

WASHINGTON CO.
PCC PAVEMENT - GRADE AND REPLACE
NHSN-001-4(48)--2R-92

LETTING DATE
 01-18-2017



Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM
WASHINGTON COUNTY
 PCC PAVEMENT - GRADE AND REPLACE

Ia. 22 Intersection in Kalona

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

43

PROJECT IDENTIFICATION NUMBER

14-92-001-010

PROJECT NUMBER

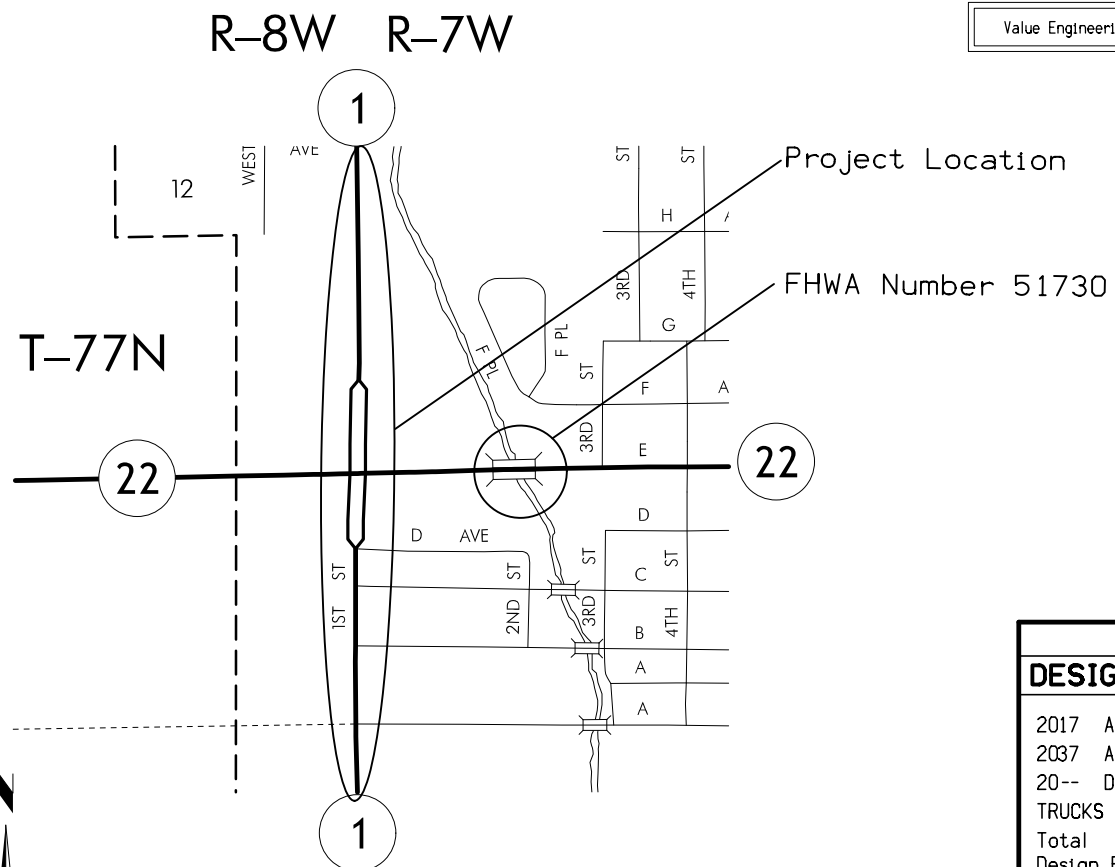
NHSN-001-4(48)--2R-92

R.O.W. PROJECT NUMBER

NHSN-001-4(54)--2R-92

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 - 4	IA 1
E Sheets	Side Road Plan and Profile Sheets
* E.1	IA 22
J Sheets	Traffic Control and Staging Sheets
* J.1	Traffic Control Plan
W Sheets	Mainline Cross Sections
W.1 - 31	Mainline Cross Sections
	* Color Plan Sheets



IA 1			
DESIGN DATA URBAN			
2017	AADT	5800	V.P.D.
2037	AADT	6400	V.P.D.
20--	DHV	--	V.P.H.
	TRUCKS	10	%
	Total		
	Design ESALs	--	

IA 22			
DESIGN DATA URBAN			
2017	AADT	5200	V.P.D.
2037	AADT	5700	V.P.D.
20--	DHV	--	V.P.H.
	TRUCKS	9	%
	Total		
	Design ESALs	--	

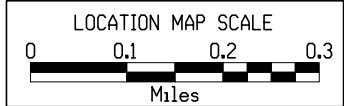
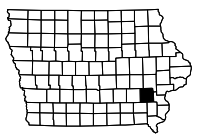
INDEX OF SEALS		
SHEET NO.	NAME	TYPE
A.1	X	Primary Signature Block
X	X	X

DM5 PLAN - Date: 09-27-2016

PRELIMINARY PLANS

Subject to change by final design.

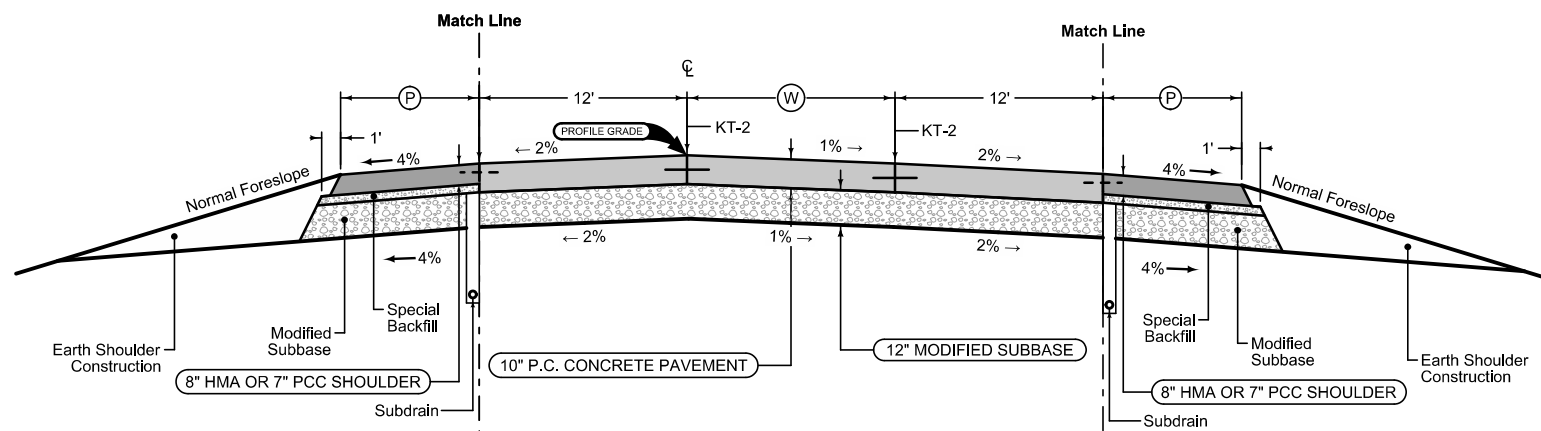
D5 PLAN - Date: 4-8-2016



Paved Shoulder Alternates

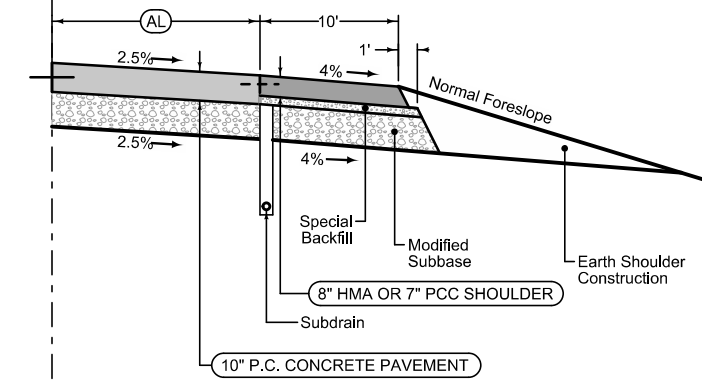
PCC Shoulder Jointing:
 Longitudinal joint: BT-1 or BT-5
 Transverse joints: C at 20' spacing
 HMA Shoulder Jointing:
 Longitudinal joint: B

4_P_ALT 10-21-14			
Direction of Travel	BEGIN STATION	END STATION	(P) Feet
SB	698+33.00	720+20.00	10



Mainline Jointing:
 Transverse joints: CD at 20' spacing

4UP_ 10-16-12		
STATION TO STATION		(W) Feet
698+33.00	701+83.00	0-14
701+83.00	710+06.00	14
710+06.00	710+42.00	14-16
710+42.00	713+00.00	16
713+00.00	720+20.00	16-0



Paved Shoulder Alternates

PCC Shoulder Jointing:
 Longitudinal joint: BT-1 or BT-5
 Transverse joints: C at 20' spacing
 HMA Shoulder Jointing:
 Longitudinal joint: B

4_P_ALT 10-21-14			
Direction of Travel	BEGIN STATION	END STATION	(P) Feet
NB	698+33.00	720+20.00	10

Auxiliary Lane

Longitudinal joint: L or KT
 Transverse joint: Match Mainline

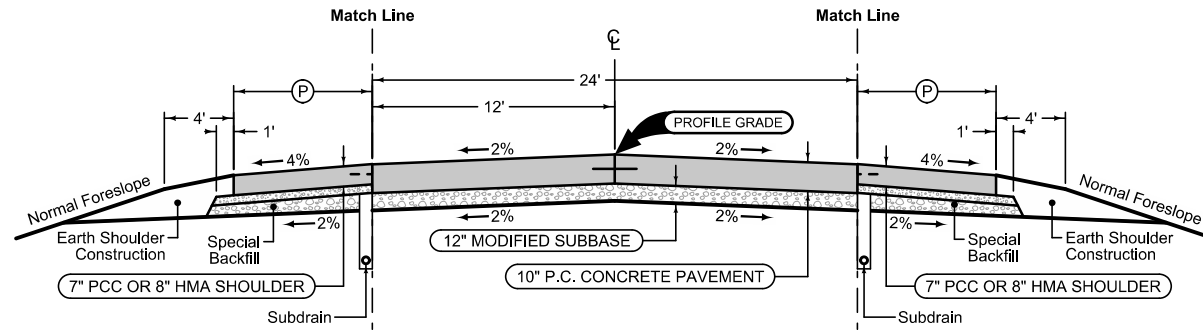
4_AuxLane_PCC_ 10-19-10			
Direction of Travel	BEGIN STATION	END STATION	(AL) Feet
NB	706+76.00	708+56.00	0-12
NB	708+56.00	710+42.00	12

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

Paved Shoulder Alternates

PCC Shoulder Jointing:
 Longitudinal joint: BT-1 or BT-5
 Transverse joints: C at 20' spacing
 HMA Shoulder Jointing:
 Longitudinal joint: B

2_P_ALT_		Ⓟ
10-21-14		
STATION TO STATION		Feet
97+90.00	99+96.42	10



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

2P_		Ⓟ
10-19-10		
STATION TO STATION		Feet
97+90.00	99+96.42	10

Paved Shoulder Alternates

PCC Shoulder Jointing:
 Longitudinal joint: BT-1 or BT-5
 Transverse joints: C at 20' spacing
 HMA Shoulder Jointing:
 Longitudinal joint: B

2_P_ALT_		Ⓟ
10-21-14		
STATION TO STATION		Feet
97+90.00	99+96.42	10

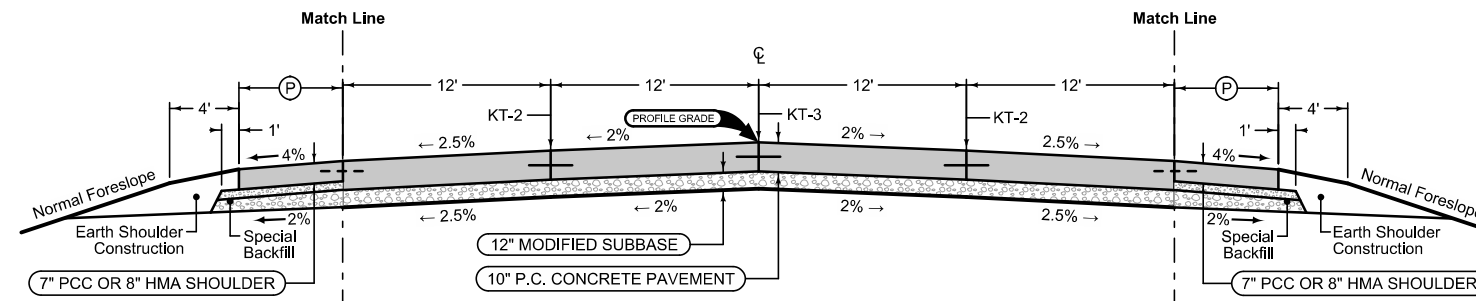
See Tab 100-24 or 100-25 for pavement quantities.
 See Tab 112-9 for shoulder quantities.

IA 22 (West)

Paved Shoulder Alternates

PCC Shoulder Jointing:
 Longitudinal joint: BT-1 or BT-5
 Transverse joints: C at 20' spacing
 HMA Shoulder Jointing:
 Longitudinal joint: B

4_P_ALT_10-21-14			
Direction of Travel	BEGIN STATION	END STATION	(P) Feet
WB	99+96.42	101+54.00	10



Mainline Jointing:
 Transverse joints: CD at 20' spacing

4UP_10-16-12	
STATION TO STATION	
99+96.42	101+54.00

Paved Shoulder Alternates

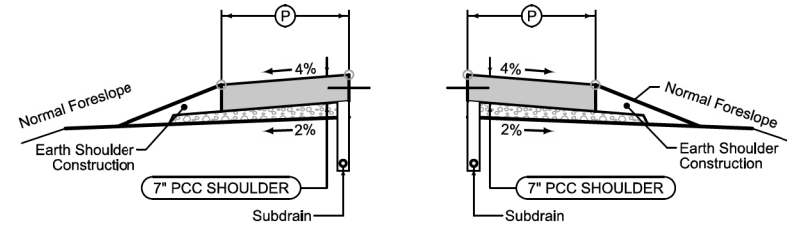
PCC Shoulder Jointing:
 Longitudinal joint: BT-1 or BT-5
 Transverse joints: C at 20' spacing
 HMA Shoulder Jointing:
 Longitudinal joint: B

4_P_ALT_10-21-14			
Direction of Travel	BEGIN STATION	END STATION	(P) Feet
EB	99+96.42	101+54.00	10

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

IA 22 (East)

FD-PCCS
MODIFIED



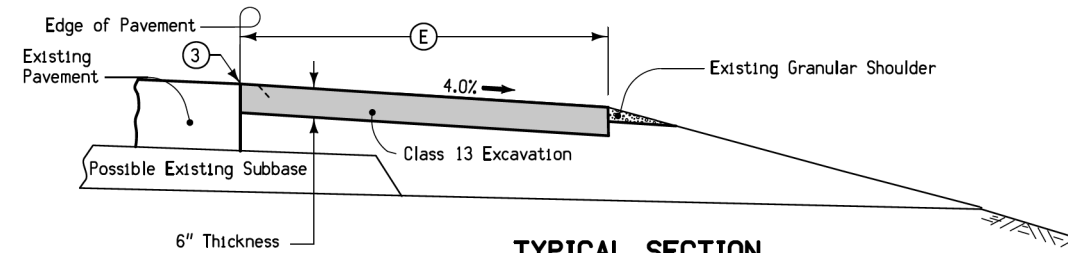
① Bid Items, include both sides.

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

Location			P Feet	Quantities			
Road Identification	Station to Station	Side		Excavation CL 13 for Waste Cu.Yds. ①	PCC Paved Shoulder 7" Sq.Yds. ①	Modified Subbase Cu.Yds.	Earth Shoulder Const. Sta ①
IA 1 / IA 92	672+02 to 673+38	Both	8	120.05	241.78	55.41	1.36

**Full Depth PCC Shoulder
Division 2 - Washington**

7152
MODIFIED

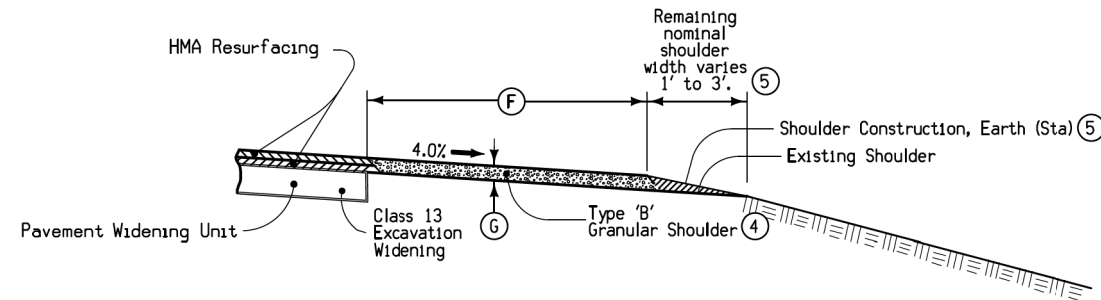


**TYPICAL SECTION
RETROFIT HOT MIX ASPHALT PAVED SHOULDER
Division 3, from C Ave. to IA 22**

- ① Per side per location.
- ② Bid Items.
- ③ Provide a vertical edge. Incidental to Class 13 Excavation.

Location			E Feet	Lineal Feet	Quantities ①					
Road Identification	Station to Station	Side			Excavation CL 13 for Waste Cu.Yds. ②	HMA Paved Shoulder 6" Sq.Yds. ②	Hot Mix Asphalt Tons	Tack Coat Gal.	Asphalt Binder Tons	Granular Shoulder Type 'B' Tons ②
IA 1	705+75, 24' Rt to 709+93, 110' Rt		10	410	75.99	455.56	148.74	68.33	8.92	0
IA 1	700+78, 12' Lt to 710+00, 100' Lt		10	915	169.58	1016.67	331.95	152.50	19.92	0

7135
MODIFIED



Location				F Feet	G Inches	Quantities ①									
Road Identification	Station to Station	Side	Lineal Feet			Excavation CL 13 for Widening Cu.Yds.	HMA Paved Shoulder 6" Sq.Yds.	Hot Mix Asphalt Tons	Tack Coat Gal.	Asphalt Binder Tons	Granular Shoulder Type 'B' Tons ④	Earth Shoulder ⑤ CY/Sta/Side	Stations ②	Ave. % Exist. Slope	
Div. 1, Rural															
IA 1	821+95	1191+40	Both	x	5	3.1	←	→	→	→	→	→	6%		
IA 1	1192+60	1276+00	Both	x	5	3.1	←	→	→	→	→	→	6%		
IA 1	1276+00	1292+40	Both	x	5	3.1	←	→	→	→	→	→	6%		
IA 1	1292+40	1293+97.25	Both	x	5	3.1	←	→	→	→	→	→	6%		
IA 1	1298+84.25	1312+57.20	Both	x	5	3.1	←	→	→	→	→	→	6%		
Equation 1312+57.2	(BK) = 667+58.7	(AH)													
IA 1	667+58.70	683+76	Both	x	5	3.1	←	→	→	→	→	→	6%		
Div. 3, Kalona															
IA 1	683+75	697+67.7	Both	x	5	3.1	←	→	→	→	→	→	6%		
IA 1	697+67.7	704+10.8	Both	x	2	1.5	←	→	→	→	→	→	6%		

- ① Per side per Station.
- ② Bid Items.
- ③ Provide a vertical edge. Incidental to Class 13 Excavation Widening.
- ④ Place and compact material.
- ⑤ Place Class 13 excavation material and shape to existing shoulder in the outer 1' - 3' and roll with loaded truck tire. Existing nominal shoulder varies from 10' to 13'.

