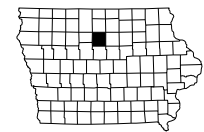


**WRIGHT CO.** UNKNOWN PAVEMENT-GRADE AND REPLACE  
 STPN-069-7(41)--2J-99  
 LETTING DATE 10/20/2020



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 - 5	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 - 3	U.S. Highway 69
<b>E Sheets</b>	<b>Side Road Plan and Profile Sheets</b>
* E.1	County Road C-20
<b>G Sheets</b>	<b>Survey Sheets</b>
G.1	Reference Ties and Bench Marks
G.2	Horizontal Control Tab. & Super for all Alignments
<b>J Sheets</b>	<b>Traffic Control and Staging Sheets</b>
* J.1	Traffic Control Plan
* J.1	Staging Notes Stage
<b>U Sheets</b>	<b>500 Series, Mod.Stds. and Detail Sheets</b>
U.1 - 2	500 Series, Modified Standards and Detail Sheets
<b>V Sheets</b>	<b>Bridge and Culvert Situation Plans</b>
V.1 - 2	Bridge and Culvert Situation Plans
<b>W Sheets</b>	<b>Mainline Cross Sections</b>
W.1	Cross Sections Legend & Symbol Information Sheet
W.1 - 36	Mainline Cross Sections
<b>X Sheets</b>	<b>Side Road Cross Sections</b>
X.1 - 4	Side Road Cross Sections
	* Color Plan Sheets



**Highway Division**  
 PLANS OF PROPOSED IMPROVEMENT ON THE  
**PRIMARY ROAD SYSTEM**  
**WRIGHT COUNTY**  
**UNKNOWN PAVEMENT-GRADE AND REPLACE**  
 N of UP RR to N Jct Co Rd C20

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
58
PROJECT IDENTIFICATION NUMBER
13-99-069-010
PROJECT NUMBER
STPN-069-7(41)--2J-99
R.O.W. PROJECT NUMBER
STPN-069-7(35)--2J-99

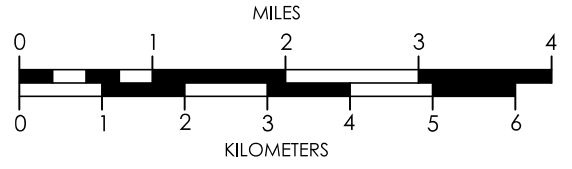
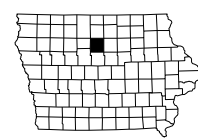
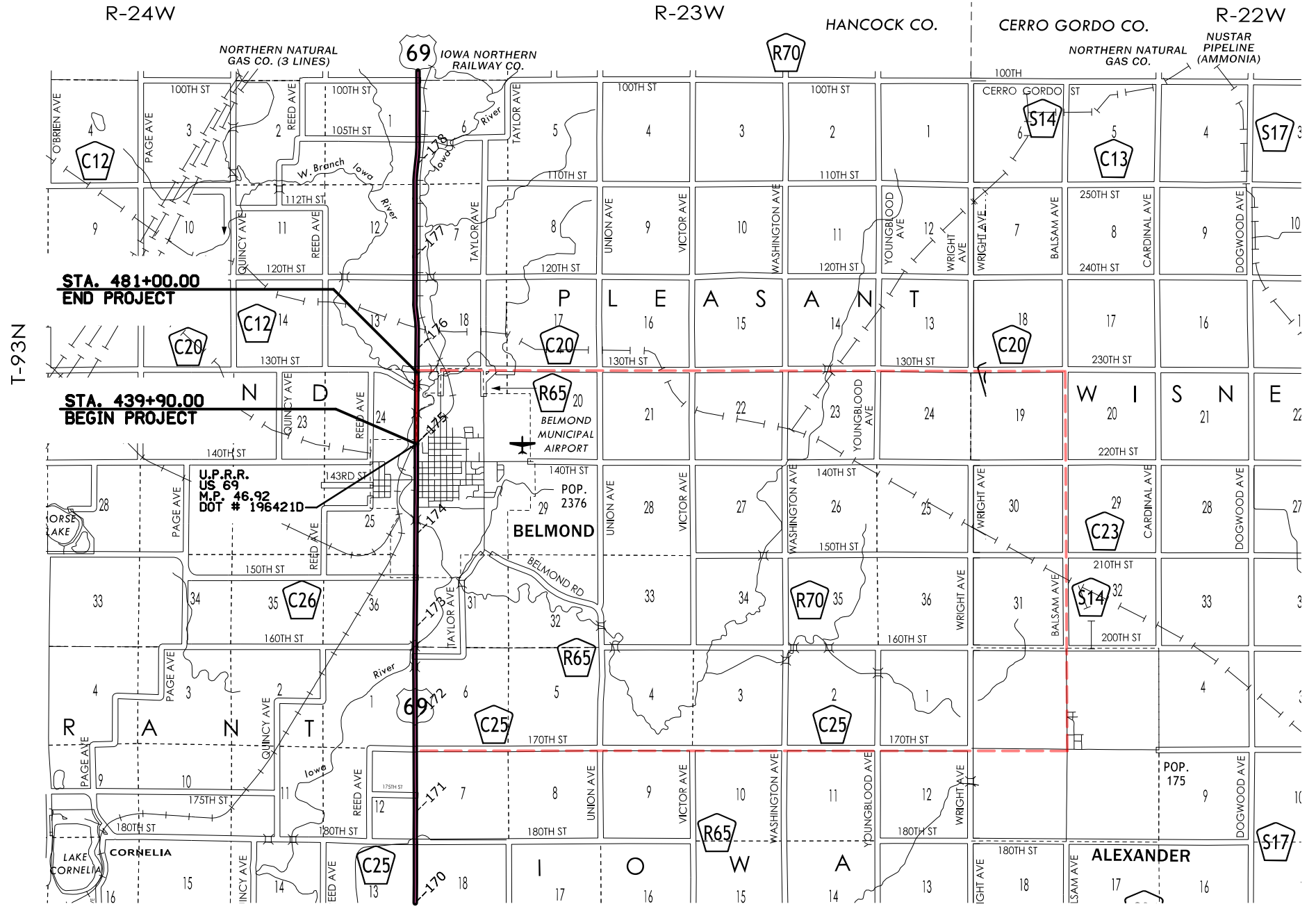
DESIGN DATA RURAL			
2017	AADT	3,000	V.P.D.
2037	AADT	4,000	V.P.D.
20--	DHV	--	V.P.H.
	TRUCKS	13/14	%
	Total		
	Design ESALs	--	

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

PRELIMINARY PLANS

Subject to change by final design.

D5 PLAN – Date: 10/03/2018



LEGEND	
Detour Route	

**Combination Shoulder**

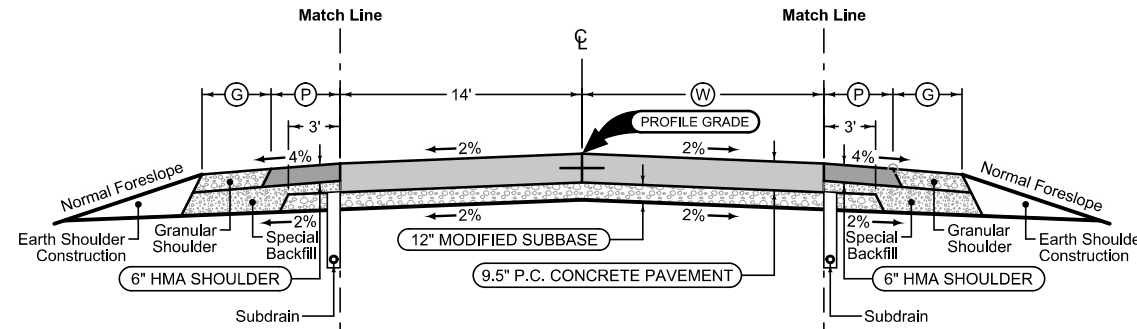
Shoulder Jointing:  
Longitudinal joint: B

		2_C_ 10-15-13	
STATION TO STATION		(P) Feet	(G) Feet
439+90.00	453+55.98	4.0	4.0
Bridge			
~ 459+45.67	469+27.29	4.0	4.0
Bridge			
~ 475+81.81	481+00.00	4.0	4.0

**Combination Shoulder**

Shoulder Jointing:  
Longitudinal joint: B

		2_C_ 10-15-13	
STATION TO STATION		(P) Feet	(G) Feet
439+90.00	~ 453+75.00	4.0	4.0
Bridge			
~ 459+64.69	~ 470+96.04	4.0	4.0
Bridge			
~ 475+63.59	478+50.00	4.0	4.0



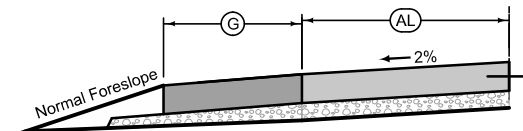
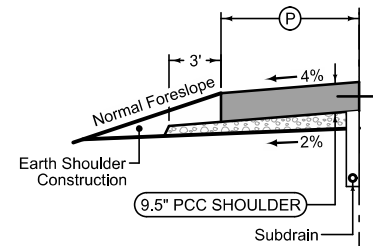
Mainline Jointing:  
Transverse joints: CD at 20' spacing  
Longitudinal joint: L-2

2P_ 10-19-10		
STATION TO STATION		(W)
439+90.00	~ 454+11.08	14.0
BRIDGE		
~ 458+92.92	459+44.79	14.0
459+44.79	468+21.00	14.0-30.0
468+21.00	~ 471+72.82	30.0
BRIDGE		
475+30.04	475+40.00	30.0
475+40.00	481+00.00	30.0-14.0

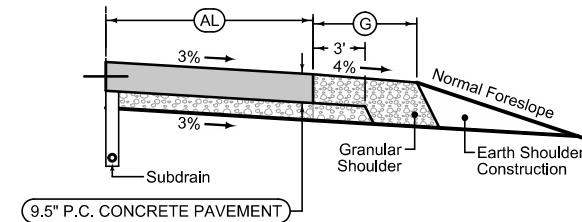
**Full Depth PCC Shoulder**

Shoulder Jointing:  
Longitudinal joint: L-2 or KT-2  
Transverse joints: C at 20' spacing

		2_P_FullPCC_ 10-19-10	
STATION TO STATION		(P) Feet	
472+00.00	472+02.82	11	
472+02.82	472+49.19	5	



\* SEE BRIDGE AND BRIDGE APPROACHES FOR AUXILIARY LANE INFORMATION \*



**Auxiliary Lane Auxiliary Lane**

Longitudinal joint: L or KT  
Transverse joint: Match Mainline

2_AL_Shldr_G_ 10-19-10		2_AuxLane_PCC_ 10-19-10	
(G) Feet	STATION TO STATION	(AL) Feet	

**Auxiliary Lane Auxiliary Lane**

Longitudinal joint: L or KT  
Transverse joint: Match Mainline

2_AuxLane_PCC_ 10-19-10		2_AL_Shldr_G_ 10-19-10	
STATION TO STATION	(AL) Feet	(G) Feet	
478+50.00	479+50.00	0.0-10.0	6.0
479+50.00	481+00.00	10.0	6.0

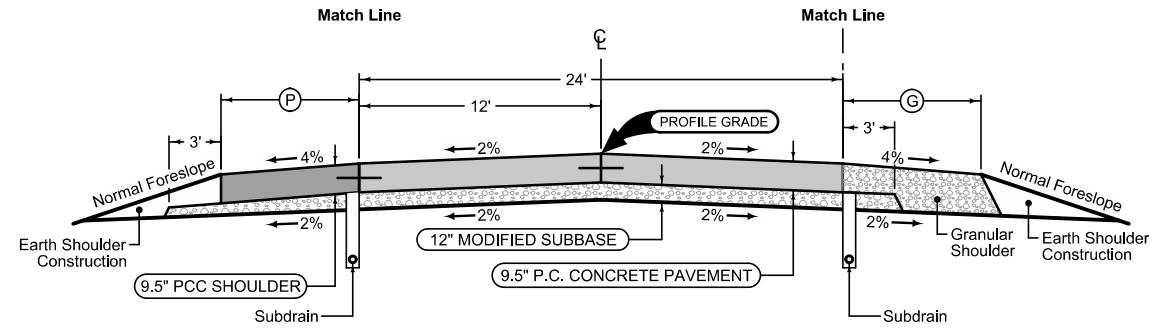
See Tab 100-24 or 100-25 for pavement quantities.  
See Tab 112-9 for shoulder quantities.

**U.S. 69**

**Full Depth PCC Shoulder**

Shoulder Jointing:  
 Longitudinal joint: L-2 or KT-2  
 Transverse joints: C at 20' spacing

2_P_FullPCC_10-19-10		
STATION TO STATION		(P) Feet
1468+55.00	1469+03.70	6.0
Return		



**Granular Shoulder**

2_G_SR_10-19-10		
STATION TO STATION		(G) Feet
1468+55.00	1470+13.00	6.0
Return Begins		

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

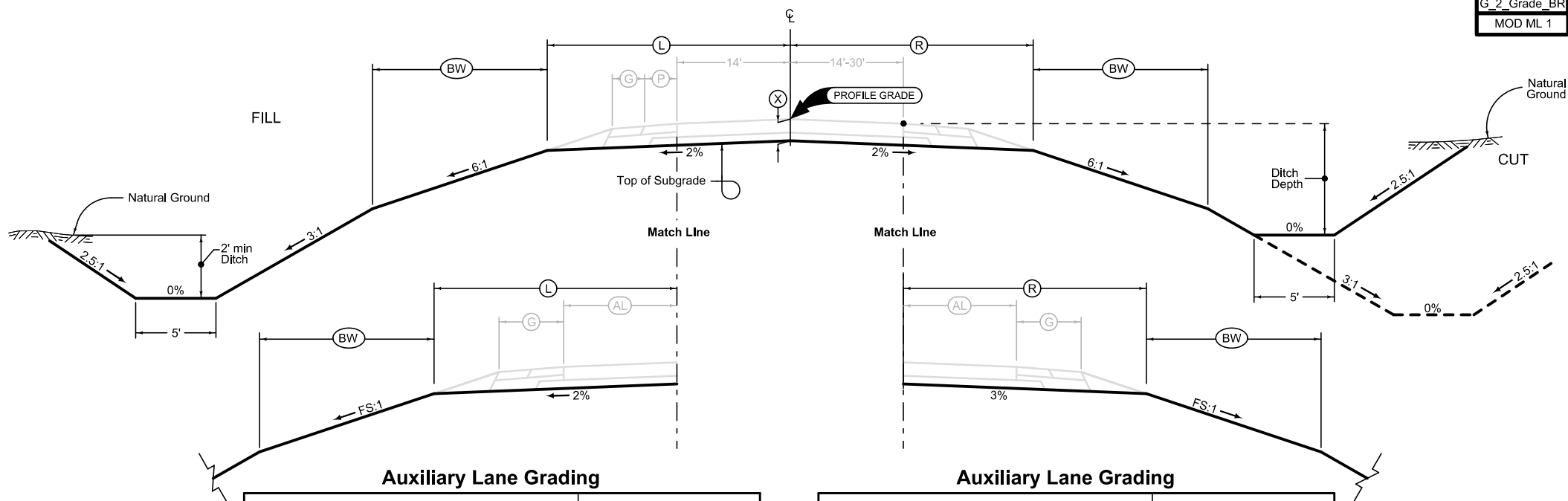
2P_10-19-10		
STATION TO STATION		
1468+55.00	1471+01.00	

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

**County Road C-20**



LOCATION		DIMENSIONS				
ROAD IDENTIFICATION	STATION TO STATION	(L) Feet	(R) Feet	(X) Inches	(BW) Feet	
U.S. 69	439+90.00	440+60.00	Vari		21.5	Vari
U.S. 69	440+60.00	441+60.00	33.12		21.5	8.88
U.S. 69	441+60.00	454+17.29	33.12	33.12	21.5	8.88
U.S. 69	459+03.38	459+44.79	33.12	33.12	21.5	8.88
U.S. 69	459+44.79	462+00.00	33.12	33.12-35.84	21.5	8.88
U.S. 69	462+00.00	468+21.00		35.84-49.12	21.5	8.88
U.S. 69	468+21.00	468+50.00		49.12	21.5	8.88
U.S. 69	468+50.00	471+72.82	33.12	49.12	21.5	8.88
U.S. 69	475+30.04	475+40.00	33.12	49.12	21.5	8.88
U.S. 69	475+40.00	478+40.00	33.12	49.12-40.56	21.5	8.88
U.S. 69	478+40.00	478+50.00		40.56-40.27	21.5	8.88
U.S. 69	478+50.00	479+50.00		41.96-46.92	21.5	8.88-9.33
U.S. 69	479+50.00	480+50.00		46.92-44.11	21.5	9.33

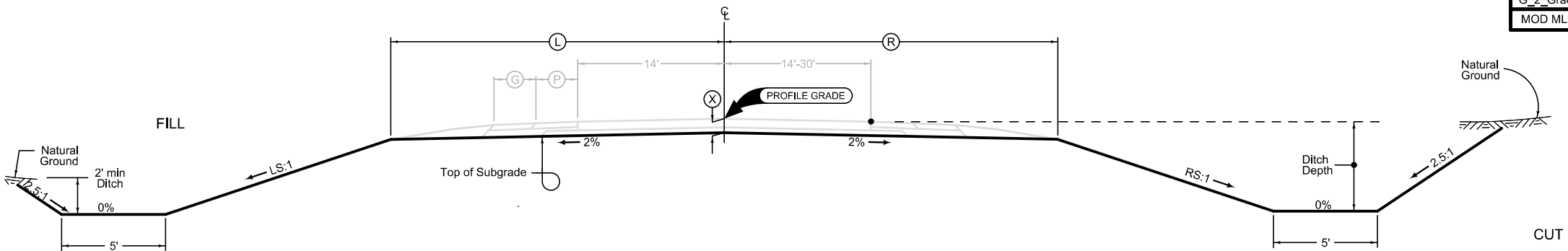


LOCATION		DIMENSIONS		
ROAD IDENTIFICATION	STATION TO STATION	(R) Feet	(BW) Feet	FS
U.S. 69	Bridge			

LOCATION		DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION	(R) Feet	(BW) Feet	FS	
U.S. 69	478+50.00	479+50.00	41.96-46.92	8.88-9.33	6
U.S. 69	479+50.00	480+50.00	46.92-44.11	9.33	6
U.S. 69	480+50.00	481+00.00	33.12-27.21	44.11-35.77	6-3

**U.S. 69  
2 LANE GRADING  
(Barnroof Section)**

LOCATION		DIMENSIONS				
ROAD IDENTIFICATION	STATION TO STATION	(L) Feet	(R) Feet	(X) Inches	(LS) Feet	(RS) Feet
U.S. 69	439+90.00	440+60.00		Vari	21.5	3
U.S. 69	440+60.00	441+60.00		Vari	21.5	3-6
U.S. 69	462+00.00	468+50.00	33.12		21.5	6
U.S. 69	478+40.00	480+50.00	33.12		21.5	6
U.S. 69	480+50.00	481+00.00	33.12-27.21	44.11-35.77	21.5	6-3

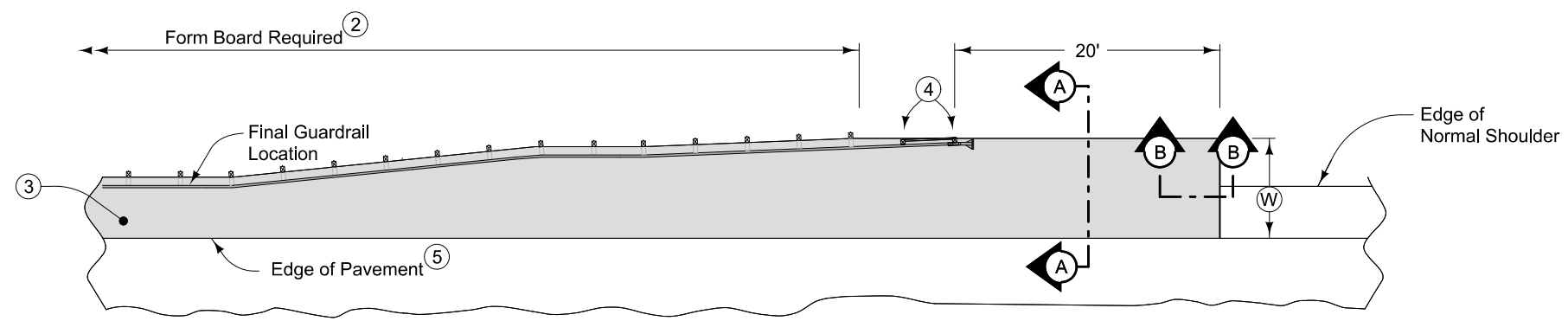


**U.S. 69  
2 LANE GRADING**

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

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



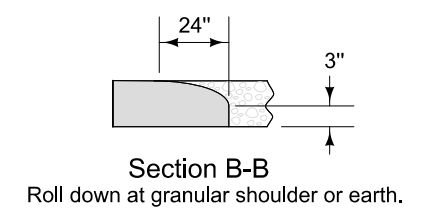
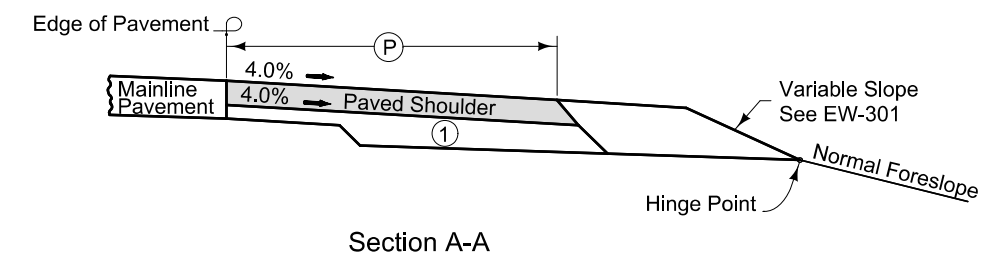
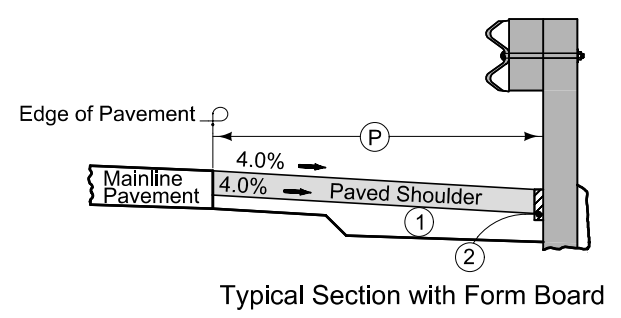


6" HMA Paved Shoulder at guardrail. 7" PCC may be substituted with the following jointing layout:

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 W/2 from edge of mainline pavement when W 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 & reinstallation of guardrail will be allowed with no additional payment.

Refer to Shoulder tabulation (112-9) for quantities.



- ① 6" subgrade treatment.
- ② When guardrail posts are installed prior to construction of paved shoulder, nail 1" x 6" untreated form boards along the face of guardrail posts for the length shown. This board is to prevent shoulder material from contacting the sides of the posts and altering the function of the guardrail. Form board not required for final 2 posts.
- ③ Continue paved shoulder to existing paved shoulder or 20' beyond the end of guardrail.
- ④ Shoulder may be notched for final 2 posts or post sleeves may be installed through pavement.
- ⑤ 'KT-1' joint for PCC shoulder.  
'B' joint for HMA shoulder.

PAVED SHOULDER AT GUARDRAIL

### SURVEY SYMBOLS

- CON Concrete or A/C Slab
- SI Sign
- RRS Railroad Signal
- PPA Power Pole Co. 1
- BLD Building or Foundation
- ENP Edge Paved Entrance & Park Lot
- LUM Luminaire
- TDC Tree Deciduous
- TEV Evergreen Tree
- RR Centerline of Railroad Tracks
- EW Edge of Water
- BNK Stream Bank
- DIK Centerline of Dike or Dam
- STP Stump
- EG Edge of Gravel Road
- ENU Edge Unpaved Entrance & Parking
- RET Retaining Walls
- CON Concrete or A/C Slab
- FWD Wood Fence
- HDG Hedge Row
- FCL Chain Link and Security Fence
- FLG Flag Poles
- SHR Shrub
- SWP Swamp or Marsh
- LP L.P. Tank
- TLNR Tree Line Right
- TLNL Tree Line Left
- FB Barbed Wire Fence
- PVP Parking-Paved
- PNP Parking-Non Paved
- GDL Guard Rail Steel
- T1 TLA Underground Telephone Line Company 1
- F02 FOB Underground Fiber Optic Co. 2
- G GLA Underground Gas Line Co. 1
- E1 ELA Underground Electric Line Co. 1
- BBB Bottom of Bridge Beam
- BD Bridge Deck
- RRR Railroad Rail
- BRG Bridge
- BCL Bridge Centerline
- TP TPD Telephone Pedestal
- PLG Location of General Photo
- OUT Tile Outlet
- MIS Miscellaneous
- PR Electric Riser Pole
- BB Billboard
- EHW Extreme High Water
- SNP Unpaved Shoulder
- EP Edge of Paved Roads (ML or SR)
- ENP Edge Paved Entrance & Park Lot
- ENT Centerline BL of Entrance
- SH Paved Shoulder
- DU Centerline Draw or Stream (Up)
- D Centerline Draw or Stream (Down)
- BL Topo Breakline
- C Centerline BL of Road (ML or SR)
- LIN Miscellaneous Line
- TIL Tile Line

### UTILITY LEGEND

This is NOT a POINT 25 Project and is not subject to the provisions of IAC 761-115.25.

