



Iowa Department of Transportation

Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM WRIGHT COUNTY BRIDGE REPLACEMENT

US 69 Over Iowa River 5.3 Miles North Of North Jct. Ia. 3

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.15 of the Specifications.



D5 Preliminary Earthwork:

Roadway	Cut	Fill	Balance
US 69	2,600	26,500	-23,900
Taylor	300	1,500	-1,200
160th	3,400	2,700	700
TOTALS:	6,300	30,700	-24,400

MILEAGE SUMMARY

105-1
09-27-94

Div.	Location	Lin. Ft.	Miles
1	Sta. 313+00.00 to Sta. 330+00.00	1700.0	0.32
	Omit Iowa River Bridge at Sta. 323+62.75	-275.5	-0.05
	Total	1424.5	0.27

DESIGN DATA RURAL

2012 AADT	2800	V.P.D.
2032 AADT	3400	V.P.D.
2032 DHV	350	V.P.H.
TRUCKS	16	%
Total Design ESALs		

INDEX OF SEALS

SHEET NO.	NAME	TYPE
A.1	Kelly C. Bell	Primary Signature Block

REVISIONS

TOTAL

56

PROJECT IDENTIFICATION NUMBER

08-99-069-010

PROJECT NUMBER

BRF-069-7(30)--38-99

R.O.W. PROJECT NUMBER

STPN-069-7(31)--2J-99

INDEX OF SHEETS

No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Title Sheet
B Sheets	Typical Cross Sections and Details
B.1 - 5	Typical Cross Sections and Details
D Sheets	Mainline Plan and Profile Sheets
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2 - 3	US Highway 69
E Sheets	Side Road Plan and Profile Sheets
* E.1	Taylor Ave.
* E.2	160th St.
G Sheets	Survey Sheets
G.1 - 2	Reference Ties and Bench Marks
G.3	Horizontal Control Tab. for all Alignments
J Sheets	Traffic Control and Staging Sheets
* J.1	Traffic Control Plan
* J.1	Tabulation of Special Events
V Sheets	Bridge and Culvert Situation Plans
V.1 - 5	Bridge and Culvert Situation Plans
W Sheets	Mainline Cross Sections
W.1	Cross Sections Legend & Symbol Information Sheet
W.2 - 17	US Highway 69 Cross Sections
W.18	Safety Dike Sta. 317+85
W.19	Entrance Sta. 327+25
X Sheets	Side Road Cross Sections
X.1 - 4	Taylor Ave. Cross Sections
X.5 - 17	160th St. Cross Sections
	* Color Plan Sheets

D4 PLAN - Date: September 18, 2013

PRELIMINARY PLANS

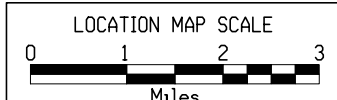
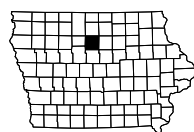
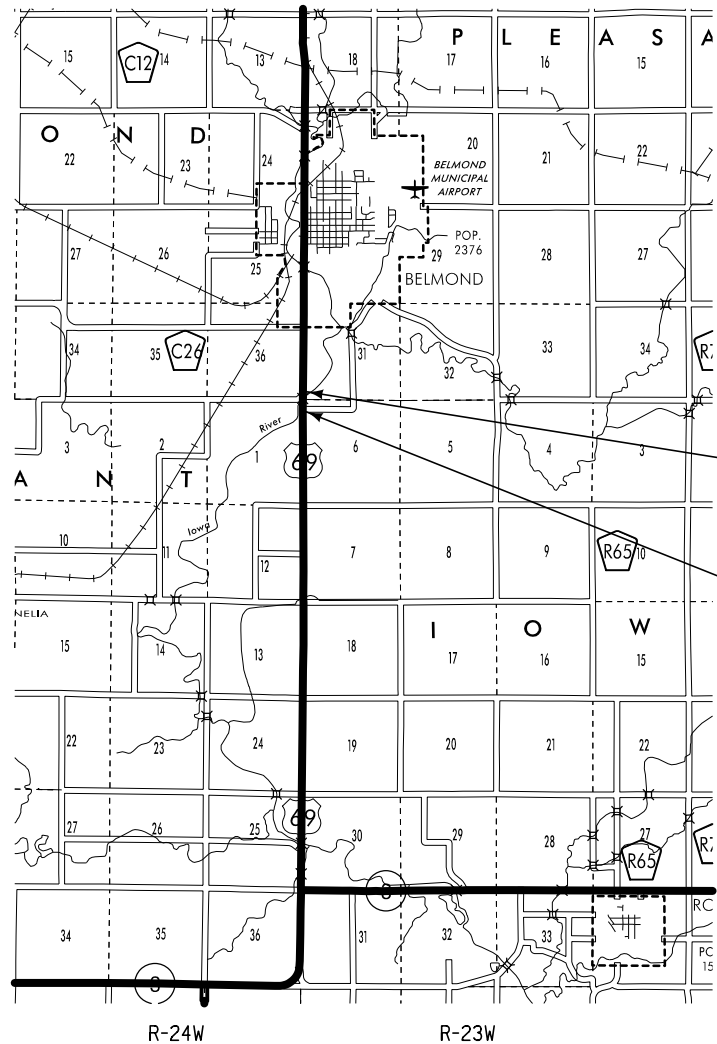
Subject to change by final design.

D5 PLAN - September 27, 2012

BRIDGE REPLACEMENT
BRF-069-7(30)--38-99

LETTING DATE
1/15/2014

WRIGHT CO.



ENGLISH IOWA DOT DESIGN TEAM Flattery\Bell\Janecek

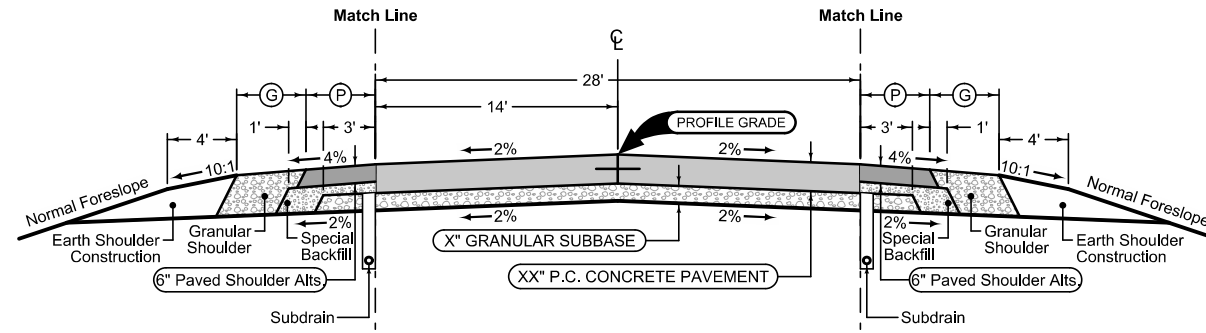
WRIGHT COUNTY PROJECT NUMBER BRF-069-7(30)--38-99

SHEET NUMBER A.1

Combination Shoulder

Shoulder Jointing:
Longitudinal joint: B

STATION TO STATION		(P) Feet	(G) Feet
313+00	320+99	4.0	4.0
320+99	321+32	10.9	
321+32	321+69	10.9-9.6	
321+69	321+93	9.6	
325+32	325+63	10.5-11.2	
325+63	326+01	11.2	
326+01	326+33	11.2-13.0	
326+33	330+00	4.0	4.0



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

STATION TO STATION	
313+00	330+00

Combination Shoulder

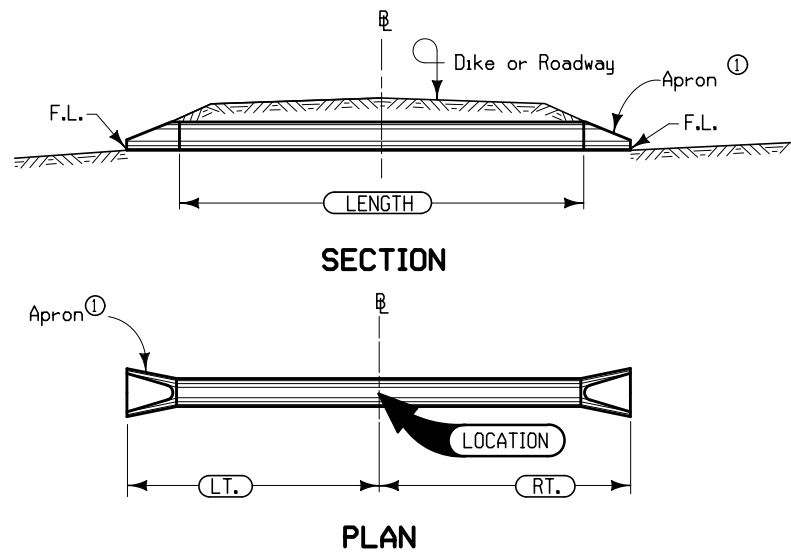
Shoulder Jointing:
Longitudinal joint: B

STATION TO STATION		(P) Feet	(G) Feet
313+00	320+92	4.0	4.0
320+92	321+25	12.7	
321+25	321+62	12.7-11.1	
321+62	321+87	11.1	
321+87	321+93	11.1-10.4	
325+32	325+57	9.4	
325+57	325+94	9.4-10.6	
325+94	326+27	10.6	
326+27	330+00	4.0	4.0

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

US 69

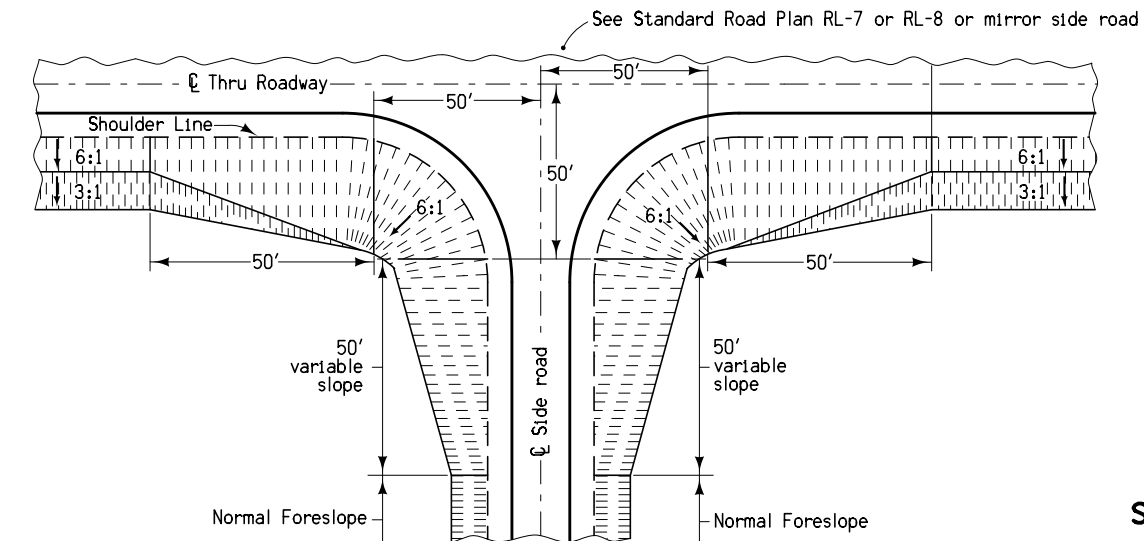
1101
04-30-02



Notes:
 R shall be C of roadway, dike, survey, or other; as detailed on plans.
 Skew angle is the angle which one end of the pipe is ahead (by stationing) of line perpendicular to the R (example skew Rt. ahead 30°).
 Refer to tabular listing and other plans for additional information.
 ① See Standard Road Plan RF-3 For Conc. or RF-5 for Metal.

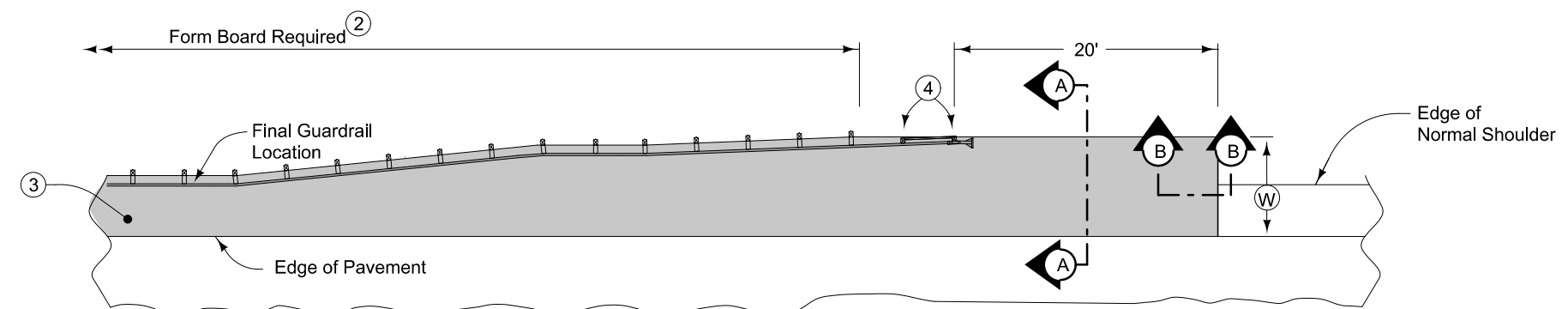
PIPE CULVERT

2117
04-15-08



SIDE ROAD GRADING
(BARNROOF)

7156
MODIFIED



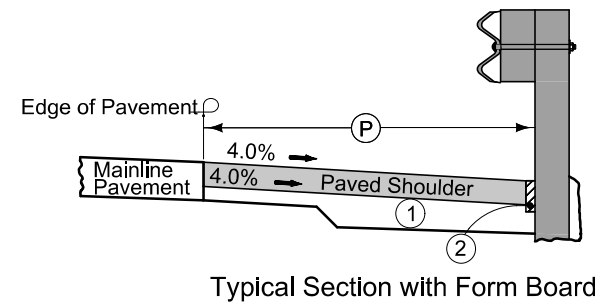
6" HMA or PCC Paved Shoulder at guardrail. 6" PCC requires the following jointing layout:

Match mainline pavement joint spacing. When mainline pavement is 8" or greater in thickness, place additional transverse joints in shoulder at mid-panel of the mainline pavement. Place longitudinal 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.

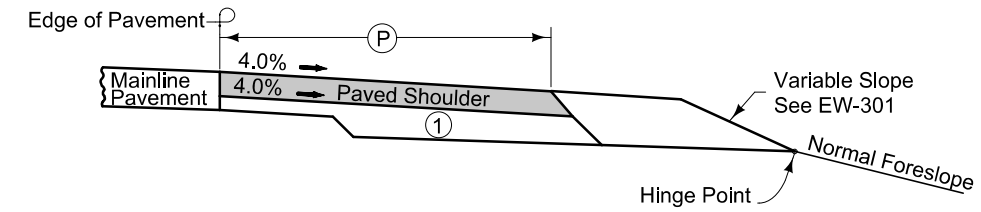
Compaction of HMA is required to face of guardrail post. Hand compaction will be allowed under guardrail. Removal & reinstallation of guardrail will be allowed with no additional payment.

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

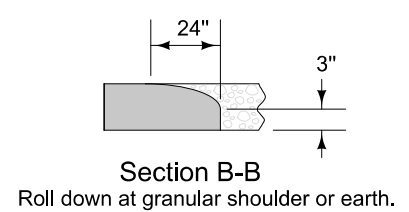
- ① 6" subgrade treatment.
- ② When guardrail posts are installed prior to construction of paved shoulder, nail 1" x 6" untreated form boards along the face of guardrail posts for the length shown. This board is to prevent shoulder material from contacting the sides of the posts and altering the function 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.



Typical Section with Form Board



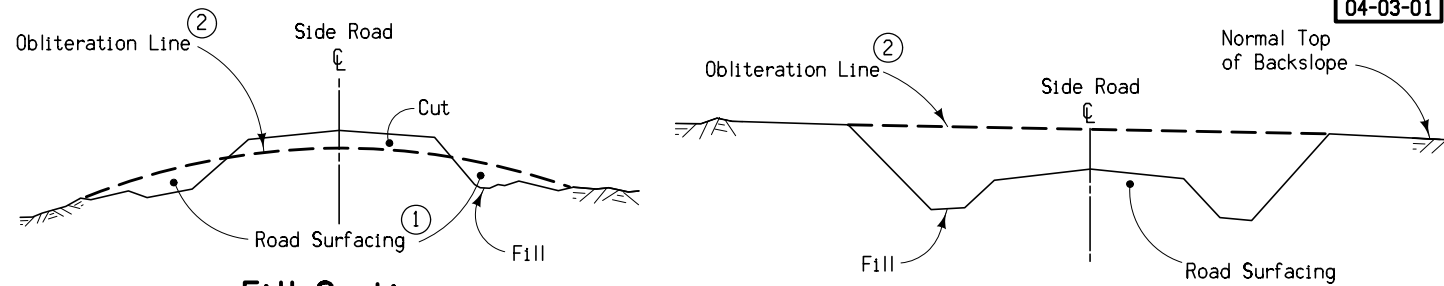
Section A-A



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

PAVED SHOULDER AT GUARDRAIL

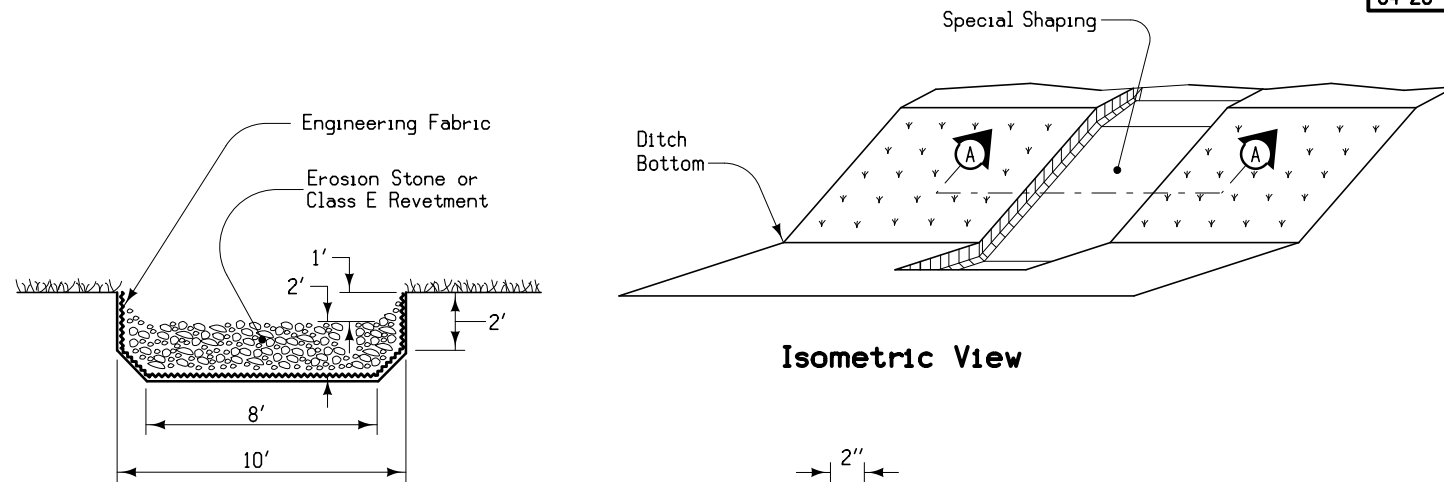
4302
04-03-01



- ① Existing road surfacing (granular material) shall be placed as shown unless otherwise directed by the Engineer or provided for in the detail project plans.
 - ② When specified, the upper 1' to be suitable for vegetation (grass or crops).
- Note:
The work of obliterating or reshaping old roadbeds shall be done at the direction of the Engineer.

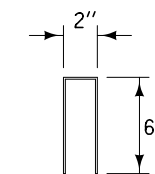
TYPICAL DETAILS FOR OBLITERATION EXISTING ROADBED

4403
04-20-10

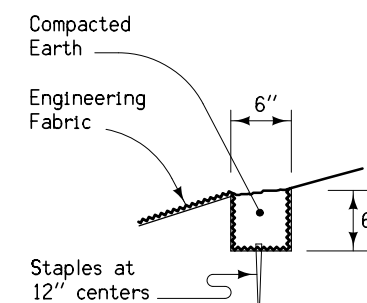


Section A-A

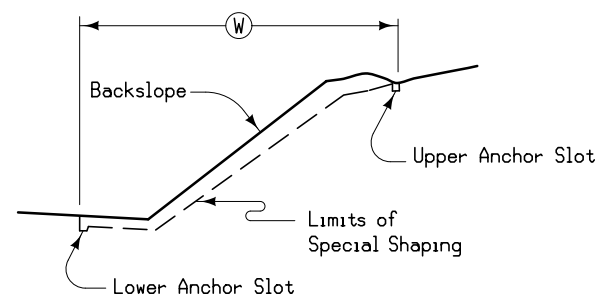
Isometric View



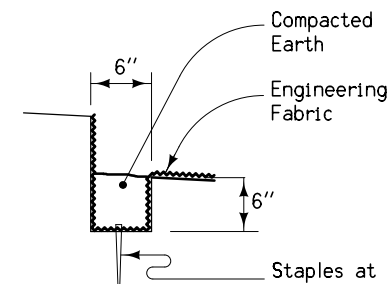
Staple
(No. 11 wire)



Upper Anchor Slot



Typical Section

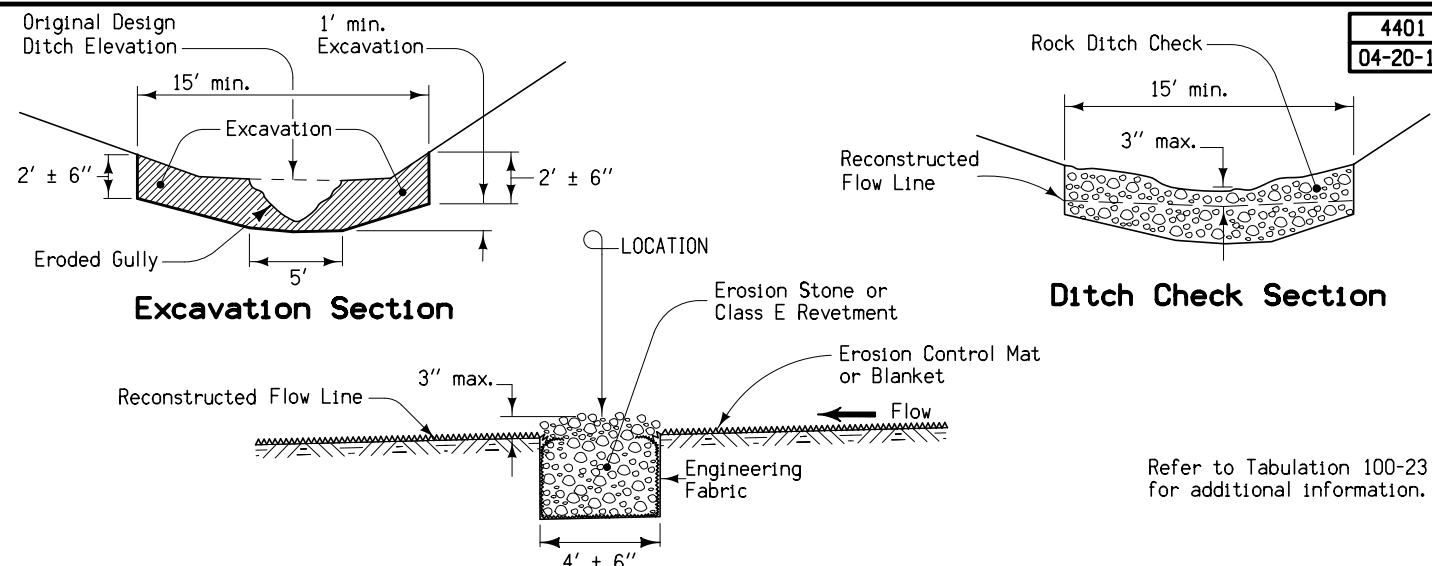


Lower Anchor Slot

ROCK FLUME

Refer to Tabulation 100-23 for additional information.

4401
04-20-10



Excavation Section

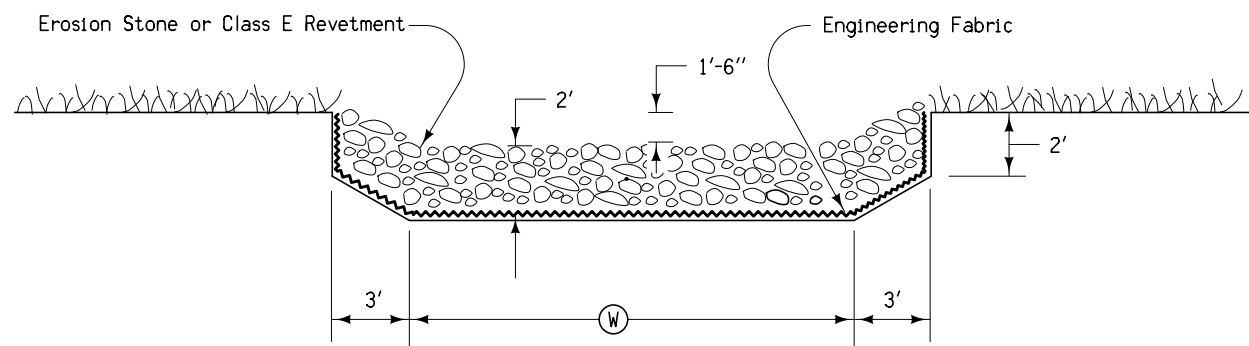
Ditch Check Section

Longitudinal Section at Centerline of Ditch

ROCK DITCH CHECK

Refer to Tabulation 100-23 for additional information.

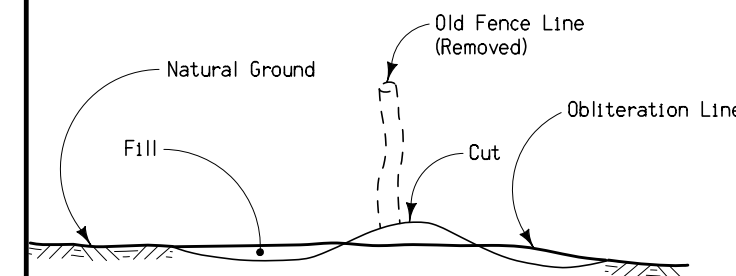
4402
04-20-10



ROCK DITCH

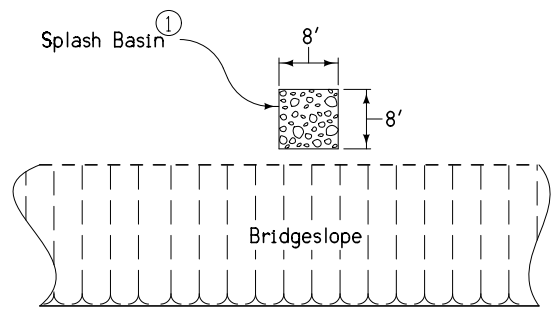
Refer to Tabulation 100-23 for additional information.

4301
08-20-96

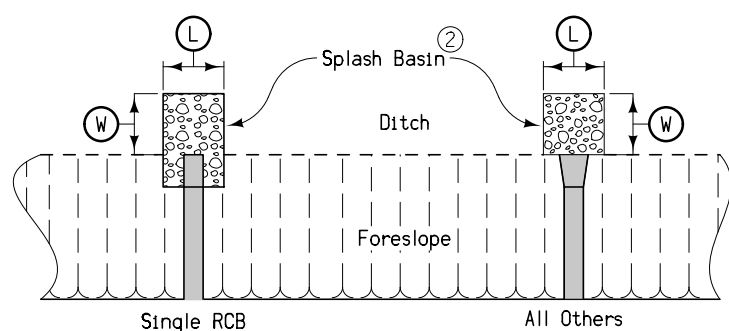


TYPICAL DETAILS FOR OBLITERATION OF OLD FENCE RIDGE

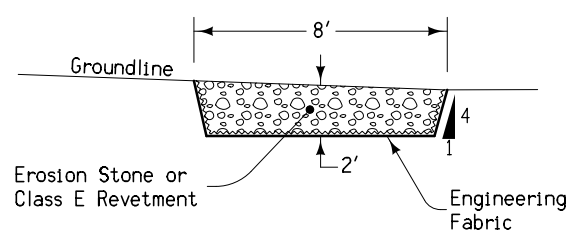
- Notes:
The work of obliterating or reshaping old fence ridges shall be done at the direction of the Engineer.



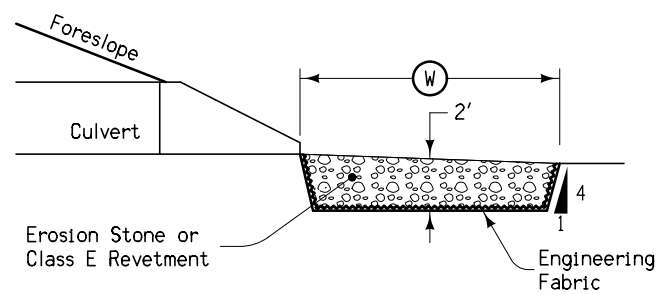
**Splash Basin Under Bridge Drain
Plan View**



**Splash Basin at Culvert Outlet
Plan View**



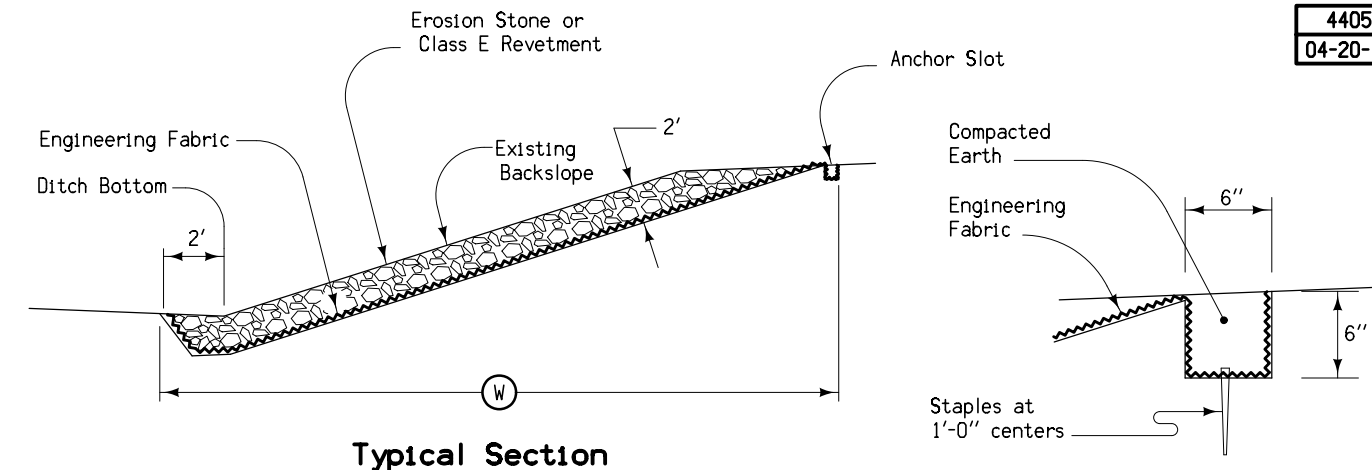
**Splash Basin Under Bridge Drain
Typical Section**



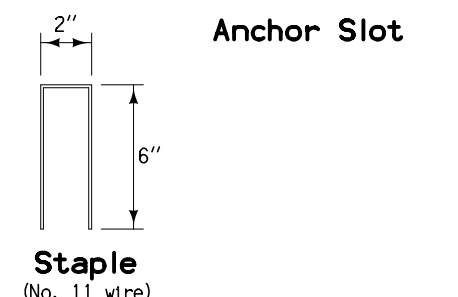
**Splash Basin at Culvert Outlet
Typical Section**

- ① Center splash basin directly under bridge drain.
 - ② For single RCB, extend splash basin along the outside of the wings to the face of the parapet. Construct to a width of 3 feet and a depth of 2 feet.
- Refer to Tabulation 100-23 for additional information.

