

BENTON COUNTY

GRADE AND PAVE
BRF-218-6(58)-38-06

LETTING DATE
01-17-2024

INDEX OF SHEETS	
No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Title Sheet
A.1	Project Location Map
B Sheets	Typical Cross Sections and Details
B.1	Typical Cross Sections and Details
D Sheets	Mainline Plan and Profile Sheets
* D.2	ML218
G Sheets	Survey Sheets
G.1 - 4	Reference Ties and Bench Marks
J Sheets	Traffic Control and Staging Sheets
J.1	Traffic Control Plan
* J.2 - 3	Detour Map
W Sheets	Mainline Cross Sections
W.1 - 7	Mainline Cross Sections

H Sheets



PLANS OF PROPOSED IMPROVEMENT ON THE
PRIMARY ROAD SYSTEM
BENTON COUNTY
GRADE AND PAVE

Abandoned RR 2.6 mi N of N Jct US 30

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

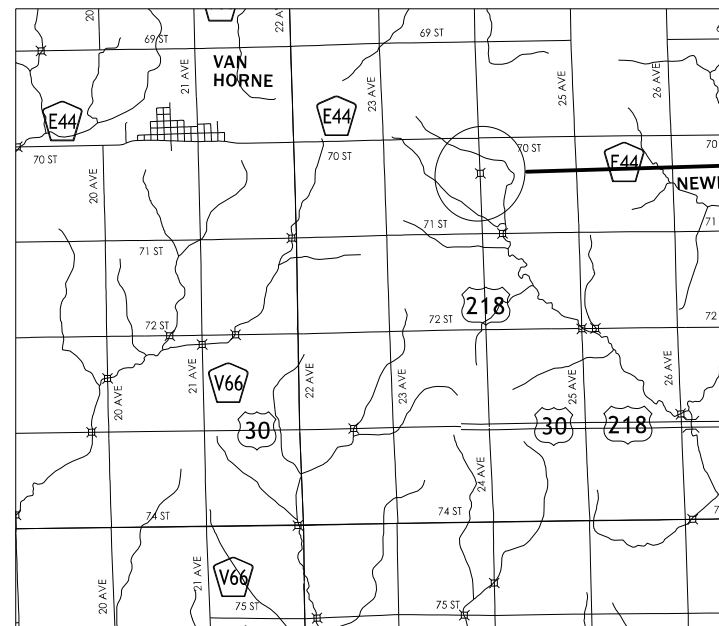
Value Engineering Saves. Refer to Article 1105.14 of the Specifications.

REVISIONS

TOTAL

17

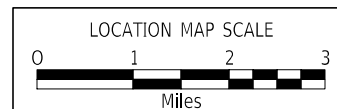
PROJECT IDENTIFICATION NUMBER	18-06-218-030
PROJECT NUMBER	BRF-218-6(58)-38-06
R.O.W. PROJECT NUMBER	



PROJECT LOCATION
FHWA # 14301
Maintenance # 0636.8S218



R-10W



DESIGN DATA RURAL			
2023	AADT	2500	V.P.D.
2043	AADT	2920	V.P.D.
20 --	DHV	--	V.P.H.
	TRUCKS	15	%
	Total		
	Design ESALs	--	

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

PRELIMINARY PLANS

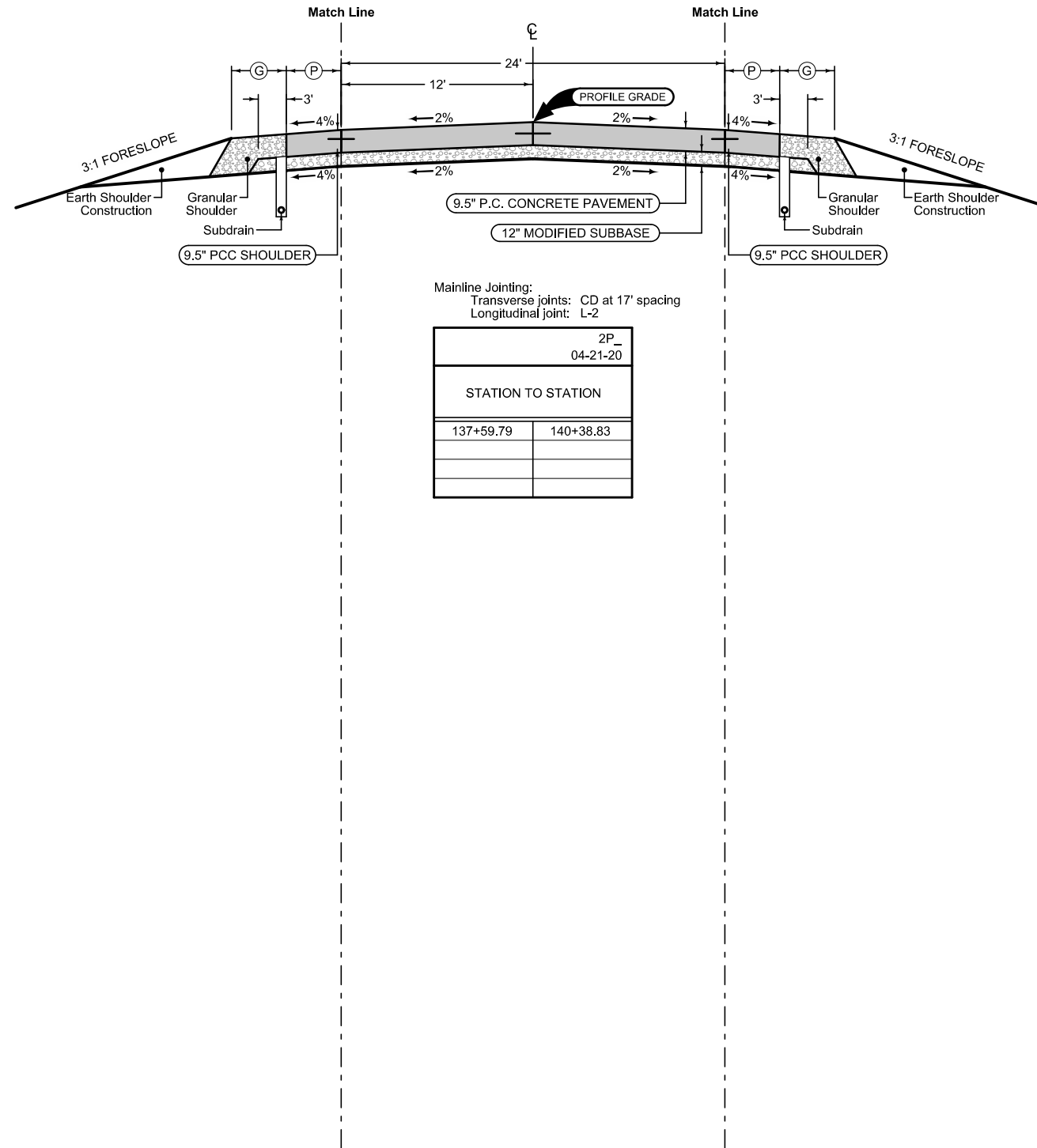
Subject to change by final design.

