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A.2	Location Map Sheet
B Sheets	Typical Cross Sections and Details
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D Sheets	Mainline Plan and Profile Sheets
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* D.2	IA 12 Plan & Profile Sheets
G Sheets	Survey Sheets
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J Sheets	Traffic Control and Staging Sheets
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* J.2	Staging Notes
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PLANS OF PROPOSED IMPROVEMENT ON THE
PRIMARY ROAD SYSTEM
PLYMOUTH COUNTY
Bridge Replacement-PPCB
Broken Kettle Creek 0.1 mi N of S Jct Co Rd K18

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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



REVISIONS

PROJECT IDENTIFICATION NUMBER	TOTAL
	39
75-0122-045	
PROJECT NUMBER	
BRF-012-2(045)--38-75	
R.O.W. PROJECT NUMBER	
STPN-012-2(046)--2J-75	

DESIGN DATA RURAL			
2027	AADT	1300	V.P.D.
2047	AADT	1400	V.P.D.
20	- DHV	-	V.P.H.
TRUCKS		21	%
Total			
Design ESALs		-	

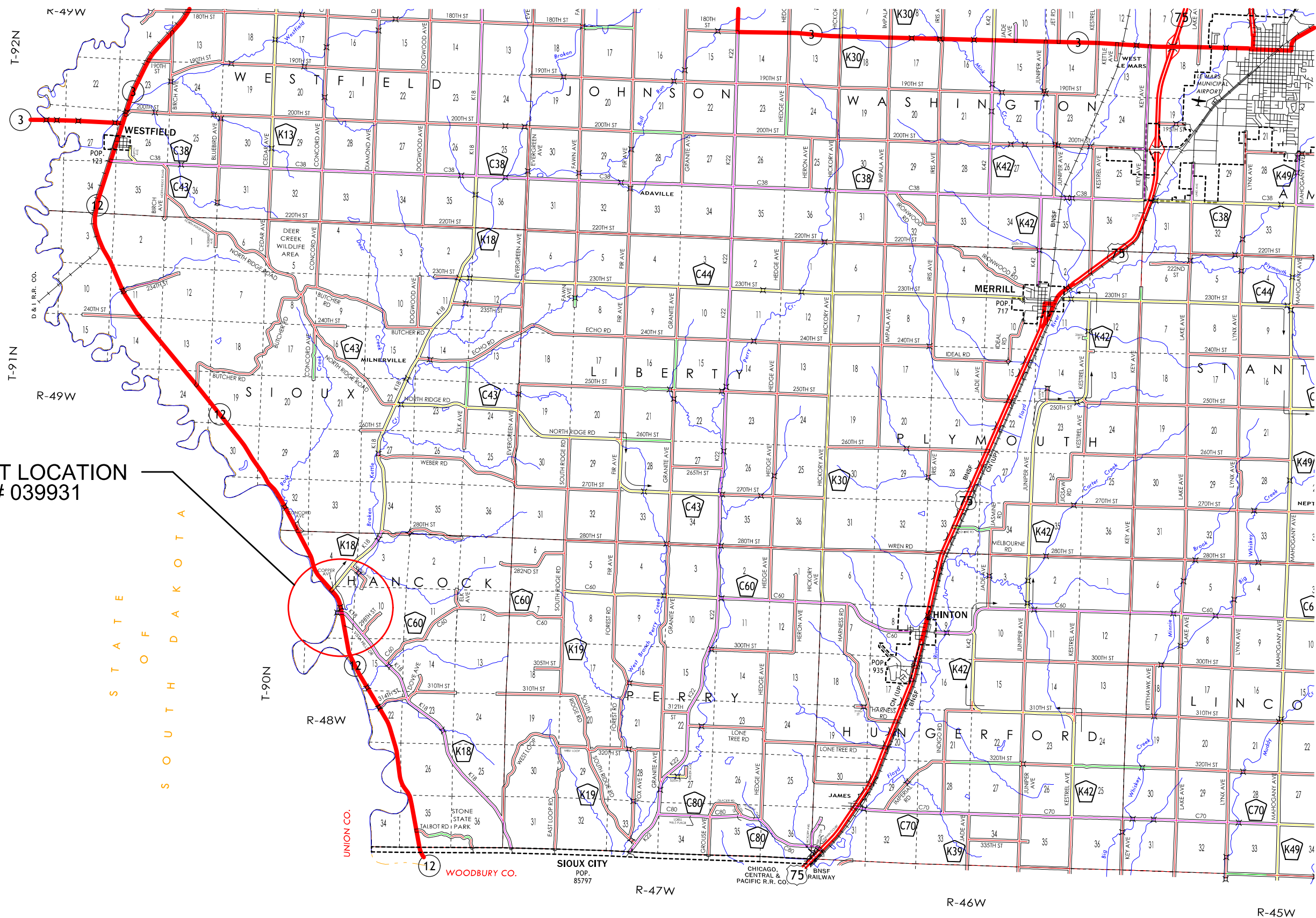
INDEX OF SEALS			
SHEET NO.	NAME	TYPE	BID QUANTITY SHEETS
A.1	X	Primary Signature Block	X
X	X	X	X

D4 PLAN - Date: 4/17/26
Letting - Date: 12/15/26

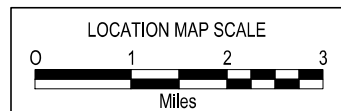
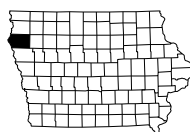
PRELIMINARY PLANS

Subject to change by final design.

D5 PLAN - Date: 11/15/24



PROJECT LOCATION
Asset ID# 039931



Full Depth PCC Shoulder

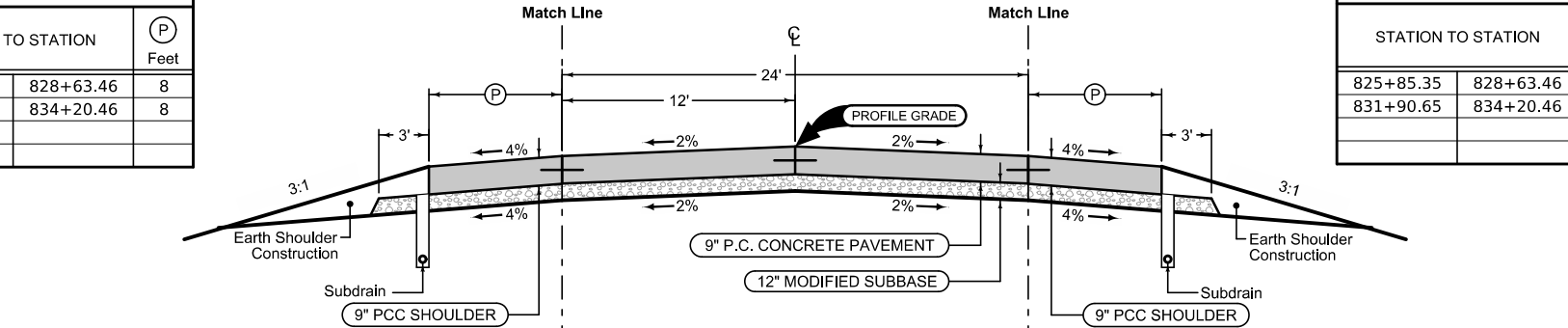
Shoulder Jointing:
Longitudinal joint: BT-2, or L-2
Transverse joints: C at 17' spacing

2_P_FullPCC_04-20-21		
STATION TO STATION		(P) Feet
826+33.46	828+63.46	8
831+90.46	834+20.46	8

Full Depth PCC Shoulder

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

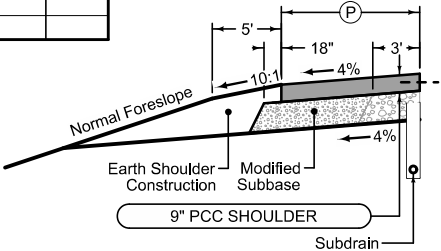
2_P_FullPCC_04-20-21		
STATION TO STATION		(P) Feet
825+85.35	828+63.46	8
831+90.65	834+20.46	8



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

2_P_Guard_04-21-20		
STATION TO STATION		(P) Feet
828+06.04	828+63.46	Varies
831+90.46	832+85.19	Varies



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

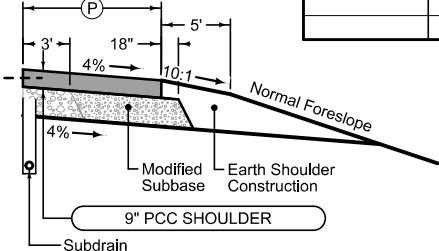
2P_04-21-20	
STATION TO STATION	
* 825+85.35	* 826+33.46
826+33.46	828+63.46
831+90.46	834+20.46

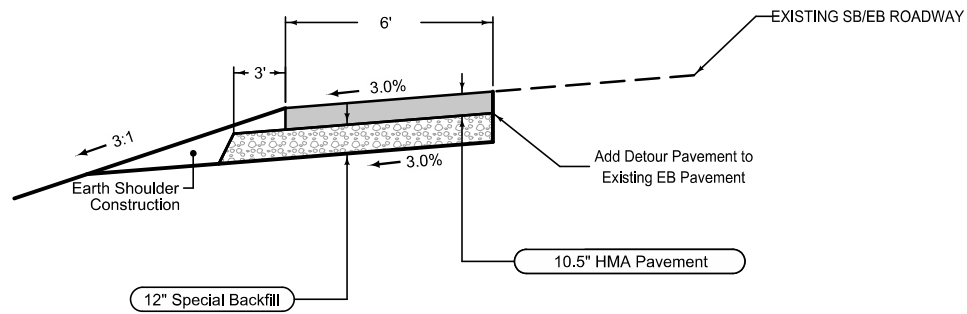
* SB Lane Only

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

2_P_Guard_04-21-20		
STATION TO STATION		(P) Feet
827+68.73	828+63.46	Varies
831+90.46	832+47.87	Varies

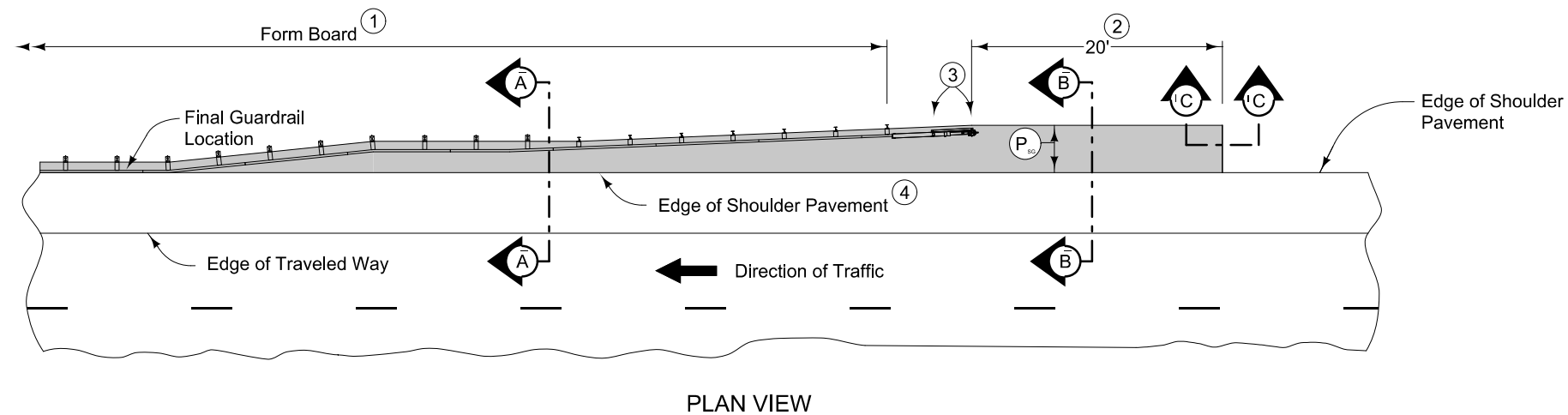




Detour Pavement

PCC Pavement Jointing:
Longitudinal joint: B
Transverse joints: C
HMA Pavement Jointing:
Longitudinal joint: B

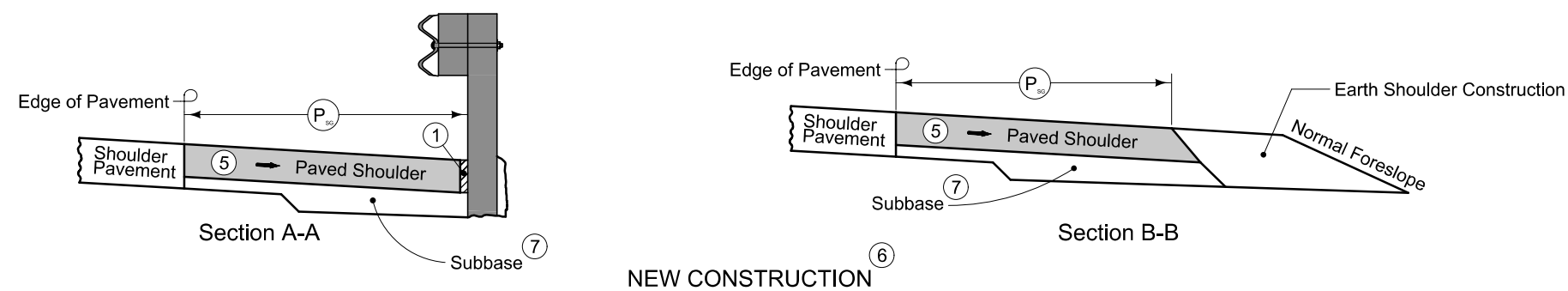
Custom					
Direction of Travel	BEGIN STATION	END STATION	DETOUR PAVEMENT (SY)	SPECIAL BACKFILL (CY)	Earth Shoulder Construction (STA)
SB	825+47.08	828+63.46	278.39	127.91	3.16
SB	828+63.46	829+51.79	78.53	35.95	0.88
SB	831+03.42	831+90.46	77.37	35.46	0.87
SB	831+90.46	835+10.49	245.54	117.40	3.20
NB	824+78.80	826+33.16	115.21	55.51	1.54
NB	834+20.46	835+41.11	68.47	36.27	1.21



