LETTING DATE 10-17-2028

Bridge Replacement
BRF-006-6(078)--38-48

IOWA COUNTY

INDEX OF SHEETS

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* A.1	Title Sheet
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B Sheets	Typical Cross Sections and Details
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* W.1	Cross Section Legend
* W.2 - W.20	US 6 Cross Sections

* Color Plan Sheets

IOWA DOT

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM
IOWA COUNTY
Bridge Replacement

US 6 Over IAIS RR
Located 1.6 Miles East
of East Junction of IA 21

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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

IOWA ONE CALL
1-800-292-8989
www.iowaonecall.com
811 Know what's below. Call before you dig.

REVISIONS

TOTAL	58
PROJECT IDENTIFICATION NUMBER	
24-48-006-010	
PROJECT NUMBER	
BRF-006-6(078)--38-48	
R.O.W. PROJECT NUMBER	

US 6			
DESIGN DATA RURAL			
2029	AADT	1100	V.P.D.
2049	AADT	1300	V.P.D.
20 –	DHV	--	V.P.H.
TRUCKS		24	%
Total Design ESALs		--	

Preliminary Earthwork

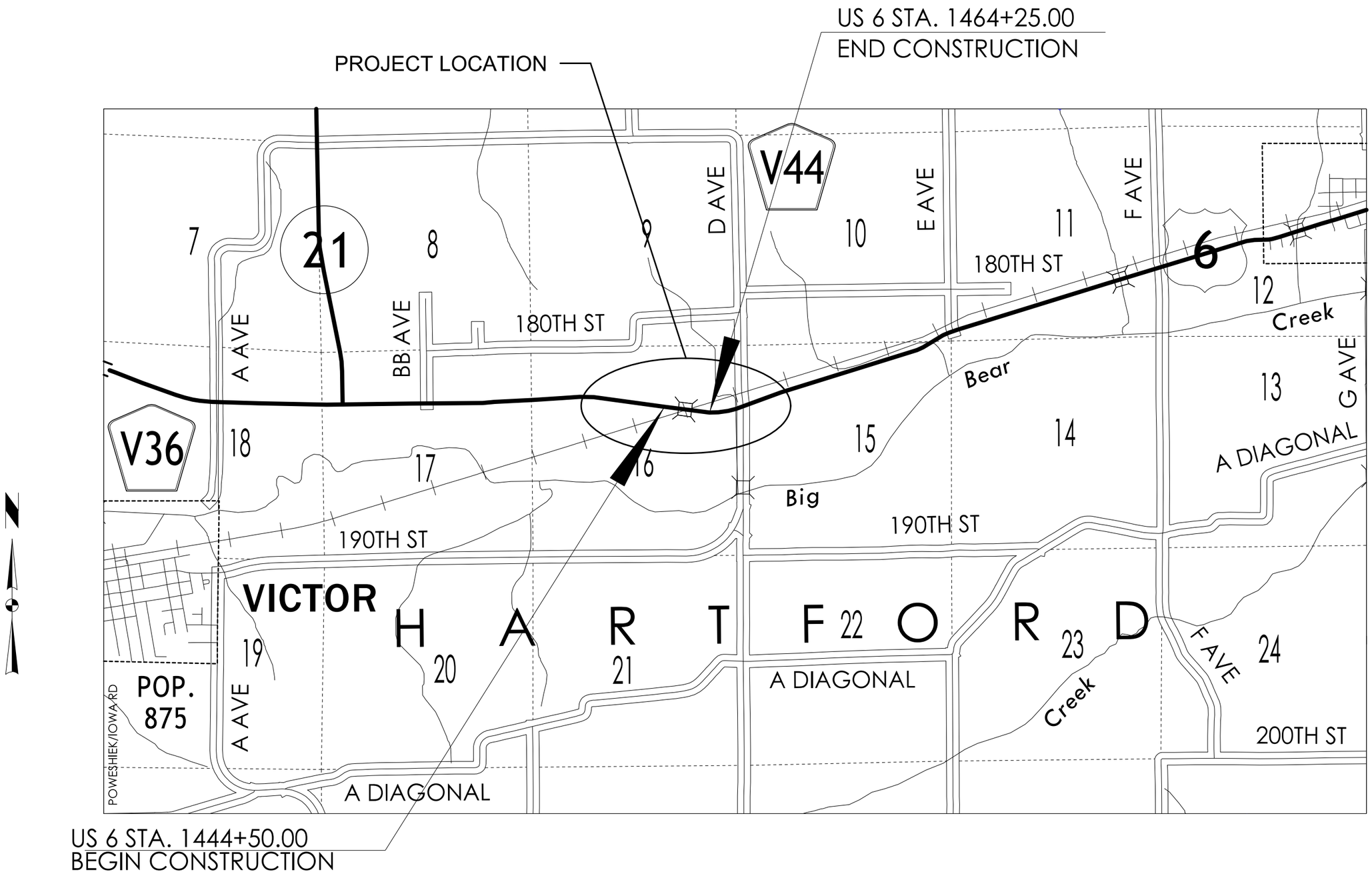
Cut	18,200	CY
Fill	6,000	CY
Balance	12,200	CY

PRELIMINARY PLANS

Subject to change by final design.

D2 PLAN - Date: 12-5-2025

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



LOCATION MAP SCALE
0 0.5 1
Mile

FILE NO.	ENGLISH	DESIGN TEAM **Iowa DOT**	**IOWA** COUNTY	PROJECT NUMBER **BRF-006-6(078)--38-48**	SHEET NUMBER **A.2**

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FIELD EXAM CHECKLIST

1. General
   a. Schedule

2. Roadway
   a. US 6 Geometry
   b. WB Stopping Sight Distance
   c. Typical Sections / Pavement Recommendation

3. Bridge
   a. Existing Structure Removal
   b. Wall Limits
   c. Bridge Berm Protection
   d. Deep Abutment
   e. Horizontal and Vertical Clearances
4. Drainage
   a. Existing Drainage Patterns
   b. Storm Sewer
   c. Subdrains

5. Geotech
   a. Boring Program
   b. Schedule

7. Construction Staging
   a. US 6 Detour Route

8. ROW
   a. Anticipated Impacts
   b. Driveways

9. Cost Estimate
   a. Assumptions

10. Other Items
    a. NEPA Reevaluation
    b. Public Information Meeting (PIM)
    c. Utility Coordination

IOWA DEPARTMENT OF TRANSPORTATION

TO OFFICE:	District 6	**DATE:**	June 6, 2025
ATTENTION:	Jim Schnoebelen, P.E.	**PROJECT:**	Iowa County BRF-006-6(078)--38-48
FROM:	Kyle Berg, P.E.		PIN: 24-48-006-010
CONSULTANT:	HNTB Corporation		
SUBJECT:	Project Concept Statement; (Final, D0)		

This project involves the replacement of the US 6 bridge (Maint No. 4811.7S006) over the Iowa Interstate Railroad (IAIS RR) located 1.6 miles east of east junction of Iowa 21.

A concept review meeting was held on May 12, 2025. Those present included Luka Arroyo, Nicole Cuva, Danielle Alvarez, Jeff Bacon, John Bartholomew, Jim Ellis, Mark Harle, Christian Kennel, Christine Schwake, Mark Sloppy, and Marc Solberg from the Iowa DOT. Those present included Bruce Weng, Jordan Zacny, John Puls, Stephanie Hemberger, Kyle Berg, Edward Sowder, and Rose Berber-Solis from HNTB Corporation.

The seven alternatives considered were:

1. On-alignment replacement utilizing a detour for construction with the bridge piers placed outside of the railroad ROW. This alternative required a 225'-300'-225' Continuous Welded Plate Girder (CWPG) Bridge with piers skewed 45° and a 7' grade raise.

2. Off-alignment replacement utilizing staged construction with the bridge piers placed outside of the railroad ROW. This alternative required a 225'-300'-225' CWPG Bridge with piers skewed 45° and a 7' grade raise.

3. On-alignment replacement utilizing a detour for construction with the bridge piers placed outside the railroad clear zone of 25'. This alternative required a 160'-215'-160' CWPG Bridge with piers skewed 45°, a 4' grade raise and may require the piers to be designed for collision.

4. Off-alignment replacement utilizing staged construction with the bridge piers placed outside the railroad clear zone of 25'. This alternative required a 160'-215'-160' CWPG Bridge with piers skewed 45°, a 4' grade raise and may require the piers to be designed for collision.

5. On-alignment replacement utilizing a detour for construction with the bridge piers placed 18' from existing and a future track. This alternative required a 140'-185'-140' CWPG Bridge with piers skewed 45°, a 2.5' grade raise and will require the piers to be designed for collision.

6. Off-alignment replacement utilizing staged construction with the bridge piers placed 18' from existing and a future track. This alternative required a 140'-185'-140' CWPG Bridge with piers skewed 45°, a 2.5' grade raise and will require the piers to be designed for collision.

7. Off-alignment replacement that re-routes US 6 to the South, around the existing property owner at the intersection of US 6 and D Avenue. This alternative re-aligns US 6 to cross the railroad at a 45° skew and places bridge piers outside of the railroad ROW. This alternative required a 120'-165'-120' CWPG Bridge with piers skewed 45° and a 2' grade raise but will require significant ROW, fill and disruptions to the adjacent property owners.

After reviewing all the alternatives, Alternative 5 was selected as the preferred alternative. A temporary construction easement will be required for the removal of the existing bridge piers and the construction of the new piers withing the Railroad Right-of-Way. Traffic will be detoured due to the challenges and safety concerns of the bridge grade raise and retaining wall construction. The estimated cost for this replacement is $9,538,200.

The revised Draft Project Concept Statement was sent out for review and comment with concerns to be resolved during the Concept Review Meeting on May 12, 2025. Comments received during the review period have been resolved.

This project is recommended for construction FY 2029.

cc: K. Nicholson	C. Brakke	J. Nelson
M. Nop	J. Ellis	S. Majors
M. Swenson	D. Stokes	B. Hofer
W. Sorenson	E. Wright	K. Brink
C. Poole	J. Laaser-Web	S. Anderson
D. Sprengeler	N. Cuva	J. Bartholomew
M. Dell	R. Harris	N. Pohlen
B. Smith	M. Van Dyke	D.Heeren
G. Cagle	B. Hucker	B. Worrel
A. Buss	Y. Jia	J. Holst
D. Breitbach	K. Schrock	P. Flattery
R. Miller	J. Tibodeau	A. Abu Afifeh
H. Hugh	J. Lamping	A. Simonson
G. Morell	D. Alvarez	J. Keller
S. Cook	J. Bacon	B. Struecker
M. Sloppy	D. Newell	C. Schwake
A. Woods	D. Phillips	

FINAL PROJECT CONCEPT STATEMENT

US 6 over IAIS RR

Iowa County
BRF-006-6(078)--38-48
Project Code: 24-48-006-010
Maint. No. 4811.7S006
FHWA No. 029320

Highway Division
District 6

Kyle Berg, P.E.
kberg@HNTB.com

June 6, 2025

I. STUDY AREA

A. Project Description

This project involves the replacement of the US 6 bridge (Maint No. 4811.7S006) over the Iowa Interstate Railroad (IAIS RR) located 1.6 miles east of east junction of Iowa 21.

There were seven alternatives originally considered and shared during a pre-concept review meeting on January 30, 2025. These 7 alternatives were:

1. On-alignment replacement utilizing a detour for construction with the bridge piers placed outside of the railroad ROW. This alternative required a 225'-300'-225' CWPG Bridge with piers skewed 45° and a 7' grade raise.

2. Off-alignment replacement utilizing staged construction with the bridge piers placed outside of the railroad ROW. This alternative required a 225'-300'-225' CWPG Bridge with piers skewed 45° and a 7' grade raise.

3. On-alignment replacement utilizing a detour for construction with the bridge piers placed outside the railroad clear zone of 25' assuming a future track offset 14' based on the as-built plans. This alternative required a 160'-215'-160' CWPG Bridge with piers skewed 45°, a 4' grade raise and may require the piers to be designed for collision.

4. Off-alignment replacement utilizing staged construction with the bridge piers placed outside the railroad clear zone of 25' assuming a future track offset 14' based on the as-built plans. This alternative required a 160'-215'-160' CWPG Bridge with piers skewed 45°, a 4' grade raise and may require the piers to be designed for collision.

5. On-alignment replacement utilizing a detour for construction with the bridge piers placed 18' from existing and a future track assuming a future track offset 14' based on the as-built plans. This alternative required a 140'-185'-140' CWPG Bridge with piers skewed 45°, a 2.5' grade raise and will require the piers to be designed for collision.

6. Off-alignment replacement utilizing staged construction with the bridge piers placed 18' from existing and a future track assuming a future track offset 14' based on the as-built plans. This alternative required a 140'-185'-140' CWPG Bridge with piers skewed 45°, a 2.5' grade raise and will require the piers to be designed for collision.

7. Off-alignment replacement that re-routes US 6 to the South, around the existing property owner at the intersection of US 6 and D Avenue. This alternative re-aligns US 6 to cross the railroad at a 45° and places bridge piers outside of the railroad ROW. This alternative required a 120'-165'-120' CWPG Bridge with piers skewed 45° and a 2' grade raise but will require significant ROW, fill and disruptions to the adjacent property owners.

Based on a follow up discussion between Jim Ellis, Jim Nelson and Ron Meyer of BSB, it was directed to progress the concept utilizing Alternative 5, a 140'-185'-140' CWPG on-alignment utilizing a detour for construction. This alternative minimizes bridge length and the grade raise. The estimated cost for this replacement is $9,538,200.

B. Need for Project

This structure is a 328'-0" x 28'-0" continuous steel I-beam bridge, constructed in 1956. This type of superstructure is vulnerable to fatigue cracking in the vicinity of the welded cover plates and welded blast plates. The bottom of the deck has several random and transverse hairline cracks with some leaching. The wearing surface has some hairline cracking in all spans. Piers are showing deterioration.

C. Present Facility

The existing structure is a 328'-0" x 28'-0" continuous steel I-beam bridge, constructed in 1956, carrying US 6 over the Iowa Interstate Railroad. Both abutments are full height concrete. This is a four span continuous steel beam structure with a fracture critical steel cross girder pier cap. Piers 1 and 3 are open two column concrete cantilever. Pier 2 is two column concrete with a steel cross girder cap.

The deck is PC concrete overlaid with dense low-slump concrete in 1978. The deck was re-overlaid with HPC-O in 2016. Both approaches are paved with PC which was placed in 2016.

The existing US 6 roadway in the project area is 24' wide, 2' paved shoulders, 7' granular shoulders, and foreslopes up to 1.8:1 adjacent to the existing bridge. The roadway and paved shoulders were overlaid with 6" HMA in 2013.

Profile, Facing North

On centerline, Facing Southeast

Substructure, Pier 1, facing southeast

Substructure, Pier 2, facing southeast

D. Traffic Estimates

The 2029 construction year and 2049 design year average daily traffic estimates are 1100 ADT with 24% trucks and 1300 ADT with 24% trucks, respectively.

E. Sufficiency Ratings

US 6 is classified as Access Routes and is a maintenance service level C roadway. The federal bridge sufficiency rating is 64.6 for FHWA No. 029320. The Bridge Condition Index is 48.2 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 were 7 property damage only crashes, 1 minor and possible injury crash and 0 fatal crashes on US 6 between the junctions located east and west.

PCR value for this segment is listed as 0.099848 crash/mile/year for all crashes (negligible).

II. PROJECT CONCEPT

A. Feasible Alternatives
Alternative #5

The existing 328'-0" x 28'-0" continuous steel I-beam bridge will be replaced with a 465'-0" x 44'-0" CWPG bridge at 45° skew, left ahead. The proposed bridge will be constructed on the existing horizontal alignment and will require a 2.5' profile grade raise at the bridge. The typical roadway section adjacent to the bridge will consist of a 24' roadway and 6' paved shoulders. The existing grade will need to be raised a minimum of 2.5' which will require approximately 1,350' of roadway reconstruction. New bridge approaches will be constructed, and guardrail will be replaced. Retaining walls will be required to avoid ROW impacts and steep foreslopes on the east side of the bridge. Class E revetment will be placed at both bridge abutments for slope protection. New bridge end drains will be constructed on the west side of the bridge and at the end of the wall barrier on the NE corner. Please refer to the concept layout attached to this report.

The proposed US 6 profile shall be designed for 60 mph to meet preferred design criteria. There are no future plans to raise the speed for this facility in the future. The vertical clearance requirement of the bridge structure over the Iowa Interstate Railroad is 23.5'.

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

Acquisition of right of way is not expected for this project based upon the current concept. A temporary construction easement will be required for the removal of the existing piers and construction of the new piers.

Traffic will be maintained by an off-site detour.

A meeting with the Iowa DOT on May 12, 2025, resulted in the revisions outlined in this paragraph. The original draft concept assumed a design speed of 55 mph (acceptable), which matches the existing conditions at the bridge and is the posted speed. It was requested at the meeting to increase the design speed to 60 mph (preferred). It was also requested to avoid sideslopes steeper than 3:1 by utilizing MSE walls along the shoulders. These changes resulted in additional roadway improvements including pavement, earthwork, barrier, walls, and storm sewer on the east side of the bridge. On the west side, the revised roadway profile will impact the existing entrances. The cost estimate reflects these updates.

Bridge Items	
New bridge	4,277,000
Removal of existing bridge	184,000
Mobilization – 10%	446,000
M & C – 20%	981,000
Bridge Costs	**$5,888,000**
Roadway Items	
Gravel Driveway and Shoulder	8,000
Excavation, Class 10, Roadway and Borrow	57,200
Excavation, Class 10, Waste	56,000
Reinforced Paved Shoulder for Concrete Barrier	184,900
PCC Pavement, 10”	439,300
Bridge Approach Pavement	203,000
Modified Subbase,12”	162,700
Concrete Barrier, BA-102	234,000
Removal of Pavement	59,600
Intake, SW-549	75,000
Intake, SW-538	24,000
Pipe, HDPE, 12”	13,600
Pipe, HDPE, 24”	23,700
Pipe Aprons, 12”	900
Pipe Aprons, 24”	5,700
Removal of Steel Beam Guardrail	5,400
Steel Beam Guardrail	2,800
Steel Beam Guardrail End Anchor, Bolted	1,400
Steel Beam Guardrail Barrier Transition Section, BA-201	12,000
Steel Beam Guardrail Tangent End Terminal, BA-205	13,000
Longitudinal Grooving, Bridge Deck	19,500
Mechanically Stabilized Earth Retaining Wall	556,400
Granular Backfill, MSE Wall	235,800
Bridge End Drain, DR-402	12,600
Revetment, Class E	116,100
Seeding and Fertilizing	10,000
Erosion Control	20,000
Traffic Control - 5%	127,600
Mobilization - 5%	127,600
Contingency - 30%	842,400
Roadway Costs	**$3,650,200**
Project Total	**$9,538,200**

B. Detour Analysis

US 6 will be closed during construction, and an offsite detour will be utilized. It is anticipated the detour will be in place for approximately 283 days. The suggested detour route shall be in accordance with TC-252 and divert traffic south of the town of Victor as shown on the detour map shown later in this document. The route would direct traffic south on US 21, east on I-80, north on B Ave, west on A Diagonal, north on A Ave, east on 190th St, and north D Ave back to US 6. Out of distance travel is 7.5 miles. The total distance user cost is anticipated to be $647,900. The cost for county road maintenance will be $41,000 as calculated by the Gas Tax Method. Detour signing costs will be $10,000.

C. Recommendations

It is recommended that the present structure be replaced as described in Alternative No.5.

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 US 6; therefore, no ADA accommodations are planned in conjunction with this project.

F. Special Considerations

Iowa DOT Rail Transportation Bureau will coordinate with Iowa Interstate Railroad to proceed with this concept. Special survey is requested for existing top of rail 1,000 feet each side of the proposed overhead structure.

This will not be a traffic critical project.

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

Right of way acquisition is not expected based upon the current concept. A temporary construction easement will be required for the removal of the existing piers and construction of the new piers.

The Location and Environment Bureau (LEB) Water Resources has not performed fieldwork at this time. When completed, LEB will update everyone with that information.

G. Program Status

This project is listed in the 2025-2029 Iowa Transportation Improvement Program, with $10,000 programmed for right of way in FY 2029, and $6,500,000 for replacement in FY 2029. Costs for this project are eligible for bridge replacement funds. A preliminary schedule of events has been developed with an October 2028 letting.

Utilities

Cooperative Telephone Company
Scott Schabacker
(319)647-3131
scott@ctctechnology.net

Aureon Network Services
Jeff Klocko
(515)830-0445
jeff.klocko@aureon.com

Verizon
(469)886-4090
investigations@verizon.com

Bridge Bureau Attachment for Concept Statement

Date: March 21, 2025
By: HNTB
Location: IAIS RR 1.6 mi E of E Jct IA 21

County: Iowa County
Phase No.: BRF-006-6(078)--38-48
Project Code: 24-48-006-010

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. Riverine Infrastructure Database (RIDB) dataset is required with B1 submittal = N/A

3. Structure/Roadway Layout Considerations
   a. Roadway profile grade raise of 2.5’ anticipated
   b. Substructures are offset 18’ from existing and the future track assumed to be 14’ from the existing track based on as-built plans
   c. Vertical clearance from top of rail to bottom of superstructure of 23’-6” above the existing and future railroad tracks

4. Special construction issues
   a. It is desirable for new structure foundations to avoid existing foundations.

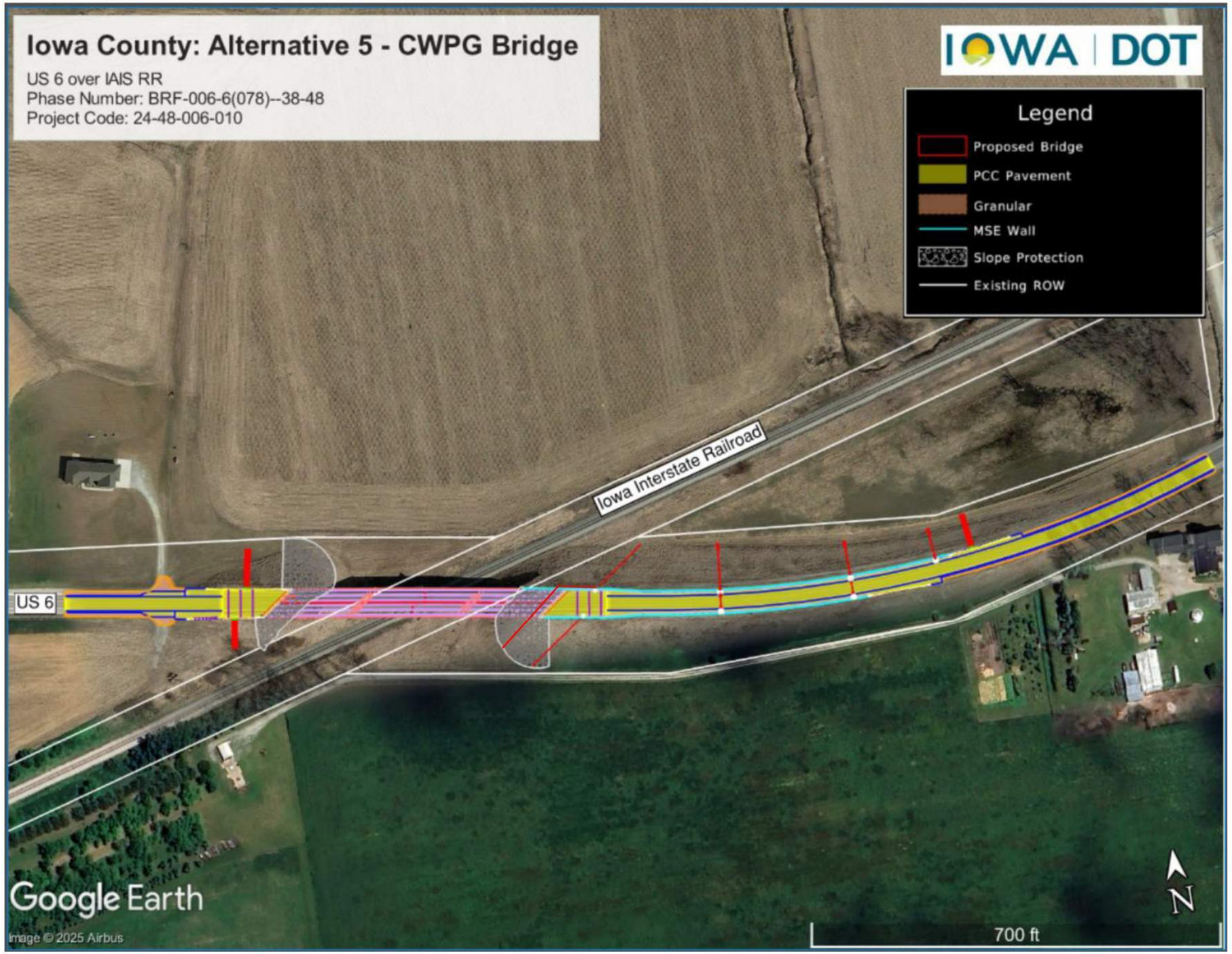
5. Special survey = Yes, see below

6. Aesthetic enhancements = No

7. Other
   a. <Maintenance of Traffic - Off site detour

Special Survey:

Need track elevations for 1,000 ft. in each direction from the edge of the proposed bridge.



