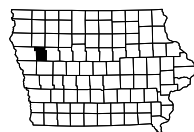


BRIDGE REPLACEMENT - CCS
 BRF-059-6(43)--38-47

LETTING DATE
 01-16-2019

IDA COUNTY



INDEX OF SHEETS	
No.	DESCRIPTION
A Sheets	Title Sheets
* A.1	Title Sheet
B Sheets	Typical Cross Sections and Details
B.1	Typical Cross Sections and Details
D Sheets	Mainline Plan and Profile Sheets
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2	US-59 Plan & Profile
G Sheets	Survey Sheets
G.1	Reference Ties and Bench Marks
G.2	Bench Mark Locations
U Sheets	500 Series, Mod.Stds. And Detail Sheets
U.1	500 Series, Modified Standards and Detail Sheets
V Sheets	Bridge and Culvert Situation Plans
V.1	Bridge Situation Plan
V.2	Bridge Site Plan
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

IDA COUNTY

BRIDGE REPLACEMENT-CCS

US-59 OVER THE SOLDIER RIVER
 1.2 MILES N. OF CO. RD. D54

SCALES: As Noted

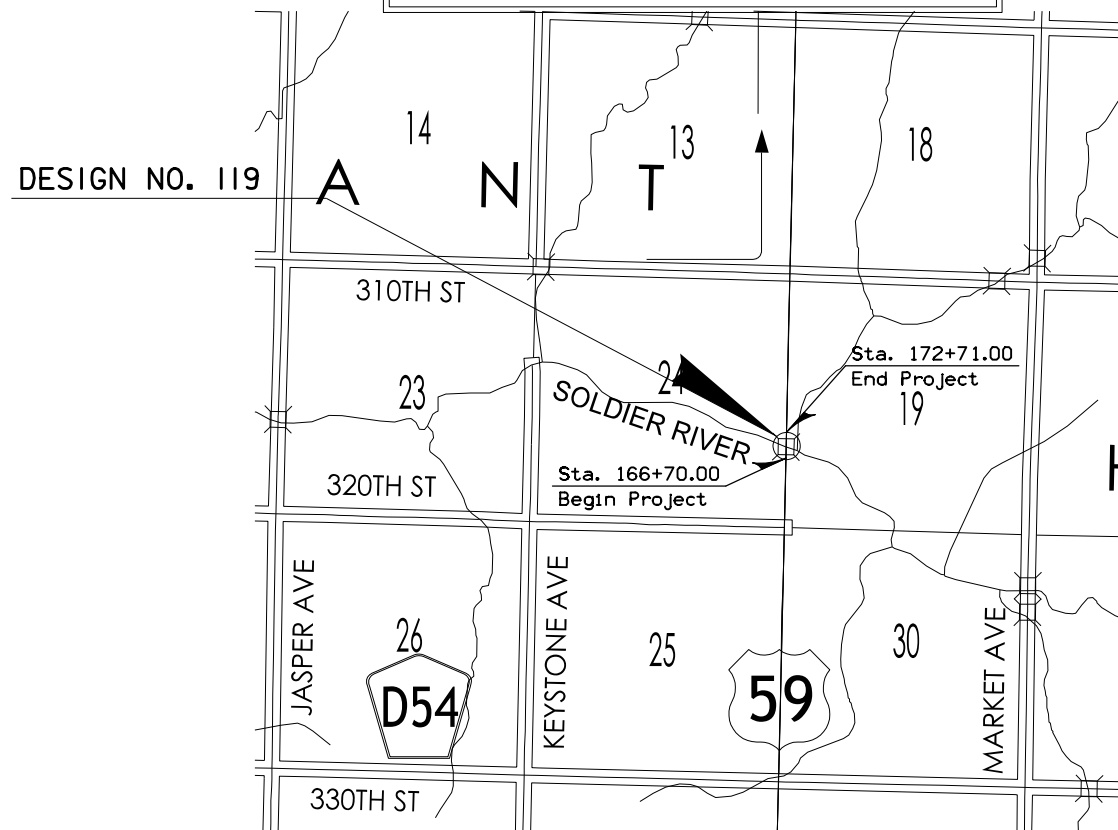
REVISIONS

TOTAL
PROJECT IDENTIFICATION NUMBER
15-47-059-010
PROJECT NUMBER
BRF-059-6(43)--38-47
R.O.W. PROJECT NUMBER



Refer to the Proposal Form for list of applicable specifications.

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



Design Speed = 60 mph
 Clear Zone = 30'

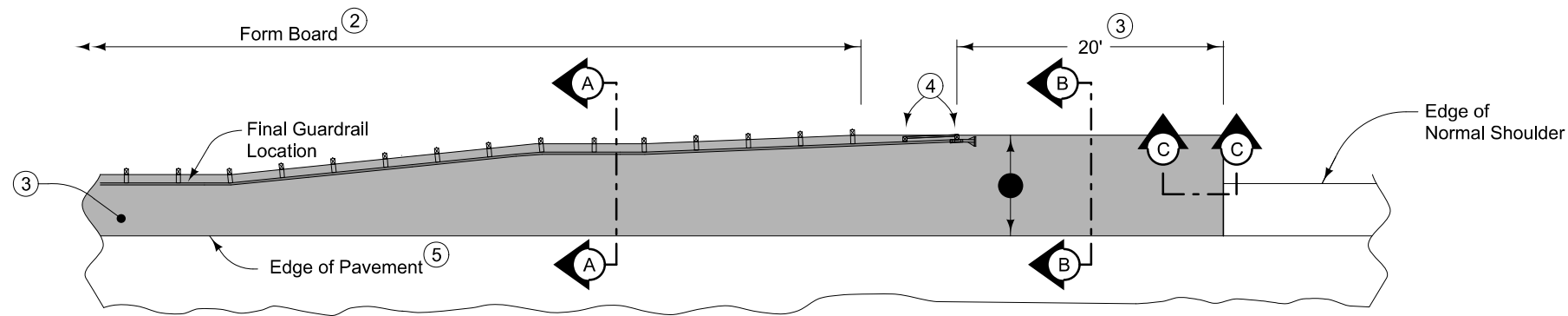
DESIGN DATA RURAL			
2020	AADT	1,700	V.P.D.
2020	AADT	1,970	V.P.D.
2040	DHV	--	V.P.H.
	TRUCKS	31	%
Total			
Design ESALs		--	

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 PLAN - Date: 9/15/2017



PLAN VIEW

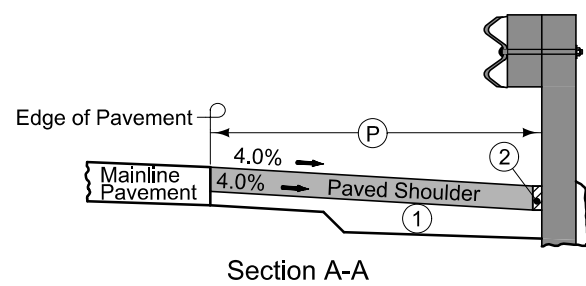
9" HMA Paved Shoulder at guardrail. 8" PCC may be substituted with the following jointing layout:

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.

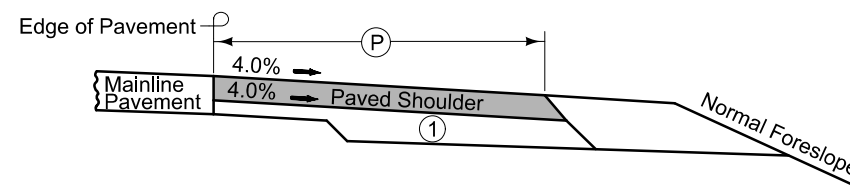
Compaction of HMA is required to face of guardrail post. Hand compaction will be allowed under guardrail. Removal and reinstallation of guardrail will be allowed with no additional payment.

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.

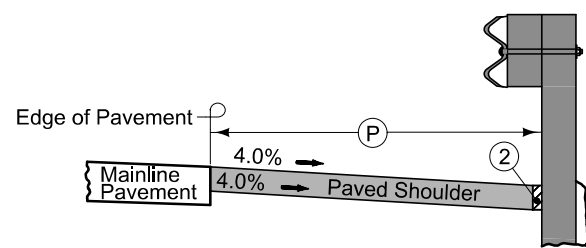


Section A-A

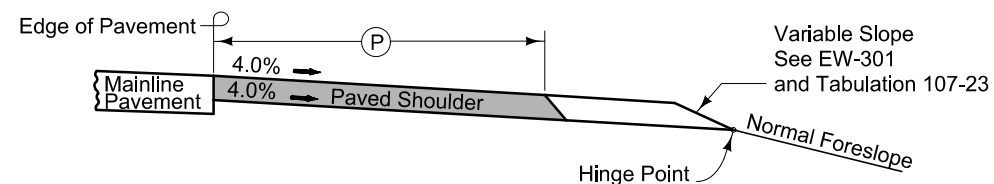


Section B-B

NEW CONSTRUCTION

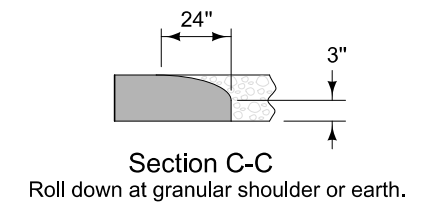


Section A-A



Section B-B

EXISTING SHOULDER



Section C-C

Roll down at granular shoulder or earth.