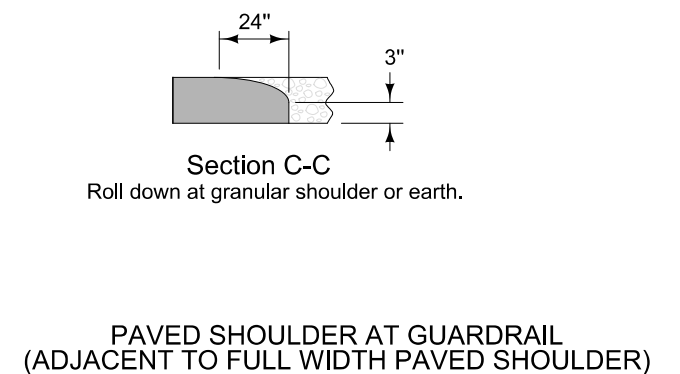
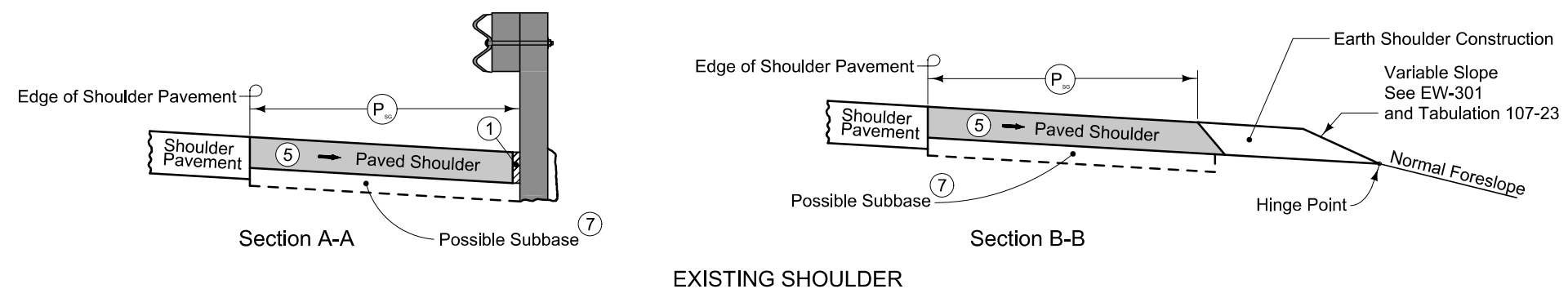
9" PCC Paved Shoulder at guardrail with the following jointing layout:

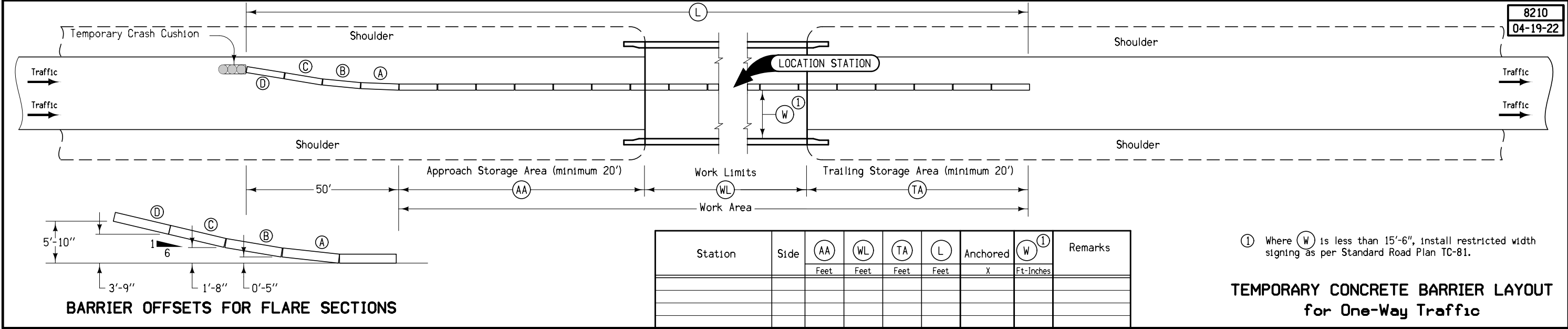
Match mainline pavement joint spacing. When mainline pavement is 8" or greater in thickness, place additional transverse 'C' joints in shoulder at mid-panel of the mainline pavement. Place longitudinal 'C' joint at P/2 from edge of mainline pavement when P is greater than 10' wide. Terminate longitudinal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

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 '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.





	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

- E1 — EL1D, Northwest Rural Electric - Quality D
- P — PPA, Northwest Rural Electric
- T1 — TL1D, Centurylink - 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

	Reference Point		Proposed Right-of-Way
	Station		Existing Right of Way
	Section Corner		Existing and Proposed Right-of-Way
	Ground Line Intercept		Easement and Existing Right-of-Way
	Saw Cut		Easement (Temporary)
	Guardrail		Easement
	Trench Drain		C/A Access Control
	High Tension Cable Guardrail		Property Line
	Sheet Pile		
	Pavement Removal		
	Clearing & Grubbing Area		

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

Survey Information

SURVEY INDEX

Plymouth County
BRF-012-2(45)--38-75
Broken Kettle Creek 0.1 mi N of S Jct Co Rd K18
PIN: 22-75-012-030
Type of Work: Bridge
Project Directory: 7501203022
SAP: 924.2

Survey Personnel

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

Date(s) of Survey

Begin Date 08/08/2023
End Date 12/23/2023

General Information

This survey is for IA Hwy 12 at bridge over Broken Kettle Creek 0.1 mi north of south junction Co Rd K18. This survey request was for the IA Hwy 12 corridor only. This project is a Full Field DTM survey.

Utility Information

For logging data and other utility details see Utility Survey and Ownership Report in the Utility folder of the PrelimSurvey project directory.

Project Control

Coordinates were determined for primary project control points by conducting concurrent six-hour static observations. Post processing is constrained to nearby Iowa Real Time Network reference stations. For additional details of the control survey, contact the Preliminary Survey department.

PROJECT DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 ADJUSTMENT)
COORDINATE SYSTEM: IOWA REGIONAL COORDINATE SYSTEM ZONE 04
(U.S. SURVEY FOOT)
VERTICAL DATUM: NAVD88
GEOID MODEL: 2018u2

Alignment Information

Alignment provided by the district 3 survey office.

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 04 (U.S. Survey Foot)

VERT. DATUM: NAVD88 - Geoid Model: 2018u2

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

HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING
HORIZ. DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 Adjustment)
Ia. Regional Coordinate System Zone 04 (U.S. Survey Foot)
VERT. DATUM: NAVD88
Geoid Model: 2018u2

<u>Point Name</u>	<u>Northing</u>	<u>Easting</u>	<u>Elevation</u>	<u>Feature Definition-Description</u>
19	8646919.77	14051803.74	1126.76	CP PLYMOUTH CO CONTROL POINT AS DESCRIBED IN GOOD CONDITION
750120175	8637111.85	14048109.03	1112.40	CP FENO MONUMENT IN NE QUAD INTERSECTION IA HWY 12 & VISTA HILLS DRIVE 74 FT EAST CL IA 12
750120179	8639089.38	14047540.44	1103.91	CP REBAR SET IN EAST ROW IA 12 NEAR BANK OF BIG SIOUX RIVER 95 FT WEST CL IA 12
750120182	8640663.59	14046855.86	1106.69	CP FENO MONUMENT IN SE QUAD INTERSECTION IA HWY 12 & K18 90 FT EAST CL IA 12

108_23A
8/15/22

TRAFFIC CONTROL PLAN

One lane of alternating traffic on IA 12 will be maintained via temporary signals or flaggers during construction. Refer to other J sheets for traffic control and staging details.

The Contractor shall provide access to all entrances and side roads at all times.

108_26A
8/15/22

STAGING NOTES

Stage 1
Traffic:
- Maintain one lane of alternating traffic on IA 12 via TBR and temporary signals.
Construction:
- Construct detour pavement.
- Construct east half of bridge, bridge approach pavement, and paved shoulder.

Stage 2
Traffic:
- Maintain one lane of alternating traffic on IA 12 via TBR and temporary signals.
Construction:
- Construct west half of bridge, bridge approach pavement, and paved shoulder

CROSS SECTION VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS		
SHADING	Design Color No.	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Lavender	(9)	Temporary Pavement Shading
Brown, Med	(237)	Future Proposed Pavement Shading

CROSS SECTION VIEW PATTERN AND SYMBOL LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS			
	Pavement Removal		Proposed Granular Shoulder
	Proposed Granular Subbase		Temporary Shoulder
	Proposed Special Backfill		Existing Shoulder Strengthening
	Temporary Barrier Rail		Permanent Barrier Rail
			Channelizing Device

PLAN VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS			
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	

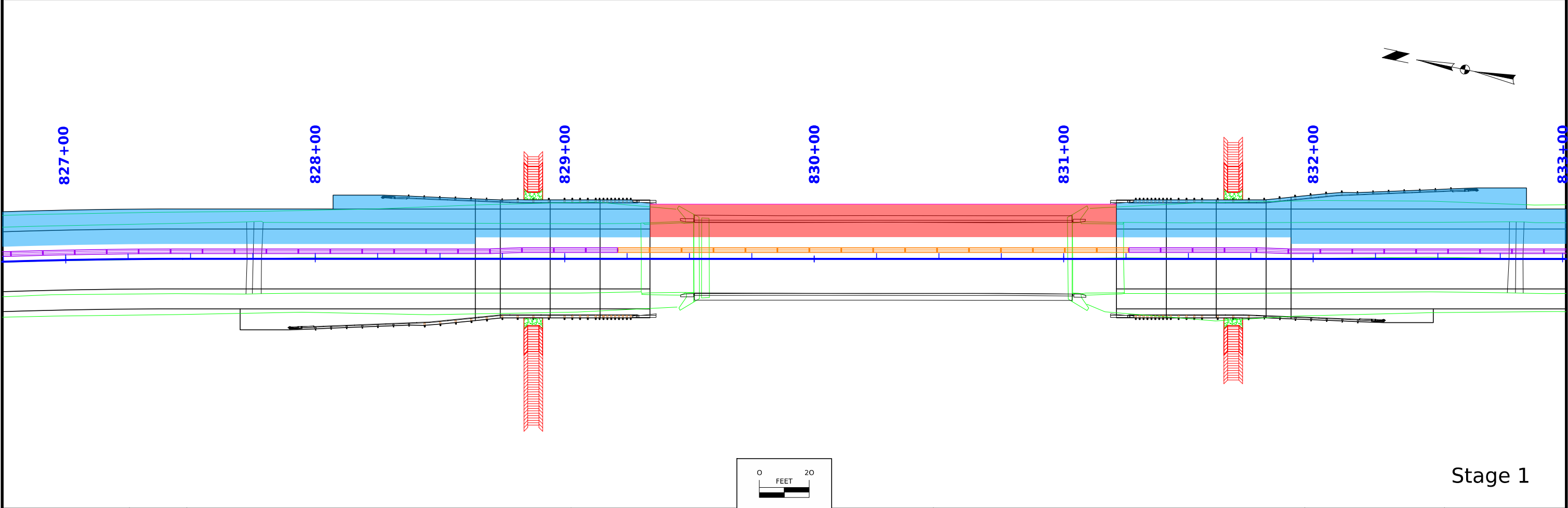
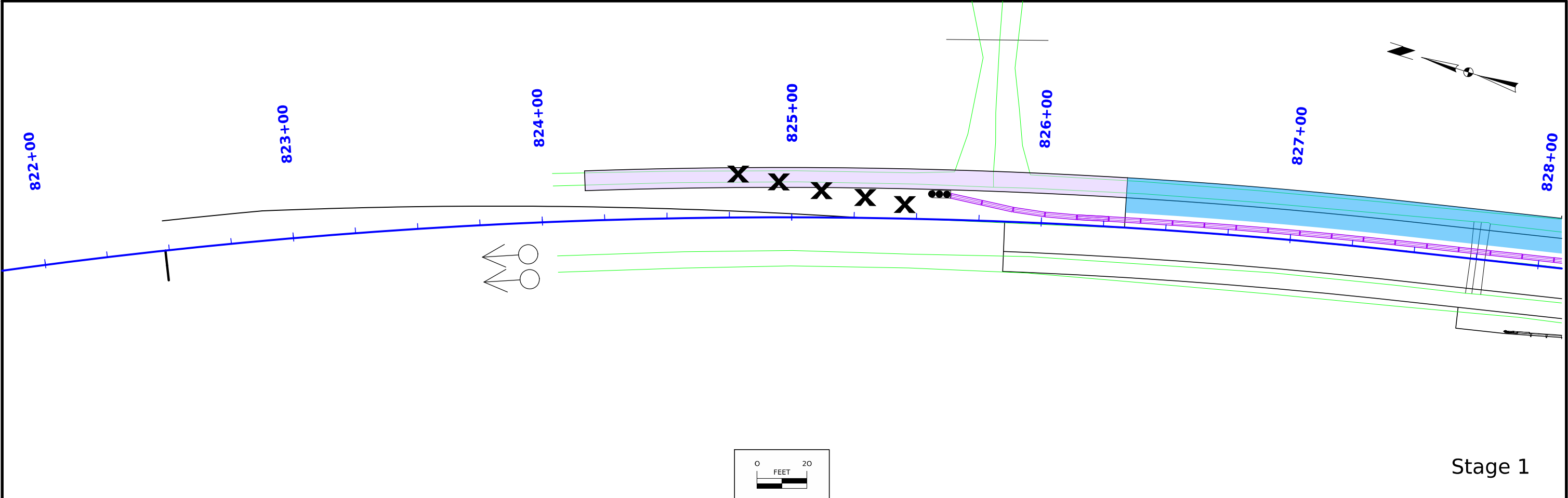
SHADING	Design Color No.		
Green, Light	(225)	Existing Pavement Shading	
Gray, Light	(48)	Previously Constructed Pavement Shading	
Gray, Med	(6)	Proposed Granular Surface Shading	
Gray, Med	(80)	Previously Constructed Granular Surface Shading	
Blue, Light	(230)	Proposed Pavement Shading	
Pink, Dark	(13)	Temporary Pavement Shading	
Brown, Light	(236)	Proposed Grading Limits Shading	
Cyan	(7)	Proposed MSE or CIP Wall Shading	
Red	(3)	Proposed Bridge Shading and Sign Trusses	
Black w/Gray, Light Fill	(0,48)	Previously Constructed Structure	