- G Alliant Energy  
Jason A. Hogan  
4902 North Biltmore  
Madison, WI 53707-1007  
608-458-4871  
jasonhogan@alliantenergy.com
- T1 Frontier Communications of Iowa  
Bob Hudson  
2573 Chamberlain Drive  
Denison, IA 51442  
712-263-5222  
robert.hudson@ftr.com
- F02 Iowa Network Services  
Jeff Klocko  
4201 Corporate Drive  
West Des Moines, IA 50266-5906  
515-830-0445  
jeff@netins.com

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

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)	Existing Utilities
SHADING		
Design Color No.		
Yellow	(4)	Highlight for Critical Notes or Features
Red	(3)	Delineates Restricted Areas
Lavender	(9)	Temporary Pavement Shading
Gray, Light	(48)	Proposed Pavement Shading
Gray, Med	(80)	Proposed Granular Shading
Gray, Dark	(112)	Proposed Grade and Pave Shading "In conjunction with a paving project"
Brown, Light	(236)	Grading Shading
Tan	(8)	Proposed Sidewalk Shading
Blue, Light	(230)	Proposed Sidewalk Landing Shading
Pink	(11)	Proposed Sidewalk Ramp Shading

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

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

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

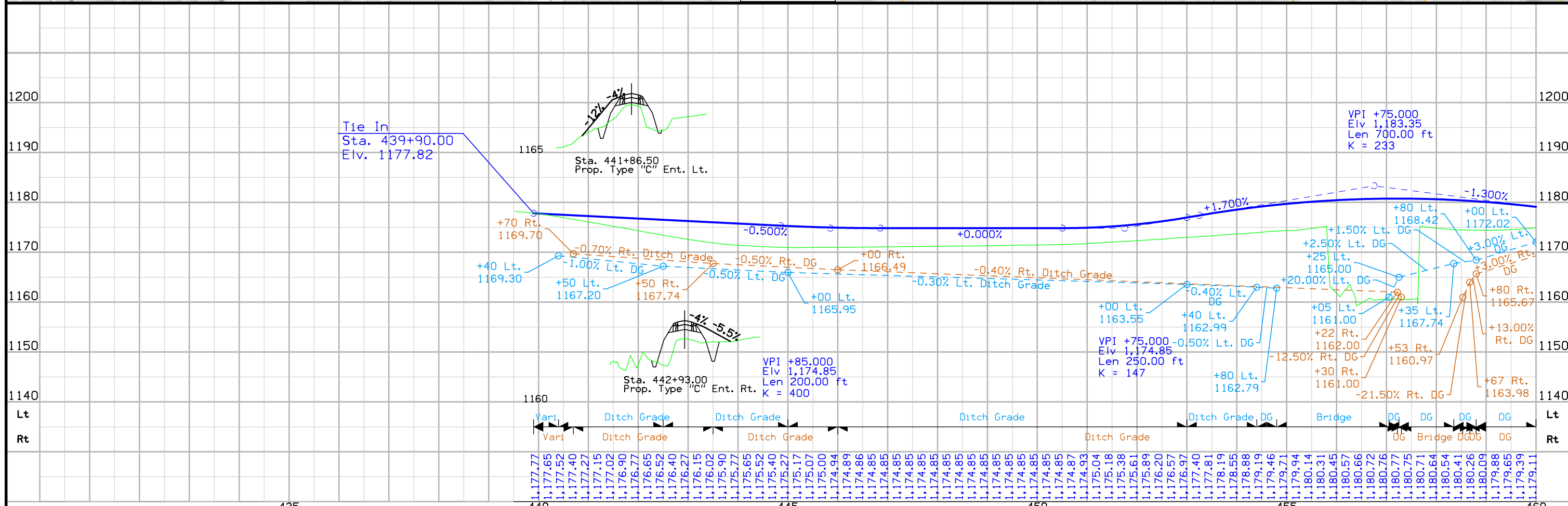
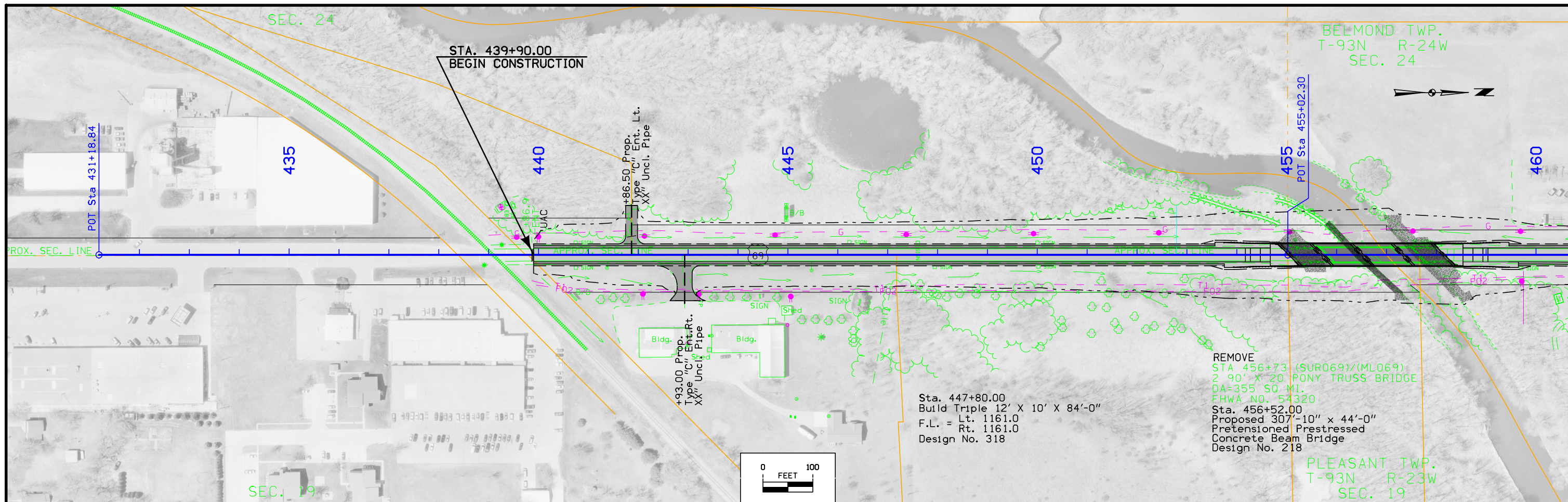
### RIGHT-OF-WAY LEGEND

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

## PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

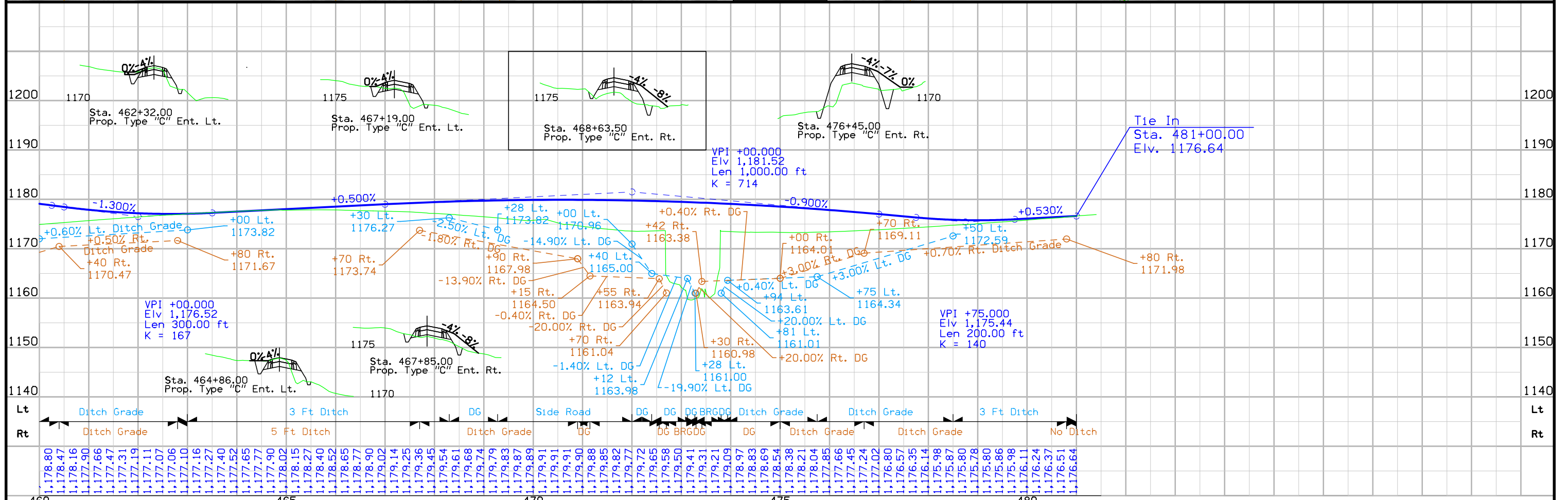
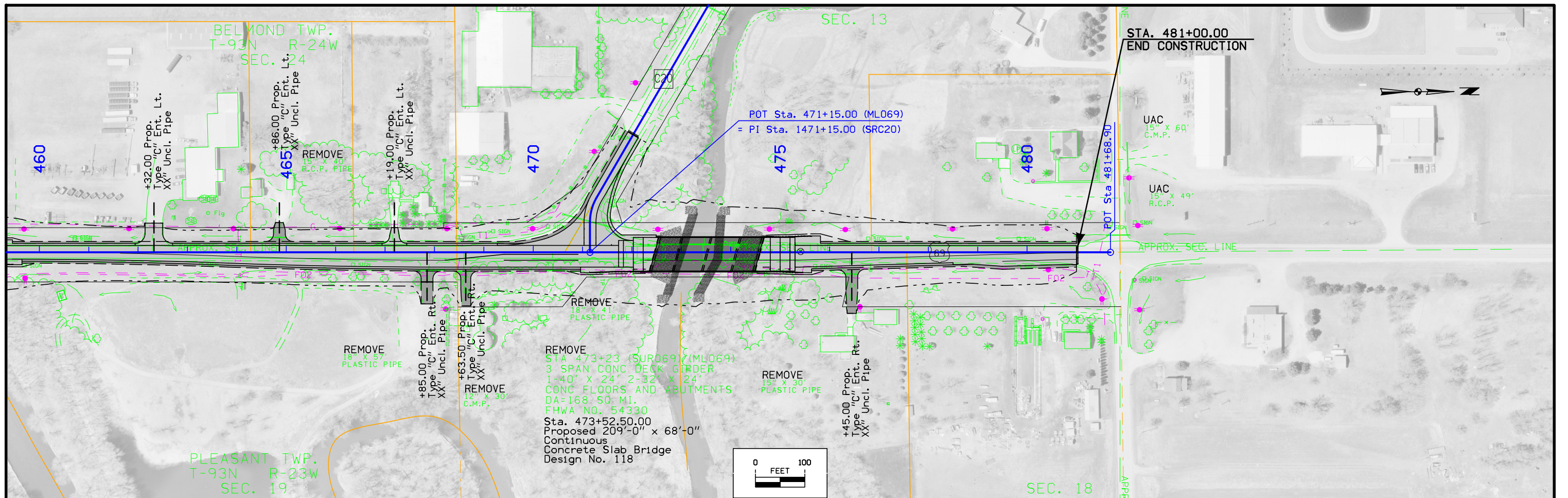
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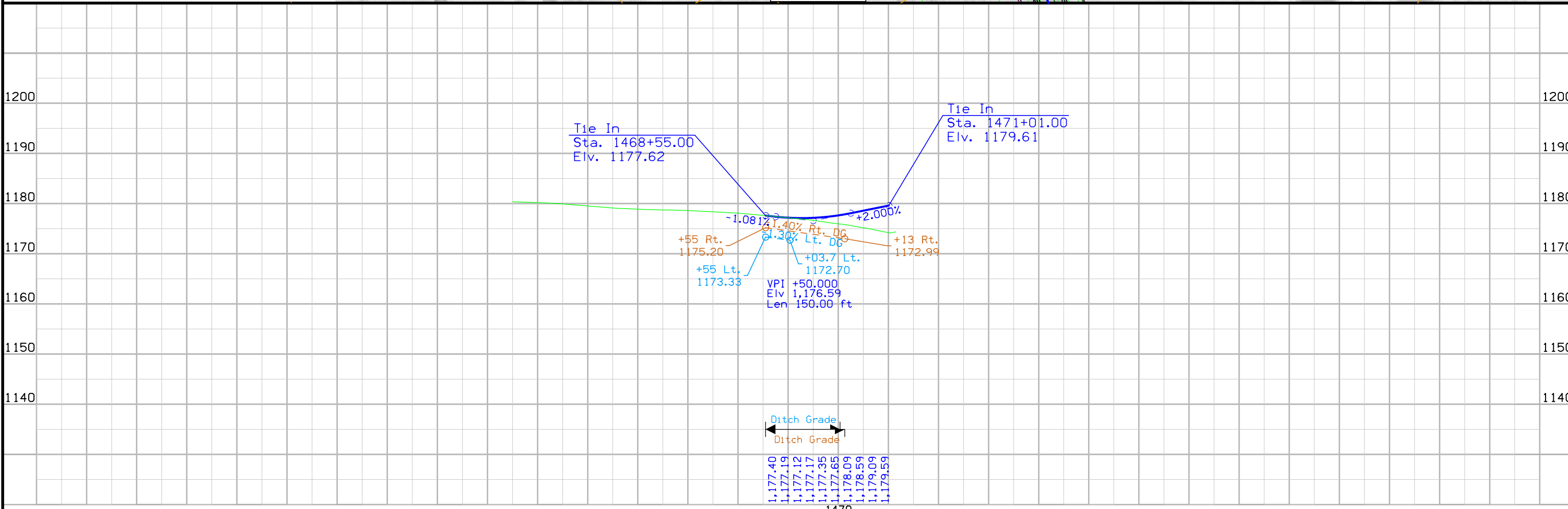
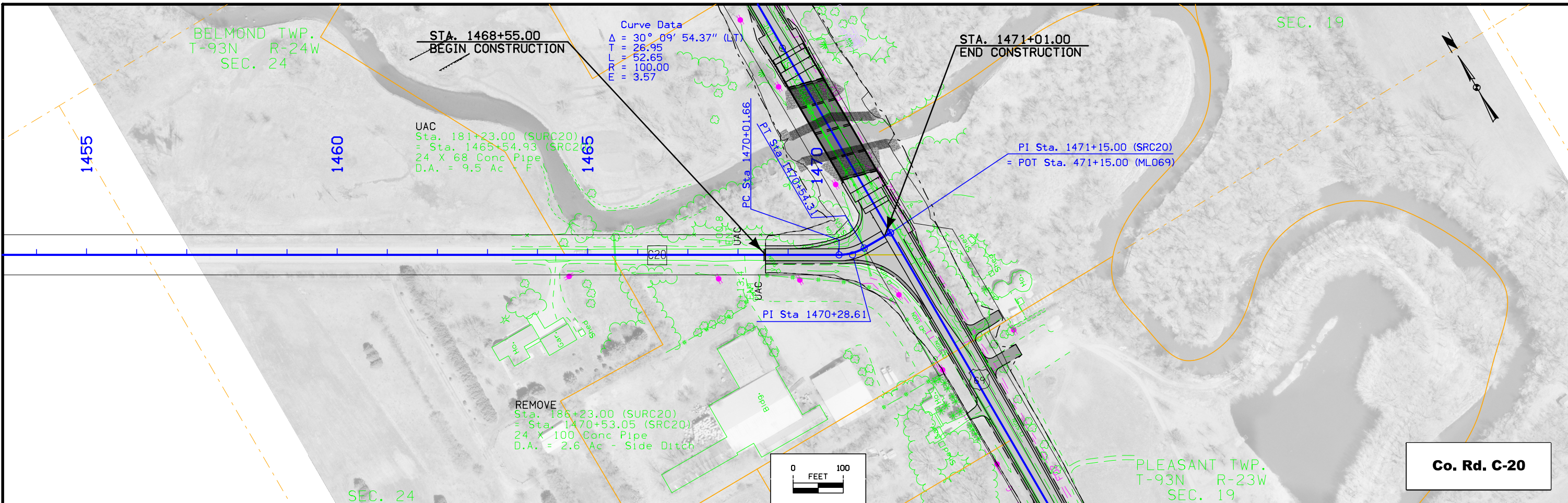
FILE NO.	ENGLISH	DESIGN TEAM	FLATTERY \ Crystal	WRIGHT COUNTY	PROJECT NUMBER	STPN-069-7(41)--2J-99	SHEET NUMBER	D.2
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FILE NO.	ENGLISH	DESIGN TEAM	FLATTERY \ Crystal	WRIGHT COUNTY	PROJECT NUMBER	STPN-069-7(41)--2J-99	SHEET NUMBER	D.3
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## Survey Information

Wright County  
 STPN-069-7(41)--2J-99  
 Bridge Replacement on US 69  
 PIN 08-99-069-010  
 Sap-0656.2

### General Information

Measurement units for this survey are US survey feet. This survey is for 2 proposed Bridge reconstruction in Wright County on US Hwy 69 over Iowa River and over Iowa River West Branch. This project is a Partial DTM with Photo control.

### Vertical Control

Vertical datum for this survey is NAVD88 (Computed using Geoid12A). GRS80 Ellipsoidal Height was computed at project Pt. 99002 by doing 6 hour static observations. The project control is relative to nearby Iowa RTN Base Stations.

This survey observed 1 County GPS control with published NAVD88 heights to compare to local ground control:

Wright County GPS Network mark designated 0011 has a published Elev. Of 1180.38  
 Survey Elev. = 1180.42

### Horizontal Control

The project coordinate system is modified Iowa State Plane South Zone (U.S. Survey Feet) scaled around Pt. 99000 at 3761896.579 N, 4889875.196 E, 1165.0 Elev.

Horizontal datum is NAD83 (2011) for Epoch 2010.00. Coordinates were determined by averaging redundant laRTN observations. The horizontal standard deviation of these observations was less than 0.05 ft.

1/Combined Scale Factor of project= 1.000102

The 1/Combined Scale Factor, scaled about Pt. 99000, 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

Hwy US 69

The horizontal alignment for this survey is a retrace of As-built Plans No. FA-267CD. Survey stationing was equated to the plan POT at STA 455+02.3 and run back and ahead without equation throughout the survey.

Survey stationing relates to as built plan stationing as follows:

PI Sta. 431+19.1 As-built Plans Project No. FA-267CD  
 Survey PI Sta. 431+18.84  
 POT Sta. 455+02.3 Project No. FA-267CD  
 Survey POT Sta. 455+02.3

PI Sta. 481+68.50 As-built Plans Project No. FA-267CD  
 Survey PI Sta. 481+68.90

County Road C20

The horizontal alignment for this survey is a retrace of As-built Plans No. SN-507(4). Survey stationing was equated to the plan PI at STA 186+98.5 and run back without equation throughout the survey.

Survey stationing relates to as built plan stationing as follows:

PI Sta. 186+98.5 As-built Plans Project No. SN-507(4)  
 Survey PI Sta. 186+98.5

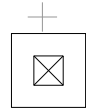
PI Sta. 165+60.8 As-built Plans Project No. SN-507(4)  
 Survey PI Sta. 165+60.8

## VERTICAL CONTROL (BENCHMARKS)

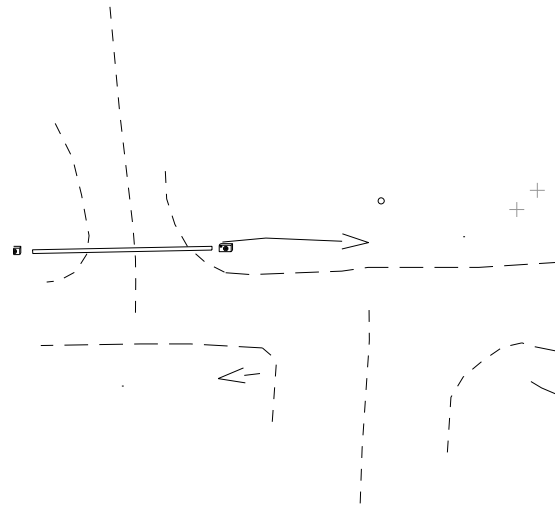
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99002	3772981.0430	4889971.0840	1172.7480	435+13.48	38.5627	FENO	SET FENO TYPE MONUMENT



CP STA 435+13, 39 FT RT  
CP 99002 FENO TYPE MONUMENT  
N=3772981.0430, E=4889971.0840

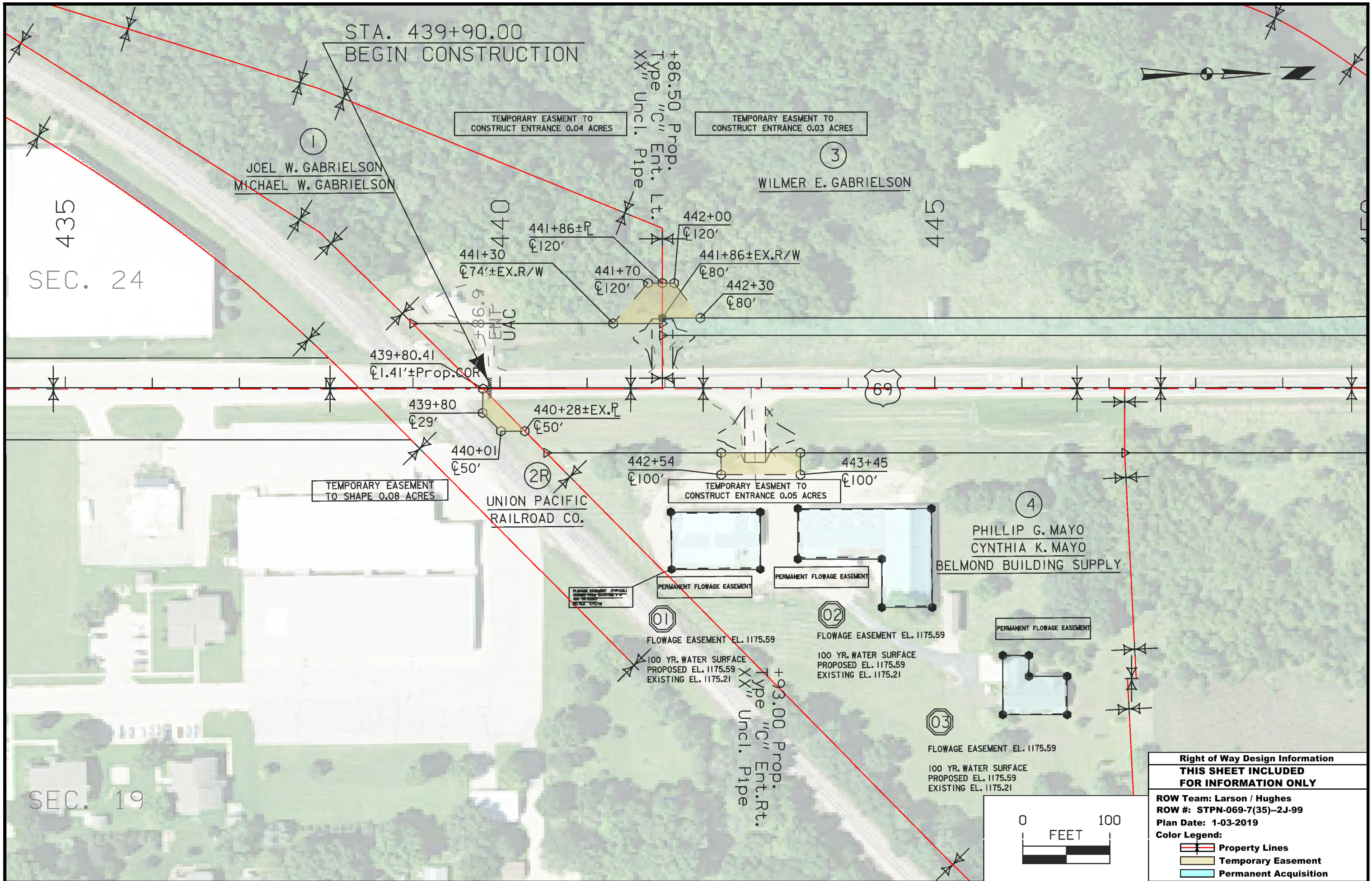


CP STA OFF CHAIN  
CP 0011 FND WRIGHT CO. SURVEY MONUMENT 0011  
N=3777689.3070, E=4889861.2800





NO ACCESS RIGHTS ARE TO BE ACQUIRED ON THIS PROJECT.



STA. 439+90.00  
BEGIN CONSTRUCTION

TEMPORARY EASMENT TO  
CONSTRUCT ENTRANCE 0.04 ACRES

TEMPORARY EASMENT TO  
CONSTRUCT ENTRANCE 0.03 ACRES

JOEL W. GABRIELSON  
MICHAEL W. GABRIELSON

WILMER E. GABRIELSON

435  
SEC. 24

445

TEMPORARY EASMENT  
TO SHAPE 0.08 ACRES

TEMPORARY EASMENT TO  
CONSTRUCT ENTRANCE 0.05 ACRES

UNION PACIFIC  
RAILROAD CO.

PHILLIP G. MAYO  
CYNTHIA K. MAYO  
BELMOND BUILDING SUPPLY

SEC. 19

FLOWAGE EASEMENT EL. 1175.59  
100 YR. WATER SURFACE  
PROPOSED EL. 1175.59  
EXISTING EL. 1175.21

FLOWAGE EASEMENT EL. 1175.59  
100 YR. WATER SURFACE  
PROPOSED EL. 1175.59  
EXISTING EL. 1175.21

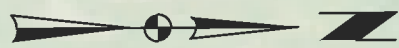
FLOWAGE EASEMENT EL. 1175.59  
100 YR. WATER SURFACE  
PROPOSED EL. 1175.59  
EXISTING EL. 1175.21

+93.00 Prop.  
Type "C" Ent. Rt.  
XX" Uncl. Pipe



<b>Right of Way Design Information</b>	
<b>THIS SHEET INCLUDED FOR INFORMATION ONLY</b>	
ROW Team: Larson / Hughes	
ROW #: STPN-069-7(35)--2J-99	
Plan Date: 1-03-2019	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition

BELMOND TWP.  
T-93N R-24W  
SEC. 24



450  
③  
WILMER E. GABRIELSON

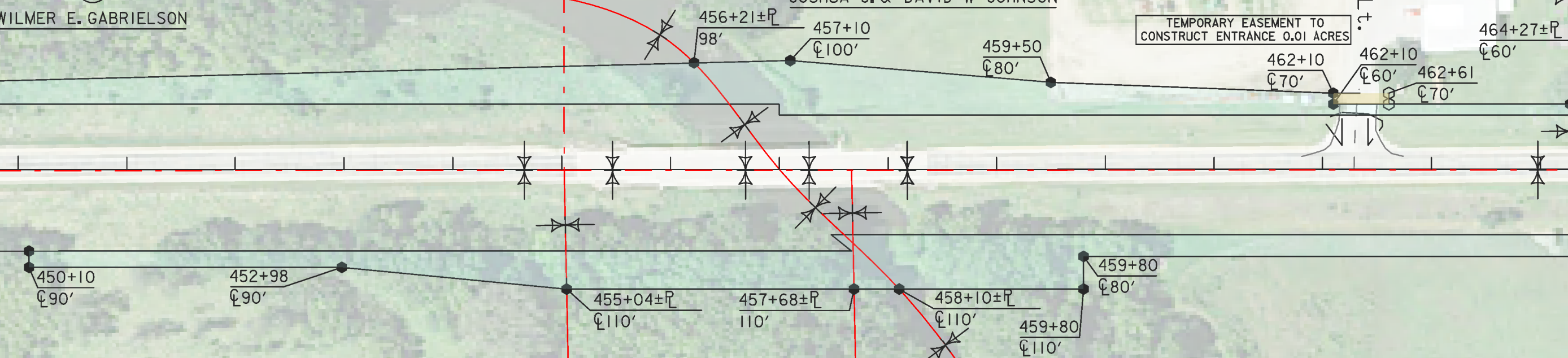
455

⑦  
JOSHUA J. & DAVID W JOHNSON

460

+32.00 Prop.  
Type "C" Ent. Lt.  
XX" Uncl. Pipe

TEMPORARY EASEMENT TO  
CONSTRUCT ENTRANCE 0.01 ACRES



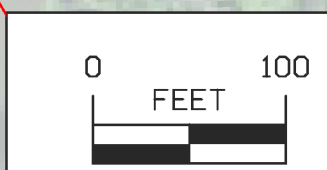
⑤  
NORTHERN IOWA GREENBELT ASSOC.  
BELMOND TREES FOREVER

⑥  
KYLE L. & JODI E. BRAUN

⑧  
ANDREW J. &  
ABBY L. YOUNG

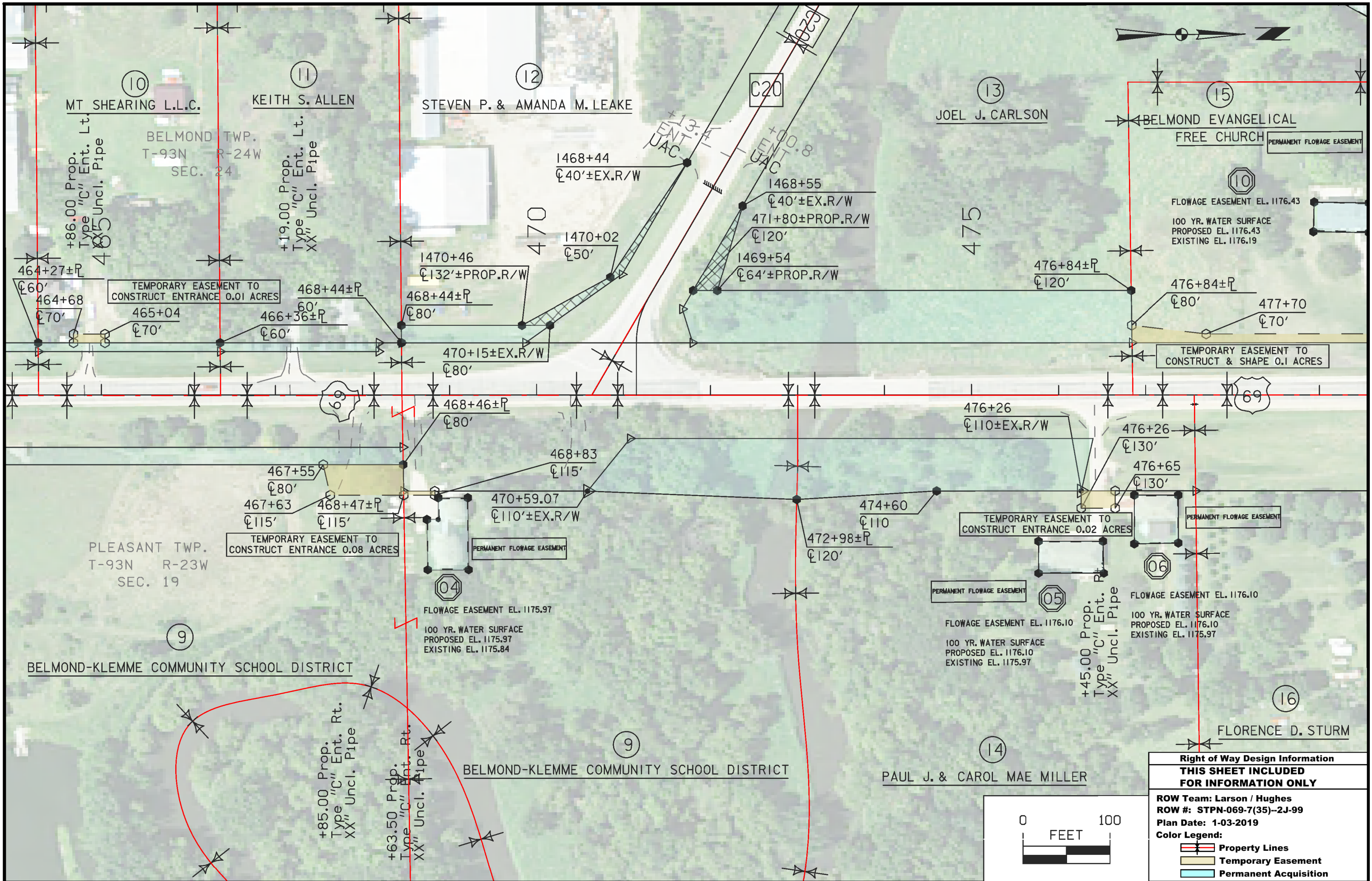
⑨  
BELMOND-KLEMMER COMMUNITY SCHOOL DISTRICT