**TYPICAL SECTION
TYPE 'B' GRANULAR SHOULDER
Divisions 1 and 3**

For Information Only

ENGLISH IOWA DOT DESIGN TEAM Phillips\Hamilton

WASHINGTON COUNTY PROJECT NUMBER NHSX-001-4(47)--3H-92

SHEET NUMBER B.2

11:17:44 AM 8/16/2013 dhamilt pw:\projectwise.dot.int.lan:PWMain\Documents\Projects\9200102013\DistrictDesign\92-0014-047b.sht

FILE NO. ENGLISH DESIGN TEAM J1a \ Altenhofen

WASHINGTON COUNTY PROJECT NUMBER NHSN-001-4(48)--2R-92

SHEET NUMBER B.5

8:00:54 AM 11/17/2015 adewolf pw:\projectwise.dot.int.lan:PWMain\Documents\Projects\9200101014\Design\92001048b01.sht

SURVEY SYMBOLS

- LIN Miscellaneous Line
- UV Underground Utility Vault
- SIGN SI Sign
- PR Electric Riser Pole
- LUM Luminaire
- PPA Power Pole Co. 1
- FLG Flag Poles
- WH WHD Water Hydrant
- EB EB Electrical Box
- TP TPD Telephone Pedestal
- BLD Building or Foundation
- SIGN SL Speed Limit Sign
- OUT Tile Outlet
- TIL Tile Line
- PIP Pipe Culvert
- WV WW Water Valve
- FP FP Filler Pipe
- FHD Fire Hydrants
- GP GP Guard Post (Less Than 4 Posts)
- SHR Shrub
- RET Retaining Walls
- ROC Rock Outcropping
- TDC Tree Deciduous
- CON Concrete or A/C Slab
- TVP TVP TV Pedestal
- FCL Chain Link and Security Fence
- MH Utility Access (Manhole)
- UST Underground Tank
- INB Storm Sewer Beehive Intake
- COS Square Bridge Pier Column
- GU Gutter In Front of Curb
- D Centerline Draw or Stream (Down)
- EP Edge of Paved Roads (ML or SR)
- SWK Sidewalk
- ENP Edge Paved Entrance & Park Lot
- ENU Edge Unpaved Entrance & Parking
- ENT Centerline BL of Entrance
- SNP Unpaved Shoulder
- CU Back of Curb
- DU Centerline Draw or Stream (Up)
- BL Topo Breakline
- W WL1D Water Line Co. 1 - Quality D
- E1 EL1D Electric Line Co. 1 - Quality D
- E2 EL2D Electric Line Co. 2 - Quality D
- TV TV1D TV Cable Co. 1 - Quality D
- F03 FO3D Fiber Optic Co. 3 - Quality D
- G GL1D Gas Line Co. 1 - Quality D
- F02 FO2D Fiber Optic Co. 2 - Quality D
- San. SA1D Sanitary Sewer Co. 1- Quality D
- St.S. ST1D Storm Sewer Co. 1 - Quality D
- PRO Profile Shot
- SOP Size of Pipe or Culvert
- UE Utility Elevation
- C Centerline BL of Road (ML or SR)
- IN Storm Sewer Intake
- FO FO1D Fiber Optic Co. 1 - Quality D

UTILITY LEGEND

Not Available

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

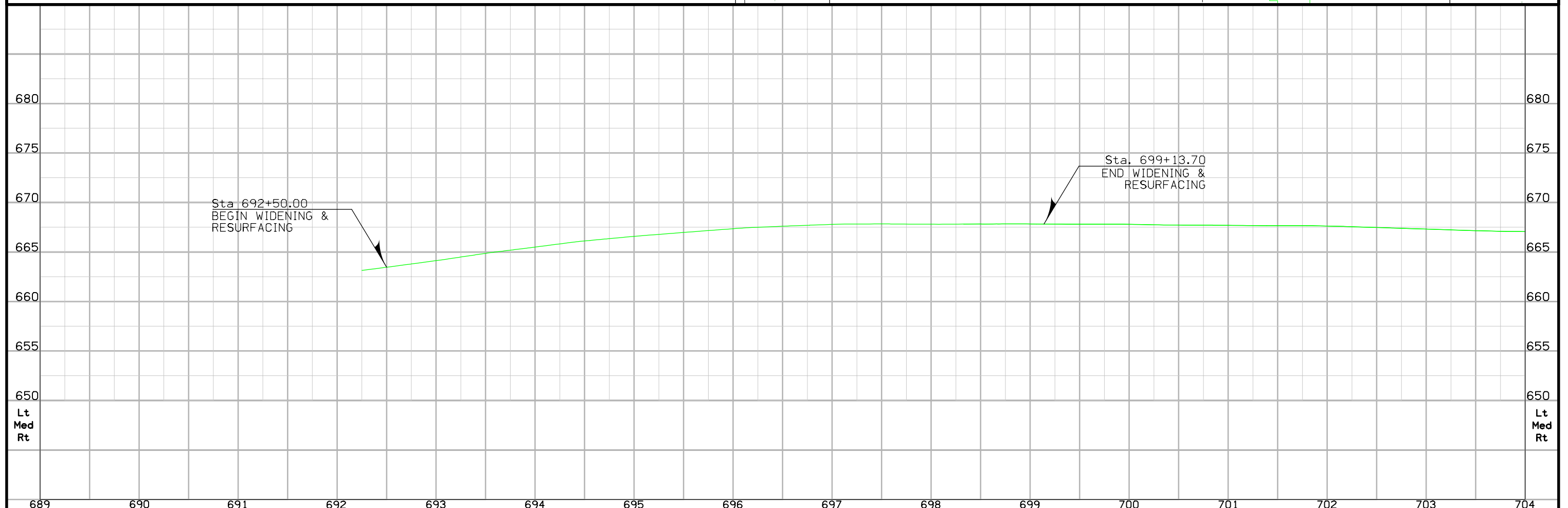
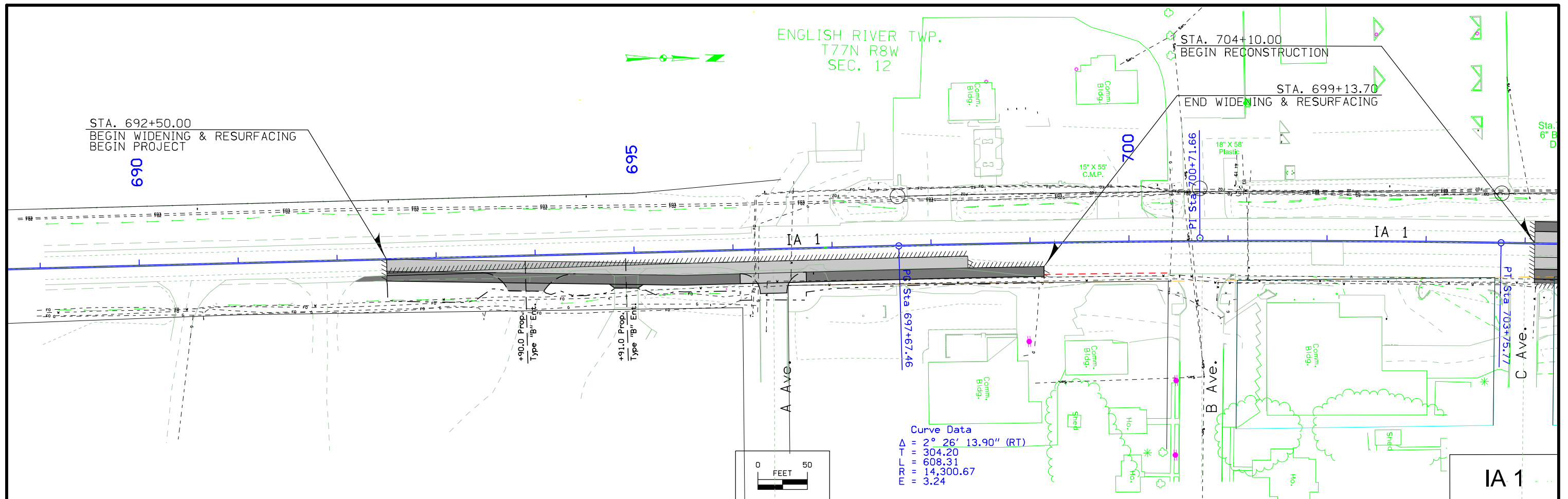
LINEWORK		Design Color No.	
Green	(2)		Existing Ground Line Profile
Blue	(1)		Proposed Profile and Annotation
Magenta	(5)		Existing Utilities
Blue, Light	(230)		Proposed Ditch Grades, Left
Black	(0)		Proposed Ditch Grades, Median
Rust	(14)		Proposed Ditch Grades, Right

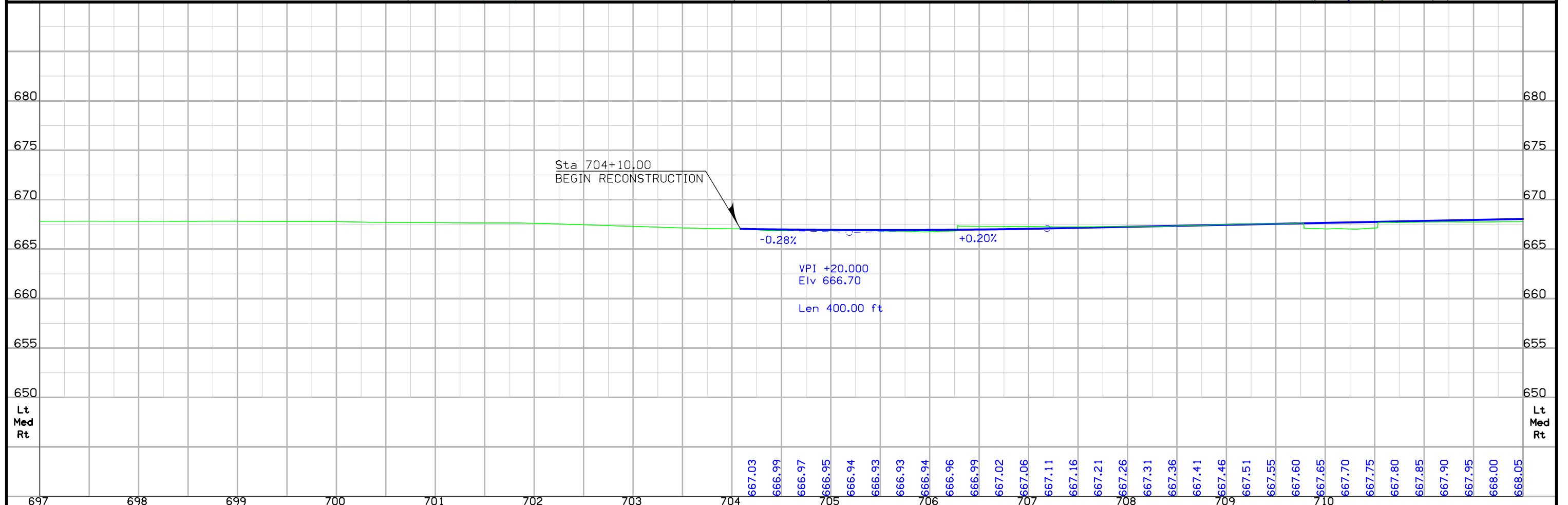
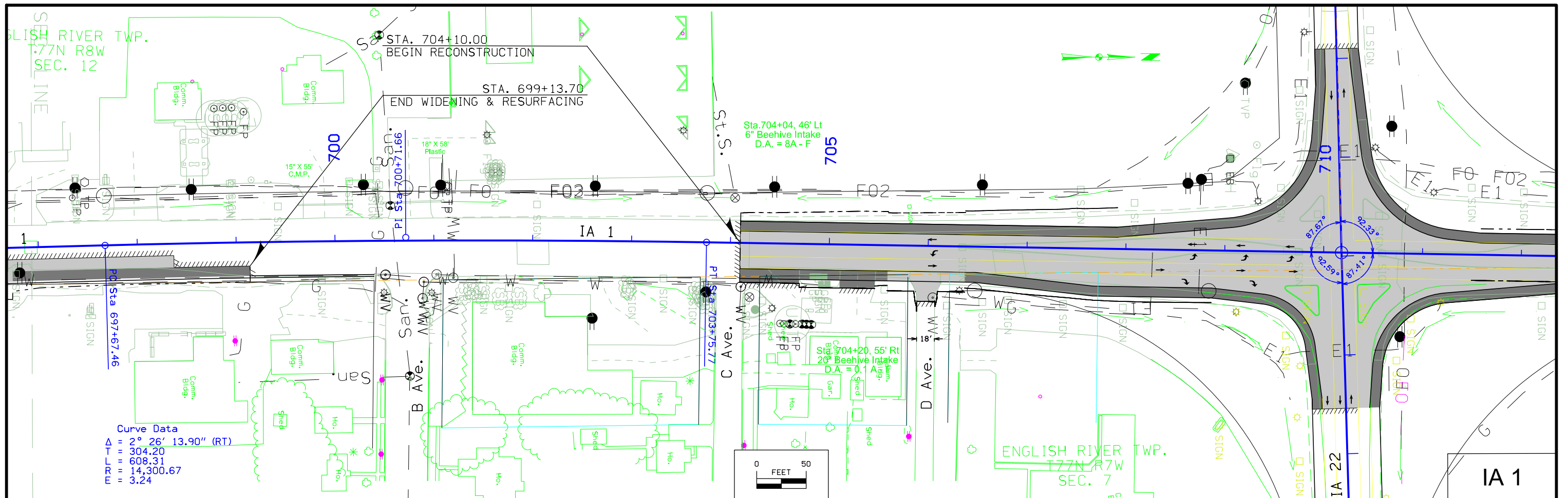
- Reference Point
- Station
- Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Trench Drain
- HighTension Cable Guardrail
- Sheet Pile
- Pavement Removal
- Clearing & Grubbing Area

RIGHT-OF-WAY LEGEND

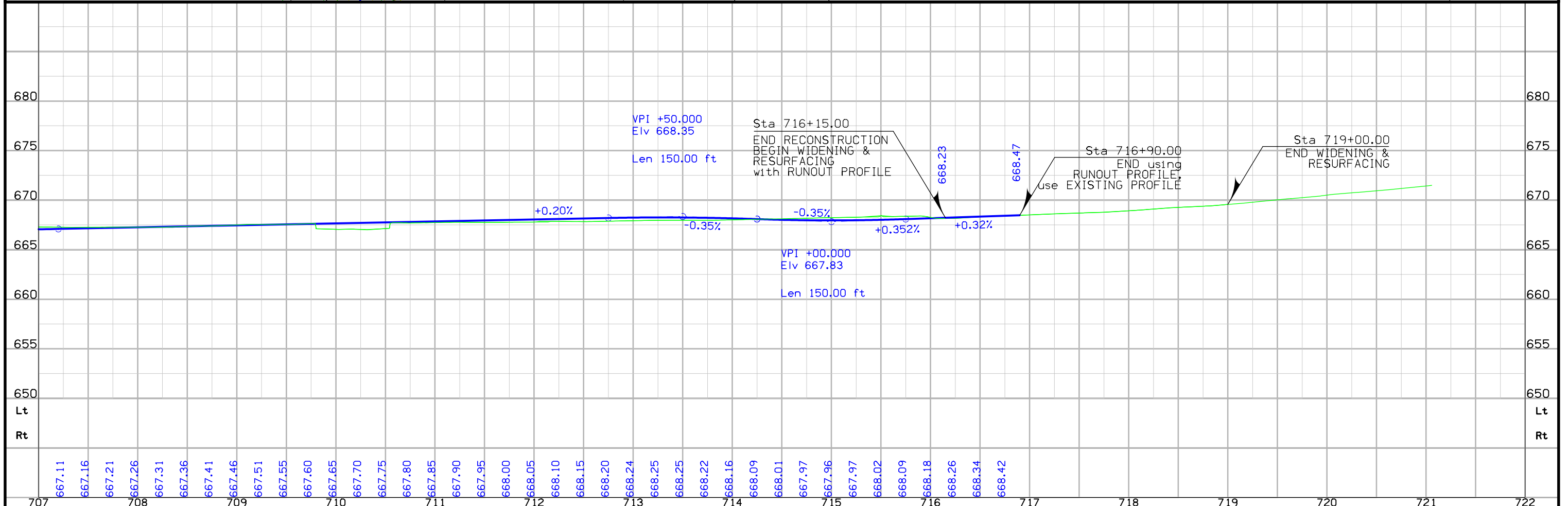
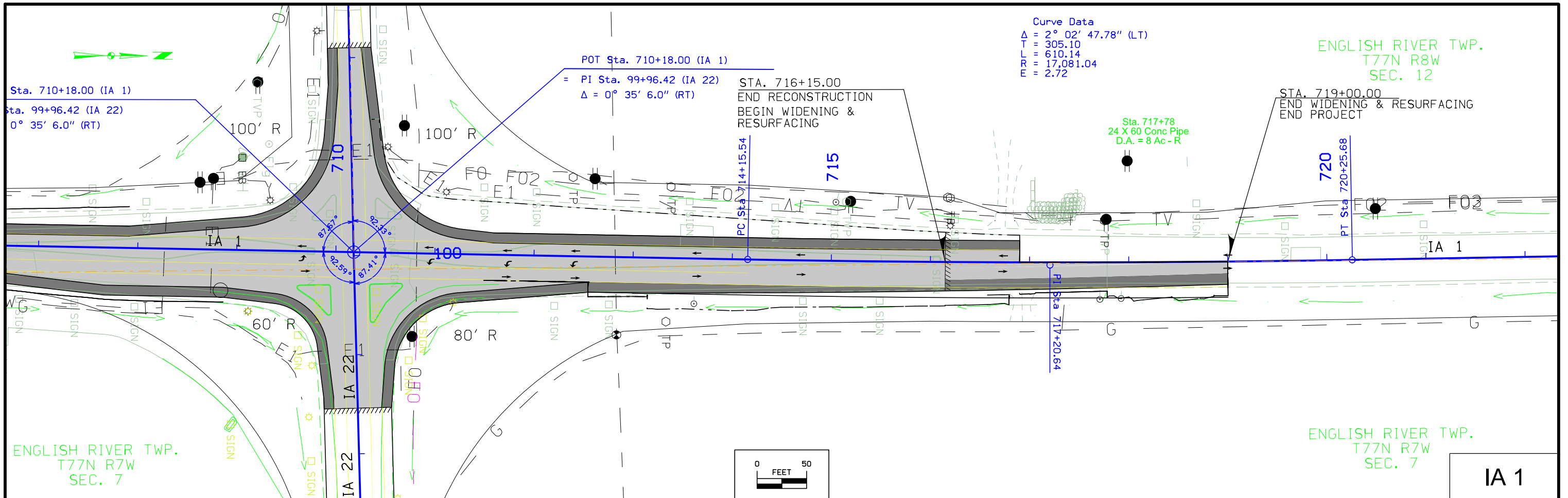
- Proposed Right-of-Way
- Existing Right of Way
- Existing and Proposed Right-of-Way
- Easement and Existing Right-of-Way
- Easement (Temporary)
- Easement
- Access Control
- Property Line

**PLAN AND PROFILE
 LEGEND AND SYMBOL
 INFORMATION SHEET**
 (COVERS SHEET SERIES D, E, F, & K)

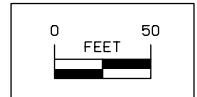
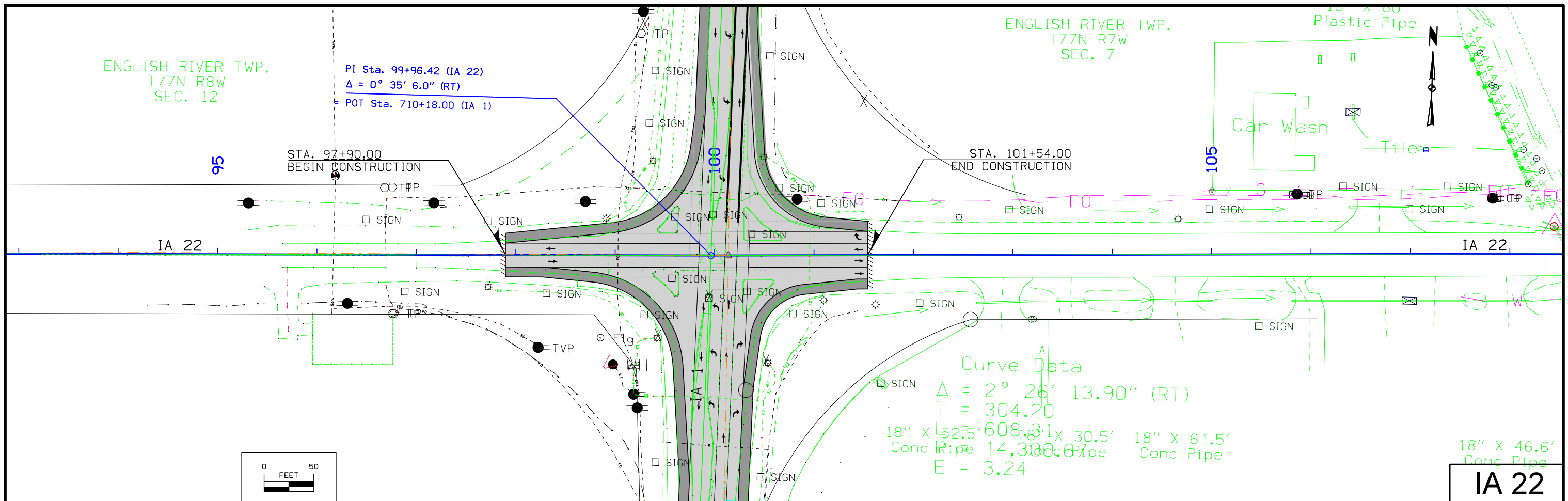