D5 - Date: 1-25-2022

Full Depth PCC Combination Shoulder

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

2_C_FullPCC_04-20-21			
STATION TO STATION		(P) Feet	(G) Feet
137+59.79	140+38.83	6	4



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

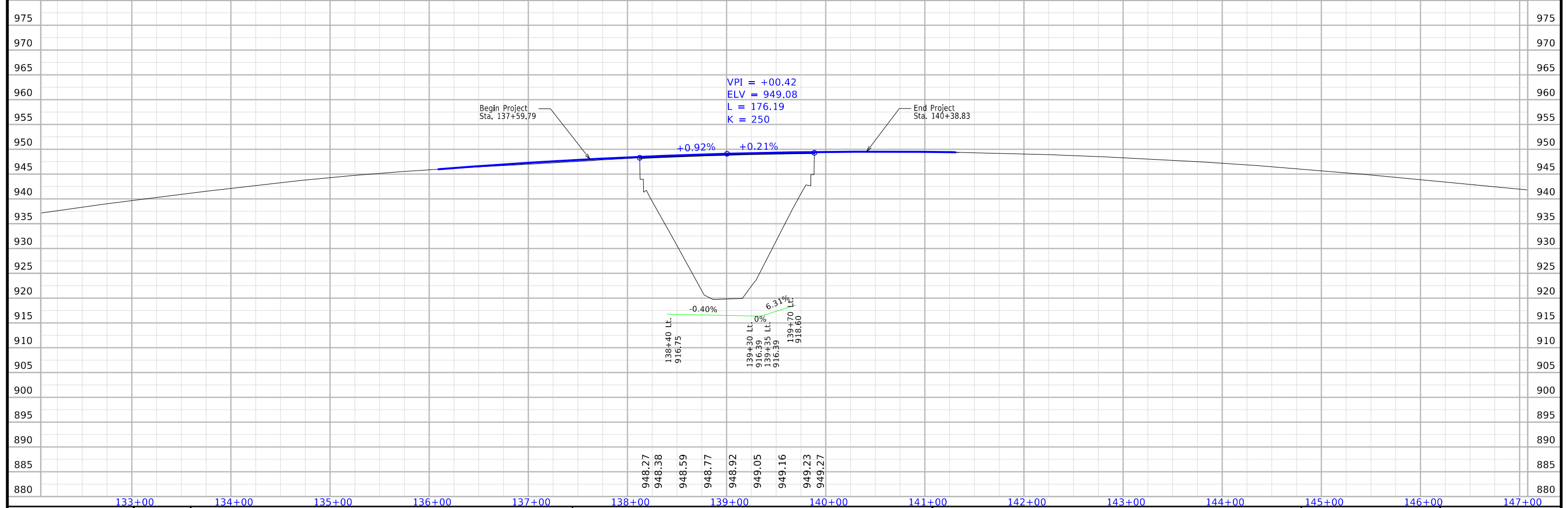
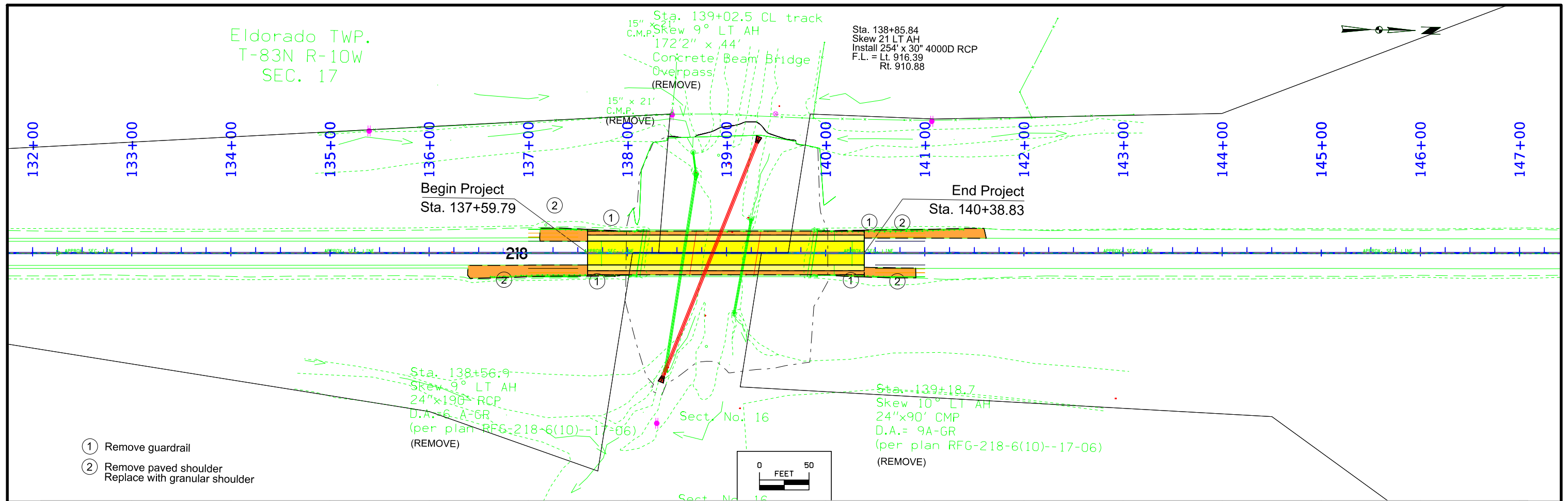
2P_04-21-20			
STATION TO STATION			
137+59.79	140+38.83		

Full Depth PCC Combination Shoulder

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

2_C_FullPCC_04-20-21			
STATION TO STATION		(P) Feet	(G) Feet
137+59.79	140+38.83	6	4

US 218



133+00	134+00	135+00	136+00	137+00	138+00	139+00	140+00	141+00	142+00	143+00	144+00	145+00	146+00	147+00
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Benton County
 BRF-218-6(58)--38-06
 Abandoned RR 2.6 mi N of N Jct. US 30
 PCC Pavement – Grade and Replace
 PIN 18-06-218-030
 Sap-761.1

Party Personnel
 Jason Page – Survey Party Chief
 John Hahn - Assistant Survey Party Chief

Date(s) of Survey
 Begin Date 03/18/2020
 End Date 08/27/2020

General Information

Measurement units for this survey are US survey feet. This survey is for proposed Bridge removal and reconstruction of US Hwy. 218 over abandoned RR grade. Project datum and control information is provided by Design Survey Office. This project is a Full DTM. This survey request was for the US Hwy. 218 corridor only.

Vertical Control

Vertical datum for this survey is NAVD88 (Computed using Geoid12b). GRS80 Ellipsoidal Height was computed at project Pts. 100, 2181363, 2181371, and GSVS 184 by conducting one concurrent six-hour static observation. Additional benchmarks were placed throughout the project using a GNSS Base-Rover setup relative to Pt. 100 and Pt. 2181363. Two observations with a minimum of four-hours between were collected and used in a weighted average.

