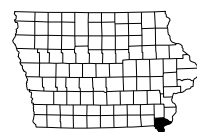


LEE COUNTY

**BRIDGE REPLACEMENT - PPCB
BRFN-002-9(34)--39-56**

LETTING DATE
10-19-2021



INDEX OF SHEETS	
No.	DESCRIPTION
A Sheets	Title Sheets
* A.1	Title Sheet
* A.2	Location Map Sheet
B Sheets	Typical Cross Sections and Details
B.1 - 3	Typical Cross Sections and Details
C Sheets	Quantities and General Information
C.1	Project Description
C.1	Estimated Project Quantities
C.1	Standard Road Plans
D Sheets	Mainline Plan and Profile Sheets
* D.1	Plan & Profile Legend & Symbol Information Sheet IA 2
* D.2	IA 2
G Sheets	Survey Sheets
G.1 - 3	Reference Ties and Bench Marks
G.4 - 5	Horizontal Control Tab. & Super for all Alignments
J Sheets	Traffic Control and Staging Sheets
J.1	Traffic Control Plan
J.1	Staging Notes Stage
* J.2	Detour Signage and Route
V Sheets	Bridge and Culvert Situation Plans
* V.1 - 2	Bridge Situation Plans
W Sheets	Mainline Cross Sections
W.1	Cross Sections Legend & Symbol Information Sheet
W.2 - 11	Mainline Cross Sections
	* Color Plan Sheets



Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM

LEE COUNTY

BRIDGE REPLACEMENT - PPCB

IA 2 BRIDGE OVER LICK CREEK
4.3 MI. EAST OF JCT. IA 81

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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



REVISIONS

TOTAL	
27	
PROJECT IDENTIFICATION NUMBER	
17-56-002-010	
PROJECT NUMBER	
BRFN-002-9(34)--39-56	
R.O.W. PROJECT NUMBER	
STPN-002-9(35)--2J-56	

SEE SHEET A.2
FOR PROJECT MAP

DESIGN DATA RURAL			
2021	AADT	1,500	V.P.D.
2041	AADT	1,800	V.P.D.
2041	DHV	180	V.P.H.
	TRUCKS	11	%
	Total		
	Design ESALs	--	

INDEX OF SEALS		
SHEET NO.	NAME	TYPE
A.1	Michael J. Janecek	Primary Signature Block

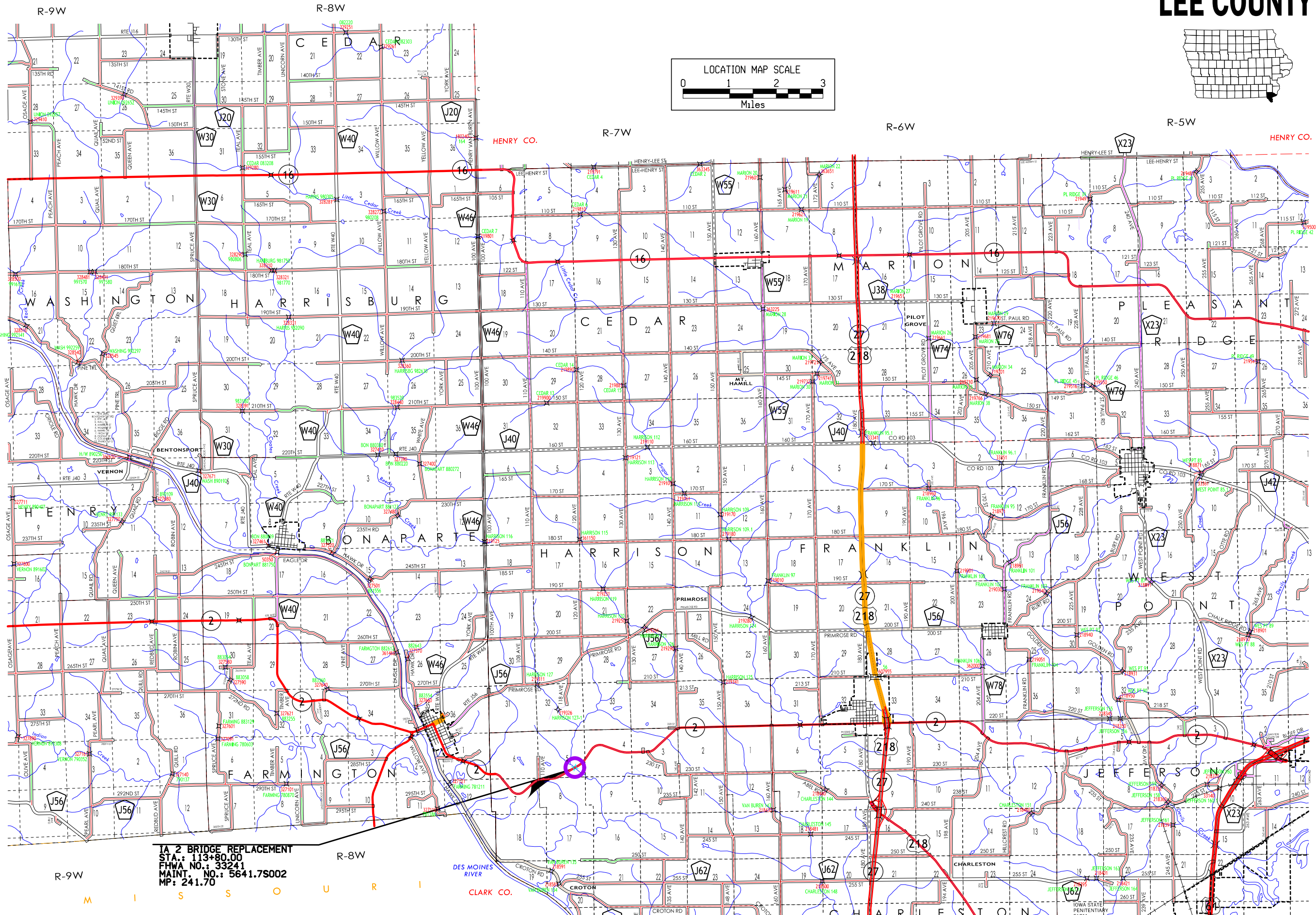
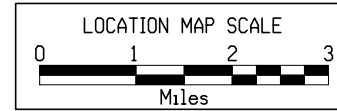
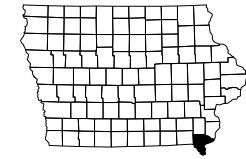
D4 PLAN - Date: June 22, 2021

PRELIMINARY PLANS

Subject to change by final design.

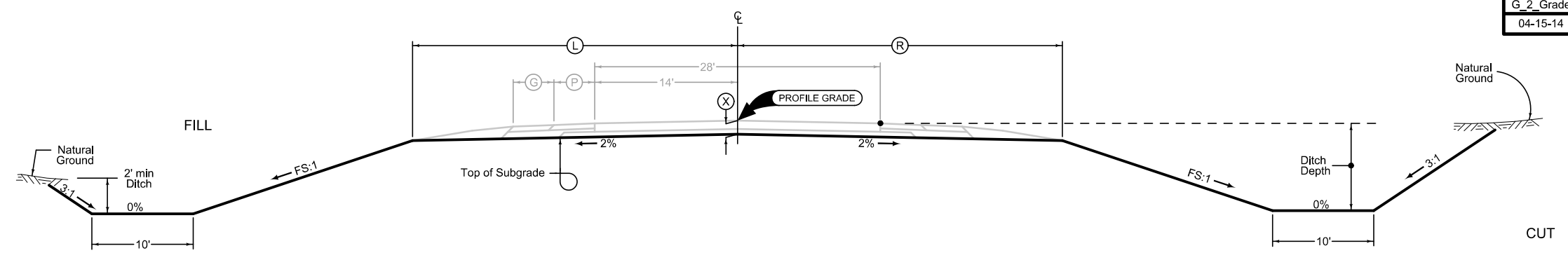
D5 PLAN - Date: Sept 20, 2019

LEE COUNTY



IA 2 BRIDGE REPLACEMENT
STA.: 113+80.00
FHWA NO.: 33241
MAINT. NO.: 5641.7S002
MP: 241.70

LOCATION		DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION	(L)	(R)	(X)	FS
		Feet	Feet	Inches	
IA 2	112+10.73 115+30.18	31.25	31.25	22	3



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

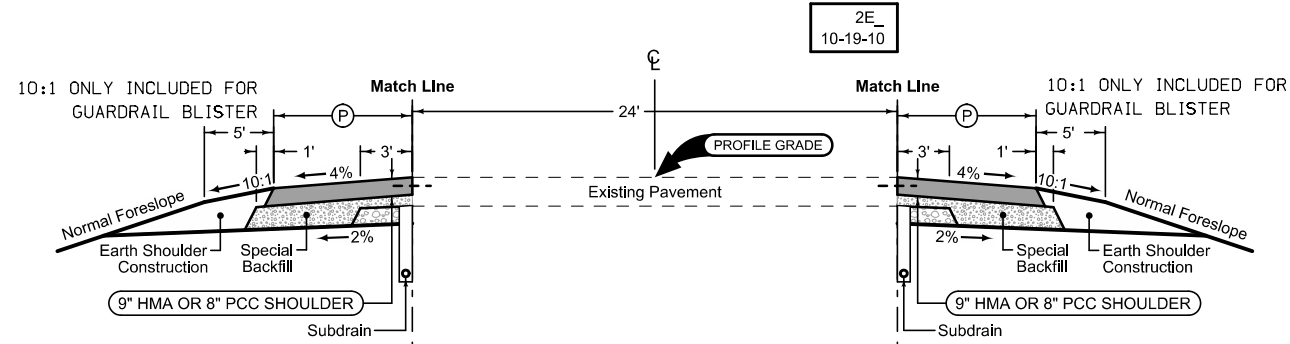
See plan & profile sheets and cross sections for additional details of ditches and backslopes.

2 LANE GRADING

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_ 10-17-17		
STATION TO STATION		(P) Feet
111+88.94	112+10.73	11.42-11.22
115+30.18	115+67.06	9.76-10.97
115+67.06	115+93.98	10.97-10.77



Paved Shoulder at Guardrail

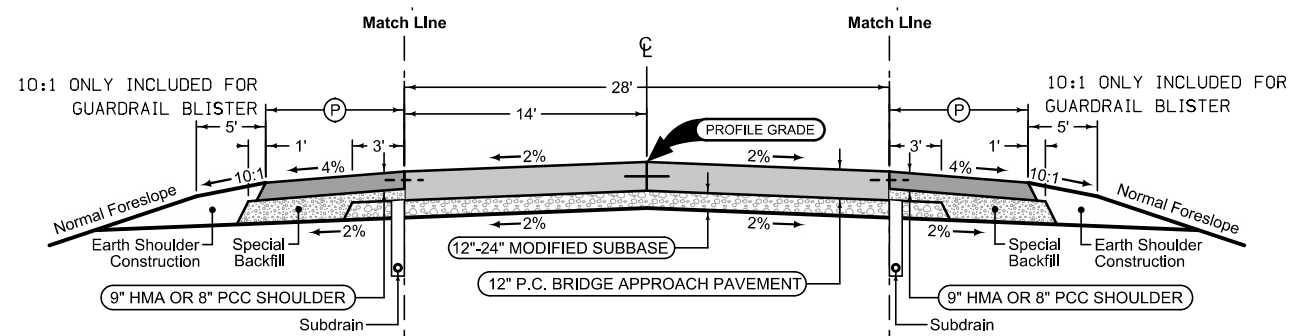
PCC Shoulder Jointing:
 Longitudinal joint: BT-1 or BT-5
 Transverse joints: C at mainline spacing
 HMA Shoulder Jointing:
 Longitudinal joint: B

2_P_Guard_ 10-17-17		
STATION TO STATION		(P) Feet
111+27.00	112+10.73	13.80-14.50
115+30.18	115+44.12	10.67-11.23
115+44.12	115+71.04	11.23

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_ 10-17-17		
STATION TO STATION		(P) Feet
112+10.73	112+15.87	11.22
112+15.87	112+57.05	11.22-9.58
112+57.05	113+06.12	9.58
114+39.31	115+25.88	9.59
115+25.88	115+30.18	9.59-9.76



Paved Shoulder at Guardrail

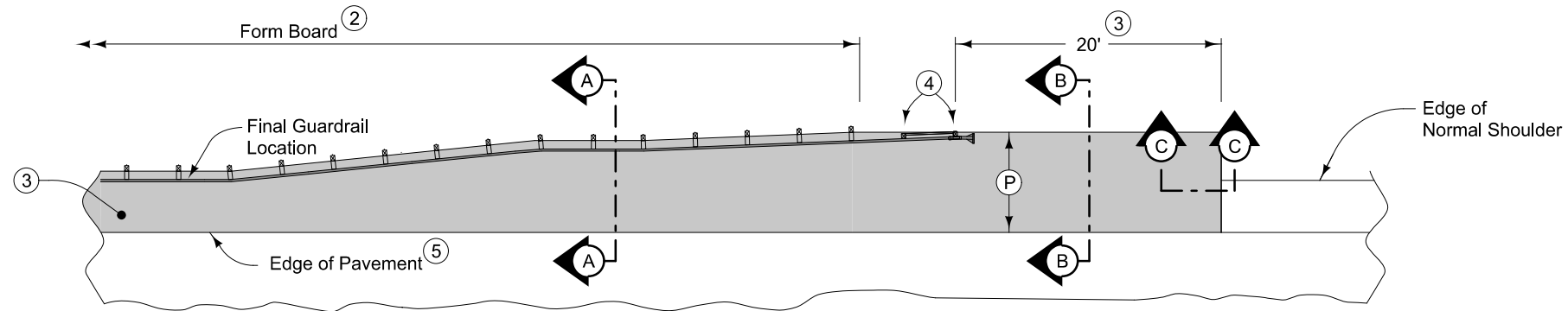
PCC Shoulder Jointing:
 Longitudinal joint: BT-1 or BT-5
 Transverse joints: C at mainline spacing
 HMA Shoulder Jointing:
 Longitudinal joint: B