PAVED SHOULDER AT GUARDRAIL

SURVEY SYMBOLS

- FW Wire Fence
- MM Mile Marker Post
- GDL Guard Rail Steel
- AST Above Ground Storage Tank
- BIN Grain Bin
- Centerline Draw or Stream
- BNK Stream Bank
- EW Edge of Water

UTILITY LEGEND

- F0 Schaller Telephone
Jim Kestel
111 West 2nd St.
Shaller, IA 51053
712-975-0021
jmkestel@schallertel.net
- F02 Iowa Communications Network
Mike Broderick, P.E.
400 East 14th St.
Des Moines, IA 50319
515-330-7139
mike.broderick@iowa.gov
- Mid-American Wind Energy
John Bentz
2112 250th St.
Otho, IA 50569
515-368-1669
jgbentz@midamerican.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

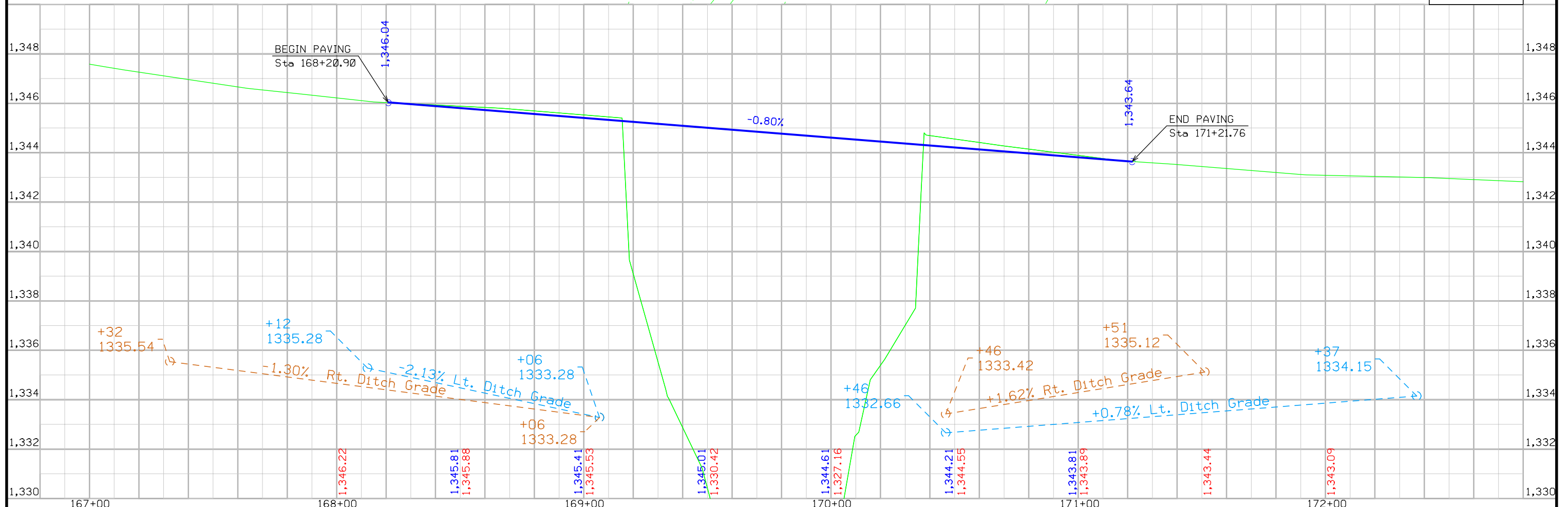
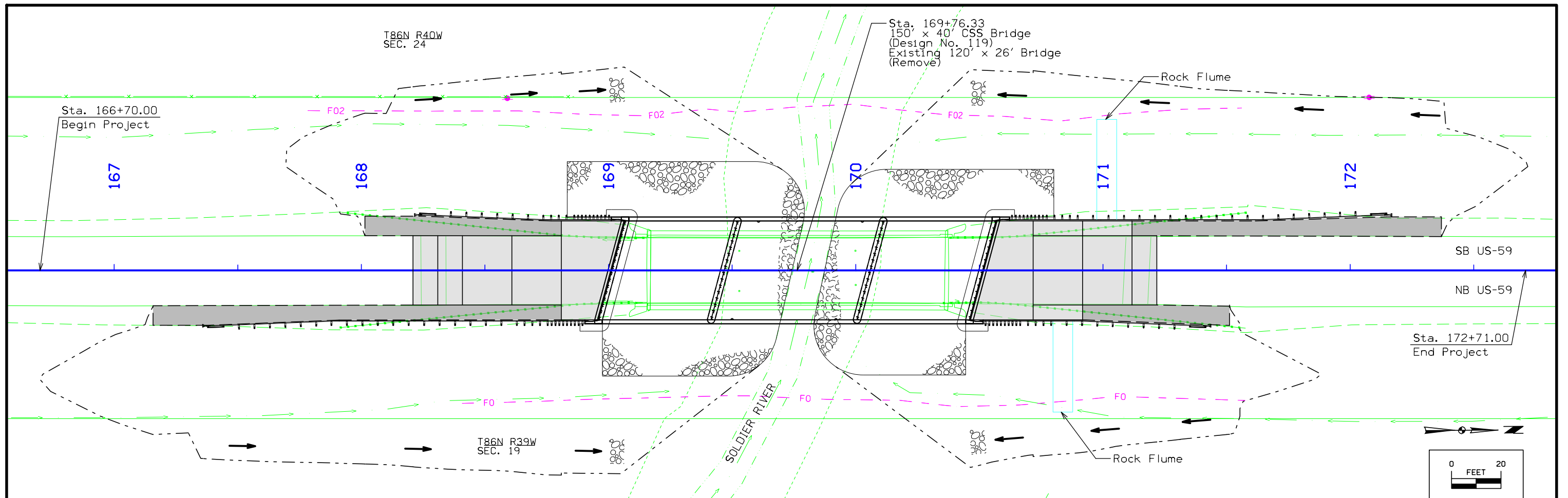
- Reference Point
- Station
- Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Trench Drain
- High Tension Cable Guardrail
- Sheet Pile
- Pavement Removal
- Clearing & Grubbing Area

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, E, F, & K)



FILE NO.	ENGLISH	DESIGN TEAM	IOWA DOT \ TranSystems	IDA	COUNTY	PROJECT NUMBER	BRF-059-6(43)--38-47	SHEET NUMBER	D.2
----------	---------	-------------	------------------------	-----	--------	----------------	----------------------	--------------	-----

Ida County
 Ia RCS Zone 4
 BRF-059-6(43)--38-47
 Soldier River 1.2 mi N of Co Rd D54
 PIN 15-47-059-010
 Sap-0861

General Information

Measurement units for this survey are US survey feet. This survey is for proposed Bridge reconstruction and reconstruction of US 59 over Soldier River. Project datum and control information is provided by Design Survey Office. This project is a full DTM .

Vertical Control

Vertical datum for this survey is NAVD88 (Computed using Geoid12A), GRS80 Ellipsoidal Height was computed at project Pts. 1 and 2, by conducting a six hour static observation. Additional benchmarks were placed throughout the project using a GNSS Base-Rover setup relative to Pts. 1 and 2.

There were no as-built , nor county, or ngs benchmarks near the project to observe.

Horizontal Control

The project coordinate system for this survey is Iowa RCS Zone 4 (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 a six hour static observation. Additional control points were placed throughout the project using a GNSS Base-Rover setup relative to Pts. 1 and 2.

Alignment Information

The horizontal alignment for this survey is a retrace of Paving Plans No. F 879(3) Survey stationing was equated to the plan POT at Sta 205+65.30 and run back without equation throughout the survey.

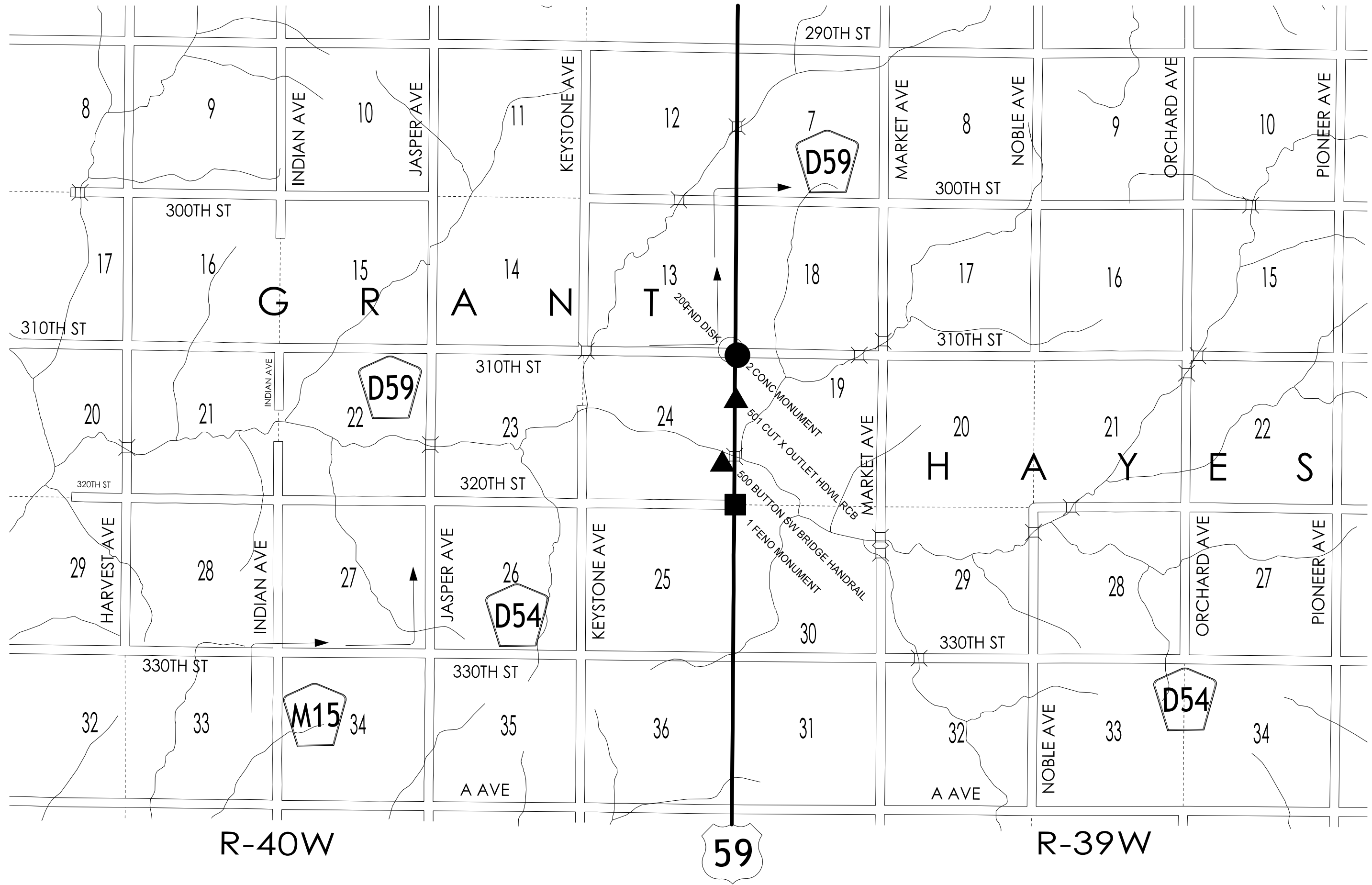
Survey stationing relates to as built plan stationing as follows:

POT Sta. 152+85.20 Paving Plans No. F 879(3)
 Survey POT Sta. 152+88.40

POT Sta 205+65.30 Paving Plans No. F 879(3)
 Survey POT Sta. 205+65.30

Control Point Coordinate Table
 IaRCS Zone 4 - NAD83(2011) Datum - NAVD88 Vertical Datum
 Points may be recovered by using IaRTN positioning device

Point	North	East	Elevation	Station	Offset	Feature	Description
1	8493584.724	14335915.090	1380.30	152+94.50	33.80	FENO	FENO MONUMENT
2	8498773.962	14335987.250	1422.60	204+84.13	67.50	CP	CONC MONUMENT
500	8495202.217	14335879.110	1348.02	169+11.68	-14.16	BM	500 BUTTON SW BRIDGE HANDRAIL
501	8497183.704	14335936.490	1356.38	188+93.54	28.53	BM	501 CUT X OUTLET HDWL RCB



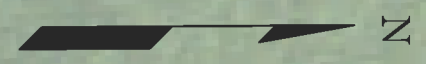
ALIGNMENT COORDINATES

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)	
SUR59	US 59	152+88.40	8,493,578.874	14,335,881.214																
SUR59	US 59	205+65.30	8,493,855.628	14,335,920.350																

NO ACCESS RIGHTS ARE TO BE ACQUIRED ON THIS PROJECT.

①
 ROLAND LOEHR REVOCABLE TRUST

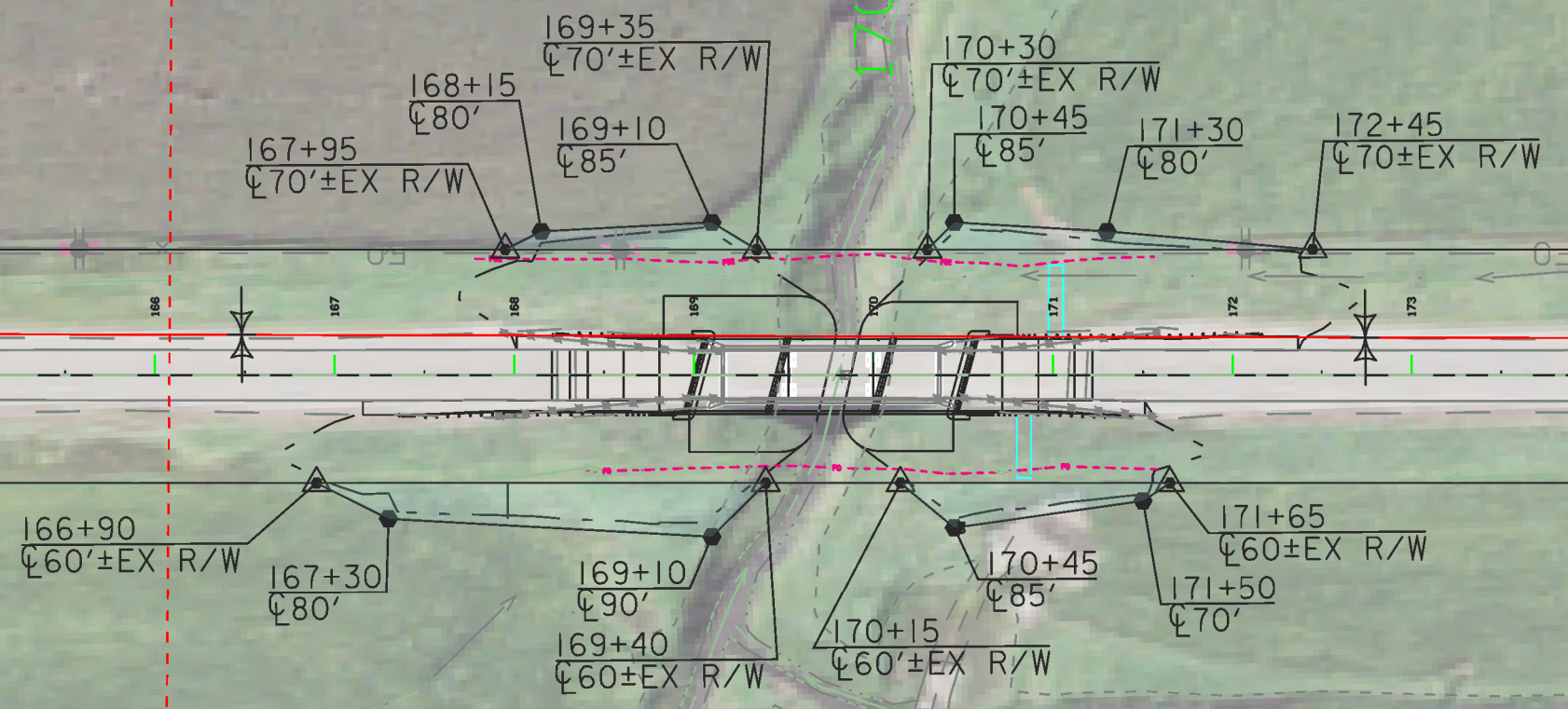


Sta. 169+76.38
 120 x 26 Continuous I-Beam Brg
 DA=23 sq. miles

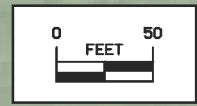
165

170

175



②
 ROGER L. AND PHYLLIS E. GROTH



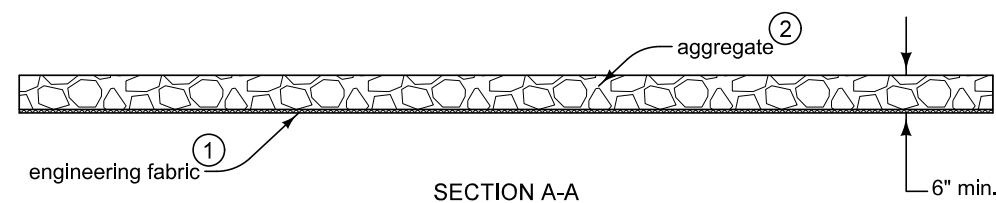
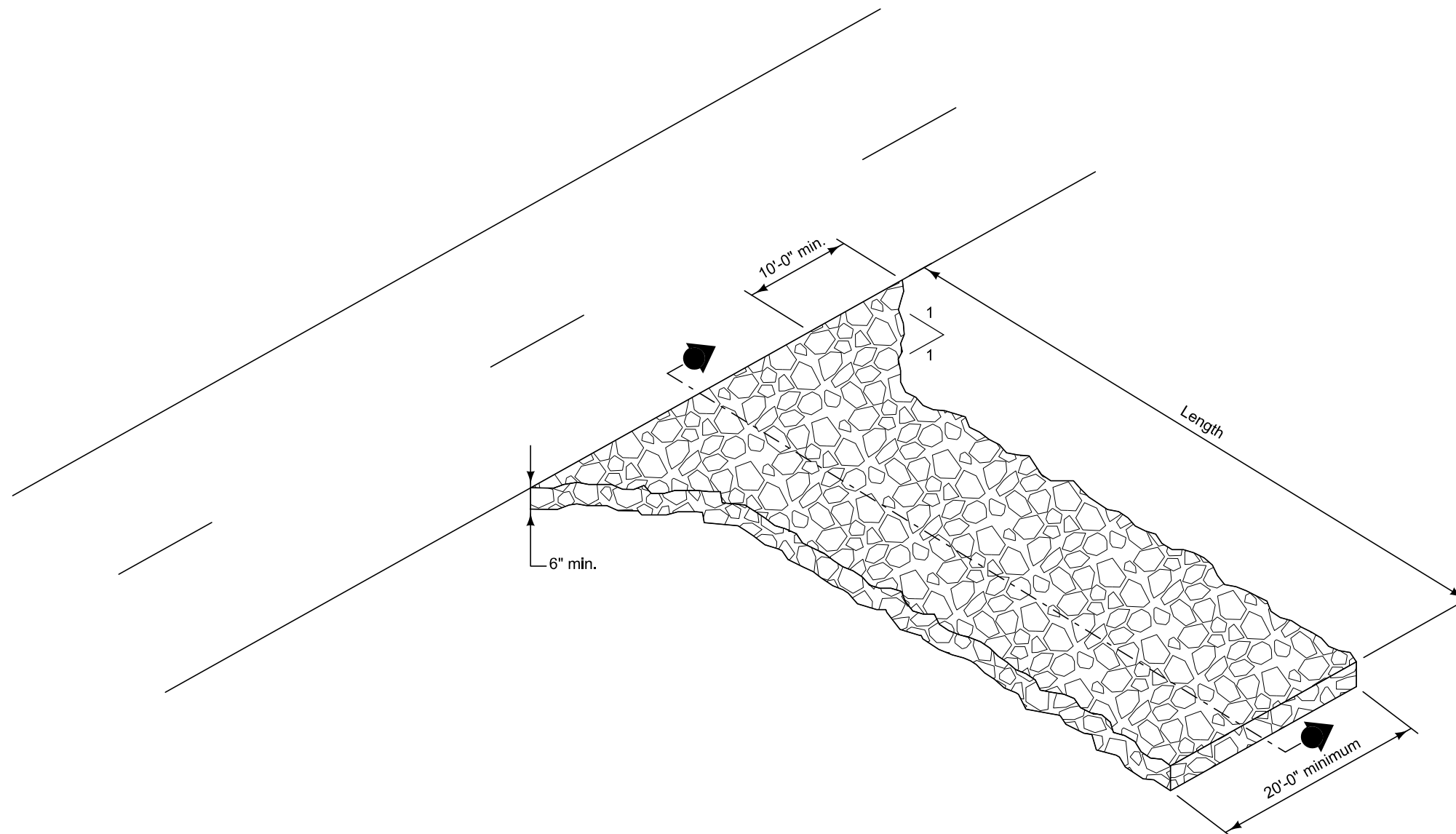
Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: ATINKEN /JLARSON	
ROW #: NHSN-59-6(44)--2R-47	
Plan Date: 10/18/17	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition

Obtain the Engineer's approval for location and length of stabilized entrances prior to constructing.