PLEASANT TWP.  
T-93N R-23W  
SEC. 19

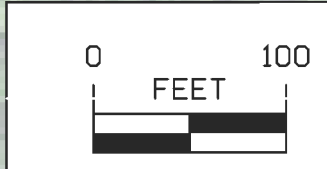


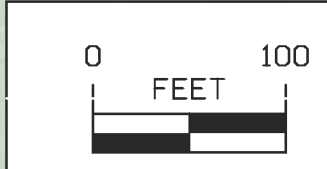
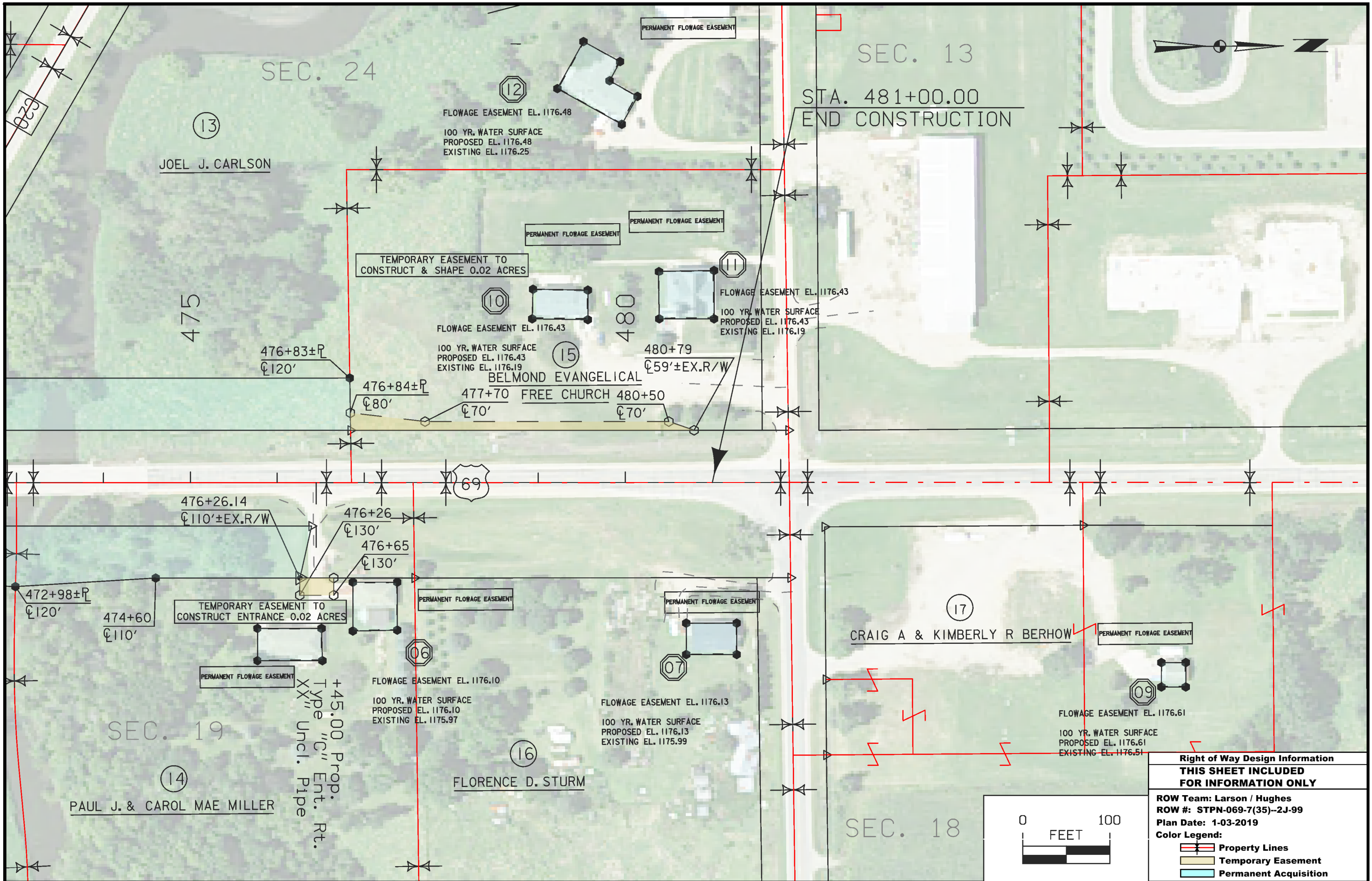
<b>Right of Way Design Information</b>	
<b>THIS SHEET INCLUDED FOR INFORMATION ONLY</b>	
ROW Team: Larson / Hughes	
ROW #: STPN-069-7(35)--2J-99	
Plan Date: 1-03-2019	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition





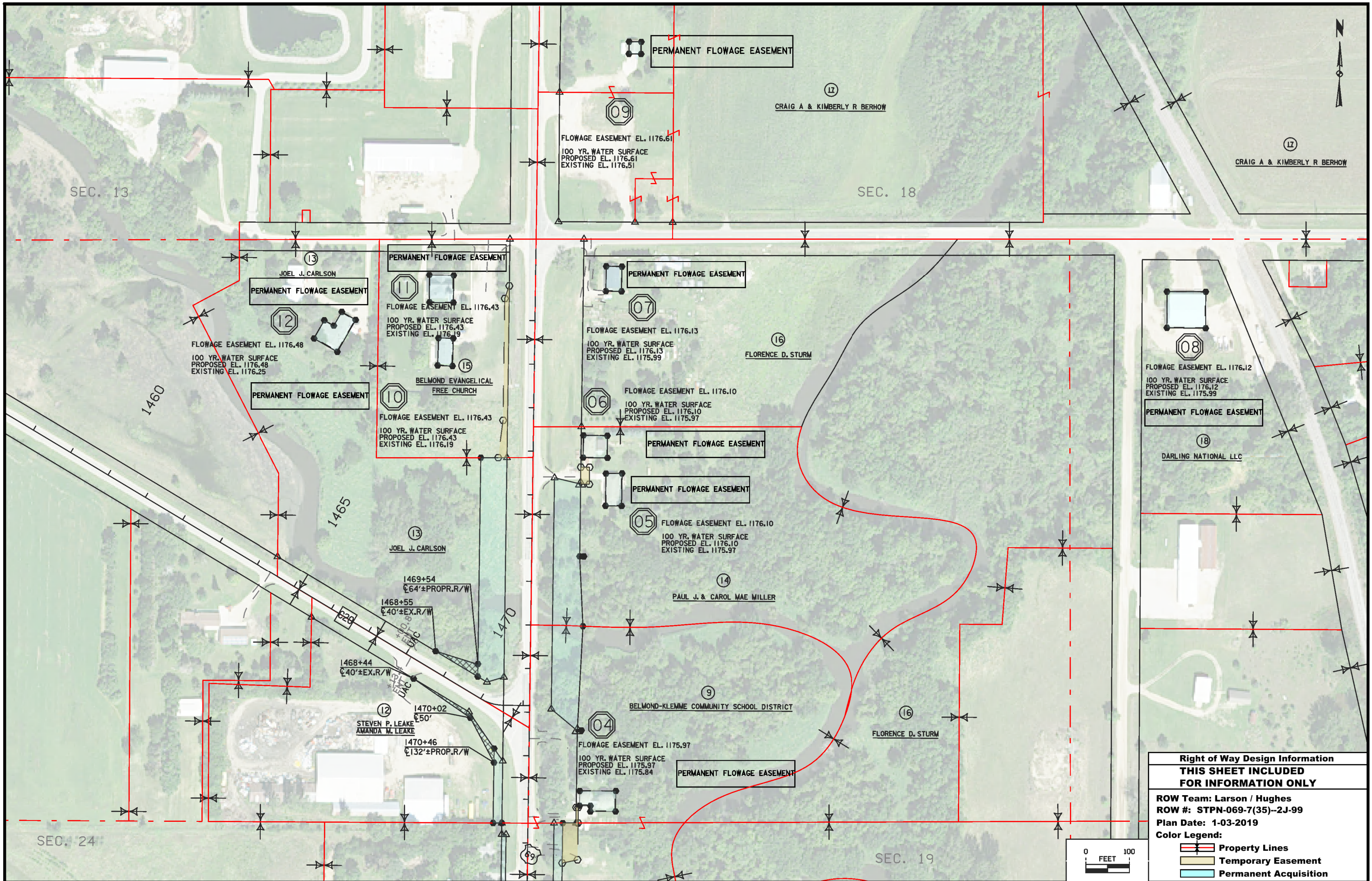
<b>Right of Way Design Information</b>	
<b>THIS SHEET INCLUDED FOR INFORMATION ONLY</b>	
ROW Team: Larson / Hughes	
ROW #: STPN-069-7(35)--2J-99	
Plan Date: 1-03-2019	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition





<b>Right of Way Design Information</b>	
<b>THIS SHEET INCLUDED FOR INFORMATION ONLY</b>	
ROW Team: Larson / Hughes	
ROW #: STPN-069-7(35)--2J-99	
Plan Date: 1-03-2019	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition





<b>Right of Way Design Information</b>	
<b>THIS SHEET INCLUDED FOR INFORMATION ONLY</b>	
ROW Team: Larson / Hughes	
ROW #: STPN-069-7(35)--2J-99	
Plan Date: 1-03-2019	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



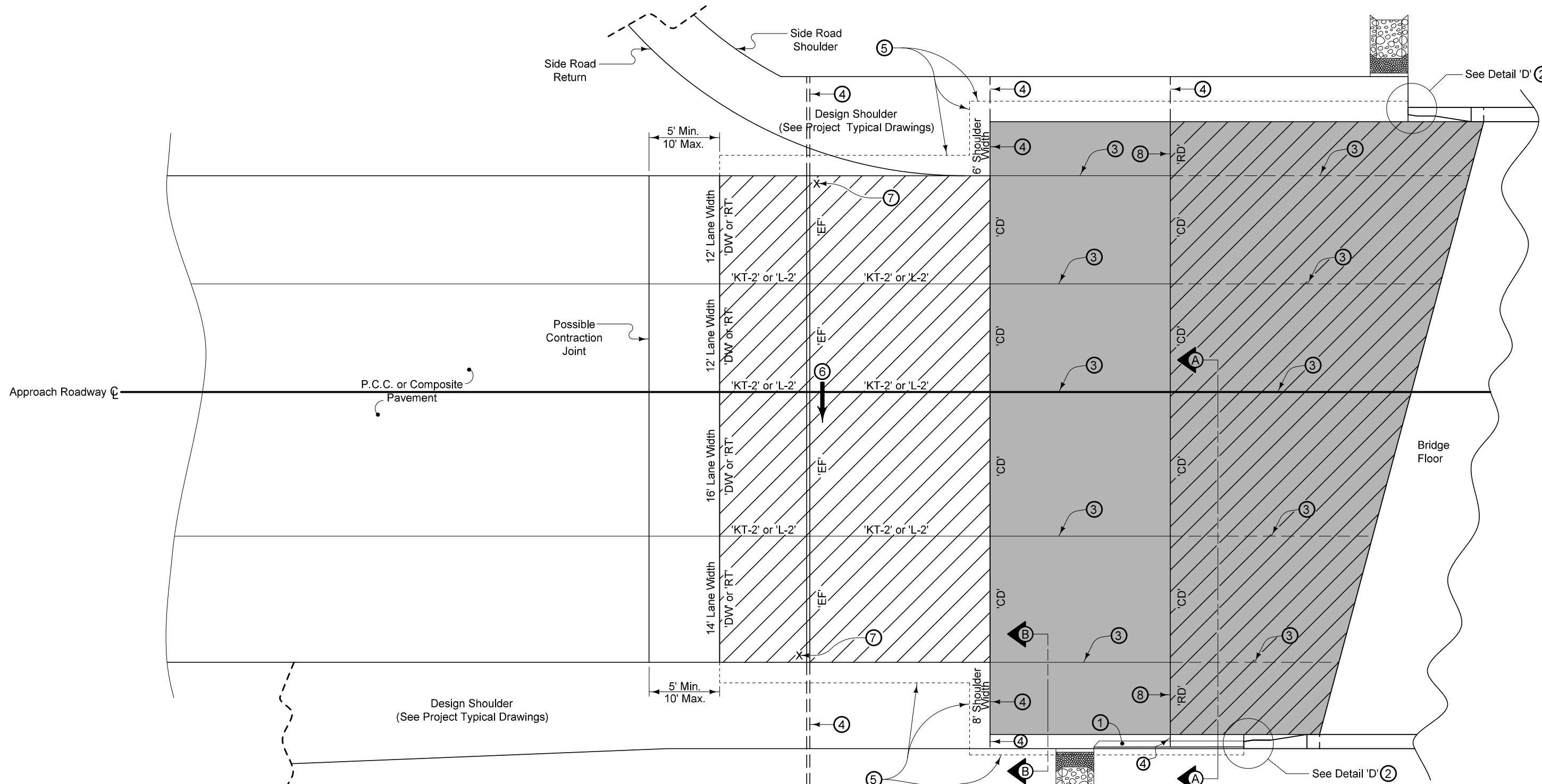
**STAGING NOTES**

108-26A  
08-01-08

**TRAFFIC CONTROL PLAN**

108-23A  
08-01-08

Traffic will be maintained via an off-site detour. Proposed Detour: U.S. 69 / County Road C-25 east / County Road S-14 north / County Road C-20 west / U.S. 69



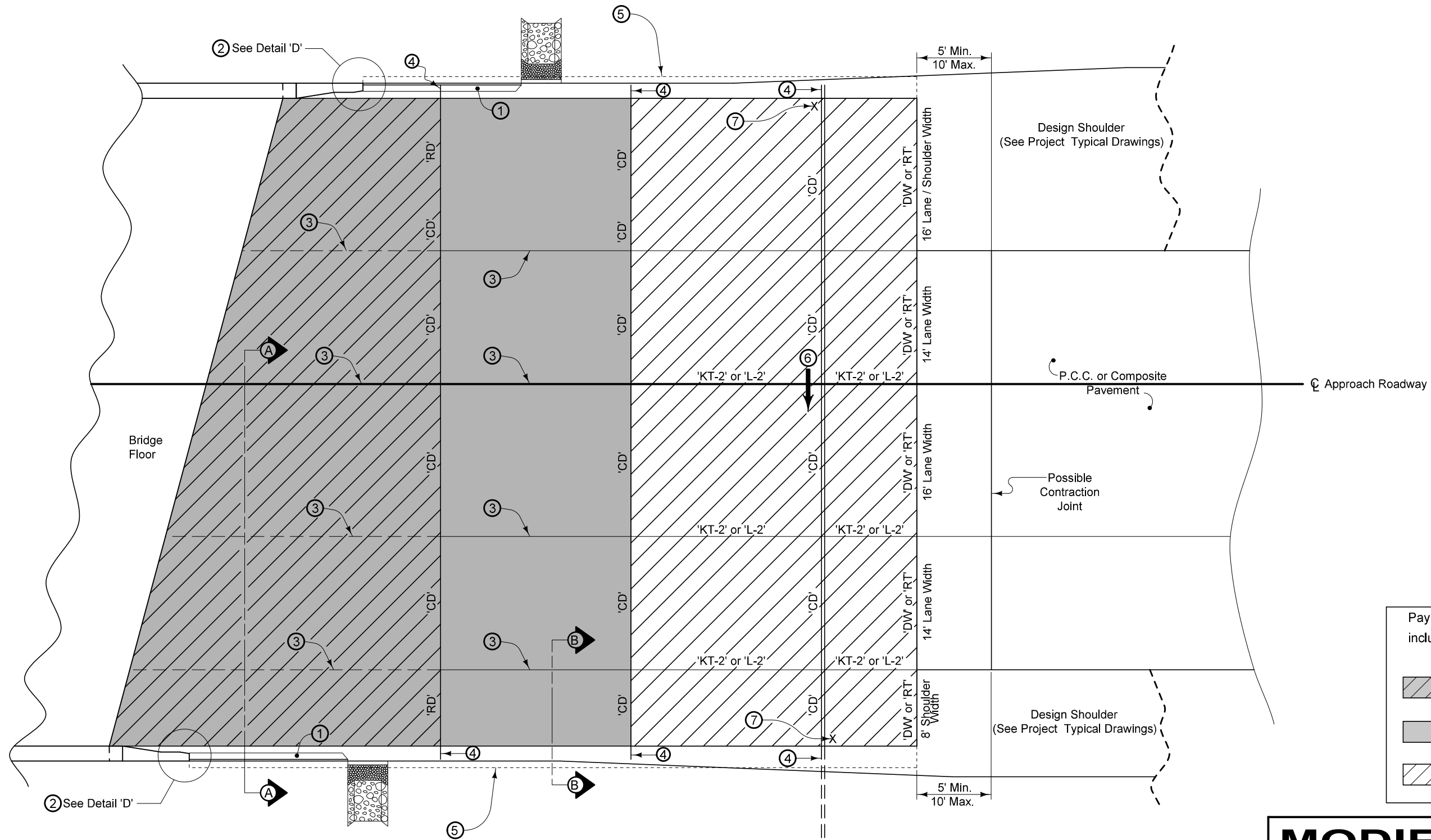
Pay limits for contract item include the following areas:

	Double Reinforced Section
	Single Reinforced Section
	Non-Reinforced Section

- For joint details, see PV-101.
- ① Build 4 inch Sloped Curb to end of Double Reinforced Section.
  - ② See BR-201, BR-202, BR-203, or BR-204.
  - ③ Longitudinal Joint: (See PV-101)  
Single Pour - Saw cut joint per detail B  
Two Pours - Use 'KS-2' Joint (Double Reinforced Section).  
Use 'KS-1' Joint (Single Reinforced Section).
  - ④ Extend 'CD' and 'EF' Joints with 'C' and 'CF' Joints, respectively, where PCC Shoulder.

- ⑤ Polymer Grid and excavation limits of Modified Subbase 2 feet outside of pavement edge. See BR-201, BR-202, BR-203, or BR-204.
- ⑥ Slope Subdrain to drain.
- ⑦ Place an "X" in the plastic concrete near the 'EF' Joint at the outside edge of pavement.
- ⑧ Place 'RD' Joint where PCC shoulder, 'B' Joint otherwise.

<b>MODIFIED STANDARD ROAD PLAN</b>	REVISION	
	7	10-16-12
<b>BR-211</b>		
SHEET 1 of 2		
REVISIONS: Changed to show details of approaches at West Branch Iowa River. Added sheet 2 to show both approaches.		
APPROVED BY DESIGN METHODS ENGINEER		
<b>BRIDGE APPROACH (ABUTTING PCC OR COMPOSITE PAVEMENT)</b>		

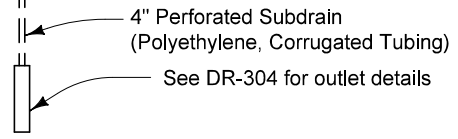


Pay limits for contract item include the following areas:

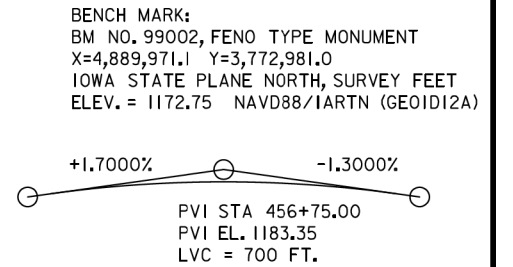
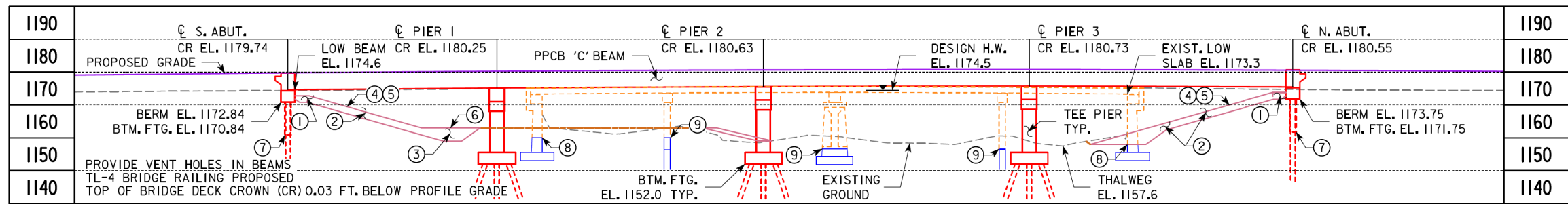
- Double Reinforced Section
- Single Reinforced Section
- Non-Reinforced Section

For joint details, see PV-101.

- ① Build 4 inch Sloped Curb to end of Double Reinforced Section.
- ② See BR-201, BR-202, BR-203, or BR-204.
- ③ Longitudinal Joint: (See PV-101)  
Single Pour - Saw cut joint per detail B  
Two Pours - Use 'KS-2' Joint (Double Reinforced Section).  
Use 'KS-1' Joint (Single Reinforced Section).
- ④ Extend 'CD' and 'EF' Joints with 'C' and 'CF' Joints, respectively, where PCC Shoulder.
- ⑤ Polymer Grid and excavation limits of Modified Subbase 2 feet outside of pavement edge. See BR-201, BR-202, BR-203, or BR-204.
- ⑥ Slope Subdrain to drain.
- ⑦ Place an "X" in the plastic concrete near the 'EF' Joint at the outside edge of pavement.
- ⑧ Place 'RD' Joint where PCC shoulder, 'B' Joint otherwise.



<b>MODIFIED</b>	REVISION	
	7	10-16-12
<b>STANDARD ROAD PLAN</b>		<b>BR-211</b>
		SHEET 2 of 2
REVISIONS: Changed to show details of approaches at West Branch Iowa River. Added sheet 2 to show both approaches.		
APPROVED BY DESIGN METHODS ENGINEER		
<b>BRIDGE APPROACH (ABUTTING PCC OR COMPOSITE PAVEMENT)</b>		



**PROPOSED PROFILE  
 GRADE US 69**

**HYDRAULIC DATA**

DRAINAGE AREA = 348.3 SQ. MI.  
 STREAM SLOPE = 1.03 FT./MI.  
 AVG. LOW WATER STAGE = EL. 1159.9

Q<sub>25</sub> = 6,590 CFS (6,590 CFS)  
 STAGE = EL. 1173.4

Q<sub>50</sub> = 8,010 CFS (8,010 CFS)  
 STAGE = EL. 1174.5  
 BACKWATER = --/0.47 FT.  
 AVG. BRIDGE VELOCITY = 2.4 FPS

Q<sub>100</sub> = 8,489 CFS (9,530 CFS)  
 STAGE = EL. 1175.5  
 BACKWATER = 0.40 FT./0.38 FT.  
 AVG. BRIDGE VELOCITY = 2.3 FPS

Q<sub>200</sub> = 8,244 CFS (11,170 CFS)  
 STAGE = EL. 1176.3  
 AVG. BRIDGE VELOCITY = 2.3 FPS  
 CALCULATED DESIGN SCOUR = EL. 1147.7

Q<sub>500</sub> = 8,587 CFS (13,440 CFS)  
 STAGE = EL. 1177.3  
 AVG. BRIDGE VELOCITY = 2.3 FPS  
 CALCULATED CHECK SCOUR = EL. 1147.7

Q OVERTOP = 8,270 CFS (57 YR.)  
 ROADWAY OVERTOP EL. 1174.9  
 STA. 448+70

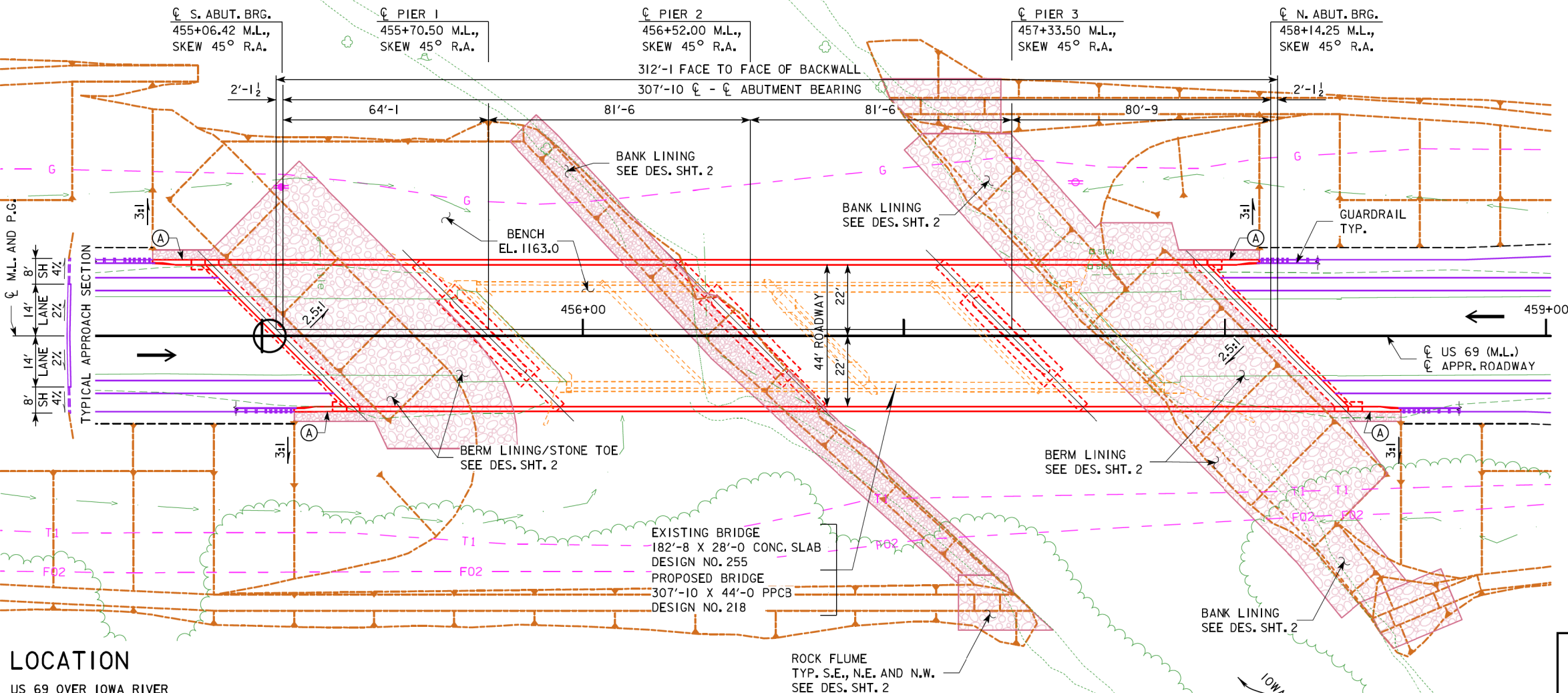
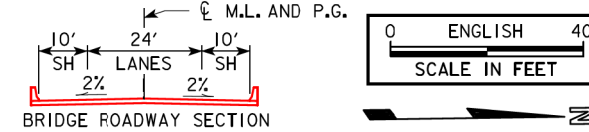
DISCHARGE IN PARANS. REPRESENTS  
 TOTAL STREAMFLOW.  
 BACKWATER REFERENCES CHANGE FROM  
 PRE-DEVELOPMENT/EXISTING CONDITION  
 NEAR FIRST HIGH-DAMAGE POTENTIAL  
 DEVELOPMENT UPSTREAM OF PROJECT  
 SITE (COMM. BLDGS. S.E. OF BRIDGE).

**TRAFFIC ESTIMATE**

2017 AADT 3,000 V.P.D.  
 2037 AADT 4,000 V.P.D.  
 2037 DHV (-) V.P.H.  
 TRUCKS 14%  
 TOTAL DESIGN ESALs (-)

- ① EROSION STONE ABUTMENT FACING
- ② BERM LINING
- ③ STONE TOE
- ④ GRADING SURFACE
- ⑤ 2.5:1 BERM SLOPE NOR. CL ABUT.
- ⑥ BENCH EL. 1163.0 SOUTH
- ⑦ BTM. PRE-BORE EL. 1160.8 SOUTH, EL. 1161.8 NORTH
- ⑧ REMOVE EXIST. ABUT. TO EL. 1160.0 SOUTH, EL. 1158.0 NORTH
- ⑨ REMOVE EXISTING PIER TO ELEV. AS FOLLOWS:  
 SOUTH EL. 1160.0, MIDDLE EL. 1156.6,  
 NORTH EL. 1156.6
- Ⓐ 5'-0" WING EXTENSION

**LONGITUDINAL SECTION ALONG CL APPROACH ROADWAY**



**LOCATION**

US 69 OVER IOWA RIVER  
 T 93 N R 23 W  
 SECTION 19  
 PLEASANT TOWNSHIP  
 WRIGHT COUNTY  
 BRIDGE MAINT. NO. 9975.3S069  
 FHWA NO. 054321  
 STA. 456+52.00 CL M.L.  
 LONG./LAT. -93.616741° / 42.856283°

**UTILITY LEGEND**

F02 - BURIED FIBER OPTIC IOWA NETWORK SERVICES  
 T1 - BURIED TELEPHONE FRONTIER COMMUNICATIONS  
 G - GAS ALLIANT ENERGY  
 PPA - POLE ELECTRIC ALLIANT ENERGY

**SITUATION PLAN**

PRELIMINARY

DESIGN FOR 45° SKEW (R.A.)

