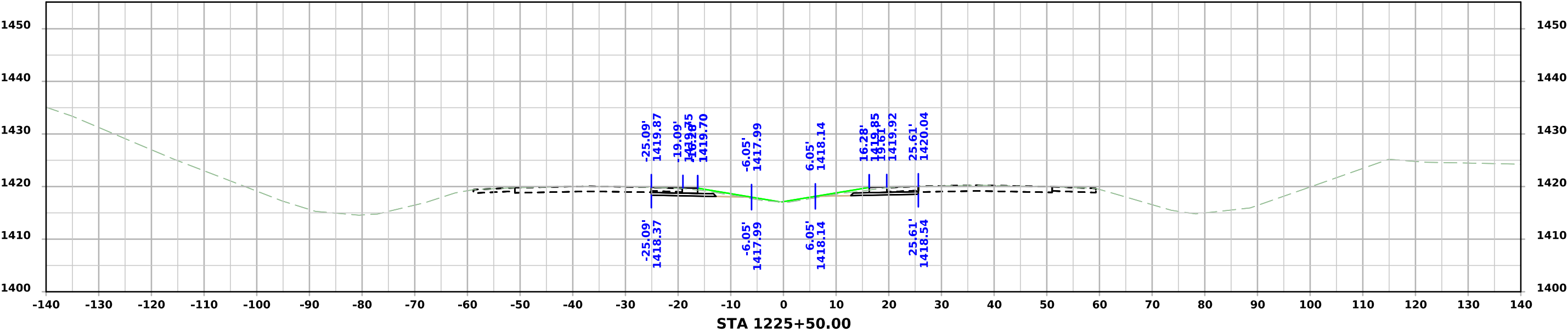
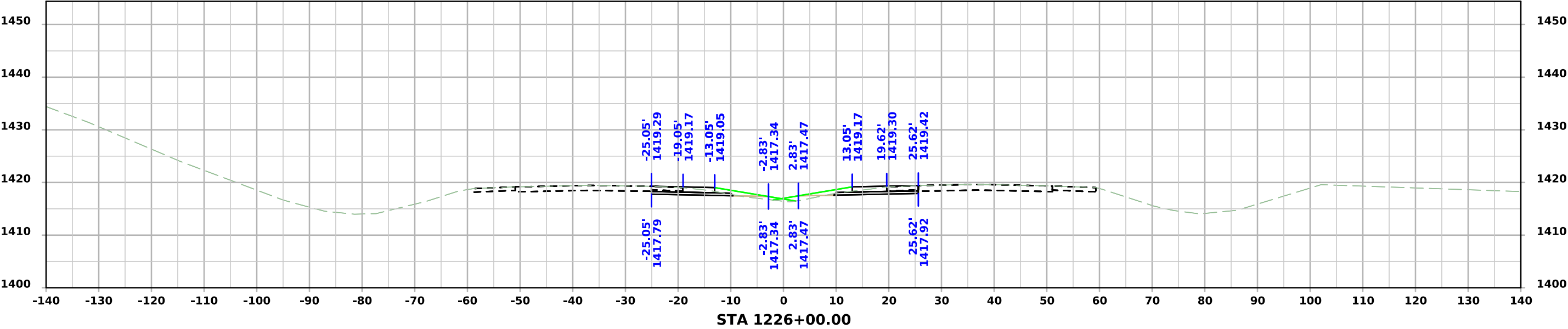
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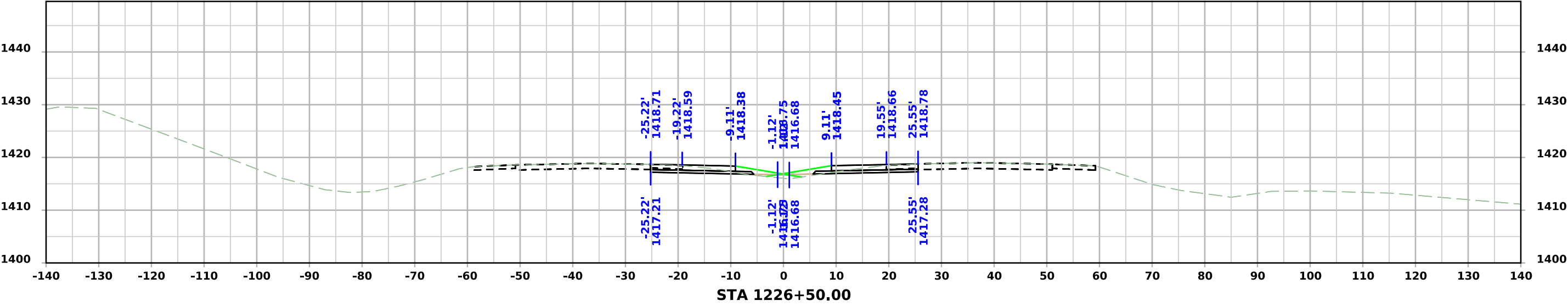
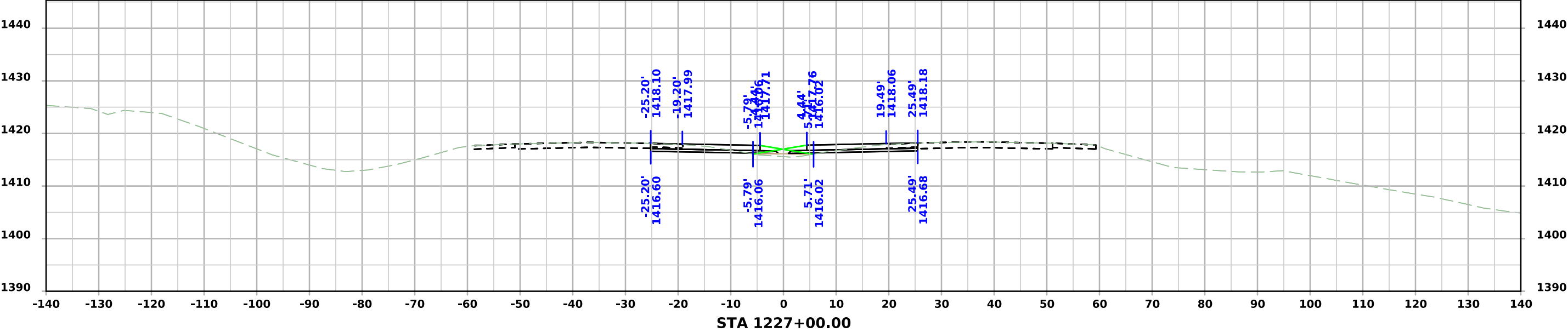
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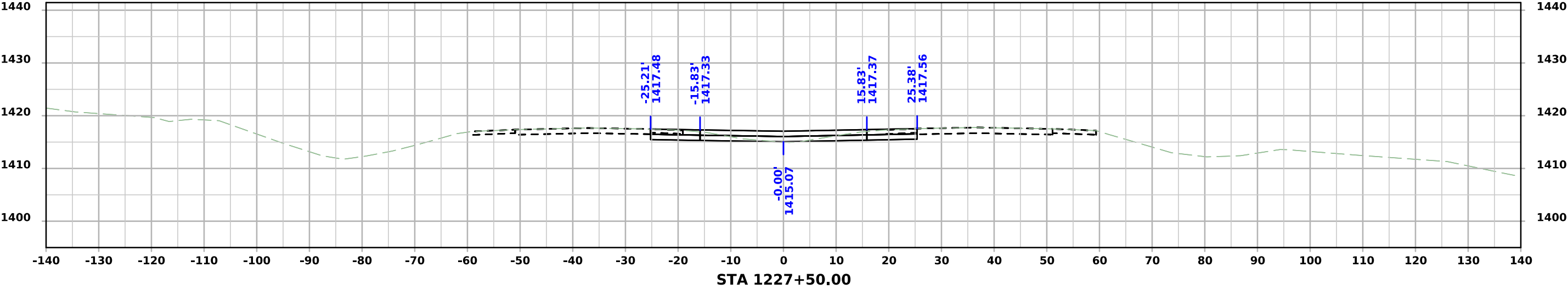
