



JEB:sad

Attach.

cc:

C. Purcell  
S. J. Megivern  
M. Nop  
D. R. Tebben  
J. W. Laaser-Webb  
E. C. Wright  
N. M. Miller  
B. E. Azeltine  
S. Anderson  
K. K. Patel  
S. Mefford  
R. Moraine  
M. Solberg  
W. Mayberry  
FHWA

M. J. Kennerly  
J. S. Nelson  
M. A. Swenson  
K. Brink  
W. A. Sorenson  
M. E. Ross  
C. C. Poole  
T. D. Crouch  
P. C. Keen  
S. Godbold  
J. Garton  
D. Redmond  
S. Suhr  
E. Engle

K. D. Nicholson  
B. Walls  
R. A. Younie  
D. L. Newell  
D. E. Sprengeler  
A. A. Welch  
B. Hofer  
S. J. Gent  
J. Selmer  
D. R. Claman  
O. Lechnowsky  
K. Shackelford  
J. Woodcock  
M. Hobbs

## FINAL PROJECT CONCEPT STATEMENT

U.S. 169 Bridge over abandoned railroad, 2.8 miles north of north junction of U.S. 34

Union County  
Project No. BRFN-169-2(25)--39-88  
PIN: 18-88-169-010  
Maint. No. 88049.2S169  
FHWA No. 50131

Highway Division  
Design Bureau

John Bartholomew, P.E.  
515-239-1540

May 14, 2020

### I. STUDY AREA

#### A. Project Description

This project involves the replacement of the U.S. 169 bridge (Maint. No. 88049.2S169) over abandoned railroad, 2.8 miles north of the U.S. 34 junction.

There are two alternatives being considered:

1. Install a 30", 4000D strength reinforced concrete pipe under the existing bridge using the flowable mortar method. The cost of this project will be **\$875,400**.
2. Install a 30", 4000D strength reinforced concrete pipe and remove the existing bridge. This will require the closure of US 169 and traffic to utilize an off-site detour for a period of 30 days. The cost of this project will be **\$1,246,900**

Alternative 2 is the preferred alternative due to the preference to remove the bridge deck and beams. The district does not want to keep up with the continuous maintenance that is sometimes involved with leaving the existing deck in place.

#### B. Need for Project

This is a 246' by 44' pre-stressed concrete beam bridge built in 1975 and is over an abandoned railroad. The top and bottom of the deck have several hollow areas and leaching transverse cracks that need to be remedied with an overlay. The existing deck joints are leaking and are causing corrosion of the pre-stressed concrete beam ends and erosion of the berms-due to this it is advised that they be replaced. The existing railroad line is now abandoned; therefore, this bridge should be removed.

*Left profile, N-F*



*Far abutment joint looking south.*



*Pier 1 far face*



*\*\*These photos were obtained from SIMMS\*\**

C. Present Facility

The existing structure is a 246' x 44' pre-stressed concrete, stringer/multi-beam or girder bridge constructed in 1975.

U.S. 169 in the project area is 24' wide PCC pavement with 10' granular shoulders and 4:1 foreslopes, constructed in 1975. AAC resurfacing was done in 1998.

D. Traffic Estimates

The 2023 construction year and 2043 design year average daily traffic estimates are 1,200 ADT with 16 % trucks and 1,200 ADT with 17 % trucks, respectively.

E. Sufficiency Ratings

U.S. 169 is classified as an "access" route and is a maintenance service level "C" roadway. The federal bridge sufficiency rating is 83.8.

F. Access Control

Access rights will not be acquired for this project.

G. Crash History

During the five-year study period from January 1, 2014 through December 31, 2018, there were 7 crashes including: 1 fatal crash, 3 personal injuries, and 3 personal property crashes.

II. PROJECT CONCEPT

A. Feasible Alternatives

**Alternative #1 - Maintain existing structure and turn into an RCP culvert with the Flowable Mortar Method**

Maintain the existing structure and place a 250 ft. long by 30" diameter reinforced concrete pipe (RCP) underneath the existing structure utilizing the flowable mortar method.

The typical cross section will consist of a 24 ft. roadway with 10 ft. granular shoulders and 6:1/3:1 foreslopes. The roadway will be constructed on the existing horizontal and vertical alignment. The existing ditches will need to be relocated to meet the flowlines of the new RCP culvert. After the RCP culvert has been constructed, class 10 contractor borrow will be placed over the pipe and then 5' of flowable mortar will be used to fill the void between the class 10 contractor borrow and bridge deck. Once the new embankment for the shoulders and 6:1/3:1 foreslopes have been placed adjacent to the bridge, the existing concrete bridge barrier, curb, and guardrail can be removed.

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

Right of way does not appear to be required for this project.

Traffic will be maintained at all times; however, it will be necessary to reduce traffic down to one lane via the use of flaggers during the placement of flowable mortar, and removal of the bridge rails.

<b>Bridge Items</b>	
30" 4000D Strength RCP	\$50,000
Apron, Conc., 30"	\$4,000
Bridge Rail Removal	\$3,500
Mobilization @ 5%	\$2,875
M&C @ 15%	<u>\$8,625</u>
<b>Bridge Costs</b>	<b>\$ 69,000</b>
<b>Roadway Items</b>	
Embankment in place, Contractor Furnished	\$115,000
Floodable Backfill	\$250,000
Guardrail removal	\$5,000
Flowable Mortar	\$195,000
Engineering Fabric	\$1000
Erosion Control	\$10,000
Temporary Traffic Control @ 5%	\$28,800
Mobilization @ 5%	\$28,800
M&C @ 30%	<u>\$172,800</u>
<b>Roadway costs</b>	<b>\$ 806,400</b>
<b>Project Total</b>	<b>\$875,400</b>

**Alternative #2 – Removal of existing bridge deck/beams using an off-site detour**

The existing 246 ft. x 44 ft. bridge will be replaced with 24 ft. wide roadway with 10 ft. granular shoulders and 4:1 foreslopes, including a 250 ft. by 30" RCP to maintain existing drainage. The new roadway will be built on existing horizontal and vertical alignment.

The contractor will place and compact embankment under the existing bridge. Once as much embankment as possible has been placed and compacted, the roadway will be closed for the removal of the bridge deck, beams, adjacent bridge approach sections, placement of the remaining quantities of embankment, and construction of the new roadway. The new roadway will consist of 24 ft. wide PCC pavement with 10ft. granular shoulders

The closure for the removal of the existing bridge deck and beams and the construction of the new roadway will take approximately 30 days. Traffic will be detoured to an off-site detour to be set by the District Office.

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

Right of way does not appear to be required for this project.

**Bridge Items**

30" 4000D Strength RCP	\$50,000
Apron, Conc., 30"	\$4,000
Bridge Deck and Beam Removal	\$165,000
Mobilization @ 5%	\$10,950
M&C @ 15%	<u>\$32,850</u>
<b>Bridge Costs</b>	<b>\$ 262,800</b>

**Roadway Items**

Embankment in place, Contractor Furnished	\$168,600
Topsoil, strip, salvage, spread	\$33,250
Floodable Backfill	\$309,500
Guardrail removal	\$5,000
Engineering Fabric	\$1,000
Special Backfill	\$46,600
Granular Subbase	\$16,850
PCC Pavement (9.5")	\$68,000
Pavement Removal	\$8,500
Granular Shoulder	\$27,600
Longitudinal Subdrain	\$5,800
Subdrain Outlet	\$2,200
Erosion Control	\$10,000
Temporary Traffic Control @ 5%	\$35,150
Mobilization @ 5%	\$35,150
M&C @ 30%	<u>\$210,900</u>
<b>Roadway costs</b>	<b>\$ 984,100</b>

**Project Total** **\$1,246,900**

B. Detour Analysis

Traffic will be maintained by an off-site detour to be determined by the District 4 Office.



C. Recommendations

It is recommended that the present structure be removed and replaced with new pavement as described in Alternative 2.

D. Construction Sequence

It is anticipated that all work on this project will be awarded to one prime contractor. The Design Bureau will coordinate the plan preparation with assistance from the the Bridges and Structures Bureau.

E. ADA Accommodations

There are no bike paths or sidewalks adjacent to U.S. 169; therefore, no ADA accommodations are planned in conjunction with this project.

F. Special Considerations

The Soils Office has determined that there should be minimal settling due to the soil composition being mostly stiff to firm glacial clay. While it is not anticipated that there will be a lot of settlement, Soils has recommended the removal of 1 ft. of soft soil under the bridge to mitigate settlement.

This will not be a traffic critical project.

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

Right of Way does not appear to be required for this project.

The Bureau of Location and Environment has completed a desktop review of the project area and determined that it is unlikely that the project will require a Section 404 permit.

F. Program Status

Site data has been developed by the Office of Design. This project is listed in the 2020-2024 Iowa Transportation Improvement Program, with \$1,500,000 programmed for replacement in FY 2023. Costs for this project will be eligible for bridge replacement funds pending federal approval. A schedule of events will be developed following approval of the Project Concept.