**307'-10 X 44'-0 PRETENSIONED  
 PRESTRESSED CONCRETE BEAM BRIDGE**

64'-1, 80'-9 END SPANS LXC BEAMS 81'-6 INTERIOR SPANS

**SITUATION PLAN**

STATION 456+52.00 M.L. OCT. 2020

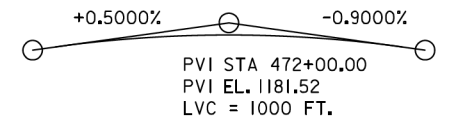
**WRIGHT COUNTY**

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. 1 OF 3 FILE NO. 31312 DESIGN NO. 218

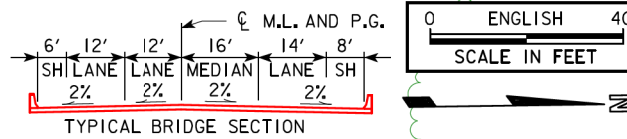


1190	CL S. ABUT. CR EL. 1179.63	CL PIER 1 CR EL. 1179.49	CL PIER 2 CR EL. 1179.27	CL PIER 3 CR EL. 1179.00	CL N. ABUT. CR EL. 1178.76	1190
1180	PROPOSED GRADE	EXIST. LOW BEAM EL. 1170.0	DESIGN H.W. EL. 1175.2		LOW SLAB EL. 1176.1	1180
1170						1170
1160	BERM EL. 1175.42 BTM. FTG. EL. 1173.42				BERM EL. 1174.59 BTM. FTG. EL. 1172.59	1160
1150		FULLY ENCASED PILE BENT, TYP.	THALWEG EL. 1159.6	EXISTING GROUND	BTM. ENCASE. EL. 1156.6 TYP.	1150
1140	TL-4 BRIDGE RAILING PROPOSED TOP OF BRIDGE DECK CROWN (CR) 0.03 FT. BELOW PROFILE GRADE					1140

BENCH MARK:  
BM NO. 99002, FENO TYPE MONUMENT  
X=4,889,971.1 Y=3,772,981.0  
IOWA STATE PLANE NORTH, SURVEY FEET  
ELEV. = 1172.75 NAVD88/IARTN (GEOID12A)

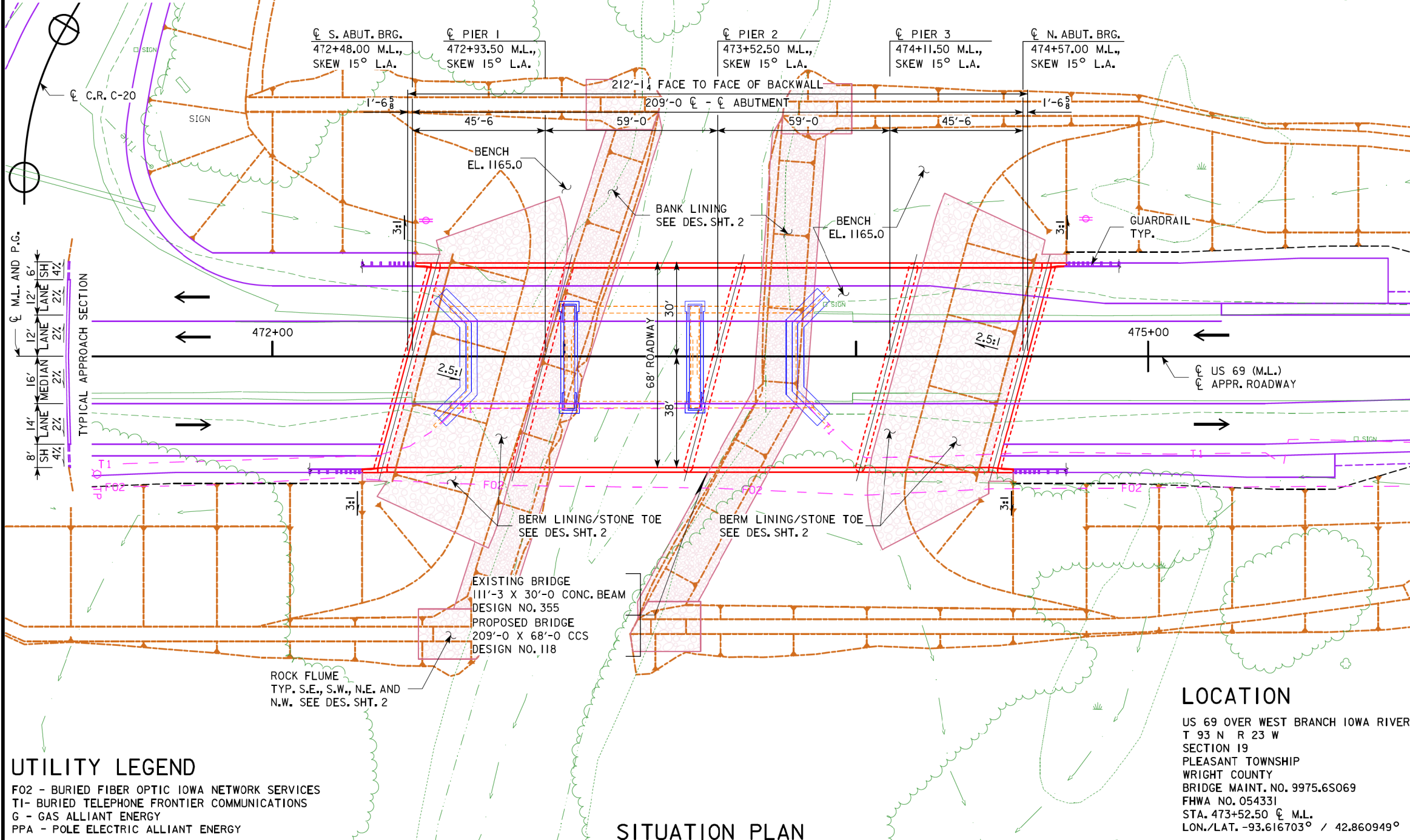


LONGITUDINAL SECTION ALONG CL APPROACH ROADWAY



- 1 EROSION STONE ABUTMENT FACING
- 2 BERM LINING
- 3 STONE TOE
- 4 GRADING SURFACE
- 5 2.5:1 BERM SLOPE NOR. CL ABUT.
- 6 BENCH EL. 1165.0
- 7 BTM. PRE-BORE EL. 1163.4 SOUTH, EL. 1162.6 NORTH

- 8 REMOVE EXIST. ABUT. TO EL. 1163.5 SOUTH, EL. 1162.0 NORTH
- 9 REMOVE EXISTING PIERS TO EL. 1159.0



PROPOSED PROFILE GRADE US 69

HYDRAULIC DATA

DRAINAGE AREA = 150.5 SQ. MI.  
STREAM SLOPE = 0.86 FT./MI.  
AVG. LOW WATER STAGE = EL. 1160.6

Q<sub>25</sub> = 4,510 CFS (4,510 CFS)  
STAGE = EL. 1174.0

Q<sub>50</sub> = 5,450 CFS (5,450 CFS)  
STAGE = EL. 1175.2  
BACKWATER = --/0.18 FT.  
AVG. BRIDGE VELOCITY = 2.6 FPS

Q<sub>100</sub> = 6,335 CFS (6,480 CFS)  
STAGE = EL. 1176.1  
BACKWATER = 0.39 FT./0.24 FT.  
AVG. BRIDGE VELOCITY = 2.8 FPS

Q<sub>200</sub> = 7,010 CFS (7,600 CFS)  
STAGE = EL. 1176.9  
AVG. BRIDGE VELOCITY = 2.9 FPS  
CALCULATED CHECK SCOUR = EL. 1149.3

Q<sub>500</sub> = 7,239 CFS (8,880 CFS)  
STAGE = EL. 1178.0  
AVG. BRIDGE VELOCITY = 3.0 FPS  
CALCULATED CHECK SCOUR = EL. 1149.3

Q OVERTOP = 5,810 CFS (64 YR.)  
ROADWAY OVERTOP EL. 1175.8  
STA. 479+00

DISCHARGE IN PARANS. REPRESENTS TOTAL STREAMFLOW.  
BACKWATER REFERENCES CHANGE FROM PRE-DEVELOPMENT/EXISTING CONDITION NEAR FIRST HIGH-DAMAGE POTENTIAL DEVELOPMENT UPSTREAM OF PROJECT SITE (RES./CHURCH N.W. OF BRIDGE).

TRAFFIC ESTIMATE

2017 AADT 3,000 V.P.D.  
2037 AADT 4,000 V.P.D.  
2037 DHV (-) V.P.H.  
TRUCKS 14%  
TOTAL DESIGN ESALS (-)

UTILITY LEGEND

F02 - BURIED FIBER OPTIC IOWA NETWORK SERVICES  
T1 - BURIED TELEPHONE FRONTIER COMMUNICATIONS  
G - GAS ALLIANT ENERGY  
PPA - POLE ELECTRIC ALLIANT ENERGY

LOCATION

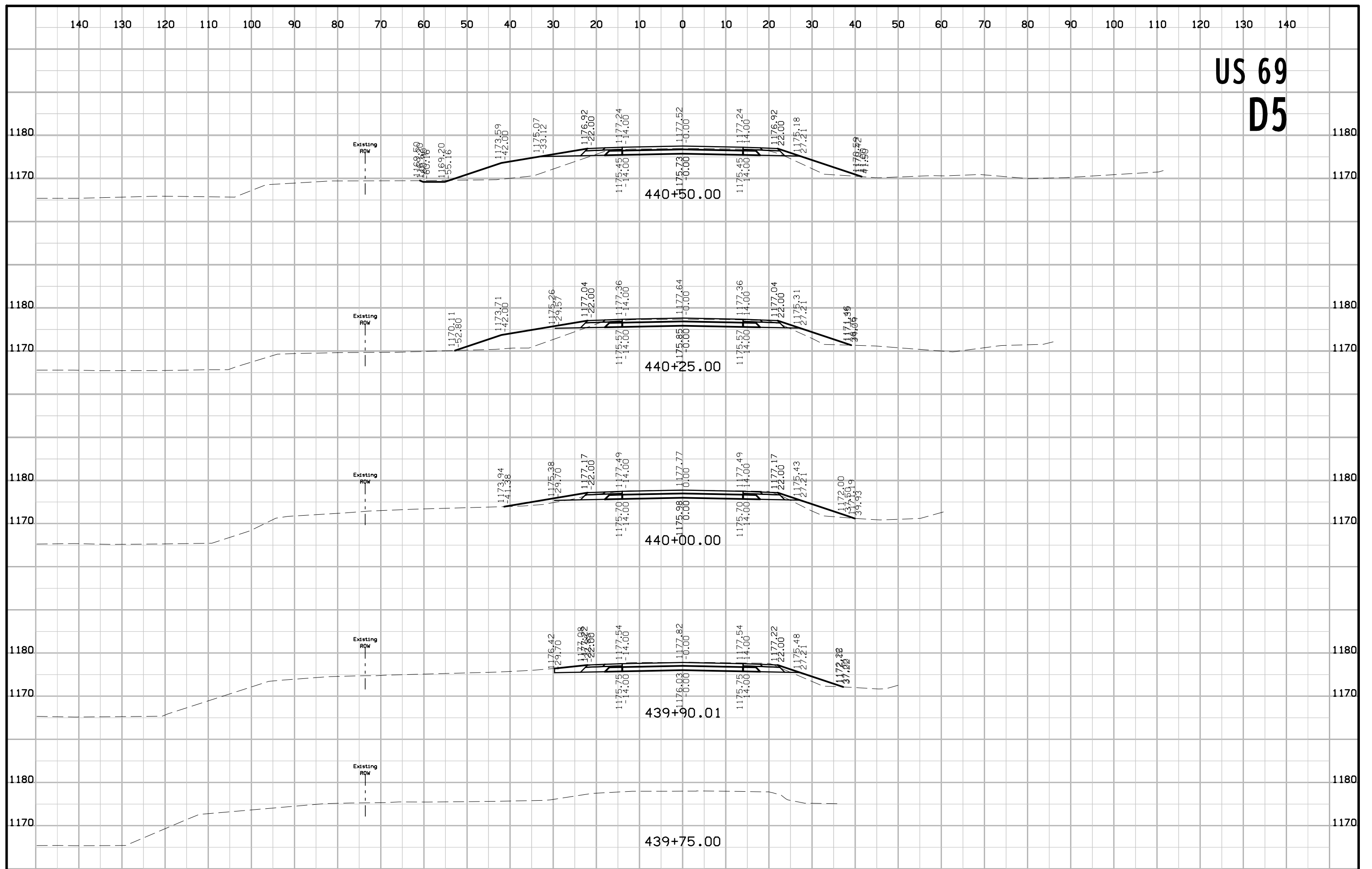
US 69 OVER WEST BRANCH IOWA RIVER  
T 93 N R 23 W  
SECTION 19  
PLEASANT TOWNSHIP  
WRIGHT COUNTY  
BRIDGE MAINT. NO. 9975.6S069  
FHWA NO. 054331  
STA. 473+52.50 CL M.L.  
LON./LAT. -93.616703° / 42.860949°

SITUATION PLAN

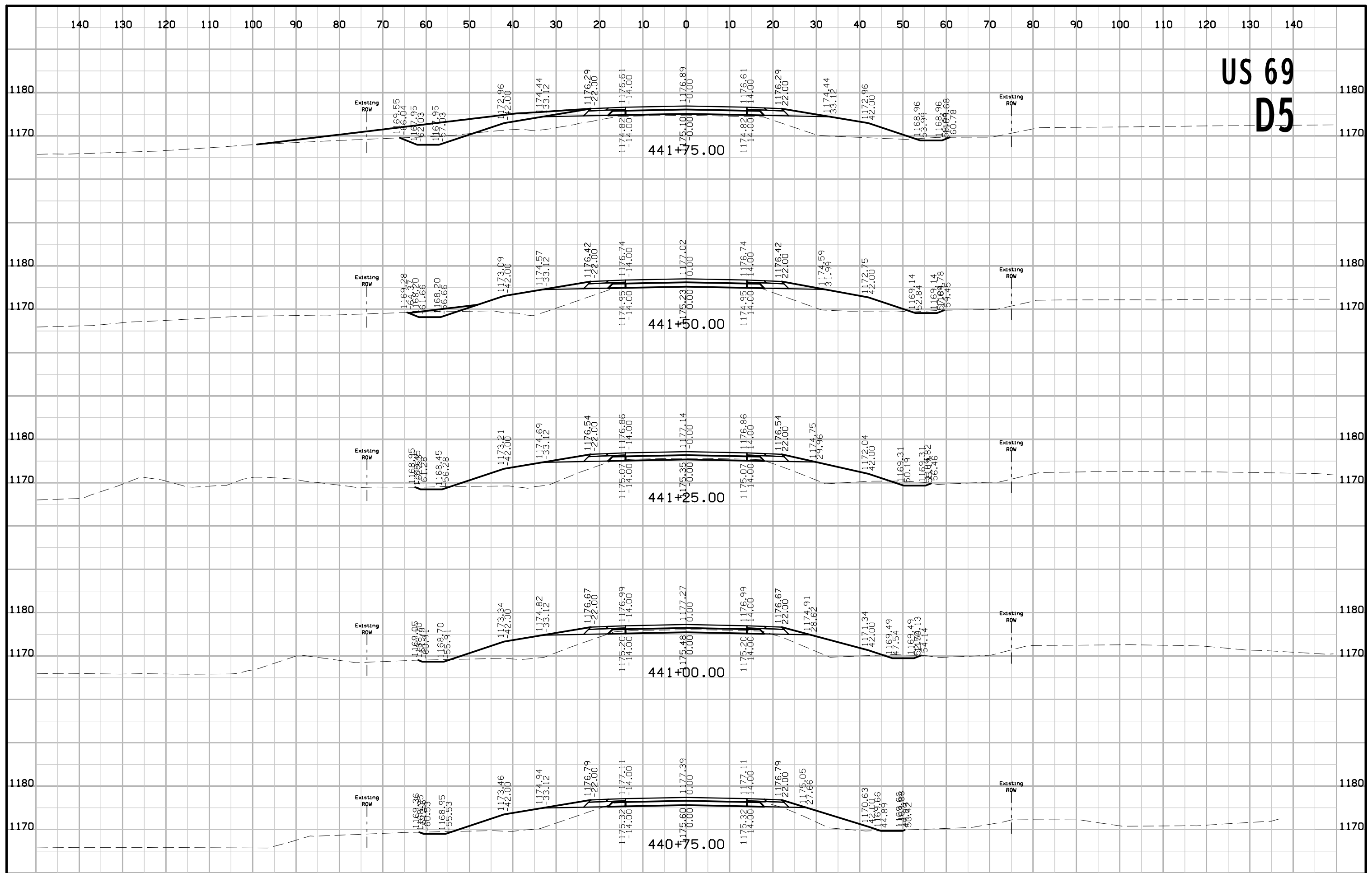
PRELIMINARY  
DESIGN FOR 15° SKEW (L.A.)  
**209'-0 X 68'-0 CONTINUOUS CONCRETE SLAB BRIDGE**  
45'-6 END SPANS 59'-0 INTERIOR SPANS  
**SITUATION PLAN**  
STATION 473+52.50 M.L. OCT. 2020  
**WRIGHT COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. 1 OF 3 FILE NO. 31312 DESIGN NO. 118

FILE NO.	ENGLISH	DESIGN TEAM <b>Flattery \ Crystal</b>	WRIGHT COUNTY	PROJECT NUMBER	<b>STPN-069-7(41)--2J-99</b>	SHEET NUMBER	<b>V.2</b>
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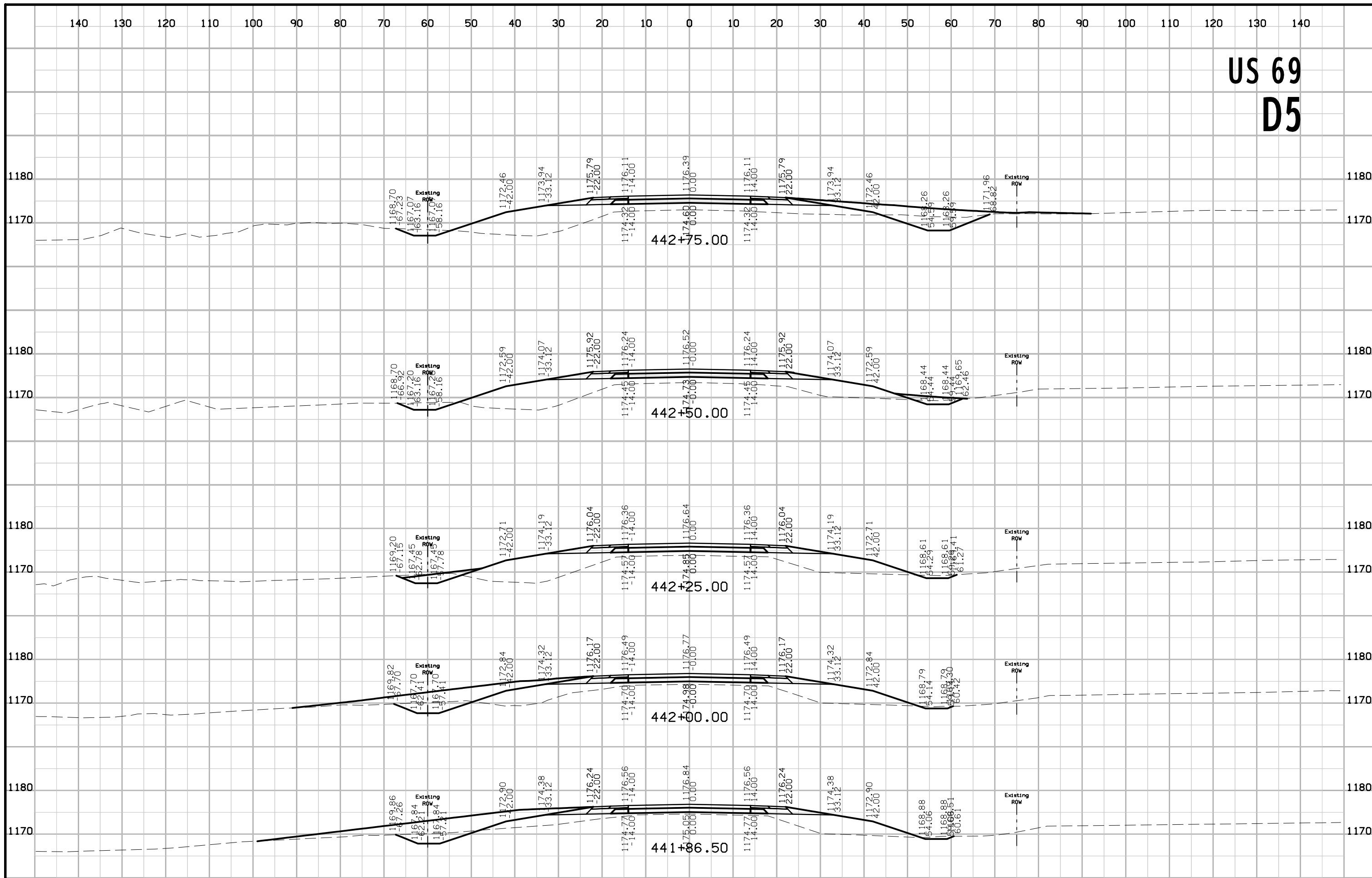
# US 69 D5



# US 69 D5

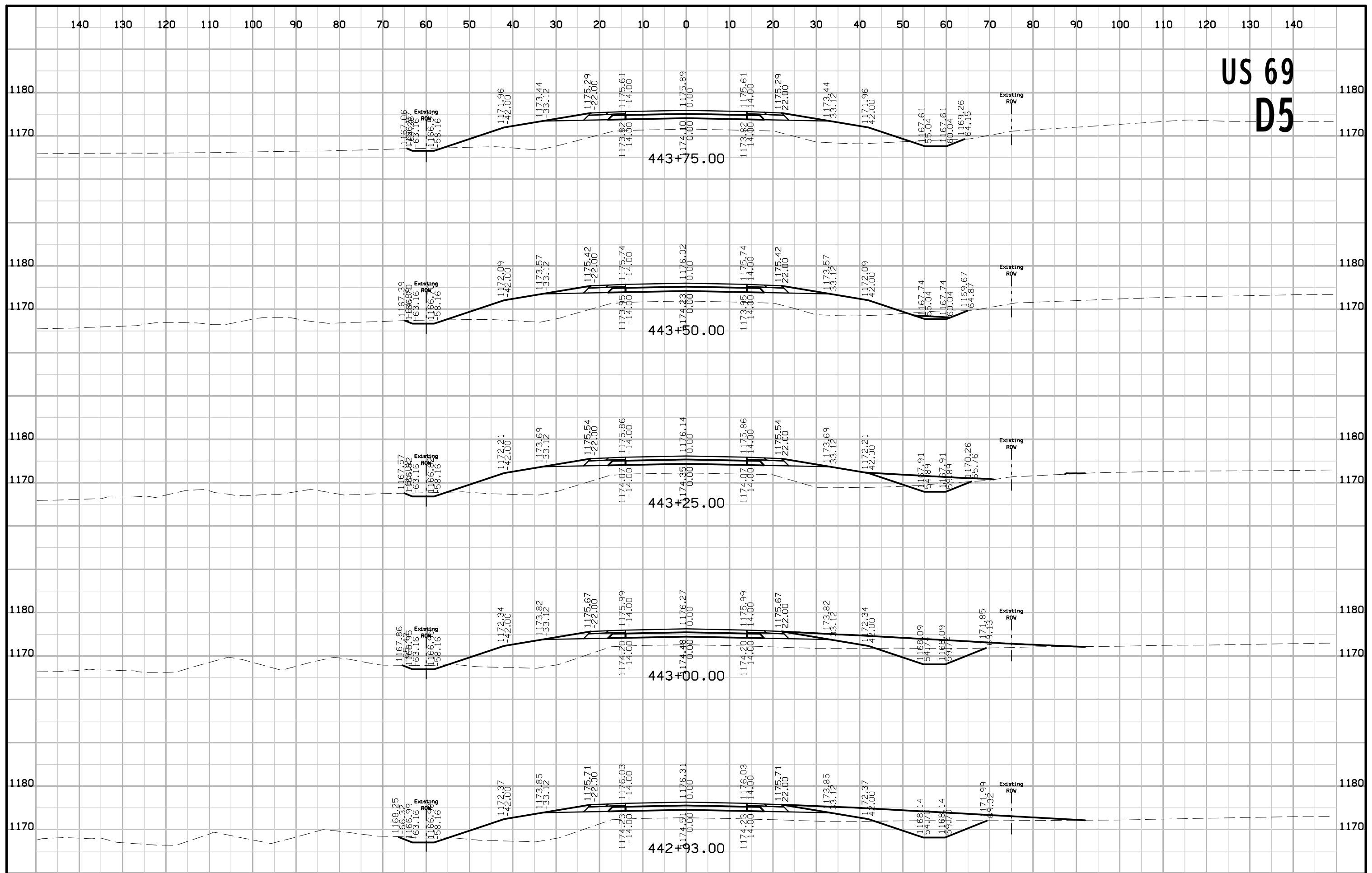


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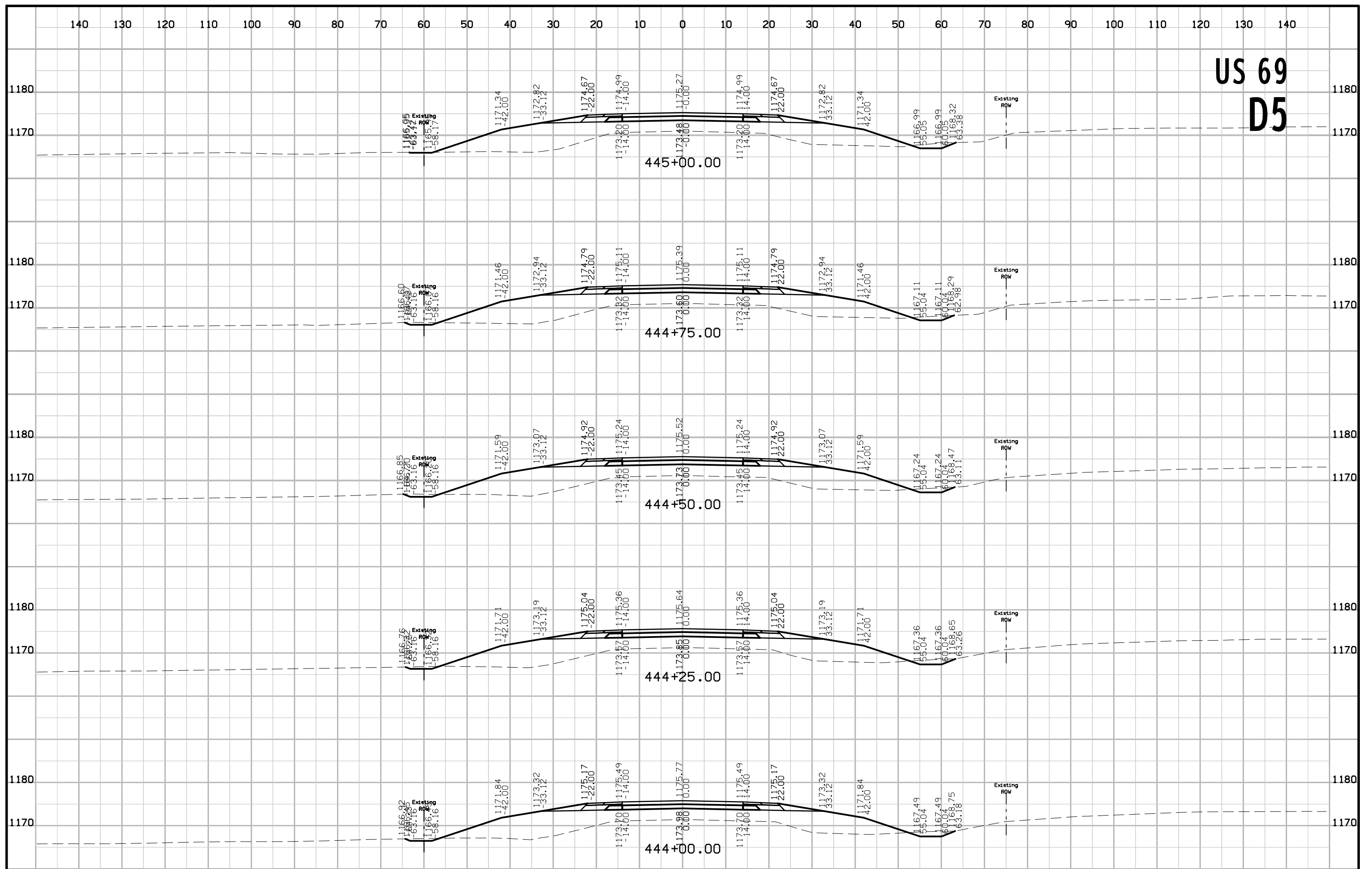