FILE NO.	ENGLISH	DESIGN TEAM **Iowa DOT**	**IOWA** COUNTY	PROJECT NUMBER **BRF-006-6(078)--38-48**	SHEET NUMBER **A.11**

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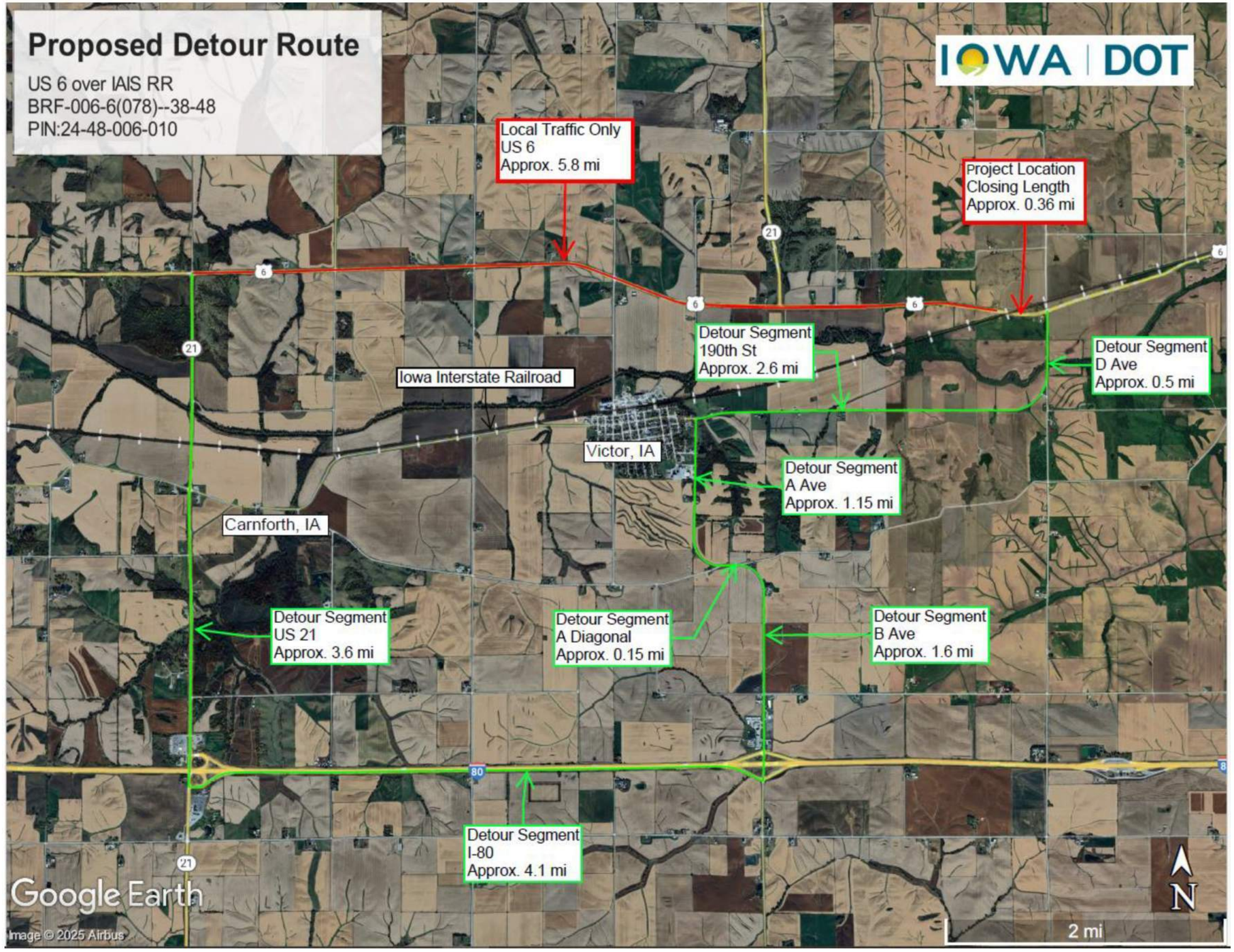

FILE NO.	ENGLISH	DESIGN TEAM **Iowa DOT**	**IOWA** COUNTY	PROJECT NUMBER **BRF-006-6(078)--38-48**	SHEET NUMBER **A.12**

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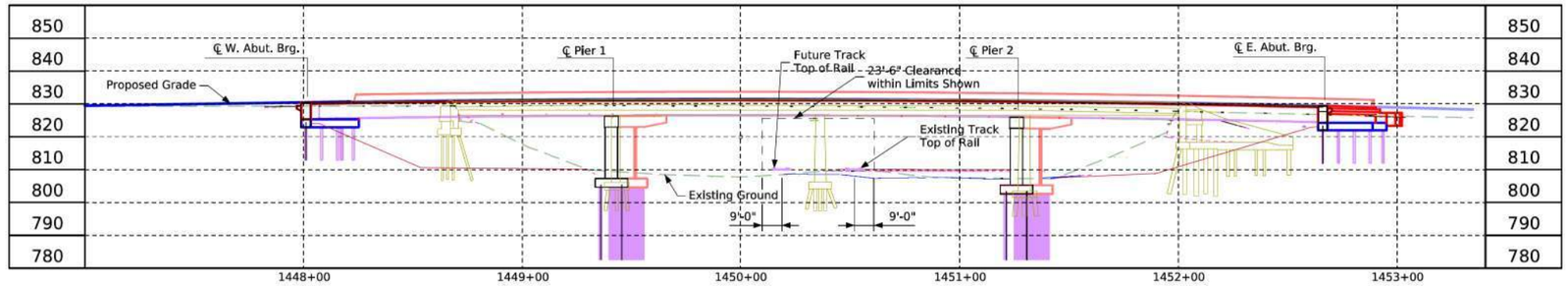
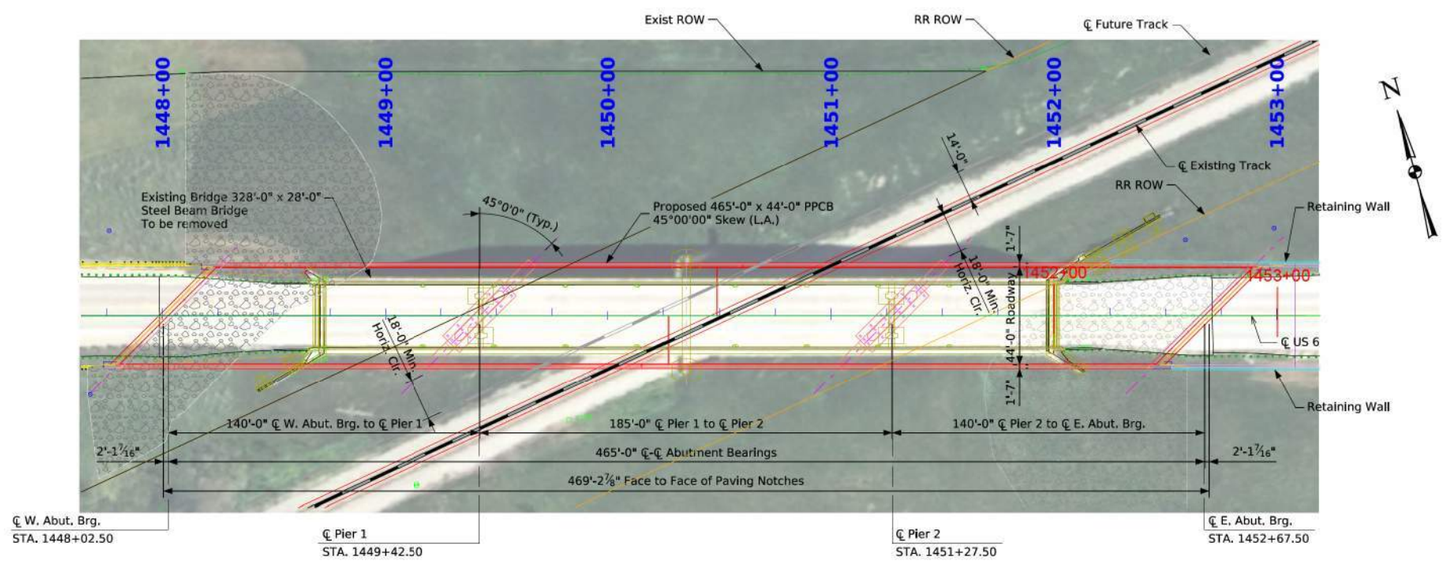


Longitudinal Section Along ℄ US 6



Situation Plan

0 30
Scale In Feet

Design For 45 Degree LA

465'-0" x 44'-0" Pretensioned
Prestressed Conc. Beam Bridge

140'-0" End Spans 185'-0" Interior Span

Situation Plan

STA. 1450+35.00 (CL US 6) Turn-in Date: mmm yyyy

Iowa County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. XXXX Design Sheet No. 1 of 1 FHWA No. XXXXXX

FILE NO. XXXXX	ENGLISH	DESIGN TEAM HNTB	Iowa COUNTY	PROJECT NUMBER BRF-006-6(078)--38-48	SHEET NUMBER V.1

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FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT	IOWA COUNTY	PROJECT NUMBER BRF-006-6(078)--38-48	SHEET NUMBER A.13

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Roadway	US 6			
PIN Number	24-48-006-010		**Submittal Date**	06/25/25
Project Number	BRF-006-6(078)--38-48			**Approval Date**
District	District 6	**Assistant District Engineer**	Jesse Tibodeau	
County	IOWA	**or**		
Route	US 6	**Office Director**		
Location	US 6 bridge over the Iowa Interstate Railroad located 1.6 miles east of east junction of Iowa 21.			
Work Type	Bridge Replacement			
Segment Manager				
Designer	HNTB			

Design Manual Section 1C-1
Last Updated: 04-29-19

Rural Two-Lane Highways (Rural Arterials)

Design Element		Preferred	Acceptable	Project Values
Design speed (mph)		60	50	60
Maximum superelevation rate (Refer to Section 2A-2)		6%	8%	6%
Design lane width (ft)		12	12	12
Full depth paved width (ft)		12	12	12
Right turn lane (ft)		12	10	N/A
Climbing Lane (ft)		12	12	N/A
Left turn lane (ft)		12	10	N/A
Pavement cross-slope (on tangent sections)	Through lanes	2%	1.5% minimum, 2% 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	4-inch sloped
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	3:1
	Beyond standard ditch depth and design clear zone	3.5:1	3:1	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	3:1
Transverse Slopes	w/ drainage structures	8:1	6:1	N/A
	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
Bridge width—new*	Bridge length ≤ 200 ft	design lane widths + effective shoulder widths	design lane widths + effective shoulder widths	NA
	Bridge length > 200 ft	design lane widths + effective shoulder widths	design lane width + 4' right and left of the design lane widths	44
Bridge width—existing*		design lane widths + no less than 2 ft left and right	design lane widths + 2 ft. offset left and right	N/A
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	23.5
	Sign trusses and pedestrian bridges	17.5	17	N/A
Structural Capacity		Contact Office of Bridges and Structures	Contact Office of Bridges and Structures	HL-93
Level of Service		B	B	N/A

*FHWA notification via email is required if acceptable critera is not met on the NHS system (No formal design exeption is required)

Roadway Design Speed (mph) = 60

Design Manual Section 1C-1
Last Updated: 04-29-19

Design Criteria for High Speed Roadways

Design Element			Preferred Criteria						Acceptable Criteria						Project Values
			Design Speed, mph						Design Speed, mph						
			50	55	60	65	70	75	50	55	60	65	70	75	
Stopping sight distance (ft) (Refer to Section 6D-1)			425	495	570	645	730	820	425	495	570	645	730	820	570
Minimum horizontal curve radius (ft) (Refer to Sections 2A-2 and 2A-3)	Method 5 superelevation and side friction distribution	e_{max} = 6%	833	1060	1330	1660	2040	2500	833	1060	1330	1660	2040	2500	1330
		e_{max} = 8%	--	--	--	--	--	--	758	960	1200	1480	1810	2210	N/A
Minimum vertical curve length (ft) (Refer to Section 2B-1)			150	165	180	195	210	225	150	165	180	195	210	225	180
Minimum rate of vertical curvature (K) (Refer to Section 2B-1)	crest vertical curves		84	114	151	193	247	312	84	114	151	193	247	312	151
	sag vertical curves	roadways without fixed-source lighting	96	115	136	157	181	206	96	115	136	157	181	206	136
		roadways with fixed-source lighting	96	115	136	157	181	206	54	66	78	91	106	121	N/A
Minimum gradient (%)	(Refer to Section 2B-1)		0.5						0.3% with a curb, 0.0% without a curb						0.5
Maximum gradient (%)	(Refer to Section 2B-1)	Urban roadways	4		3				7	6	6	--	--	--	N/A
		Rural roadways							5	5	4	4	4	4	4
		Interstates							5	5	4	4	4	4	N/A
Clear zone			See "Preferred Clear Zone" table in Section 8A-2						See "Acceptable Clear Zone" table in Section 8A-2						26' for 4:1

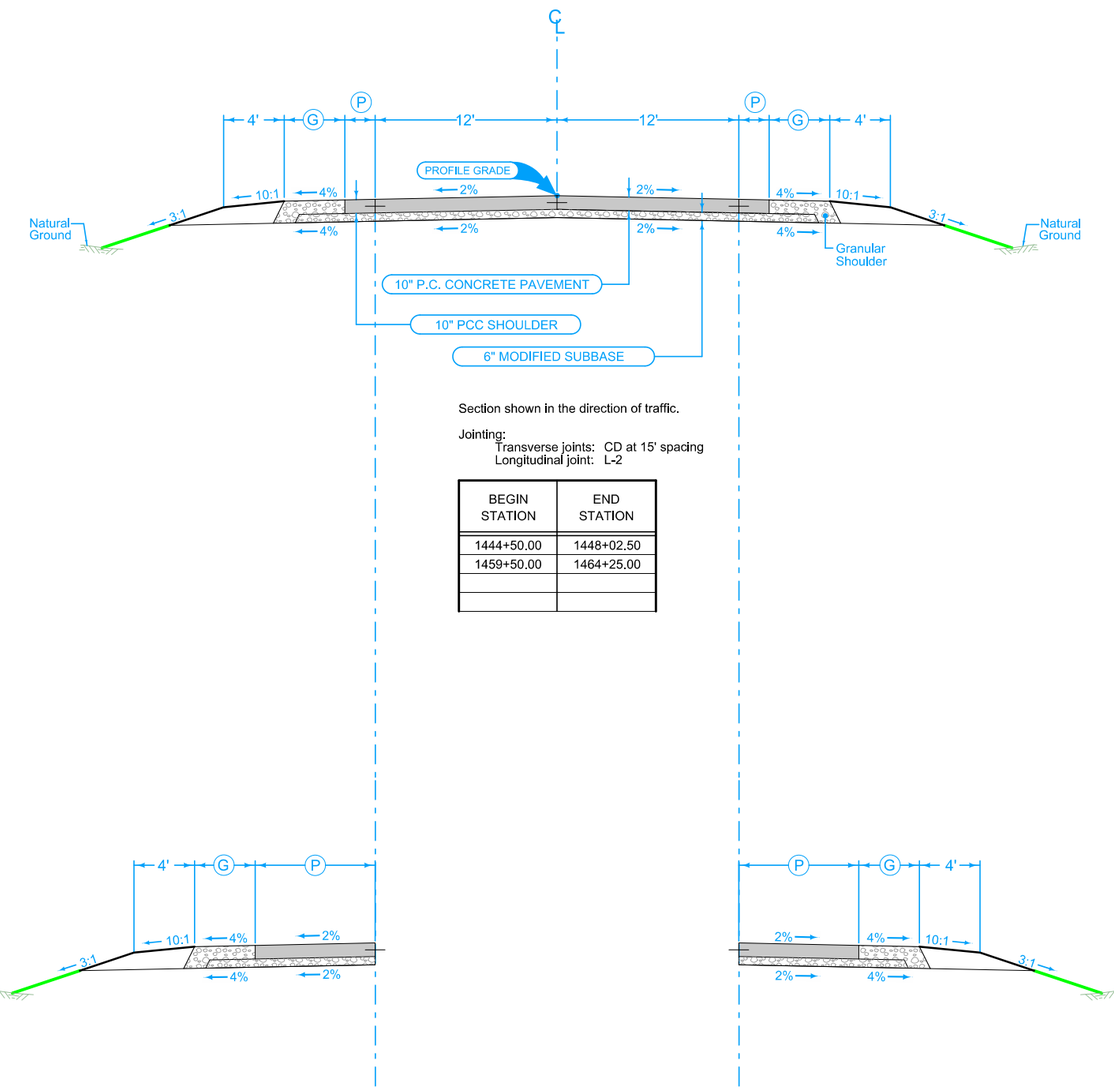
Full Depth PCC Shoulder

Shoulder Jointing:
Longitudinal joint: L-2 or BT-2
Transverse joints: Match Mainline

LOCATION		DIMENSIONS	
STATION TO STATION		G Feet	P Feet
1444+50.00	1445+69.00	4	2

Section view is in direction of traffic.

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



Section shown in the direction of traffic.

Jointing:
Transverse joints: CD at 15' spacing
Longitudinal joint: L-2

BEGIN STATION	END STATION
1444+50.00	1448+02.50
1459+50.00	1464+25.00

Full Depth PCC Shoulder

Shoulder Jointing:
Longitudinal joint: L-2 or BT-2
Transverse joints: Match Mainline

LOCATION		DIMENSIONS	
STATION TO STATION		G Feet	P Feet
1444+50.00	1445+69.00	4	2

Section view is in direction of traffic.

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

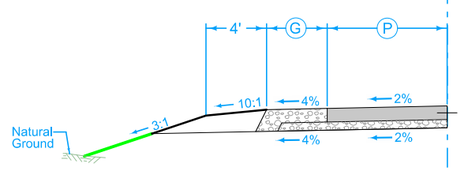
Full Depth PCC Shoulder

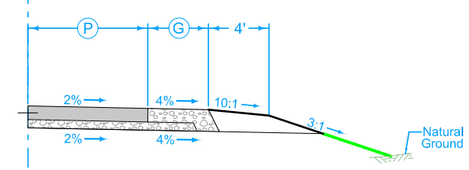
Shoulder Jointing:
Longitudinal joint: L-2 or BT-2
Transverse joints: Match Mainline

LOCATION		DIMENSIONS	
STATION TO STATION		G Feet	P Feet
1445+69.00	1445+81.00	4	2-8
1445+81.00	1446+50.00	4	8
1446+50.00	1447+34.00	4	8-10
1447+34.00	1448+02.50	4	10
1459+50.00	1464+25.00	4	10

Section view is in direction of traffic.

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





Full Depth PCC Shoulder

Shoulder Jointing:
Longitudinal joint: L-2 or BT-2
Transverse joints: Match Mainline

LOCATION		DIMENSIONS	
STATION TO STATION		G Feet	P Feet
1445+69.00	1445+81.00	4	2-8
1445+81.00	1446+37.02	4	8
1446+37.02	1446+90.30	4	12-10
1446+90.30	1448+02.50	4	10
1459+00.10	1464+25.00	4	6

Section view is in direction of traffic.

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

US 6

Full Depth Reinforced PCC Shoulder

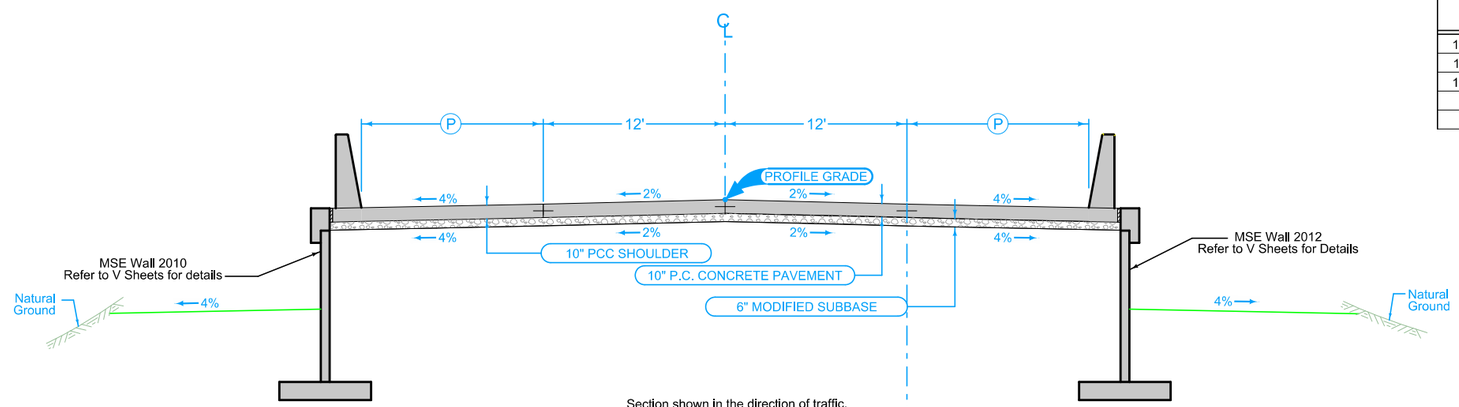
Shoulder Jointing:
Longitudinal joint: L-2 or BT-2
Transverse joints: Match Mainline

STATION TO STATION		(P) Feet
1452+43.92	1459+50.00	10

Full Depth Reinforced PCC Shoulder

Shoulder Jointing:
Longitudinal joint: L-2 or BT-2
Transverse joints: Match Mainline

STATION TO STATION		(P) Feet
1452+43.92	1453+58.21	10
1453+58.21	1454+16.25	10-6
1454+16.25	1459+00.00	6



Section shown in the direction of traffic.