ROCK SPLASH BASIN

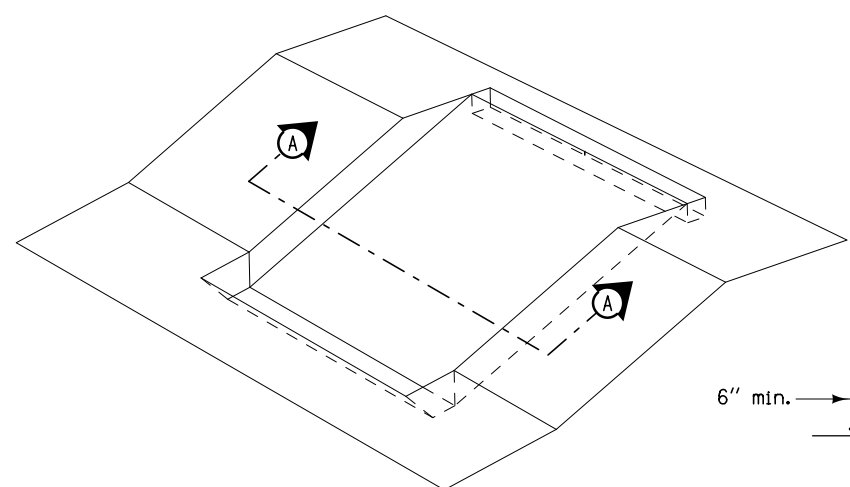


Typical Section

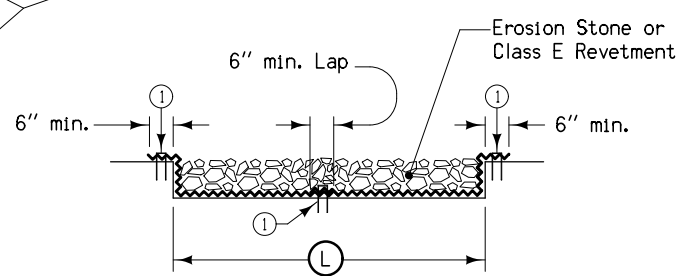


Anchor Slot

**Staple
(No. 11 wire)**



Isometric View



Section A-A

- ① Staples at 12" centers
- Refer to Tabulation 100-23 for additional information.

ROCK SLOPE PROTECTION

SURVEY SYMBOLS

- VS Valley Section
- LIN Miscellaneous Line
- TIL Tile Line
- OUT Tile Outlet
- PPA Power Pole Co. 1
- COS Square Bridge Pier Column
- TPD Telephone Pedestal
- BRG Bridge
- EHW Extreme High Water
- PIP Pipe Culvert
- GDL Guard Rail Steel
- FW Wire Fence
- INB Storm Sewer Beehive Intake
- EP Edge of Paved Roads (ML or SR)
- SH Paved Shoulder
- SNP Unpaved Shoulder
- EW Edge of Water
- BNK Stream Bank
- D Centerline Draw or Stream (Down)
- DU Centerline Draw or Stream (Up)
- CON Concrete or A/C Slab
- SP Stream Profile
- ENU Edge Unpaved Entrance & Parking
- ENT Centerline BL of Entrance
- EG Edge of Gravel Road
- DIK Centerline of Dike or Dam
- T1 TLA Underground Telephone Line Co. 1
- T2 TLB Underground Telephone Line Co. 2
- F0 FOA Underground Fiber Optic Co. 1
- SBR Size of Bridge
- BD Bridge Deck
- PRO Profile Shot
- BCL Bridge Centerline
- BLS Bridge Low Steel
- TOP Top of Bridge Pier
- UE Utility Elevation

UTILITY LEGEND

- T1 - FRONTIER COMMUNICATIONS OF IOWA
- T2 - QWEST LOCAL NET
- F0 - IOWA NETWORK SERVICES
- ALLIANT ENERGY

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

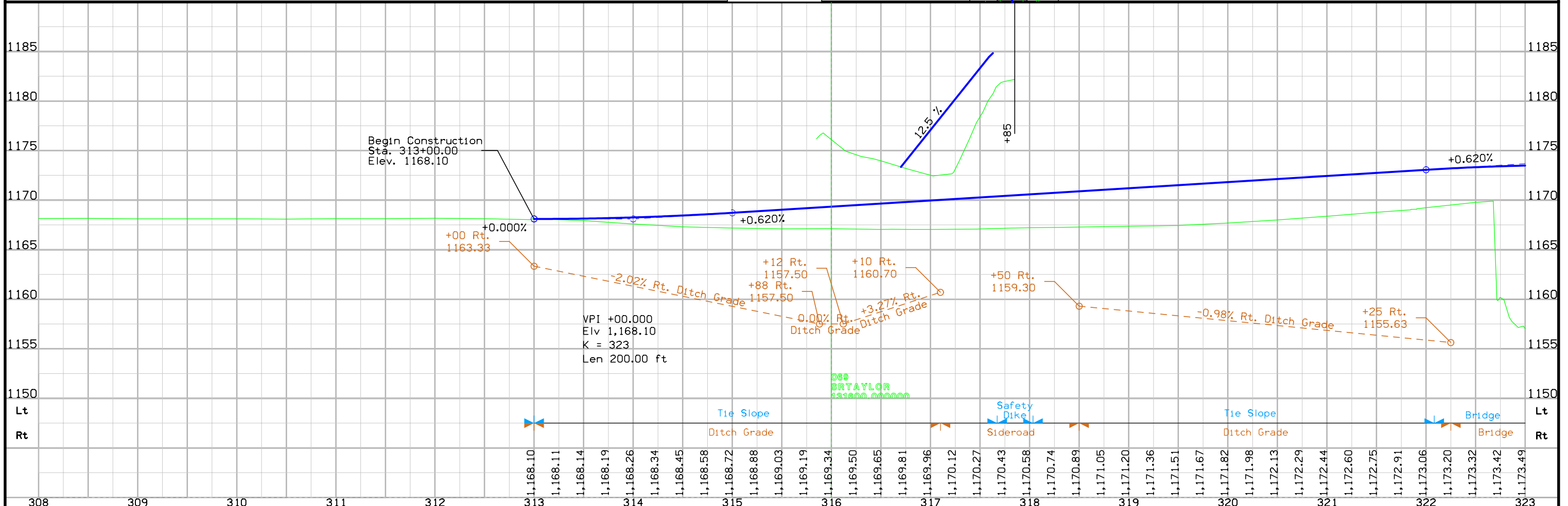
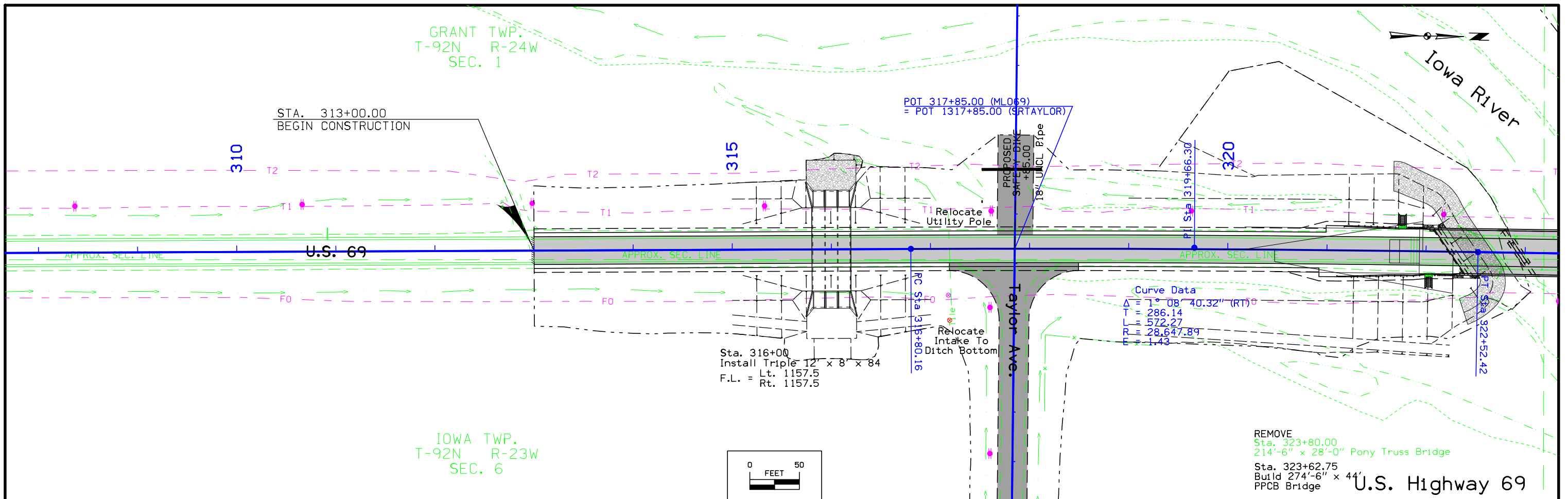
- Reference Point
- Station
- Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Trench Drain
- HighTension Cable Guardrail
- Sheet Pile
- Pavement Removal
- Clearing & Grubbing Area

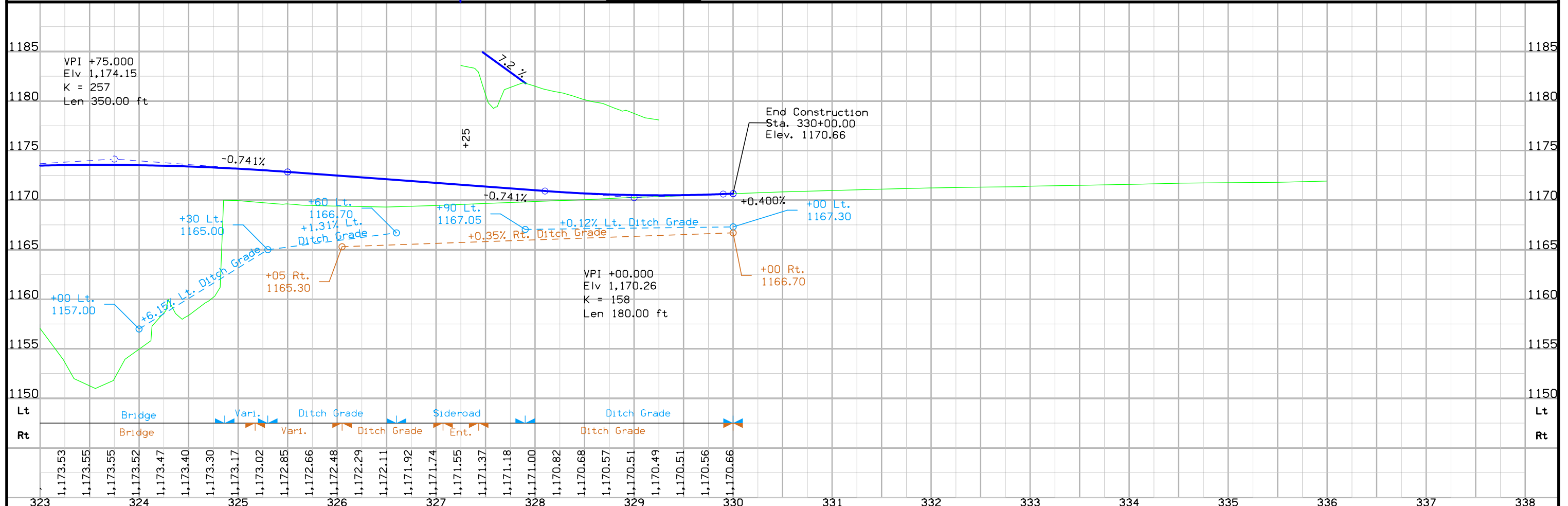
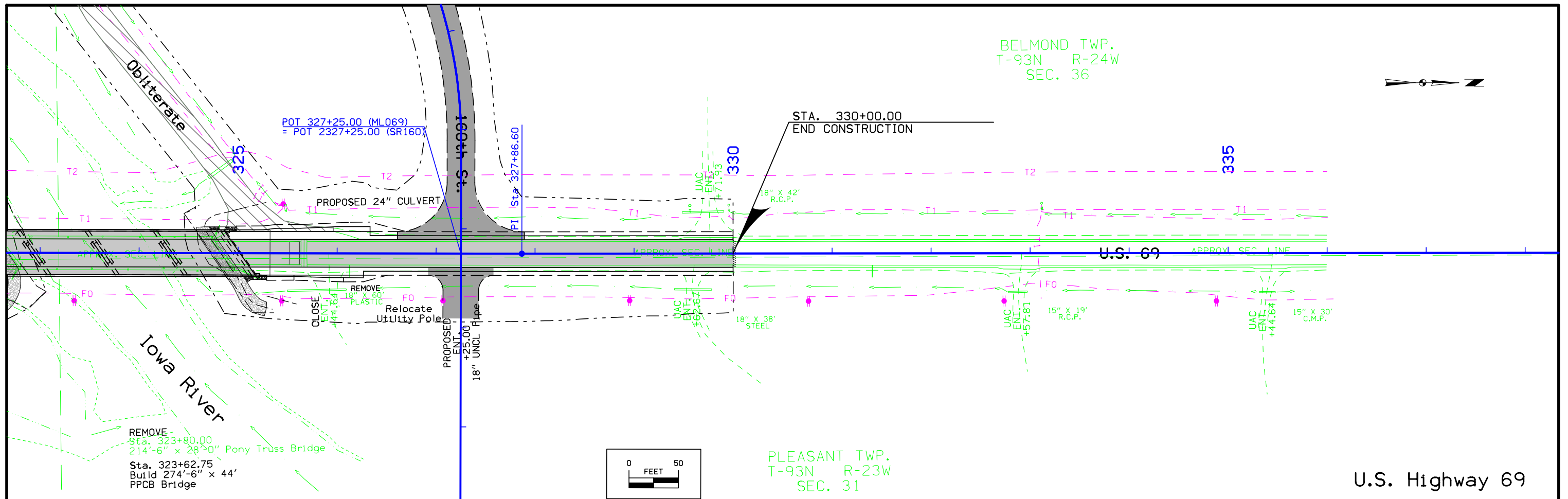
RIGHT-OF-WAY LEGEND

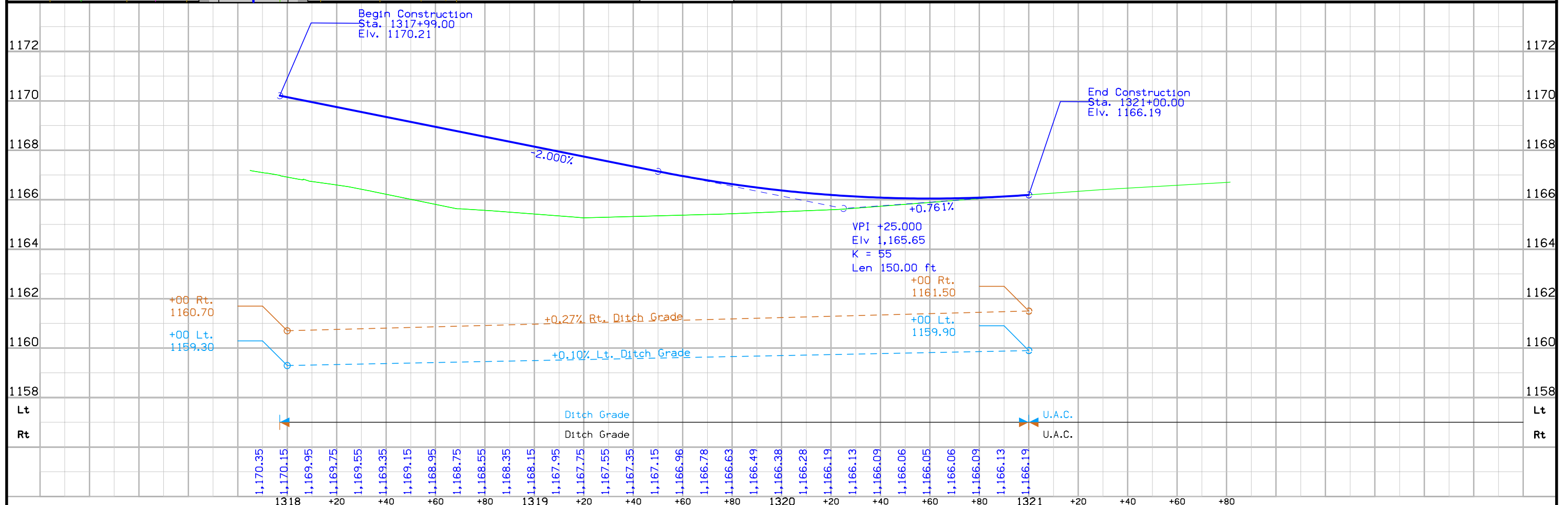
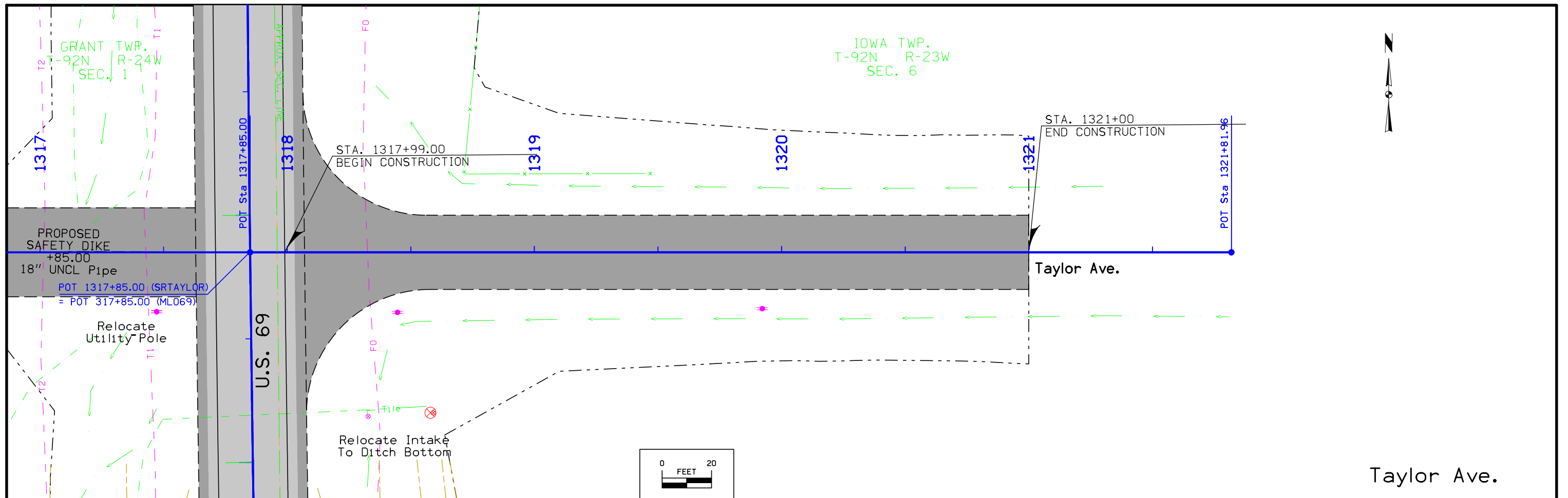
- Proposed Right-of-Way
- Existing Right of Way
- Existing and Proposed Right-of-Way
- Easement and Existing Right-of-Way
- Easement (Temporary)
- Easement
- Access Control
- Property Line

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES D, E, F, & K)



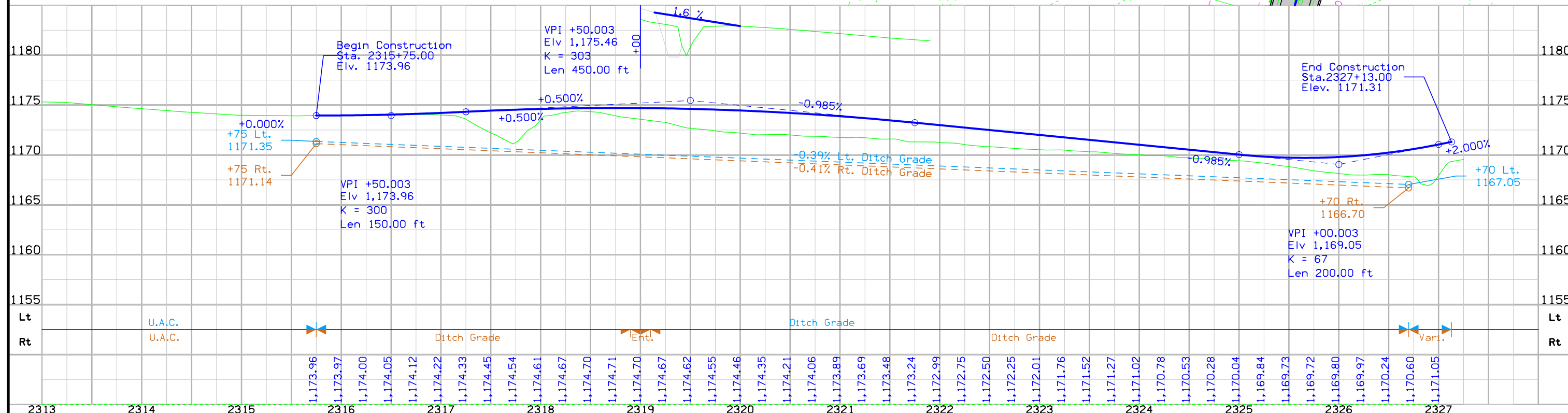
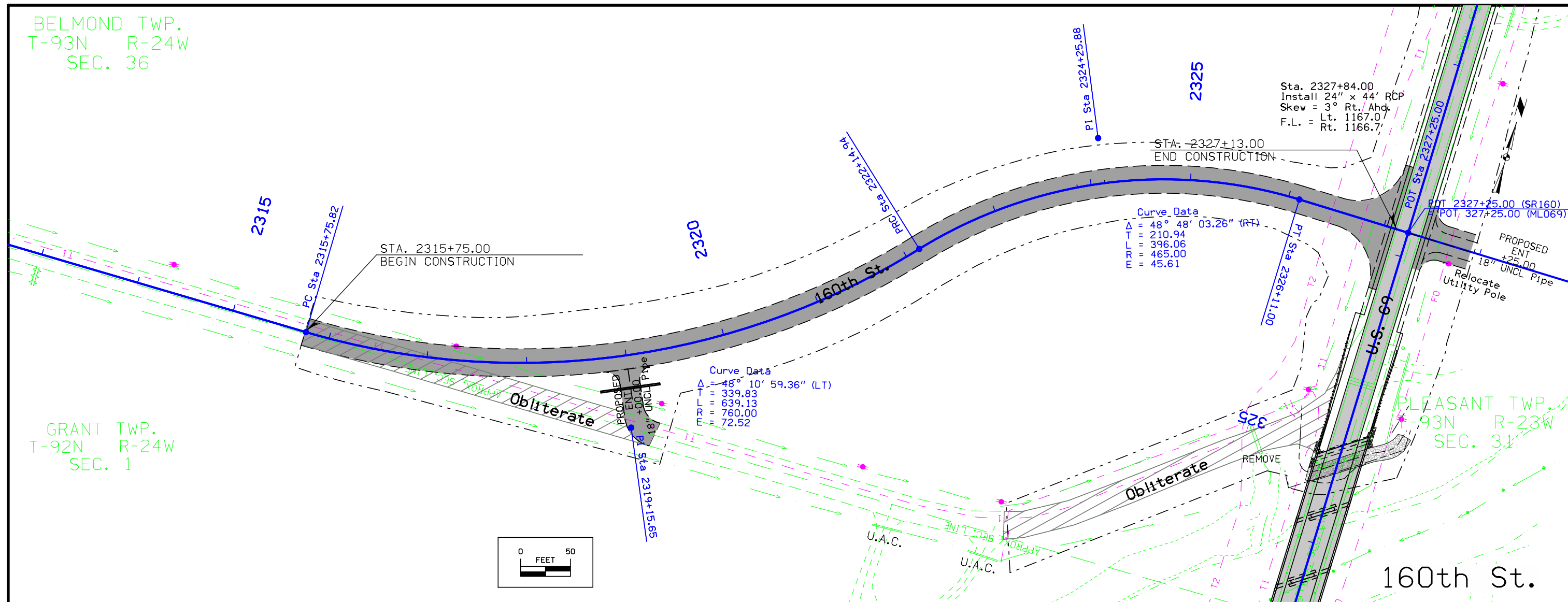




BELMOND TWP.
T-93N R-24W
SEC. 36

GRANT TWP.
T-92N R-24W
SEC. 1

PLEASANT TWP.
T-93N R-23W
SEC. 31



Survey Information

General Information

Measurement units for this survey are US survey feet. This survey is for a proposed bridge replacement over the Iowa River at Sta. 323+76.6 (this Survey) = Sta. 323+80 Des. # 155. This project is a partial field survey for the digital terrain model w/ photo control.

Vertical Control

Vertical datum for this survey is GRS80 Ellipsoidal Height relative with nearby la RTN reference stations. NAVD88 Orthometric Height was computed at project Pt. 100, (set 5/8in re-rod) using averaged redundant laRTN observations applying Geoid 09. The vertical standard deviation of these observations were less than 0.05 ft. Three additional benchmarks were placed along this project relative with Pt. 100.

This survey also observed (4) local area county Control Monuments with published NAVD88 heights to compare to local ground control:

Franklin County Control mark GPS 13 has a published Elev. of 1250.84 Survey Elev. = 1250.84

Franklin County Control mark GPS 22 has a published Elev. of 1245.07 Survey Elev. = 1245.04

Franklin County Control mark GPS 31 has a published Elev. of 1241.82 Survey Elev. = 1241.69

Hancock County Control mark 91 has a published Elev. of 1260.07 Survey Elev. = 1260.16

Horizontal Control

This survey control is relative to laRTN reference stations. laRTN Reference station coordinates are relative to the National Reference Station network: NAD83 (1996CORS) for Epoch 2002.00. Project Control coordinates were determined by averaging redundant laRTN observations. The horizontal standard deviation of these observations was less than 0.05 ft. The coordinate system for this project is Modified Iowa State Plane North Zone in U.S Survey ft. units. The Coordinate system is modified due to the state plane grid to ground linear error that results in grid distances being 0.10 ft shorter than true ground distance in 1000 ft. To correct to true ground on this project the project coordinates are scaled about a centrally located point by a 1/combined scale factor of 1.000102. The common coordinates of the point in both the state plane and project systems are N= 3761896.579, E= 4889875.196, Elev. = 1165.0

The combined scale factor of this point is 0.999898

Nearby County Control monuments were observed along with project control for positional quality assurance at the project location.

Alignment Information

The horizontal alignment for this survey is a retrace of Wright County Project No. 267 plan. Survey stationing was equated to the plan at P.I. Sta. 319+66.3. P.I. Sta. 319+66.3 is a computed location 352.6 ft. South from the NE Cor. Sec. 1-92-24 (fd. "X" in bridge deck) and 11.9 ft. west. as shown on R.O.W. Plat of Property. Stationing was run back and ahead without equation through the survey from P.I. Sta. 319+66.3.

P.I. Sta. 327+86.5 Wright County Project No. 267 is a computed location 467.6 ft. North from the NE Cor. Sec. 1-92-24 (fd. "X" in bridge deck) and 4.2 ft. west. as shown on R.O.W. Plat of Property.