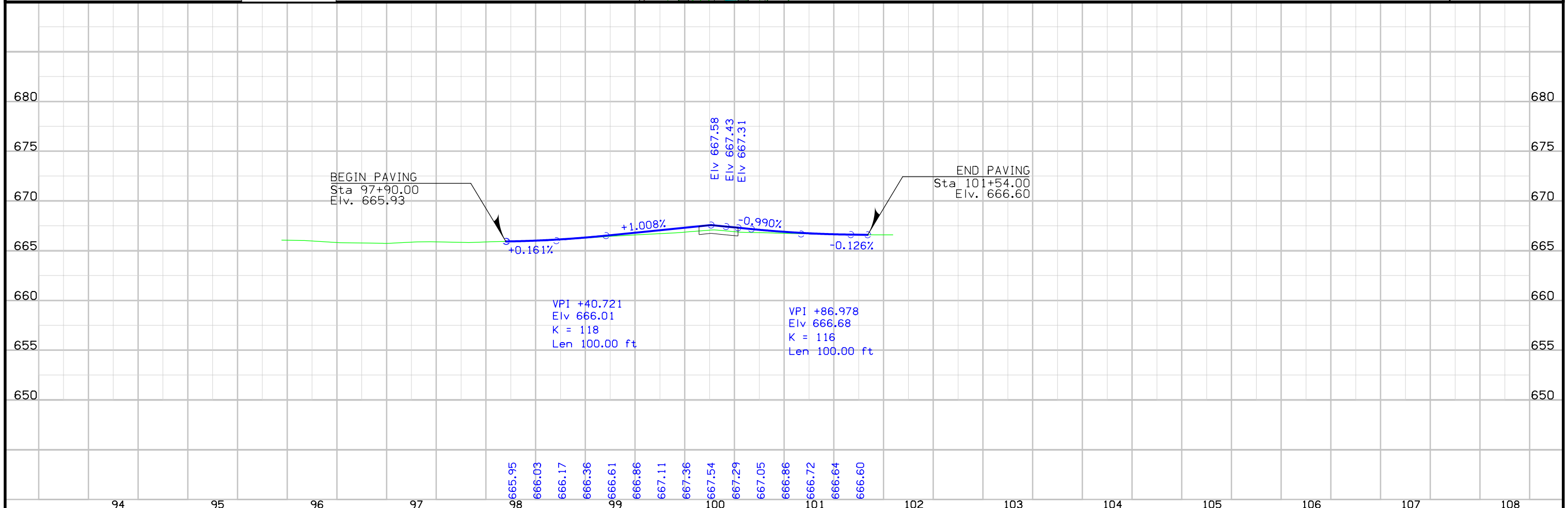
FILE NO.	ENGLISH	DESIGN TEAM	J1a \ Altenhofen	WASHINGTON COUNTY	PROJECT NUMBER	NHSN-001-4(48)--2R-92	SHEET NUMBER	D.3	REVISED
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FILE NO.	ENGLISH	DESIGN TEAM	J1a \ Altenhofen	WASHINGTON COUNTY	PROJECT NUMBER	NHSN-001-4(48)--2R-92	SHEET NUMBER	D.4
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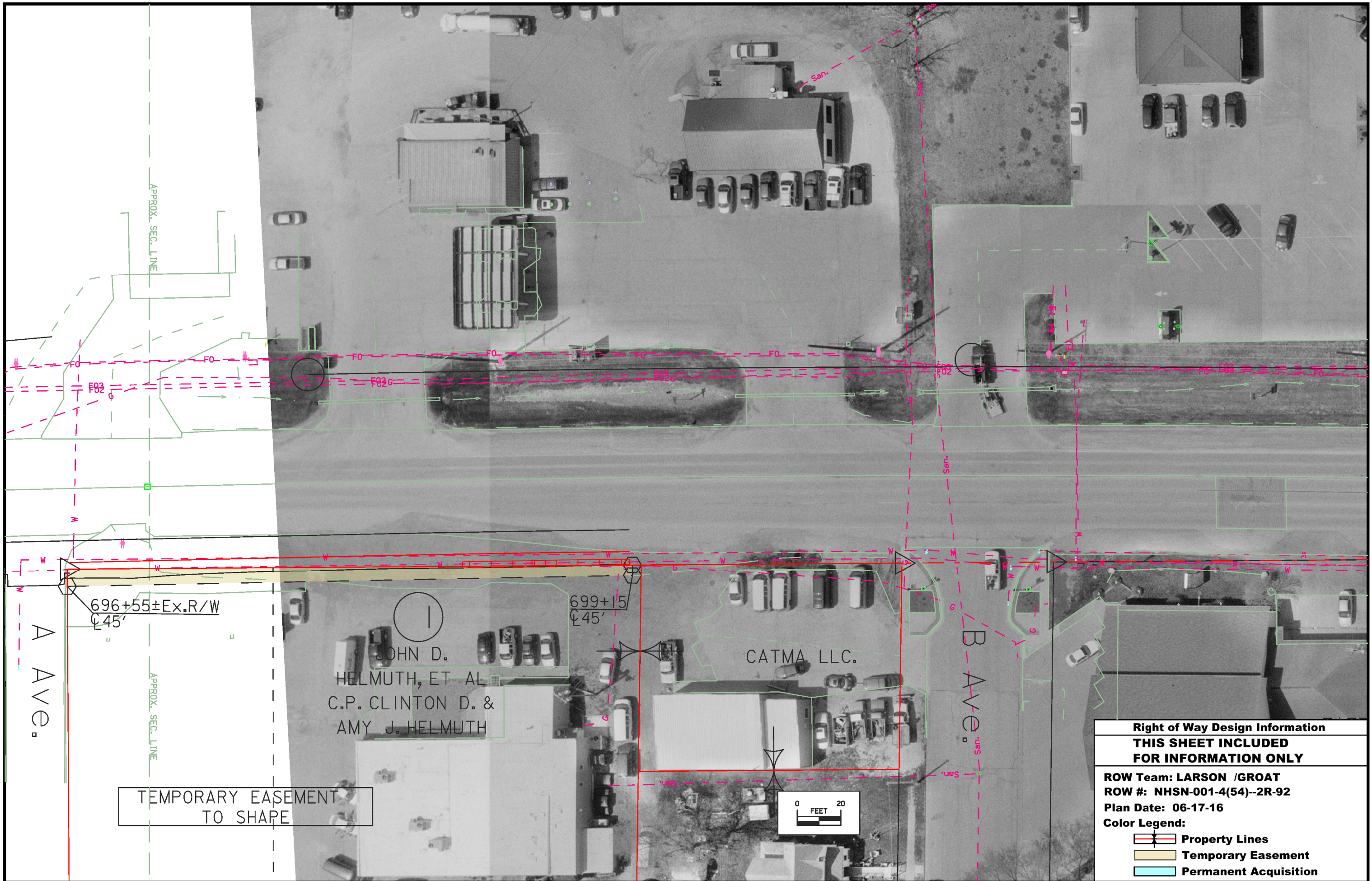
Curve Data
 $\Delta = 2^\circ 26' 13.90''$ (RT)
 $T = 304.20$
 $L = 608.81$
 $E = 3.24$
 18" x 52.5' Conc Pipe
 18" x 61.5' Conc Pipe
 18" x 46.6' Conc Pipe



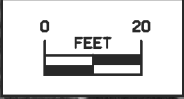
Washington ROW: NHSN-001-4(54)--2R-92
 IA 22 Intersection in Kalona

PIN 14-92-001-010

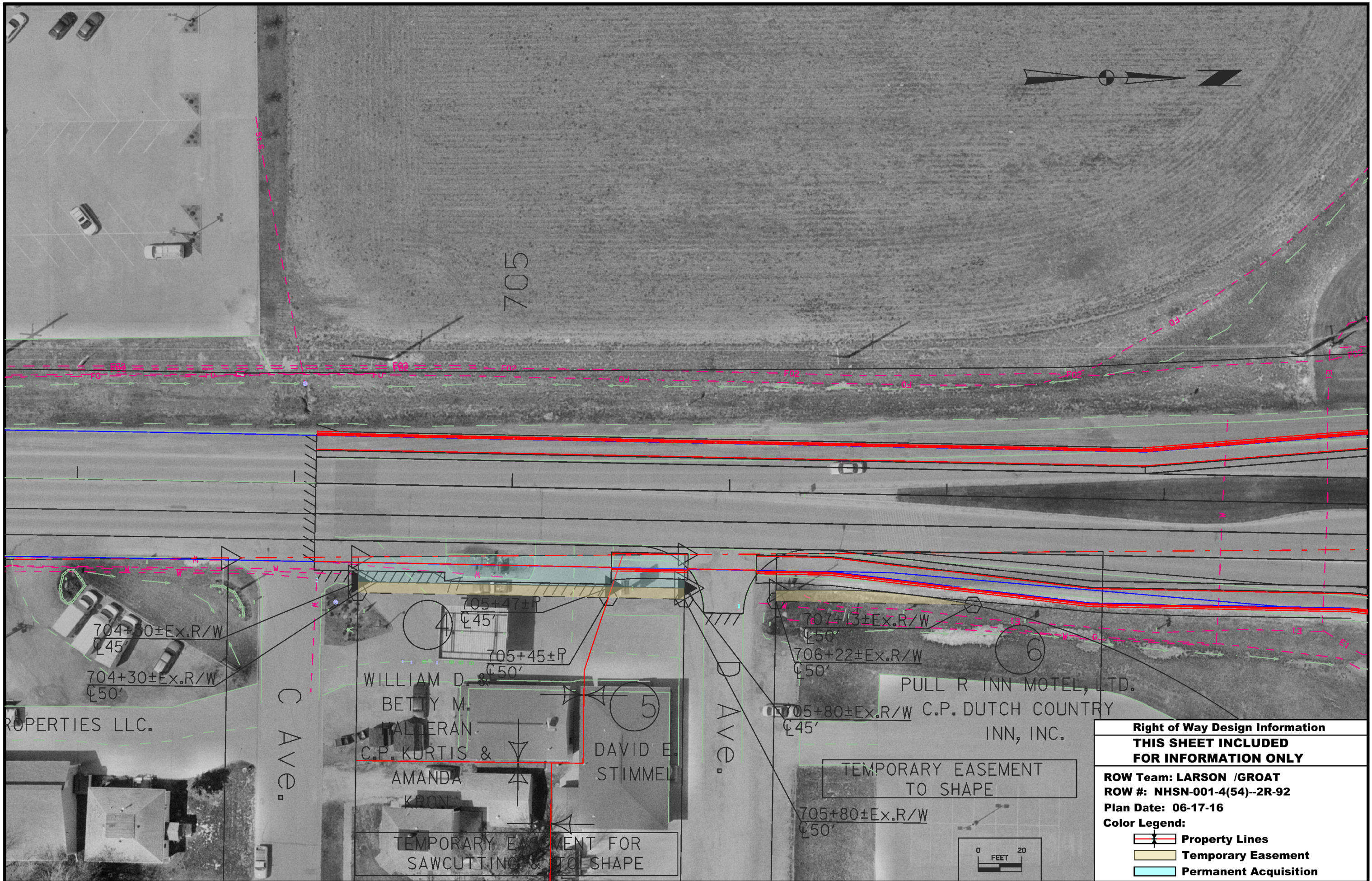
PARCEL NO.	OWNER NAME	STATE		COUNTY		CITY		BORROW								
		FEE	EASE	FEE	EASE	FEE	EASE	EXCESS	FEE	T.E.	MITIGATION	OTHER	HOUSE	BUILDING(S)	A/C ONLY	TOTAL ACQ.
1	John D. Helmuth, Et Al - Fee Clinton D. Helmuth - CP1															
2	CATMA, LLC. - Fee															
3	Tate Properties, LLC. - Fee															
4	William D. Halleran - Fee Kurtis Kron - CP1	1567 SF														
5	David E. Stimmel - Fee	471 SF														
6	Dutch Country Inn, Inc. - Fee															
6 Parcels	"TOTALS	0 AC 0 AC 2038 SF	0 AC 0 AC 0 SF	0 AC 0 AC 0 SF	0 AC 0 AC 0 SF	0 AC 0 AC 0 SF	0 AC 0 AC 0 SF	0 AC 0 SF	0 AC 0 AC	0 AC	0 AC	0 AC	0 AC			



TEMPORARY EASEMENT TO SHAPE



Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: LARSON /GROAT	
ROW #: NHSN-001-4(54)--2R-92	
Plan Date: 06-17-16	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: LARSON /GROAT
ROW #: NHSN-001-4(54)--2R-92
Plan Date: 06-17-16

Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition

108-23A
08-01-08

TRAFFIC CONTROL PLAN

One lane of traffic in all directions will be maintained at all times during construction. Also, temporary traffic signals will be used during construction.

108-26A
08-01-08

STAGING NOTES

Stage 1: Traffic: Maintian traffic with the use of flaggers.
Work: Construct detour pavement.

Stage 2: Traffic: Maintain traffic in all directions utilizing temporary traffic signals.
Work: Construct SW quadrant and additional detour pavement.

Stage 3: Traffic: Maintain traffic in all directions utilizing temporary traffic signals.
Work: Construct SE quadrant.

Stage 4: Traffic: Maintain traffic in all directions utilizing temporary traffic signals.
Work: Construct NE quadrant.

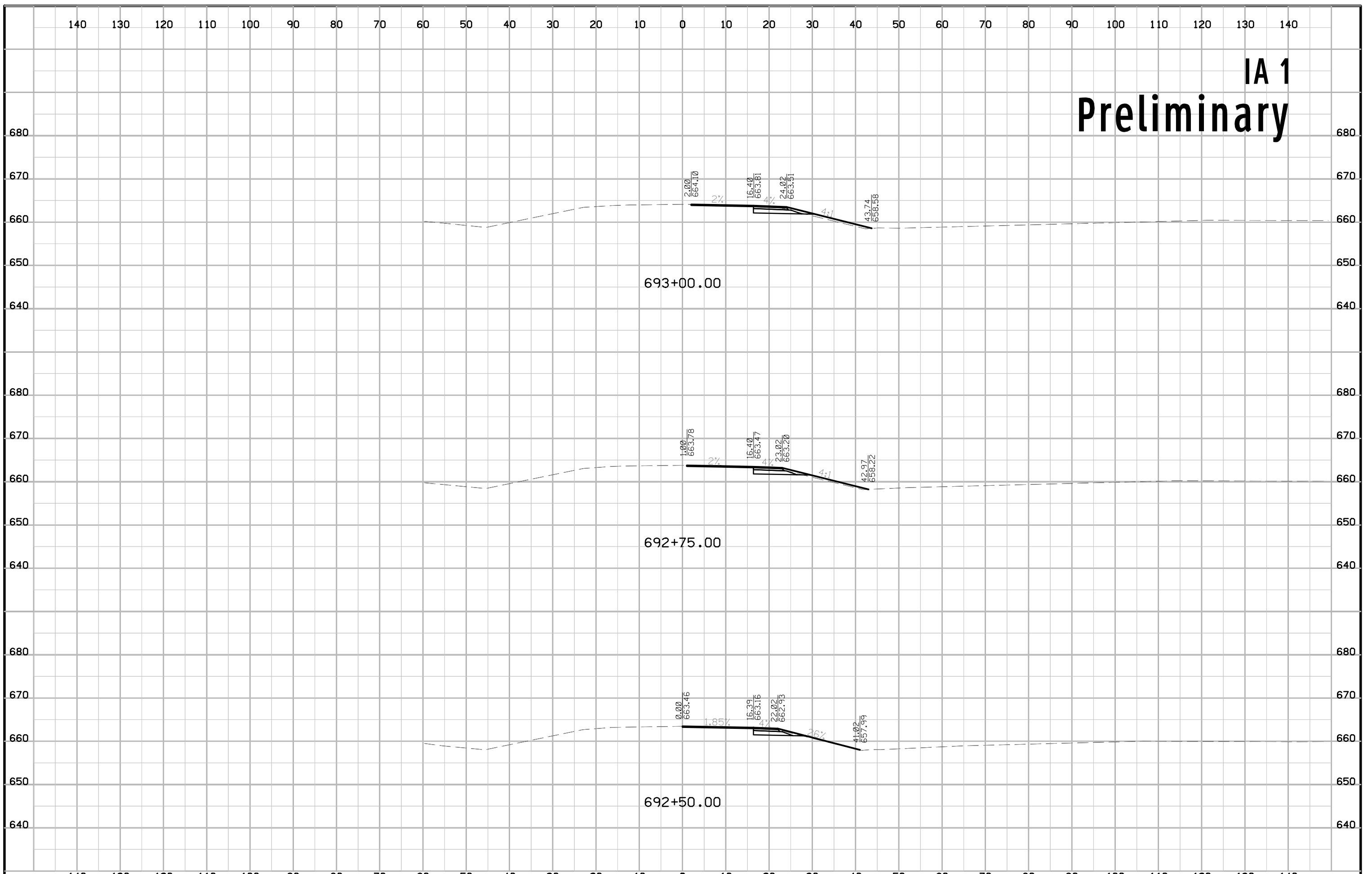
Stage 5: Traffic: Maintain traffic in all directions utilizing temporary traffic signals.
Work: Construct NW quadrant.

108-25
10-21-14

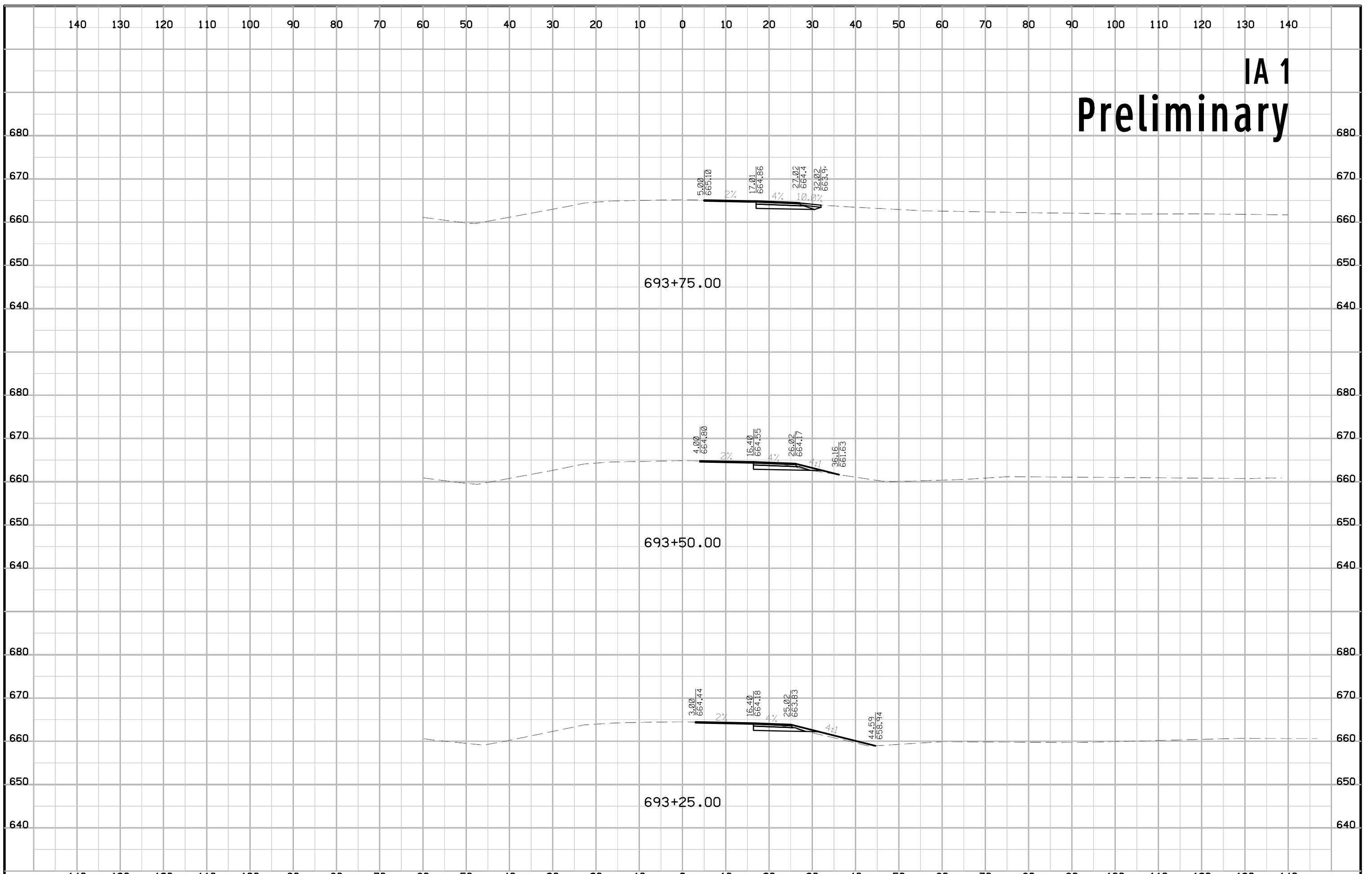
511 TRAVEL RESTRICTIONS

Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
IA 22	EB/WB	Washington	0.3 miles east of IA 1	Drainage ditch	Bridge	51730	Vertical					

