

For Project Location Map  
Refer to Sheet No. A.02

INDEX OF SHEETS	
No.	DESCRIPTION
<b>A Sheets</b>	<b>Title Sheets</b>
* A.1	Title Sheet
* A.2	Location Map Sheet
<b>B Sheets</b>	<b>Typical Cross Sections and Details</b>
B.1 - 3	Typical Cross Sections and Details
<b>C Sheets</b>	<b>Quantities and General Information</b>
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C.1	Estimated Project Quantities
C.1	Estimate Reference Information
C.1	Standard Road Plans
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* D.2	IA 10
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G.4	Horizontal Control Tab. & Super for all Alignments
<b>J Sheets</b>	<b>Traffic Control and Staging Sheets</b>
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W.2 - 8	Mainline Cross Sections
	* Color Plan Sheets



**Highway Division**

PLANS OF PROPOSED IMPROVEMENT ON THE

**PRIMARY ROAD SYSTEM  
OBRIEN COUNTY  
BRIDGE REPLACEMENT**

**IA 10 bridge over Mud Creek 1.9 miles west of County Road L48**

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
24
PROJECT IDENTIFICATION NUMBER
16-71-010-010
PROJECT NUMBER
BRFN-010-2(33)--39-71
R.O.W. PROJECT NUMBER
STPN-010-2(34)--2J-71

**D4 PLAN – Date: June 21, 2022**

**PRELIMINARY PLANS**

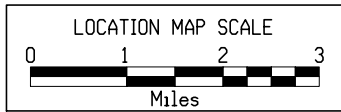
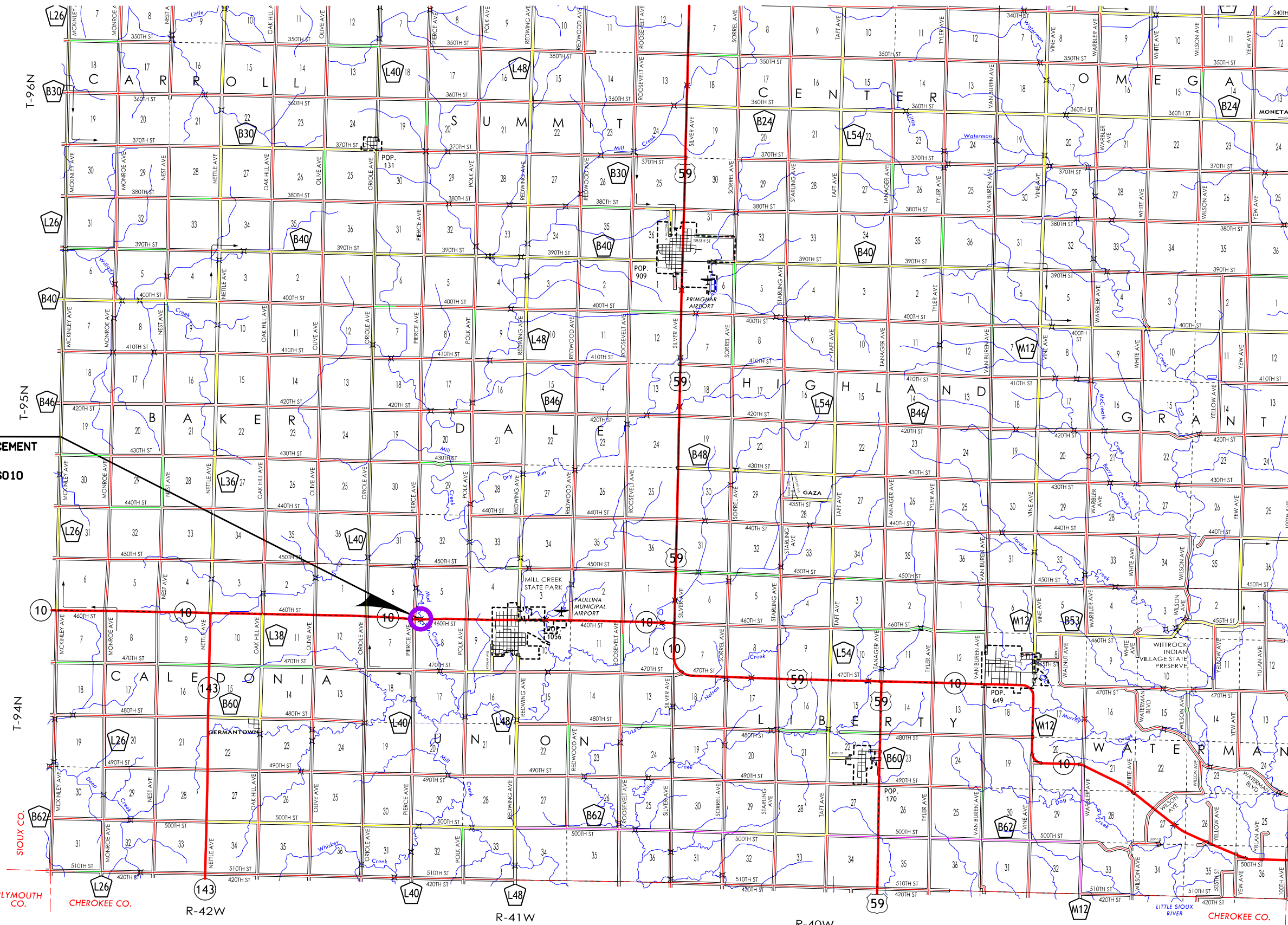
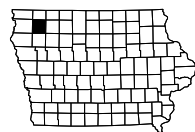
Subject to change by final design.

**D5 PLAN – Date: Sept 4, 2020**

DESIGN DATA RURAL			
2021 AADT	2,200	V.P.D.	
2041 AADT	2,700	V.P.D.	
2041 DHV	270	V.P.H.	
TRUCKS	18	%	
Total Design ESALs	--		

INDEX OF SEALS		
SHEET NO.	NAME	TYPE
A.1	Michael J. Janecek	Primary Signature Block
V.1	Phillip M. Harpole	Hydraulic Design

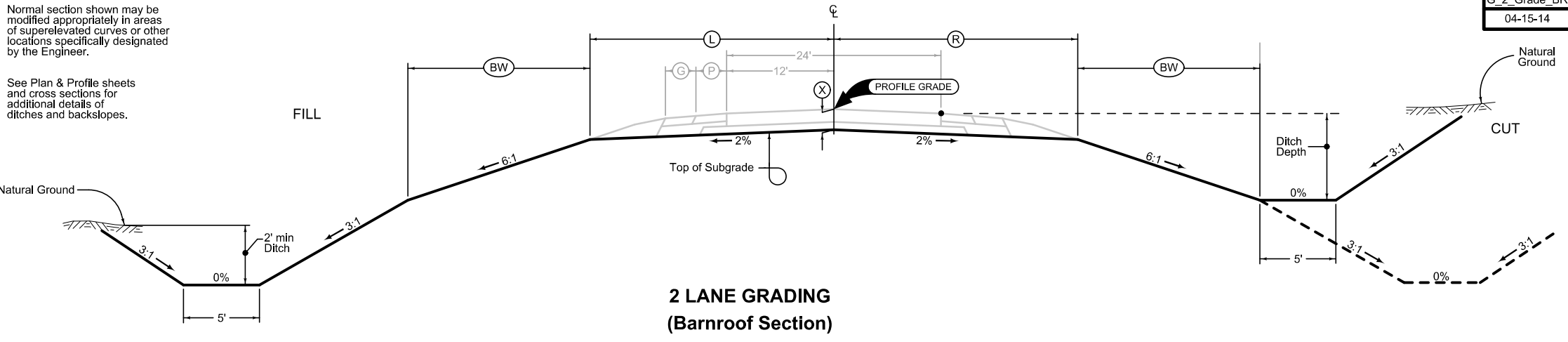
**PROJECT LOCATION**  
 IA 10 BRIDGE REPLACEMENT  
 STA.: 371+60  
 FHWA NO.: 38350  
 MAINT. NO.: 7143.6S010  
 MP: 43.6



LOCATION		DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION	(L) Feet	(R) Feet	(X) Inches	(BW) Feet
IA 10	369+81.27    373+38.50	33.82	33.82	21	8.18

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

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

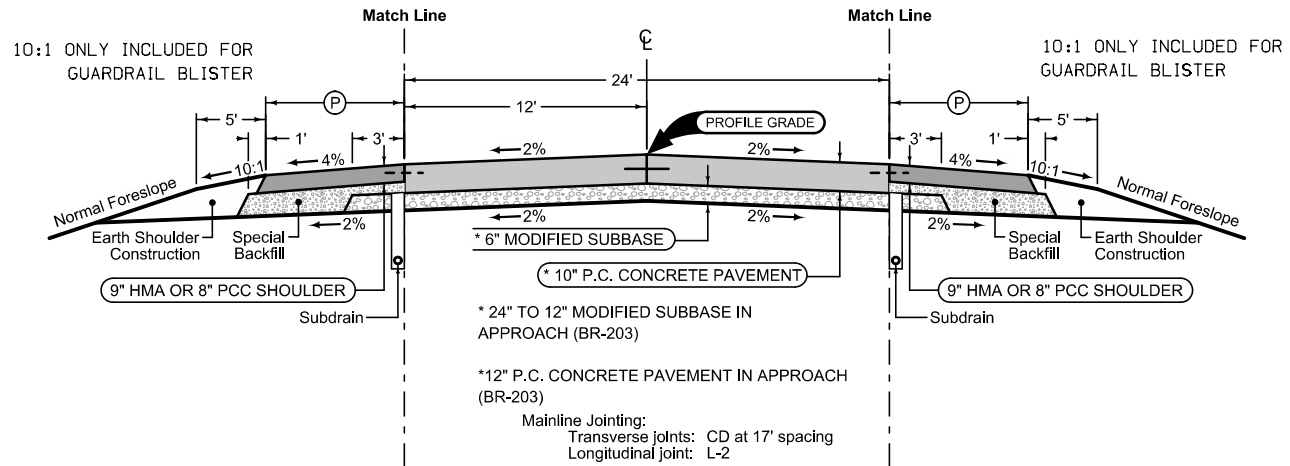


G\_2\_Grade\_BR  
04-15-14

**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
369+81.27	370+08.31	11.26
370+08.31	370+49.40	11.26-9.58
370+49.40	370+98.49	9.58
372+21.49	372+81.10	9.58
372+81.10	373+05.64	9.58-11.96
373+05.64	373+38.50	11.96-13.37



2P_ 10-19-10		
STATION TO STATION		
369+81.27	370+28.49	
370+28.49	370+98.49	BRIDGE APPROACH
BRIDGE		
372+21.49	372+91.49	BRIDGE APPROACH
372+91.49	373+38.50	