This survey observed 1 NGS Control Monument with published NAVD88 heights to compare to local ground control:

NGS 2nd. order class I mark designated GSVS 184 has a published Elev. of 897.79
 Survey Elev. = 897.59

This survey observed 2 As-Built plan benchmarks to compare to local ground control:

BM No. 1 As-built Plans Project RFG-218-6(10)--17-06 Grade and Pave Elev. 888.69
 Survey Elev. = 889.51

BM No. 9 As-built Plan Project RFG-218-6(10)--17-06 Grade and Pave Elev. 949.50
 Survey Elev. = 950.13

Horizontal Control

The project coordinate system for this survey is Iowa RCS Zone 10 (U.S. Survey Feet). This survey control is relative to IaRTN reference stations. IaRTN Reference Station coordinates are relative to the National Reference Station network datum: NAD83 (2011) for Epoch 2010.00. Coordinates were determined by conducting one concurrent six-hour static observation at project control Pts. 100, 2181363, 2181371, and GSVS 184.

Utility Information
 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

A One-call Design Information Request (Ticket# 552005125) was made July 30, 2020. The following Companies were listed:

(ANE) ALLIANT ENERGY
 Contact Name: Alliant Energy Field Engineer
 Contact Phone: 8002554268
 Contact Email: locate_IPL@alliantenergy.com

(SSC) SOUTH SLOPE TELEPHONE
 Contact Name: Brian Frese
 Contact Phone: 3192277111
 Contact Email: brian@southslope.com

(VH2) VAN HORNE COOPERATIVE TELEPHON
 Contact Name: Ron Schnor
 Contact Phone: 3192288791
 Contact Email: ronschnor@netins.net

Following are the list of contacts made:

Alliant Energy – 7/30/2020 Received an e-mail from Randy Cink, RandyCink@alliantenergy.com, with a .pdf map attached showing their facilities in the project area.

South Slope Telephone – 7/30/2020 Received an e-mail from Brian Frese, brian@southslope.com, stating they have no facilities in the project area.

The Design Information Request (Ticket# 552005125) was converted to a Locate Request (Ticket# 552005266) on 8/06/2020. The following companies were notified:

(ANE) ALLIANT ENERGY
 Contact Name: Alliant Energy Field Engineer
 Contact Phone: 8002554268
 Contact Email: locate_IPL@alliantenergy.com
 Locate Requested: N

(SSC) SOUTH SLOPE TELEPHONE
 Contact Name: Brian Frese
 Contact Phone: 3192277111
 Contact Email: brian@southslope.com
 Locate Requested: N

(VH2) VAN HORNE COOPERATIVE TELEPHON
 Contact Name: Ron Schnor
 Contact Phone: 3192288791
 Contact Email: ronschnor@netins.net
 Locate Requested: N

As of August 6, 2020, all tickets were closed and reported as clear. No marking took place in the field. Alliant Energy overhead electric facilities were surveyed on 8/04/20.

SURVEY SYMBOLS

- CP Control Point
- ▲ SCR Section Corner
- EP Edge of Paved Roads (ML or SR)
- WC Wild Card (Misc. Field Shot)
- BL Topo Breakline
- GDL Guard Rail Steel
- SH Paved Shoulder
- CU Back of Curb
- GU Gutter In Front of Curb
- C Centerline BL of Road (ML or SR)
- SNP Unpaved Shoulder
- LIN Miscellaneous Line
- BRG Bridge
- BD Bridge Deck
- BCL Bridge Centerline
- GR Ground Shot
- PPA Power Pole Co. 1
- ↓ PLG Location of General Photo
- D Centerline Draw or Stream (Down)
- FW Wire Fence
- ⊗ INB Storm Sewer Beehive Intake
- DU Centerline Draw or Stream (Up)
- PIP Pipe Culvert
- SOP Size of Pipe or Culvert
- CON Concrete or A/C Slab
- ENT Centerline BL of Entrance
- ENU Edge Unpaved Entrance & Parking
- ENP Edge Paved Entrance & Park Lot
- TOP Top of Bridge Pier
- BLS Bridge Low Steel
- PRO Profile Shot
- SBR Size of Bridge

SURVEYED UTILITY OWNER SYMBOLS

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

● PPA Power Pole Alliant Energy

Survey Information

Benton County
BRF-218-6(58)—38-06
Abandoned RR 2.6 mi N of N Jct. US 30
PCC Pavement – Grade and Replace
PIN 18-06-218-030
Sap-761.1

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BM No. 9 As-built Plan Project RFG-218-6(10)—17-06 Grade and Pave Elev. 949.50
Survey Elev. = 950.13

Alignment Information

The horizontal alignment for this survey is a retrace of As-built Plans Project Nos. RFG-218-6(10)—17-06 and FN-58 ROW. Survey stationing was equated to the RFG-218-6(10)—17-06 plan POT at Sta. 125+00.00 and run back and ahead without equation throughout the survey.

Survey stationing relates to as built plan stationing as follows:

PI Sta. 105+77.3 As-built Plans Project No. FN-58 ROW
Survey PI Sta. 105+82.35

PI Sta. 115+77.0 As-built Plans Project No. FN-58 ROW
Survey PI Sta. 115+82.07

POT Sta. 125+00.0 As-built Plans Project No. RFG-218-6(10)—17-06
Survey POT Sta. 125+00.00

POT Sta. 132+25.7 As-built Plans Project No. FN-58 ROW
Survey POT Sta. 132+25.72

POT Sta. 139+02.53 As-built Plans Project No. RFG-218-6(10)—17-06
Survey POT Sta. 139+02.51

POT Sta. 158+29.70 As-built Plans Project No. RFG-218-6(10)—17-06
Survey POT Sta. 158+28.59

PI Sta. 158+65.9 As-built Plans Project No. FN-58 ROW
Survey PI Sta. 158+63.82

Horizontal Control

The project coordinate system for this survey is Iowa RCS Zone 10 (U.S. Survey Feet). This survey control is relative to IaRTN reference stations. IaRTN Reference Station coordinates are relative to the National Reference Station network datum: NAD83 (2011) for Epoch 2010.00. Coordinates were determined by conducting one concurrent six-hour static observation at project control Pts. 100, 2181363, 2181371, and GSVS 184.