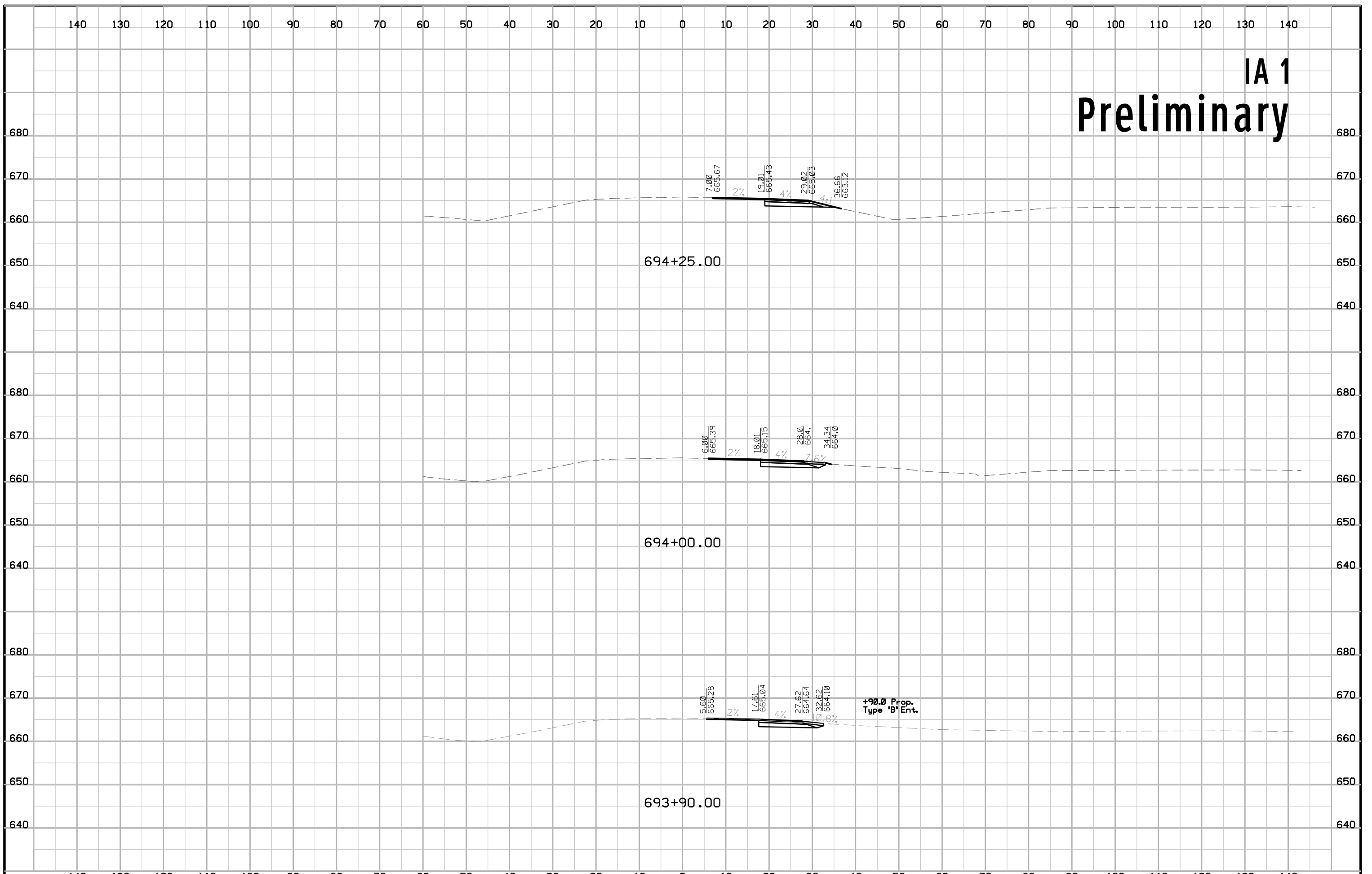
IA 1 Preliminary



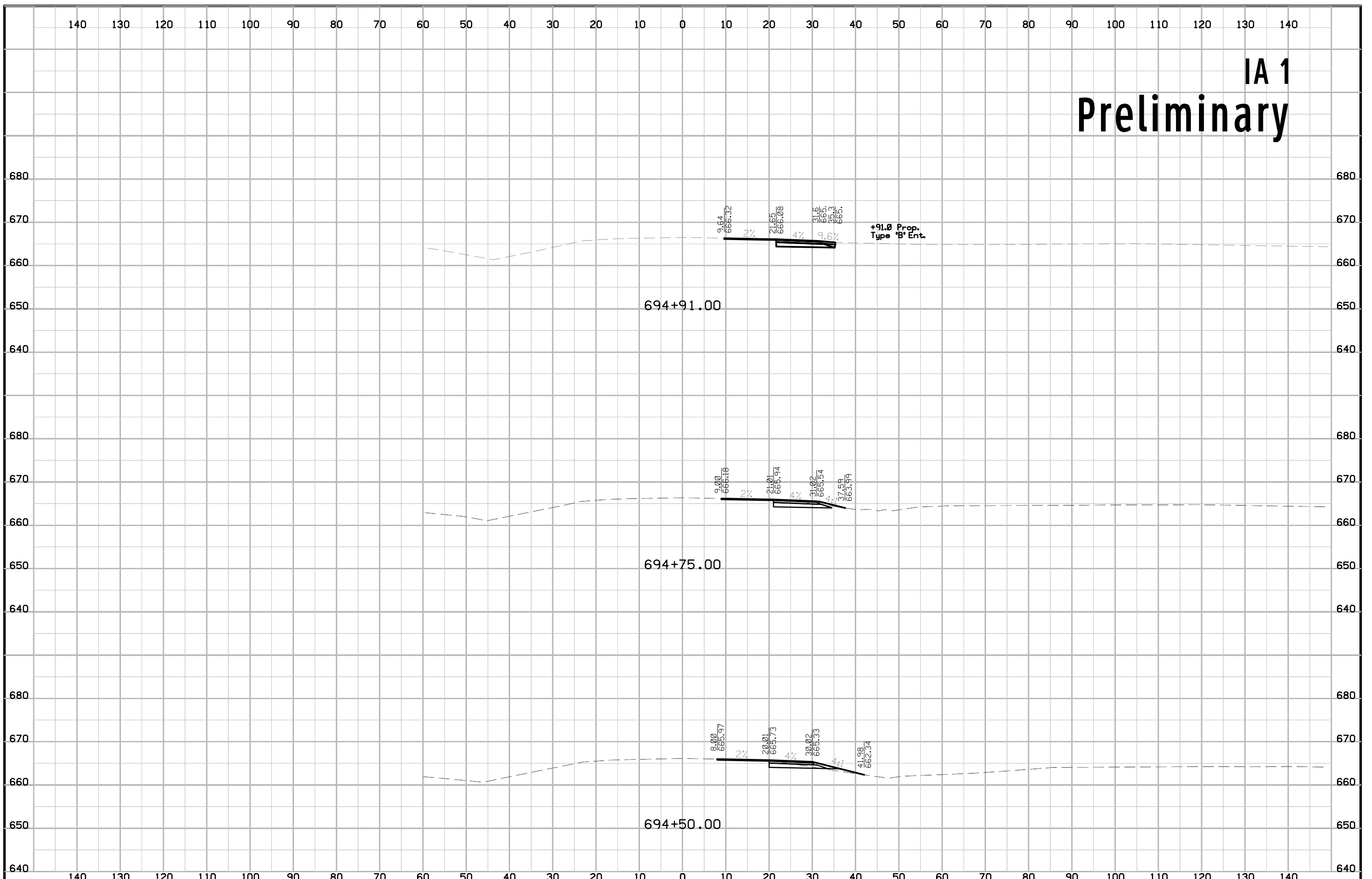
IA 1 Preliminary



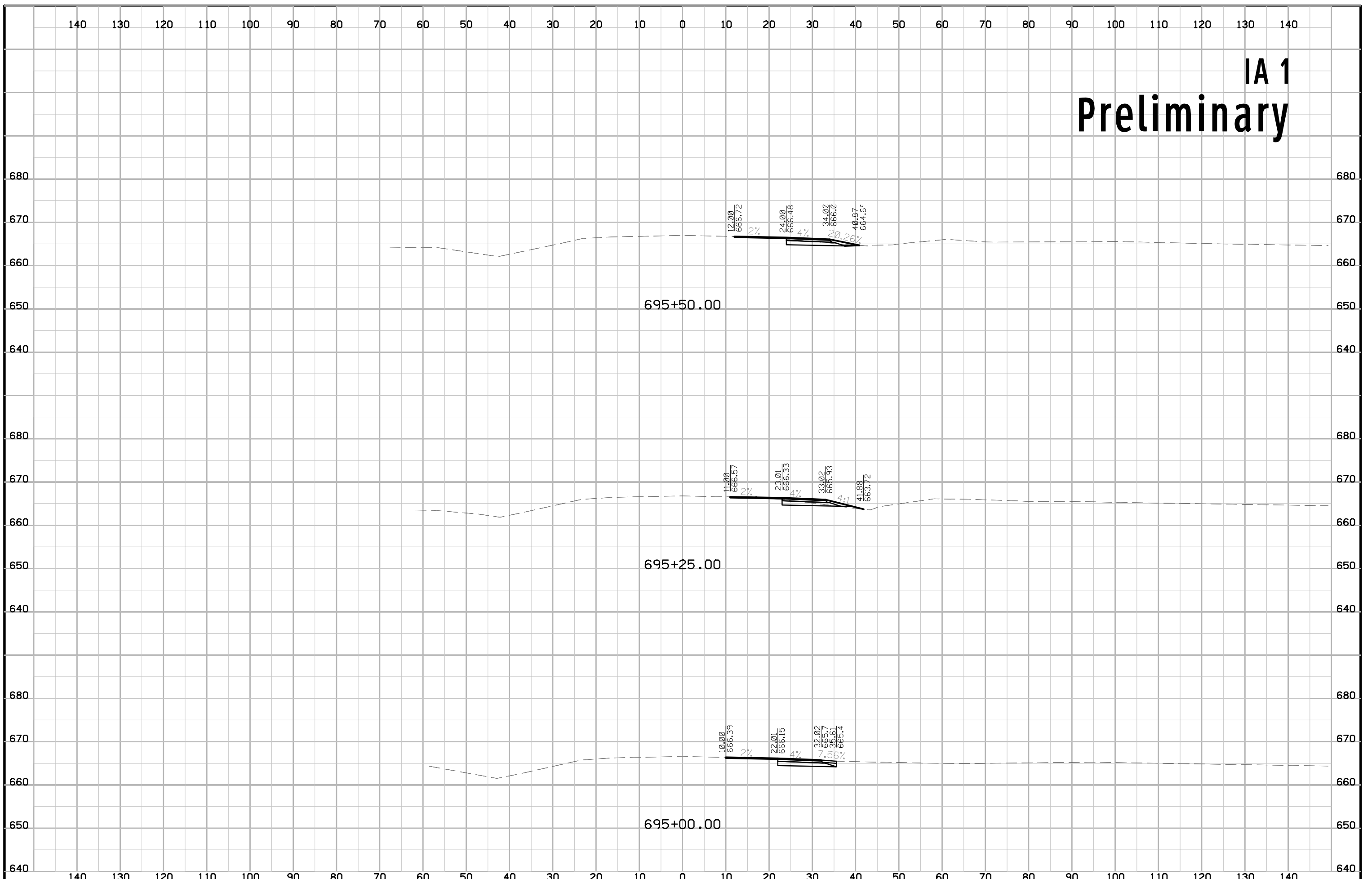
IA 1 Preliminary



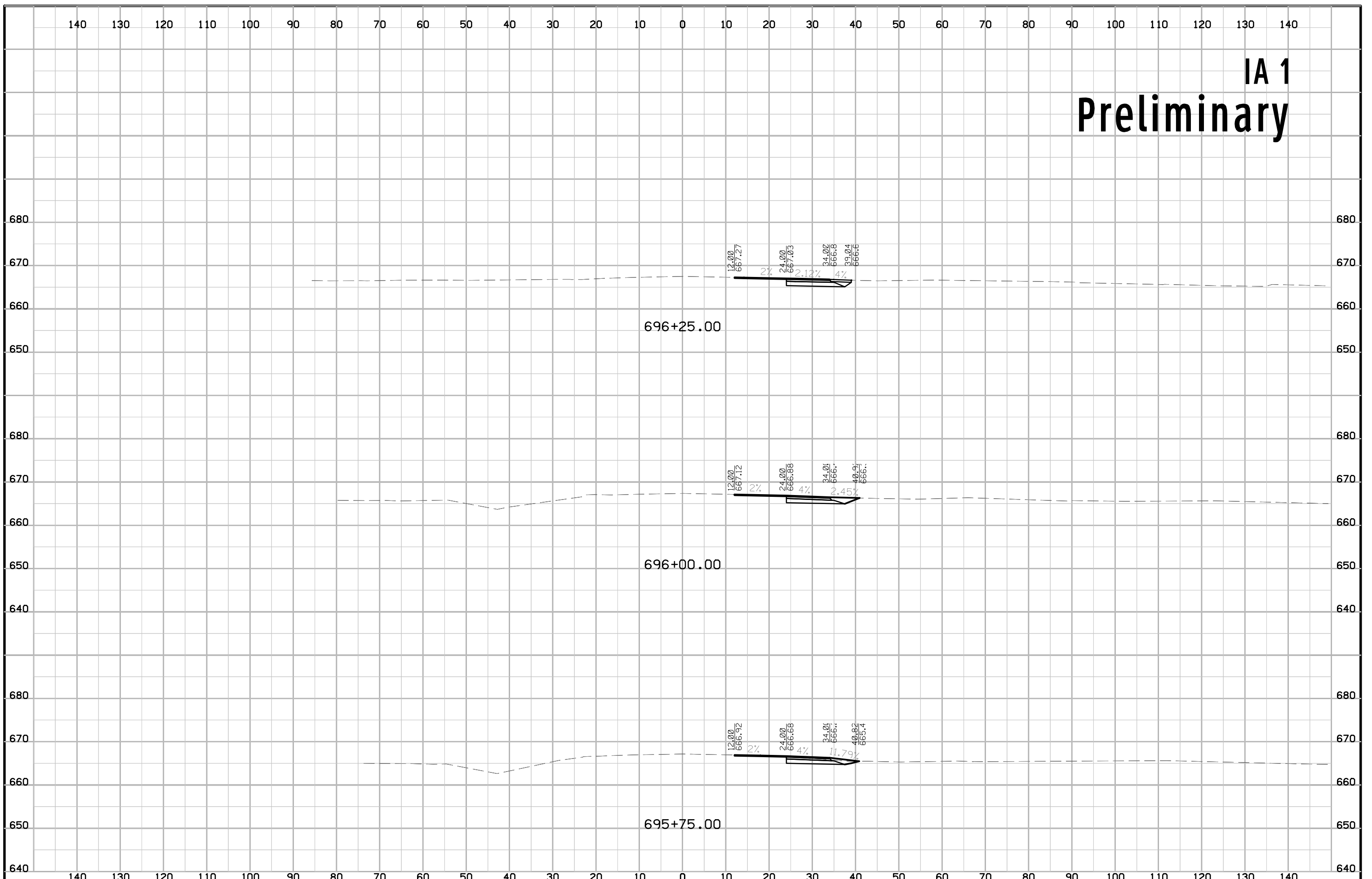
IA 1 Preliminary



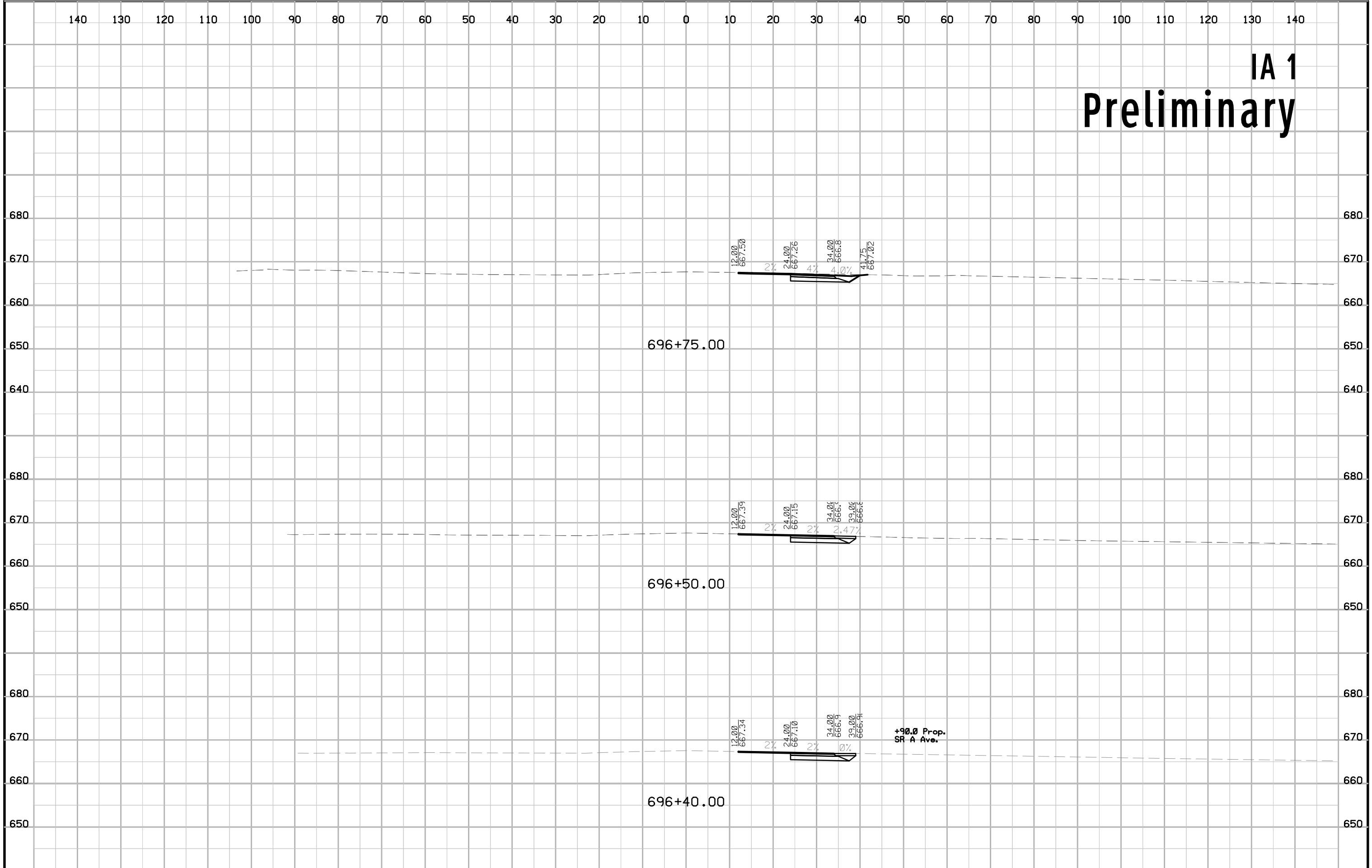
IA 1 Preliminary



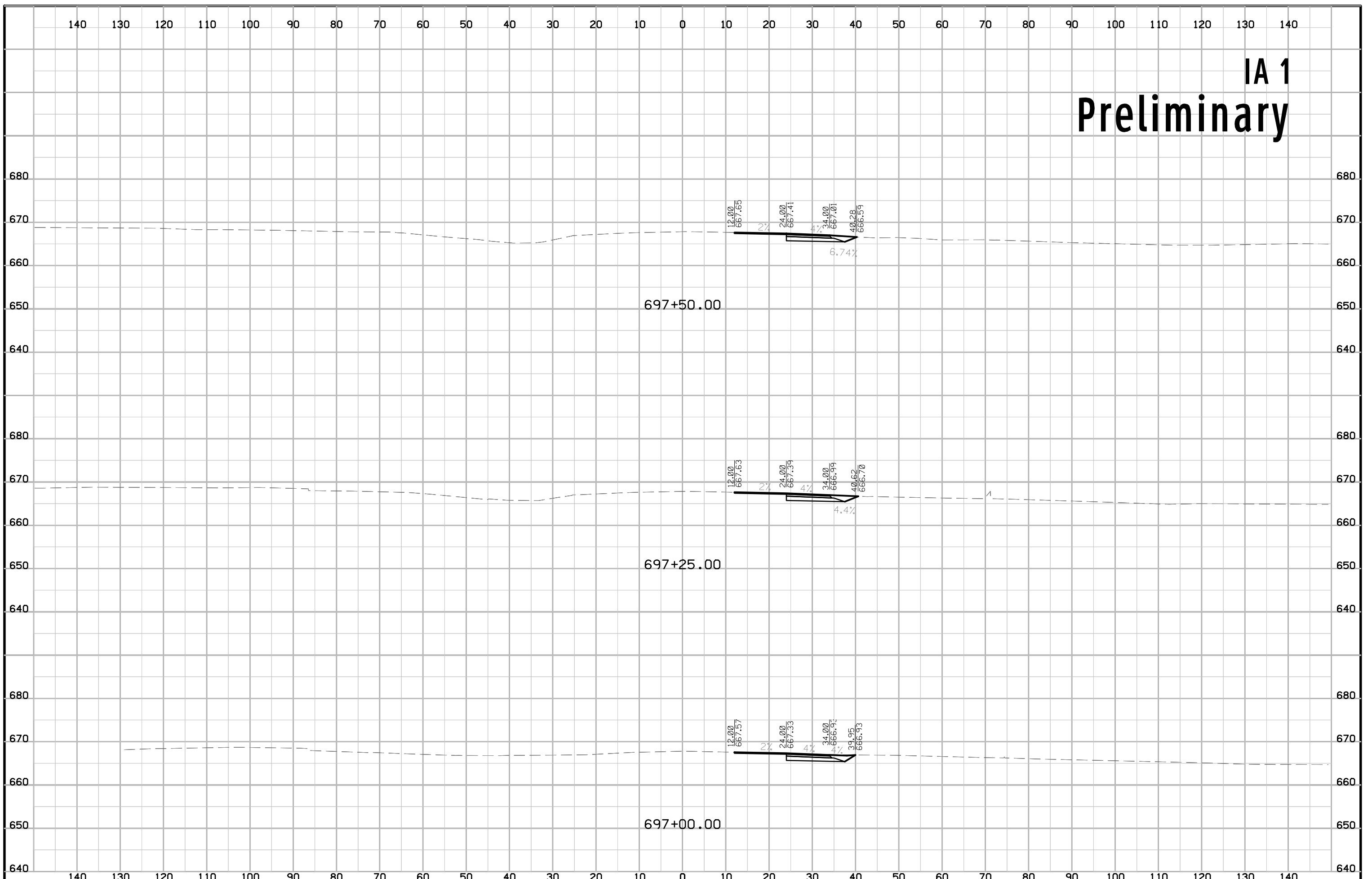
IA 1 Preliminary



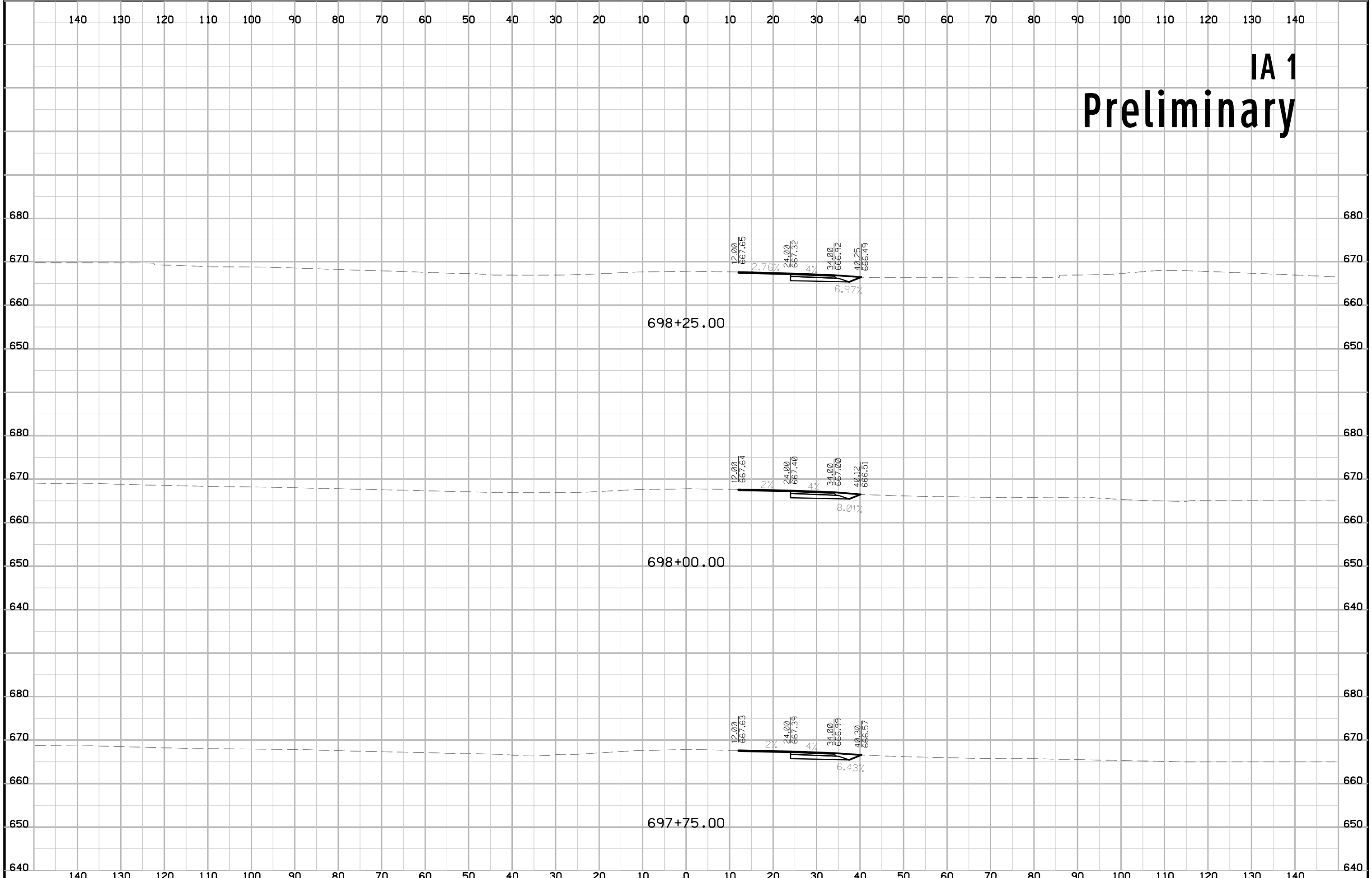
IA 1 Preliminary



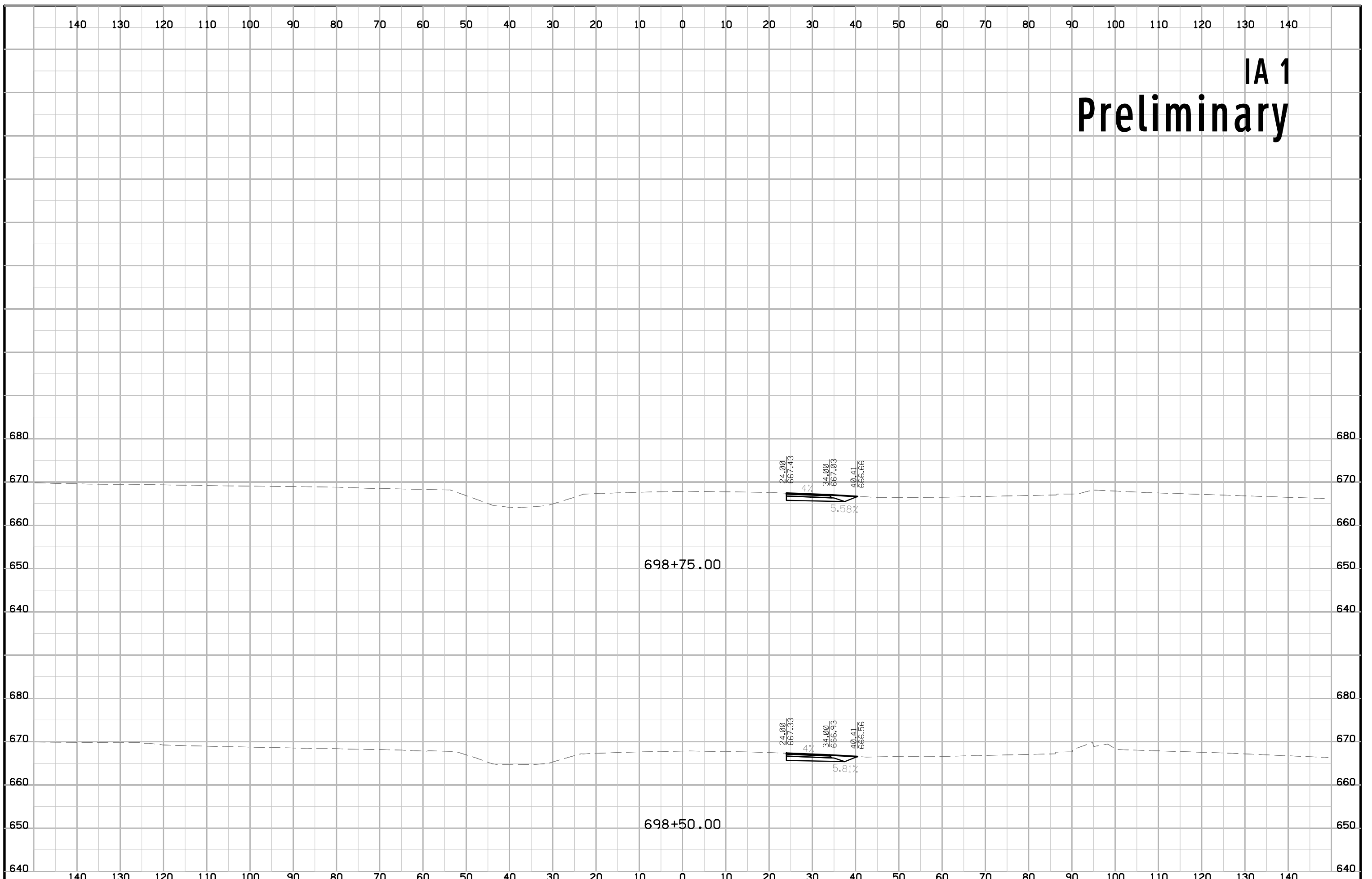