2_P_Guard_ 10-17-17		
STATION TO STATION		(P) Feet
112+10.73	112+13.73	14.50
112+13.73	112+60.20	14.50-9.59
112+60.20	113+20.68	9.59
114+53.87	115+02.94	9.58
115+02.94	115+30.18	9.58-10.67

Mainline Jointing:
 Transverse joints: CD at 20' spacing
 Longitudinal joint: L-2

2P_ 10-19-10	
STATION TO STATION	
112+10.73	113+13.40
114+46.60	115+30.18

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



PLAN VIEW

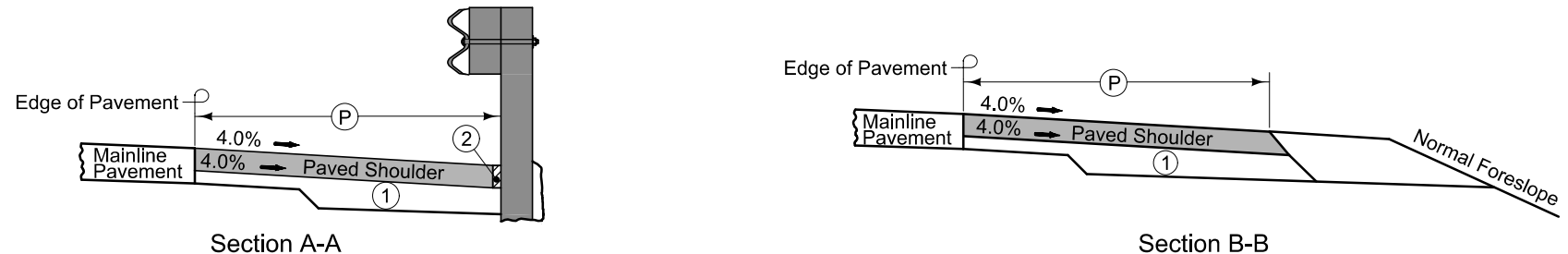
9" HMA Paved Shoulder at guardrail. 8" PCC may be substituted with the following jointing layout:

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.

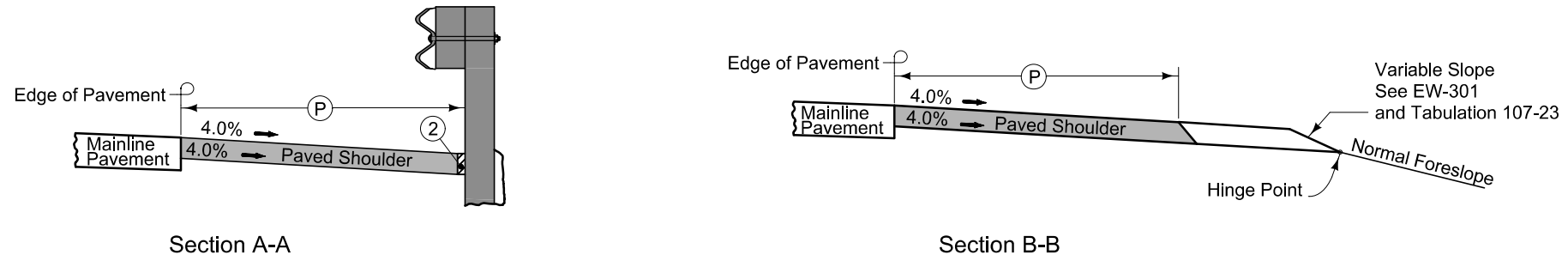
Compaction of HMA is required to face of guardrail post. Hand compaction will be allowed under guardrail. Removal and reinstallation of guardrail will be allowed with no additional payment.

Refer to Tabulation 112-9 for shoulder quantities.

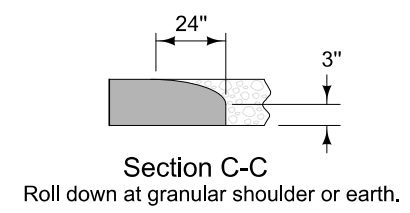
- ① For subgrade treatment, refer to other details in the plan.
- ② PCC option only: When guardrail posts are installed prior to construction of PCC paved shoulder, fasten form board to the face of guardrail posts for the length shown. Refer to note 4 for final 2 posts.
- ③ Continue paved shoulder to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



NEW CONSTRUCTION



EXISTING SHOULDER



PAVED SHOULDER AT GUARDRAIL

100-1D
10-18-05

PROJECT DESCRIPTION

This project involves the replacement of the IA 2 bridge over Lick Creek, 4.3 miles east of IA 81.

100-0A
10-28-97

**ESTIMATED ROADWAY QUANTITIES
(1 DIVISION PROJECT)**

Item No.	Item Code	Item	Unit	Total	As Built Qty.

105-4
10-18-11

STANDARD ROAD PLANS

The following Standard Road Plans apply to construction work on this project.

Number	Date	Title
BA-200	10-18-16	Steel Beam Guardrail Components
BA-201	04-18-17	Steel Beam Guardrail Barrier Transition Section (MASH TL-3)
BA-202	10-20-15	Steel Beam Guardrail Bolted End Anchor
BA-205	04-19-16	Steel Beam Guardrail Tangent End Terminal (MASH TL-3)
BA-250	10-18-16	Steel Beam Guardrail Installation at Concrete Barrier on Bridge End Post (MASH TL-3)
DR-203	10-17-17	Double Reinforced 12" Approach
DR-303	10-17-17	Subdrains (Longitudinal)
DR-305	04-17-18	Subdrain Outlets (standard Subdrain, Pressure Release and Special)
DR-402	04-17-18	Rock Flume for Bridge End Drain
EC-201	10-16-18	Silt Fence
EC-202	10-21-14	Floating Silt Curtain
EC-204	04-18-17	Perimeter and Slope Sediment Control Devices
EC-301	10-18-16	Rock Erosion Control (REC)
EW-101	10-17-17	Embankment and Rebuilding Embankments
EW-102	10-20-15	Allowable Placement of Unsuitable Soil in Embankments
EW-201	04-19-16	Bridge Berm Grading without Recoverable Slope (Barnroof Section)
EW-301	10-20-15	Guardrail Grading
PM-110	10-16-18	Line Types
PM-420	04-19-11	Two-Lane Roadway with no Turn Lanes (One-Way Stop Condition)
PV-101	10-16-18	Joints
SI-173	04-19-16	Object Markers
SI-211	10-18-16	Object Markers and Delineater Placement with Guardrail
TC-1	04-16-13	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-202	04-21-15	Work Within 15 ft of Traveled Way
TC-252	04-19-16	Routes Closed to Traffic

SURVEY SYMBOLS

- BBB Bottom of Bridge Beam
- BD Bridge Deck
- BL Topo Breakline
- BRG Bridge
- C Centerline BL of Road (ML or SR)
- CP Control Point
- DU Centerline Draw or Stream (Up)
- EG Edge of Gravel Road
- EP Edge of Paved Roads (ML or SR)
- FO1D Fiber Optic Co. 1 - Quality D
- FO2D Fiber Optic Co. 2 - Quality D
- W Watermain
- FW Wire Fence
- GDL Guard Rail Steel
- GR Ground Shot
- MIS Miscellaneous
- PIP Pipe Culvert
- ⊕ PPA Power Pole Co. 1
- ⊕ PPA Power Pole Co. 2
- RR Centerline of Railroad Tracks
- SI Sign
- TW Top of Water
- WC Wild Card (Misc. Field Shot)

UTILITY LEGEND

Sub-Surface Utility Mapping Quality Level Is In accordance with CI/ASCE 38-02 Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data.

Remark Abbreviations
 QLA Quality Level A Highest guideline quality level
 QLD Quality Level D Lowest guideline quality level

- F0 --- Centurylink underground Fiber Optic - Quality D
 Steve Parker
 515-265-0968
 507-358-1978
 steven.parker4@centurylink.com
- F02 --- Windstream under ground Fiber Optic - Quality D
 Joy Matthews
 501-748-7654
 WC1.OSP.Permits@windstream.com
- ⊕ Alliant Energy Electric Power Pole
 Heather Dee
 319-786-8196
 rerow@alliantenergy.com
- ⊕ Access Energy Power Pole
 Mark Fulton
 319-385-1577
 319-931-3093
 mfulton@accessenergycoop.com
- W --- Rathbun Water
 Jim Hopp
 319-258-2103
 641-895-2784
 hopprwa@gmail.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.		
Yellow	(4)	Highlight for Critical Notes or Features
Red	(3)	Delineates Restricted Areas
Lavender	(9)	Temporary Pavement Shading
Gray, Light	(48)	Proposed Pavement Shading
Gray, Med	(80)	Proposed Granular Shading
Gray, Dark	(112)	Proposed Grade and Pave Shading "In conjunction with a paving project"
Brown, Light	(236)	Grading Shading
Tan	(8)	Proposed Sidewalk Shading
Blue, Light	(230)	Proposed Sidewalk Landing Shading
Pink	(11)	Proposed Sidewalk Ramp Shading

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

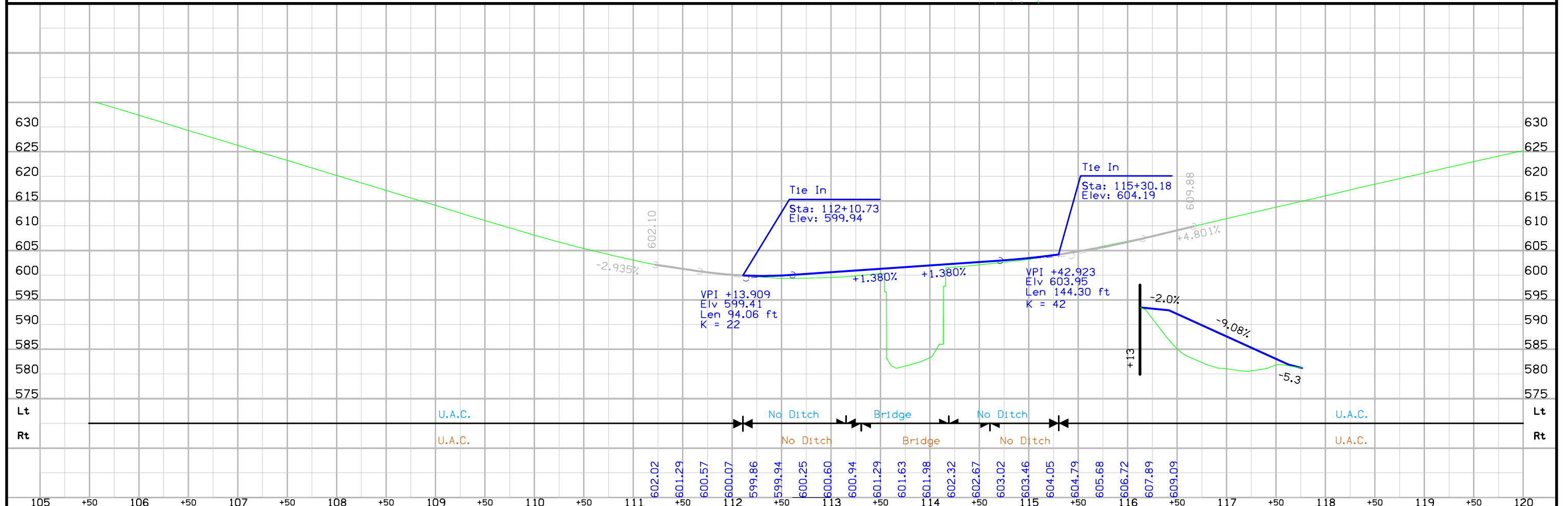
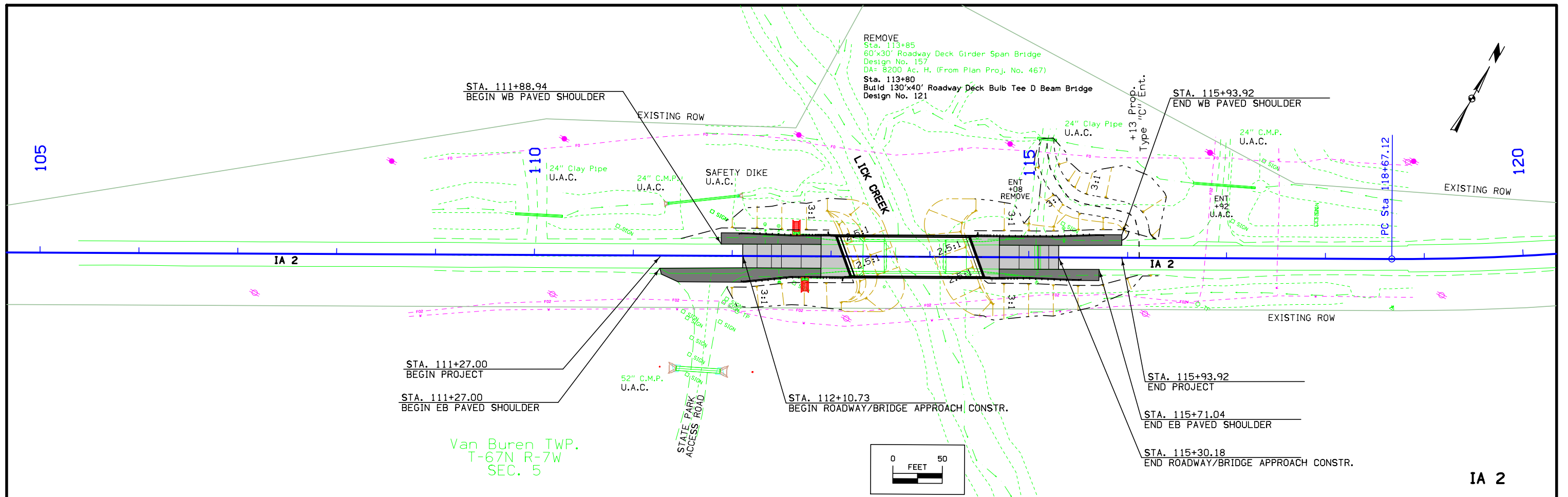
LINEWORK	Design Color No.	
Green	(2)	Existing Ground Line Profile
Blue	(1)	Proposed Profile and Annotation
Magenta	(5)	Existing Utilities
Blue, Light	(230)	Proposed Ditch Grades, Left
Black	(0)	Proposed Ditch Grades, Median
Rust	(14)	Proposed Ditch Grades, Right