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PI Sta. 115+77.0 As-built Plans Project No. FN-58 ROW
Survey PI Sta. 115+82.07

POT Sta. 125+00.0 As-built Plans Project No. RFG-218-6(10)—17-06
Survey POT Sta. 125+00.00

POT Sta. 132+25.7 As-built Plans Project No. FN-58 ROW
Survey POT Sta. 132+25.72

POT Sta. 139+02.53 As-built Plans Project No. RFG-218-6(10)—17-06
Survey POT Sta. 139+02.51

POT Sta. 158+29.70 As-built Plans Project No. RFG-218-6(10)—17-06
Survey POT Sta. 158+28.59

PI Sta. 158+65.9 As-built Plans Project No. FN-58 ROW
Survey PI Sta. 158+63.82

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 10

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

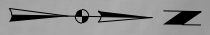
VERT. DATUM: NAVD88

Ia. Regional Coordinate System Zone 10

Project Control Marks are Benchmarks

Point Name	North Coordinate	East Coordinate	Elevation	Feature Code- Monument Description
100	8061421.874	20401589.273	946.408	CP SET 5/8X40 RBR W/DIMPLE TOP BRIDGE BERM 28FT WEST OF CTR HWY 218 AND 91FT SSW OF END SW WING RR OVERPASS BRIDGE
2181363	8059241.416	20401712.087	886.495	CP FD CONC MON 58FT EAST OF CTR US HWY 218 AND 90FT SE OF IHC BRASS PLUG INLT HDWLL RCB AND 125FT SOUTH OF CONC MON
2181371	8063722.660	20401658.496	929.125	FENO SET FENO MON 155FT NORTH OF CTR CO RTE E 44 AND 80FT EAST OF CTR US HWY 218 AND 1.2FT NW OF 5/8 RBR REF POINT
GSVS184	8047515.705	20408100.685	897.594	CP FD NGS VERT ORDER - SECOND CLASS I CONC MON DESIGNATED GSVS 184 WITH WITNESS POST 320FT WEST OF MM 235 AND 44FT SOUTH OF EDGE LINE E BOUND US HWY 30

NO ACCESS RIGHTS ARE TO BE ACQUIRED ON THIS PROJECT.



Eldorado TWP.
T-83N R-10W
SEC. 17

1

Sta. 139+02.5 CL track
Skew 9° LT AH
172'2" x 44'
Concrete Beam Bridge
Overpass

LYNN RINDERKNECHT
PEGGY RINDERKNECHT

15" x 21'
C.M.P.

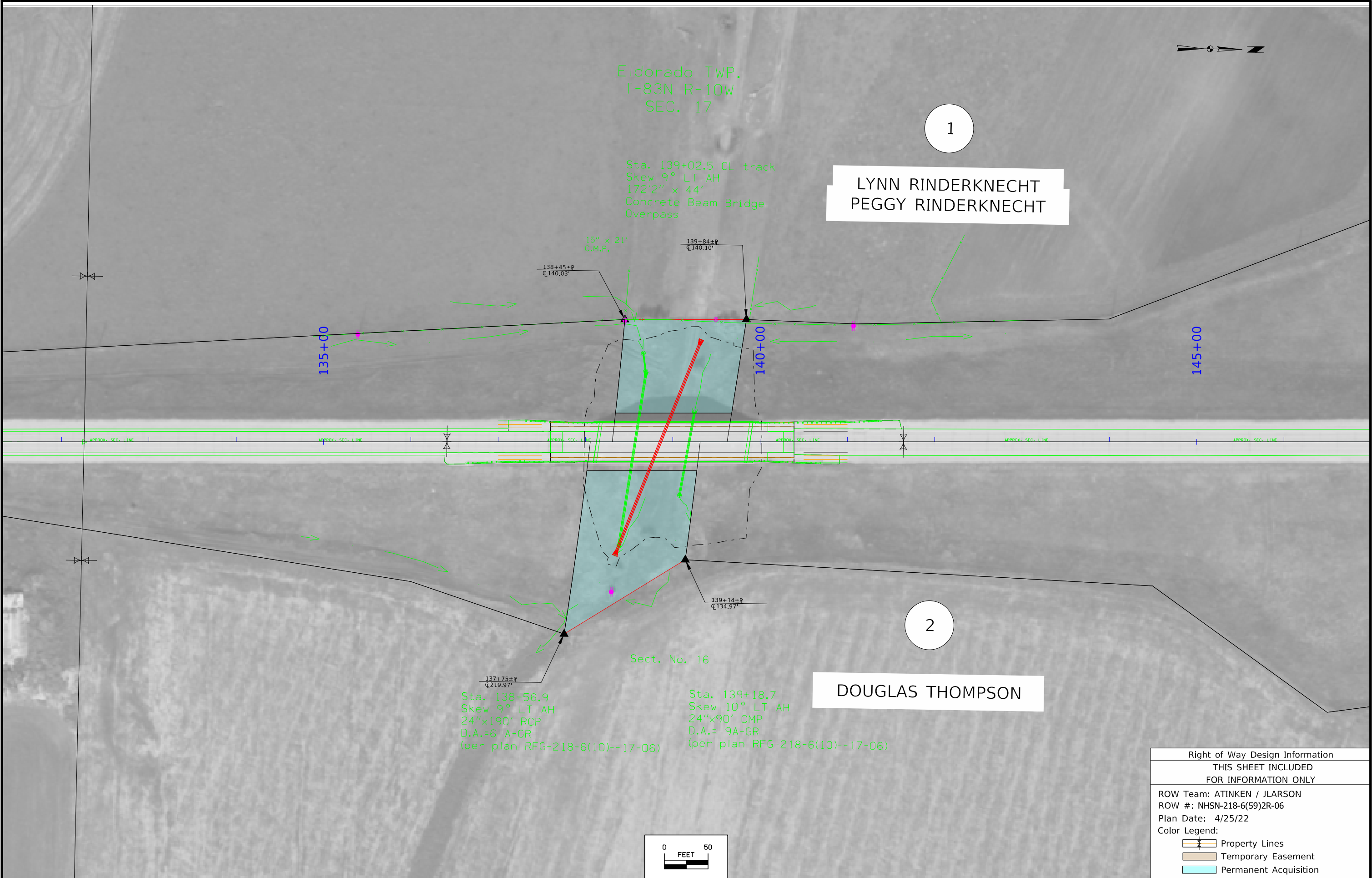
139+84±P
Q 140.10'

138+45±P
Q 140.03'

135+00

140+00

145+00



Sect. No. 16

2

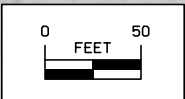
DOUGLAS THOMPSON

Sta. 138+56.9
Skew 9° LT AH
24"x190' RCP
D.A.=6 A-GR
(per plan RFG-218-6(10)--17-06)

Sta. 139+18.7
Skew 10° LT AH
24"x90' CMP
D.A.= 9A-GR
(per plan RFG-218-6(10)--17-06)

137+75±P
Q 219.97'

139+14±P
Q 134.97'



Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: ATINKEN / JLARSON	
ROW #: NHSN-218-6(59)2R-06	
Plan Date: 4/25/22	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition

TRAFFIC CONTROL PLAN

108-23A
08-01-08

U.S. 218 will be closed during construction. Through traffic shall be detoured to U.S. 30, V66, and IA 199.
Refer to J.2-3 sheets for the proposed detour.