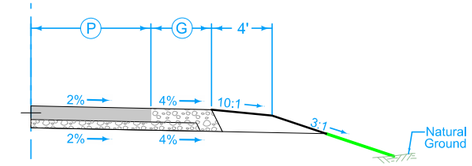
Jointing:
Transverse joints: CD at 15' spacing
Longitudinal joint: L-2

BEGIN STATION	END STATION
1452+43.92	1459+50.00

Full Depth PCC Shoulder

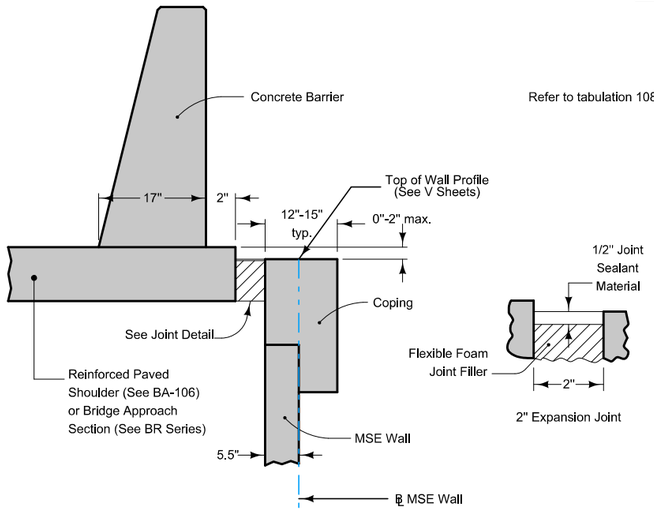
Shoulder Jointing:
Longitudinal joint: L-2 or BT-2
Transverse joints: Match Mainline

STATION TO STATION		(G) Feet	(P) Feet
1459+00.00	1459+50.00	4	6

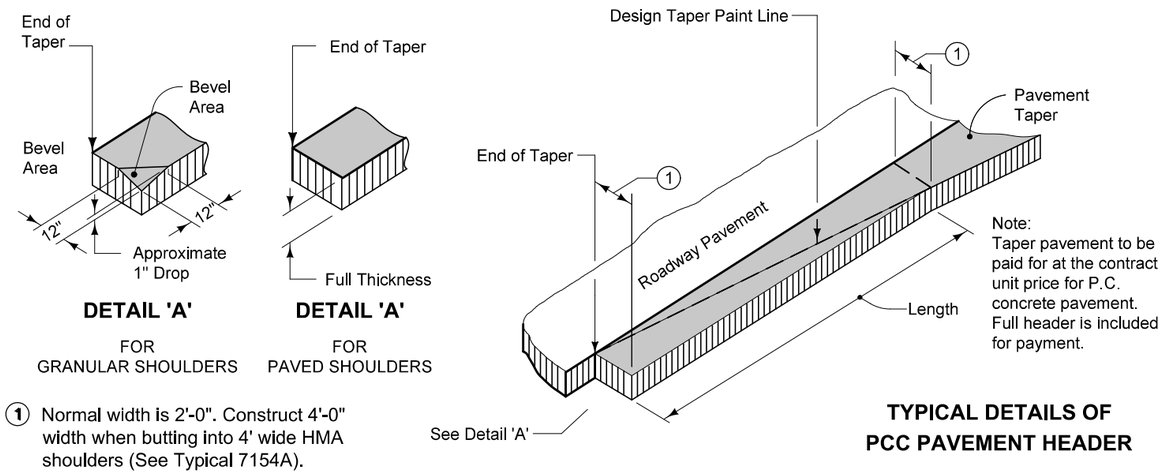


US 6

8208
Modified



CONCRETE BARRIER WITH MSE WALL



DETAIL 'A'

FOR
GRANULAR SHOULDERS

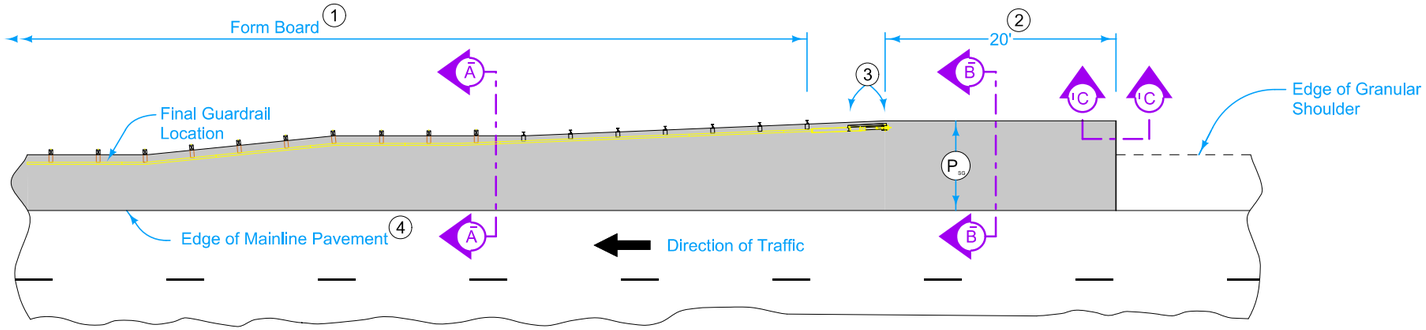
DETAIL 'A'

FOR
PAVED SHOULDERS

Note:
Taper pavement to be paid for at the contract unit price for P.C. concrete pavement. Full header is included for payment.

(1) Normal width is 2'-0". Construct 4'-0" width when butting into 4' wide HMA shoulders (See Typical 7154A).

TYPICAL DETAILS OF PCC PAVEMENT HEADER



PLAN VIEW

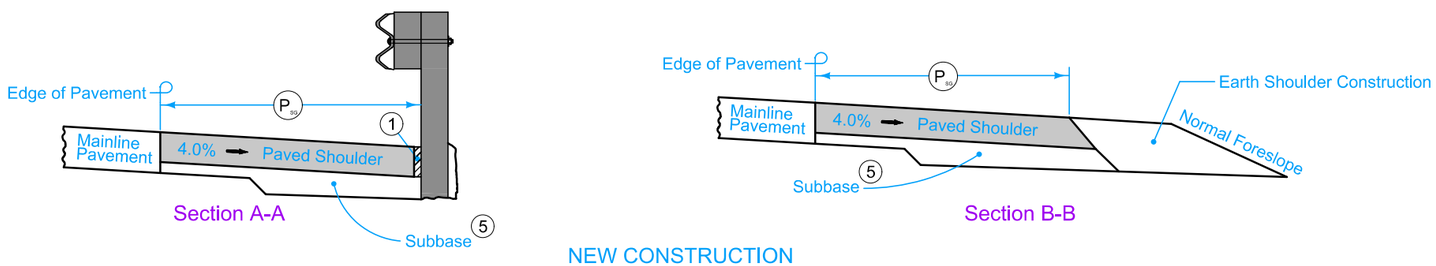
9" HMA Paved Shoulder at guardrail. 8" PCC may be substituted with the following jointing layout:

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.

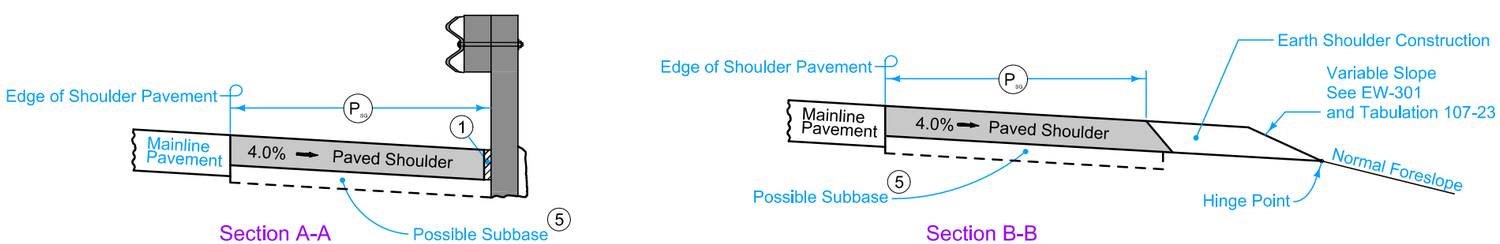
Compaction of HMA is required to face of guardrail post. Hand compaction will be allowed under guardrail. Removal and reinstallation of guardrail will be allowed with no additional payment.

Refer to Tabulation 112-9 for shoulder quantities.

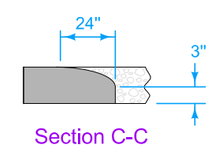
1. PCC option only: When guardrail posts are installed prior to construction of PCC paved shoulder, fasten form board to the face of guardrail posts for the length shown.
2. Continue paved shoulder 20 feet beyond the center of the first post.
3. Shoulder may be notched for first 2 posts or post sleeves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



NEW CONSTRUCTION



EXISTING SHOULDER



Section C-C
Roll down at granular shoulder or earth.

PAVED SHOULDER AT GUARDRAIL
(GRANULAR SHOULDER ADJACENT TO MAINLINE)

SURVEY SYMBOLS

- Interstate Highway Symbol
- U.S. Highway Symbol
- Iowa Highway Symbol
- County Road Highway Symbol
- Evergreen Tree
- Deciduous Tree
- Fruit Tree
- Shrub (Bushes)
- Timber
- Hedge
- Stump
- Swamp
- Rock Outcrop
- Broken Concrete
- Revetment (Rip Rap)
- Cemetery
- Grave
- Cave
- Sink Hole
- Board Fence
- Chain Link or Security Fence
- Wire Fence
- Terrace
- Earth Dam or Dike (Existing)
- Tile Outlet
- Edge of Water
- Existing Drainage
- Right of Way Rail or Lot Corner
- Concrete Monument
- Well
- Windmill
- Beehive Intake
- Existing Intake
- Existing Utility Access (Manhole)
- Fire Hydrant
- WH Water Hydrant (Rural)
- Septic Tank
- Cistern
- L.P. Gas Tank (No Footing)
- Underground Storage Tank
- Latrine
- Satellite TV Dish
- WHU Water Hook Up
- RT Radio Tower
- TA Tower Anchor
- Guardrail (Beam or Cable)
- GP Guard Post (one or two)
- Guard Post (over two)
- FP Filler Pipe
- GV Gas Valve
- WV Water Valve
- SL Speed Limit Sign
- MM Mile Marker Post
- SIGN Sign
- TCB Traffic Signal Control Box
- RRB Rail Road Signal Control Box
- TSB Telephone Switch Box
- EB Electric Box

UTILITY LEGEND

- FO - Cooperative Telephone Company
Scott Schabacker
(319) 647-3131
scott@ctctechnology.net

- T1 - Verizon
(469) 886-4090
investigations@verizon.com

- FO2 - Aureon Network Services
Jeff Klocko
(515) 830-0445
jeff.klocko@aureon.com

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.**	
Lavender	(9)	Temporary Pavement Shading
Yellow	(4)	Proposed Pavement Shading
Orange	(6)	Proposed Granular Shading
Orange	(70)	Proposed Shoulder Granular Shading
Yellow	(68)	Proposed Shoulder Paved Full Depth Shading
Yellow	(132)	Proposed Shoulder Paved Partial Depth Shading
Gray, Dark	(112)	Proposed Grade and Pave Shading "In conjunction with a paving project"
Brown, Light	(236)	Grading Shading
Orange, Light	(134)	Proposed Granular Entrance Shading
Yellow	(220)	Proposed Paved Entrance Shading
Tan	(8)	Proposed Sidewalk Shading
Blue, Light	(230)	Proposed Sidewalk Landing Shading
Pink	(11)	Proposed Sidewalk Ramp Shading
Green, Light	(225)	Existing Pavement Shading
Red	(3)	Proposed Structure Shading
Red	(3)	Delineates Restricted Areas

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

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

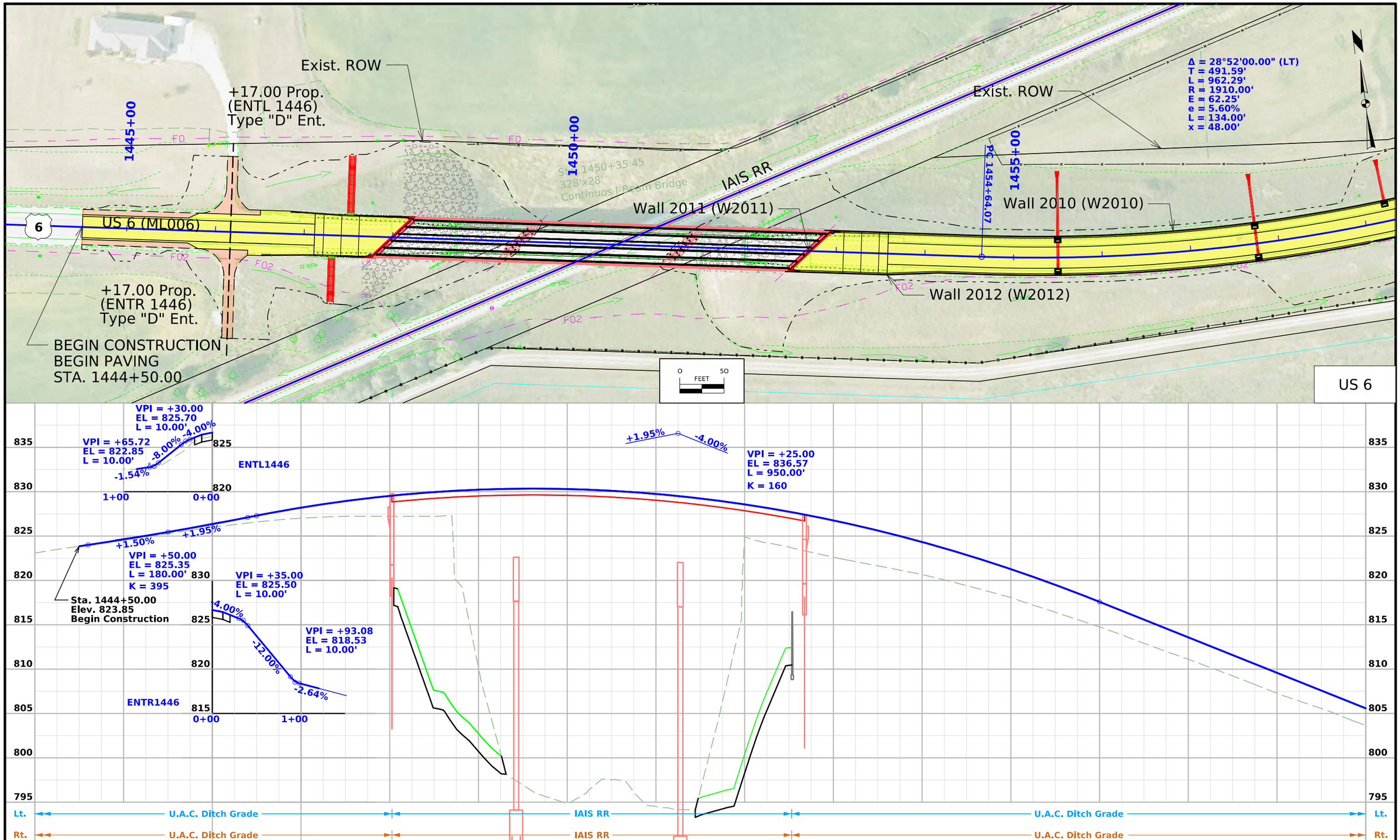
- Reference Point / Station — Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Trench Drain
- HighTension Cable Guardrail
- Sheet Pile
- Pavement Removal
- Clearing & Grubbing Area

RIGHT-OF-WAY LEGEND

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

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES D)



FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT	IOWA COUNTY	PROJECT NUMBER BRF-006-6(078)--38-48	SHEET NUMBER D.2

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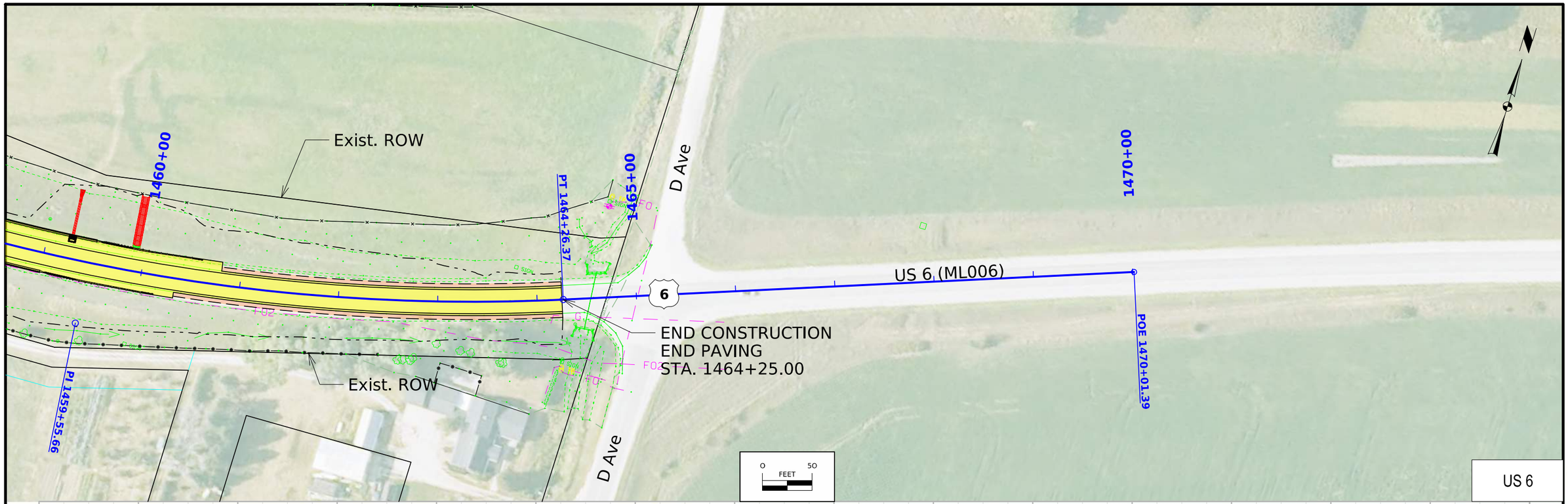

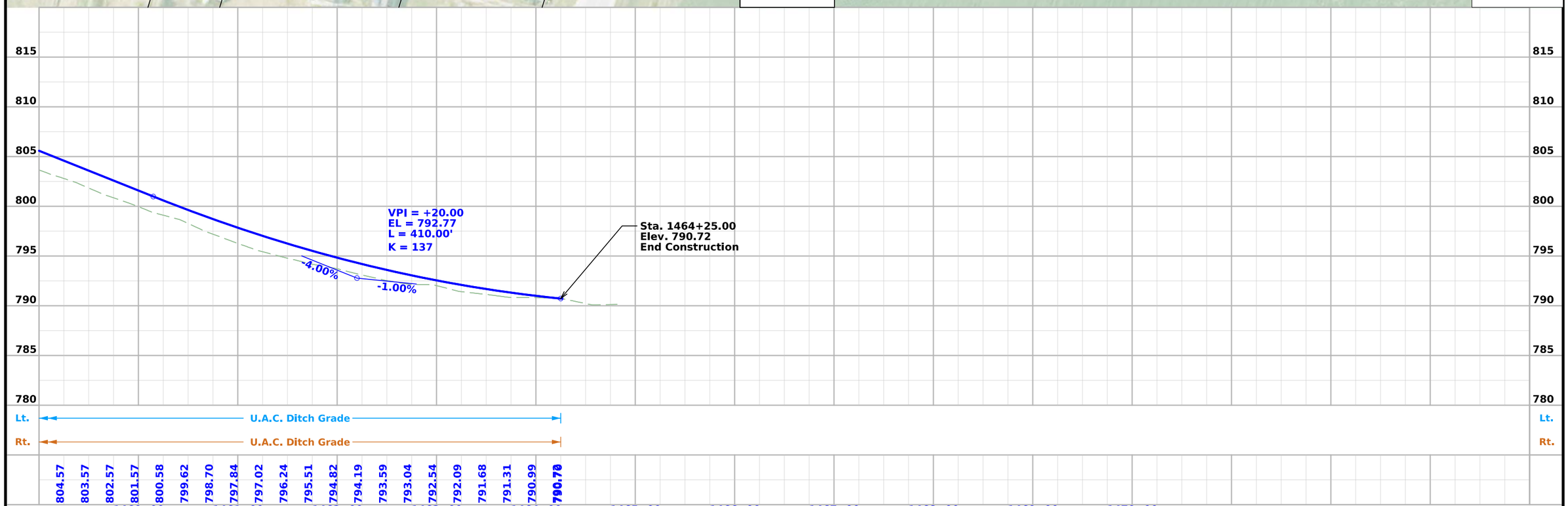

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT	IOWA COUNTY	PROJECT NUMBER BRF-006-6(078)--38-48	SHEET NUMBER D.3

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SURVEY INDEX

County: Iowa
PIN: 24-48-006-010
Project Number: BRF-006-6(078)—38-48
Location: IAIS RR 1.6 miles E of Jct IA 21
Type of Work: Bridge-Unspecified
Project Directory: 4800601024

Survey Personnel

Wes Shimp – PLS
Levi Suhr – Survey Party Chief
Nate Theis-Barnett – Survey Party Chief
Alexis Avila – Assistant Survey Party Chief

Date(s) of Survey

Begin Date	12/17/2024
End Date	02/21/2025

General Information

This survey is for approximately 0.50 miles of US Hwy 6 at bridge crossing of IAIS railroad at a location approximately 3 miles northeast of Victor, Iowa. This survey request was for the US Hwy 6 and IAIS railroad corridor. 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

Nearby Iowa Real Time Network reference stations were utilized to obtain horizontal and vertical control on three new primary project control points. Three five-minute observations were taken with a minimum two-hour time span between and used in a weighted average to obtain final coordinate values. For additional details of the control survey, contact the Preliminary Survey department.

PROJECT DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 ADJUSTMENT)
COORDINATE SYSTEM: IOWA REGIONAL COORDINATE SYSTEM ZONE 10 (U.S. SURVEY FOOT)
VERTICAL DATUM: NAVD88
GEOID MODEL: 2018u3

Alignment Information

The horizontal alignment for U.S. Hwy 6 this survey is a retrace of As-built Plans No. F-90(6). Survey stationing was equated to the plan PT at Sta. 1428+35.2 and carried ahead with one equation throughout the survey.

Survey stationing relates to as built plan stationing as follows:

PT Sta. 1428+35.2 As-built Plans Project No. F-90(6)
Survey PT Sta. 1428+35.20

PC Sta. 1454+64.1 As-built Plans Project No. F-90(6)
Survey PC Sta. 1454+64.07

PI Sta. 1459+55.7 As-built Plans Project No. F-90(6)
Survey PI Sta. 1459+55.66

PT Sta. 1464+26.3 As-built Plans Project No. F-90(6)
Survey PT Sta. 1464+26.37
Station equation 1464+52.0 Ahead

PC Sta. 1470+27.0 As-built Plans Project No. F-90(6)
Survey PC Sta. 1470+27.02

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 10 (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 10 (U.S. Survey Foot)
VERT. DATUM: NAVD88
Geoid Model: 2018u3

Point Name	Northing	Easting	Elevation	Code - Description
100	7967405.19	20340773.78	806.01	CP SET FEN O MONUMENT 1115 FT WEST OF BRIDGE ON SOUTH SIDE OF US6
101	7967283.69	20341735.63	826.48	CP SET FEN O MONUMENT 150 FT WEST OF BRIDGE ON SOUTH SIDE OF US6
102	7967455.31	20343740.71	784.48	CP SET FEN O MONUMENT 320 FT EAST OF D AVE ON NORTH SIDE OF US6

ALIGNMENT COORDINATES

Line No.	Name	Location	Point on Tangent Station	Point on Tangent Y Northing	Point on Tangent X Easting	Begin Spiral Station	Begin Spiral Y Northing	Begin Spiral X Easting	Begin Curve Station	Begin Curve Y Northing	Begin Curve X Easting	Simple Curve PI or Master PI Station	Simple Curve PI or Master PI Y Northing	Simple Curve PI or Master PI X Easting	End Curve Station	End Curve Y Northing	End Curve X Easting	End Spiral Station	End Spiral Y Northing	End Spiral X Easting
1.0	ML006	Point ML006_1	1428+35.20	7967606.91	20339872.28															
2.0	ML006	Curve ML006_1							1454+64.07	7967190.47	20342467.96	1459+55.66	7967112.60	20342953.34	1464+26.37	7967278.73	20343416.01			
3.0	ML006	Point ML006_2	1464+26.37	7967278.73	20343416.01															
4.0	W2010	Point RW_2010_1	201052+77.96	7967242.33	20342296.23															
5.0	W2010	Point RW_2010_2	201054+55.73	7967214.17	20342471.76															
6.0	W2010	Curve RW_2010_1							201054+55.73	7967214.17	20342471.76	201056+96.95	7967175.96	20342709.93	201059+35.55	7967198.92	20342950.05			
7.0	W2010	Point RW_2010_3	201059+35.55	7967198.92	20342950.05															
8.0	W2011	Point_RW_2011_1	21100+00.00	7967242.33	20342296.23															
9.0	W2011	Point_RW_2011_2	201100+08.34	7967243.65	20342288															
10.0	W2011	Point_RW_2011_3	201100+64.32	7967210.84	20342242.65															
11.0	W2011	Point_RW_2011_4	201100+72.74	7967202.52	20342241.31															
12.0	W2011	Point_RW_2011_5	201100+77.74	7967201.73	20342246.25															
13.0	W2012	Point RW_2012_1	201252+38.38	7967201.73	20342246.25															
14.0	W2012	Point RW_2012_2	201253+53.19	7967183.54	20342359.61															
15.0	W2012	Point RW_2012_3	201254+11.36	7967178.30	20342417.54															
16.0	W2012	Curve RW_2012_1							201254+59.17	7967170.73	20342464.75	201256+80.40	7967135.68	20342683.18	201258+99.70	7967150.96	20342903.88			
17.0	W2012	Point RW_2012_5	201258+99.70	7967150.96	20342903.88															
18.0	ENTL1446	Point ENTL_1446		7967324.66	20341631.58															
19.0	ENTL1446	Point ENTL_1446	1+00.00	7967423.39	20341647.42															
20.0	ENTR1446	PointENTR_1446		7967324.66	20341631.58															
21.0	ENTR1446	PointENTR_1446	1+40.00	7967186.42	20341609.41															

SPIRAL OR CIRCULAR CURVE DATA

Line No.	Name	Location	SCS	S	Ls	Ts	Es	Xc	Yc	L.T.	S.T.	C	T	L	R	E	Remarks
1.0	Curve ML6_1											952.15	491.59	962.29	1910.00	62.25	
2.0	Curve W_2010_1											478.53	241.21	479.82	1886.00	15.36	
3.0	Curve W_2012_1											439.58	221.23	440.54	1930.25	12.64	

SUPERELEVATION DATA

See PV-300 Series

Line No.	Road Identification	Circular Curve or Spiral Curve Name	Radius (FT)	e (%)	L (FT)	x (FT)	Standard Road Plan	Section A-A	Section A'-A'	Section B-B	Section C'-C'	Section C-C	Section D-D	Case A	Case B	Case C	Case S	Case T	Case U	Remarks
1.0	ML006		1910.0	5.6	134.0	48.00	PV-301	1453+23.27		1453+70.27	1454+17.27		1455+04.27				1454+65.98	1454+65.98		
2.0	ML006		1910.0	5.6	134.0	48.00	PV-301	1465+67.17		1465+20.17	1464+73.17		1463+86.17				1464+24.46	1464+24.46		

TRAFFIC CONTROL PLAN

Traffic control for this project shall be in accordance with Iowa DOT Standard Road Plans and the following J Sheets. For additional information, refer to Part 6 of the Manual on Uniform Traffic Control Devices.