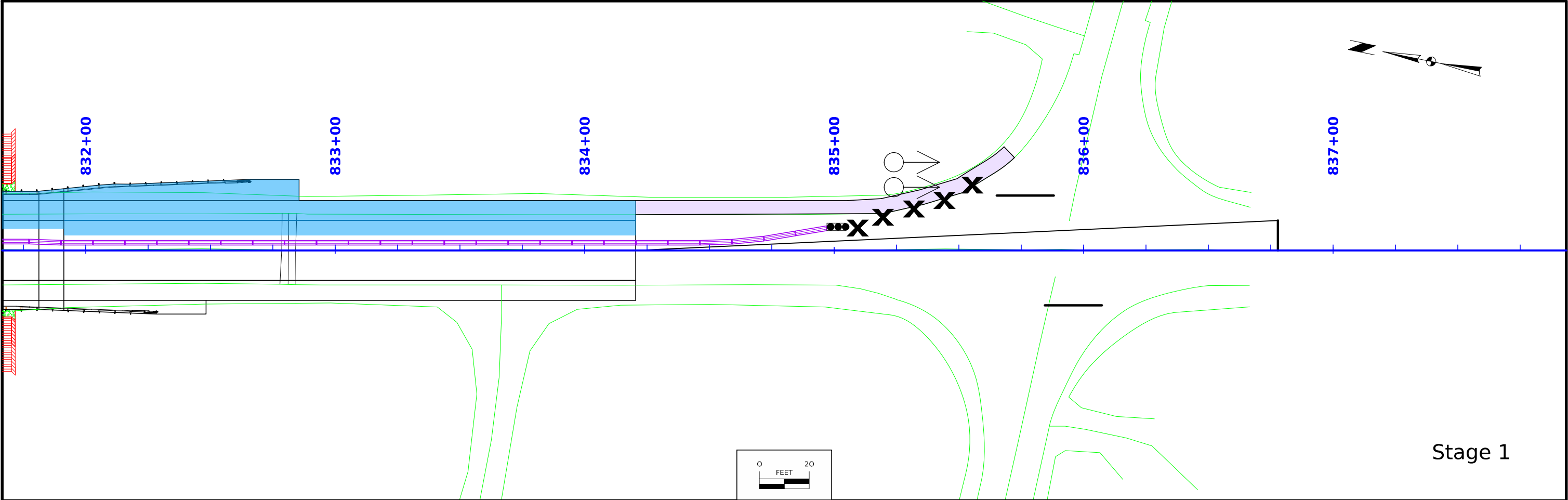
PLAN VIEW PATTERN AND SYMBOL LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS			
	Channelizing Device		Crash Cushion (Temp or Perm)
	Drum		Traffic Signal
	Temporary Lane Separator		Flagger
	Tubular Marker		Temporary Floodlighting
	Channelizer Marker		Traffic Sign
	Concrete Barrier Marker		Type III Barricade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

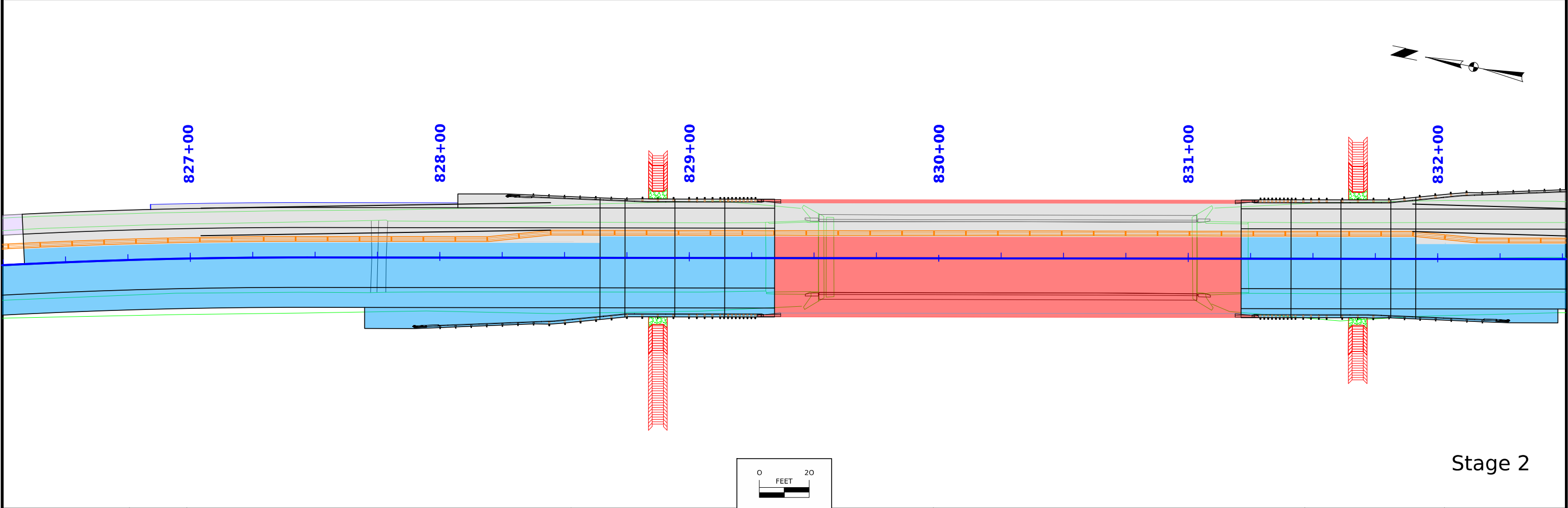
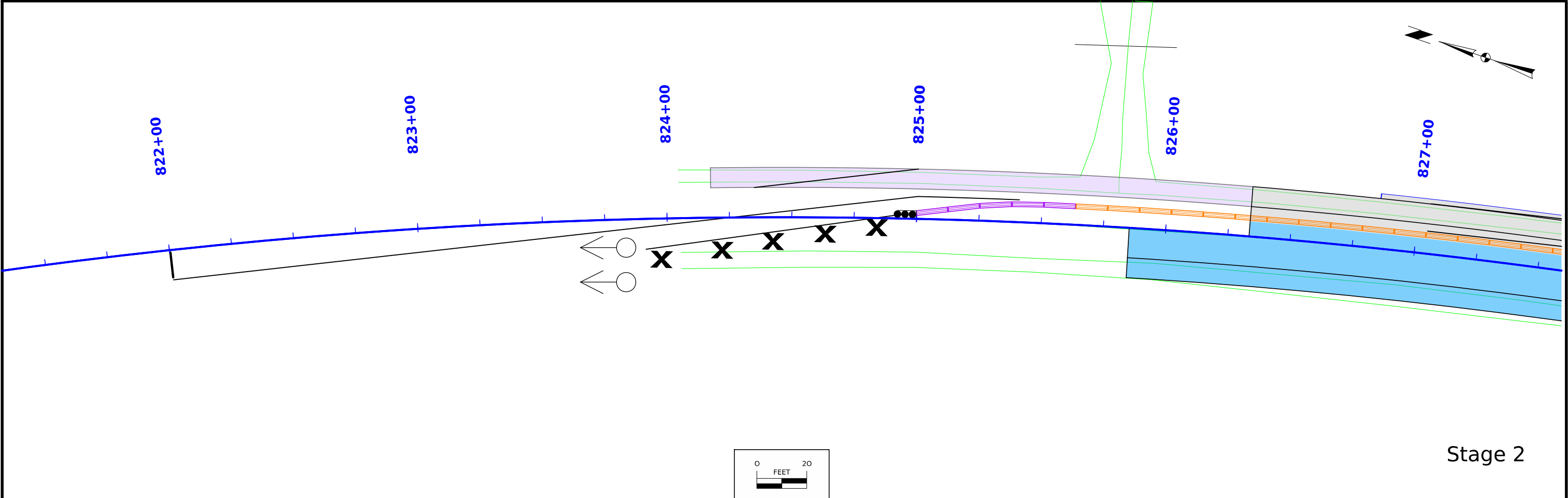
NOTE: Device spacing according to Standard Road Plans unless specifically dimensioned.

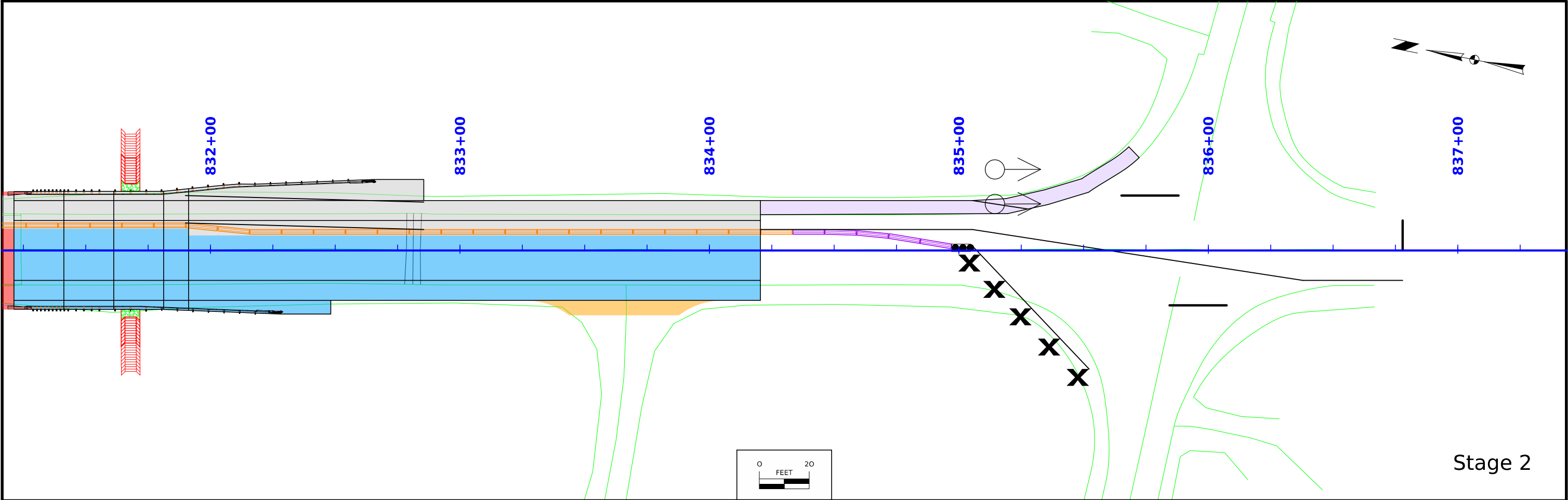
TRAFFIC CONTROL
AND
STAGING
LEGEND AND SYMBOL
INFORMATION SHEET

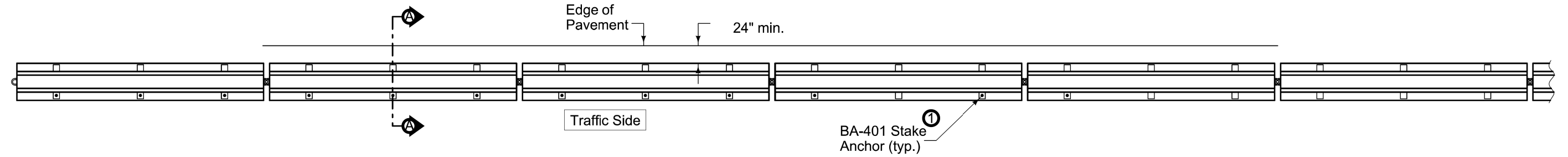
(COVERS SHEET SERIES J)