511 TRAVEL RESTRICTIONS

108-25
10-21-14

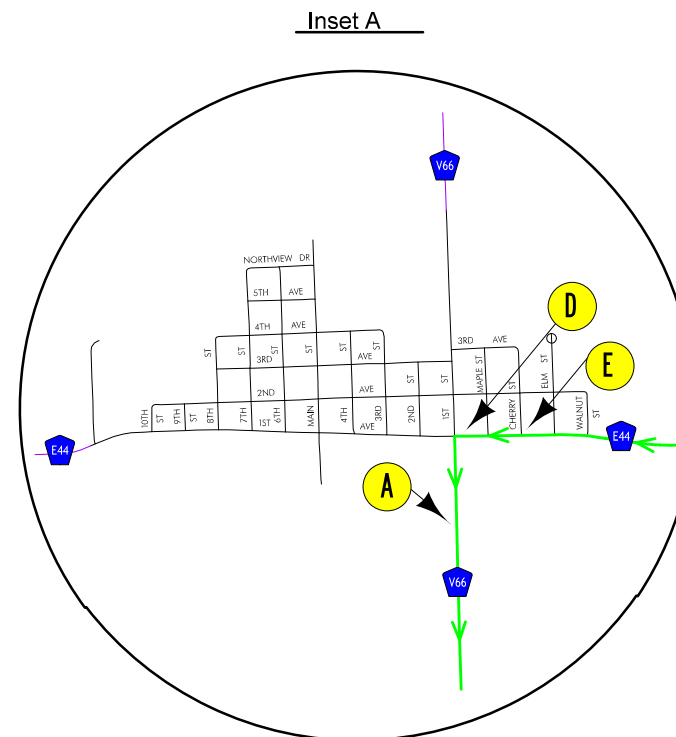
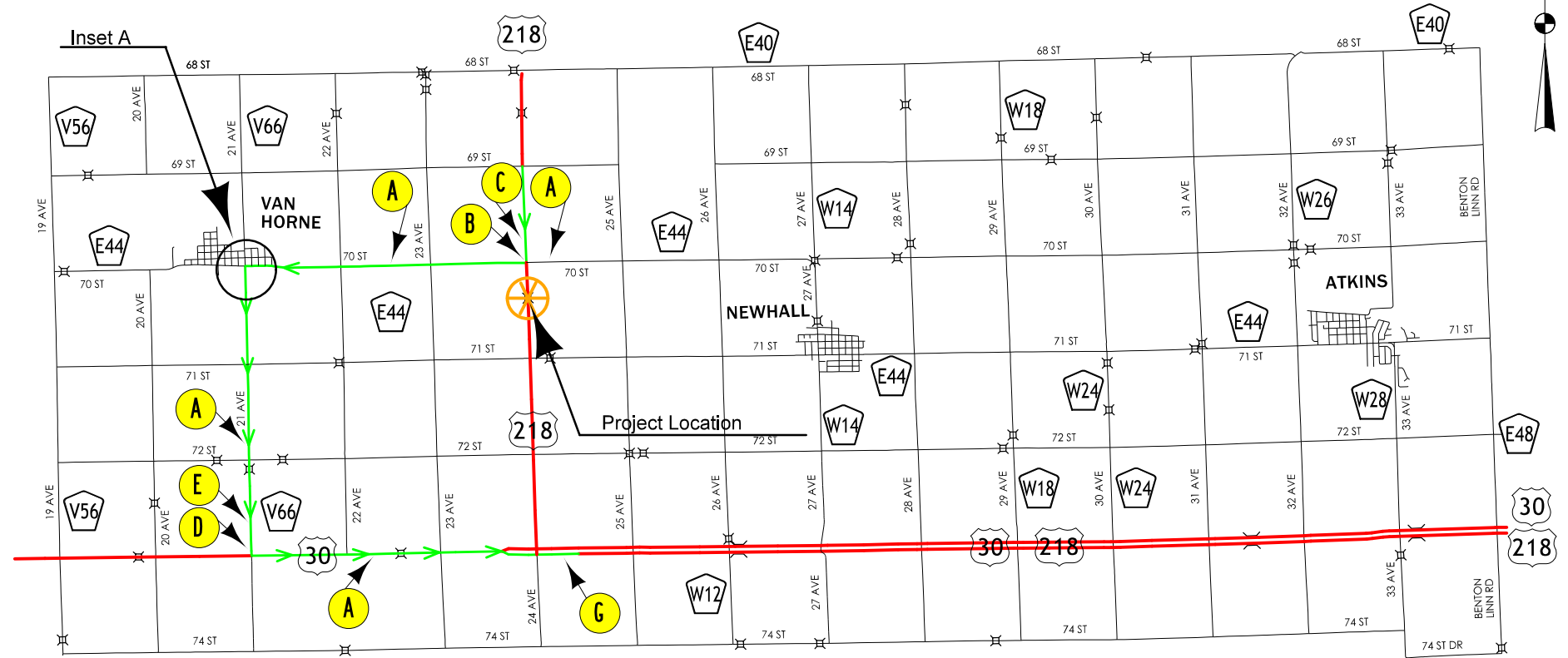
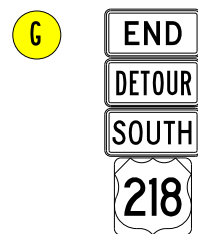
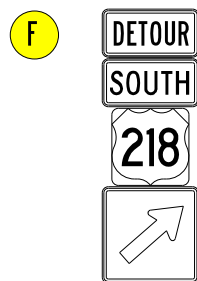
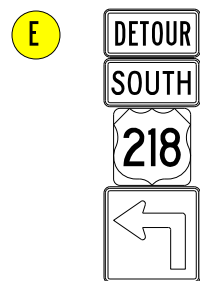
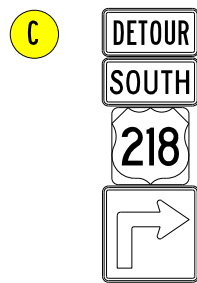
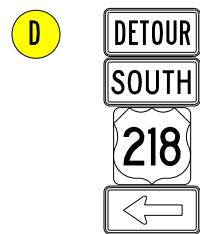
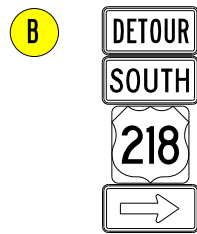
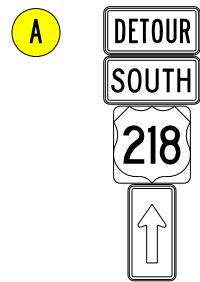
Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
			No Travel Restrictions Expected									