Method of Measurement for Stabilized Construction Entrance
Entrance will be in linear feet measured along the length of the entrance at the entrance centerline.

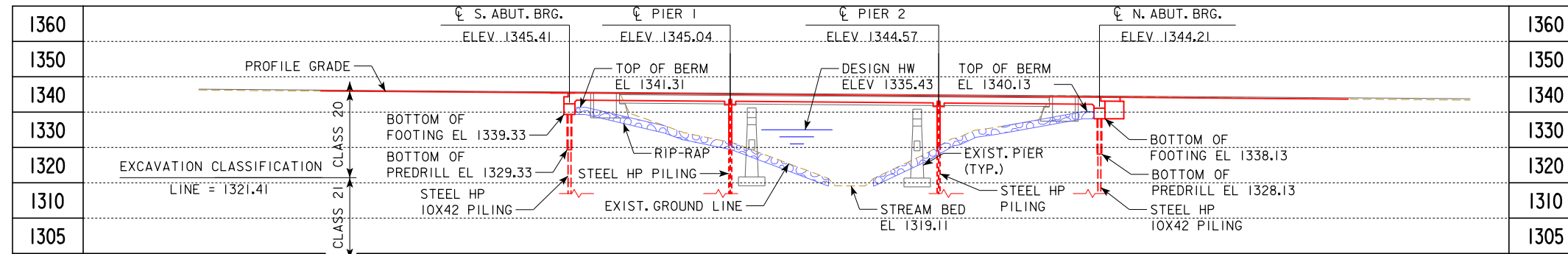
Basis of Payment for Stabilized Construction Entrance will be at the contract unit price per linear foot. Payment is full compensation for furnishing all materials and work necessary for installation, maintenance, and removal of stabilized construction entrance. Maintenance includes installing additional material or cleaning required to maintain the entrance in a functional condition.

- ① Place engineering fabric prior to placing aggregate. Use fabric for Embankment Erosion Control complying with Section 4196 of the Standard Specifications.
- ② Use aggregate meeting Gradation No. 13 of Section 4109 of the Standard Specifications.



Possible Contract Item:
Stabilized Construction Entrance

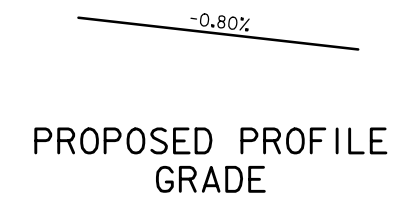
IOWADOT	REVISION	
	NEW	04-18-17
ROAD DESIGN DETAIL		570-10
		SHEET 1 of 1
REVISIONS: NEW		
STABILIZED CONSTRUCTION ENTRANCE		



LONGITUDINAL SECTION ALONG CL US 59 PROFILE GRADE

NOTE:
REMOVE EXISTING PIER FOOTINGS
NEAR THE PROPOSED PIERS.

BENCH MARK NO. 1: STA. 152+94.50, 33.80' RT. FENO
MONUMENT ELEV 1380.30
BENCH MARK NO. 2: STA. 204+84.13, 67.50' RT. CP CONC.
MONUMENT ELEV 1422.60



HYDRAULIC DATA

DRAINAGE AREA = 23.0 SQ. MI.
STREAM SLOPE = 21.4 FT./MI.
AVG. LOW WATER STAGE = 1321.41

Q₅₀ = 6,210 CFS
STAGE = 1335.32
REGULATORY LOW BEAM = 1343.16
BACKWATER = 0.75 FT.
AVG. BRIDGE VELOCITY = 10.0 FPS

Q₁₀₀ = 7,350 CFS
STAGE = 1335.87
OPERATIONAL LOW BEAM = 1342.60
BACKWATER = 1.55 FT.
AVG. BRIDGE VELOCITY = 12.8 FPS

Q₂₀₀ = 9,520 CFS
STAGE = 1337.99
CALCULATED DESIGN SCOUR = 1309.40

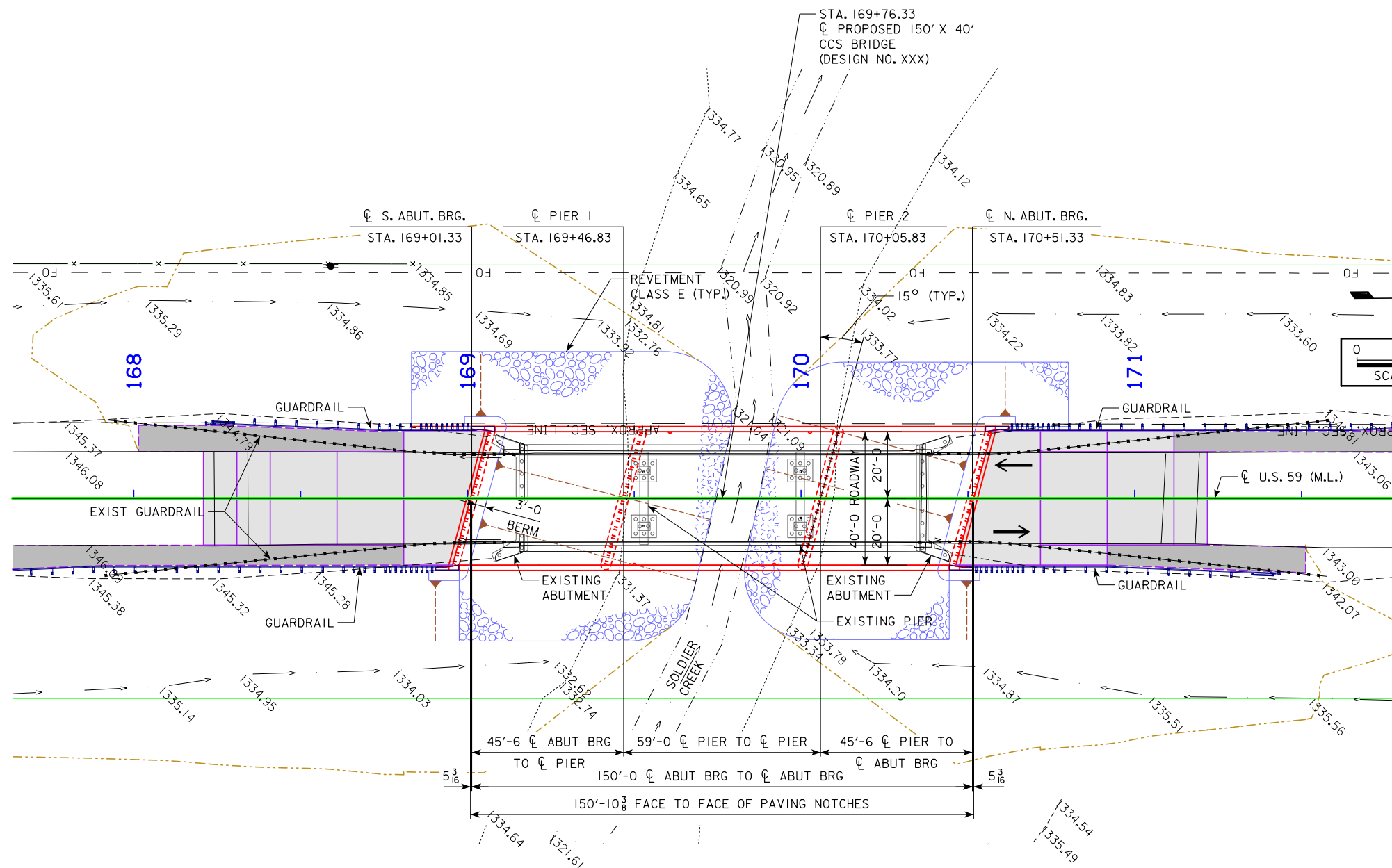
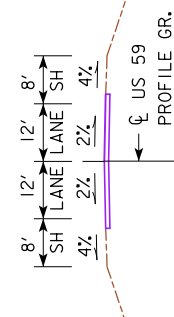
Q₅₀₀ = 10,500 CFS
STAGE = 1337.99
AVG. BRIDGE VELOCITY = 11.2 FPS
CALCULATED CHECK SCOUR = 1307.80

ROADWAY OVERTOP 1342.61
STA. 173+91.70

UTILITIES LEGEND:

- FO - - ICN - QUALITY D
- - NORTHWEST REC

TYPICAL APPROACH SECTION



SITUATION PLAN

LOCATION

ON US 59 OVER
SOLDIER CREEK
T-86N R-40W/39W
SECTION 24/19
GRANT/HAYES TOWNSHIP
IDA COUNTY
FHWA NO. 29110
BRIDGE MAINT. NO. 4719.9S059
LATITUDE 42.2444°
LONGITUDE -95.4394°

TRAFFIC ESTIMATE

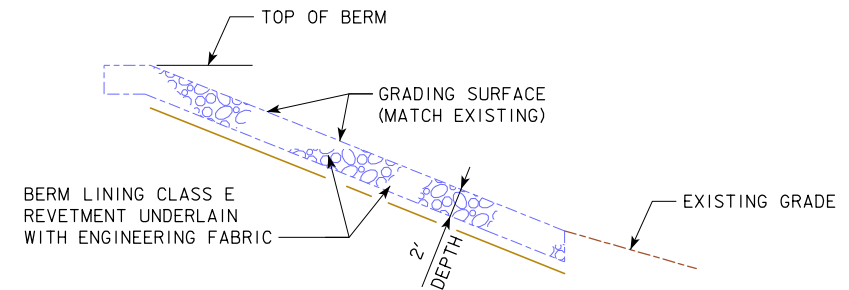
2020 AADT	1,700	V.P.D.
2040 AADT	1,970	V.P.D.
2040 DHV	82	V.P.H.
TRUCKS	31	%
TOTAL DESIGN ESALS		

DESIGN FOR 15° SKEW (LA)
150'-0 X 40'-0 CONTINUOUS CONCRETE SLAB BRIDGE
45'-6 END SPANS 59'-0 INTERIOR SPAN
SITUATION PLAN
STA. 169+76.33 JUNE, 2017
IDA COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 1 OF 2 FILE NO. ? DESIGN NO. ?