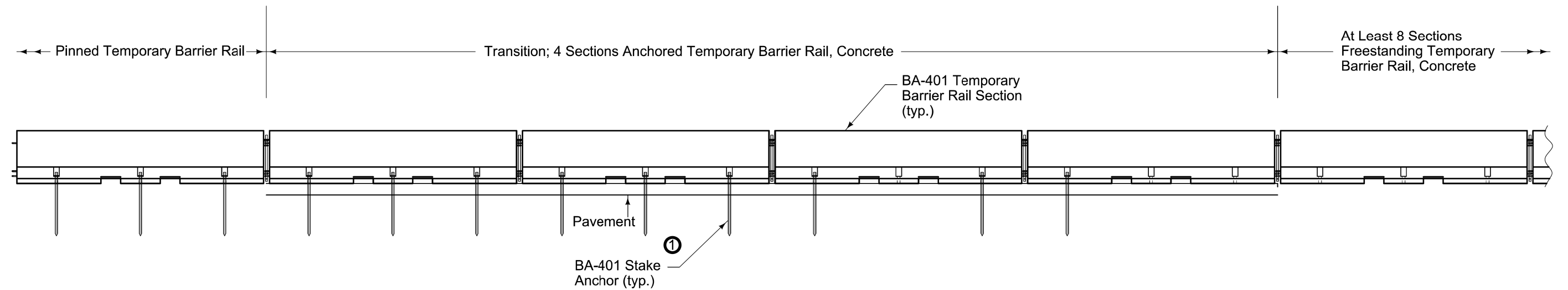








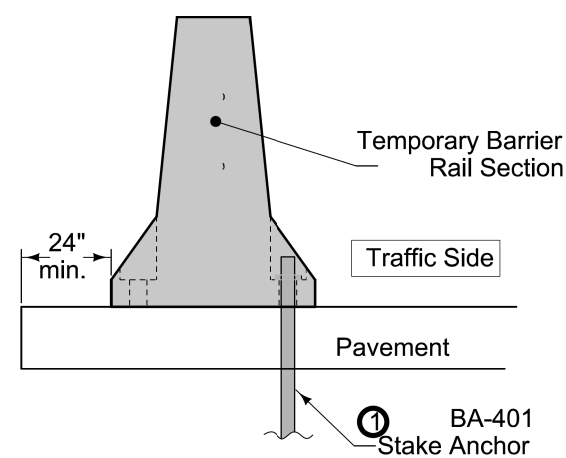
PLAN



ELEVATION

Install temporary barrier rail on a flat, level surface. Where anchored TBR sections are not located on existing pavement, construct a 2 inch minimum thickness HMA pad.

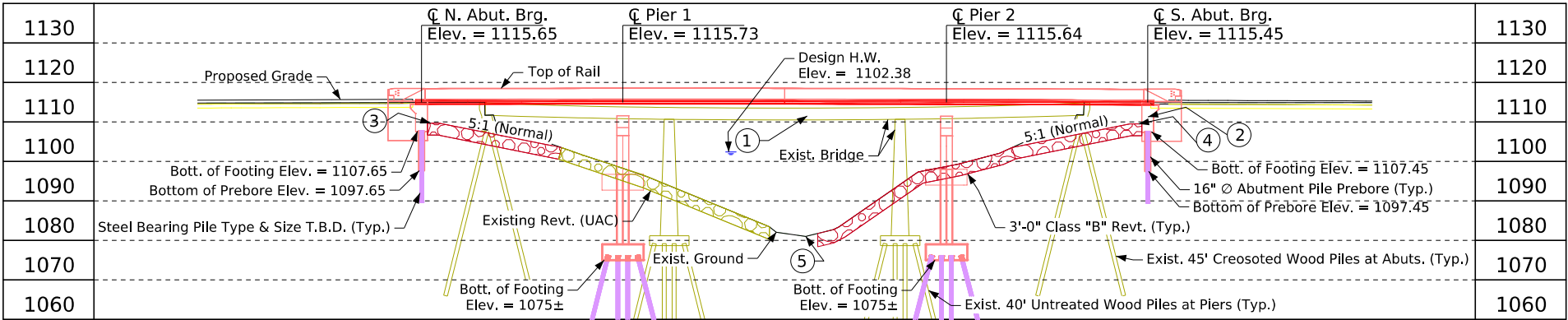
- ① Each transition requires nine (9) BA-401 stake anchors as shown. Use of the strap anchorage is not allowed in transition. When transition is placed on Composite or PCC Pavement pre-drill holes for stakes with 1½ inch core bit.



SECTION A-A

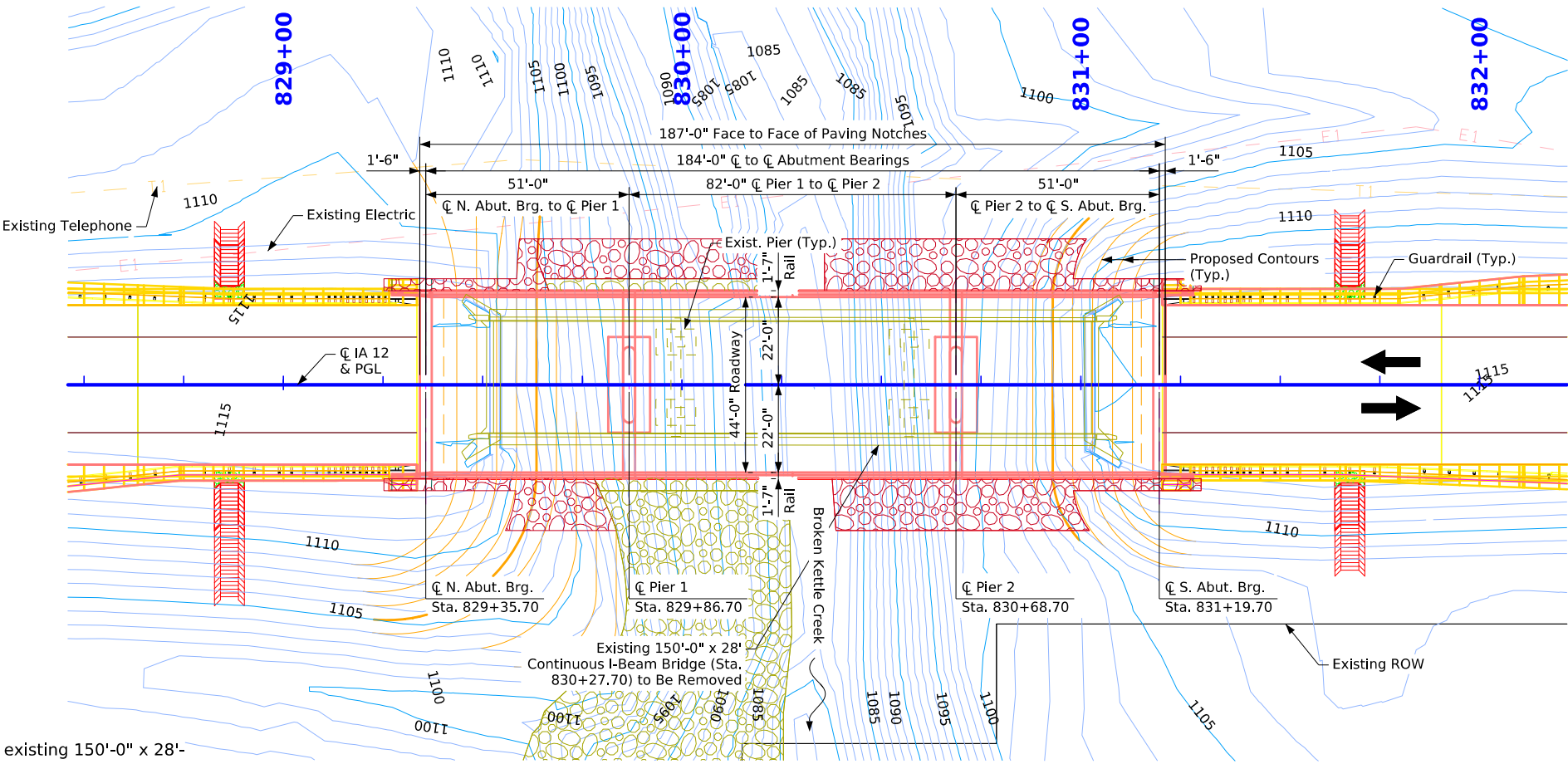
Transition from
Pinned TBR to
Unpinned TBR

Control Point: 750120179 CP REBAR SET IN EAST ROW IA 12 NEAR BANK OF BIG SIOUX RIVER 95 FT WEST CL IA 12, N=8639089.38, E=14047540.44, EL.=1103.91



- ① Channel Low Beam = See Hydraulic Data
② Operational Low Beam = See Hydraulic Data
③ Top of North Berm Elev. = 1109.65
④ Top of South Berm Elev. = 1109.45
⑤ Streambed Elev. = 1081.0 ±

Longitudinal Section Along Centerline Approach Roadway



Situation Plan

General Notes:

--This design is for the replacement of the existing 150'-0" x 28'-0" Continuous I-Beam Bridge, Plymouth County. Design 355, FHWA No. 39930, Maint. No. 7517.85012.

Design Notes:

--TL-4 Bridge Railing Proposed
--Pier type - T-Piers (Assumed Column Width = 3'-0")
--Final Design shall consider the need for temporary shoring to accommodate staging of the bridge construction and include in the final plans as necessary.

Plan Notes:

--Top of bridge deck at centerline roadway is 0.03' below the profile grade to account for deck cross slope and parabolic crown.
--Class B revetment stone is embedded.

Utilities Note:

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

General Utility Symbols:

E - Electric Line T - Telephone Line

Traffic Data

2023 AADT 1,940 V.P.D.
TRUCKS 14 %

Location

IA 12 over Broken Kettle Creek
T-90N R-48W
Section 9
Hancock Township
Plymouth County
FHWA No. 39930 (Existing)
FHWA No. 39931 (Proposed)
Bridge Maint. No. 7517.85012
Latitude 42.627690°
Longitude -96.514011°

Hydraulic Design

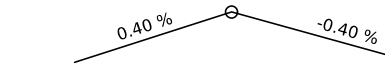


I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa,

Signature Brian J. Birkland Date 10-11-2024
Printed or Typed Name Brian J. Birkland

My license renewal date is December 31, 2024

Pages or sheets covered by this seal: V.1-V.3



VPI Sta. = 830+00.00 VC = 200'
VPI Elev. = 1115.963

Proposed Profile Grade Centerline IA 12

Hydraulic Data

RIDB: BrokenKettleC_Plym, RM_0.01
Discharges from USGS Report 2013-5086
Regression Equations for Region 3
Drainage Area = 98.9 Sq. Mi.
Site Stream Slope (HGL) = 0.24% (12.7 Ft./Mi.)
Avg. Low Water Stage = 1083.7
Operational Low Beam = 1111.16
Channel Low Beam = 1111.35

Q₅₀ = 13,400 cfs
Stage = 1102.38
Operational Freeboard = 8.78 ft.
Avg. Bridge Velocity = 12.1 fps

Q₁₀₀ = 15,800 cfs
Stage = 1103.72
Operational Freeboard = 7.44 ft.
Backwater = 0.77 Ft.
Avg. Bridge Velocity = 12.5 fps

Q₂₀₀ = 18,400 cfs
Stage = 1104.80
Calculated Design Scour = 1072.7

Q₅₀₀ = 21,400 cfs
Stage = 1105.88
Operational Freeboard = 5.28 ft.
Avg. Bridge Velocity = 13.9 fps
Calculated Check Scour = 1071.7

Roadway Overtop ~900 ft. of bridge
Sta. 840+20
Elevation = 1112.2

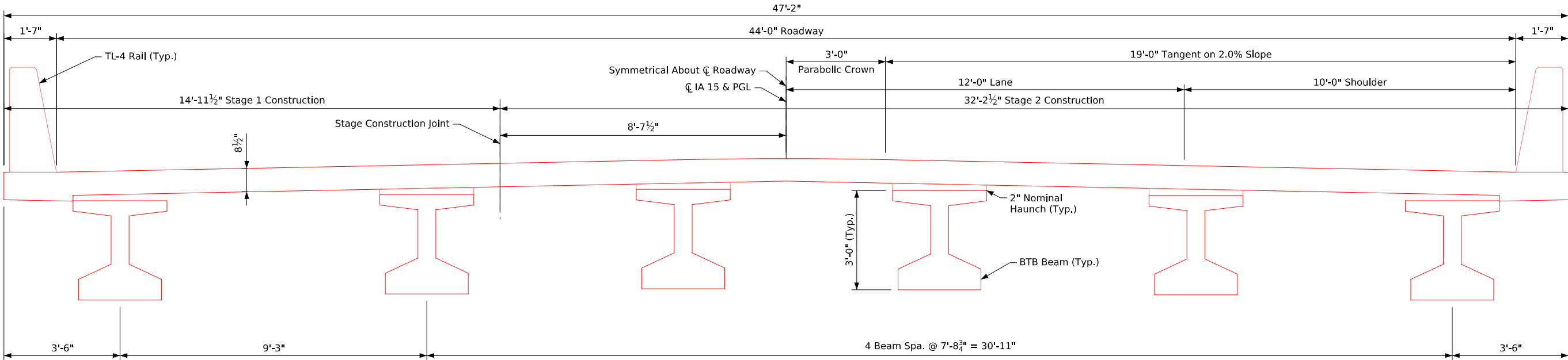
Site is located within Plymouth Co. Flood Insurance Study (FIS), Dated Oct. 27, 2022
FIS Datum: NAVD 88
FIS Base (100-yr) flood elevations is from backwater of the Big Sioux River.