COORDINATED OPERATIONS

111-01
04-17-12

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	

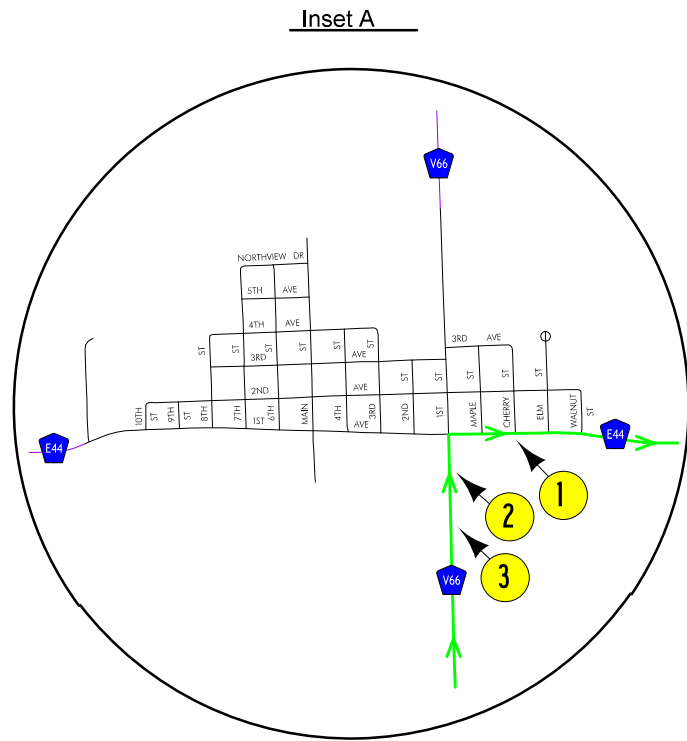
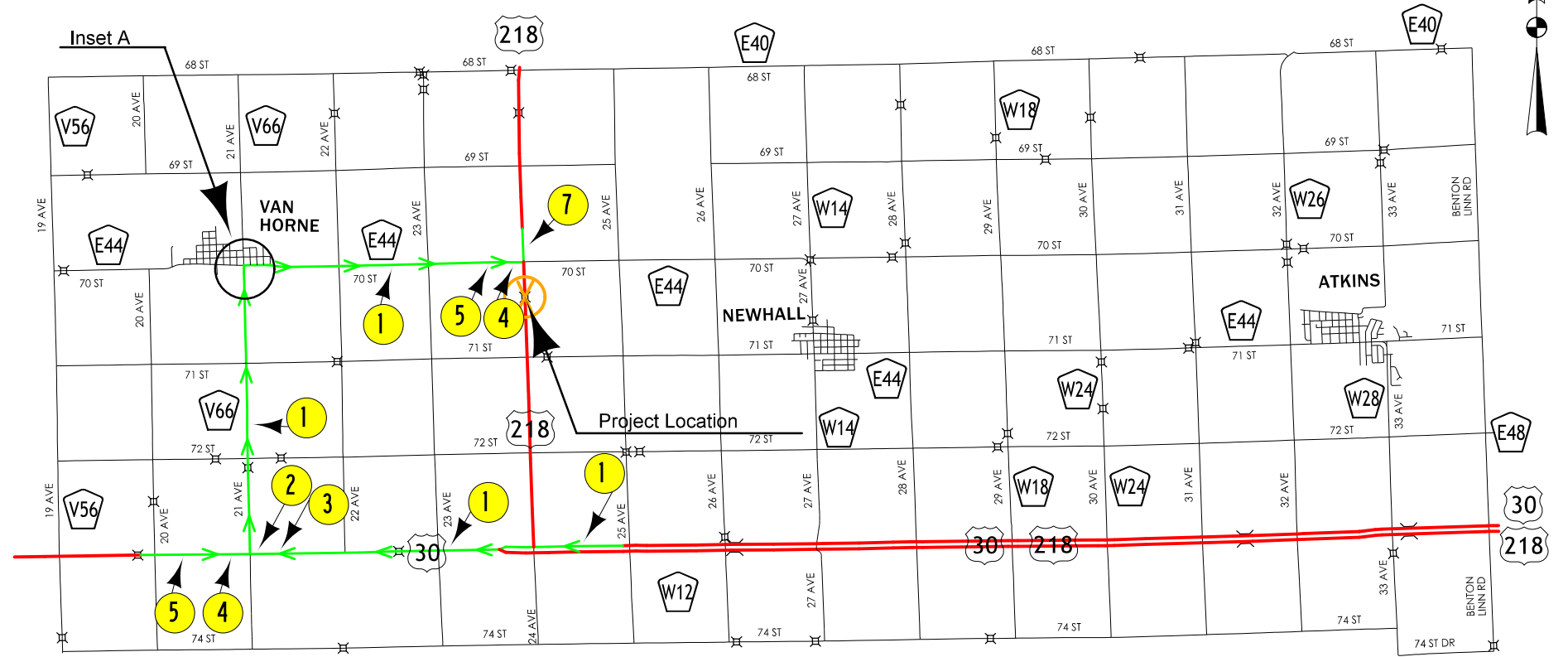
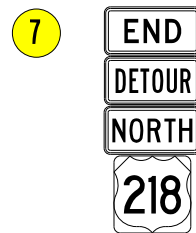
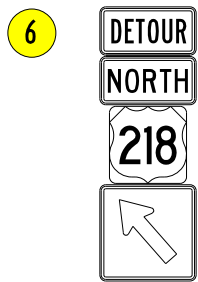
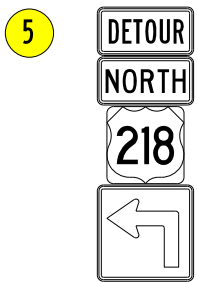
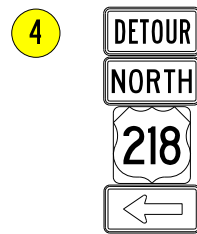
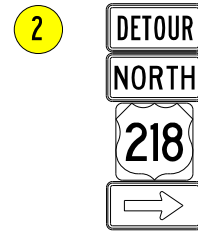
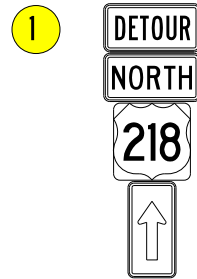




= Location of project
 = Detour Route

NOTE:
 The quantity of detour signs and the locations provided are for guidance. If field conditions (i.e. grade, existing signs, etc.) require a modification, additional signs, or safety concerns arise, please contact the project supervisor and the appropriate accommodations will be made.

