

LOUISA CO.
GRADING
NHSX-061-3(57)--3H-58
 LETTING DATE
 08/19/2014



PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM LOUISA COUNTY GRADING

From Approx. 2 Miles S. Of Ia. 92 N. To Muscatine Co. Line

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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

MILEAGE SUMMARY			
		105-1	
		09-27-94	
Div.	Location	Lin. Ft.	Miles
1	RURAL:		
	Sta. 756+39.00 to Sta. 1053+25.00	29,686.00	5.62
	Deduct Dual Bridges Sta. 856+52.82	194.00	0.04
	Deduct Dual Bridges Sta. 964+90.56	188.00	0.04
	Deduct Single Bridge Sta. 1037+58.94	176.33	0.04
	TOTAL:	29,127.67	5.5

DESIGN DATA RURAL			
2016	AADT	6136	V.P.D.
2036	AADT	7703	V.P.D.
2036	DHV	796	V.P.H.
TRUCKS		18	%
Total Design ESALs			

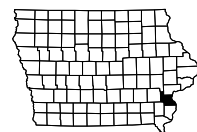


INDEX OF SEALS		
SHEET NO.	NAME	TYPE
A.1	Anne M. Murrillo	Primary Signature Block
CS.1	Robert L. Stanley	Soils Signature Block
MIT.1	Chin-Ta Tsai	Wetland Signature Block

REVISIONS		TOTAL
		530
PROJECT IDENTIFICATION NUMBER		
09-58-061-030		
PROJECT NUMBER		
NHSX-061-3(57)--3H-58		
R.O.W. PROJECT NUMBER		
NHSN-061-3(55)--2R-58		

INDEX OF SHEETS	
No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Title Sheet
A.2	Location Map Sheet
B Sheets	Typical Cross Sections and Details
B.1 - 6	Typical Cross Sections and Details
C Sheets	Quantities and General Information
C.1	Project Description
C.1	Estimated Project Quantities
C.2 - 3	Estimate Reference Information
C.3	Standard Road Plans
C.3	Index of Tabulations
C.4	Pollution Prevention Plan
C.5	General Notes
C.5 - 11	Tabulations
CS Sheets	Soil Quantities and General Information
CS.1 - 2	Soil Tabulations and General Notes
CS.3	Typical Detail - Overbuild
D Sheets	Mainline Plan and Profile Sheets
* D.1	Color Legend for Sheets D, E, F, & K
* D.2 - 12	US 61 Mainline
* D.13 - 16	US 61 Northbound Tie
E Sheets	Side Road Plan and Profile Sheets
* E.1	145th Street
* E.2	170th Street
* E.3 - 4	175th Street
* E.5	180th Street
F Sheets	Detour Plan and Profile Sheets
* F.1 - 2	Detour 905
* F.3 - 5	Detour 985
G Sheets	Survey Sheets
G.1 - 9	Bench Marks and Reference Ties
G.10 - 14	Horizontal Control Tabulations
G.15	Superelevation Table
H Sheets	Mainline Right-of-Way Sheets (Preliminary)
* H.1 - 11	US 61 Mainline (For Information Only)
HE Sheets	Side Road Right-of-Way Sheets (Preliminary)
* HE.1	145th Street (For Information Only)
* HE.2	IA 92 (For Information Only)
* HE.3	170th Street (For Information Only)
* HE.4 - 5	175th Street (For Information Only)
* HE.6	180th Street (For Information Only)
* HE.7	Existing 61 (For Information Only)
* HE.8	160th Street (For Information Only)
J Sheets	Traffic Control and Staging Sheets
* J.1	Traffic Control Plan and Staging Notes
* J.2	Traffic Control & Staging Legend & Symbol Info. Sheet
* J.3 - 4	Staging and Traffic Control - 145th Street
* J.5 - 6	Staging and Traffic Control - 175th Street
K Sheets	Interchange Sheets
* K.1 - 2	US 61/IA 92 Interchange Layout
* K.3 - 6	IA 92 Ramps A, B, C, & D - Plan and Profile Sheets
* K.7 - 8	US 61/170th St Interchange Layout
* K.9 - 12	170th St Ramps A, B, C, & D - Plan and Profile Sheets

INDEX OF SHEETS	
No.	DESCRIPTION
MIT Sheets	Wetland Sheets
MIT.1	Stream Mitigation General Site Plan
MIT.2	Stream Mitigation Grading Plan
MIT.3 - 4	Stream Mitigation Typical Details
Q Sheets	Soils Sheets
* Q.1	Soils Legend & Symbol Information Sheet
* Q.2 - 23	Soils Sheets - US 61 Mainline
* Q.24 - 33	Soils Sheets - Side Roads
* Q.34 - 41	Soils Sheets - Ramps
* Q.42 - 45	Vertical Sand Drain Details
T Sheets	Earthwork Quantity Sheets
T.1 - 9	Earthwork Quantity Sheets
U Sheets	Detail Sheets
U.1 - 11	Clearing and Grubbing Plan Sheets
V Sheets	Bridge Situation Plans (Preliminary)
V.1 - 4	IA 92 Bridge Situation Plans (For Information Only)
V.5 - 8	170th St Bridge Situation Plans (For Information Only)
V.9 - 10	DM&E RR Bridge Situation Plans (For Information Only)
W Sheets	Mainline Cross Sections
W.1	Legend & Symbol Information for Sheets W, X, & Y
W.2 - 121	US 61 Mainline
X Sheets	Side Road and Detour Cross Sections
X.1 - 24	145th Street
X.25 - 40	170th Street
X.41 - 73	175th Street
X.74	180th Street
X.201 - 205	Detour 905
X.206 - 230	Detour 985
Y Sheets	Ramp Cross Sections
Y.1 - 63	US 61/IA 92 - Ramps A, B, C, & D
Y.64 - 126	US 61/170th Street - Ramps A, B, C, & D
	* Color Plan Sheets



For Project Location Map
Refer to Sheet A.2

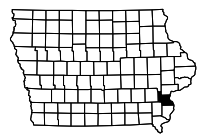
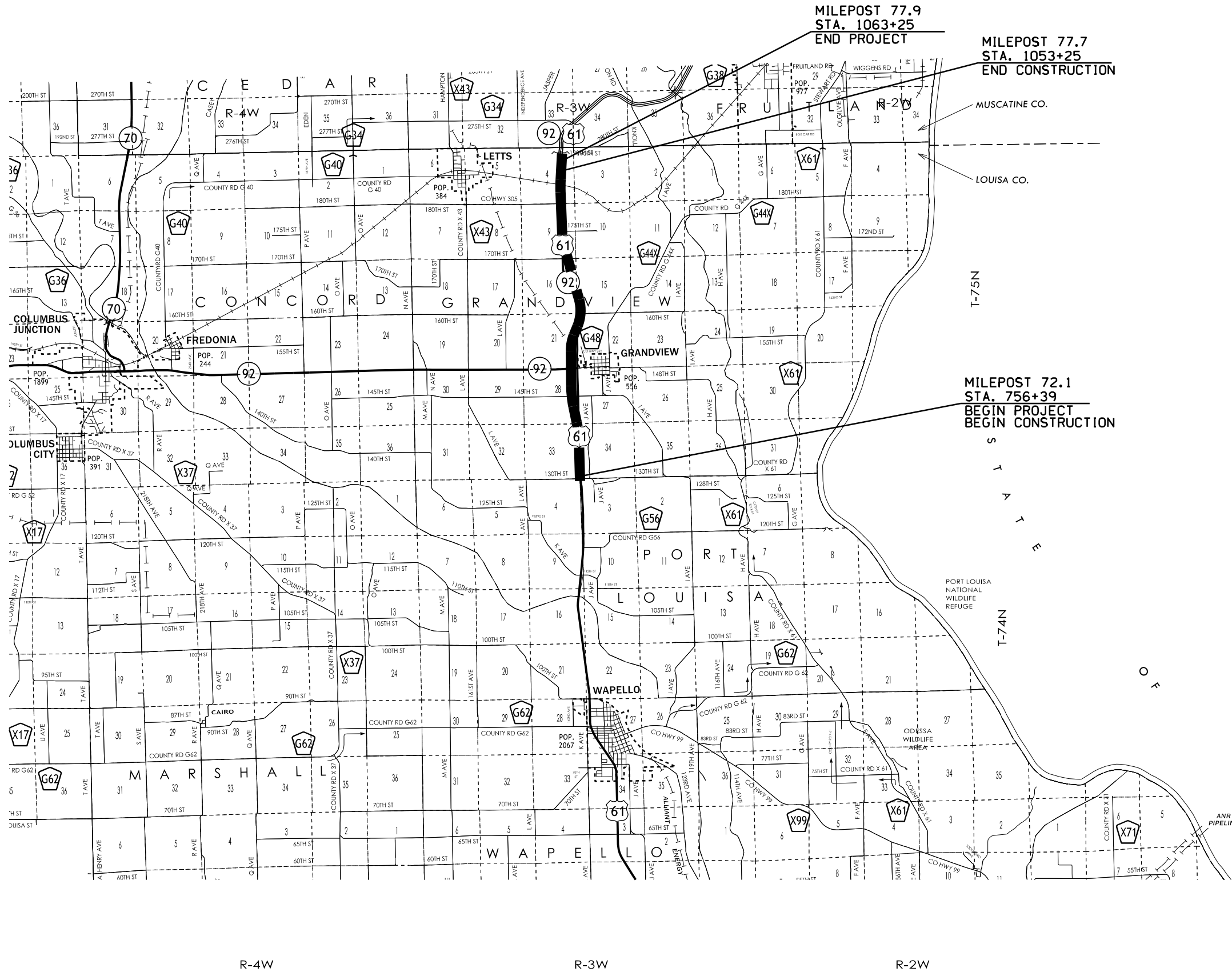
I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

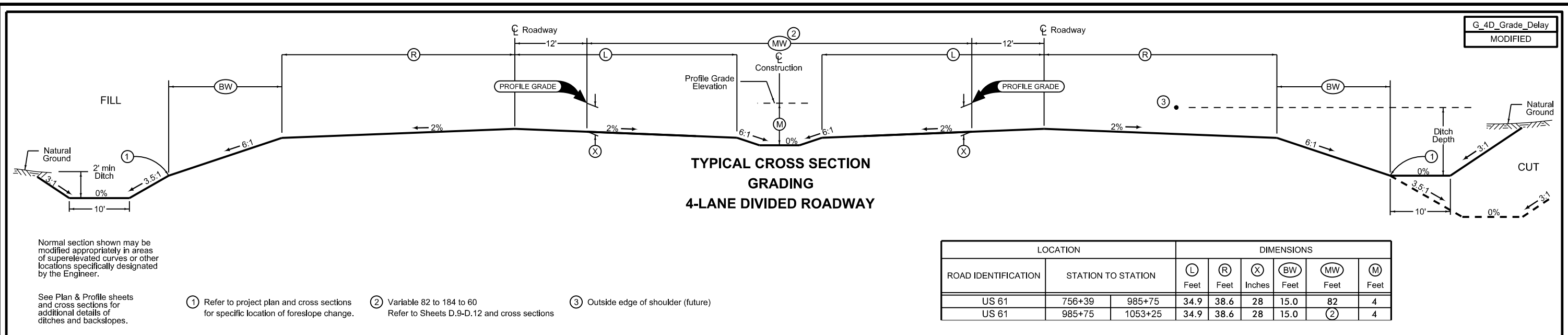
ANNE M. MURRILLO
License Number: 20794
My license renewal date is 08/19/2014

DATE _____

Pages or sheets covered by this seal:
A.1-A.2, B.1-B.6, C.1-C.11, D.1-D.16, E.1-E.5, F.1-F.5, G.1-G.15, H.1-H.11, HE.1-HE.8, J.1-J.6, K.1-K.12, T.1-T.9, U.1-U.11, V.1-V.10, W.1-W.121, X.1-X.230, Y.1-Y.126

CHECK PLANS

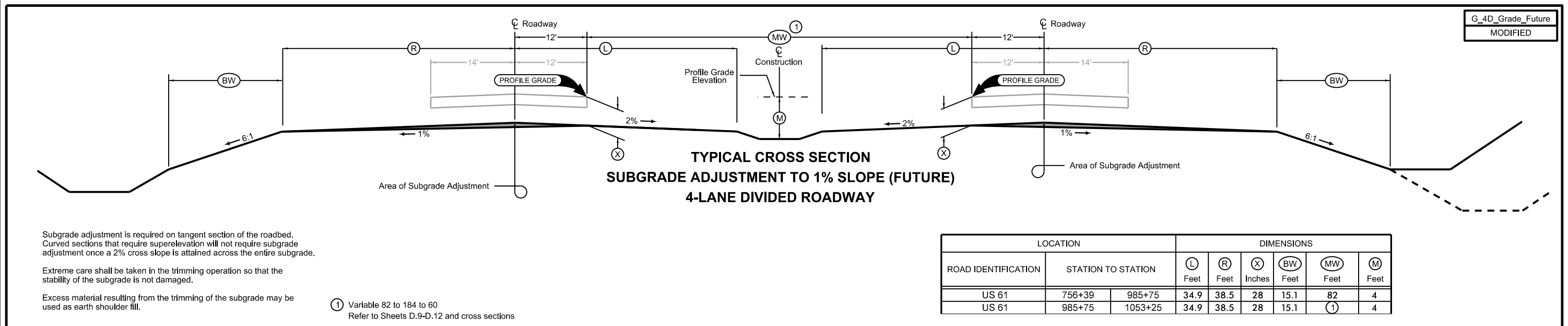




**TYPICAL CROSS SECTION
GRADING
4-LANE DIVIDED ROADWAY**

LOCATION		DIMENSIONS						
ROAD IDENTIFICATION	STATION TO STATION	L Feet	R Feet	X Inches	BW Feet	MW Feet	M Feet	
US 61	756+39 985+75	34.9	38.6	28	15.0	82	4	
US 61	985+75 1053+25	34.9	38.6	28	15.0	(2)	4	

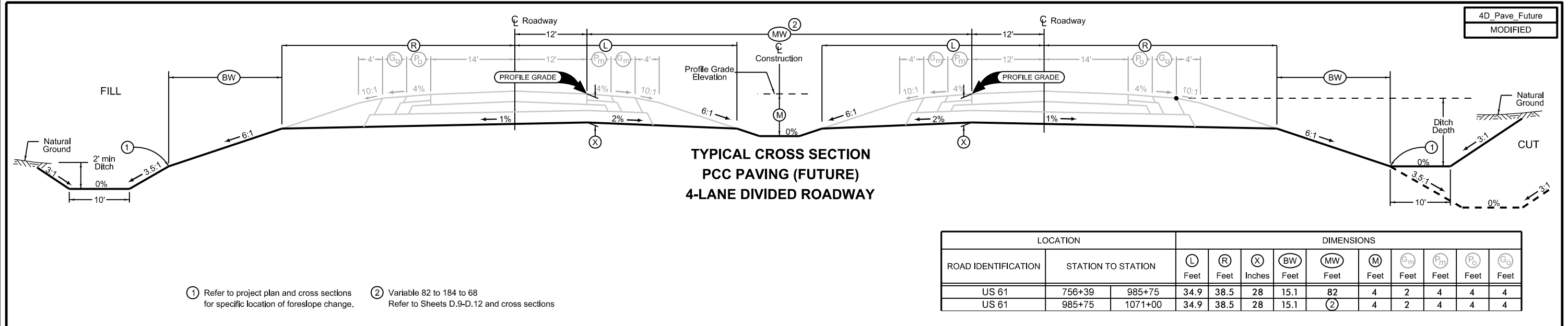
G_4D_Grade_Delay
MODIFIED



**TYPICAL CROSS SECTION
SUBGRADE ADJUSTMENT TO 1% SLOPE (FUTURE)
4-LANE DIVIDED ROADWAY**

LOCATION		DIMENSIONS						
ROAD IDENTIFICATION	STATION TO STATION	L Feet	R Feet	X Inches	BW Feet	MW Feet	M Feet	
US 61	756+39 985+75	34.9	38.5	28	15.1	82	4	
US 61	985+75 1053+25	34.9	38.5	28	15.1	(1)	4	

G_4D_Grade_Future
MODIFIED

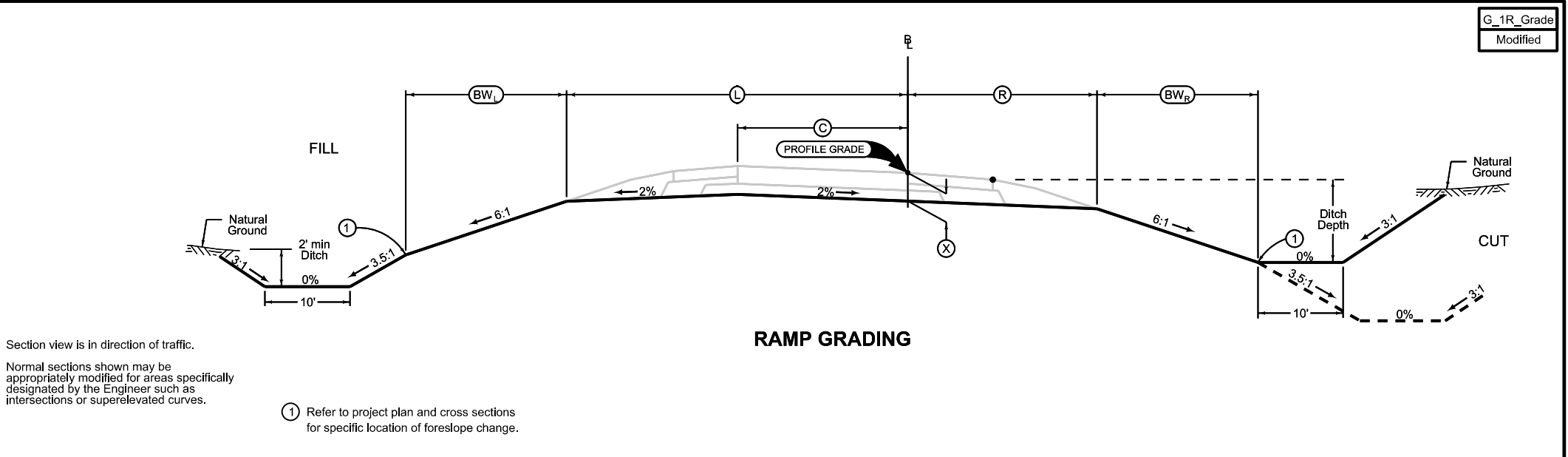


**TYPICAL CROSS SECTION
PCC PAVING (FUTURE)
4-LANE DIVIDED ROADWAY**

LOCATION		DIMENSIONS										
ROAD IDENTIFICATION	STATION TO STATION	L Feet	R Feet	X Inches	BW Feet	MW Feet	M Feet	G _m Feet	P _m Feet	P _o Feet	G _o Feet	
US 61	756+39 985+75	34.9	38.5	28	15.1	82	4	2	4	4	4	
US 61	985+75 1071+00	34.9	38.5	28	15.1	(2)	4	2	4	4	4	

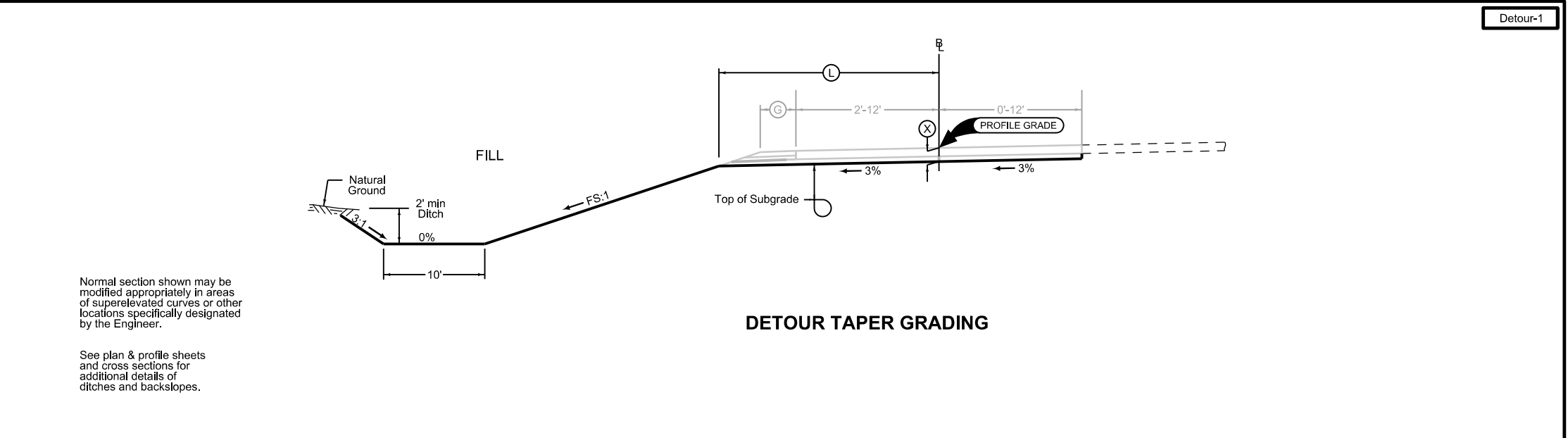
4D_Pave_Future
MODIFIED

LOCATION				DIMENSIONS					
INTERCHANGE	RAMP	STATION TO STATION		(L) Feet	(R) Feet	(C) Feet	(X) Inches	(BW) _L Feet	(BW) _R Feet
US 61\A 92	A	1556+75	1570+50	33.8	19.5	16	22	17.8	18.1
US 61\A 92	B	2543+50	2556+25	33.8	19.5	16	22	17.8	18.1
US 61\A 92	C	3544+81	3556+00	33.8	19.5	16	22	17.8	18.1
US 61\A 92	D	4557+00	4568+21	33.8	19.5	16	22	17.8	18.1
US 61\170th	A	5565+71	5579+25	33.8	19.5	16	22	17.8	18.1
US 61\170th	B	6551+00	6564+12	33.8	19.5	16	22	17.8	18.1
US 61\170th	C	7552+79	7565+89	33.8	19.5	16	22	17.8	18.1
US 61\170th	D	8563+95	8576+71	33.8	19.5	16	22	17.8	18.1



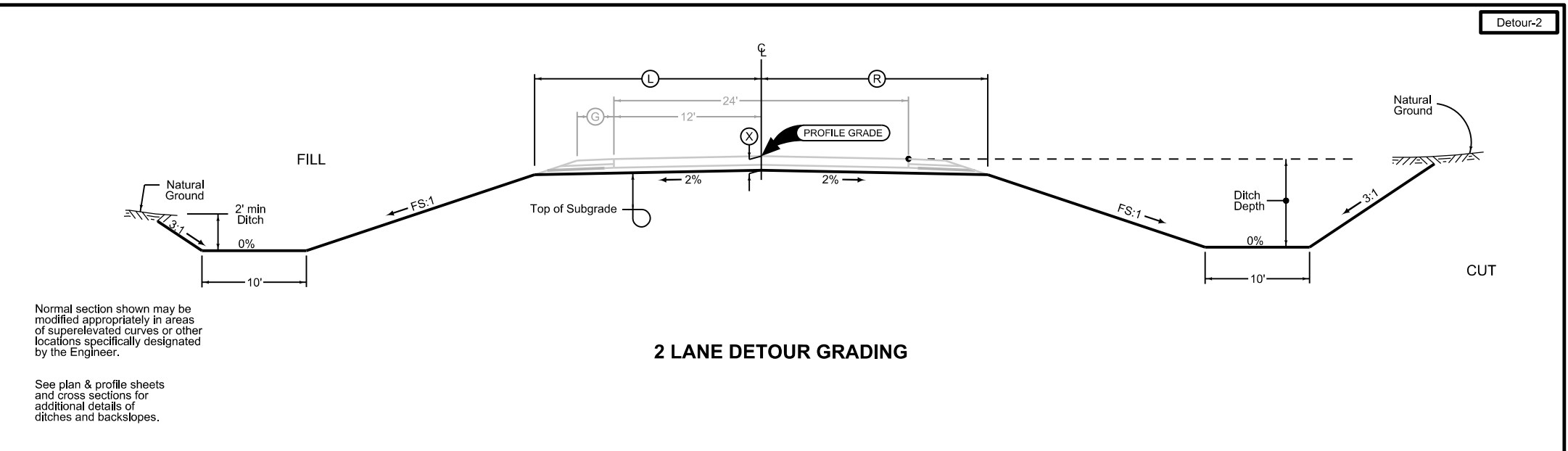
G_1R_Grade
Modified

LOCATION			DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(X) Inches		FS
				PCC	HMA	
DET61_905	301+26.75	304+55.63	32.2-20.7	20	21	3-6
DET61_985	406+25.00	406+65.05	20.7	20	21	3-6
DET61_985	433+27.32	438+24.79	20.7-31.8	20	21	3-6



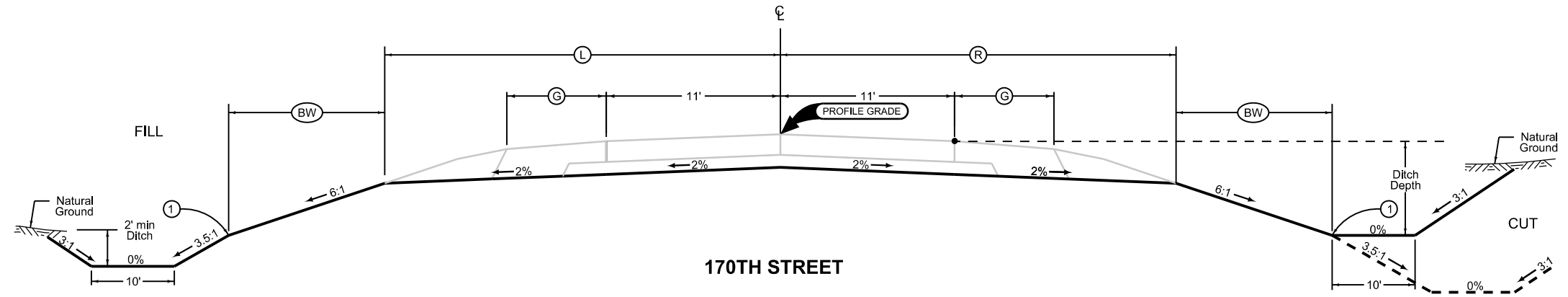
Detour-1

LOCATION			DIMENSIONS				
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches		FS
					PCC	HMA	
DET61_905	304+55.63	307+00.00	20.7-20.4	20.4	20	21	3
DET61_985	406+65.05	433+27.32	①	20.4	20	21	3



Detour-2

① Variable 20.7 to 20.4 to 20.7
Refer to Sheets F.3-F.5 and cross sections

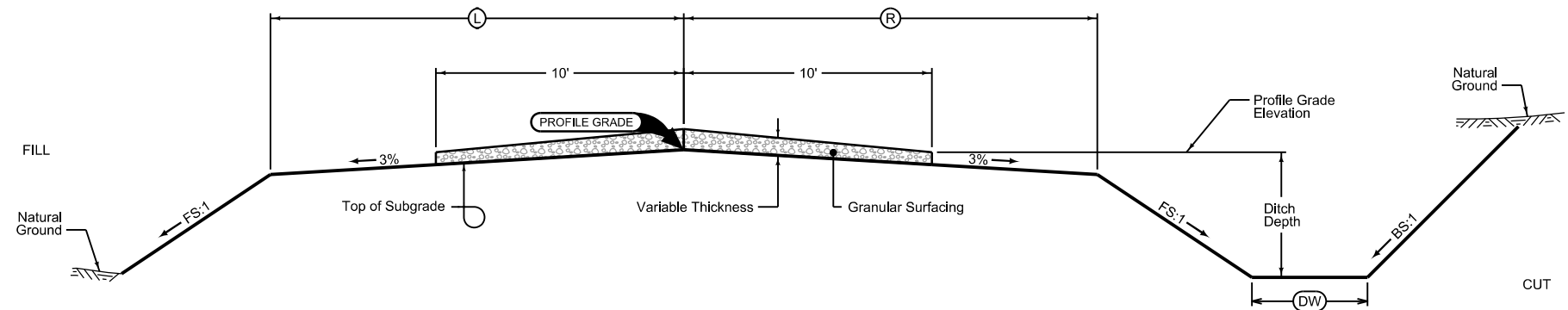


LOCATION		DIMENSIONS				
ROAD IDENTIFICATION	STATION TO STATION	L Feet	R Feet	X Inches	BW Feet	G Feet
170TH STREET	8959+00 8970+20	30.5	30.5	22	18.1	6

① Refer to project plan and cross sections for specific location of foreslope change.

Sta 3947+47.70 BK = Sta 8958+09.61 AH

LOCATION		DIMENSIONS				
ROAD IDENTIFICATION	STATION TO STATION	L Feet	R Feet	FS Feet	BS Feet	DW Feet
145th	2803+75 2823+02	13	13	3	3	10
170th	8970+20 8971+35.03	13	13	3	3	10
175th	9971+35.03 10001+25	13	13	3	3	10

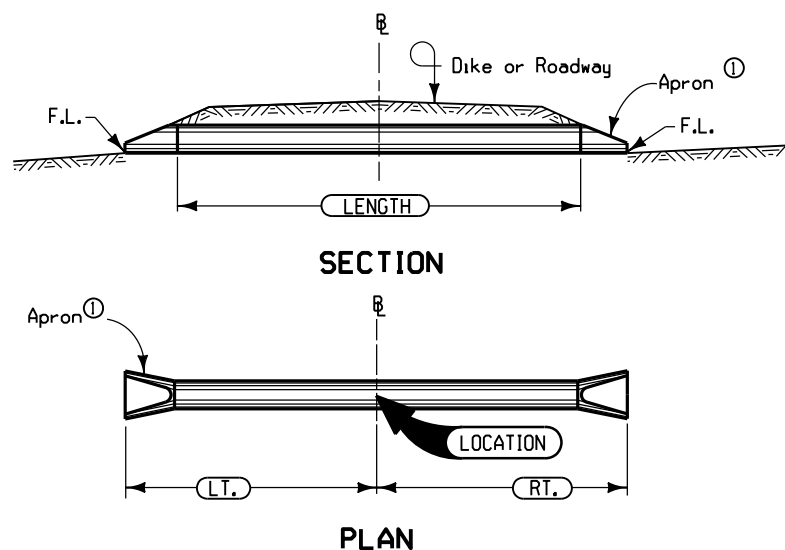


Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.

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

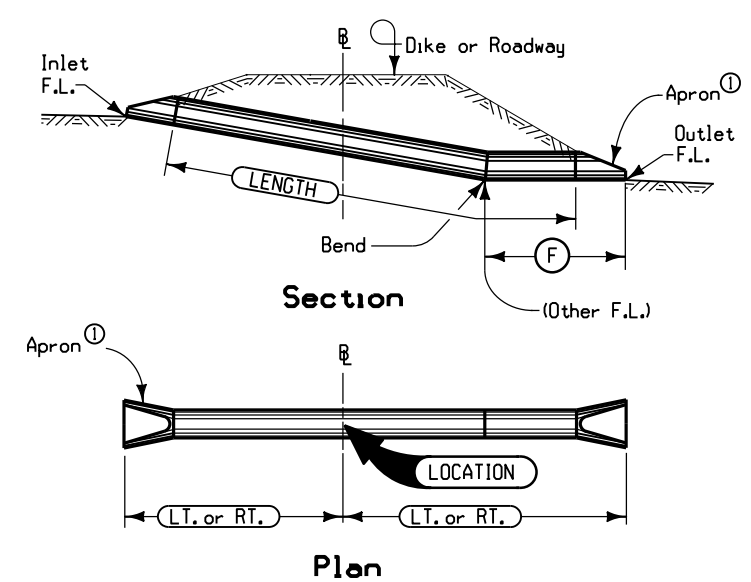
Place Granular Surfacing as follows:
Grading design application rate is 4150 tons per mile.

1101
04-30-02

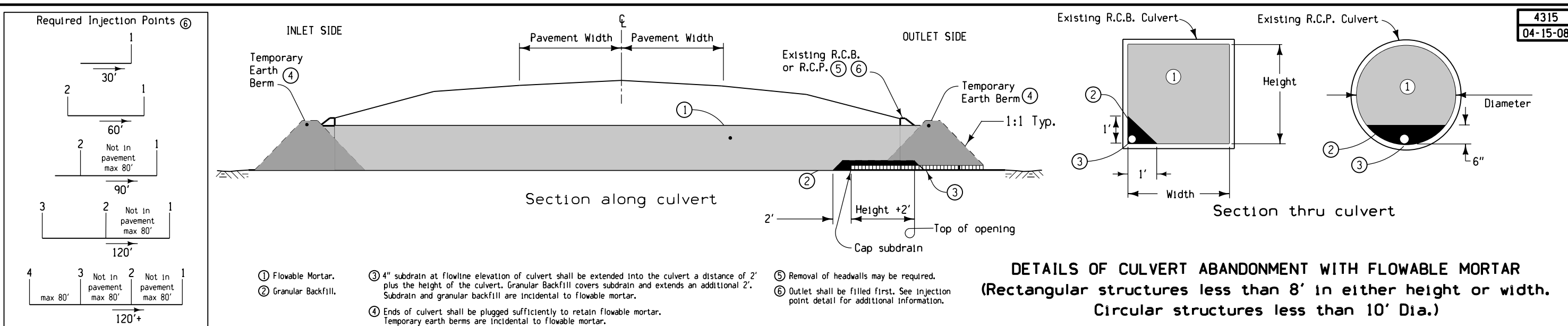
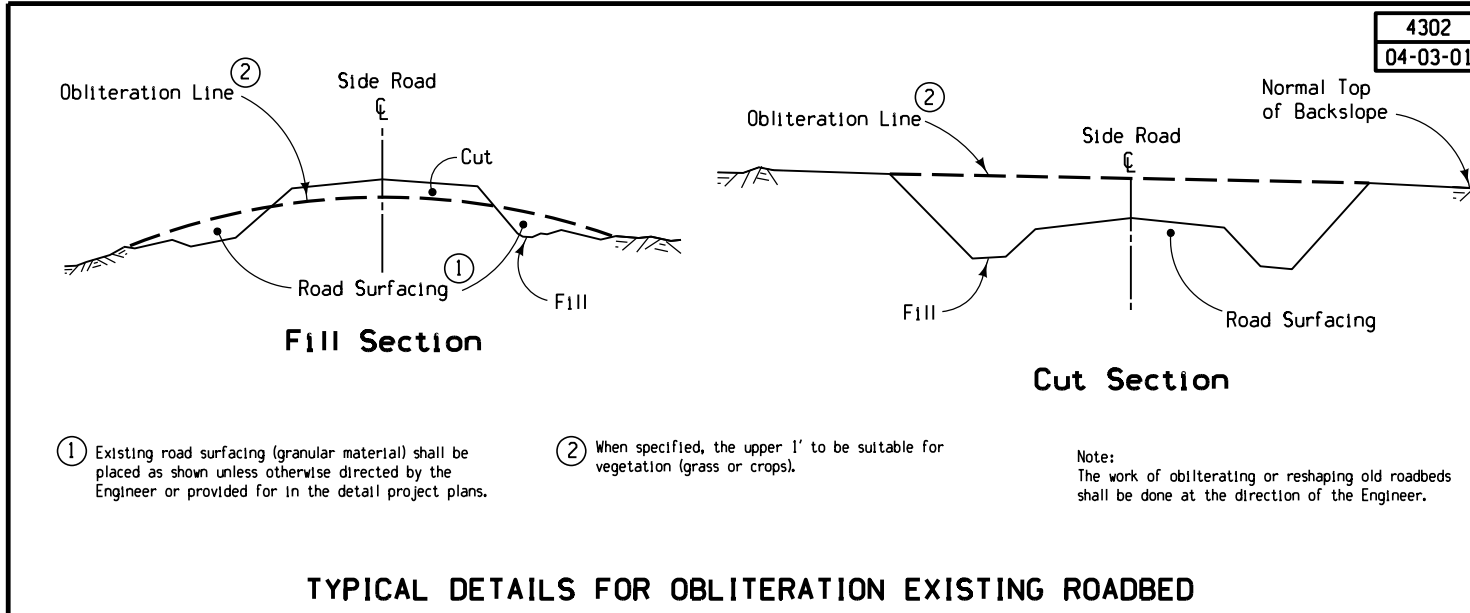
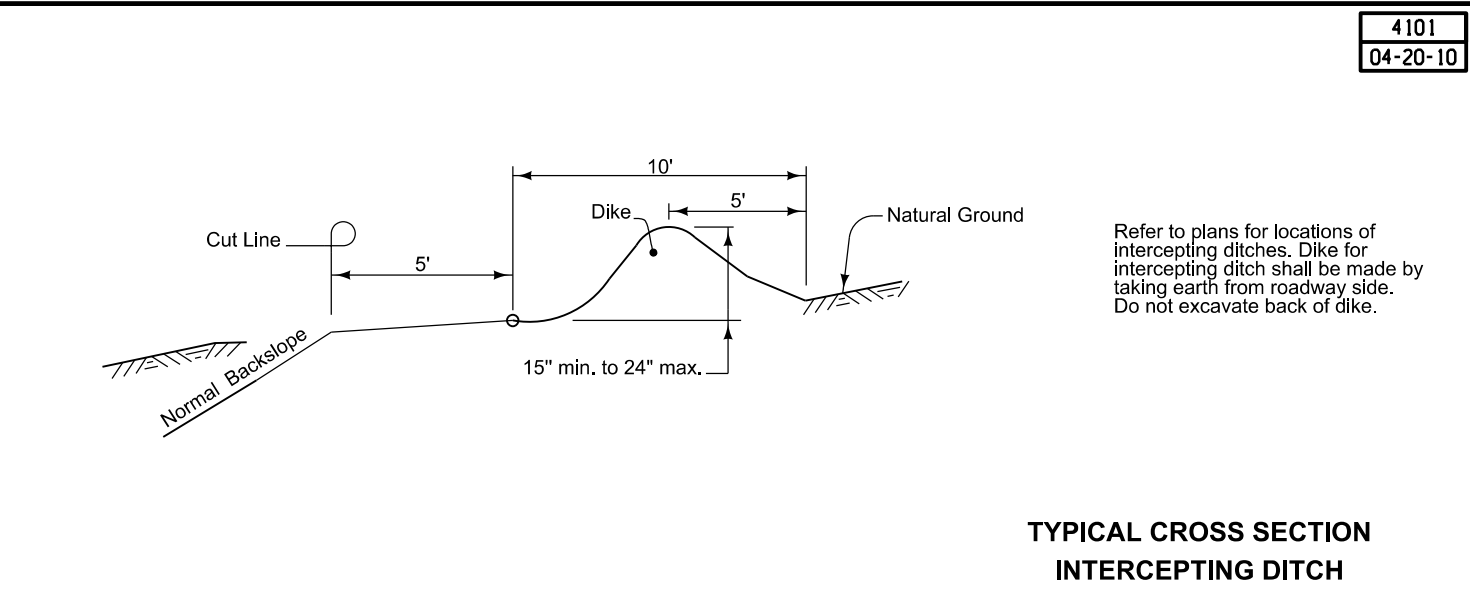
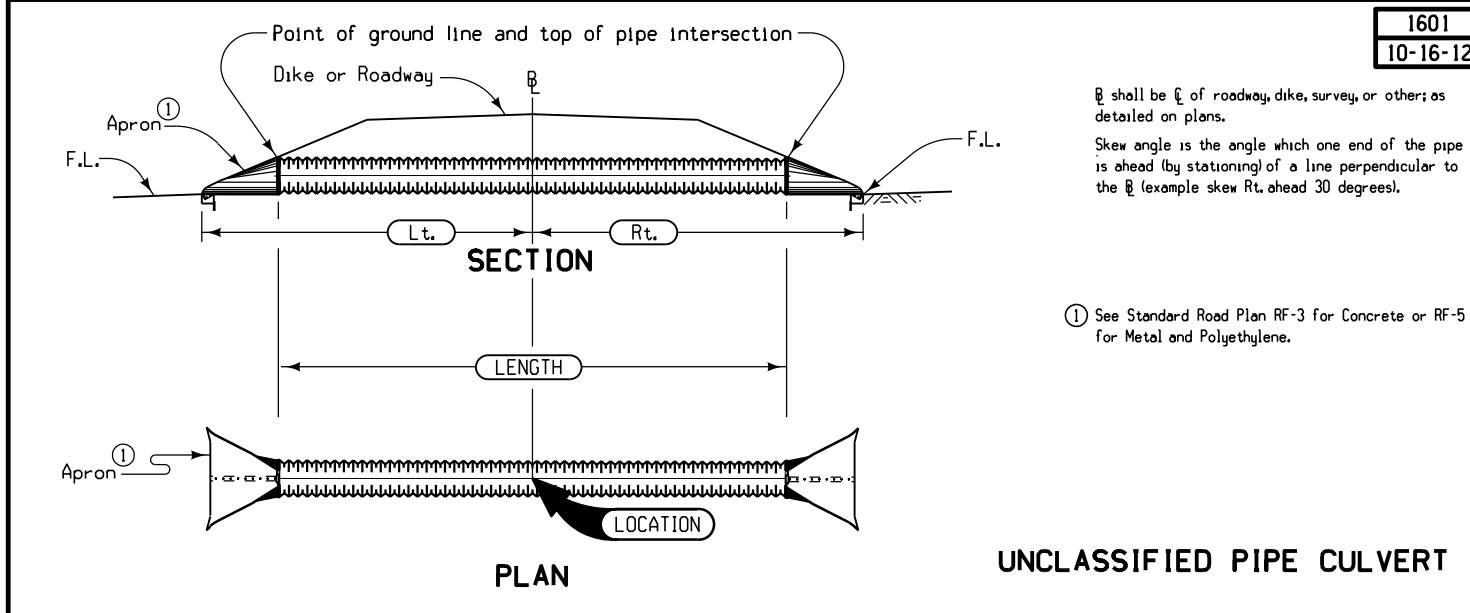
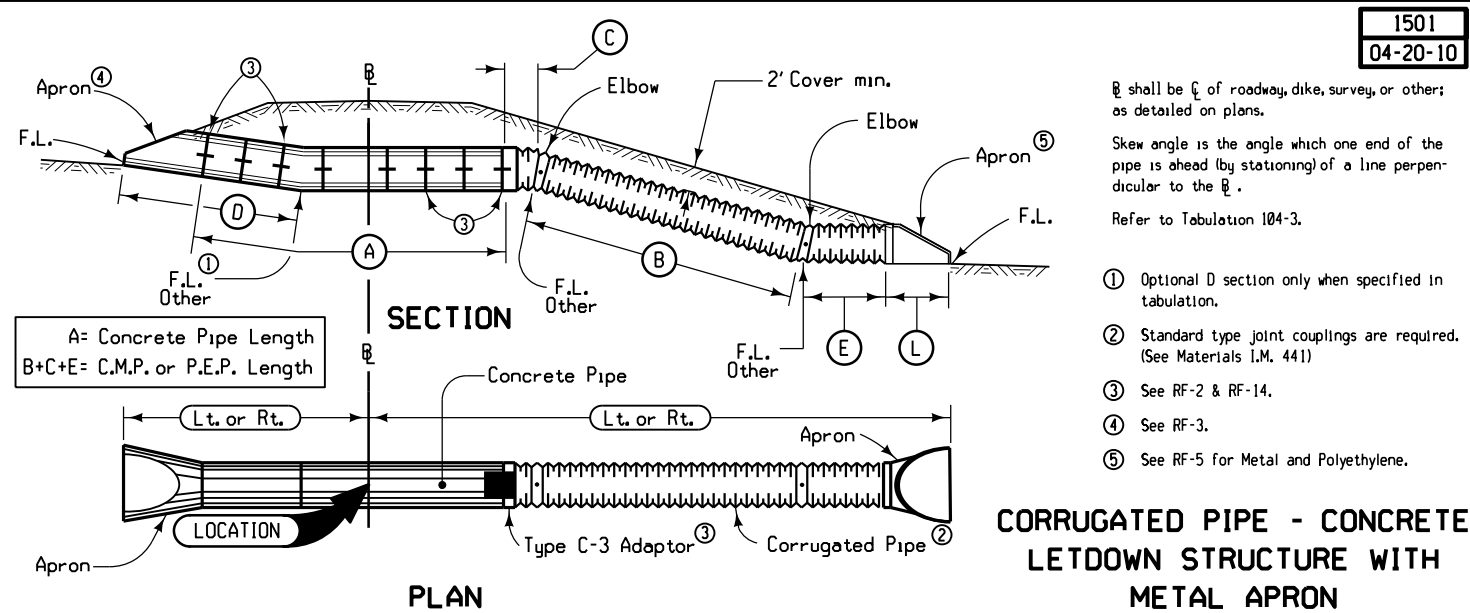


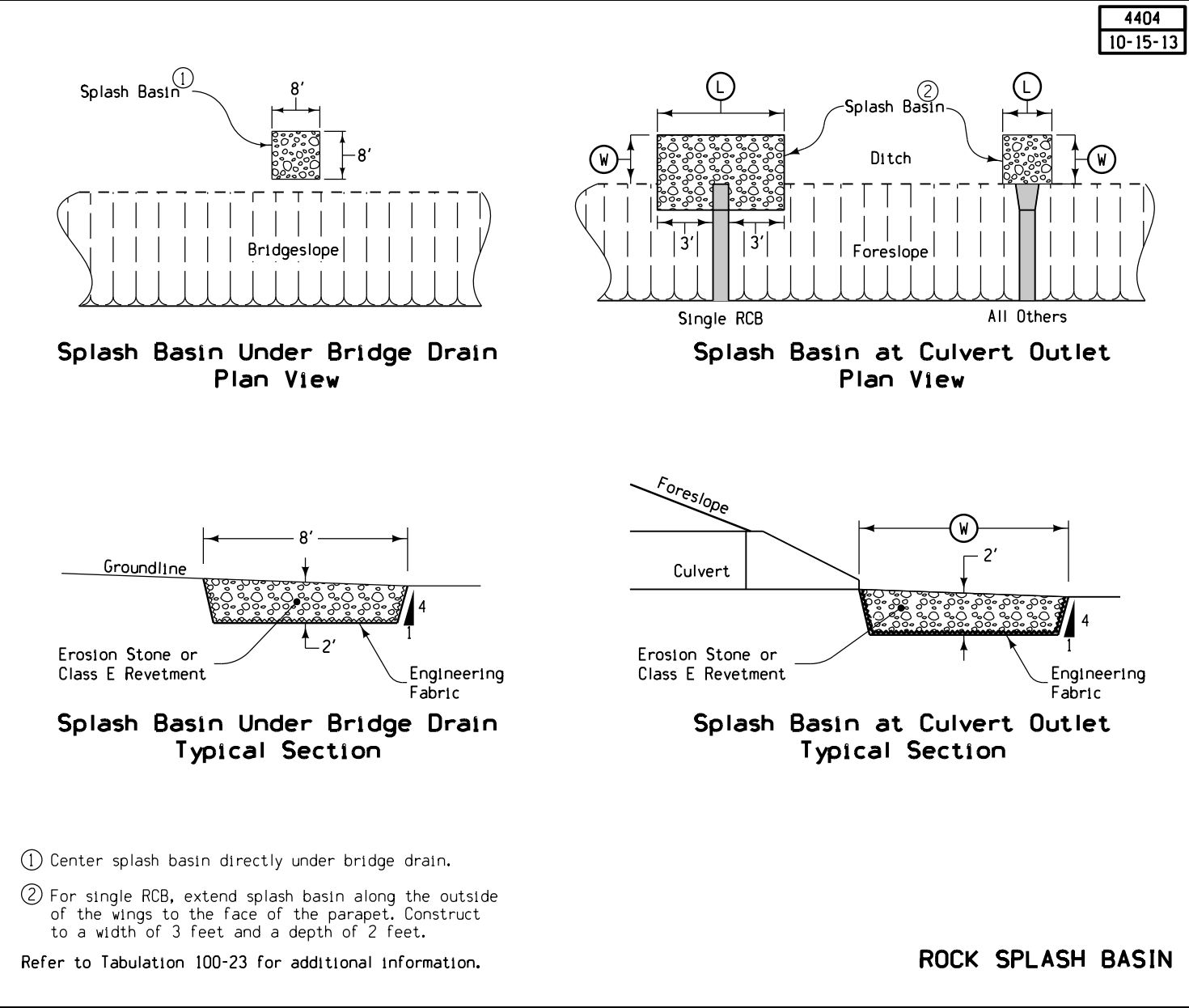
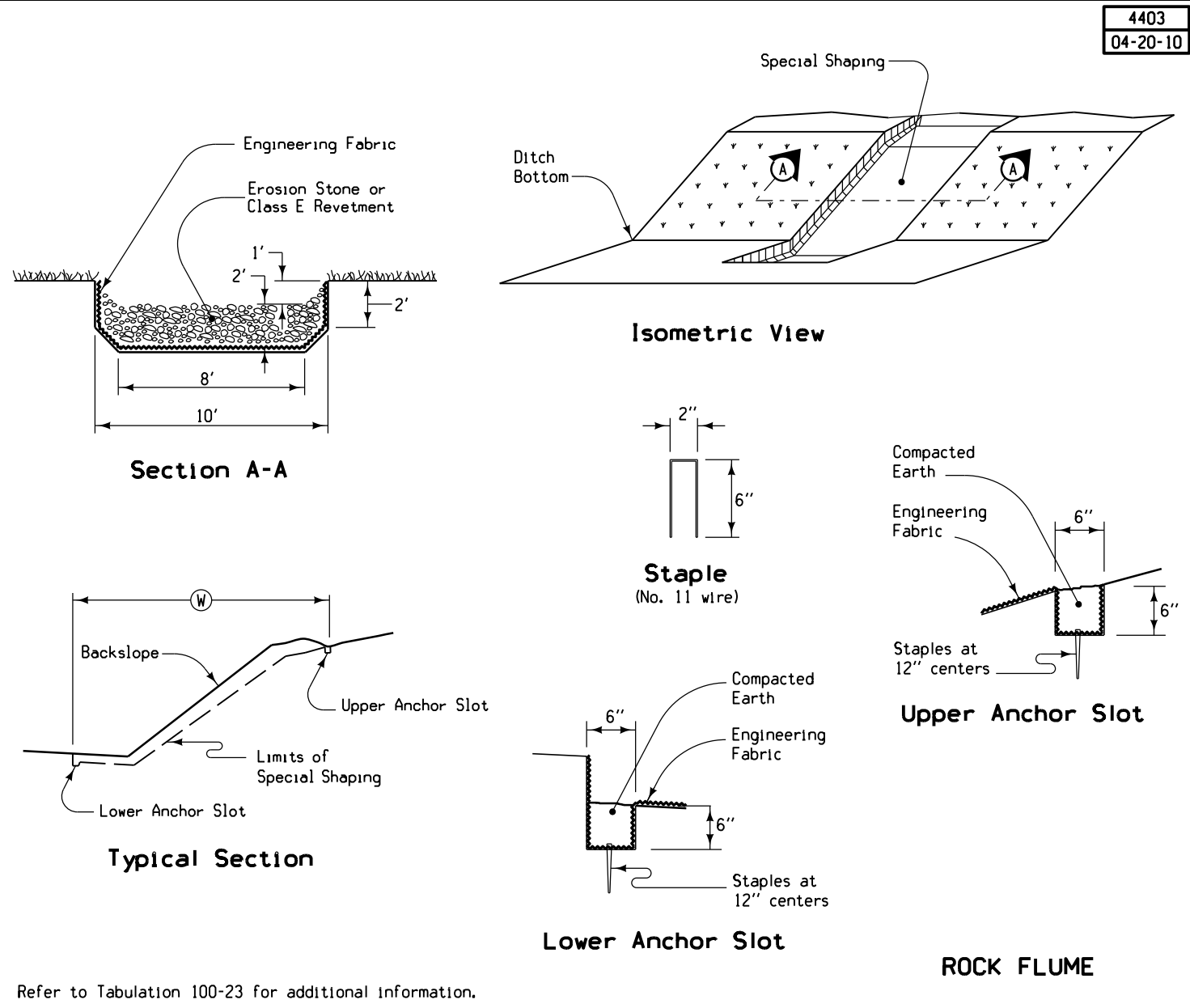
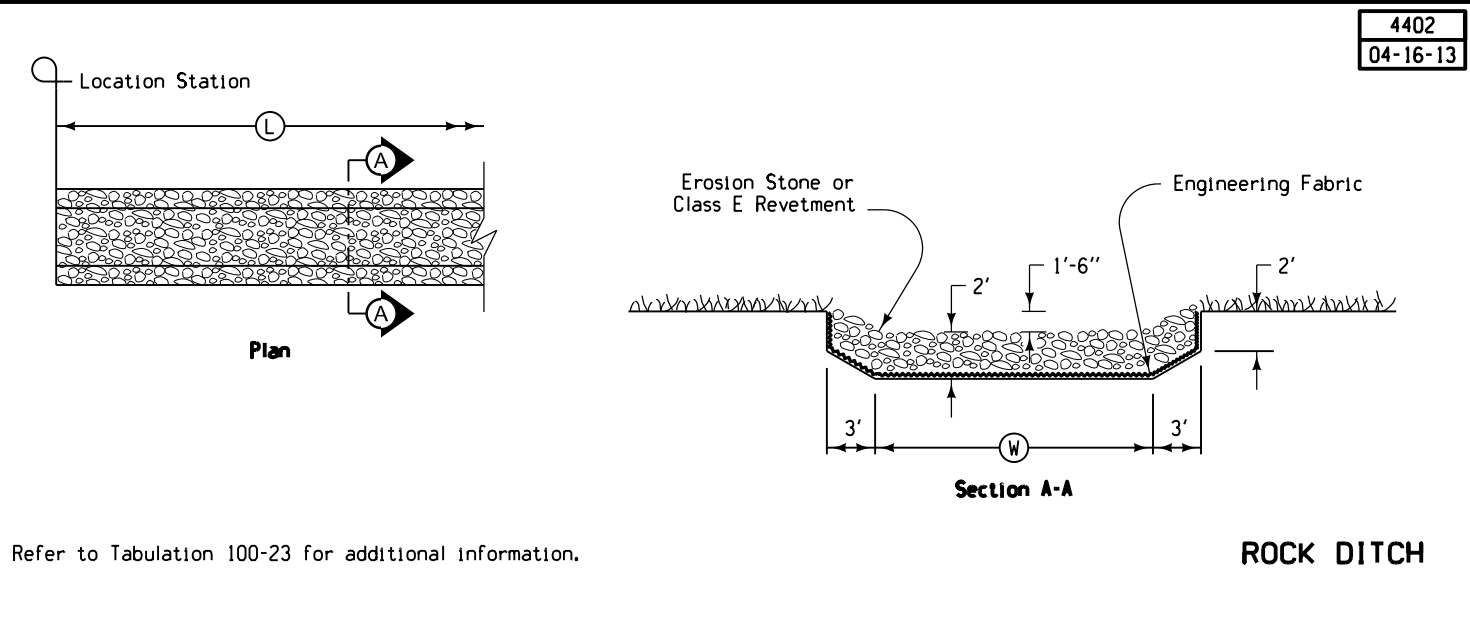
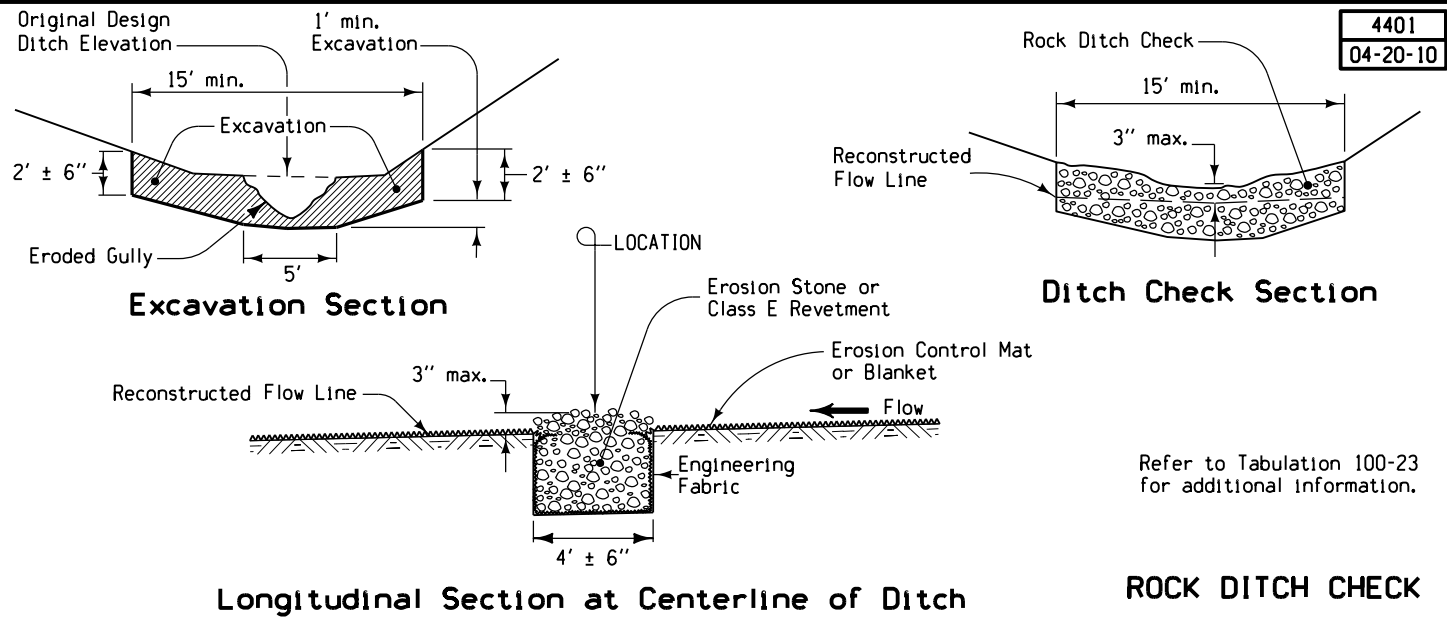
Notes:
 ② shall be \bar{C} of roadway, dike, survey, or other; as detailed on plans.
 Skew angle is the angle which one end of the pipe is ahead (by stationing) of line perpendicular to the \bar{C} (example skew Rt. ahead 30°).
 Refer to tabular listing and other plans for additional information.
 ① See Standard Road Plan RF-3 For Conc. or RF-5 for Metal.

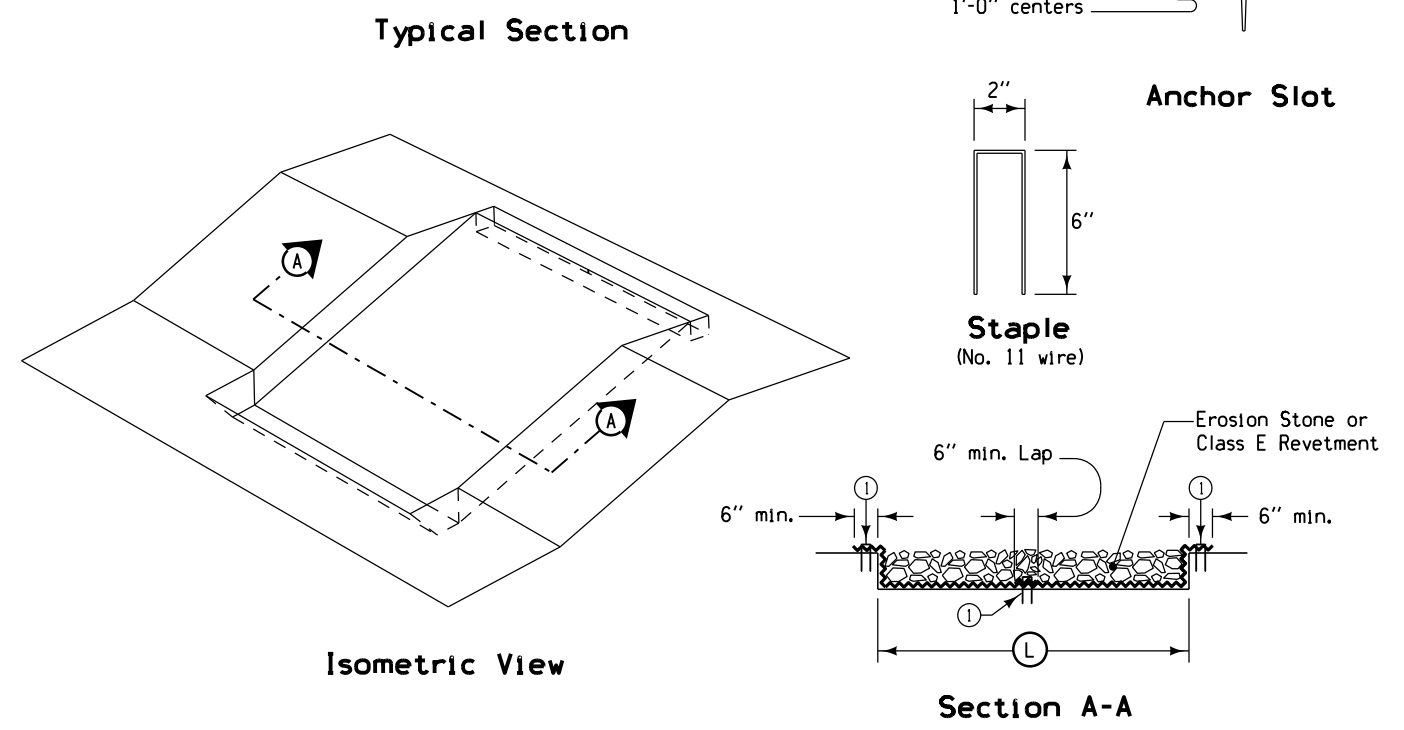
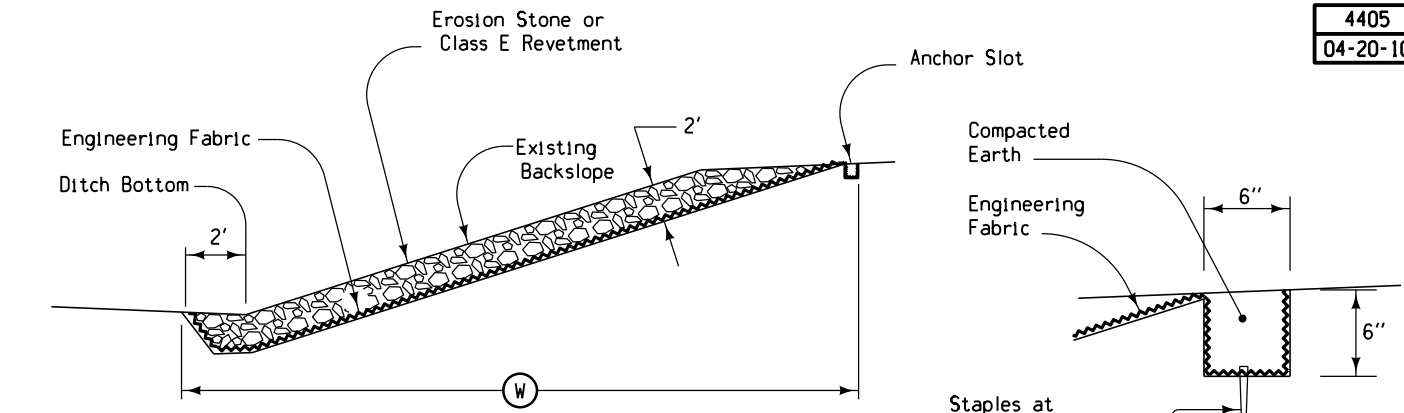
1201
10-16-12



② shall be \bar{C} of roadway, dike, survey, or other; as detailed on plans.
 "Bend" may be accomplished by use of metal elbow, Pipe Adapter (RF-2), Type "D" Section or Concrete Elbow (RF-13) as specified.
 ① See Standard Road Plan RF-3 For Conc. or RF-5 for Metal.
 F is from bend to end of outlet.

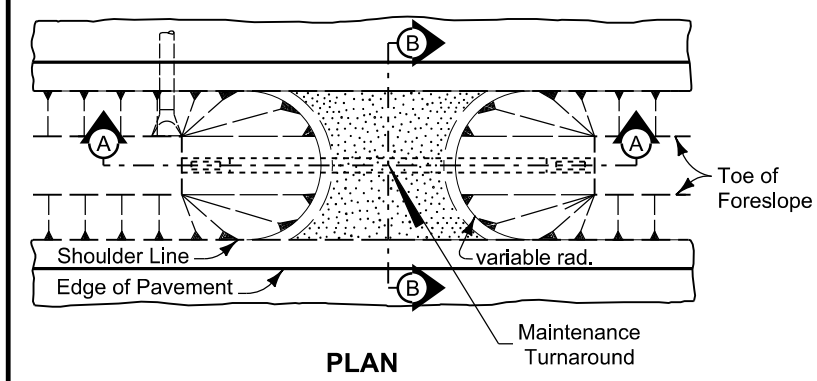




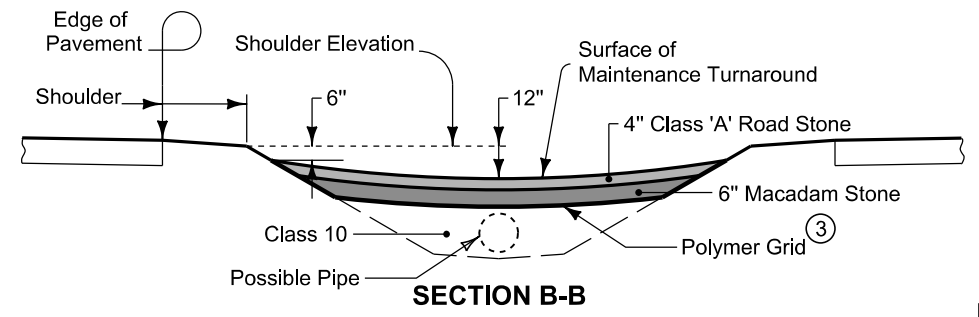
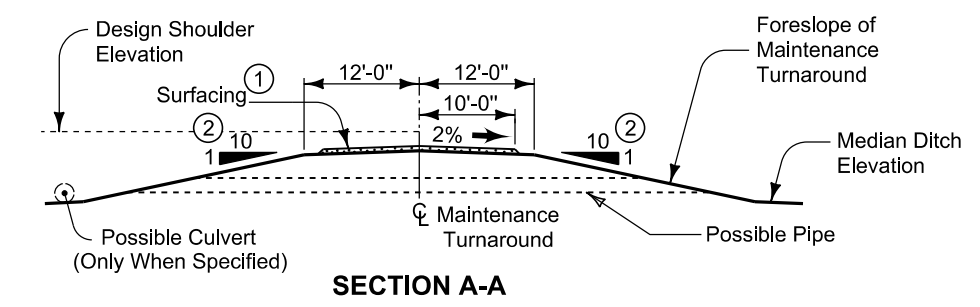


① Staples at 12" centers
 Refer to Tabulation 100-23 for additional information.

ROCK SLOPE PROTECTION



- ① Surfacing quantities based on a 6 inch layer of Macadam Stone base and a 4 inch layer of Class 'A' Road Stone. Apply surfacing as directed by the Engineer.
- ② Construct 8:1 foreslope when drainage pipe is incorporated into the maintenance turnaround.
- ③ Install Polymer Grid between earth fill and stone material.
- ④ See Standard Road Plan RF-27



MAINTENANCE TURNAROUND

Location		Macadam Stone	Class 'A' Road Stone	Polymer Grid	Class 10	Pipe Length	Beveled Pipe & Guard ④	Remarks
Road Identification	Station	Tons	Tons	SY	CY	LF	Each	
US 61	885+50	(1)	(1)	(1)				(1) Construct grading & pipe only: the macadam stone, class 'A' road stone, and polymer grid are not included in this project.
US 61	940+00	(1)	(1)	(1)				

PROJECT DESCRIPTION

This project is to provide grading for the reconstruction of US 61 to a four lane divided roadway along a relocated alignment in Louisa County, Iowa. The project begins north of 130th Street, approximately two miles south of the US 61/ IA 92 intersection, and continues north approximately six miles to the existing four lane roadway at the Muscatine/Louisa County line. The future paving project will provide two 26-foot wide roadways with 6-foot wide inside shoulders and a nominal 82-foot wide depressed median. The outside shoulders from 130th Street to 145th Street will be paved 8-foot wide to accommodate bicycle traffic, and will be combination paved/granular 8-foot wide in all other locations.

This project includes grading for the future construction of two diamond interchanges: US 61/IA 92 and US 61/170th Street. There are two side roads that will be removed and relocated in this project: 145th Street will be obliterated and reconstructed on a revised horizontal alignment to intersect with proposed US 61 at a point approximately 1,060 feet south of the current alignment, and 175th Street will be constructed on a revised horizontal alignment to connect to 170th Street east of the proposed US 61/170th Street interchange. On the east side of existing US 61, 170th Street will be graded for a future paved roadway and will remain closed for the time period between the grading and paving projects.

**ESTIMATED PROJECT QUANTITIES
(1 DIVISION PROJECT)**

Item No.	Item Code	Item	Unit	Total	As Built Qty.
1	2101-0850001	CLEARING AND GRUBBING	ACRE	115	
2	2102-2625001	EMBANKMENT-IN-PLACE, CONTRACTOR FURNISHED	CY	329441	
3	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	CY	1098032	
4	2102-2712015	EXCAVATION, CLASS 12, BOULDERS OR ROCK FRAGMENTS	CY	100	
5	2102-4560000	LOCATING TILE LINES	STA	630	
6	2102-5020010	OBLITERATE OLD ROADBED	STA	7.09	
7	2104-2710020	EXCAVATION, CLASS 10, CHANNEL	CY	186.5	
8	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD	CY	142500	
9	2107-0875100	COMPACTION WITH MOISTURE CONTROL	CY	1045000	
10	2107-3825025	GRANULAR MATERIAL FOR BLANKET AND SUBDRAIN	CY	10228.4	
11	2312-8260051	GRANULAR SURFACING ON ROAD, CLASS A CRUSHED STONE	TON	4042	
12	2315-8275025	SURFACING, DRIVEWAY, CLASS A CRUSHED STONE	TON	899	
13	2402-0425040	FLOODED BACKFILL	CY	0	
14	2402-2720100	EXCAVATION, CLASS 20, FOR ROADWAY PIPE CULVERT	CY	0	
15	2416-0100024	APRONS, CONCRETE, 24 IN. DIA.	EACH	36	
16	2416-0100030	APRONS, CONCRETE, 30 IN. DIA.	EACH	14	
17	2416-0100036	APRONS, CONCRETE, 36 IN. DIA.	EACH	12	
18	2416-0100042	APRONS, CONCRETE, 42 IN. DIA.	EACH	2	
19	2416-0100048	APRONS, CONCRETE, 48 IN. DIA.	EACH	2	
20	2416-0100054	APRONS, CONCRETE, 54 IN. DIA.	EACH	2	
21	2416-0100072	APRONS, CONCRETE, 72 IN. DIA.	EACH	2	
22	2416-0100078	APRONS, CONCRETE, 78 IN. DIA.	EACH	2	
23	2416-0102236	APRON, LOW CLEARANCE CONCRETE, EQUIVALENT DIAMETER 36 IN.	EACH	10	
24	2416-0102242	APRON, LOW CLEARANCE CONCRETE, EQUIVALENT DIAMETER 42 IN.	EACH	2	
25	2416-0102248	APRON, LOW CLEARANCE CONCRETE, EQUIVALENT DIAMETER 48 IN.	EACH	4	
26	2416-1180024	CULVERT, CONCRETE ROADWAY PIPE, 24 IN. DIA.	LF	1954	
27	2416-1180030	CULVERT, CONCRETE ROADWAY PIPE, 30 IN. DIA.	LF	432	
28	2416-1180036	CULVERT, CONCRETE ROADWAY PIPE, 36 IN. DIA.	LF	468	
29	2416-1180042	CULVERT, CONCRETE ROADWAY PIPE, 42 IN. DIA.	LF	116	
30	2416-1180048	CULVERT, CONCRETE ROADWAY PIPE, 48 IN. DIA.	LF	254	
31	2416-1180072	CULVERT, CONCRETE ROADWAY PIPE, 72 IN. DIA.	LF	268	
32	2416-1180078	CULVERT, CONCRETE ROADWAY PIPE, 78 IN. DIA.	LF	336	
	2416-1200236	CULVERT, LOW CLEARANCE CONCRETE ROADWAY PIPE, EQUIVALENT DIAMETER 36 IN.	LF	218	
33					
	2416-1200242	CULVERT, LOW CLEARANCE CONCRETE ROADWAY PIPE, EQUIVALENT DIAMETER 42 IN.	LF	118	
34					
	2416-1200248	CULVERT, LOW CLEARANCE CONCRETE ROADWAY PIPE, EQUIVALENT DIAMETER 48 IN.	LF	256	
35					
36	2416-1240024	CULVERT, 3000D CONCRETE ROADWAY PIPE, 24 IN. DIA.	LF	286	
37	2416-1240030	CULVERT, 3000D CONCRETE ROADWAY PIPE, 30 IN. DIA.	LF	138	
38	2416-1240036	CULVERT, 3000D CONCRETE ROADWAY PIPE, 36 IN. DIA.	LF	720	
39	2416-1240054	CULVERT, 3000D CONCRETE ROADWAY PIPE, 54 IN. DIA.	LF	330	
40	2416-1245030	CULVERT, 3750D CONCRETE ROADWAY PIPE, 30 IN. DIA.	LF	360	
41	2417-0225024	APRONS, METAL, 24 IN. DIA.	EACH	1	
42	2417-1060024	CULVERT, CORRUGATED METAL ROADWAY PIPE, 24 IN. DIA.	LF	196	
43	2417-5895024	BEVELED PIPE AND GUARD, 24 INCH	EACH	6	
44	2422-0360018	APRONS, UNCLASSIFIED, 18 IN. DIA.	EACH	8	
45	2422-1722018	CULVERT, UNCLASSIFIED ENTRANCE PIPE, 18 IN. DIA.	LF	468	
46	2422-1723024	CULVERT, UNCLASSIFIED ROADWAY PIPE, 24 IN. DIA.	LF	0	
47	2502-8212304	SUBDRAIN, STANDARD, PERFORATED, 4 IN., AS PER PLAN	LF	1623	
48	2502-8220197	SUBDRAIN OUTLET (RF-19F)	EACH	16	
49	2506-4984000	FLOWABLE MORTAR	CY	0	
50	2507-3250005	ENGINEERING FABRIC	SY	160	
51	2507-6800021	REVTMENT, CLASS B	TON	26	
52	2507-6800061	REVTMENT, CLASS E	TON	157	
53	2518-6910000	SAFETY CLOSURE	EACH	40	
54	2519-3280000	FENCE, FIELD	LF	0	
55	2519-3300400	FIELD FENCE BRACE PANELS	EACH	0	
56	2520-3350010	FIELD LABORATORY	EACH	1	
57	2526-8285000	CONSTRUCTION SURVEY	LS	1	
58	2528-8400256	TEMPORARY TRAFFIC SIGNALS	EACH		
59	2528-8445110	TRAFFIC CONTROL	LS	1	

**ESTIMATED PROJECT QUANTITIES
(1 DIVISION PROJECT)**

Item No.	Item Code	Item	Unit	Total	As Built Qty.
60	2528-8445113	FLAGGER	EACH		
61	2533-4980005	MOBILIZATION	LS	1	
62	2601-2634105	MULCHING, BONDED FIBER MATRIX	ACRE	0	
63	2601-2636015	NATIVE GRASS SEEDING	ACRE	0.06	
64	2601-2636043	SEEDING AND FERTILIZING (RURAL)	ACRE	0	
65	2601-2638352	SLOPE PROTECTION, WOOD EXCELSIOR MAT	SQ	28.9	
66	2601-2640350	SPECIAL DITCH CONTROL, WOOD EXCELSIOR MAT	SQ	0	
67	2601-2642100	STABILIZING CROP - SEEDING AND FERTILIZING	ACRE	0	
68	2601-2643300	MOBILIZATION FOR WATERING	EACH	0	
69	2602-0000020	SILT FENCE	LF	750	
70	2602-0000030	SILT FENCE FOR DITCH CHECKS	LF	34752	
71	2602-0000050	SILT BASINS	EACH		
72	2602-0000080	REMOVAL OF SILT BASINS	EACH		
73	2602-0000071	REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS	LF	12770	
74	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS	LF	2550	
75	2602-0000306	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 6 IN. DIA.	LF	0	
76	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.	LF	0	
77	2602-0010010	MOBILIZATION, EROSION CONTROL	EACH	1	
78	2602-0010020	MOBILIZATION, EMERGENCY EROSION CONTROL	EACH	1	

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
1	2101-0850001	CLEARING AND GRUBBING - -
2	2102-2625001	EMBANKMENT-IN-PLACE, CONTRACTOR FURNISHED Refer to T Sheets.
3	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW Includes 1,084,240 cu. yds. of suitable material to be used in the roadway fill and beam guardrail installations. Includes 13,792 cu. yds. of suitable material to be used in the bridge berm overbuild. Refer to T Sheets. Refer to Tab. 107-23 in C Sheets. Unsuitable B or C material can be used. Overhaul will not be measured or paid for, but shall be considered incidental to roadway excavation on this project.
4	2102-2712015	EXCAVATION, CLASS 12, BOULDERS OR ROCK FRAGMENTS Refer to Tab. 103-7 in CS Sheets Dispose of excess material according to Article 1106.07 of the current specifications.
5	2102-4560000	LOCATING TILE LINES Estimated at twice the project length.
6	2102-5020010	OBLITERATE OLD ROADBED The work consists of obliterating 145th Street from mainline Sta. 829+10, 444' Rt to Sta. 829+64, 126' Rt and Sta. 830+05, 130' Lt to Sta. 830+63, 512' Lt as shown in Typical 4302 in B Sheets. Method of measurement will be in stations measured along centerline of old roadbed. Basis of payment will be the contract unit price for the number of stations of old roadbed obliterated. Payment is full compensation for construction as shown on Typical 4302. Excavation and topsoil will not be paid separately.
7	2104-2710020	EXCAVATION, CLASS 10, CHANNEL Refer to MIT Sheets.
8	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD Refer to Tab. 103-4 in C Sheets.
9	2107-0875100	COMPACTION WITH MOISTURE CONTROL Refer to Tab. 103-6 in CS Sheets. Cubic yards shown on the contract documents as determined by the template fill volume. Shrinkage will not be included in the moisture control quantity.
10	2107-3825025	GRANULAR MATERIAL FOR BLANKET AND SUBDRAIN Refer to Tab. WSD-1 and Tab. 104-5C in CS Sheets.
11	2312-8260051	GRANULAR SURFACING ON ROAD, CLASS A CRUSHED STONE See Typical G 2 GradeGran in B Sheets for side road surfacing details.
12	2315-8275025	SURFACING, DRIVEWAY, CLASS A CRUSHED STONE Refer to Tab. 102-3 in the C Sheets. Quantity assumes 6" thickness placed.
13	2402-0425040	FLOODED BACKFILL - -
14	2402-2720100	EXCAVATION, CLASS 20, FOR ROADWAY PIPE CULVERT Refer to Tab. 104-3 in C Sheets.
15	2416-0100024	APRONS, CONCRETE, 24 IN. DIA.
16	2416-0100030	APRONS, CONCRETE, 30 IN. DIA.
17	2416-0100036	APRONS, CONCRETE, 36 IN. DIA.
18	2416-0100042	APRONS, CONCRETE, 42 IN. DIA.
19	2416-0100048	APRONS, CONCRETE, 48 IN. DIA.
20	2416-0100054	APRONS, CONCRETE, 54 IN. DIA.
21	2416-0100072	APRONS, CONCRETE, 72 IN. DIA.
22	2416-0100078	APRONS, CONCRETE, 78 IN. DIA.
23	2416-0102236	APRON, LOW CLEARANCE CONCRETE, EQUIVALENT DIAMETER 36 IN.
24	2416-0102242	APRON, LOW CLEARANCE CONCRETE, EQUIVALENT DIAMETER 42 IN.
25	2416-0102248	APRON, LOW CLEARANCE CONCRETE, EQUIVALENT DIAMETER 48 IN.
26	2416-1180024	CULVERT, CONCRETE ROADWAY PIPE, 24 IN. DIA.
27	2416-1180030	CULVERT, CONCRETE ROADWAY PIPE, 30 IN. DIA.
28	2416-1180036	CULVERT, CONCRETE ROADWAY PIPE, 36 IN. DIA.
29	2416-1180042	CULVERT, CONCRETE ROADWAY PIPE, 42 IN. DIA.
30	2416-1180048	CULVERT, CONCRETE ROADWAY PIPE, 48 IN. DIA.
31	2416-1180072	CULVERT, CONCRETE ROADWAY PIPE, 72 IN. DIA.
32	2416-1180078	CULVERT, CONCRETE ROADWAY PIPE, 78 IN. DIA.
33	2416-1200236	CULVERT, LOW CLEARANCE CONCRETE ROADWAY PIPE, EQUIVALENT DIA. 36 IN.
34	2416-1200242	CULVERT, LOW CLEARANCE CONCRETE ROADWAY PIPE, EQUIVALENT DIA. 42 IN.
35	2416-1200248	CULVERT, LOW CLEARANCE CONCRETE ROADWAY PIPE, EQUIVALENT DIA. 48 IN.
36	2416-1240024	CULVERT, 3000D CONCRETE ROADWAY PIPE, 24 IN. DIA.
37	2416-1240030	CULVERT, 3000D CONCRETE ROADWAY PIPE, 30 IN. DIA.
38	2416-1240036	CULVERT, 3000D CONCRETE ROADWAY PIPE, 36 IN. DIA.
39	2416-1240054	CULVERT, 3000D CONCRETE ROADWAY PIPE, 54 IN. DIA.
40	2416-1245030	CULVERT, 3750D CONCRETE ROADWAY PIPE, 30 IN. DIA.
41	2417-0225024	APRONS, METAL, 24 IN. DIA.
42	2417-1060024	CULVERT, CORRUGATED METAL ROADWAY PIPE, 24 IN. DIA.

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
		Refer to Tab. 104-3 in C Sheets.
43	2417-5895024	BEVELED PIPE AND GUARD, 24 INCH Refer to Detail 8101 in the B Sheets.
44	2422-0360018	APRONS, UNCLASSIFIED, 18 IN. DIA. Refer to Tab. 102-3 in C Sheets.
45	2422-1722018	CULVERT, UNCLASSIFIED ENTRANCE PIPE, 18 IN. DIA. Refer to Tab. 102-3 and Tab. 104-3 in C Sheets.
46	2422-1723024	CULVERT, UNCLASSIFIED ROADWAY PIPE, 24 IN. DIA. Refer to Detail 8101 in the B Sheets.
47	2502-8212304	SUBDRAIN, STANDARD, PERFORATED, 4 IN., AS PER PLAN Refer to Tab. WSD-1 in CS Sheets.
48	2502-8220197	SUBDRAIN OUTLET (RF-19F) Refer to Tab. WSD-1 in CS Sheets.
49	2506-4984000	FLOWABLE MORTAR Includes XXXX cu. yds. for fill and abandon culvert. Refer to Tab. 110-9 in C Sheets and Typical 4315 in B Sheets. Silt inside existing culverts need not be removed prior to placing flowable mortar. Includes XXXX cu. yds. for backfill over culvert.
50	2507-3250005	ENGINEERING FABRIC Refer to MIT Sheets.
51	2507-6800021	REVTMENT, CLASS B Refer to MIT Sheets.
52	2507-6800061	REVTMENT, CLASS E Refer to MIT Sheets.
53	2518-6910000	SAFETY CLOSURE Refer to Tab. 108-13A in C Sheets.
54	2519-3280000	FENCE, FIELD - -
55	2519-3300400	FIELD FENCE BRACE PANELS - -
56	2520-3350010	FIELD LABORATORY - -
57	2526-8285000	CONSTRUCTION SURVEY - -
58	2528-8400256	TEMPORARY TRAFFIC SIGNALS
59	2528-8445110	TRAFFIC CONTROL Refer to Traffic Control Plan in J Sheets.
60	2528-8445113	FLAGGER
61	2533-4980005	MOBILIZATION - -
62	2601-2634105	MULCHING, BONDED FIBER MATRIX Apply Bonded Fiber Matrix as the mulch for all areas designated as "Seeding and Fertilizing (Urban)." Apply seed and fertilizer for the area to be covered before applying Bonded Fiber Matrix Mulch. Apply Bonded Fiber Matrix Mulch at a minimum rate of 3,000 pounds per acre.
63	2601-2636015	NATIVE GRASS SEEDING Refer to MIT Sheets.
64	2601-2636043	SEEDING AND FERTILIZING (RURAL) Seed and fertilize all areas 8 foot adjacent to the shoulder mainline, medians, and side according to Article 2601.03, C, 3, of the Standard Specifications. Use ground driven equipment.
65	2601-2638352	SLOPE PROTECTION, WOOD EXCELSIOR MAT Refer to MIT Sheets and Tab. 100-22 in C Sheets for locations. Refer to Standard Road Plan EC-103. Prepare seedbed according to Article 2601.03, B, 4, of the Standard Specifications prior to seeding and fertilizing under the slope protection.
66	2601-2640350	SPECIAL DITCH CONTROL, WOOD EXCELSIOR MAT Refer to Tab. 100-22 in C Sheets for locations. Refer to Standard Road Plan EC-101. Prepare seedbed according to Article 2601.03, B, 4, and seed according to Article 2601.03, H, 2, of the Standard Specifications. Refer to Table 2601.03-7 for seed mixture.

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
67	2601-2642100	STABILIZING CROP - SEEDING AND FERTILIZING Item is included for disturbed areas. Seed and fertilize all disturbed areas according to Article 2601.03, C, 1, of the Standard Specifications.
68	2601-2643300	MOBILIZATION FOR WATERING - -
69	2602-0000020	SILT FENCE Refer to Tab. 100-17 in C Sheets. The tabulation includes estimated locations for placement of Silt Fence to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 25% additional quantity for field adjustments and replacements.
69 70	2602-0000030	SILT FENCE FOR DITCH CHECKS Refer to Tab. 100-18 in C Sheets. The tabulation includes estimated locations for placement of Silt Fence for Ditch Checks to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 50% additional quantity for field adjustments and replacements.
71	2602-0000050	SILT BASINS Refer to Tab. 100-14 in C Sheets. The tabulation includes estimated locations for placement of "Silt Basins" to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 100% additional quantity for field adjustments and maintenance.
72	2602-0000080	REMOVAL OF SILT BASINS Fill the silt basin with Class 10 material and a minimum of 4 inches of topsoil. Furnish Class 10 material according to Section 2107 of the Standard Specifications and compact the material by driving over the material a minimum of two times. Furnish and place topsoil according to Section 2105 of the Standard Specifications. Smooth the surface of the topsoil and leave in a finished condition so it will drain properly. This will be incidental to the bid item. Method of Measurement: The Engineer will count the number of silt basins removed. Basis of Payment: Payment will be the contract unit price for each silt basin removed. Payment is full compensation for providing, preparing, transporting, and placing the Class 10 material and topsoil. The Contractor has the option, at no additional cost to the Contracting Authority, of stripping and stockpiling the Class 10 material and topsoil from constructing silt basins for later use in silt basin removal. Overhaul will not be paid for this item.
73	2602-0000071	REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS This item is included for silt fence removal required for staging reasons, removal to allow for replacement (replacement to be paid separately), or for areas that have achieved 70% permanent growth.
74	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS This item is included for clean-out and repair of the silt fence and silt fence for ditch checks during the grading project.
75 76	2602-0000306 2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 6 IN. DIA. PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA. Items are included for temporary perimeter sediment control, inlet protection, and water velocity reduction on slopes or ditches at locations to be determined during construction. Verify the specific locations with the Engineer prior to beginning placement.
77	2602-0010010	MOBILIZATION, EROSION CONTROL - -
78	2602-0010020	MOBILIZATION, EMERGENCY EROSION CONTROL - -

STANDARD ROAD PLANS

The following Standard Road Plans apply to construction work on this project.

Number	Date	Title
EC-101	04-20-10	Wood Excelsior Mat for Ditch Protection
EC-103	04-20-10	Wood Excelsior Mat for Slope Protection
EC-201	04-20-10	Silt Fence
EC-204	10-16-12	Perimeter and Slope Sediment Control Devices
EW-101	04-19-11	Embankment and Rebuilding Embankments
EW-102	10-15-13	Allowable Placement of Unsuitable Soil in Embankments
EW-103	10-15-13	Embankment Subgrade Treatment, Moisture Density Control and Special Compaction
EW-212	04-15-14	Settlement Plate
EW-301	04-19-11	Guardrail Grading
EW-403	10-15-13	Temporary Erosion Control Measures
EW-501	10-15-13	Rural Entrance
EW-503	04-15-14	Side Road Grading
MI-101	04-20-10	Fencing Layout
MI-103	10-16-12	Deer Fence and Field Fence Construction
MI-104	10-16-12	Fence Construction at Channel Crossings, Flood Plains, and Minor Ground Depressions
RF-2	04-15-14	Construction of Type "C" Concrete Adaptors for Pipe Culvert Connections
RF-3	10-15-13	Concrete Aprons
RF-5	04-16-13	Metal Pipe Aprons and Beveled Ends
RF-13	10-18-11	Pipe Bends and Half Pipe
RF-14	04-16-13	Connected Pipe Joints
RF-19A	10-16-12	Subdrains for Fill or Foundation Drainage (Standard)
RF-19B	04-17-12	Subdrains Standard (Farm Tile Replacement)
RF-19E	10-16-12	Outlets for Longitudinal, Transverse and Backslope Subdrains
RF-30A	04-15-14	Pipe Culvert (Bedding and Backfill)
RF-30B	10-19-10	Pipe Culvert (Cover and Camber)
RF-30C	04-16-13	Pipe Culvert (Installation Details)
RF-31	03-28-95	Depth of Cover Tables for Concrete Pipe
RF-32	10-19-10	Depth of Cover Tables for Corrugated Pipe
RF-42	04-15-14	Low Clearance Concrete Pipe Aprons
TC-1	04-16-13	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-202	10-15-13	Shoulder Closure (One Lane)
TC-213	04-17-12	Lane Closure with Flaggers
TC-251	04-17-12	Temporary Road Closure
TC-252	04-17-12	Routes Closed to Traffic
TC-271	04-19-11	Signalized Equipment Crossing
TC-273	04-20-10	Construction Site Entrance

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100-18	Tabulation of Silt Fences for Ditch Checks	C.6
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POLLUTION PREVENTION PLAN

This Base Pollution Prevention Plan (PPP) includes information on Roles and Responsibilities, Project Site Description, Controls, Maintenance Procedures, Inspection Requirements, Non-Storm Water Controls, Potential Sources of Off Right-of-Way Pollution, and Definitions. This plan references other documents rather than repeating the information contained in the documents. A copy of this Base Pollution Prevention Plan, amended as needed per plan revisions or by contract modification, will be readily available for review.

All contractors shall conduct their operations in a manner that controls pollutants, minimizes erosion, and prevents sediments from entering waters of the state and leaving the highway right-of-way. The prime contractor shall be responsible for compliance and implementation of the PPP for their entire contract. This responsibility shall be further shared with subcontractors whose work is a source of potential pollution as defined in this PPP.

I. ROLES AND RESPONSIBILITIES**A. Designer:**

1. Prepares Base PPP included in the project plan.
2. Prepares Notice of Intent (NOI) submitted to Iowa DNR.
3. Signature authority on the Base PPP and NOI.

B. Contractor/Subcontractor:

1. Affected contractors/subcontractors are co-permittees with the IDOT and will sign a certification statement adhering to the requirements of the NPDES permit and this PPP plan. All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
2. Submit a detailed schedule according to Article 2602 of the Specifications and any additional plan notes.
3. Install and maintain appropriate controls.
4. Supervise and implement good housekeeping practices.
5. Conduct joint required inspections of the site with inspection staff.
6. Signature authority on Co-Permittee Certification Statements and storm water inspection reports.

C. RCE/Inspector:

1. Update PPP whenever there is a change in design, construction, operation or maintenance, which has a significant effect on the discharge of pollutants from the project.
2. Maintain an up-to-date list that identifies contractors and subcontractors as co-permittees.
3. Make these plans available to the DNR upon their request.
4. Conduct joint required inspections of the site with the contractor/subcontractor.
5. Complete an inspection report after each inspection.
6. Signature authority on storm water inspection reports and Notice of Discontinuation (NOD).

II. PROJECT SITE DESCRIPTION

- A. This Pollution Prevention Plan (PPP) is for the reconstruction (including grading, paving, drainage, and structures) of US 61 from roughly two miles south of the US 61 / IA 92 intersection north approximately six miles to near the Muscatine/Louisa county line. The reconstruction involves reconstructed intersections at 145th St. and 180th St. and new interchanges at IA 92 and 170th St.
- B. This PPP covers approximately 338 acres with an estimated 239 acres being disturbed. The portion of the PPP covered by this contract has 194 acres disturbed.
- C. The PPP is located in an area of two soil associations (Tama-Muscatine-Downs and Fayette). The estimated average SCS runoff curve number for this PPP after completion will be 66.
- D. Storm Water Site Map - Multiple sources of information comprise the base storm water site map including:
 1. Drainage patterns - Plan and Profile sheets and Situation plans.
 2. Proposed Slopes - Cross Sections.
 3. Areas of Soil Disturbance - construction limits shown on Plan and Profile sheets.
 4. Location of Structural Controls - Tabulations on C sheets.
 5. Locations of Non-structural Controls - Tabulations on C sheets.
 6. Locations of Stabilization Practices - generally within construction limits shown on Plan and Profile sheets.
 7. Surface Waters (including wetlands) - Plan and Profile sheets.
 8. Locations where storm water is discharged - Plan and Profile sheets.
- E. The base site map is amended by contract modifications and progress payments of completed erosion control work.
- F. Runoff from this work will flow into unspecified waterways and ditches leading 1) to Indian Creek to the Iowa River, 2) to Turkey Run to the Iowa River, and 3) to Muscatine Slough to the Mississippi River.

III. CONTROLS

- A. The contractor's work plan and sequence of operations specified in Article 2602.03 for accomplishment of storm water controls should clearly describe the intended sequence of major activities and for each activity define the control measure and the timing during the construction process that the measure will be implemented.
- B. Preserve vegetation in areas not needed for construction.
- C. Section 2601 and 2602 of the Standard Specifications define requirements to implement erosion and sediment control measures. Actual quantities used may vary from the Base PPP and amendment of the plan will be documented via fieldbook entries or by contract modification. Additional erosion and sediment control items may be required as determined by the inspector and/or contractor during storm water monitoring inspections. If the work involved is not applicable to any contract items, the work will be paid for according to Article 1109.03 paragraph B.
 1. EROSION AND SEDIMENT CONTROLS
 - a. Stabilization Practices
 - 1) Site plans will ensure that existing vegetation is preserved where attainable and disturbed portions of the site will be stabilized.
 - 2) Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased.
 - 3) Temporary stabilizing seeding shall be completed as the disturbed areas are constructed. If construction activity is not planned to occur in a disturbed area for at least 21 days, the area shall be stabilized by temporary seeding or mulching within 14 days. Other stabilizing methods shall be used outside the seeding time period.
 - 4) Stabilization measures to be used for this project are located in the Estimated Project Quantities (100-1A) and Estimate Reference Information (100-4A) located on the C sheets of the plan. Additional items may be found in the Inspector's Daily Reports (IDR) or Contract Modifications.
 - b. Structural Practices
 - 1) Structural practices will be implemented to divert flows from exposed soils and detain or otherwise limit runoff and the discharge of pollutants from exposed areas of the site.
 - 2) Structural items to be used for this project are located in the Estimated Project Quantities (100-1A) and Estimate Reference Information (100-4A) located on the C sheets of the plan, as well as all other item specific Tabulations. Typical drawings detailing construction of the devices to be used on this project can be found on the B sheets of the plan or are referenced in the Standard Road Plans Tabulation.
 - c. Storm Water Management
 - 1) Measures shall be installed during the construction process to control pollutants in storm water discharges that will

POLLUTION PREVENTION PLAN

occur after construction operations have been completed. The installation of these devices may be subject to Section 404 of the Clean Water Act.

2. OTHER CONTROLS

- a. Contractor disposal of unused construction materials and construction material wastes shall comply with applicable state and local waste disposal, sanitary sewer, or septic system regulations. In the event of a conflict with other governmental laws, rules and regulations, the more restrictive laws, rules or regulations shall apply.
 - 1) Vehicle Entrances and Exits - Construct and maintain entrances and exits to prevent tracking of sediments onto roadways.
 - 2) Material Delivery, Storage and Use - Implement practices to prevent discharge of construction materials during delivery, storage, and use.
 - 3) Stockpile Management - Install controls to reduce or eliminate pollution of storm water from stockpiles of soil and paving.
 - 4) Waste Disposal - Do not discharge any materials, including building materials, into waters of the state, except as authorized by a Section 404 permit.
 - 5) Spill Prevention and Control - Implement procedures to contain and clean-up spills and prevent material discharges to the storm drain system and waters of the state.
 - 6) Concrete Residuals and Washout Wastes - Designate temporary concrete washout facilities for rinsing out concrete trucks. Provide directions to truck drivers where designated washout facilities are located.
 - 7) Vehicle and Equipment Cleaning - Employ washing practices that prevent contamination of surface and ground water from wash water.
 - 8) Vehicle and Equipment Fueling and Maintenance - Perform on site fueling and maintenance in accordance with all environment laws such as proper storage of onsite fuels and proper disposal of used engine oil or other fluids on site.
 - 9) Litter Management - Ensure employees properly dispose of litter.

3. APPROVED STATE OR LOCAL PLANS

During the course of this construction, it is possible that situations will arise where unknown materials will be encountered. When such situations are encountered, they will be handled according to all federal, state, and local regulations in effect at the time.

IV. MAINTENANCE PROCEDURES

The contractor is required to maintain all temporary erosion and sediment control measures in proper working order, including cleaning, repairing, or replacing them throughout the contract period. This shall begin when the features have lost 50% of their capacity.

V. INSPECTION REQUIREMENTS

- A. Inspections shall be made jointly by the contractor and the contracting authority at least once every seven calendar days. Storm water monitoring inspections will include:
 1. Date of the inspection.
 2. Summary of the scope of the inspection.
 3. Name and qualifications of the personnel making the inspection.
 4. Rainfall amount.
 5. Review erosion and sediment control measures within disturbed areas for the effectiveness in preventing impacts to receiving waters.
 6. Major observations related to the implementation of the PPP.
 7. Identify corrective actions required to maintain or modify erosion and sediment control measures.
- B. Include storm water monitoring inspection reports in the Amended PPP. Incorporate any additional erosion and sediment control measures determined as a result of the inspection. Immediately begin corrective actions on all deficiencies found and complete all actions within 3 calendar days of the inspection.

VI. NON-STORM WATER DISCHARGES

This includes subsurface drains (i.e. longitudinal and standard subdrains) and slope drains. The velocity of the discharge from these features may be controlled by the use of patio blocks, Class A stone, erosion stone or other appropriate materials.

VII. POTENTIAL SOURCES OF OFF RIGHT-OF-WAY (ROW) POLLUTION

Silts, sediment, and other forms of pollution may be transported onto highway right-of-way (ROW) as a result of a storm event. Potential sources of pollution located outside highway ROW are beyond the control of this PPP. Pollution within highway ROW will be conveyed and controlled per this PPP.

VIII. DEFINITIONS

- A. Base PPP - Initial Pollution Prevention Plan.
- B. Amended PPP - May include Plan Revisions or Contract Modifications for new items and fieldbook entries made by the inspector.
- C. IDR - Inspector's Daily Report - this contains the inspector's daily diary and item postings.
- D. Controls - Methods, practices, or measures to minimize or prevent erosion, control sedimentation, control storm water, or minimize contaminants from other types of waste or materials.
- E. Signature Authority - Representative from Designer, Contractor/Subcontractor, or RCE/Inspector authorized to sign various storm water documents.

213-3
04-15-14

SUBSOIL TILLAGE

All stockpile areas, haul roads, and areas used for equipment on this project require subsoil tillage to an average depth of 16 to 20 inches prior to placement of topsoil and/or stabilizing crop seeding. Complete this tillage at 3 foot maximum centers and at right angles to the finished slope.

Use tillage equipment equipped with an arrowhead type shoe that will provide lateral displacement and limit the movement of the subsoil to the surface. Obtain the Engineer's approval for the equipment. This work is incidental to other work on the project.

Following the subsoil tillage, the area is to remain in a "loosened" condition. Additional compaction or the operation of heavy equipment, other than required for topsoil placement and shaping, will not be allowed on areas which have received subsoil tillage.

232-4
10-18-11

**EROSION CONTROL
(SELECTIVE CLEARING)**

Selective clearing will be required on this project.

Do not remove any trees outside of the construction limits without the Engineer's approval. This includes areas in divided medians and inside interchanges.

Clearing along the right-of-way line will be necessary to permit installation of fence. This clearing should be done as soon as possible with trees cut off at the ground line.

Do not disturb native grass areas outside the construction limits.

232-10
Modified

EMERALD ASH BORER

Dispose of all wood material generated as a result of clearing and/or grubbing according to the Iowa Department of Agriculture and Land Stewardship's Emerald Ash Borer (EAB) Quarantine Order. For more information refer to http://www.iowatreepests.com/eab_regulations.html.

281-1
10-15-13

SECTION 404 PERMIT AND CONDITIONS

Construct this project according to the requirements of U.S. Army Corps of Engineers IP-Individual, Permit No. 2013-1268. A copy of this permit is available from the Iowa DOT website (<http://envpermits.iowadot.gov/CMEPortalENV/Home.aspx>). The U.S. Army Corps of Engineers reserves the right to visit the site without prior notice.

213-4
04-15-14

TOPSOIL ON HAUL ROAD

Before placing a construction haul road, strip and stockpile ___ inches of topsoil from within the proposed haul road footprint. After the haul road has been removed, prepare the disturbed area according to Standard Note 213-3 and then place topsoil over the disturbed area to a minimum depth of ___ inches. If a sufficient quantity of topsoil is not available within the proposed haul road footprint, furnish additional topsoil. This work is incidental to Mobilization and will not be paid for separately.

262-5
10-18-05

**UTILITIES
(POINT 25 PROJECT)**

This is a POINT 25 project and is subject to the provisions of IAC 761-115.25.

100-26
10-15-13

INCIDENTAL ITEMS

Special or unique items where method of measurement / basis of payment is not indicated in the specifications or other contract documents.

No.	Incidental Item	Unit	Quantity	Incidental To		Remarks
				Item Code	Item	

100-23
10-19-10

* Design shown for mandatory locations is the minimum allowed.

ROCK DITCH CHECKS/DITCHES/FLUMES/SPLASH BASINS/SLOPE PROTECTION

Refer to Typical's 4401, 4402, 4403, 4404, and 4405

Location		Side Lt./Rt.	Mandatory* Location (yes or no)	Rock Ditch Check	Rock Ditch	Rock Flume	Rock Splash Basin	Rock Slope Protection	L FT	W FT	Material			Remarks
Road Identification	Station										Erosion Stone TON	Class E Revetment TON	Eng. Fabric SY	

FENCING

* Bid Item

Refer to MI-101, MI-102, MI-103, MI-104, 510-3, and 510-5

Location				Side	Chain Link				Deer				Field				Channel Crossing		Remarks
From		To			Fence		Gate		Fence		Brace Panels*		Gate		Fence		Brace Panels*		
Station	Offset	Station	Offset		Length*	Type	No.*	Type	Fence Length*	Brace Panels*	No.*	Type	Fence Length*	Brace Panels*	No.*	Type	Length*	Type	
					LF		EACH		LF	EACH	EACH		LF	EACH	EACH		LF		

100-14
10-15-13

SILT BASINS
Refer to EW-403

Location Station	Side	Remarks

100-18
04-20-10

TABULATION OF SILT FENCES FOR DITCH CHECKS
Refer to EC-201

Location Station	Side	Length LF	Remarks
U.S. 61			
756+39 - 841+00	LT	1568.0	Est. 28 LF every 150 LF
841+00 - 844+20	LT	224.0	Est. 28 LF every 40 LF
847+50 - 856+13	LT	168.0	Est. 28 LF every 150 LF
856+70 - 886+80	LT	560.0	Est. 28 LF every 150 LF
886+80 - 888+80	LT	224.0	Est. 28 LF every 25 LF
889+00 - 890+60	LT	168.0	Est. 28 LF every 25 LF
890+60 - 898+00	LT	140.0	Est. 28 LF every 150 LF
898+00 - 905+50	LT	532.0	Est. 28 LF every 40 LF
915+00 - 919+00	LT	84.0	Est. 28 LF every 150 LF
919+00 - 927+40	LT	308.0	Est. 28 LF every 75 LF
927+40 - 952+77	LT	476.0	Est. 28 LF every 150 LF
958+50 - 972+58	LT	252.0	Est. 28 LF every 150 LF
979+25 - 985+25	LT	112.0	Est. 28 LF every 150 LF
1000+00 - 1018+00	LT	336.0	Est. 28 LF every 150 LF
1019+25 - 1036+00	LT	308.0	Est. 28 LF every 150 LF
1039+00 - 1053+25	LT	280.0	Est. 28 LF every 150 LF
756+39 - 843+50	MD	2552.0	Est. 44 LF every 150 LF
843+50 - 856+00	MD	748.0	Est. 44 LF every 75 LF
856+00 - 905+50	MD	1452.0	Est. 44 LF every 150 LF
915+00 - 965+00	MD	1452.0	Est. 44 LF every 150 LF
965+00 - 977+50	MD	748.0	Est. 44 LF every 75 LF
977+50 - 985+25	MD	220.0	Est. 44 LF every 150 LF
1000+00 - 1017+50	MD	528.0	Est. 44 LF every 150 LF
1020+00 - 1036+60	MD	484.0	Est. 44 LF every 150 LF
1038+85 - 1053+25	MD	440.0	Est. 44 LF every 150 LF
809+50 - 841+50	RT	588.0	Est. 28 LF every 150 LF
841+50 - 843+60	RT	140.0	Est. 28 LF every 40 LF
847+50 - 856+00	RT	168.0	Est. 28 LF every 150 LF
857+40 - 886+50	RT	532.0	Est. 28 LF every 150 LF
886+50 - 890+00	RT	392.0	Est. 28 LF every 25 LF
890+00 - 896+89	RT	140.0	Est. 28 LF every 150 LF
896+89 - 898+80	RT	84.0	Est. 28 LF every 75 LF
898+80 - 902+00	RT	56.0	Est. 28 LF every 150 LF
915+00 - 919+00	RT	84.0	Est. 28 LF every 150 LF
919+00 - 927+75	RT	336.0	Est. 28 LF every 75 LF
927+75 - 935+00	RT	140.0	Est. 28 LF every 150 LF
935+00 - 937+25	RT	84.0	Est. 28 LF every 75 LF
937+25 - 951+00	RT	252.0	Est. 28 LF every 150 LF
956+80 - 969+96	RT	252.0	Est. 28 LF every 150 LF
976+71 - 985+25	RT	168.0	Est. 28 LF every 150 LF
145th St.			
2803+86 - 2818+30	LT	220.0	Est. 22 LF every 150 LF
2820+75 - 2822+63	LT	22.0	Est. 22 LF every 150 LF
2803+86 - 2818+30	RT	220.0	Est. 22 LF every 150 LF
170th St.			
8959+00 - 8960+75	LT	28.0	Est. 28 LF every 150 LF
8962+00 - 8970+20	LT	140.0	Est. 28 LF every 150 LF
8959+00 - 8961+00	RT	22.0	Est. 22 LF every 150 LF
8962+25 - 8970+20	RT	110.0	Est. 22 LF every 150 LF
175th St.			
9970+20 - 10001+25	LT	462.0	Est. 22 LF every 150 LF
9970+20 - 10001+25	RT	462.0	Est. 22 LF every 150 LF

100-17
04-20-10

TABULATION OF SILT FENCES
Refer to EC-201

Location				Length LF	Remarks
Begin Station	End Station	Side			
145th St.					
2820+87.00	2822+39.00	RT		230.0	No Ditch
170th St.					
8959+00.00	8960+88.00	LT		220.0	No Ditch
8968+82.00	8970+20.00	RT		150.0	No Ditch
Totals:				600.0	

100-18
04-20-10

TABULATION OF SILT FENCES FOR DITCH CHECKS
Refer to EC-201

Location Station	Side	Length LF	Remarks
DET61 905			
301+27 - 304+25	LT	56.0	Est. 28 LF every 150 LF
304+25 - 307+00	LT	44.0	Est. 22 LF every 150 LF
304+90 - 306+00	RT	22.0	Est. 22 LF every 150 LF
306+00 - 307+00	RT	66.0	Est. 22 LF every 40 LF
DET61 985			
406+25 - 433+25	LT	396.0	Est. 22 LF every 150 LF
407+19 - 432+76	RT	374.0	Est. 22 LF every 150 LF
US61/ IA 92 Ramp A			
1556+70 - 1570+50	LT	252.0	Est. 28 LF every 150 LF
1557+00 - 1562+30	RT	112.0	Est. 28 LF every 150 LF
US61/ IA 92 Ramp B			
2553+75 - 2556+00	LT	56.0	Est. 28 LF every 150 LF
2543+80 - 2556+30	RT	224.0	Est. 28 LF every 150 LF
US61/ IA 92 Ramp C			
3544+50 - 3549+10	LT	168.0	Est. 28 LF every 75 LF
3549+10 - 3556+00	LT	140.0	Est. 28 LF every 150 LF
3548+70 - 3555+80	RT	140.0	Est. 28 LF every 150 LF
US61/ IA 92 Ramp D			
4557+30 - 4560+40	LT	56.0	Est. 28 LF every 150 LF
4557+20 - 4568+21	RT	196.0	Est. 28 LF every 150 LF
US61/ 170th St. Ramp A			
5566+10 - 5579+25	LT	252.0	Est. 28 LF every 150 LF
5566+10 - 5573+15	RT	140.0	Est. 28 LF every 150 LF
US61/ 170th St. Ramp B			
6558+50 - 6563+90	LT	112.0	Est. 28 LF every 150 LF
6551+00 - 6563+50	RT	224.0	Est. 28 LF every 150 LF
US61/ 170th St. Ramp C			
7552+79 - 7565+80	LT	252.0	Est. 28 LF every 150 LF
7560+10 - 7565+00	RT	84.0	Est. 28 LF every 150 LF
US61/ 170th St. Ramp D			
8564+80 - 8570+40	LT	112.0	Est. 28 LF every 150 LF
8564+20 - 8576+71	RT	224.0	Est. 28 LF every 150 LF
Totals:		23168.0	

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ACCESS POINTS AND SAFETY RAMPS

Refer to Cross-Sections

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

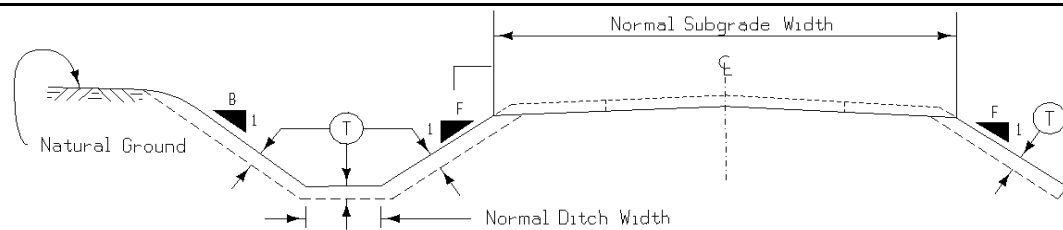
- ① Refer to MI-210
- ② Refer to EW-501.
- ③ Refer to EW-501 or EW-502.

*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	1 1/2" Dropped Curb	3" Dropped Curb	W	PR ① ②	SR ②	H	Size	Pipe Length	Lt.	Rt.		HMA	PCC	TON
			1 or 2	LF	LF	FT	FT	FT	FT	IN	LF	LF	LF				
US 61 776+49.00	LT	C				24.0	15.0	0.0	4.4	18.0	120.0	60.0	60.0		2		
776+49.00	Med.	C				24.0	41.0	0.0									119.4
789+83.00	LT	C				24.0	15.0	0.0	5.2	18.0	130.0	65.0	65.0	2			163.8
803+10.00	LT	C				24.0	15.0	0.0									201.2
1042+86.00	LT	C				24.0	15.0	0.0	5.3	18.0	130.0	65.0	65.0	2			93.9
1042+86.00	Med.	C				24.0	15.0	0.0									93.5
170th St. 8971+35.00	RT	C				20.0	0.0	0.0									44.4
175th St. 9986+06.00	RT	C				24.0	15.0	0.0	0.5	18.0	32.0	16.0	16.0	2			28.7
Existing 61 829+44	LT	C				24.0	15.0	0.0									68.7
Totals:											412.0			8			899.0

Notes:
1. Refer to Tab. 104-3 for Pipe Culvert information

TABULATION OF SPREADING TOPSOIL



Perform this work according to Section 2105. Prior to placing topsoil on any cohesive soil, scarify the area to be covered to a minimum depth of 3 inches.

Appropriate adjustments have been made in the template quantities to reflect the placement of topsoil on foreslope, backslope and ditch bottom as detailed hereon.

Placement Description						Topsoil Excavation Available From			
Area	Quantity	Location	Side	Slope	T	Remarks	Amount Reserved	Station to Station	Remarks
No.	CY	Station to Station	L. or R.	B. or F.	IN		CY		

GRADING FOR GUARDRAIL INSTALLATIONS

① Lane(s) to which the installation is adjacent.

Refer to EW-301

Location				Dimensions (Feet)										Earthwork		Remarks
No.	① Direction of Traffic	Station	Side	Foreslope at Guardrail	X1	Y1	X2	Y2	X3	Y3	X4	Y4	Z	Excavation Class 10	Embankment In Place	
														CY	CY	
	NB (Temp)	855+45.21	RT		27.5	5.0	77.7	7.2						48.0		Refer to T Sheets for Guardrail Grading Earthwork Quantities
	NB	855+52.10	LT		27.5		114.3		164.5							Refer to T Sheets for Guardrail Grading Earthwork Quantities
	NB	855+54.89	RT		27.5		52.2		139.9			190.1				Refer to T Sheets for Guardrail Grading Earthwork Quantities
	SB	857+51.41	LT		27.5		64.8		127.3			177.5				Refer to T Sheets for Guardrail Grading Earthwork Quantities
	SB	857+54.21	RT		27.5		114.3		164.5							Refer to T Sheets for Guardrail Grading Earthwork Quantities
	NB	963+67.16	RT		27.5		52.4		139.9			190.1				Refer to T Sheets for Guardrail Grading Earthwork Quantities
	NB	963+77.87	LT		27.5		114.3		164.5							Refer to T Sheets for Guardrail Grading Earthwork Quantities
	NB (Temp)	963+96.63	RT		27.5	5.0	77.7	7.2						48.0		Refer to T Sheets for Guardrail Grading Earthwork Quantities
	SB	966+02.57	RT		27.5		114.6		164.8							Refer to T Sheets for Guardrail Grading Earthwork Quantities
	SB	966+13.28	LT		27.5		52.4		139.9			190.1				Refer to T Sheets for Guardrail Grading Earthwork Quantities
	NB	1036+25.92	RT		27.5		64.8		127.1			177.5				Refer to T Sheets for Guardrail Grading Earthwork Quantities
	NB	1036+34.69	LT		27.5		102.1		152.3							Refer to T Sheets for Guardrail Grading Earthwork Quantities
	NB (Temp)	1036+57.40	RT		27.5	5.0	77.7	7.2						48.0		Refer to T Sheets for Guardrail Grading Earthwork Quantities
	SB	1038+50.83	RT		27.5		127.0		177.2							Refer to T Sheets for Guardrail Grading Earthwork Quantities
	SB	1038+61.55	LT		27.5		52.4		139.9			190.1				Refer to T Sheets for Guardrail Grading Earthwork Quantities

PLOWING AND SHAPING

Refer to Standard Road Plan EW-101

Station to Station	D FT	Remarks
829+63.85 (126.0' Rt.)	830+05.23 (130.4' Lt.)	Total length = 259.7 ft

108-13A
08-01-08

SAFETY CLOSURES

Refer to Section 2518 of the Standard Specifications

Station	Closure Type		Remarks
	Road Qty.	Hazard Qty.	
US 61			
756+39.00		1	At begin grading SB lanes
776+37.24	1		At entrance
776+61.00	1		At entrance
789+71.00	1		At entrance
789+95.00	1		At entrance
802+98.00	1		At entrance
803+22.00	1		At entrance
809+50.00		1	At begin grading NB lanes
819+40.21	2		At 145th St.
819+60.21	2		At 145th St.
855+53.81		1	At S end IA 92 SB bridge
855+61.50		1	At S end IA 92 NB bridge
857+44.80		1	At N end IA 92 SB bridge
857+52.49		1	At N end IA 92 NB bridge
902+00.00		1	At stop grading NB lanes
905+50.00		1	At stop grading SB lanes
915+00.00		2	At resume grading NB/SB
963+82.62		1	At S end 170th NB bridge
964+12.10		1	At S end 170th SB bridge
965+71.45		1	At N end 170th NB bridge
966+00.93		1	At N end 170th SB bridge
985+25.00		2	At stop grading NB/SB
1000+00.00		1	At resume grading SB lanes
1017+50.00		1	At stop grading SB lanes
1020+00.00		1	At resume grading SB lanes
1036+72.86		1	At S end DM&E RR bridge
1038+46.09		1	At N end DM&E RR bridge
1042+74.00	1		At entrance
1042+98.00	1		At entrance
1053+25.00		1	At end grading SB lanes
IA 92 Ramp A 1556+75.00	1		At ramp terminal
IA 92 Ramp B 2556+25.00	1		At ramp terminal
IA 92 Ramp C 3556+00.00	1		At ramp terminal
IA 92 Ramp D 4557+00.00	1		At ramp terminal
170th St. 8959+00.00	1		
8971+00.00	1		
Totals:	18	22	

110-2
04-16-13

REMOVAL OF EXISTING STRUCTURES

Location	Description	Remarks

110-9
10-18-11

CULVERT ABANDONMENT

Refer to Details 4315 and 4316

* Not a bid item

Location Station	Description	Fill Material		4" Perforated Subdrain*	Remarks
		Flowable Mortar	Granular Backfill*		
		CY	TON	LF	

SUMMARY OF WICK DRAINS OR SAND DRAIN FIELDS

* Not a bid item.

Location		Sand Drains		Wick Drains		Horizontal Strip Drain		Sand Blanket Granular Material (Note 1)	Drain RF-19A Type 2 (Note 2)	Porous Backfill*	Outlets			Remarks
Station to Station		Number of Drains*	Total Length	Number of Drains*	Total Length	Longitudinal	Transverse				RF-19E	RF-19F	NO.	
			LF		LF	LF	LF	CY	LF	CY				
854+75	855+73	70	1890					385	132		A	2	NOTE: Sand Blanket and Drains are listed here rather than on Tab 104-5C US 61 SB, see sheet Q.42, includes area with points A,B,C, and D. US 61 SB, see sheet Q.42, includes area with points E,F,G, and H. US 61 NB, see sheet Q.43, includes area with points I,J,K, and L. US 61 NB, see sheet Q.43, includes area with points M,N,O, and P. US 61 SB, see sheet Q.44, includes area with points A,B,C,D,E, and F. US 61 SB, see sheet Q.44, includes area with points G,H,I,J,K, and L. US 61 NB, see sheet Q.45, includes area with points M,N,O,P,Q, and R. US 61 NB, see sheet Q.45, includes area with points S,T,U,V,W, and X.	
857+28	858+21	64	1344					352	135		A	2		
854+82	855+80	69	1863					381	136		A	2		
857+33	858+28	66	1386					362	125		A	2		
961+92	964+33	80	2224					778	281		A	2		
965+74	968+18	81	2259					788	267		A	2		
961+62	964+04	80	2224					783	269		A	2		
965+44	967+88	81	2259					786	279		A	2		
Totals		590	15449					4615	1623			16		
Note 1: Limits of the sand blanket extend 4 feet beyond the sand drain area. See sheets Q.42-Q.45 for more details.														
Note 2: Length of the sand blanket drain may vary at the time of construction, use 4" diameter pipe. See sheets Q.42-Q.45 for proposed limits and outlet locations.														

104-5C
04-17-12


LIST OF SUBDRAIN WORK

Refer to Standard Road Plans RF-3, RF-5, RF-14, RF-19A, RF-19B, RF-19C, RF-19E and RF-19F

* Not a bid item

Location		Pipe			Aprons		Outlets			Connected Pipe Joints (RF-14)*	Trench Drain	Granular Material	Porous Backfill*	Class "A" Crushed Stone*	Remarks
No.	Station to Station	Type of Installation	Concrete C.M.P., C.M.P. Coated, or Plastic	Dia.	Length	RF-3	RF-5	RF-19E	RF-19F						
				IN	LF	No.	No.	No.	Type	No.	Type	LF			
1	795+51.82	796+52	Working Blanket												Working Blanket-See sheet Q.4 and Q.5
2	843+33.5	845+13.4	Working Blanket												Working Blanket-See sheet Q.8, Q.9, Q.35 and Q.36.
3	873+00	874+76.59	Working Blanket												Working Blanket-See sheet Q.10 and Q.11.
4	888+19.38	889+30.29	Working Blanket												Working Blanket-See sheet Q.10 and Q.11.
5	912+62	913+45.85	Working Blanket												Working Blanket-See sheet Q.12 and Q.13.
6	927+20	928+63.9	Working Blanket												Working Blanket-See sheet Q.12 and Q.13.
7	952+99.98	954+15.73	Working Blanket												Working Blanket-See sheet Q.14, Q.15, and Q.40.
Totals															5613.4

GEOTECHNICAL DESIGN



Robert L. Stanley
08468
IOWA

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: _____ Date: _____

Robert L. Stanley

*Printed or Typed Name

** license renewal date is December 31, 2014

Pages or sheets covered by this seal: CS.1-CS.3, Q.1-Q.45

103-5
10-15-13

SETTLEMENT PLATES

Refer to Standard Road Plan EW-212

No.	Location		Remarks
	Station	Offset	
1	854+25	-75.0	
2	855+22	-35.0	
3	857+76	-75.0	
4	858+71	-35.0	
5	854+32	35.0	
6	855+29	75.0	
7	857+83	35.0	
8	858+78	75.0	
9	962+35	-35.0	
10	963+35	-75.0	
11	966+73	-35.0	
12	967+73	-75.0	
13	962+06	75.0	
14	963+06	35.0	
15	966+45	75.0	
16	967+45	35.0	

103-6
04-19-11

EMBANKMENT WITH MOISTURE CONTROL

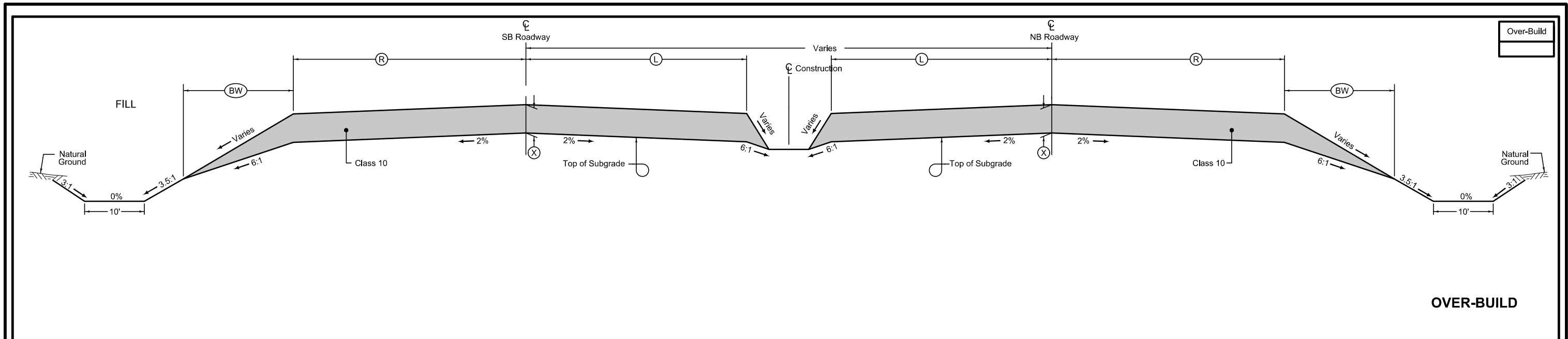
Moisture content shall be within the limits of minus 2 and plus 2 percentage points of Optimum Moisture Content for maximum density within the area described and listed below.

Moisture Control is required for all Class 10 fill placed in all locations and depths. Stability berms placed outside the normal foreslope template and topsoil will not require Moisture Control.

103-7
08-01-08

SHRINKAGE DATA

Material	%	Remarks
Entire Project	30%	
Topsoil	40%	
Boulder Estimate		100 Cu. Yds.



LOCATION		DIMENSIONS				
ROAD IDENTIFICATION	STATION TO STATION	(R)	(L)	(X)	(BW)	
		Feet	Feet	Inches	Feet	
US 61 (SB)	852+25.00	852+50.00	38.5	36.6	Transition	15.0
	852+50.00	854+52.00	38.5	36.6	10	15.0
	854+52.00	854+77.00	38.5	36.6	Transition	15.0
	858+21.00	858+46.00	38.5	36.6	Transition	15.0
	858+46.00	864+00.00	38.5	36.6	10	15.0
	864+00.00	864+25.00	38.5	36.6	Transition	15.0
	956+25.00	956+50.00	38.5	36.6	Transition	15.0
	956+50.00	963+10.00	38.5	36.6	10	15.0
	963+10.00	963+35.00	38.5	36.6	Transition	15.0
	966+73.00	966+98.00	38.5	36.6	Transition	15.0
	966+98.00	973+75.00	38.5	36.6	10	15.0
	973+75.00	974+00.00	38.5	36.6	Transition	15.0

LOCATION		DIMENSIONS				
ROAD IDENTIFICATION	STATION TO STATION	(R)	(L)	(X)	(BW)	
		Feet	Feet	Inches	Feet	
US 61 (NB)	852+25.00	852+50.00	38.5	36.6	Transition	15.0
	852+50.00	854+59.00	38.5	36.6	10	15.0
	854+59.00	854+84.00	38.5	36.6	Transition	15.0
	858+28.00	858+53.00	38.5	36.6	Transition	15.0
	858+53.00	864+00.00	38.5	36.6	10	15.0
	864+00.00	864+25.00	38.5	36.6	Transition	15.0
	956+25.00	956+50.00	38.5	36.6	Transition	15.0
	956+50.00	962+81.00	38.5	36.6	10	15.0
	962+81.00	963+06.00	38.5	36.6	Transition	15.0
	966+45.00	966+70.00	38.5	36.6	Transition	15.0
	966+70.00	973+75.00	38.5	36.6	10	15.0
	973+75.00	974+00.00	38.5	36.6	Transition	15.0

SURVEY SYMBOLS

	MIS Miscellaneous		ENT Centerline BL of Entrance
	LIN Miscellaneous Line		CON Concrete or A/C Slab
	PIP Pipe Culvert		ENP Edge Paved Entrance & Park Lot
	TIL Tile Line		RR Centerline of Railroad Tracks
	OUT Tile Outlet		EW Edge of Water
	IN Storm Sewer Intake		CU Back of Curb
	CUL Culvert		GU Gutter In Front of Curb
	INB Storm Sewer Beehive Intake		E1 ELA Underground Electric Line Co. 1
	MM Mile Marker Post		E2 ELB Underground Electric Line Co. 2
	RRW Railroad Switch		OHP Overhead Electric Line Co. 1
	RRS Railroad Signal		T1 TLA Underground Telephone Line Co. 1
	RRF Railroad Frog		F04 FOD Underground Fiber Optic Co. 4
	EB Electrical Box		G-HP GHA Underground High Pres Gas Co 1
	BRG Bridge		F03 FOC Underground Fiber Optic Co. 3
	GDL Guard Rail Steel		FO FOA Underground Fiber Optic Co. 1
	BB Billboard		BL Topo Breakline
	SL Speed Limit Sign		BLD Building or Foundation
	PPA Power Pole Co. 1		SWP Swamp or Marsh
	TA Tower Anchor		SWK Sidewalk
	PR Electric Riser Pole		WM Wind Mill
	LUM Luminaire		LP L.P. Tank
	MH Utility Access (Manhole)		TV Satellite TV Dish
	SI Sign		BB Billboard
	PPC Power Pole Co. 3		FLG Flag Poles
	LC Lot Corner		RET Retaining Walls
	TEV Evergreen Tree		FCL Chain Link and Security Fence
	TDC Tree Deciduous		C Centerline BL of Road (ML or SR)
	HDG Hedge Row		FWD Wood Fence
	SHR Shrub		SHR Shrub
	HT Electrical Highline Tower		TER Terrace
	TPD Telephone Pedestal		
	TSG Traffic Signal		
	GV Gas Valve		
	UV Underground Utility Vault		
	FW Wire Fence		
	GPR Guard Post (4 or More Posts)		
	BLD Building or Foundation		
	FCL Chain Link and Security Fence		
	BNK Stream Bank		
	EP Edge of Paved Roads (ML or SR)		
	SNP Unpaved Shoulder		
	DIK Centerline of Dike or Dam		
	SNK Sink Hole		
	D Centerline Draw or Stream (Down)		
	DU Centerline Draw or Stream (Up)		
	EG Edge of Gravel Road		
	ENU Edge Unpaved Entrance & Parking		
	SH Paved Shoulder		

UTILITY LEGEND

	Alliant Energy Ann Kreiss 215 Oak Street Muscatine, IA 52761 563-288-3322 annkreiss@alliantenergy.com
	Eastern Iowa Light & Power Cooperative Dennis Hill 600 East Fifth Street Box 3003 Wilton, IA 52778-3003 563-732-2211 dennis.hill@easterniowa.com
	Mutual Telephone Co. of Morning Sun Mike Pugh 28 W. Division St Morning Sun, IA 52640 563-571-7979 mpugh@mutel.com
	MidAmerican Energy Company Tom Albertson 106 East Street Davenport, IA 52801 563-333-8155 ktalbertson@midamerican.com
	Windstream Mike Braughton One Martha's Way Hiawatha, IA 52233 319-790-7114 michael.braughton@windstream.com
	Windstream Communications of Iowa Kelly Eggers 101 W Madison Mt. Pleasant, IA 52641 319-385-5004 kelly.eggers@iowatelecom.com

PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)	Existing Utilities
SHADING		
Design Color No.		
Yellow	(4)	Highlight for Critical Notes or Features
Red	(3)	Delineates Restricted Areas
Lavender	(9)	Future Temporary Pavement Shading
Brown, Med	(237)	Future Proposed Pavement Shading
Gray, Light	(48)	Proposed Pavement Shading
Gray, Med	(80)	Proposed Granular 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

CONVENTIONAL SIGNS

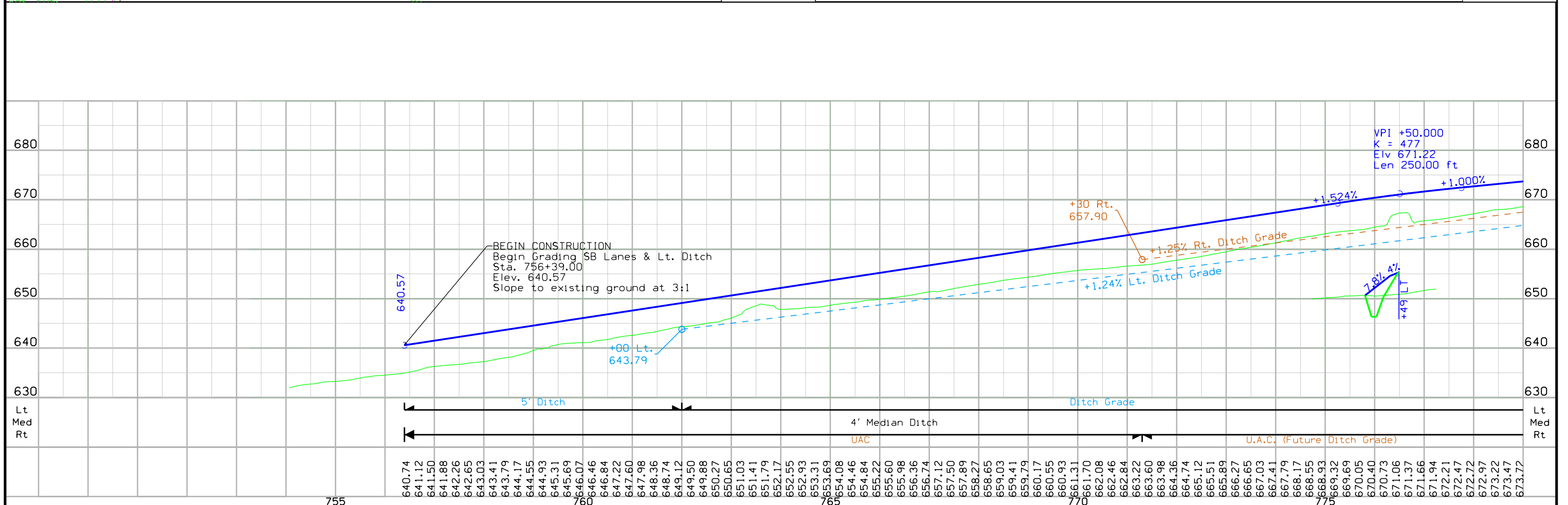
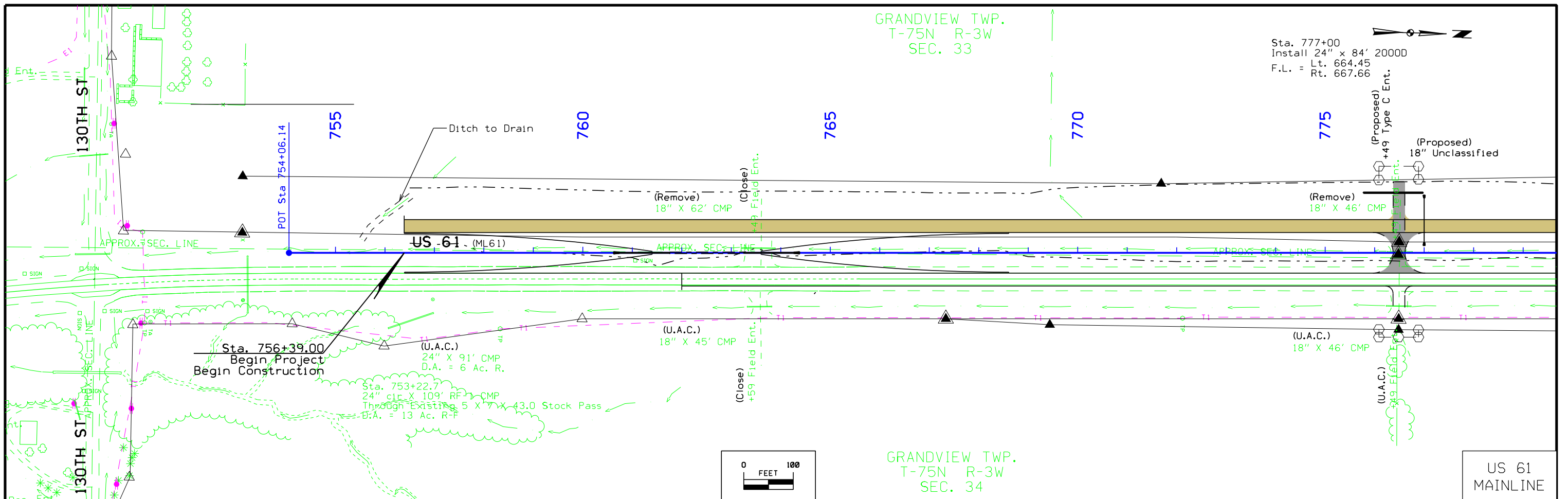
	Reference Point		Survey Line
	Station		Section Corner
	Ground Line Intercept		Saw Cut
	Guardrail		Trench Drain
	HighTension Cable Guardrail		Sheet Pile
	Obliterate Roadway (Granular)		
	Pavement Removal & Obliterate Roadway		

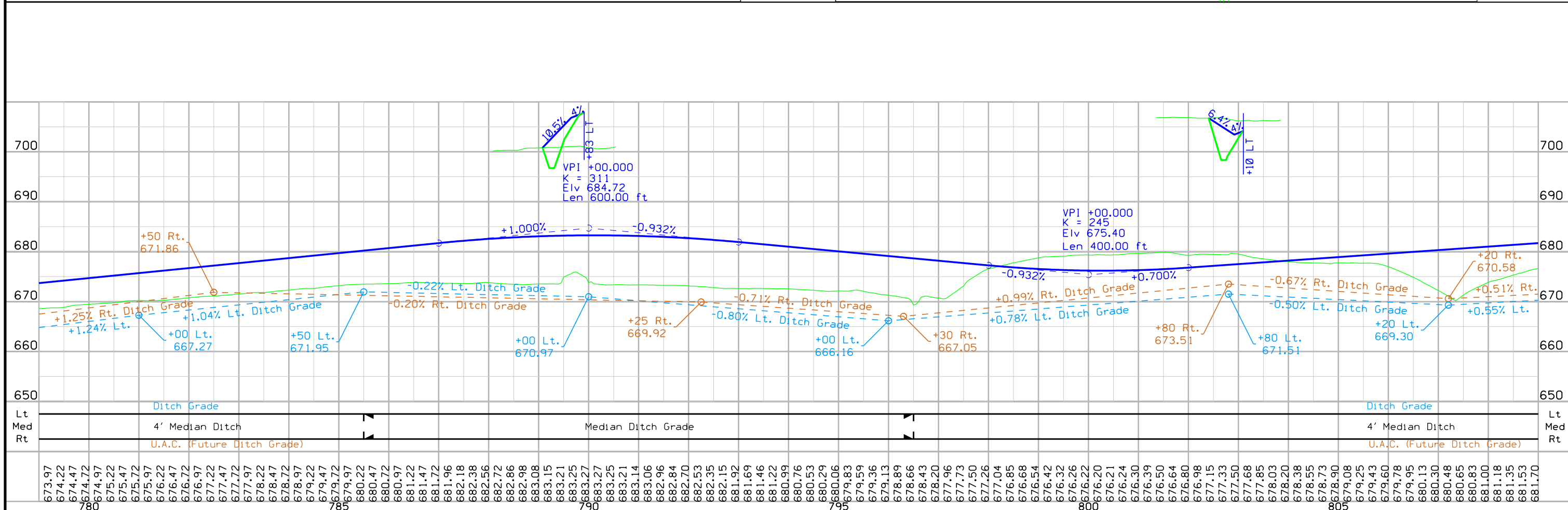
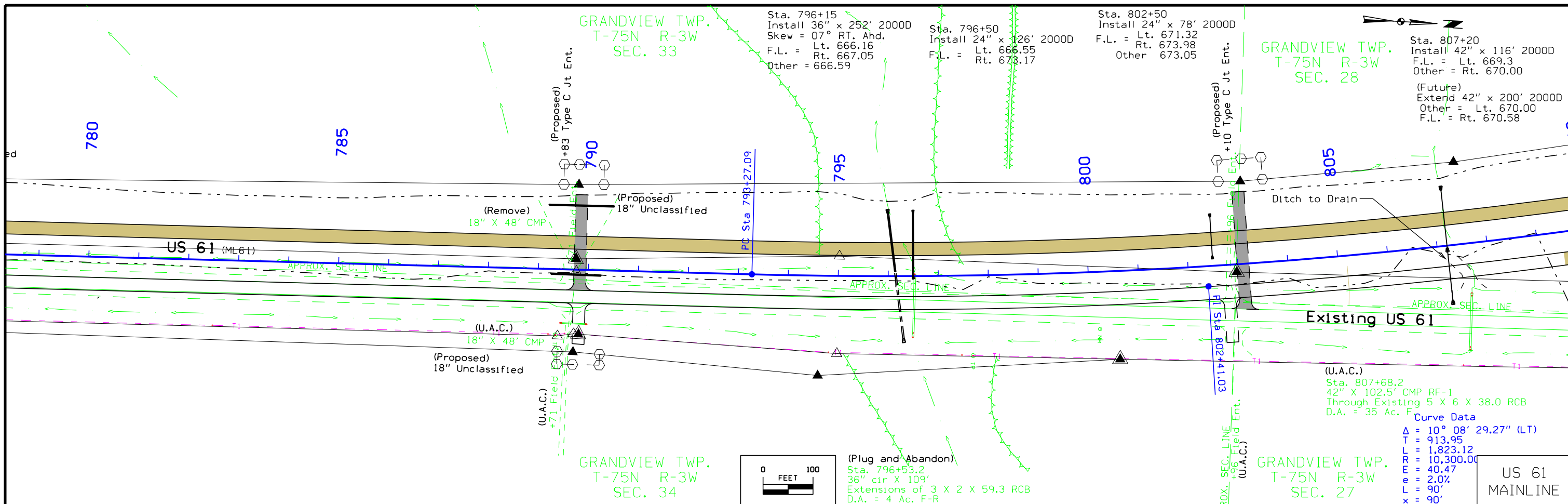
RIGHT-OF-WAY LEGEND

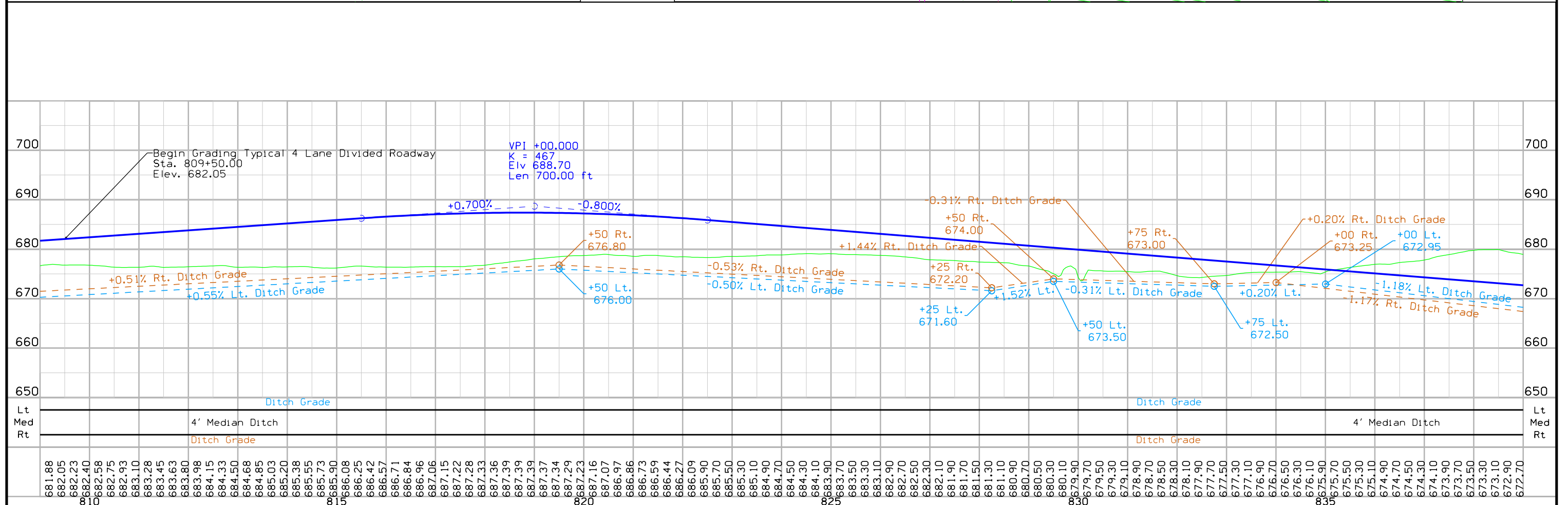
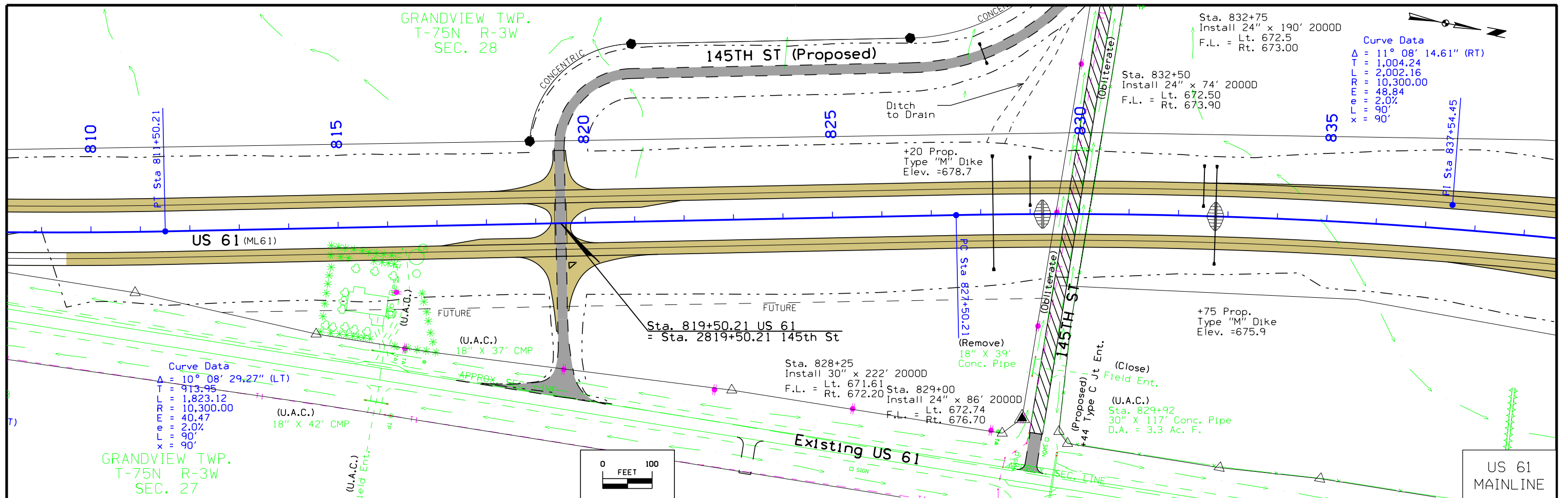
	Proposed Right-of-Way
	Existing Right of Way
	Existing and Proposed Right-of-Way
	Easement and Existing Right-of-Way
	Easement (Temporary)
	Easement
	Access Control
	Property Line

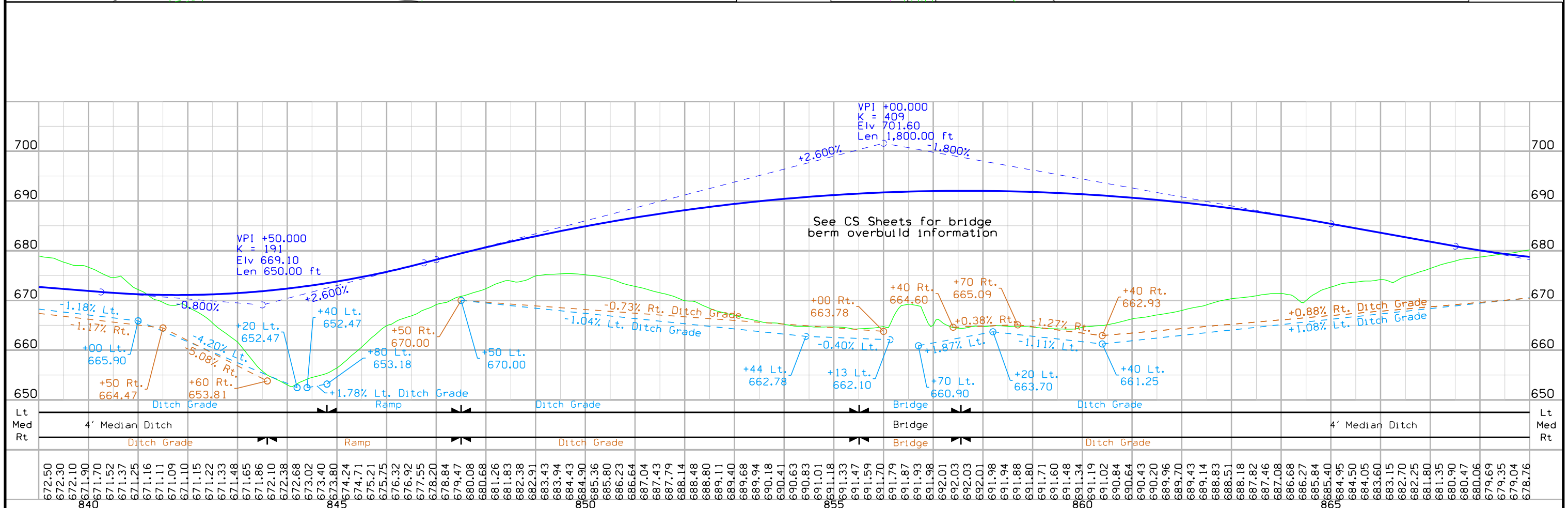
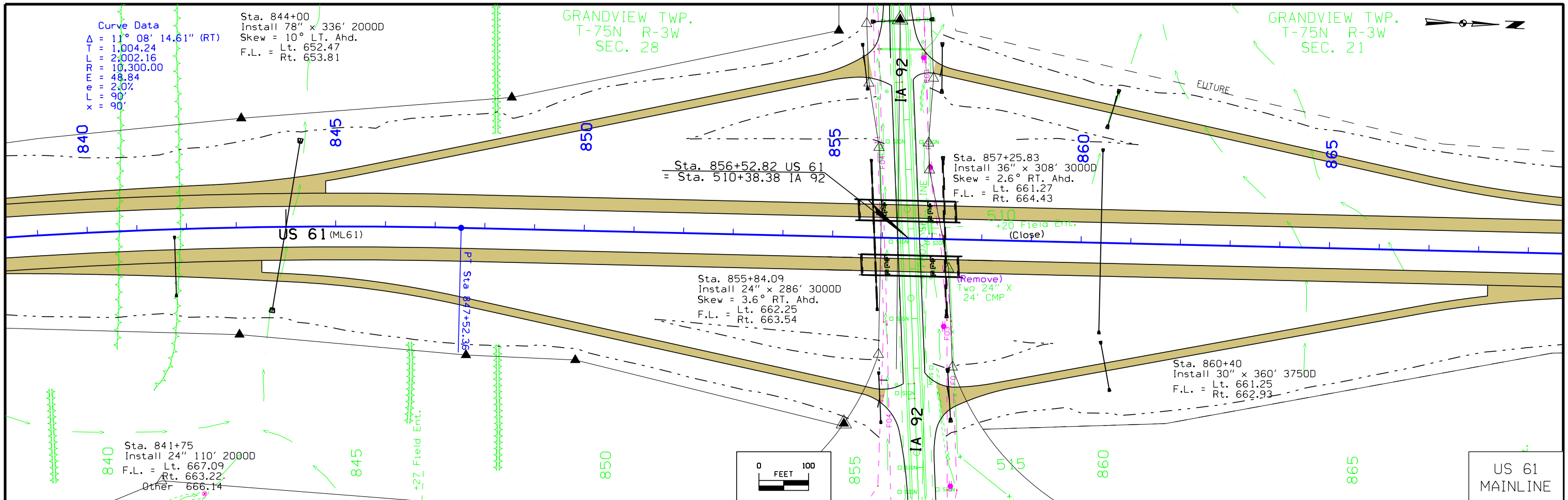
PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

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

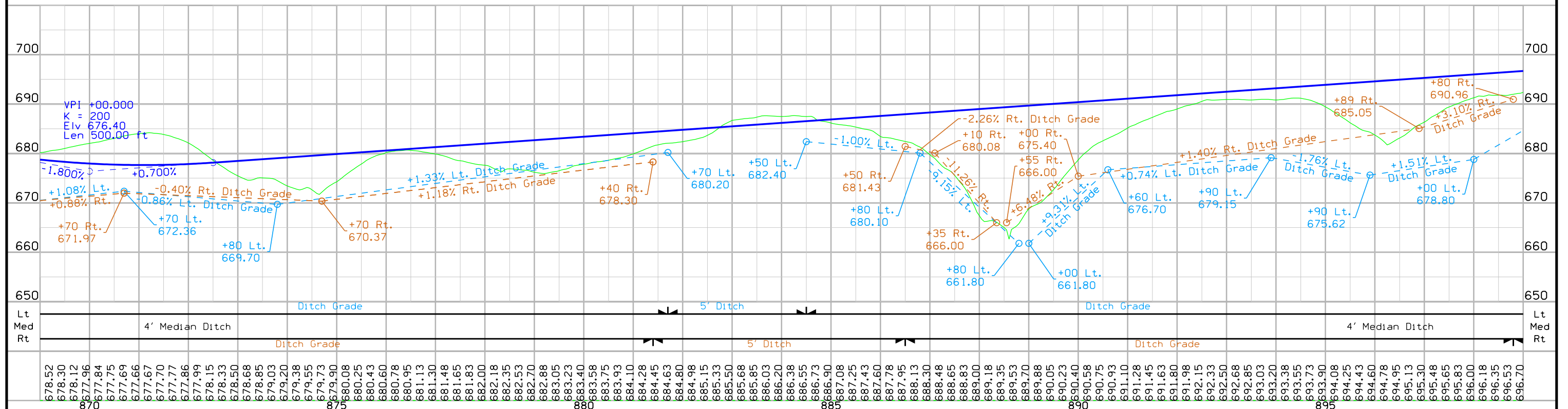
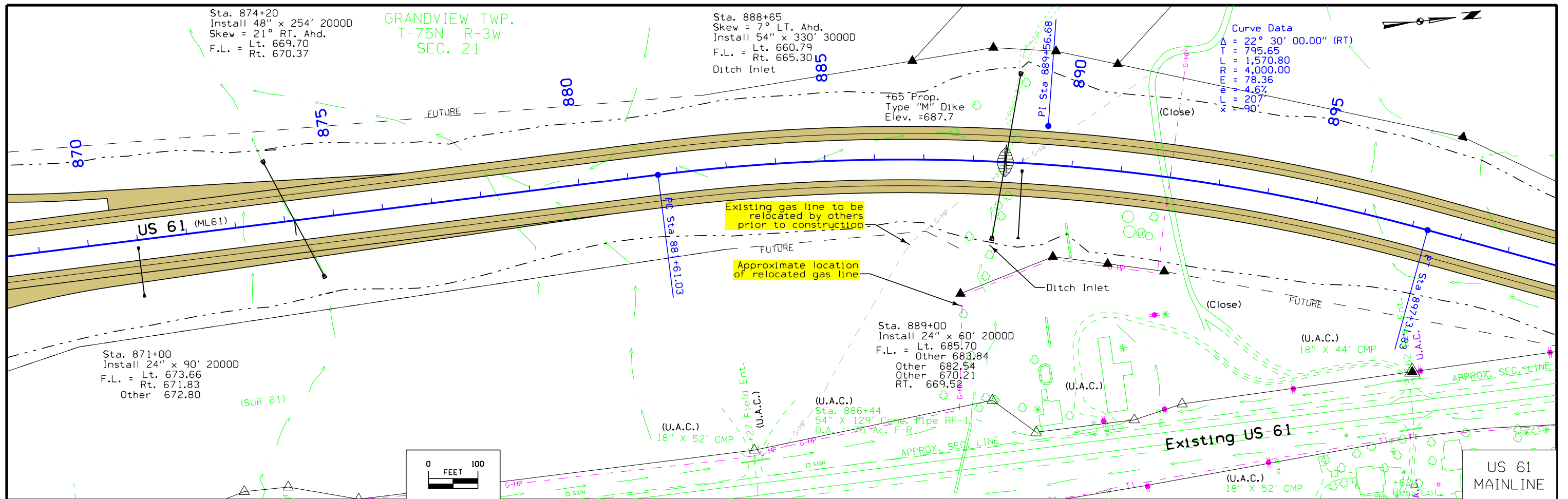


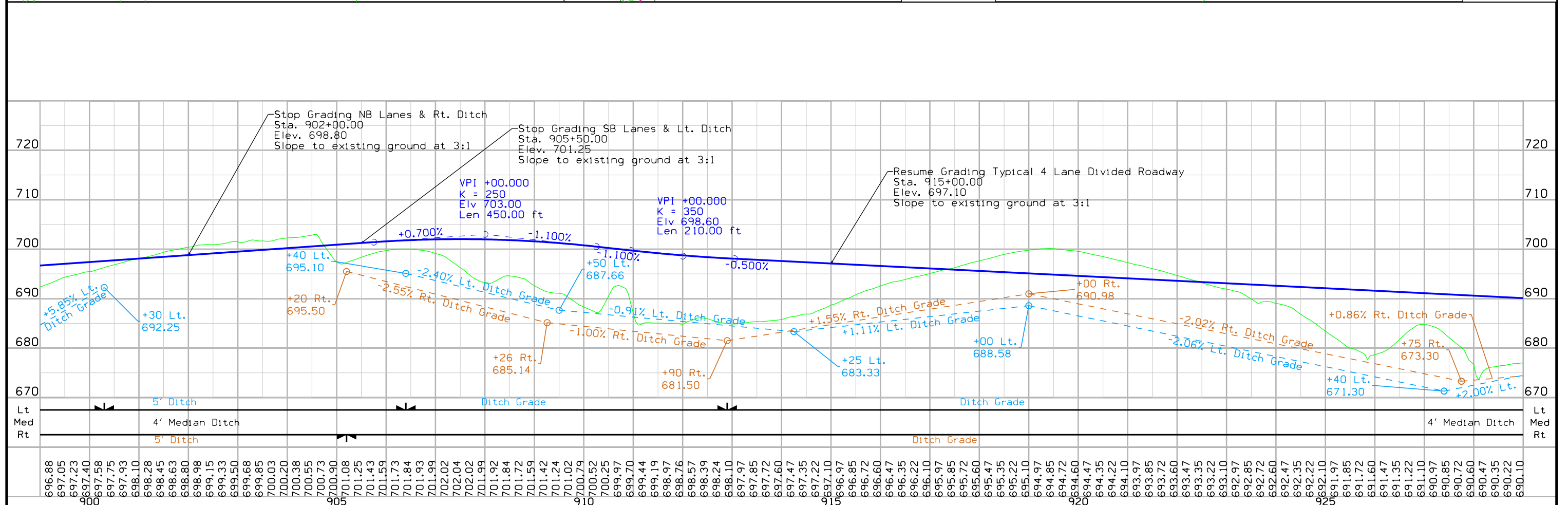
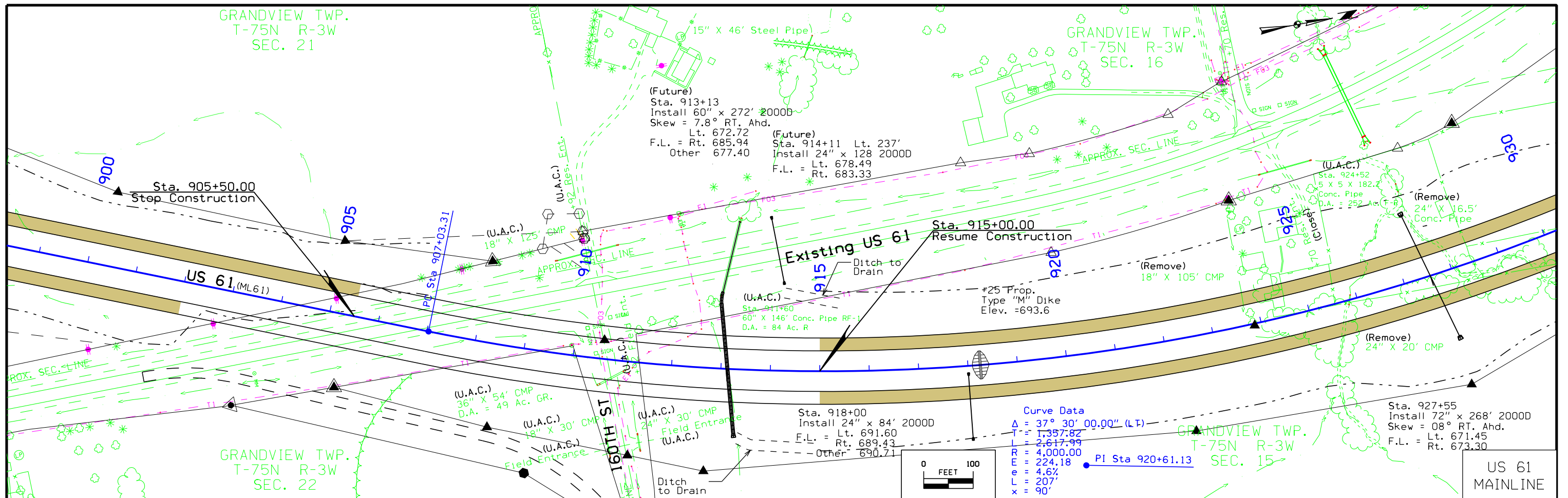


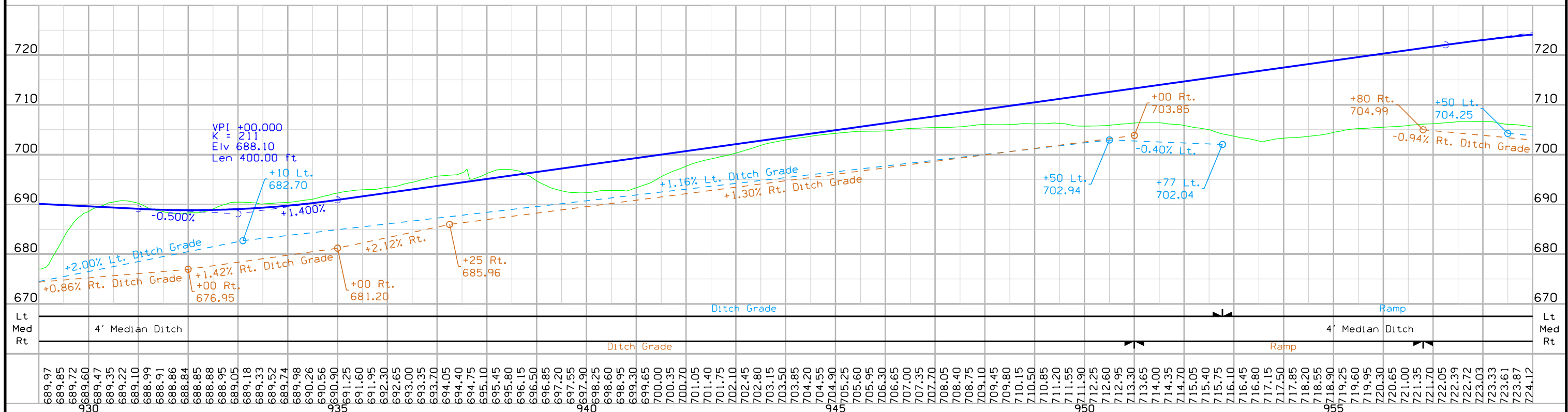
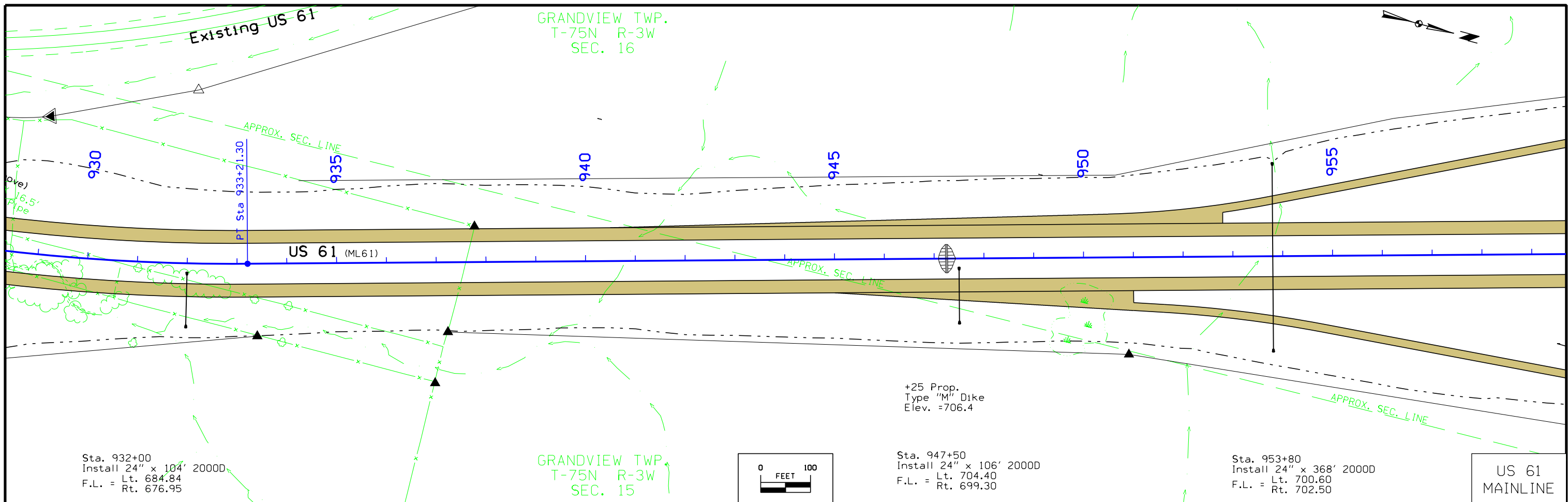


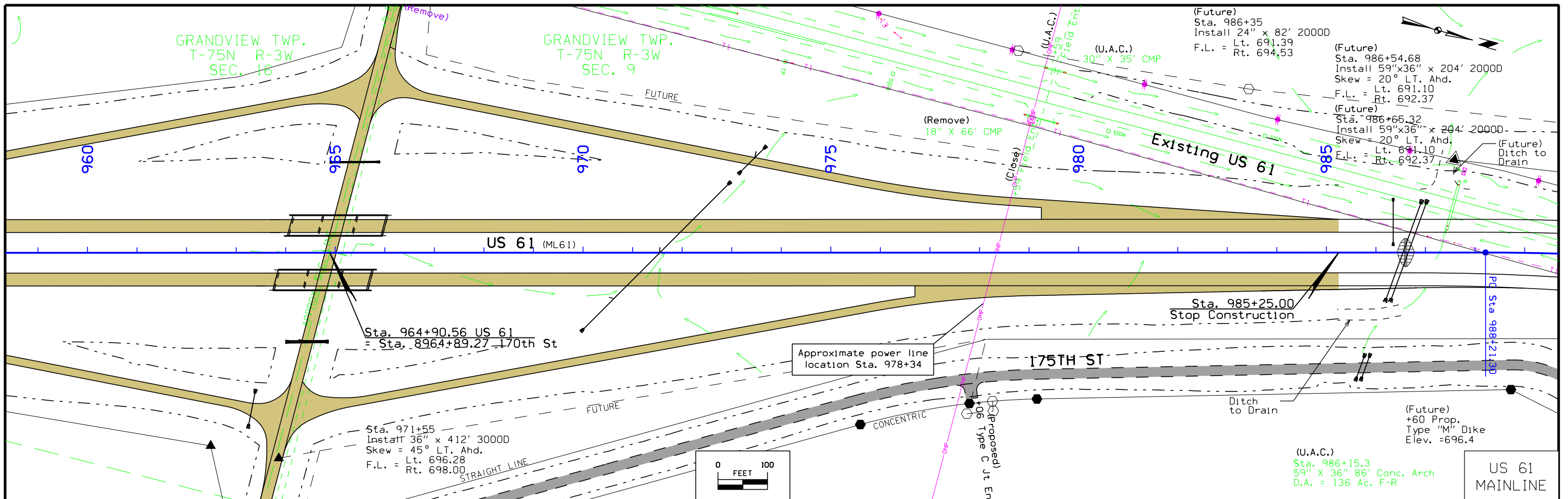


ENGLISH	IOWA DOT	DESIGN TEAM Van Dyke \ HR Green, Inc.	LOUISA COUNTY	PROJECT NUMBER NHSX-061-3(57)--3H-58	SHEET NUMBER D.5
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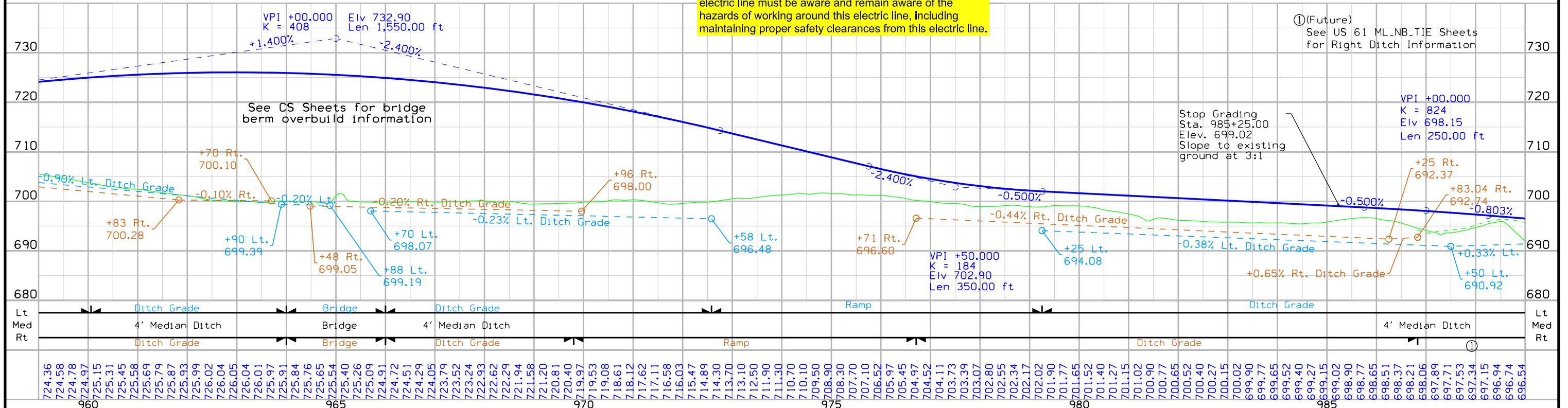


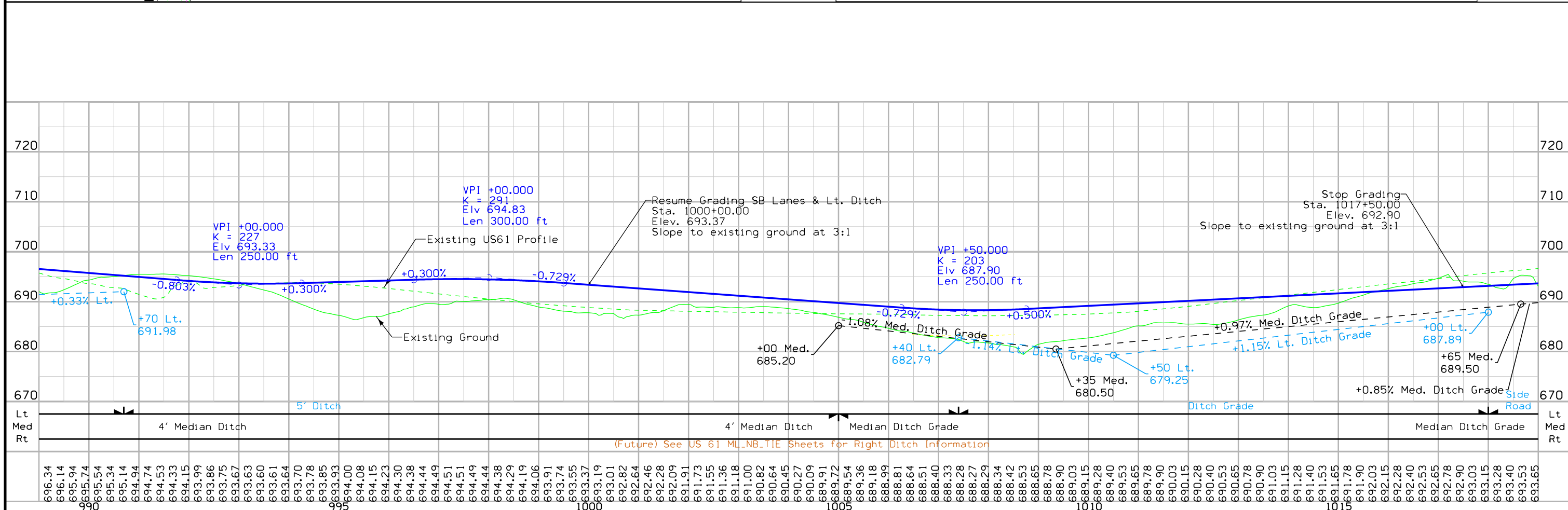
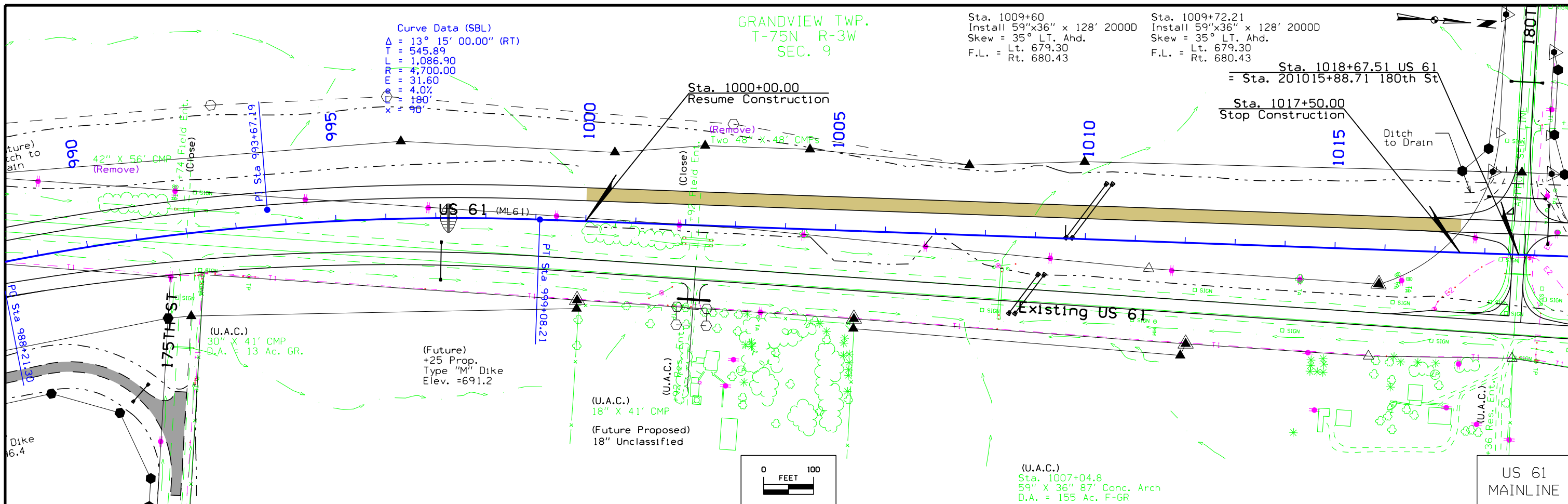


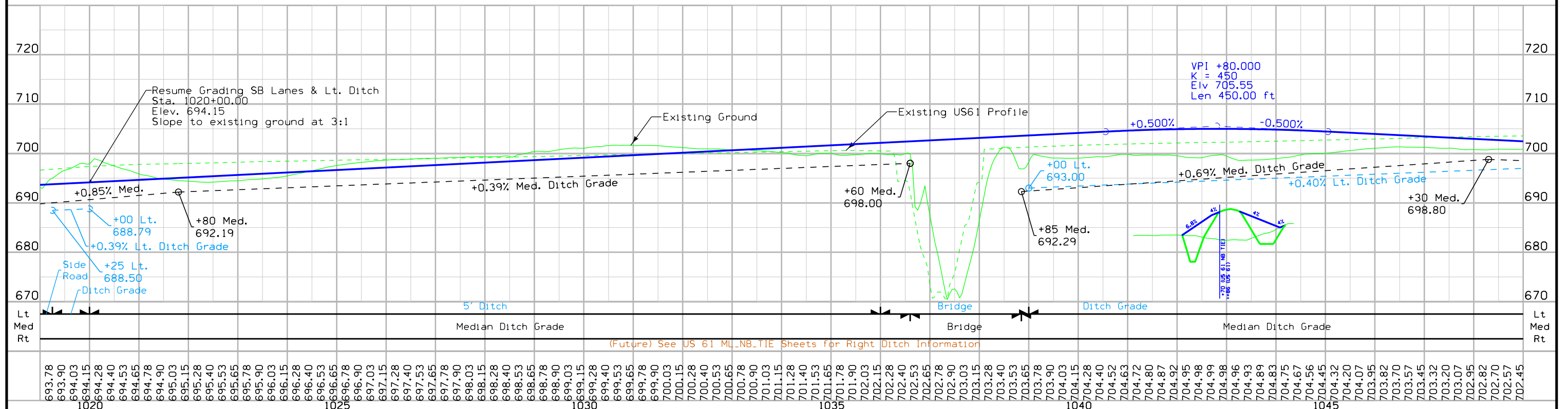
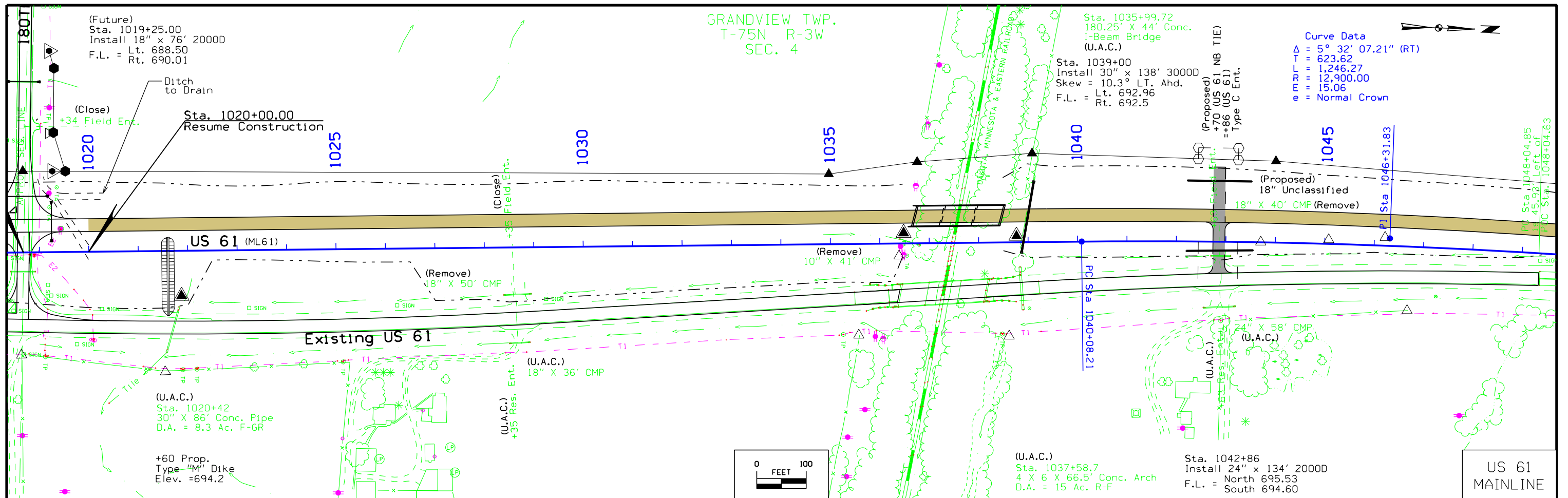


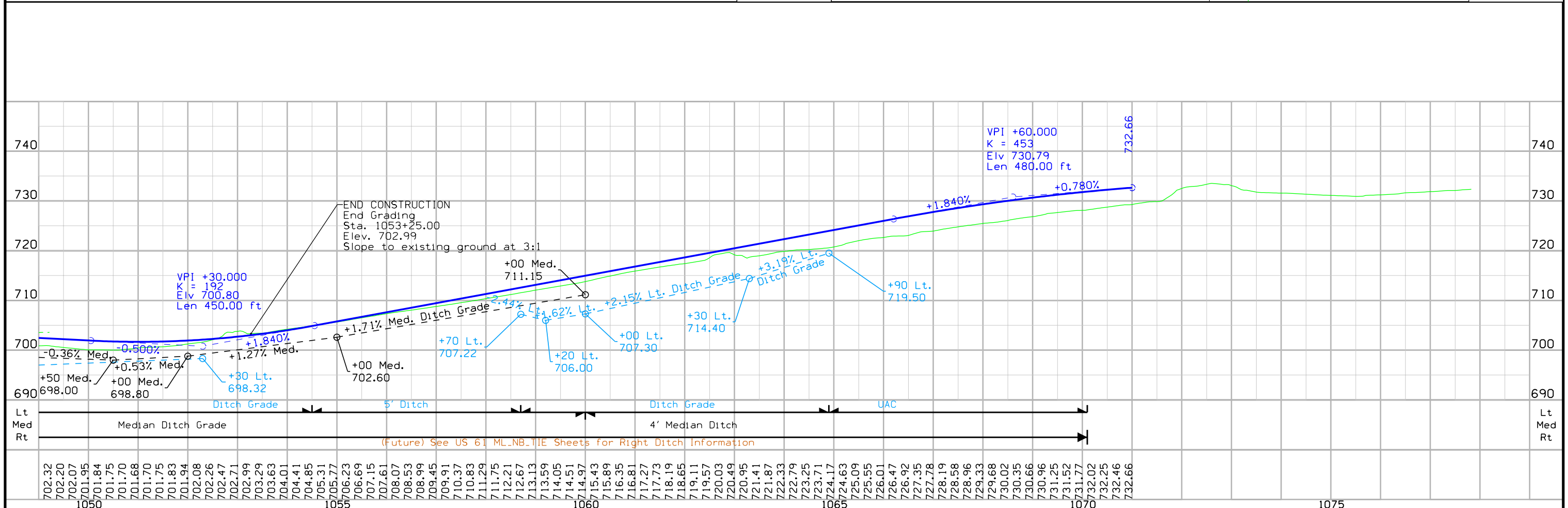
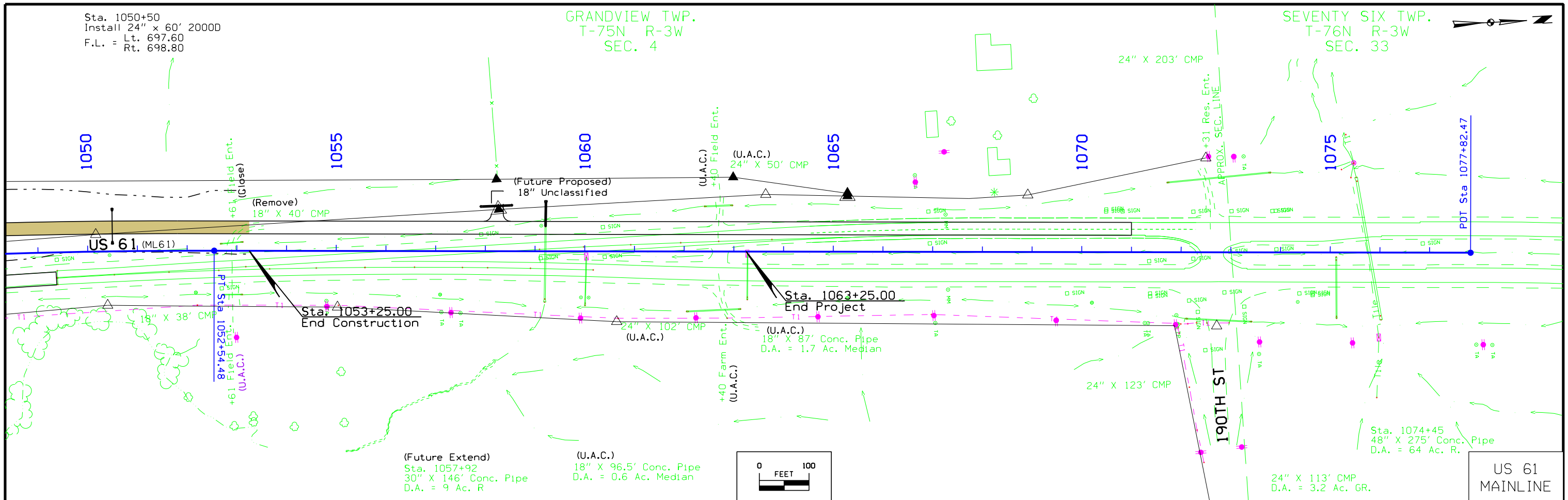


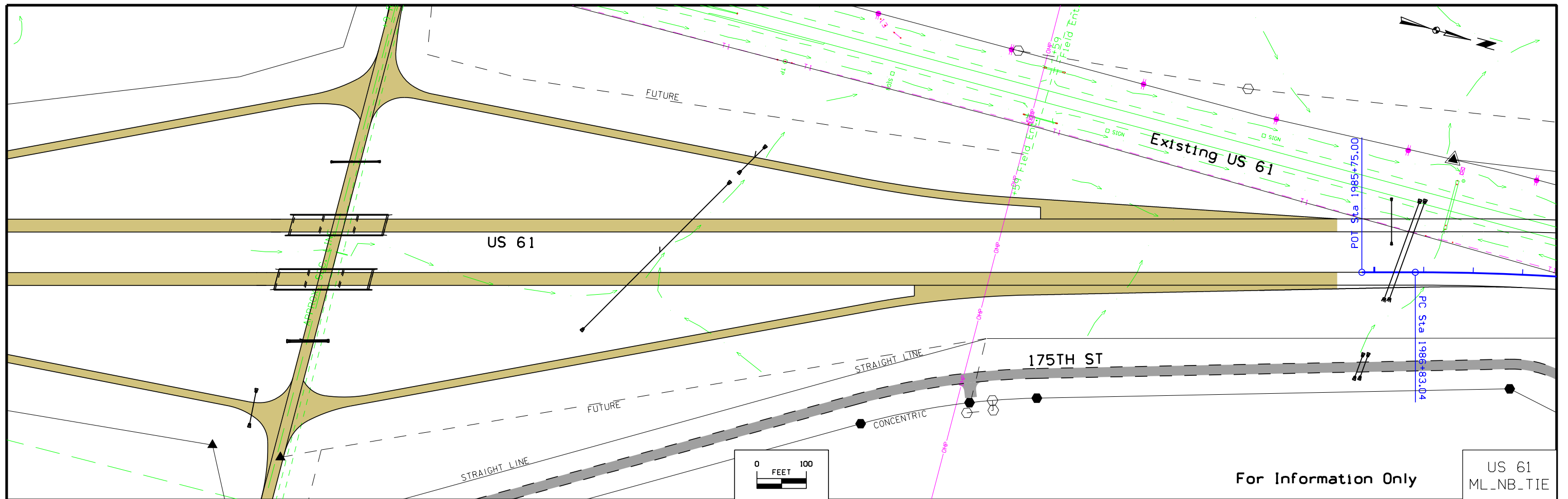
Note that the overhead 345,000-volt electric line in the project area is continuously energized. The conductors on this electric line are bare and uninsulated and contact with this electric line can cause serious injury or death. All people involved with any construction, maintenance, or similar activities within the vicinity of this electric line must be aware and remain aware of the hazards of working around this electric line, including maintaining proper safety clearances from this electric line.





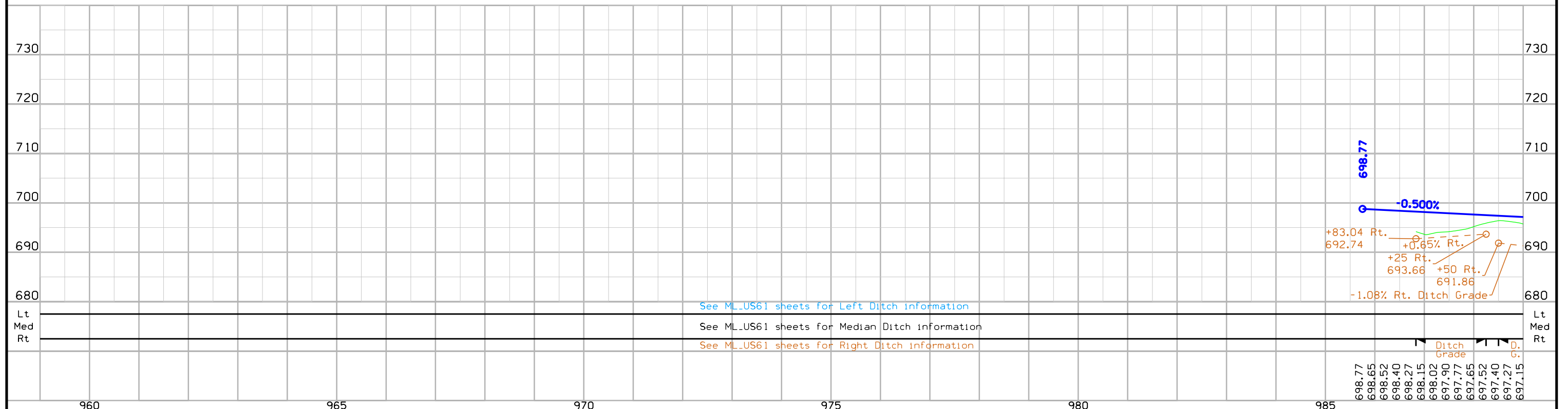






For Information Only

US 61
ML_NB_TIE

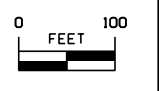
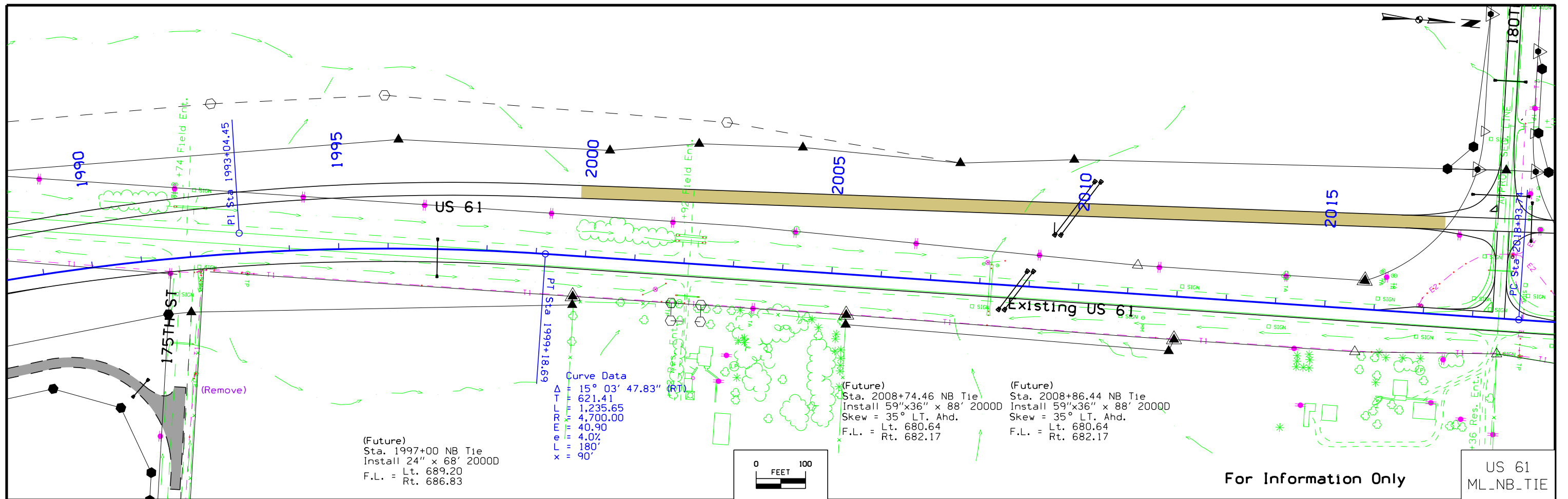


See ML_US61 sheets for Left Ditch Information

See ML_US61 sheets for Median Ditch Information

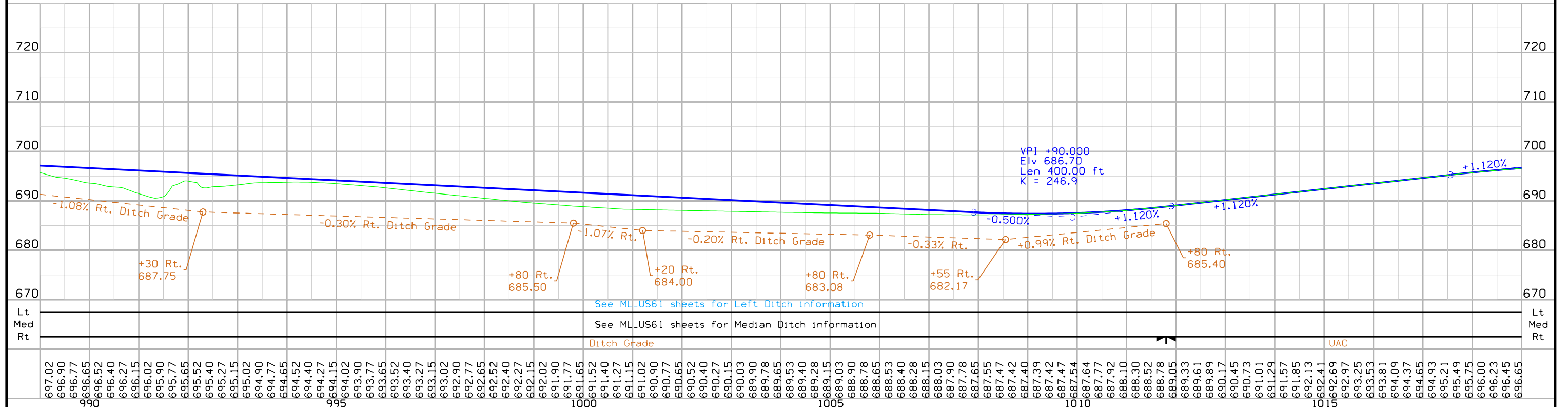
See ML_US61 sheets for Right Ditch Information

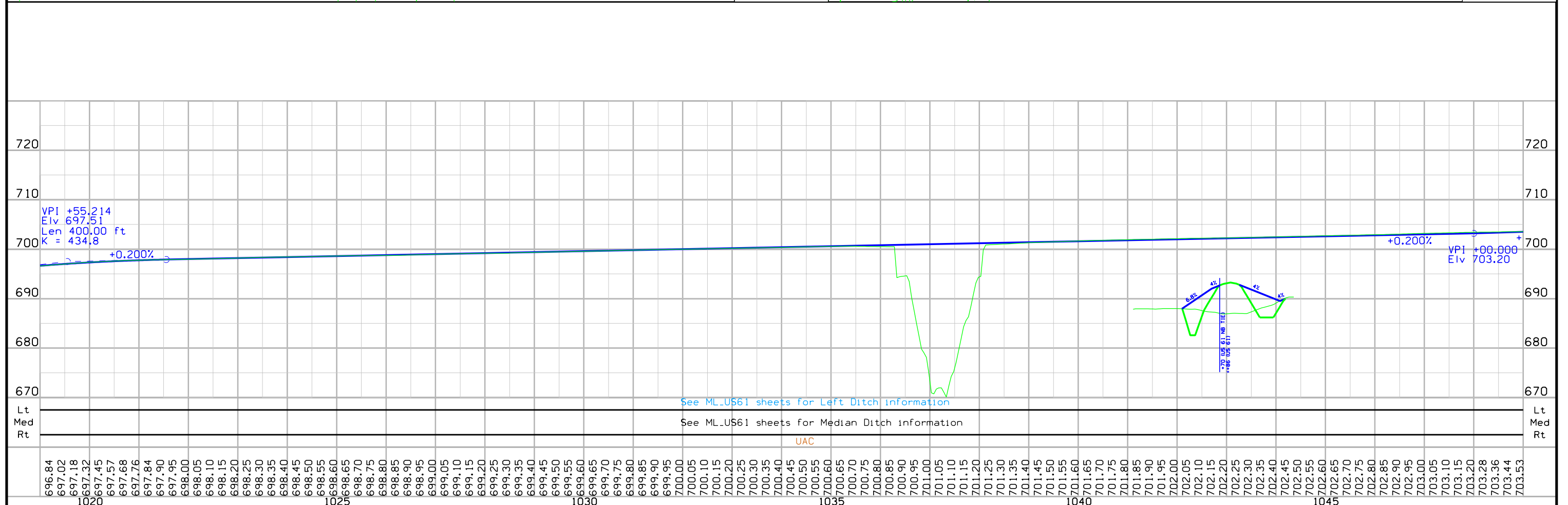
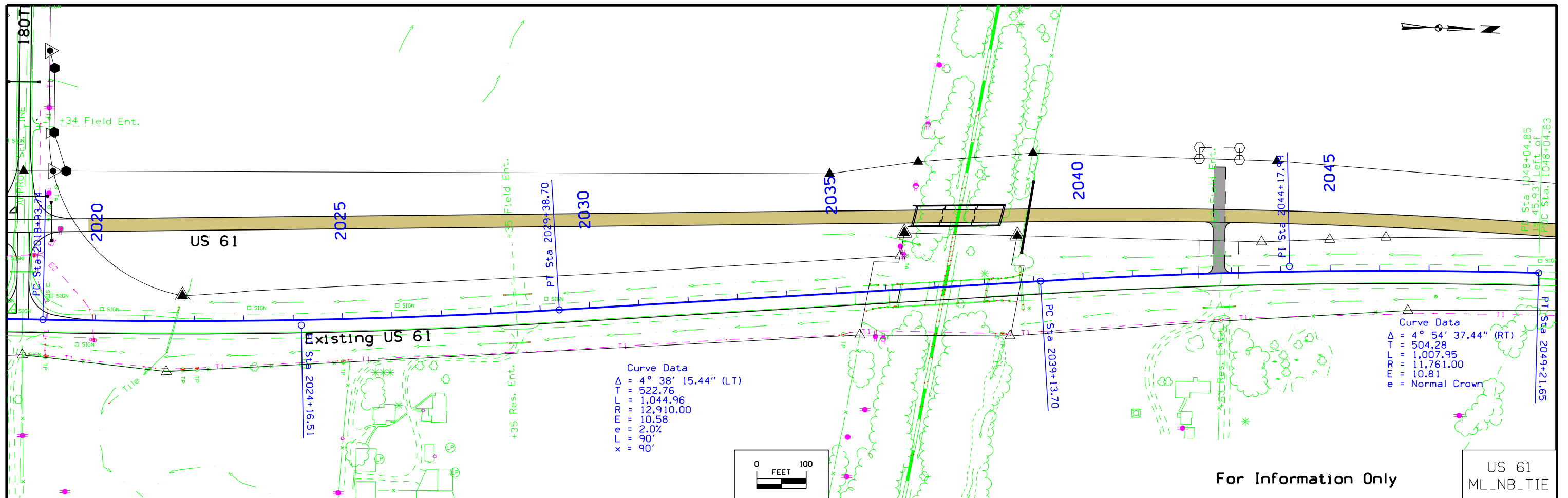
Station	Elevation	Grade
983.04	698.77	-0.500%
983.04	698.65	
983.04	698.52	
983.04	698.40	
983.04	698.27	
983.04	698.15	
983.04	698.02	
983.04	697.90	
983.04	697.77	
983.04	697.65	
983.04	697.52	
983.04	697.40	
983.04	697.27	
983.04	697.15	

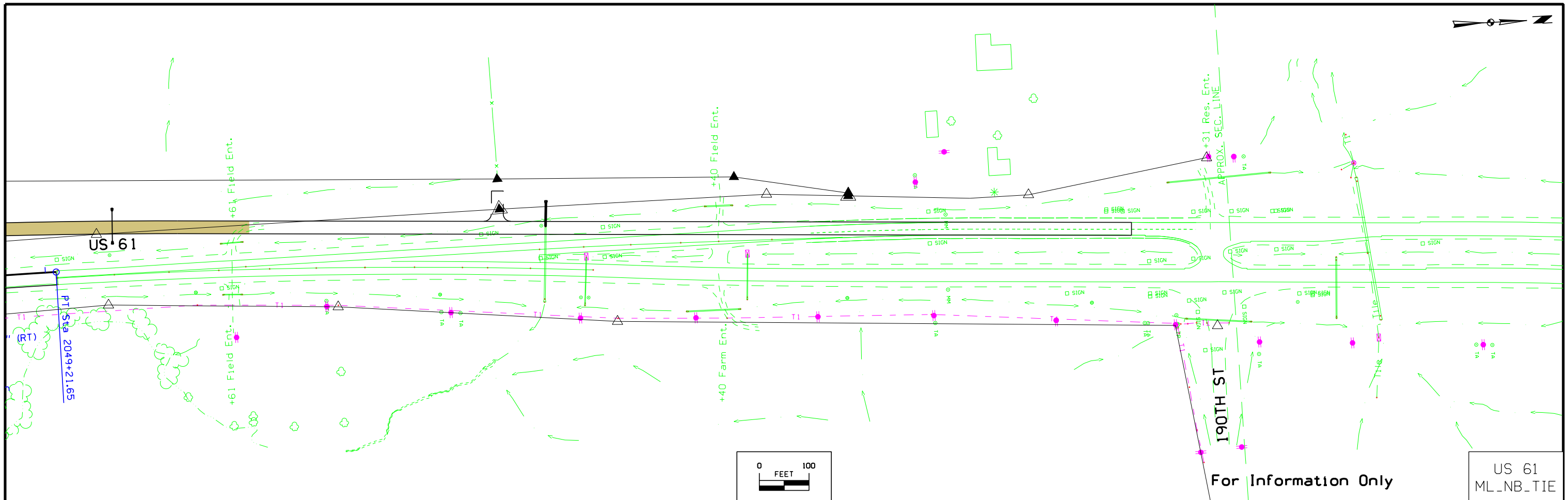


For Information Only

US 61
ML_NB_TIE







For Information Only

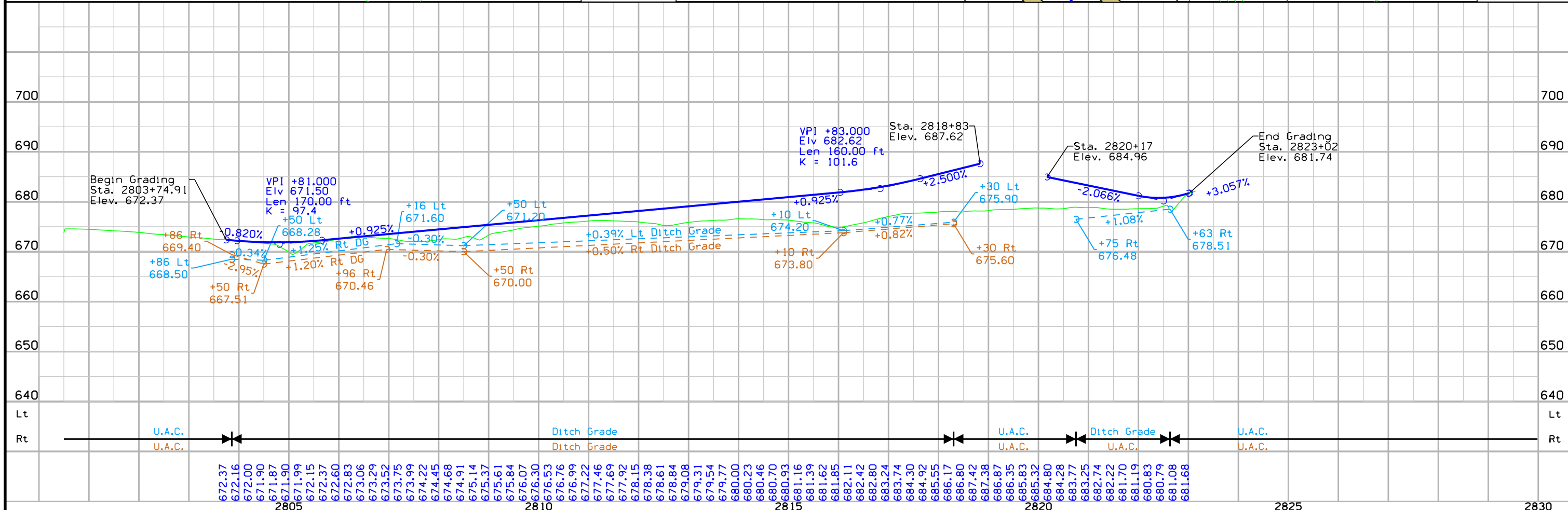
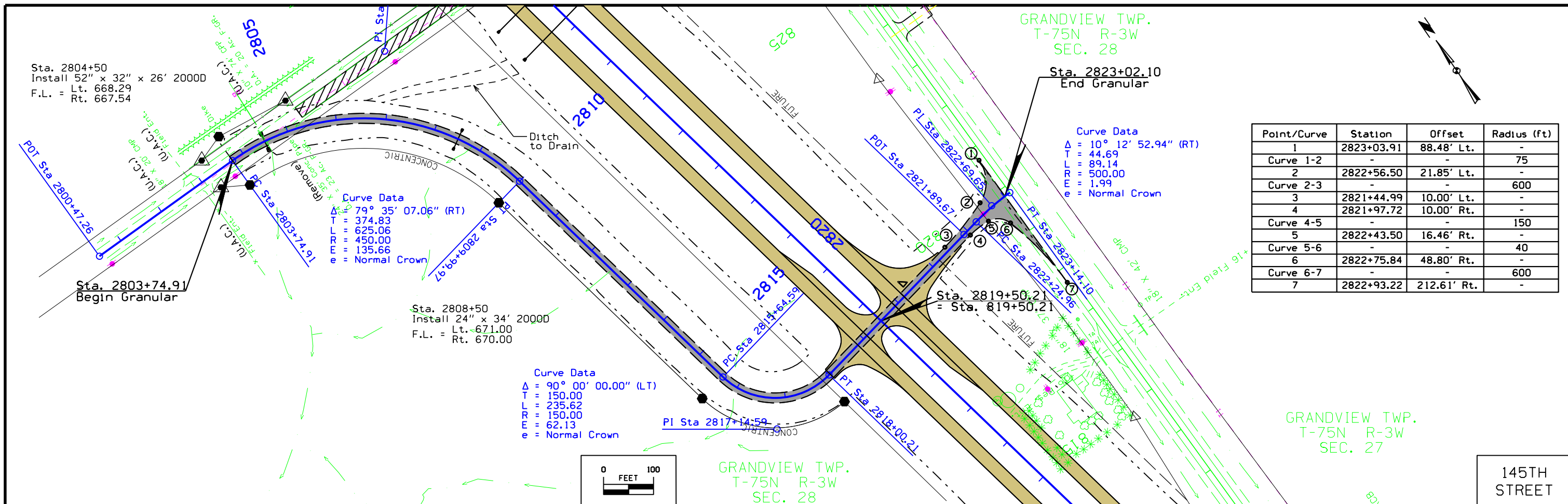
US 61
ML_NB_TIE

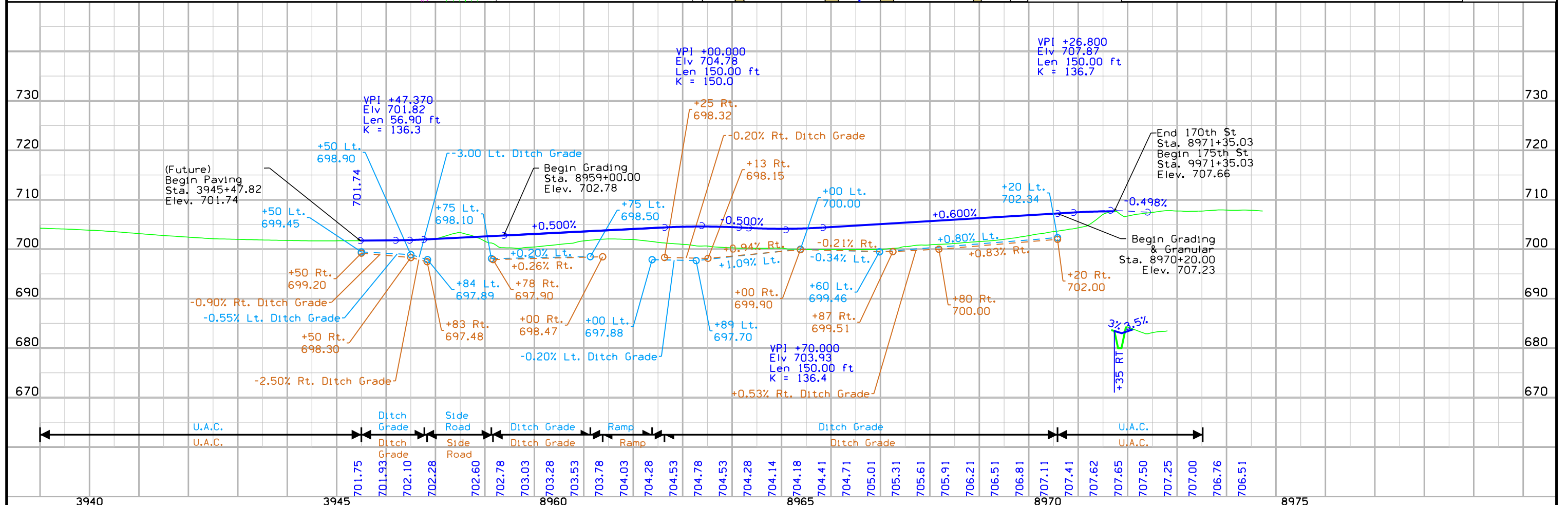
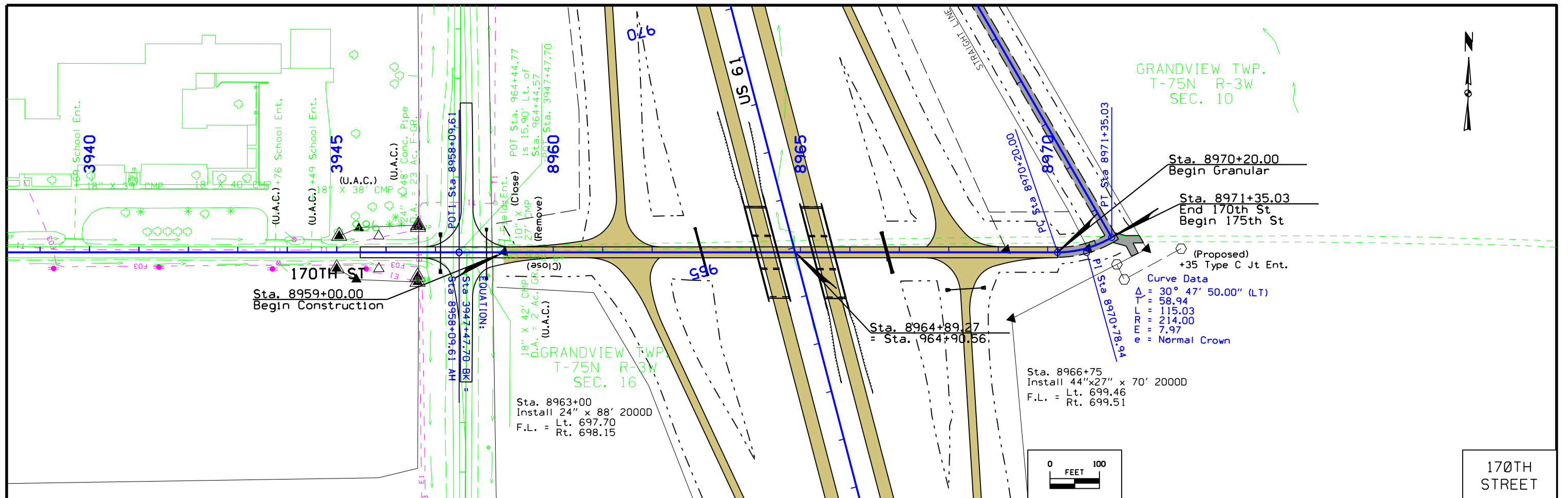


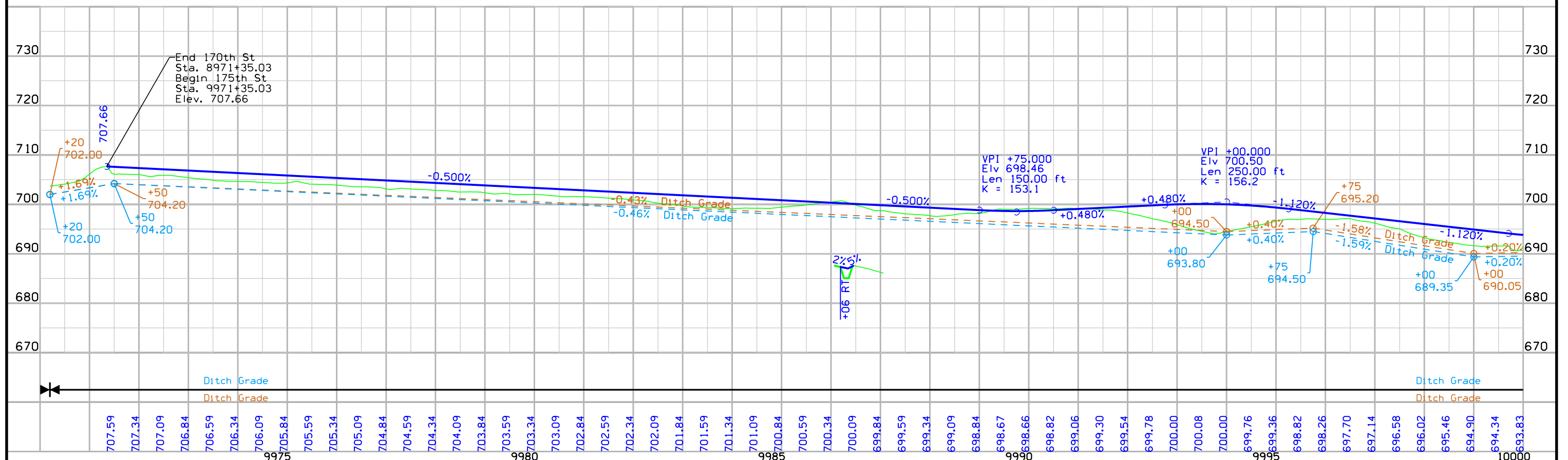
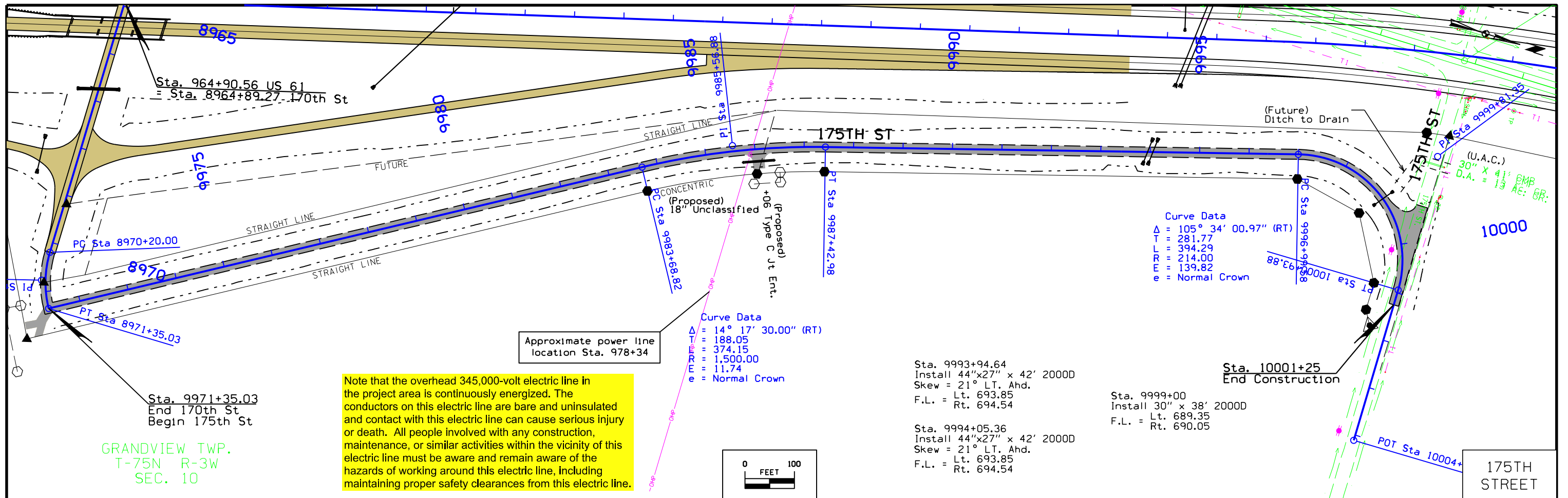
See ML-US61 sheets for Left Ditch Information

See ML-US61 sheets for Median Ditch information

UAC

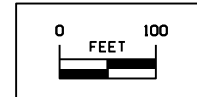
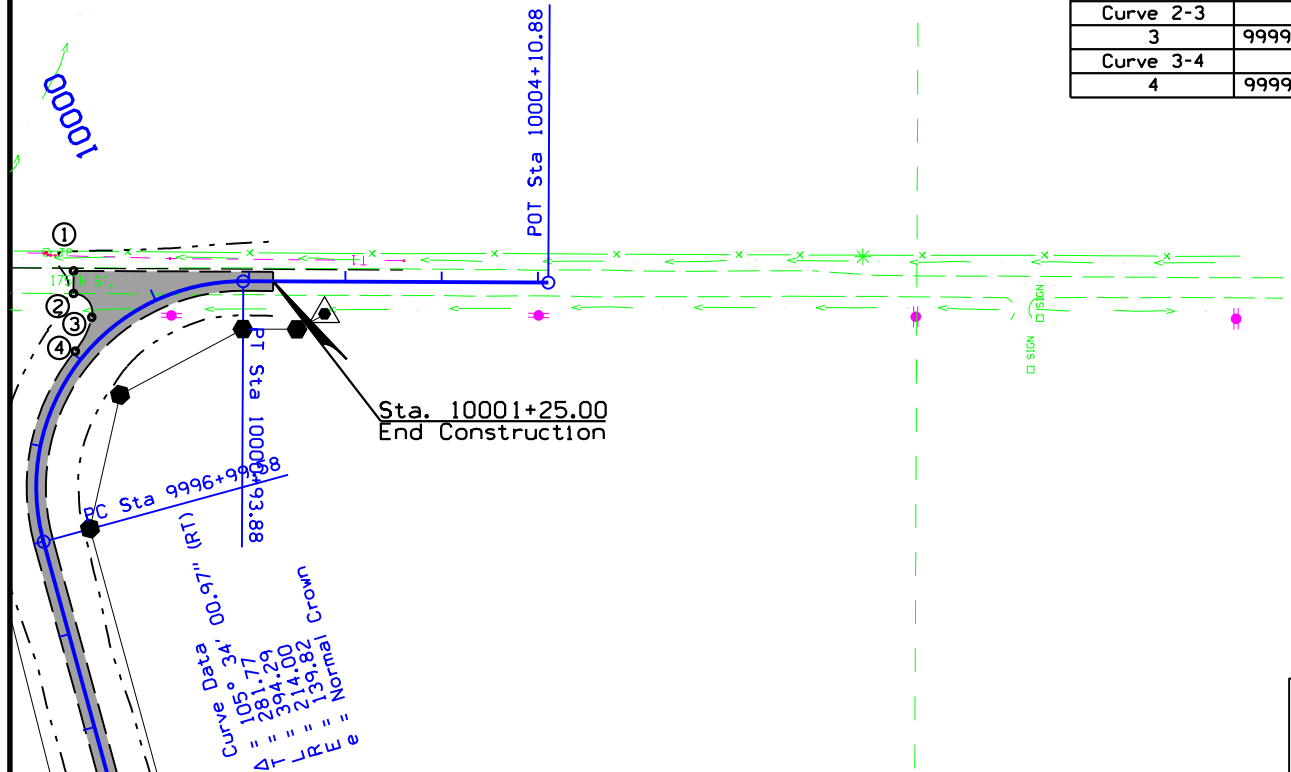




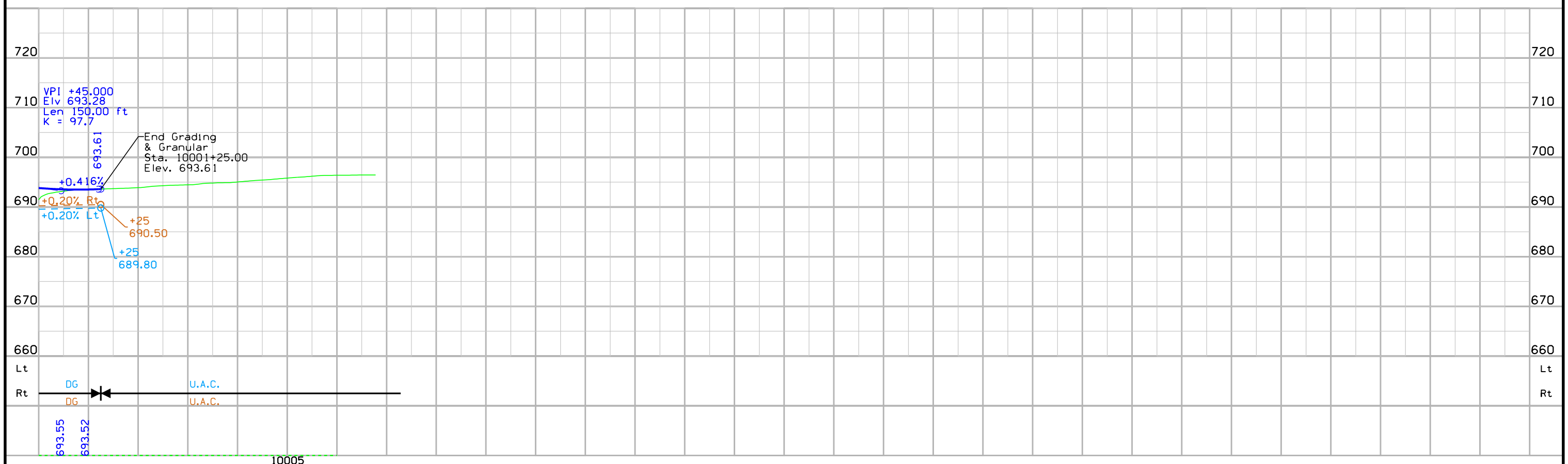


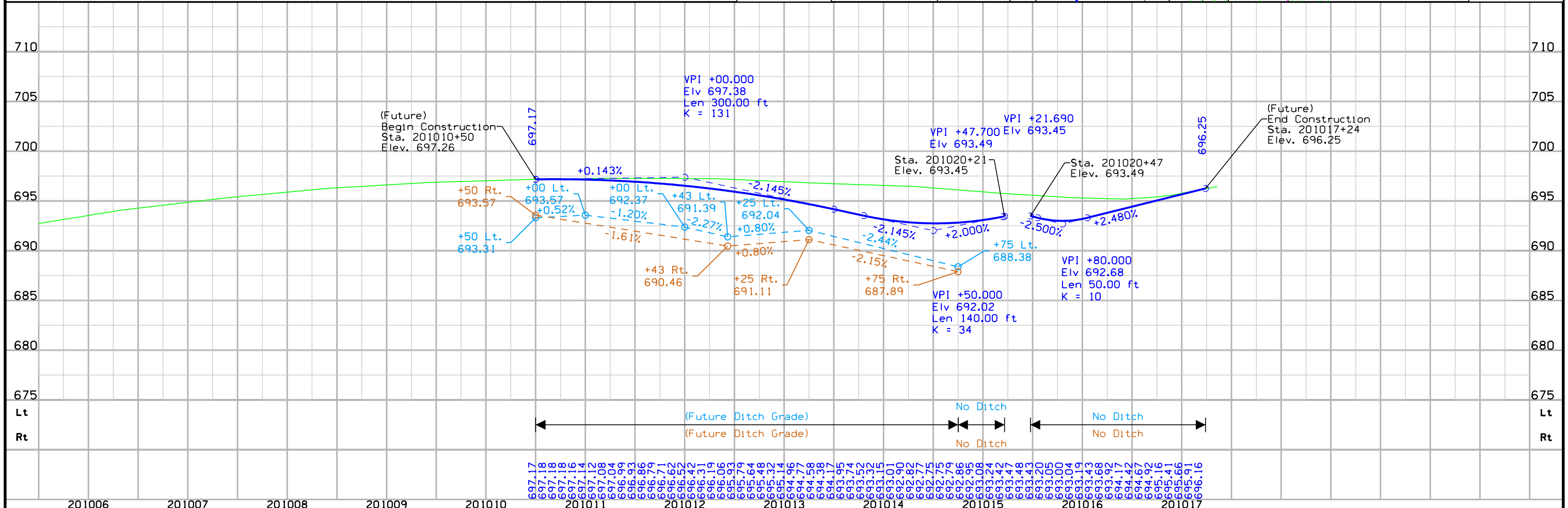
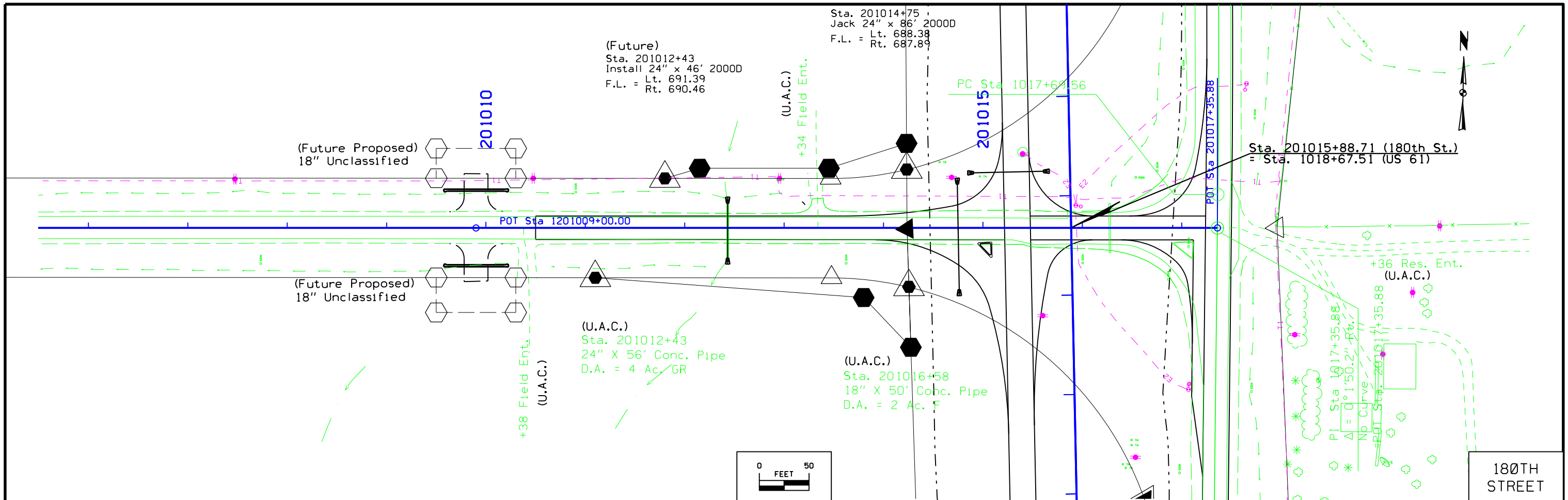
GRANDVIEW TWP.
T-75N R-3W
SEC. 10

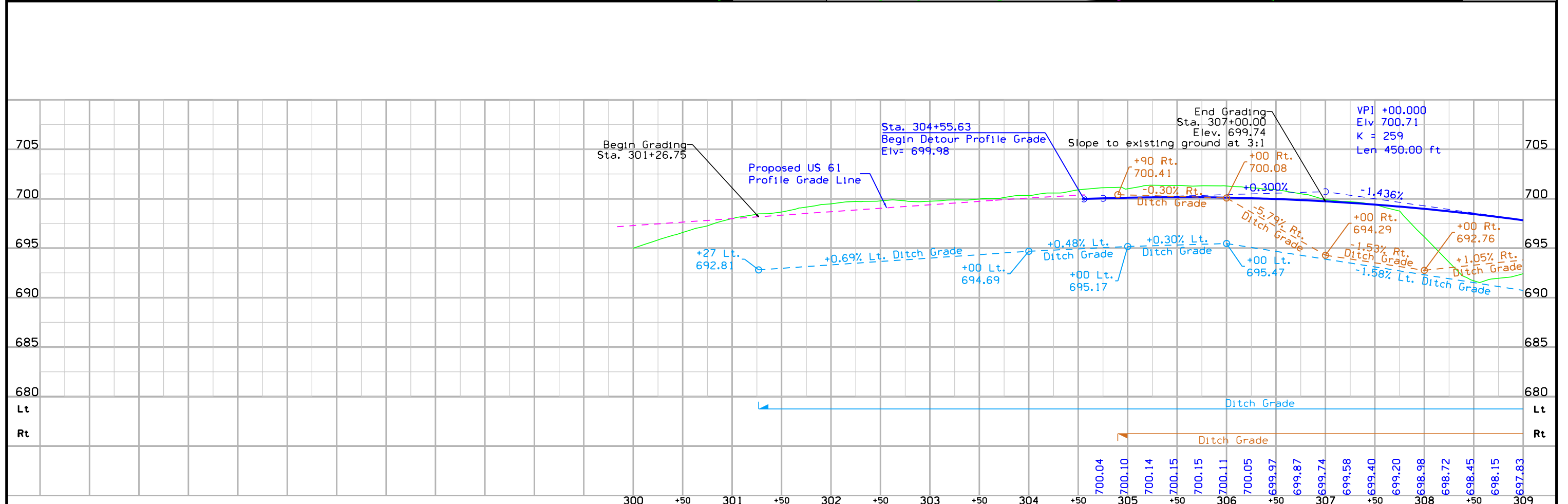
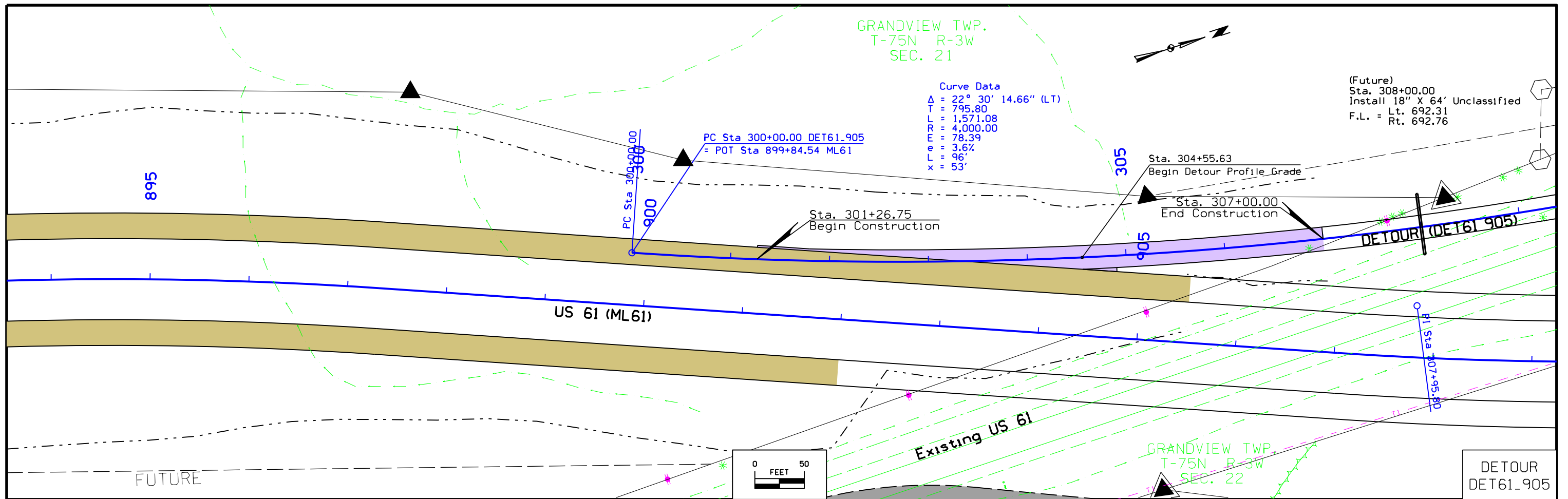
Point/Curve	Station	Offset	Radius (ft)
1	9999+51.21	71.03' Lt.	-
2	9999+39.48	52.97' Lt.	-
Curve 2-3	-	-	20
3	9999+37.81	21.57' Rt.	-
Curve 3-4	-	-	90
4	9999+03.13	10.00' Rt.	-

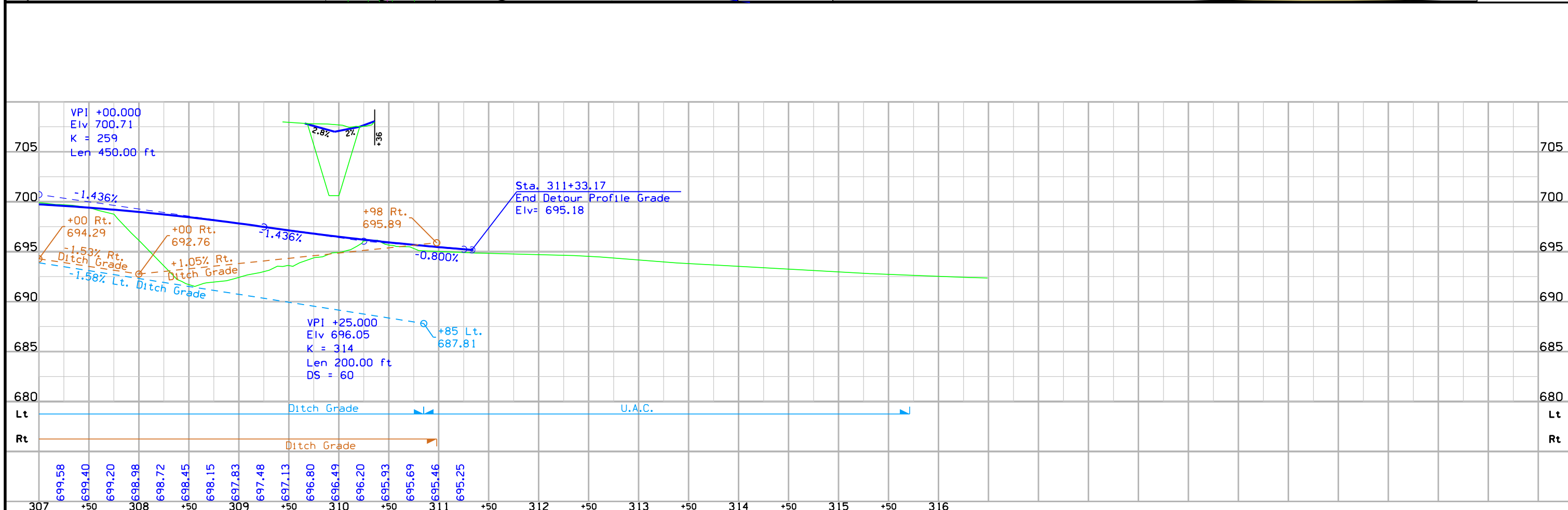
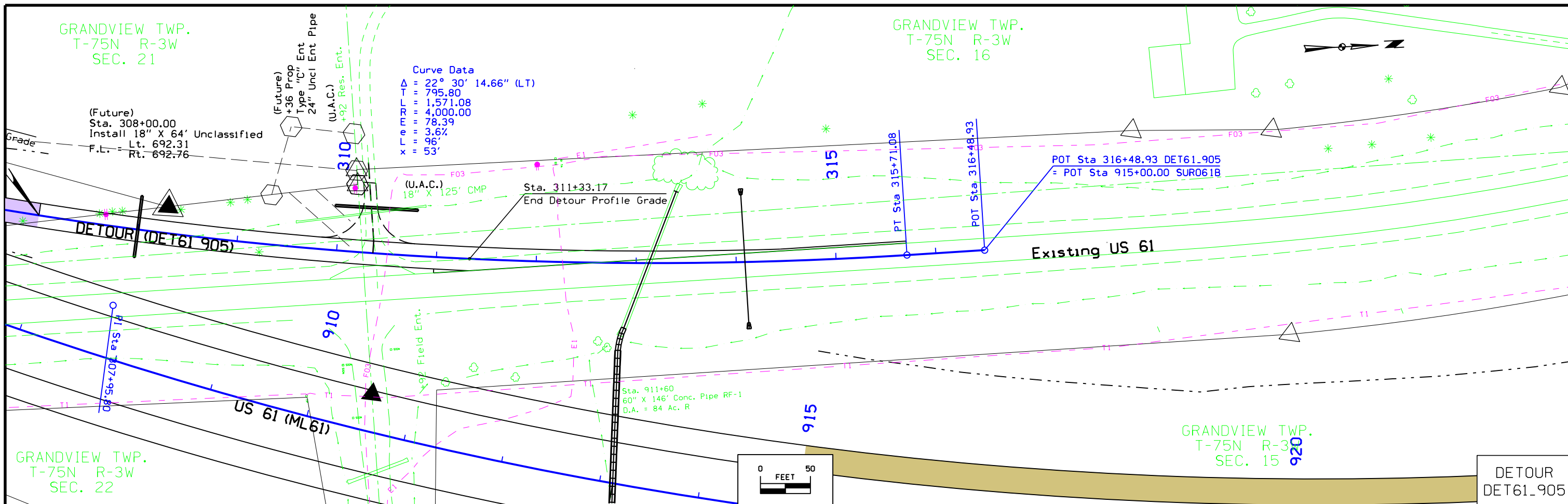


175TH STREET

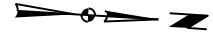




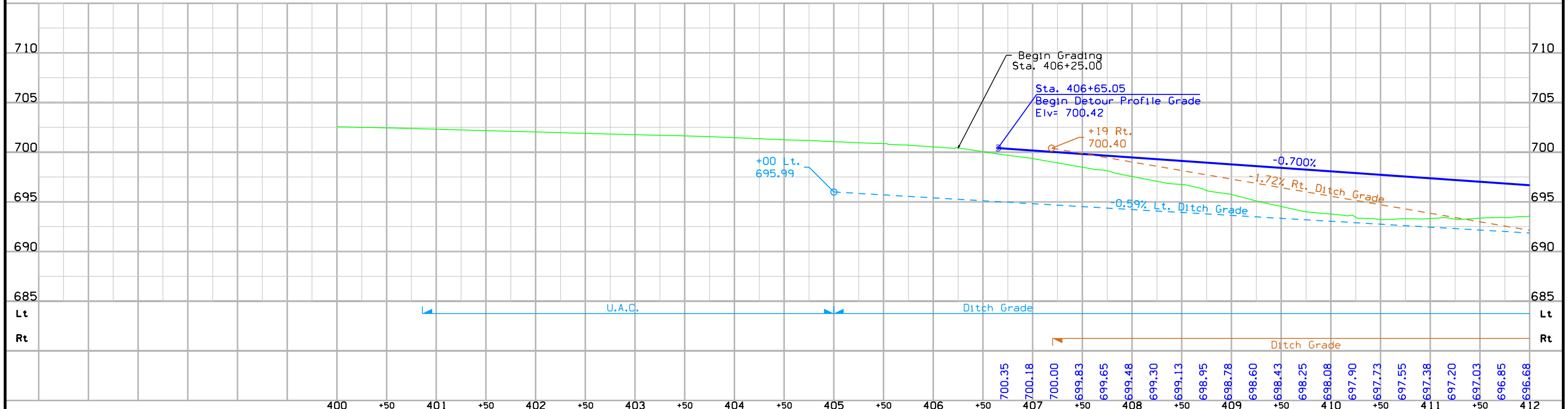
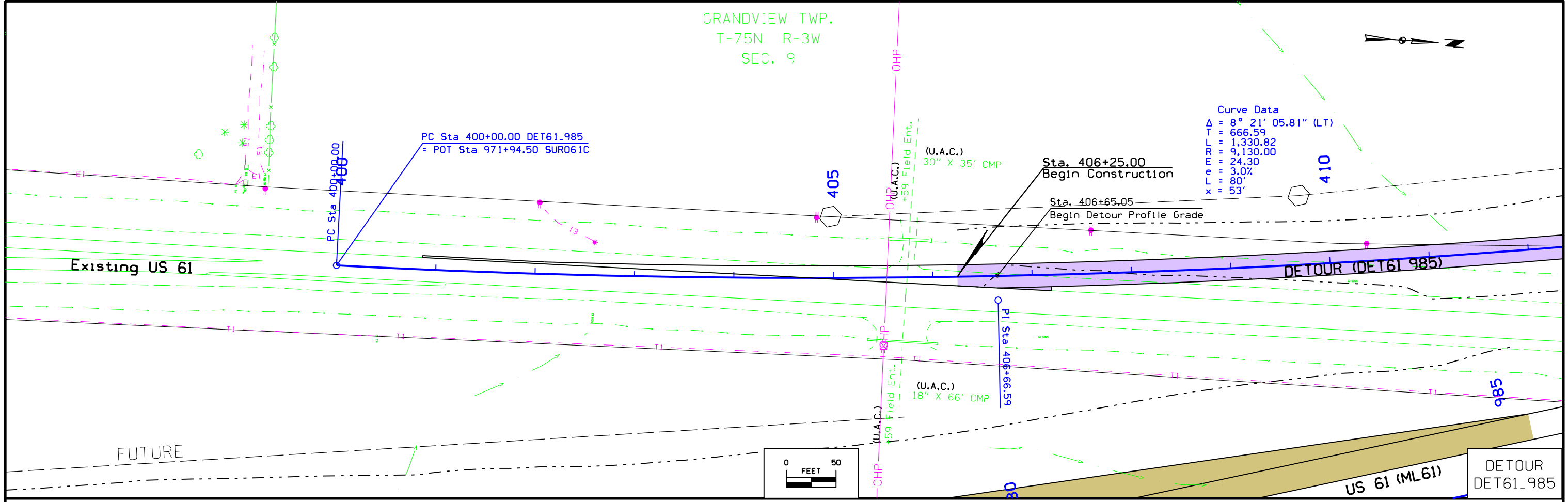




GRANDVIEW TWP.
T-75N R-3W
SEC. 9

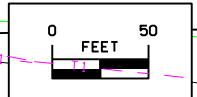
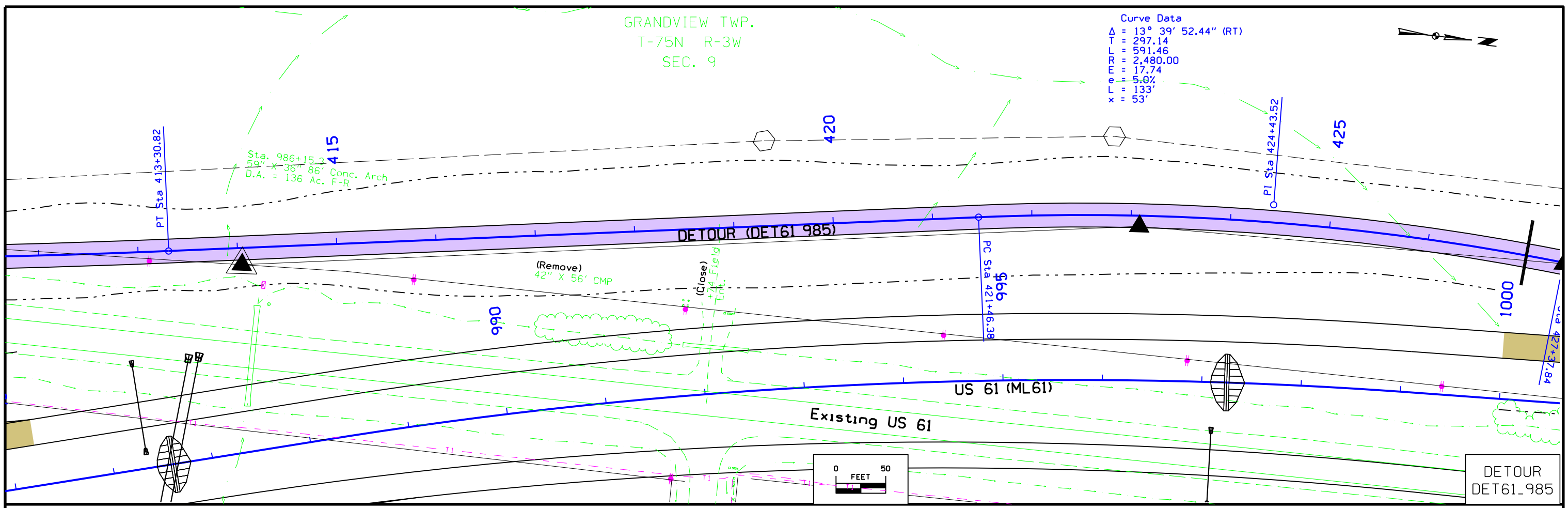


Curve Data
 $\Delta = 8^\circ 21' 05.81''$ (LT)
 $T = 666.59$
 $L = 1,330.82$
 $R = 9,130.00$
 $E = 24.30$
 $F = 3.0\%$
 $L = 80'$
 $x = 53'$

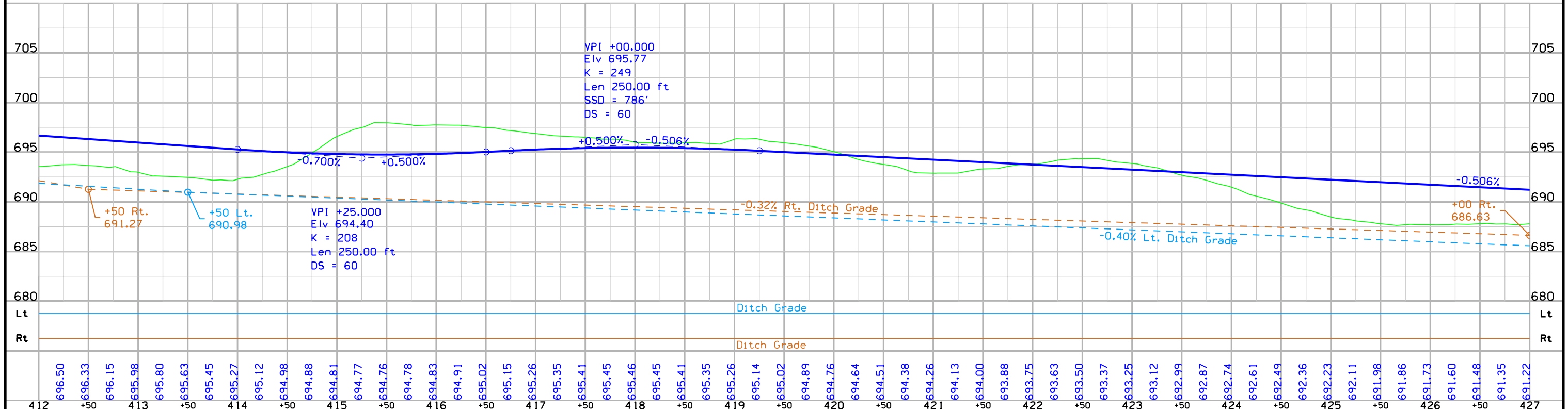


GRANDVIEW TWP.
T-75N R-3W
SEC. 9

Curve Data
 $\Delta = 13^\circ 39' 52.44''$ (RT)
 $T = 297.14$
 $L = 591.46$
 $R = 2,480.00$
 $E = 17.74$
 $e = 5.0\%$
 $L = 133'$
 $x = 53'$



DETOUR
DET61_985

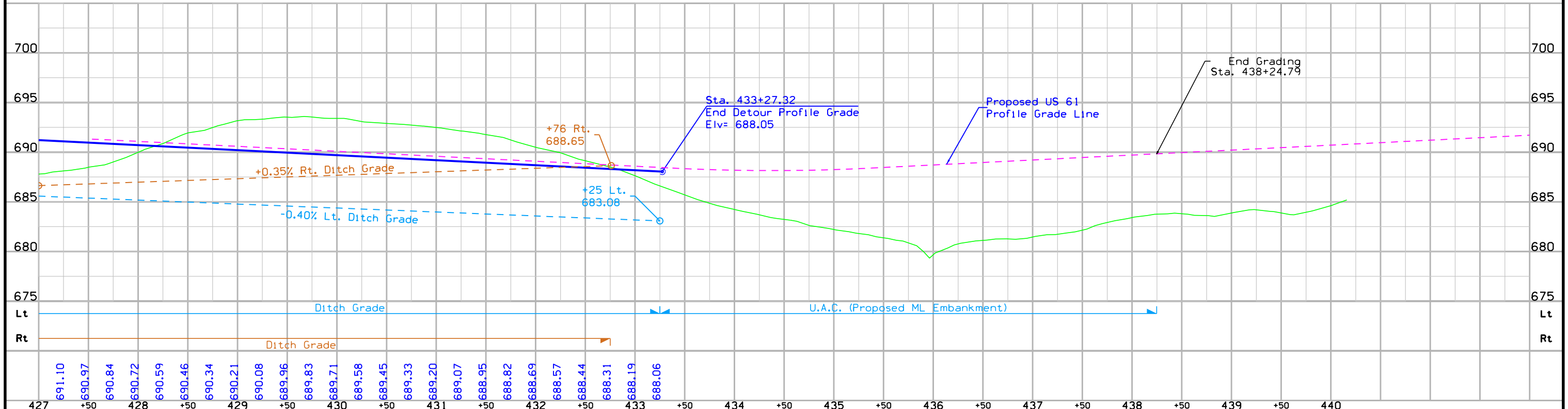
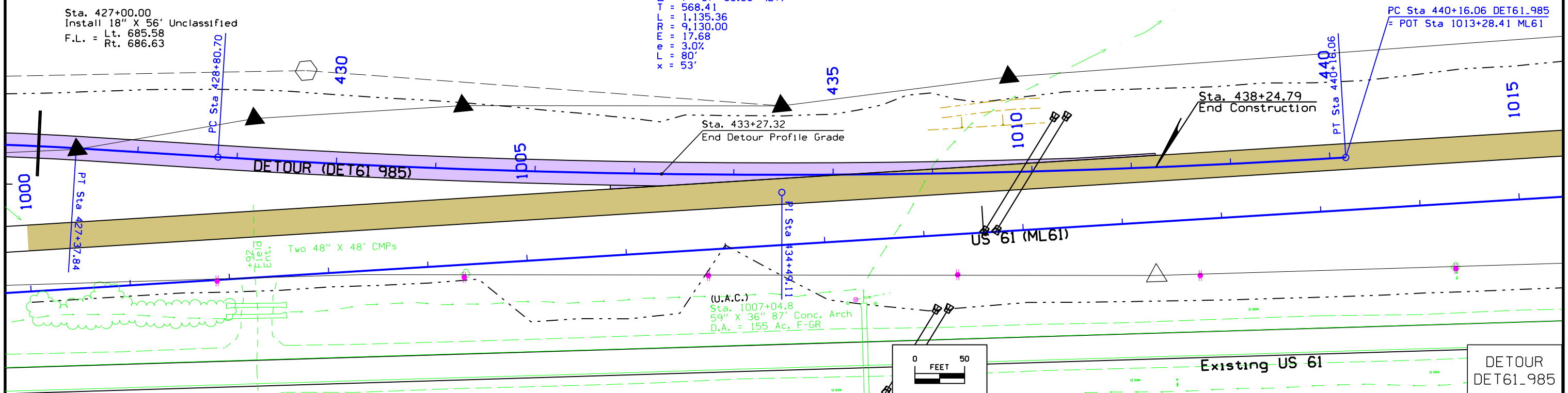


GRANDVIEW TWP.
T-75N R-3W
SEC. 9



Curve Data
 $\Delta = 7^\circ 07' 30.06''$ (LT)
 $TT = 568.41$
 $L = 1,135.36$
 $ET = 9,130.00$
 $EL = 17.68$
 $GL = 3.0\%$
 $FL = 80'$
 $XL = 53'$

Sta. 427+00.00
 Install 18" X 56' Unclassified
 F.L. = Lt. 685.58
 Rt. 686.63



SURVEY INFORMATION

General Information

The coordinates used on this project are the same as IDOT GPS Network survey. IDOT GPS Control network monuments & benchmarks found in the area were held fixed in the Horizontal Calibration of this project.