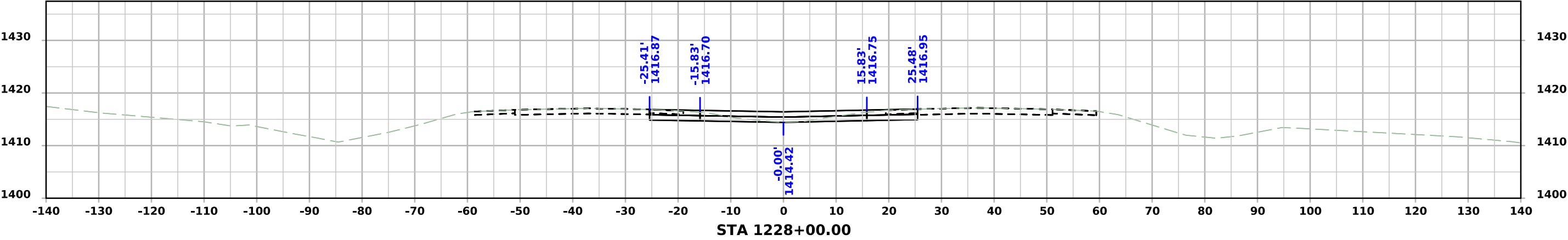
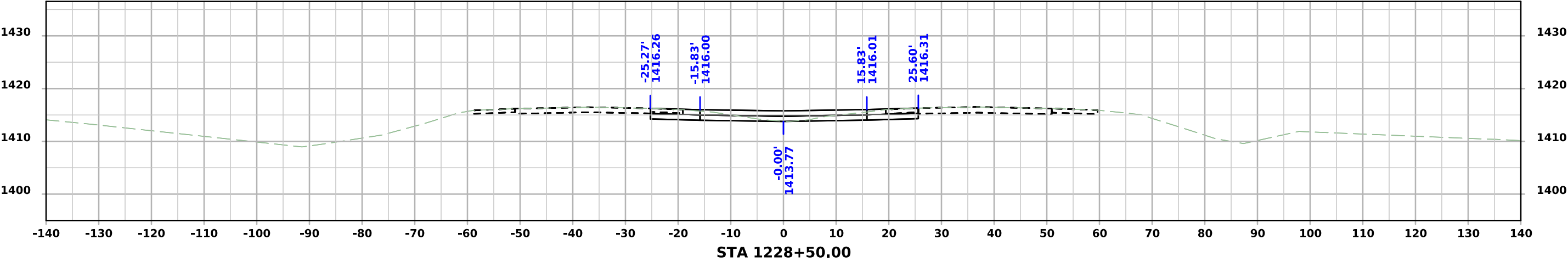
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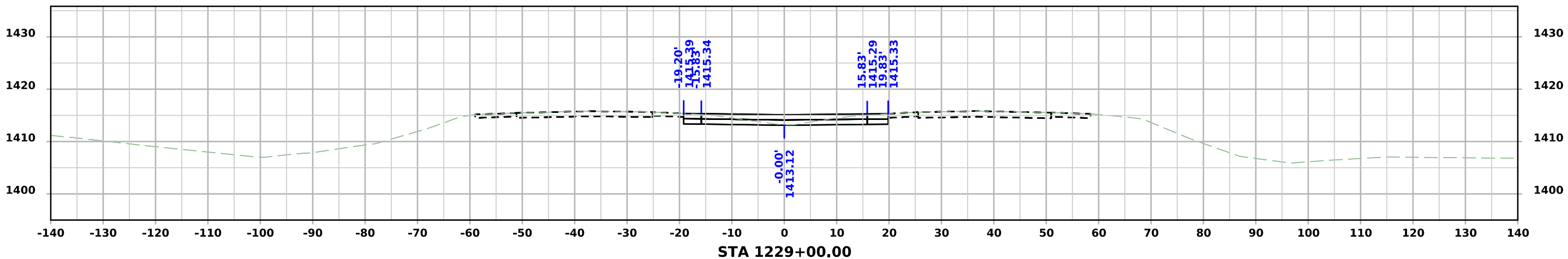
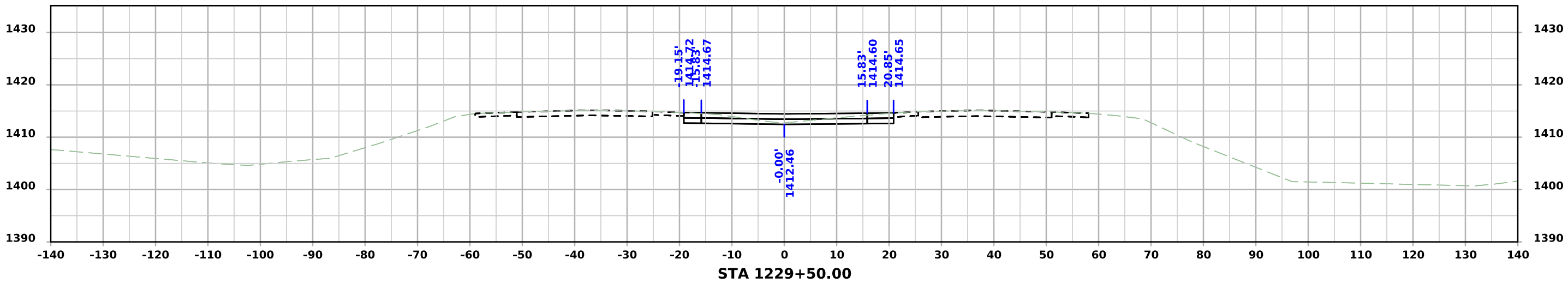
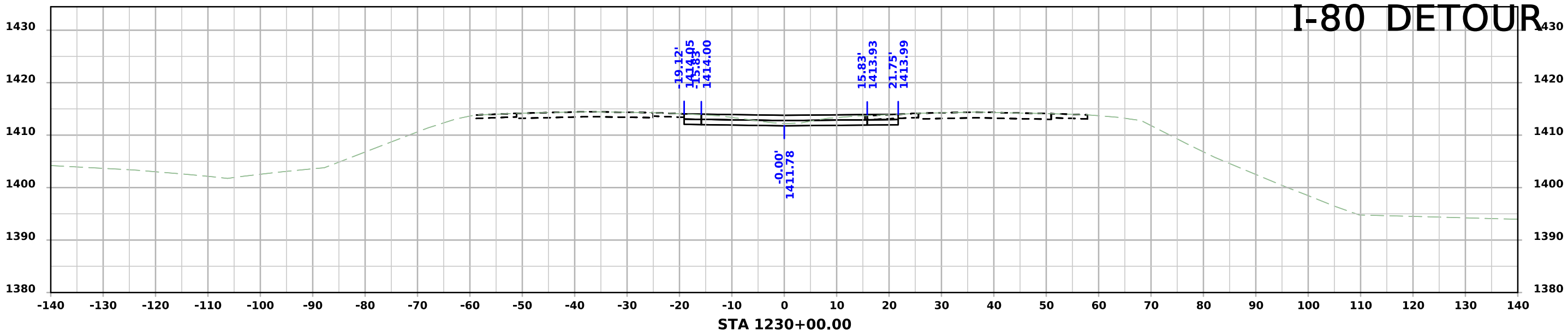
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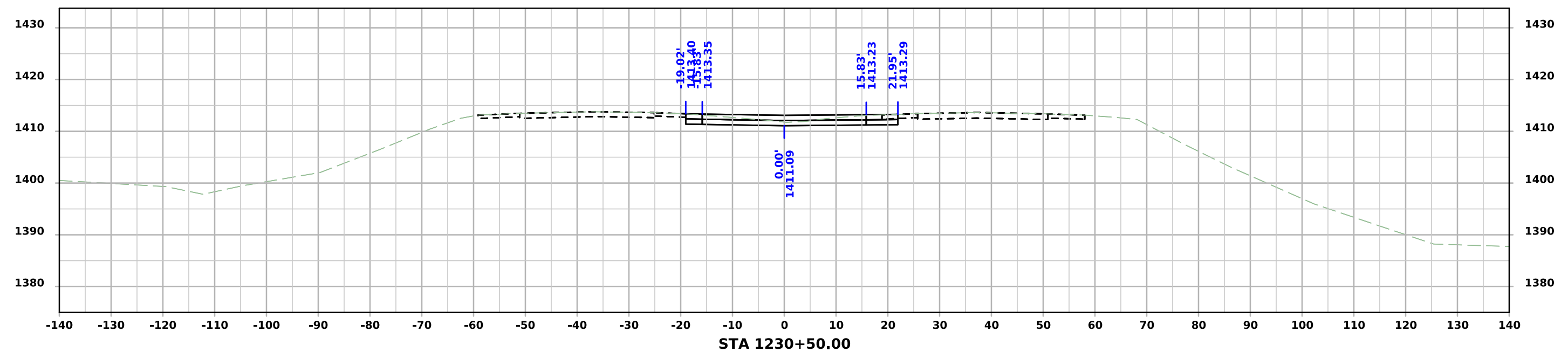