Iowa DOT Standard Road Plan TC Series and the current Standard Specifications. US 6 will be closed during construction, and an offsite detour will be utilized. The suggested detour route shall be in accordance with TC-252 and divert traffic south of the town of Victor as shown on the detour map on Sheet J.4.

Portable Dynamic Message Signs (PDMS) shall be provided and installed by the contractor. Locations and messages shall be coordinated with the Engineer. PDMS shall be used for 14 days prior to closing US 6.

111_01
10/14/22

COORDINATED OPERATIONS

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

Project	Type of Work

CROSS SECTION VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

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

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

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

PLAN VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Magenta	(5)	Pavement Marking Call Outs
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Yellow	(4)	Pavement Markings, Yellow
Off White	(254)	Pavement Markings, White
Violet	(15)	Temporary barrier rail, Unpinned
Flush Orange	(228)	Temporary barrier rail, Pinned

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

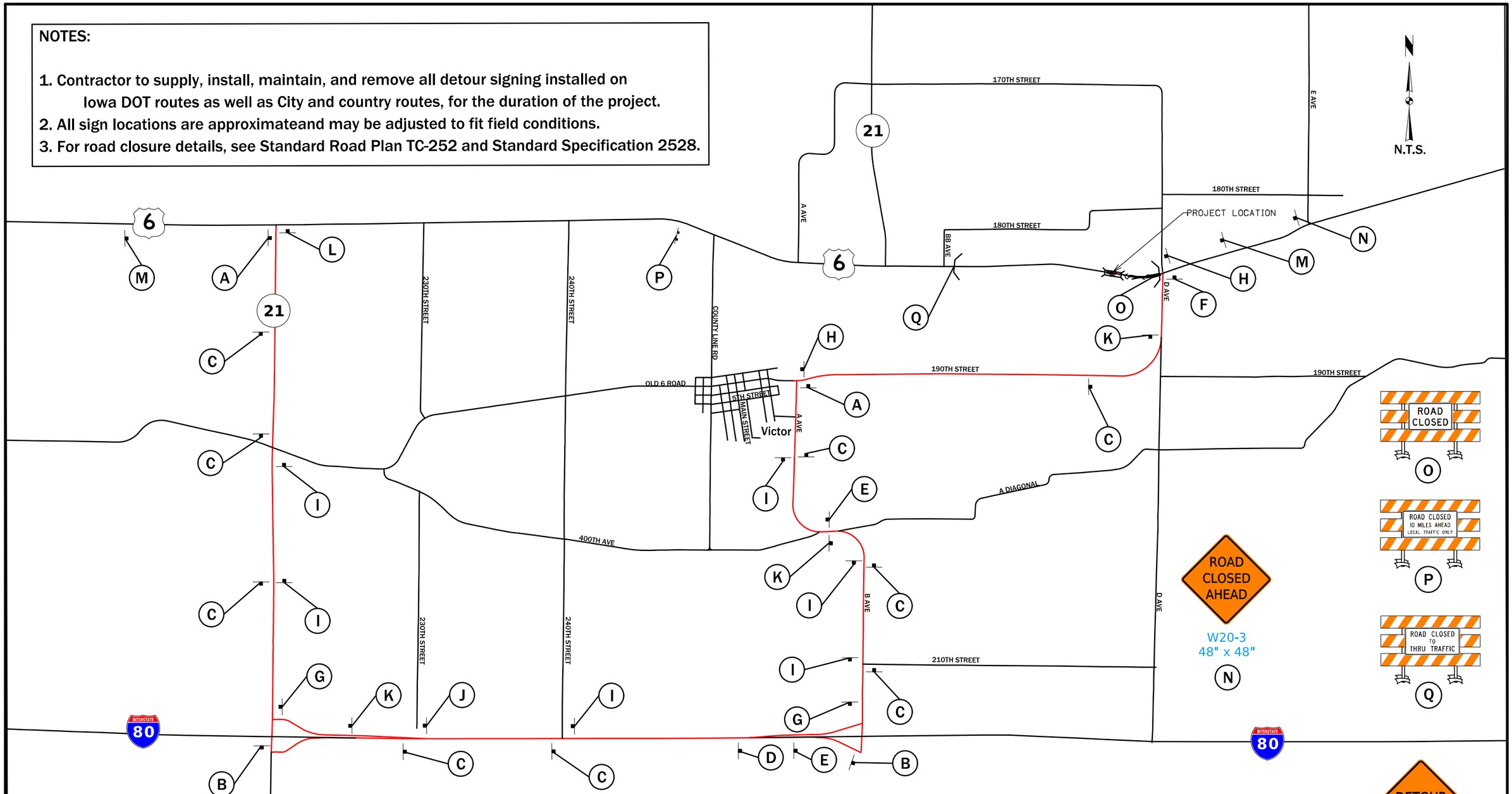
NOTE: Device spacing according to Standard Road Plans unless specifically dimensioned.

TRAFFIC CONTROL AND STAGING LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES J)

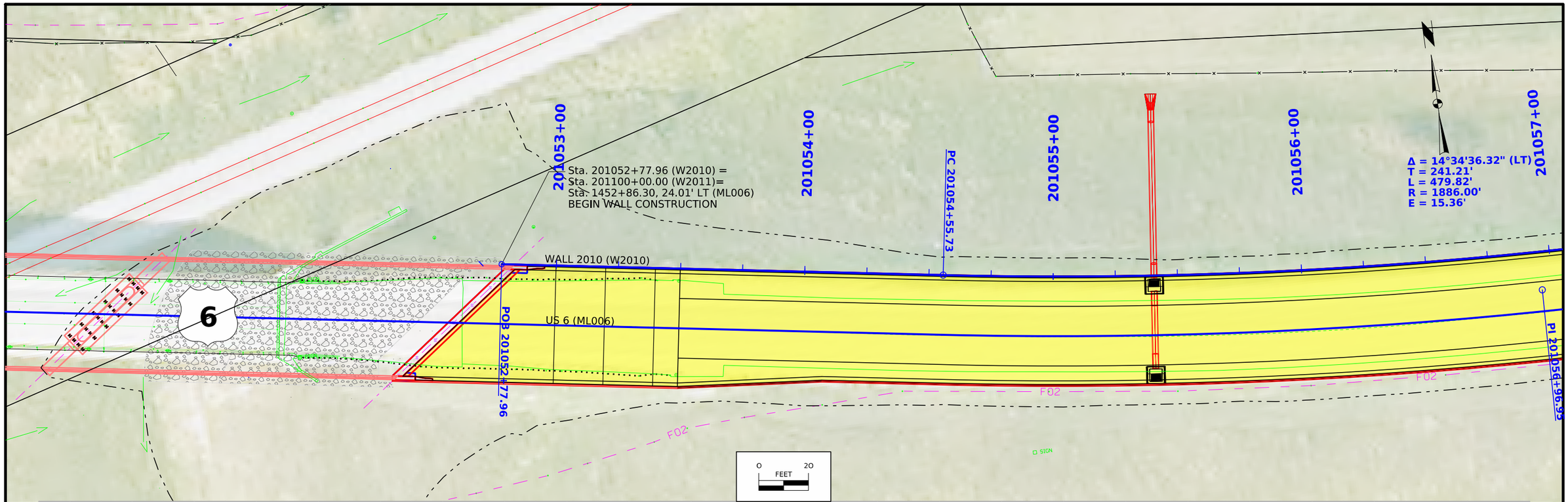
NOTES:

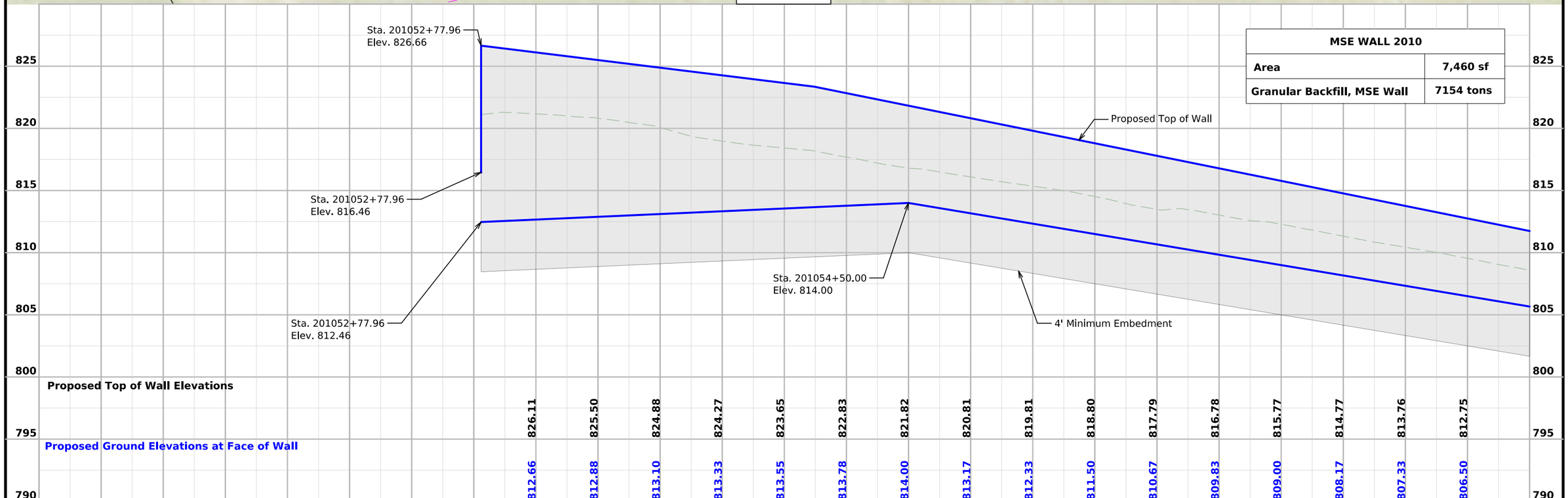
1. Contractor to supply, install, maintain, and remove all detour signing installed on Iowa DOT routes as well as City and country routes, for the duration of the project.
2. All sign locations are approximateand may be adjusted to fit field conditions.
3. For road closure details, see Standard Road Plan TC-252 and Standard Specification 2528.



DETOUR 6 EAST	M4-8P 30" x 15" M1-4 36" x 36" M3-2P 36" x 18" M6-1RP 30" x 21"	A
DETOUR 6 EAST	M4-8P 30" x 15" M1-4 36" x 36" M3-2P 36" x 18" M6-1LP 30" x 21"	B
DETOUR 6 EAST	M4-8P 30" x 15" M1-4 36" x 36" M3-2P 36" x 18" M6-3P 30" x 21"	C
DETOUR 6 EAST	M4-8P 30" x 15" M1-4 36" x 36" M3-2P 36" x 18" M5-2RP 30" x 21"	D
DETOUR 6 EAST	M4-8P 30" x 15" M1-4 36" x 36" M3-2P 36" x 18" M6-2RP 30" x 21"	E
END DETOUR EAST 6	M4-8aP 30" x 15" M3-2P 36" x 18" M1-4 36" x 36"	F
DETOUR 6 WEST	M4-8P 30" x 15" M1-4 36" x 36" M3-4P 36" x 18" M6-1RP 30" x 21"	G
DETOUR 6 WEST	M4-8P 30" x 15" M1-4 36" x 36" M3-4P 36" x 18" M6-1LP 30" x 21"	H
DETOUR 6 WEST	M4-8P 30" x 15" M1-4 36" x 36" M3-4P 36" x 18" M6-3P 30" x 21"	I
DETOUR 6 WEST	M4-8P 30" x 15" M1-4 36" x 36" M3-4P 36" x 18" M5-2RP 30" x 21"	J
DETOUR 6 WEST	M4-8P 30" x 15" M1-4 36" x 36" M3-4P 36" x 18" M6-2RP 30" x 21"	K
END DETOUR WEST 6	M4-8aP 30" x 15" M3-4P 36" x 18" M1-4 36" x 36"	L
	W20-2 48" x 48"	M

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT	IOWA COUNTY	PROJECT NUMBER BRF-006-6(078)--38-48	SHEET NUMBER J.4





MSE WALL 2010	
Area	7,460 sf
Granular Backfill, MSE Wall	7154 tons

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT	IOWA COUNTY	PROJECT NUMBER BRF-006-6(078)--38-48	SHEET NUMBER V.1

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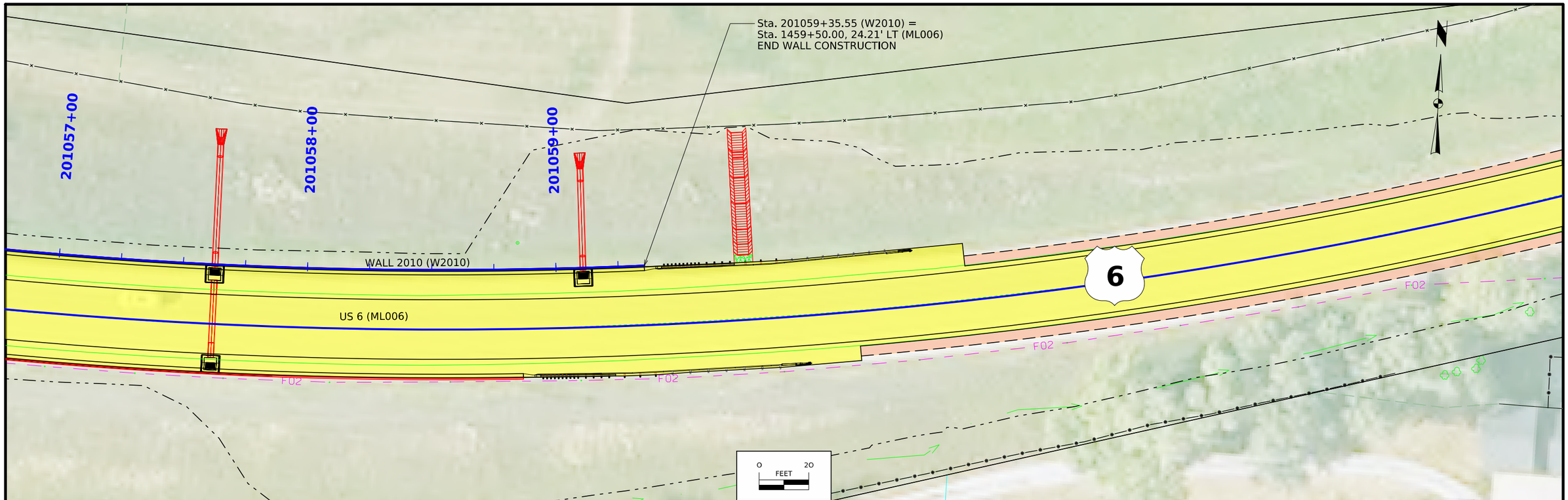

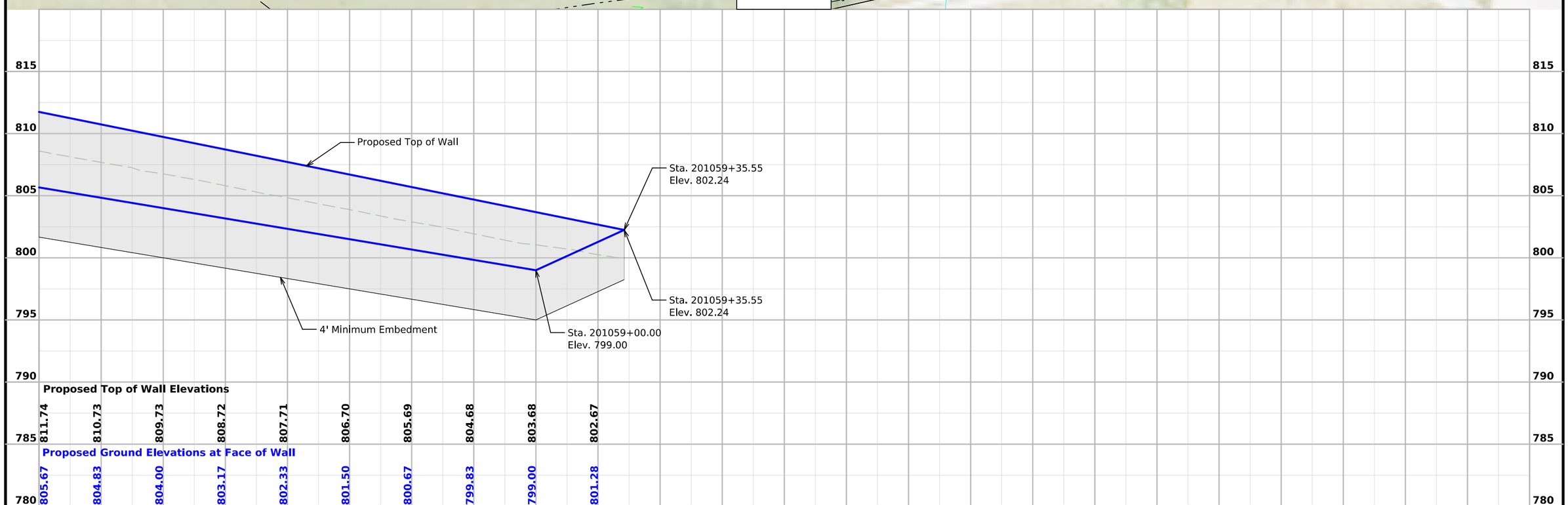

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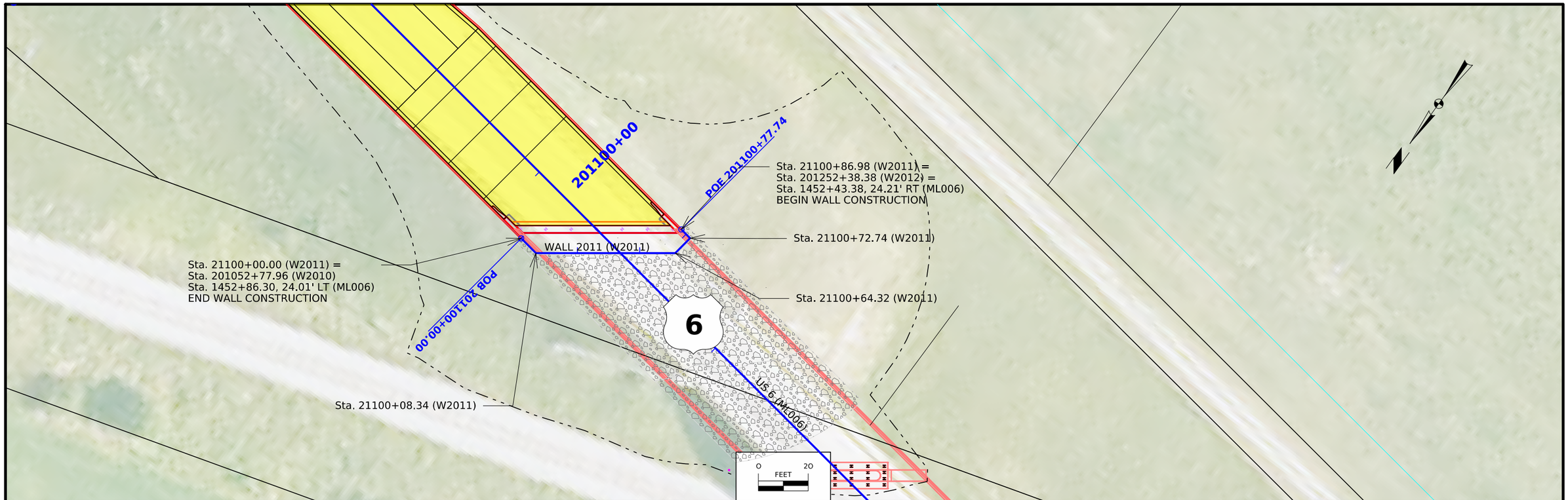