State Plane Coordinate values of all Horizontal control in the area were converted to the IDOT network adjustment values then held fixed in the calibration.

12-2006 ASI Points (4,5,6,7,8,15,16,17,19,20,506,507) were held fixed in Horizontal and Vertical RTK Calibration of this project 1-2006 ASI Point (506) "A CBN Point Ardon Az Mk Reset" was held fixed in Horizontal RTK Calibration of this project 4-2000 ASI Points [143,144,147,505] were held in the Horizontal and Vertical RTK Calibration of this project 14 -2001 IDOT Points (38-50,52) Horizontal Calibration of this project

Vertical Datum

This survey is relative to NAVD 88 vertical datum. NGS datasheets show a vertical difference of 0.20' (88 Lower than 29) between NAVD88 to NGVD29.

A Bench level run was made between two 2006 ASI monument points, holding the published elevations of 2006ASI16 & 2006ASI4 fixed in the adjustment.

Vertical Equations:

All ASI Marks found near this project were held fixed vertically in the calibration

BM # 505 this survey	Elev. = 720.91 (NAVD 88 datum)
=USGS 1 DRL 1964	Elev. = 720.91 (NAVD 88 datum)
=USGS 1 DRL 1964	Elev. = 721.105 (NAVD 29 datum)

BM # 507 this survey	Elev. = 696.820 (NAVD 88 datum)
=USGS 4 DRL 1964	Elev. = 696.820 (NAVD 88 datum)
=USGS 4 DRL 1964	Elev. = 697.020 (NAVD 29 datum)

ASI Marks 16,7 and 4 were held fixed in the digital level run. The ASI published elevations on BM 516 (6), BM 607 (7) & BM 504 (4) were held fixed in a digital level run. A bench level run directly between BM 516 & BM 504 was observed. The total length of the run was 8.1 miles with a missed closure of 0.055 feet. The least squared adjustment values of the marks along the level run were held fixed on this survey.

BM # 516 this survey	Elev. = 634.565 (NAVD 88 datum)
CP#16 (2006ASI survey)	Elev. = 634.565 (NAVD 88 datum)

BM #607 this survey	Elev. = 690.485 (NAVD 88 datum)
CP#7 (2006ASI survey)	Elev. = 690.485 (NAVD 88 datum)

BM # 504 this survey	Elev. = 733.210 (NAVD 88 datum)
CP# 4 (2006ASI survey)	Elev. = 733.210 (NAVD 88 datum)

Alignments

The mainline alignment is a retrace of the alignments found on the Louisa Co. Plan NHS-61-3(28)—19-58 Paving Plan. Four alignments were created because of the horizontal offsets found along this project. Four Mainline alignments are as follows

ML1 alignment from Sta 720+69.185 to Sta 856+37.808 then 24' Offset Left to Ali ML2
 ML2 alignment from Sta 856+37.17 to Sta 964+44.766 then 15.9' Offset left to ML3
 ML3 alignment from Sta 964+44.766 to Sta 1048+04.672 then 45.93' Offset left to ML4
 ML4 alignment from Sta 1048+04.85 to Sta 1031+79.792

Alignment Equations

Begin Alignment ML1

POT Sta 720+69.185 This Survey (Fd IDOT Hinge Nail)
 = POT Sta 720+70.66 AB Stationing Ahead Louisa Co. Plan NHS-61-3(28)—19-58 Paving Plan
 = POT Sta 720+71.51 AB Stationing Back Louisa Co. Plan NHS-61-3(28)—19-58 Paving Plan
 = Equation found on AB Plan

PI Sta 741+45.164 This Survey (Fd Rusted Nail)
 = PI Sta 741+46.49 AB Stationing Louisa Co. Plan NHS-61-3(28)—19-58 Paving Plan

PI Sta 750+13.793 This Survey (Fd IDOT Hinge Nail)
 = PI Sta 750+15.08 AB Stationing Louisa Co. Plan NHS-61-3(28)—19-58 Paving Plan

PT Sta 754+06.141 This Survey (Fd IDOT Hinge Nail)
 = PT Sta 754+07.50 AB Stationing Louisa Co. Plan NHS-61-3(28)—19-58 Paving Plan

ML1 Stationing held fixed here backed up and carried forward from AB POT Equation Point where

POT Sta 754+14.22 This Survey (Computed point using plan distance of 7.98 ahead of AB PT Sta 754+07.50)
 = POT Sta 754+14.22 AB Stationing Ahead (Louisa Co. Plan NHS-61-3(28)—19-58 Paving Plan)
 = POT Sta 754+15.48 AB Stationing Back (Louisa Co. Plan NHS-61-3(28)—19-58 Paving Plan)

PI Sta 783+28.707 This Survey (Fd IDOT Hinge Nail)
 =PI Sta 783+29.09 AB Stationing (Louisa Co. Plan NHS-61-3(28)—19-58 Paving Plan)

PI Sta 802+97.698 This Survey (Fd IDOT Hinge Nail)
 =PI Sta 802+98.09 AB Stationing (Louisa Co. Plan NHS-61-3(28)—19-58 Paving Plan)

PI Sta 829+43.759 This Survey (Fd IDOT Hinge Nail)
 =PI Sta 829+44.20 AB Stationing (Louisa Co. Plan NHS-61-3(28)—19-58 Paving Plan)

PI Sta 850+40.91 This Survey (Reset from Ref Ties)
 =PI Sta 850+40.70 AB Stationing (Louisa Co. Plan NHS-61-3(28)—19-58 Paving Plan)

PI Sta 856+37.808 This Survey = End of ML1(Reset on Ia 92 East West Alignment A1)
 =PI Sta 516+97.353 This Survey Ia 92 Alignment
 =PI Sta 516+97.35 Ia 92 AB Stationing (Louisa Co. Plan Page 7 F-61-3(2)—20-58 1972 AB Plan)

SURVEY INFORMATION

Begin Alignment ML2

PI Sta 856+37.17 This Survey = Begin End of ML2(Reset on Ia 92 East West Alignment A1)
 =PI Sta 516+73.30 This Survey Ia 92 Alignment
 =24.00 Lt of Plan Sta 856+37.10 AB Stationing (Louisa Co. Plan Page 7 F-61-3(2)—20-58 1972 AB Plan)

ML2 Stationing held fixed backed up and carried forward here

PI Sta 866+44.03 This Survey
 =PI Sta 866+44.03 AB Stationing (Louisa Co. Plan NHS-61-3(28)—19-58 Paving Plan)

PI Sta 872+86.412 This Survey
 =PI Sta 872+86.41 AB Stationing (Louisa Co. Plan NHS-61-3(28)—19-58 Paving Plan)

PI Sta 872+86.412 This Survey
 =PI Sta 872+86.41 AB Stationing (Louisa Co. Plan NHS-61-3(28)—19-58 Paving Plan)

TS Sta 916+22.363 This Survey (Fd IDOT Hinge Nail)
 =TS Sta 916+22.62 AB Stationing (Louisa Co. Plan NHS-61-3(28)—19-58 Paving Plan)

PI Sta 925+37.882 This Survey
 =PI Sta 925+37.14 AB Stationing (Louisa Co. Plan NHS-61-3(28)—19-58 Paving Plan)

PI Sta 949+27.699 This Survey (Fd Rebar)
 =PI Sta 949+28.05 AB Stationing (Louisa Co. Plan NHS-61-3(28)—19-58 Paving Plan)

PI Sta 964+44.766 This Survey = End of ML2(Fd Bent Nail Reset Mag Nail)
 =PI Sta 964+45.00 Ia 92 AB Stationing (Louisa Co. Plan Page 7 F-61-3(2)—20-58 1972 AB Plan)

Begin Alignment ML3

=PI Sta 964+47.70 This Survey (Fd IDOT Hinge Nail)
 =16.00 Lt of Sta 965+45.0 AB O.R. Stationing (Louisa Co. Plan NHS-61-3(28)—19-58 Paving Plan)
 =15.90 Lt of ML2 Alignment Sta 964+44.568 This Survey
 =PI Sta 3947+47.70 170th St. Alignment This Survey

ML3 Stationing held fixed here backed up and carried forward from AB Equation Point where

Sta 967+45.0 (OR Back)
 =Sta967+47.7 (OR Ahead)
 =Sta 967+47.70 This Survey

PI Sta 990+77.64 This Survey (Fd IDOT Hinge Nail)
 =PI Sta 990+77.67 AB Stationing (Louisa Co. Plan NHS-61-3(28)—19-58 Paving Plan)

POT Sta 1017+35.88 This Survey (Fd IDOT Hinge Nail)
 =POT Sta 1017+36.06 AB Stationing (Louisa Co. Plan NHS-61-3(28)—19-58 Paving Plan)
 =PI Sta 201017+35.88 Hwy 305 Stationing This Survey

PI Sta 1022+96.34 This Survey (Fd IDOT Hinge Nail)
 =PI Sta 1022+96.58 AB Stationing (Louisa Co. Plan NHS-61-3(28)—19-58 Paving Plan)

PI Sta 1043+01.51 This Survey (Computed)
 =PI Sta 1043+01.66 AB Stationing (Louisa Co. Plan NHS-61-3(28)—19-58 Paving Plan)
 =PI Sta 13+11.145 AB Stationing (Louisa Co. Plan NHSX-61-4(91)—3H-70 Metric PCC Plan)

PT Sta 1048+04.67 This Survey End ML3(Computed)
 =PT Sta 1048+04.85 AB Stationing (Louisa Co. Plan NHS-61-3(28)—19-58 Paving Plan)
 =PT Sta 14+64.518 Metric Back (Louisa Co. Plan NHSX-61-4(91)—3H-70 Metric PCC Plan)
 = 14.00 Meters East and Rt of PC Sta 14+63.946 AB Stationing (Louisa Co. Plan NHSX-61-4(91)—3H-70 Metric PCC Plan)

Begin Alignment ML4

PC Sta 1048+04.85 This Survey Begin ML4
 =PC Sta 14+63.946 AB Stationing (Louisa Co. Plan NHSX-61-4(91)—3H-70 Metric PCC Plan)
 = 14.00 Meters West and Lt of AB PT Sta 1048+04.85 (Louisa Co. Plan NHS-61-3(28)—19-58 Paving Plan)
 = 14.00 Meters West and Lt of PC Sta 14+64.518 Metric Survey Stationing (Louisa Co. Plan NHSX-61-4(91)—3H-70 Metric PCC Plan)

PI Sta 1053+73.80 This Survey
 =PI Sta 16+37.362 AB Stationing (Louisa Co. Plan NHSX-61-4(91)—3H-70 Metric PCC Plan)

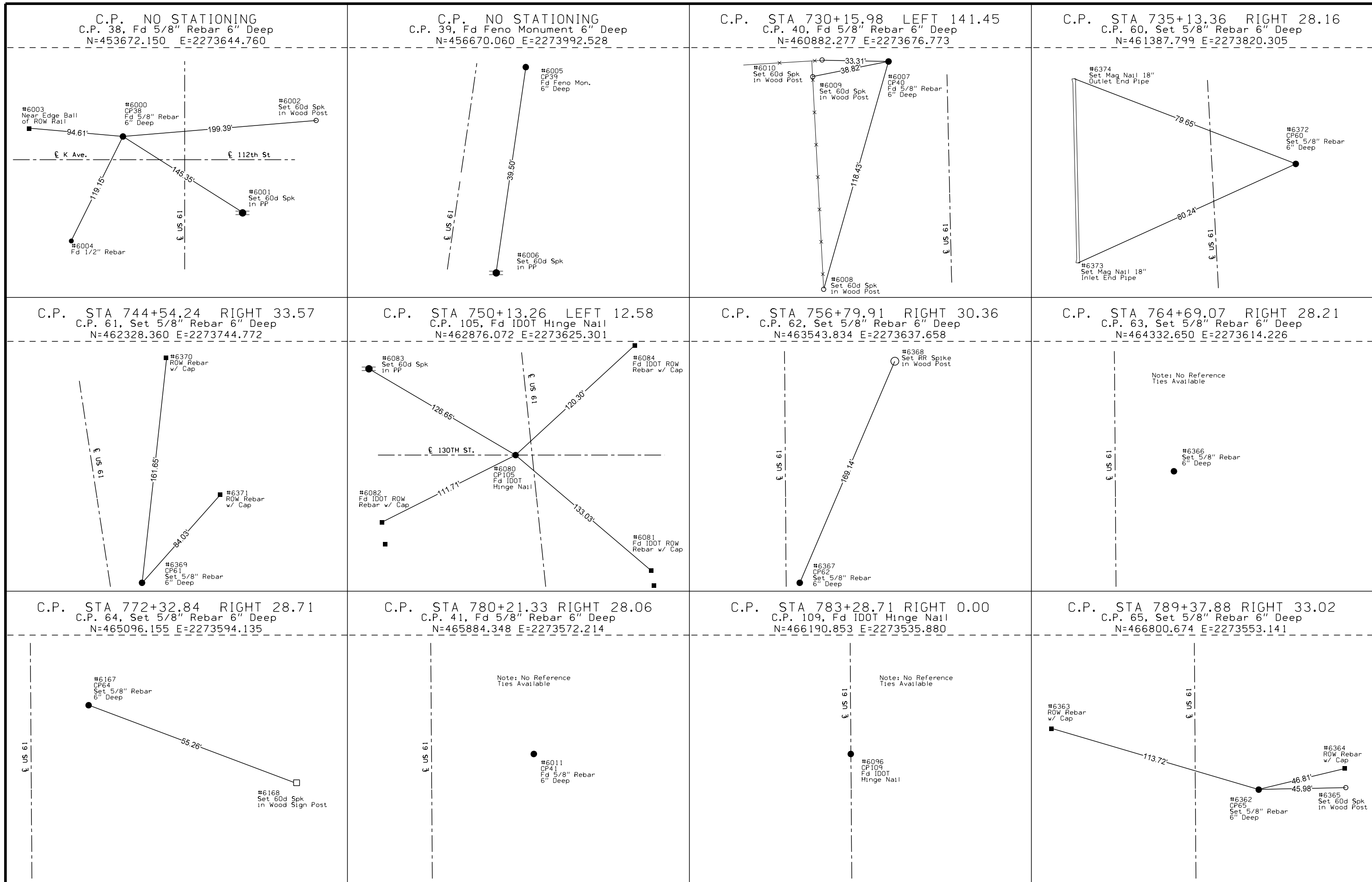
PRC Sta 1059+41.89 This Survey
 =PRC Sta 18+10.520 AB Stationing (Louisa Co. Plan NHSX-61-4(91)—3H-70 Metric PCC Plan)

PT Sta 1063+40.52 This Survey (Fd rebar 12" Deep)
 =PT Sta 19+32.022 AB Stationing (Louisa Co. Plan NHSX-61-4(91)—3H-70 Metric PCC Plan)

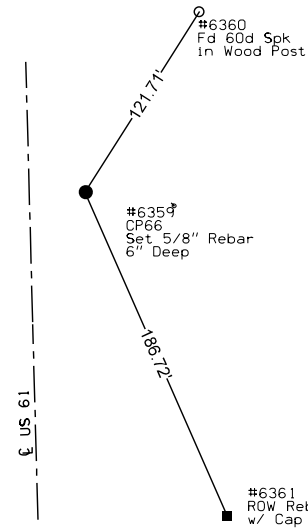
PI Sta 1085+07.72 This Survey
 =PI Sta 25+92.602 AB Stationing (Louisa Co. Plan NHSX-61-4(91)—3H-70 Metric PCC Plan)

SURVEY INFORMATION

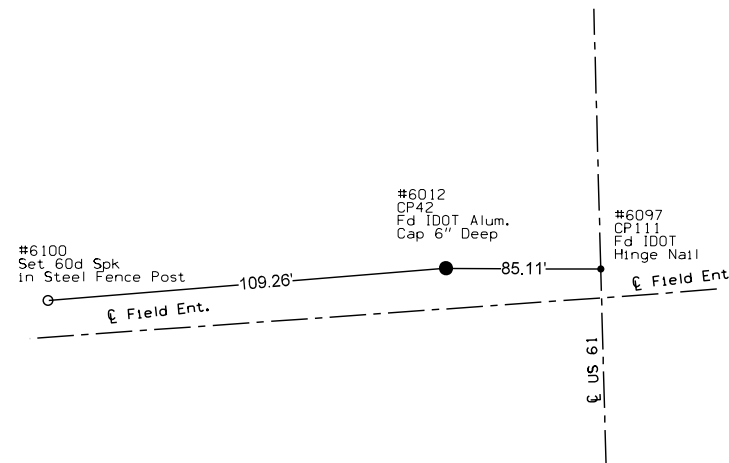
500	462467.616	2273734.222	620.860	745+93.43	44.622	BM CUT "X" ON INLET END 24" RCP APRON
501	462920.412	2274164.798	625.316	750+07.98	528.711	BM SET RR SPK N SIDE PP
502	463699.336	2273704.220	642.039	758+33.56	101.091	BM SET RR SPK W. SIDE POST
503	465076.810	2273645.842	661.157	772+12.10	79.880	BM SET 60D SPK N. SIDE POST
504	494637.280	2272212.175	733.210	1071+16.15	423.003	BM LOUISA CO MONU ASI4 BERNTSEN ROD_CAP W/5" LID =2006ASI4 COUNTY MONU EL=733.210
505	502407.282	2260995.217	720.910	1085+84.77	-12729.140	BM USGSMONU 1DRL1964(88_3RD) =2000ASI505
506	466801.640	2273599.106	675.929	789+37.66	78.995	BM SET 60D SPK N. SIDE POST
507	472331.305	2283889.326	696.820	842+01.12	10508.096	BM USGSMONU 4DRL1964(88_3RD) =2006ASI507
508	467637.700	2273595.354	676.356	797+73.53	96.858	BM FD 60D SPK S. SIDE POST =BM80A 1994 AB PLAN NHS-61-3(28)--19-58 EL=676.62
509	468630.801	2273523.754	674.477	807+68.16	50.878	BM SET MAG NAIL ON INLET 42" CMP
510	469513.418	2273530.603	679.603	816+50.31	80.398	BM SET 60D SPK N. SIDE POST
511	469840.387	2273375.350	679.255	819+81.16	-66.404	BM FD RR SPK E SIDE PP
512	470774.475	2273536.391	678.926	829+10.80	118.580	BM FD RR SPK W SIDE PP =BM2 1969 AB PLAN F-61-3(2)--20-58 EL=686.16
513	470771.510	2273301.301	679.740	829+13.88	-116.509	BM FD RR SPK NE SIDE PP =BM83 1994 AB PLAN NHS-61-3(28)--19-58 EL=680.05
514	471982.739	2273429.060	665.057	841+21.43	42.328	BM FD IHC BM ON IN HDWL 5X5 RCB =BM84 1994 AB PLAN NHS-61-3(28)--19-58 EL=665.40 =BM3 1969 AB PLAN CM:F-61-3(2)--20-58 CM:EL=672.50
515	472411.996	2273423.842	664.847	845+50.67	48.140	BM FD IHC BM ON IN HDWL 4X3 RCB =BM4 1969 AB PLAN F-61-3(2)--20-58 EL=672.12
517	473550.471	2273195.308	673.245	856+93.06	-137.92	BM FD RR SPK S SIDE PP =BM5 1969 AB PLAN F-61-3(2)--20-58 EL=680.47 =BM85 1994 AB PLAN NHS-61-3(28)--19-58 EL=673.60
518	474692.835	2273459.063	694.834	868+36.69	129.762	BM FD 60D SPK IN W. SIDE RR TIE =BM86 1994 AB PLAN NHS-61-3(28)--19-58 EL=695.10
519	475084.620	2273392.134	688.245	872+26.64	54.455	BM CUT "X" ON INLET 42" RCP
520	476366.386	2273454.289	688.468	885+06.57	124.662	BM SET RR SPK W SIDE PP
521	476797.336	2273275.148	687.524	889+39.22	-50.339	BM FD RR SPK E SIDE PP =BM88A 1994 AB PLAN NHS-61-3(28)--19-58 EL=687.85
522	477967.691	2273235.837	703.155	901+09.90	-78.428	BM FD RR SPK E SIDE PP =BM89A 1994 AB PLAN NHS-61-3(28)--19-58 EL=703.62
523	478916.656	2273191.488	692.868	910+59.24	-113.676	BM FD RR SPK E SIDE PP =BM90A 1994 AB PLAN NHS-61-3(28)--19-58 EL=693.27
524	480060.092	2273122.020	690.880	922+29.00	-126.922	BM SET RR SPK S SIDE PP
525	480325.153	2273284.743	677.247	924+51.49	92.007	BM FD REBAR ON INLET HDWL 5 X 5 RCB
526	481229.595	2272687.139	697.155	935+21.26	-56.645	BM 60D SPK IN W. SIDE POST
527	482230.921	2272231.860	692.565	946+22.62	55.159	BM CUT "X" INLET HDWL 5 X 7 CONC ARCH
528	482988.829	2272044.941	697.068	954+21.97	61.168	BM SET RR SPK S SIDE PP
529	483951.658	2271859.135	701.099	963+93.03	-101.68	BM RR SPK N. SIDE LUM
530	485229.521	2271861.004	699.139	976+73.97	-73.14	BM SET RR SPK E SIDE PP
531	486172.066	2271971.039	693.852	986+15.51	44.84	BM CUT "X" INLET APRON 36" RCP
532	486598.656	2271830.504	696.123	990+43.31	-92.10	BM FD RR SPK E SIDE PP =BM96A 1994 AB PLAN NHS-61-3(28)--19-58 EL=696.57
533	487610.255	2271821.126	689.807	1000+54.95	-92.96	BM SET RR SPK S SIDE PP
534	488105.163	2271826.674	683.398	1005+49.80	-83.25	BM FD RR SPK E SIDE PP =BM97A 1994 AB PLAN NHS-61-3(28)--19-58 EL=683.83
535	489059.761	2271822.201	693.297	1015+04.40	-79.70	BM FD RR SPK E SIDE PP =BM97B 1994 AB PLAN NHS-61-3(28)--19-58 EL=693.83
536	489586.168	2271942.103	694.470	1020+28.87	47.084	BM CUT "X" IN INLET 30" RCP
537	491058.445	2271764.244	703.240	1035+08.76	-23.140	BM CUT "X" SW WING OF BRIDGE
538	491313.326	2271801.104	698.631	1037+59.33	36.317	BM CUT "X" ON INLET END 4 X 6 CONC ARCH CULV
539	492709.803	2271853.611	701.907	1051+65.53	181.358	BM SET RR SPK W SIDE PP
540	493880.012	2271876.516	722.422	1063+41.12	130.682	BM SET RR SPK W SIDE PP
541	495009.556	2271938.946	719.518	1074+72.39	129.170	BM CUT "X" ON INLET 48" RCP
542	495825.173	2272052.885	746.493	1083+38.46	120.163	BM SET RR SPK E SIDE PP
600	473414.390	2270752.840	666.488	855+77.79	-2605.582	BM SET RR SPK S SIDE PP
602	473635.646	2274960.208	699.131	857+60.16	1627.76	BM SET RR SPK S SIDE PP
607	478771.186	2274038.620	690.485	909+05.66	732.022	BM LOUISA CO MONU ASI7 BERNTSEN ROD_CAP W/5" LID =2006ASI7 COUNTY MONU EL=690.485
Along Ia 92						
601	473382.163	2272321.826	664.184	506+55.77	41.073	BM CUT "X" INLET APRON 30" R



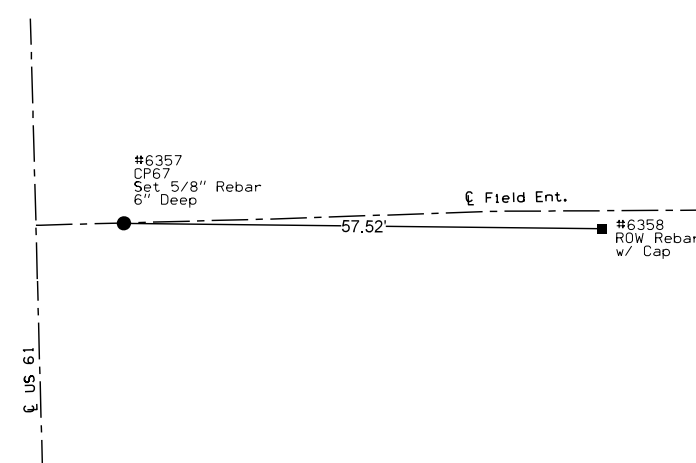
C.P. STA 796+72.42 RIGHT 29.08
 C.P. 66, Set 5/8" Rebar 6" Deep
 N=467534.865 E=2273530.216



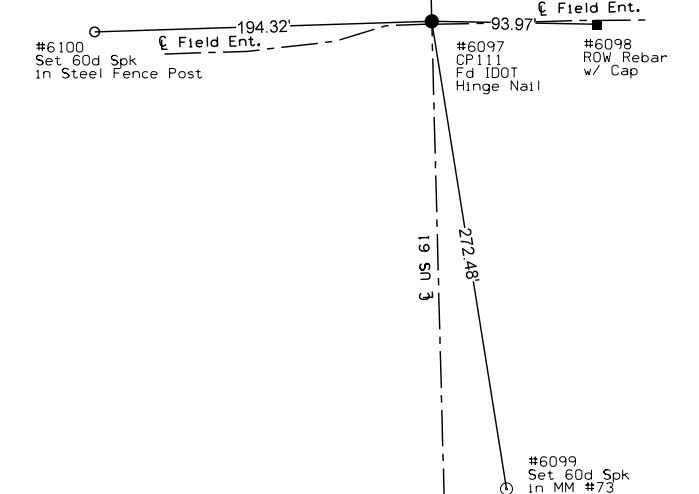
C.P. STA 802+95.23 LEFT 85.07
 C.P. 42, Fd IDOT Alum. Cap 6" Deep
 N=468154.520 E=2273400.000



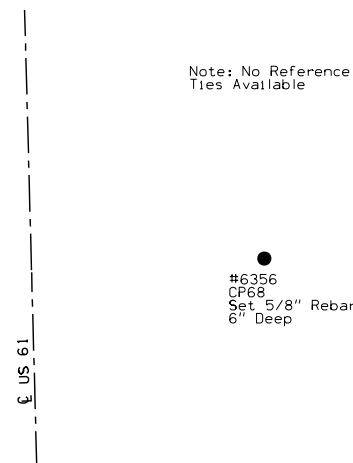
C.P. STA 802+95.66 RIGHT 36.43
 C.P. 67, Set 5/8" Rebar 6" Deep
 N=468158.085 E=2273521.362



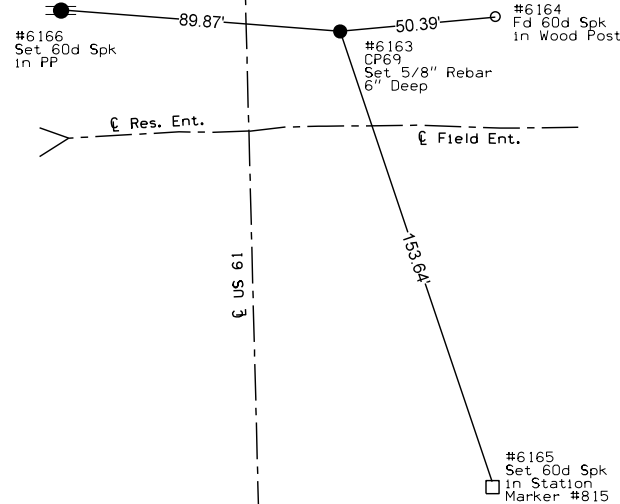
C.P. STA 802+97.70 RIGHT 0.00
 C.P. 111, Fd IDOT Hinge Nail
 N=468159.186 E=2273484.978



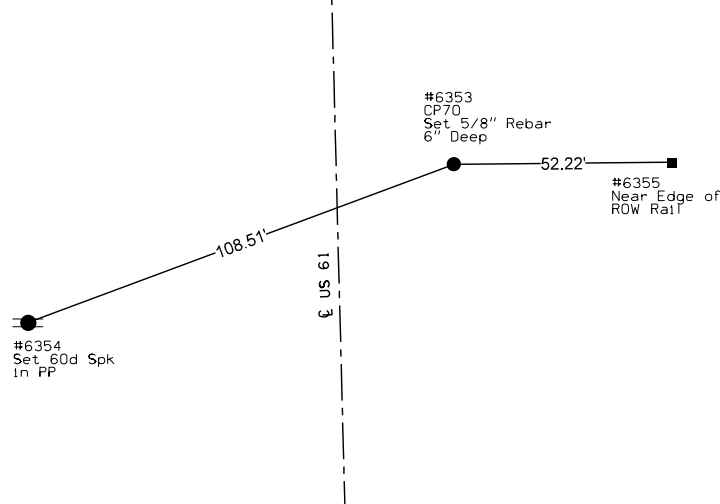
C.P. STA 809+01.74 RIGHT 28.99
 C.P. 68, Set 5/8" Rebar 6" Deep
 N=468763.772 E=2273498.442



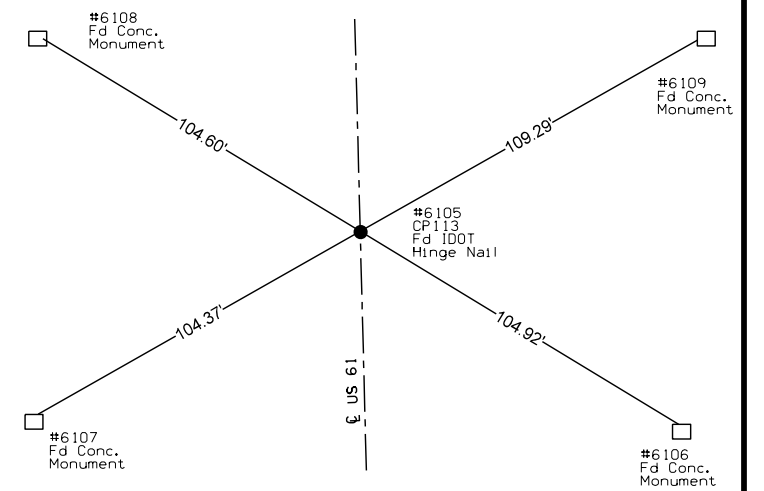
C.P. STA 816+47.02 RIGHT 30.28
 C.P. 69, Set 5/8" Rebar 6" Deep
 N=469508.837 E=2273480.582



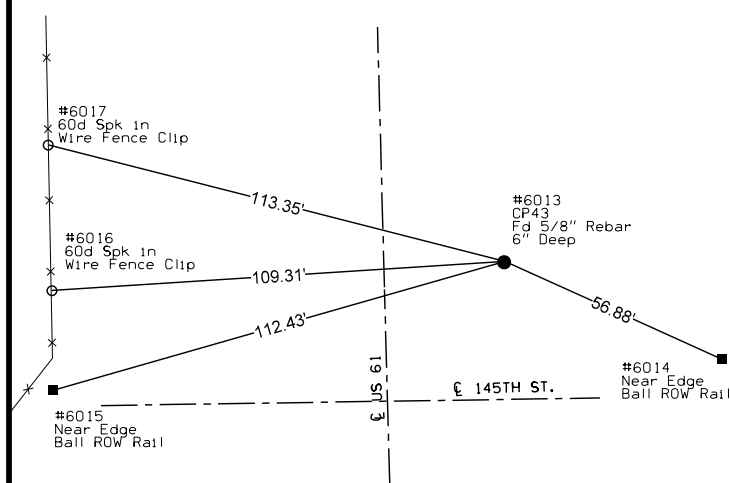
C.P. STA 823+23.44 RIGHT 28.02
 C.P. 70, Set 5/8" Rebar 6" Deep
 N=470184.980 E=2273460.949



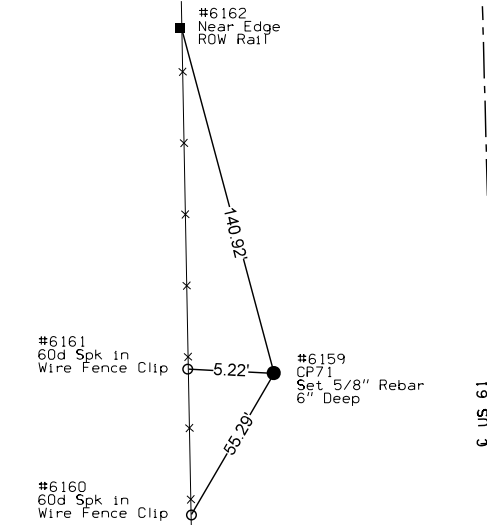
C.P. STA 829+43.76 RIGHT 0.00
 C.P. 113, Fd IDOT Hinge Nail
 N=470804.374 E=2273417.004



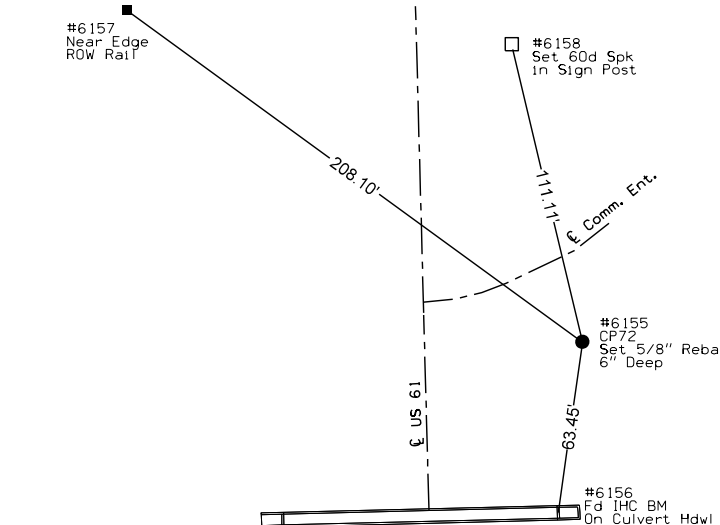
C.P. STA 830+41.33 RIGHT 28.83
 C.P. 43, Fd 5/8" Rebar 6" Deep
 N=470902.650 E=2273443.314



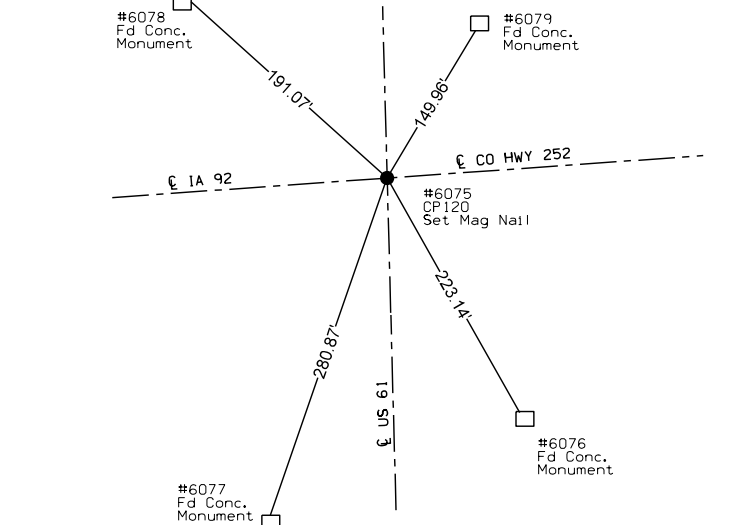
C.P. STA 838+33.65 LEFT 85.90
 C.P. 71, Set 5/8" Rebar 6" Deep
 N=471691.762 E=2273308.265

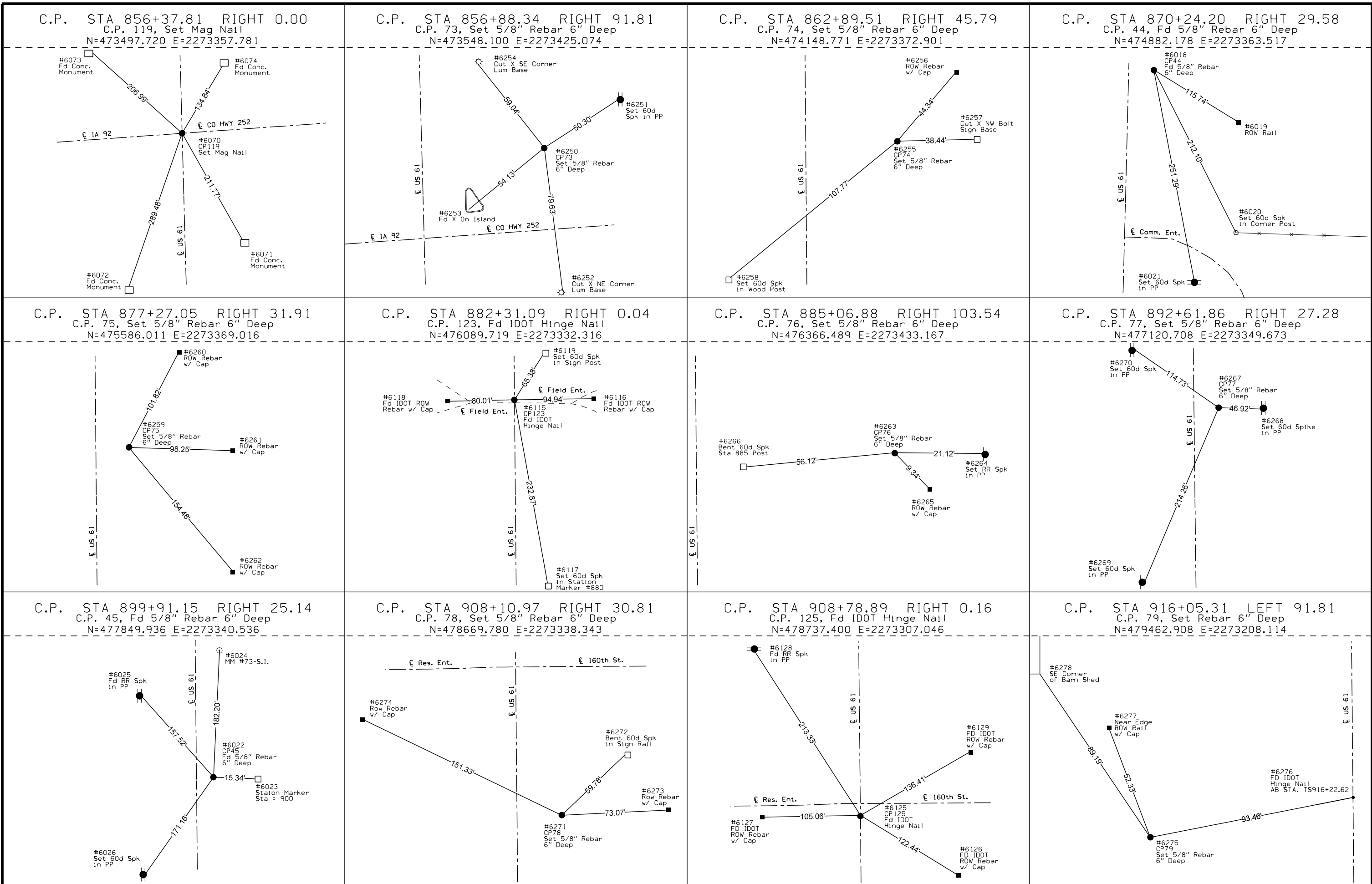


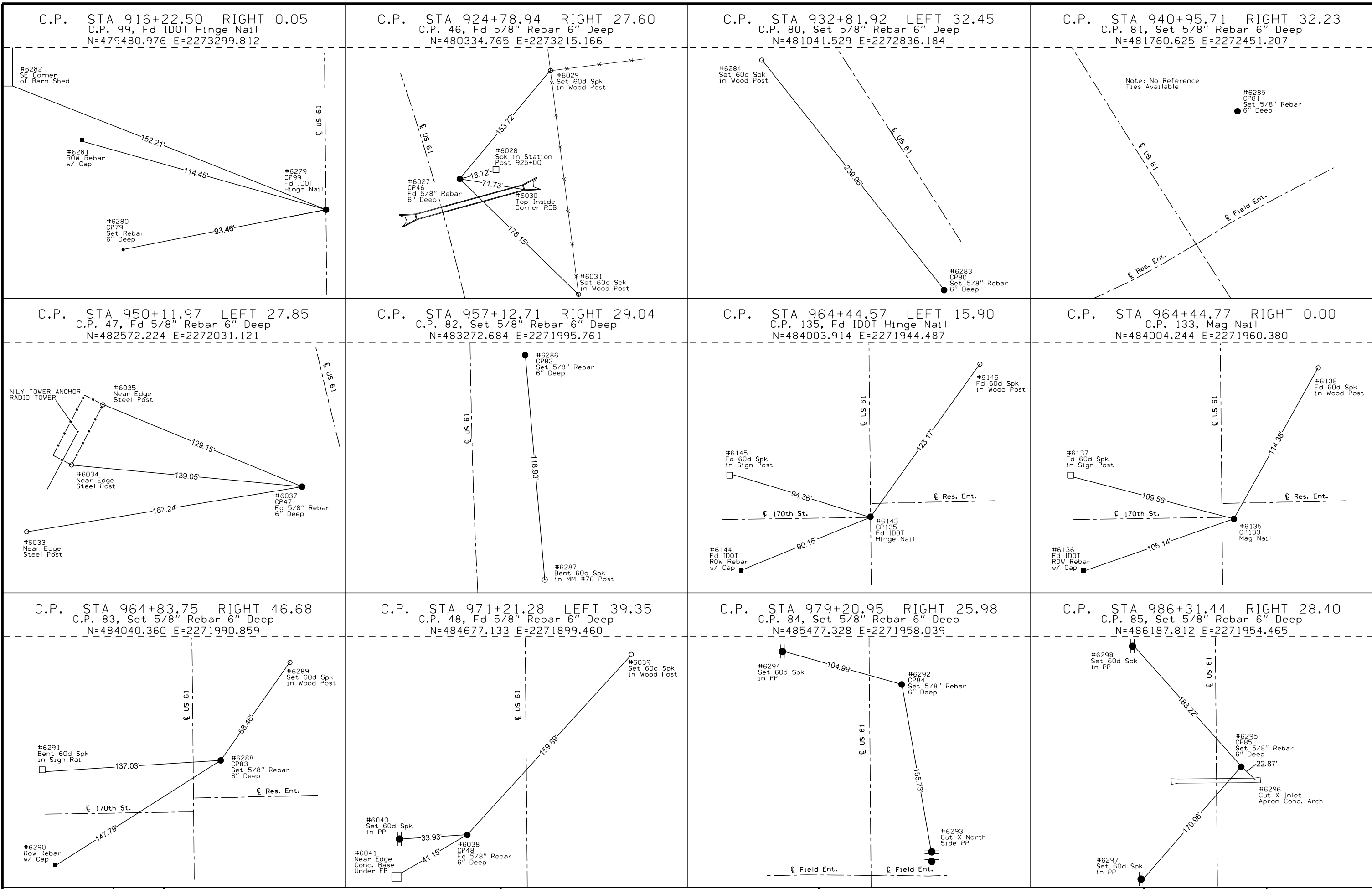
C.P. STA 846+13.34 RIGHT 58.70
 C.P. 72, Set 5/8" Rebar 6" Deep
 N=472474.913 E=2273432.785

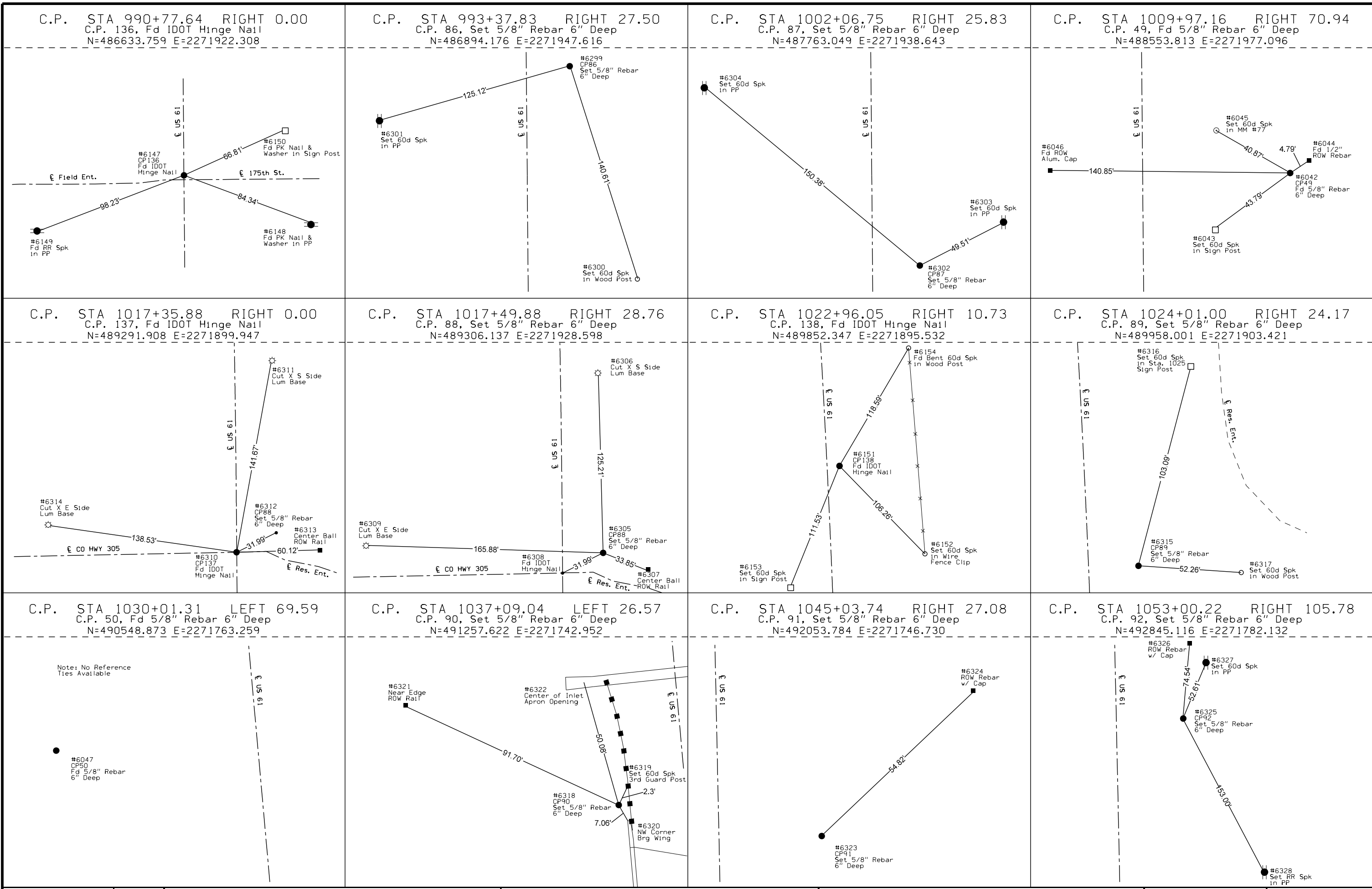


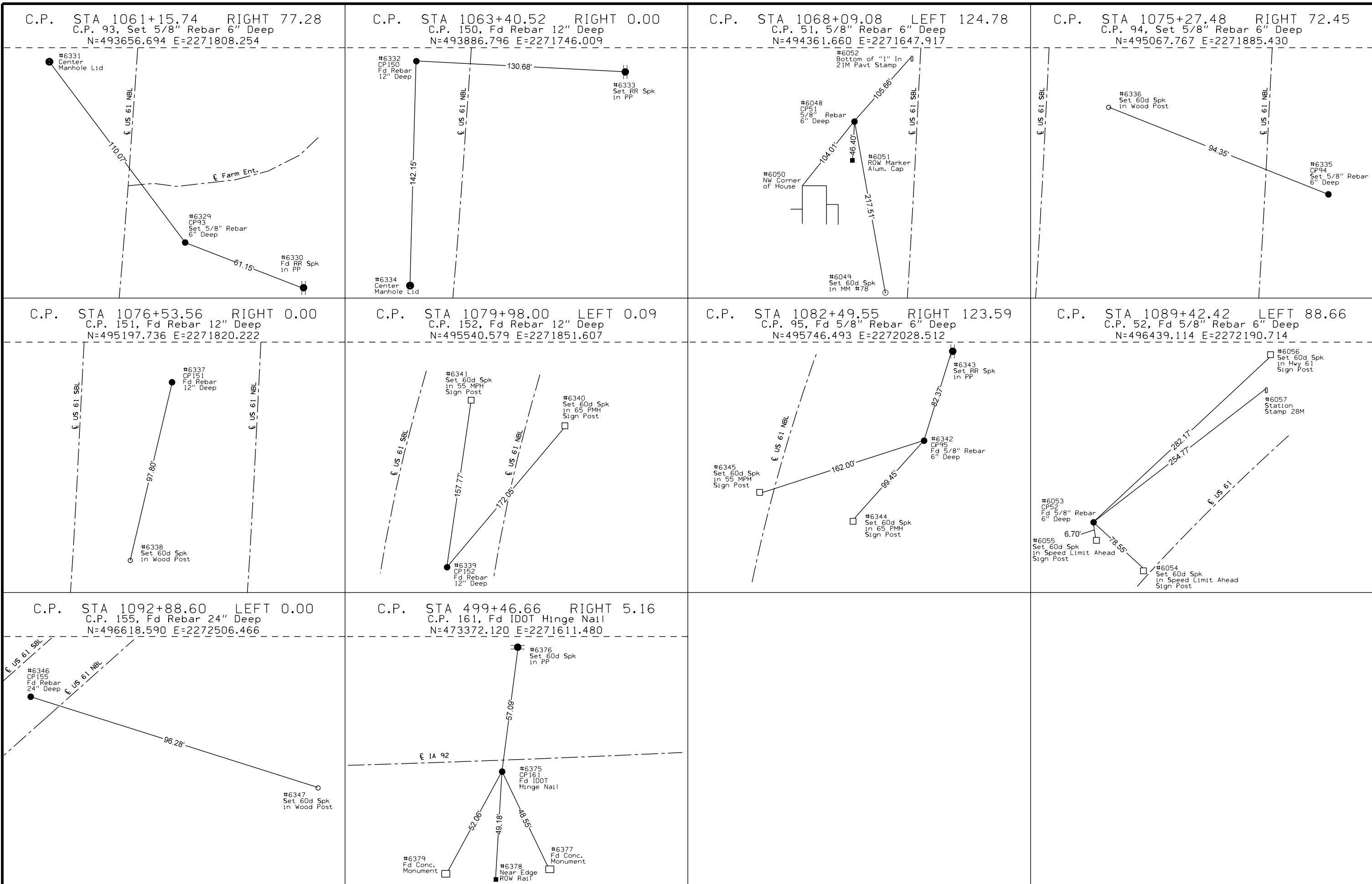
C.P. STA 856+36.30 LEFT 24.00
 C.P. 120, Set Mag Nail
 N=473495.996 E=2273333.793











ALIGNMENT COORDINATES

101-16
10-20-09

Name	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI (M) 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)
Survey 61/ Existing 61																			
100		720+69.18	459,944.11	2,273,867.23															
C12								738+29.35	461,701.90	2,273,775.77	741+45.16	462,017.29	2,273,759.36	744+60.42	462,329.32	2,273,710.65			
C13								746+20.37	462,487.36	2,273,685.98	750+13.79	462,876.07	2,273,625.30	754+06.14	463,269.35	2,273,614.69			
103		783+28.71	466,190.85	2,273,535.88															
104		802+97.70	468,159.19	2,273,484.98															
105		829+43.76	470,804.37	2,273,417.00															
C14								847+40.91	472,600.93	2,273,370.83	850+40.91	472,900.83	2,273,363.12	853+40.90	473,200.82	2,273,360.44			
107		856+37.81	473,497.72	2,273,357.78															
178		856+37.17	473,496.00	2,273,333.79															
C15								863+22.80	474,181.59	2,273,326.77	866+44.03	474,502.80	2,273,323.48	869+65.18	474,823.91	2,273,332.41			
C16								869+65.19	474,823.91	2,273,332.41	872+86.41	475,145.01	2,273,341.33	876+07.56	475,466.22	2,273,338.25			
S4					916+22.36	479,480.84	2,273,299.76	917+97.36	479,655.80	2,273,296.30	925+37.88	480,396.32	2,273,290.98	932+34.27	481,018.00	2,272,888.62	934+09.27	481,166.10	
S5					940+10.37	481,671.51	2,272,470.00	941+85.37	481,819.60	2,272,376.77	949+27.70	482,442.81	2,271,973.43	956+25.61	483,185.14	2,271,969.01	958+00.61	483,360.11	
183		964+44.77	484,004.24	2,271,960.38															
186		964+47.70	484,003.91	2,271,944.49															
187		0+00.00	486,633.76	2,271,922.31															
188		26+58.24	489,291.91	2,271,899.95															
C17								1017+69.56	489,325.59	2,271,899.68	1022+96.34	489,852.35	2,271,895.53	1028+22.53	490,377.02	2,271,848.53			
C18								1037+97.73	491,348.33	2,271,761.51	1043+01.51	491,850.10	2,271,716.55	1048+04.67	492,353.88	2,271,714.71			
191		1048+04.67	492,353.88	2,271,714.71															
194		1048+04.85	492,353.67	2,271,668.78															
C19								1048+04.85	492,353.67	2,271,668.78	1053+73.80	492,922.61	2,271,665.75	1059+41.89	493,489.26	2,271,716.84			
C20								1059+41.89	493,489.26	2,271,716.84	1061+41.22	493,687.78	2,271,734.74	1063+40.52	493,886.80	2,271,746.01			
S6					1076+53.50	495,197.68	2,271,820.22	1079+97.99	495,540.56	2,271,851.70	1085+07.72	496,050.53	2,271,868.50	1089+44.10	496,380.76	2,272,257.48	1092+88.59	496,618.59	
198		1131+79.79	499,206.24	2,275,412.58															
Survey 145th St.																			
999991		0+00.00	470,771.65	2,272,114.29															
999992		13+03.13	470,804.37	2,273,417.00															
Survey IA 92																			
238		491+18.80	473,369.19	2,270,783.51															
C11								496+44.99	473,371.05	2,271,309.69	499+46.78	473,372.12	2,271,611.48	502+48.33	473,393.83	2,271,912.49			
240		509+79.76	473,446.43	2,272,642.02															
241		511+58.65	473,459.75	2,272,820.42															
242		514+69.37	473,481.57	2,273,130.37															
243		516+97.35	473,497.72	2,273,357.78															
244		518+49.60	473,508.17	2,273,509.67															
245		524+65.67	473,554.07	2,274,124.03															
246		529+94.75	473,589.13	2,274,651.94															
Survey 170th St.																			
249		3934+48.01	483,983.80	2,270,644.95															
250		3947+47.70	484,003.91	2,271,944.49															
Survey 180th St./ 180th St.																			
253		201000+33.65	489,258.44	2,270,198.05															
254		201017+35.88	489,291.91	2,271,899.95															
Survey 160th St.																			
999995		0+00.00	478,737.35	2,273,306.89															
999996		9+28.06	478,744.69	2,274,234.92															
US 61																			
20100		754+06.14	463,267.92	2,273,561.71															
20202								793+27.09	467,187.44	2,273,455.98	802+41.03	468,101.05	2,273,431.33	811+50.21	468,996.06	2,273,246.20			
20302								827+50.21	470,562.89	2,272,922.10	837+54.45	471,546.31	2,272,718.68	847+52.36	472,550.51	2,272,709.06			
20502								881+61.03	475,959.02	2,272,676.55	889+56.68	476,754.64	2,272,668.98	897+31.83	477,492.59	2,272,966.45			
20702								907+03.31	478,393.62	2,273,329.67	920+61.13	479,652.96	2,273,837.32	933+21.30	480,961.11	2,273,473.42			
20802								988+21.30	486,259.91	2,271,999.43	993+67.19	486,785.83	2,271,853.13	999+08.21	487,331.28	2,271,831.27			
20902								1040+08.21	491,427.99	2,271,667.07	1046+31.83	492,051.11	2,271,642.09	1052+54.48	492,673.73	2,271,677.34			
20999		1077+82.47	495,197.68	2,271,820.22															
US 61 NB Tie																			
22116								1986+83.04	486,137.70	2,272,075.98	1993+04.45	486,736.37	2,271,909.44	1999+18.69	487,357.76	2,271,904.22			
22117								2018+93.74	489,332.75	2,271,887.60	2024+16.51	489,855.49	2,271,883.21	2029+38.70	490,376.17	2,271,836.56			
22118								2039+13.70	491,347.28	2,271,749.55	2044+17.99	491,849.55	2,271,704.55	2049+21.65	492,353.83	2,271,702.71			

ENGLISH

IOWA DOT

DESIGN TEAM Van Dyke \ HR Green, Inc.

LOUISA

COUNTY

PROJECT NUMBER

NHSX-061-3(57)--3H-58

SHEET NUMBER G.10

ALIGNMENT COORDINATES

101-16
10-20-09

Name	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI (M) 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)
145th St. (Ult.)																			
50110		2800+47.26	470,769.97	2,271,867.39															
50122								2803+74.91	470,777.24	2,272,194.96	2807+49.74	470,785.56	2,272,569.69	2809+99.97	470,418.50	2,272,645.62			
50132								2815+64.59	469,865.59	2,272,759.99	2817+14.59	469,718.70	2,272,790.37	2818+00.21	469,749.09	2,272,937.26			
50172								2821+89.67	469,827.98	2,273,318.65	2823+15.06	469,853.38	2,273,441.44	2823+98.55	469,978.72	2,273,438.22			
50106		2832+24.48	470,804.37	2,273,417.00															
145th St. (Grad.)																			
50100		2800+47.26	470,769.97	2,271,867.39															
SR145_GRADING-1								2803+74.91	470,777.24	2,272,194.96	2807+49.74	470,785.56	2,272,569.69	2809+99.97	470,418.50	2,272,645.62			
SR145_GRADING-2								2815+64.59	469,865.59	2,272,759.99	2817+14.59	469,718.70	2,272,790.37	2818+00.21	469,749.09	2,272,937.26			
50101		2821+89.67	469,827.98	2,273,318.65															
SR145_GRADING-3								2822+24.96	469,835.13	2,273,353.21	2822+69.65	469,844.18	2,273,396.98	2823+14.10	469,845.33	2,273,441.65			
IA 92																			
55500		495+00.00	473,370.54	2,271,164.71															
55501								496+44.99	473,371.05	2,271,309.69	499+46.78	473,372.12	2,271,611.48	502+48.33	473,393.83	2,271,912.49			
55501		502+49.00	473,393.87	2,271,913.16															
55502		524+65.67	473,554.07	2,274,124.03															
170th St.																			
249		3934+48.01	483,983.80	2,270,644.95															
30000		8958+09.61	484,003.91	2,271,944.48															
30150								8970+20.00	484,022.64	2,273,154.73	8970+78.94	484,023.56	2,273,213.66	8971+35.03	484,054.51	2,273,263.82			
30200		8974+35.03	484,212.08	2,273,519.11															
175th St.																			
90100		9968+00.16	483,767.33	2,273,436.04															
90250								9983+68.82	485,112.59	2,272,629.21	9985+56.88	485,273.86	2,272,532.49	9987+42.98	485,454.02	2,272,478.56			
90350								9996+99.58	486,370.45	2,272,204.27	9999+81.35	486,640.39	2,272,123.48	10000+93.88	486,645.78	2,272,405.20			
90400		10004+10.88	486,651.84	2,272,722.14															
ENTL 497																			
9250		2497+70.00	473,372.38	2,271,434.70															
C9270								2498+45.10	473,447.46	2,271,433.37	2498+50.00	473,452.37	2,271,433.28	2498+52.85	473,452.55	2,271,438.18			
9275		2501+88.81	473,465.06	2,271,773.90															
ENTR 497																			
9250		2497+70.00	473,372.38	2,271,434.70															
9255								1498+20.00	473,322.39	2,271,435.58	1499+23.55	473,218.85	2,271,437.42	1499+80.57	473,224.30	2,271,540.83			
9260								1504+03.30	473,246.54	2,271,962.97	1505+06.49	473,251.97	2,272,066.02	1505+63.51	473,148.80	2,272,068.21			
9260		1508+08.24	472,904.13	2,272,073.42															
ENT 910																			
10303		1907+80.47	478,647.73	2,273,225.74															
10305		1911+38.00	478,996.50	2,273,304.40															
160th St.																			
90700		7898+58.87	477,717.43	2,273,316.67															
160.1								7899+50.58	477,809.13	2,273,315.79	7900+50.00	477,908.55	2,273,314.84	7901+46.48	477,999.66	2,273,354.62			
160.2								7906+53.99	478,464.77	2,273,557.71	7909+54.62	478,740.28	2,273,678.02	7911+87.74	478,743.66	2,273,978.64			
90730		7912+21.95	478,744.04	2,274,012.84															
90740		7917+21.95	478,749.66	2,274,512.81															
DET61.905																			
10110								300+00.00	477,746.79	2,273,011.78	307+95.80	478,484.88	2,273,309.31	315+71.08	479,280.64	2,273,301.68			
10125		316+48.93	479,358.48	2,273,300.93															
DET61.985																			
10011								400+00.00	484,750.69	2,271,938.19	406+66.59	485,417.25	2,271,932.57	413+30.82	486,075.94	2,271,830.19			
10021								421+46.38	486,881.82	2,271,704.93	424+43.52	487,175.44	2,271,659.29	427+37.84	487,471.52	2,271,684.31			
10031								428+80.70	487,613.87	2,271,696.34	434+49.11	488,180.27	2,271,744.20	440+16.06	488,748.22	2,271,721.43			
DET.E61																			
10201		1854+81.50	473,594.48	2,273,681.28															
C10205								1856+61.22	473,585.09	2,273,501.81	1857+65.56	473,579.64	2,273,397.61	1858+22.55	473,683.98	2,273,396.59			
10203		1862+05.04	474,066.46	2,273,392.86															
10204		1866+92.21	474,550.64	2,273,339.03															
IA 92 Ramp A																			
44000		1556+06.08	473,424.66	2,272,338.04															
44001								1566+89.74	474,489.32	2,272,540.13	1568+40.09	474,637.02	2,272,568.16	1569+90.00	474,787.12	2,272,576.73			
44002		1570+50.00	474,847.02	2,272,580.15															

ENGLISH

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COUNTY

PROJECT NUMBER

NHSX-061-3(57)--3H-58

SHEET NUMBER

G.11

ALIGNMENT COORDINATES

101-16
10-20-09

Name	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI (M) 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)
IA 92 Ramp B																			
45000		2543+50.00	472,153.55	2,272,827.64															
45001								2544+10.00	472,213.54	2,272,828.72	2545+77.17	472,380.68	2,272,831.71	2547+43.57	472,545.01	2,272,862.42			
45002		2556+89.90	473,475.25	2,273,036.21															
IA 92 Ramp C																			
46000		3542+50.00	472,043.41	2,272,639.27															
46001								3542+50.00	472,043.41	2,272,639.27	3544+03.16	472,196.10	2,272,627.28	3545+55.71	472,345.18	2,272,592.18			
46003		3556+64.71	473,424.66	2,272,338.04															
IA 92 Ramp D																			
47000		4556+49.96	473,475.25	2,273,036.21															
47001								4566+84.34	474,486.39	2,272,818.20	4568+67.68	474,665.61	2,272,779.56	4570+50.00	474,848.87	2,272,774.14			
47003		4570+50.00	474,848.87	2,272,774.14															
170th Ramp A																			
64000		5565+58.64	484,008.95	2,272,269.84															
64001								5575+46.52	484,993.87	2,272,193.49	5577+05.97	485,152.85	2,272,181.17	5578+65.00	485,308.97	2,272,148.75			
64002		5579+25.00	485,367.72	2,272,136.55															
170th Ramp B																			
65000		6551+00.00	482,703.41	2,273,099.82															
65001								6551+60.00	482,762.16	2,273,087.62	6553+19.36	482,918.19	2,273,055.22	6554+78.29	483,077.08	2,273,042.89			
65002		6564+23.83	484,019.78	2,272,969.75															
170th Ramp C																			
66000		7550+50.00	482,603.25	2,272,926.32															
66001								7550+50.00	482,603.25	2,272,926.32	7552+12.97	482,759.35	2,272,879.51	7553+75.21	482,905.81	2,272,808.05			
66003		7566+02.64	484,008.95	2,272,269.84															
170th Ramp D																			
67000		8563+81.59	484,019.78	2,272,969.75															
67002								8575+78.28	485,096.20	2,272,446.89	8577+39.49	485,241.21	2,272,376.45	8579+00.00	485,395.63	2,272,330.15			
67003		8579+00.00	485,395.63	2,272,330.15															

SPIRAL OR CIRCULAR CURVE DATA

101-17
04-19-11

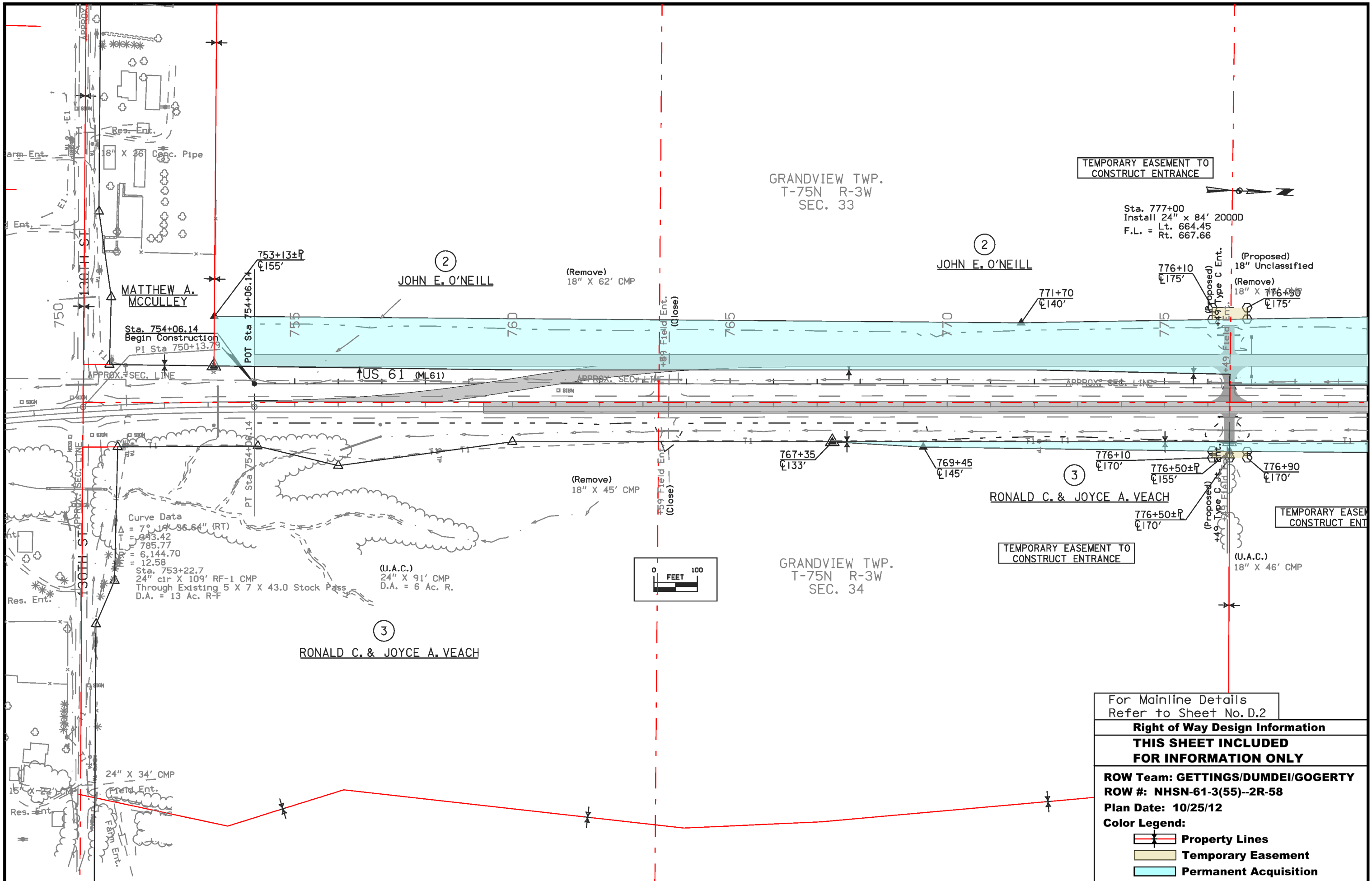
Name	Location	Δ _{scc}	Horizontal Alignment Data												Remarks		
			Spiral Data								Curve Data						
			θ _s	L _s	T _s	Es	Xc	Yc	L.T.	S.T.	Δ _c	T	L	R		E	
Survey 61/ Existing 61																	
C12												5° 53' 36.03" LT	315.81'	631.07'	6,135.32'	8.12'	
C13												7° 19' 36.64" RT	393.42'	785.77'	6,144.70'	12.58'	
C14												0° 57' 34.51" RT	300.00'	599.99'	35,824.44'	1.26'	
C15												2° 10' 42.82" RT	321.23'	642.38'	16,894.55'	3.05'	
C16												2° 08' 28.50" LT	321.22'	642.38'	17,188.74'	3.00'	
S4		32° 13' 28.31"	1° 44' 57.34"	175.00'	915.52'	117.64'	174.98'	1.78'	116.67'	58.34'		32° 13' 28.31" LT	733.89'	1,436.91'	2,866.00'	92.47'	
S5		32° 17' 42.45"	1° 44' 58.13"	175.00'	917.33'	118.16'	174.98'	1.78'	116.67'	58.34'		32° 17' 42.45" RT	735.67'	1,440.24'	2,865.64'	92.92'	
C17												4° 40' 05.44" LT	526.78'	1,052.97'	12,923.86'	10.73'	
C18												4° 54' 37.19" RT	503.78'	1,006.94'	11,749.44'	10.80'	
C19												5° 27' 24.49" RT	568.95'	1,137.04'	11,938.76'	13.55'	
C20												1° 54' 42.80" LT	199.33'	398.63'	11,946.18'	1.66'	
S6		45° 04' 39.16"	6° 00' 57.80"	344.49'	854.21'	138.92'	344.11'	12.05'	229.79'	114.95'		45° 04' 39.16" RT	486.62'	946.11'	1,640.42'	70.66'	
Survey IA 92																	
C11												3° 55' 17.09" LT	301.79'	603.34'	8,815.40'	5.16'	
US 61																	
20202												10° 08' 29.27" LT	913.95'	1,823.12'	10,300.00'	40.47'	
20302												11° 08' 14.61" RT	1,004.24'	2,002.16'	10,300.00'	48.84'	
20502												22° 30' 00.00" RT	795.65'	1,570.80'	4,000.00'	78.36'	
20702												37° 30' 00.00" LT	1,357.82'	2,617.99'	4,000.00'	224.18'	
20802												13° 15' 00.00" RT	545.89'	1,086.90'	4,700.00'	31.60'	
20902												5° 32' 07.21" RT	623.62'	1,246.27'	12,900.00'	15.06'	
US 61 NB Tie																	
22116												15° 03' 47.83" RT	621.41'	1,235.65'	4,700.00'	40.90'	
22117												4° 38' 15.44" LT	522.76'	1,044.96'	12,910.00'	10.58'	
22118												4° 54' 37.44" RT	504.28'	1,007.95'	11,761.00'	10.81'	
145th St. (Ult.)																	
50122												79° 35' 07.06" RT	374.83'	625.06'	450.00'	135.66'	
50132												90° 00' 00.00" LT	150.00'	235.62'	150.00'	62.13'	
50172												79° 47' 07.06" LT	125.39'	208.88'	150.00'	45.50'	
145th St. (Grad.)																	
SR145_GRADING-1												79° 35' 07.06" RT	374.83'	625.06'	450.00'	135.66'	
SR145_GRADING-2												90° 00' 00.00" LT	150.00'	235.62'	150.00'	62.13'	
SR145_GRADING-3												10° 12' 52.94" RT	44.69'	89.14'	500.00'	1.99'	
IA 92																	
55501												3° 55' 17.09" LT	301.79'	603.34'	8,815.40'	5.16'	
170th St.																	
30150												30° 47' 50.00" LT	58.94'	115.03'	214.00'	7.97'	
175th St.																	
90250												14° 17' 30.00" RT	188.05'	374.15'	1,500.00'	11.74'	
90350												105° 34' 00.97" RT	281.77'	394.29'	214.00'	139.82'	
ENTL 497																	
C9270												88° 52' 55.50" RT	4.90'	7.76'	5.00'	2.00'	
ENTR 497																	
9255												92° 00' 00.00" LT	103.55'	160.57'	100.00'	43.96'	
9260												91° 47' 49.01" RT	103.19'	160.22'	100.00'	43.69'	
160th St.																	
160.1												24° 08' 17.33" RT	99.42'	195.90'	465.00'	10.51'	
160.2												65° 46' 03.62" RT	300.64'	533.76'	465.00'	88.72'	
DET61.905																	
10110												22° 30' 14.66" LT	795.80'	1,571.08'	4,000.00'	78.39'	
DET61.985																	
10011												8° 21' 05.81" LT	666.59'	1,330.82'	9,130.00'	24.30'	
10021												13° 39' 52.44" RT	297.14'	591.46'	2,480.00'	17.74'	
10031												7° 07' 30.06" LT	568.41'	1,135.36'	9,130.00'	17.68'	
DET_E61																	
C10205												92° 26' 04.25" RT	104.34'	161.33'	100.00'	44.52'	

SUPERELEVATION DATA

See PV-300 Series

Road Identification	Circular Curve or Spiral Curve Name	Radius	Superelevation Data			Standard Road Plan	Section A-A	Section B-B	Section C-C	Section D-D	Section E-E	Section F-F	Case A	Case B	Case C	Case S	Case T	Case U	Remarks	
			e	L	x															
			%	FT	FT															
US 61	20202	10300	2.0	90	90	PV-302	791+74.09	792+64.09	793+54.09	793+54.09										
							813+03.21	812+13.21	811+23.21	811+23.21										
		20302	10300	2.0	90	PV-302	825+97.21	826+87.21	827+77.21	827+77.21										
							849+05.36	848+15.36	847+25.36	847+25.36										
		20502	4000	4.6	207	PV-302	879+26.13	880+16.13	881+06.13	882+23.13			881+61.03			881+96.13	881+96.13			
							899+66.73	898+76.73	897+86.73	896+69.73			897+31.83			896+96.73	896+96.73			
		20702	4000	4.6	207	PV-302	904+68.41	905+58.41	906+48.41	907+65.41			907+03.31			907+38.41	907+38.41			
20802		4700	4.0	180	90	PV-302	935+56.20	934+66.20	933+76.20	932+59.20			933+21.30			932+86.20	932+86.20			
							986+05.30	986+95.30	987+85.30	988+75.30			988+21.30			988+75.30	988+75.30			
							1001+24.21	1000+34.21	999+44.21	998+54.21			999+08.21			998+54.21	998+54.21			
		20902	12900																NORMAL CROWN	
US 61 NB TIE	22116	4700	4.0	180	90	PV-302	984+67.04	985+57.04	986+47.04	987+37.04			1986+83.04			1987+37.04	1987+37.04		NOTE 1	
							2001+34.69	2000+44.69	1999+54.69	1998+64.69			1999+18.69			1998+64.69	1998+64.69			
	22117	12910	2.0	90	90	PV-302	2017+40.74	2018+30.74	2019+20.74	2019+20.74				2018+93.74					NOTE 2	
	22118	11761					2030+91.70	2030+01.70	2029+11.70	2029+11.70				2029+38.70					NORMAL CROWN, NOTE 2	
DET 61_905	10110	4000	3.6	96	53	PV-301				304+71.63									NOTE 3	
										311+17.17										NOTE 4
DET 61_985	10011	9130	3.0	80	53	PV-301														NOTE 5
	10021	2480	5.0	133	53	PV-301	407+98.38	407+45.05	406+91.72	406+65.05			406+89.05							NOTE 5
							420+00.28	420+53.28	421+06.28	421+86.28			421+46.38			421+59.68	421+59.68			
	10031	9130	3.0	80	53	PV-301	428+83.94	428+30.94	427+77.94	426+97.94			427+37.84			427+24.54	427+24.54			
							431+93.99	432+47.32	433+00.65	433+27.32			433+03.32							NOTE 6
IA 92 RAMP A	44001	2300	5.2	162	62	PV-303	1566+38.34		1566+89.74	1567+38.34					1567+00.96	1567+00.96				
							1570+41.40		1569+90.00	1569+41.40					1569+78.78	1569+78.78				
IA 92 RAMP B	45001	2000	5.4	168	62	PV-303	2543+54.40		2544+10.00	2544+60.40					2544+16.84	2544+16.84				
							2547+99.17		2547+43.57	2546+93.17					2547+36.73	2547+36.73				
IA 92 RAMP C	46001	2000	5.4	168	62	PV-303	3541+94.40		3542+50.00	3543+00.40					3542+56.84	3542+56.84				
							3546+11.31		3545+55.71	3545+05.31					3545+48.87	3545+48.87				
IA 92 RAMP D	47001	2000	5.4	168	62	PV-303	4566+28.74		4566+84.34	4567+34.74					4566+91.18	4566+91.18				
							4571+05.60		4570+50.00	4569+99.60					4570+43.16	4570+43.16				
170TH ST RAMP A	64001	2500	5.0	155	62	PV-303	5575+00.02		5575+46.52	5575+93.02					5575+62.02	5575+62.02				
							5579+11.50		5578+65.00	5578+18.50					5578+49.50	5578+49.50				
170TH ST RAMP B	65001	2500	5.0	155	62	PV-303	6551+13.50		6551+60.00	6552+06.50					6551+75.50	6551+75.50				
							6555+24.79		6554+78.29	6554+31.79					6554+62.79	6554+62.79				
170TH ST RAMP C	66001	2000	5.4	168	62	PV-303	7549+94.40		7550+50.00	7551+00.40					7550+56.84	7550+56.84				
							7554+30.81		7553+75.21	7553+24.81					7553+68.37	7553+68.37				
170TH ST RAMP D	67002	2000	5.4	168	62	PV-303	8575+22.68		8575+78.28	8576+28.68					8575+85.12	8575+85.12				
							8579+55.60		8579+00.00	8578+49.60					8578+93.16	8578+93.16				

- NOTES:
 1. Sections A-A, B-B, and C-C based on US 61 stationing
 2. Based on existing curve
 3. Nominal e = 3.6%, e = 3.0% at tie-in with US 61
 4. Nominal e = 3.6%, e = 3.0% at tie-in with Existing 61
 5. Nominal e = Normal Crown, e = 3.0% at tie-in with Existing 61
 6. Nominal e = Normal Crown, e = 3.0% at tie-in with US 61



TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

Sta. 777+00
Install 24" x 84' 2000D
F.L. = Lt. 664.45
Rt. 667.66

GRANDVIEW TWP.
T-75N R-3W
SEC. 33

②
JOHN E. O'NEILL

MATTHEW A. MCCULLEY

②
JOHN E. O'NEILL

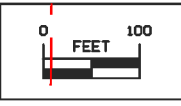
③
RONALD C. & JOYCE A. VEACH

③
RONALD C. & JOYCE A. VEACH

GRANDVIEW TWP.
T-75N R-3W
SEC. 34

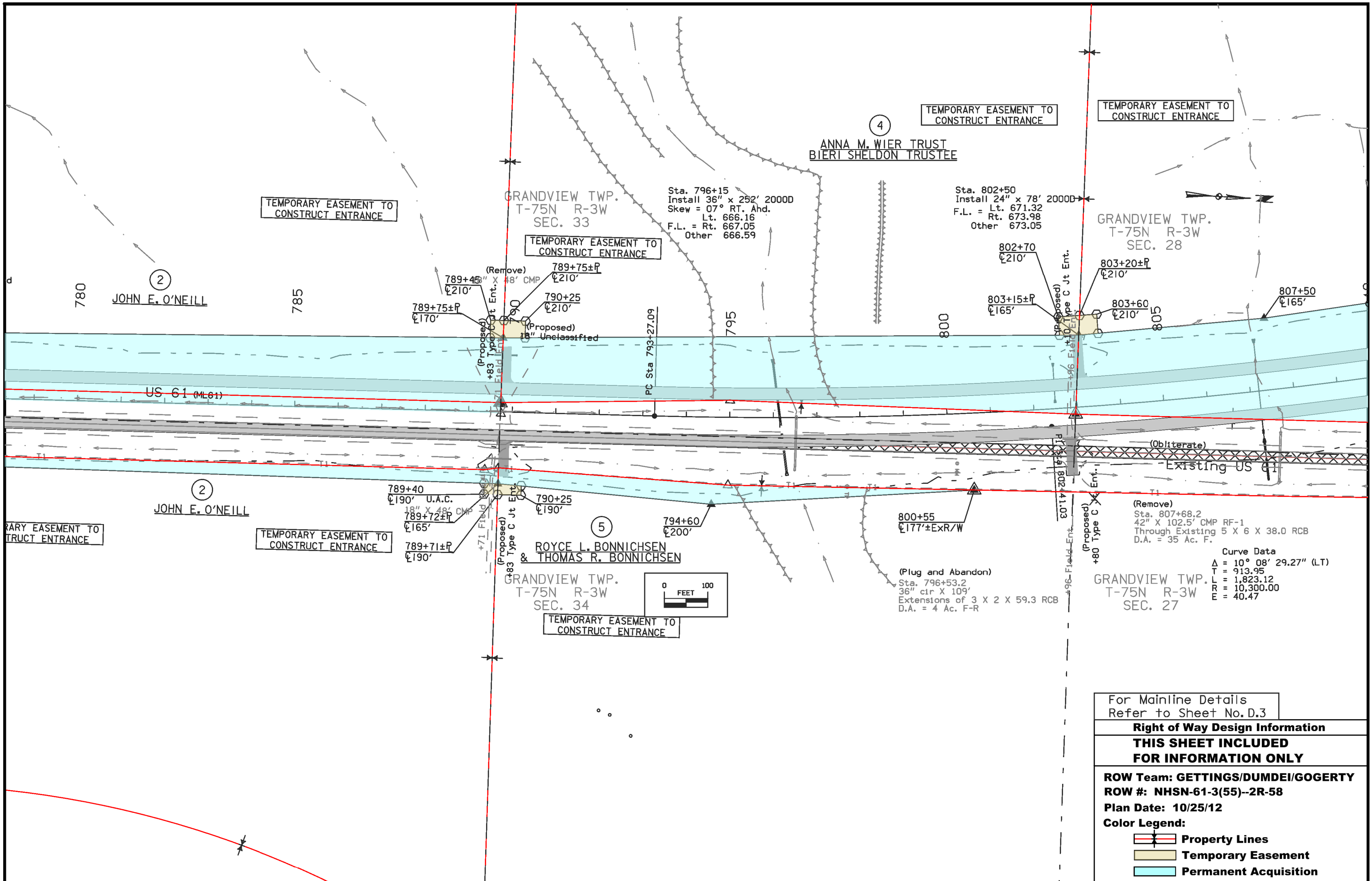
Curve Data
= 7° 19' 36.64" (RT)
= 43.42
= 785.77
= 6,144.70
= 12.58
Sta. 753+22.7
24" cir X 109' RF-1 CMP
Through Existing 5 X 7 X 43.0 Stock Pass
D.A. = 13 Ac. R-F

(U.A.C.)
24" X 91' CMP
D.A. = 6 Ac. R.

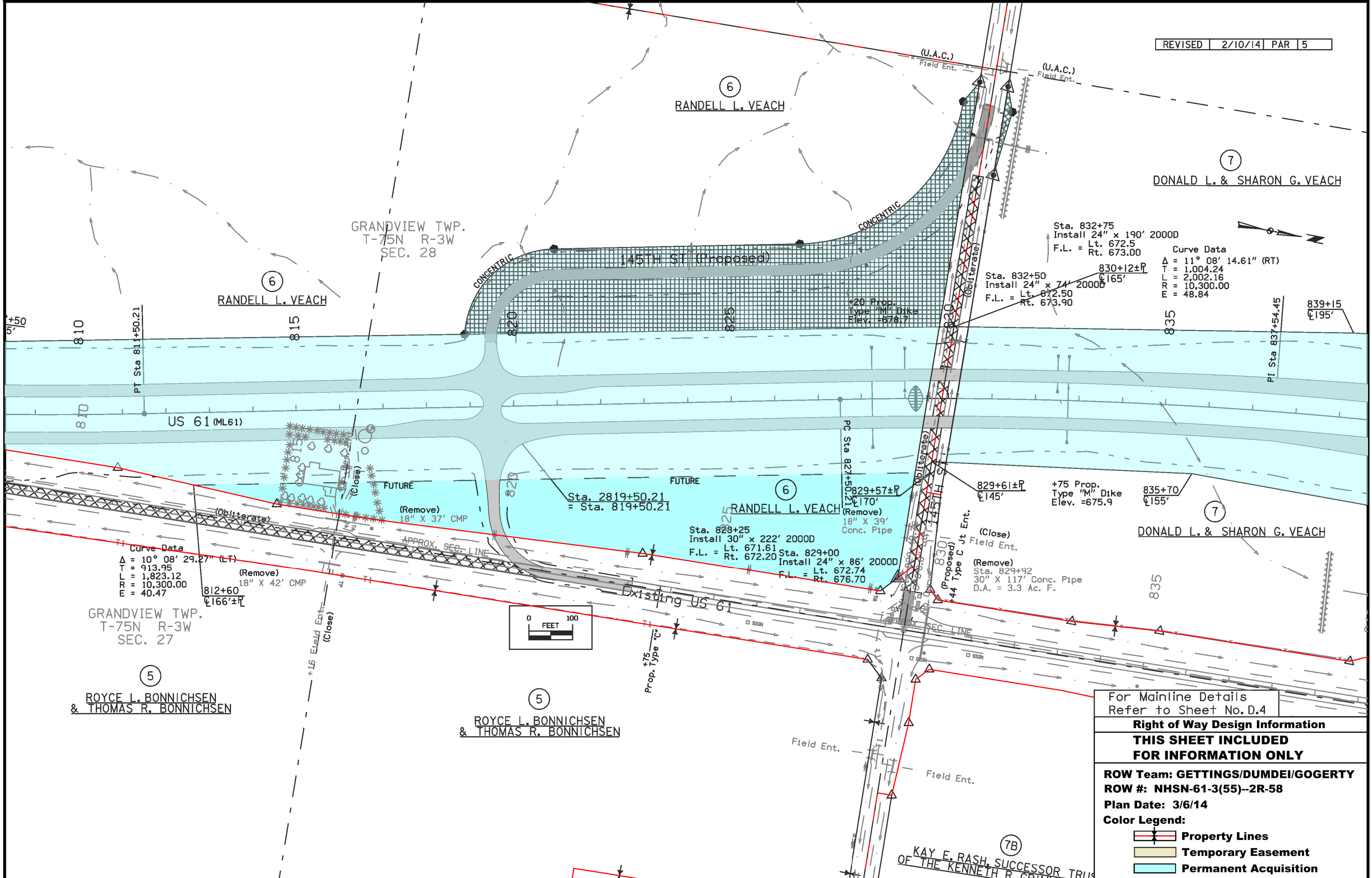


For Mainline Details
Refer to Sheet No. D.2

Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY
ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: NHSN-61-3(55)--2R-58
Plan Date: 10/25/12
Color Legend:
Property Lines
Temporary Easement
Permanent Acquisition



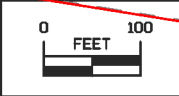
For Mainline Details Refer to Sheet No. D.3
Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY
ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: NHSN-61-3(55)--2R-58
Plan Date: 10/25/12
Color Legend:
Property Lines
Temporary Easement
Permanent Acquisition



Curve Data
 $\Delta = 10^\circ 08' 29.27''$ (LT)
 $T = 913.95$
 $L = 1,823.12$
 $R = 10,300.00$
 $E = 40.47$

Sta. 832+75
 Install 24" x 190' 2000D
 F.L. = Lt. 672.5
 Rt. 673.00

Curve Data
 $\Delta = 11^\circ 08' 14.61''$ (RT)
 $T = 1,004.24$
 $L = 2,002.16$
 $R = 10,300.00$
 $E = 48.84$



For Mainline Details Refer to Sheet No. D.4
Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY
ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: NHSN-61-3(55)--2R-58
Plan Date: 3/6/14
Color Legend:
Property Lines
Temporary Easement
Permanent Acquisition

REVISED	8/21/13	PAR	8A,8B,8E
REVISED	11/19/13	PAR	7C

7A
ANNA J. DAWSON

7
DONALD L. & SHARON G. VEACH
GRANDVIEW TWP.
T-75N R-3W
SEC. 28

8
INVESTMENT REAL ESTATE LLC
GRANDVIEW TWP.
T-75N R-3W
SEC. 21

Curve Data
 $\Delta = 11^{\circ} 08' 14.51''$ (RT)
 $T = 1,004.24$
 $L = 2,002.16$
 $RR = 10,300.00$
 $E = 48.84$

Sta. 844+00
 Install 78" x 336' 20000
 Skew = 10° LT. Ahd.
 F.L. = Lt. 652.47
 Rt. 653.81

843+16±SecLine
 ±220'

855+05
 ±415'

506+15±

Sta. 1556+90 Ramp A
 Install 36" x 86' 20000
 Skew = 12° RT. Ahd.
 F.L. = Lt. 659.00
 Rt. 660.00

Sta. 1560+50 Ramp A
 Install 36" x 66' 20000
 Skew = 05° LT. Ahd.
 F.L. = Lt. 660.10
 Rt. 660.50

848+50
 ±265'

Sta. 3555+90 Ramp C
 Install 30" x 64' 20000
 Skew = 05° LT. Ahd.
 F.L. = Lt. 661.24
 Rt. 661.58

Sta. 857+25.83
 Install 36" x 300' 30000
 Skew = 2.6° RT. Ahd.
 F.L. = Lt. 661.27
 Rt. 664.43

867+25
 ±215'

US 61 (ML61)

Sta. 855+84.09
 Install 24" x 286' 30000
 Skew = 3.6° RT. Ahd.
 F.L. = Lt. 662.25
 Rt. 663.54

(Remove)
 Two 24" X
 24' CMP

Sta. 510+38.38
 = Sta. 856+52.82

Sta. 860+40
 Install 30" x 360' 37500
 F.L. = Lt. 661.25
 Rt. 662.93

7
DONALD L. & SHARON G. VEACH
 Sta. 2556+17 Ramp B
 Install 24" x 88' 20000
 Skew = 15° RT. Ahd.
 F.L. = Lt. 664.54
 Rt. 664.98

Sta. 4557+30 Ramp D
 Install 52" x 32" x 92' 20000
 Skew = 07° LT. Ahd.
 F.L. = Lt. 664.90
 Rt. 666.00

Sta. 4560+40 Ramp D
 Install 30" x 90' 20000
 F.L. = Lt. 663.73
 Rt. 664.73

For Detour Details
 Refer to Sheet No. F.6
 For Mainline Details
 Refer to Sheet No. D.5
 For Interchange Details
 Refer to Sheet No. KI-K6

Right of Way Design Information

**THIS SHEET INCLUDED
 FOR INFORMATION ONLY**

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: NHSN-61-3(55)--2R-58

Plan Date: 11/19/13

Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition

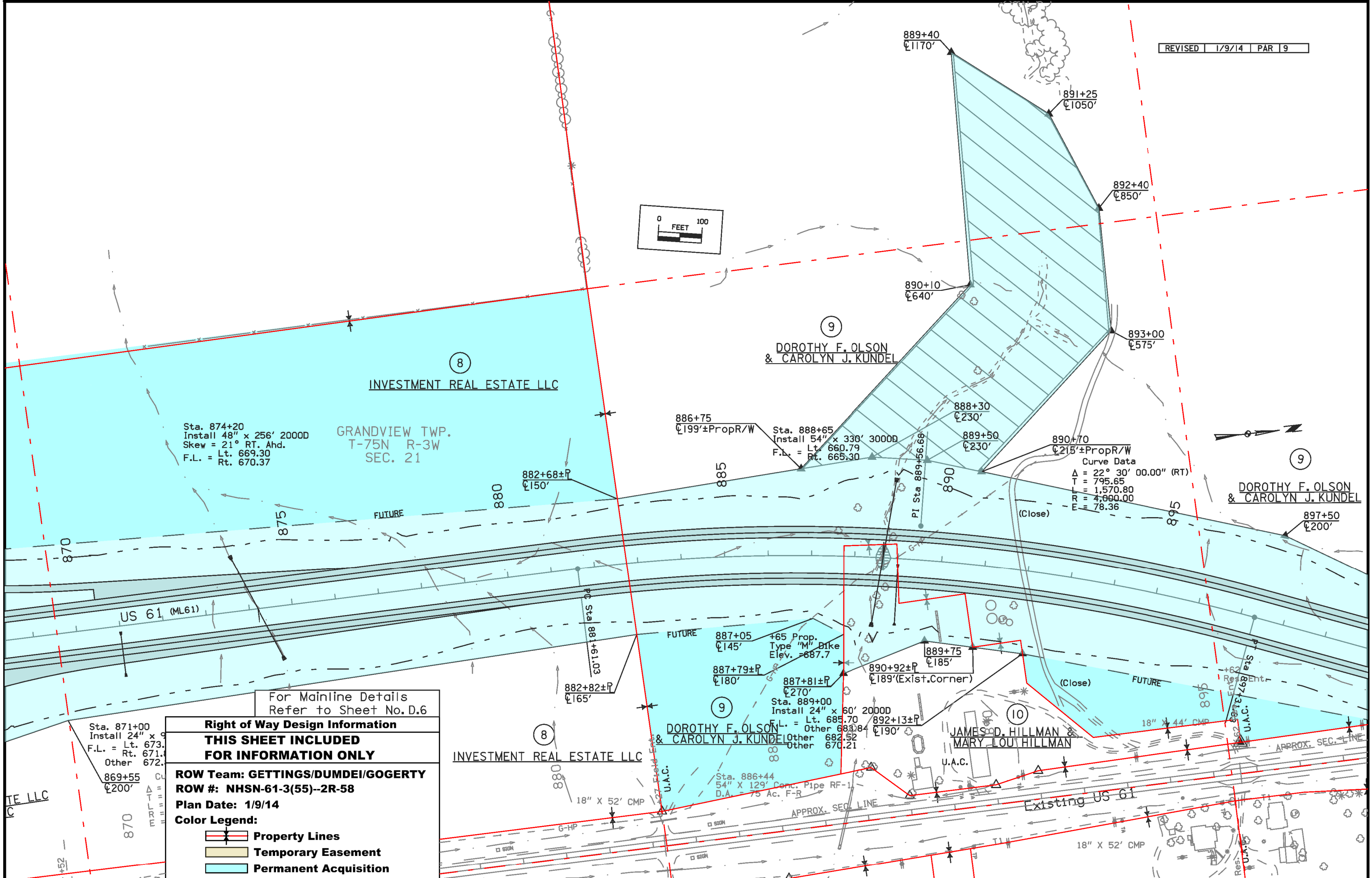
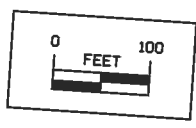
Curve Data
 $\Delta = 0^{\circ} 57' 34.51''$ (RT)
 $T = 300.00$
 $L = 599.99$
 $RR = 35,824.44$
 $E = 1.26$

Curve Data
 $\Delta = 2^{\circ} 10' 42.82''$ (RT)
 $T = 321.23$
 $L = 642.38$
 $RR = 16,894.55$
 $E = 3.05$

KAY E. RASH, SUCCESSOR TRUSTEE
 OF THE KENNETH R. GRIMM REV. TRUST

8A
CARNER, INC.
8B
LOUISA COUNTY AREA
VIETNAM VETERANS

8E
KAREN J. SCHANTZ



Sta. 874+20
Install 48" x 256' 2000D
Skew = 21° RT. Ahd.
F.L. = Lt. 669.30
Rt. 670.37

GRANDVIEW TWP.
T-75N R-3W
SEC. 21

DOROTHY F. OLSON
& CAROLYN J. KUNDEL

DOROTHY F. OLSON
& CAROLYN J. KUNDEL

Curve Data
Δ = 22° 30' 00.00" (RT)
T = 795.65
L = 1,570.80
R = 4,000.00
E = 78.36

For Mainline Details Refer to Sheet No. D.6

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

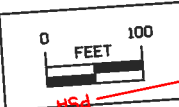
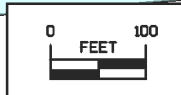
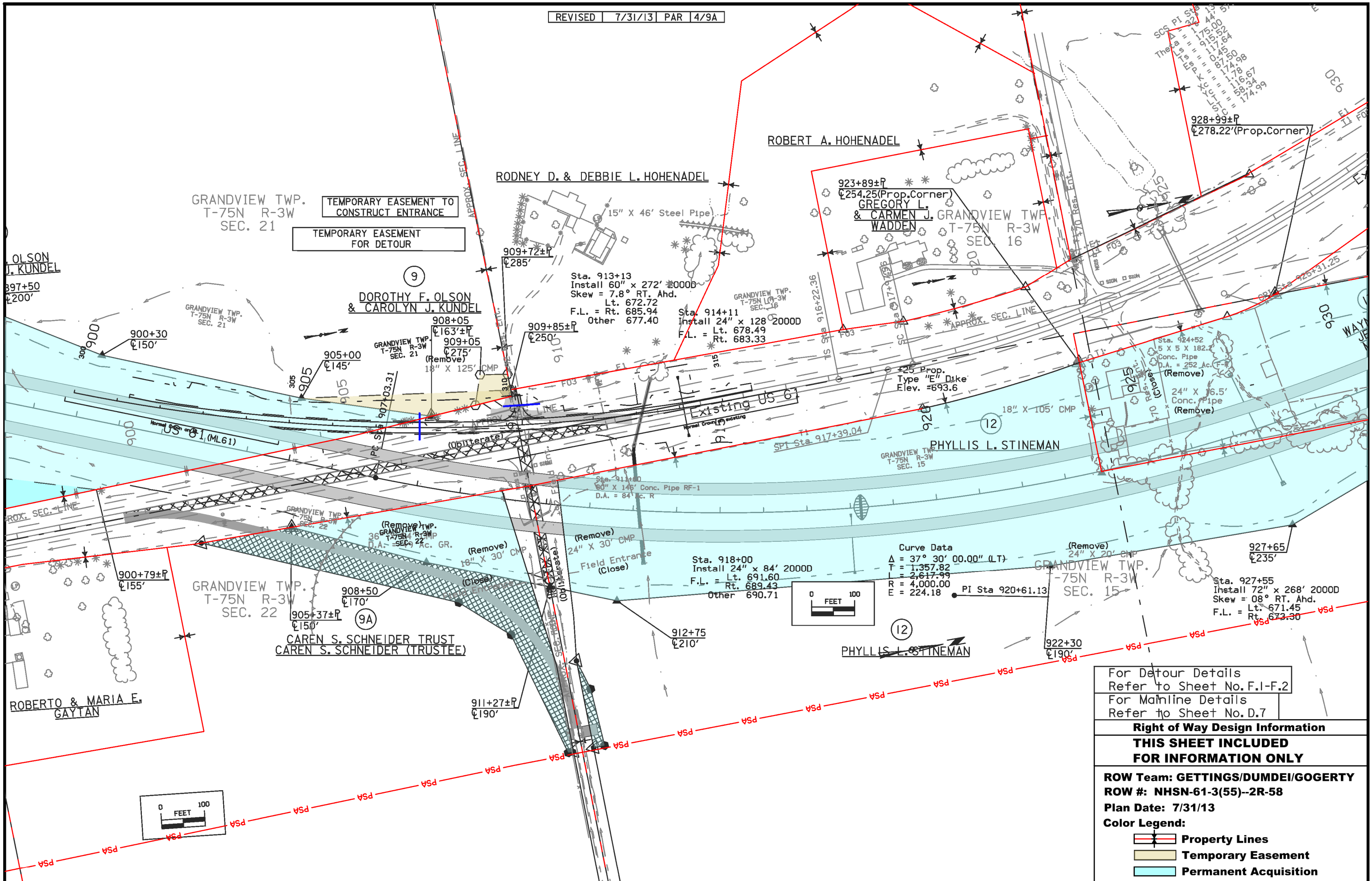
ROW Team: GETTINGS/DUMDEI/GOGERTY

ROW #: NHSN-61-3(55)--2R-58

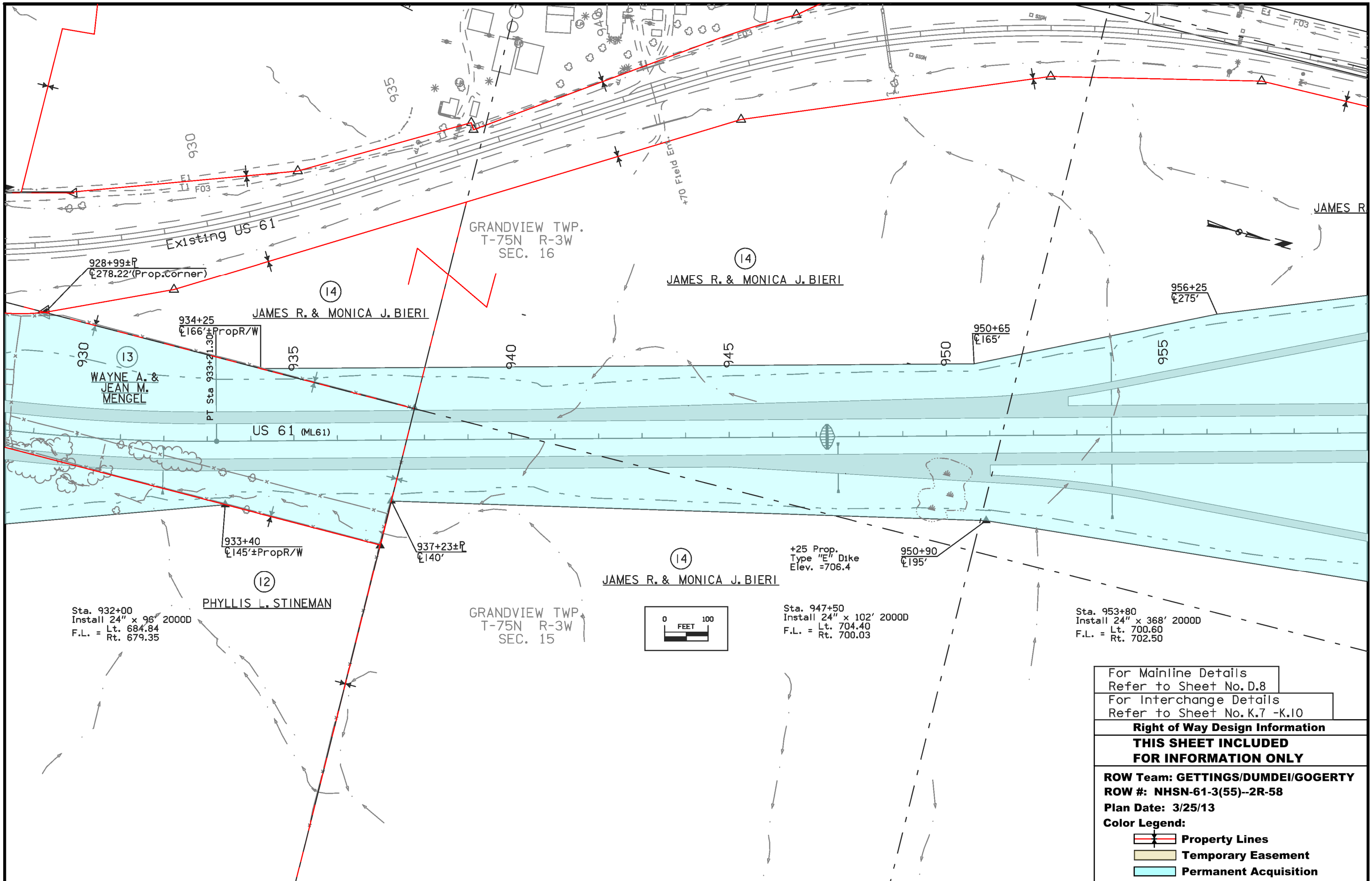
Plan Date: 1/9/14

Color Legend:

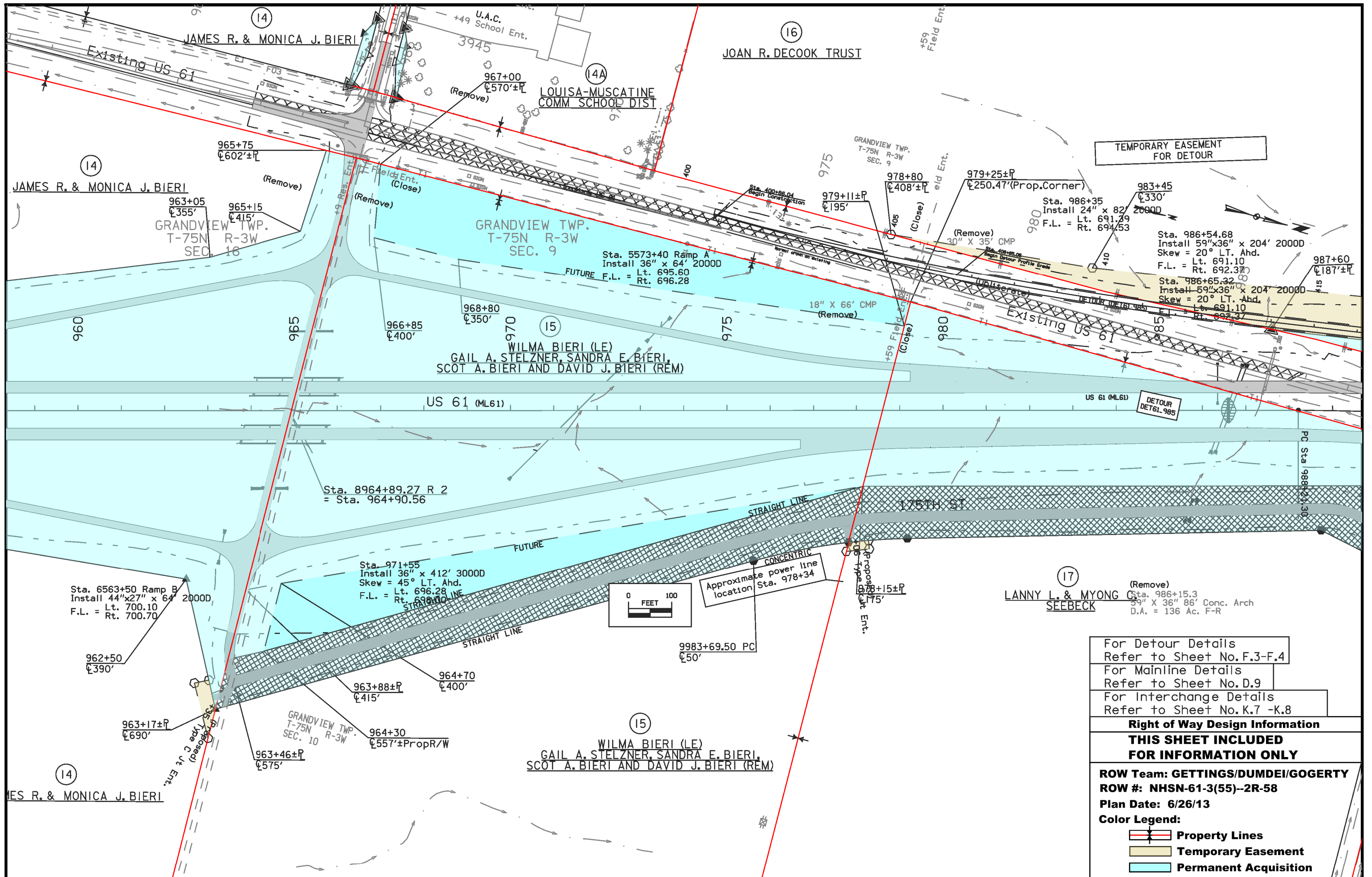
- Property Lines**
- Temporary Easement**
- Permanent Acquisition**



For Detour Details Refer to Sheet No. F.1-F.2
For Mainline Details Refer to Sheet No. D.7
Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY
ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: NHSN-61-3(55)--2R-58
Plan Date: 7/31/13
Color Legend:
Property Lines
Temporary Easement
Permanent Acquisition



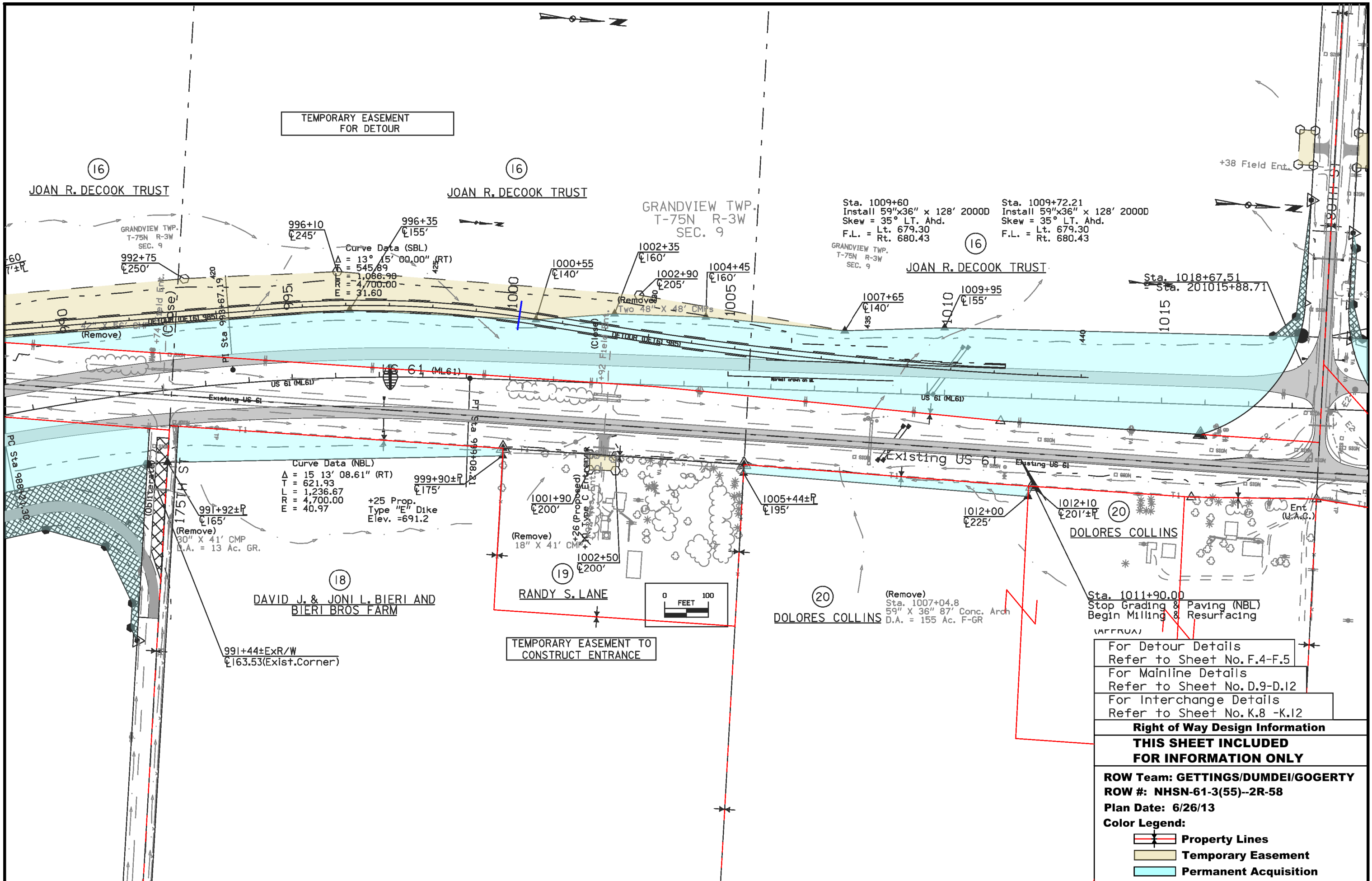
For Mainline Details Refer to Sheet No. D.8
For Interchange Details Refer to Sheet No. K.7 -K.10
Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY
ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: NHSN-61-3(55)--2R-58
Plan Date: 3/25/13
Color Legend:
Property Lines
Temporary Easement
Permanent Acquisition



TEMPORARY EASEMENT FOR DETOUR

For Detour Details
Refer to Sheet No. F.3-F.4
For Mainline Details
Refer to Sheet No. D.9
For Interchange Details
Refer to Sheet No. K.7 -K.8

Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY
ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: NHSN-61-3(55)--2R-58
Plan Date: 6/26/13
Color Legend:
 Property Lines
 Temporary Easement
 Permanent Acquisition



TEMPORARY EASEMENT FOR DETOUR

16
JOAN R. DECOOK TRUST

16
JOAN R. DECOOK TRUST

GRANDVIEW TWP.
T-75N R-3W
SEC. 9

Sta. 1009+60
Install 59"x36" x 128' 2000D
Skew = 35° LT. Ahd.
F.L. = Lt. 679.30
Rt. 680.43

Sta. 1009+72.21
Install 59"x36" x 128' 2000D
Skew = 35° LT. Ahd.
F.L. = Lt. 679.30
Rt. 680.43

16
JOAN R. DECOOK TRUST

Sta. 1018+67.51
Sta. 201015+88.71

Curve Data (NBL)
Δ = 15° 13' 08.61" (RT)
T = 621.93
L = 1,236.67
R = 4,700.00
E = 40.97
+25 Prop. Type "E" Dike Elev. = 691.2

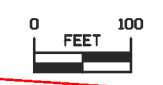
18
DAVID J. & JONI L. BIERI AND BIERI BROS FARM

19
RANDY S. LANE

20
DOLORES COLLINS
(Remove)
Sta. 1007+04.8
59" X 36" 87' Conc. Arch
D.A. = 155 Ac. F-GR

20
DOLORES COLLINS

Sta. 1011+90.00
Stop Grading & Paving (NBL)
Begin Milling & Resurfacing



TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

For Detour Details
Refer to Sheet No. F.4-F.5
For Mainline Details
Refer to Sheet No. D.9-D.12
For Interchange Details
Refer to Sheet No. K.8 -K.12

Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: NHSN-61-3(55)--2R-58
Plan Date: 6/26/13

Color Legend:
Property Lines
Temporary Easement
Permanent Acquisition

T-75N R-3W
SEC. 4

REVISED 1/13/14 PAR 21, 23R

TEMPORARY EASEMENT TO
CONSTRUCT ENTRANCE

(23)
MARK A. STOUT

GRANDVIEW TWP.
T-75N R-3W
SEC. 4

Curve Data
Δ = 5° 32' 07.21" (RT)
T = 623.62
L = 1,246.27
R = 12,900.00
E = 15.06

Sta. 1020+42
30" X 86' Conc. Pipe
D.A. = 8.3 Ac. F-GR
(U.A.C.)

DAKOTA, MINNESOTA
& EASTERN RR

(21)
JAMES R. & MONICA J. BIERI

Sta. 1035+99.72
180.25' X 44' Conc.
I-Beam Bridge
(U.A.C.)
Sta. 1039+00
Install 30" x 138' 3000D
Skew = 10.3° LT. Ahd.
F.L. = Lt. 692.96
Rt. 692.5
1039+12±
±180'

Sta. 1039+37.62
Stop 82' Median (Typ.)
Begin Median Transition

1035+00
±142'±PropR/W

(Remove)
10" 109±
41' CMP

18" Typ. Ent.
+70 Field Ent.

1042+45
±190'

1043+25
±190'

1044+00
±165'

(Proposed)
18" Unclassified

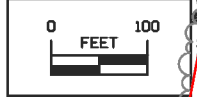
1045

1046+31.83

Sta. 1049+35.53
End Milling
& Resurfacing

DONALD D. STURMS AND
TODD J. & SHELLY S. STURMS

(U.A.C.)
Sta. 1037+58.7
4 X 6 X 66.5" Conc. Arch
D.A. = 15 Ac. R-F



DAKOTA, MINNESOTA
& EASTERN RR

JOHN T. &
LINDA S. VERTINK

BRUCE & VICKIE COLBURN, LLC

DONALD D. STURMS AND
TODD J. & SHELLY S. STURMS

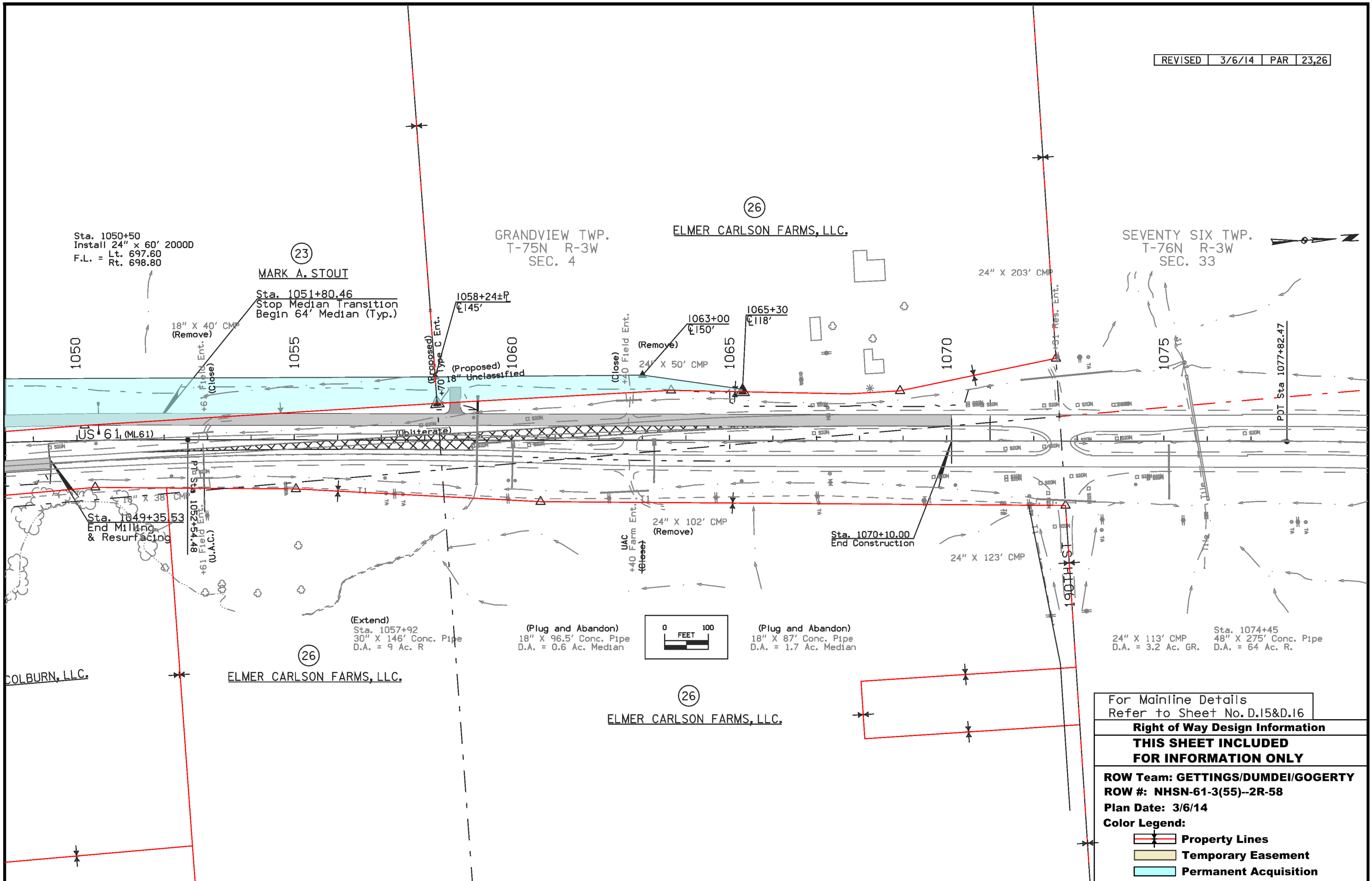
TODD J. &
SHELLY S. STURMS

For Mainline Details
Refer to Sheet No. D.13&D.14

Right of Way Design Information
THIS SHEET INCLUDED
FOR INFORMATION ONLY

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: NHSN-61-3(55)--2R-58
Plan Date: 3/5/14

Color Legend:
[Red Line] **Property Lines**
[Yellow Box] **Temporary Easement**
[Blue Box] **Permanent Acquisition**



For Mainline Details
Refer to Sheet No. D.15&D.16

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: NHSN-61-3(55)--2R-58
Plan Date: 3/6/14

Color Legend:

- Property Lines**
- Temporary Easement**
- Permanent Acquisition**

7 DONALD L. & SHARON G. VEACH

5 ROYCE L. BONNICHSEN & THOMAS R. BONNICHSEN

6 RANDELL L. VEACH

5 ROYCE L. BONNICHSEN & THOMAS R. BONNICHSEN

Sta. 2804+50
Install 30" x 30' 2000D
Lt. 668.29
F.L. = Rt. 667.54

2803+25
±36'±ExR/W

2803+80
±55'

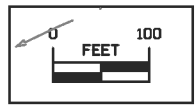
2805+15±ExR/W
±60'

Curve Data
Δ = 79° 35' 07.06" (RT)
T = 374.83
L = 625.06
R = 450.00
E = 135.66

Curve Data
Δ = 90° 00' 00.00" (LT)
T = 150.00
L = 235.62
R = 150.00
E = 62.13

Curve Data
Δ = 79° 47' 07.06" (LT)
T = 125.39
L = 208.88
R = 150.00
E = 45.50

Sta. 2808+50
Install 44" x 27" x 30' 2000D
Lt. 671.00
F.L. = Rt. 670.00



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 #: NHSN-61-3(55)--2R-58
Plan Date: 3/6/14

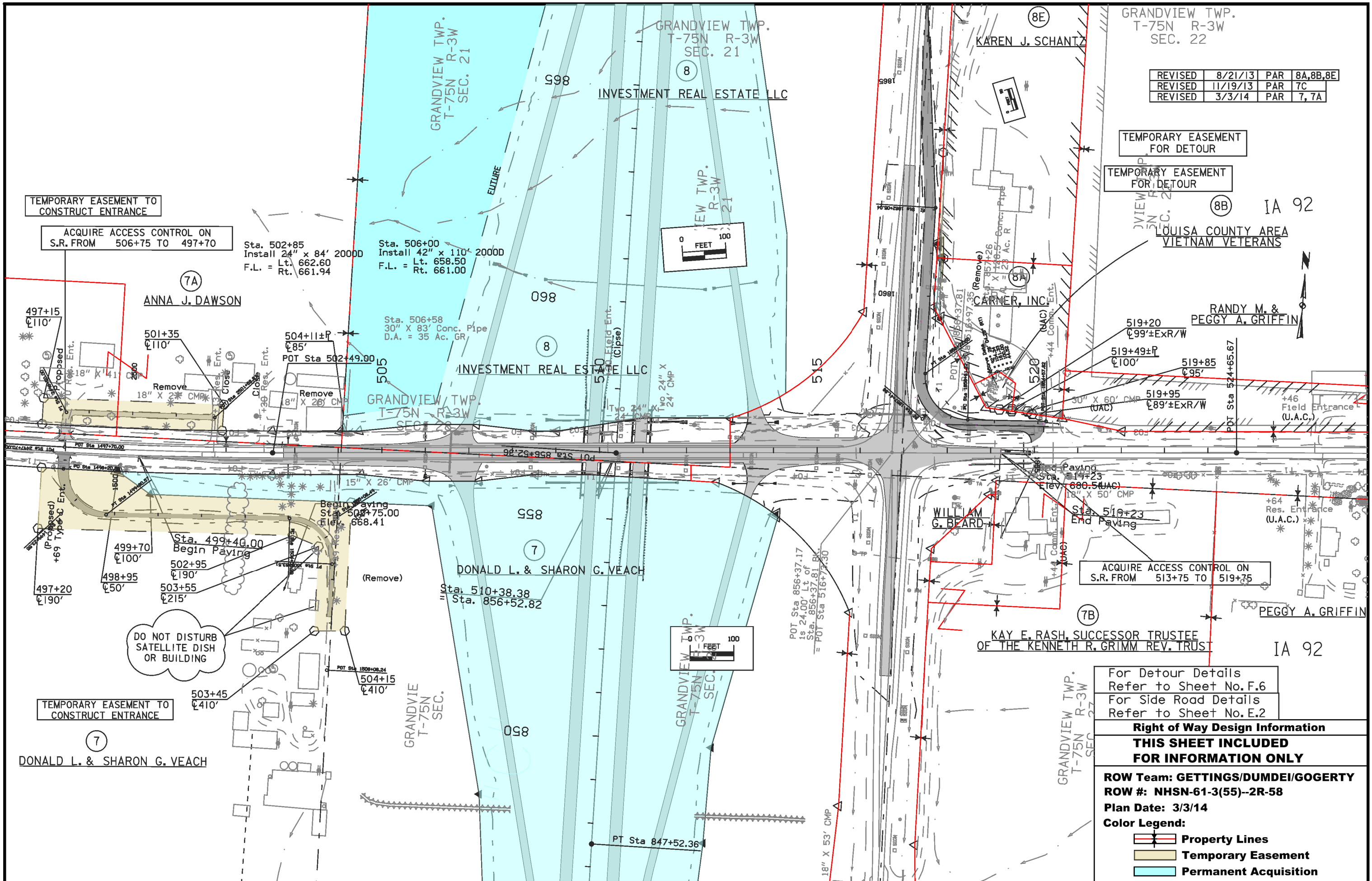
Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition

ACQUIRE ACCESS CONTROL ON S.R. FROM 2819+50.21 TO 2817+31

ACQUIRE ACCESS CONTROL ON S.R. FROM 2819+50.21 TO 2821+67

145th Street



GRANDVIEW TWP.
T-75N R-3W
SEC. 22

REVISED	8/21/13	PAR	8A,8B,8E
REVISED	11/19/13	PAR	7C
REVISED	3/3/14	PAR	7, 7A

TEMPORARY EASEMENT FOR DETOUR

TEMPORARY EASEMENT FOR DETOUR

LOUISA COUNTY AREA
VIETNAM VETERANS

RANDY M. &
PEGGY A. GRIFFIN

ACQUIRE ACCESS CONTROL ON
S.R. FROM 513+75 TO 519+75

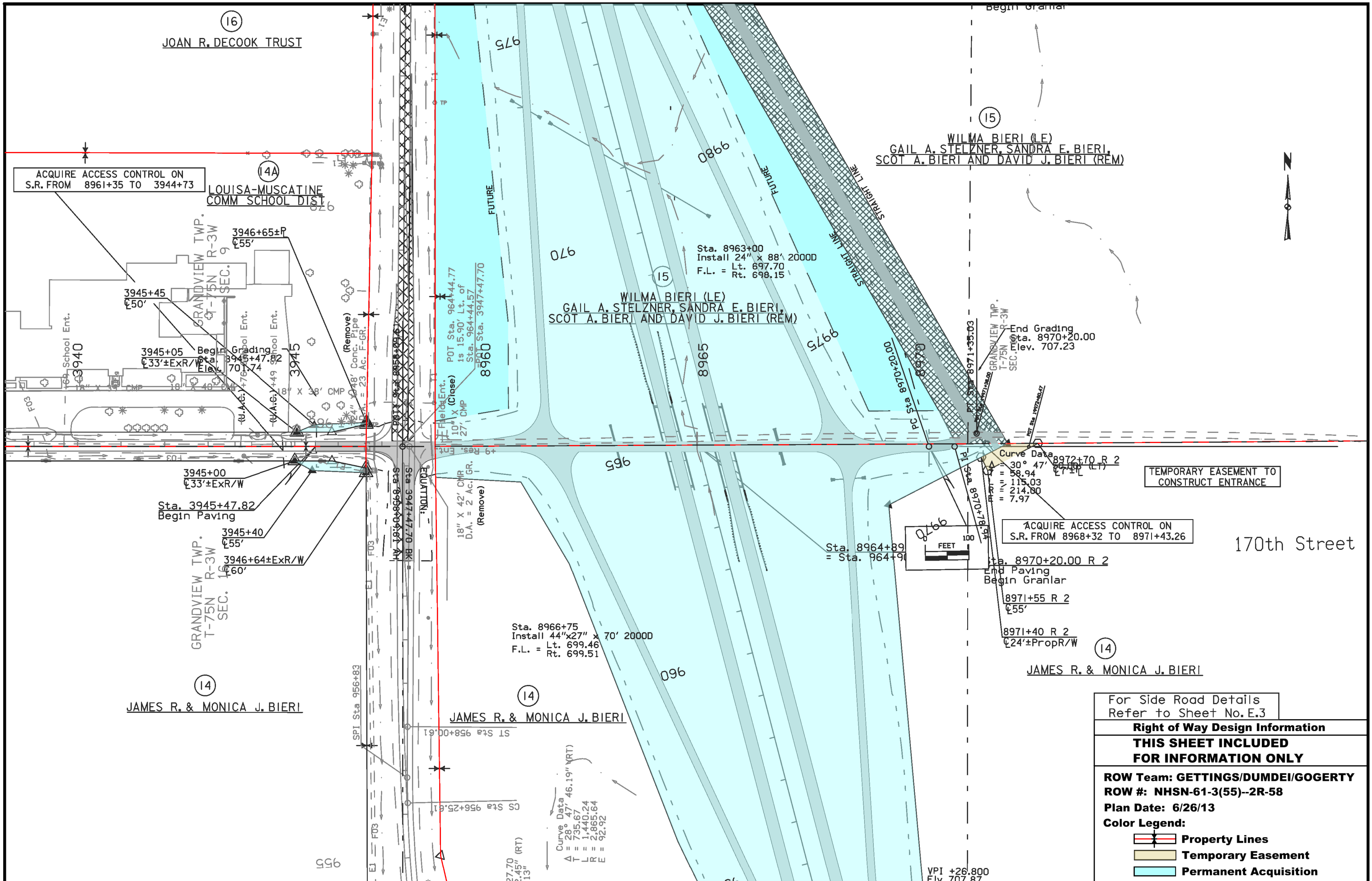
KAY E. RASH, SUCCESSOR TRUSTEE
OF THE KENNETH R. GRIMM REV. TRUST

For Detour Details
Refer to Sheet No. F.6
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 #: NHSN-61-3(55)--2R-58
Plan Date: 3/3/14
Color Legend:

- Property Lines**
- Temporary Easement**
- Permanent Acquisition**

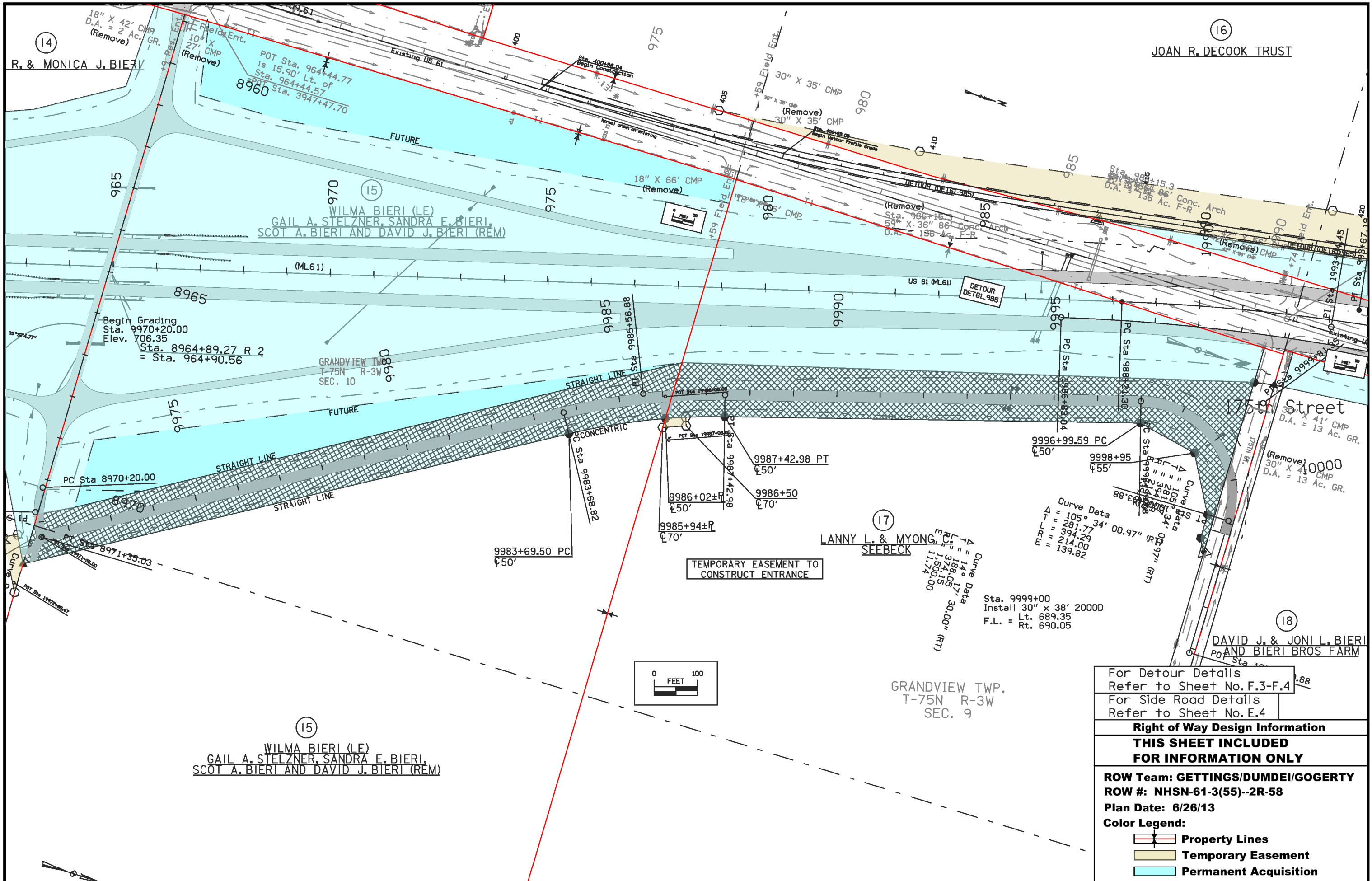


TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

ACQUIRE ACCESS CONTROL ON S.R. FROM 8968+32 TO 8971+43.26

170th Street

For Side Road Details Refer to Sheet No. E.3	
Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: GETTINGS/DUMDEI/GOGERTY	
ROW #: NHSN-61-3(55)--2R-58	
Plan Date: 6/26/13	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



16
JOAN R. DECOOK TRUST

14
R. & MONICA J. BIERI

15
WILMA BIERI (LE)
GAIL A. STELZNER, SANDRA E. BIERI,
SCOT A. BIERI AND DAVID J. BIERI (REM)

17
LANNY L. & MYONG
SEEBECK

18
DAVID J. & JONI L. BIERI
AND BIERI BROS FARM

GRANDVIEW TWP.
T-75N R-3W
SEC. 9

For Detour Details
Refer to Sheet No. F.3-F.4

For Side Road Details
Refer to Sheet No. E.4

Right of Way Design Information

**THIS SHEET INCLUDED
FOR INFORMATION ONLY**

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: NHSN-61-3(55)--2R-58
Plan Date: 6/26/13

Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition

Sta. 1997+00 NB Tie
 Install 24" x 68' 2000D
 Lt. 689.20
 F.L. = Rt. 686.83

(18)
 DAVID J. & JONI L. BIERI AND
 BIERI BROS FARM

Begin Grading
 Sta. 10001+25.00
 Elev. 693.61

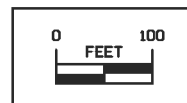
POT Sta. 10004+10.88

10001+80
 ±34'±ExR/W
 Sta. 10001+25.00
 End Granular
 10001+50
 ±50'
 10000+93.87 PT
 ±50'

(17)
 LANNY L. & MYONG C.
 SEEBECK

GRANDVIEW TWP.
 R-3M
 T-75N
 SEC. 9

Curve Data
 $\Delta = 14^\circ 17' 30.00''$ (RT)
 T = 188.05
 L = 374.15
 R = 1,500.00
 E = 11.74



175th Street

For Side Road Details
 Refer to Sheet No. E.5

Right of Way Design Information
THIS SHEET INCLUDED
FOR INFORMATION ONLY

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: NHSN-61-3(55)--2R-58
Plan Date: 10/24/12

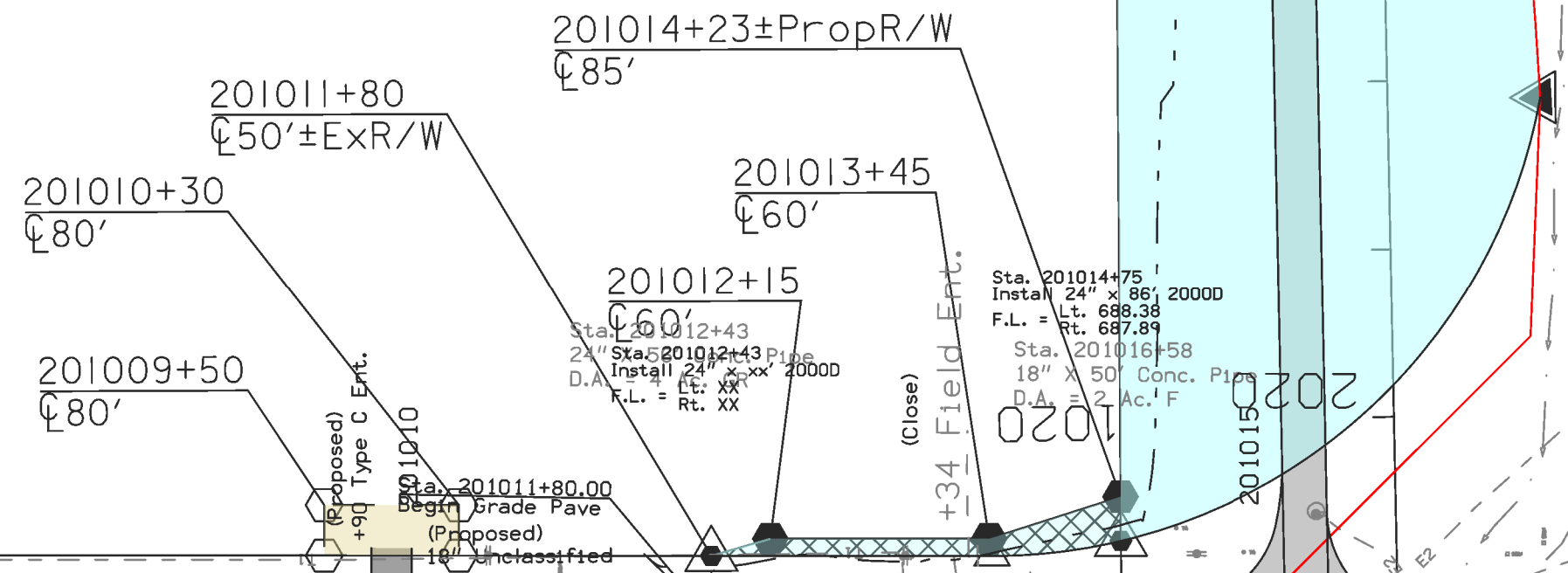
Color Legend:
Property Lines
Temporary Easement
Permanent Acquisition

GRANDVIEW TWP
T-75N R-3W
SEC. 4

TEMPORARY EASEMENT TO
CONSTRUCT ENTRANCE

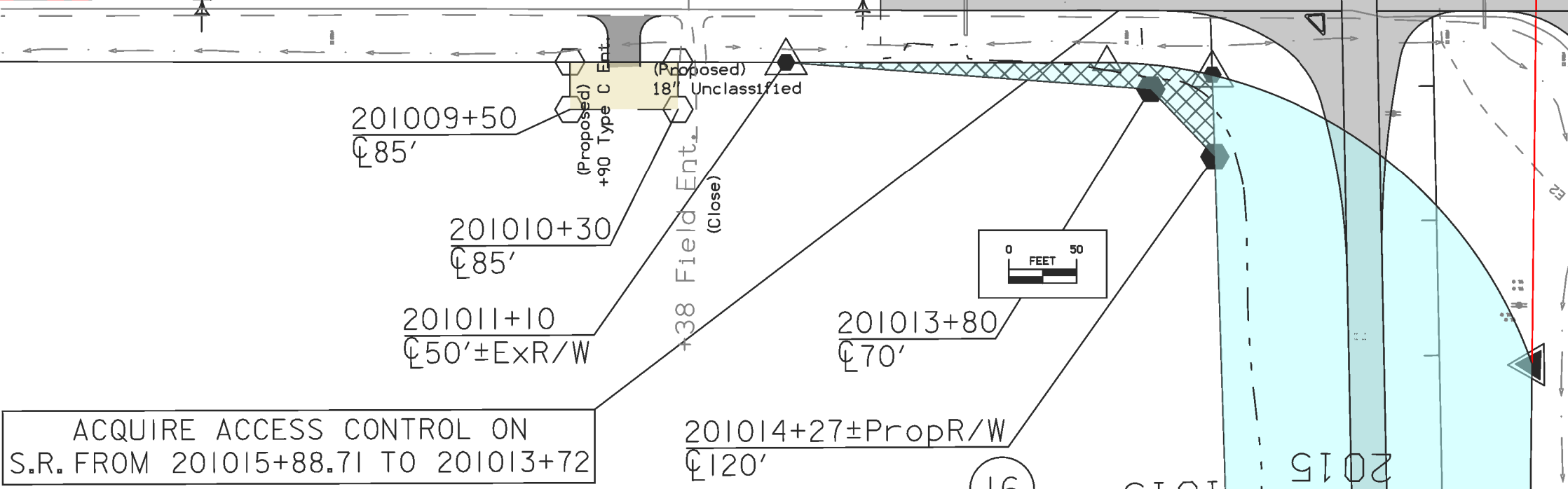
JAMES R. & MONICA J. BIERI

(21)



Sta. 201014+75
Instal 24" x 86' 2000D
Lt. 688.38
F.L. = Rt. 687.89
Sta. 201016+58
18" x 50' Conc. Pipe
D.A. = 2 Ac. F

DONALD D. STU
TODD (U.C.) & SHELLY



ACQUIRE ACCESS CONTROL ON
S.R. FROM 201015+88.71 TO 201013+72

TEMPORARY EASEMENT TO
CONSTRUCT ENTRANCE

JOAN R. DECOOK TRUST

(16)

For Side Road Details
Refer to Sheet No. E.6

Right of Way Design Information
THIS SHEET INCLUDED
FOR INFORMATION ONLY

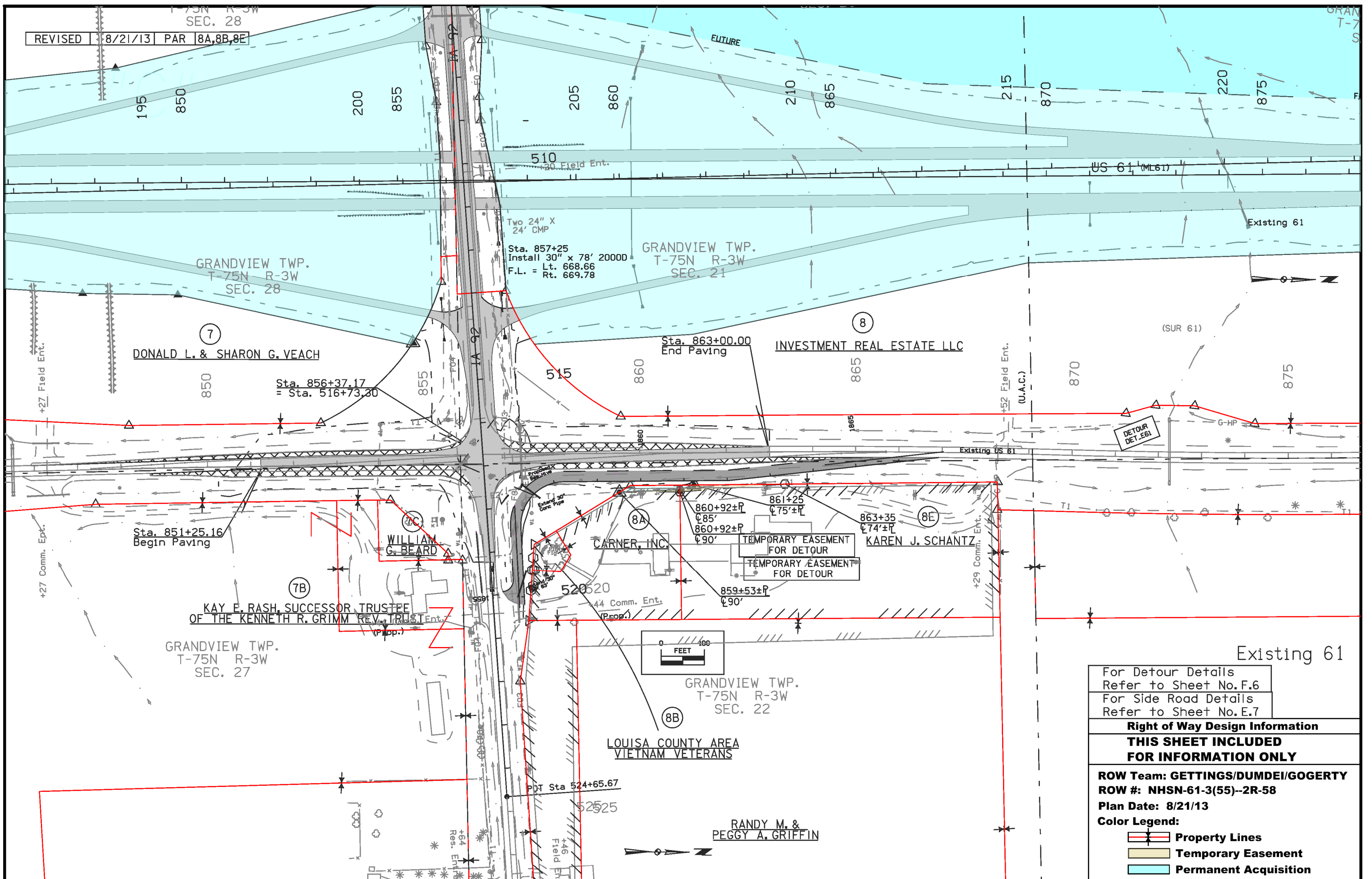
ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: NHSN-61-3(55)--2R-58
Plan Date: 3/5/14
Color Legend:

-  Property Lines
-  Temporary Easement
-  Permanent Acquisition

REVISED 8/21/13 PAR 8A,8B,8E

T-75N R-3W SEC. 28

GRAND T-75N S

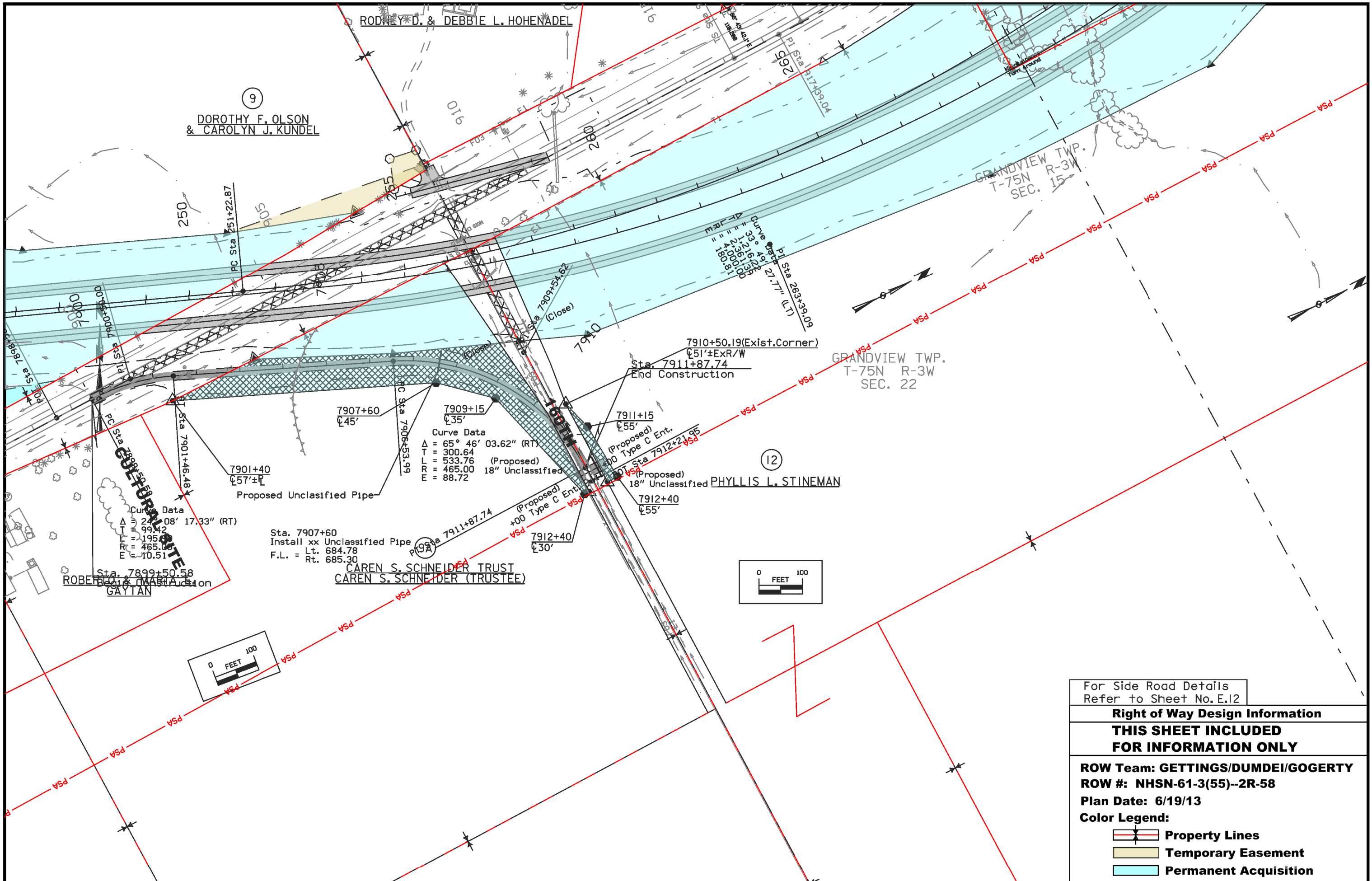


For Detour Details
Refer to Sheet No. F.6
For Side Road Details
Refer to Sheet No. E.7

Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: NHSN-61-3(55)--2R-58
Plan Date: 8/21/13

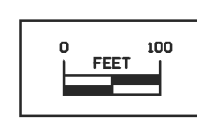
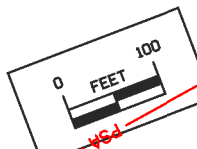
Color Legend:
 Property Lines
 Temporary Easement
 Permanent Acquisition





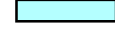
Curve Data
 $\Delta = 27^{\circ} 08' 17.33''$ (RT)
 $T = 99.42$
 $L = 195.6$
 $R = 465.0$
 $E = 10.51$

Curve Data
 $\Delta = 65^{\circ} 46' 03.62''$ (RT)
 $T = 300.64$
 $L = 533.76$ (Proposed)
 $R = 465.00$ 18" Unclassified
 $E = 88.72$

Curve Data
 $\Delta = 133^{\circ} 33' 04.40''$ (RT)
 $T = 273.16$
 $L = 273.16$
 $R = 180.00$
 $E = 27.77$ (LT)



For Side Road Details
 Refer to Sheet No. E.12

Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: GETTINGS/DUMDEI/GOGERTY ROW #: NHSN-61-3(55)--2R-58 Plan Date: 6/19/13 Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition

TRAFFIC CONTROL PLAN

Existing US-61:
- Maintain traffic in the existing lanes at all times.

Sideroads: 130th St., 145th St. IA-92, 160th St., 170th St., 175th St., 180th St., 190th St.
- Maintain traffic in each direction except as noted below.

145th St:
- Stage 1, Close as needed to construct proposed tie to existing.

170th St:
- Stage 1, Close as needed to construct proposed tie to 175th St.

175th St:
- Stage 1, Close as needed to construct proposed tie to existing.

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
NHSX-061-3(70)--3H-58	BRIDGE NEW - PPCB
NHSX-061-3(71)--3H-58	BRIDGE NEW - PPCB
NHSX-061-3(72)--3H-58	BRIDGE NEW - PPCB

STAGING NOTES

STAGE 1A TRAFFIC:

- Maintain traffic in the existing lanes at all times for the following roadways:
US 61, 130th St., IA 92, 160th St., 180th St., and 190th St.
- Close 145th St. west of US 61 as needed to construct proposed tie to existing.
- Close 170th St. east of US 61 as needed to construct proposed tie to 175th St.
- Close 175th St. east of US 61 as needed to construct proposed tie to existing.

STAGE 1A CONSTRUCTION:

- Grade US 61:
SB lanes from Sta. 756+39.42 to Sta. 809+50.
NB and SB lanes from Sta. 809+50 to Sta. 829+25.
NB and SB lanes from Sta. 830+50 to Sta. 902+00.
SB lanes from Sta. 902+00 to Sta. 905+50.
NB and SB lanes from Sta. 915+00 to Sta. 964+25.
NB and SB lanes from Sta. 965+50 to Sta. 985+25.
SB lanes from Sta. 1037+85.51 to Sta. 1053+25.
- Grade and granular surface relocated 145th St.
- Grade detour DET61 905 from Sta. 301+26.75 to Sta. 307+00.
- Grade and granular surface 170th St from Sta. 8970+20 to Sta. 8971+35.03.
- Grade and granular surface 175th St from Sta. 9971+35.03 to Sta. 10001+25, maintain existing intersection to US 61.
- Grade detour DET61 985 from Sta. 406+25 to Sta. 438+24.79.
- Grade all ramps at IA 92 interchange and 170th St interchange.
- Construct all proposed pipes and culverts within the grading limits of Stage 1A.
- Construct proposed culvert at 180th St Sta. 201014+75 by jacking under existing pavement.

STAGE 1B TRAFFIC:

- Open new 145th St.
- Open new 175th St.
- Close 170th St. between existing US 61 and 175th St.

STAGE 1B CONSTRUCTION:

- Grade US 61:
NB and SB lanes from Sta. 829+25 to Sta. 830+50.
NB and SB lanes from Sta. 964+25 to Sta. 965+50.
SB lanes from Sta. 1000+00 to Sta. 1017+50.
SB lanes from Sta. 1020+00 to Sta. 1037+32.37.
- Obliterate existing 145th St from existing US 61 west to the relocated 145th St alignment.
- Grade 170th St. from Sta. 8959+00 to Sta. 8970+20.
- Construct all proposed pipes and culverts within the grading limits of Stage 1B.
- Construct erosion control.

FUTURE CONSTRUCTION IN BRIDGE PROJECTS:

- Build NB & SB bridges at the IA 92 Interchange
- Build NB & SB bridges at the 170th St. Interchange
- Build the US 61 SB bridge over the DM&E RR










FUTURE CONSTRUCTION IN PAVING PROJECT:

- Pave all sections of US 61 previously graded.
- Grade and pave all sections of US 61 not previously graded.
- Grade and pave IA 92.
- Remove and reconstruct existing US 61 from 848+65 to 863+00
- Finish Grade and Pave 170th St.
- Grade and pave 180th St.
- Remove detour pavement between Sta. 903+00 and Sta. 914+00.
- Remove detour pavement between Sta. 980+00 and Sta. 1006+00.
- Remove and reconstruct existing US 61 from 961+82 to 170th St.
- Obliterate existing US 61 from 803+50 to 823+00
- Obliterate existing US 61 from 964+45 to 985+00
- Construct signing.
- Construct erosion control.

**CROSS SECTION VIEW COLOR LEGEND
OF TRAFFIC CONTROL AND STAGING SHEETS**

SHADING	Design Color No.	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Lavender	(9)	Temporary Pavement Shading
Brown, Med	(237)	Future Proposed Pavement Shading

**CROSS SECTION VIEW PATTERN AND SYMBOL LEGEND
OF TRAFFIC CONTROL AND STAGING SHEETS**




















	Pavement Removal		Proposed Granular Shoulder
	Proposed Granular Subbase		Temporary Shoulder
	Proposed Special Backfill		Existing Shoulder Strengthening
	Temporary Barrier Rail		Permanent Barrier Rail
			Channelizing Device

PLAN VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Magenta	(5)	Pavement Marking Call Outs
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Yellow	(4)	Pavement Markings, Yellow
Off White	(254)	Pavement Markings, White

SHADING	Design Color No.	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(80)	Proposed Granular Surface Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Lavender	(9)	Future Temporary Pavement Shading
Brown, Med	(237)	Future Proposed Pavement Shading
Brown, Light	(236)	Proposed Grading Limits Shading

**PLAN VIEW PATTERN AND SYMBOL LEGEND
OF TRAFFIC CONTROL AND STAGING SHEETS**

	Channelizing Device		Crash Cushion
	Drum		Traffic Signal
	Temporary Lane Separator		Flagger
	Tubular Marker		Temporary Floodlighting
	Channelizer Marker		Traffic Sign
	Concrete Barrier Marker		Type III Barricade
	Delineator		Type A Warning Light
	Temporary Barrier Rail		Direction of Traffic
	Obliterate Roadway (Granular)		Safety Closure
	Pavement Removal & Obliterate Roadway		

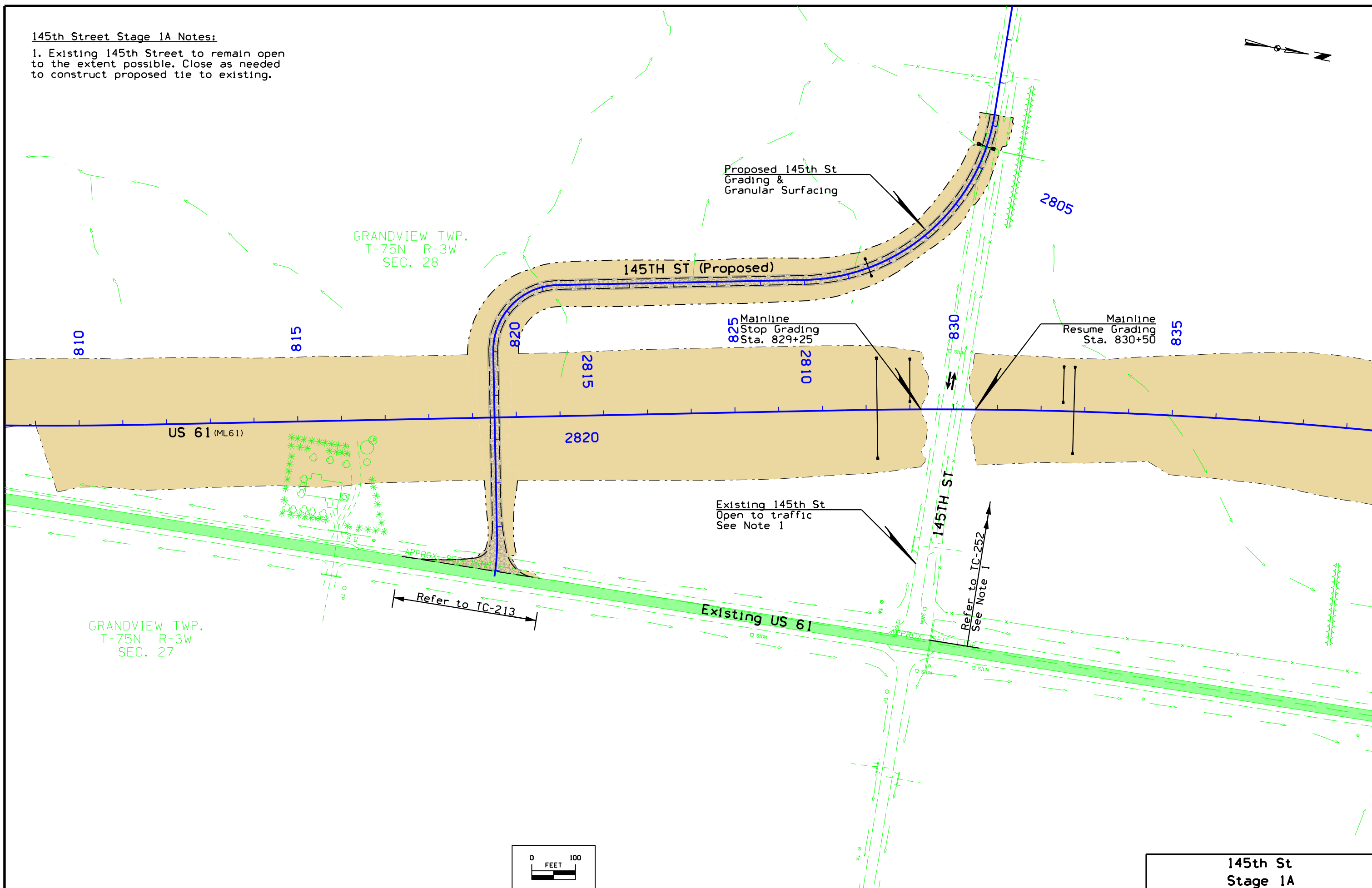
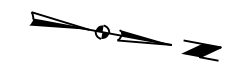
NOTE: Device spacing according to Standard Road Plans unless specifically dimensioned.

**TRAFFIC CONTROL
AND
STAGING
LEGEND AND SYMBOL
INFORMATION SHEET**

(COVERS SHEET SERIES J)

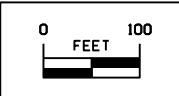
145th Street Stage 1A Notes:

1. Existing 145th Street to remain open to the extent possible. Close as needed to construct proposed tie to existing.



GRANDVIEW TWP.
T-75N R-3W
SEC. 27

GRANDVIEW TWP.
T-75N R-3W
SEC. 28



145th St Stage 1A	
SHEET NUMBER	J.3



GRANDVIEW TWP.
T-75N R-3W
SEC. 28

810

815

820

825

830

835

Proposed 145th St
Open to traffic

145TH ST (Proposed)

Mainline Gap Grading
Sta. 829+25 to Sta. 830+50

US 61 (ML61)

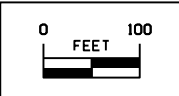
Obliterate
Existing 145th St

Entrance Drive
Grading &
Granular Surfacing

GRANDVIEW TWP.
T-75N R-3W
SEC. 27

Existing US 61

Refer to TC-213

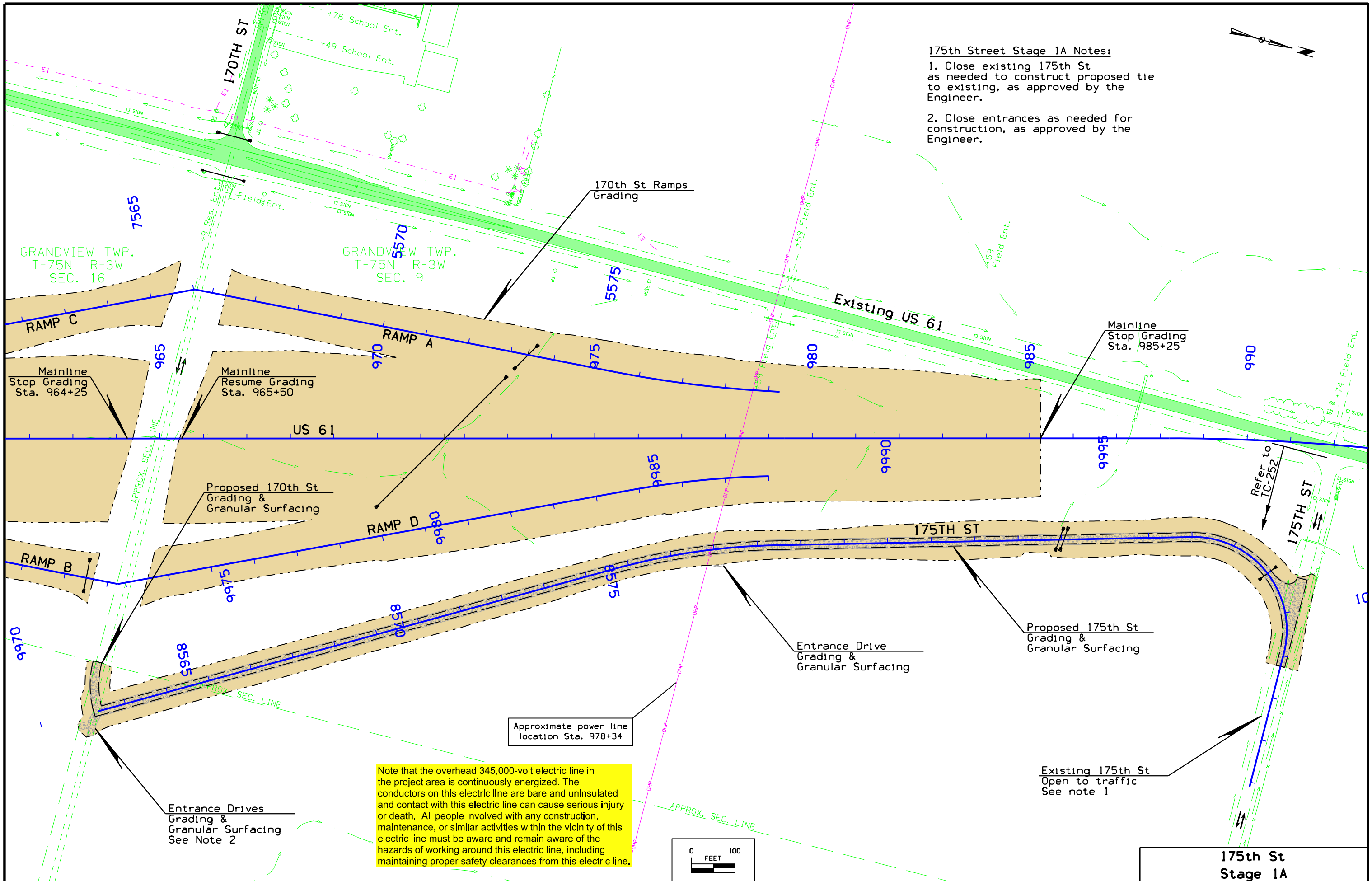


145th St
Stage 1B

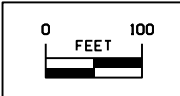


175th Street Stage 1A Notes:

1. Close existing 175th St as needed to construct proposed tie to existing, as approved by the Engineer.
2. Close entrances as needed for construction, as approved by the Engineer.



Note that the overhead 345,000-volt electric line in the project area is continuously energized. The conductors on this electric line are bare and uninsulated and contact with this electric line can cause serious injury or death. All people involved with any construction, maintenance, or similar activities within the vicinity of this electric line must be aware and remain aware of the hazards of working around this electric line, including maintaining proper safety clearances from this electric line.

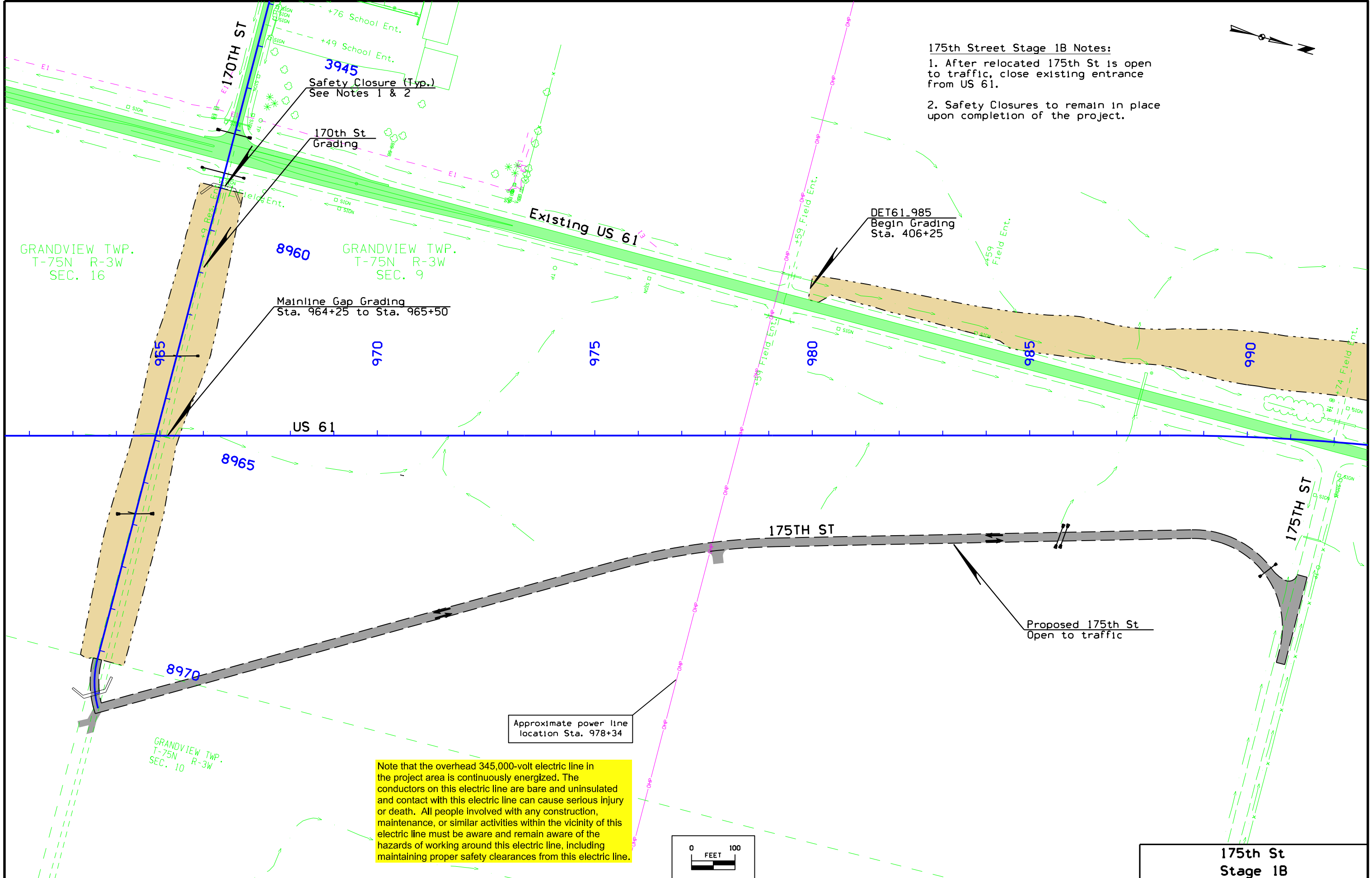


175th St Stage 1A	
SHEET NUMBER	J.5



175th Street Stage 1B Notes:

1. After relocated 175th St is open to traffic, close existing entrance from US 61.
2. Safety Closures to remain in place upon completion of the project.

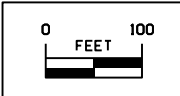


GRANDVIEW TWP.
T-75N R-3W
SEC. 16

GRANDVIEW TWP.
T-75N R-3W
SEC. 9

GRANDVIEW TWP.
T-75N R-3W
SEC. 10

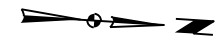
Note that the overhead 345,000-volt electric line in the project area is continuously energized. The conductors on this electric line are bare and uninsulated and contact with this electric line can cause serious injury or death. All people involved with any construction, maintenance, or similar activities within the vicinity of this electric line must be aware and remain aware of the hazards of working around this electric line, including maintaining proper safety clearances from this electric line.



**175th St
Stage 1B**

SHEET NUMBER **J.6**

GRANDVIEW TWP.
T-75N R-3W
SEC. 28



Curve Data
 $\Delta = 8^\circ 45' 28.96''$ (LT)
 $T = 153.16$
 $L = 305.71$
 $R = 2,000.00$
 $E = 5.86$
 $e = 5.4\%$
 $L = 168'$
 $x = 62'$

POT Sta 506+75.00 (SR092) =
 PI Sta 1556+06.08 (SR92A) =
 PI Sta 3556+64.71 (SR92C) =

POC Sta 842+50.00, 87.00' LT =
 POT Sta 3542+50.00

POC Sta 838+40.59

POC Sta 840+77.99

POC Sta 843+50.00, 107.00' RT =
 POT Sta 2543+50.00

Curve Data
 $\Delta = 9^\circ 33' 22.01''$ (RT)
 $T = 167.17$
 $L = 333.57$
 $R = 2,000.00$
 $E = 5.97$
 $e = 5.4\%$
 $L = 168'$
 $x = 62'$

POT Sta 513+75.00 (SR092) =
 PI Sta 2556+89.90 (SR92B) =
 PI Sta 4556+49.96 (SR92D) =

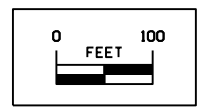
1000' Taper 50:1 Ratio

600' Taper 15:1 Ratio

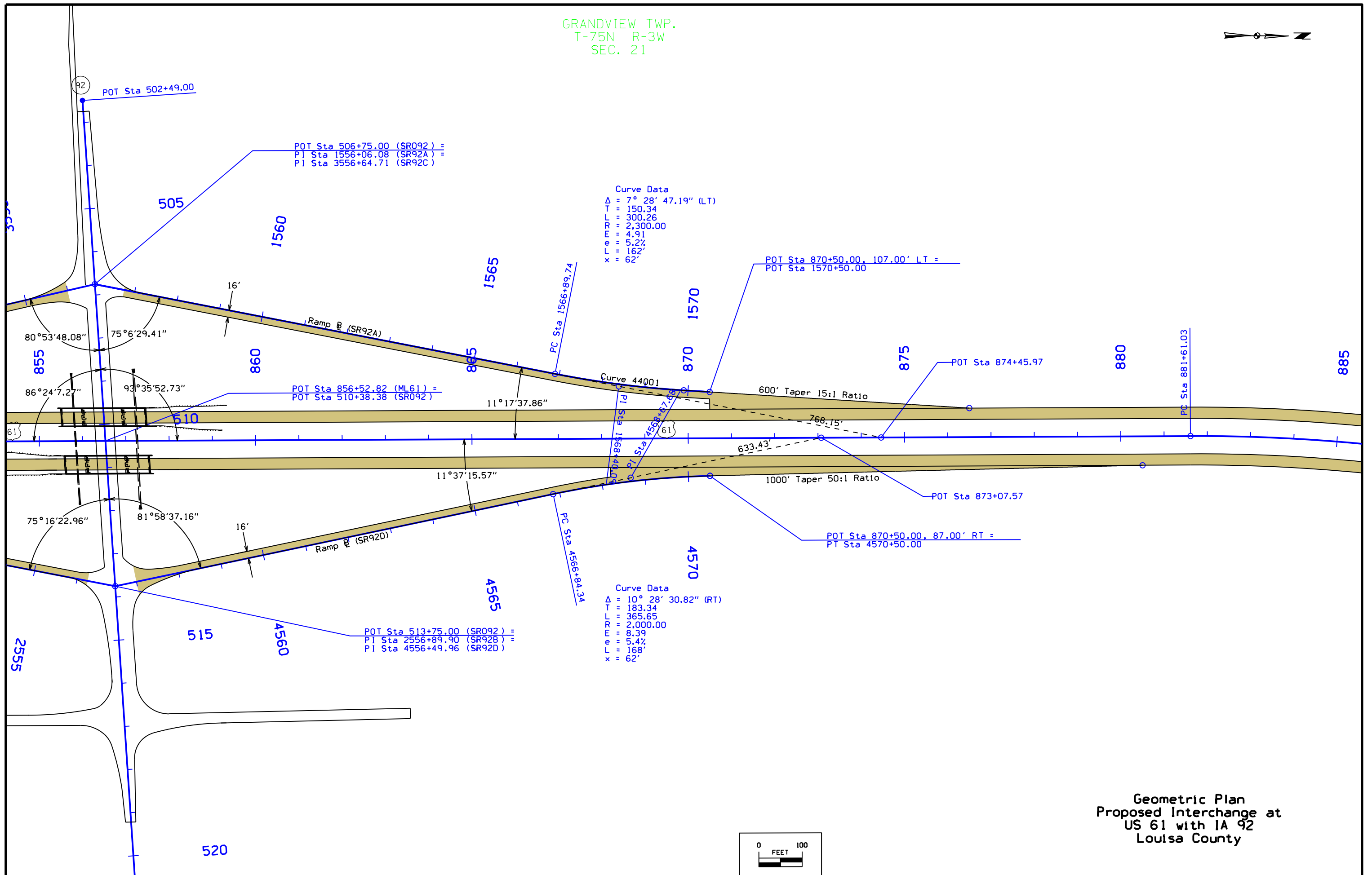
Ramp B (SR92C)

Ramp B (SR92B)

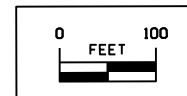
Geometric Plan
 Proposed Interchange at
 US 61 with IA 92
 Louisa County

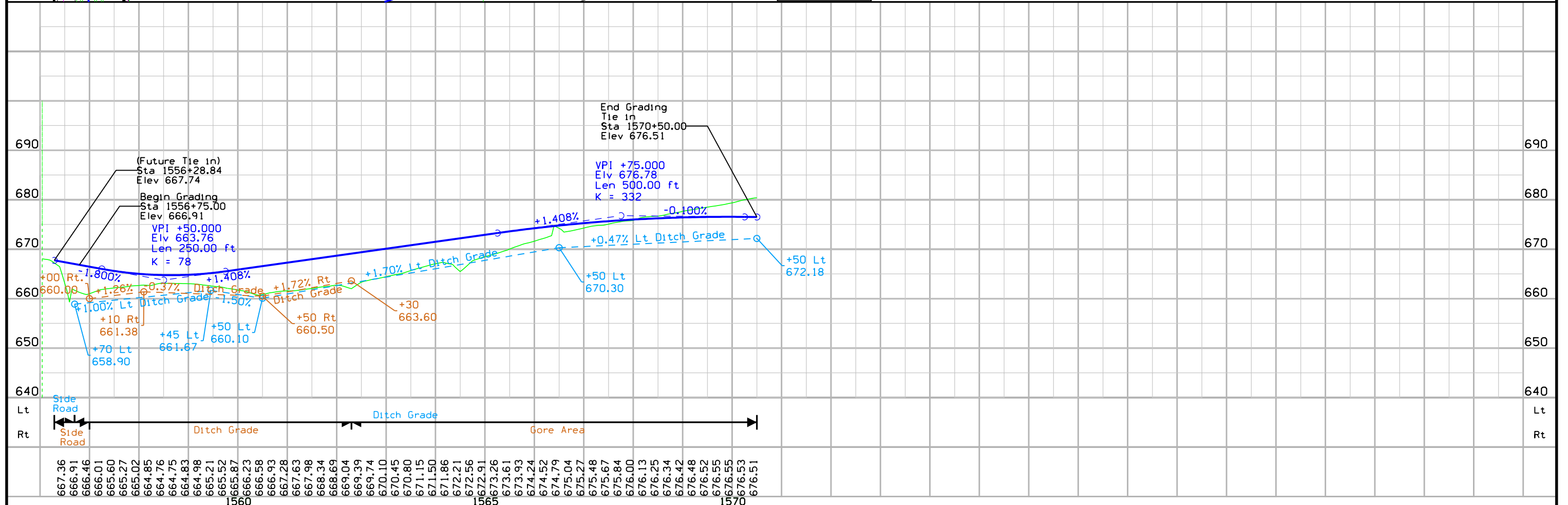
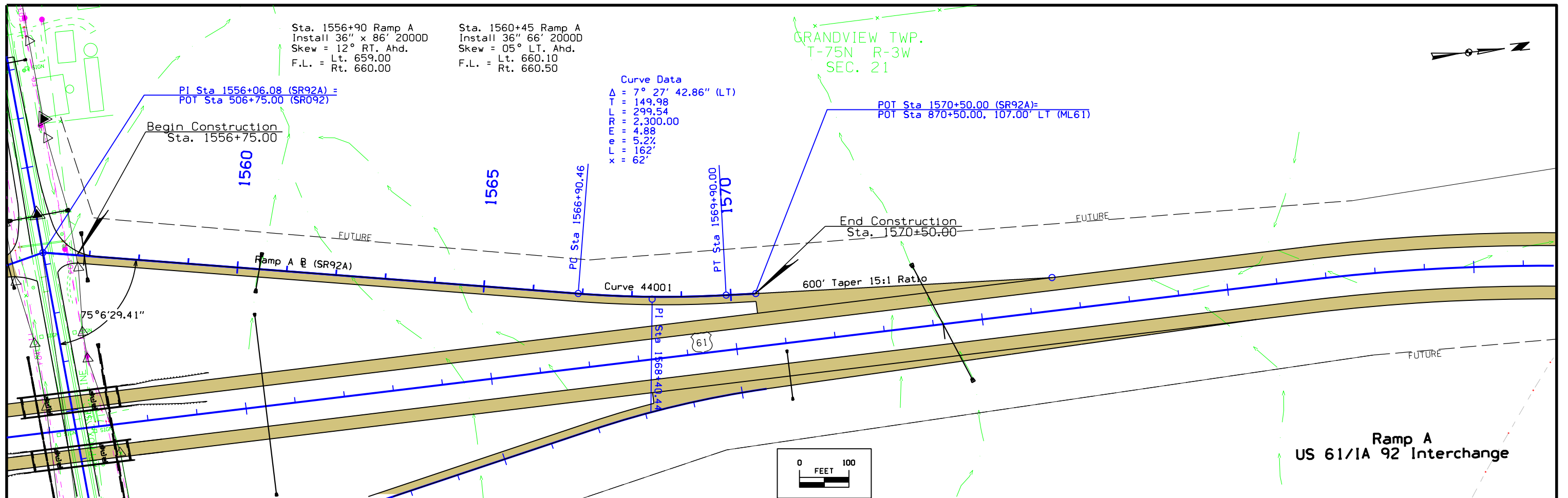


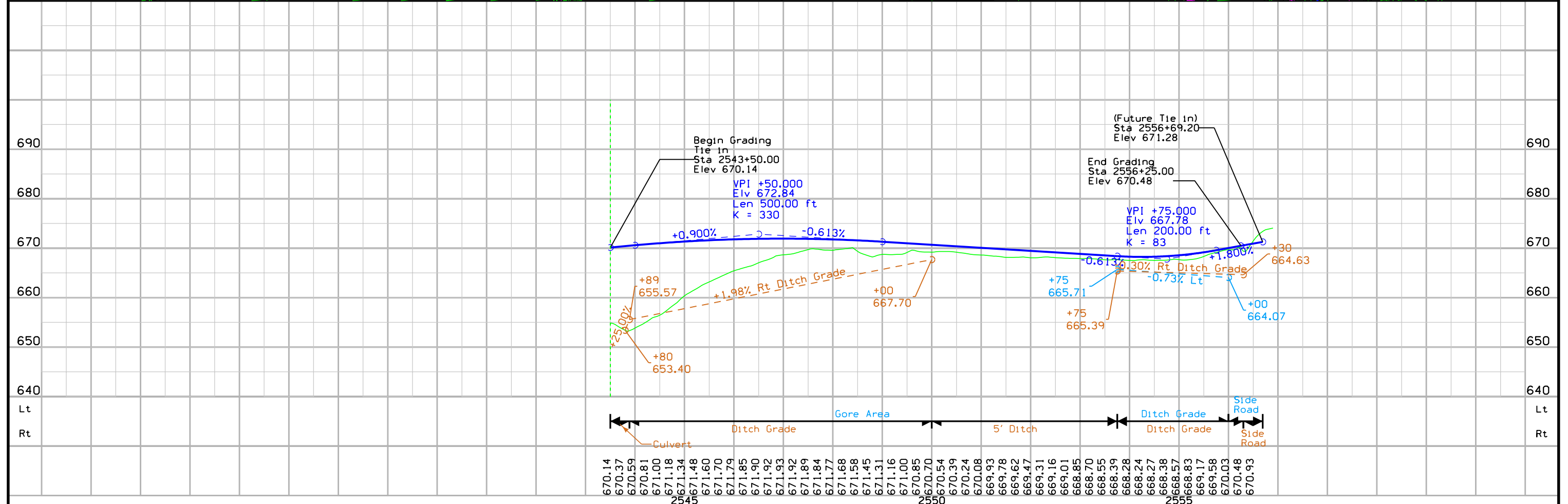
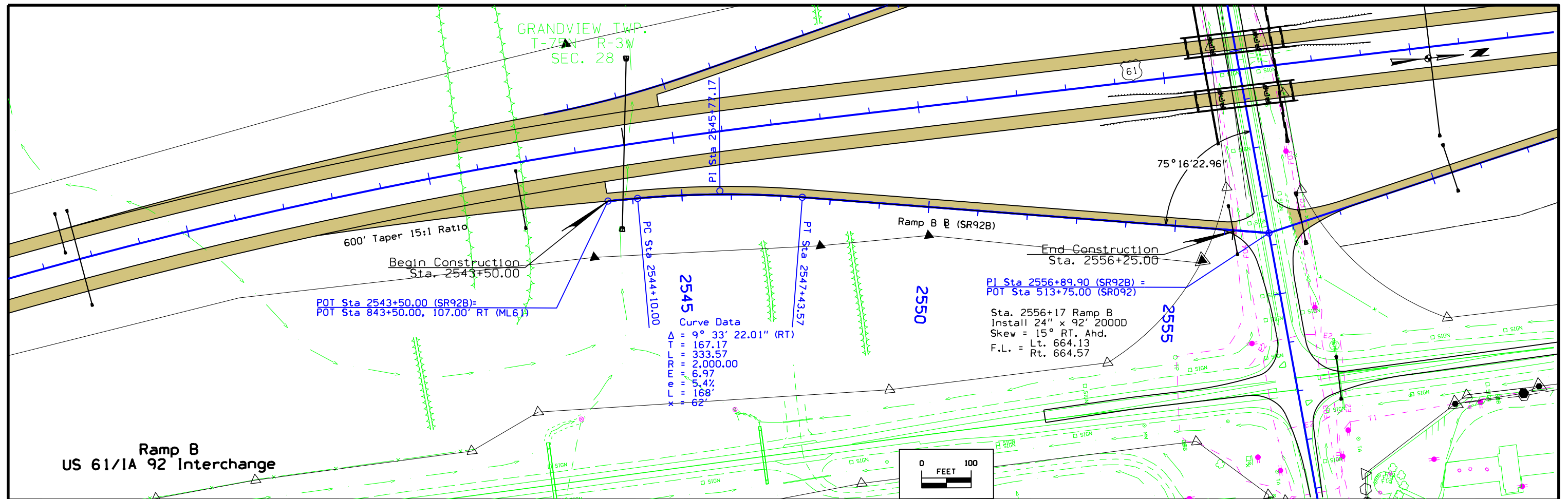
GRANDVIEW TWP.
T-75N R-3W
SEC. 21

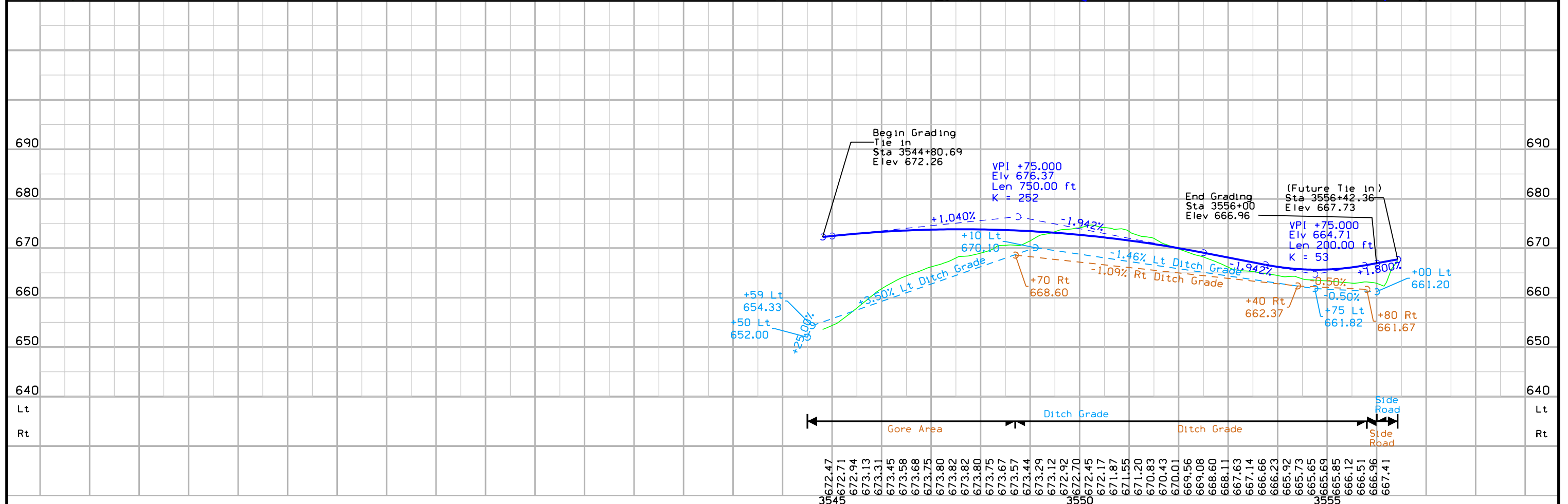
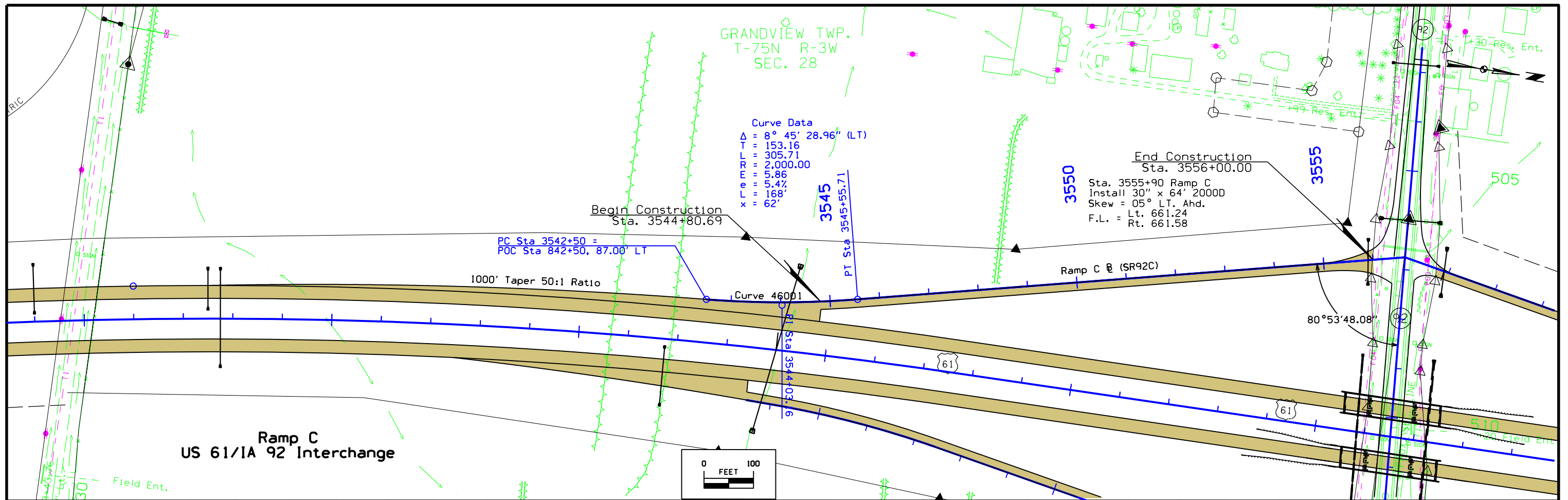


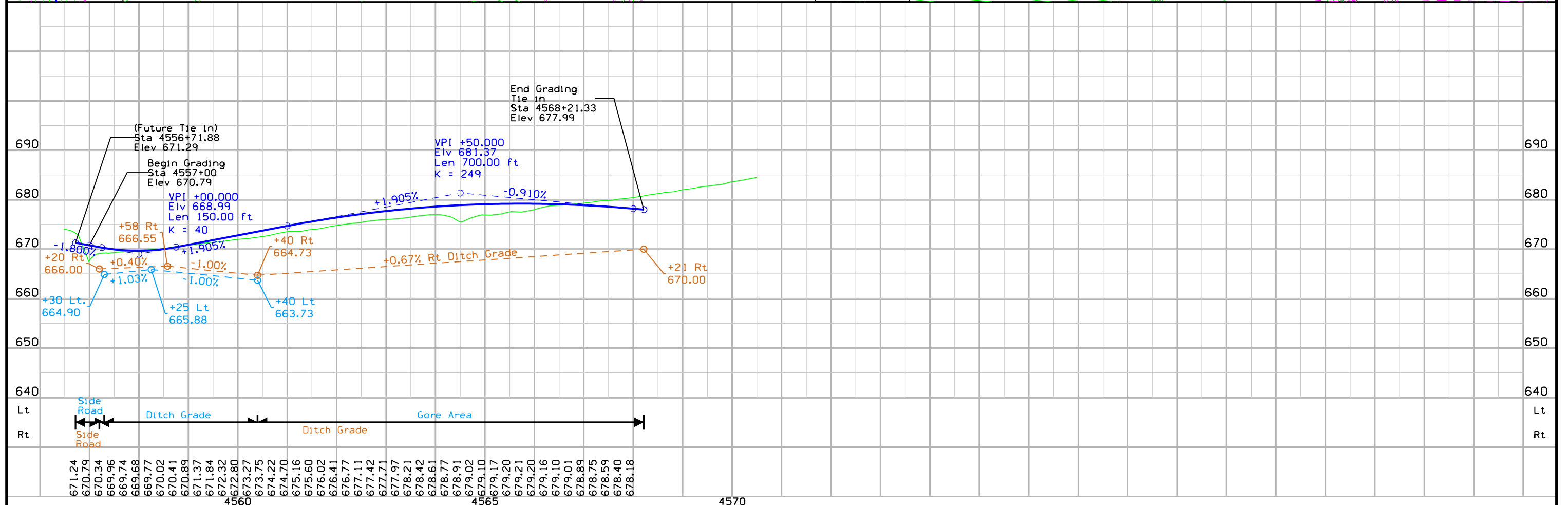
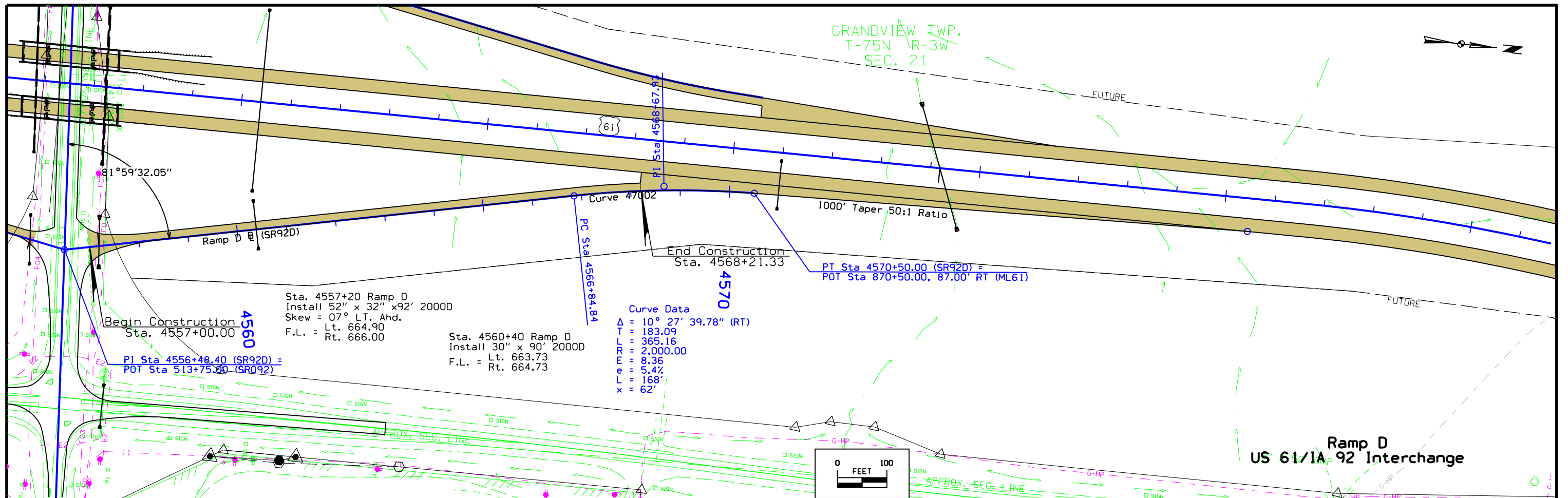
Geometric Plan
Proposed Interchange at
US 61 with IA 92
Louisa County



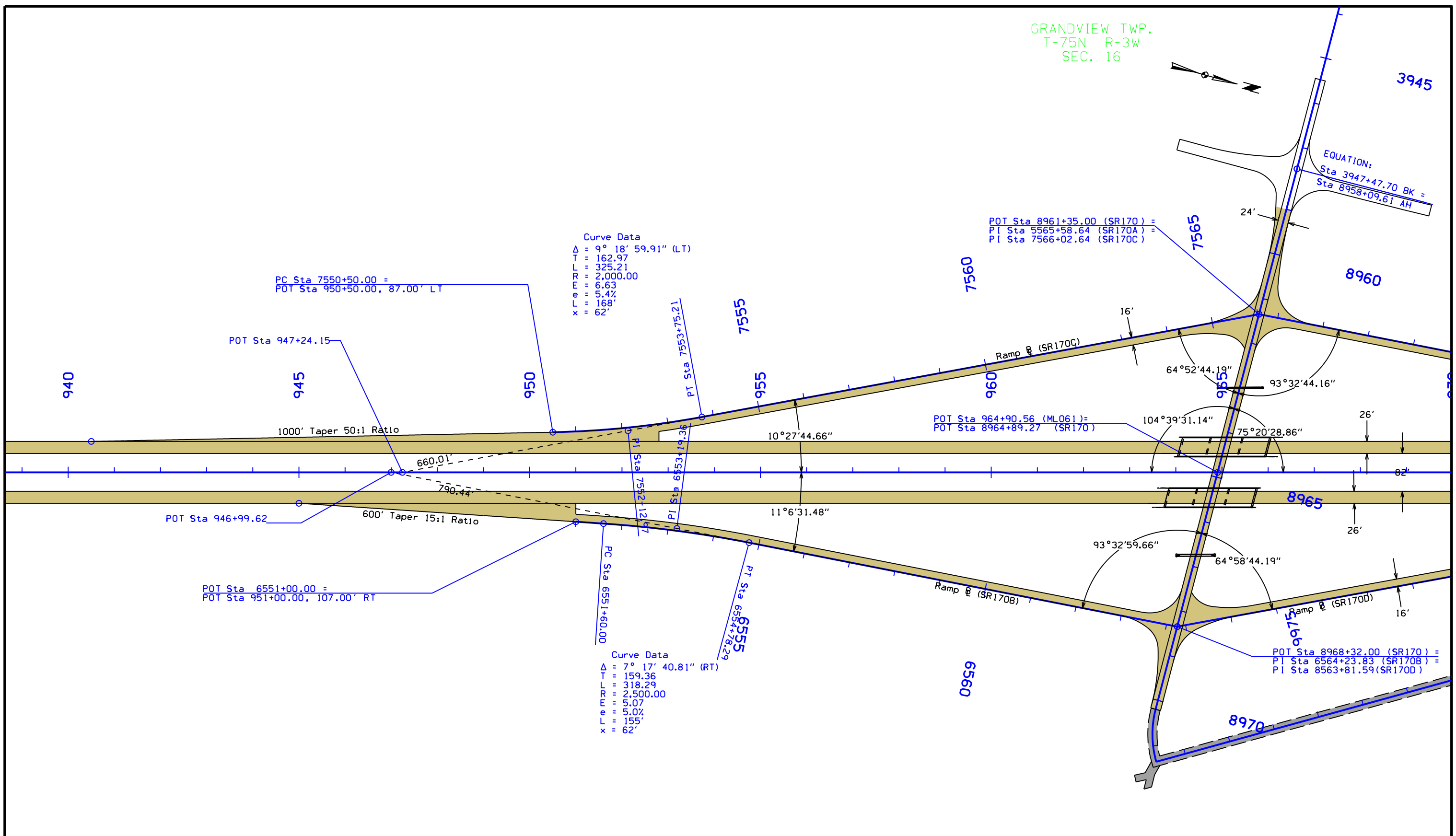




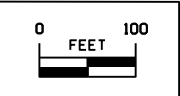




GRANDVIEW TWP.
T-75N R-3W
SEC. 16

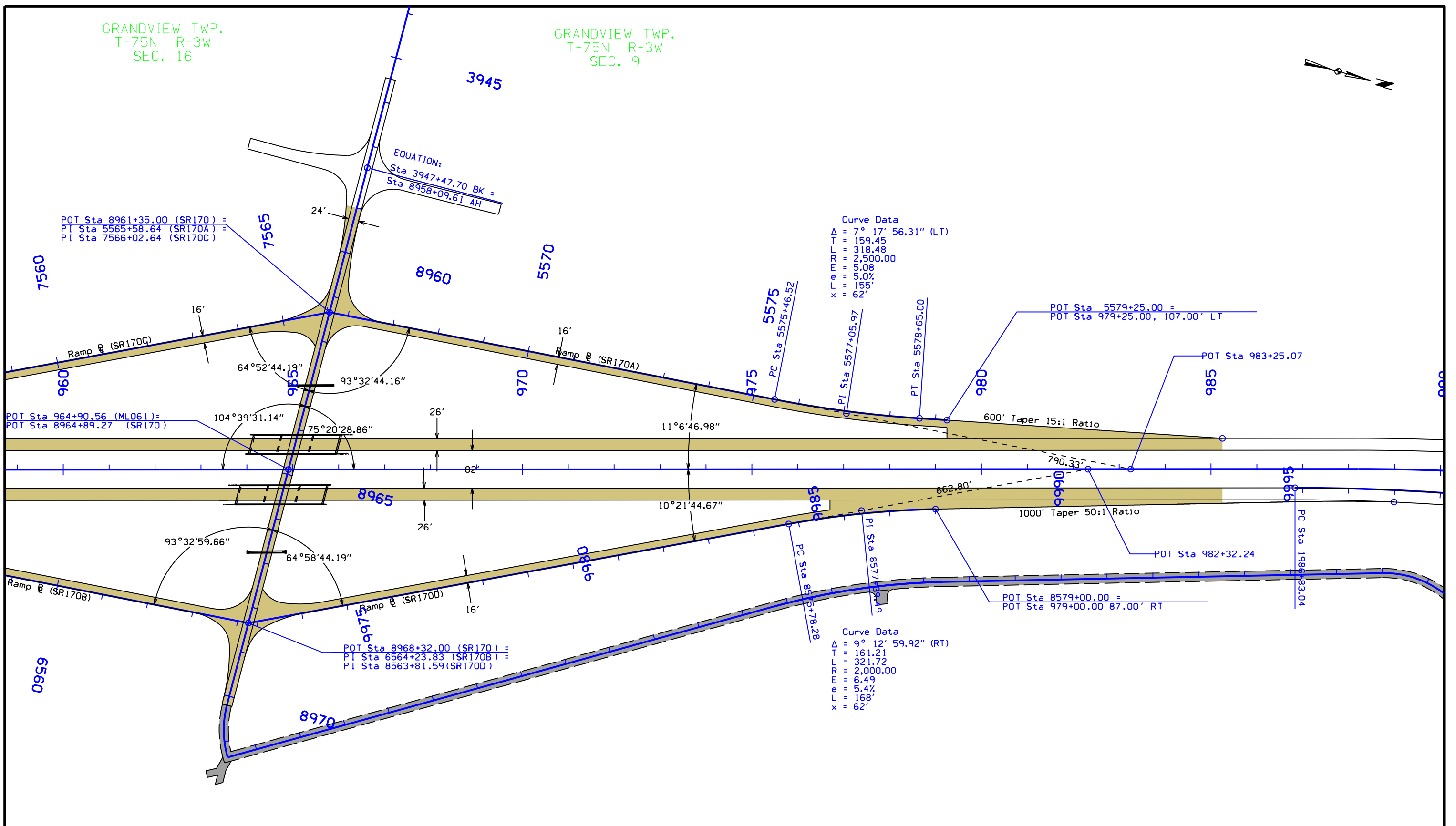


Geometric Plan
Proposed Interchange of
US 61 with 170th Street
Louisa County



GRANDVIEW TWP.
T-75N R-3W
SEC. 16

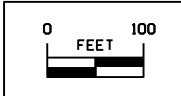
GRANDVIEW TWP.
T-75N R-3W
SEC. 9



Curve Data
Δ = 7° 17' 56.31" (LT)
T = 159.45
L = 318.48
R = 2,500.00
e = 5.08
f = 5.00%
x = 155'
2'

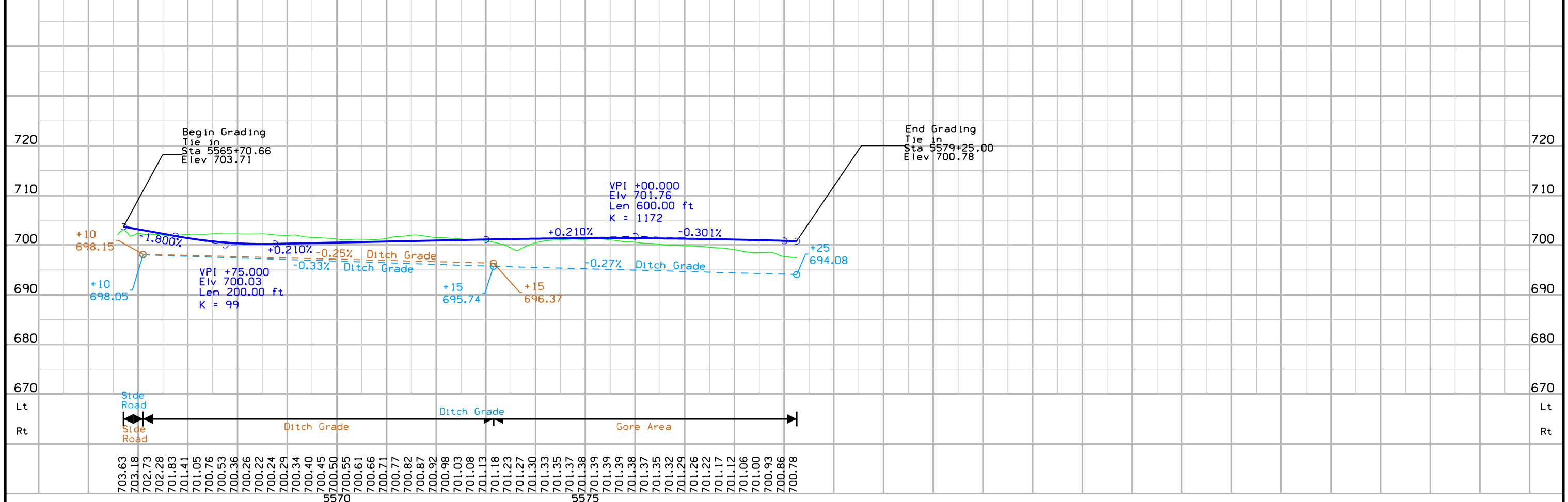
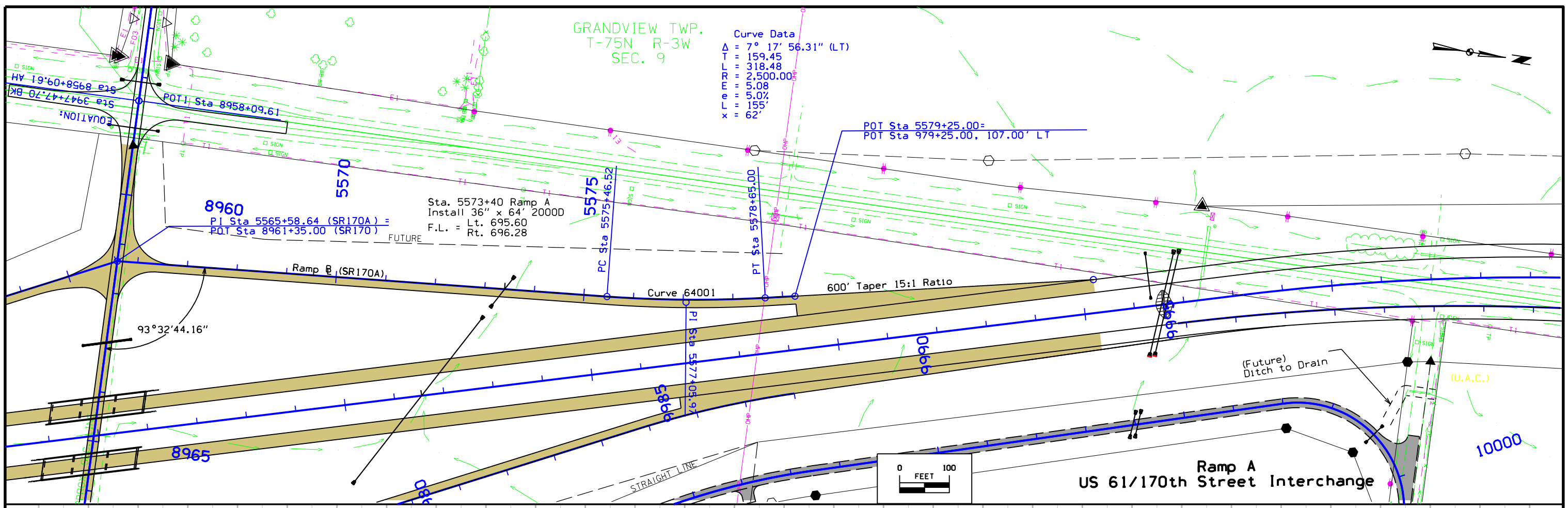
Curve Data
Δ = 9° 12' 59.92" (RT)
T = 161.21
L = 321.72
R = 2,000.00
e = 6.49
f = 5.4%
L = 168'
x = 62'

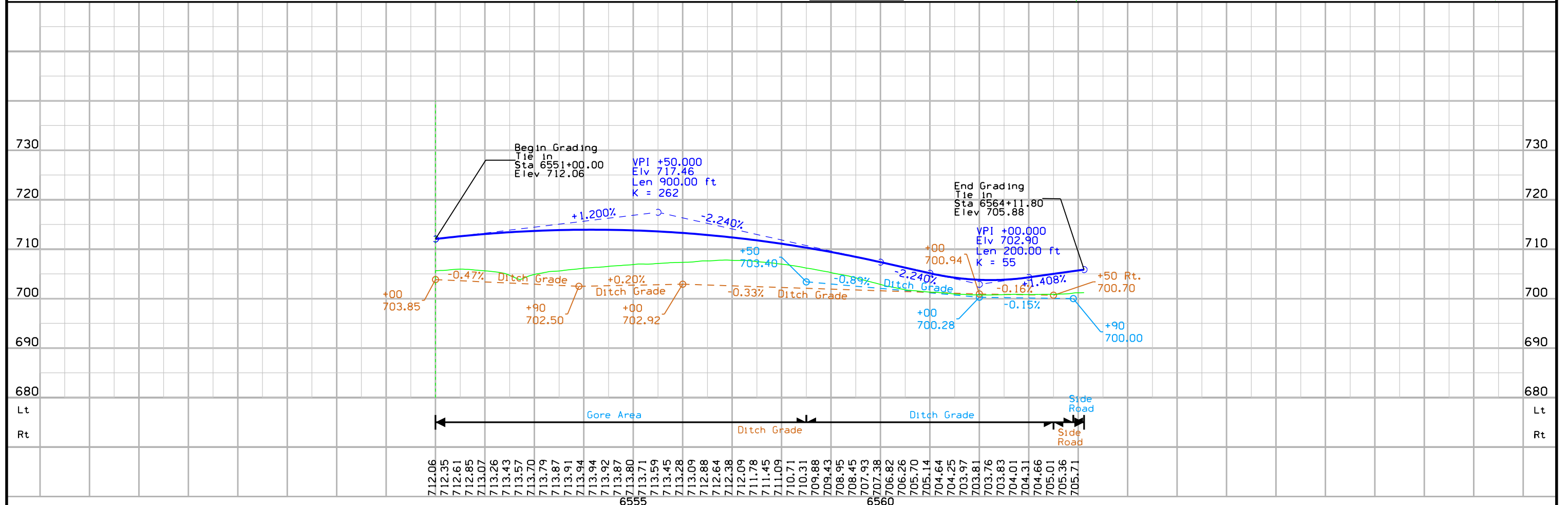
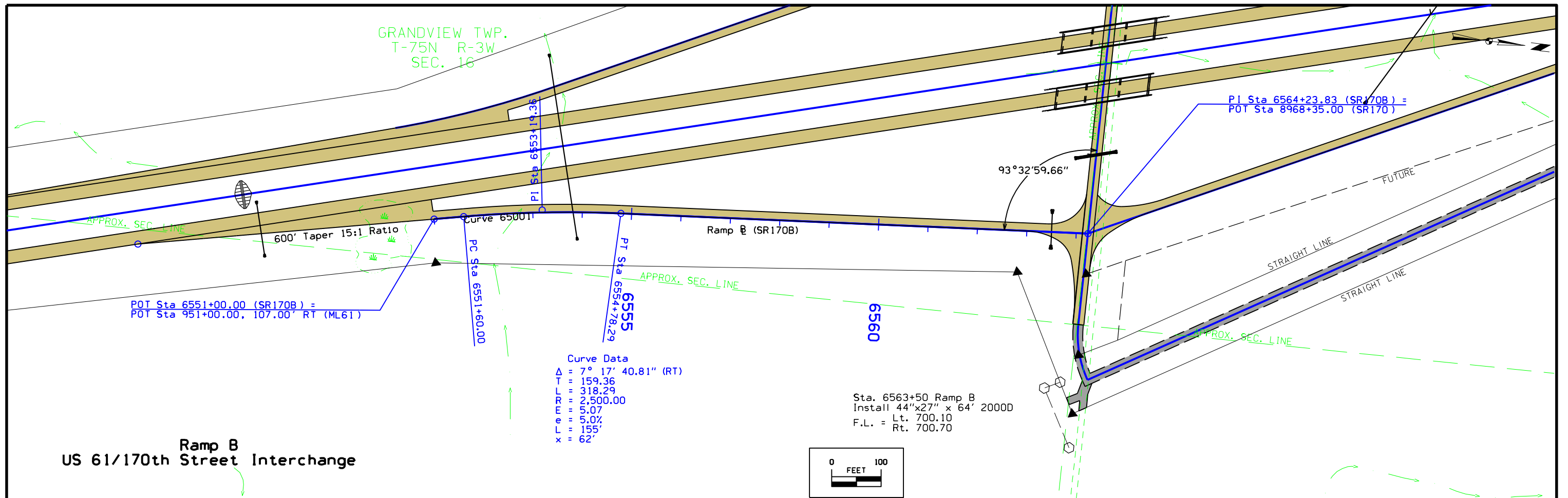
**Geometric Plan
Proposed Interchange of
US 61 with 170th Street
Louisa County**

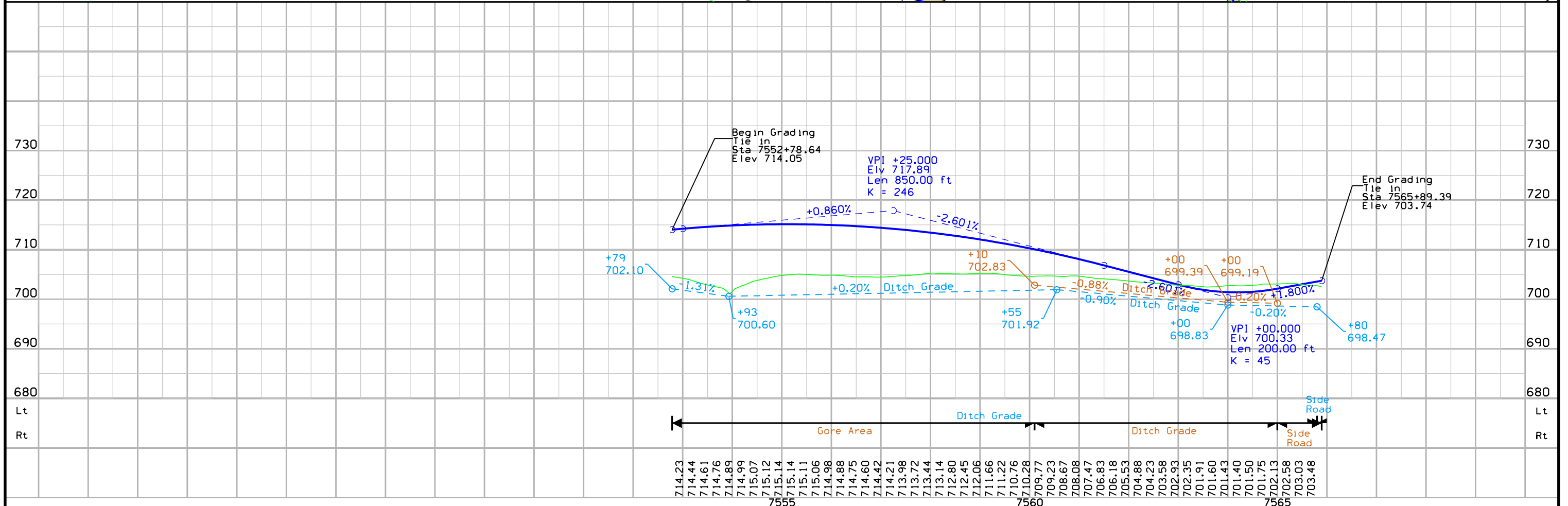
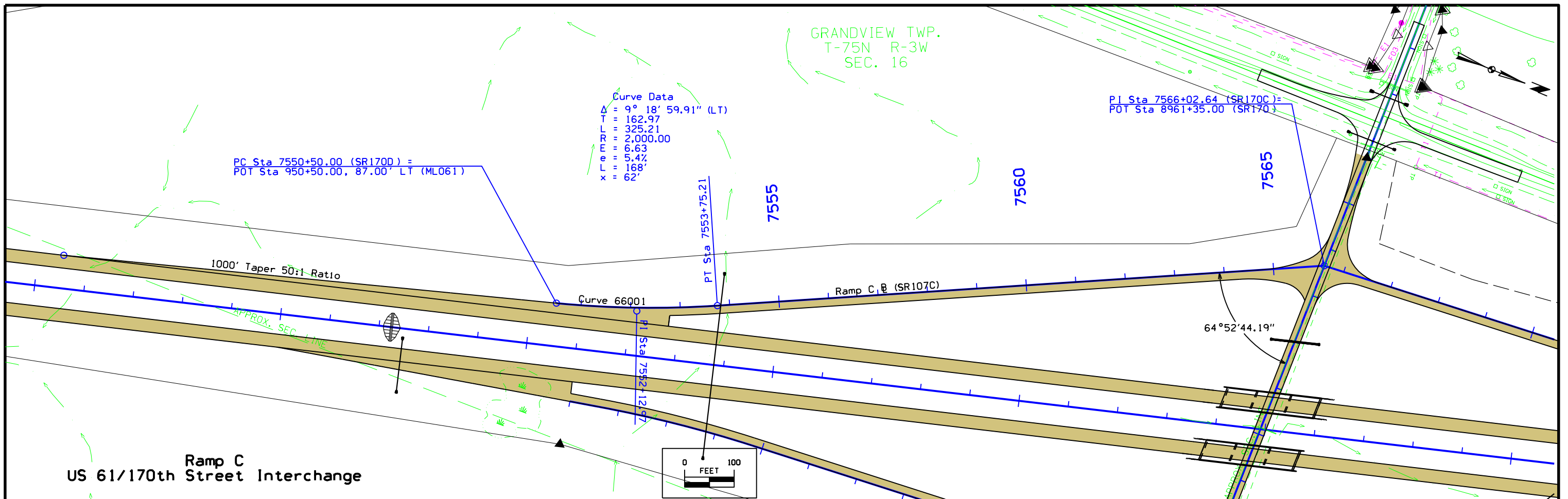


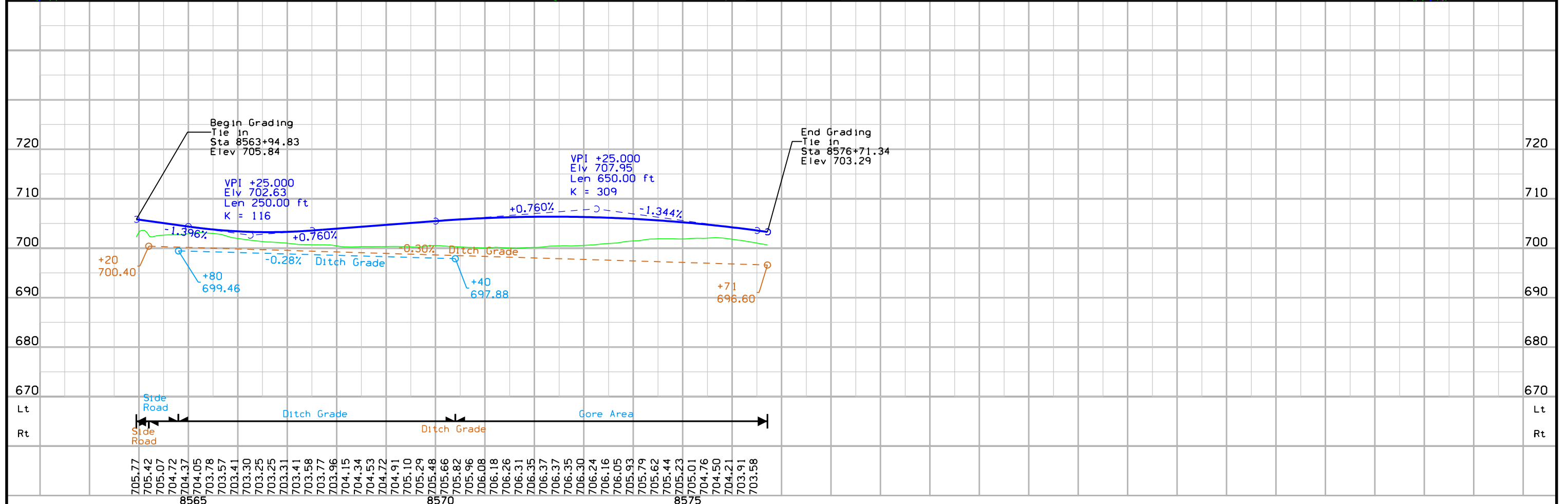
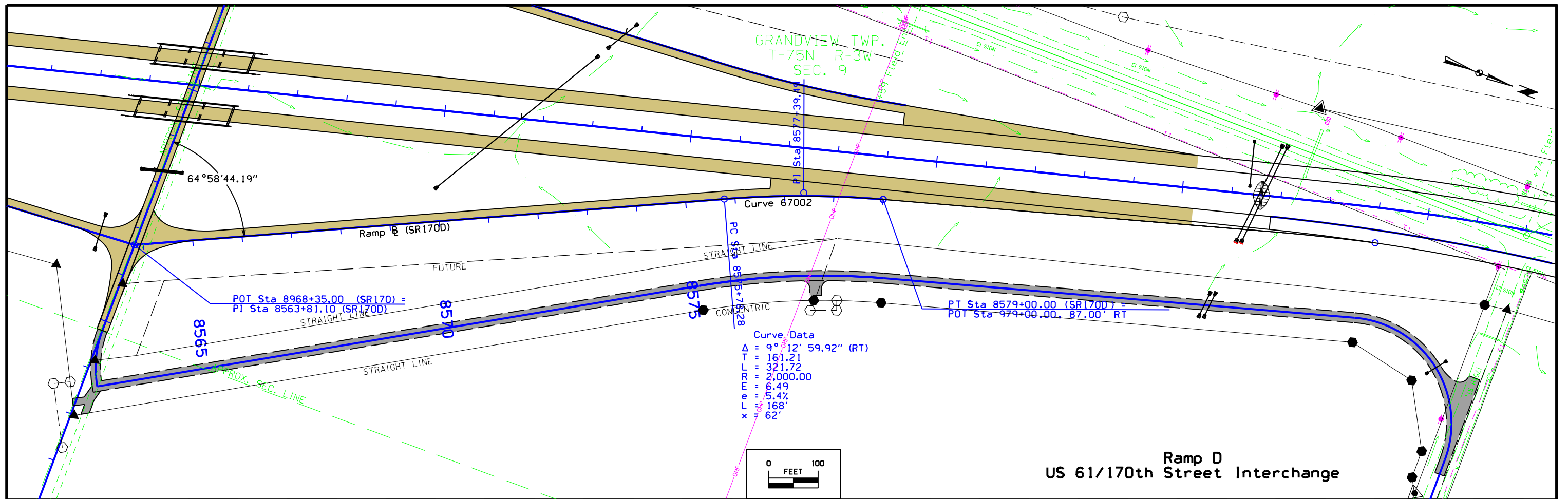
GRANDVIEW TWP.
T-75N R-3W
SEC. 9

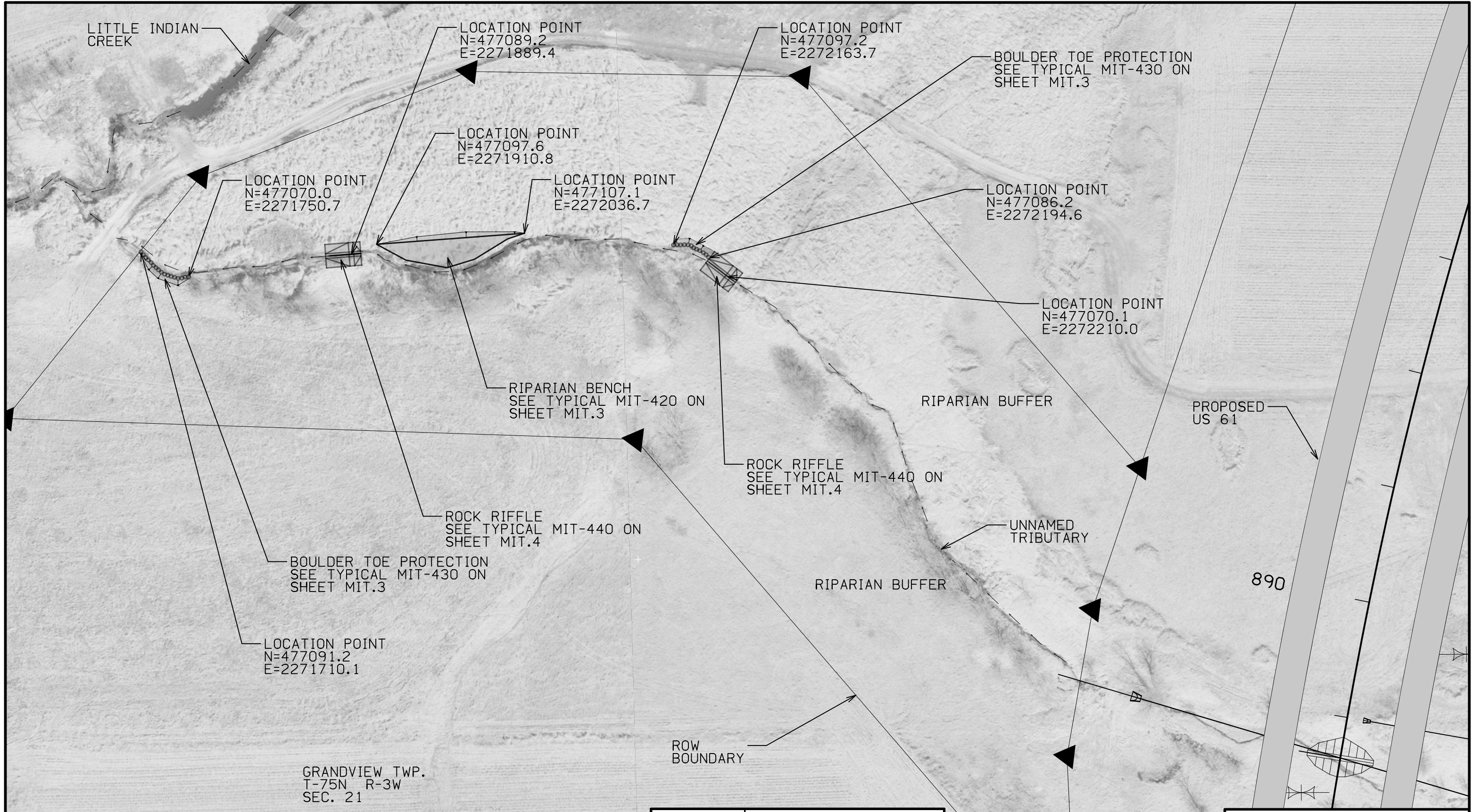
Curve Data
 $\Delta = 7^\circ 17' 56.31''$ (LT)
 T = 159.45
 LR = 318.48
 RR = 2,500.00
 E = 5.08
 e = 5.0%
 L = 155'
 x = 62'











ESTIMATED QUANTITIES

ITEM	UNIT	BOULDER TOE PROTECTION (x2)	ROCK RIFFLE (x2)	RIPARIAN BENCH	TOTAL
ENGINEERING FABRIC	SY	-	160.0	-	160.0
REVTMENT, CLASS B	TON	26.0	-	-	26.0
REVTMENT, CLASS E	TON	-	157.0	-	157.0
CLASS 10 CHANNEL EXCAVATION	CY	17.0	90.0	79.5	186.5
NATIVE GRASS SEEDING	ACRE	0.01	-	0.05	0.06
SLOPE PROTECTION, WOOD EXCELSIOR MAT	SQ	5.3	-	23.6	28.9

CHIN-TA
TSAI
16042
IOWA

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: *Chin-Ta Tsai* Date: 01/20/2014

Printed or Typed Name: CHIN-TA TSAI

My license renewal date is December 31, 2015.

Pages or sheets covered by this seal: ALL MIT SHEETS

**STREAM MITIGATION
GENERAL SITE PLAN**

GRANDVIEW TWP.
T-75N R-3W
SEC. 21

RIPARIAN BUFFER

RIPARIAN BENCH
SEE TYPICAL MIT-420 ON
SHEET MIT.3

BOULDER TOE PROTECTION
SEE TYPICAL MIT-430 ON
SHEET MIT.3

UNNAMED
TRIBUTARY

ROCK RIFFLE
SEE TYPICAL MIT-440 ON
SHEET MIT.4

ROCK RIFFLE
SEE TYPICAL MIT-440 ON
SHEET MIT.4

BOULDER TOE PROTECTION
SEE TYPICAL MIT-430 ON
SHEET MIT.3

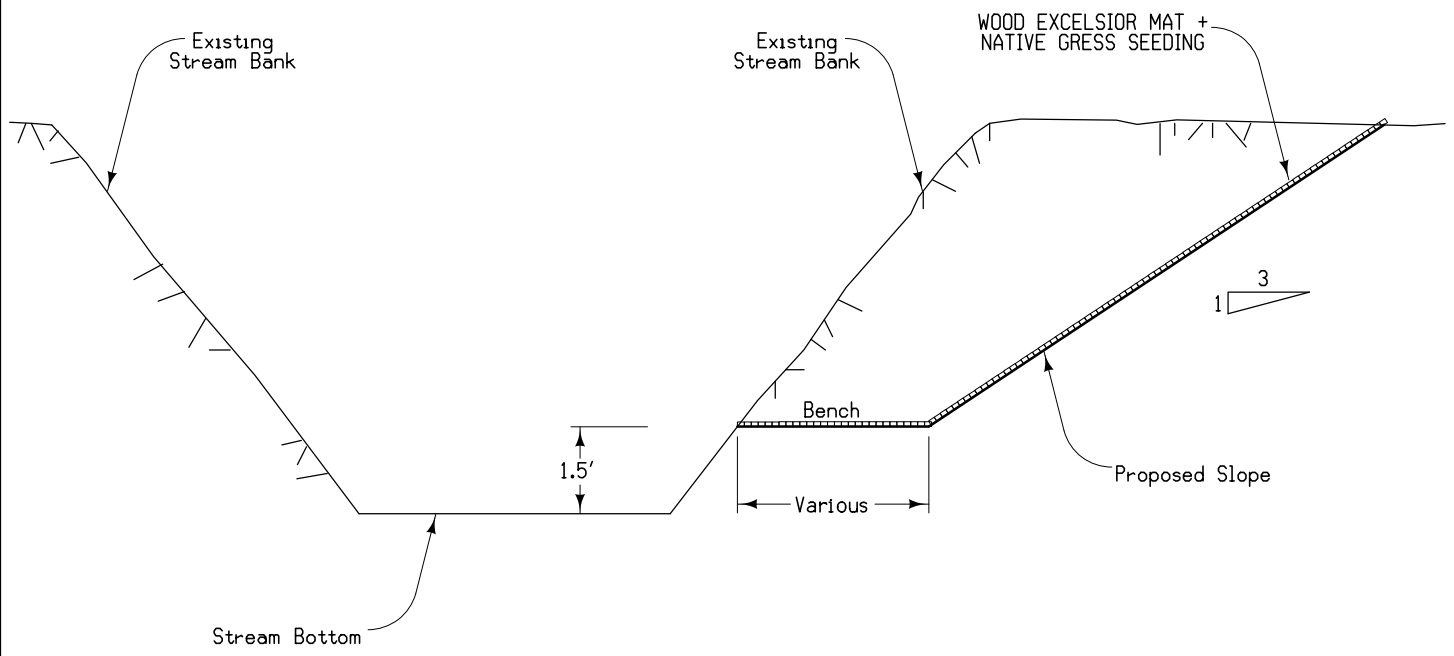
RIPARIAN BUFFER

ROW
BOUNDARY



STREAM MITIGATION
GRADING PLAN

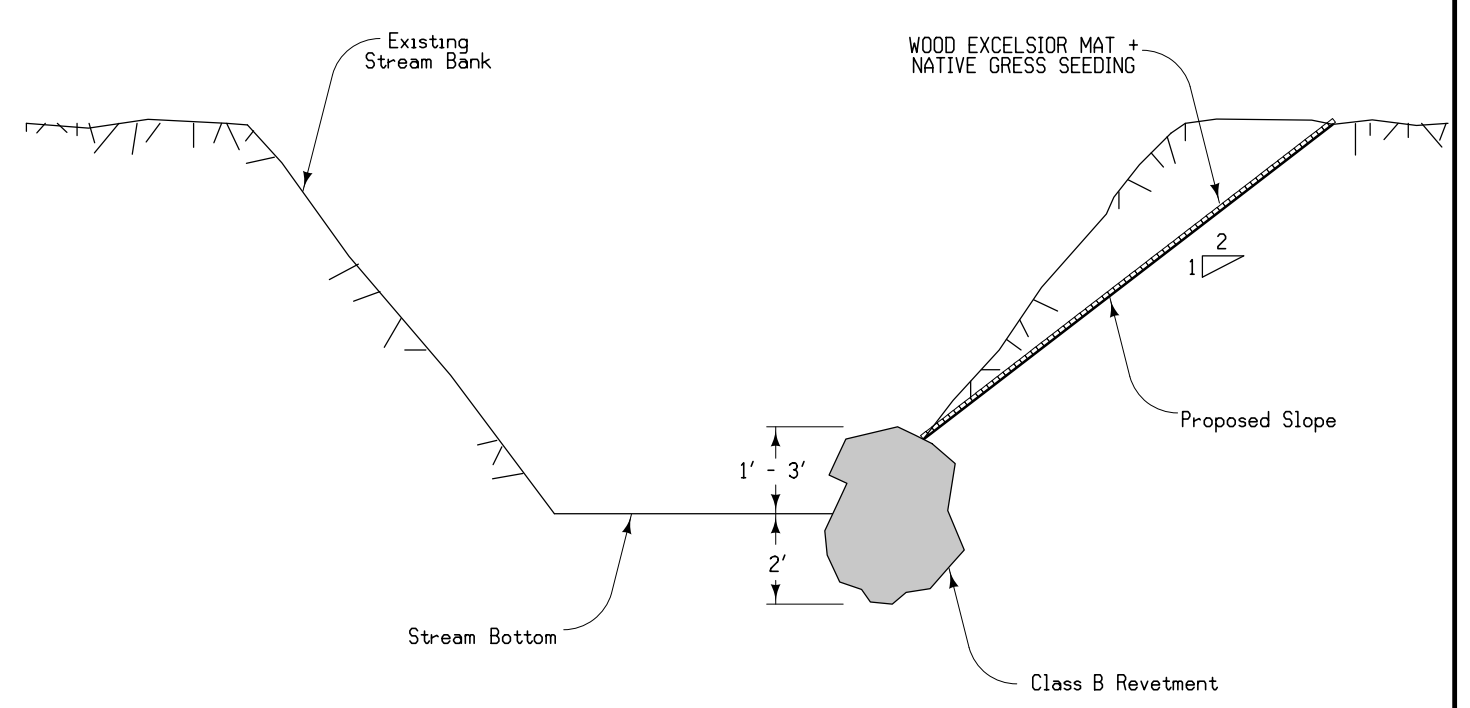
MIT-420
4-4-2013



NOTE: SEEDING NEEDS TO BE PLACED BEFORE WOOD EXCELSIOR MAT.

TYPICAL RIPARIAN BENCH

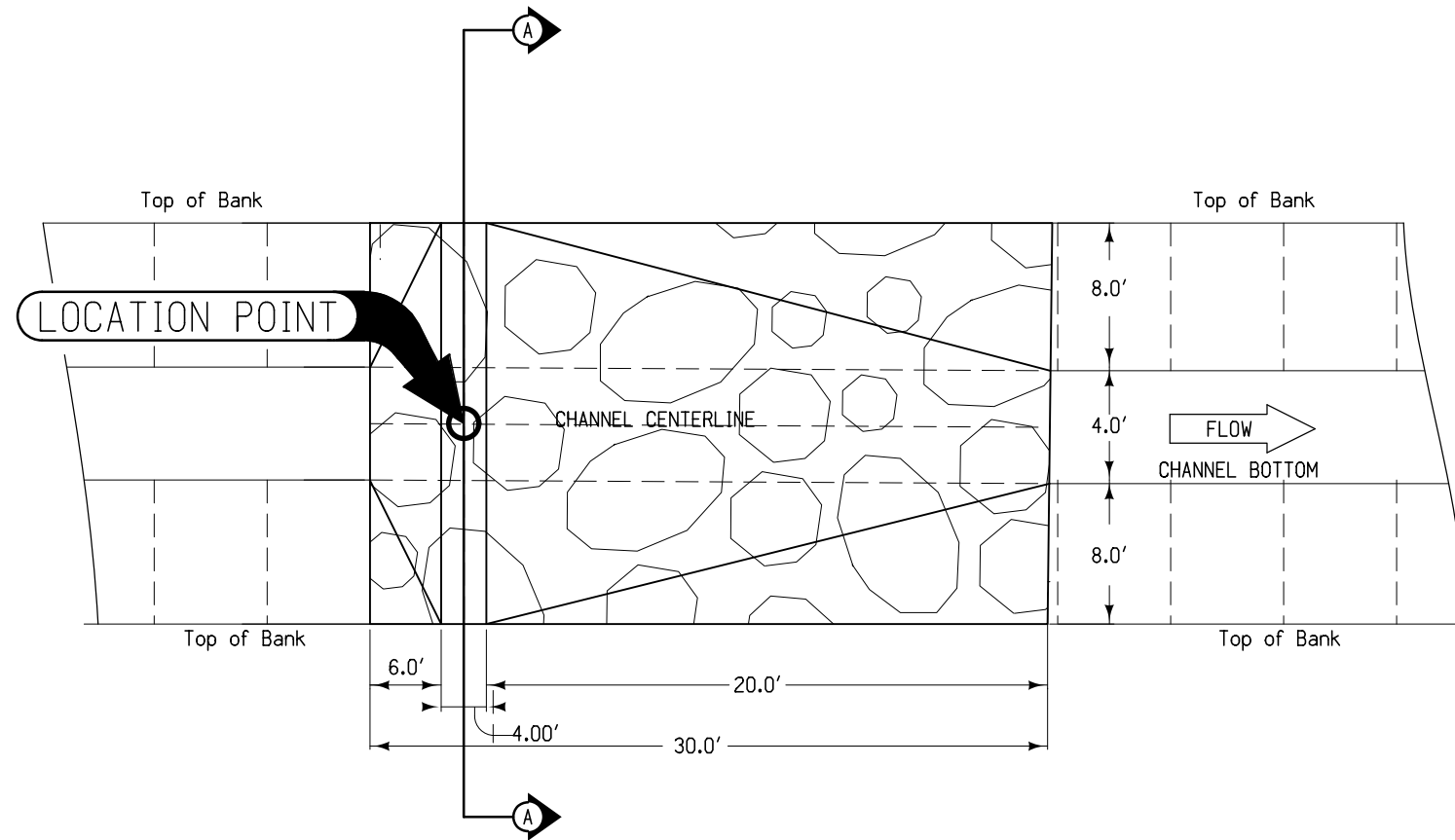
MIT-430
4-4-2013



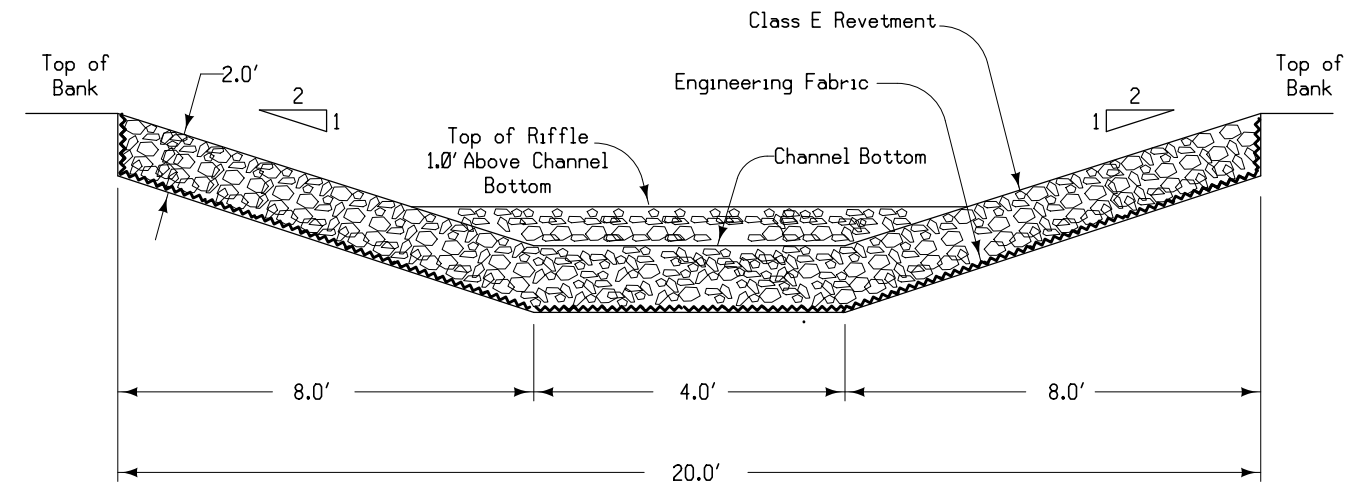
NOTE: SEEDING NEEDS TO BE PLACED BEFORE WOOD EXCELSIOR MAT.