Survey stationing is related to the plan stationing as listed below:

P.I. Sta. 291+19.81 this survey (Pt. #1000- found IDOT survey marker)
= P.I. Sta. 291+20.6 Wright County Project No. 267 plan (= E1/4 Cor. Sec. 1-92-24 Fd. DOT Alum. DOT Marker)

P.I. Sta. 319+66.30 this survey (Pt. #1009- not set)
= P.I. Sta. 319+66.3 Wright County Project No. 267 plan

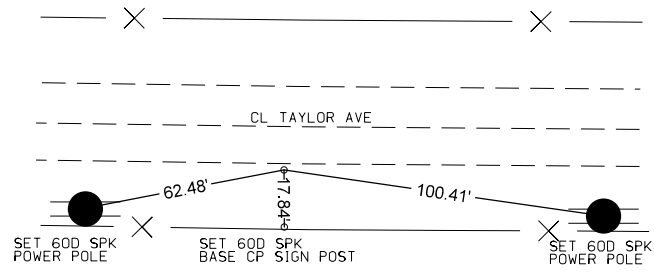
P.I. Sta. 327+86.60 this survey (Pt. #1010- not set)
= P.I. Sta. 327+86.5 Wright County Project No. 267 plan

P.I. Sta. 349+62.83 this survey (Pt. #1002- found IDOT survey marker)
= P.I. Sta. 349+62.0 Wright County Project No. 267 plan (= E1/4 Cor. Sec. 36-93-24 Fd DOT Alum. Marker)

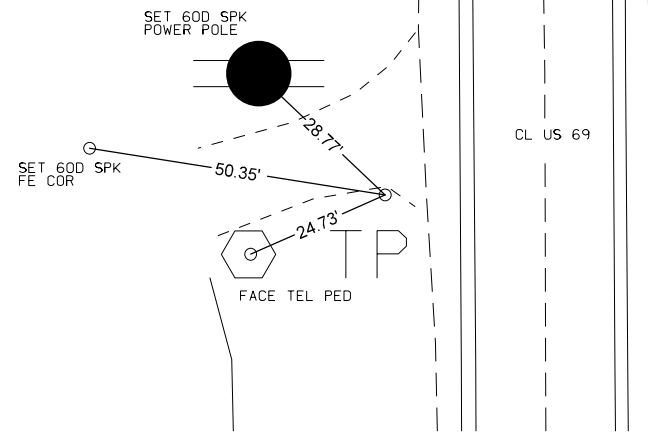
VERTICAL CONTROL

Point	North	East	Elevation	Station	Offset	Feature	Description
500,	3758585.980,	4889815.226,	1172.330,	291+20.18,	-50.132,	BM,	FD X ON BALL OF ROW RAIL □ BENCH MARK,
501,	3762252.790,	4889907.714,	1168.844,	327+87.31,	50.137,	BM,	CUT X ON BALL OF ROW RAIL □ BENCH MARK,
502,	3764429.154,	4889830.498,	1176.788,	349+62.72,	-50.490,	BM,	FD X ON BALL OF ROW RAIL □ BENCH MARK,

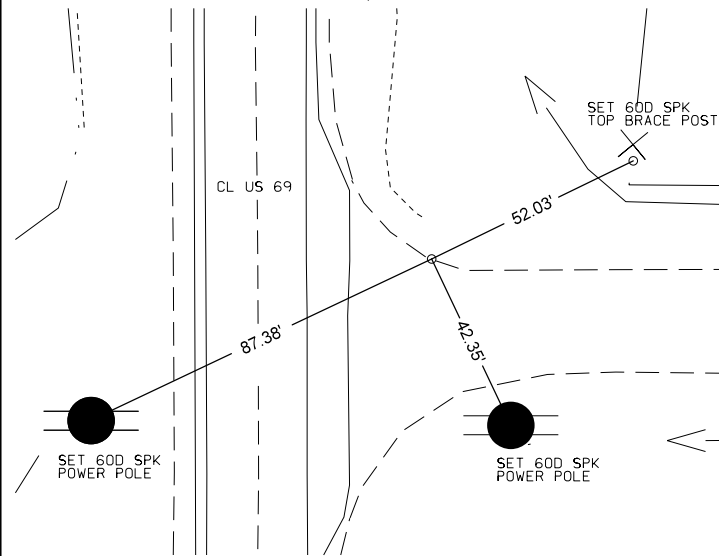
CP STA. 317+53.89 RT. 1344.65'
 CP NO. 99001, SET FENO MONUMENT
 N=3761225.374, E=4891192.726, Z=1190.178



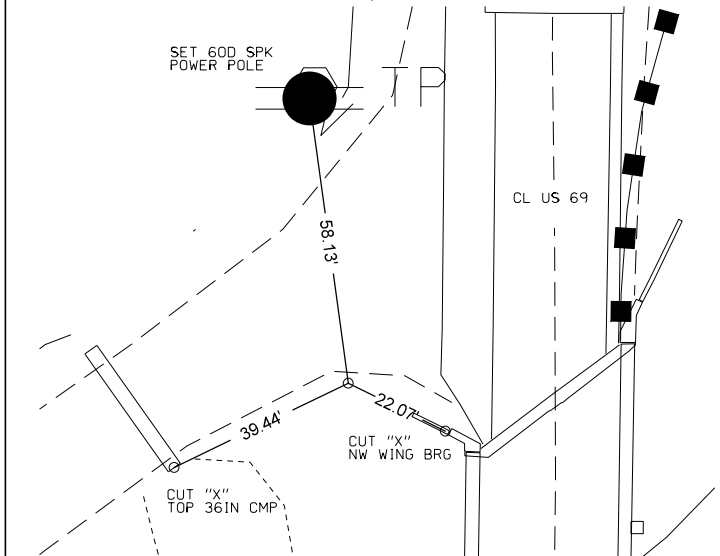
CP STA. 312+77.77 LT. 26.54'
 CP NO. 300, SET 1/2" IRON PIN
 N=3760743.682, E=4889824.591



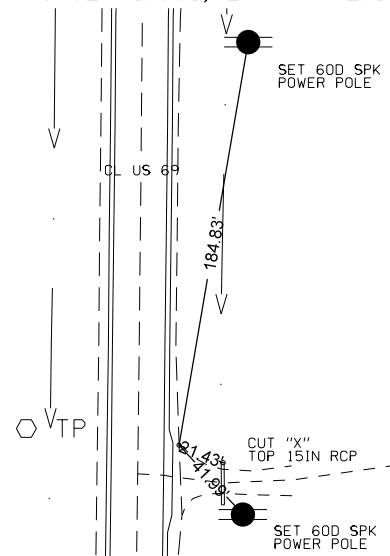
CP STA. 317+98.66 RT. 41.05'
 CP NO. 301, SET 1/2" IRON PIN
 N=3761264.844, E=4889888.996



CP STA. 324+87.64 LT. 41.00'
 CP NO. 303, SET 1/2" IRON PIN
 N=3761954.235, E=4889812.579



CP STA. 333+04.85 RT. 18.987
 CP NO. 304, SET 1/2" IRON PIN
 N=3762770.631, E=4889882.134



TP

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)
U.S. 69 (ML029)																			
1000		291+19.81	3,758,585.95	4,889,865.36															
CUR1							316+80.16	3,761,146.24	4,889,848.48	319+66.30	3,761,432.37	4,889,846.59	322+52.42	3,761,718.49	4,889,850.42				
1010		327+86.60	3,762,252.62	4,889,857.57															
1002		349+62.83	3,764,428.73	4,889,880.99															
Taylor Ave. (SR TAYLOR)																			
31110		1314+85.00	3,761,253.66	4,889,547.99															
31100		1317+85.00	3,761,251.08	4,889,847.98															
31105		1321+81.96	3,761,247.66	4,890,244.93															
160th St. (SR160)																			
32000		2310+90.21	3,761,788.00	4,888,338.12															
32004							2315+75.82	3,761,786.74	4,888,823.72	2319+15.65	3,761,785.85	4,889,163.55	2322+14.94	3,762,038.53	4,889,390.79				
32006							2322+14.94	3,762,038.53	4,889,390.79	2324+25.88	3,762,195.37	4,889,531.84	2326+11.00	3,762,192.55	4,889,742.76				
32015		2327+25.00	3,762,191.02	4,889,856.75															
32100		2330+25.00	3,762,187.01	4,890,156.72															
Entrance Sta. 2319+00 (ENT2319)																			
33000		0+00.00	3,761,854.02	4,889,138.33															
33006							0+42.60	3,761,815.19	4,889,155.86	0+74.80	3,761,785.84	4,889,169.11	0+99.82	3,761,785.76	4,889,201.30				
33008		2+90.42	3,761,785.26	4,889,391.91															

SPIRAL OR CIRCULAR CURVE DATA

101-17
04-19-11

Name	Location	Δ_{SCS}	Horizontal Alignment Data													Remarks		
			Spiral Data						Curve Data									
			θ_s	Ls	Ts	Es	Xc	Yc	L.T.	S.T.	Δ_c	T	L	R	E			
U.S. 69 (ML029)																		
CUR1														1° 08' 40.32" RT	286.14'	572.27'	28,647.89'	1.43'
160th St. (SR160)																		
32004														48° 10' 59.36" LT	339.83'	639.13'	760.00'	72.52'
32006														48° 48' 03.26" RT	210.94'	396.06'	465.00'	45.61'
Entrance Sta. 2319+00 (ENT2319)																		
33006														65° 33' 36.38" LT	32.20'	57.21'	50.00'	9.47'

PARCEL CHECK BY PROJ UPDATED 09/04/12 13:48 PAGE: 1
AND: 2

R2360003 PARCEL CHECK LIST BY PROJECT NUMBER
COUNTY : WRIGHT PROJECT NO. :STPN-069-7(31)--2J-99 PIN: 08-99-069010-00
CONSTRUCTION NO.:BRF-069-7(30)--38-99 ASSIGNED TO: SJD

DESCRIPTION : US 69 Over Iowa River 5.3 Miles North OfNorth Jct. Ia. 3

PARCEL KEY OWNER TYPE R/W W.D OR EASE. BORROW W.D OR EASE. HOUSE OR OTHER COMMERCIAL OCC ENVIRONMENTAL CONCERNS

PARCEL	KEY	OWNER	TYPE	R/W W.D OR EASE.	BORROW W.D OR EASE.	HOUSE OR OTHER	COMMERCIAL	OCC	ENVIRONMENTAL CONCERNS
0001	26345	LYLE E. SORENSON	FEE WRIGHT COUNTY						
				0.15 EASE ACRE					
			STATE OF IOWA						
				0.90 EASE ACRE					
0002	26346	TYRELL FARMS, INC.	FEE WRIGHT COUNTY						
				0.27 EASE ACRE					
			STATE OF IOWA						
				1.24 EASE ACRE					
0003	26347	DONALD D. TURNER-HIGGINS	FEE STATE OF IOWA						
		CHRISTINE M. TURNER-HIGGINS	FEE	0.43 EASE ACRE					
0004	26348	RICHARD E. BORDWELL	FEE WRIGHT COUNTY			7.43	WD		
		JANET E. BORDWELL	FEE	1.48 EASE ACRE					
			STATE OF IOWA						
				0.19 EASE ACRE					
				4.75 EXCESS AC					
0005	26349	BRAD BERNEMAN	FEE STATE OF IOWA						
		JULIE BERNEMAN	FEE	0.05 EASE ACRE					
0006	26350	ALFRED T. STADTLANDER REV LIV TRUST	FEE STATE OF IOWA						
		KAREN C. STADTLANDER REV LIV TRUST	FEE	0.54 EASE ACRE					

COUNTY of WRIGHT

1.90 EASEMENT ACRES

STATE OF IOWA

3.35 EASEMENT ACRES

4.75 WARRANTY DEED ACRES

2.08 EXCESS ACRES

R2360003 PARCEL CHECK LIST BY PROJECT NUMBER

COUNTY : WRIGHT PROJECT NO. :STPN-069-7(31)--2J-99 PIN: 08-99-069010-00

CONSTRUCTION NO.:BRF-069-7(30)--38-99 ASSIGNED TO: SJD

DESCRIPTION : US 69 Over Iowa River 5.3 Miles North OfNorth Jct. Ia. 3

PARCEL KEY OWNER TYPE R/W W.D OR EASE. BORROW W.D OR EASE. HOUSE OR OTHER COMMERCIAL OCC ENVIRONMENTAL CONCERNS

6 TOTAL PARCELS ON PROJECT

①
LYLE E. SORENSON

300

305

310

GRANT TWP.
T-92N R-24W
SEC. 1

311+00
±50'±ExR/W

312+50
±80'

PROPOSED
ENT.
+96.00

APPROX. SEC. LINE

APPROX. SEC. LINE

U.S. 69

APPROX. S

301+90
±55'±ExR/W

302+60
±160'

PERMANENT EASEMENT TO
POND WATER

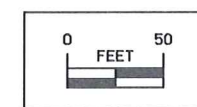
②
TYRELL FARMS, INC.

306+00
±275'

308+50
±57'±ExR/W

311+00
±58'±ExR/W IOWA TWP.
T-92N R-23W
SEC. 6

312+65
±100'

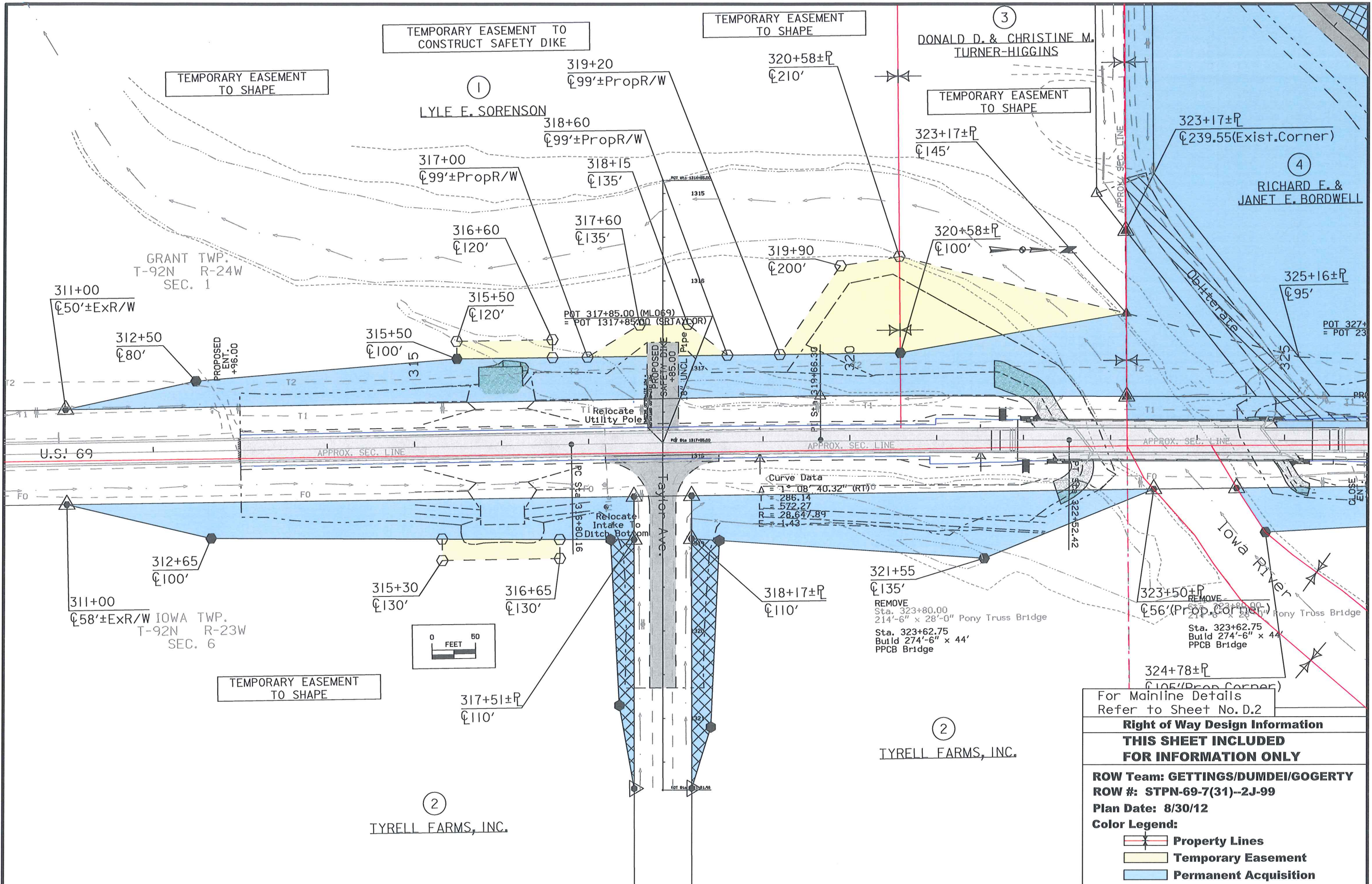


For Mainline Details
Refer to Sheet No. D.2

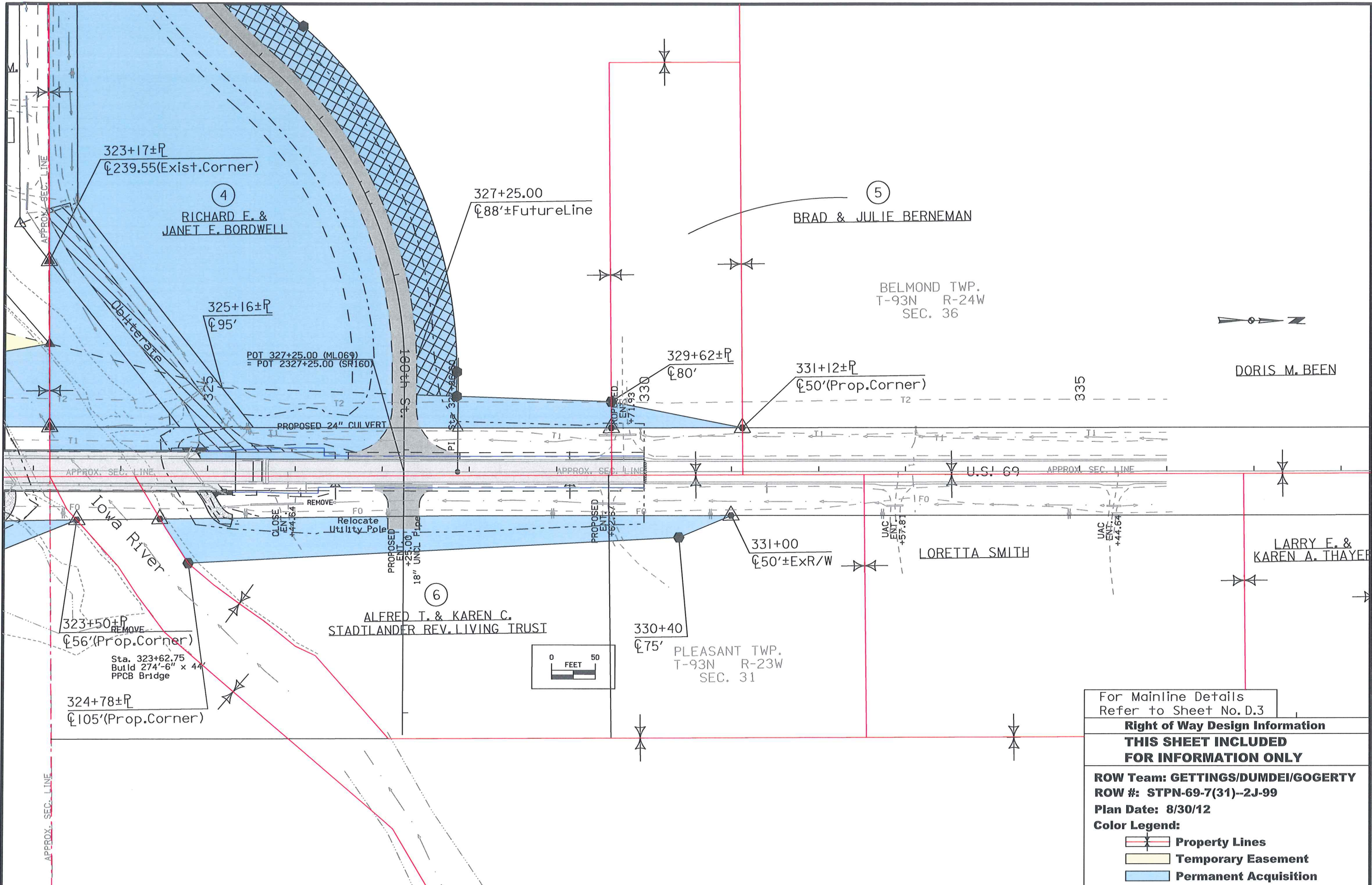
Right of Way Design Information
THIS SHEET INCLUDED
FOR INFORMATION ONLY

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: STPN-69-7(31)--2J-99
Plan Date: 8/30/12

Color Legend:
Property Lines
Temporary Easement
Permanent Acquisition



For Mainline Details Refer to Sheet No. D.2	
Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: GETTINGS/DUMDEI/GOGERTY	
ROW #: STPN-69-7(31)--2J-99	
Plan Date: 8/30/12	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition

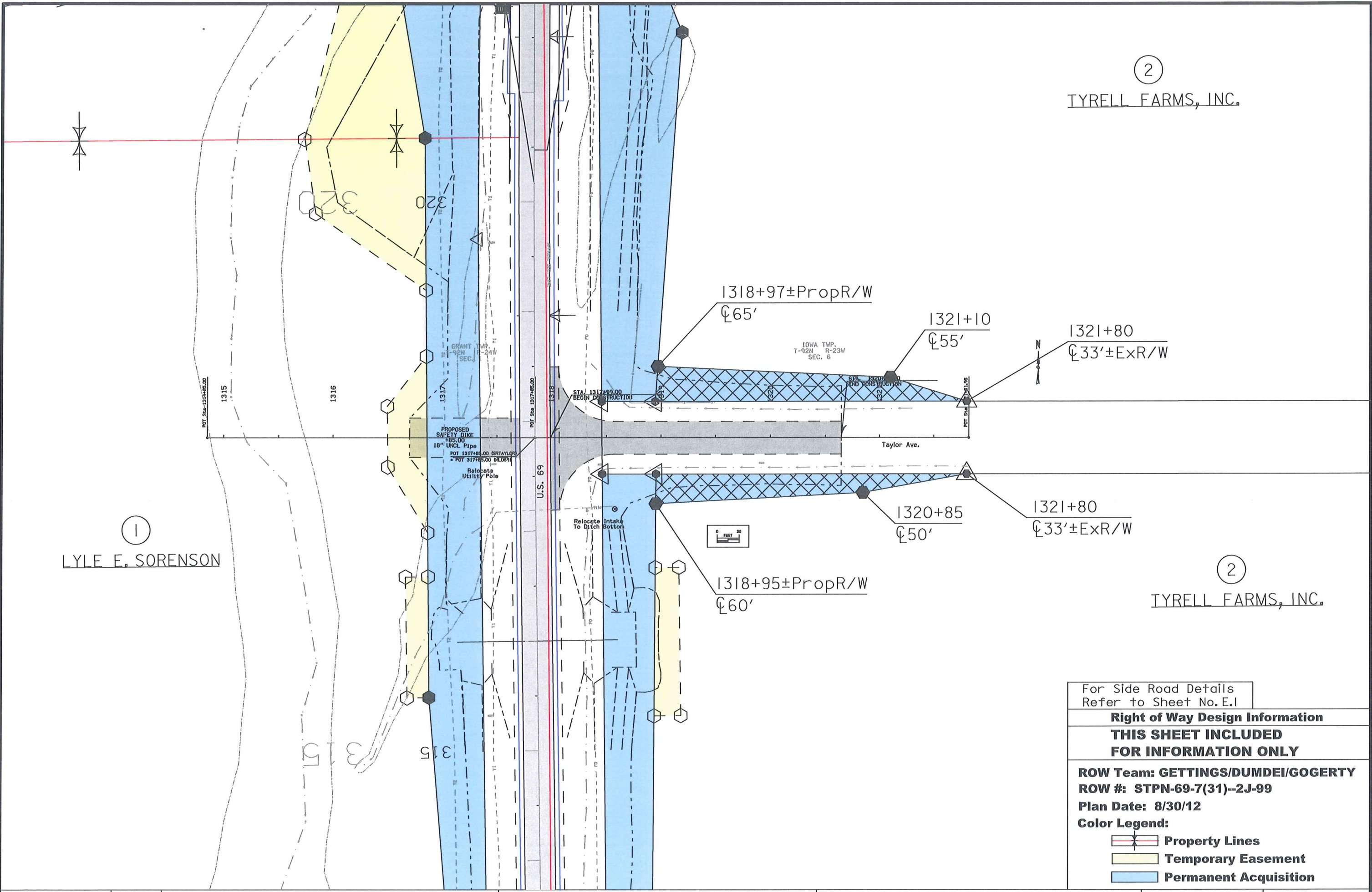


For Mainline Details Refer to Sheet No. D.3	
Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: GETTINGS/DUMDEI/GOGERTY	
ROW #: STPN-69-7(31)--2J-99	
Plan Date: 8/30/12	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition

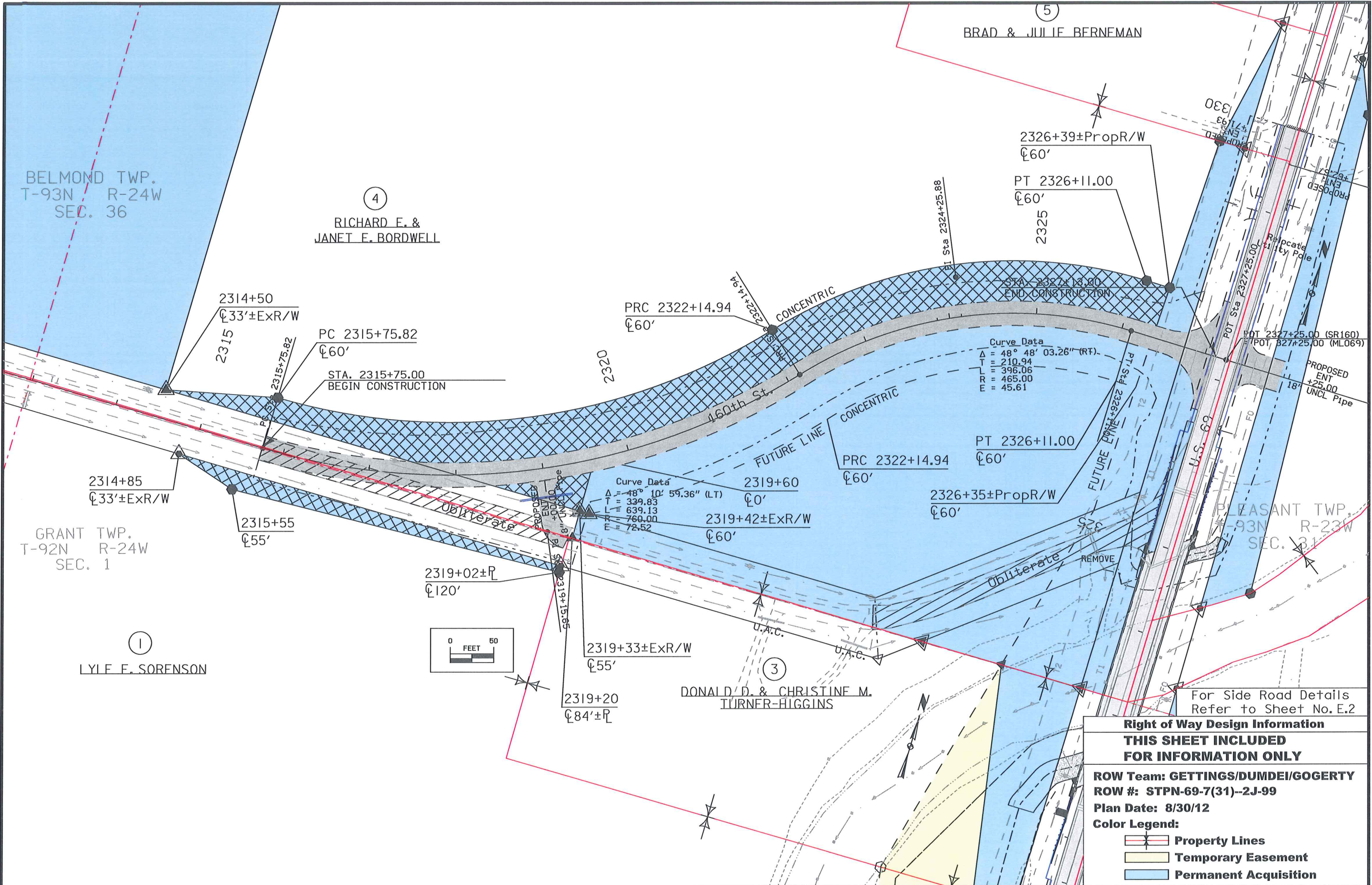
②
TYRELL FARMS, INC.

①
LYLE E. SORENSON

②
TYRELL FARMS, INC.



For Side Road Details Refer to Sheet No. E.1
Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY
ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: STPN-69-7(31)--2J-99
Plan Date: 8/30/12
Color Legend:
Property Lines
Temporary Easement
Permanent Acquisition



BELMOND TWP.
T-93N R-24W
SEC. 36

④
RICHARD E. &
JANET E. BORDWELL

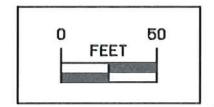
⑤
BRAD & JULIE BERNEMAN

GRANT TWP.
T-92N R-24W
SEC. 1

①
LYLE E. SORENSON

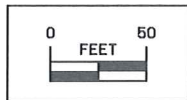
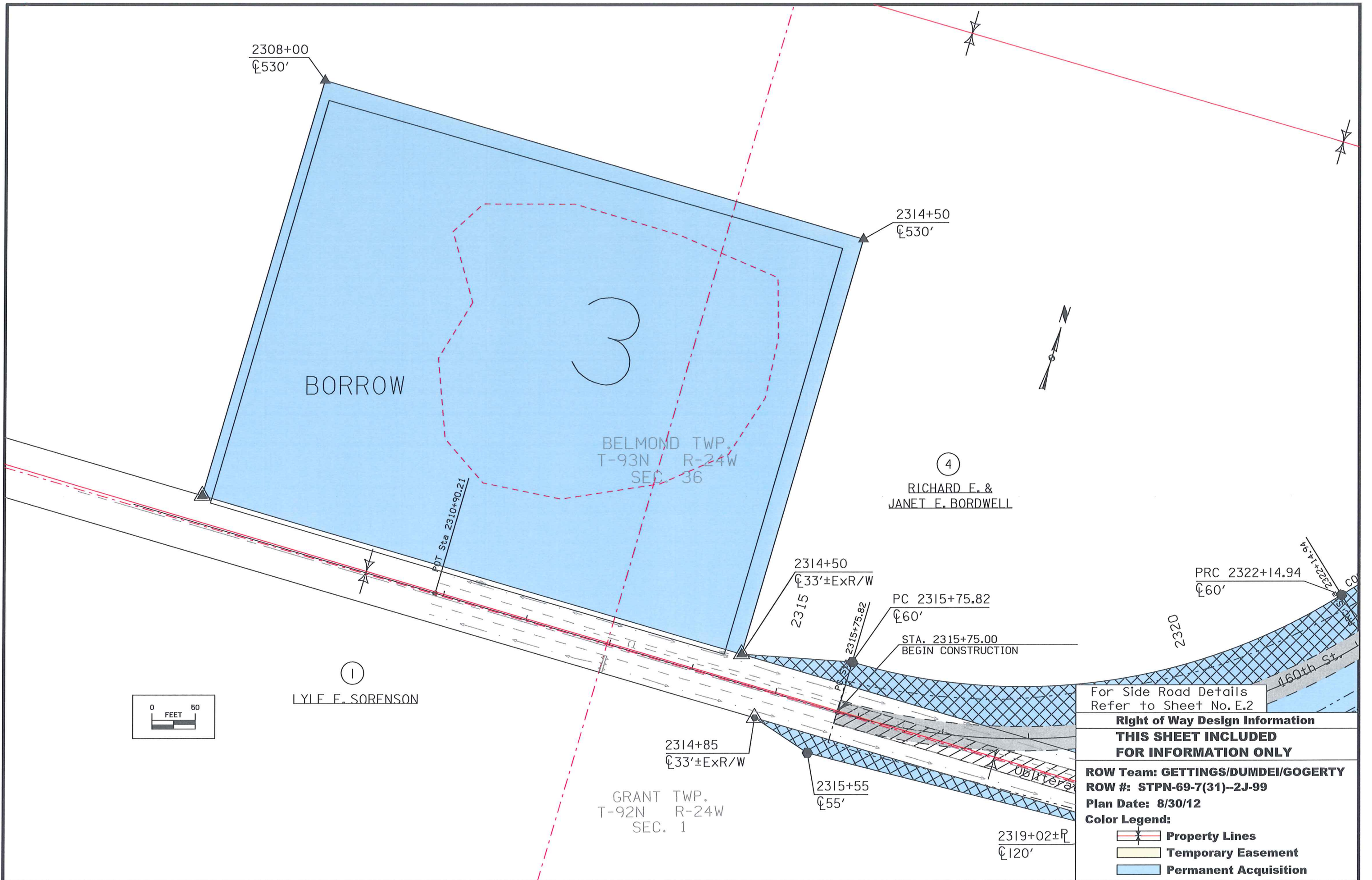
③
DONALD D. & CHRISTINE M.
TURNER-HIGGINS

②
EASANT TWP.
T-93N R-23W
SEC. 31



For Side Road Details
Refer to Sheet No. E.2

Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: GETTINGS/DUMDEI/GOGERTY	
ROW #: STPN-69-7(31)--2J-99	
Plan Date: 8/30/12	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



①
LYLE E. SORENSON

④
RICHARD E. &
JANET E. BORDWELL

GRANT TWP.
T-92N R-24W
SEC. 1

For Side Road Details
Refer to Sheet No. E.2

Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: STPN-69-7(31)--2J-99
Plan Date: 8/30/12

Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition

102-15
08-01-08

TABULATION OF SPECIAL EVENTS

Event	Location	Date
NONE PROVIDED		

108-23A
08-01-08

TRAFFIC CONTROL PLAN

Traffic will be maintained by an offsite detour.