JEB:sad

**UNION CO.**  
**PCC PAVEMENT - GRADE AND REPLACE**  
**BRFN-169-2(25)--39-88**

LETTING DATE  
 09-20-2022



**Highway Division**

PLANS OF PROPOSED IMPROVEMENT ON THE

**PRIMARY ROAD SYSTEM**

**UNION COUNTY**

**PCC PAVEMENT - GRADE AND REPLACE**

Abandoned RR 2.8 m1 N of N Jct US 34

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

PROJECT IDENTIFICATION NUMBER

18-88-169-010

PROJECT NUMBER

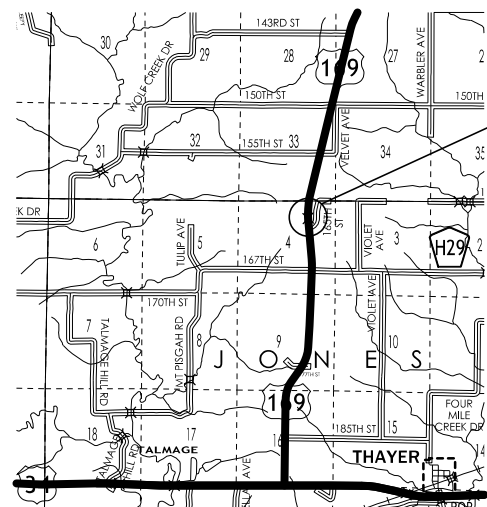
BRFN-169-2(25)--39-88

R.O.W. PROJECT NUMBER

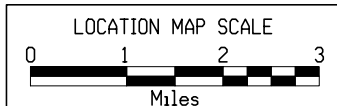
STPN-169-2(26)--2J-88

**INDEX OF SHEETS**

No.	DESCRIPTION
<b>A Sheets</b>	<b>Title Sheets</b>
A.1	Title Sheet
A.2 - 6	Concept
A.7 - 9	Design Criteria
A.10	D2 Questionnaire
<b>B Sheets</b>	<b>Typical Cross Sections and Details</b>
B.1	Typical Cross Sections and Details
<b>D Sheets</b>	<b>Mainline Plan and Profile Sheets</b>
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2	US 169
<b>G Sheets</b>	<b>Survey Sheets</b>
G.1	Survey Information
G.2	Control Point Map
G.3	Horizontal and Vertical Control Coordinates
<b>J Sheets</b>	<b>Traffic Control and Staging Sheets</b>
J.1	Traffic Control Plan
<b>W Sheets</b>	<b>Mainline Cross Sections</b>
W.1 - 11	Mainline Cross Sections
	* Color Plan Sheets



Sta. 150+32.68  
 Project Location  
 Ref. Loc. 49.2  
 Main. # 8849.2S169  
 FHWA # 50131



**DESIGN DATA RURAL**

2023	AADT	1200	V.P.D.
2043	AADT	1200	V.P.D.
20--	DHV	--	V.P.H.
	TRUCKS	17	%
	Total		
	Design ESALs	--	

**INDEX OF SEALS**

SHEET NO.	NAME	TYPE
A.1	Dung Ta	Primary Signature Block
X	X	X

**PRELIMINARY PLANS**

Subject to change by final design.

**D2 PLAN - Date: 7/10/2020**

FILE NO.

ENGLISH

DESIGN TEAM **Ta \ Tap \ Va1s**

UNION COUNTY

PROJECT NUMBER

**BRFN-169-2(25)--39-88**

SHEET NUMBER

**A.1**

11:14:08 AM 7/15/2020

ctap

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Highway Division  
Design Bureau

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515-239-1540

May 14, 2020

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Page 2

*Left profile, N-F*



*Far abutment joint looking south.*



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E. ADA Accommodations

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F. Special Considerations

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JEB:sad



<b>Roadway</b>	US 169		
<b>PIN Number</b>	18-88-169-010	<b>Submittal Date</b>	07/09/20
<b>Project Number</b>	BRFN-169-2(25)--39-88		<b>Approval Date</b>
<b>District</b>	District 4	<b>Assistant District Engineer</b>	
<b>County</b>	UNION	<b>or</b>	
<b>Route</b>	US 169	<b>Office Director</b>	Mike Kennerly
<b>Location</b>	Abandoned RR 2.8 mi N of N Jct US 34		
<b>Work Type</b>	PCC Pavement-Grade and Replace		
<b>Segment Manager</b>	Dung Ta		
<b>Designer</b>	Cory Tap/Matt Vais		

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

### Rural Two-Lane Highways (Rural Arterials)

Design Element	Preferred	Acceptable	Project Values
Design speed (mph)	60	50	60
Maximum superelevation rate (Refer to Section 2A-2)	6%	8%	6%
Design lane width (ft)	12	12	12
Full depth paved width (ft)	12	12	12
Right turn lane (ft)	12	10	N/A
Climbing Lane (ft)	12	12	N/A
Left turn lane (ft)	12	10	N/A
Pavement cross-slope (on tangent sections)	Through lanes	2%	2%
	Auxiliary and turn lanes	3%	N/A
	Crown break at centerline	4%	4%
Shoulder cross-slope (on tangent sections)	4%	Shoulder cross-slope cannot be less than the adjacent lane, 6% max for paved or granular shoulders, 8% max for earth shoulders	4%
Curb type (Refer to Section 3C-2)	Design speed = 50 or 55 mph	6-inch sloped	N/A
	Design speed ≥ 60 mph	4-inch sloped	N/A
Foreslope (For fill areas greater than 40 ft, contact the Soils Design Section for assistance)	Adjacent to shoulder	10:1 for 4' then 6:1	4:1
	Beyond standard ditch depth and design clear zone	3.5:1	N/A
	Curbed roadways	2%	N/A
Backslope (For cut areas greater than 25 feet, contact the Soils Design Section for assistance with backslope benches.)	3:1	2.5:1	3:1
Transverse Slopes	w/ drainage structures	8:1	N/A
	w/o drainage structures	10:1	N/A
Ditches (Refer to Section 3G-1)	Outside ditch (depth x width) (ft)	5 x 10	5 x 10
Bridge width—new*	Bridge length ≤ 200 ft	design lane widths + effective shoulder widths	N/A
	Bridge length > 200 ft	design lane widths + effective shoulder widths	N/A
Bridge width—existing*		design lane widths + no less than 2 ft left and right	N/A
Vertical clearance (ft) (above lanes, shoulders and 25 feet left and right of the center of railroad tracks)	Over primary	16.5	N/A
	Over non-primary	16.5 at interchange locations, 15 at all other locations	N/A
	Over railroad	23.3	N/A
	Sign trusses and pedestrian bridges	17.5	N/A
Structural Capacity		Contact Office of Bridges and Structures	N/A
Level of Service		B	B

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



Roadway Design Speed (mph) =		60														
Design Manual Section 1C-1 Last Updated: 04-29-19		Design Criteria for High Speed Roadways														
Design Element	Preferred Criteria						Acceptable Criteria						Project Values			
	Design Speed, mph						Design Speed, mph									
		50	55	60	65	70	75	50	55	60	65	70	75			
Stopping sight distance (ft) (Refer to Section 6D-1)		425	495	570	645	730	820	425	495	570	645	730	820	570		
Minimum horizontal curve radius (ft) (Refer to Sections 2A-2 and 2A-3)	Method 5 superelevation and side friction distribution	e <sub>max</sub> = 6%		833	1060	1330	1660	2040	2500	833	1060	1330	1660	2040	2500	1330
		e <sub>max</sub> = 8%		--	--	--	--	--	--	--	--	758	960	1200	1480	1810
Minimum vertical curve length (ft) (Refer to Section 2B-1)		150	165	180	195	210	225	150	165	180	195	210	225	180		
Minimum rate of vertical curvature (K) (Refer to Section 2B-1)	crest vertical curves		84	114	151	193	247	312	84	114	151	193	247	312	151	
	sag vertical curves	roadways without fixed-source lighting	96	115	136	157	181	206	96	115	136	157	181	206	N/A	
		roadways with fixed-source lighting	96	115	136	157	181	206	54	66	78	91	106	121	N/A	
Minimum gradient (%) (Refer to Section 2B-1)		0.5						0.3% with a curb, 0.0% without a curb						0.0		
Maximum gradient (%) (Refer to Section 2B-1)	Urban roadways		4		3				7	6	6	--	--	--	N/A	
	Rural roadways		4		3				5	5	4	4	4	4	3	
	Interstates		4		3				5	5	4	4	4	4	N/A	
Clear zone		See "Preferred Clear Zone" table in Section 8A-2						See "Acceptable Clear Zone" table in Section 8A-2						32		

## D2 QUESTIONNAIRE

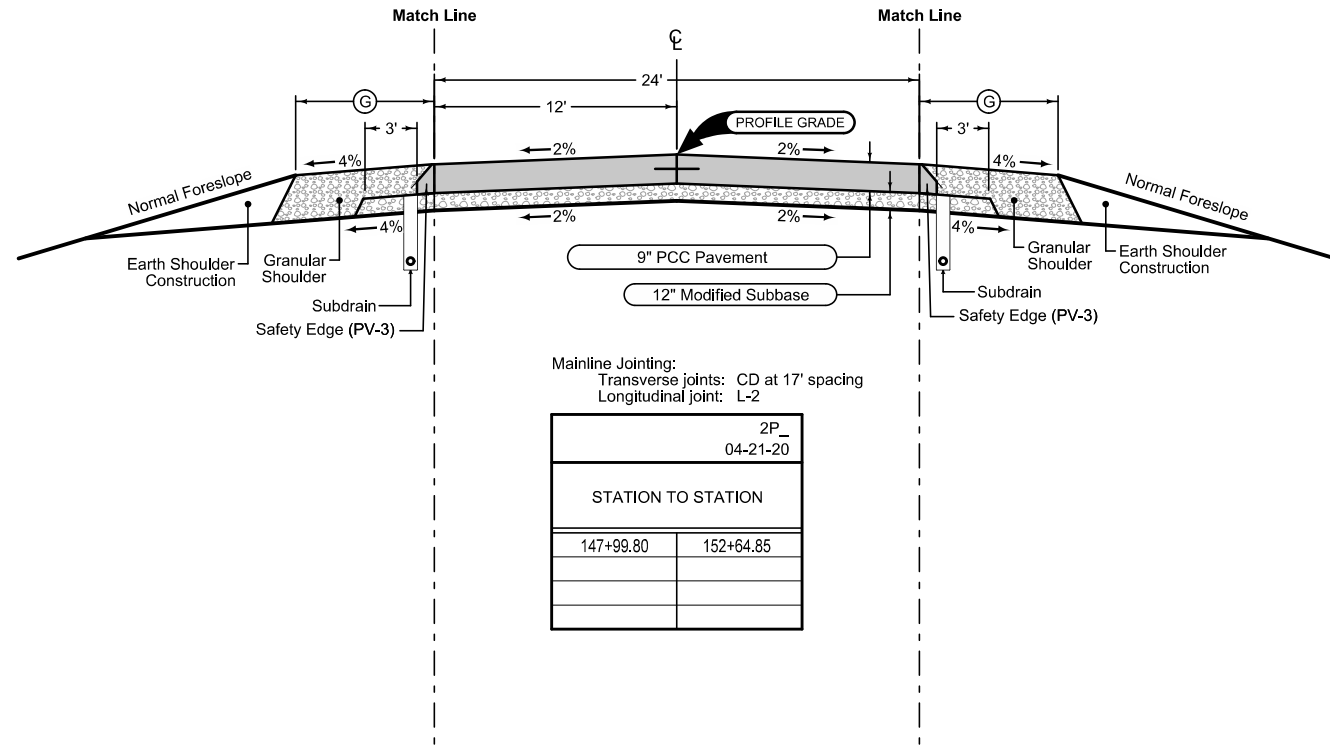
1. Are any of the following needed?
2. Contractor or designated Borrow area adjacent to the site?
3. Field Laboratory?
4. Construction Survey?
5. Removal and Reinstall Signs? Does the district maintenance crew want to handle this? Or do they prefer the Contractor handle it?
6. Clearing and Grubbing by area or by unit? If by unit, I need District to provide count.
7. Duration of the project?
8. Do the shoulders within the construction limits or beyond need to be reconstructed or resurfaced?
9. Are there existing drainage problems?
10. Are rumble strips going to be placed with these projects or a separate project?
11. Are there areas adjacent to the project where additional ditching needs done?
12. Are there any special events which need to be noted in the plan? Or is there a contact person who could provide this information closer to letting the project?
13. Is special erosion control needed (riprap, silt ditches, silt dikes, etc.)?
14. Tile lines? Location?
15. Speed Limit during construction?
16. Note existing subdrain outlets for Soils Design.
17. Are there any entrances within the project limits that have not been previously identified?
18. Note any special features not shown on plan.
19. Note condition of existing culverts.