FIS Base Flood El. (Design) = 1108.3
Operational Freeboard = 2.86 ft.
Project meets floodway no-rise condition.

Extreme High Water on Big Sioux River
From USGS gage data on the Big Sioux River on County Road 8 (South Dakota)
~400 feet downstream of Site
Stage = 1114.47
Date = 6/24/24
Translated to Site, Stage = 1114.6

Preliminary

Design For 0 Degree Skew
184'-0" x 44'-0" Prestressed Concrete Beam Bridge
51'-0" End Spans BTB Beams 82'-0" Interior Span
Situation Plan
STA. 830+27.70 (IA 12) Turn-In Date: September, 2024
Plymouth County
IOWA DEPARTMENT OF TRANSPORTATION
Design No. 327 Design Sheet No. 1 of 3 FHWA No. 39931



Transverse Section
(Looking South)

Preliminary

Design For 0 Degree Skew

184'-0" x 44'-0" Pretensioned
Prestressed Concrete Beam Bridge

51'-0" End SpansBTB Beams82'-0" Interior Span

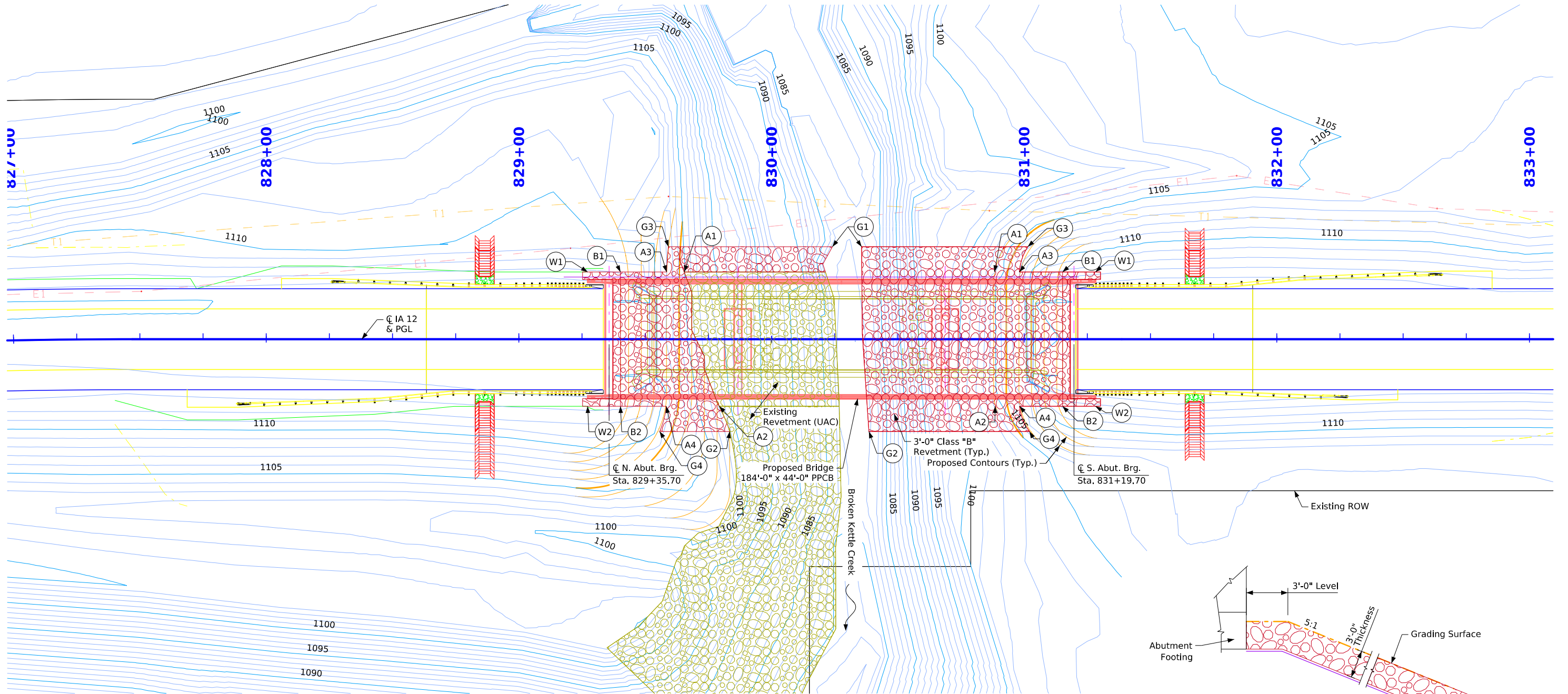
Situation Plan - Misc.

STA. 830+27.70 (IA 12)Turn-In Date: September, 2024

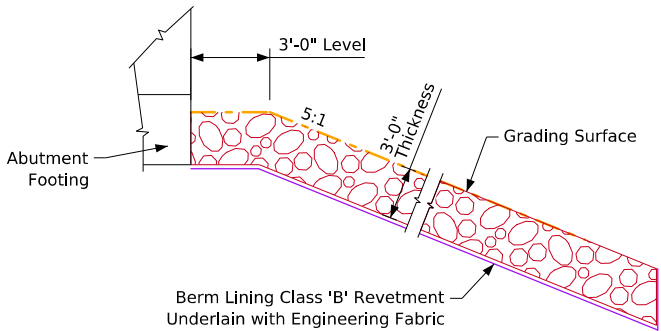
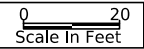
Plymouth County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 327Design Sheet No. 2 of 3FHWA No. 39931



Site Plan



Section Thru Embedded Berm Lining
Normal to Berm Slope

Berm Slope Location Table						
Points	North Abutment			South Abutment		
	Station	Offset	Elev.	Station	Offset	Elev.
A1	829+65.44	26.58' Lt.	1104.62	830+88.25	26.58' Lt.	1104.00
A2	829+79.32	26.58' Rt.	1101.84	830+88.51	26.58' Rt.	1104.00
A3	829+58.78	26.58' Lt.	1106.00	830+98.09	26.58' Lt.	1106.00
A4	829+58.31	26.58' Rt.	1105.90	830+98.15	26.58' Rt.	1106.00
B1	829+40.20	26.58' Lt.	1109.65	831+15.20	26.58' Lt.	1109.45
B2	829+40.20	26.58' Rt.	1109.65	831+15.20	26.58' Rt.	1109.45
G1	830+35.67	36.58' Lt.	1082.39	830+24.07	36.58' Lt.	1082.84
G2	830+38.56	36.58' Rt.	1101.00	829+79.32	36.58' Rt.	1081.67
G3	831+01.44	36.58' Lt.	1106.00	829+59.18	36.58' Lt.	1105.70
G4	831+02.14	36.58' Rt.	1105.80	829+55.71	36.58' Rt.	1105.90
W1	829+27.20	26.58' Lt.	1115.07	831+28.20	26.58' Lt.	1114.86
W2	829+27.20	26.58' Rt.	1115.07	831+28.20	26.58' Rt.	1114.86

Berm slope elevations reflect the grading surface.

Estimated Berm Armoring Quantities			
Location	Revetment CL B (Ton)	Engineering Fabric (SY)	CL 10 Channel Excavation (CY)
South Abutment Berm	899.6	765.2	642.6
North Abutment Berm	437.9	442.9	312.8
Totals	1337.5	1208.1	955.4

Excavation quantity calculated from grading surface. Excavation quantity is for embedded revetment core out only, and does not include excavation to the grading surface. Excavation quantity to the grading surface is determined by Road Design and included in the Road Plans.

Preliminary

Design For 0 Degree Skew

184'-0" x 44'-0" Prestensioned
Prestressed Concrete Beam Bridge

51'-0" End Spans BTB Beams 82'-0" Interior Span

Situation Plan - Site

STA. 830+27.70 (IA 12) Turn-In Date: September, 2024

Plymouth County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 327 Design Sheet No. 3 of 3 FHWA No. 39931

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:

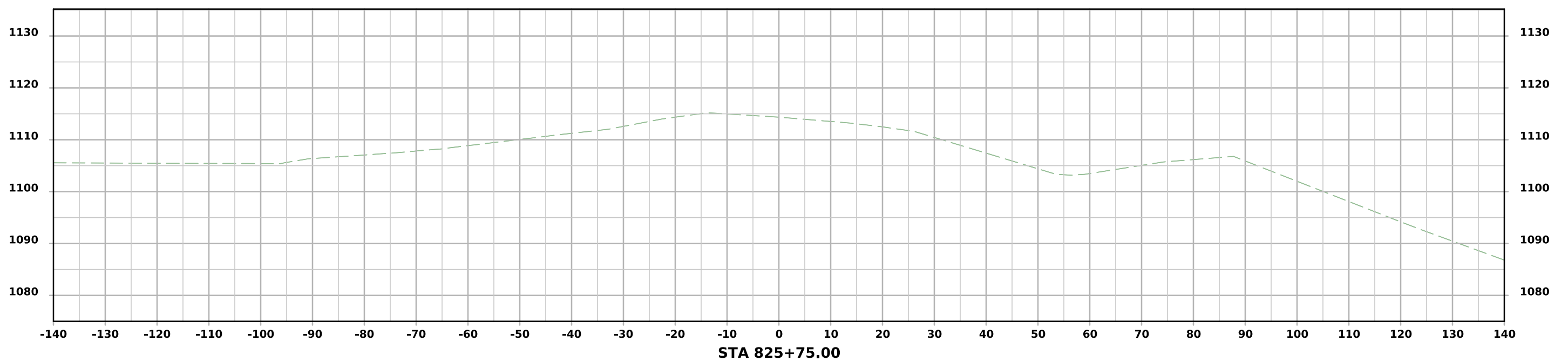
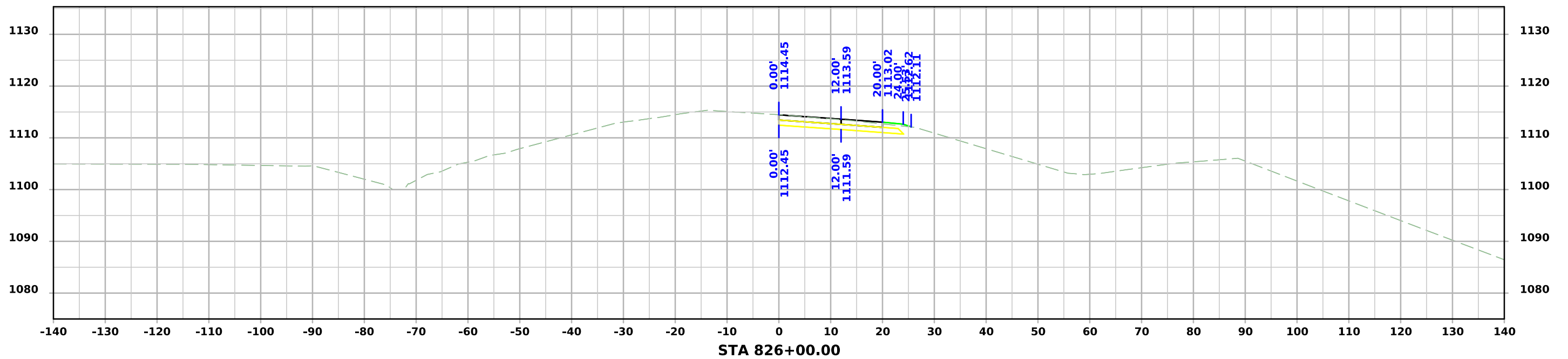
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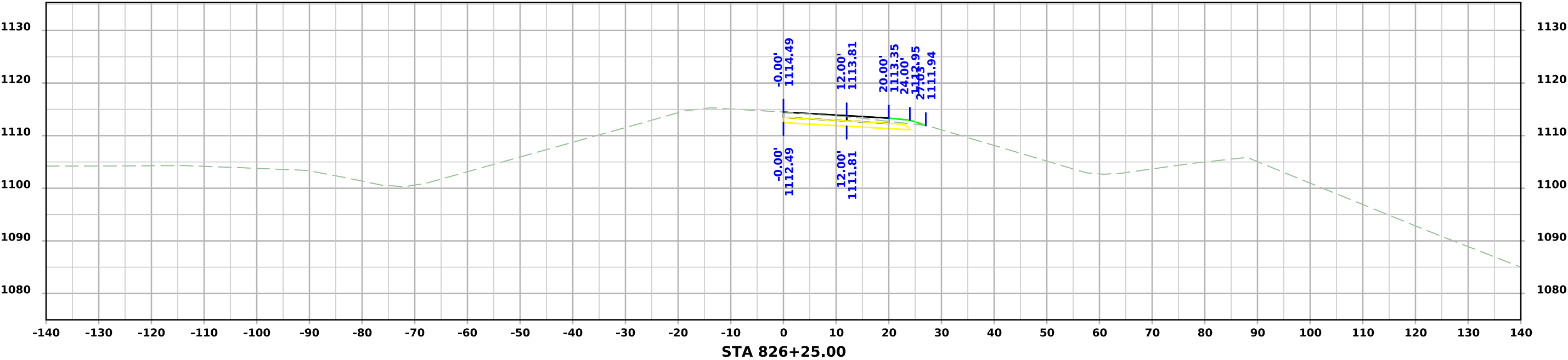
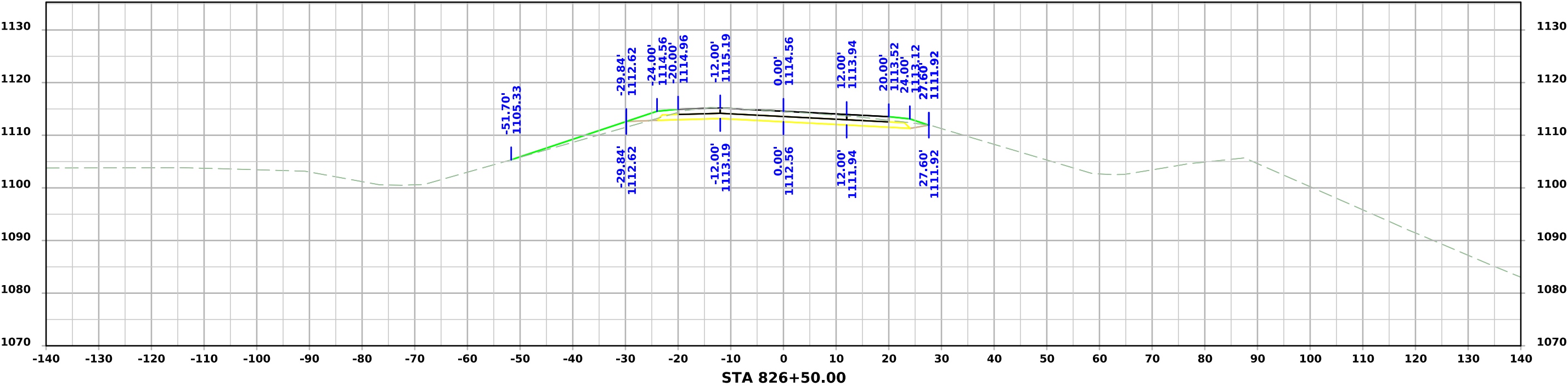
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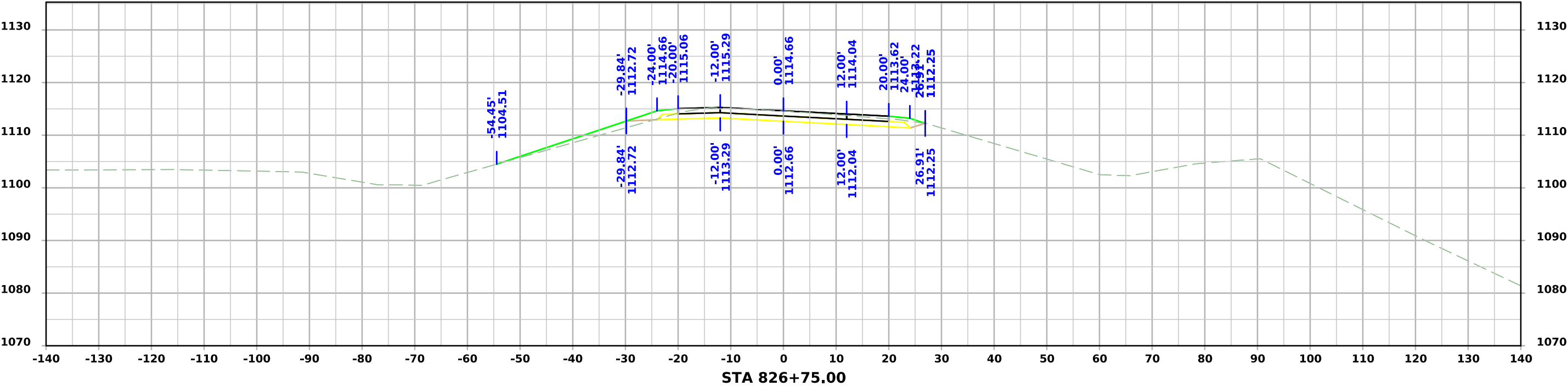
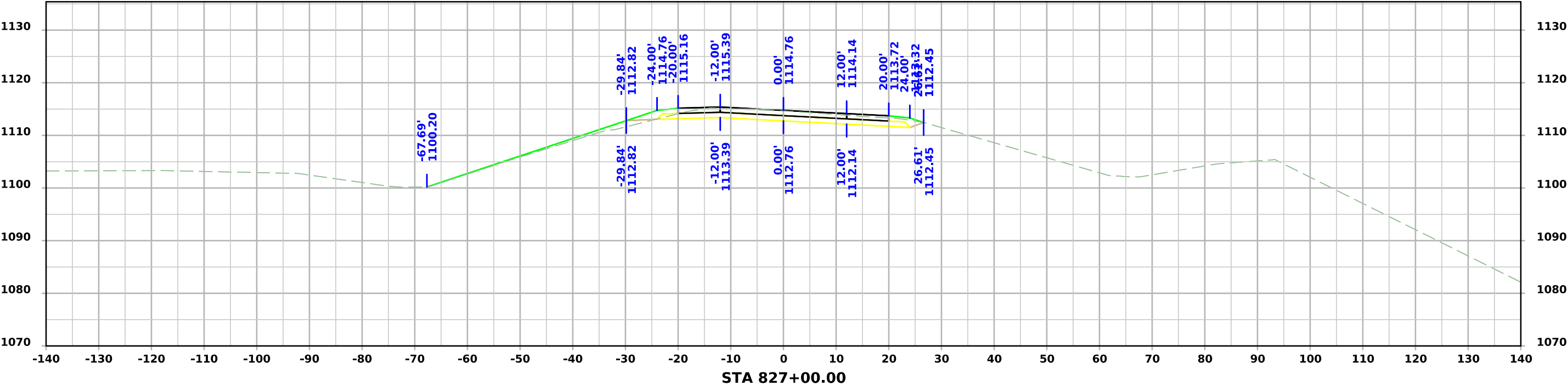
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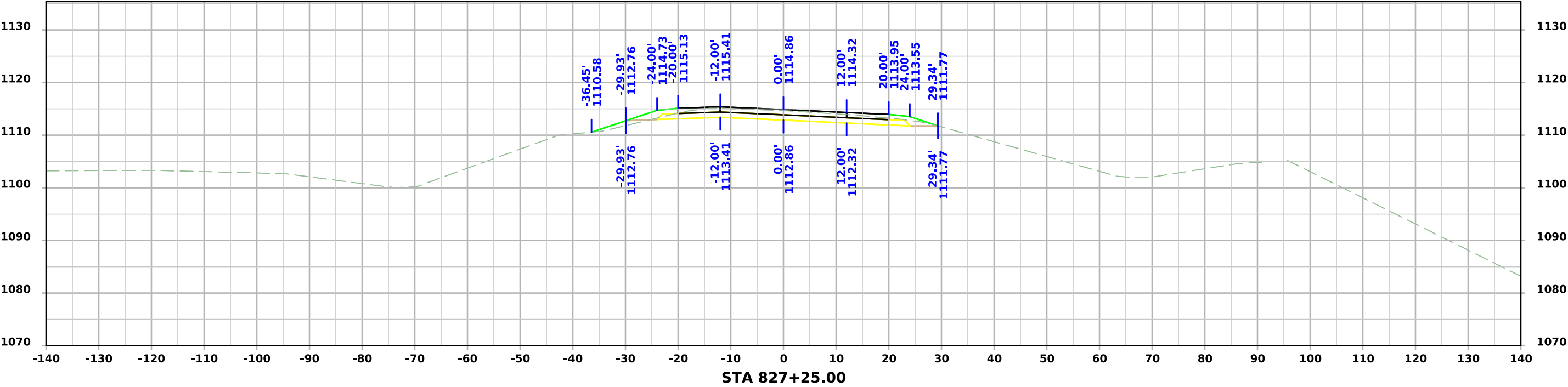
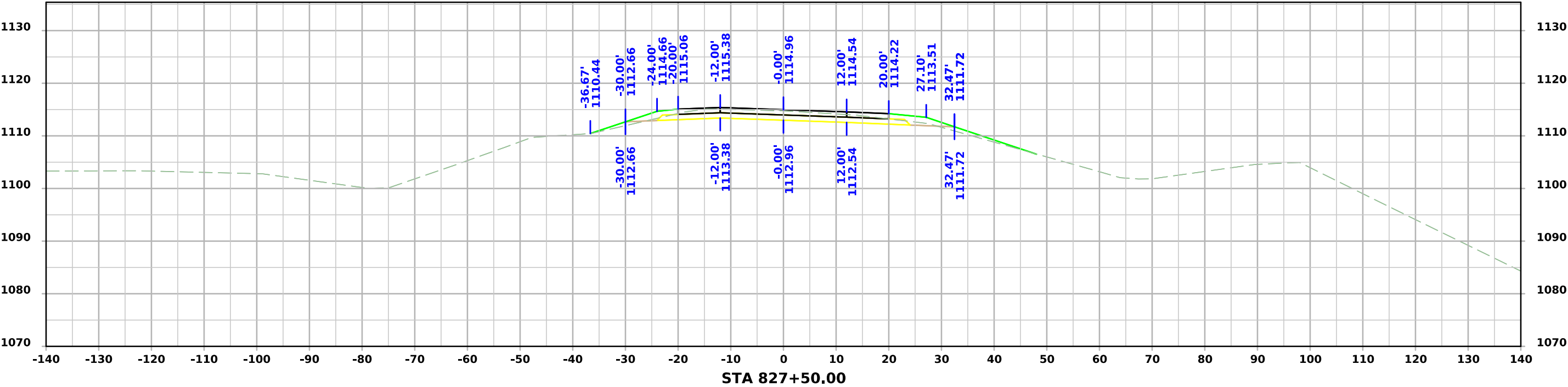
CROSS SECTIONS
LEGEND AND INFORMATION SHEET