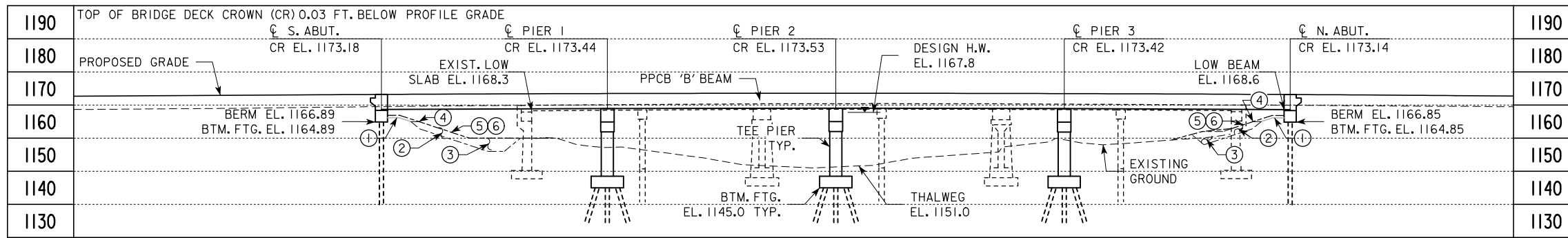
Close US 69 to thru traffic. Beginning on US 69 and County Road C-25, east on C-25 for 2 miles to the intersection with R-65, north on R-65 and continue for 1.5 miles to Belmont Road northwesterly for 1.25 miles to the junction with Luick's Lane, north on Luick's Lane for 2 miles to County Road C-20, west on C-20 1.5 miles to the intersection with US 69.

111-01
04-17-12

COORDINATED OPERATIONS

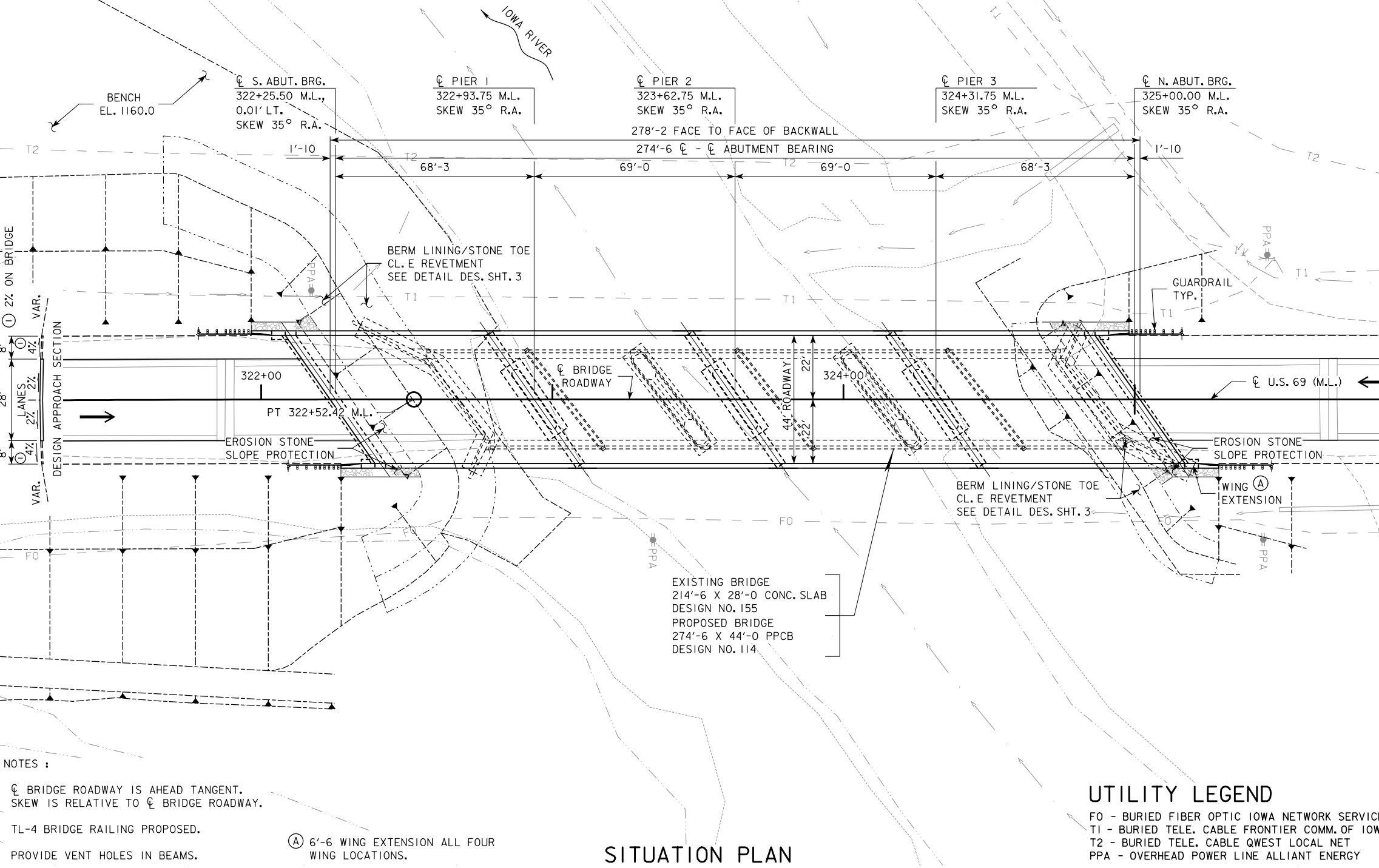
Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.

Project	Type of Work
NONE PROVIDED	



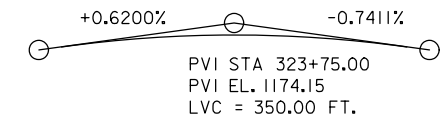
- ① EROSION STONE SLOPE PROTECTION
- ② BERM LINING
- ③ STONE TOE
- ④ TOP BERM LINING EL. 1165.0
- ⑤ GRADING SURFACE
- ⑥ 2.5:1 BERM SLOPE NOR. CL ABUT.

LONGITUDINAL SECTION ALONG CL ROADWAY



SITUATION PLAN

BM NO. 500 STA. 291+20.2, 50.1' LT., 'X' ON BALL OF ROW RAIL EL. = 1172.33



PROPOSED GRADE ON U.S. 69

HYDRAULIC DATA

CURVE DATA
 U.S. 69 (M.L.)
 PI STA. 319+66.30
 PC STA. 316+80.16
 PT STA. 322+52.42
 $\Delta = 1^\circ 08' 40.32''$ (RT)
 T = 286.14 FT.
 L = 572.27 FT.
 E = 1.43 FT.
 R = 28,647.89 FT.
 e = NC

HYDRAULIC DATA
 DRAINAGE AREA = 398 SQ. MI.
 STREAM SLOPE = 1.0 FT./MI.
 Q2= 2,100 CFS
 STAGE = EL. 1162.4
 CHANNEL VELOCITY = 2.9 FPS
 Q50= 6,380 CFS (7,500 CFS)
 STAGE = EL. 1167.7
 BACKWATER = 0.23 FT.
 BRIDGE VELOCITY = 3.0 FPS
 Q100= 7,250 CFS (8,900 CFS)
 STAGE = EL. 1168.3
 BACKWATER = 0.28 FT.
 DESIGN SCOUR = EL. 1142.7
 Q500= 8,900 CFS (12,800 CFS)
 STAGE = EL. 1169.6
 CHECK SCOUR = EL. 1141.0
 Q OVERTOP= 6,640 CFS (7,850 CFS)
 SCOUR = EL. 1143.2
 ROADWAY OVERTOP EL. 1168.1
 STA. 313+00
 EXTREME HW STAGE = EL. 1168.0
 DATE = JUNE 1954
 AVG. LOW WATER STAGE = EL. 1154.6

TRAFFIC ESTIMATE

A.A.D.T = 2,800 VPD (2012)
 A.A.D.T = 3,400 VPD (2032)
 D.H.V. = ??? VPH (20??)
 16% TRUCKS
 ?? ESAL'S PER DAY

LOCATION

US 69 OVER IOWA RIVER
 T 92 N R 24 W
 SECTION 1
 GRANT TOWNSHIP
 WRIGHT COUNTY
 BRIDGE MAINT. NO. 9972.8S069
 FHWA NO. [054300]
 STA. 323+62.75 CL M.L.
 LON./LAT. (-) 93.617031° / 42.819814°

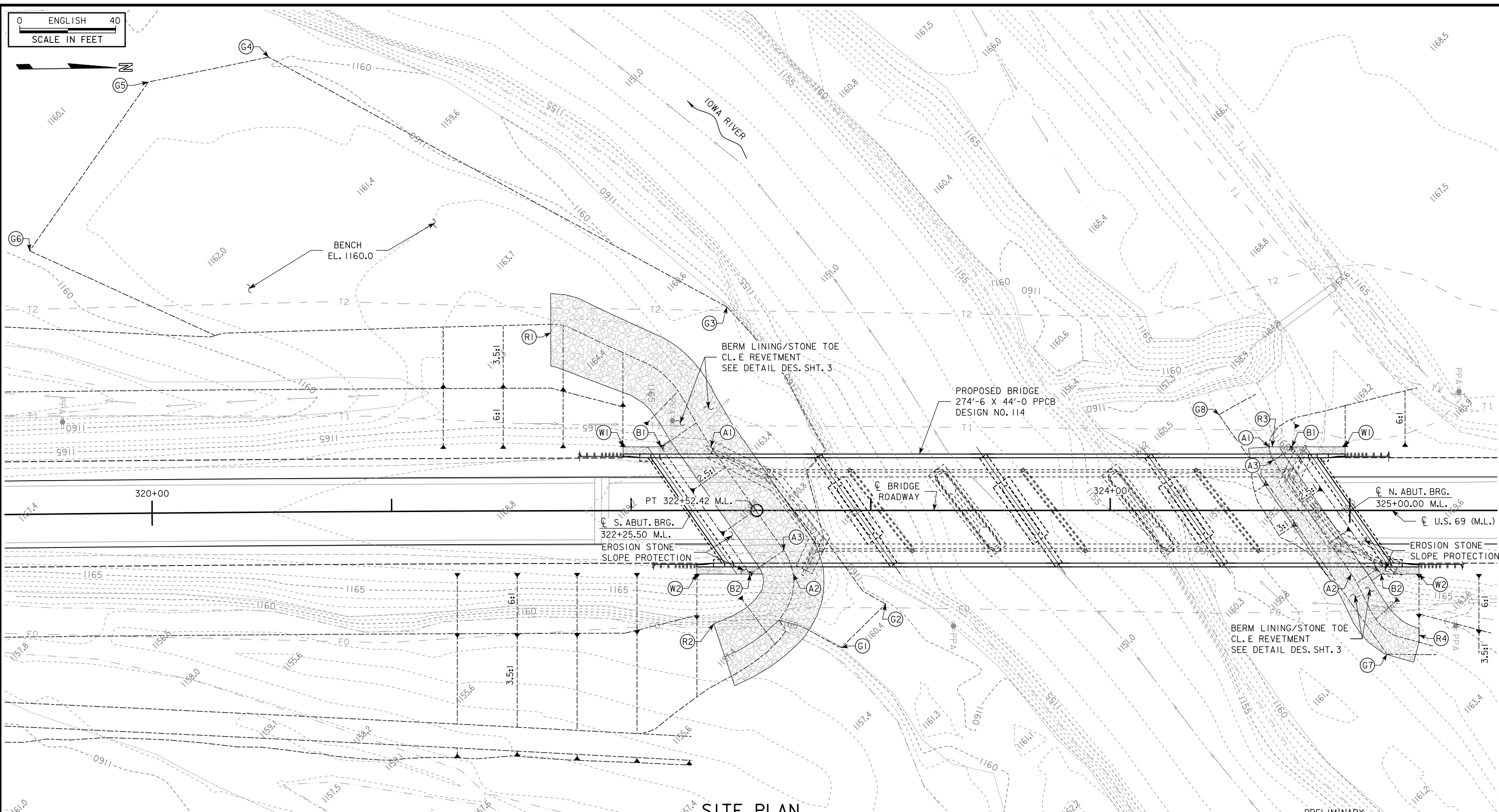
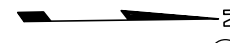
PRELIMINARY

DESIGN FOR 35° SKEW (R.A.)
274'-6 X 44'-0 PRETENSIONED PRESTRESSED CONC. BEAM BRIDGE
 68'-3 END SPANS LXB BEAMS 69'-0 INTERIOR SPANS
SITUATION PLAN
 STATION: 323+62.75 M.L. JAN. 2014
WRIGHT COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. 1 OF 3 FILE NO. 30728 DESIGN NO. 114

UTILITY LEGEND

F0 - BURIED FIBER OPTIC IOWA NETWORK SERVICES
 T1 - BURIED TELE. CABLE FRONTIER COMM. OF IOWA
 T2 - BURIED TELE. CABLE QWEST LOCAL NET
 PPA - OVERHEAD POWER LINE ALLIANT ENERGY

0 ENGLISH 40
SCALE IN FEET



SITE PLAN

PRELIMINARY

BERM SLOPE LOCATION TABLE						
S. ABUTMENT			N. ABUTMENT			
STATION	OFFSET	ELEV	STATION	OFFSET	ELEV	
A1	322+33.42	26.59' LT	1160.00	324+66.39	26.58' LT	1163.28
A2	322+67.70	26.58' RT	1160.00	325+00.60	26.58' RT	1162.75
A3	322+63.71	16.71' RT	1160.00	324+68.13	21.15' LT	1163.06
B1	322+12.42	26.61' LT	1166.89	324+75.89	26.58' LT	1166.85
B2	322+49.60	26.58' RT	1166.89	325+13.12	26.58' RT	1166.85
W1	321+96.65	26.64' LT	1172.45	324+98.10	26.58' LT	1172.59
W2	322+27.38	26.57' RT	1172.63	325+28.90	26.58' RT	1172.41

W - END WING / EDGE BRIDGE WING ARMORING
BERM SLOPE ELEVATIONS REFLECT GRADING SURFACE

REVETMENT LAYOUT:

- (R1) 321+66.7 M.L. LT., END BANK LINING/STONE TOE.
- (R2) 322+34.4 M.L. RT., END BANK LINING/STONE TOE.
- (R3) 26.6' LT. M.L., END BANK LINING/STONE TOE.
- (R4) 325+28.9 M.L. RT., END BANK LINING/STONE TOE.

GRADING CONTROL:

- (G1) 322+87.7 M.L., 57.3' RT., EDGE BENCH, EL. 1160.0
- (G2) 323+06.2 M.L., 39.1' RT., EDGE BENCH, EL. 1160.0
- (G3) 322+40.0 M.L., 85.0' LT., EDGE BENCH, EL. 1160.0
- (G4) 320+50.0 M.L., 190.0' LT., EDGE BENCH, EL. 1160.0
- (G5) 320+00.0 M.L., 180.0' LT., EDGE BENCH, EL. 1160.0
- (G6) 319+50.0 M.L., 110.0' LT., EDGE BENCH, EL. 1160.0

- (G7) 325+15.5 M.L., 60.0' RT., END GRADING BREAK LINE, EL. 1162.0
- (G8) 324+45.4 M.L., 40.0' LT., END GRADING BREAK LINE, EL. 1162.0

DESIGN FOR 35° SKEW (R.A.)

**274'-6 X 44'-0 PRETENSIONED
PRESTRESSED CONC. BEAM BRIDGE**

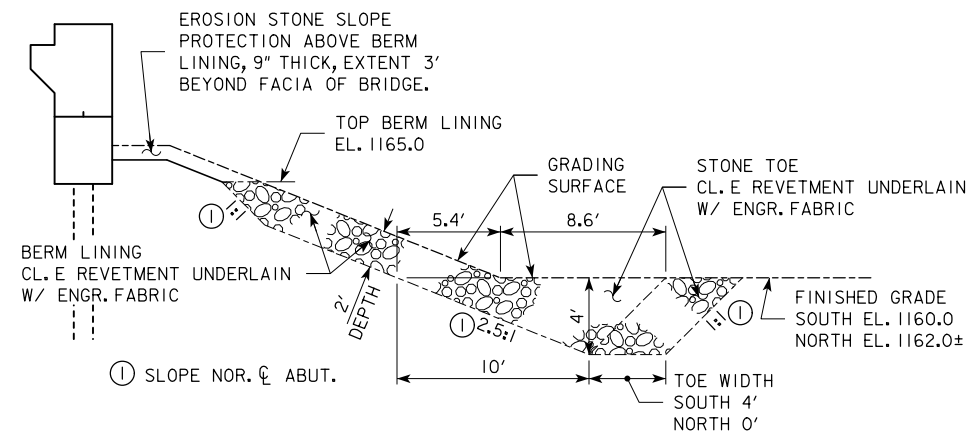
68'-3 END SPANS LXB BEAMS 69'-0 INTERIOR SPANS

SITUATION PLAN - SITE

STATION: 323+62.75 M.L. JAN. 2014

WRIGHT COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 2 OF 3 FILE NO. 30728 DESIGN NO. 114



SECTION THROUGH STONE TOE AND BERM LINING

REVETMENT QUANTITIES				
REVETMENT TYPE - LOCATION	REVETMENT CL. E (TON)	EROSION STONE (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
BERM LINING\STONE TOE - SOUTH	837	-	781	523
BERM LINING\STONE TOE - NORTH	234	-	269	146
SLOPE PROTECTION - SOUTH	-	24.5	61	15.3
SLOPE PROTECTION - NORTH	-	24.2	60	15.1
TOTALS	1,071	48.7	1,171	699

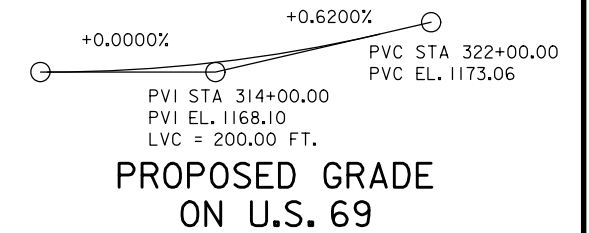
REVETMENT EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE.
 REVETMENT AND EROSION STONE ESTIMATED AT 1.6 TON/CY

PRELIMINARY

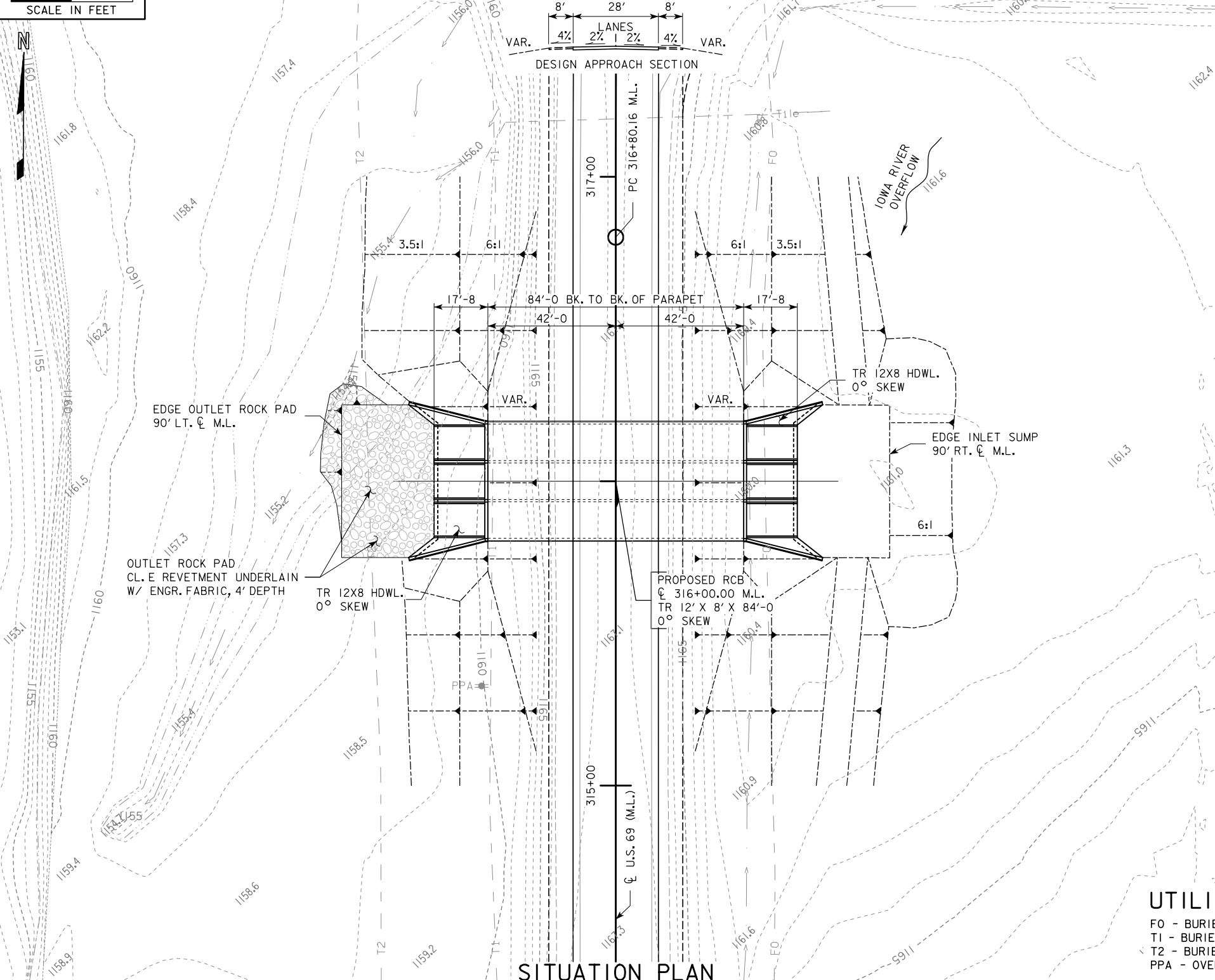
DESIGN FOR 35° SKEW (R.A.)
**274'-6 X 44'-0 PRETENSIONED
 PRESTRESSED CONC. BEAM BRIDGE**
 68'-3 END SPANS LXB BEAMS 69'-0 INTERIOR SPANS
SITUATION PLAN - MISC.
 STATION: 323+62.75 M.L. JAN. 2014
WRIGHT COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. 3 OF 3 FILE NO. 30728 DESIGN NO. 114

1180		1180
1170	TOP PARAPET EL. 1167.83	1170
1160	GRADING SURFACE F.L. EL. 1157.5	1160
1150	OUTLET ROCK PAD TOP EL. 1157.5	1150
1140	DEPTH 4'	1140
1130		1130

REVETMENT QUANTITIES:
 CL. E REVETMENT - 382 TON
 ENGINEERING FABRIC - 195 SY
 EXCAVATION - 230 CY
 REVETMENT EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE.
 REVETMENT ESTIMATED AT 1.6 TON/CY.



LONGITUDINAL SECTION ALONG CL. CULVERT



HYDRAULIC DATA

DRAINAGE AREA = 398 SQ. MI. (OVERFLOW)
 STREAM SLOPE = 1.0 FT./MI.

Q50= 1,120 CFS (7,500 CFS)
 DESIGN HIGH WATER = EL. 1167.7
 BACKWATER = 0.23 FT.

Q100= 1,320 CFS (8,900 CFS)
 HIGH WATER = EL. 1168.4
 BACKWATER = 0.28 FT.

Q OVERTOP= 1,210 CFS (7,850 CFS)
 ROADWAY OVERTOP EL. 1168.1
 STA. 313+00

EXTREME HW STAGE = EL. 1168.0
 DATE = JUNE 1954

DISCHARGE IN PARANS. REPRESENTS TOTAL STREAMFLOW.

BACKWATER REFERENCES CHANGE FROM PRE-DEVELOPMENT CONDITION NEAR FIRST HIGH-DAMAGE POTENTIAL DEVELOPMENT UPSTREAM OF PROJECT SITE (RESIDENCE 600 FT. U/S OF BRIDGE).

TRAFFIC ESTIMATE

A.A.D.T = 2,800 VPD (2012)
 A.A.D.T = 3,400 VPD (2032)
 D.H.V. = ??? VPH (20??)
 16% TRUCKS
 ?? ESAL'S PER DAY

CURVE DATA

U.S. 69 (M.L.)
 PI STA. 319+66.30
 PC STA. 316+80.16
 PT STA. 322+52.42
 Δ = 1° 08' 40.32" (RT)
 T = 286.14 FT.
 L = 572.27 FT.
 E = 1.43 FT.
 R = 28,647.89 FT.
 e = NC

LOCATION

US 69 OVER IOWA RIVER OVERFLOW
 T 92 N R 24 W
 SECTION 1
 GRANT TOWNSHIP
 WRIGHT COUNTY
 BRIDGE MAINT. NO. 99XX.XS069
 FHWA NO.
 STA. 316+00.00 CL. M.L.
 LON./LAT. (-) 93.617038° / 42.817721°

UTILITY LEGEND

FO - BURIED FIBER OPTIC IOWA NETWORK SERVICES
 T1 - BURIED TELE. CABLE FRONTIER COMM. OF IOWA
 T2 - BURIED TELE. CABLE QWEST LOCAL NET
 PPA - OVERHEAD POWER LINE ALLIANT ENERGY

DESIGN FOR 0° SKEW
TRIPLE 12' X 8' X 84'-0 REINFORCED CONCRETE BOX CULVERT

SITUATION PLAN
 STATION: 316+00.00 M.L. JAN. 2014
WRIGHT COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. 1 OF 1 FILE NO. 30728 DESIGN NO. 214

NOTES:

- (A) FLOWAGE EASEMENT WITH RCB FOR INCREASE IN WATER SURFACE >0.75 FT. FROM PRE-DEVELOPMENT CONDITION FOR 50 YR. EVENT (IADNR LOW DAMAGE POTENTIAL). FLOWAGE EASEMENT TO EL. 1167.72.
- (B) GRADE RAISE RESTRICTION EASEMENT. EASEMENT TO RESTRICT MODIFICATION OF TAYLOR AVE. GRADE FOR ROAD SEGMENT HAVING CREST BELOW EL. 1168.50.

0 ENGLISH 200
SCALE IN FEET



PRELIMINARY

DESIGN FOR 35° SKEW (R.A.)
**274'-6 X 44'-0 PRETENSIONED
 PRESTRESSED CONC. BEAM BRIDGE**
 68'-3 END SPANS LXB BEAMS 69'-0 INTERIOR SPANS
EASEMENTS
 STATION: 323+62.75 M.L. JAN. 2014
WRIGHT COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. 1 OF 1 FILE NO. 30728 DESIGN NO. _____

LINE STYLE LEGEND OF CROSS SECTION SHEETS (ROAD)

- - - - - - Existing Ground Line
- ===== Proposed Template
- ===== Proposed Topsoil Placement
- - - - - Additional Topsoil Removal
- ===== Subgrade Treatment
- - - - - Granular Shoulder
- ===== Pavement
- - - - - Existing Pipe\RCB
- ===== Proposed Pipe\RCB
- ===== Proposed Dike
- ===== All Elements Associated with Proposed Entrances

LINE STYLE LEGEND OF CROSS SECTION SHEETS (SOILS)

- TS----- Topsoil (Class 10)
- TS A----- Topsoil (Type A Disposal)
- TS B----- Topsoil (Type B Disposal)
- TS C----- Topsoil (Type C Disposal)
- CL 10----- Class 10 Materials
- SEL LO----- Select Loams And Clay-Loams
- SEL SA----- Select Sand
- UNS A----- Unsuitable Type A Disposal
- UNS B----- Unsuitable Type B Disposal
- UNS C----- Unsuitable Type C Disposal
- SHALE----- Shale
- WASTE----- Waste
- B&W LS----- Broken and Weathered Rock
- ROCK----- Solid Rock
- BLDRS----- Boulders

Note: All layer lines and descriptions identify layers above the line.