## D2 QUESTIONNAIRE

20. Note existing G-Rail lengths and number of posts. Do any of the utilities need relocated (power/telephone poles) either permanently or temporarily for construction?
21. Speed limit
22. Is sight distance a problem?
23. Disposition of existing structure, guardrail, signs, etc. (213-1 or the District office)?
24. Any patching need done in the area or do the construction limits need extended? Is the District going to provide locations of patches by milepost?
25. Are there any historical items within the project?
26. Are there any endangered species within the area?
27. Are there any Wetland Impacts or any other Environmental issues?

**Granular Shoulder with Safety Edge**

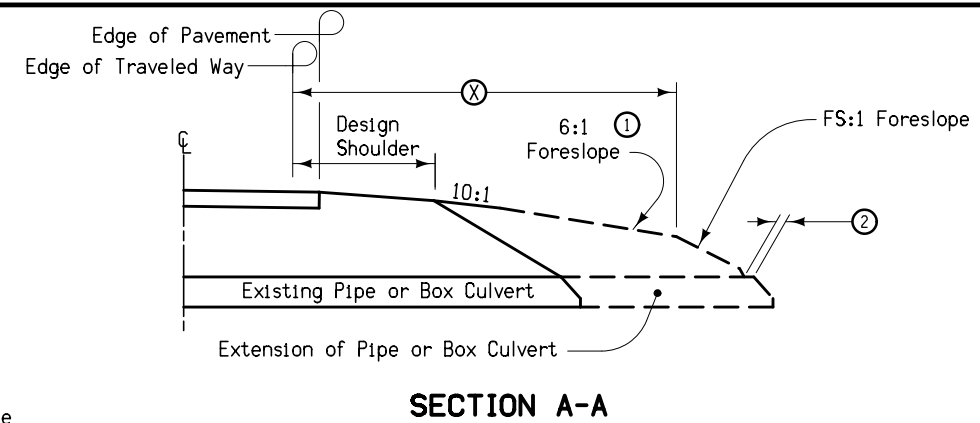
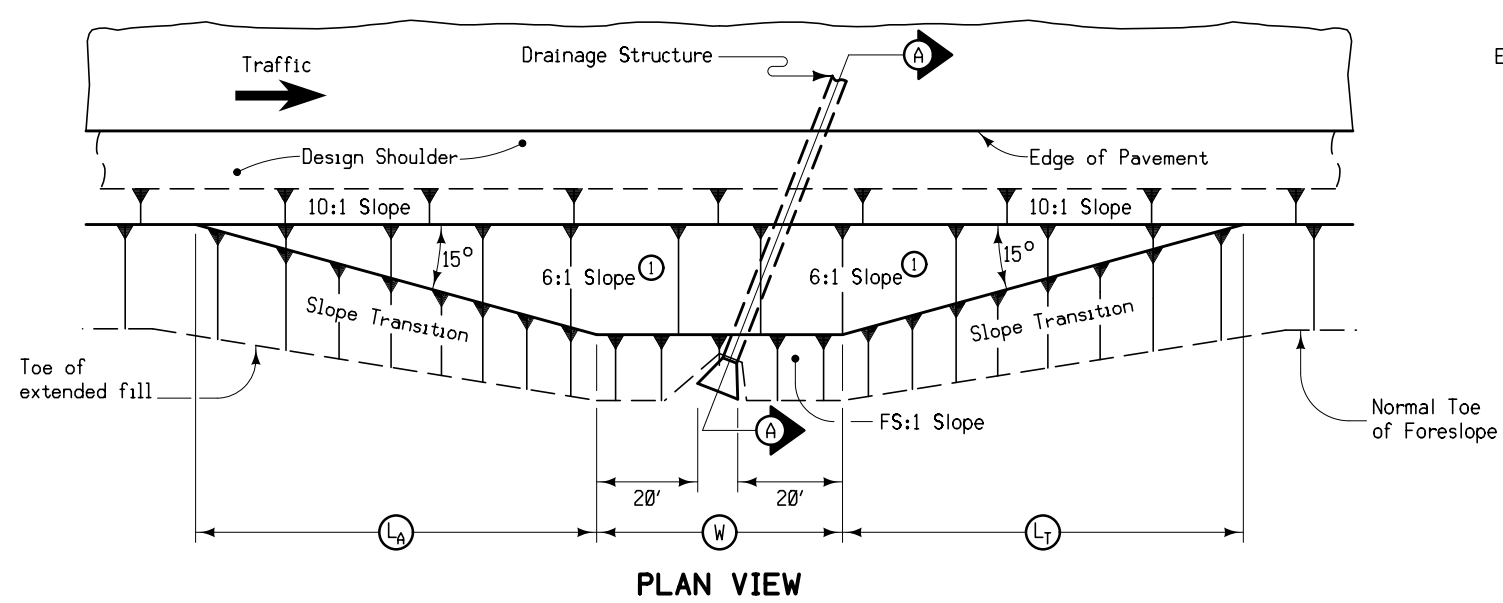
		2_G_
		04-21-20
STATION TO STATION		Ⓞ
		Feet
147+99.80	152+64.85	10



**Granular Shoulder with Safety Edge**

		2_G_
		04-21-20
STATION TO STATION		Ⓞ
		Feet
147+99.80	152+64.85	10

		2P_
		04-21-20
STATION TO STATION		
147+99.80	152+64.85	



STRUCTURE LOCATION		Ⓜ	Ⓛ <sub>A</sub>	Ⓛ <sub>T</sub>	Ⓧ	ⓕ <sub>S</sub>
STATION ③	SIDE	Feet	Feet	Feet	Feet	
TBD	Rt.	45	TBD	TBD	TBD	4:1
TBD	Lt.	45	TBD	TBD	TBD	4:1

DESIGNER INFO 4312 04-18-17

- At locations where an extended or newly constructed drainage structure extends beyond the normal foreslope cover, flatten as indicated so as to cover the structure. Minimum earth cover is 6 inches.
- ① Slope may be flatter than 6:1.
  - ② 6 inch minimum for pipe installations or to top of headwall on RCB.
  - ③ At Ⓞ of road.
  - Ⓜ = Pipe or RCB opening width plus 20 feet each side.

**BARNROOF FORESLOPE AT SKEWED DRAINAGE STRUCTURE**

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

### SURVEY SYMBOLS

- BM Bench Mark
- WC Wild Card (Misc. Field Shot)
- SNP Unpaved Shoulder
- EP Edge of Paved Roads (ML or SR)
- C Centerline BL of Road (ML or SR)
- BL Topo Breakline
- TL1D Telephone Line Co. 1 - Quality D
- D Centerline Draw or Stream (Down)
- BNK Stream Bank
- DU Centerline Draw or Stream (Up)
- EL1D Electric Line Co. 1 - Quality D
- EW Edge of Water
- GR Ground Shot
- OUT Tile Outlet
- TIL Tile Line
- RIP Rip-Rap
- CON Concrete or A/C Slab
- CUL Culvert
- PRO Profile Shot
- CP Control Point
- PIP Pipe Culvert
- TDC Tree Deciduous
- TEV Evergreen Tree
- PLG Location of General Photo
- SOP Size of Pipe or Culvert
- DAB Drainage Area Boundary

### UTILITY LEGEND

### PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK	Design Color No.	Description
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.	Description	
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.	Description
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

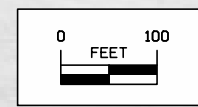
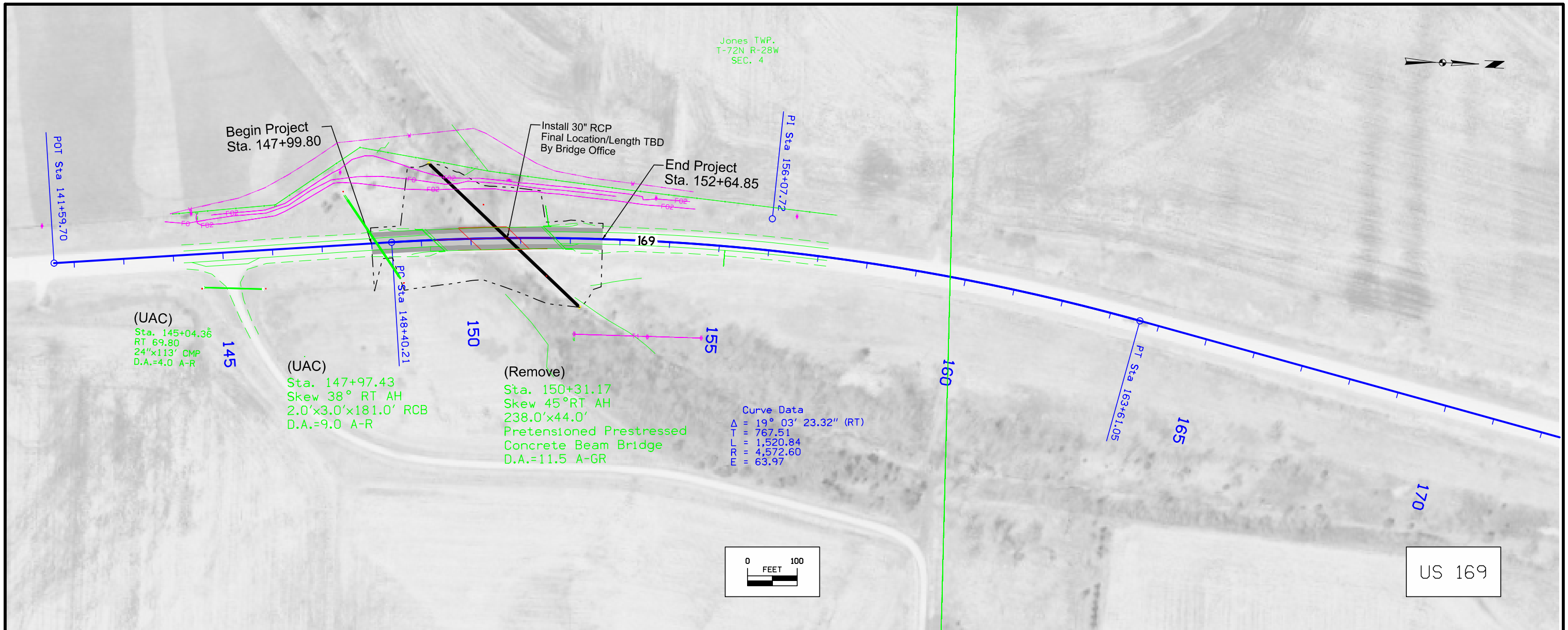
- Reference Point
- Station
- Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Trench Drain
- High Tension Cable Guardrail
- Sheet Pile
- Pavement Removal
- Clearing & Grubbing Area