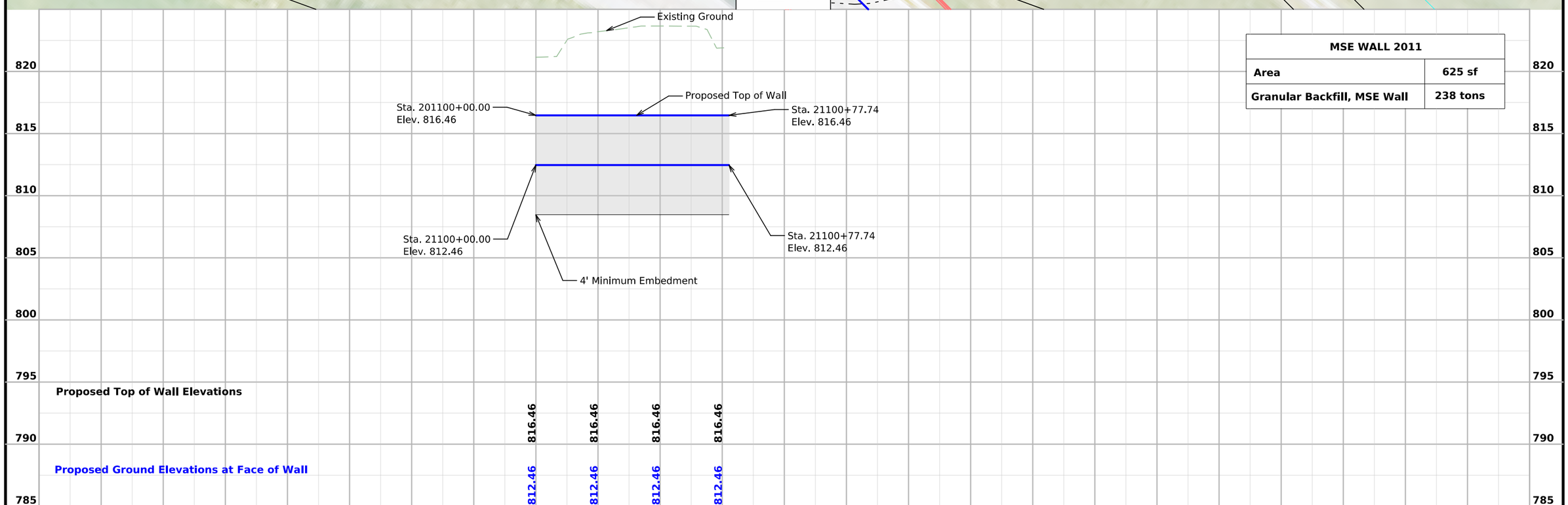

MSE WALL 2011	
Area	625 sf
Granular Backfill, MSE Wall	238 tons

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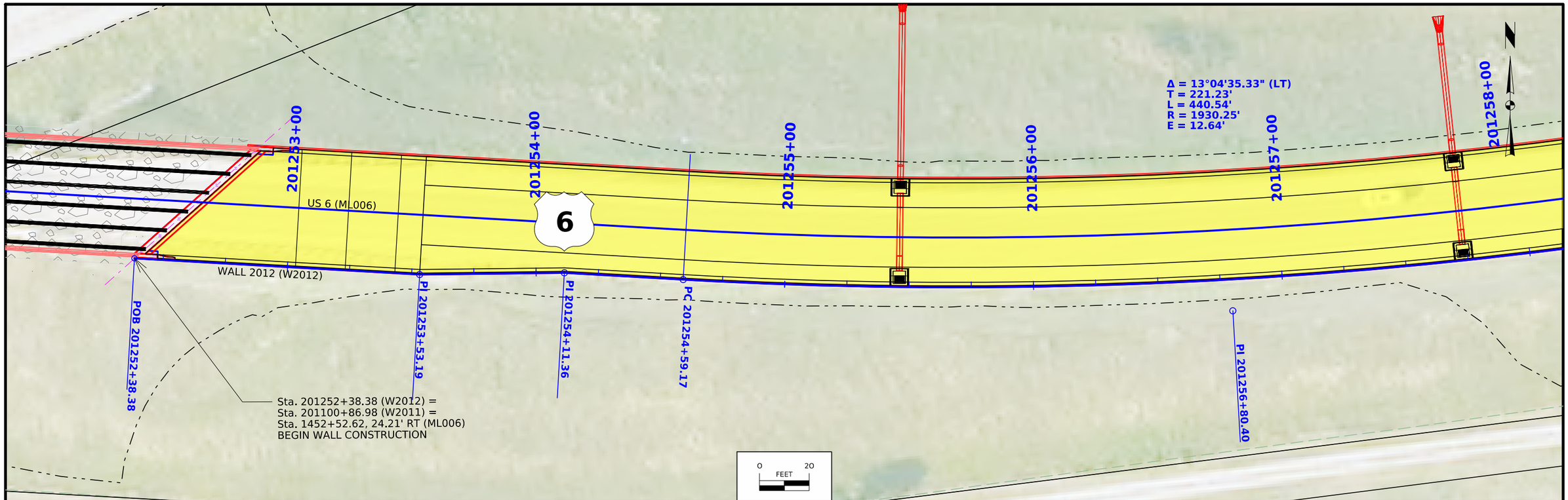

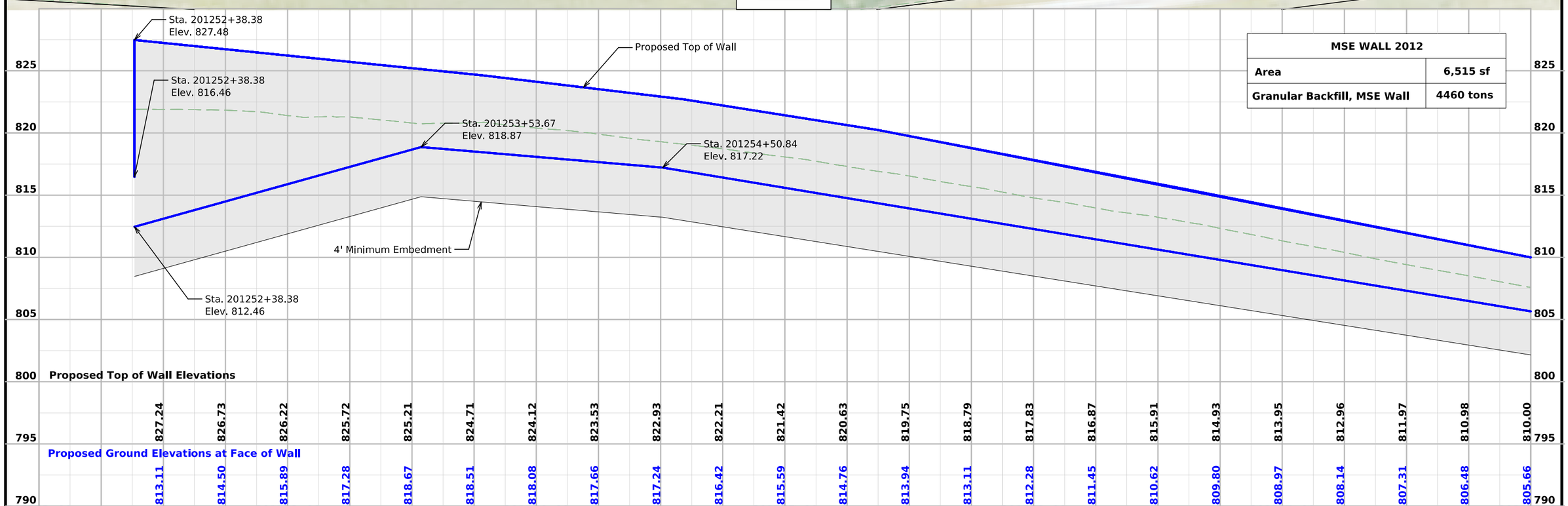

MSE WALL 2012	
Area	6,515 sf
Granular Backfill, MSE Wall	4460 tons

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT	IOWA COUNTY	PROJECT NUMBER BRF-006-6(078)--38-48	SHEET NUMBER V.4

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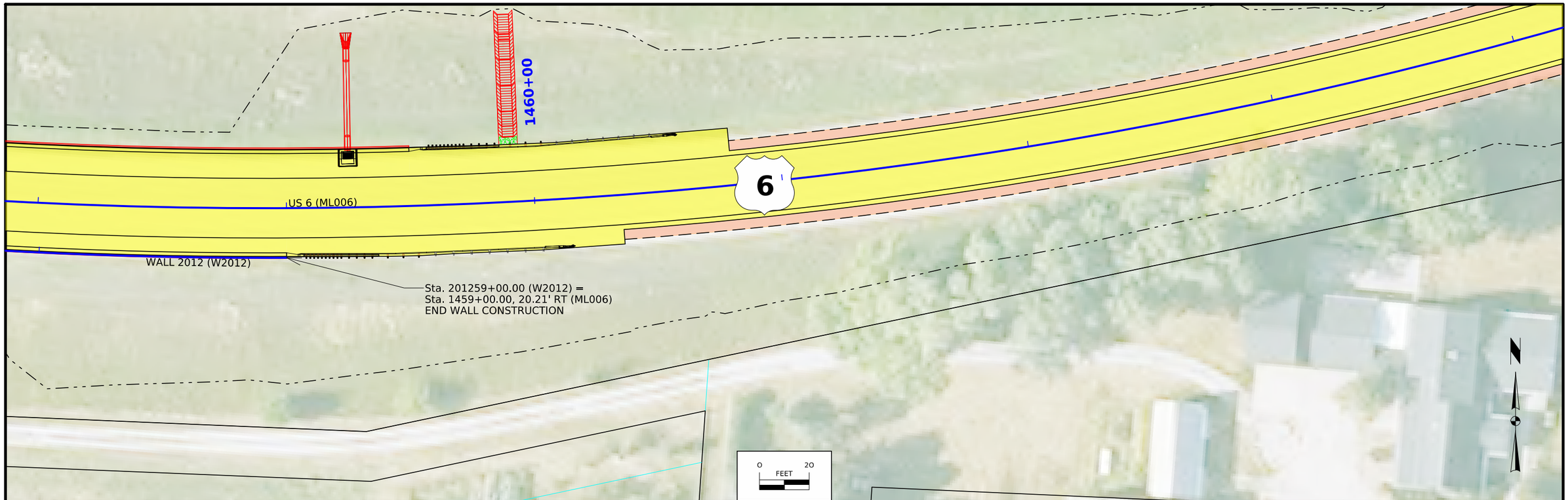

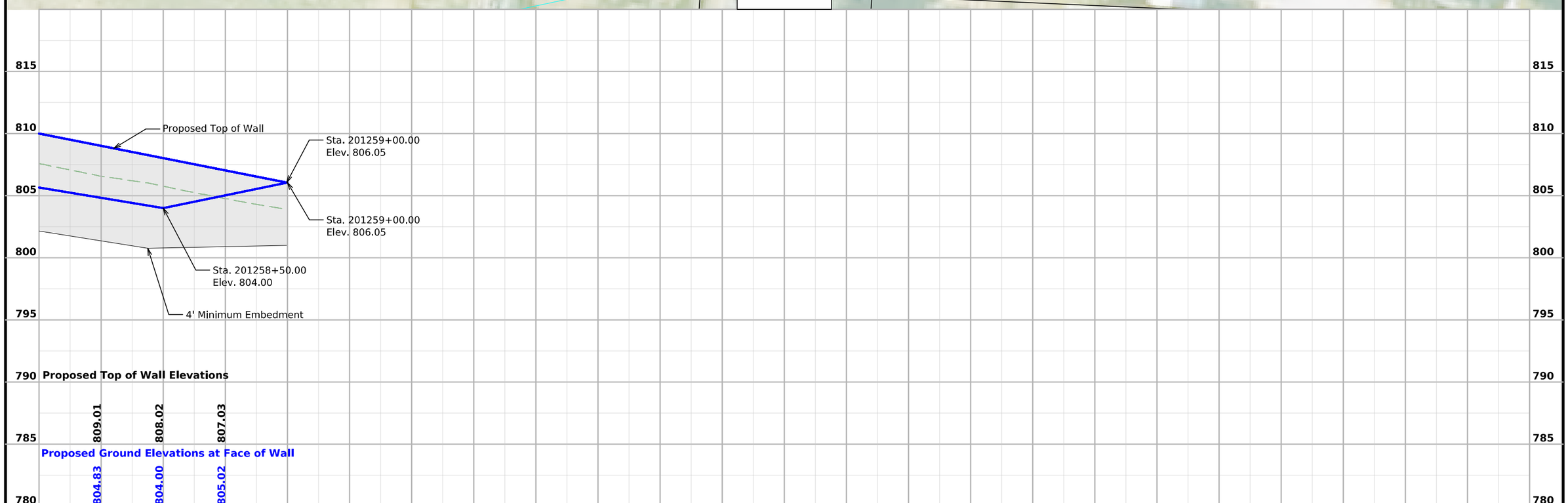

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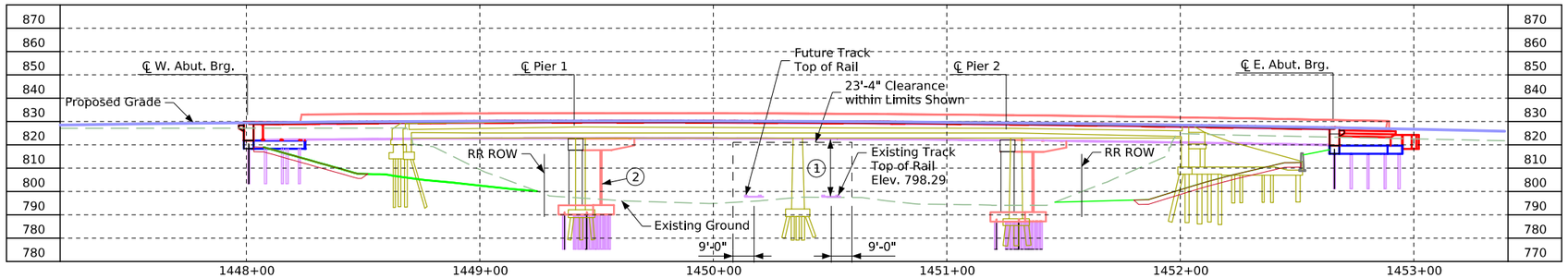
Control Point: N 7967283.69, E 20341735.63; CP Set FENO Monument 150 Ft West of Bridge on South Side of US 6. Elev. 826.48

① Minimum vertical clearance = 23.57'

② T-Pier



Longitudinal Section Along ℄ US 6

Note:
Top of bridge deck at centerline roadway is 0.03' below the profile grade to account for parabolic crown.

Design Note:
1. TSS TL-5 Bridge Railing Proposed (3'-8" Barrier)
2. T-Pier Type Pier proposed assumed a 4' column width, pier type may change in final design and will require a review of heavy construction requirements.
3. Note possible pile conflict at Pier 1 and 2. Review need for pre-drilling of proposed pile at final design.
4. This design is for the replacement of the existing 328'-0"x28'-0" Steel Beam Bridge, Design No. 1155, FHWA No. 29320, Maint. No. 4811.7S006.
5. Bridge Deck Drainage shall be collected and discharged outside of RR ROW.

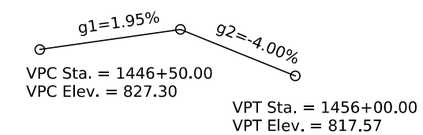
Minimum Vertical Clearance

Overhead Station = 1451+16.13, Offset 20.08' Lt.
Overhead Elevation = 829.19
Depth of Superstructure = 7.4'
Deck Thickness = 8.5 in.
Estimated Haunch = 2 in.
Beam Depth = 6.525'
Underpass Station = 9+33.22, Offset 9.00' Lt.
Underpass Elevation = 798.22
Minimum Vertical Clearance = 23.57'

Traffic Estimate

2029 AADT	1100 V.P.D.
2049 AADT	1300 V.P.D.
20 - DHV	- V.P.H.
TRUCKS	24 %
Total Design ESALs	-

VPI Sta. = 1451+25.00
VPI Elev. = 836.57
VC = 950'



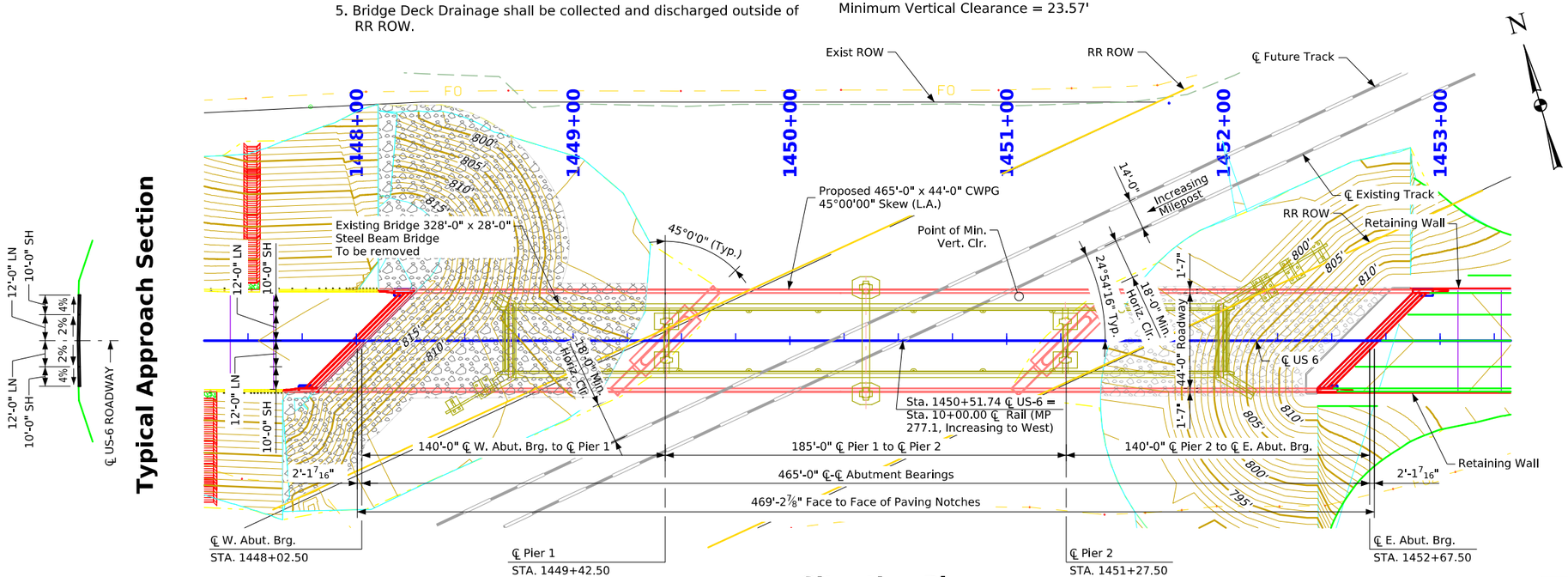
Proposed Profile Grade US-6

Utilities Note:

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

General Utility Symbols:

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



Situation Plan

Location

US 6 over IAIS RR
T-80N R-12W
Section 16
Hartford Township
Iowa County
FRA Crossing No. 607752E
Iowa RR Crossing No. 6756
FHWA No. xxxxxx
Latitude 41.742060°
Longitude -92.245449°

0 30
Scale In Feet

Design For 45 Degree LA

465'-0" x 44'-0" Continuous Welded Plate Girder Bridge

140'-0" End Spans — 185'-0" Interior Span

Situation Plan

STA. 1450+35.00 (CL US 6) — Turn-in Date: Dec. 2025

Iowa County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. XXXX — Design Sheet No. 1 of 2 — FHWA No. XXXXXX

FILE NO. XXXXX	ENGLISH	DESIGN TEAM HNTB	Iowa COUNTY	PROJECT NUMBER BRF-006-6(078)--38-48	SHEET NUMBER V.6

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CROSS SECTION VIEW COLOR LEGEND

Design Color No.	Feature
Aggregate	
(64)	Choke Stone
(42)	Engineering Fabric
(8)	Flooded Backfill
(92)	Macadam Stone
(20)	Modified
(12)	Plowing Shaping
(14)	Porous Backfill
(8)	Revetment Class A
(6)	Revetment Class B
(62)	Revetment Class C
(188)	Revetment Class D
(28)	Revetment Class E
(12)	Shoulder Special Backfill
(12)	Special Backfill
(20)	Subbase
(20)	Subbase Lower
(20)	Subbase Upper
(118)	Subgrade Treatment
Asphalt	
(207)	HMA Base Course
(207)	HMA Interim Course
(207)	HMA Surface Course
Concrete	
(0)	Barrier Concrete
(0)	Barrier Concrete Footing
(0)	Curb Gutter
(48)	Flowable Mortar
(0)	Median Concrete
(0)	PCC Pavement
(0)	Sidewalk
Shoulder	
(209)	Shoulder HMA
(0)	Shoulder PCC
(6)	Shoulder Granular
Existing	
(0)	Existing Pavement

Design Color No.	Feature
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
Grading	
(8)	Behind Curb Cut
(6)	Granular
(13)	Granular Back Fill
(48)	Rock Undercut
(8)	Shoulder Earth Fill
(2)	Side Slopes
(226)	Side Slopes Dressing
Substrata	
(128)	Boulder Substrata
(48)	Broken Weathered Substrata
(3)	Core Out Substrata
(203)	Existing Pavement Substrata
(6)	Loam Substrata
(80)	Rock Substrata
(4)	Select Sand Substrata
(3)	Shale Substrata
(10)	Topsoil Substrata
Unsuitable / Waste	
(3)	Unsuitable Type A
(13)	Unsuitable Type B
(11)	Unsuitable Type C
(3)	Waste

NOTES:

Text

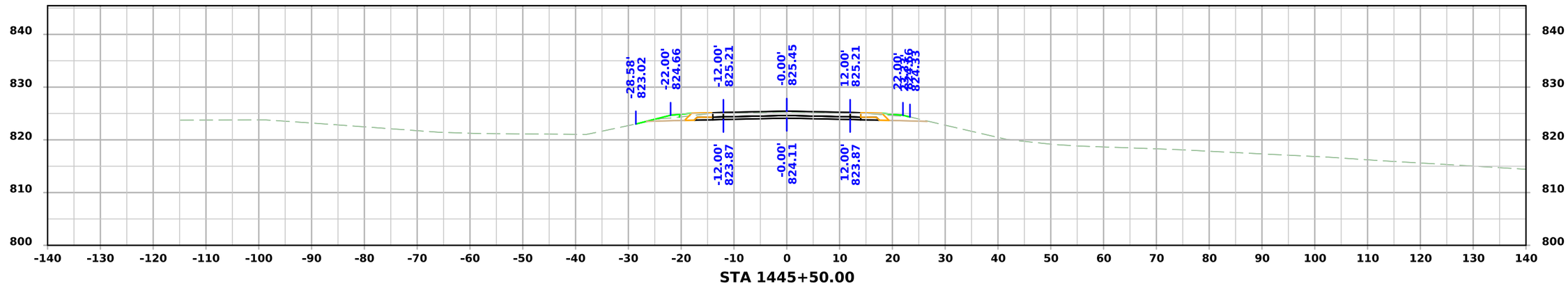
NOTES:

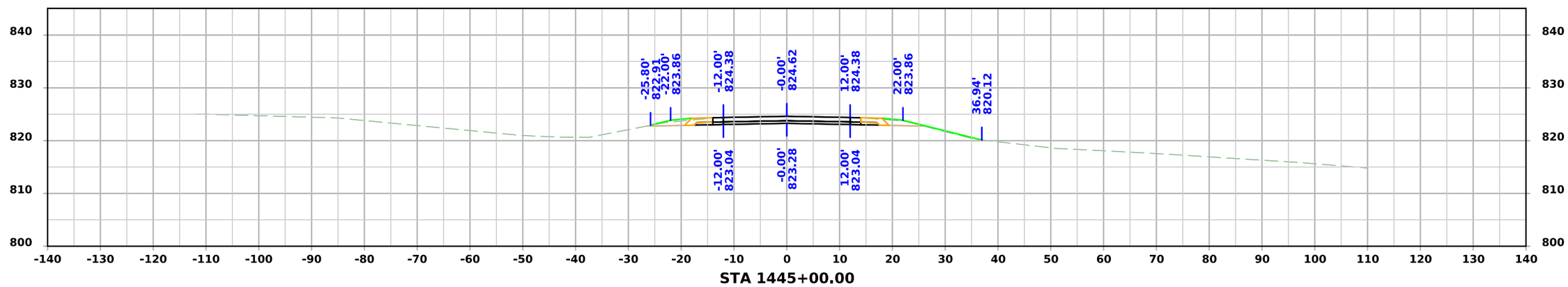
Text

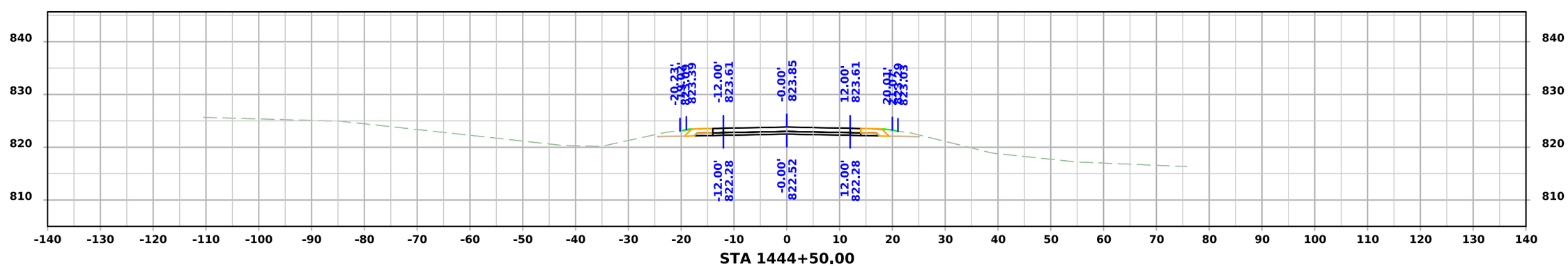
CROSS SECTIONS LEGEND AND INFORMATION SHEET

(COVERS SHEET SERIES W)