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

SYMBOL LEGEND OF CROSS SECTION SHEETS

- Existing ROW
|

Existing Right-of-Way Limit
- Proposed ROW
|

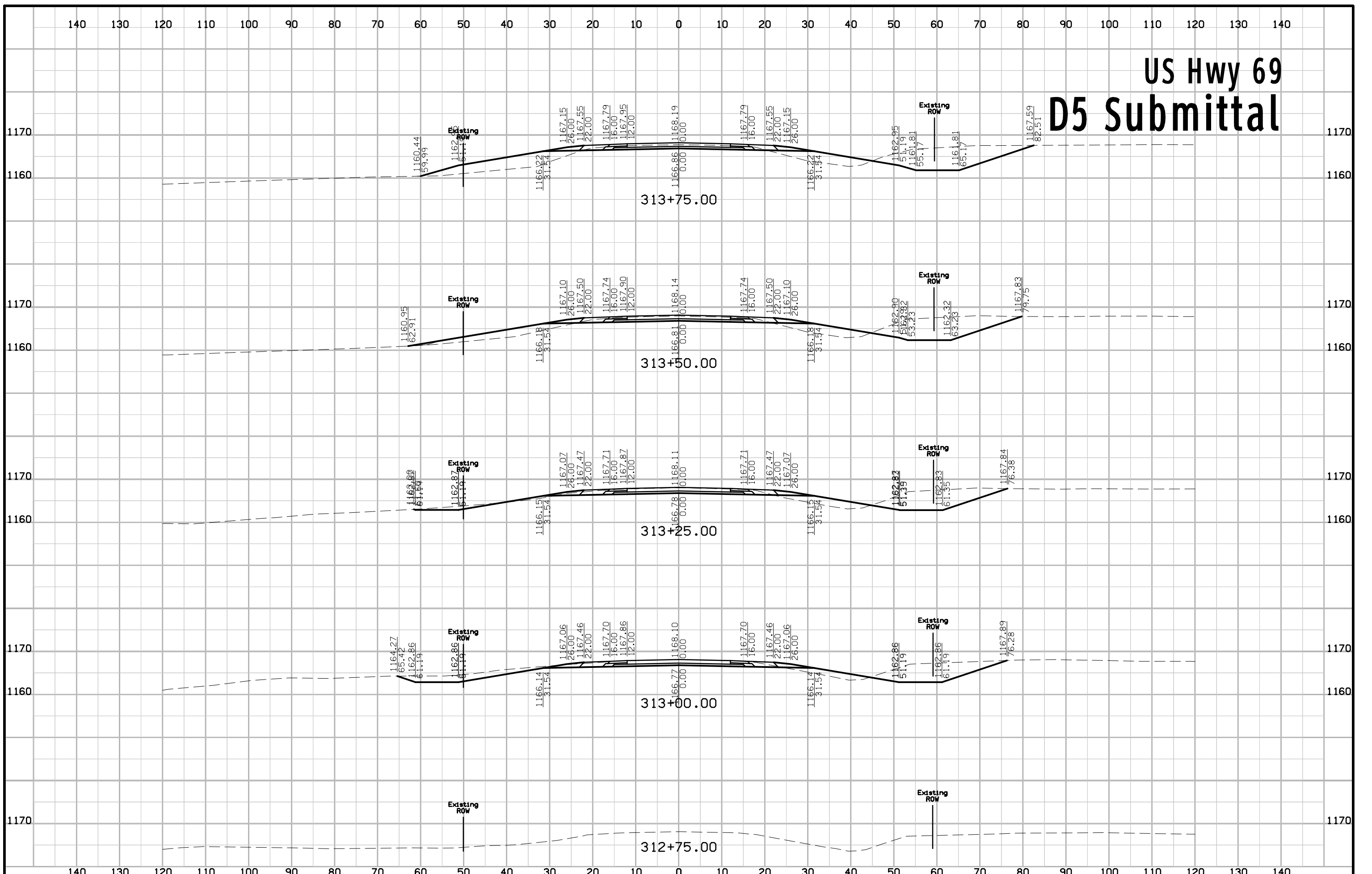
Proposed Right-of-Way Limit
- Temporary ROW
|

Temporary Right-of-Way Limit

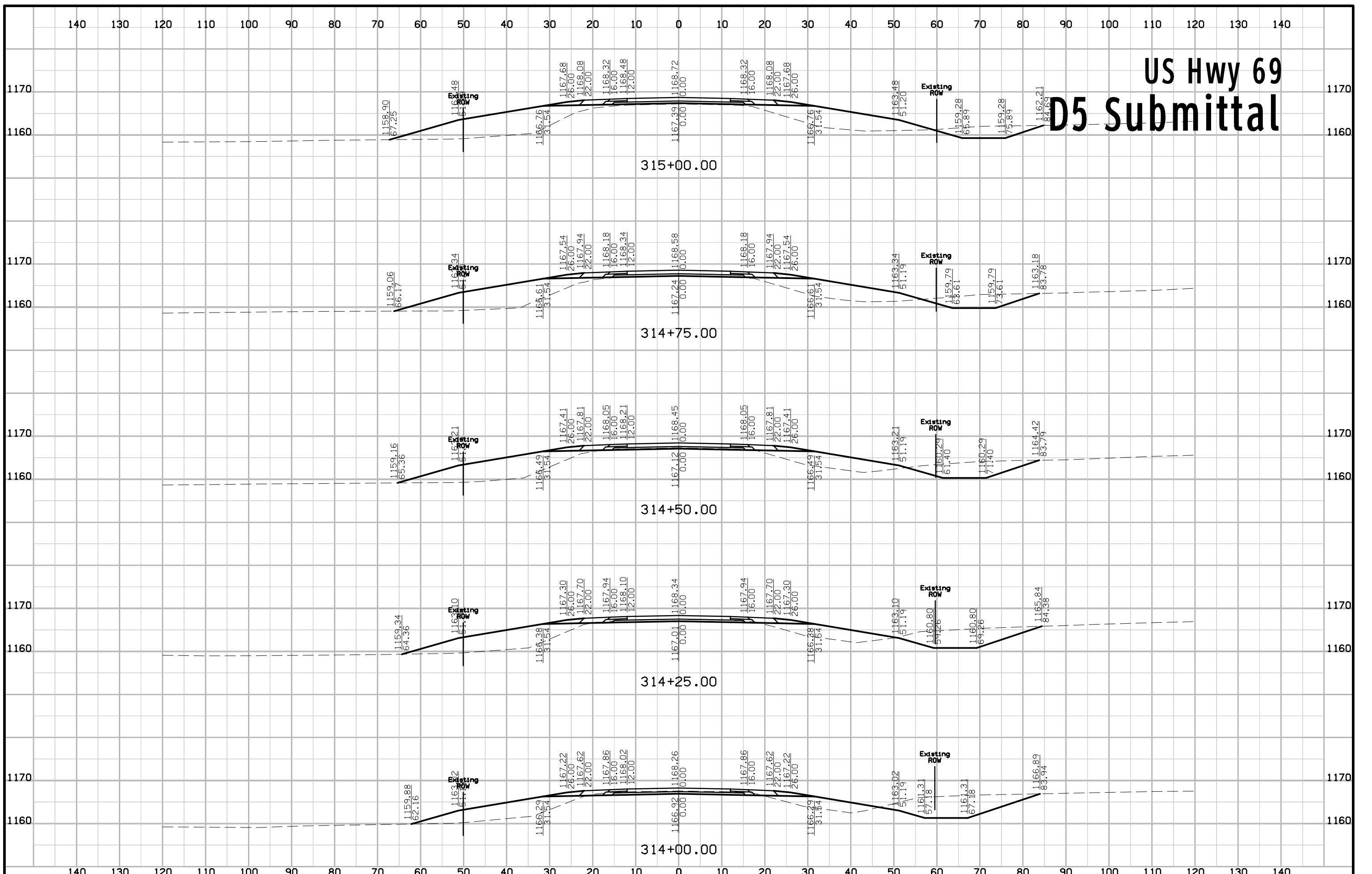
**CROSS SECTION
LEGEND AND SYMBOL
INFORMATION SHEET**

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

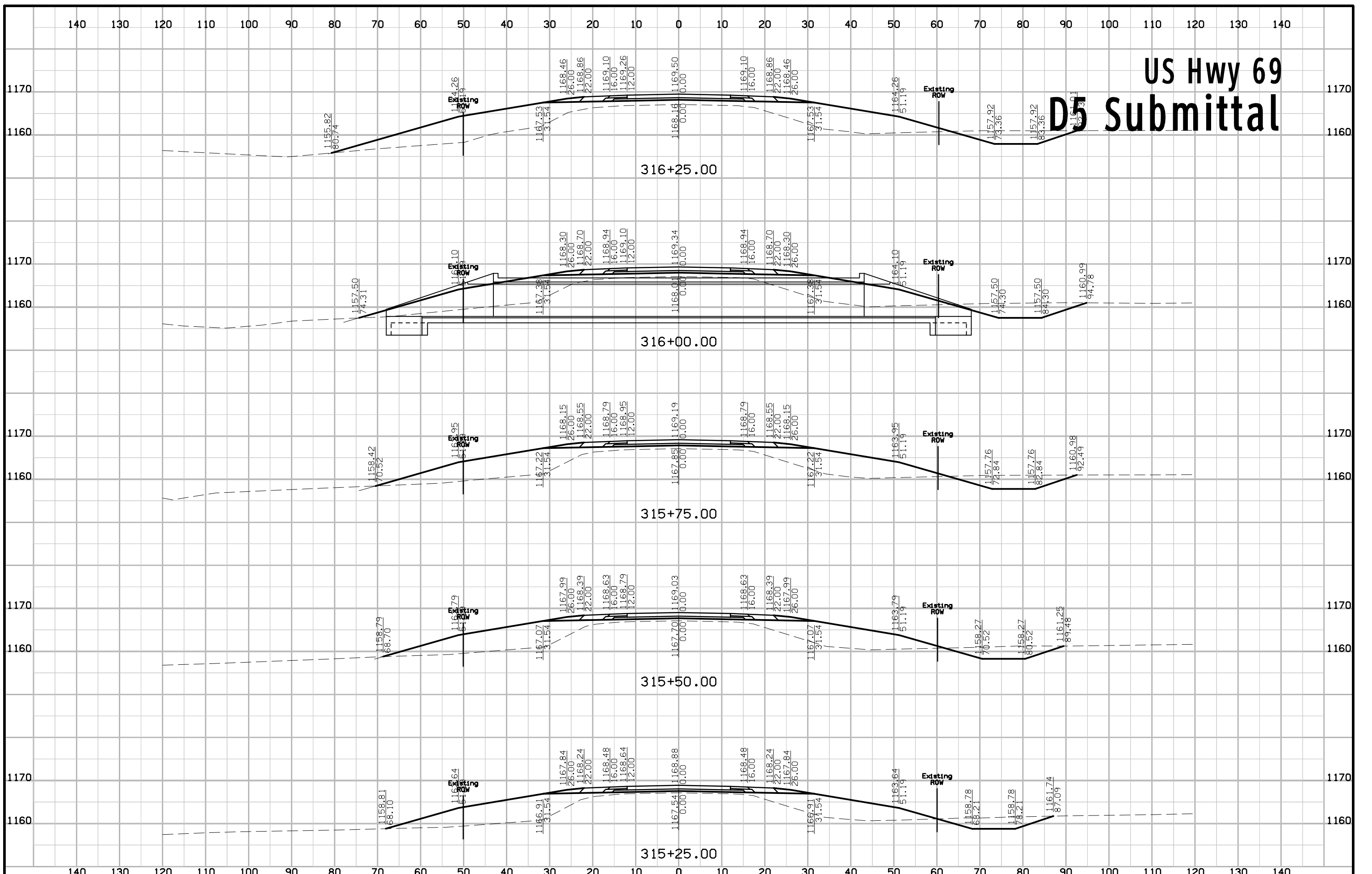
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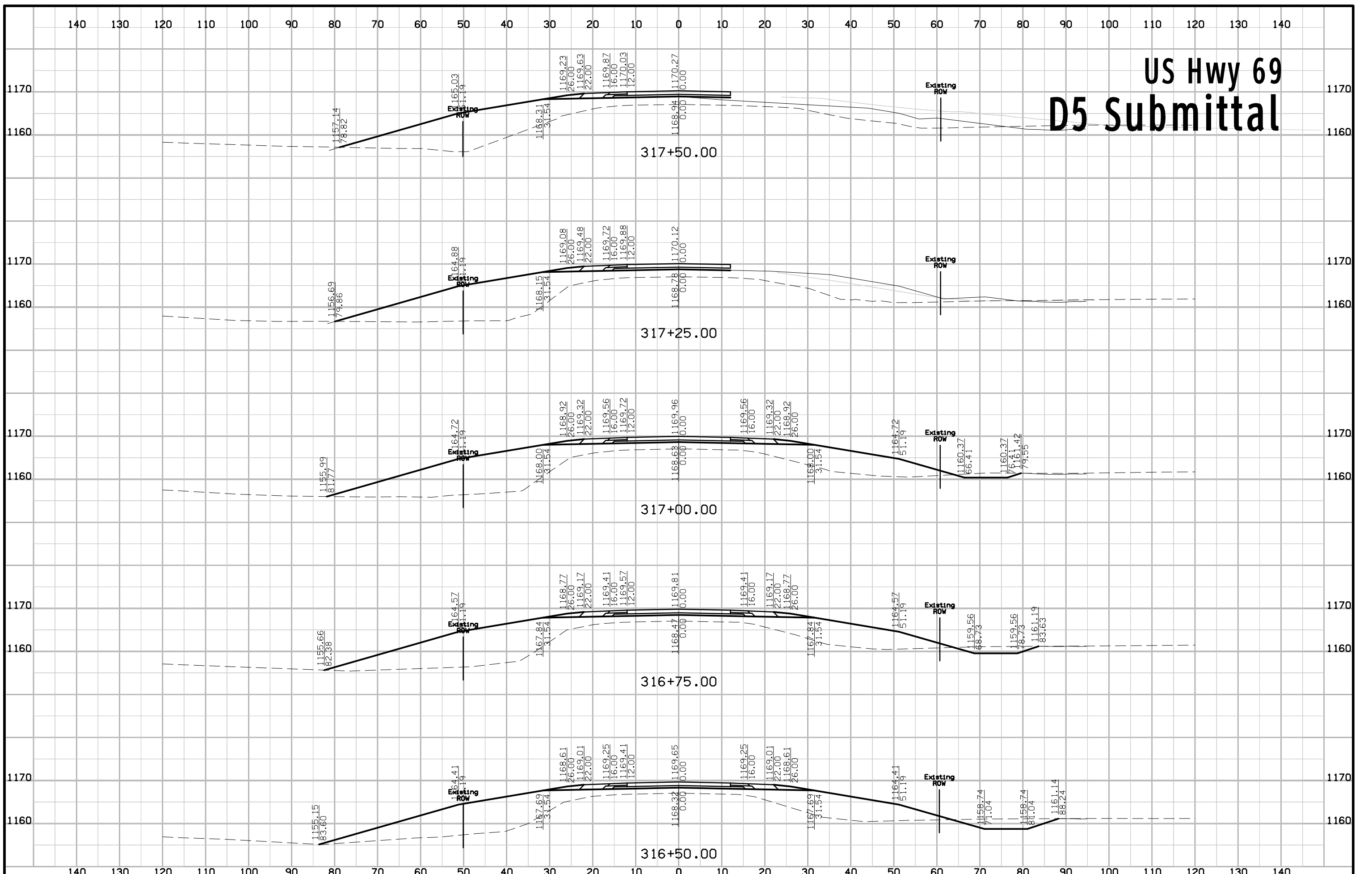
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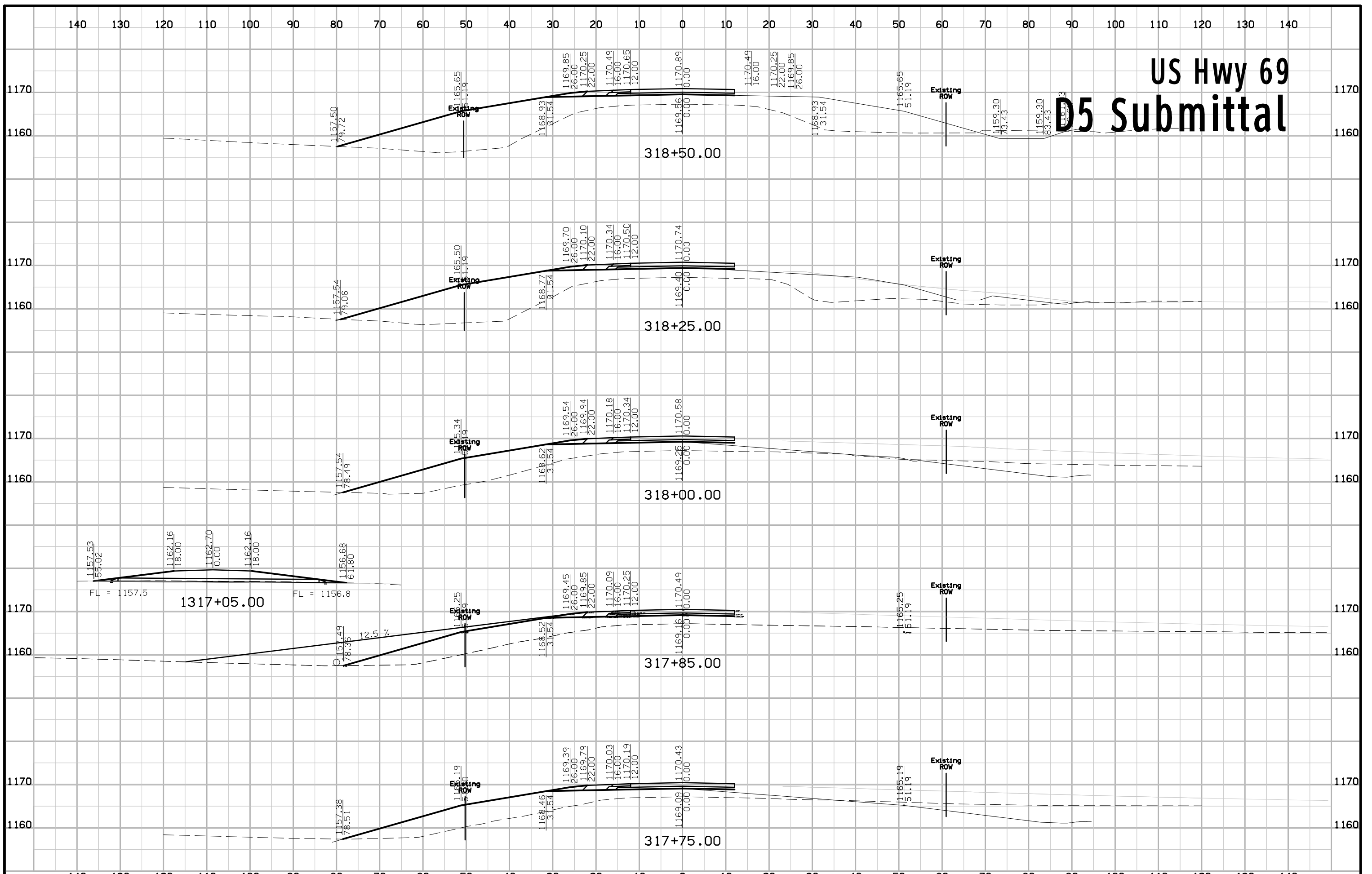
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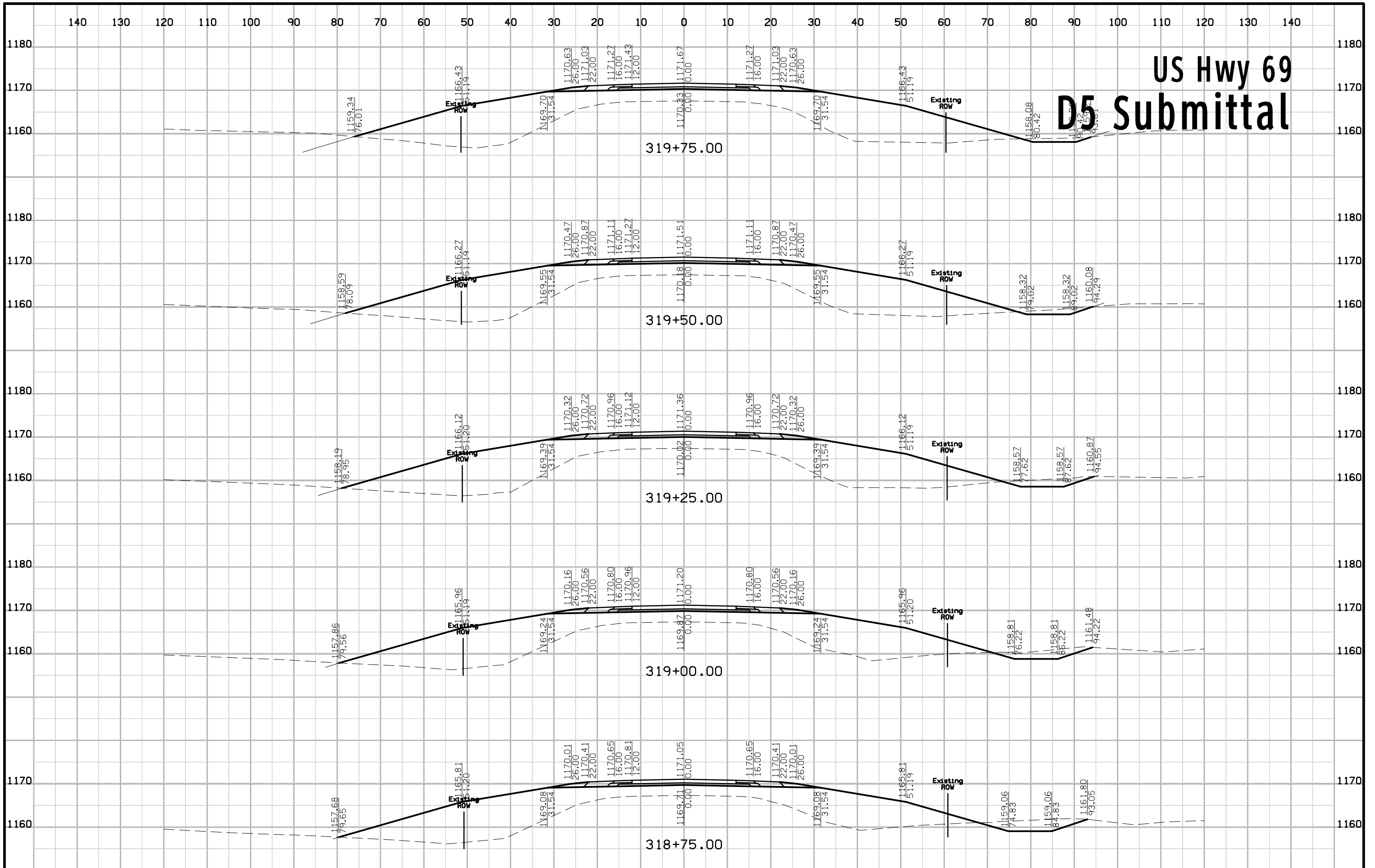
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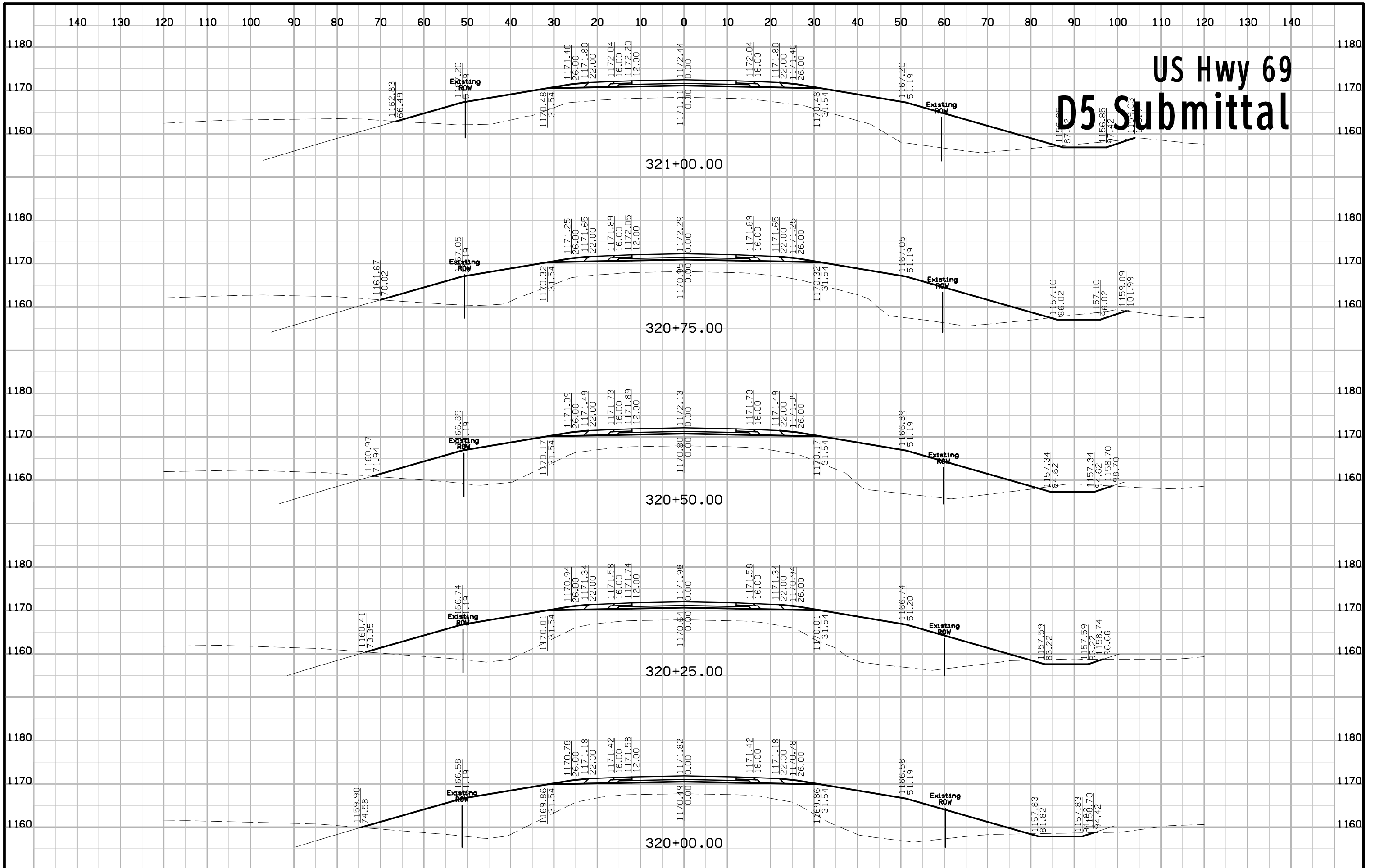
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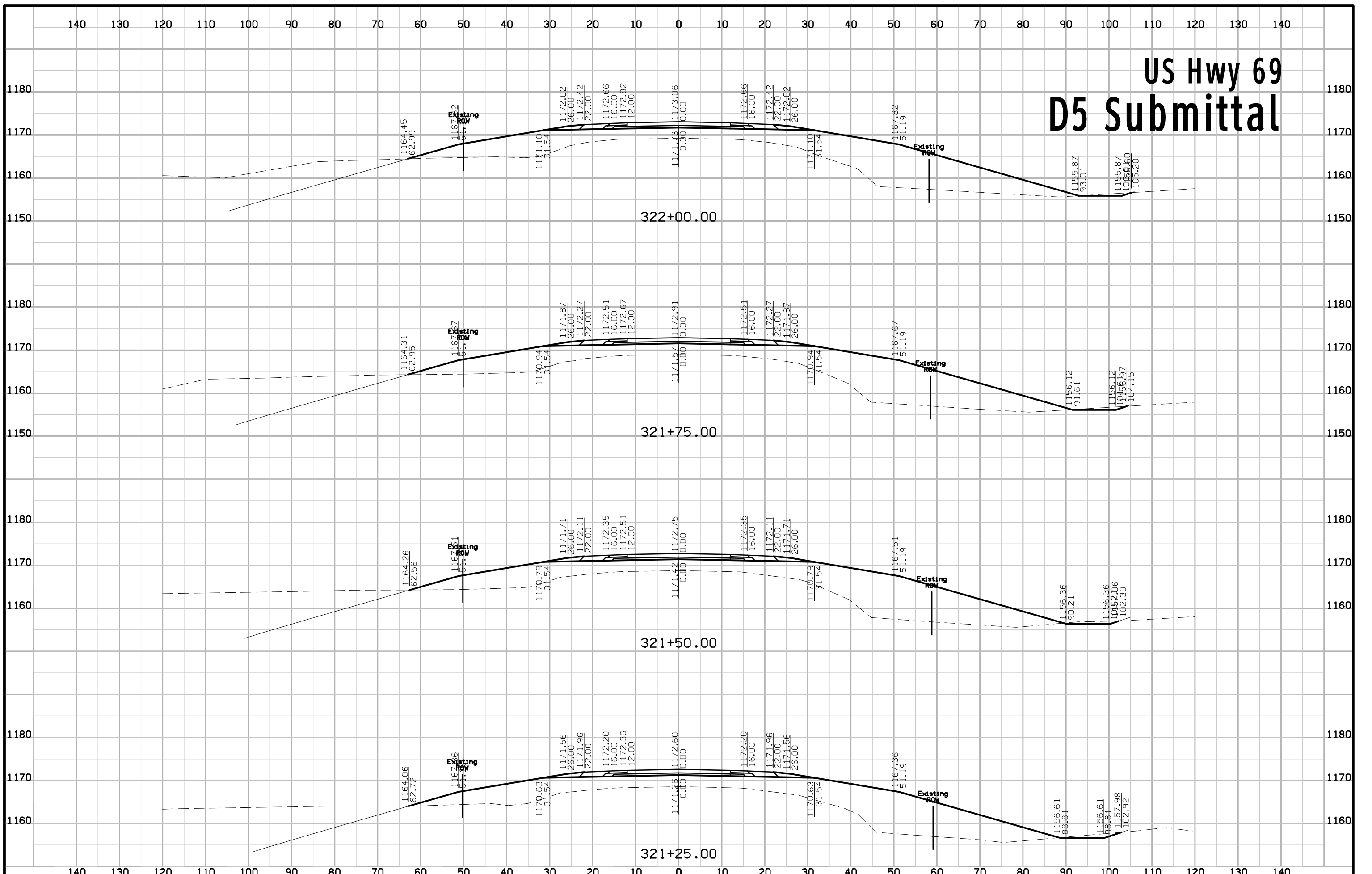
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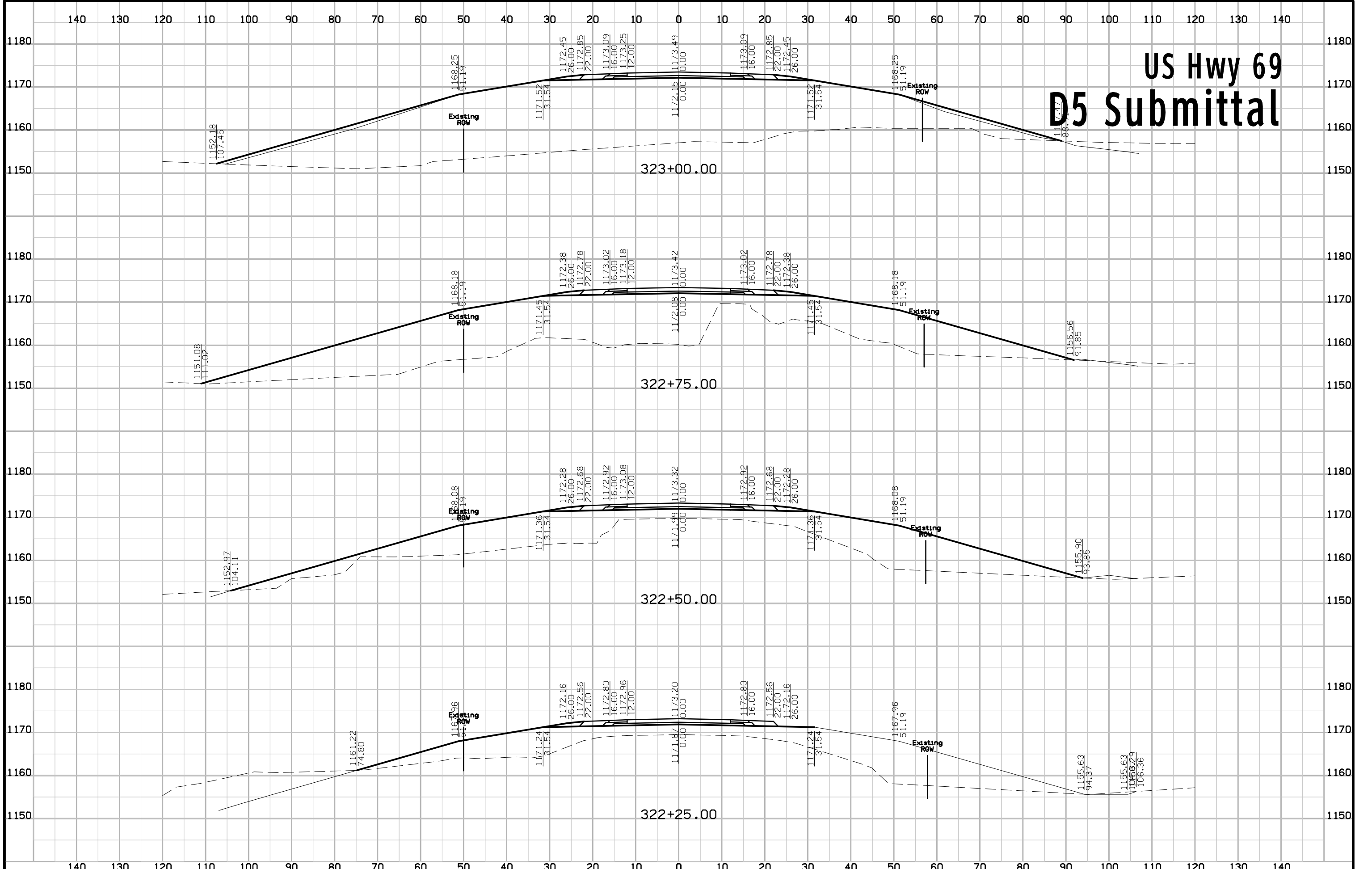
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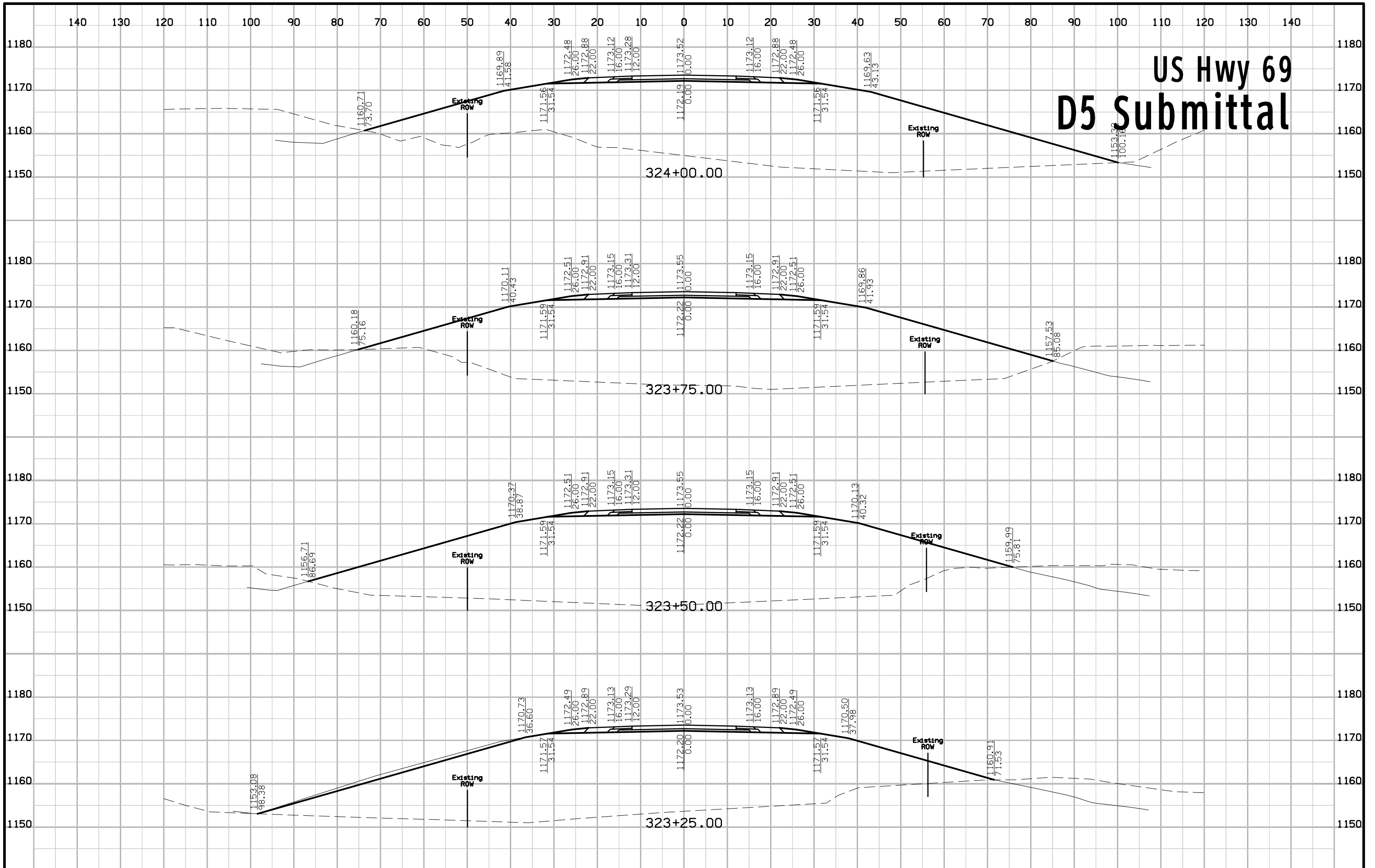
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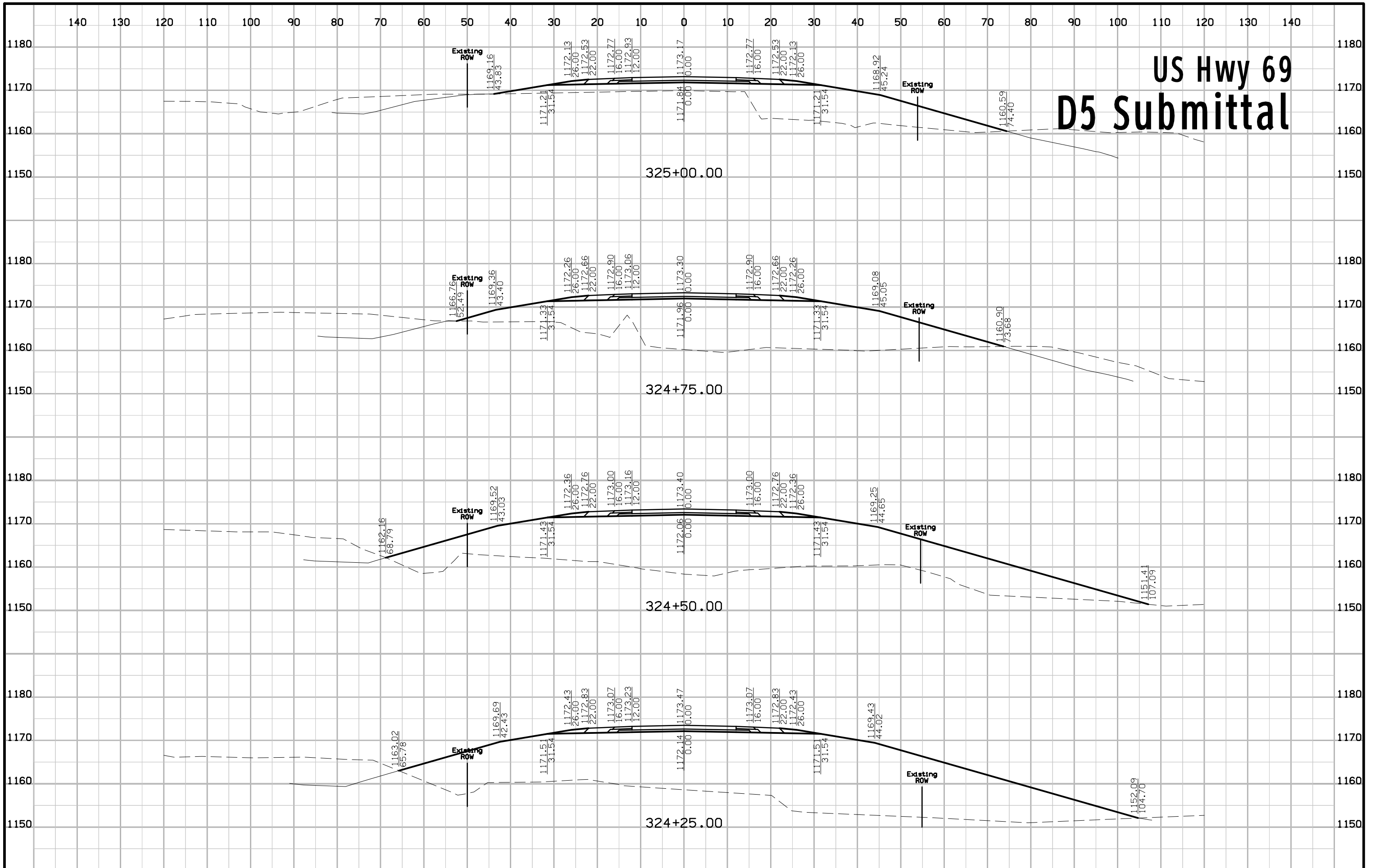
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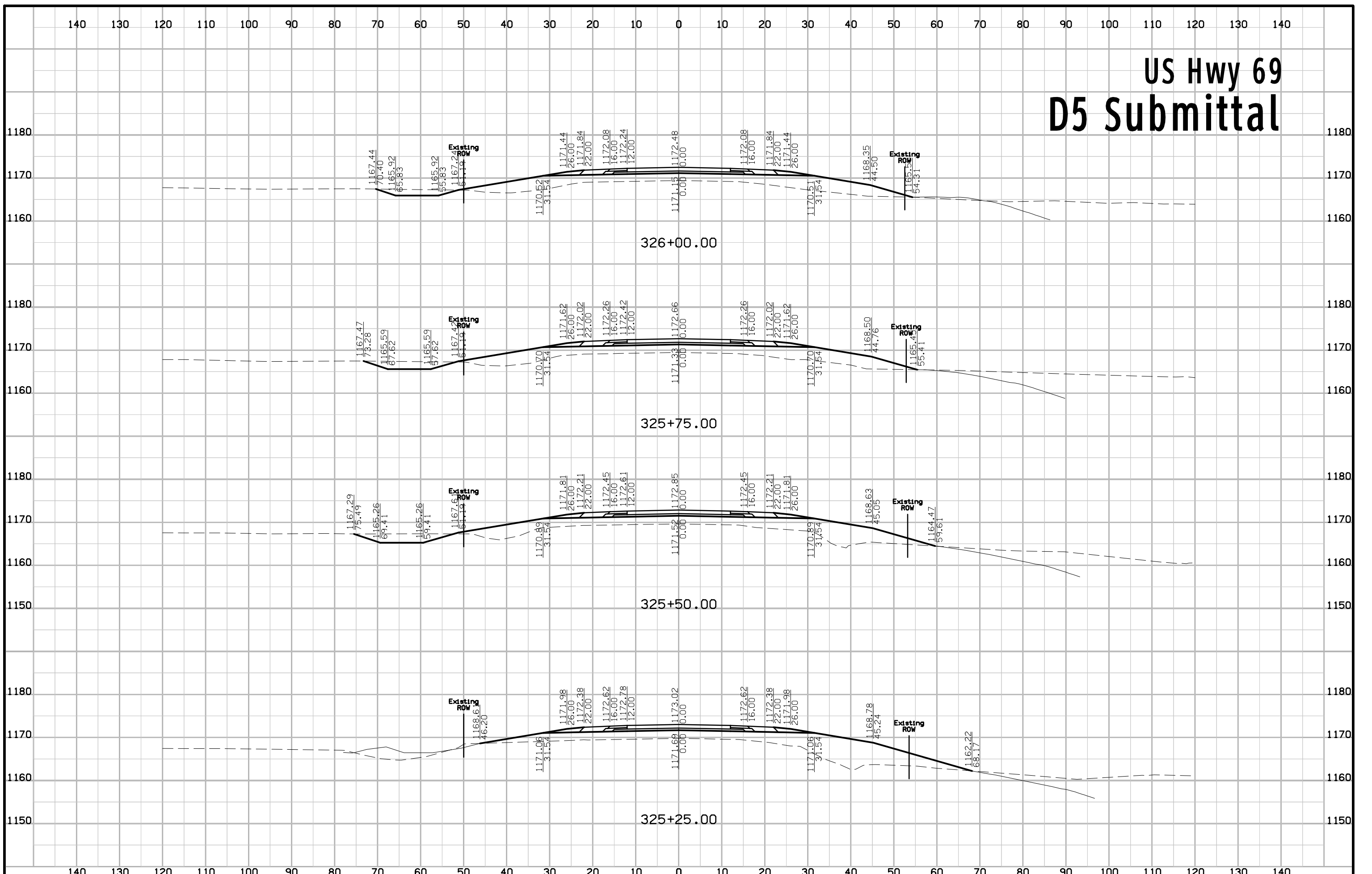
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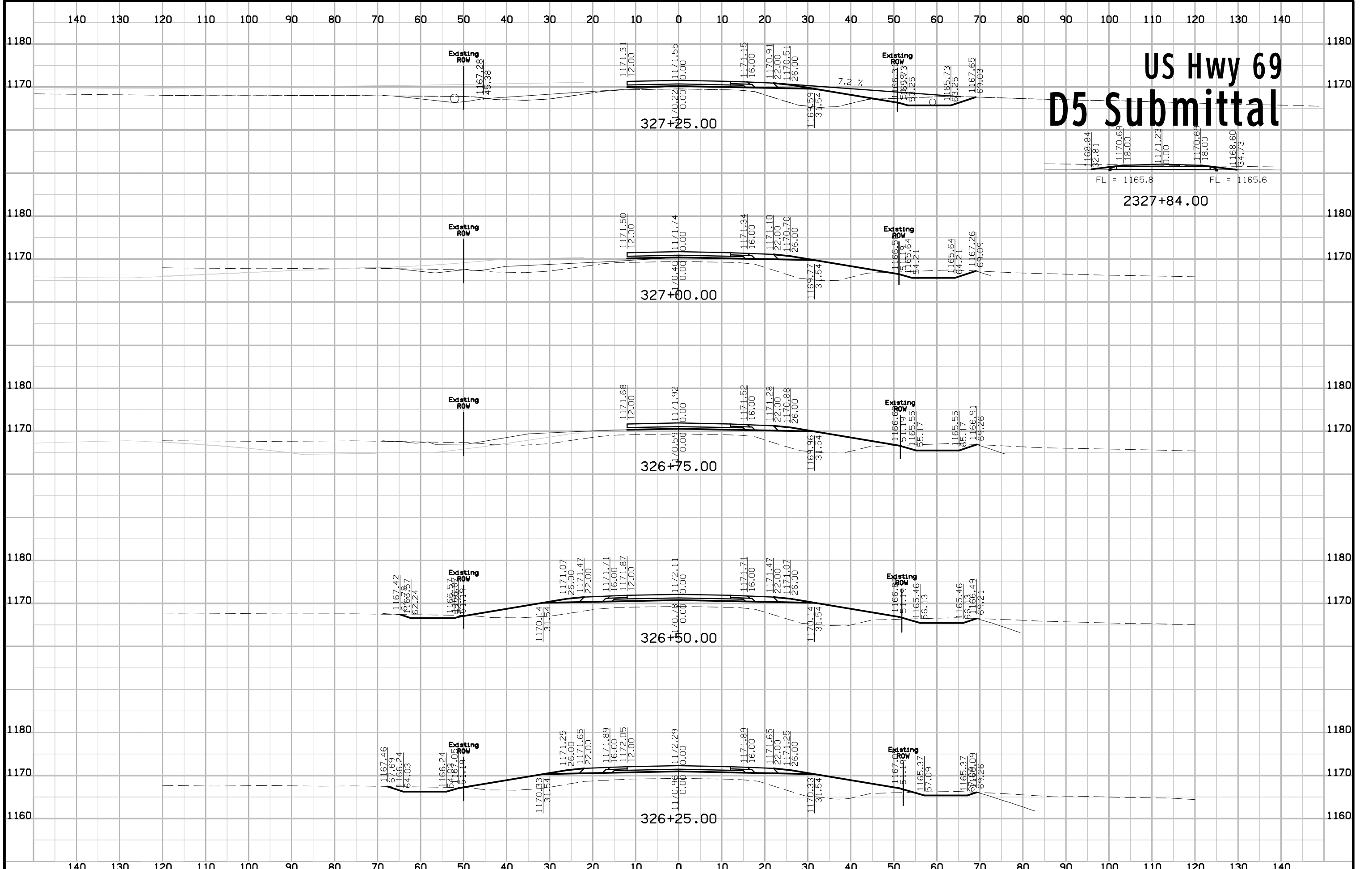
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US Hwy 69 D5 Submittal