### RIGHT-OF-WAY LEGEND

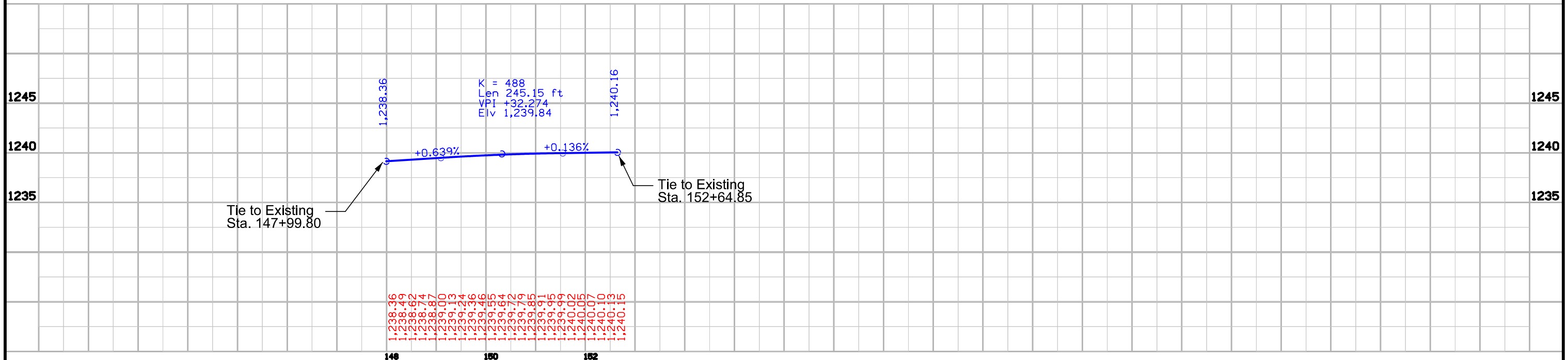
- Proposed Right-of-Way
- Existing Right of Way
- Existing and Proposed Right-of-Way
- Easement and Existing Right-of-Way
- Easement (Temporary)
- Easement
- Access Control
- Property Line

## PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES D)



US 169



Survey Information

**County: Union**

**SAP 952.0**

**PIN: 18-88-169-010**

**Project Number: BRFN-169-2(25)--39-88**

**Location: Abandoned RR 2.8 mi N of N Jct US 34**

**Type of Work: PCC Pavement - Grade and Replace**

**Project Directory: 8816901018**

**Party Personnel**

Seth Woodcock- Party Chief

Jeffrey Duncan- Design Technician Specialist

**Date(s) of Survey**

Begin Date 02/03/2020

End Date 05/20/2020

**General Information**

Measurement units for this survey are US survey feet. This survey is for proposed bridge replacement along US Highway 169. This project is a Full DTM without Photo control.

**Vertical Control**

The vertical datum is NAVD88. Vertical Control was established by averaging laRTN RTK observations. Geoid 12 B was used in computing orthometric height.

**Horizontal Control**

The project coordinate system for this survey is Iowa RCS Zone 12 (U.S. Survey Feet). This survey control is relative to laRTN reference stations. laRTN Reference Station coordinate are relative to the National Reference Station network datum NAD83 (2011) for Epoch 2010.00. Local ground monuments were located within the vicinity of the project Coordinates were determined by averaging laRTN RTK observations.

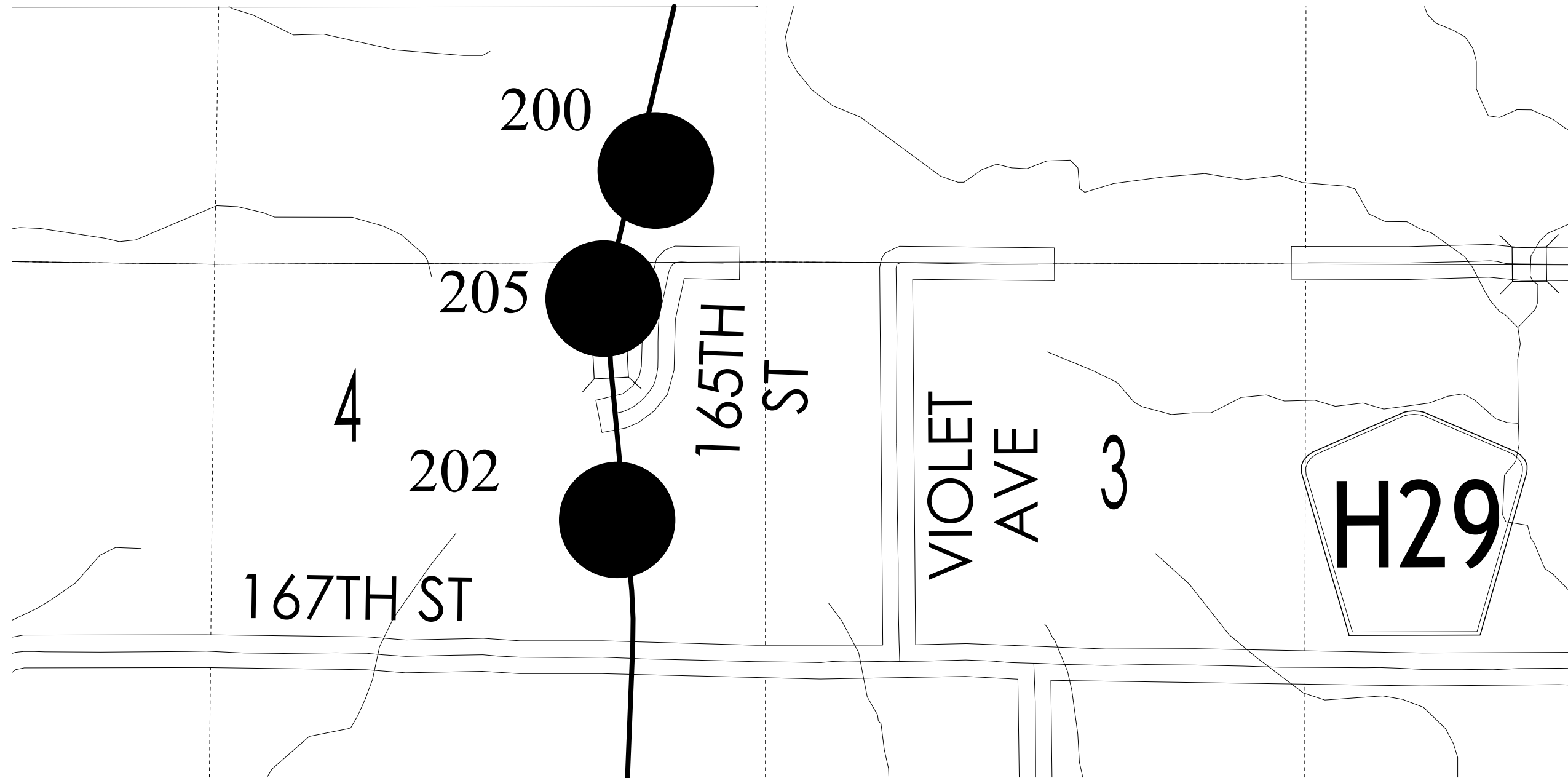
**Alignment Information**

The horizontal alignment for this survey is provided by District 4 ROW.



### 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 12

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

1a. Regional Coordinate System Zone 12

Point	North	East	Elevation	Feature Code-Description
200	6256540.1	22410106.32	1235.02	CP CM STATION 164+04 430FT NORTH OF FIELD ENTRANCE TO THE WEST 77FT E CL U.S. 169
202	6253634.31	22409972.36	1222.16	CP CM STATION 134+69 190FT NORTH OF DRIVEWAY ON WEST 75FT W CL U.S. 169
205	6255770.18	22409841.64	1230.6	CP CM STATION 156+00 64FT W CL U.S. 169 36.5FT SOUTH EAST OF PWER POLE

108-23A  
08-01-08

**TRAFFIC CONTROL PLAN**

Traffic on US 169 will be detoured during construction.

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.