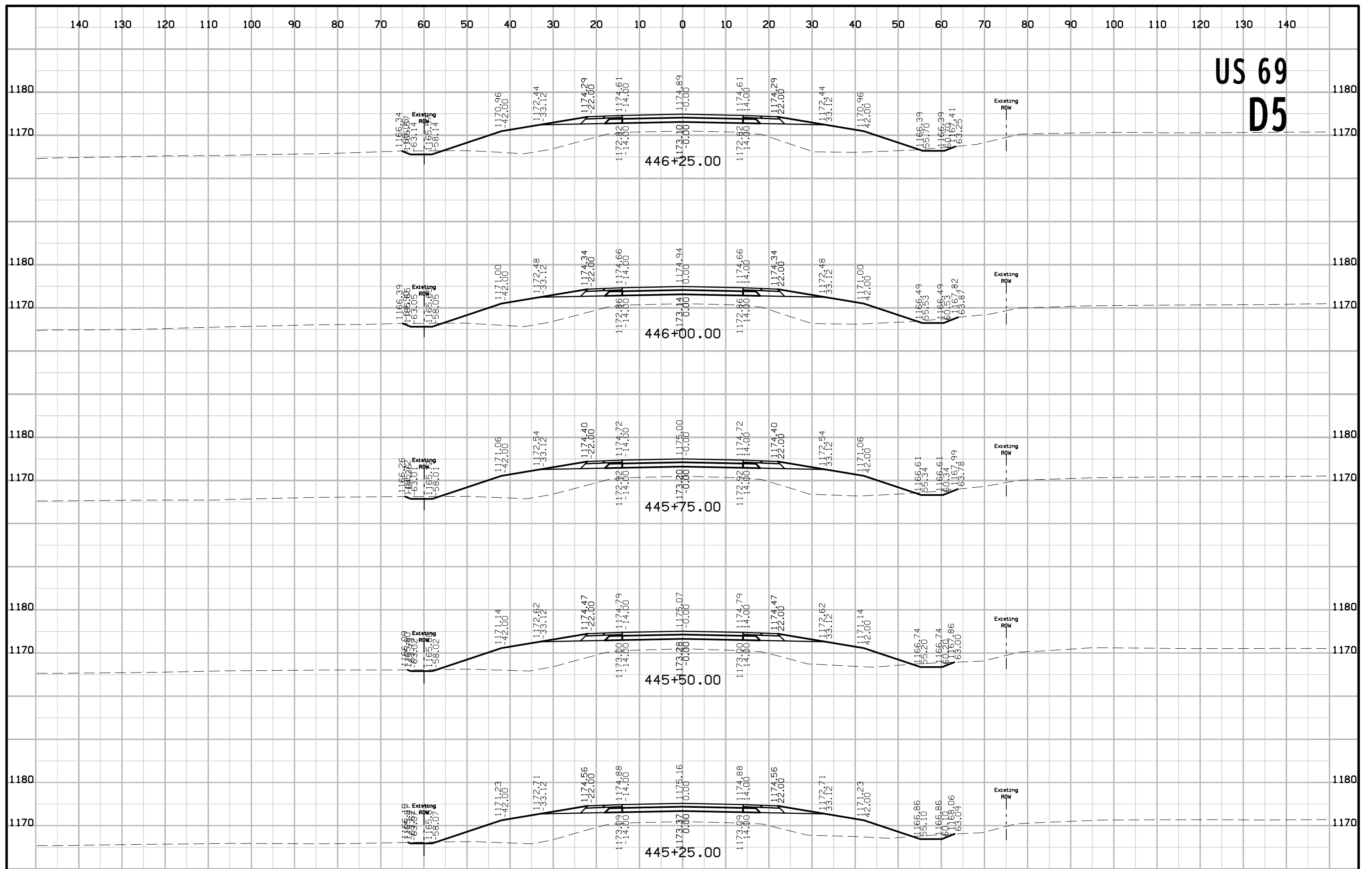
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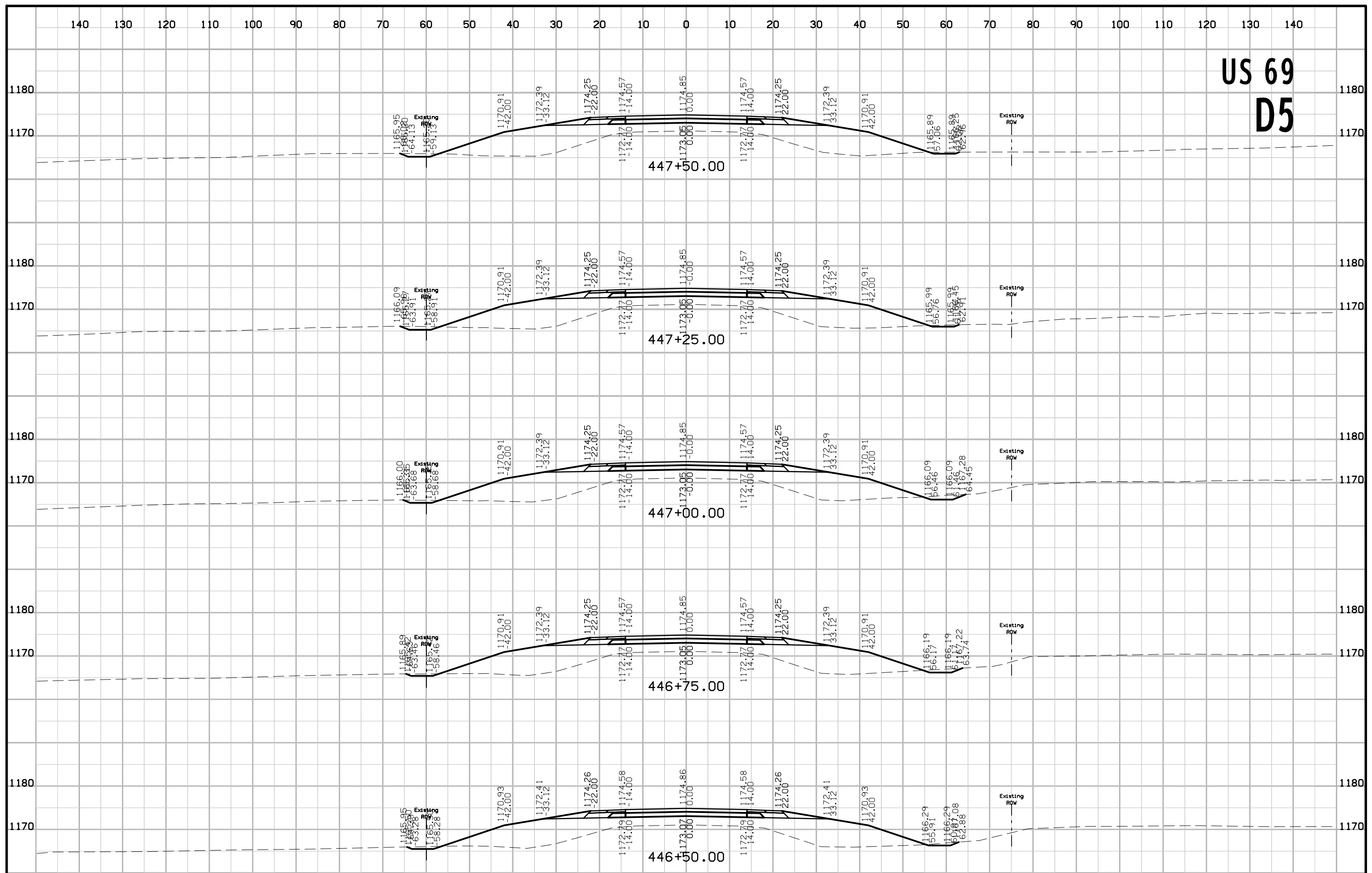
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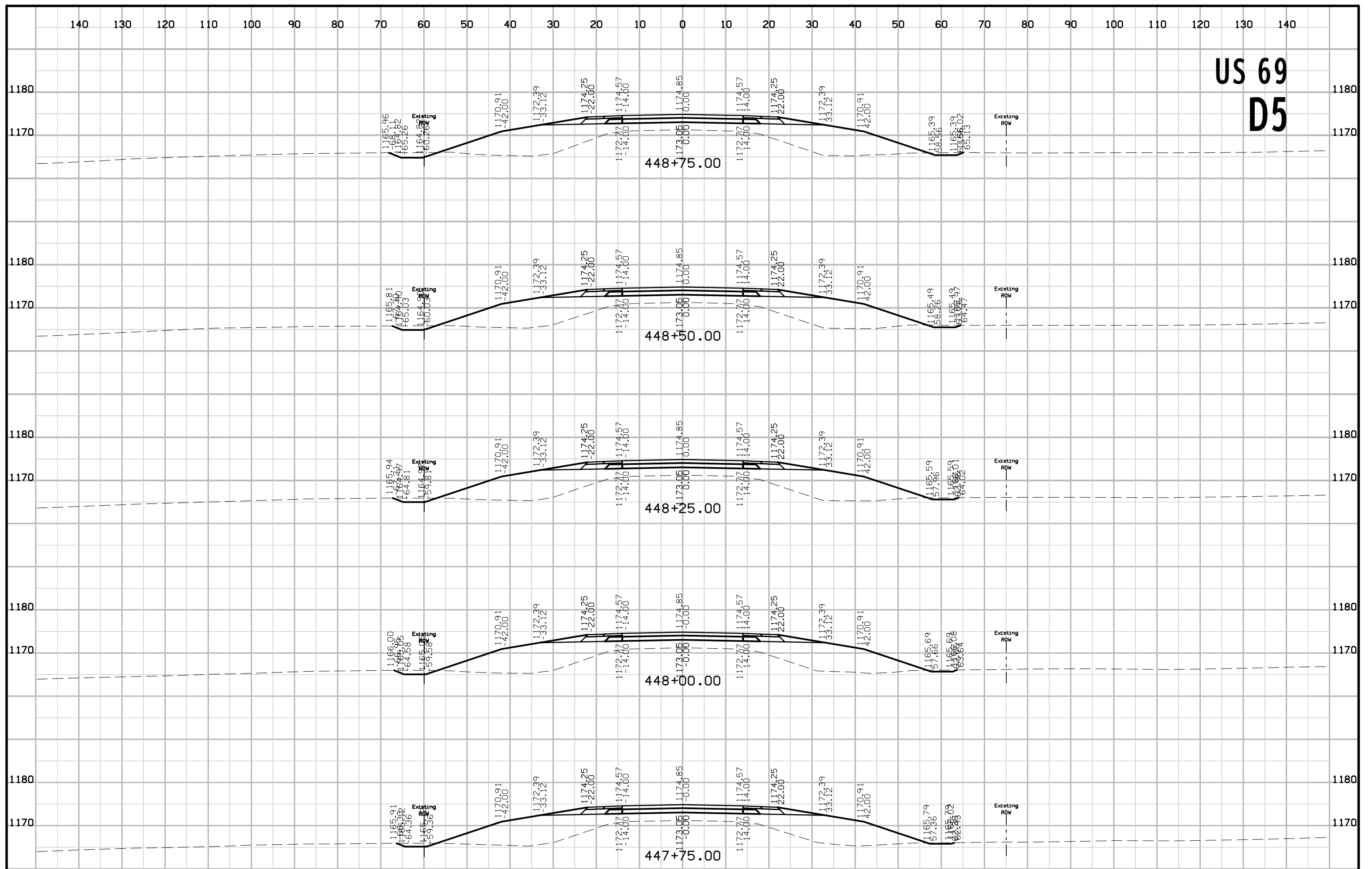
# US 69 D5



# US 69 D5

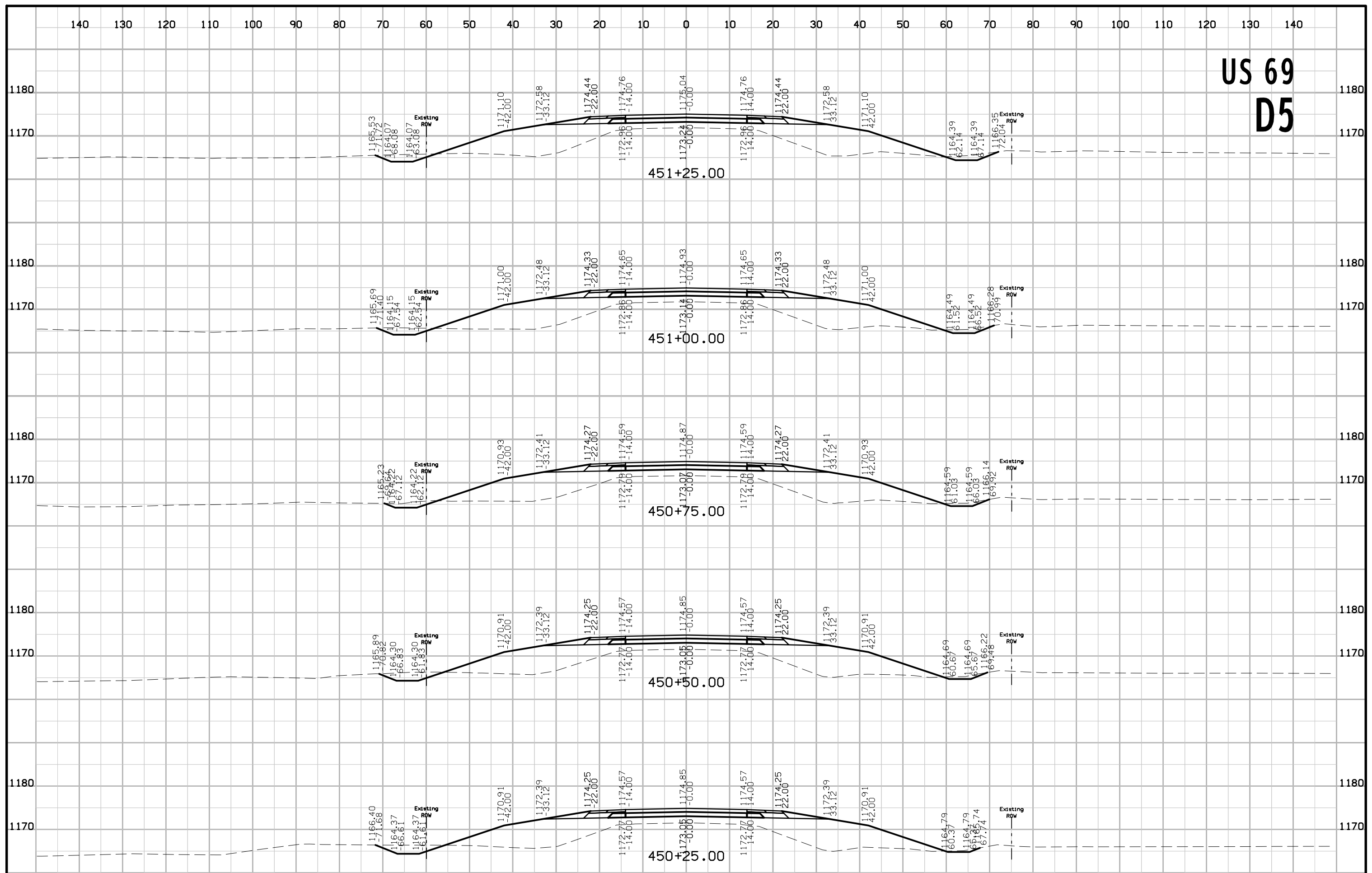


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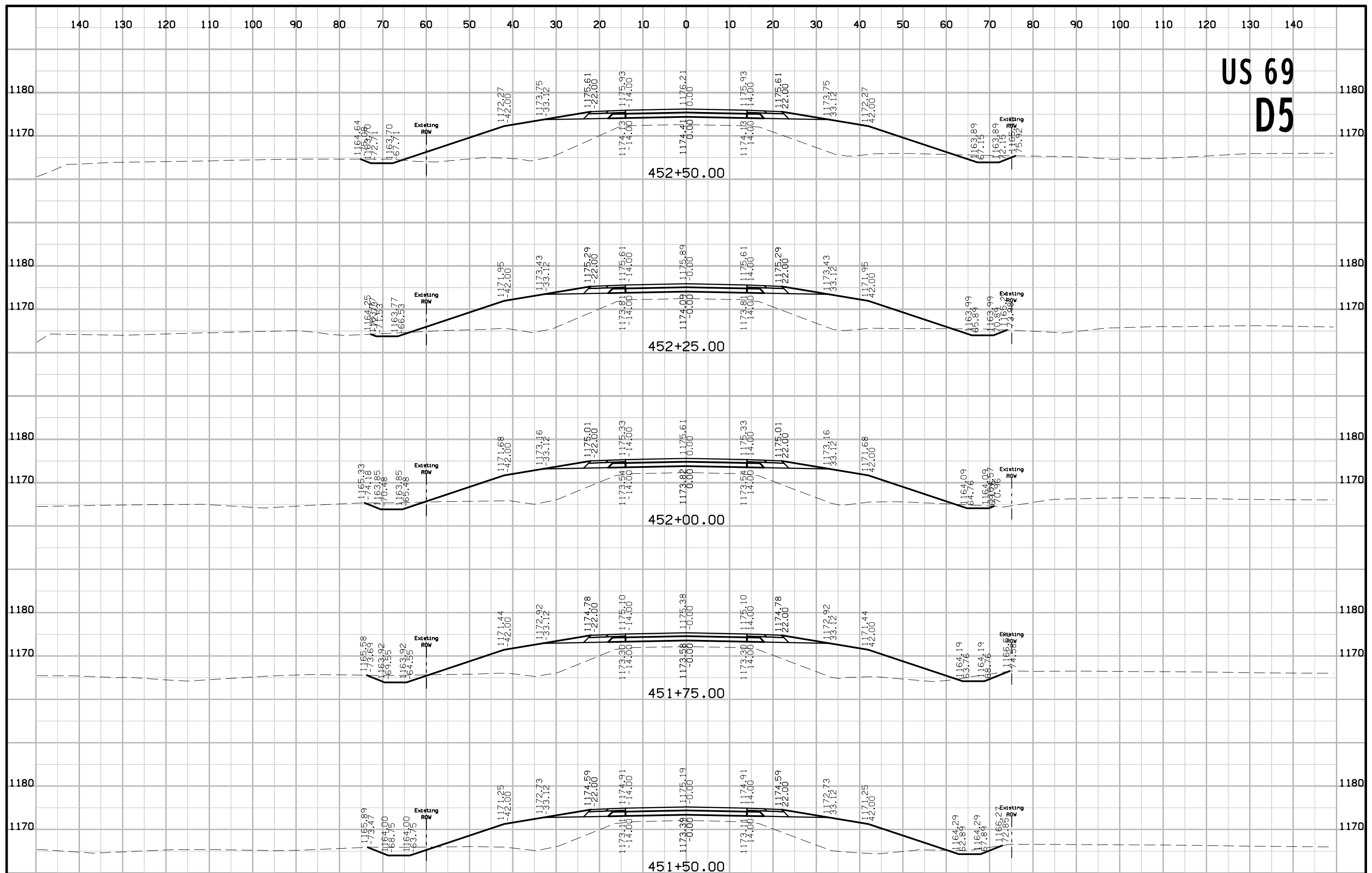


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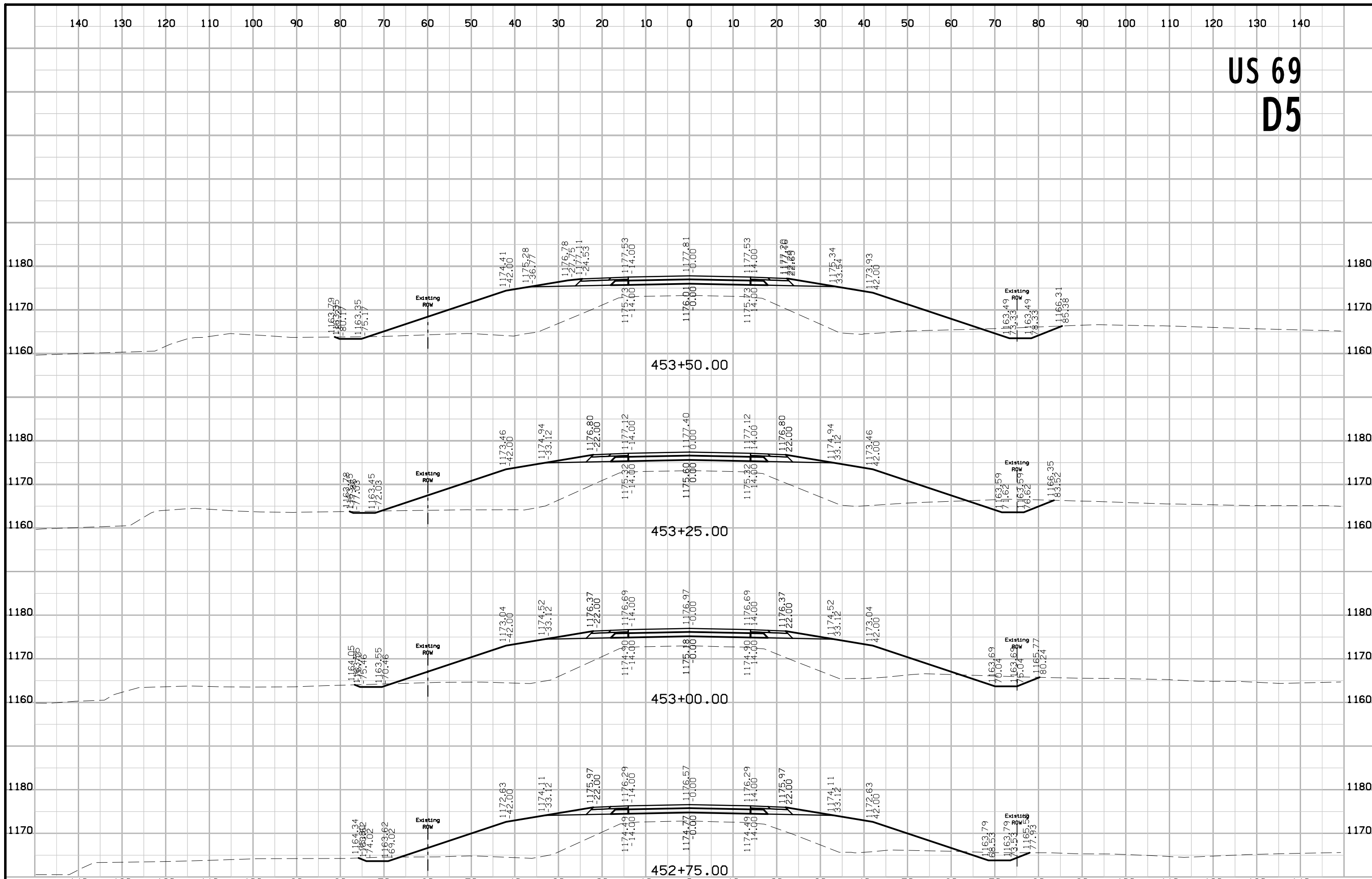
FILE NO.	ENGLISH	DESIGN TEAM	Flattery \ Crystal	WRIGHT COUNTY	PROJECT NUMBER	STPN-069-7(41)--2J-99	SHEET NUMBER	W.10
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# US 69 D5