US 6







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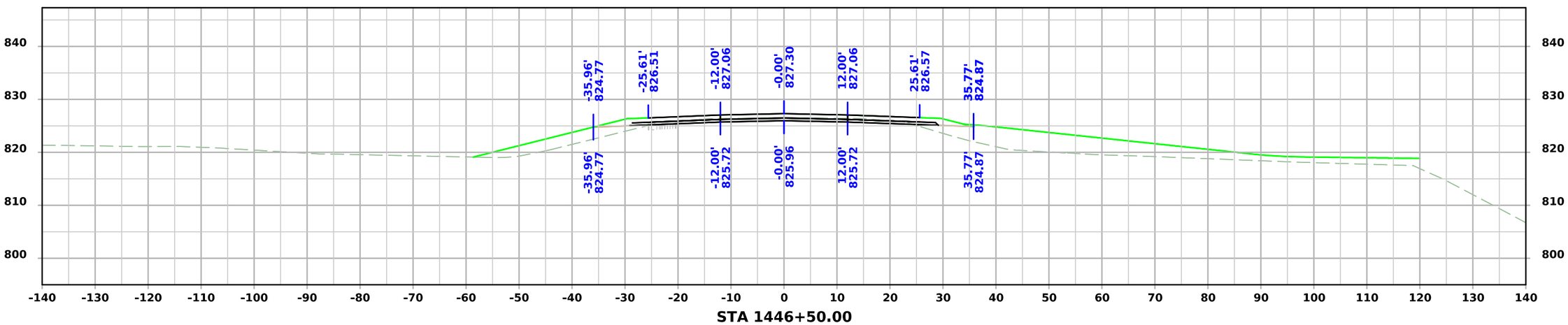
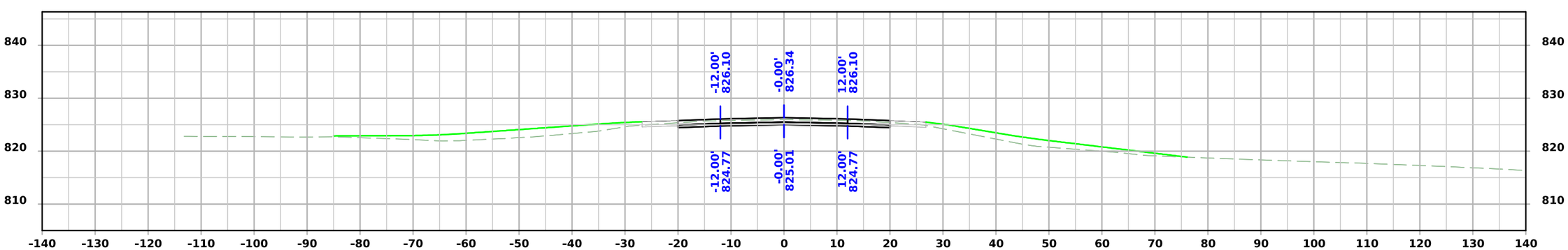
US 6



STA 1446+50.00



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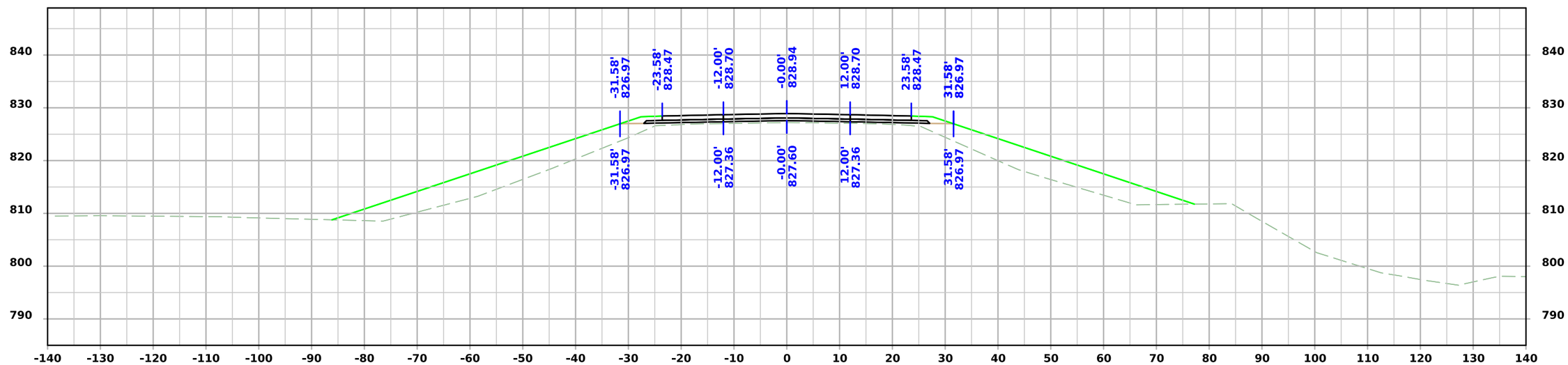
US 6



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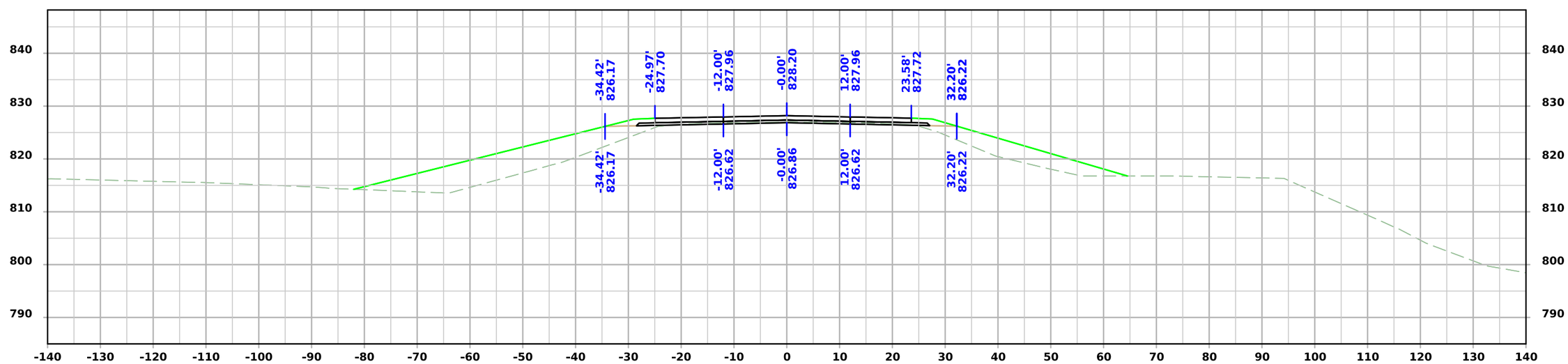

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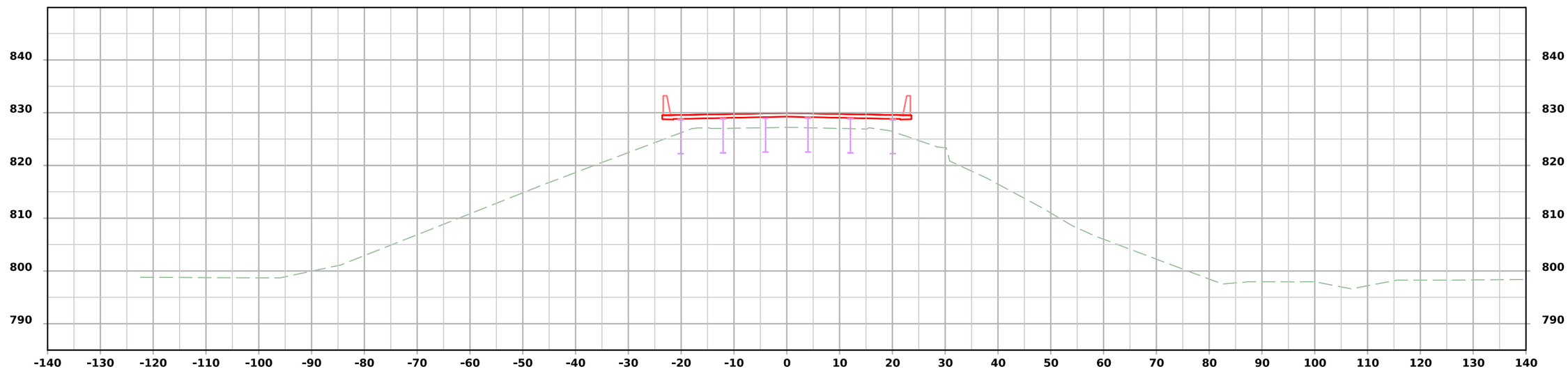
US 6



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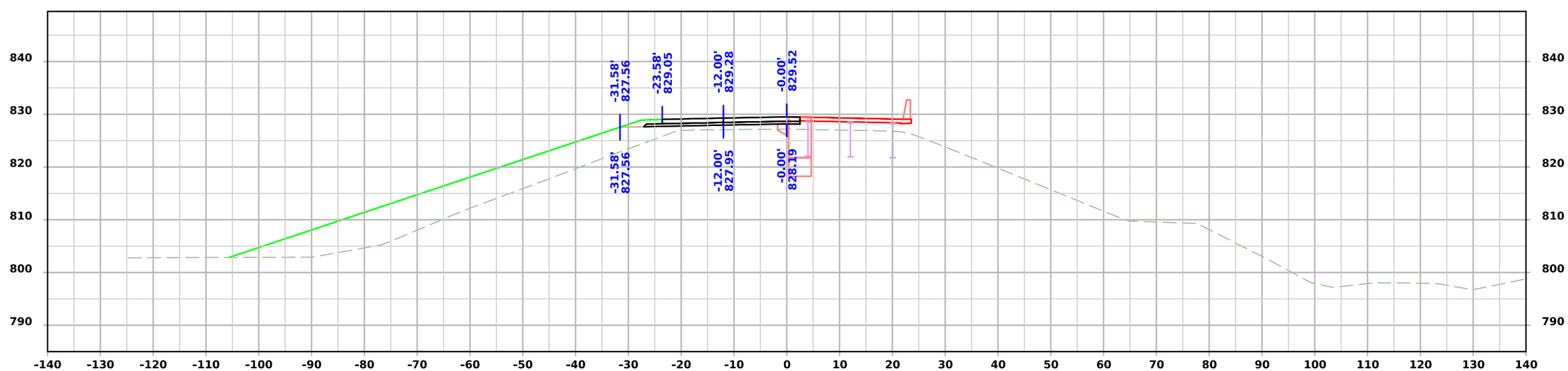

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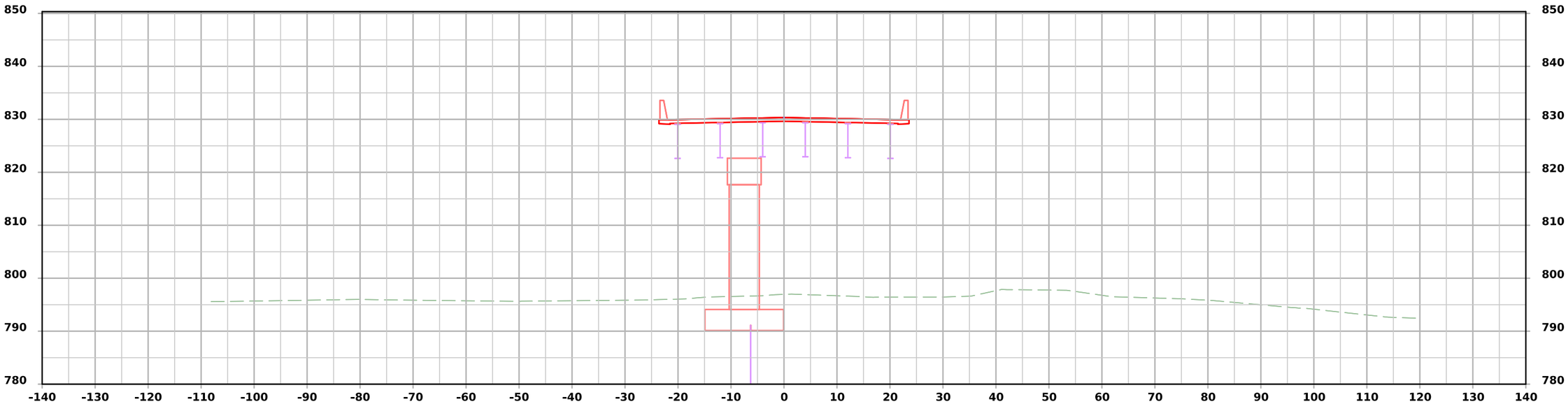
US 6



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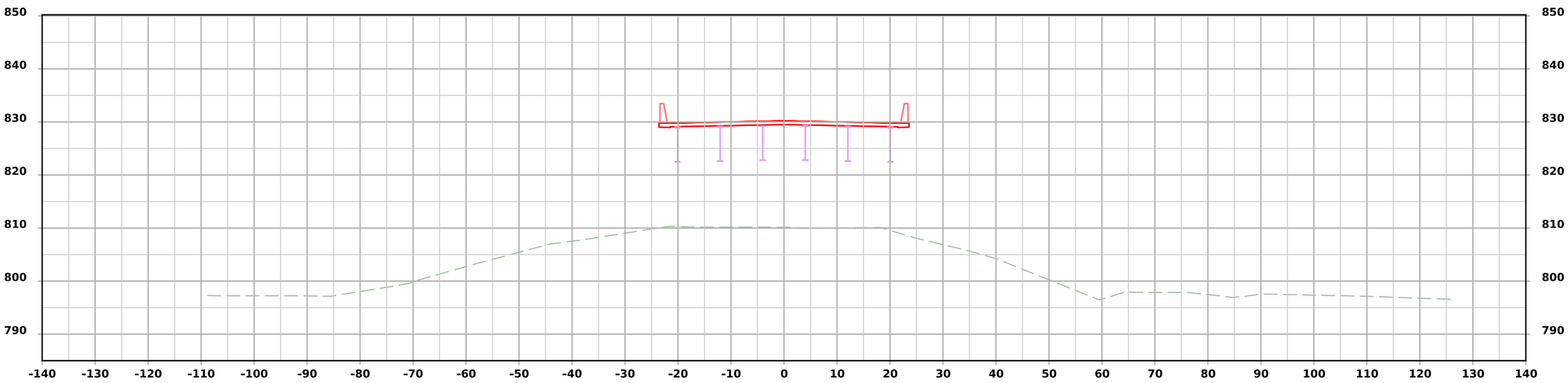

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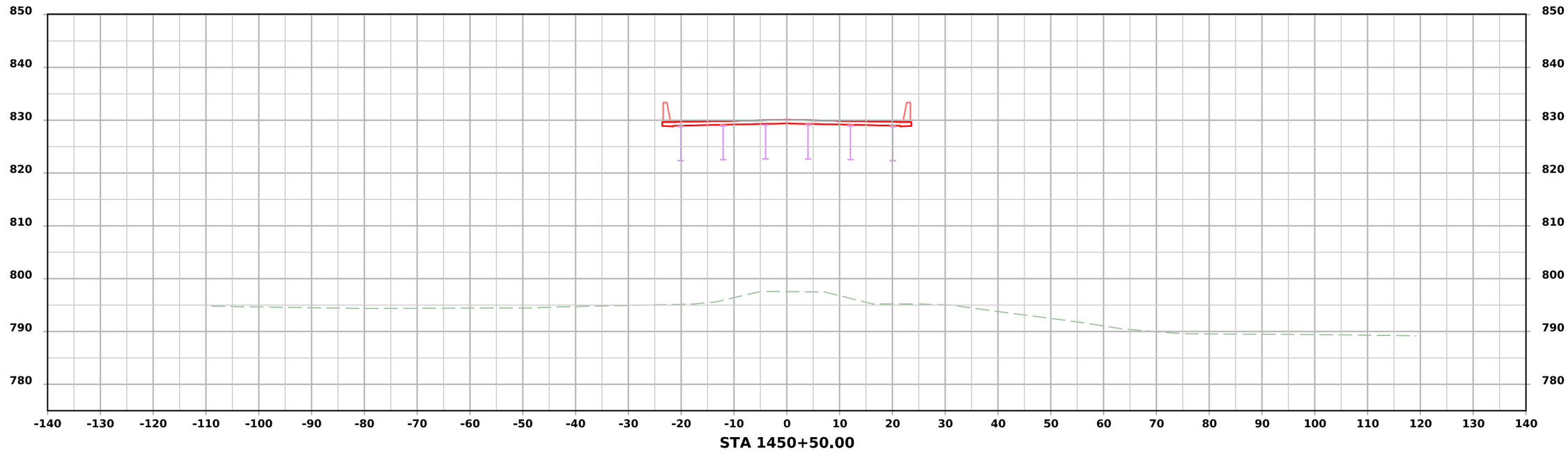
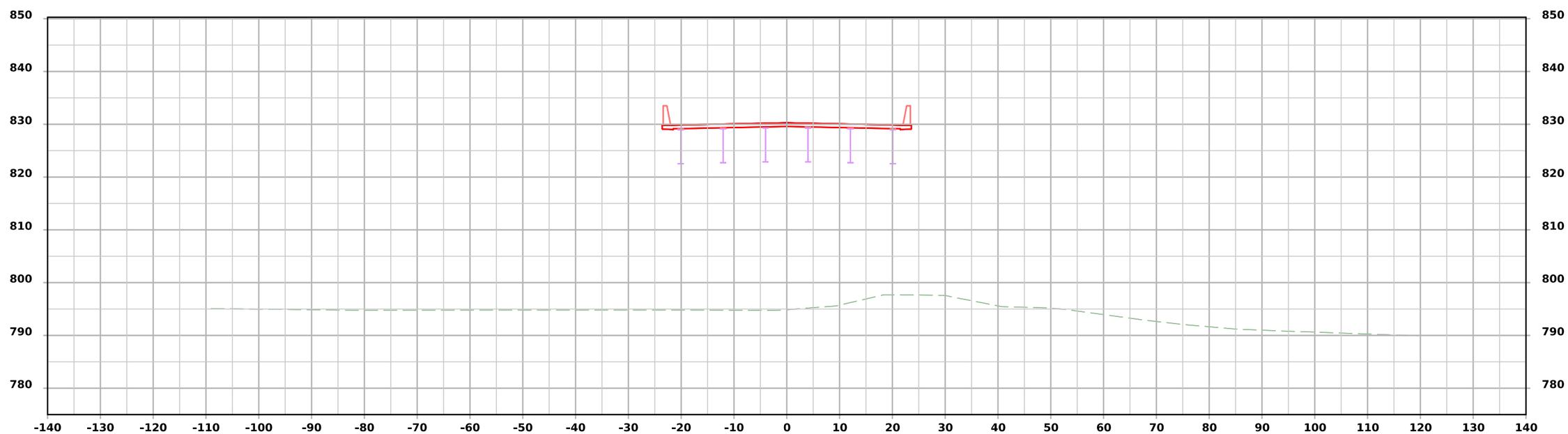
FILE NO.	ENGLISH	DESIGN TEAM **Iowa DOT**	**IOWA** COUNTY	PROJECT NUMBER **BRF-006-6(078)--38-48**	SHEET NUMBER **W.6**

10:55:02 AM 12/5/2025 hplumb pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\4800601024\Design\CADD_Files\Cross_Sections\XS_ML006_48006078Z10.dgn

