

**WOODBURY CO.**  
**GRADING**  
**IMN-029-6(279)130-0E-97**  
 LETTING DATE  
**OCT. 16, 2018**

INDEX OF SHEETS	
No.	DESCRIPTION
<b>A Sheets</b>	<b>Title Sheets</b>
A.1	Title Sheet and Location Map
A.2	Design Criteria Sheets
<b>B Sheets</b>	<b>Typical Cross Sections and Details</b>
B.1	Typical Cross Sections and Details
<b>C Sheets</b>	<b>C Sheets Quantities and General Information</b>
C.1	Tabulations
<b>D Sheets</b>	<b>Mainline Plan and Profile Sheets</b>
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2	I-29
<b>E Sheets</b>	<b>Side Road Plan and Profile Sheets</b>
* E.1 - 2	County Road D-65
<b>G Sheets</b>	<b>Survey Sheets</b>
G.1 - 3	Survey and Alignment Sheets
<b>H Sheets</b>	<b>Right-of-Way Sheets</b>
H.1 - 2	D-65
<b>J Sheets</b>	<b>Traffic Control and Staging Sheets</b>
* J.1	Staging, Traffic Control, & Project Coordination Notes
<b>Q Sheets</b>	<b>Soils Sheets</b>
Q.1	Soils Legend & Symbol Information Sheet
Q.2 - 3	Soils Sheets County Road D-65
<b>U Sheets</b>	<b>500 Series, Mod.Stds. and Detail Sheets</b>
U.1 - 2	Grading Plans
<b>W Sheets</b>	<b>Mainline Cross Sections</b>
W.1	Cross Sections Legend & Symbol Information Sheet
<b>X Sheets</b>	<b>Side Road Cross Sections</b>
X.1 - 25	Side Road Cross Sections
	* Color Plan Sheets



**Highway Division**

PLANS OF PROPOSED IMPROVEMENT ON THE  
**PRIMARY ROAD SYSTEM**  
**WOODBURY COUNTY**  
**GRADING**

County Road D-65/310th St. over I-29  
 2.2 miles North of IA 141

SCALES: As Noted

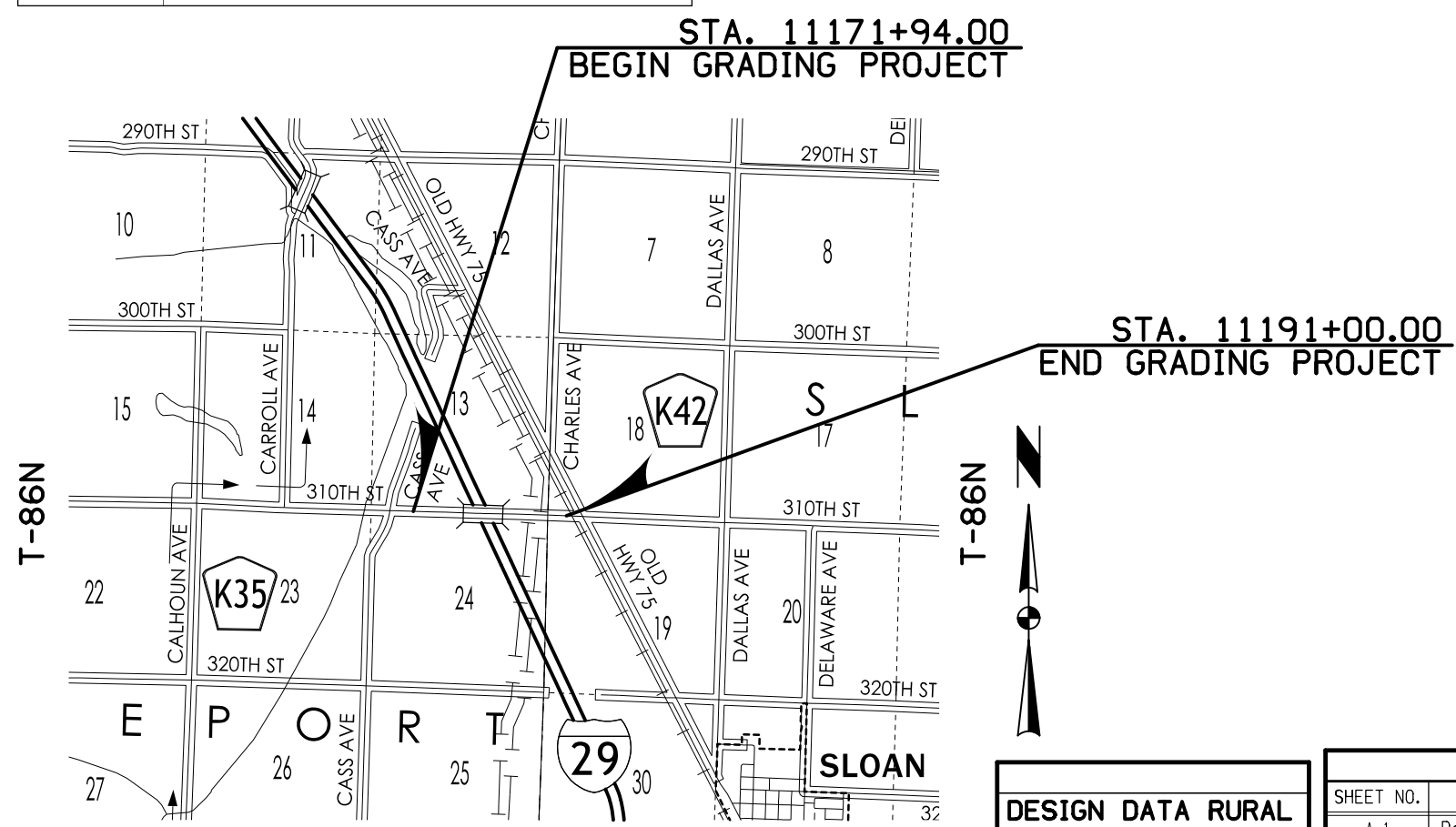
Refer to the Proposal Form for list of applicable specifications.

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

REVISIONS

TOTAL  
45

PROJECT IDENTIFICATION NUMBER	16-97-029-040
PROJECT NUMBER	IMN-029-6(279)130-0E-97
R.O.W. PROJECT NUMBER	IMN-029-6(281)130-0E-97



DESIGN DATA RURAL			
2016	AADT	90	V.P.D.
20--	AADT	TBD	V.P.D.
20--	DHV	TBD	V.P.H.
	TRUCKS	TBD	%
Total Design ESALs		TBD	

INDEX OF SEALS		
SHEET NO.	NAME	TYPE
A.1	Daniel J. Smith	Primary Signature Block

**ROADWAY DESIGN**

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signature: **Daniel J. Smith, P.E.** Date: \_\_\_\_\_

Printed or Typed Name: **Daniel J. Smith, P.E.**

My license renewal date is December 31, 2018

Pages or sheets covered by this seal: A.1-A.2, B.1, C.1, D.1-D.2, E.1-E.2, G.1-G.3, H.1-H.2, J.1, Q.1-Q.3, U.1-U.2, W.1, X.1-X.25

**PRELIMINARY PLANS**

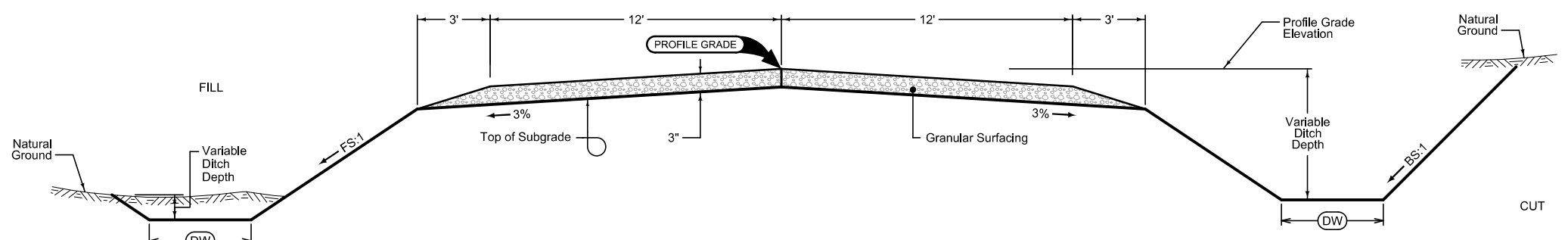
Subject to change by final design.

**D5 PLAN - Date: Dec. 18, 2017**

# Design Criteria Worksheet

<b>Roadway</b>			
<b>PIN Number</b>	16-97-029-040	<b>Submittal Date</b>	9/15/2017
<b>Project Number</b>	IMN-029-6(279)130-0E-97	<b>Revision Date</b>	
<b>District</b>	District 3		
<b>County</b>	Woodbury		
<b>Route</b>	D-65		
<b>Location</b>	County Road D-65/310th St. over I-29. 2.2 Miles North of IA 141		
<b>Work Type</b>	Bridge Raising and Grading		
<b>Segment Manager</b>			
<b>Designer</b>	CH2M		
<b>Design year ADT =</b>	90		
<a href="#">Design Manual Section 1C-1</a> <a href="#">Last Updated: 05-26-17</a>	<b>Secondary Roads</b>		
<b>Design Elements</b>	<b>Project value</b>	<b>Local Systems I.M. 3.210 value</b>	<b>Remarks</b>
Design speed (mph)	50	50	
Design lane width (ft.)	12 (a)	10	
Shoulder width (ft.)	3 (a)	3	
Bridge width - new (ft.)	NA	24	
Bridge width - existing (ft.)	24	20	
Maximum super elevation rate (%)	8%	8%	
Minimum radius (ft.)	758	758	
Stopping sight distance (ft.)	425	425	
Vertical curve length (ft.)	150 (b)	150	
Minimum rate of vertical curvature (K)	Crest	84 (c)	84
	Sag	96 (c)	96
Minimum gradient (%)	0.5% (b)	NA	
Maximum gradient (%)	6%	6	
Foreslope	3:1 (d)	2:1	
Backslope	3:1 (f)	NA	
Traverse slopes	8:1 (e)	NA	
Clearzone	8-10	8-10	See IM 3.215
<b>Notes:</b>			
a) Based on existing roadway approach top width of 30'			
b) Per Iowa DOT Design Manual Chapter 2B-1			
c) Per Iowa DOT Design Manual Chapter 6D-1			
d) See Project Concept Statement			
e) Per Iowa DOT Design Manual Chapter 3F-3			
f) Per Iowa DOT Design Manual Chapter 1C-1, Rural Two Lane: 3:1 preferred, 2.5:1 minimum acceptable			

LOCATION		DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION	FS	BS	(DW) Feet	
D-65	11171+94.00 11191+00.00	3	3	VARI	



**GRADING AND GRANULAR SURFACING**

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.

### ACCESS POINTS AND SAFETY RAMPS

Refer to Cross-Sections

Length of unclassified pipe calculated is based on using Corrugated Metal Pipe.

- ① Refer to MI-210
- ② Refer to EW-501.
- ③ Refer to EW-501 or EW-502.

\*Predetermined for access point not constructed with this project.

Location		Type	Length of Opening ①			Pipe Culvert ③			Aprons		Driveway Surface Area		Driveway Surfacing Material	Remarks				
Station	Side	A, B, C, Safety Ramp, or Predetermined*	Case	1½" Dropped Curb	3" Dropped Curb	W	PR	SR	H	Size	Pipe Length	Lt.	Rt.		No.	HMA	PCC	TON
			1 or 2	LF	LF	FT	FT	FT	FT	IN	LF	LF	LF		LF	SY	SY	TON
11173+23.00	LT	C				16.0		15.0	1.3	24	25.0	1072.27	1072.25		2			14.9
11187+26.00	LT	C				16.0		15.0	2.4	36	32.0	1071.93	1071.88	2			30.2	
11189+90.00	LT	C				16.0		15.0	1.6	18	26.0	1071.65	1071.61	2			18.2	
11189+98.00	RT	C				16.0		15.0	1.0	24	23.0	1072.29	1072.22	2			18.2	
<b>Total</b>										18" Uncl	26.0			2			81.6	
										24" Uncl	48.0			4				
										36" Uncl	32.0			2				

### SURVEY SYMBOLS

- CP Control Point
- BM Bench Mark
- EG Edge of Gravel Road
- GR Ground Shot
- BL Topo Breakline
- FWD Wood Fence
- D Centerline Draw or Stream (Down)
- PIP Pipe Culvert
- TDC Tree Deciduous
- TLNR Tree Line Right
- BRG Bridge
- GDC Guard Rail Cable
- EP Edge of Paved Roads (ML or SR)
- GDL Guard Rail Steel
- SIGN
- GU Gutter In Front of Curb
- CU Back of Curb
- BCL Bridge Centerline
- BD Bridge Deck
- SH Paved Shoulder
- C Centerline BL of Road (ML or SR)
- TLNL Tree Line Left
- FW Wire Fence
- EB Electrical Box
- Default\_Point Default Point Feature
- GV Gas Valve
- BBB Bottom of Bridge Beam
- TOP Top of Bridge Pier
- BLS Bridge Low Steel
- SBR Size of Bridge
- Default\_Chain Default Chain Feature

### UTILITY LEGEND

- E(B) (Underground) Woodbury County Rural Electric Company  
Contact: Nate Bauer  
Phone: 712-873-3125
- G(B) Magellan Midstream Partners  
Contact: Tim Kassen  
Phone: 918-574-7351

### 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

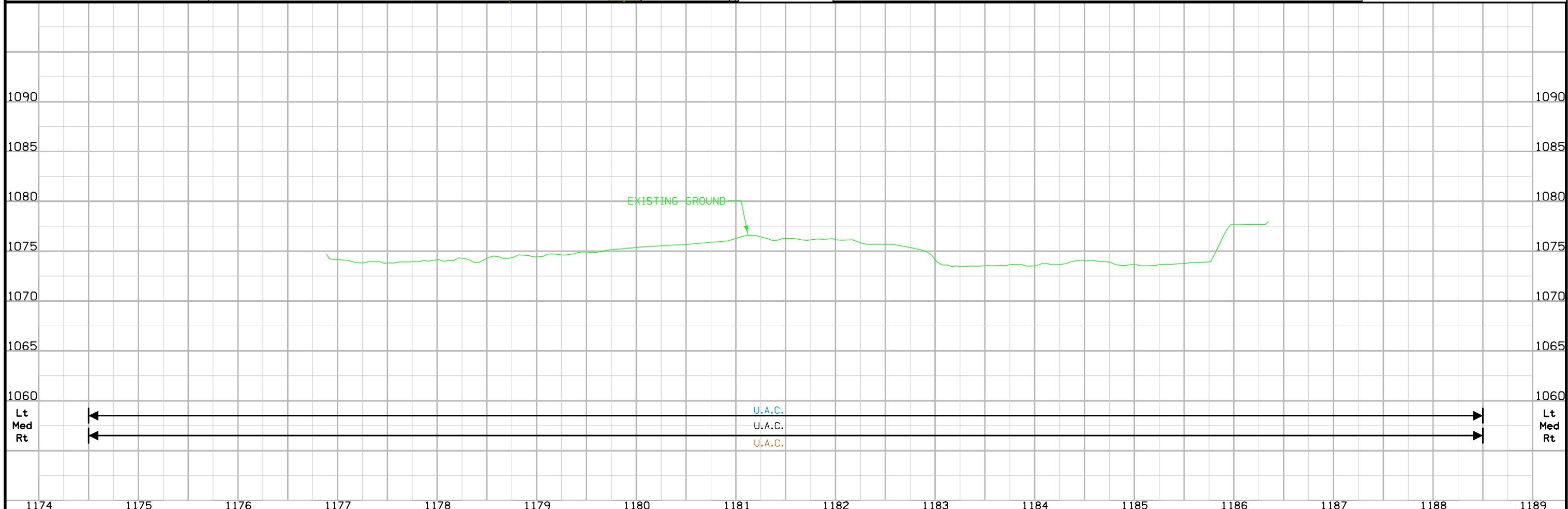
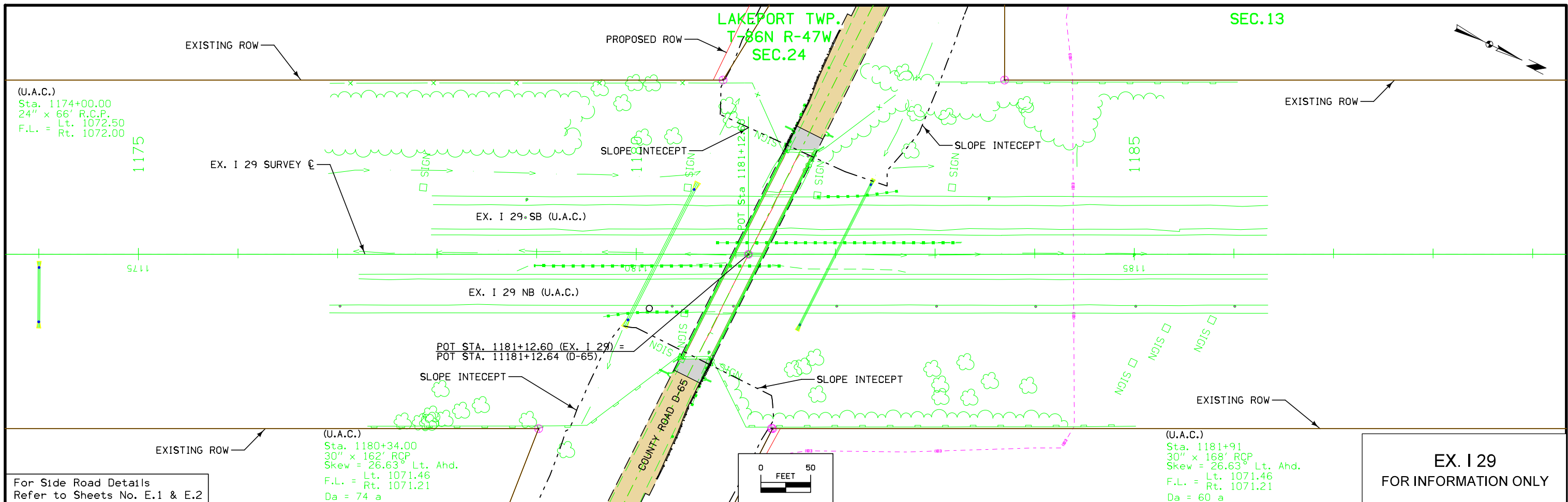
- Reference Point
- Station
- Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Trench Drain
- HighTension Cable Guardrail
- Sheet Pile
- Pavement Removal
- Clearing & Grubbing Area