NOT TO SCALE

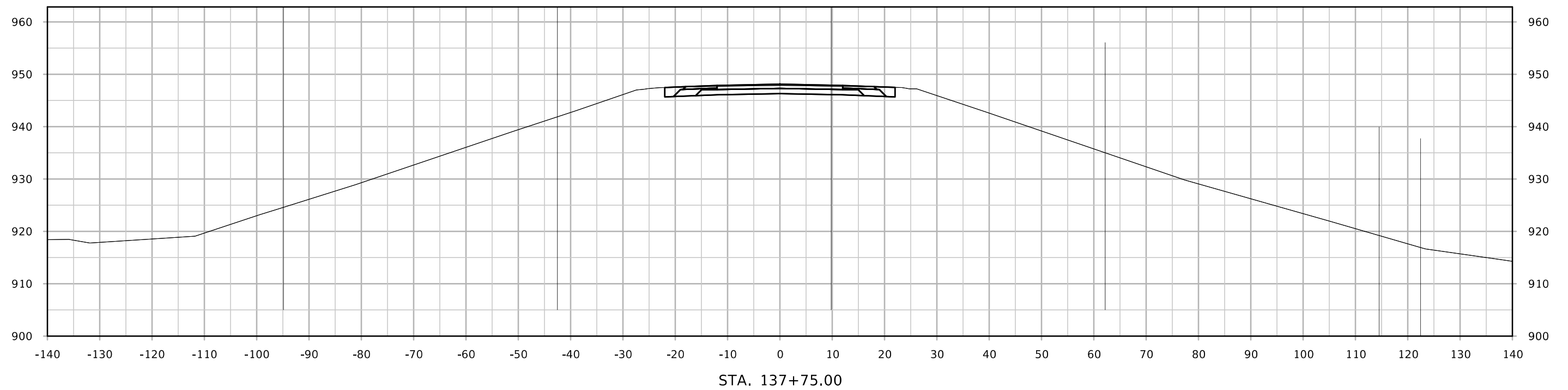
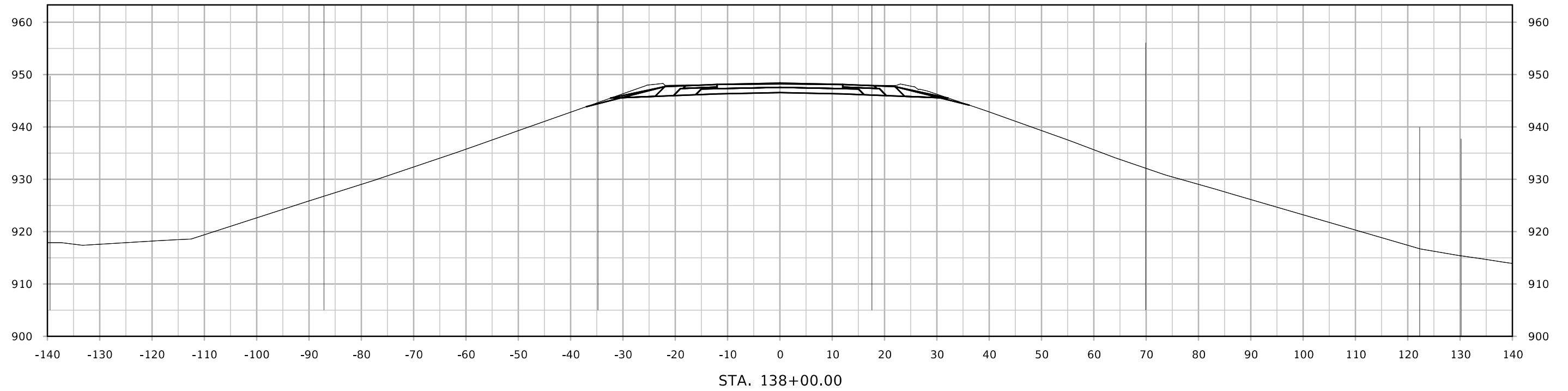
US 218 Detour Signing
 Southbound

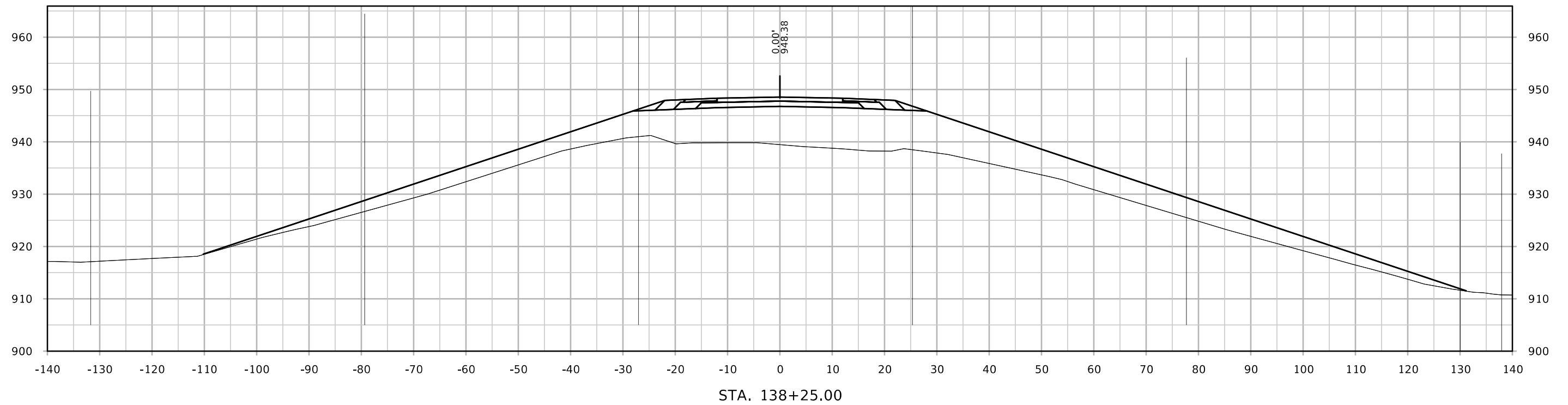
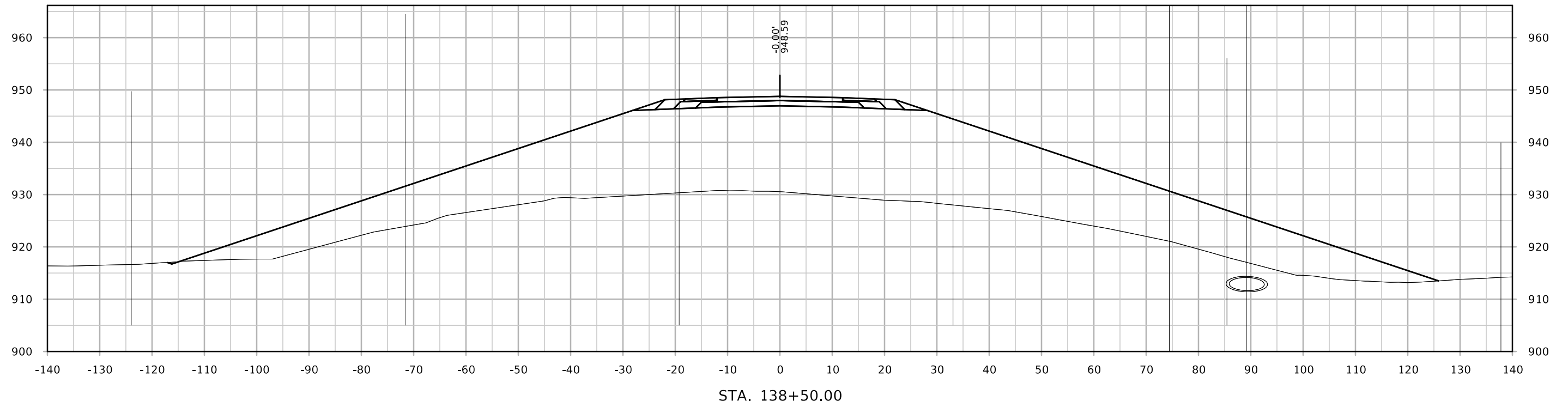