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

**Paved Shoulder at Guardrail**

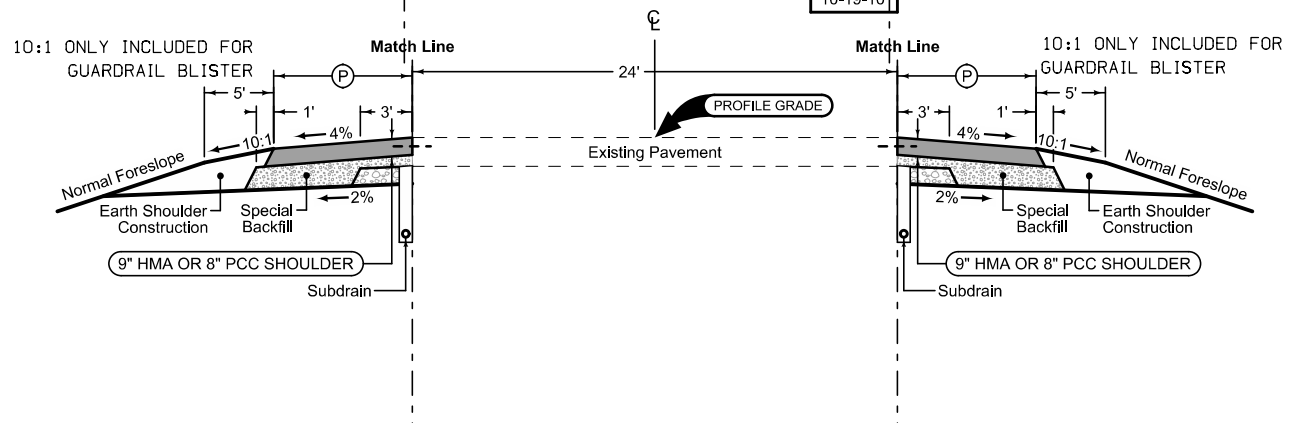
PCC Shoulder Jointing:  
 Longitudinal joint: BT-1 or BT-5  
 Transverse joints: C at mainline spacing  
 HMA Shoulder Jointing:  
 Longitudinal joint: B

2_P_Guard_ 10-17-17		
STATION TO STATION		(P) Feet
369+81.27	370+14.14	13.28-11.99
370+14.14	370+38.18	11.99-9.58
370+38.18	370+98.49	9.58
372+21.49	372+71.90	9.58
372+71.90	373+11.75	9.58-11.23
373+11.75	373+38.50	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
373+38.50	373+46.42	13.37-13.63
373+46.42	373+76.61	13.63

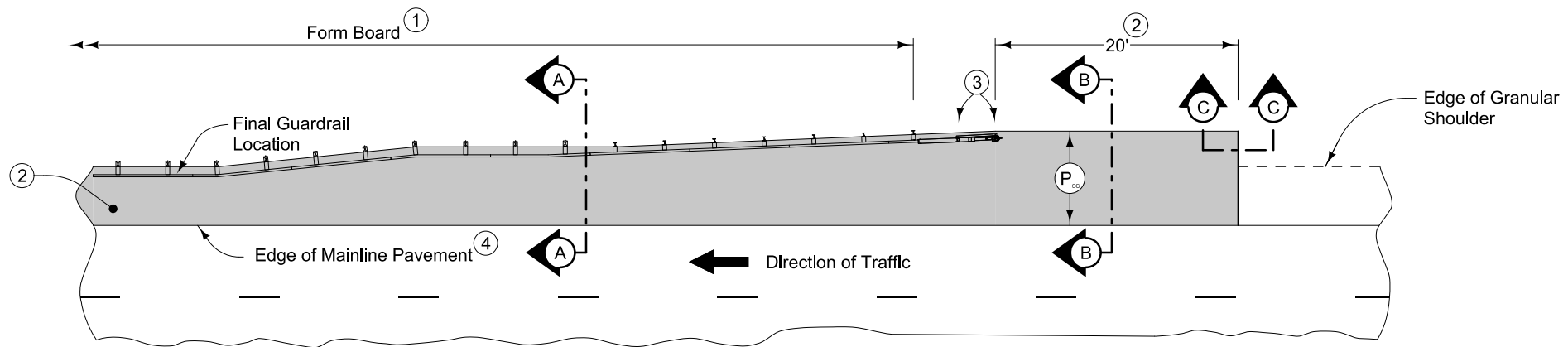


**Paved Shoulder at Guardrail**

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
369+44.25	369+72.81	13.63
369+72.81	369+81.27	13.63-13.28

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



PLAN VIEW

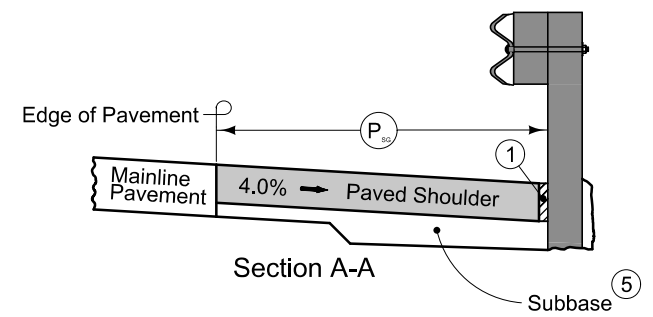
9" HMA Paved Shoulder at guardrail. 8" PCC may be substituted with the following jointing layout:

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.

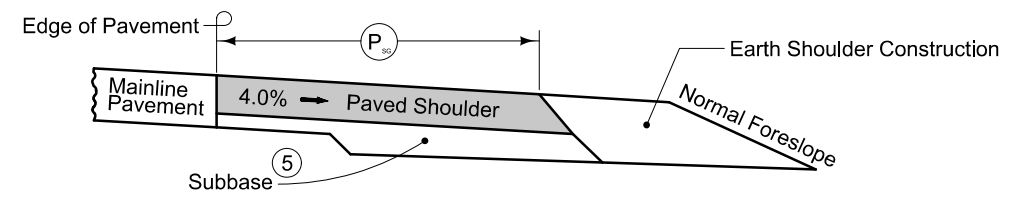
Compaction of HMA is required to face of guardrail post. Hand compaction will be allowed under guardrail. Removal and reinstallation of guardrail will be allowed with no additional payment.

Refer to Tabulation 112-9 for shoulder quantities.

- ① 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 'KT-1 joint for PCC shoulder. 'B' joint for HMA shoulder.
- ⑤ Refer to other details in the plan.

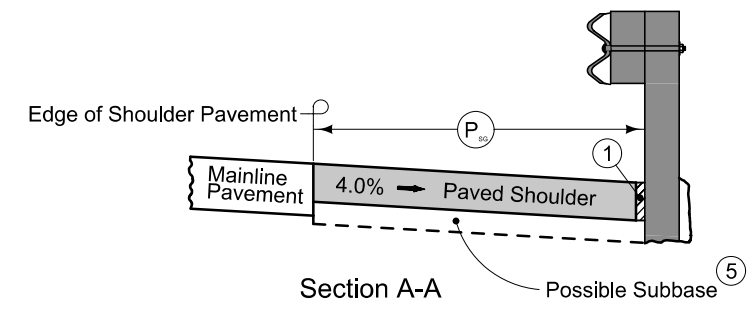


Section A-A

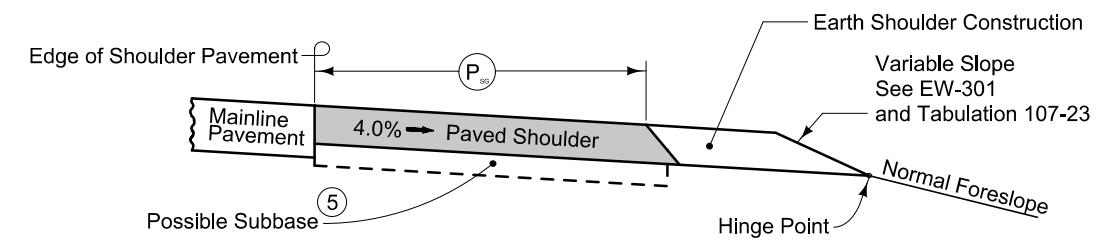


Section B-B

NEW CONSTRUCTION

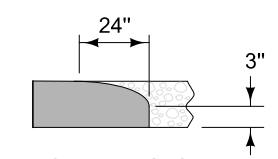


Section A-A



Section B-B

EXISTING SHOULDER



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

PAVED SHOULDER AT GUARDRAIL  
(GRANULAR SHOULDER ADJACENT TO MAINLINE)

100-1D  
10-18-05

**PROJECT DESCRIPTION**

This project involves the replacement of the US 30 bridge over the stream located 2.3 miles east of County Road F32.

100-0A  
10-28-97

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

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

262-5  
10-18-05

**UTILITIES  
(POINT 25 PROJECT)**

This is a POINT 25 project and is subject to the provisions of IAC 761-115.25.

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 Delineator 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

- CP Control Point
- EP Edge of Paved Roads (ML or SR)
- GR Ground Shot
- EG Edge of Gravel Road
- GDL Guard Rail Steel
- SIGN SI Sign
- BL Topo Breakline
- BD Bridge Deck
- ==== RET Retaining Walls
- ▲ BM Bench Mark
- BRG Bridge
- BBB Bottom of Bridge Beam
- OUT Tile Outlet
- x FW Wire Fence
- TL1C Telephone Line Co. 1 - Quality C
- TW Top of Water
- D Centerline Draw or Stream (Down)
- TPD Telephone Pedestal
- PPA Power Pole Co. 1

### 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

- FOC) — Windstream Communication - Quality C  
800-289-1901  
Locatedesk@windstream.com
- F0 — Windstream Communication - Quality D
- TPD Telephone Pedestal
- PPA Power Pole