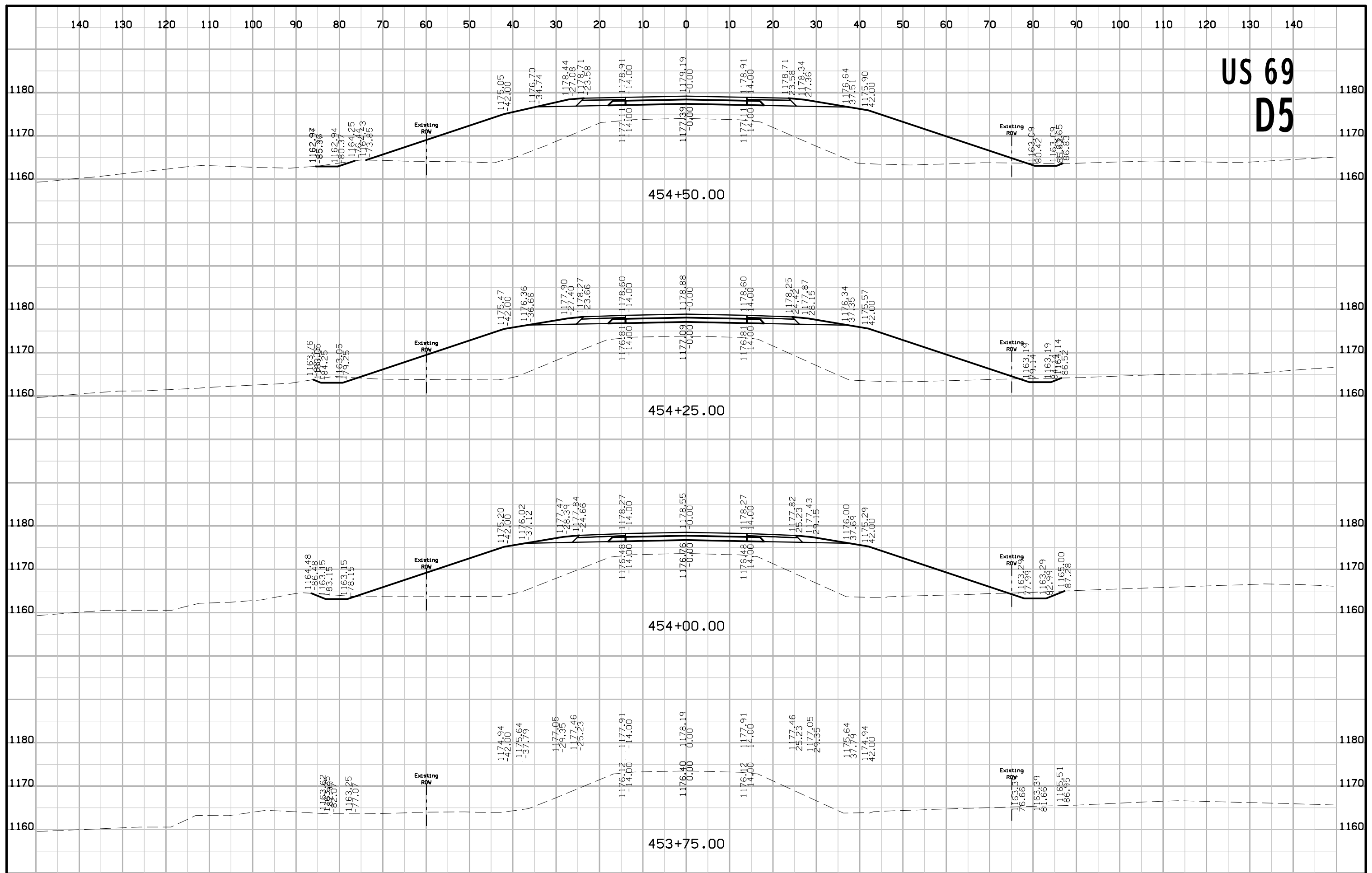




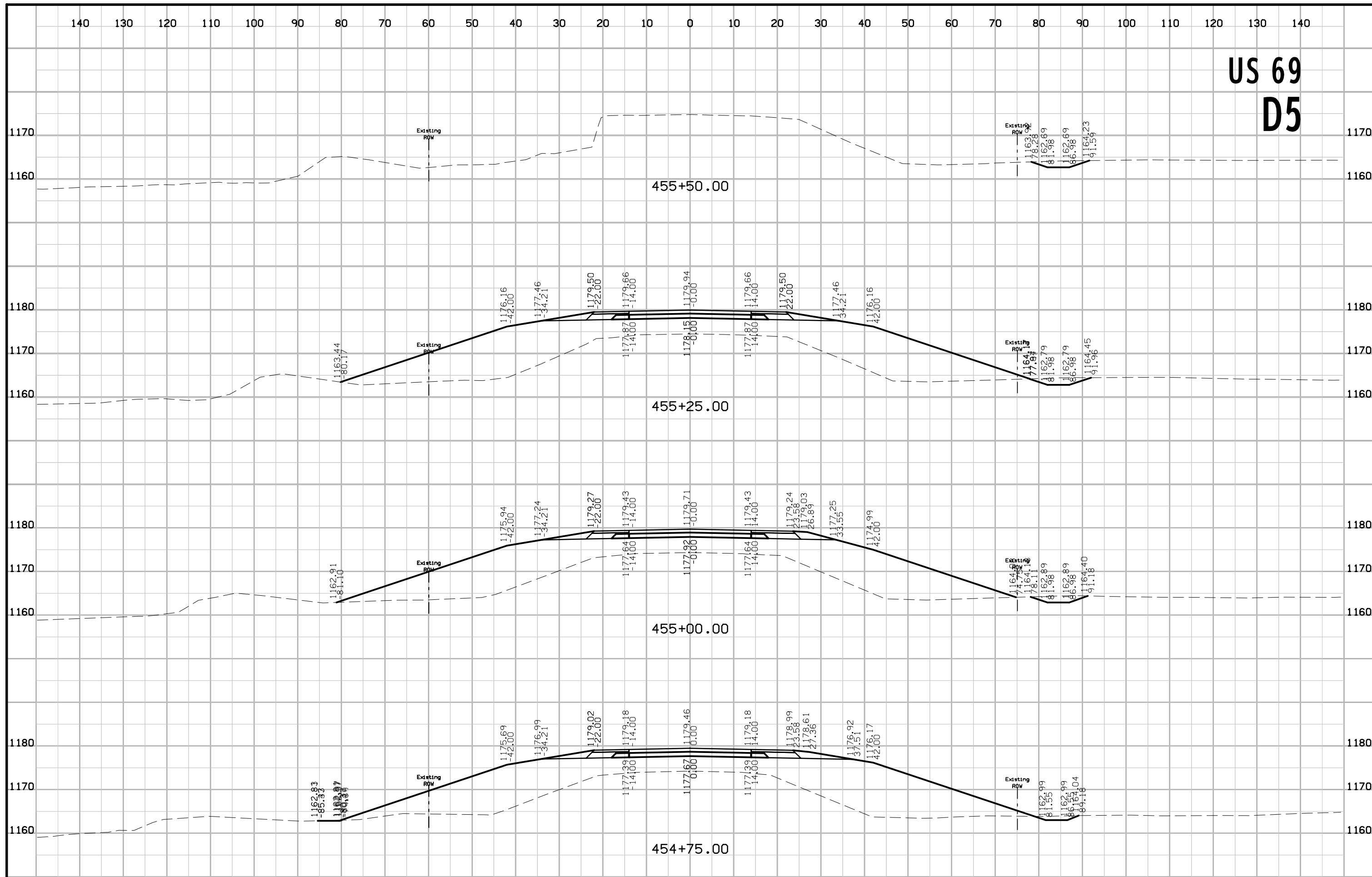
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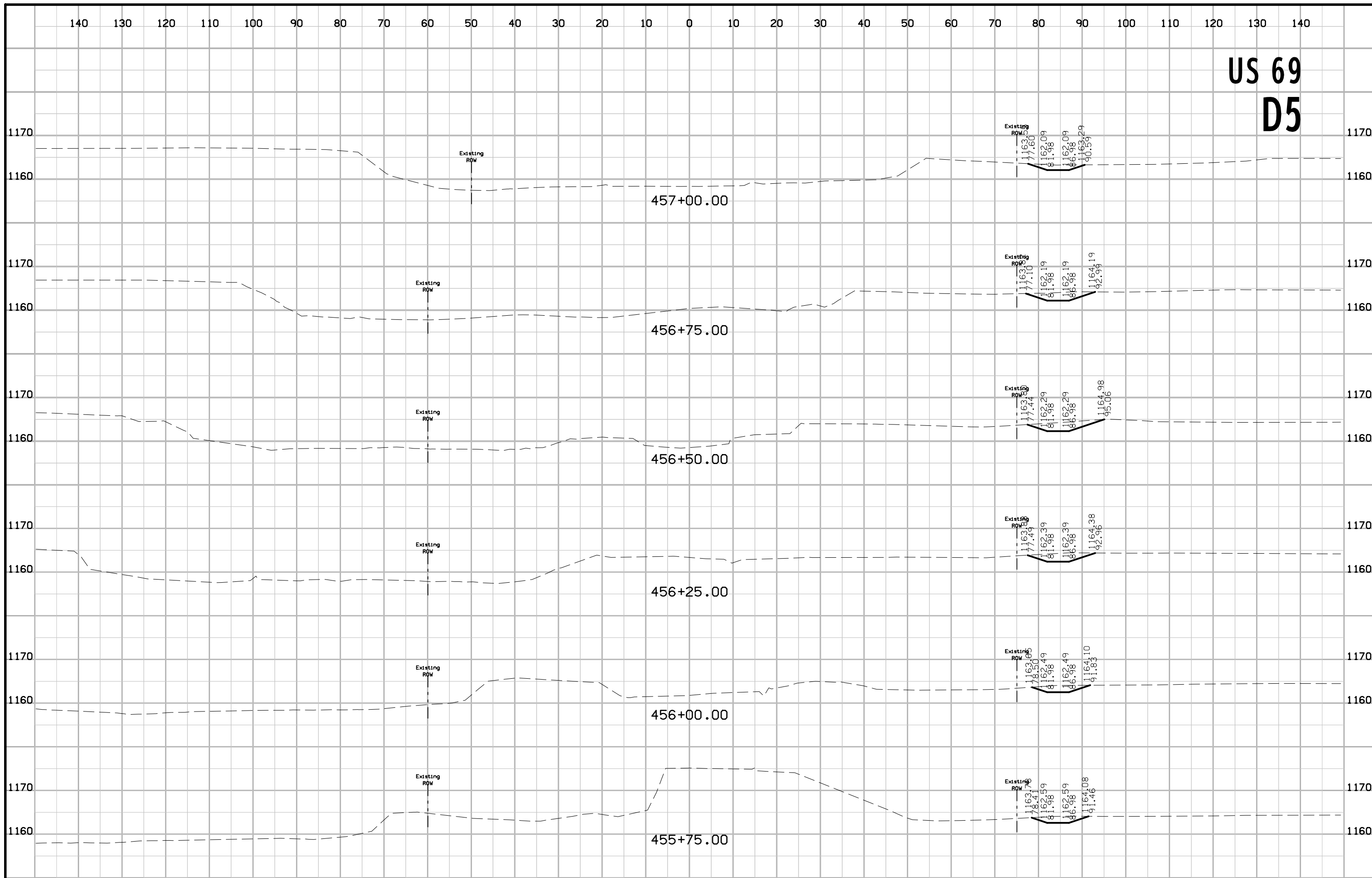
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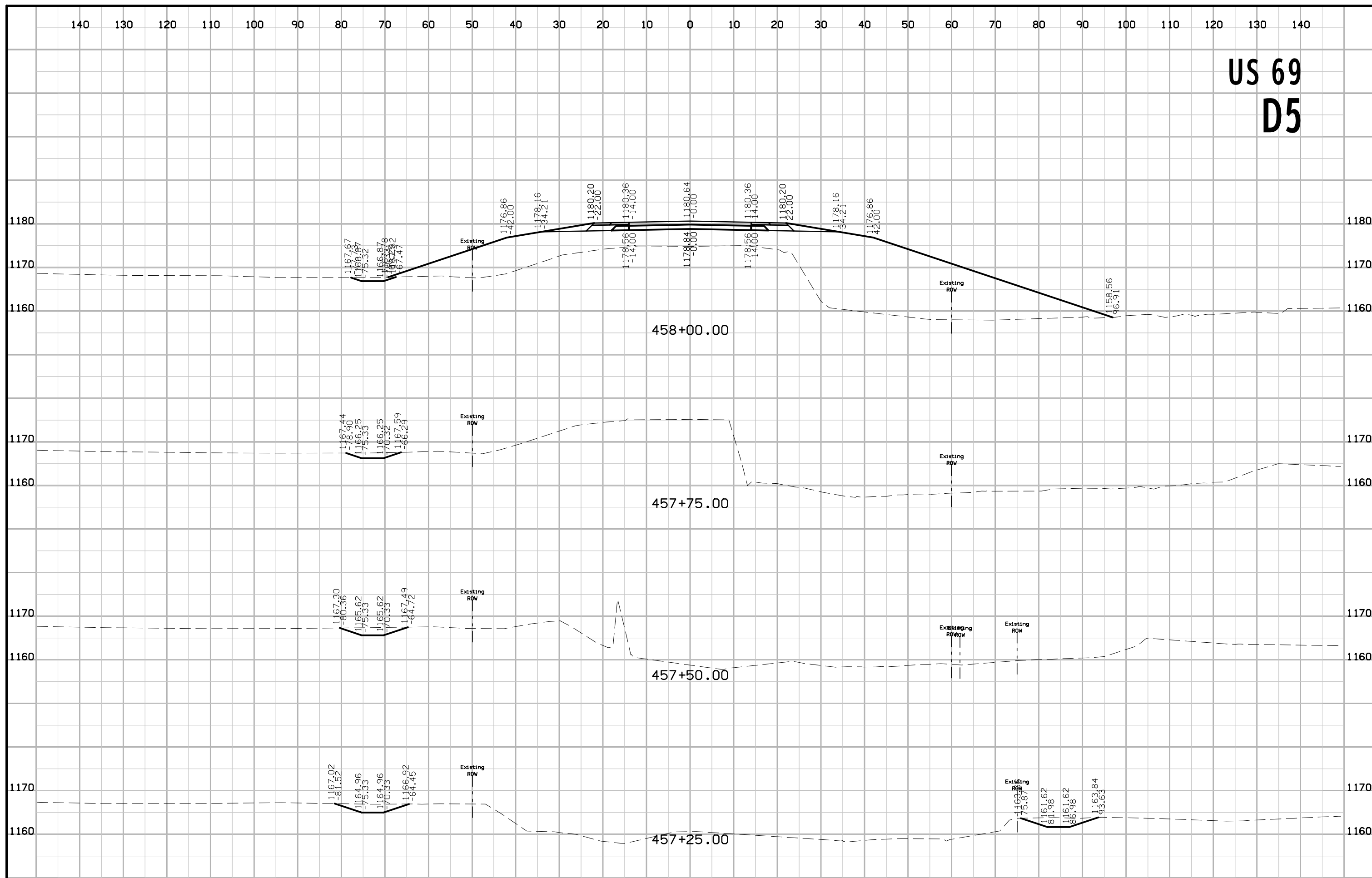
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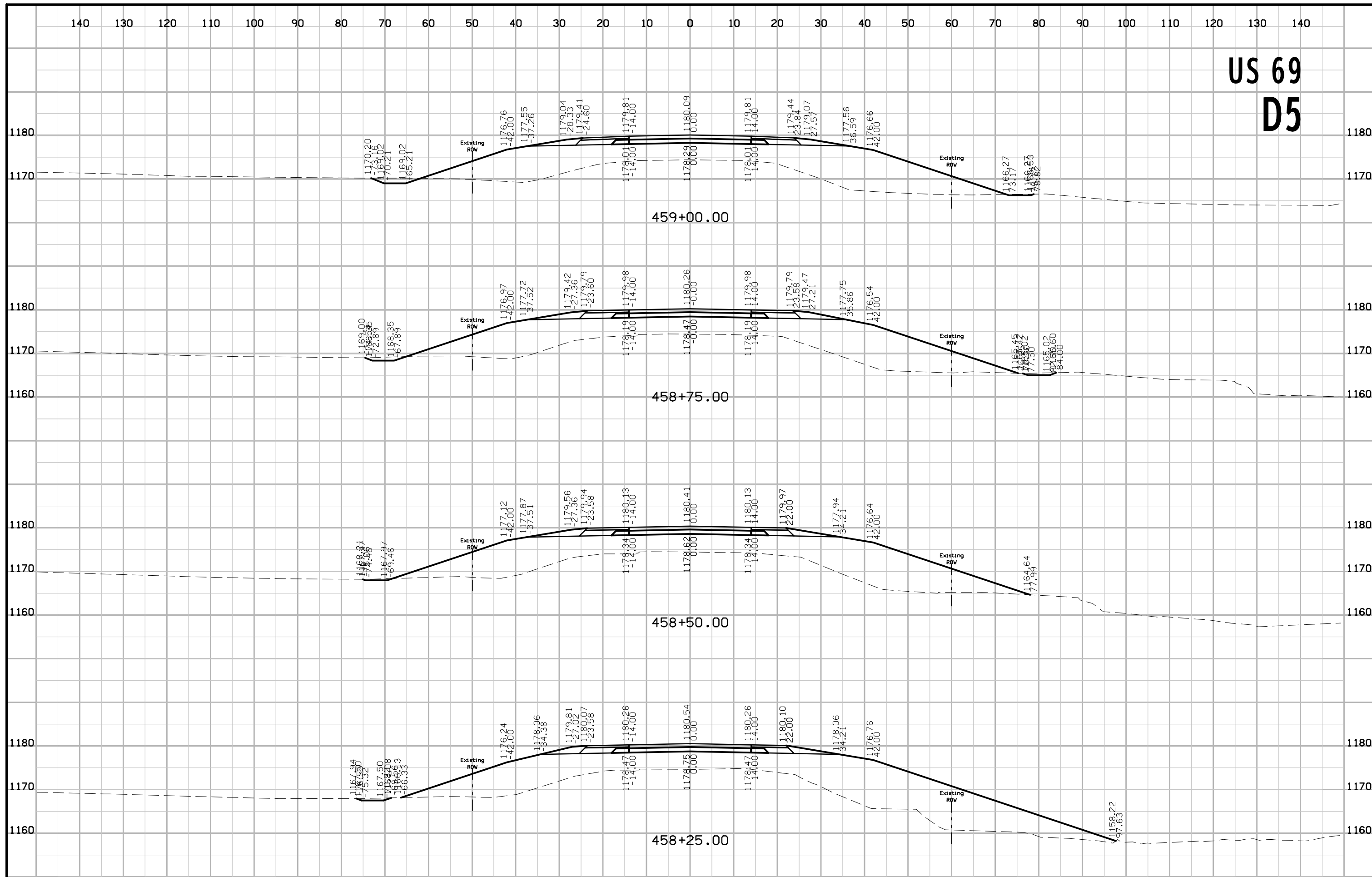
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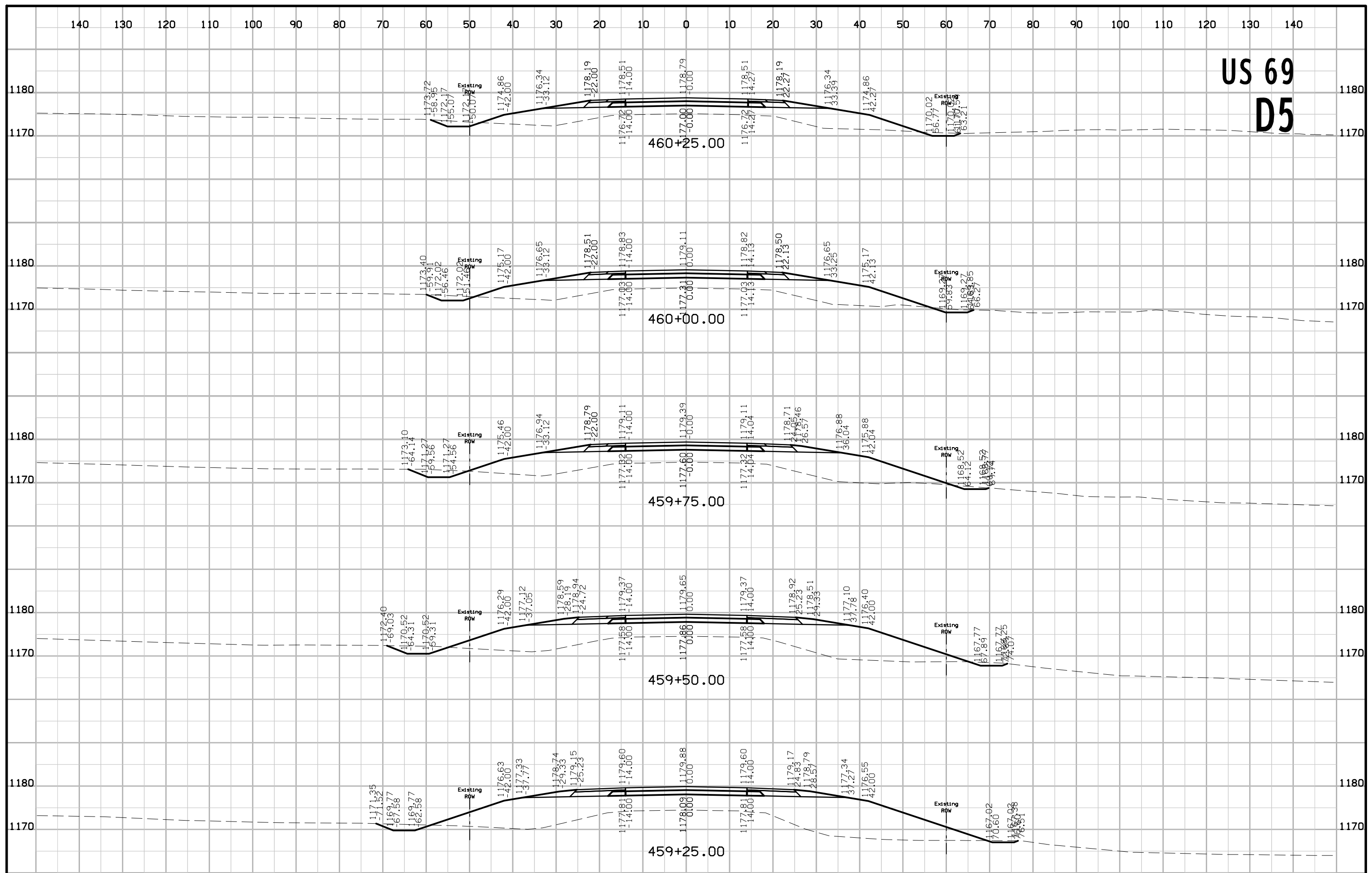
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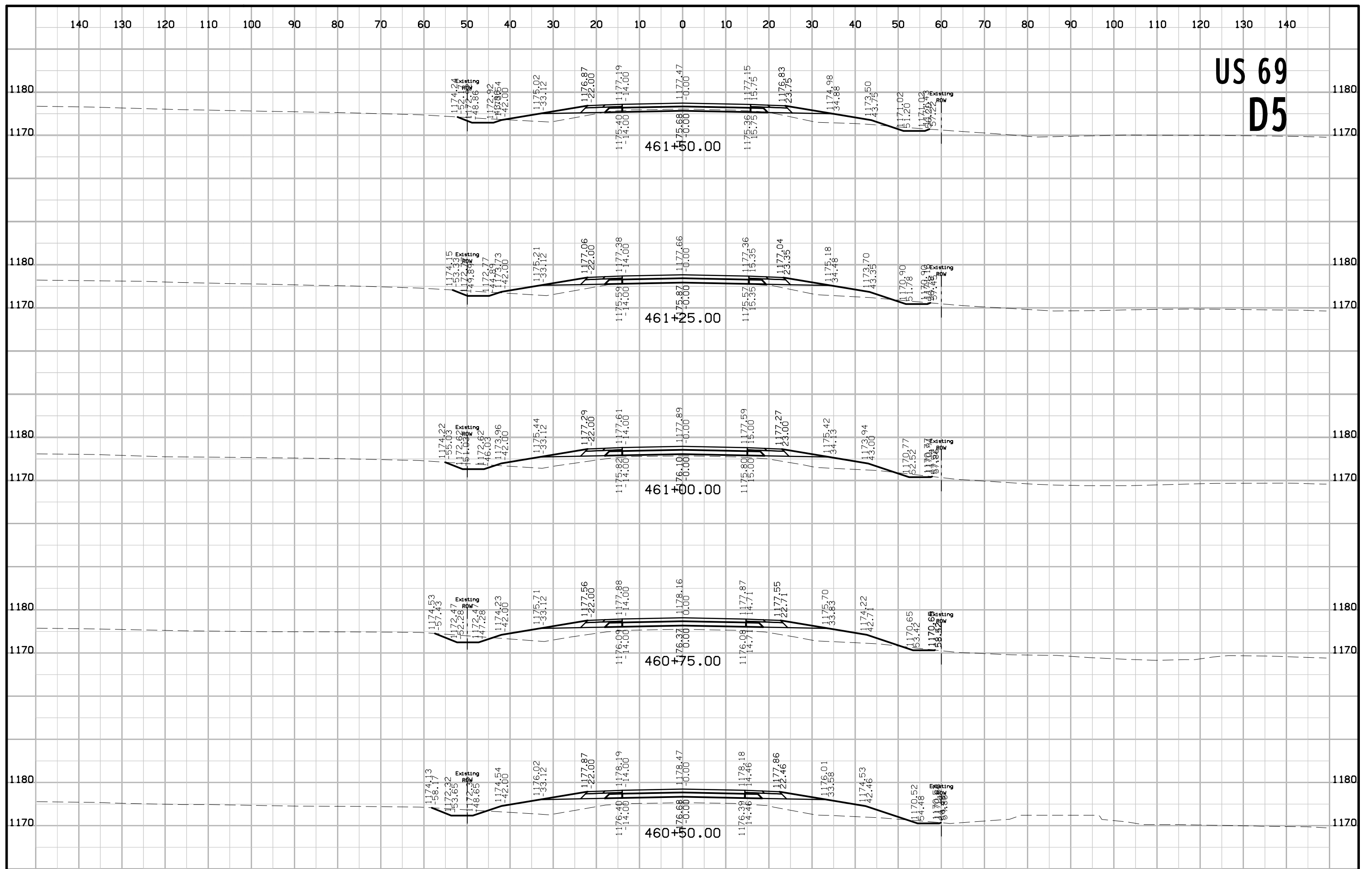
# US 69 D5