TYPICAL BOULDER TOE PROTECTION

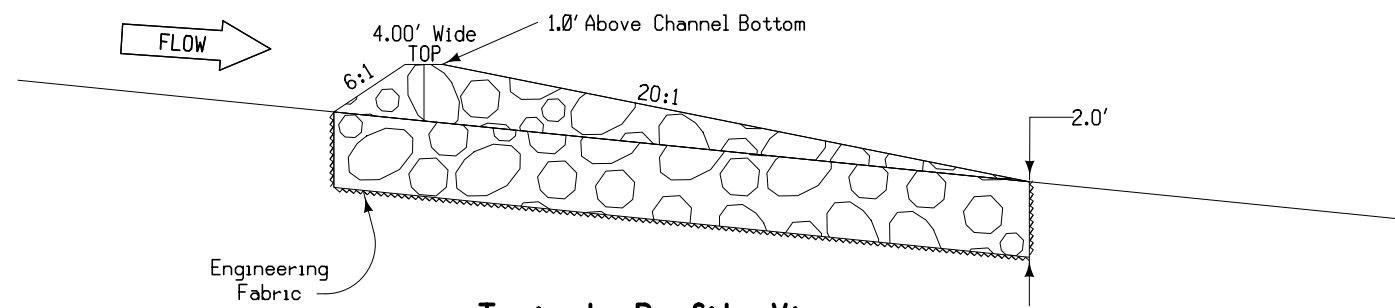
STREAM MITIGATION TYPICAL RIPARIAN BENCH AND BOULDER TOE PROTECTION



PLAN VIEW



Typical Cross Section A-A



Typical Profile View

TYPICAL ROCK RIFFLE STRUCTURE

STREAM MITIGATION TYPICAL ROCK RIFFLE STRUCTURE

SURVEY SYMBOLS

UTILITY LEGEND

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)	Class 10 Topsoil
Green, M.Light	(226)	Unsuitable A Topsoil
Green, Light	(225)	Unsuitable B Topsoil
Green, V.Light	(224)	Unsuitable C Topsoil
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

Soils Book No. J, K, L
 Date(s) Drilled 2012, 2013, 2014

Water	Treatment	Unsuitable A Topsoil
Dry	Sand Blanket	Unsuitable B Topsoil
Sample	Soil Remediation Area	Unsuitable C Topsoil
Plugged	Select Soil	Unsuitable A
Moisture	Select Sand	Unsuitable B
Shelby	Shale	Unsuitable C
Blow Count	Broken and Weathered Rock	Sandy Soil
Dens. Core	Rock	Boulders
	Sandstone	

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

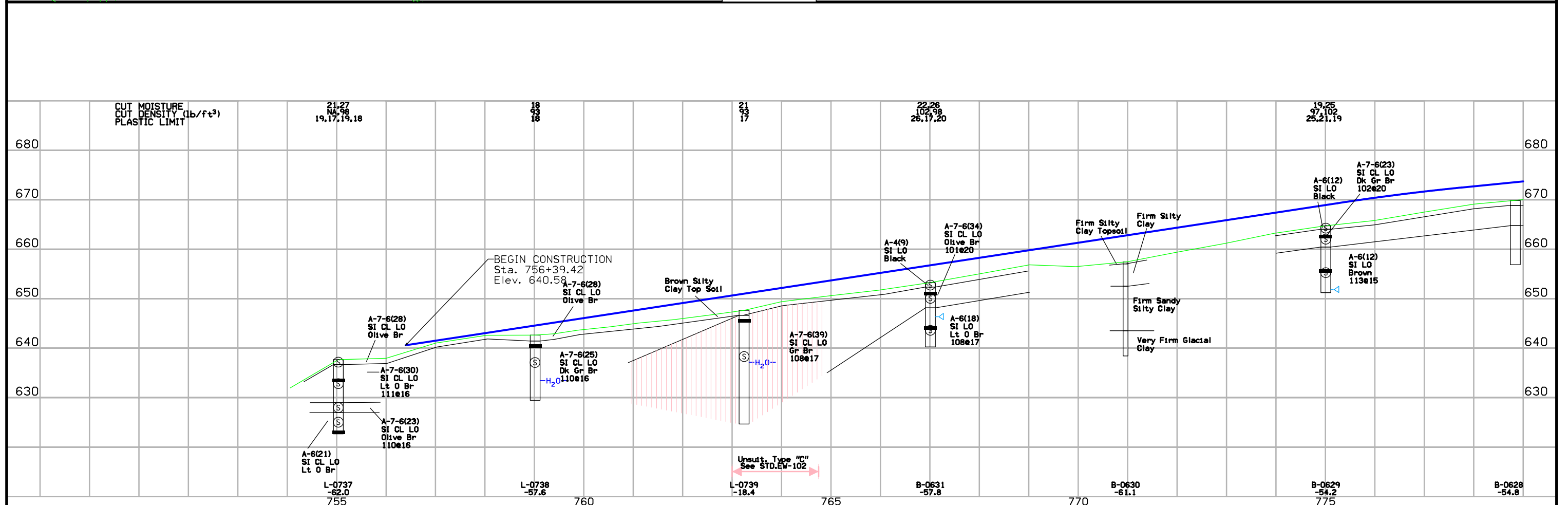
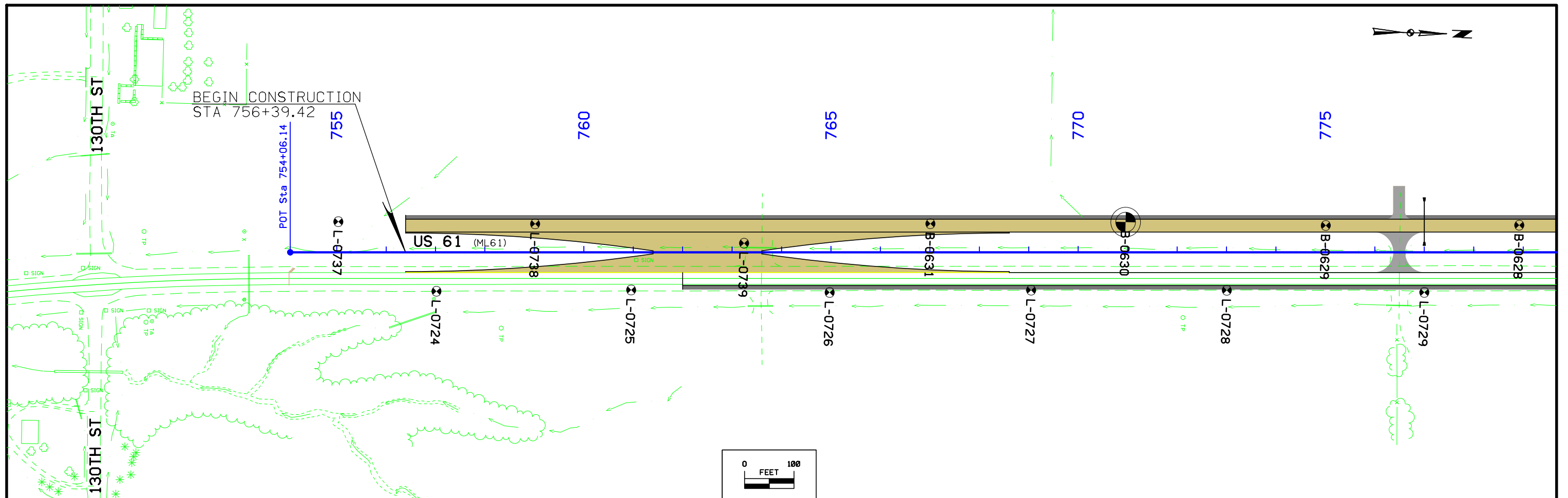
RIGHT-OF-WAY LEGEND

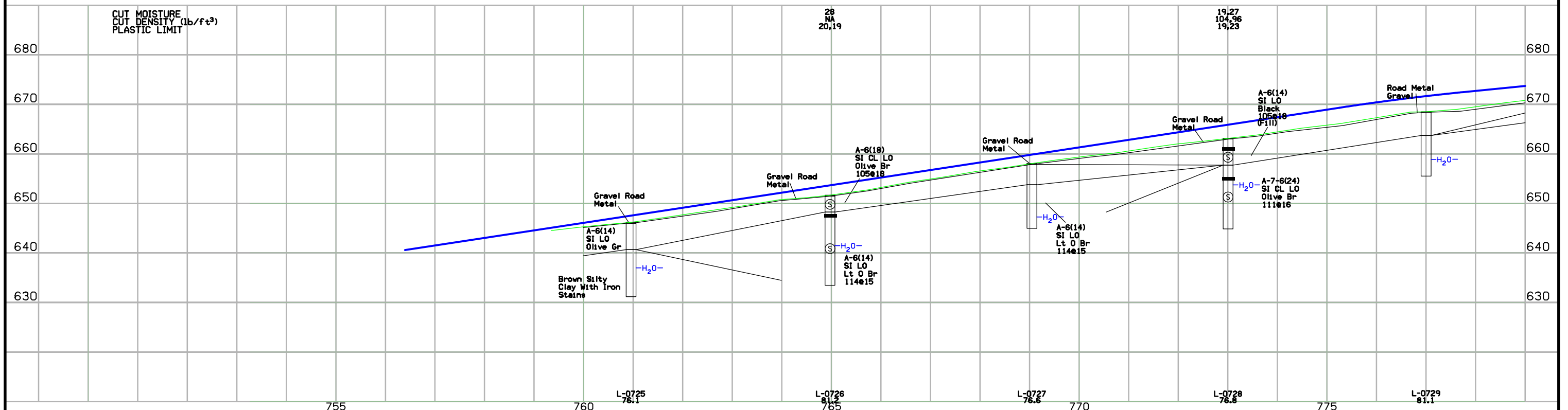
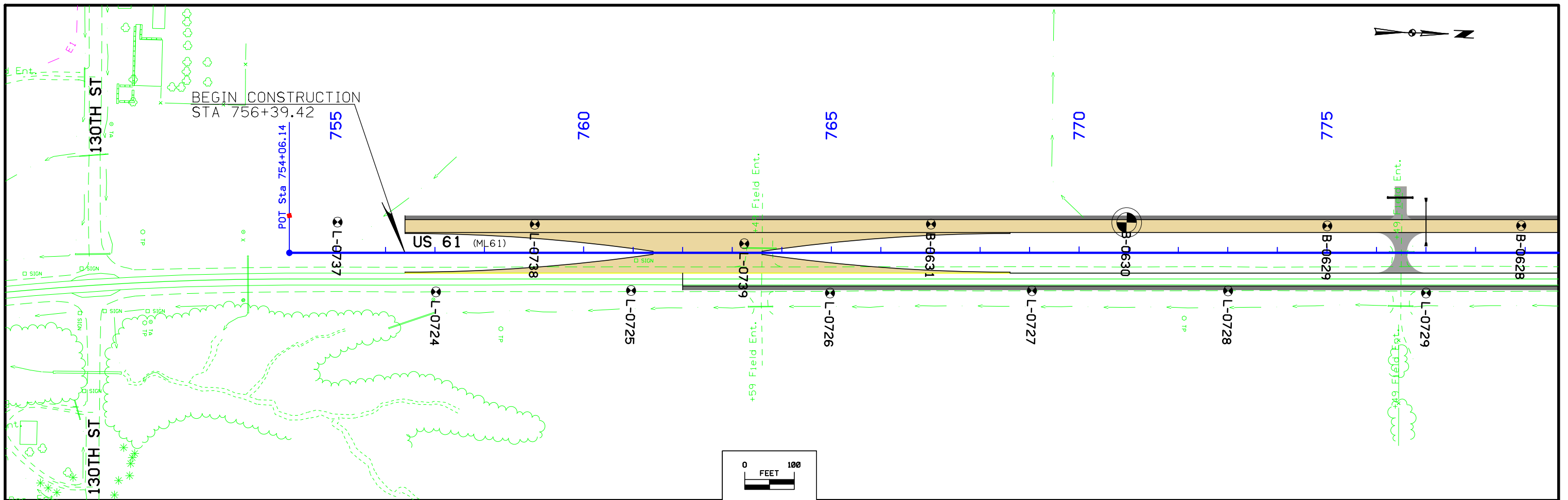
	Proposed Right-of-Way
	Existing and Proposed Right-of-Way
	Easement and Existing Right-of-Way
	Borrow
	Easement (Temporary)
	Easement
	Excess
	A/C Access Control

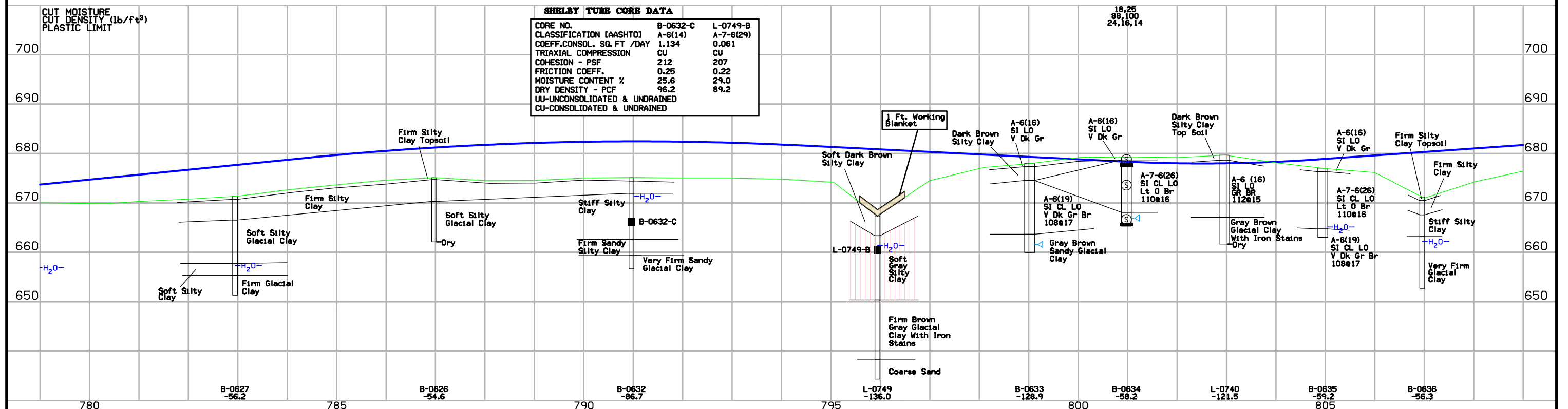
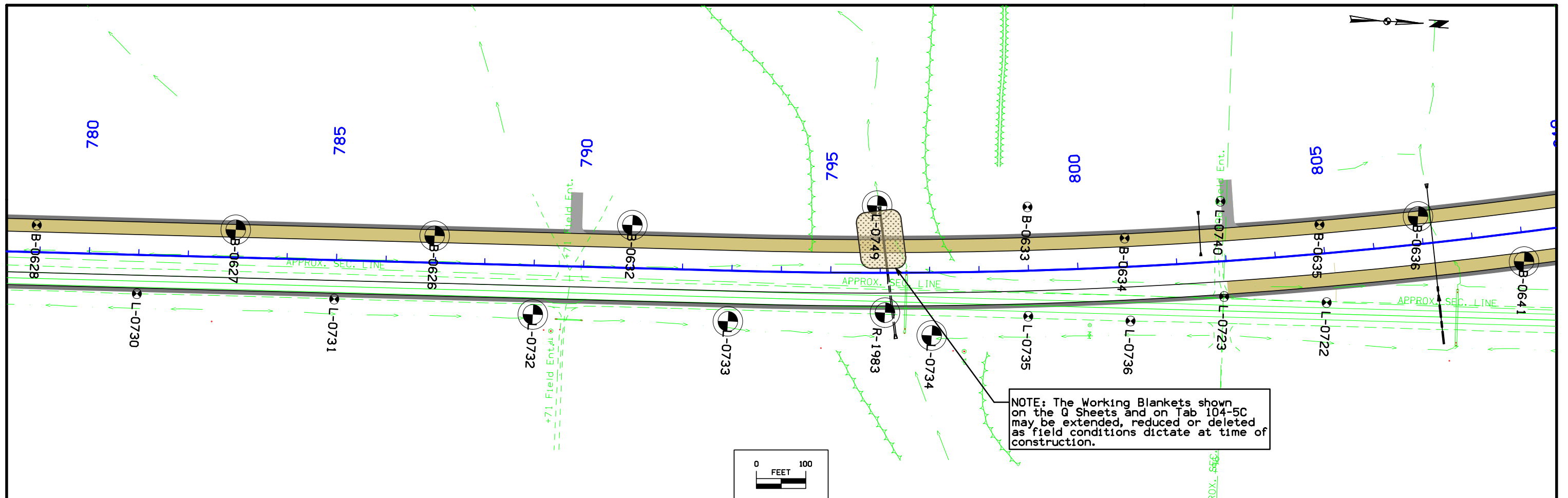
NOTE: Sounding and test boring data shown in the plans were accumulated for designing and estimating purposes. Their appearance on the plans does not constitute a guarantee that conditions other than those indicated will be encountered. Details and notes shown elsewhere shall be used for roadway and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

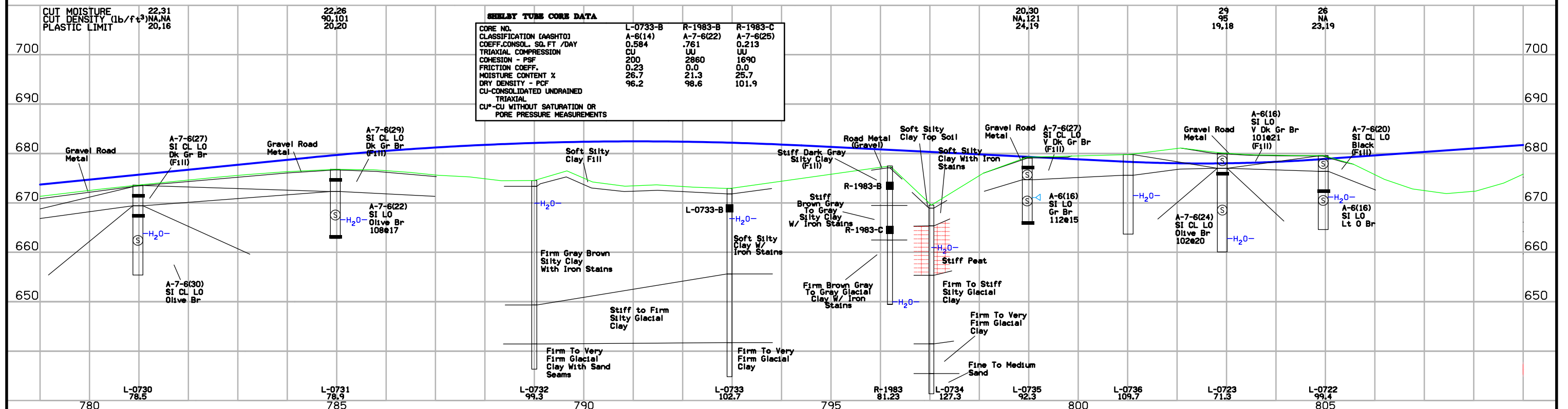
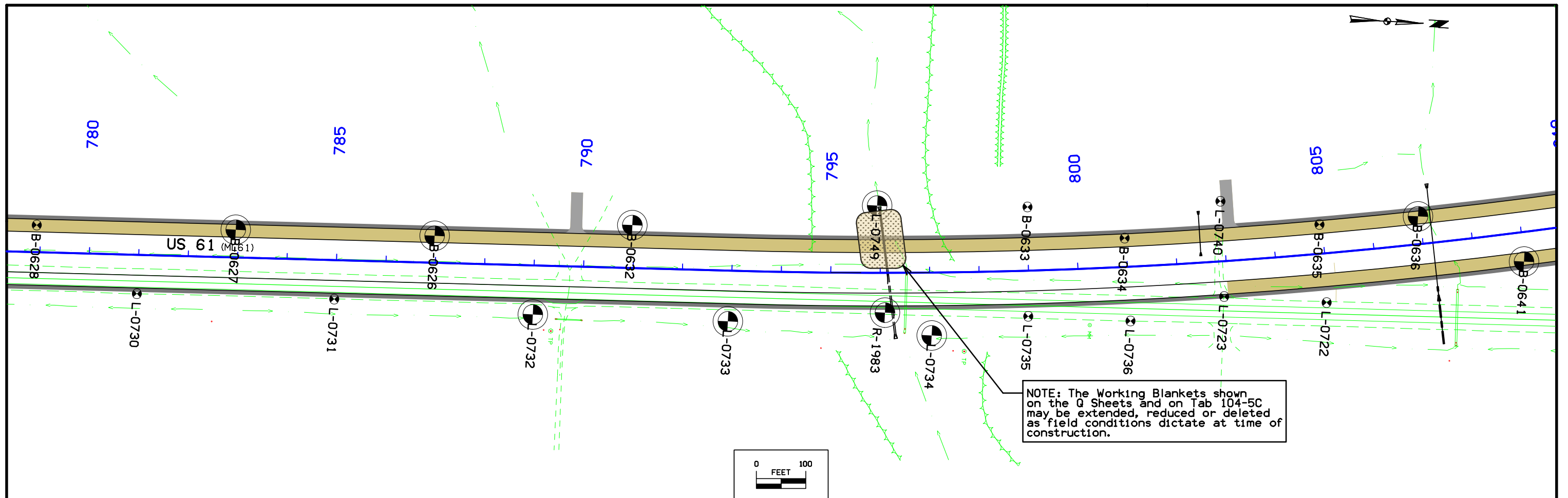
SOILS LEGEND AND SYMBOL INFORMATION SHEET

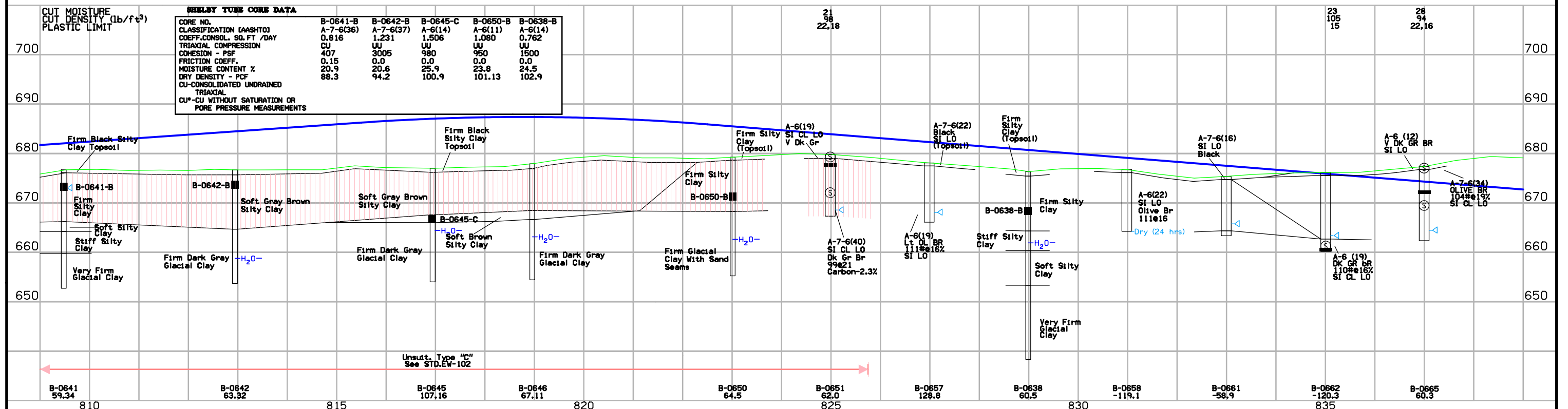
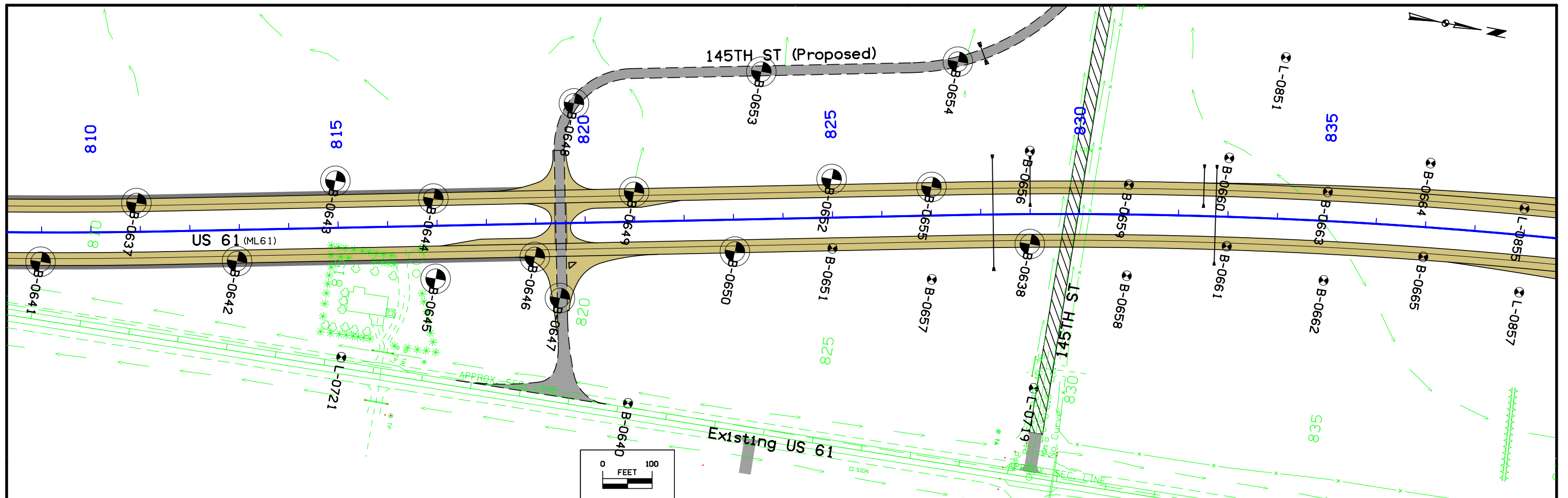
(COVERS SHEET SERIES Q & R)

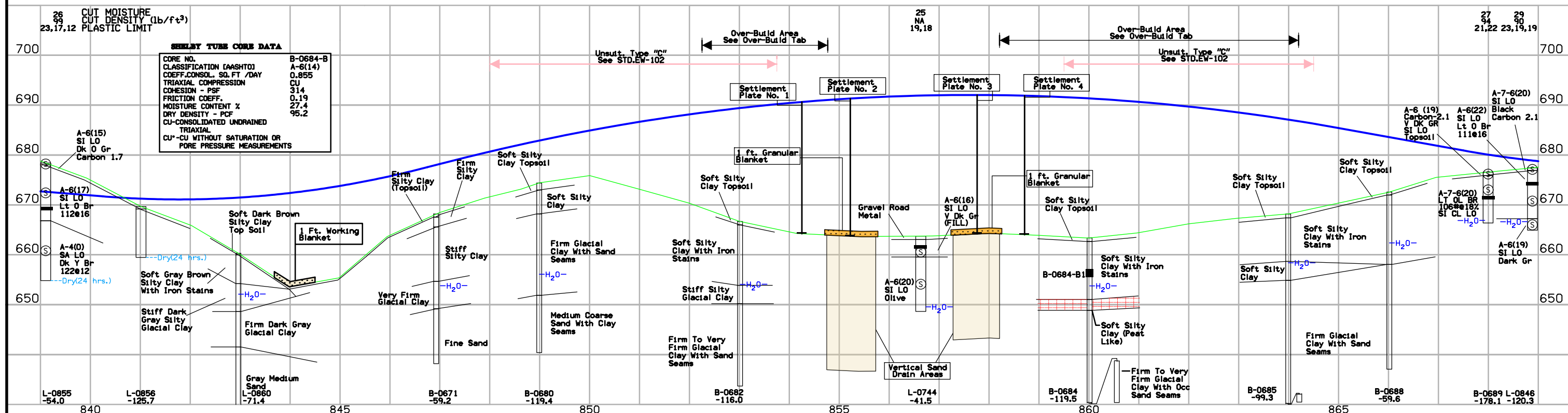
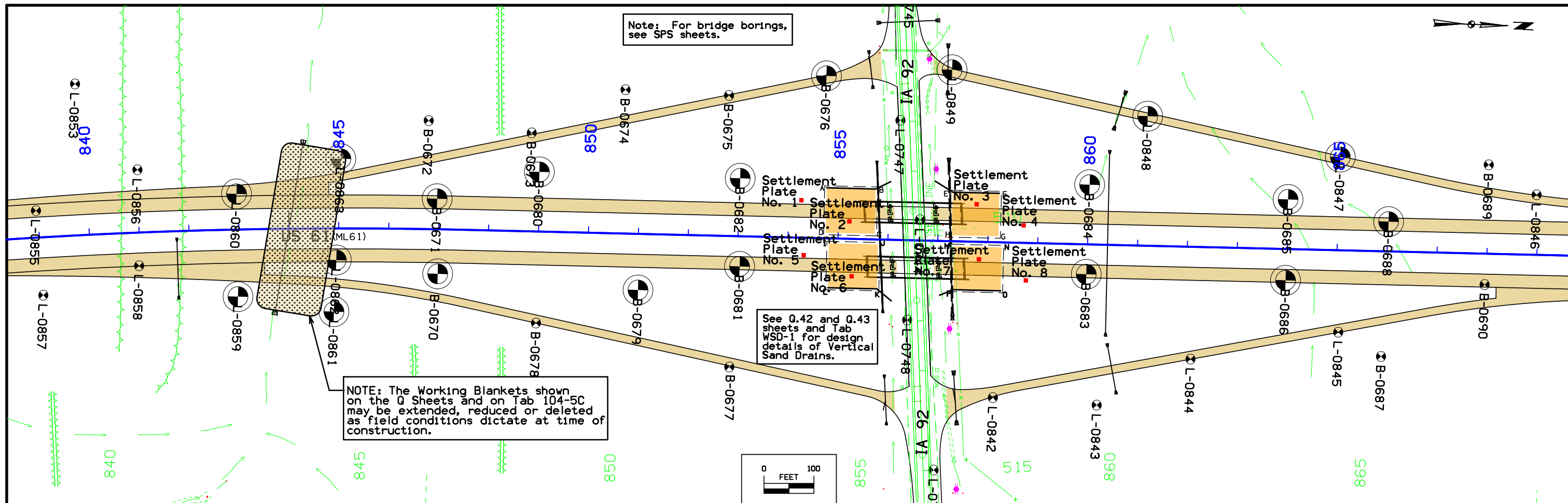




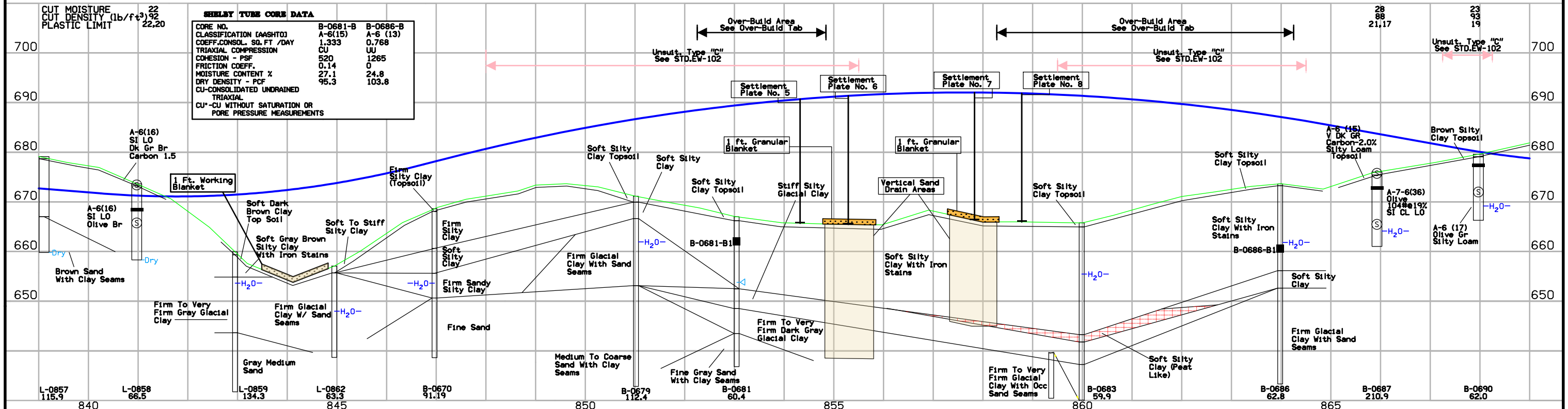
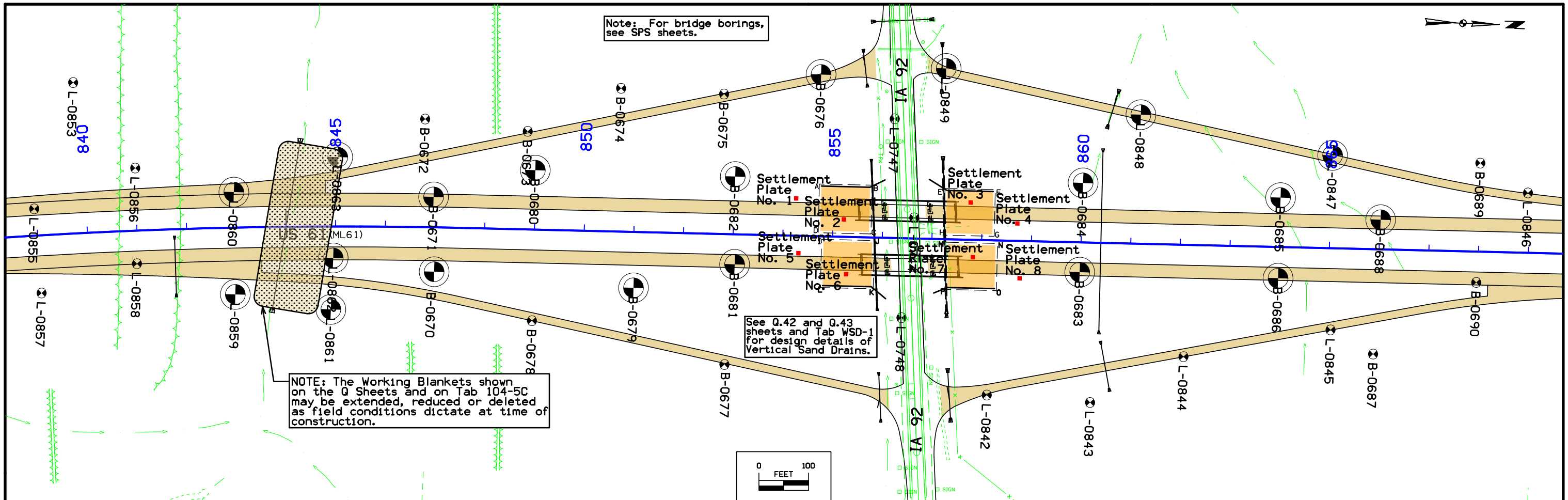


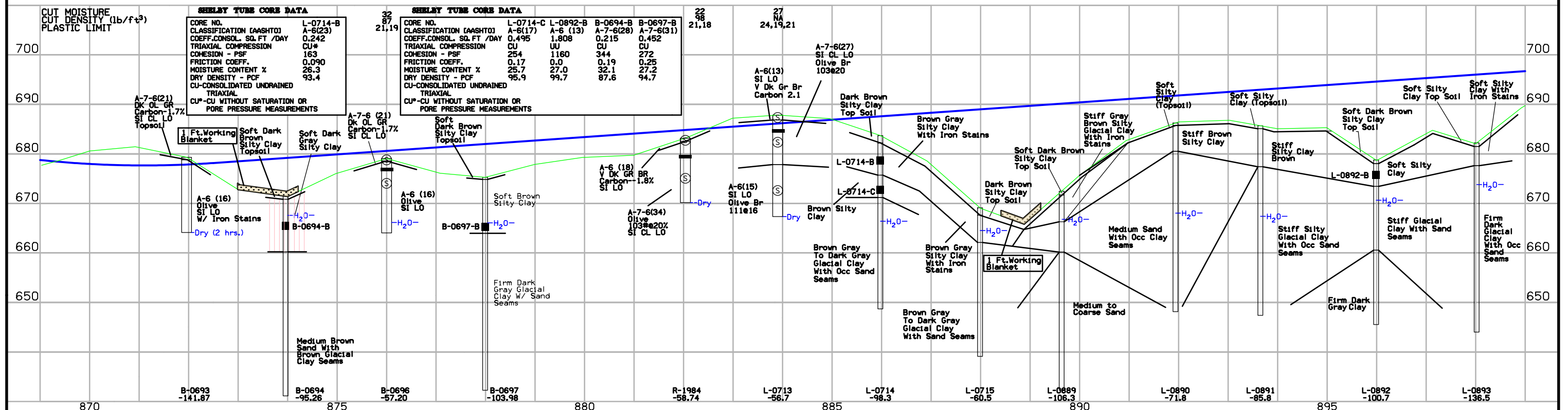
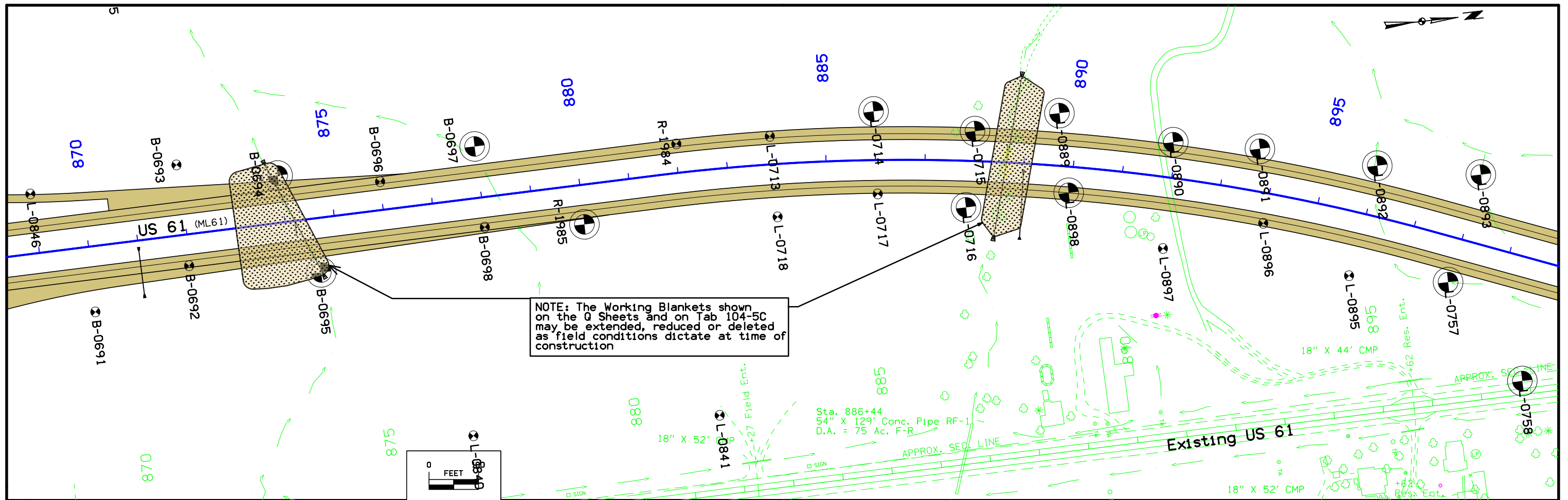


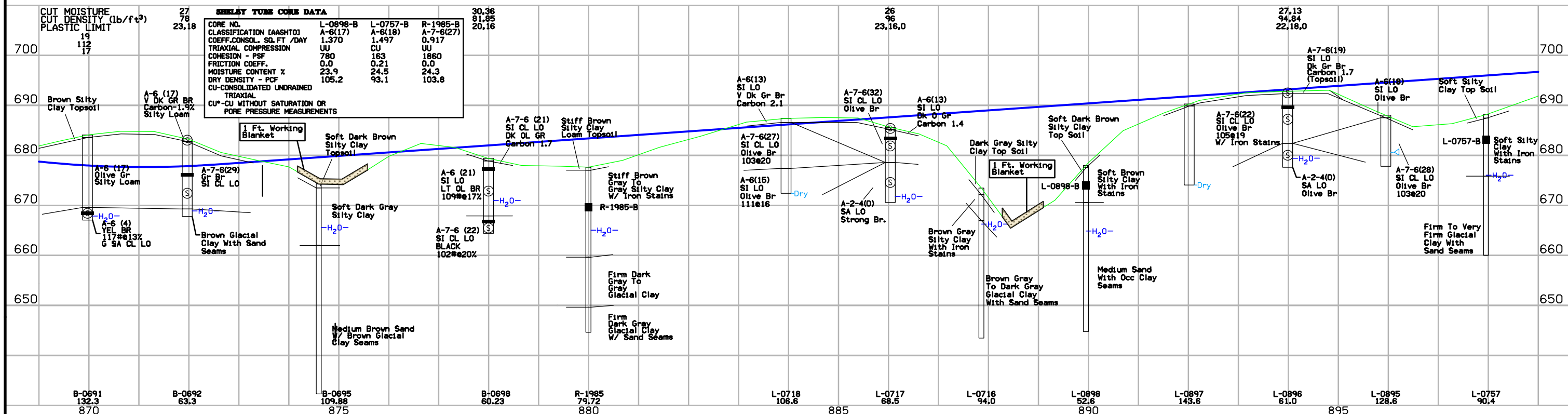
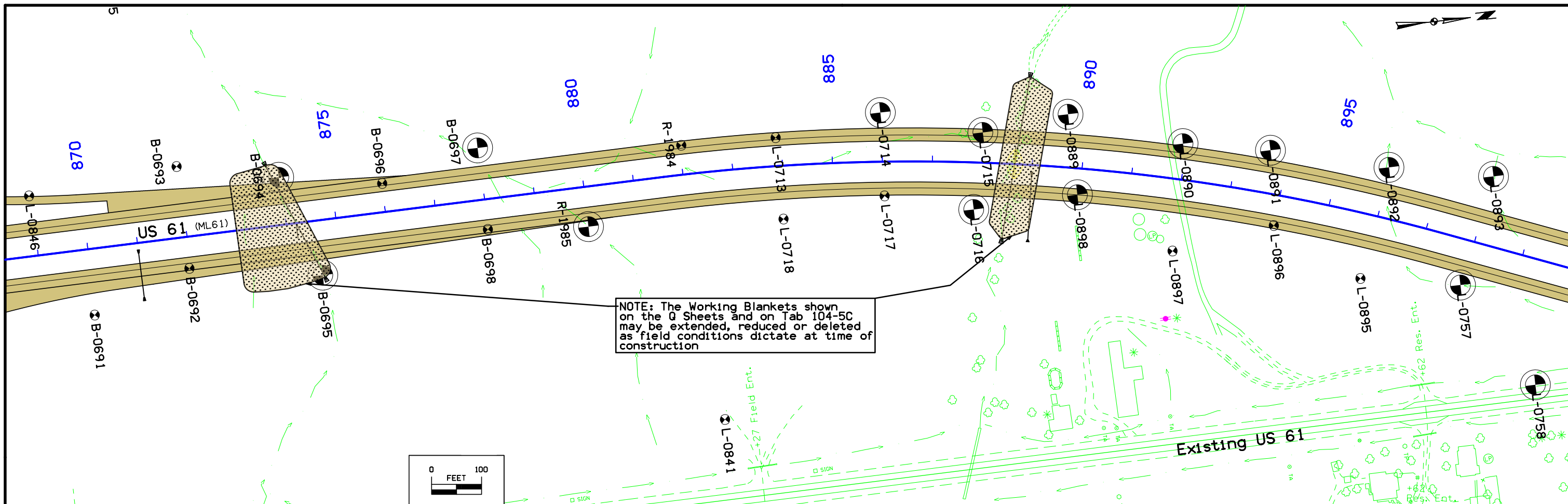


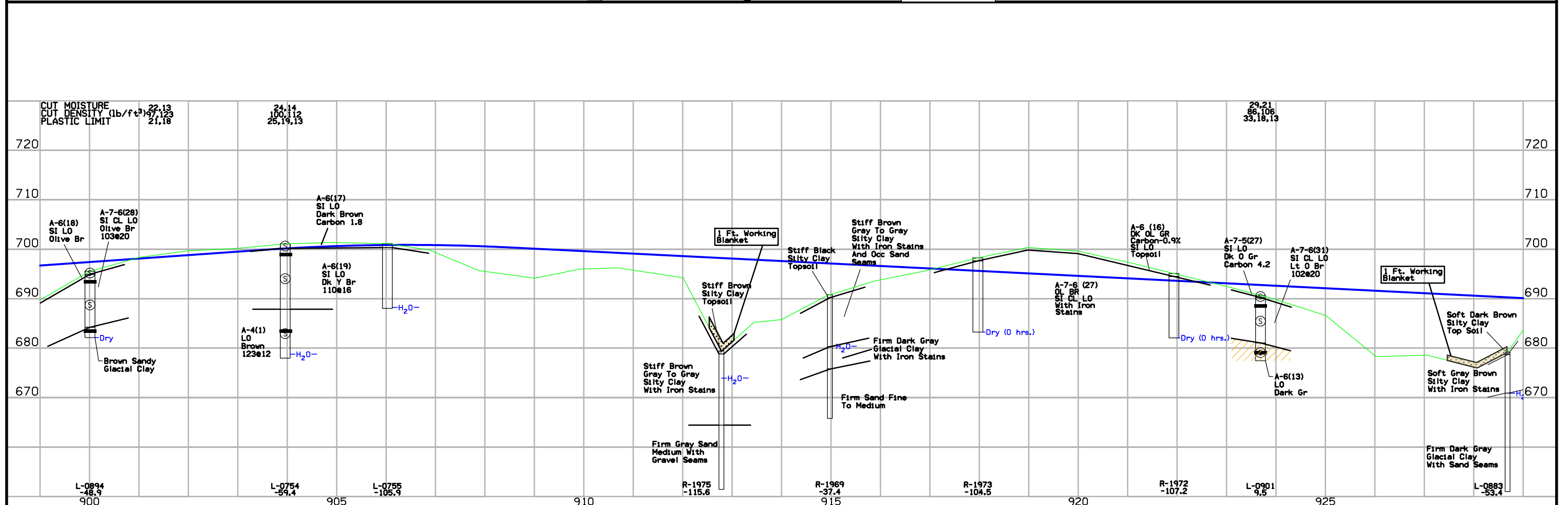
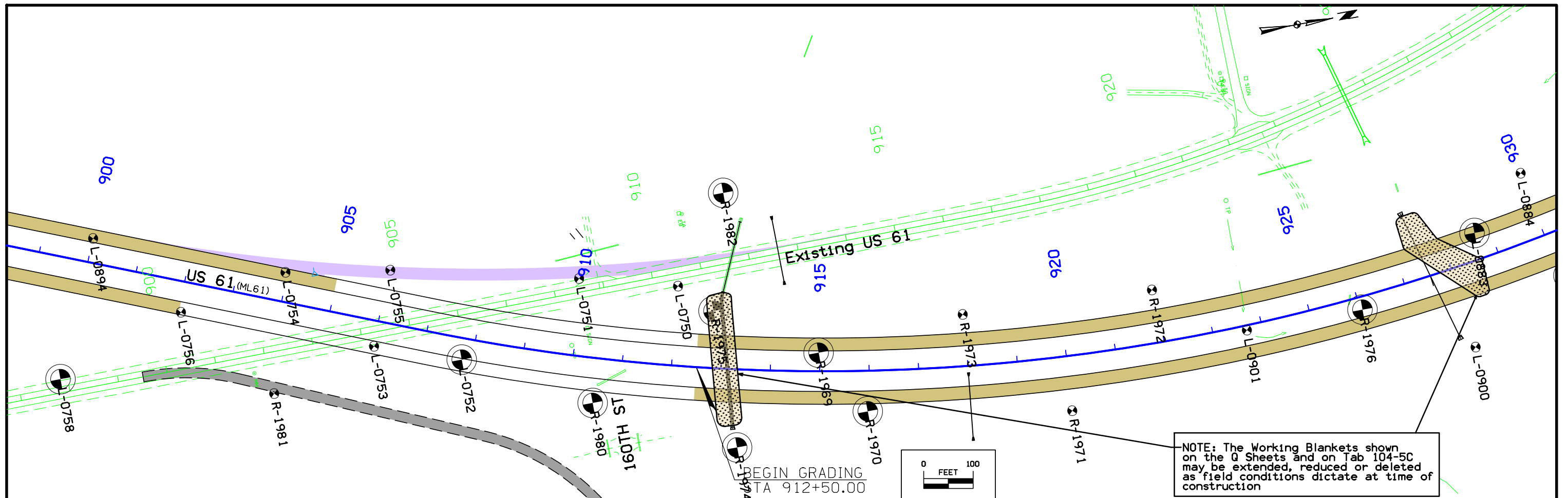


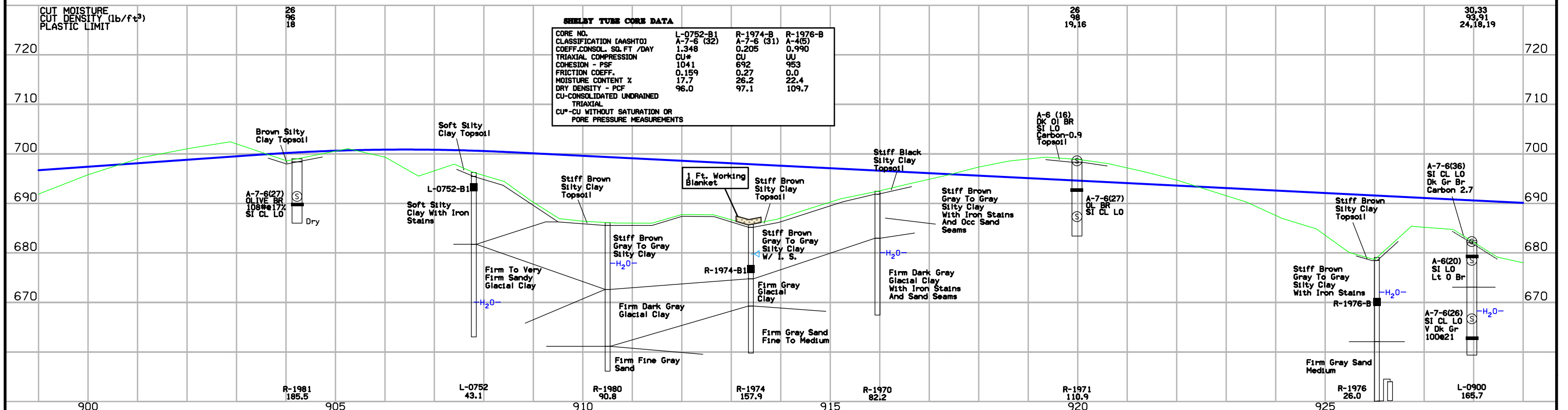
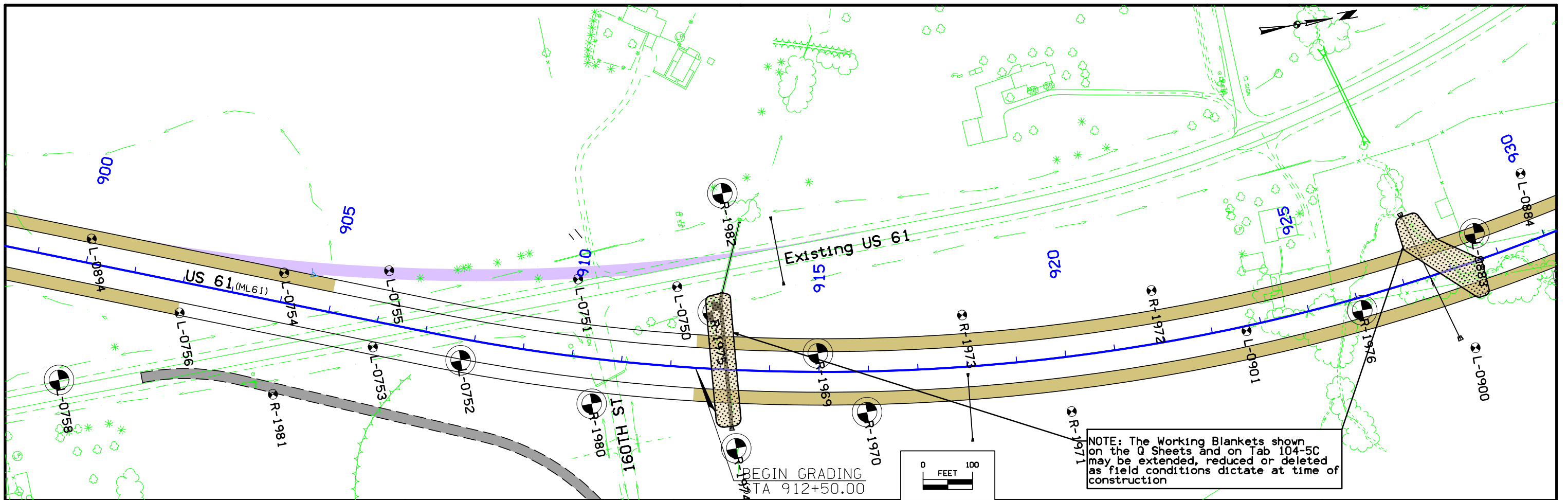
Note: For bridge borings, see SPS sheets.

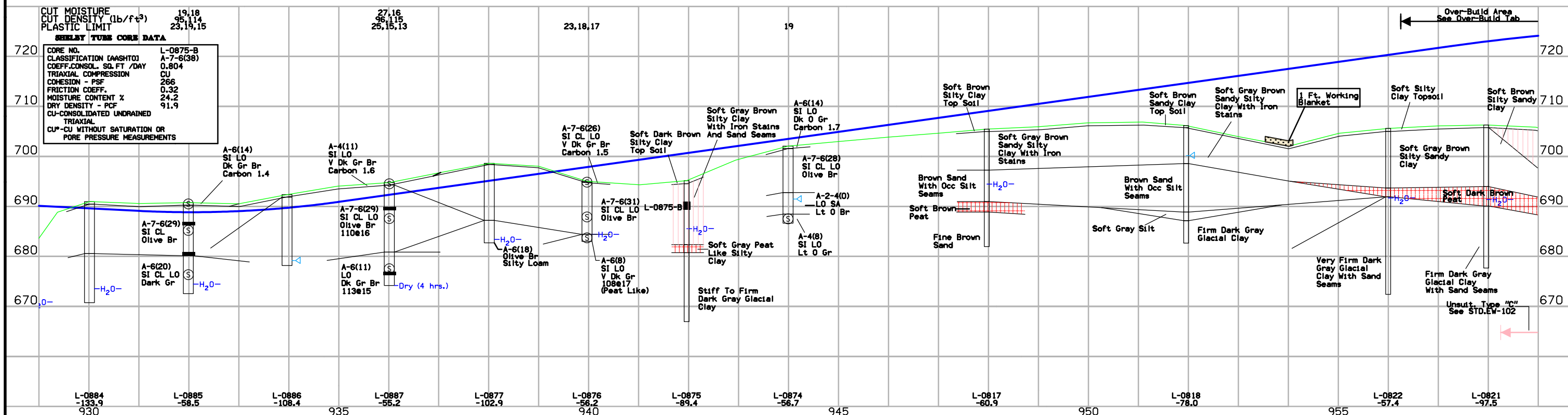
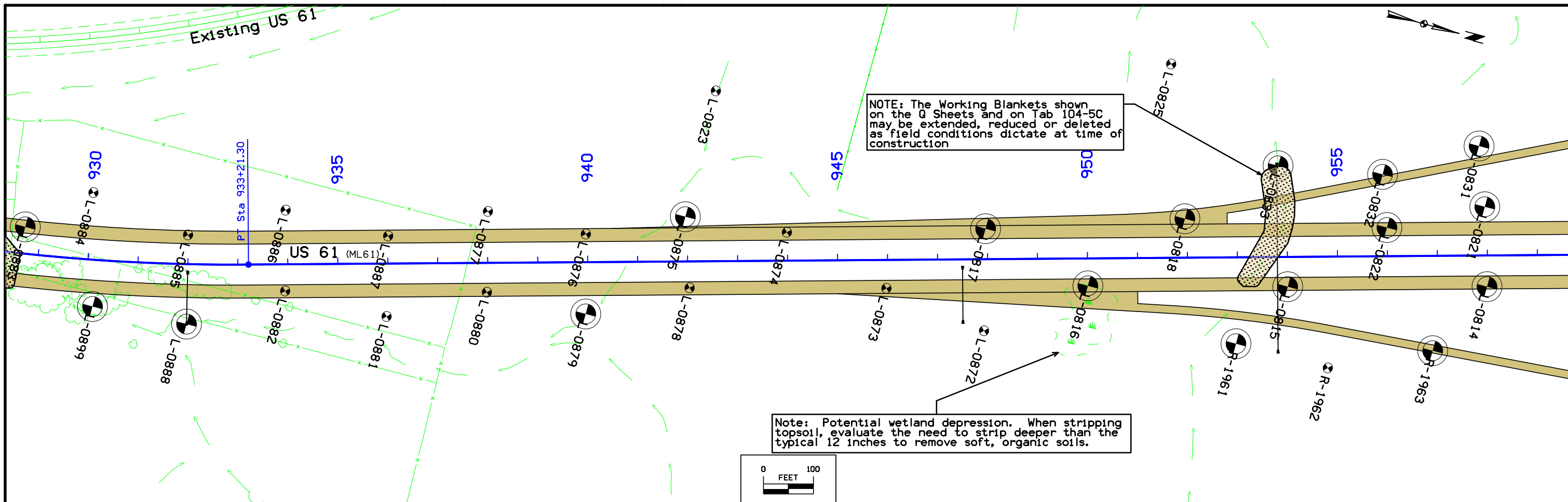


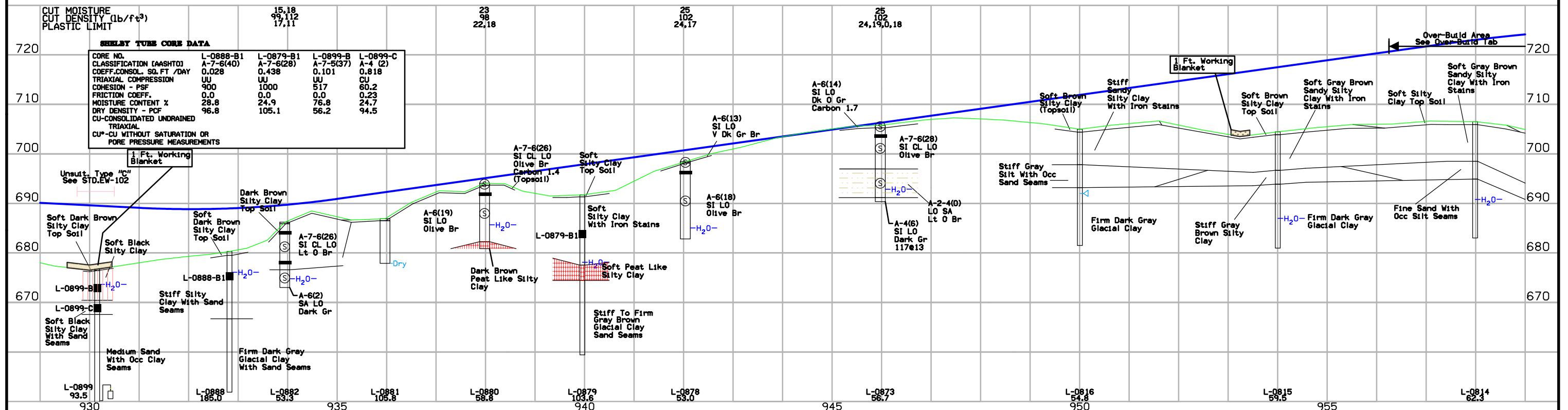
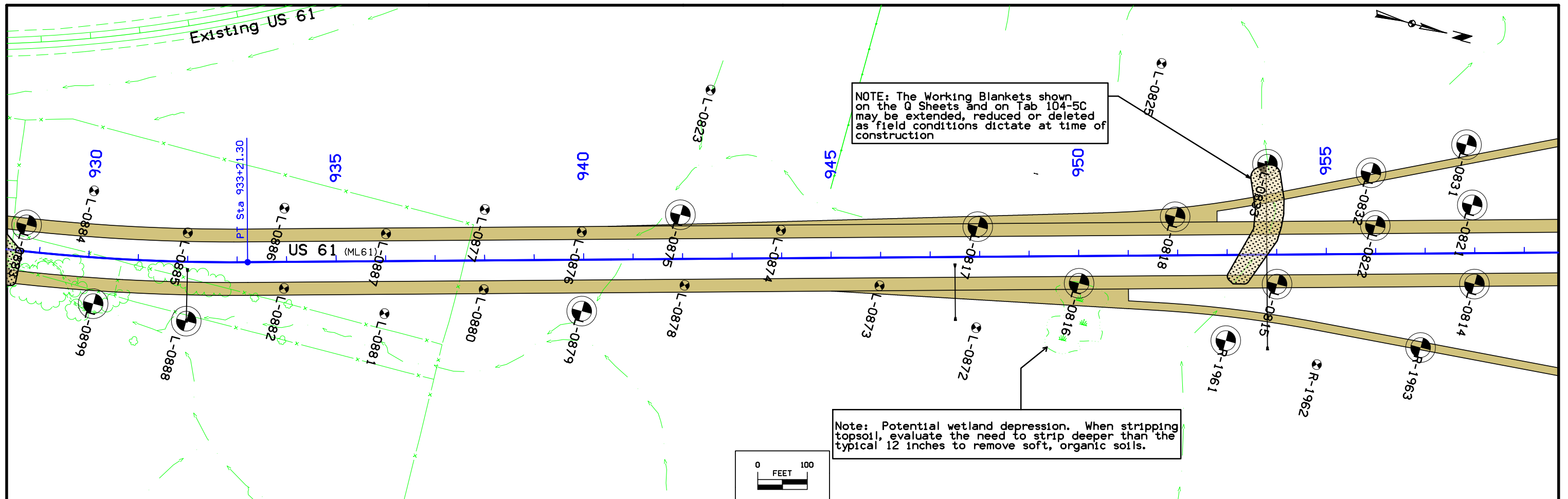


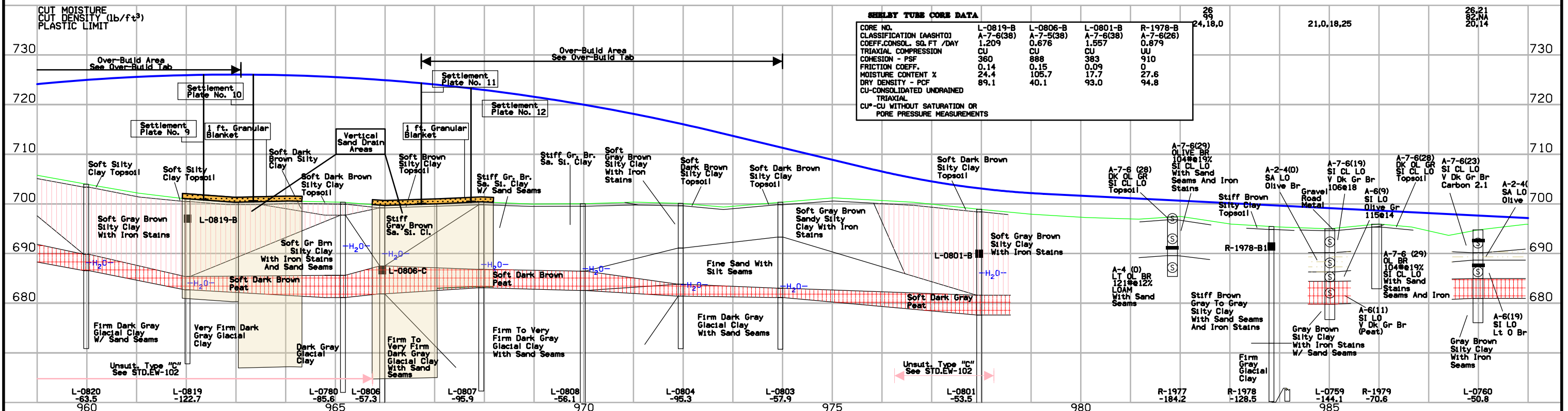
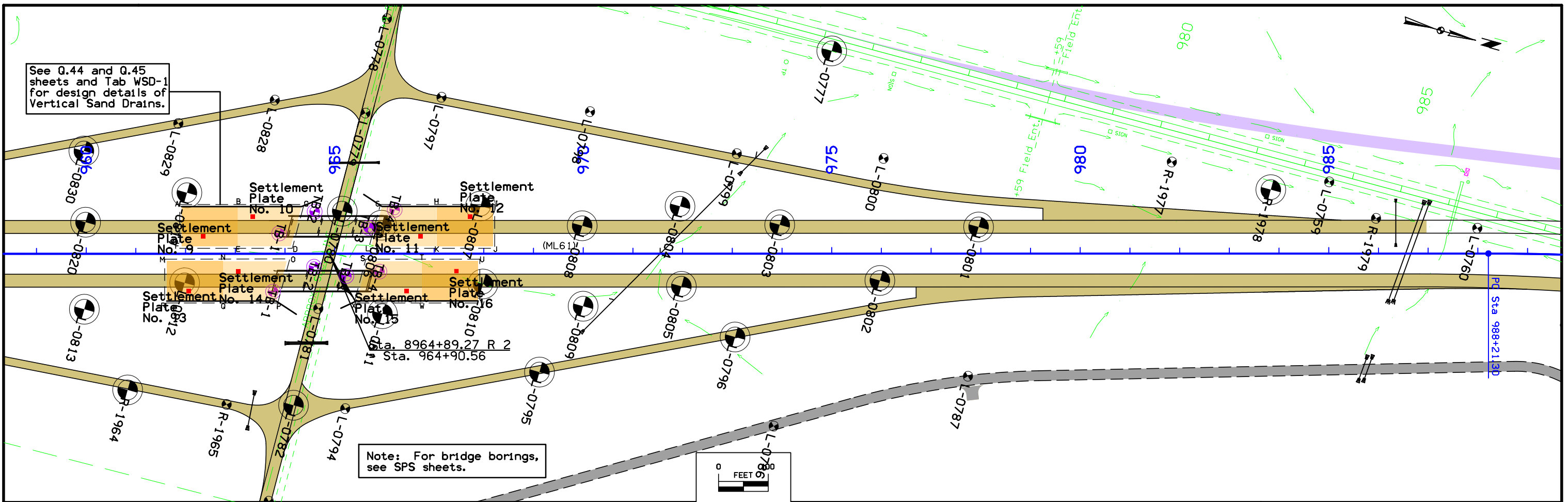






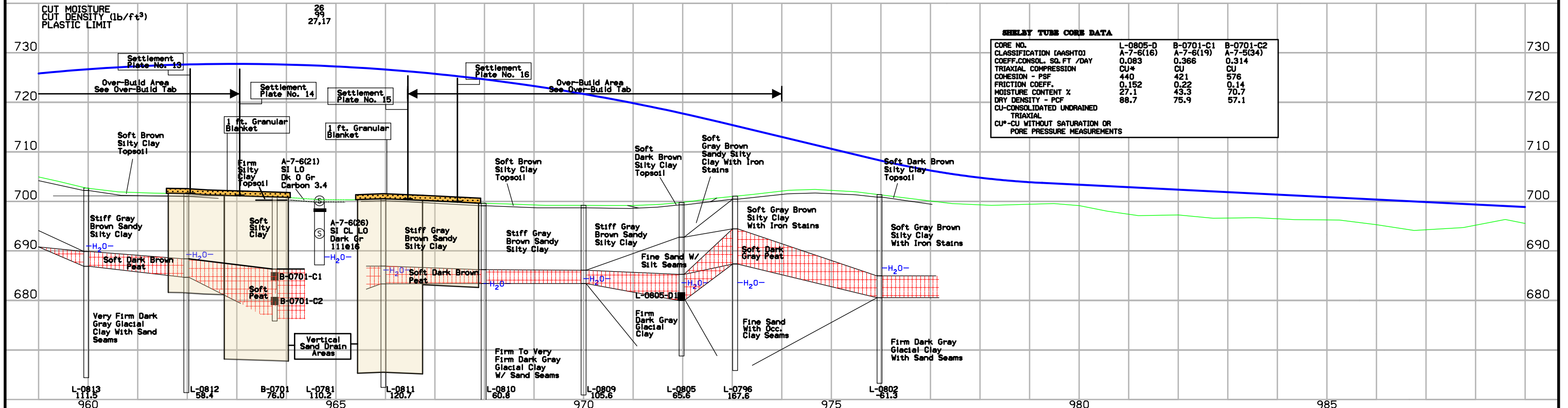
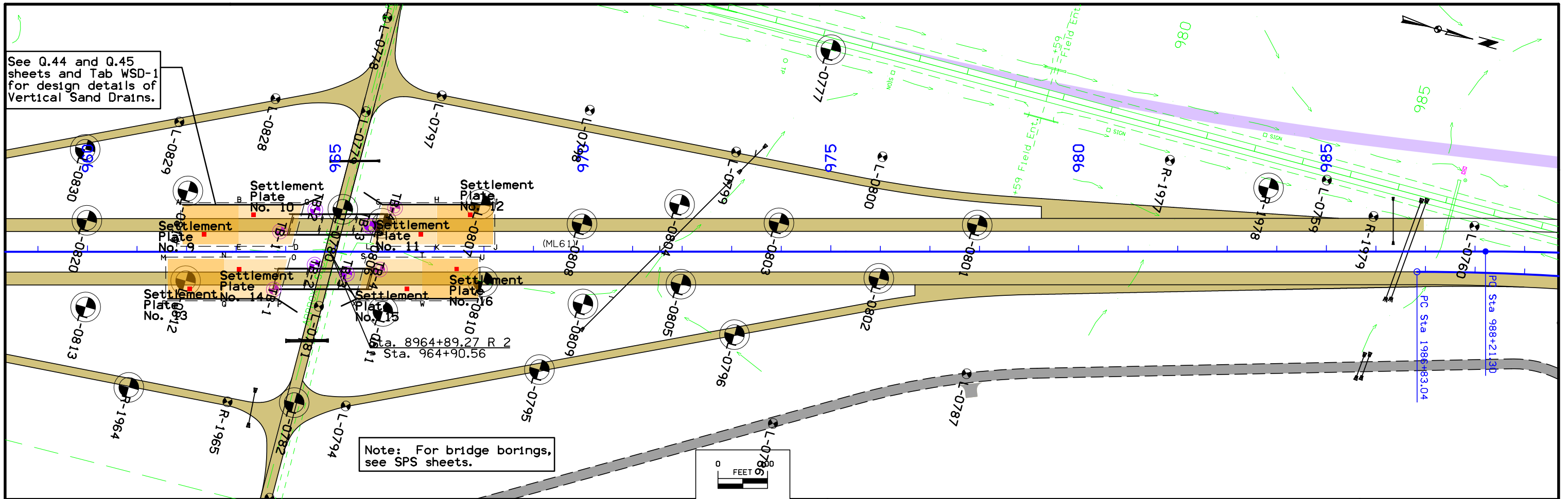


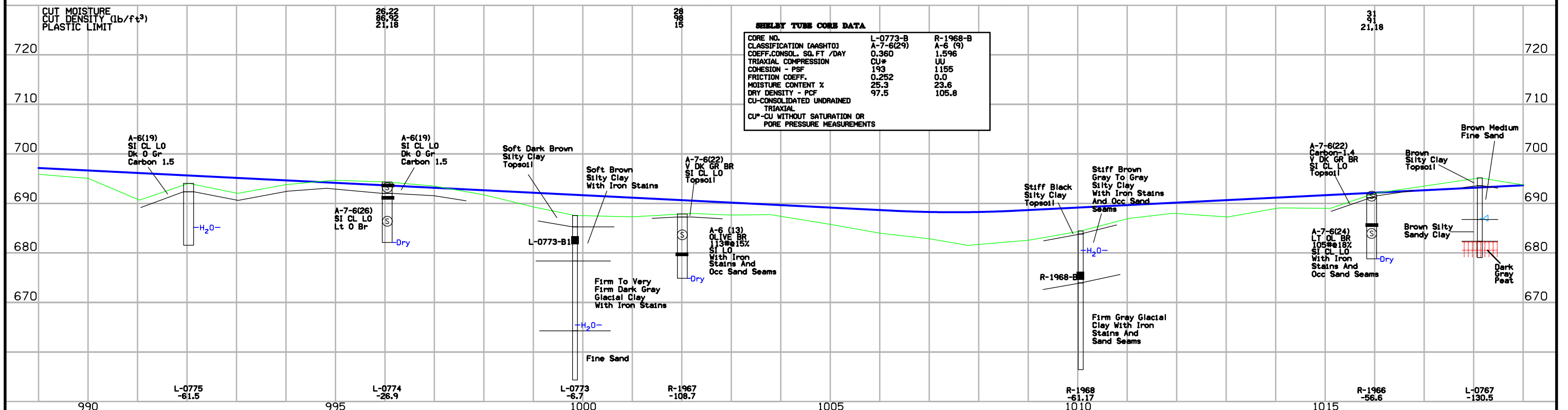
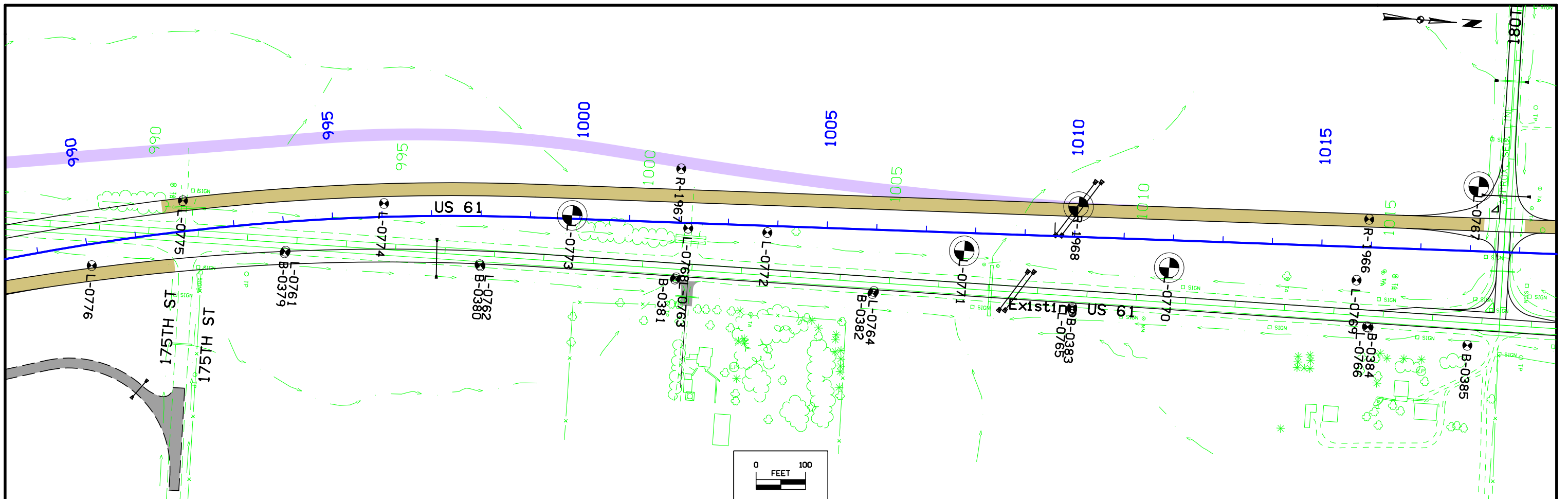


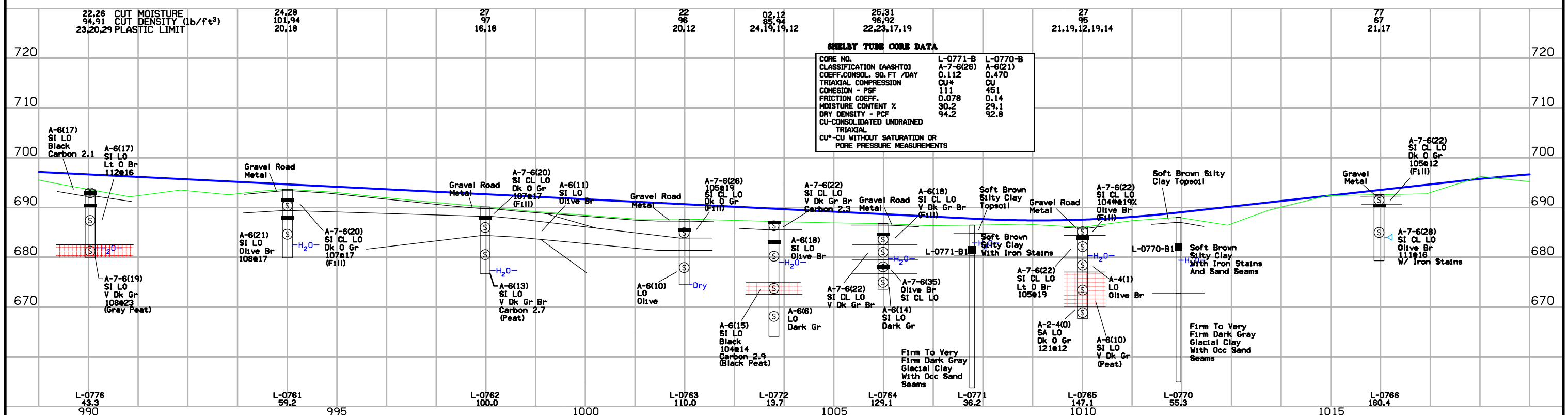
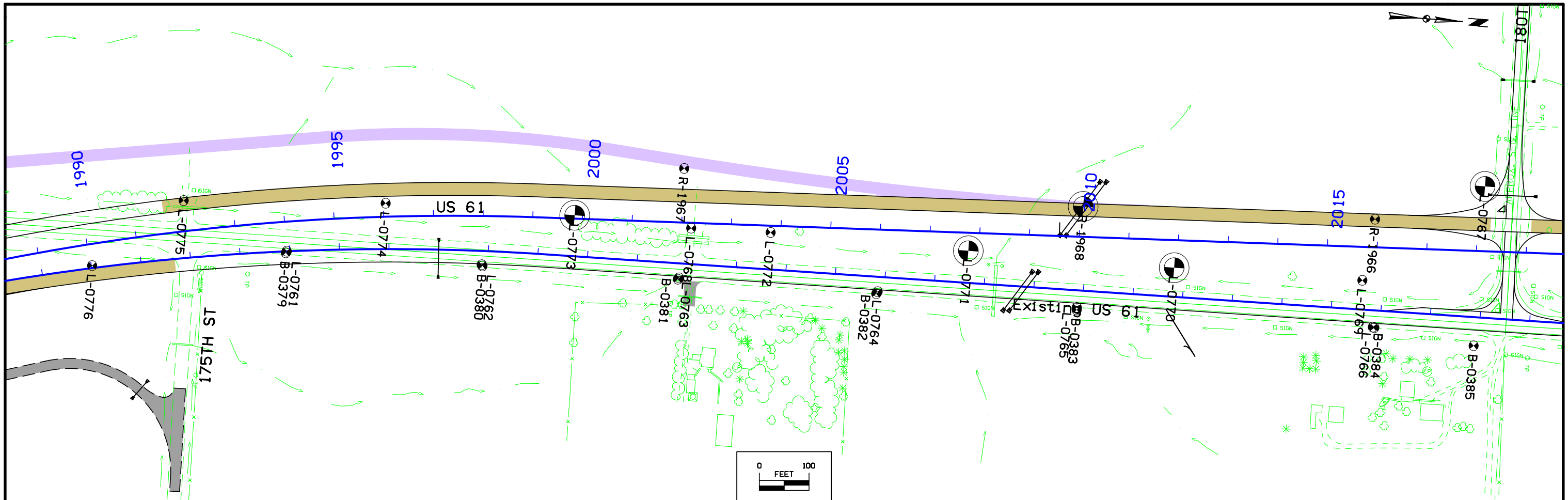


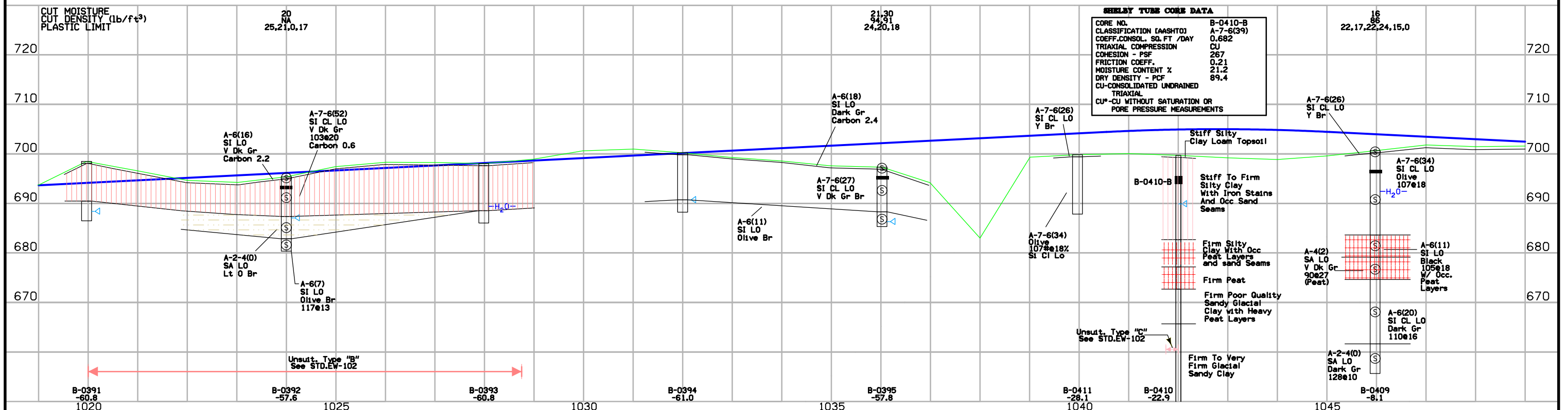
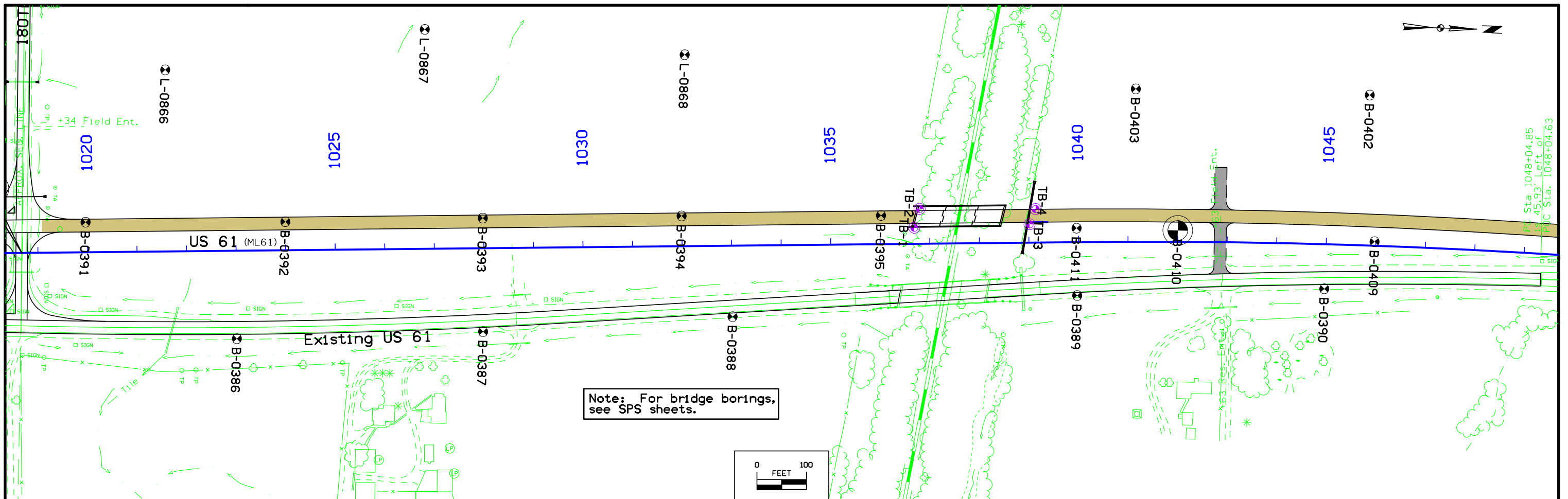
SHELLY TUBE CORE DATA

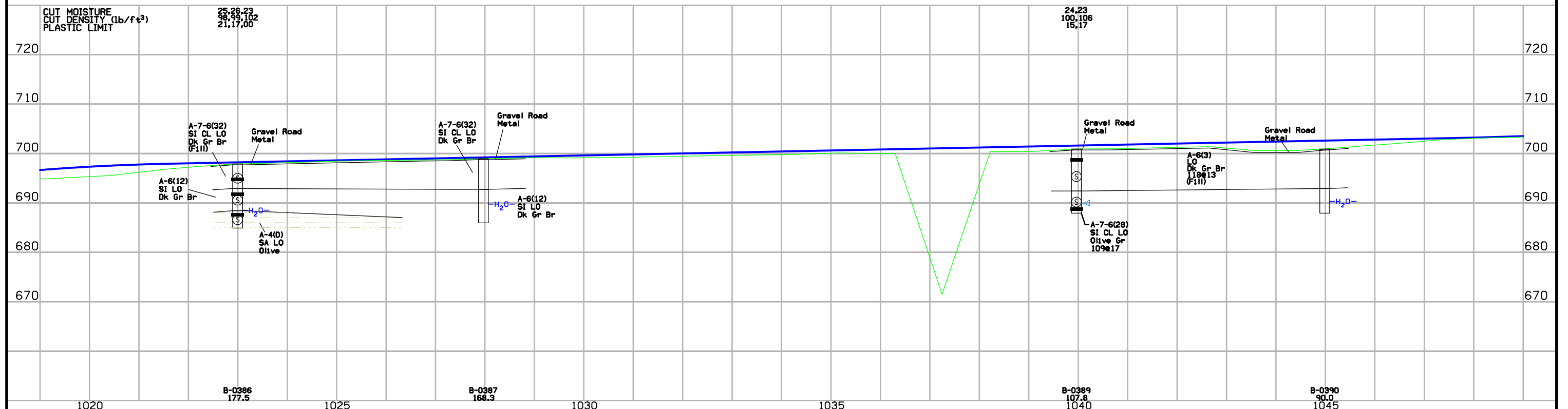
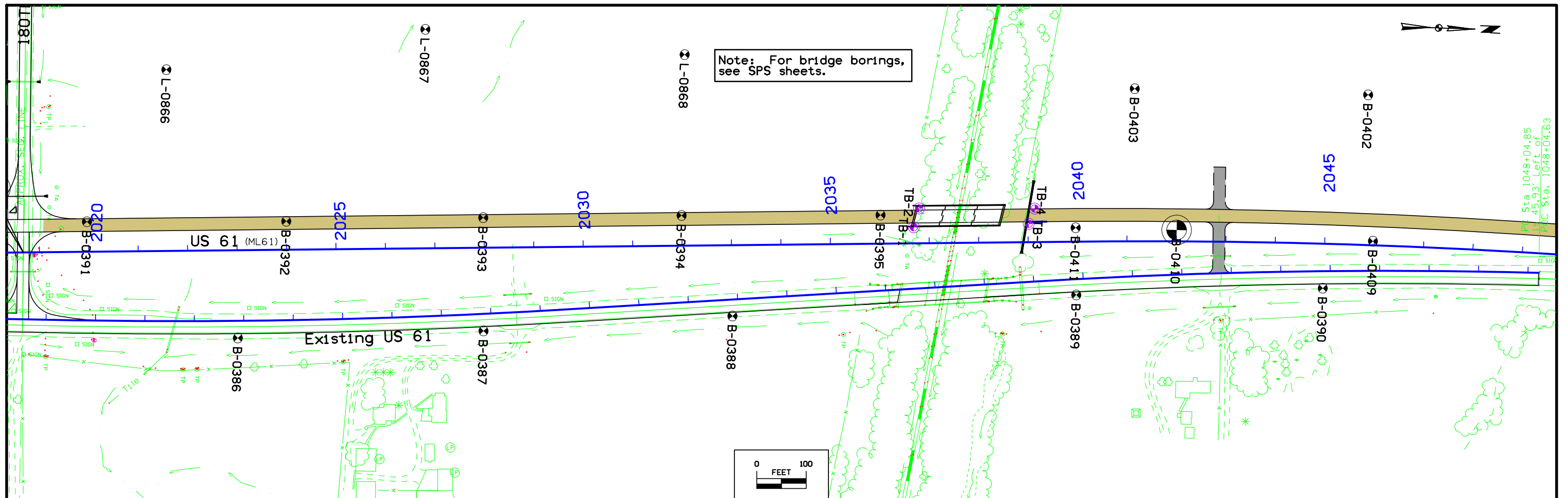
CORE NO.	L-0819-B	L-0806-B	L-0801-B	R-1978-B
CLASSIFICATION (AASHTO)	A-7-6(38)	A-7-5(38)	A-7-6(38)	A-7-6(26)
COEFF. CONSOL. SQ. FT / DAY	1.209	0.676	1.557	0.879
TRIAxIAL COMPRESSION	CU	CU	CU	UU
COHESION - PSF	360	888	383	910
FRICTION COEFF.	0.14	0.15	0.09	0
MOISTURE CONTENT %	24.4	105.7	17.7	27.6
DRY DENSITY - PCF	89.1	40.1	93.0	94.8
CU-CONSOLIDATED UNDRAINED TRIAXIAL				
CU* - CU WITHOUT SATURATION OR PORE PRESSURE MEASUREMENTS				

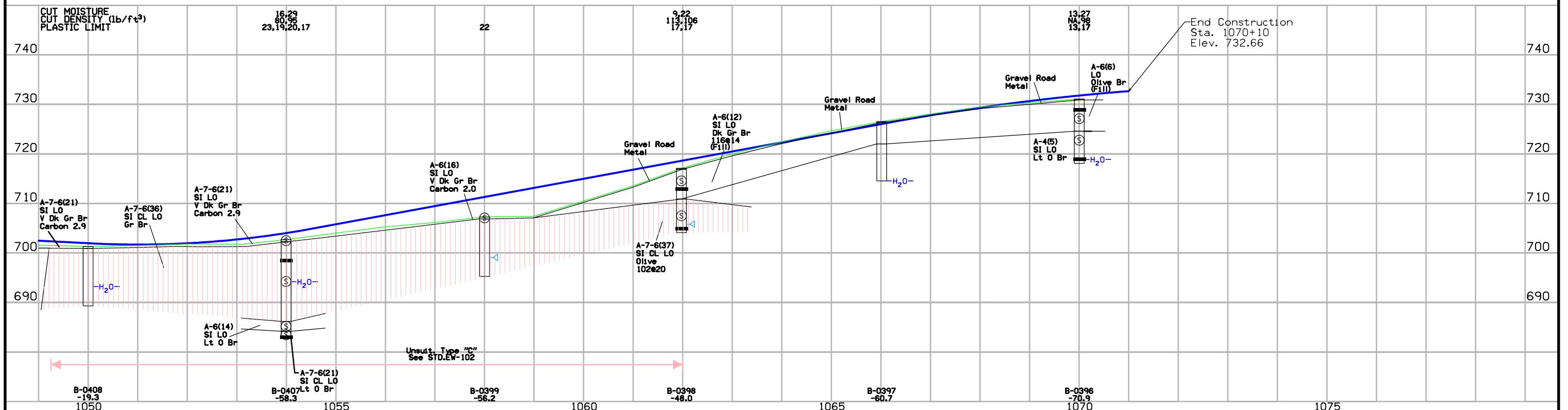
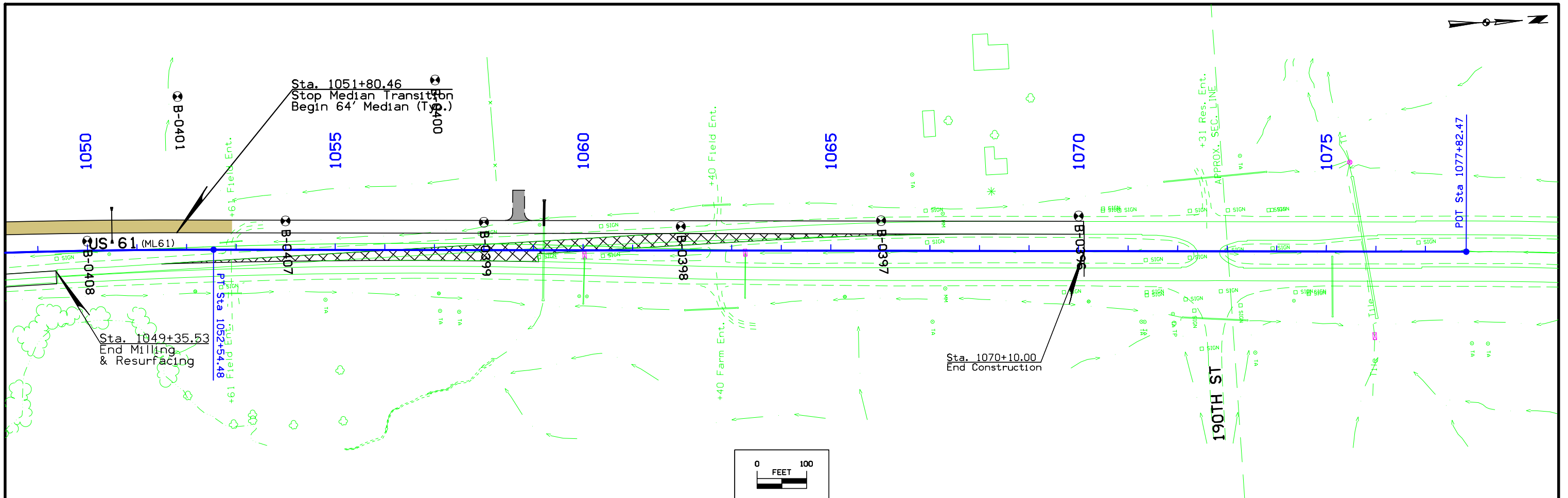


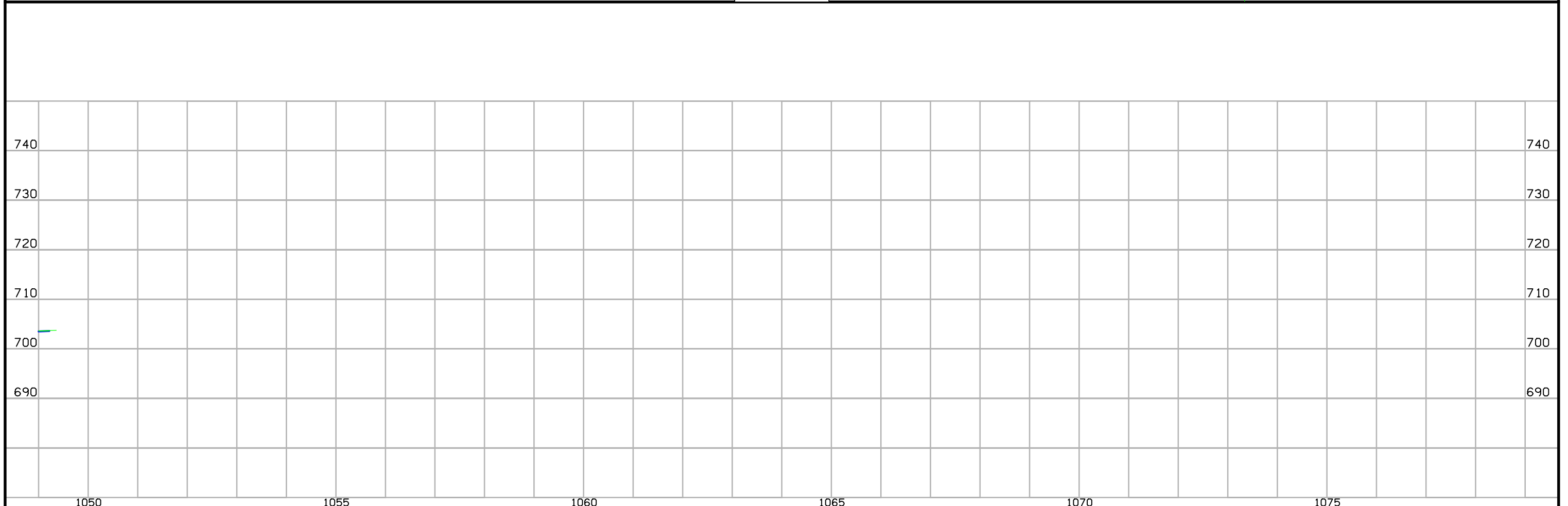
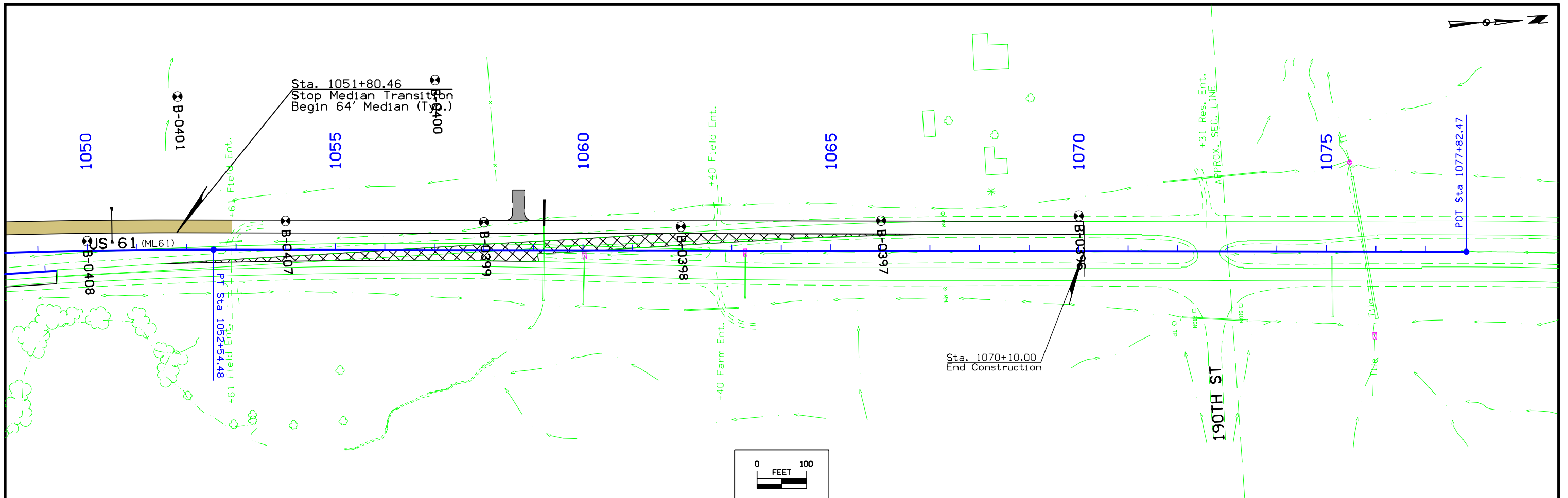


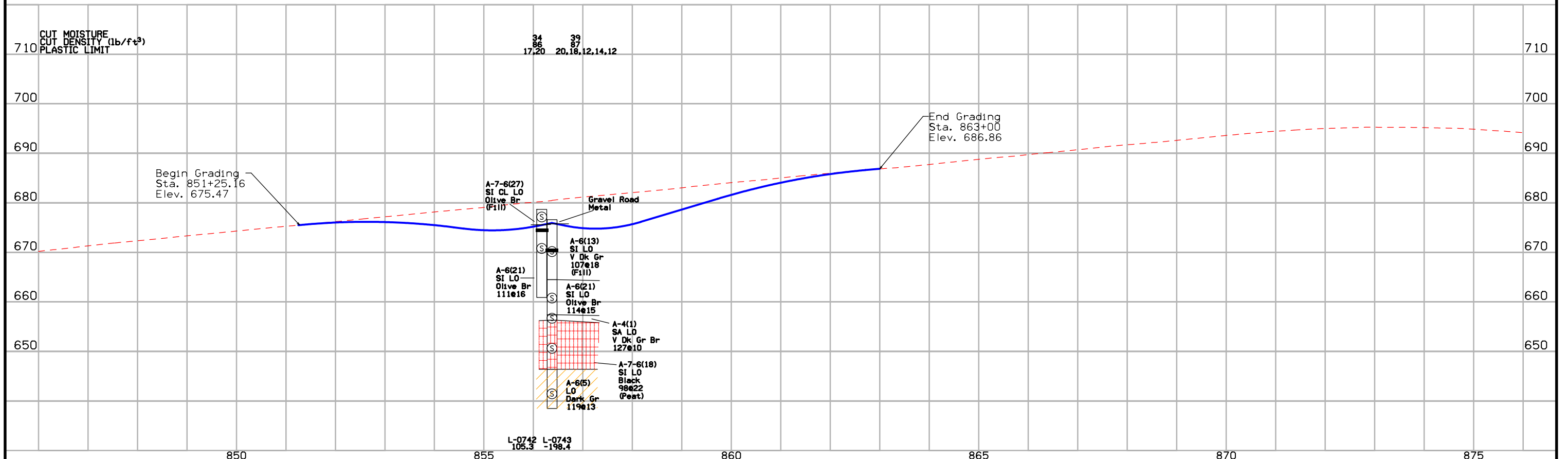
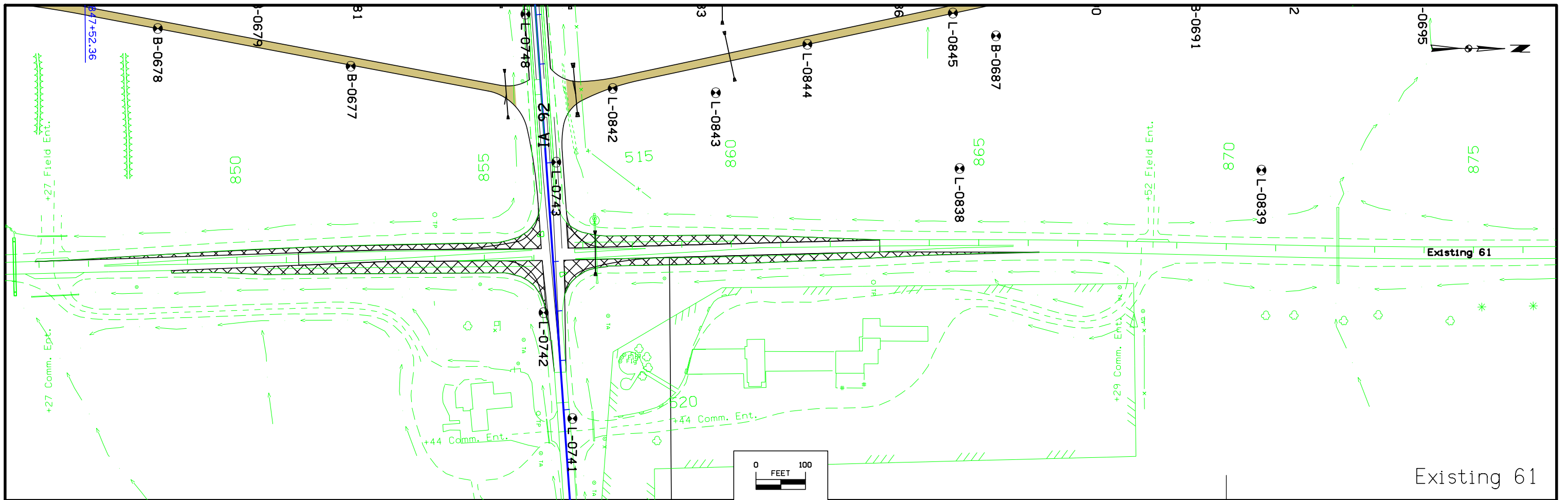


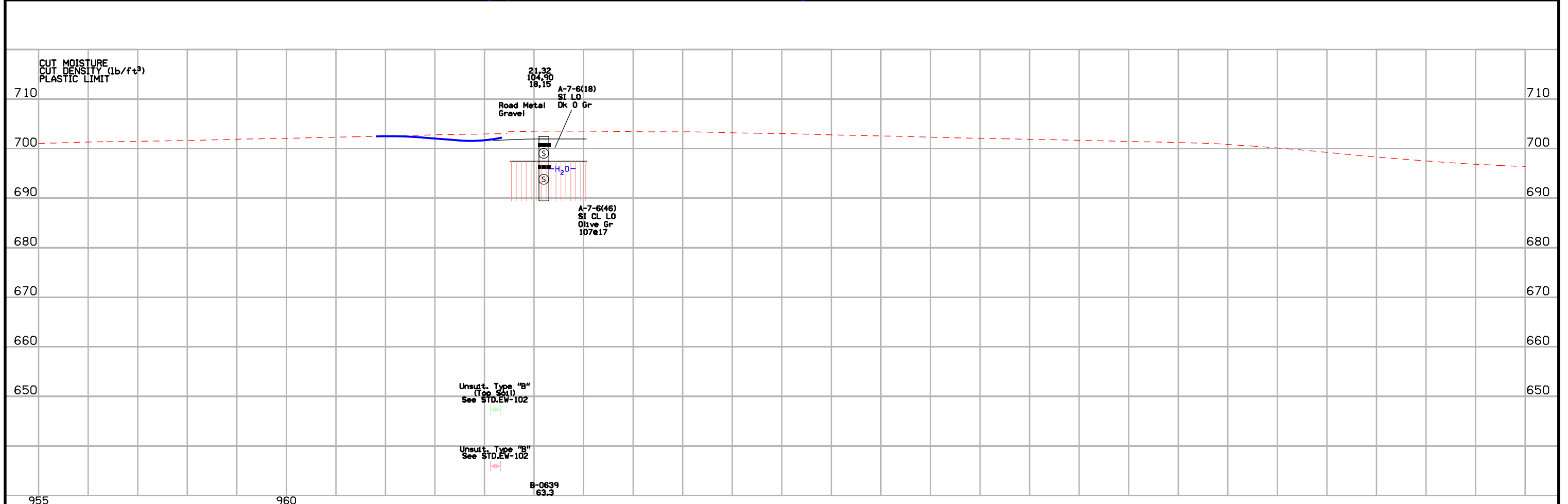
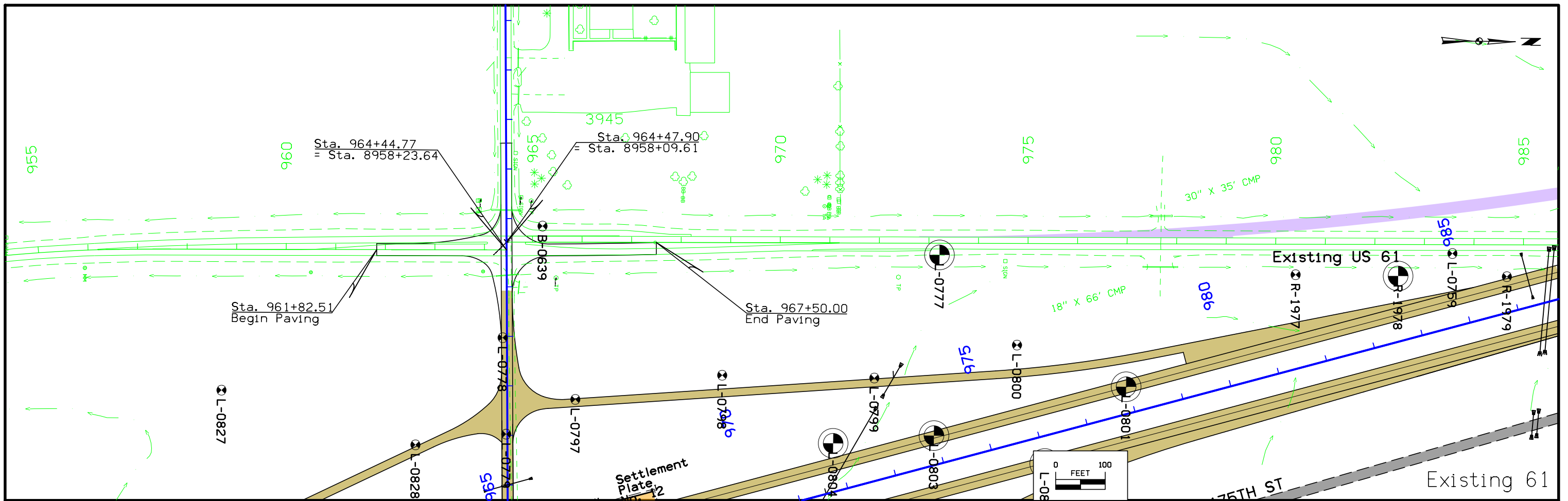


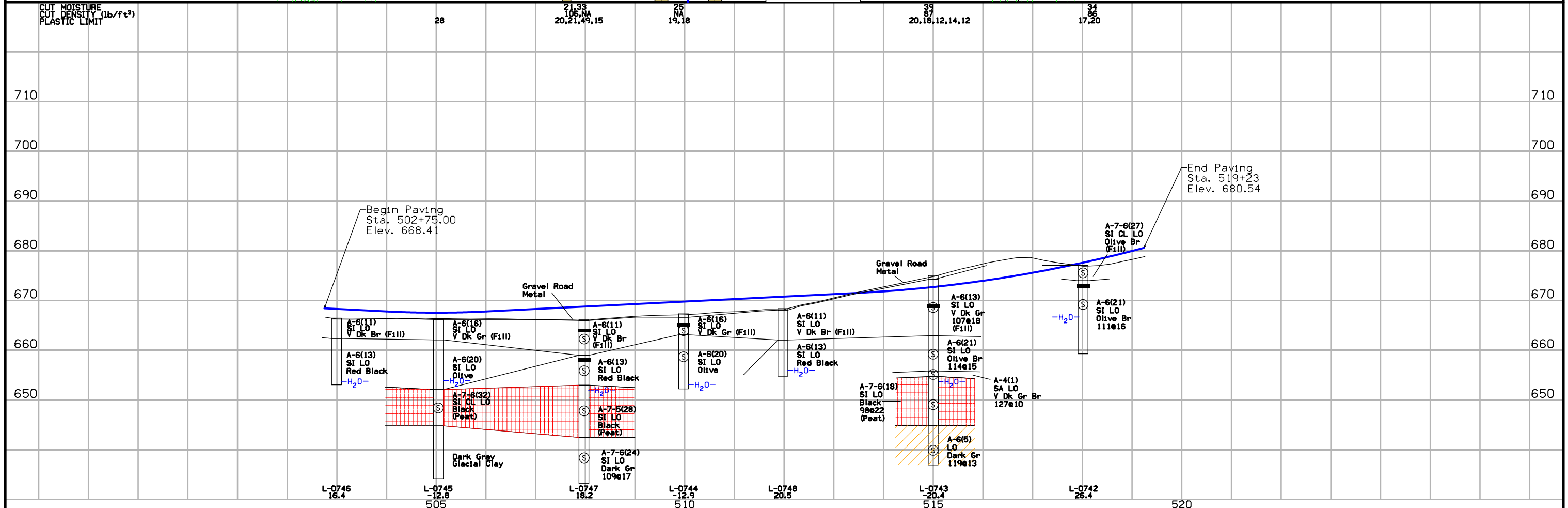
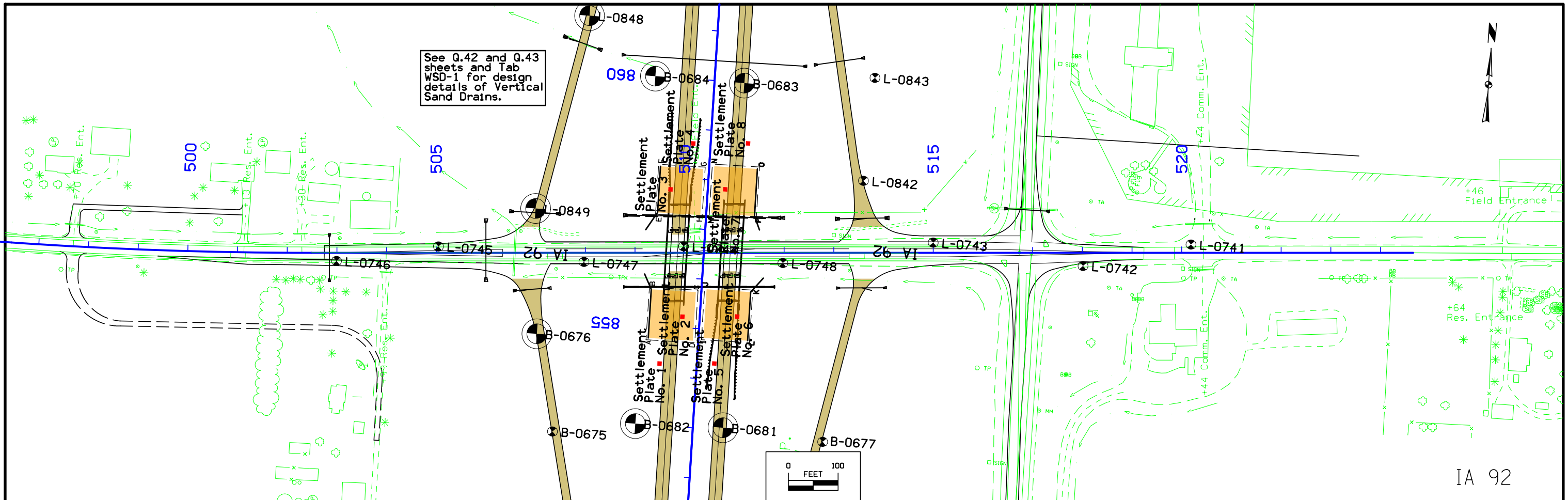


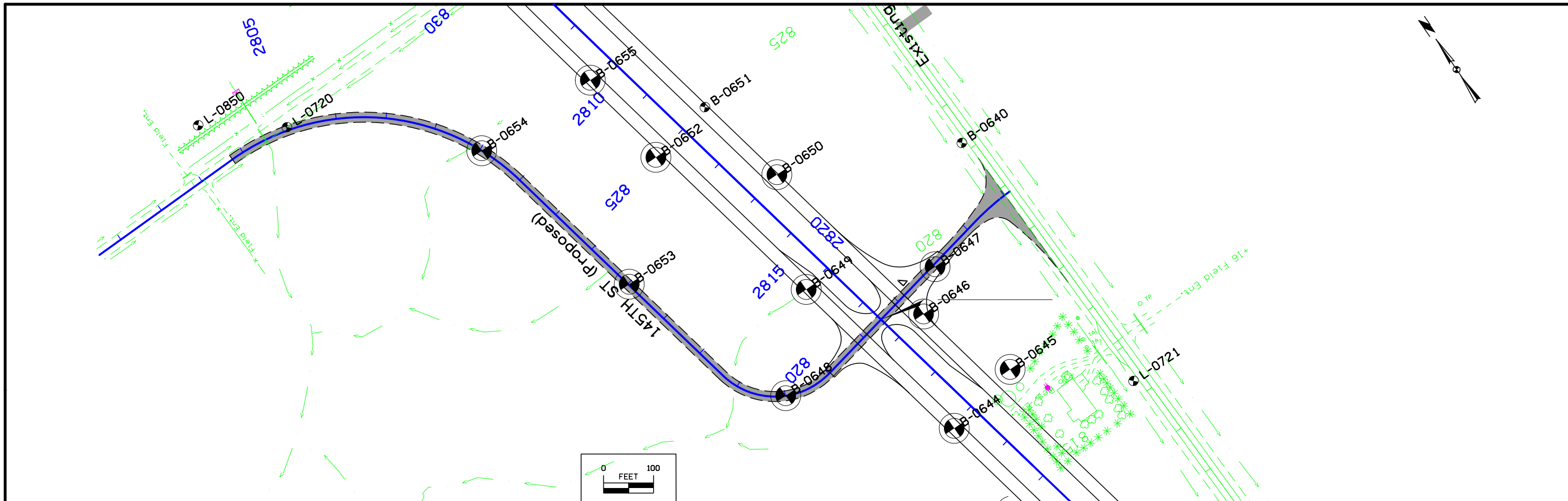












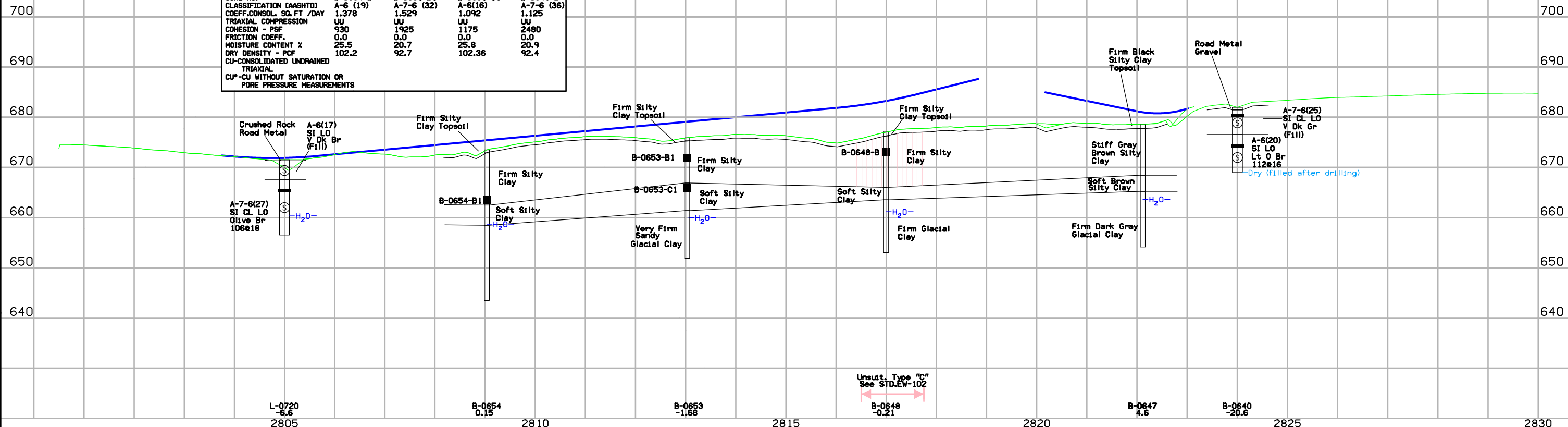
CUT MOISTURE
CUT DENSITY (lb/ft³)
PLASTIC LIMIT

28
NA
18.19

28.25
NA, 101
19.19

SHELBY TUBE CORE DATA

CORE NO.	B-0654-B	B-0653-B1	B-0653-C1	B-0648-B
CLASSIFICATION (AASHTO)	A-6 (19)	A-7-6 (32)	A-6(16)	A-7-6 (36)
COEFF. CONSOL. SQ. FT / DAY	1.378	1.529	1.092	1.125
TRIAxIAL COMPRESSION	UU	UU	UU	UU
COHESION - PSF	930	1925	1175	2480
FRICTION COEFF.	0.0	0.0	0.0	0.0
MOISTURE CONTENT %	25.5	20.7	25.8	20.9
DRY DENSITY - PCF	102.2	92.7	102.36	92.4
CU-CONSOLIDATED UNDRAINED TRIAXIAL				
CU-CU WITHOUT SATURATION OR PORE PRESSURE MEASUREMENTS				



Unsat. Type "C"
See STD.EW-102

L-0720
-6.6
2805

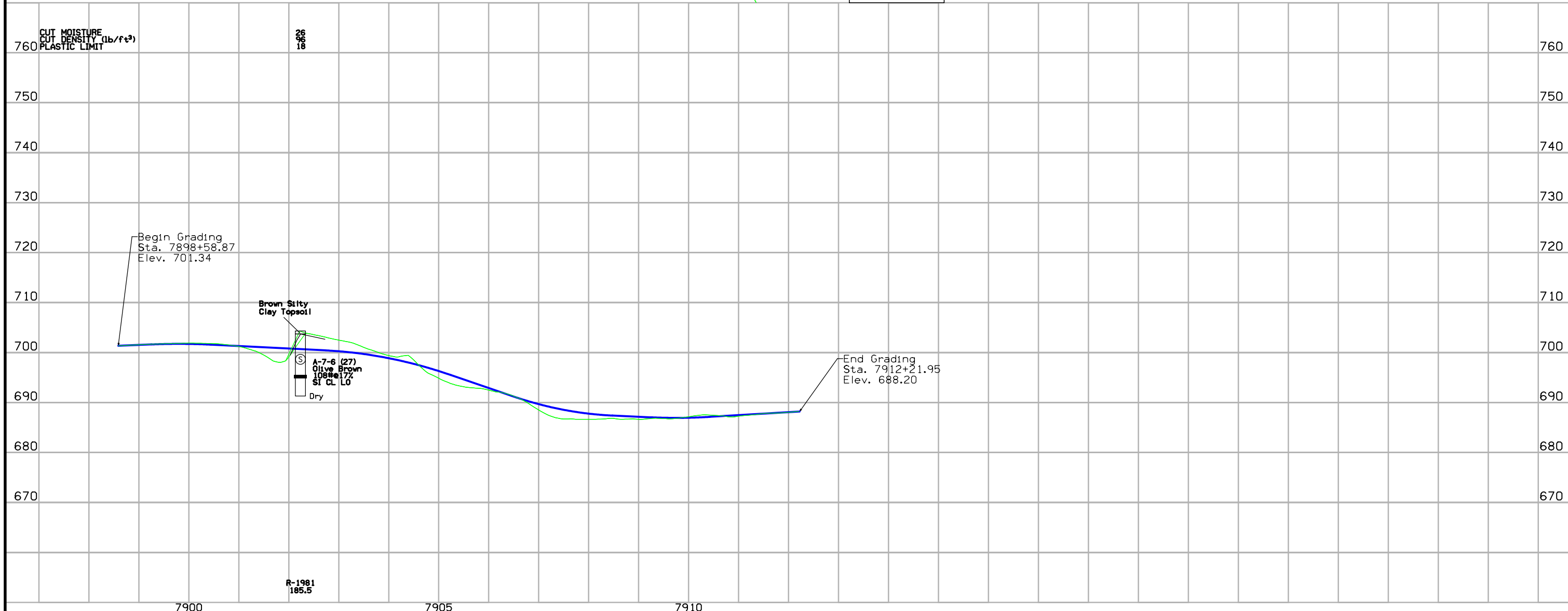
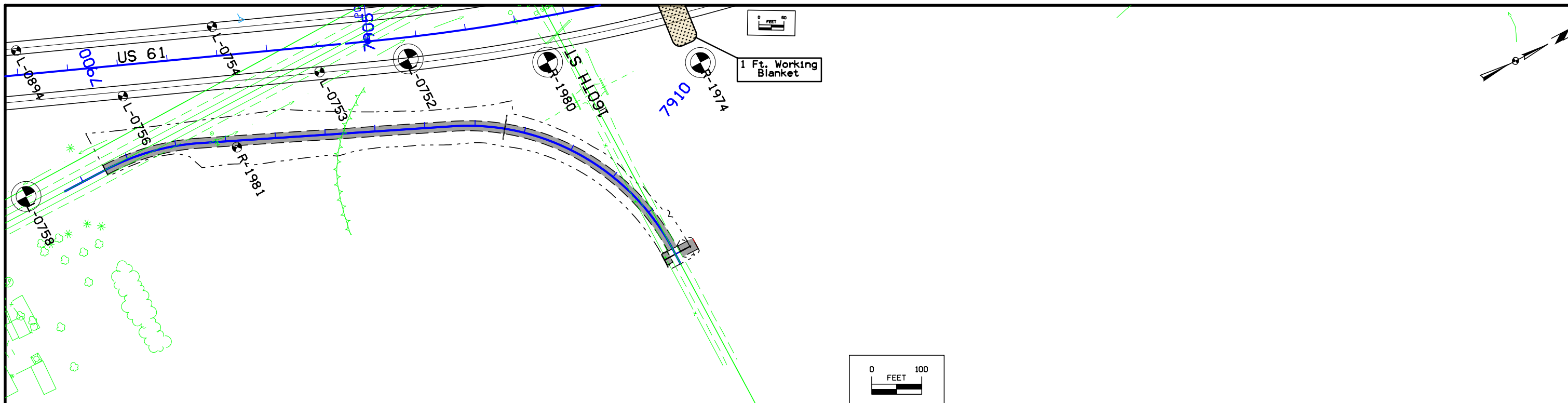
B-0654
0.15
2810

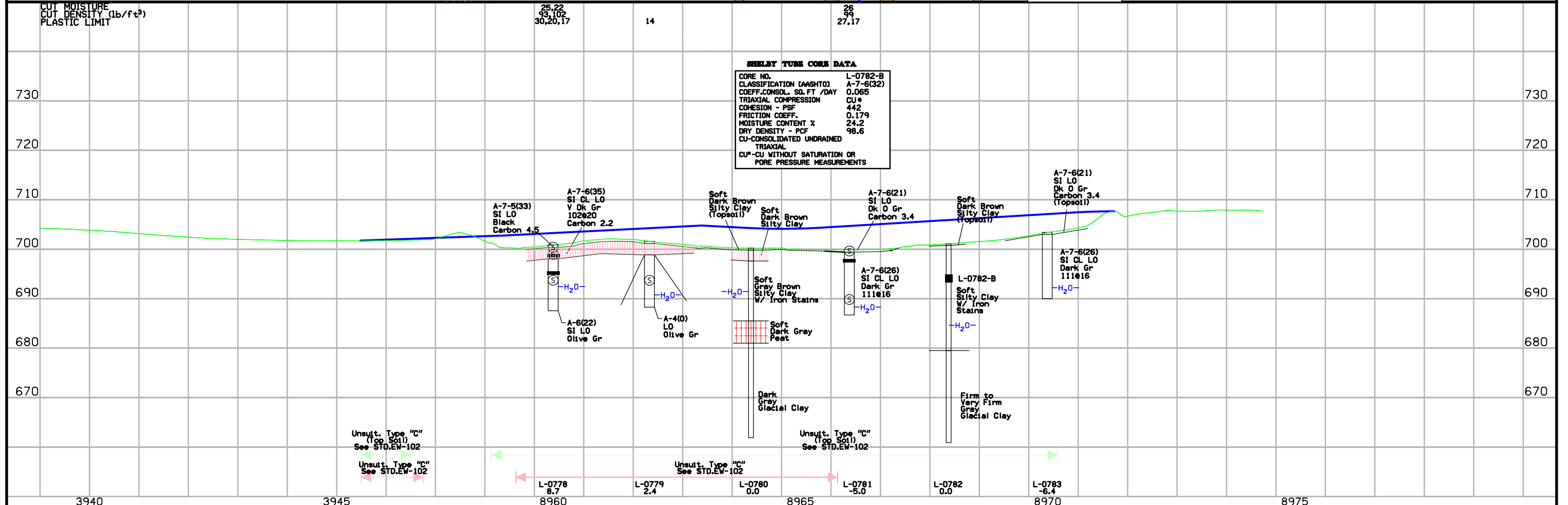
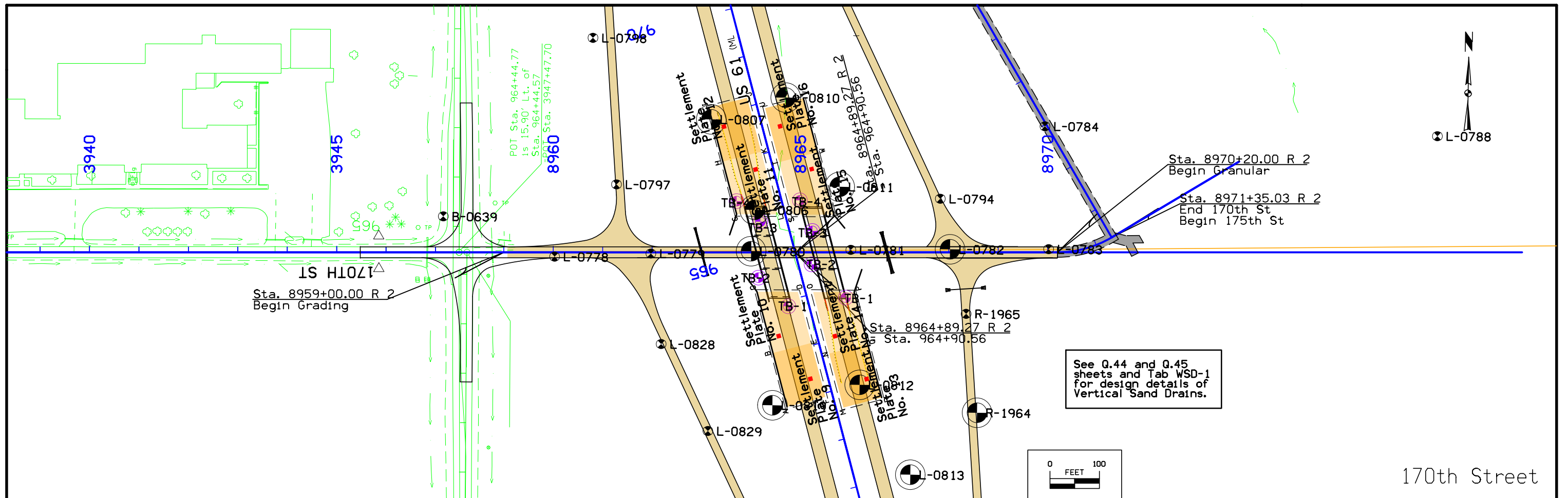
B-0653
-1.68
2815

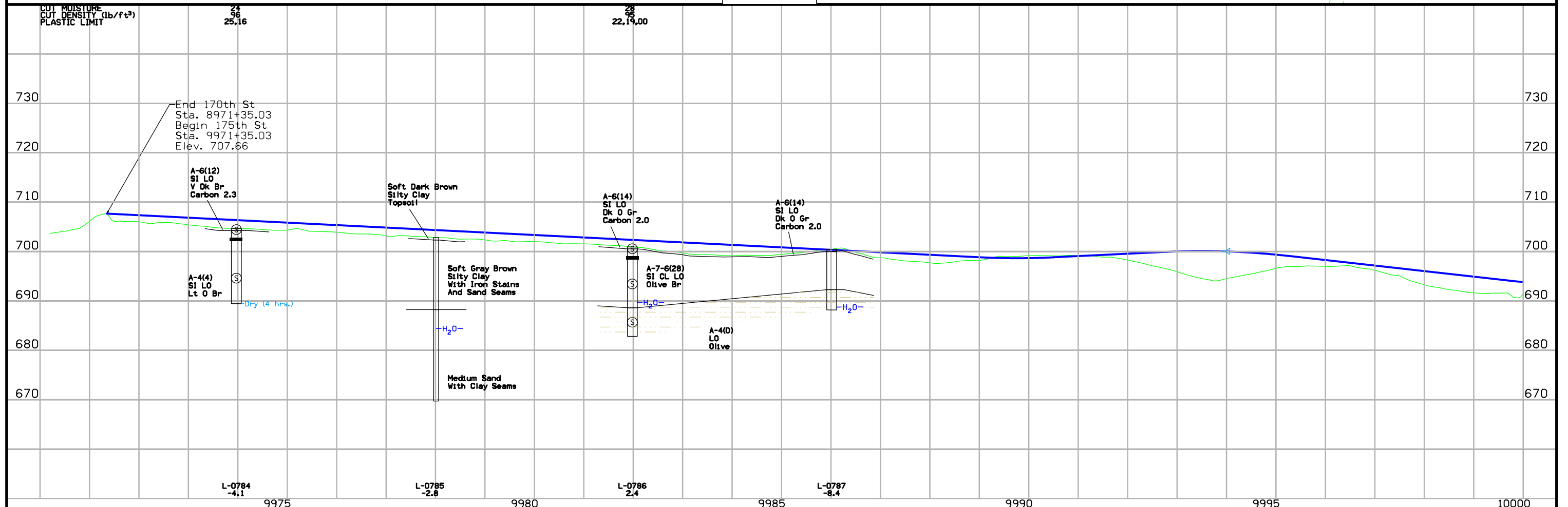
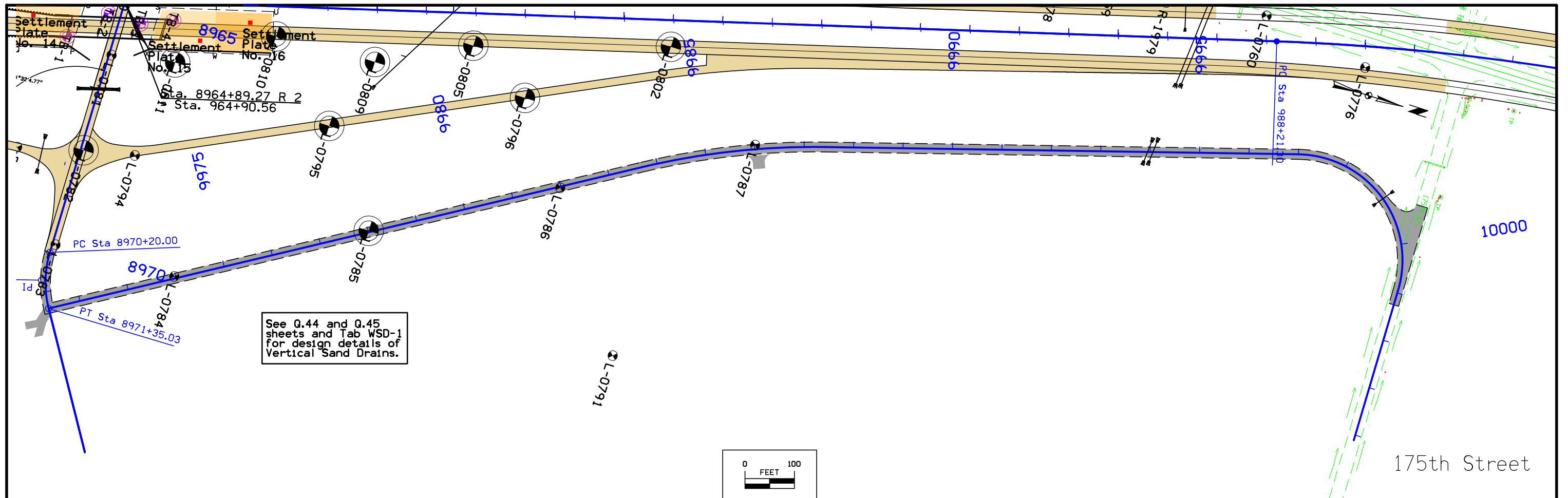
B-0648
-0.21
2820

B-0647
4.6
2825

B-0640
-20.6
2830

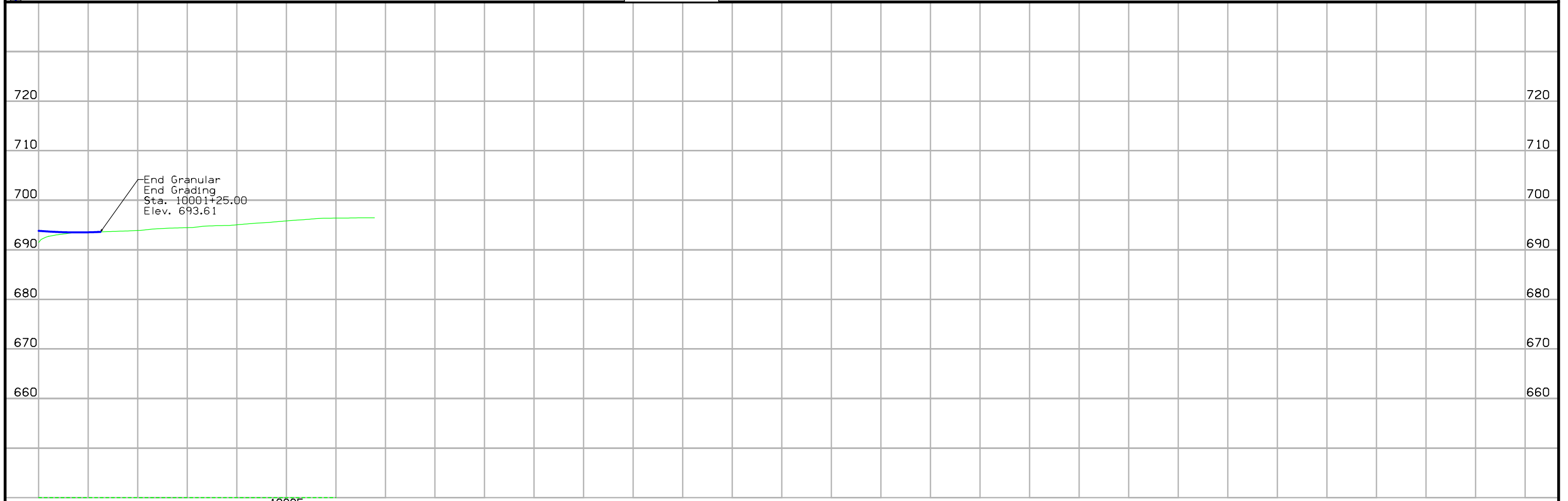


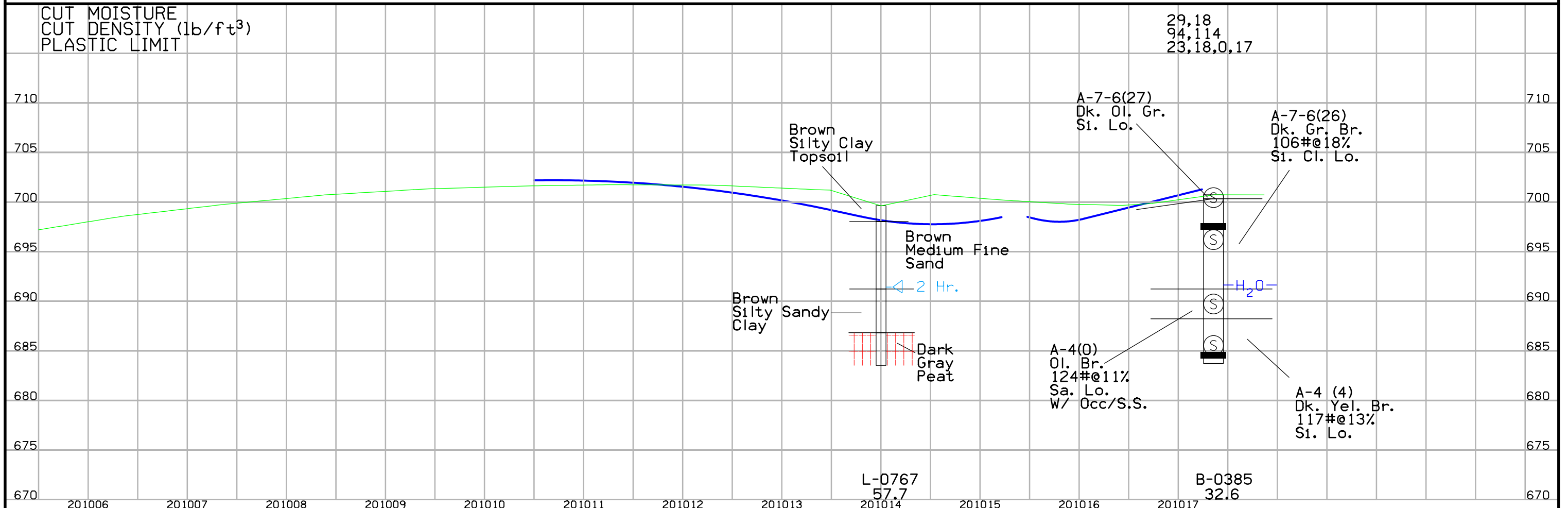
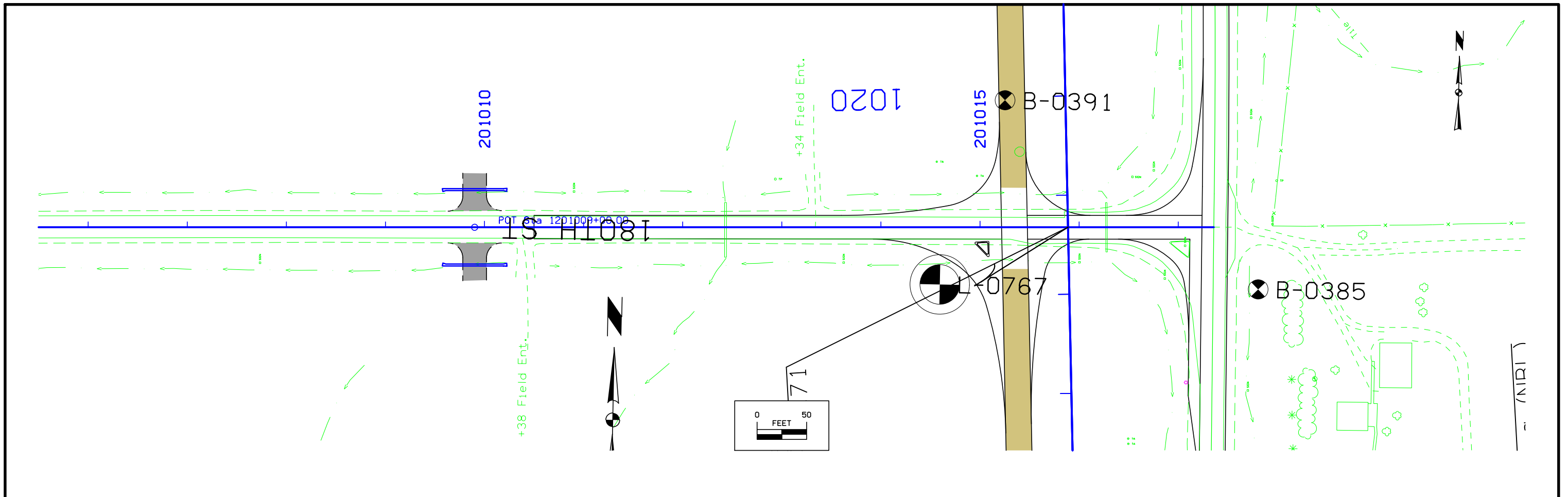


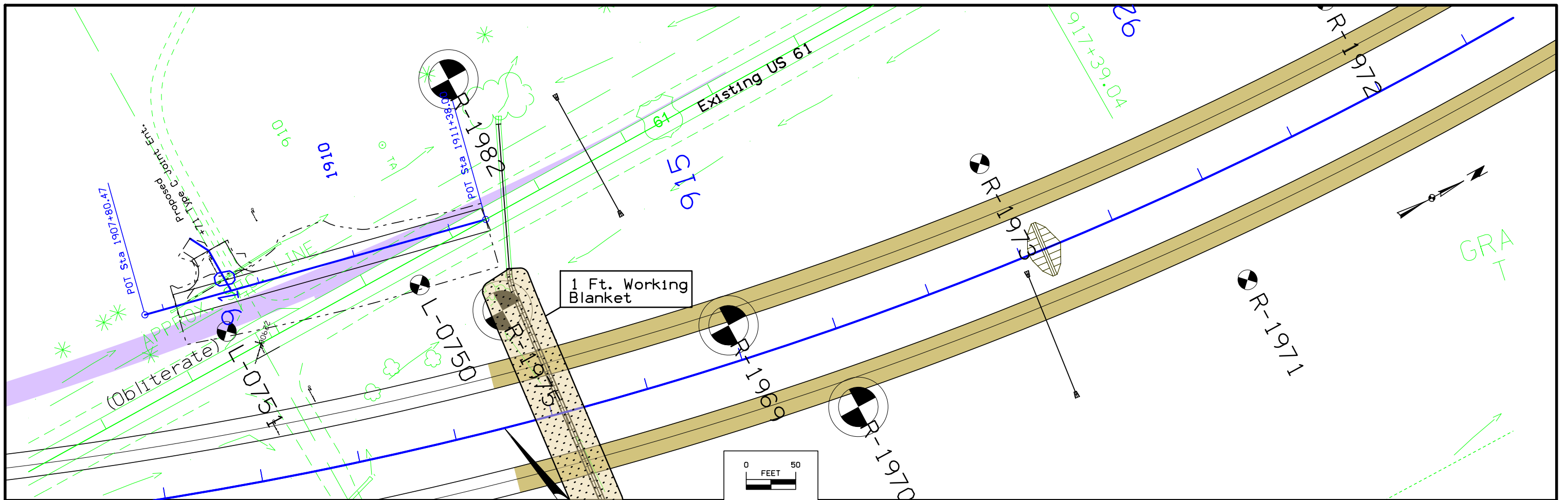




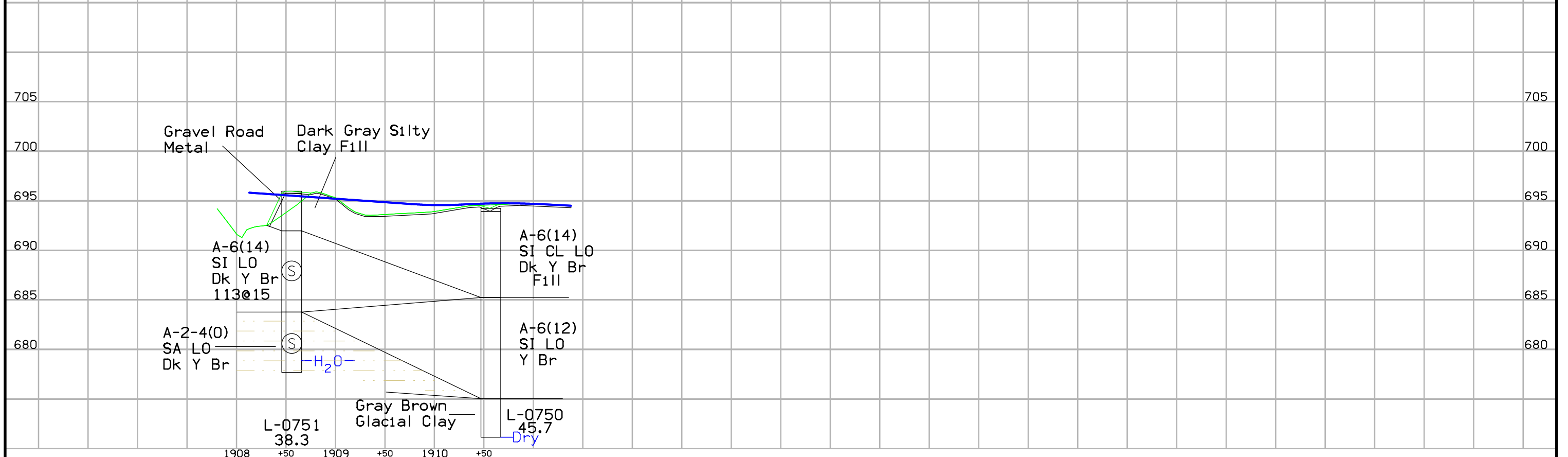
175th Street





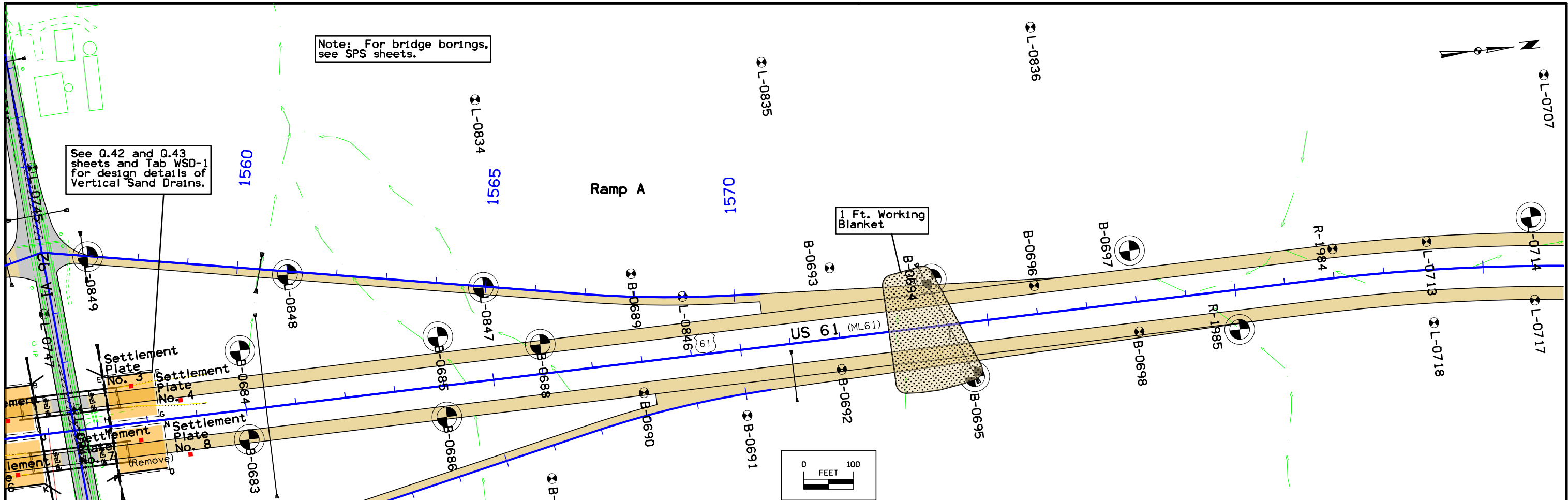


CUT MOISTURE
 CUT DENSITY (lb/ft³) 19,00
 PLASTIC LIMIT



Note: For bridge borings, see SPS sheets.

See Q.42 and Q.43 sheets and Tab WSD-1 for design details of Vertical Sand Drains.

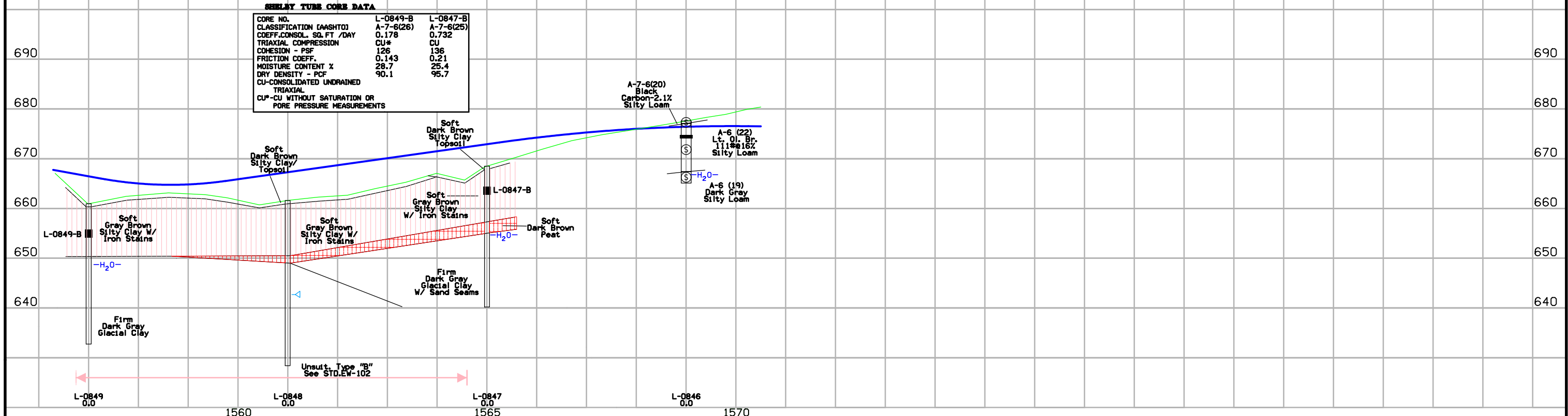


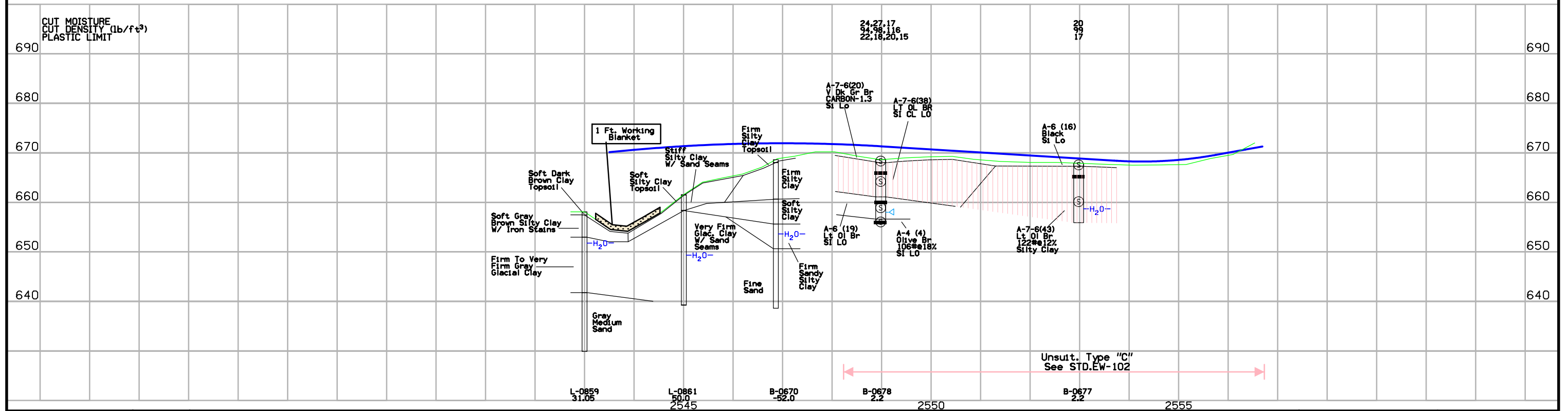
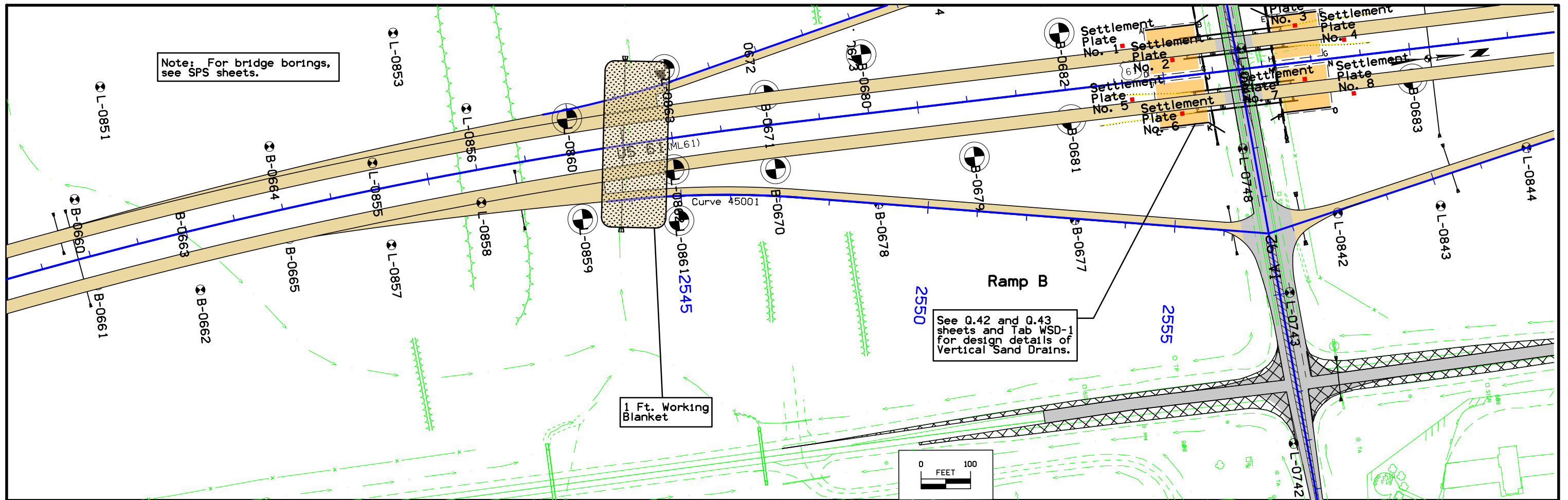
CUT MOISTURE
CUT DENSITY (lb/ft³)
PLASTIC LIMIT

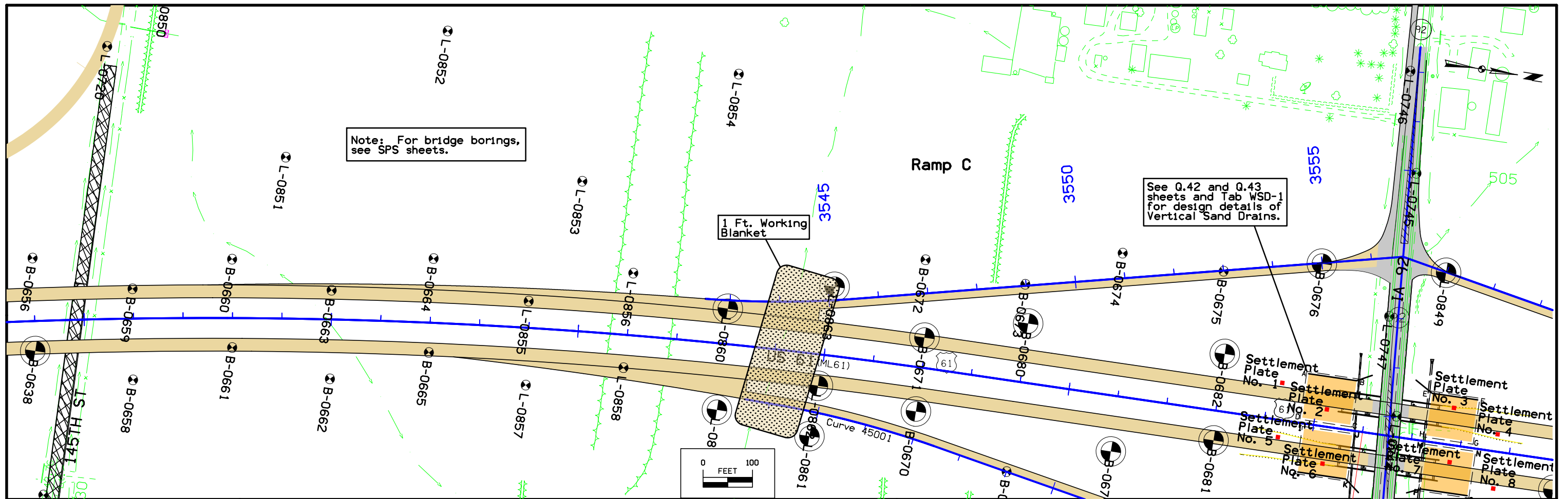
23, 19, 19

SHIELLY TUBE CORE DATA

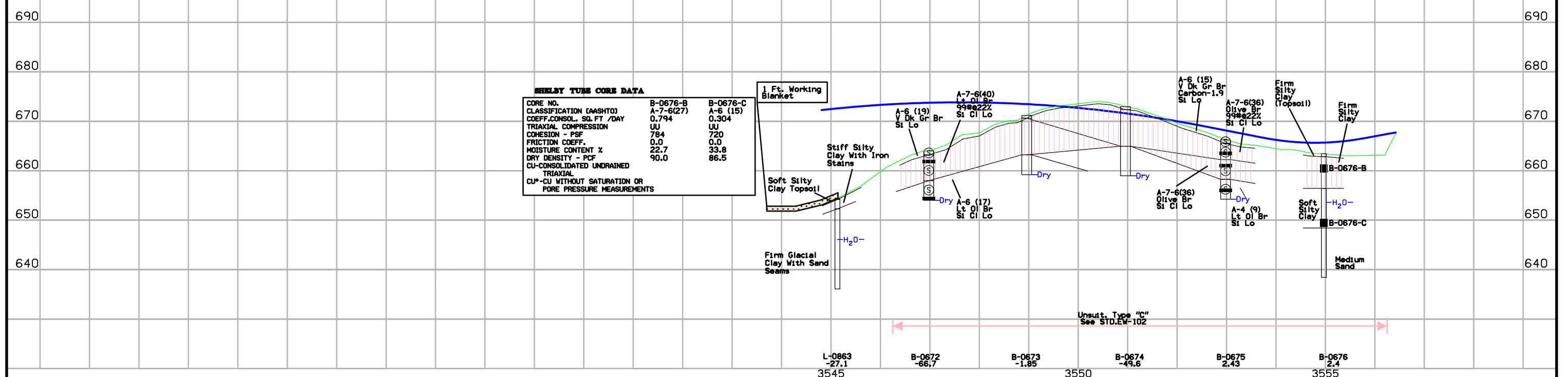
CORE NO.	L-0849-B	L-0847-B
CLASSIFICATION (AASHTO)	A-7-6(26)	A-7-6(25)
COEFF. CONSOL. SQ. FT./DAY	0.178	0.732
TRIAxIAL COMPRESSION	CU*	CU*
COHESION - PSF	126	136
FRICTION COEFF.	0.143	0.21
MOISTURE CONTENT %	28.7	25.4
DRY DENSITY - PCF	90.1	95.7
CU-CONSOLIDATED UNDRAINED		
TRIAxIAL		
CU*-CU WITHOUT SATURATION OR PORE PRESSURE MEASUREMENTS		

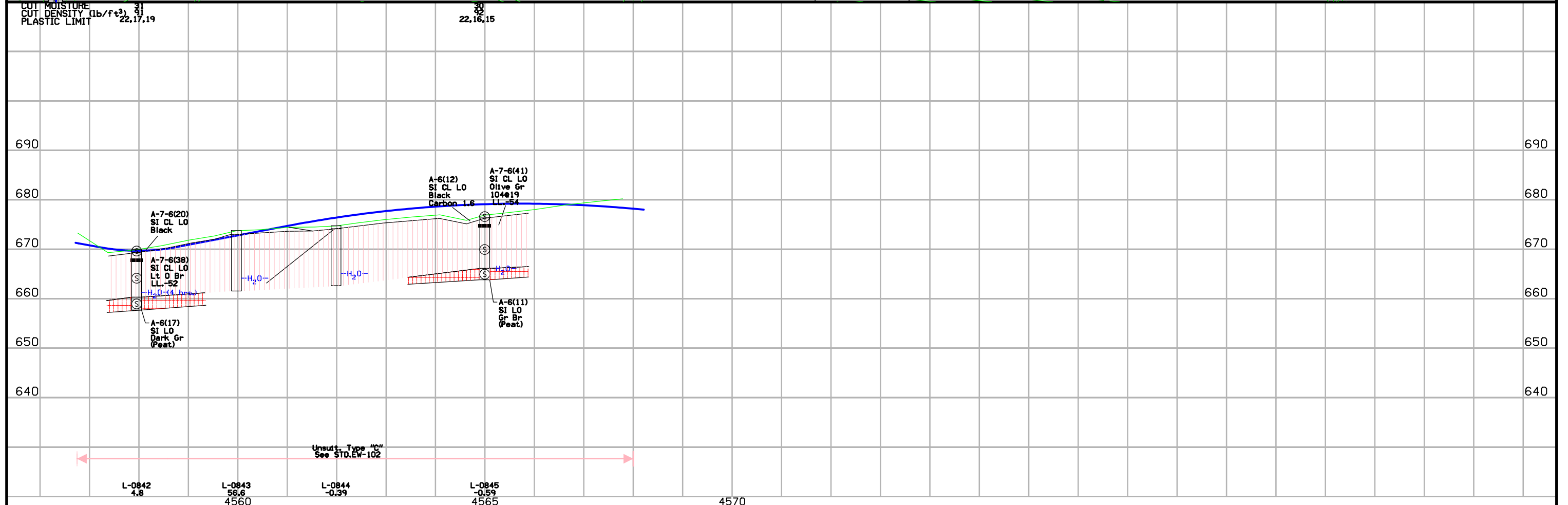
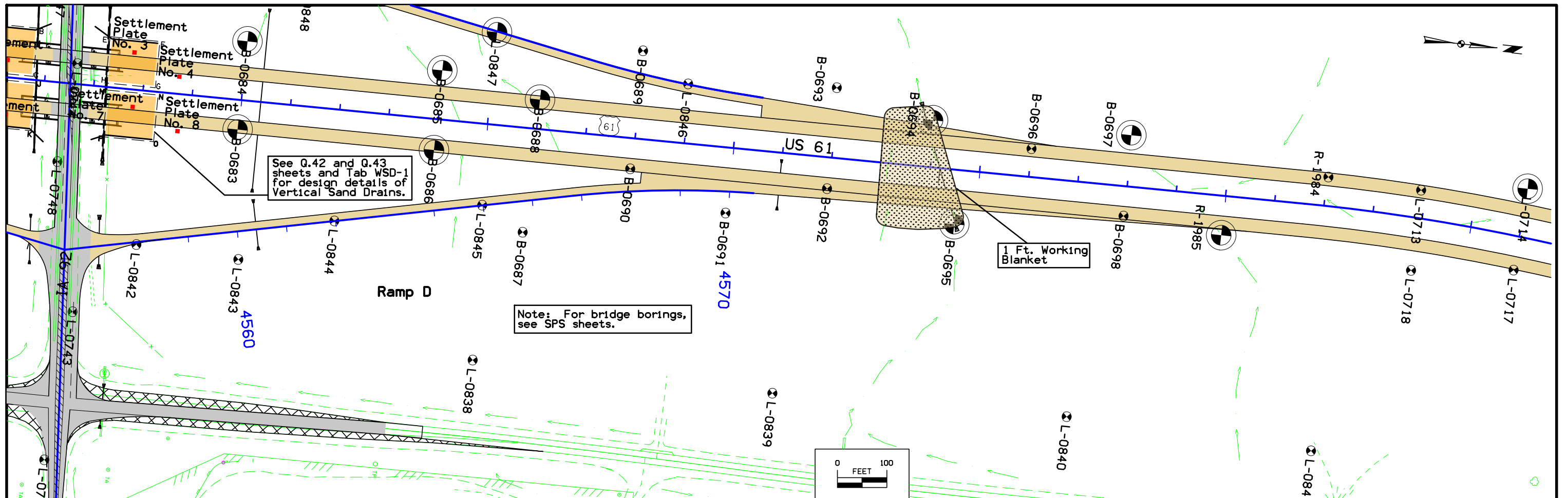




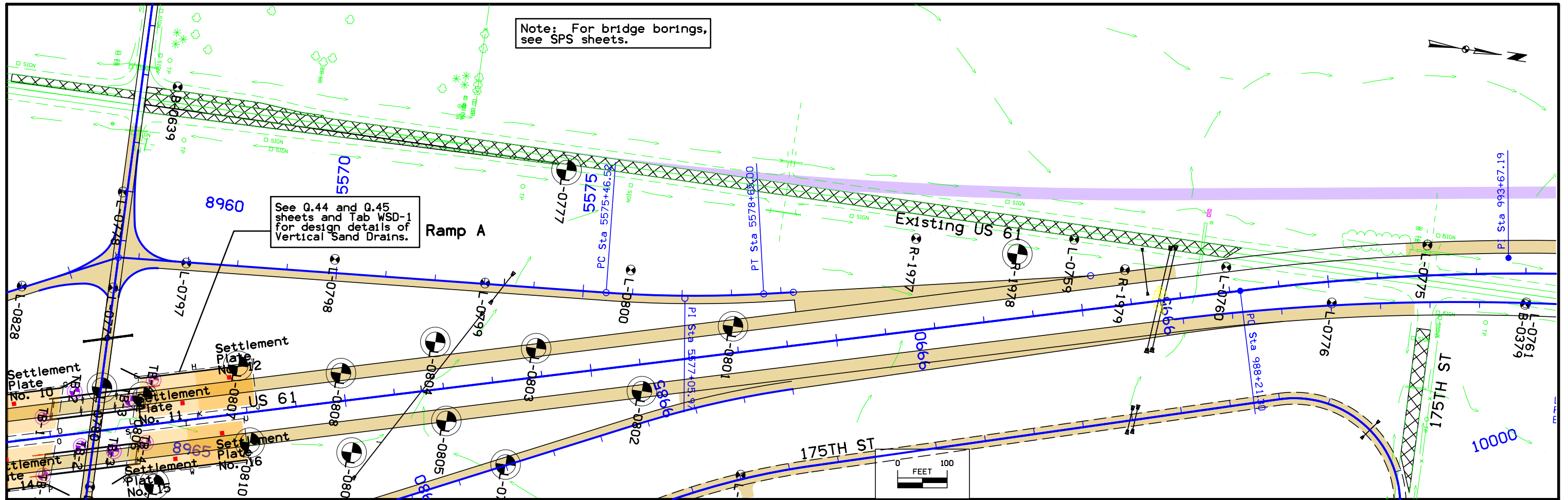


CUT MOISTURE
CUT DENSITY (lb/ft³)
PLASTIC LIMIT



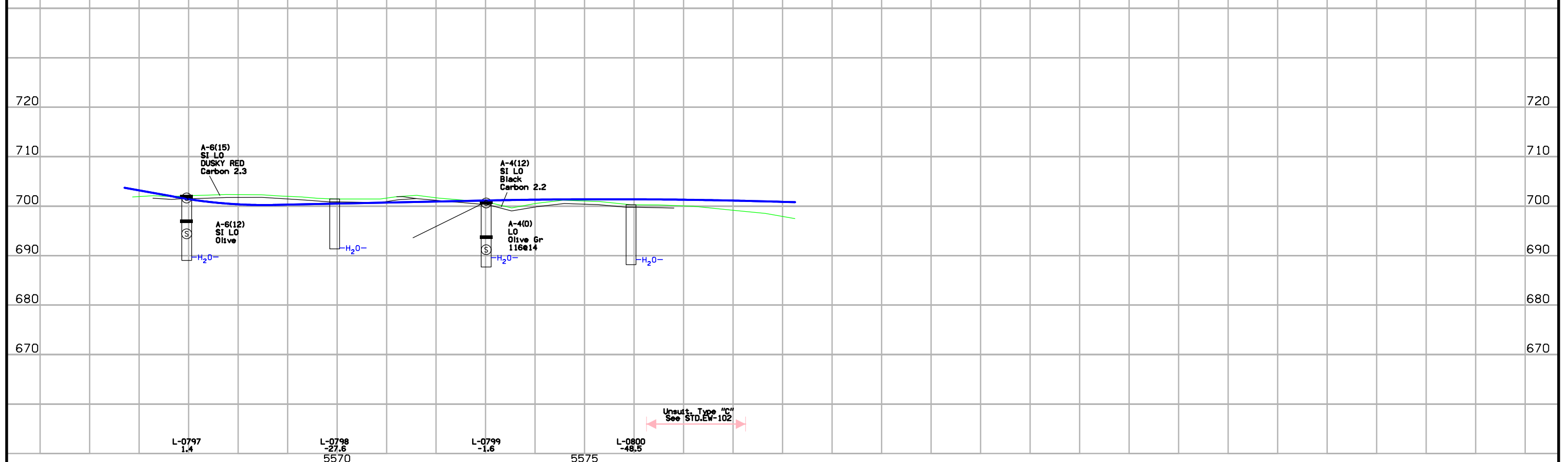


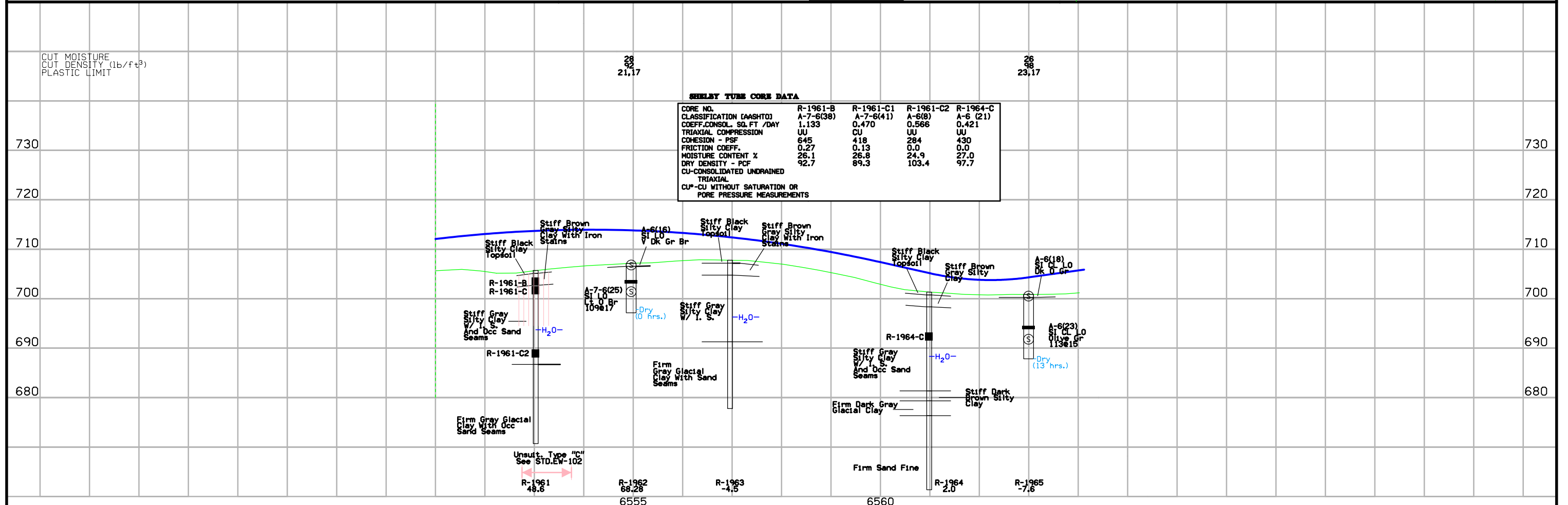
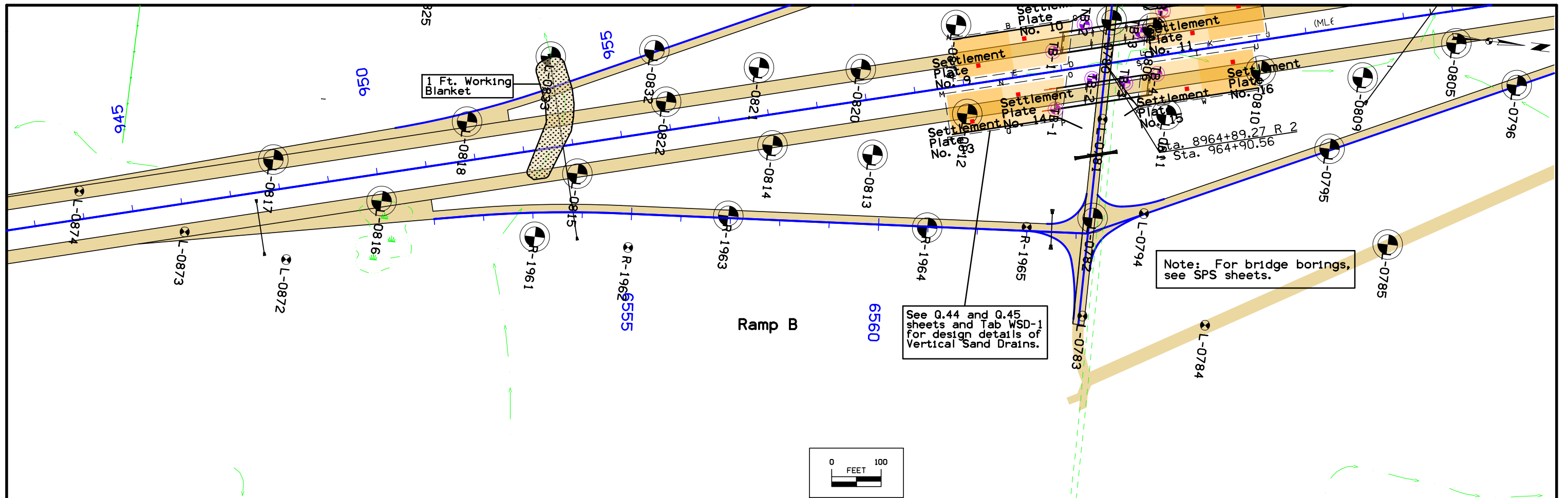
Note: For bridge borings, see SPS sheets.

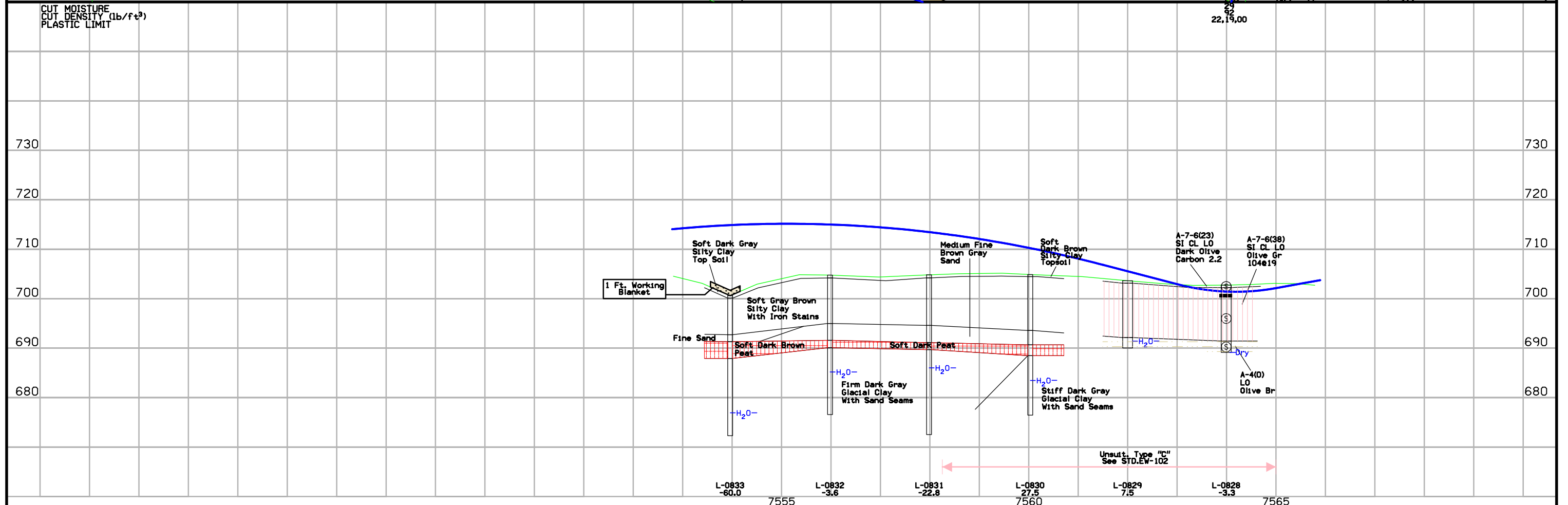
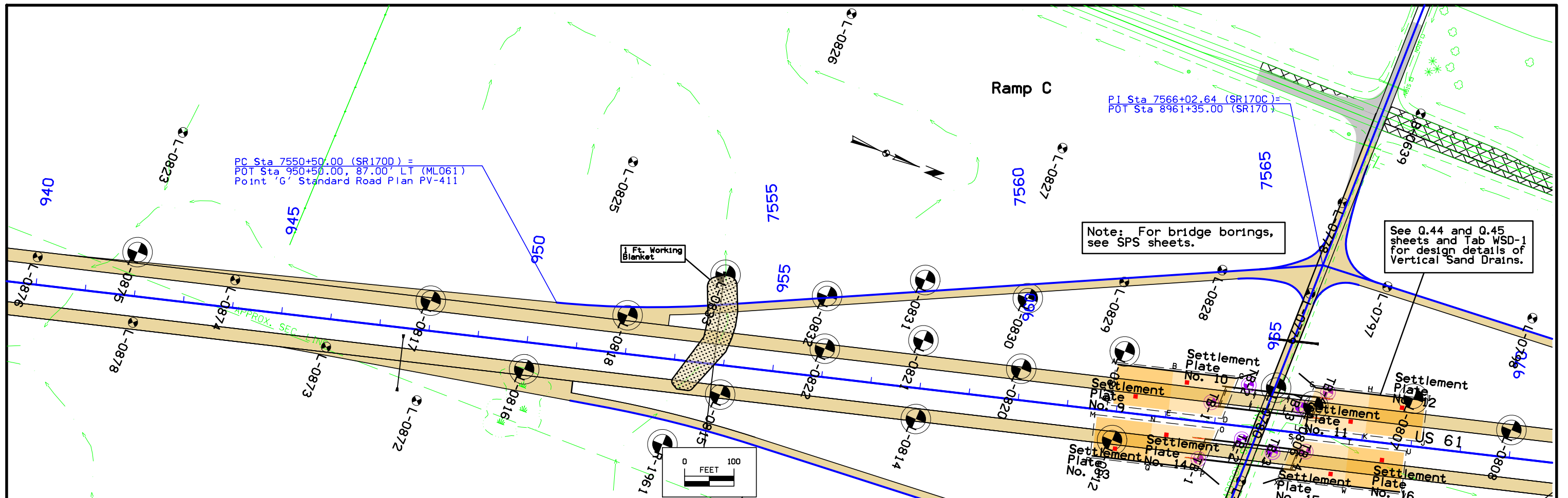


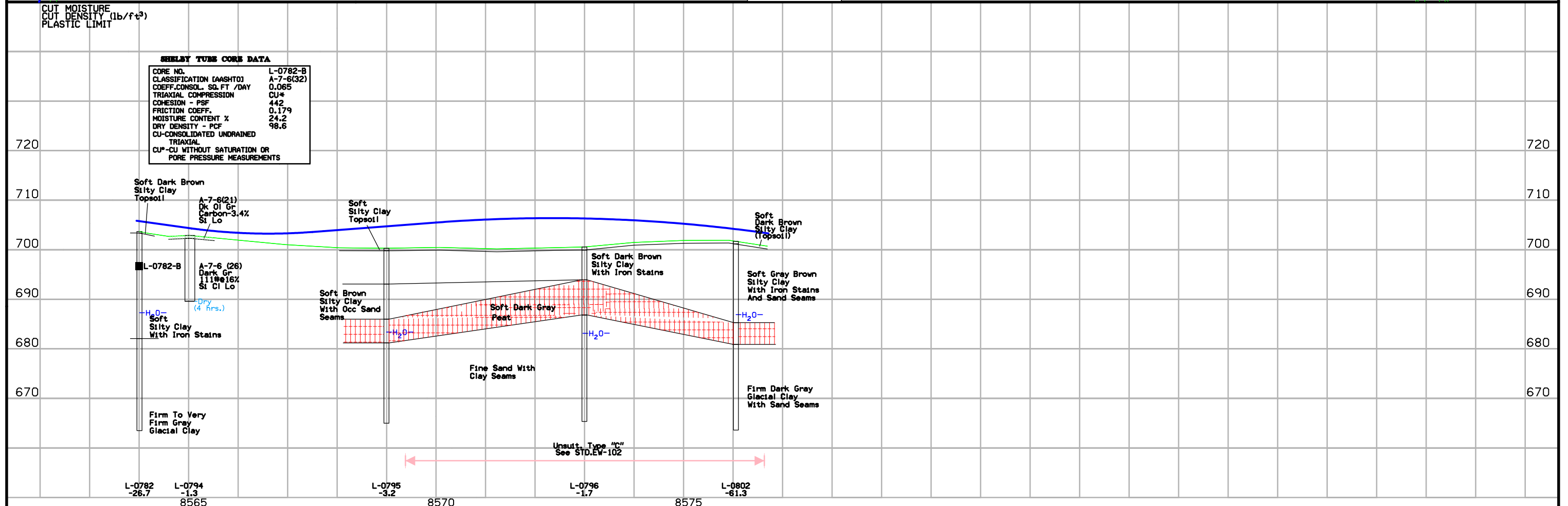
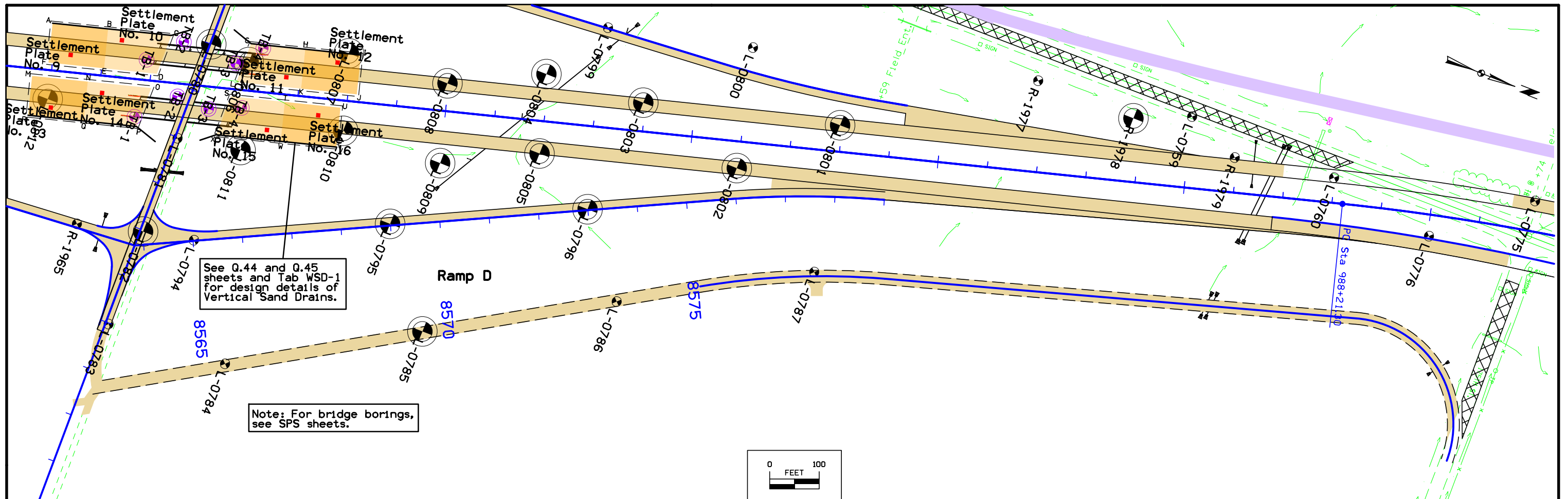
CUT MOISTURE 25.18
 CUT DENSITY (lb/ft³) 99.36
 PLASTIC LIMIT 23.15

26.24
 99.100
 26.00









The intention of the vertical sand drain design and the layout limits is that the US 61 paving will not occur until at least 365 calendar days after completion of embankment construction.

Sand drain auger holes shall be clean and free of auger cuttings and extend through the near surficial silty clay into the underlying medium sand and glacial clay soils. Approximate depths are shown in the design requirements table for each boundary area. Auger cuttings shall be removed from around the holes to prevent their re-entry into the holes during Granular Backfill (sand) placement. Granular Backfill for the drains shall meet IDOT Specification 4133, and may be loose dumped into the holes without compaction. Completed and cleaned auger holes shall be left open the shortest time possible when caving conditions exist. Holes that experience caving before being fully backfilled shall be re-augered to the elevation where the caved material has contaminated the vertical sand drain.

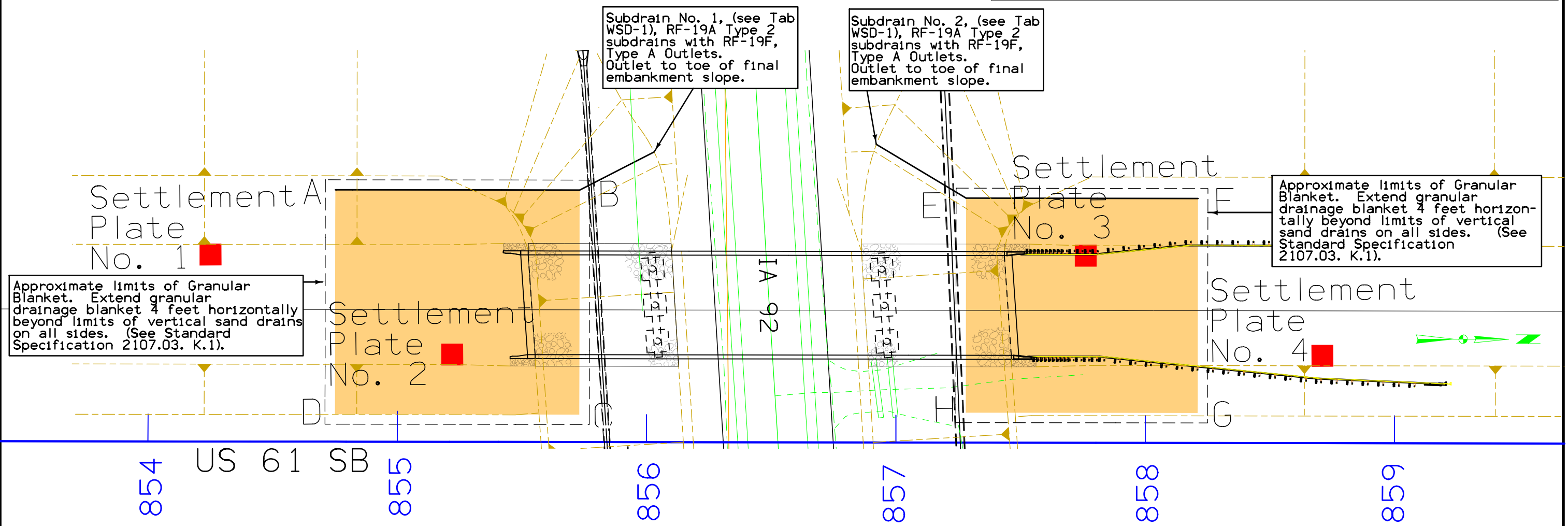
Granular Blanket Note
 Install 1-foot thick Granular Blanket with horizontal subdrains. Extend granular drainage blanket 4 feet horizontally beyond limits of vertical sand drains on all sides. This grading shall be incidental to vertical sand drain installation. Blankets will be drained by RF-19A Type 2 subdrains, and RF-19F Type A (or similar) outlets.

Note:
 Sand Blankets, Vertical Sand Drains and Settlement Plates are not shown on cross sections.

Vertical Sand Drain Design Requirements				
Layout Boundary	Boundary Area (sq ft)	Center-to-Center Spacing (ft)	Approx. Depth (ft)*	Approx. Number of Vertical Sand Drains
A-B-C-D	8820	12	27'	70
E-F-G-H	7998	12	21'	64

* Depth of sand drains will likely vary based on the design intent.

Granular Backfill quantity estimated for the Southbound bridge to be 261 cubic yards (441 Tons) for 134 Vertical Sand Drains. Quantity is calculated based on 20-inch diameter hole, plus an additional 10 percent to account for over-sized holes and spillage. (See Q.43 for northbound bridge vertical sand drain quantities).



Approximate limits of Granular Blanket. Extend granular drainage blanket 4 feet horizontally beyond limits of vertical sand drains on all sides. (See Standard Specification 2107.03. K.1).

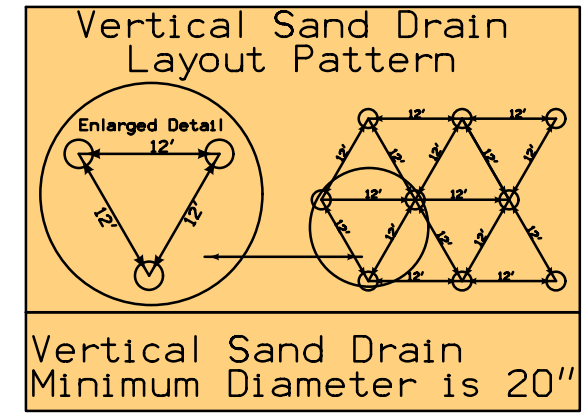
Approximate limits of Granular Blanket. Extend granular drainage blanket 4 feet horizontally beyond limits of vertical sand drains on all sides. (See Standard Specification 2107.03. K.1).

Sand Drain Corner Points			
Roadway	Corner	Station	Offset
SB	A	854+75	Lt. 101
	B	855+73	Lt. 101
	C	855+73	Lt. 11
	D	854+75	Lt. 11
	E	857+28	Lt. 98
	F	858+21	Lt. 98
	G	858+21	Lt. 12
	H	857+28	Lt. 12

Settlement Plates			
Roadway	Number	Station	Offset
SB	1	854+25	Lt. 75
	2	855+22	Lt. 35
	3	857+76	Lt. 75
	4	858+71	Lt. 35

Not To Scale

See Tab WSD-1 for all quantities associated with Vertical Sand Drains and Sand Blankets.



The intention of the vertical sand drain design and the layout limits is that the US 61 paving will not occur until at least 365 calendar days after completion of embankment construction.

Sand drain auger holes shall be clean and free of auger cuttings and extend through the near surficial silty clay into the underlying medium sand and glacial clay soils. Approximate depths are shown in the design requirements table for each boundary area. Auger cuttings shall be removed from around the holes to prevent their re-entry into the holes during Granular Backfill (sand) placement. Granular Backfill for the drains shall meet IDOT Specification 4133, and may be loose dumped into the holes without compaction. Completed and cleaned auger holes shall be left open the shortest time possible when caving conditions exist. Holes that experience caving before being fully backfilled shall be re-augered to the elevation where the caved material has contaminated the vertical sand drain.

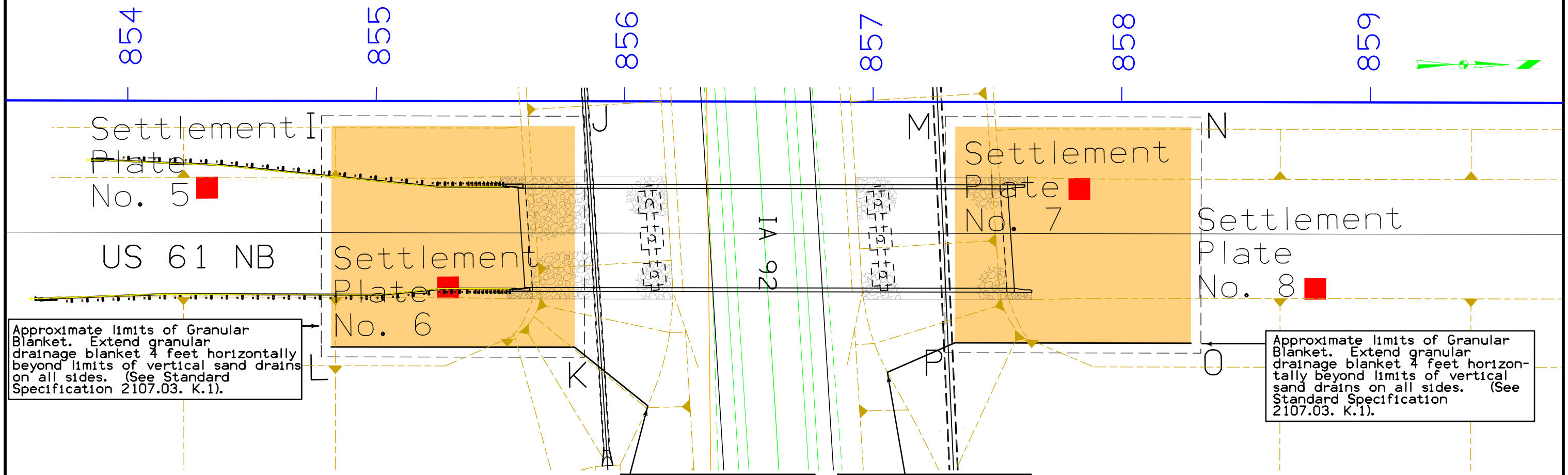
Granular Blanket Note
 Install 1-foot thick Granular Blanket with horizontal subdrains. Extend granular drainage blanket 4 feet horizontally beyond limits of vertical sand drains on all sides. This grading shall be incidental to vertical sand drain installation. Blankets will be drained by RF-19A Type 2 subdrains, and RF-19F Type A (or similar) outlets.

Vertical Sand Drain Design Requirements				
Layout Boundary	Boundary Area (sq ft)	Center-to-Center Spacing (ft)	Approx. Depth (ft)*	Approx. Number of Vertical Sand Drains
I-J-K-L	8722	12	27'	69
M-N-O-P	8265	12	21'	66

* Depth of sand drains will likely vary based on the design intent.
 Granular Backfill quantity estimated to be 262 cubic yards (443 Tons) for 135 Vertical Sand Drains. Quantity is calculated based on 20-inch diameter hole, plus an additional 10 percent to account for over-sized holes and spillage. (See Q.42 for southbound vertical sand drain quantities).

Note:
 Sand Blankets, Vertical Sand Drains and Settlement Plates are not shown on cross sections.

Not To Scale



Approximate limits of Granular Blanket. Extend granular drainage blanket 4 feet horizontally beyond limits of vertical sand drains on all sides. (See Standard Specification 2107.03. K.1).

Approximate limits of Granular Blanket. Extend granular drainage blanket 4 feet horizontally beyond limits of vertical sand drains on all sides. (See Standard Specification 2107.03. K.1).

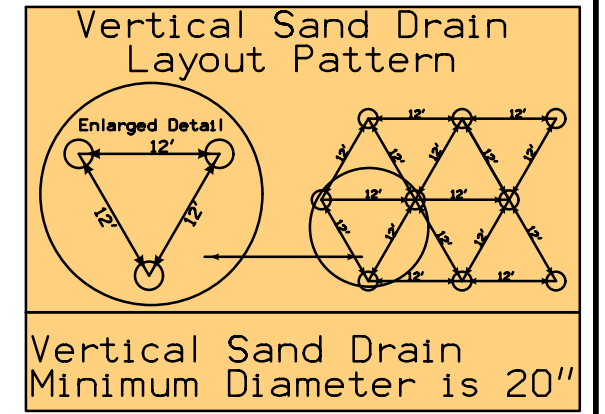
Subdrain No. 3, (see Tab WSD-1), RF-19A Type 2 subdrains with RF-19F, Type A Outlets. Outlet to toe of final embankment slope.

Subdrain No. 4, (see Tab WSD-1), RF-19A Type 2 subdrains with RF-19F, Type A Outlets. Outlet to toe of final embankment slope.

See Tab WSD-1 for all quantities associated with Vertical Sand Drains and Sand Blankets.

Sand Drain Corner Points			
Roadway	Corner	Station	Offset
NB	I	854+82	Rt. 10
	J	855+80	Rt. 10
	K	855+80	Rt. 99
	L	854+82	Rt. 99
	M	857+33	Rt. 10
	N	858+28	Rt. 10
	O	858+28	Rt. 97
	P	857+33	Rt. 97

Settlement Plates			
Roadway	Number	Station	Offset
NB	5	854+32	Rt. 35
	6	855+29	Rt. 75
	7	857+83	Rt. 35
	8	858+78	Rt. 75



The intention of the vertical sand drain design and the layout limits is that the US 61 paving will not occur until at least 365 calendar days after completion of embankment construction.

Sand drain auger holes shall be clean and free of auger cuttings and extend through the near surficial silty clay and peat into the underlying medium sand and glacial clay soils. Approximate depths are shown in the design requirements table for each boundary area. Auger cuttings shall be removed from around the holes to prevent their re-entry into the holes during Granular Backfill (sand) placement. Granular Backfill for the drains shall meet IDOT Specification 4133, and may be loose dumped into the holes without compaction. Completed and cleaned auger holes shall be left open the shortest time possible when caving conditions exist. Holes that experience caving before being fully backfilled shall be re-augered to the elevation where the caved material has contaminated the vertical sand drain.

Granular Blanket Note
Install 1-foot thick Granular Blanket with horizontal subdrains. Extend granular drainage blanket 4 feet horizontally beyond limits of vertical sand drains on all sides. This grading shall be incidental to vertical sand drain installation. Blankets will be drained by RF-19A Type 2 subdrains, and RF-19F Type A (or similar) outlets.

Note:
Sand Blankets, Vertical Sand Drains and Settlement Plates are not shown on cross sections.

Vertical Sand Drain Design Requirements				
Layout Boundary	Boundary Area (sq ft)	Center-to-Center Spacing (ft)	Approx. Depth (ft)*	Approx. Number of Vertical Sand Drains
A-B-E-F	9040	18	20'	32
B-C-D-E	9400	15	33'	48
G-H-K-L	9640	15	35'	49
H-I-J-K	9040	18	17'	32

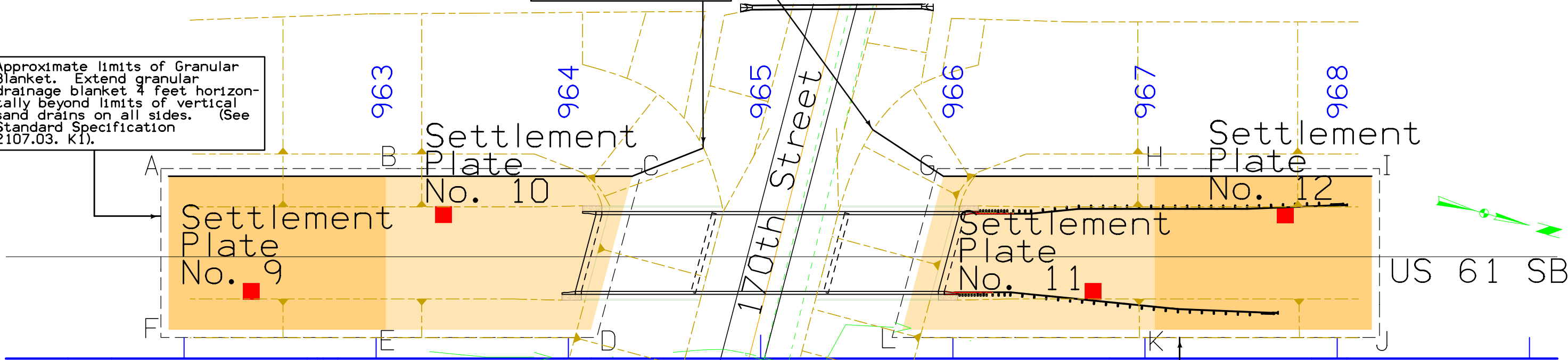
* Depth of sand drains will likely vary based on the design intent.

Granular Backfill quantity estimated for the Southbound bridge to be 398 cubic yards (672 Tons) for 161 Vertical Sand Drains. Quantity is calculated based on 20-inch diameter hole, plus an additional 10 percent to account for over-sized holes and spillage. (See Q.45 for northbound bridge vertical sand drain quantities).

Subdrain No. 5, (see Tab WSD-1), RF-19A Type 2 subdrains with RF-19F, Type A Outlets. Outlet to toe of final embankment slope.

Subdrain No. 6, (see Tab WSD-1), RF-19A Type 2 subdrains with RF-19F, Type A Outlets. Outlet to toe of final embankment slope.

Approximate limits of Granular Blanket. Extend granular drainage blanket 4 feet horizontally beyond limits of vertical sand drains on all sides. (See Standard Specification 2107.03. K1).



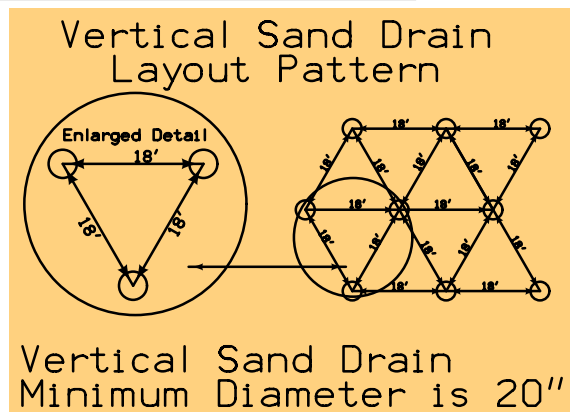
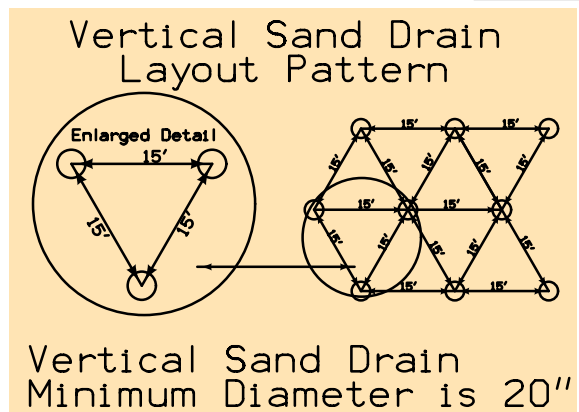
Approximate limits of Granular Blanket. Extend granular drainage blanket 4 feet horizontally beyond limits of vertical sand drains on all sides. (See Standard Specification 2107.03. K1).

Sand Drain Corner Points			
Roadway	Corner	Station	Offset
SB	A	961+92	Lt. 95
	B	963+05	Lt. 95
	C	964+33	Lt. 95
	D	964+12	Lt. 15
	E	963+05	Lt. 15
	F	961+92	Lt. 15
	G	965+95	Lt. 95
	H	967+05	Lt. 95
	I	968+18	Lt. 95
	J	968+18	Lt. 15
	K	967+05	Lt. 15
	L	965+74	Lt. 15

Settlement Plates			
Roadway	Number	Station	Offset
SB	9	962+35	Lt. 35
	10	963+35	Lt. 75
	11	966+73	Lt. 35
	12	967+73	Lt. 75

Not To Scale

See Tab WSD-1 for all quantities associated with Vertical Sand Drains and Sand Blankets.



The intention of the vertical sand drain design and the layout limits is that the US 61 paving will not occur until at least 365 calendar days after completion of embankment construction.

Sand drain auger holes shall be clean and free of auger cuttings and extend through the near surficial silty clay and peat into the underlying medium sand and glacial clay soils. Approximate depths are shown in the design requirements table for each boundary area. Auger cuttings shall be removed from around the holes to prevent their re-entry into the holes during Granular Backfill (sand) placement. Granular Backfill for the drains shall meet IDOT Specification 4133, and may be loose dumped into the holes without compaction. Completed and cleaned auger holes shall be left open the shortest time possible when caving conditions exist. Holes that experience caving before being fully backfilled shall be re-augered to the elevation where the caved material has contaminated the vertical sand drain.

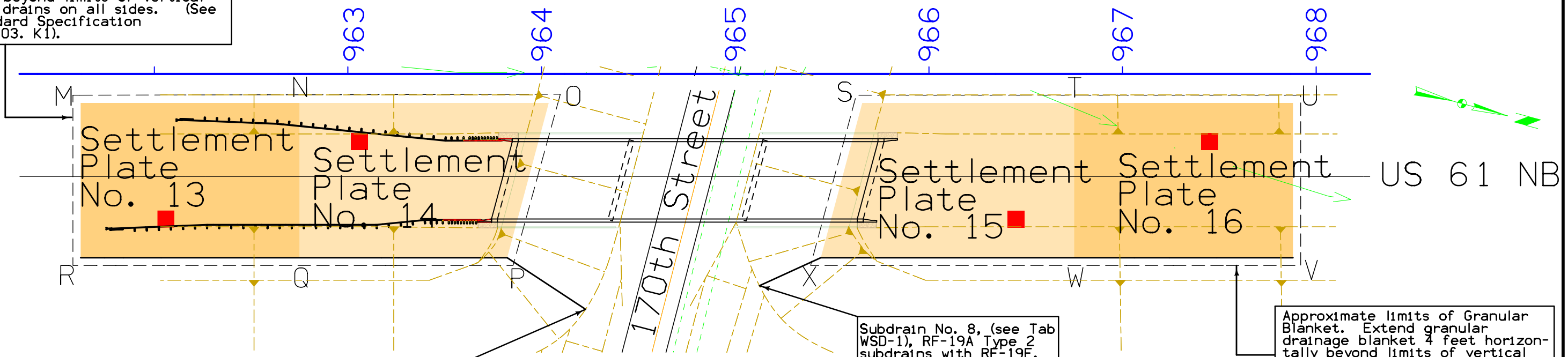
Granular Blanket Note
 Install 1-foot thick Granular Blanket with horizontal subdrains. Extend granular drainage blanket 4 feet horizontally beyond limits of vertical sand drains on all sides. This grading shall be incidental to vertical sand drain installation. Blankets will be drained by RF-19A Type 2 subdrains, and RF-19F Type A (or similar) outlets.

Note:
 Sand Blankets, Vertical Sand Drains and Settlement Plates are not shown on cross sections.

Vertical Sand Drain Design Requirements				
Layout Boundary	Boundary Area (sq ft)	Center-to-Center Spacing (ft)	Approx. Depth (ft)*	Approx. Number of Vertical Sand Drains
M-N-Q-R	9040	18	20'	32
N-O-P-Q	9440	15	33'	48
S-T-W-X	9600	15	35'	49
T-U-V-W	9040	18	17'	32

* Depth of sand drains will likely vary based on the design intent.
 Granular Backfill quantity estimated for the Northbound bridge to be 398 cubic yards (672 Tons) for 161 Vertical Sand Drains. Quantity is calculated based on 20-inch diameter hole, plus an additional 10 percent to account for over-sized holes and spillage. (See Q.44 for southbound bridge vertical sand drain quantities).

Approximate limits of Granular Blanket. Extend granular drainage blanket 4 feet horizontally beyond limits of vertical sand drains on all sides. (See Standard Specification 2107.03. K1).



Subdrain No. 7, (see Tab WSD-1), RF-19A Type 2 subdrains with RF-19F, Type A Outlets. Outlet to toe of final embankment slope.

Subdrain No. 8, (see Tab WSD-1), RF-19A Type 2 subdrains with RF-19F, Type A Outlets. Outlet to toe of final embankment slope.

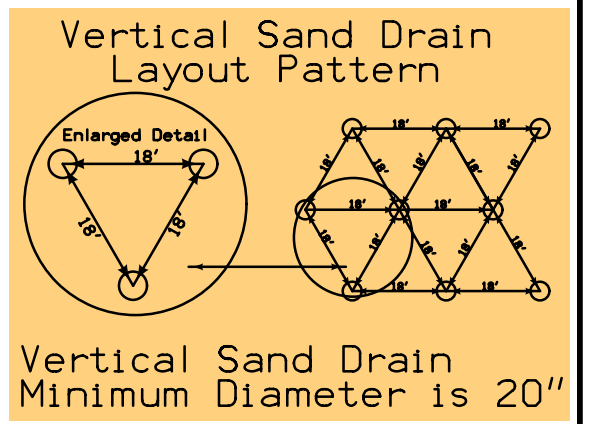
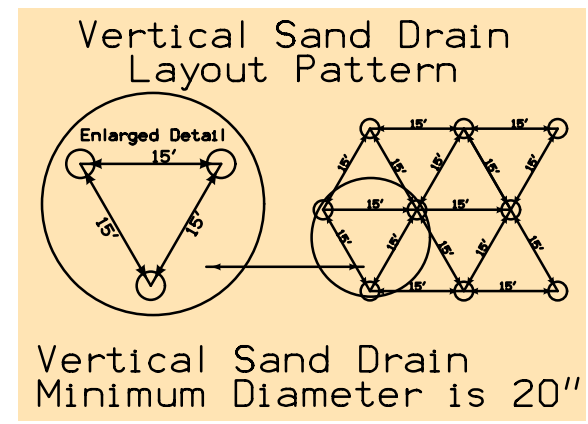
Approximate limits of Granular Blanket. Extend granular drainage blanket 4 feet horizontally beyond limits of vertical sand drains on all sides. (See Standard Specification 2107.03. K1).

Sand Drain Corner Points			
Roadway	Corner	Station	Offset
NB	M	961+62	Rt. 15
	N	962+75	Rt. 15
	O	964+04	Rt. 15
	P	963+82	Rt. 95
	Q	962+75	Rt. 95
	R	961+62	Rt. 95
	S	965+66	Rt. 15
	T	966+75	Rt. 15
	U	967+88	Rt. 15
	V	967+88	Rt. 95
	W	966+75	Rt. 95
	X	965+44	Rt. 95

Settlement Plates			
Roadway	Number	Station	Offset
NB	13	962+06	Rt. 75
	14	963+06	Rt. 35
	15	966+45	Rt. 75
	16	967+45	Rt. 35

Not To Scale

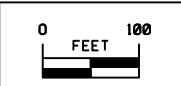
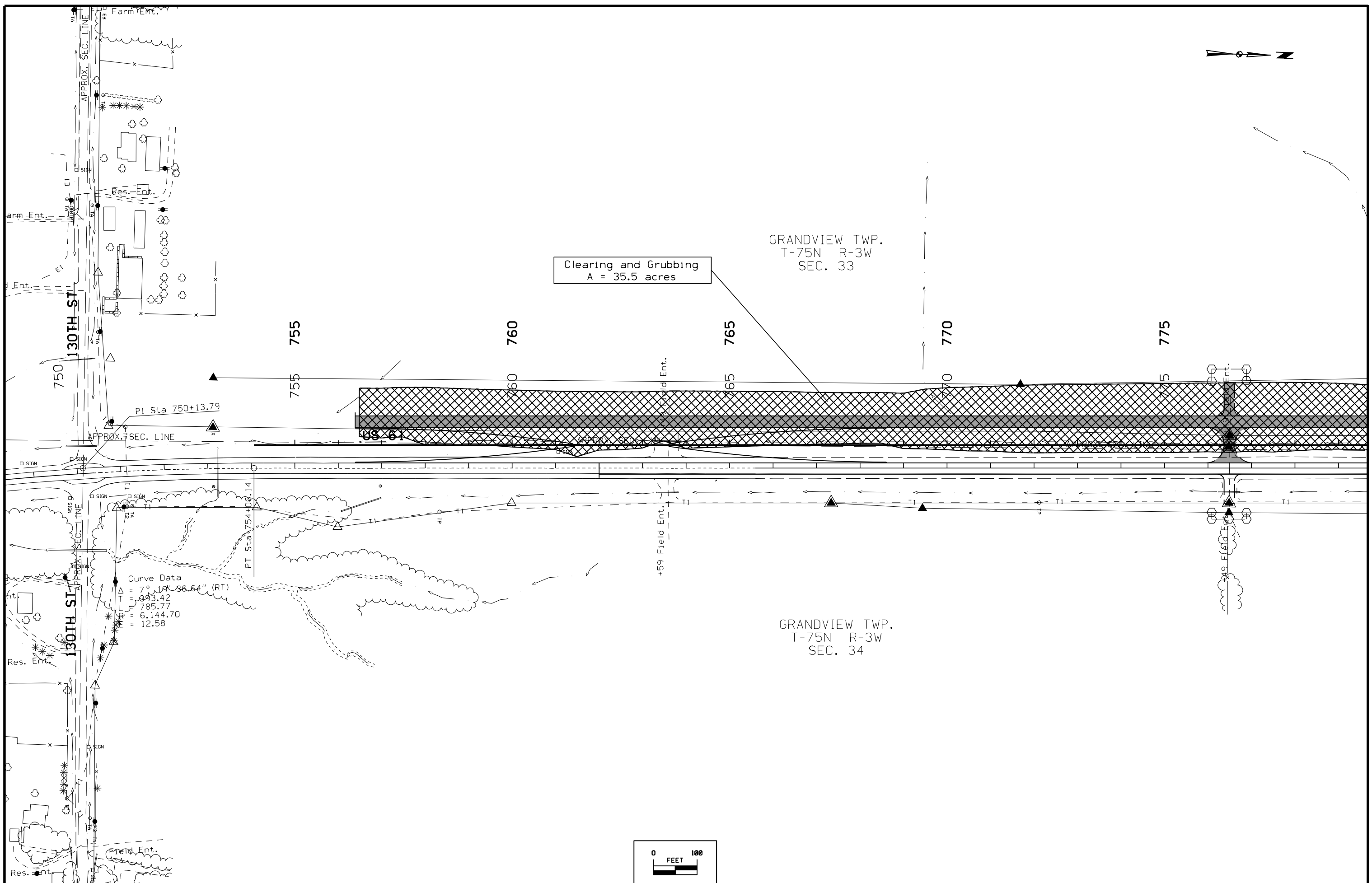
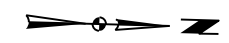
See Tab WSD-1 for all quantities associated with Vertical Sand Drains and Sand Blankets.

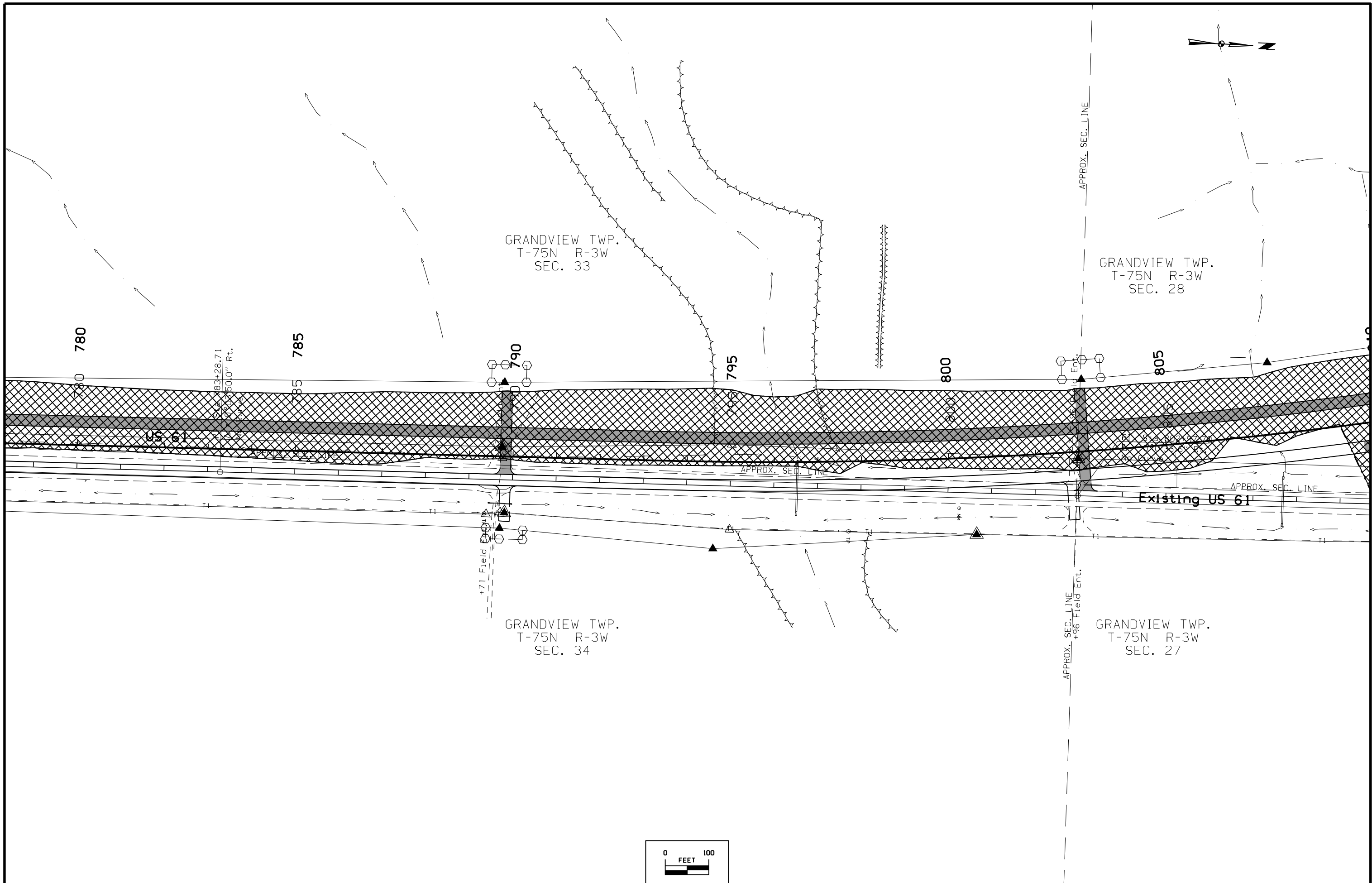


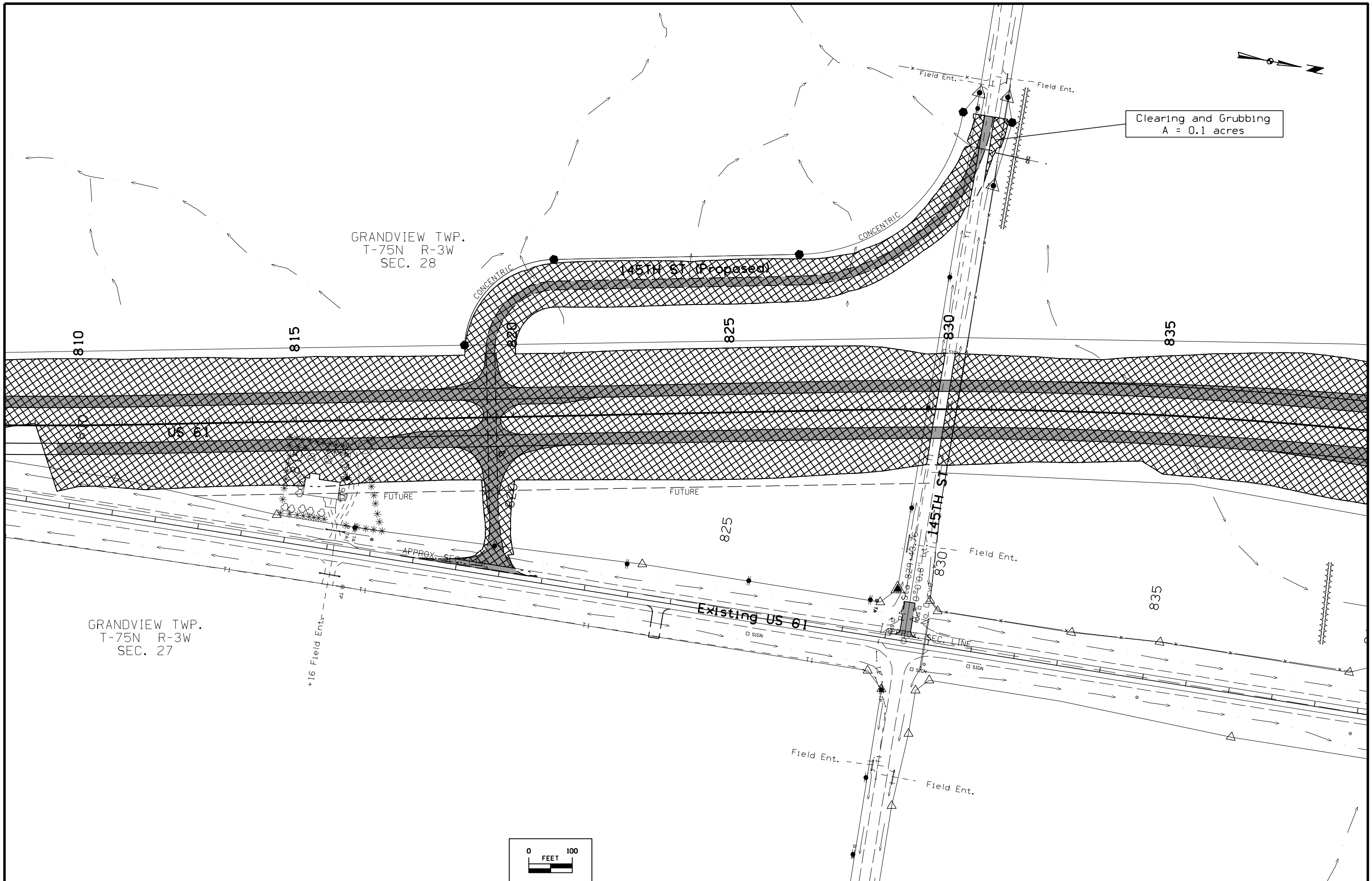
TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

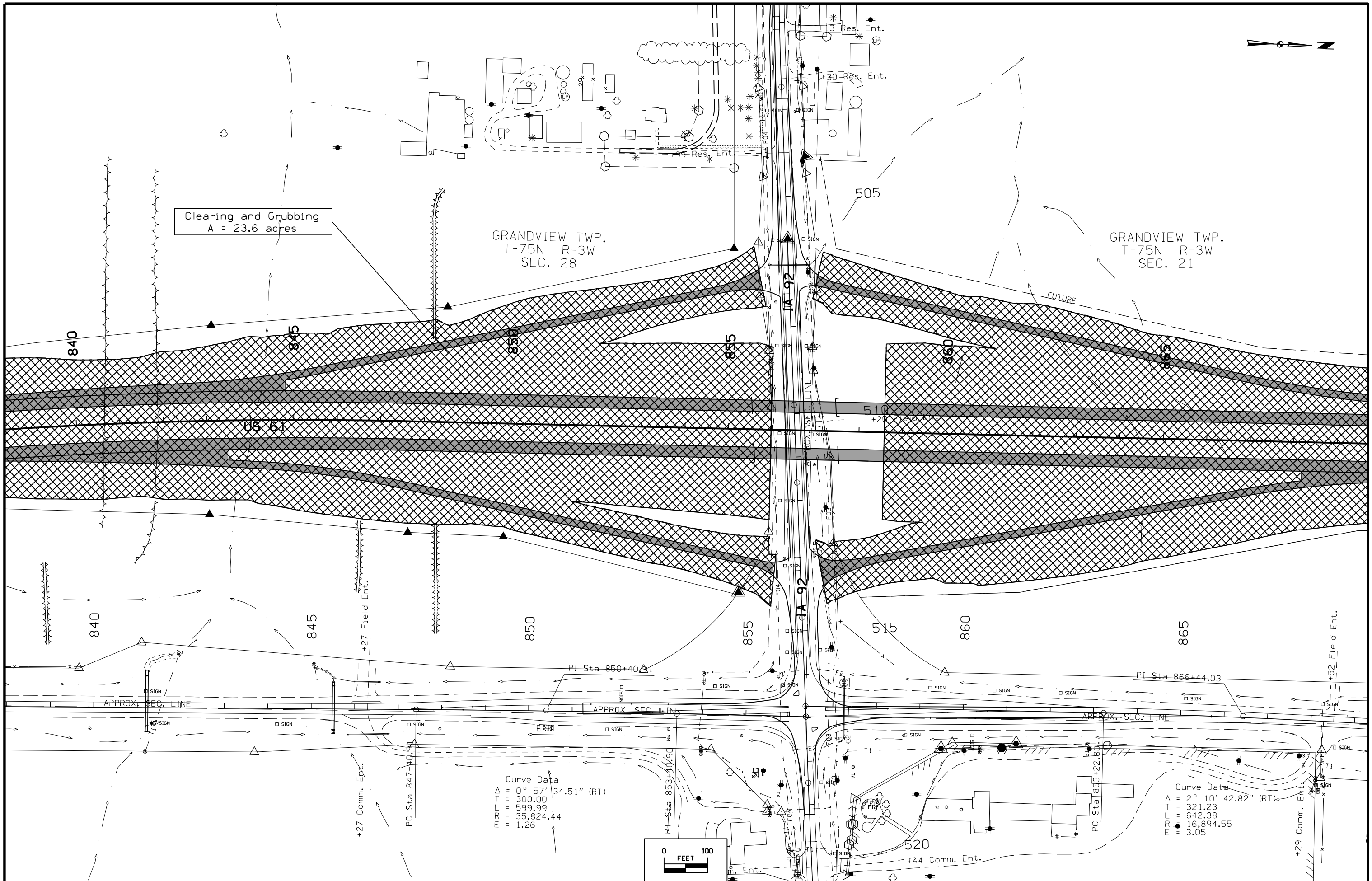
Refer to Standard Plan EW-101 and RL-1B.

STATION	TOTAL CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK													STATION	TOTAL CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK											
882+00.00	1083		1083	1083	42	55	55																															
882+50.00	1814		1814	1814																																		
883+00.00	2370		2370	2370	1	1	1																															
883+50.00	2400		2400	2400	1	1	1																															
884+00.00	2307		2307	2307	1	1	1																															
884+50.00	2040		2040	2040	4	5	5																															
885+00.00	1657		1657	1657	102	133	133																															
885+50.00	1132		1132	1132	414	538	538																															
886+00.00	704		704	704	1016	1321	1321																															
886+50.00	583		583	583	2082	2707	2707																															
887+00.00	602		602	602	3901	5071	5071																															
887+50.00	827		827	827	6706	8718	8718																															
888+00.00	828		828	828	9783	12718	12718																															
888+50.00	723		723	723	10260	13338	13338																															
889+00.00	632		632	632	8422	10949	10949																															
889+50.00	403		403	403	5928	7706	7706																															
890+00.00	571		571	571	3485	4531	4531																															
890+50.00	885		885	885	2098	2727	2727																															
891+00.00	1102		1102	1102	1279	1663	1663																															
891+50.00	1461		1461	1461	859	1117	1117																															
892+00.00	1829		1829	1829	651	846	846																															
892+50.00	2055		2055	2055	581	755	755																															
893+00.00	2054		2054	2054	641	833	833																															
893+50.00	1918		1918	1918	746	970	970																															
894+00.00	1837		1837	1837	800	1040	1040																															
894+50.00	1700		1700	1700	949	1234	1234																															
895+00.00	1267		1267	1267	1792	2330	2330																															
895+50.00	799		799	799	3268	4248	4248																															
896+00.00	591		591	591	3840	4992	4992																															
896+50.00	520		520	520	3078	4001	4001																															
897+00.00	479		479	479	2250	2925	2925																															
897+50.00	482		482	482	1991	2588	2588																															
898+00.00	480		480	480	1914	2488	2488																															
898+50.00	447		447	447	1432	1862	1862																															
899+00.00	513		513	513	748	972	972																															
899+50.00	713		713	713	256	333	333																															
900+00.00	1091		1091	1091	29	38	38																															
900+50.00	1596		1596	1596	1	1	1																															
901+00.00	2041		2041	2041																																		
901+50.00	2248		2248	2248																																		
902+00.00	1792		1792	1792	1	1	1																															
902+50.00	1303		1303	1303	1	1	1																															
903+00.00	1274		1274	1274	1	1	1																															
903+50.00	1242		1242	1242	1	1	1																															
904+00.00	1173		1173	1173	1	1	1																															
904+50.00	1031		1031	1031	3	4	4																															
905+00.00	870		870	870	20	26	26																															
905+50.00																																						
TOTAL	120531	1235	119296	120531	267593	347872	347872																															
GRAND	271887	12997	258890	271887	577988	751398	751398																															





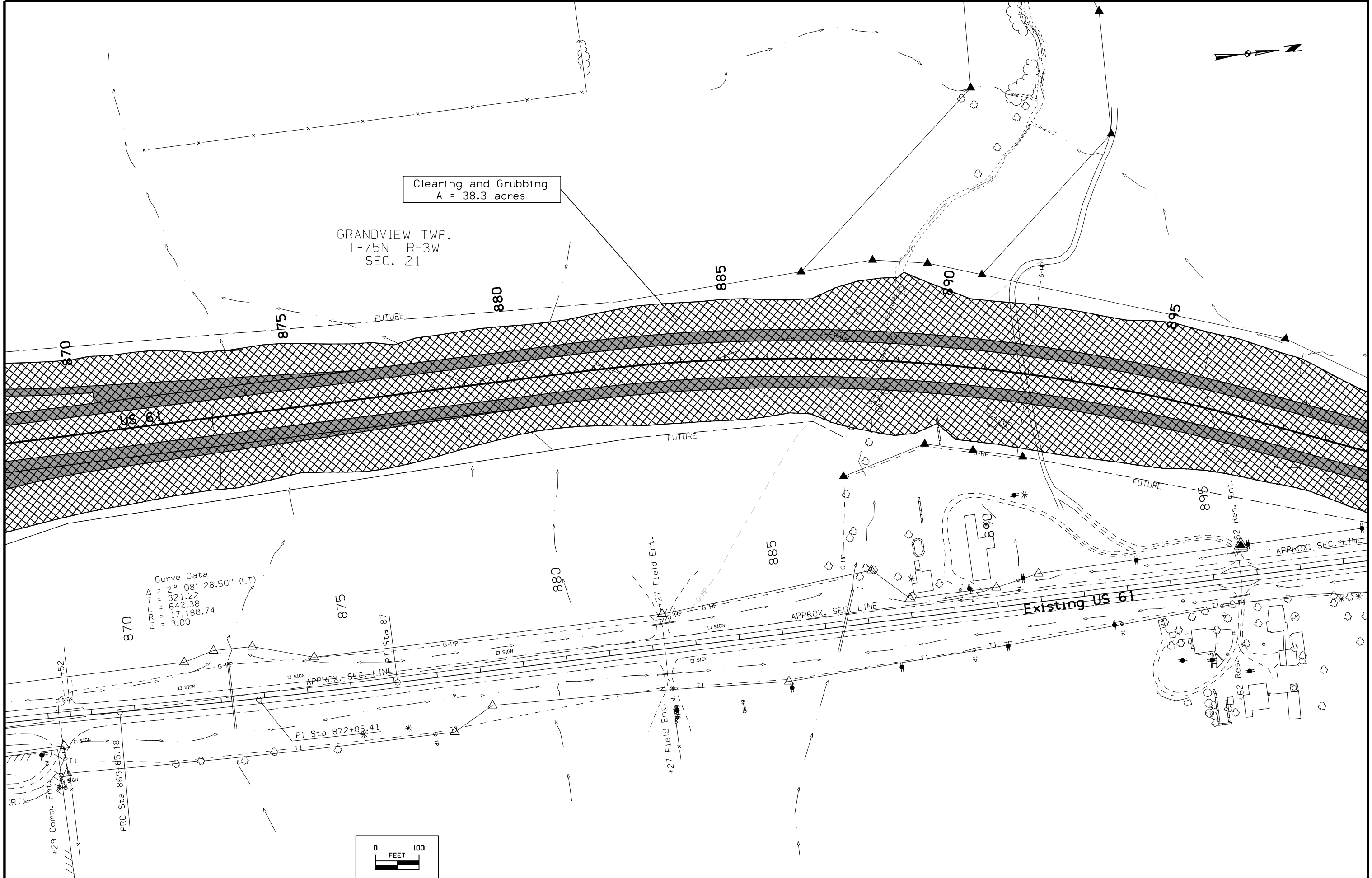
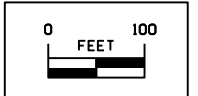


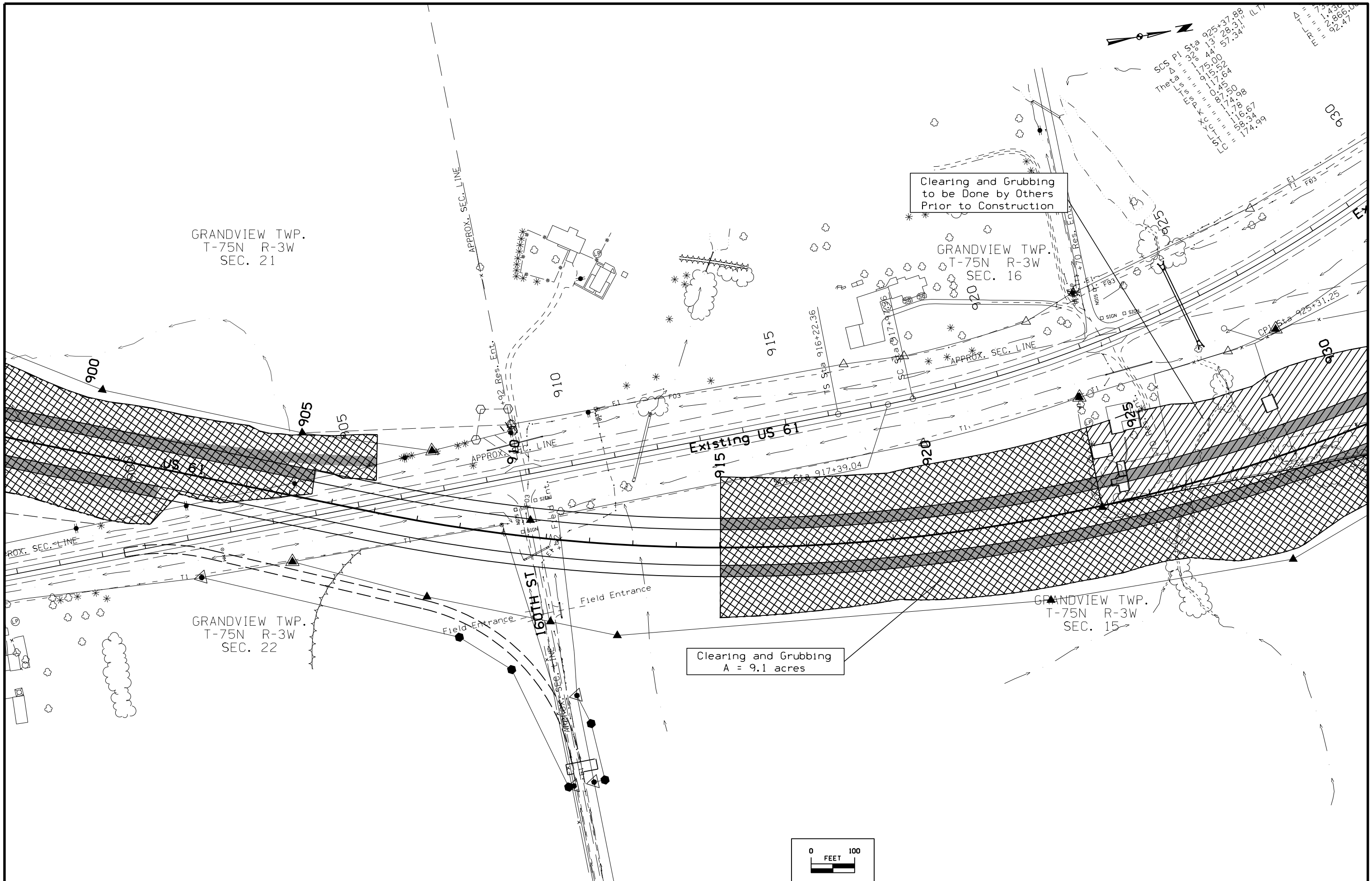


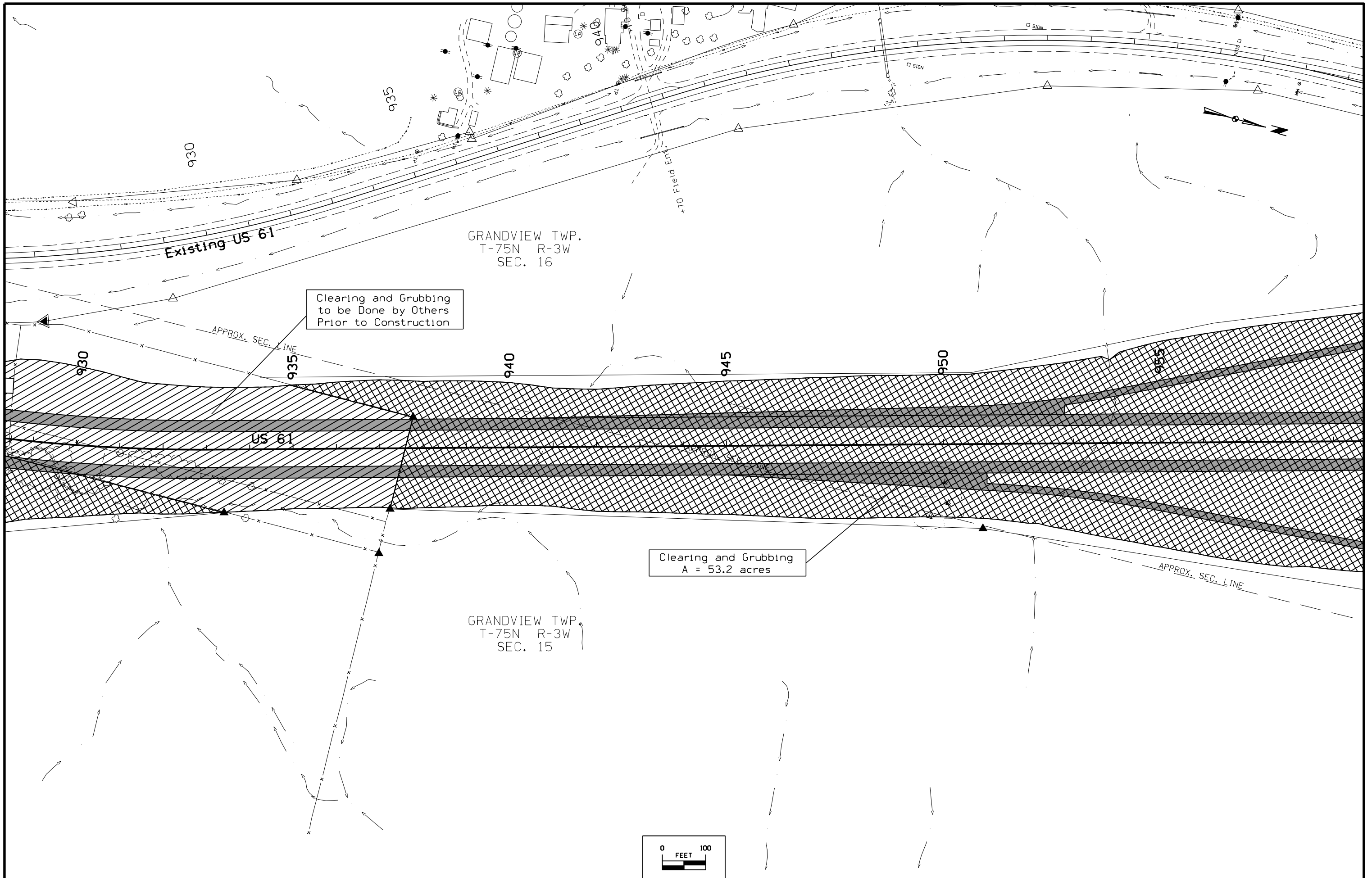
Clearing and Grubbing
A = 38.3 acres

GRANDVIEW TWP.
T-75N R-3W
SEC. 21

Curve Data
 $\Delta = 2^{\circ} 08' 28.50''$ (LT)
 $TT = 321.22$
 $RL = 642.38$
 $ERL = 17,188.74$
 $E = 3.00$





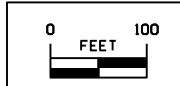


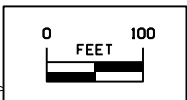
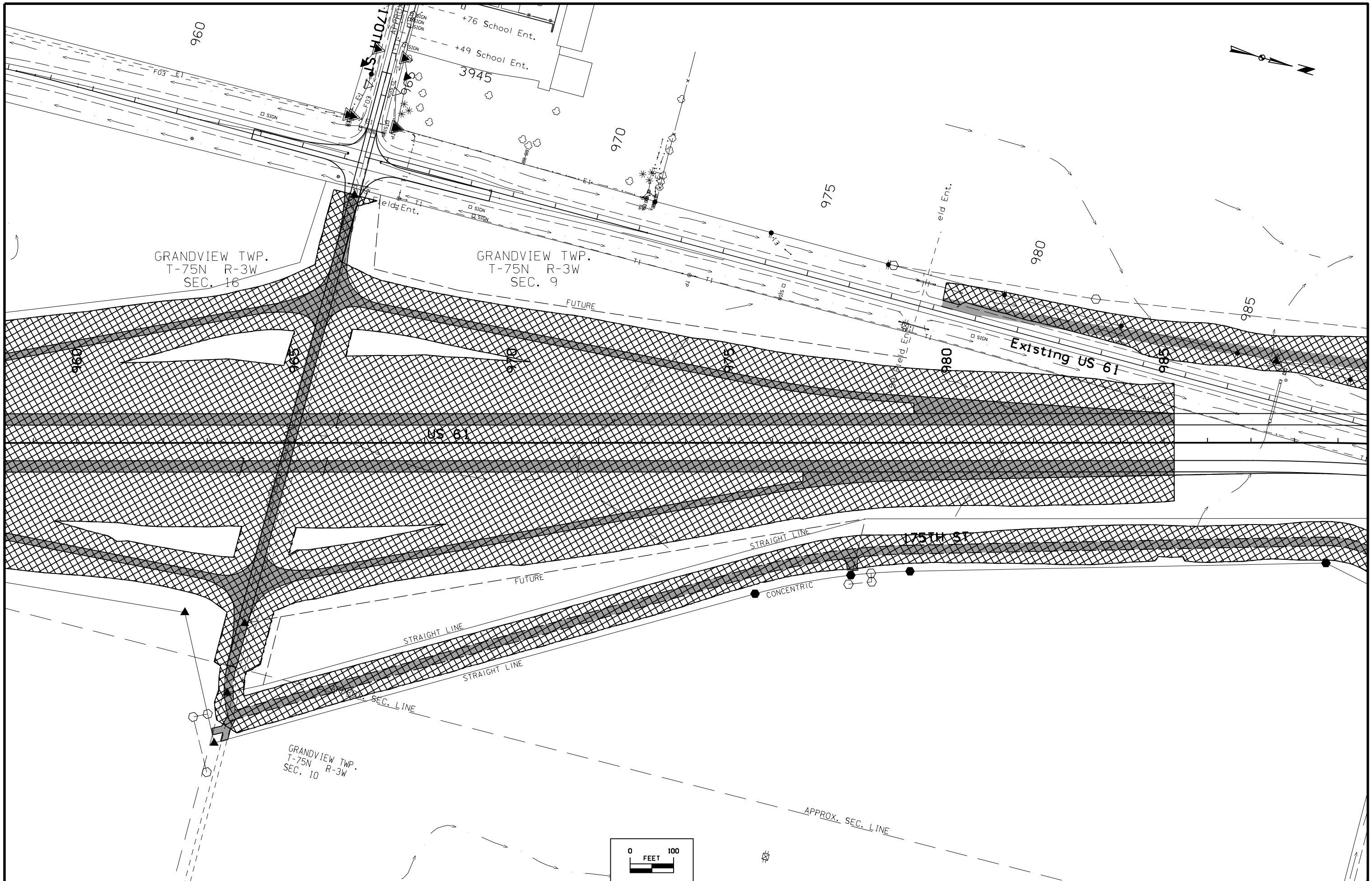
GRANDVIEW TWP.
T-75N R-3W
SEC. 16

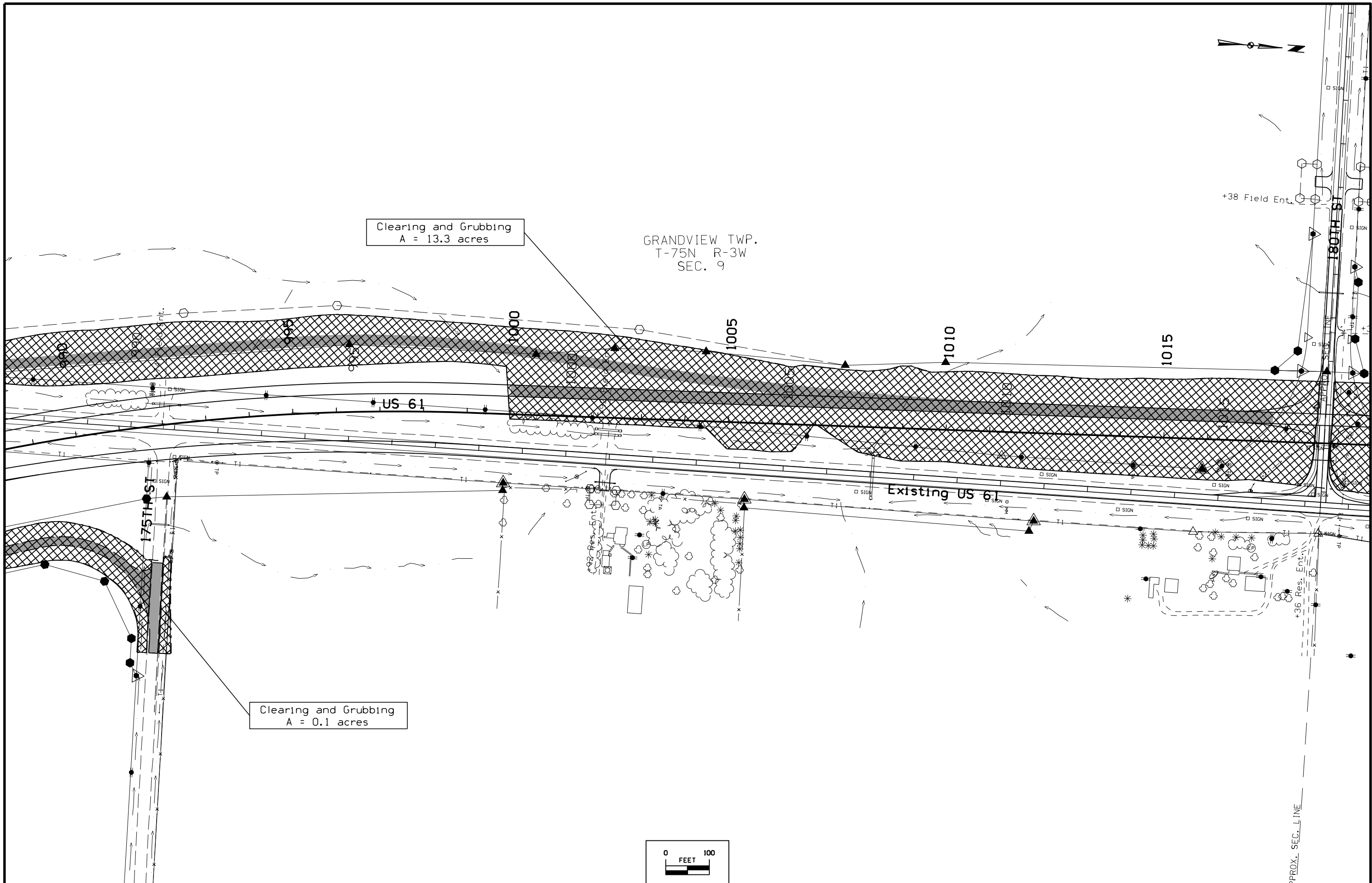
Clearing and Grubbing
to be Done by Others
Prior to Construction

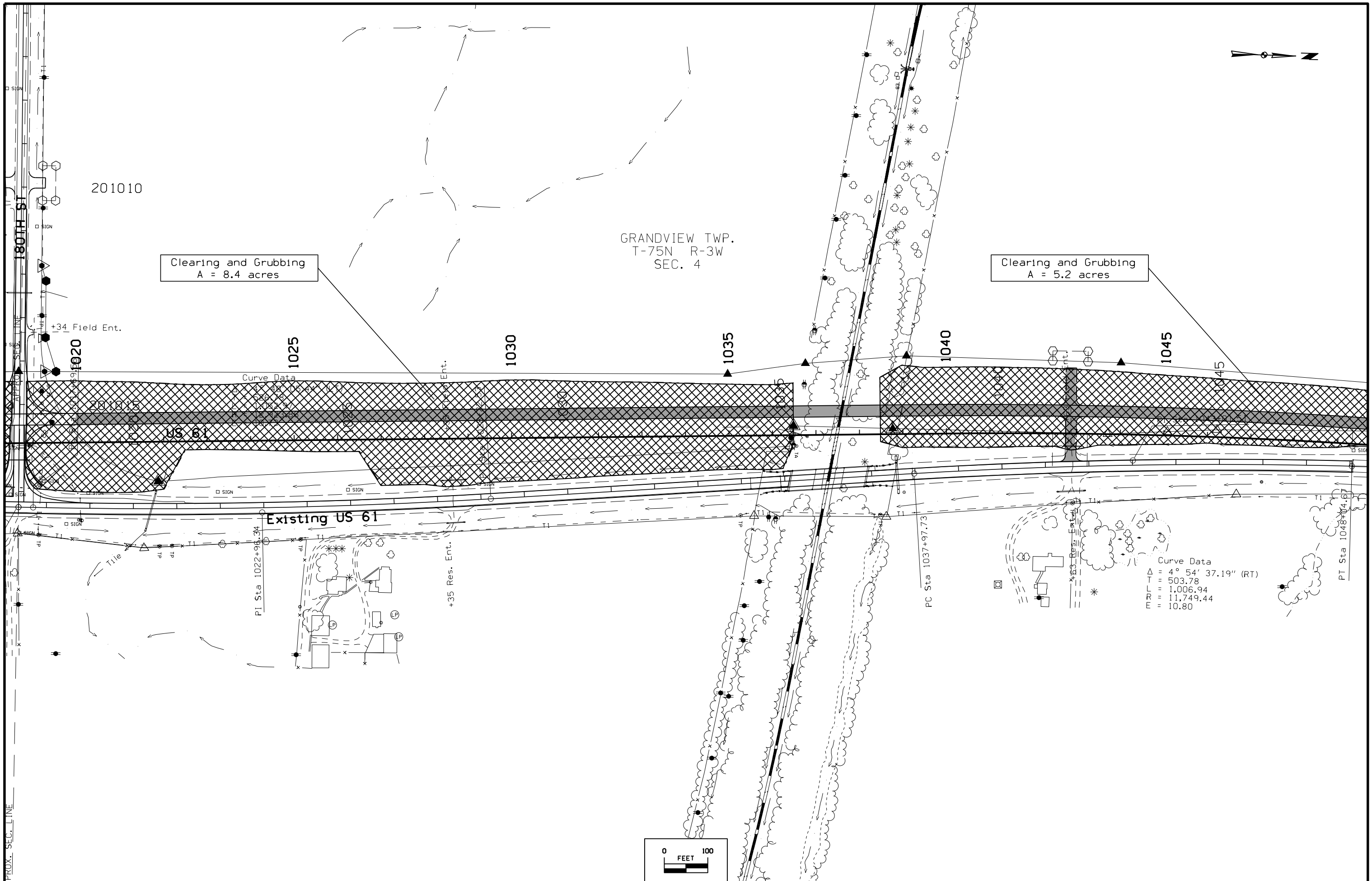
Clearing and Grubbing
A = 53.2 acres

GRANDVIEW TWP.
T-75N R-3W
SEC. 15







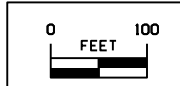
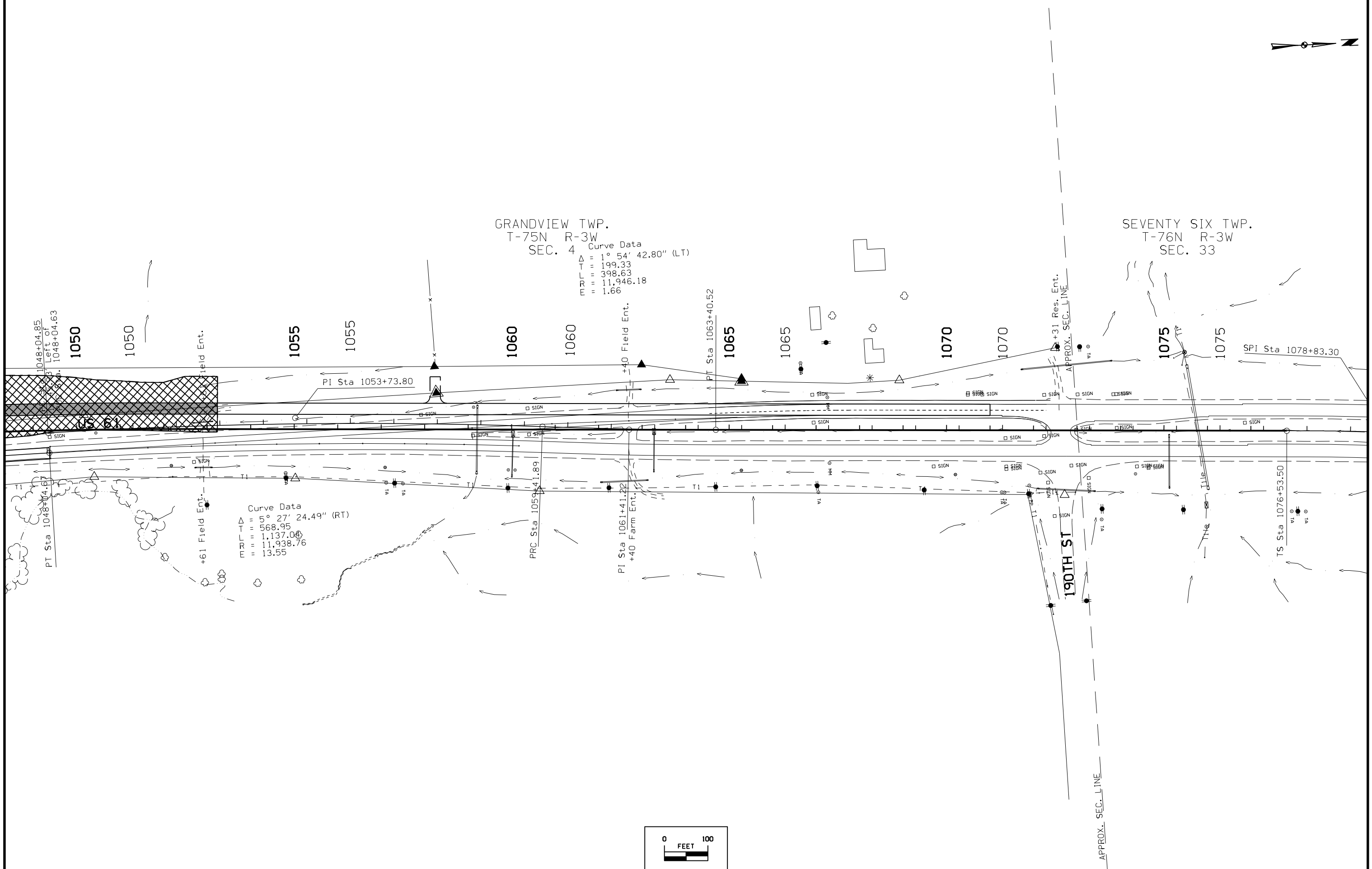




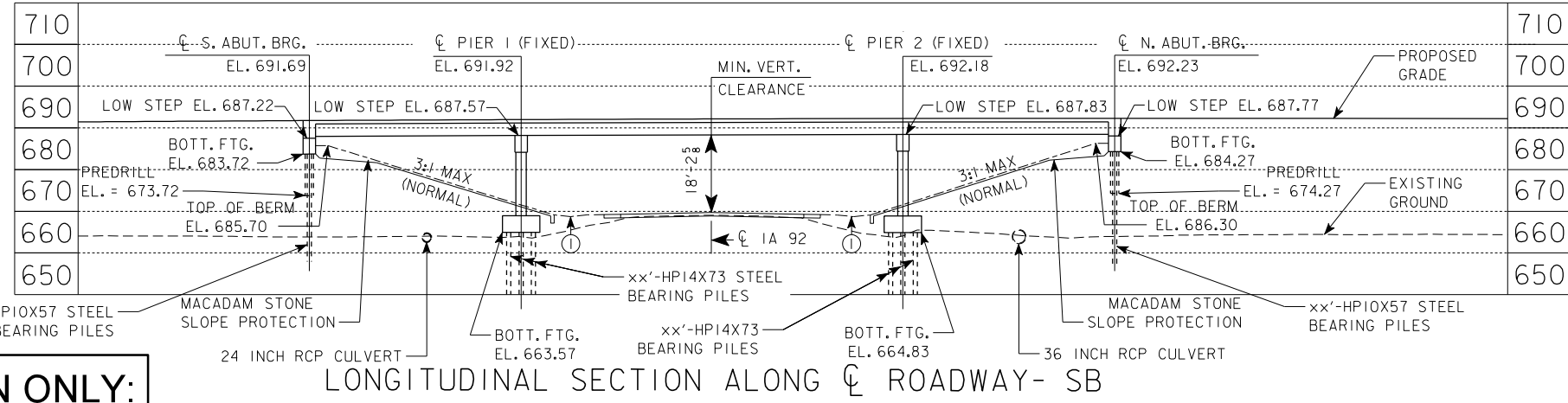
GRANDVIEW TWP.
 T-75N R-3W
 SEC. 4

Curve Data
 $\Delta = 1^\circ 54' 42.80''$ (LT)
 $T = 199.33$
 $L = 398.63$
 $R = 11,946.18$
 $E = 1.66$

SEVENTY SIX TWP.
 T-76N R-3W
 SEC. 33



NOTE: TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS 0.21' ABOVE THE PROFILE GRADE TO ACCOUNT FOR DECK CROSS SLOPE AND PARABOLIC CROWN.