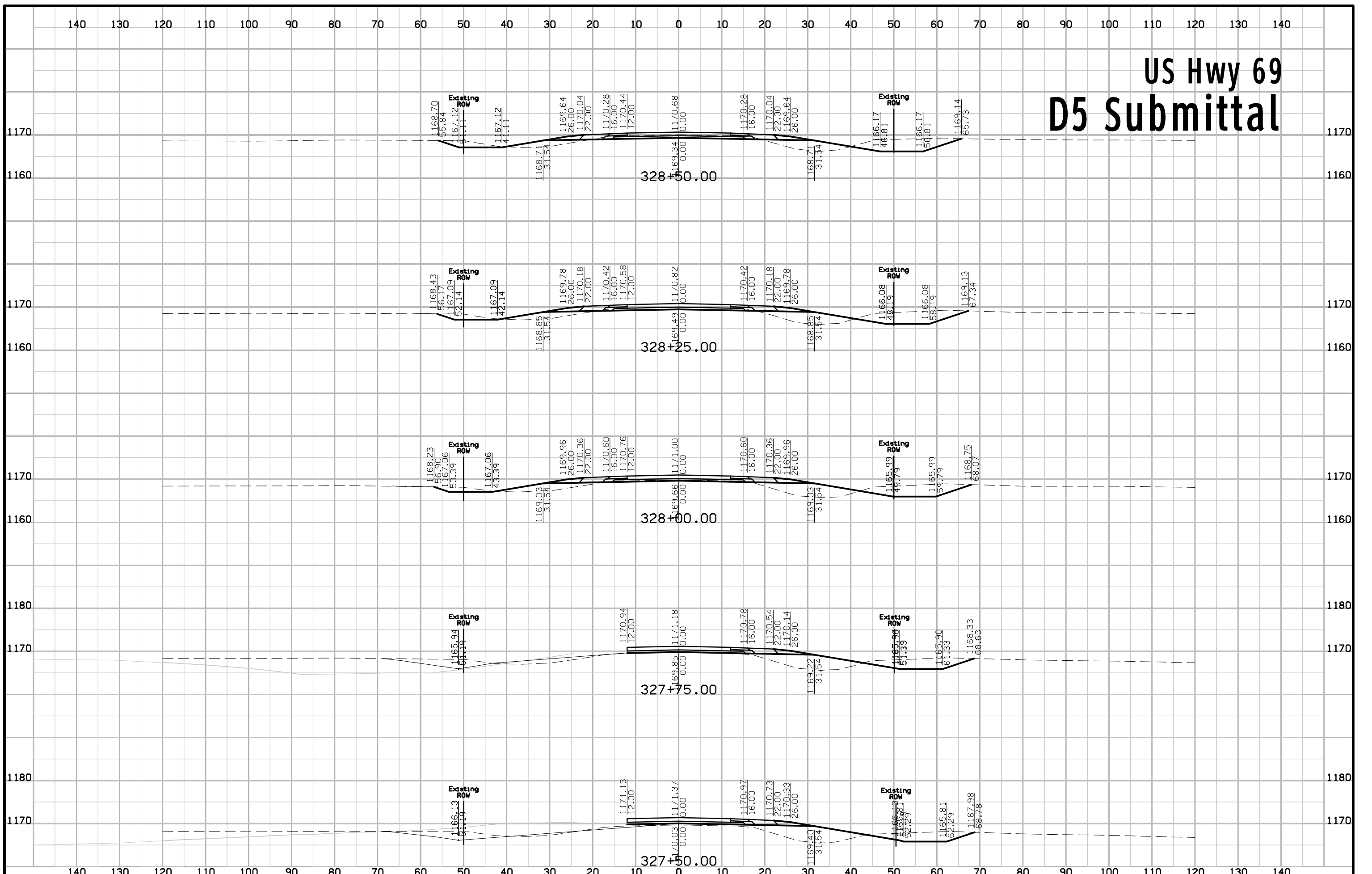
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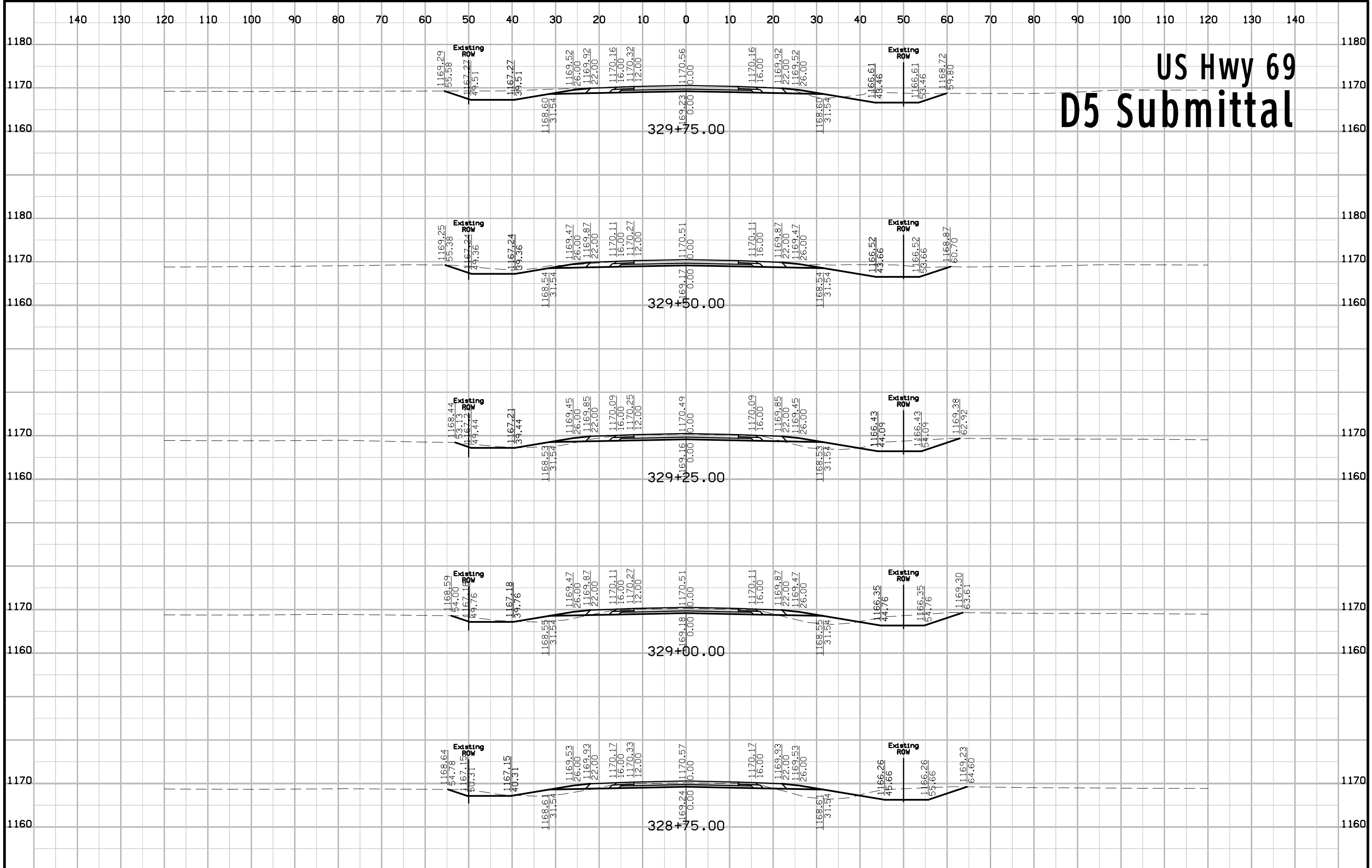
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2327+84.00

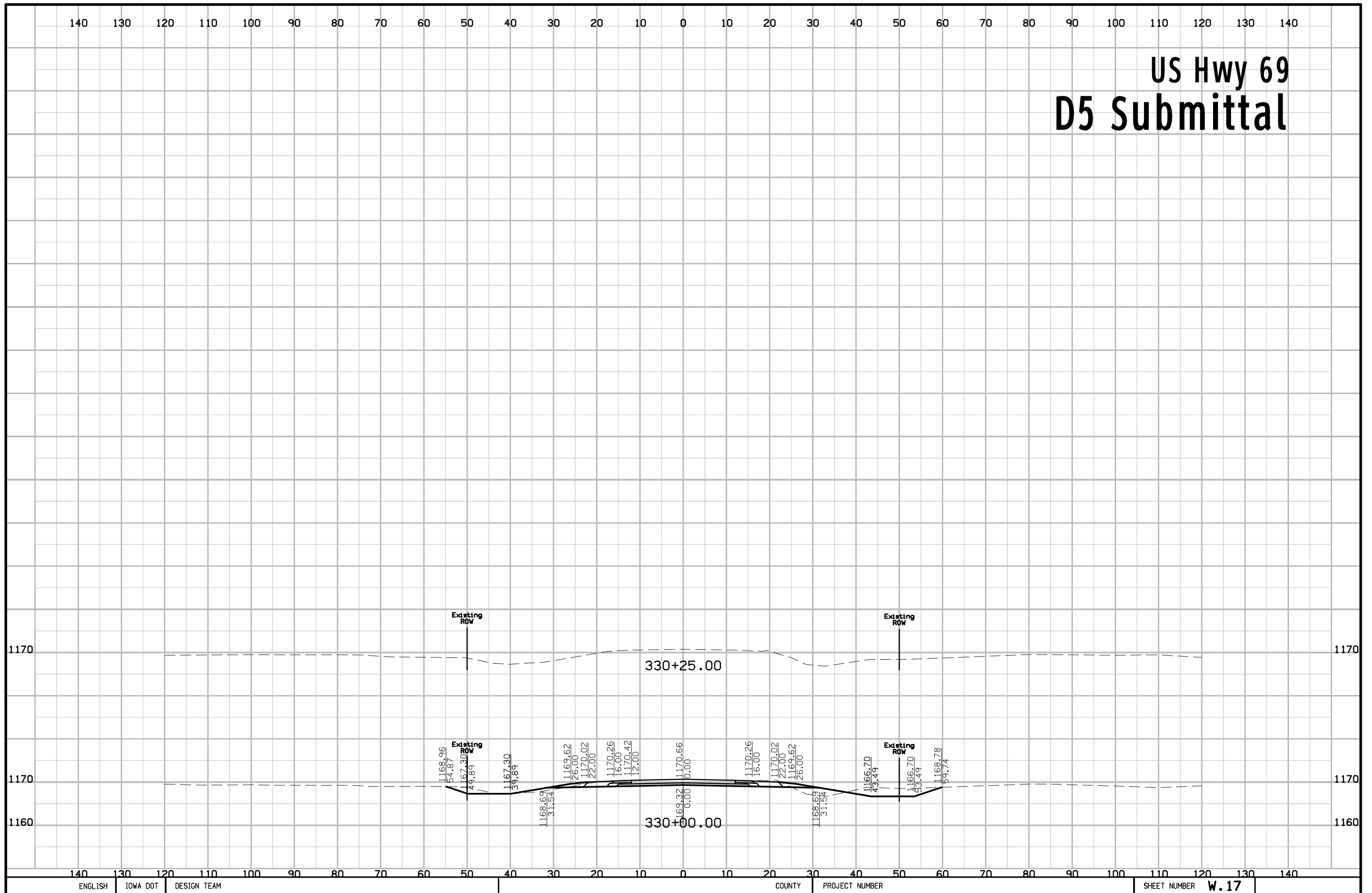
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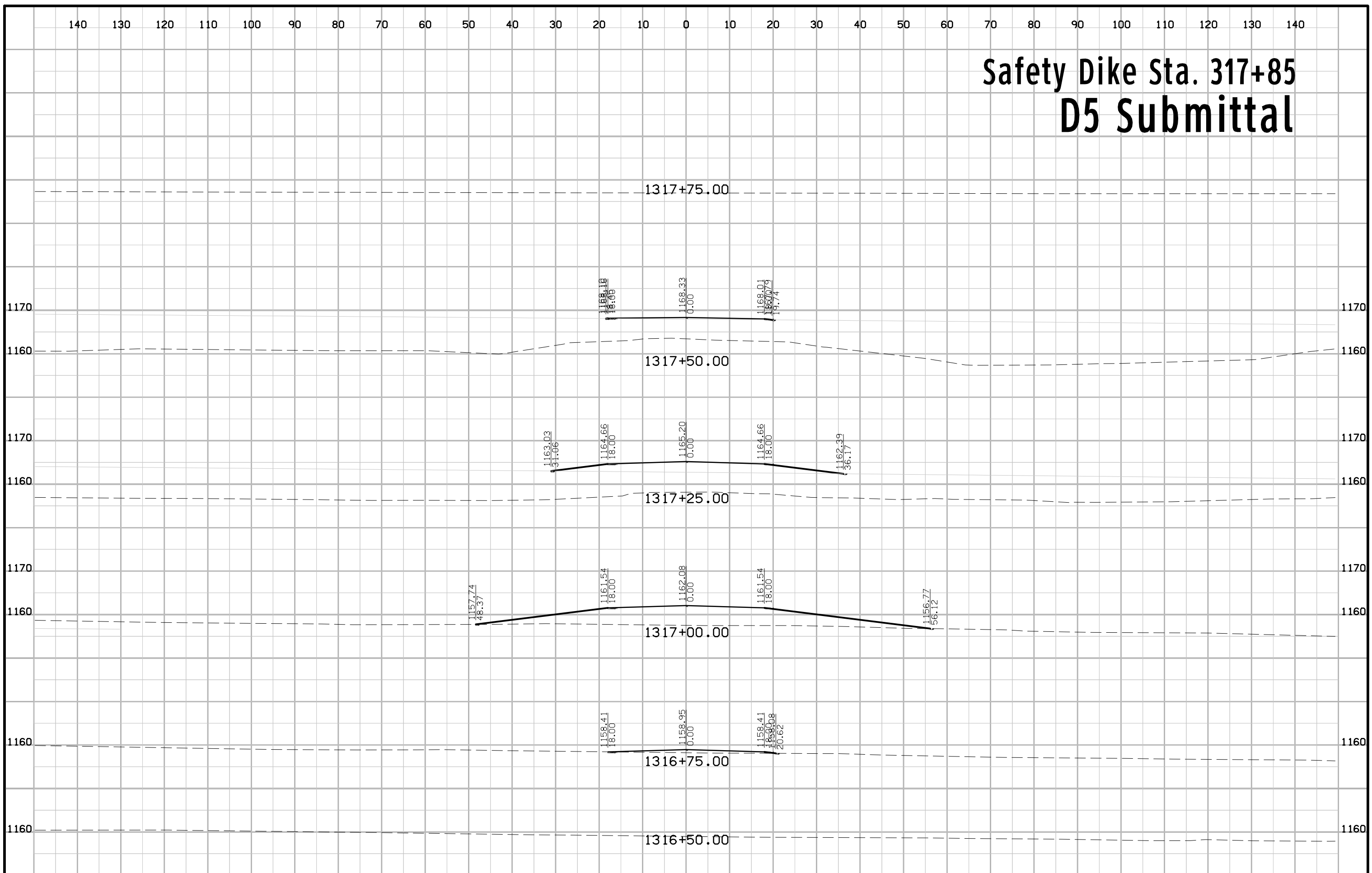
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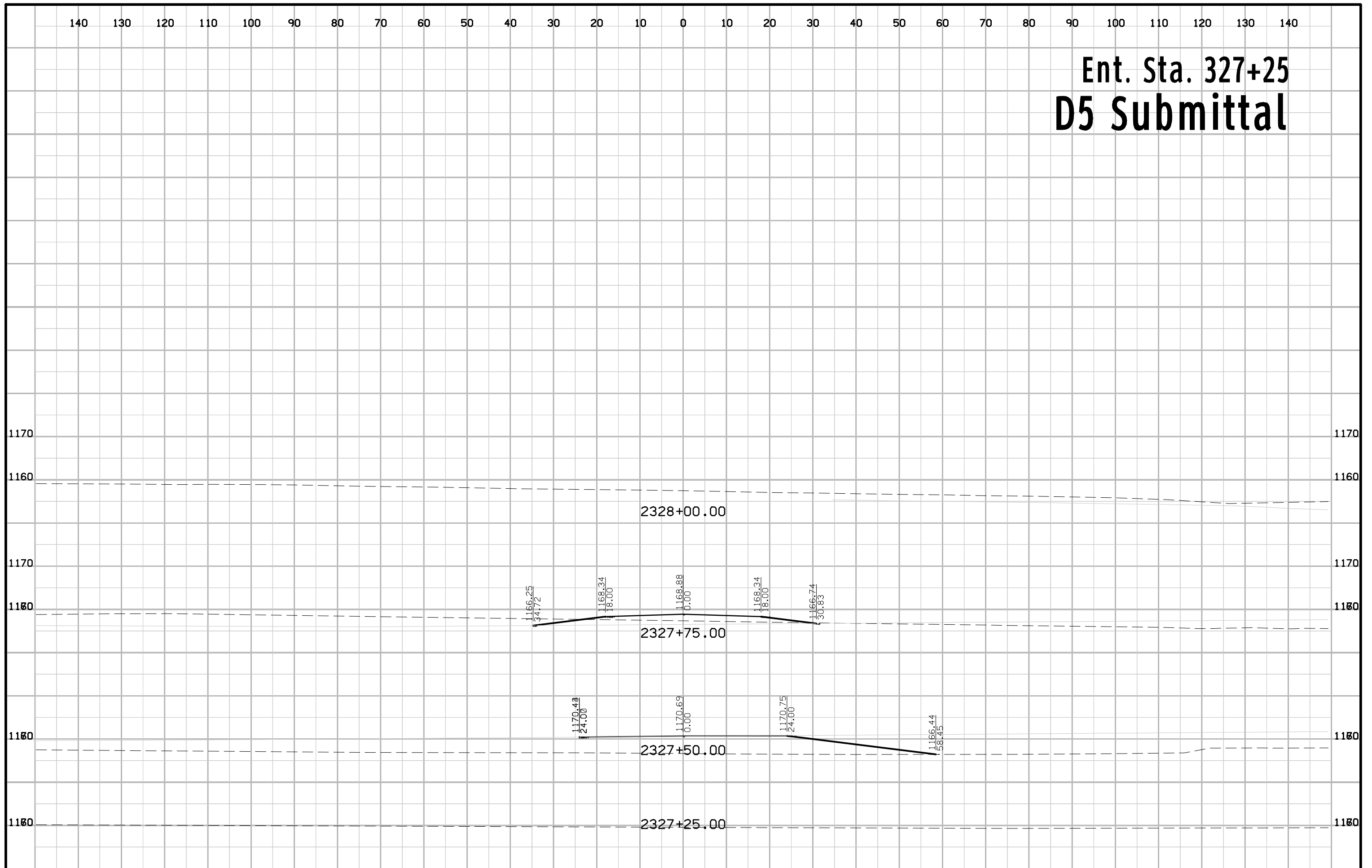
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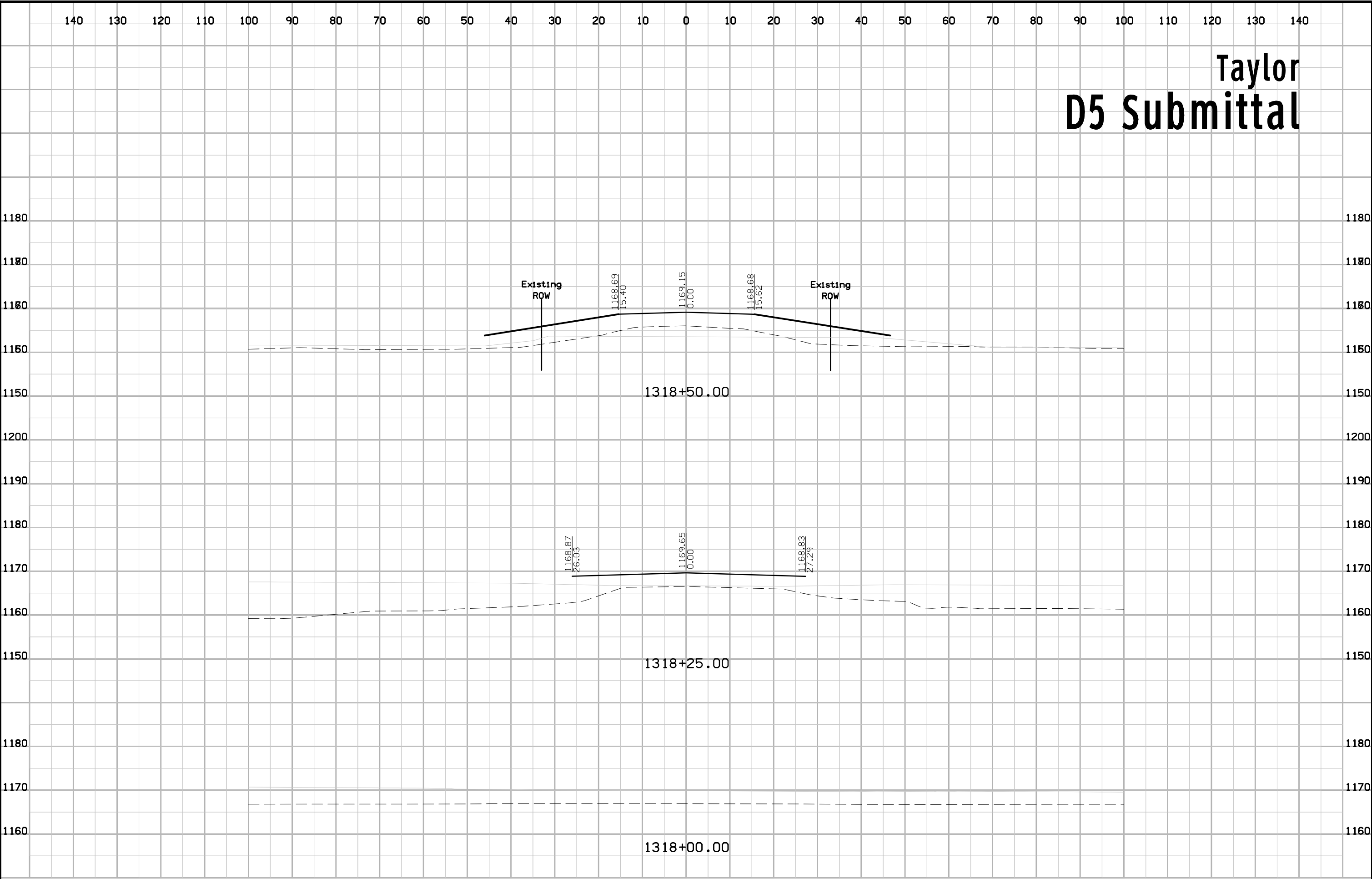
Safety Dike Sta. 317+85 D5 Submittal