- 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, E, F, & K)



Survey Information
SAP 0758.2
County: Lee
PIN: 17-56-002-010
Project Number: BRFN-002-9(34)--39-56
Location: Lick Creek 4.3 mi E of IA 81
Type of Work: Bridge Replacement
Project Directory: 5600201017

General Information

Measurement units for this survey are US survey feet. This survey is for proposed replacement of the IA 2 bridge over Lick Creek 4.3 mi east of IA 81. Project datum and control information is provided by Design Survey Office. This project is a Full DTM survey.

Vertical Control

Vertical datum for this survey is NAVD88 (Computed using Geoid12A). Benchmarks were placed throughout the project using post processed static observations relative to laRTN Base Network. A minimum of 6hrs of data was simultaneously collected on each of these primary control points.

NGS Bench Mark Disk No. A 122 was checked for vertical tolerance. The vertical difference is less than 0.1 ft.

Horizontal Control

The project coordinate system for this survey is laRCS Zone 14 (U.S. Survey Feet). This survey control is relative to laRTN reference stations. laRTN Reference Station coordinates are relative to the National Reference Station network datum: NAD83 (2011) for Epoch 2010.00. Lee County Control Pt. 003 was checked for horizontal tolerance. The horizontal difference is about 0.1 ft.

Alignment Information

The horizontal alignment for this survey is a retrace of As-built Plans No. 467. Survey stationing was equated to the plan PI at STA 123+91.4 and ran back and ahead without equation throughout the survey.

Survey stationing relates to as built plan stationing as follows:

Survey POT STA 96+54.50 "Best Fit"

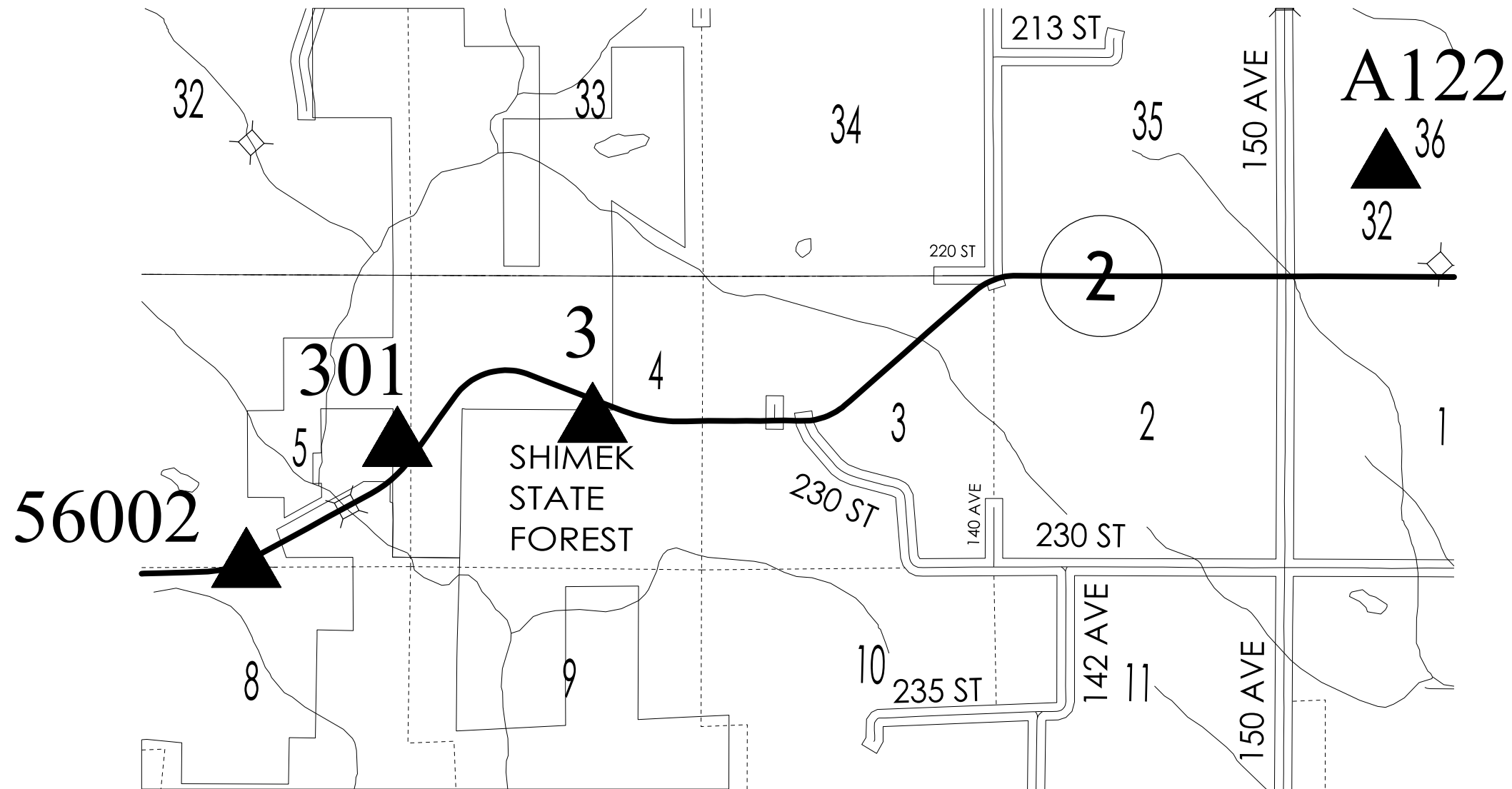
PC STA 118+58.08 As-built Plans Project No. 467
Survey PC STA 118+58.06

PI STA 123+91.4 As-built Plans Project No. 467
Survey PI STA 123+91.4

PT STA 129+06.02 As-built Plans Project No. 467
Survey PT STA 129+06.03

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) EPOCH 2010.00

VERT. DATUM: NAVD88

1a. Regional Coordinate System Zone 14

Coordinate listing from next sheet will be used with 1aRTN for monument recovery. No other reference ties are given.

HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING

HORIZ. DATUM: NAD83(2011) EPOCH 2010.00

VERT. DATUM: NAVD88

Ia. Regional Coordinate System Zone 14

Point Name	Northing	Easting	Elevation	Feature Code - Description
3	6339385.5	24384839.17	712.42	BM LEE CO MONUMENT NO 3 5/8IN ALUM ROD WITH 2 1/2IN ALUM CAP WITH 5IN ALUM ACCESS COVER
A122	6343247.22	24397387.09	707.04	BM NGS NO A 122 MONUMENT DISC SET IN TOP OF CONCRETE MONUMENT STAMPED A 122 1935
56002	6336668.1	24377699.18	694.33	BM IDOT ROD AND CAP STAMPED 56002 2174FT W OF CL BRG AND 43FT SOUTH OF CL HWY2
301	6338733.48	24380771.94	669.29	BM CONCRETE MONUMENT REF POINT 60.20FT NE OF PT STA 129+06.08 CL HWY2

ALIGNMENT COORDINATES

101-16
10-20-09

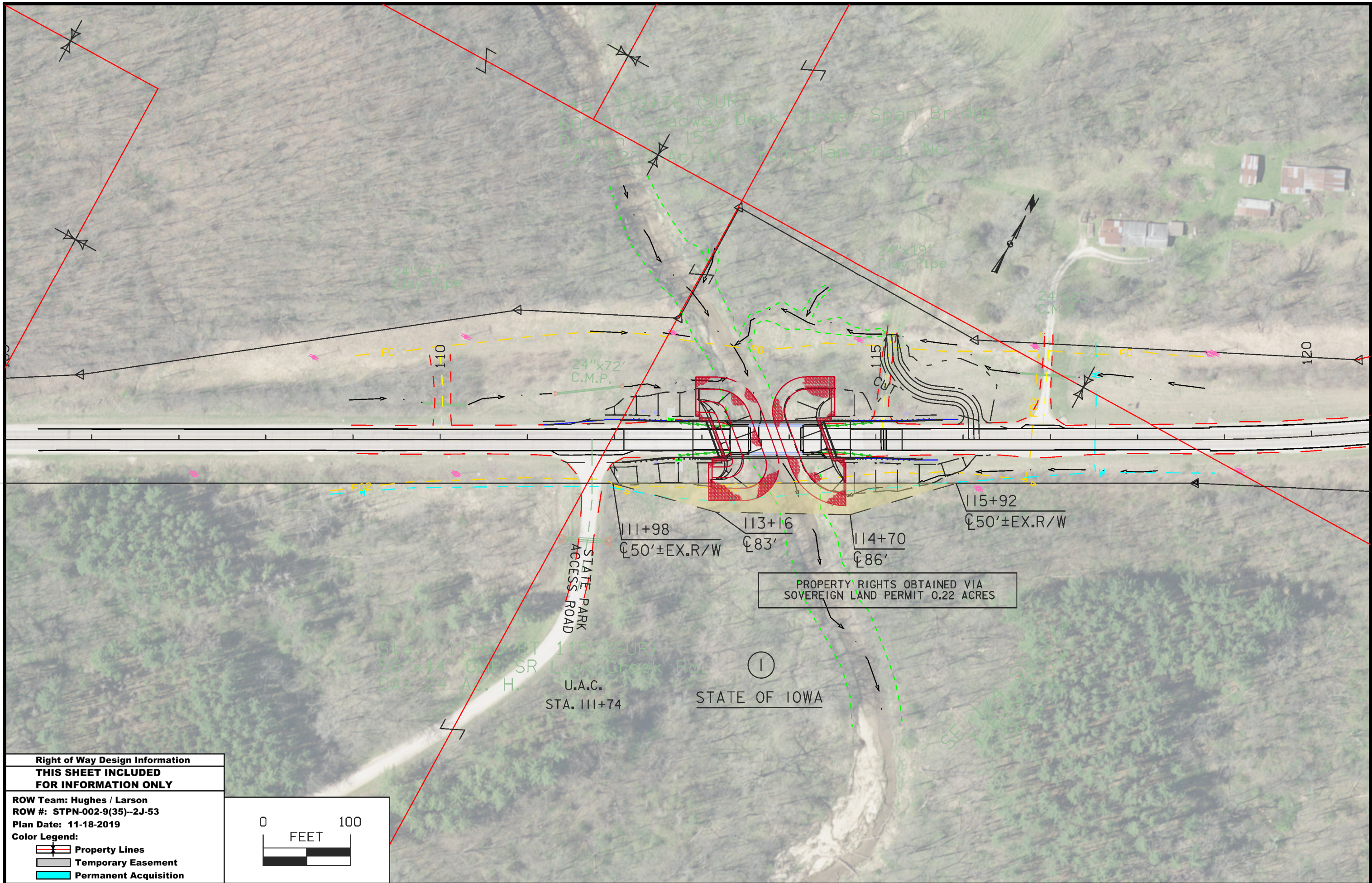
Name	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates	
			Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)
ML002		96+63.56	6,336,924.85	24,378,078.51															
ML_002.3		142+33.41	6,339,753.54	24,381,543.88				118+67.12	6,337,982.29	24,380,011.76	124+00.46	6,338,238.23	24,380,479.68	129+15.09	6,338,674.69	24,380,786.21			

SPIRAL OR CIRCULAR CURVE DATA

101-17
04-19-11

Name	Location	Δ_{scs}	Horizontal Alignment Data													Remarks							
			Spiral Data							Curve Data													
			θ_s	Ls	Ts	Es	Xc	Yc	L.T.	S.T.	Δ_c	T	L	R	E								
ML_002.3																		26° 14' 31.11" LT	533.34'	1,047.97'	2,288.10'	61.34'	

NO ACCESS RIGHTS ARE TO BE ACQUIRED ON THIS PROJECT.