- ① EW-211 GRADING
- ② MEASURE FROM EDGE OF DRIVING LANE TO FACE OF PIER COLUMN.

2.6000% -1.8000%
 VPI STA = 856+00.00 VC = 1,800'
 VPI ELEV = 701.60

PROPOSED PROFILE GRADE US 61

0.5000%
 VPI STA = 505+00.51 VPI STA = 517+25.00
 VPI ELEV = 667.28 VPI ELEV = 673.40

PROPOSED PROFILE GRADE IA 92

MINIMUM VERTICAL CLEARANCE

OVERHEAD STATION = 856+50.49, 36.92' LT
 OVERHEAD ELEVATION = 691.84
 DEPTH OF SUPERSTRUCTURE = 3.83'
 IA 92 STATION = 510+01.39
 IA 92 ELEVATION = 669.79
 MINIMUM VERTICAL CLEARANCE = 18.22'

TRAFFIC ESTIMATE

2016 AADT	5,629	V.P.D.
2036 AADT	7,677	V.P.D.
202.0HV		V.P.H.
TRUCKS	18	%
TOTAL DESIGN ESALS		

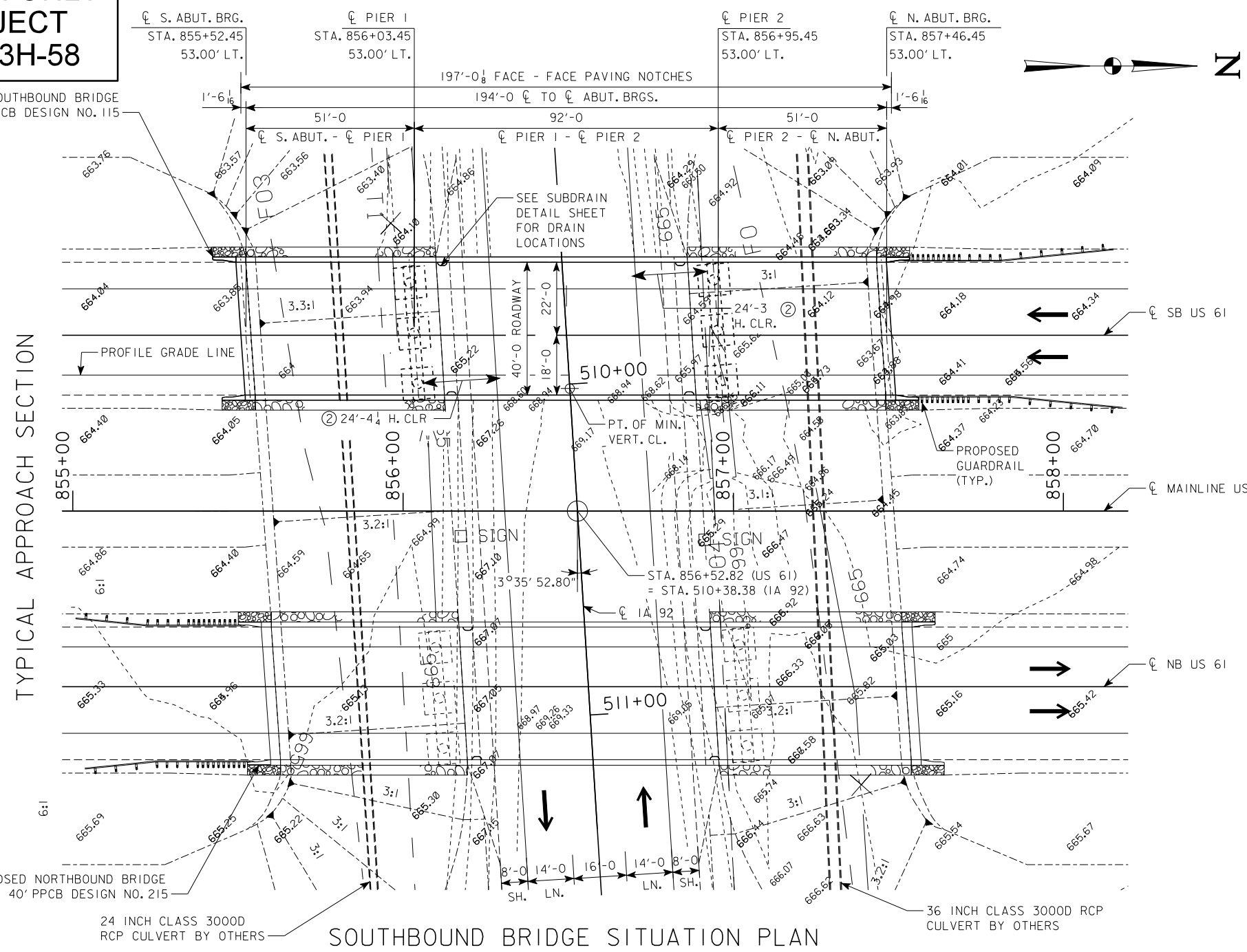
LOCATION

SOUTHBOUND U.S. 61 OVER IA 92
 T-75 N R-3 W
 SECTION 28
 GRANDVIEW TOWNSHIP
 LOUISA COUNTY
 FHWA# 700245
 LATITUDE 41.276543°
 LONGITUDE -91.199562°

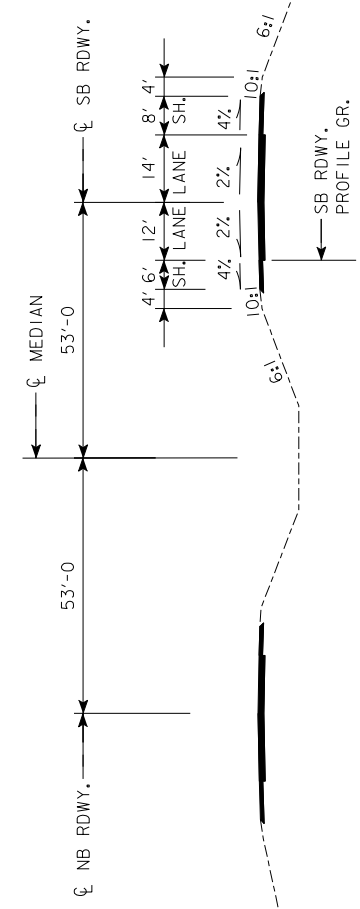
PRELIMINARY

DESIGN FOR 4° SKEW (R.A.)
 194'-0" x 40' PRETENSIONED
 PRESTRESSED CONCRETE BEAM BRIDGE
 51'-0" END SPANS 92'-0" INTERIOR SPAN
 SOUTHBOUND SITUATION PLAN
 STA. 856+49.45, 53.00' LT AUGUST, 2014
 LOUISA COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. 3 OF 28 FILE NO. 30755 DESIGN NO. 115

FOR INFORMATION ONLY:
 REFER TO PROJECT
 NHSX-061-3(70)--3H-58



TYPICAL APPROACH SECTION

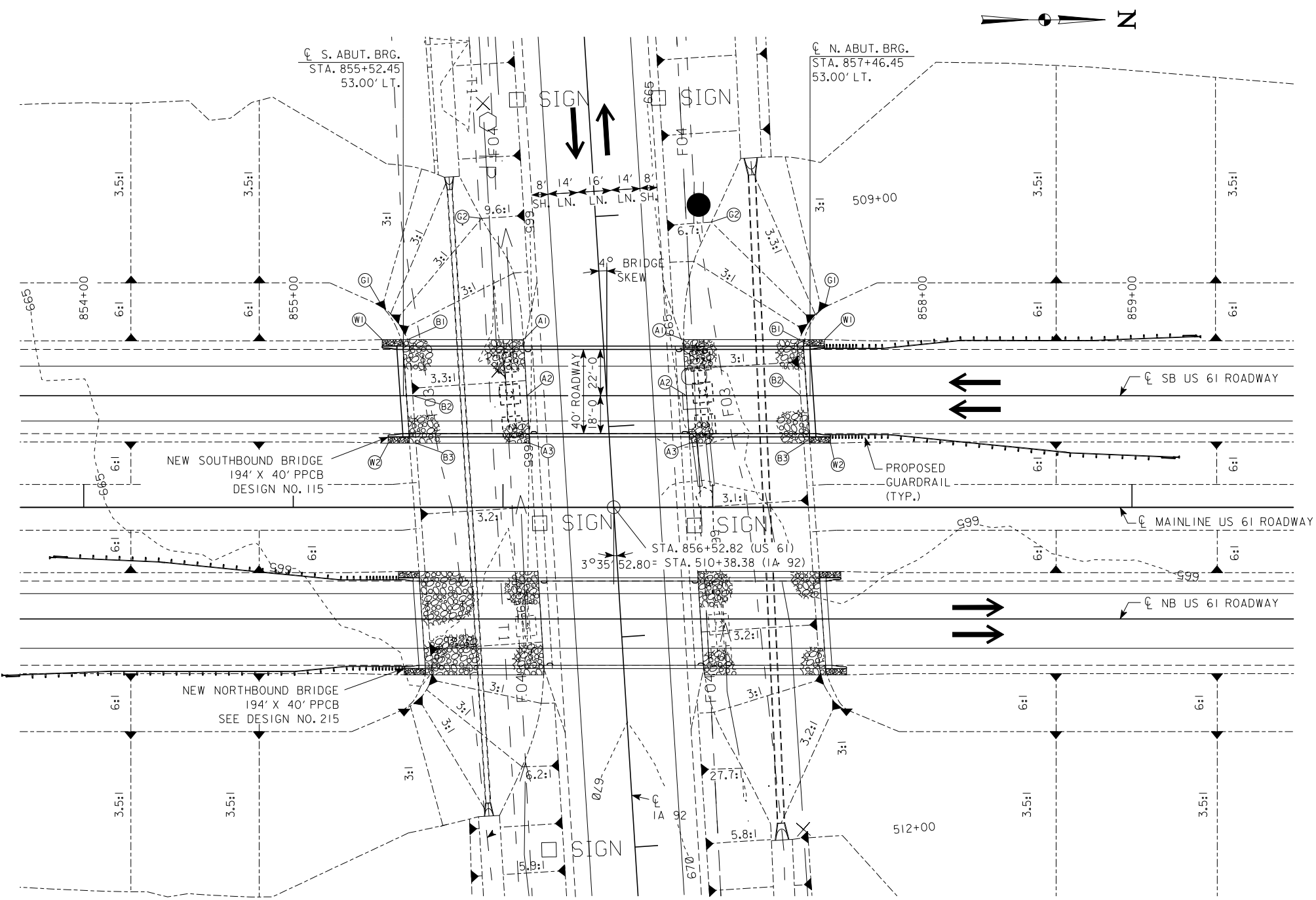


SOUTHBOUND BRIDGE SITUATION PLAN

BERM SLOPE LOCATION TABLE SOUTHBOUND BRIDGE						
SOUTH ABUTMENT			NORTH ABUTMENT			
	STATION	OFFSET	ELEV	STATION	OFFSET	ELEV
A1	856+09.73	79.58' LT	668.88	856+86.09	79.58' LT	668.90
A2	856+11.42	53.00' LT	669.01	856+87.54	53.00' LT	669.03
A3	856+12.83	30.42' LT	669.12	856+88.98	30.42' LT	669.15
B1	855+54.47	79.58' LT	685.70	857+41.31	79.58' LT	686.30
B2	855+56.96	53.00' LT	685.70	857+41.94	53.00' LT	686.30
B3	855+58.54	30.42' LT	685.70	857+43.52	30.42' LT	686.30
G1	855+42.40	95.38' LT	685.70	857+53.41	94.99' LT	686.30
G2	855+88.76	137.09' LT	665.79	856+99.42	135.45' LT	664.96
W1	855+42.40	79.58' LT	690.95	857+53.41	79.58' LT	691.55
W2	855+45.20	30.42' LT	691.08	857+56.21	30.42' LT	691.67

W - END WING / EROSION STONE
BERM SLOPE TABLE ELEVATIONS REFLECT GRADING SURFACE

UTILITIES LEGEND:
 FO - FIBER OPTIC - WINDSTREAM
 FO3 - FIBER OPTIC - PAETEC
 FO4 - FIBER OPTIC - MUTUAL TEL. CO. OF MORNING SUN, IA
 T1 - TELEPHONE - WINDSTREAM
 ● - POWER POLE - EASTERN IOWA LIGHT AND POWER

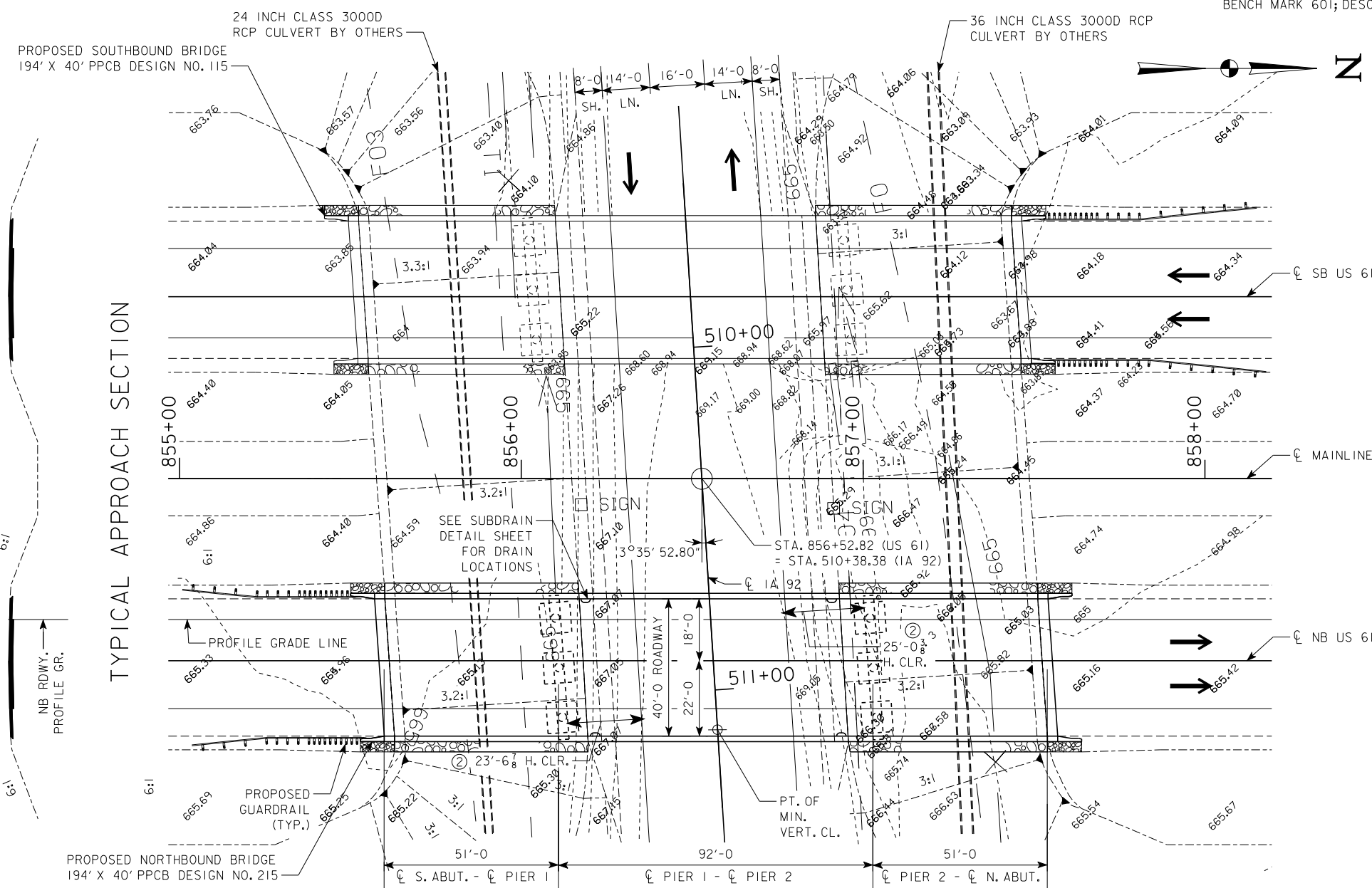


**FOR INFORMATION ONLY:
REFER TO PROJECT
NHSX-061-3(70)--3H-58**

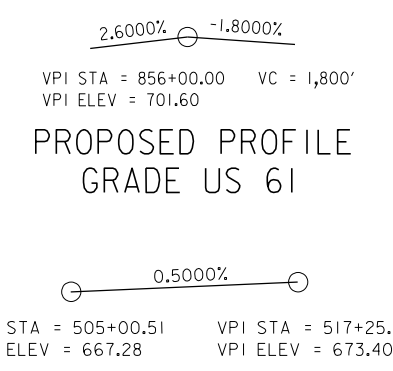
PRELIMINARY

DESIGN FOR 4° SKEW (R.A.)
 194'-0" x 40' PRETENSIONED
 PRESTRESSED CONCRETE BEAM BRIDGE
 51'-0" END SPANS 92'-0" INTERIOR SPAN
 SOUTHBOUND SITE PLAN
 STA. 856+49.45, 53.00' LT AUGUST, 2014
 LOUISA COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. 4 OF 28 FILE NO. 30755 DESIGN NO. 115

SITE PLAN



- ① EW-211 GRADING
- ② MEASURE FROM EDGE OF DRIVING LANE TO FACE OF PIER COLUMN.



MINIMUM VERTICAL CLEARANCE
 OVERHEAD STATION = 856+57.41, 73.09' RT
 OVERHEAD ELEVATION = 691.77
 DEPTH OF SUPERSTRUCTURE = 3.83'
 IA 92 STATION = 511+11.61
 IA 92 ELEVATION = 670.33
 MINIMUM VERTICAL CLEARANCE = 17.61'

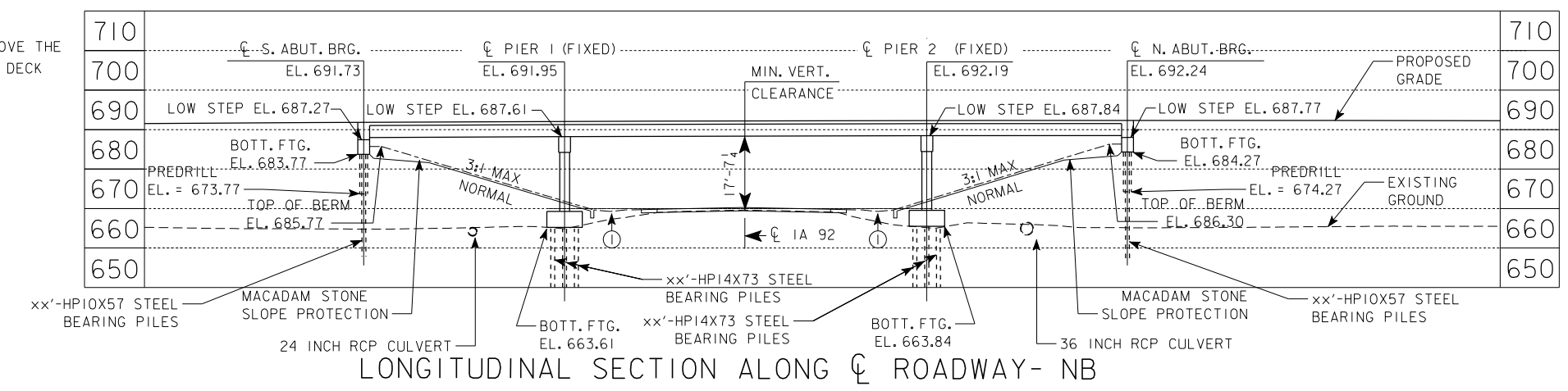
TRAFFIC ESTIMATE

2016 AADT	5,629	V.P.D.
2036 AADT	7,677	V.P.D.
202. DHV		V.P.H.
TRUCKS	18	%
TOTAL DESIGN ESALS		

LOCATION
 NORTHBOUND U.S. 61 OVER IA 92
 T-75 N R-3 W
 SECTION 28
 GRANDVIEW TOWNSHIP
 LOUISA COUNTY
 FHWA# 700240
 LATITUDE 41.276559°
 LONGITUDE -91.199175°

**FOR INFORMATION ONLY:
 REFER TO PROJECT
 NHSX-061-3(70)--3H-58**

NOTE: TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS 0.21' ABOVE THE PROFILE GRADE TO ACCOUNT FOR DECK CROSS SLOPE AND PARABOLIC CROWN.

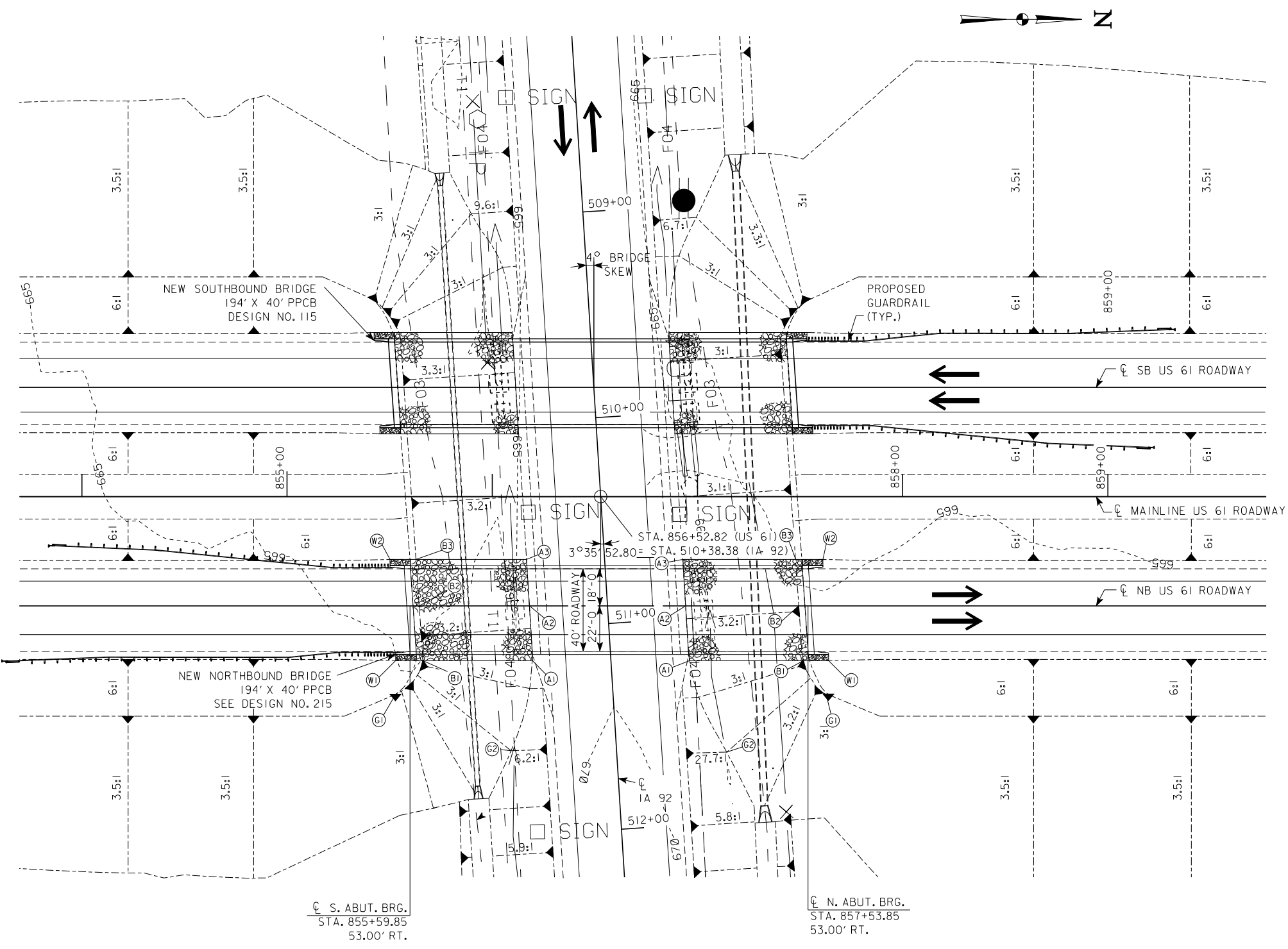


PRELIMINARY
 DESIGN FOR 4° SKEW (R.A.)
**194'-0 x 40' PRETENSIONED
 PRESTRESSED CONCRETE BEAM BRIDGE**
 51'-0 END SPANS 92'-0 INTERIOR SPAN
NORTHBOUND SITUATION PLAN
 STA. 856+56.86, 53.00' RT AUGUST, 2014
 LOUISA COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. 3 OF 29 FILE NO. 30755 DESIGN NO. 215

BERM SLOPE LOCATION TABLE NORTHBOUND BRIDGE						
SOUTH ABUTMENT			NORTH ABUTMENT			
	STATION	OFFSET	ELEV	STATION	OFFSET	ELEV
A1	856+16.65	30.42' RT	669.43	856+92.90	30.42' RT	669.45
A2	856+18.06	53.00' RT	669.54	856+94.22	53.00' RT	669.56
A3	856+19.39	79.58' RT	669.67	856+96.21	79.58' RT	669.70
B1	855+62.78	30.42' RT	685.70	857+47.76	30.42' RT	686.30
B2	855+64.36	53.00' RT	685.70	857+49.33	53.00' RT	686.30
B3	855+66.12	79.58' RT	685.70	857+51.63	79.58' RT	686.30
G1	855+52.87	95.58' RT	685.70	857+63.88	96.05' RT	686.30
G2	856+09.15	123.31' RT	666.74	857+14.24	124.00' RT	668.84
W1	855+50.09	30.42' RT	691.11	857+61.09	30.42' RT	691.67
W2	855+52.88	79.58' RT	691.00	857+63.89	79.58' RT	691.55

W - END WING / EROSION STONE
BERM SLOPE TABLE ELEVATIONS REFLECT GRADING SURFACE

UTILITIES LEGEND:
 FO - FIBER OPTIC - WINDSTREAM
 FO3 - FIBER OPTIC - PAETEC
 FO4 - FIBER OPTIC - MUTUAL TEL. CO. OF MORNING SUN, IA
 T1 - TELEPHONE - WINDSTREAM
 ● - POWER POLE - EASTERN IOWA LIGHT AND POWER



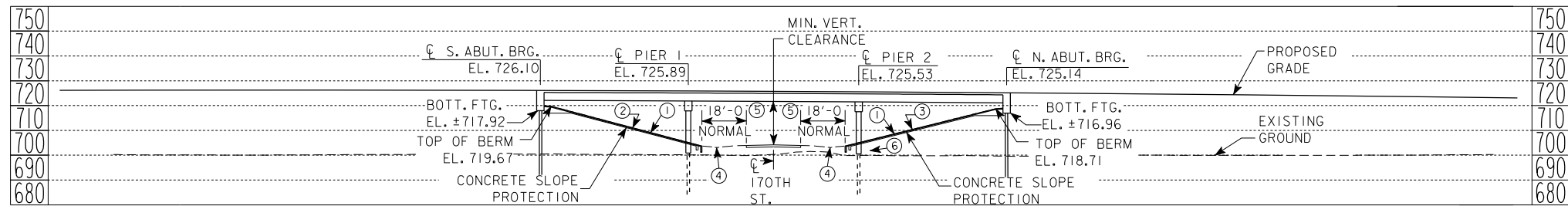
**FOR INFORMATION ONLY:
REFER TO PROJECT
NHSX-061-3(70)--3H-58**

PRELIMINARY
 DESIGN FOR 4° SKEW (R.A.)
 194'-0 x 40' PRETENSIONED
 PRESTRESSED CONCRETE BEAM BRIDGE
 51'-0 END SPANS 92'-0 INTERIOR SPAN
 NORTHBOUND SITE PLAN
 STA. 856+56.86, 53.00' RT AUGUST, 2014
 LOUISA COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. 4 OF 29 FILE NO. 30755 DESIGN NO. 215

SITE PLAN

BENCH MARK NO. 529 STA. 963+93.03 101.68' LT EL. 701.099 RR SPIKE IN NORTH SIDE OF LUMINAIRE (STATIONING ALONG EXISTING US 61 CL ALIGNMENT; SEE D SHEETS FOR DETAILS)

- ① GRADING SURFACE ② 3.6:1 NORMAL BERM SLOPE ③ 3.9:1 NORMAL BERM SLOPE ④ RL-13 GRADING ⑤ MEASURED FROM EDGE OF DRIVING LANE TO TOE OF BERM



NOTE: TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS 0.21' ABOVE THE PROFILE GRADE TO ACCOUNT FOR DECK CROSS SLOPE AND PARABOLIC CROWN.

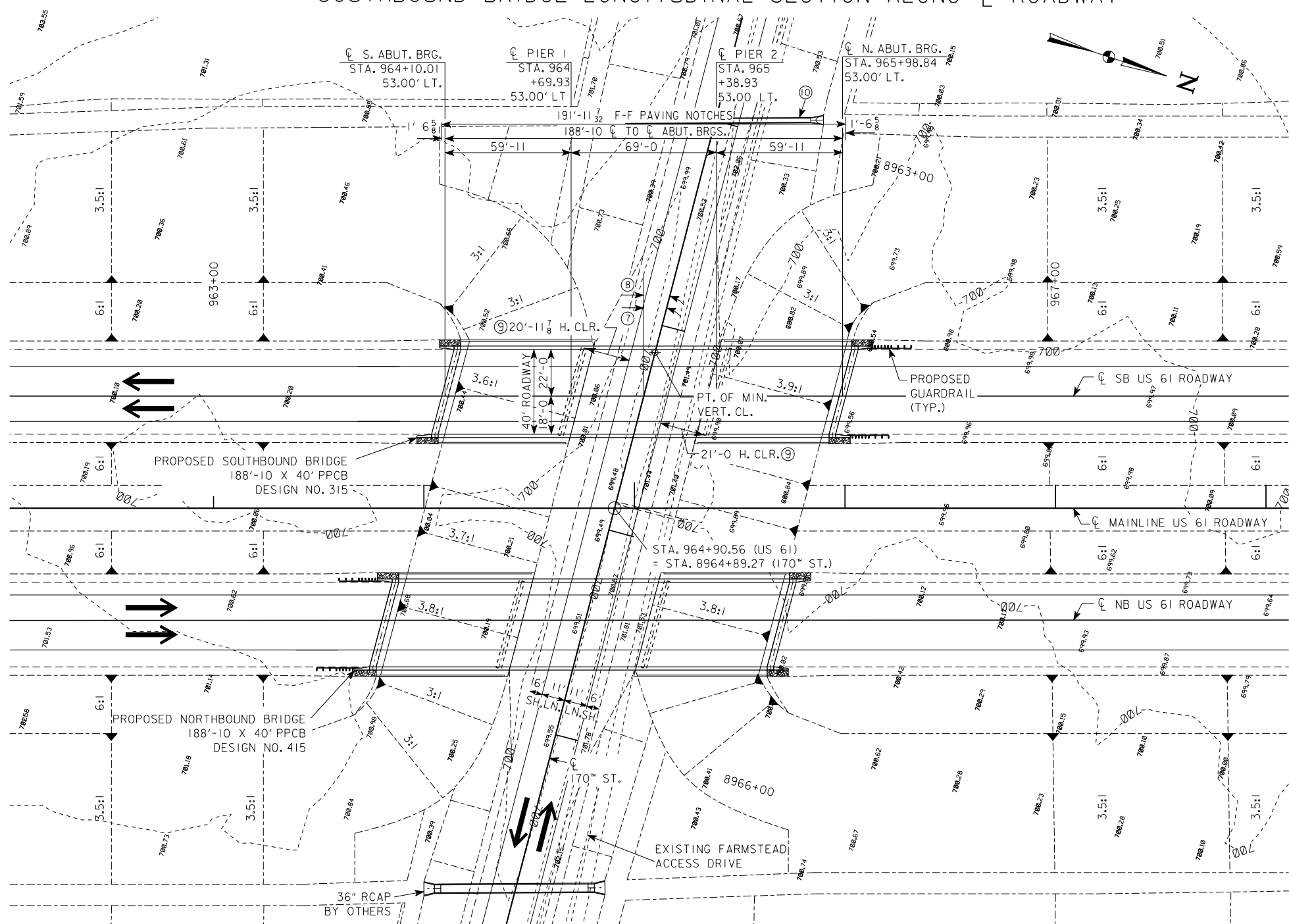
- ⑦ BRIDGE SKEW 15°
- ⑧ ROADWAY SKEW 14° 39' 31.32". ROADWAY SKEW ANGLE IS MEASURED FROM LINE NORMAL TO CL OF US 61 TO PROPOSED ROADWAY CL OF 170TH STREET. ROADWAY CL OF US 61 ALONG CL OF SOUTHBOUND LANES.
- ⑨ MEASURED FROM EDGE OF DRIVING LANE TO FACE OF PIER WALL
- ⑩ 24" RCP BY OTHERS

UTILITIES LEGEND:

- E1 - ELECTRIC - EASTERN IOWA LIGHT AND POWER
- F03 - FIBER OPTIC - PAETEC
- T1 - TELEPHONE - WINDSTREAM COMMUNICATIONS

NOTE: UTILITY MAIN LINES ALONG EXISTING US 61 ALIGNMENT; SERVICE LINES FROM MAINS MAY BE PRESENT ALONG EXISTING FARMSTEAD ACCESS DRIVE

SOUTHBOUND BRIDGE LONGITUDINAL SECTION ALONG CL ROADWAY



1.4000% -2.4000%

VPI STA = 965+00.00 VC = 1,550'
VPI ELEV = 732.90

PROPOSED PROFILE GRADE US 61

-0.500% 0.600%

VPI STA = 8964+70.00 VC = 150'
VPI ELEV = 703.93

PROPOSED PROFILE GRADE 170TH STREET

MINIMUM VERTICAL CLEARANCE

OVERHEAD STATION = 965+09.79, 73.50' LT
OVERHEAD ELEVATION = 725.35
DEPTH OF SUPERSTRUCTURE = 4.08'
170TH ST. STATION = 8964+13.30
170TH ST. ELEVATION = 704.22
MINIMUM VERTICAL CLEARANCE = 17.05'

**FOR INFORMATION ONLY:
REFER TO PROJECT
NHSX-061-3(71)--3H-58**

LOCATION

SOUTHBOUND U.S. 61 OVER 170TH STREET
T-75 N R-3 W
SECTION 16
GRANDVIEW TOWNSHIP
LOUISA COUNTY
FHWA NO. 700255
BRIDGE MAINT. NO.
LATITUDE 41.305540°
LONGITUDE -91.198829°

PRELIMINARY

DESIGN FOR 15° SKEW (L.A.)
**188'-10 x 40' PRETENSIONED
PRESTRESSED CONCRETE BEAM BRIDGE**
59'-11 END SPANS 69'-0 INTERIOR SPAN

SITUATION PLAN

STA. 965+04.43, 53.00' LT MAY, 2014

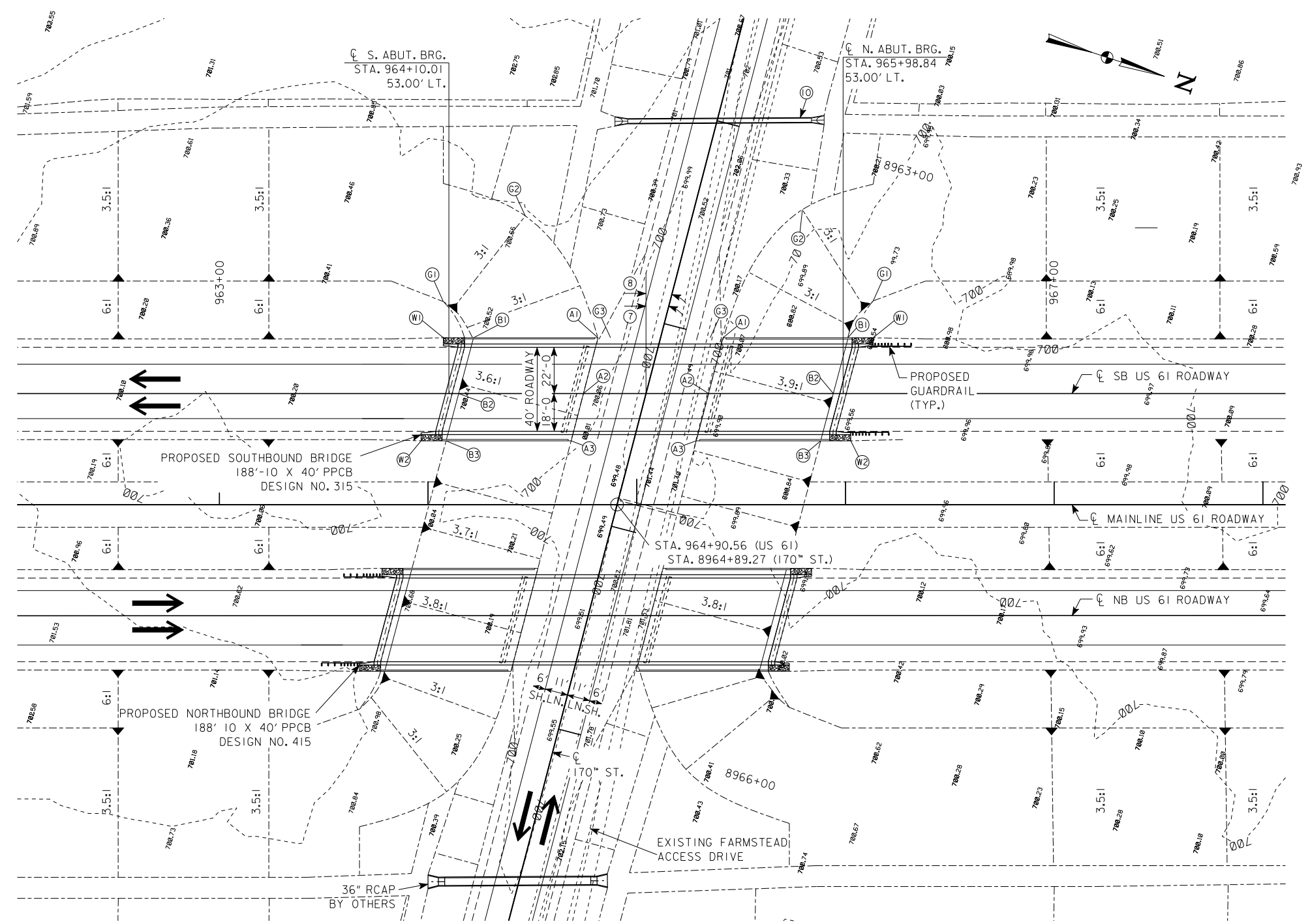
LOUISA COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ? OF ? FILE NO. 30755 DESIGN NO. 315

BERM SLOPE LOCATION TABLE SOUTHBOUND BRIDGE						
	SOUTH ABUTMENT			NORTH ABUTMENT		
	STATION	OFFSET	ELEV	STATION	OFFSET	ELEV
A1	964+81.40	79.58' LT	703.76	965+41.37	79.58' LT	703.81
A2	964+74.45	53.00' LT	703.69	965+34.39	53.00' LT	703.72
A3	964+68.54	30.42' LT	703.67	965+28.52	30.42' LT	703.68
B1	964+21.79	79.58' LT	719.67	966+01.10	79.58' LT	718.71
B2	964+14.67	53.00' LT	719.67	965+94.18	53.00' LT	718.71
B3	964+08.62	30.42' LT	719.67	965+88.13	30.42' LT	718.71
G1	964+07.35	96.83' LT	719.67	966+13.28	97.14' LT	718.71
G2	964+46.56	137.67' LT	700.95	965+79.32	140.65' LT	700.20
G3	964+87.42	79.58' LT	702.79	965+35.15	79.58' LT	702.79
W1	964+07.35	79.58' LT	725.42	966+13.28	79.58' LT	724.33
W2	963+96.63	30.42' LT	725.56	966+02.57	30.42' LT	724.54

W - END WING / EROSION STONE
 BERM SLOPE TABLE ELEVATIONS REFLECT GRADING SURFACE
 NOTE: ADJUST STANDARD ROAD PLAN RL-13 GRADING AS NECESSARY TO ACHIEVE ELEVATIONS SHOWN AT G3 POINTS.

- ⑦ BRIDGE SKEW 15°
- ⑧ ROADWAY SKEW 14° 39' 31.32". ROADWAY SKEW ANGLE IS MEASURED FROM LINE NORMAL TO CL OF US 61 TO PROPOSED ROADWAY CL OF 170" STREET. ROADWAY CL OF US 61 ALONG CL OF SOUTHBOUND LANES.
- ⑩ 24" RCP BY OTHERS

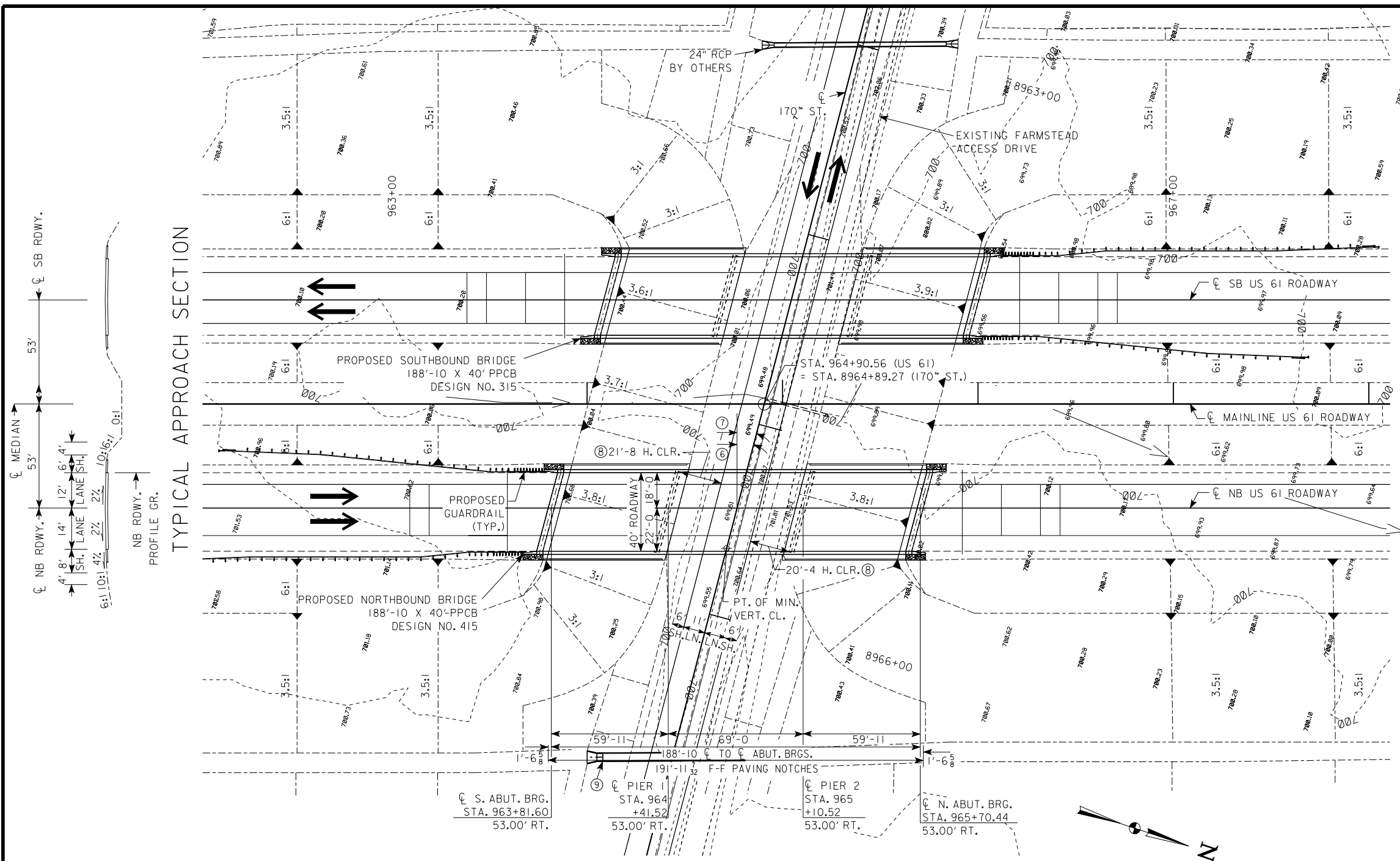


SOUTHBOUND BRIDGE SITE PLAN

FOR INFORMATION ONLY:
 REFER TO PROJECT
 NHSX-061-3(70)--3H-58

PRELIMINARY

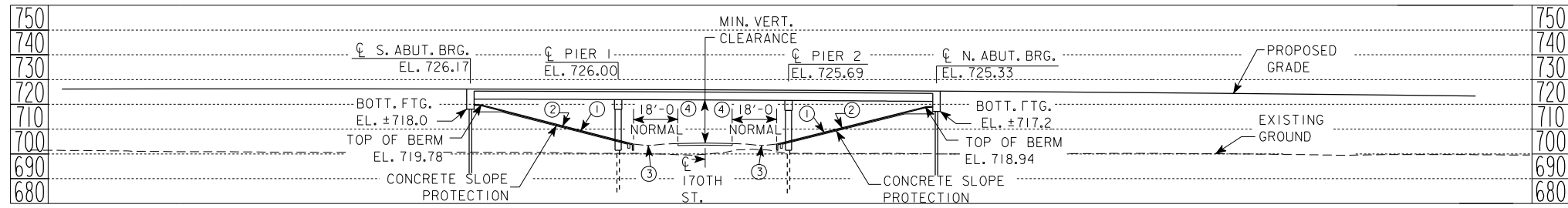
DESIGN FOR 15° SKEW (L.A.)
 188'-10" x 40' PRETENSIONED
 PRESTRESSED CONCRETE BEAM BRIDGE
 59'-11" END SPANS 69'-0" INTERIOR SPAN
 SITE PLAN
 STA. 965+.04.43, 53.00' LT MAY, 2014
 LOUISA COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. ? OF ? FILE NO. 30755 DESIGN NO. 315



NORTHBOUND BRIDGE SITUATION PLAN

BENCH MARK NO. 529 STA. 963+93.03 101.68' LT EL. 701.099 RR SPIKE IN NORTH SIDE OF LUMINAIRE (STATIONING ALONG EXISTING US 61 CL ALIGNMENT; SEE D SHEETS FOR DETAILS)

- ① GRADING SURFACE
- ② 3.8:1 NORMAL BERM SLOPE
- ③ RL-13 GRADING
- ④ MEASURED FROM EDGE OF DRIVING LANE TO TOE OF BERM



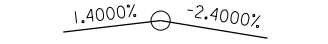
NOTE: TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS 0.21' ABOVE THE PROFILE GRADE TO ACCOUNT FOR DECK CROSS SLOPE AND PARABOLIC CROWN.

NORTHBOUND BRIDGE LONGITUDINAL SECTION ALONG CL ROADWAY

- ⑥ BRIDGE SKEW 15°
- ⑦ ROADWAY SKEW 14° 39' 31.32". ROADWAY SKEW ANGLE IS MEASURED FROM LINE NORMAL TO CL OF US 61 TO PROPOSED ROADWAY CL OF 170TH STREET. ROADWAY CL OF US 61 ALONG CL OF NORTHBOUND LANES.
- ⑧ MEASURED FROM EDGE OF DRIVING LANE TO FACE OF PIER WALL
- ⑨ 36" RCAP BY OTHERS

UTILITIES LEGEND:
 E1 - ELECTRIC - EASTERN IOWA LIGHT AND POWER
 F03 - FIBER OPTIC - PAETEC
 T1 - TELEPHONE - WINDSTREAM COMMUNICATIONS

NOTE: UTILITY MAIN LINES ALONG EXISTING US 61 ALIGNMENT; SERVICE LINES FROM MAINS MAY BE PRESENT ALONG EXISTING FARMSTEAD ACCESS DRIVE



VPI STA = 965+00.00 VC = 1,550'
 VPI ELEV = 732.90

PROPOSED PROFILE GRADE US 61



VPI STA = 8964+70.00 VC = 150'
 VPI ELEV = 703.93

PROPOSED PROFILE GRADE 170TH STREET

MINIMUM VERTICAL CLEARANCE

OVERHEAD STATION = 964+71.34, 73.50' RT
 OVERHEAD ELEVATION = 725.53
 DEPTH OF SUPERSTRUCTURE = 4.08'
 170TH ST. STATION = 8965+65.24
 170TH ST. ELEVATION = 704.50
 MINIMUM VERTICAL CLEARANCE = 16.95'

**FOR INFORMATION ONLY:
 REFER TO PROJECT
 NHSX-061-3(71)--3H-58**

LOCATION

NORTHBOUND U.S. 61 OVER 170TH STREET
 T-75 N R-3 W
 SECTION 16
 GRANDVIEW TOWNSHIP
 LOUISA COUNTY
 FHWA NO. 700260
 BRIDGE MAINT. NO.
 LATITUDE 41.305537°
 LONGITUDE -91.198430°

PRELIMINARY

DESIGN FOR 15° SKEW (L.A.)
 188'-10 x 40' PRETENSIONED
 PRESTRESSED CONCRETE BEAM BRIDGE
 59'-11 END SPANS 69'-0 INTERIOR SPAN

SITUATION PLAN

STA. 964+76.70, 53.00' RT MAY, 2014

LOUISA COUNTY

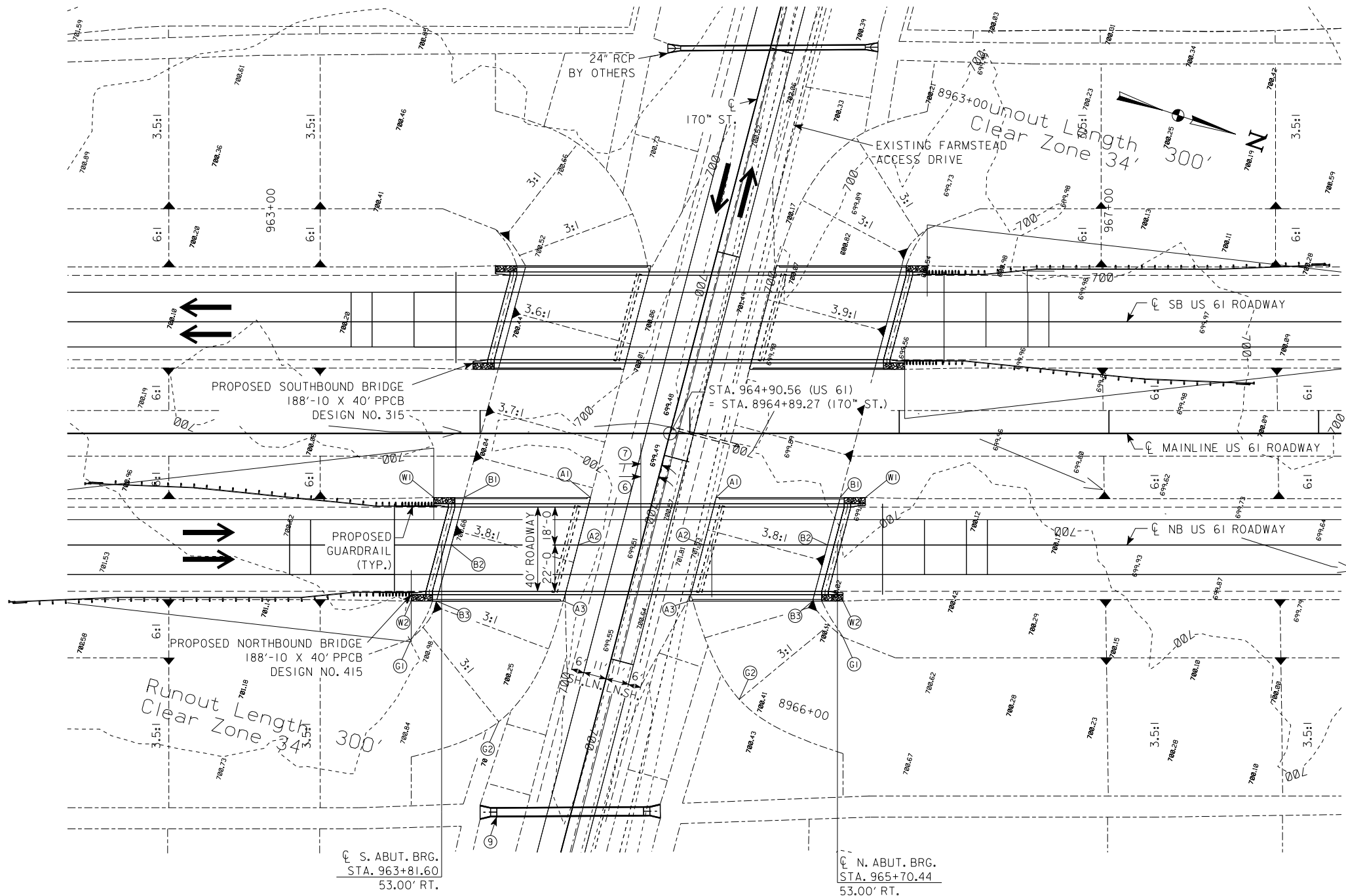
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. ? OF ? FILE NO. 30755 DESIGN NO. 415

BERM SLOPE LOCATION TABLE
NORTHBOUND BRIDGE

	SOUTH ABUTMENT			NORTH ABUTMENT		
	STATION	OFFSET	ELEV	STATION	OFFSET	ELEV
A1	964+52.63	30.42' RT	703.83	965+12.58	30.42' RT	703.76
A2	964+46.72	53.00' RT	703.96	965+06.67	53.00' RT	703.87
A3	964+39.76	79.58' RT	704.12	965+00.28	79.58' RT	704.03
B1	963+92.31	30.42' RT	719.78	965+71.83	30.42' RT	718.94
B2	963+86.29	53.00' RT	719.78	965+65.78	53.00' RT	718.94
B3	963+79.21	79.58' RT	719.78	965+58.65	79.58' RT	718.94
G1	963+67.16	97.61' RT	719.78	965+73.09	96.77' RT	718.94
G2	964+08.93	136.90' RT	700.31	965+23.62	126.33' RT	700.38
W1	963+77.87	30.42' RT	725.61	965+83.81	30.42' RT	724.67
W2	963+67.16	79.58' RT	725.51	965+73.09	79.58' RT	724.63

W - END WING / EROSION STONE
BERM SLOPE TABLE ELEVATIONS REFLECT GRADING SURFACE

- ⑥ BRIDGE SKEW 15°
- ⑦ ROADWAY SKEW 14° 39' 31.32". ROADWAY SKEW ANGLE IS MEASURED FROM LINE NORMAL TO CL OF US 61 TO PROPOSED ROADWAY CL OF 170" STREET. ROADWAY CL OF US 61 ALONG CL OF NORTHBOUND LANES.
- ⑧ 36" RCAP BY OTHERS



NORTHBOUND BRIDGE SITE PLAN

FOR INFORMATION ONLY:
REFER TO PROJECT
NHSX-061-3(70)--3H-58

PRELIMINARY

DESIGN FOR 15° SKEW (L.A.)
188'-10 x 40' PRETENSIONED
PRESTRESSED CONCRETE BEAM BRIDGE
59'-11 END SPANS 69'-0 INTERIOR SPAN

SITE PLAN

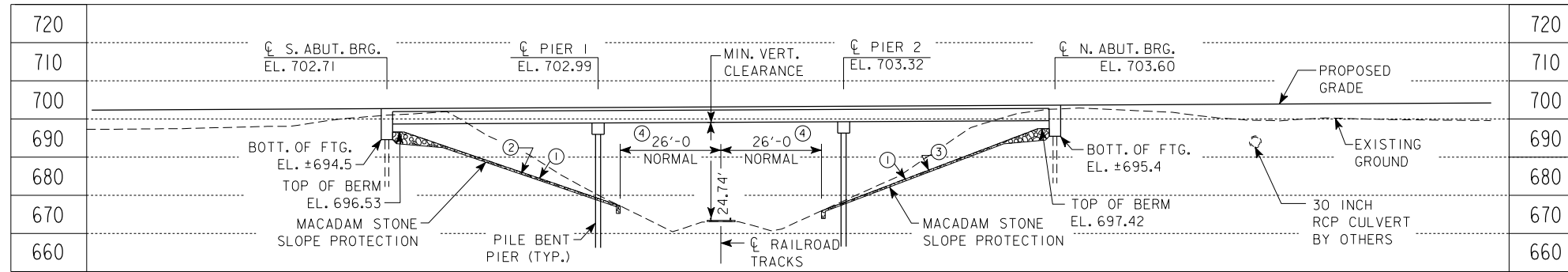
STA. 964+76.70, 53.00' RT MAY, 2014

LOUISA COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ? OF ? FILE NO. 30755 DESIGN NO. 415

BENCH MARK NO. 538 STA. 1037+59.33 36.32' RT EL. 698.631 CUT X ON OUTLET END OF 4X6 CONC. CATTLE PASS (STATIONING ALONG EXISTING US 61 ϕ ALIGNMENT; SEE D SHEETS FOR DETAILS)

① GRADING SURFACE ② 2.9:1 NORMAL BERM SLOPE ③ 2.6:1 NORMAL BERM SLOPE ④ MEASURED FROM ϕ OF RAILROAD TRACKS TO TOE OF BERM



NOTE: TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS 0.21' ABOVE THE PROFILE GRADE TO ACCOUNT FOR DECK CROSS SLOPE AND PARABOLIC CROWN.

SOUTHBOUND BRIDGE LONGITUDINAL SECTION ALONG ϕ ROADWAY

- ⑤ BRIDGE SKEW 15°
- ⑥ RAILROAD SKEW 11° 53' 28.32". RAILROAD SKEW ANGLE IS MEASURED FROM LINE NORMAL TO ϕ OF US 61 TO CENTERLINE OF EXISTING RAILROAD TRACKS. ROADWAY ϕ OF US 61 ALONG ϕ OF SOUTHBOUND LANES.
- ⑦ MEASURED FROM CENTERLINE OF RAILROAD TRACKS TO FACE OF PIER COLUMN

UTILITIES LEGEND:

- TI - TELEPHONE - WINDSTREAM COMMUNICATIONS
- - EASTERN IOWA LIGHT AND POWER UTILITY POLE
- ⊕ - DAKOTA, MINNESOTA AND EASTERN RAILROAD UTILITY POLE

0.5000%

VPI STA = 1007+50.00 VPI STA = 1042+80.00
VPI ELEV = 687.90 VPI ELEV = 705.55

PROPOSED PROFILE
GRADE US 61

MINIMUM VERTICAL CLEARANCE

OVERHEAD STATION = 1037+60.40, 73.50' LT
OVERHEAD ELEVATION = 702.81
DEPTH OF SUPERSTRUCTURE = 4.08'
TOP OF RAIL ELEVATION = 673.99
MINIMUM VERTICAL CLEARANCE = 24.74'

TRAFFIC ESTIMATE

2016 AADT	6,298	V.P.D.
2036 AADT	8,589	V.P.D.
TRUCKS	18 %	

LOCATION

SOUTHBOUND U.S. 61 OVER
DAKOTA, MINNESOTA AND EASTERN RAILROAD
T-75 N R-3 W
SECTION 4
GRANDVIEW TOWNSHIP
LOUISA COUNTY
FHWA NO. 700265
BRIDGE MAINT. NO. 5877.4L061
LATITUDE 41.325262°
LONGITUDE -91.201579°

FOR INFORMATION ONLY:
REFER TO PROJECT
NHSX-061-3(72)-3H-58

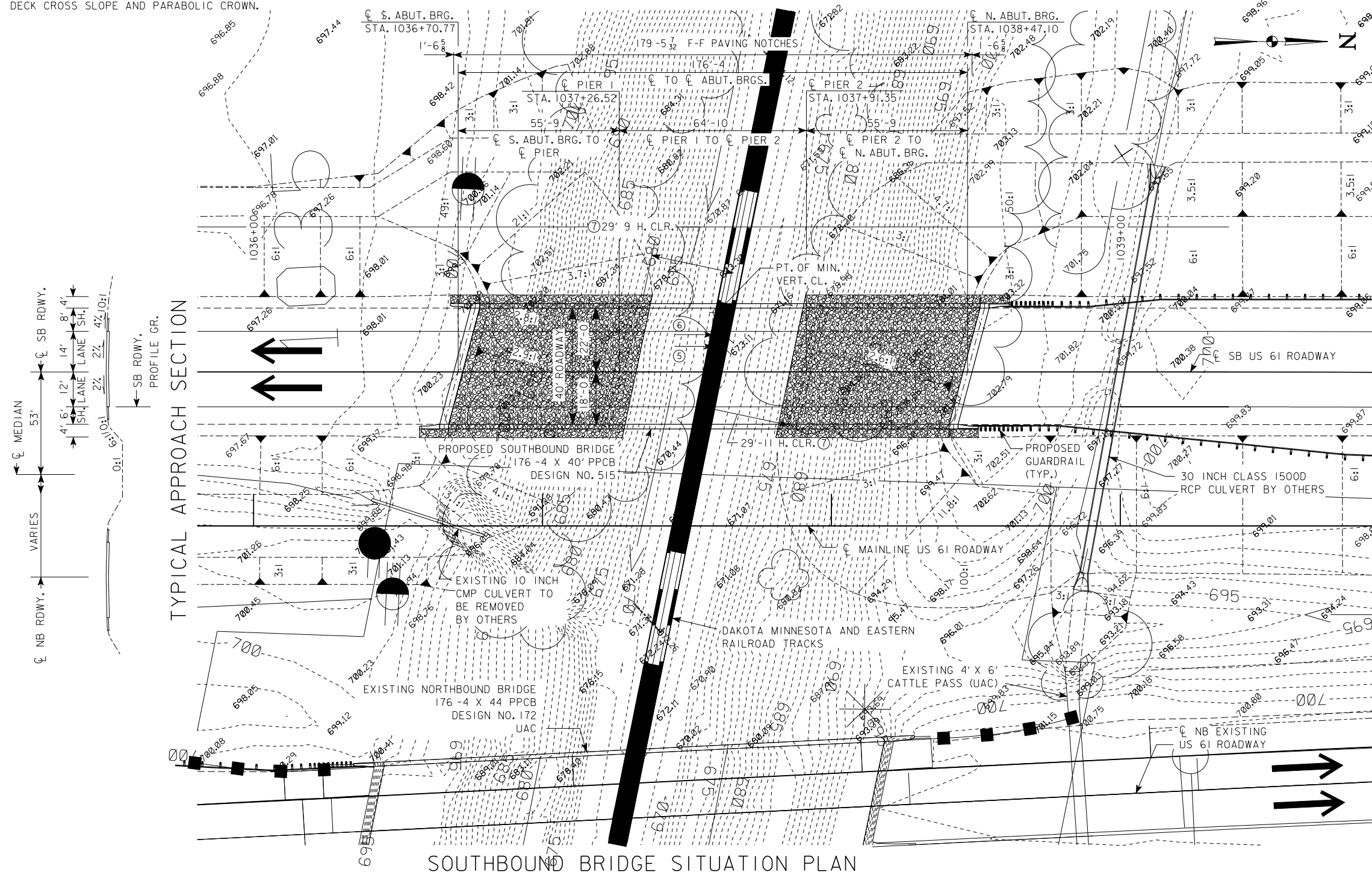
PRELIMINARY

DESIGN FOR 15° SKEW (L.A.)
176'-4 x 40' PRETENSIONED
PRESTRESSED CONCRETE BEAM BRIDGE
55'-9 END SPANS 64'-10 INTERIOR SPAN

SITUATION PLAN

STA. 1037+58.94, 53.00' LT MAY, 2014
LOUISA COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ? OF ? FILE NO. 30755 DESIGN NO. 515

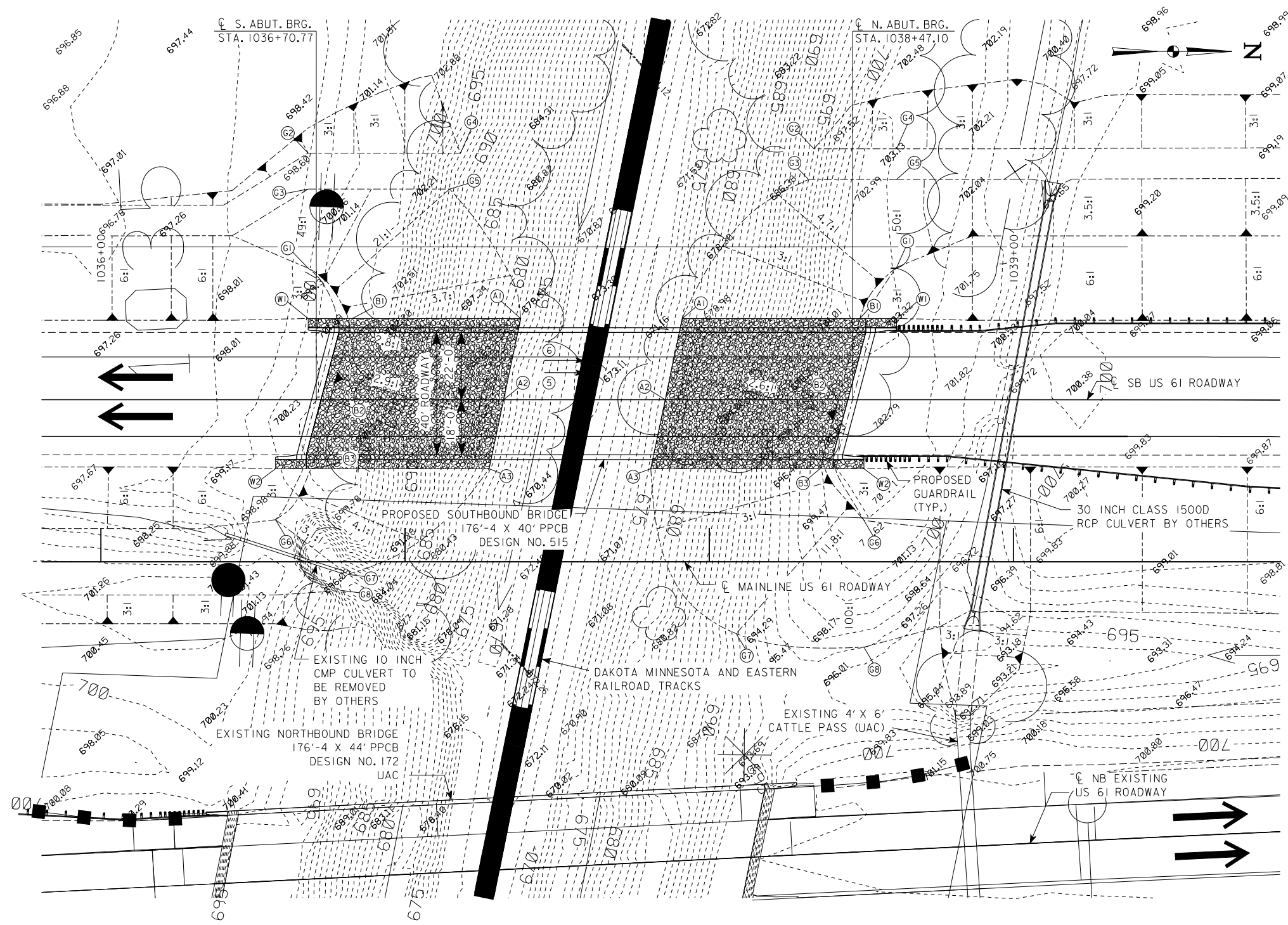


SOUTHBOUND BRIDGE SITUATION PLAN

ENGLISH IOWA DOT DESIGN TEAM Van Dyke \ HR Green, Inc.

LOUISA COUNTY PROJECT NUMBER NHSX-061-3(57)-3H-58

SHEET NUMBER V.9



SOUTHBOUND BRIDGE SITE PLAN

BERM SLOPE LOCATION TABLE SOUTHBOUND BRIDGE						
	SOUTH ABUTMENT			NORTH ABUTMENT		
	STATION	OFFSET	ELEV	STATION	OFFSET	ELEV
A1	1037+37.96	79.58' LT	678.00	1037+91.10	79.58' LT	676.00
A2	1037+32.37	53.00' LT	677.20	1037+85.51	53.00' LT	675.80
A3	1037+27.61	30.42' LT	677.20	1037+80.75	30.42' LT	675.20
B1	1036+82.55	79.58' LT	696.53	1038+49.50	79.58' LT	697.42
B2	1036+75.43	53.00' LT	696.53	1038+42.44	53.00' LT	697.42
B3	1036+69.01	30.42' LT	696.53	1038+36.39	30.42' LT	697.42
G1	1036+68.11	96.01' LT	696.53	1038+61.55	96.26' LT	697.42
G2	1036+68.11	133.66' LT	696.00	1038+34.41	135.06' LT	694.00
G3	1036+68.11	121.93' LT	696.00	1038+32.62	125.06' LT	694.00
G4	1037+18.18	133.66' LT	694.00	1038+61.55	135.06' LT	696.85
G5	1037+14.63	121.93' LT	694.00	1038+61.55	125.06' LT	696.85
G6	1036+57.40	13.77' LT	696.53	1038+50.83	13.52' LT	697.42
G7	1036+81.10	4.16' LT	687.00	1038+08.84	23.48' LT	692.66
G8	1036+79.37	9.41' LT	687.00	1038+50.83	27.98' LT	697.01
W1	1038+68.11	79.58' LT	702.01	1038+61.55	79.58' LT	702.98
W2	1038+57.40	30.42' LT	702.08	1038+50.83	30.42' LT	703.04

W - END WING / EROSION STONE
BERM SLOPE TABLE ELEVATIONS REFLECT GRADING SURFACE

- ⑤ BRIDGE SKEW 15°
- ⑥ RAILROAD SKEW 11° 53' 28.32". RAILROAD SKEW ANGLE IS MEASURED FROM LINE NORMAL TO CL OF US 61 TO CENTERLINE OF EXISTING RAILROAD TRACKS. ROADWAY CL OF US 61 ALONG CL OF SOUTHBOUND LANES.

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PRELIMINARY

DESIGN FOR 15° SKEW (L.A.)
176'-4 x 40' PRETENSIONED
PRESTRESSED CONCRETE BEAM BRIDGE
55'-9 END SPANS 64'-10 INTERIOR SPAN
SITE PLAN
STA. 1037+58.94, 53.00' LT MAY, 2014
LOUISA COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ? OF ? FILE NO. 30755 DESIGN NO. 515

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.

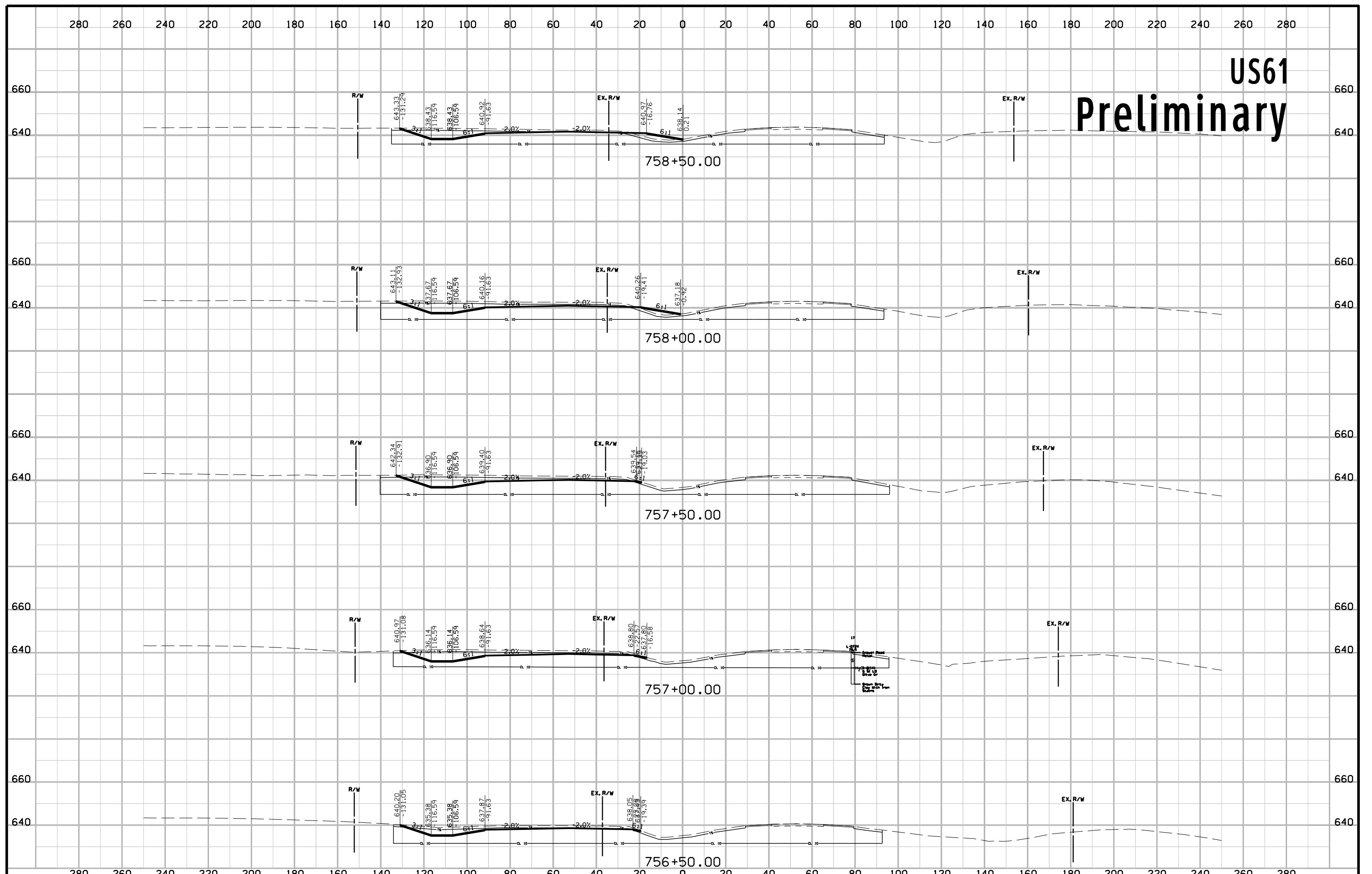
SYMBOL LEGEND OF CROSS SECTION SHEETS

- Ex. R/W
--- Existing Right-of-Way Limit
- R/W
--- Proposed Right-of-Way Limit
- FUTURE R/W
--- Future Right-of-Way Limit
- T/R
--- Temporary Right-of-Way Limit

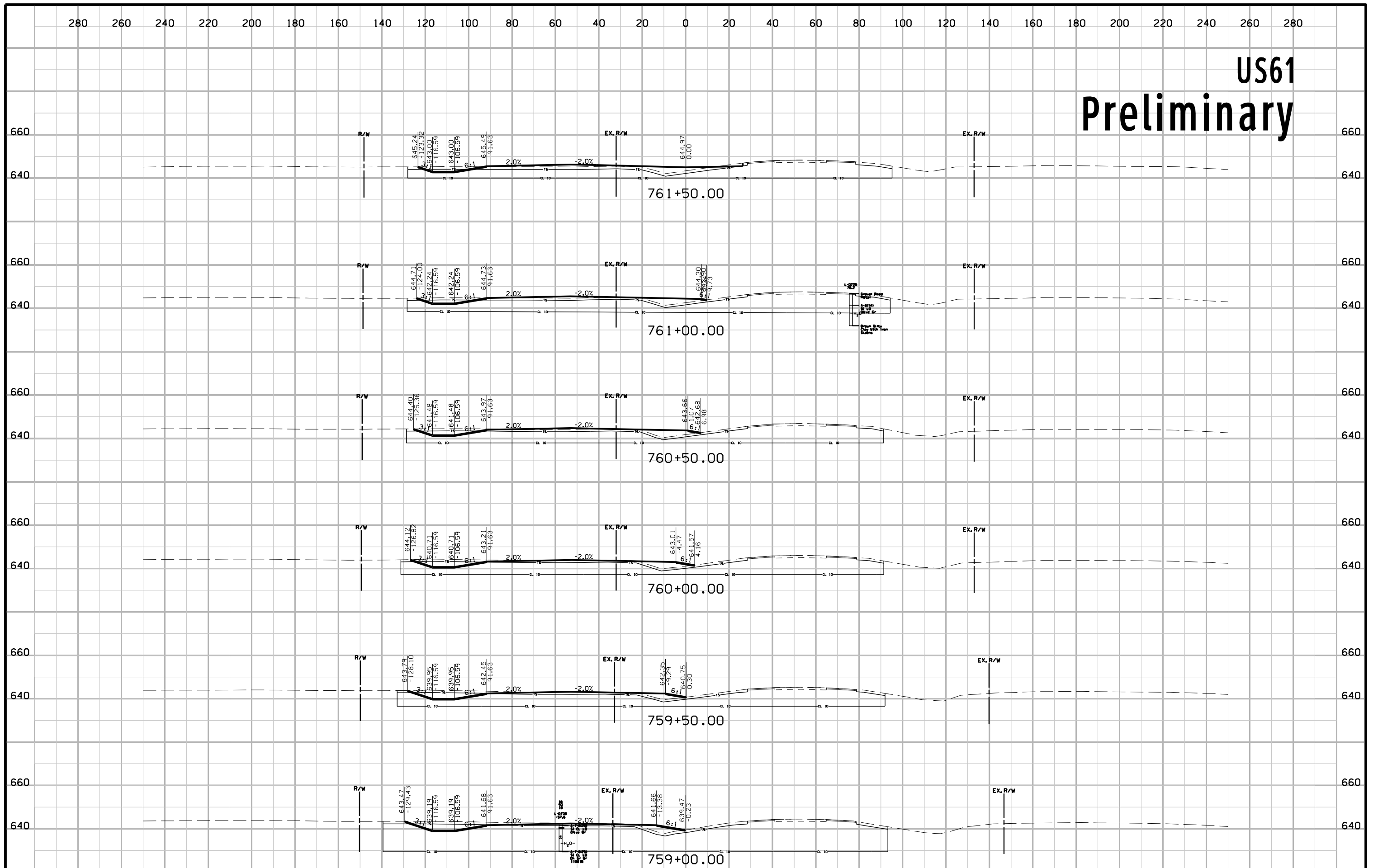
**CROSS SECTION
LEGEND AND SYMBOL
INFORMATION SHEET**

(COVERS SHEET SERIES W, X, & Y)

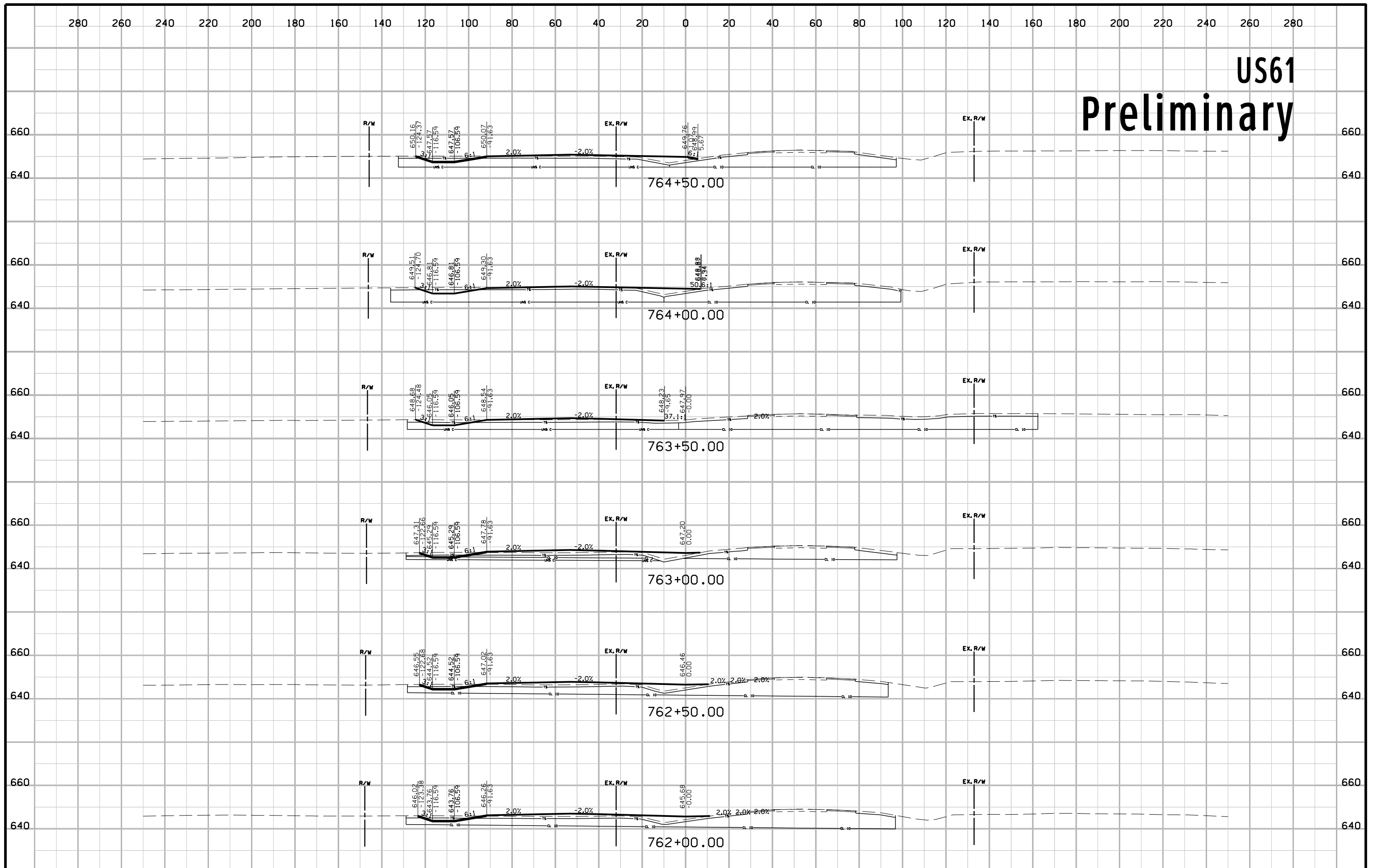
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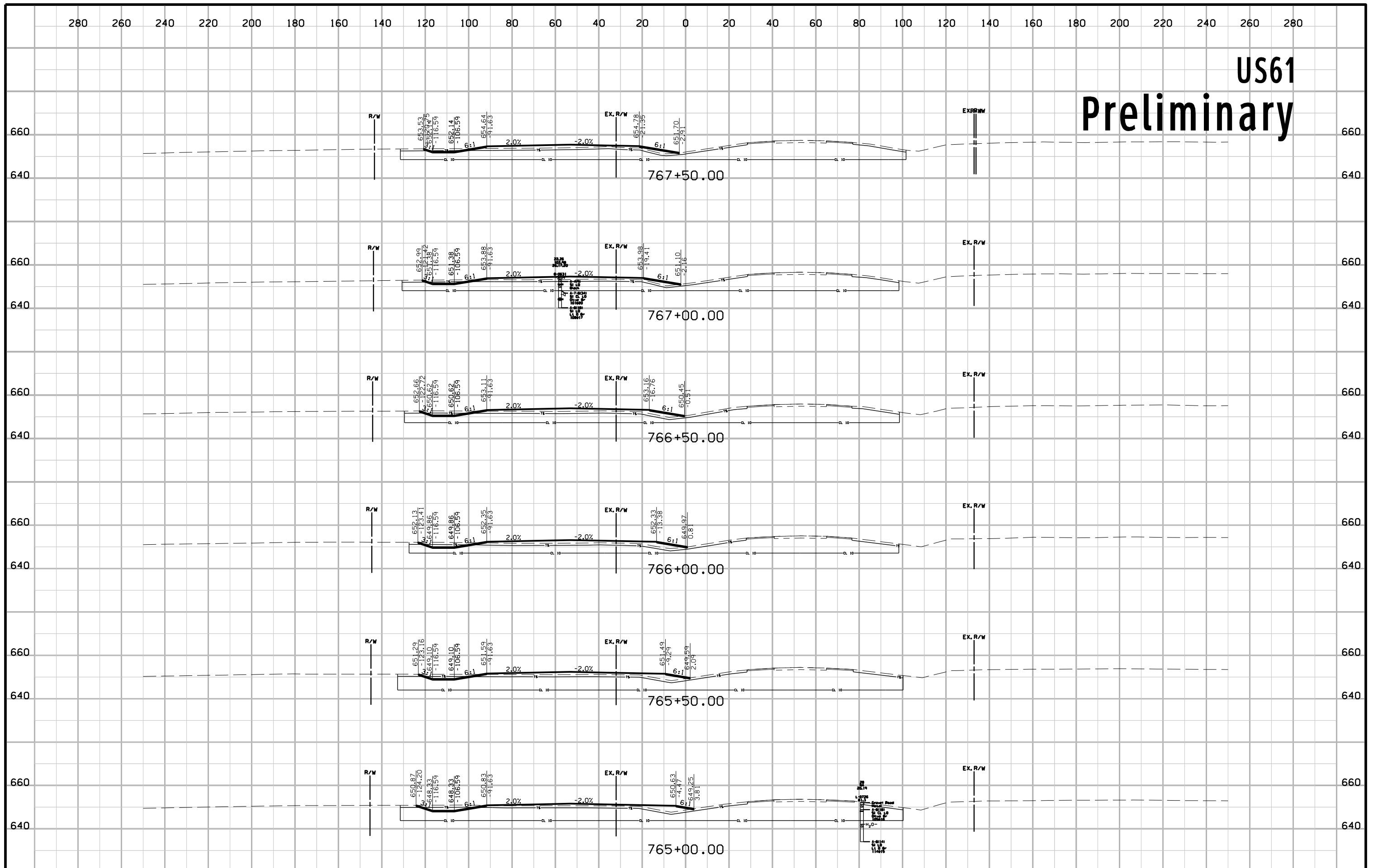
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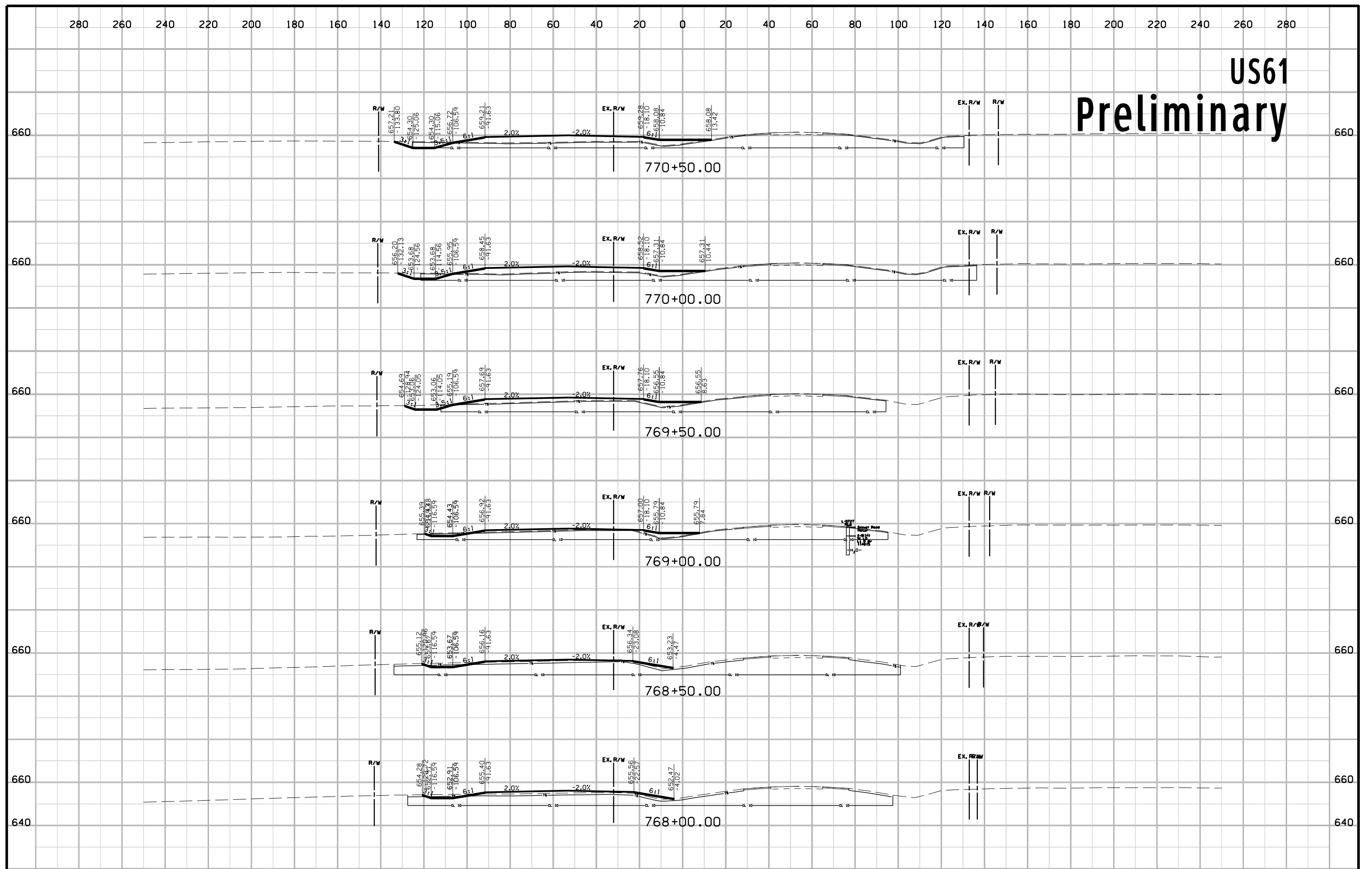
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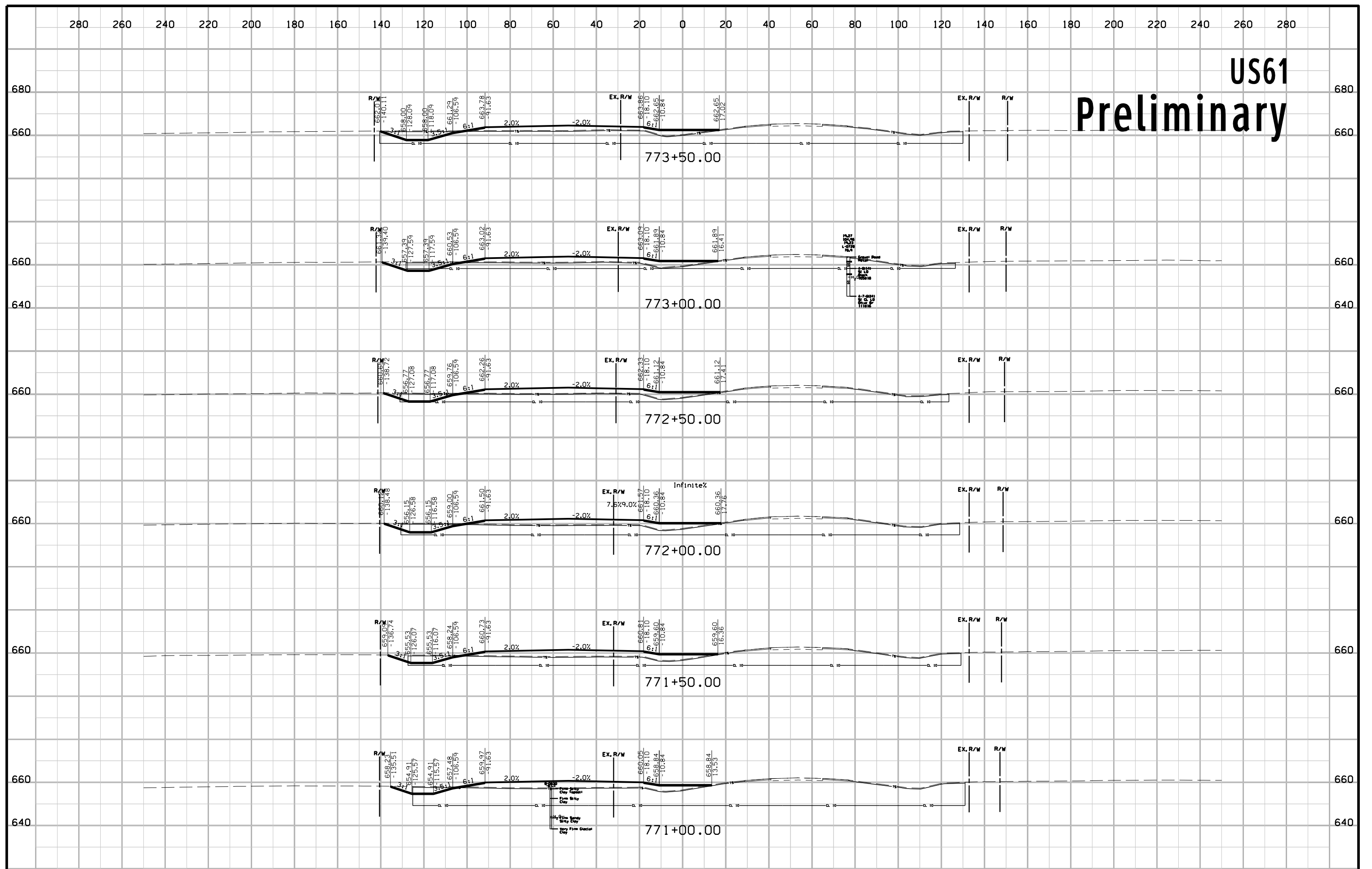
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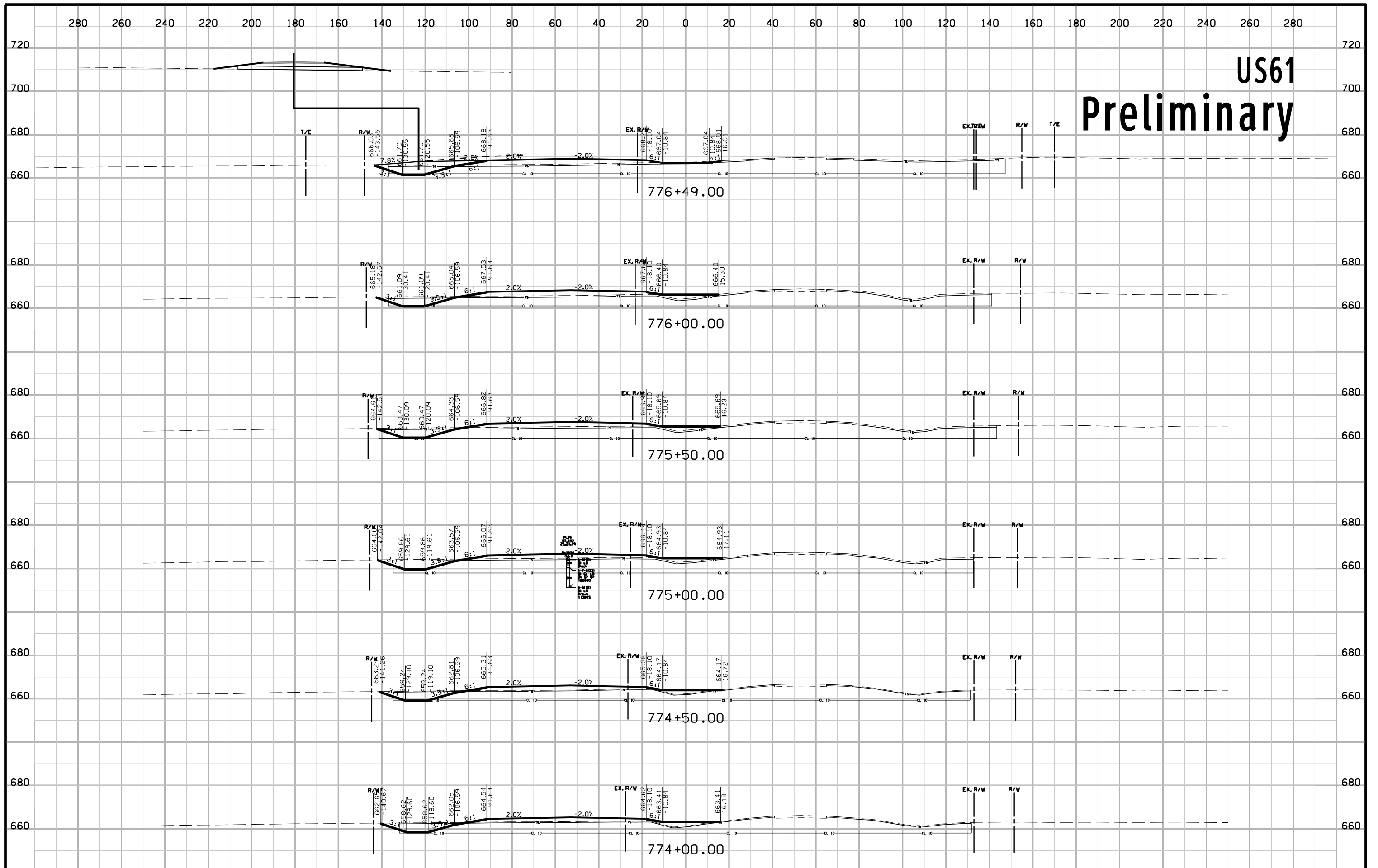
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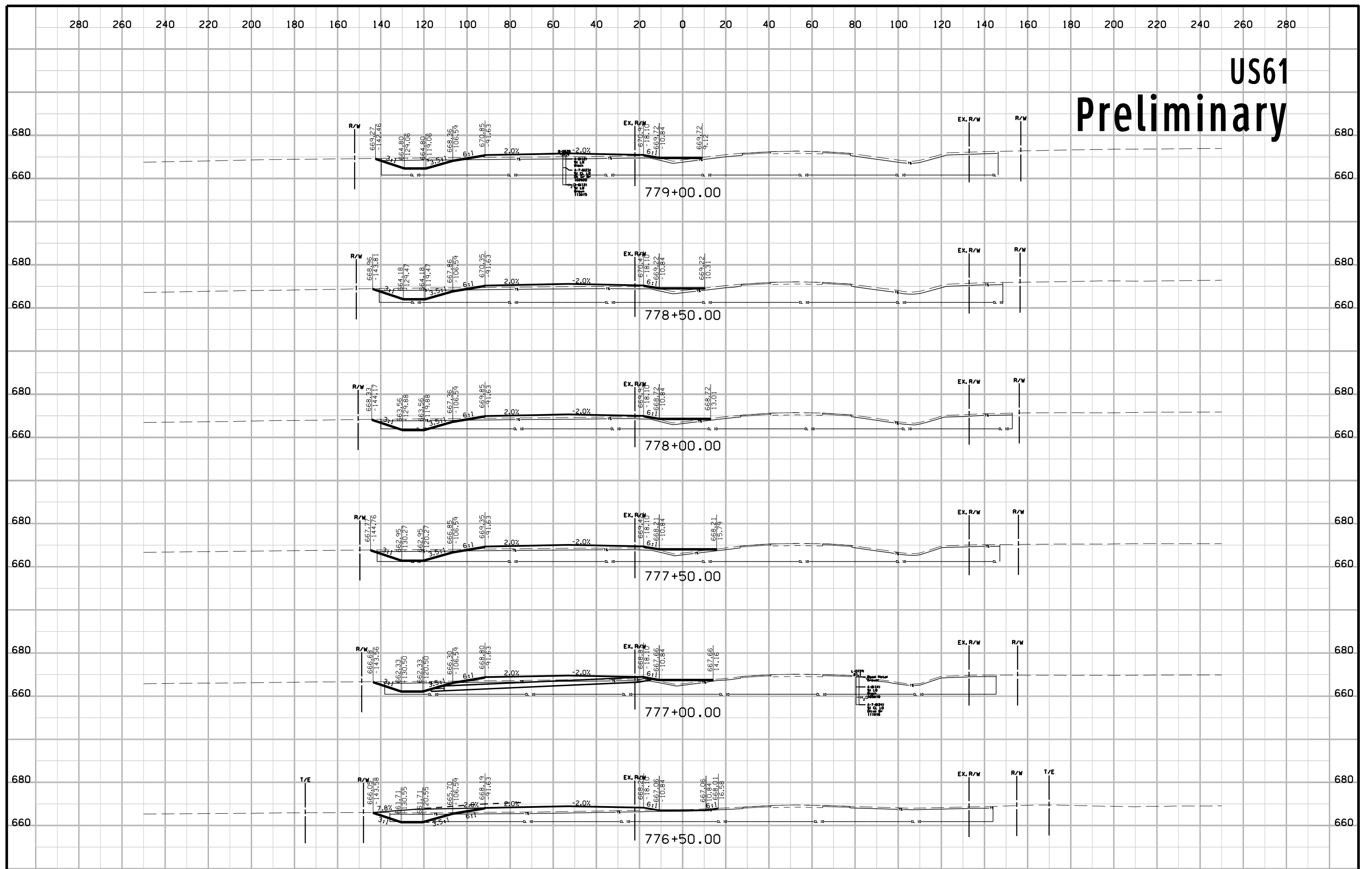
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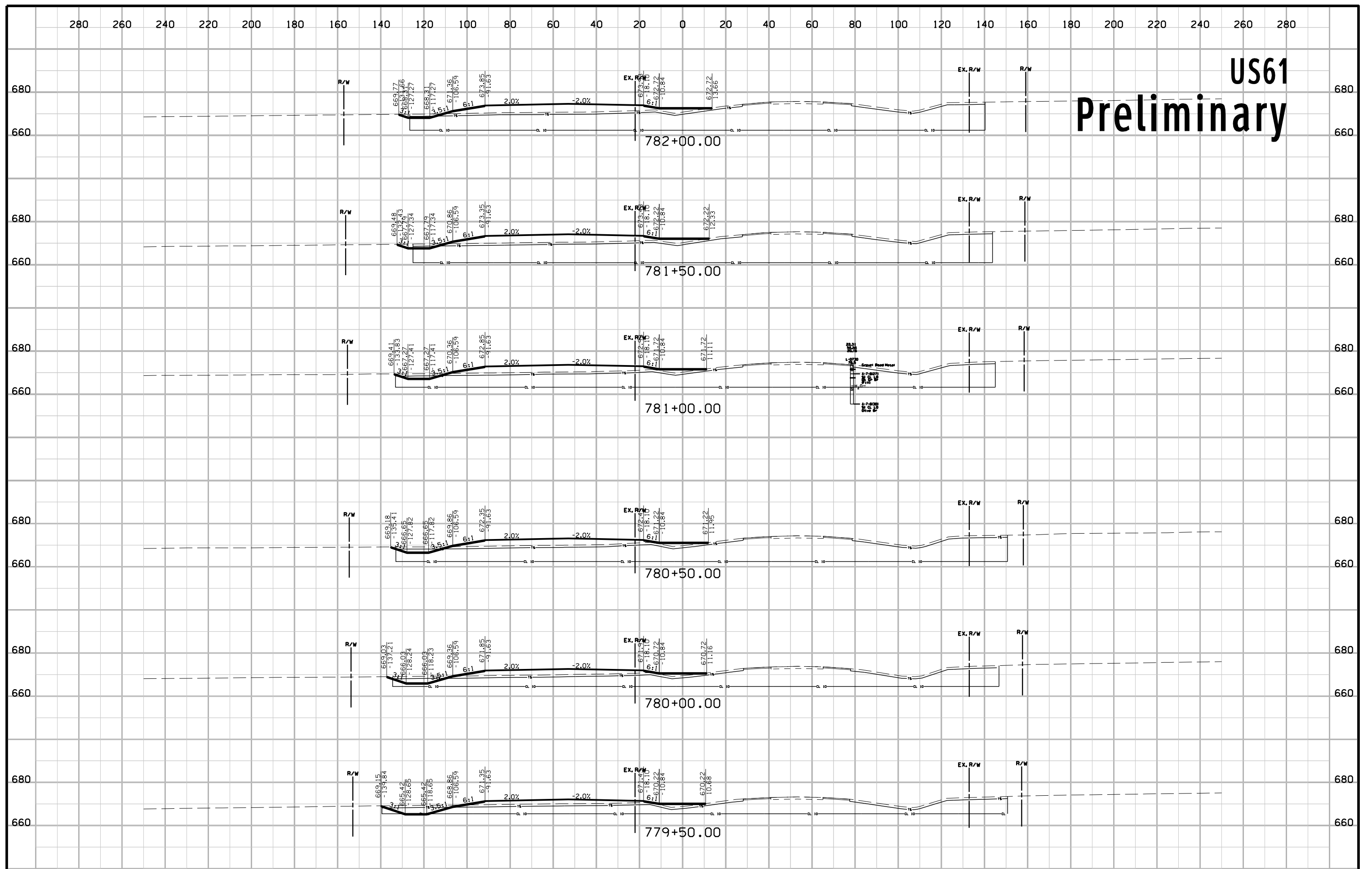
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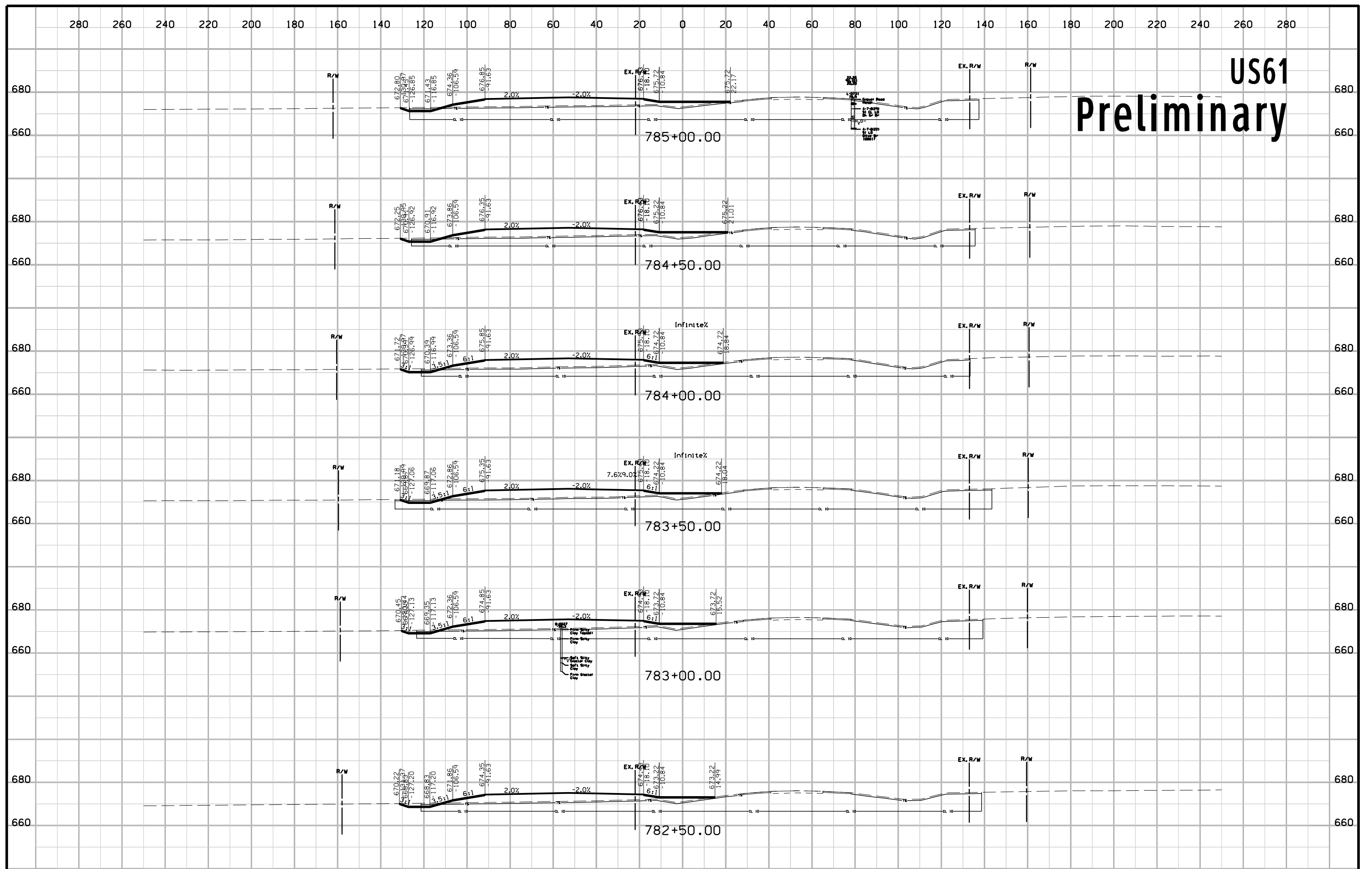
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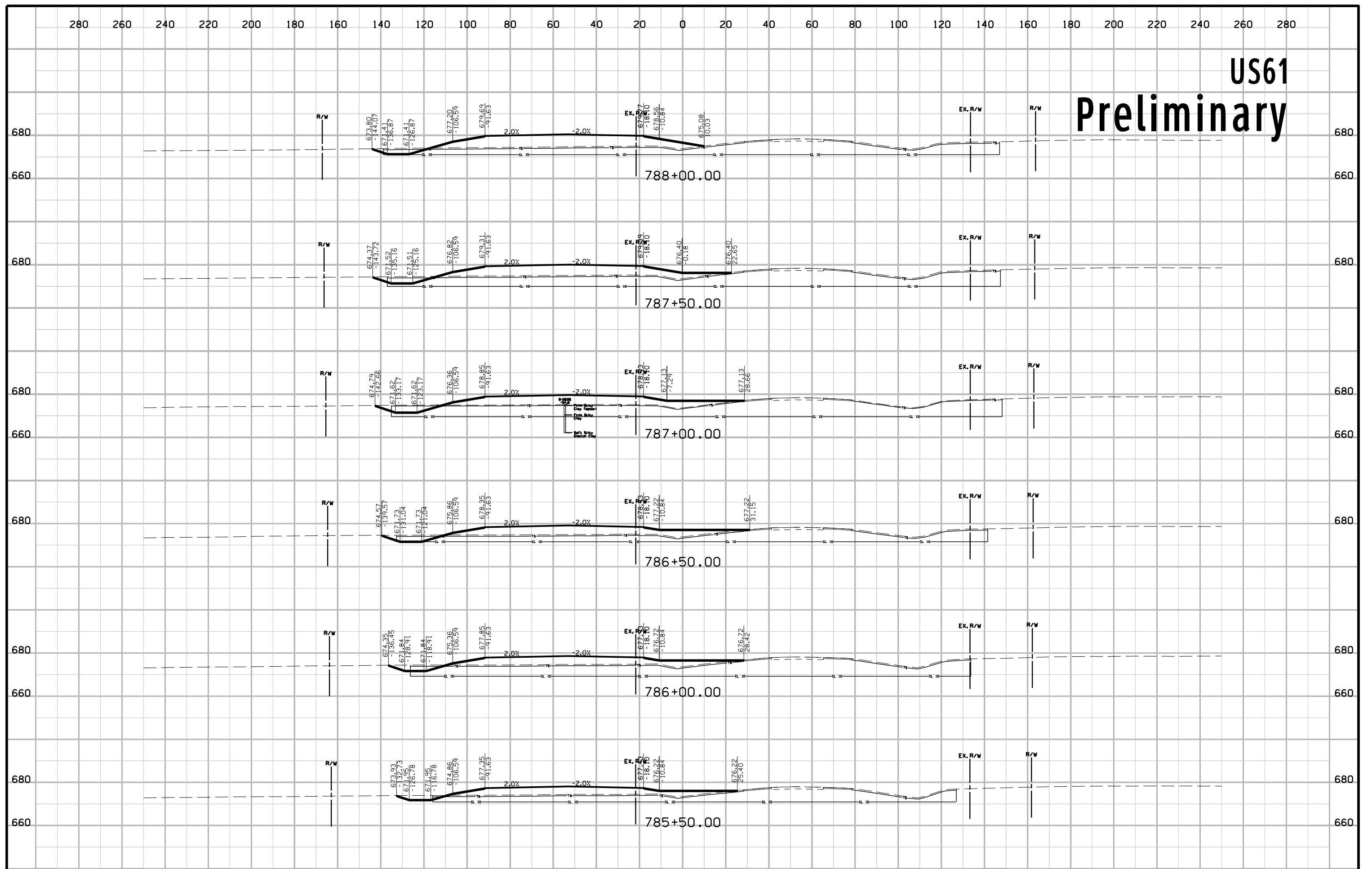
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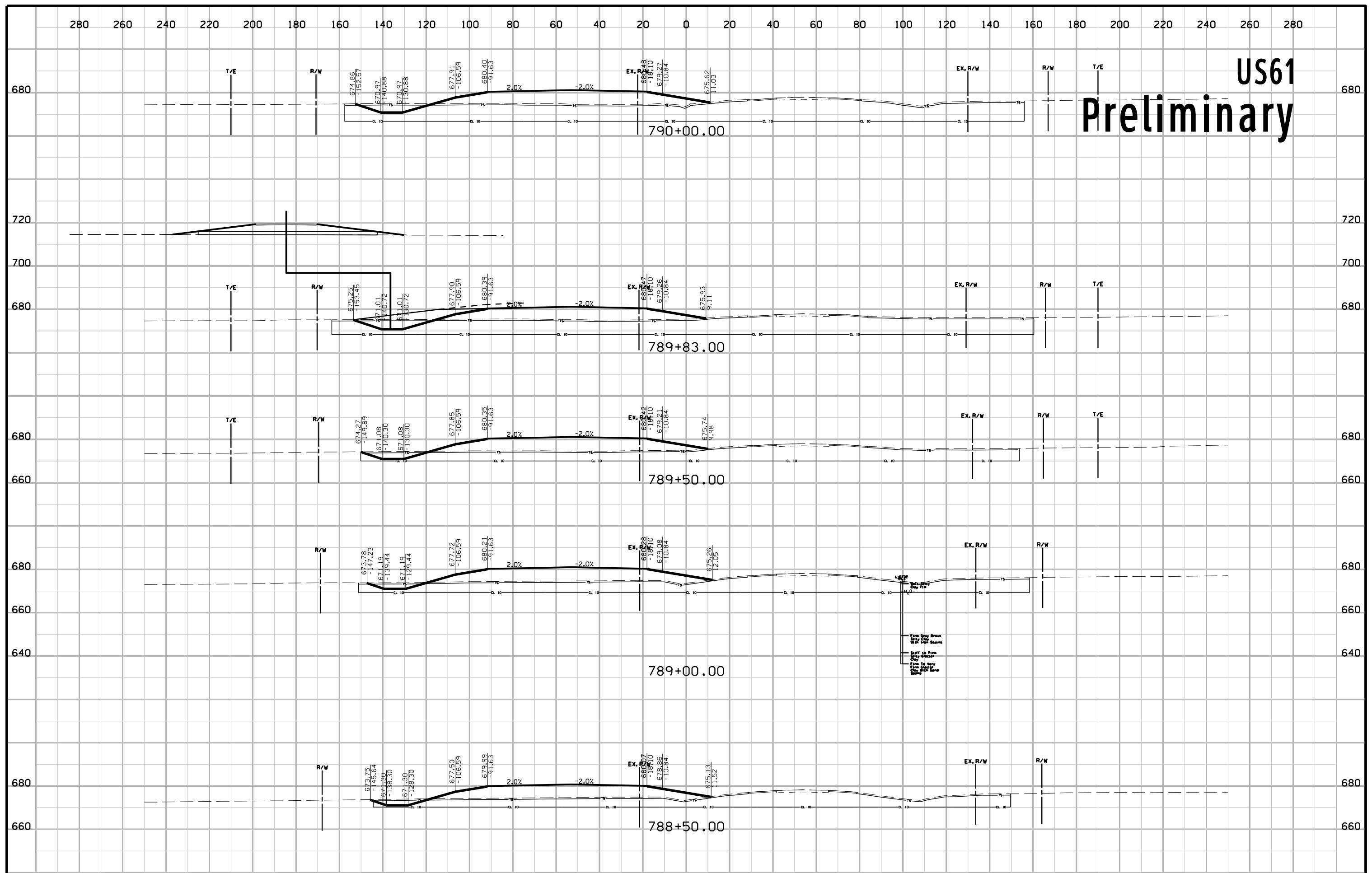
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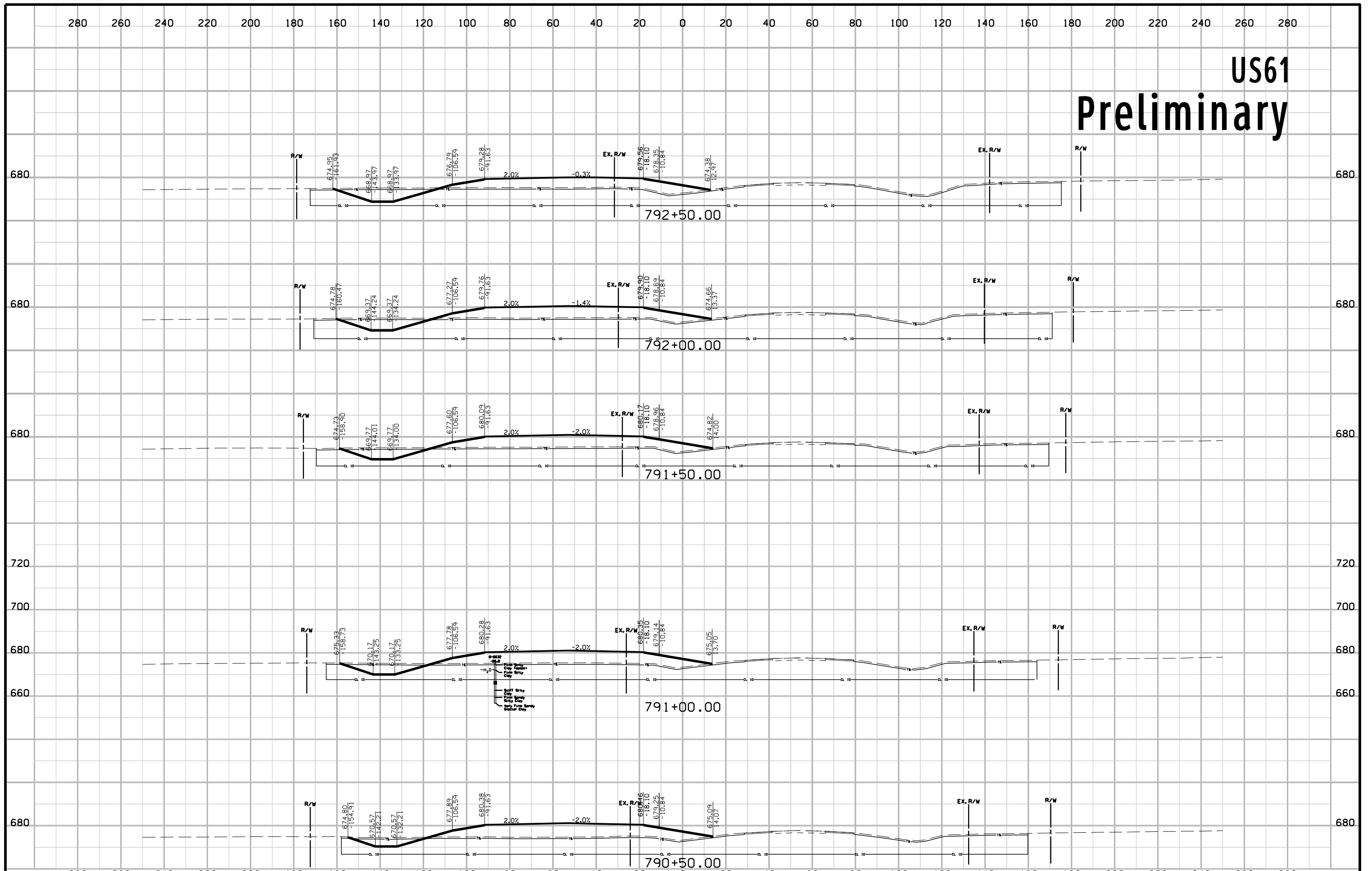
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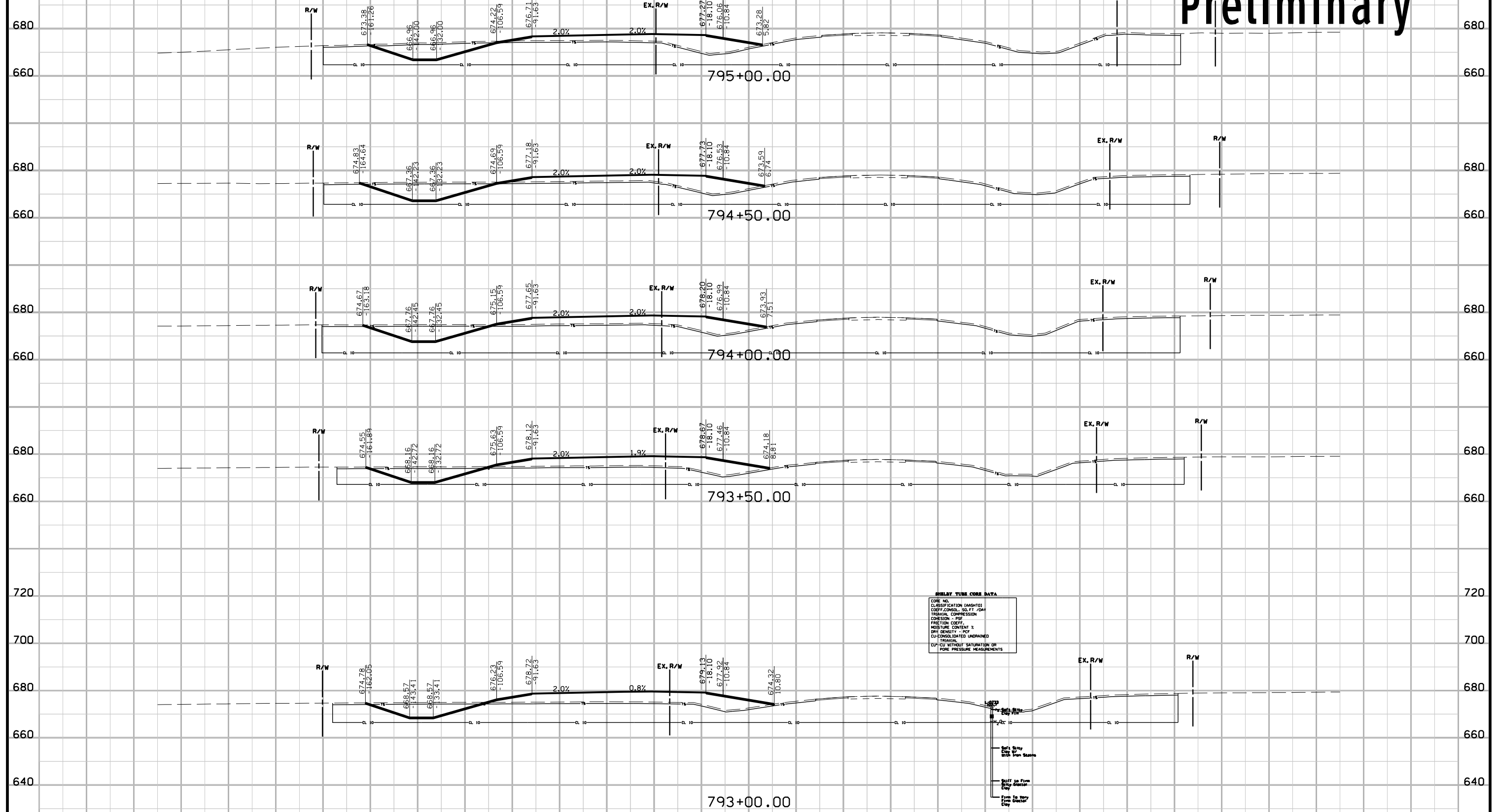


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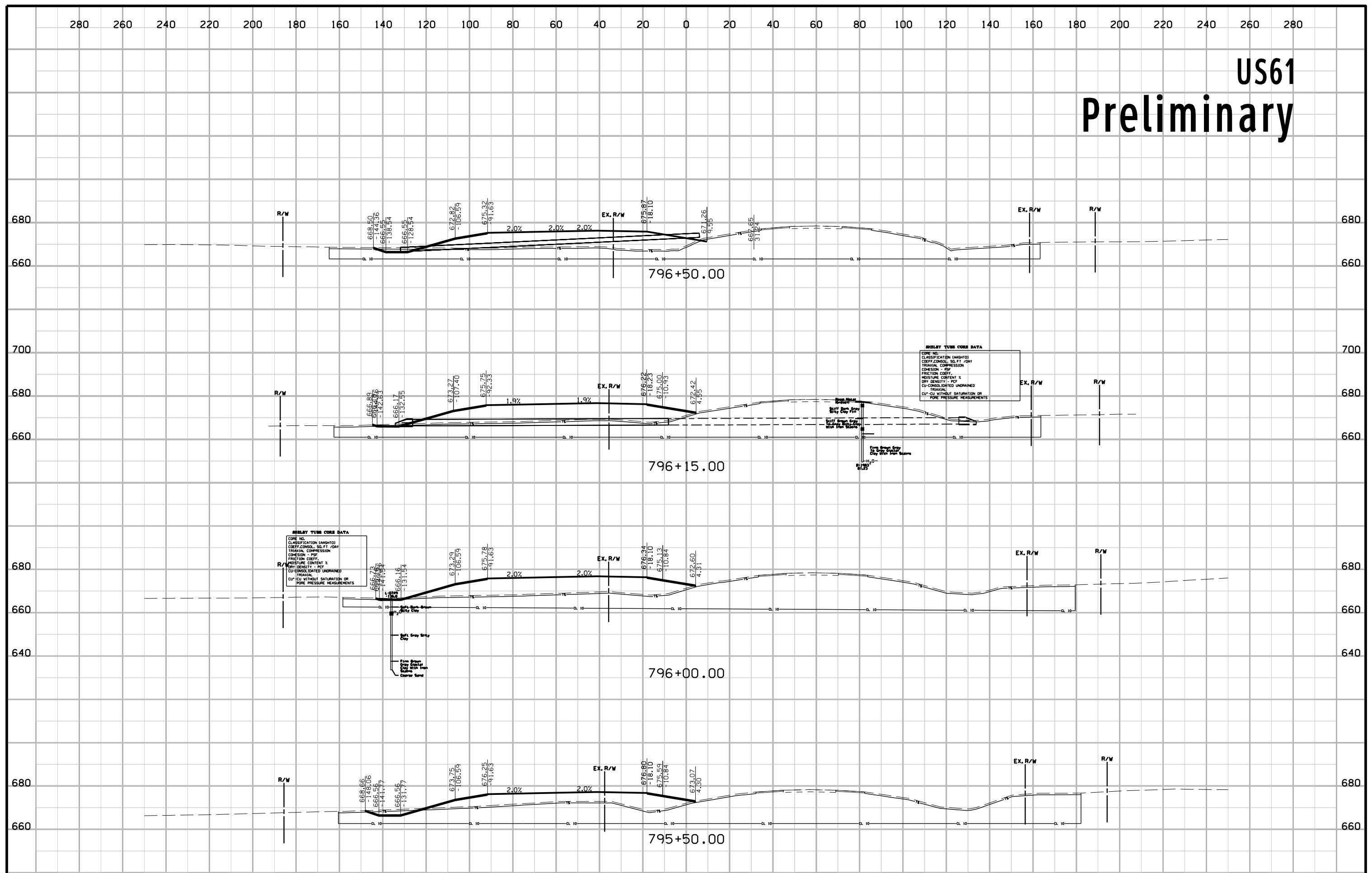
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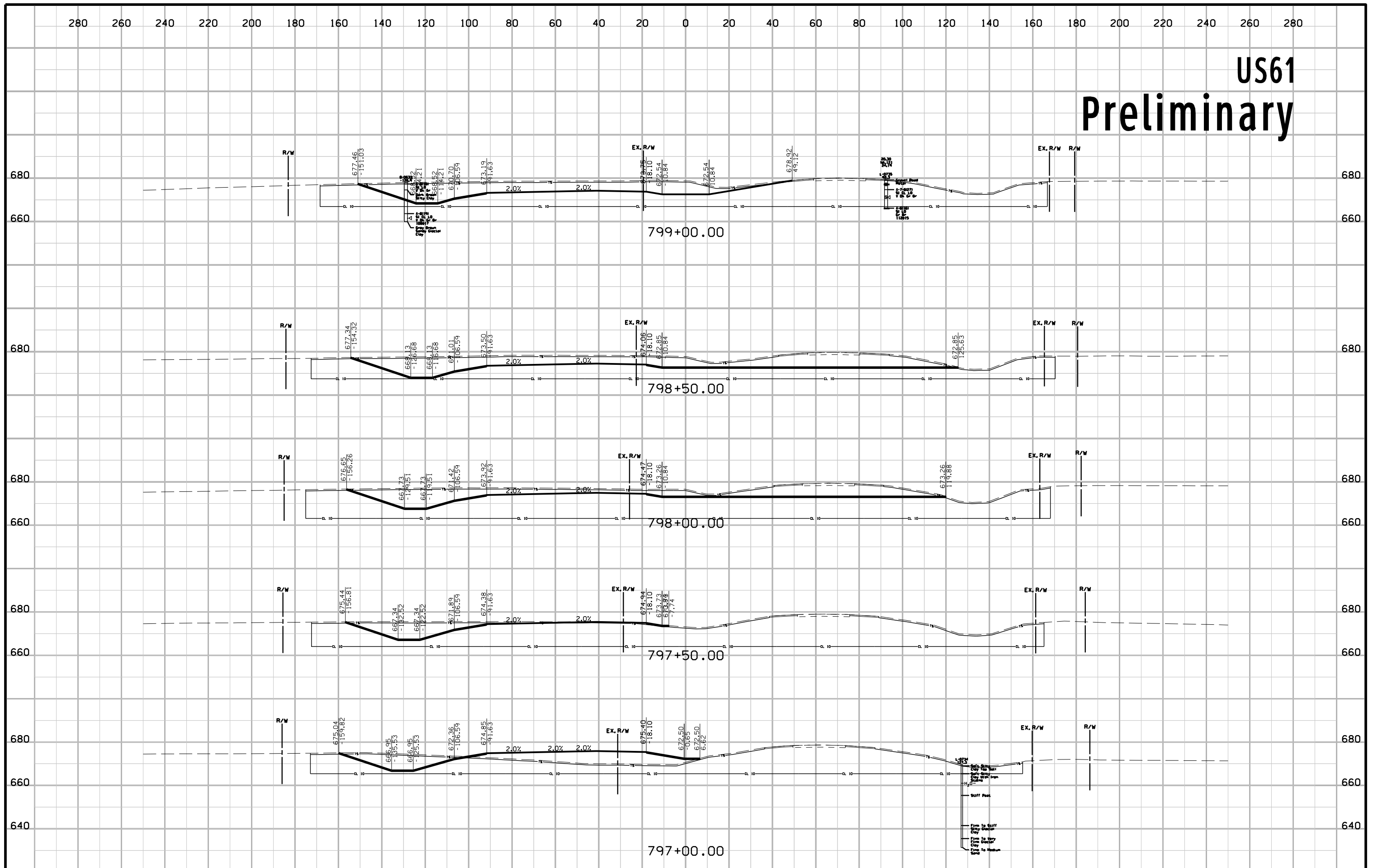
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 CORE NO.
 CLASSIFICATION (ASTM)
 COEF. OF CONSOLIDATION
 TRAXIAL COMPRESSION
 COEFF. OF PERMEABILITY
 FRICTION COEFF.
 MOISTURE CONTENT %
 DRY DENSITY - PCF
 CU CONSOLIDATED UNDRANDED TRIAXIAL
 CU - CU WITHOUT SATURATION OR PORE PRESSURE MEASUREMENTS



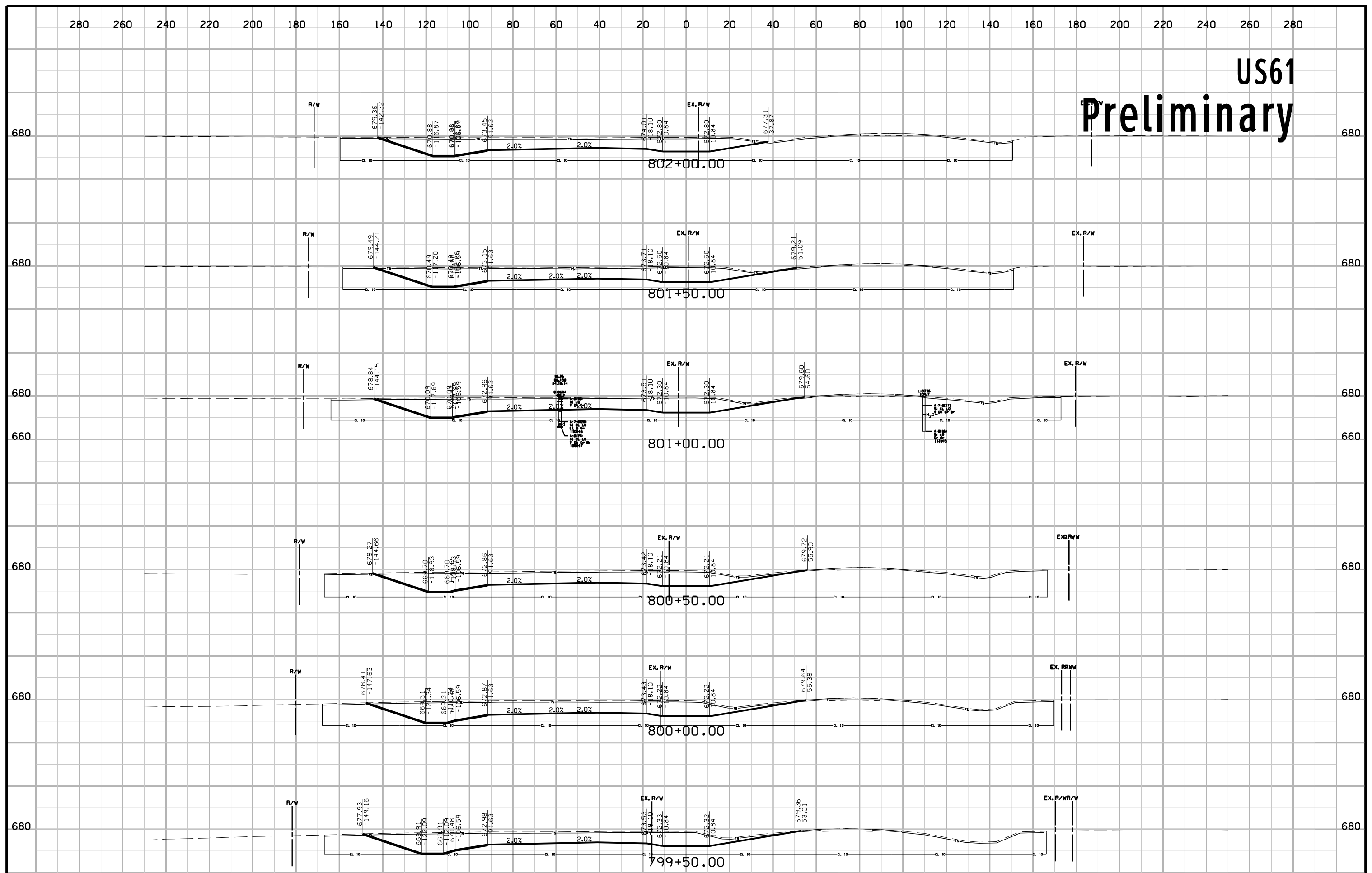
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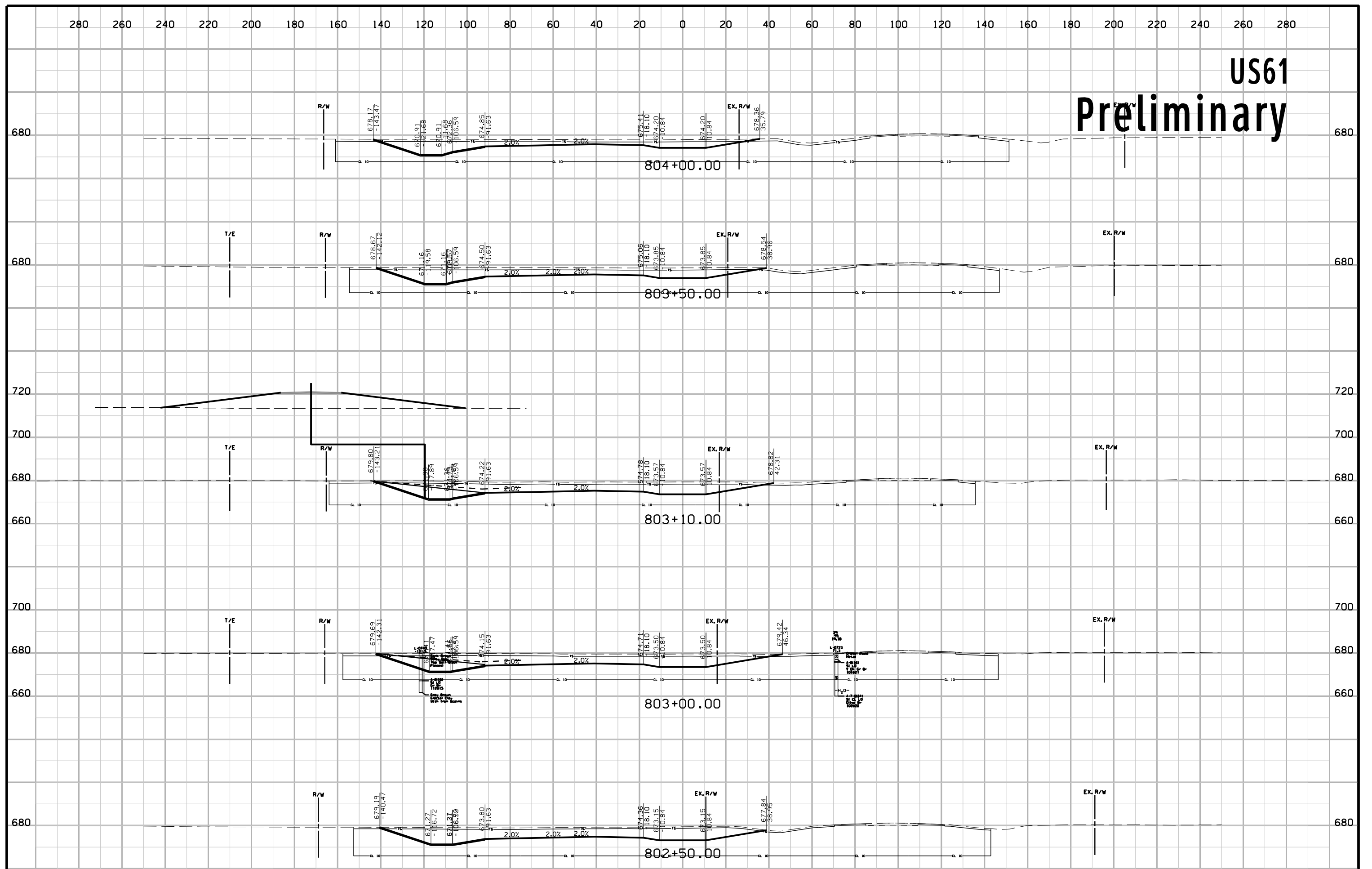
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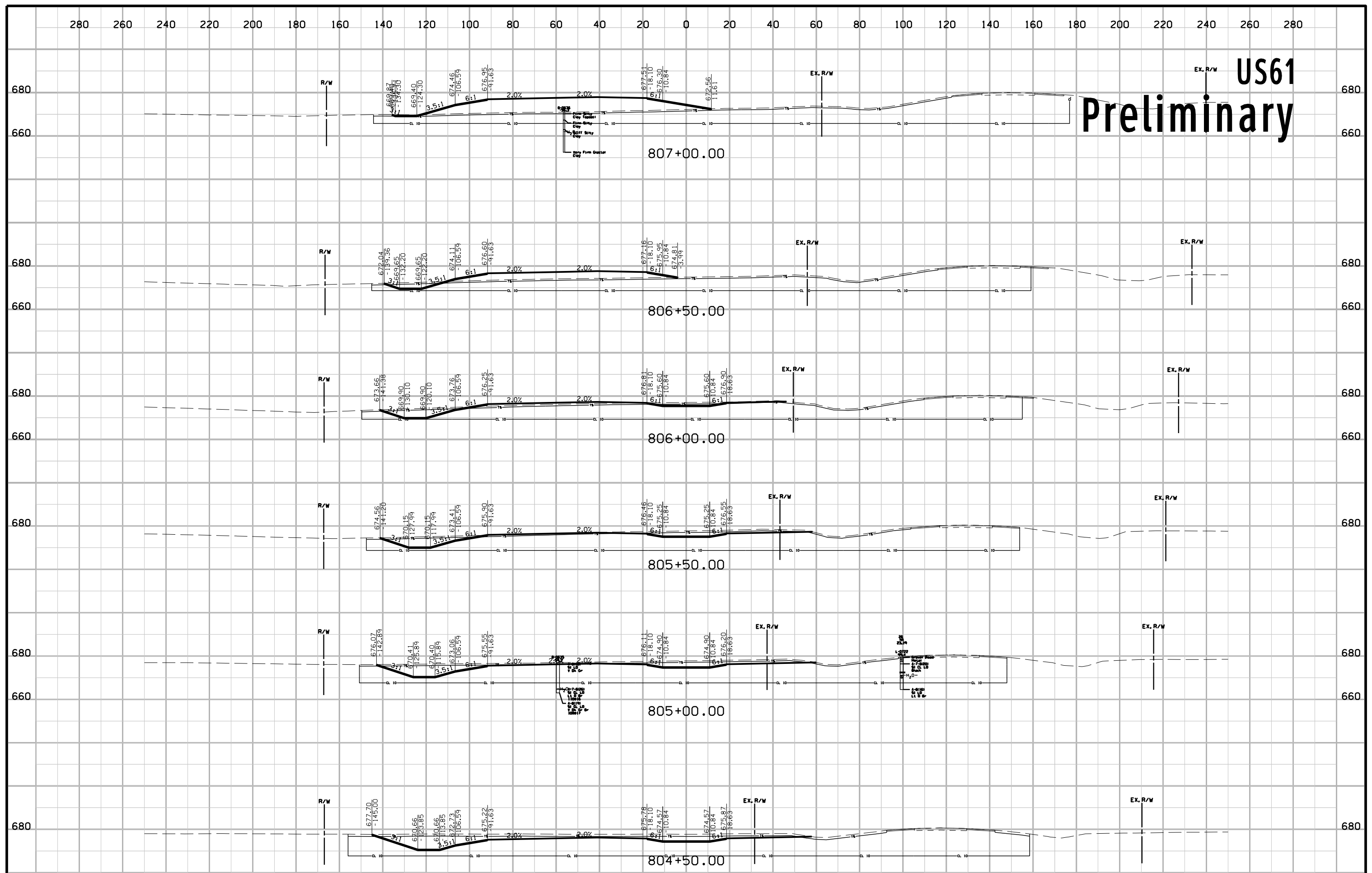
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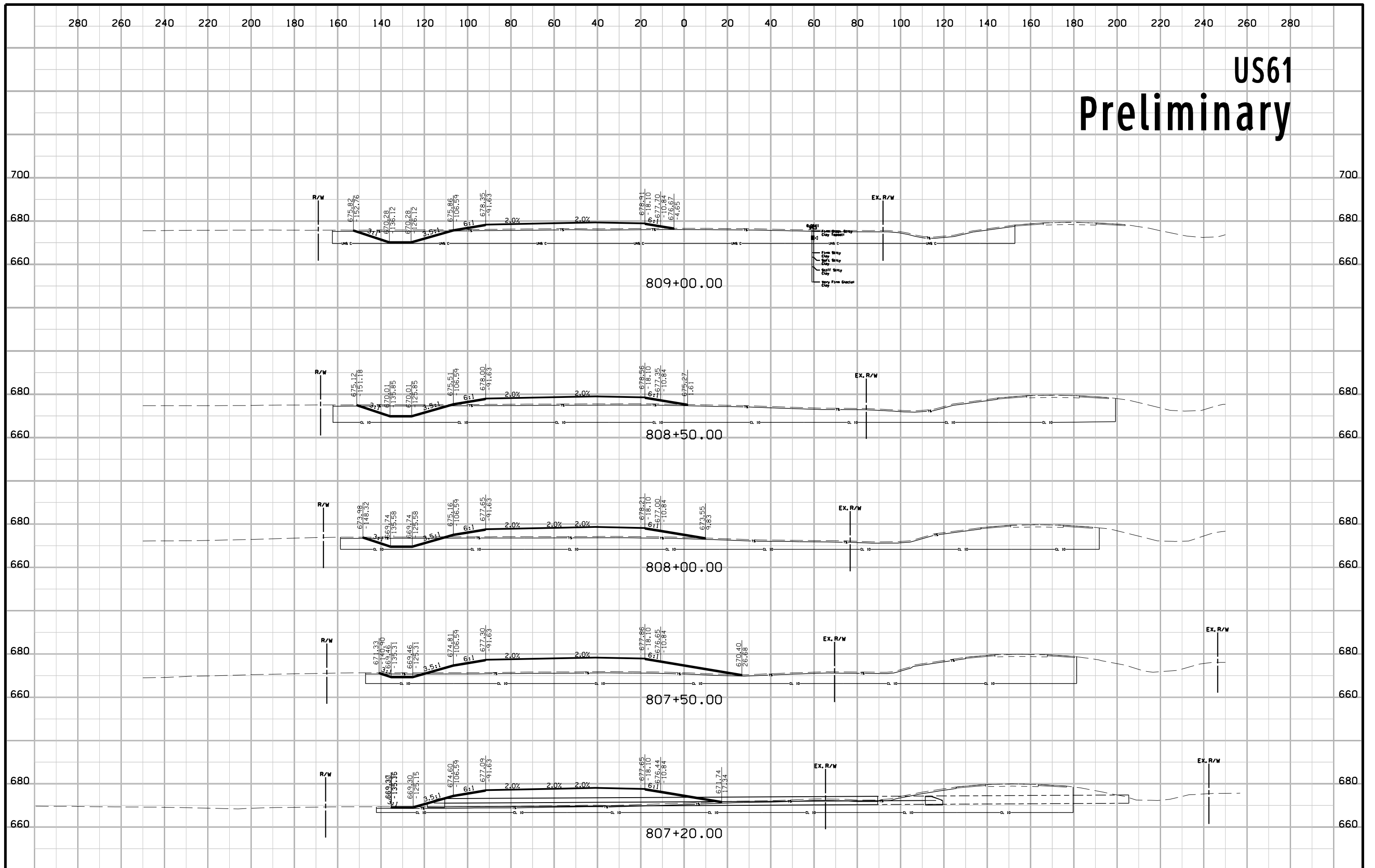
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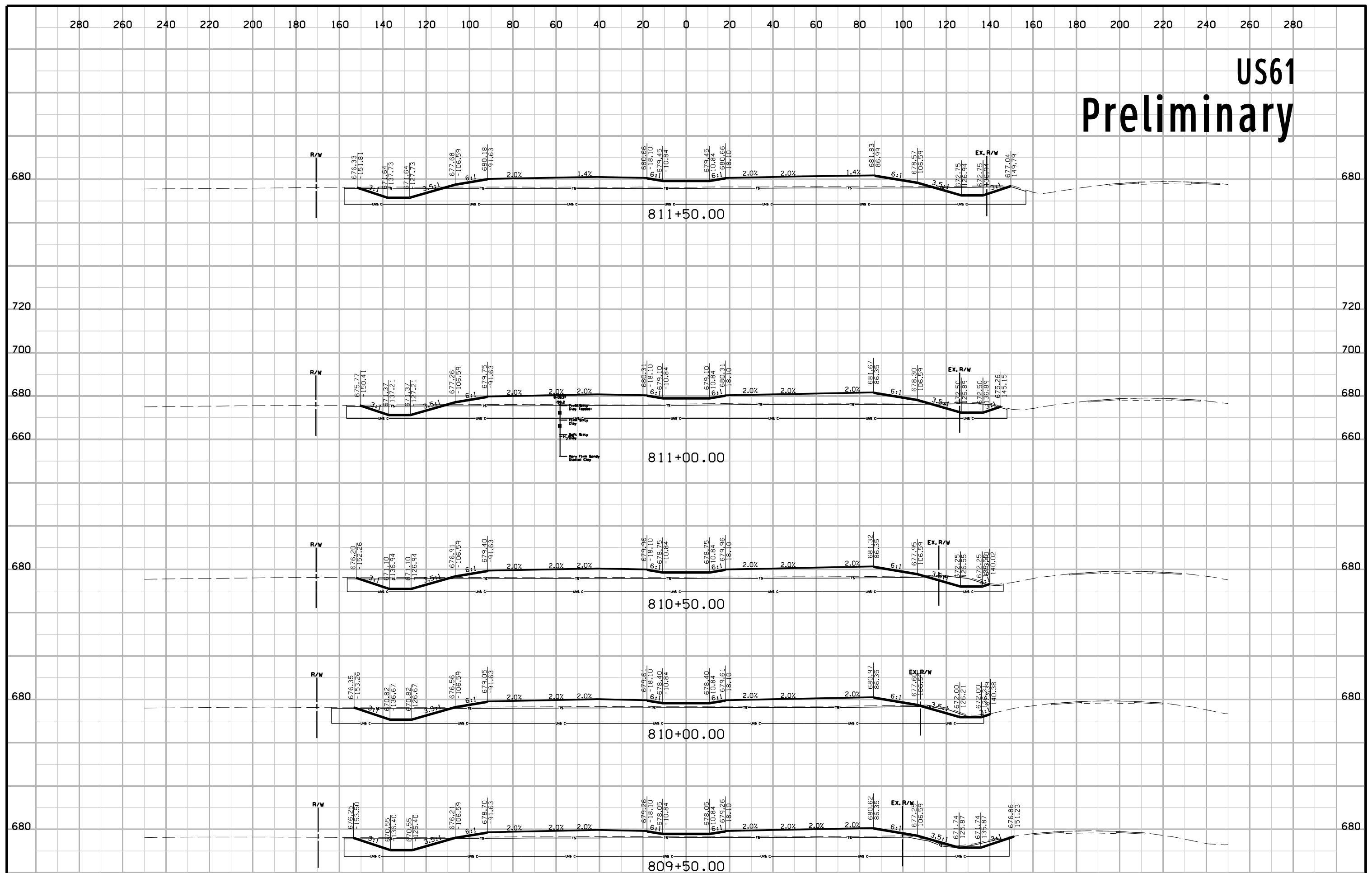
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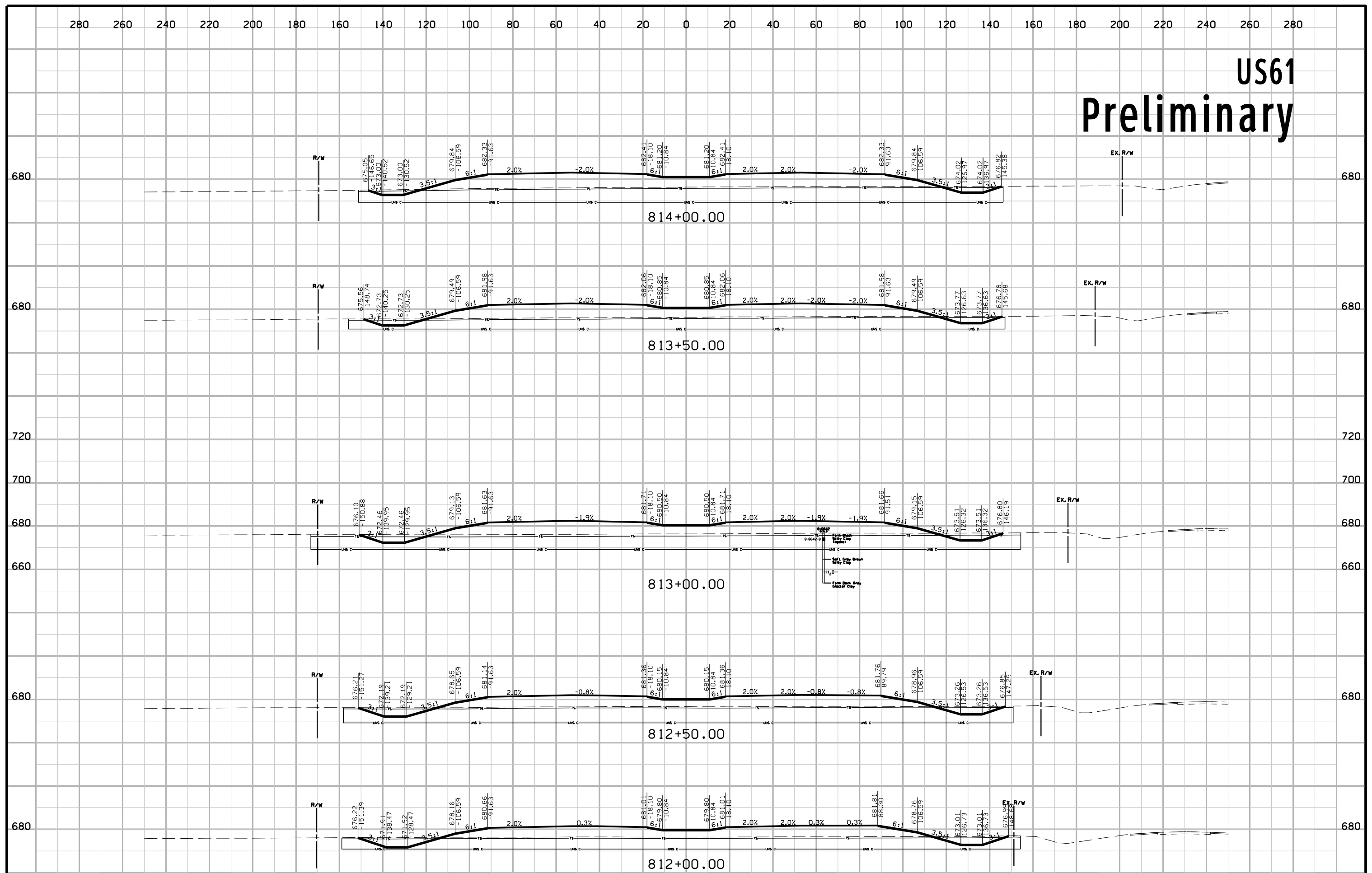
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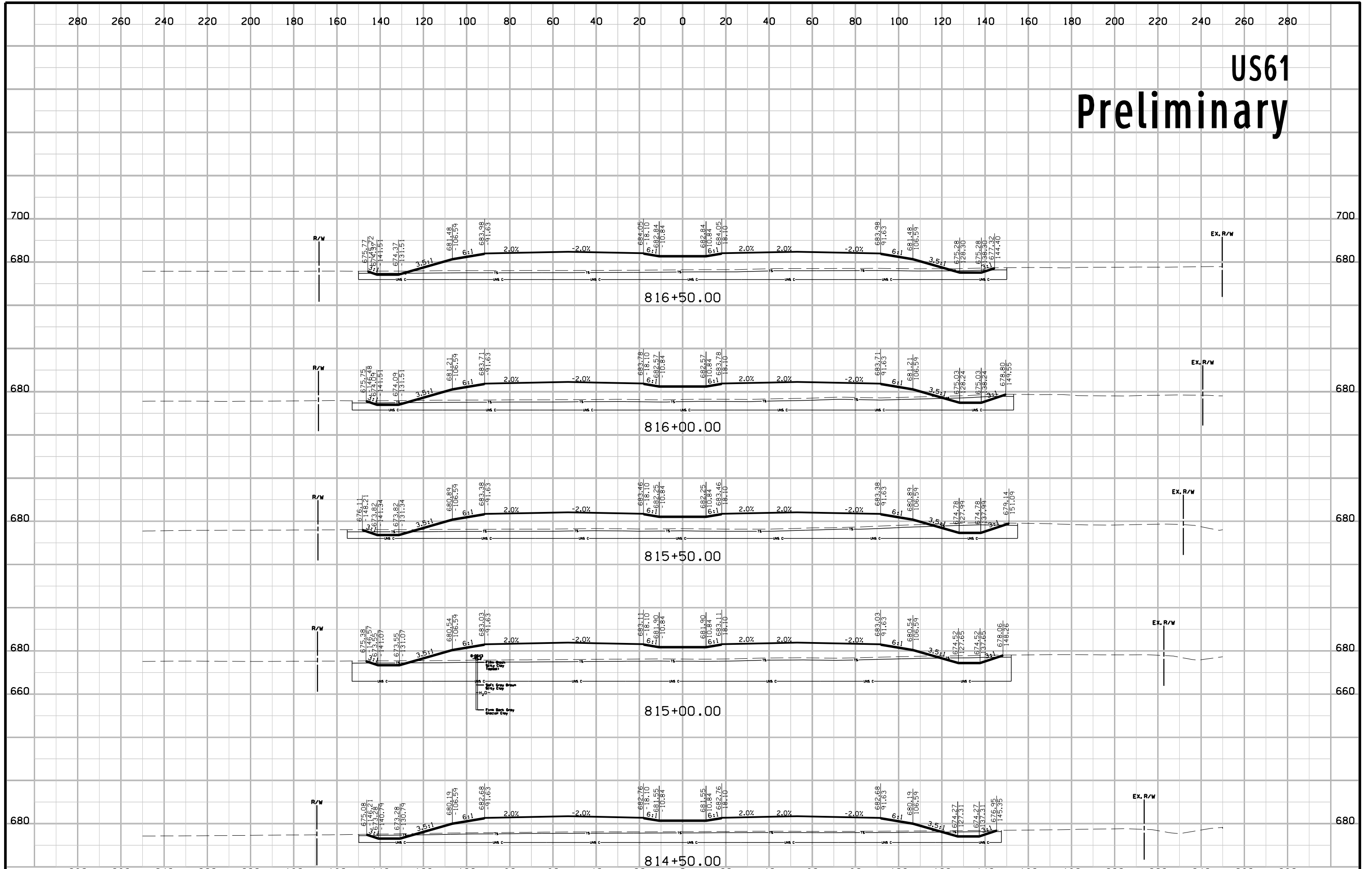
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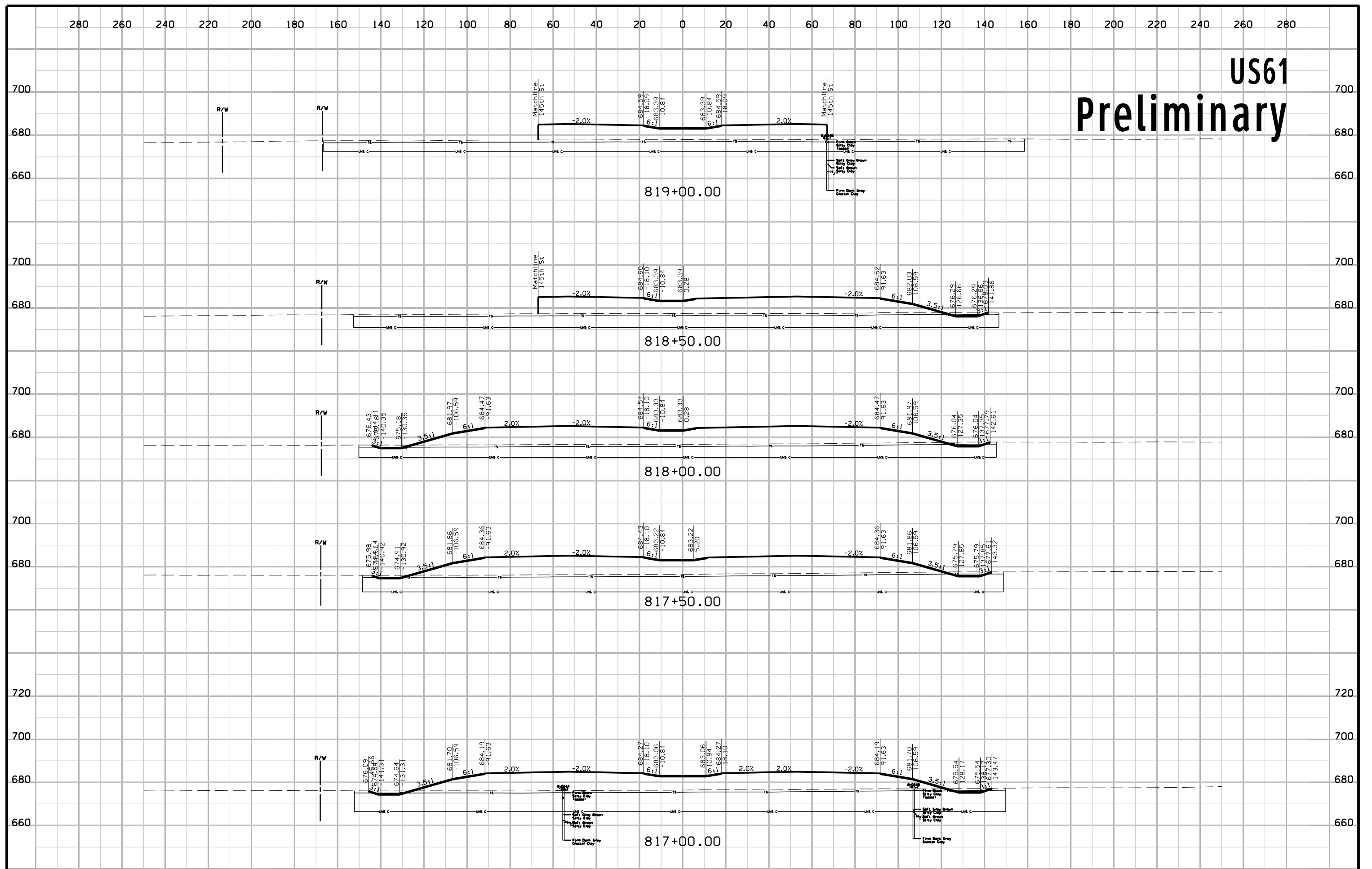
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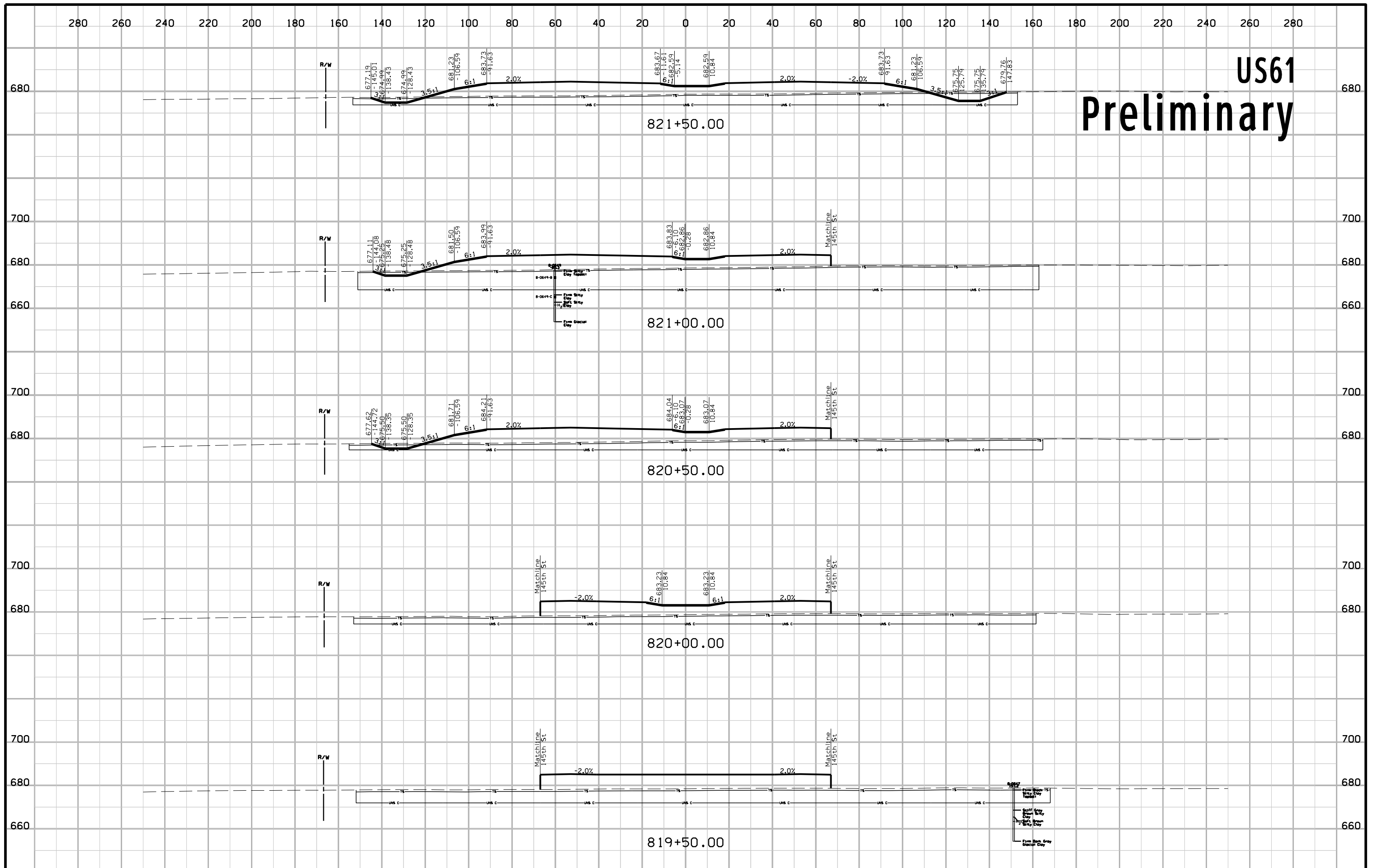
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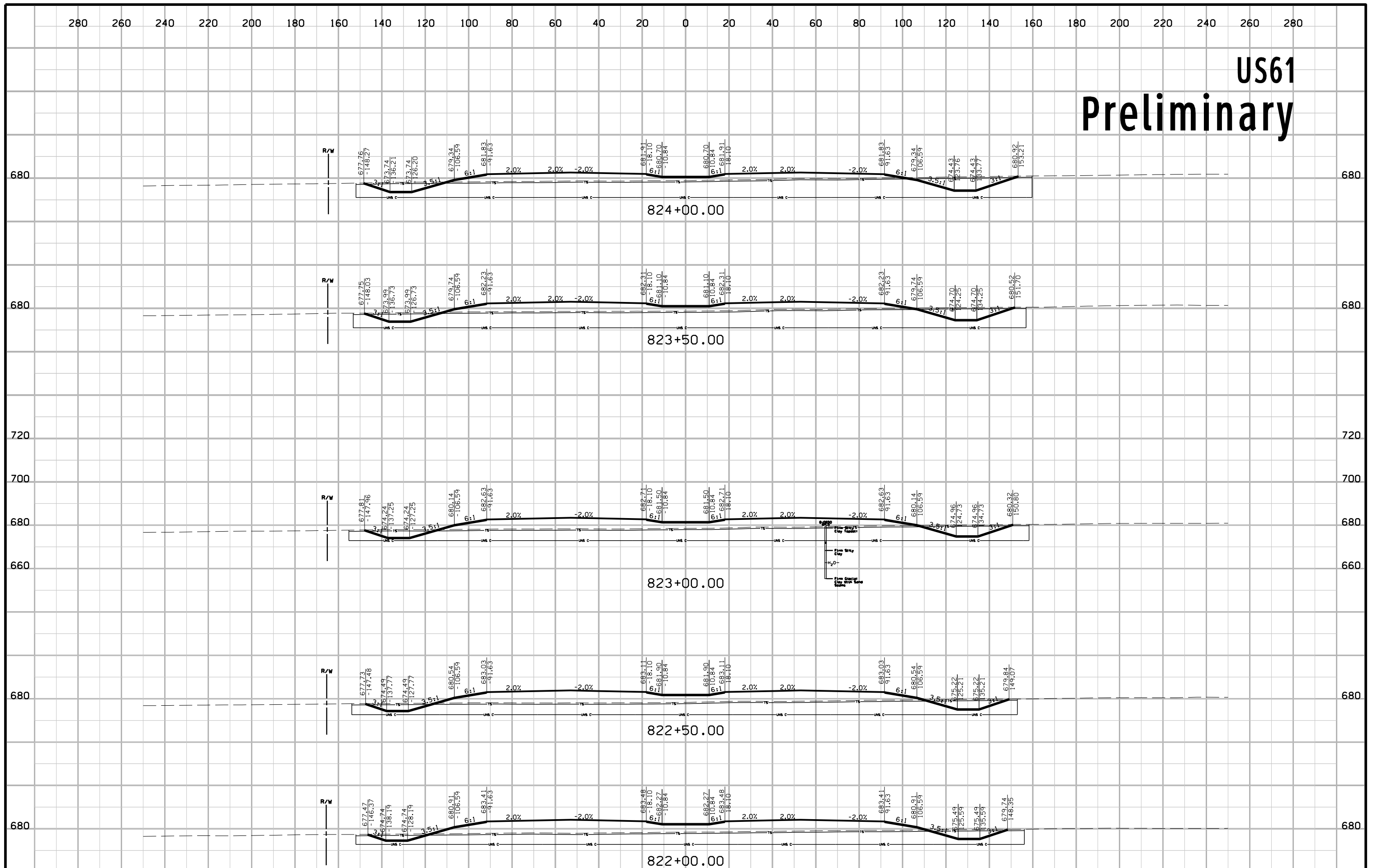
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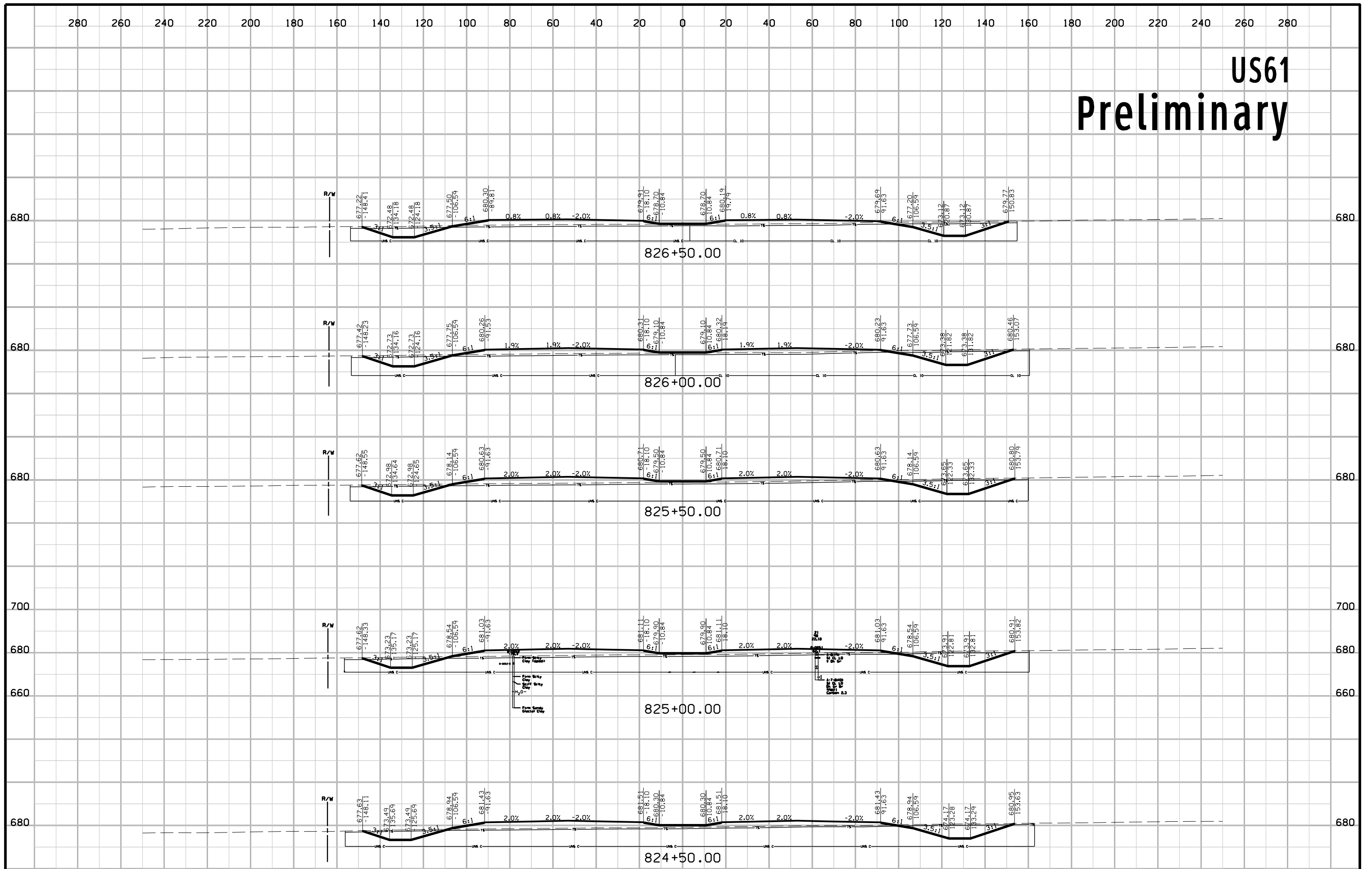
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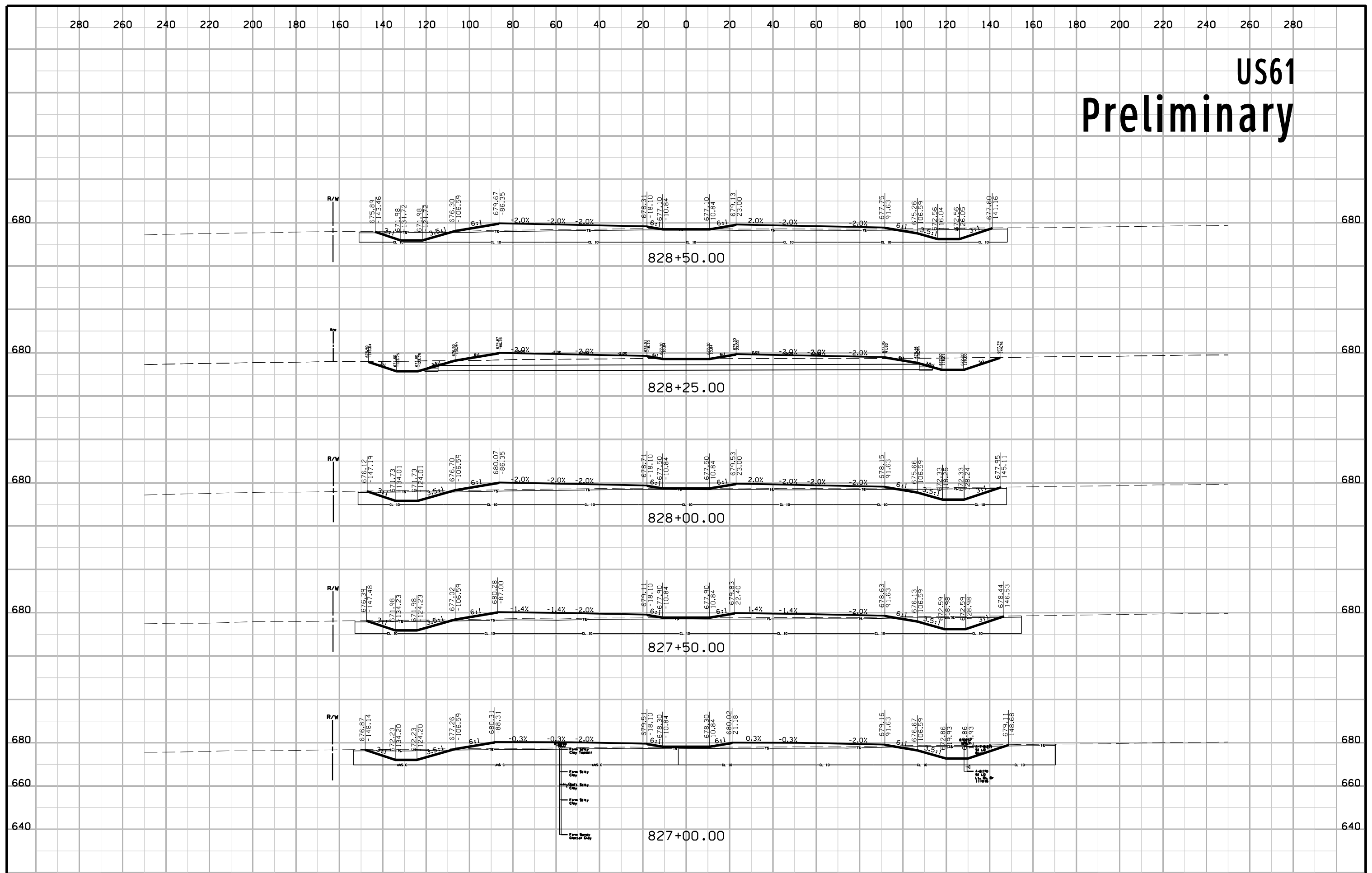
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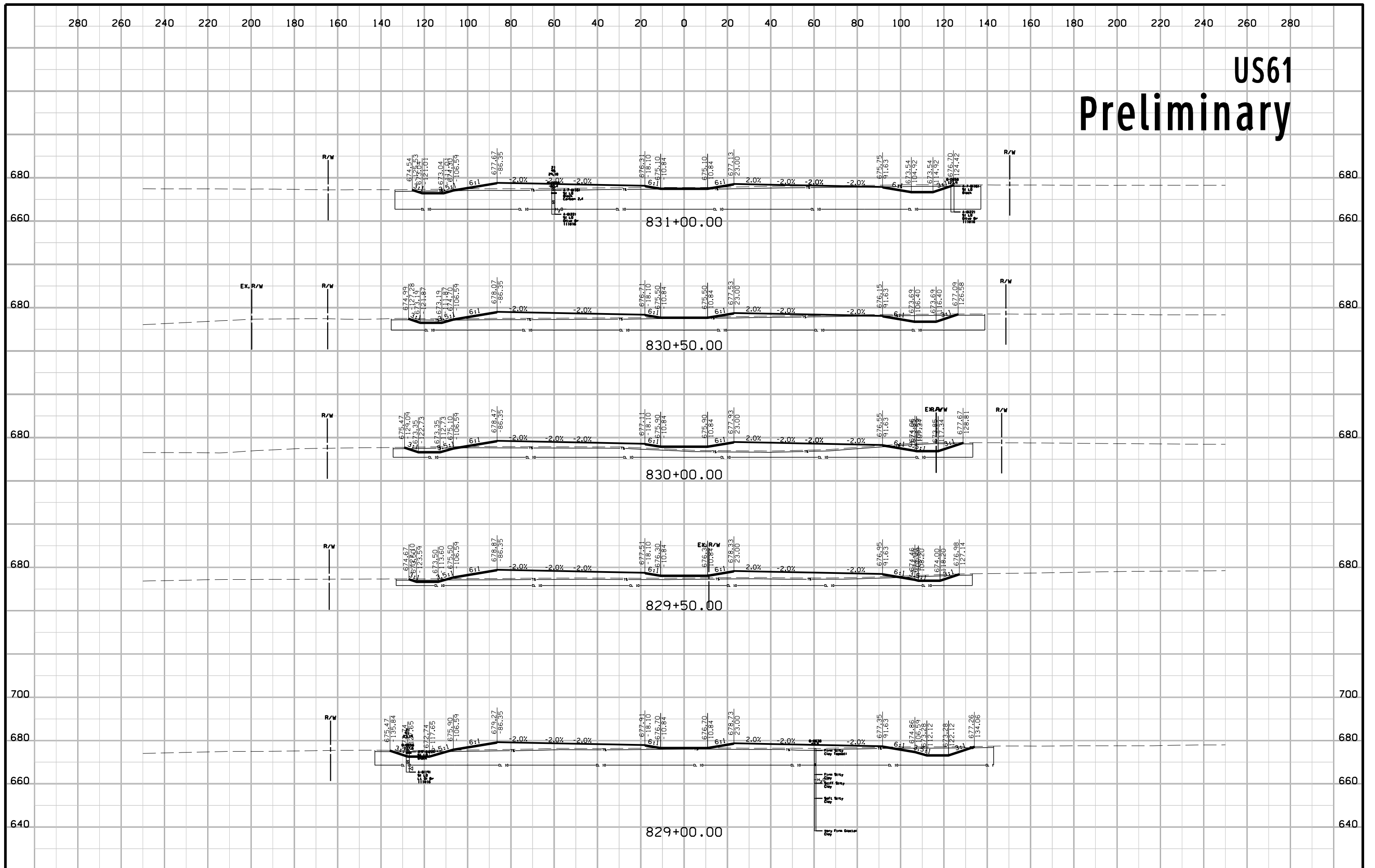
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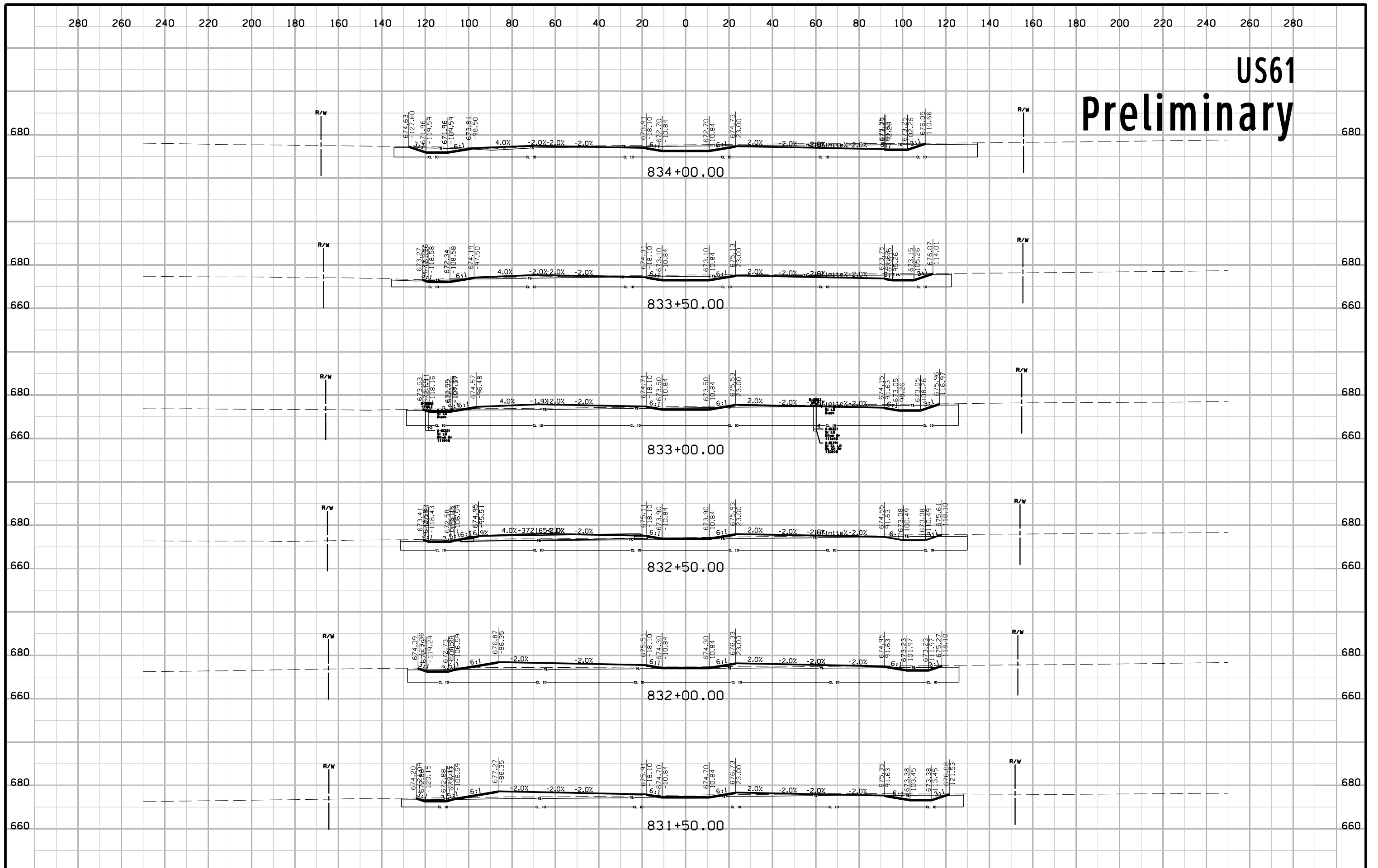
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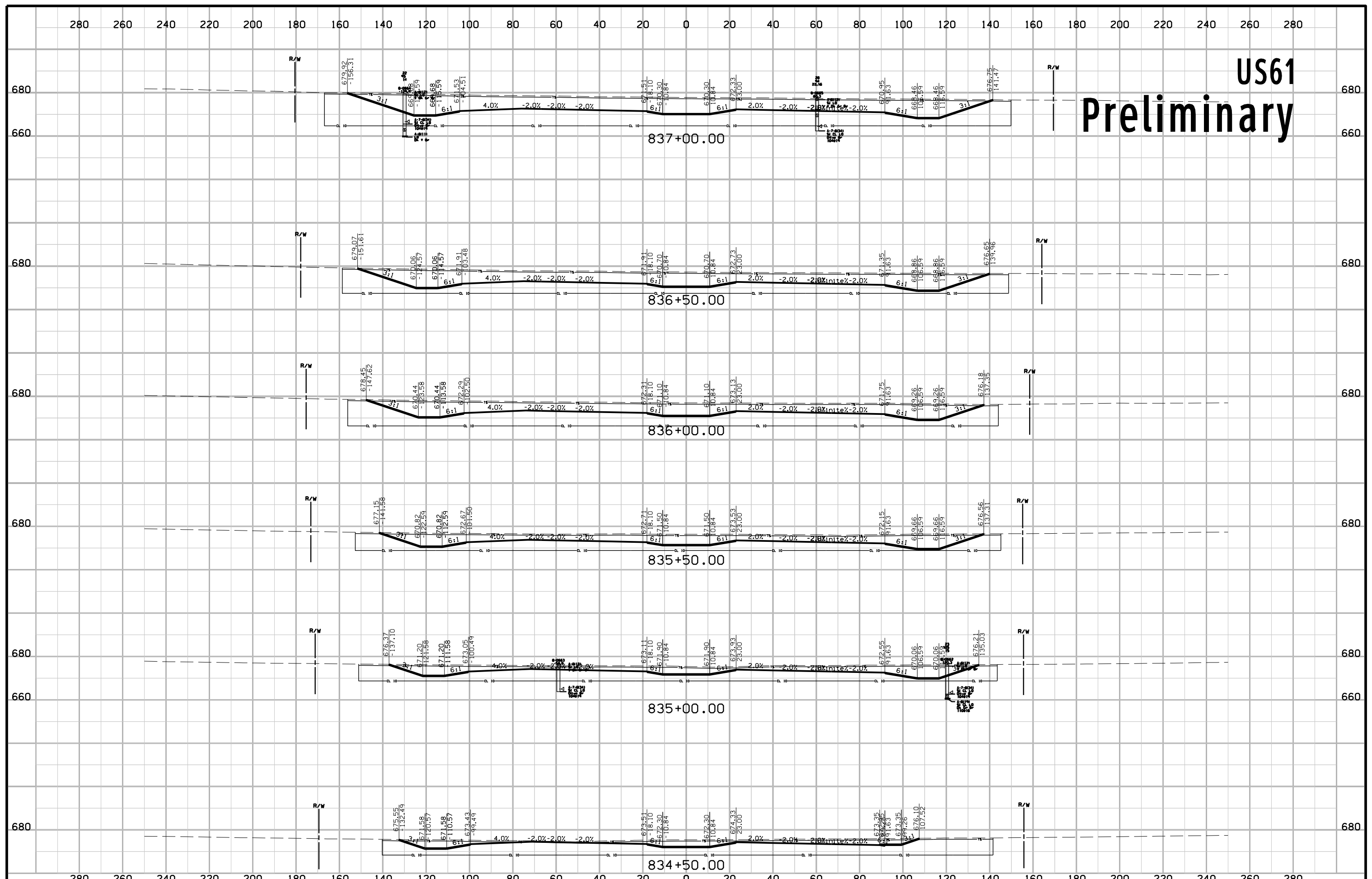
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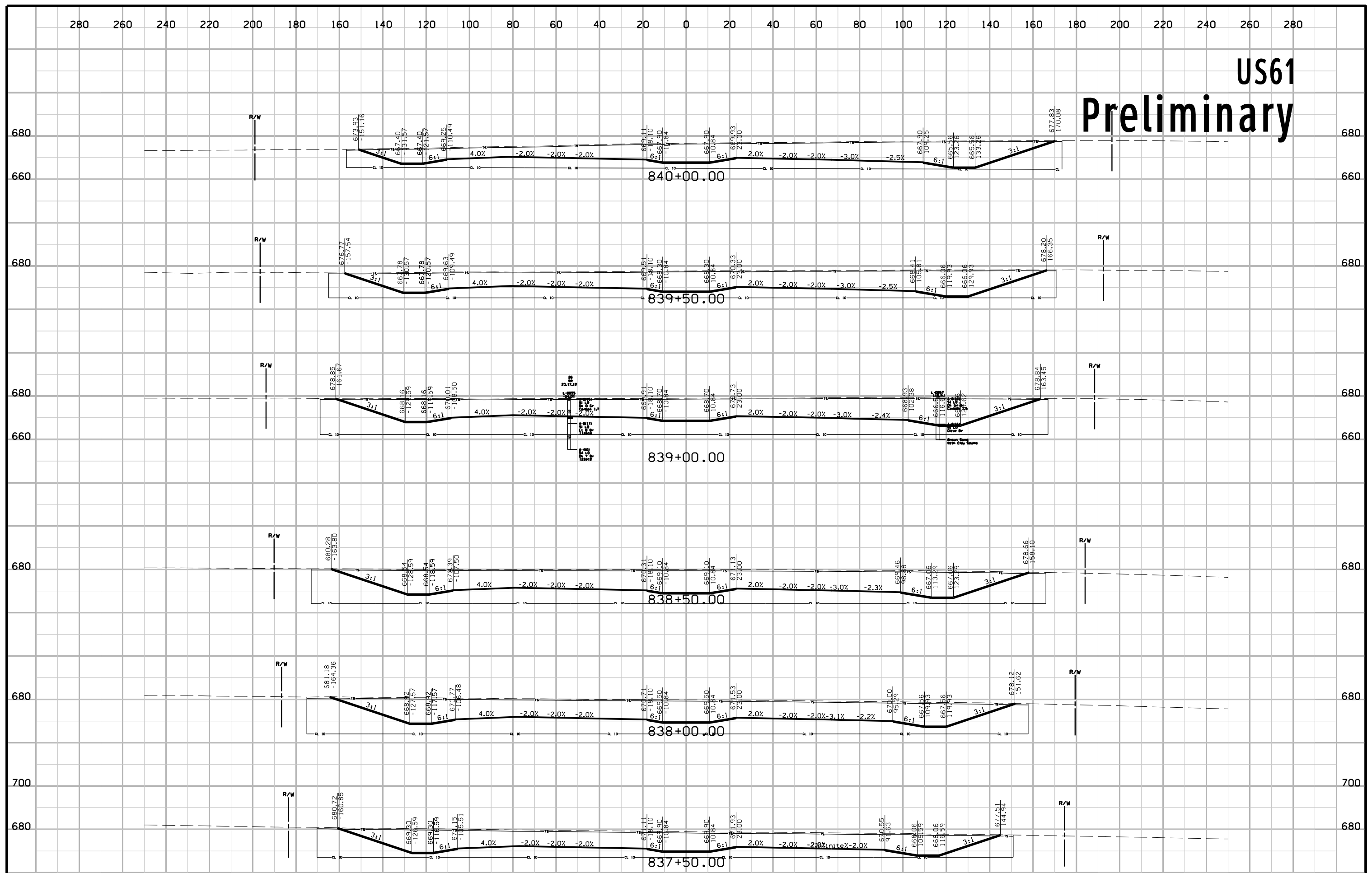
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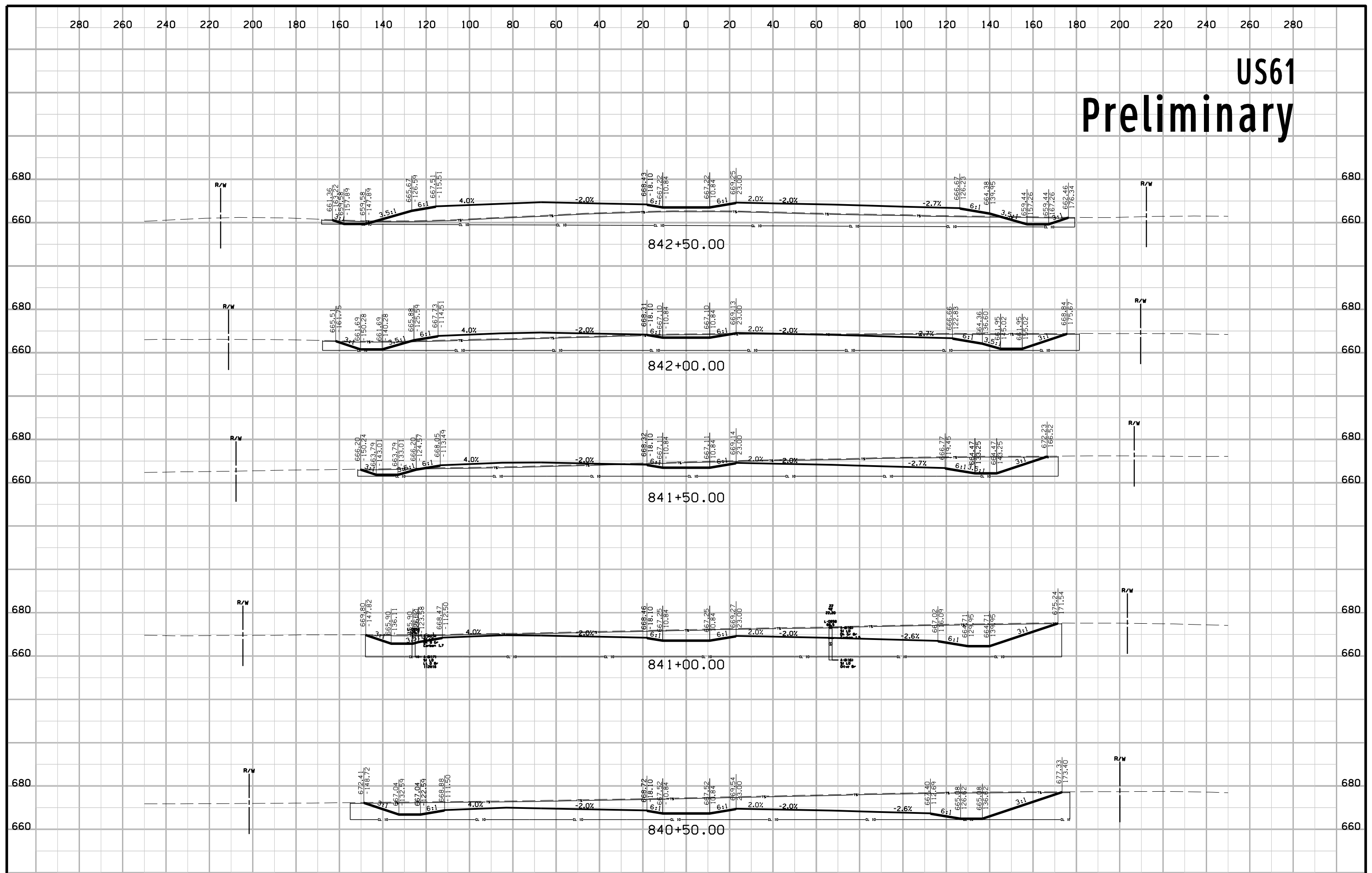
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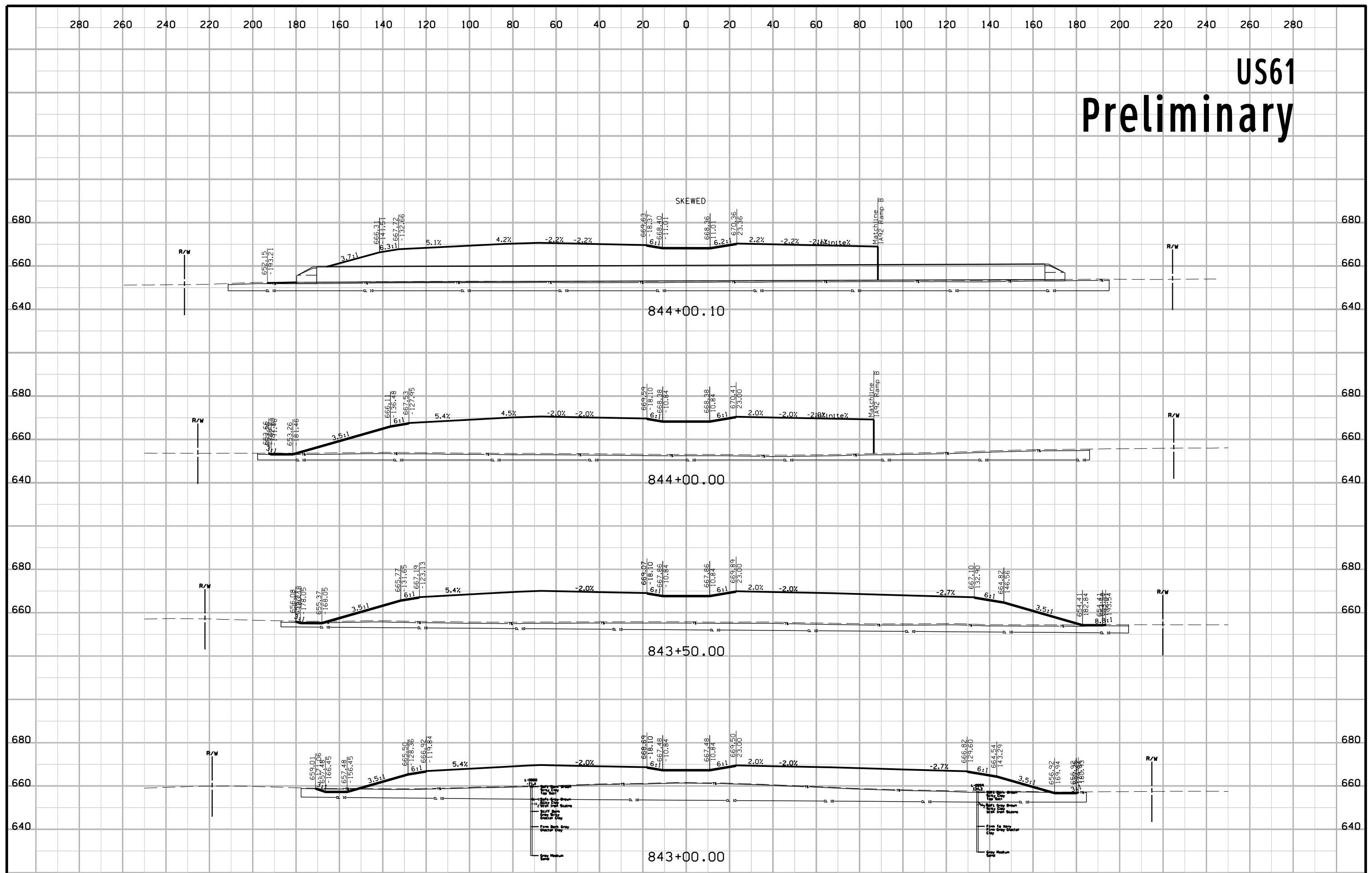
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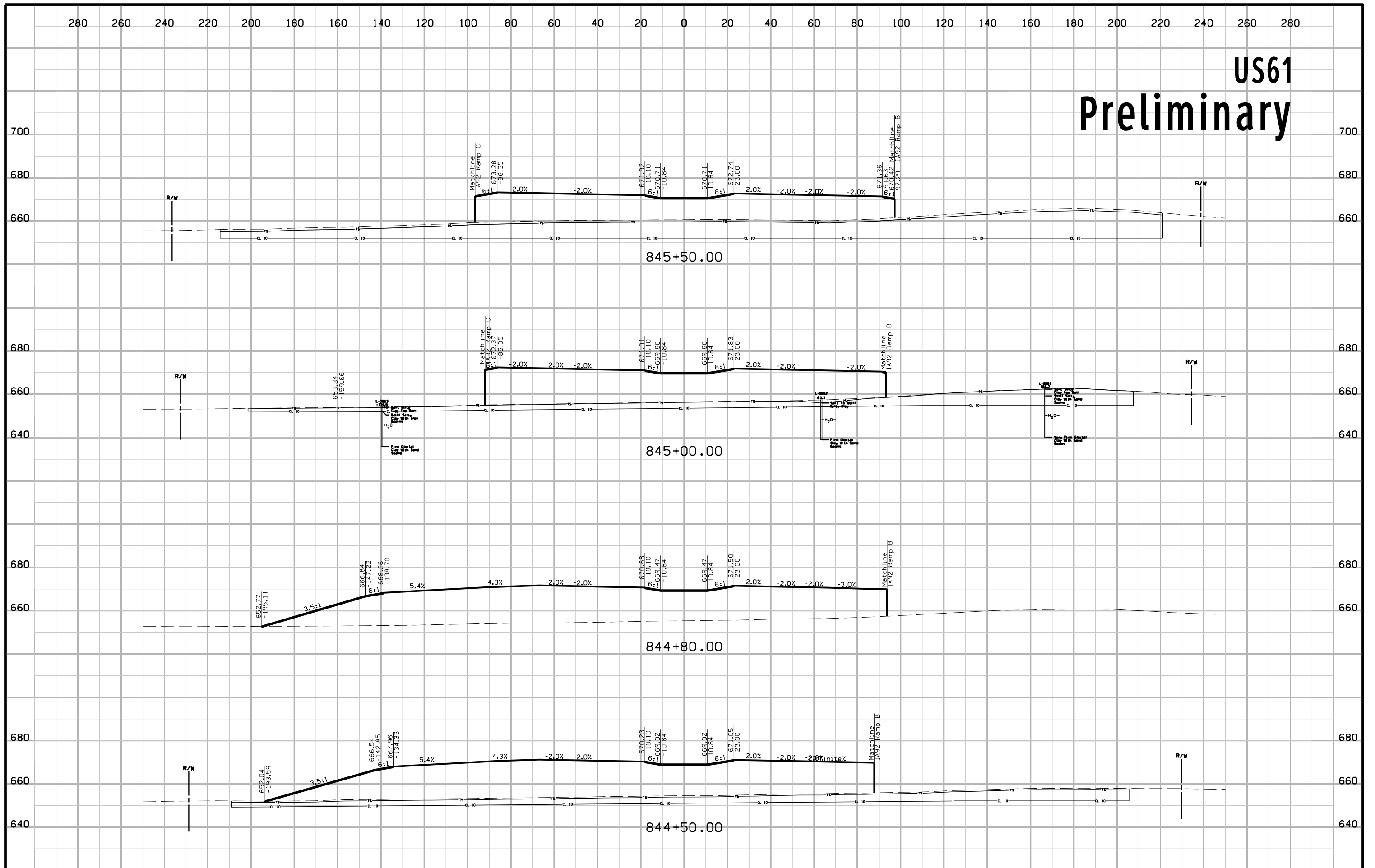


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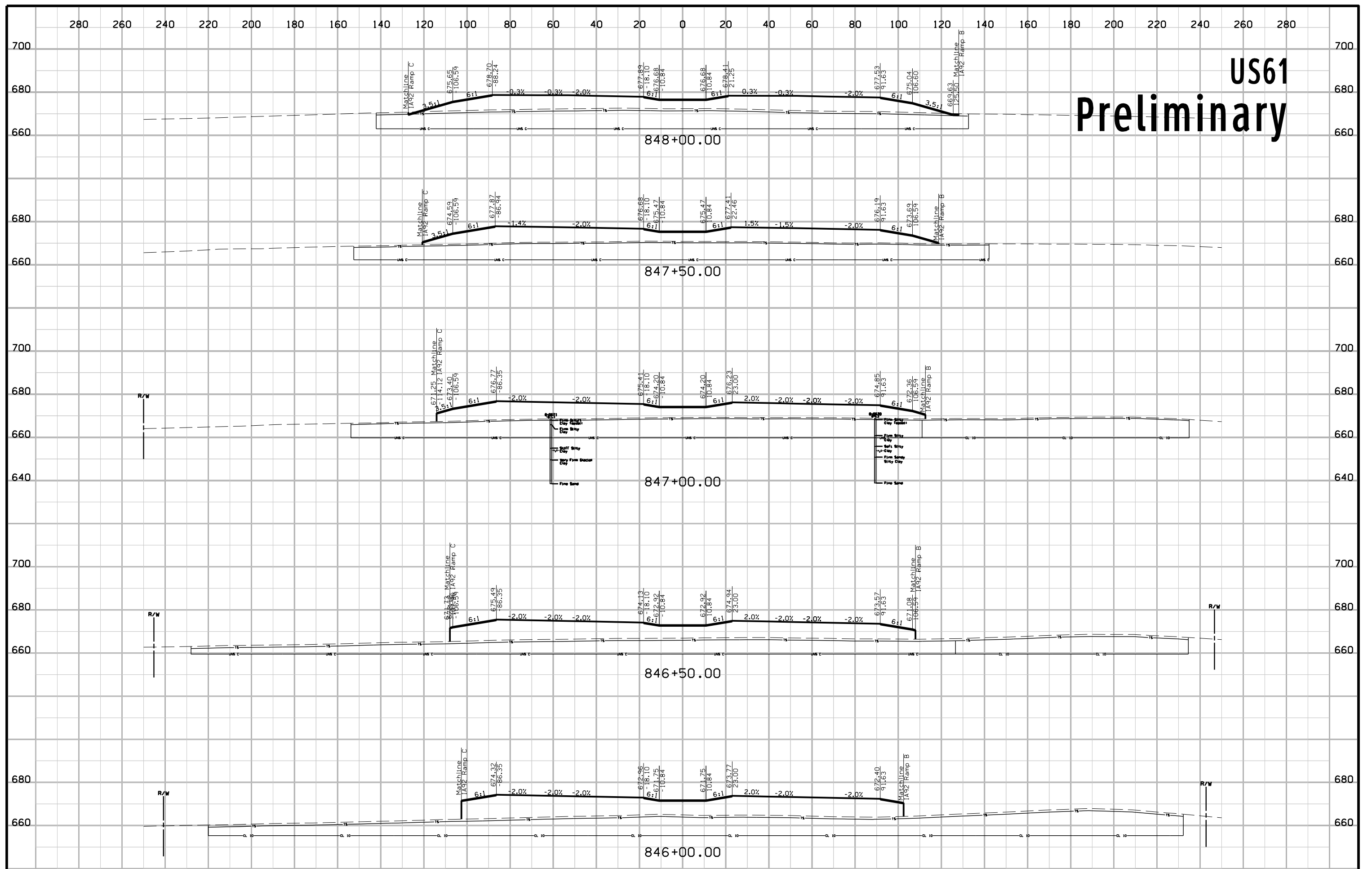


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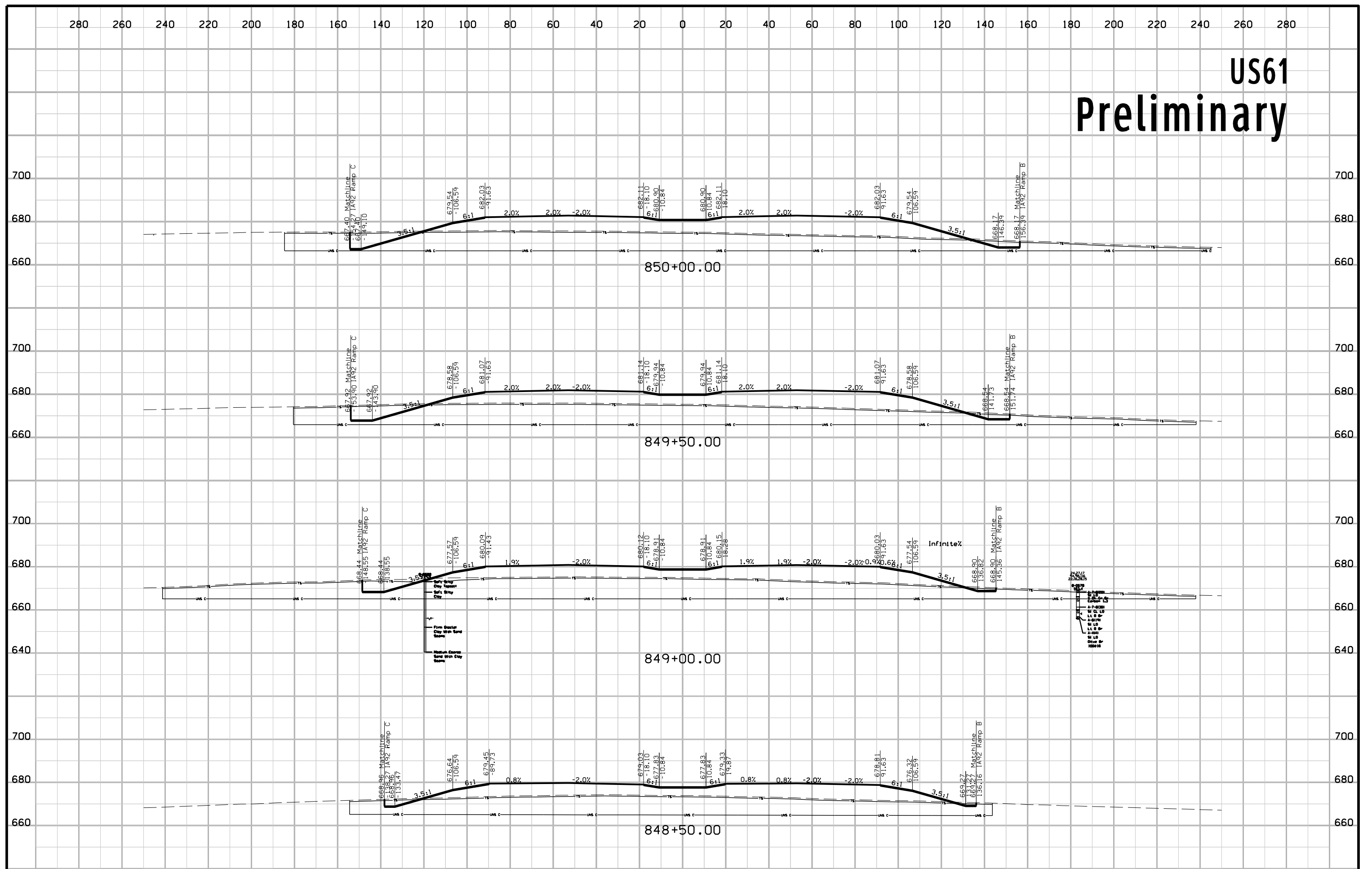
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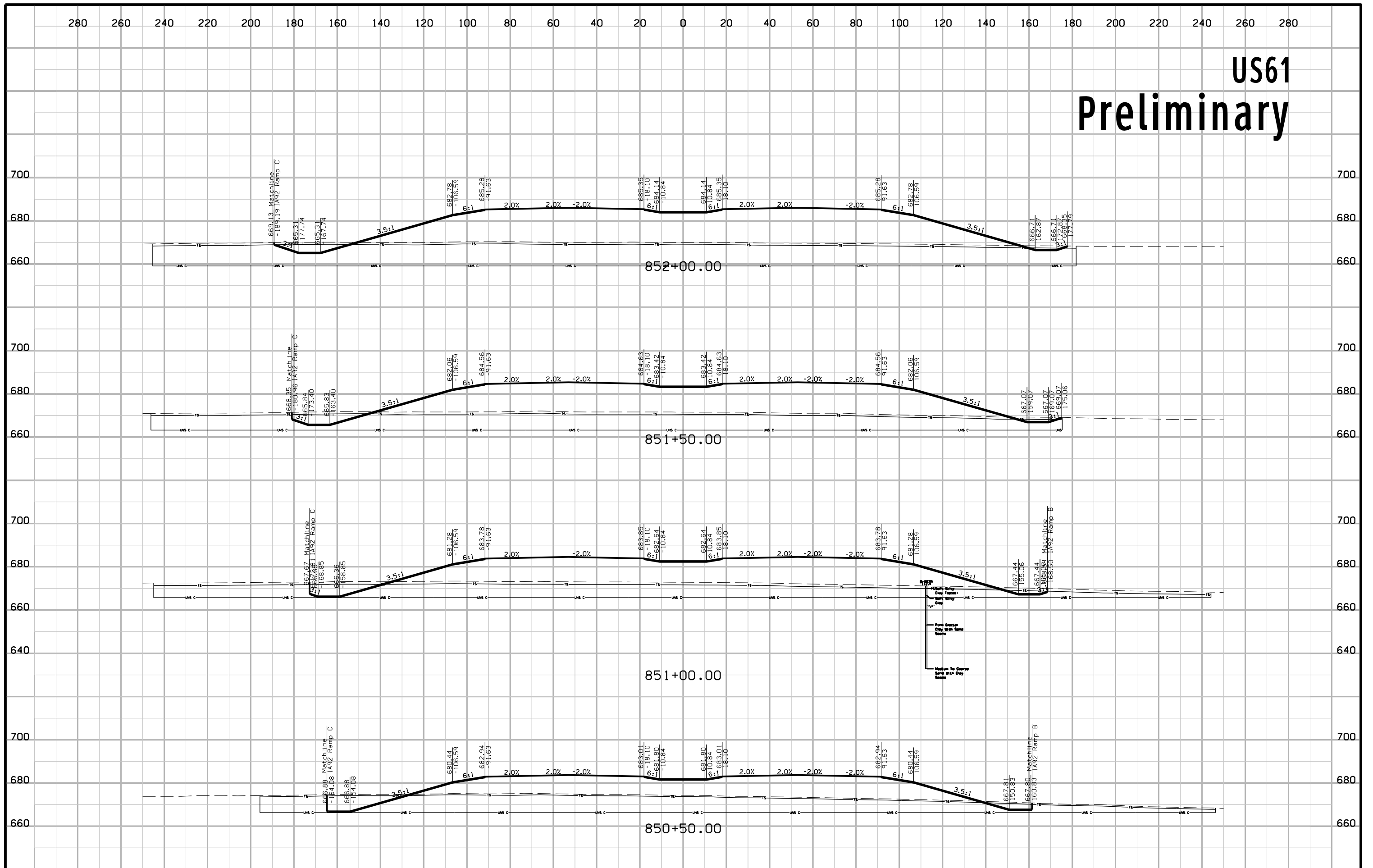
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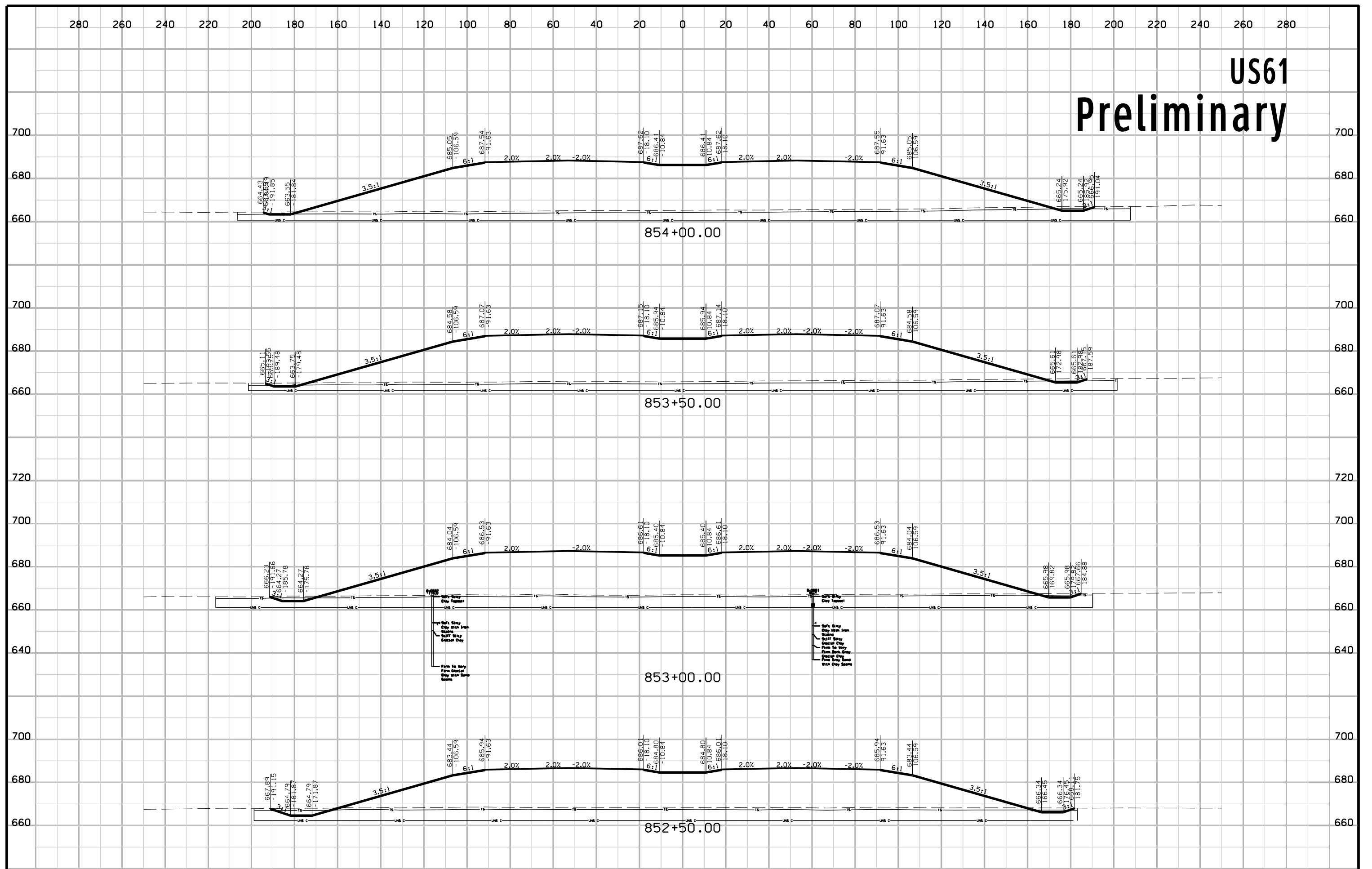
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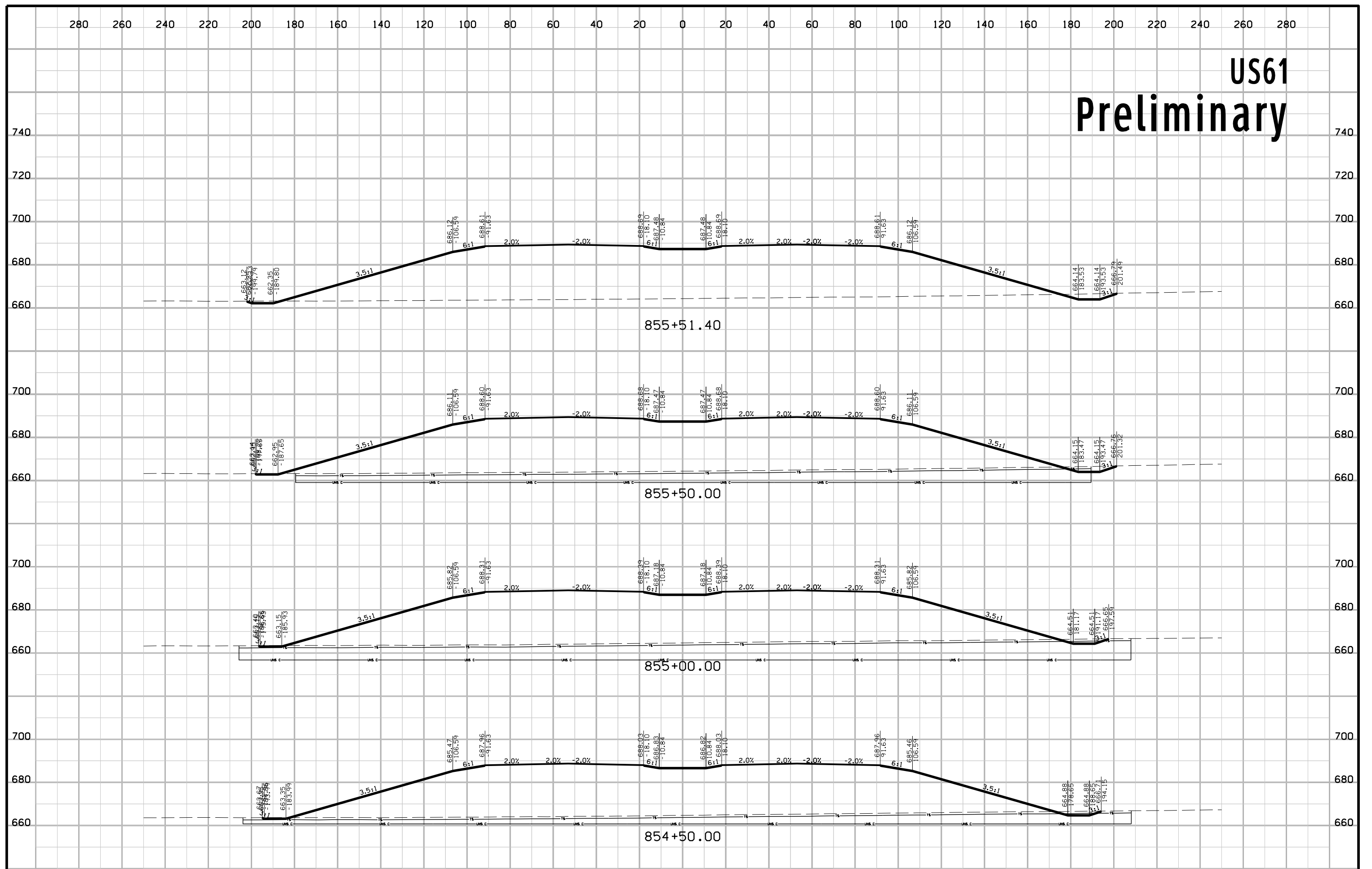
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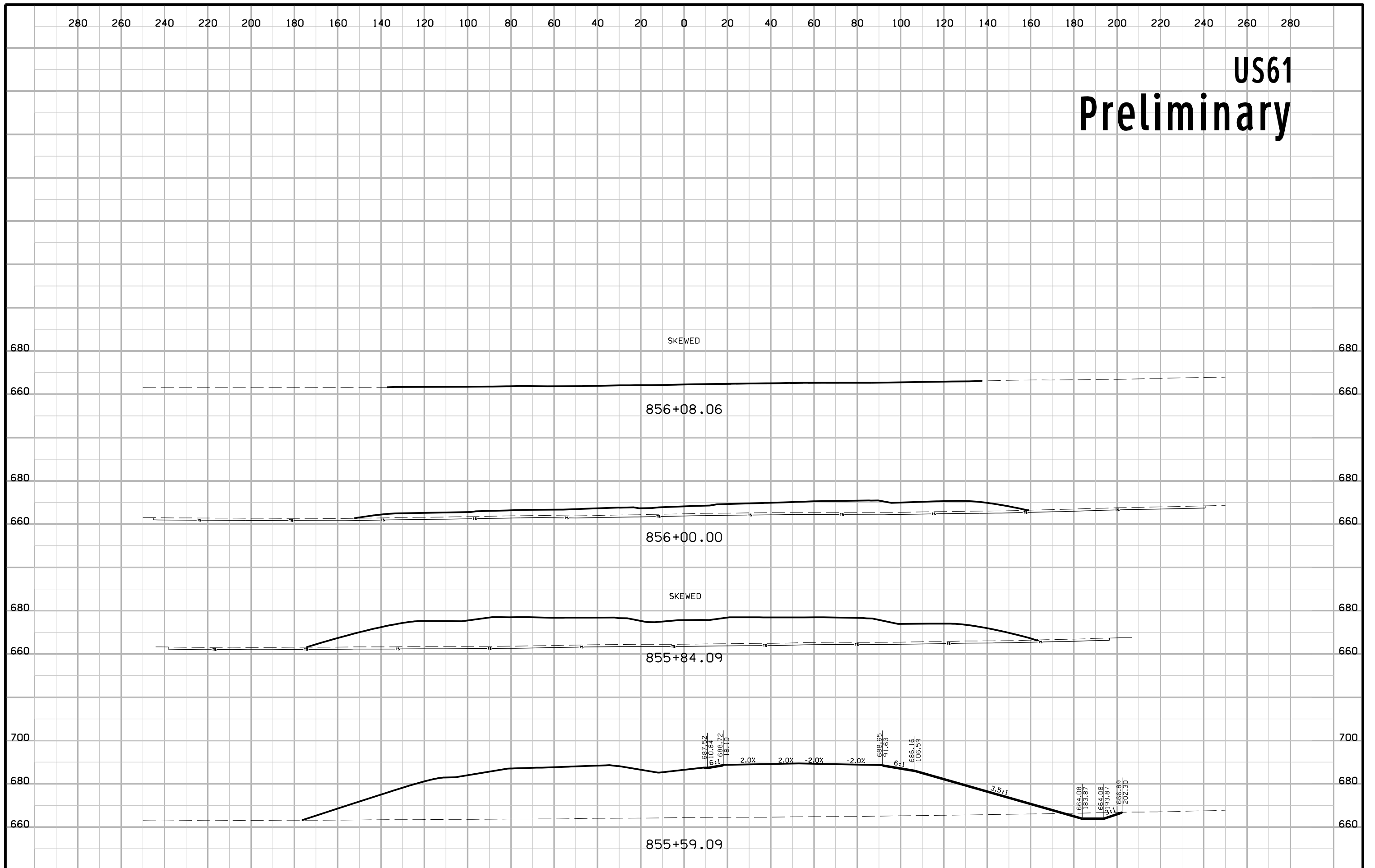
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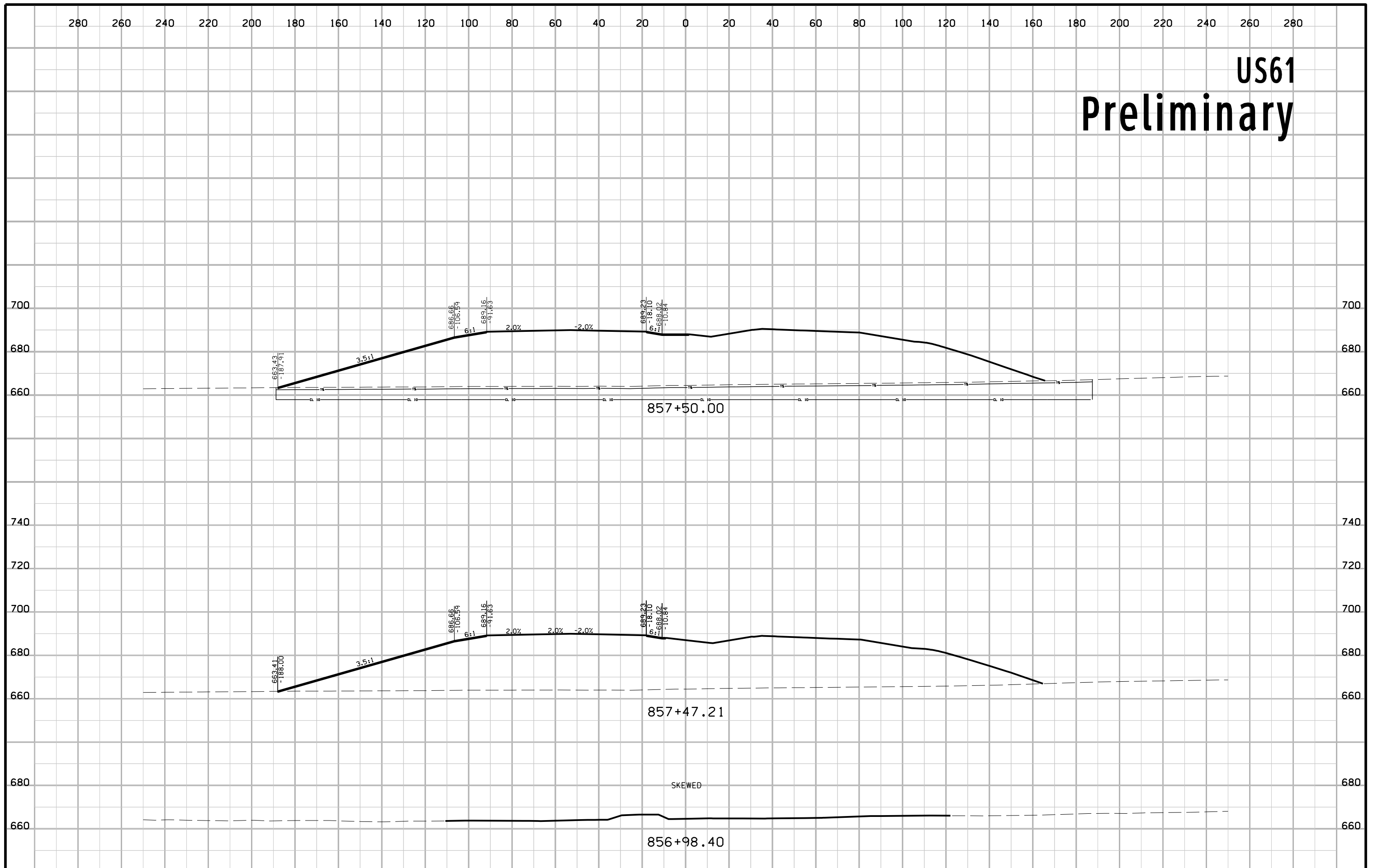
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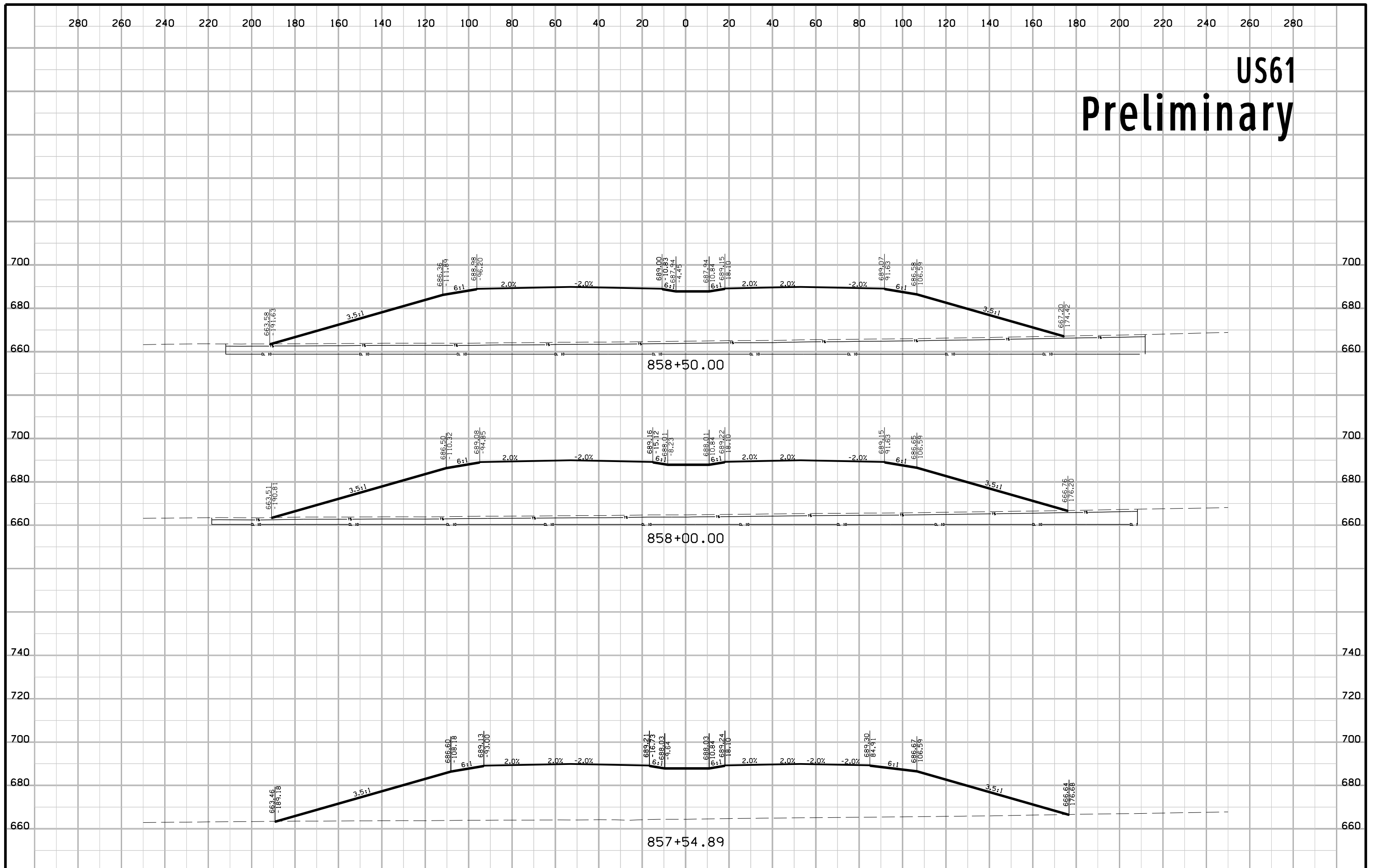
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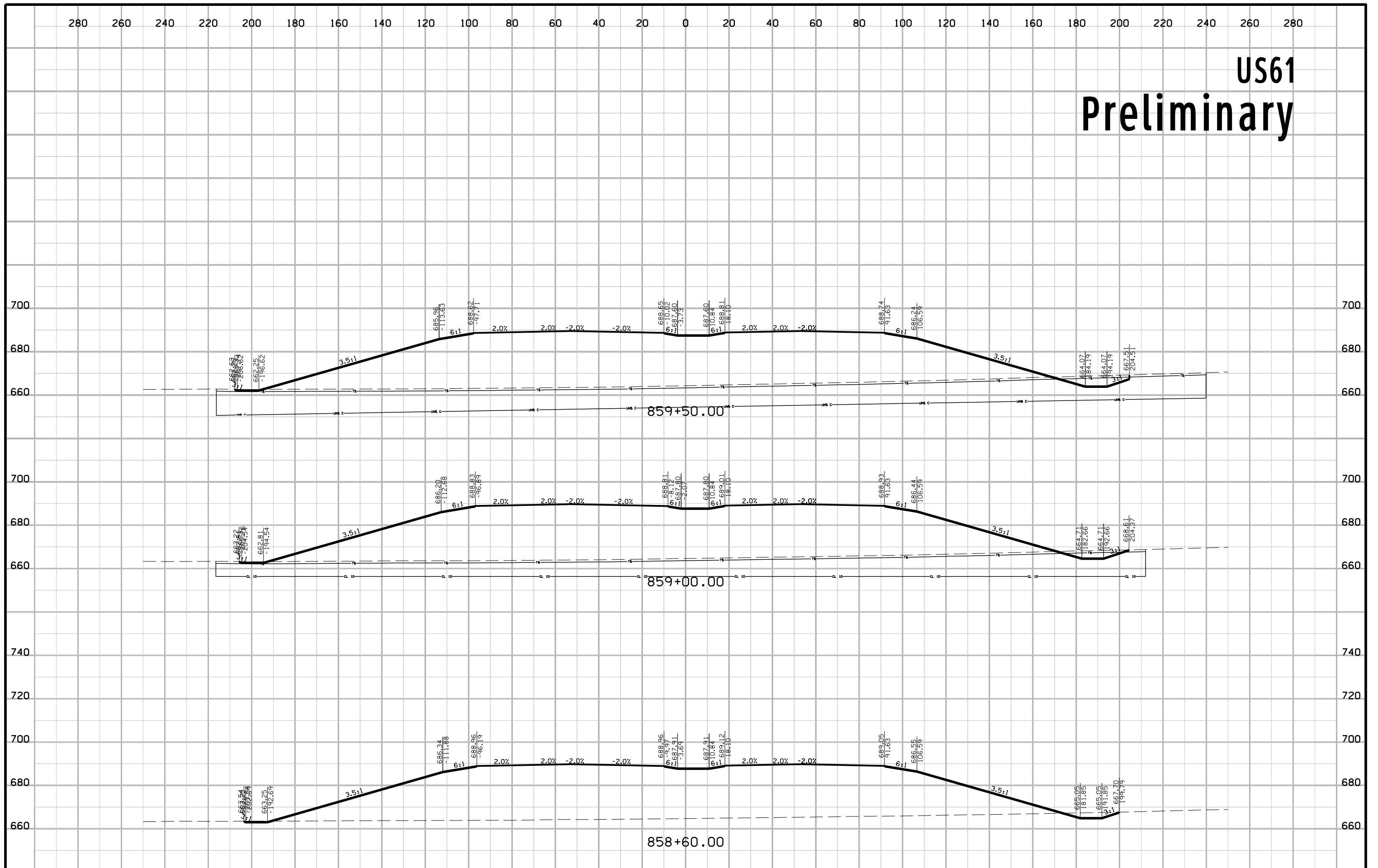
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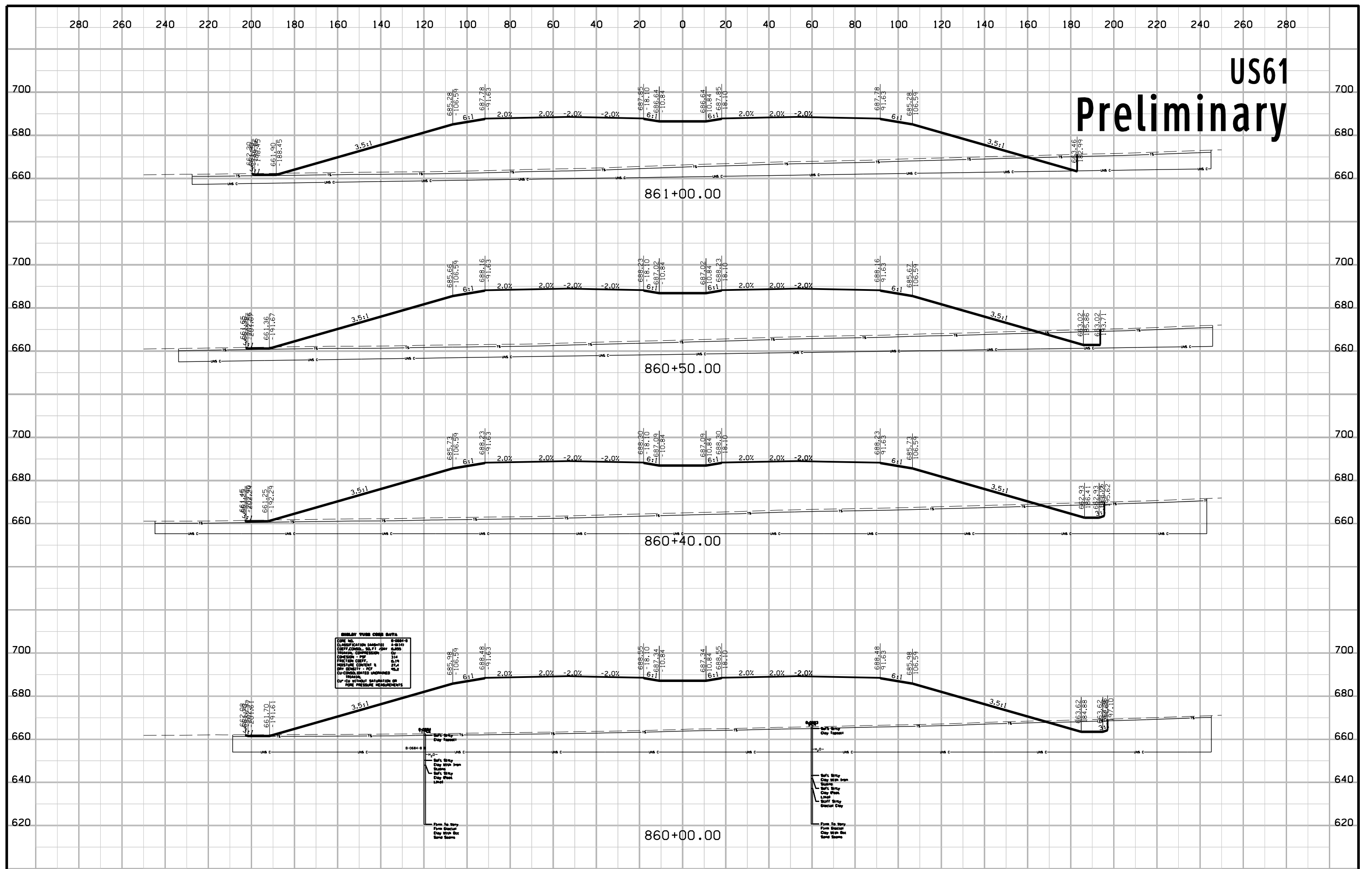
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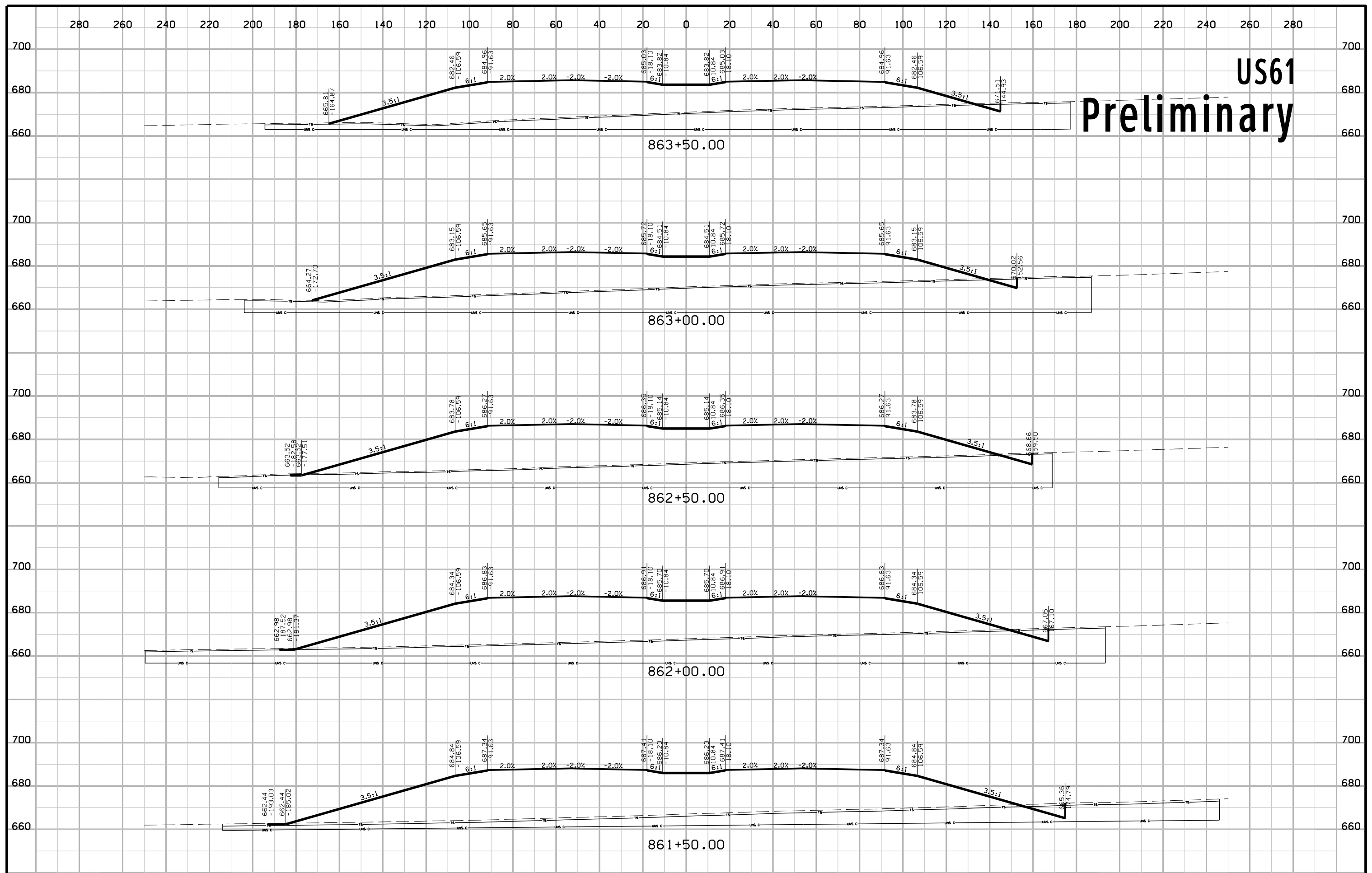
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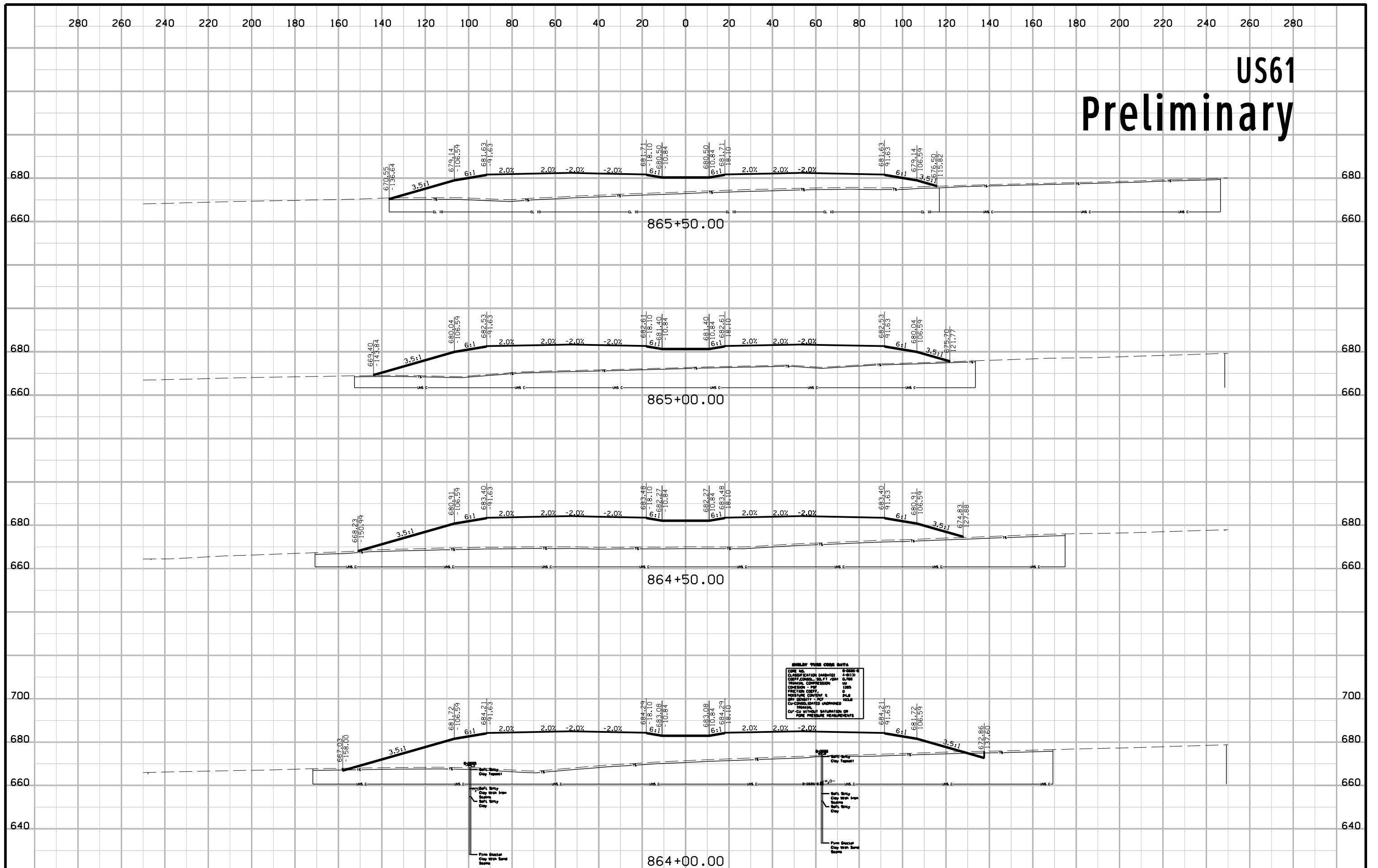
US61 Preliminary