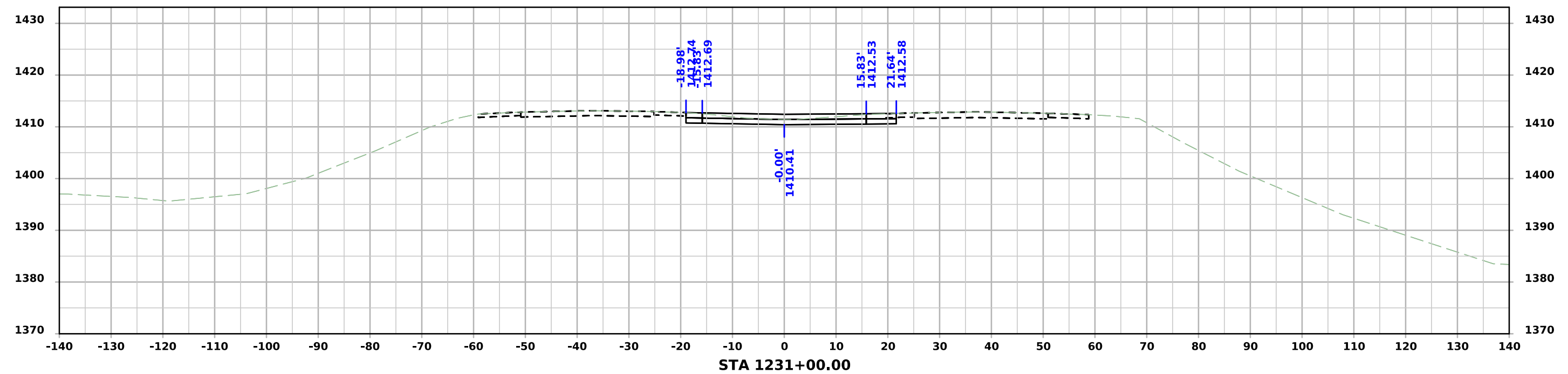
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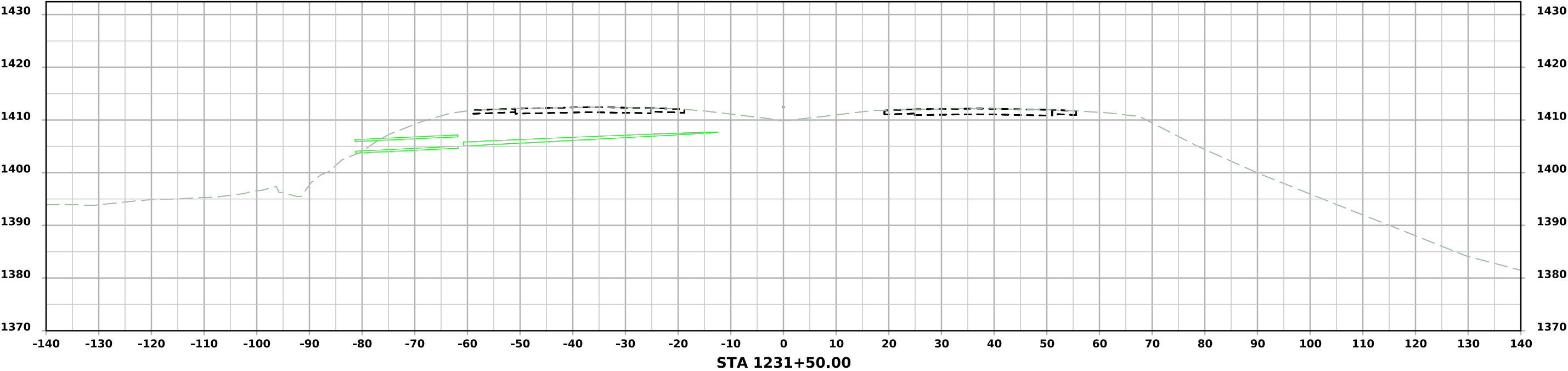
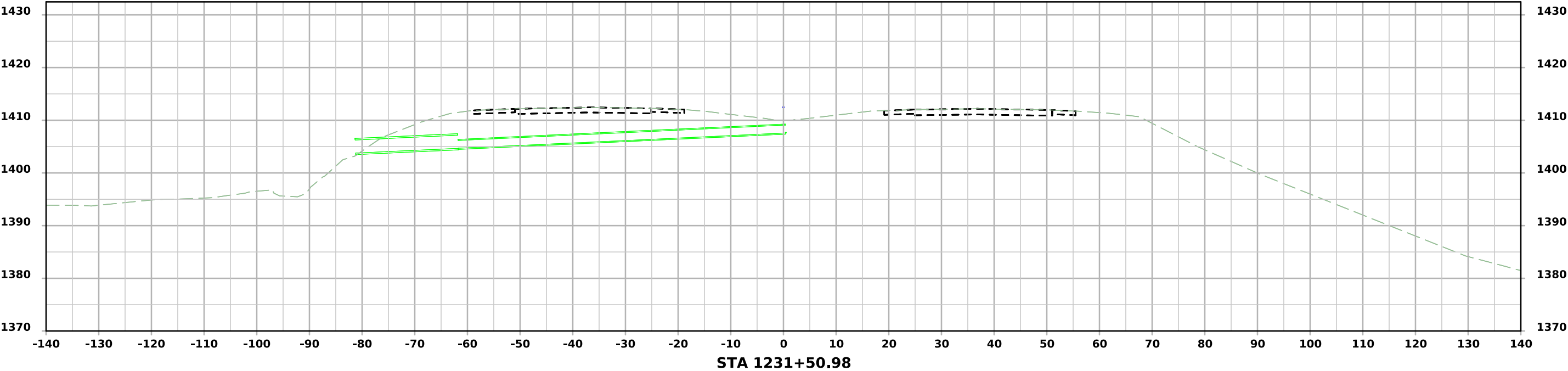
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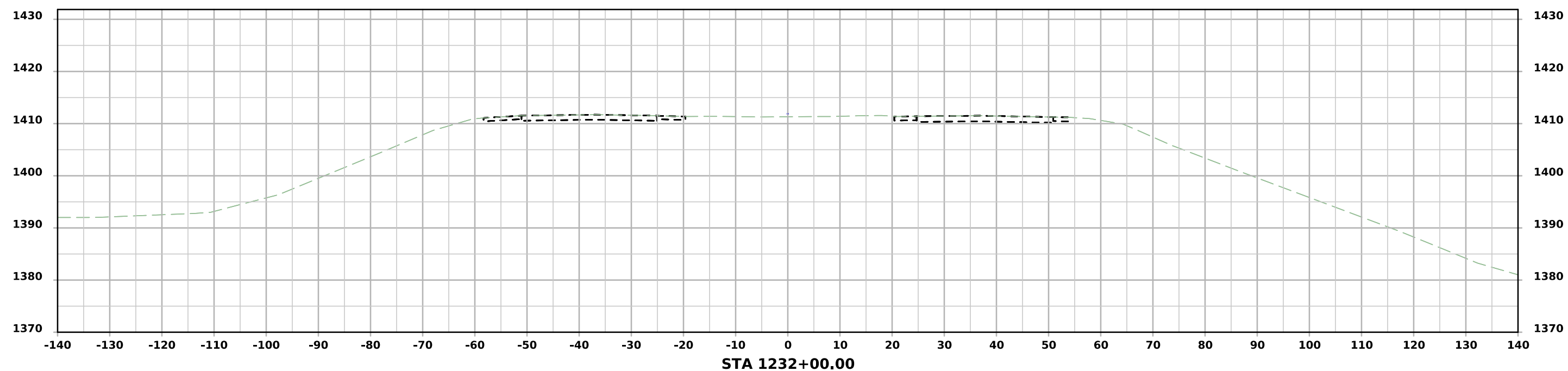
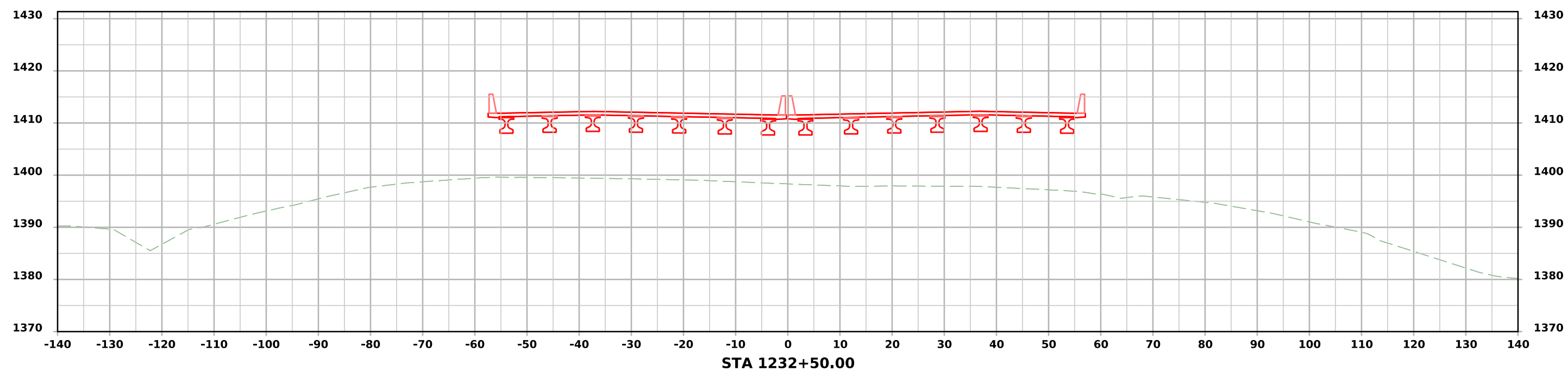