### 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

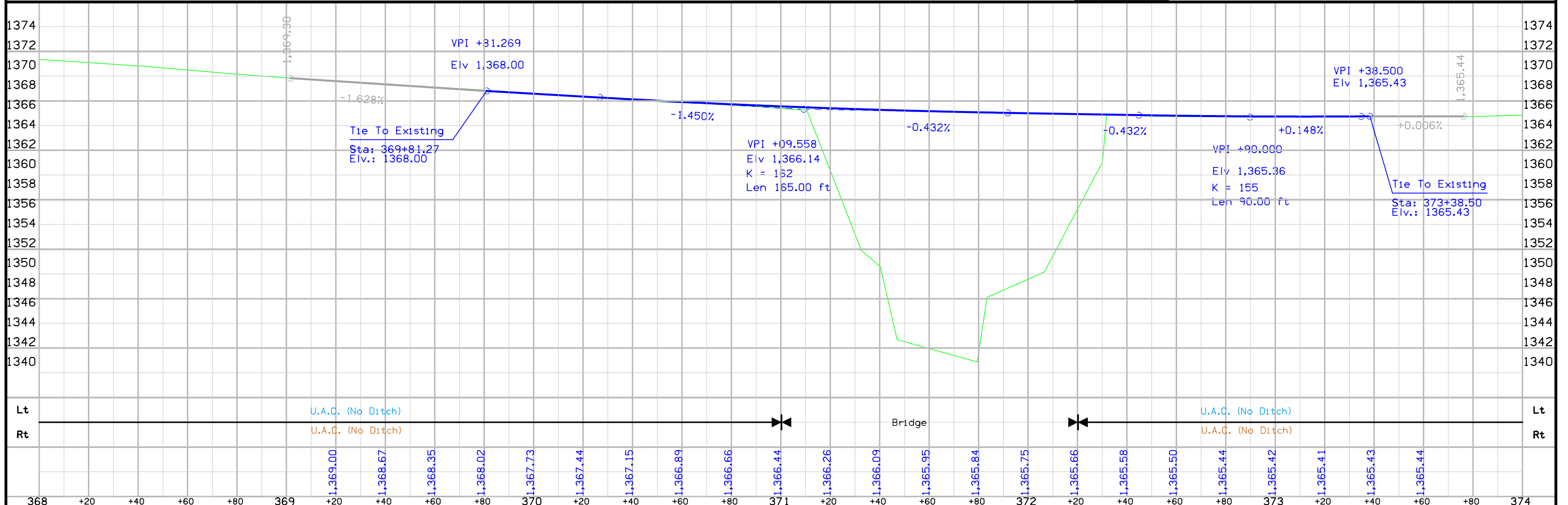
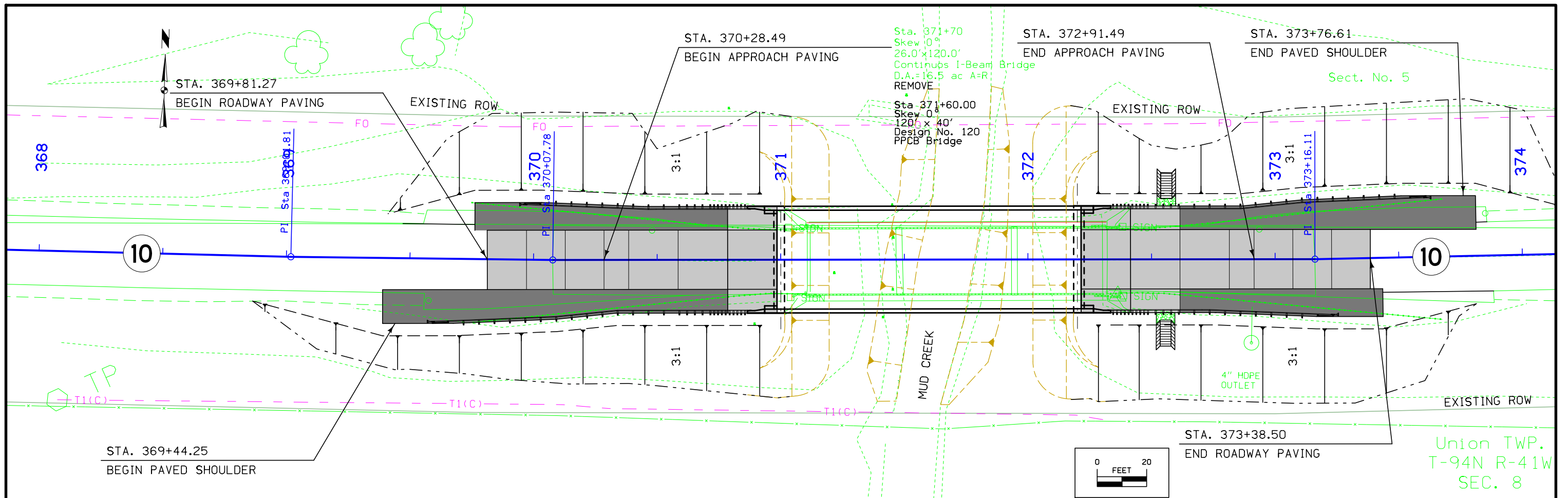
- Reference Point
- Station
- ▲ Section Corner
- Ground Line Intercept
- //// Saw Cut
- Guardrail
- Trench Drain
- HighTension Cable Guardrail
- Sheet Pile
- ▨ Pavement Removal
- ▩ Clearing & Grubbing Area

### 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

O'Brien County  
BRFN-010-2(33)-39-71  
IA 10 Bridge over Mud Creek  
1.9 mi W of Co Rd L48  
PIN 16-71-010-010  
Sap-0889.0

### General Information

Measurement units for this survey are US survey feet. This survey is for proposed Bridge reconstruction and reconstruction of IA 10 over Mud Creek. Project datum and control information is provided by Shive-Hattery inc. This project is a Full DTM Preliminary Survey and no Photogrammetry was used. This survey request was for the IA 10 corridor, Bridge and Mud Creek.

### Vertical Control

IARTN

Vertical datum for this survey is NAVD88 (Computed using Geoid12A). GRS80 Ellipsoidal Height was computed at project Pt. 2, by averaging a minimum of five observations with appropriate time spans between from nearby Iowa RTN reference stations. The vertical standard deviation of these observations were less than 0.050 ft. at 95% confidence level (2 sigma). Additional benchmarks were established with a level loop relative with Pt. 2. The loop error met 3rd Order accuracy and the error was distributed proportionately among the project bench marks.

### Horizontal Control

#### (Project Coordinates from Redundant IARTN Observations)

The project coordinate system is modified Iowa Regional Coordinate System Zone 1 (U.S. Survey Feet) scaled around Pt. 2 at 9521015.751 N, 11374207.682 E, 1365.076 EL. Horizontal datum is NAD83 (2011) for Epoch 2010.00. Coordinates were determined by averaging a minimum of five IARTN observations with appropriate time spans between. The horizontal standard deviation of these observations was less than 0.032 ft. at 95% confidence level (2 sigma). Additional control points were placed throughout the project using a GNSS Base-Rover setup relative to Pt. 2. A minimum of three observations with appropriate time spans between were averaged. The horizontal standard deviation of these observations was less than 0.032 ft. at 95% confidence level (2 sigma).

1/Combined Scale Factor of project= 1.0000520000

The 1/Combined Scale Factor, scaled about Pt. 2, may be used for GNSS stakeout and location to survey in the Project Coordinate system. A scale factor of 1 should be used with total station stakeout.

### Alignment Information

The horizontal alignment for this survey is a retrace of As-built Plans No. F 986 (1). Survey stationing was equated to the plan centerline of bridge at STA 383+78.00 and run back and ahead without equation throughout the survey.

Survey stationing relates to as built plan stationing as follows:

PC Sta. 357+73.70 As-built Project No. F 986 (1).  
Survey PC Sta. 357+73.70

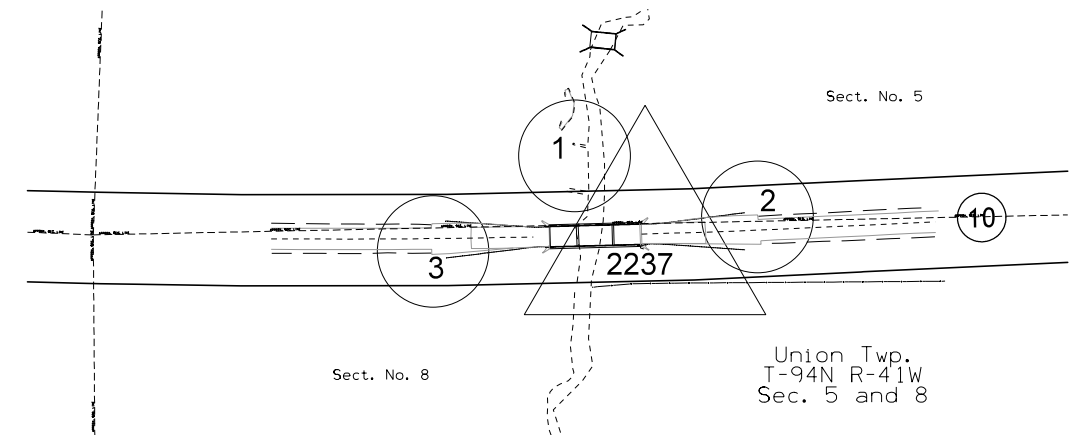
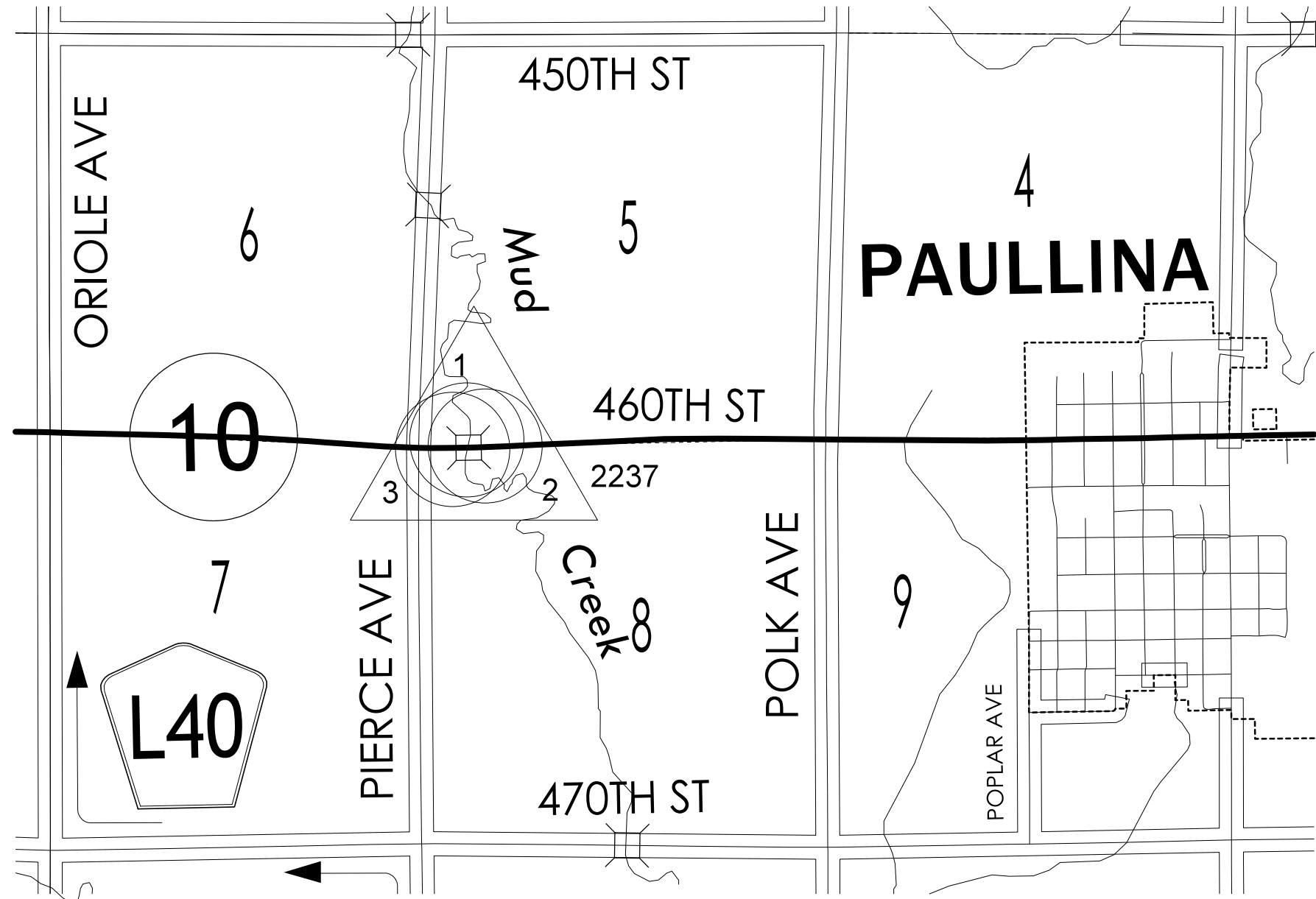
PI Sta. 366+15.70 As-built Project No. F 986 (1).  
Survey PI Sta. 366+15.74