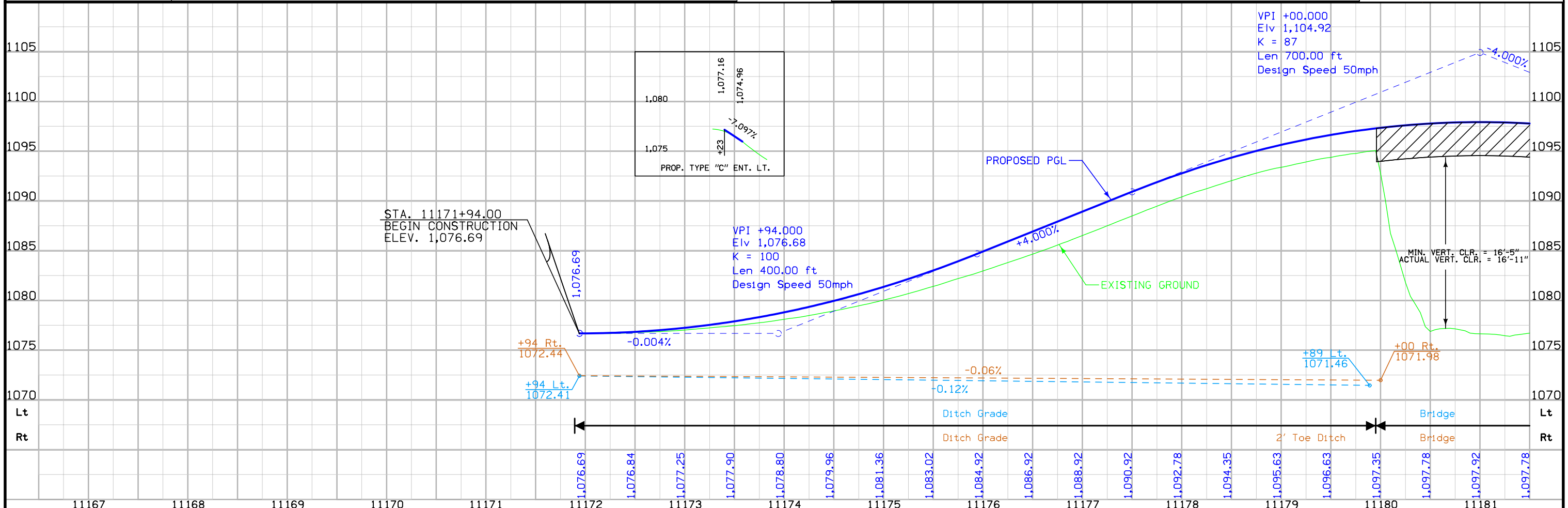
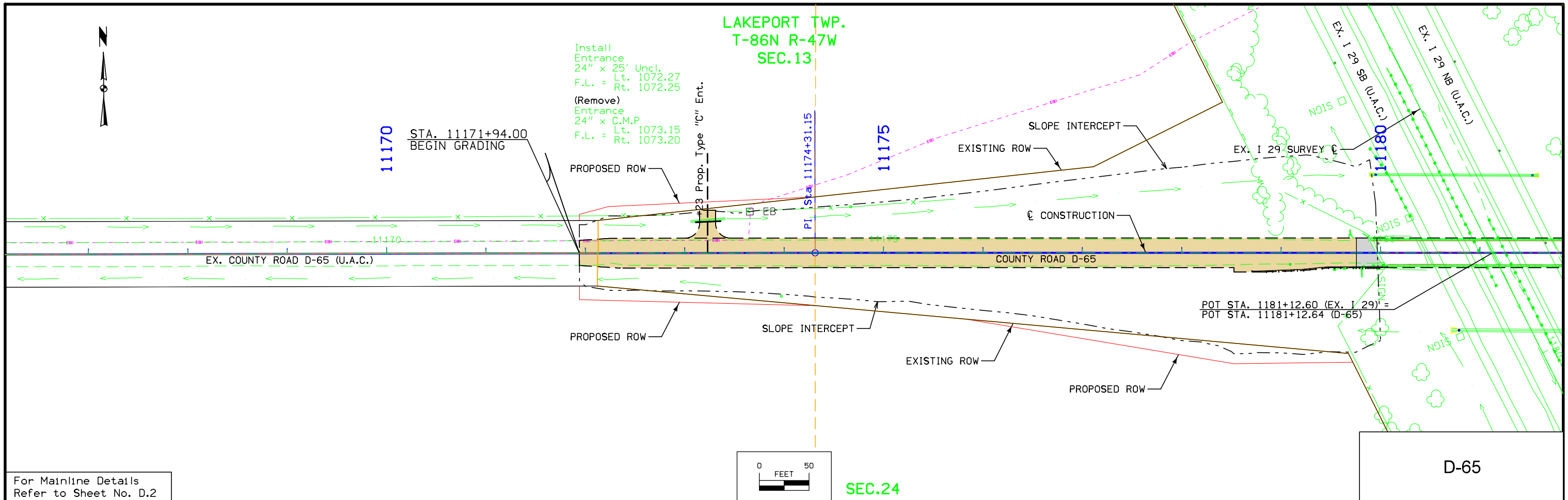
### RIGHT-OF-WAY LEGEND

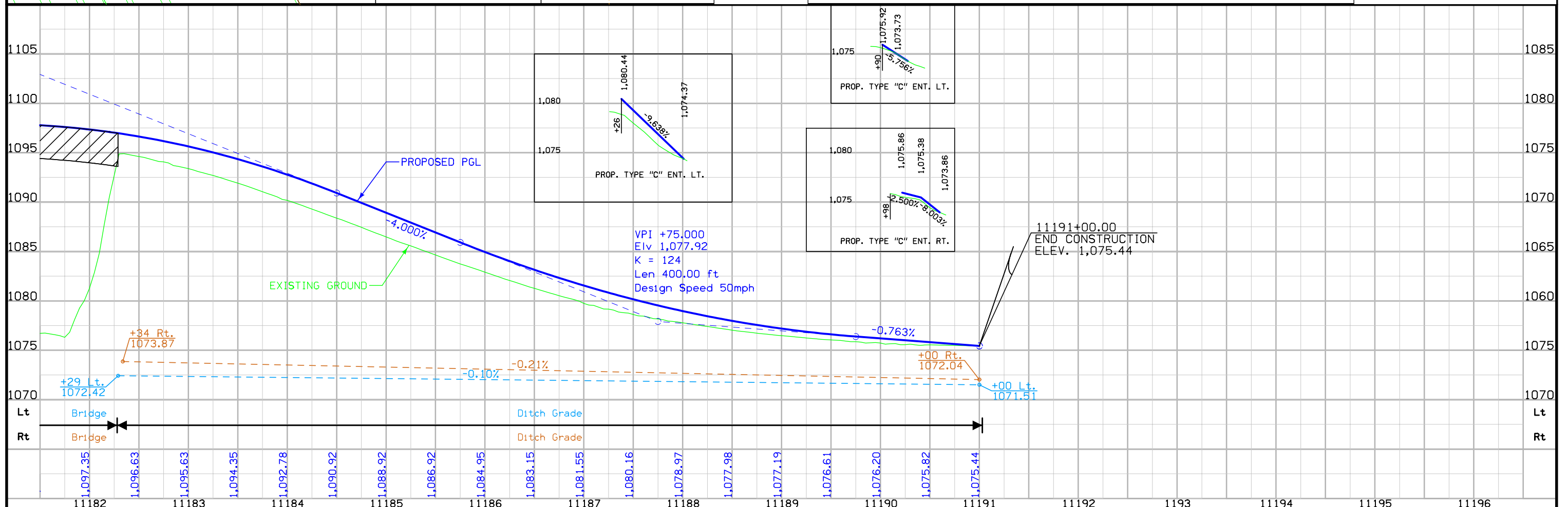
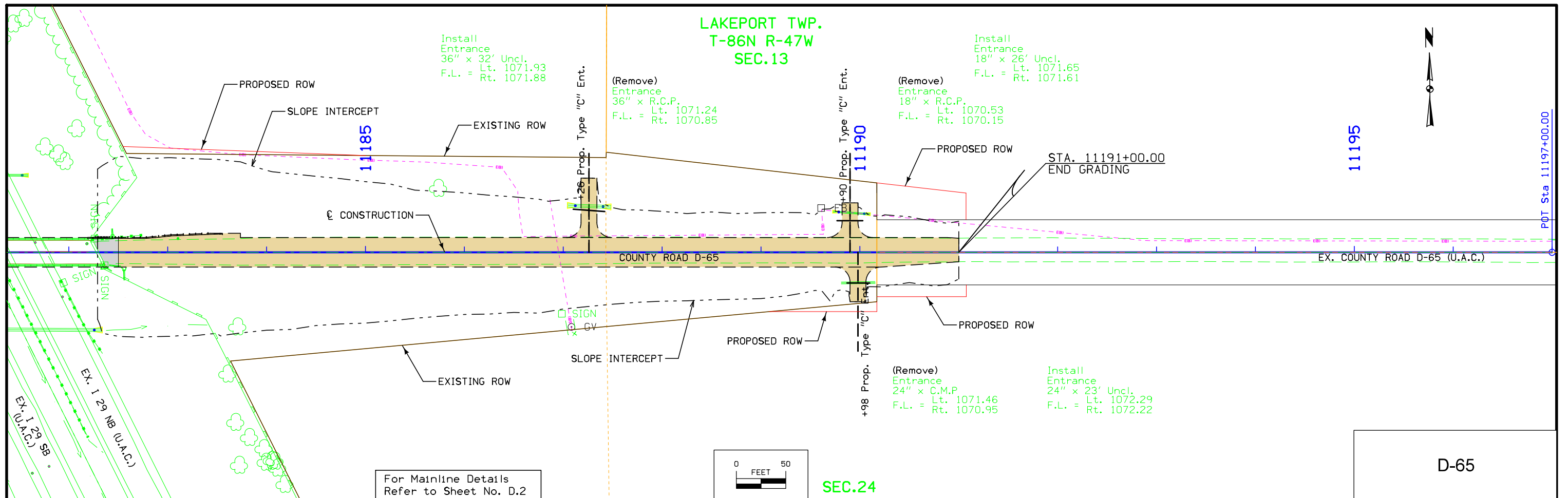
- Proposed Right-of-Way
- Existing Right of Way
- Existing and Proposed Right-of-Way
- Easement and Existing Right-of-Way
- Easement (Temporary)
- Easement
- Access Control
- Property Line

## PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES D & E)









# Survey Information

WOODBURY COUNTY  
IMN-029-6(280)132-0E-97  
290TH STREET AND CARROLL AVENUE K-35

## General Information

Measurement units for this survey are US survey feet. This survey is for proposed Bridge reconstruction and reconstruction of County Road 310th Street over I-29. Project datum and control information is provided by Shive-Hattery, Inc..

## Vertical Control

BENCH MARK SE COR BRIDGE WING WALL IHC CAP FROM IOWA DOT PLANS. VERTICAL DATUM: NAVD88

## Horizontal Control

HORIZONTAL DATUM: NAD83(2011) EPOCH 2013.00  
1a. Regional Coordinate System Zone 4

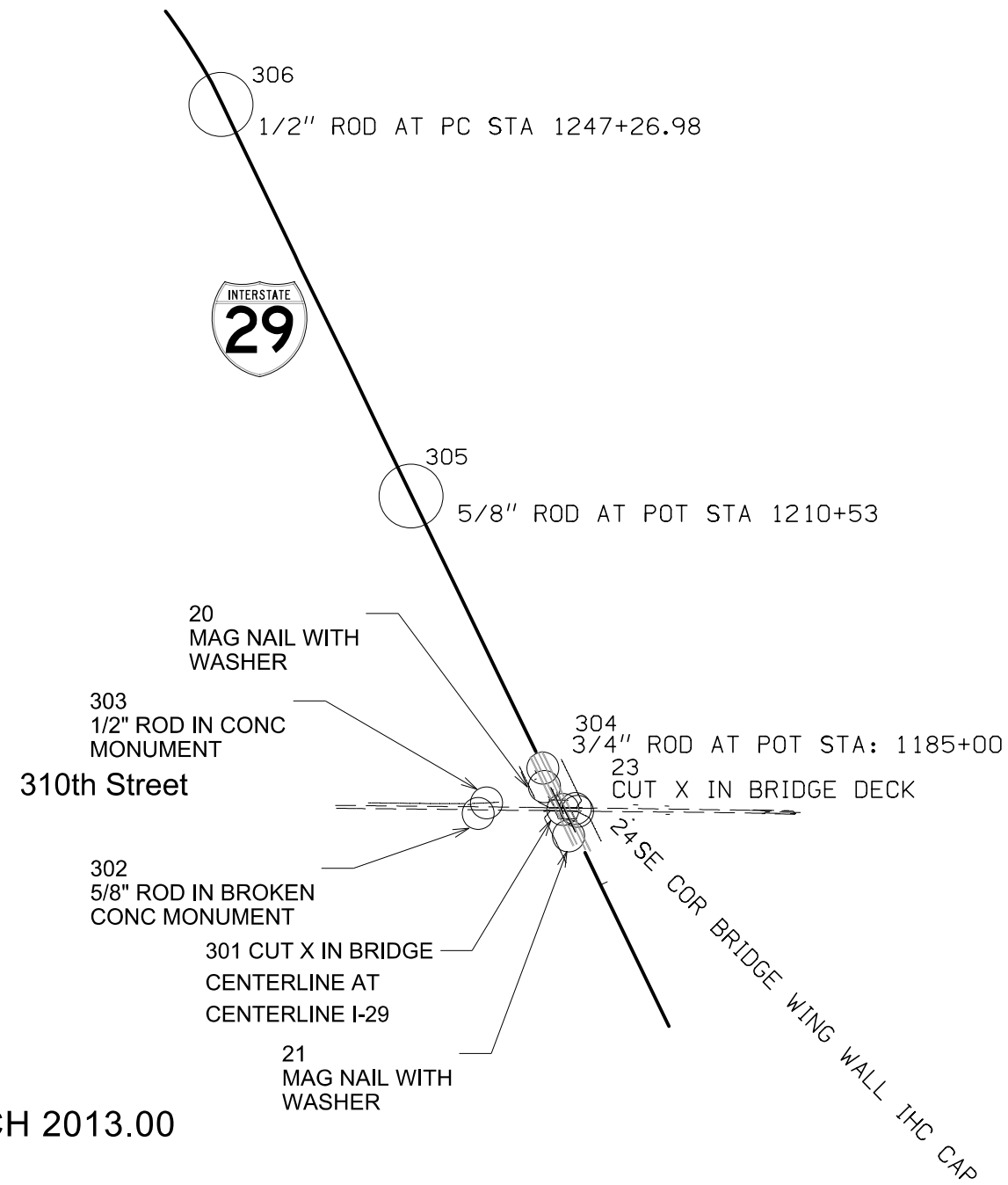
Point Name	Northing	Easting	Elevation	Description
20	8503033.3205	14113991.0755	1077.0160	CP20 MAG NAIL WITH WASHER
21	8502616.1902	14114194.7504	1076.7860	CP21 MAG NAIL WITH WASHER
23	8502847.6320	14114252.8689	1095.0770	CP23 CUT X IN BRIDGE DECK
24	8502824.1546	14114270.0427	1095.5000	BM24 SE COR BRIDGE WING WALL IHC CAP
301	8502840.3174	14114147.3783	1095.9050	CP301 CUT X IN BRIDGE CENTERLINE AT CENTERLINE I-29
302	8502806.0054	14113431.2650	1074.8460	CP302 5/8" ROD IN BROKEN CONC MONUMENT
304	8503189.0567	14113978.3282	1072.6140	CP304 3/4" ROD AT POT STA: 1185+00
305	8505485.9126	14112864.1354	1074.5840	CP305 5/8" ROD AT POT STA 1210+53
306	8508791.1188	14111260.1435	1074.6090	CP306 1/2" ROD AT PC STA 1247+26.98

## Alignment Information

No horizontal alignment was created for this project.

## CONTROL POINT VICINITY MAP

This map is a guide to the vicinity of the primary project control points  
 Primary control is for use with RTK base stations and for RTN validation.  
 Future surveys will use primary project control to establish temporary  
 control as needed for construction or other surveying applications.



HORIZ. DATUM: NAD83(2011) EPOCH 2013.00

VERT. DATUM: NAVD88

1a. Regional Coordinate System Zone 4

Coordinate listing from next sheet will be used with 1aRTN for monument recovery. No other reference ties are given.

# HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING

HORIZ. DATUM: NAD83(2011) EPOCH 2013.00

VERT. DATUM: NAVD88

Ia. Regional Coordinate System Zone 4

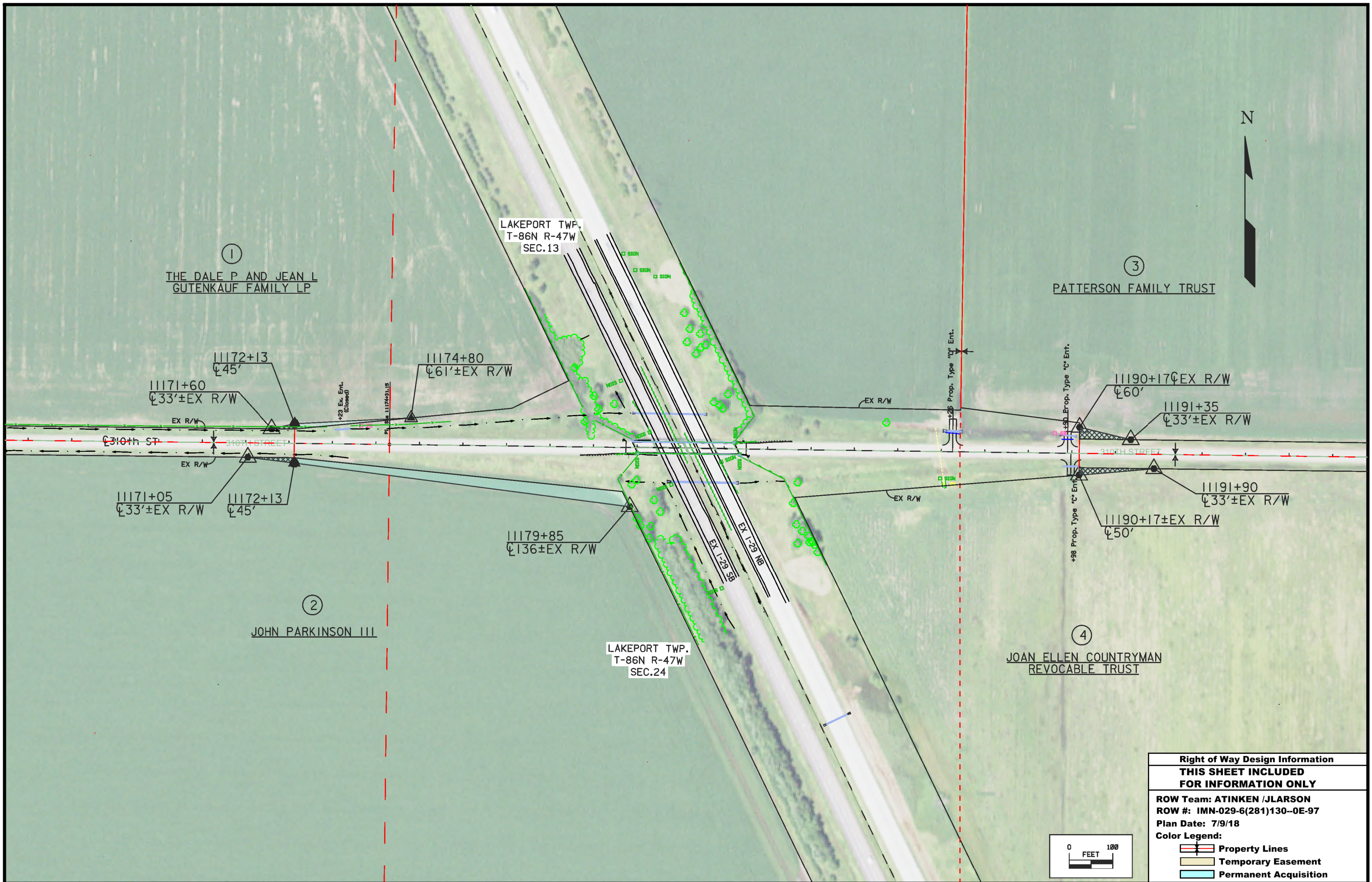
Point Name	Northing	Easting	Elevation	Description
20	8503033.3205	14113991.0755	1077.0160	CP20 MAG NAIL WITH WASHER
21	8502616.1902	14114194.7504	1076.7860	CP21 MAG NAIL WITH WASHER
22	8494851.6364	14114158.9507	1095.0000	CP22 CUT X IN BRIDGE DECK
23	8502847.6320	14114252.8689	1095.0770	CP23 CUT X IN BRIDGE DECK
24	8502824.1546	14114270.0427	1095.5000	BM24 SE COR BRIDGE WING WALL IHC CAP
301	8502840.3174	14114147.3783	1095.9050	CP301 CUT X IN BRIDGE CENTERLINE AT CENTERLINE I-29
302	8502806.0054	14113431.2650	1074.8460	CP302 5/8" ROD IN BROKEN CONC MONUMENT
304	8503189.0567	14113978.3282	1072.6140	CP304 3/4" ROD AT POT STA: 1185+00
305	8505485.9126	14112864.1354	1074.5840	CP305 5/8" ROD AT POT STA 1210+53
306	8508791.1188	14111260.1435	1074.6090	CP306 1/2" ROD AT PC STA 1247+26.98