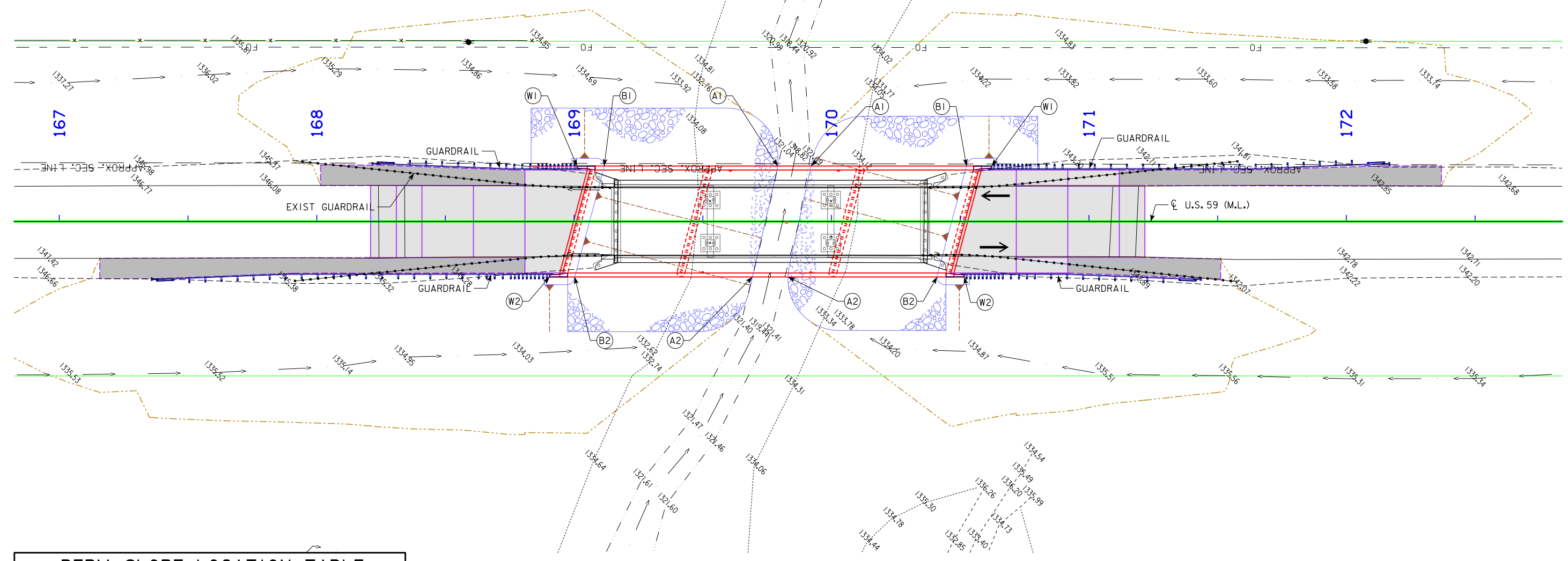
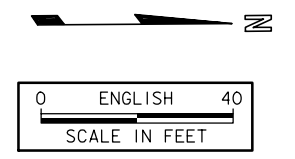
ESTIMATED BERM ARMORING QUANTITIES

LOCATION	REVETMENT CL. E (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
BERM LINING - SOUTH ABUTMENT	805.8	746.1	497.4
BERM LINING - NORTH ABUTMENT	669.4	619.9	413.2
TOTALS	1475.2	1366.0	910.6

EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE.



SECTION THRU EMBEDDED REVETMENT BERM



POINTS	S. ABUTMENT			N. ABUTMENT		
	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
A1	169+79.10	21.58' LT	1321.16	169+92.06	21.58' LT	1321.48
A2	169+69.26	21.58' RT	1321.33	169+83.06	21.58' RT	1322.03
B1	169+11.66	21.58' LT	1341.31	170+52.45	21.58' LT	1340.13
B2	169+00.20	21.58' RT	1341.31	170+40.99	21.58' RT	1340.13
W1	169+01.14	21.58' LT	1344.98	170+62.24	21.58' LT	1343.69
W2	168+90.42	21.58' RT	1345.07	170+51.52	21.58' RT	1343.77

BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE

DESIGN FOR 15° SKEW (LA)
150'-0 X 40'-0 CONTINUOUS CONCRETE SLAB BRIDGE
 45'-6 END SPANS 59'-0 INTERIOR SPAN
SITE PLAN
 STA. 169+76.33 JUNE, 2017
IDA COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. 2 OF 2 FILE NO. ? DESIGN NO. ?

SITE PLAN

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\R/CB
- Proposed Pipe\R/CB
- Proposed Dike
- All Elements Associated with Proposed Entrances