Sta. 113+76 (SUR)
 50'x40' Roadway Deck Girder Span Bridge
 Design No. 157
 DA= 8201 Ac. H. (Front Plan Proj. No. 467)

24"x47'
Clay Pipe

24"x19'
Clay Pipe

24"x44'
C.M.P.

24"x72'
C.M.P.

STATE PARK
ACCESS ROAD

PROPERTY RIGHTS OBTAINED VIA
SOVEREIGN LAND PERMIT 0.22 ACRES

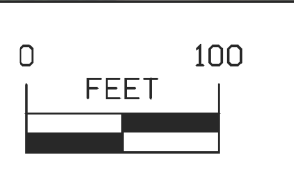
Sta. 111+60 RT 115' (SUR)
 56"x44' C.M.P. SR Lick Creek Rd.
 DA= 24 A. H. U.A.C.
 STA. 111+74

STATE OF IOWA

Right of Way Design Information
THIS SHEET INCLUDED
FOR INFORMATION ONLY

ROW Team: Hughes / Larson
 ROW #: STPN-002-9(35)--2J-53
 Plan Date: 11-18-2019

Color Legend:
 [Red dashed line] Property Lines
 [Grey dashed line] Temporary Easement
 [Cyan dashed line] Permanent Acquisition



108-23A
08-01-08

TRAFFIC CONTROL PLAN

- 1) While bridge and approaches are being removed and replaced, traffic shall be maintained via an off-site detour. Detours are to be furnished, maintained and removed by the Contractor. IA 2 and local through traffic shall be detoured using detour map on sheet J.2.
- 2) Access to adjacent properties and State Park shall be maintained at all times.
- 3) Contractor will furnish, install, maintain, and remove detour signs. All existing signs that conflict with detour shall be covered. These functions shall be included in the Traffic Control Bid Item.

108-25
10-21-14

511 TRAVEL RESTRICTIONS

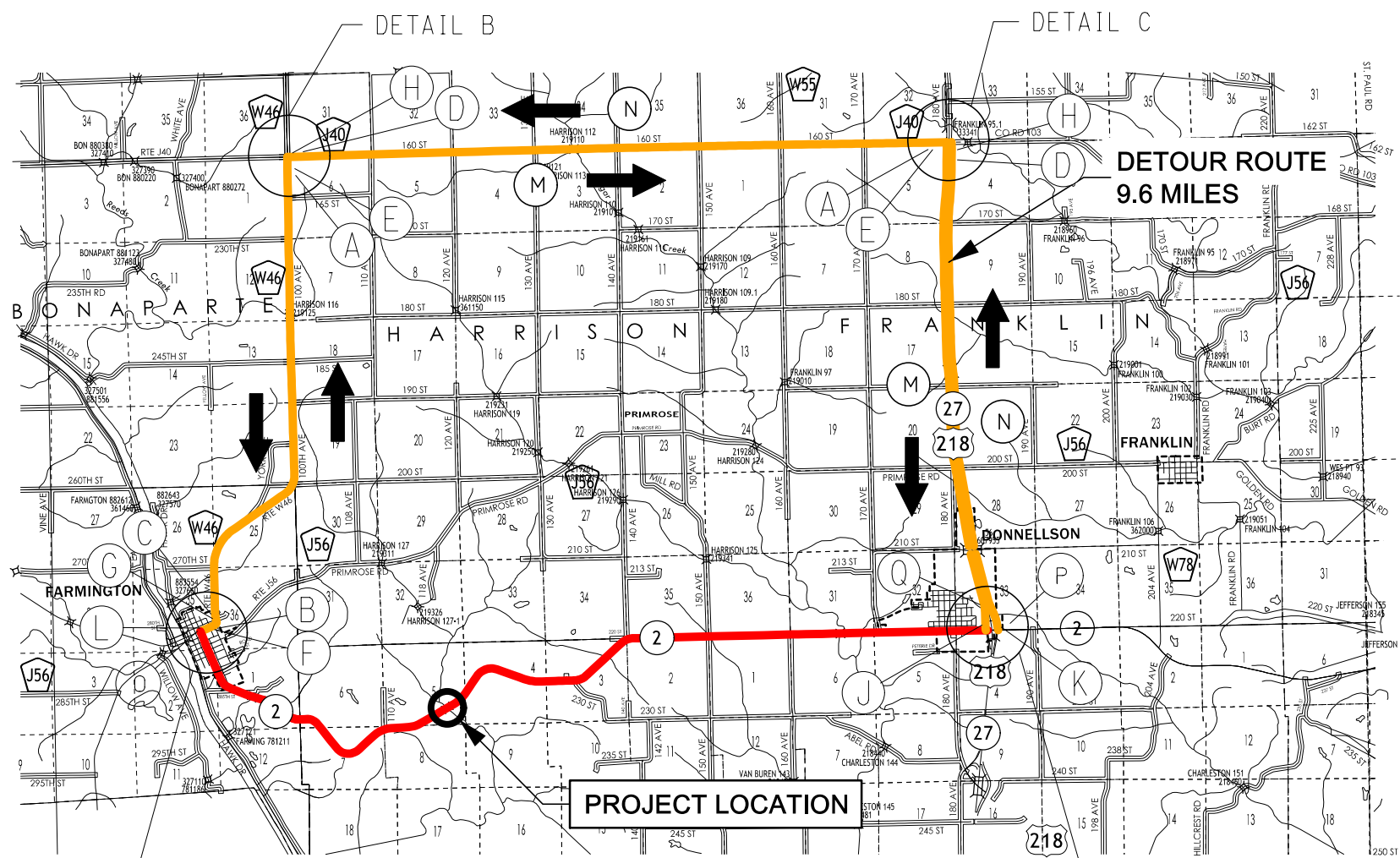
Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
			No Travel Restrictions Expected									

111-01
04-17-12

COORDINATED OPERATIONS

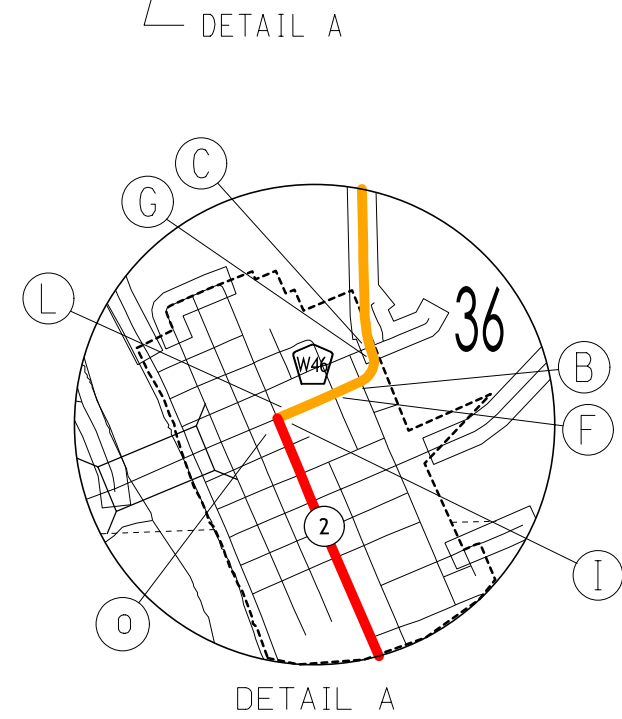
Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.

Project	Type of Work
None Provided	

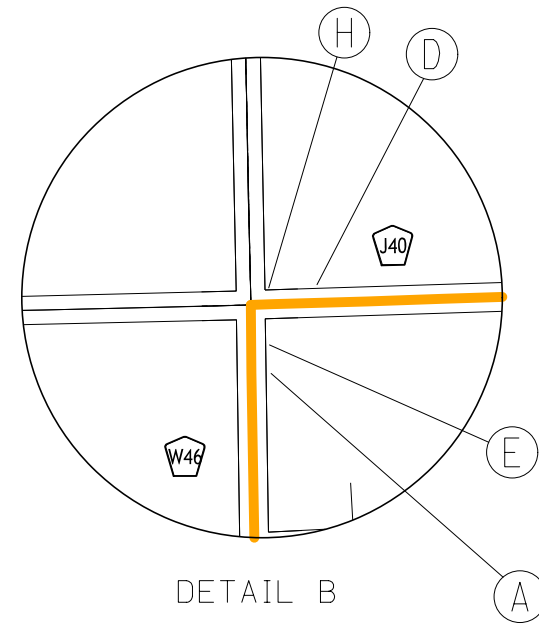


**DETOUR ROUTE
9.6 MILES**

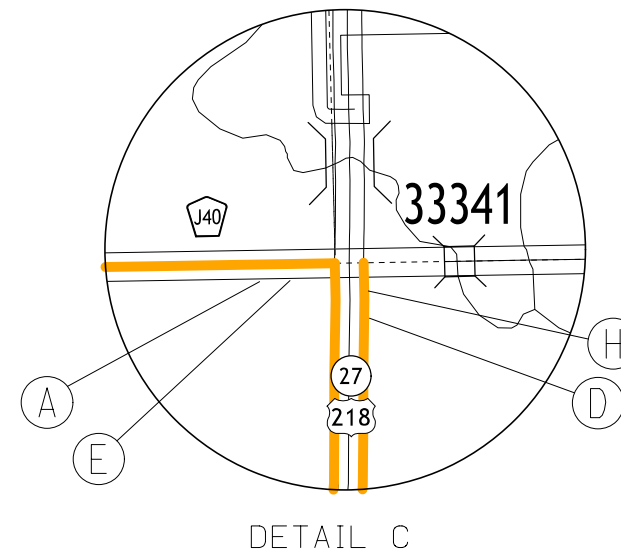
PROJECT LOCATION



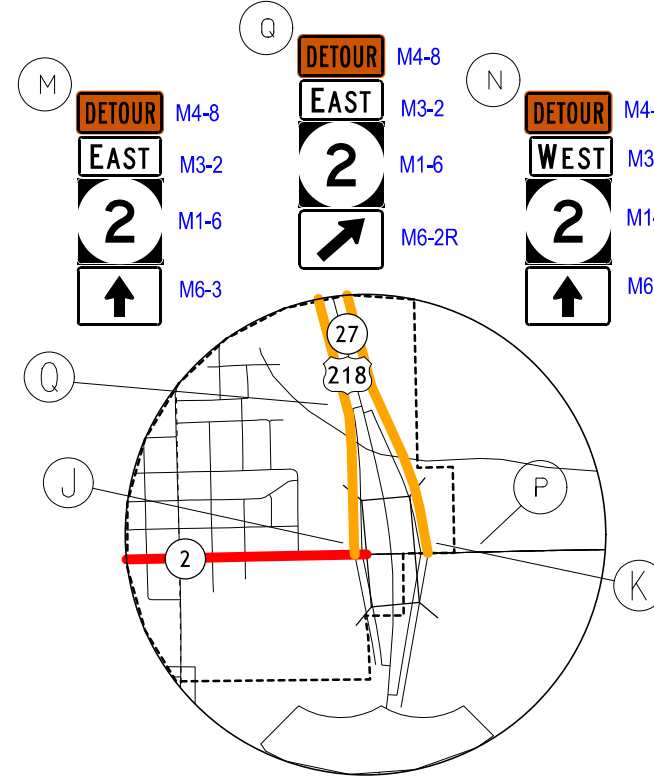
DETAIL A



DETAIL B



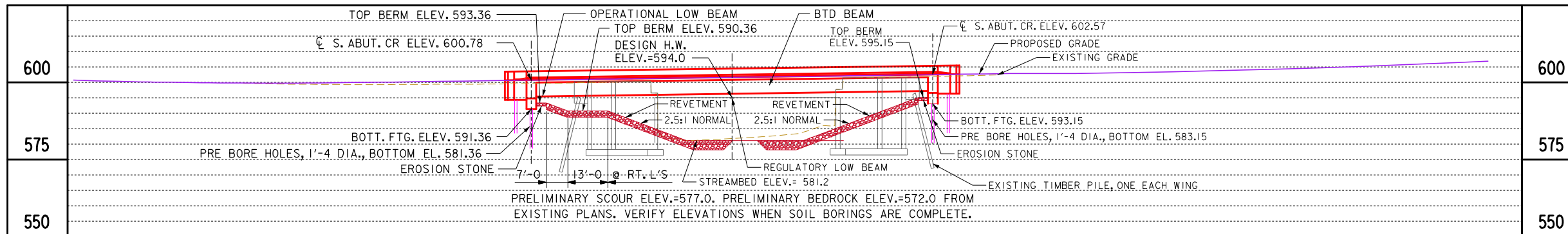
DETAIL C



DETAIL D

- A **DETOUR** M4-8
EAST M3-2
2 M1-6
↗ M5-1R
- B **DETOUR** M4-8
EAST M3-2
2 M1-6
↖ M5-1L
- C **DETOUR** M4-8
WEST M3-4
2 M1-6
↗ M5-1R
- D **DETOUR** M4-8
WEST M3-4
2 M1-6
↖ M5-1L
- E **DETOUR** M4-8
EAST M3-2
2 M1-6
→ M6-1R
- F **DETOUR** M4-8
EAST M3-2
2 M1-6
← M6-1L
- G **DETOUR** M4-8
WEST M3-4
2 M1-6
→ M6-1R
- H **DETOUR** M4-8
WEST M3-4
2 M1-6
← M6-1L
- I **DETOUR** M4-8
EAST M3-2
2 M1-6
BEGIN M4-14
- J **DETOUR** M4-8
EAST M3-2
2 M1-6
END M4-6
- K **DETOUR** M4-8
WEST M3-4
2 M1-6
BEGIN M4-14
- L **DETOUR** M4-8
WEST M3-4
2 M1-6
END M4-6
- M **DETOUR** M4-8
EAST M3-2
2 M1-6
↑ M6-3
- N **DETOUR** M4-8
WEST M3-4
2 M1-6
↑ M6-3
- O **ROAD CLOSED** ## MILES AHEAD R11-3A
LOCAL TRAFFIC ONLY
4 MILES AHEAD
- P **ROAD CLOSED** ## MILES AHEAD R11-3A
LOCAL TRAFFIC ONLY
7 MILES AHEAD