US 6



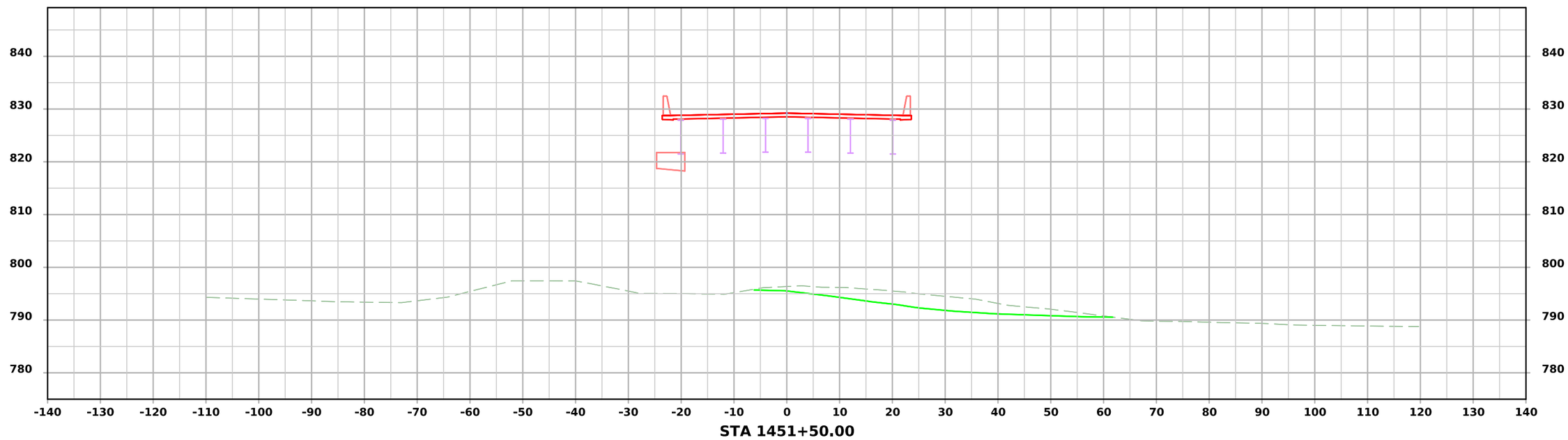
STA 1450+50.00

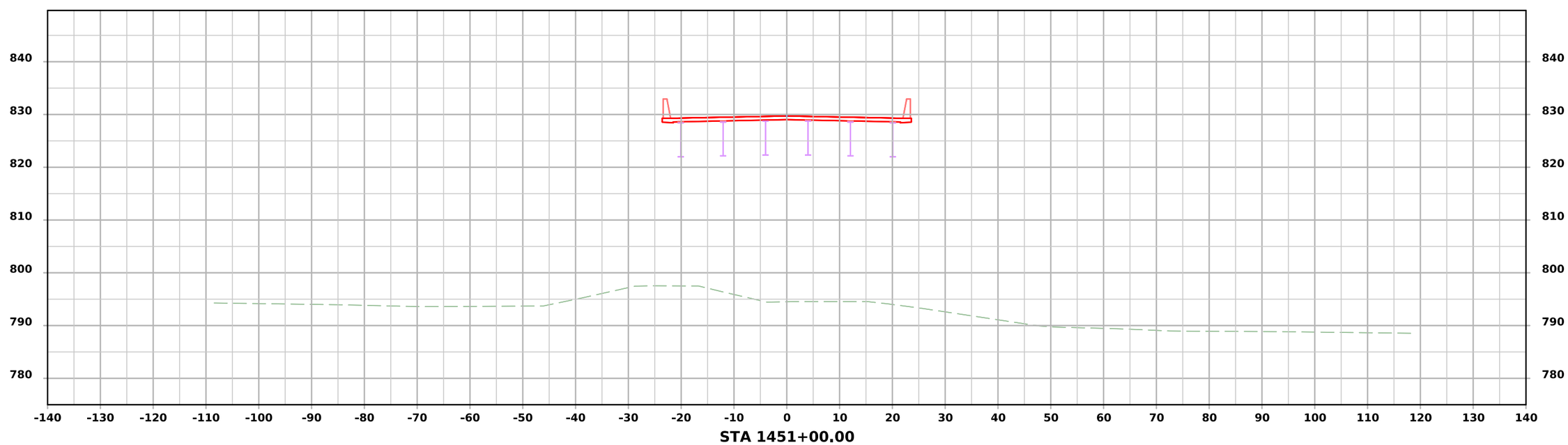


STA 1450+00.00

FILE NO.	ENGLISH	DESIGN TEAM **Iowa DOT**	**IOWA** COUNTY	PROJECT NUMBER **BRF-006-6(078)--38-48**	SHEET NUMBER **W.7**

US 6

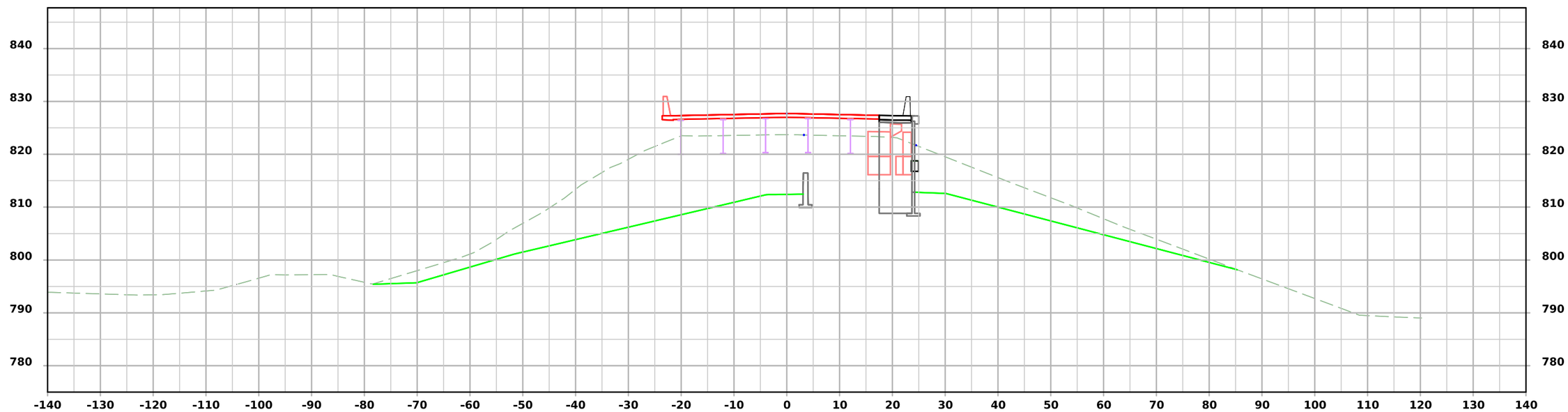




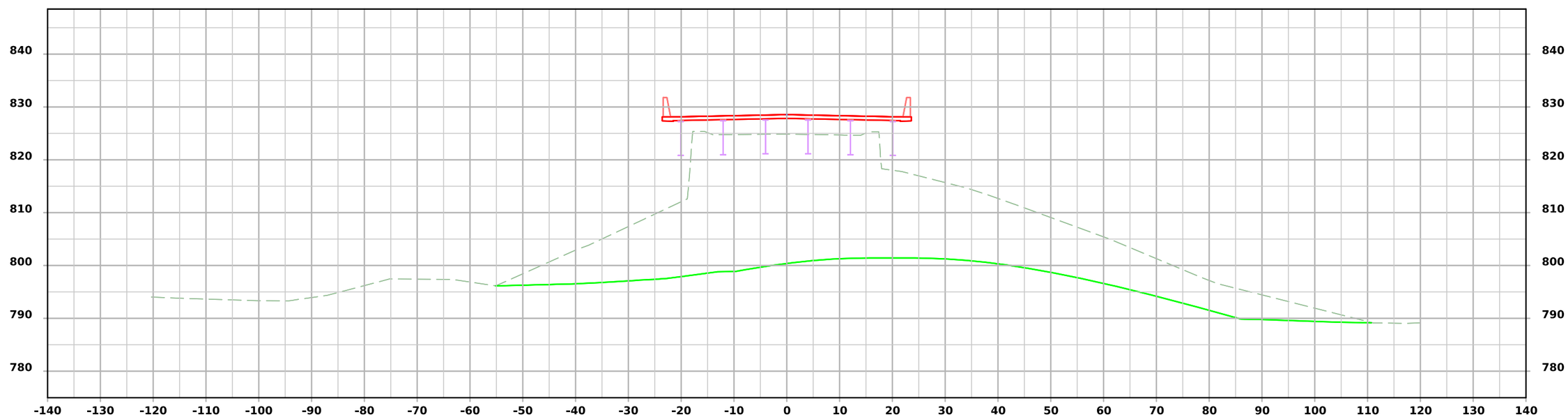
FILE NO.	ENGLISH	DESIGN TEAM **Iowa DOT**	**IOWA** COUNTY	PROJECT NUMBER **BRF-006-6(078)--38-48**	SHEET NUMBER **W.8**

10:55:15 AM 12/5/2025 hplumb pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\4800601024\Design\CADD_Files\Cross_Sections\XS_ML006_48006078Z10.dgn

US 6



STA 1452+50.00

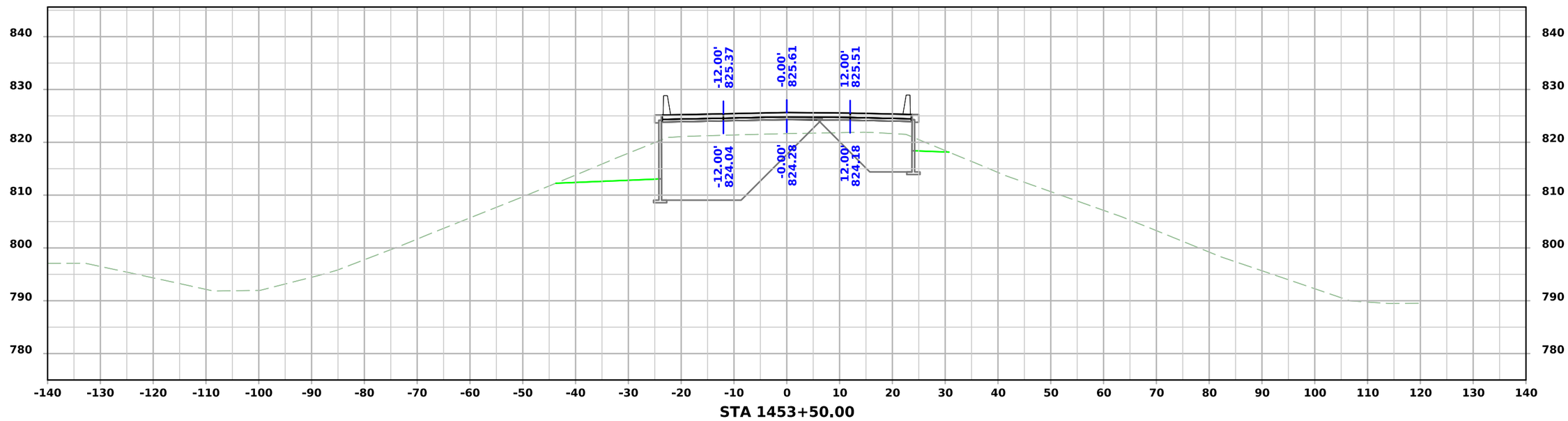


STA 1452+00.00

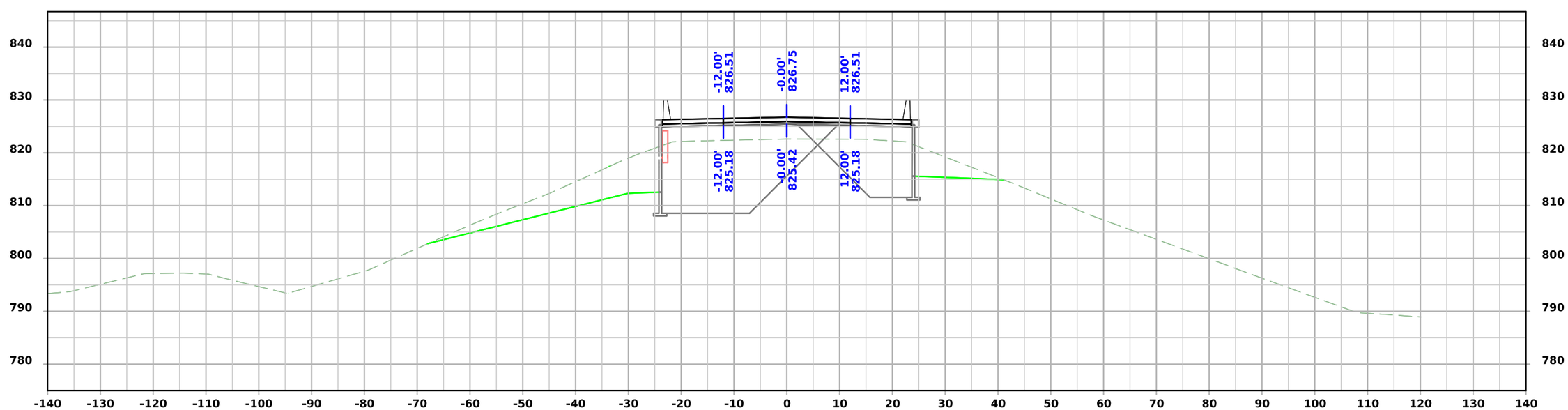
FILE NO.	ENGLISH	DESIGN TEAM **Iowa DOT**	**IOWA** COUNTY	PROJECT NUMBER **BRF-006-6(078)--38-48**	SHEET NUMBER **W.9**

10:55:22 AM 12/5/2025 hplumb pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\4800601024\Design\CADD_Files\Cross_Sections\XS_ML006_48006078Z10.dgn

US 6



STA 1453+50.00

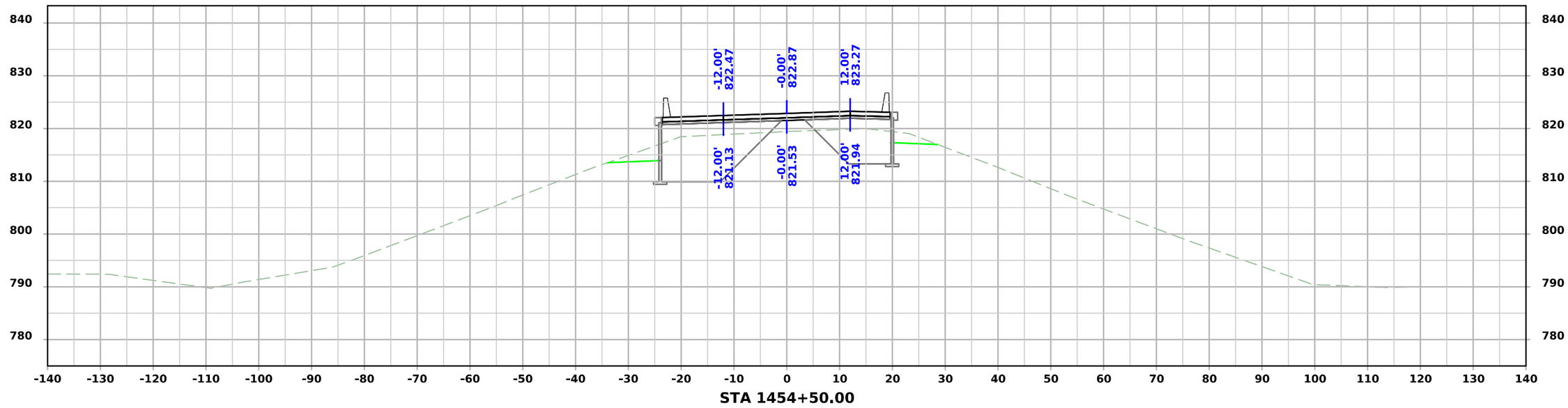


STA 1453+00.00

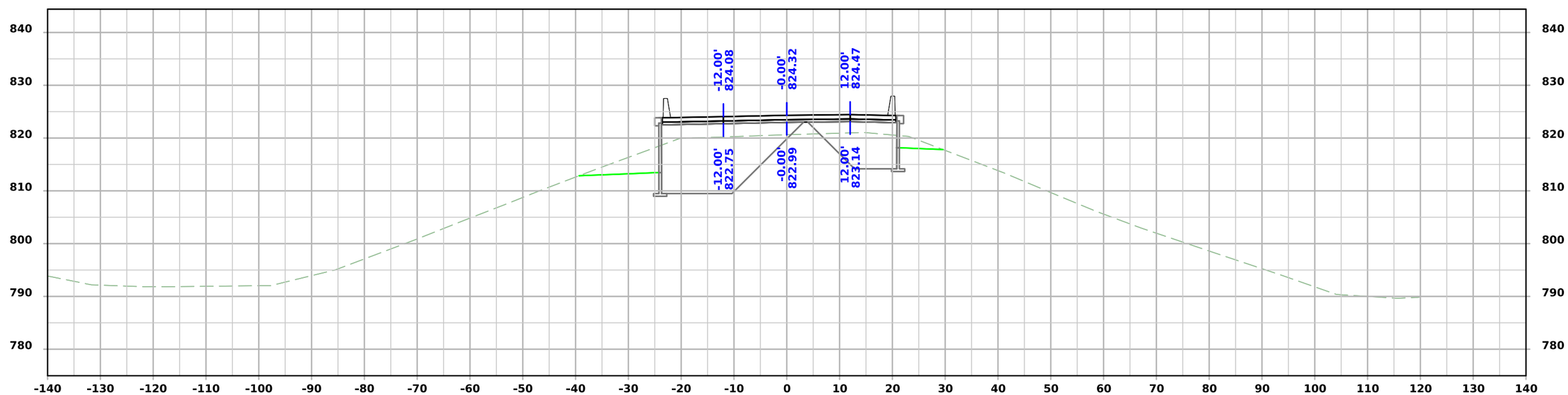
FILE NO.	ENGLISH	DESIGN TEAM **Iowa DOT**	**IOWA** COUNTY	PROJECT NUMBER **BRF-006-6(078)--38-48**	SHEET NUMBER **W.10**

10:55:28 AM 12/5/2025 hplumb pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\4800601024\Design\CADD_Files\Cross_Sections\XS_ML006_48006078Z10.dgn

US 6



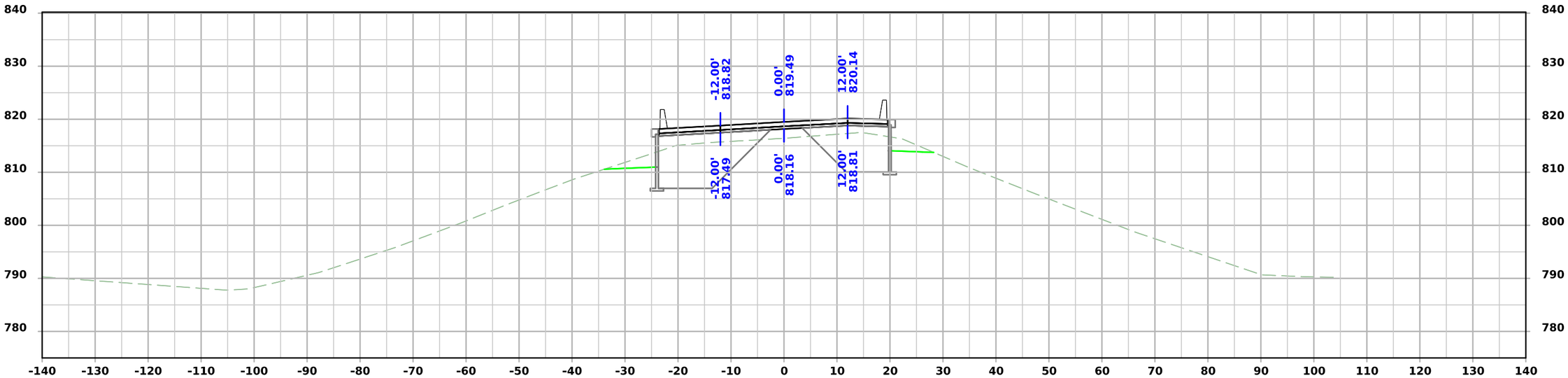
STA 1454+50.00



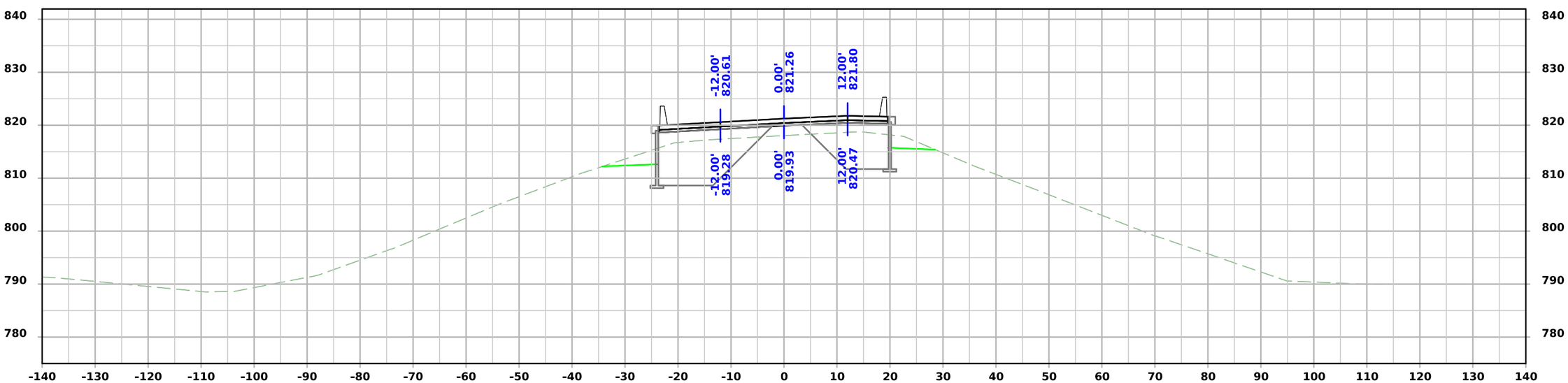
STA 1454+00.00

FILE NO.	ENGLISH	DESIGN TEAM **Iowa DOT**	**IOWA** COUNTY	PROJECT NUMBER **BRF-006-6(078)--38-48**	SHEET NUMBER **W.11**

US 6



STA 1455+50.00

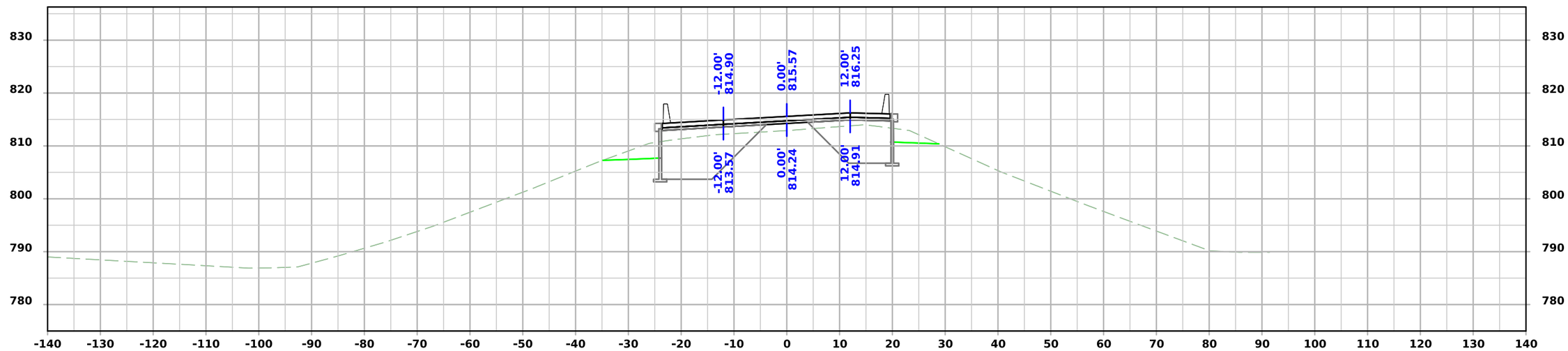


STA 1455+00.00

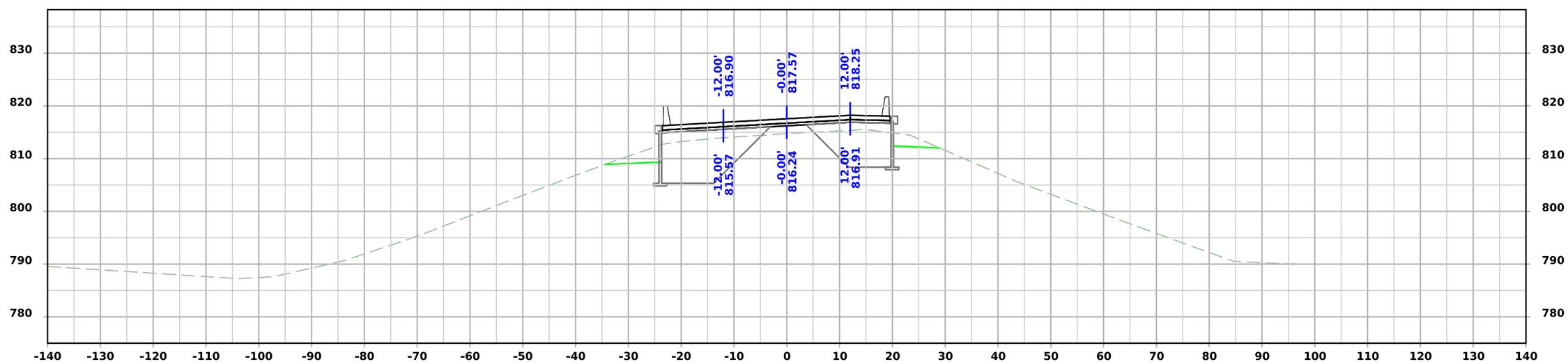
FILE NO.	ENGLISH	DESIGN TEAM **Iowa DOT**	**IOWA** COUNTY	PROJECT NUMBER **BRF-006-6(078)--38-48**	SHEET NUMBER **W.12**

10:55:37 AM 12/5/2025 hplumb pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\4800601024\Design\CADD_Files\Cross_Sections\XS_ML006_48006078Z10.dgn

US 6



STA 1456+50.00

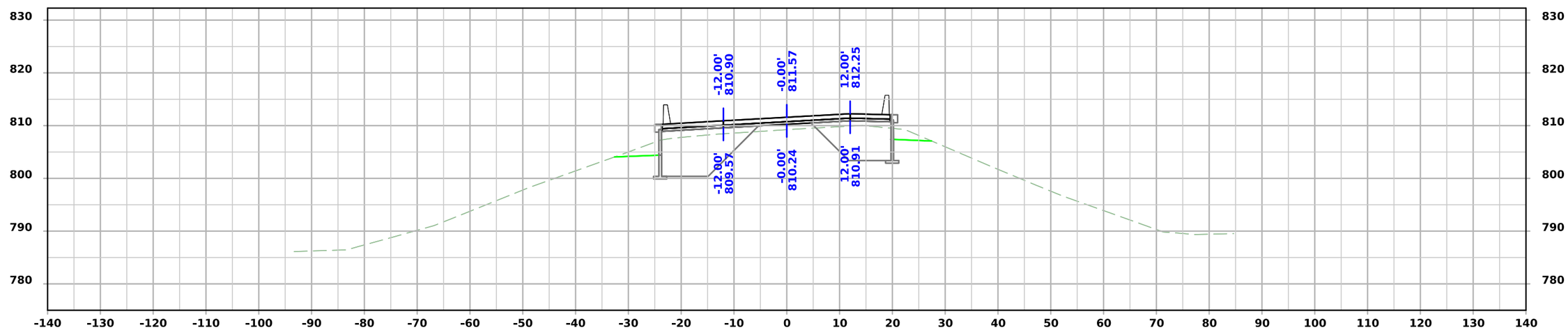


STA 1456+00.00

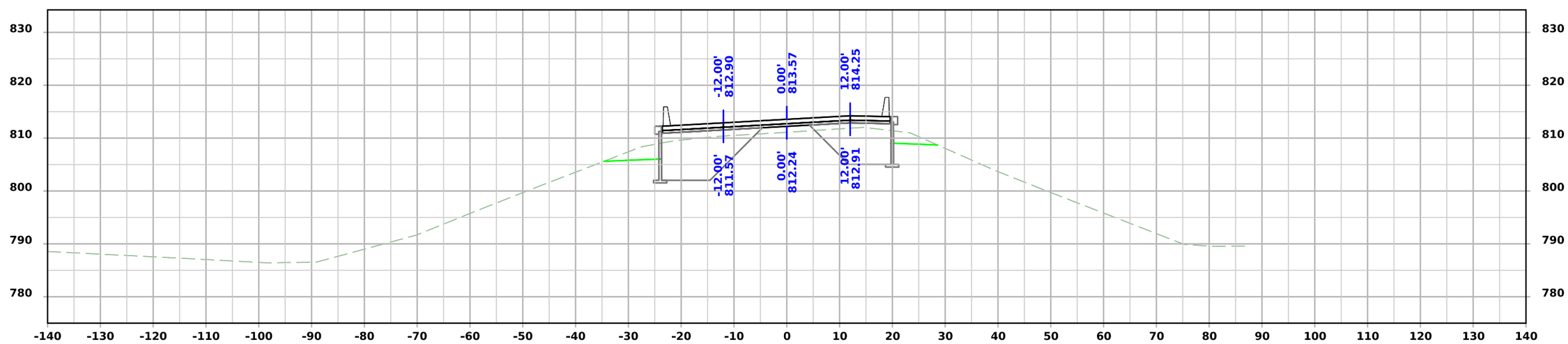
FILE NO.	ENGLISH	DESIGN TEAM **Iowa DOT**	**IOWA** COUNTY	PROJECT NUMBER **BRF-006-6(078)--38-48**	SHEET NUMBER **W.13**