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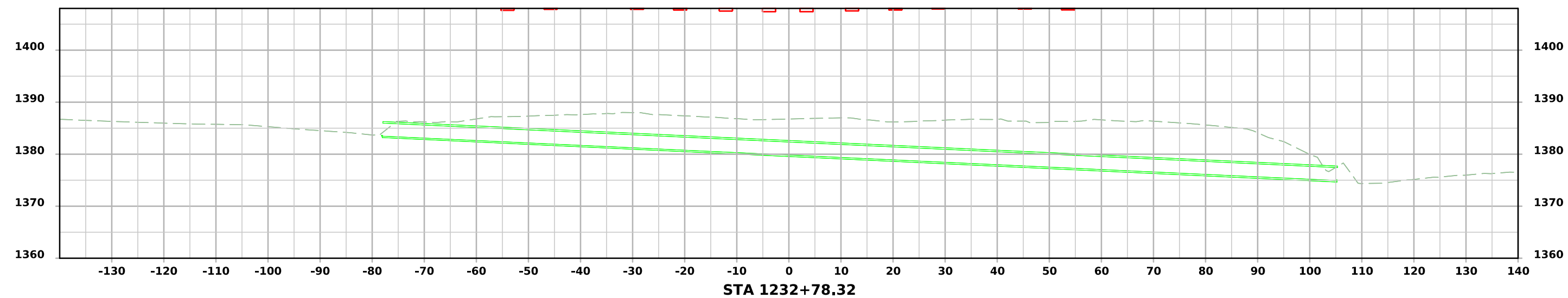
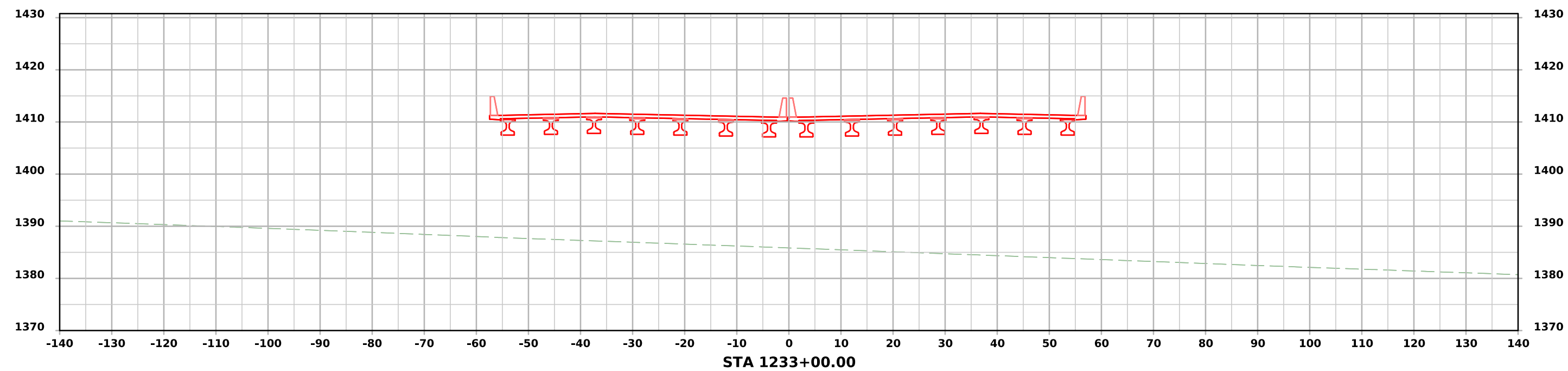
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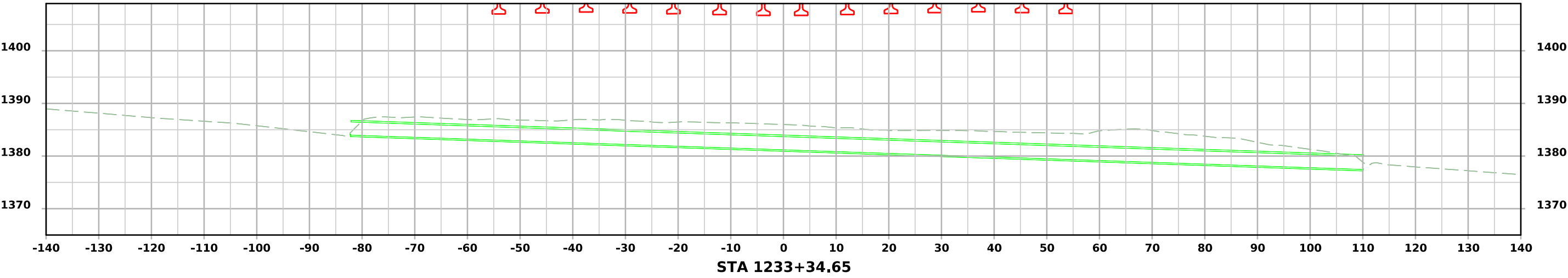
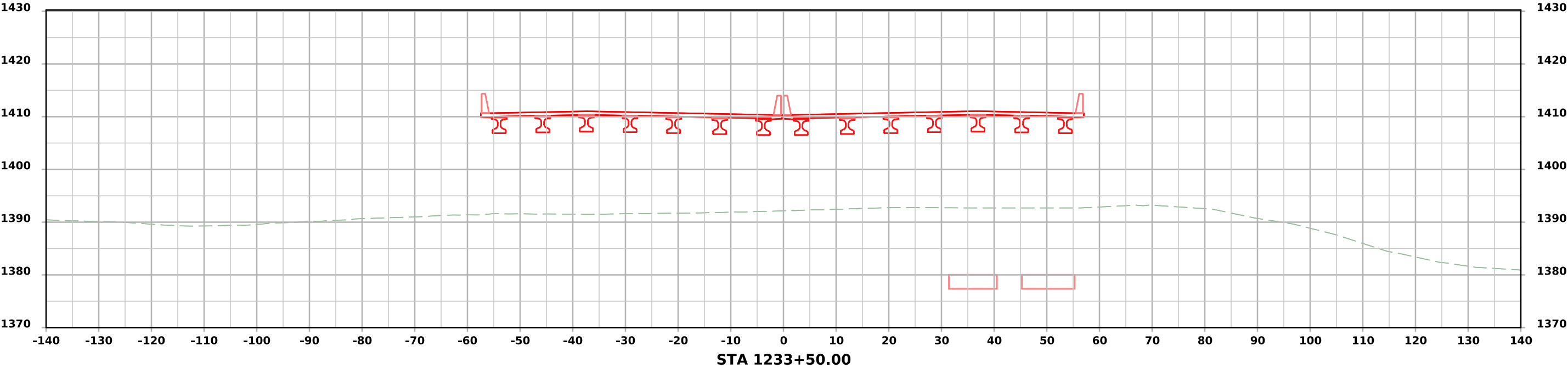