PT Sta. 374+55.70 As-built Project No. F 986 (1)  
Survey PT Sta. 374+55.67

As-built Project No. F 986 (1)	Survey
$\Delta = 7^{\circ}00'30''$ Lt.	$\Delta = 7^{\circ}00'27.7''$ Lt.
D = 0°25'	D = 0°24'59.9"
T = 842.0'	T = 842.035'
L = 1682.0'	L = 1680.922'
E = 25.8'	E = 25.755'
R = 13,752.0'	R = 13,752.0'

### 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 1

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 1

Point	Northing	Easting	Elevation	Feature Definition	Description
1	9521095.946	11373967.171	1353.583	CP1	NAIL
2	9521015.751	11374207.682	1365.076	CP2	PK NAIL
3	9520970.267	11373781.168	1367.990	CP3	PK NAIL
2237	9520978.794	11374059.870	1368.306	BM	BM-PLUG

### ALIGNMENT COORDINATES

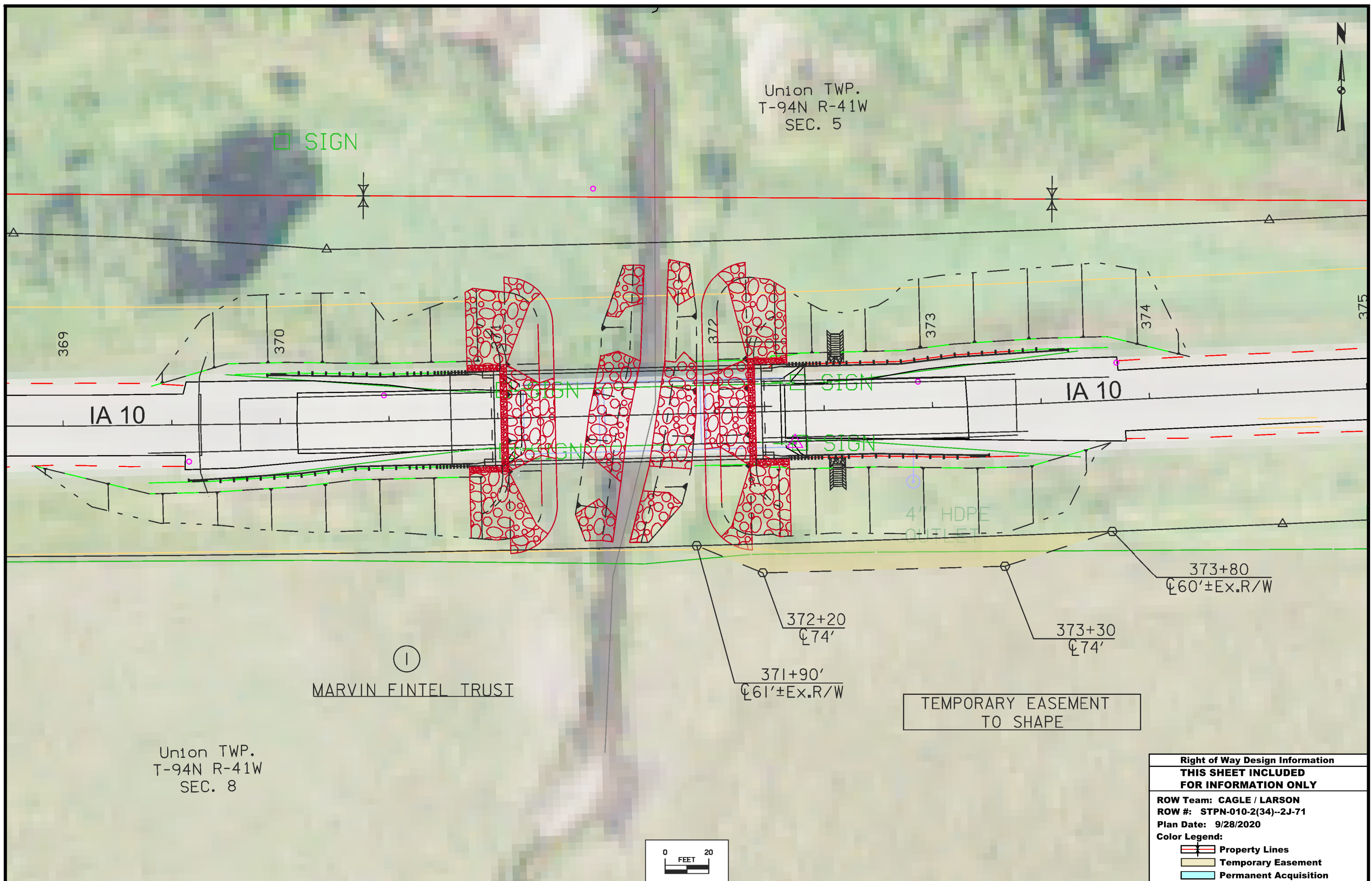
101-16  
10-20-09

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)
ML0101		367+45.22	9,520,986.73	11,373,568.45															
ML0103		369+01.81	9,520,986.60	11,373,725.04															
ML0105		370+07.78	9,520,987.86	11,373,831.00															
ML0107		373+16.11	9,520,995.54	11,374,139.24															
ML0108		376+18.34	9,521,009.08	11,374,441.16															

NO ACCESS RIGHTS ARE TO BE ACQUIRED ON THIS PROJECT.

Union TWP.  
T-94N R-41W  
SEC. 5

SIGN



①  
MARVIN FINTEL TRUST

Union TWP.  
T-94N R-41W  
SEC. 8

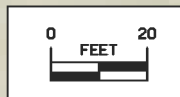
372+20  
±74'  
371+90'  
±61'±Ex.R/W

373+30  
±74'

373+80  
±60'±Ex.R/W

TEMPORARY EASEMENT  
TO SHAPE

Right of Way Design Information	
<b>THIS SHEET INCLUDED FOR INFORMATION ONLY</b>	
ROW Team: CAGLE / LARSON	
ROW #: STPN-010-2(34)--2J-71	
Plan Date: 9/28/2020	
Color Legend:	
	Property Lines
	Temporary Easement
	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.
- 2) Detour signage shall be installed, maintained, and removed by Iowa DOT District 3. Road closure signage and devices shall be furnished, installed, maintained, and removed by Contractor. See sheet J.2 for proposed detour. Detour pavement markings shall be painted by the contractor.

108-25  
10-21-14

**511 TRAVEL RESTRICTIONS**

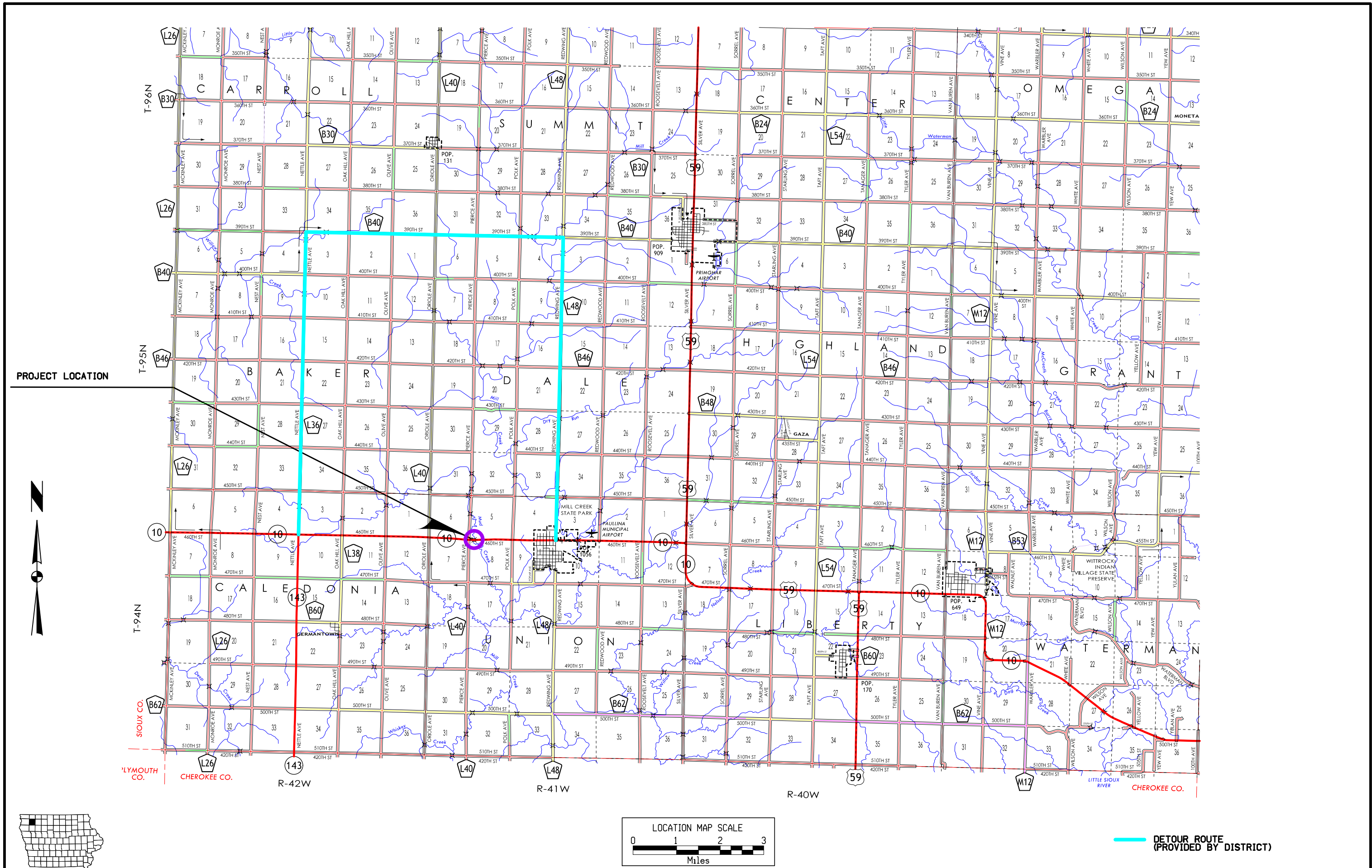
Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
IA 10	Both	O'Brien	No Restrictions Anticipated	None - - Detour								