# US 69 D5



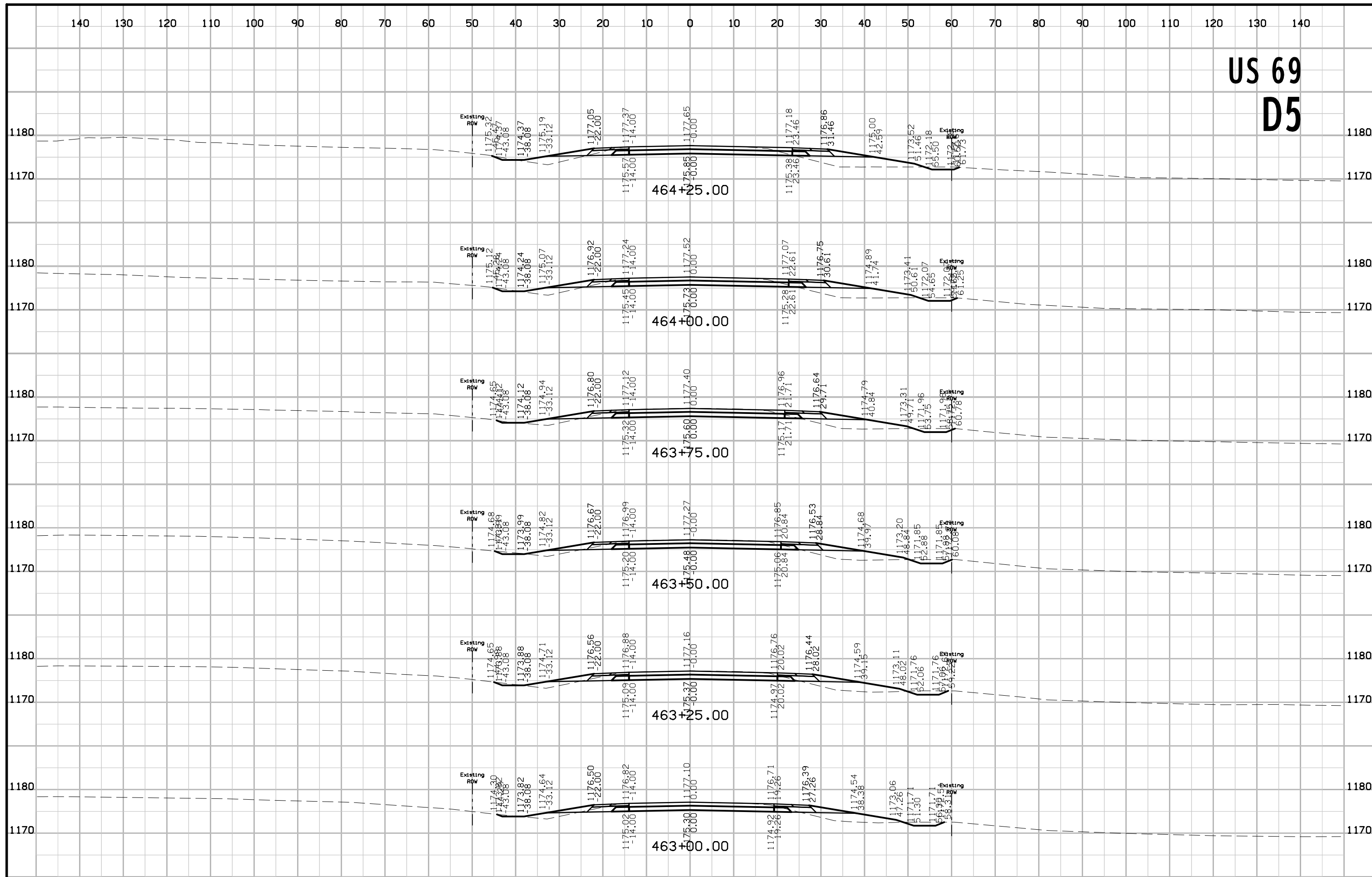
US 69  
D5







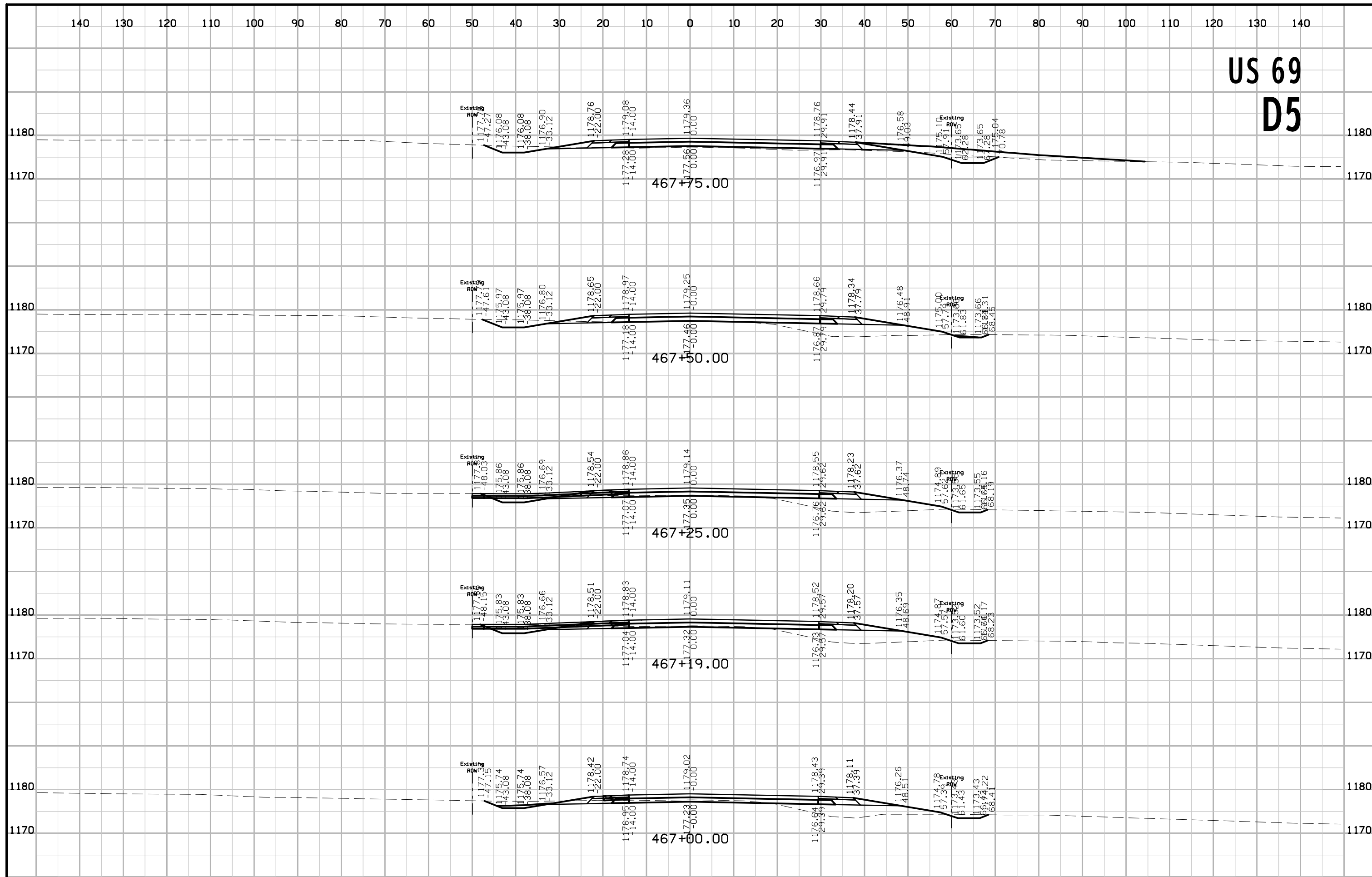
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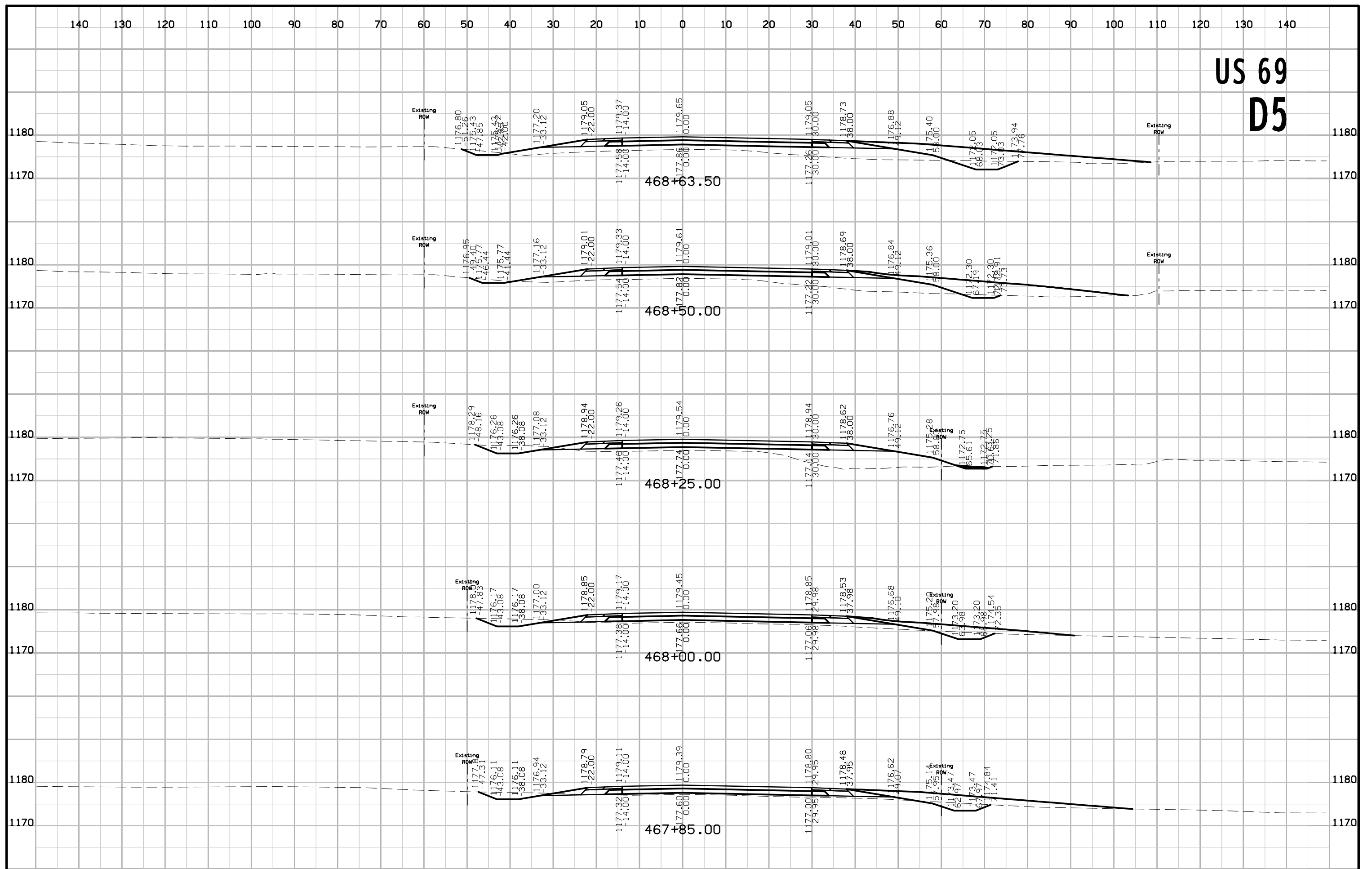


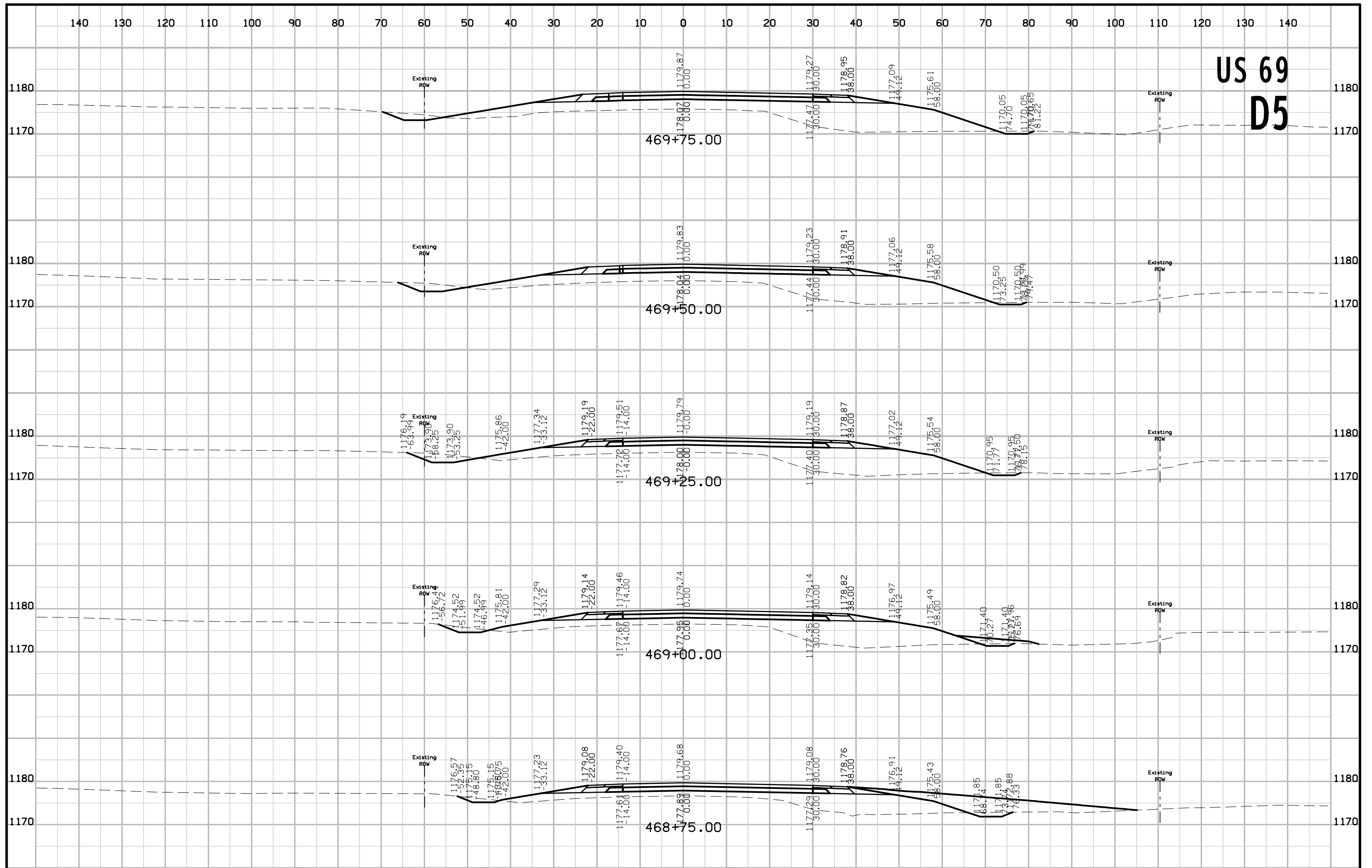


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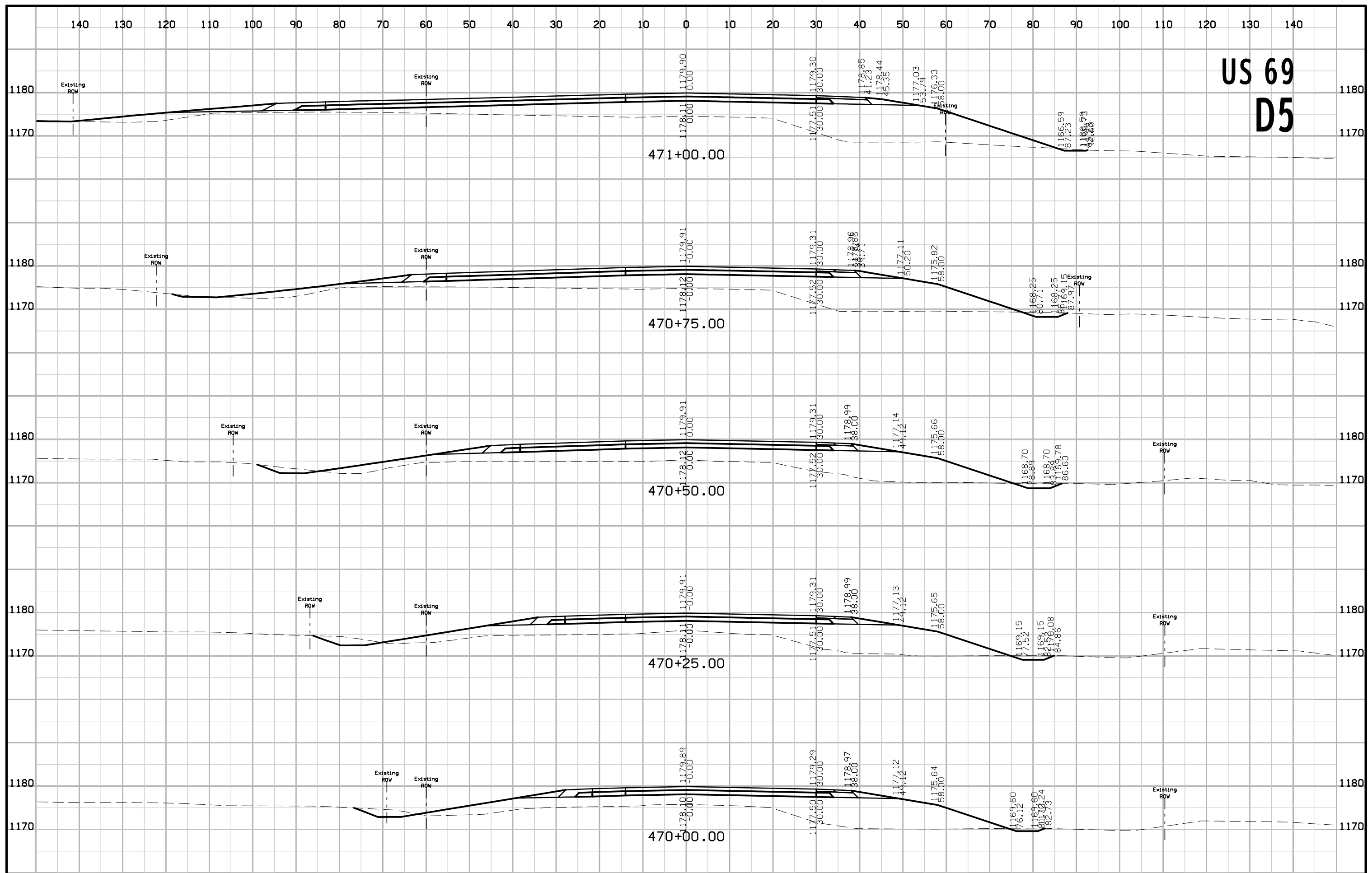
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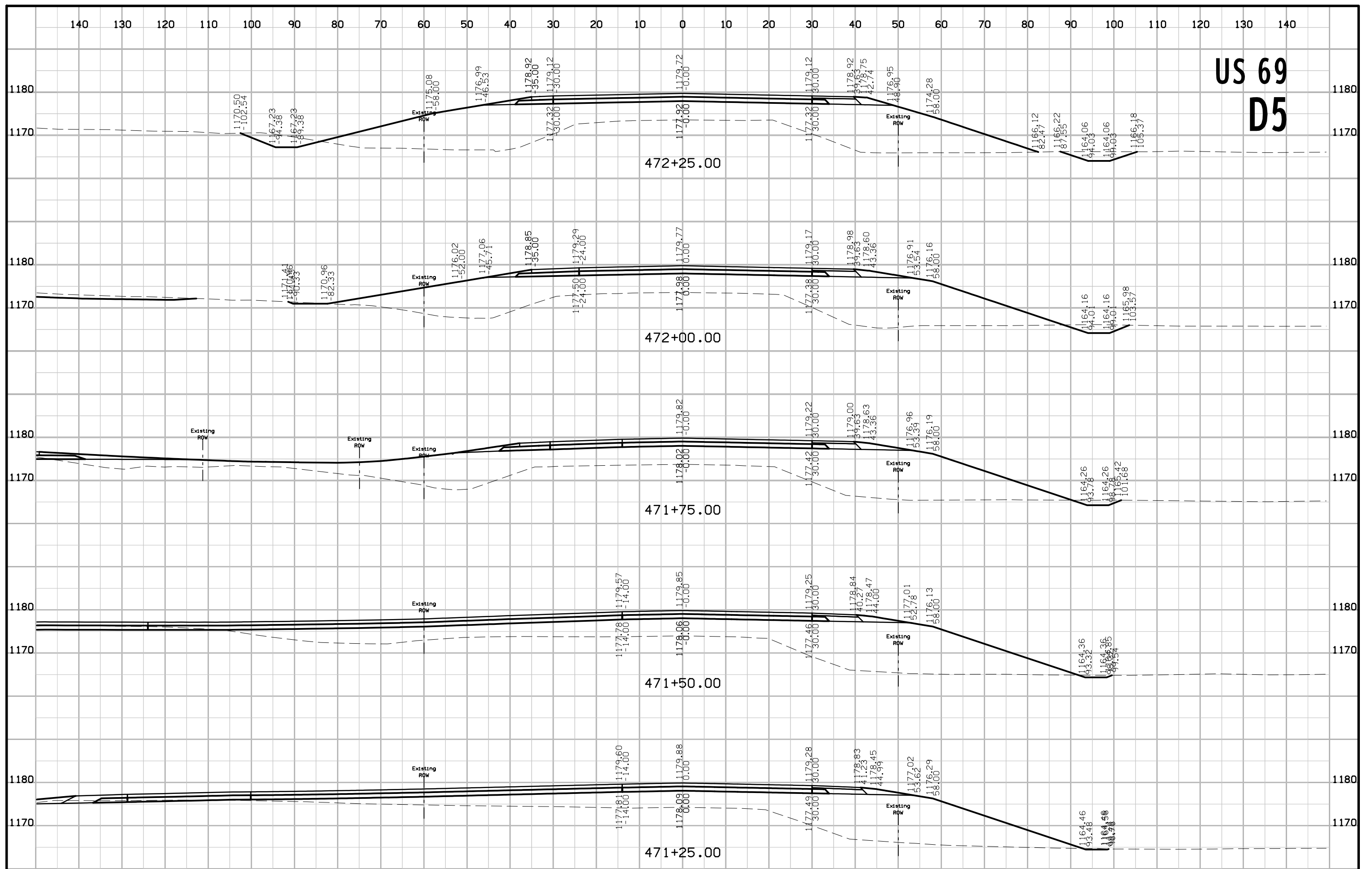
US 69  
D5