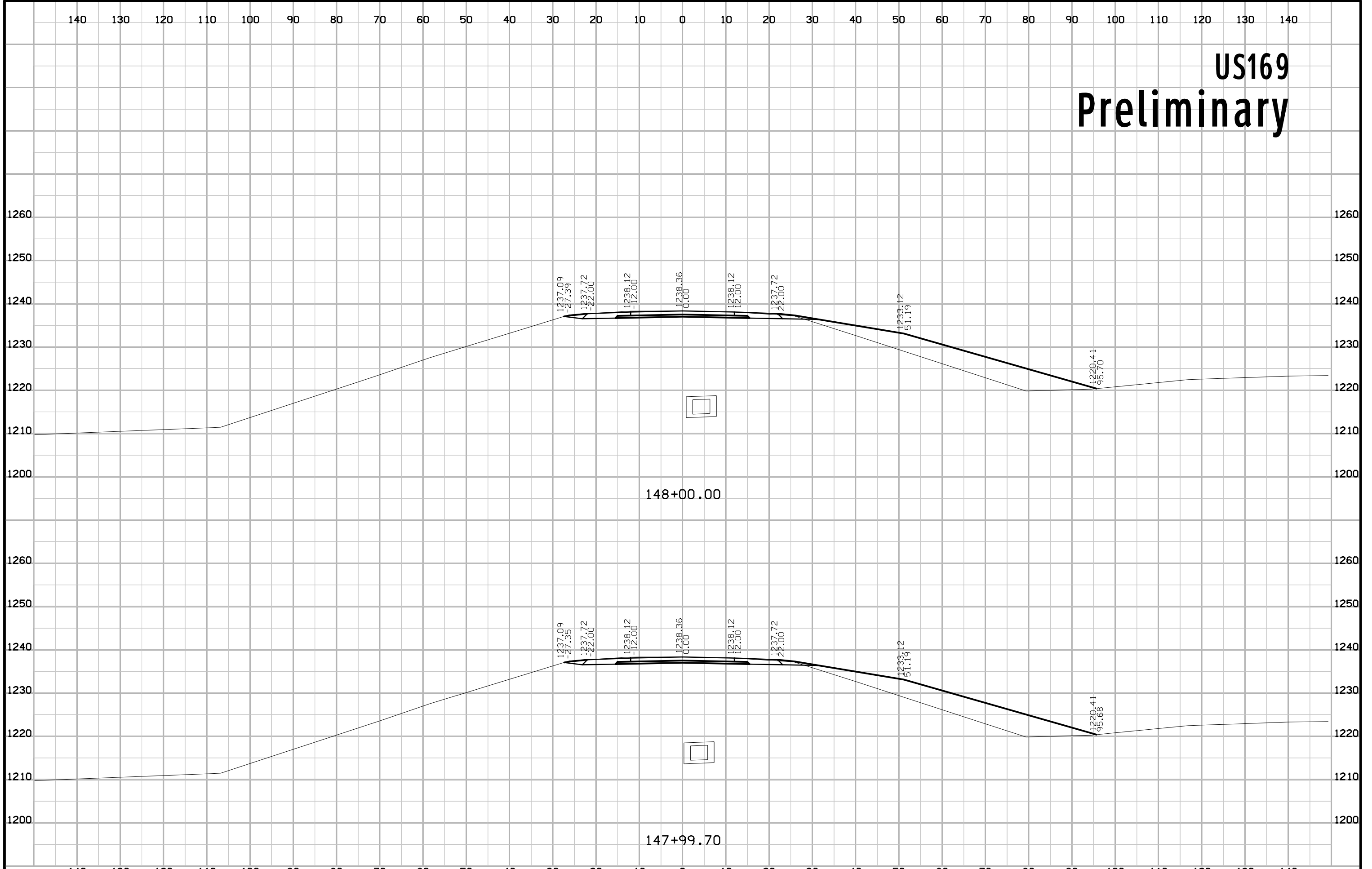
Project	Type of Work
None Provided	

108-25  
10-21-14

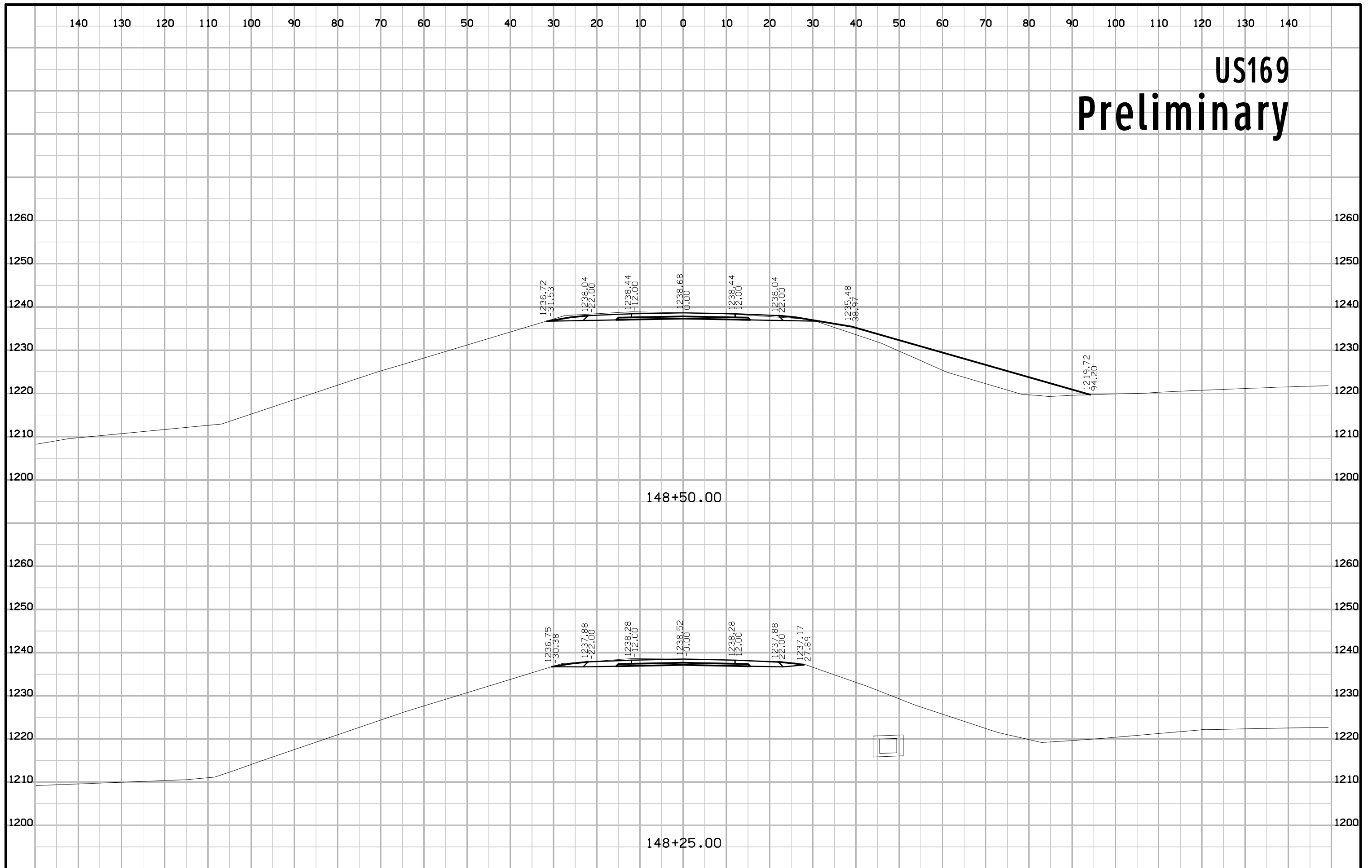
**511 TRAVEL RESTRICTIONS**

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
US 169	Both	Union	No Restrictions Anticipated									