111-01  
04-17-12

**COORDINATED OPERATIONS**

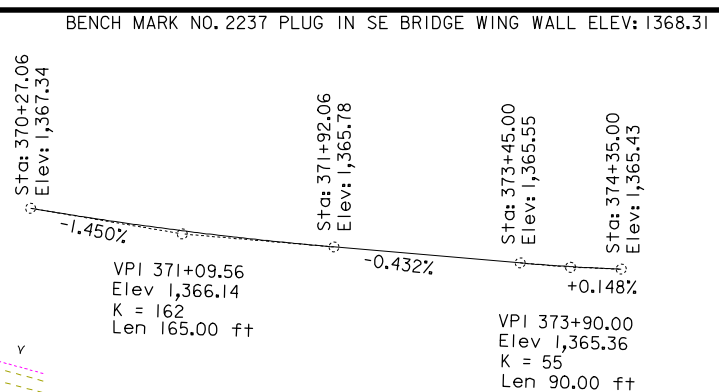
Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.

Project	Type of Work
None Provided	





1365	W. ABUT. BRG. ELEV. 1366.41	E. ABUT. BRG. ELEV. 1365.63	PROPOSED GRADE	1365
1355	TOP OF BERM ELEV. = 1358.99	TOP OF BERM ELEV. = 1358.21	EXISTING GRADE	1355
1345	BOTT. FTG. ELEV. 1356.99	BOTT. FTG. ELEV. 1356.21		1345
1335	EROSION STONE 9"	EROSION STONE 9"		1335
1325	BENCH ELEV. 1353.00	BENCH ELEV. 1353.00		1325
1315	TOP OF BRIDGE DECK CROWN 0.03' BELOW PROFILE GRADE	PRELIMINARY SCOUR ELEV. = 1343.9	VERIFY ELEVATIONS WHEN SOIL BORINGS ARE COMPLETE.	1315



LONGITUDINAL SECTION ALONG CL APPROACH ROADWAY

PROPOSED PROFILE GRADE IA 10

HYDRAULIC DATA

DRAINAGE AREA = 17.1 SQ. MI.  
 STREAM SLOPE = 7.33 FT./MI.  
 AVG. LOW WATER STAGE = 1348.00  
 Q<sub>50</sub> = 4090 CFS  
 STAGE = 1357.30  
 REGULATORY LOW BEAM = 1360.35  
 BACKWATER = 0.6 FT.  
 AVG. BRIDGE VELOCITY = 8.0 FPS  
 Q<sub>100</sub> = 4850 CFS  
 STAGE = 1357.70 FT.  
 OPERATIONAL LOW BEAM = 1359.96  
 BACKWATER = 0.8 FT.  
 AVG. BRIDGE VELOCITY = 9.0 FPS  
 Q<sub>200</sub> = 6060 CFS  
 STAGE = 1358.20  
 CALCULATED DESIGN SCOUR = 1343.90  
 Q<sub>500</sub> = 6442.00 CFS  
 STAGE = 1358.50  
 CALCULATED CHECK SCOUR =  
 ROADWAY OVERTOP = 1365.38  
 STA. 373+03.00 1342.80

UTILITIES LEGEND:

- T(C) TELEPHONE
- FO FIBER OPTIC

UTILITIES SHOWN ON THIS SHEET ARE FOR INFORMATION ONLY, SEE ROAD DESIGN SHEETS FOR FINAL UTILITY INFORMATION.

LOCATION

TRAFFIC ESTIMATE

IA 10 BRIDGE OVER MUD CREEK	2021 AADT	2200	V.P.D.
T-94N R-41W	2041 AADT	2700	V.P.D.
SECTION 8	2041 DHV	270	V.P.H.
UNION TOWNSHIP			
O'BRIEN COUNTY		18	%
FHWA NO. 38351			
BRIDGE MAINT. NO. 7143.65010			
LATITUDE 42.982271°			
LONGITUDE -95.720891°			

PRELIMINARY

DESIGN FOR 0° SKEW  
 120'-0" X 40'-0" PRETENSIONED  
 PRESTRESSED CONCRETE BEAM BRIDGE  
 120'-0" SINGLE SPAN

SITUATION PLAN  
 STATION 371+60.00 (IA 10) JUNE 2020  
 O'BRIEN COUNTY

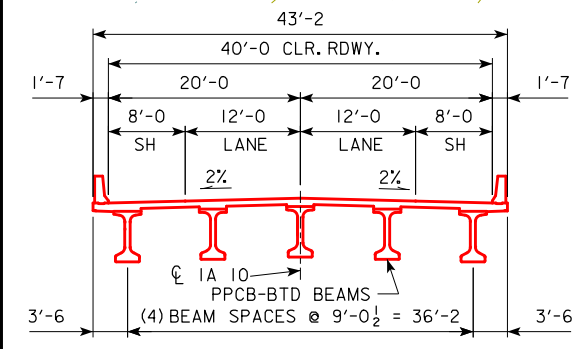
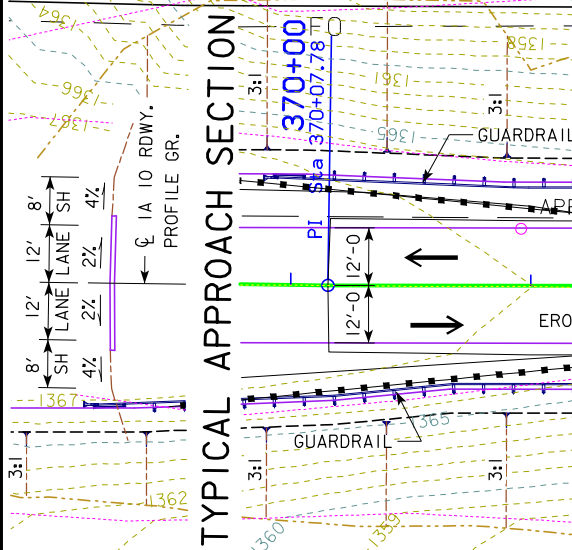
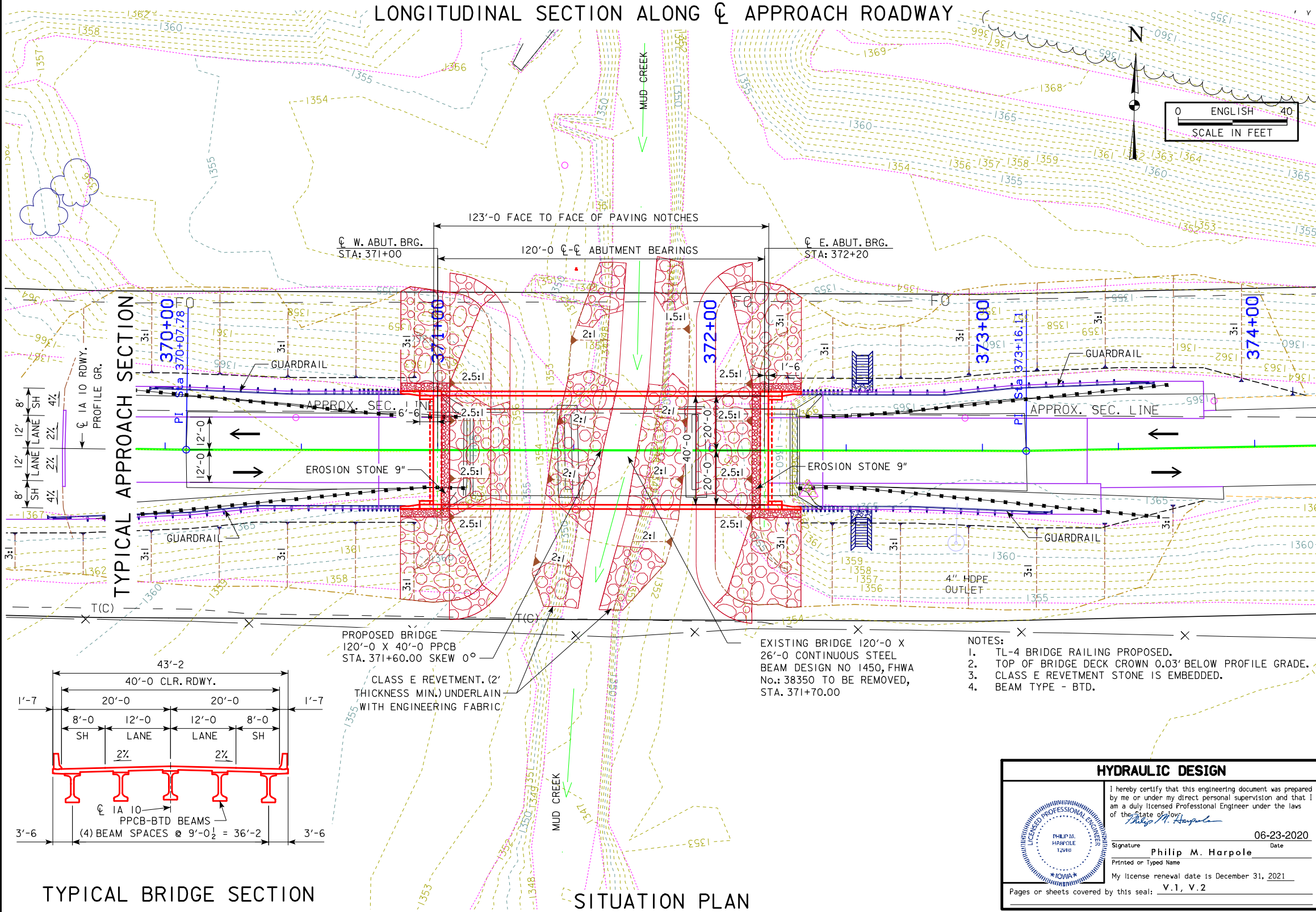
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. 1 OF 2 FILE NO. 31432 DESIGN NO. 120

**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: Philip M. Harpole Date: 06-23-2020  
 Printed or Typed Name: Philip M. Harpole  
 My license renewal date is December 31, 2021