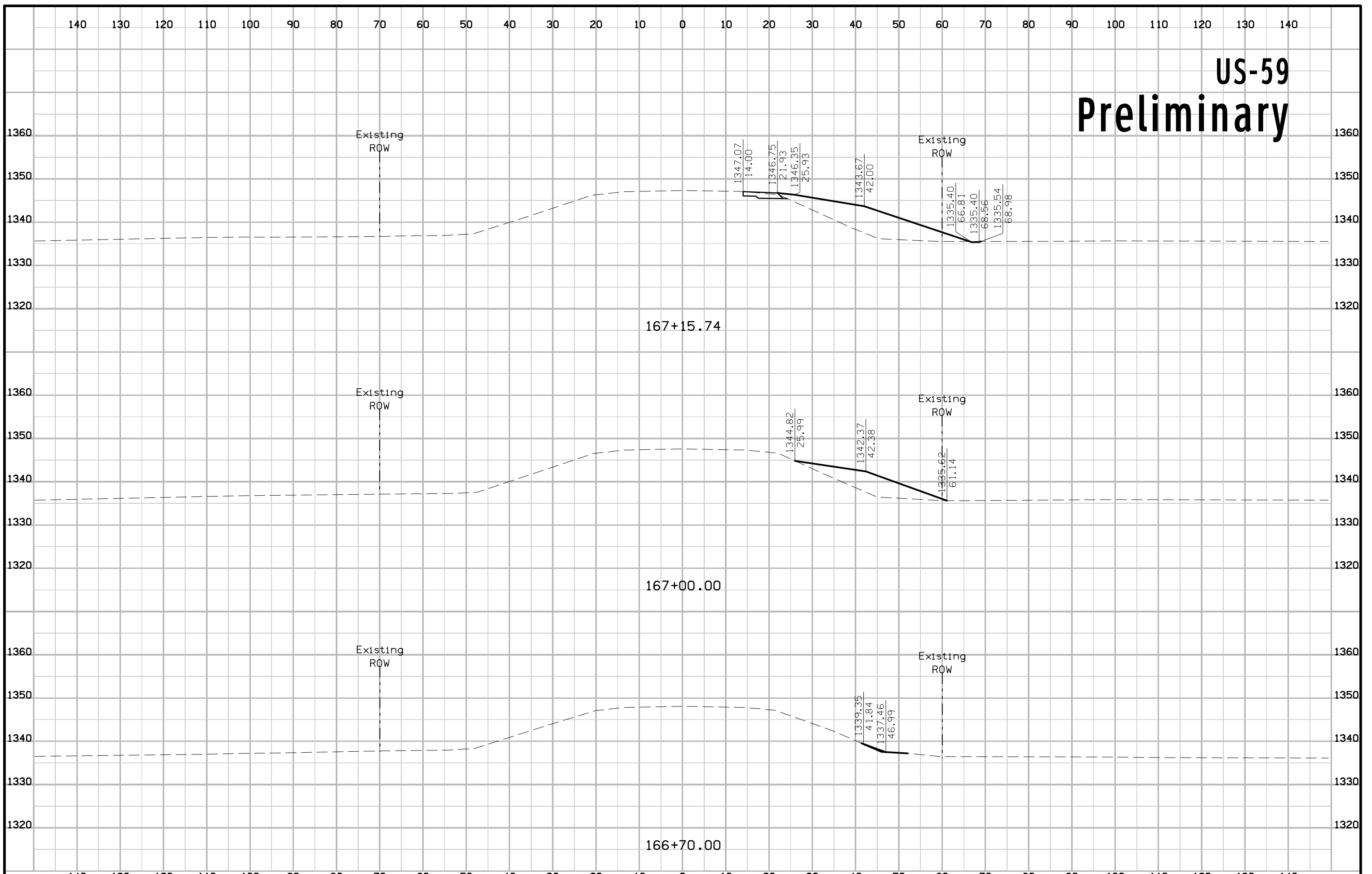
SYMBOL LEGEND OF CROSS SECTION SHEETS

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

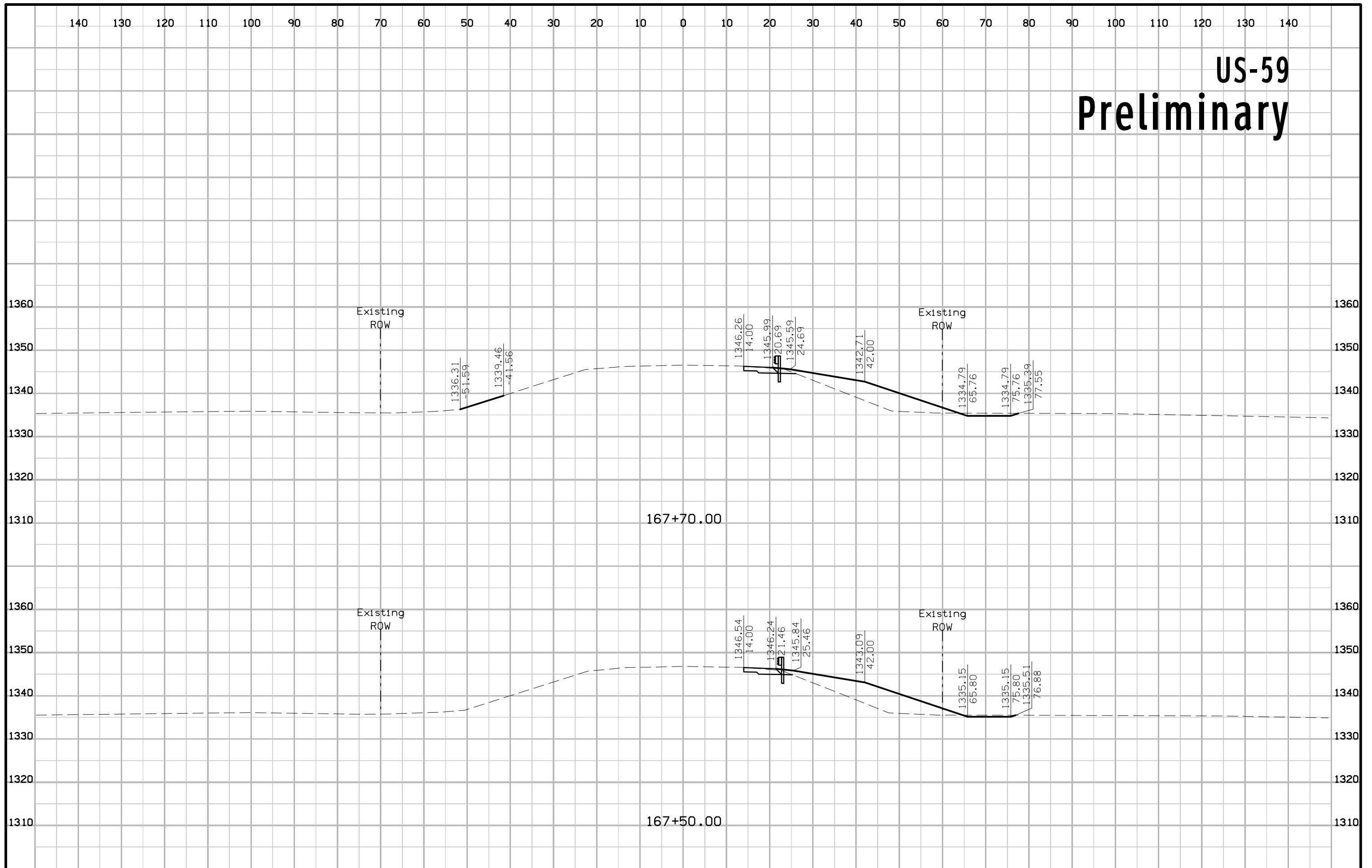
**CROSS SECTION
LEGEND AND SYMBOL
INFORMATION SHEET**

(COVERS SHEET SERIES W, X, Y, & Z)