## ALIGNMENT COORDINATES

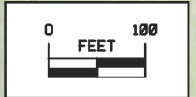
101-16  
10-20-09

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	
			Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)
SRD65	D-65															
SRD351		11165+00.00	8,502,859.4411	14,112,534.7351												
SRD353		11174+31.15	8,502,849.2610	14,113,465.8340												
SRD354		11197+00.00	8,502,819.8193	14,115,734.4892												
ML029	EX. I-29															
1009		1123+01.60	8,497,612.2550	14,116,683.7990												
JS200		1181+12.60	8,502,840.4177	14,114,147.2627												
1008		1247+26.66	8,508,791.0960	14,111,260.1850												








<b>Right of Way Design Information</b>	
<b>THIS SHEET INCLUDED FOR INFORMATION ONLY</b>	
ROW Team: ATINKEN /JLARSON	
ROW #: IMN-029-6(281)130--0E-97	
Plan Date: 7/9/18	
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: ATINKEN /JLARSON	
ROW #: IMN-029-6(281)130--0E-97	
Plan Date: 7/9/18	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition

### 511 TRAVEL RESTRICTIONS

Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
D-65	Both	Woodbury	D-65/310th St. Closed 2.2 miles north of IA 141	I-29	Bridge	9729.80029						

**108-23A**  
08-01-08

#### TRAFFIC CONTROL PLAN

1. Woodbury County Road D-65/310th Street will be closed from just east of Cass Avenue to just west of County Road K-45/Old Highway 75 during construction. Woodbury County will provide an off-site detour route for County Road D-65/310th Street.
2. Access to adjacent properties via an existing entrance located within the reconstruction limits of County Road D-65/310th Street shall be maintained at all times.
3. Traffic is to be maintained along I-29 northbound and southbound at all times. The inside northbound and southbound I-29 shoulder may be closed as needed to provide temporary barrier protection of the workzone within the existing I-29 median.
4. Traffic control shall be in accordance with Iowa DOT Standard Road Plans including TC-1, TC-202, TC-252, and TC-402. For additional traffic control information, refer to Part 6 of the Manual on Uniform Traffic Control Devices (MUTCD) and the current Iowa DOT Standard Specifications.

**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
IMN-029-6(280)132-0E-97	Bridge Raising

**108-26A**  
08-01-08

#### STAGING NOTES

PROPOSED SEQUENCE OF CONSTRUCTION

Stage 1

- Close County Road D-65/310th Street from just east of Cass Avenue to just west of County Road K-45/Old Highway 75.
- Remove existing I-29 overpass paved approach slabs and construct bridge repair and raising work.
- Construct approach roadway grading east and west of the I-29 crossing.

Stage 2

- Open County Road D-65/310th Street I-29 overpass to traffic.

### SURVEY SYMBOLS

- CP Control Point
- BM Bench Mark
- EG Edge of Gravel Road
- GR Ground Shot
- BL Topo Breakline
- FWD Wood Fence
- D Centerline Draw or Stream (Down)
- PIP Pipe Culvert
- TDC Tree Deciduous
- TLNR Tree Line Right
- BRG Bridge
- GDC Guard Rail Cable
- EP Edge of Paved Roads (ML or SR)
- GDL Guard Rail Steel
- SIGN Sign
- GU Gutter In Front of Curb
- CU Back of Curb
- BCL Bridge Centerline
- BD Bridge Deck
- SH Paved Shoulder
- C Centerline BL of Road (ML or SR)
- TLNL Tree Line Left
- FW Wire Fence
- EB Electrical Box
- Default\_Point Default Point Feature
- GV Gas Valve
- BBB Bottom of Bridge Beam
- TOP Top of Bridge Pier
- BLS Bridge Low Steel
- SBR Size of Bridge
- Default\_Chain Default Chain Feature

### UTILITY LEGEND

- E(B) (Underground) Woodbury County Rural Electric Company  
Contact: Nate Bauer  
Phone: 712-873-3125
- G(B) Magellan Midstream Partners  
Contact: Tim Kassen  
Phone: 918-574-7351

### PLAN VIEW COLOR LEGEND OF SOILS SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Purple (Halo)	(15)	Backslope Drains
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
SHADING		
Design Color No.		
Brown, Light	(236)	Core Out

### PROFILE VIEW COLOR LEGEND OF SOILS SHEETS

LINEWORK	Design Color No.	
Blue	(1)	Proposed Alignment, Stationing, and Alignment Annotation
Green	(2)	Existing Ground Line Profile
Green, Med	(227)	Topsoil
Green, Med	(227)	Slope Dressing Only
Orange	(6)	Loam
Brown, Dark	(238)	Class 10
Brown, Med	(237)	Sand
Red	(3)	Unsuitable A
Pink, Dark	(13)	Unsuitable B
Pink	(11)	Unsuitable C
Red	(3)	Shale
Red	(3)	Waste
Gray, Light	(48)	Broken and Weathered Rock
Gray, Med	(80)	Rock
Gray, V.Dark	(128)	Boulders

### PATTERN AND SYMBOL LEGEND OF SOILS SHEETS

Drill	Dig/Core	Soils Book No. _____
Water	Treatment	Date(s) Drilled _____
Dry	Sand Blanket	Sandstone
Sample	Soil Remediation Area	Unsuitable A
Plugged	Select Soil	Unsuitable B
Moisture	Select Sand	Unsuitable C
Shelby	Slope Dressing Only	Sandy Soil
Blow Count	Broken and Weathered Rock	Boulders
Dens. Core	Rock	Shale

Reference Point	Survey Line
Station	Section Corner
Ground Line Intercept	Saw Cut
Guardrail	Clearing & Grubbing Area
Pavement Removal	Blank
Blank	Blank

### RIGHT-OF-WAY LEGEND

Proposed Right-of-Way
Existing and Proposed Right-of-Way
Easement and Existing Right-of-Way
Borrow
Easement (Temporary)
Easement
Excess
Access Control

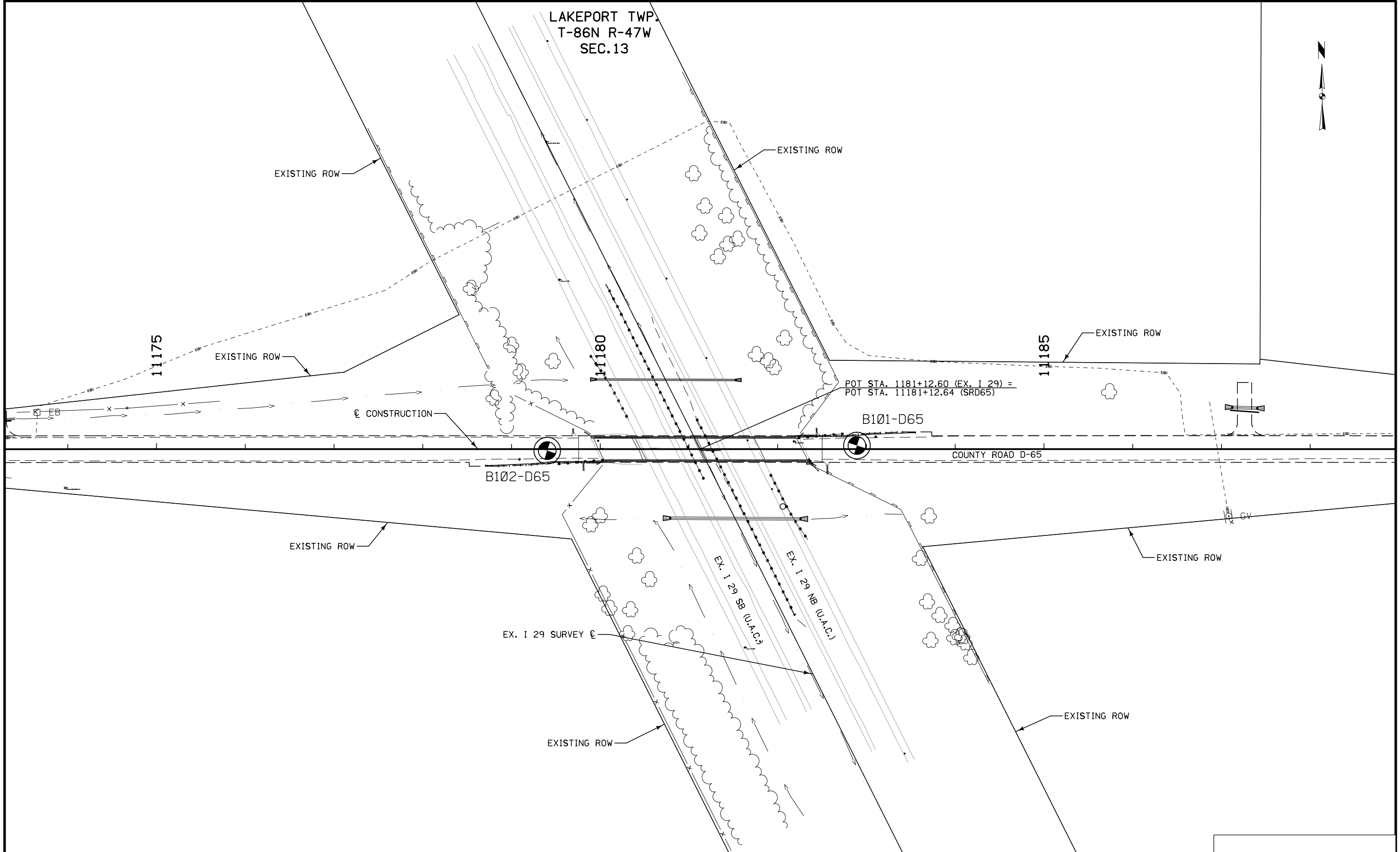
NOTE: Sounding and test boring data shown in the plans were accumulated for designing and estimating purposes. Their appearance on the plans does not constitute a guarantee that conditions other than those indicated will be encountered. Details and notes shown elsewhere shall be used for roadway and structure construction.

## SOILS LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES Q & R)



LAKEPORT TWP.  
T-86N R-47W  
SEC. 13



POT STA. 1181+12.60 (EX. I 29) =  
POT STA. 11181+12.64 (SRD65)

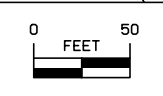
B101-D65

COUNTY ROAD D-65

B102-D65

EX. I 29 SB (U.A.C.)  
EX. I 29 NB (U.A.C.)

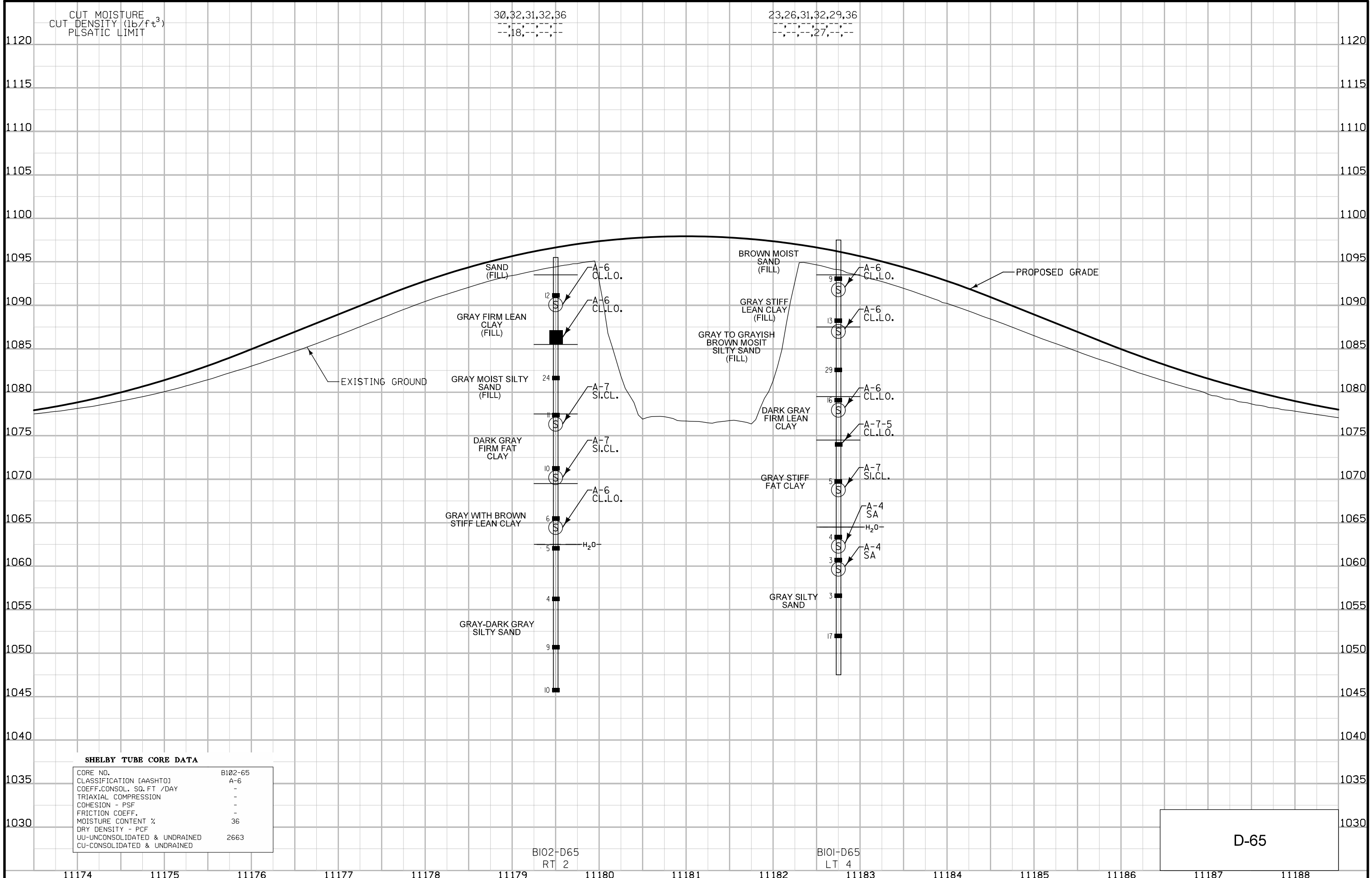
EX. I 29 SURVEY



SEC. 24

D-65

For Profile Refer  
to Sheet No. Q.3



CUT MOISTURE  
CUT DENSITY (lb/ft<sup>3</sup>)  
PLSATIC LIMIT

30,32,31,32,36  
--,18,--,--,--

23,26,31,32,29,36  
--,--,27,--,--

**SHELBY TUBE CORE DATA**

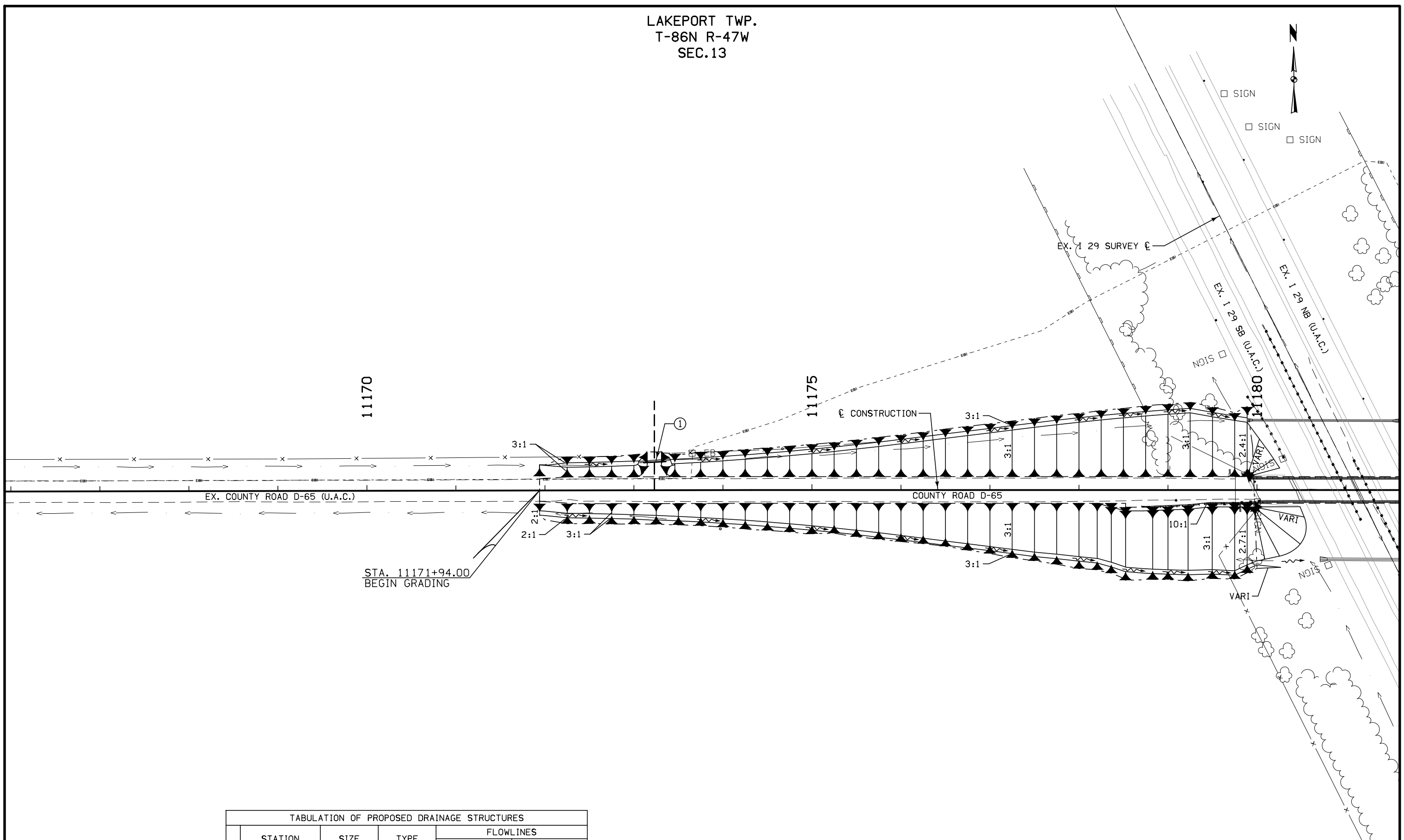
CORE NO.	B102-65
CLASSIFICATION [AASHTO]	A-6
COEFF. CONSOL. SQ. FT / DAY	-
TRIAxIAL COMPRESSION	-
COHESION - PSF	-
FRICTION COEFF.	-
MOISTURE CONTENT %	36
DRY DENSITY - PCF	-
UU-UNCONSOLIDATED & UNDRAINED	2663
CU-CONSOLIDATED & UNDRAINED	-