IA 1 Preliminary



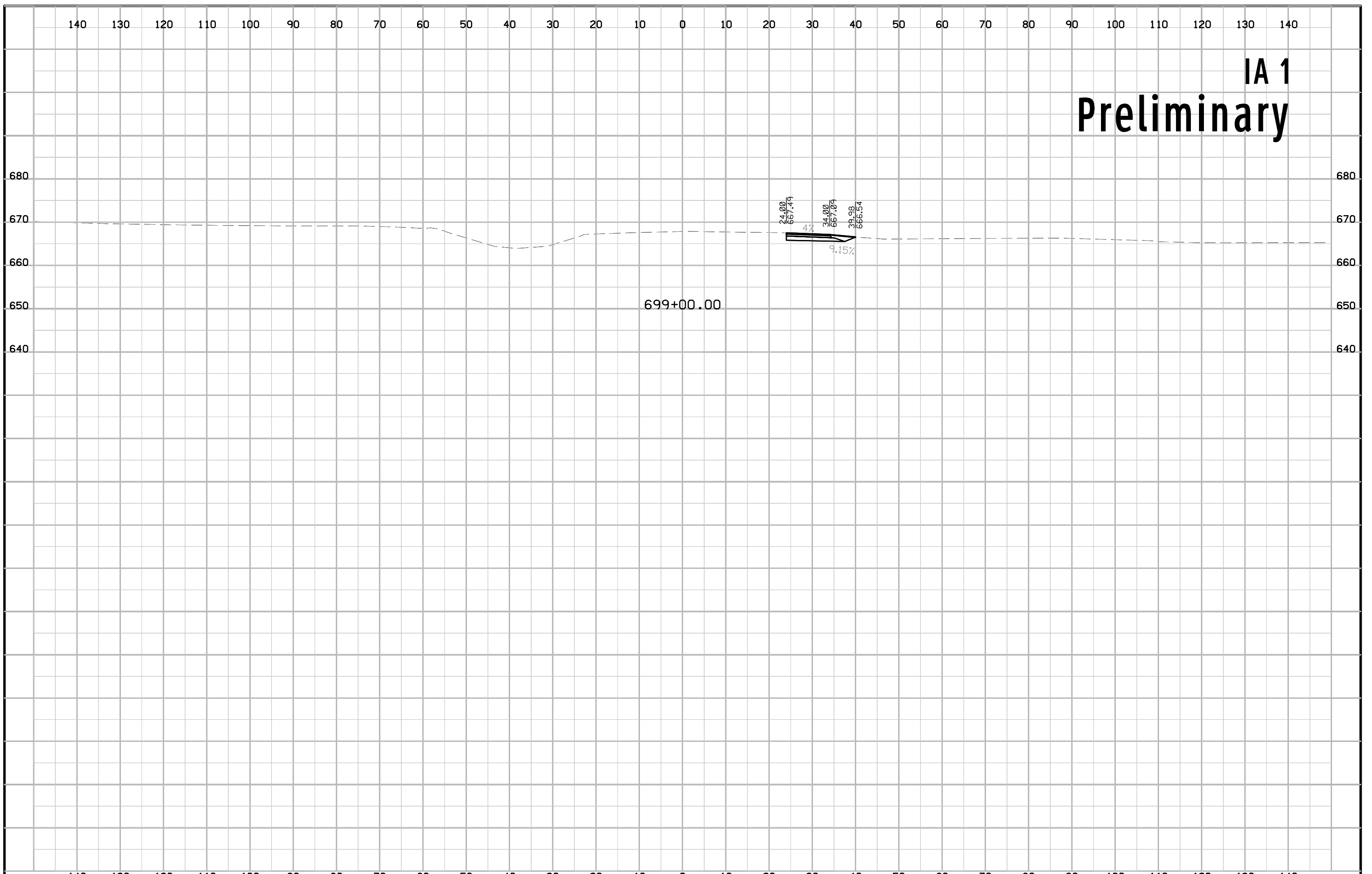
IA 1 Preliminary



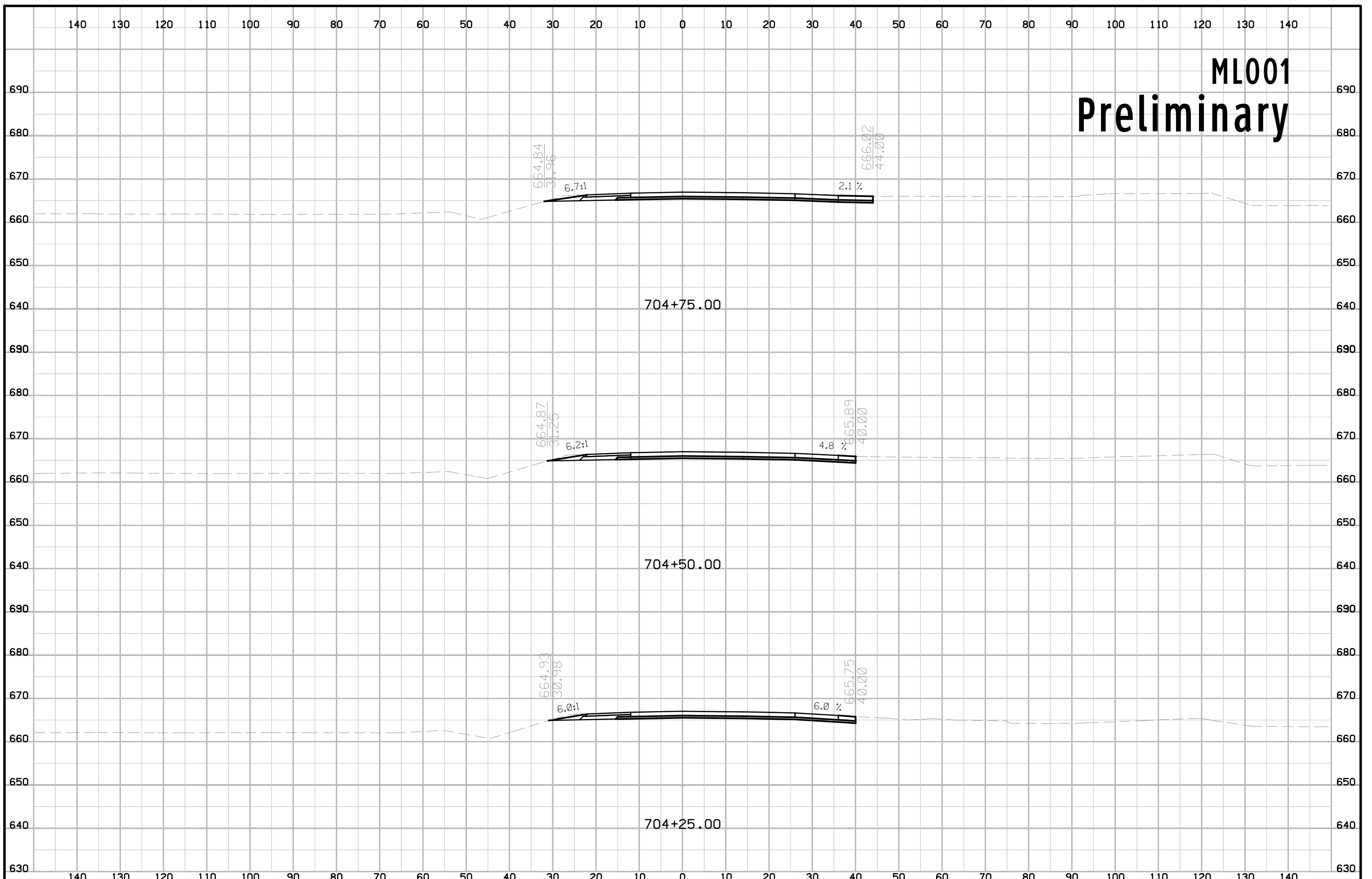
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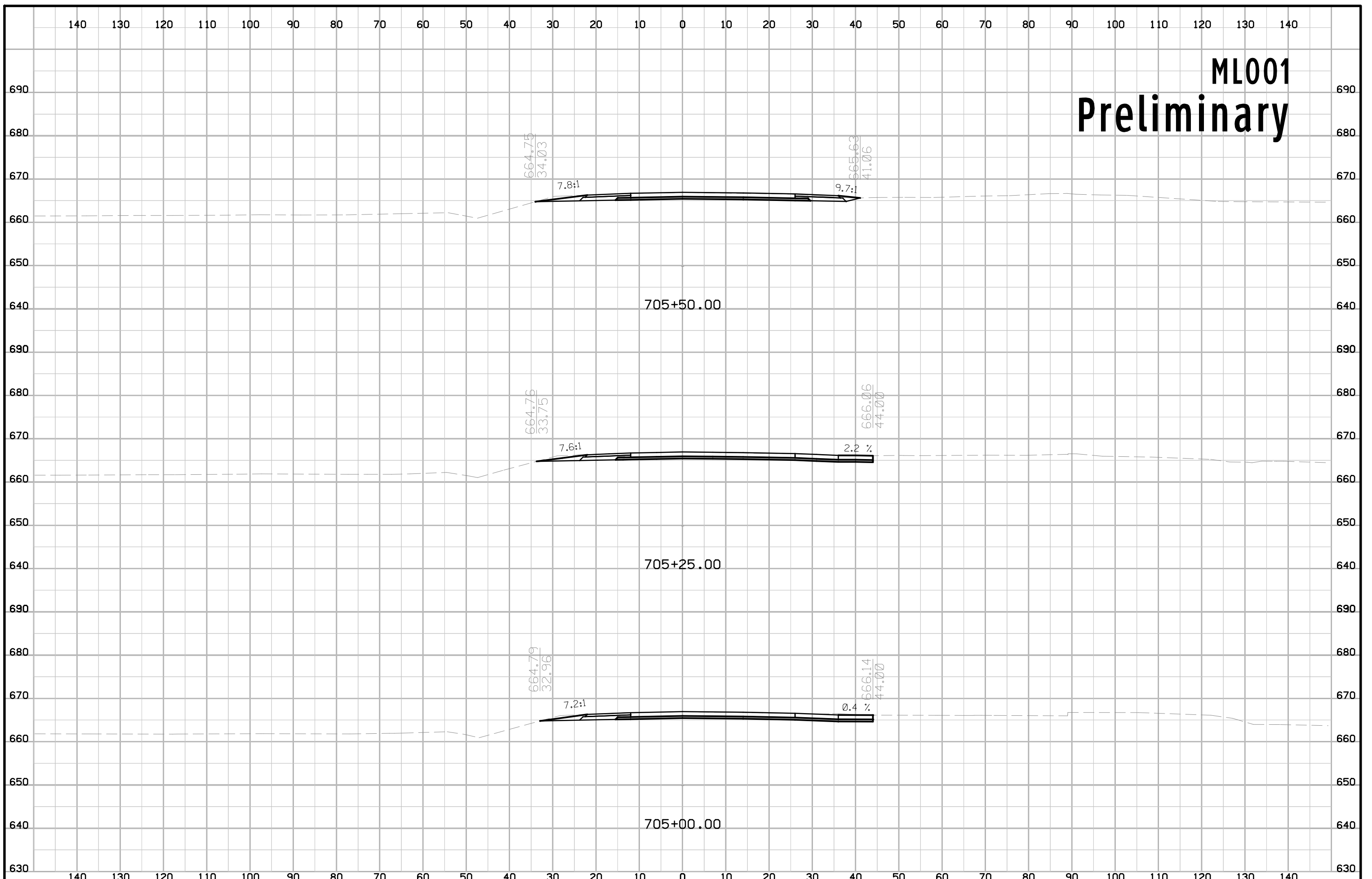
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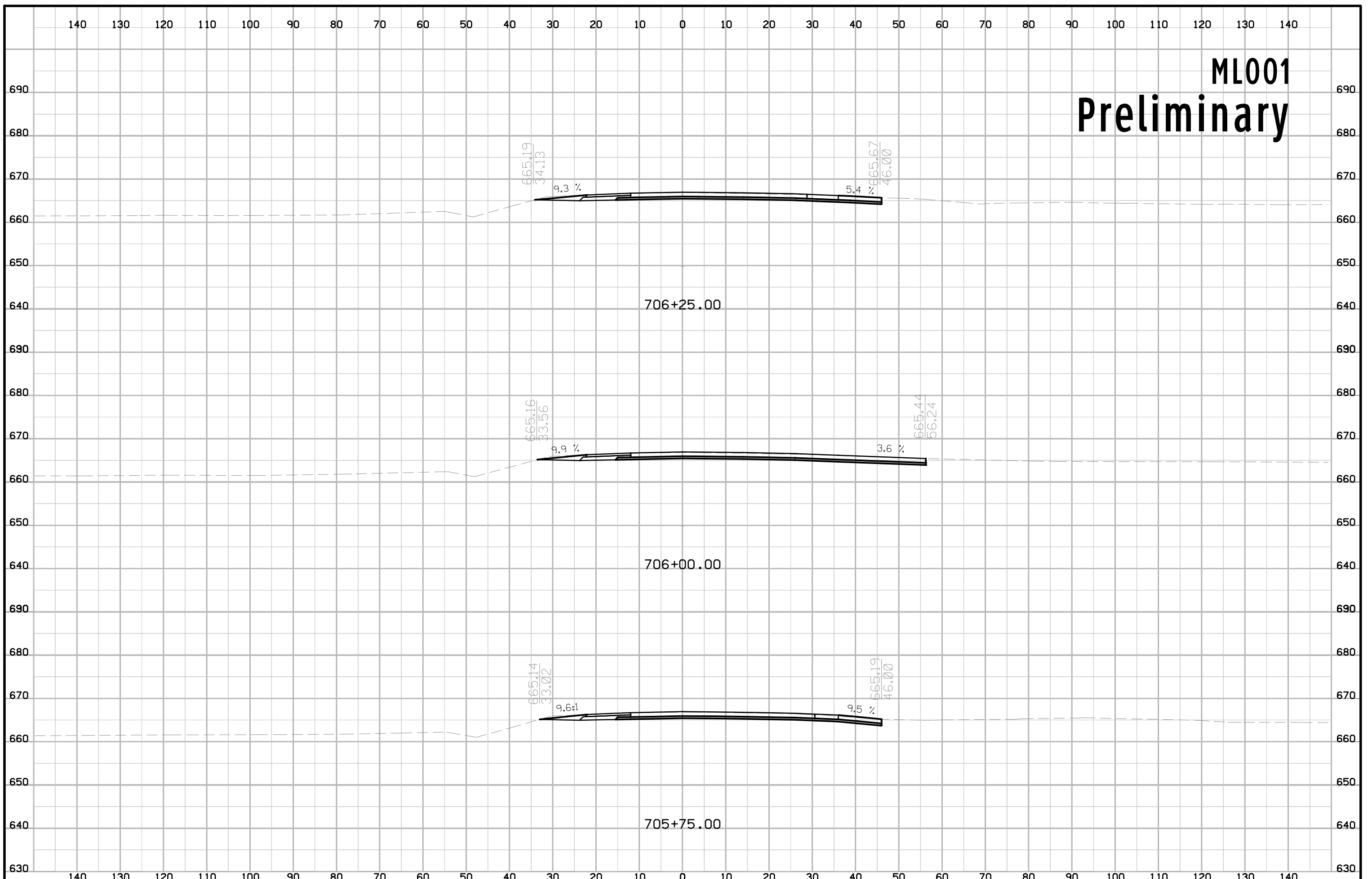
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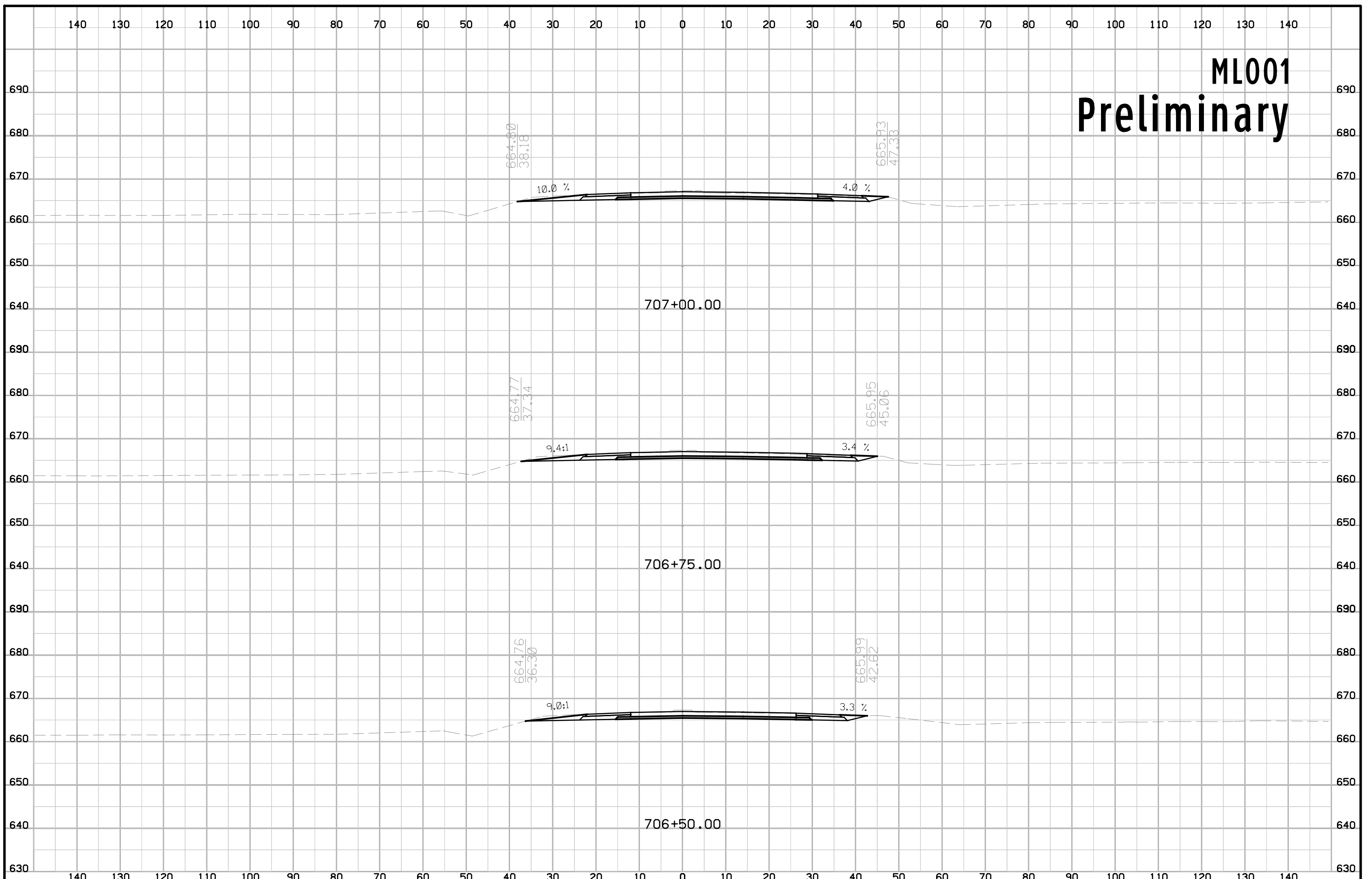
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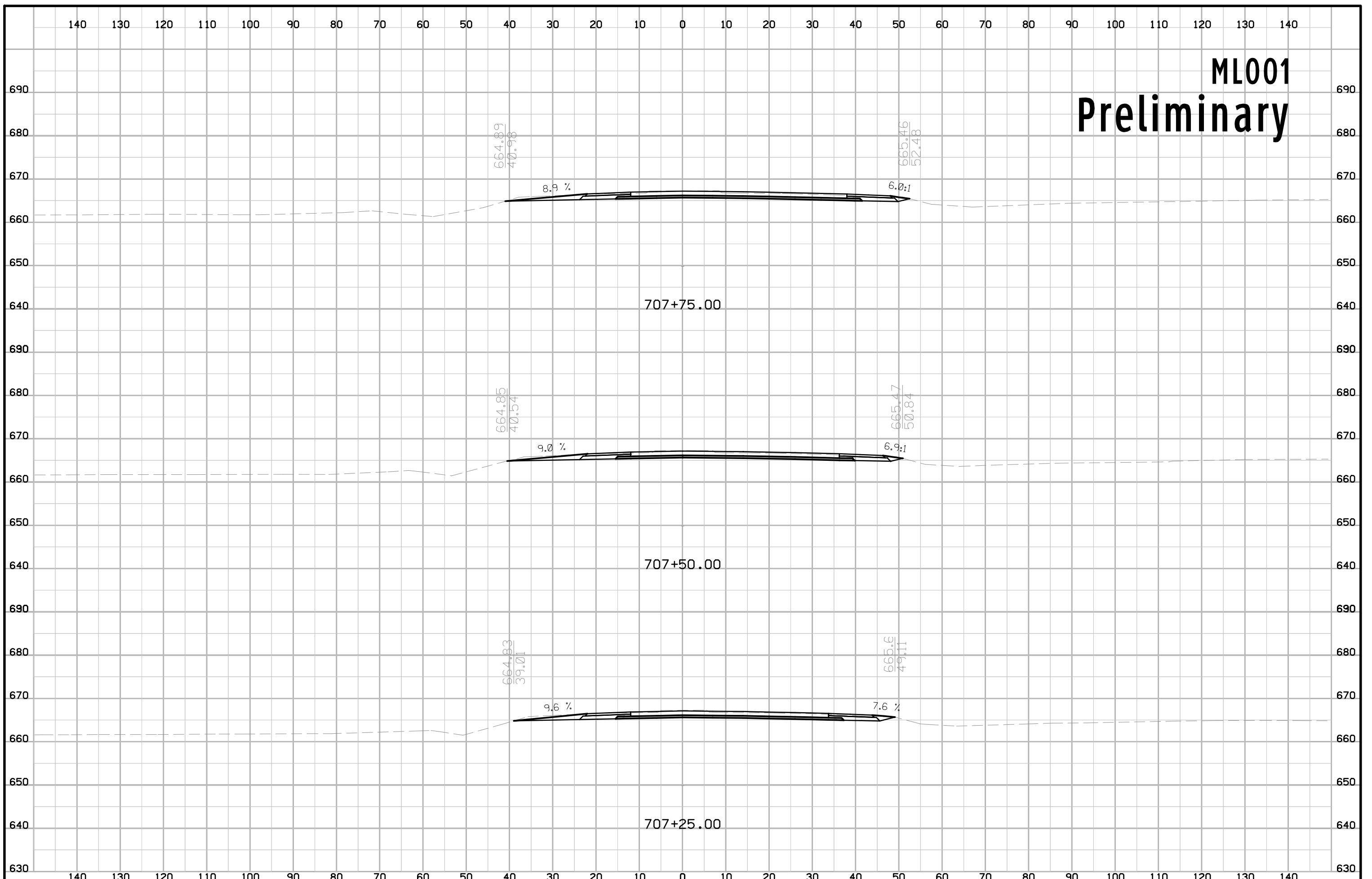