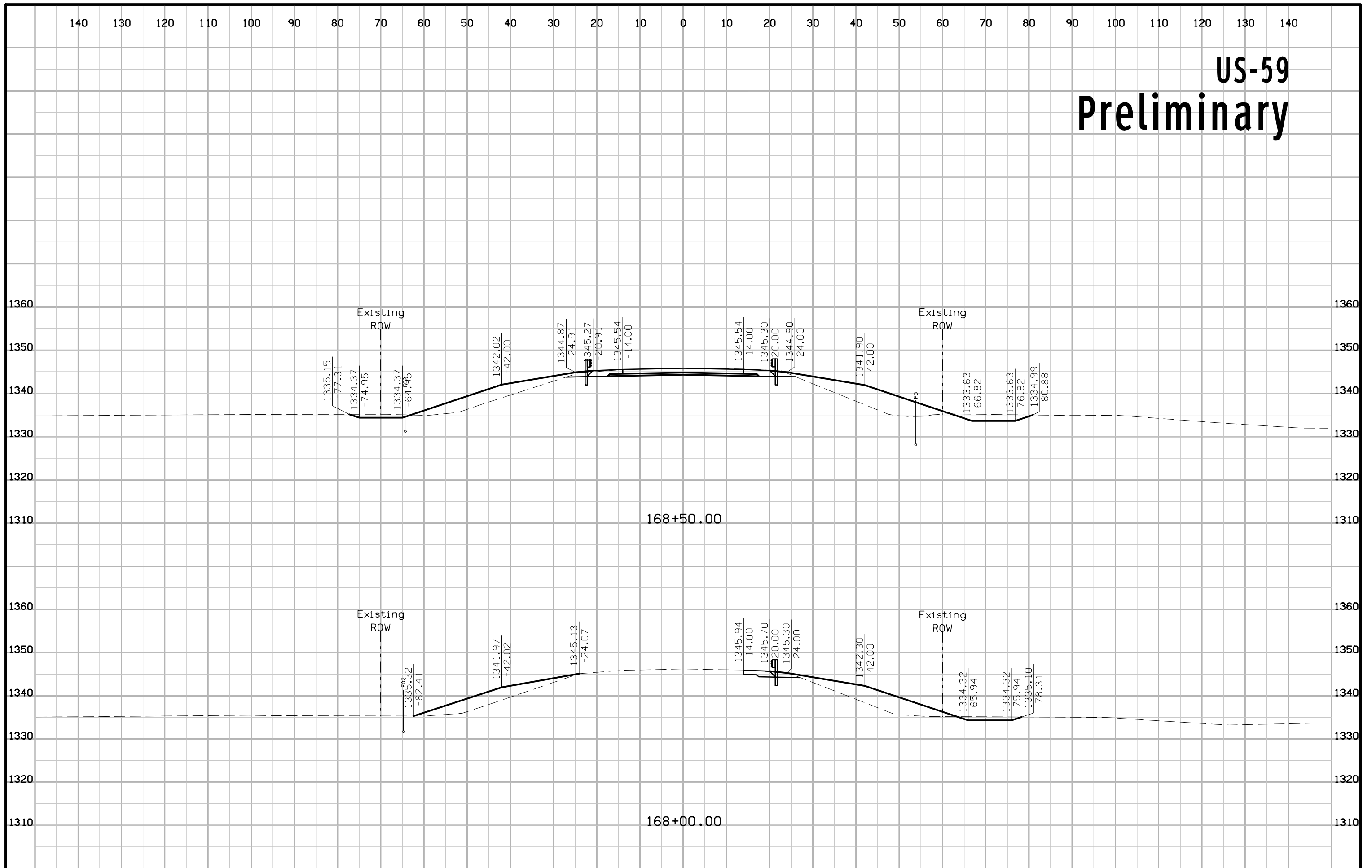
US-59 Preliminary



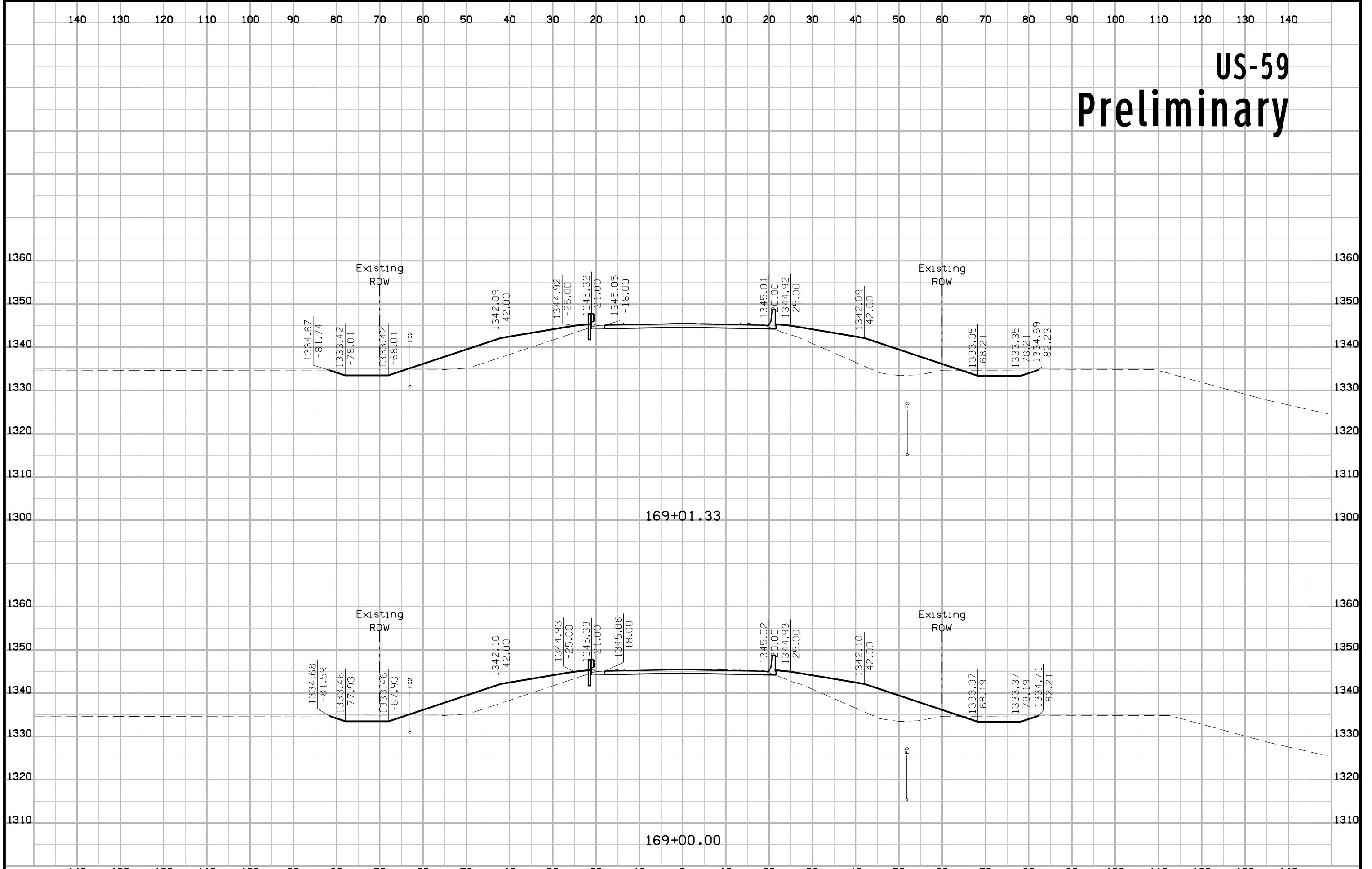
US-59 Preliminary



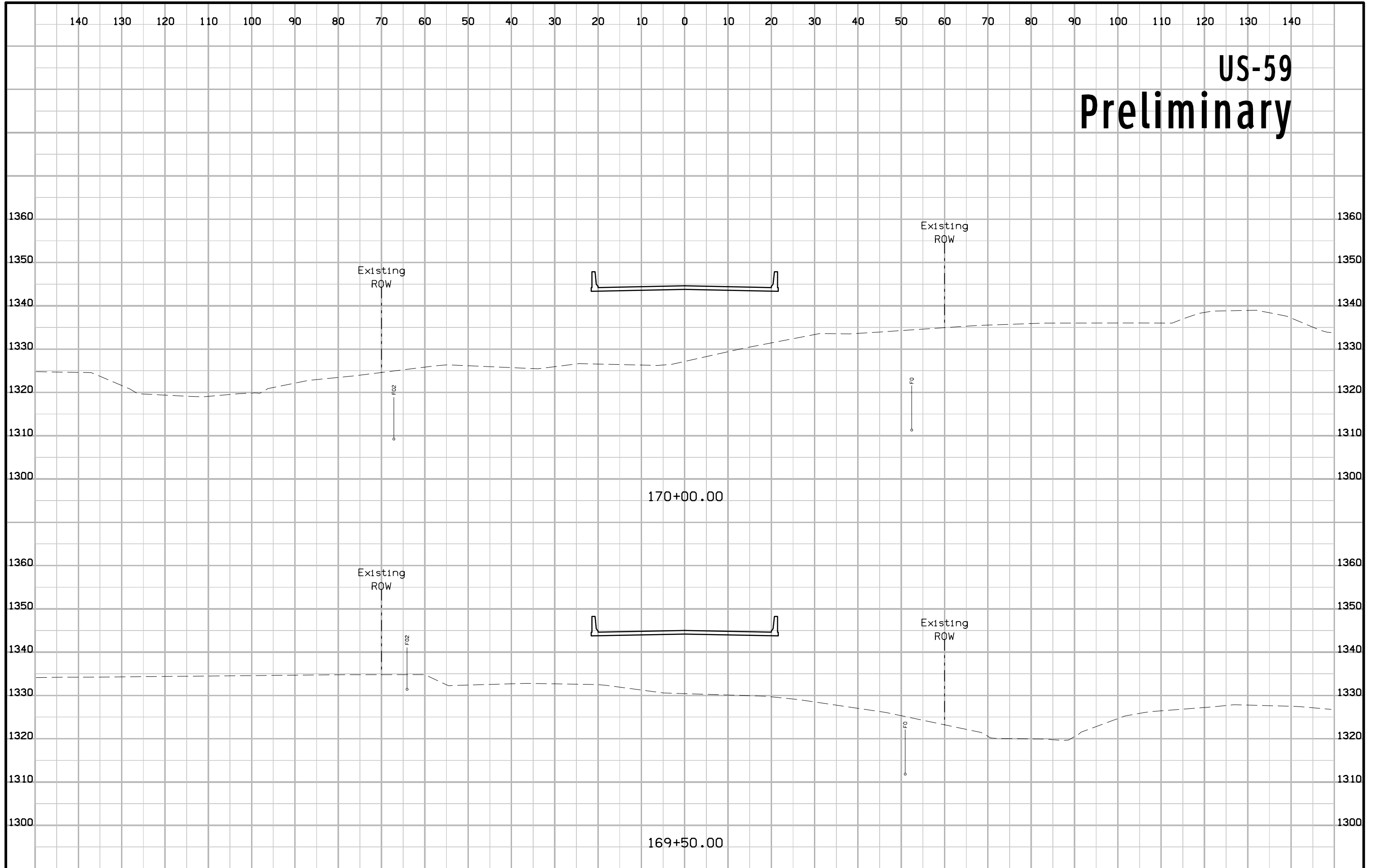
US-59 Preliminary



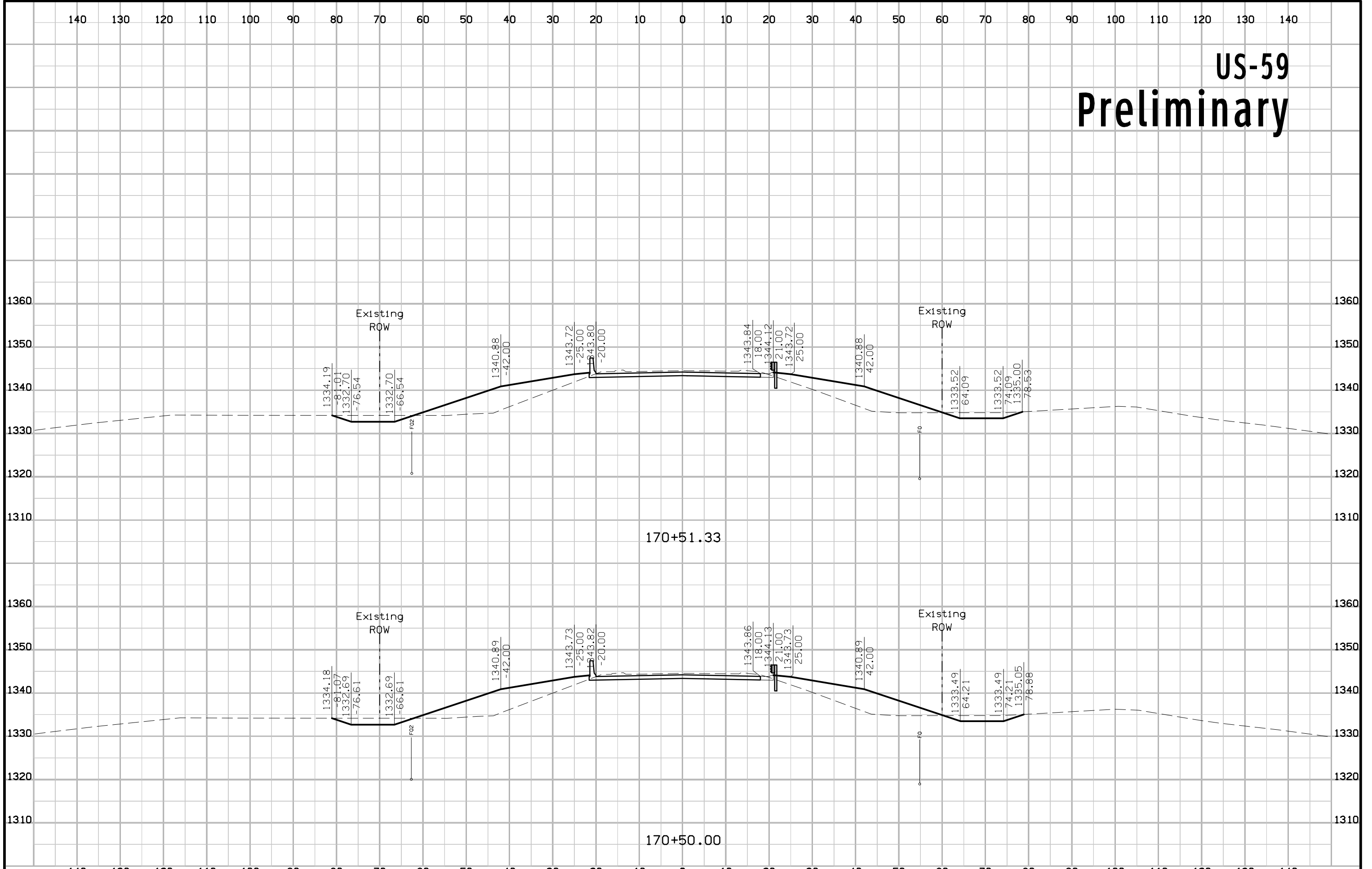
US-59 Preliminary