B102-D65  
RT 2

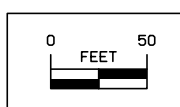
B101-D65  
LT 4

D-65

LAKEPORT TWP.  
T-86N R-47W  
SEC.13



TABULATION OF PROPOSED DRAINAGE STRUCTURES					
	STATION	SIZE	TYPE	FLOWLINES	
				LT.	RT.
1	11173+23.00, 31.50' LT.	24"x25'	DR-651	1072.27	1072.25



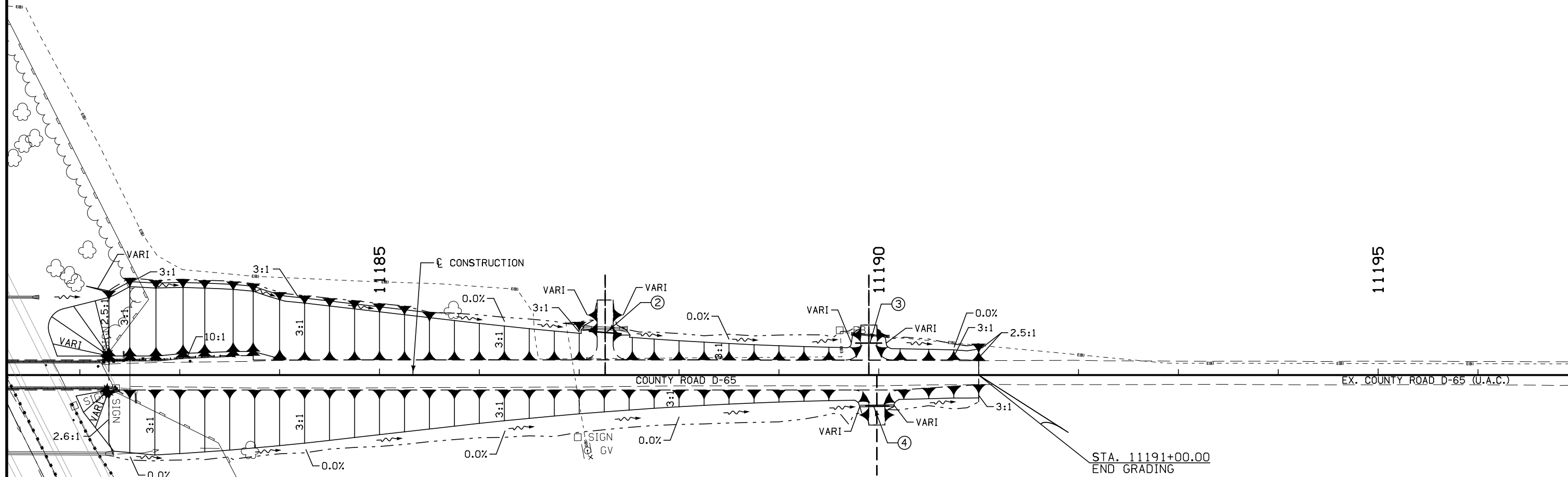
SEC.24

**NOTE:**  
VARY GRADING AROUND BRIDGE ABUTMENTS  
TO MATCH EXISTING GRADE.

**D-65  
GRADING DETAILS**

For D-65 Details  
Refer to Sheet No. E.1

LAKEPORT TWP.  
T-86N R-47W  
SEC.13



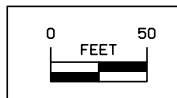
TABULATION OF PROPOSED DRAINAGE STRUCTURES					
	STATION	SIZE	TYPE	FLOWLINES	
				LT.	RT.
2	11187+26.00, 42.50' LT.	36"x32'	DR-651	1071.93	1071.88
3	11189+90.00, 32.00' LT.	18"x26'	DR-651	1071.65	1071.61
4	11189+98.00, 31.00' RT.	24"x23'	DR-651	1072.29	1072.22

**NOTE:**

VARY GRADING AROUND BRIDGE ABUTMENTS  
TO MATCH EXISTING GRADE.

**D-65  
GRADING DETAILS**

For D-65 Details  
Refer to Sheet No. E.2



SEC.24

**LINE STYLE LEGEND OF CROSS SECTION SHEETS (ROAD)**

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

**LINE STYLE LEGEND OF CROSS SECTION SHEETS (SOILS)**

- TS————— Topsoil (Class 10)
- SLOPE DRESSING — Slope Dressing Only
- 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.

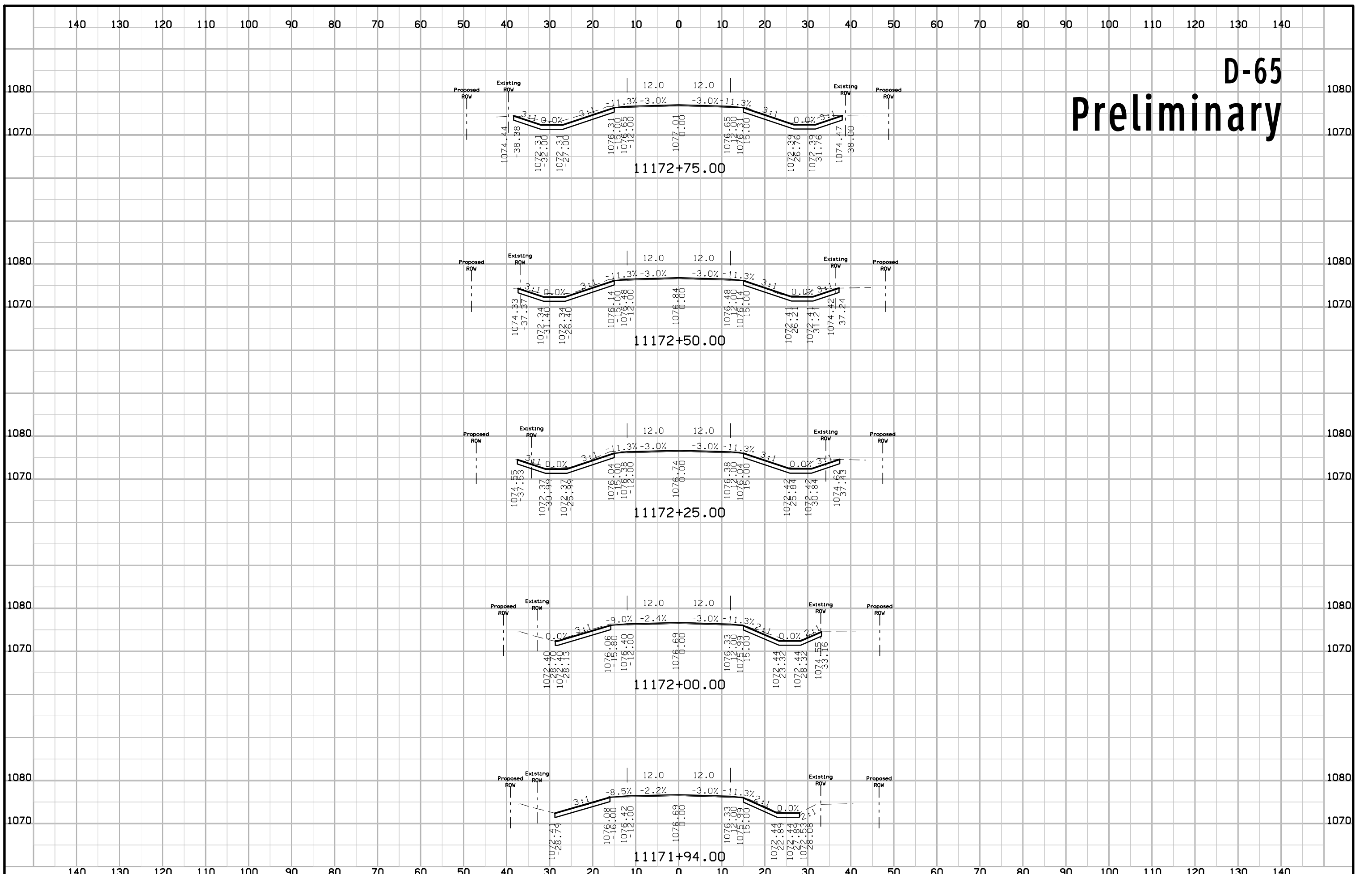
**SYMBOL LEGEND OF CROSS SECTION SHEETS**

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

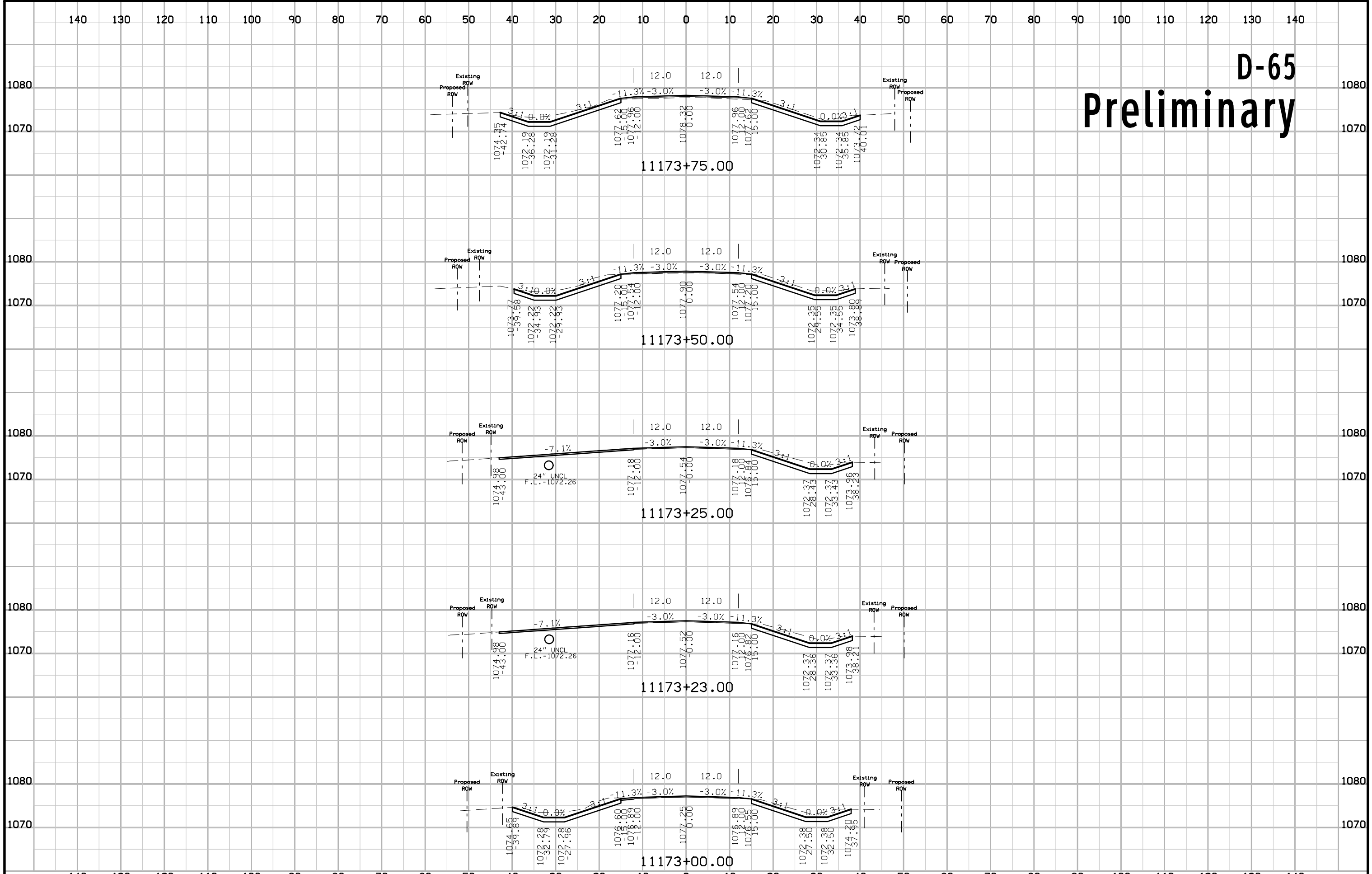
**CROSS SECTION  
LEGEND AND SYMBOL  
INFORMATION SHEET**

(COVERS SHEET SERIES W & X)