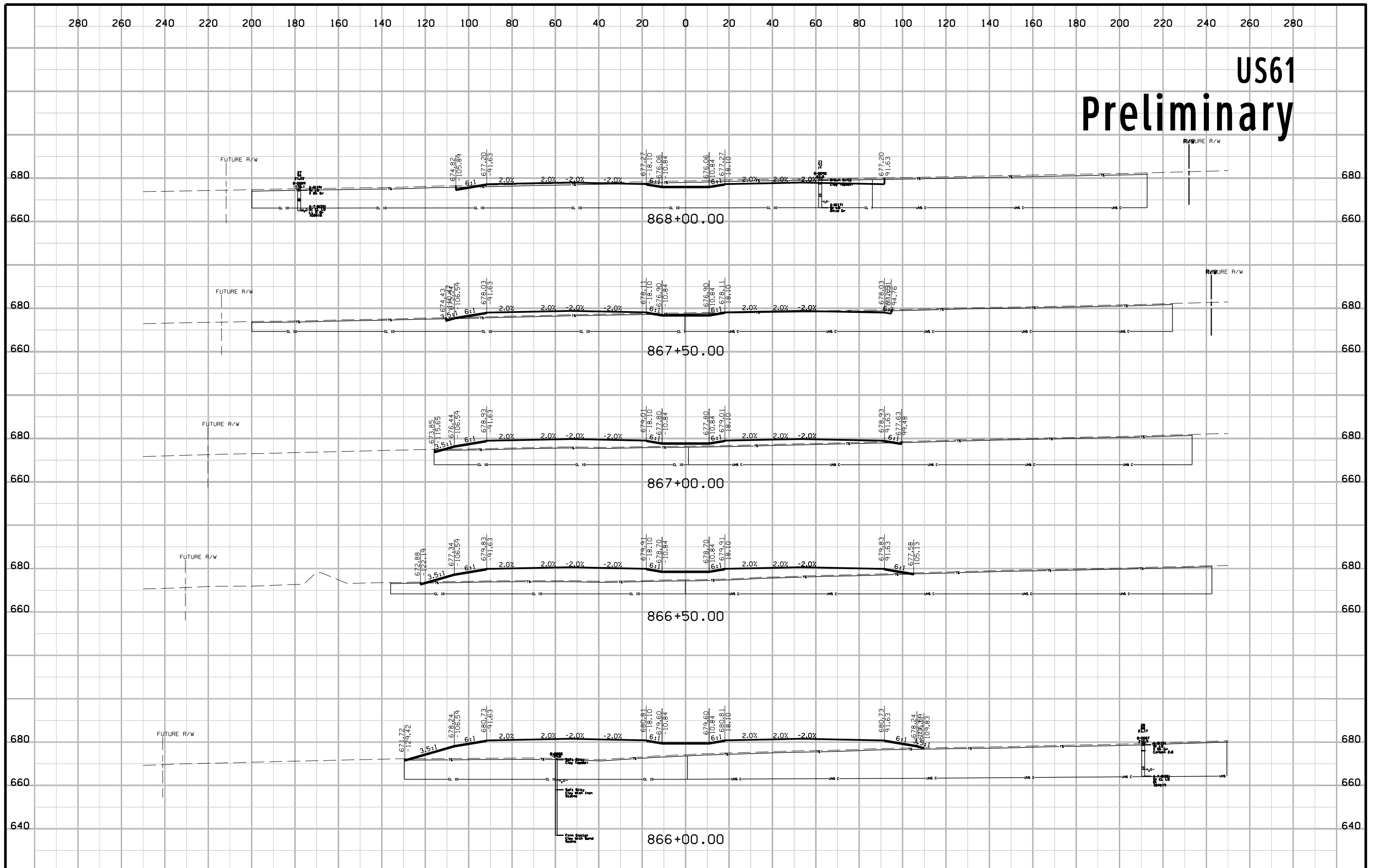
US61 Preliminary



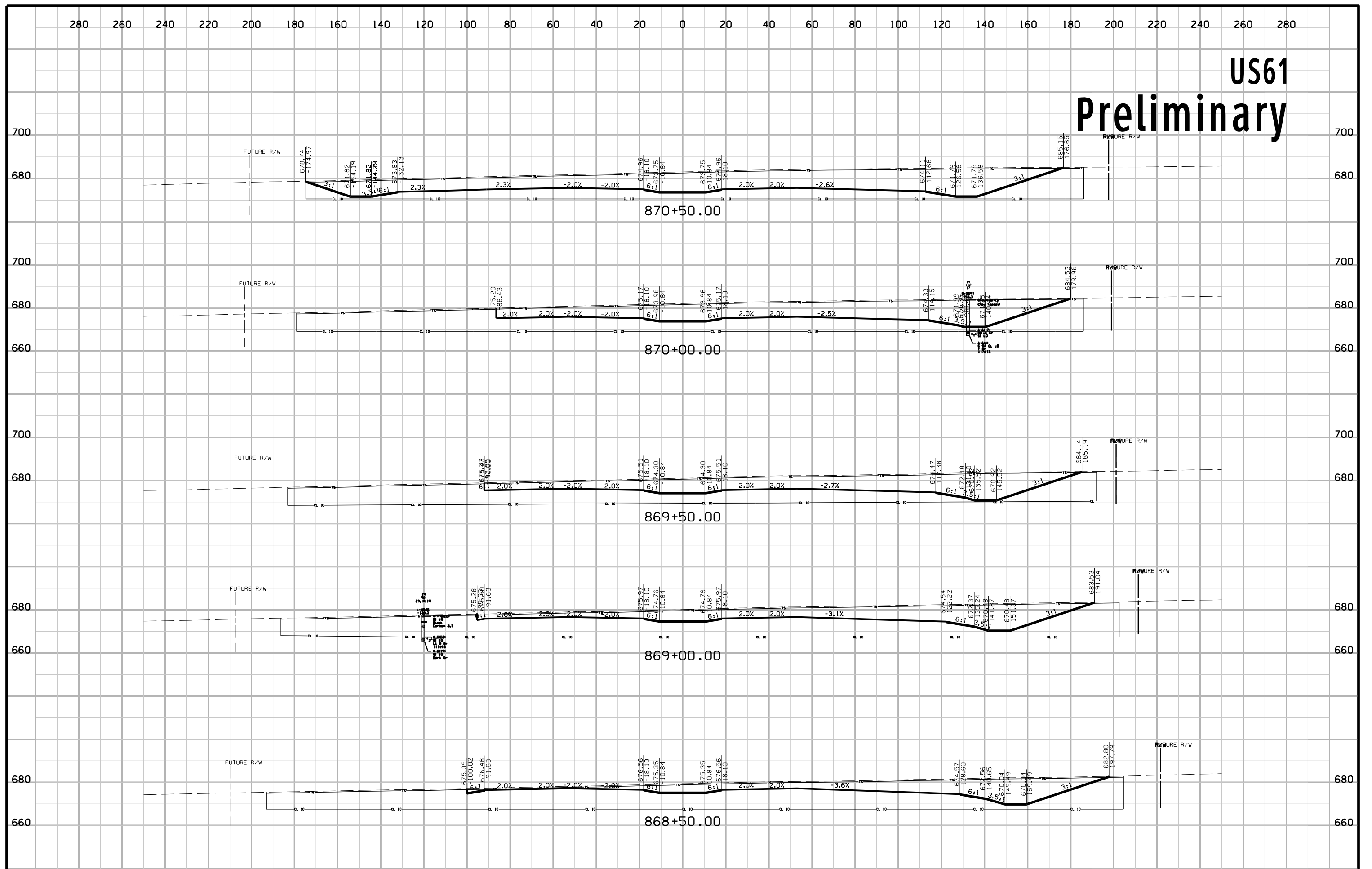
US61 Preliminary



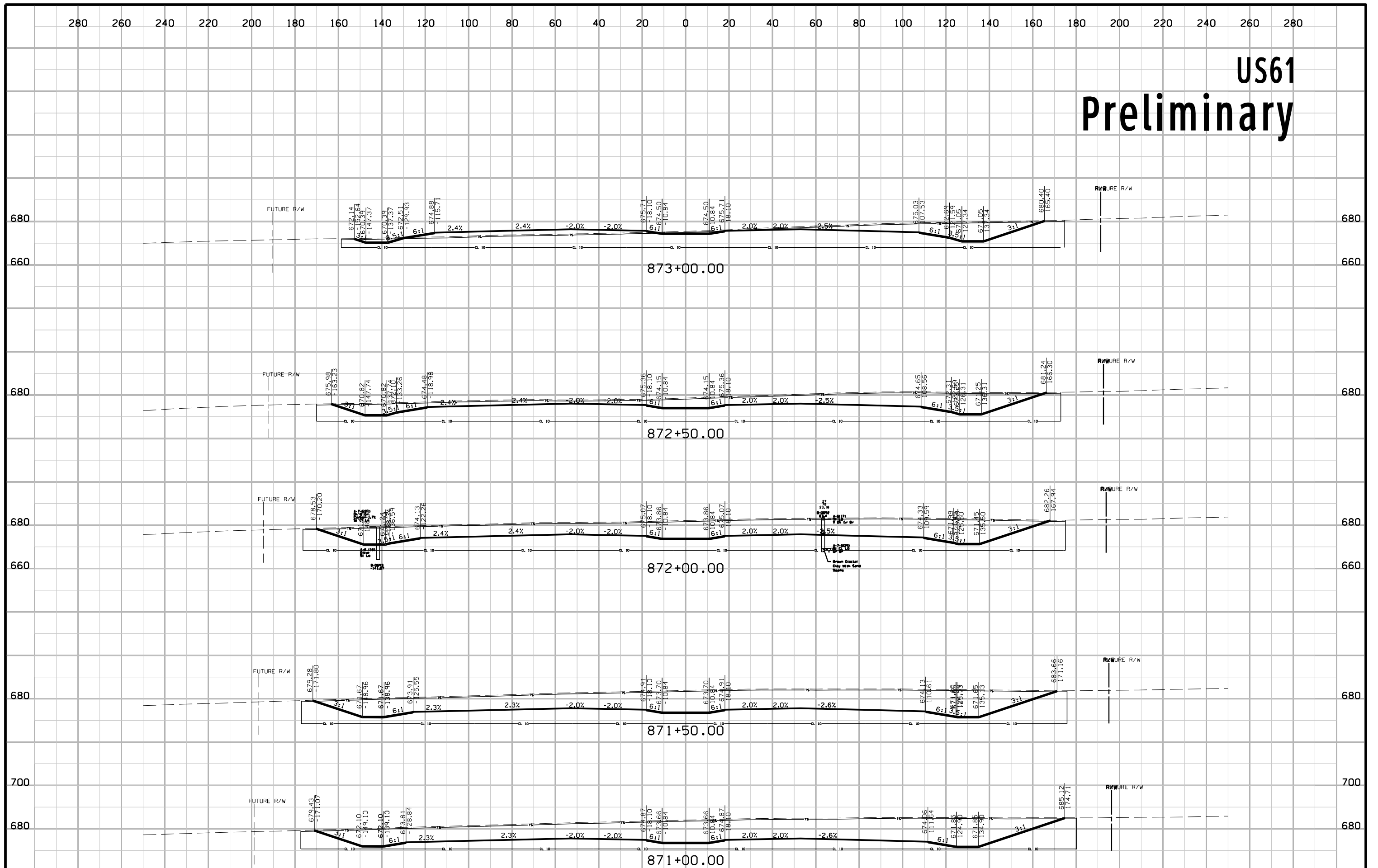
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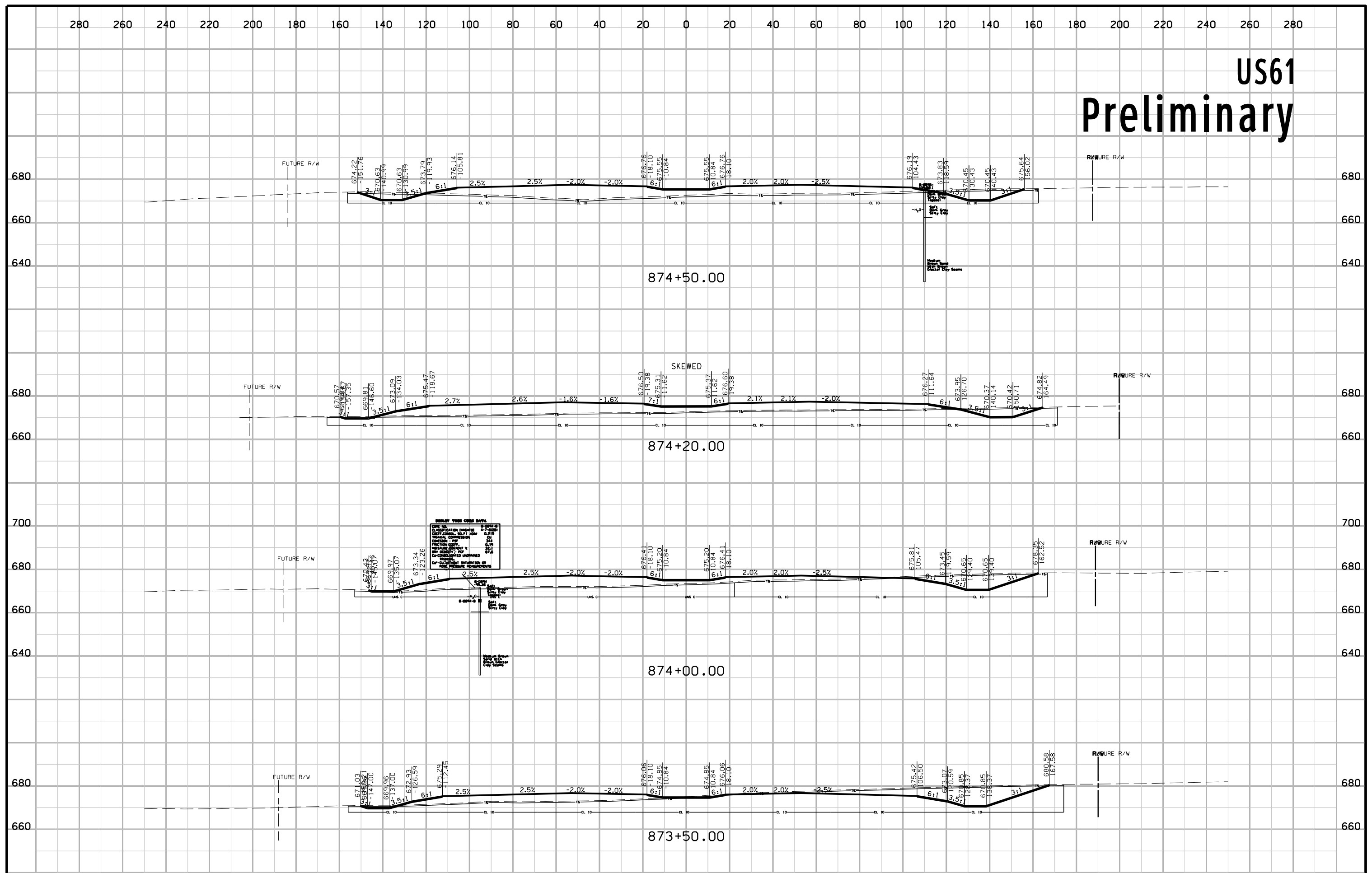
US61 Preliminary



US61 Preliminary

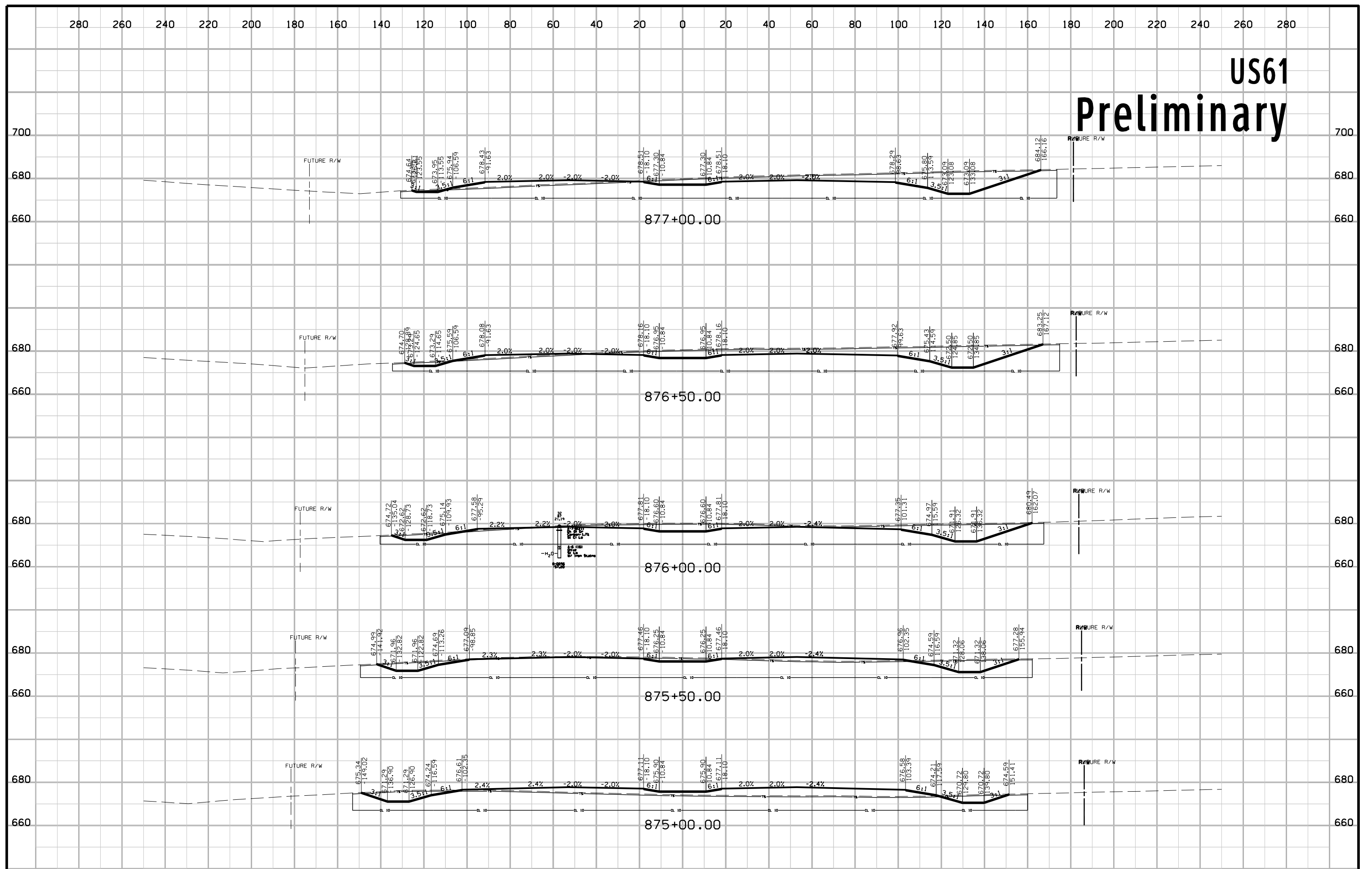


US61 Preliminary

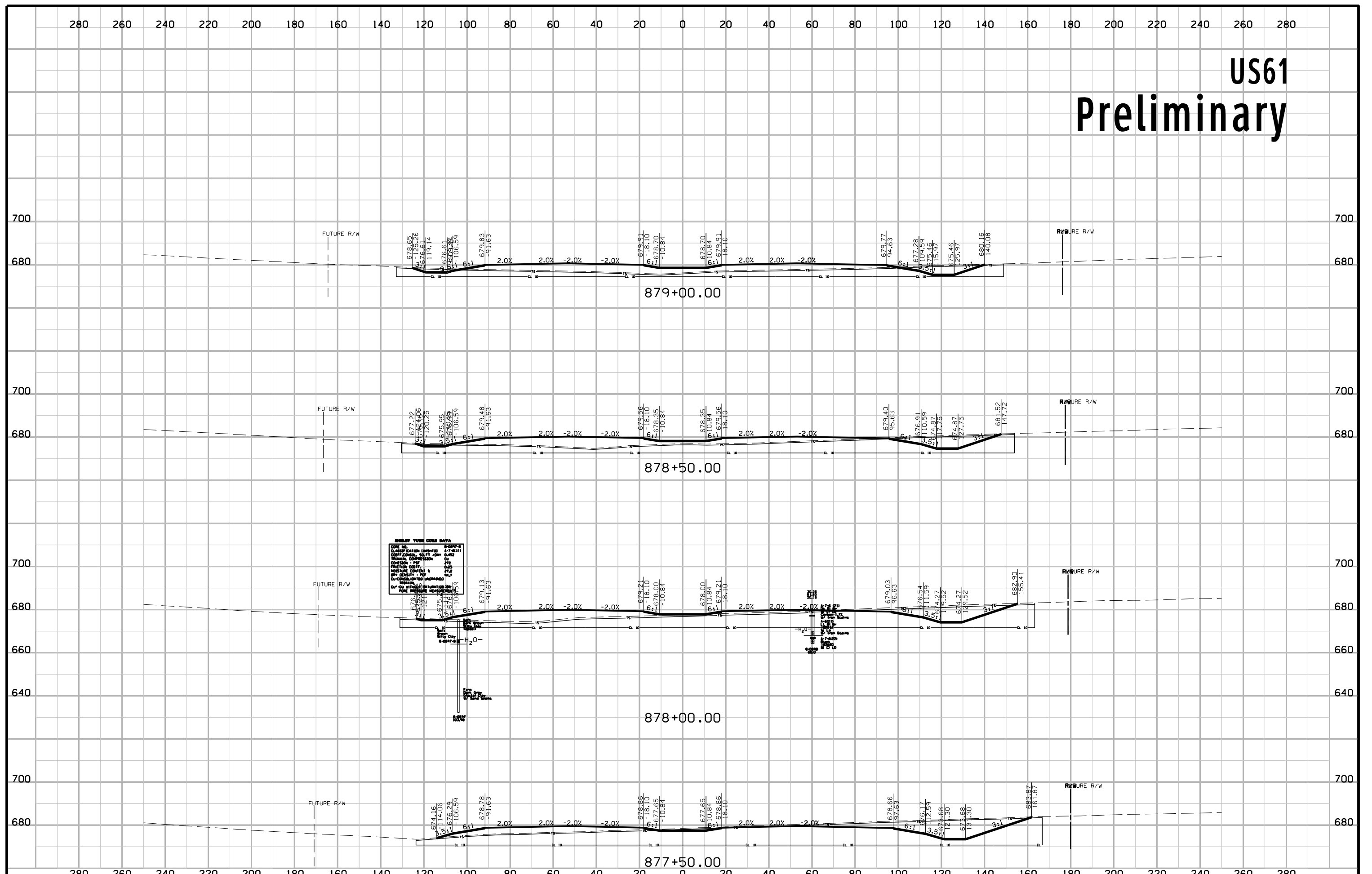


SHOULDER TYPE CODE DATA
 SOIL CLASSIFICATION: UNCLAYED SANDS - S-1 (GROUP 1)
 UNIT WEIGHT: 120.0 PCF
 PERCENTAGE OF FINER: 5.0%
 PERCENTAGE OF SAND: 95.0%
 PERCENTAGE OF SILT: 4.5%
 PERCENTAGE OF CLAY: 0.5%
 LIQUID LIMIT (LL): 24.0%
 PLASTICITY INDEX (PI): 1.0%
 PERCENTAGE OF ORGANIC MATTER: 0.0%
 PERCENTAGE OF FINE SAND: 95.0%
 PERCENTAGE OF FINE SILT: 4.5%
 PERCENTAGE OF FINE CLAY: 0.5%

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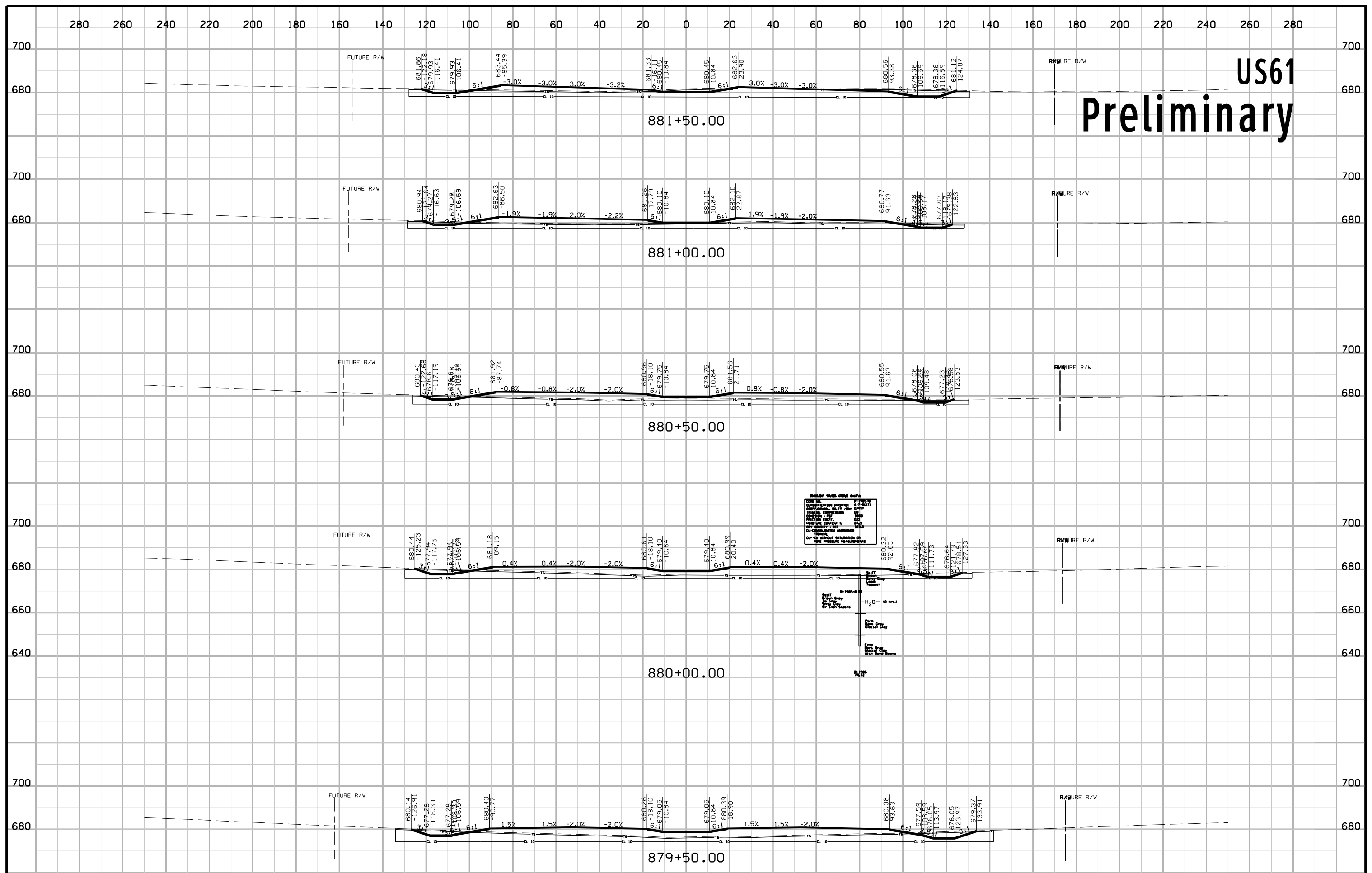
US61 Preliminary



SHOULDER TYPE CURB DATA

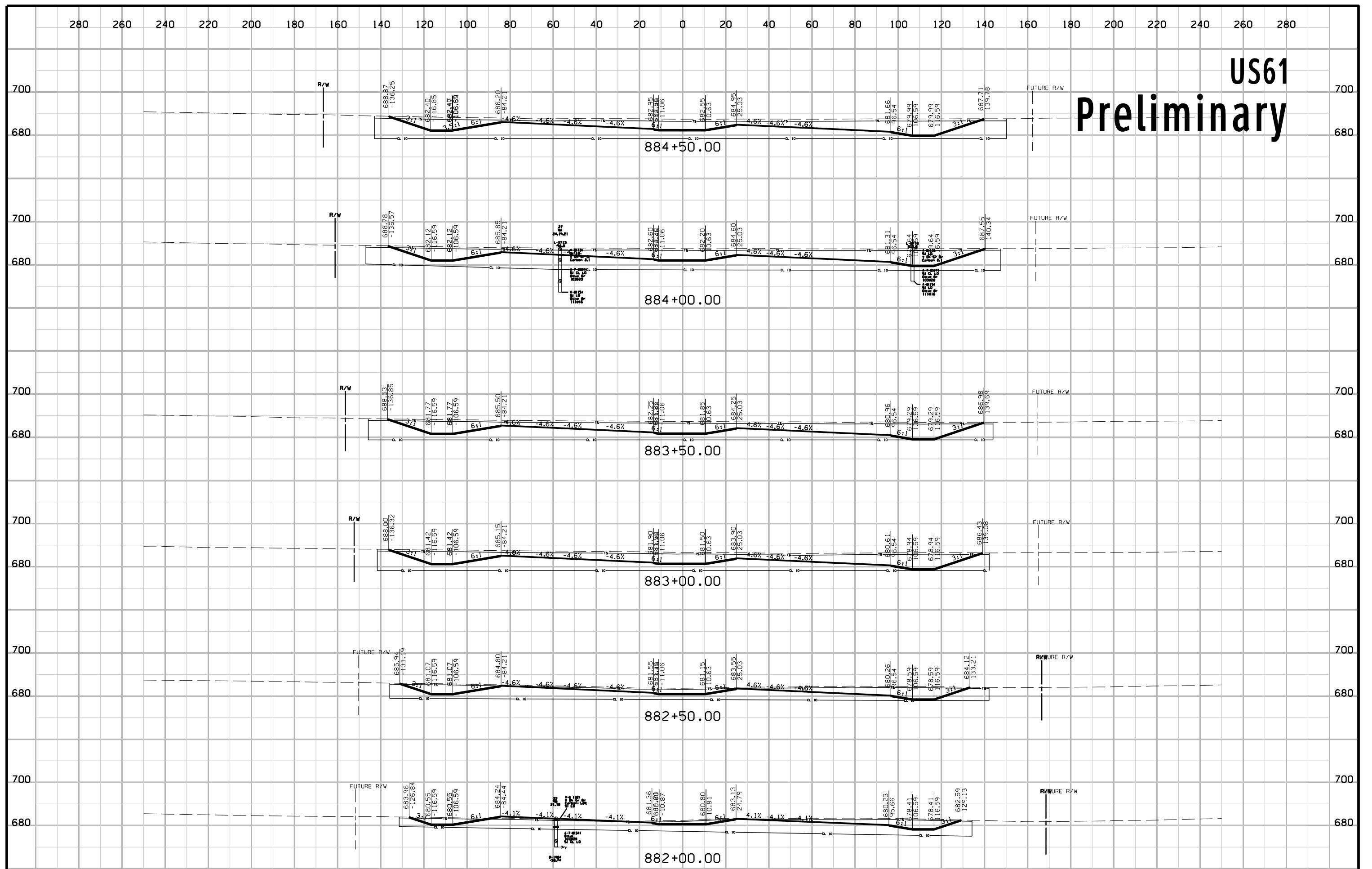
CURB NO.	1
CLASSIFICATION (ASPH/TO)	4-7-82311
COEFF. CONTROL (ASPH/TO)	6-52
MINIMUM COMPRESSION	CU
COMPRESSION (PS)	275
FRACTION CURB	1/2
MINIMUM COVER (IN)	21/2
MIN. CURB HGT	4.1
CU-CURB MATERIAL (ASPH/TO)	
MIN. CURB WIDTH (ASPH/TO)	

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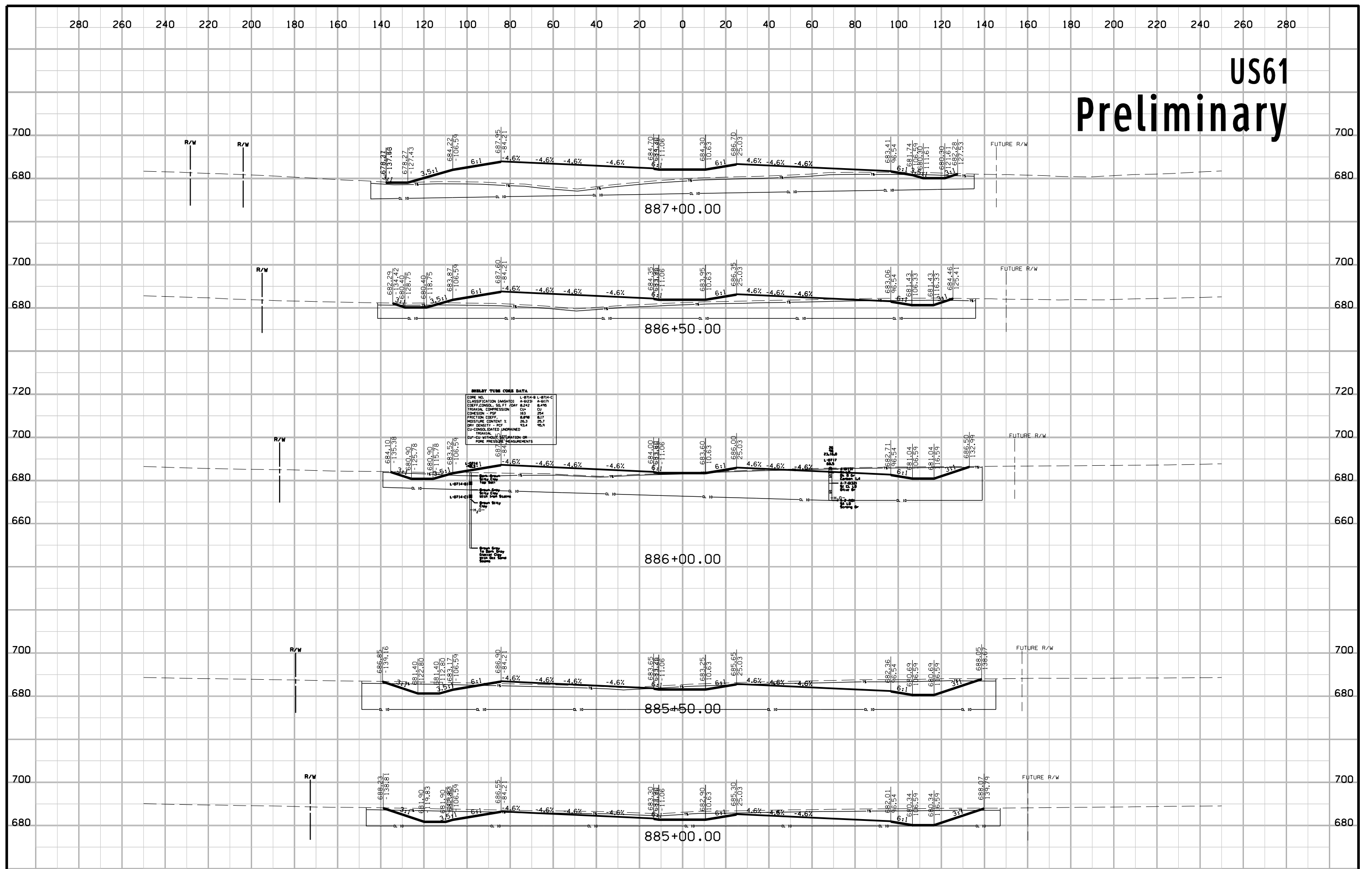


BELOW THIS CROSS SECTION
 DATE: 11/11/14
 DRAWN BY: J. GREEN
 CHECKED BY: J. GREEN
 PROJECT: NHSX-061-3(57)--3H-58
 SHEET: W.55
 SCALE: 1"=20'
 OR AS SHOWN ON THE PLANS
 OR AS SHOWN ON THE PROFILES

US61 Preliminary



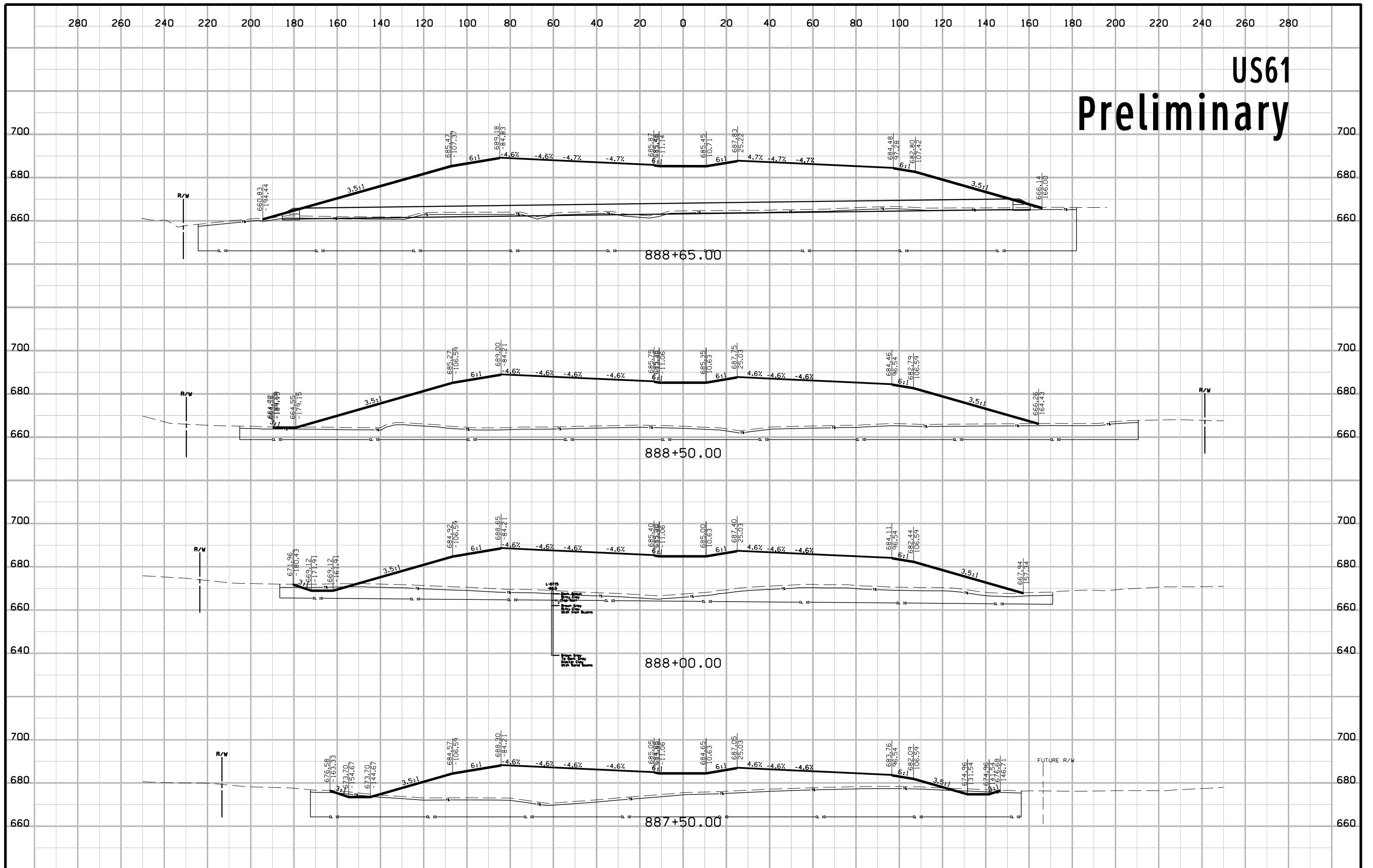
US61 Preliminary



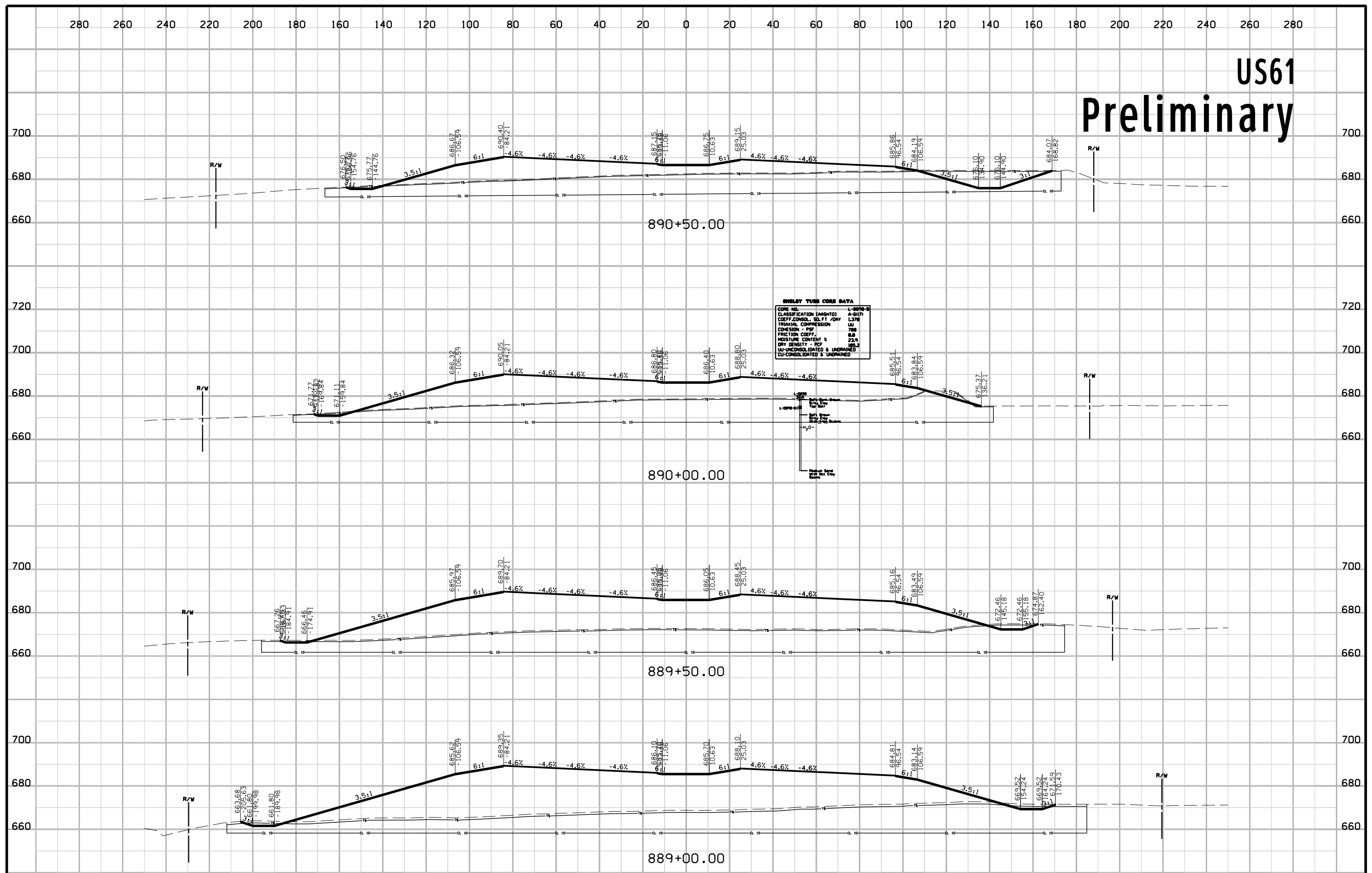
SHIELT TUBE CORE DATA

CORE NO.	L-0714-B	L-0714-C
CLASSIFICATION (ASHSTO)	A-2.5	A-9.0
COEFF. OF CONSOLIDATION (SOIL)	0.242	0.495
TRIAxIAL COMPRESSION	CU	CU
COHESION - PSF	83	254
FRICTION COEFF.	0.48	0.17
MOISTURE CONTENT %	26.3	25.7
DRY DENSITY - PCF	93.4	95.3
CU CONSOLIDATED (UNSATURATED TRIAXIAL)		
CU - CU WITHOUT SATURATION OR PORE PRESSURE MEASUREMENTS		

US61 Preliminary



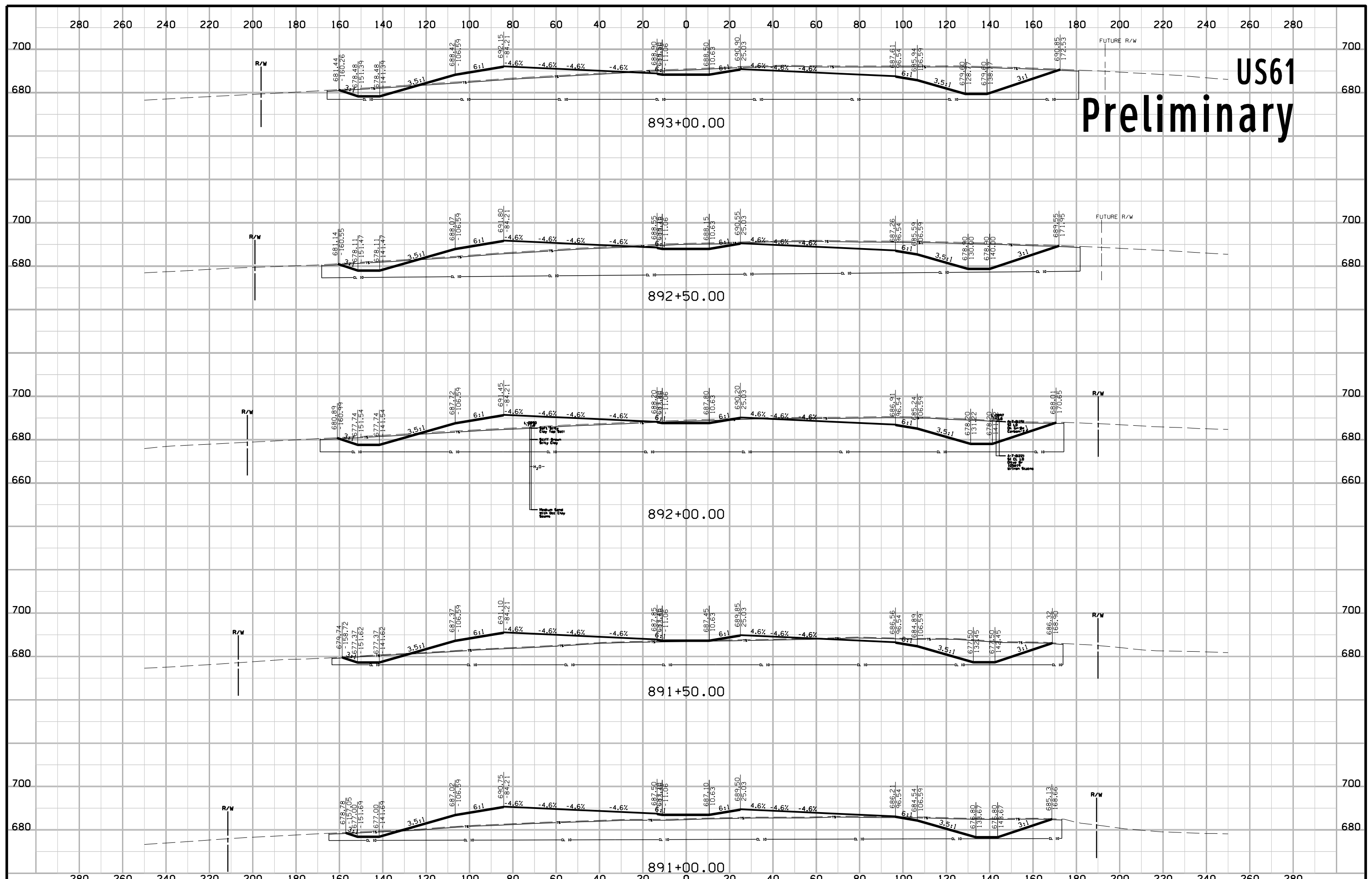
US61 Preliminary



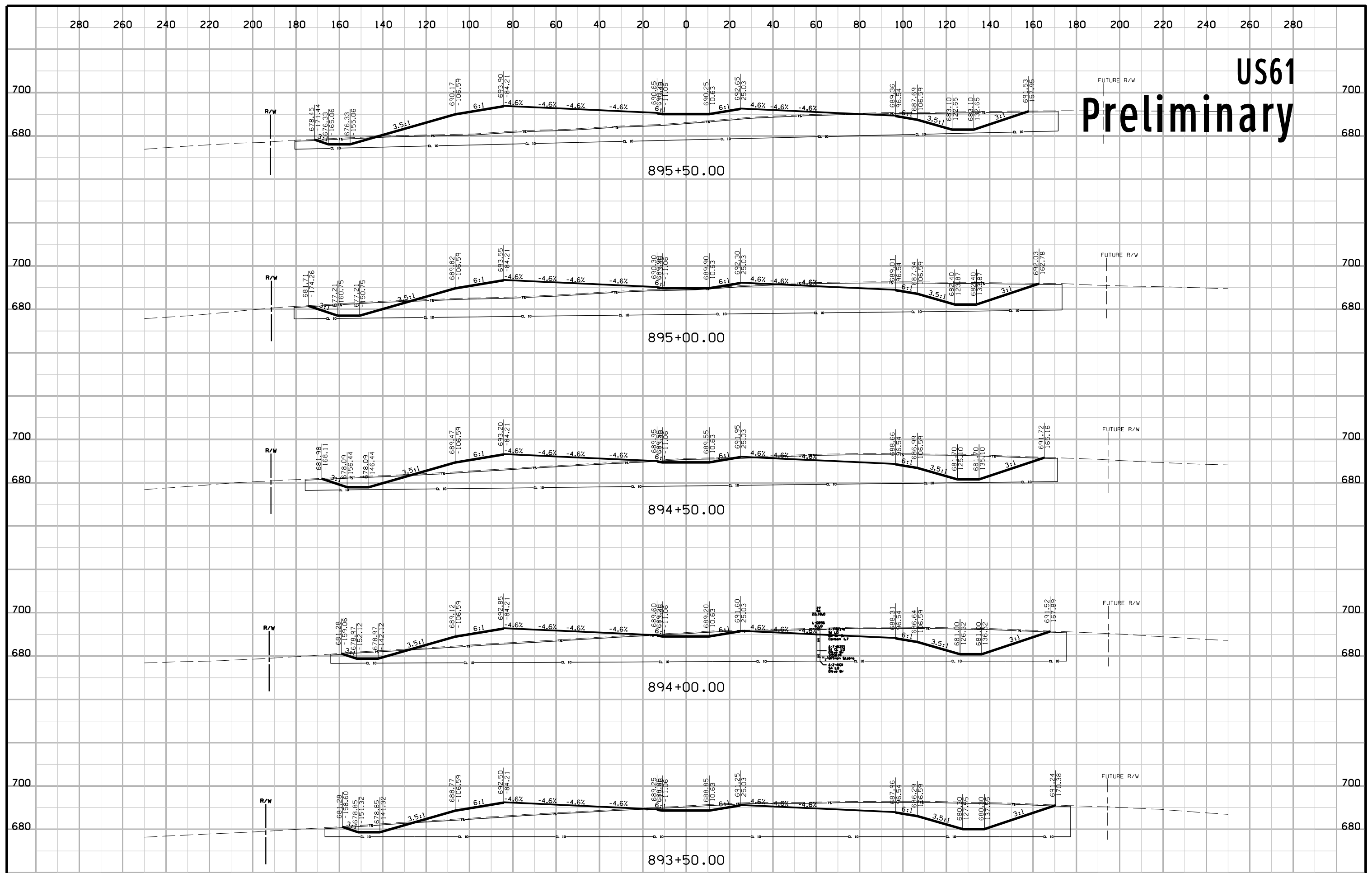
SHIELBY TUBE CORE DATA

CORE NO.	L-0090-B
CLASSIFICATION (ASHSTO)	A-5(7)
COEFF. CONSOL. SO. FT. / DAY	1.378
TRIAxIAL COMPRESSION	UN
COHESION - PSF	780
FRICTION COEFF.	0.8
MOISTURE CONTENT %	23.9
DRY DENSITY - PCF	106.2
UN-UNCONSOLIDATED & UNDRAINED	
CU-CONSOLIDATED & UNDRAINED	

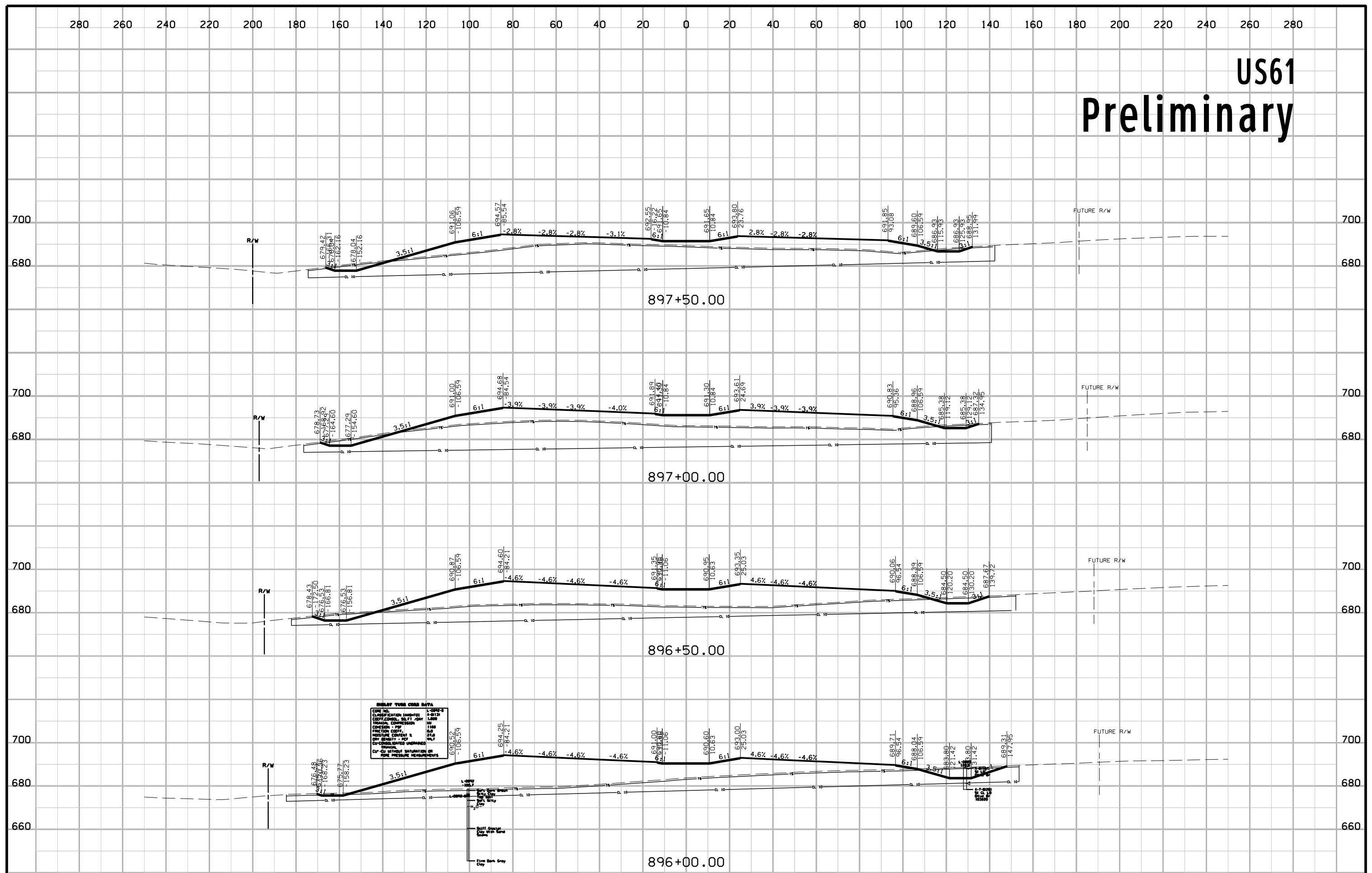
US61 Preliminary



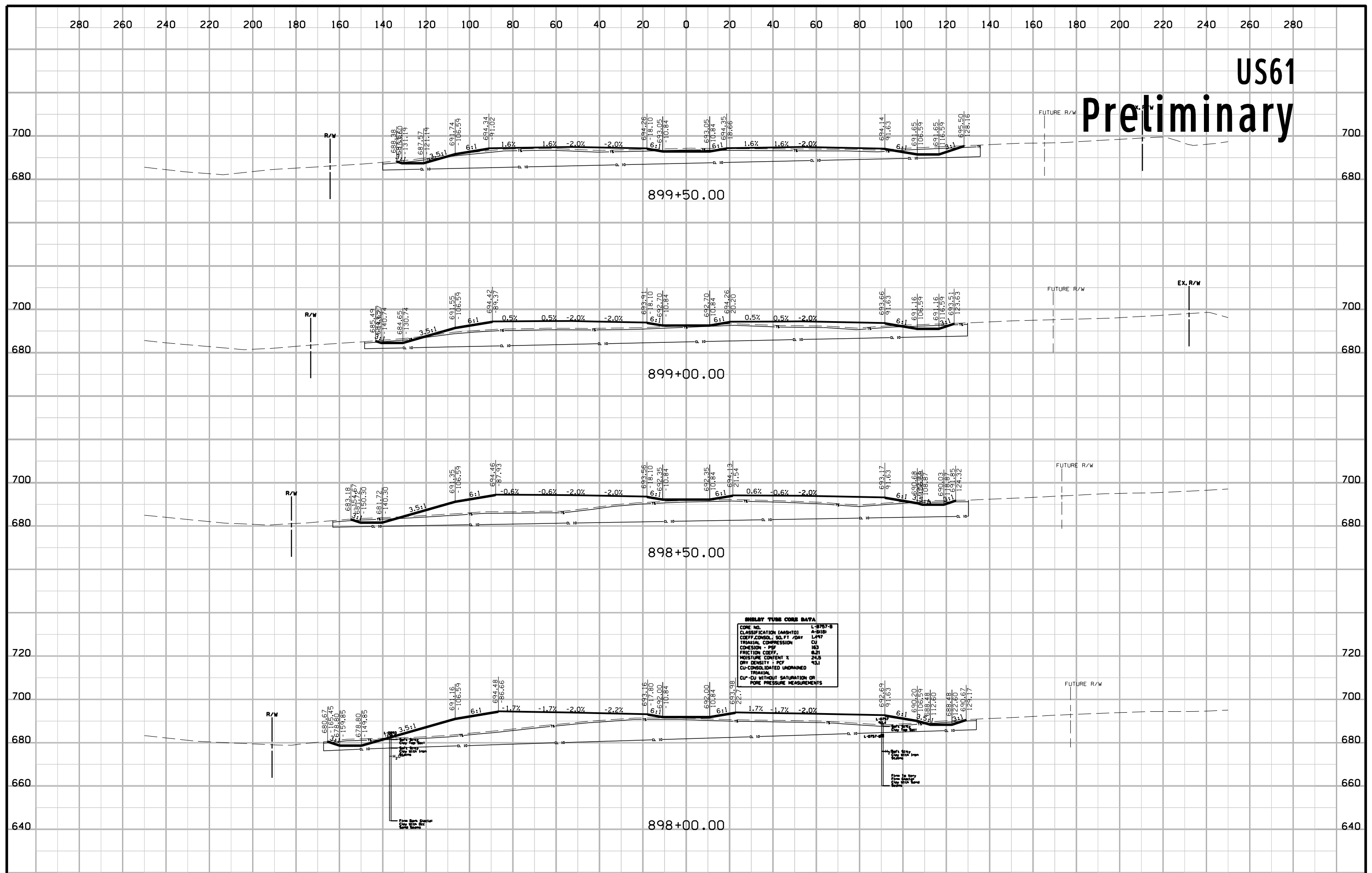
US61 Preliminary



US61 Preliminary



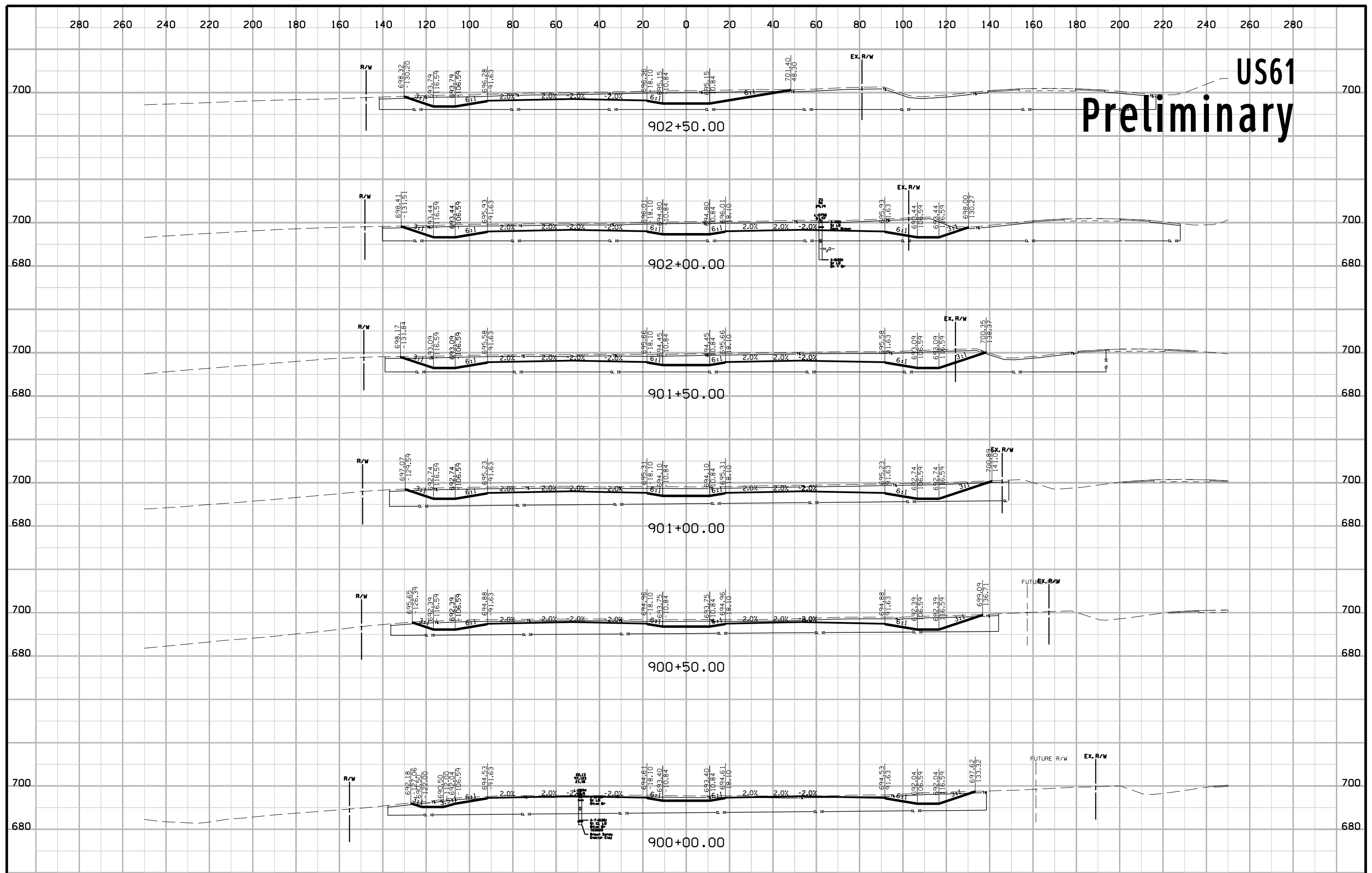
US61 Preliminary



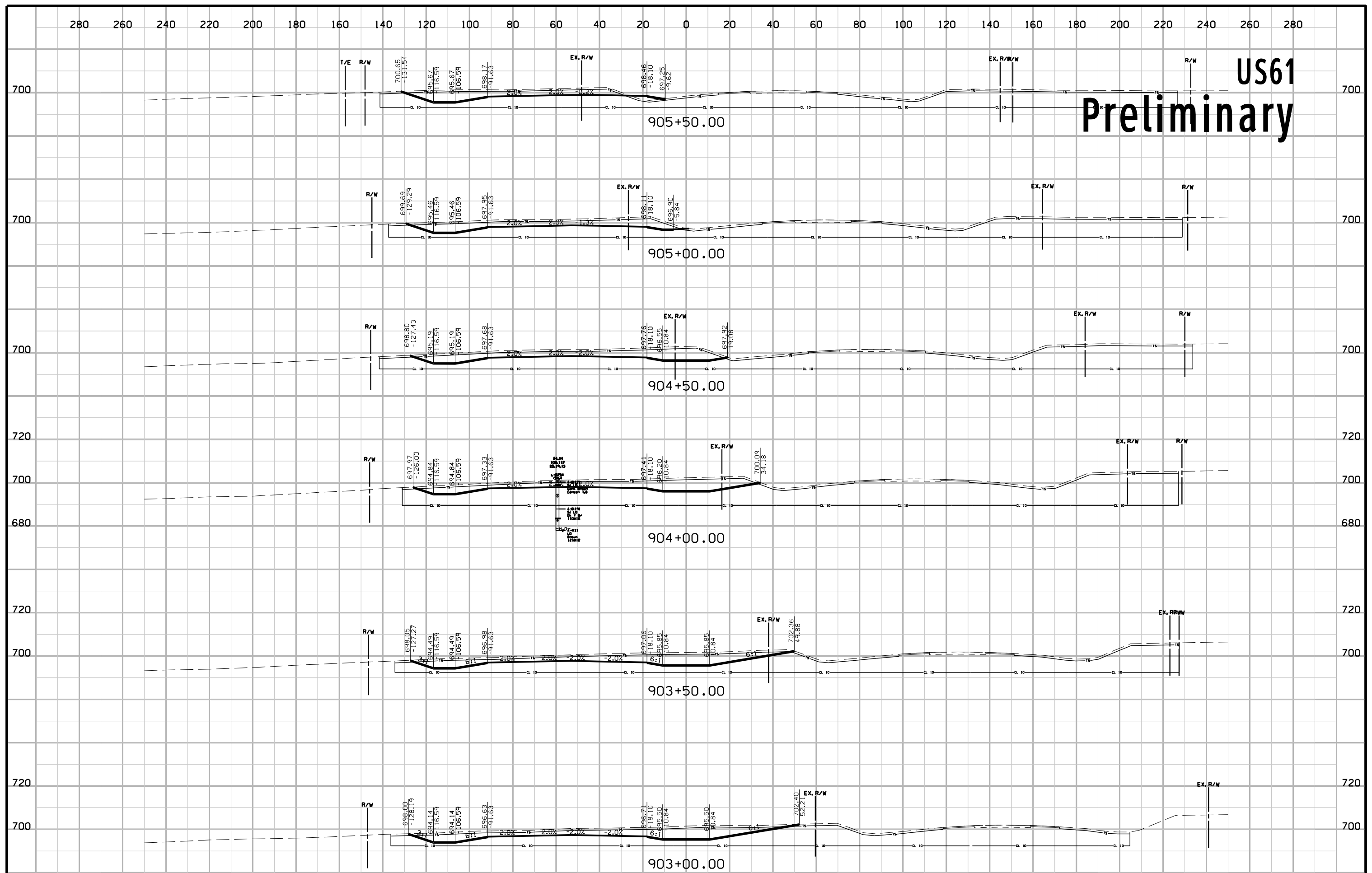
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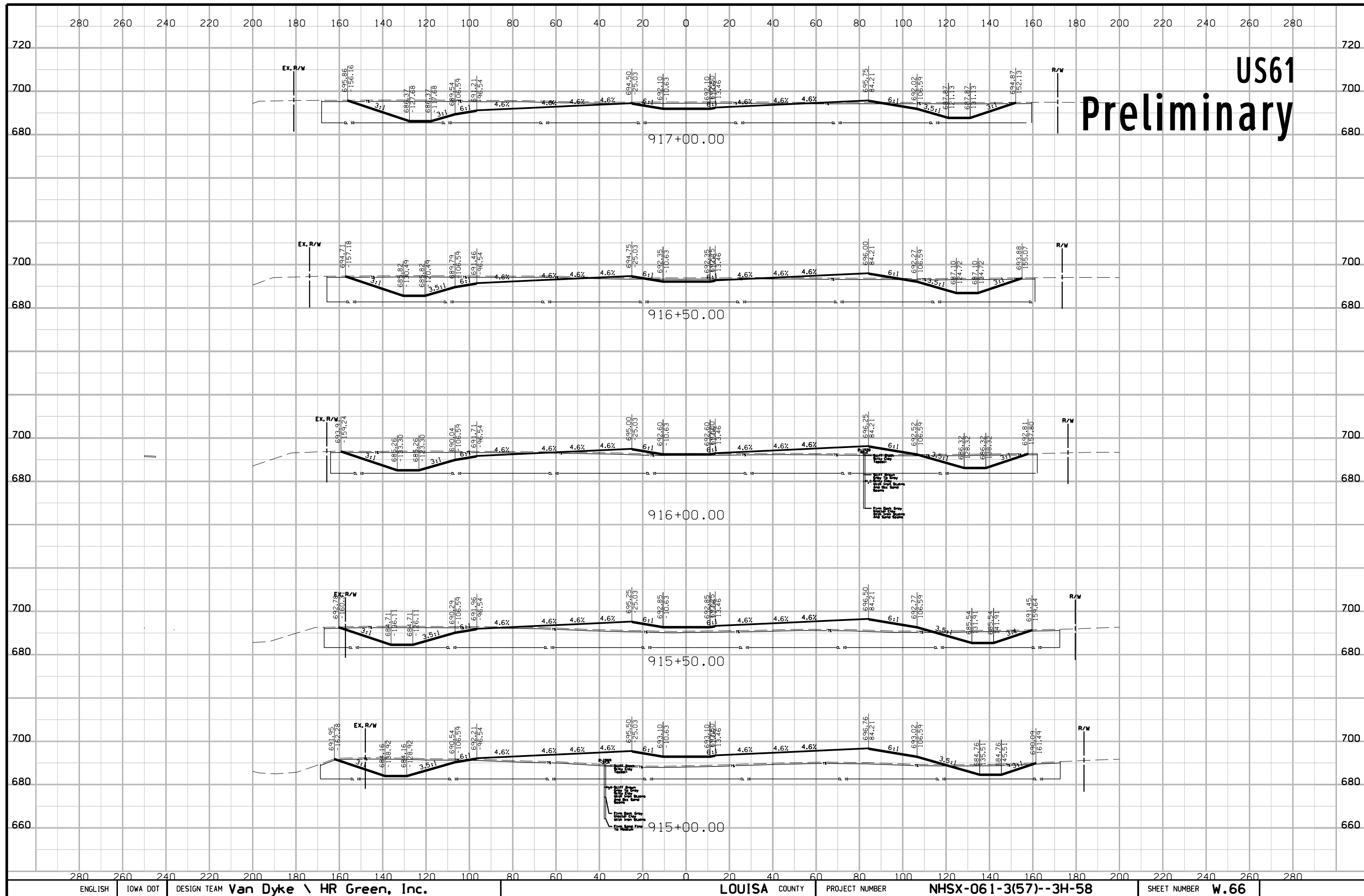
CORE NO.	L-9757-B
CLASSIFICATION (ASHSTO)	A-5(1)
COEFF. CONSOL. SO. FT. / DAY	1.497
TRIALIAL COMPRESSION	CU
COHESION - PSF	183
FRICTION COEFF.	0.21
MOISTURE CONTENT %	24.5
DRY DENSITY - PCF	93.1
CU-CONSOLIDATED UNDRAINED TRIALIAL	
CU-CU WITHOUT SATURATION OR PORE PRESSURE MEASUREMENTS	

US61 Preliminary



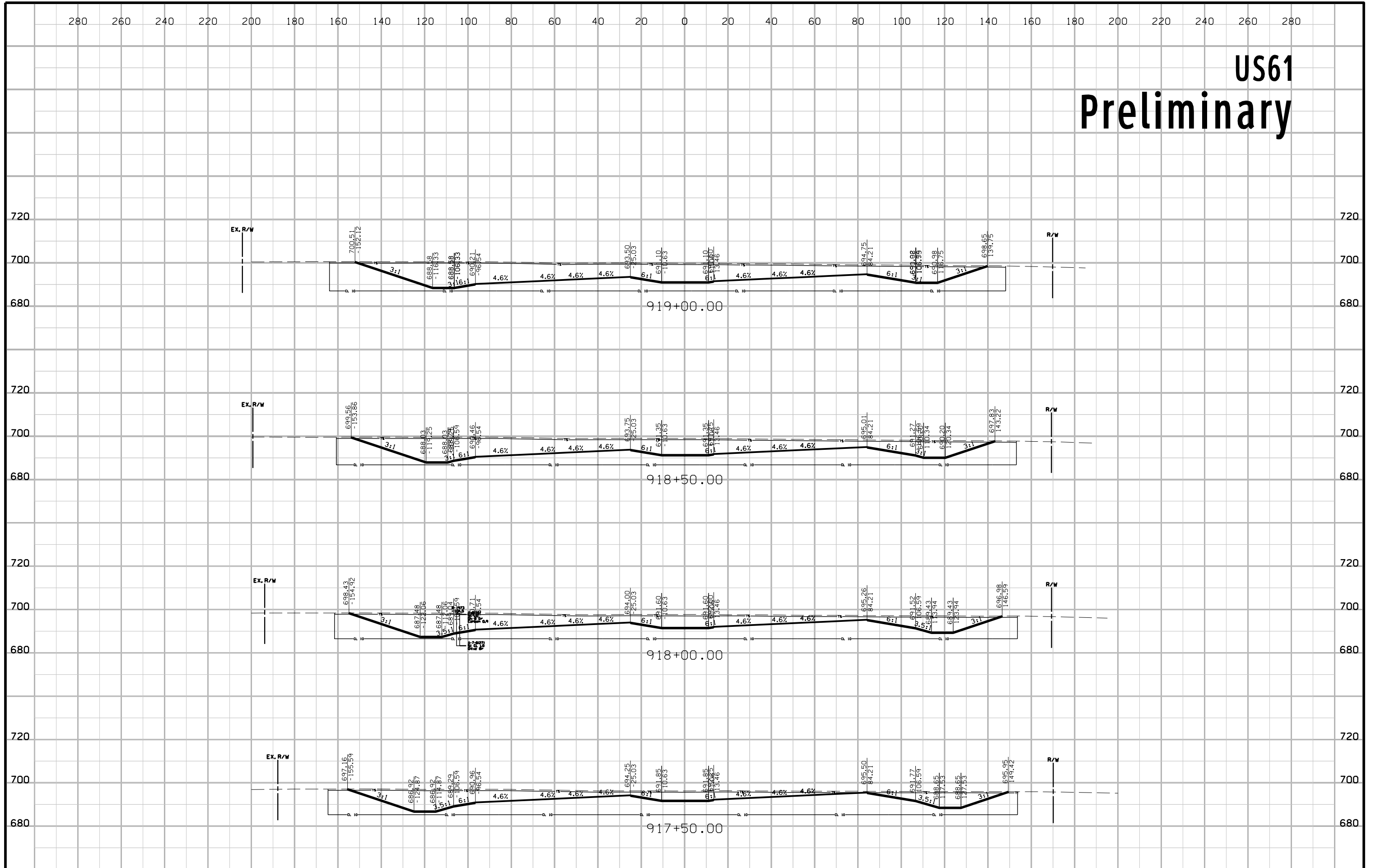
US61 Preliminary



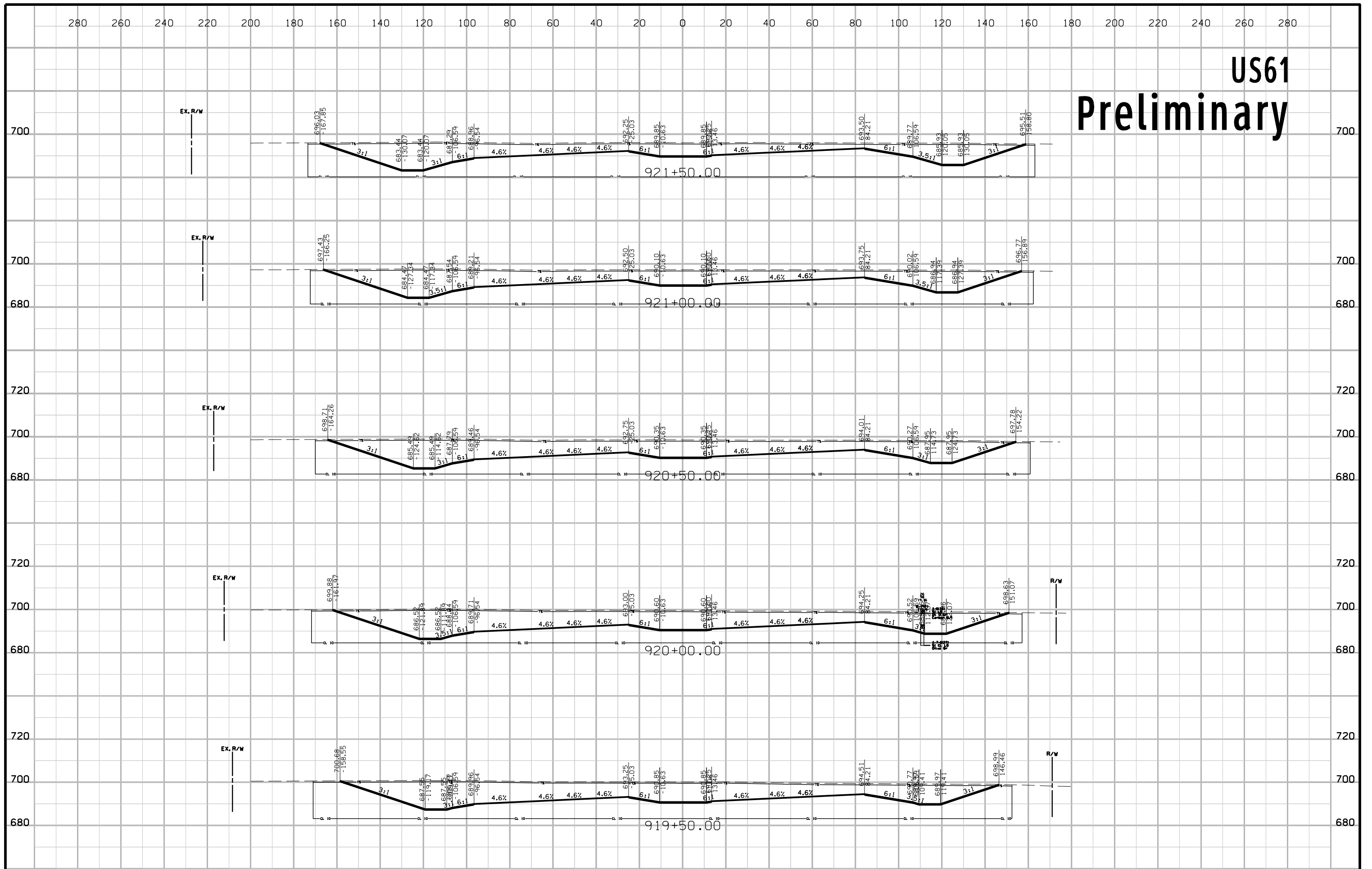


**US61
Preliminary**

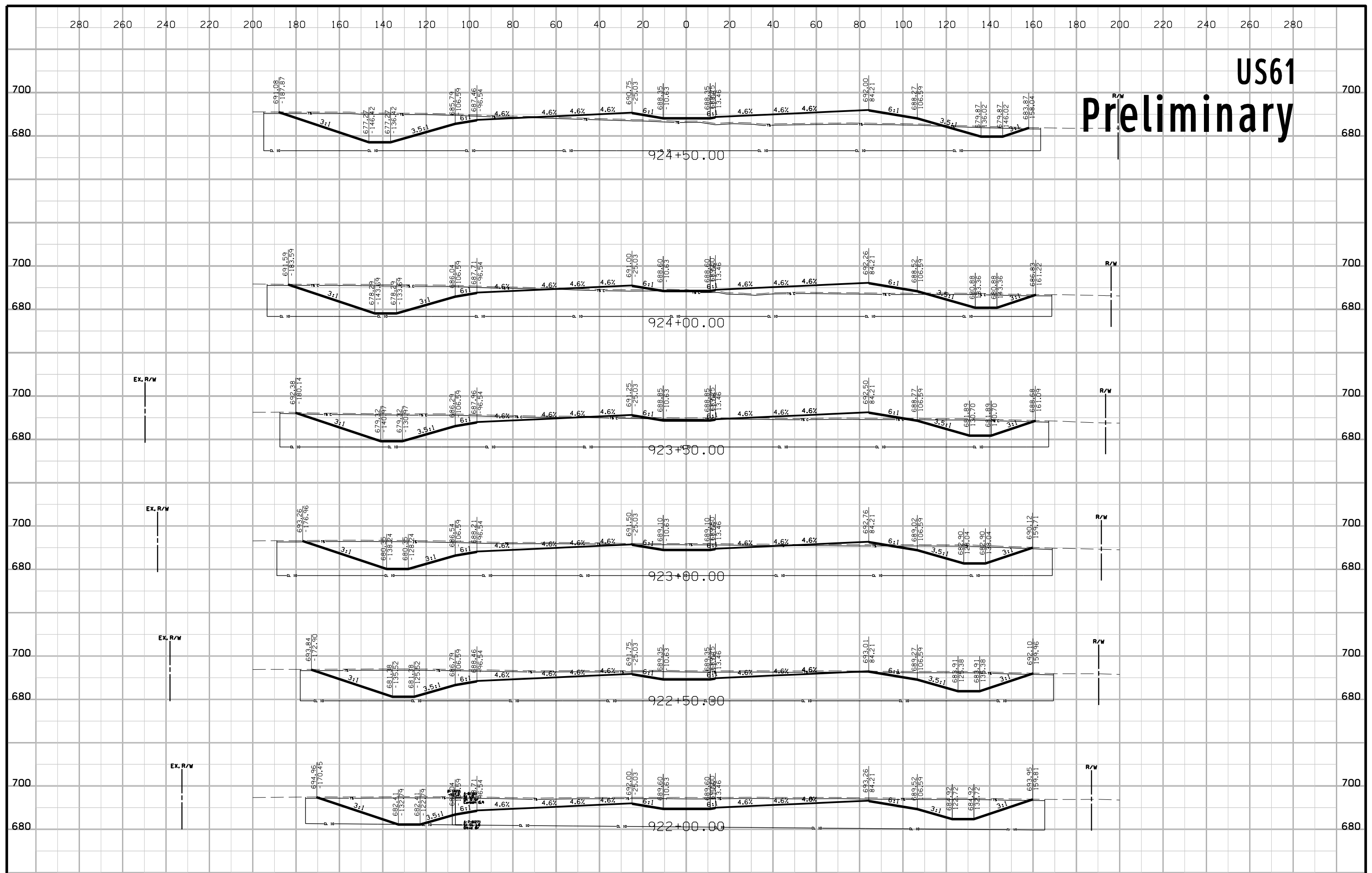
US61 Preliminary



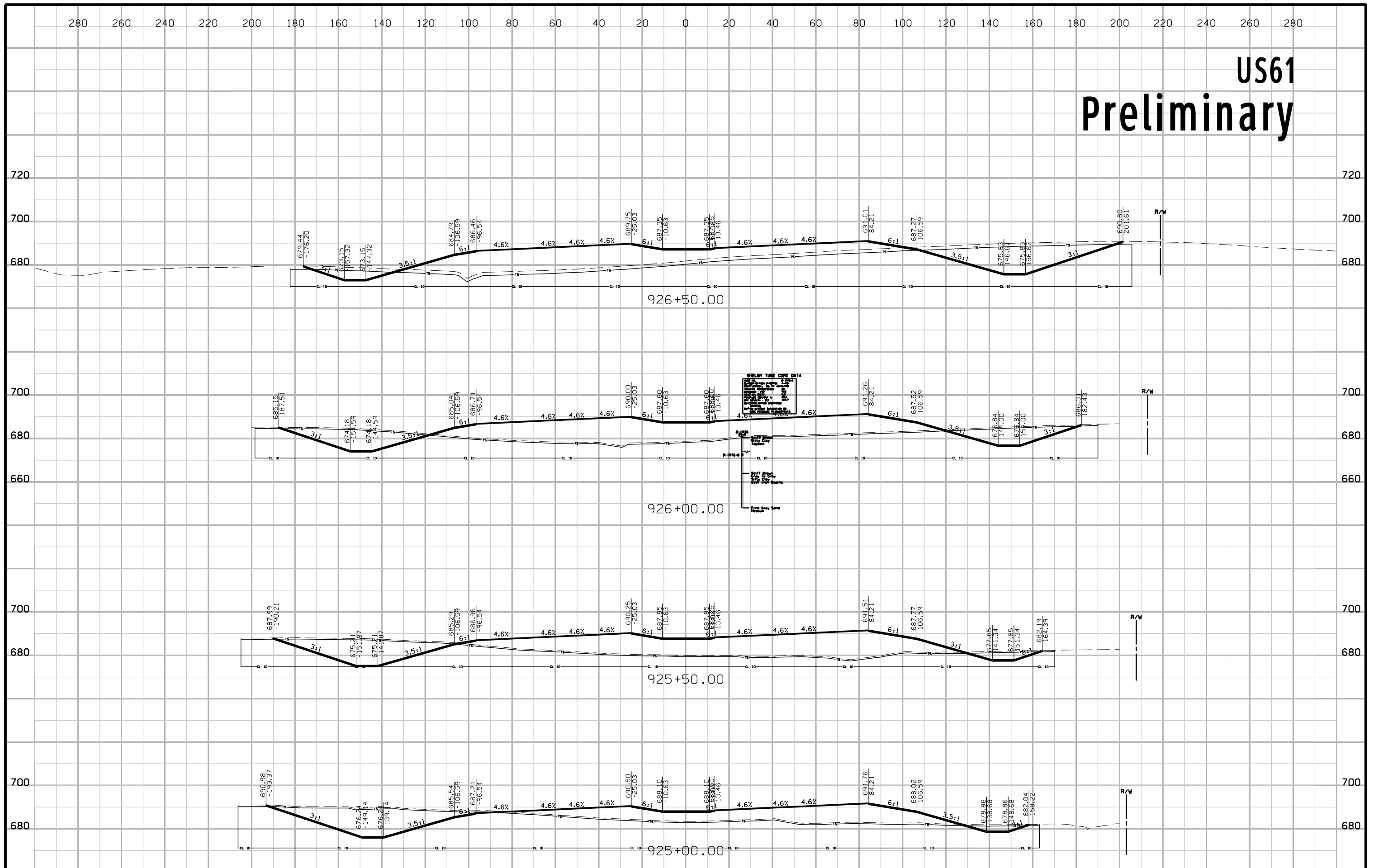
US61 Preliminary



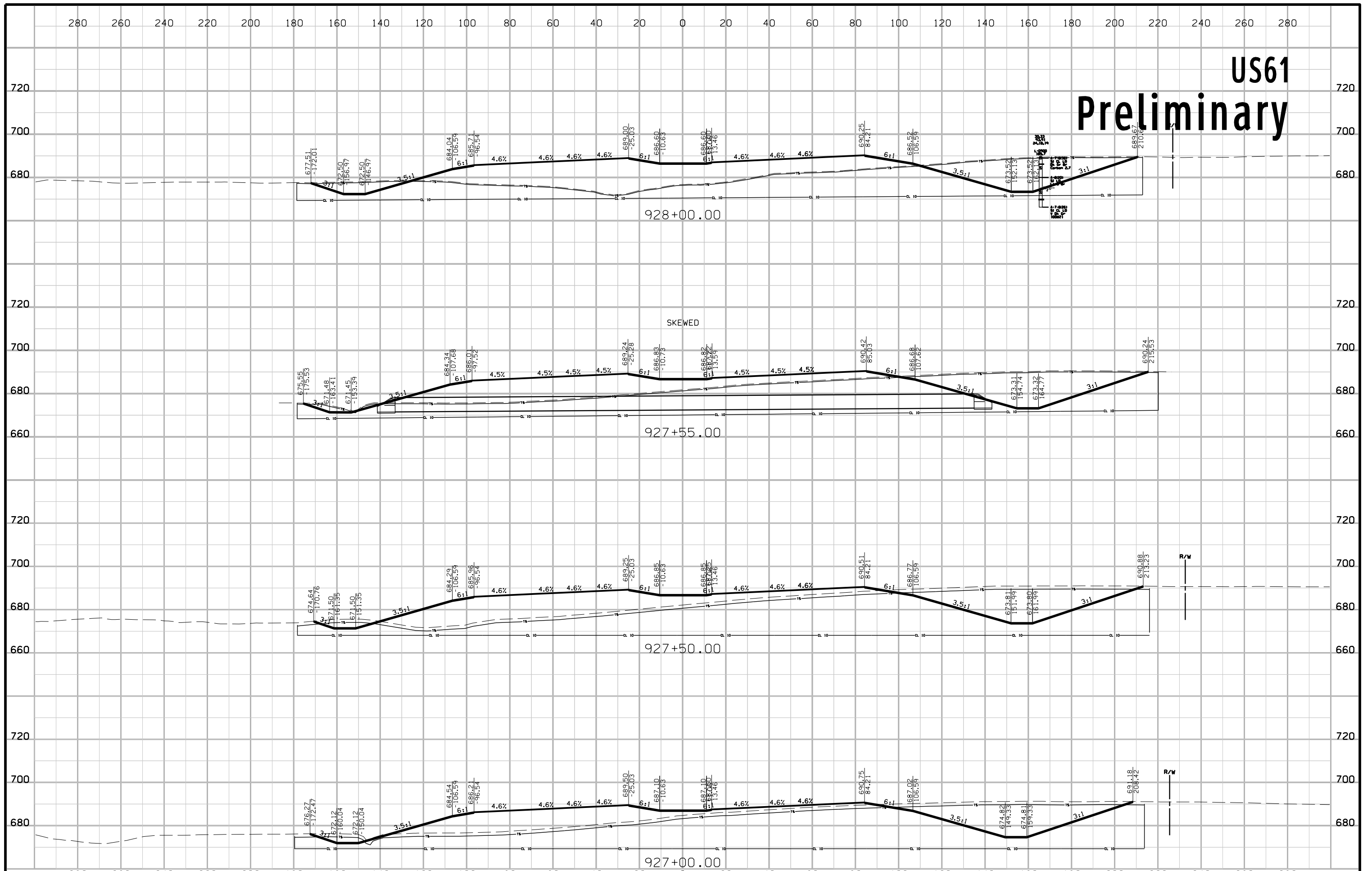
US61 Preliminary



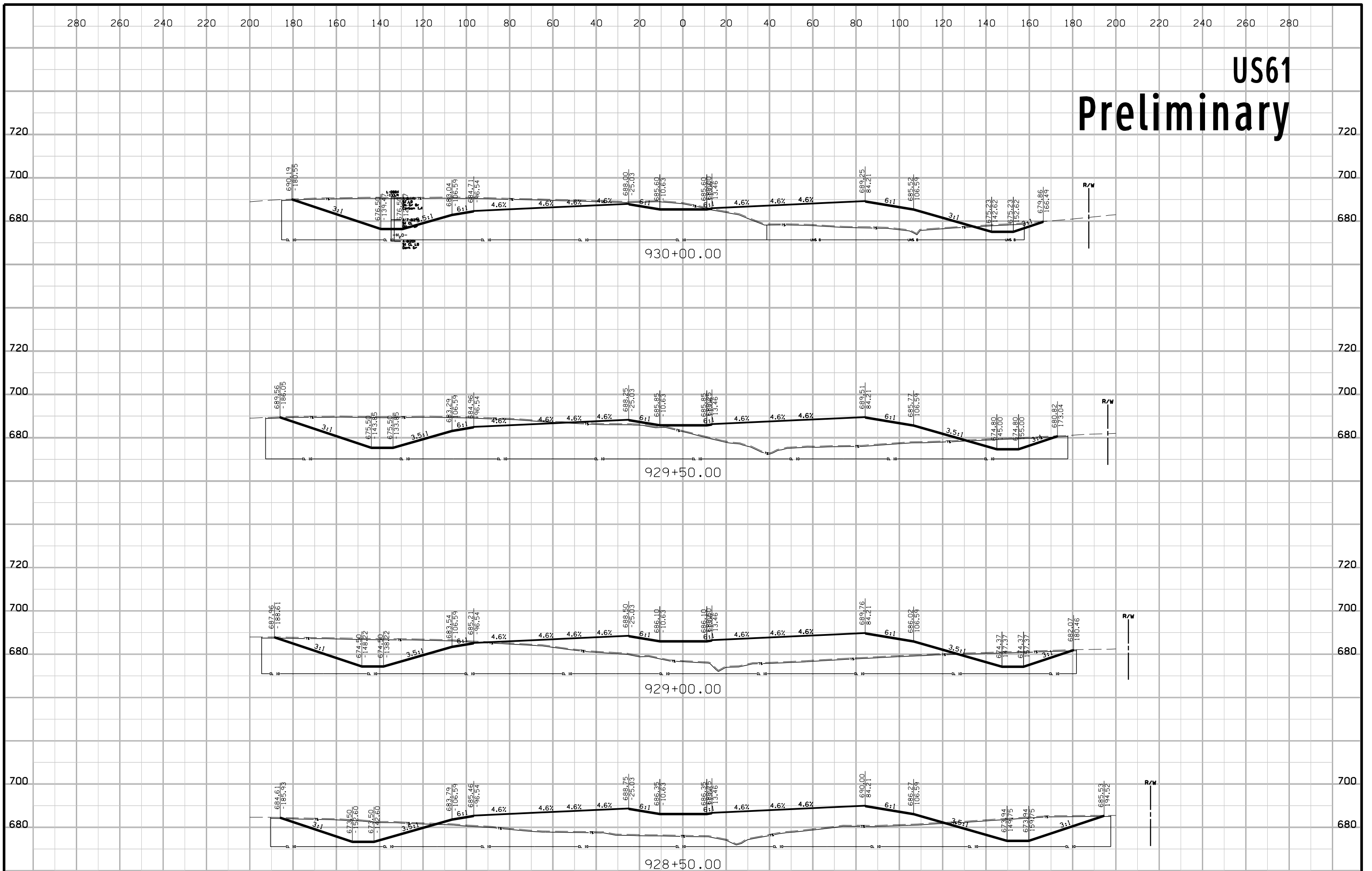
US61 Preliminary



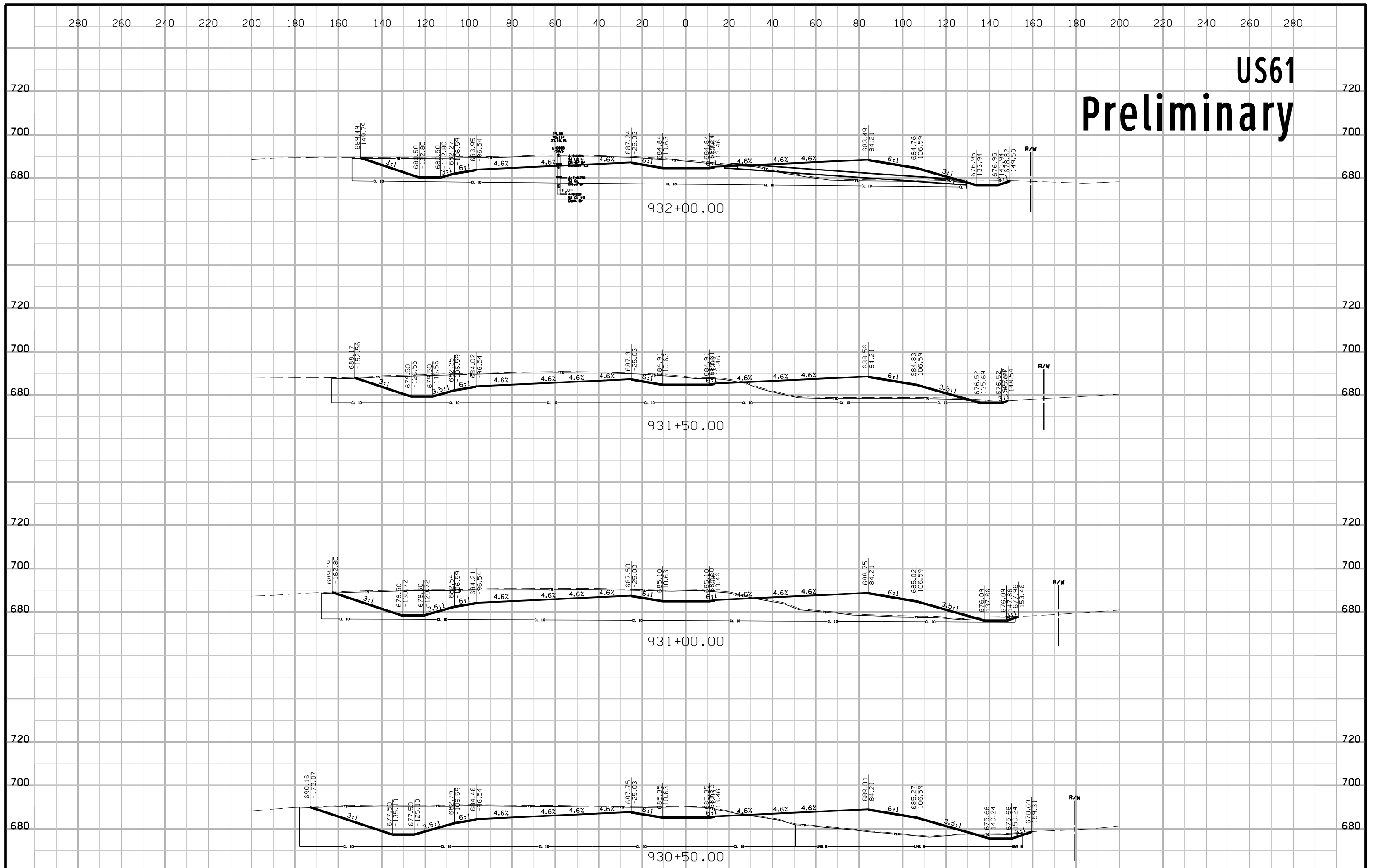
US61 Preliminary



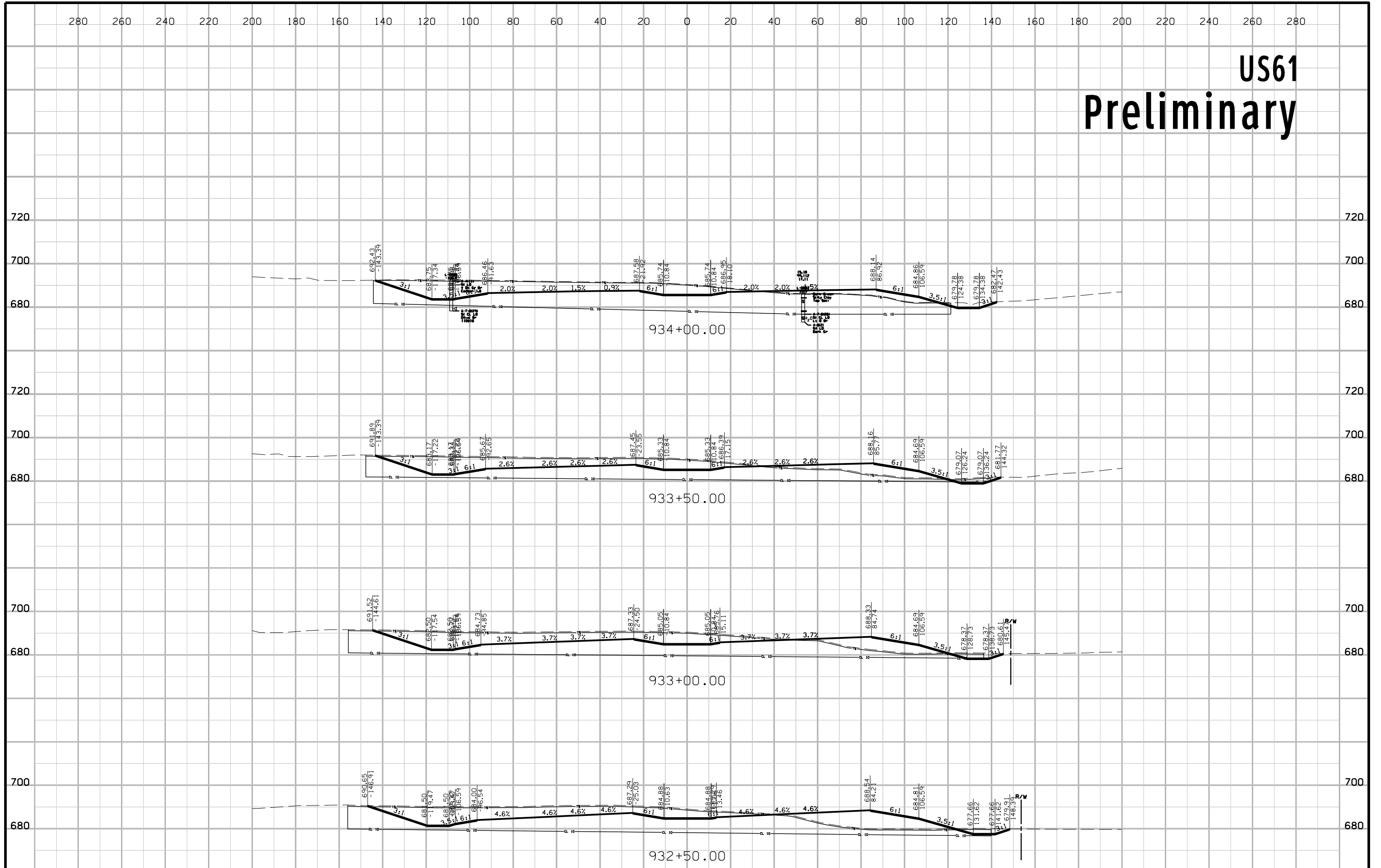
US61 Preliminary



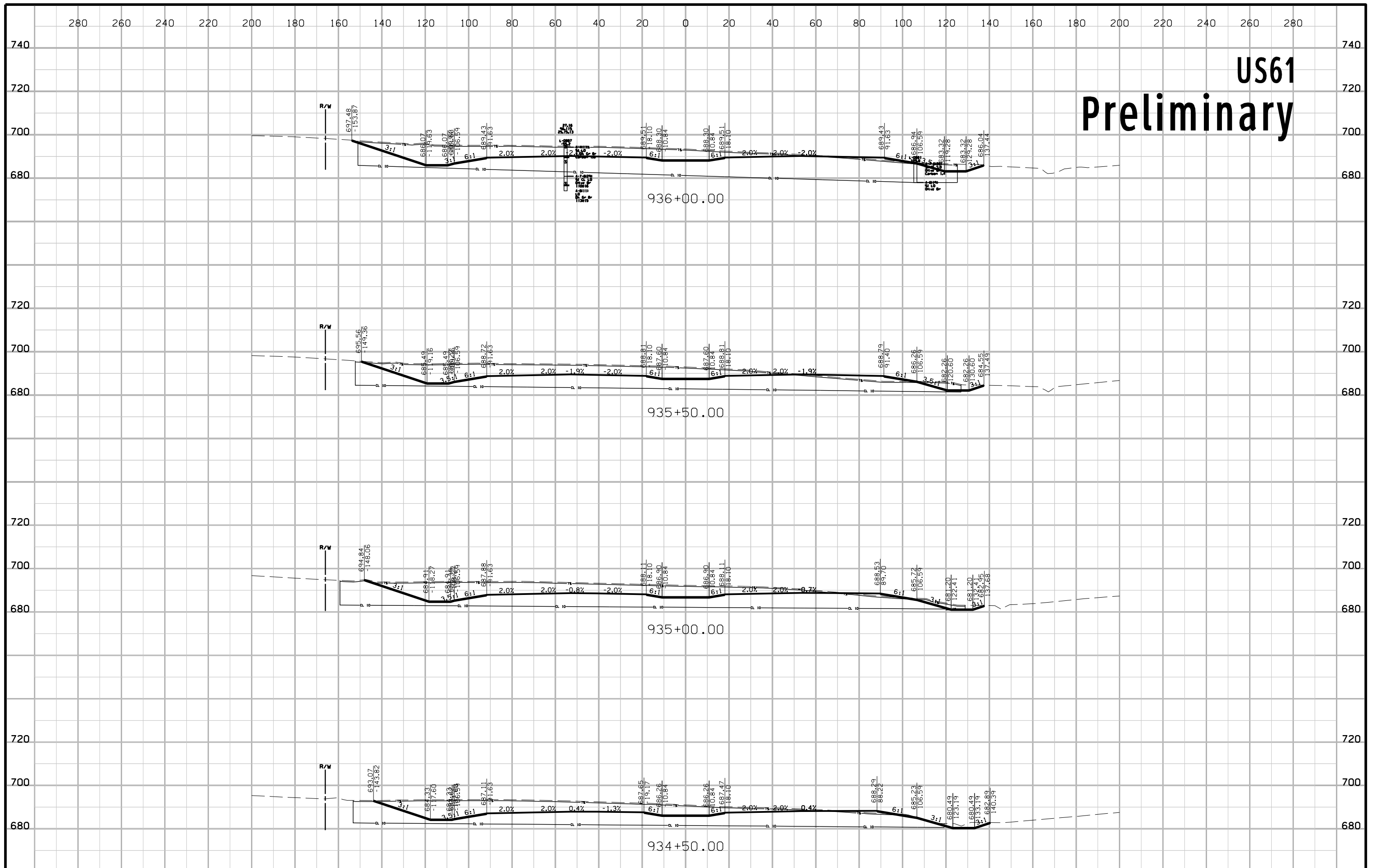
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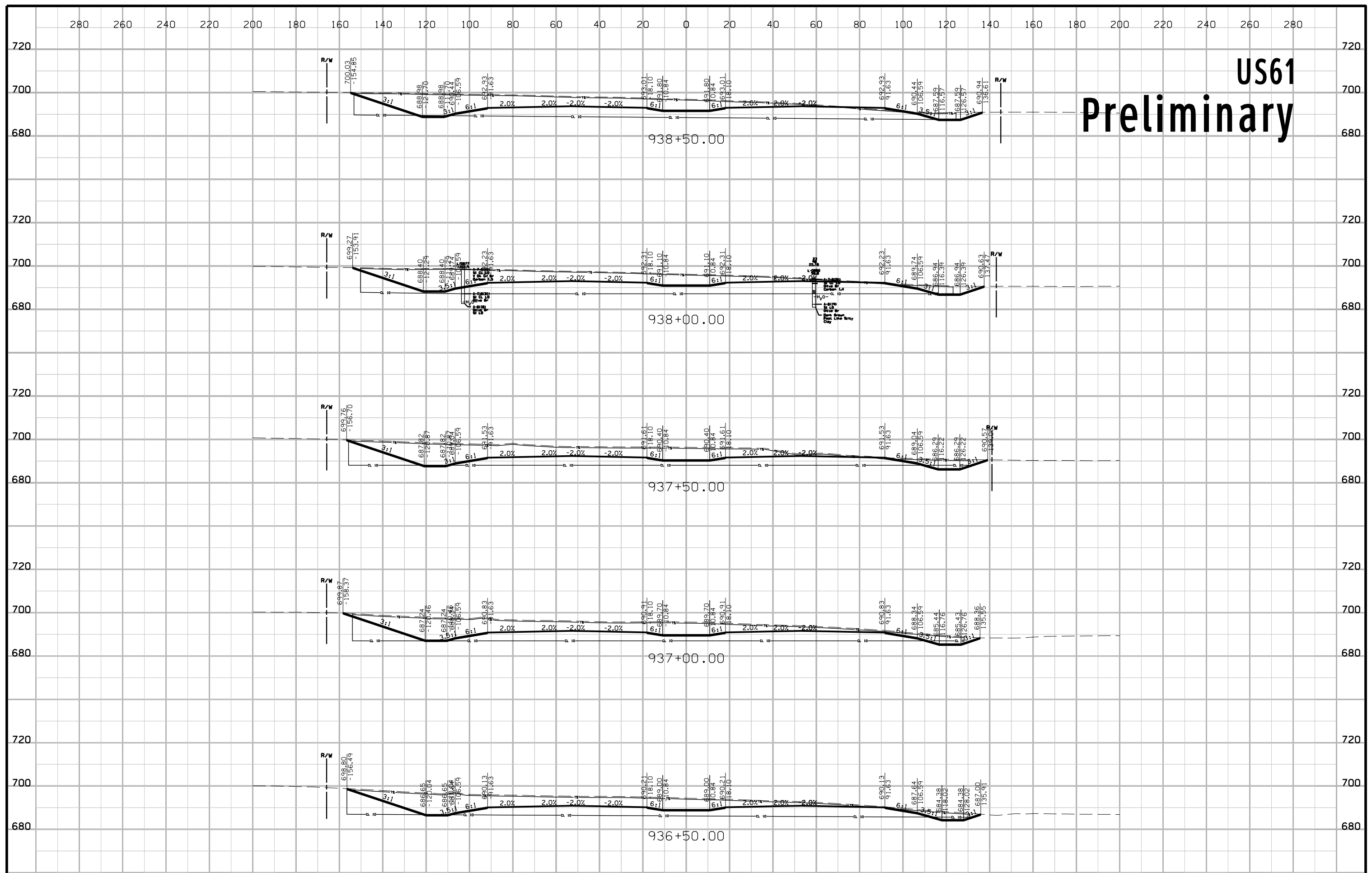
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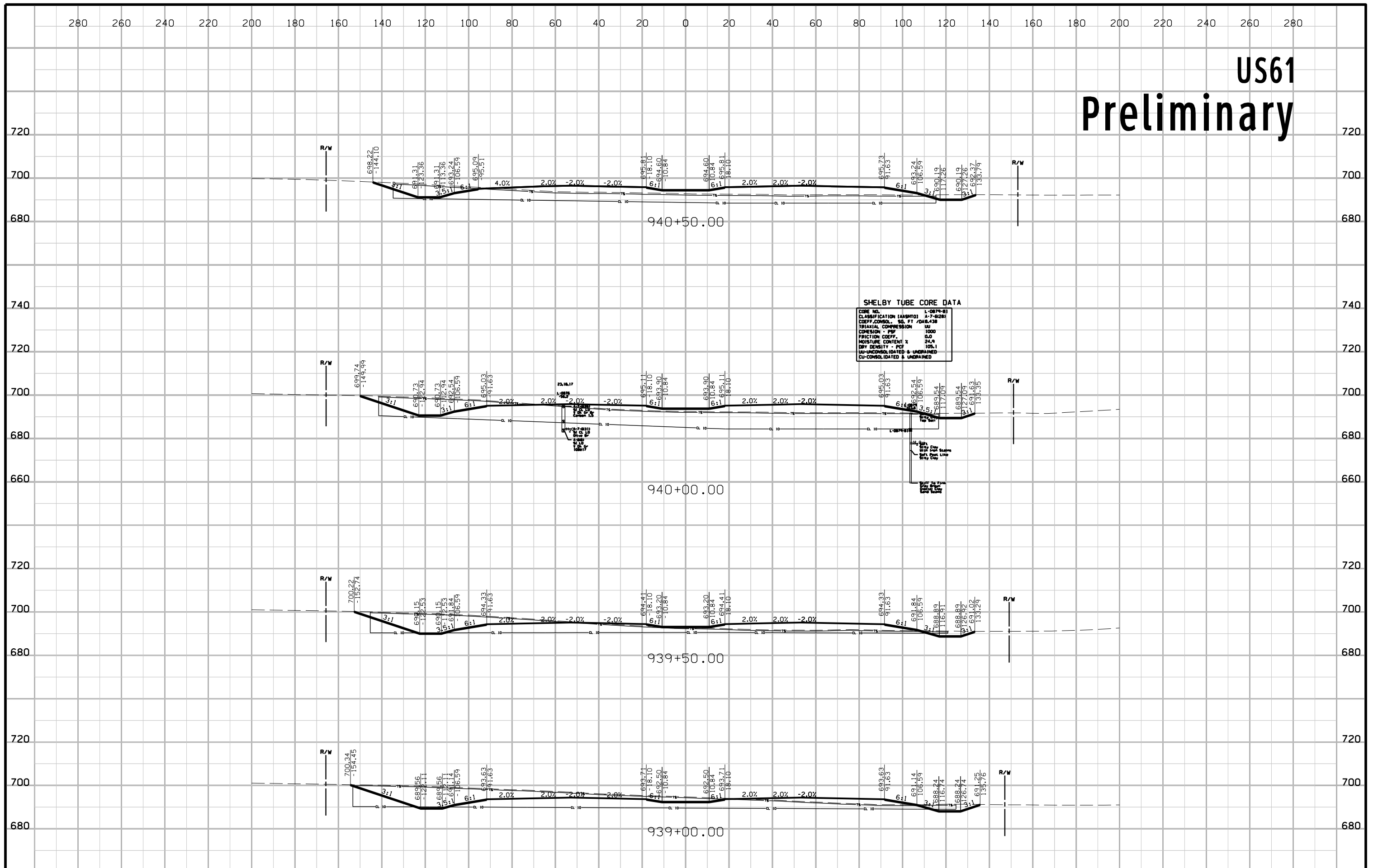
US61 Preliminary



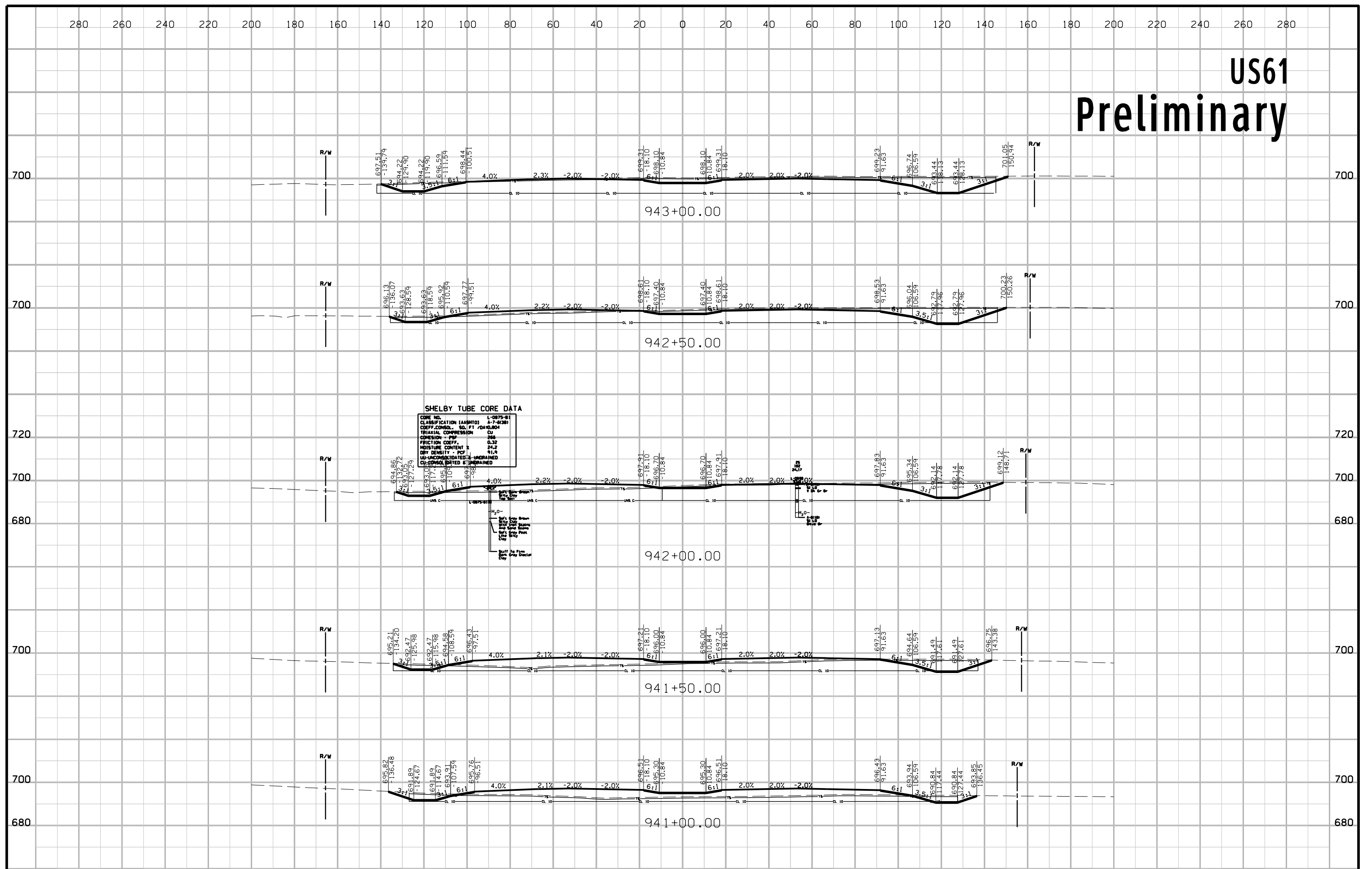
US61 Preliminary



US61 Preliminary



US61 Preliminary

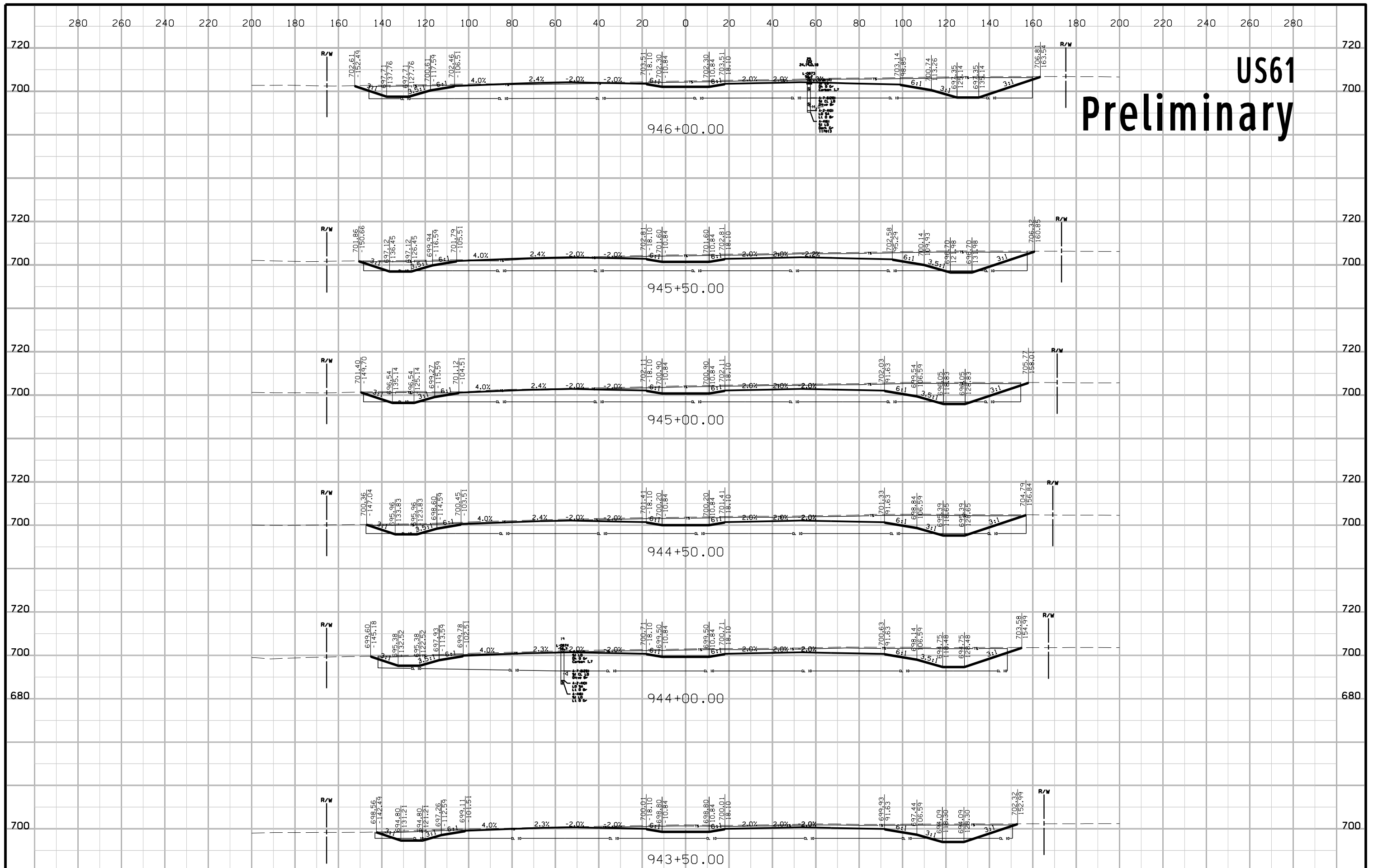


SHELBY TUBE CORE DATA

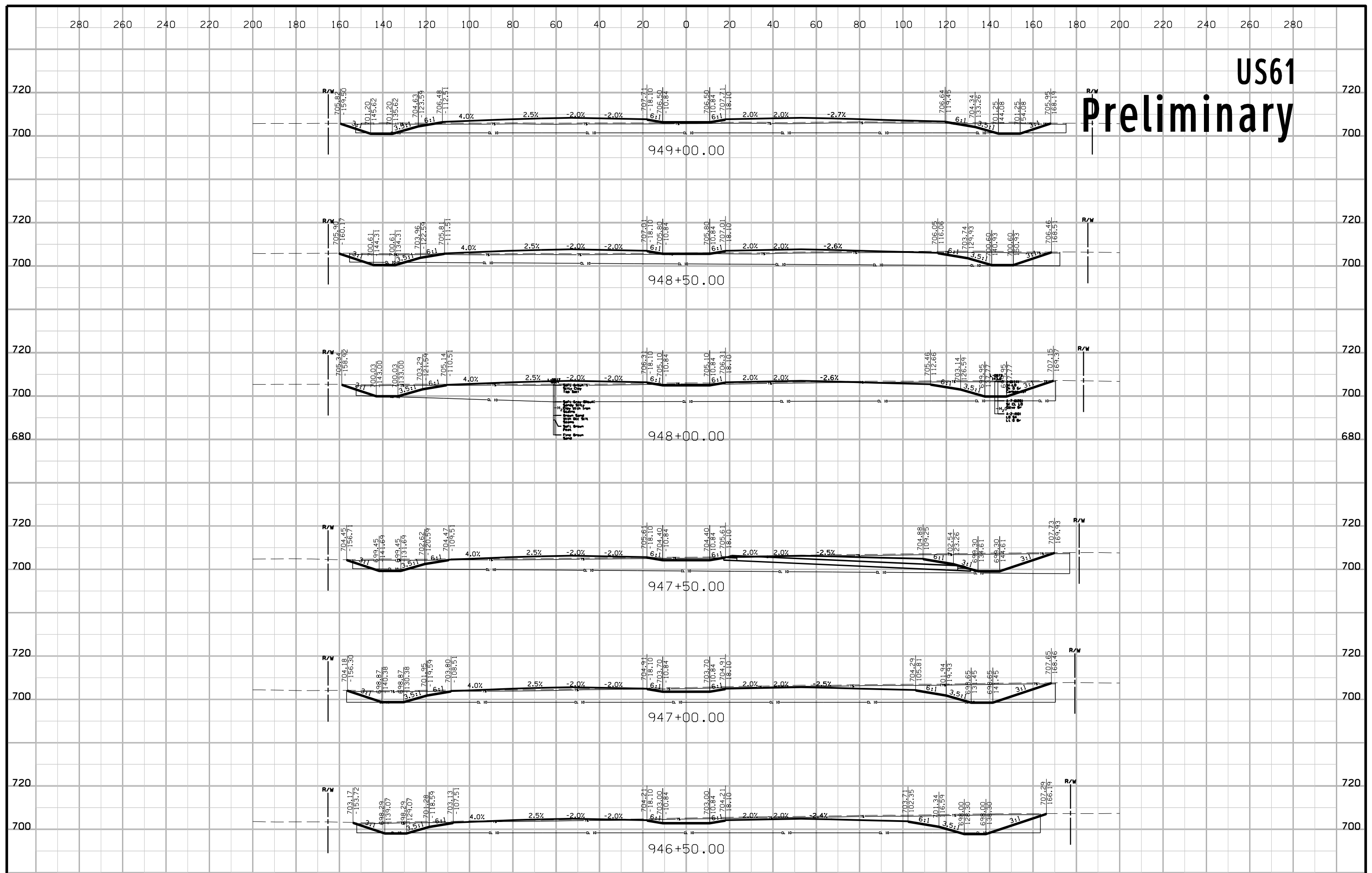
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CLASSIFICATION (AASHTO)	A-7-6(3)S1
COEFF. CONSOL. SO. FT /DAYS/80°F	
TRIAL COMPRESSION	50
COMESION - PSF	266
FRICITION COEFF.	0.32
MOISTURE CONTENT %	24.2
DEY DENSITY - PCF	91.9
UN-UNCONSOLIDATED & UNGRAINED	
CLASSIFIED	CLAYE

3:50:52 PM 4/30/2014 IA_DOT \\hrgcrnas\data\40130002.03\CAD\Design\58061048W01.ML912.sht

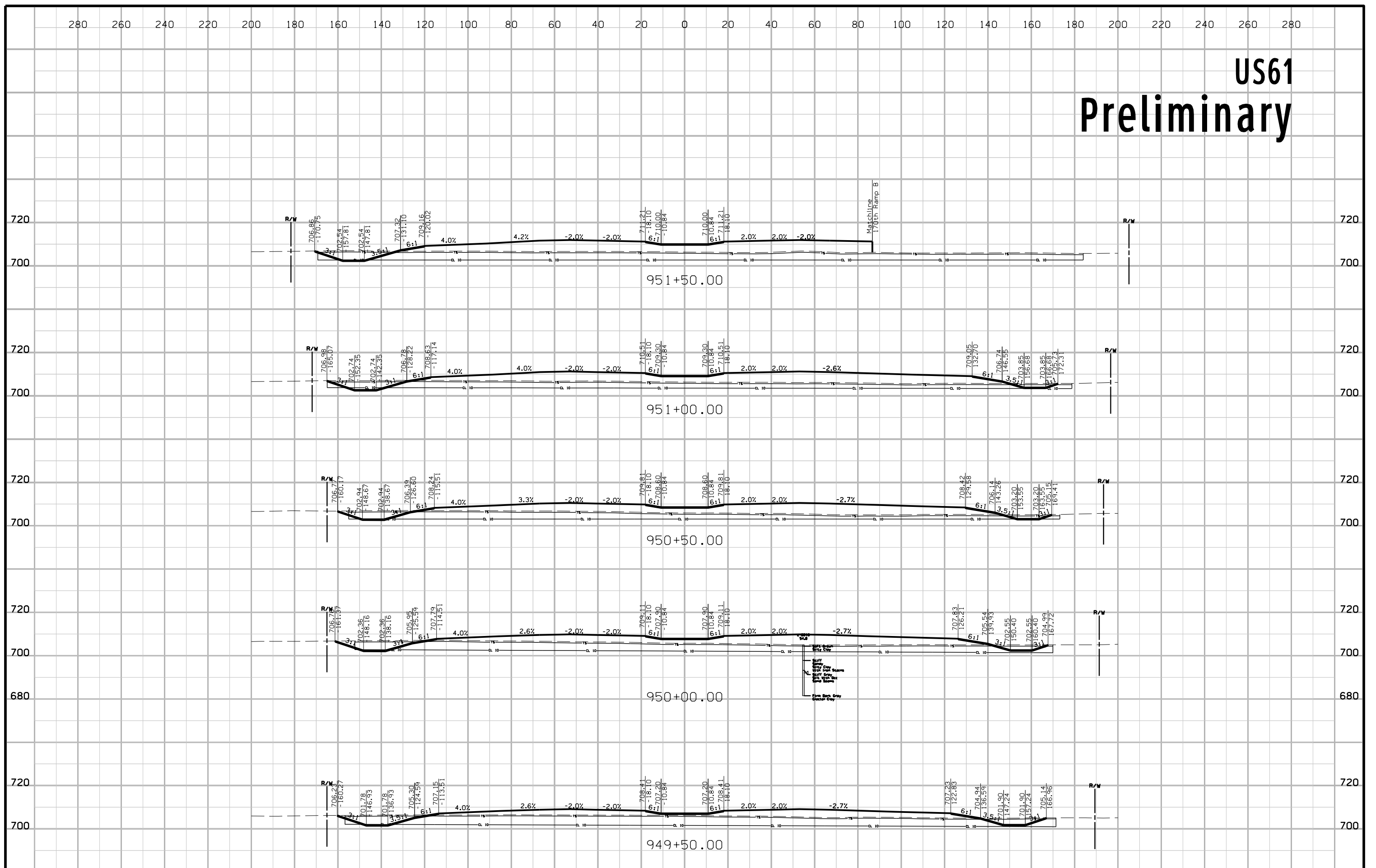
US61 Preliminary



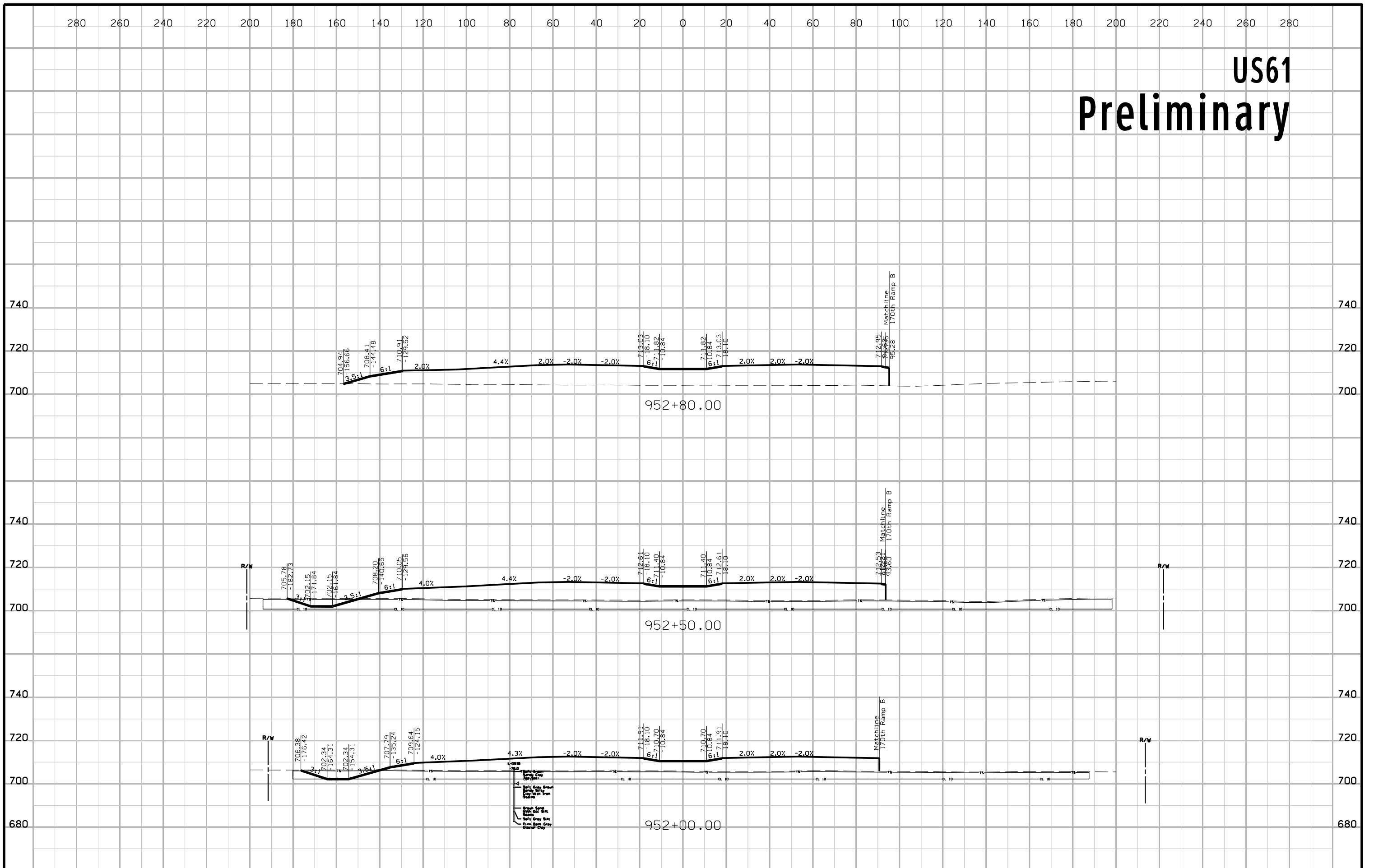
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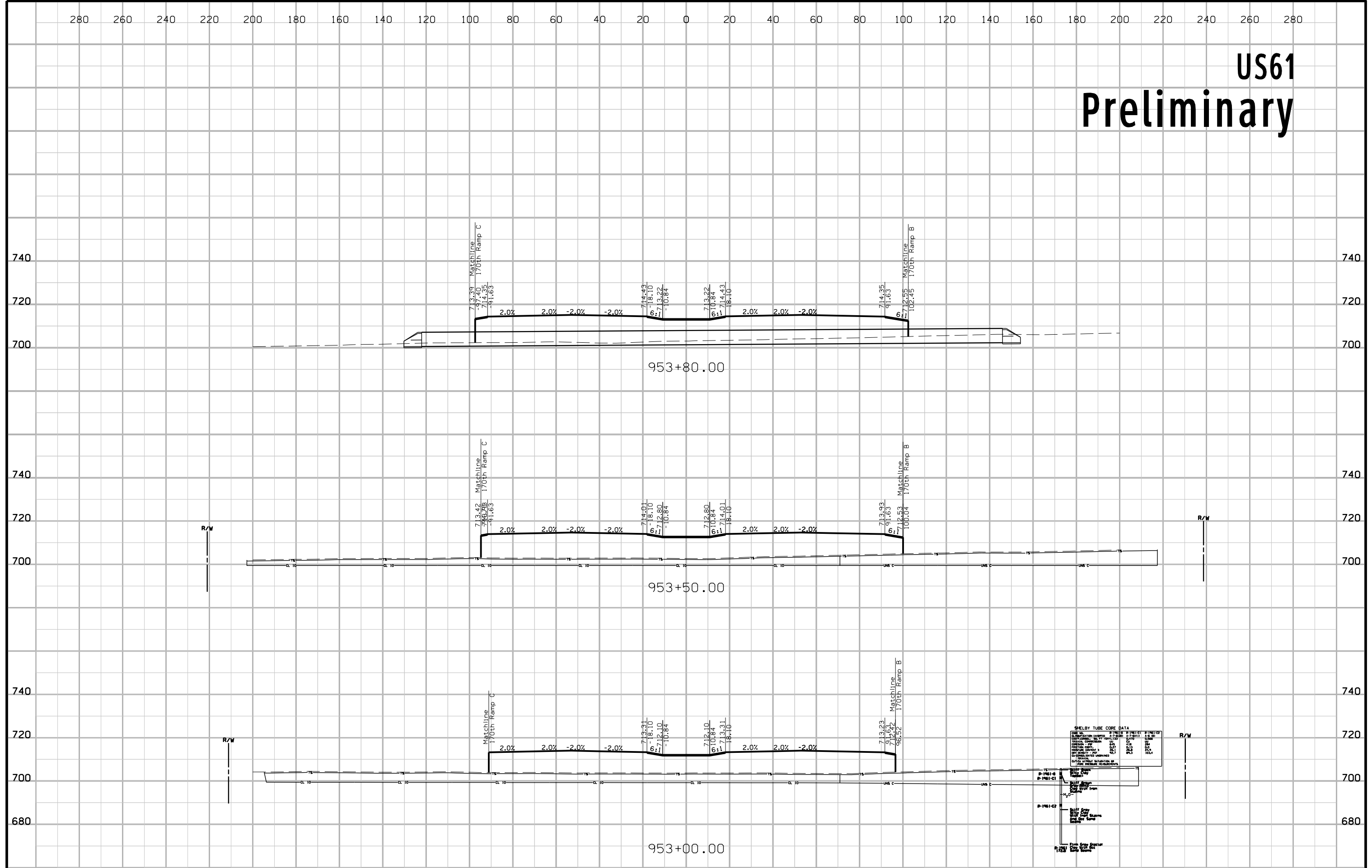
US61 Preliminary



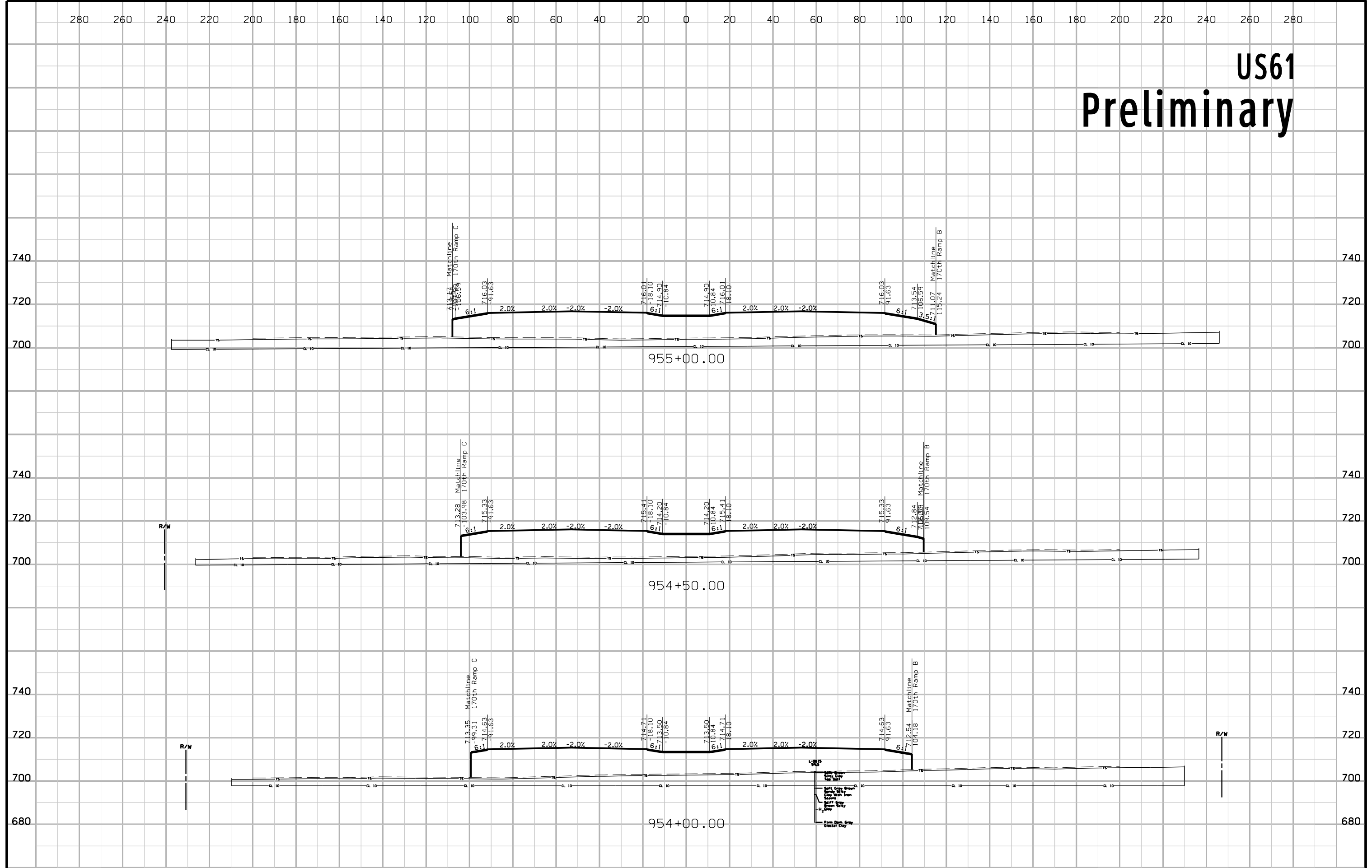
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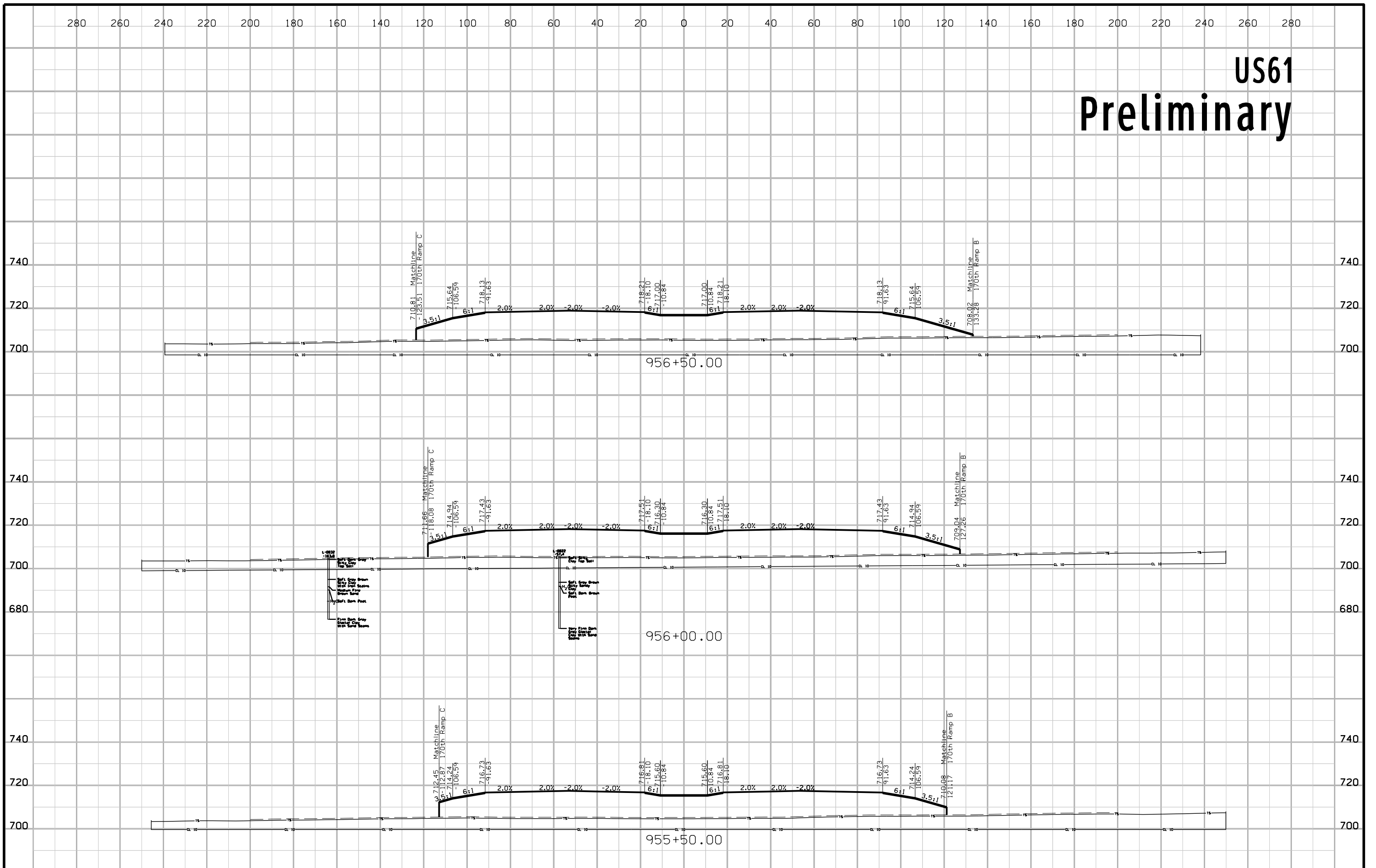
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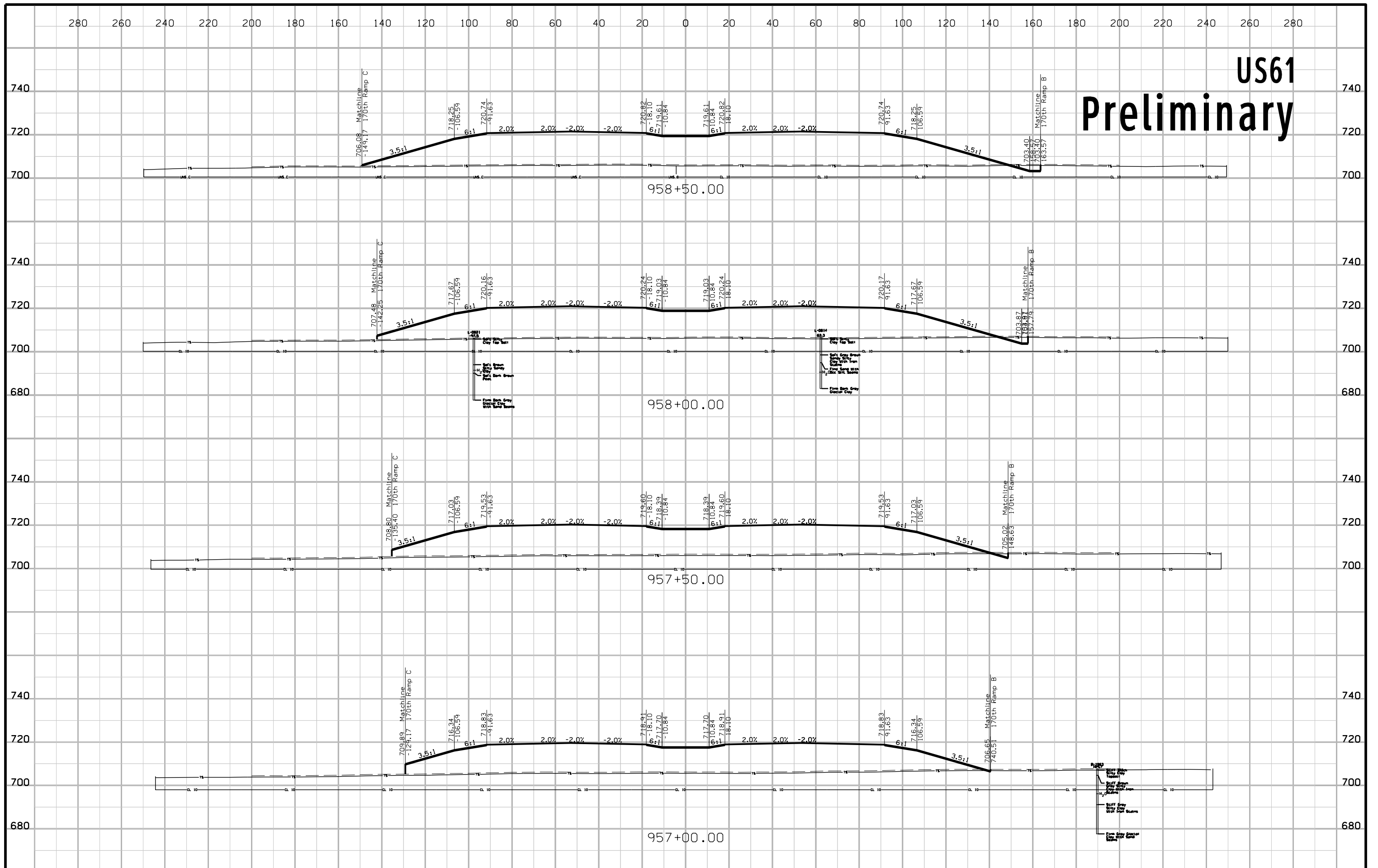
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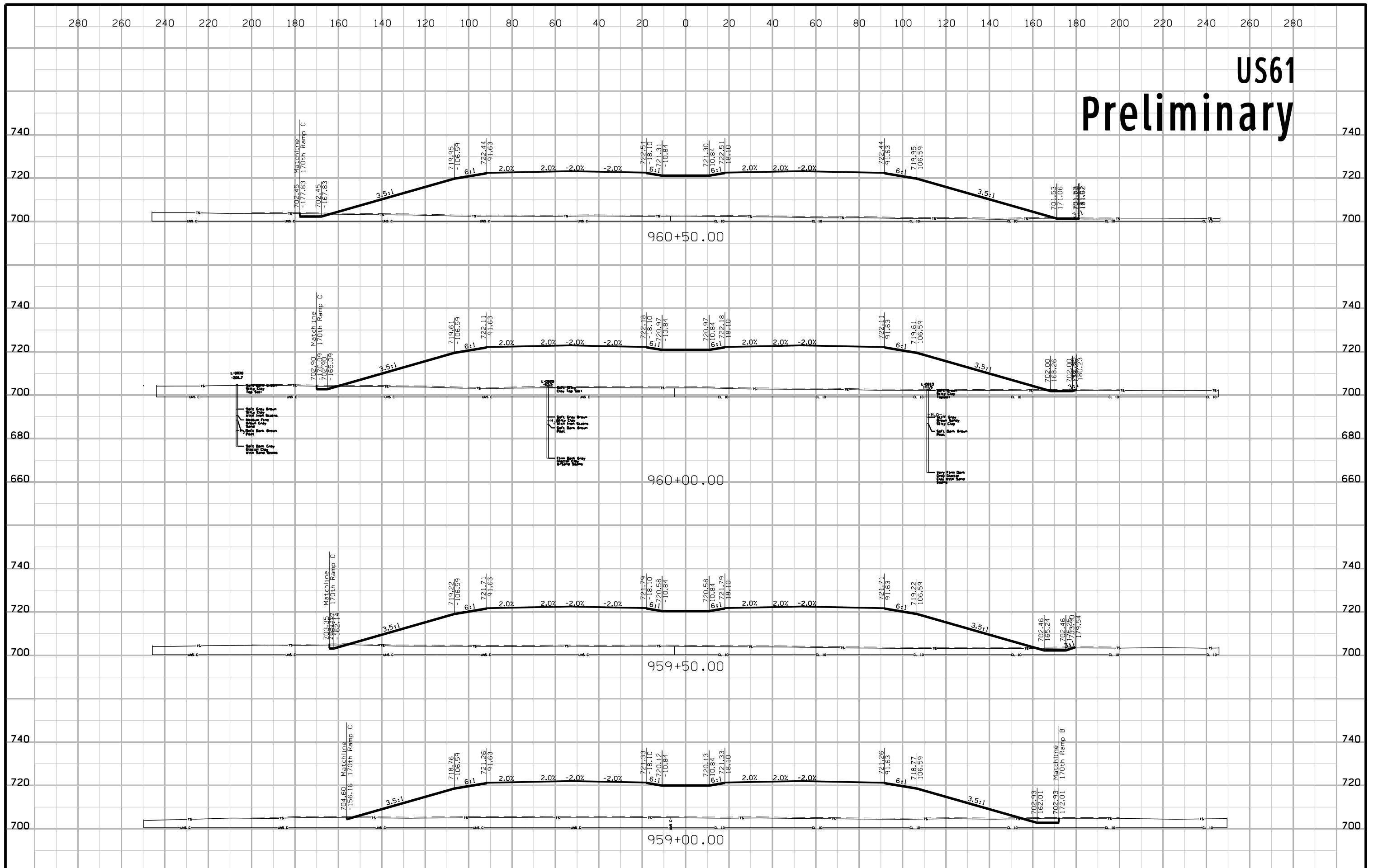
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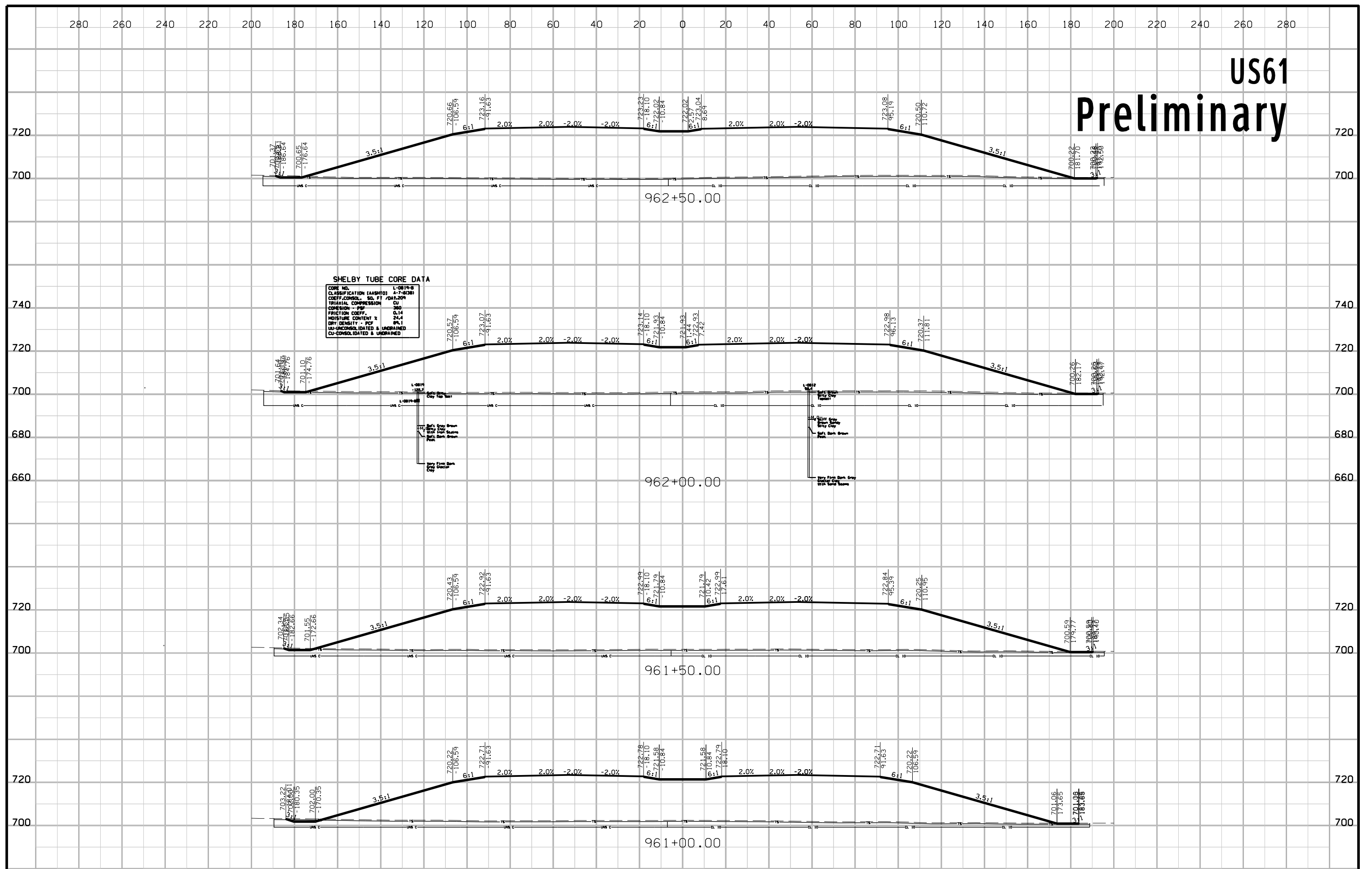
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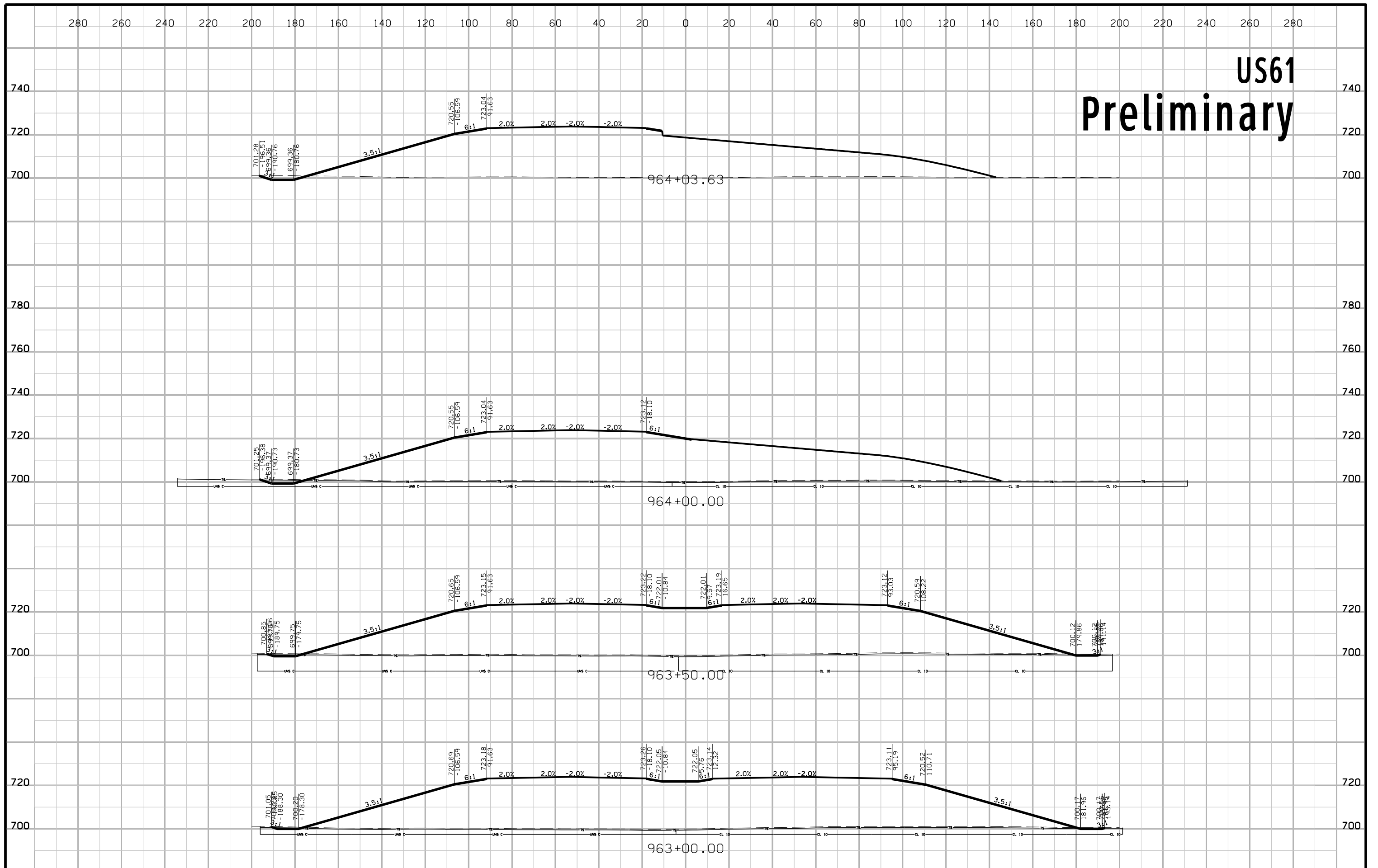
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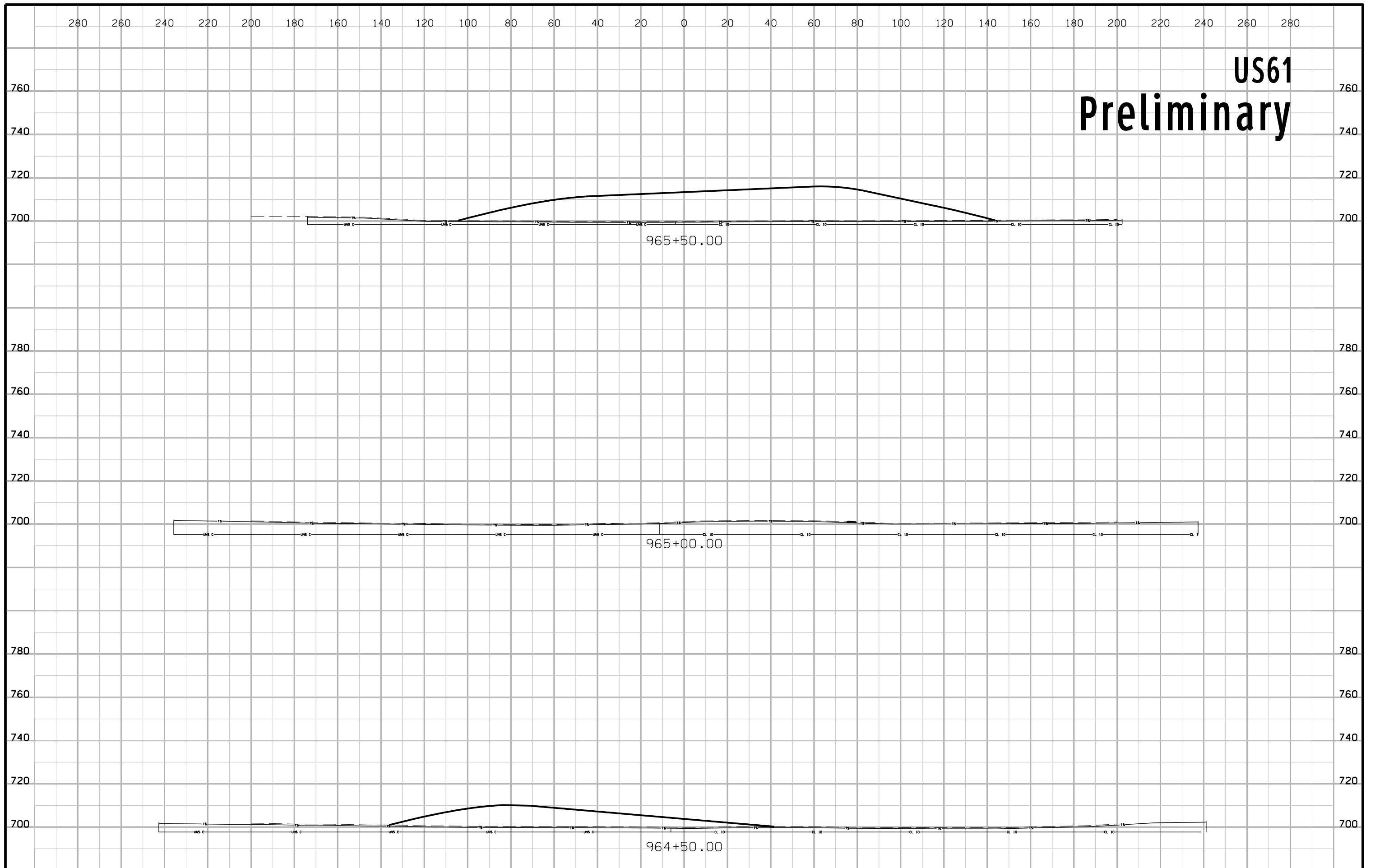
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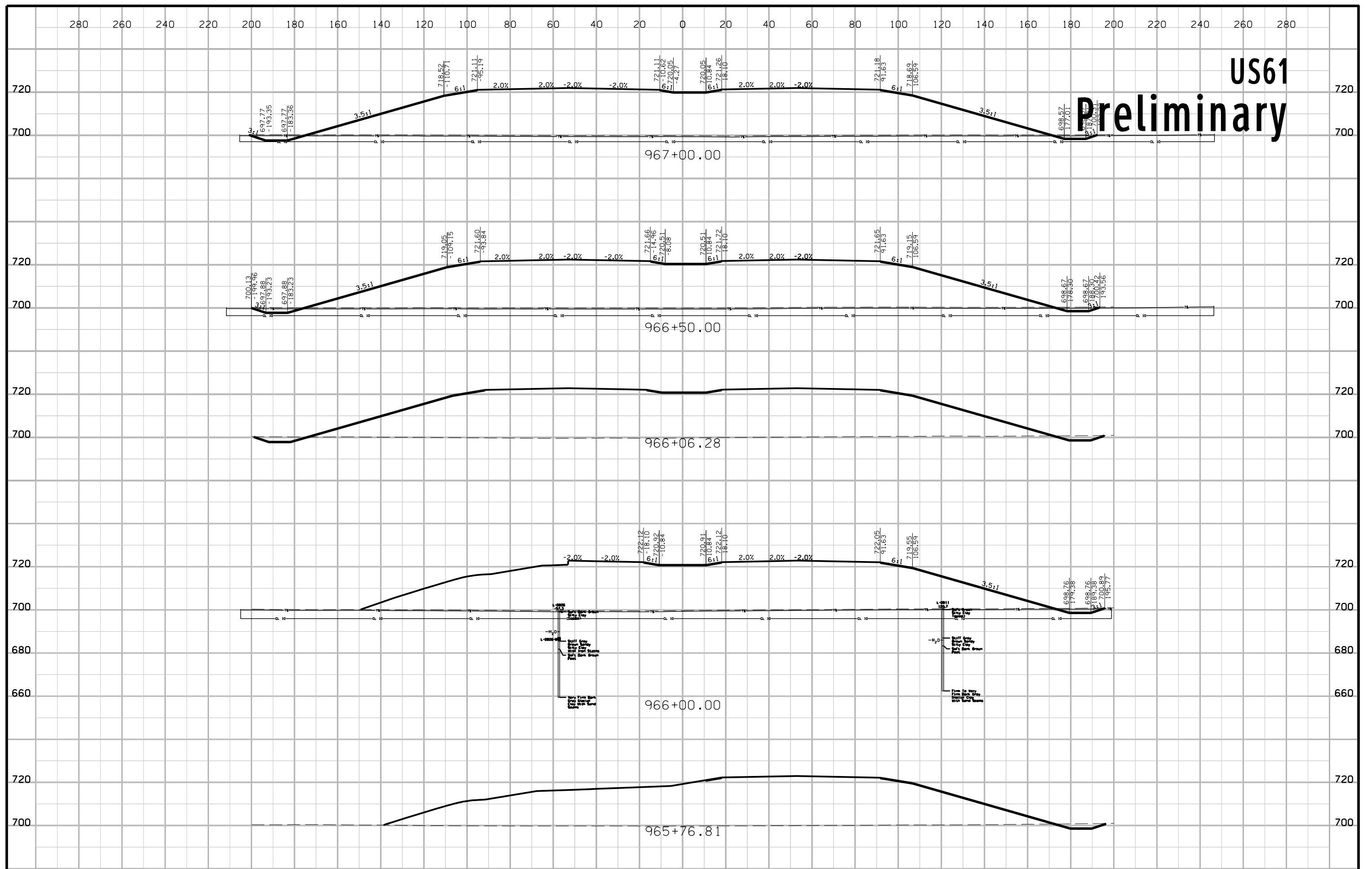
US61 Preliminary



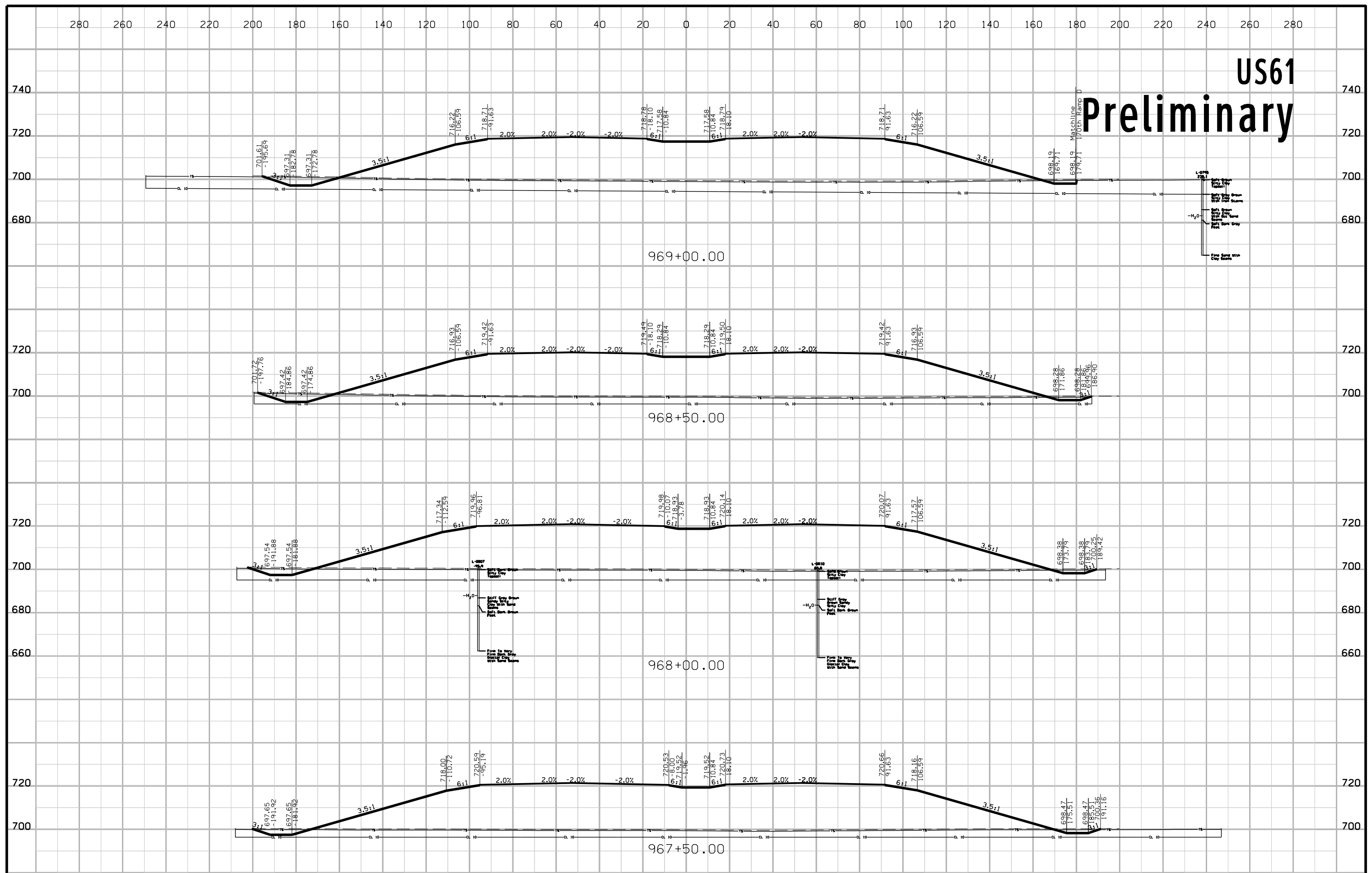
US61 Preliminary



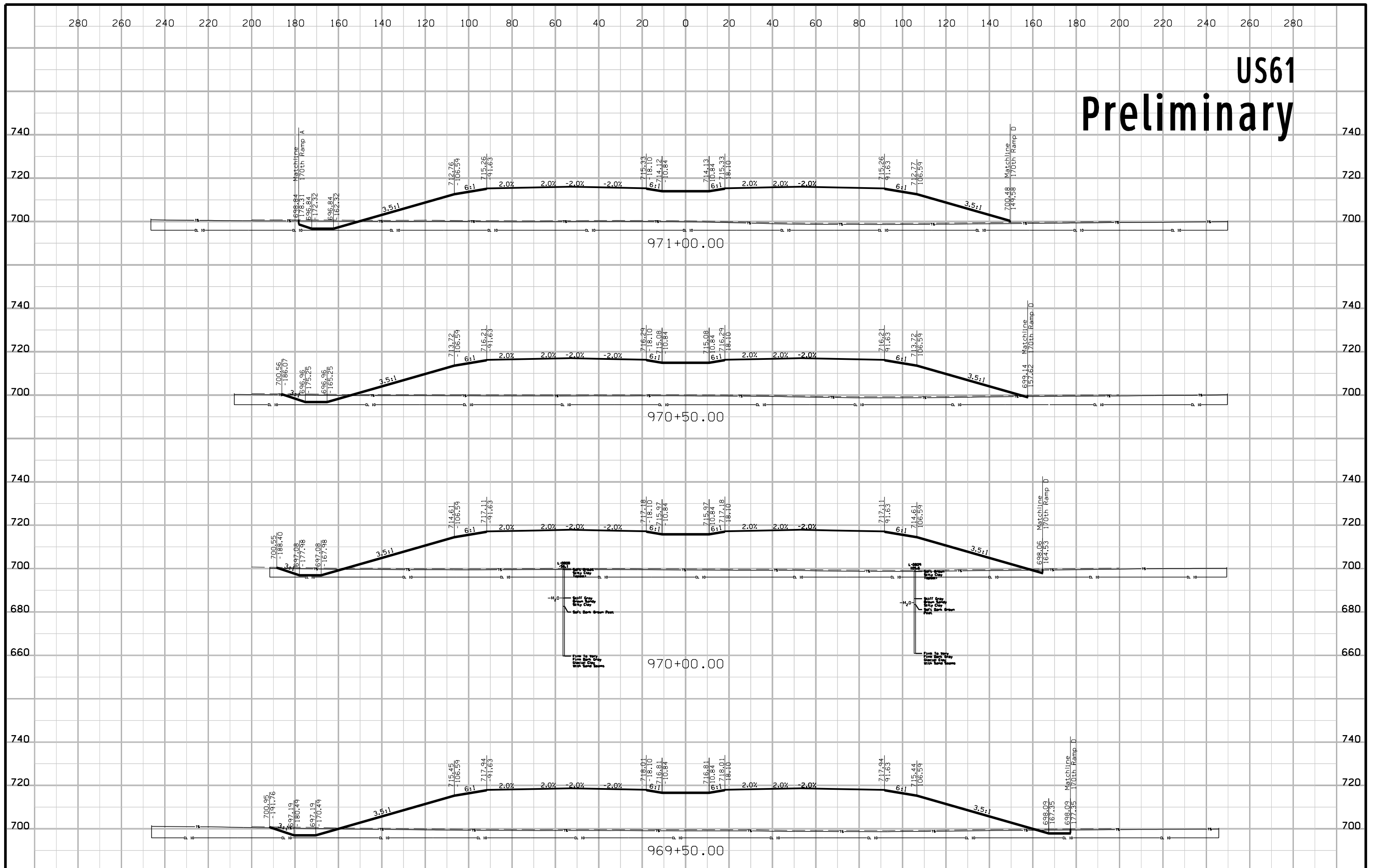
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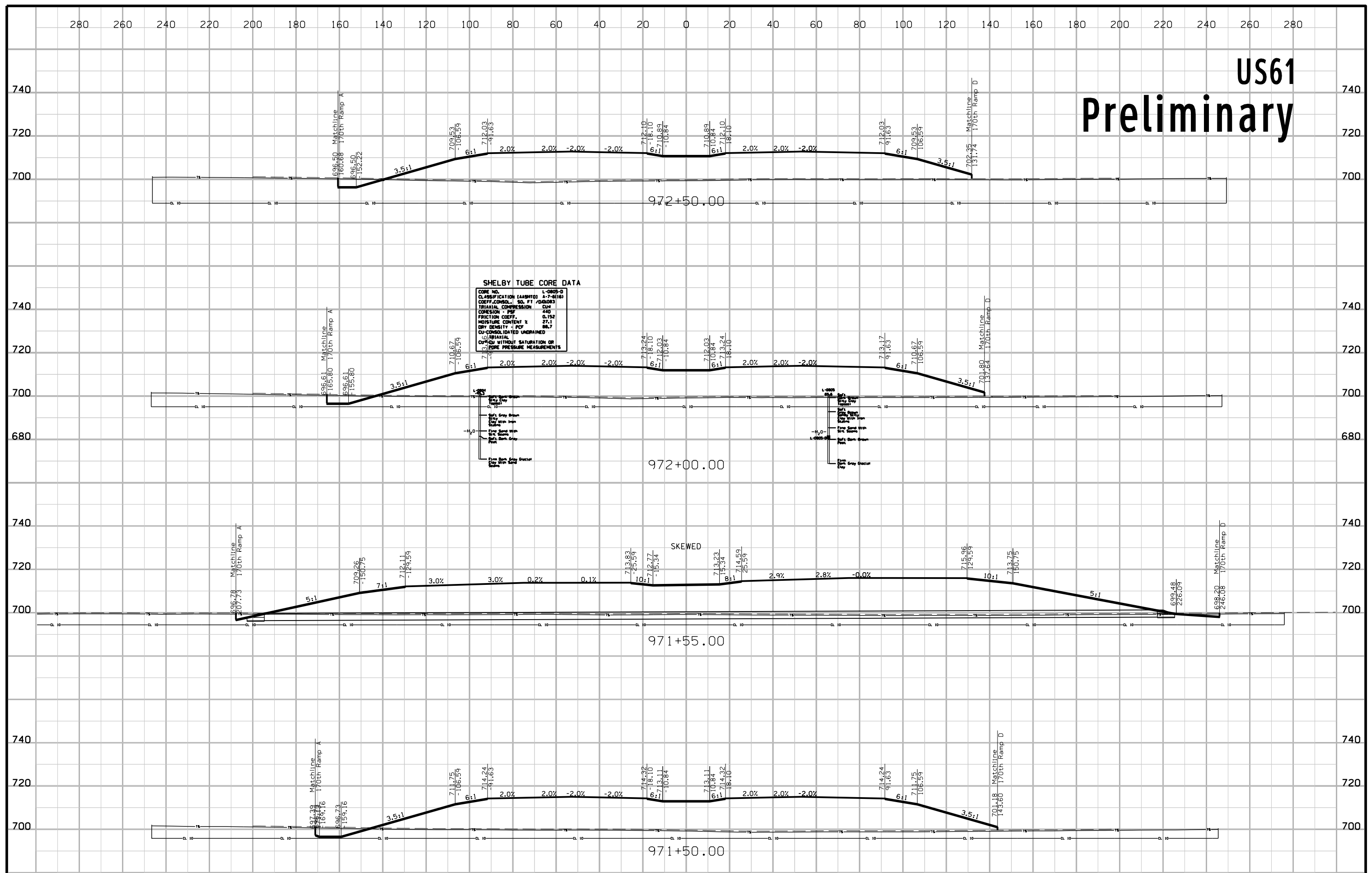
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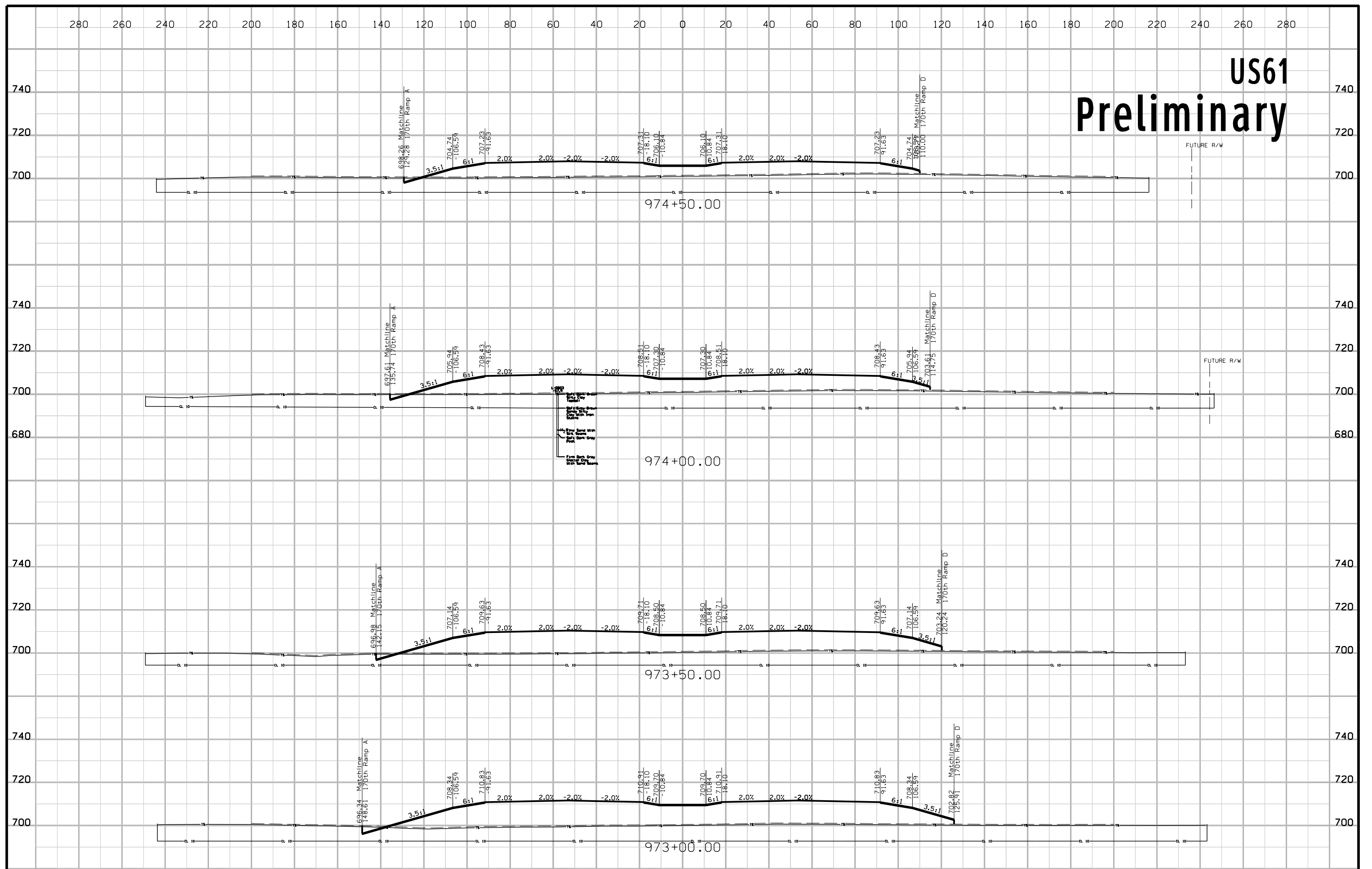
US61 Preliminary



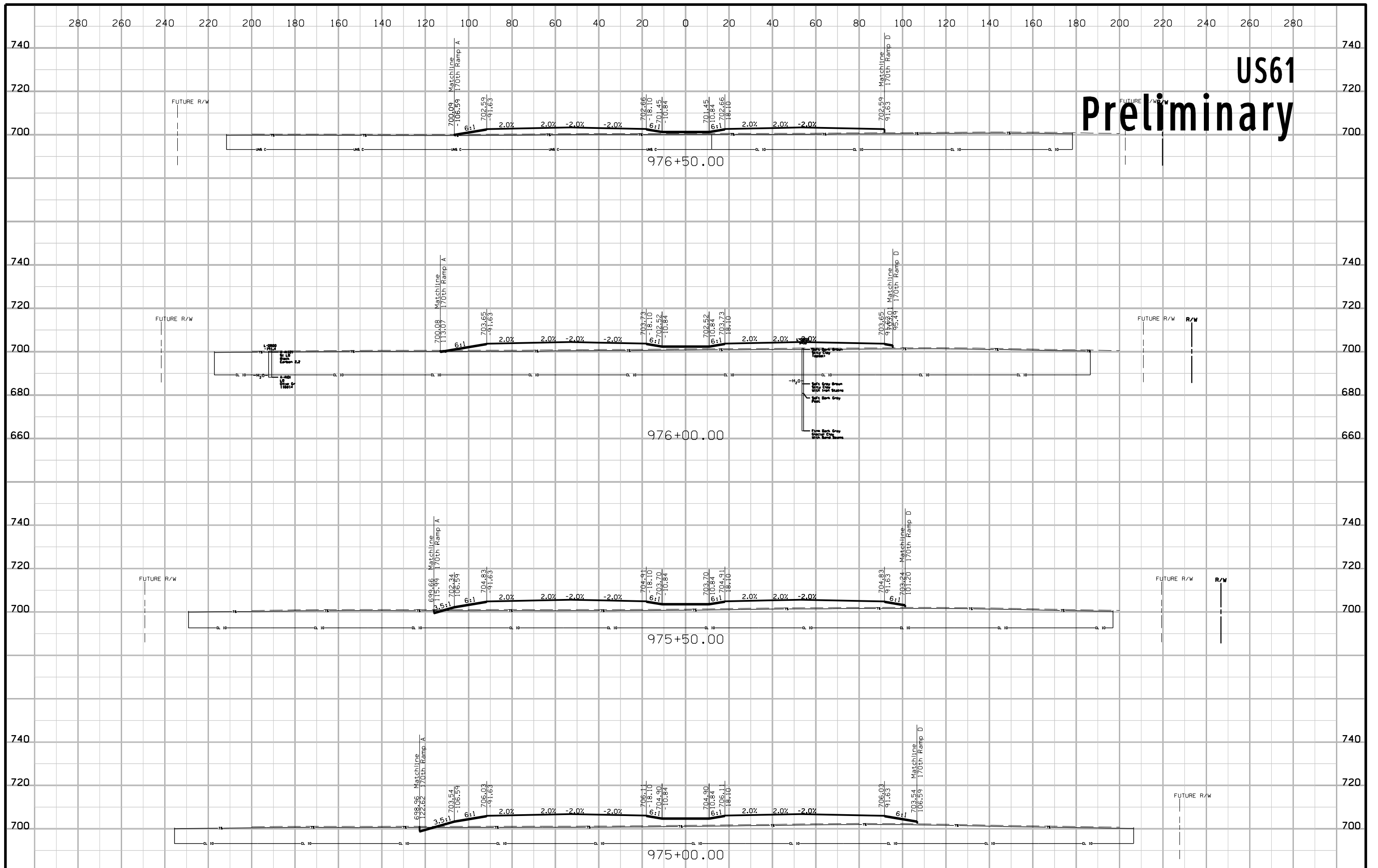
US61 Preliminary



US61 Preliminary



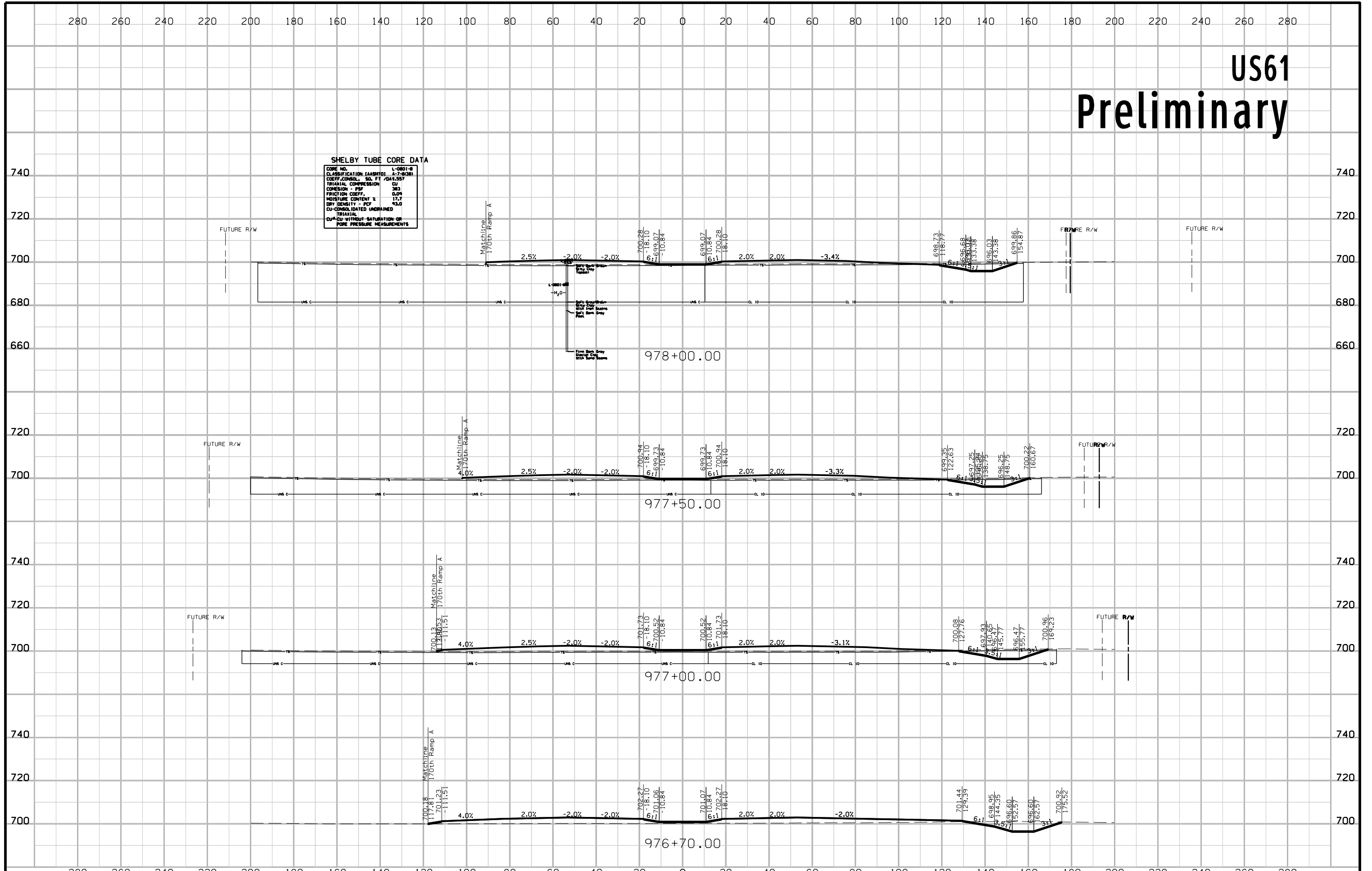
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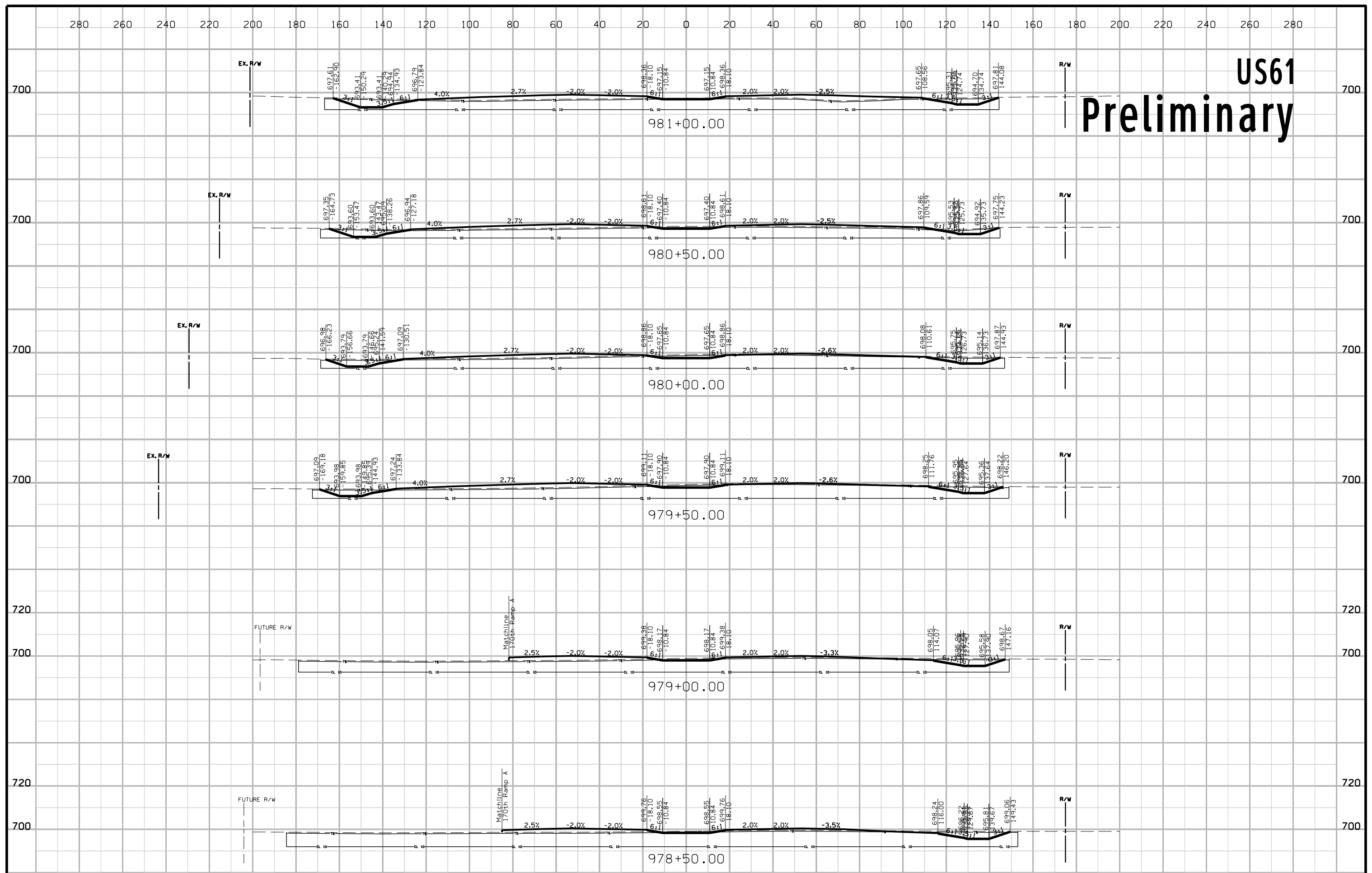
US61 Preliminary

SHELBY TUBE CORE DATA

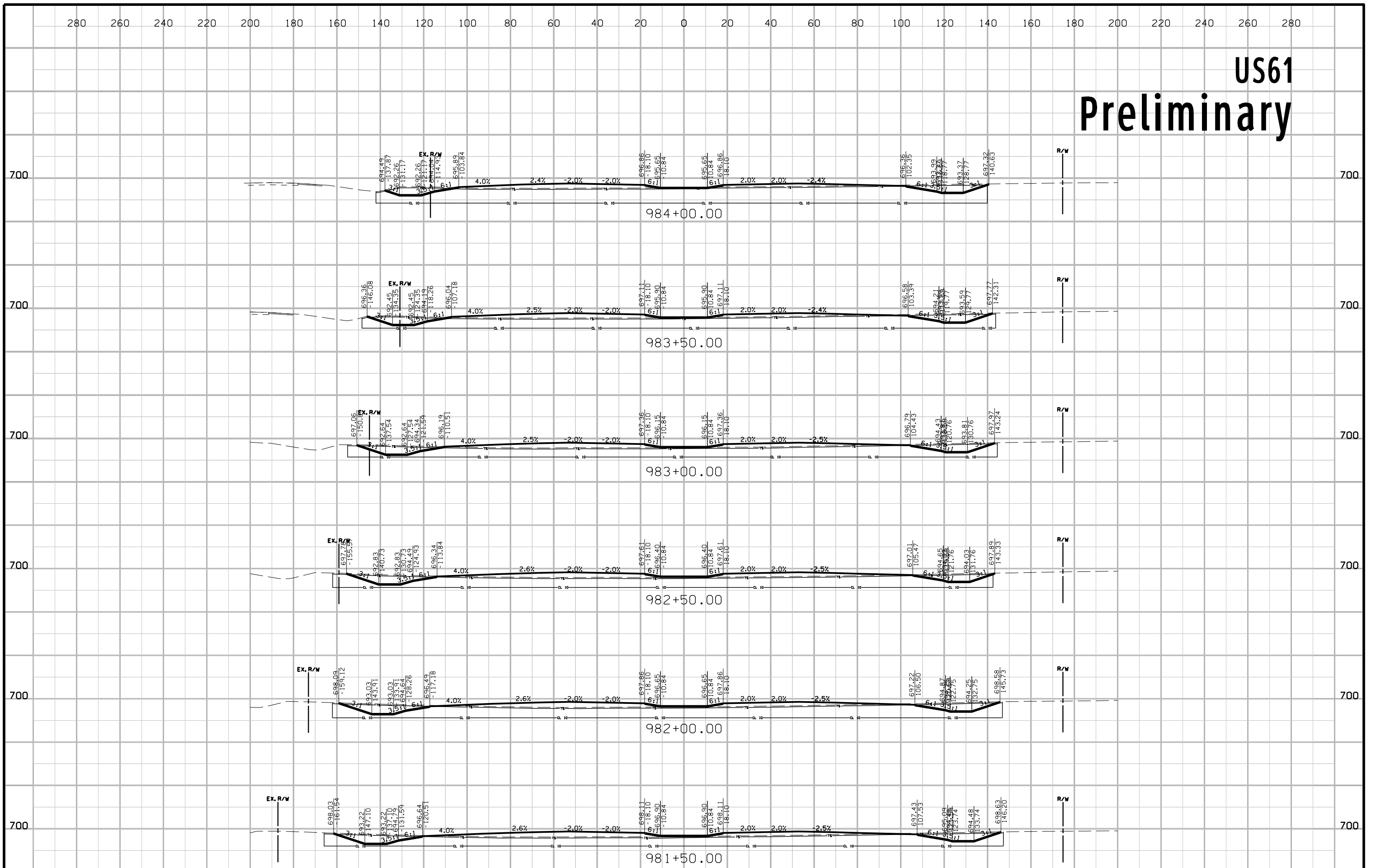
CORE NO.	L-0801-B
CLASSIFICATION (AASHTO)	A-7-6(38)
COEFF. CONSOL. SO. FT / DAY	0.57
TRIAxIAL COMPRESSION	CU
COHESION - PSF	303
FRICITION COEFF.	0.09
MOISTURE CONTENT %	17.7
DRY DENSITY - PCF	93.0
CU-CONSOLIDATED UNDRAINED TRIAXIAL	
CU-CU WITHOUT SATURATION OR PORE PRESSURE MEASUREMENTS	



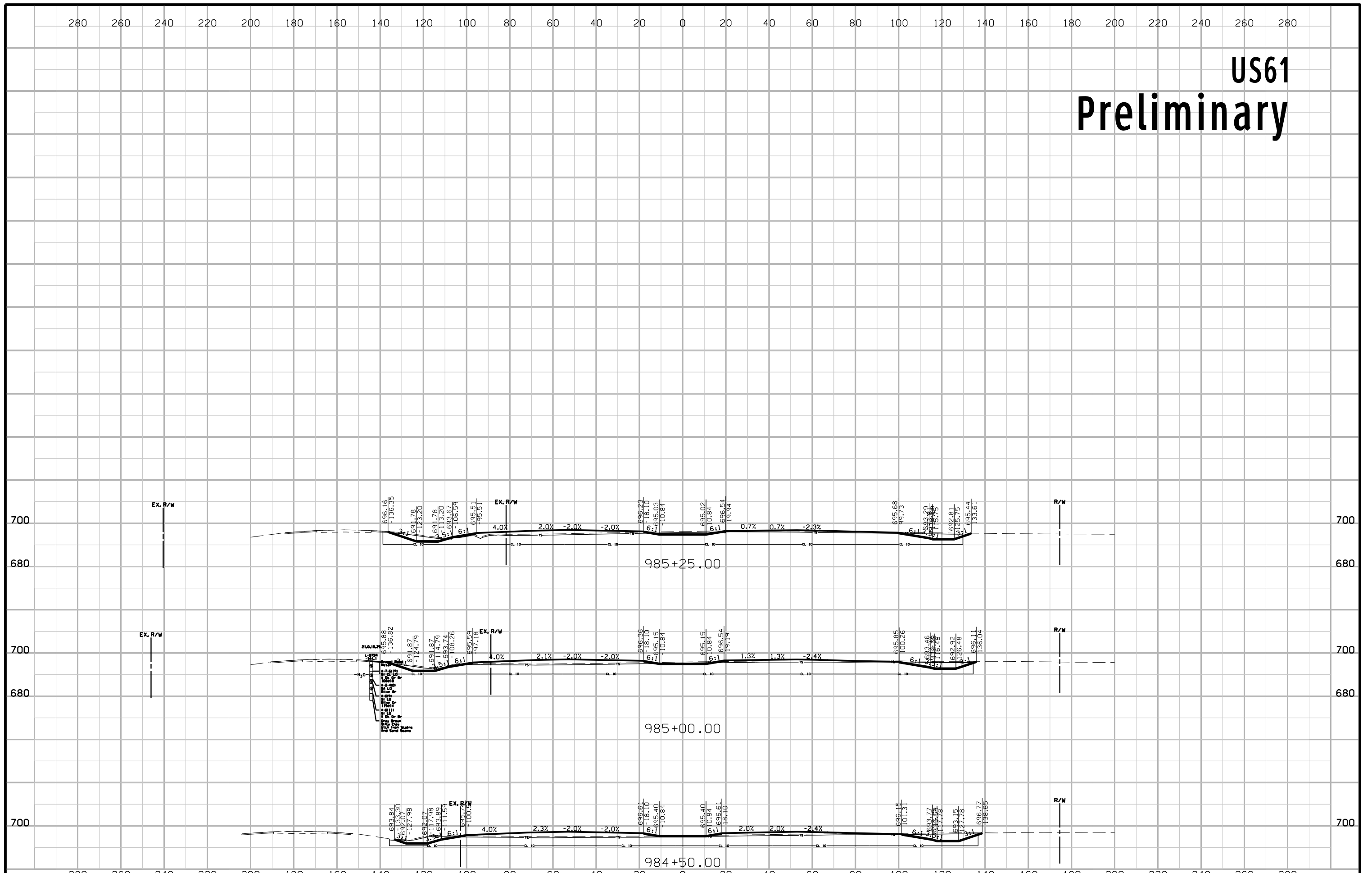
US61 Preliminary



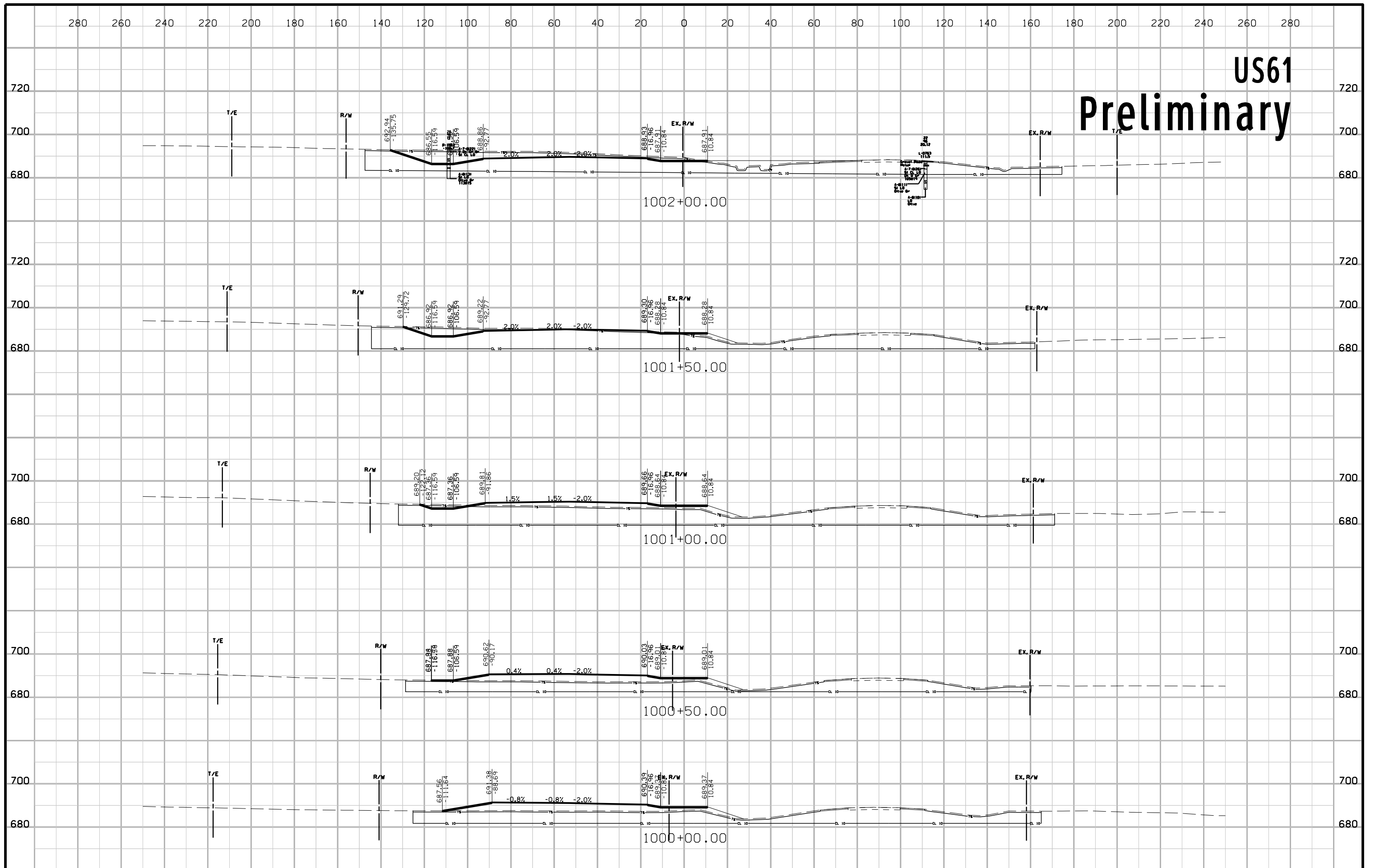
US61 Preliminary



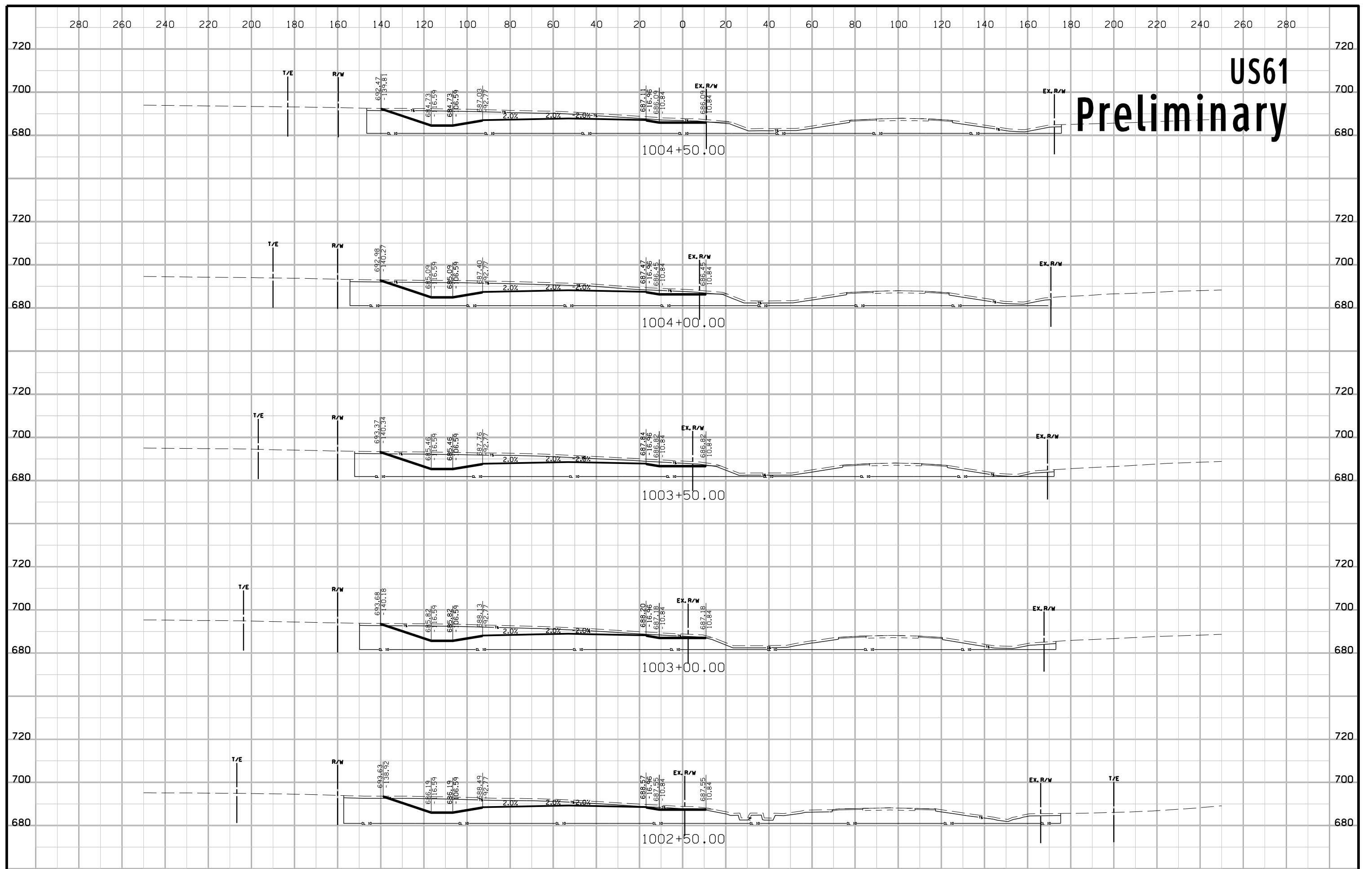
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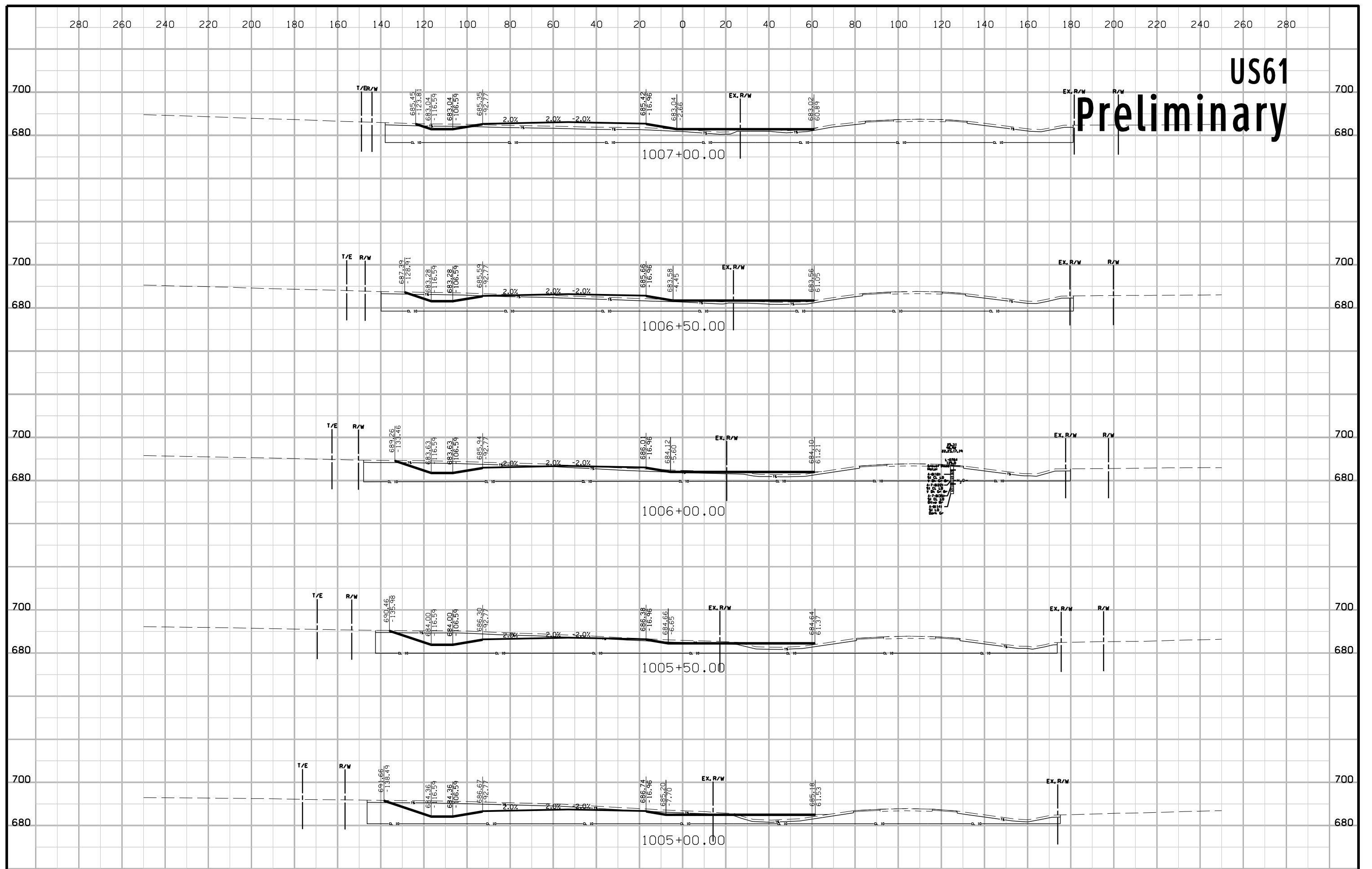
US61 Preliminary



US61 Preliminary

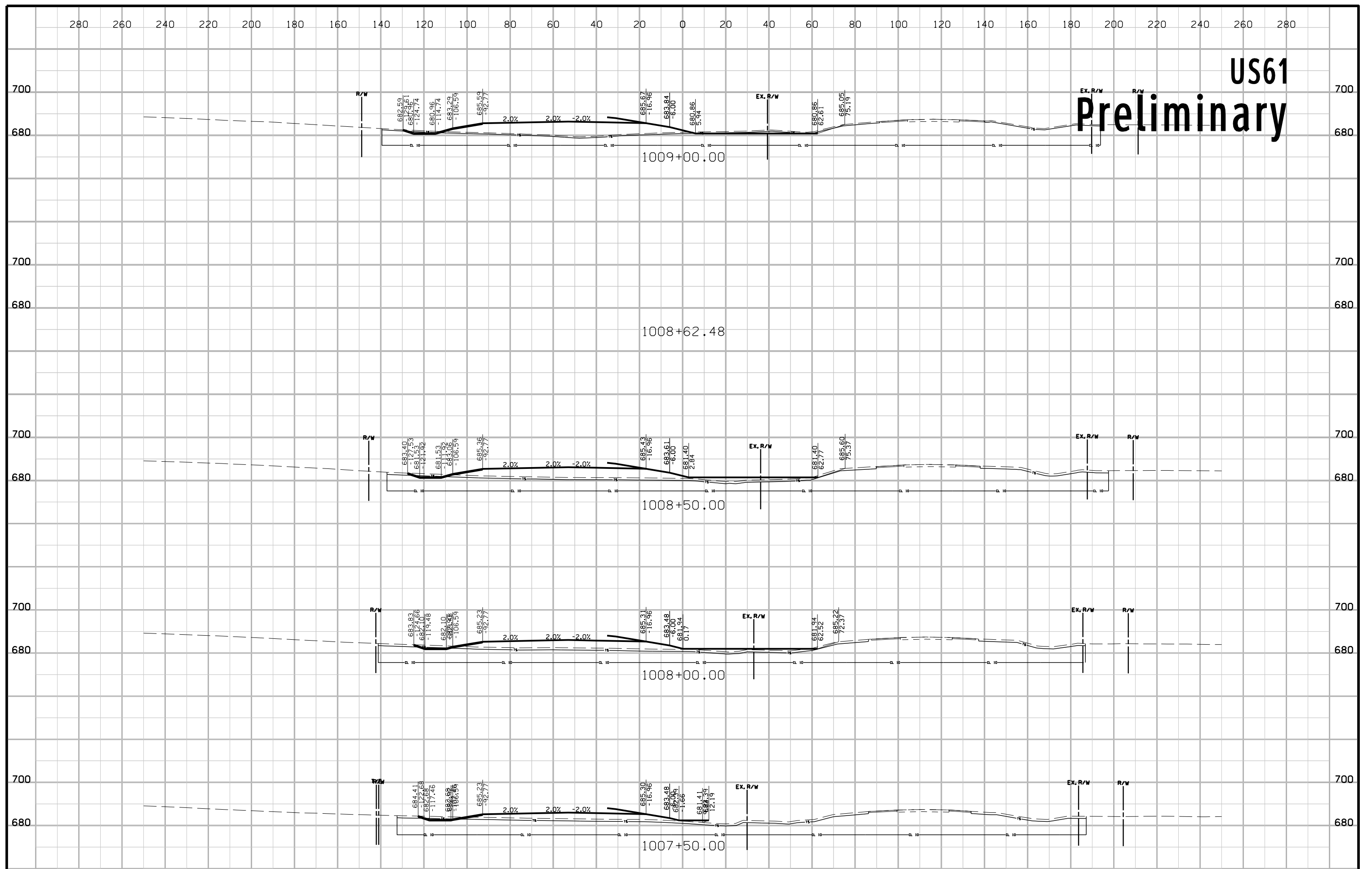


US61 Preliminary

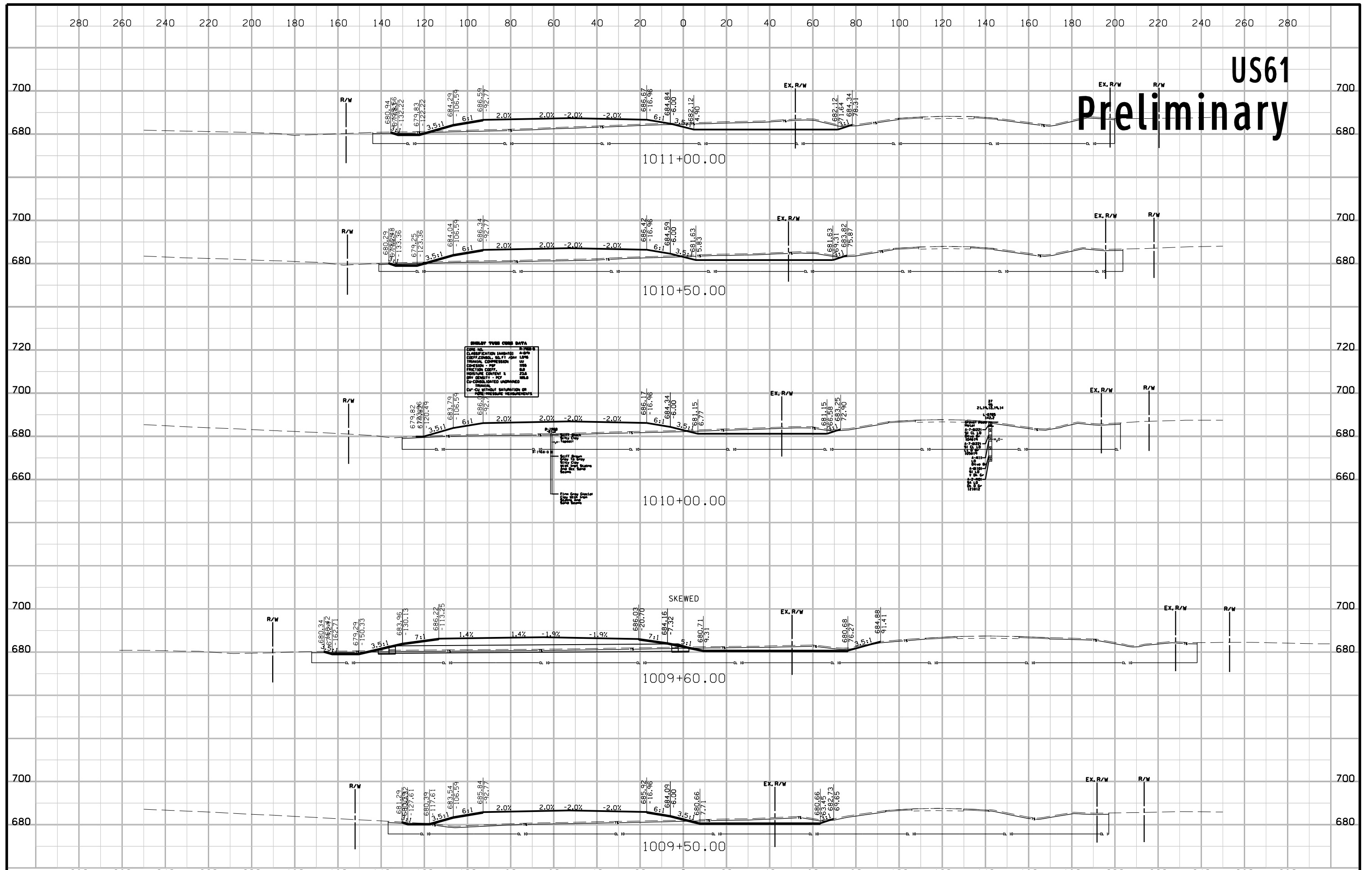


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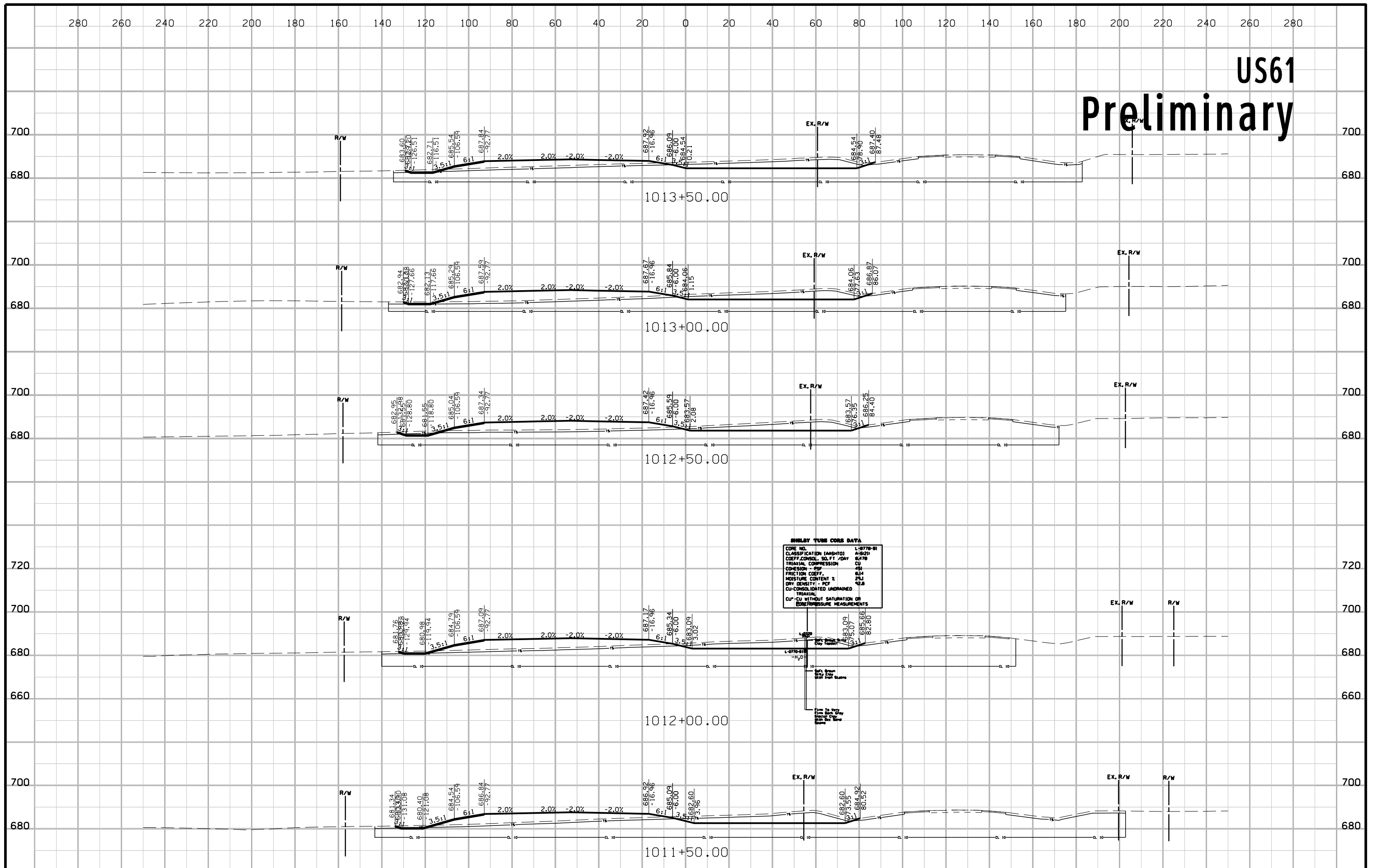
Preliminary



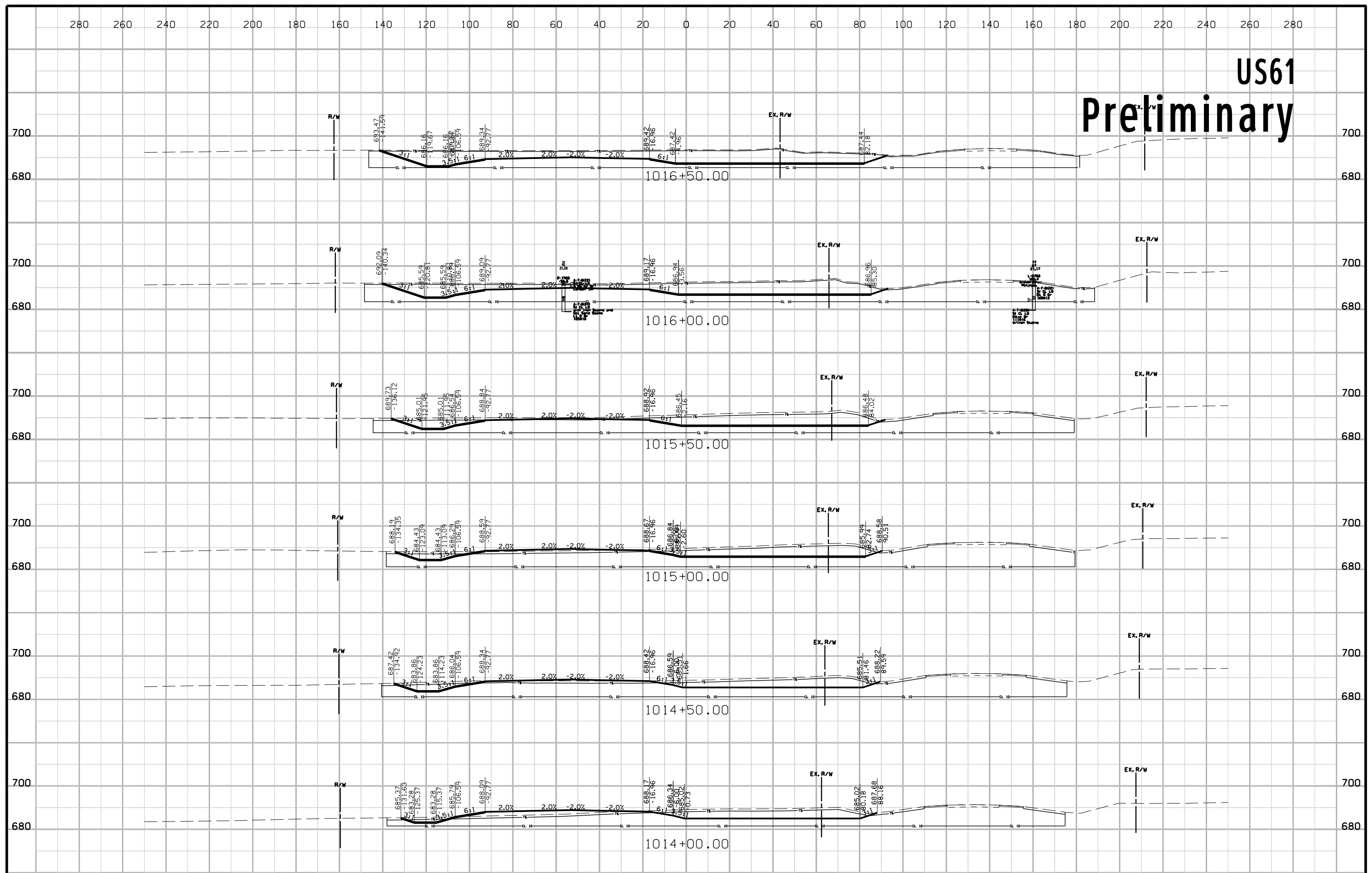
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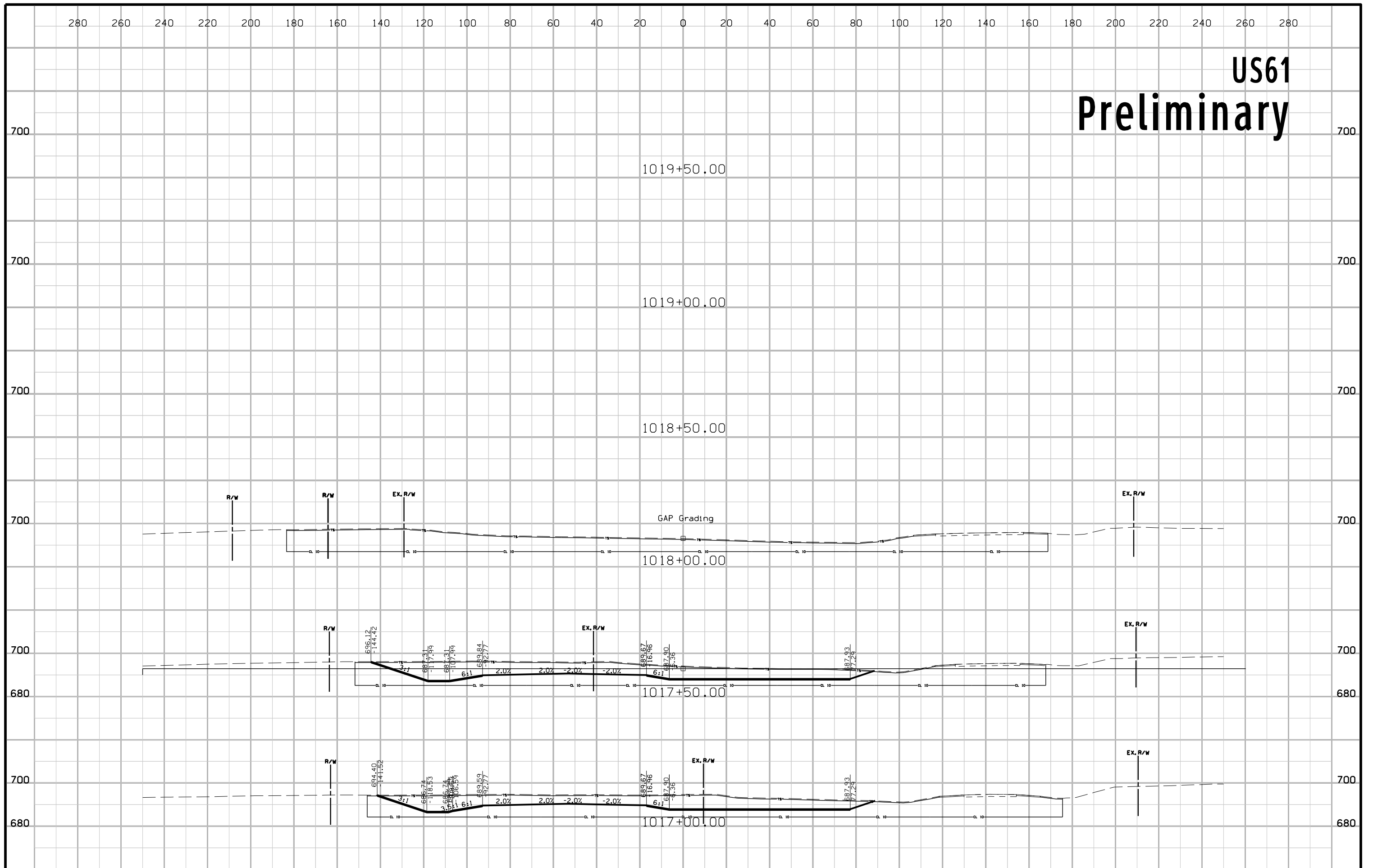
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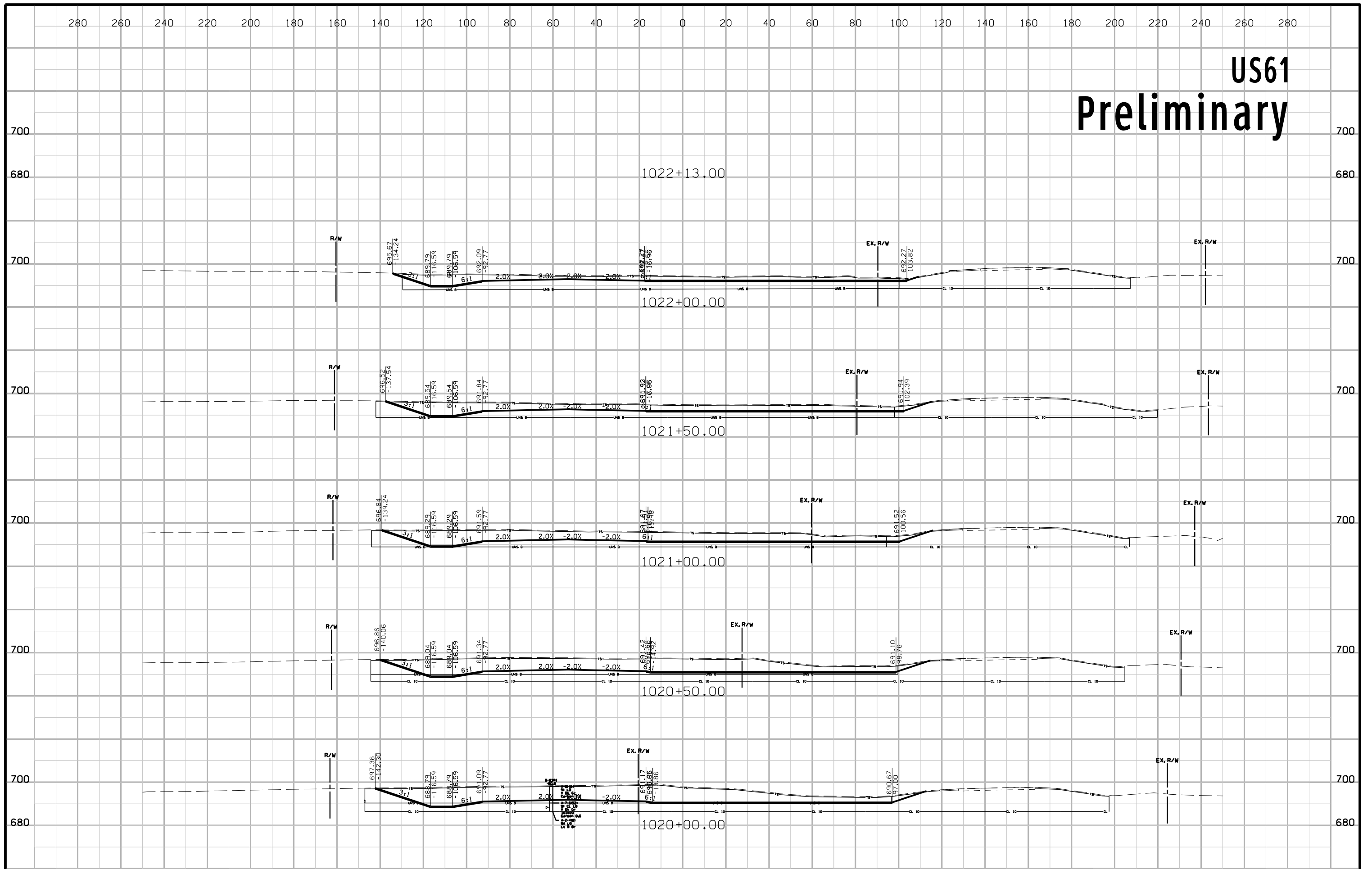
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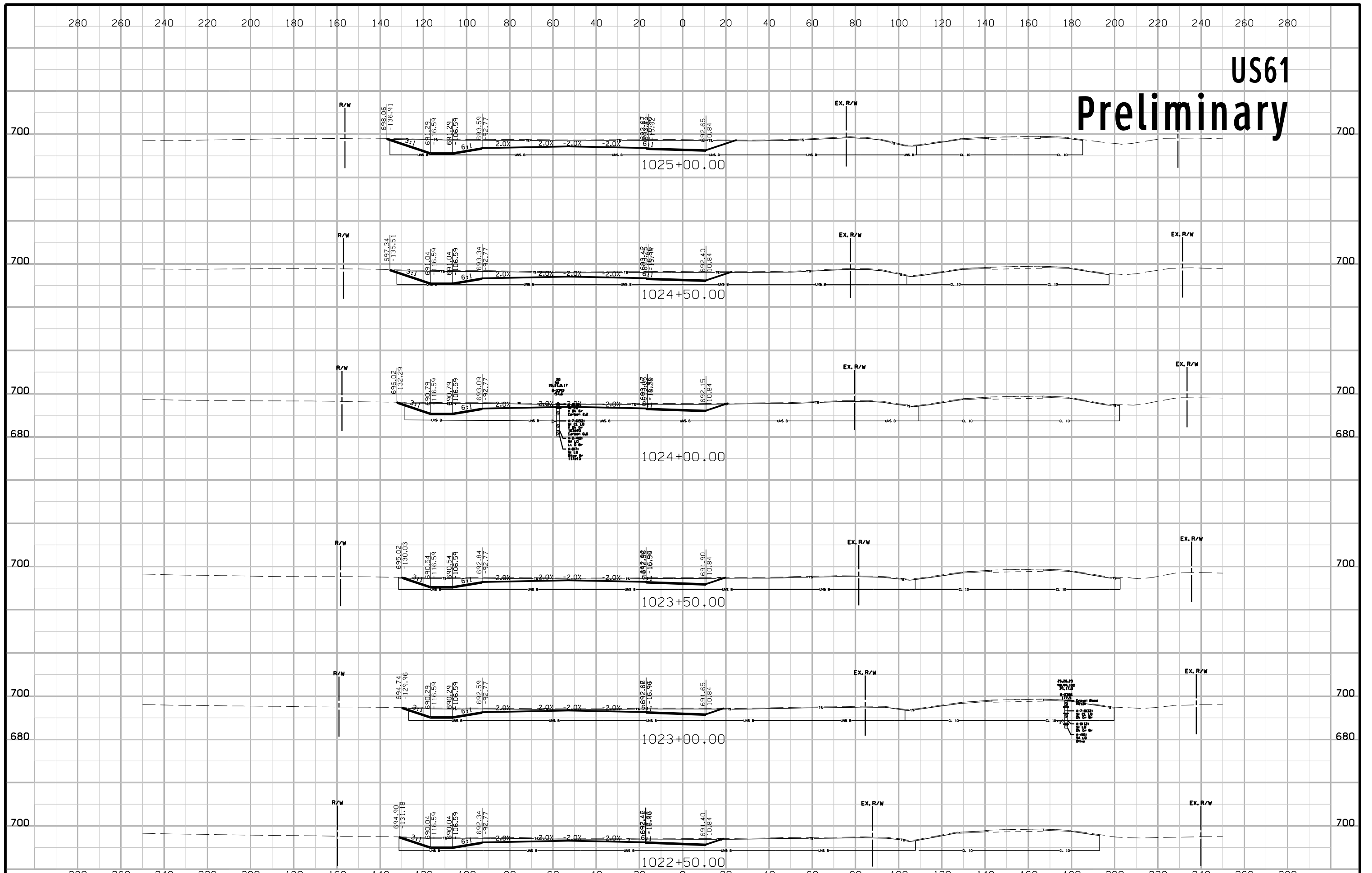
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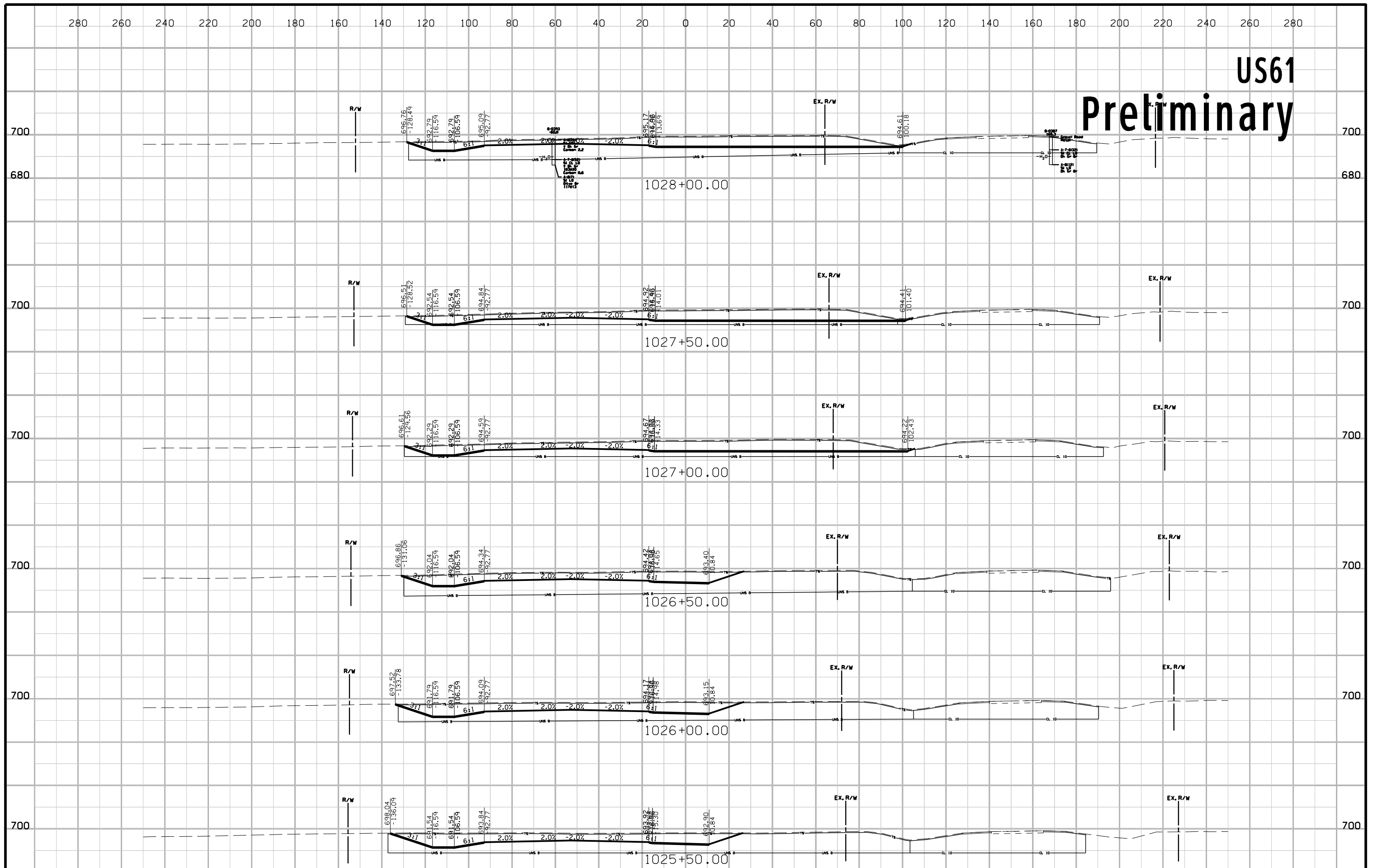
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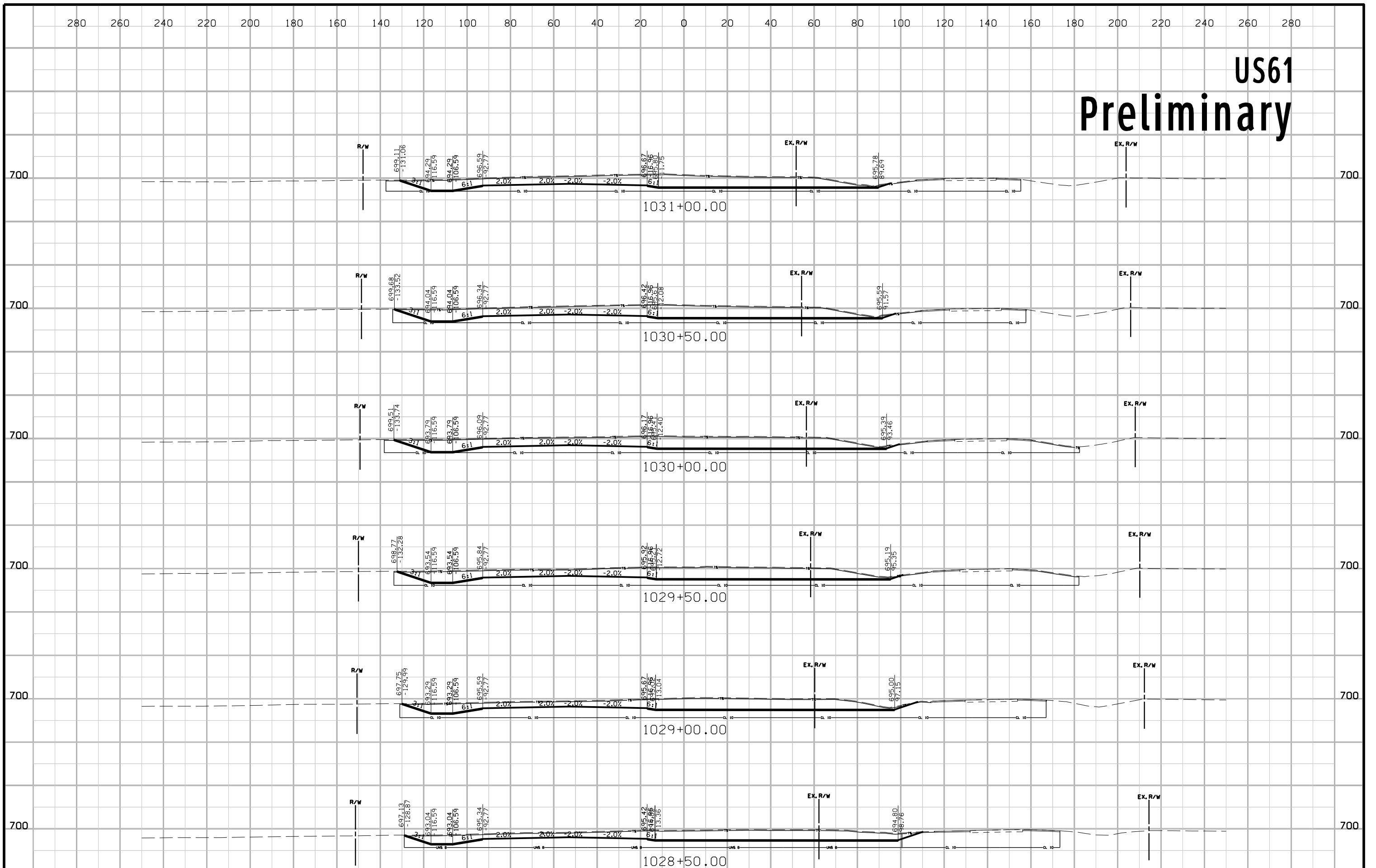
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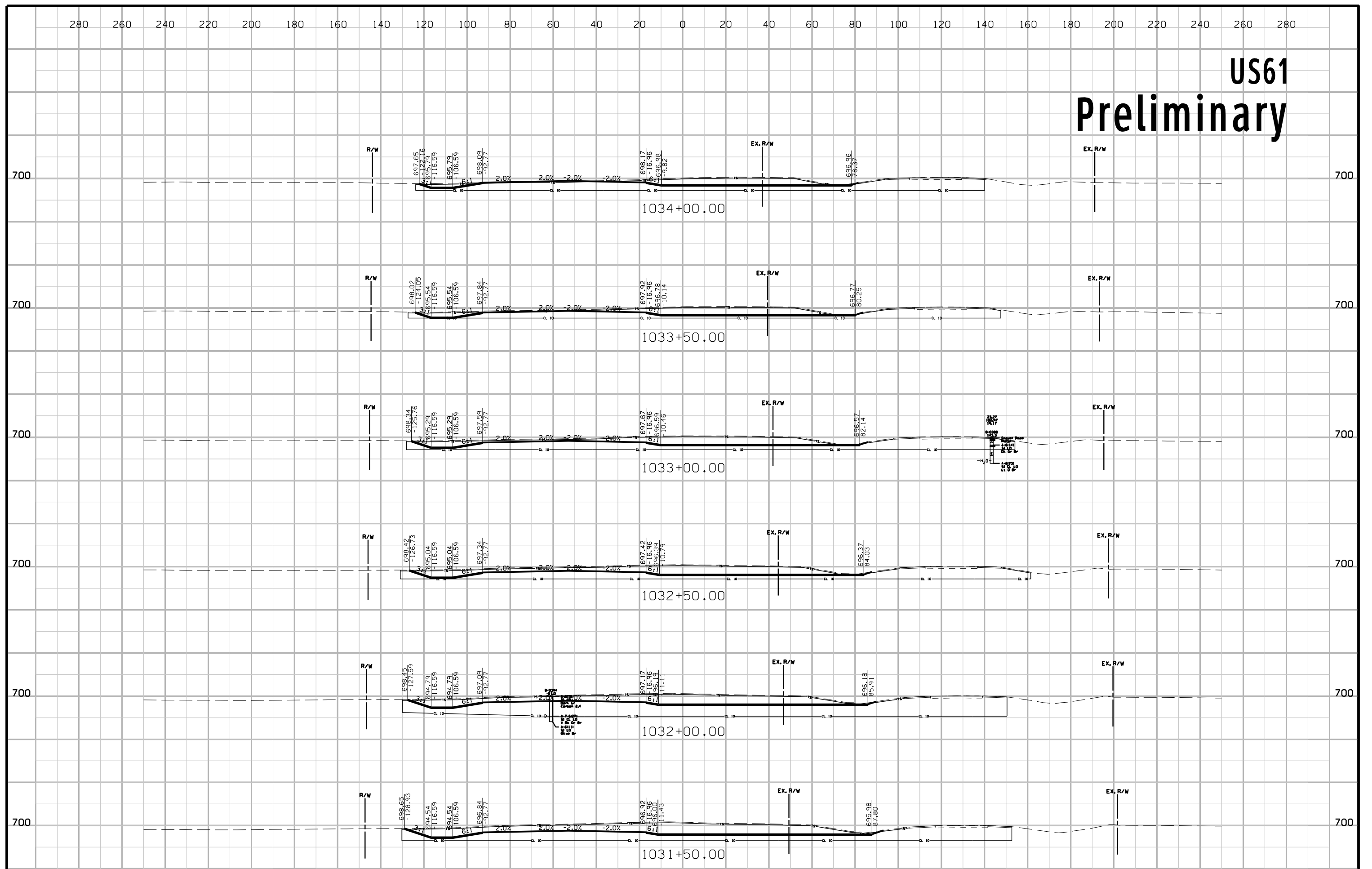
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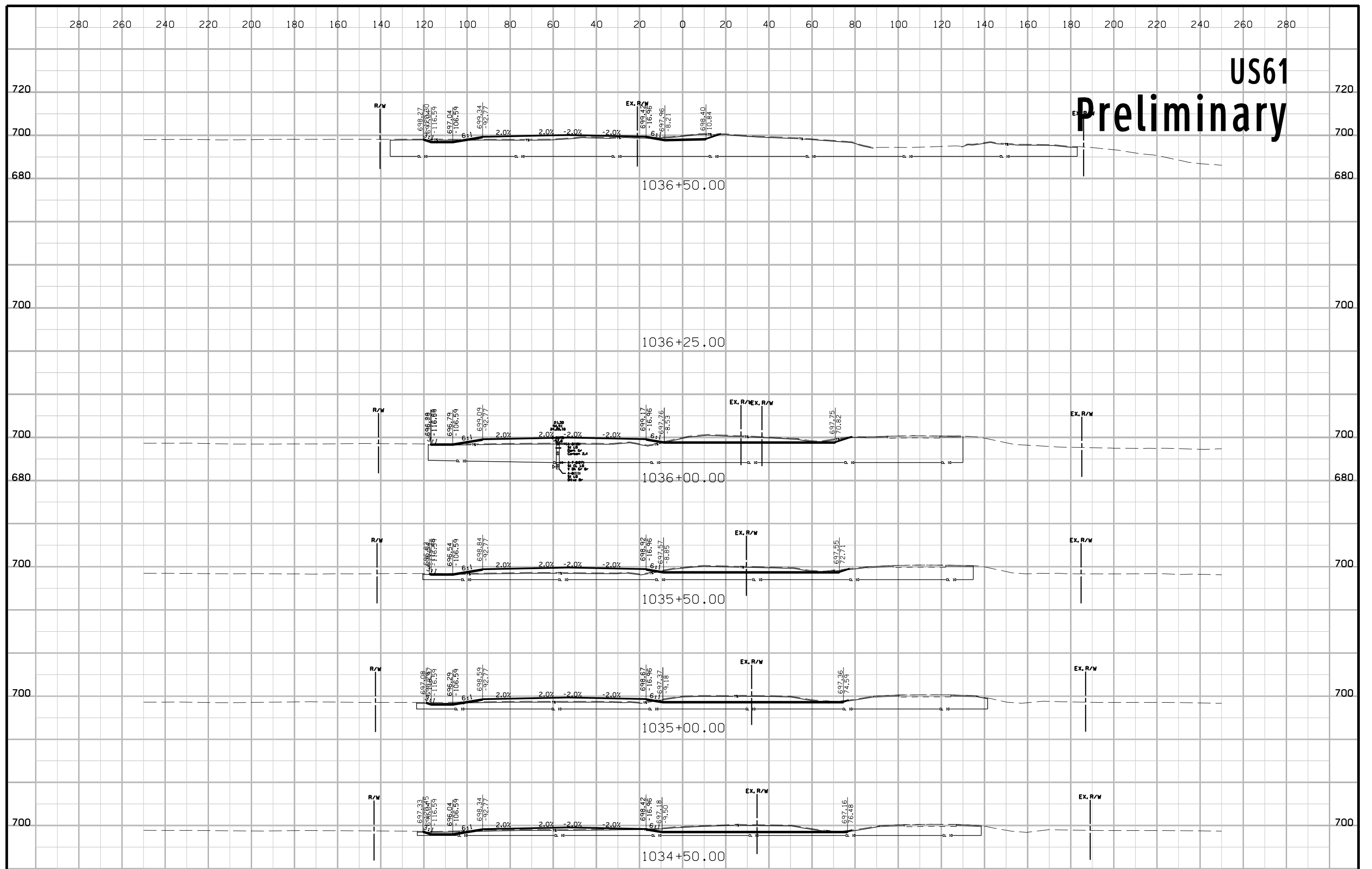
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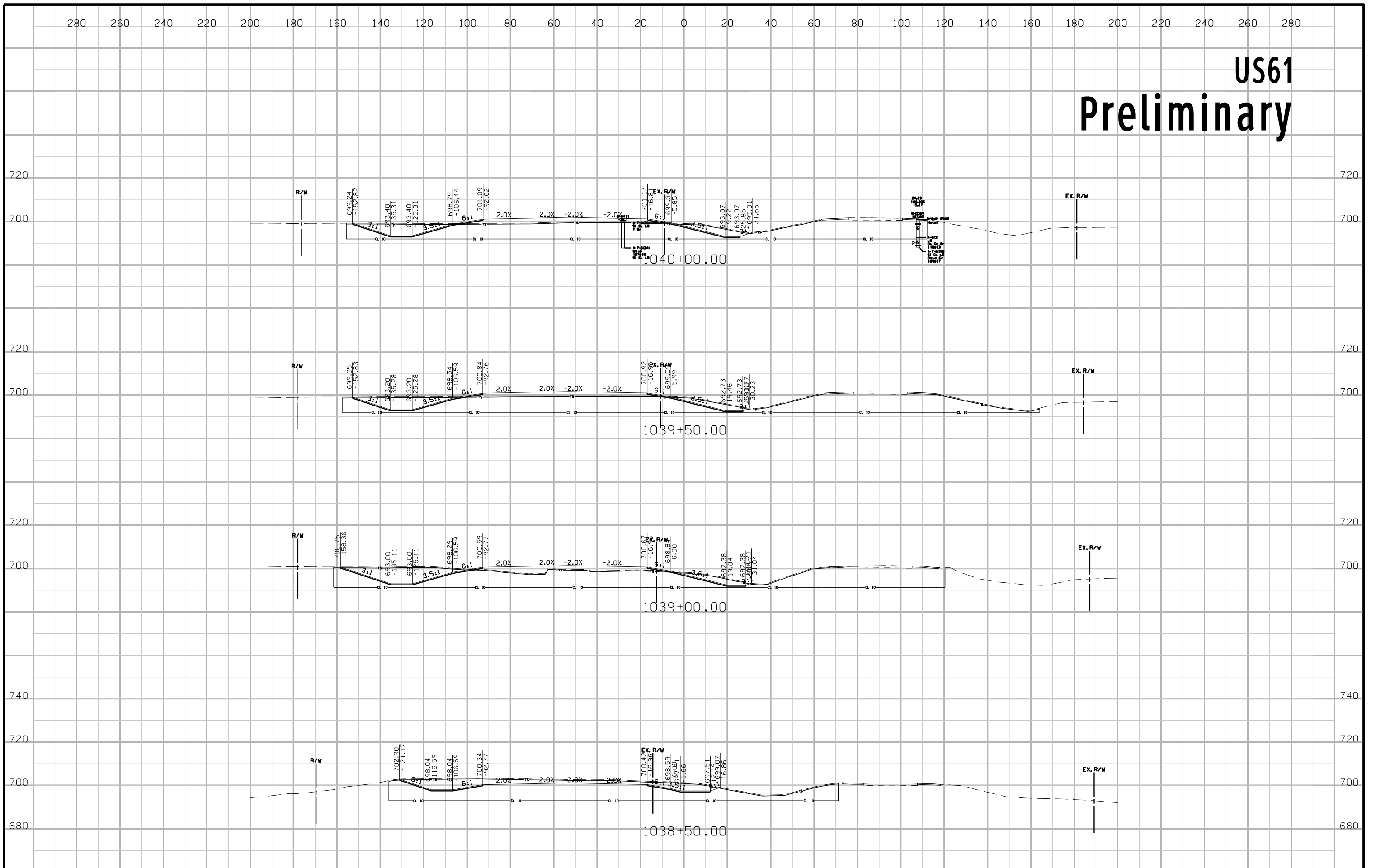
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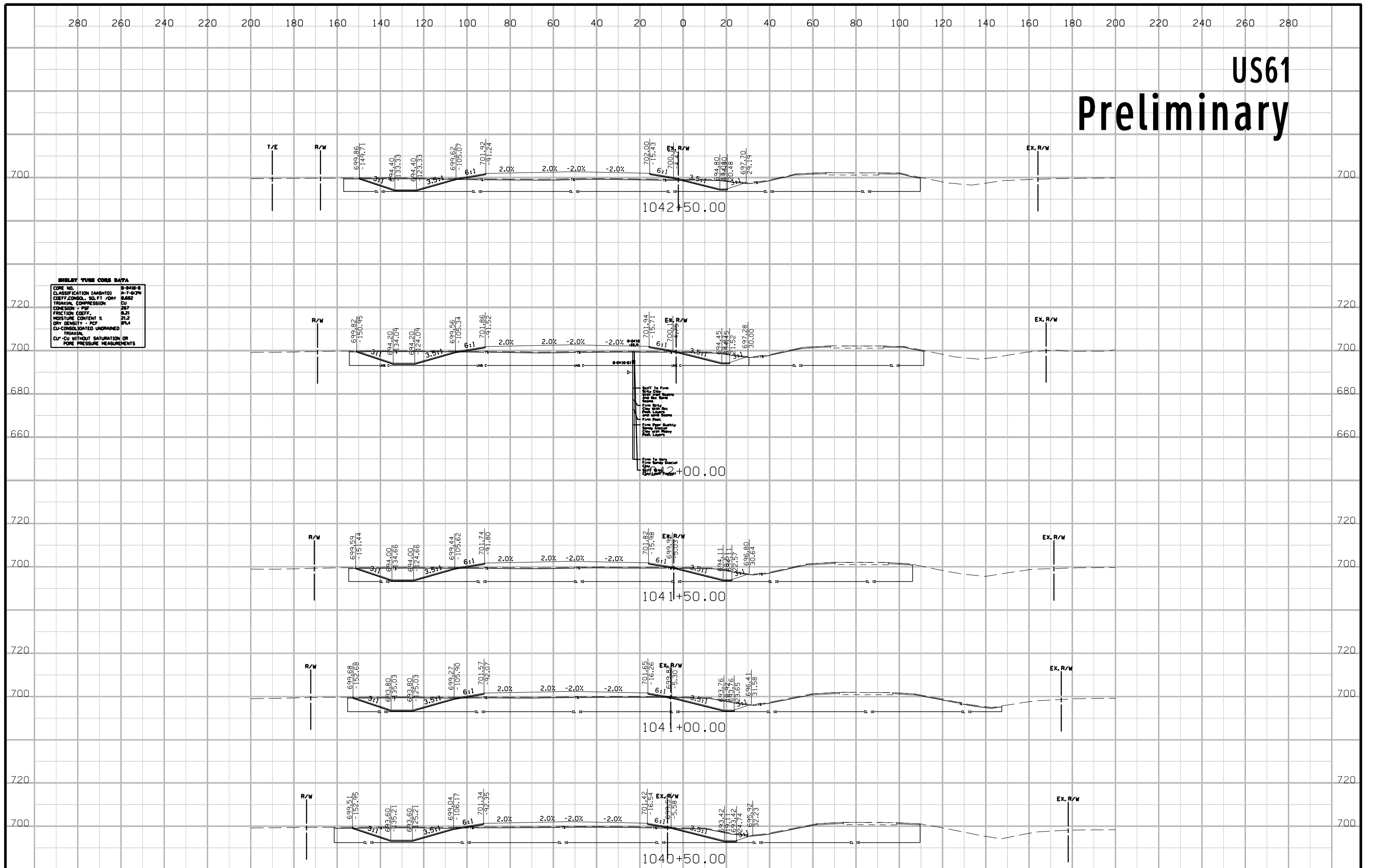
US61 Preliminary