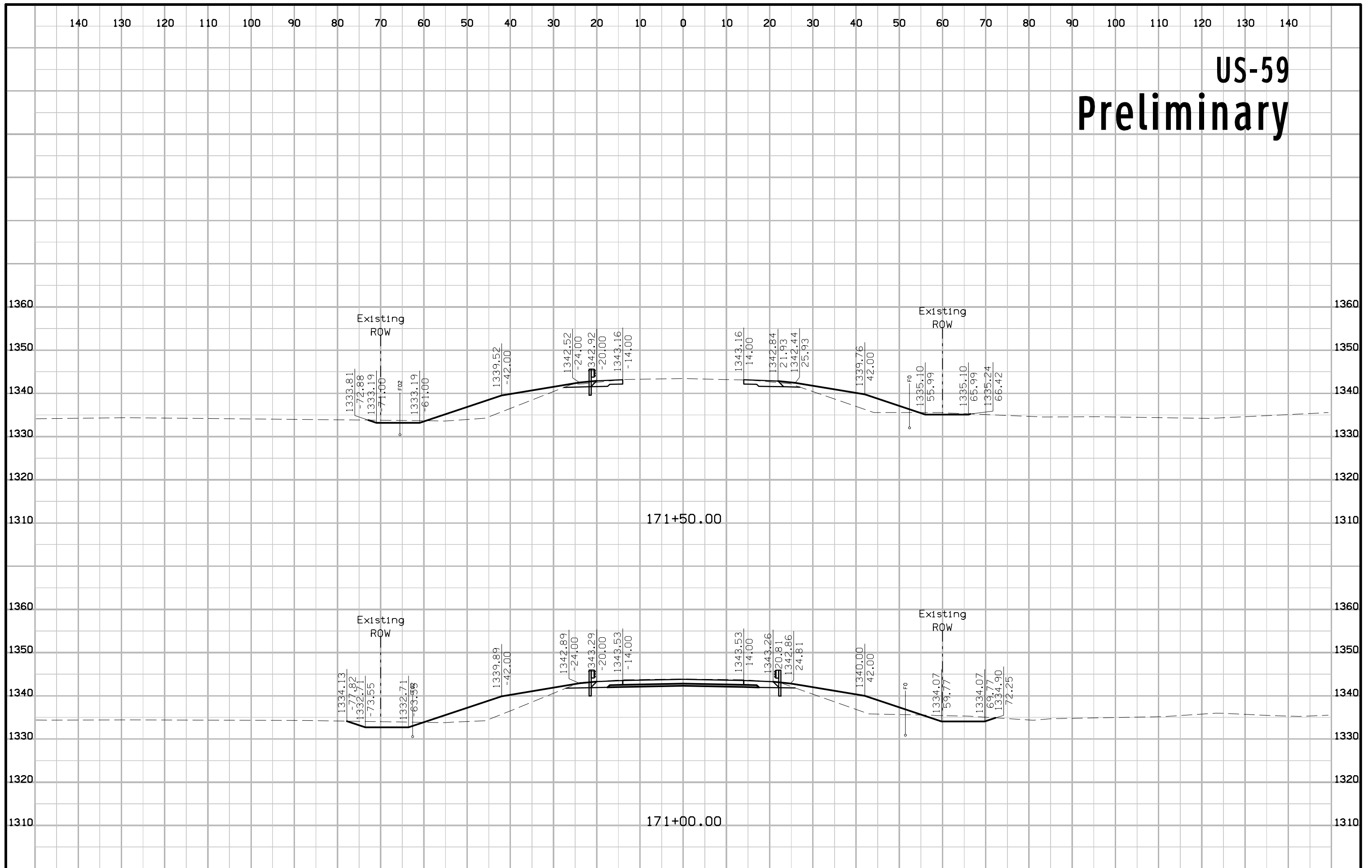
US-59 Preliminary



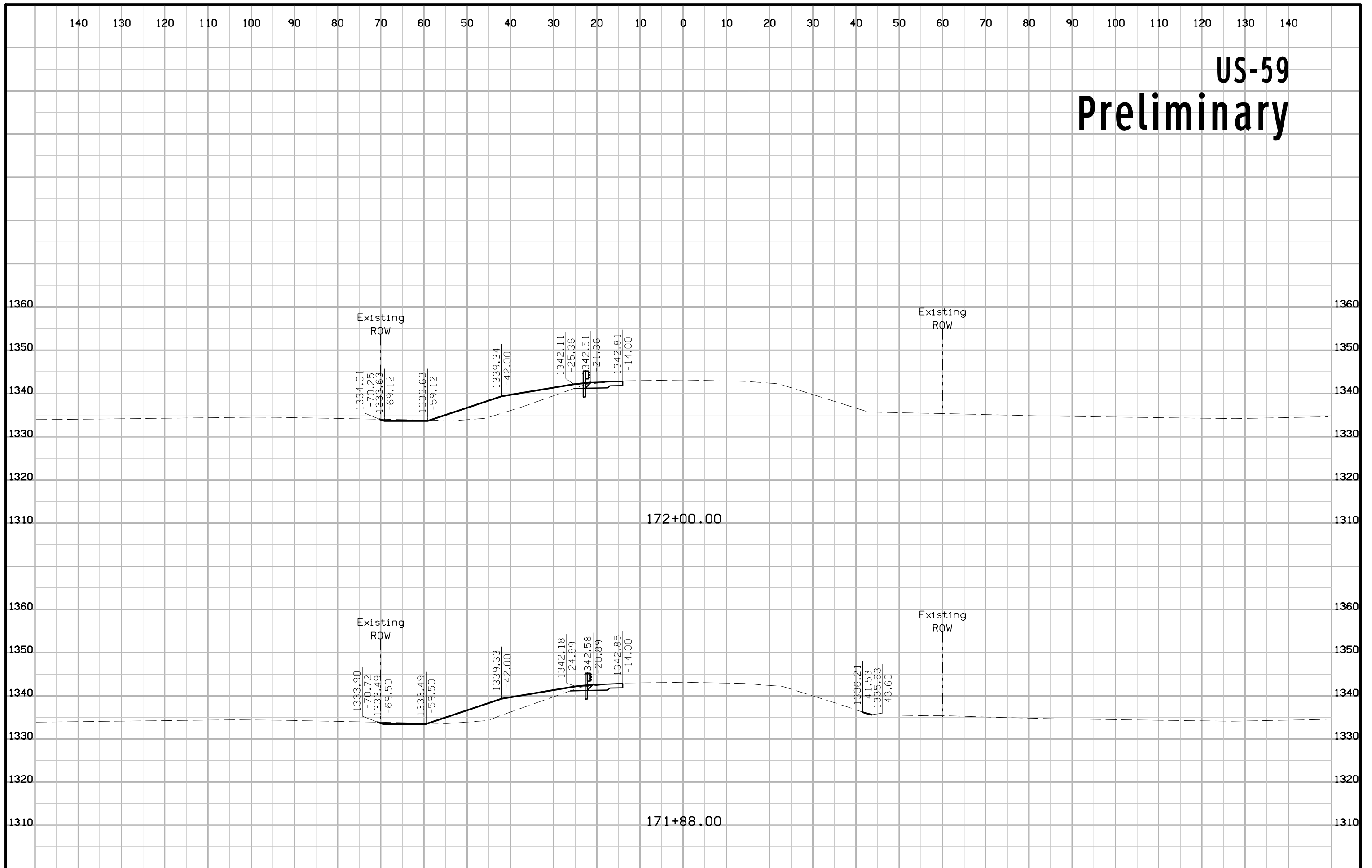
US-59 Preliminary



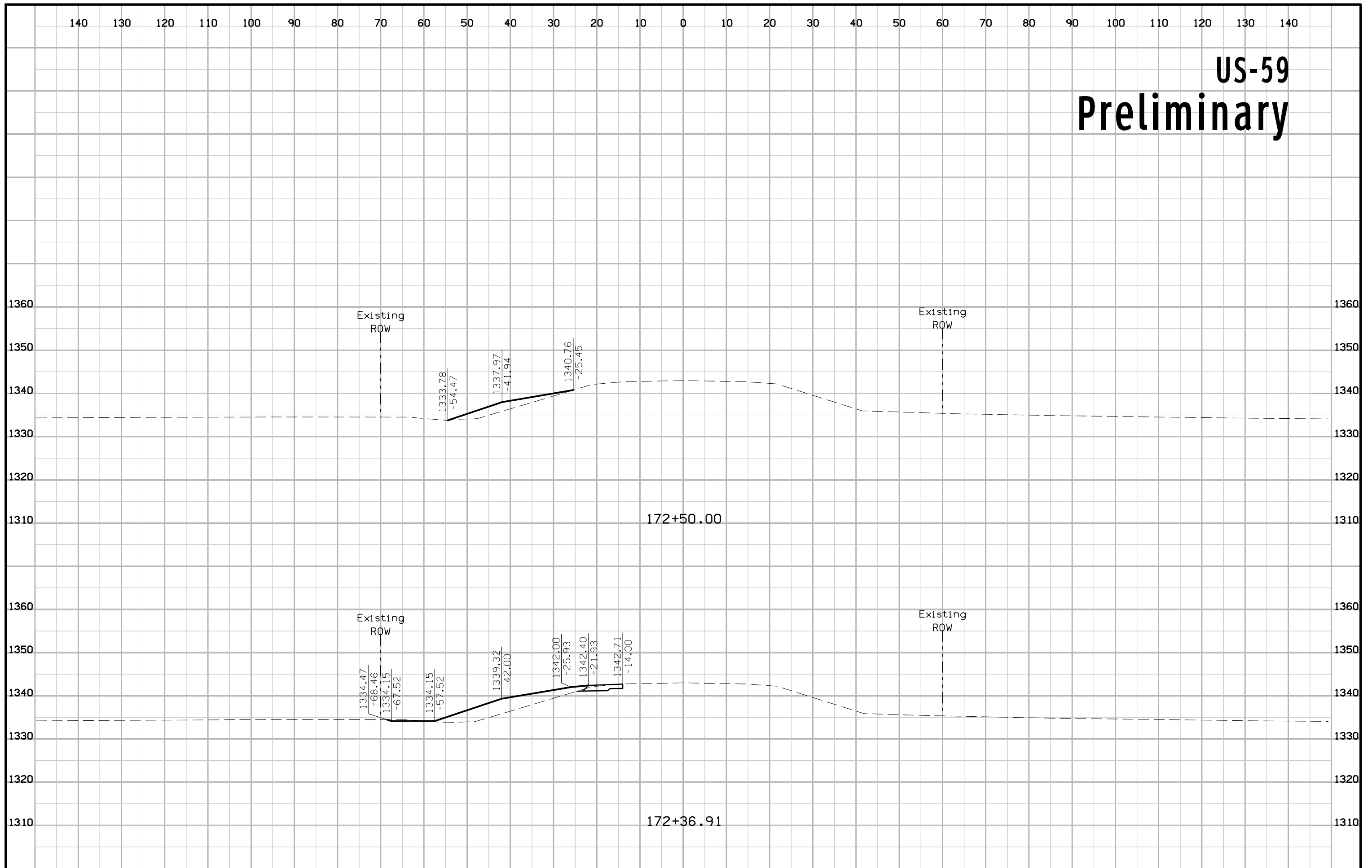
US-59 Preliminary



US-59 Preliminary



US-59 Preliminary



US-59 Preliminary