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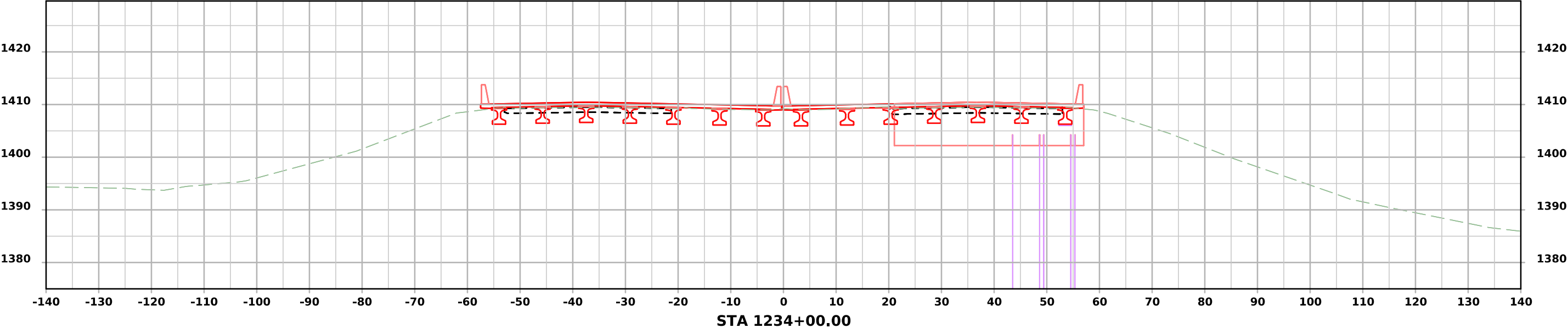
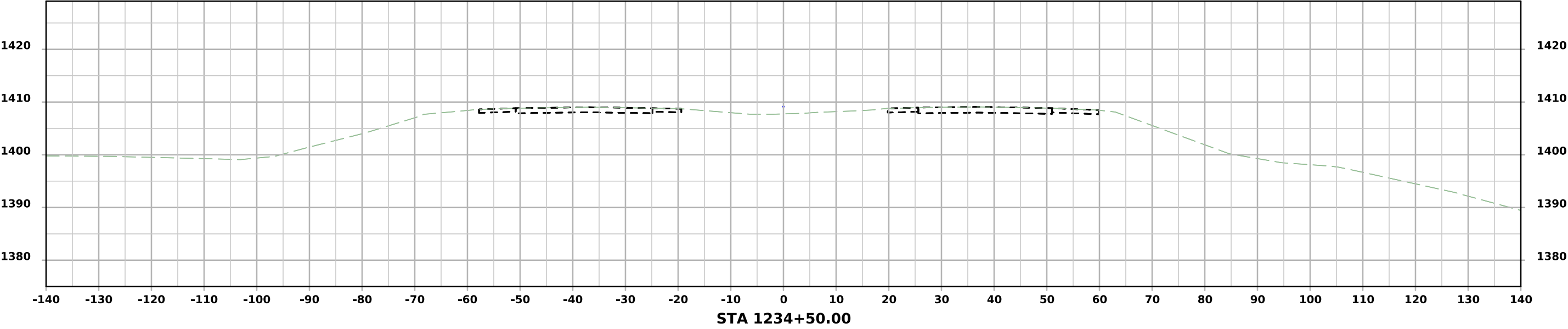
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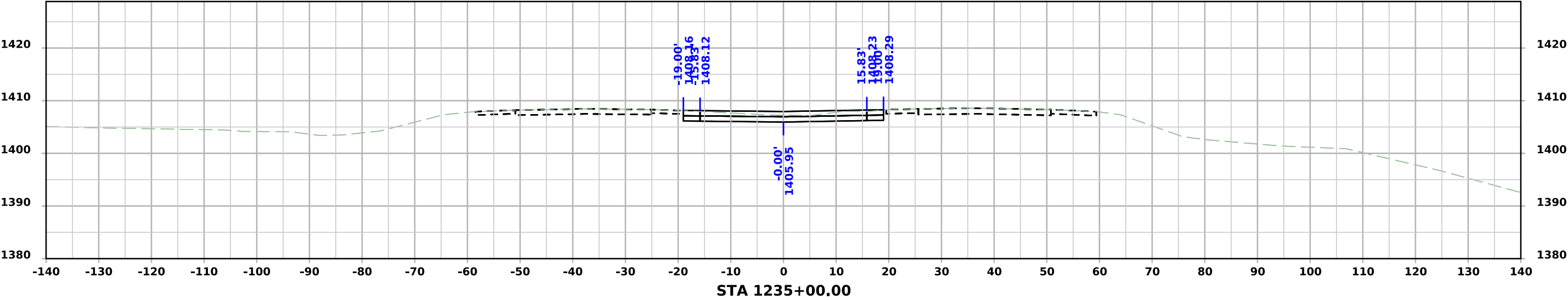
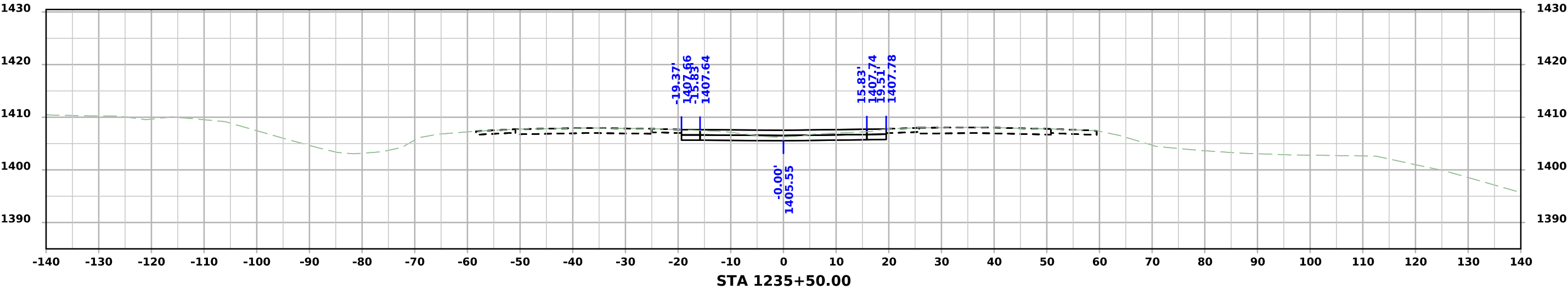
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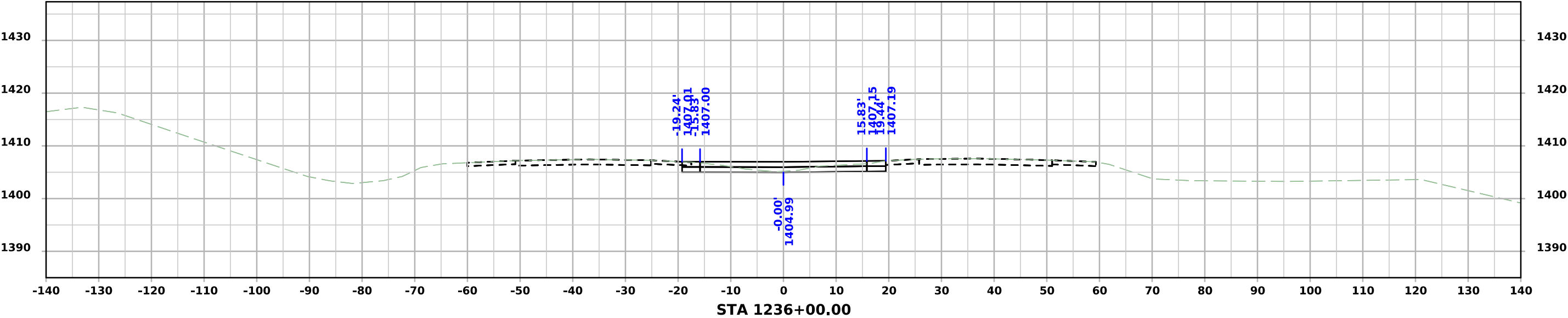