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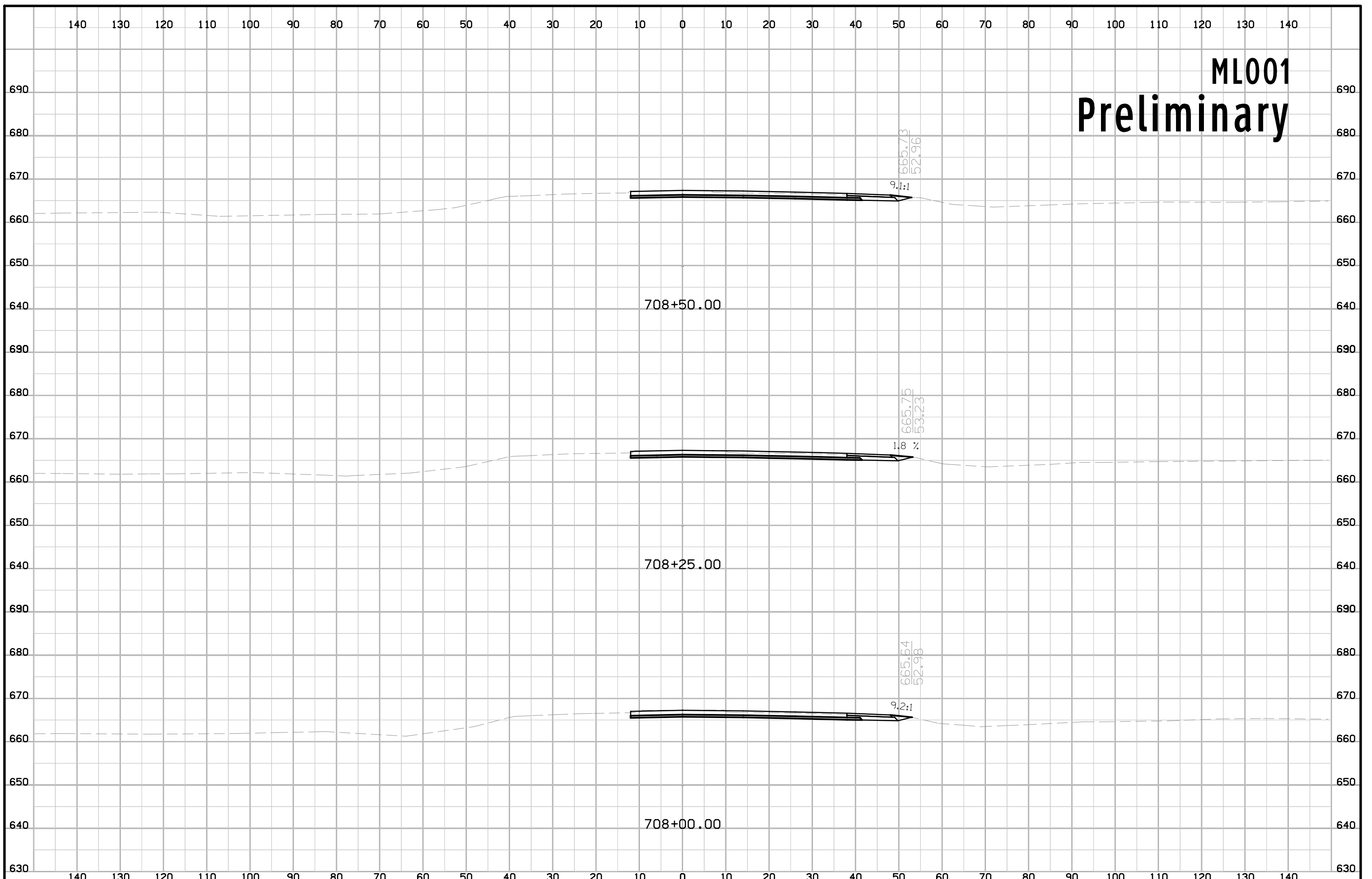
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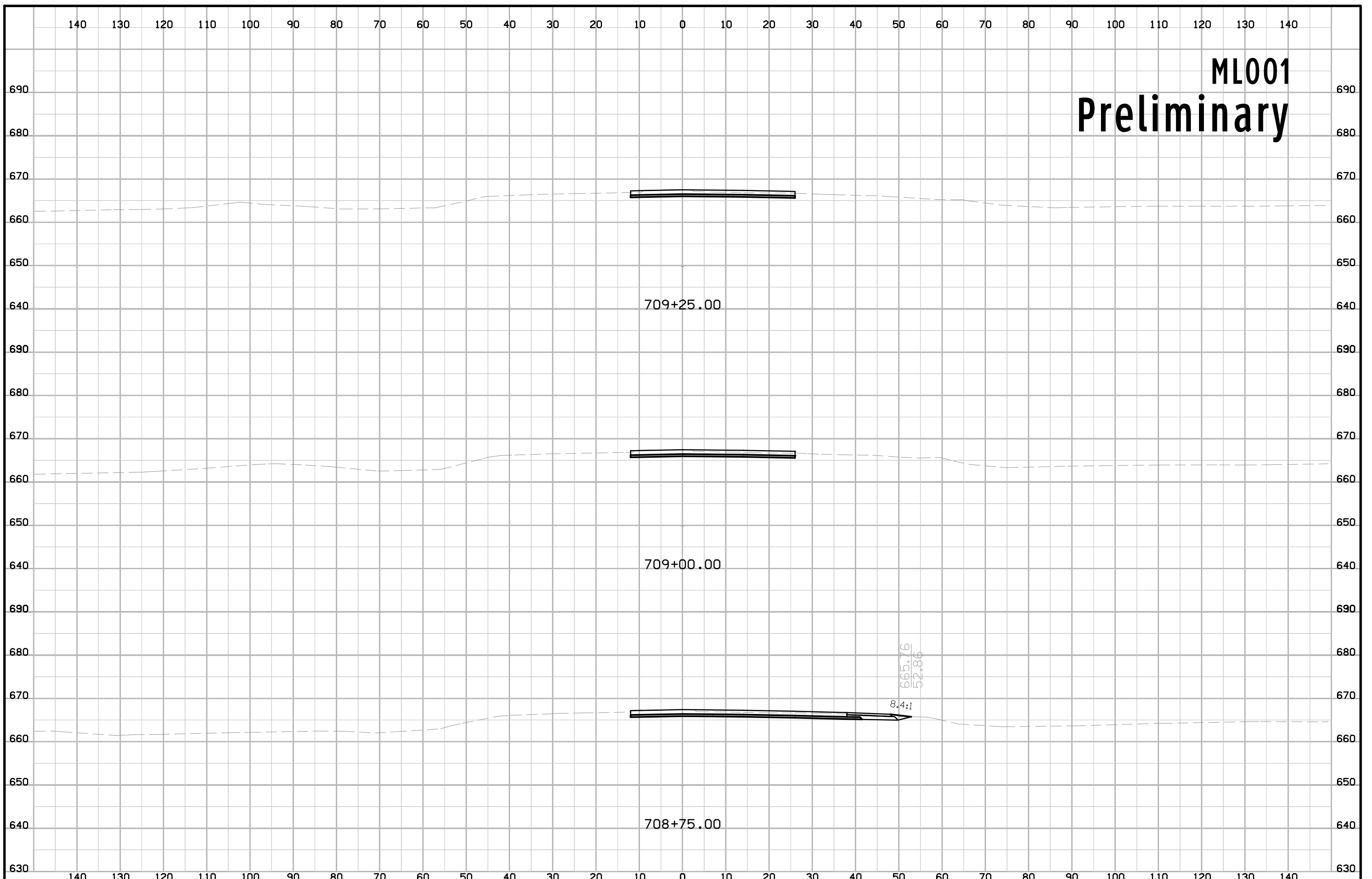
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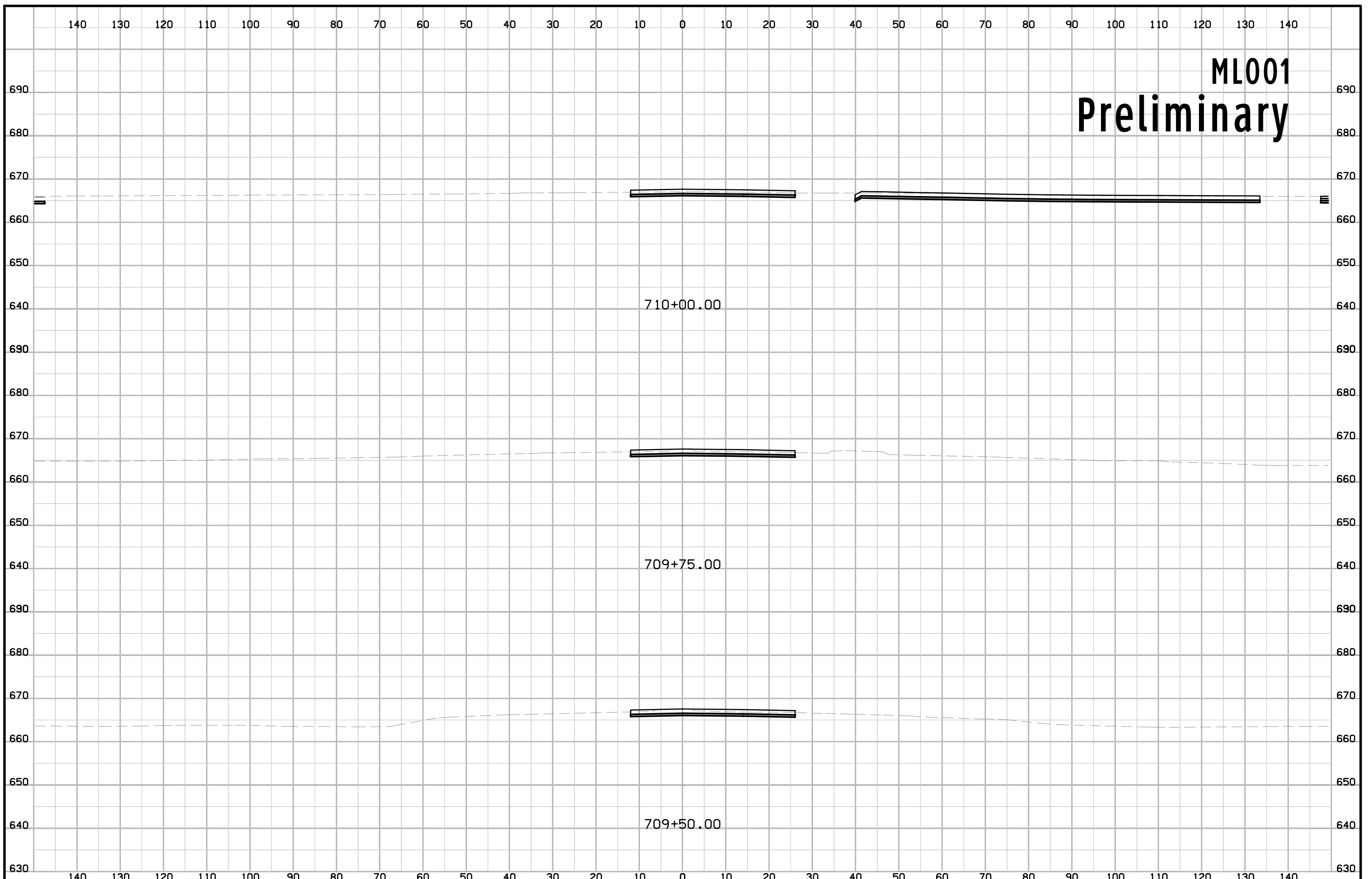
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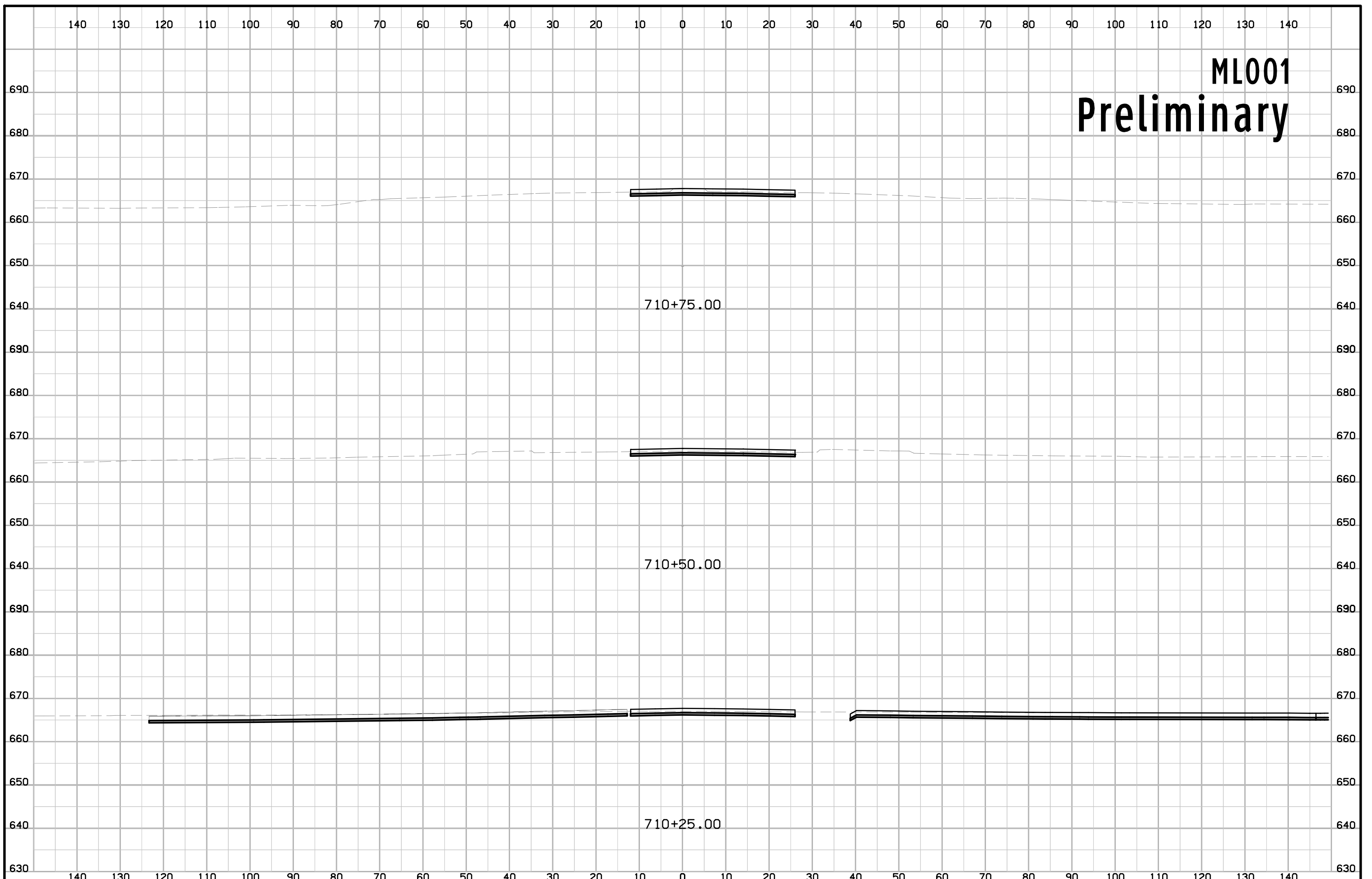
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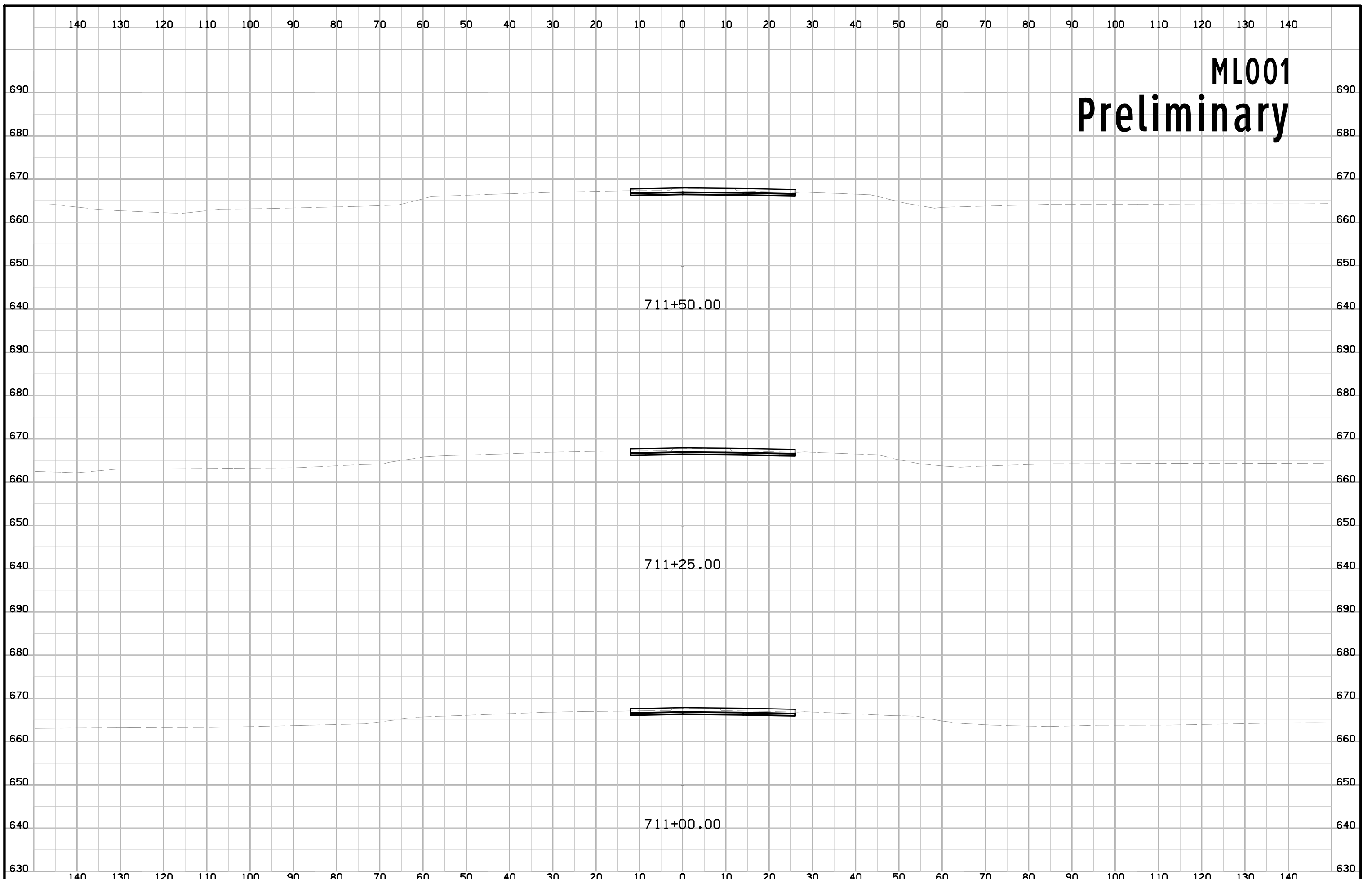