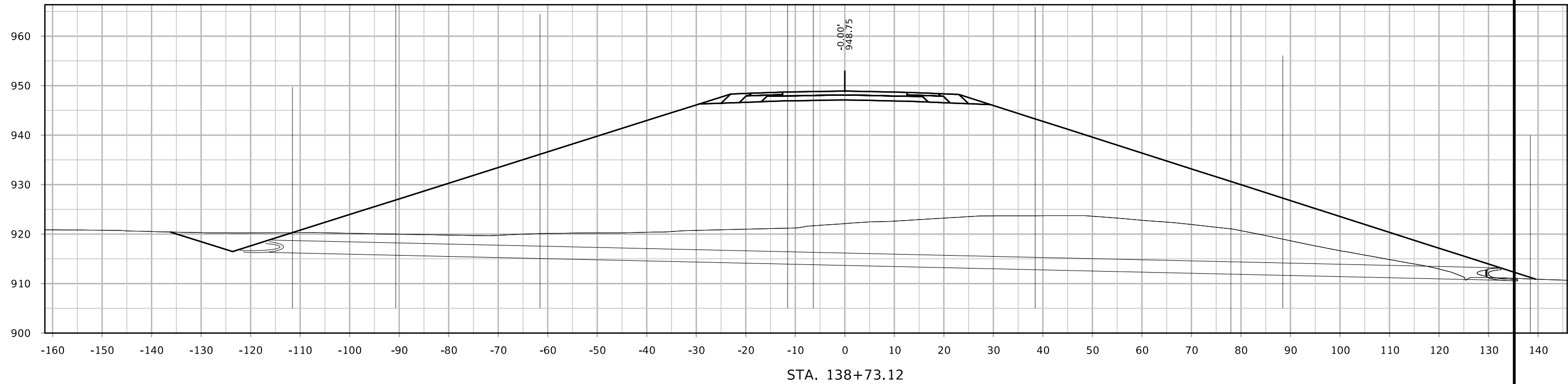
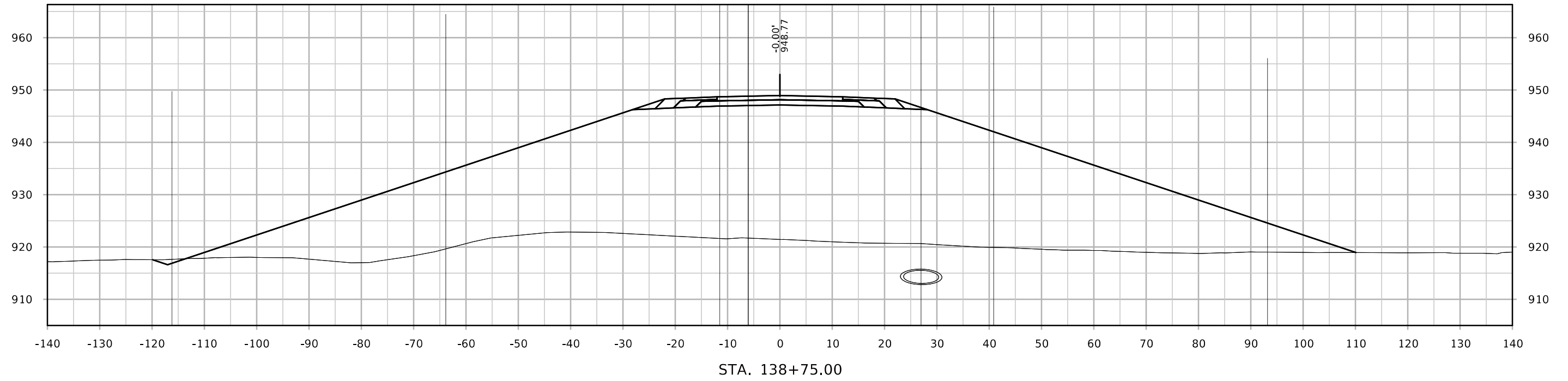
 = Location of project
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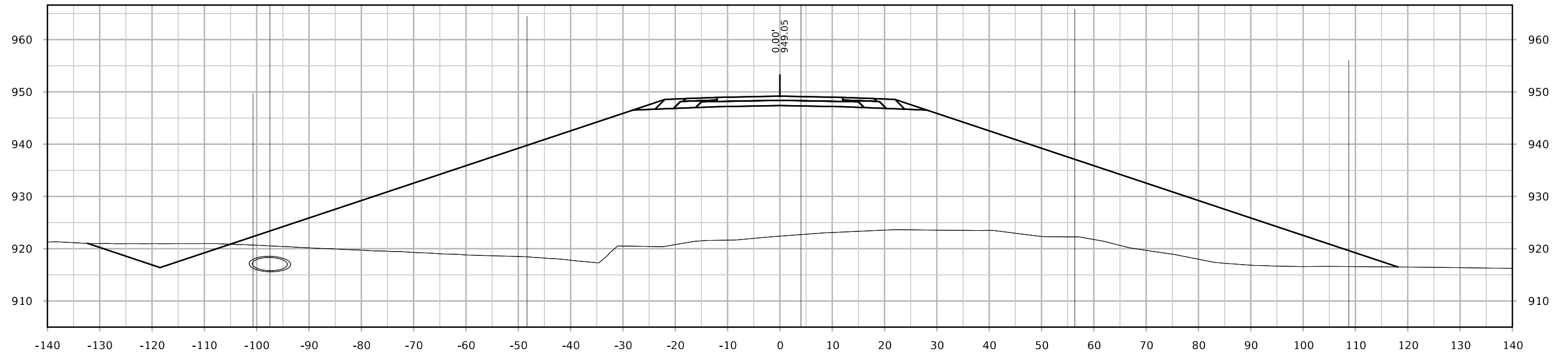
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NOT TO SCALE
 US 218 Detour Signing
 Northbound

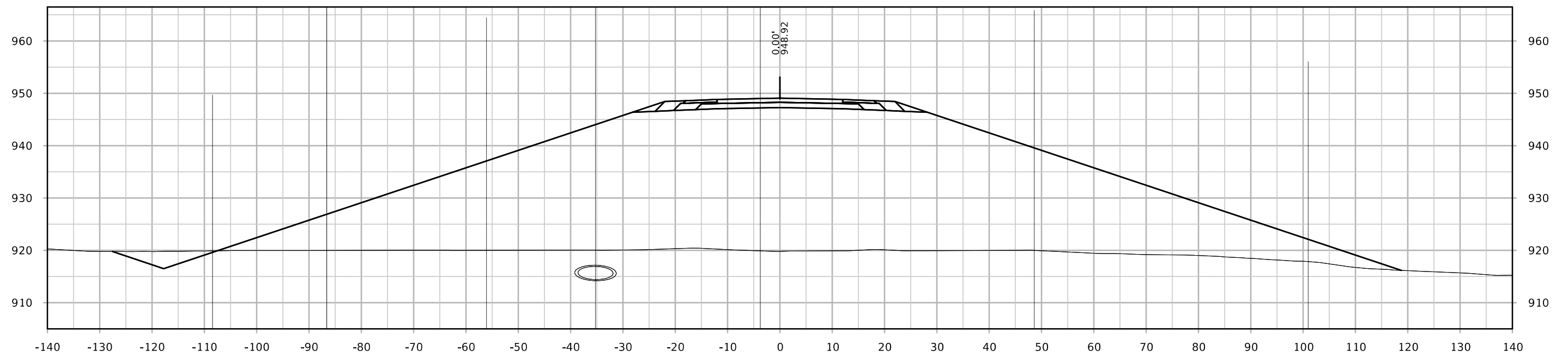








STA. 139+25.00



STA. 139+00.00