Pages or sheets covered by this seal: V.1, V.2

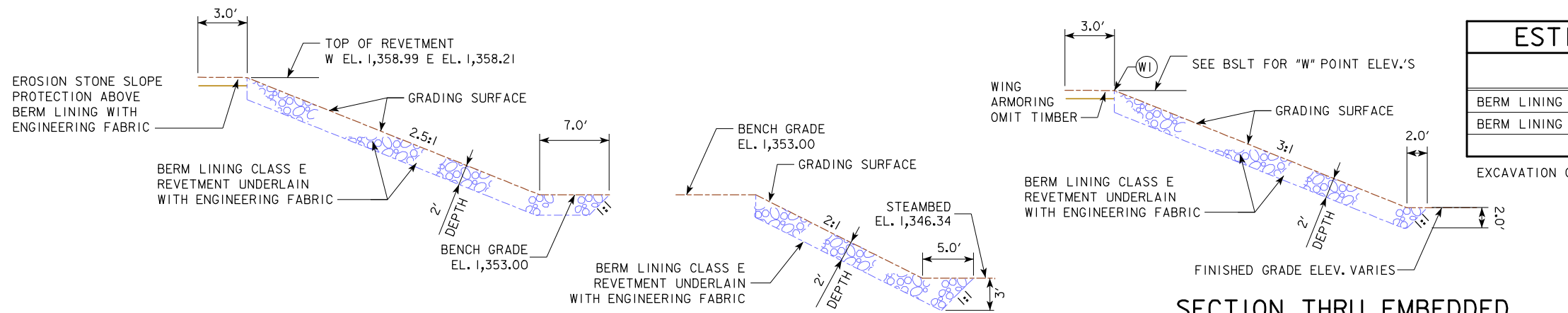


PROPOSED BRIDGE  
 120'-0" X 40'-0" PPCB  
 STA. 371+60.00 SKEW 0°

EXISTING BRIDGE 120'-0" X  
 26'-0" CONTINUOUS STEEL  
 BEAM DESIGN NO 1450, FHWA  
 No.: 38350 TO BE REMOVED,  
 STA. 371+70.00

CLASS E REVETMENT. (2'  
 THICKNESS MIN.) UNDERLAIN  
 WITH ENGINEERING FABRIC

- NOTES:
1. TL-4 BRIDGE RAILING PROPOSED.
  2. TOP OF BRIDGE DECK CROWN 0.03' BELOW PROFILE GRADE.
  3. CLASS E REVETMENT STONE IS EMBEDDED.
  4. BEAM TYPE - BTD.



SECTION THRU EMBEDDED REVETMENT BERM

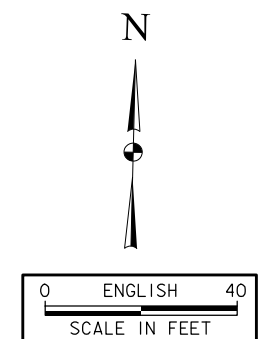
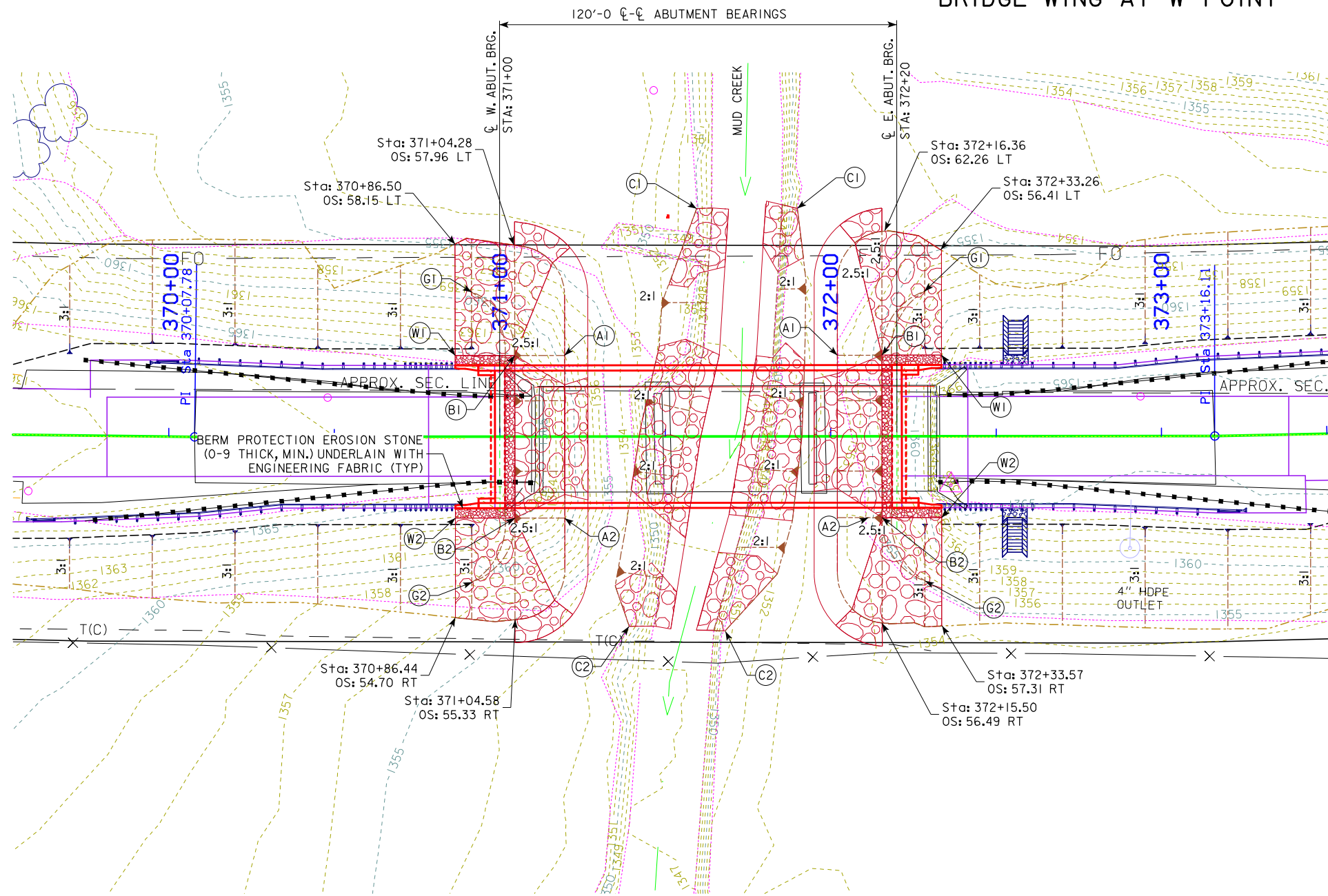
SECTION THRU EMBEDDED REVETMENT NORMAL TO BRIDGE WING AT W POINT

ESTIMATED BERM ARMORING QUANTITIES				
LOCATION	REVETMENT CL. E (TON)	EROSION STONE (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
BERM LINING - WEST ABUTMENT	758.3	11.1	739.4	614.5
BERM LINING - EAST ABUTMENT	729.9	11.1	712.6	267.2
TOTALS	1,488.2	22.2	1,452.0	881.7

EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE.

POINTS	WEST ABUTMENT			EAST ABUTMENT		
	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
A1	371+19.58	24.58 LT	1,353.00	372+01.36	24.58 LT	1,353.00
A2	371+19.58	24.58 RT	1,353.00	372+01.36	24.58 RT	1,353.00
B1	371+04.50	24.58 LT	1,358.99	372+15.50	24.58 LT	1,358.21
B2	371+04.50	24.58 RT	1,358.99	372+15.50	24.58 RT	1,358.21
C1	371+59.52	68.96 LT	1,353.00	371+89.93	68.96 LT	1,353.00
C2	371+39.06	57.33 RT	1,353.00	371+67.76	58.51 RT	1,353.00
G1	370+91.51	42.13 LT	1,358.99	372+28.51	42.07 LT	1,358.21
G2	370+91.51	42.13 RT	1,358.99	372+28.51	42.07 RT	1,358.21
W1	370+86.50	24.58 LT	1,365.52	372+33.50	24.58 LT	1,364.55
W2	370+86.50	24.58 RT	1,365.52	372+33.50	24.58 RT	1,364.55

BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE



SITE PLAN

PRELIMINARY  
 DESIGN FOR 0° SKEW  
**120'-0" X 40'-0" PRETENSIONED  
 PRESTRESSED CONCRETE BEAM BRIDGE**  
 120'-0" SINGLE SPAN  
**SITE PLAN**  
 STATION 371+60.00 (1A 10) JUNE 2020  
**O'BRIEN COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. 2 OF 2 FILE NO. 31432 DESIGN NO. 120

**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.

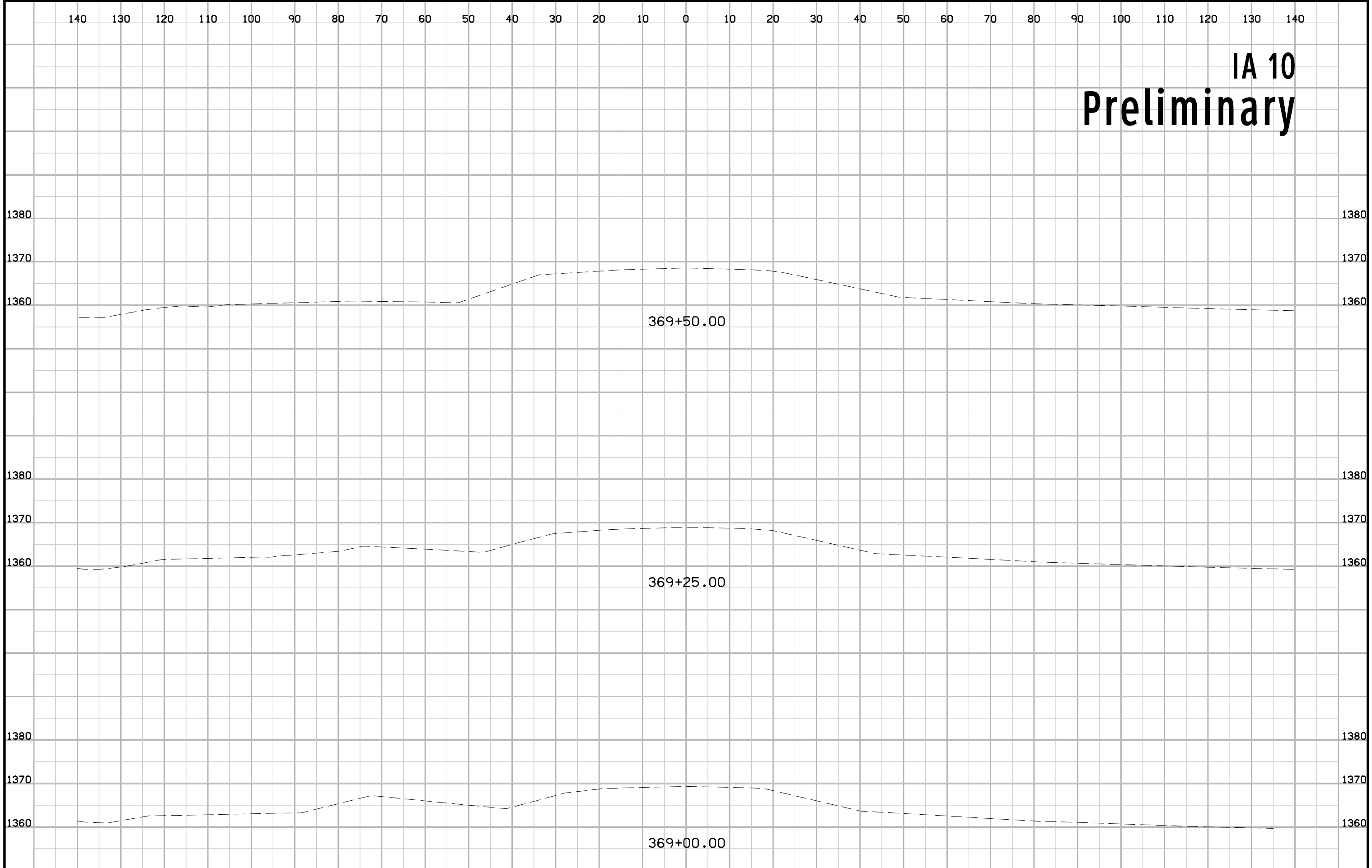
Note: Vertical or near vertical lines connecting soil layers at edges of cross sections are only for the purpose of calculating template quantities and do not depict soil stratification.