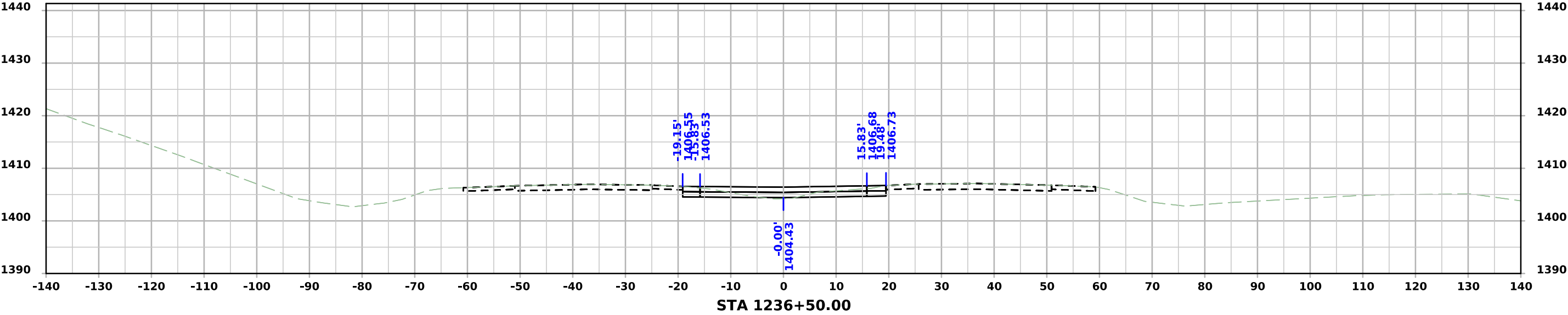
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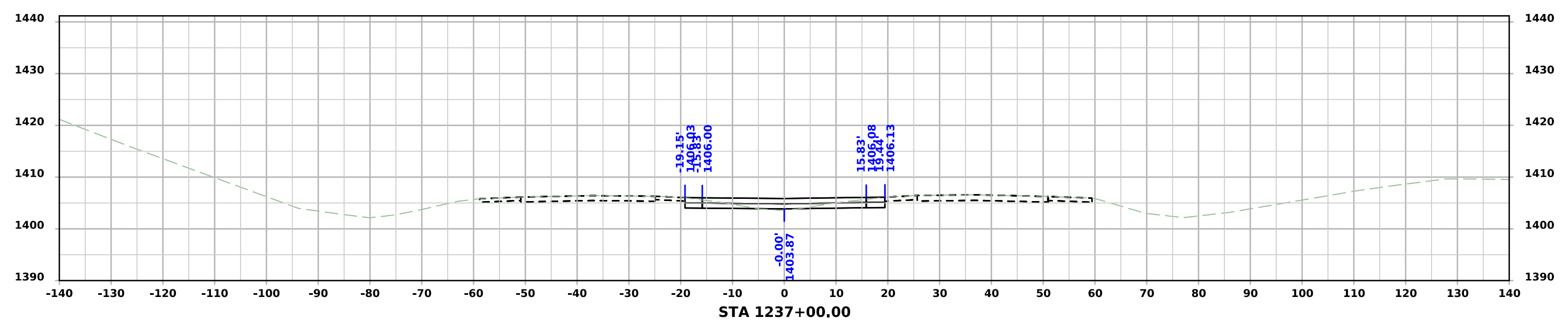
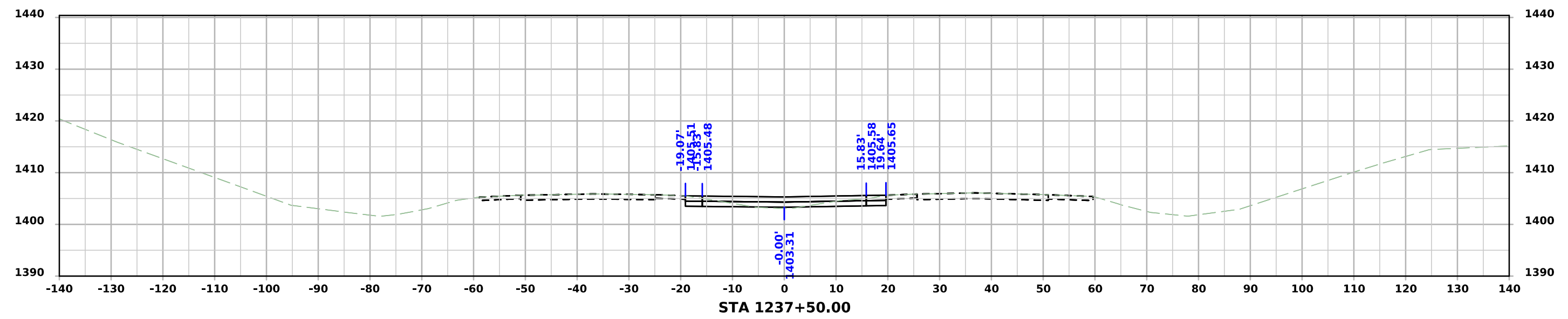
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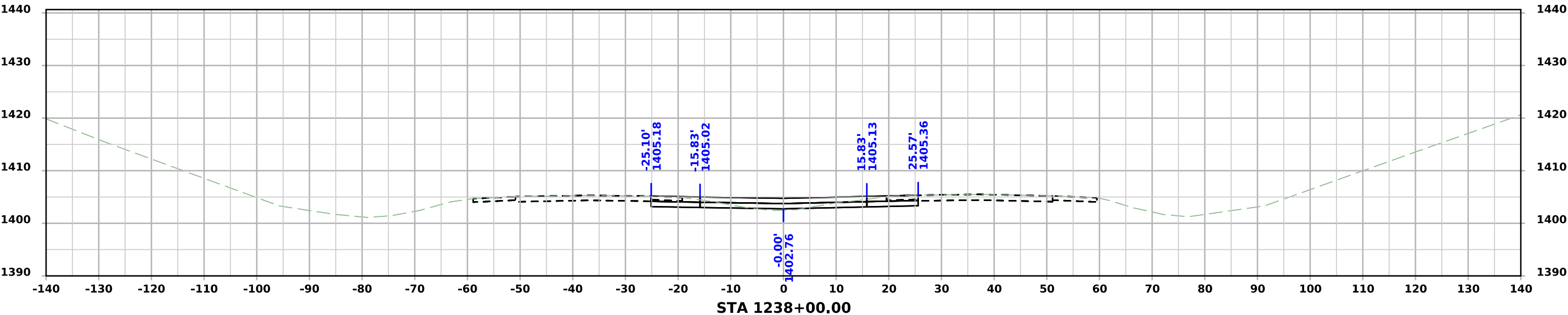
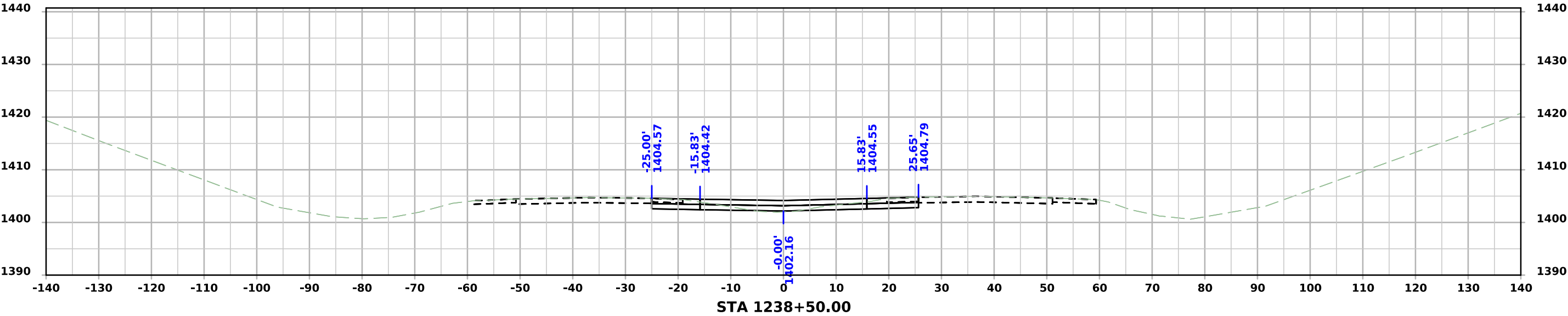