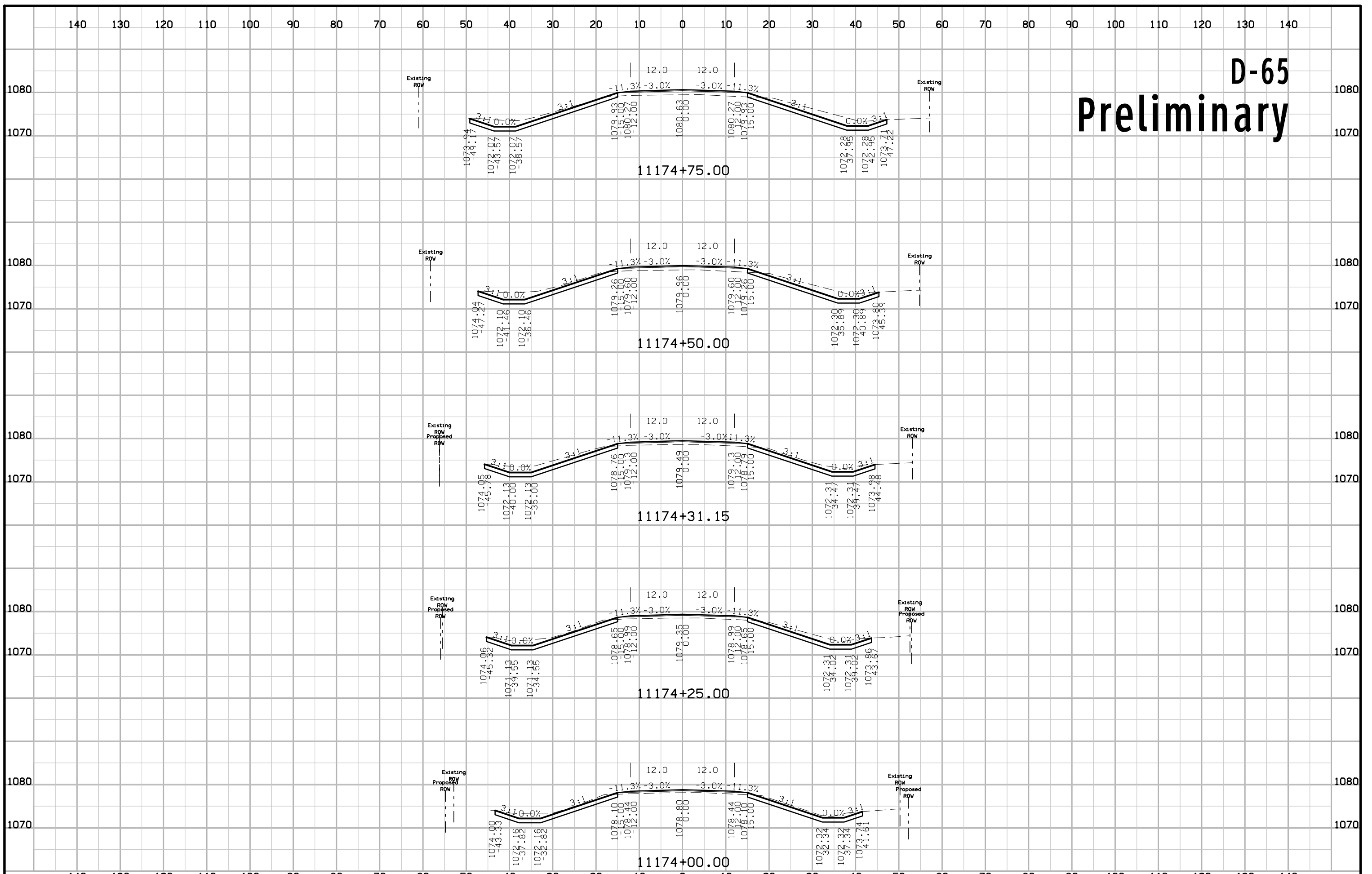
# D-65 Preliminary



# D-65 Preliminary

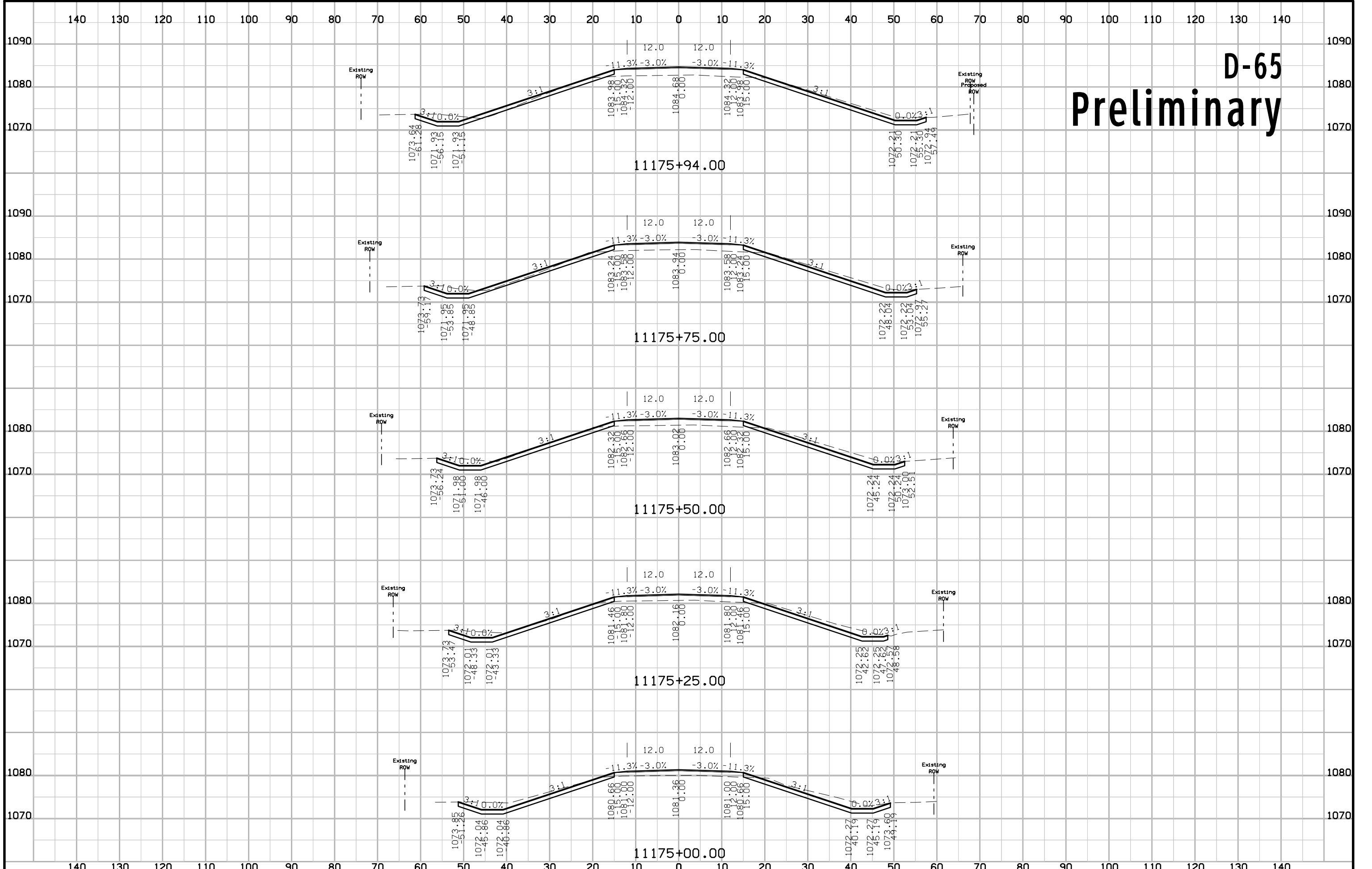


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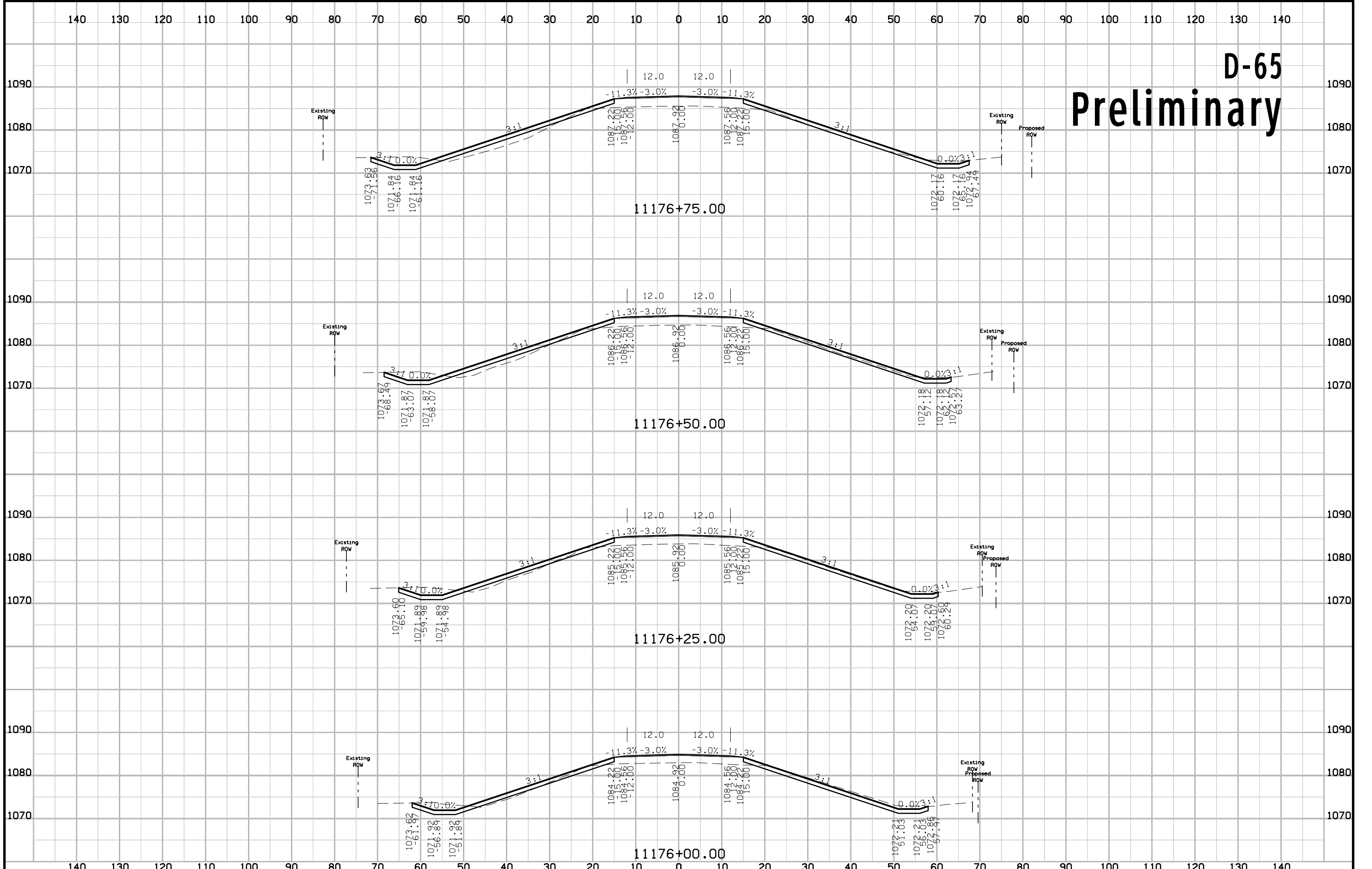