**SYMBOL LEGEND OF CROSS SECTION SHEETS**

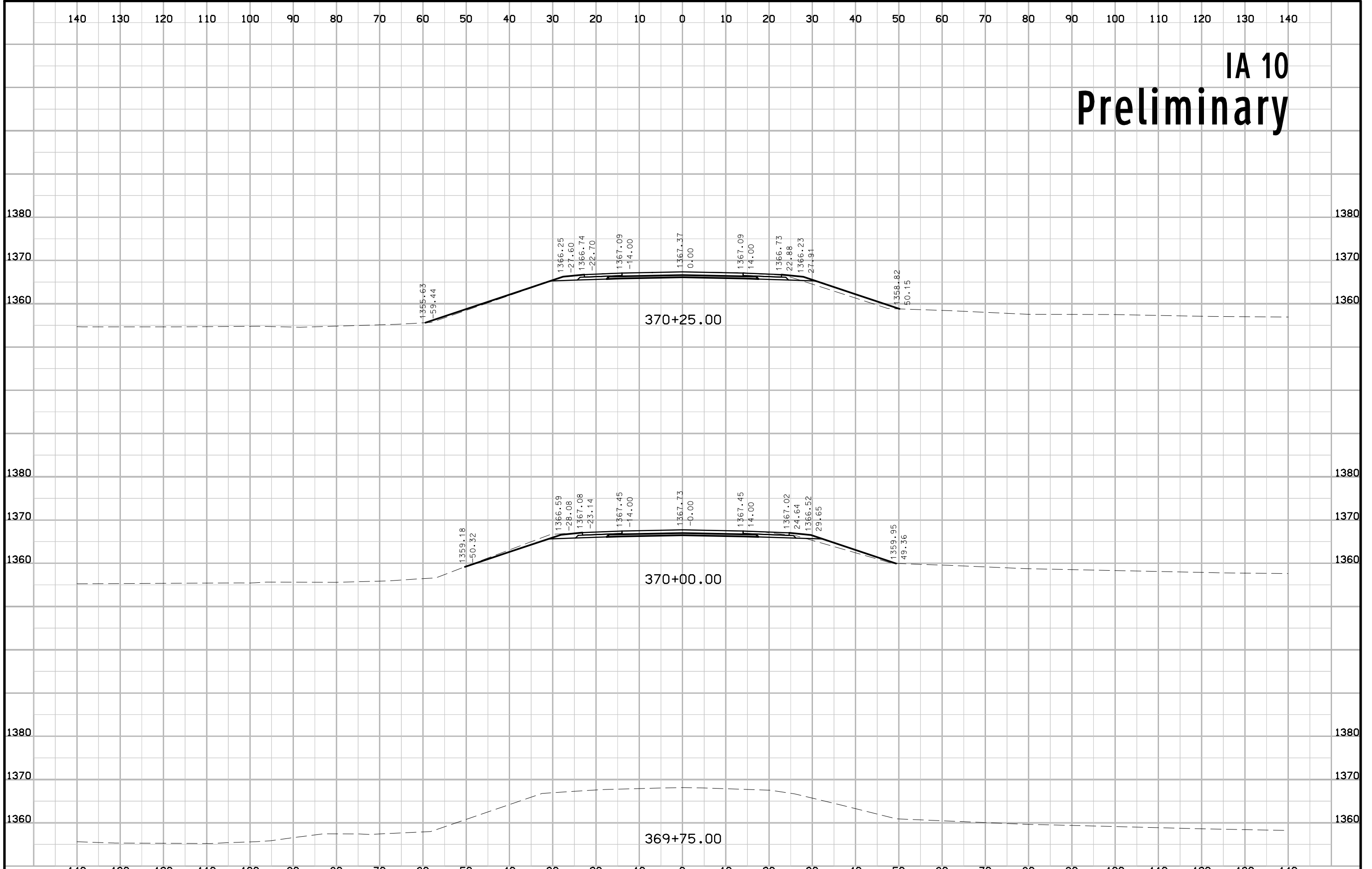
- Existing ROW  
|  
Existing Right-of-Way Limit
- Proposed ROW  
|  
Proposed Right-of-Way Limit
- Temporary ROW  
|  
Temporary Right-of-Way Limit