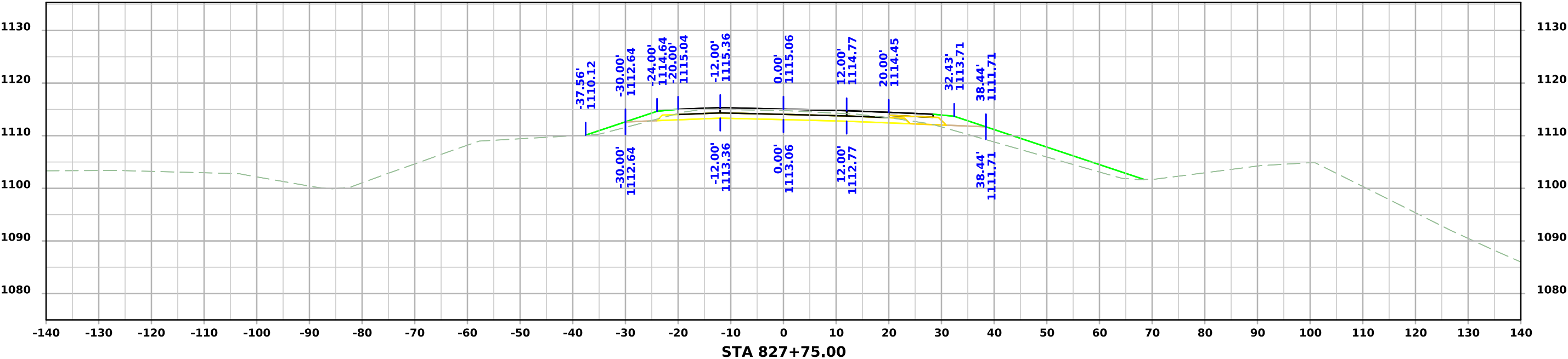
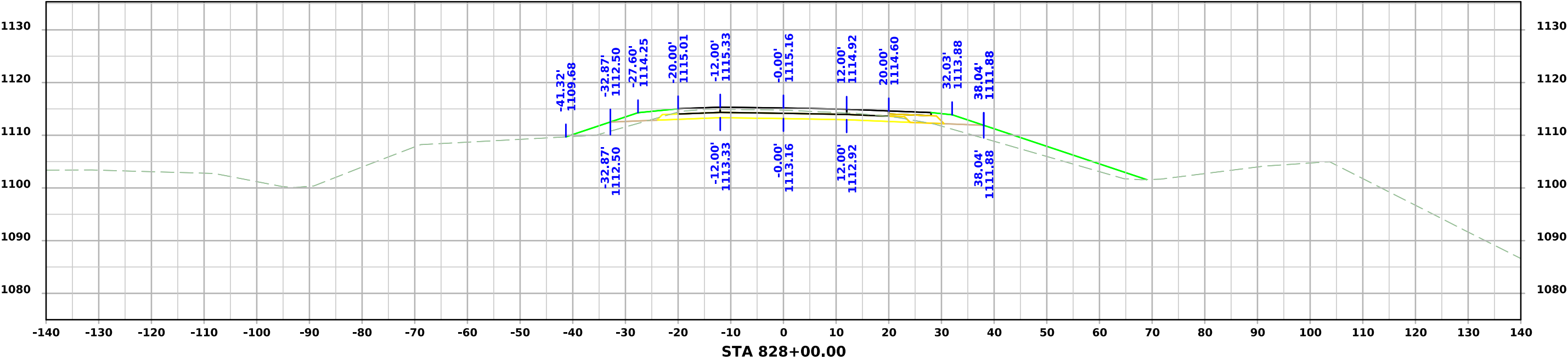
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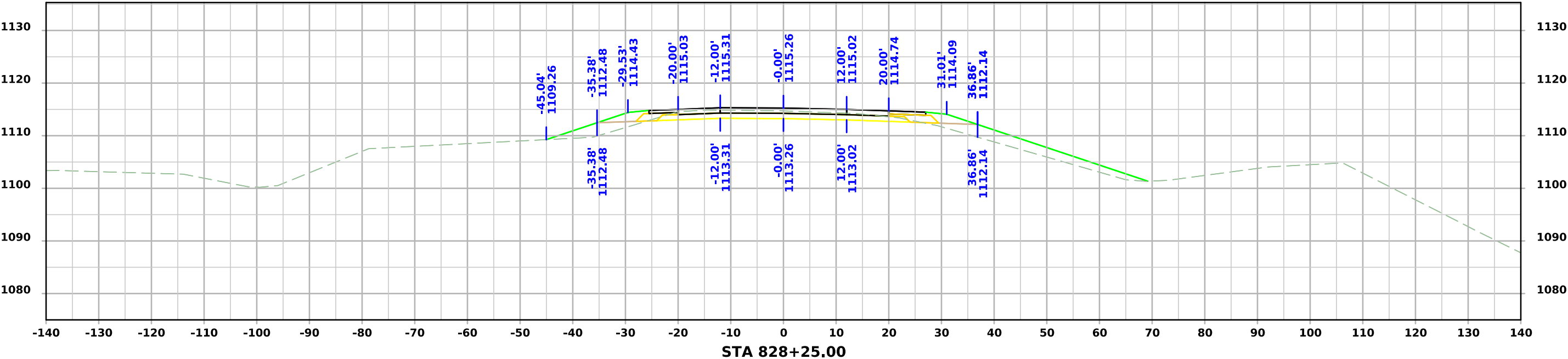
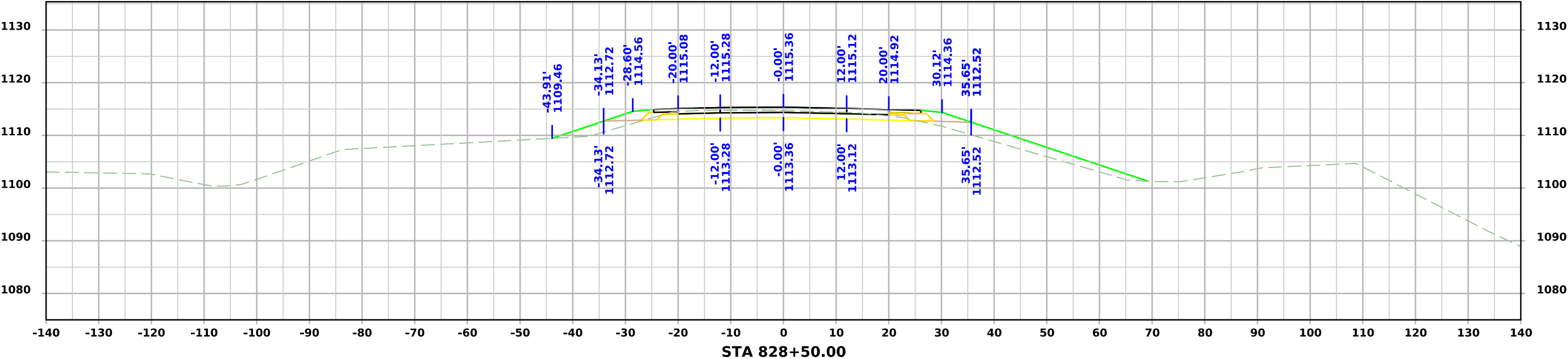


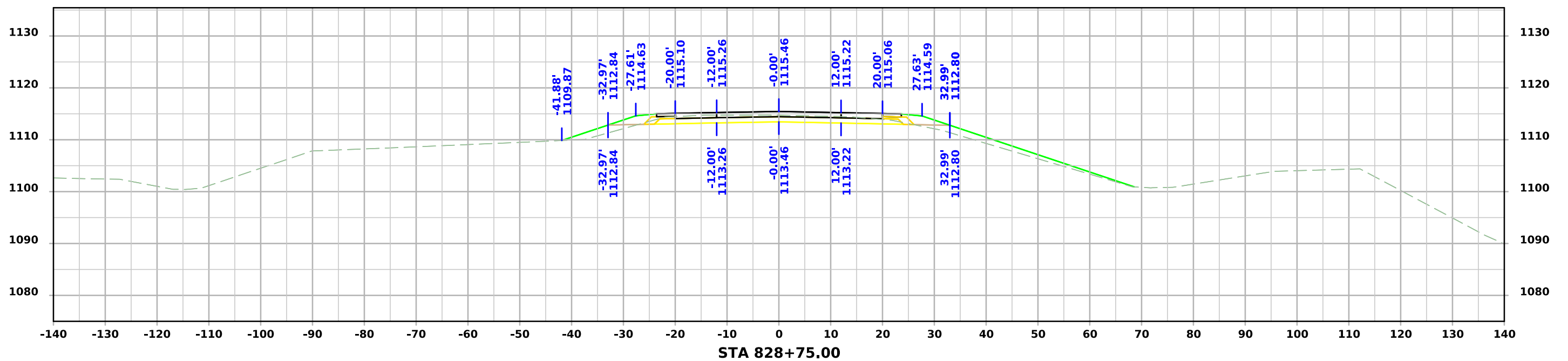
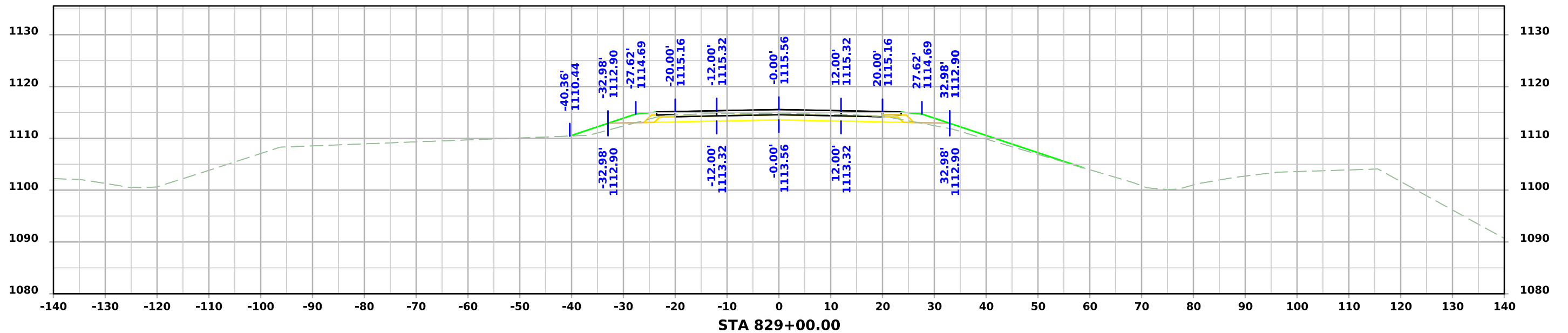


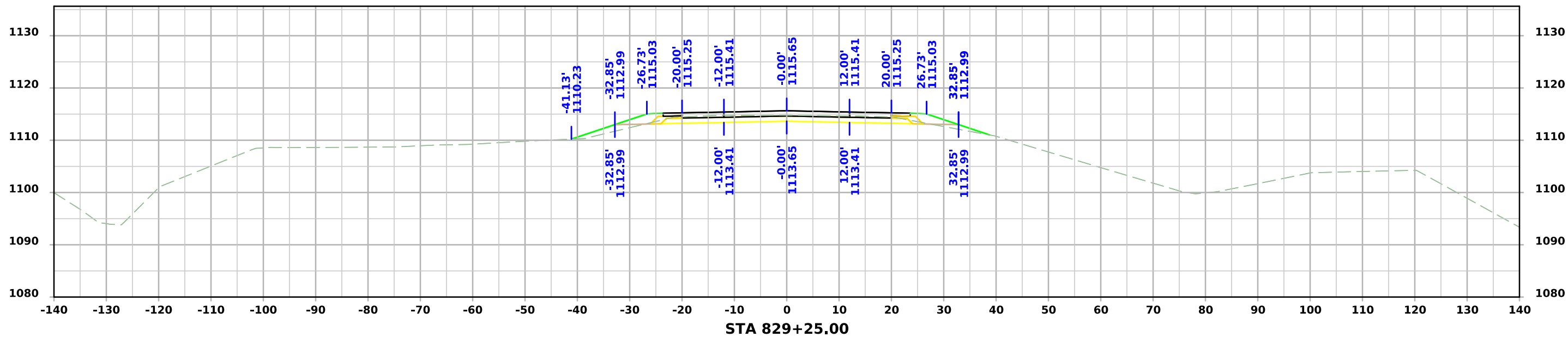
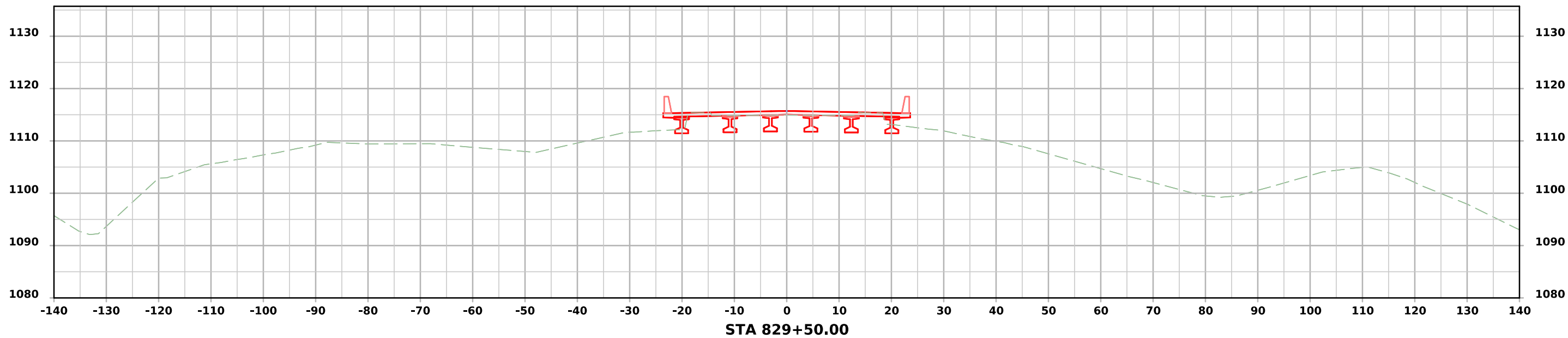


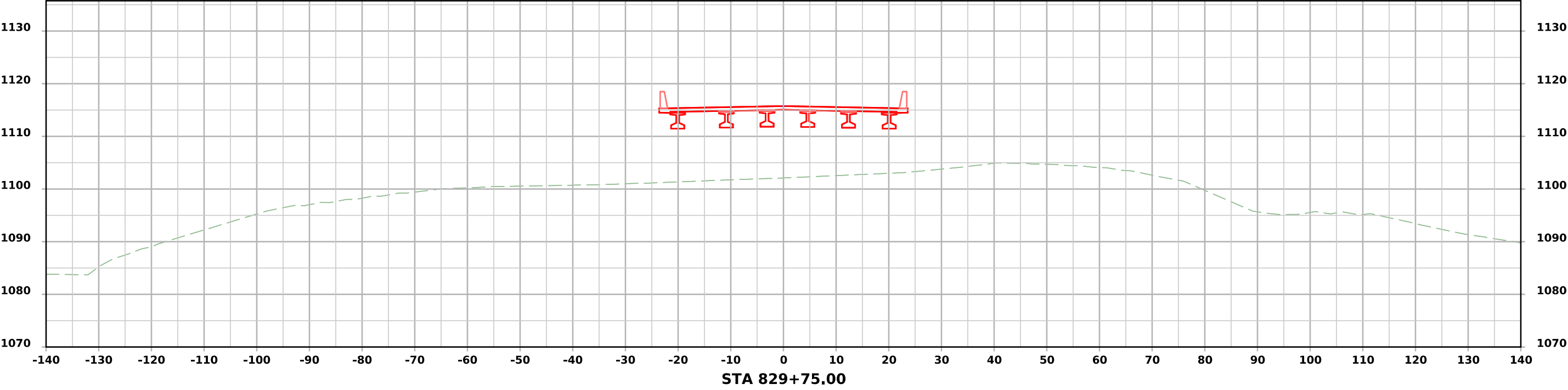
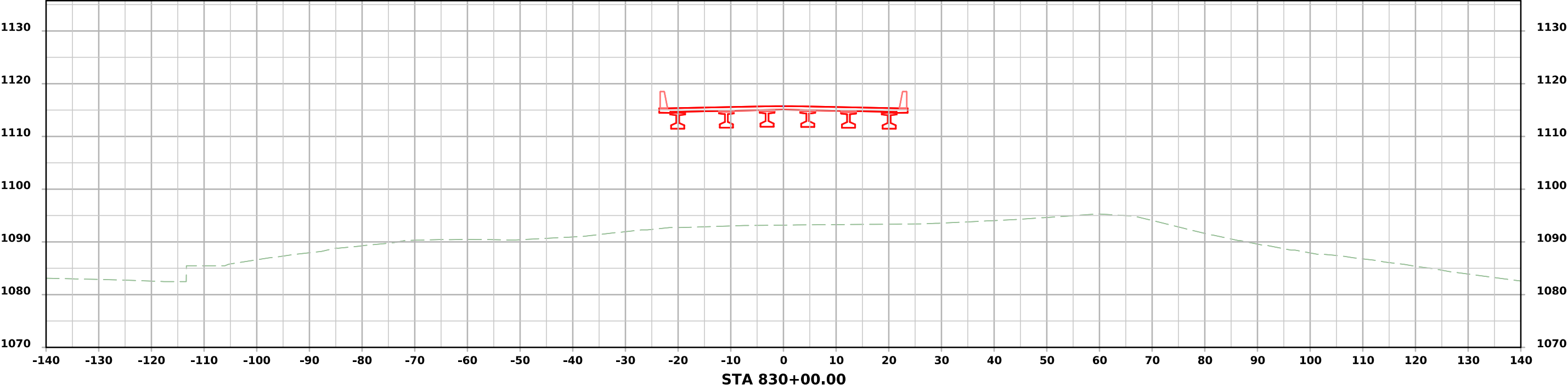