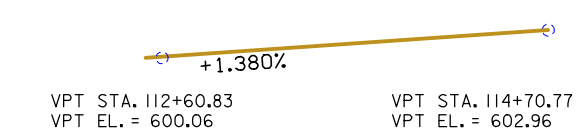
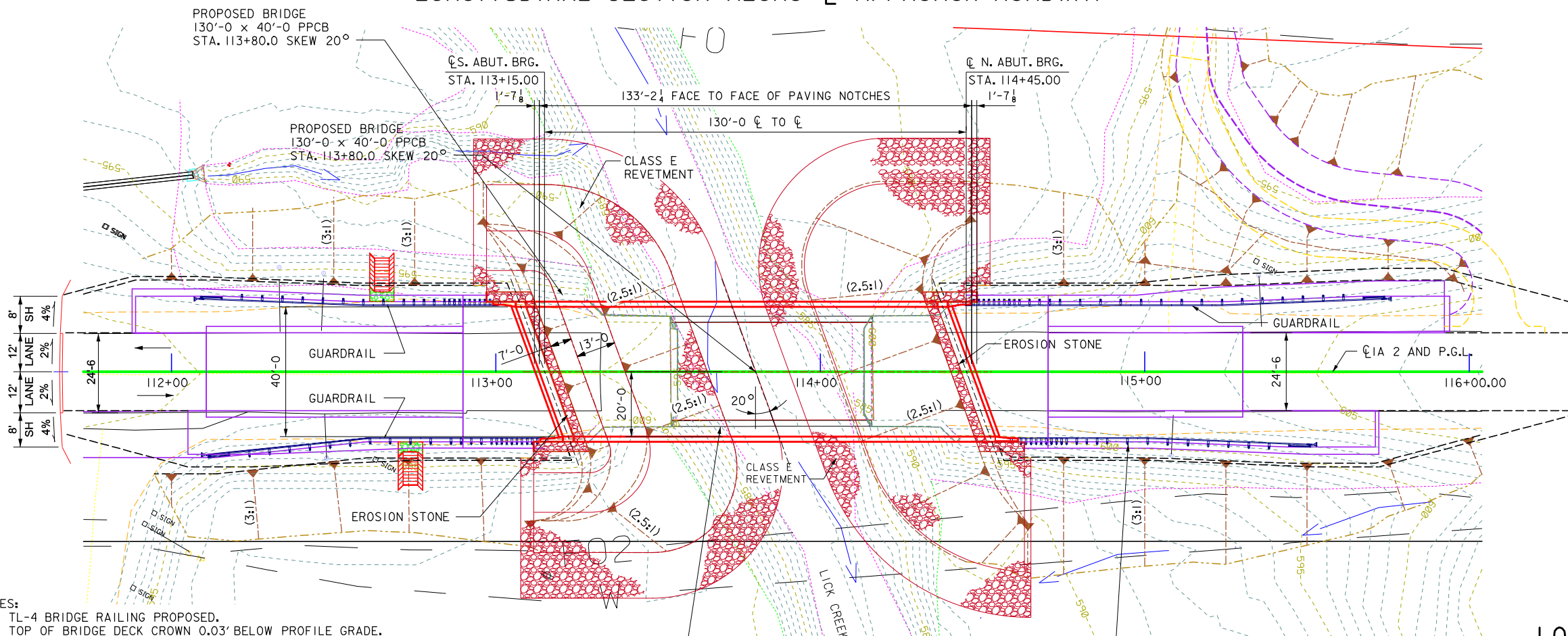
BENCH MARK NO. CP NS03 SET 3/4 IN. REBAR STA. 113+53.97, 30.53 RT. ELEV.= 592.144



HYDRAULIC DATA

DRAINAGE AREA = 11.5 SQ.MI.
 STREAM SLOPE = 19.7 FT./MI.
 AVG. LOW WATER STAGE = 662.8
 Q₅₀ = 4470 CFS
 STAGE = 594.0 FT.
 REGULATORY LOW BEAM = 596.01
 BACKWATER = 0.70 FT.
 AVG. BRIDGE VELOCITY = 6.8 FPS
 Q₁₀₀ = 5520 CFS
 STAGE = 595.0 FT.
 OPERATIONAL LOW BEAM = 595.11
 BACKWATER = 1.0 FT.
 AVG. BRIDGE VELOCITY = 7.7 FPS
 Q₅₀₀ = 6505 CFS
 STAGE = 595.9 FT.
 CALCULATED DESIGN SCOUR = 577.0
 Q₅₀₀ = 7720 CFS
 STAGE = 596.6 FT.
 CALCULATED CHECK SCOUR = 577.5
 ROADWAY OVERTOP = 599.85
 STA. 112+66.88

LONGITUDINAL SECTION ALONG CL APPROACH ROADWAY



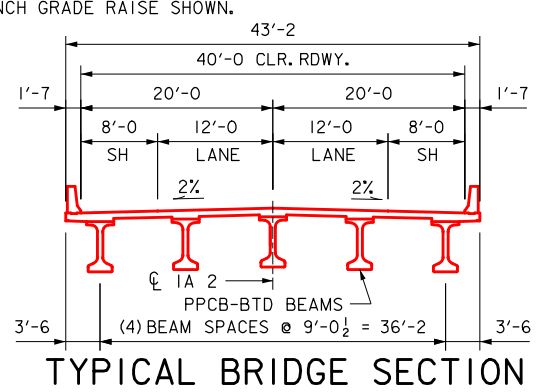
PROPOSED PROFILE GRADE IA 2

NOTE: ROW BASED ON IDOT SHP FILES
UTILITIES LEGEND:
 - ELEC. - ALLIANT ENERGY
 - ELEC. - ACCESS ENERGY
 W - WAT. - RATHBUN WATER
 FO - FIBER OPTIC - CENTURYLINK
 FO2 - FIBER OPTIC - WINDSTREAM

TYPICAL APPROACH SECTION

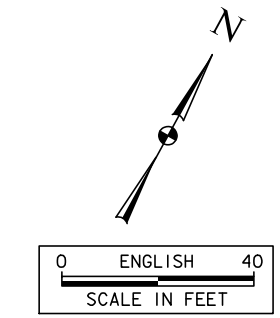
- NOTES:
 1. TL-4 BRIDGE RAILING PROPOSED.
 2. TOP OF BRIDGE DECK CROWN 0.03' BELOW PROFILE GRADE.
 3. CLASS E REVELTMENT STONE IS EMBEDDED.
 4. BEAM TYPE - BTD.
 5. AS THIS PROJECT REQUIRES A SOVEREIGN LANDS PERMIT, BID ITEM REFERENCE NOTES SHALL RESTRICT BROKEN CONCRETE AS A SUBSTITUTE FOR REVELTMENT.
 6. AN IOWA DNR SOVEREIGN LANDS PERMIT IS REQUIRED.
 7. 8 INCH GRADE RAISE SHOWN.

EXISTING BRIDGE 63'-0" x 30'-0"
 DECK GIRDER SPAN DESIGN NO 157
 TO BE REMOVED, STA. 113+85



TYPICAL BRIDGE SECTION

SITUATION PLAN



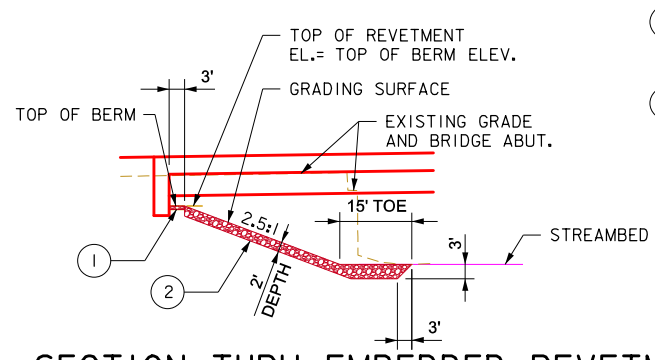
LOCATION	TRAFFIC ESTIMATE		
IA 2 OVER LICK CREEK	2021 AADT	1500	V.P.D.
T-67N R-7W	2041 AADT	1800	V.P.D.
SECTION 5	2041 DHV	180	V.P.H.
VAN BUREN TOWNSHIP	TRUCKS	11	%
LEE COUNTY	TOTAL		
FHWA NO. 33241	DESIGN ESALS		
BRIDGE MAINT. NO. 5641.7S002			
LATITUDE 40.627297°			
LONGITUDE -91.683772°			

HYDRAULIC DESIGN

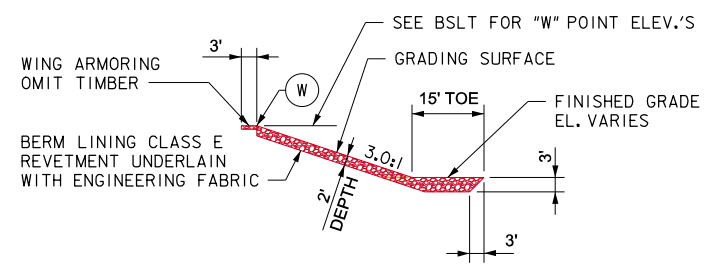
I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Philip M. Harpole 08-23-19
 Signature Date
 Philip M. Harpole
 Printed or Typed Name
 My license renewal date is December 31, 2019.
 Pages or sheets covered by this seal: V.1, V.2

DESIGN FOR 20° SKEW (R.A.)
**130'-0" X 40'-0" PRETENSIONED
 PRESTRESSED CONCRETE BEAM BRIDGE**
 130'-0" SINGLE SPAN
SITUATION PLAN
 STATION 113+80.00 (IA 2) AUGUST, 2019
LEE COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. 1 OF 2 FILE NO. 31717 DESIGN NO. 121



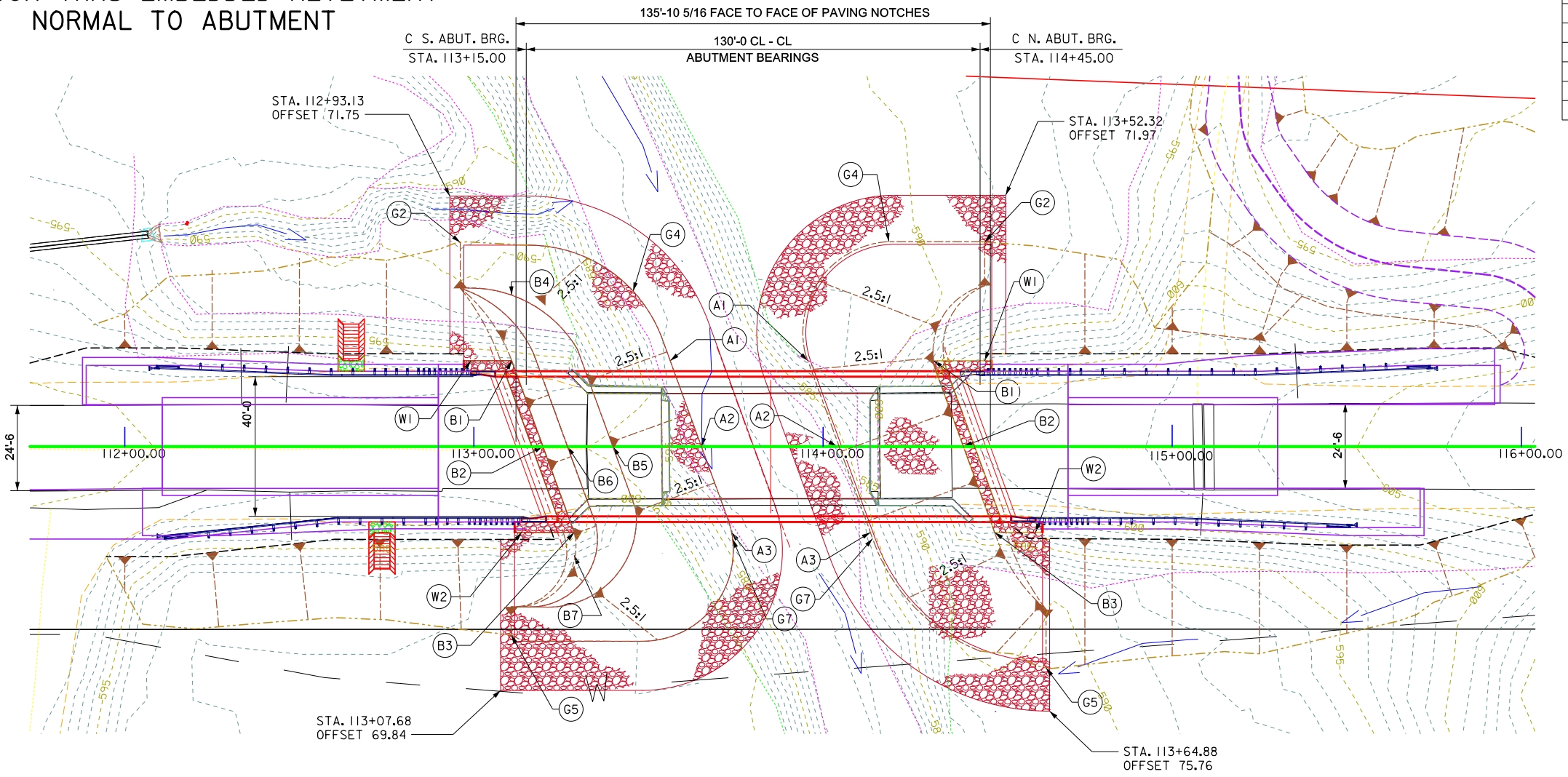
- (1) BERM PROTECTION EROSION STONE (0-9 THICK, MIN.) UNDERLAIN W/ ENGR. FABRIC
- (2) BERM PROTECTION CLASS E REVET. (2' THICK, MIN.) UNDERLAIN W/ ENGR. FABRIC