US61 Preliminary



US61 Preliminary

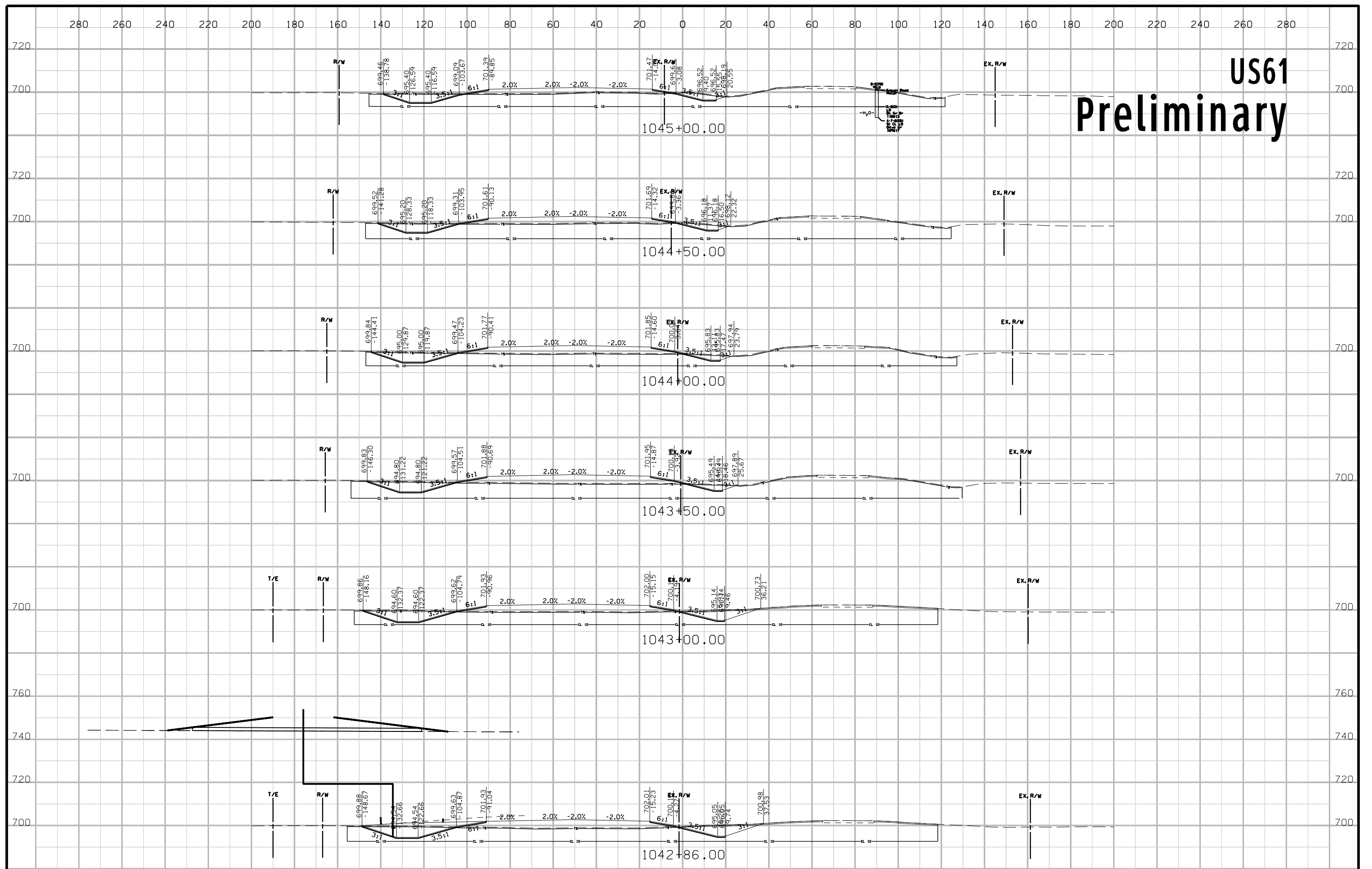


SHELLEY TUBE CORE DATA

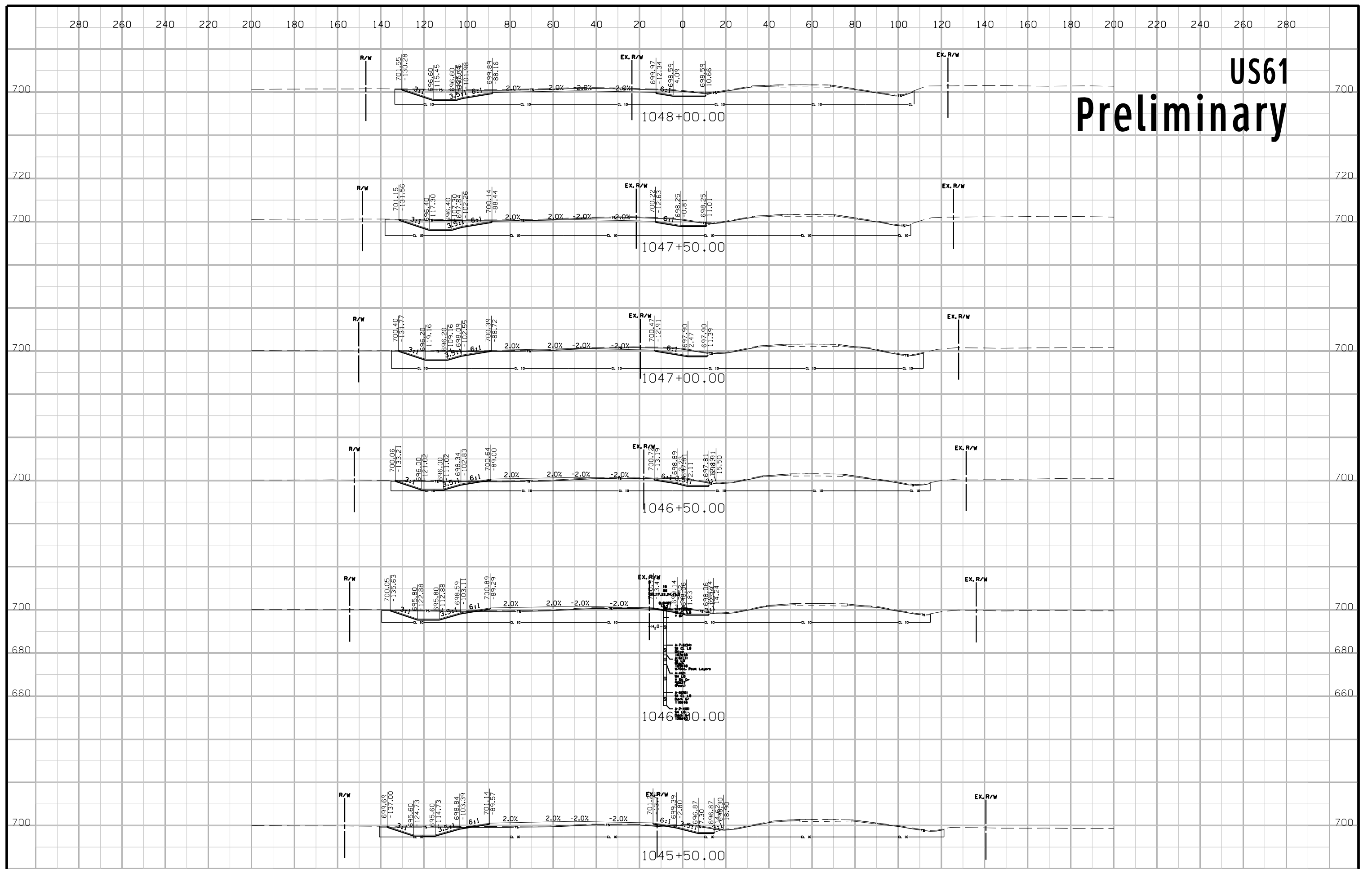
CORE NO.	S-0410-B
CLASSIFICATION (ASHSTO)	A-7-6-30
COEFF. CONSOL. SO. FT. / DAY	0.002
TRIALS, COMPRESSION	CU
COHESION - PCF	267
FRICTION COEFF.	0.21
MOISTURE CONTENT %	21.2
DRY DENSITY - PCF	91.4
CU - CONSOLIDATED UNDRAINED TRIALS	
CU - CU WITHOUT SATURATION OR PORE PRESSURE MEASUREMENTS	

0-410-01
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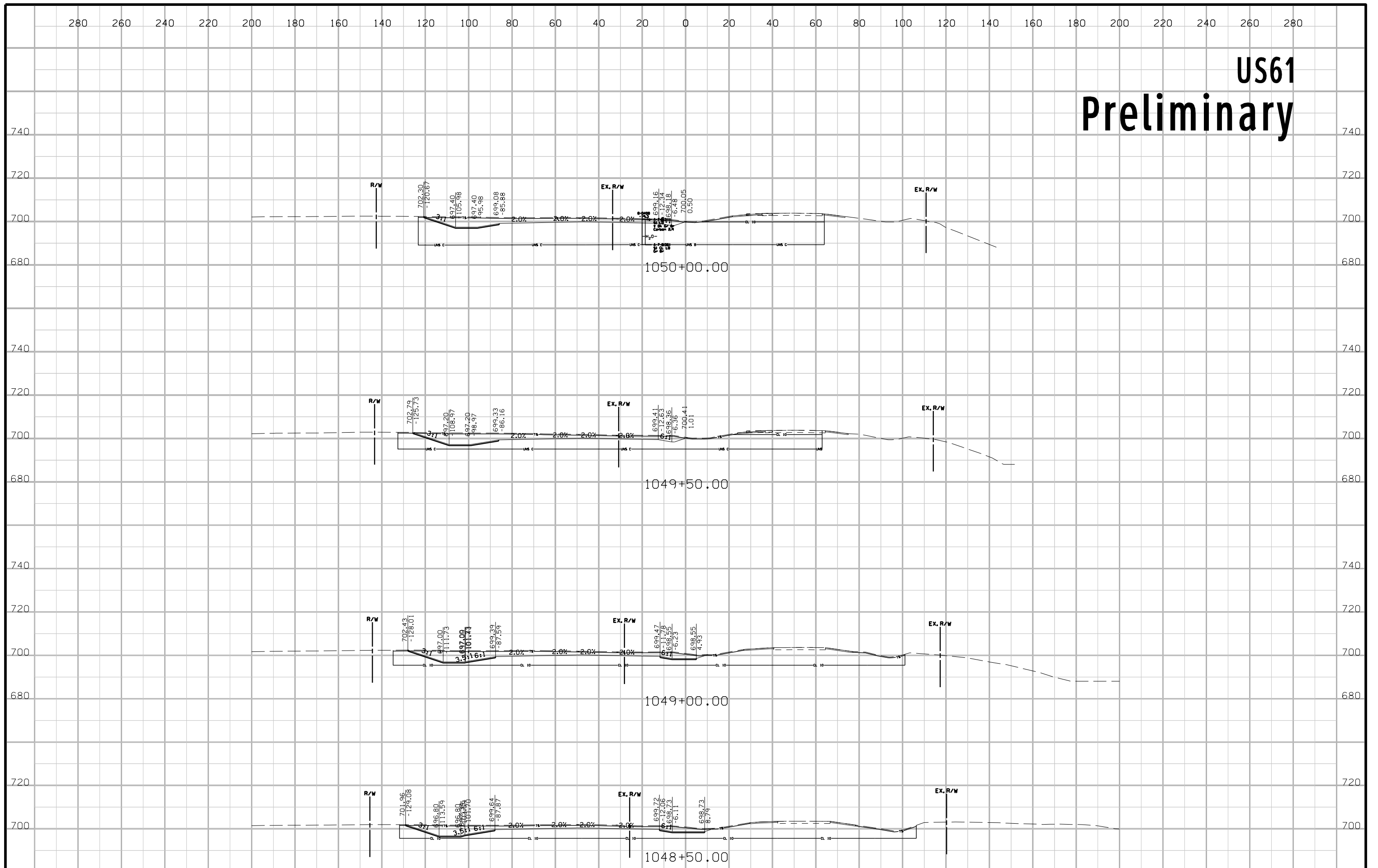
US61 Preliminary



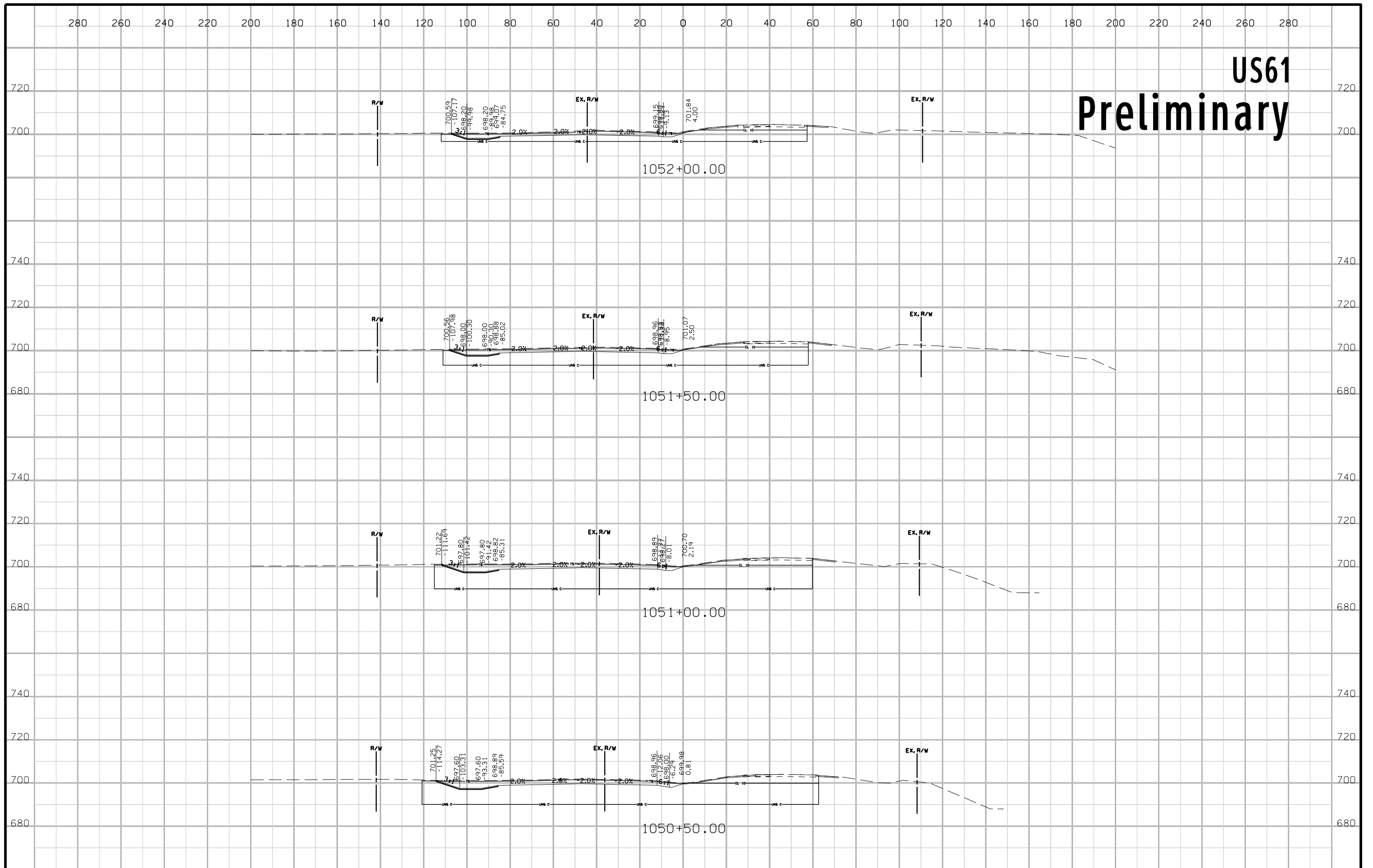
US61 Preliminary



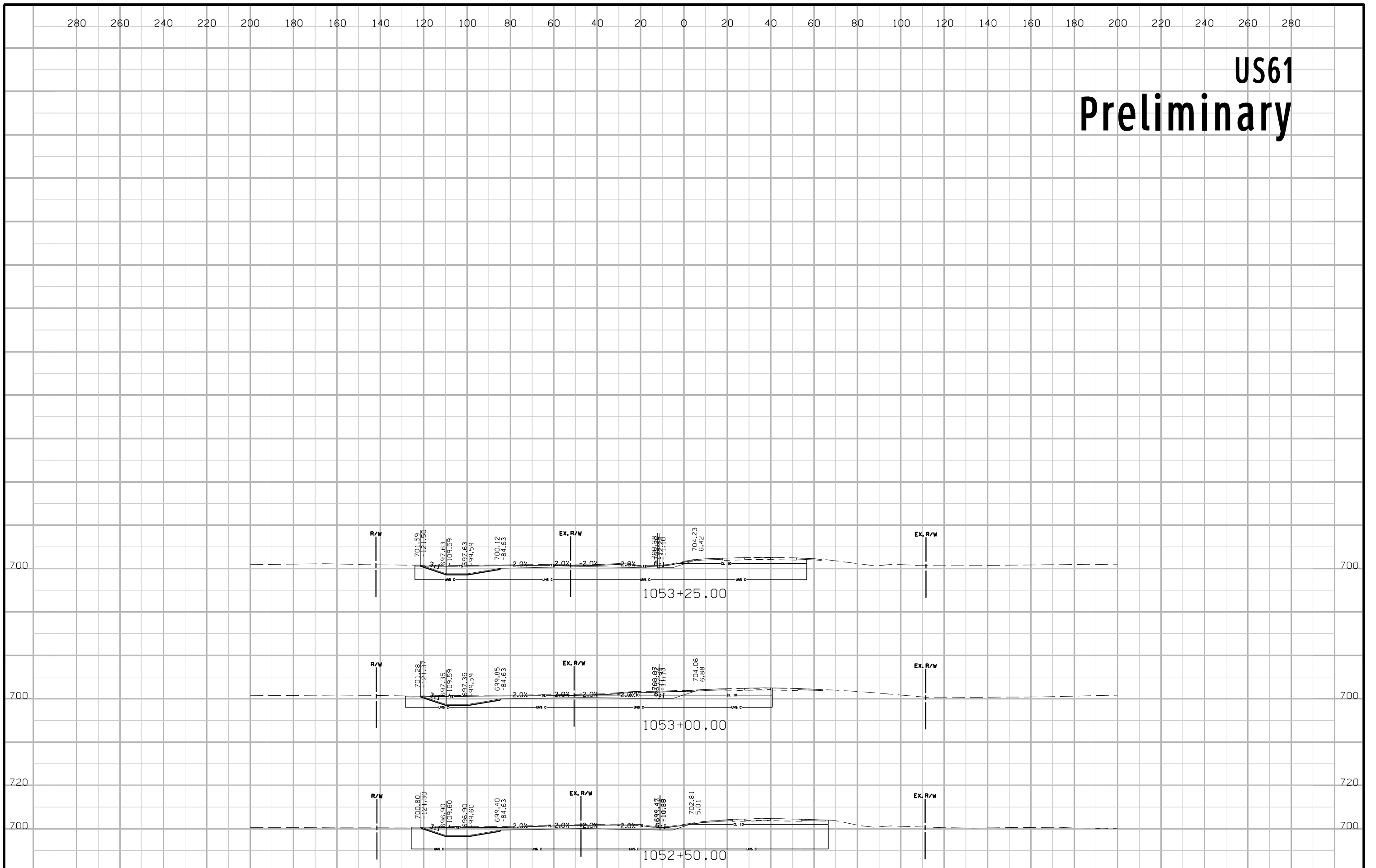
US61 Preliminary



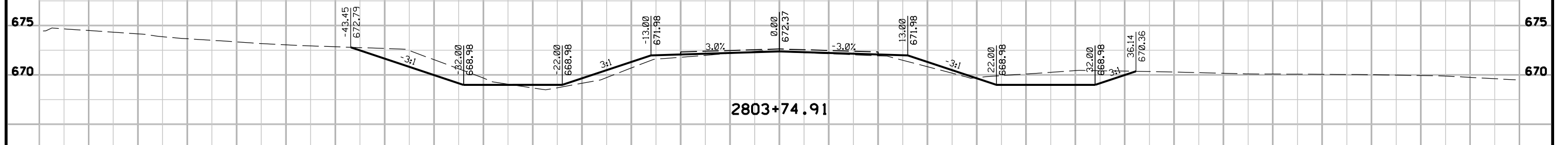
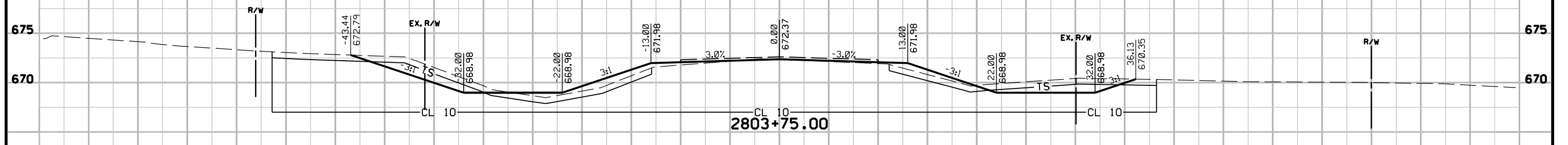
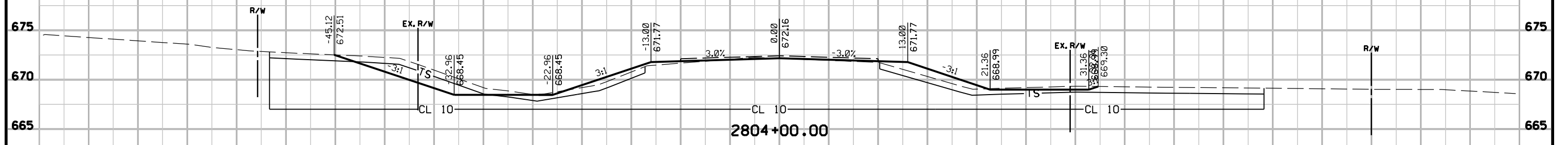
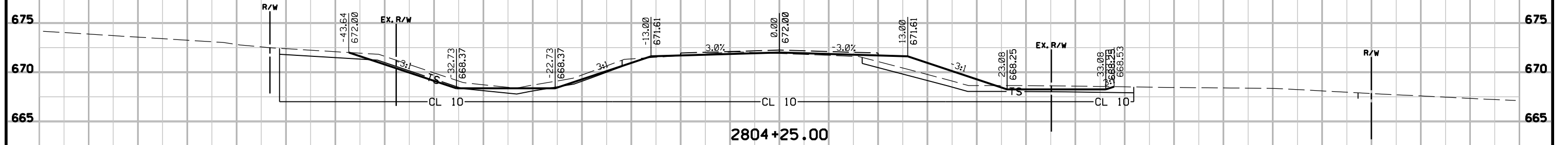
US61 Preliminary



US61 Preliminary

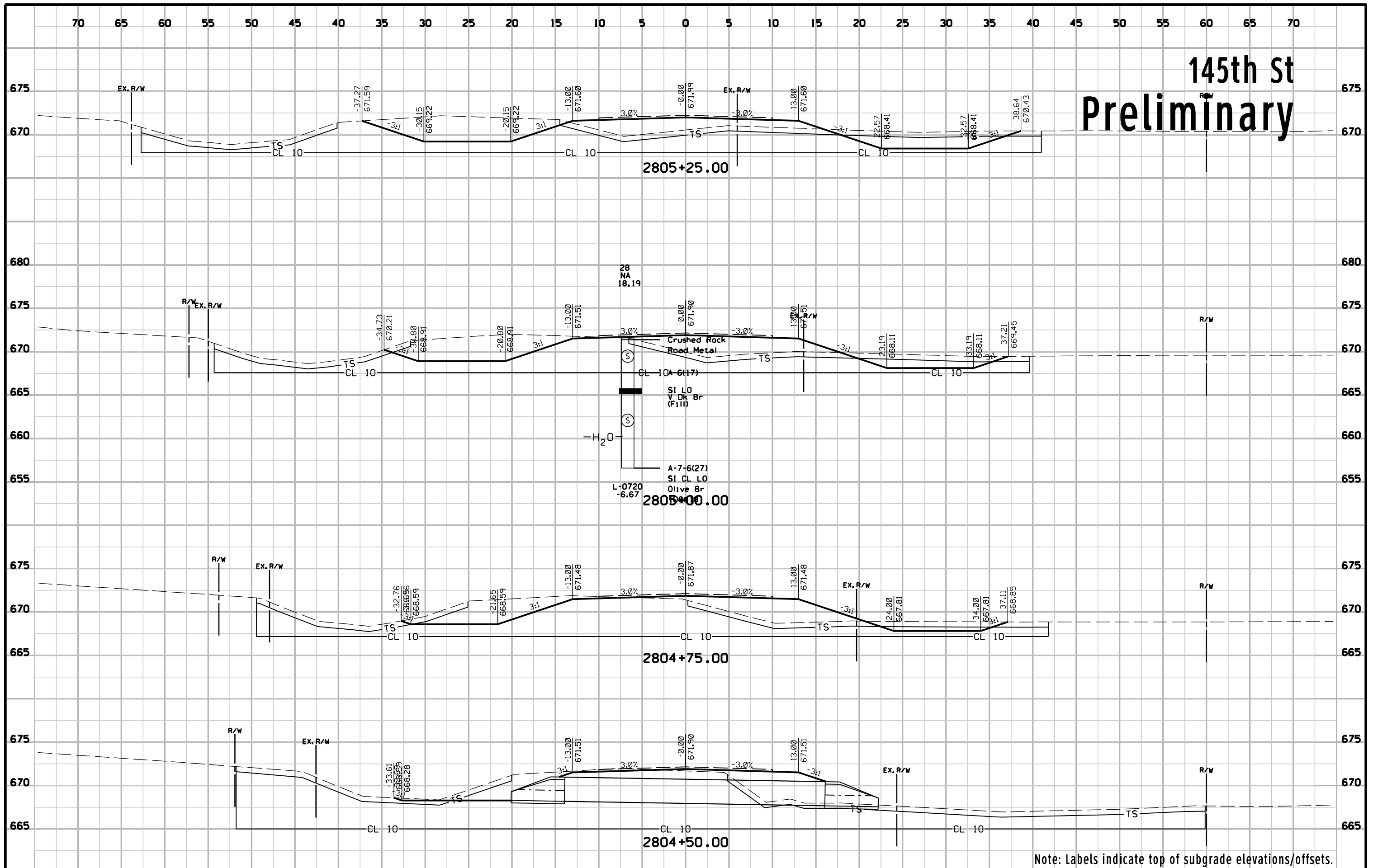


145th St Preliminary

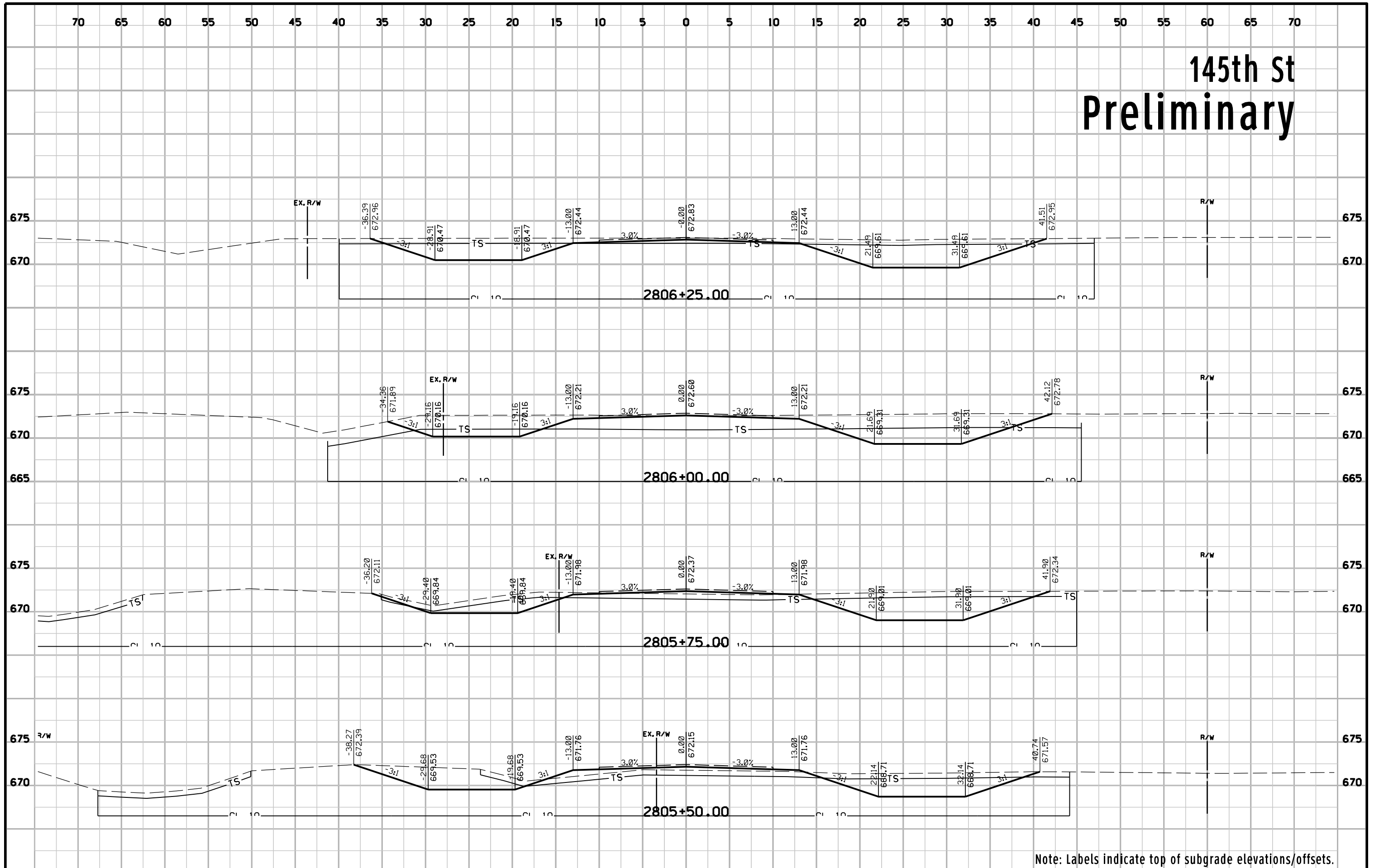


Note: Labels indicate top of subgrade elevations/offsets.

145th St Preliminary

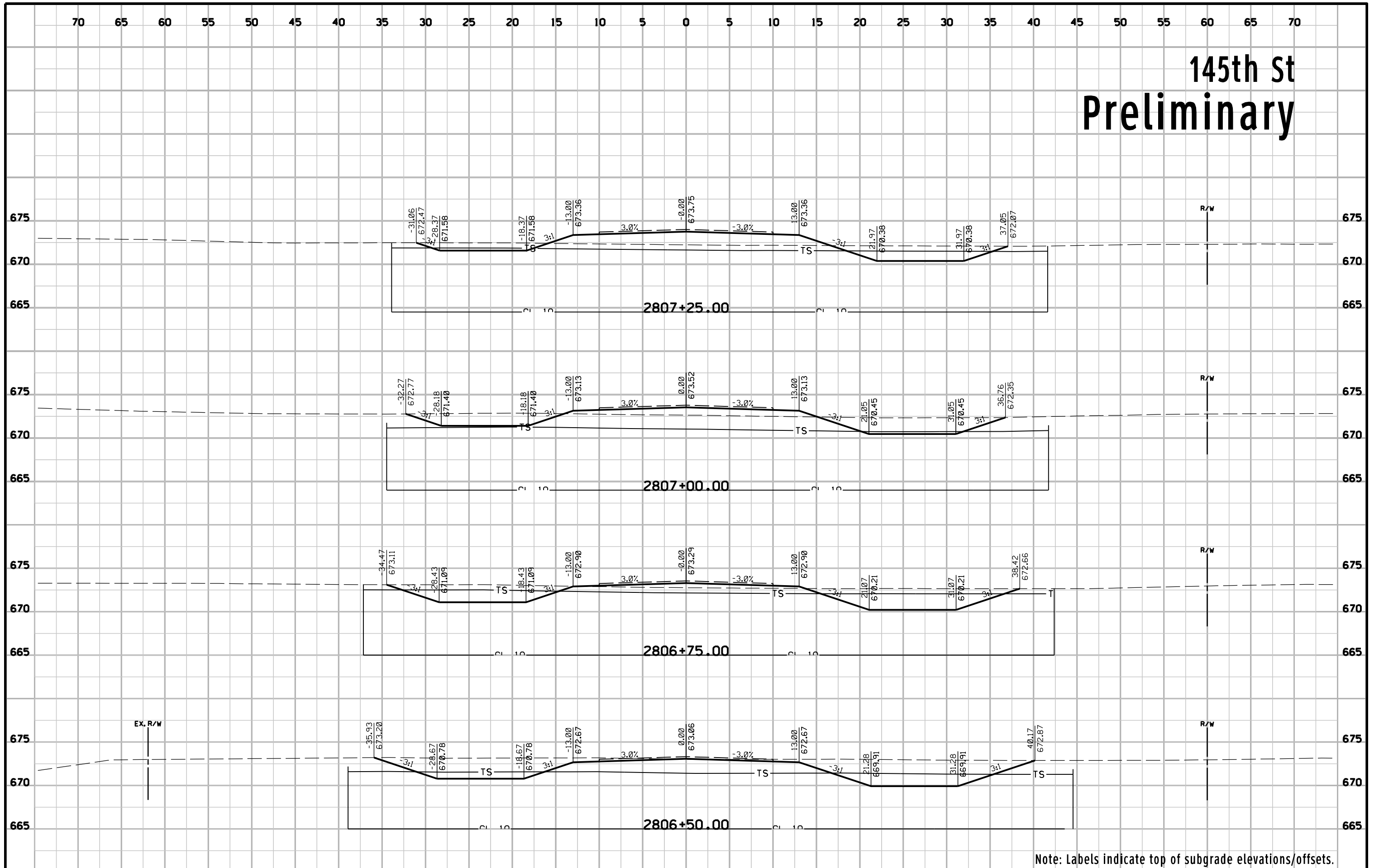


145th St Preliminary



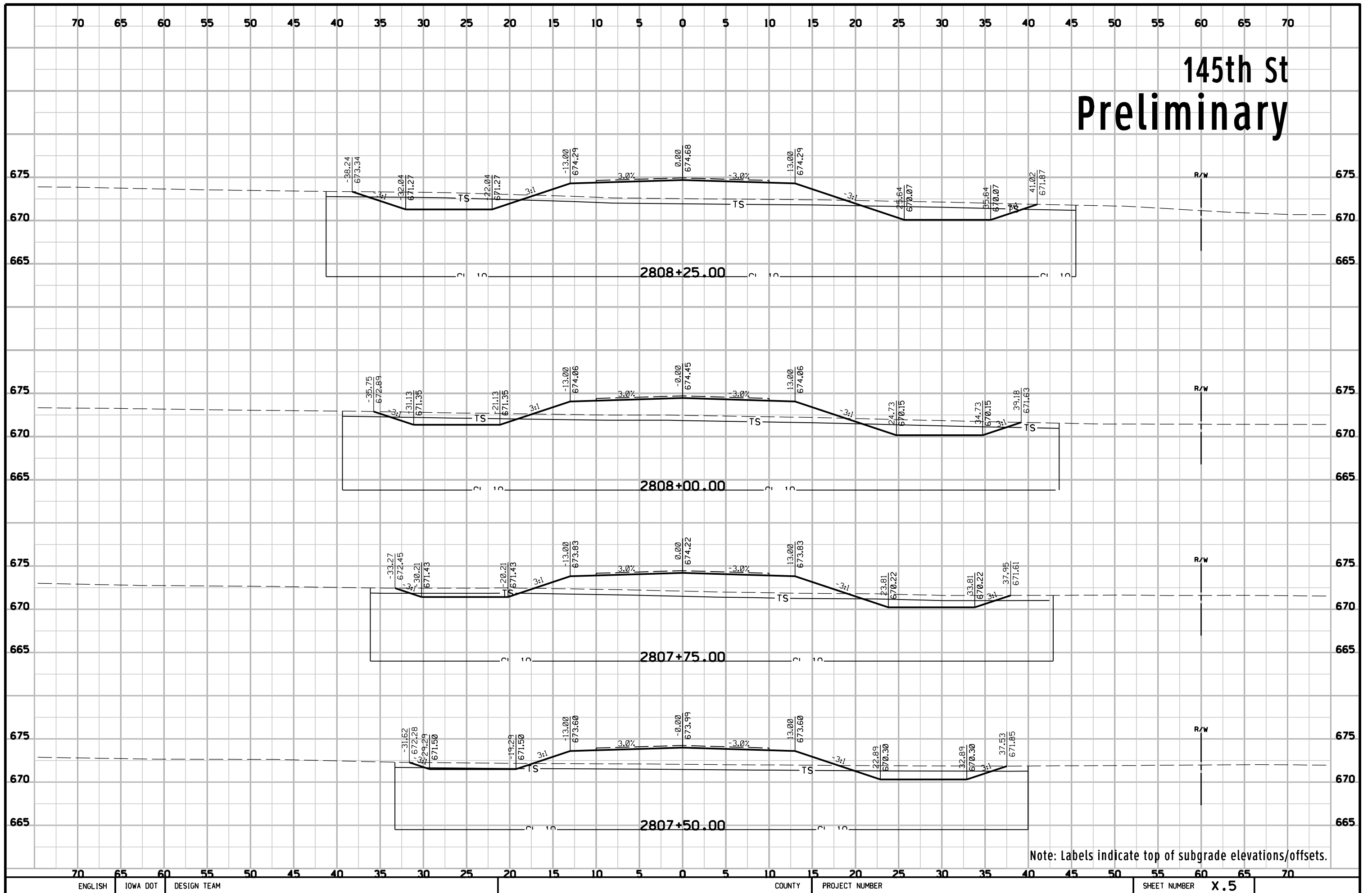
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145th St Preliminary

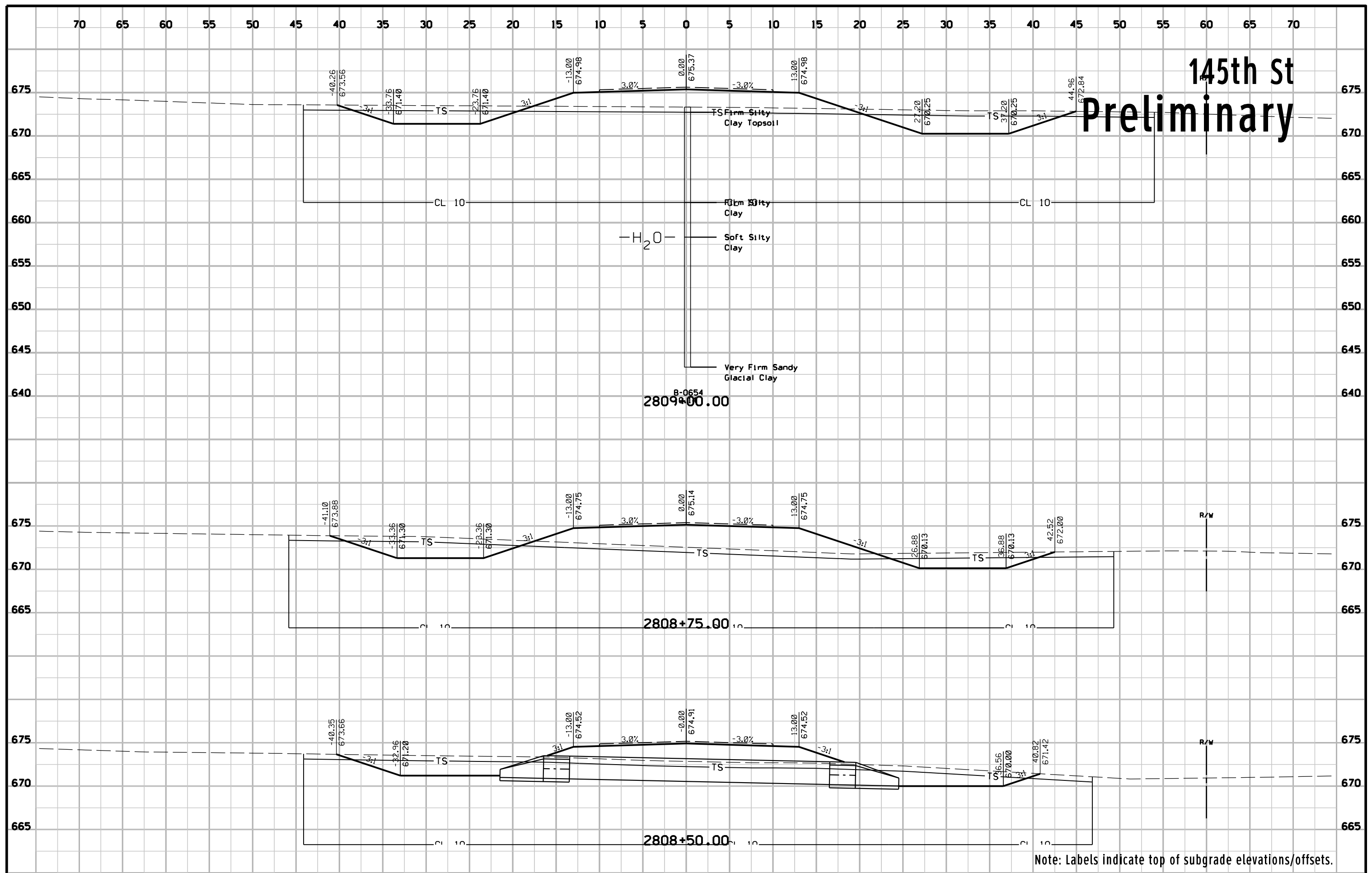


Note: Labels indicate top of subgrade elevations/offsets.

145th St Preliminary

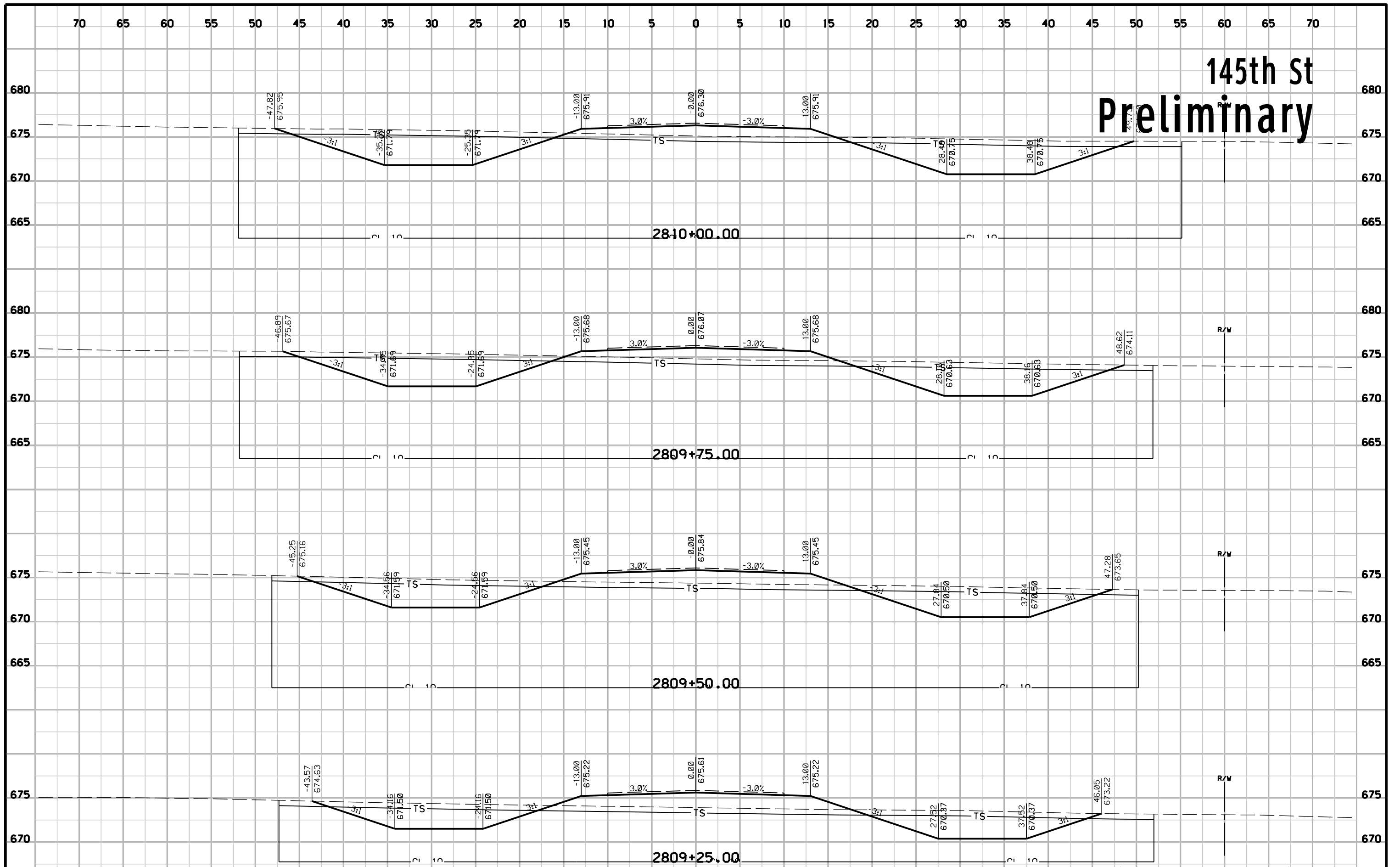


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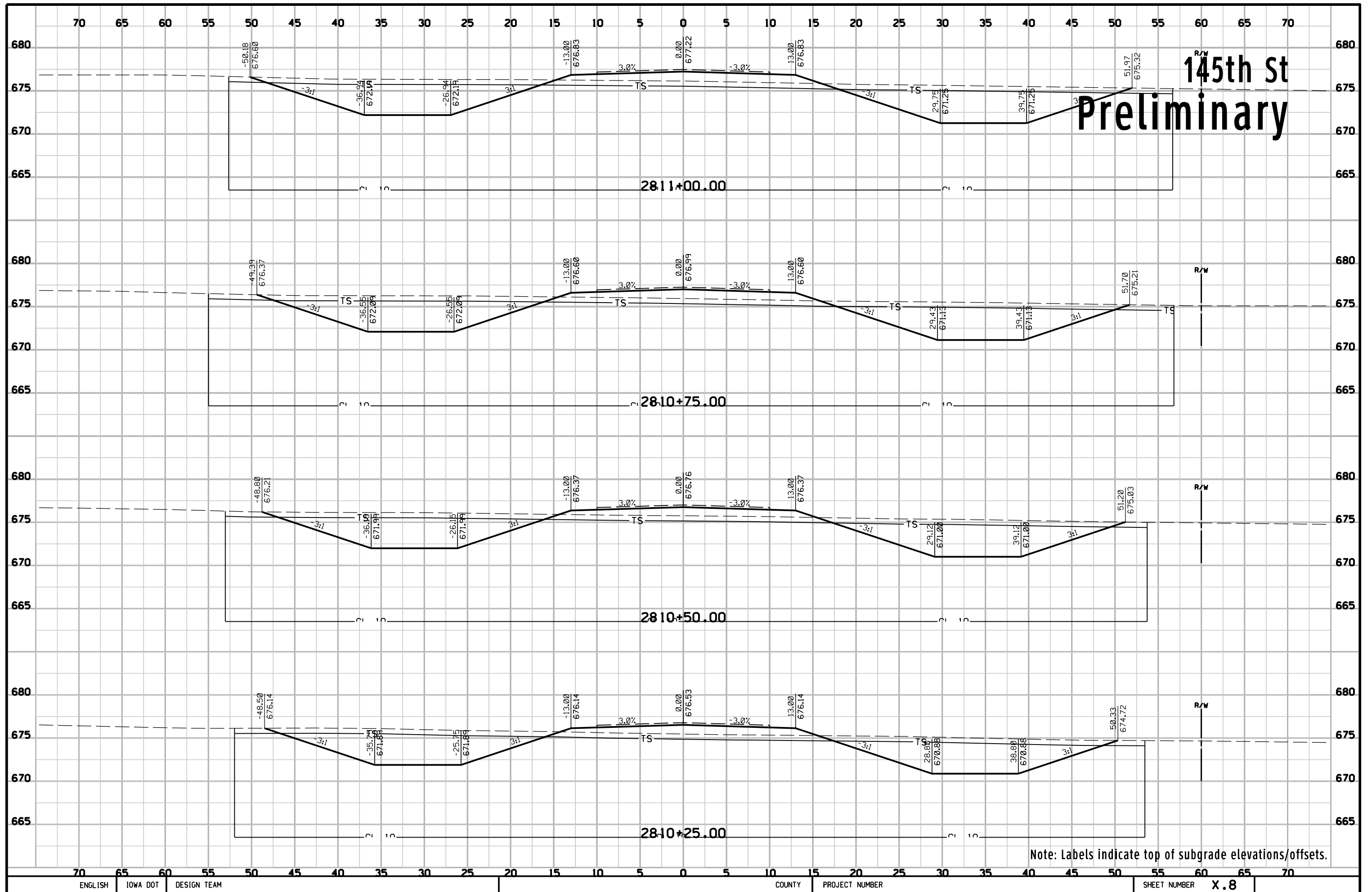


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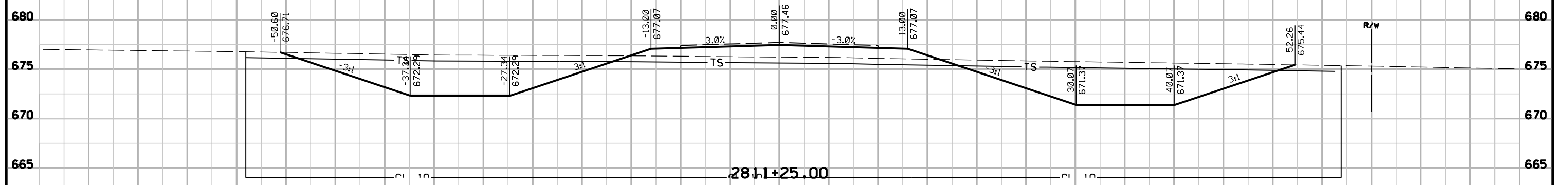
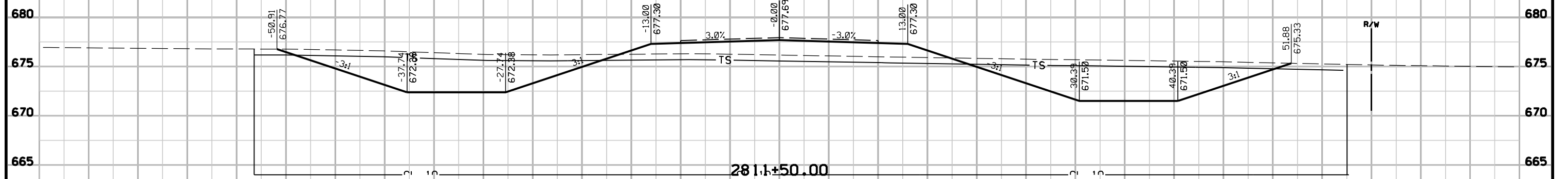
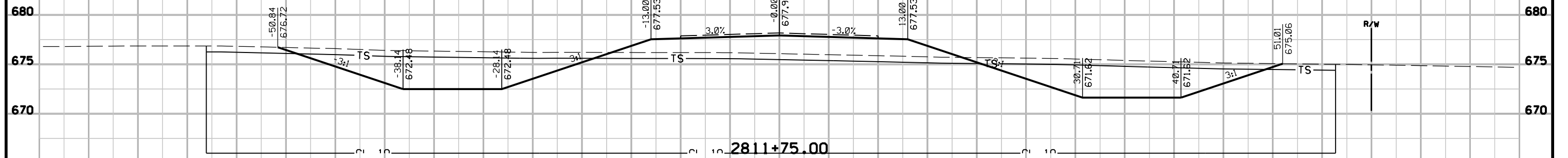
145th St Preliminary



Note: Labels indicate top of subgrade elevations/offsets.

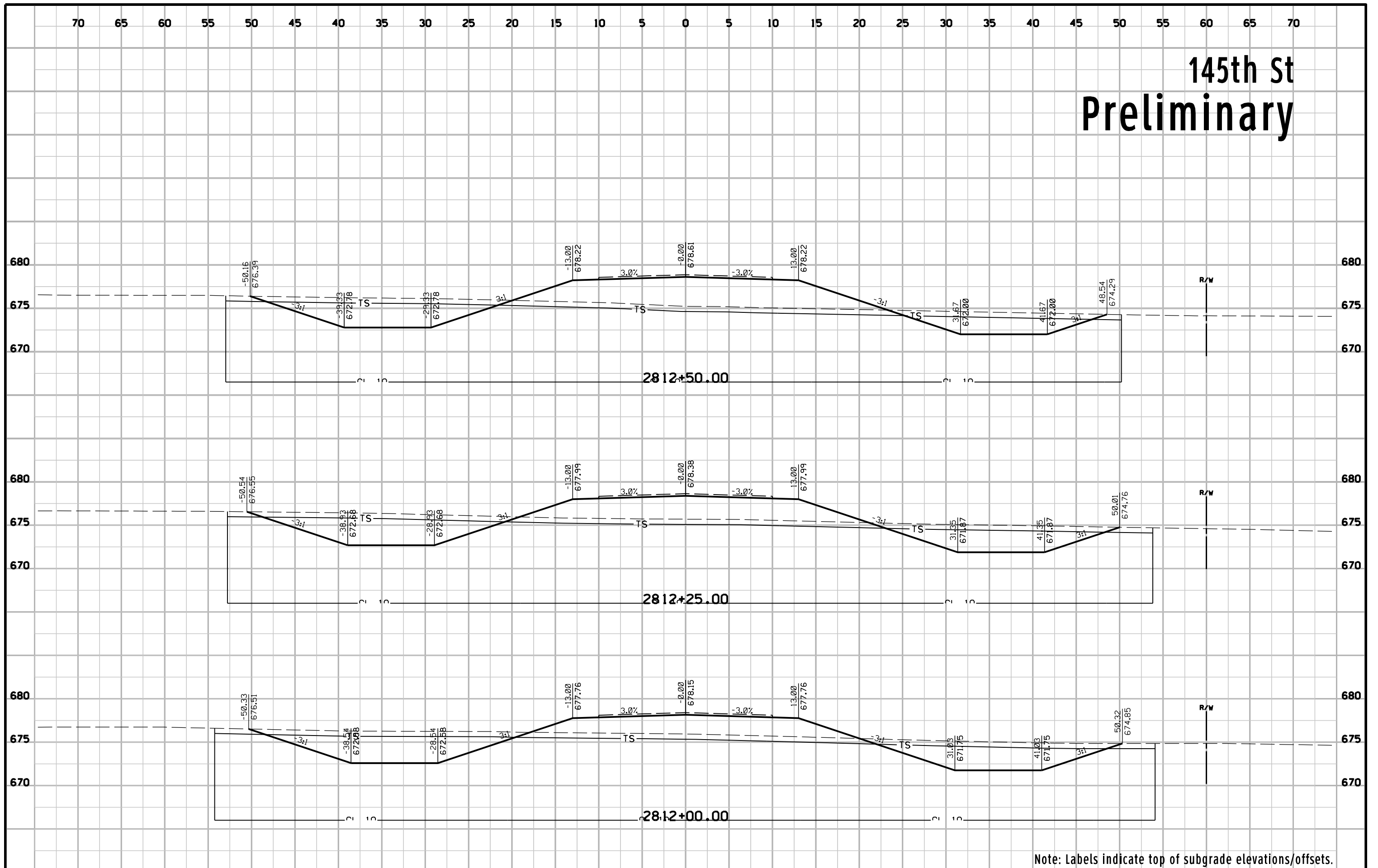


145th St Preliminary



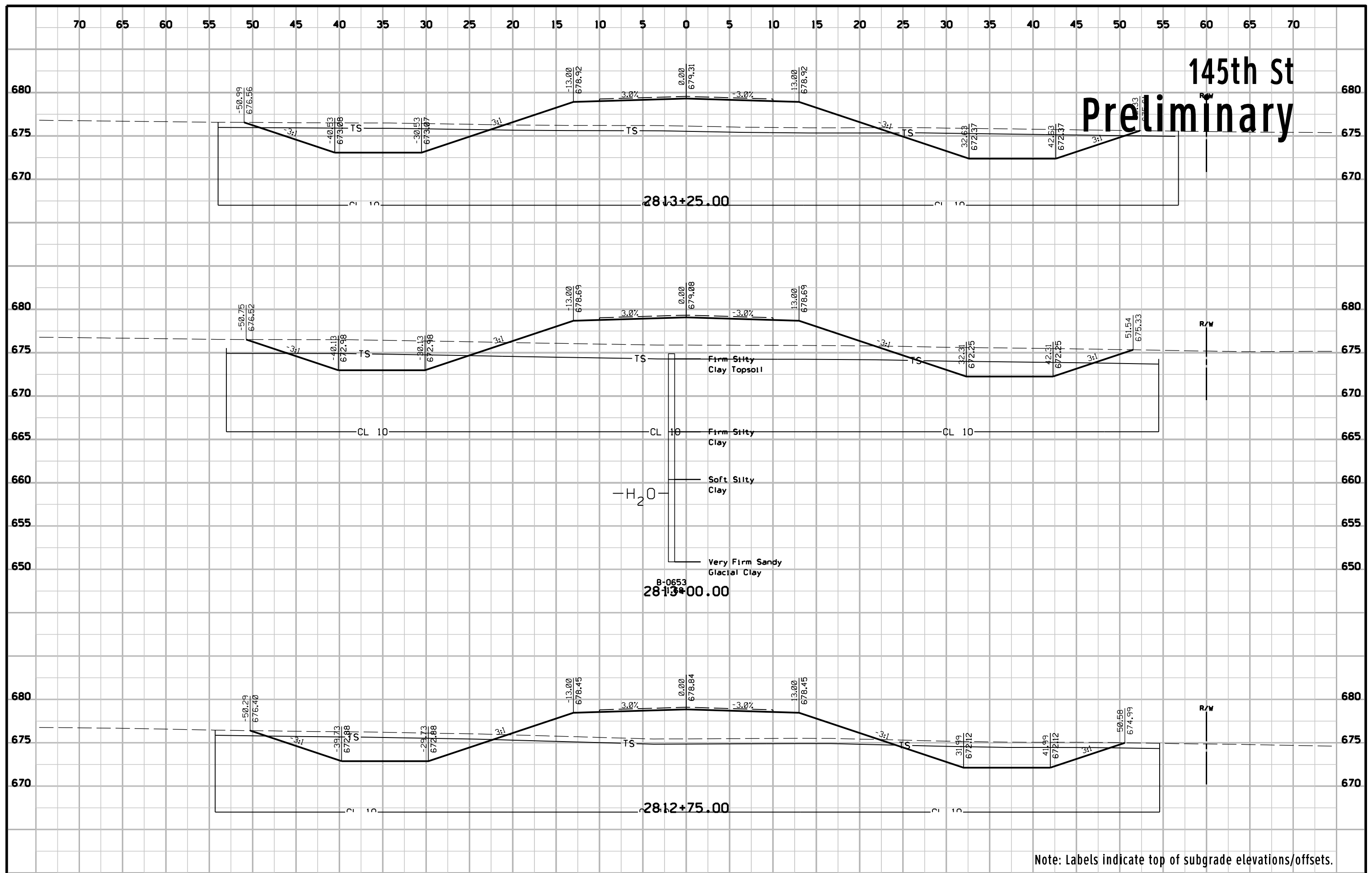
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145th St Preliminary



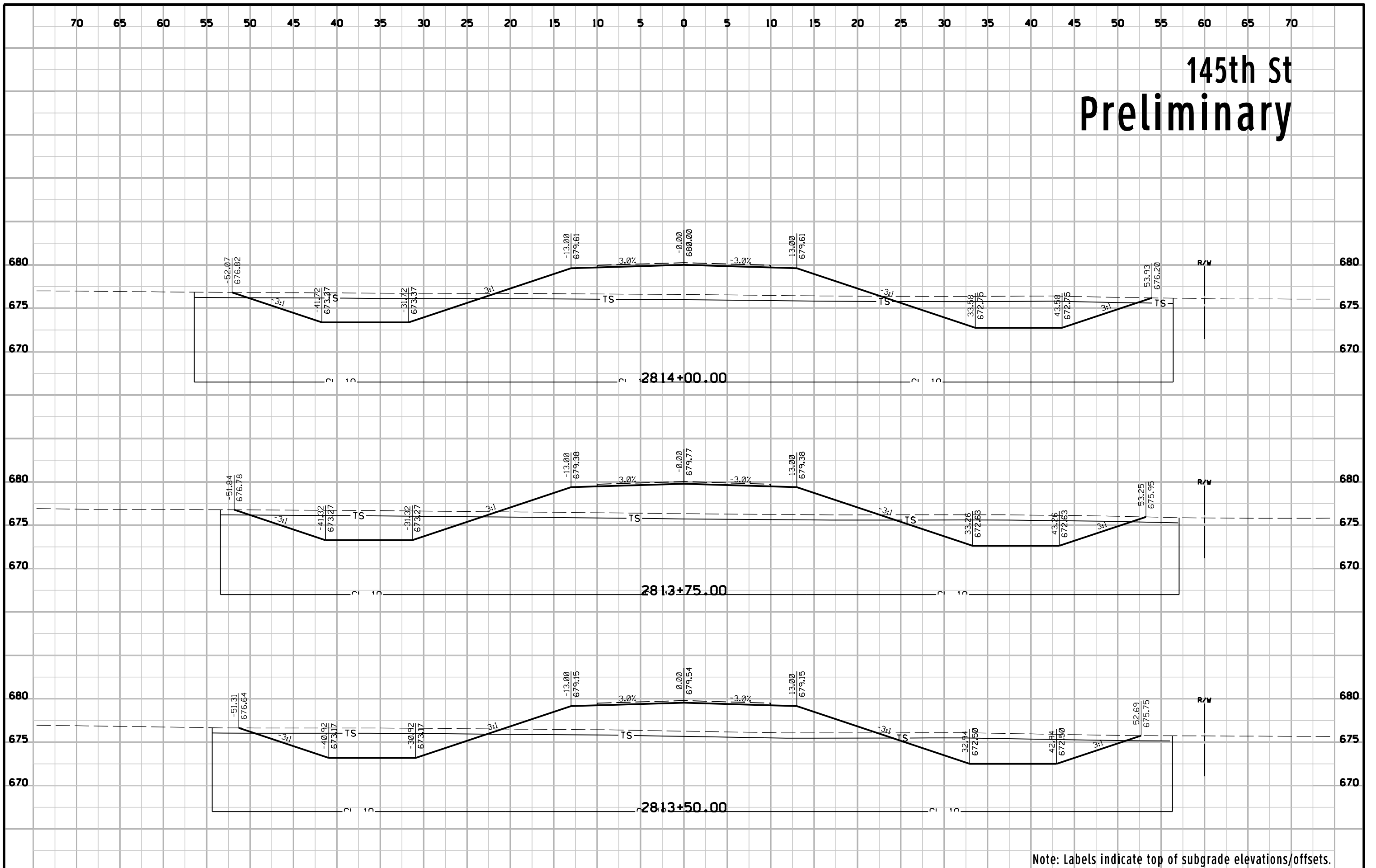
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145th St Preliminary



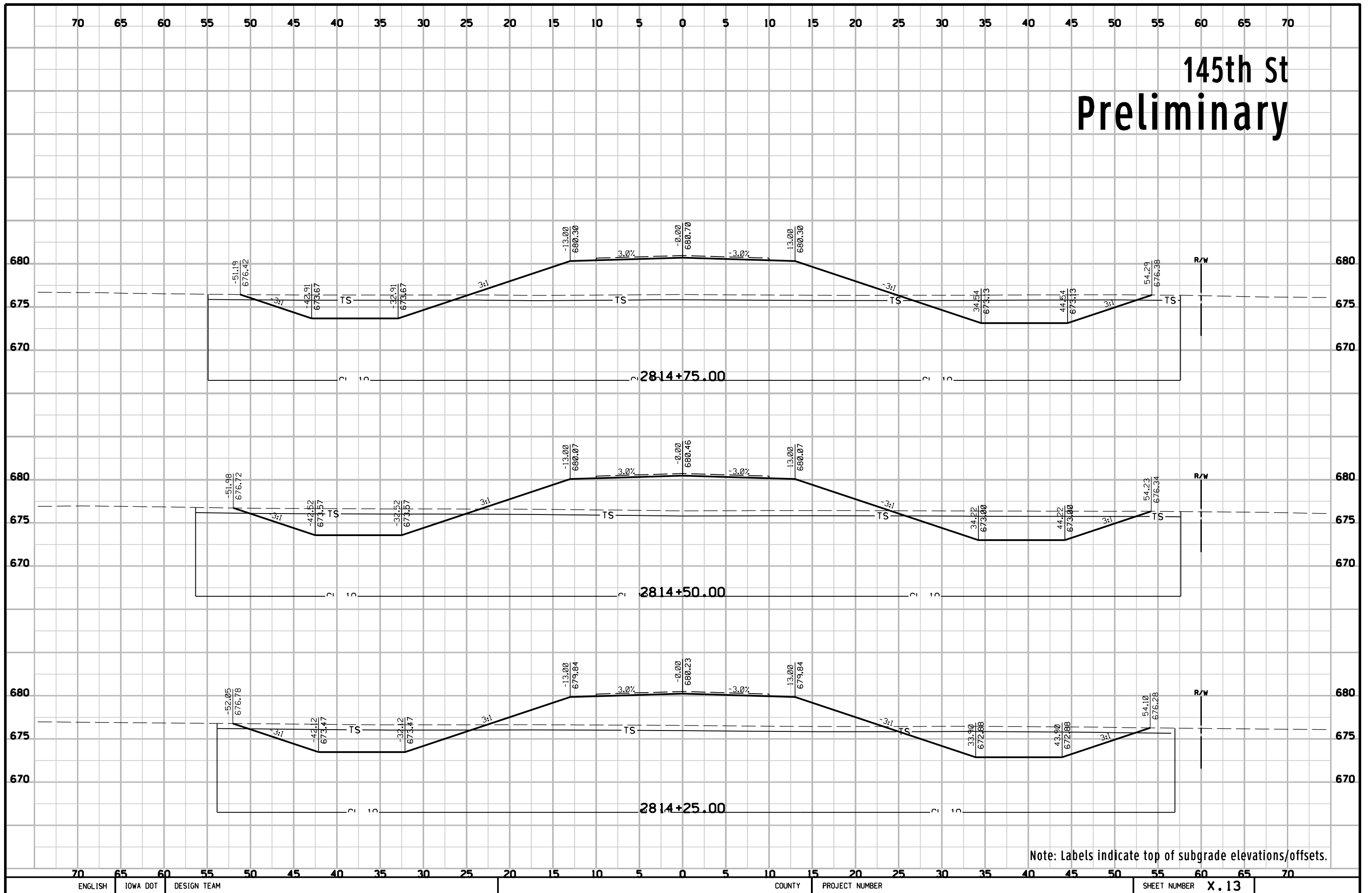
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145th St Preliminary



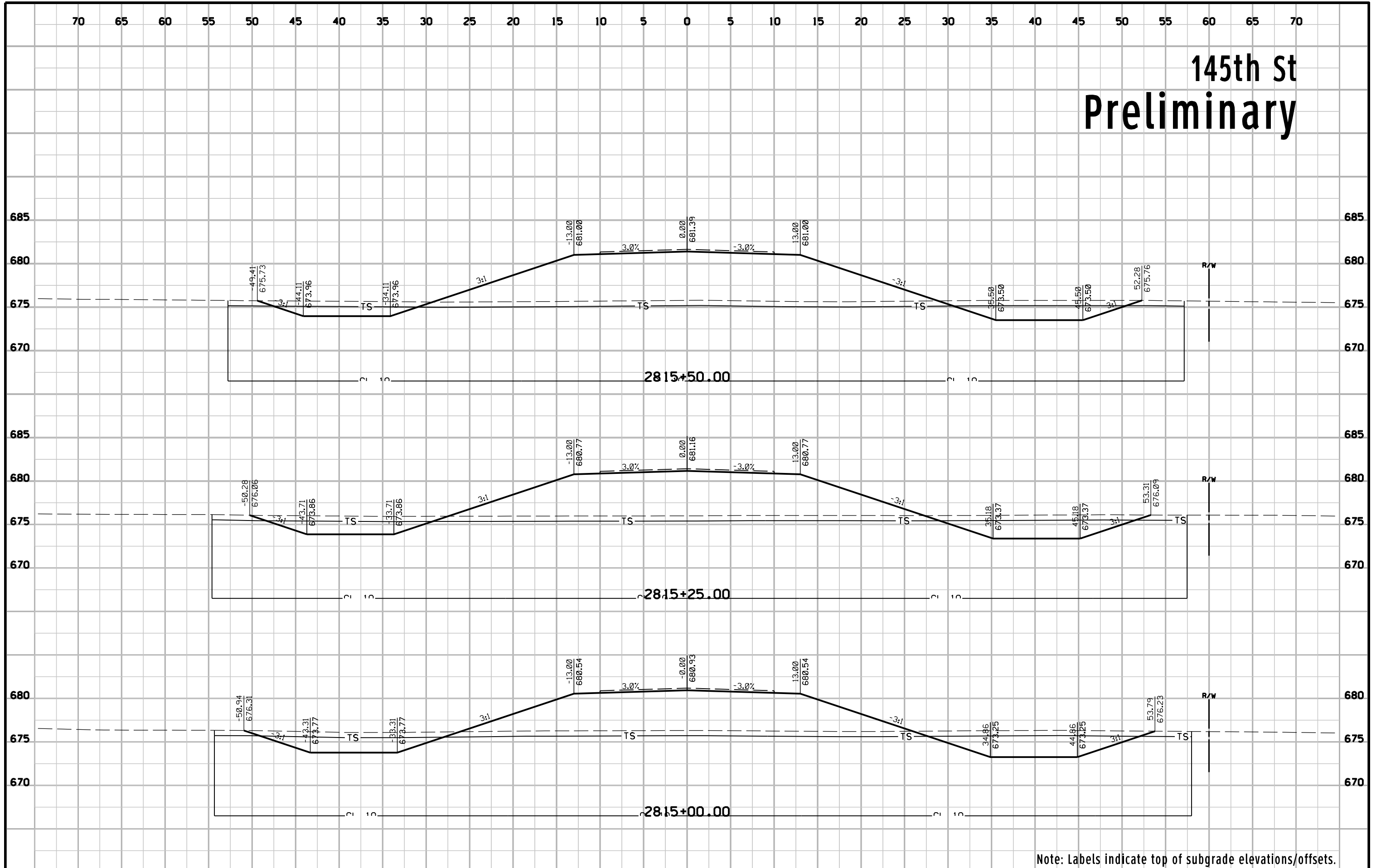
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145th St Preliminary



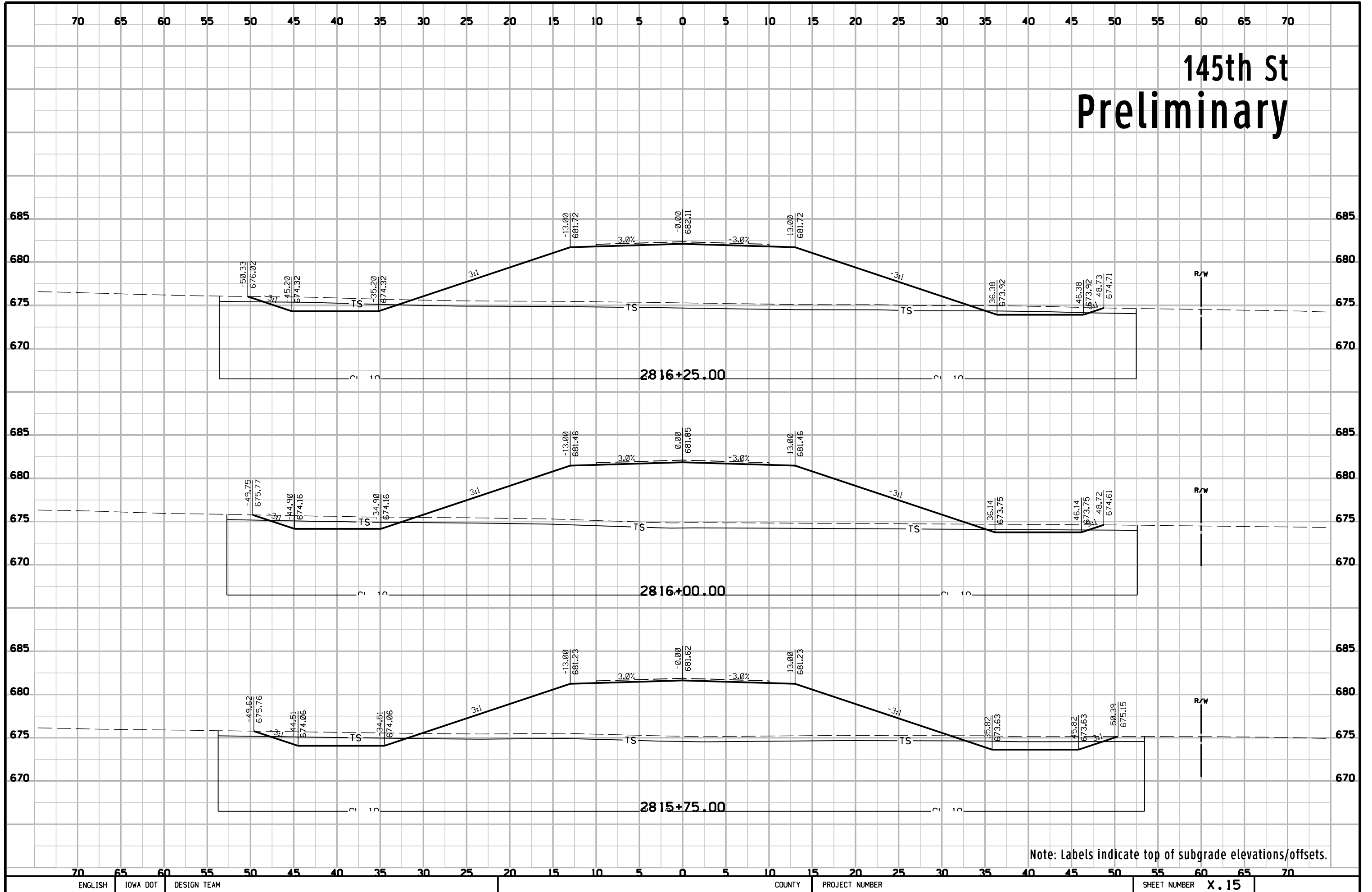
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145th St Preliminary



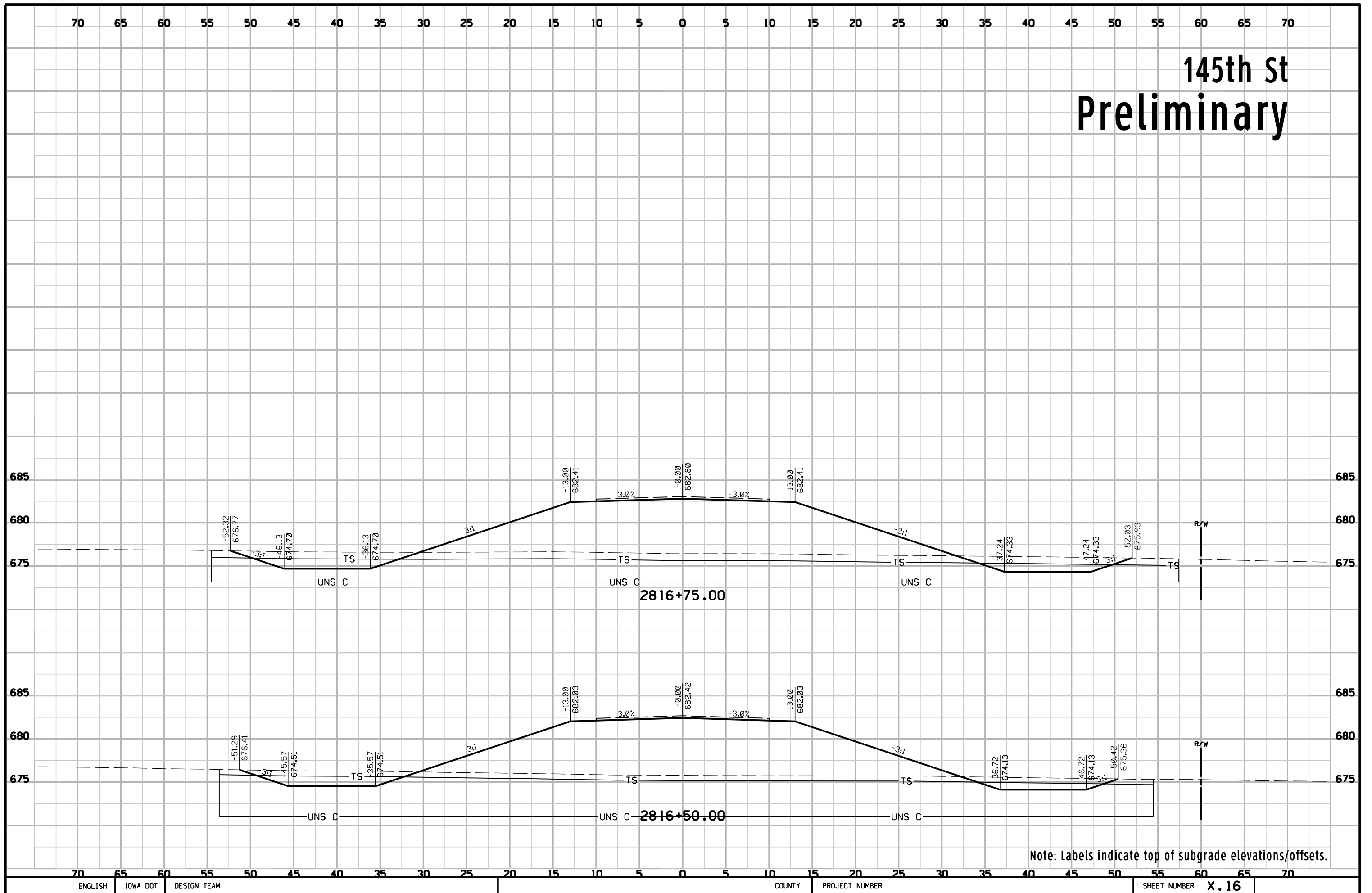
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145th St Preliminary

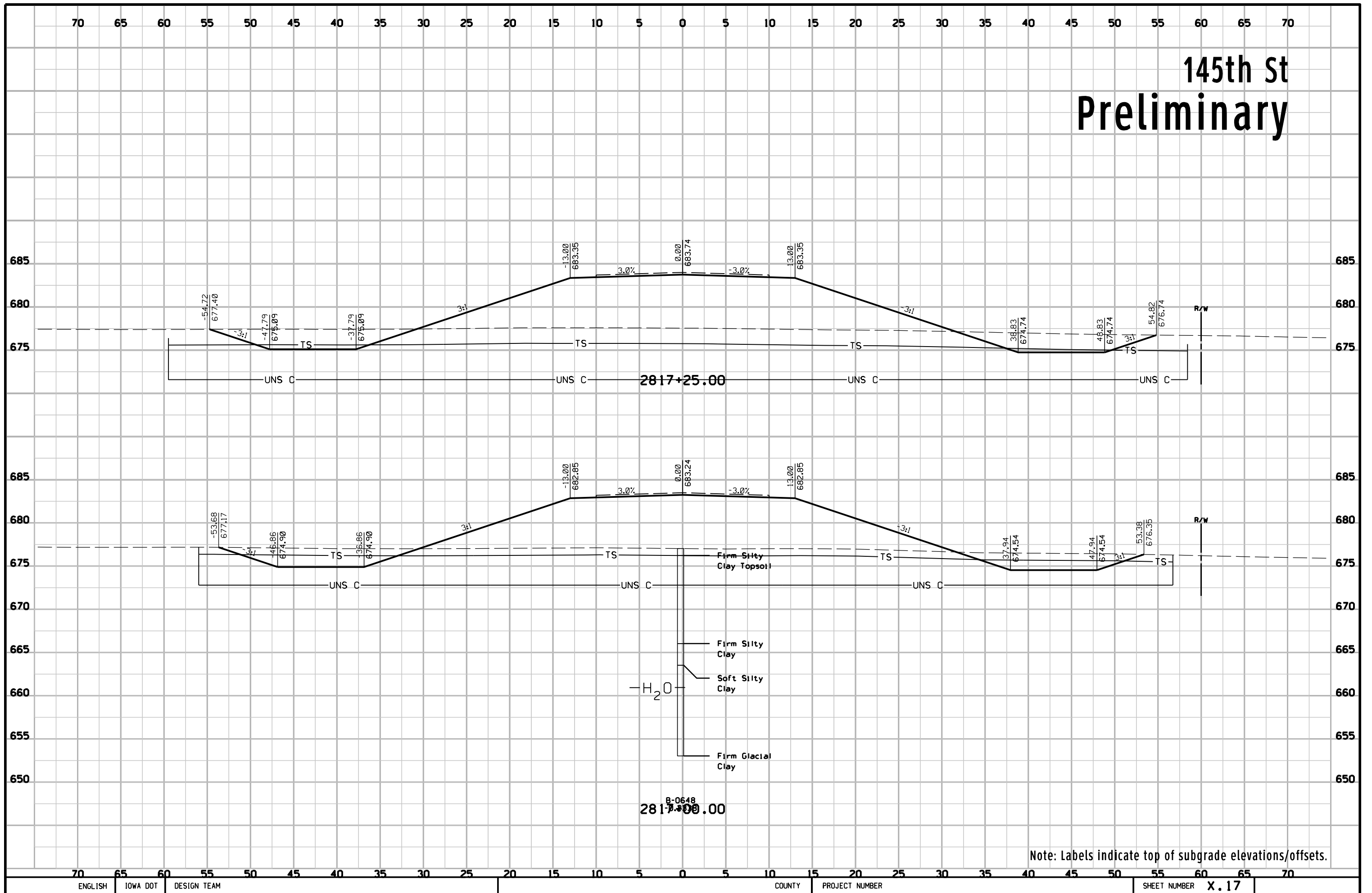


Note: Labels indicate top of subgrade elevations/offsets.

145th St Preliminary

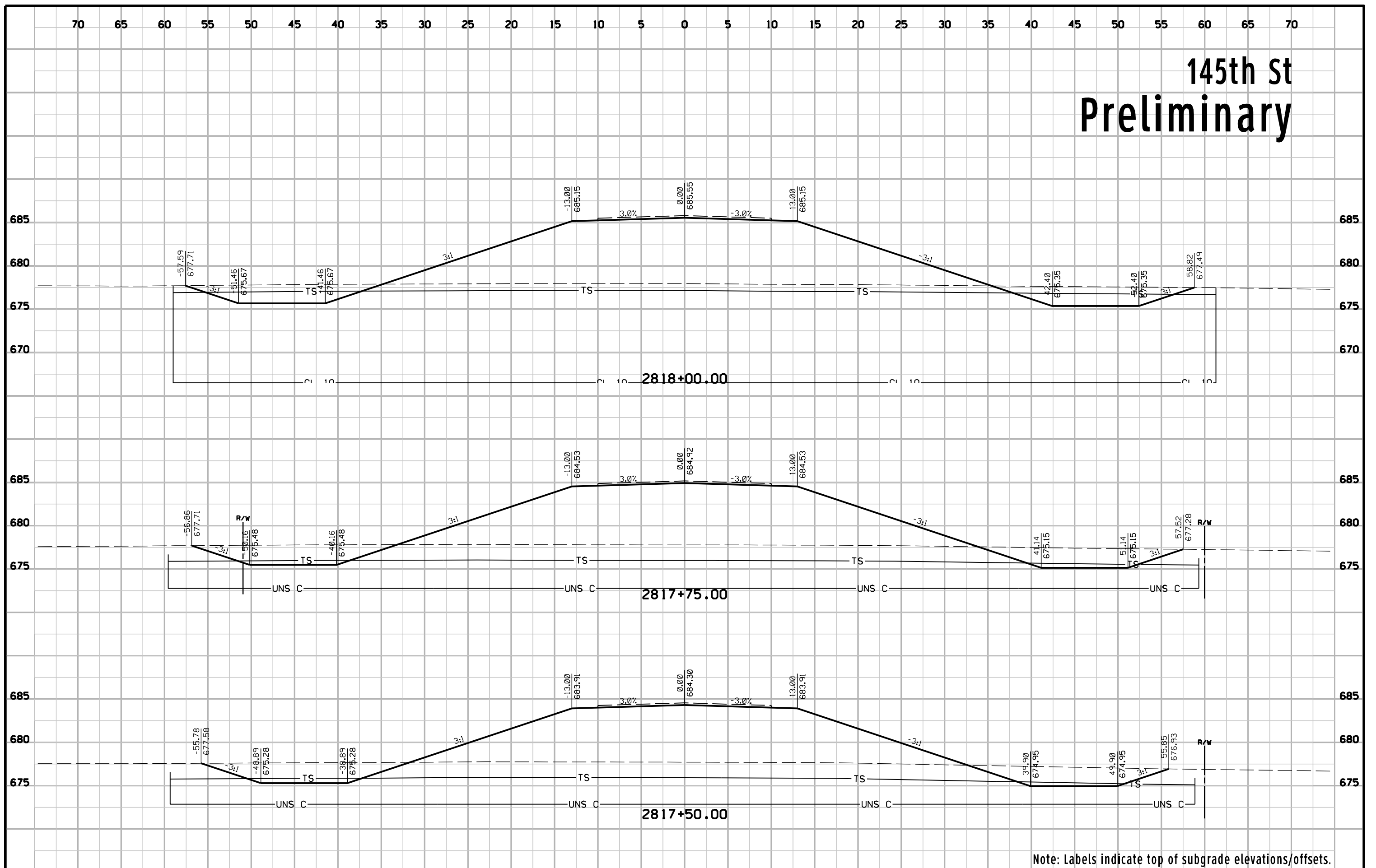


145th St Preliminary



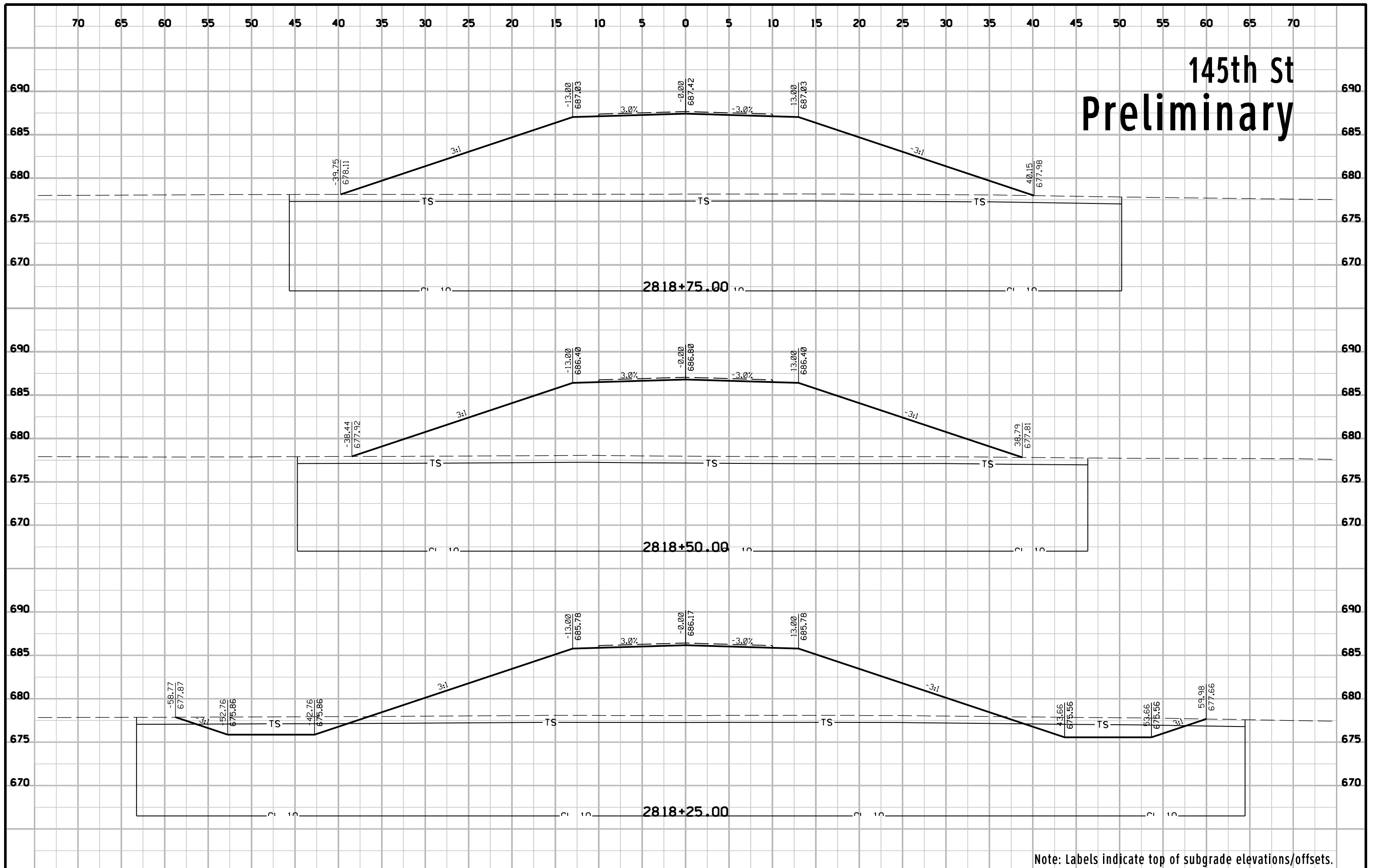
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145th St Preliminary



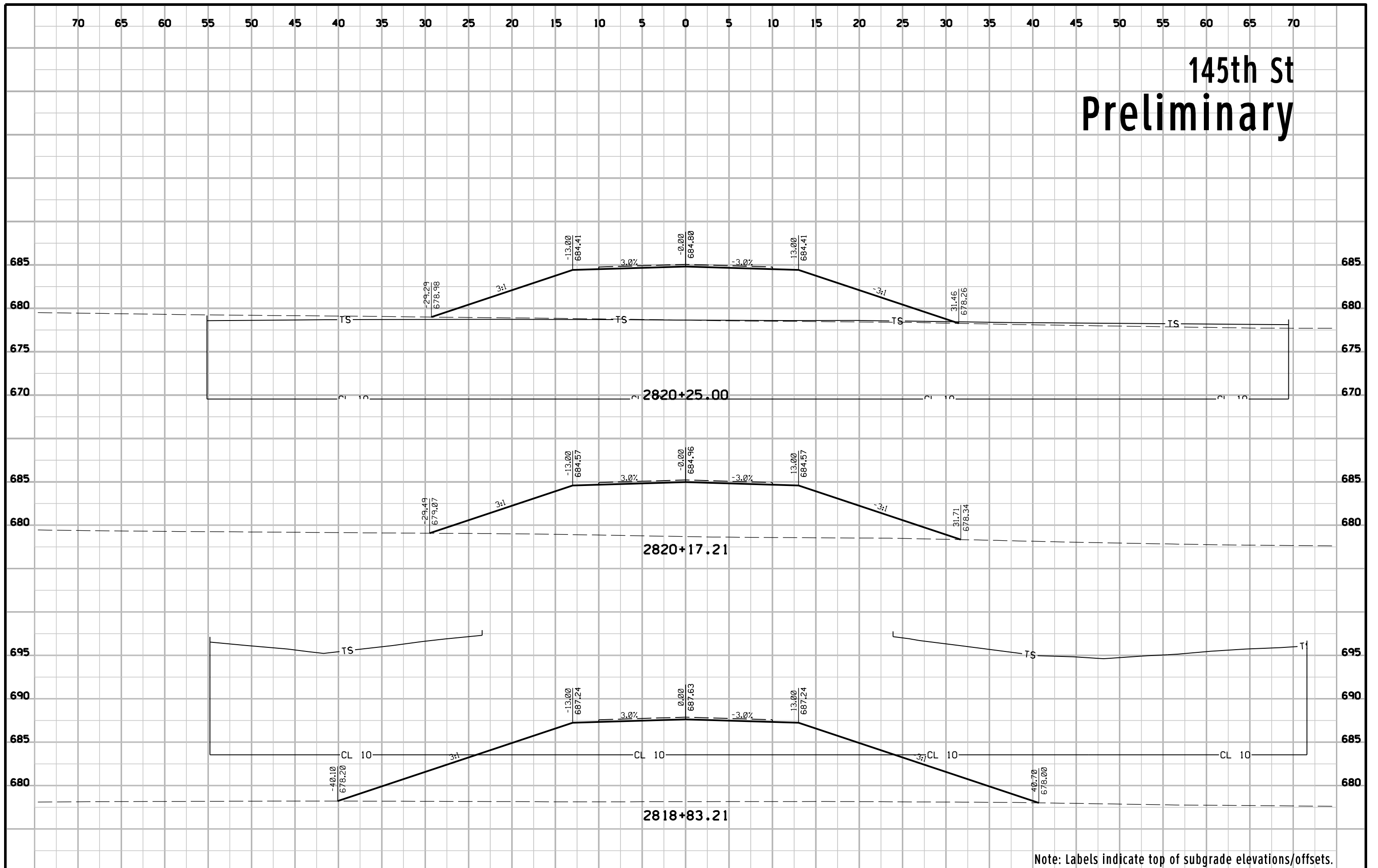
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145th St Preliminary



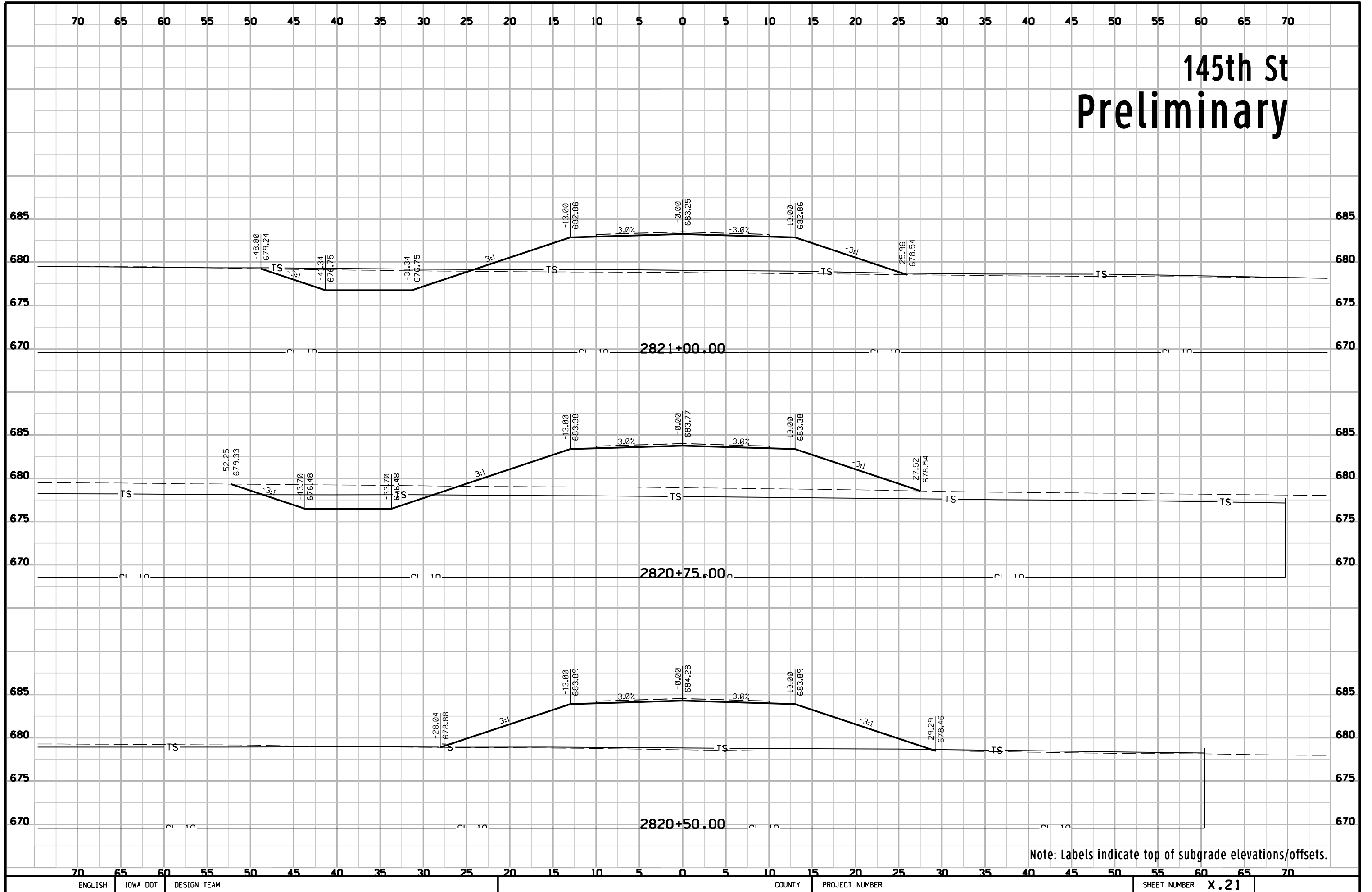
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145th St Preliminary

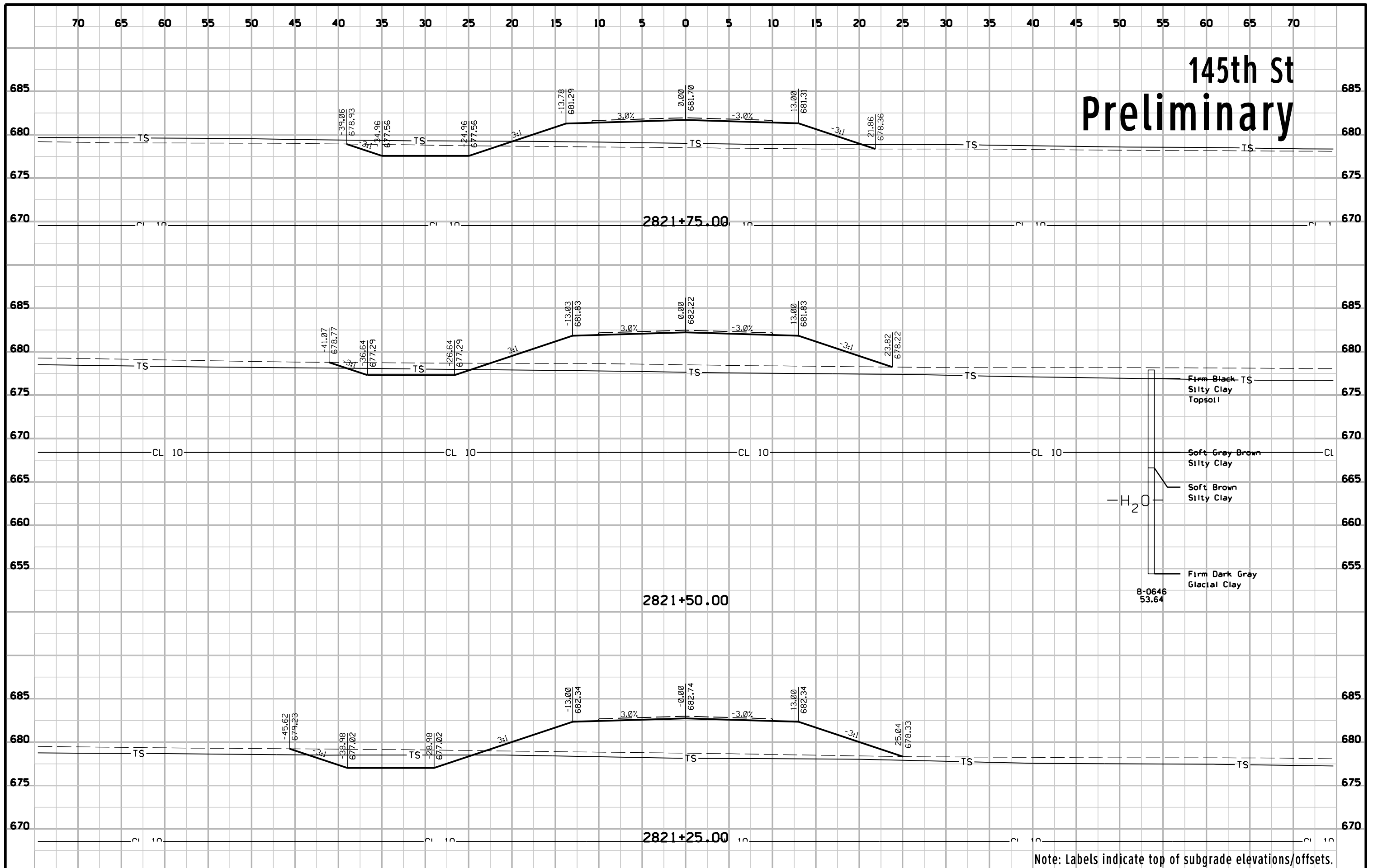


Note: Labels indicate top of subgrade elevations/offsets.

145th St Preliminary

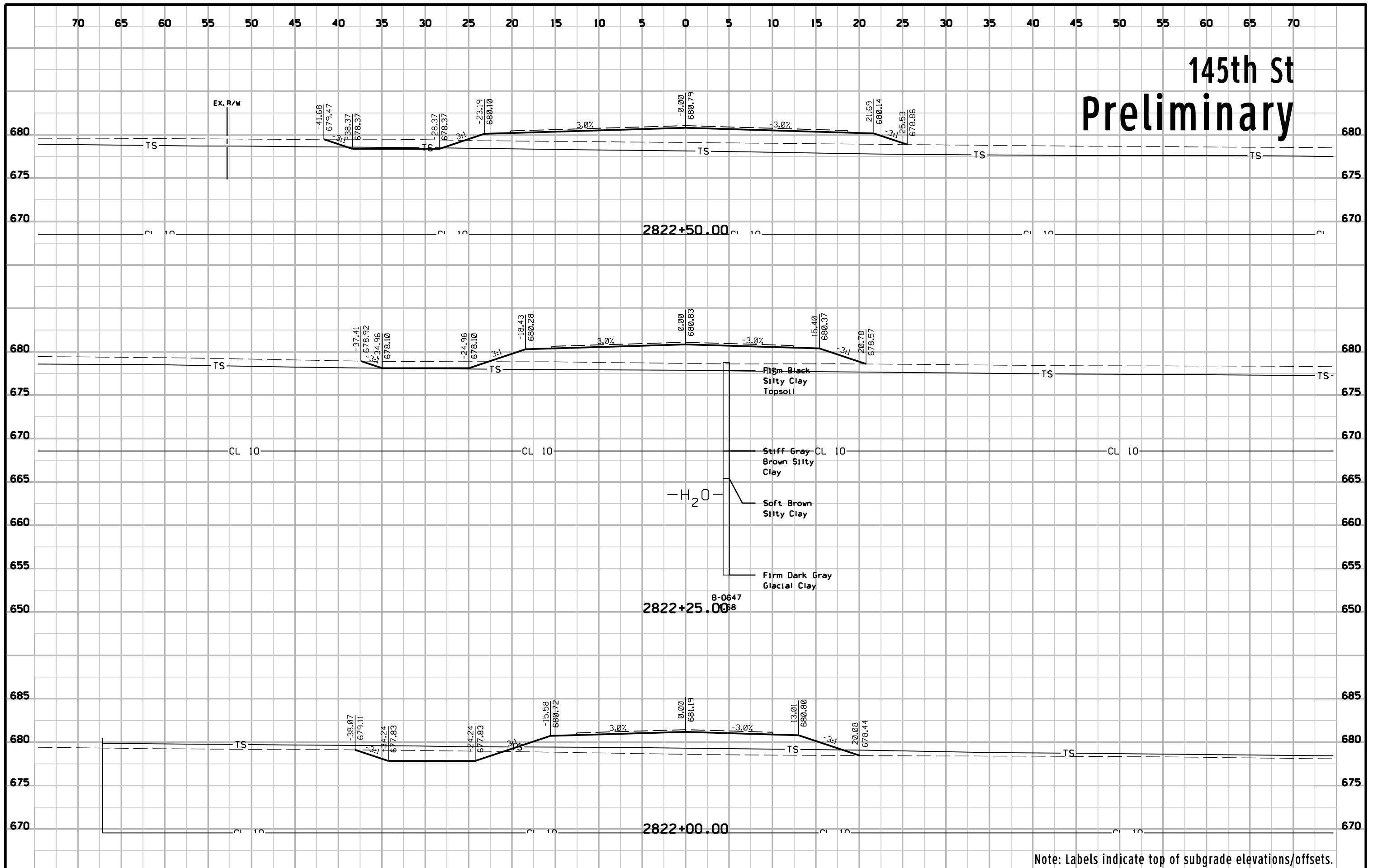


145th St Preliminary



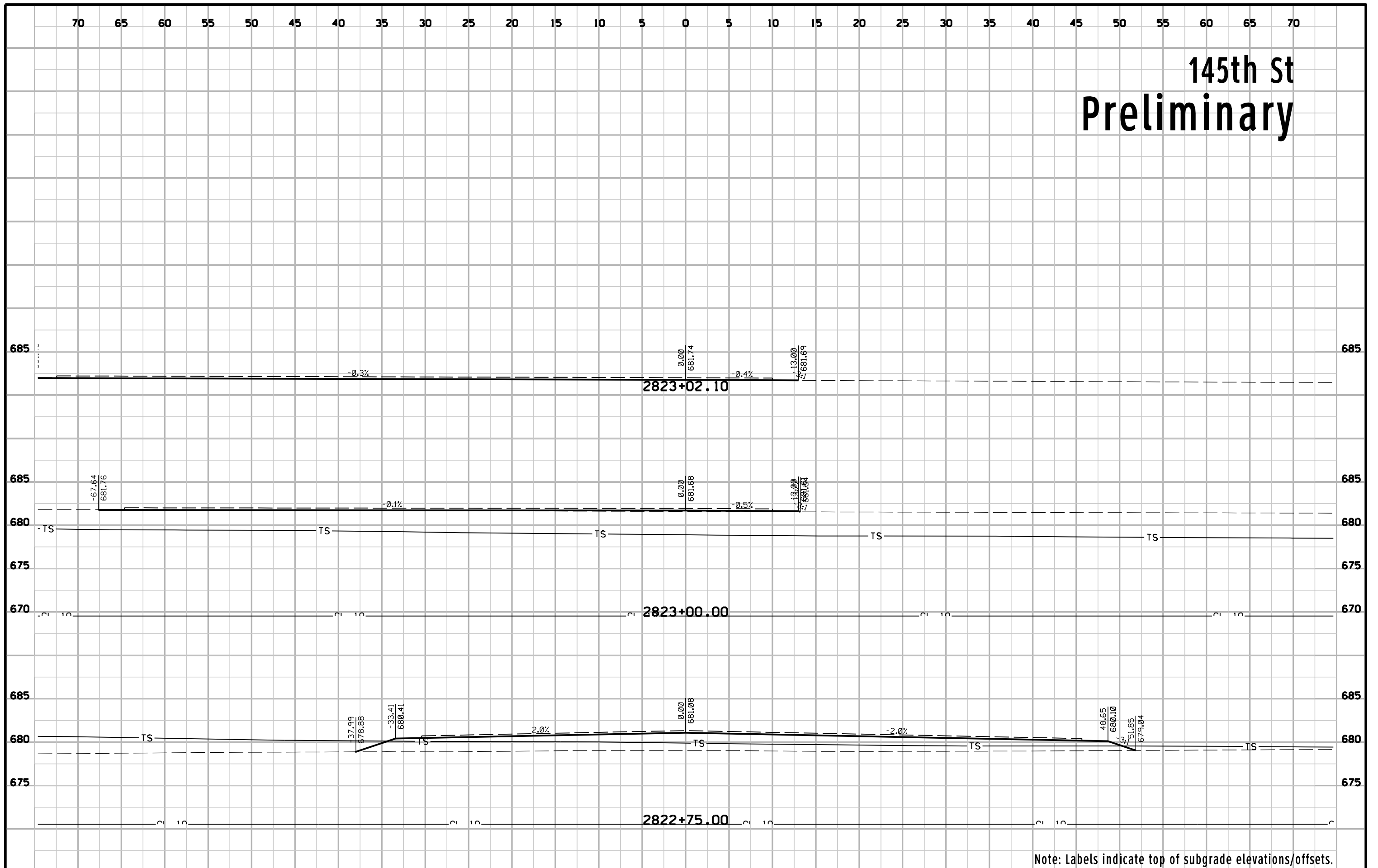
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145th St Preliminary



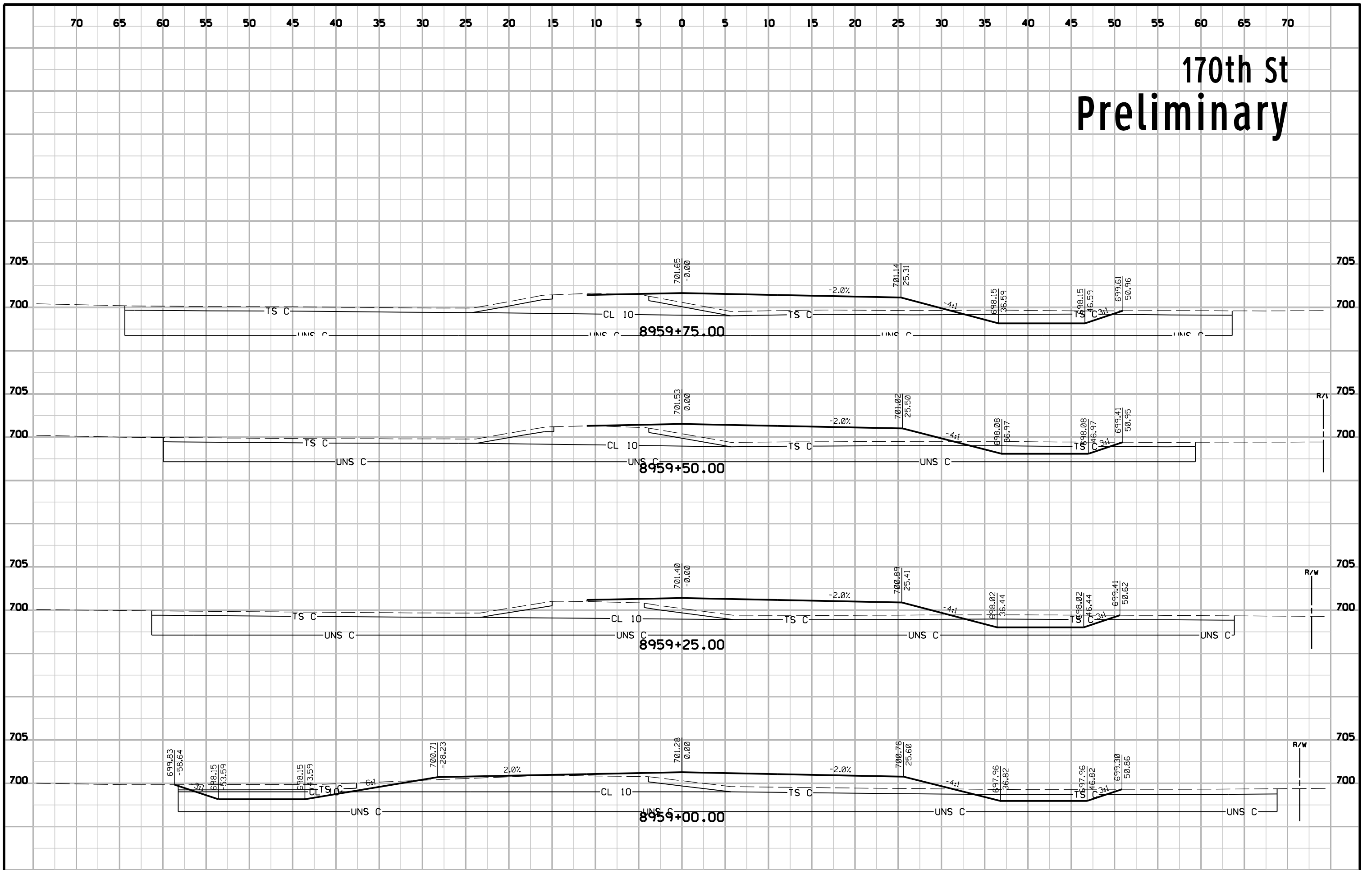
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145th St Preliminary

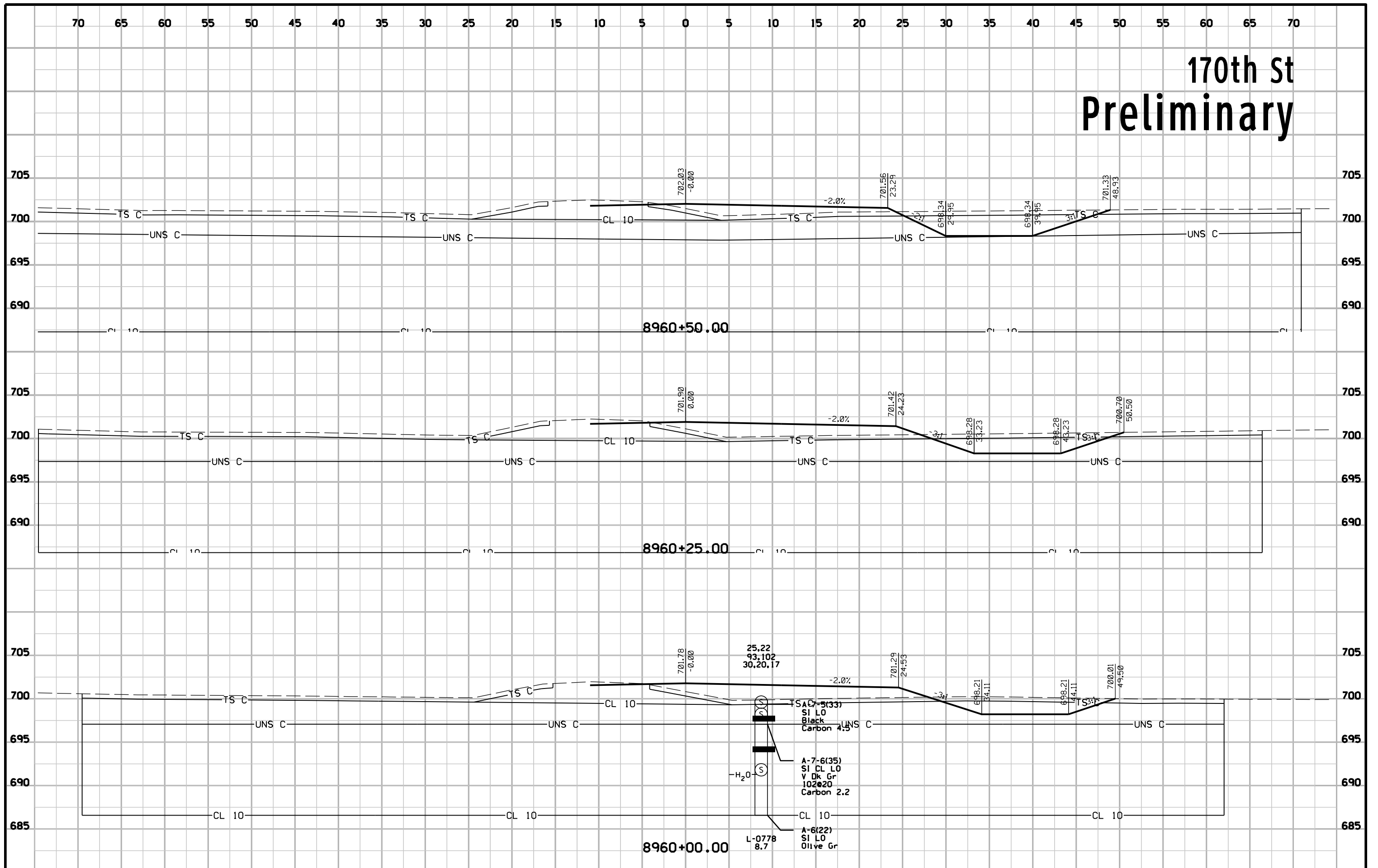


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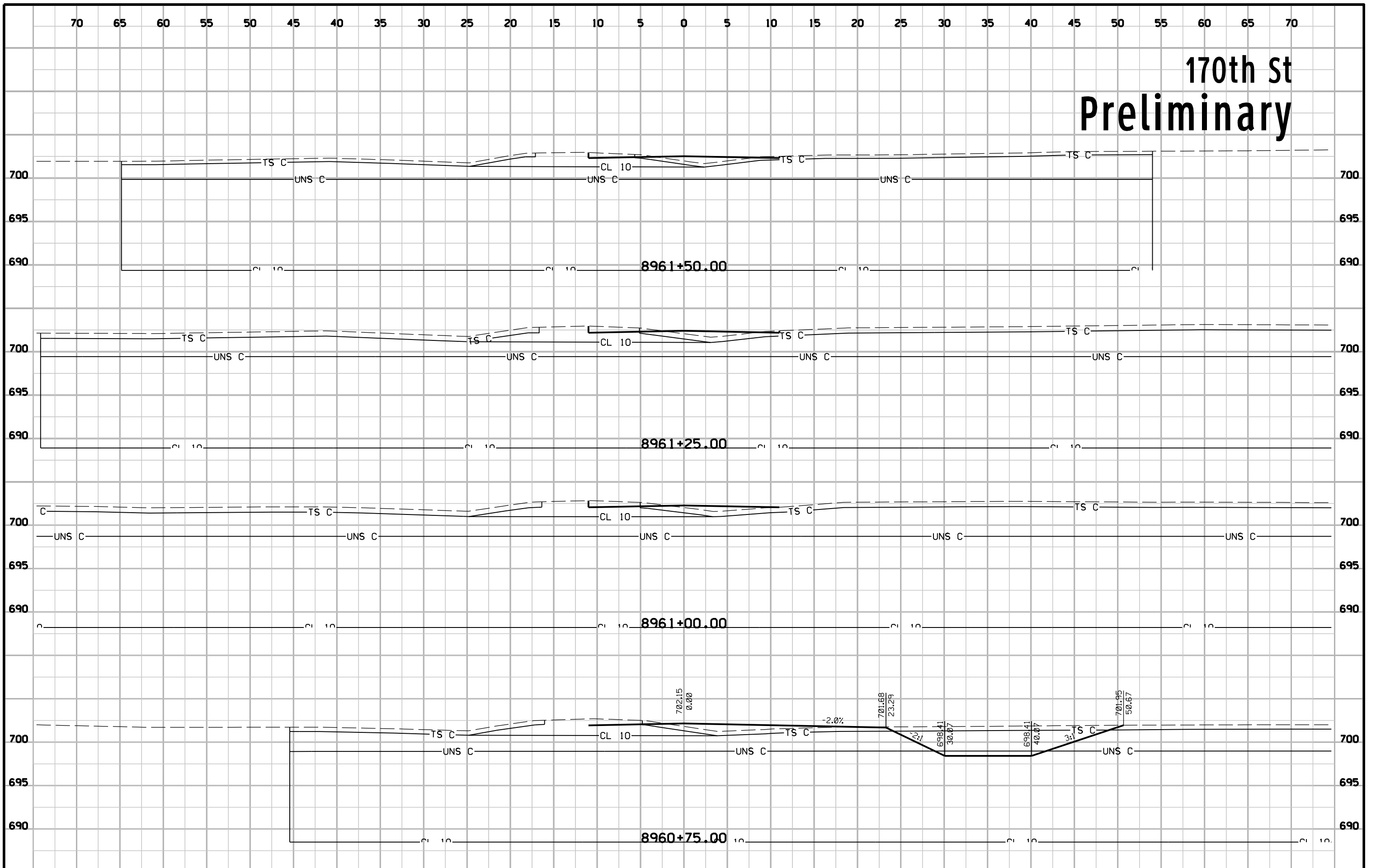
170th St Preliminary



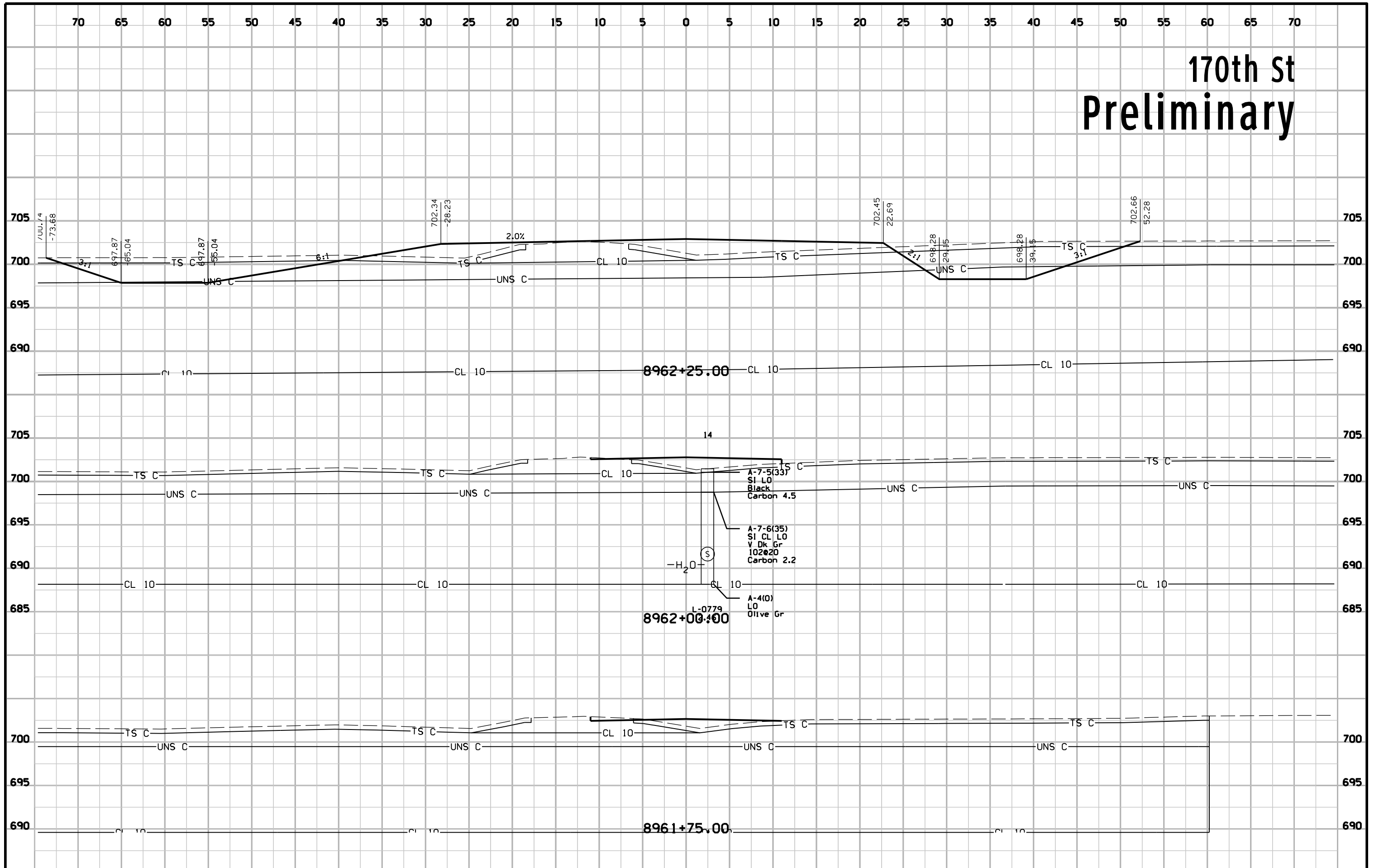
170th St Preliminary



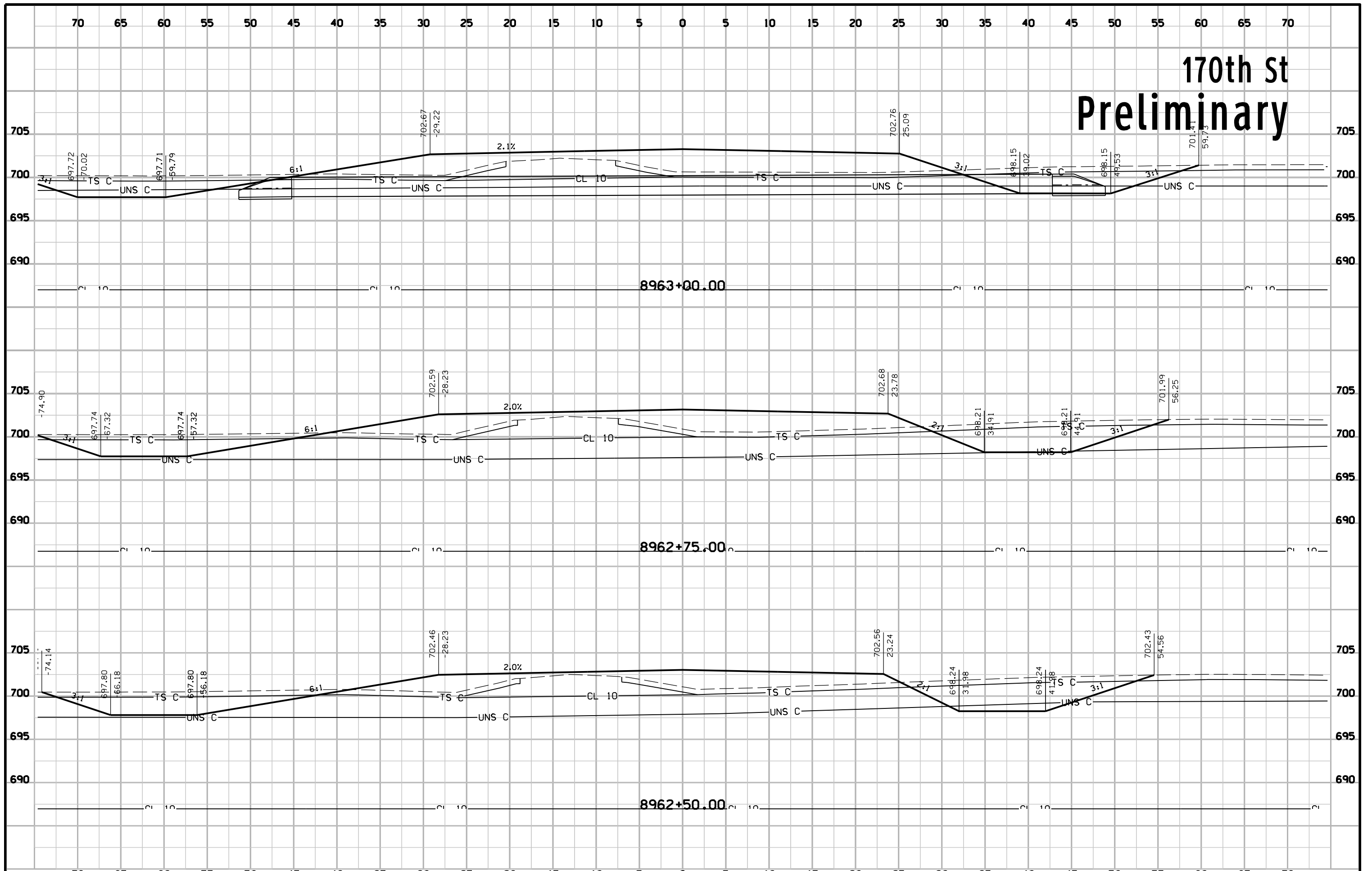
170th St Preliminary



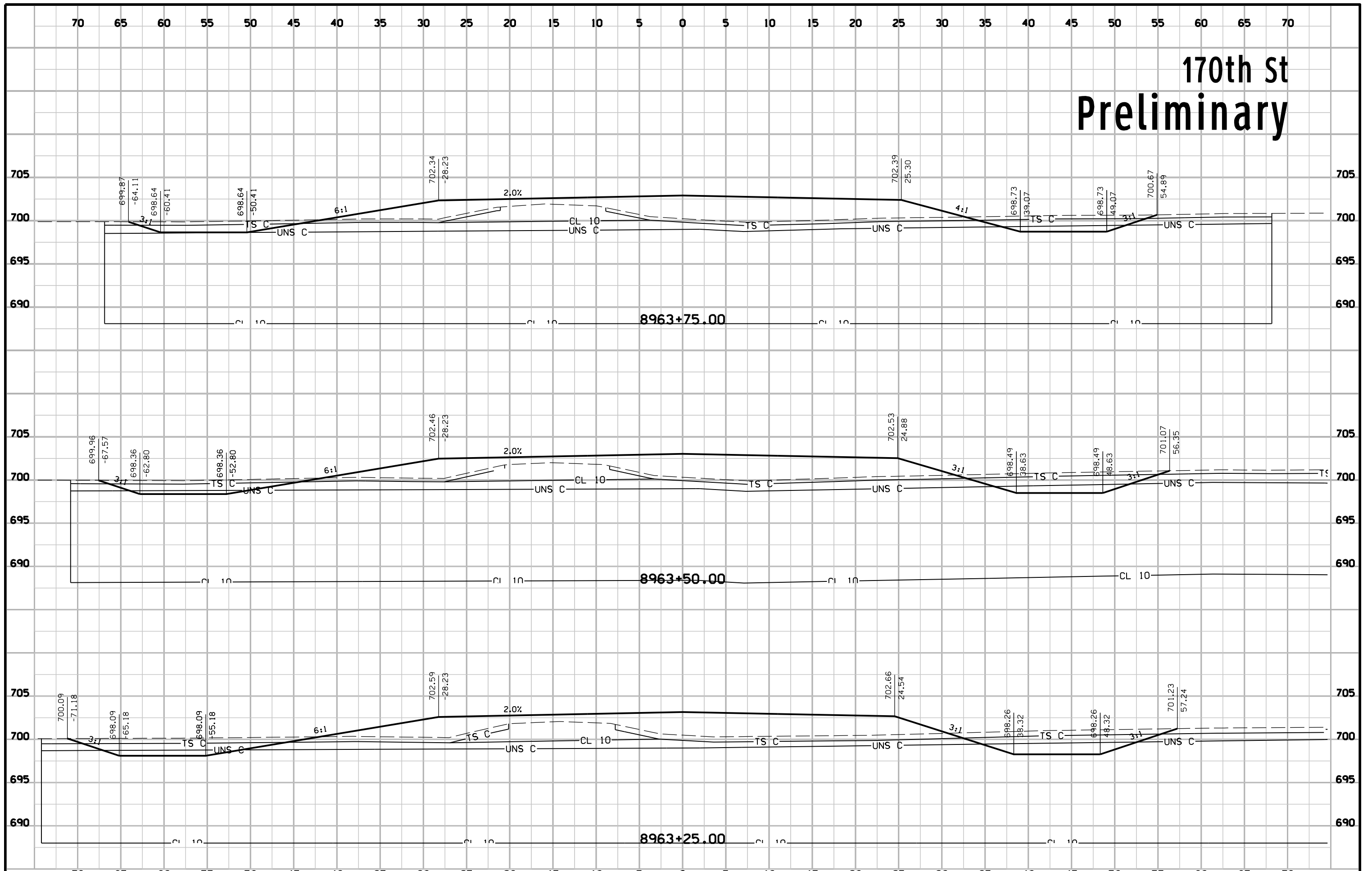
170th St Preliminary



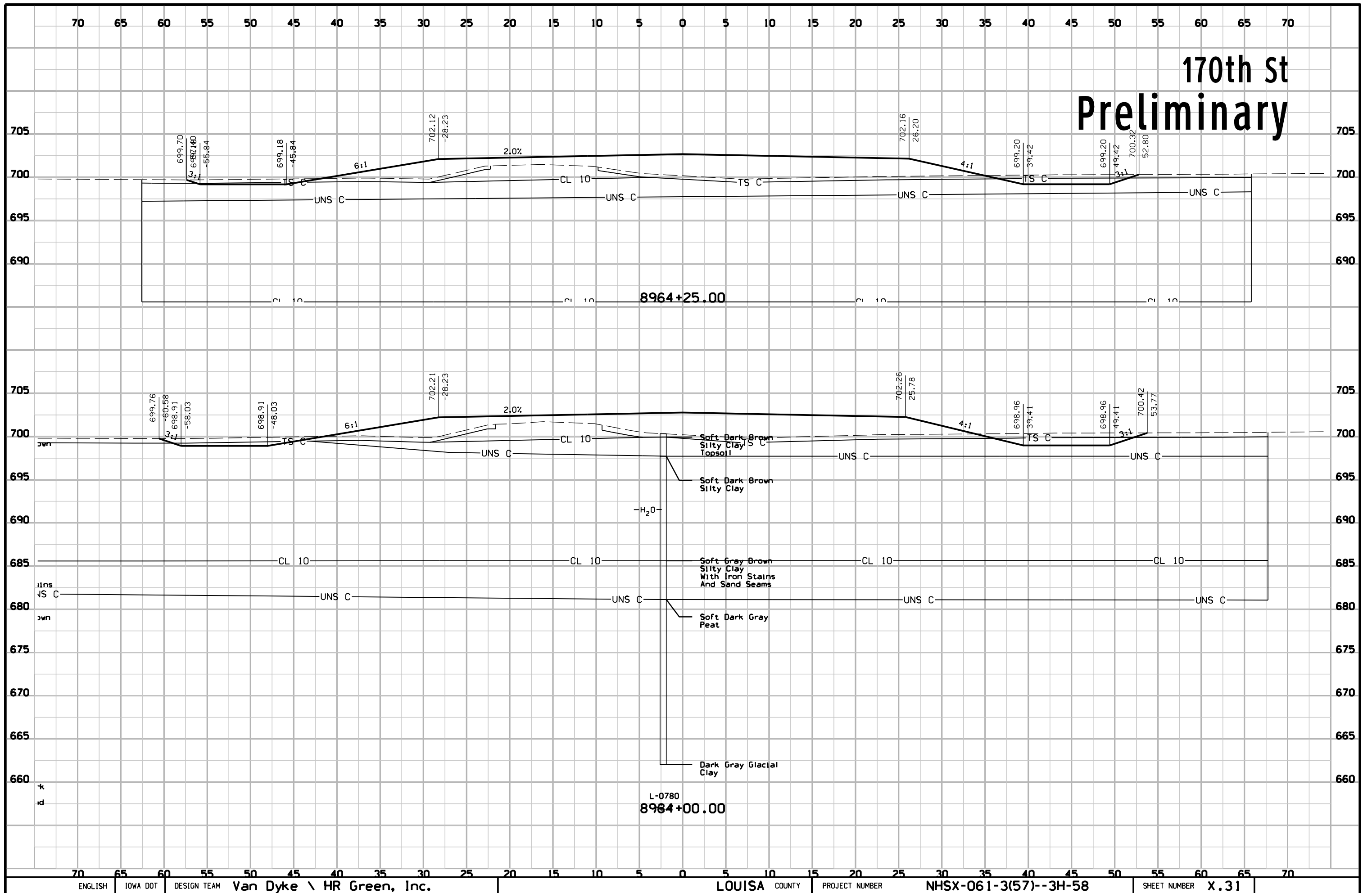
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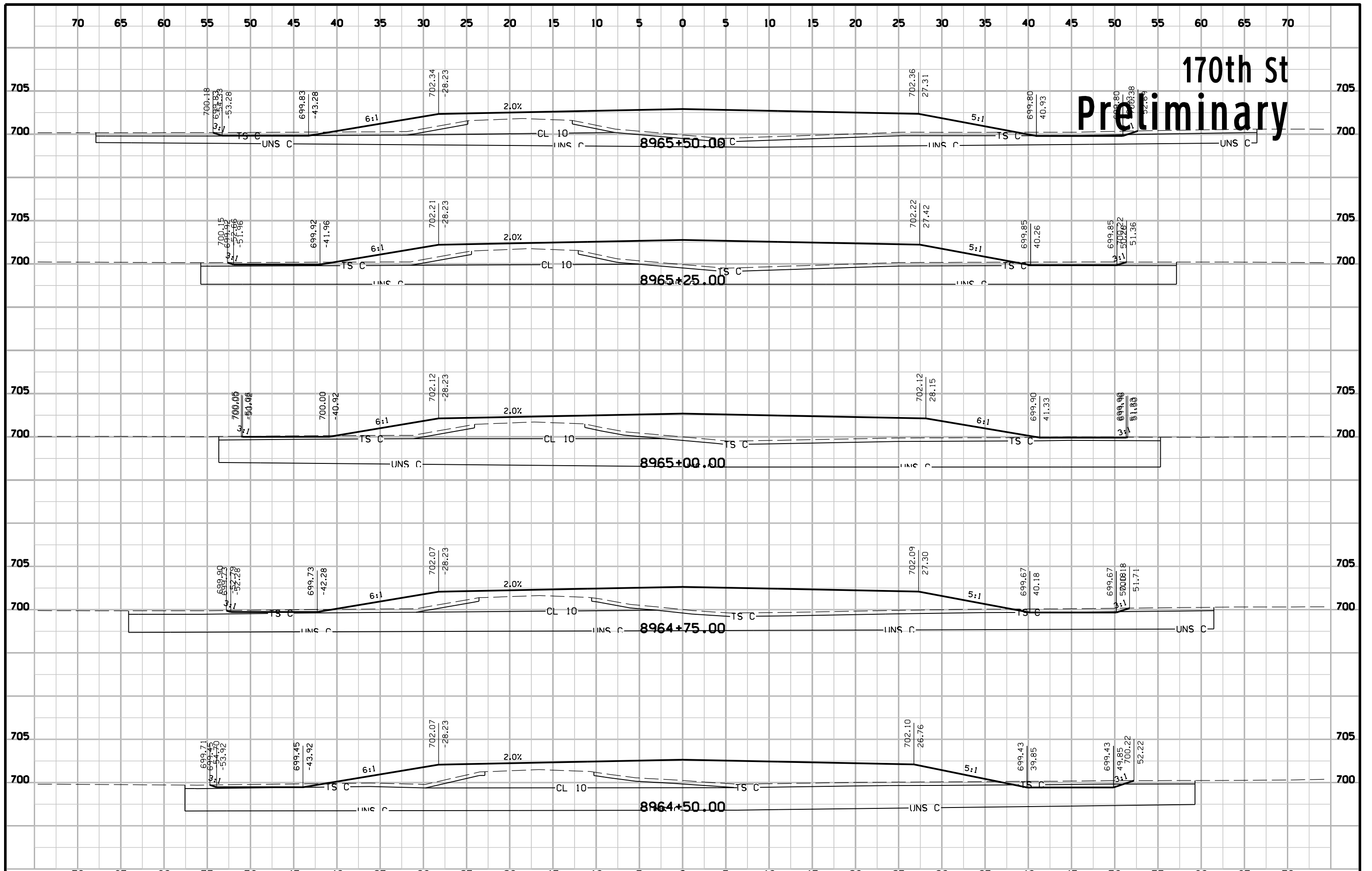
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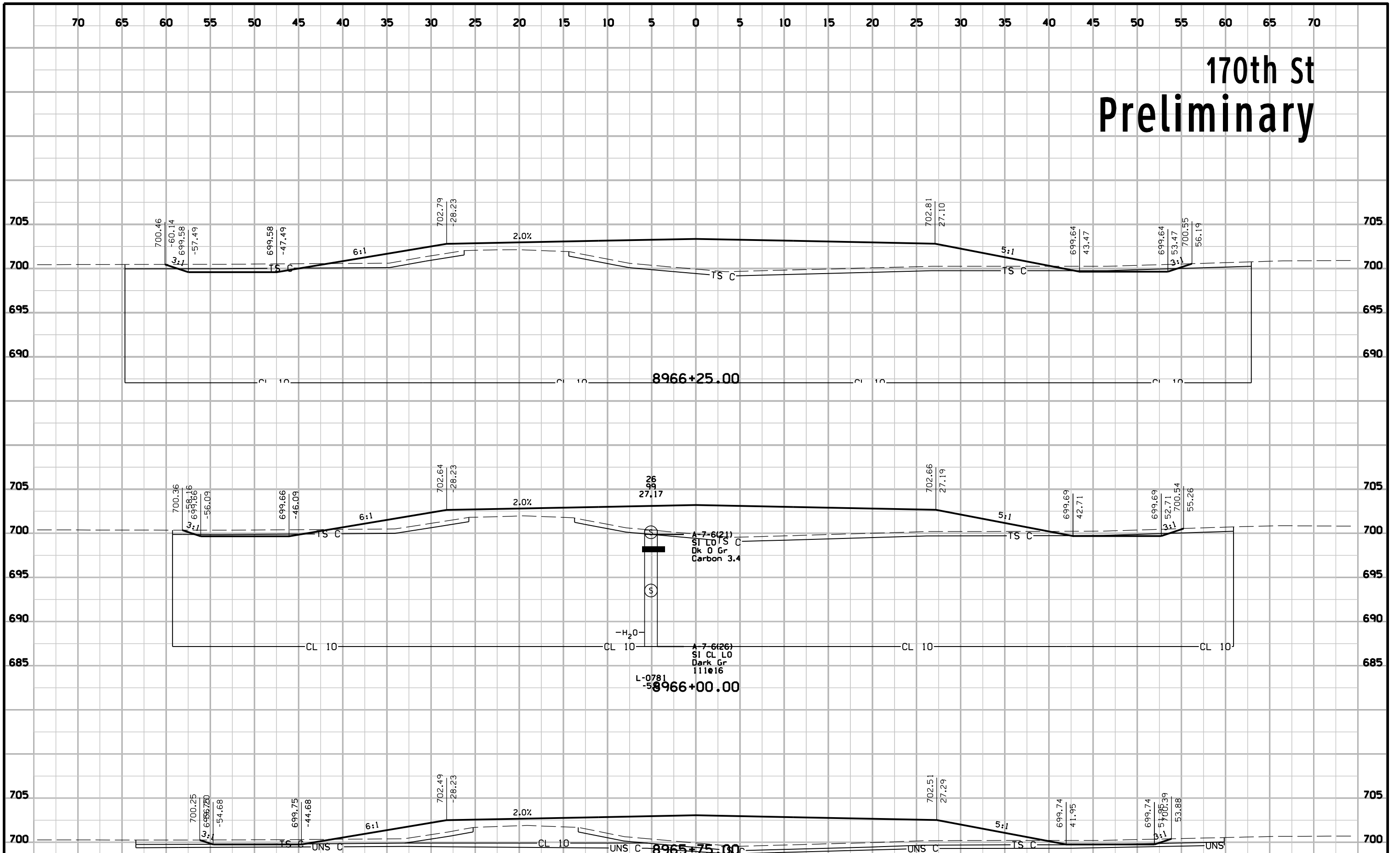
170th St Preliminary



170th St Preliminary

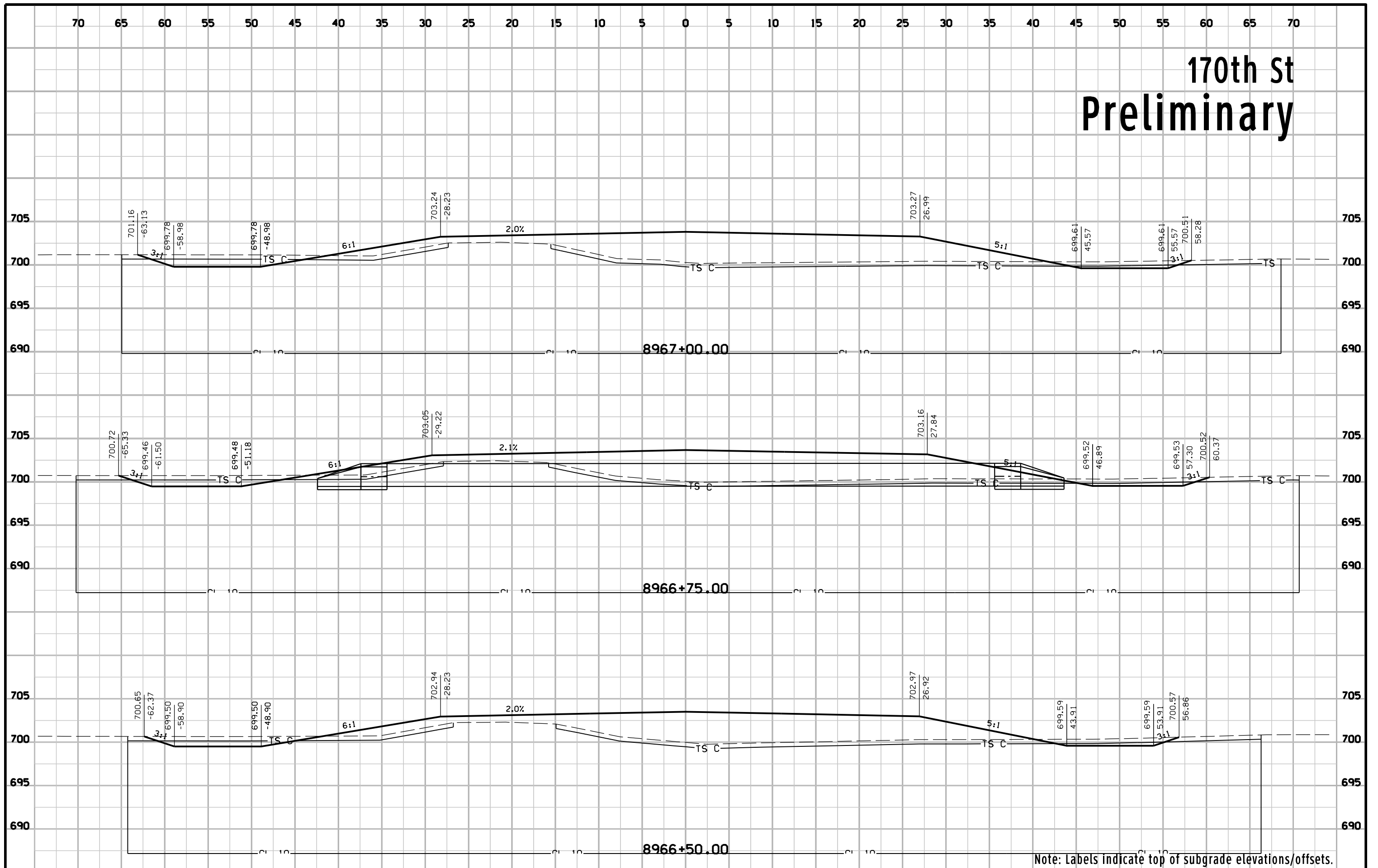


170th St Preliminary



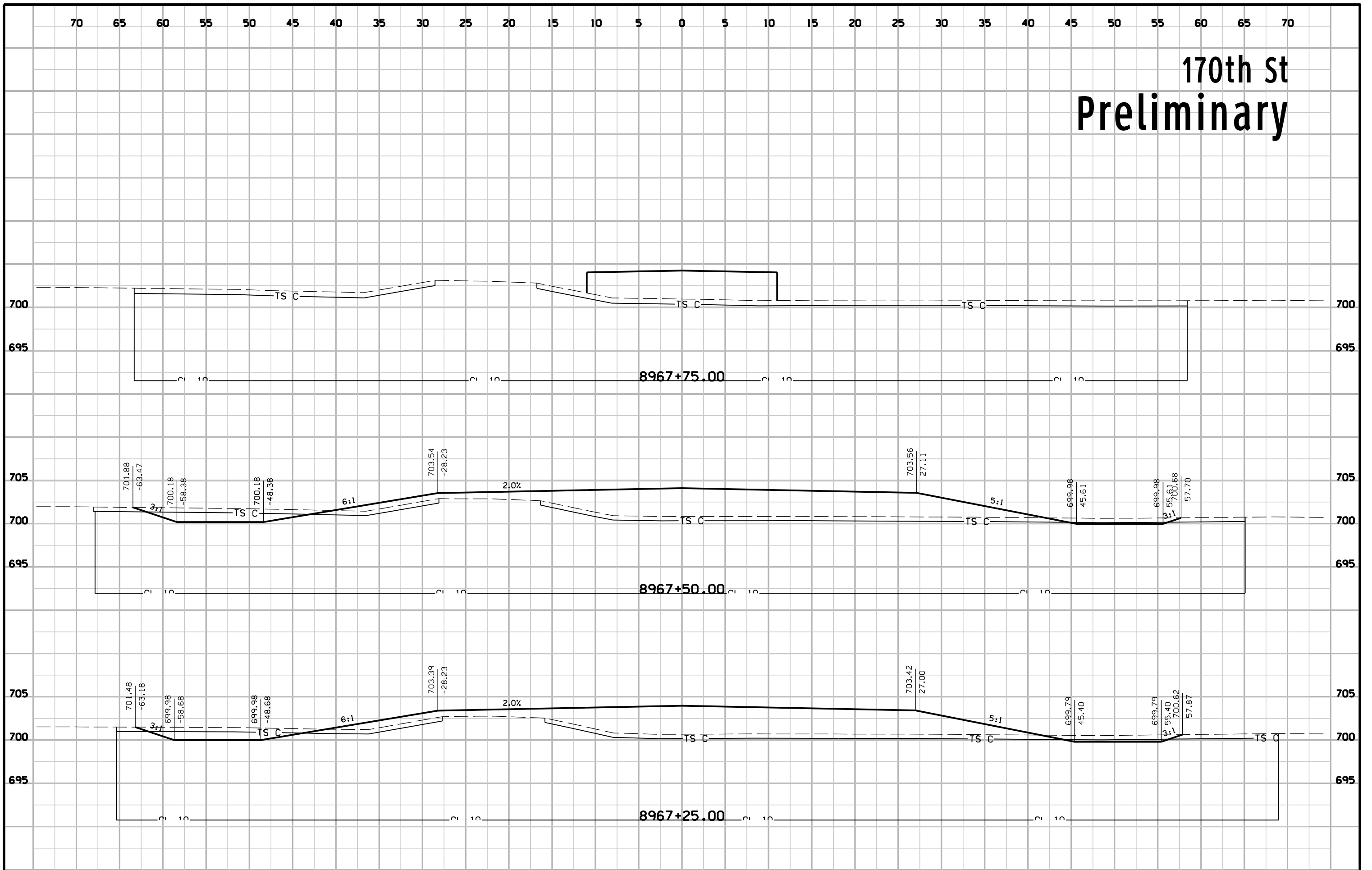
Note: Labels indicate top of subgrade elevations/offsets.

170th St Preliminary

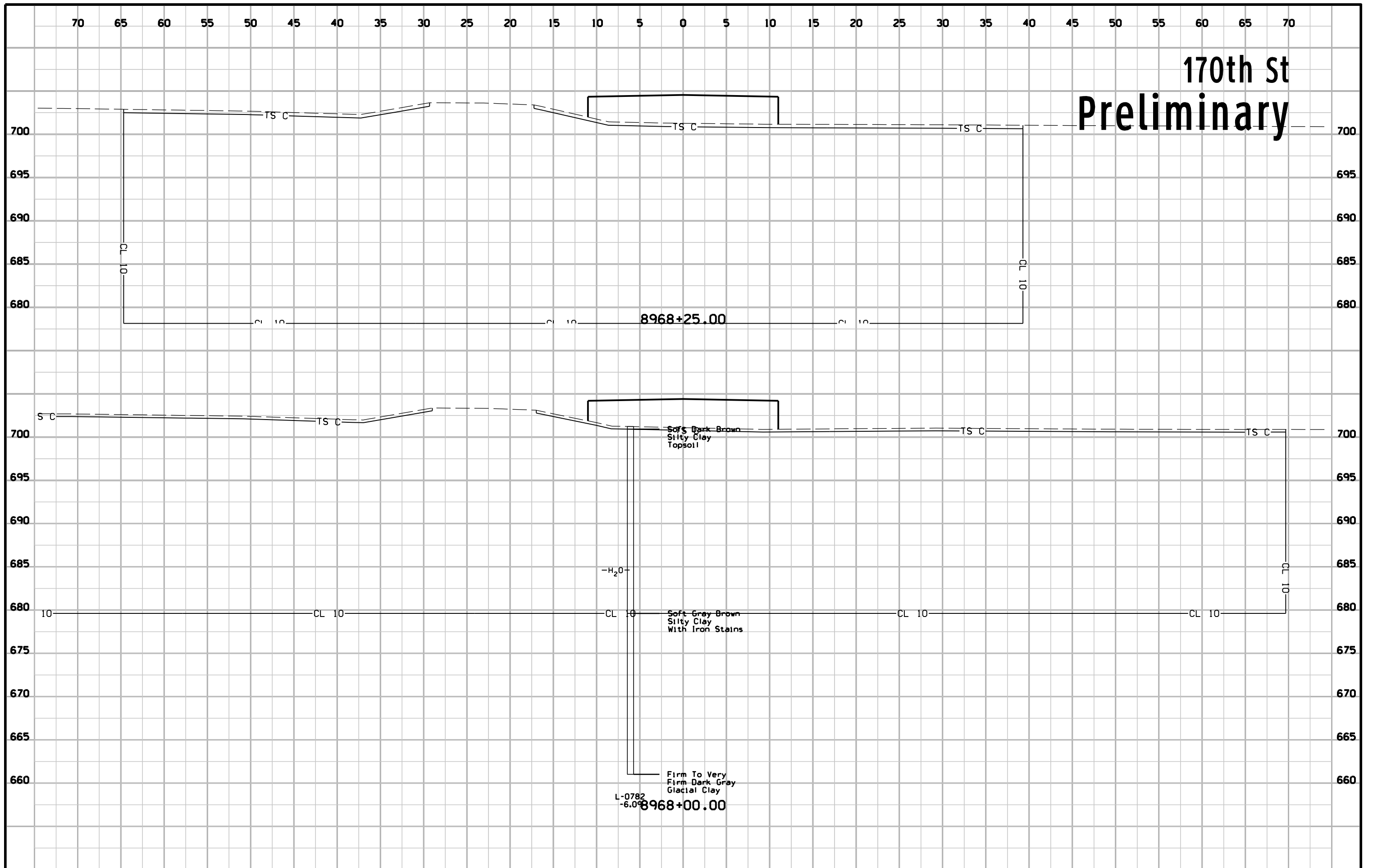


Note: Labels indicate top of subgrade elevations/offsets.

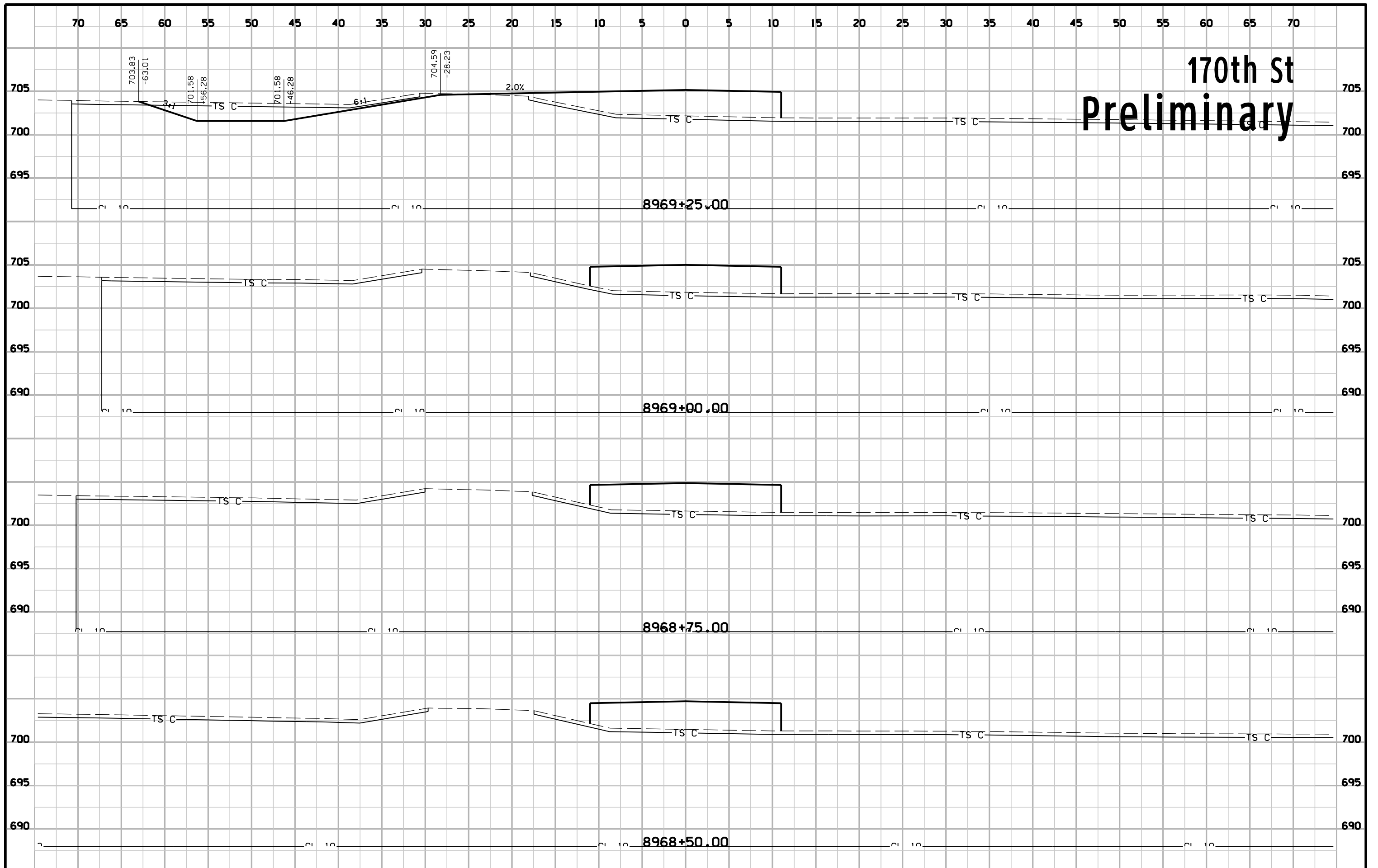
170th St Preliminary



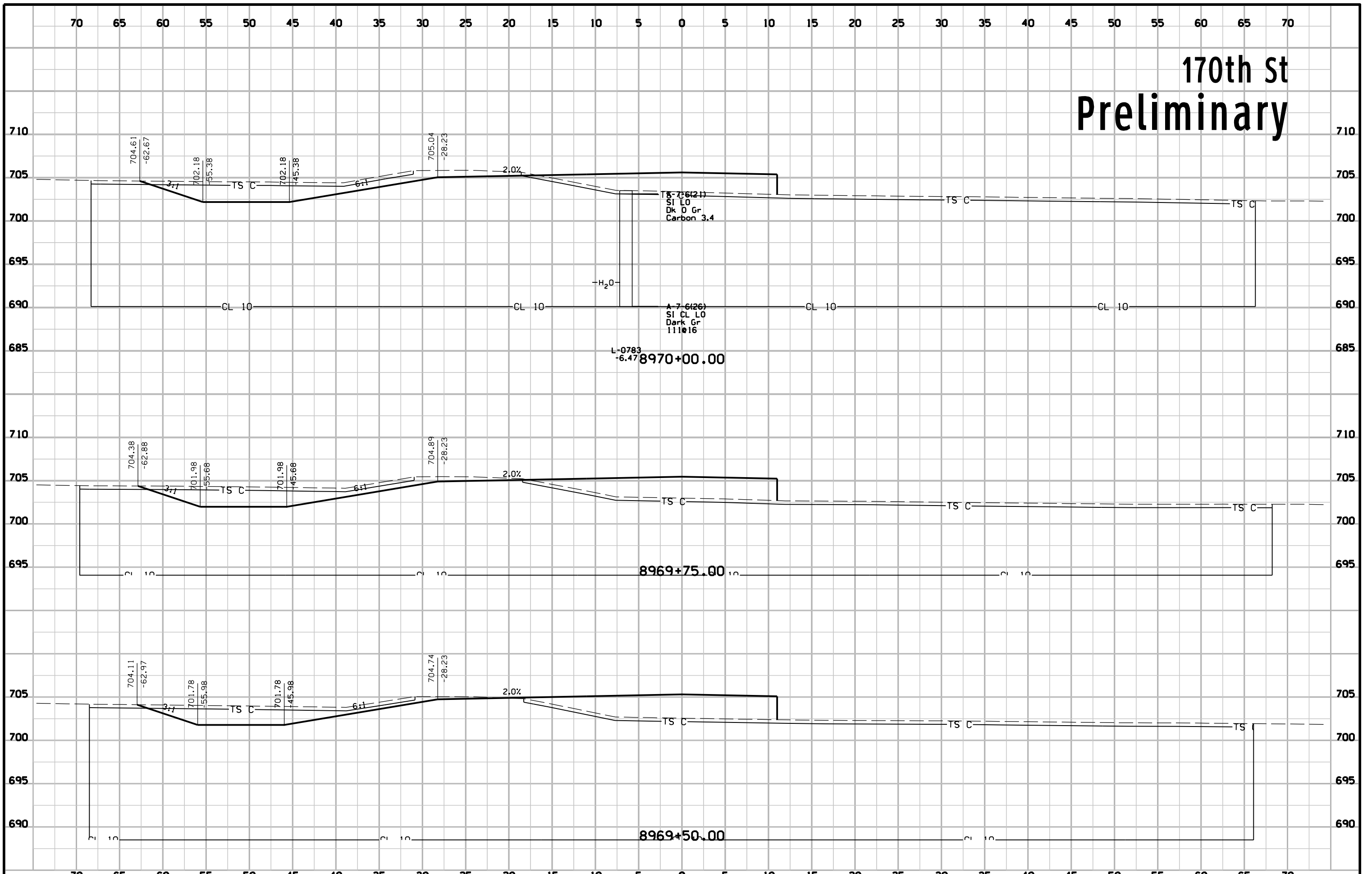
170th St Preliminary



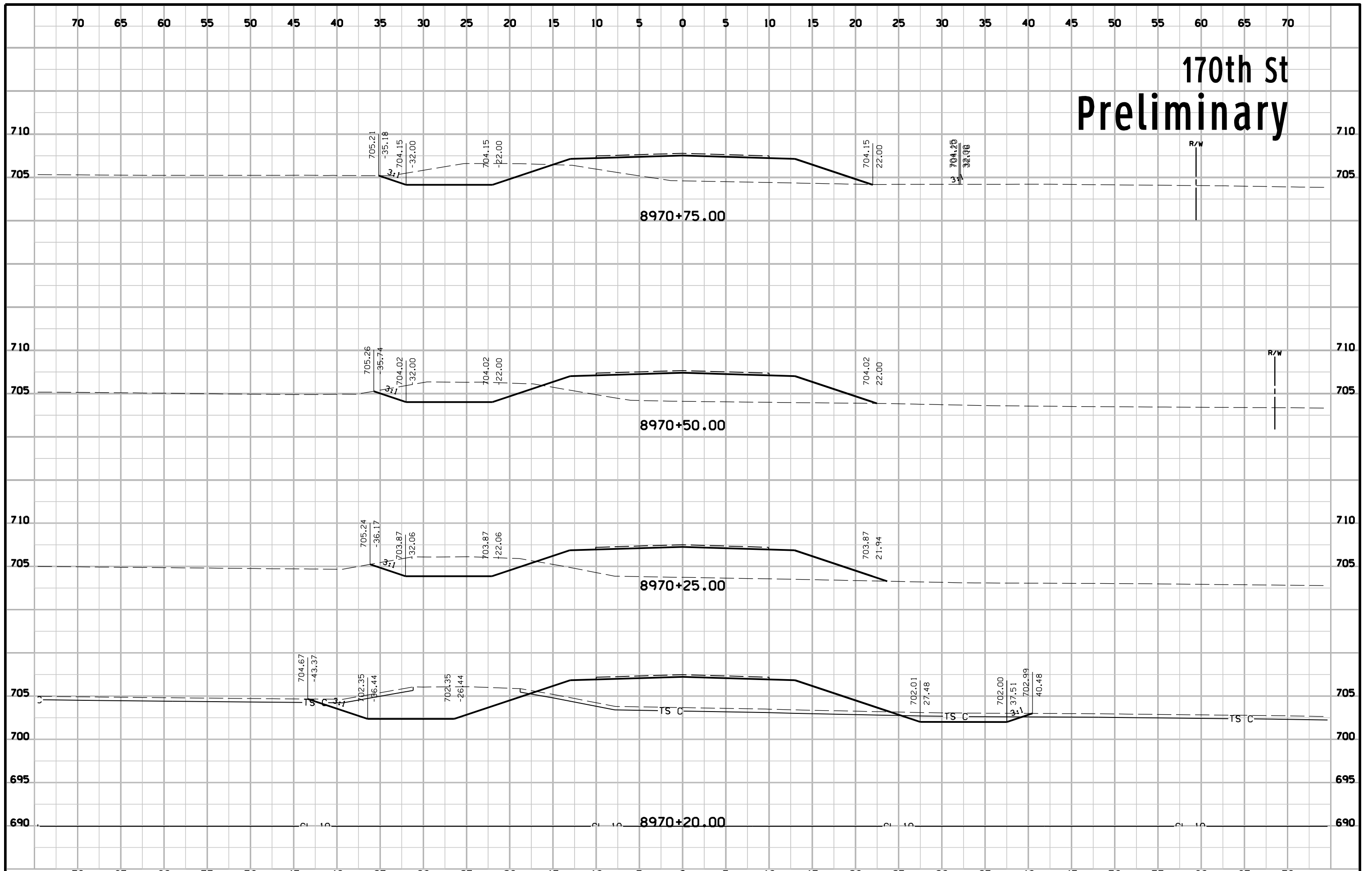
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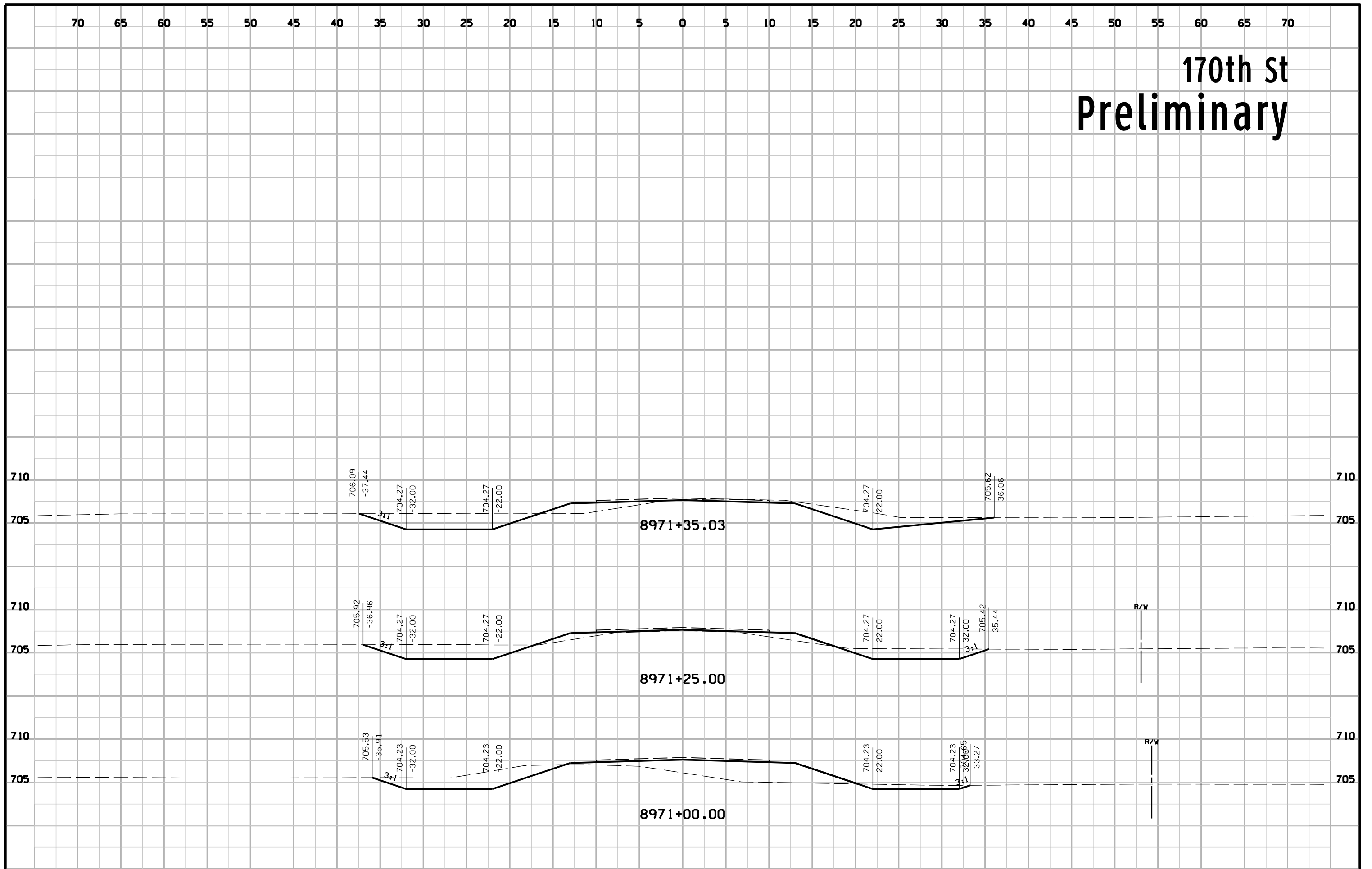
170th St Preliminary



170th St Preliminary



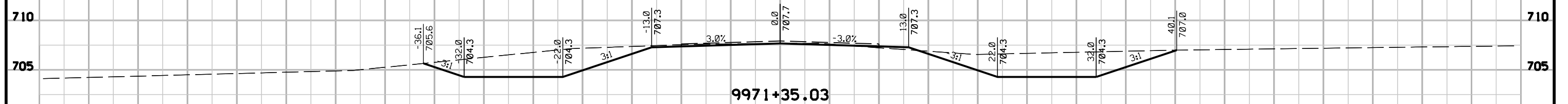
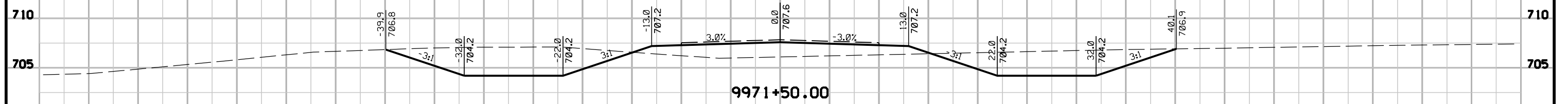
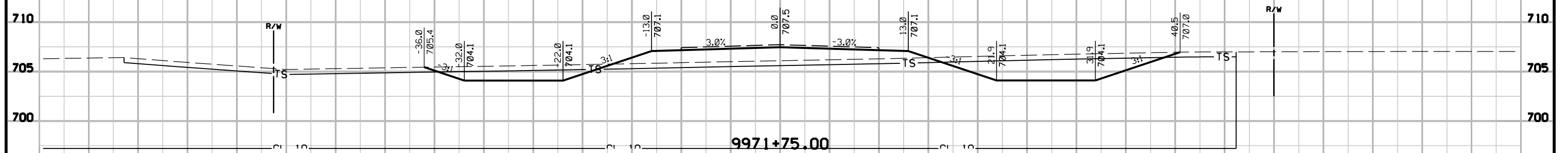
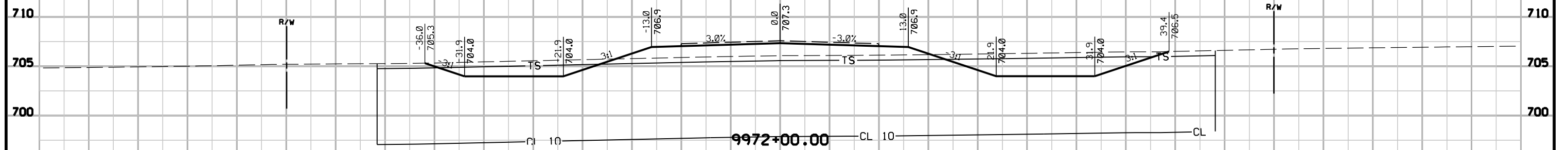
170th St Preliminary



R/W

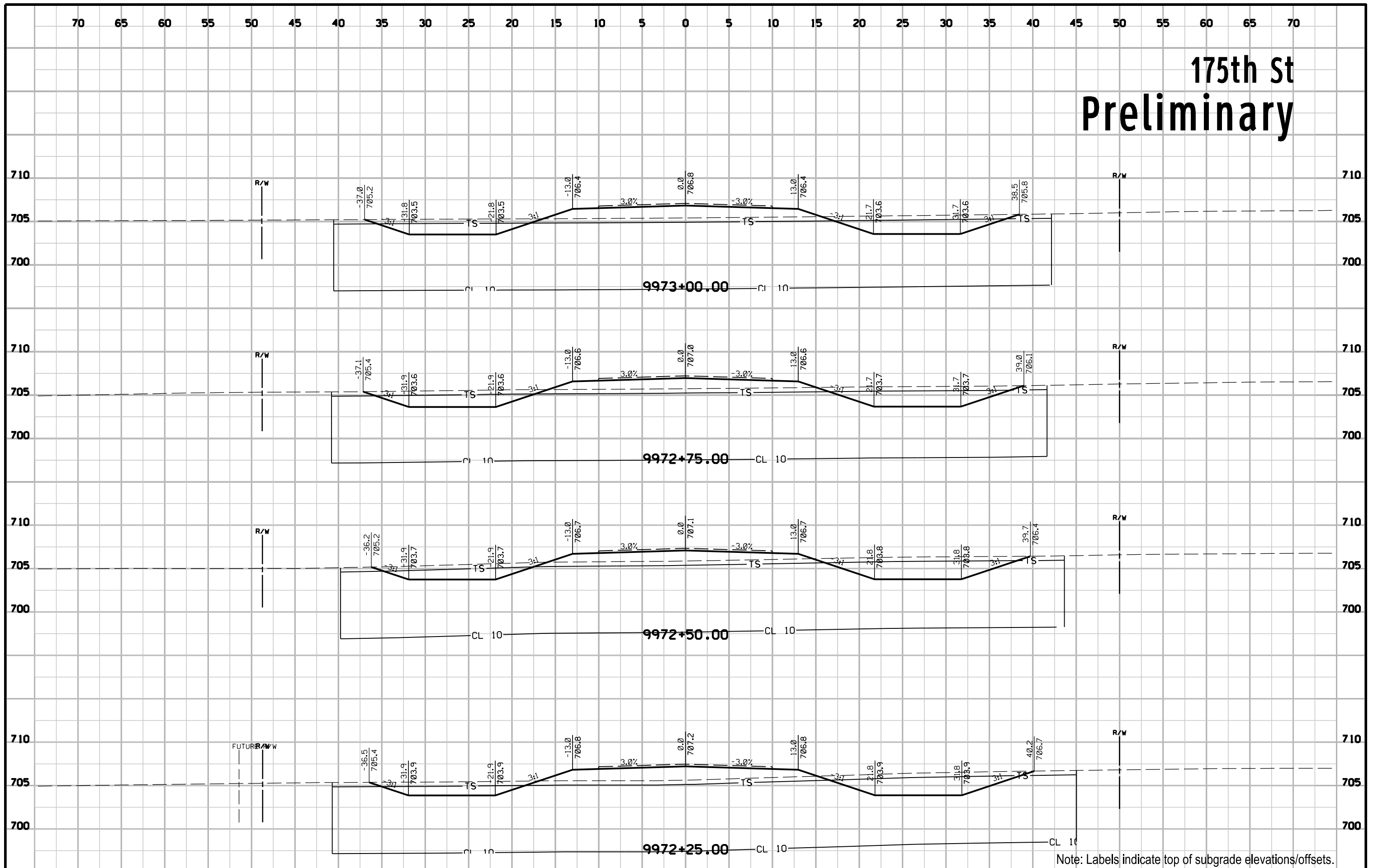
R/W

175th St Preliminary



Note: Labels indicate top of subgrade elevations/offsets.

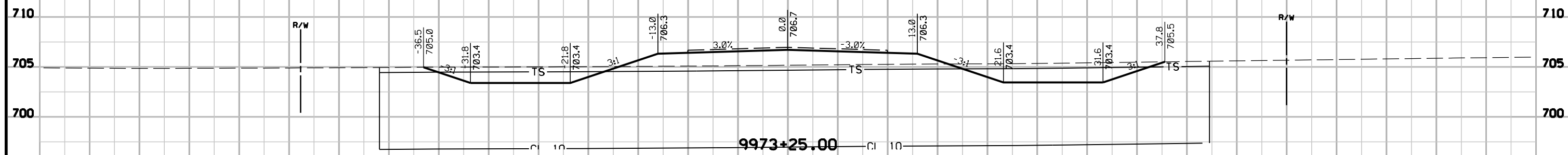
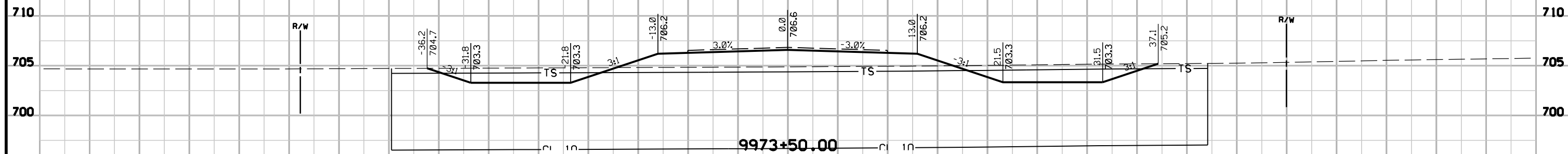
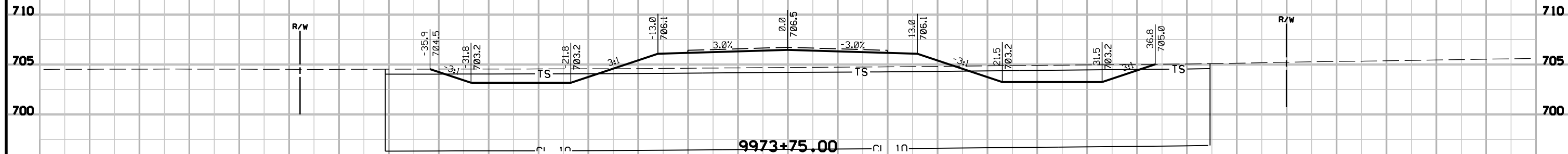
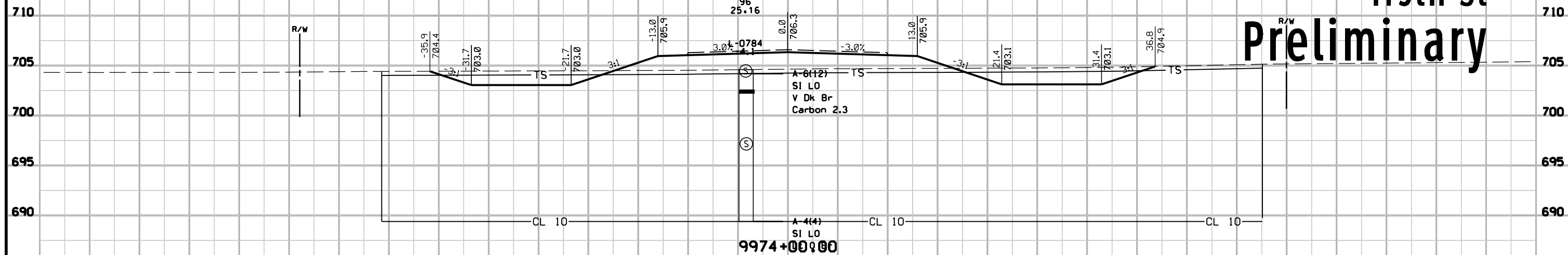
175th St Preliminary



Note: Labels indicate top of subgrade elevations/offsets.

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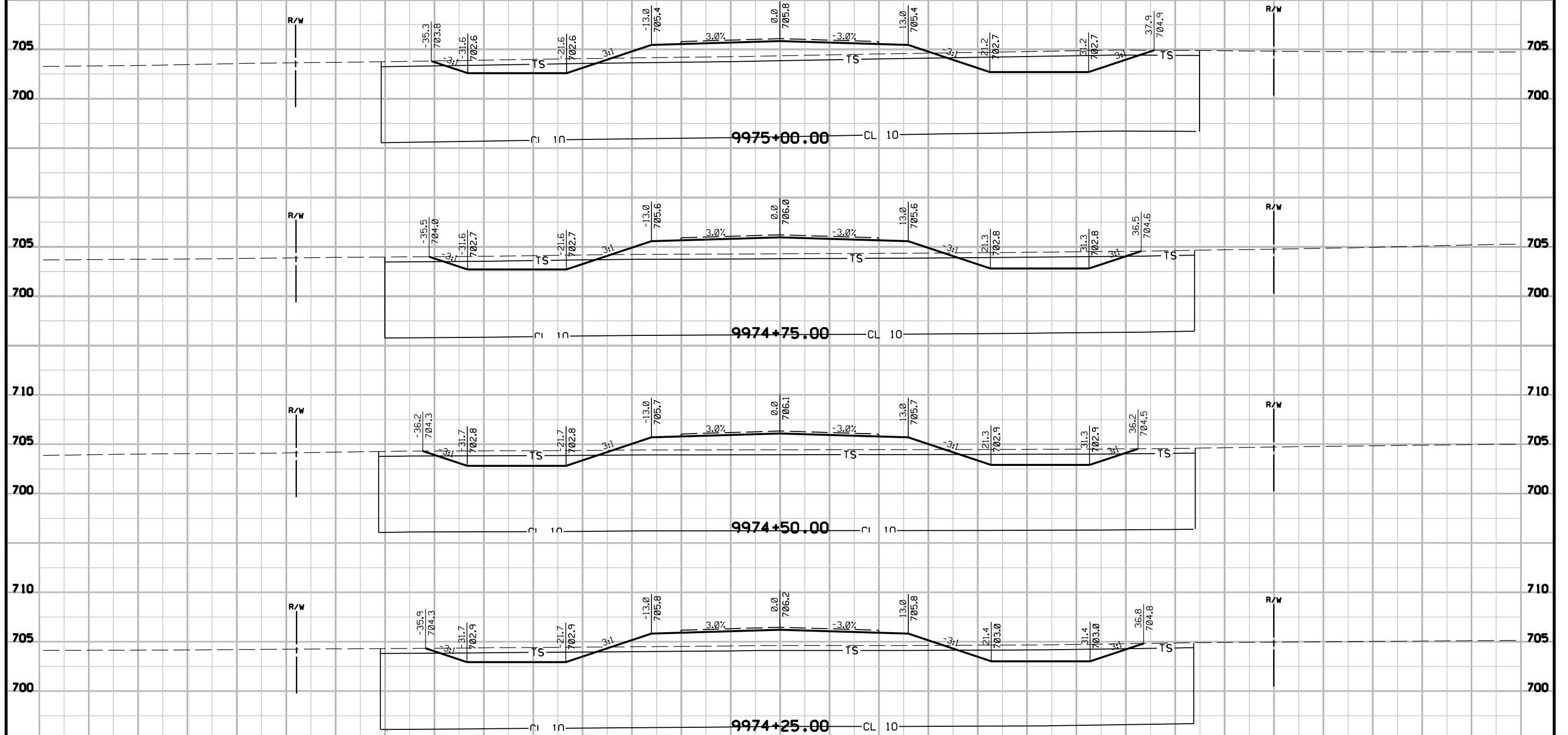
175th St Preliminary



Note: Labels indicate top of subgrade elevations/offsets.

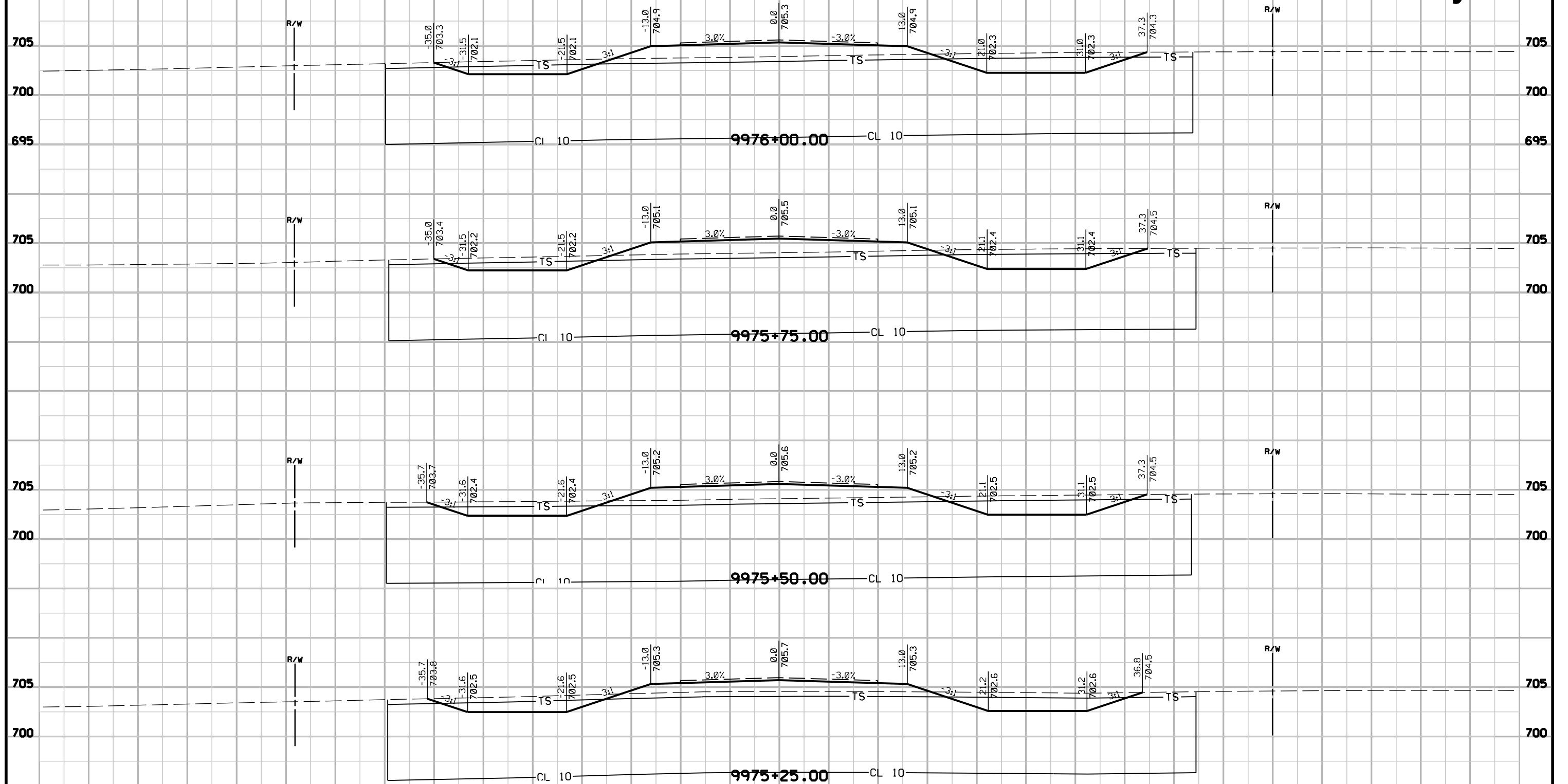
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175th St Preliminary



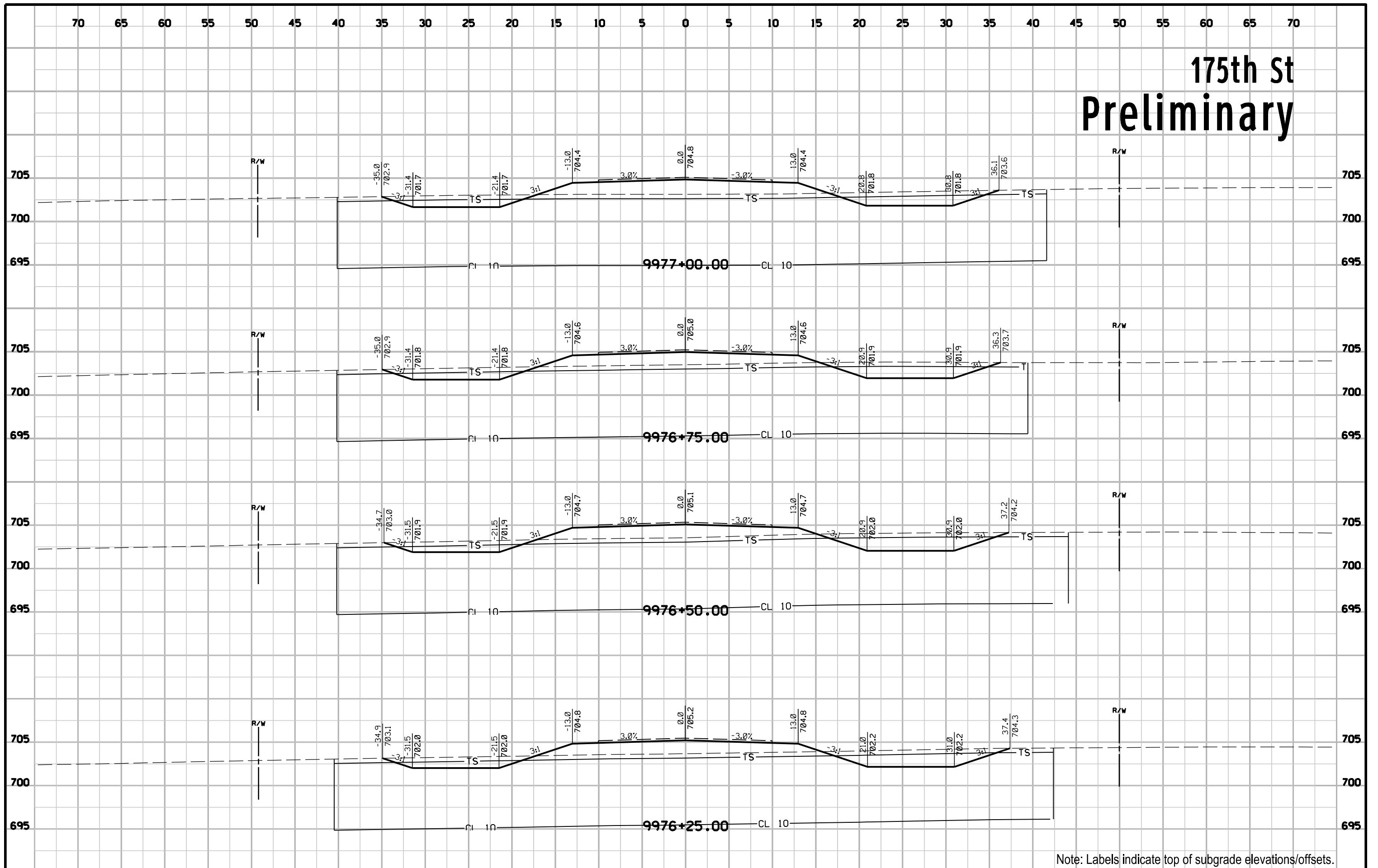
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175th St Preliminary



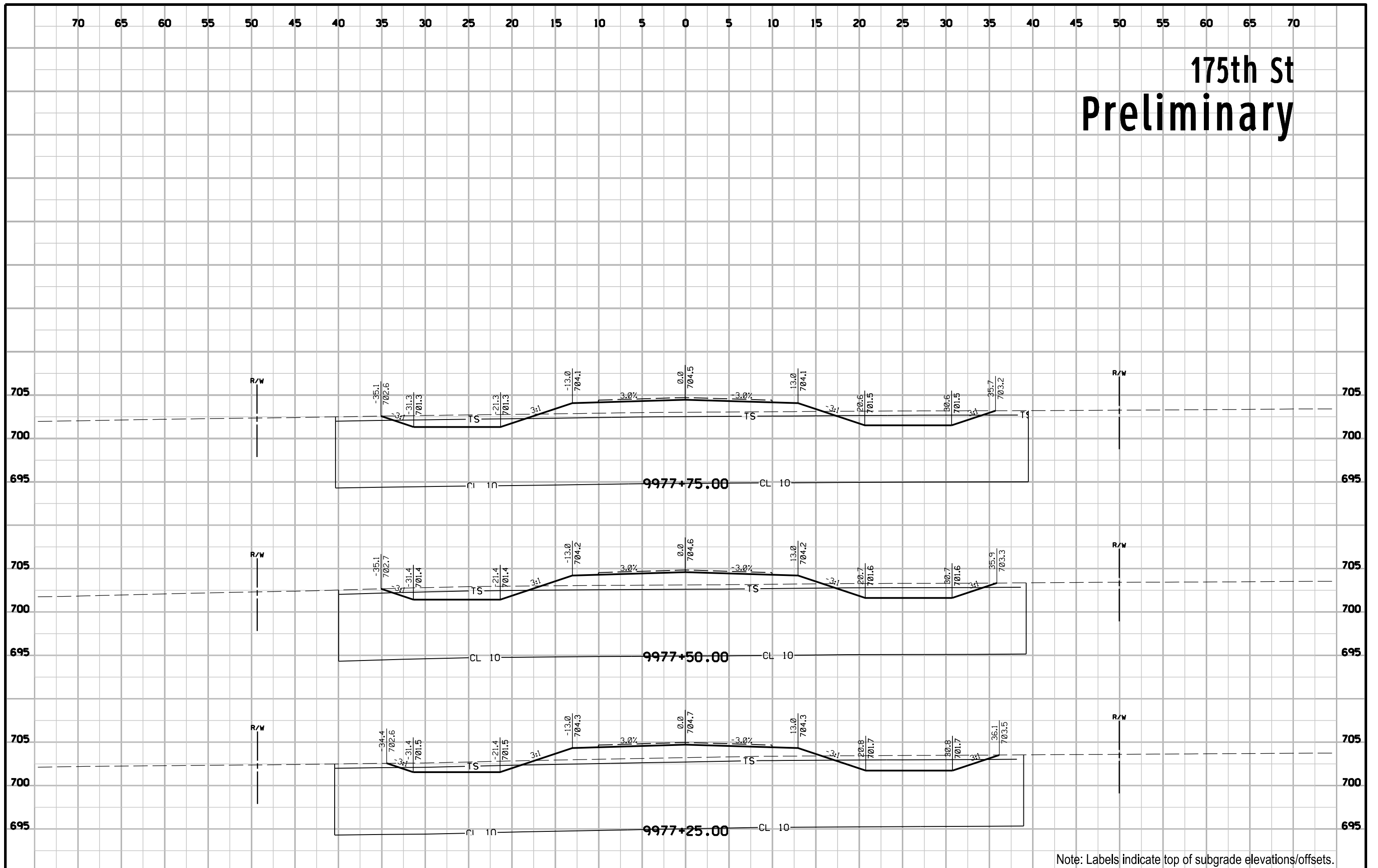
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175th St Preliminary



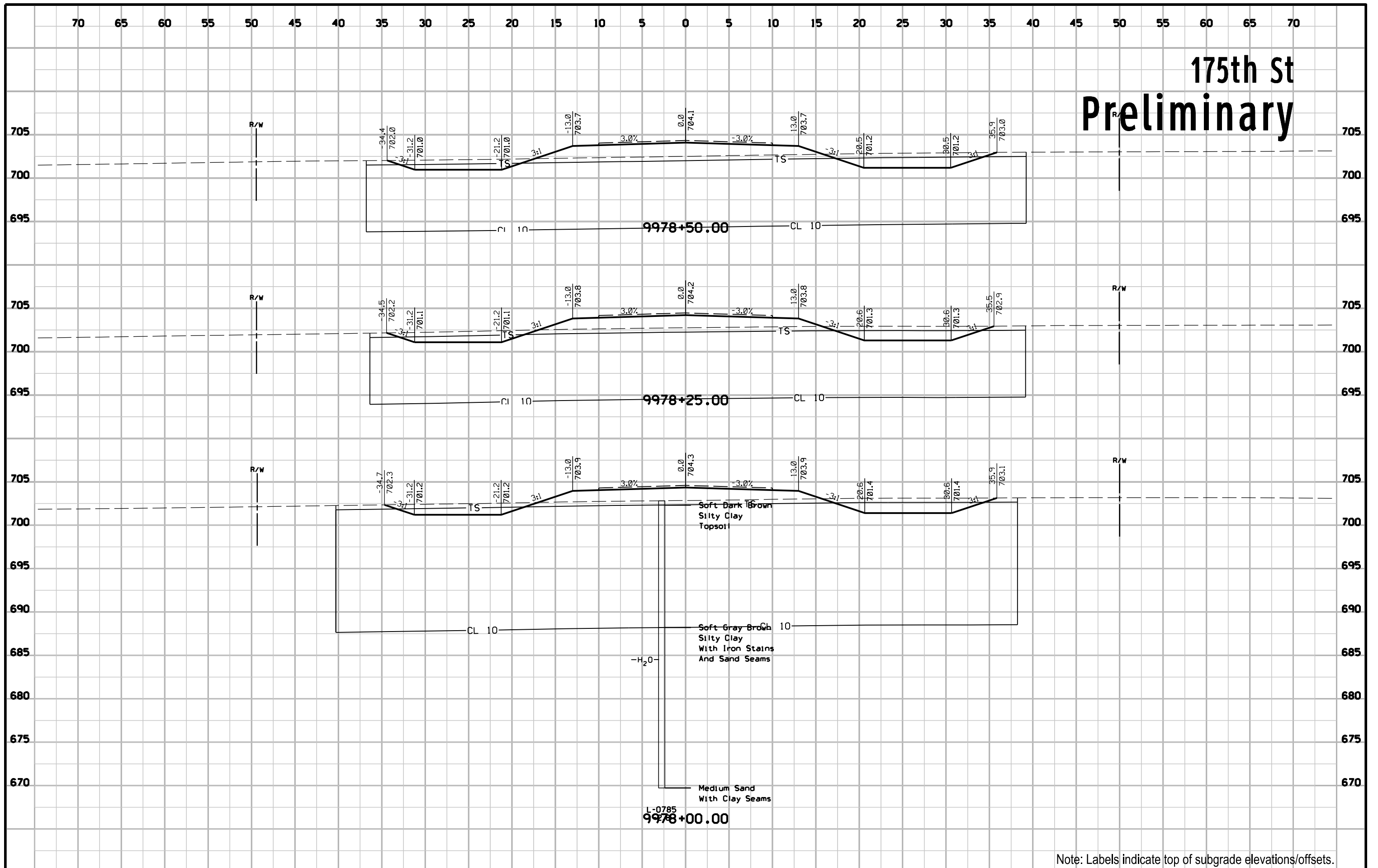
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175th St Preliminary



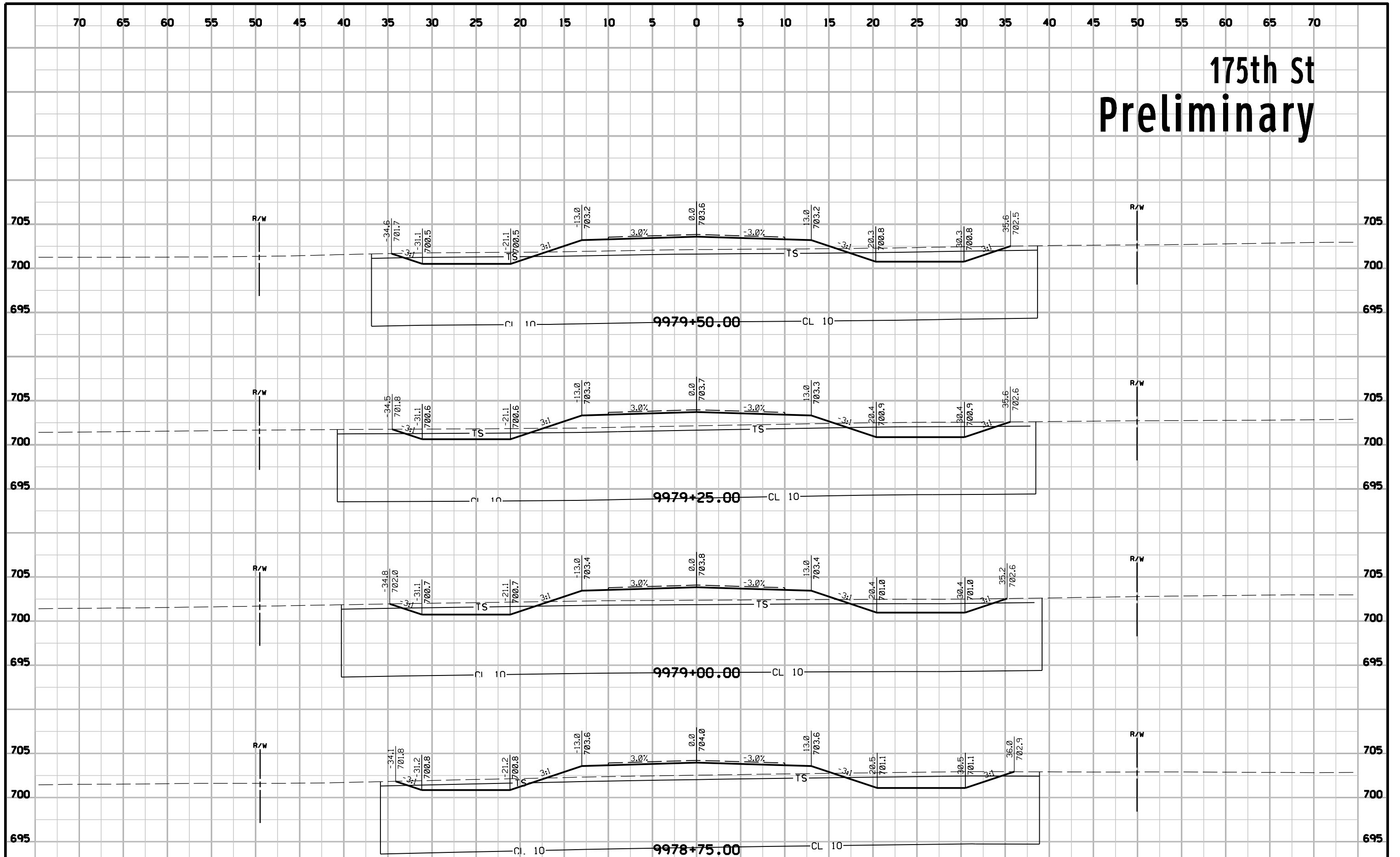
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175th St Preliminary



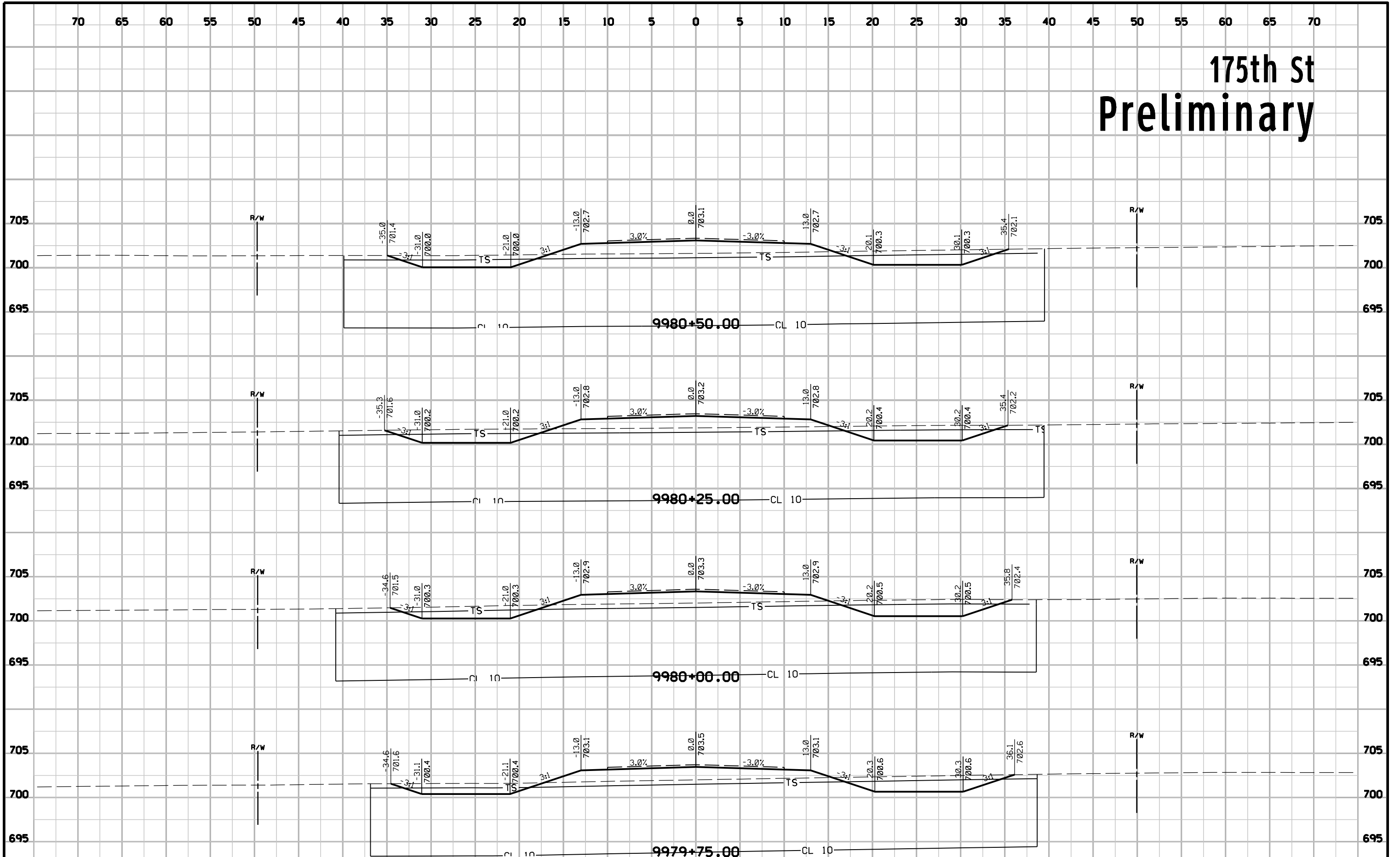
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175th St Preliminary



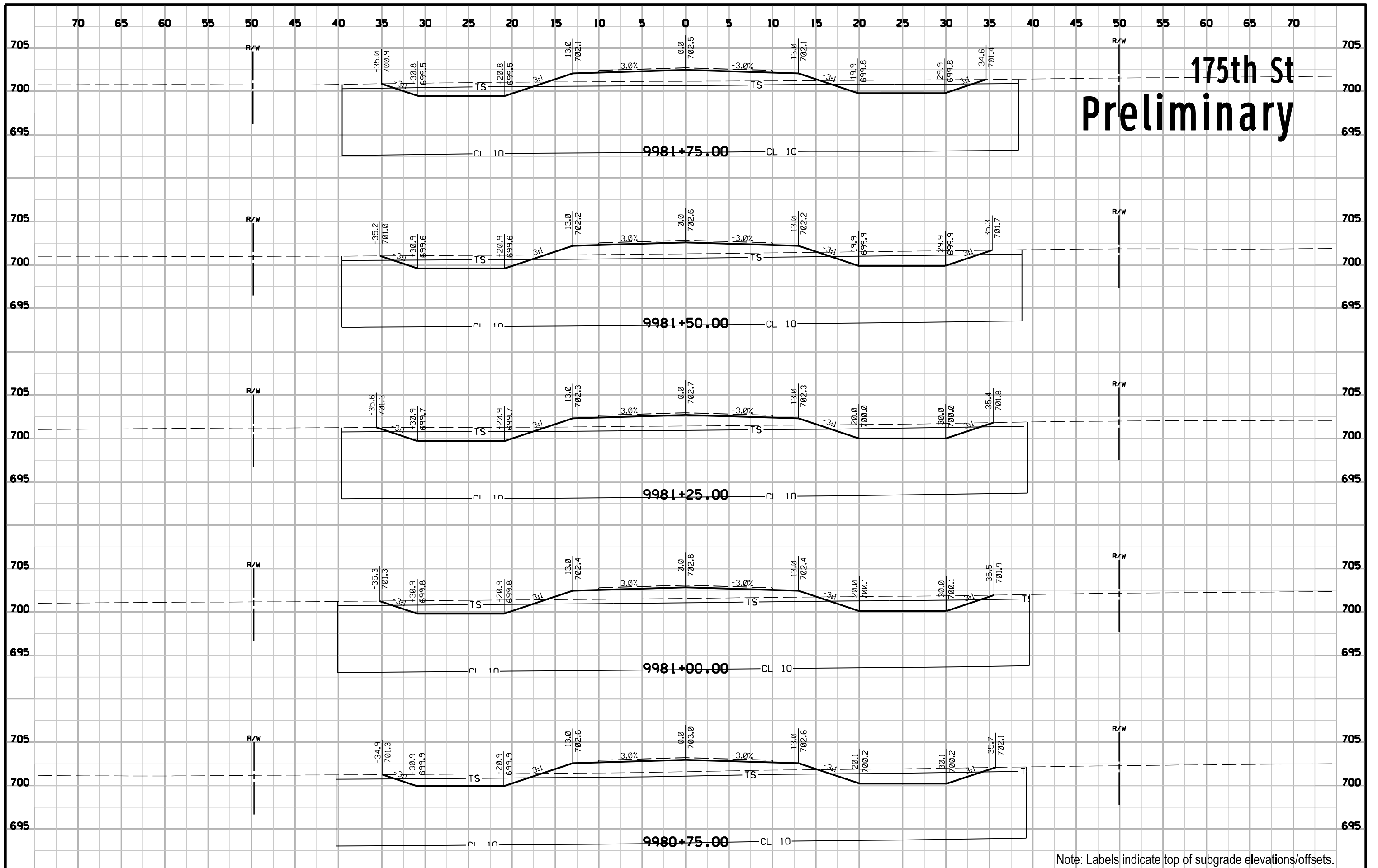
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175th St Preliminary



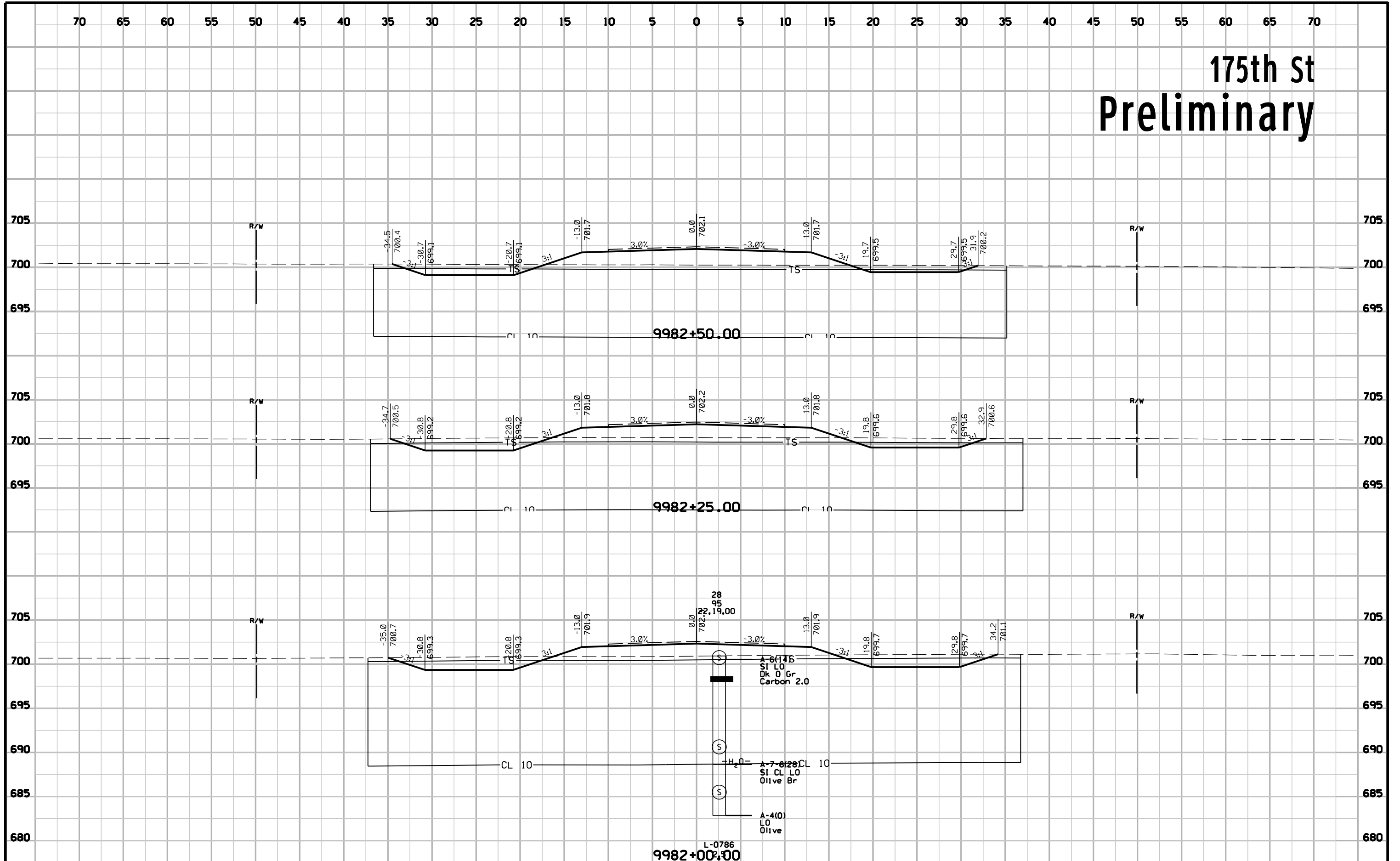
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175th St Preliminary



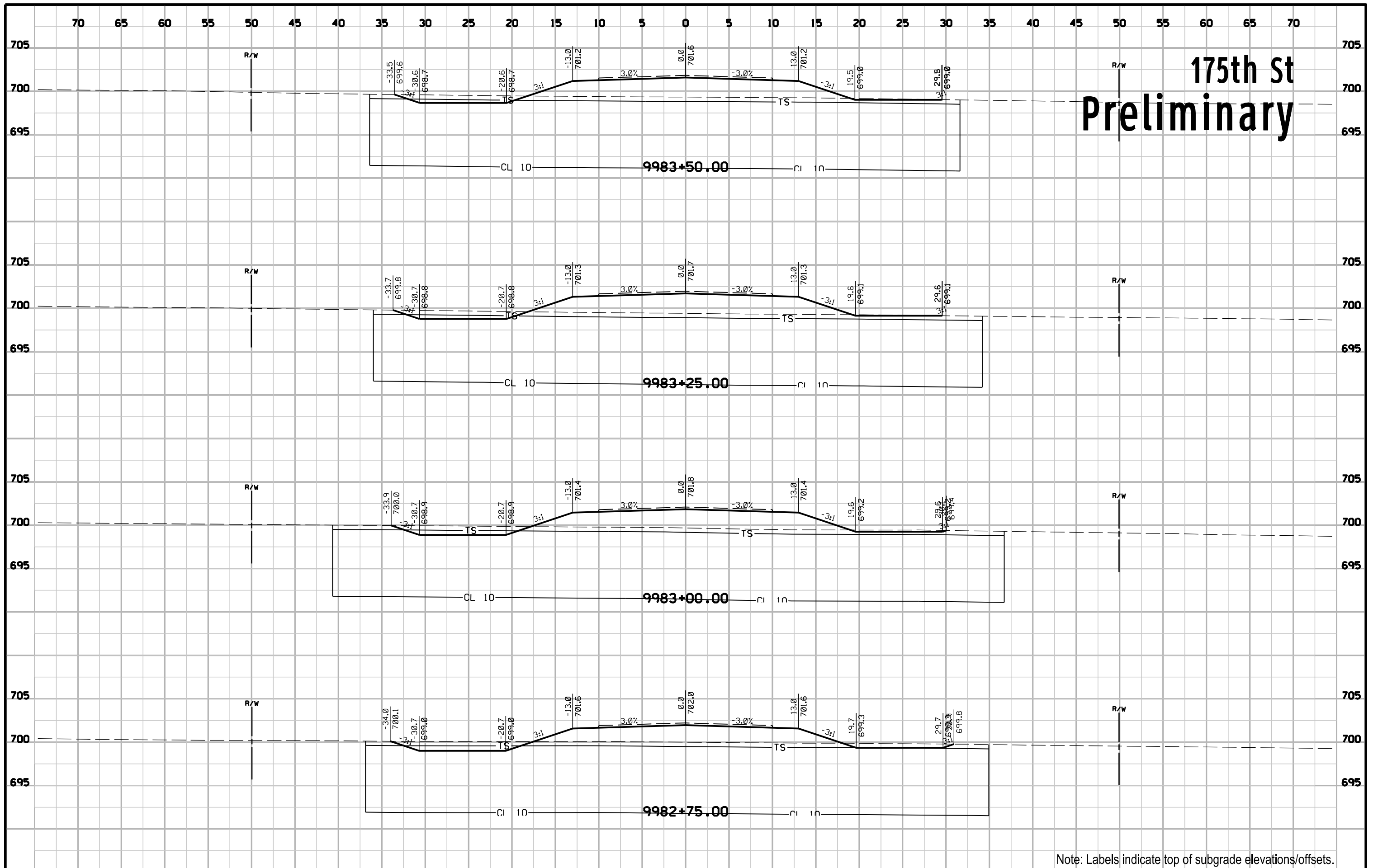
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175th St Preliminary



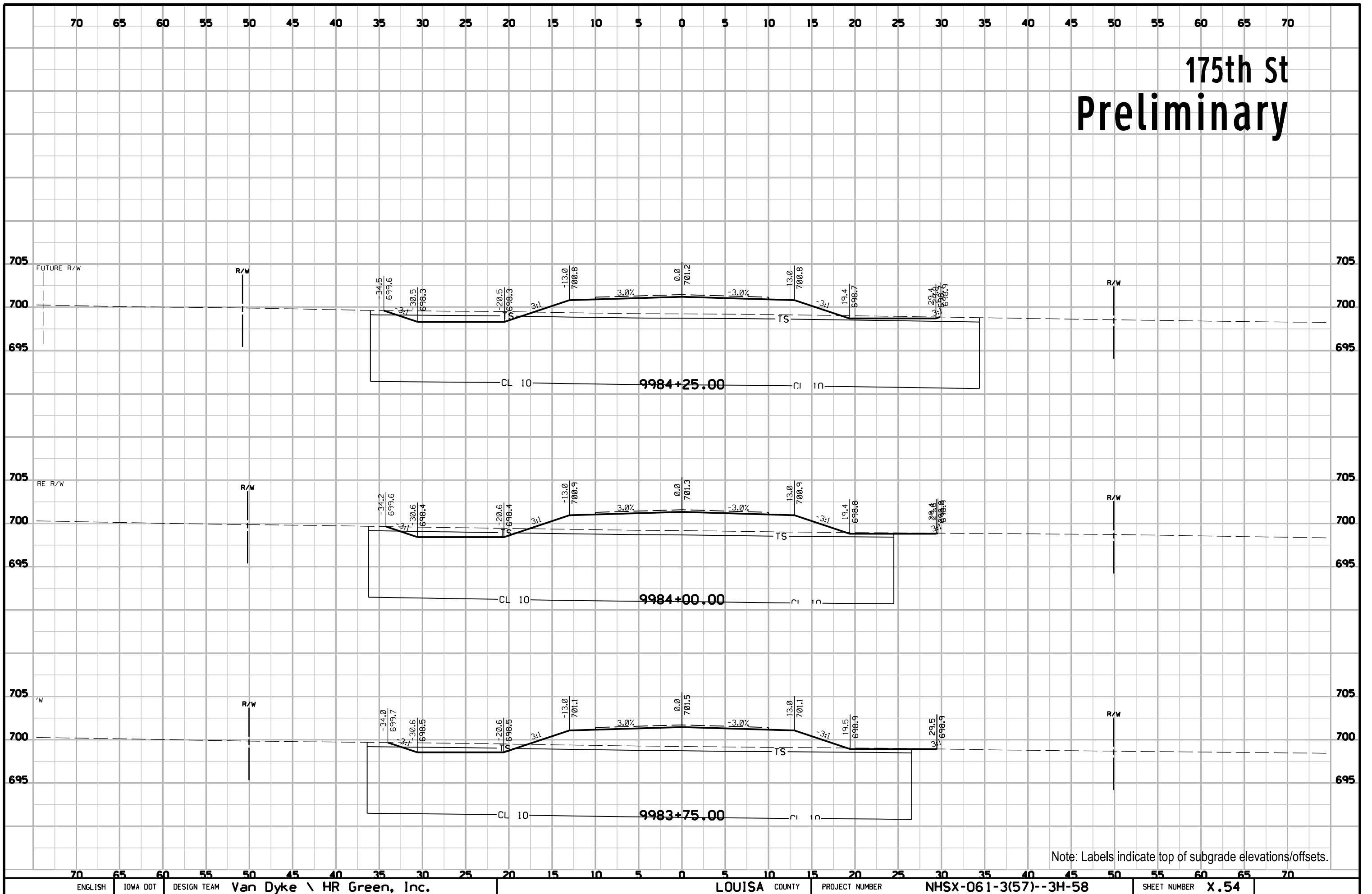
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175th St Preliminary



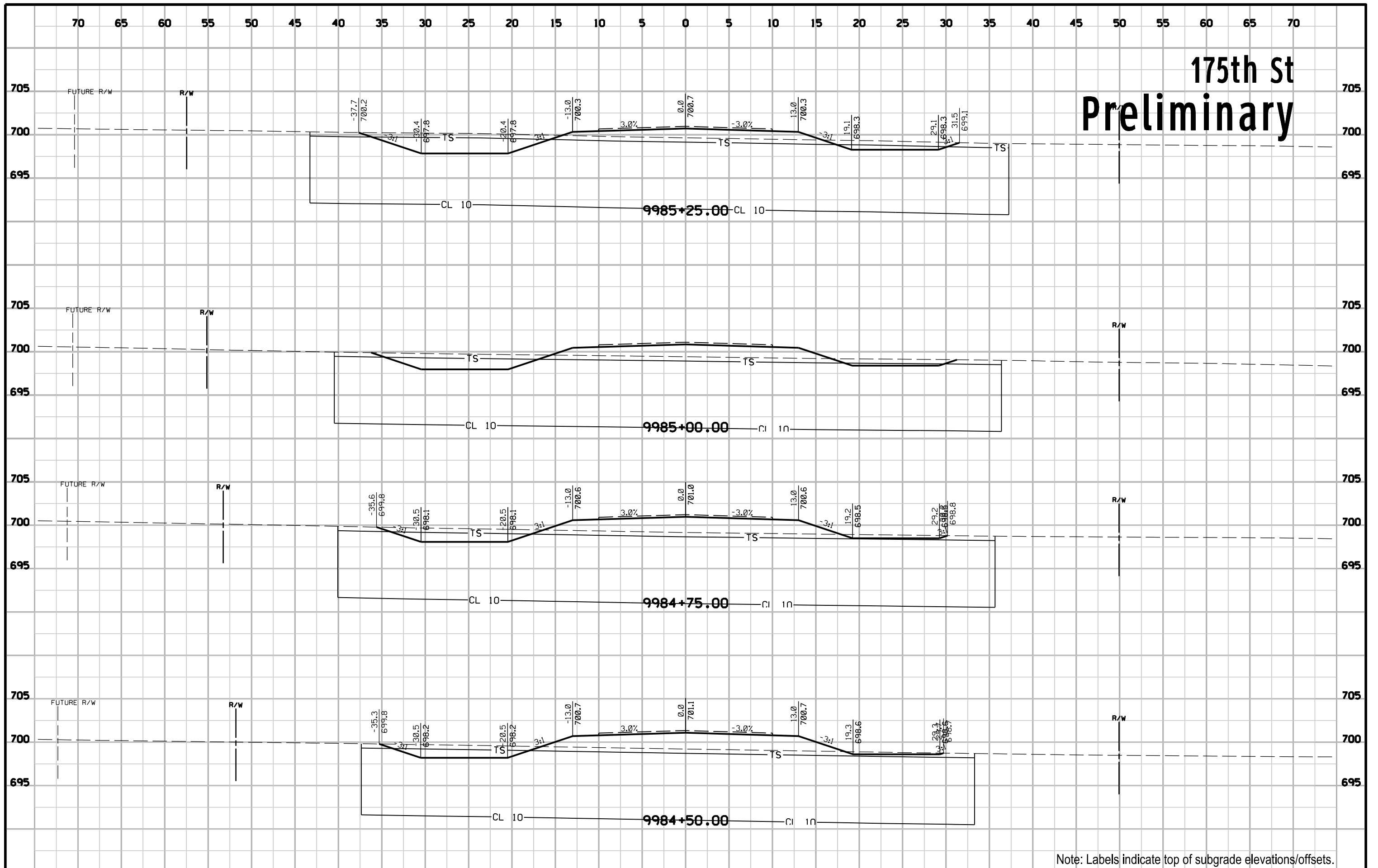
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175th St Preliminary



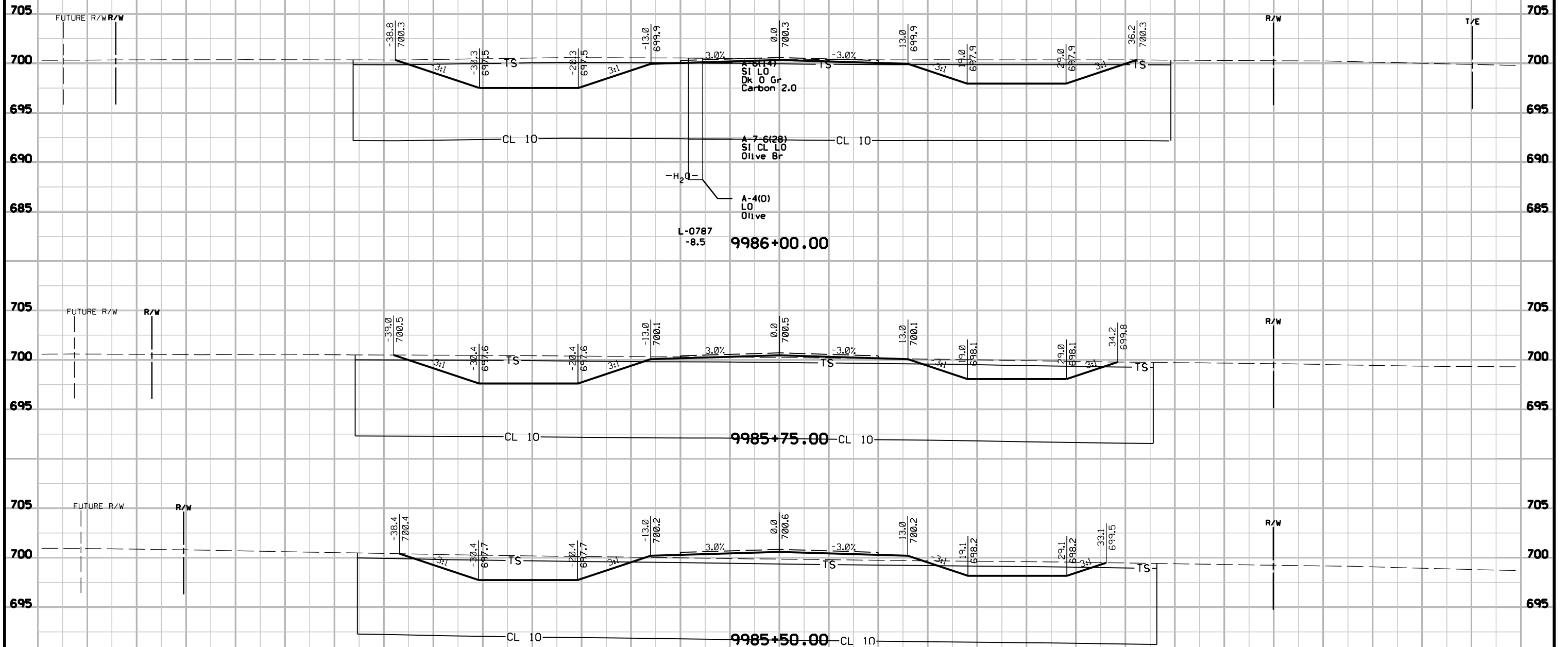
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175th St Preliminary



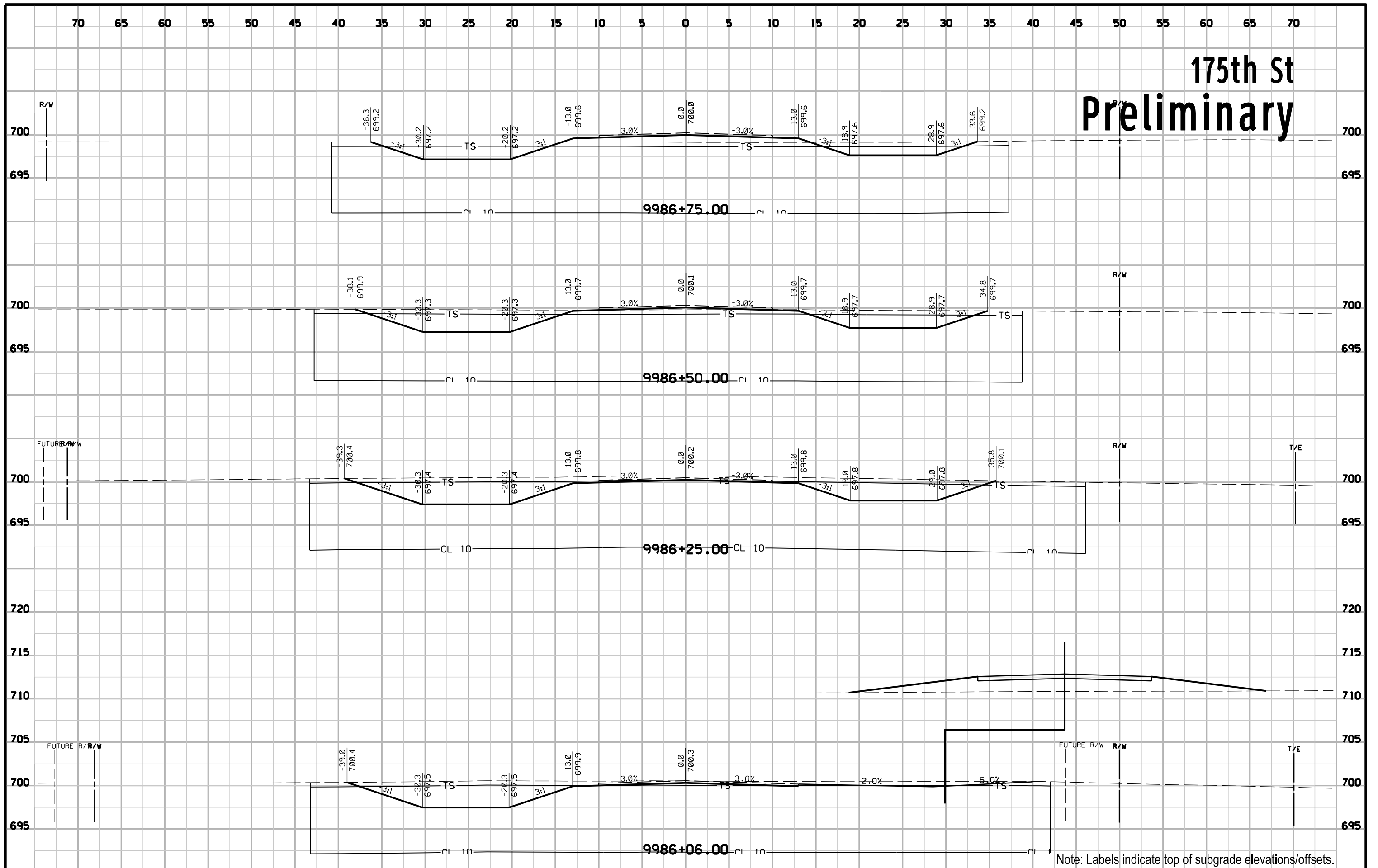
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175th St Preliminary



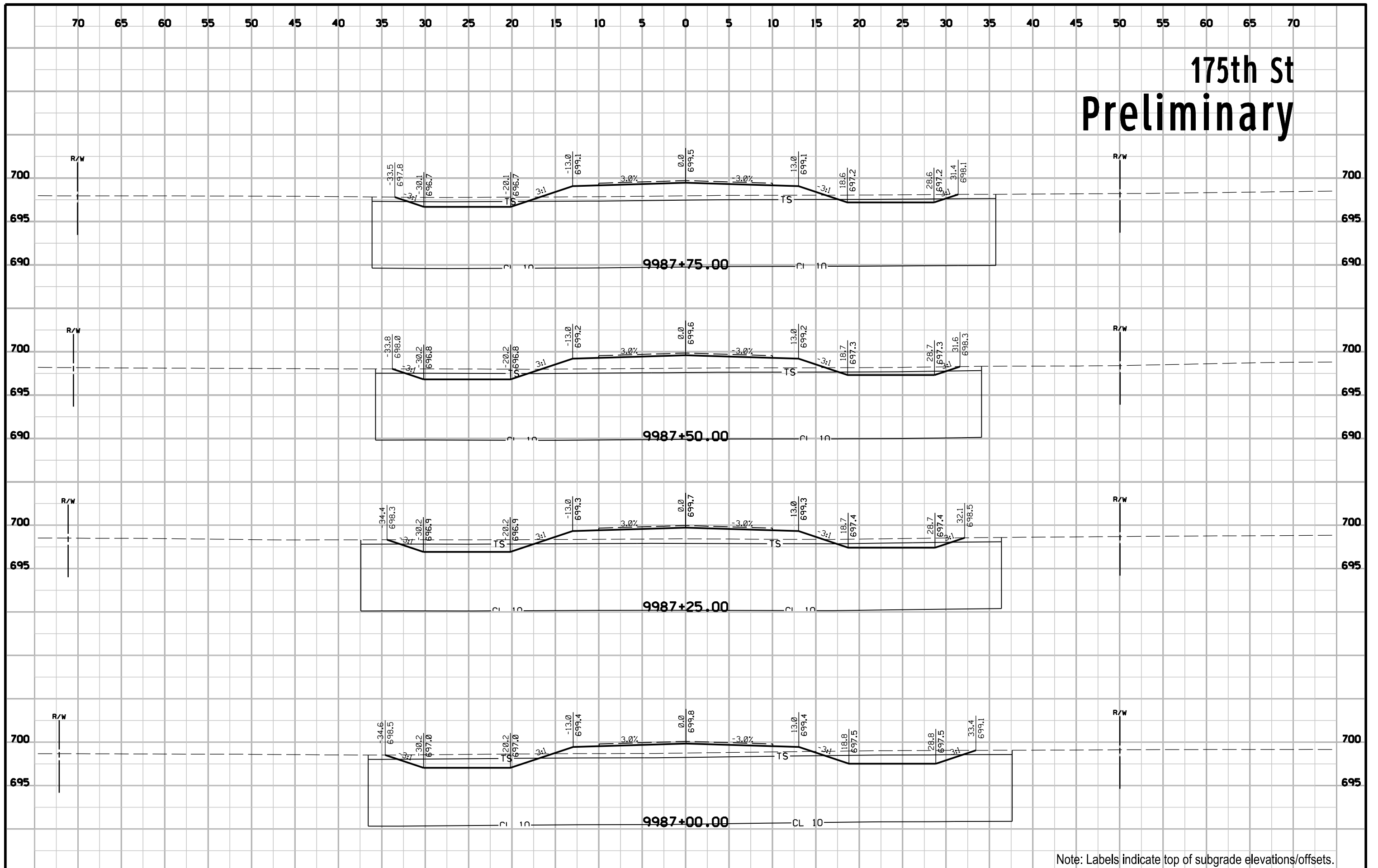
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175th St Preliminary



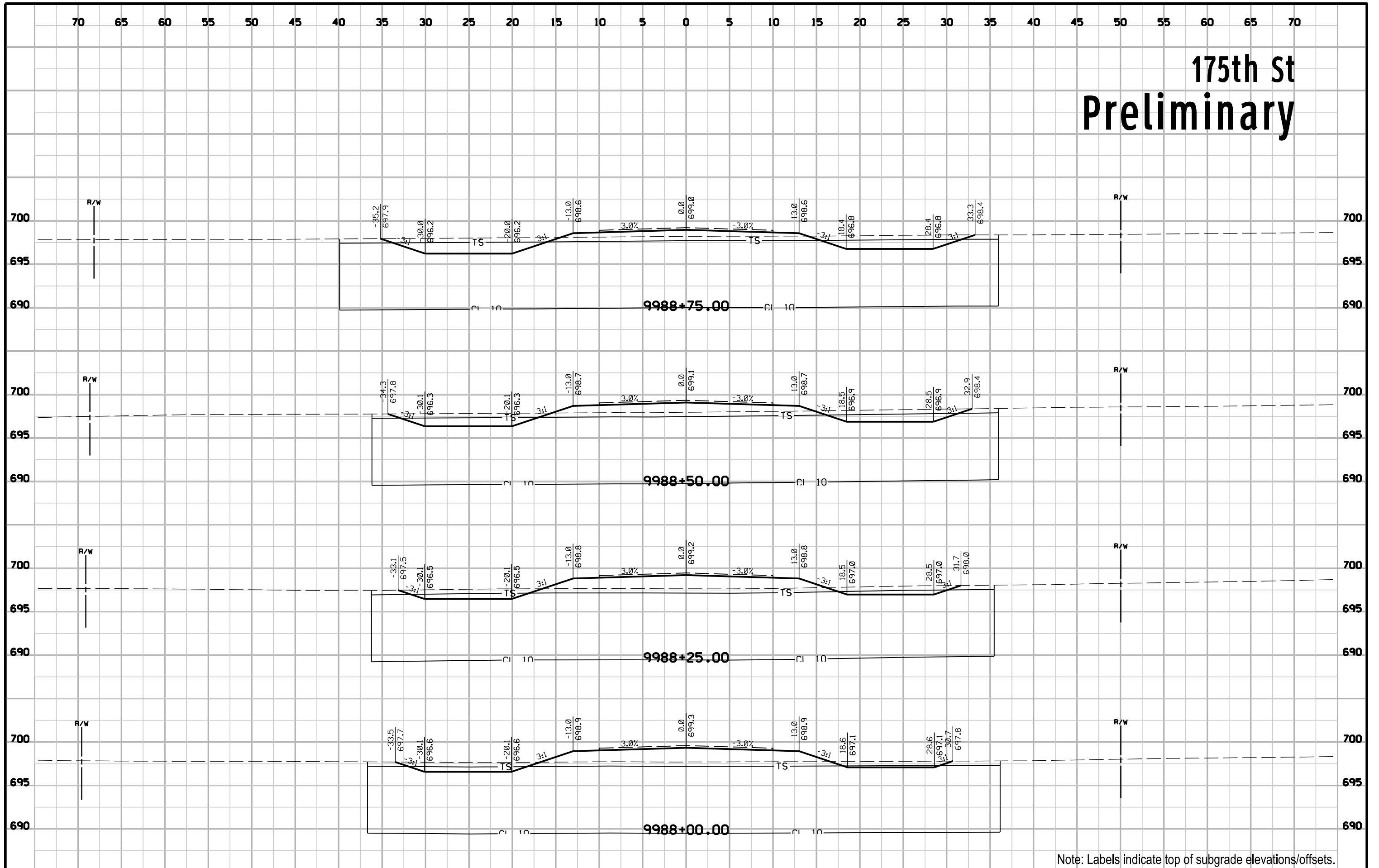
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175th St Preliminary



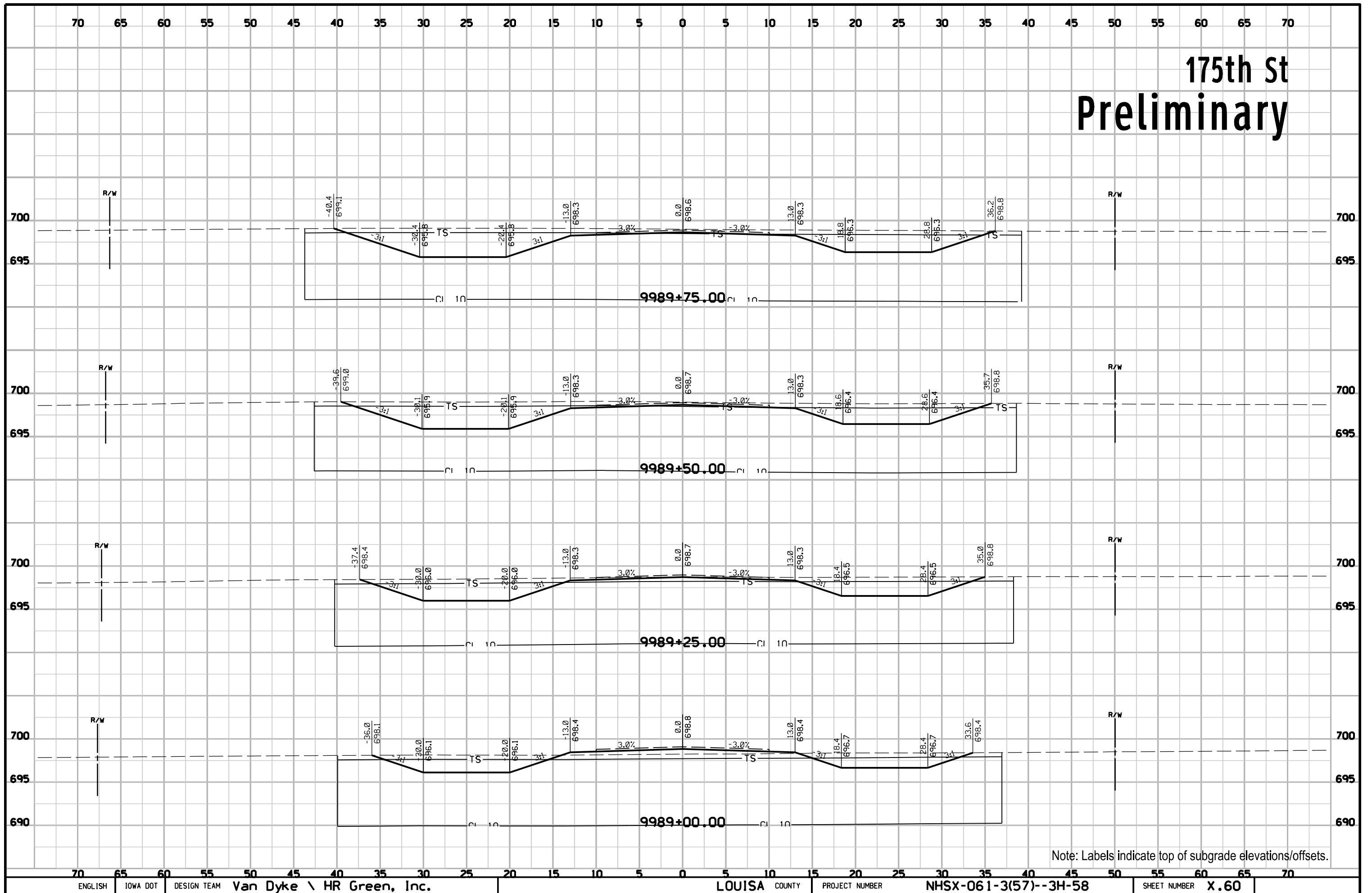
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175th St Preliminary



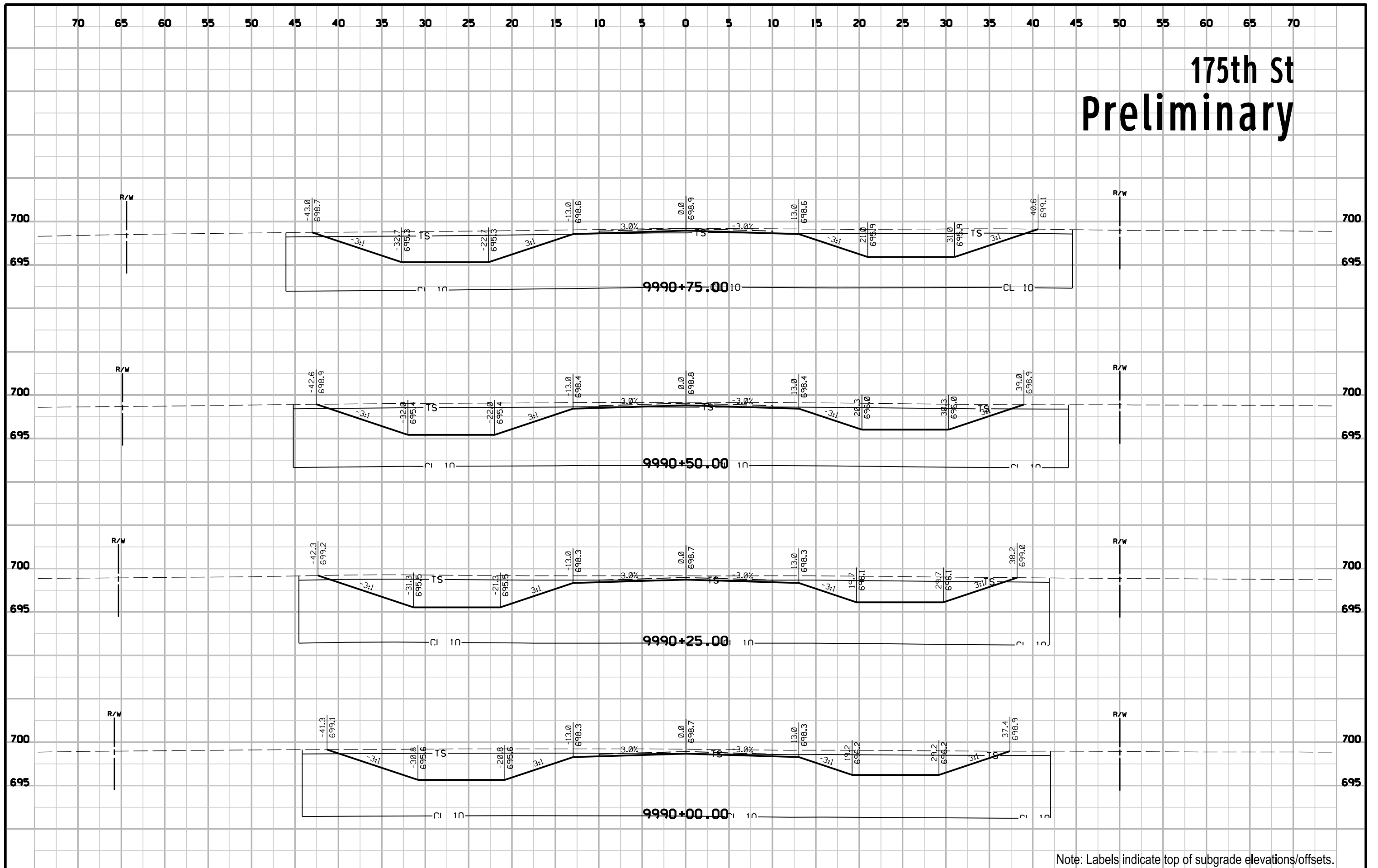
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175th St Preliminary



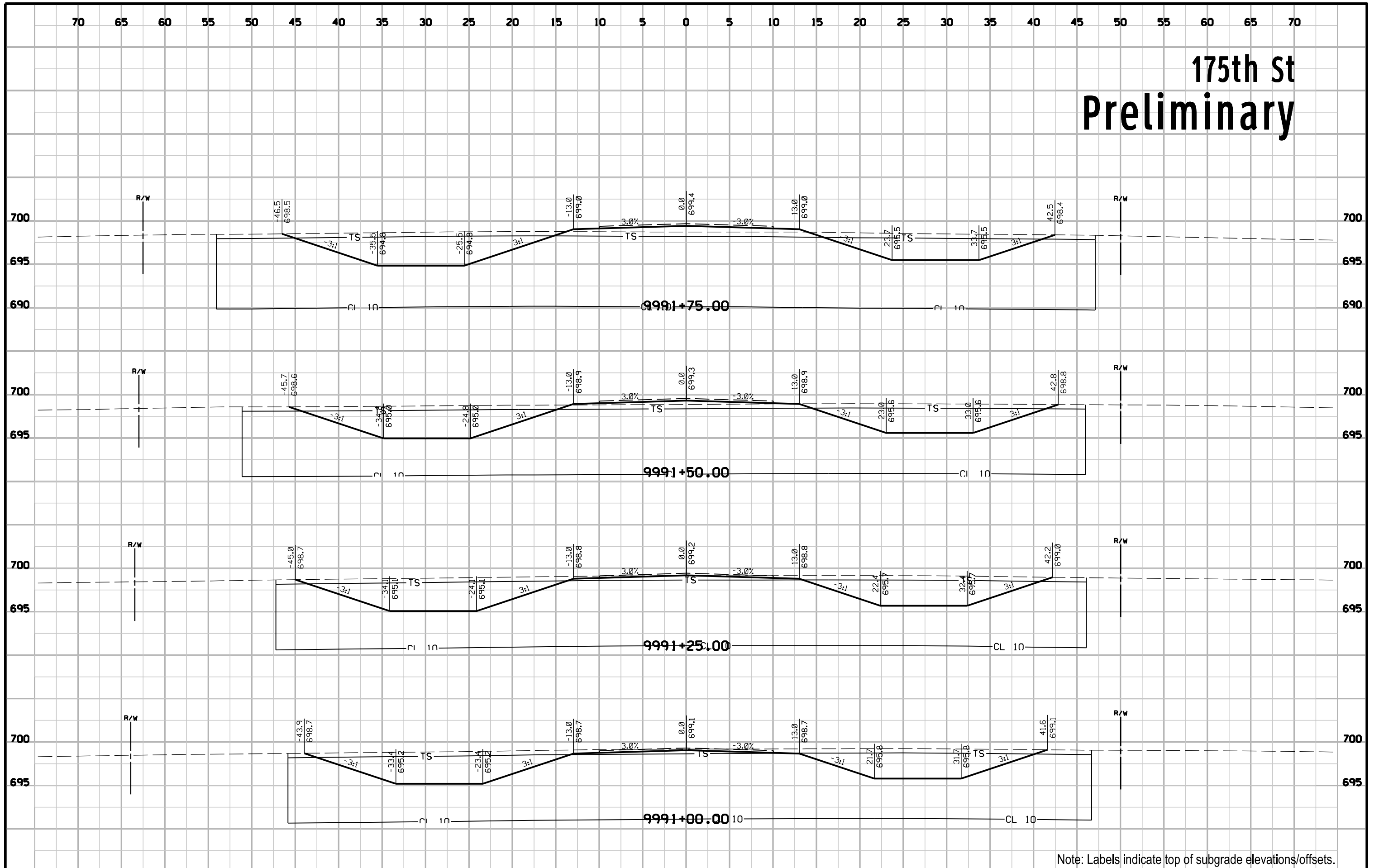
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175th St Preliminary



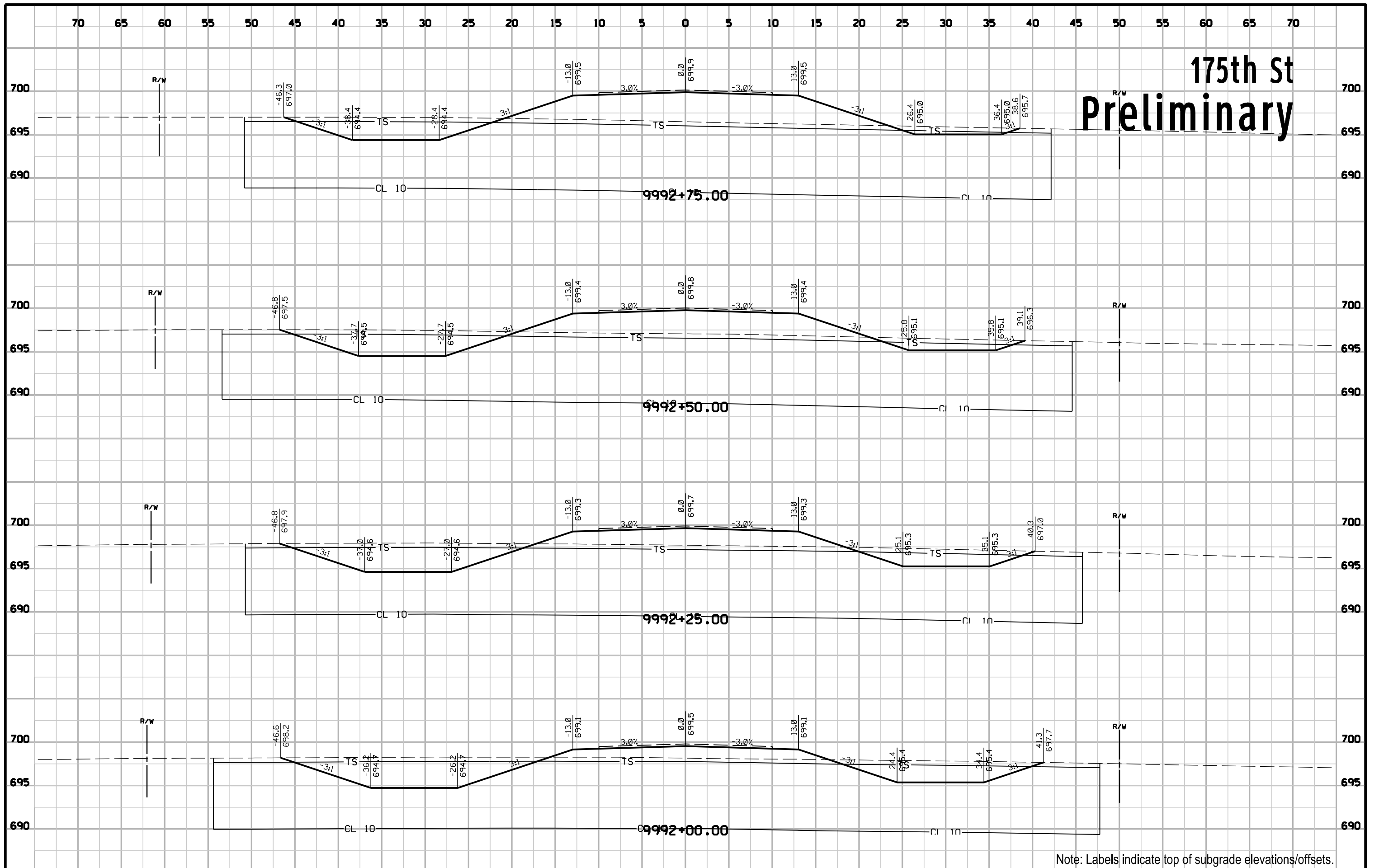
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175th St Preliminary



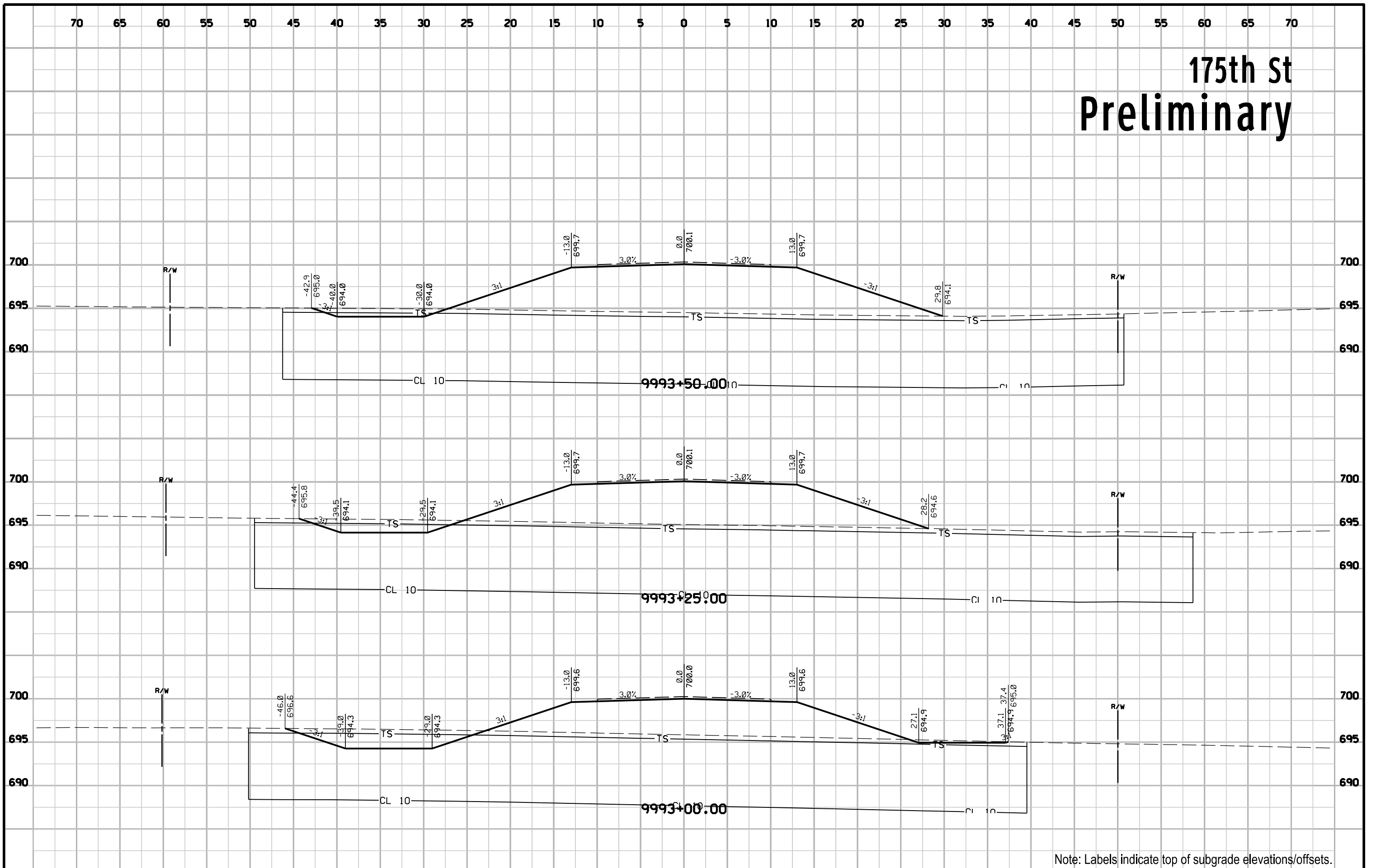
Note: Labels indicate top of subgrade elevations/offsets.