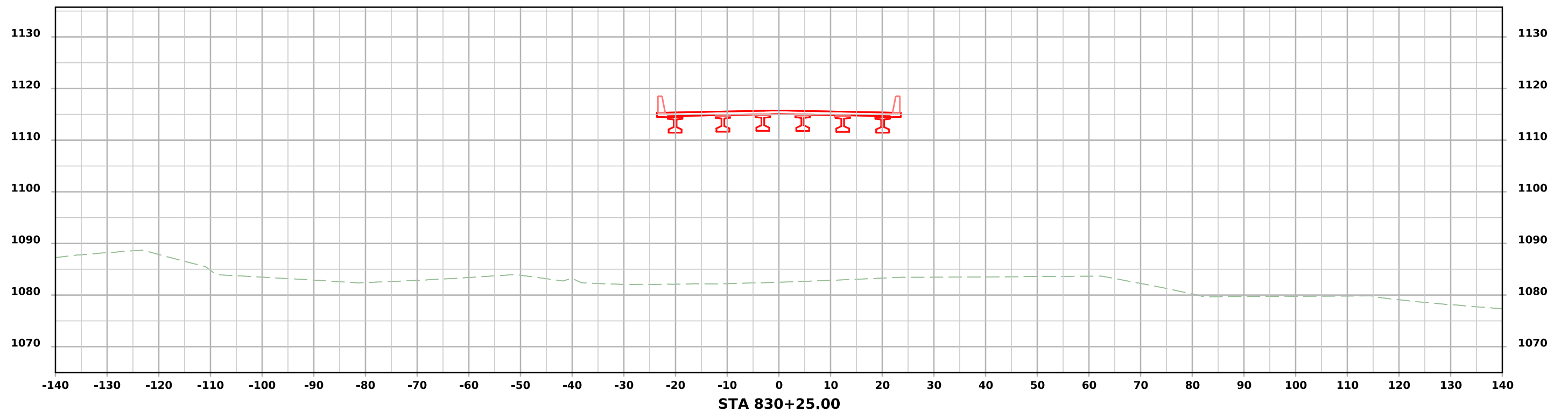
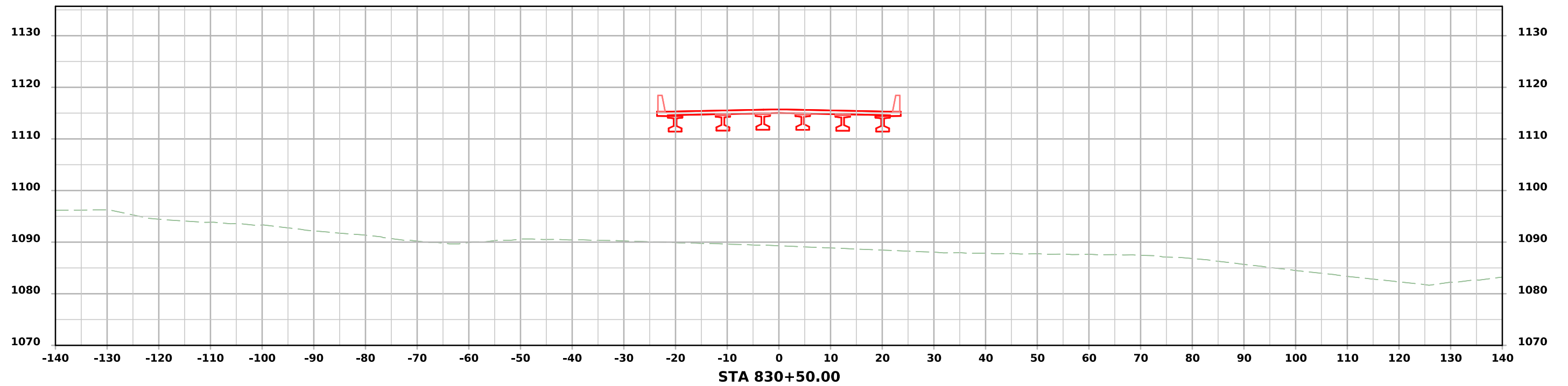


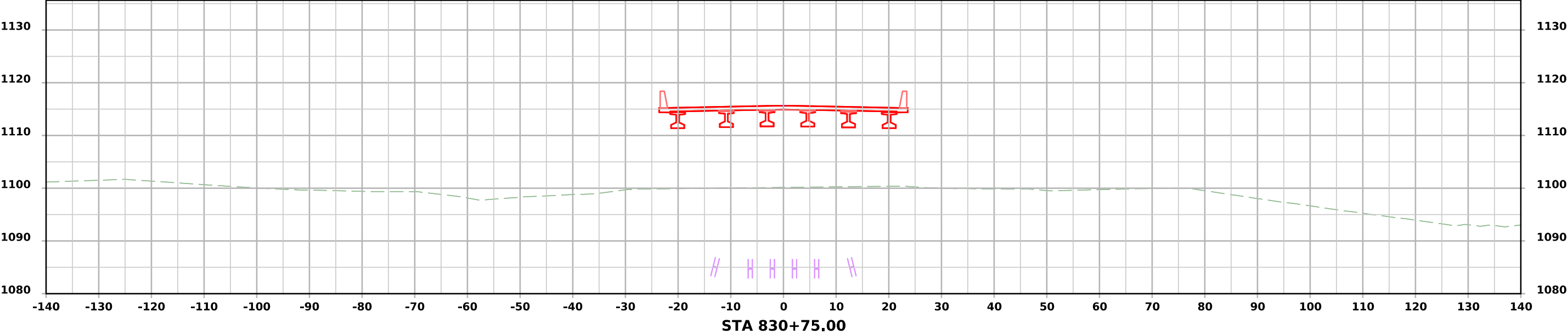
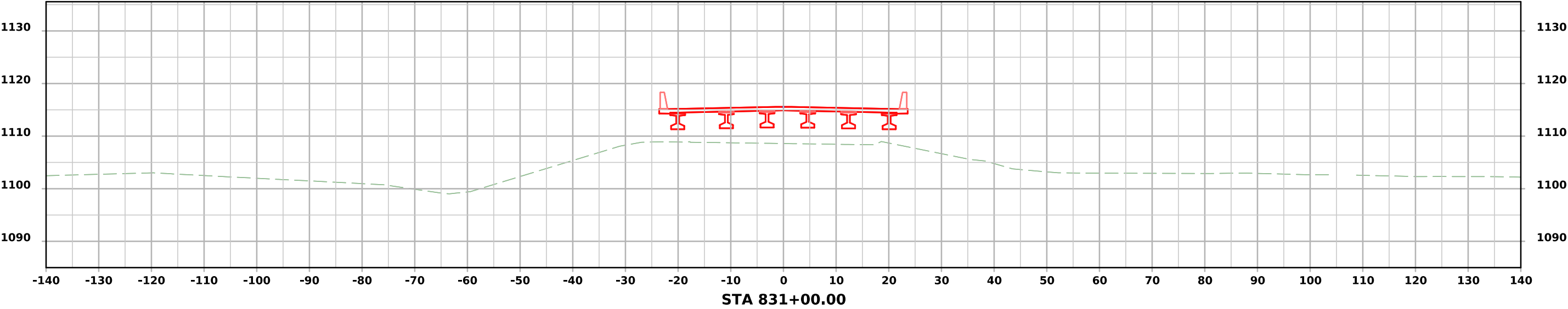


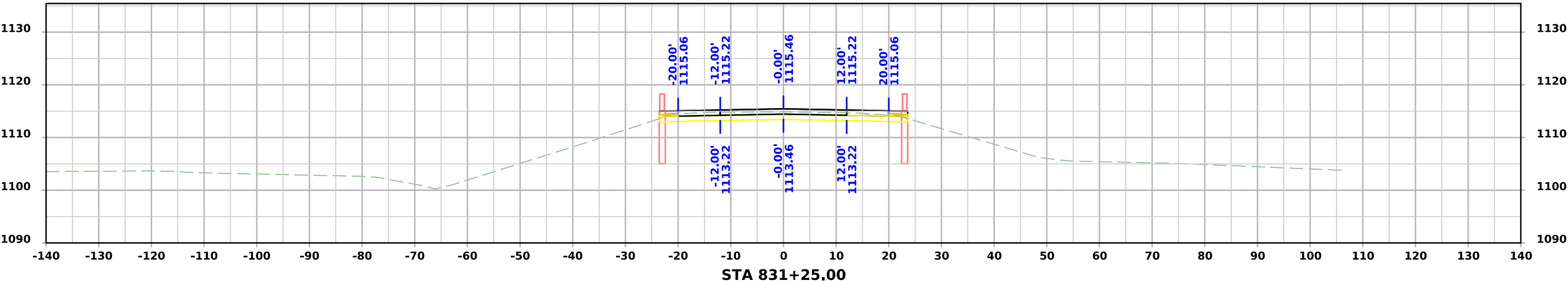
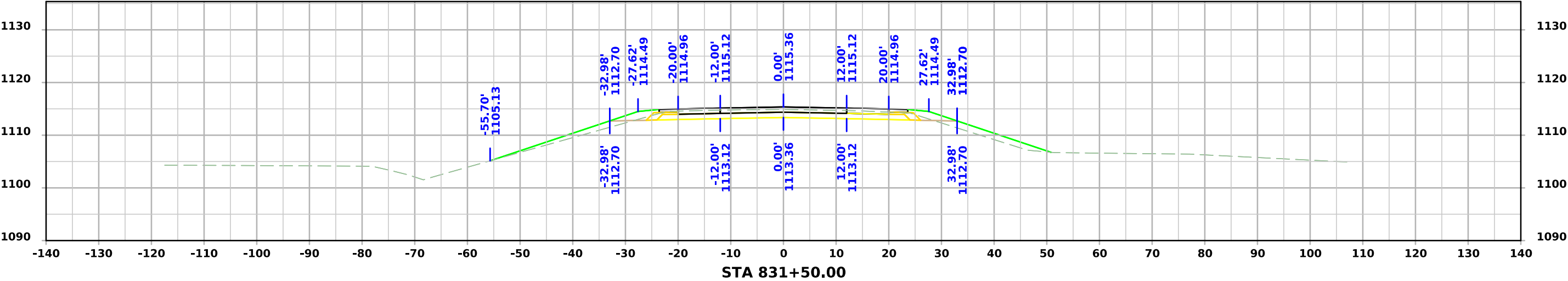
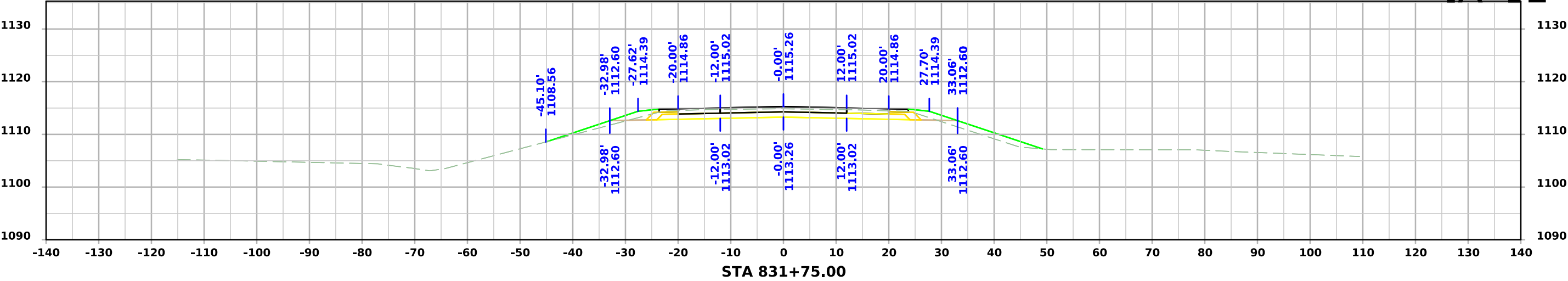




IA 12







IA 12