SECTION THRU EMBEDDED REVETMENT
NORMAL TO BRIDGE WING AT W POINT

BERM SLOPE LOCATION TABLE						
SOUTH ABUTMENT			NORTH ABUTMENT			
	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
A1	113+56.21	24.58 LT	581.20	113+95.66	24.58 LT	581.20
A2	113+65.16	0	581.20	114+04.00	0	581.20
A3	113+58.94	24.58 RT	581.20	114+13.56	24.58 RT	581.20
B1	113+10.84	24.58 LT	593.36	114+31.69	24.58 LT	595.15
B2	113+19.79	0	593.36	114+40.21	0	595.15
B3	113+73.79	24.58 RT	593.36	114+49.16	24.58 RT	595.15
B4	113+10.84	43.39 LT	590.36	-	-	-
B5	113+39.80	0	590.36	-	-	-
B6	113+26.80	0	590.36	-	-	-
B7	113+28.72	31.19 RT	590.36	-	-	-
G2	112+96.12	58.48 LT	588.81	114+46.31	58.61 LT	590.92
G4	113+45.59	44.52 LT	581.20	114+18.84	58.71 LT	589.67
G5	113+10.68	53.97 RT	590.50	114+63.87	63.39 RT	589.51
G7	113+74.09	26.49 RT	581.20	114+14.21	26.39 RT	581.20
W1	112+99.12	24.58 LT	599.66	114+46.31	24.58 LT	601.69
W2	113+13.68	24.58 RT	599.86	114+60.88	24.58 RT	601.89

W - END WING / EROSION STONE
BERM SLOPE TABLE ELEVATIONS REFLECT GRADING SURFACE
GRADING CONTROL - SOUTH AND NORTH:
POINTS A1, A2, AND A3 ARE BERM GRADING CONTROL LINE
NOTE: BANK GRADING CONTROL LINE LOCATED AT BASE OF 2.5:1 SLOPE



ESTIMATED BERM ARMORING QUANTITIES				
LOCATION	REVTMENT CL. E (TON)	EROSION STONE (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
BERM LINING - SOUTH ABUTMENT	1114	10	1070	703
BERM LINING - NORTH ABUTMENT	990	10	954	625
TOTALS	2104	20	2024	1328

EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE.

SITE PLAN

DESIGN FOR 20° SKEW (R.A.)
**130'-0 X 40'-0 PRETENSIONED
 PRESTRESSED CONCRETE BEAM BRIDGE**
 130'-0" SINGLE SPAN
SITUATION PLAN - SITE PLAN
 STATION 113+80.00
LEE COUNTY
 AUGUST, 2019
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. 2 OF 2 FILE NO. 31717 DESIGN NO. 121

LINE STYLE LEGEND OF CROSS SECTION SHEETS (ROAD)

- - - - - - Existing Ground Line
- Proposed Template
- Proposed Topsoil Placement
- - - - - Additional Topsoil Removal
- Subgrade Treatment
- - - - - Granular Shoulder
- Pavement
- - - - - Existing Pipe\RCB
- Proposed Pipe\RCB
- Proposed Dike
- All Elements Associated with Proposed Entrances

LINE STYLE LEGEND OF CROSS SECTION SHEETS (SOILS)

- TS————— Topsoil (Class 10)
- SLOPE DRESSING — Slope Dressing Only
- CL 10————— Class 10 Materials
- SEL L0————— Select Loams And Clay-Loams
- SEL SA————— Select Sand
- UNS A————— Unsuitable Type A Disposal
- UNS B————— Unsuitable Type B Disposal
- UNS C————— Unsuitable Type C Disposal
- SHALE————— Shale
- WASTE————— Waste
- B&W LS————— Broken and Weathered Rock
- ROCK————— Solid Rock
- Boulders

Note: All layer lines and descriptions identify layers above the line.

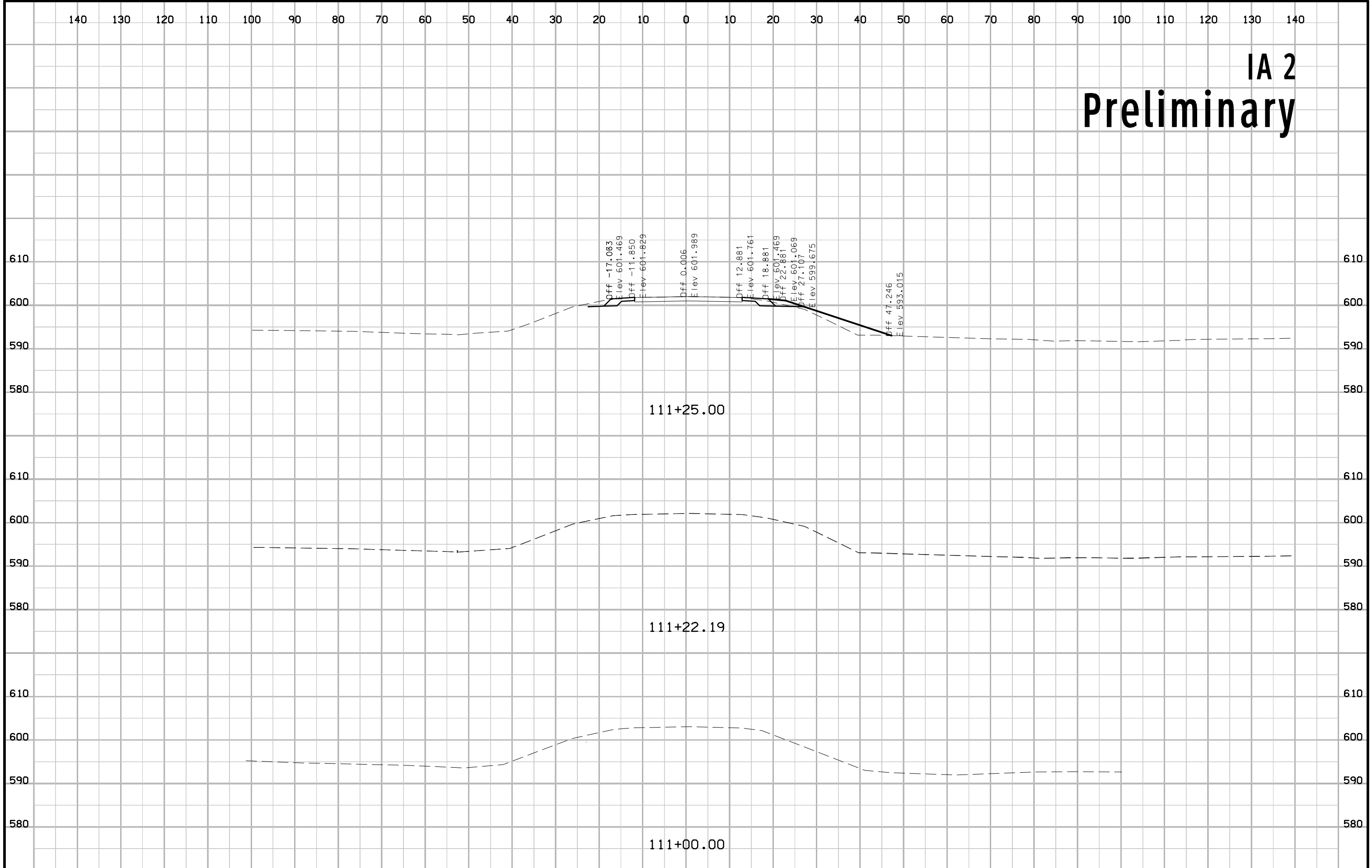
Note: Vertical or near vertical lines connecting soil layers at edges of cross sections are only for the purpose of calculating template quantities and do not depict soil stratification.

SYMBOL LEGEND OF CROSS SECTION SHEETS

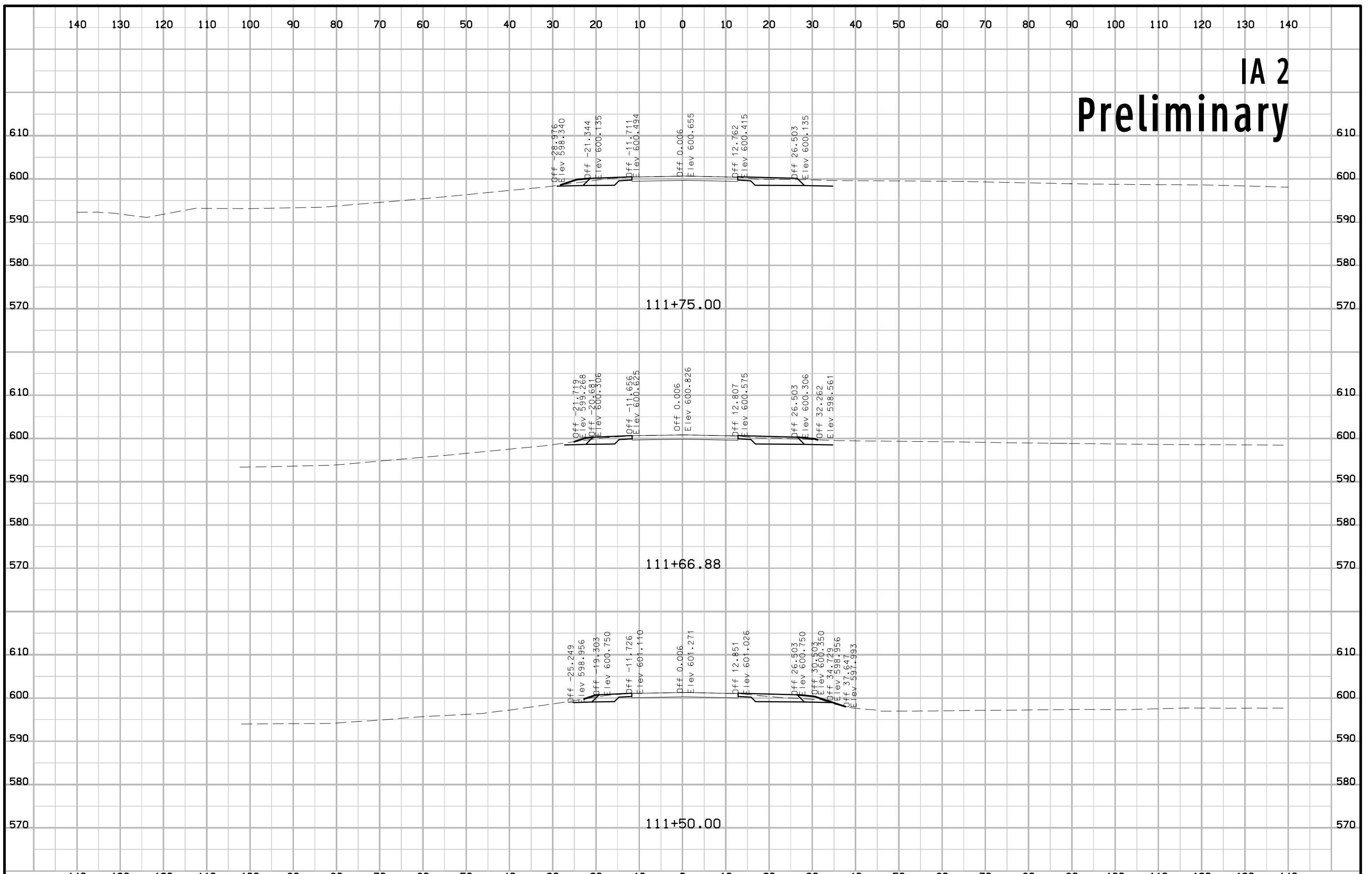
- Existing ROW
|
Existing Right-of-Way Limit
- Proposed ROW
|
Proposed Right-of-Way Limit
- Temporary ROW
|
Temporary Right-of-Way Limit