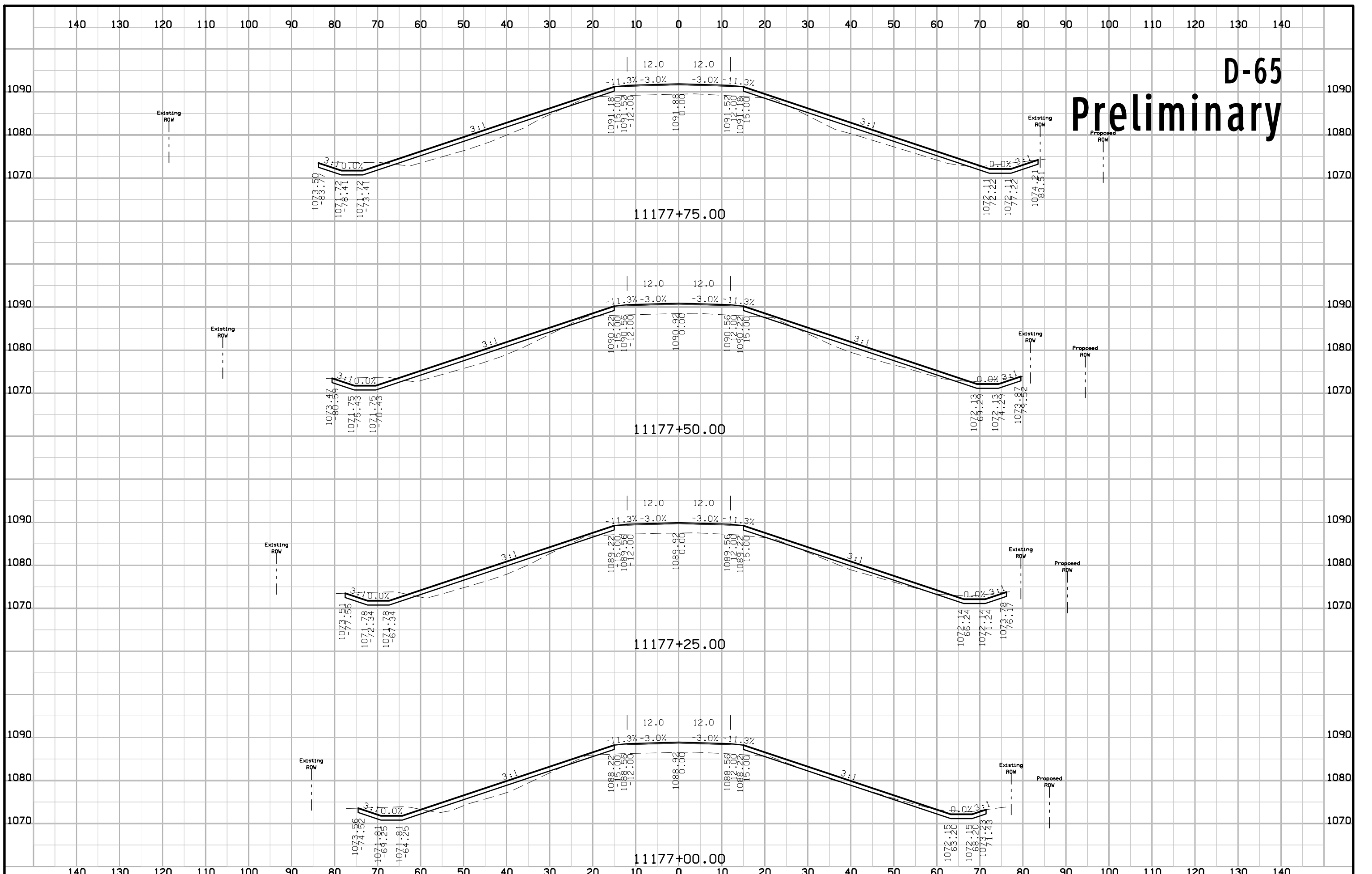
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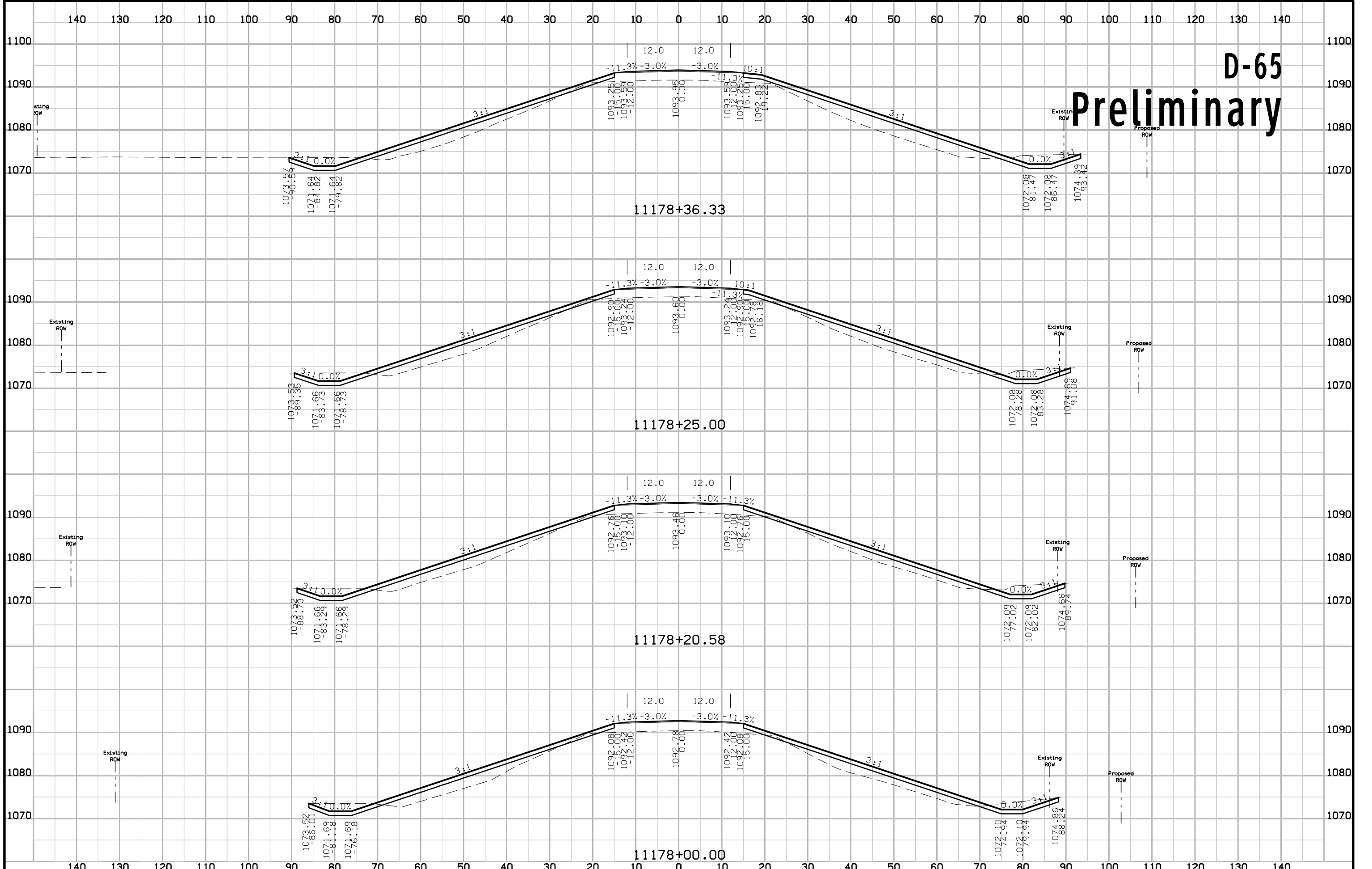
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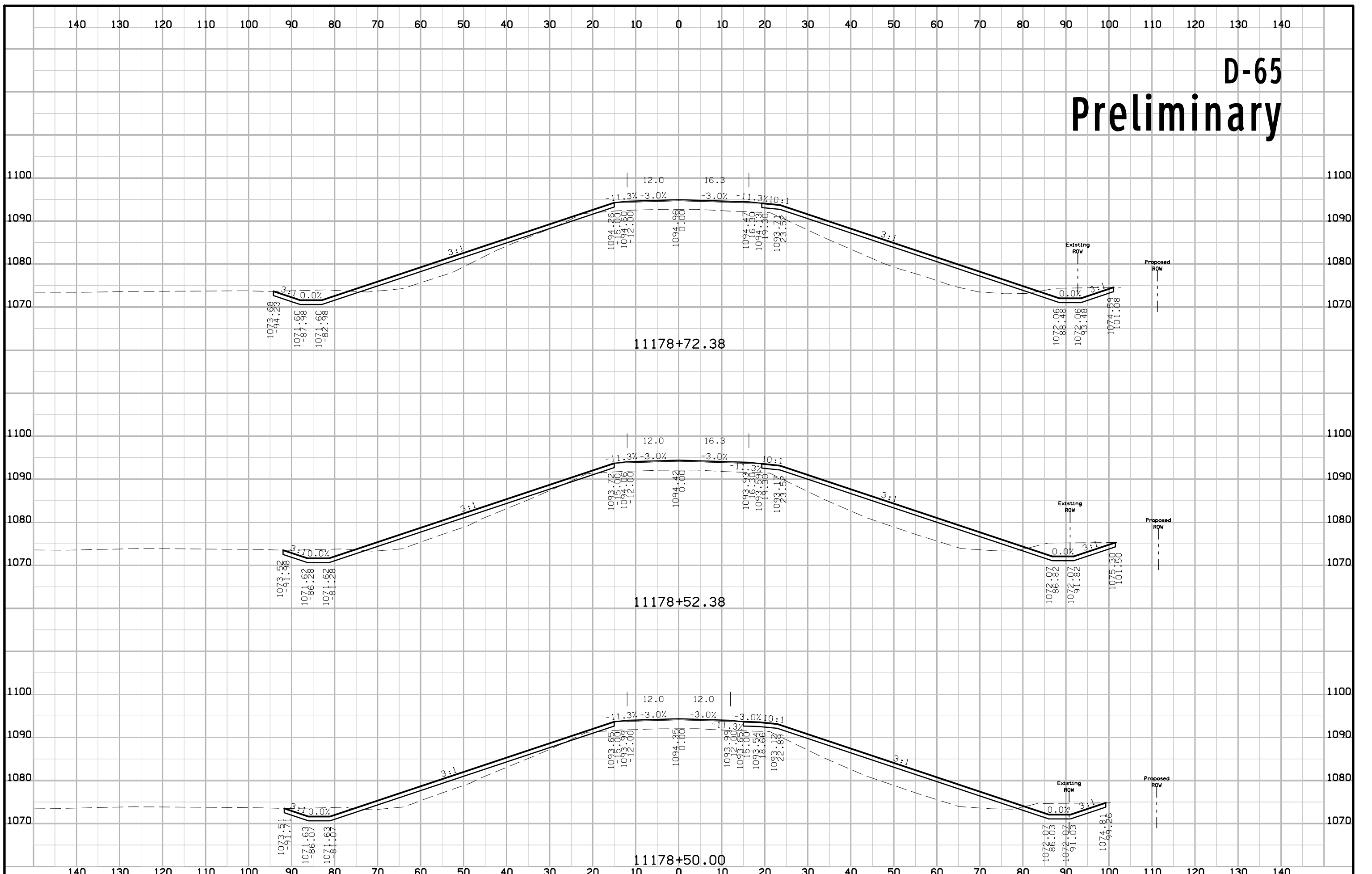
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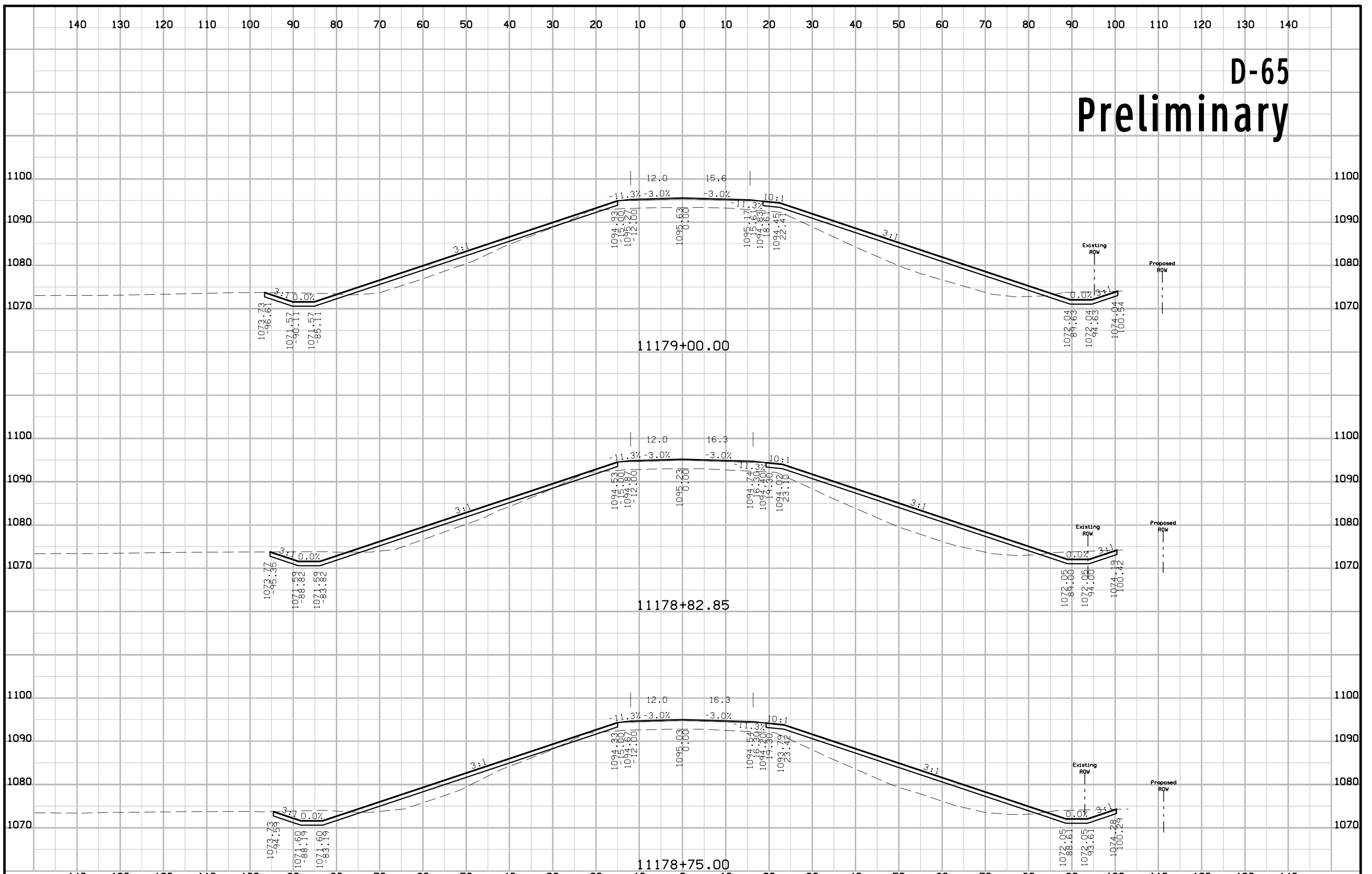
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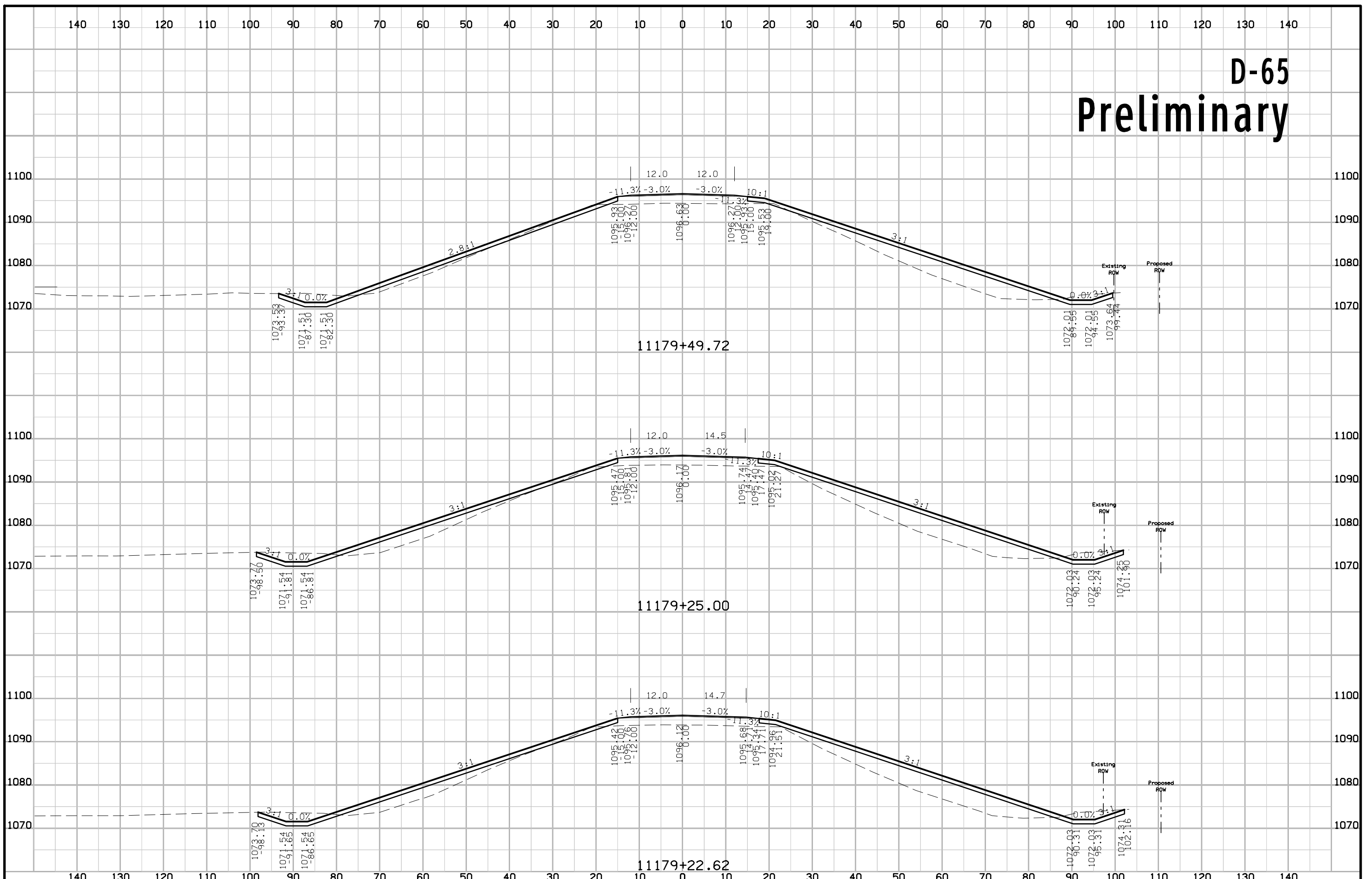
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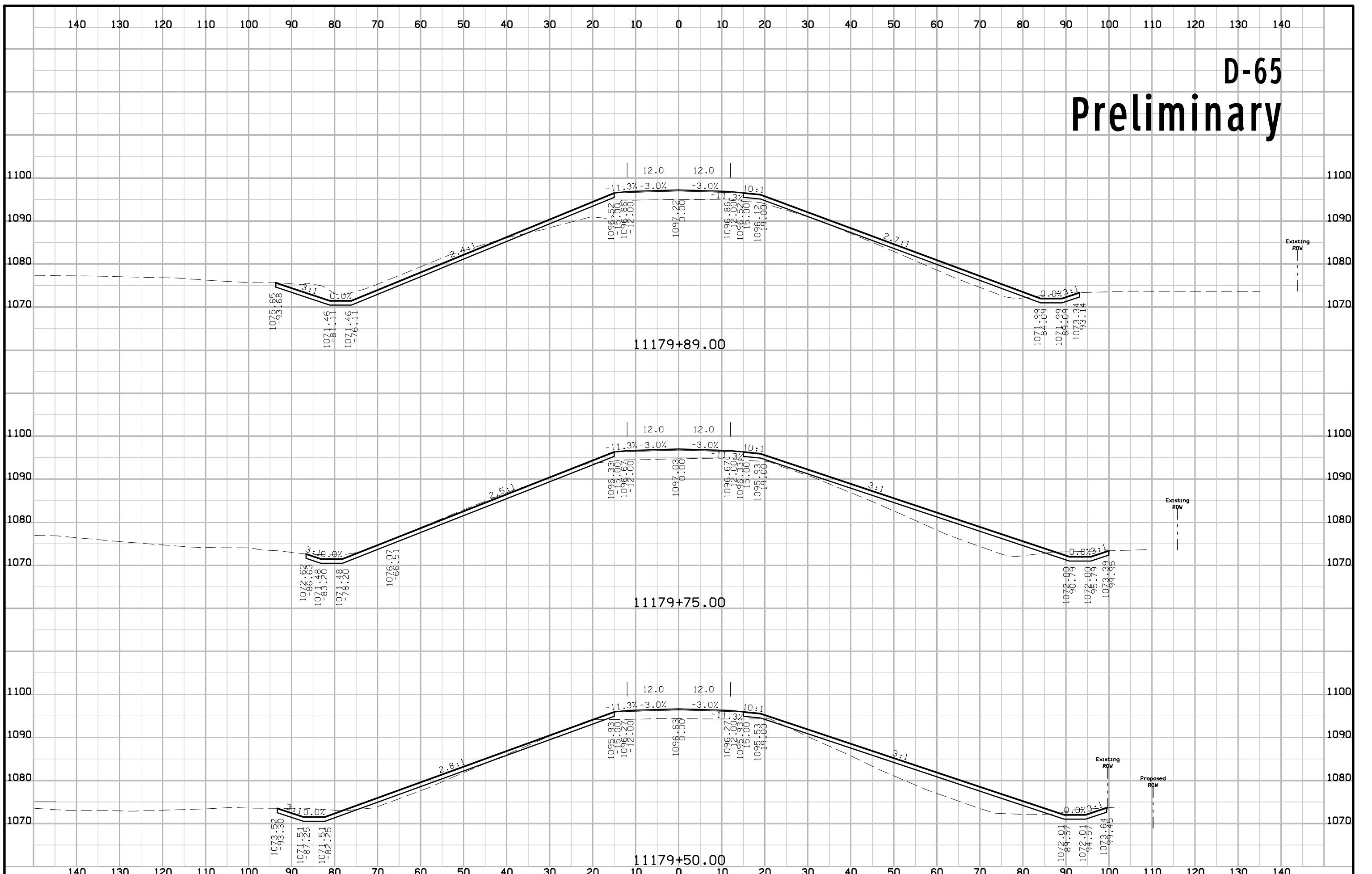
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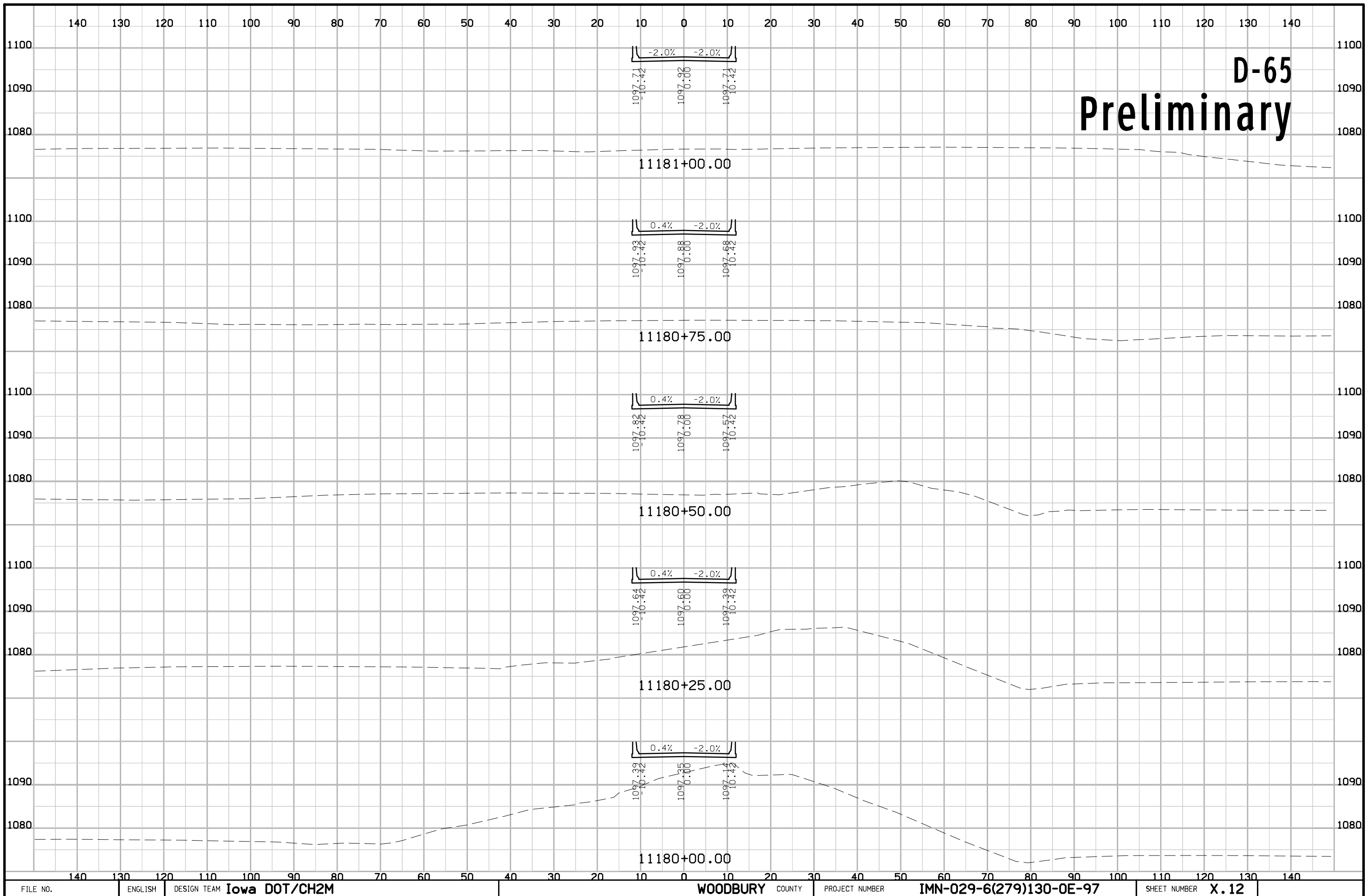
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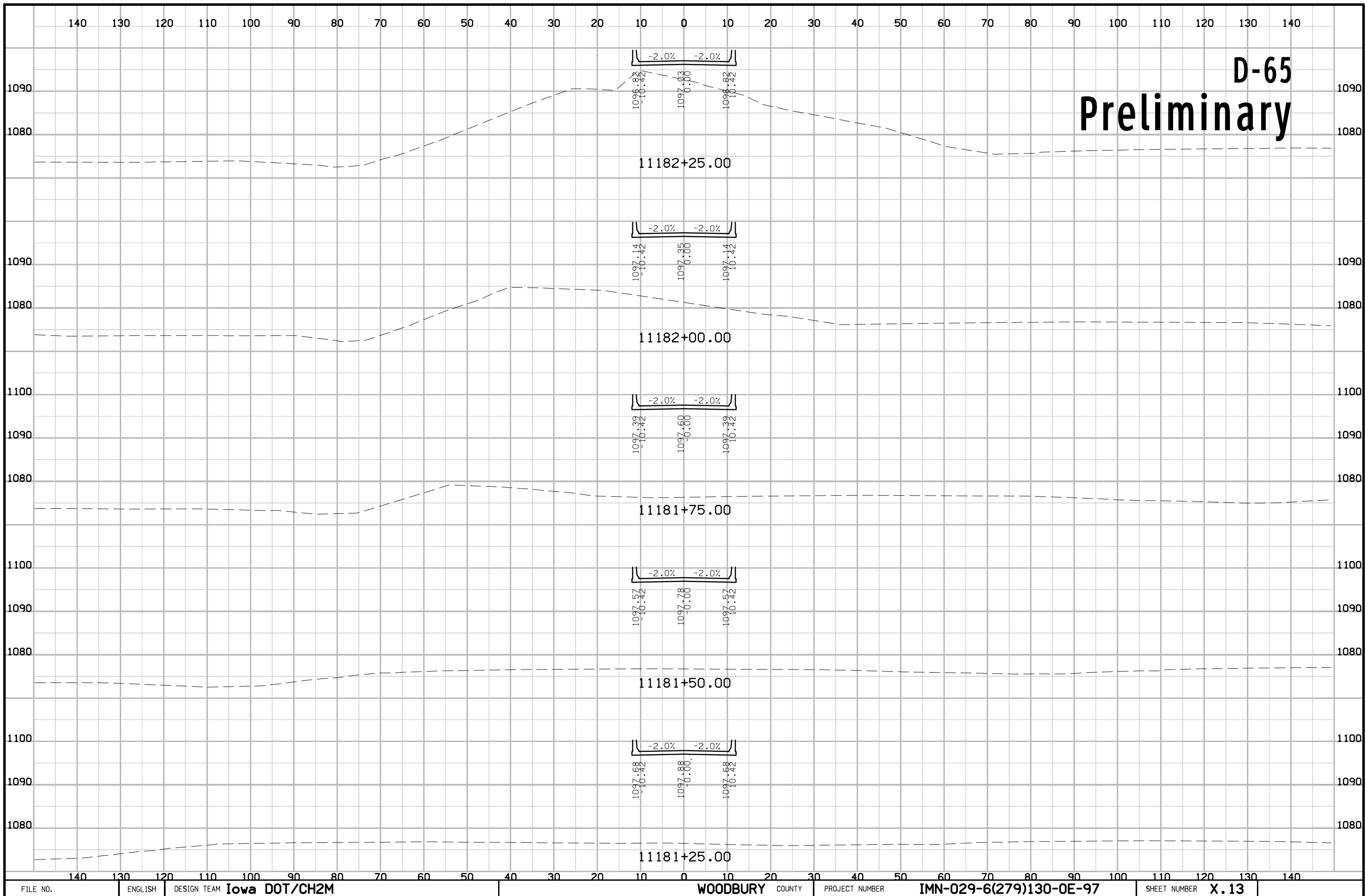


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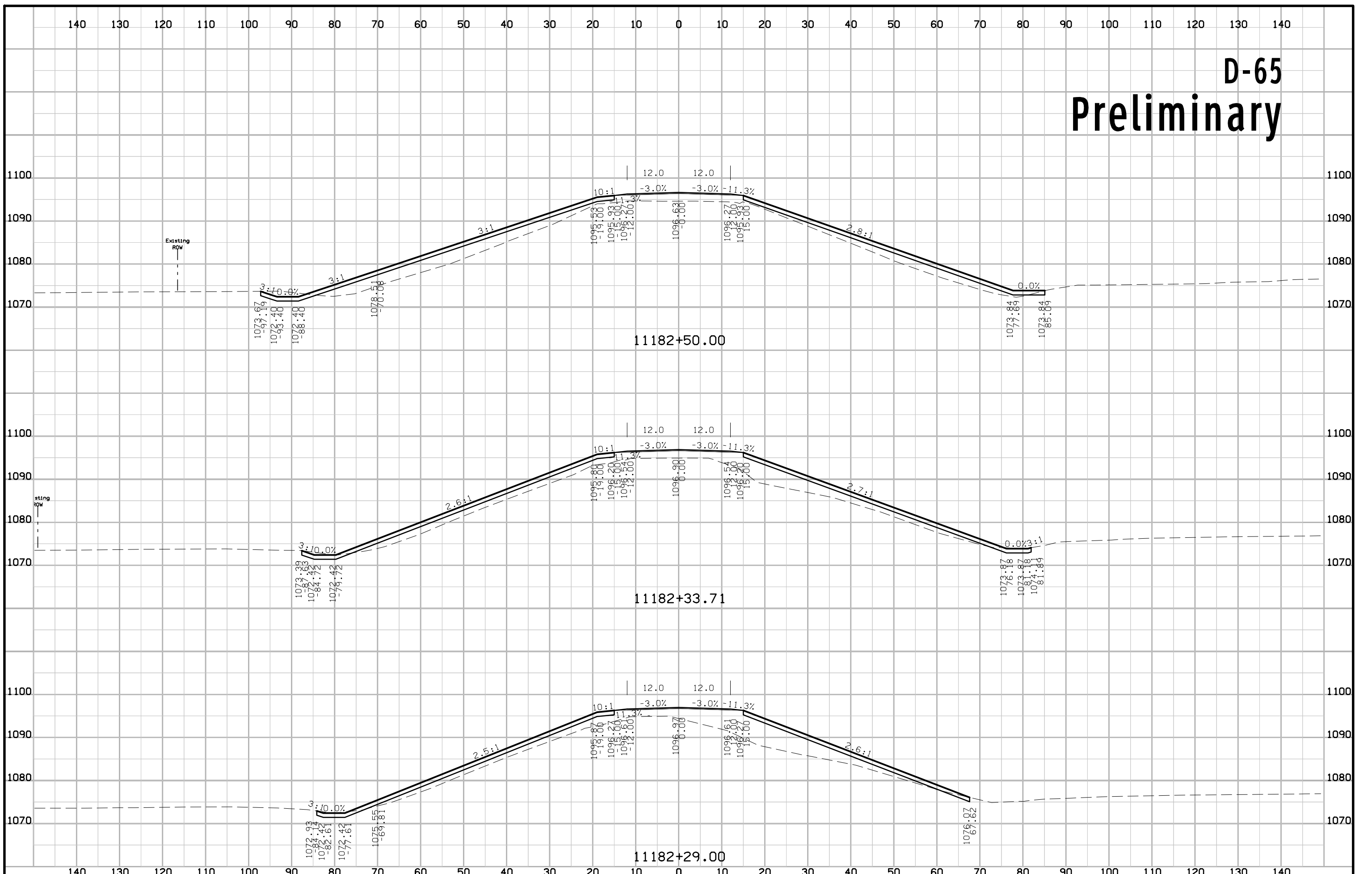