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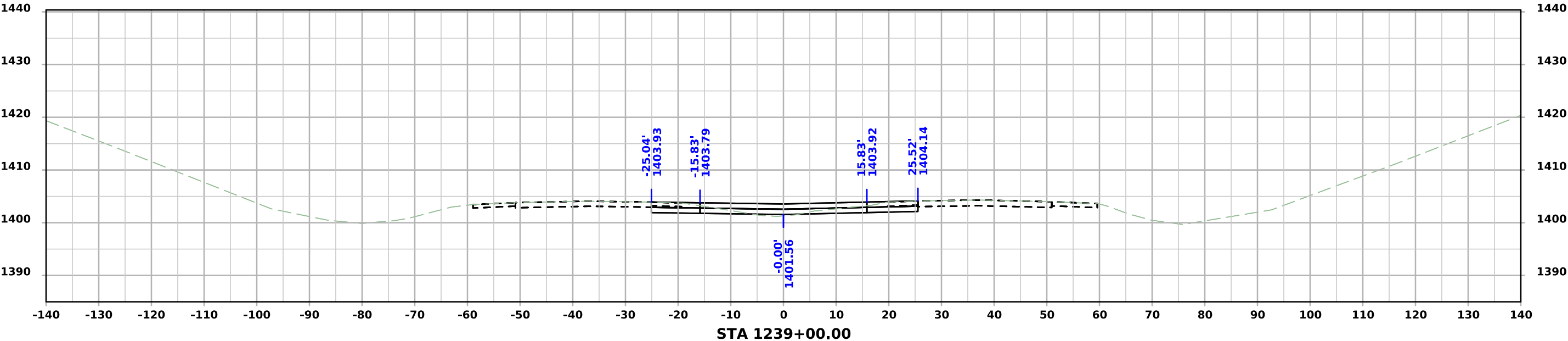
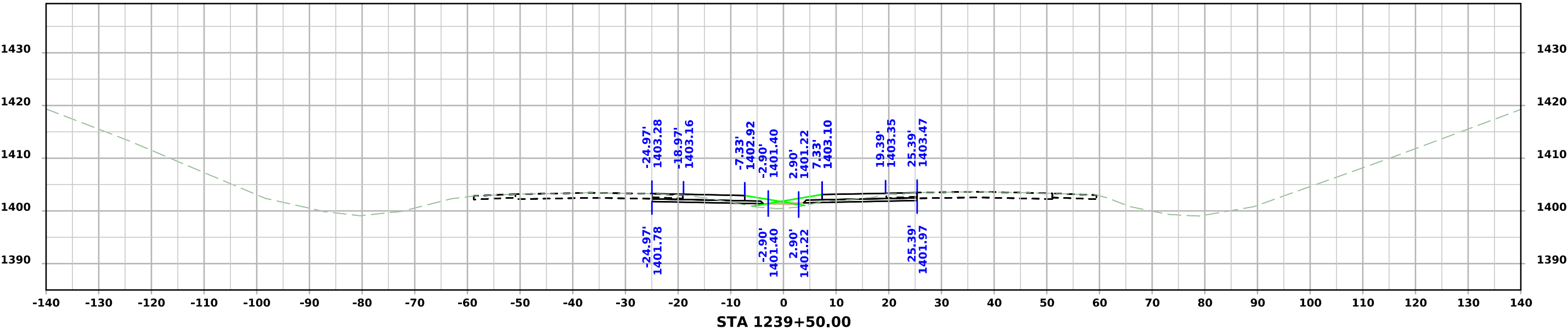
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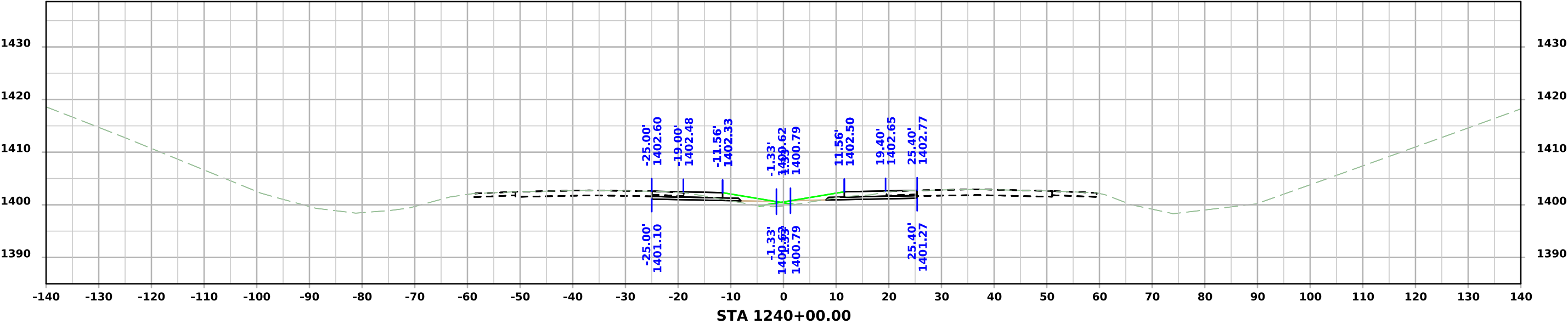
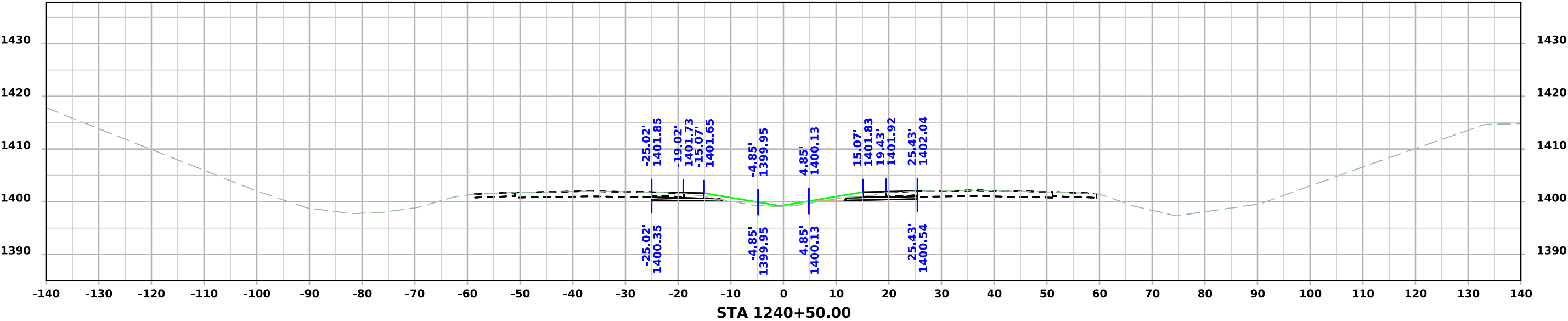