# US 69 D5

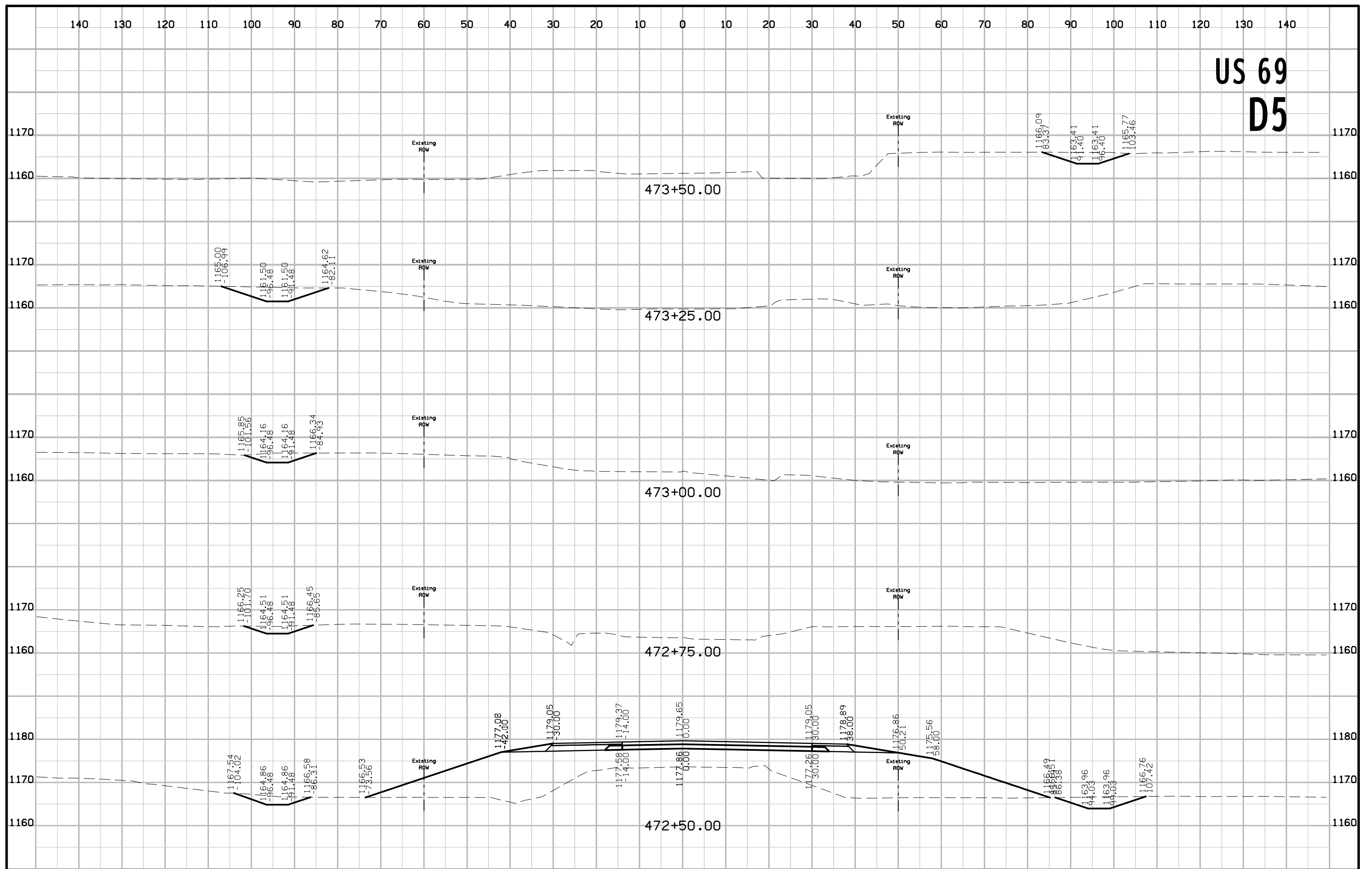




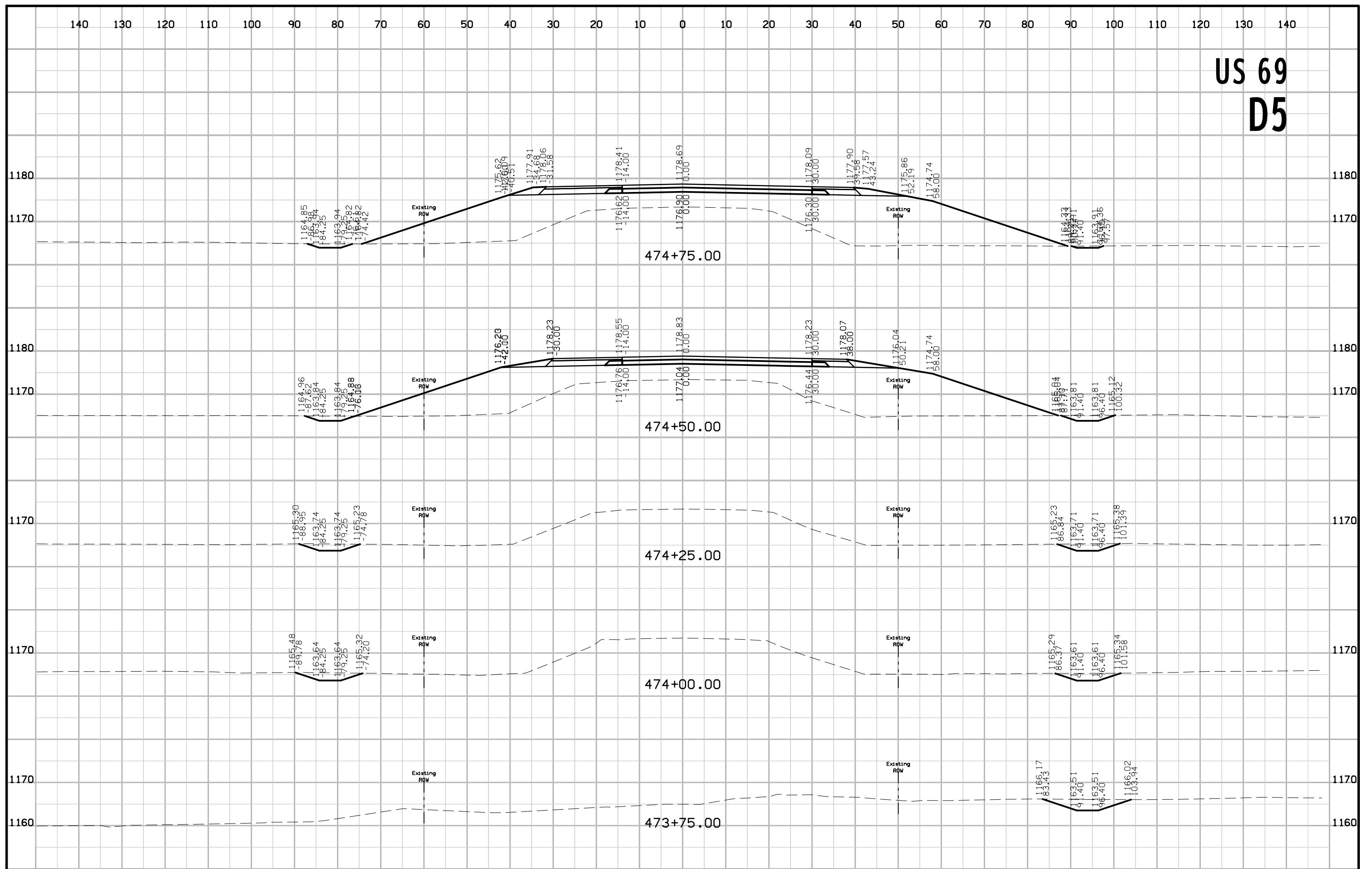
# US 69 D5



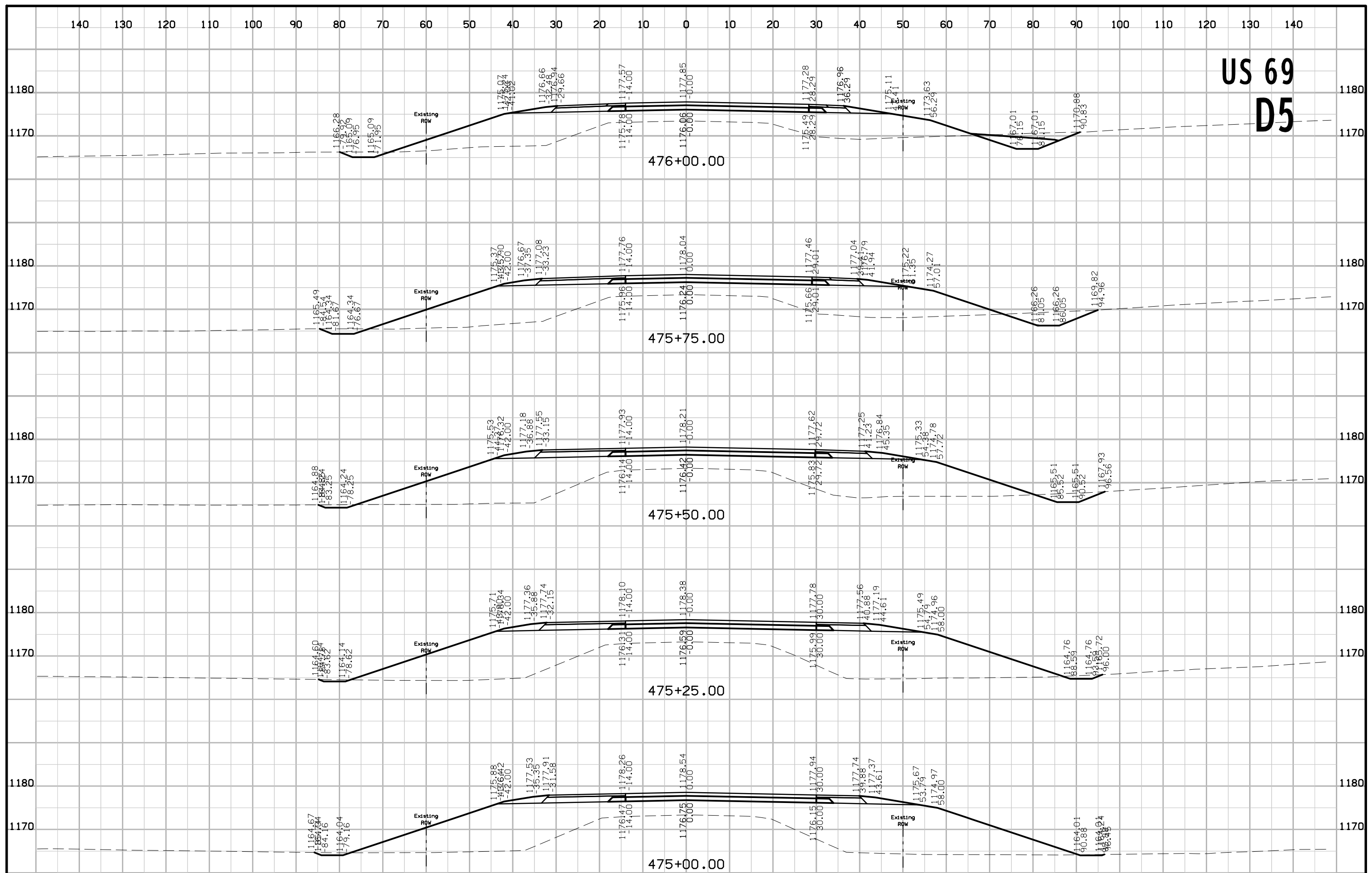
# US 69 D5



# US 69 D5

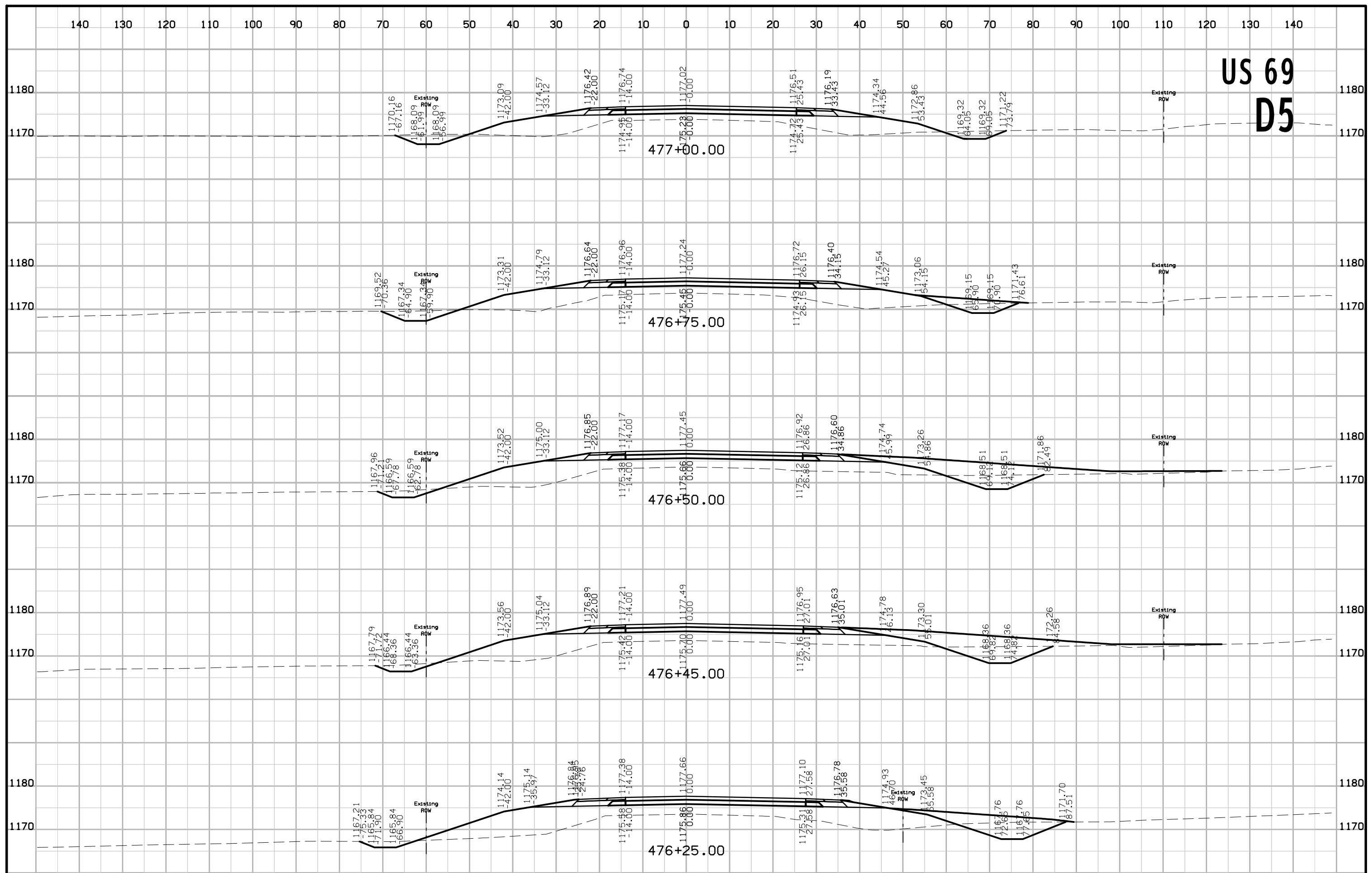


# US 69 D5

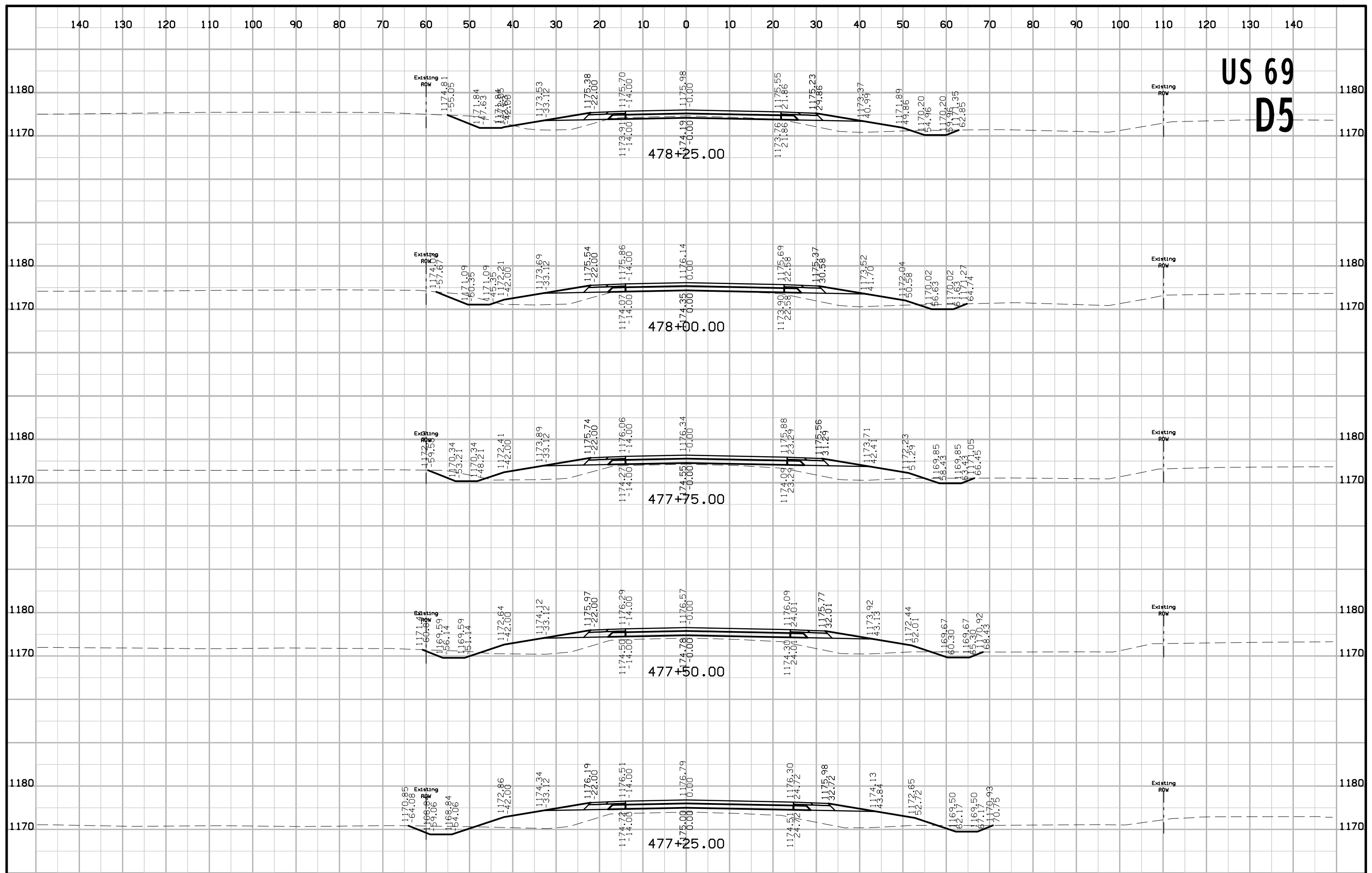




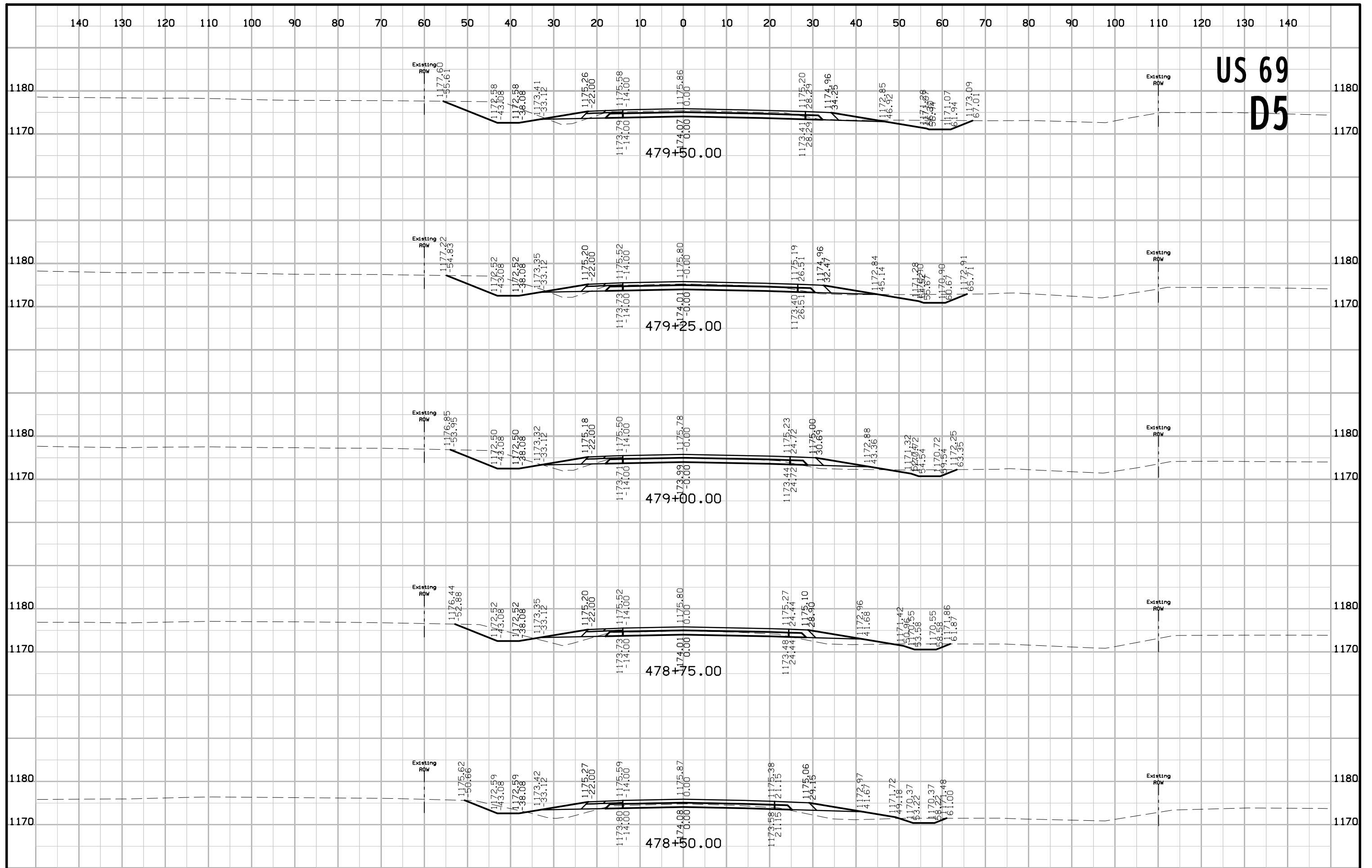
# US 69 D5

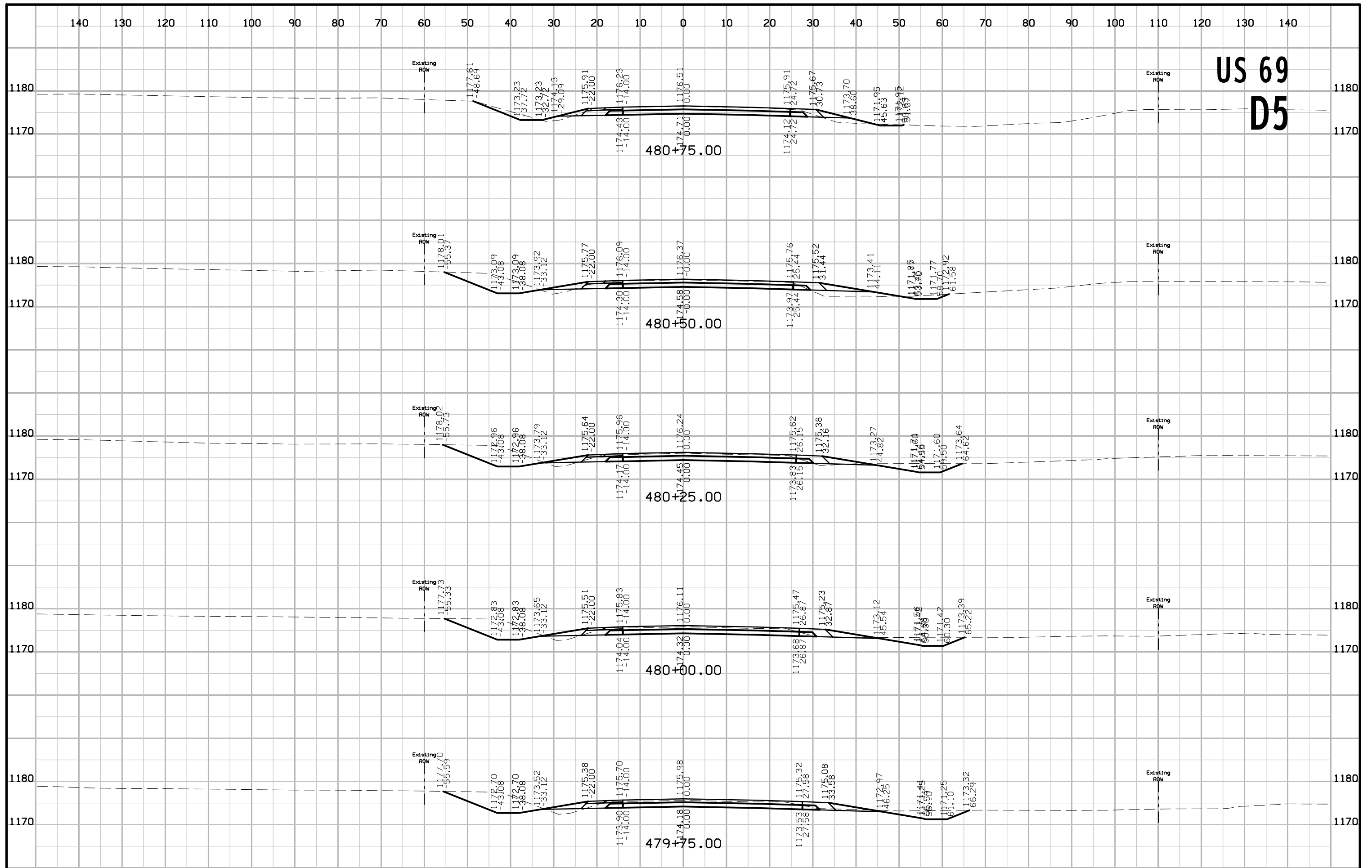


# US 69 D5



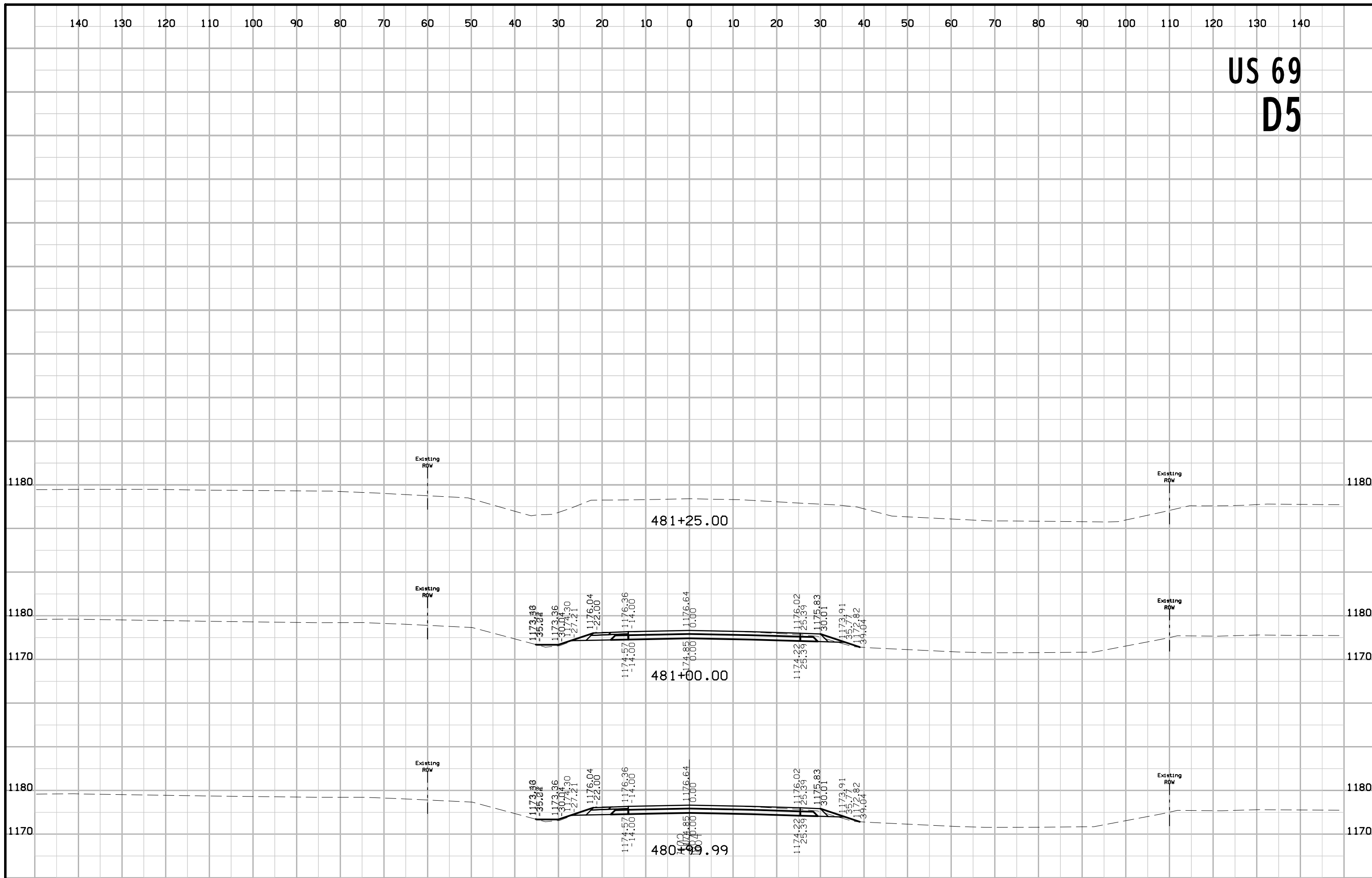
# US 69 D5



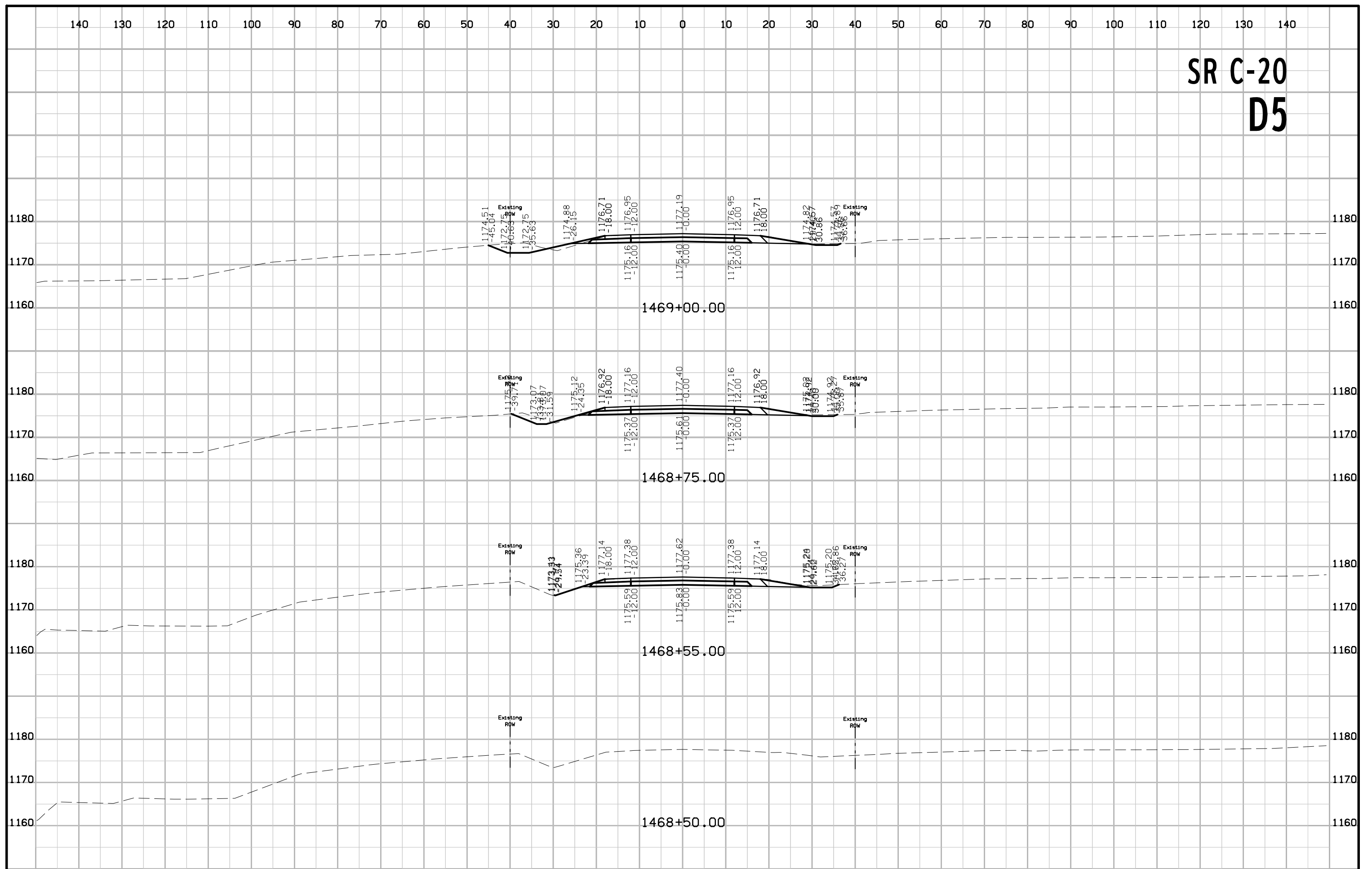




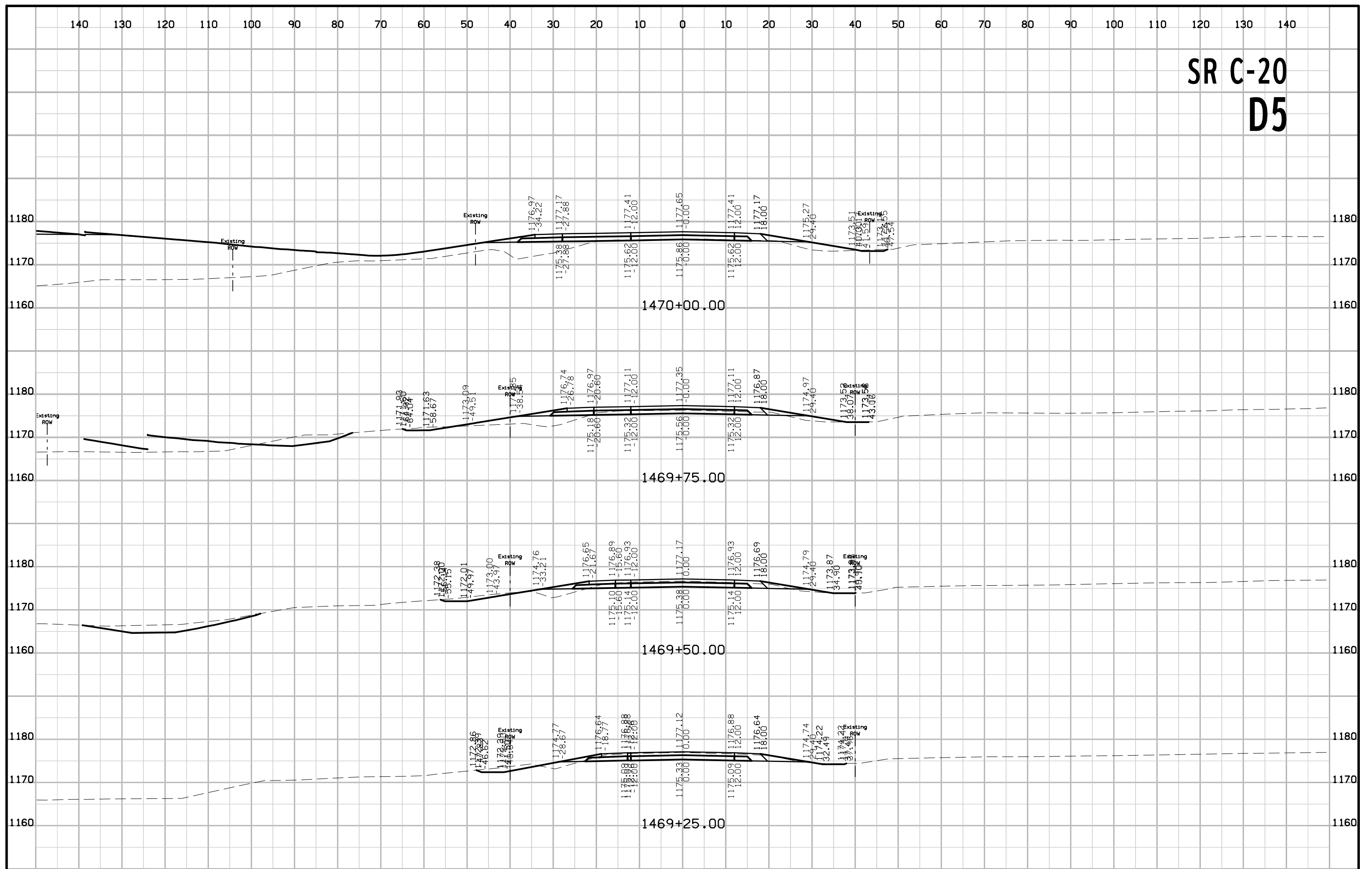
# US 69 D5



# SR C-20 D5

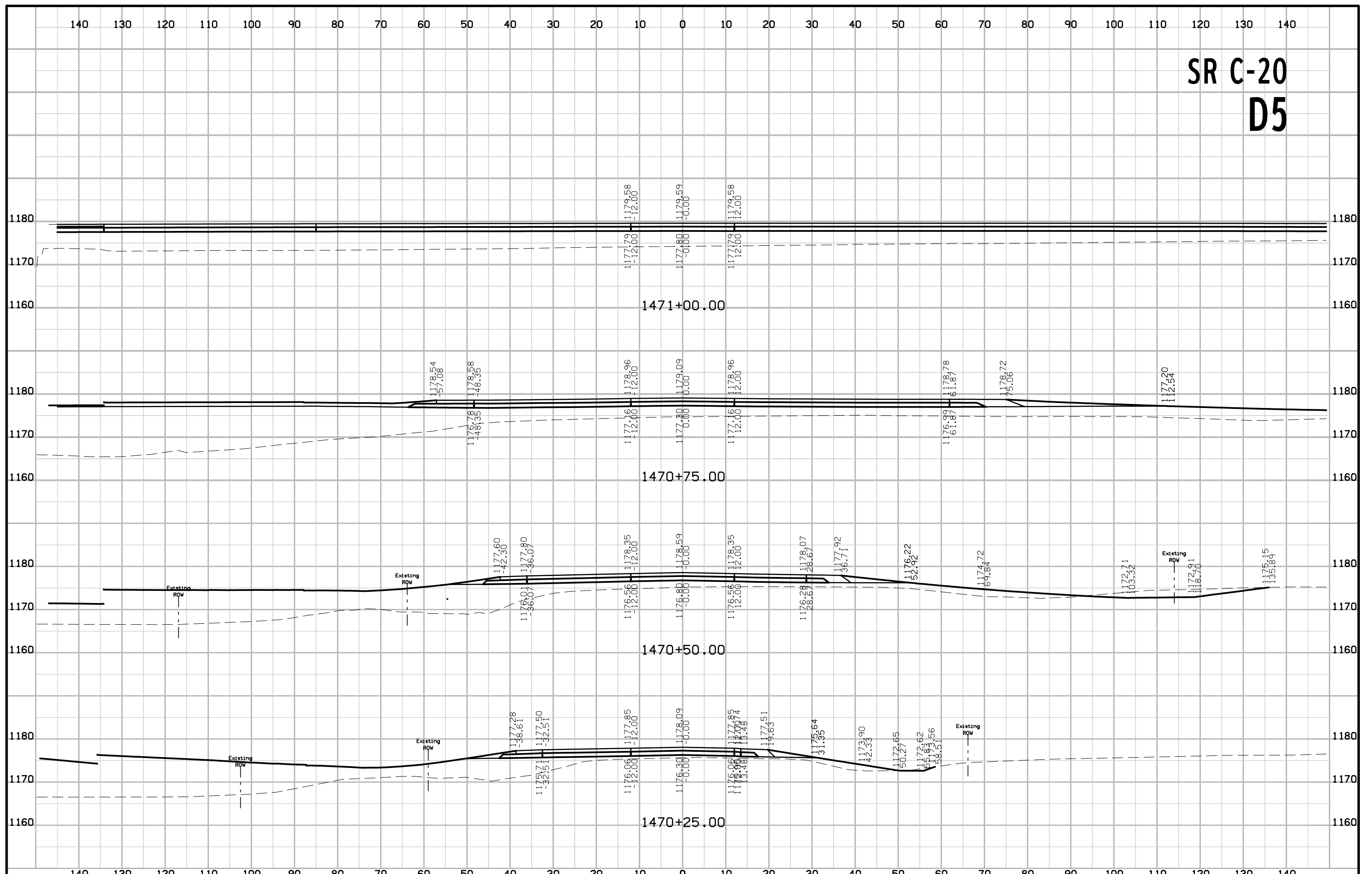


# SR C-20 D5



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# SR C-20 D5



# SR C-20 D5