**CROSS SECTION
LEGEND AND SYMBOL
INFORMATION SHEET
(COVERS SHEET SERIES W, X, Y, & Z)**

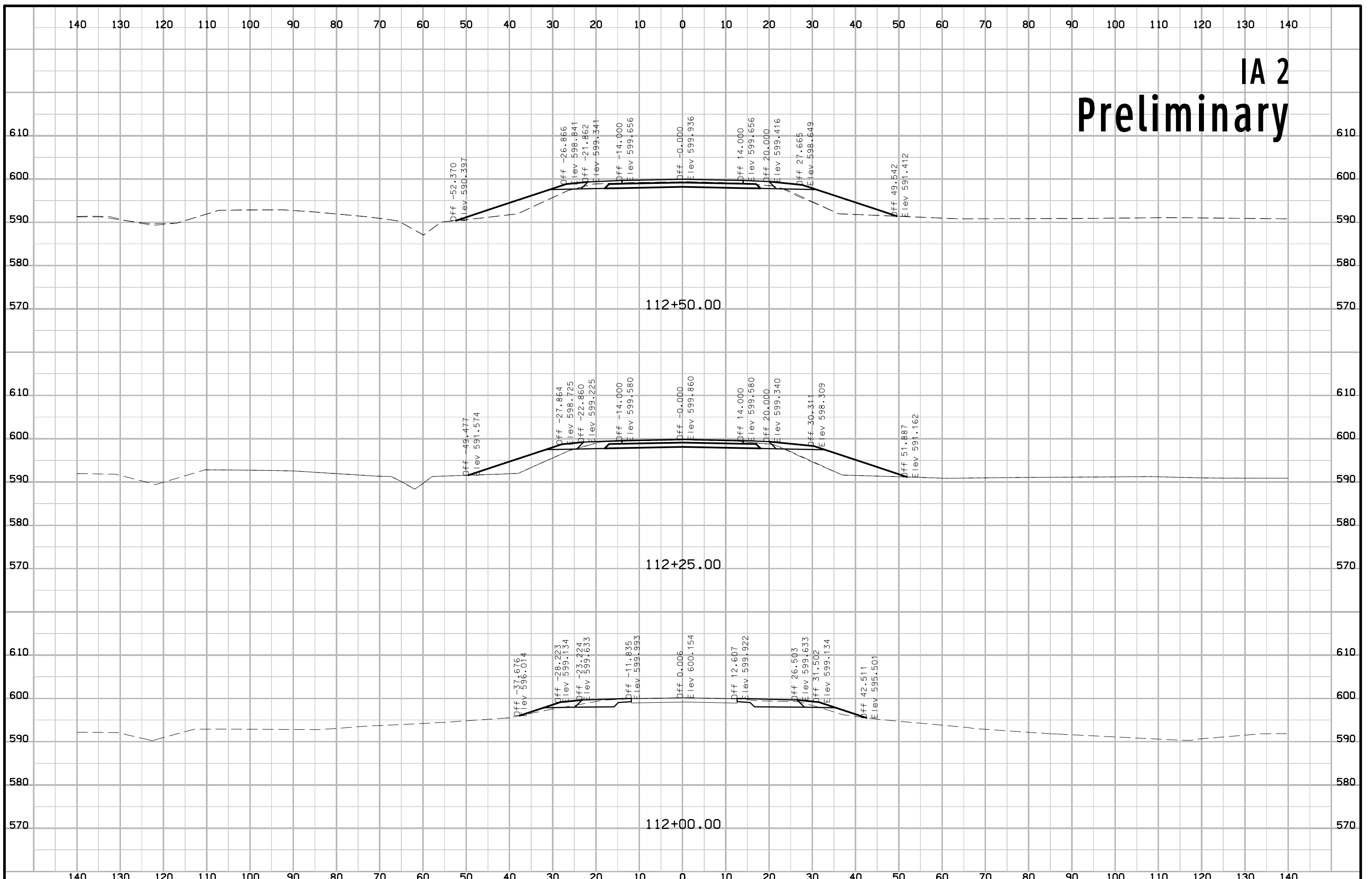
IA 2 Preliminary



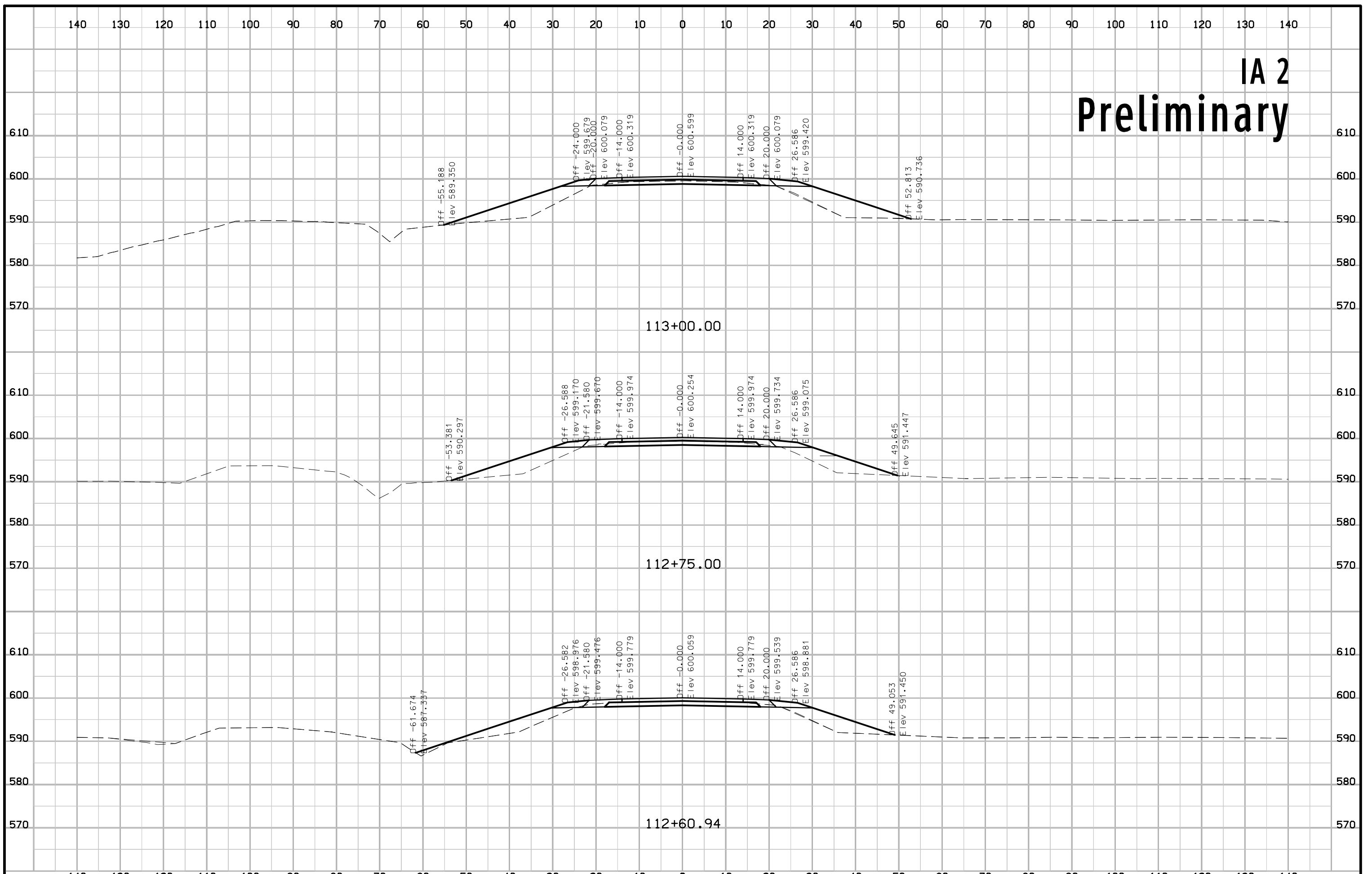
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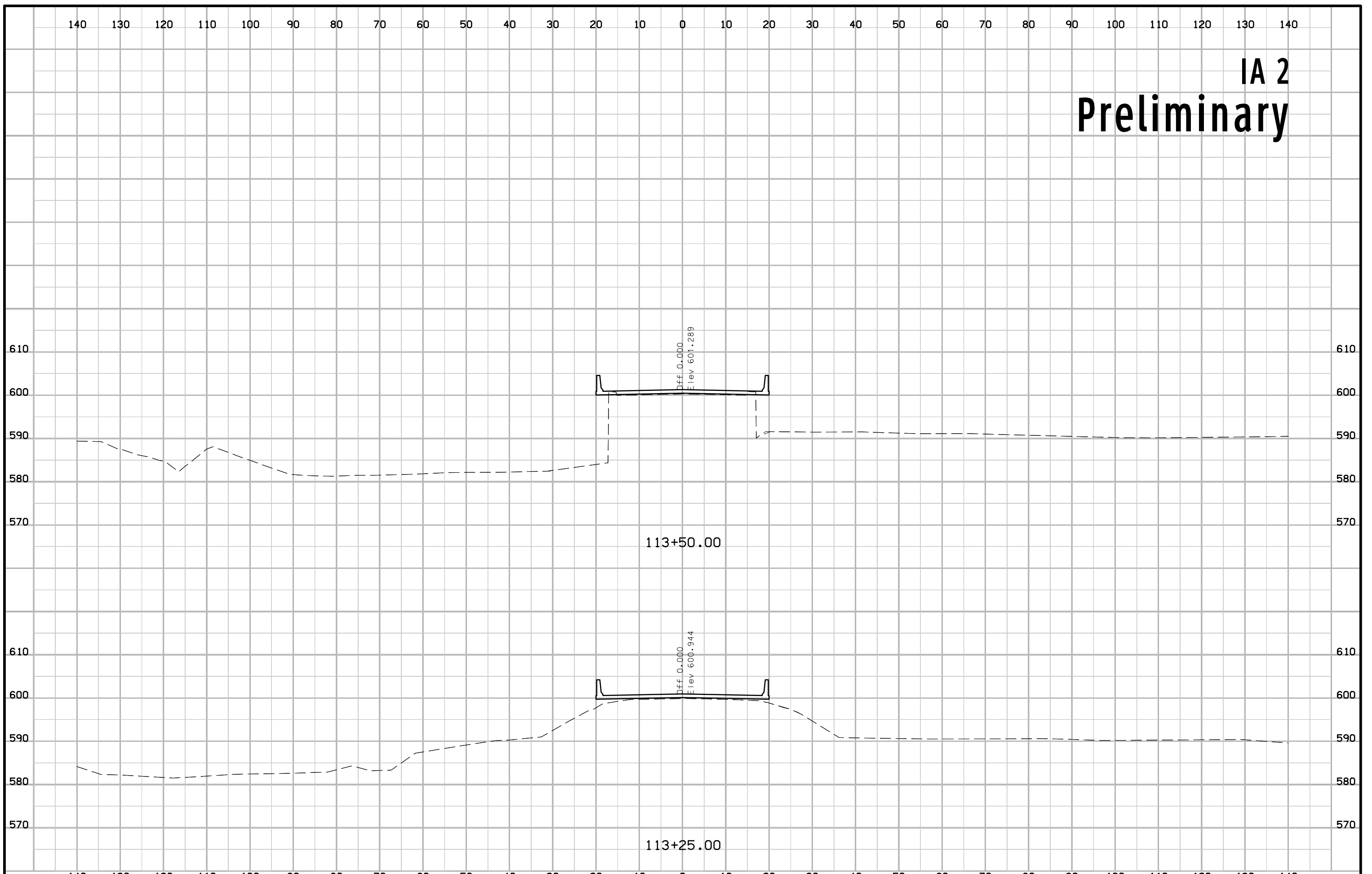
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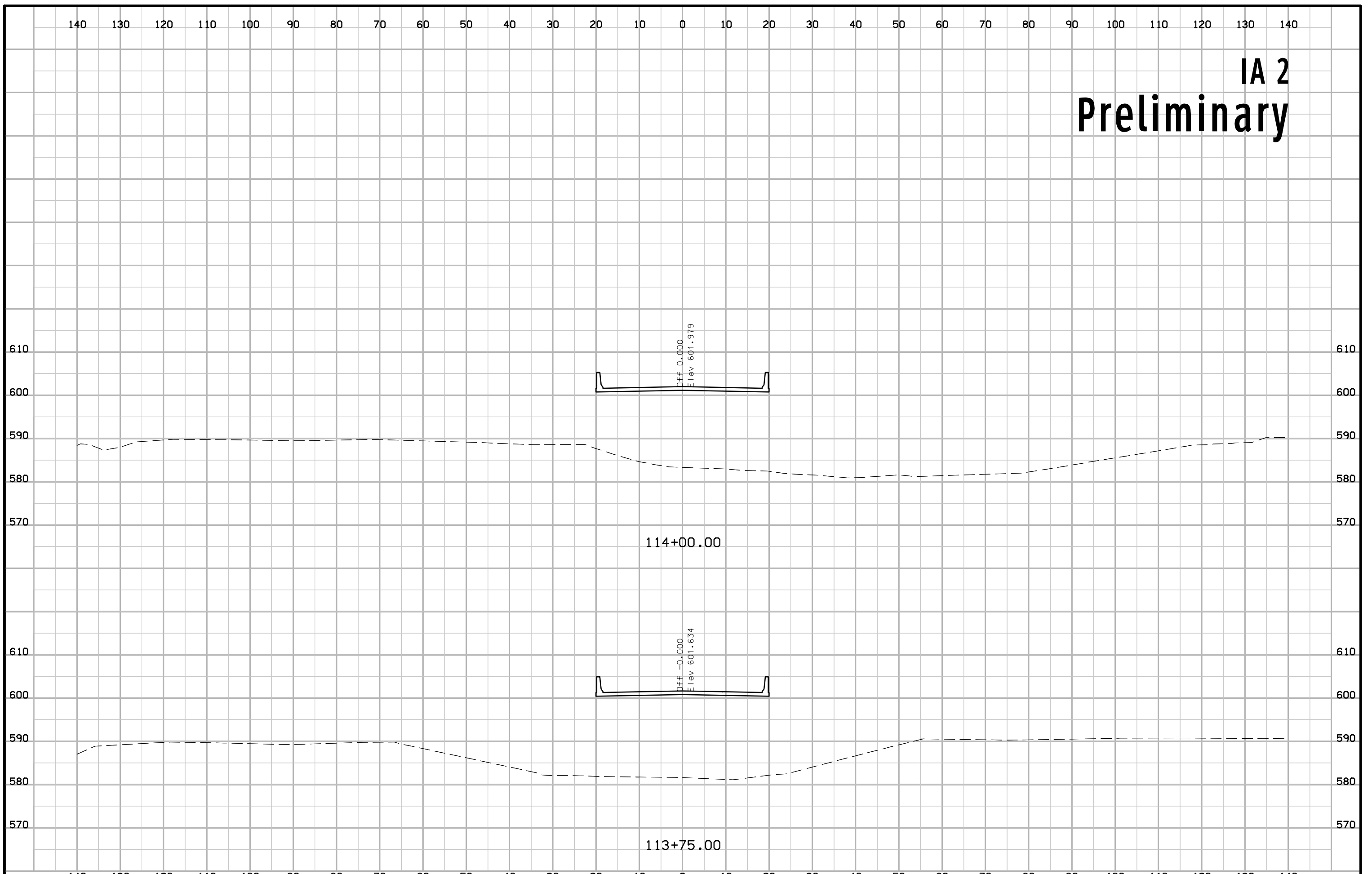