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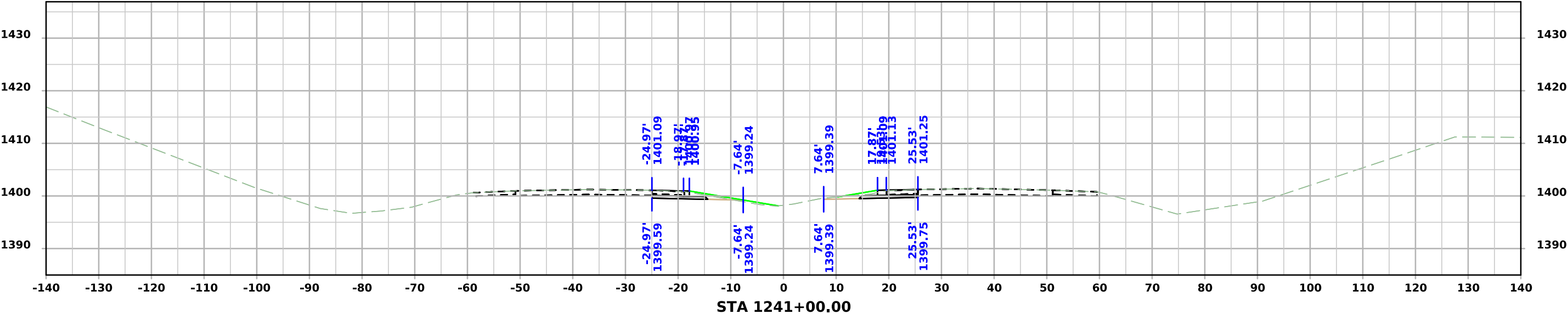
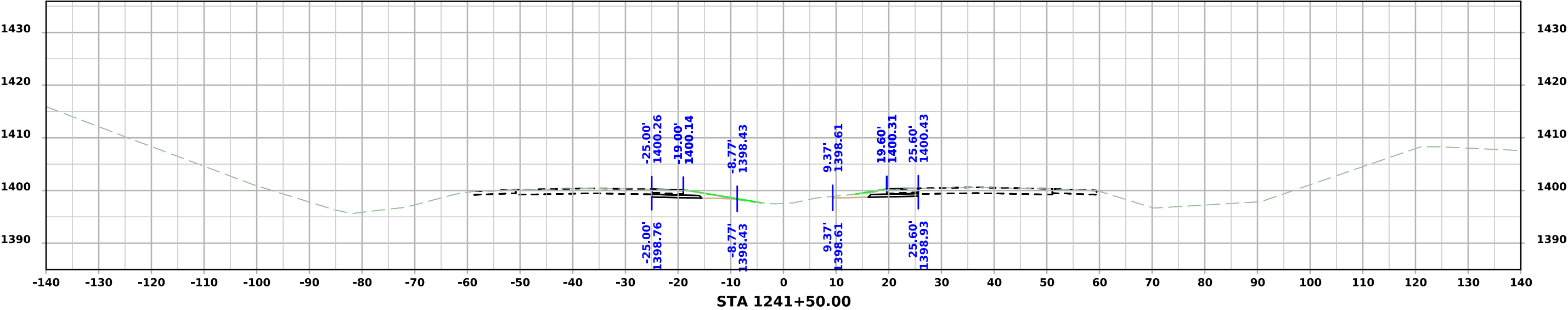
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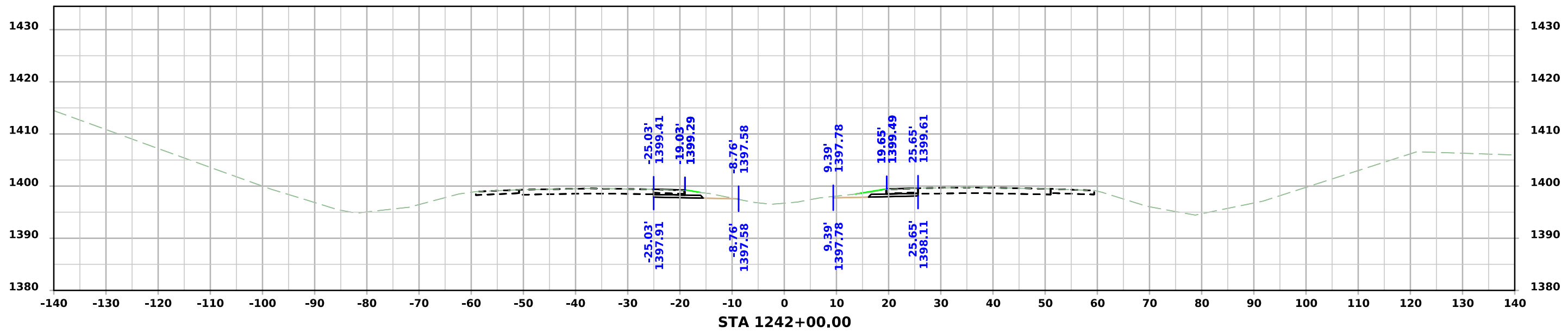
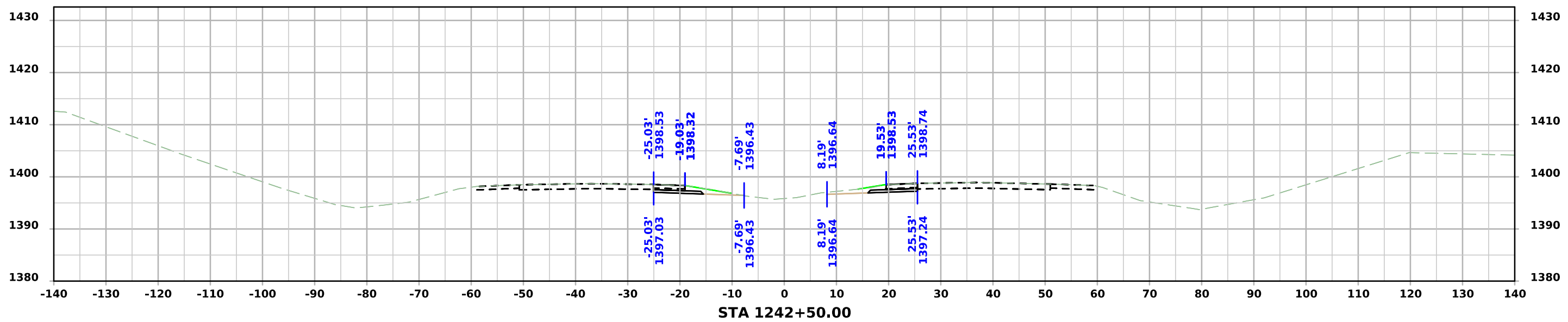
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I-80 DETOUR



I-80 DETOUR



I-80 DETOUR