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

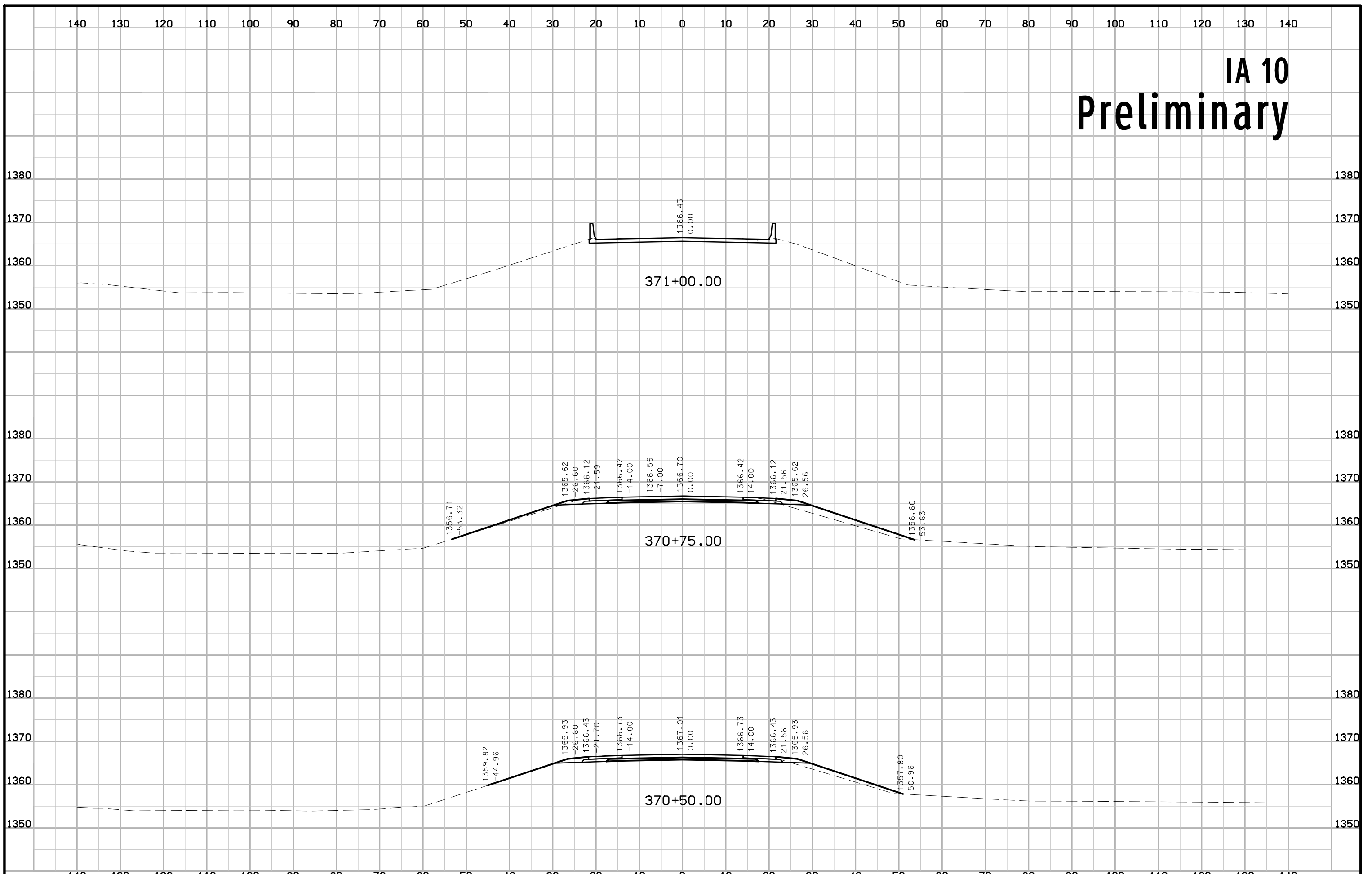
# IA 10 Preliminary



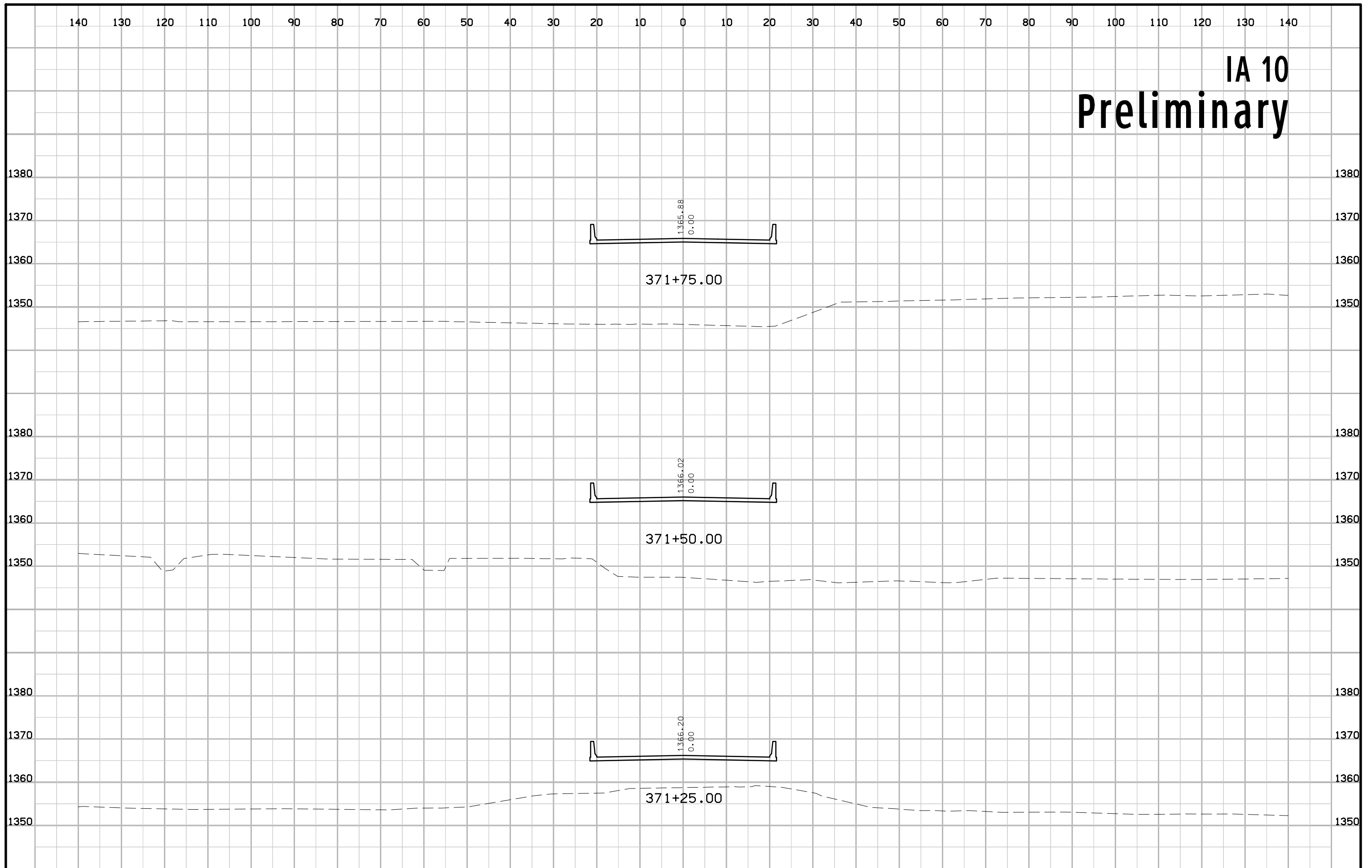
# IA 10 Preliminary



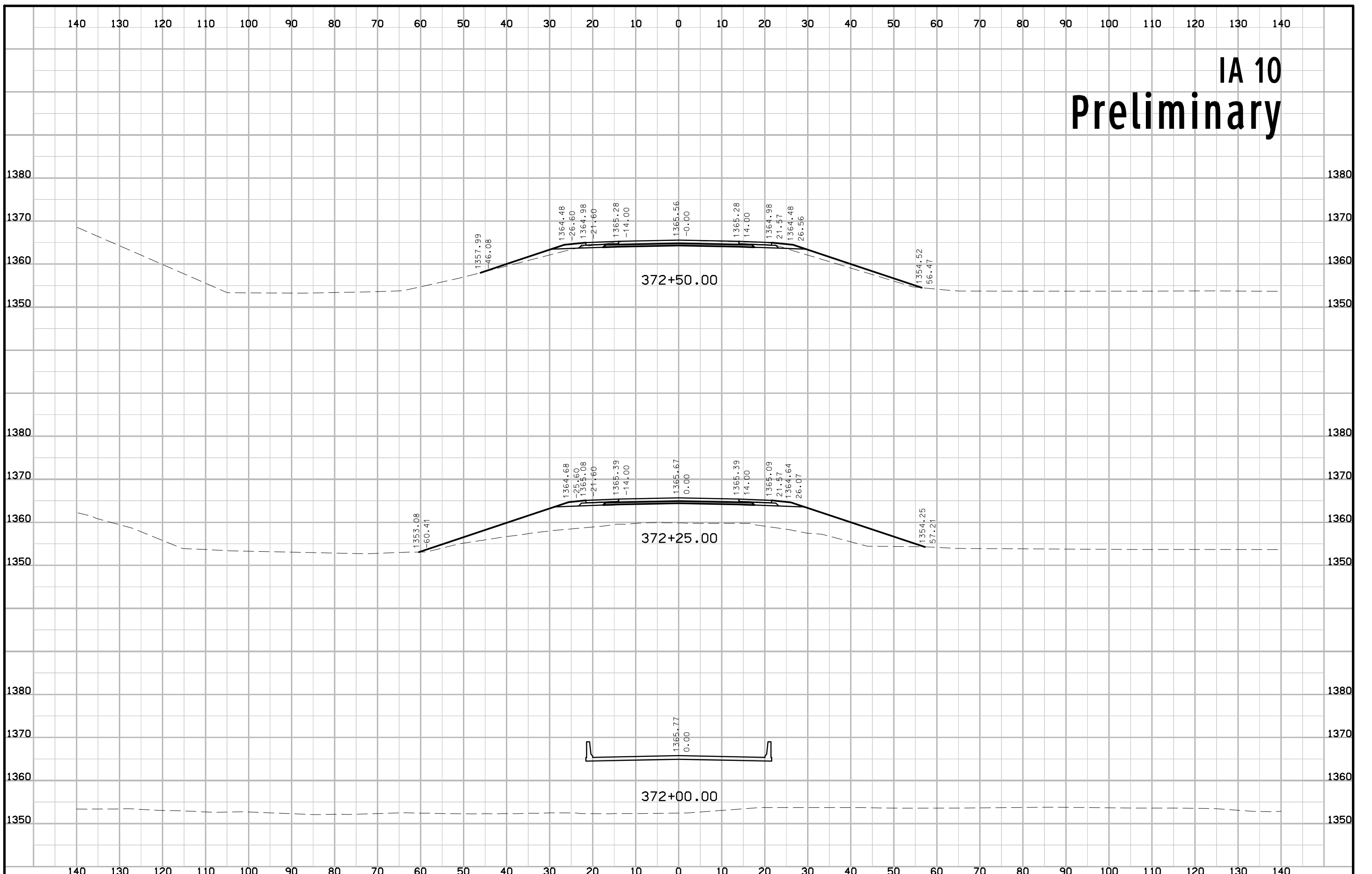
# IA 10 Preliminary



# IA 10 Preliminary

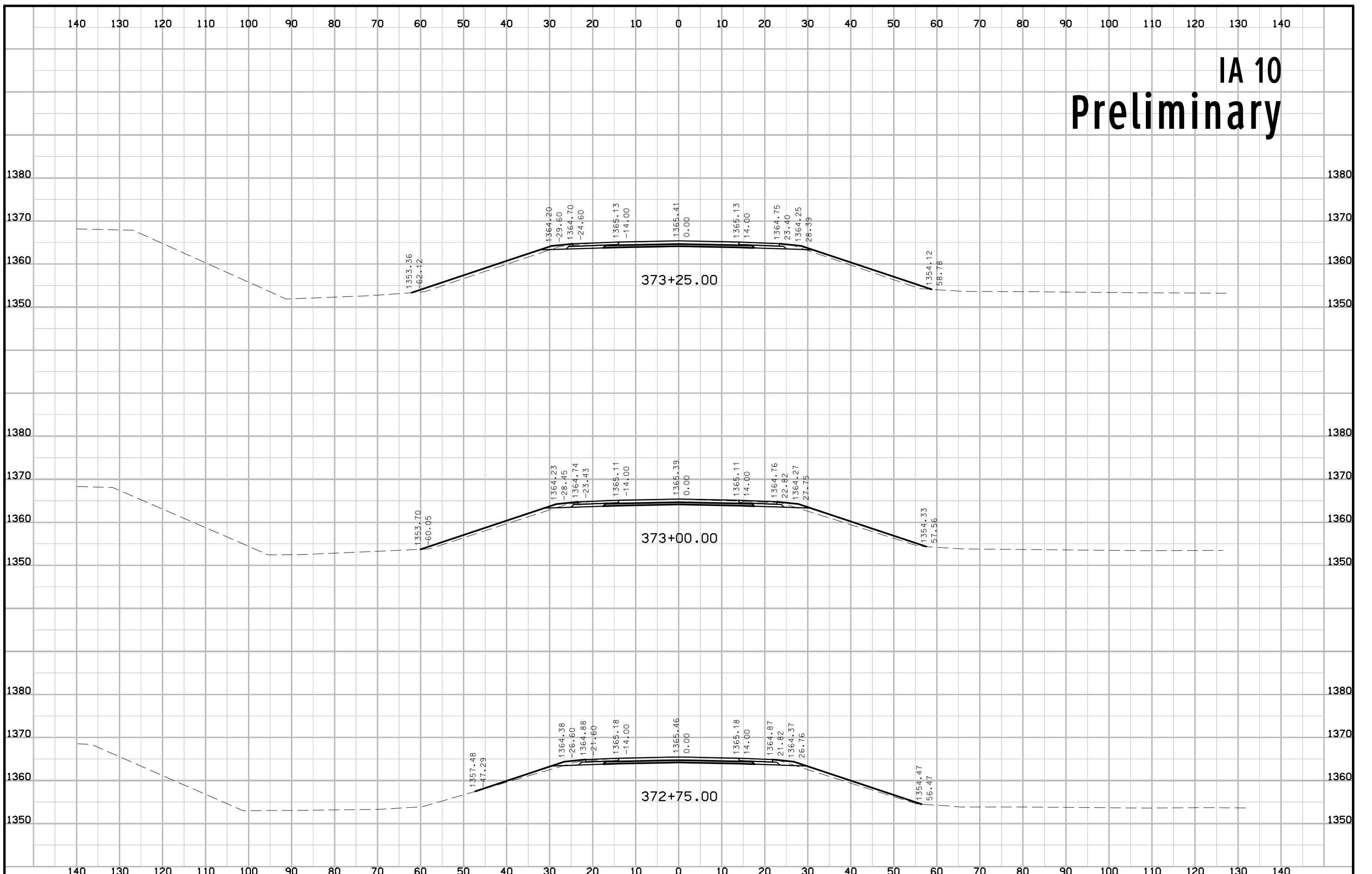


# IA 10 Preliminary





# IA 10 Preliminary



# IA 10 Preliminary