10:55:41 AM 12/5/2025 hplumb pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\4800601024\Design\CADD_Files\Cross_Sections\XS_ML006_48006078Z10.dgn

US 6



STA 1457+50.00

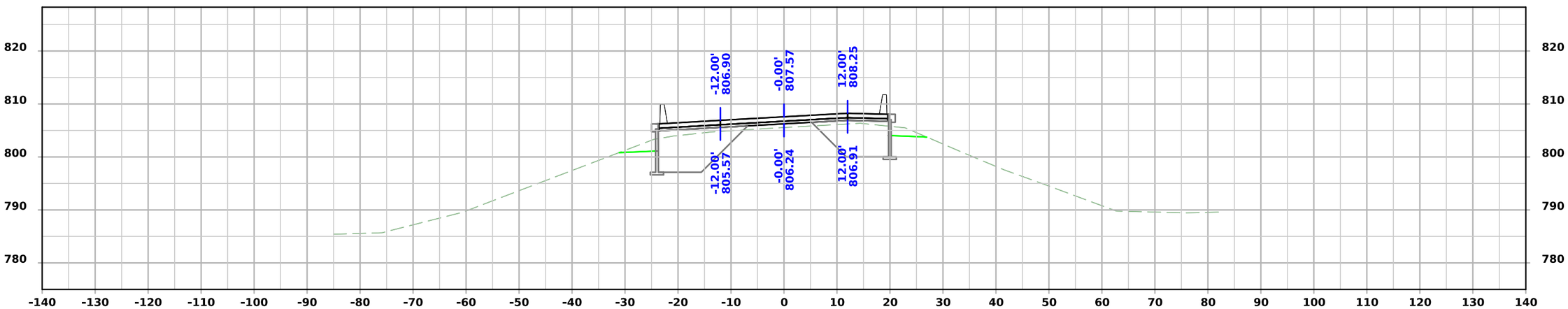


STA 1457+00.00

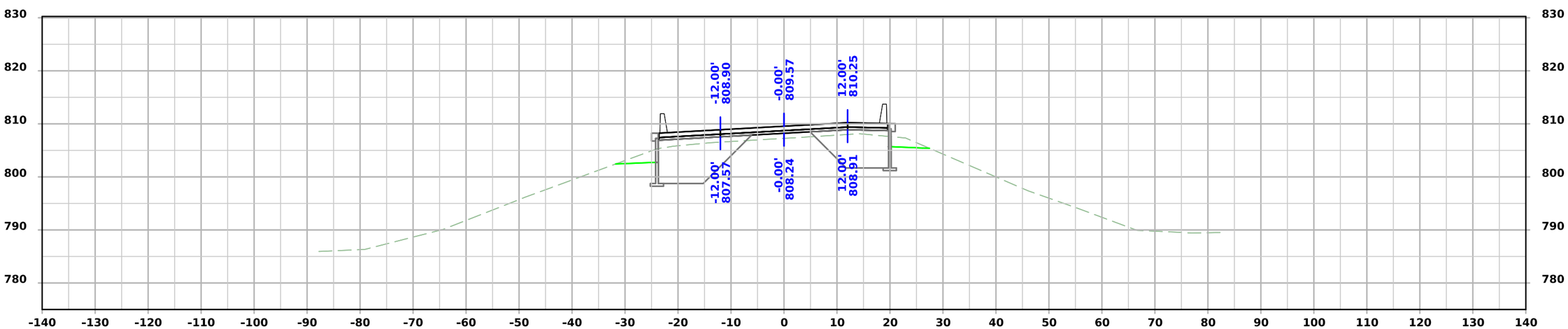
FILE NO.	ENGLISH	DESIGN TEAM **Iowa DOT**	**IOWA** COUNTY	PROJECT NUMBER **BRF-006-6(078)--38-48**	SHEET NUMBER **W.14**

10:55:45 AM 12/5/2025 hplumb pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\4800601024\Design\CADD_Files\Cross_Sections\XS_ML006_48006078Z10.dgn

US 6



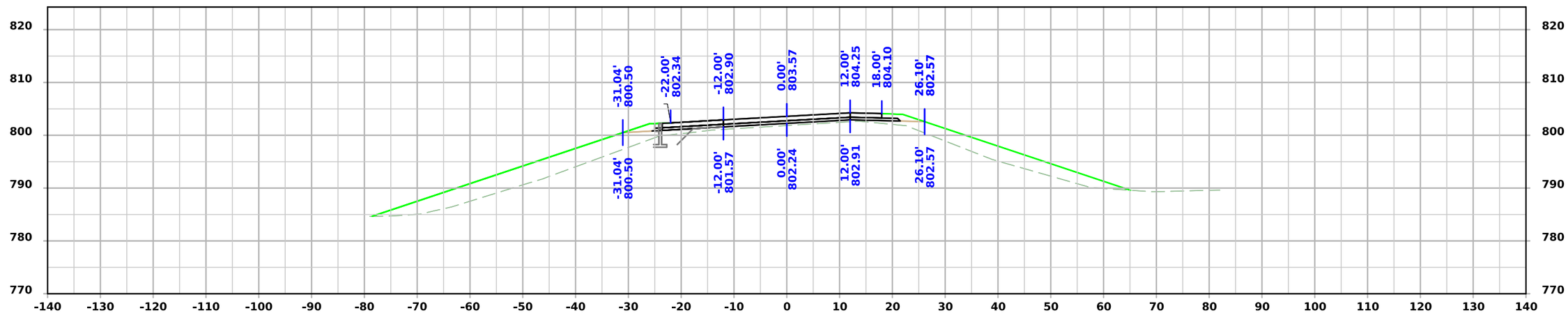
STA 1458+50.00



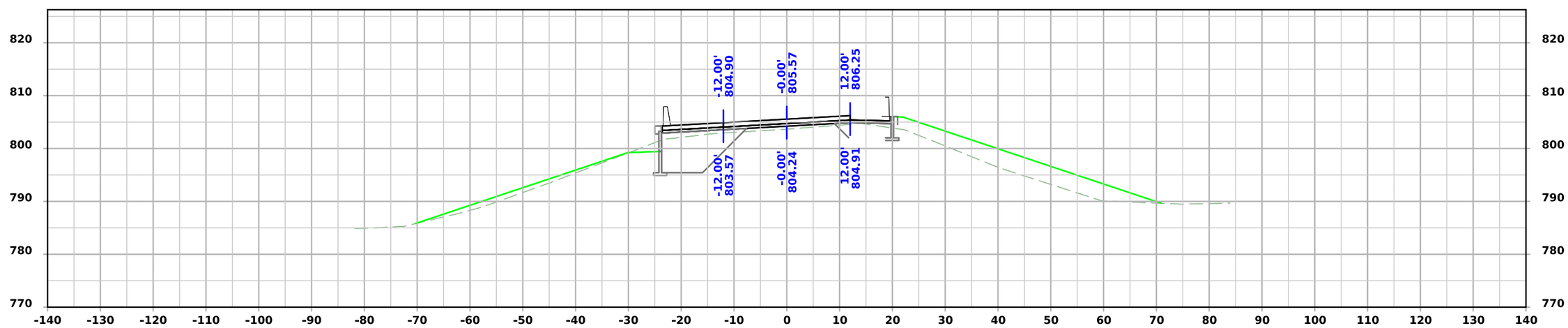
STA 1458+00.00

FILE NO.	ENGLISH	DESIGN TEAM **Iowa DOT**	**IOWA** COUNTY	PROJECT NUMBER **BRF-006-6(078)--38-48**	SHEET NUMBER **W.15**

US 6



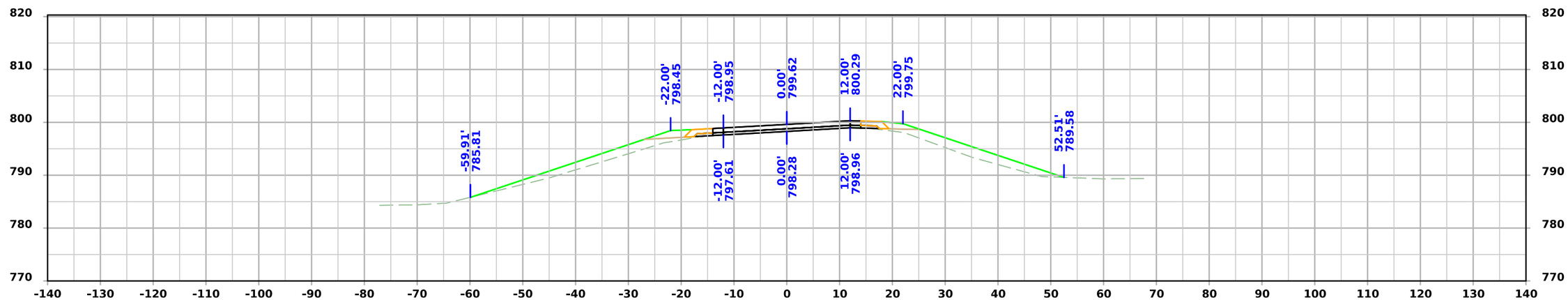
STA 1459+50.00



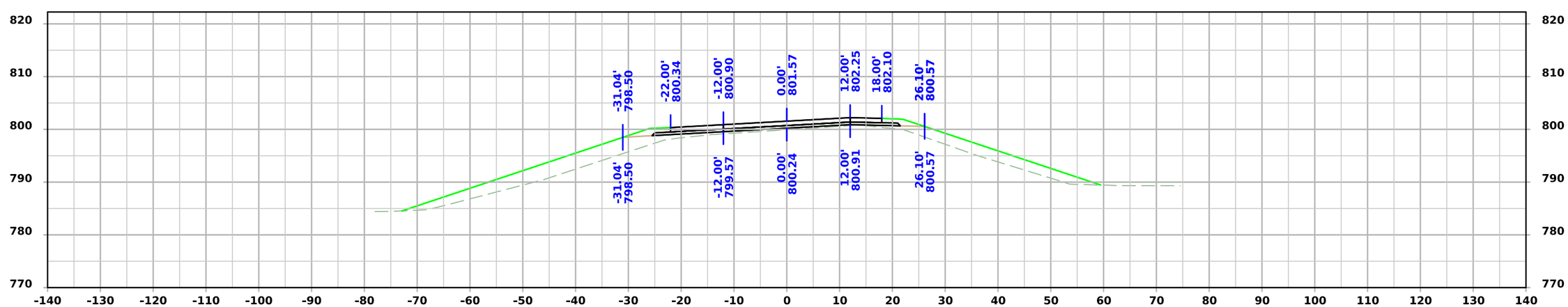
STA 1459+00.00

FILE NO.	ENGLISH	DESIGN TEAM **Iowa DOT**	**IOWA** COUNTY	PROJECT NUMBER **BRF-006-6(078)--38-48**	SHEET NUMBER **W.16**

US 6



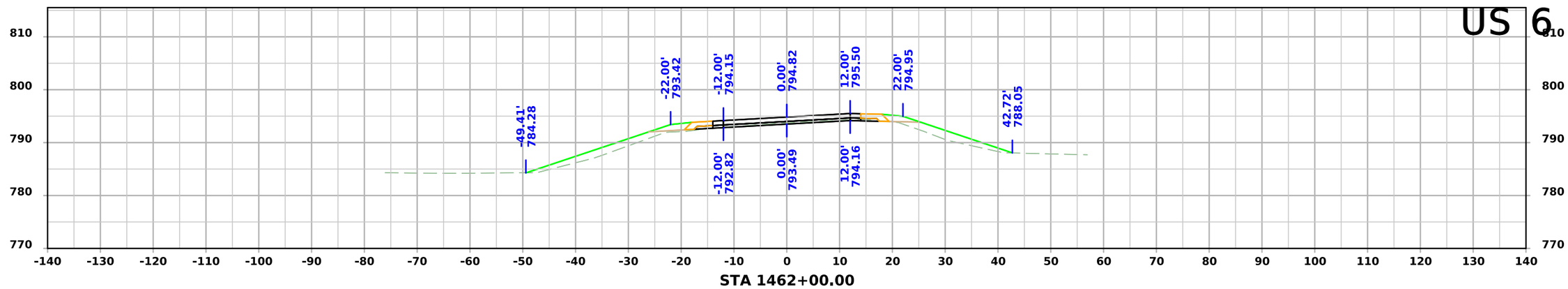
STA 1460+50.00

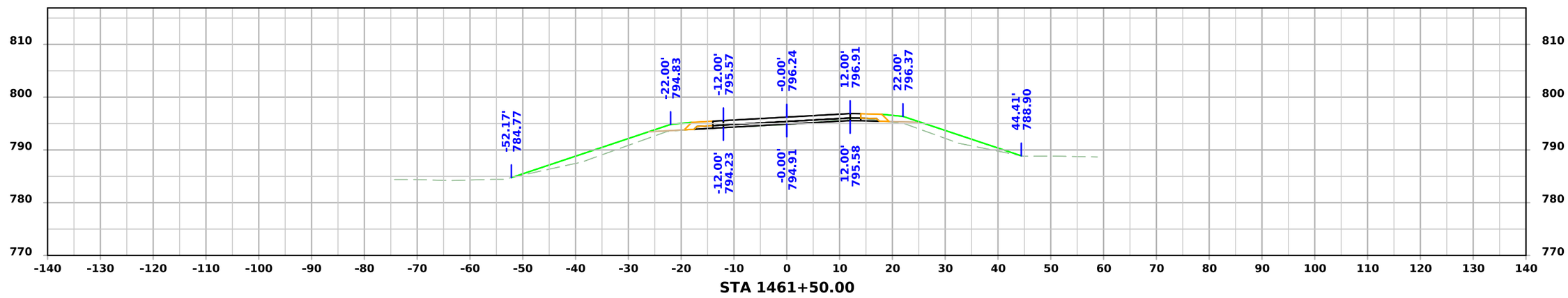


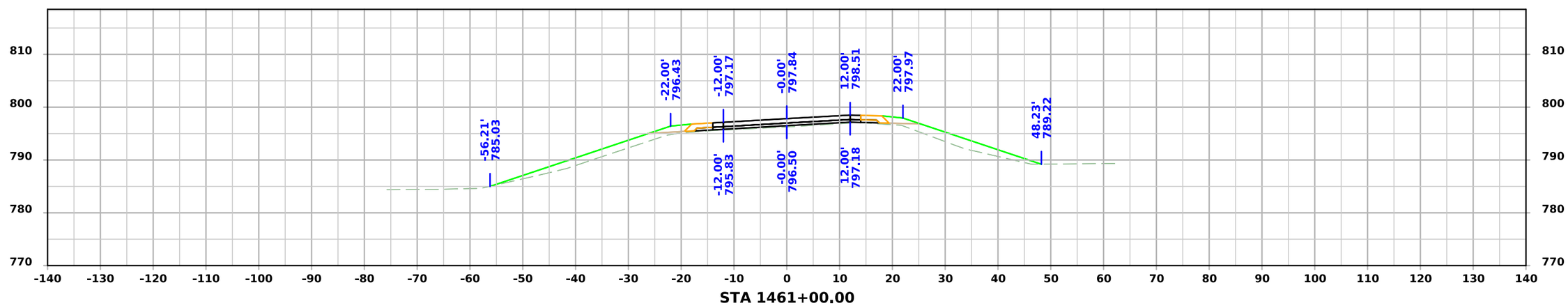
STA 1460+00.00

FILE NO.	ENGLISH	DESIGN TEAM **Iowa DOT**	**IOWA** COUNTY	PROJECT NUMBER **BRF-006-6(078)--38-48**	SHEET NUMBER **W.17**

10:55:58 AM 12/5/2025 hplumb pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\4800601024\Design\CADD_Files\Cross_Sections\XS_ML006_48006078Z10.dgn



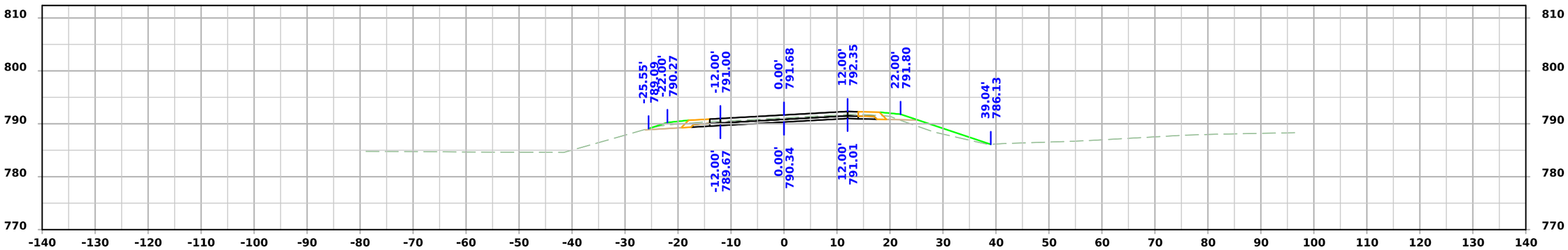




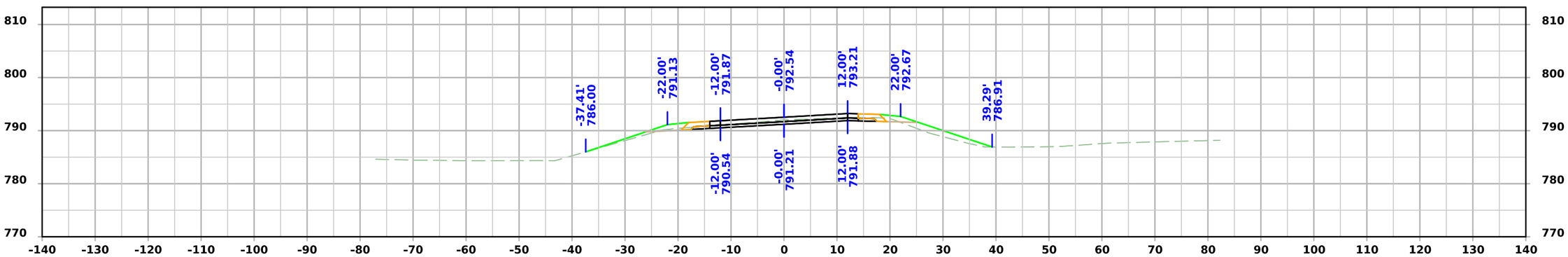
FILE NO.	ENGLISH	DESIGN TEAM **Iowa DOT**	**IOWA** COUNTY	PROJECT NUMBER **BRF-006-6(078)--38-48**	SHEET NUMBER **W.18**

10:56:02 AM 12/5/2025 hplumb pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\4800601024\Design\CADD_Files\Cross_Sections\XS_ML006_48006078Z10.dgn

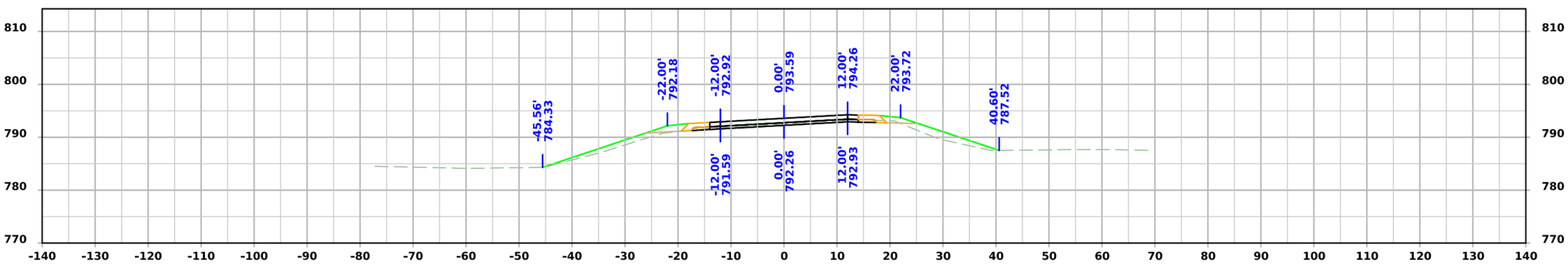
US 6



STA 1463+50.00



STA 1463+00.00

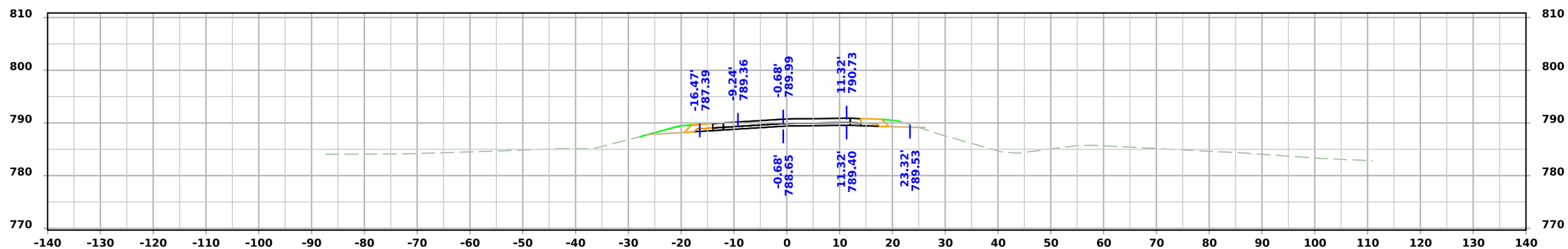


STA 1462+50.00

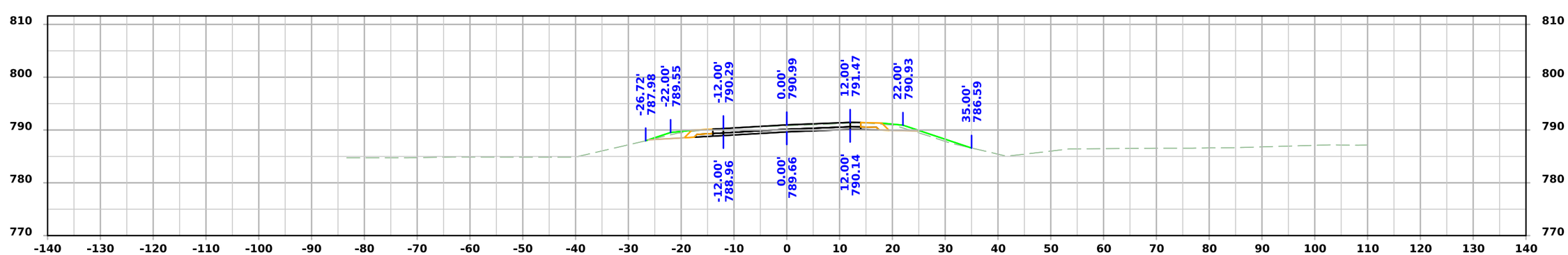
FILE NO.	ENGLISH	DESIGN TEAM **Iowa DOT**	**IOWA** COUNTY	PROJECT NUMBER **BRF-006-6(078)--38-48**	SHEET NUMBER **W.19**

10:56:05 AM 12/5/2025 hplumb pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\4800601024\Design\CADD_Files\Cross_Sections\XS_ML006_48006078Z10.dgn

US 6



STA 1464+25.00



STA 1464+00.00

FILE NO.	ENGLISH	DESIGN TEAM **Iowa DOT**	**IOWA** COUNTY	PROJECT NUMBER **BRF-006-6(078)--38-48**	SHEET NUMBER **W.20**

10:56:08 AM 12/5/2025 hplumb pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\4800601024\Design\CADD_Files\Cross_Sections\XS_ML006_48006078Z10.dgn