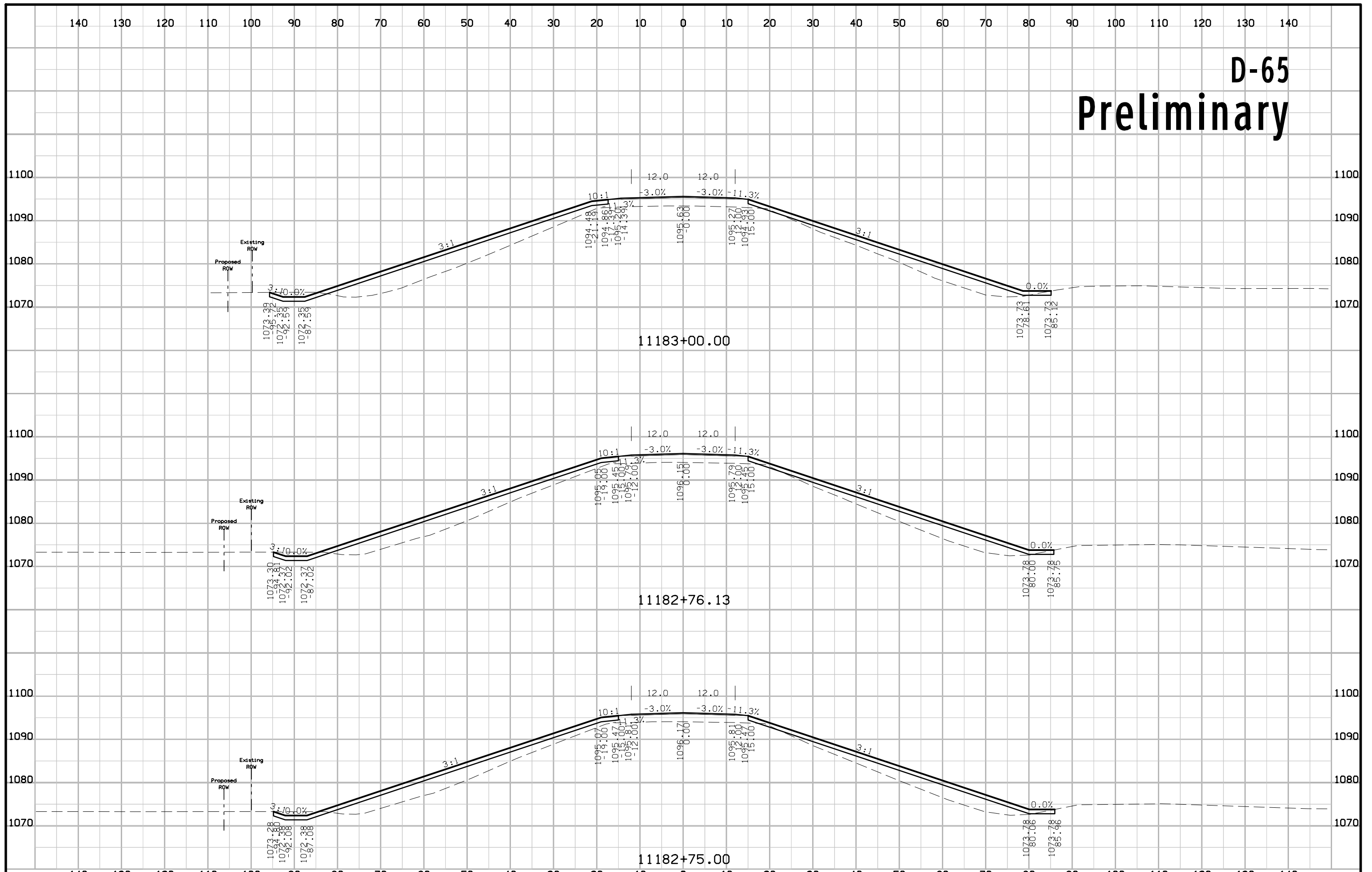




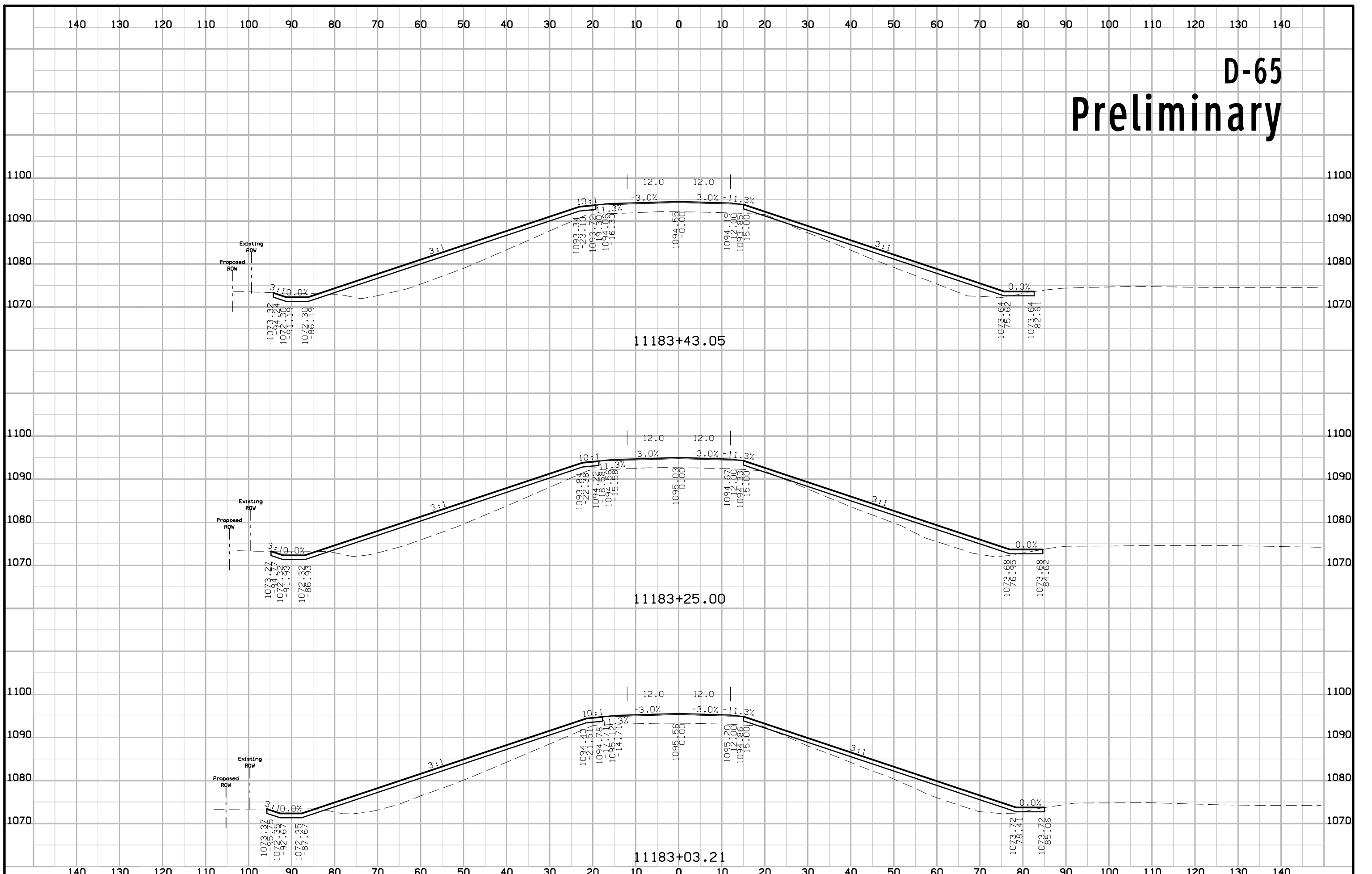
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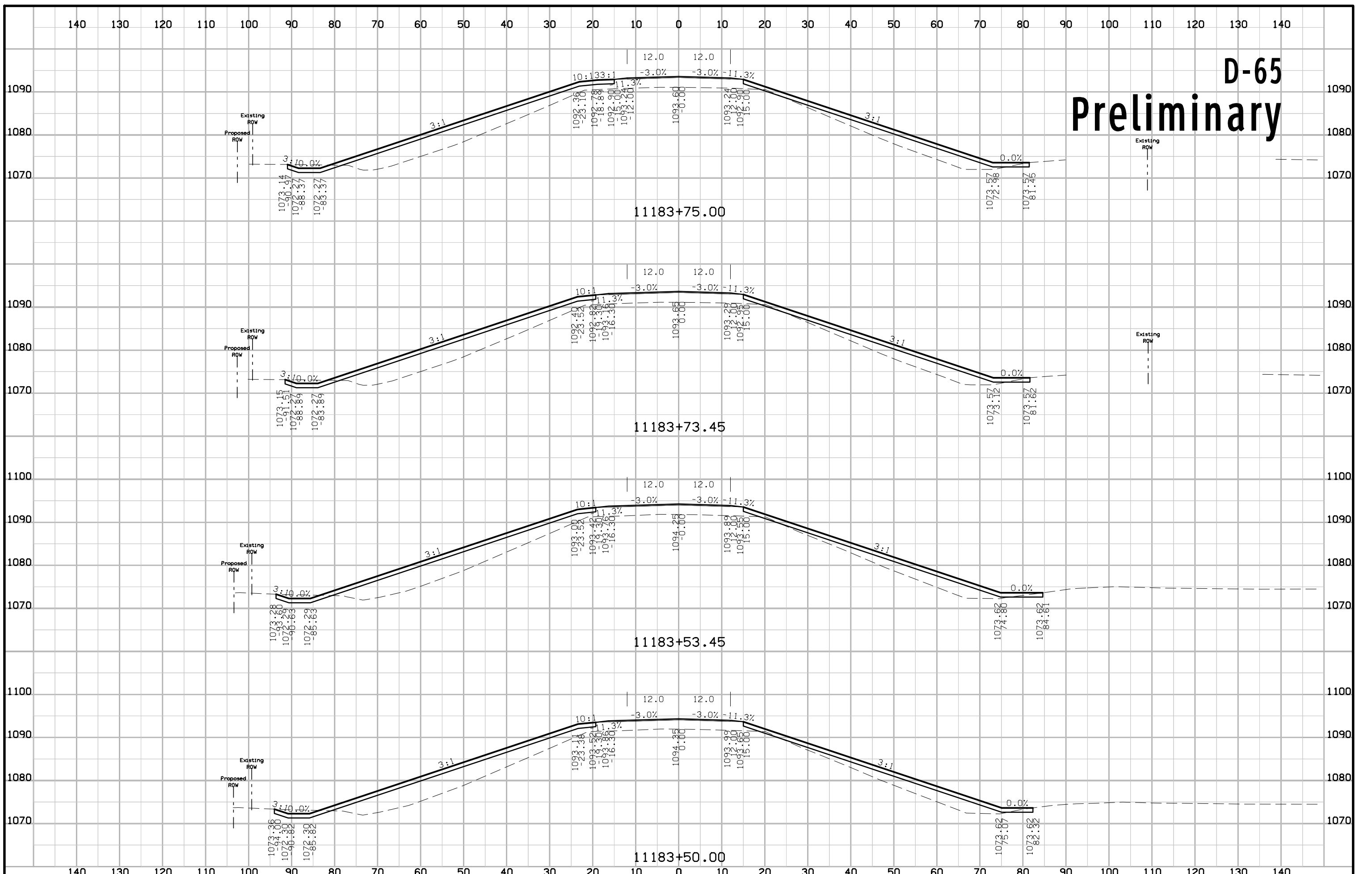
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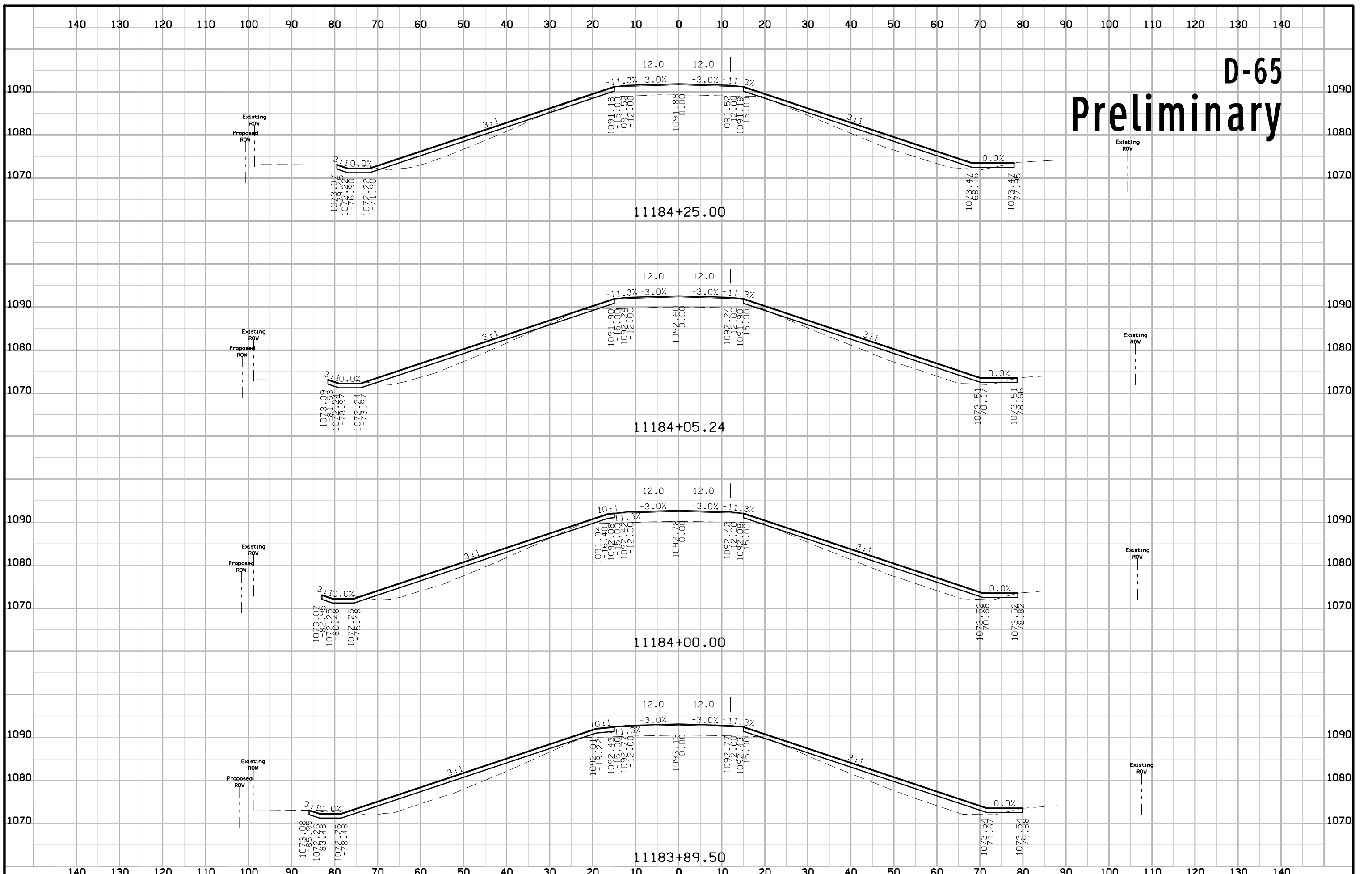
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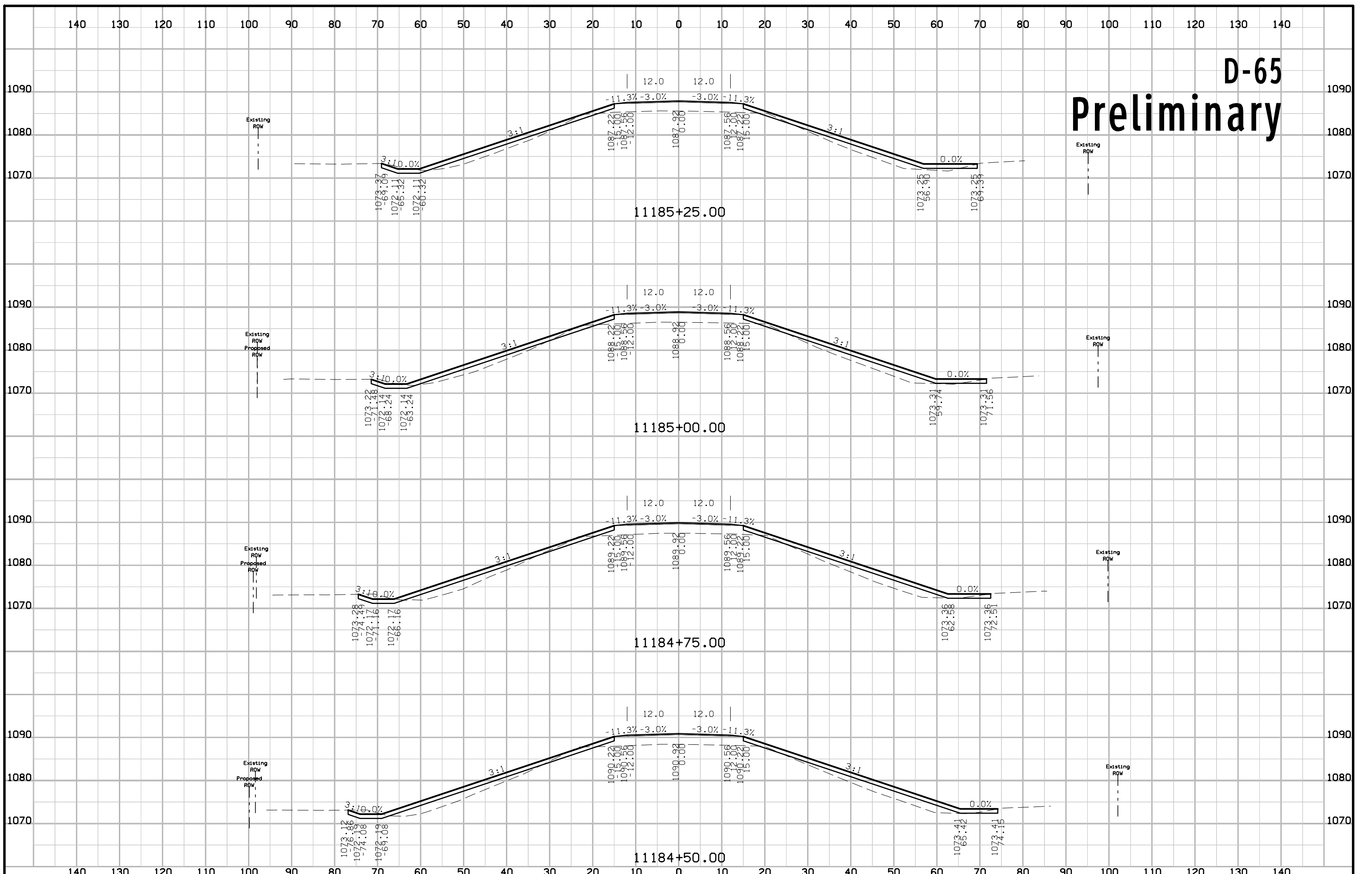
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# D-65 Preliminary