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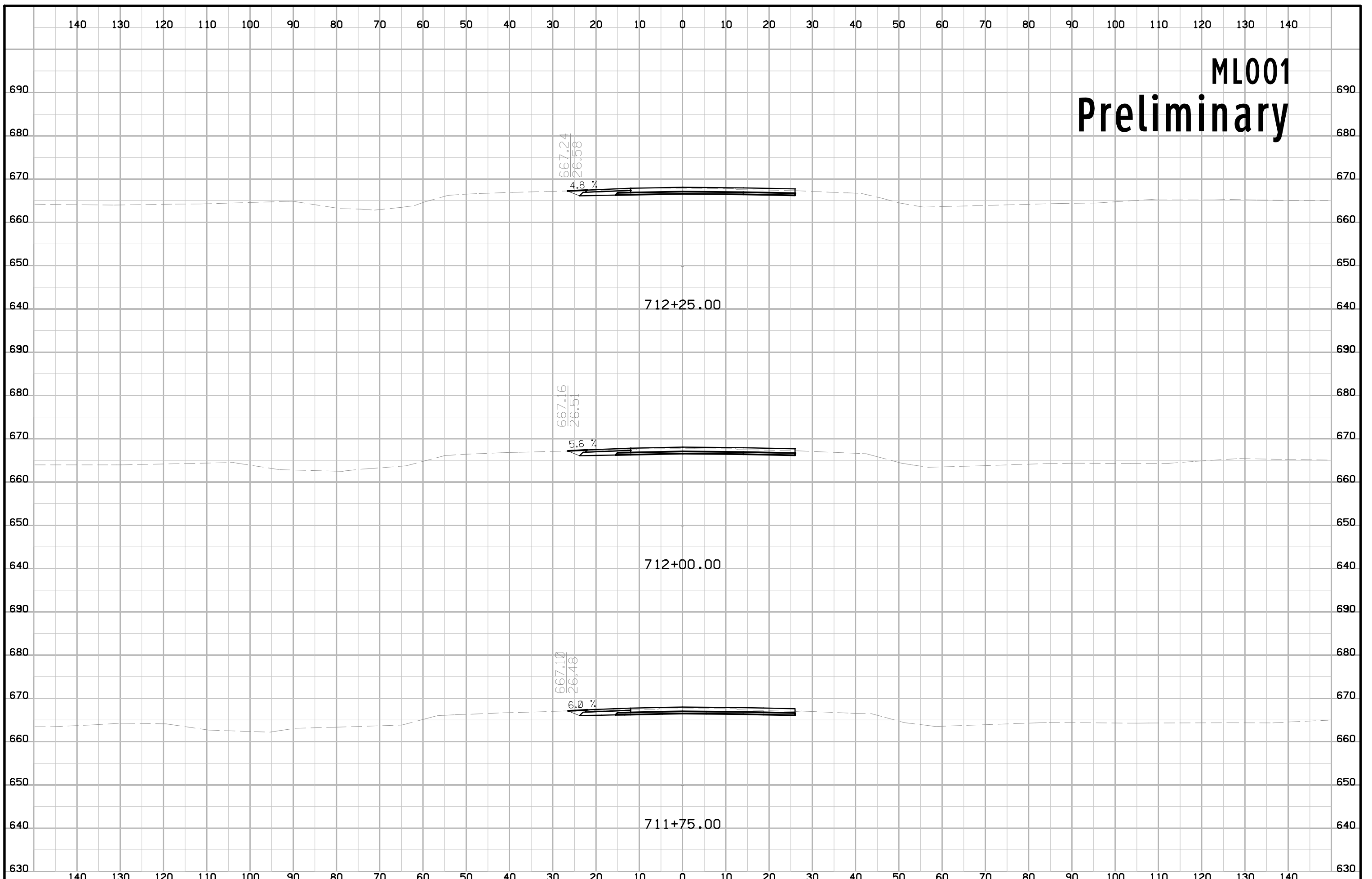
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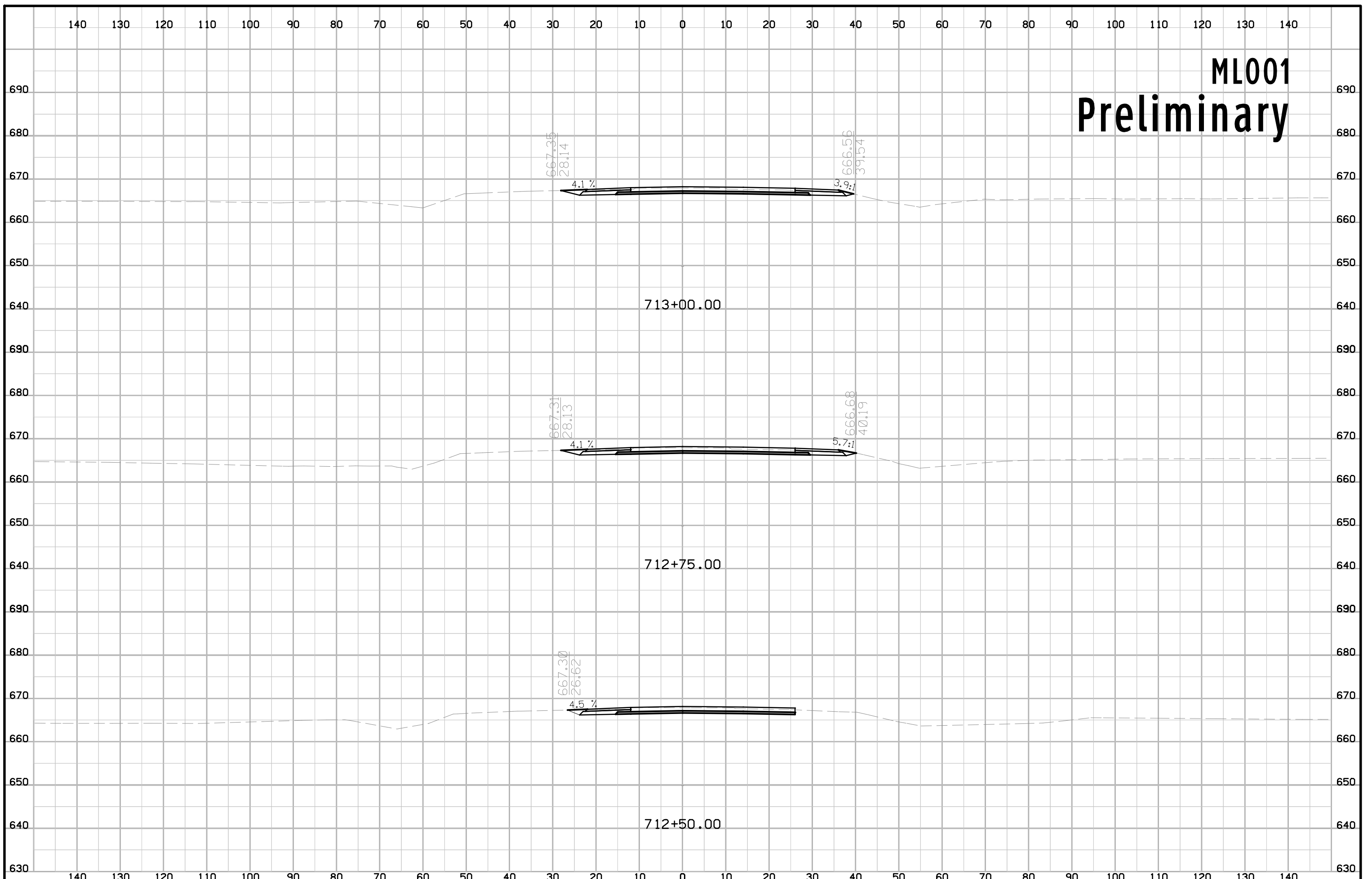
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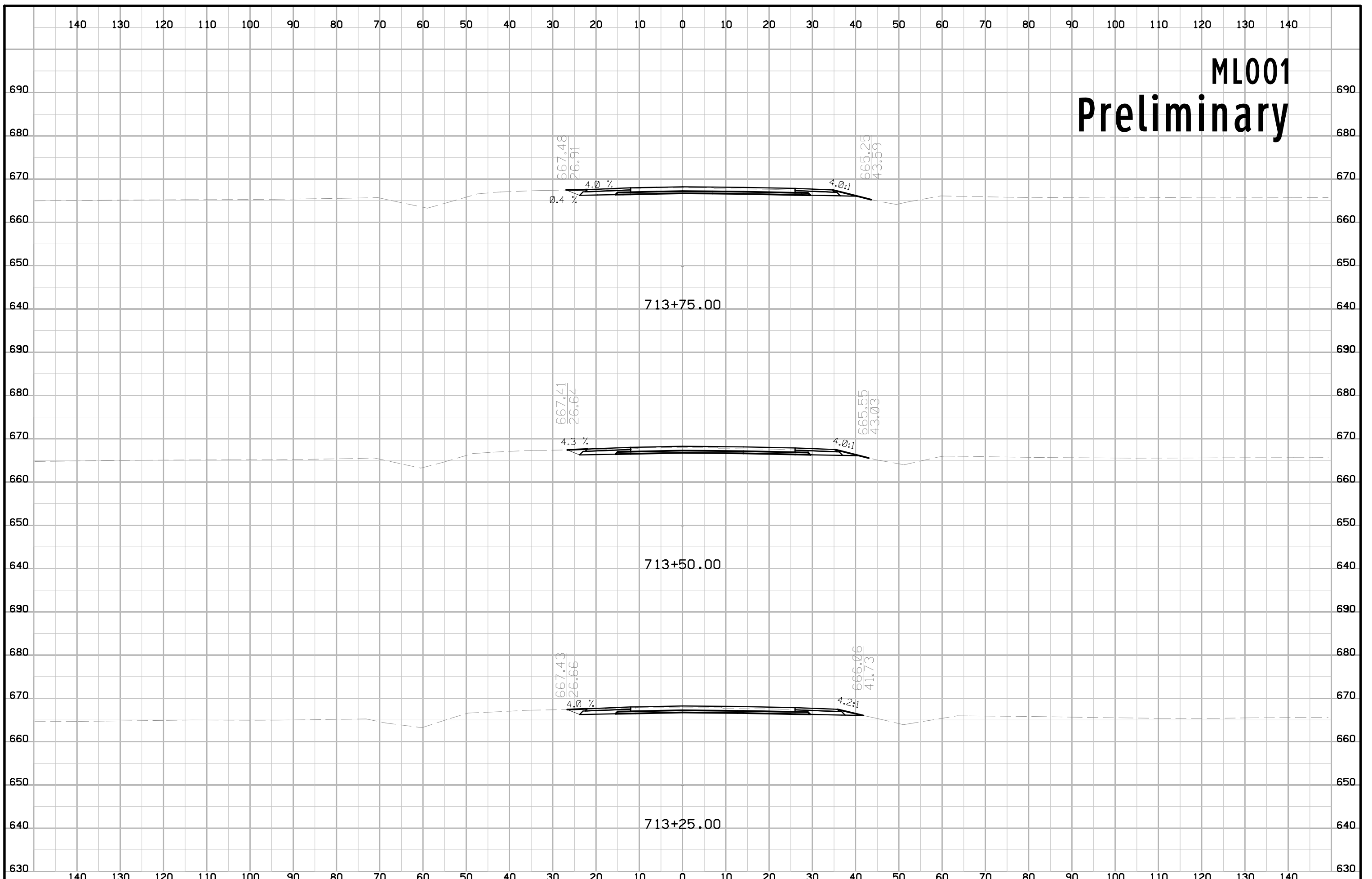
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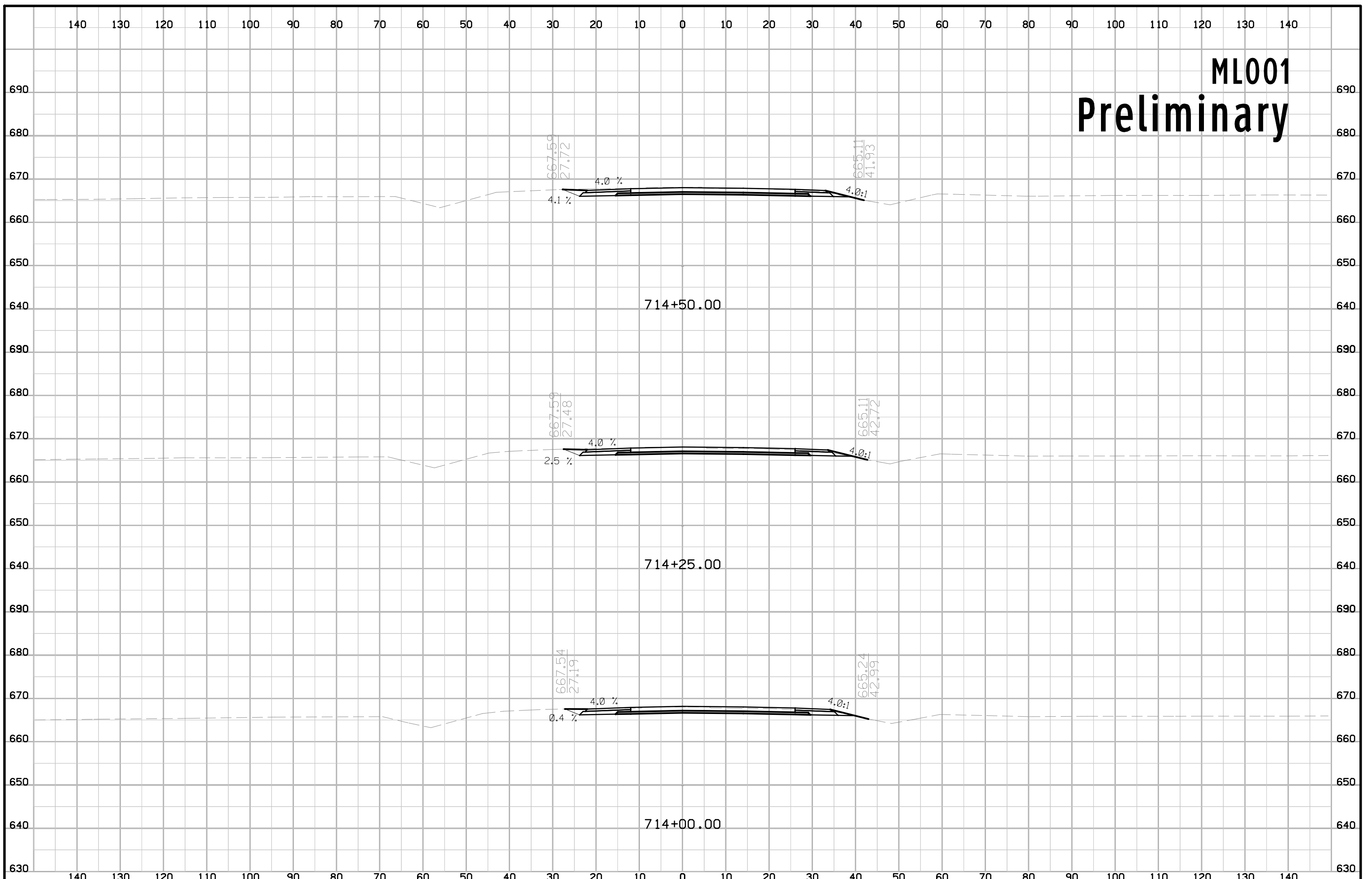
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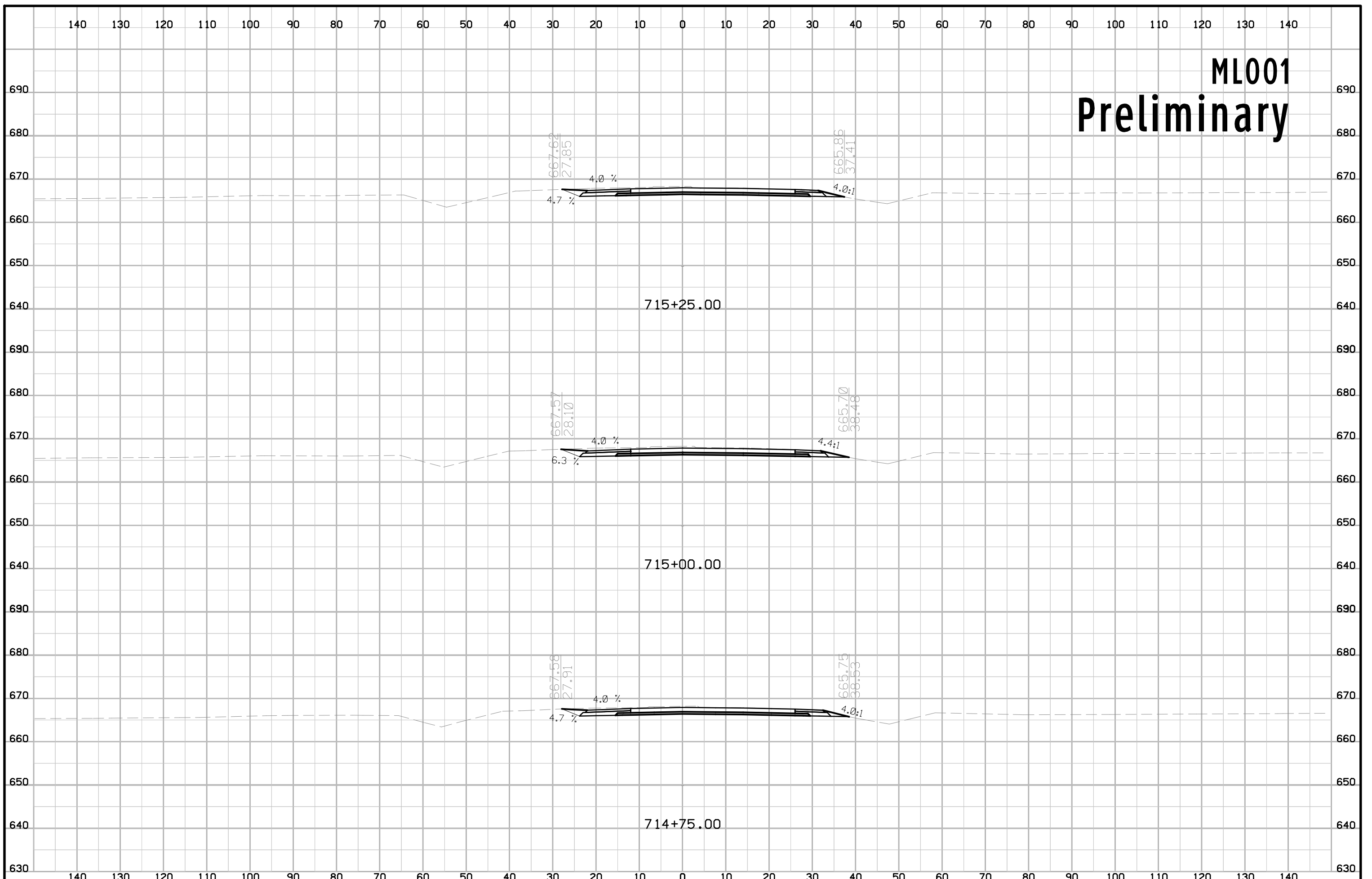