175th St Preliminary



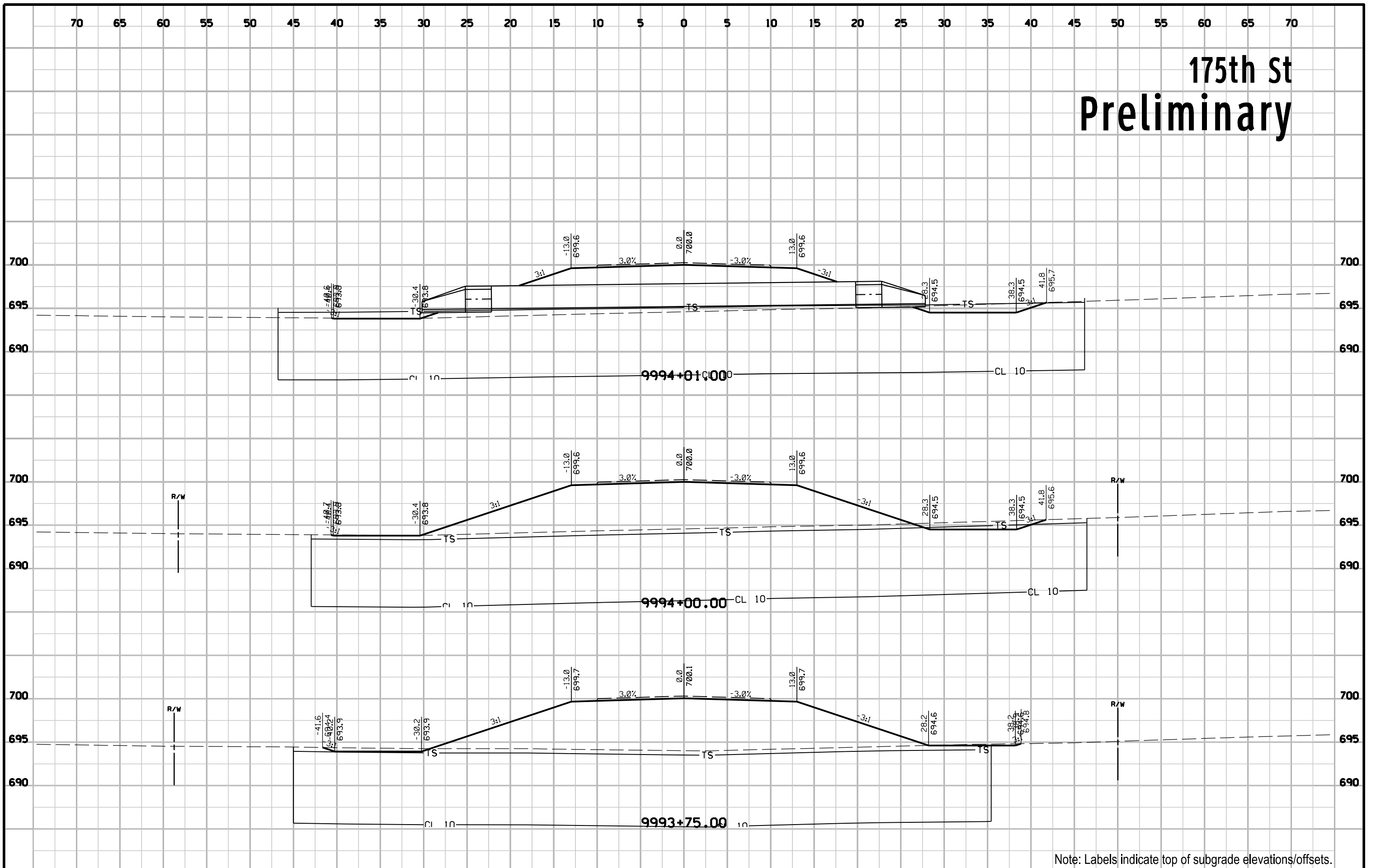
Note: Labels indicate top of subgrade elevations/offsets.

175th St Preliminary



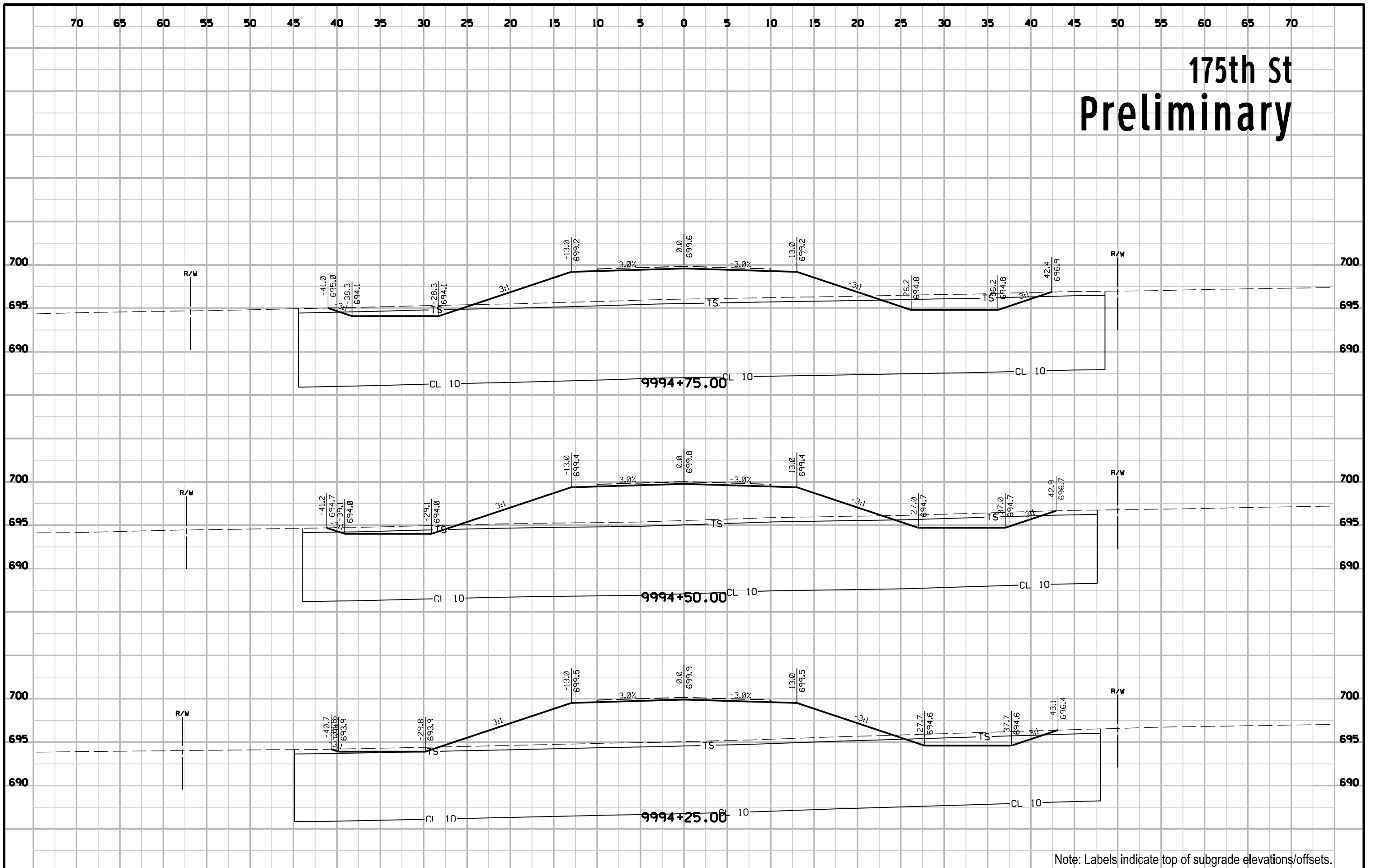
Note: Labels indicate top of subgrade elevations/offsets.

175th St Preliminary



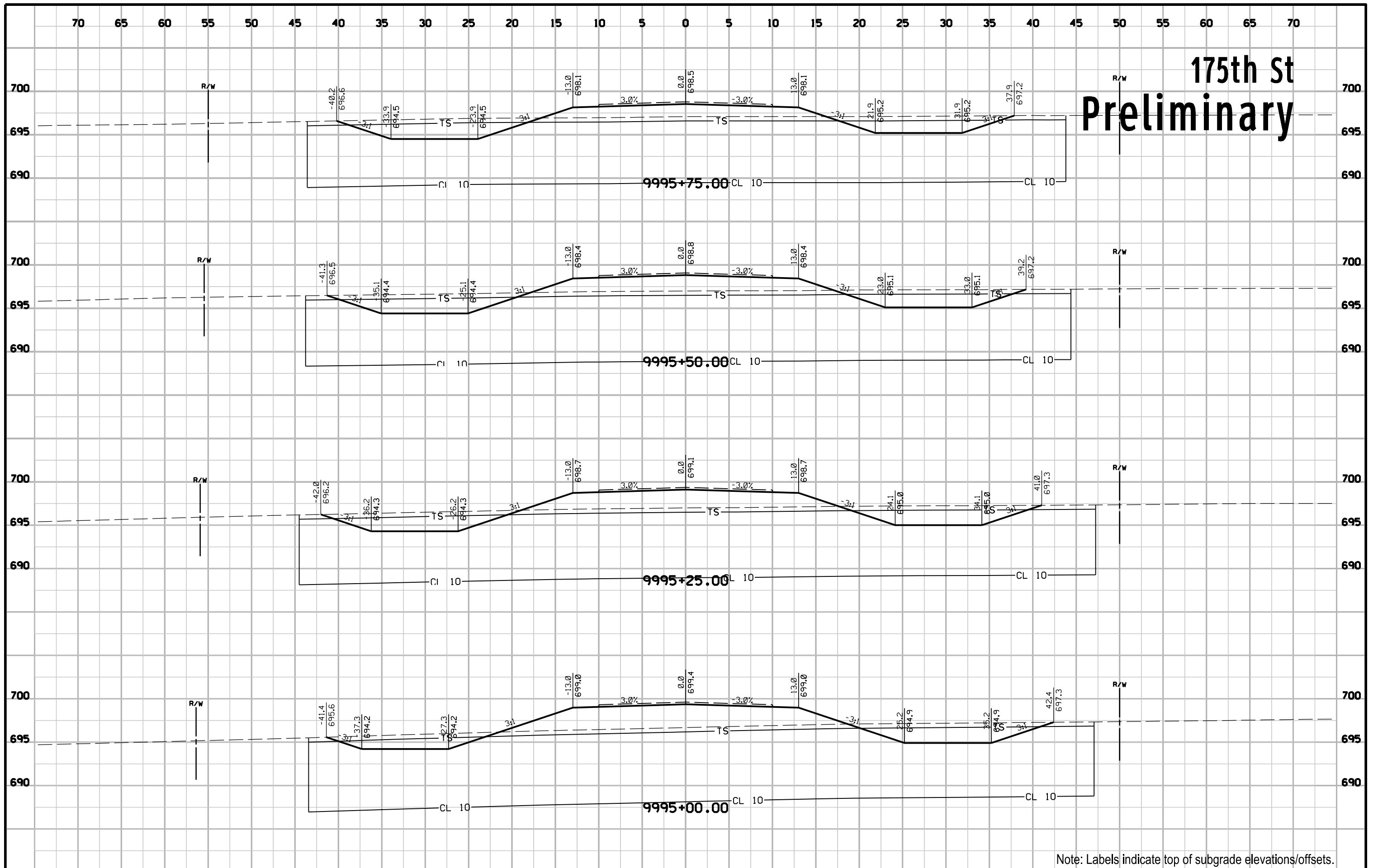
Note: Labels indicate top of subgrade elevations/offsets.

175th St Preliminary



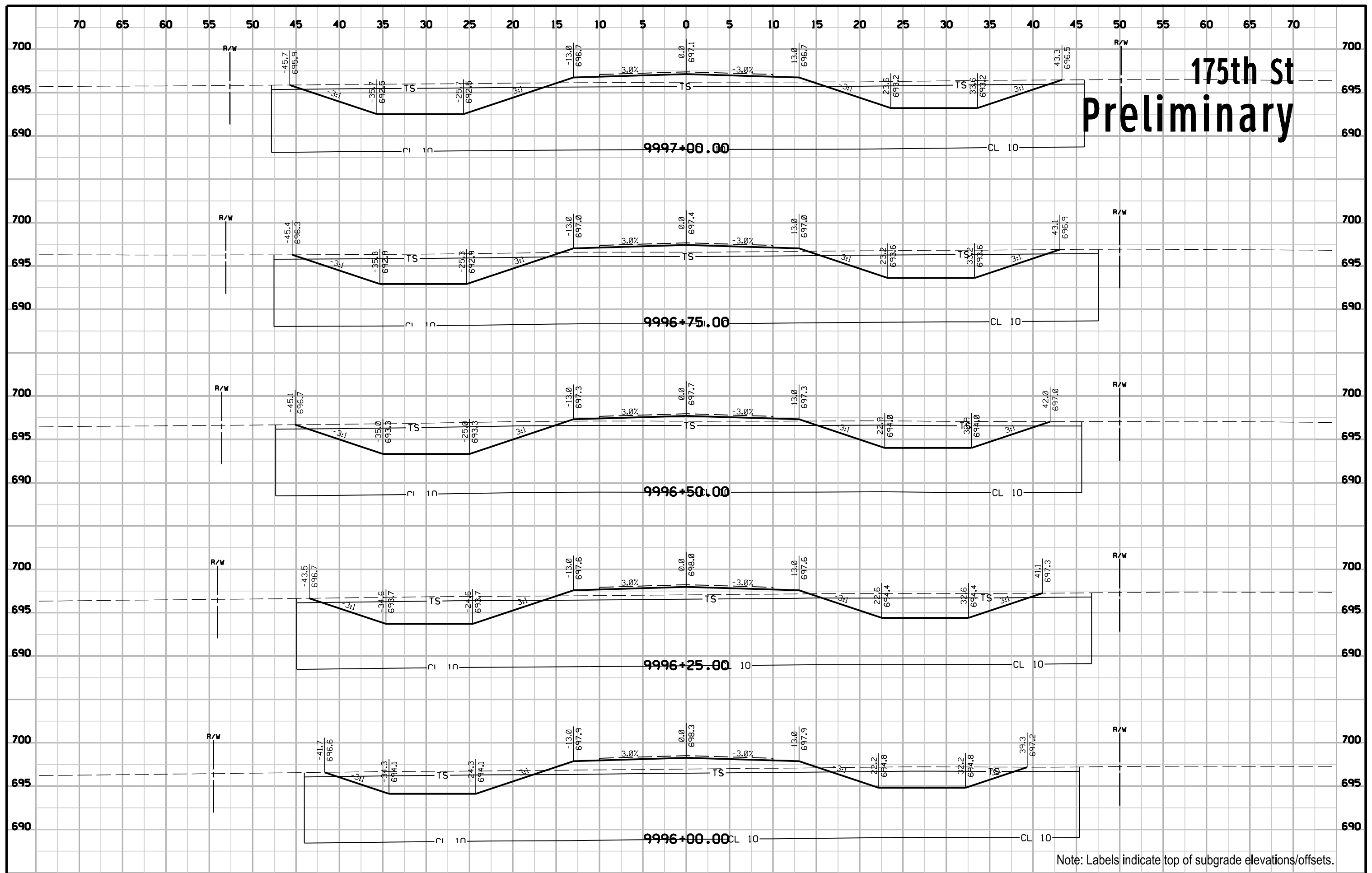
Note: Labels indicate top of subgrade elevations/offsets.

175th St Preliminary



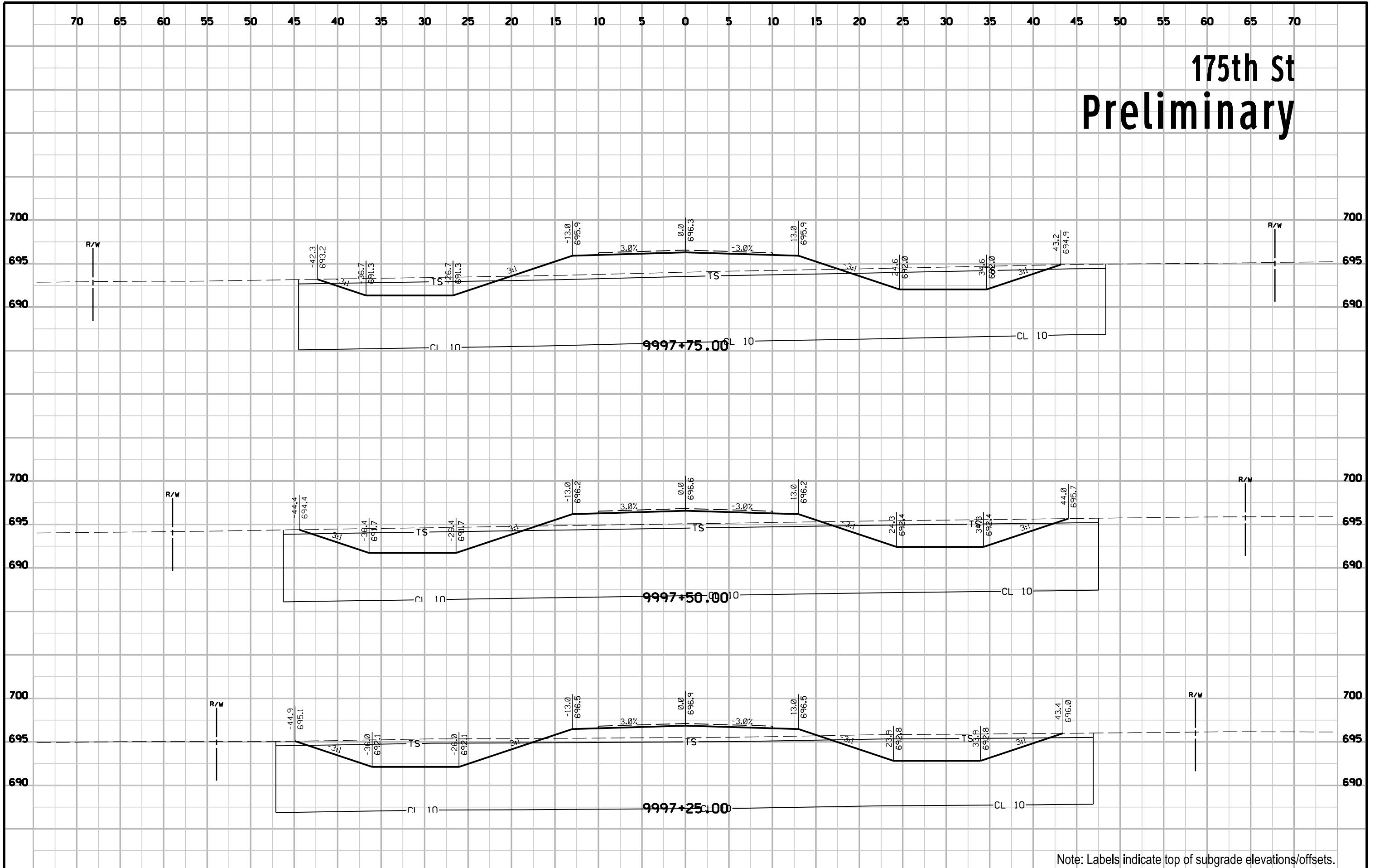
Note: Labels indicate top of subgrade elevations/offsets.

175th St Preliminary



Note: Labels indicate top of subgrade elevations/offsets.

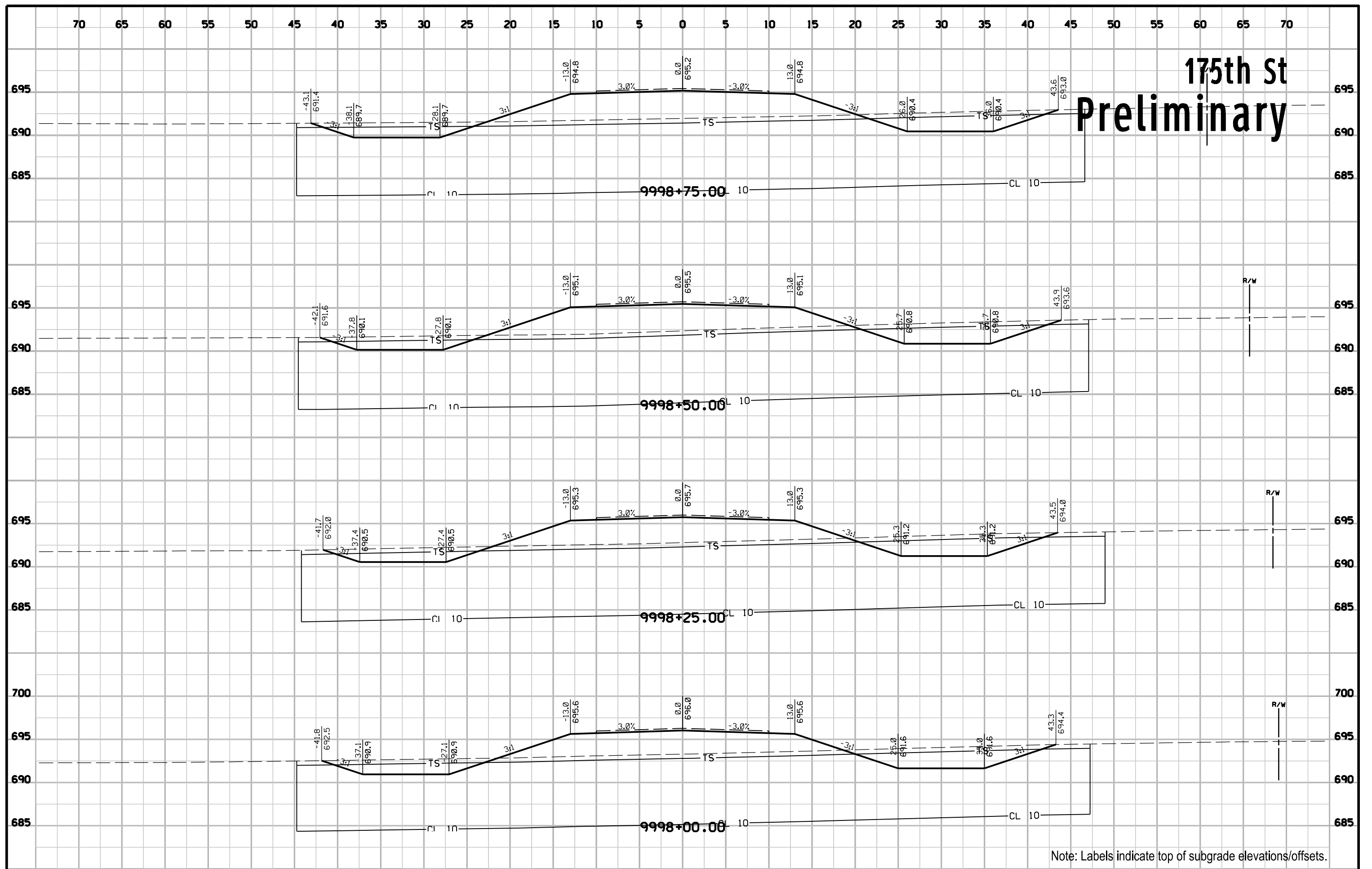
175th St Preliminary



Note: Labels indicate top of subgrade elevations/offsets.

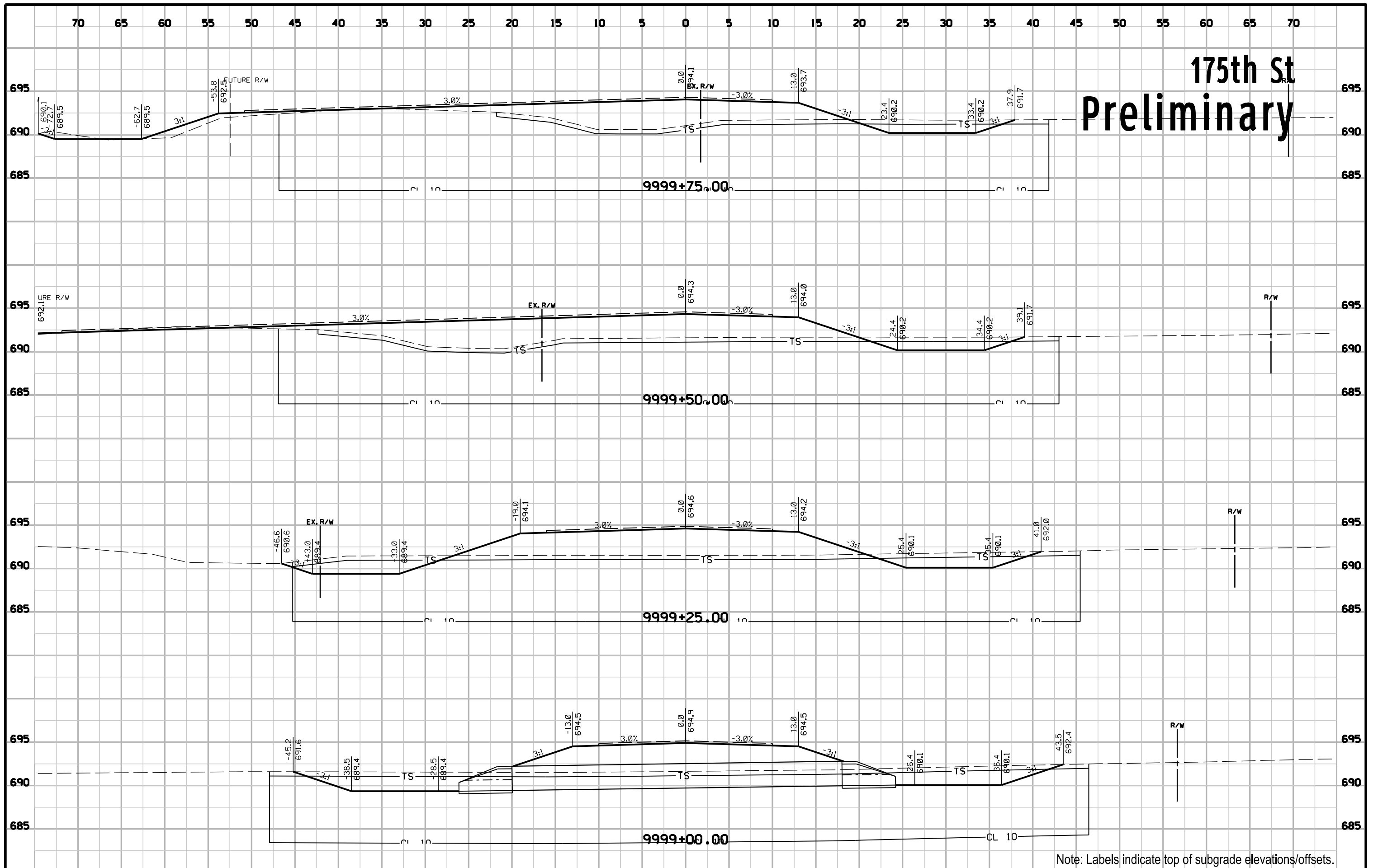
175th St

Preliminary



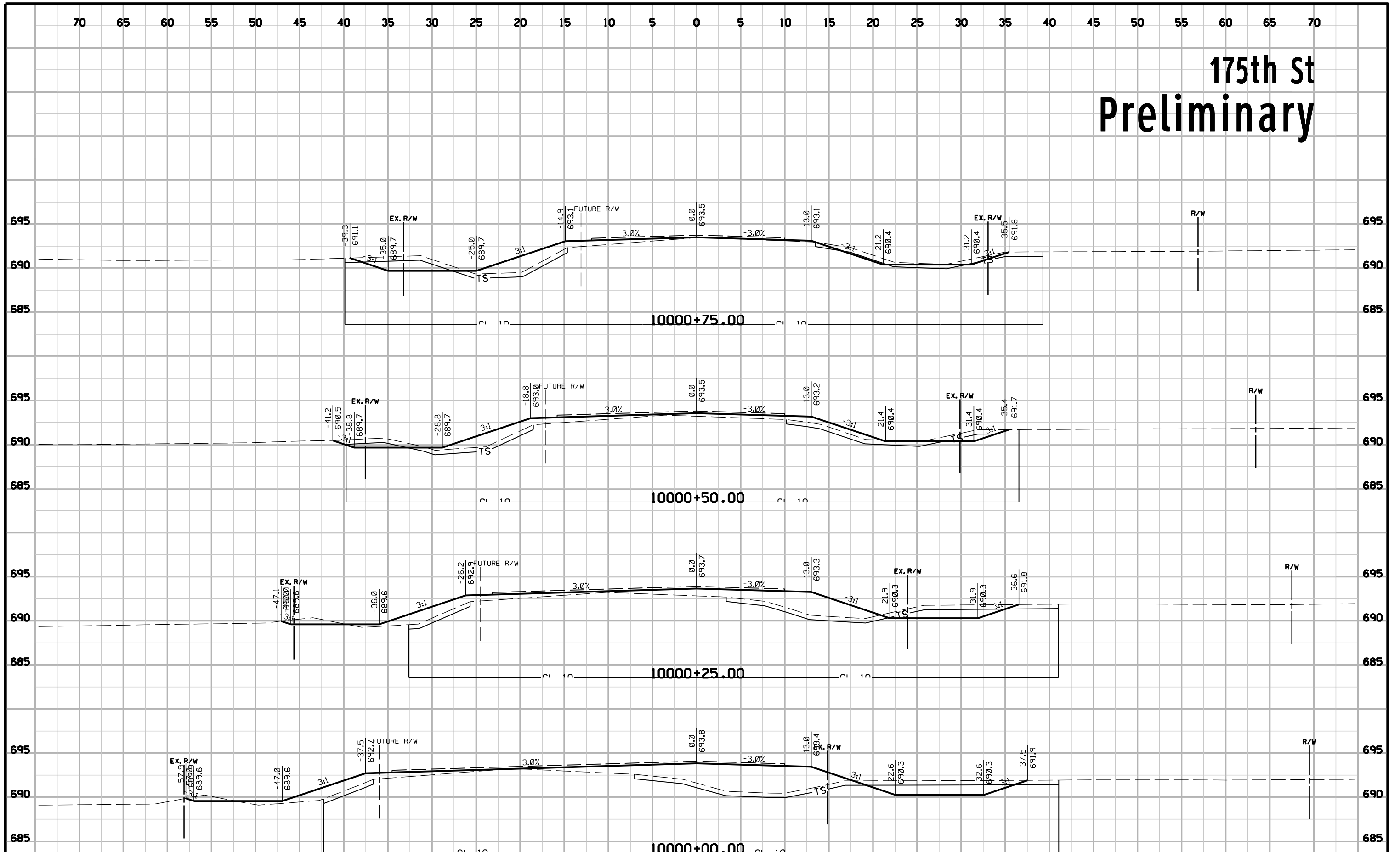
Note: Labels indicate top of subgrade elevations/offsets.

175th St Preliminary



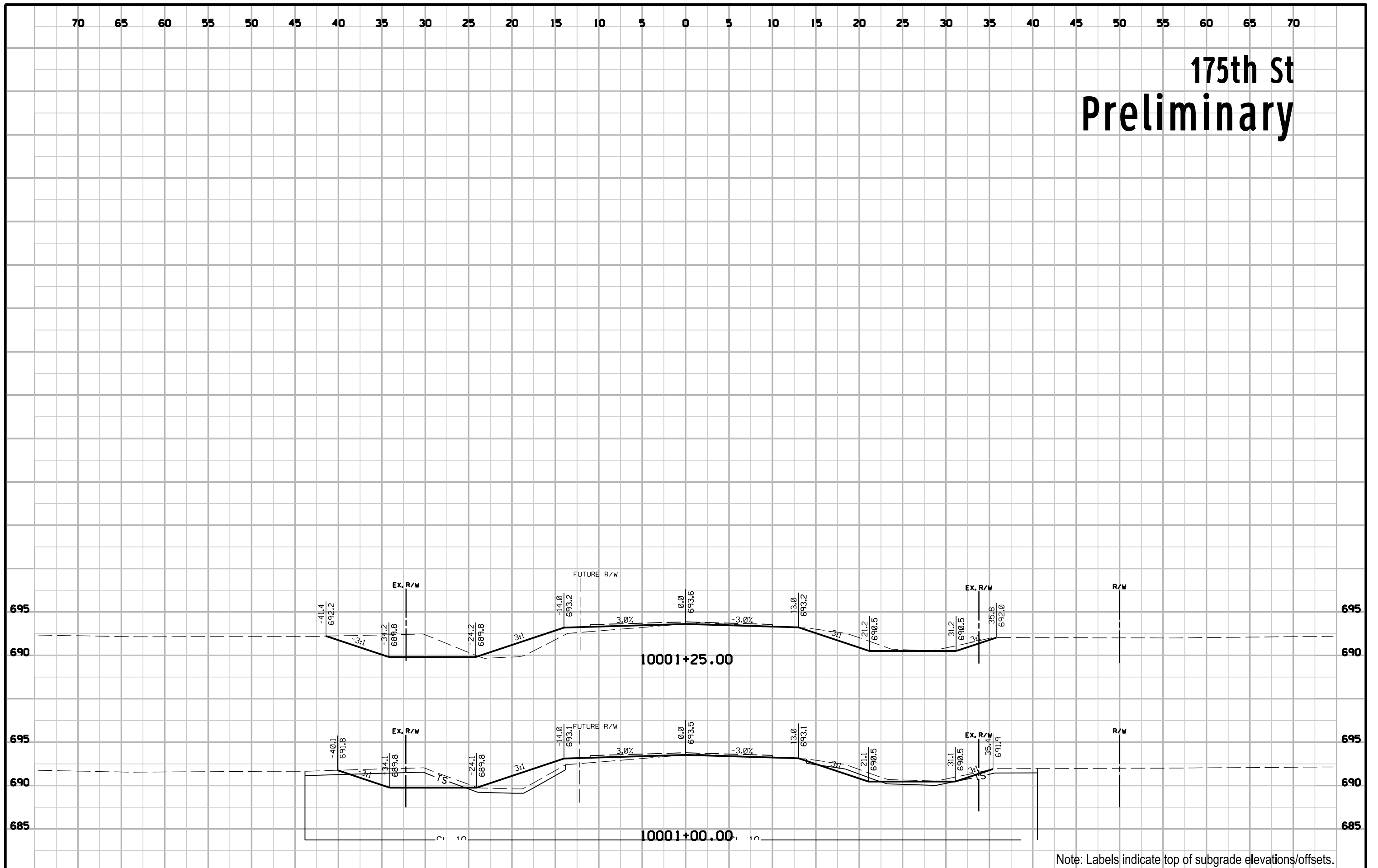
Note: Labels indicate top of subgrade elevations/offsets.

175th St Preliminary



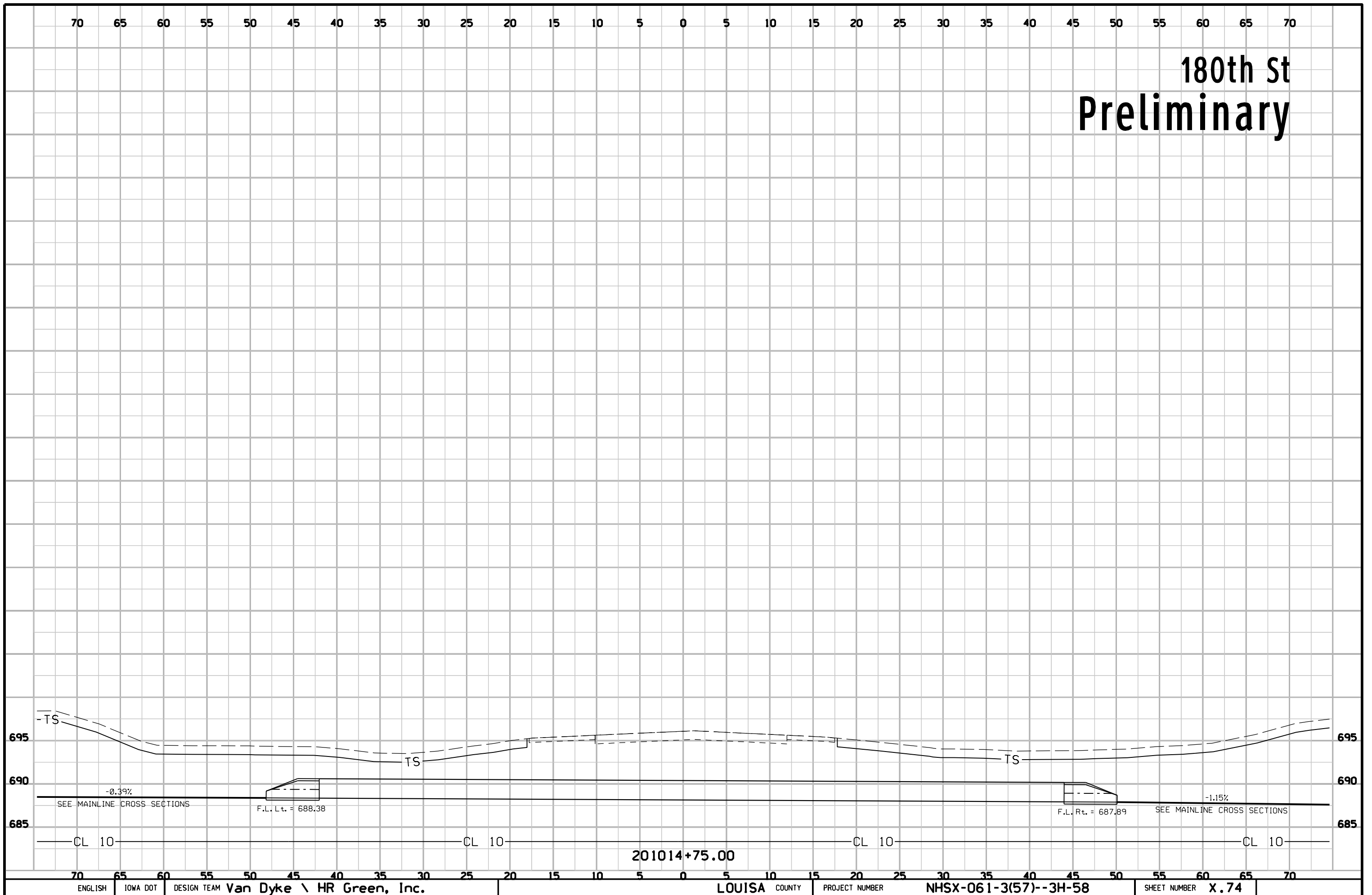
Note: Labels indicate top of subgrade elevations/offsets.

175th St Preliminary

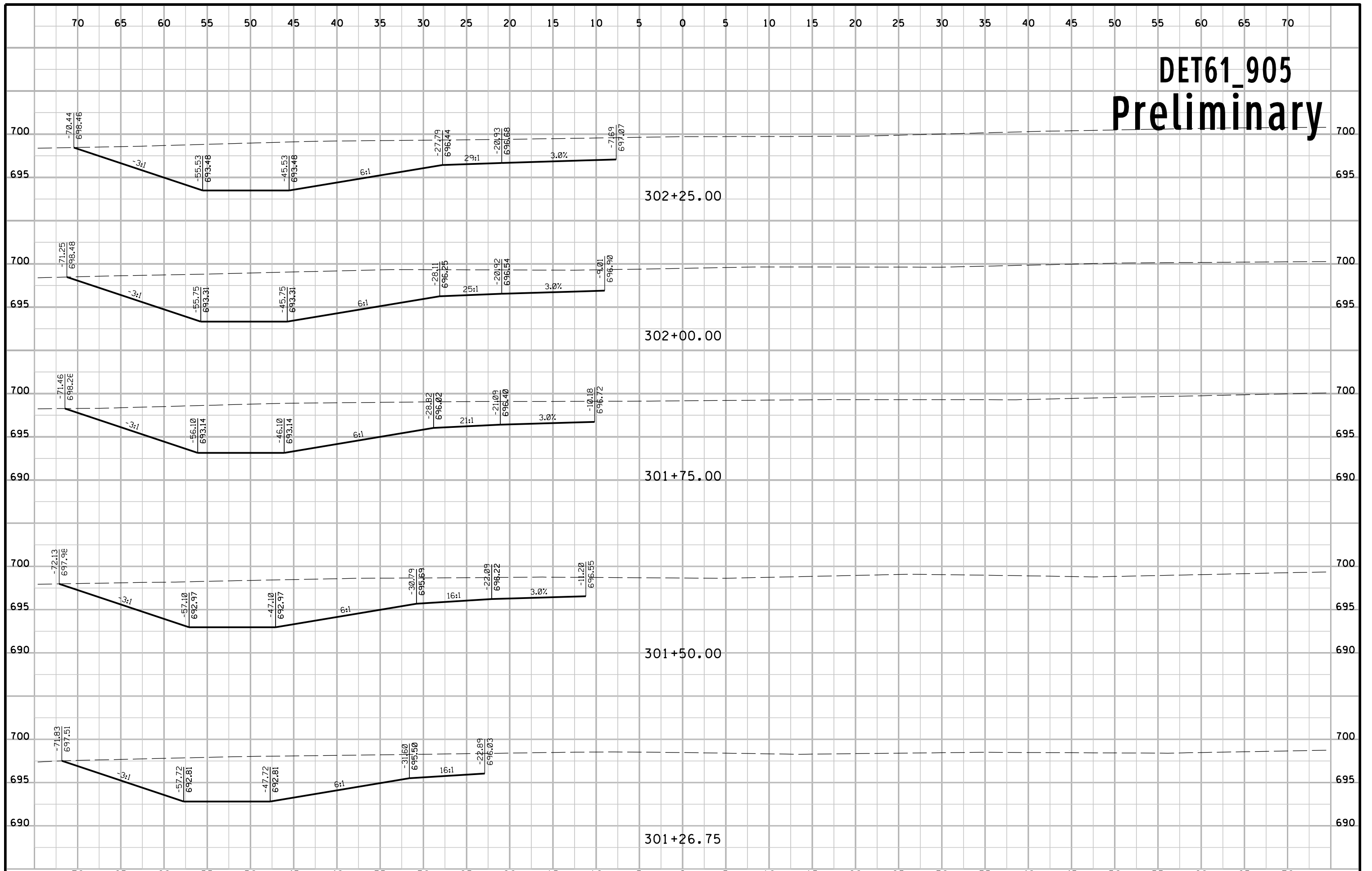


Note: Labels indicate top of subgrade elevations/offsets.

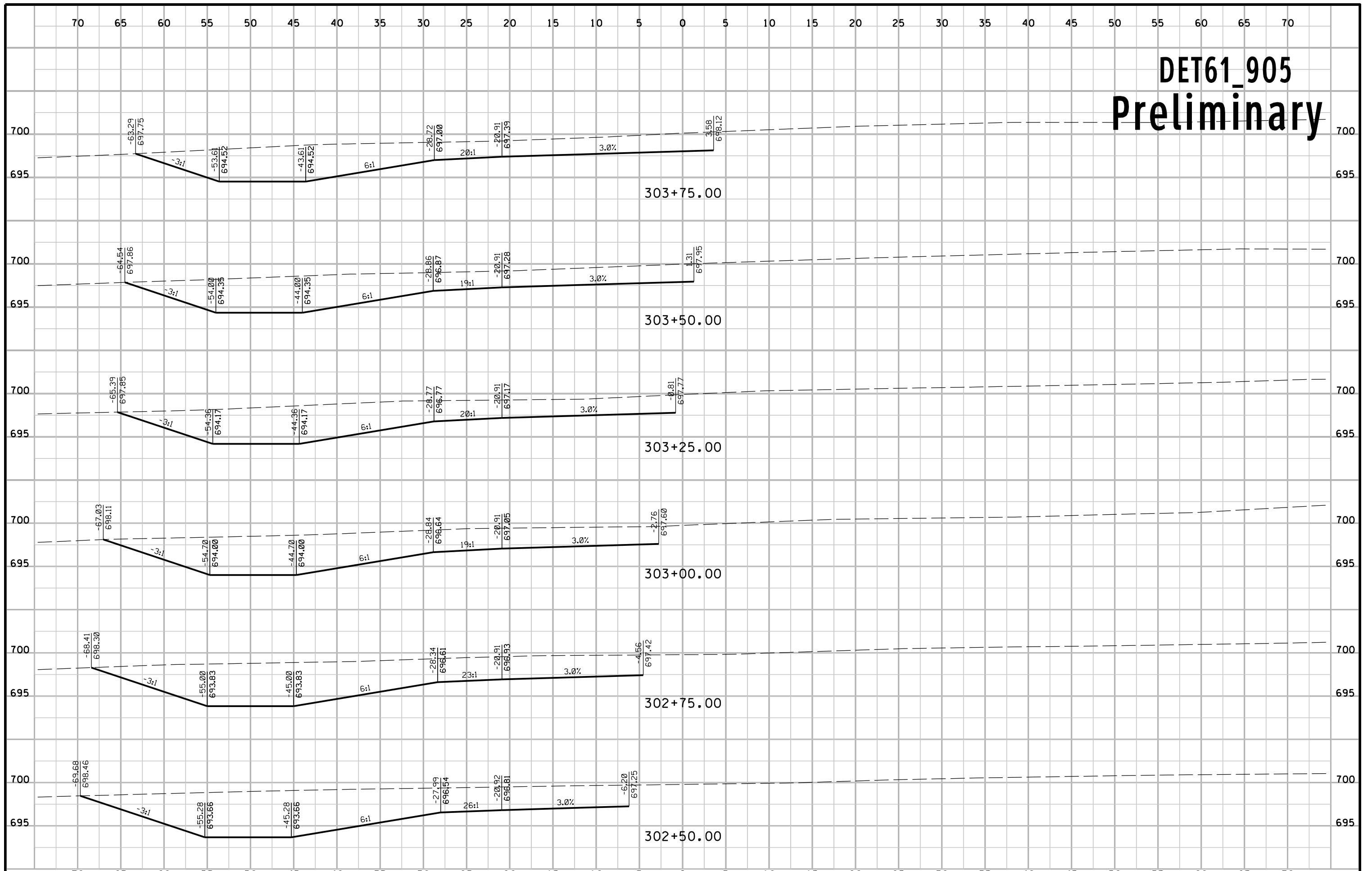
180th St Preliminary



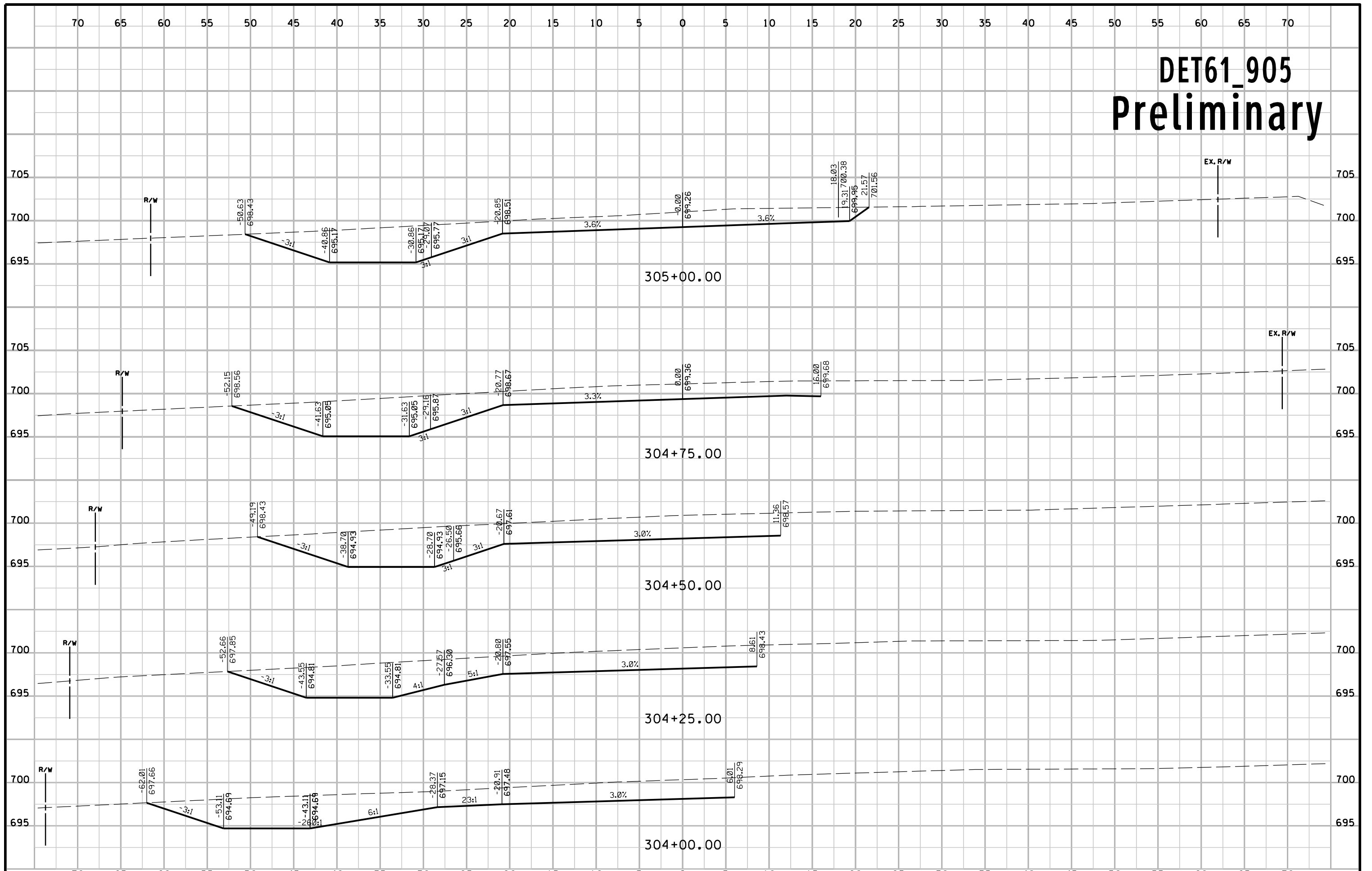
DET61_905 Preliminary



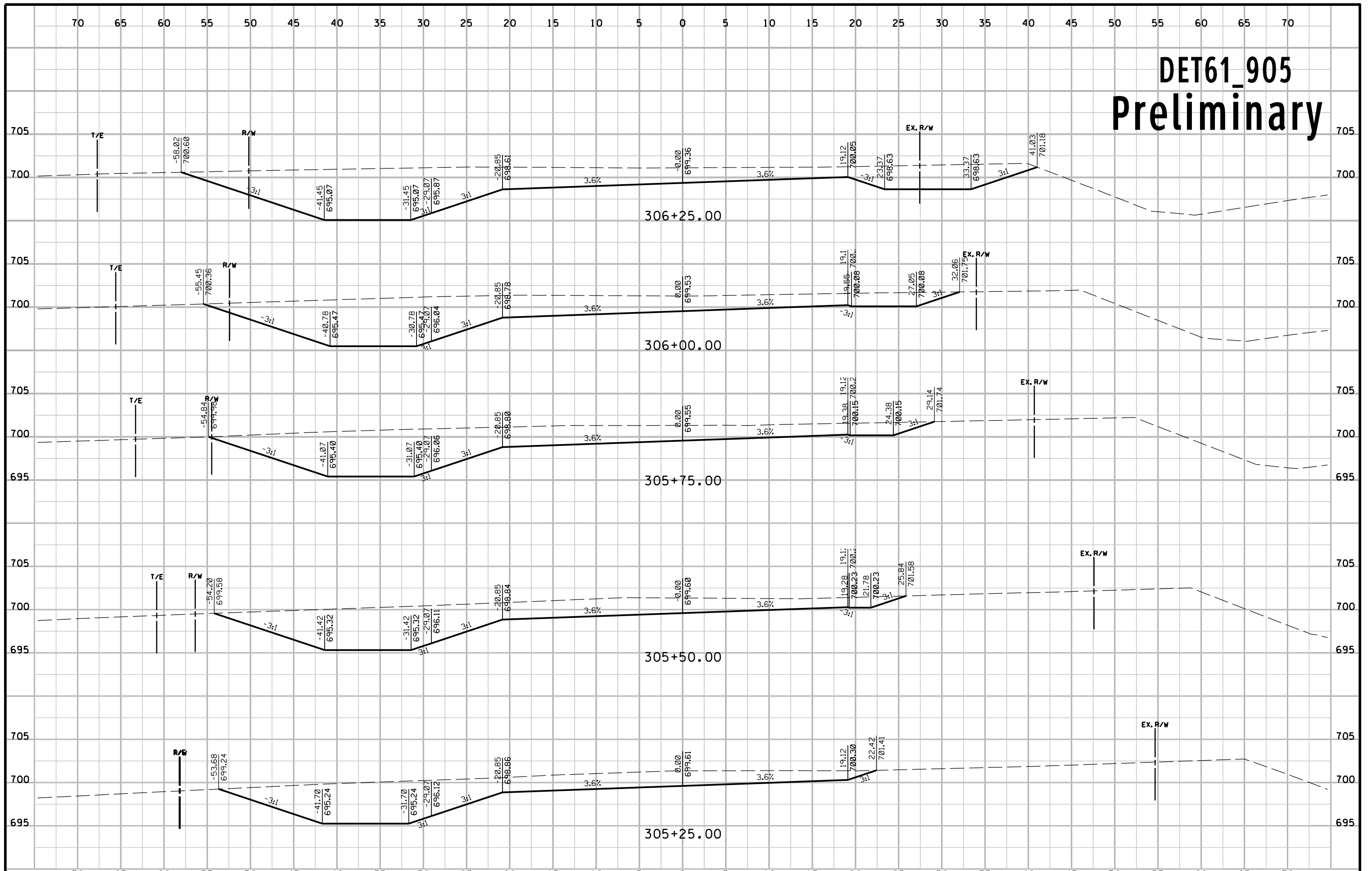
DET61_905 Preliminary



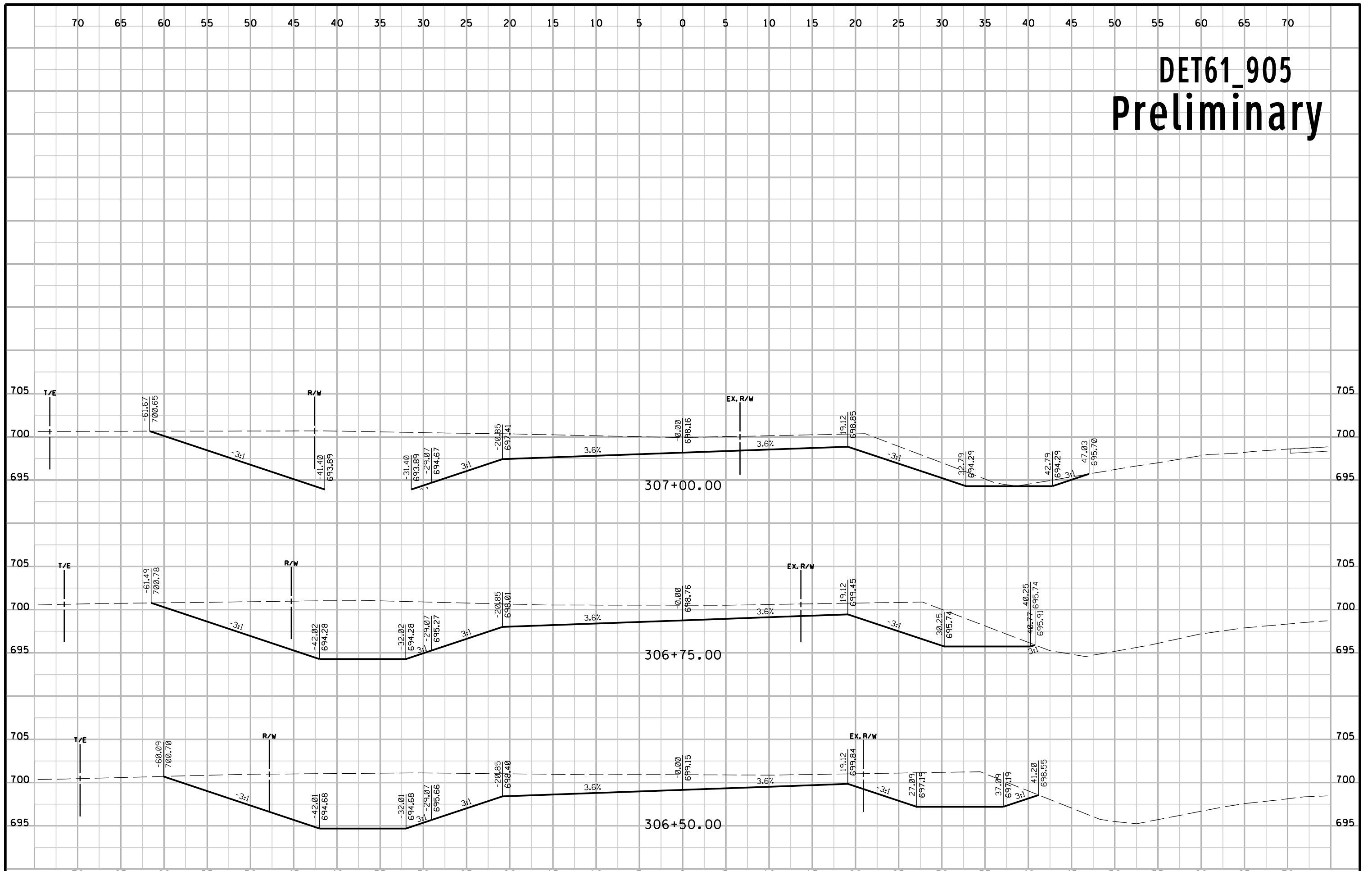
DET61_905 Preliminary



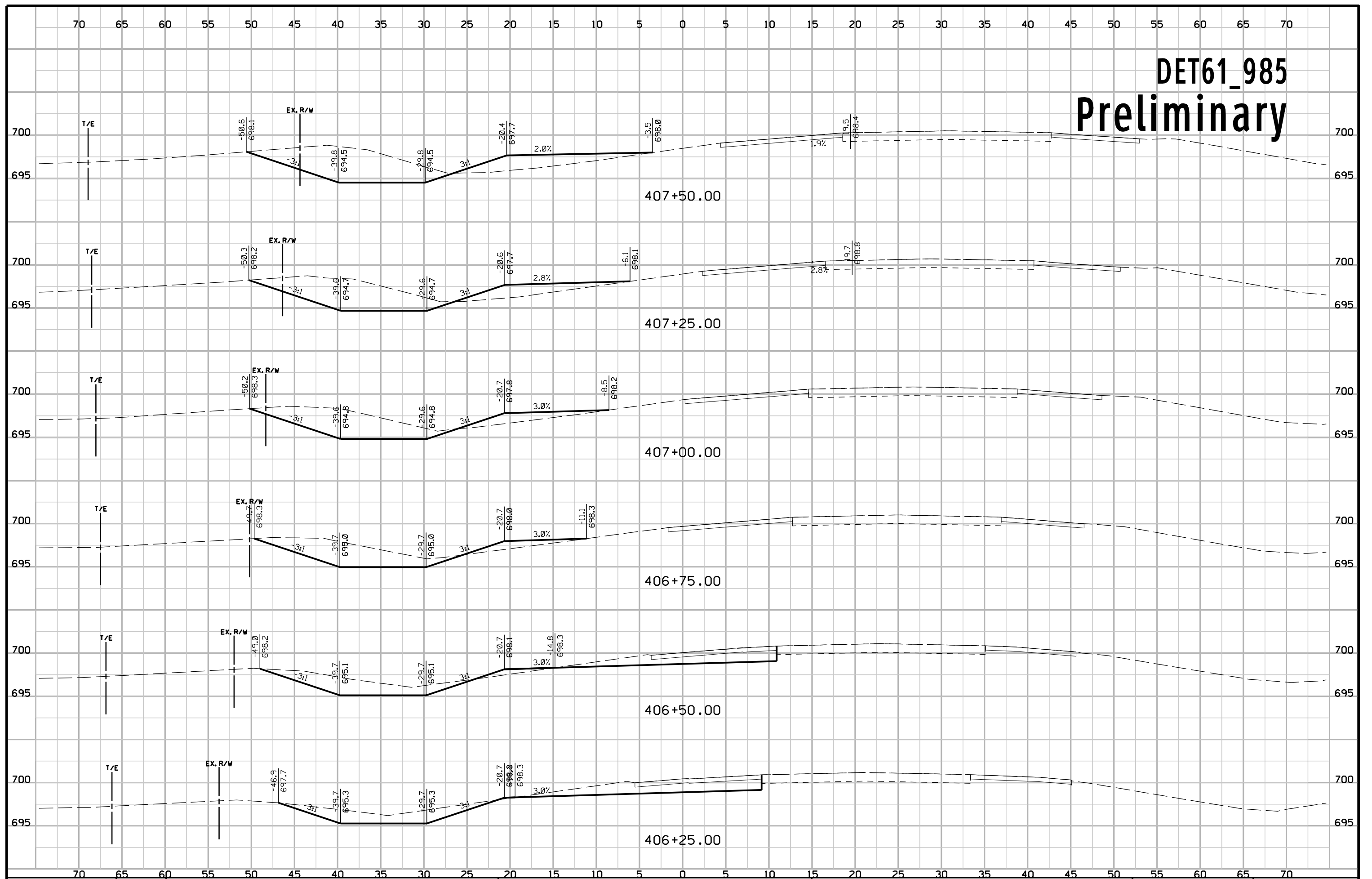
DET61_905 Preliminary



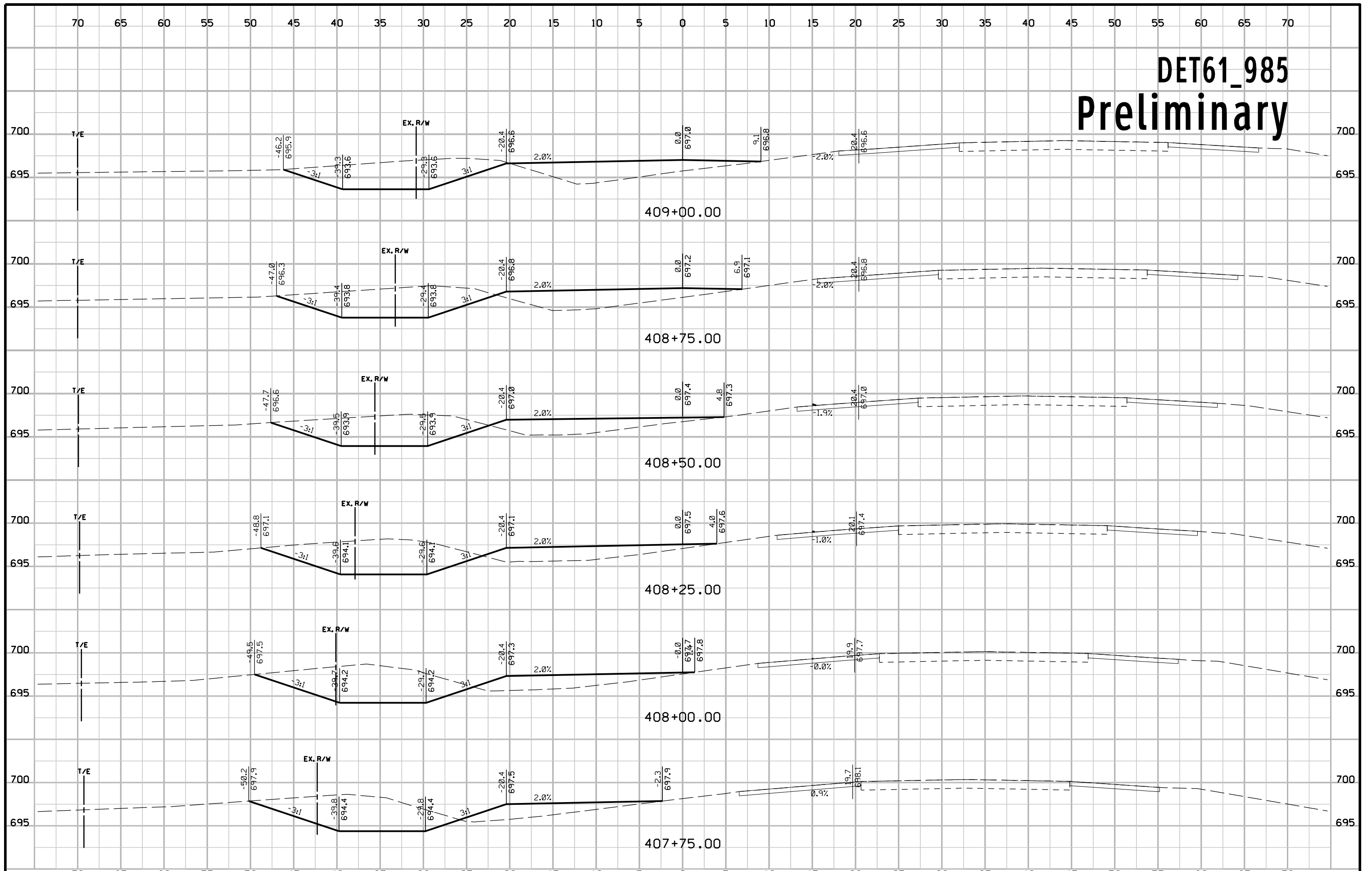
DET61_905 Preliminary



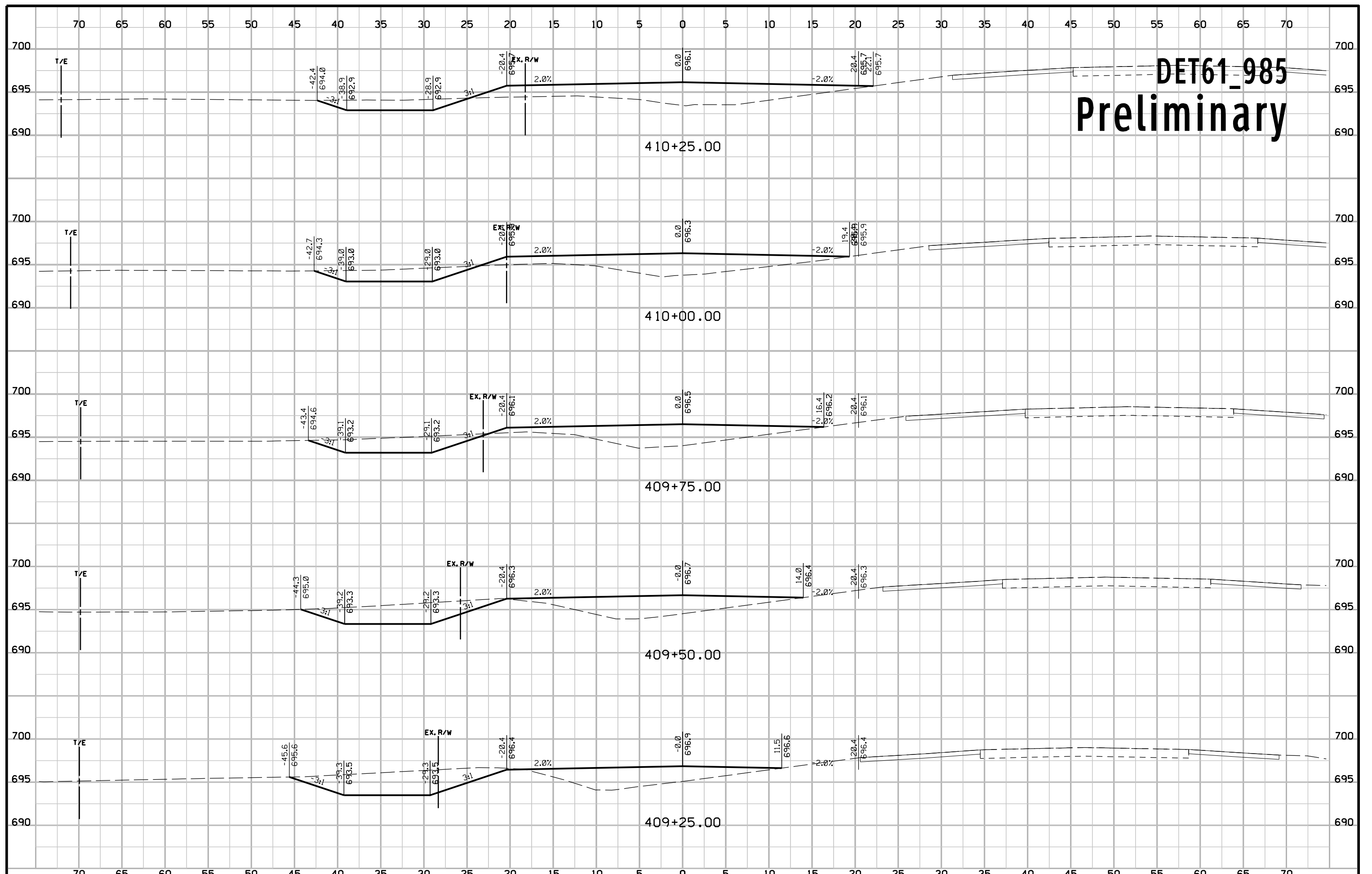
DET61_985 Preliminary



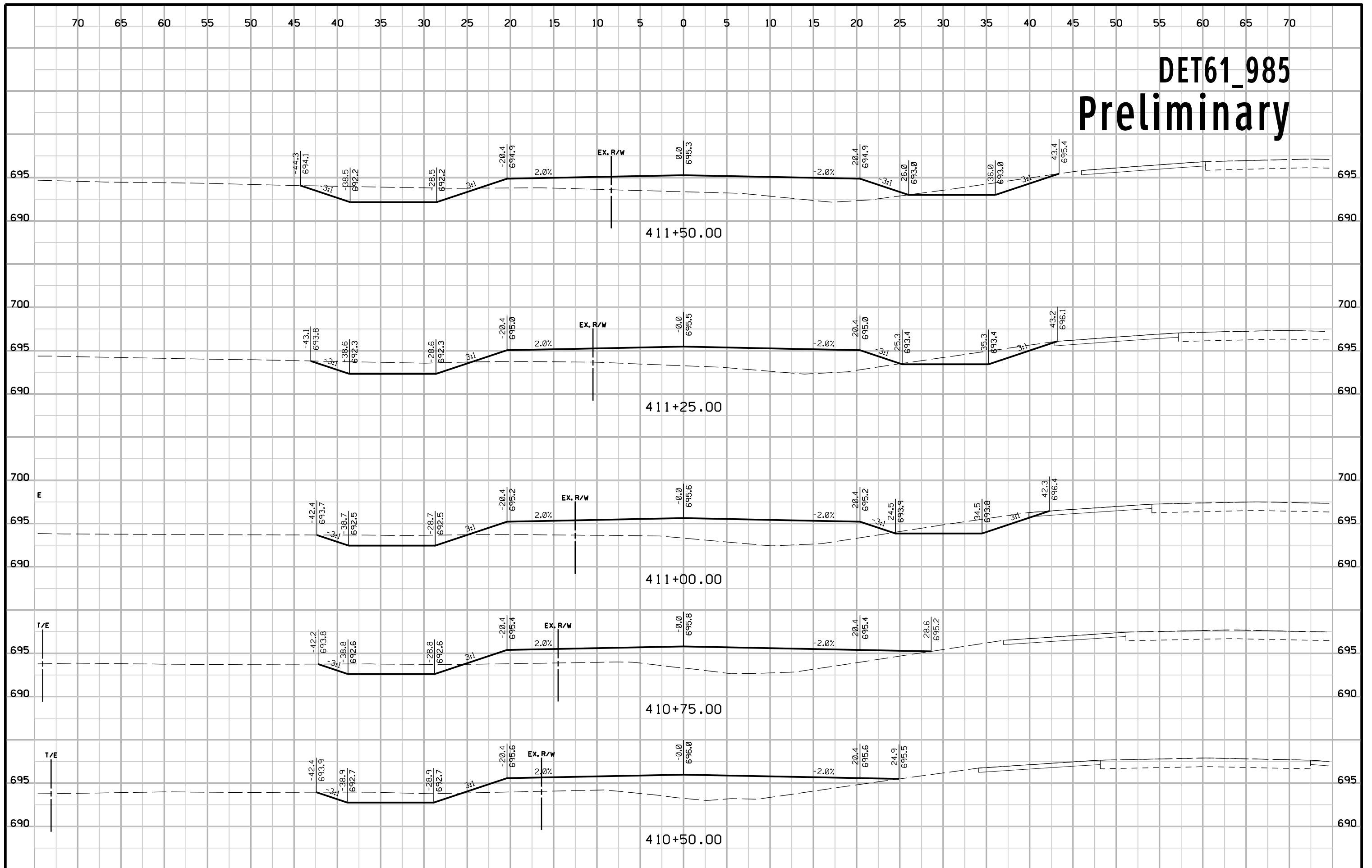
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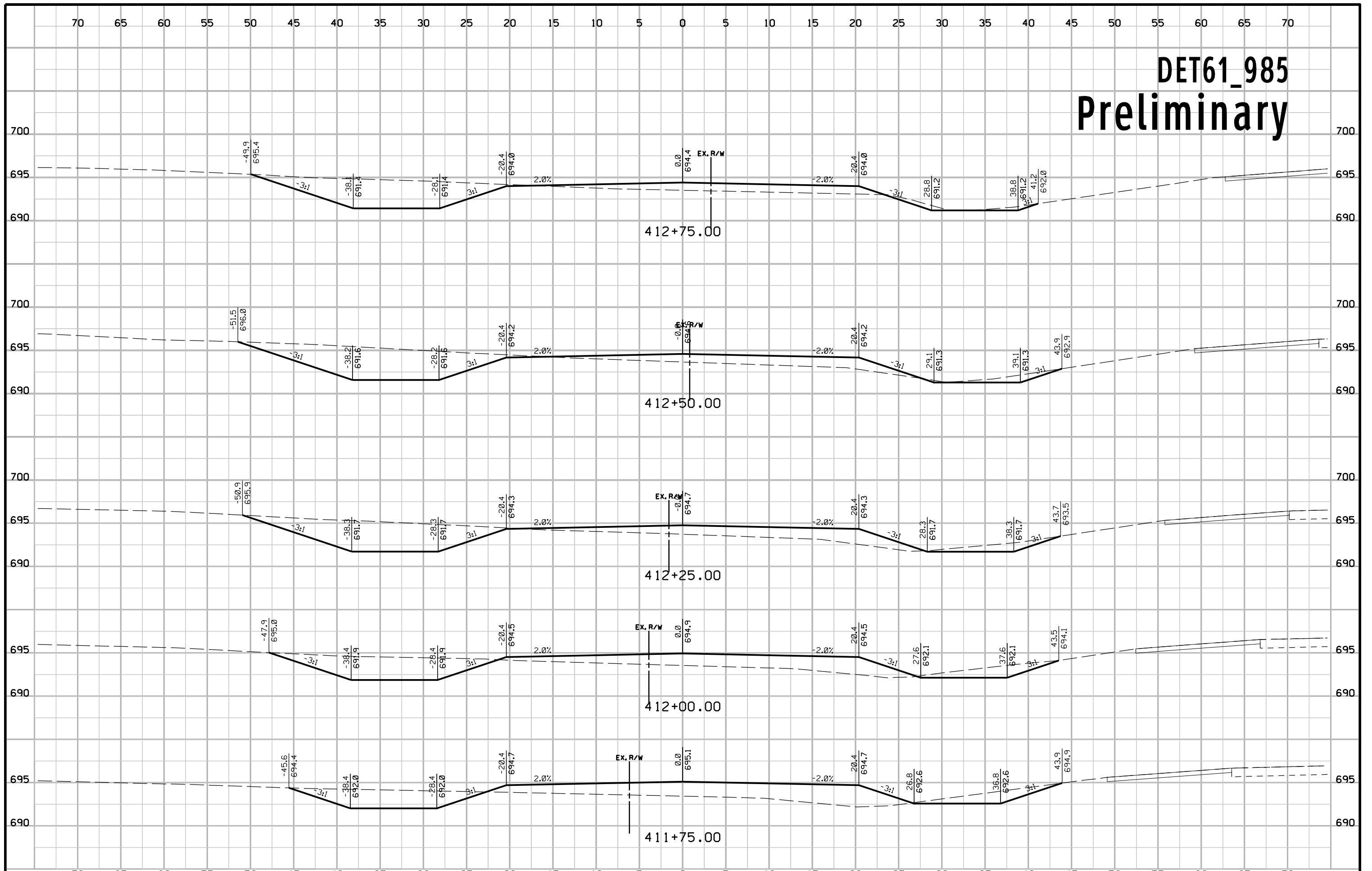
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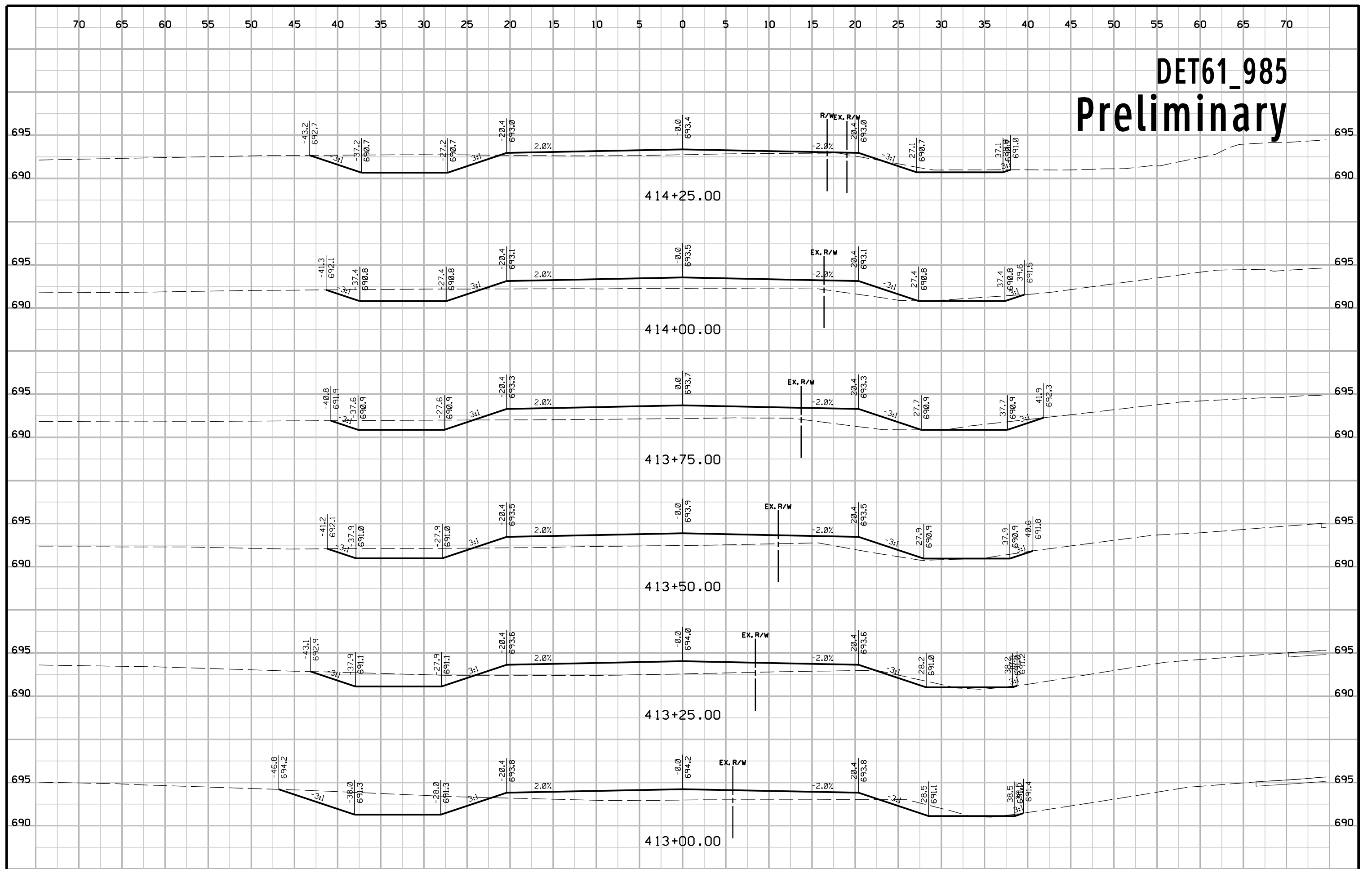
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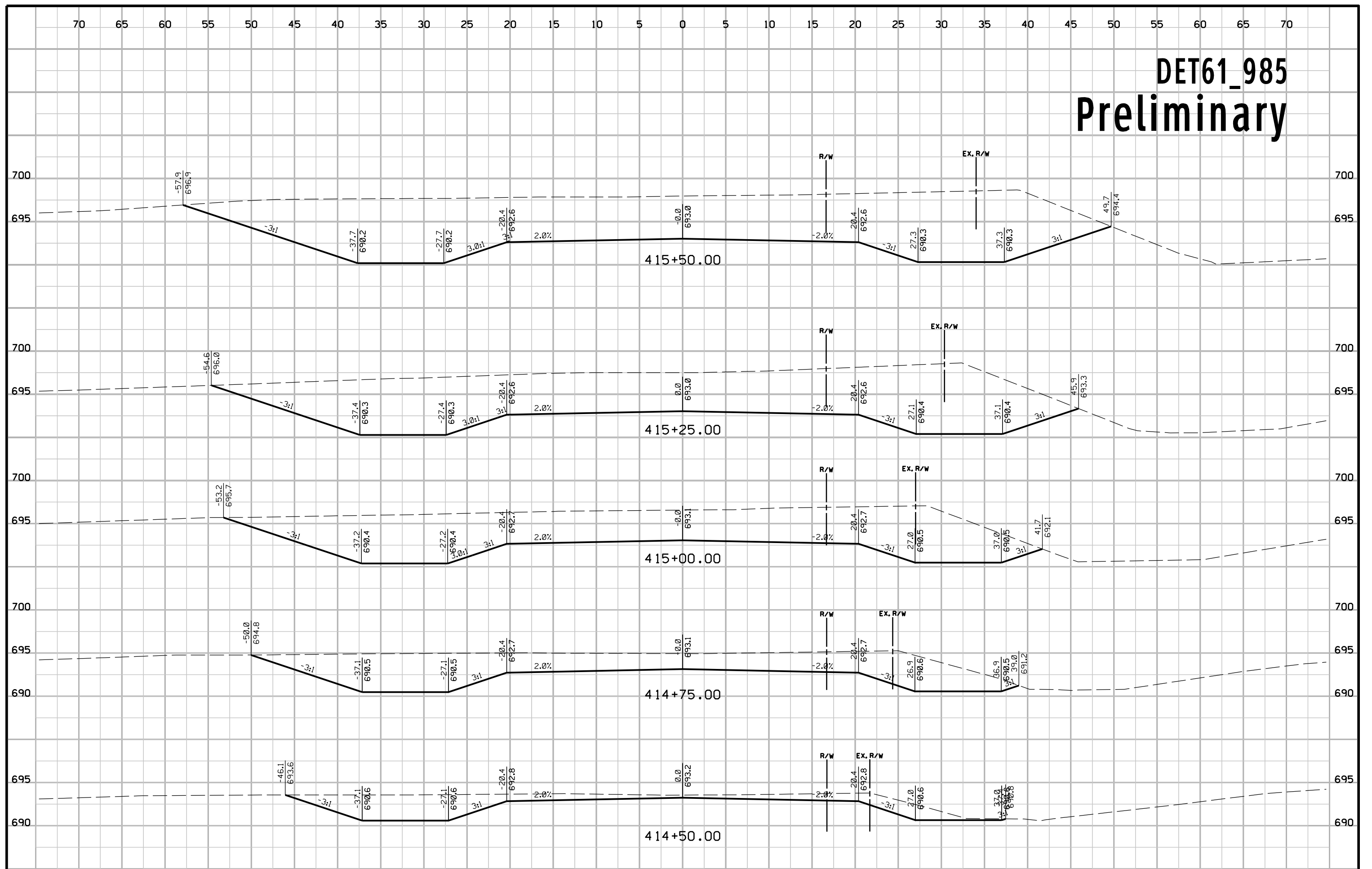
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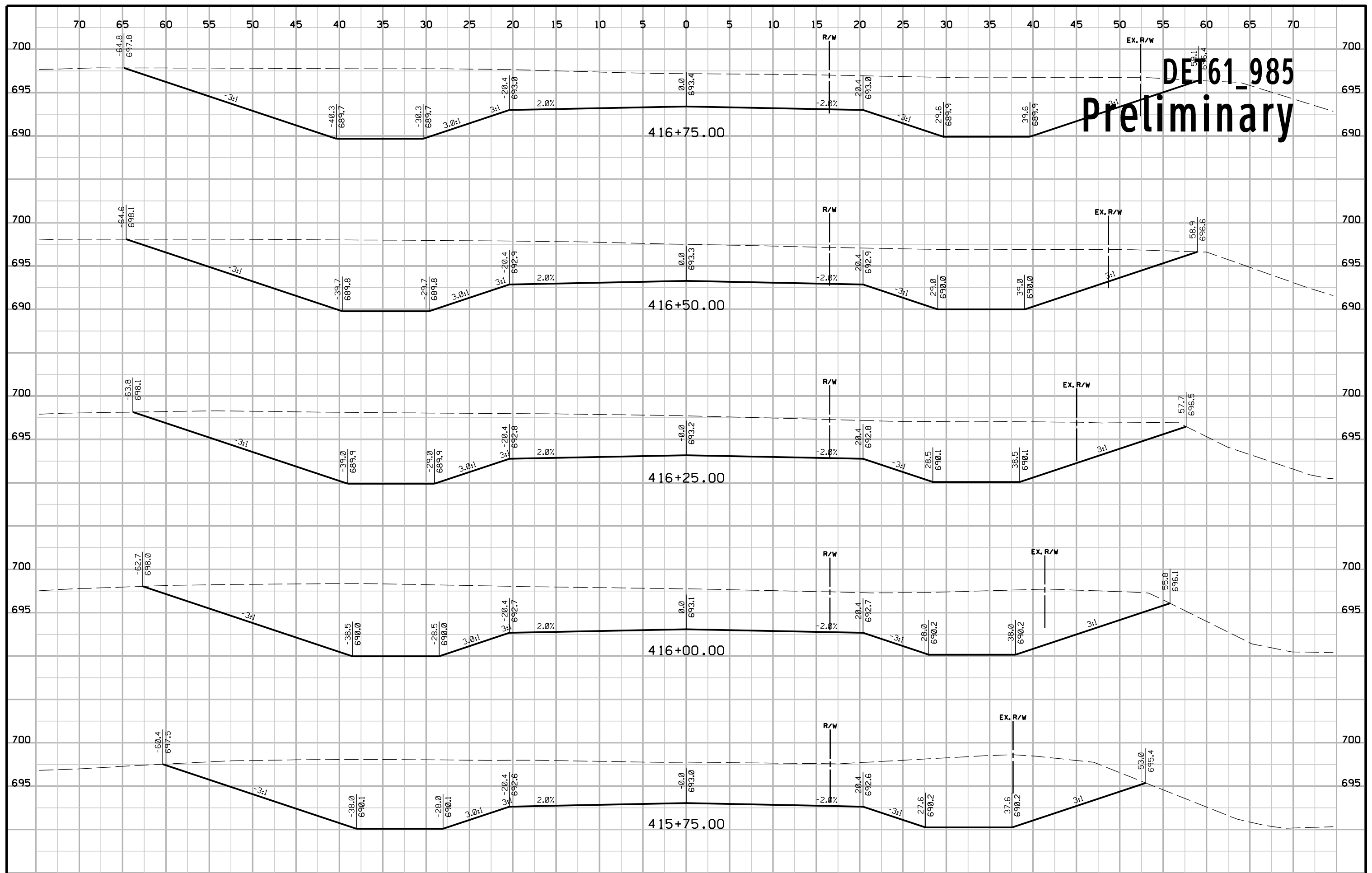
DET61_985 Preliminary



DET61_985 Preliminary

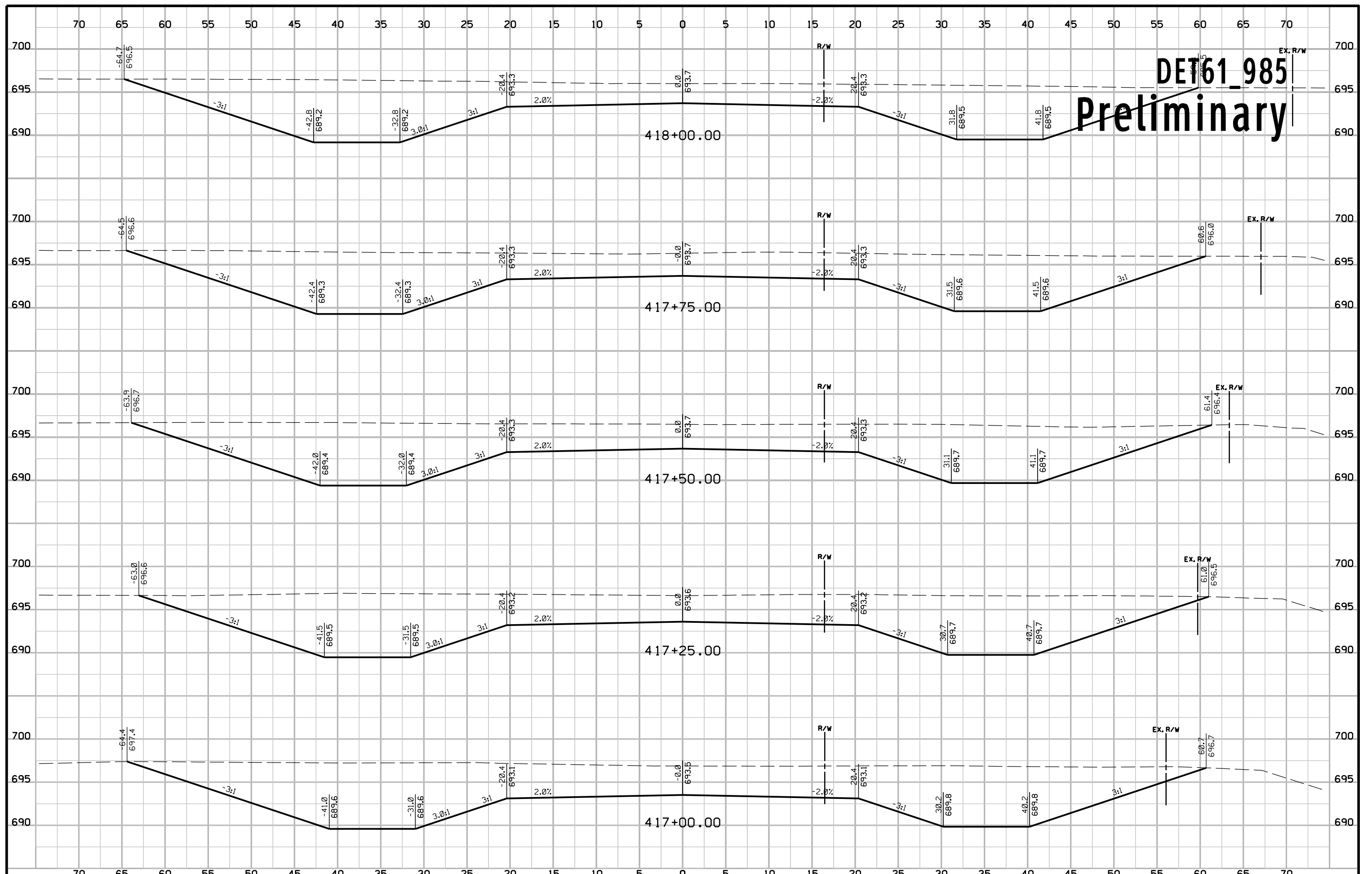


DET61_985
Preliminary



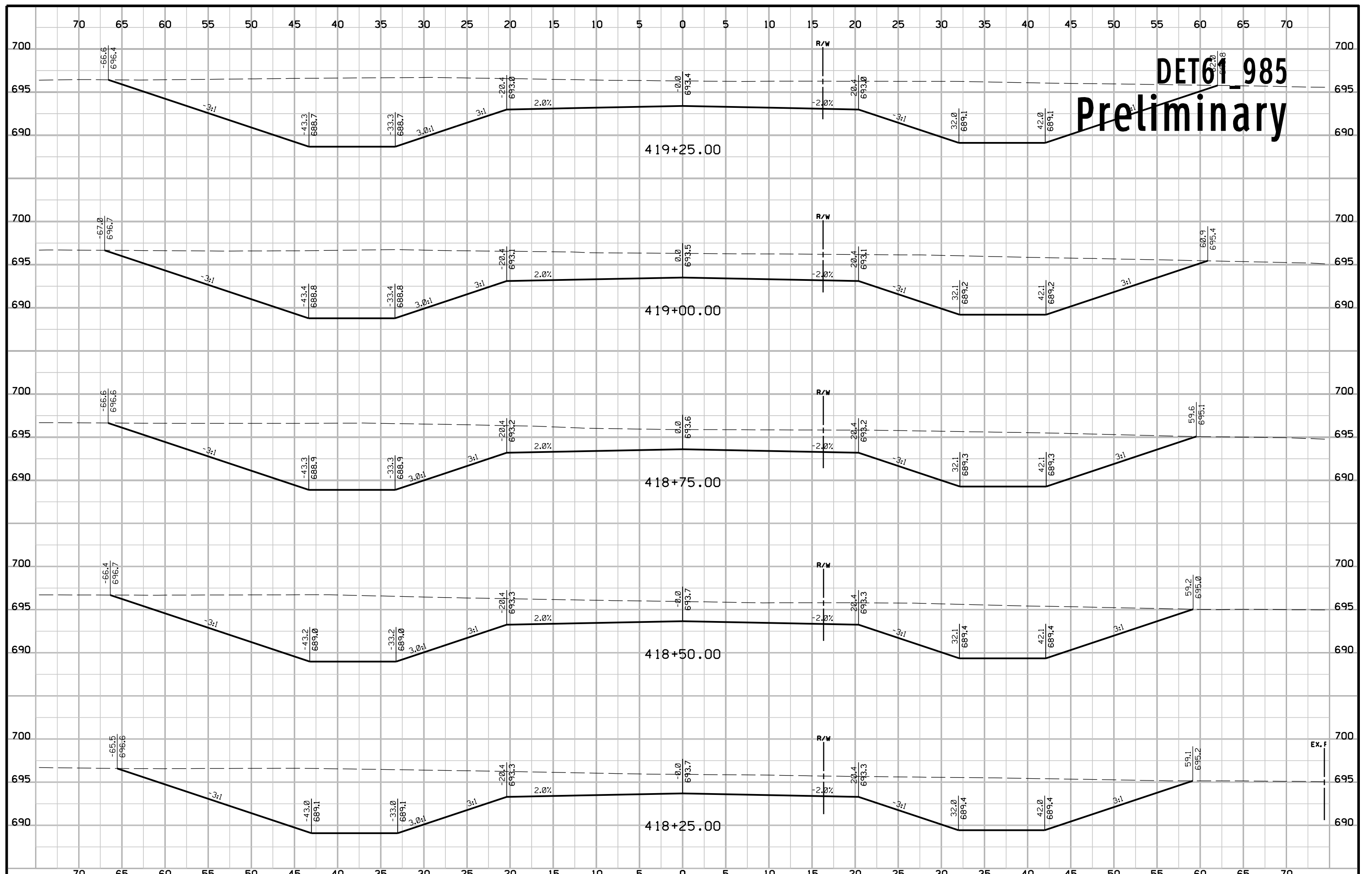
DET61_985

Preliminary



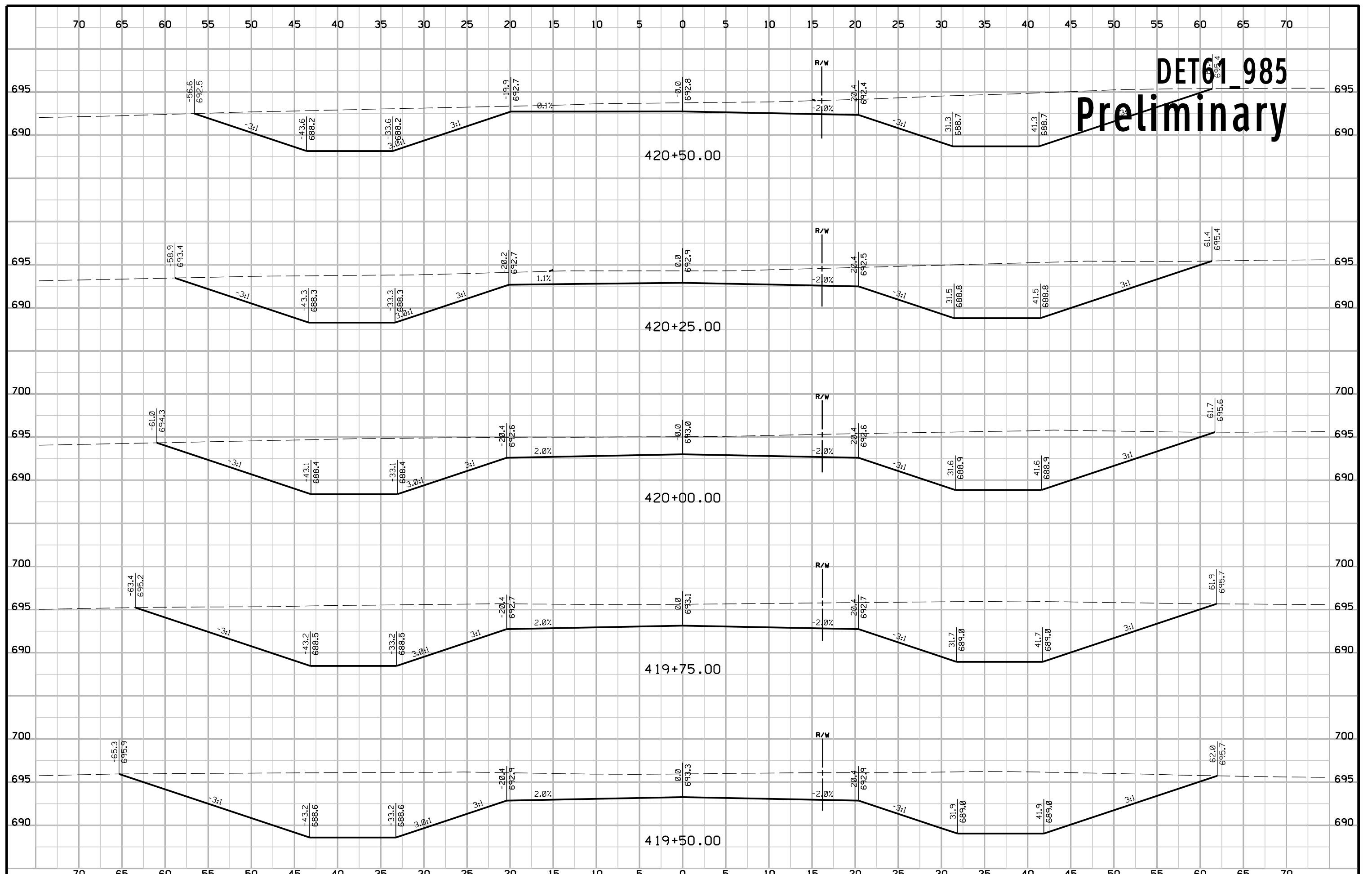
DET61_985

Preliminary

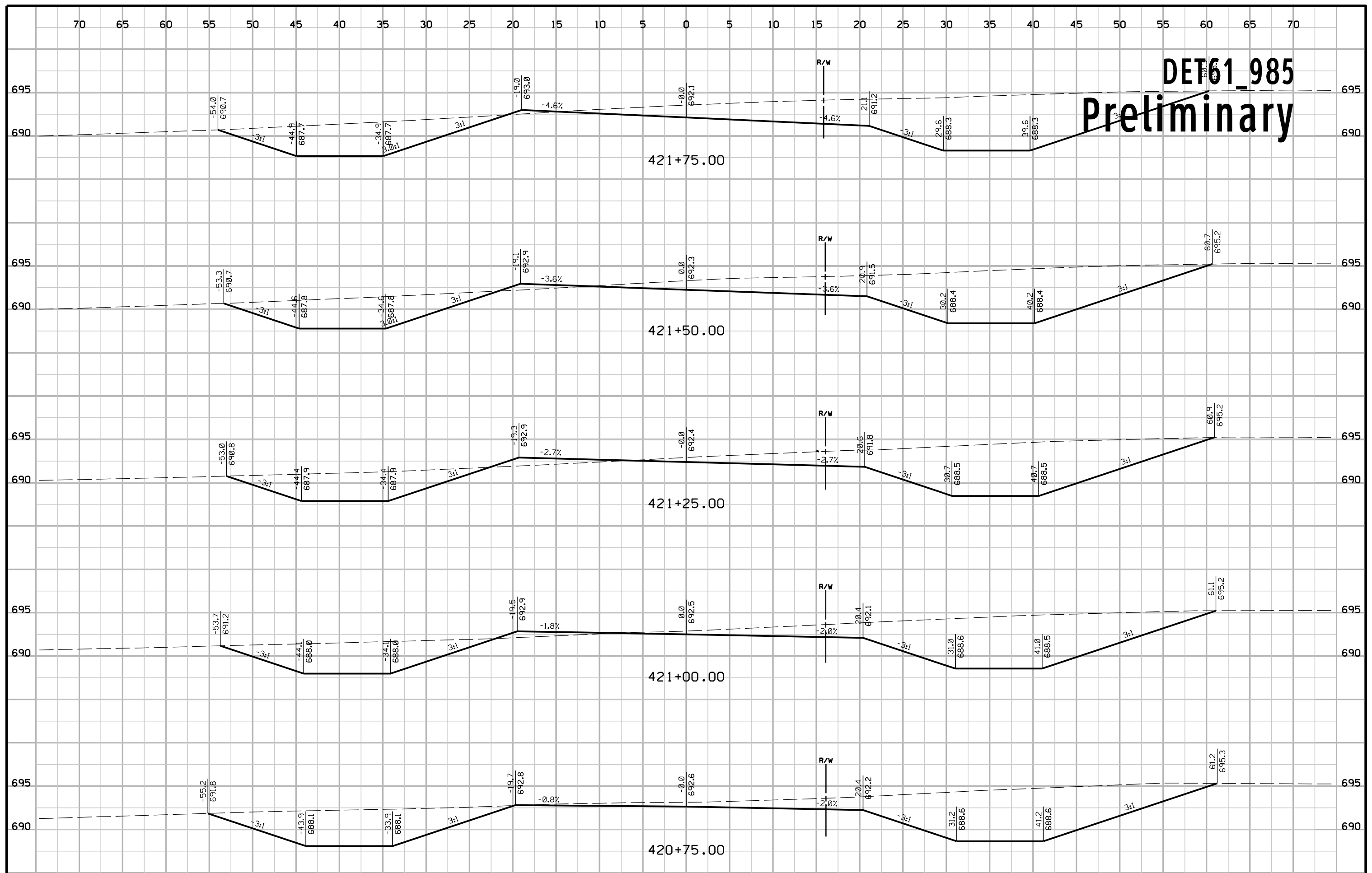


DET01_985

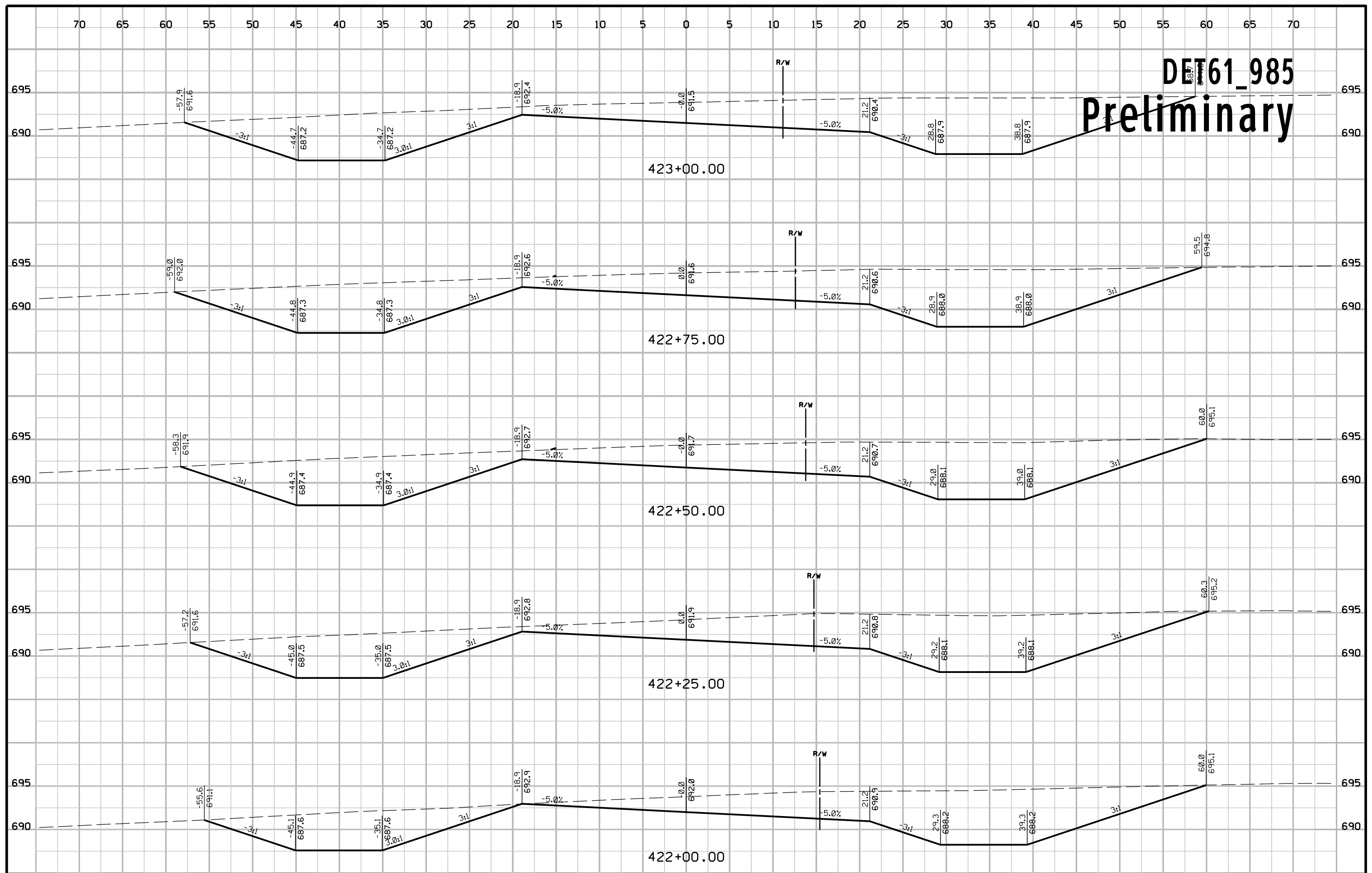
Preliminary



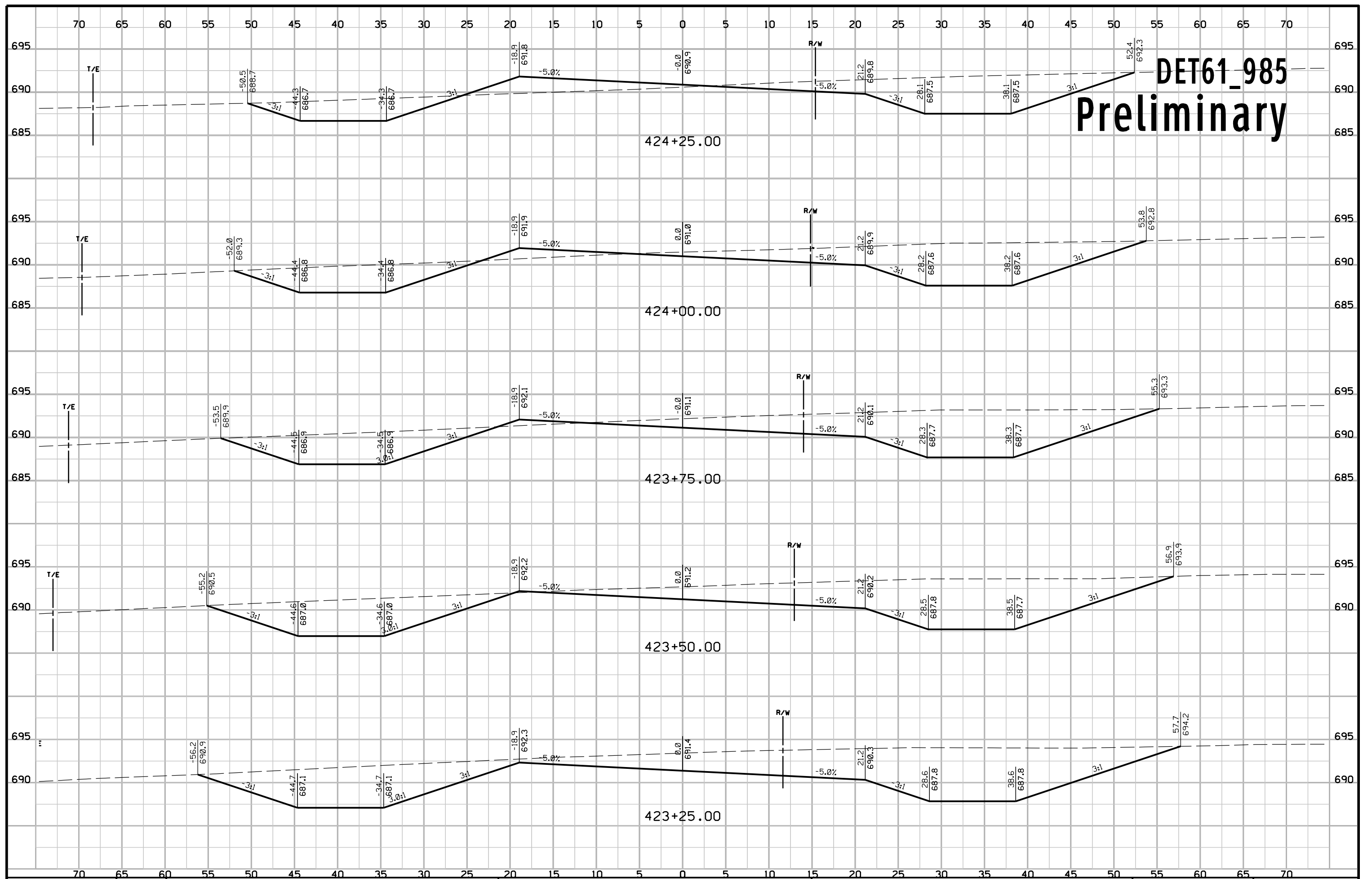
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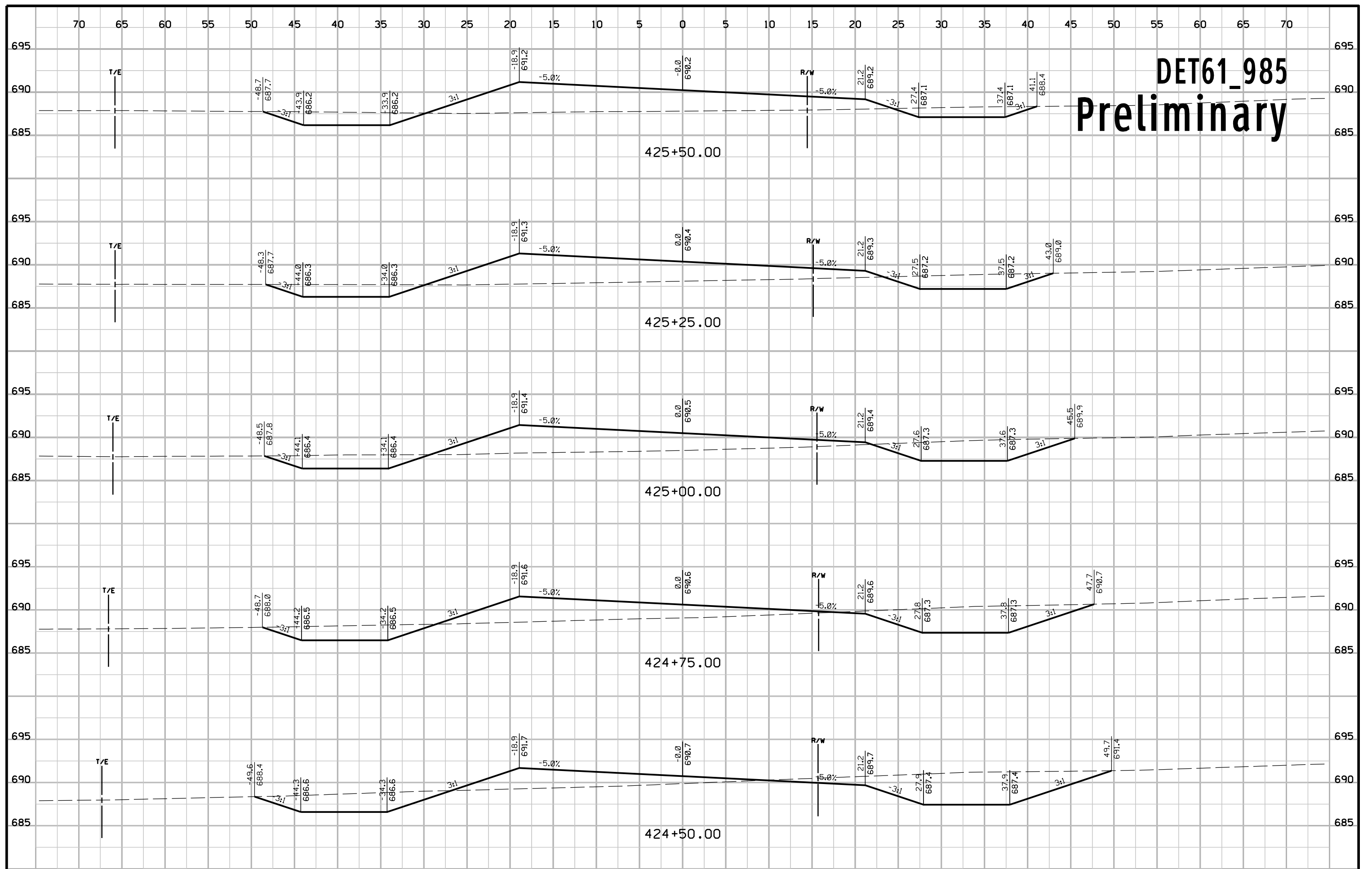
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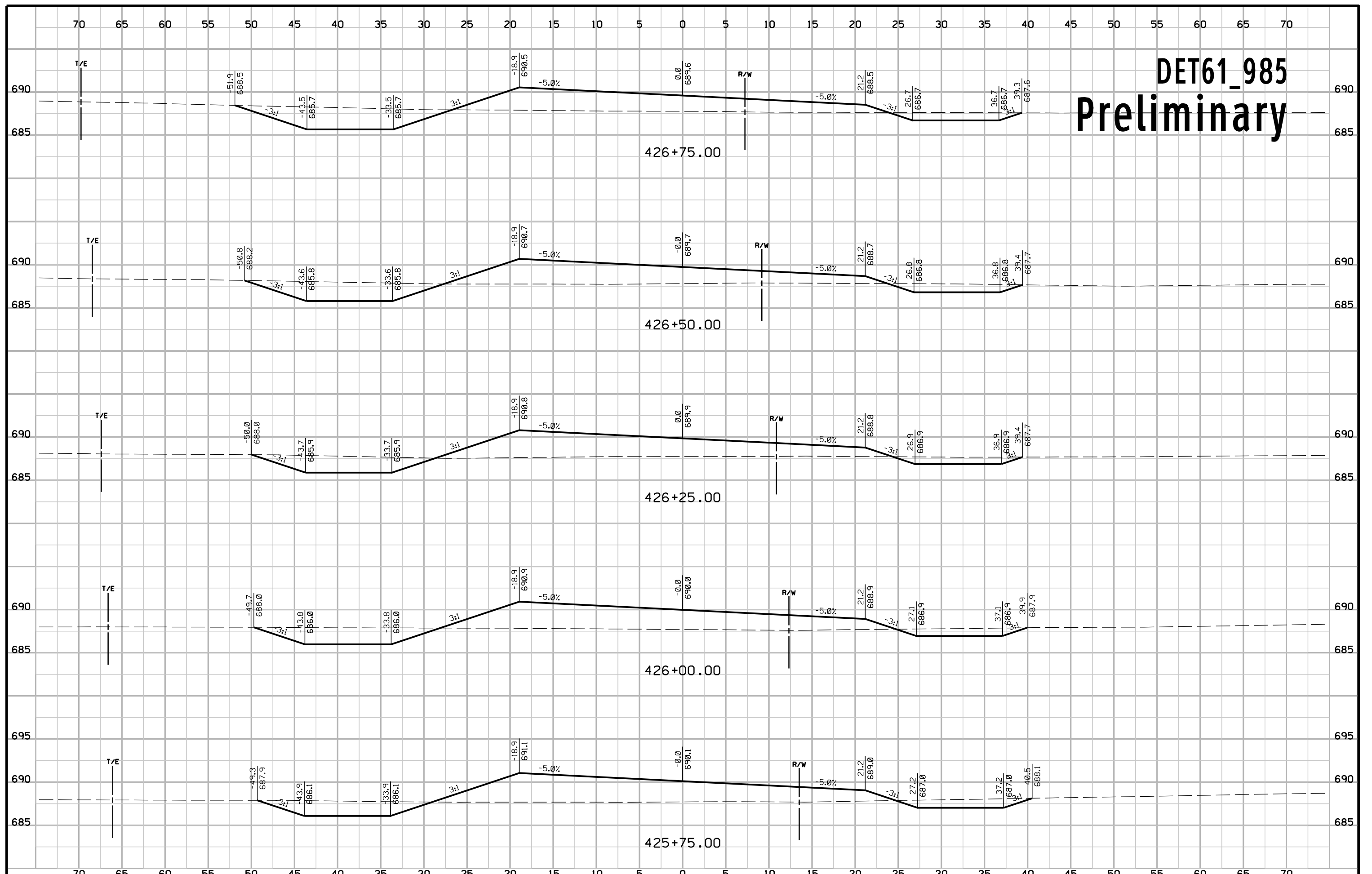
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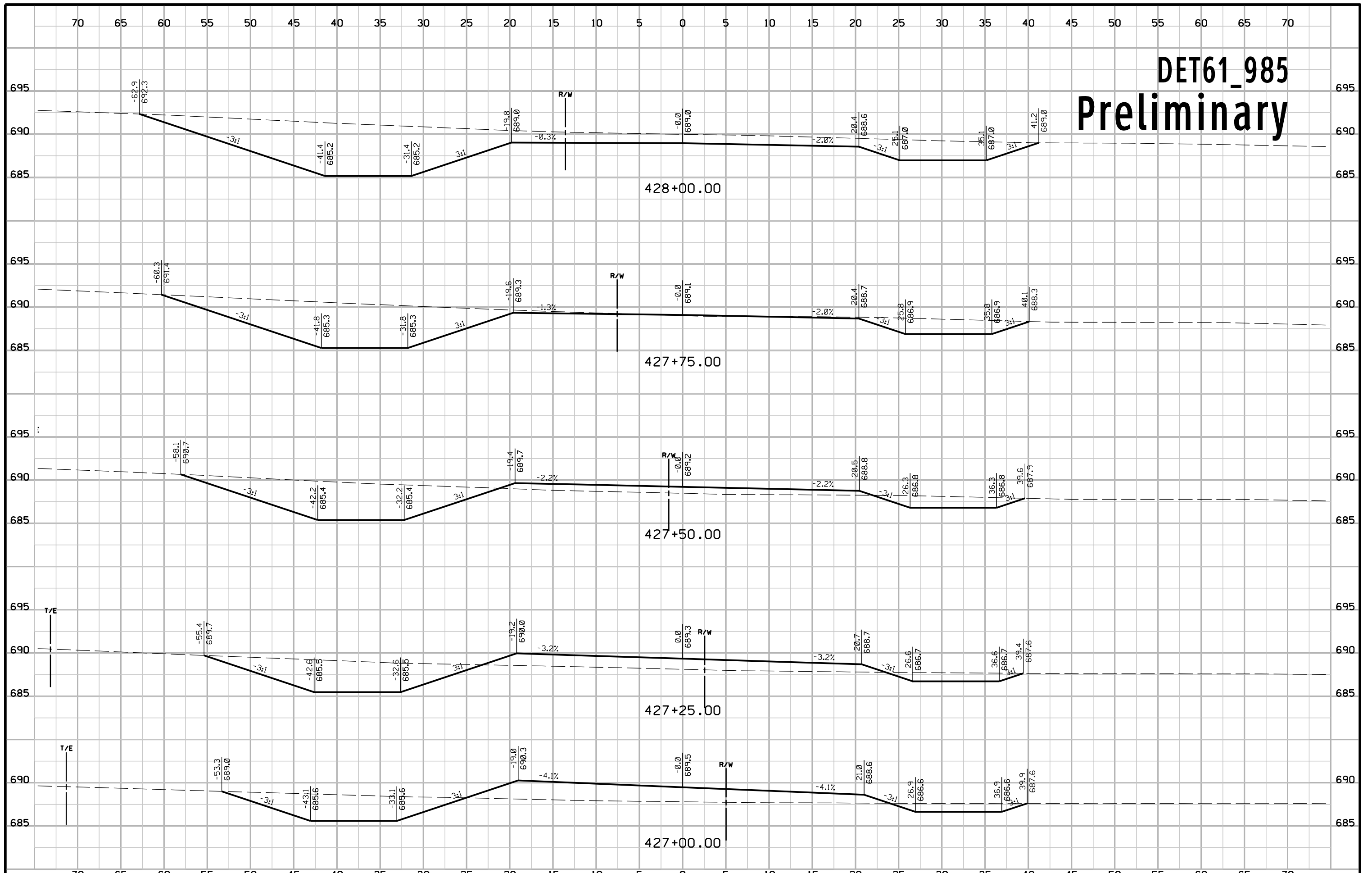
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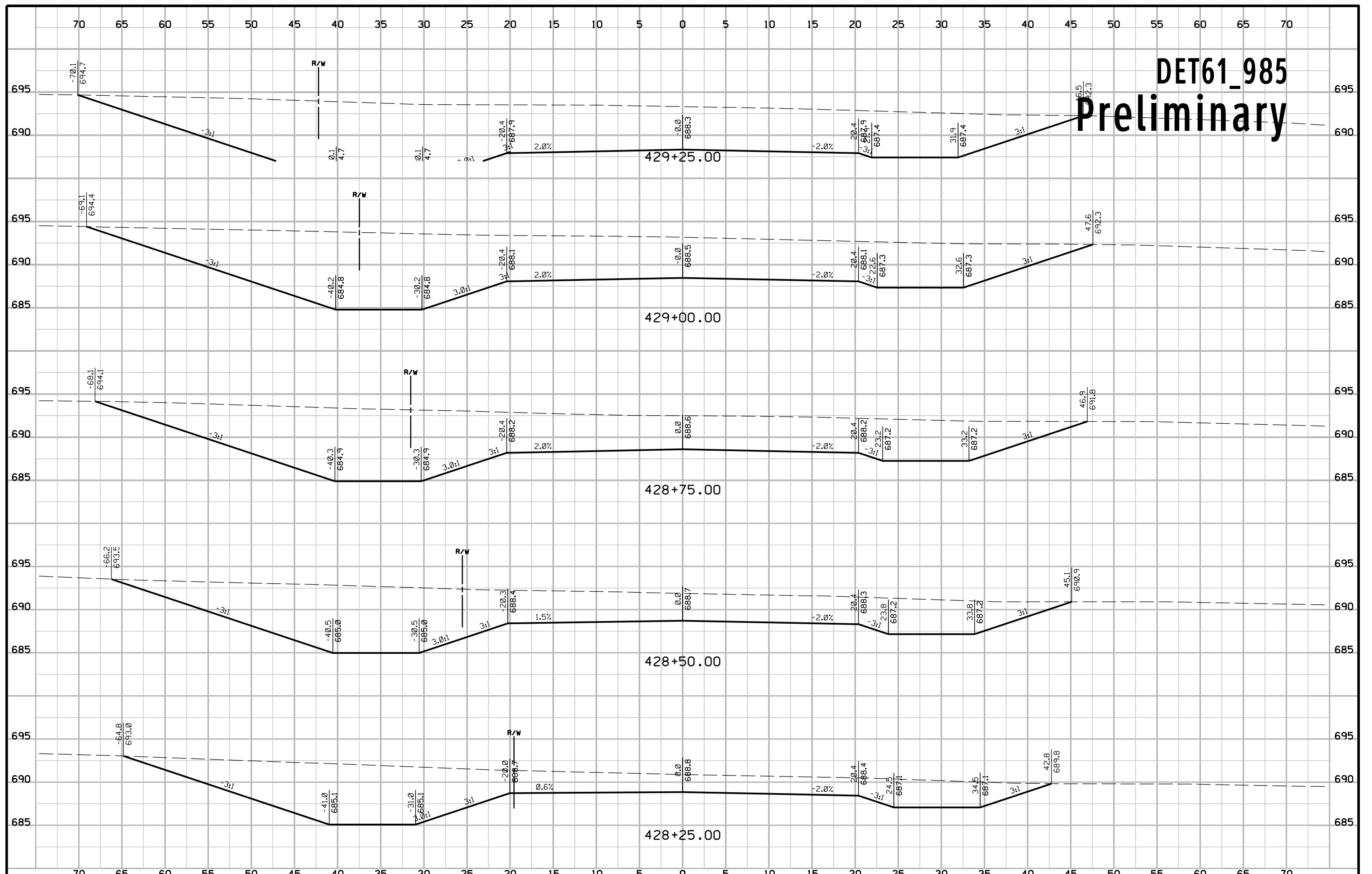
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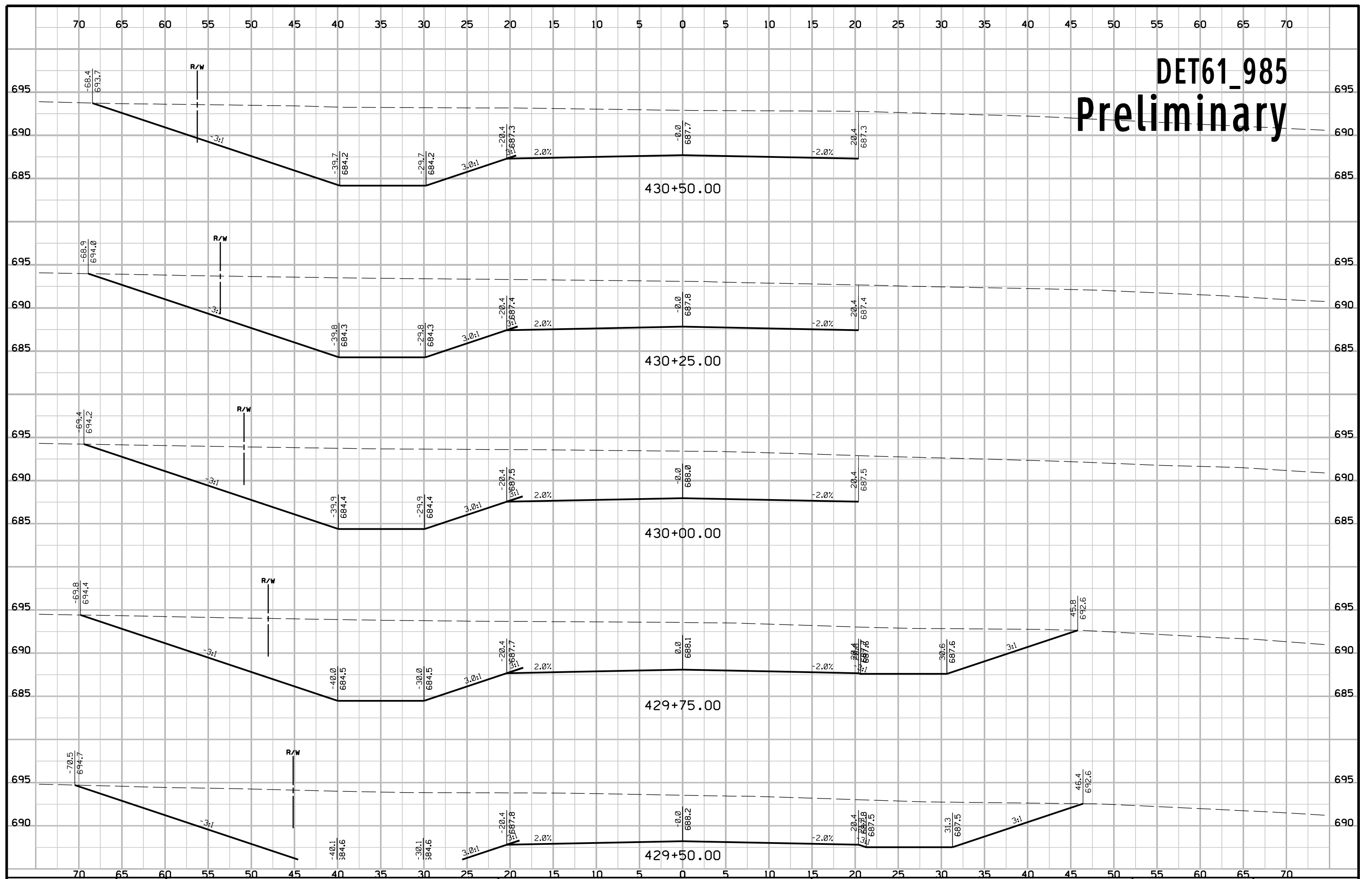
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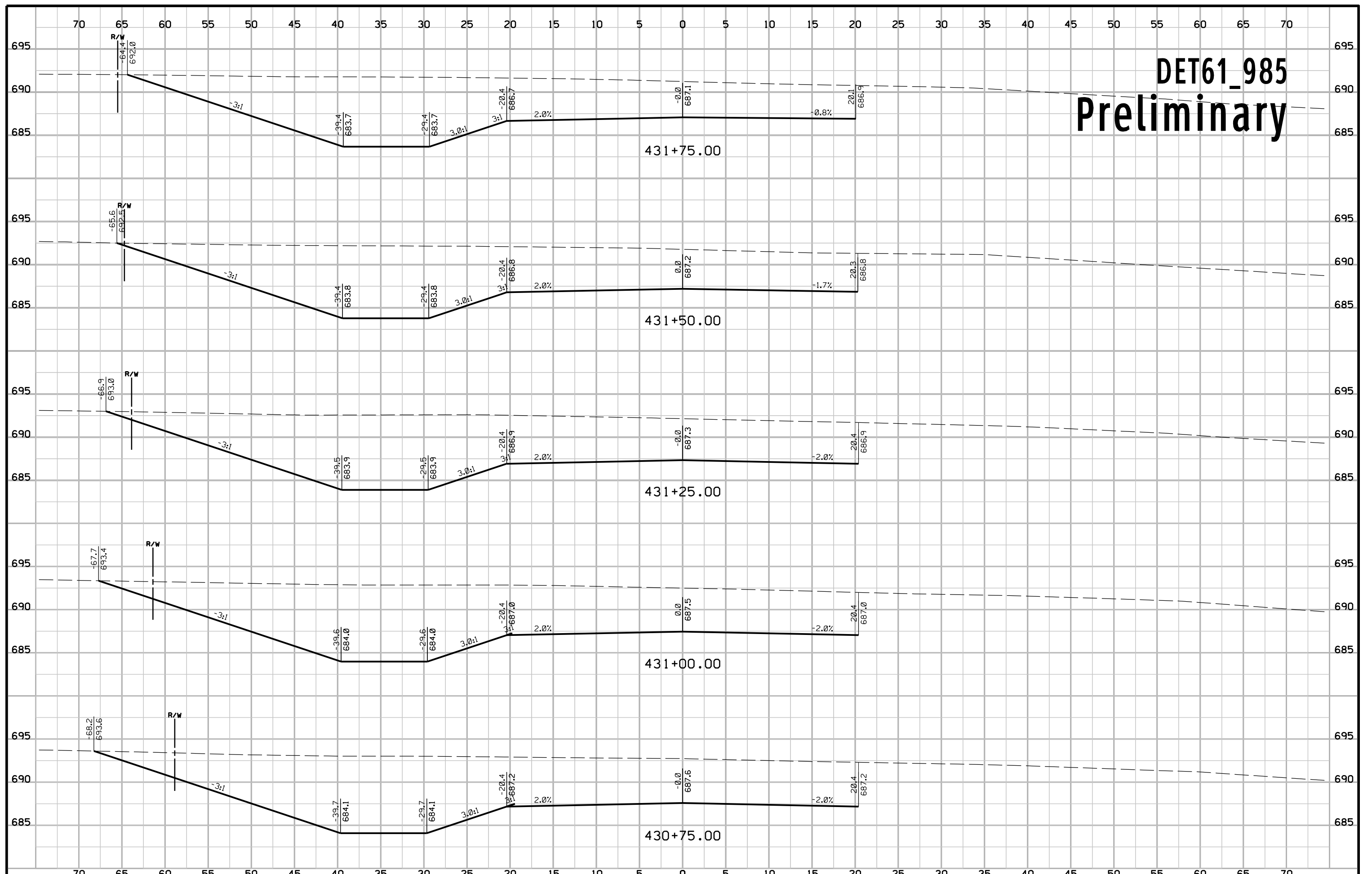
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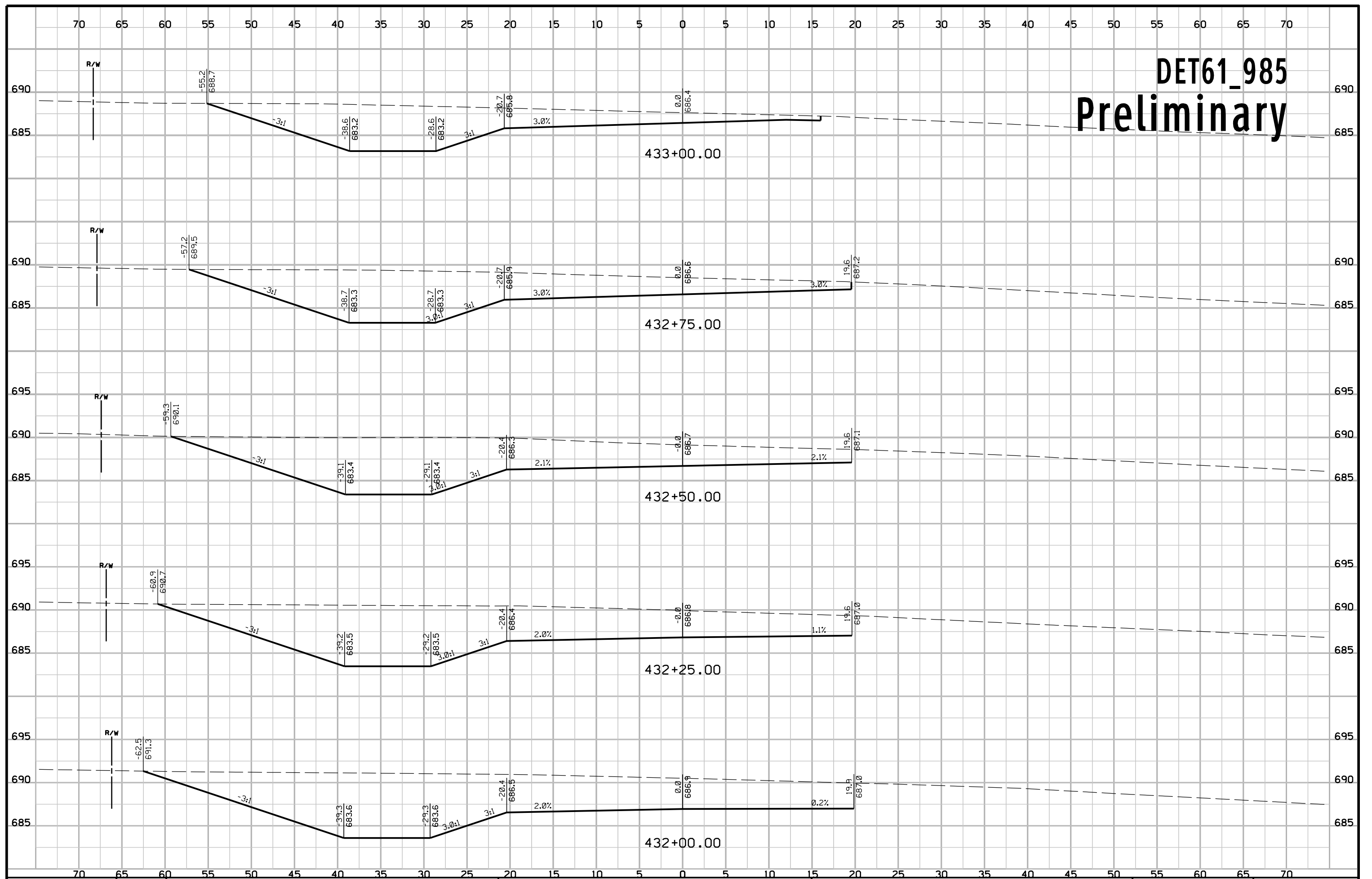
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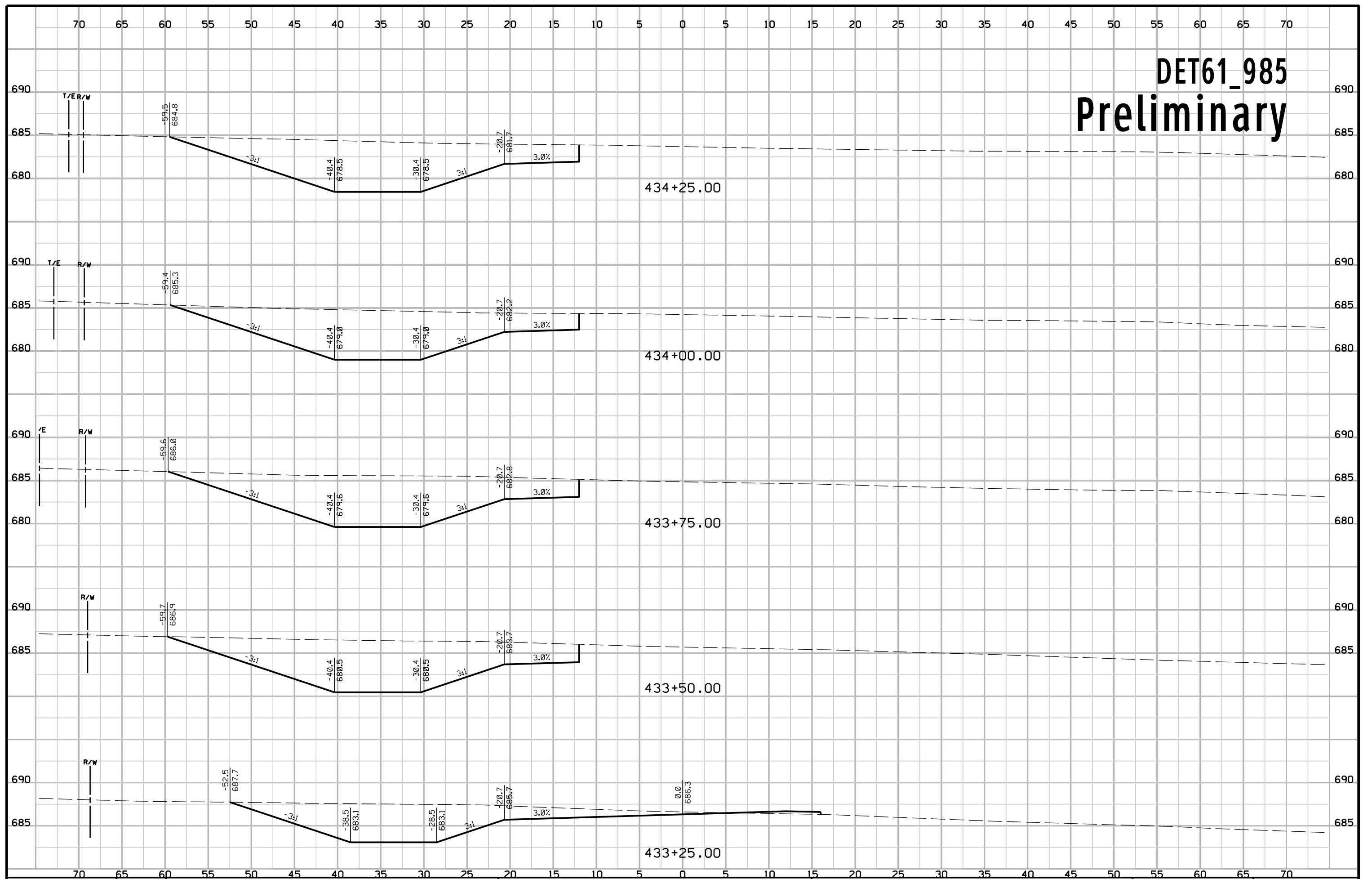
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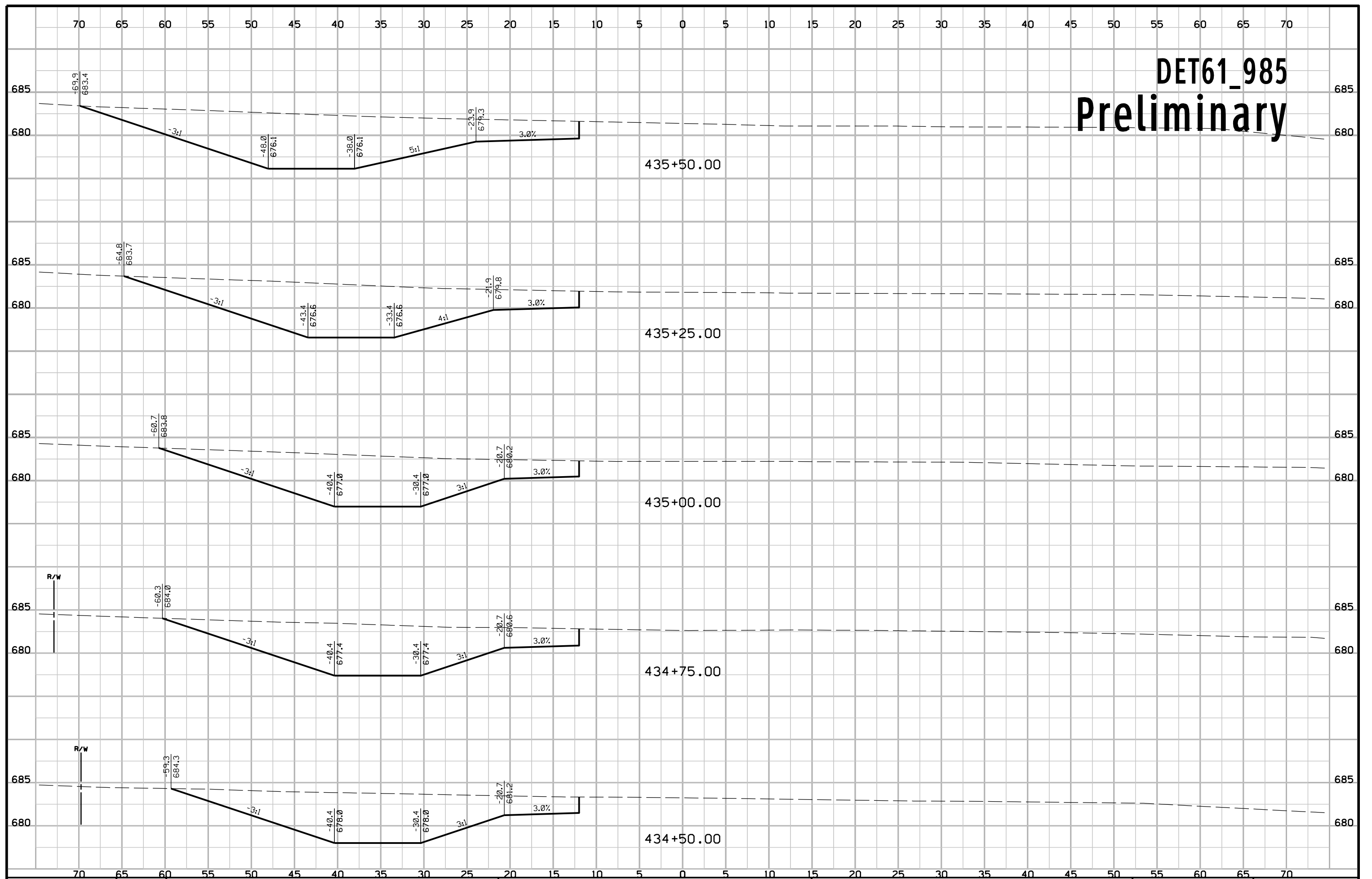
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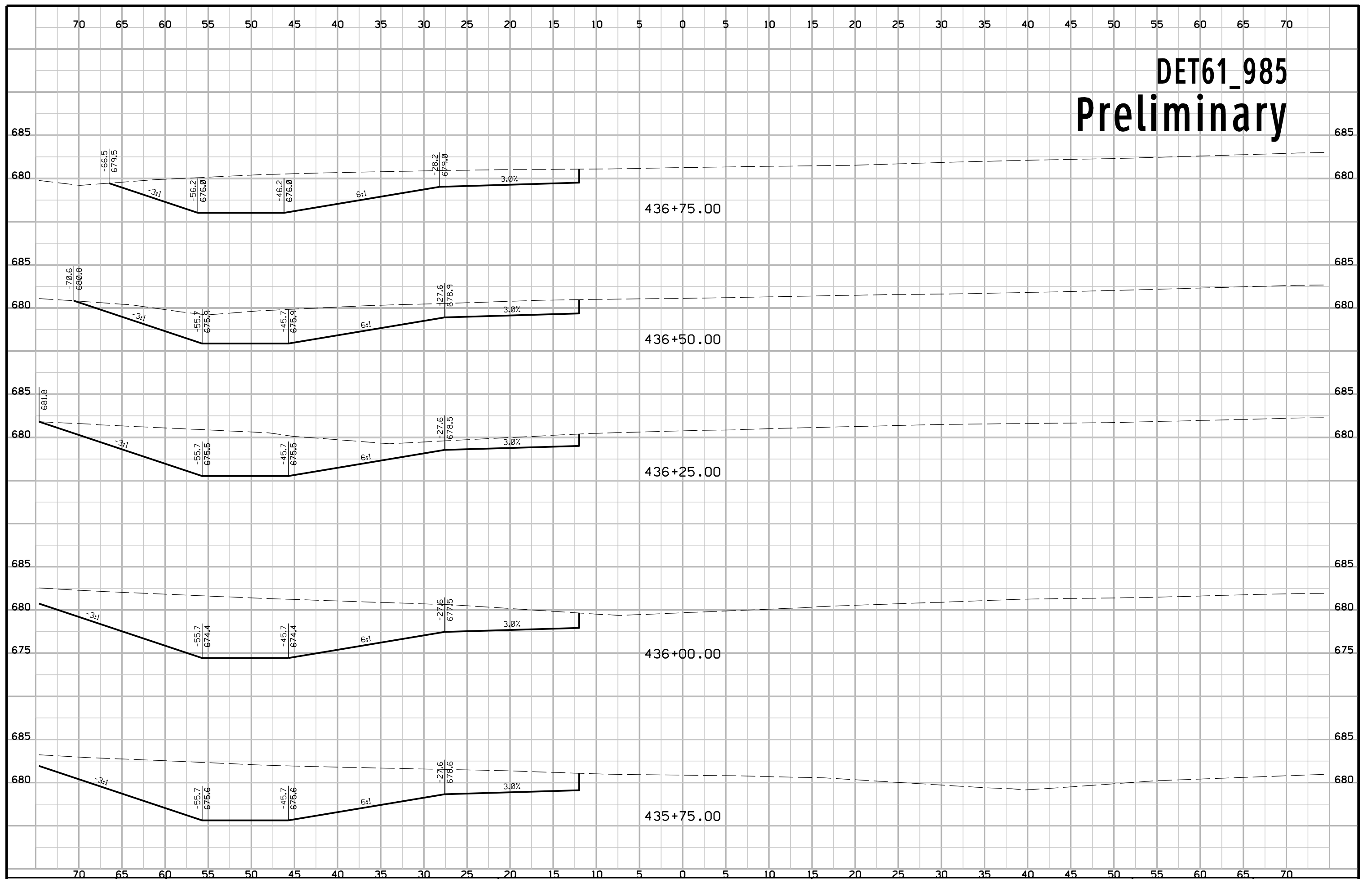
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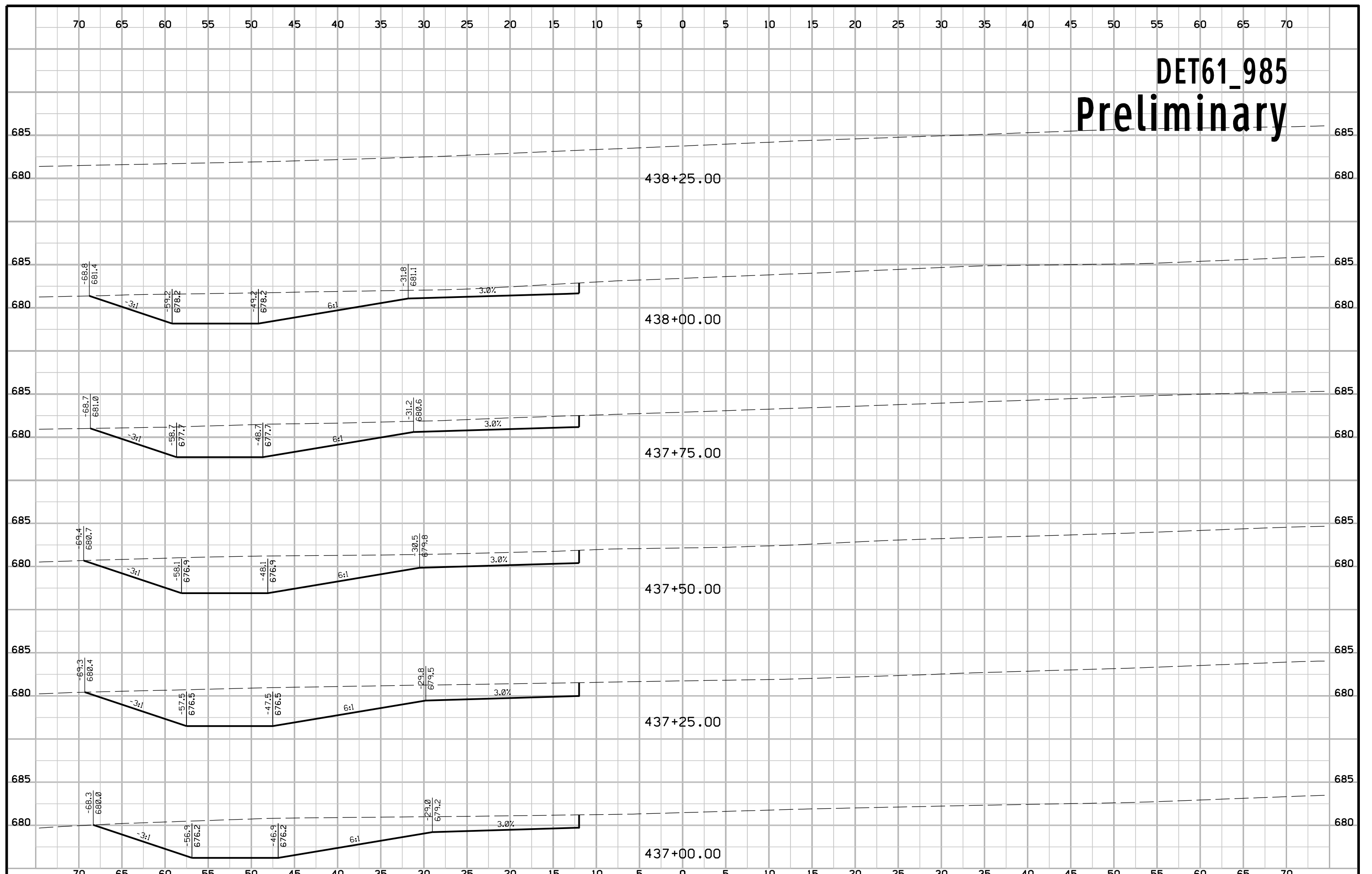
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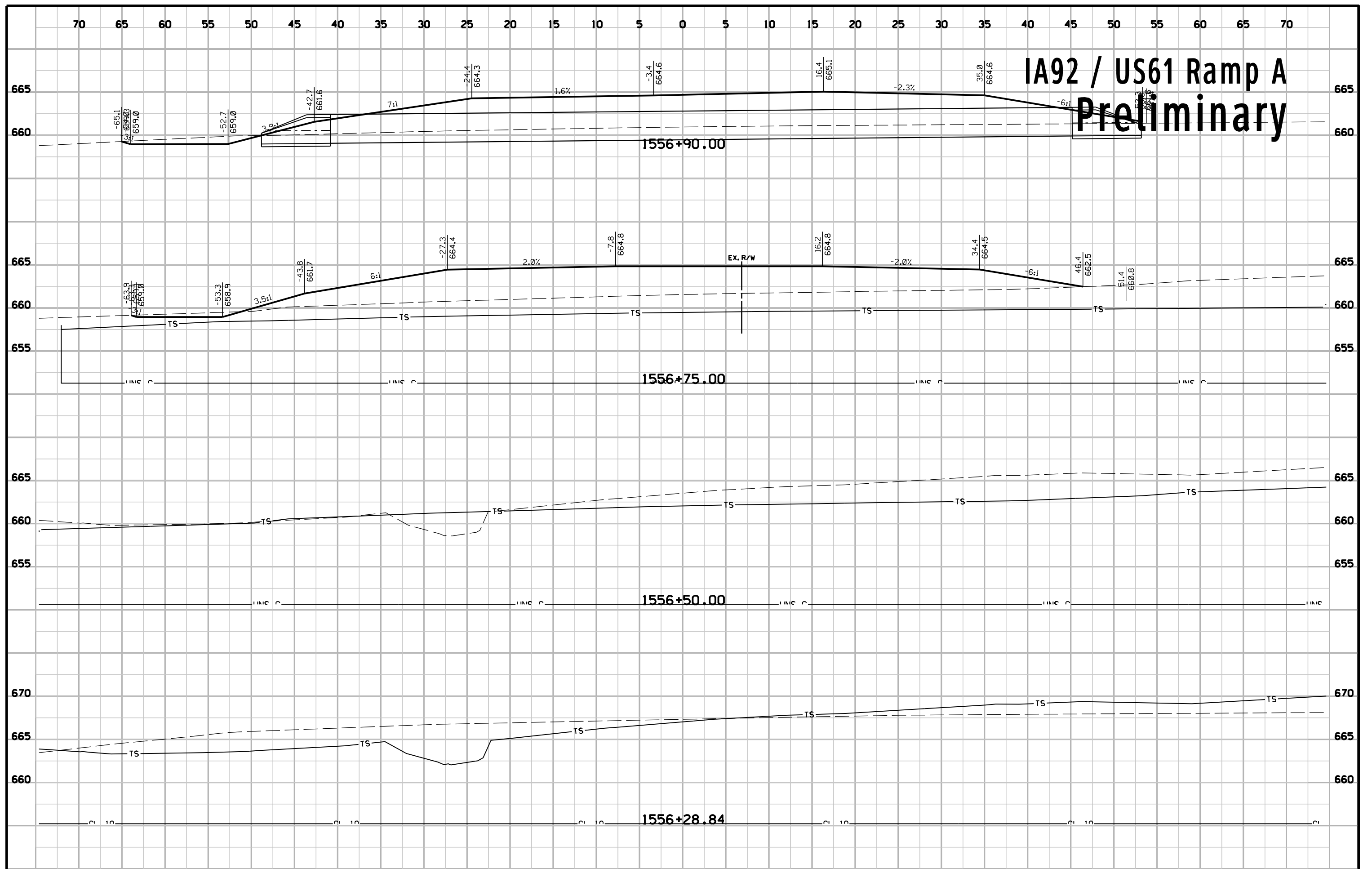
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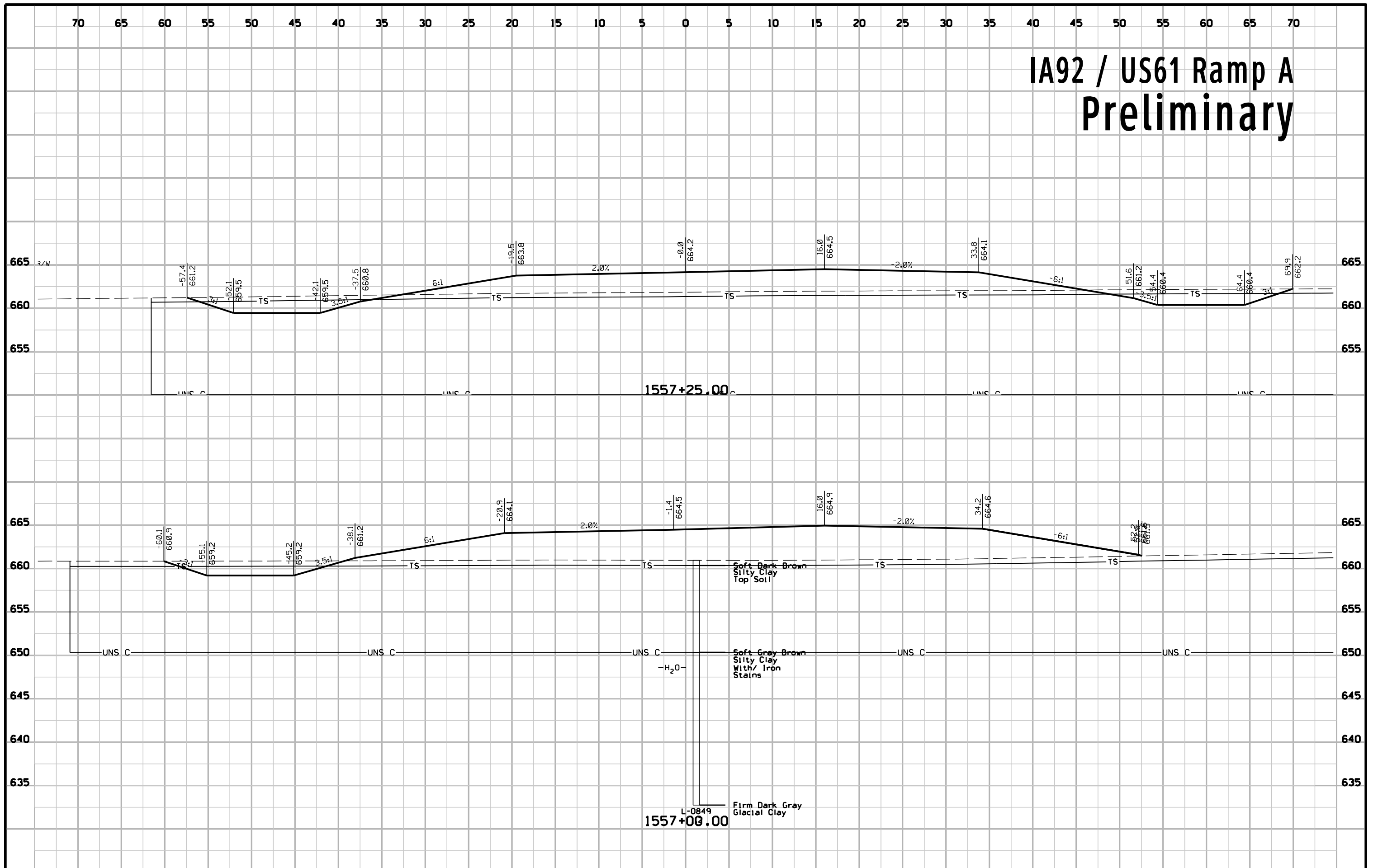
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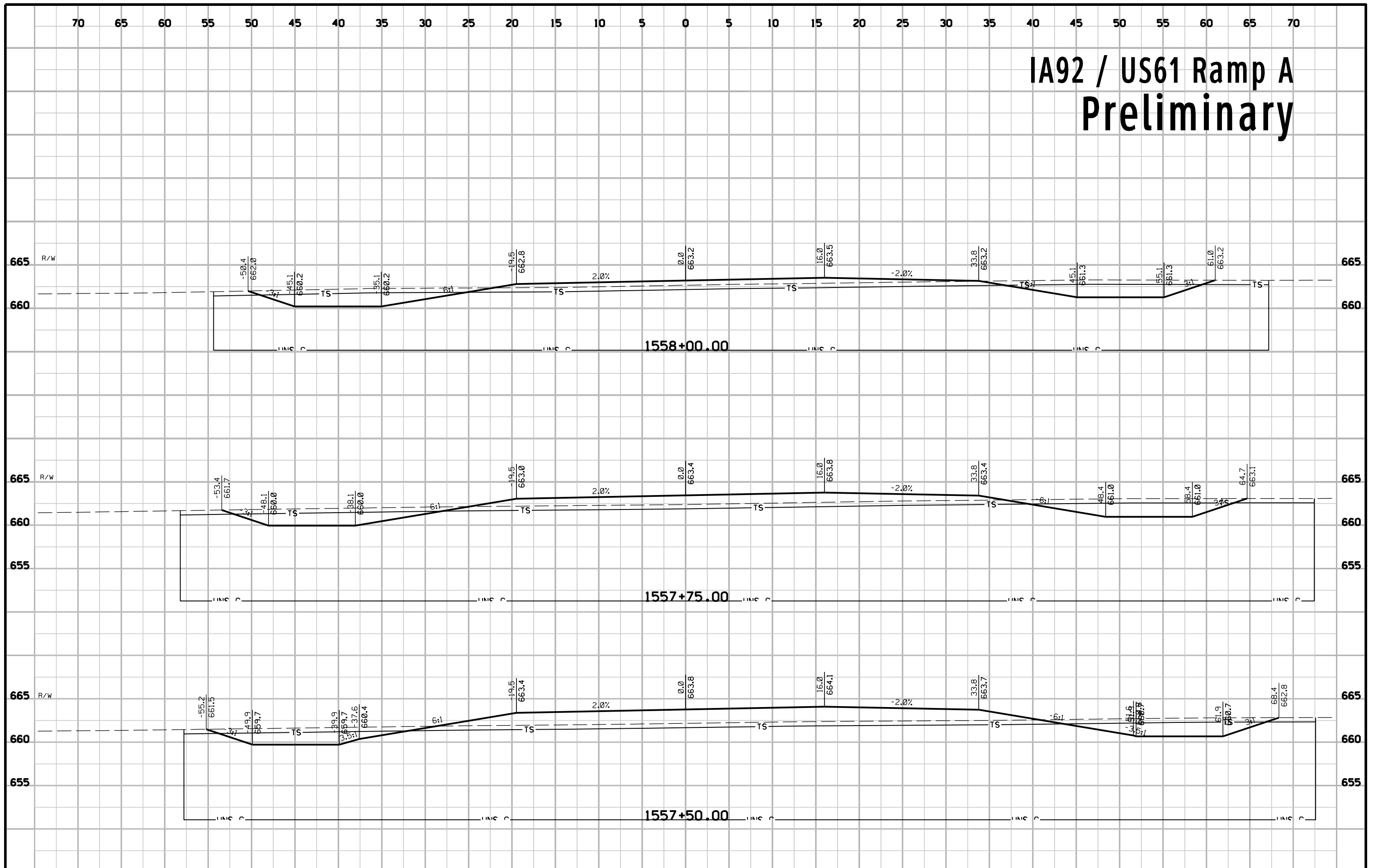
IA92 / US61 Ramp A Preliminary



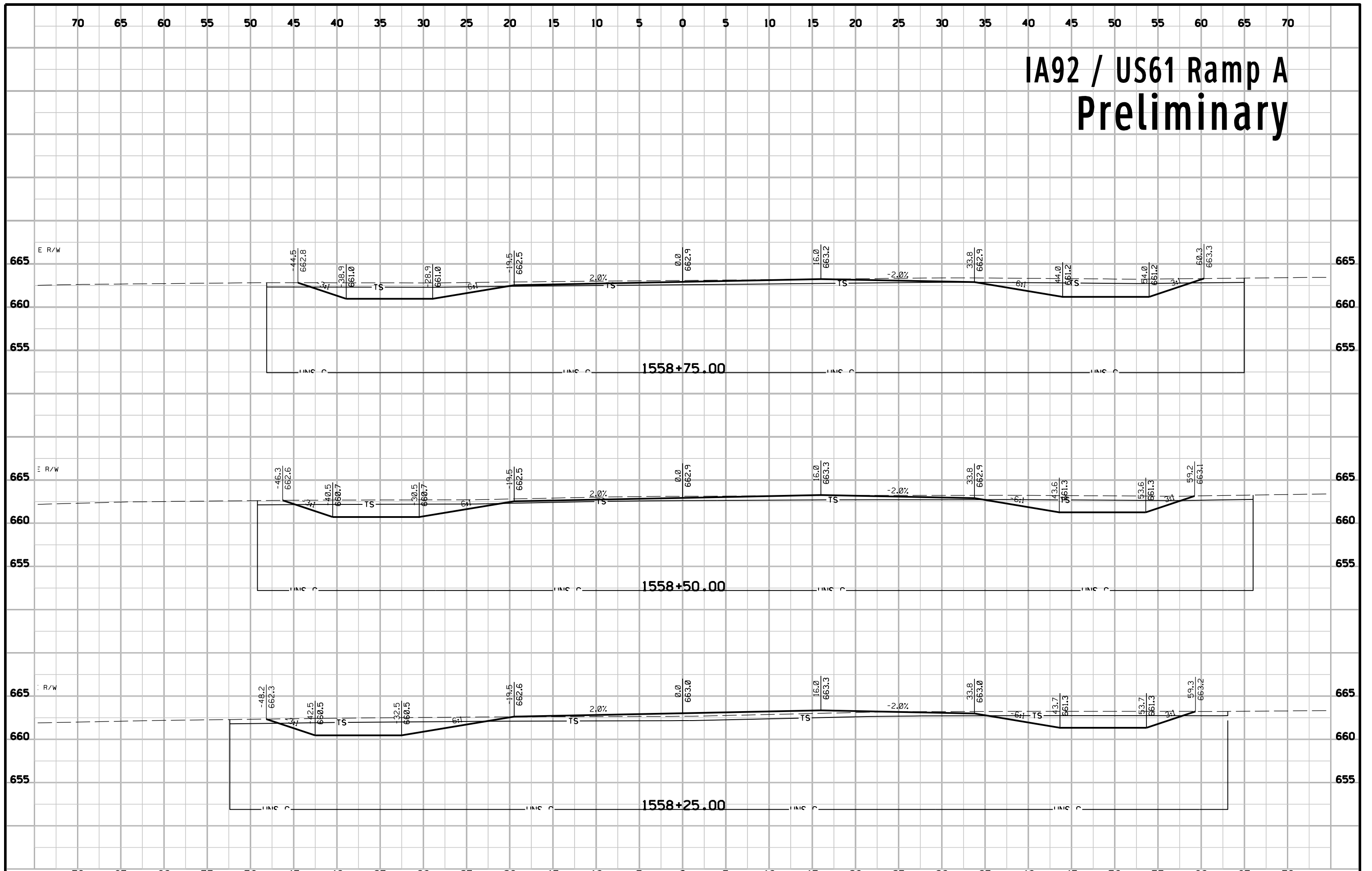
IA92 / US61 Ramp A Preliminary



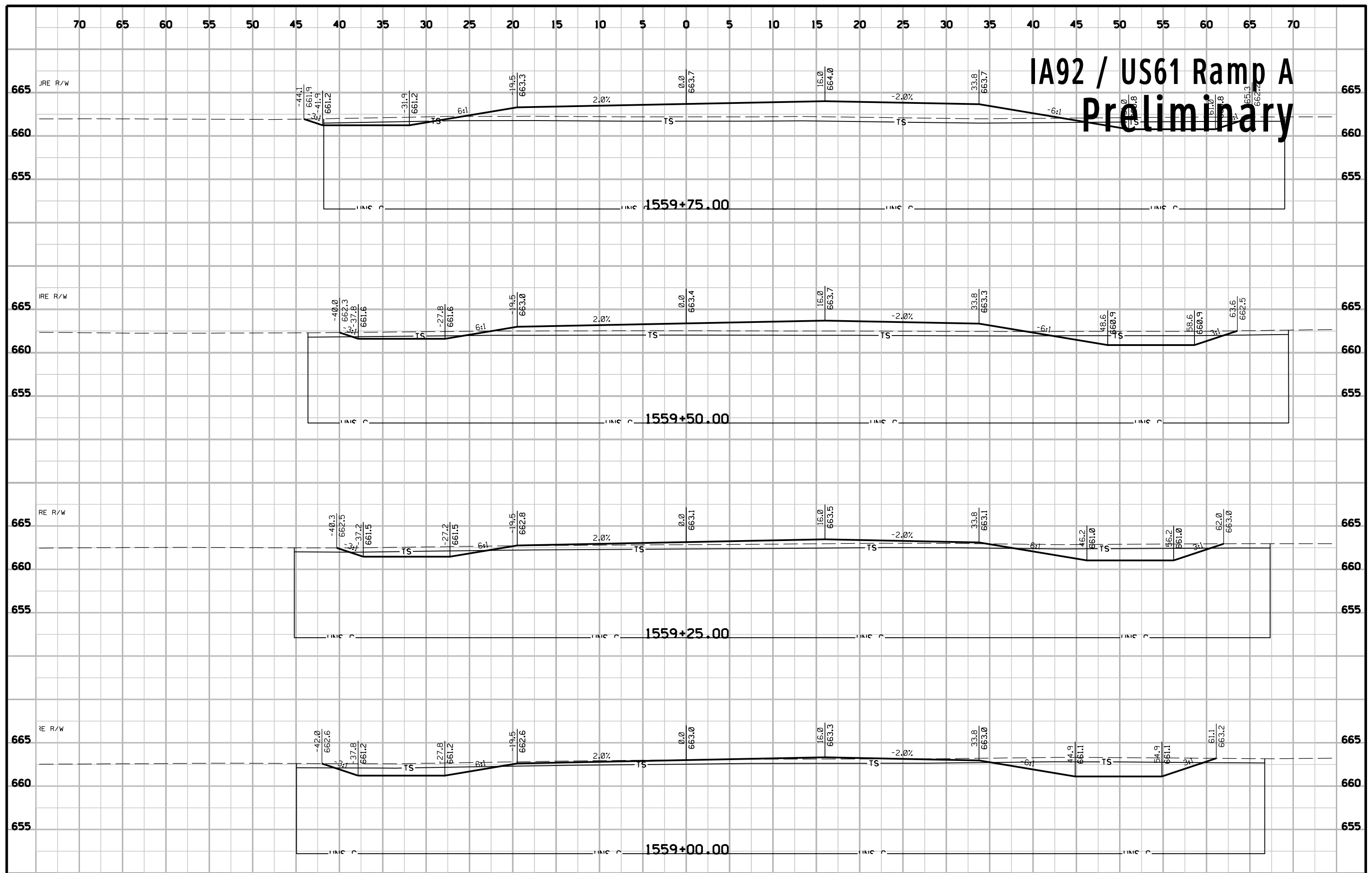
IA92 / US61 Ramp A Preliminary



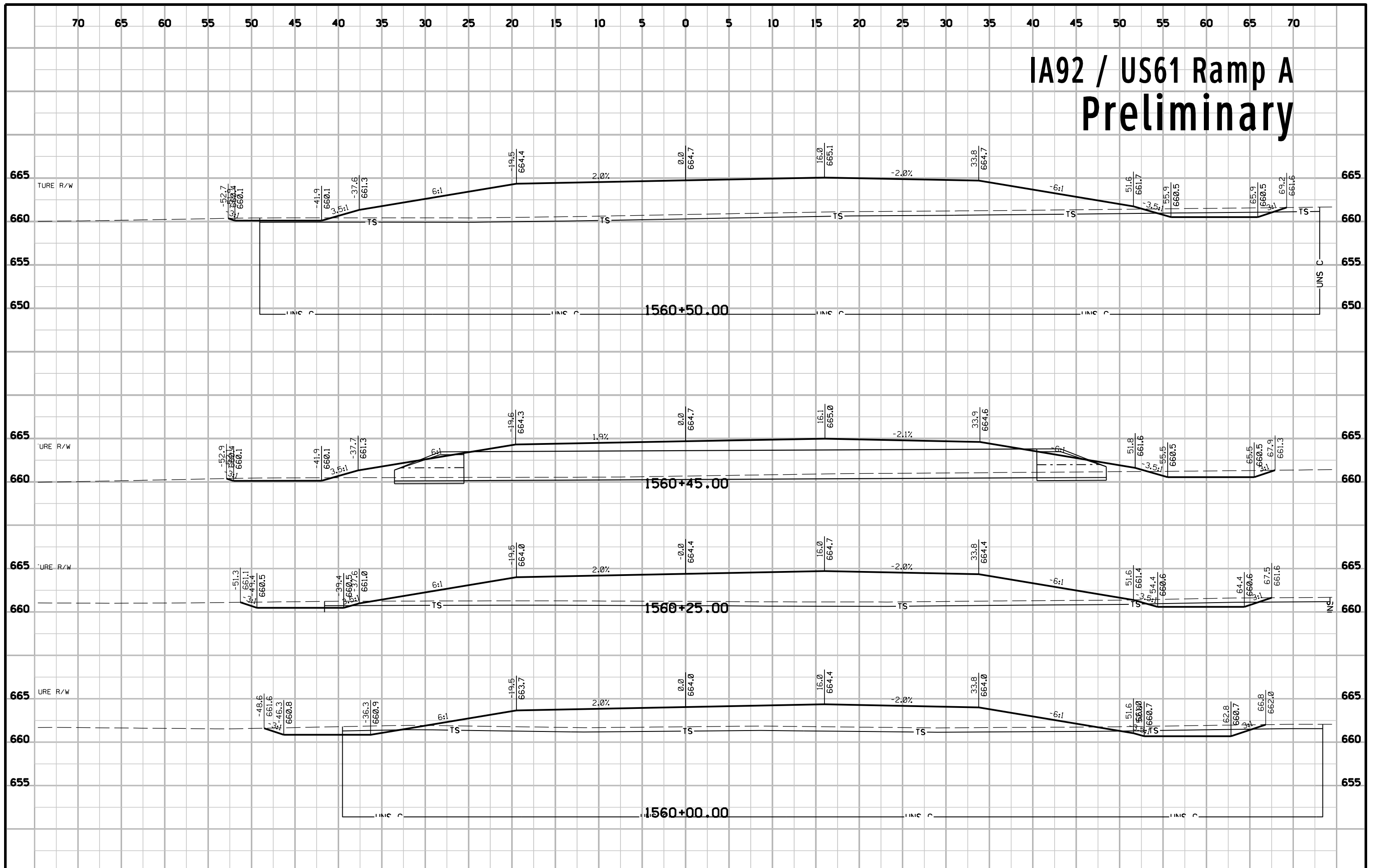
IA92 / US61 Ramp A Preliminary



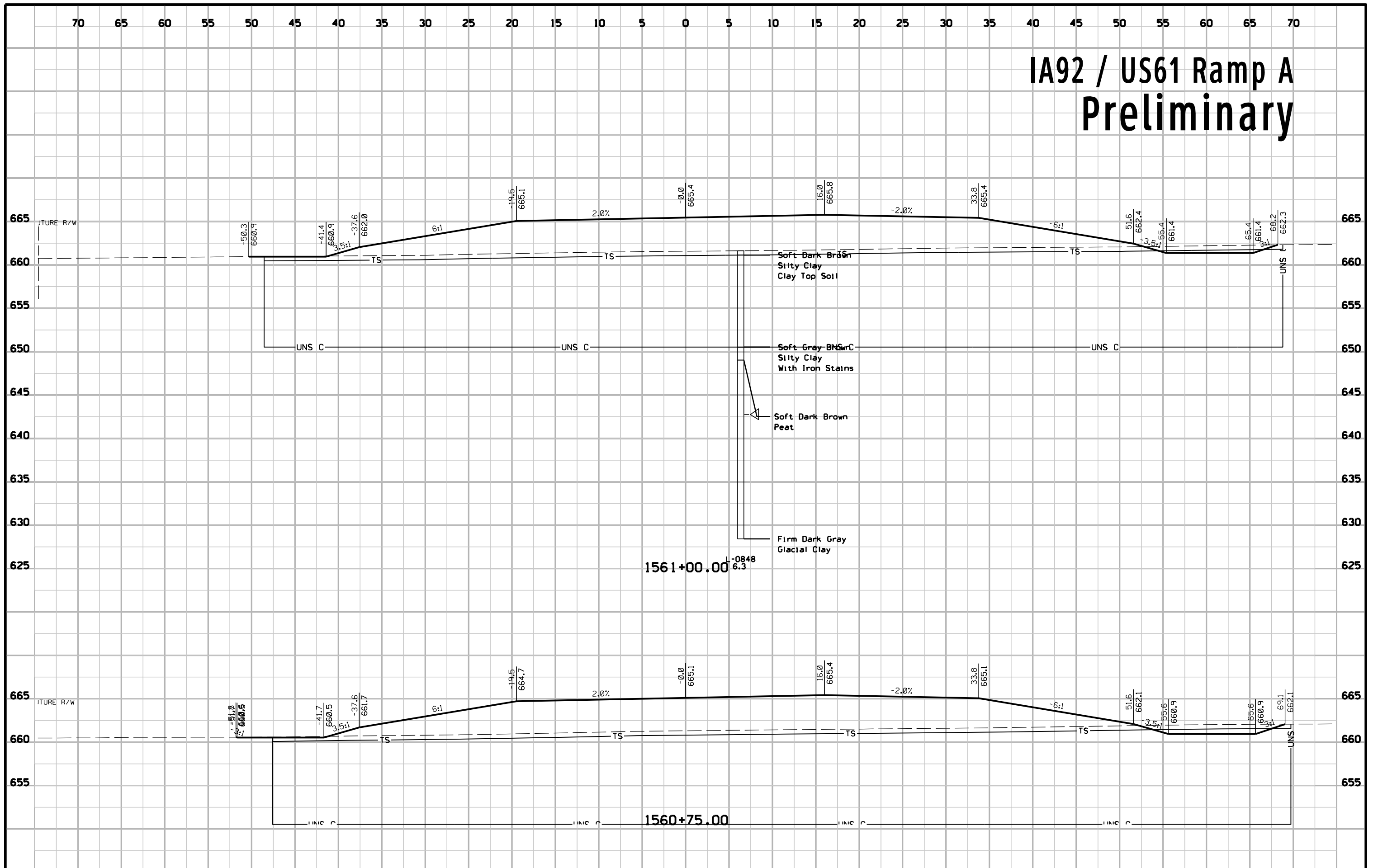
IA92 / US61 Ramp A Preliminary



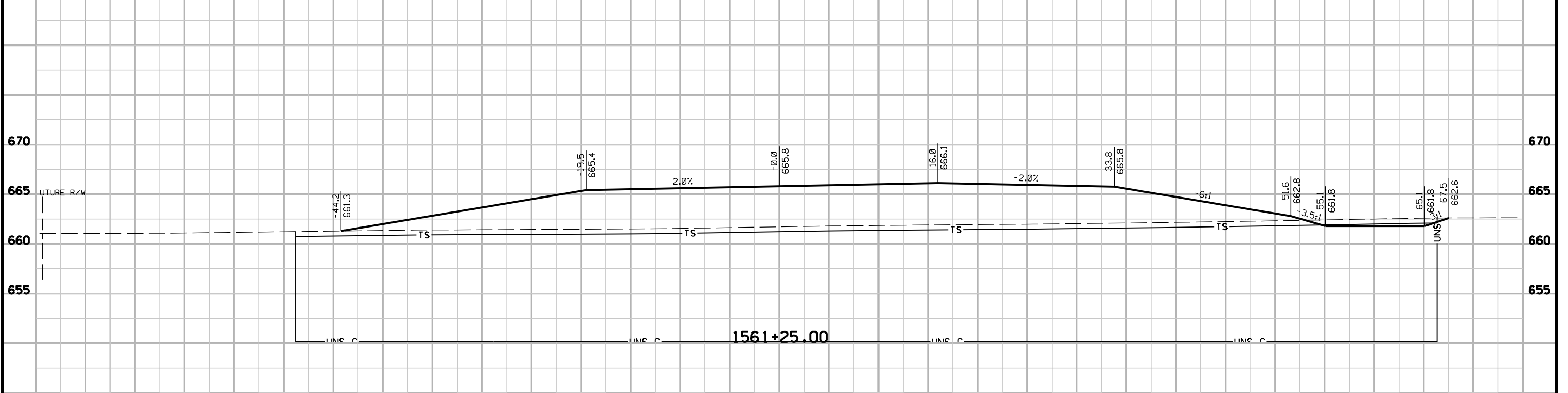
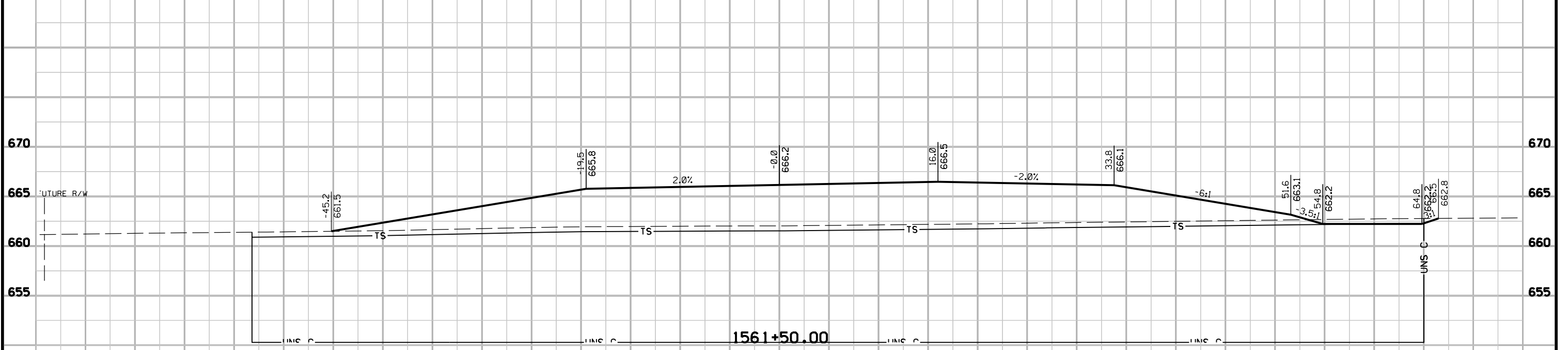
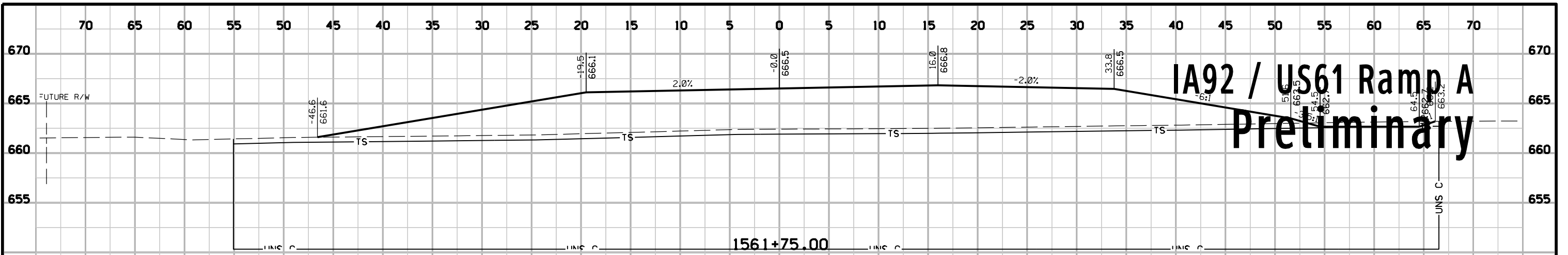
IA92 / US61 Ramp A Preliminary



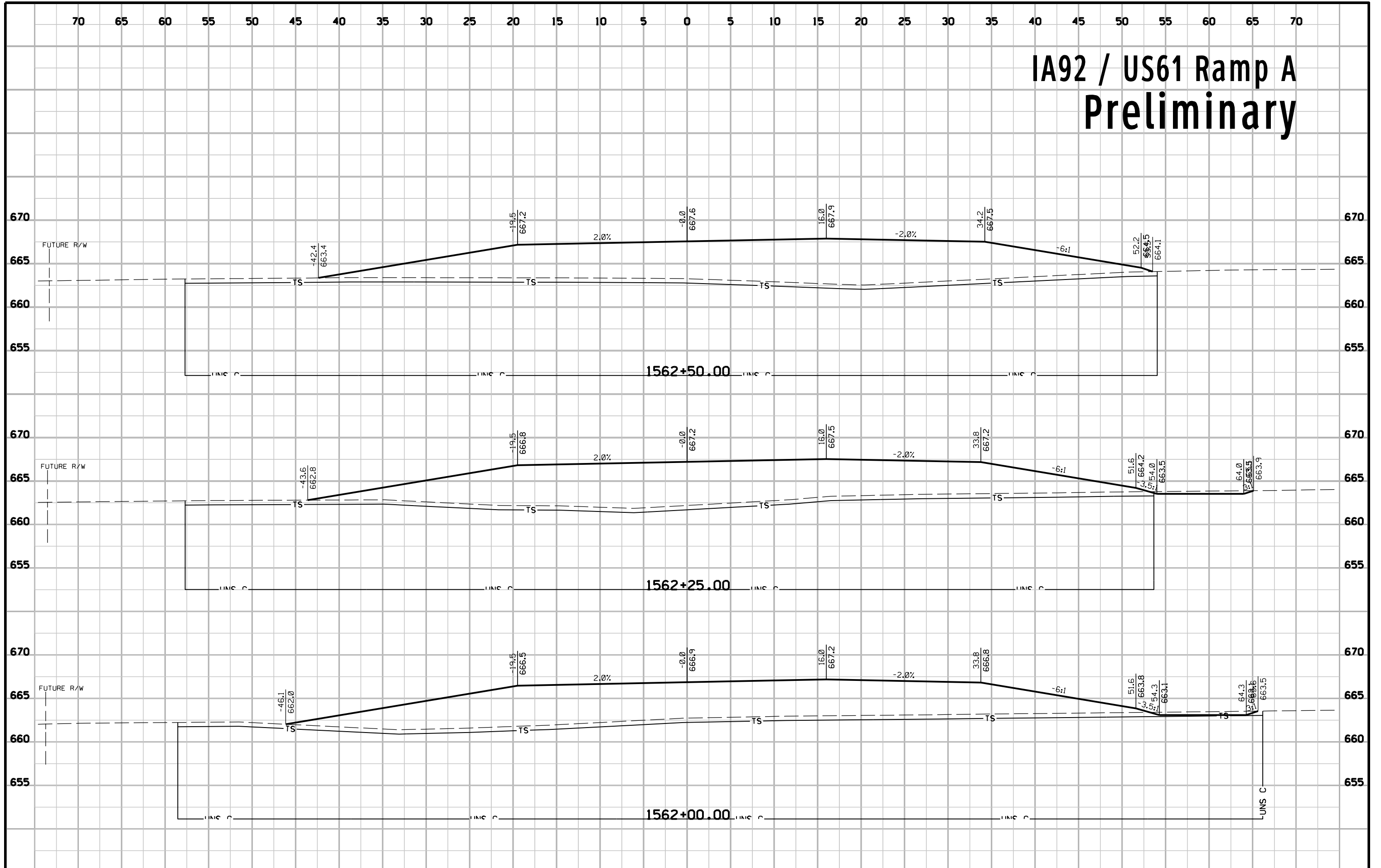
IA92 / US61 Ramp A Preliminary



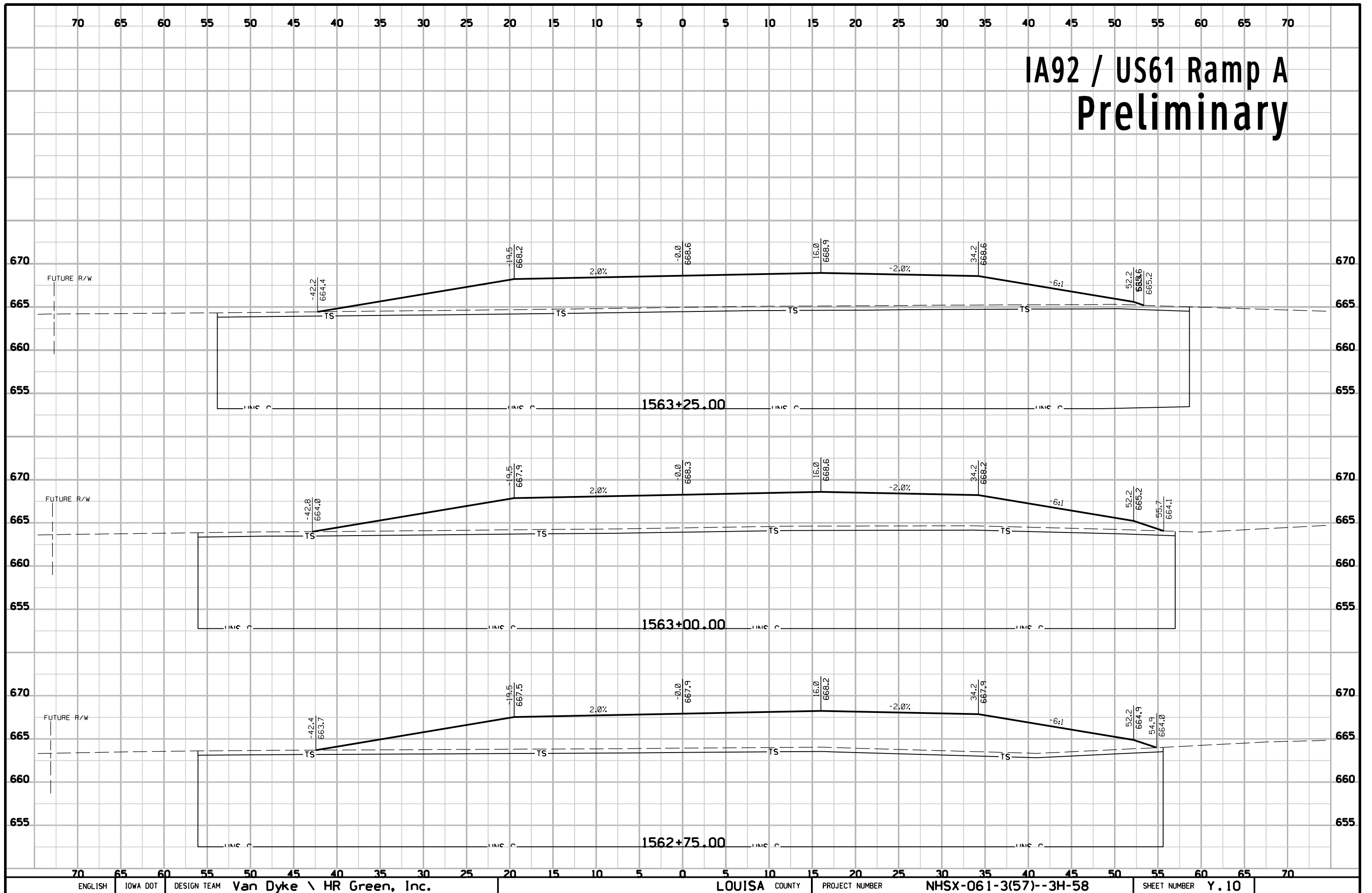
IA92 / US61 Ramp A Preliminary



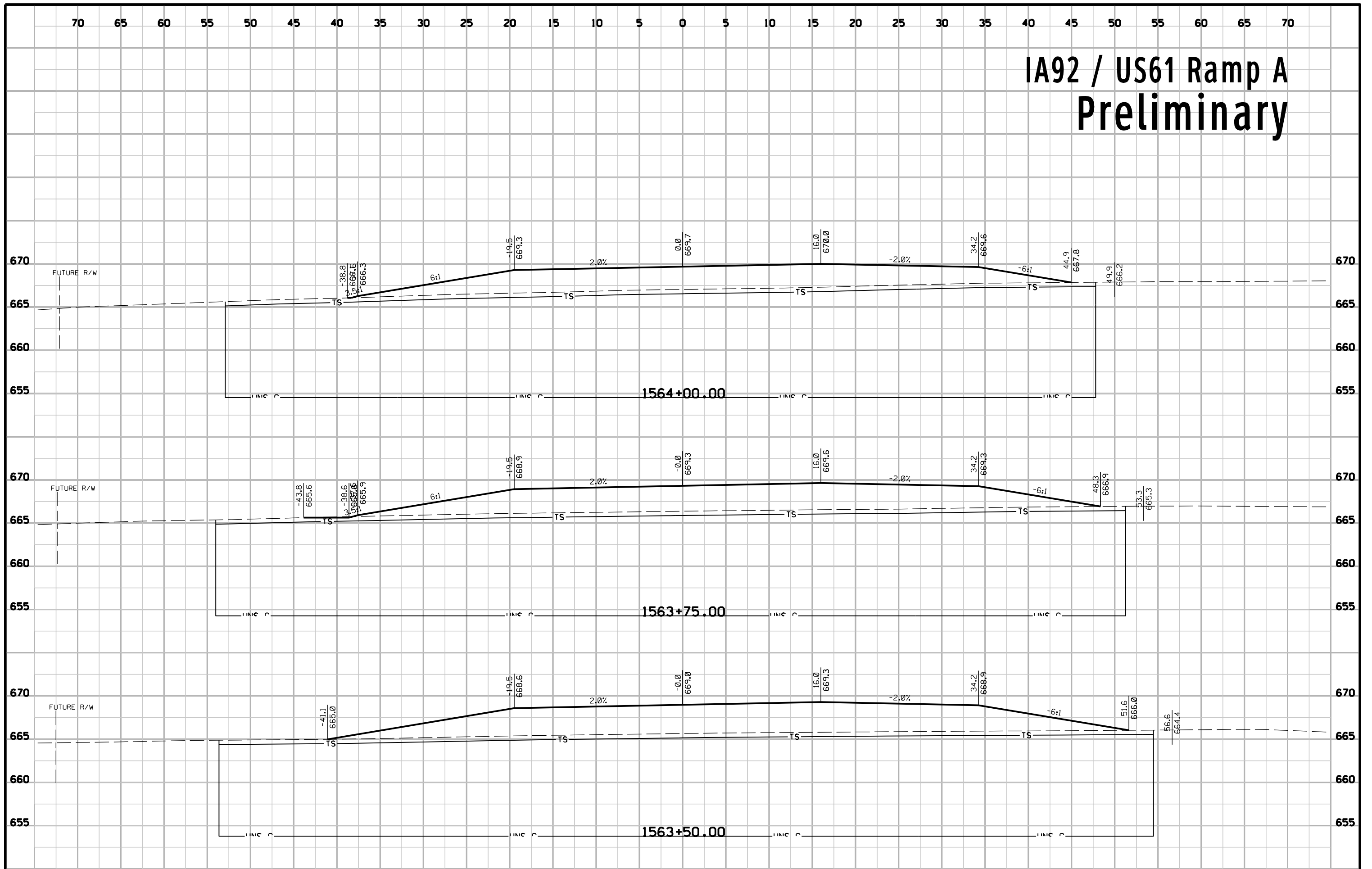
IA92 / US61 Ramp A Preliminary



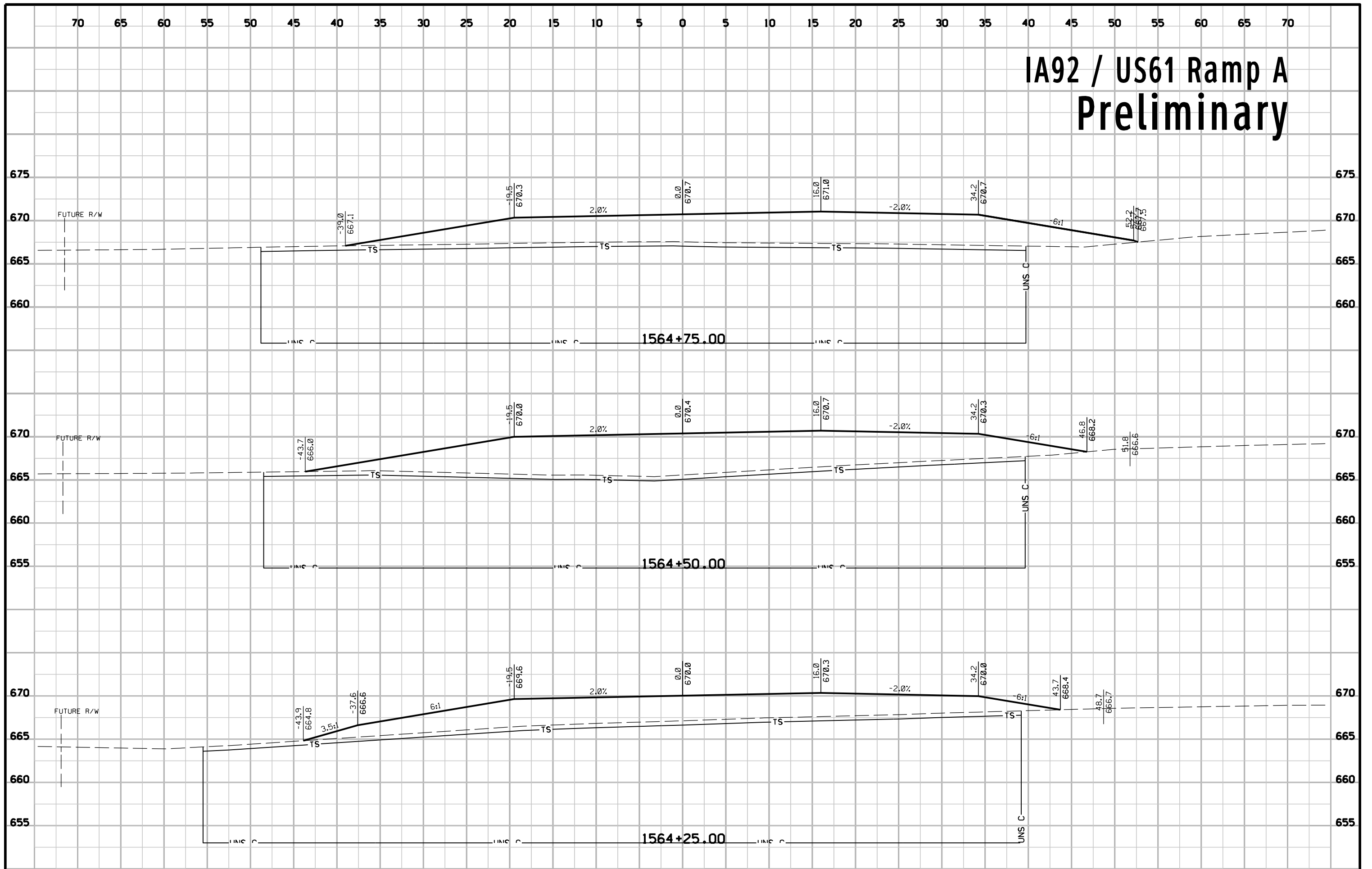
IA92 / US61 Ramp A Preliminary



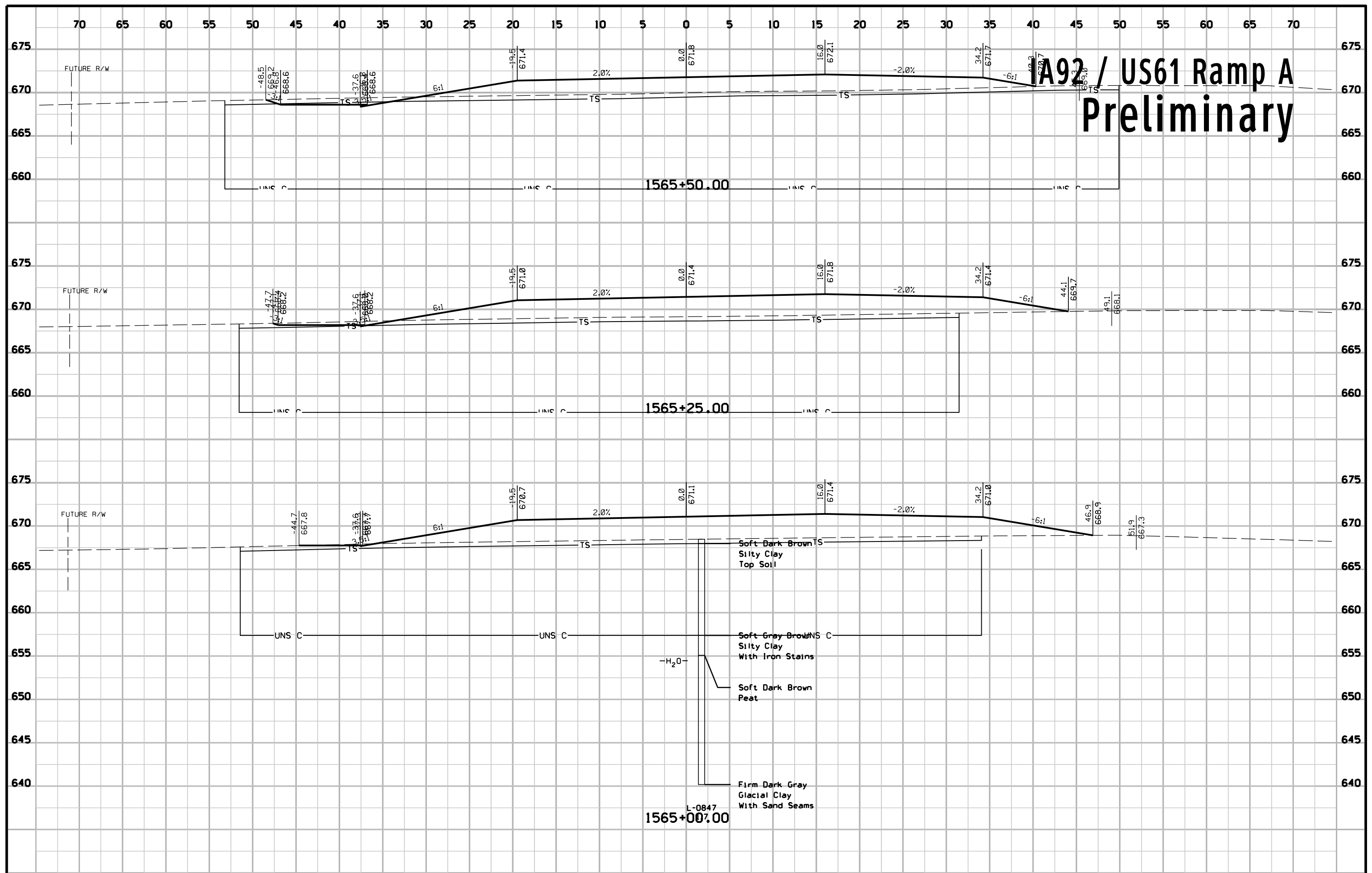
IA92 / US61 Ramp A Preliminary



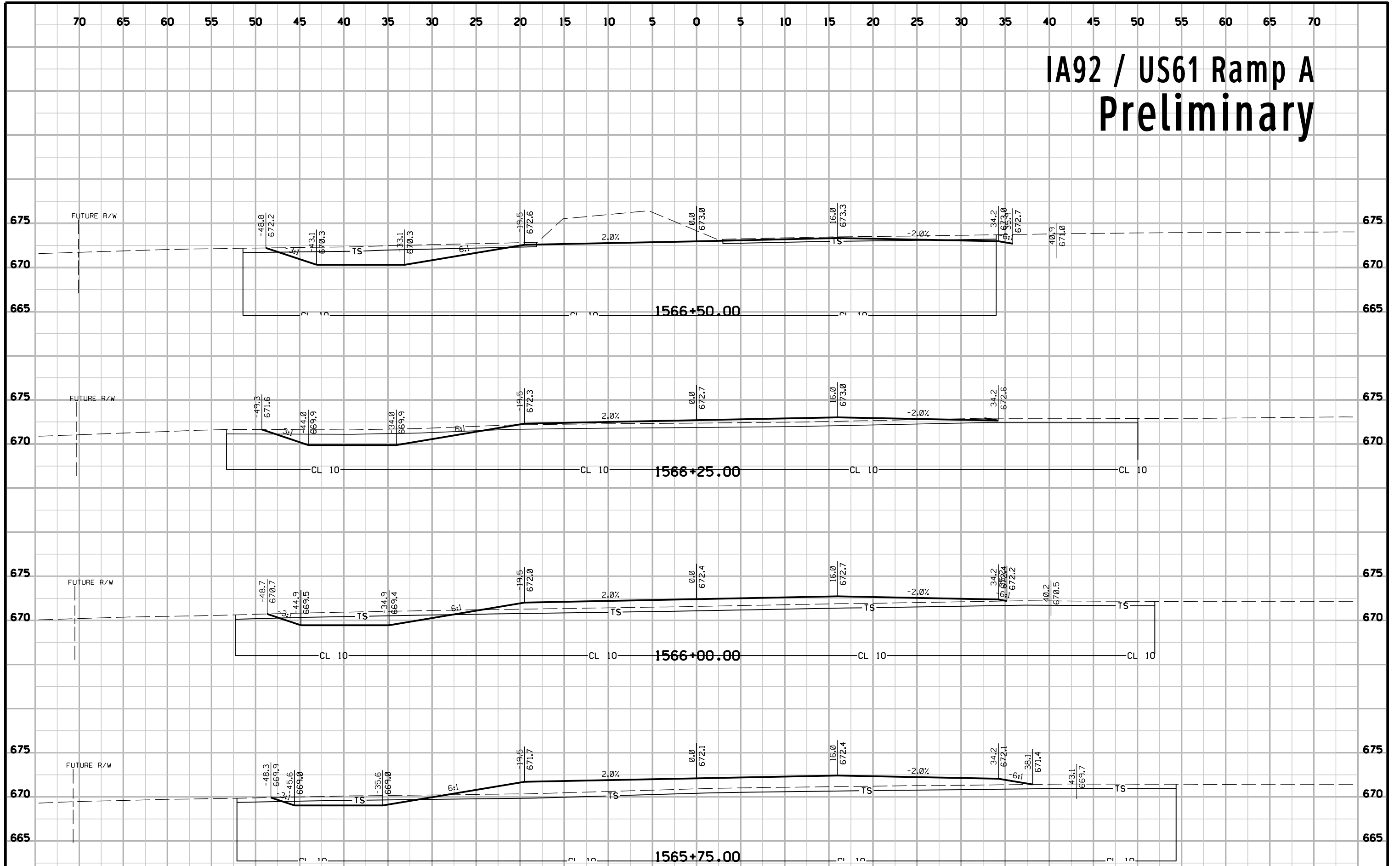
IA92 / US61 Ramp A Preliminary



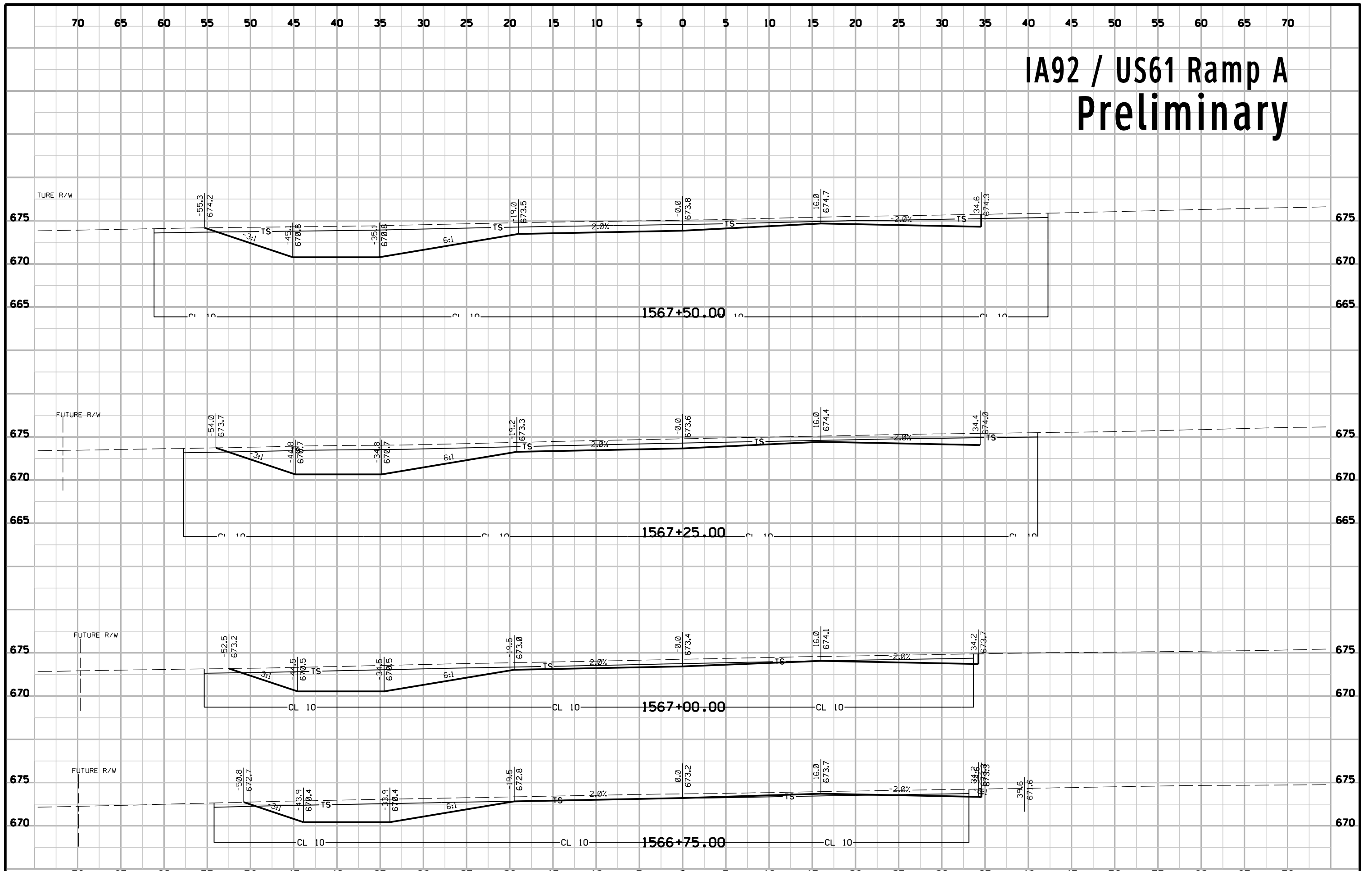
A92 / US61 Ramp A Preliminary



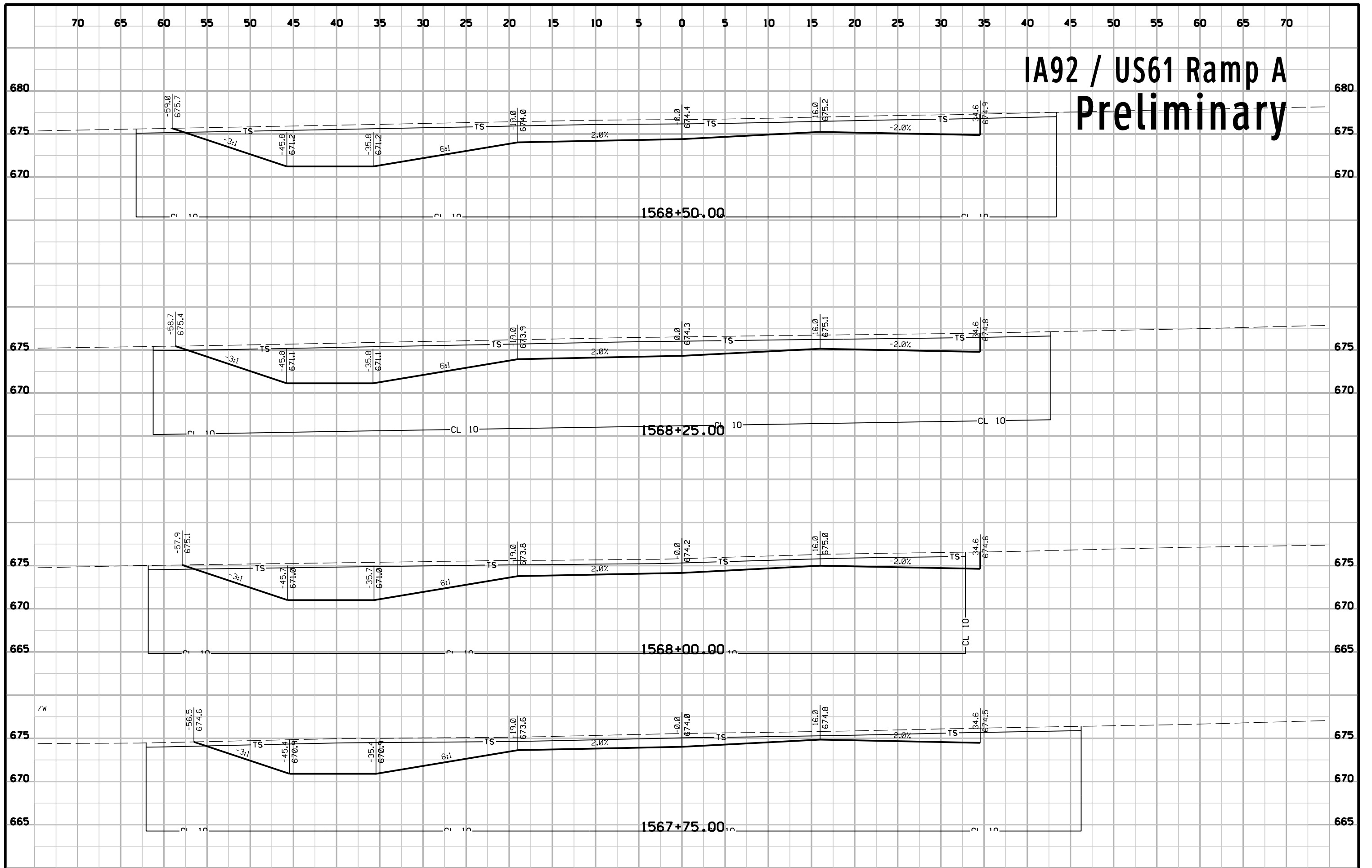
IA92 / US61 Ramp A Preliminary



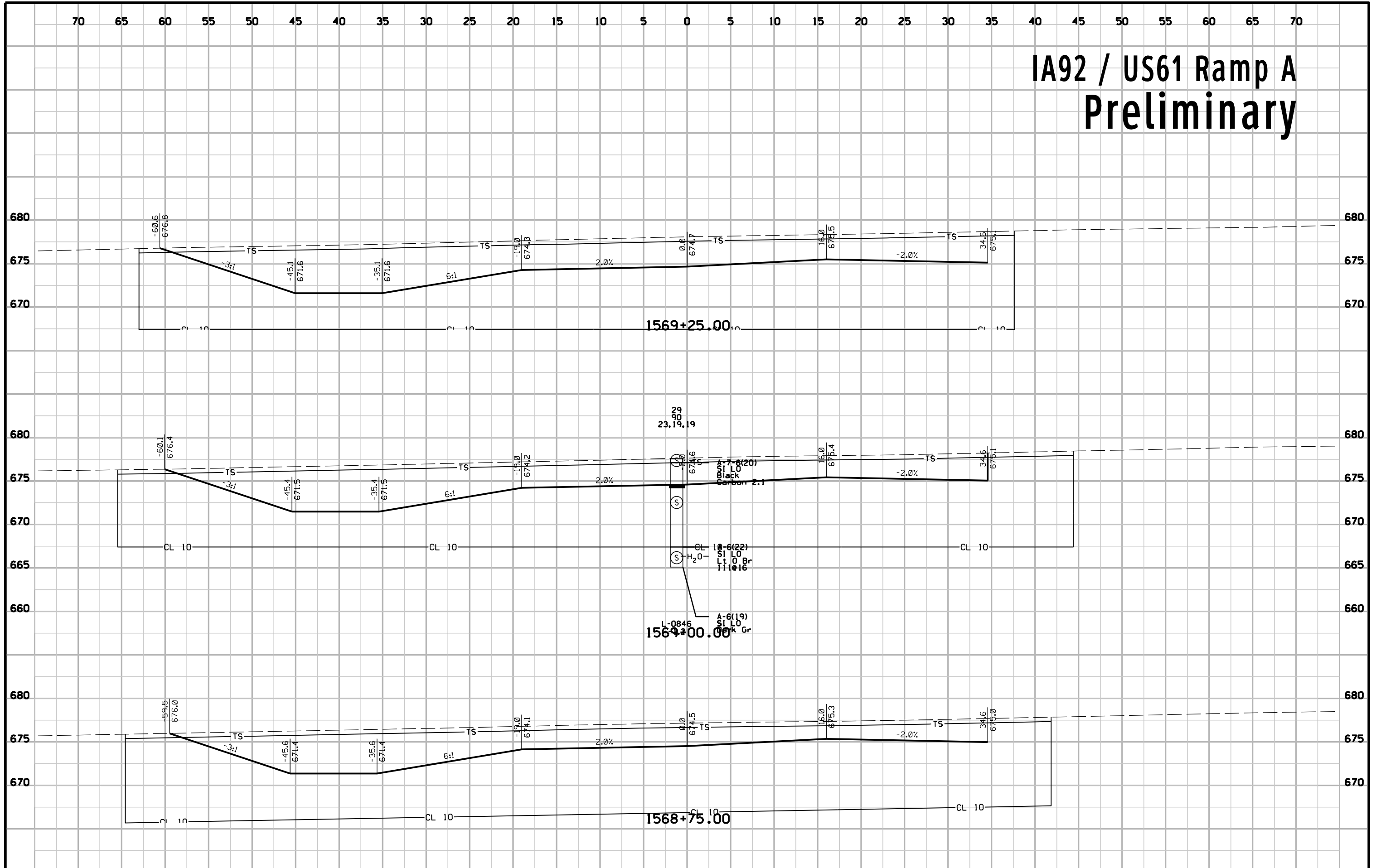
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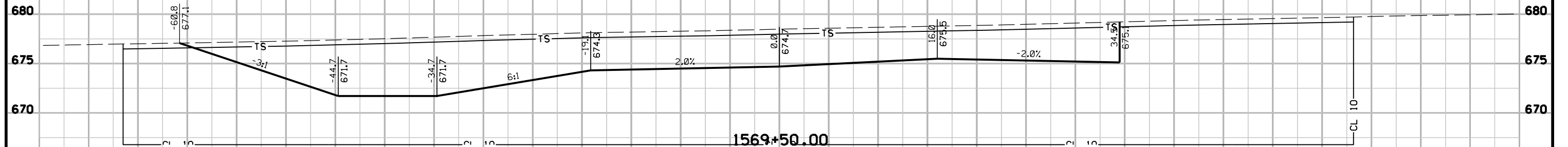
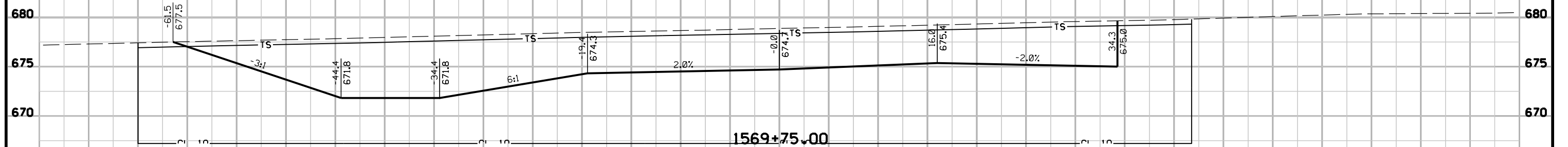
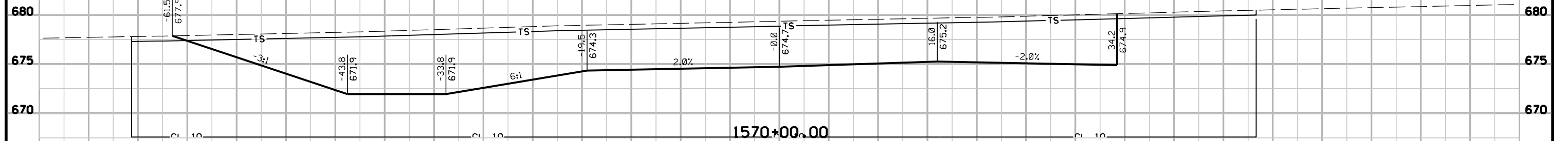
IA92 / US61 Ramp A Preliminary