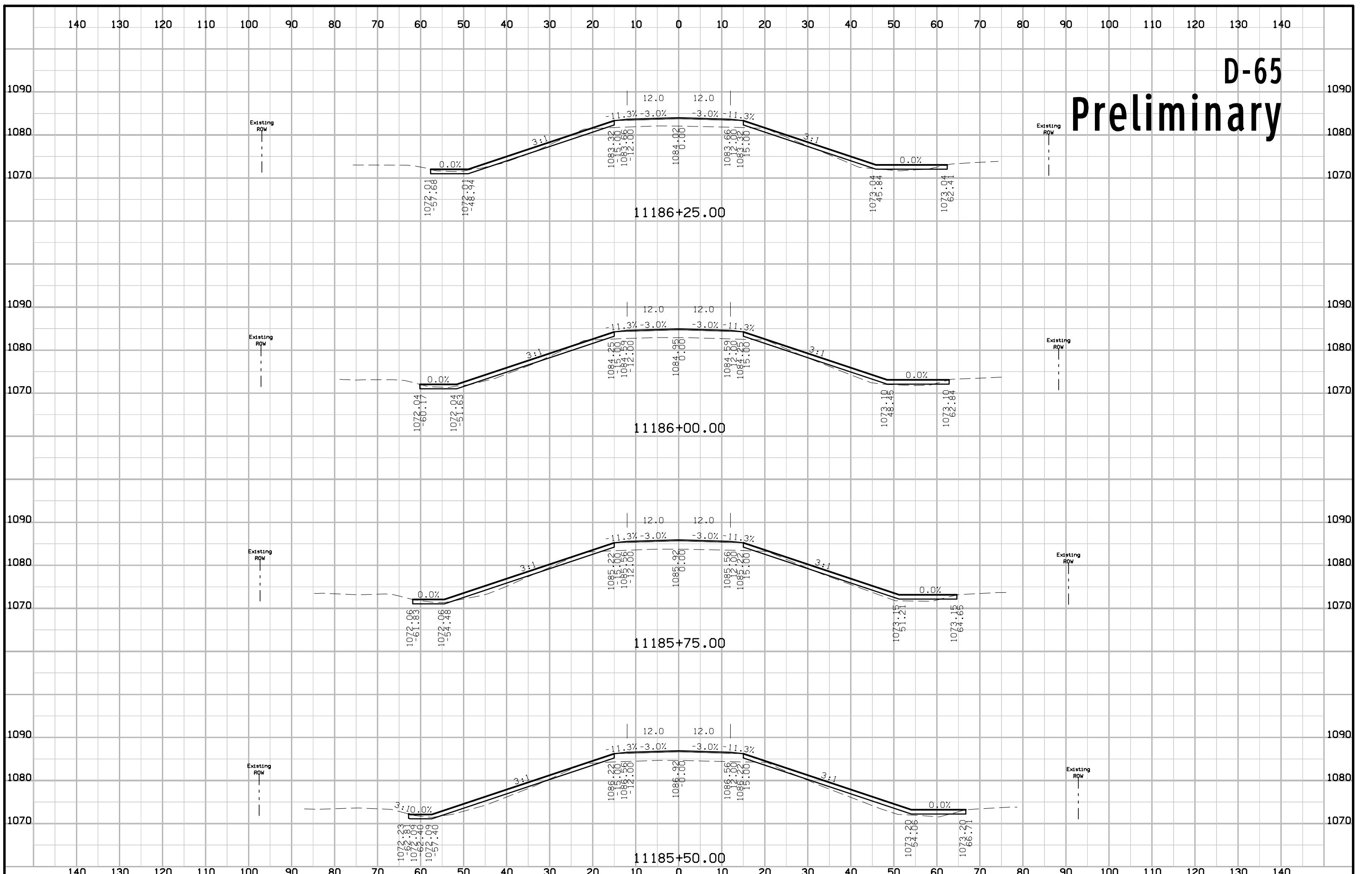


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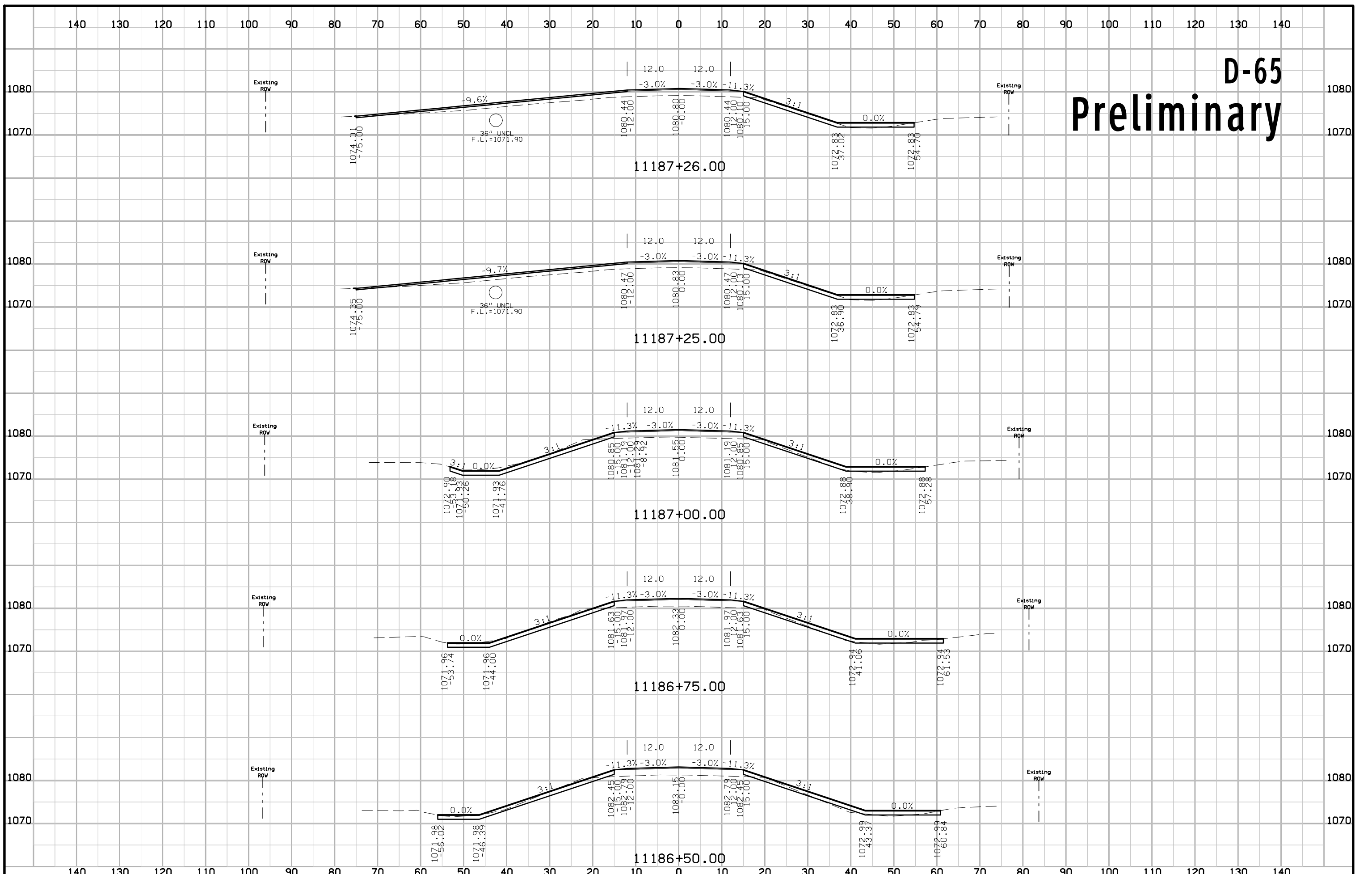




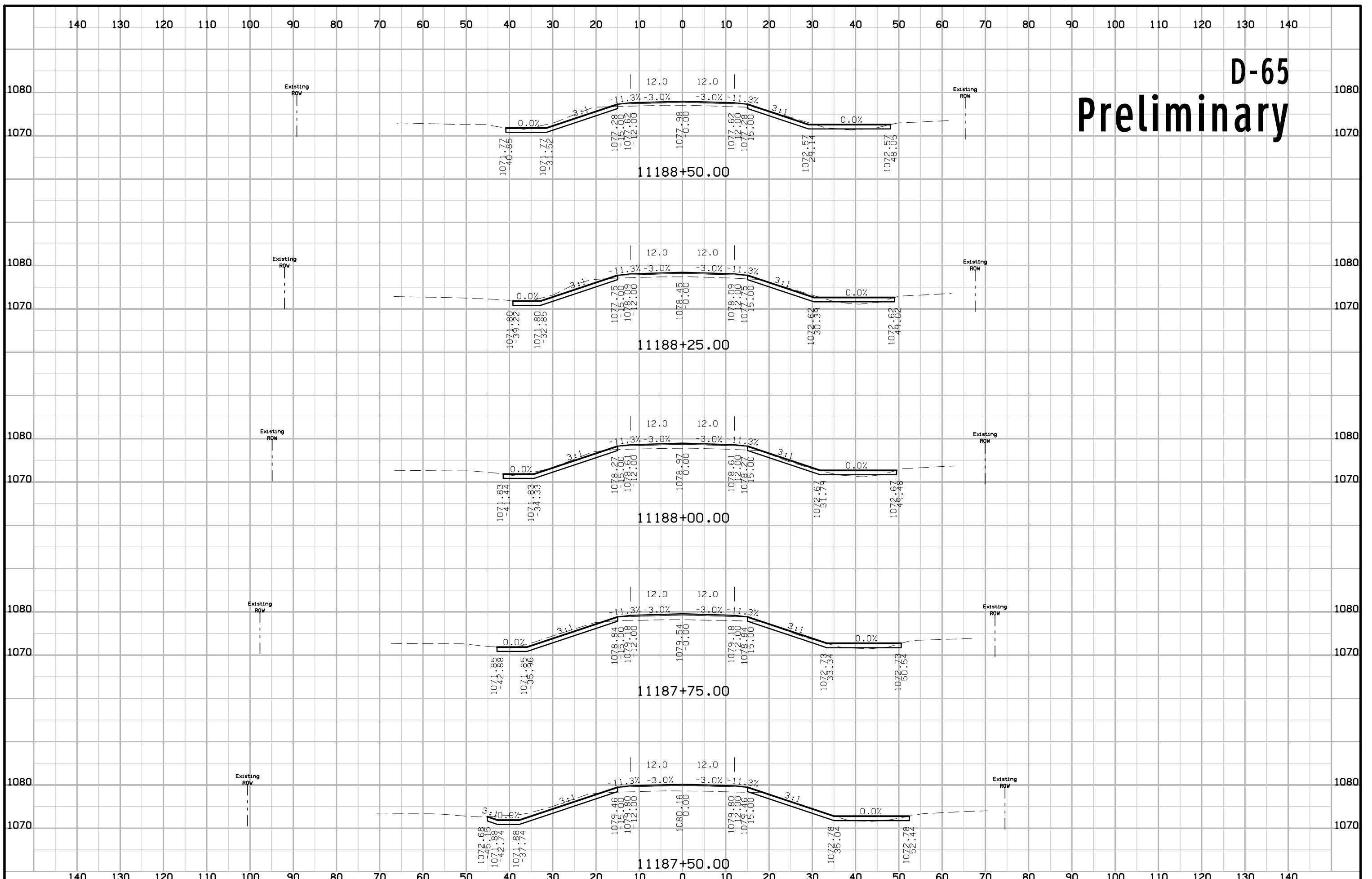
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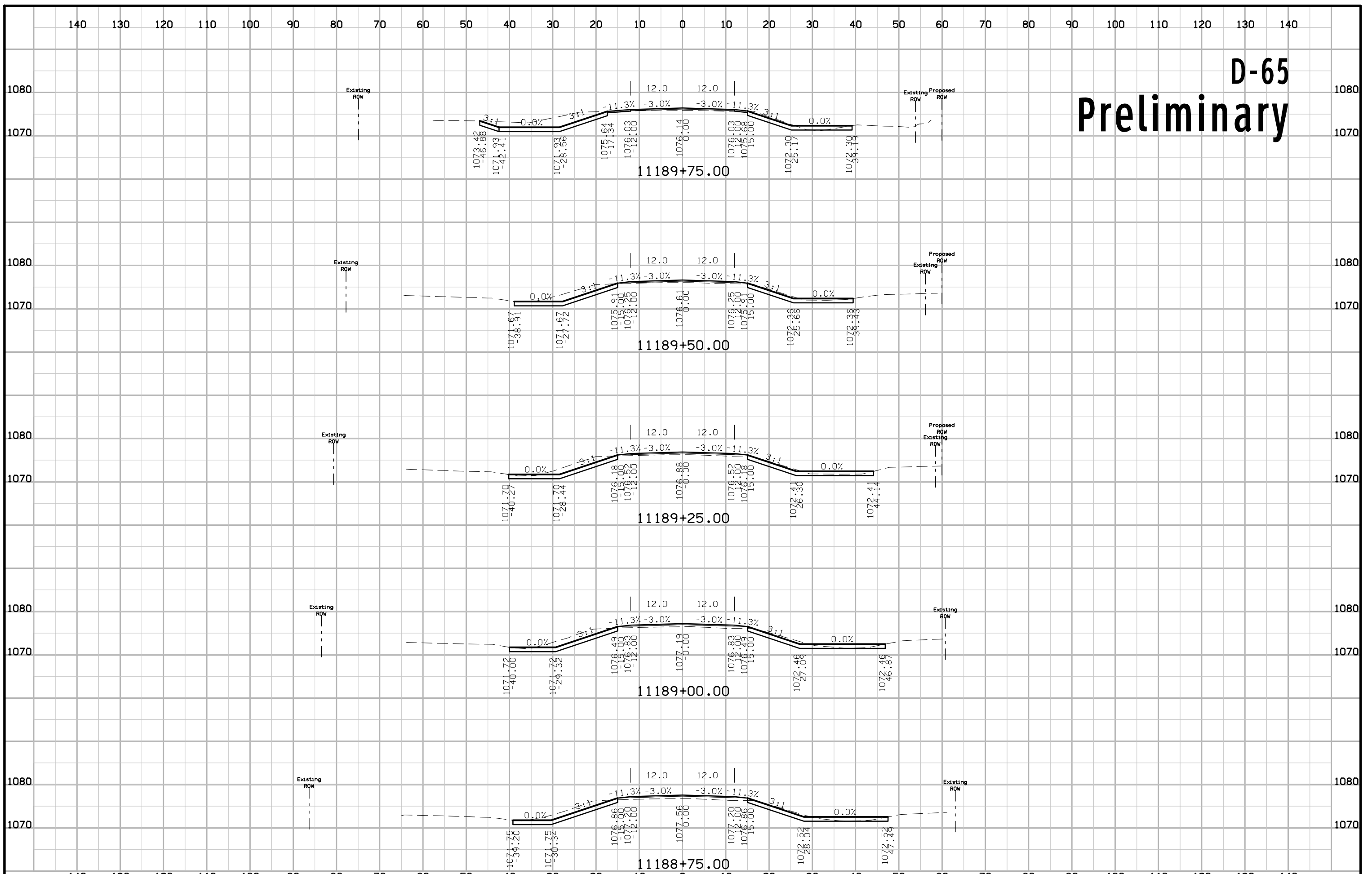
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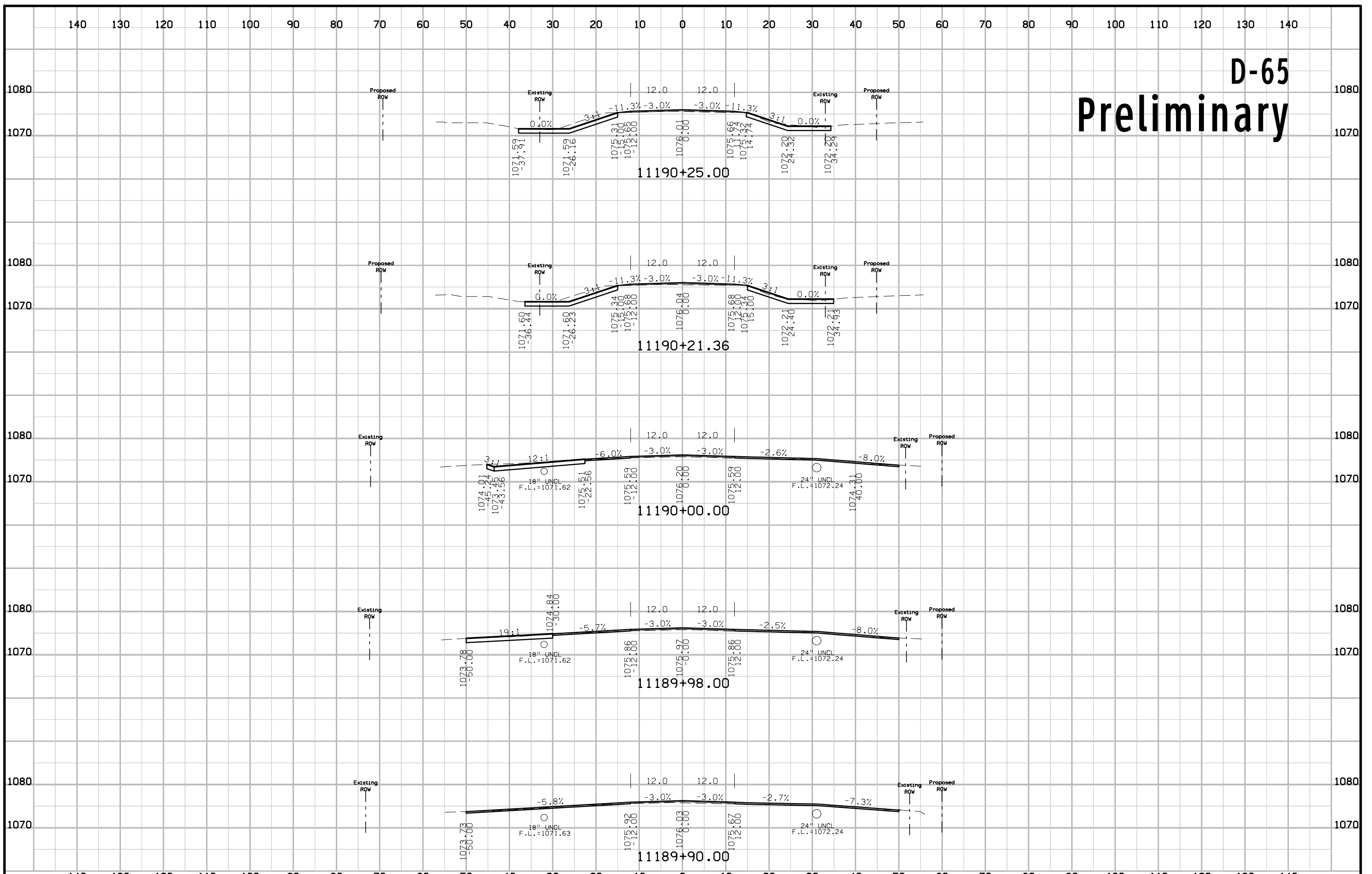
# D-65 Preliminary



# D-65 Preliminary



# D-65 Preliminary



# D-65 Preliminary