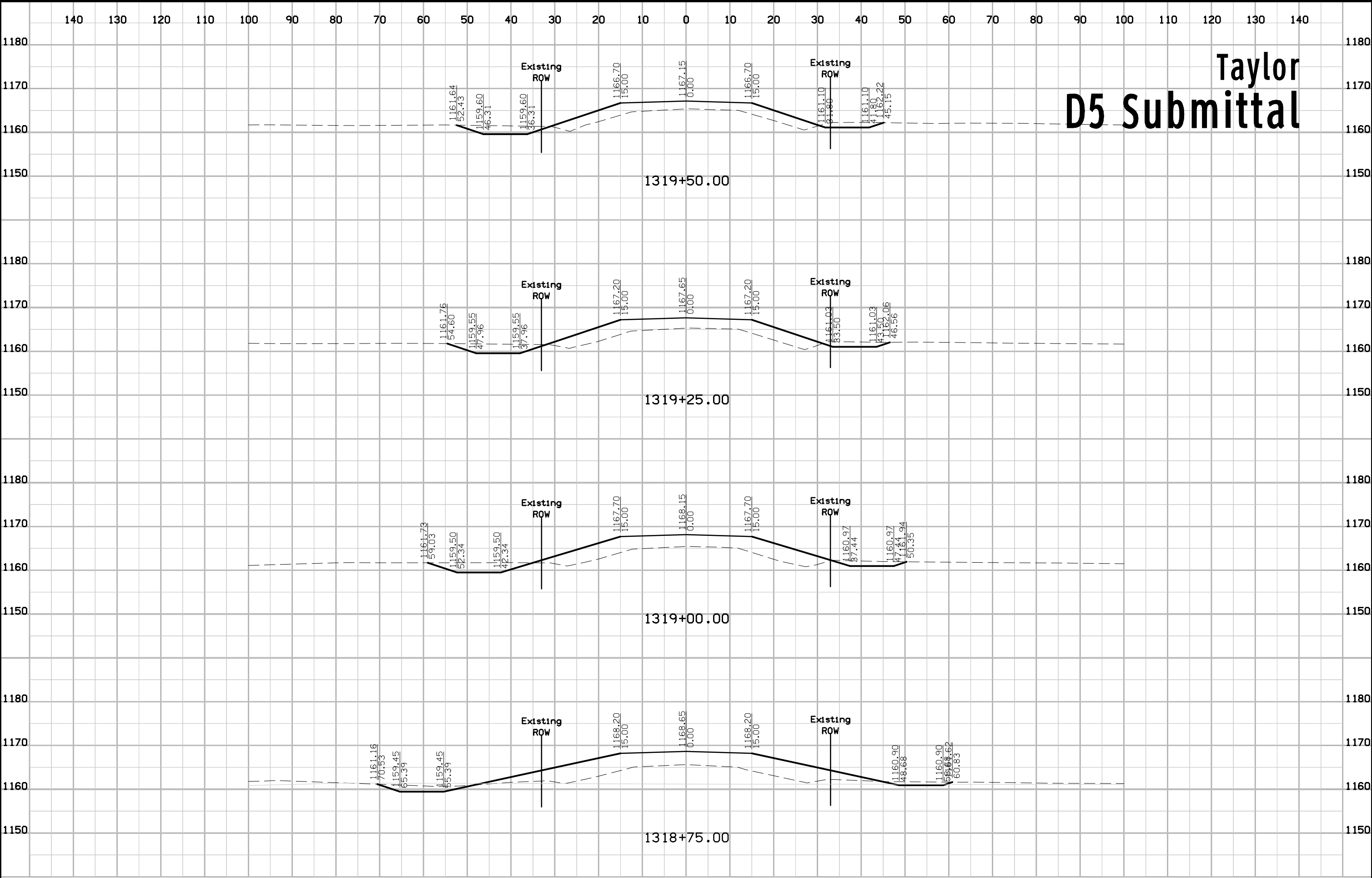
Ent. Sta. 327+25 D5 Submittal



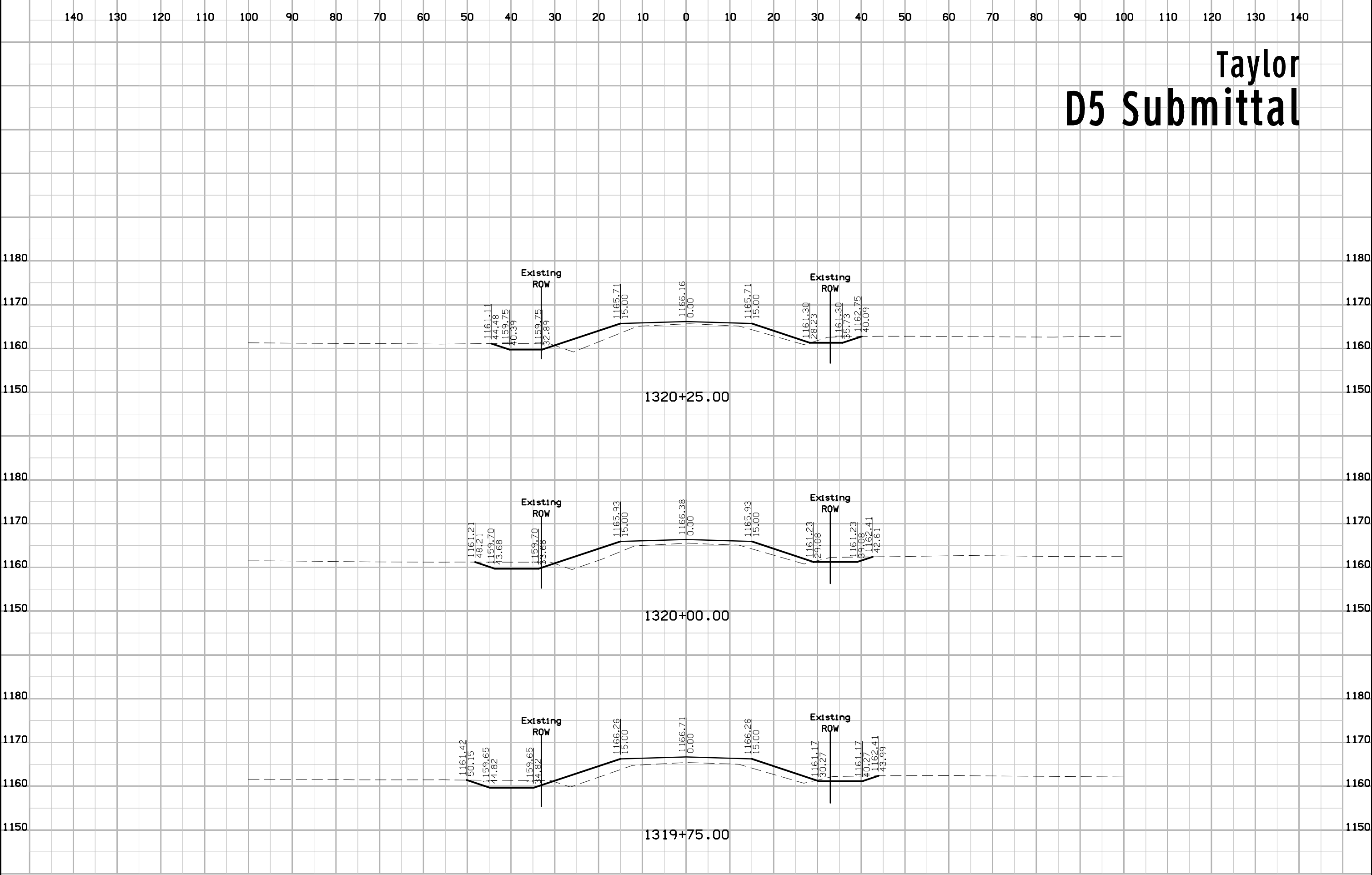
Taylor D5 Submittal



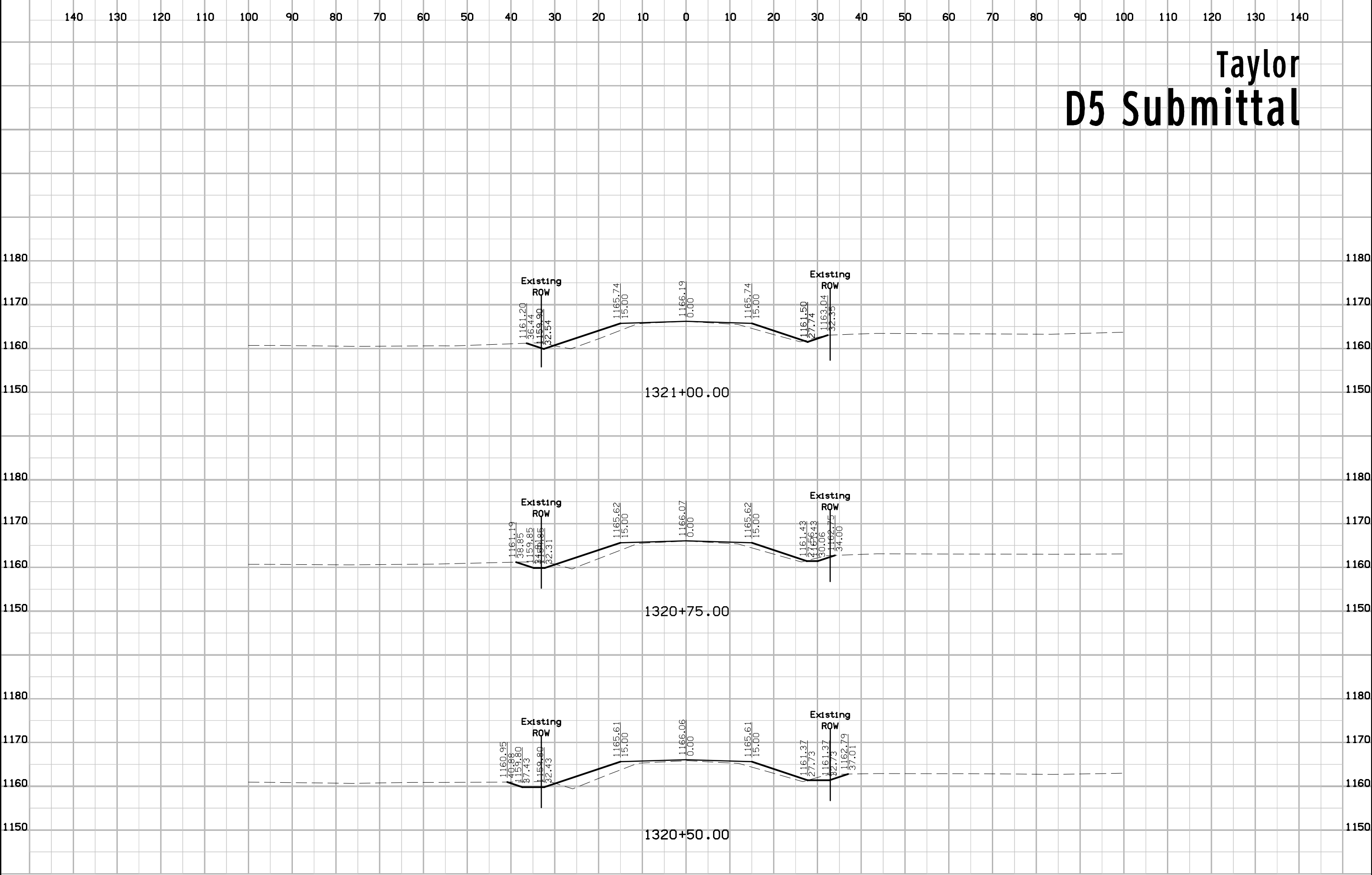
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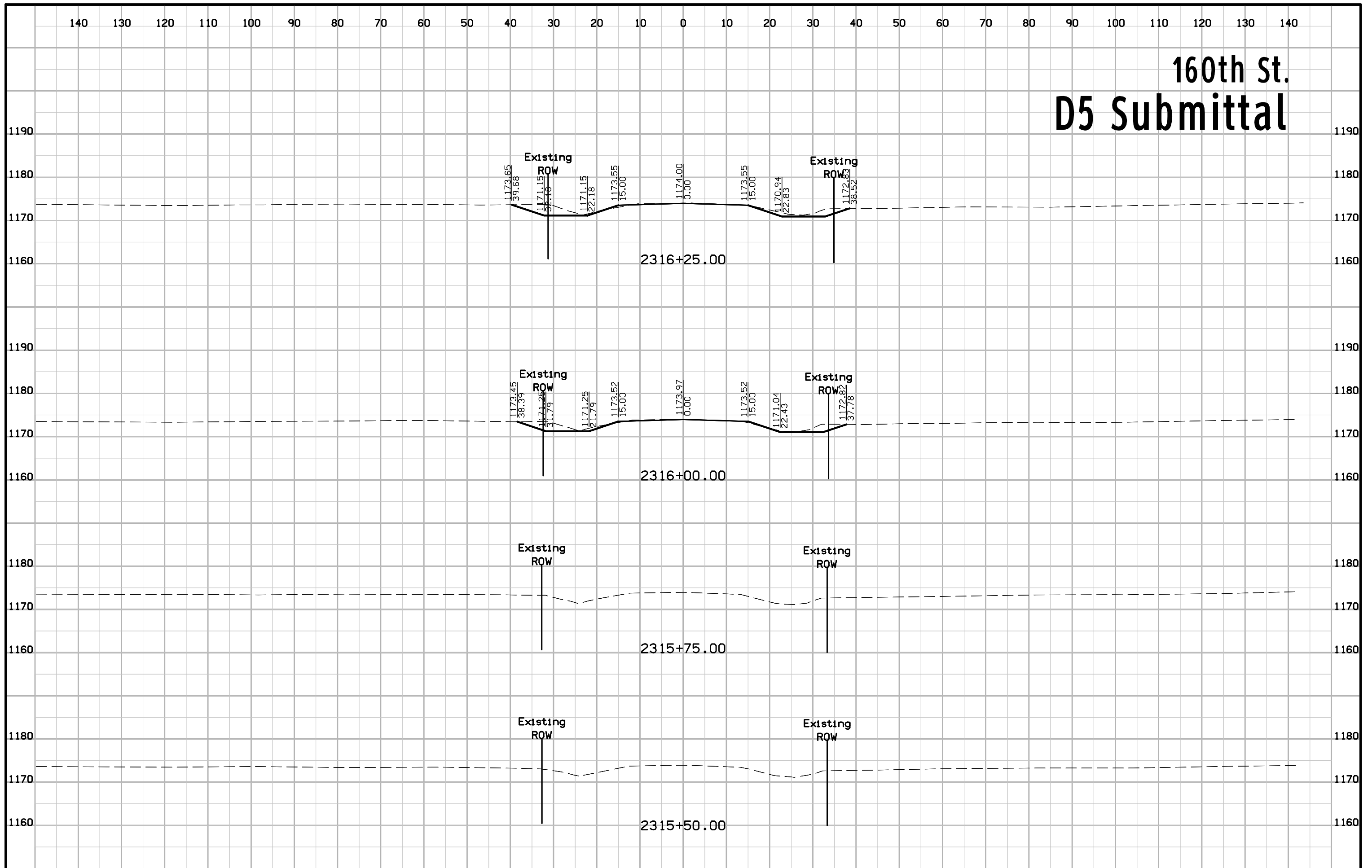
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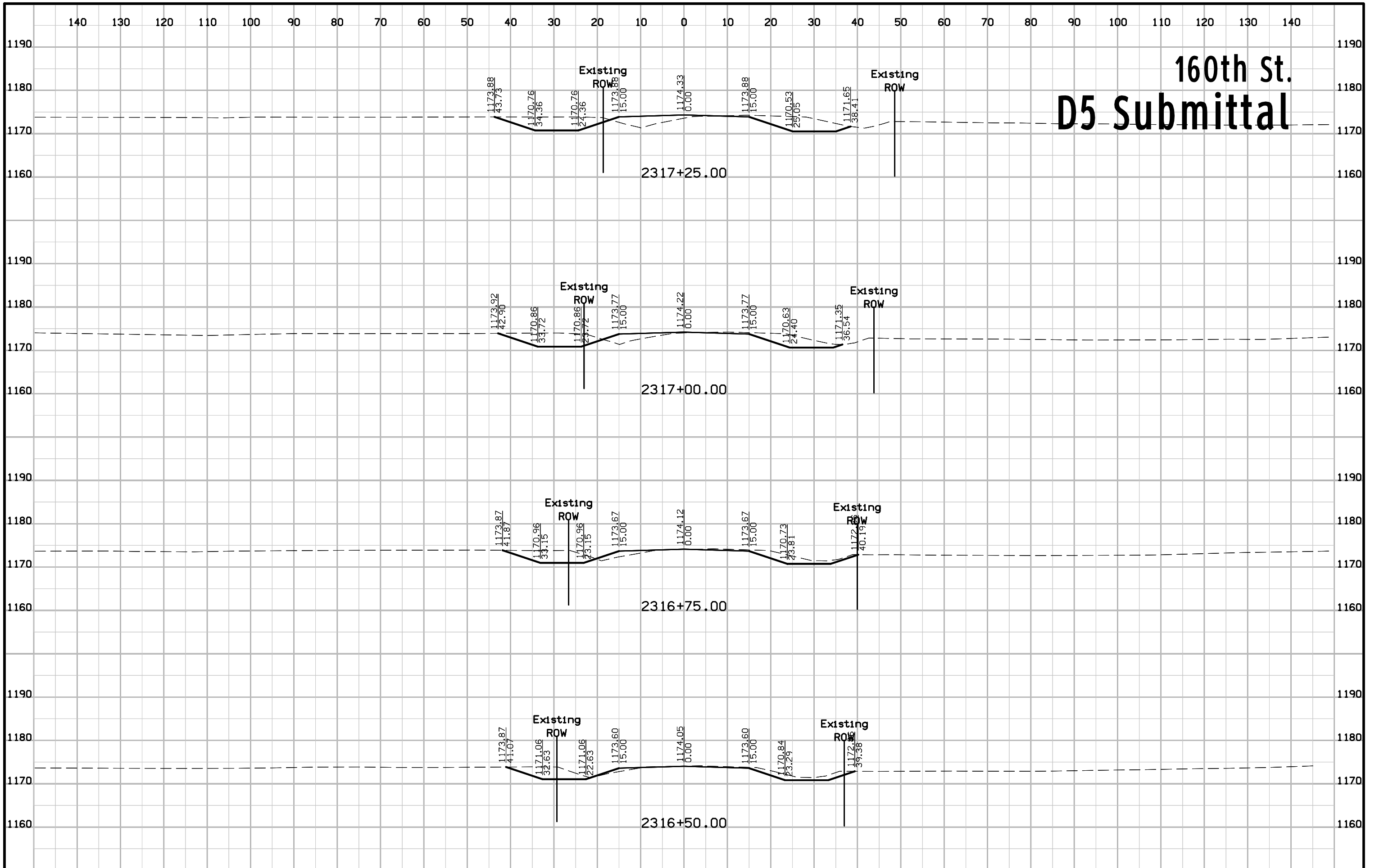
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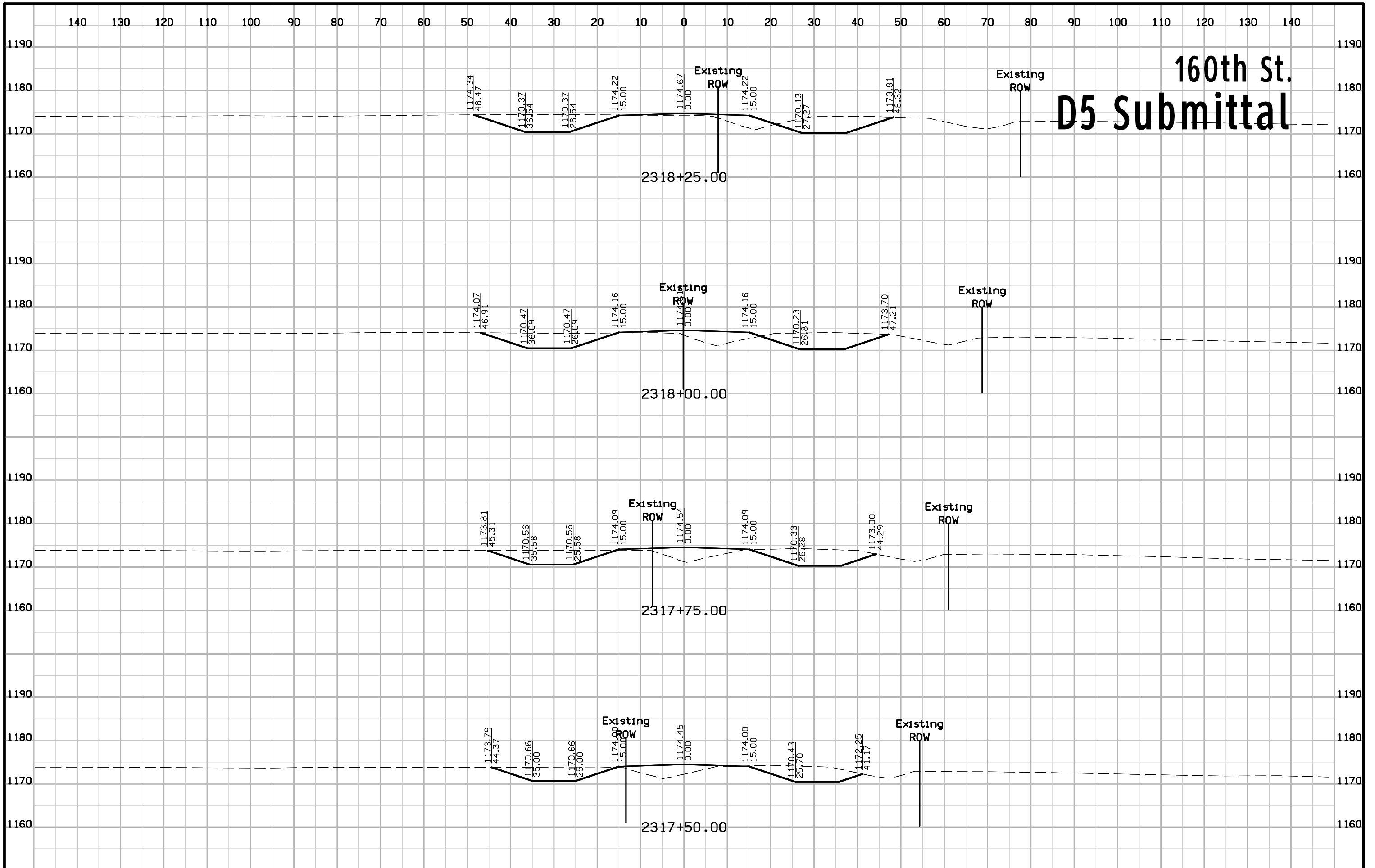
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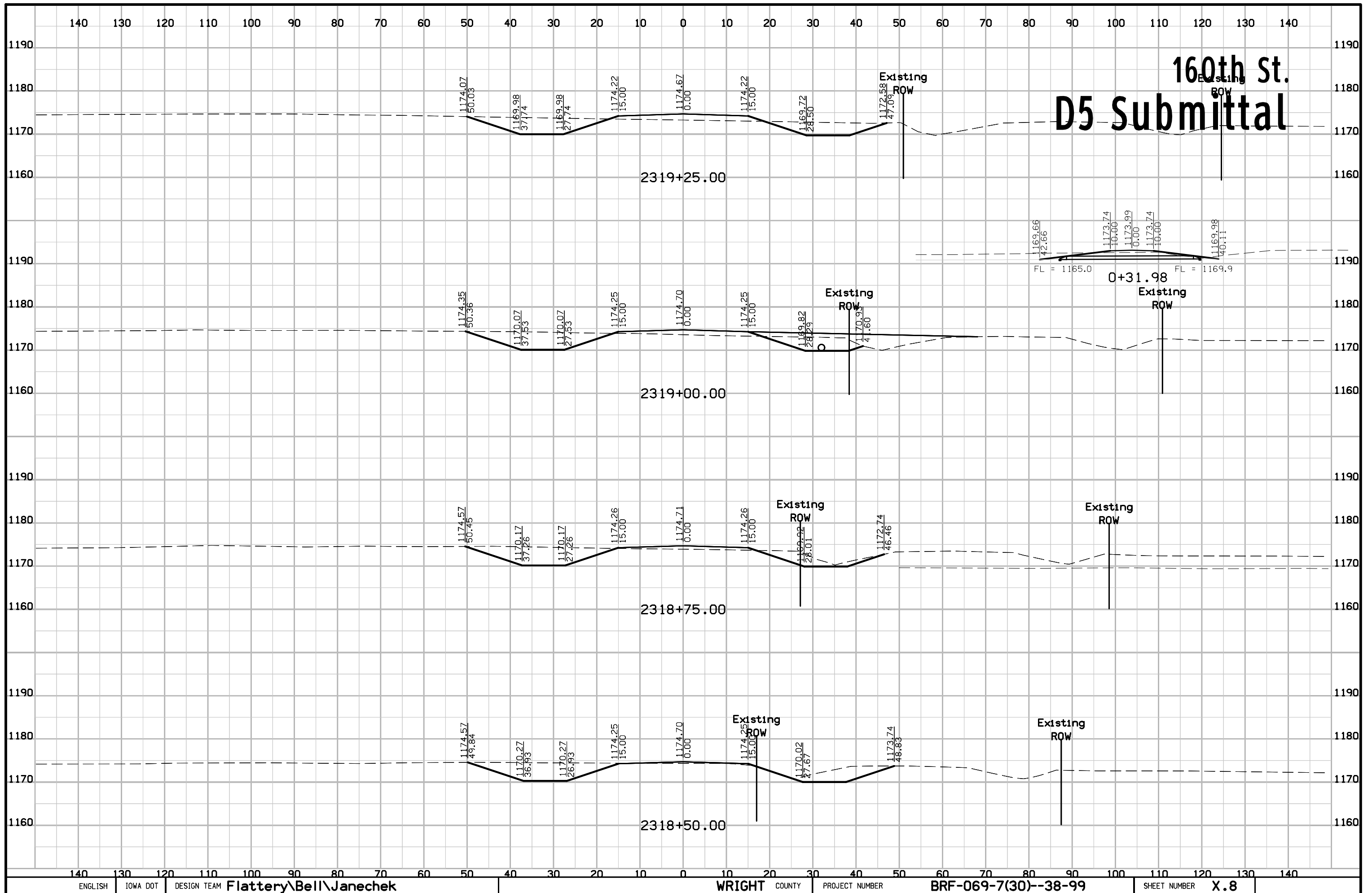