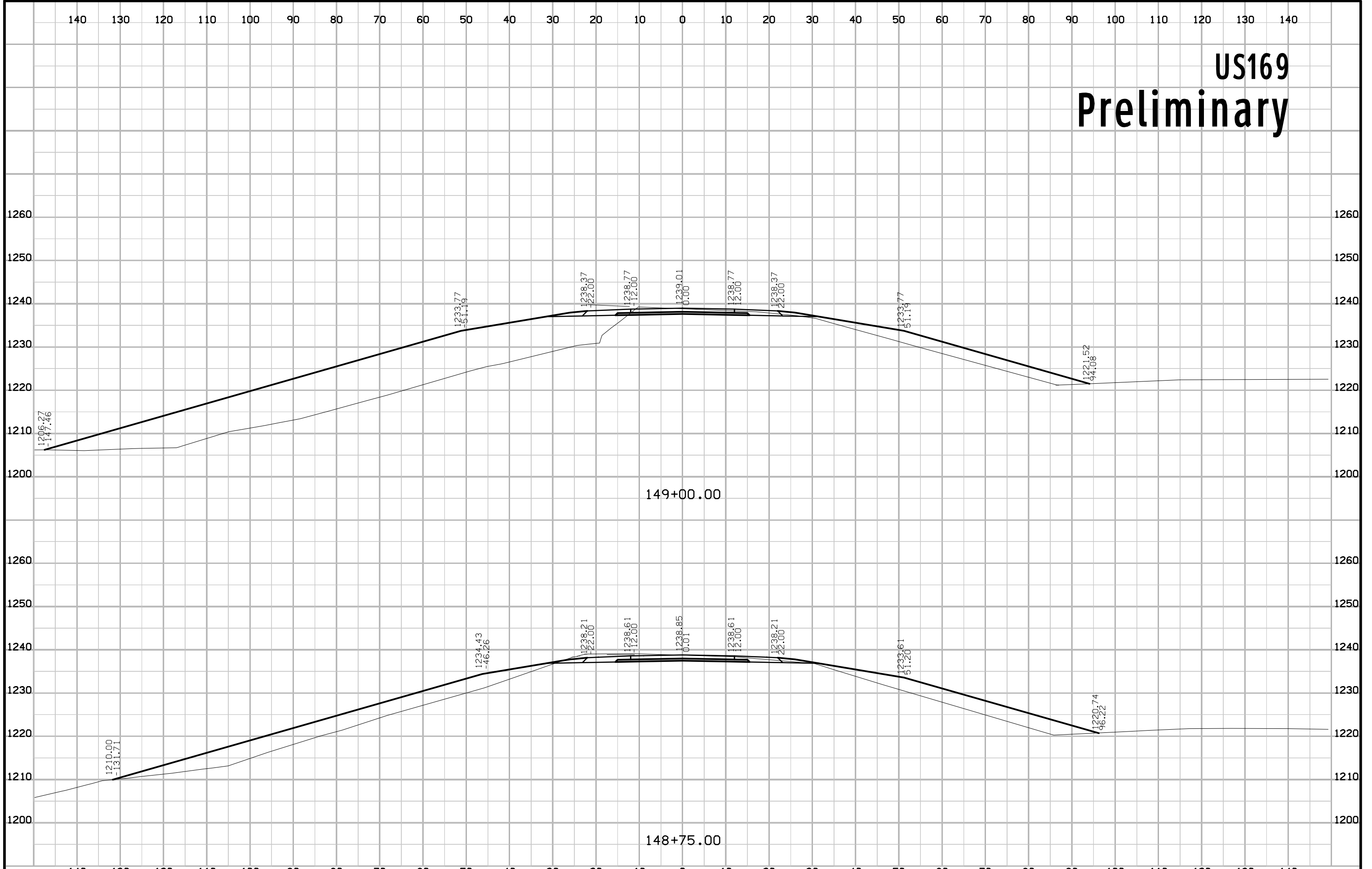
# US169 Preliminary



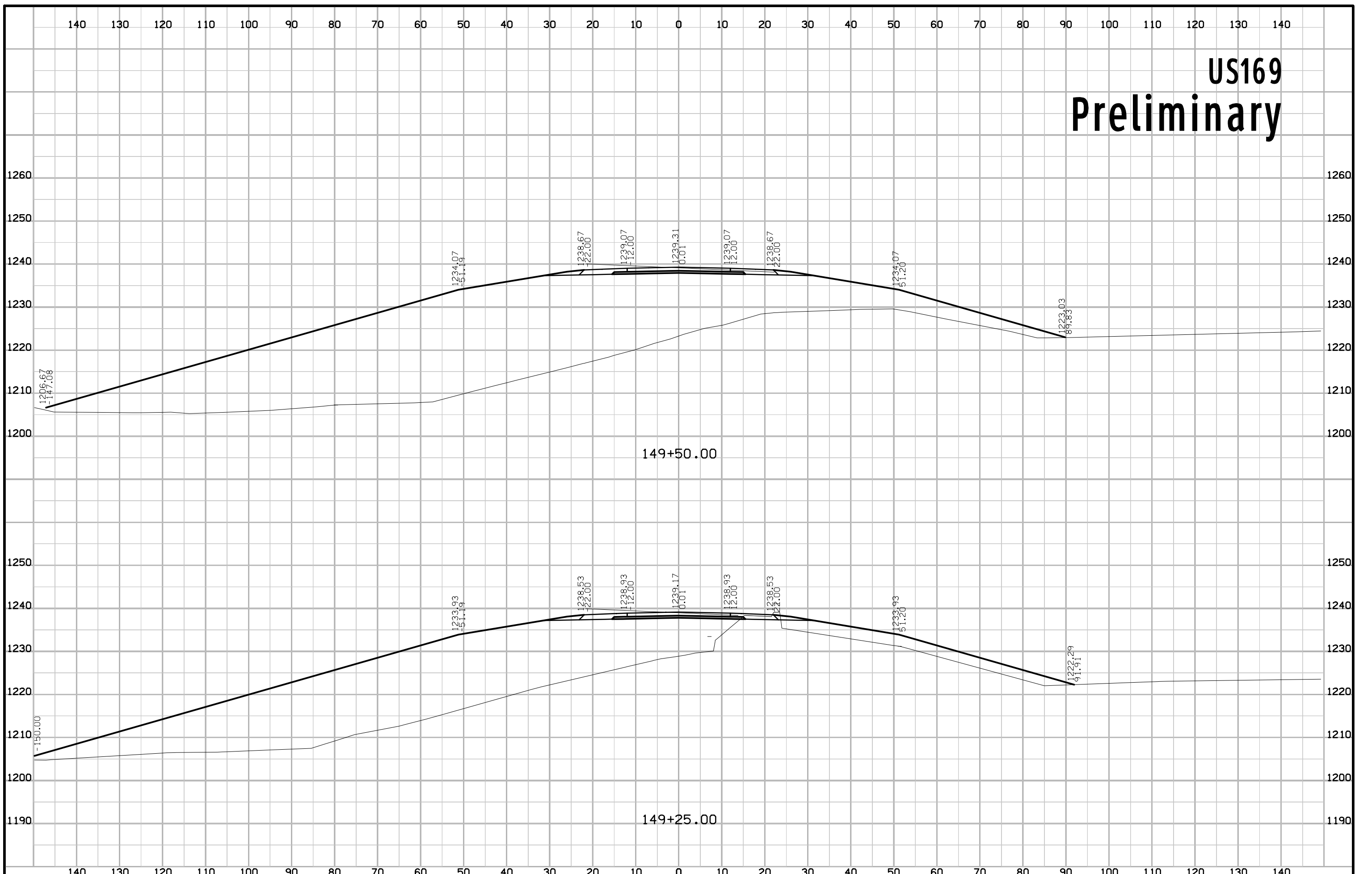
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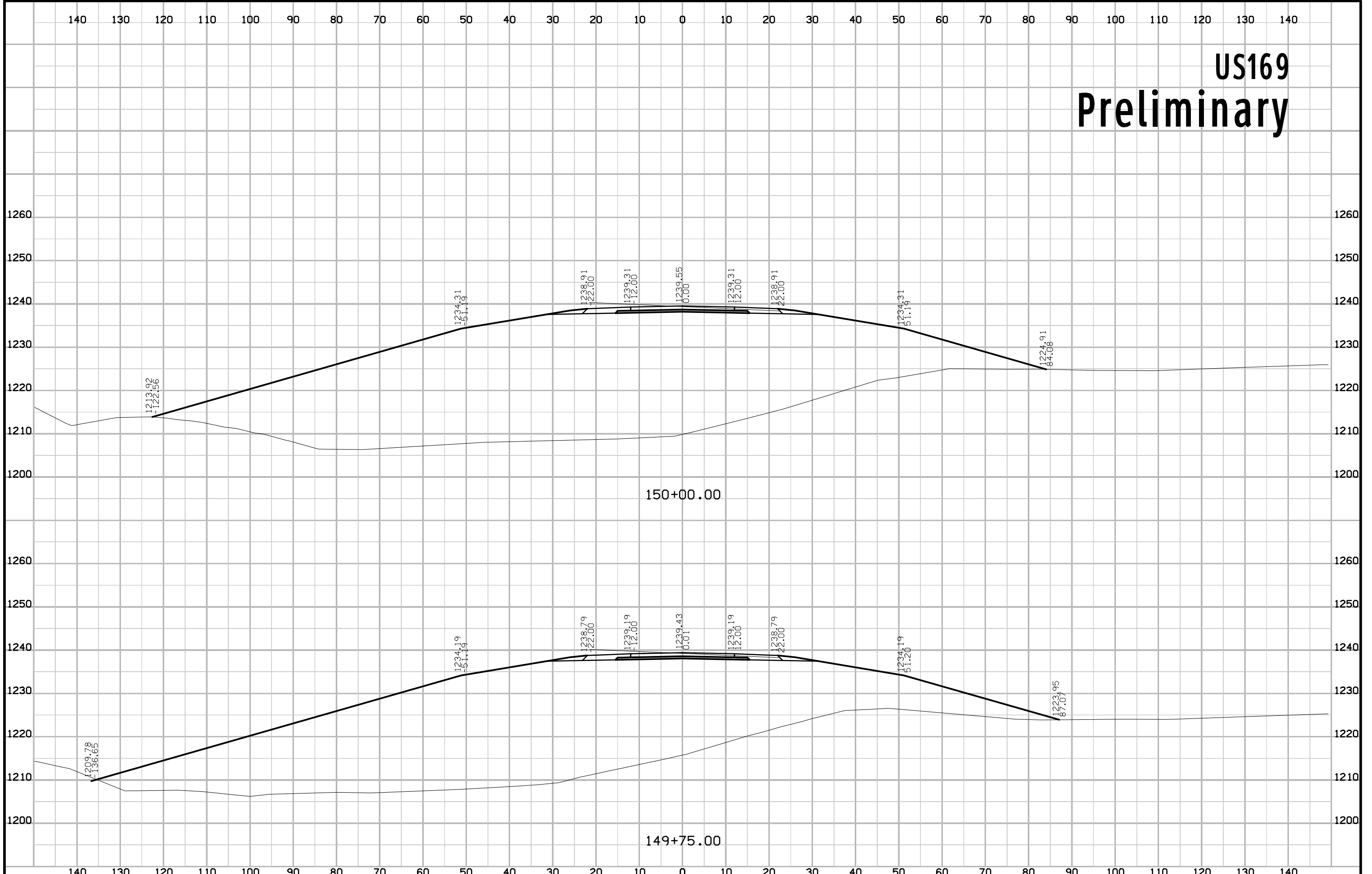
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# US169 Preliminary