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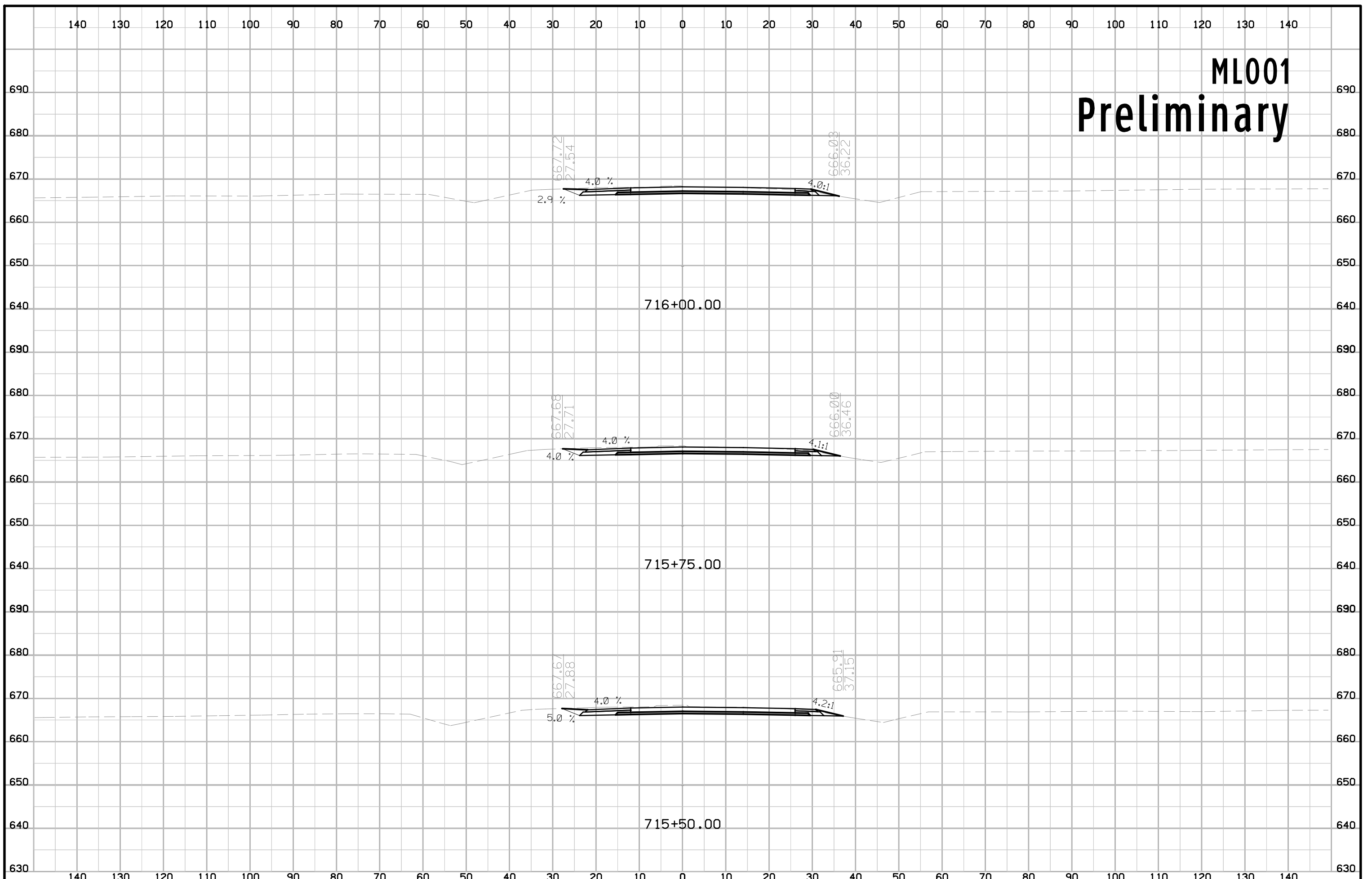
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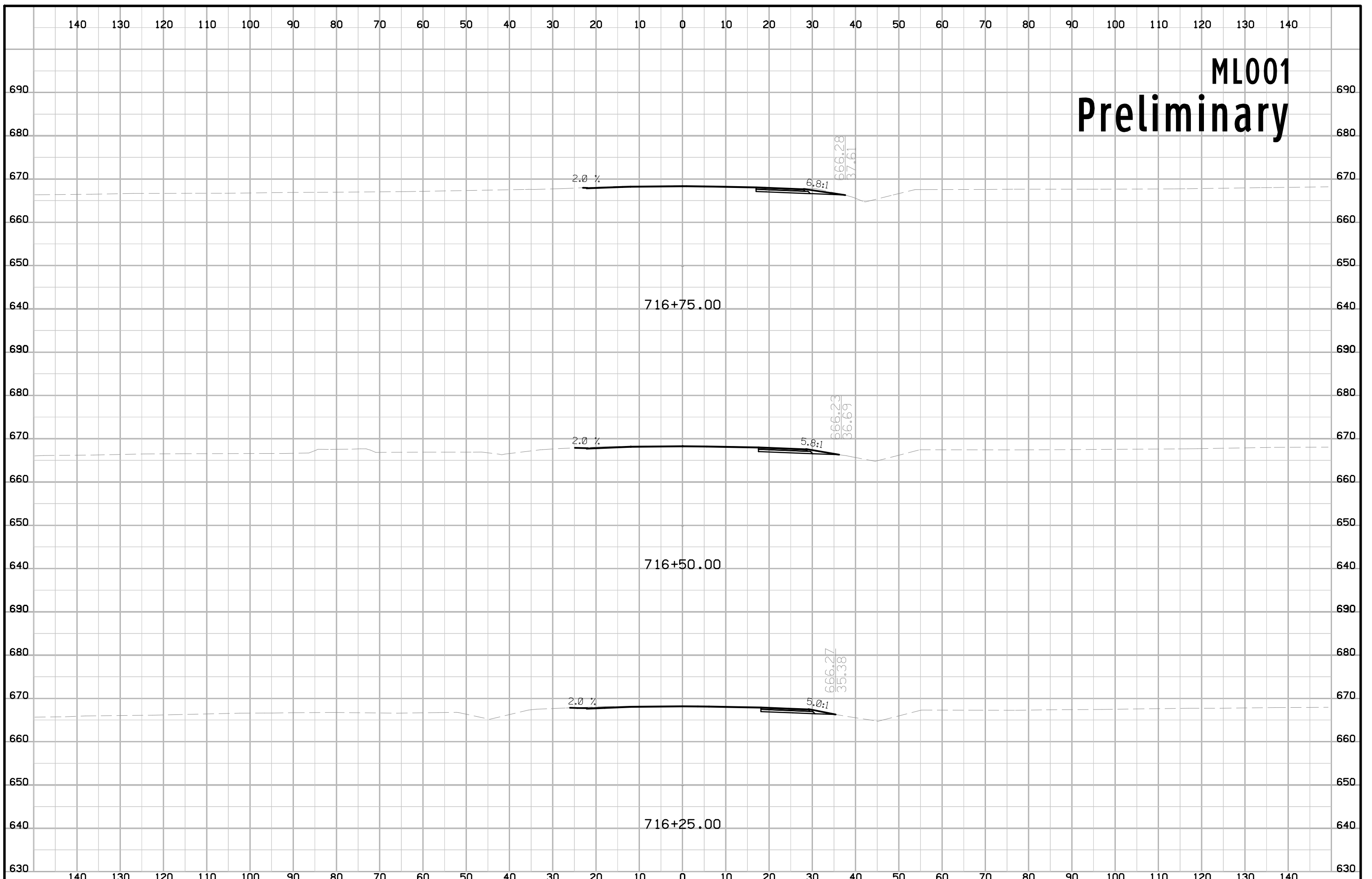
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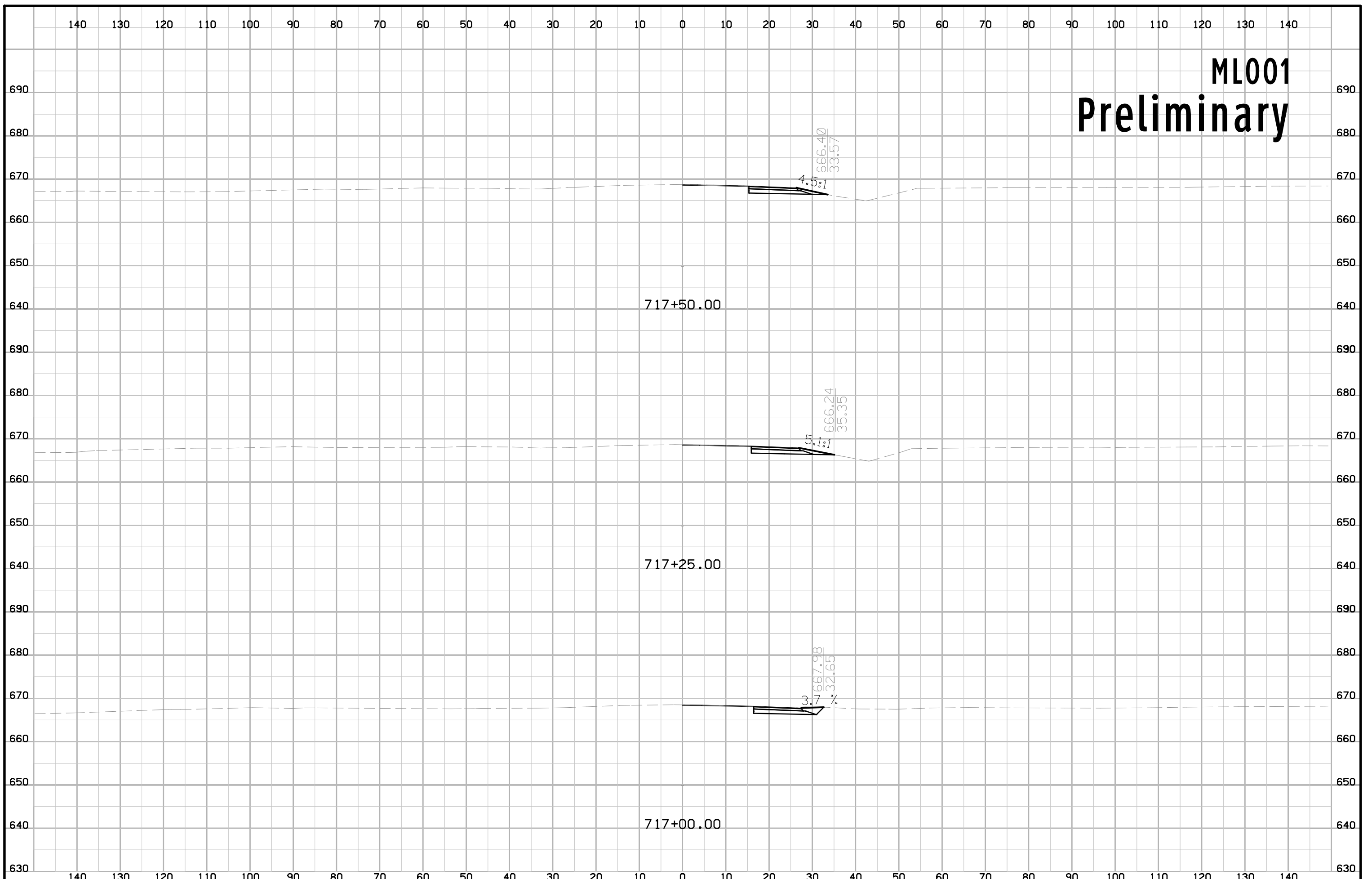
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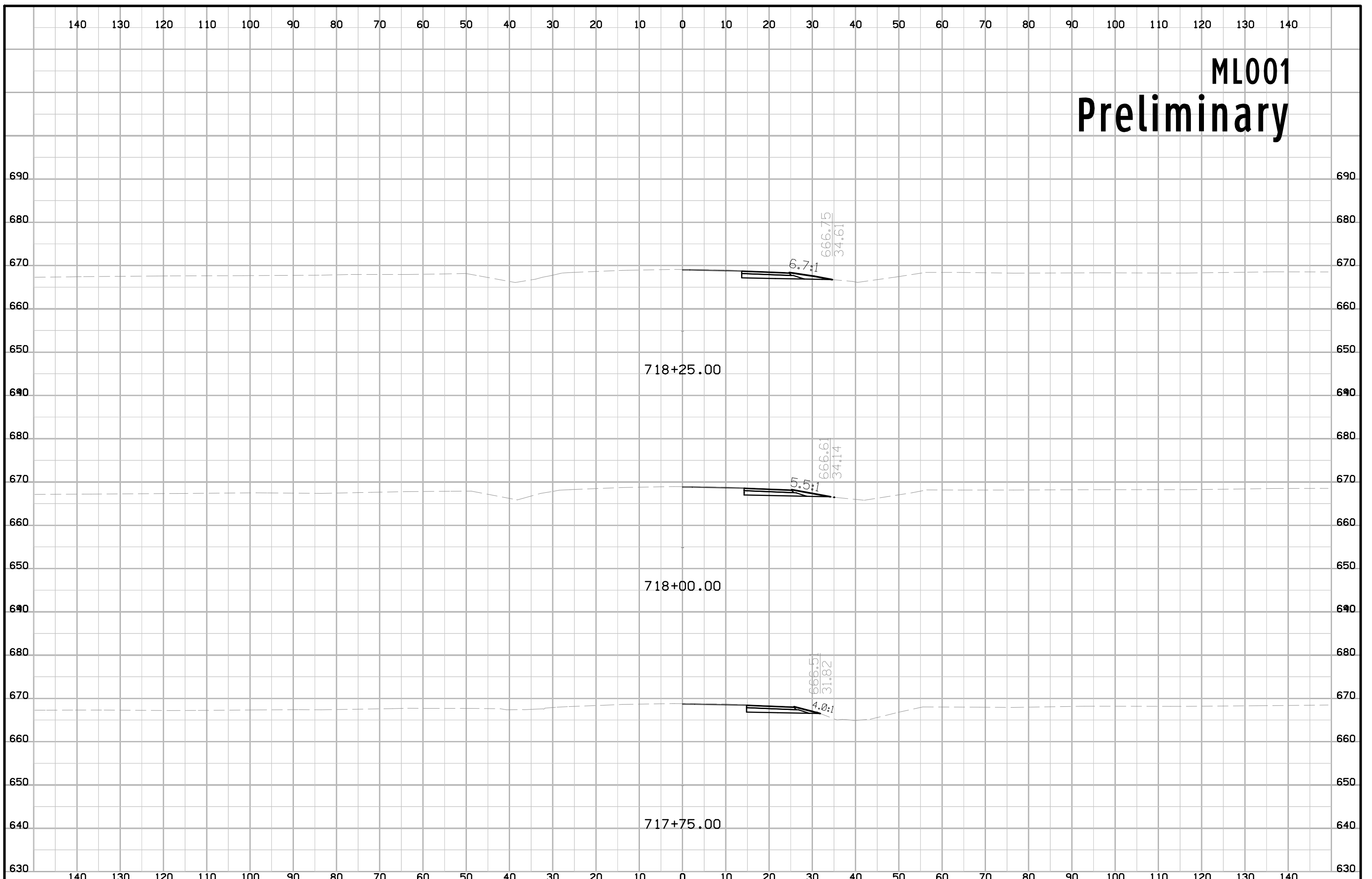
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