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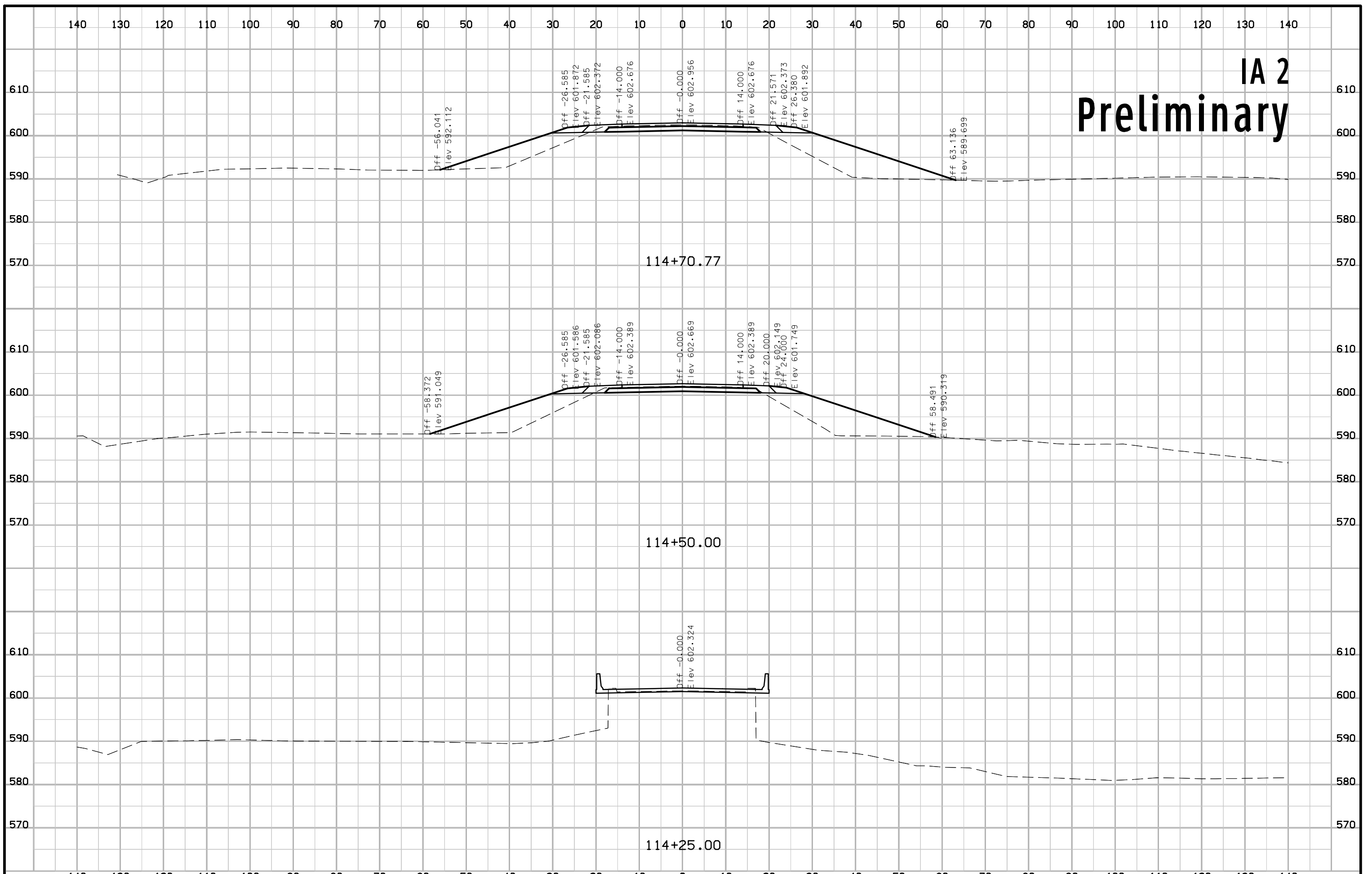
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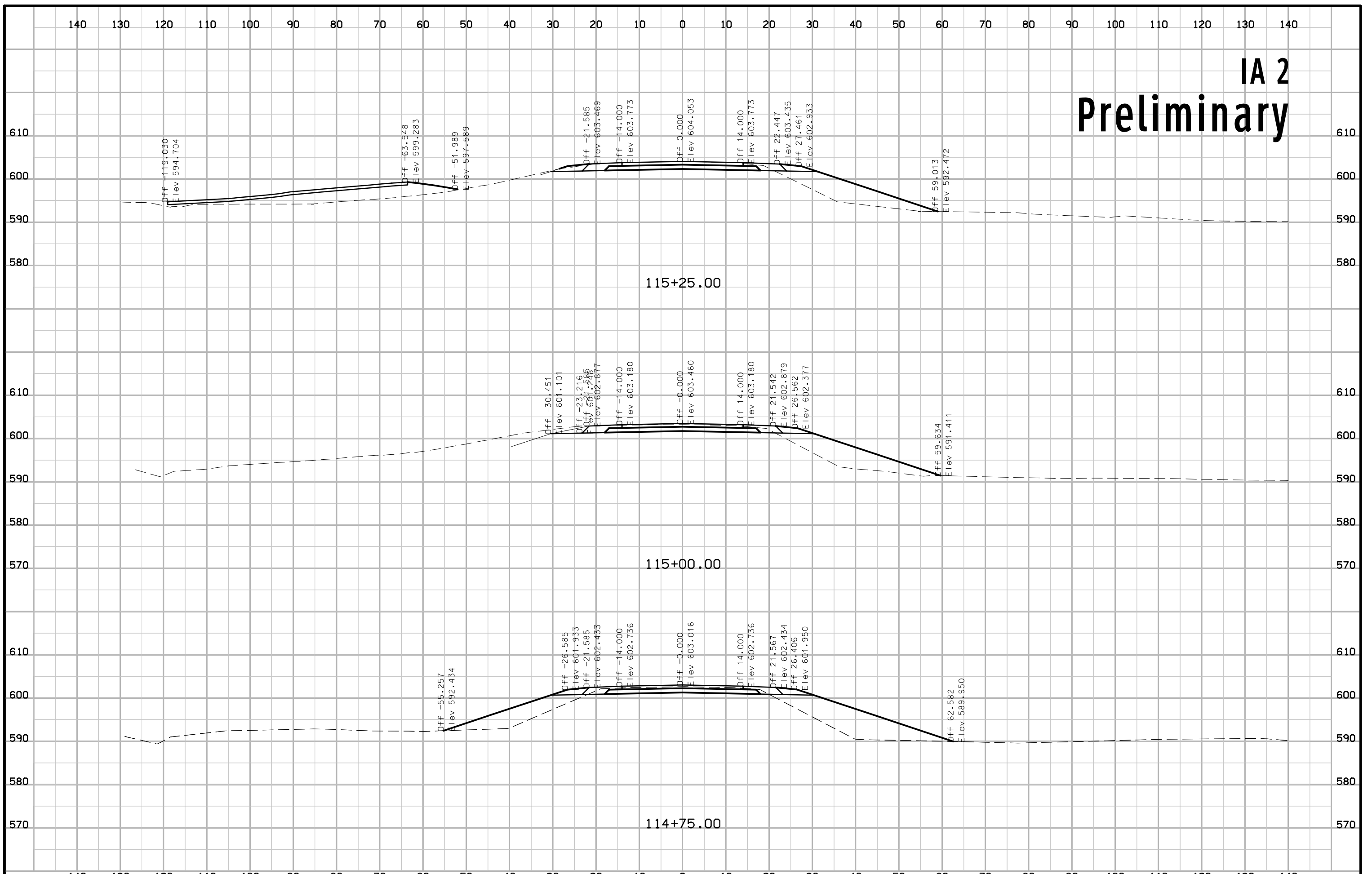
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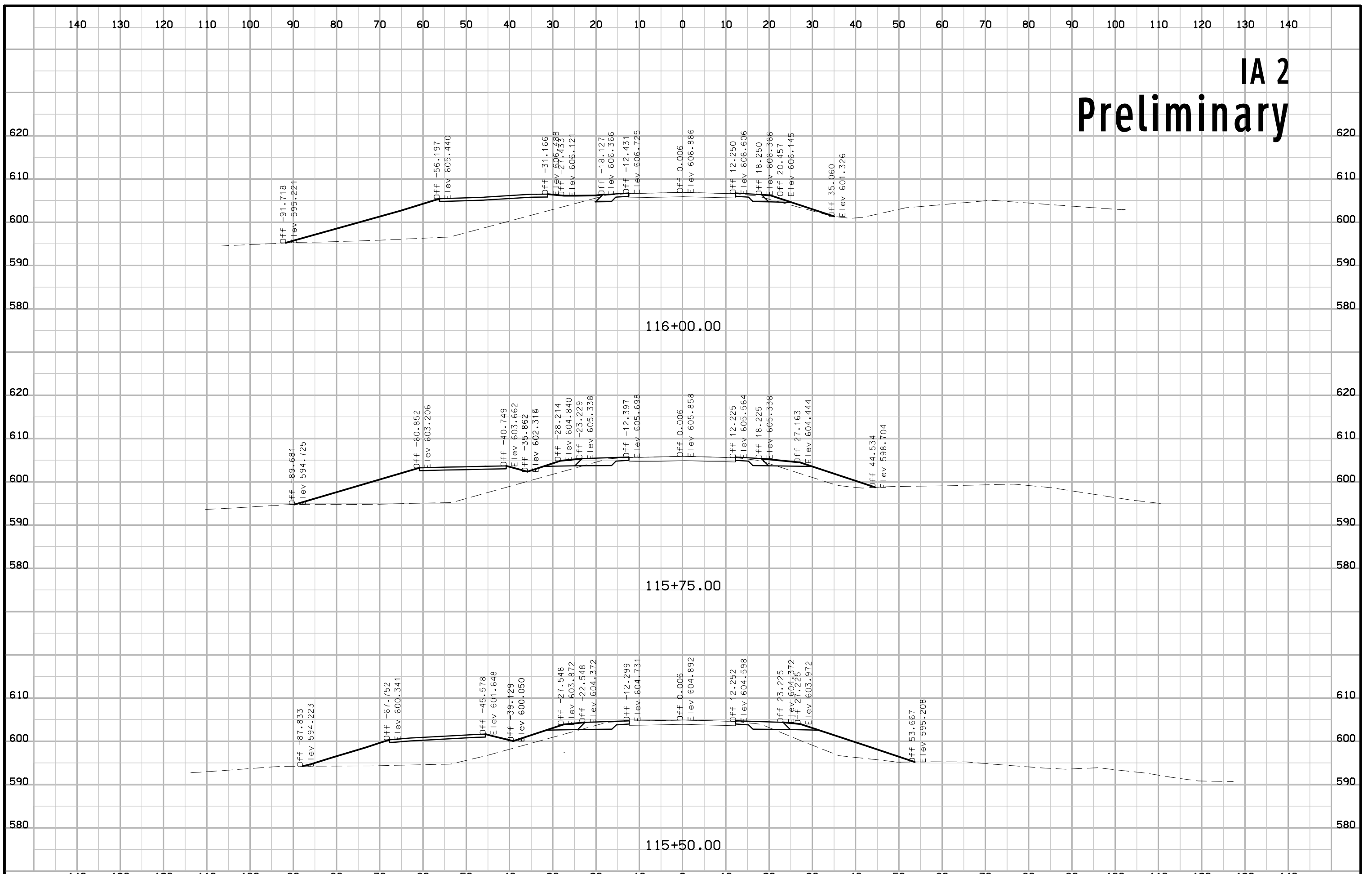
IA 2 Preliminary



IA 2 Preliminary



IA 2 Preliminary



IA 2 Preliminary