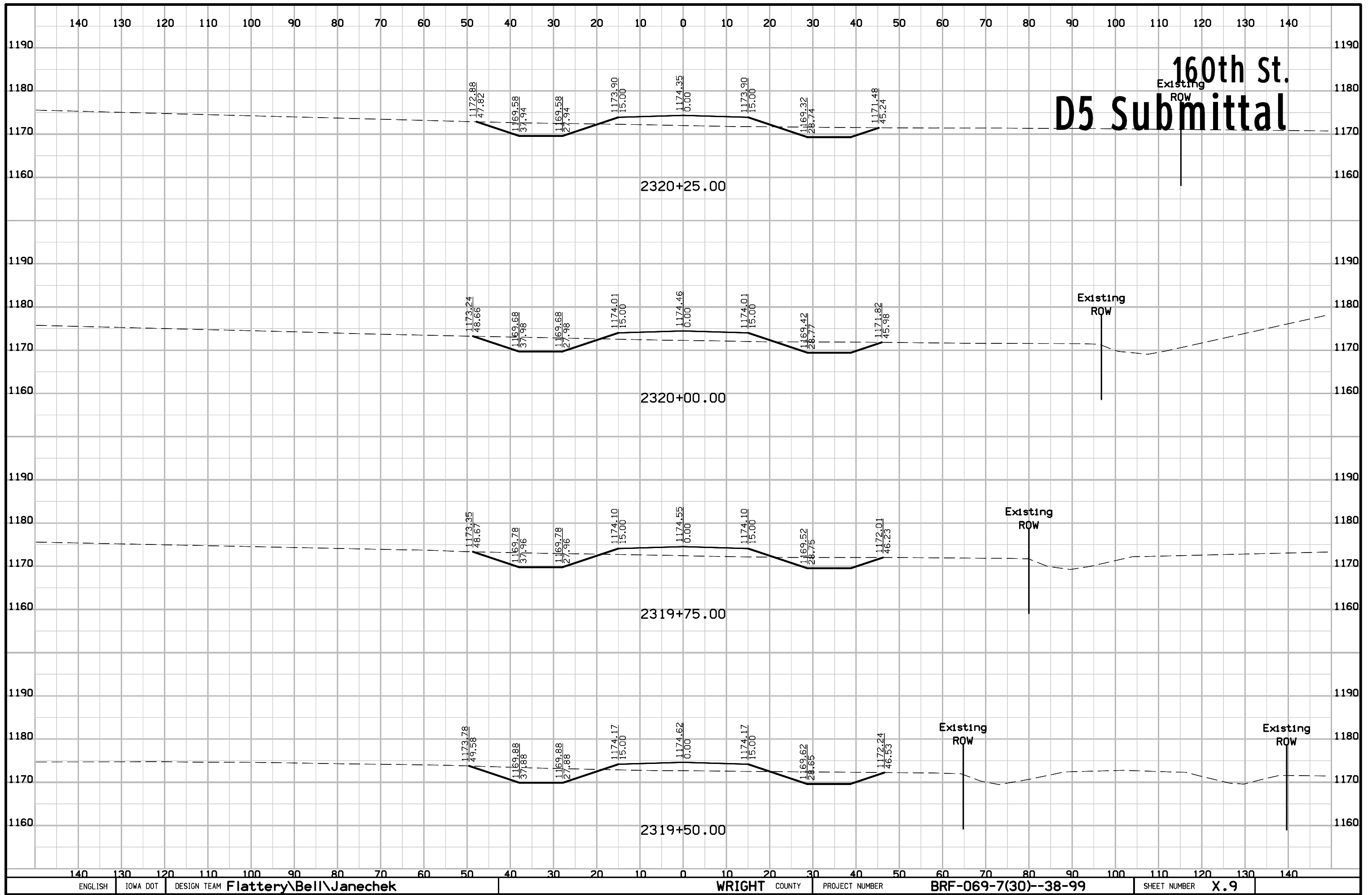
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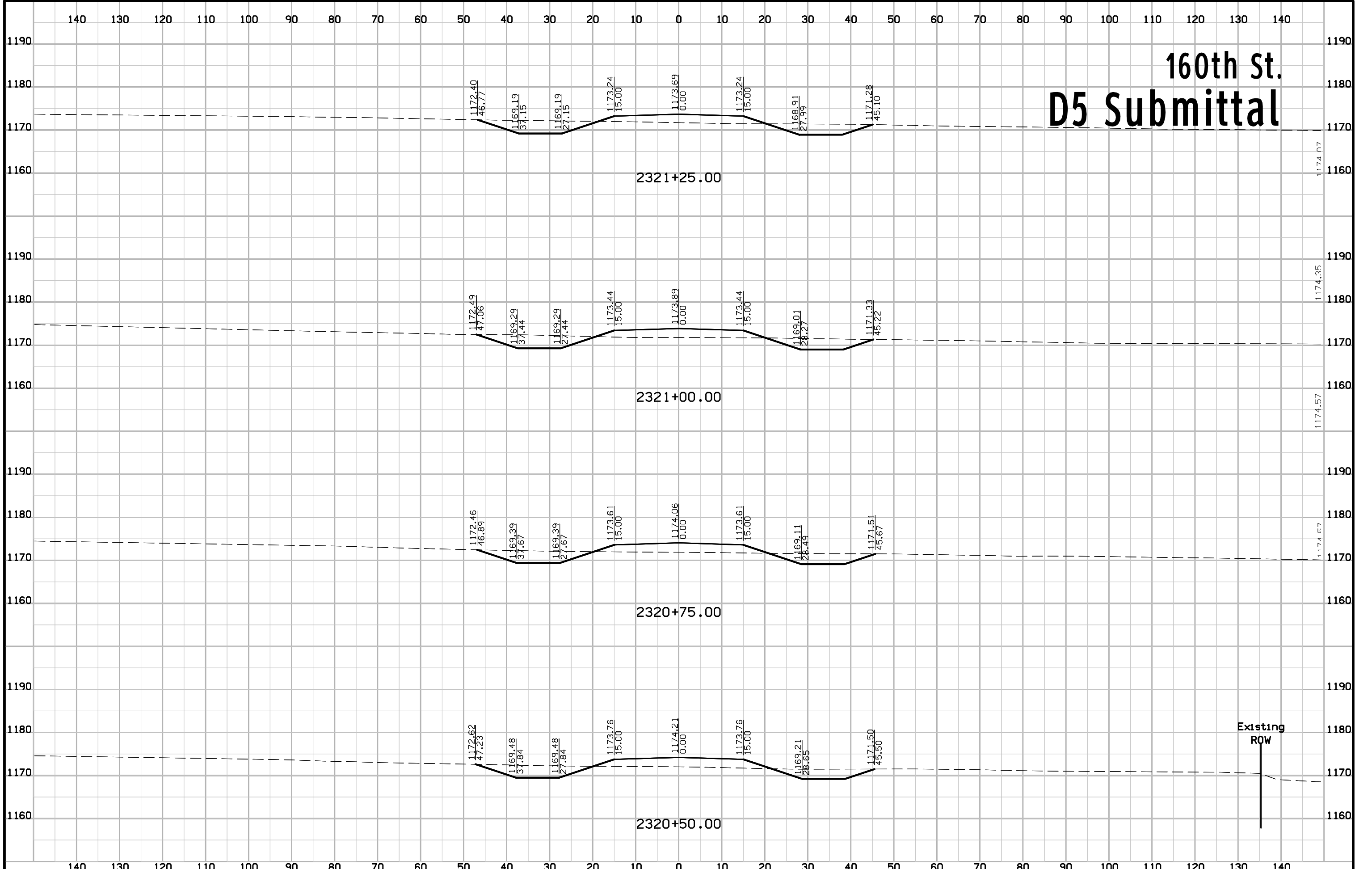
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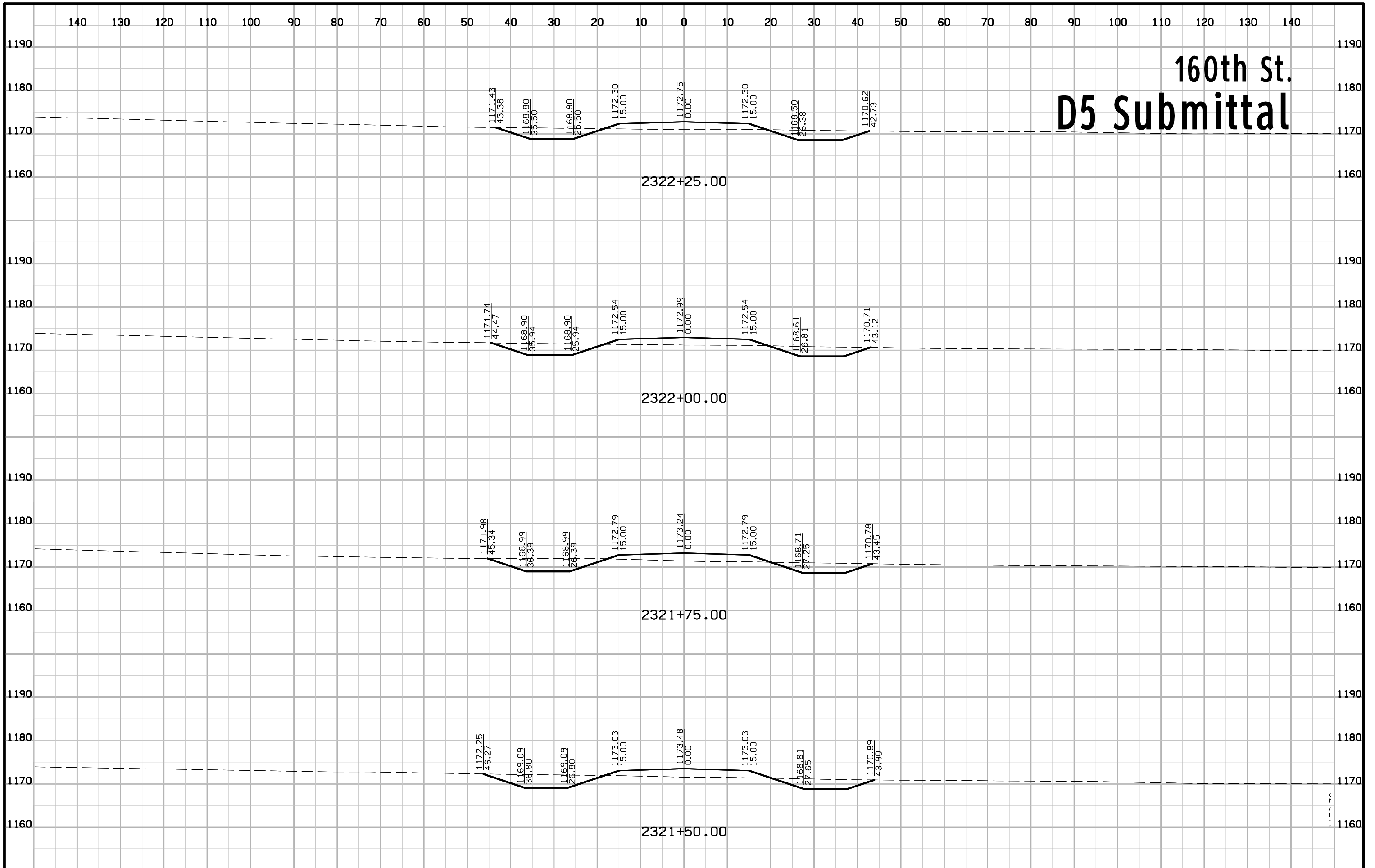


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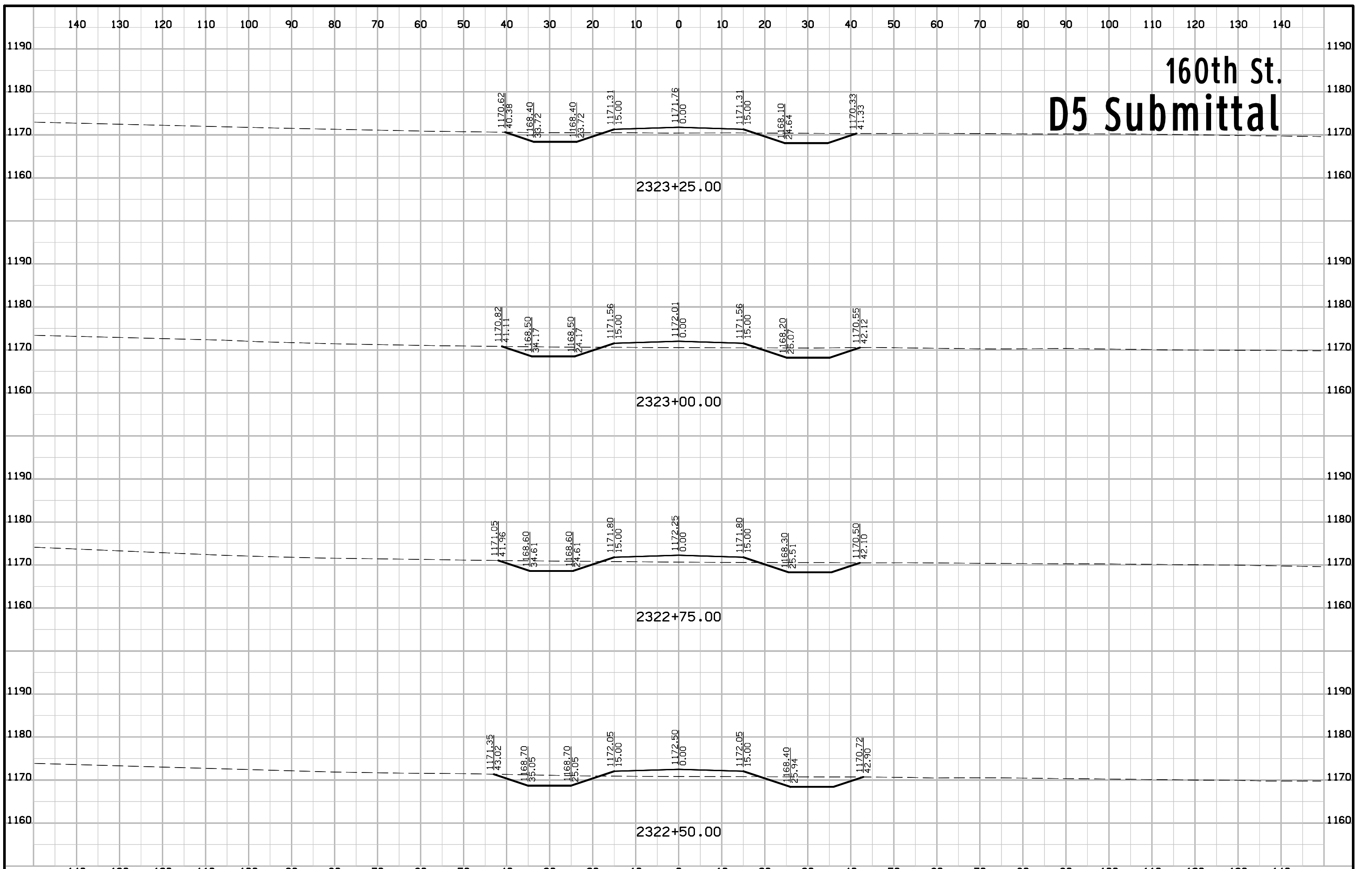


Existing
ROW

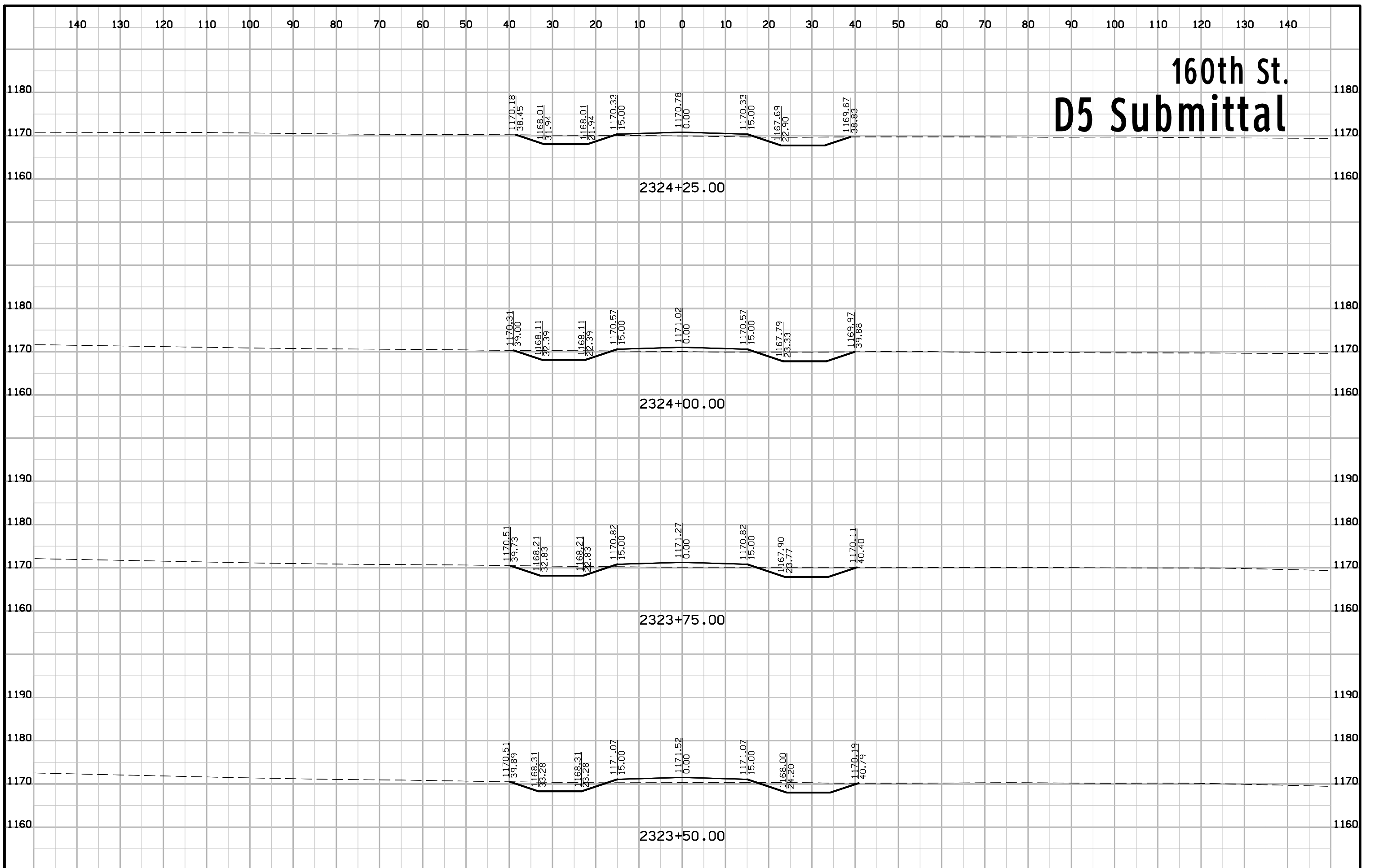
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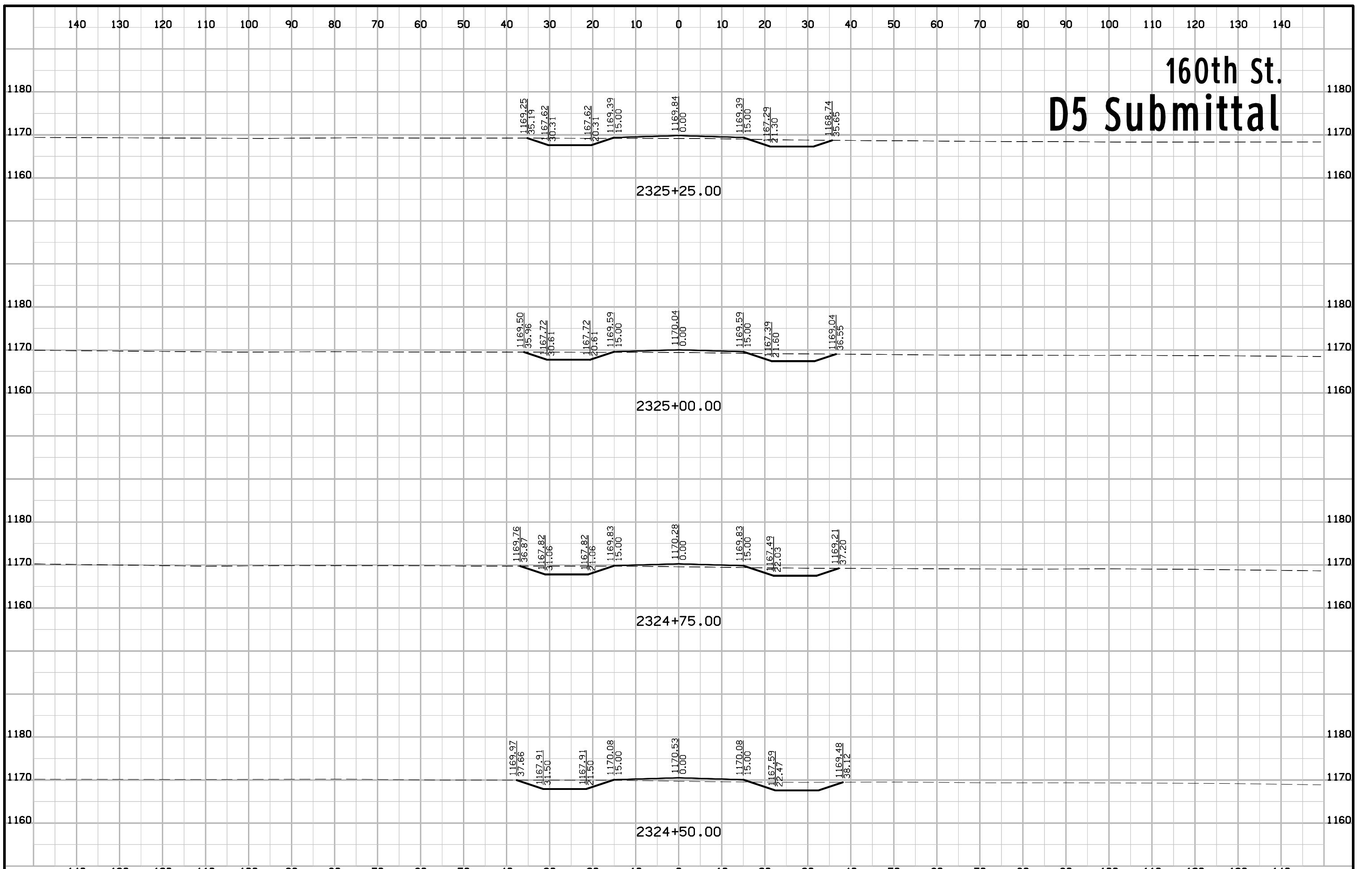
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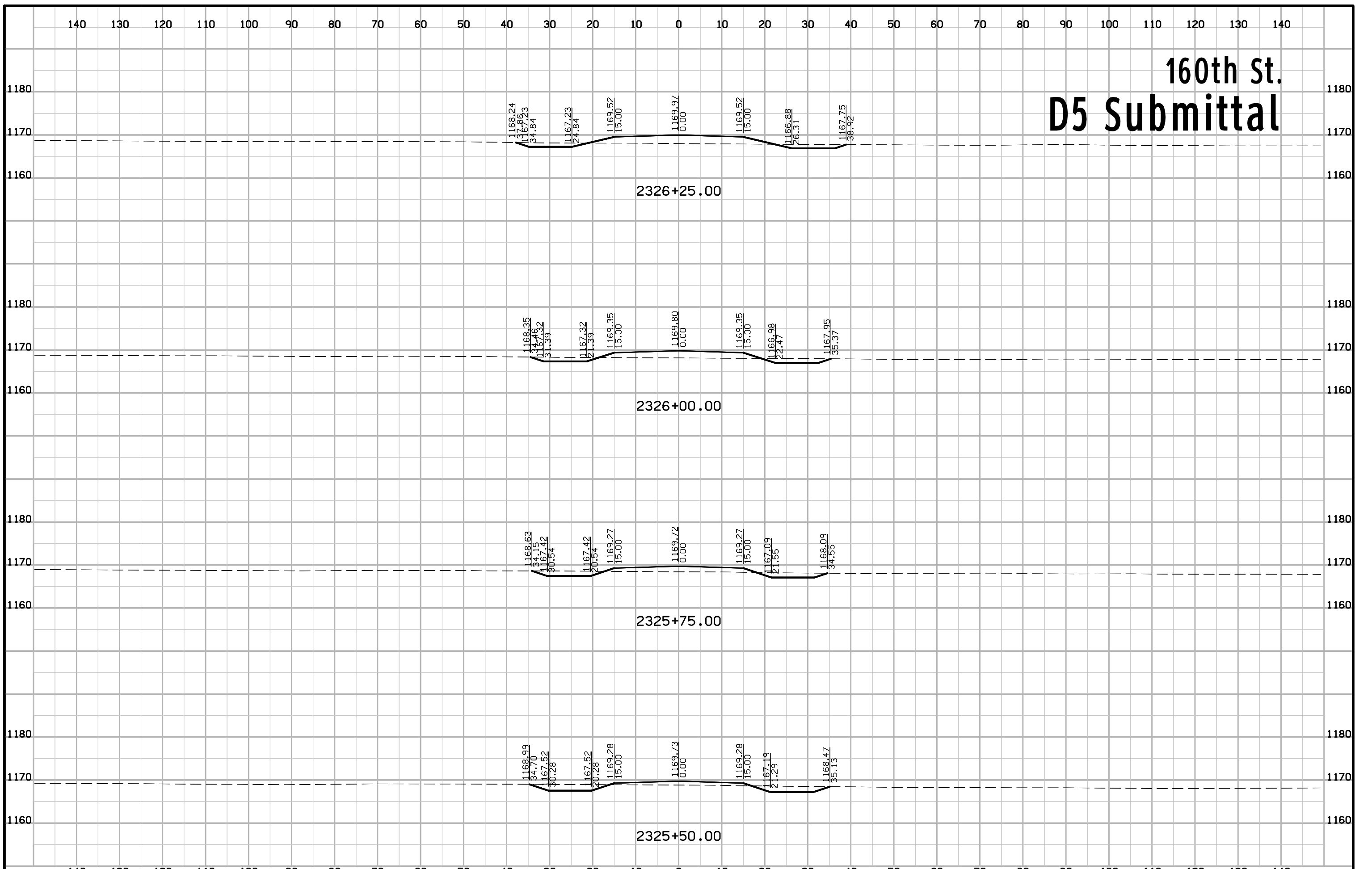
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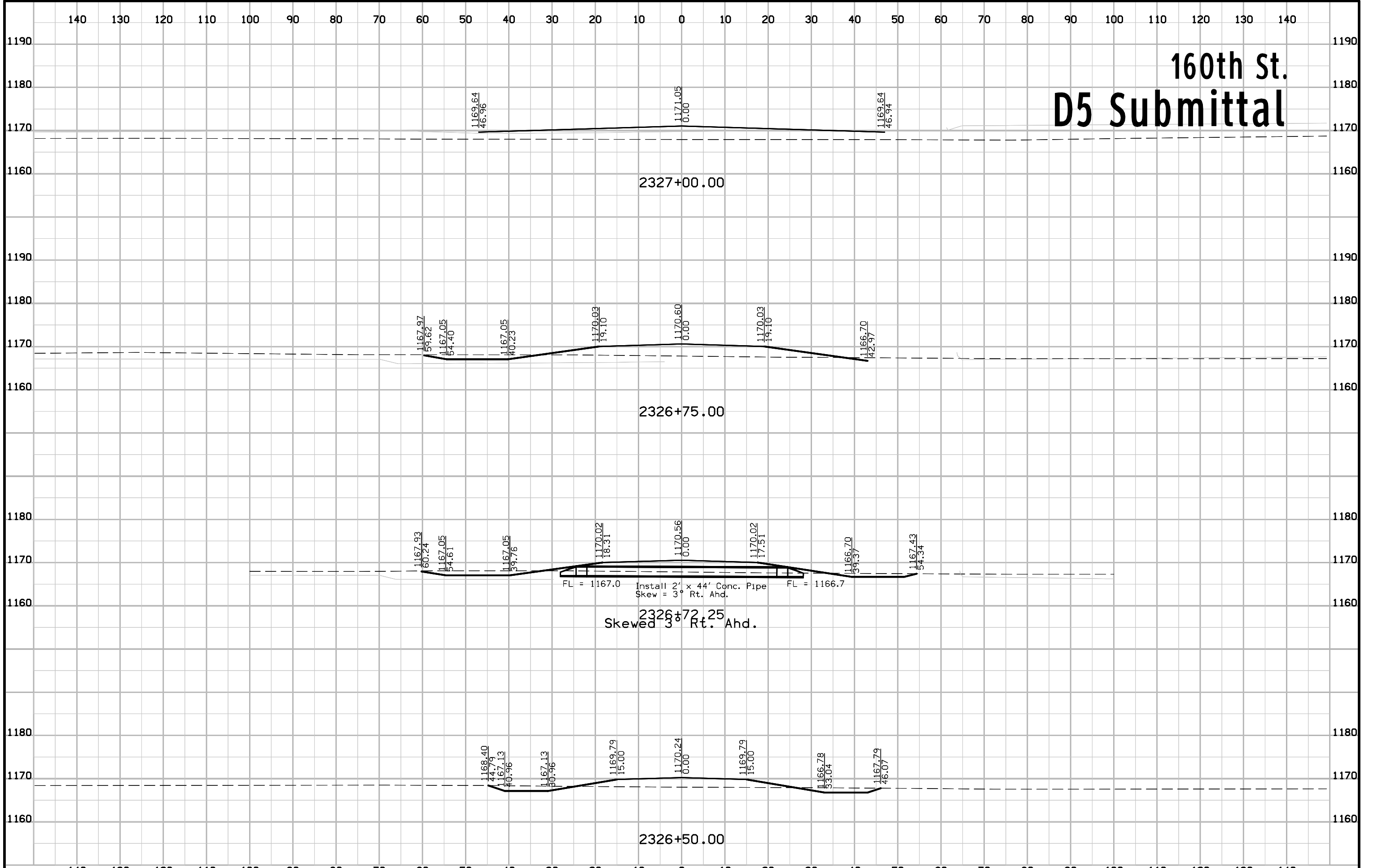
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160th St. D5 Submittal

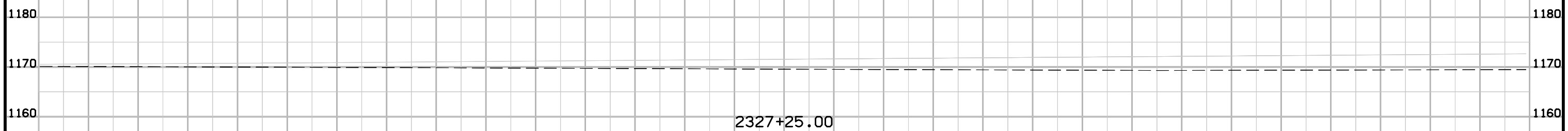


160th St. D5 Submittal



140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

160th St. D5 Submittal



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