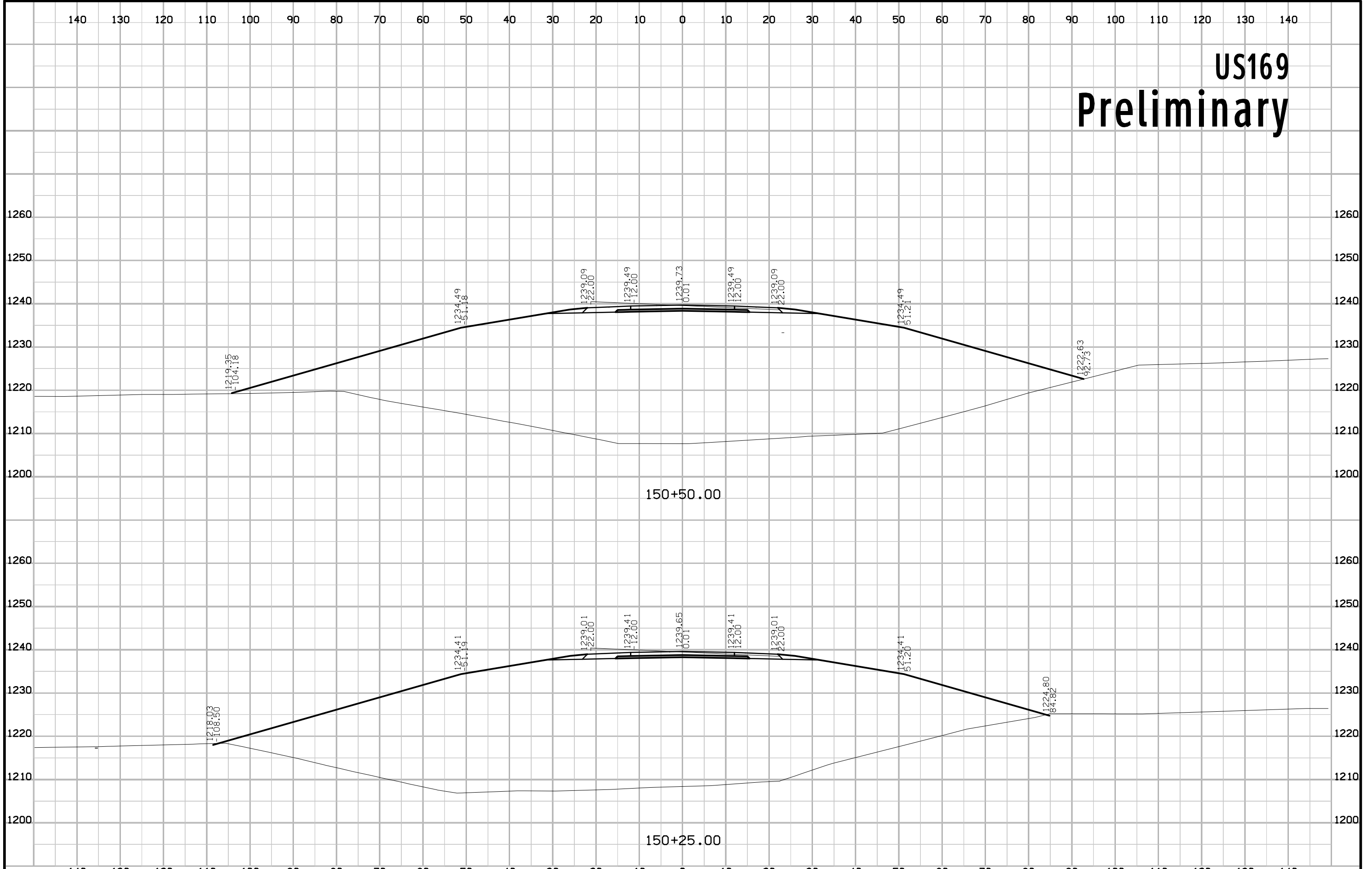


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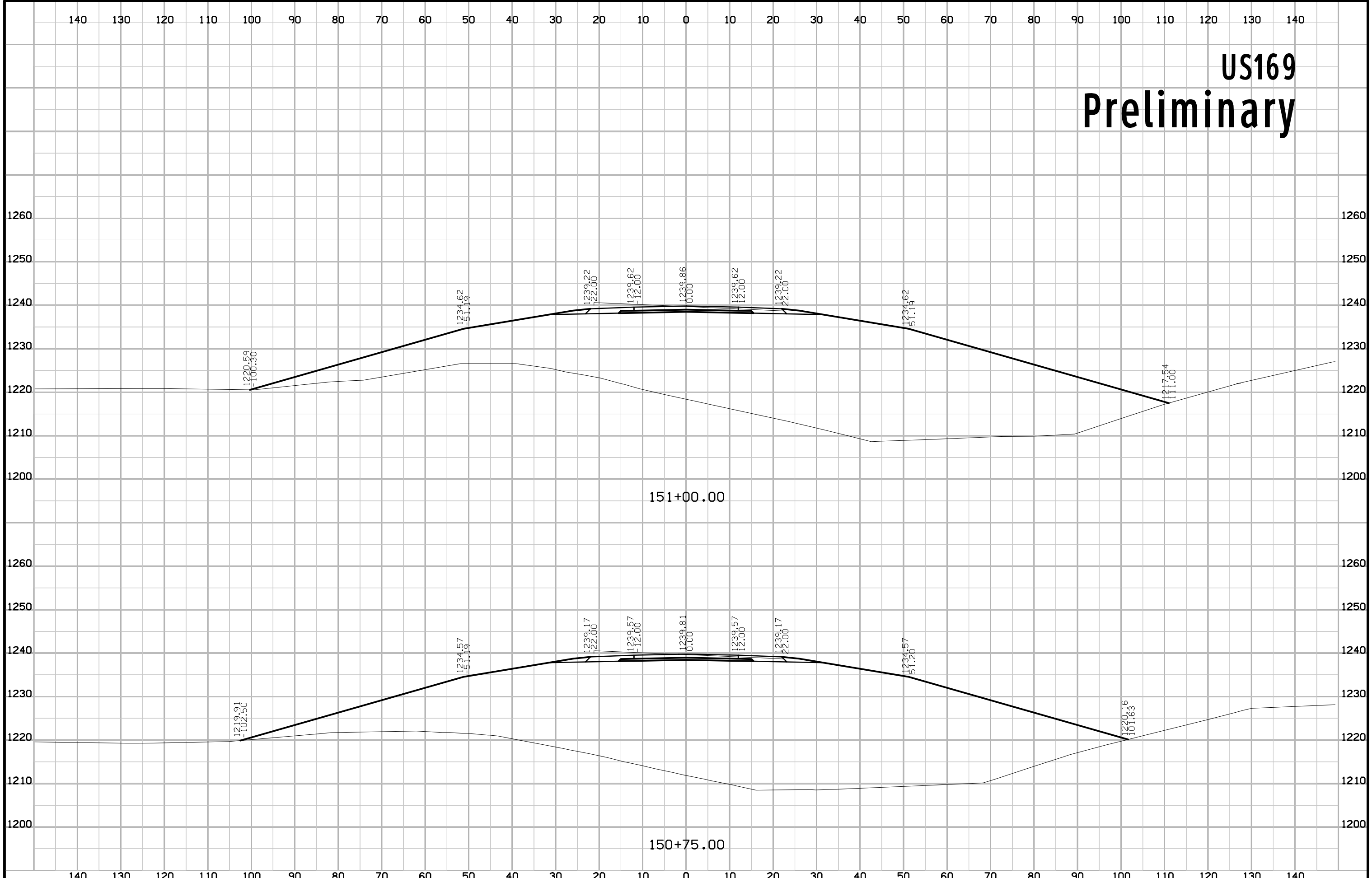




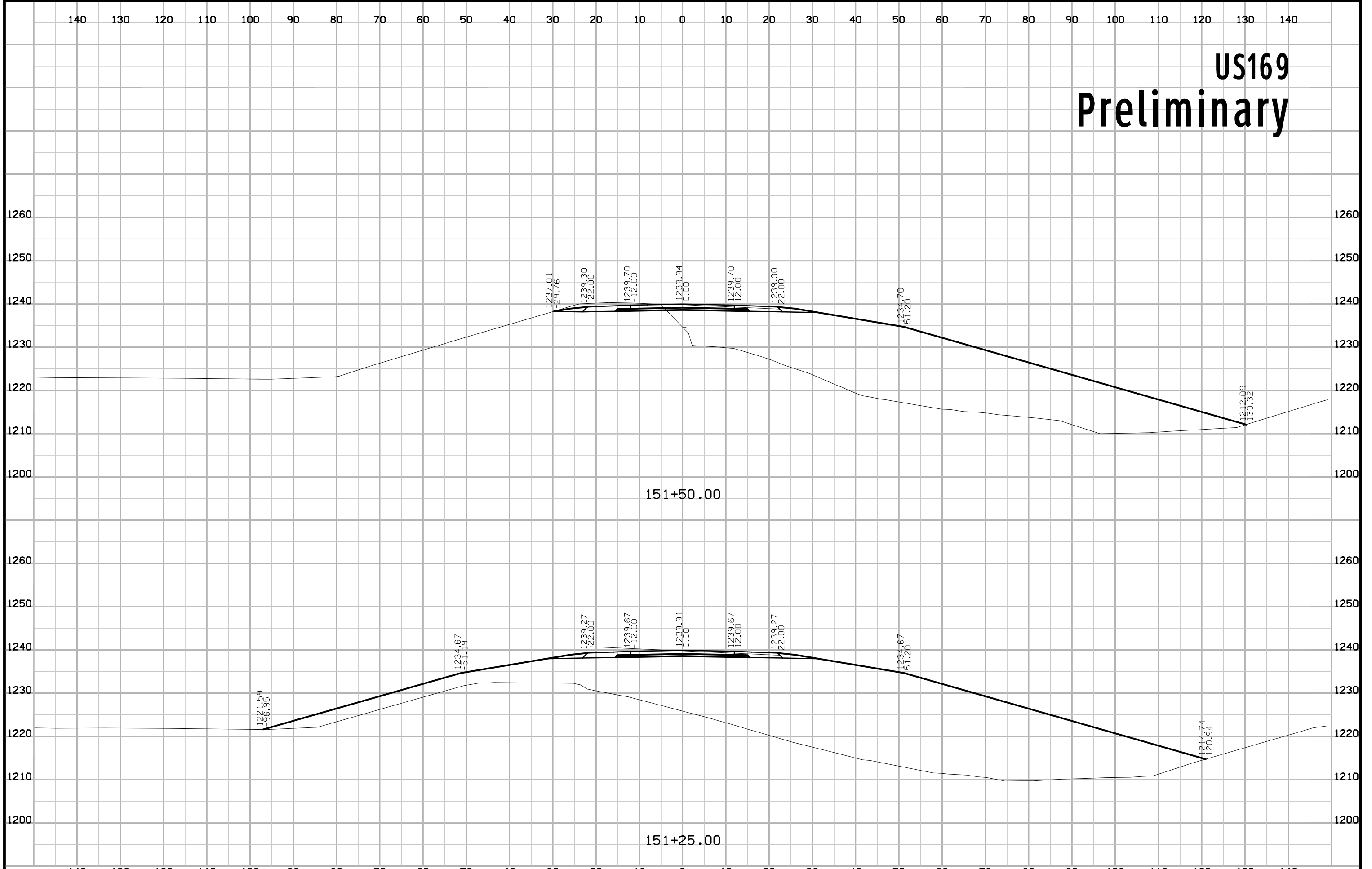
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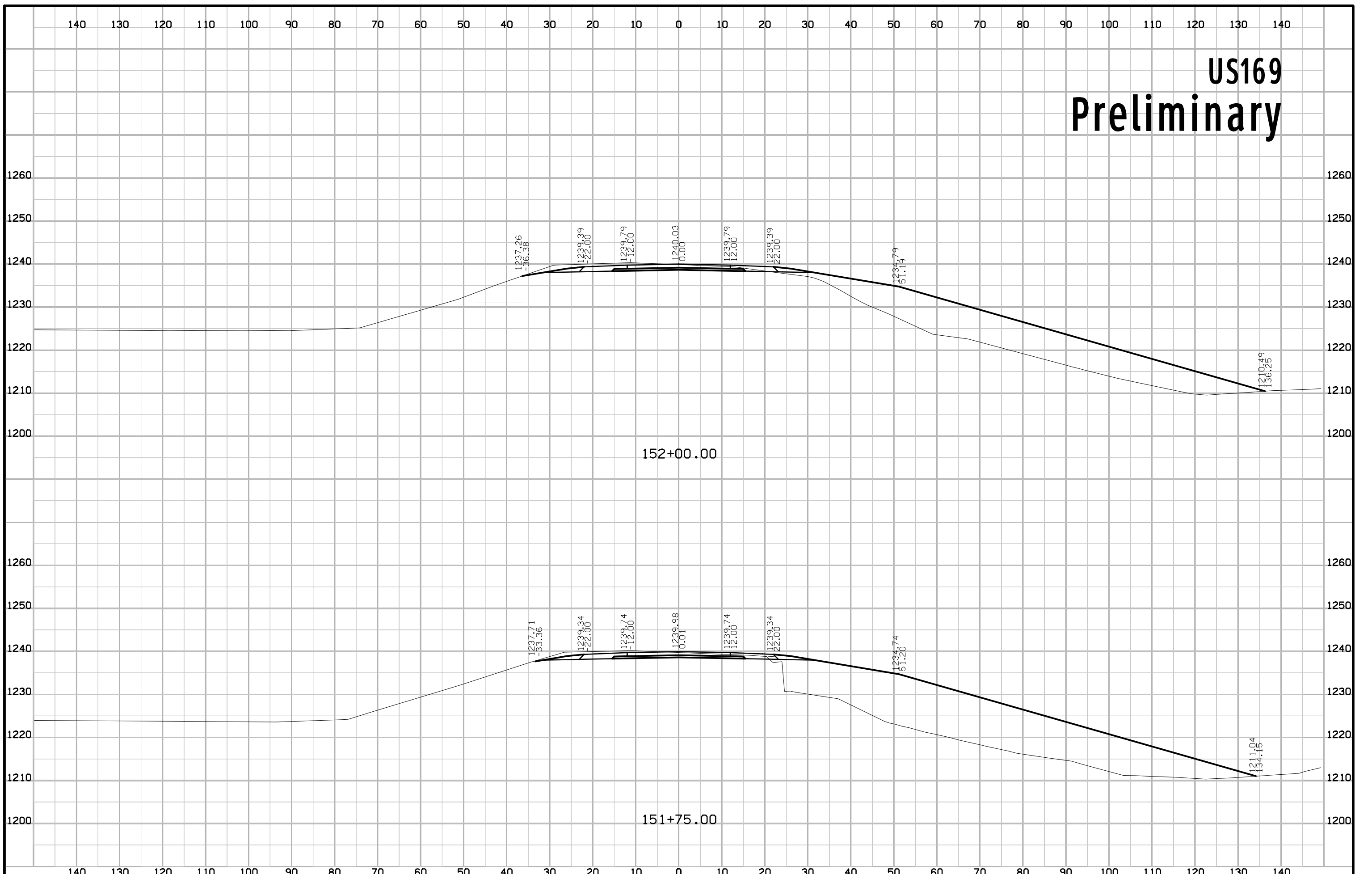
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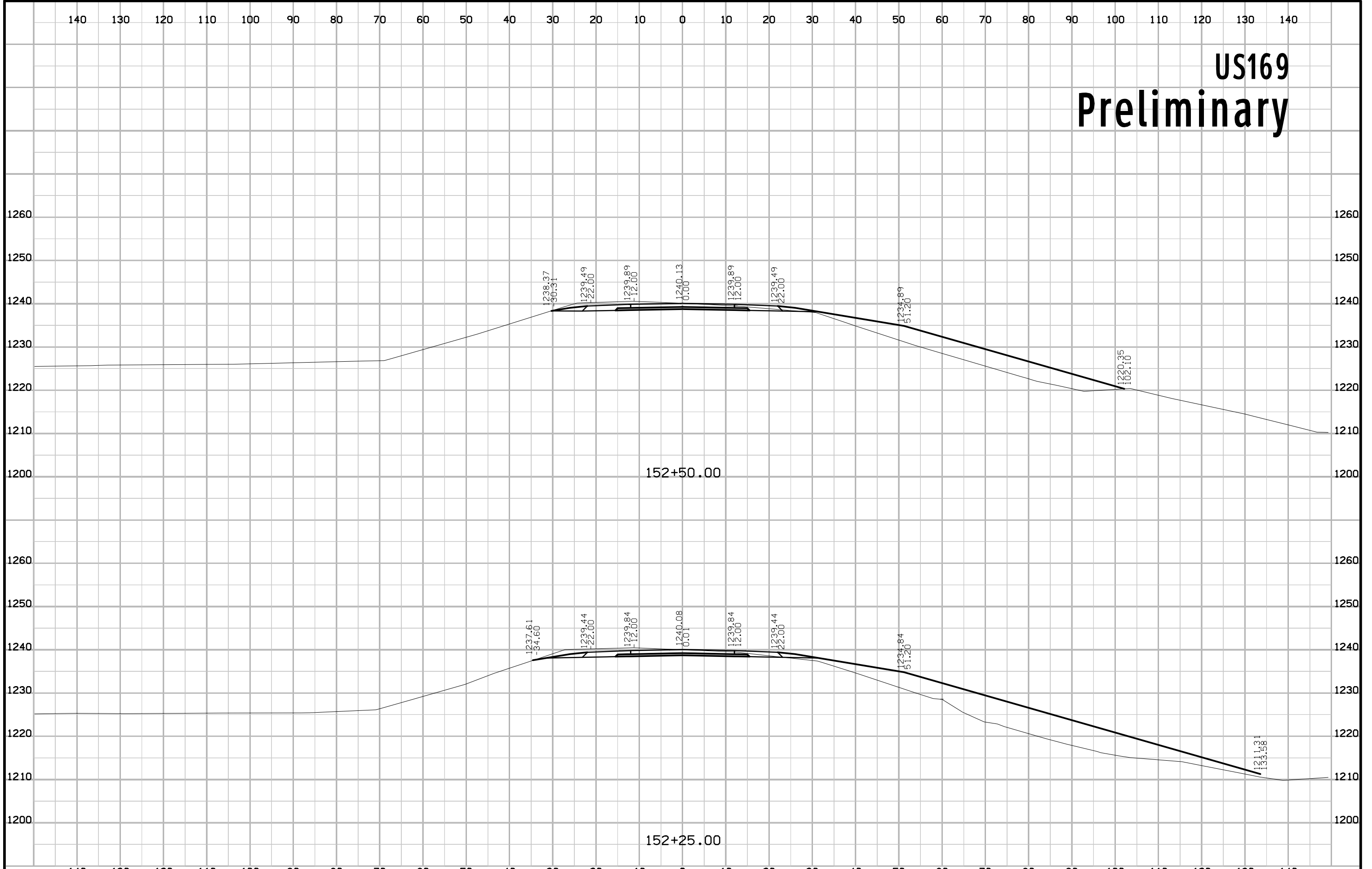
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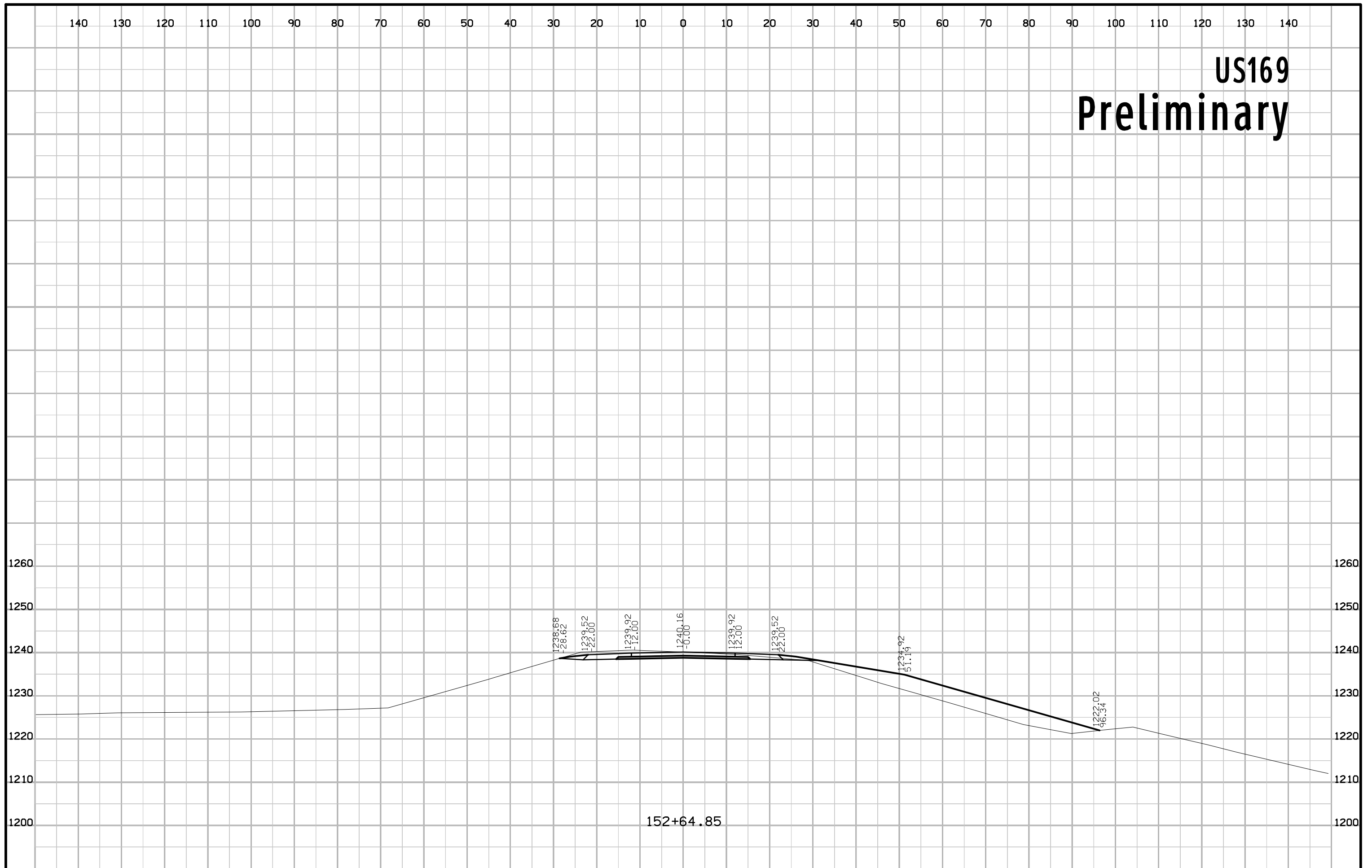
# US169 Preliminary



# US169 Preliminary



# US169 Preliminary



152+64.85