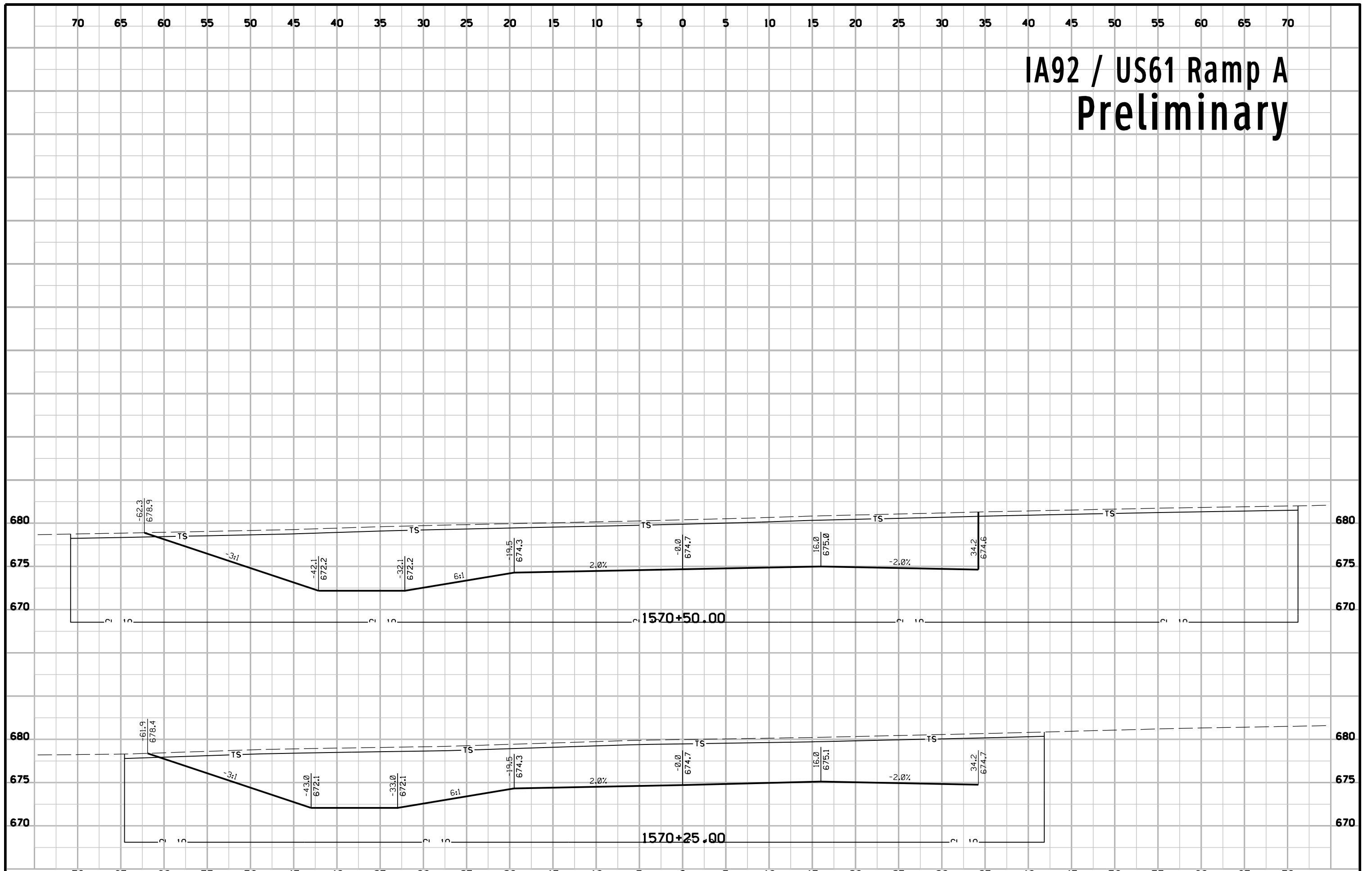
IA92 / US61 Ramp A Preliminary



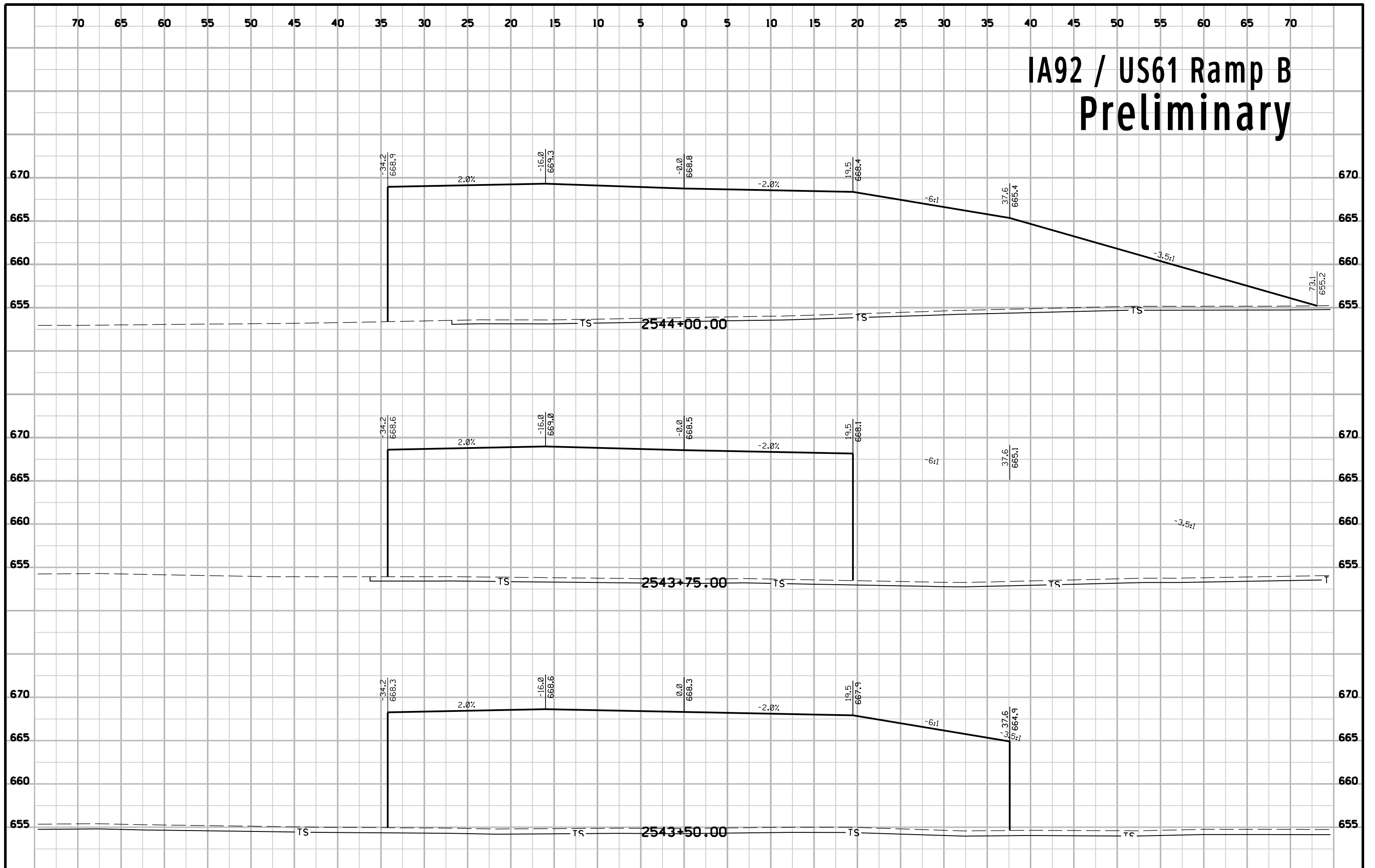
IA92 / US61 Ramp A Preliminary



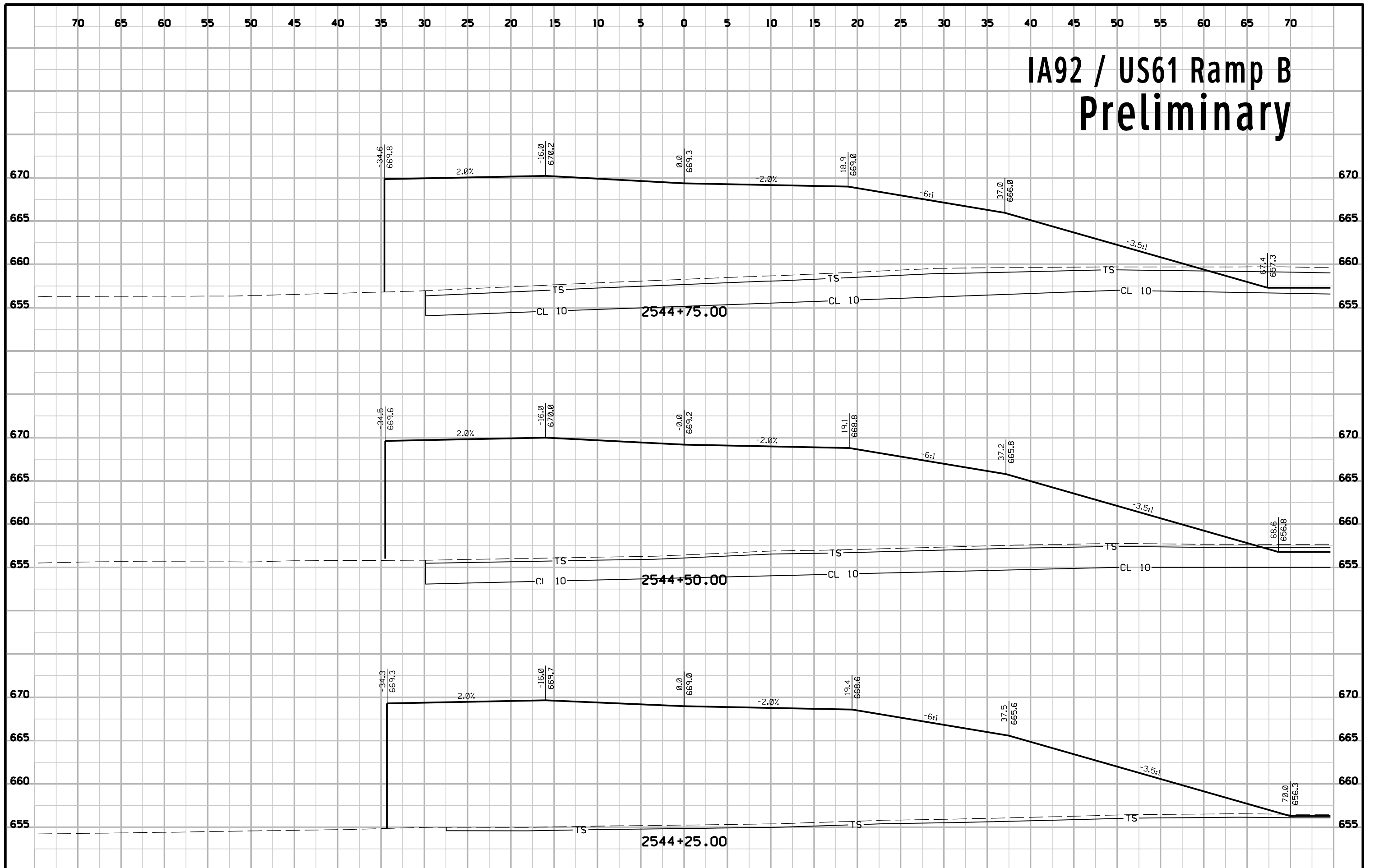
IA92 / US61 Ramp A Preliminary



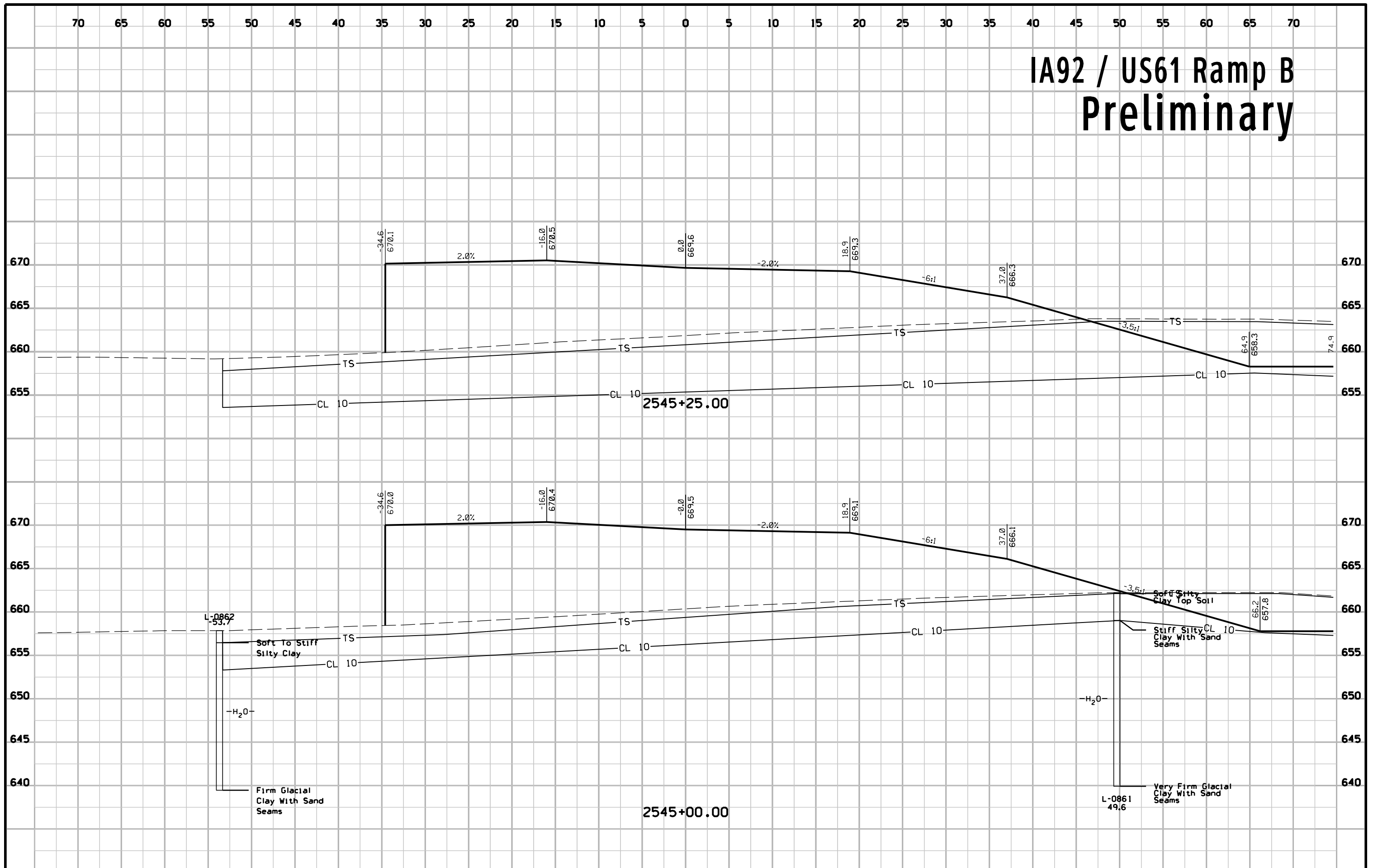
IA92 / US61 Ramp B Preliminary



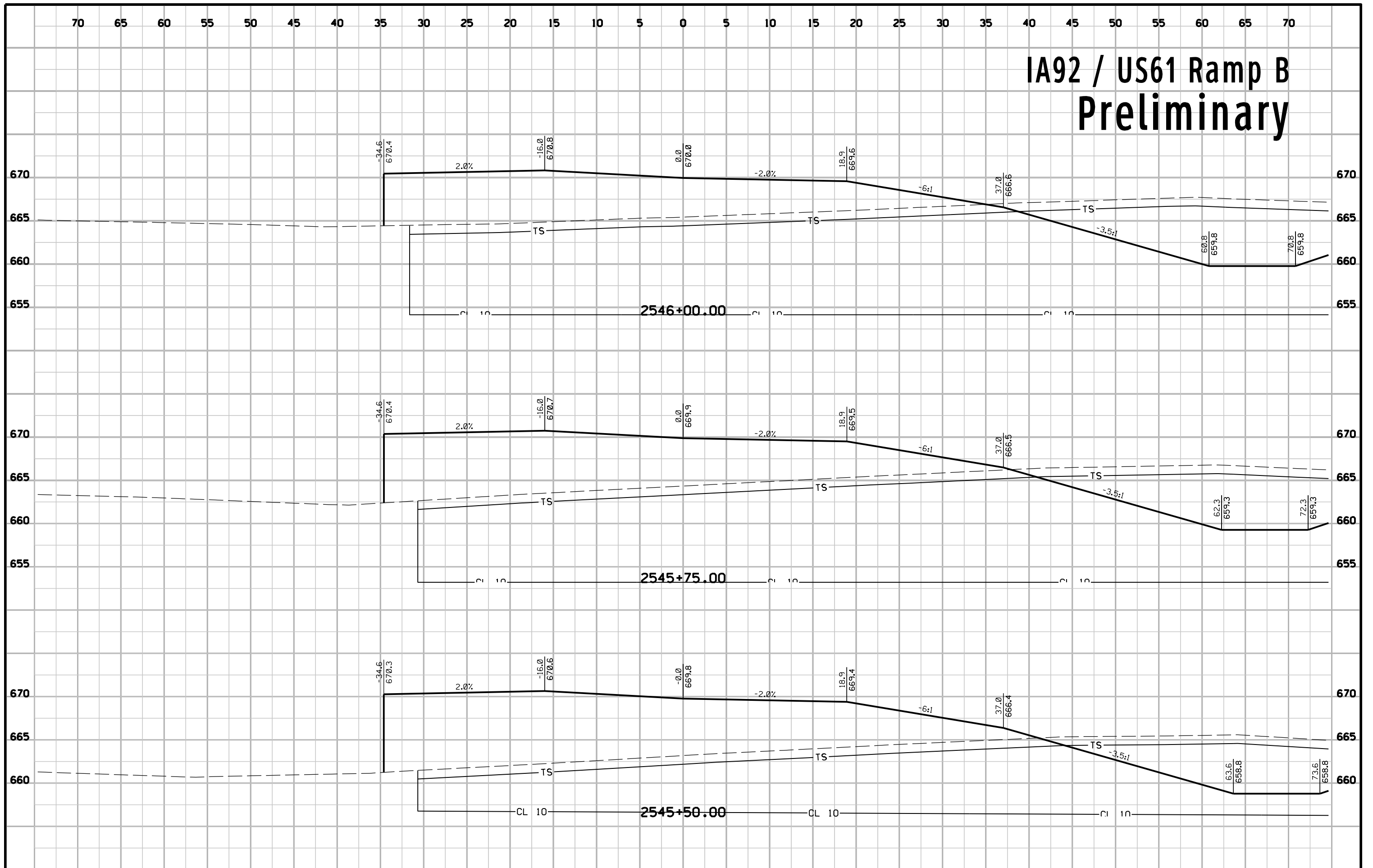
IA92 / US61 Ramp B Preliminary



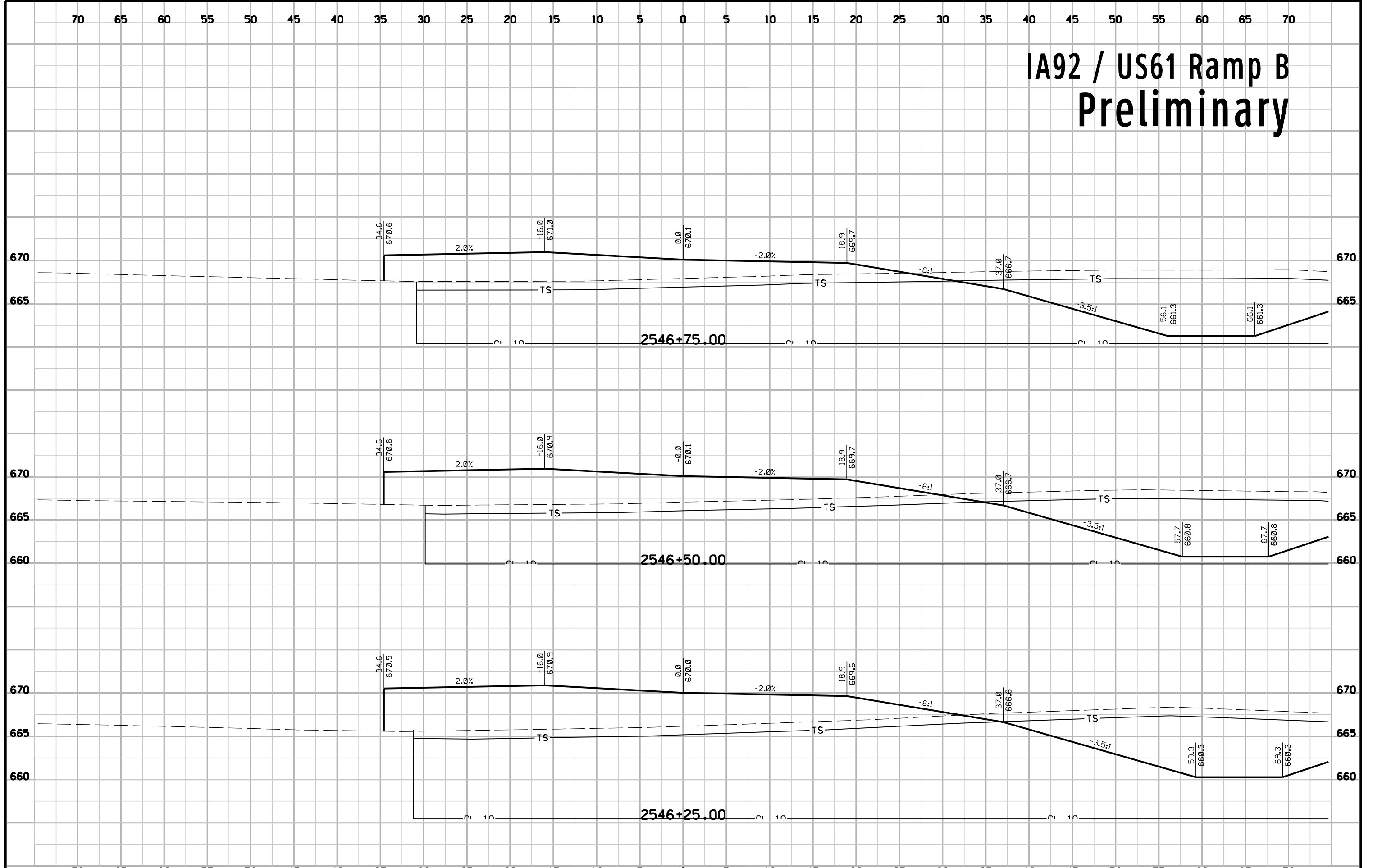
IA92 / US61 Ramp B Preliminary



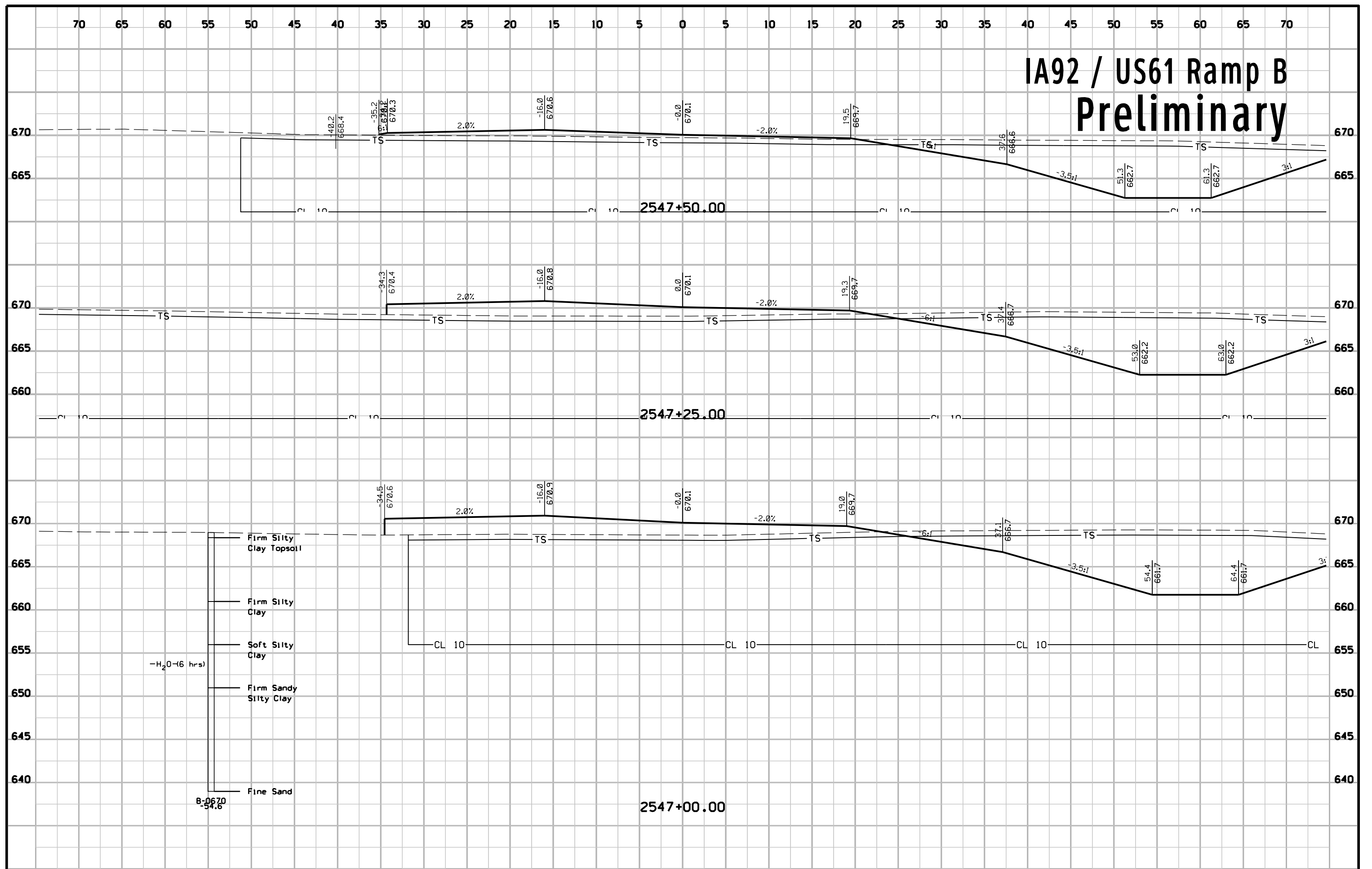
IA92 / US61 Ramp B Preliminary



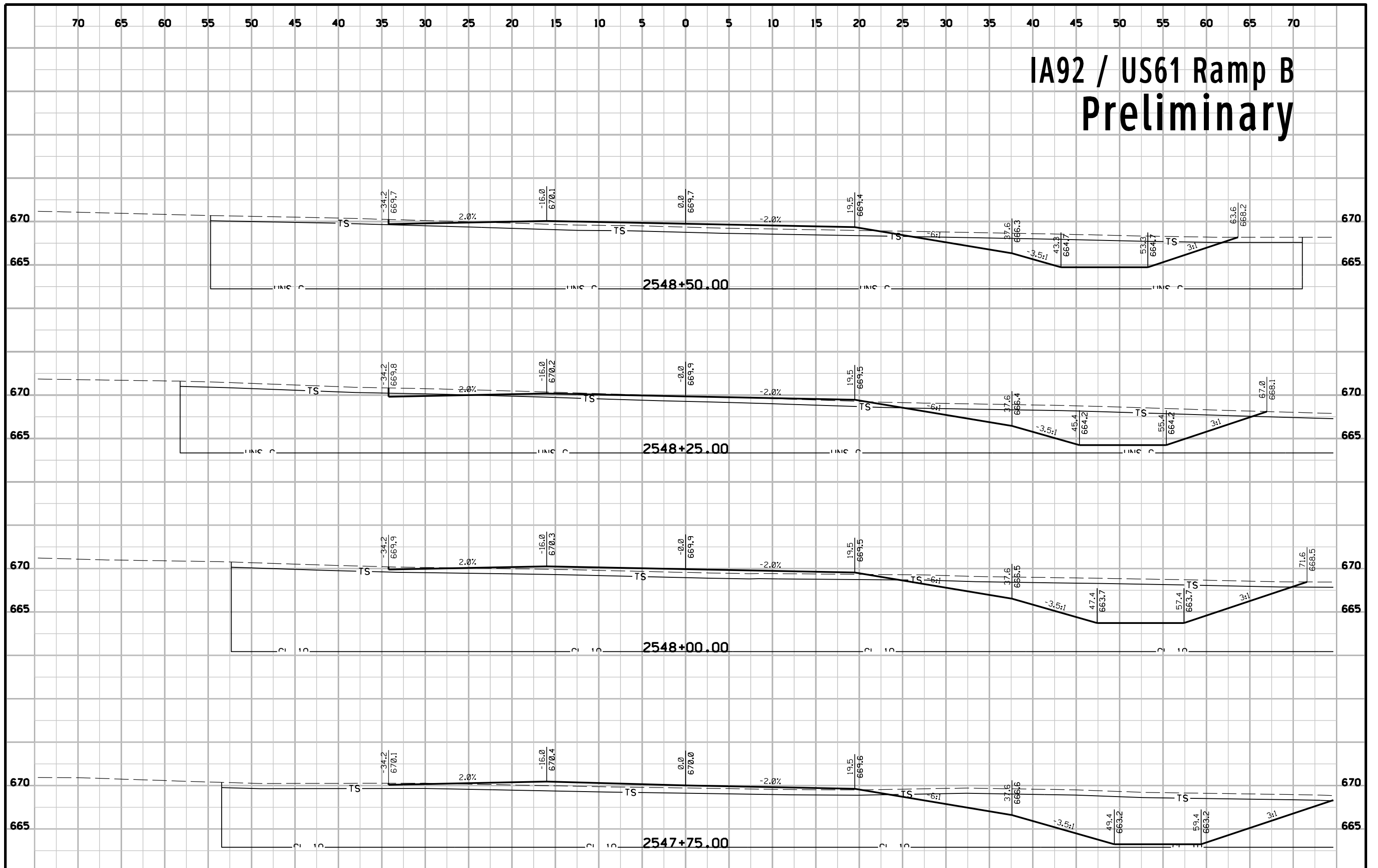
IA92 / US61 Ramp B Preliminary



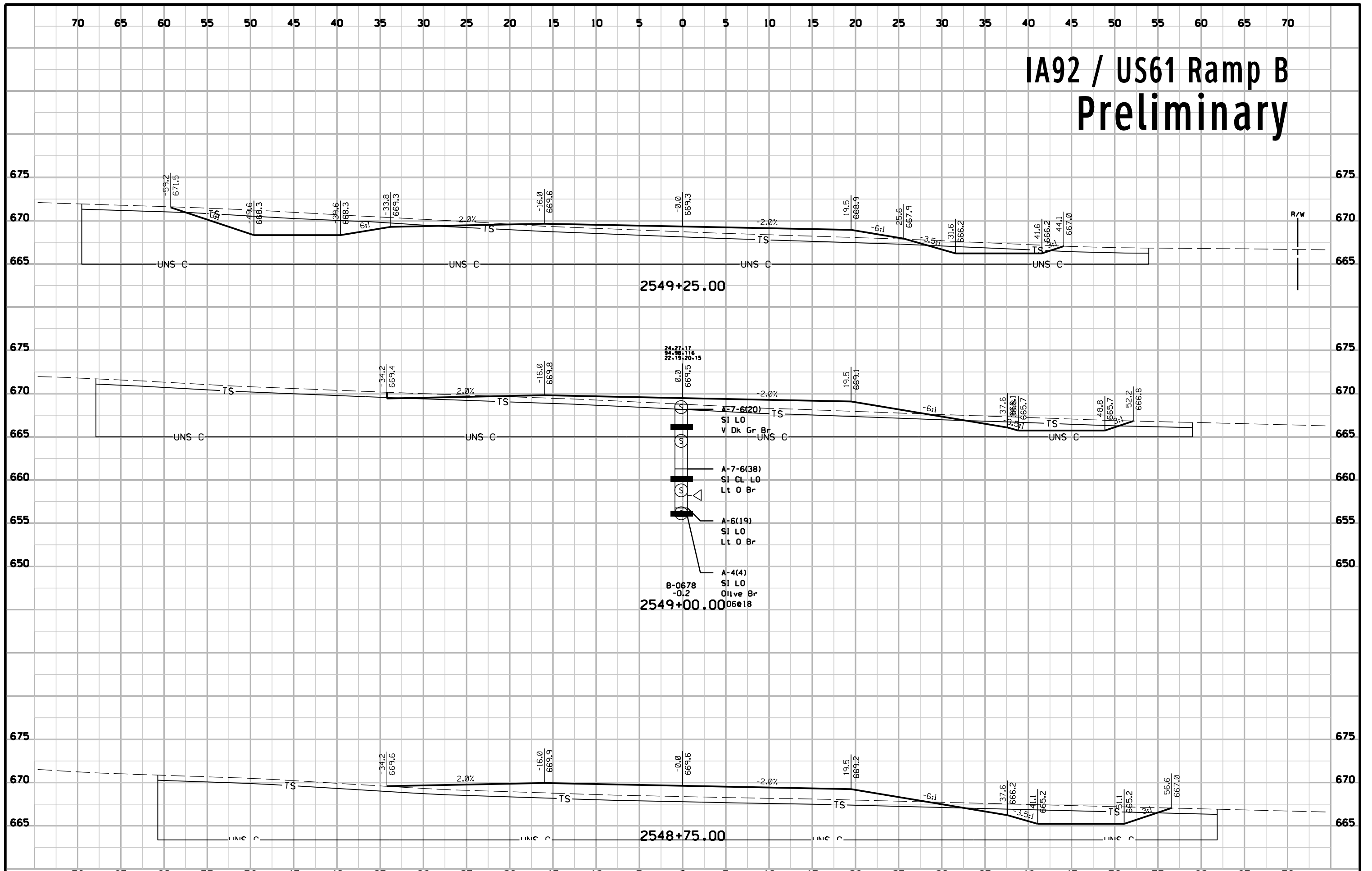
IA92 / US61 Ramp B Preliminary



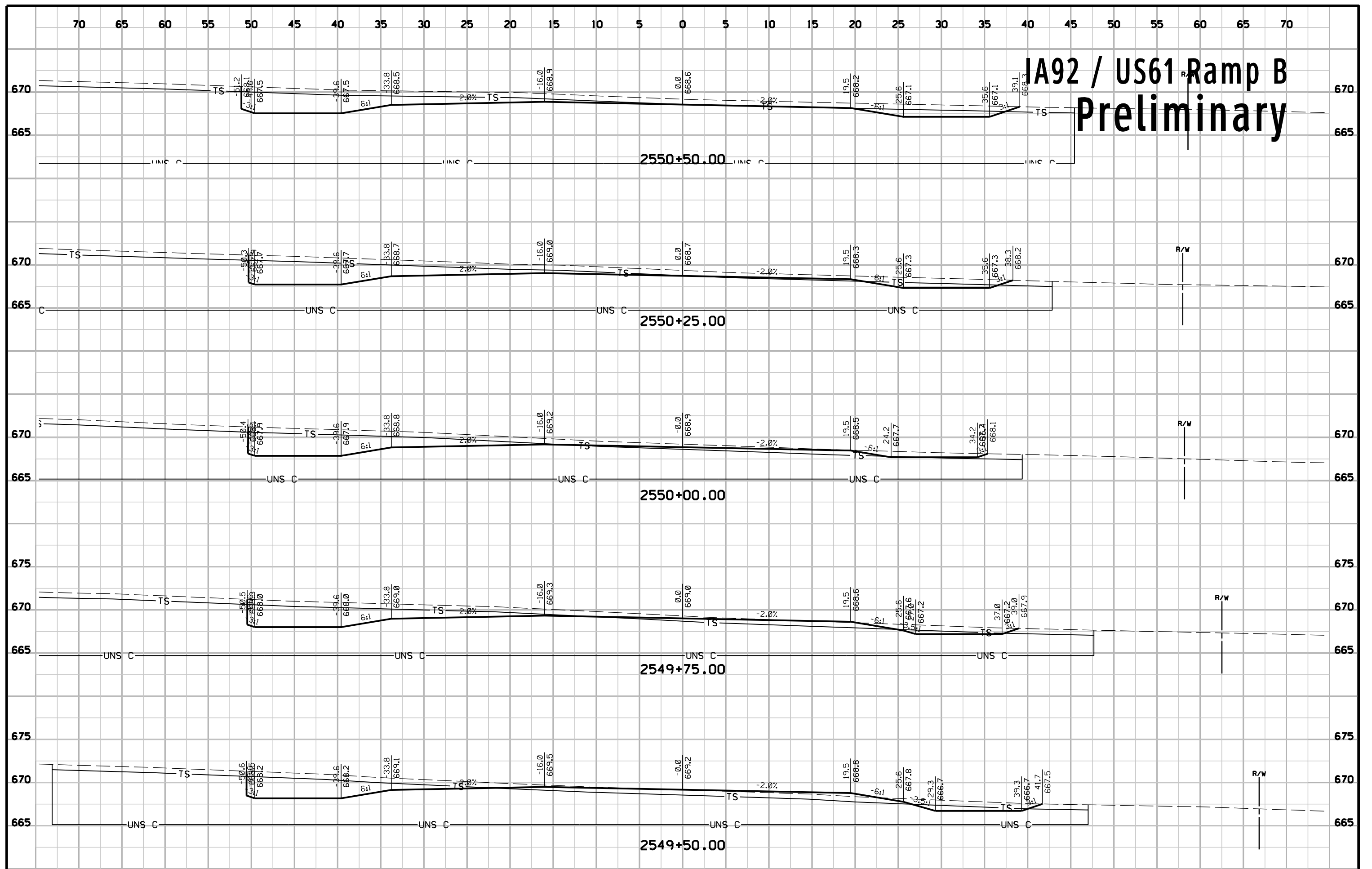
IA92 / US61 Ramp B Preliminary



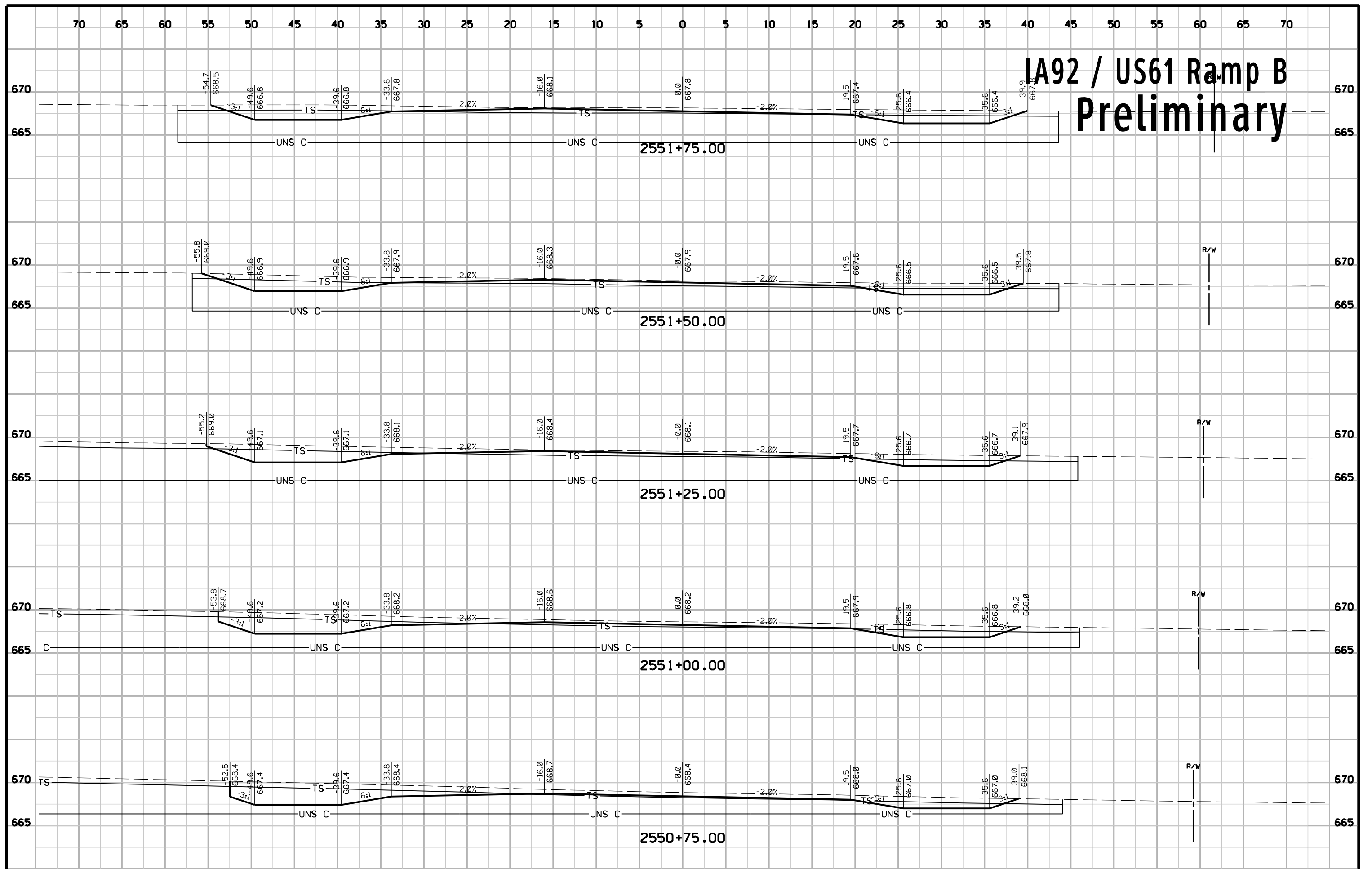
IA92 / US61 Ramp B Preliminary



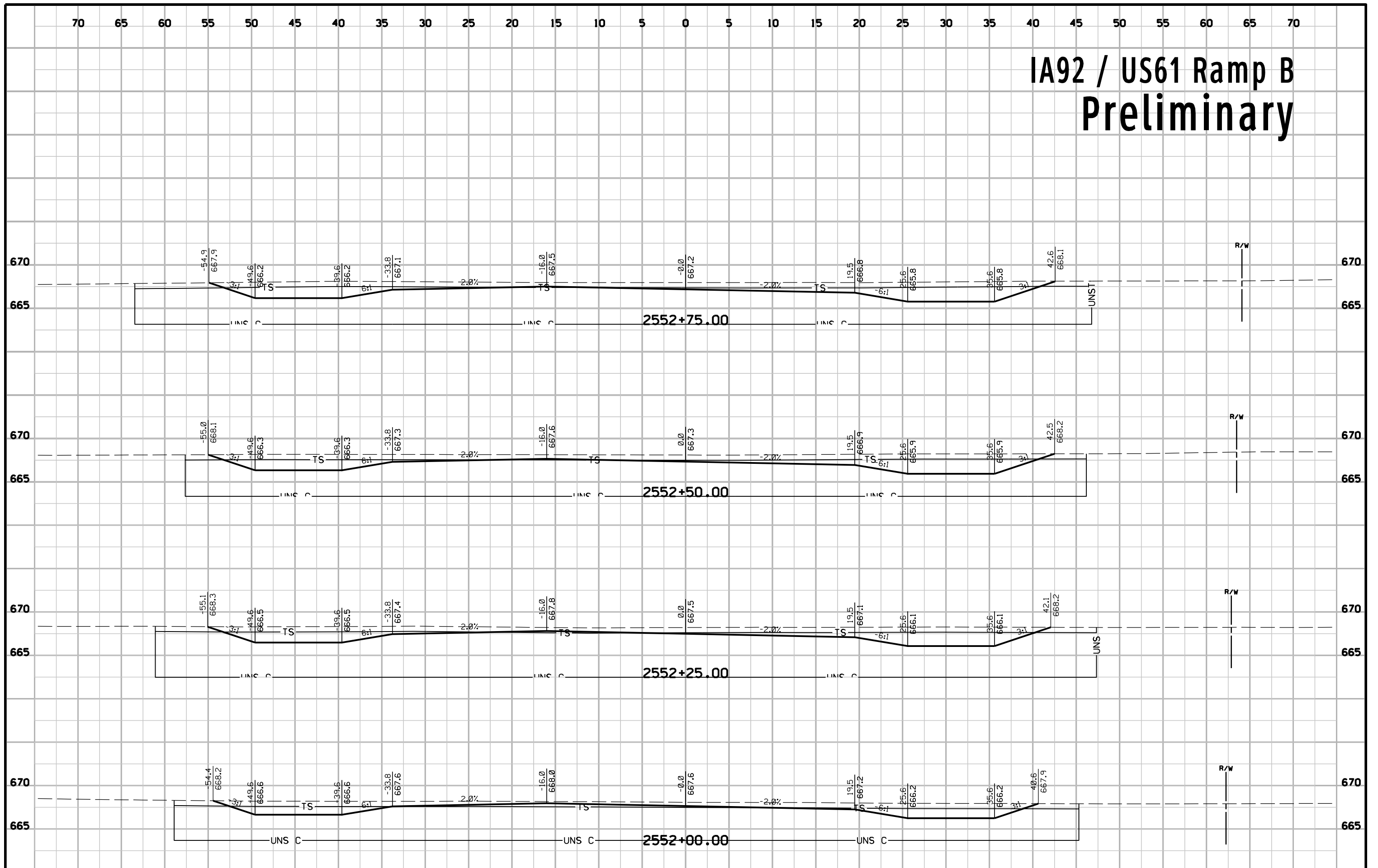
IA92 / US61 Ramp B Preliminary



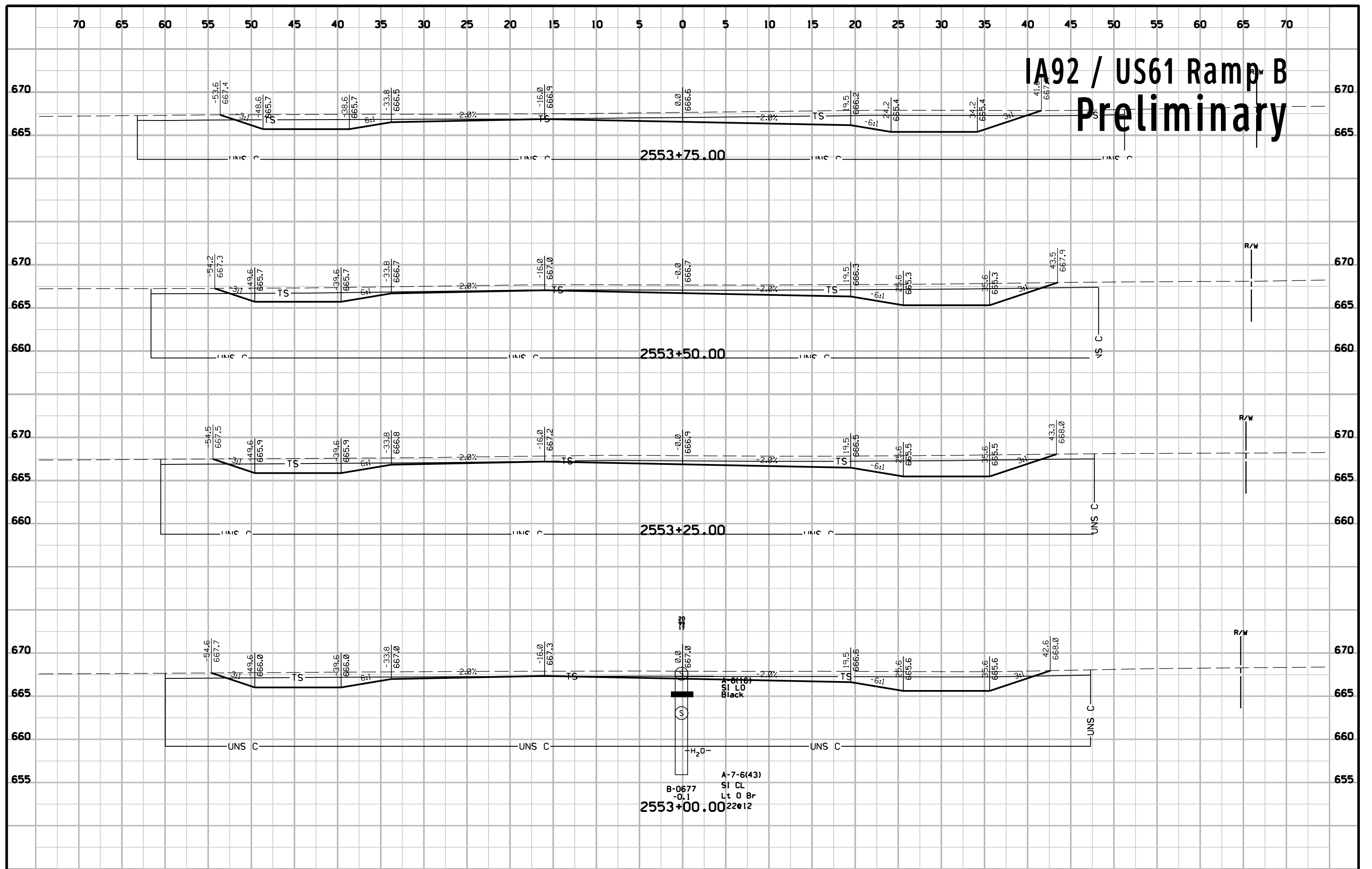
IA92 / US61 Ramp B Preliminary



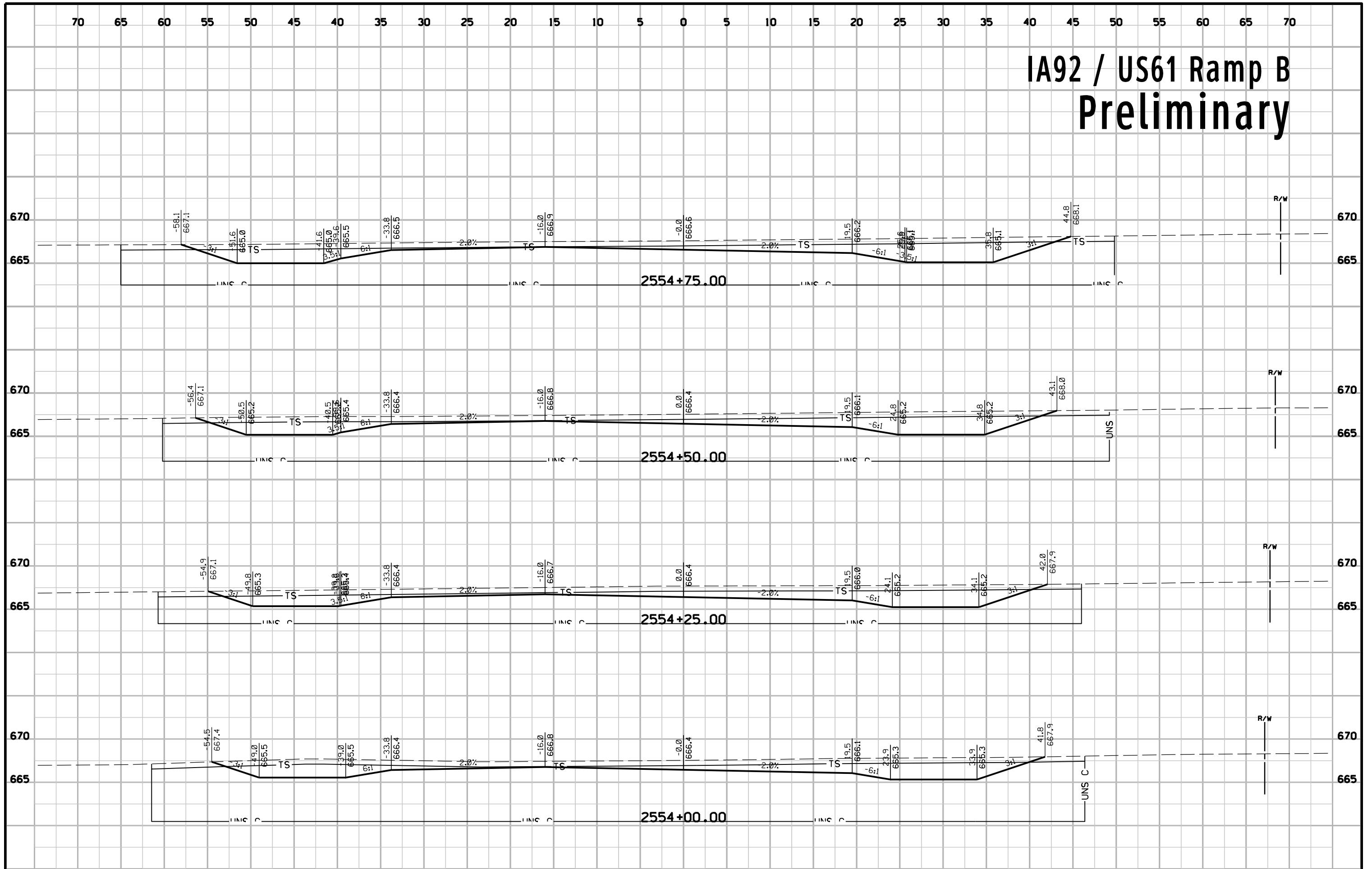
IA92 / US61 Ramp B Preliminary



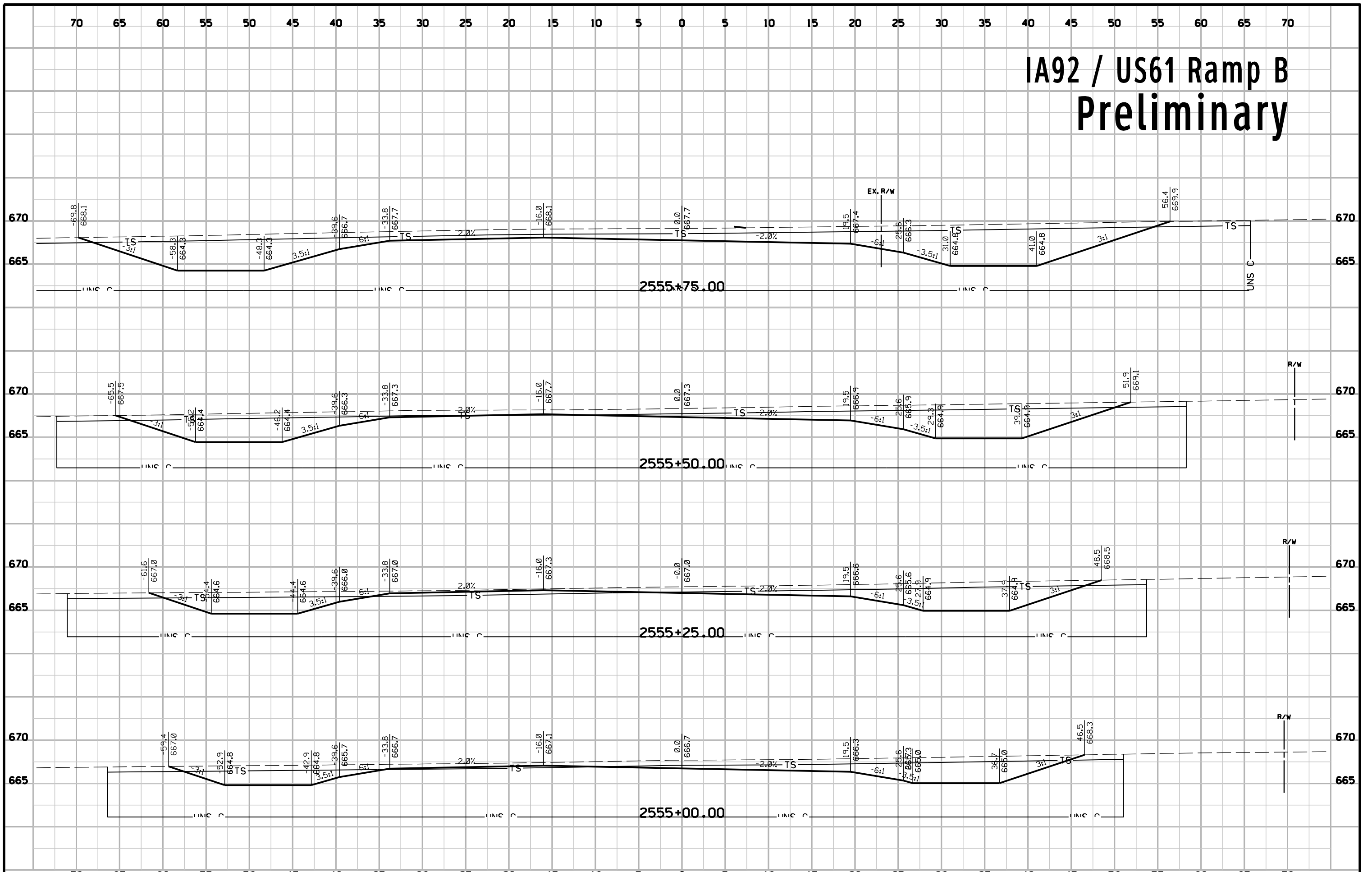
IA92 / US61 Ramp B Preliminary



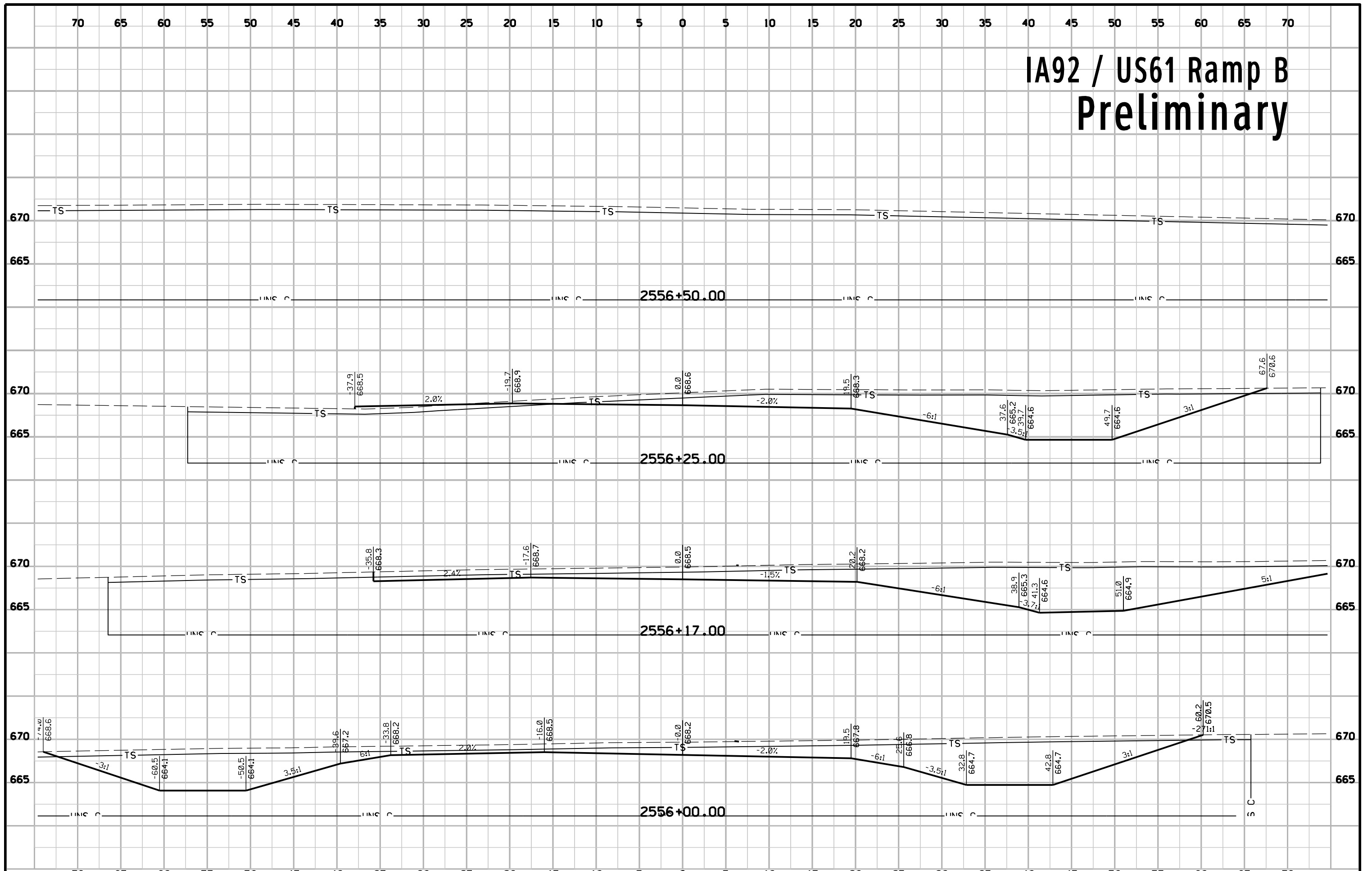
IA92 / US61 Ramp B Preliminary



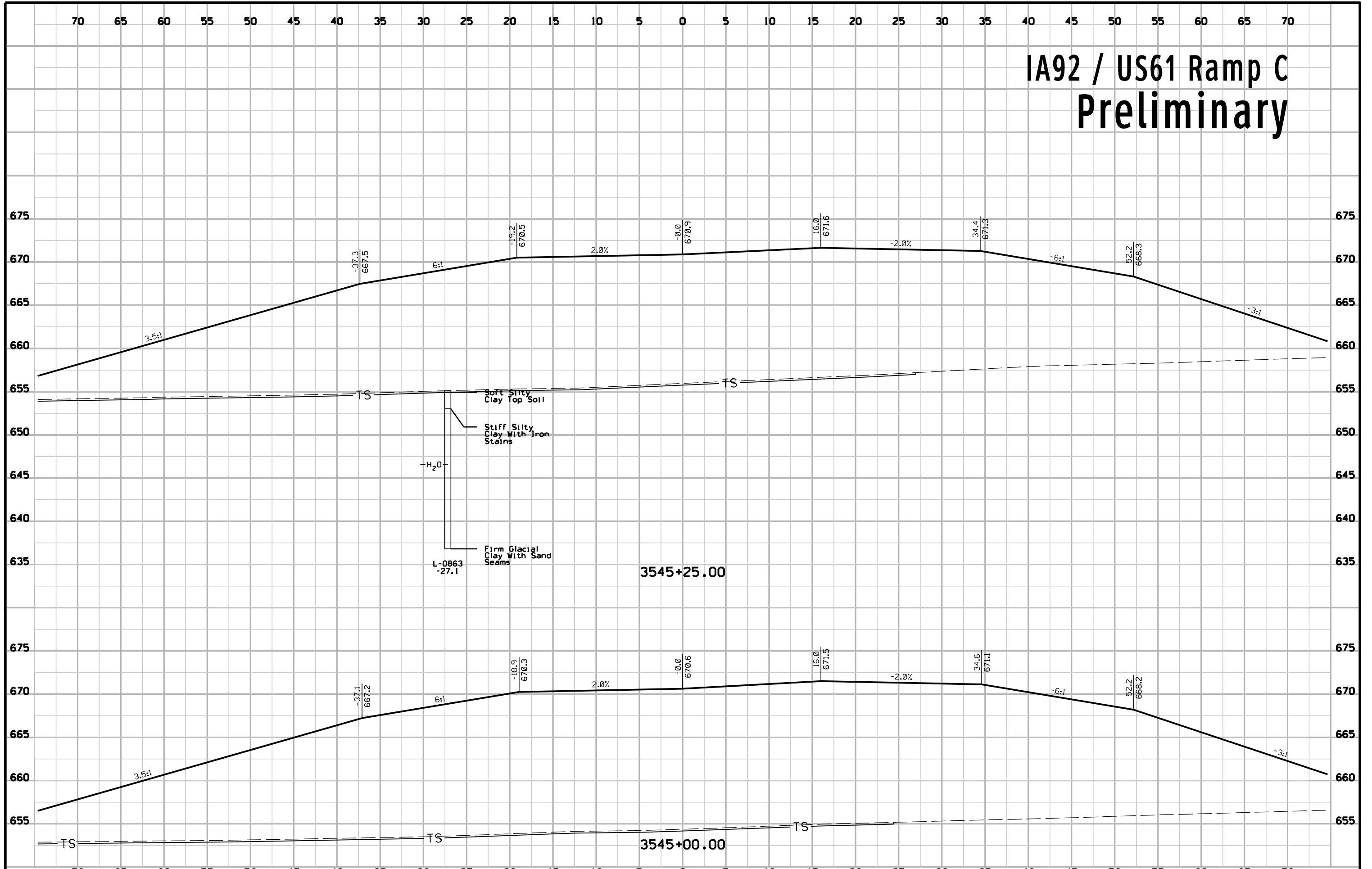
IA92 / US61 Ramp B Preliminary



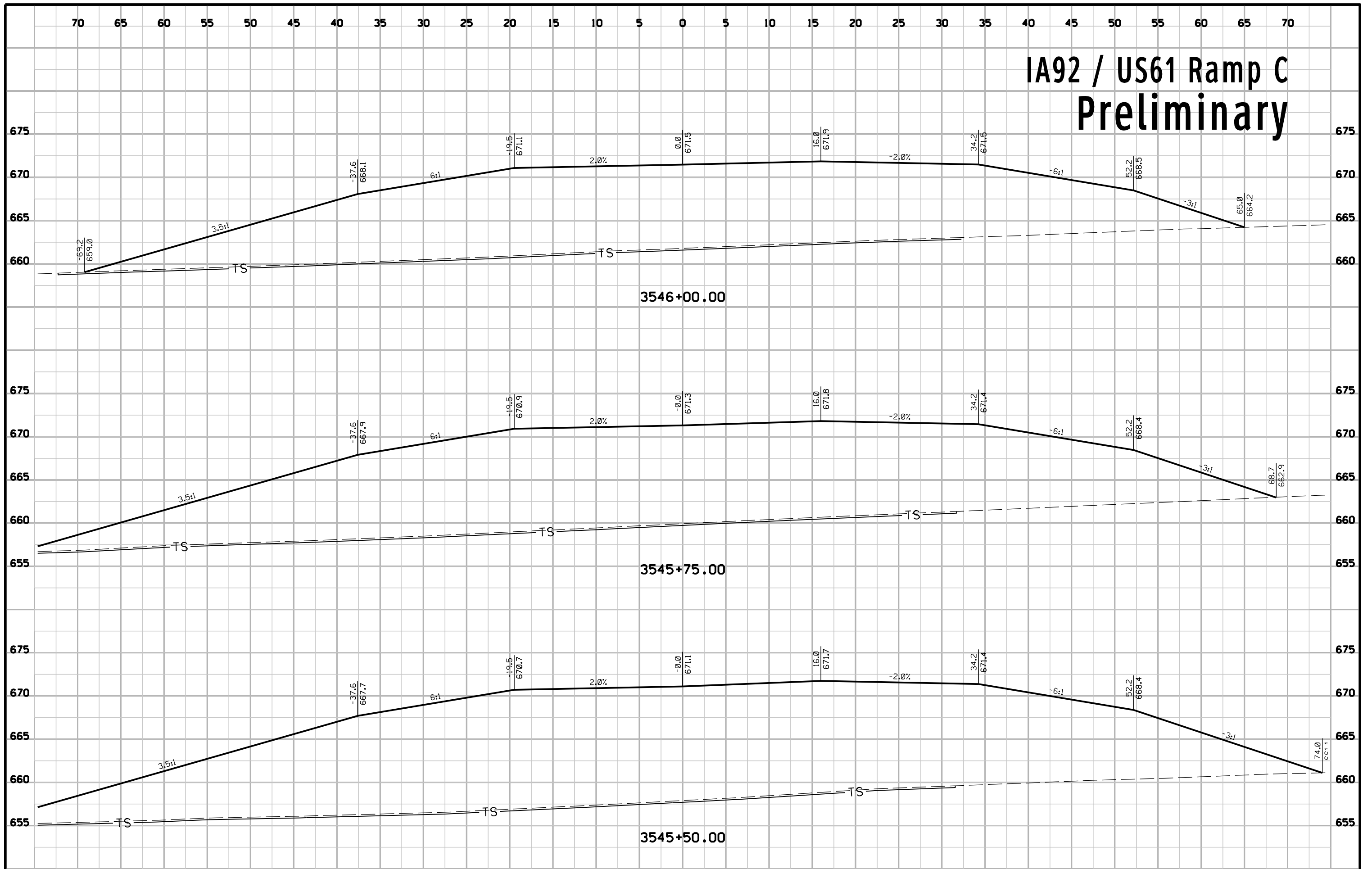
IA92 / US61 Ramp B Preliminary



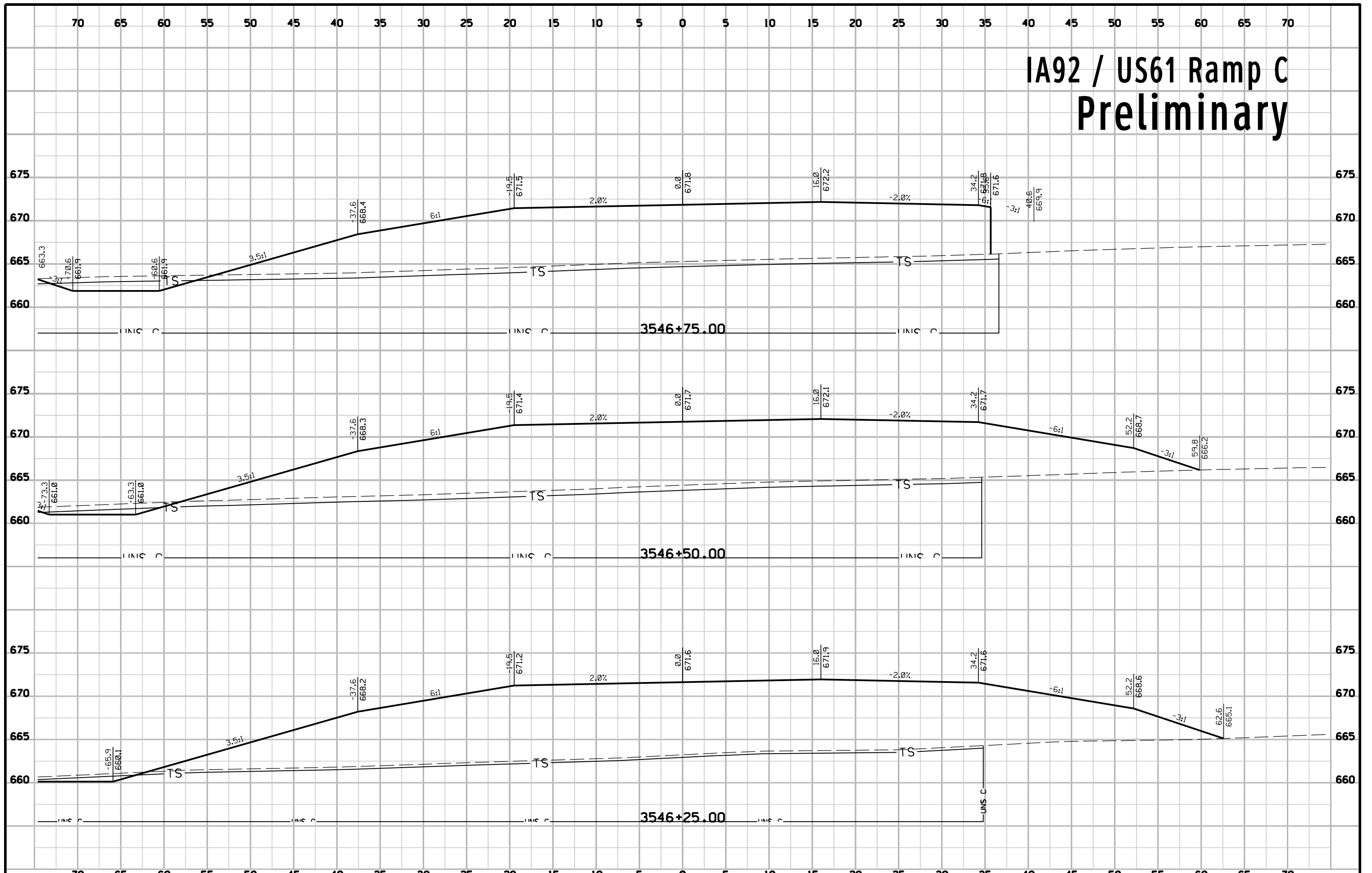
IA92 / US61 Ramp C Preliminary



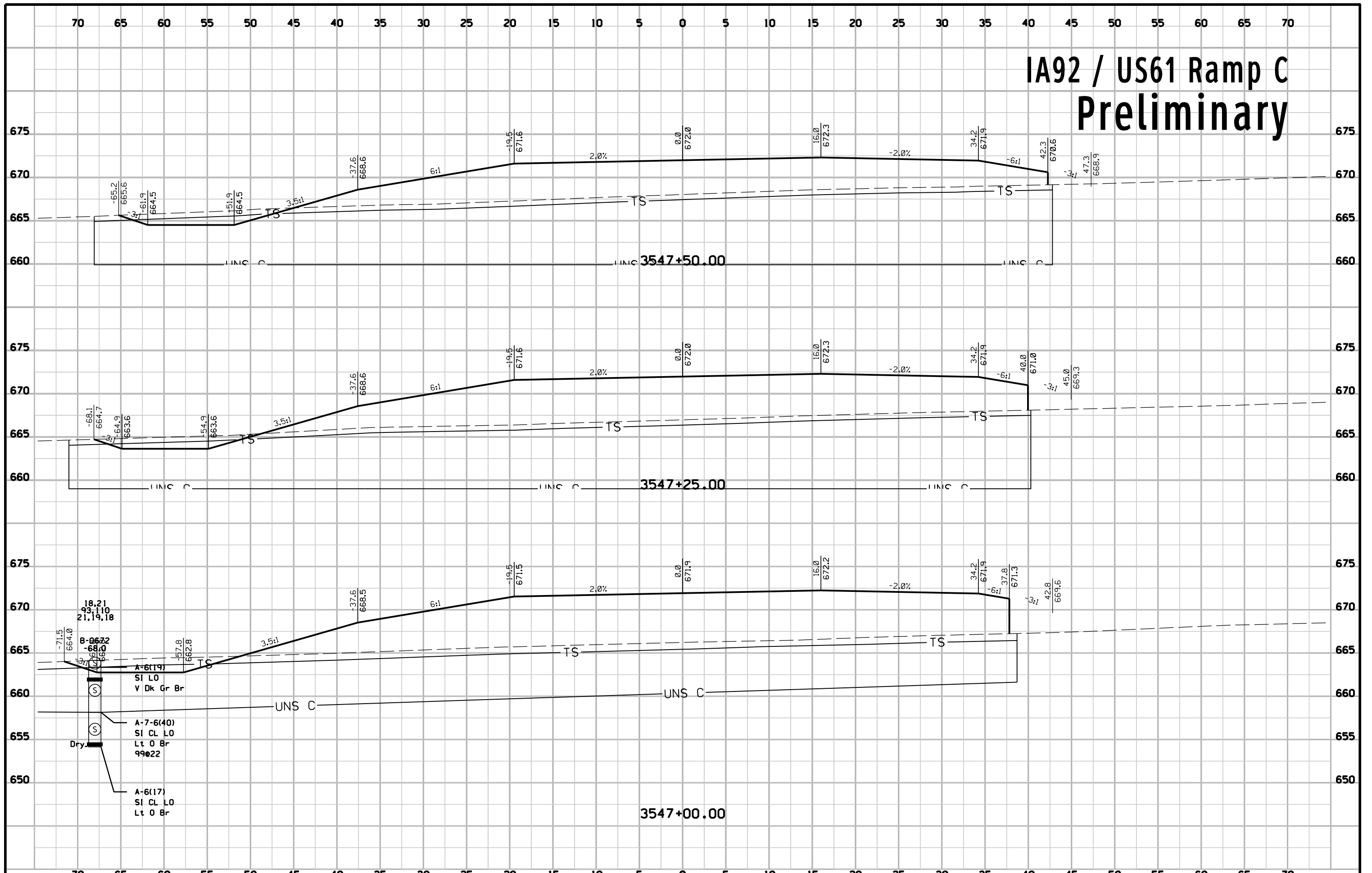
IA92 / US61 Ramp C Preliminary



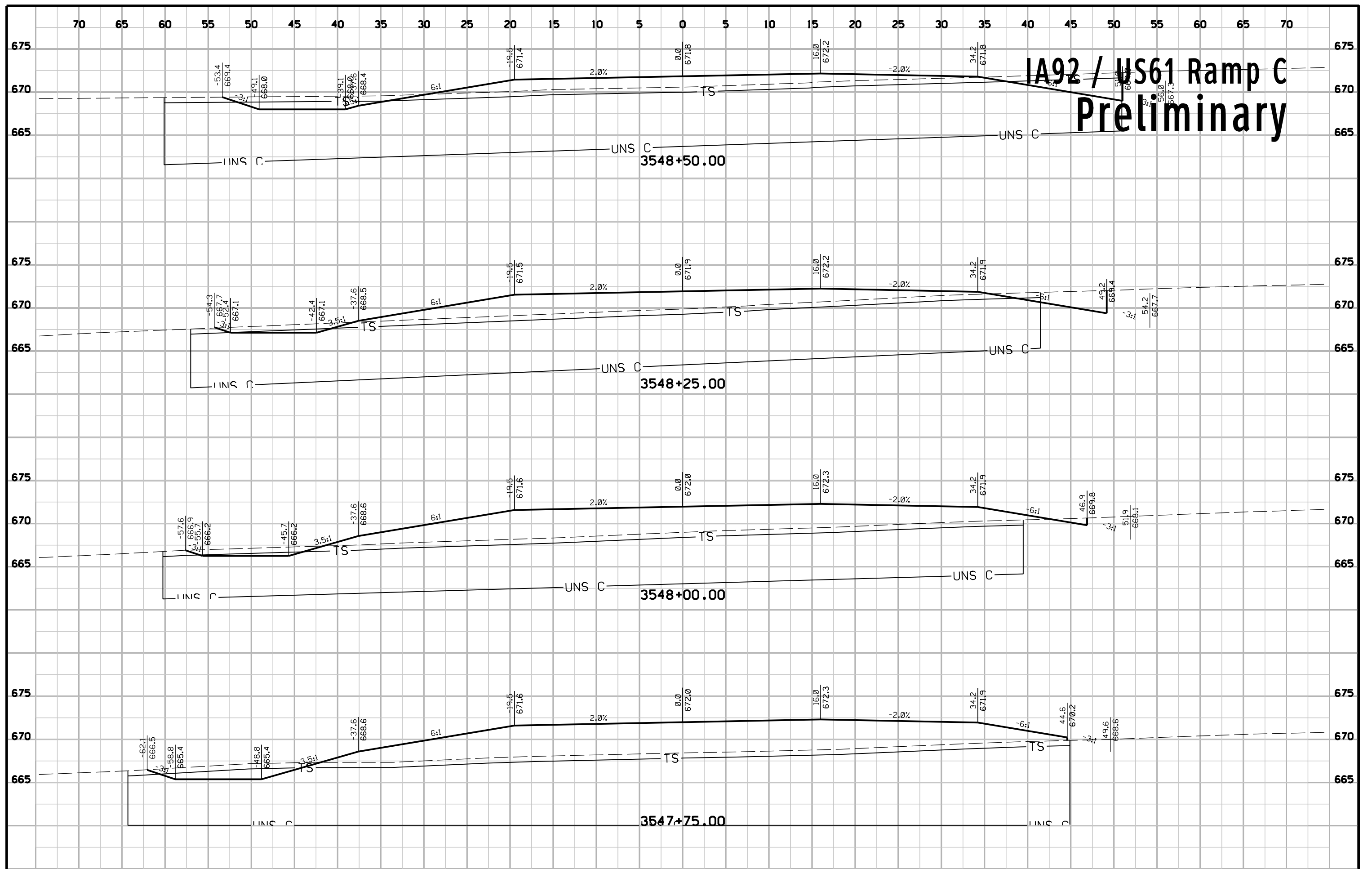
IA92 / US61 Ramp C Preliminary



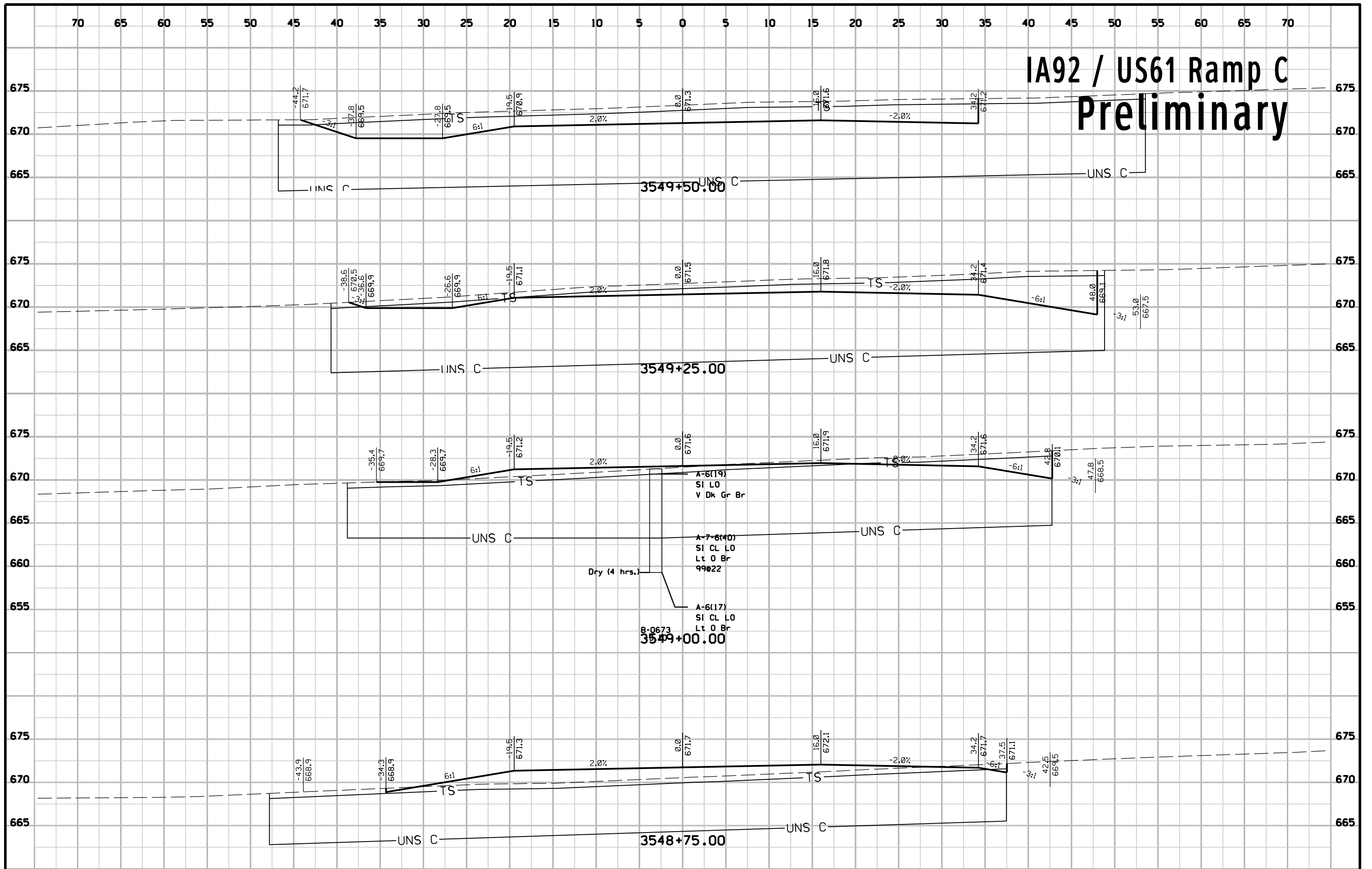
IA92 / US61 Ramp C Preliminary



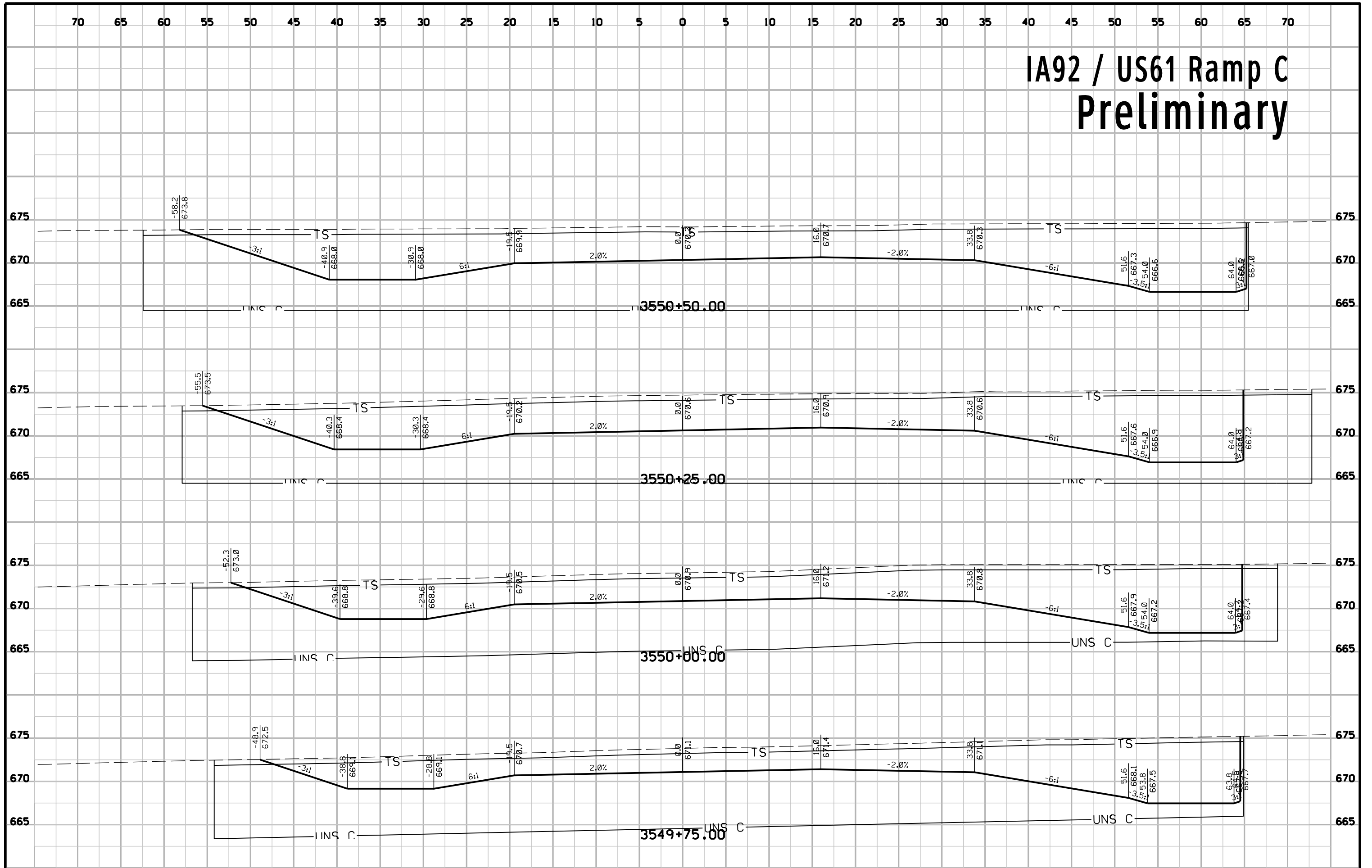
IA92 / US61 Ramp C Preliminary



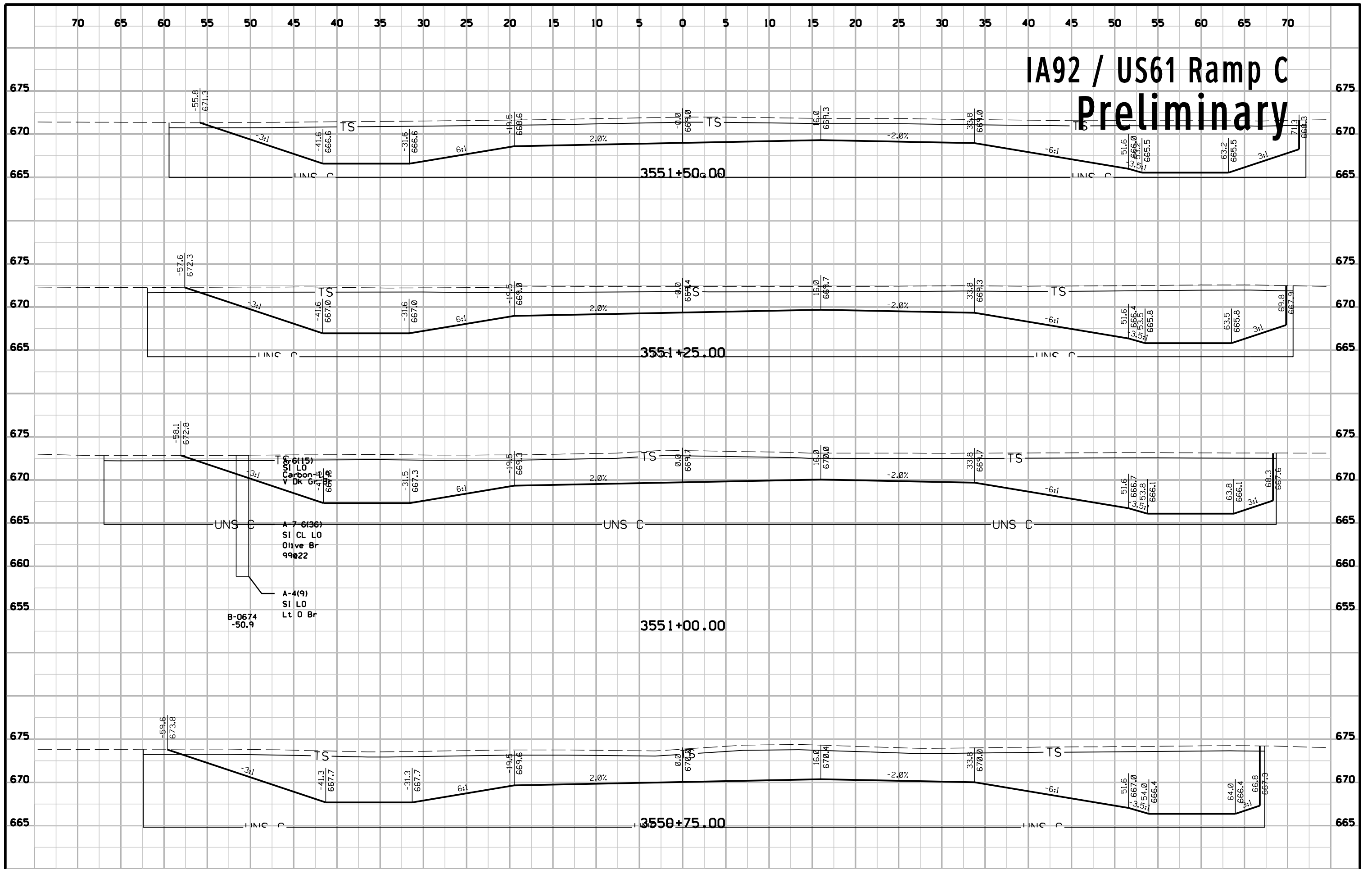
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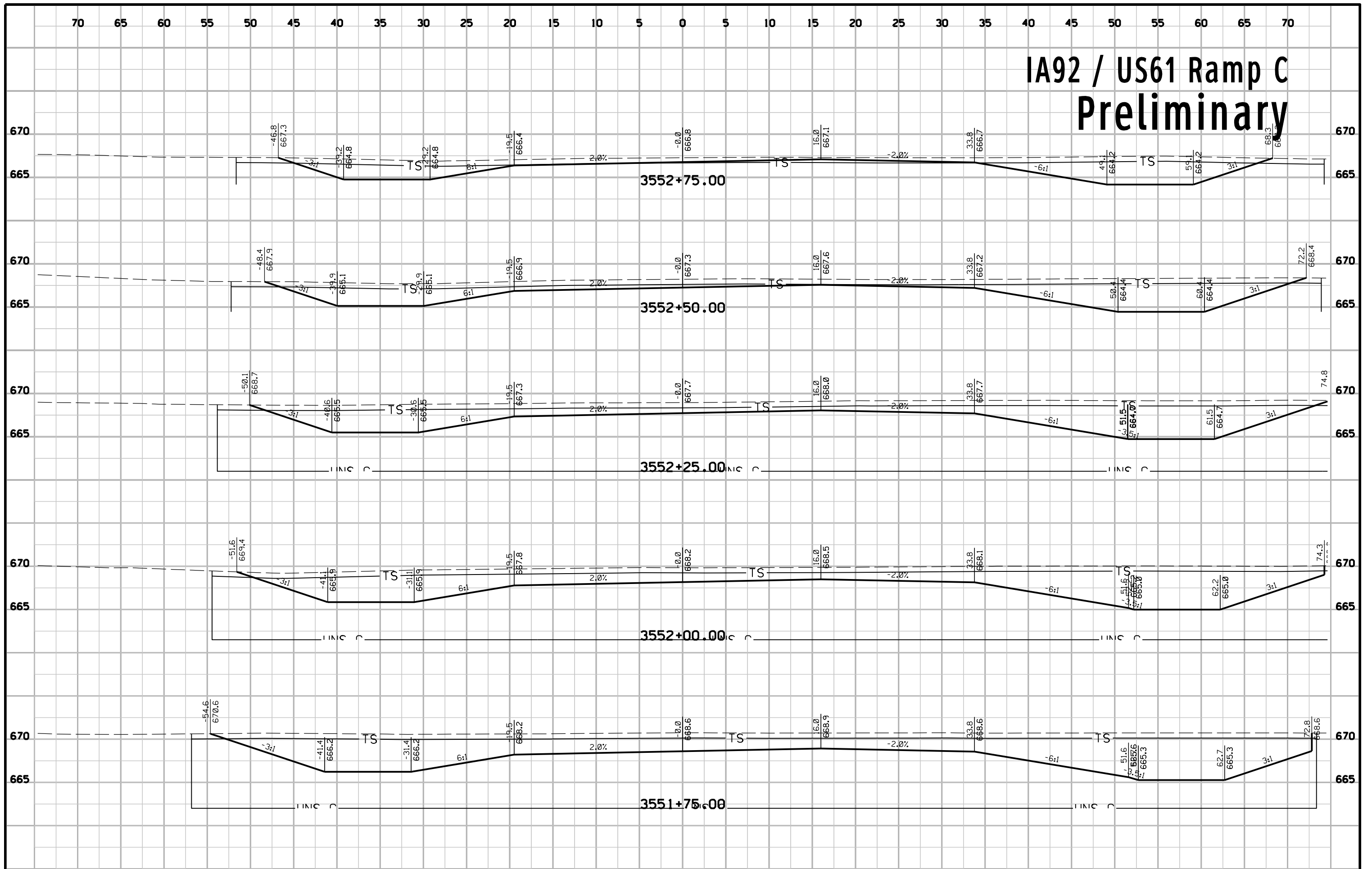
IA92 / US61 Ramp C Preliminary



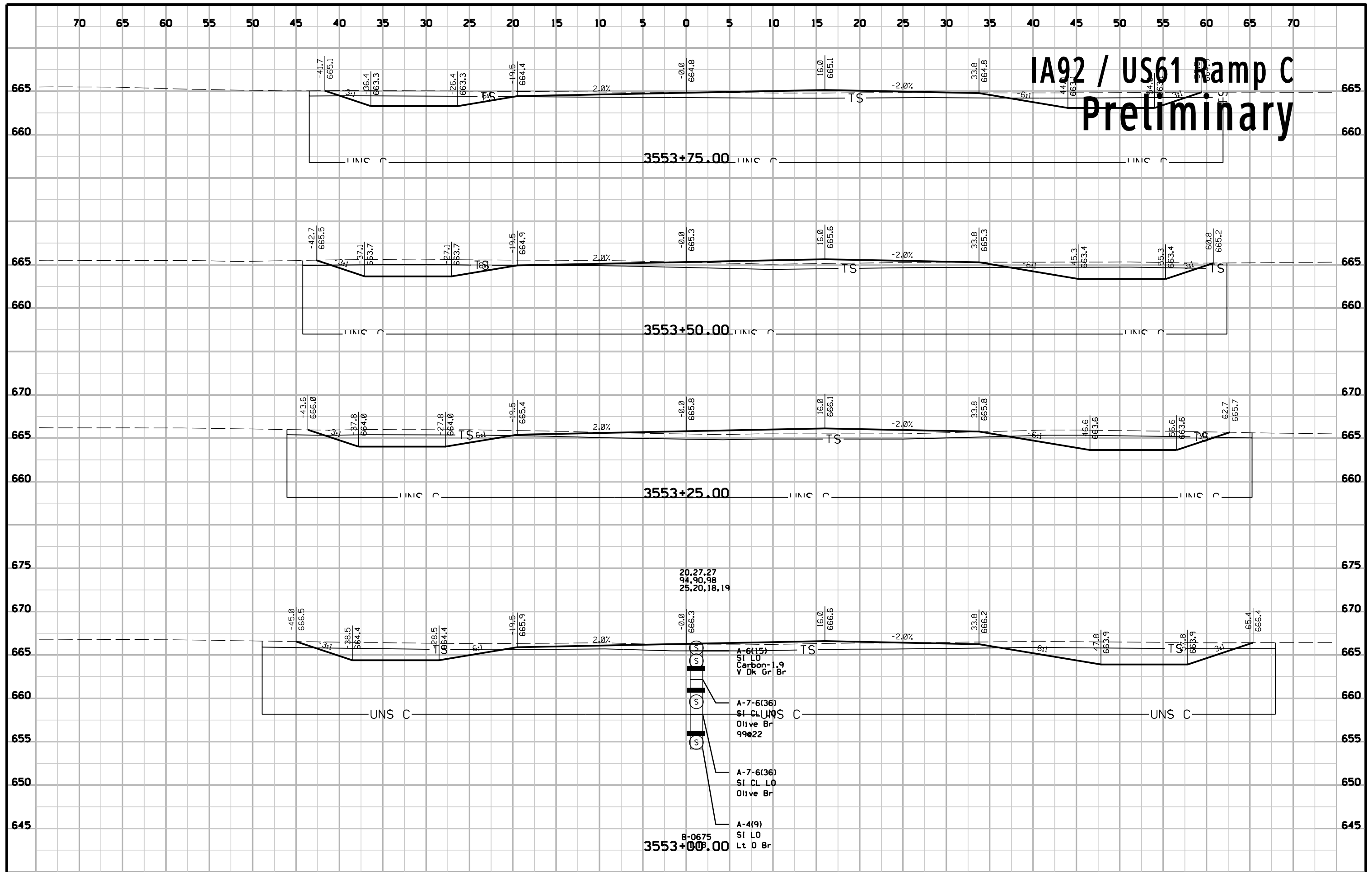
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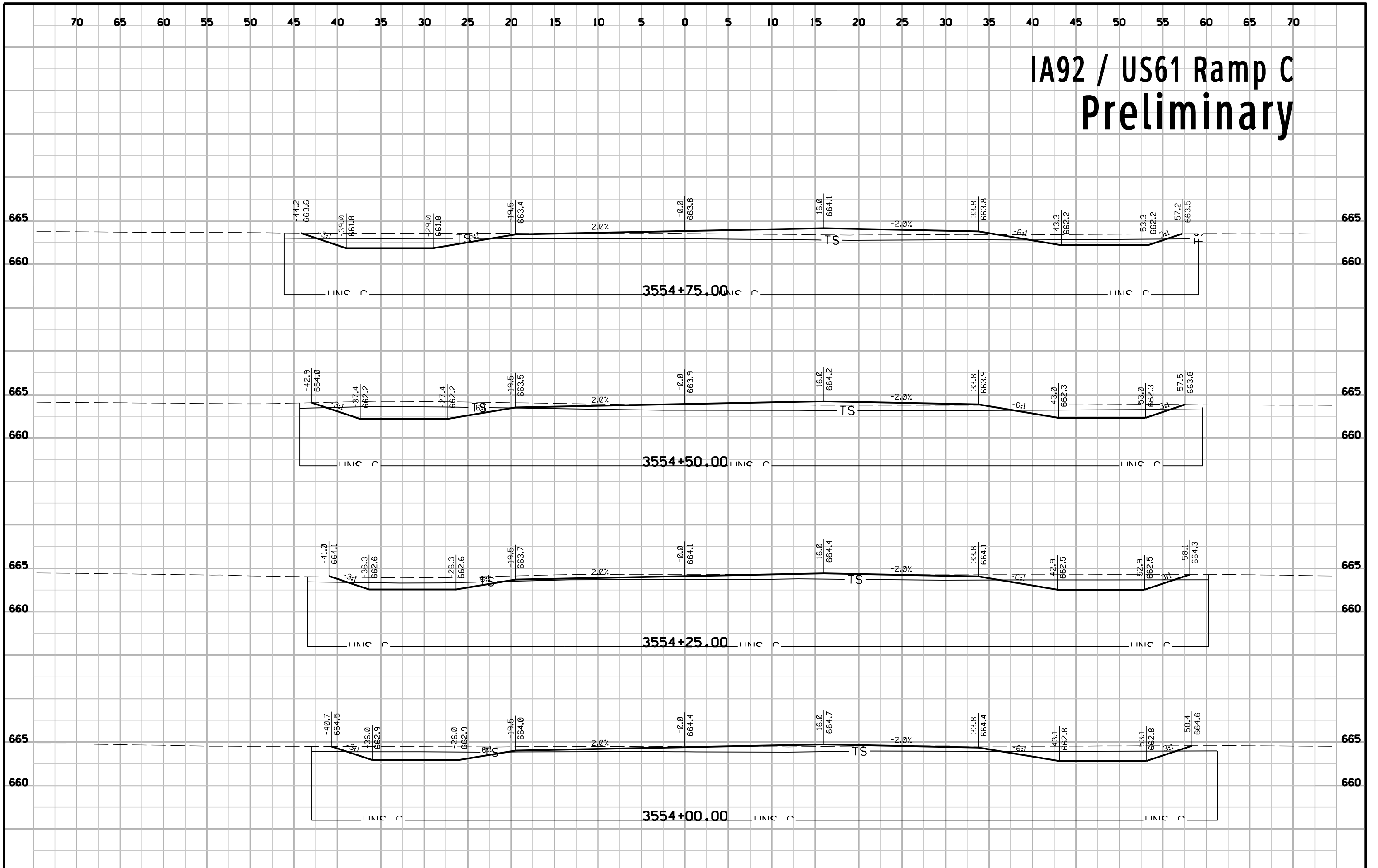
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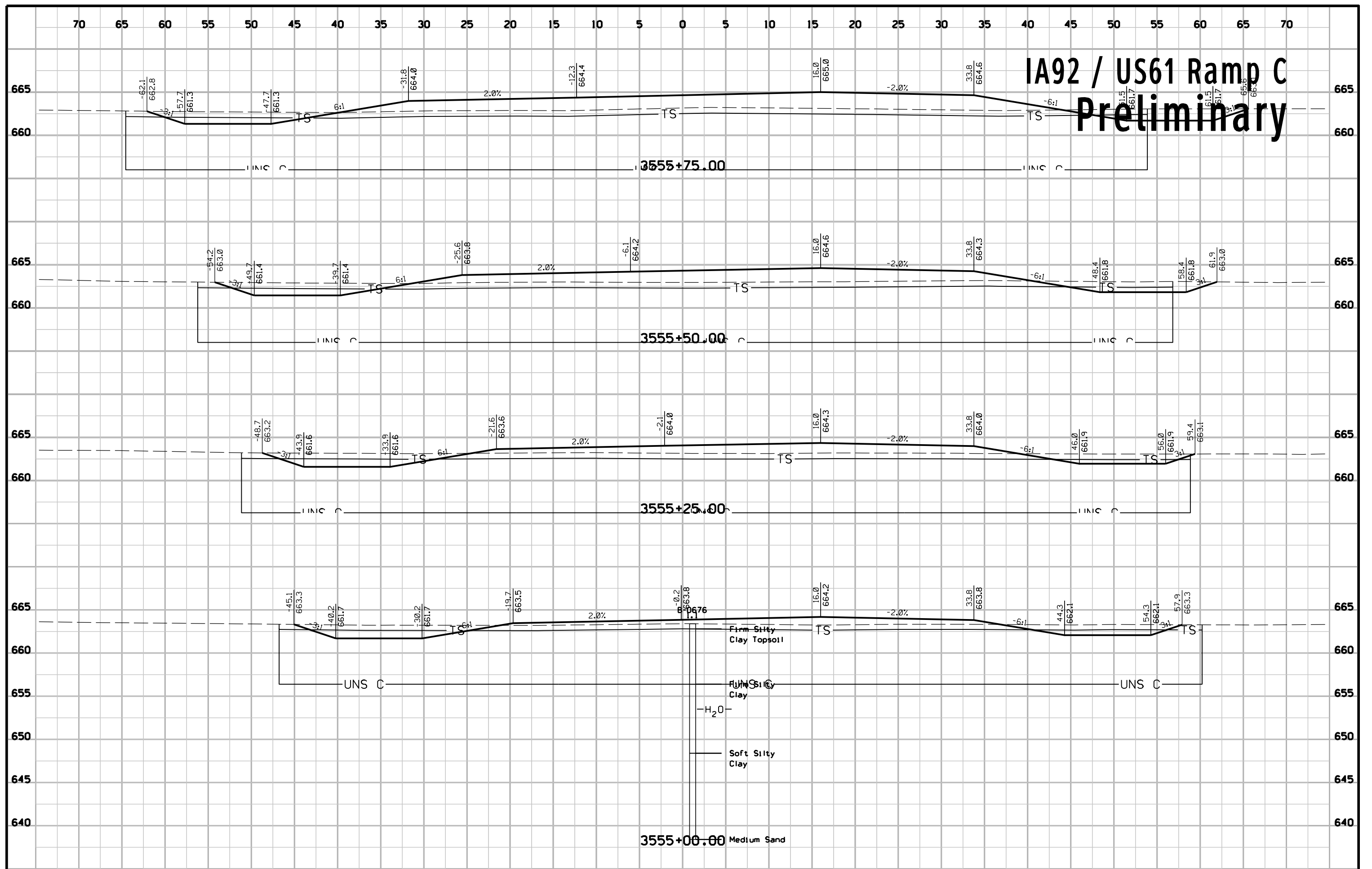
IA92 / US61 Ramp C Preliminary



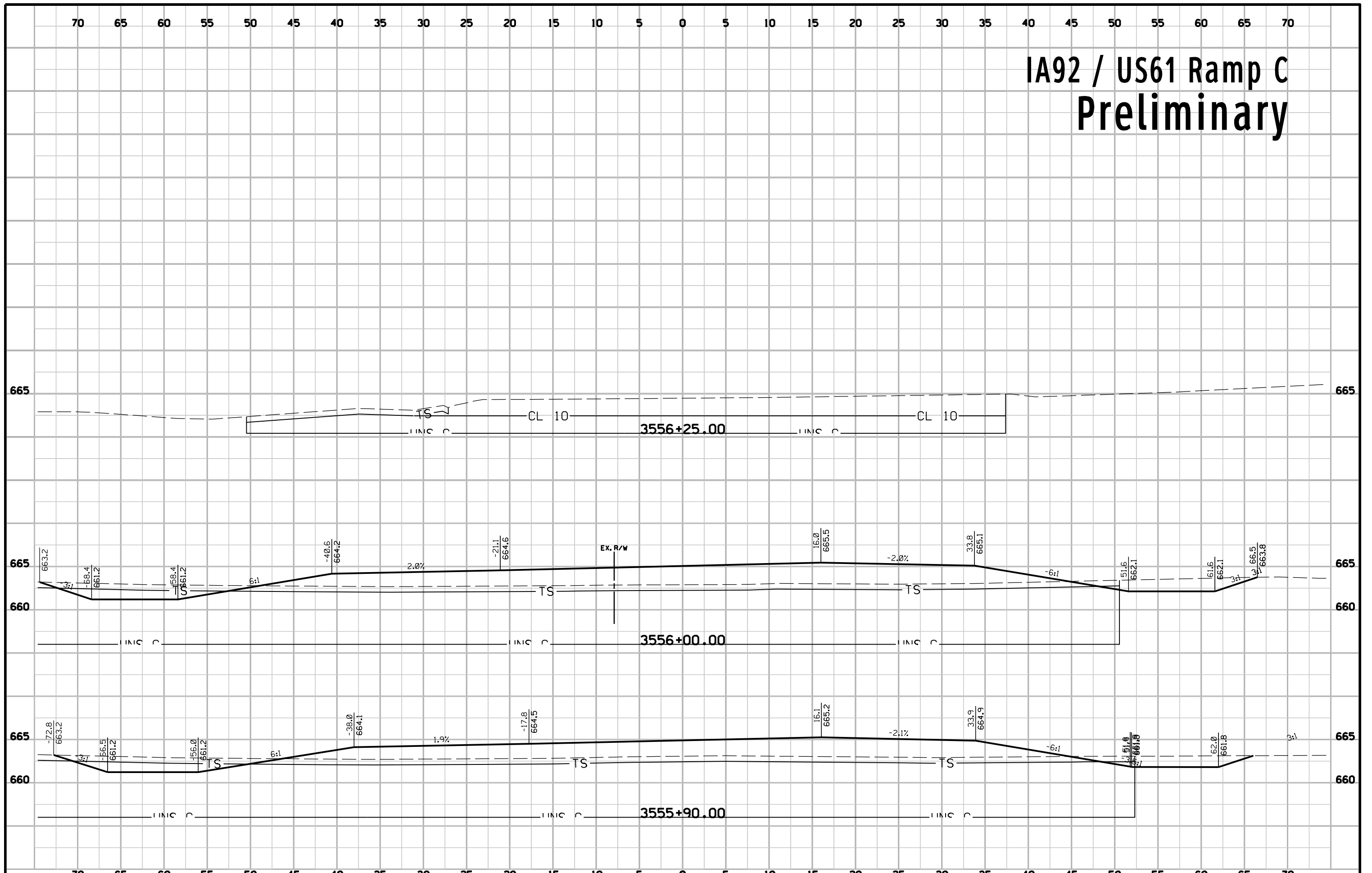
IA92 / US61 Ramp C Preliminary



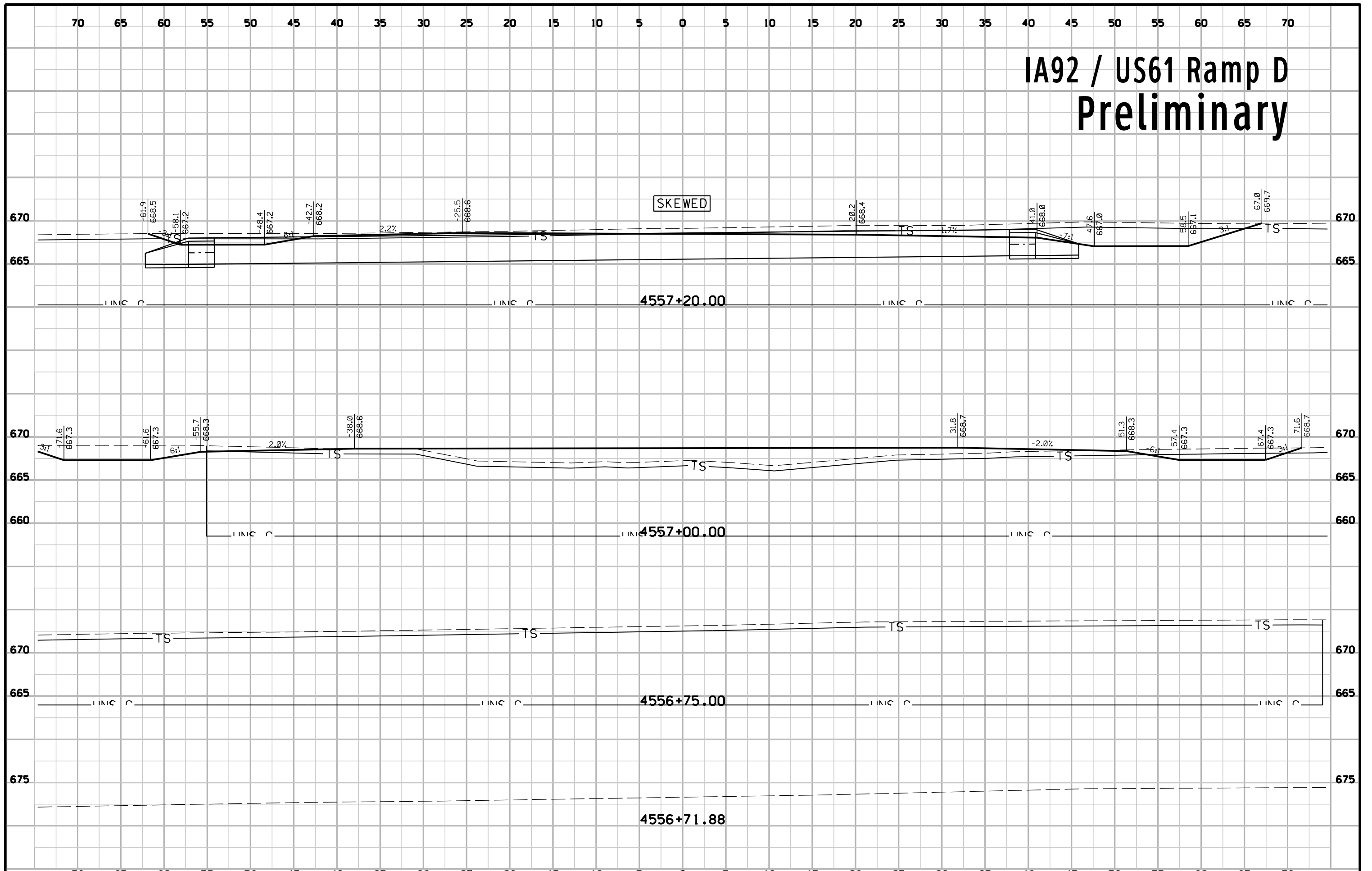
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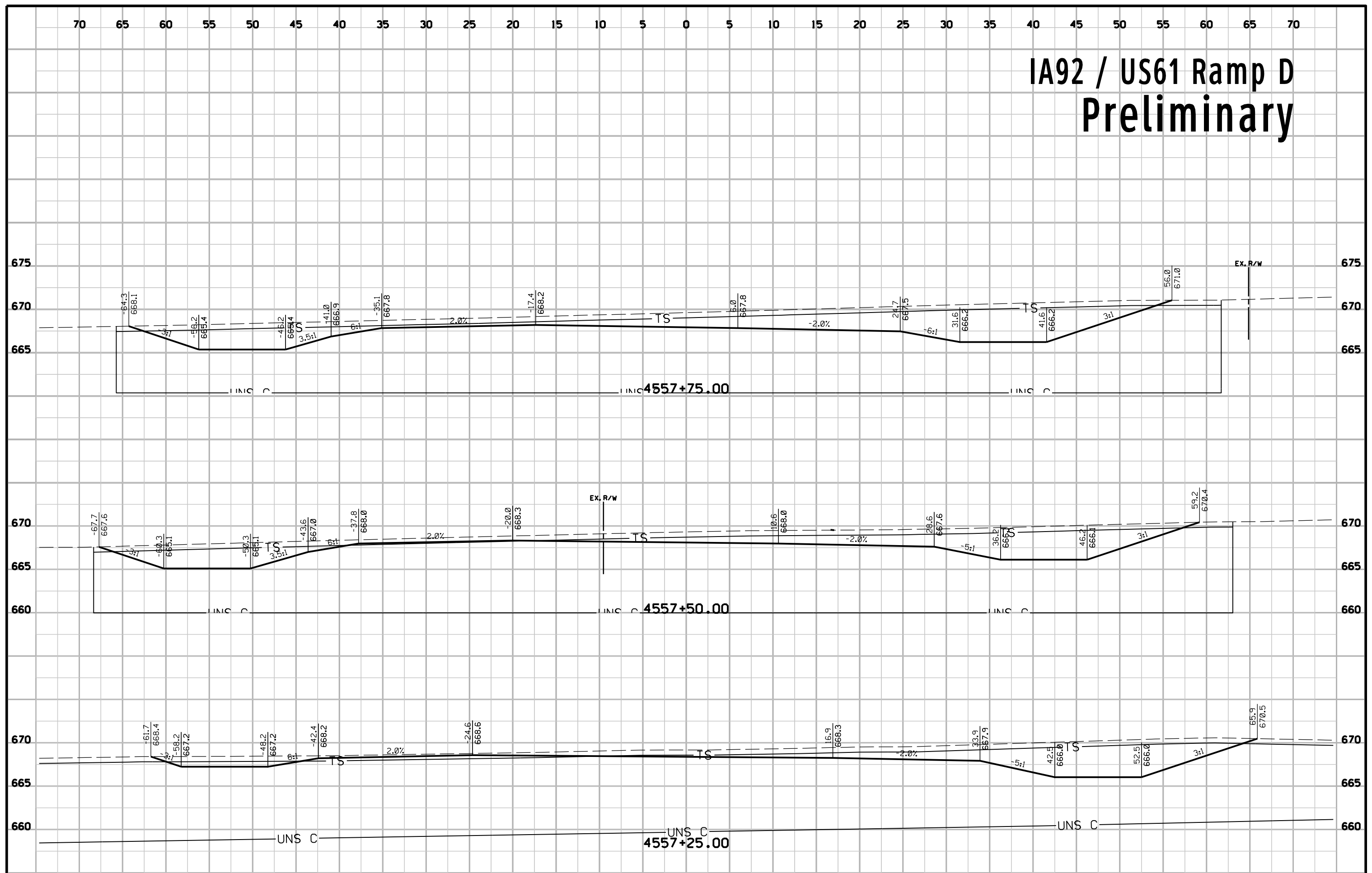
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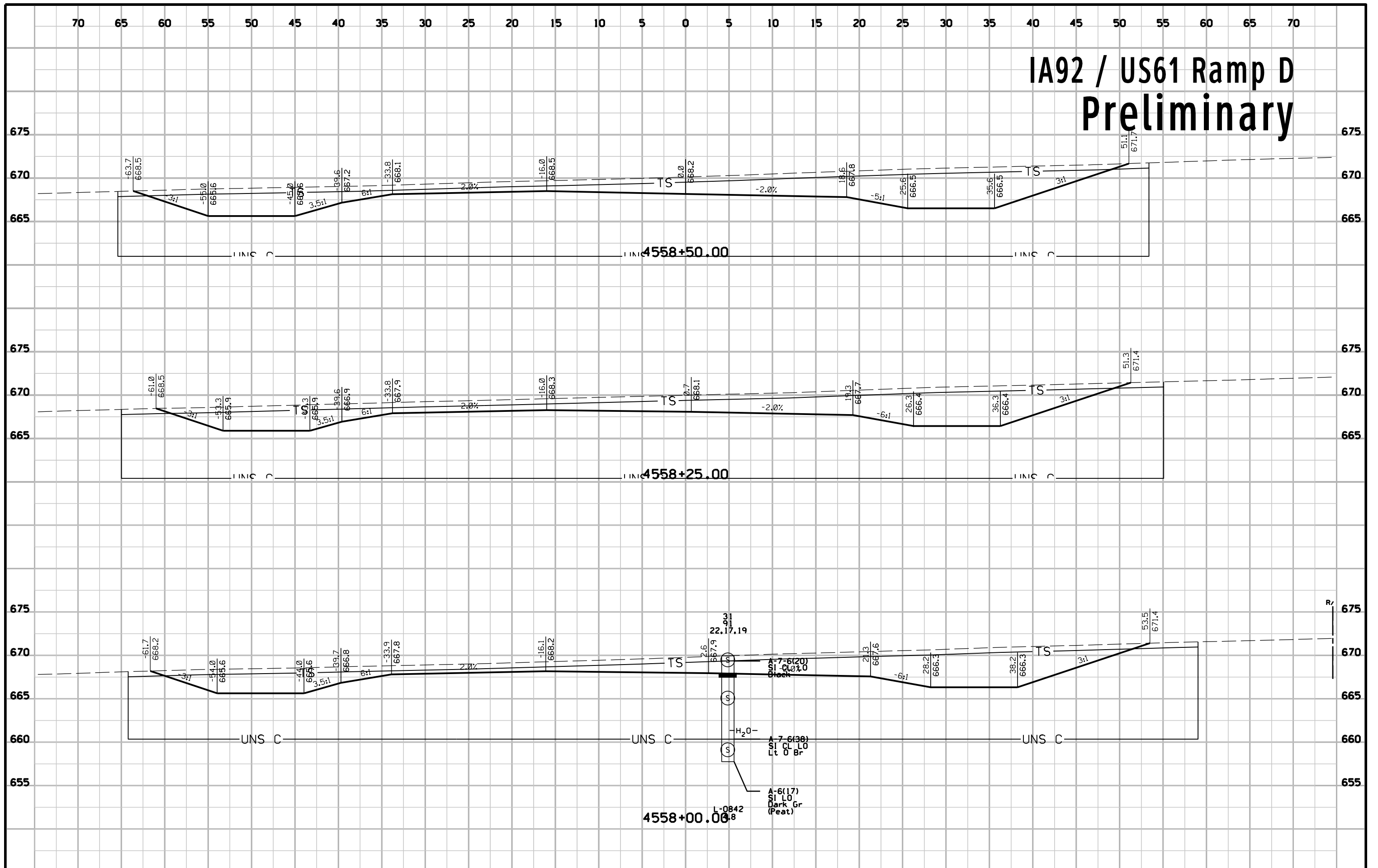
IA92 / US61 Ramp D Preliminary



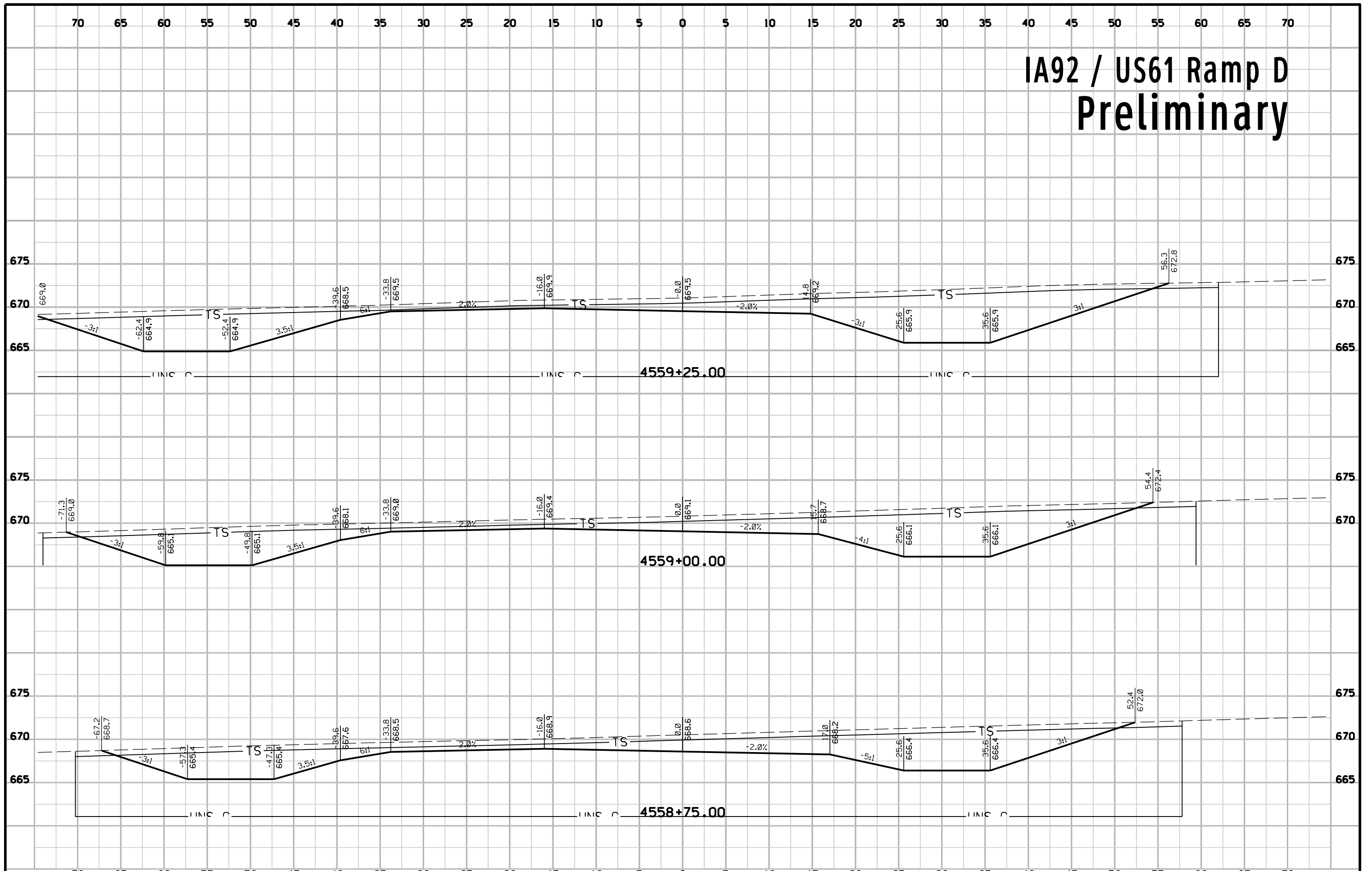
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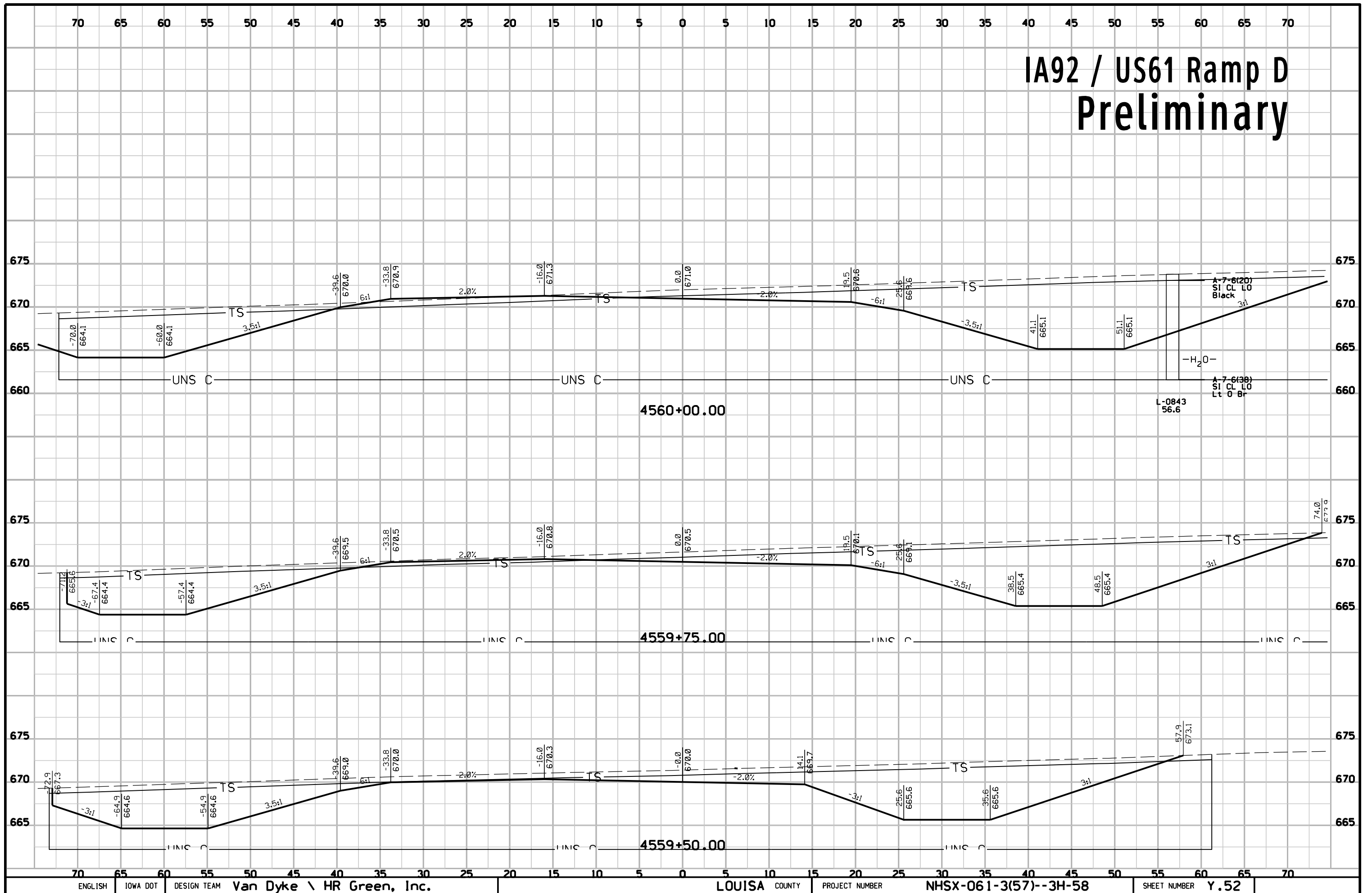
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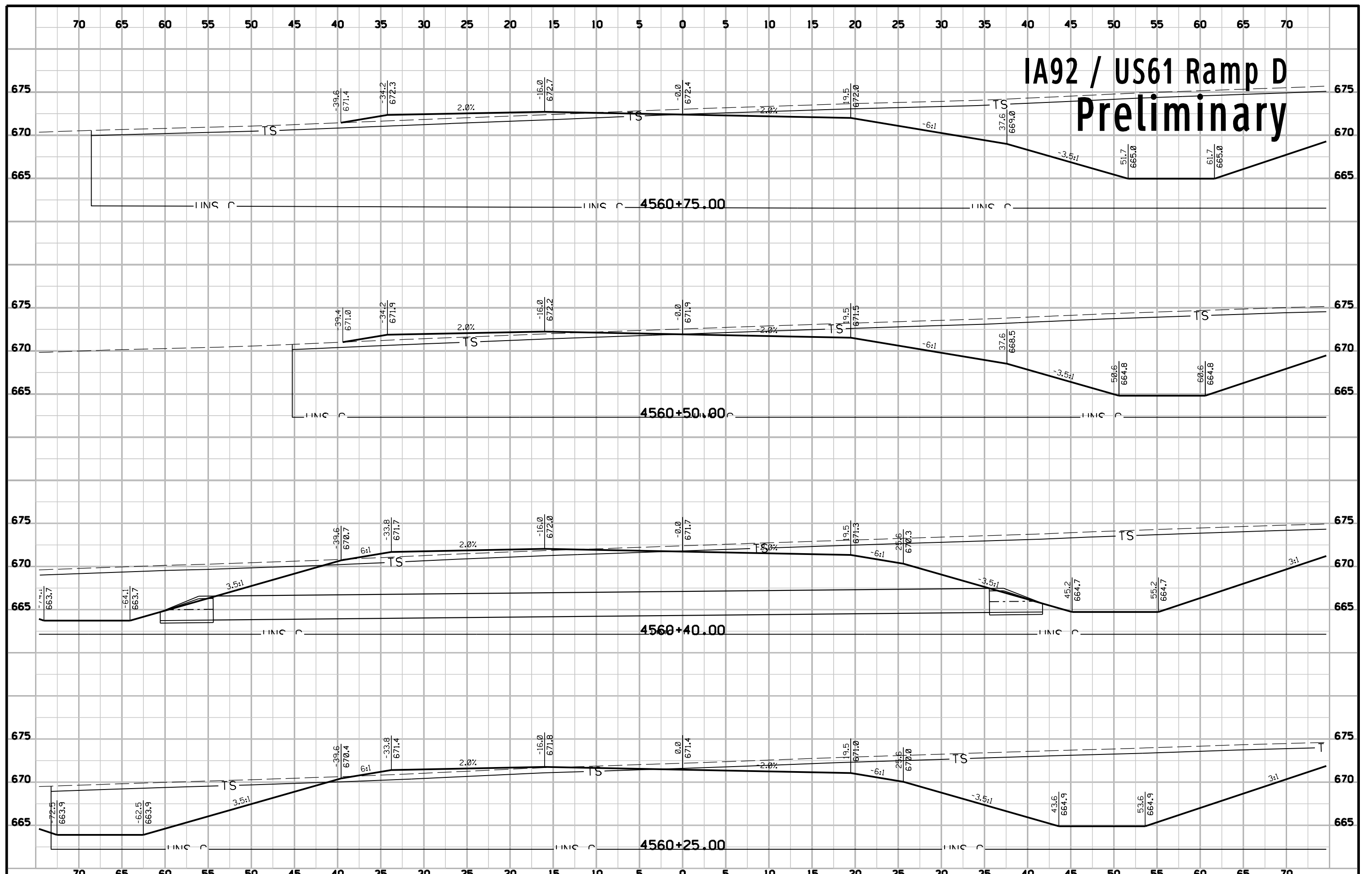
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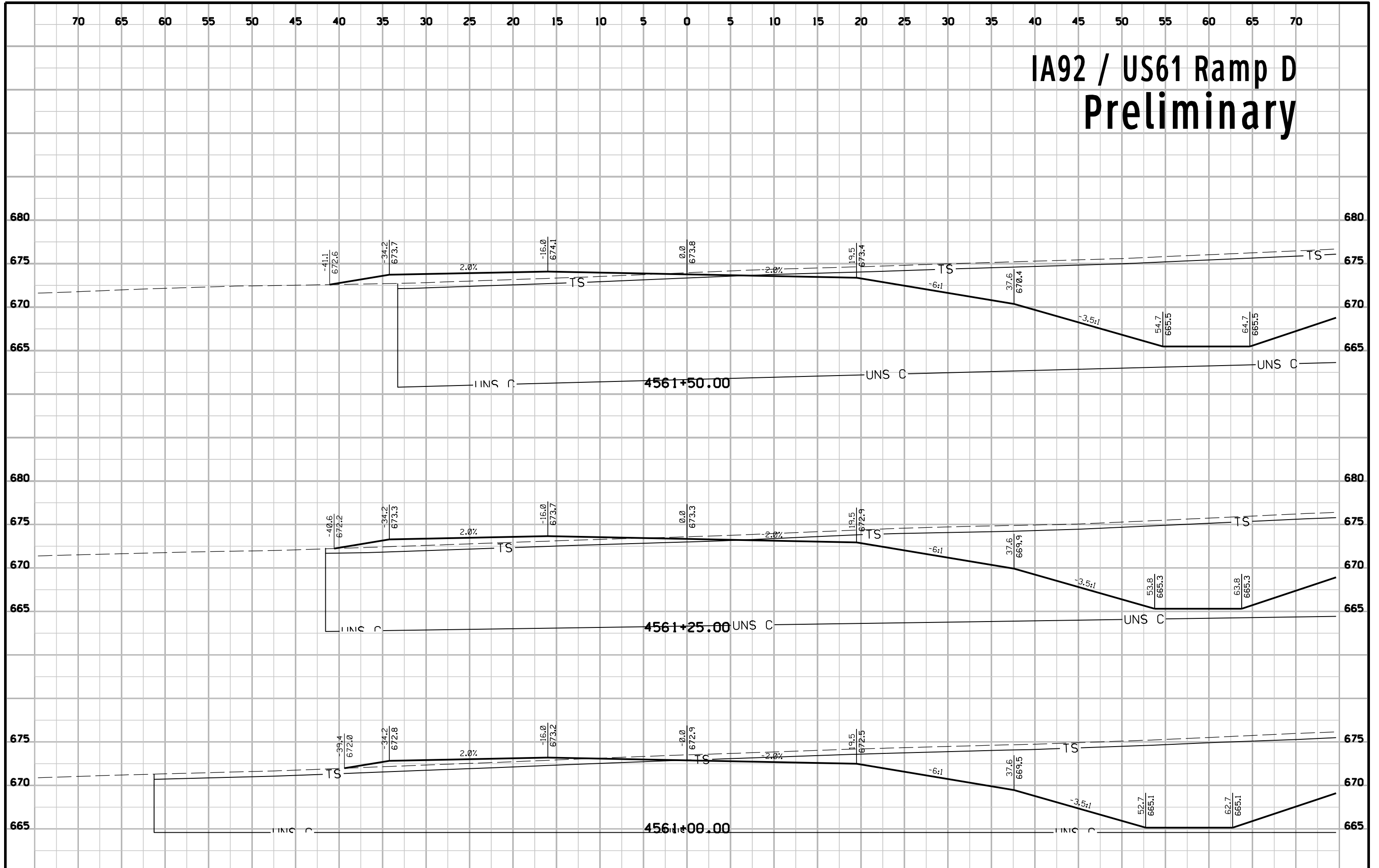
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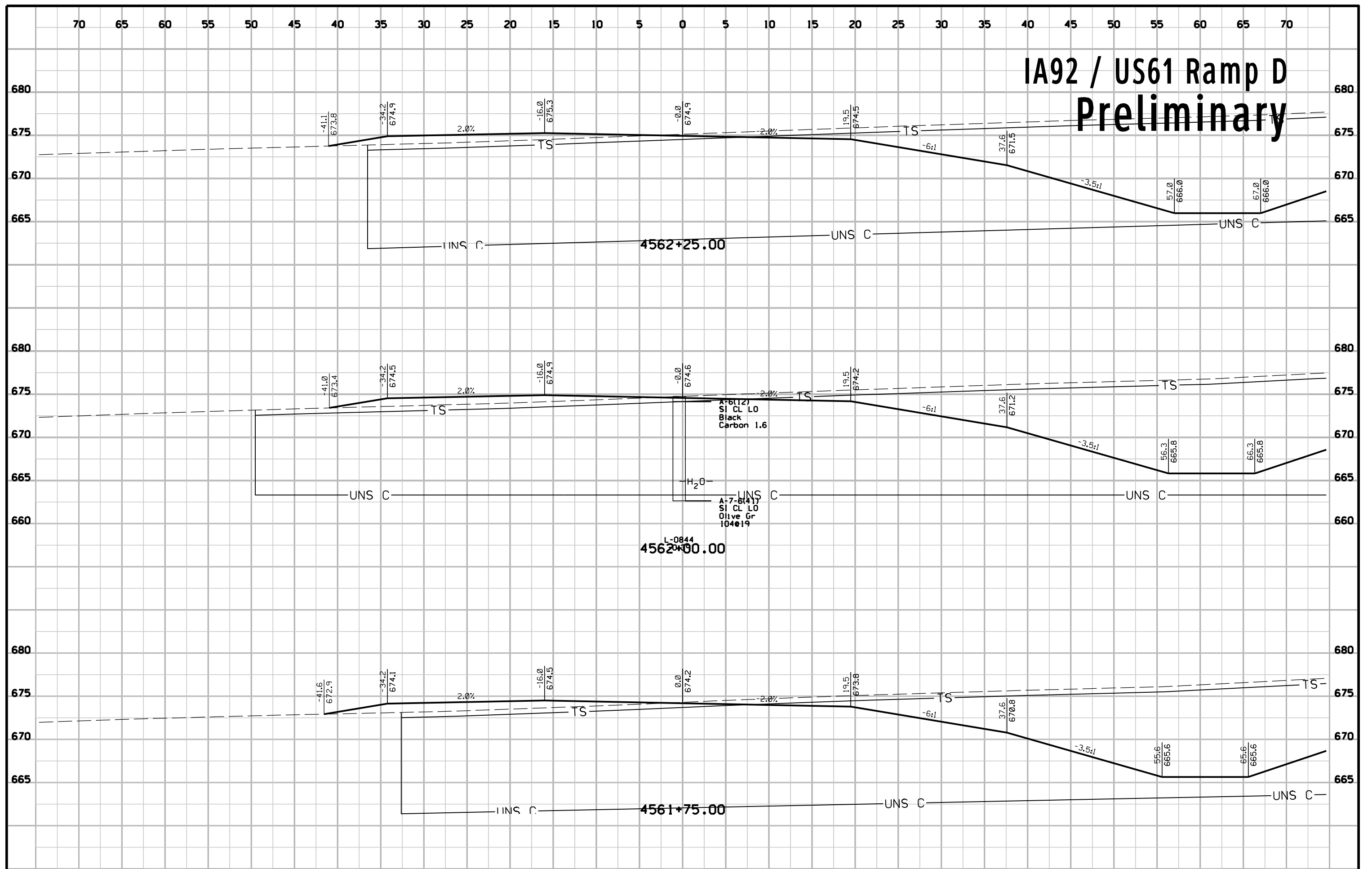
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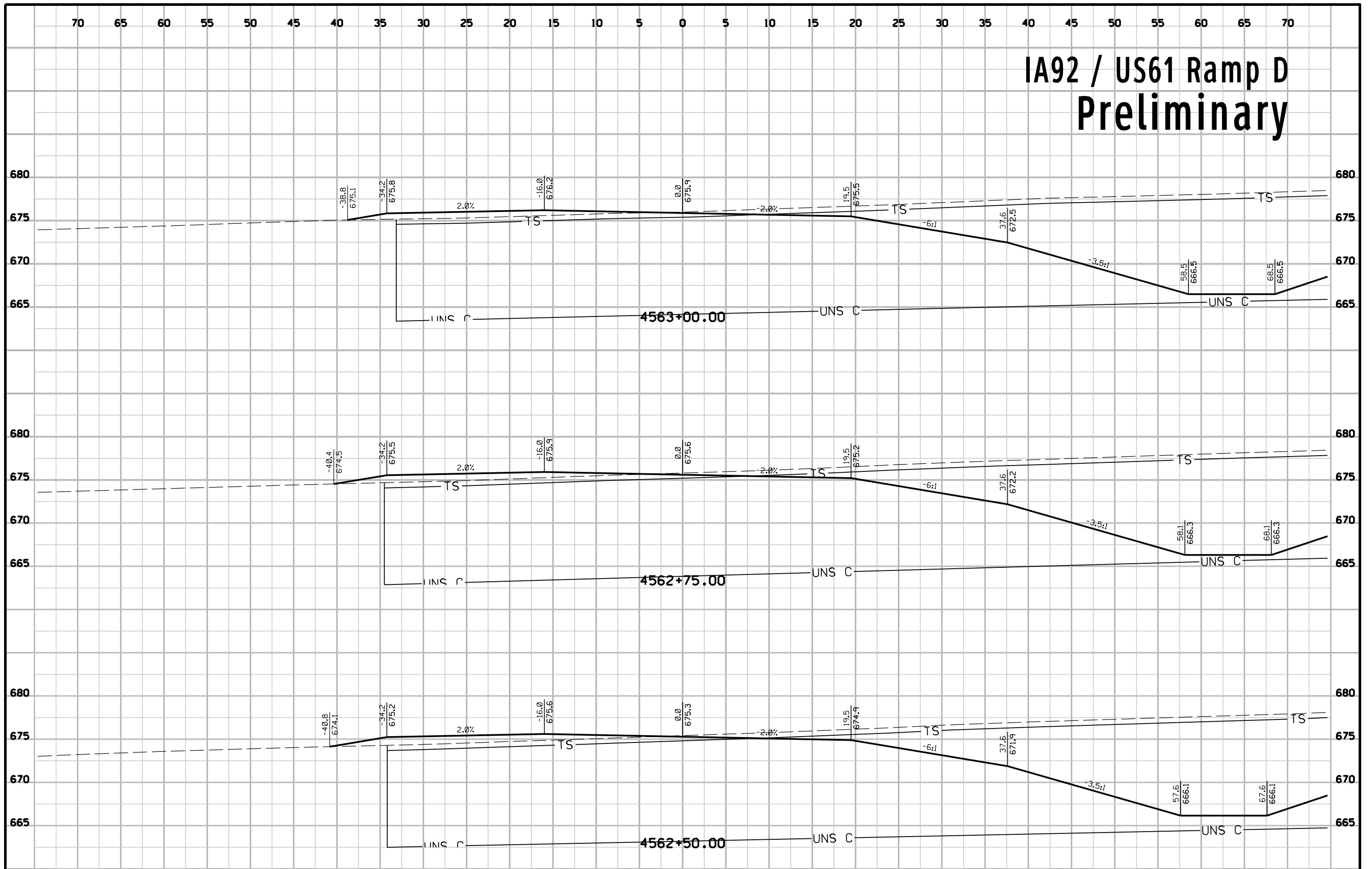
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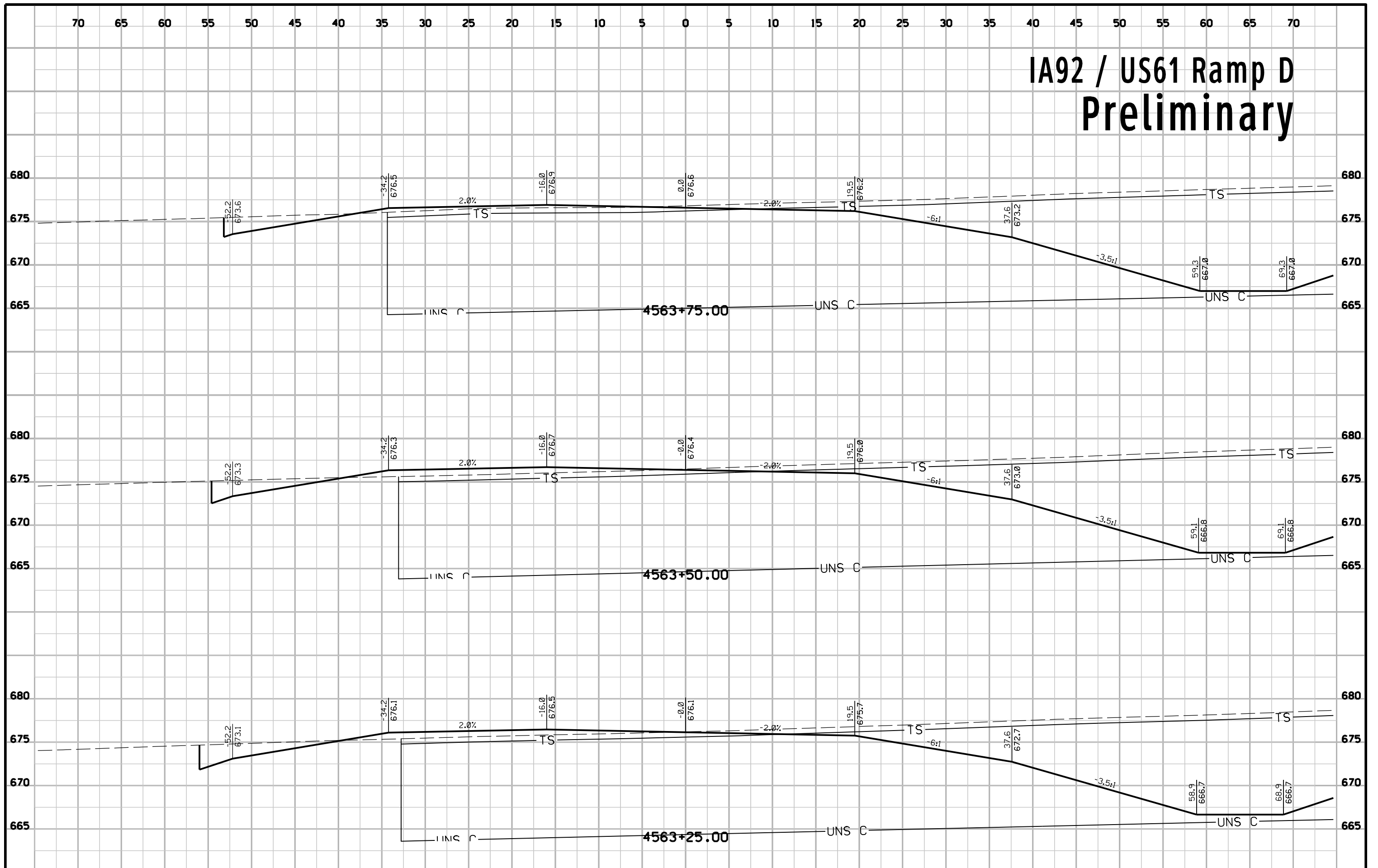
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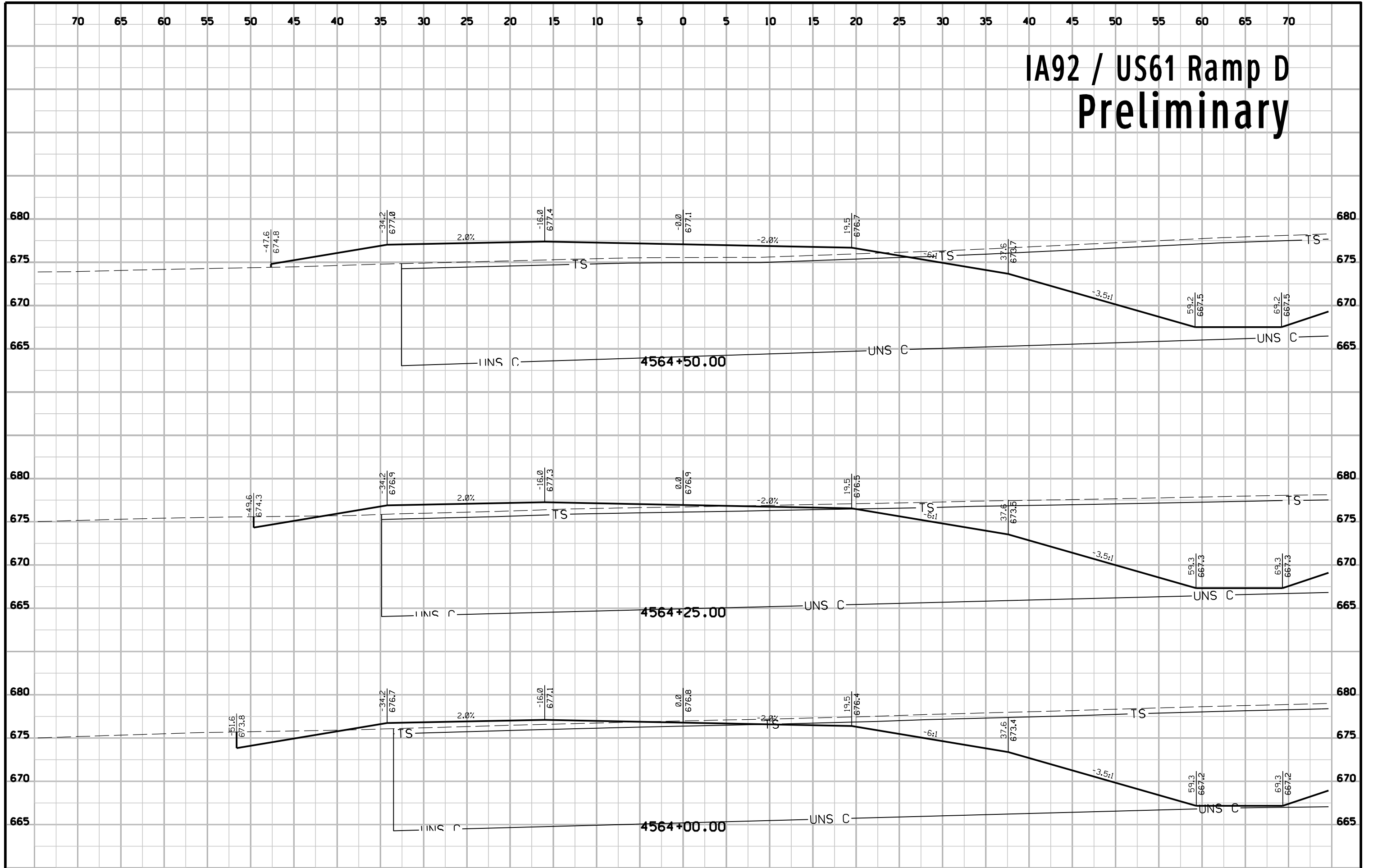
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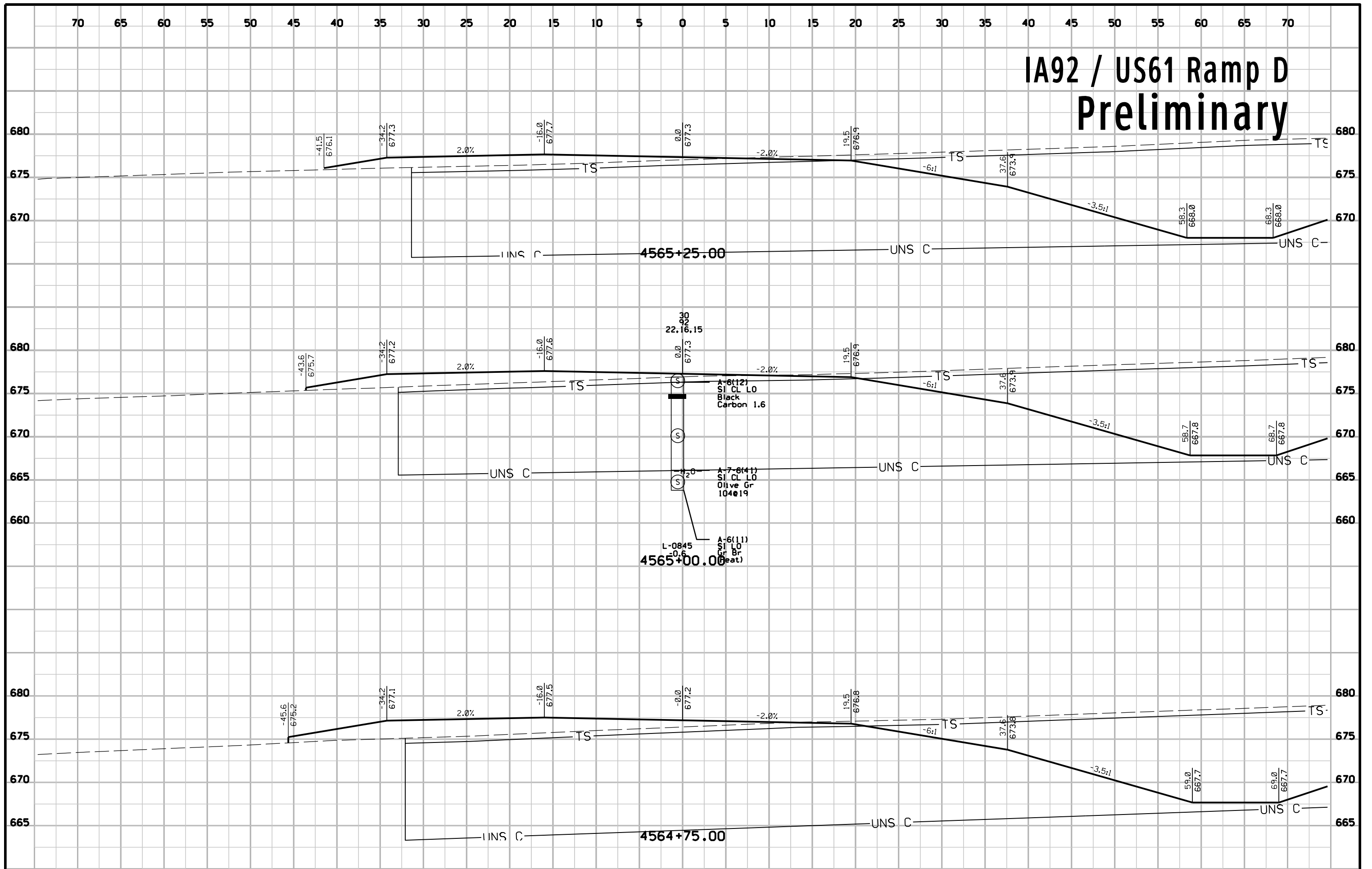
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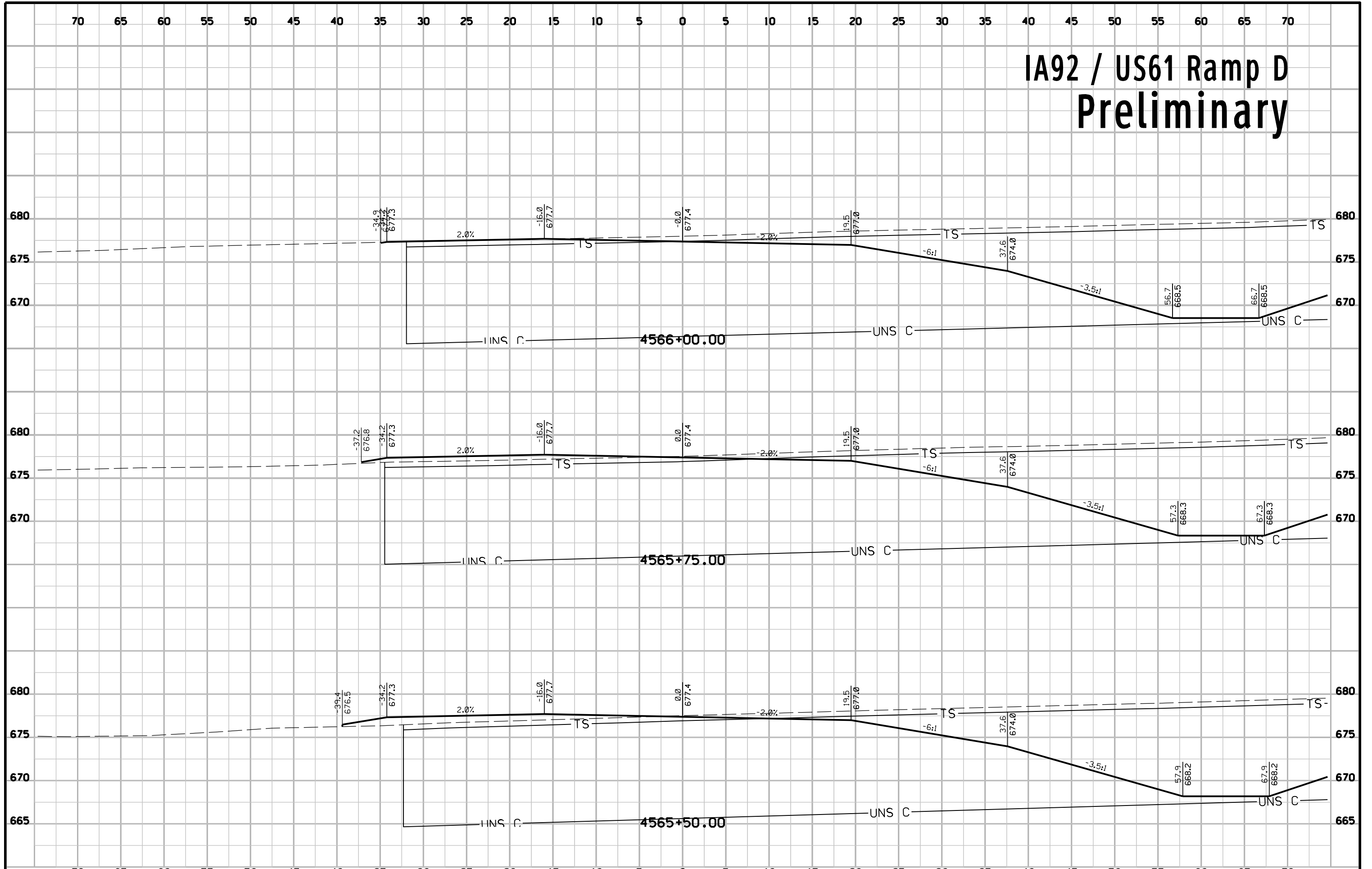
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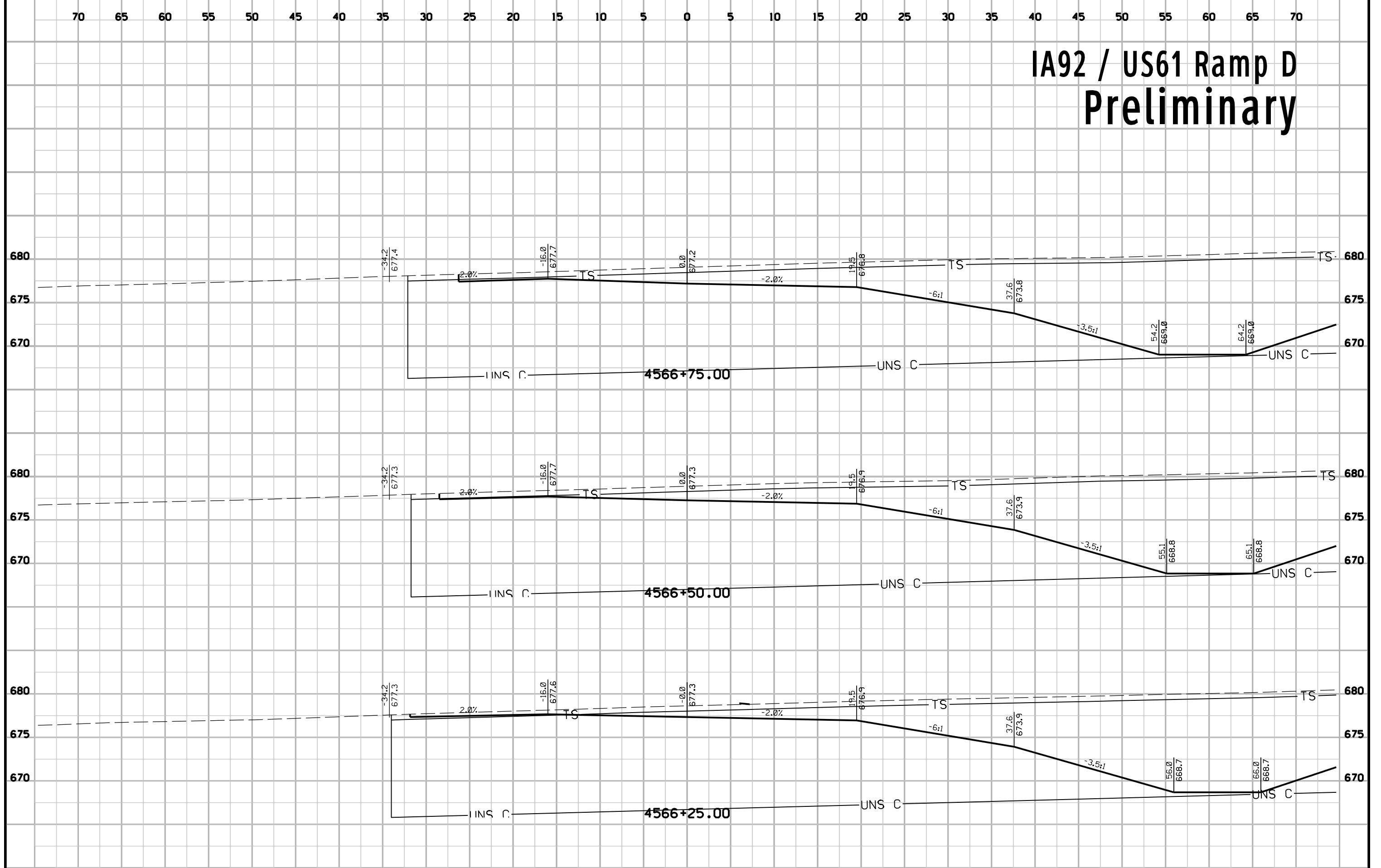
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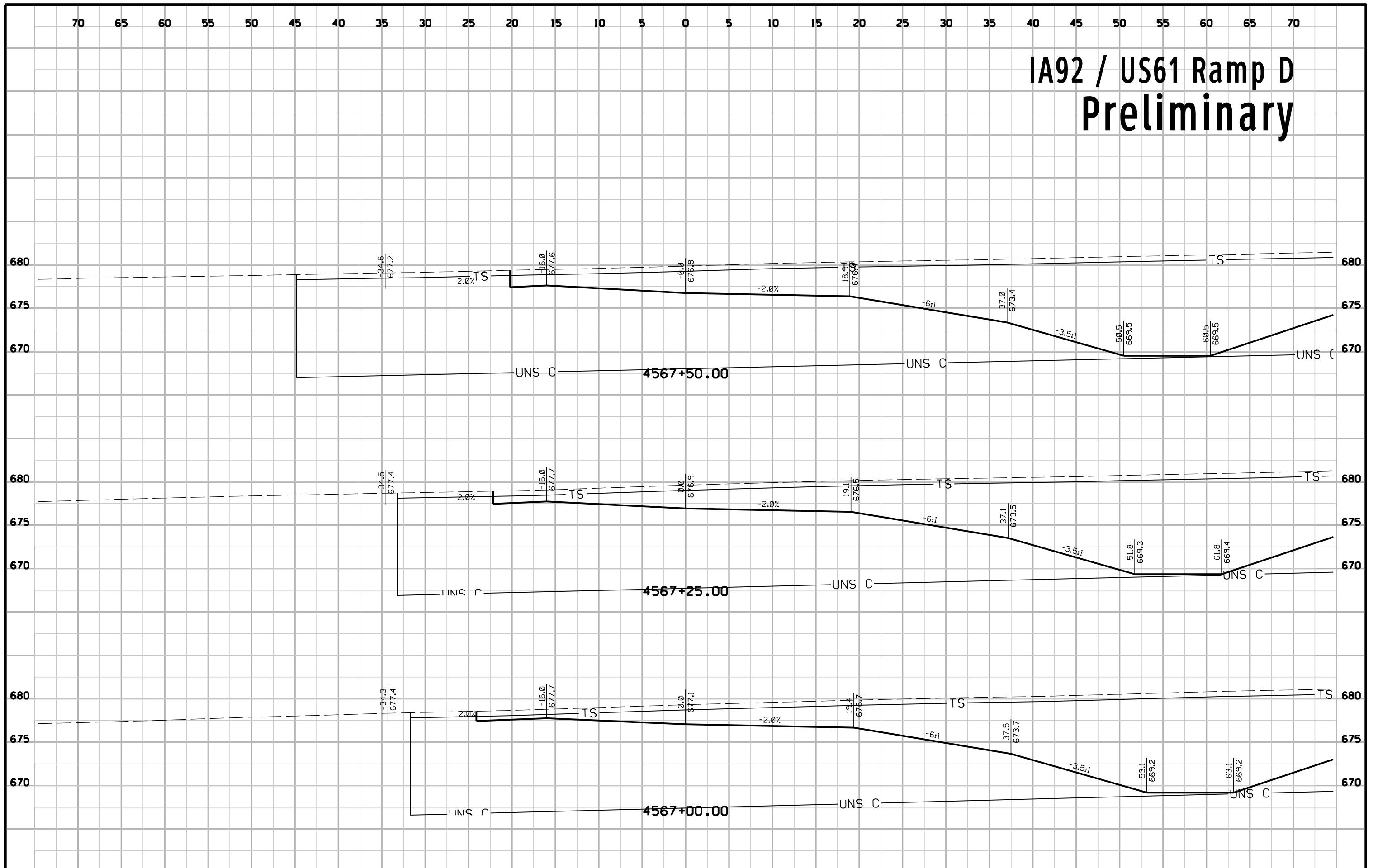
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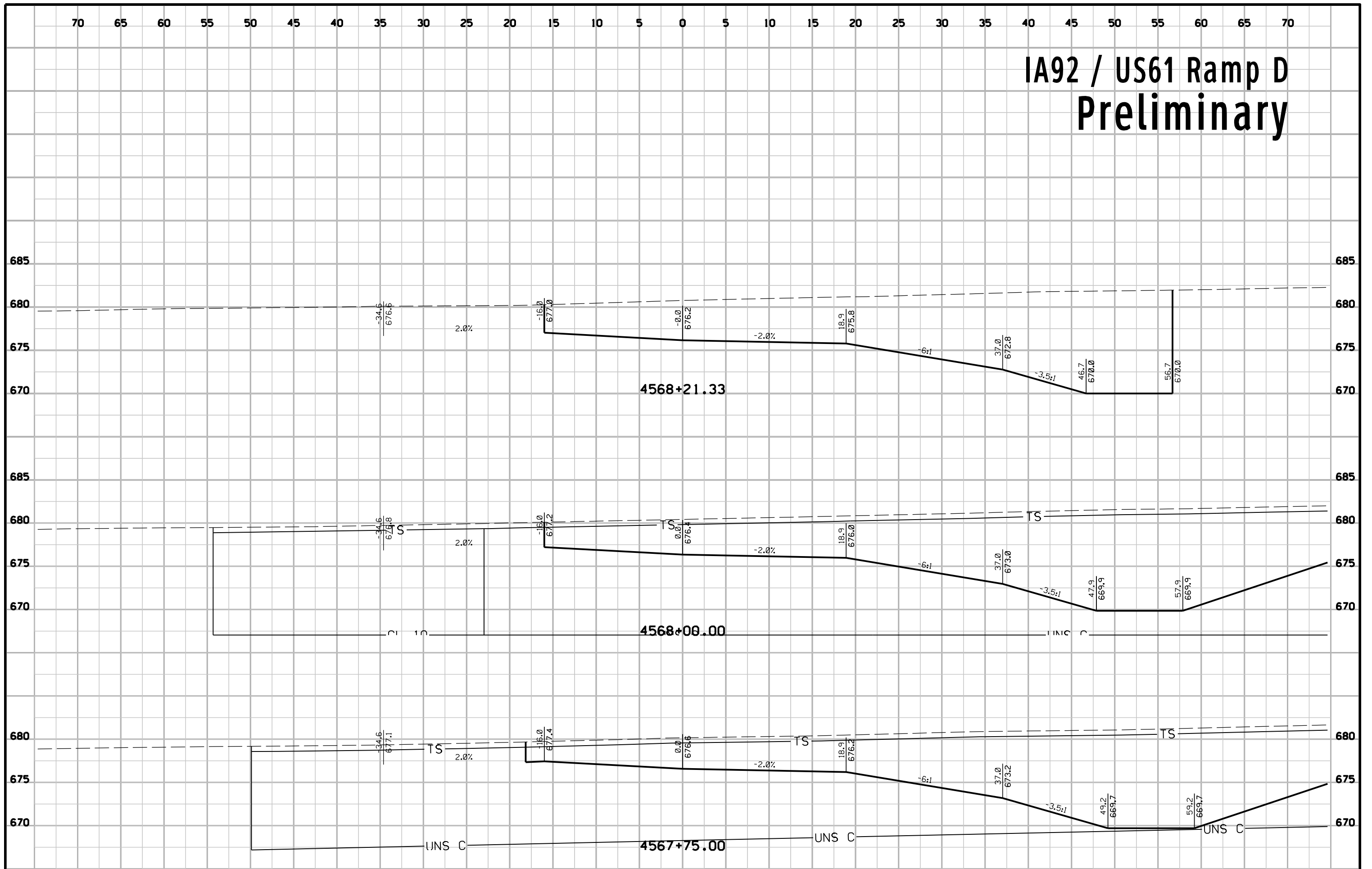
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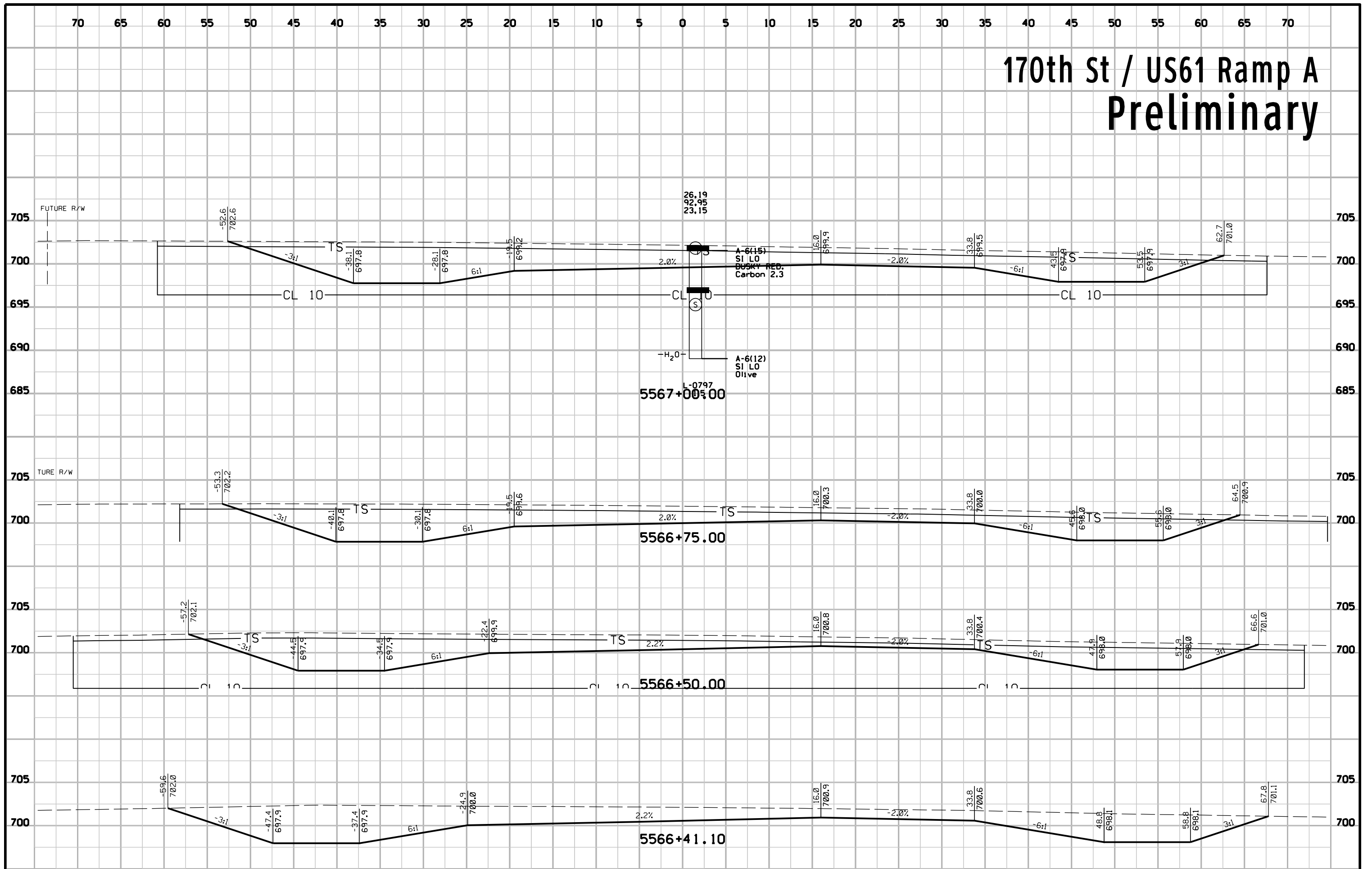
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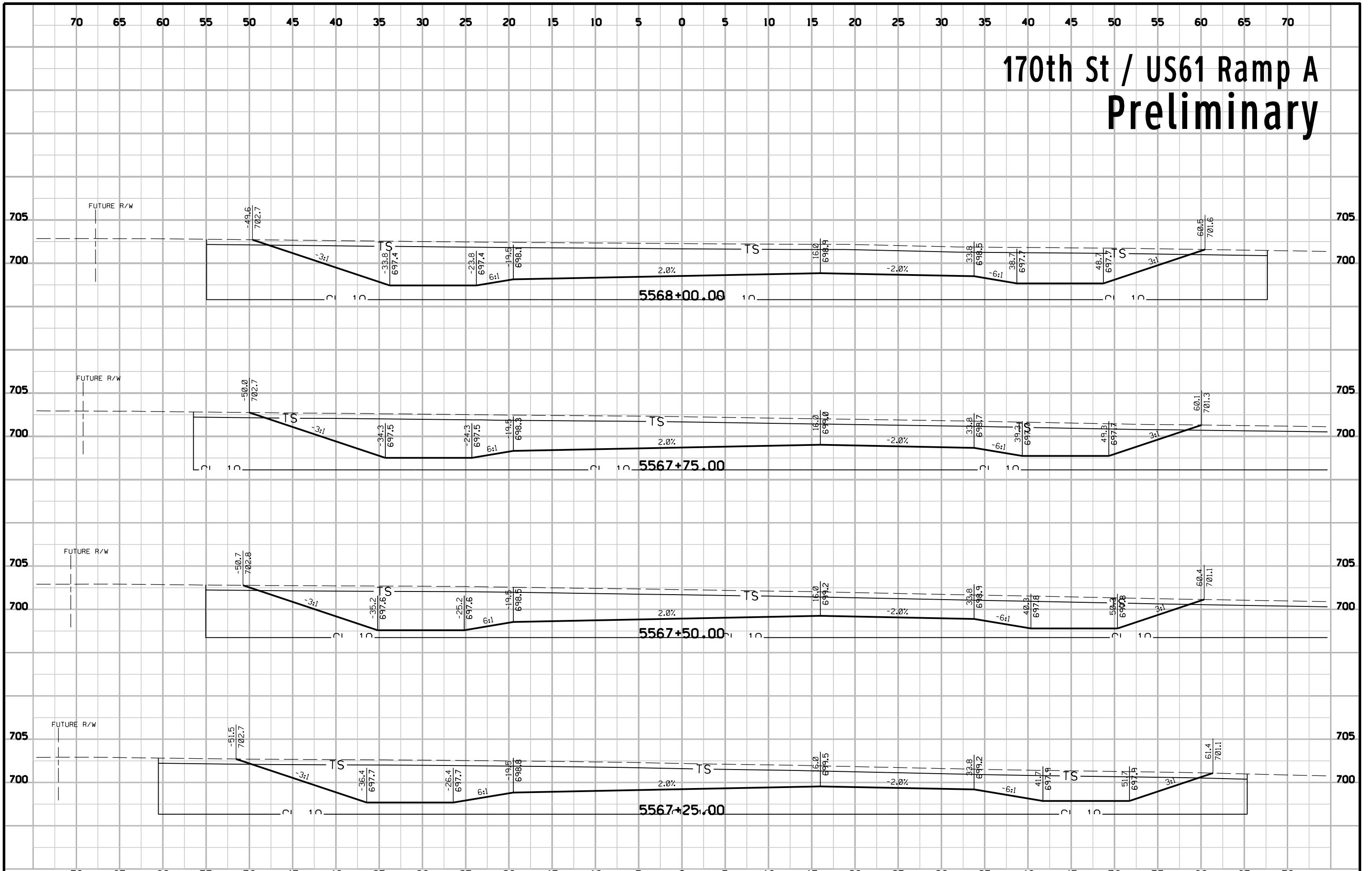
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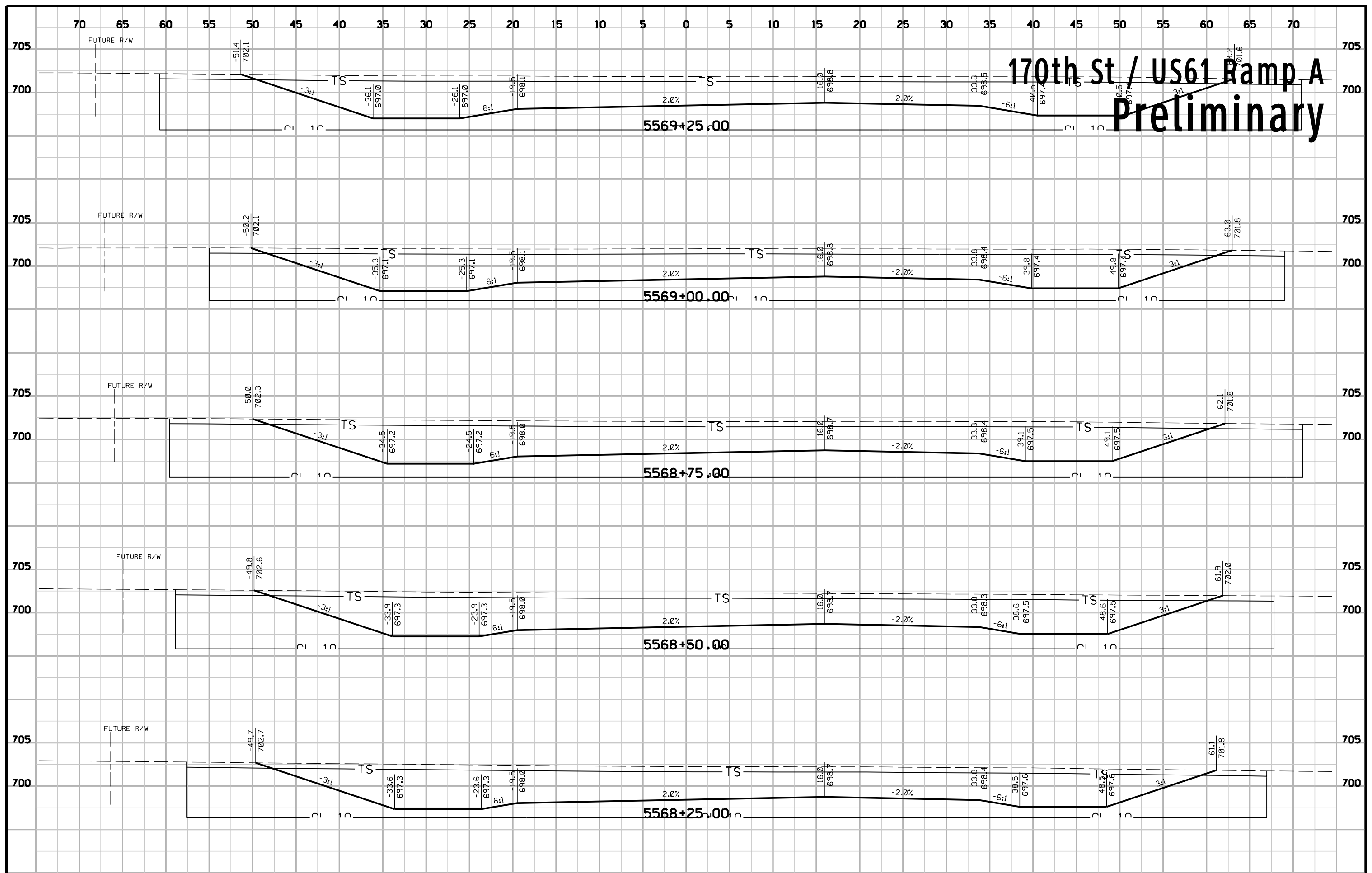
170th St / US61 Ramp A Preliminary



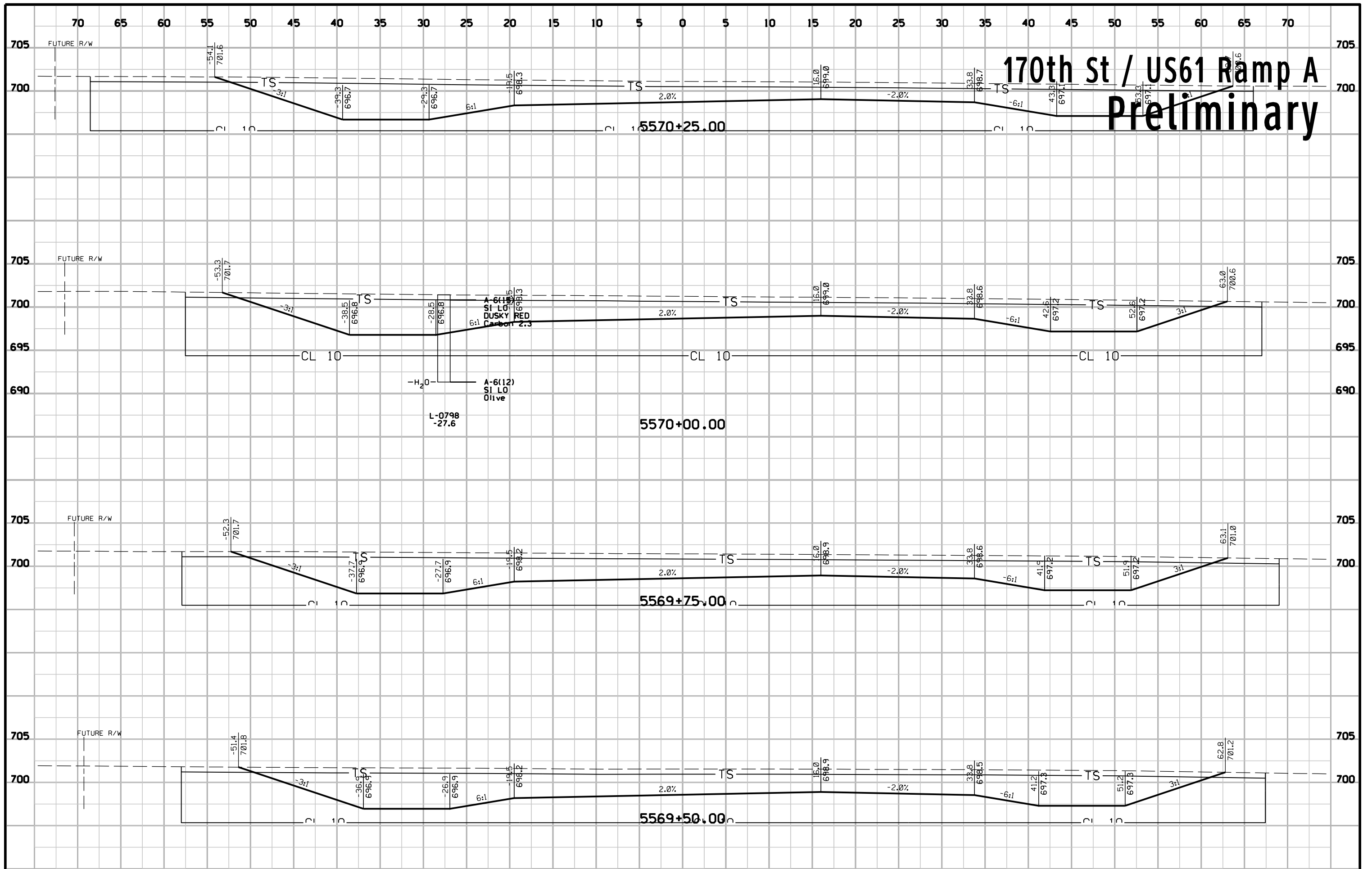
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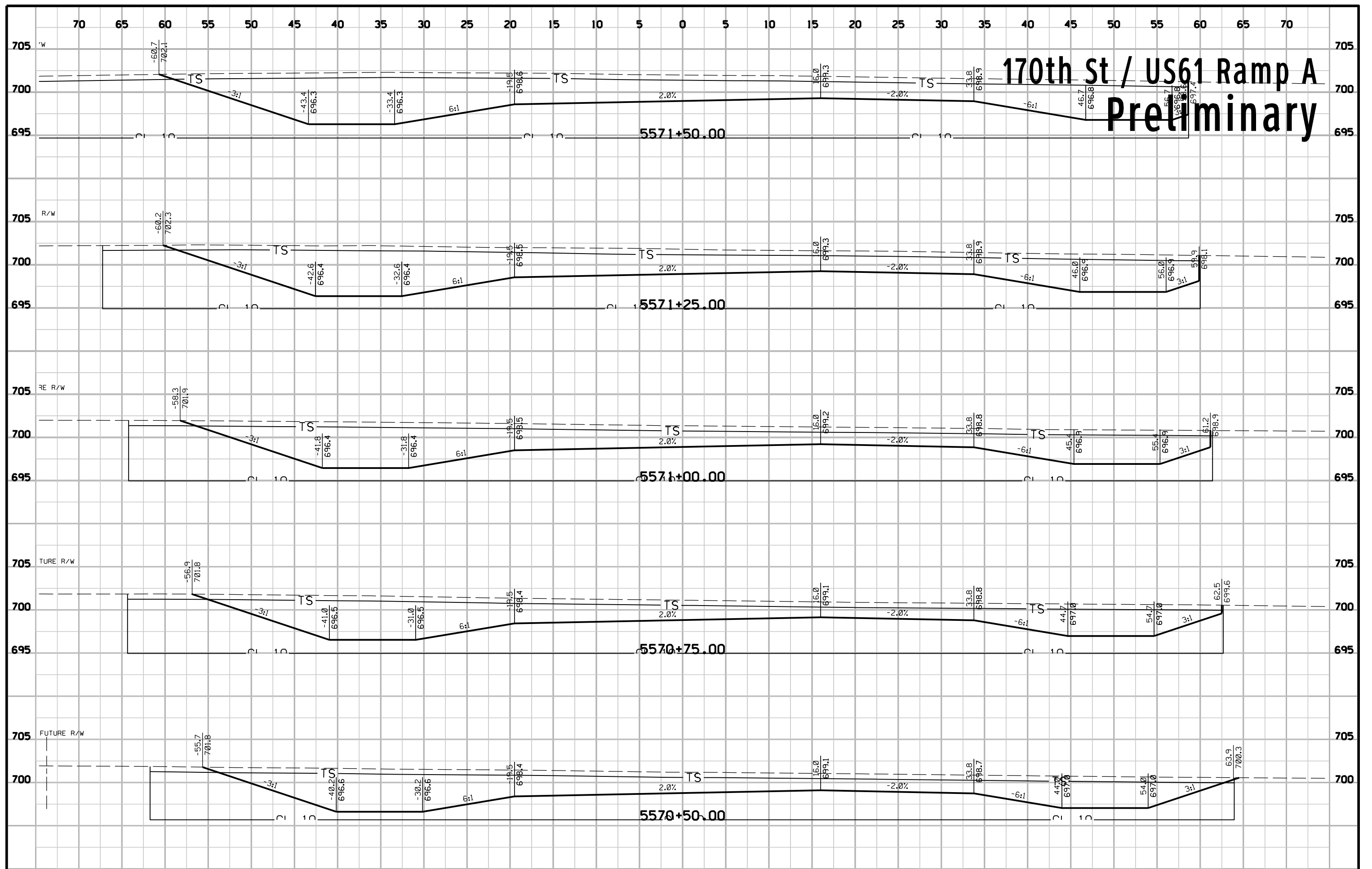
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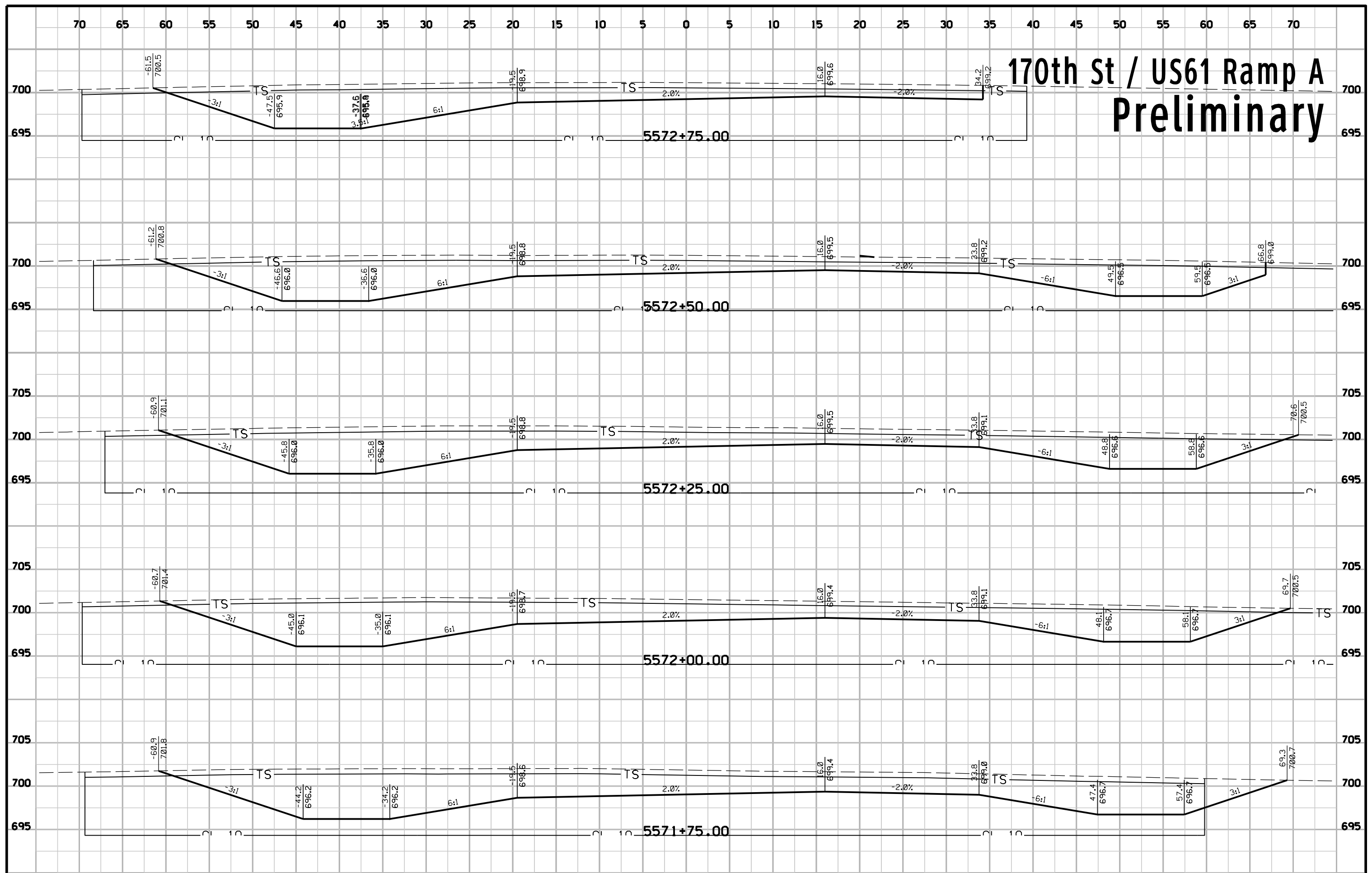
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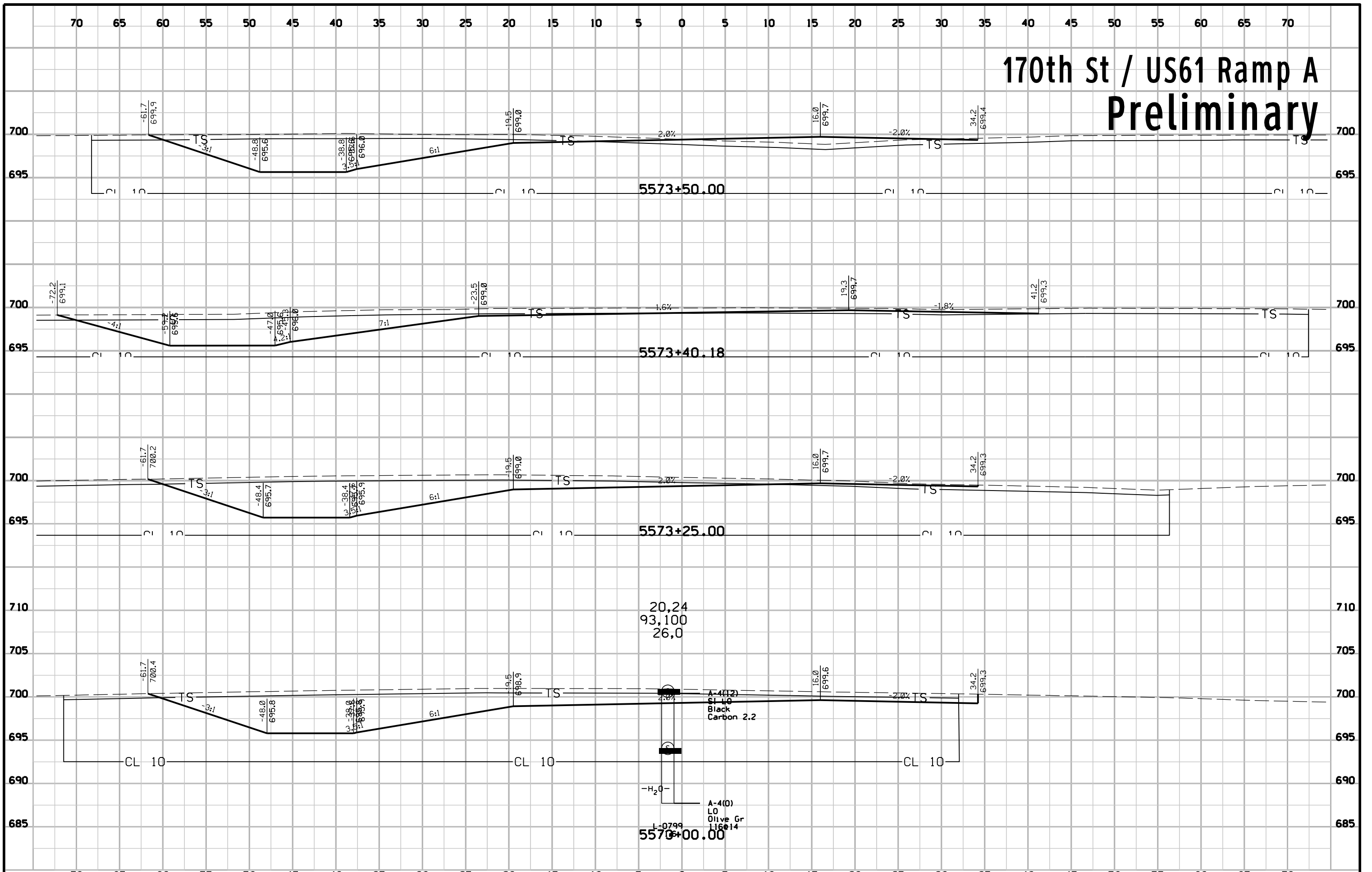
170th St / US61 Ramp A Preliminary



170th St / US61 Ramp A Preliminary



170th St / US61 Ramp A Preliminary



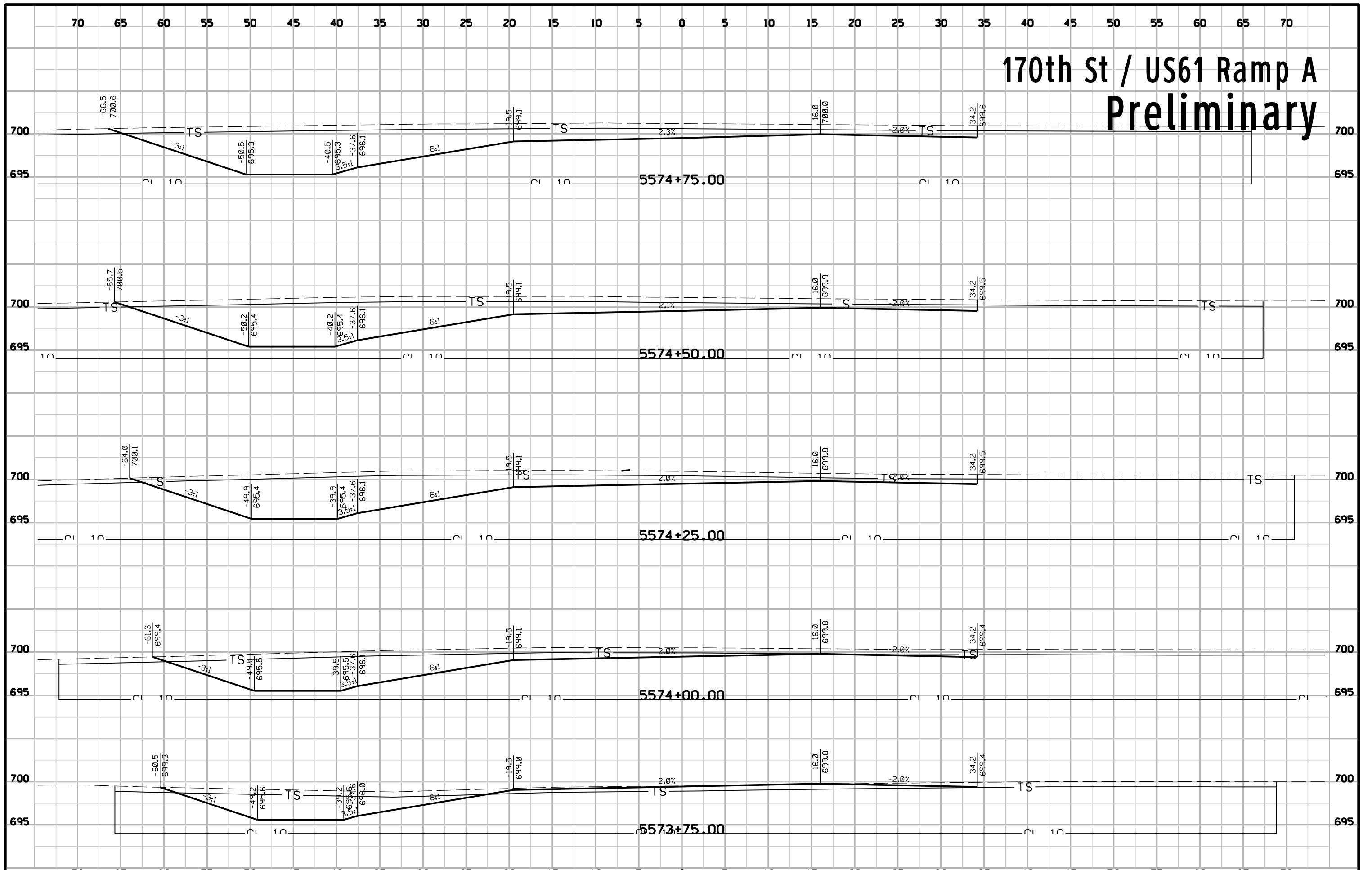
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26.0

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Carbon 2.2

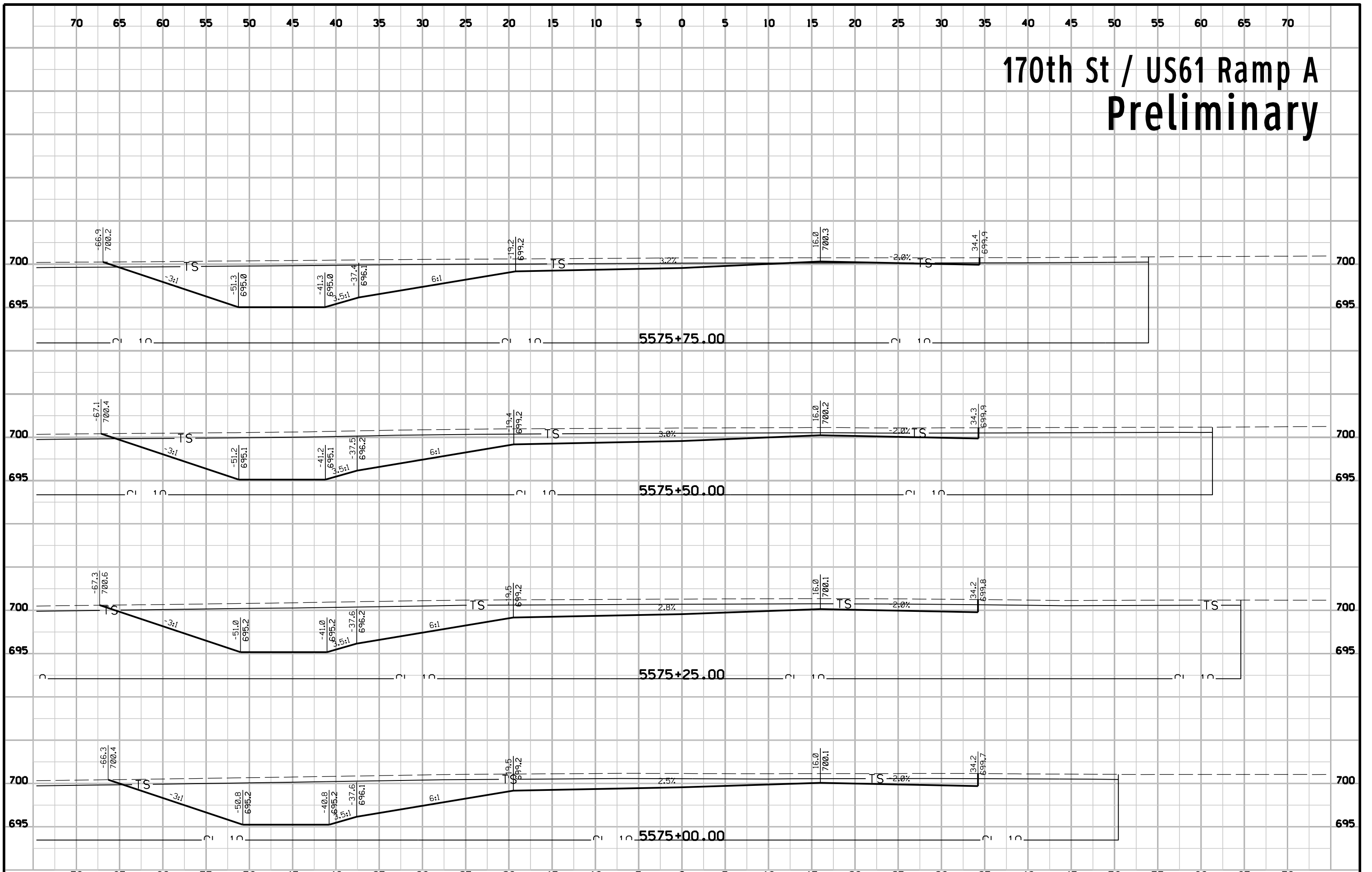
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1614

5573+00.00

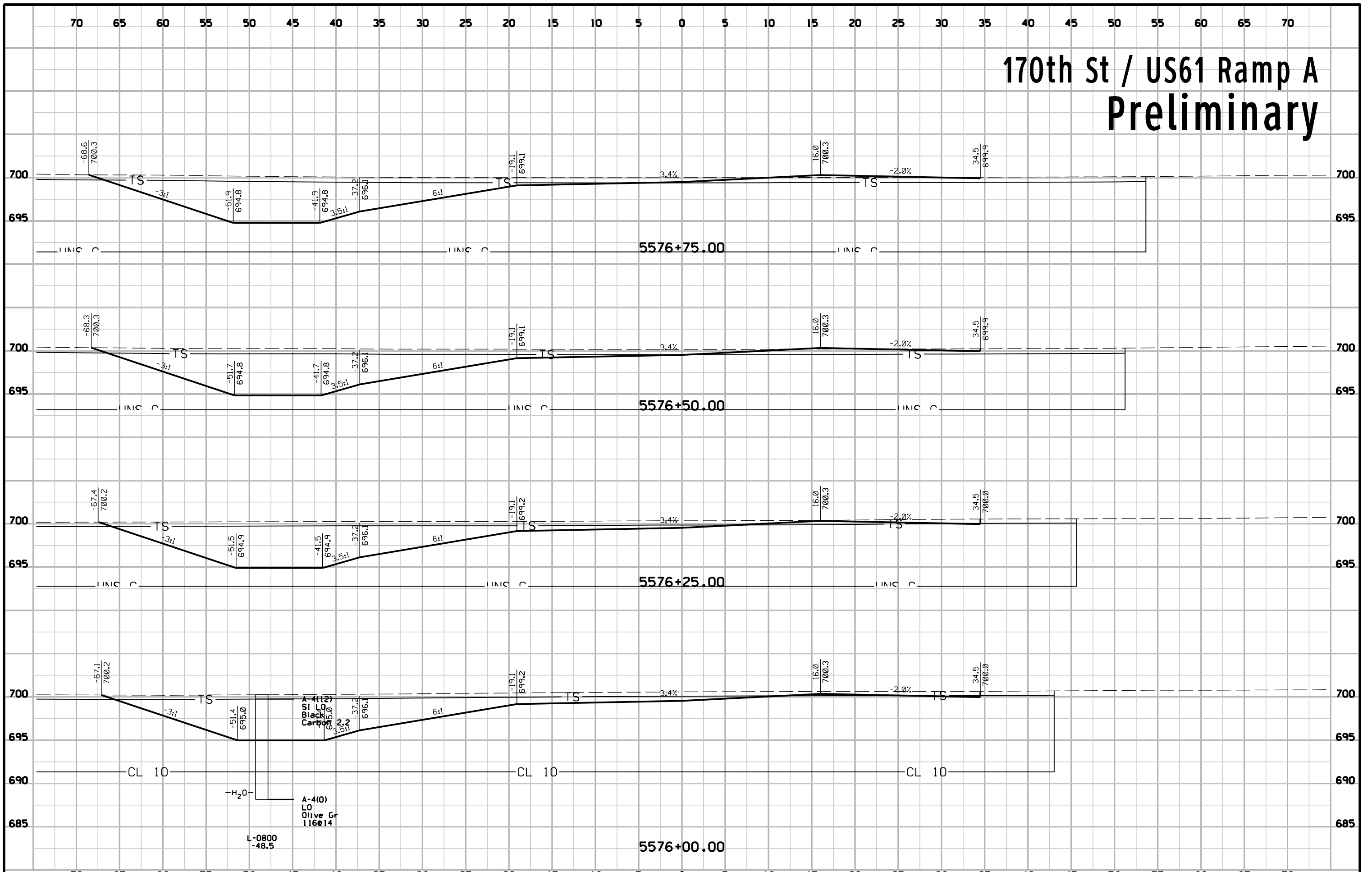
170th St / US61 Ramp A Preliminary



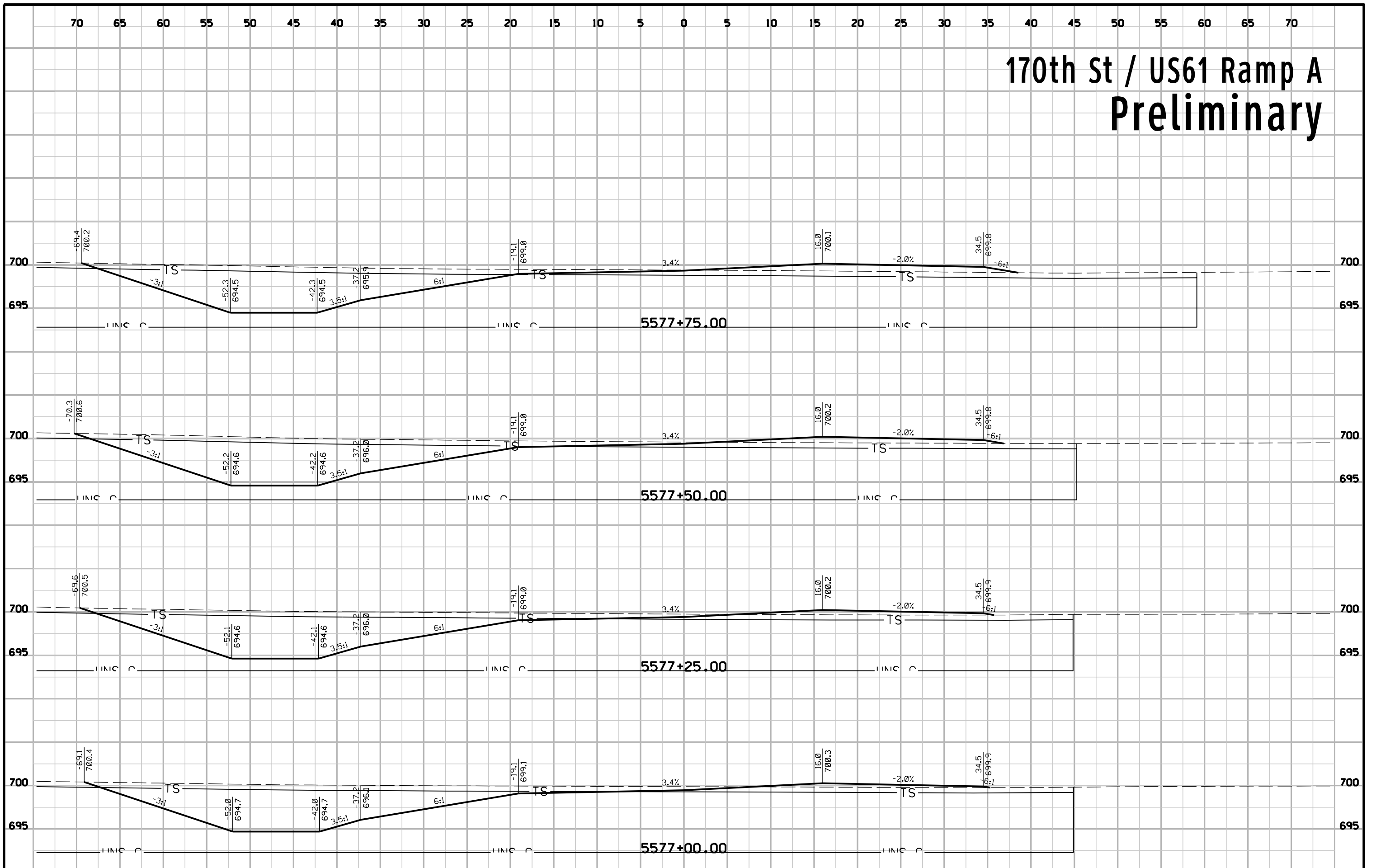
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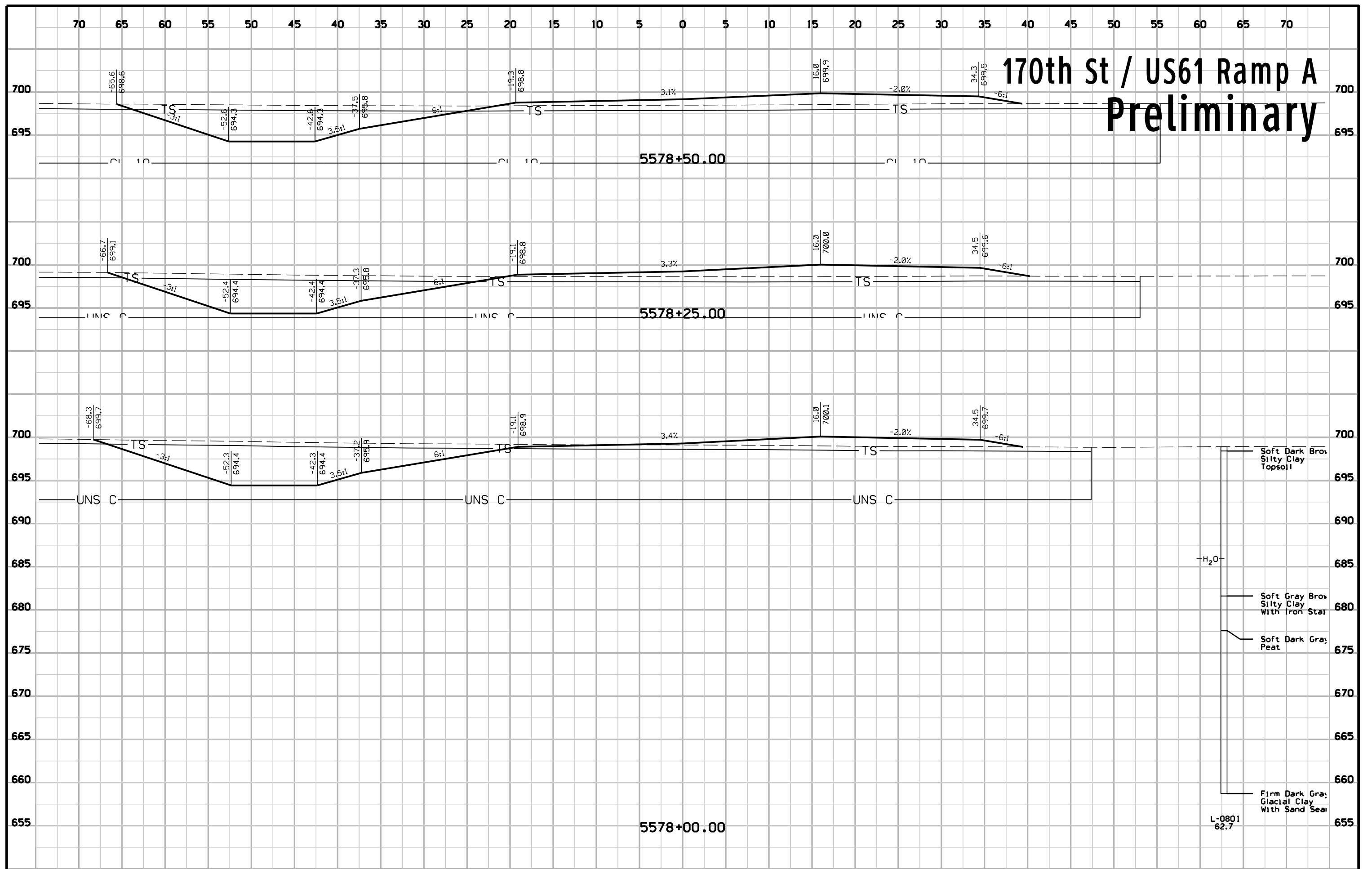
170th St / US61 Ramp A Preliminary



170th St / US61 Ramp A Preliminary

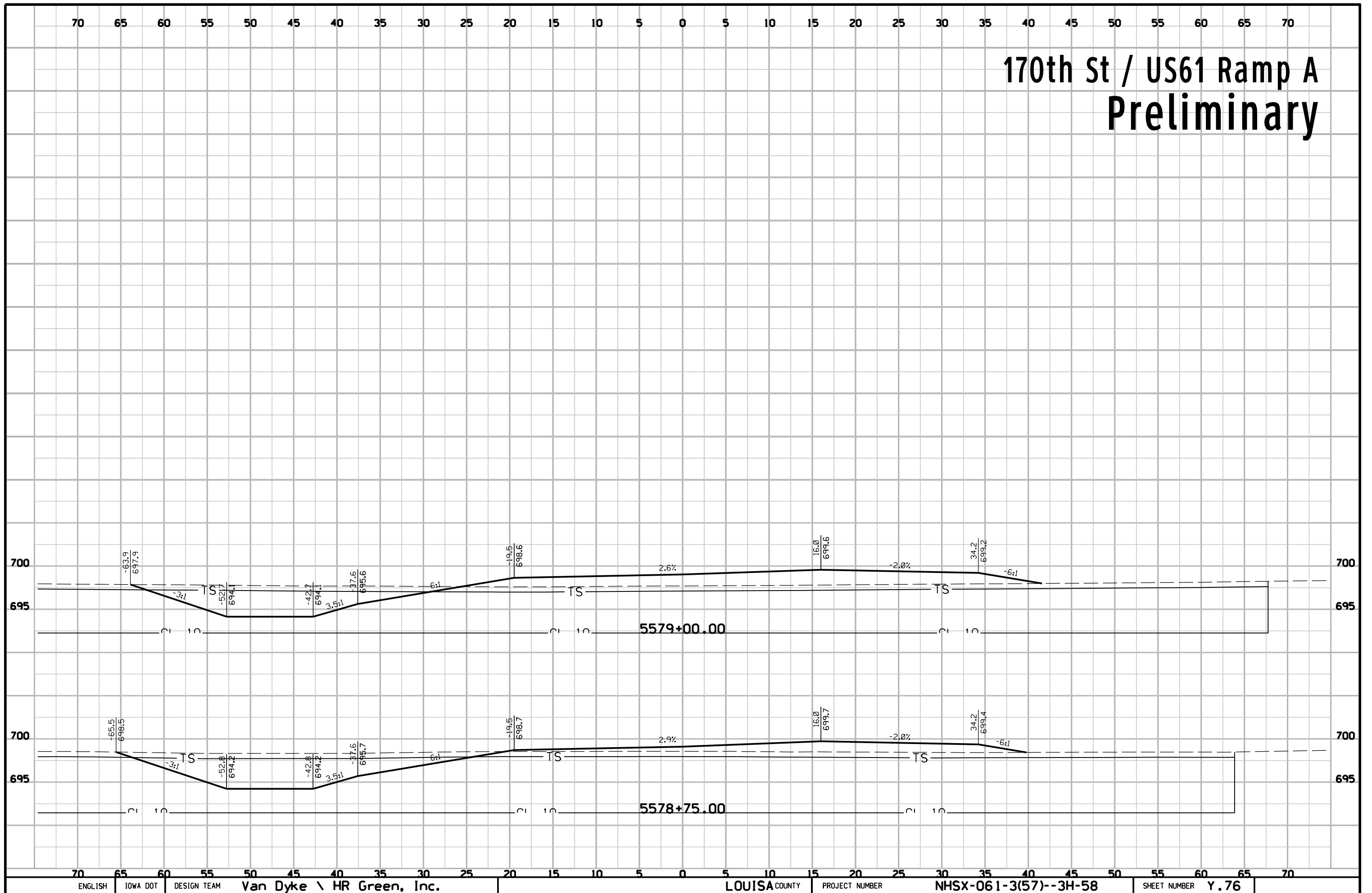


170th St / US61 Ramp A Preliminary

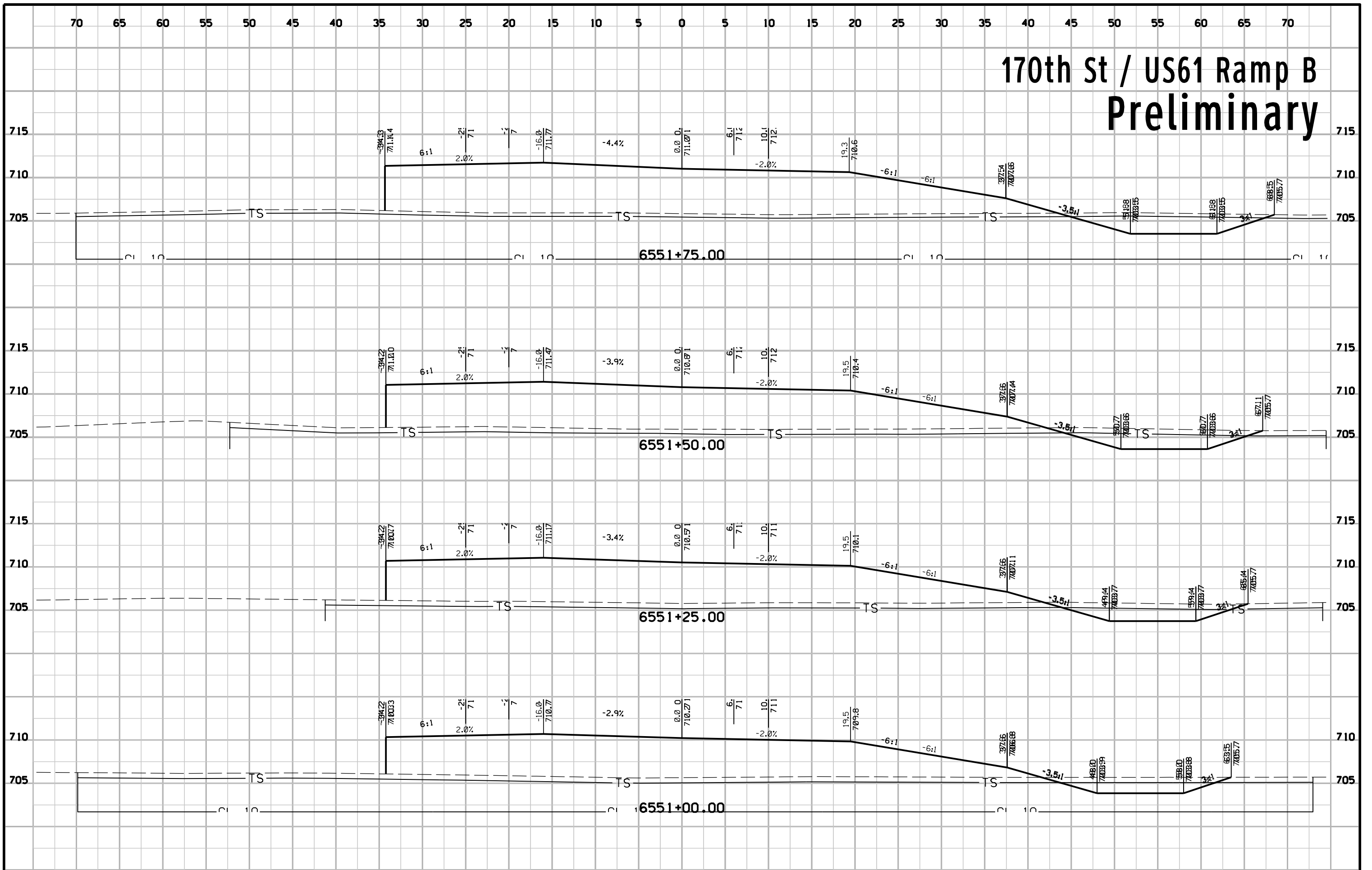


- Soft Dark Brown Silty Clay Topsoil
- Soft Gray Brown Silty Clay With Iron Stain
- Soft Dark Gray Peat
- Firm Dark Gray Glacial Clay With Sand Seal

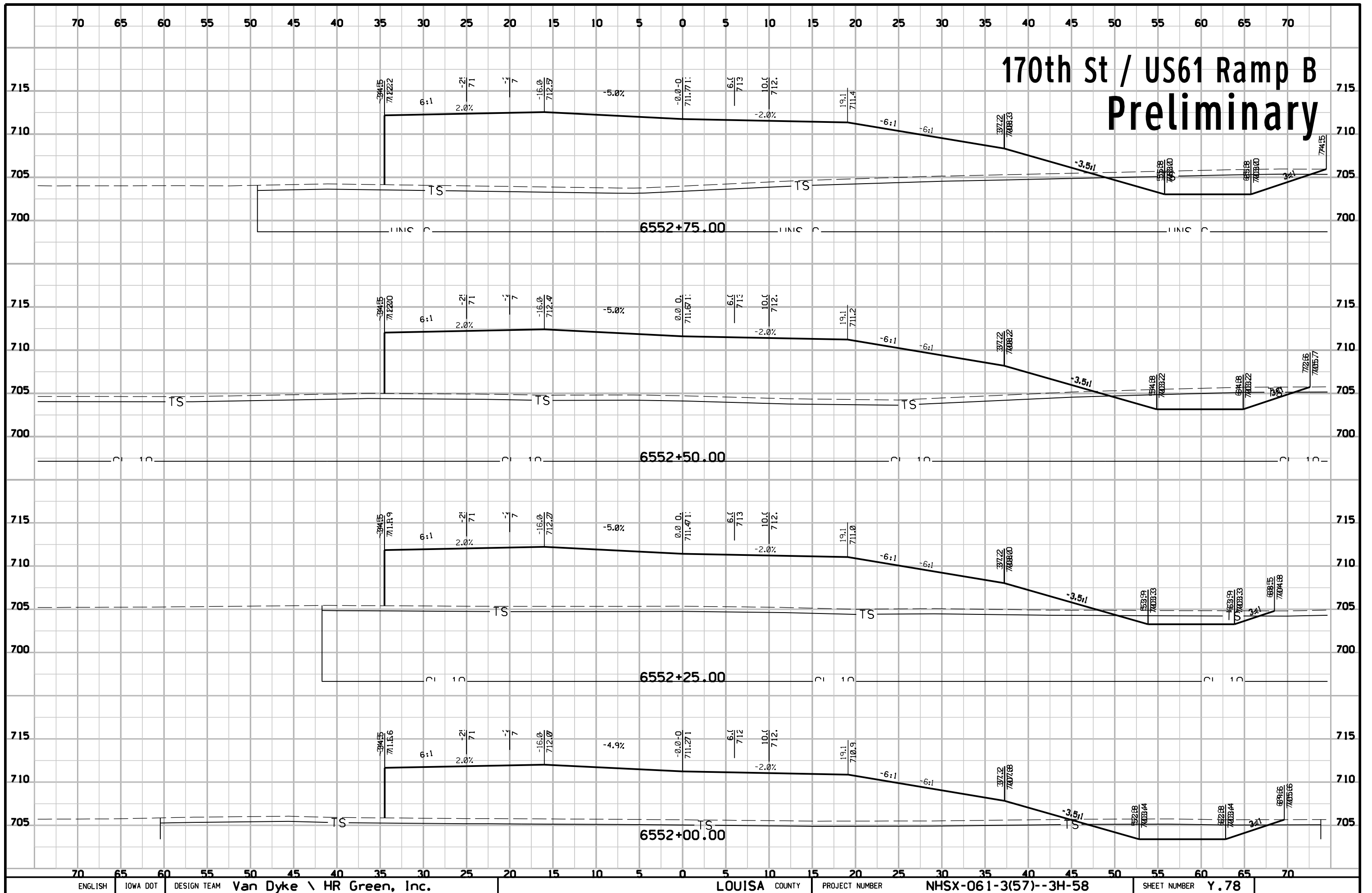
170th St / US61 Ramp A Preliminary



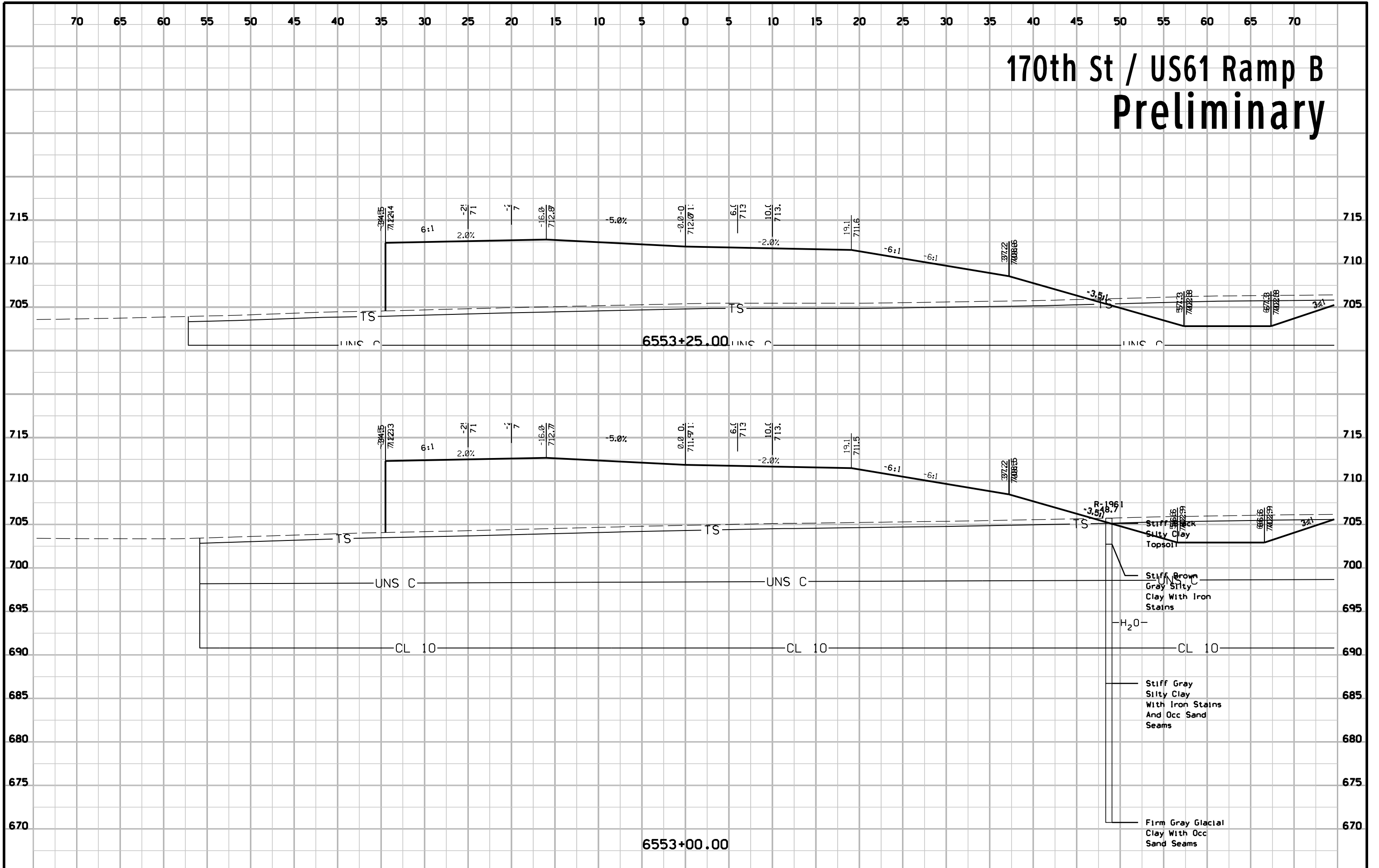
170th St / US61 Ramp B Preliminary



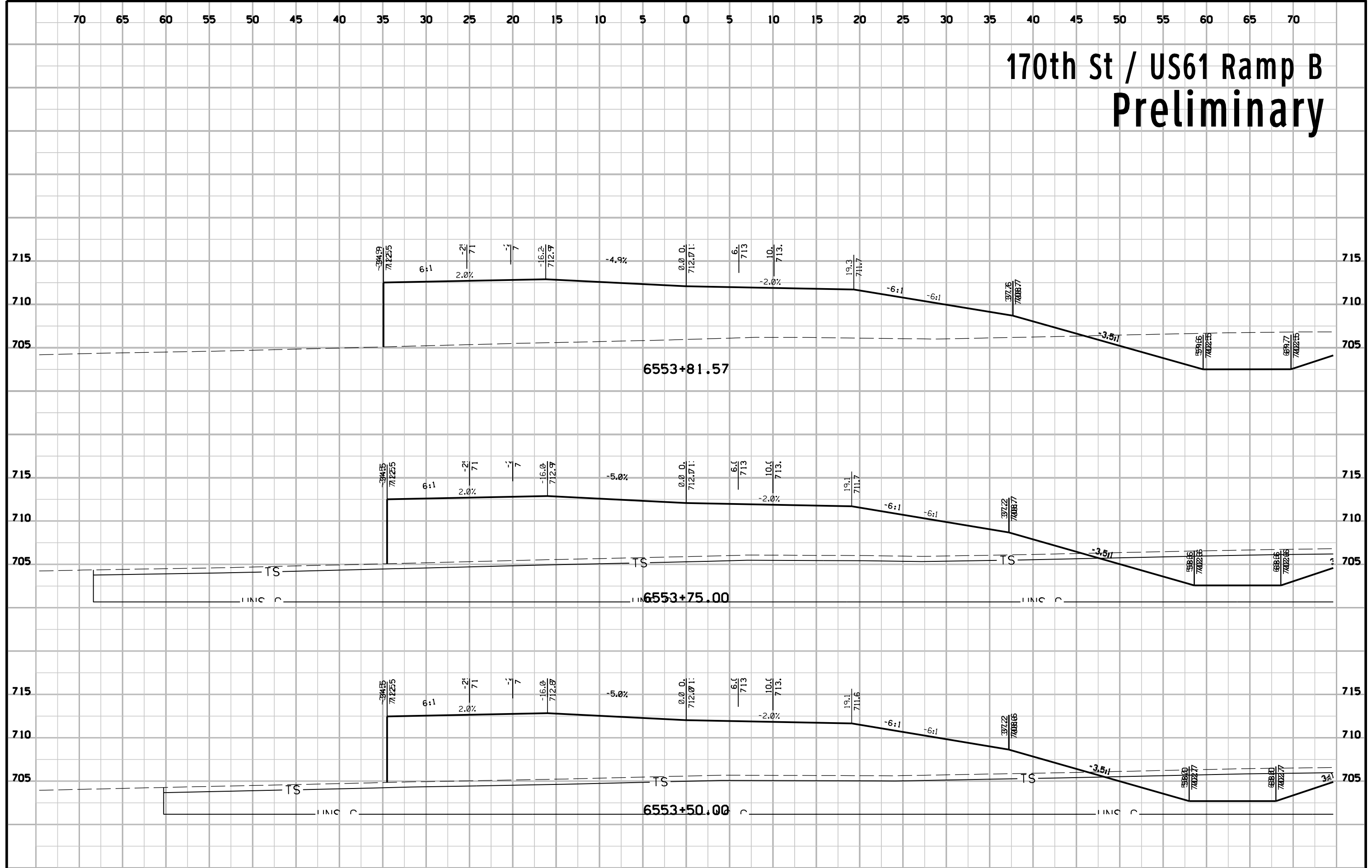
170th St / US61 Ramp B Preliminary



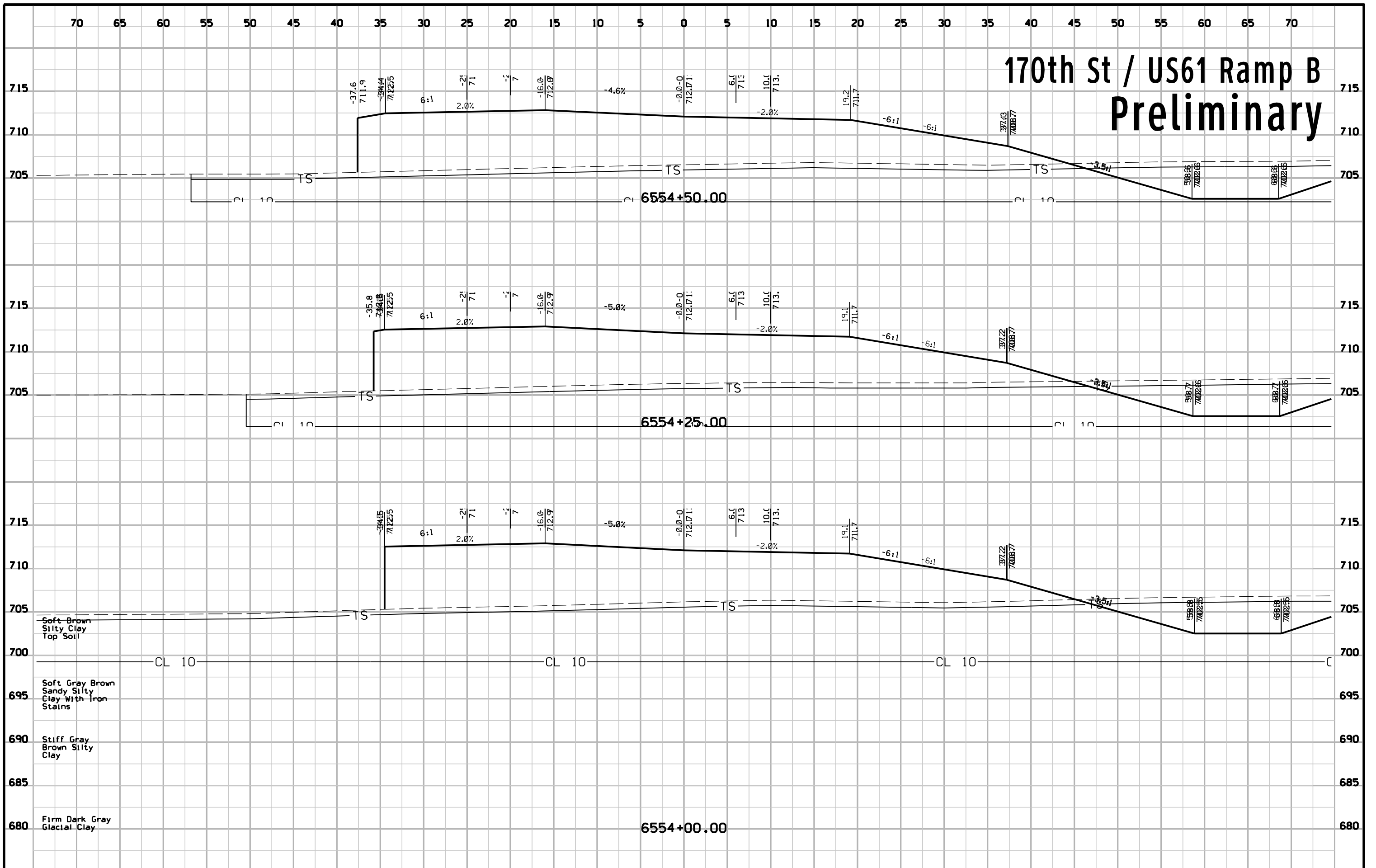
170th St / US61 Ramp B Preliminary



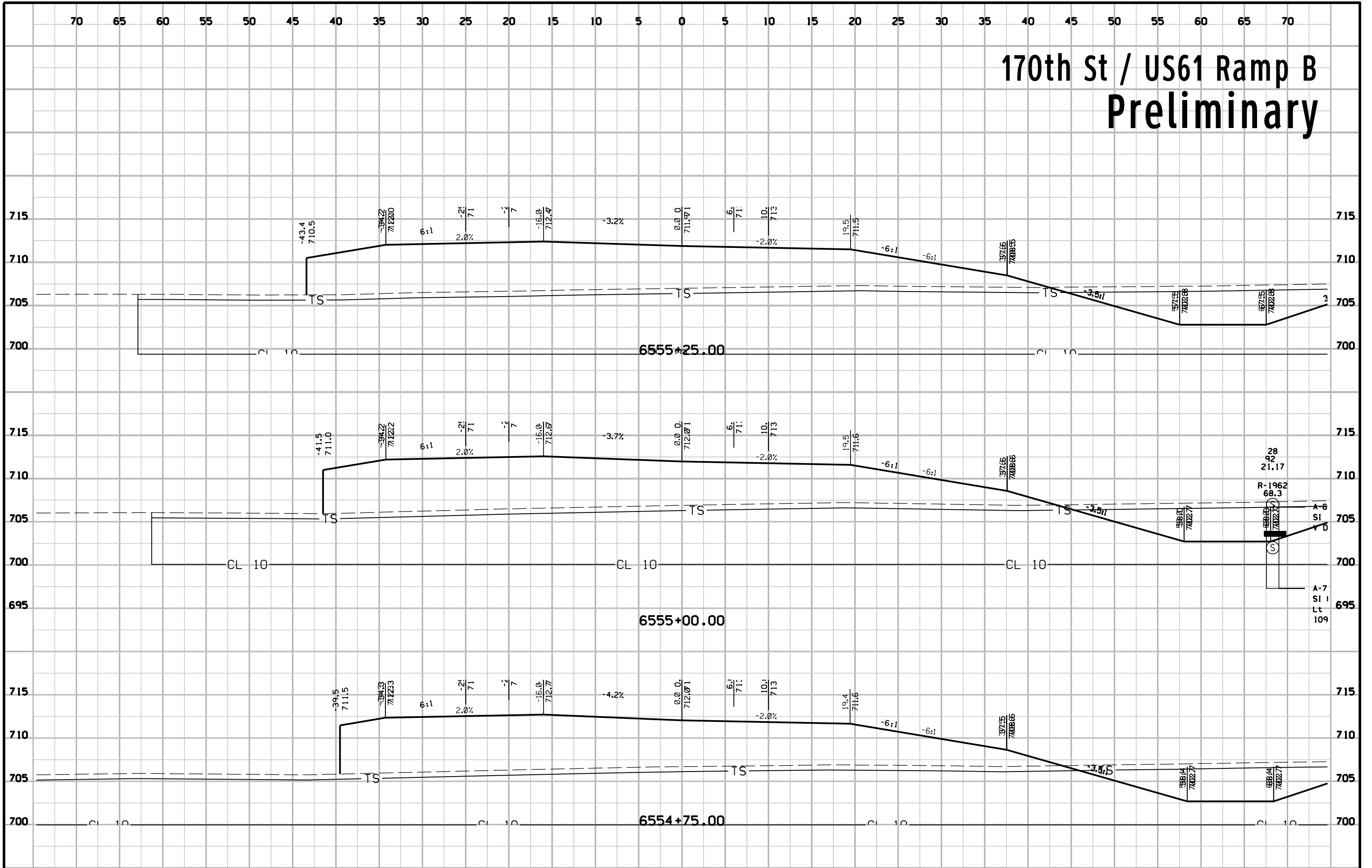
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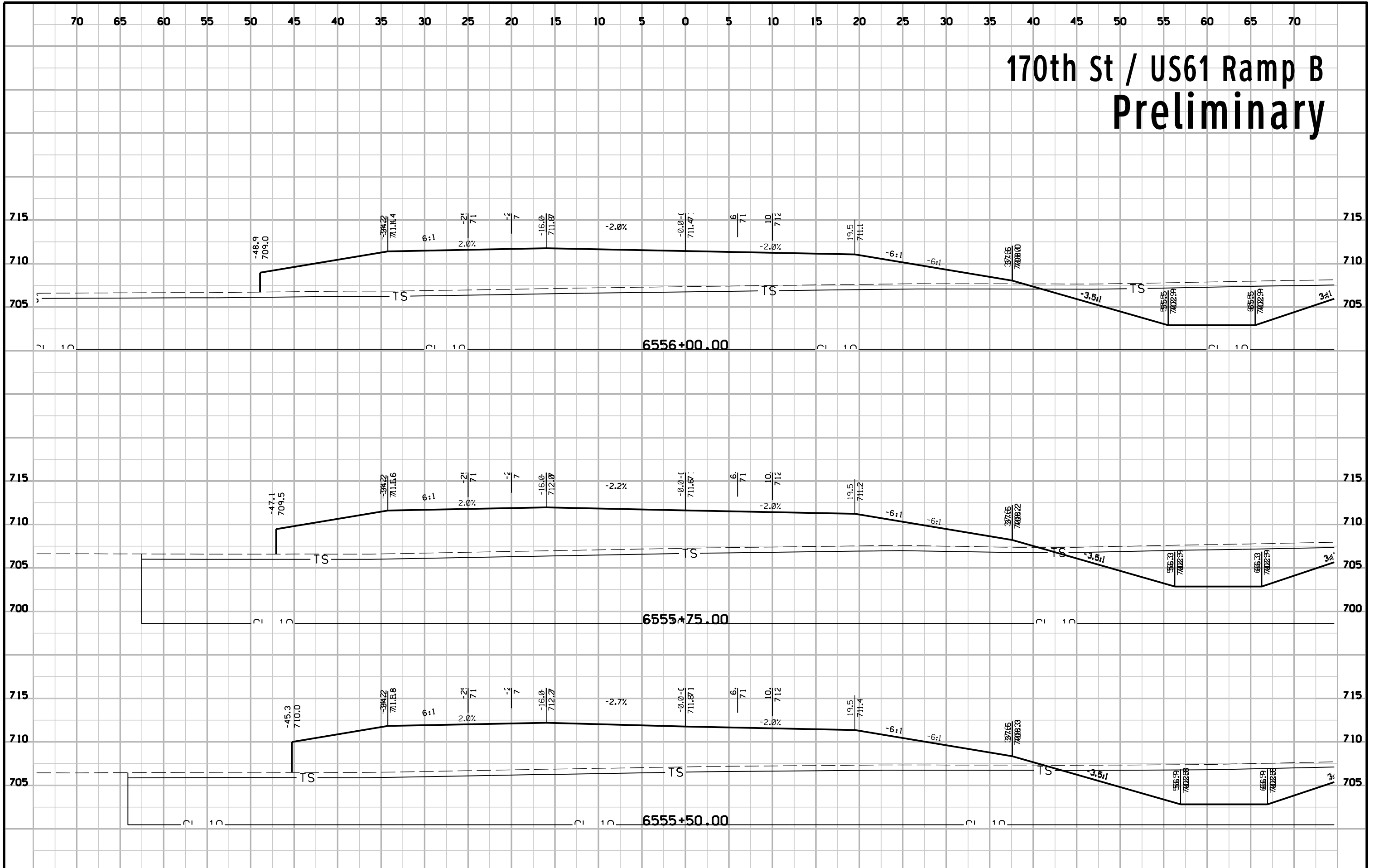
170th St / US61 Ramp B Preliminary



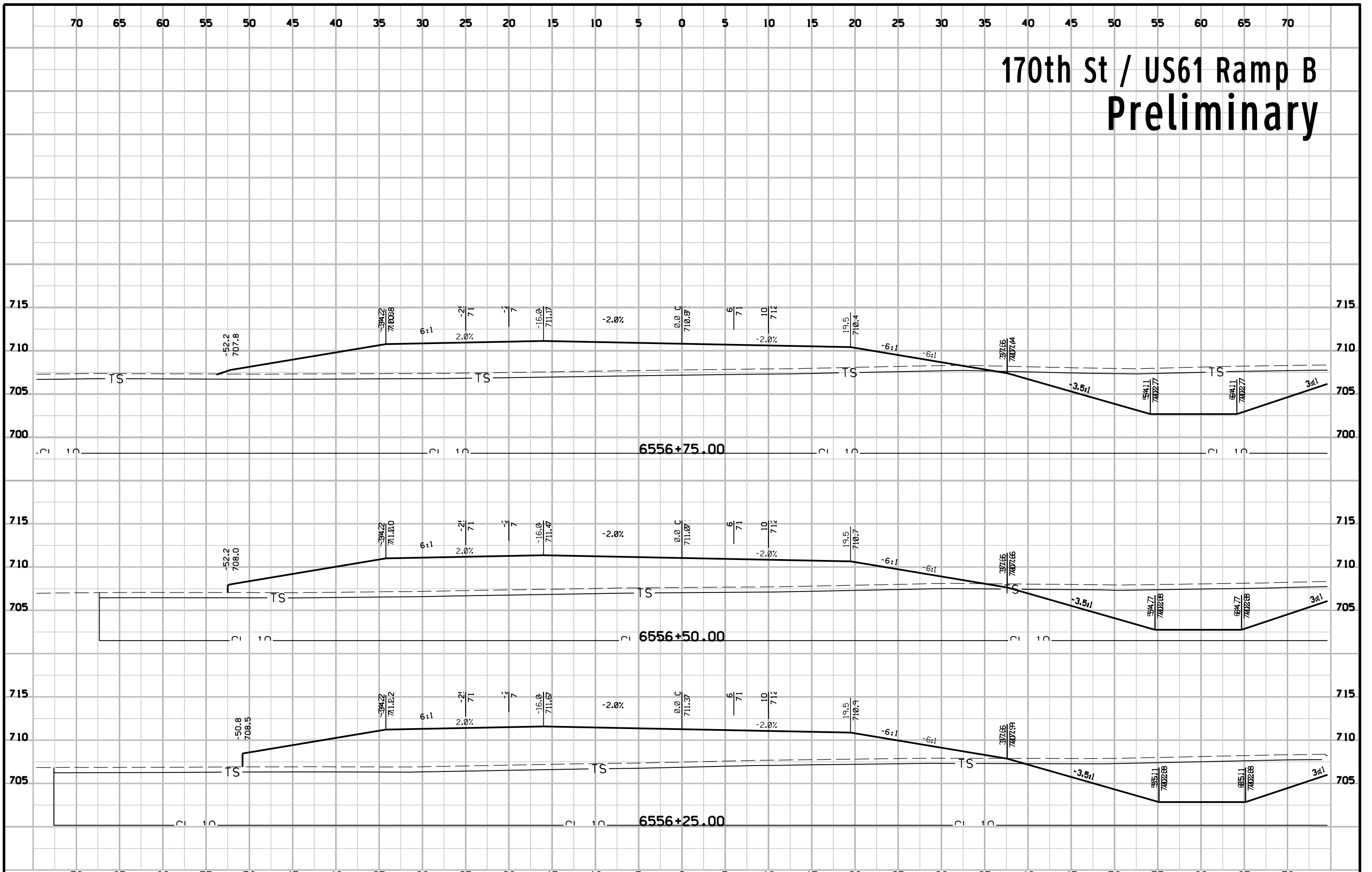
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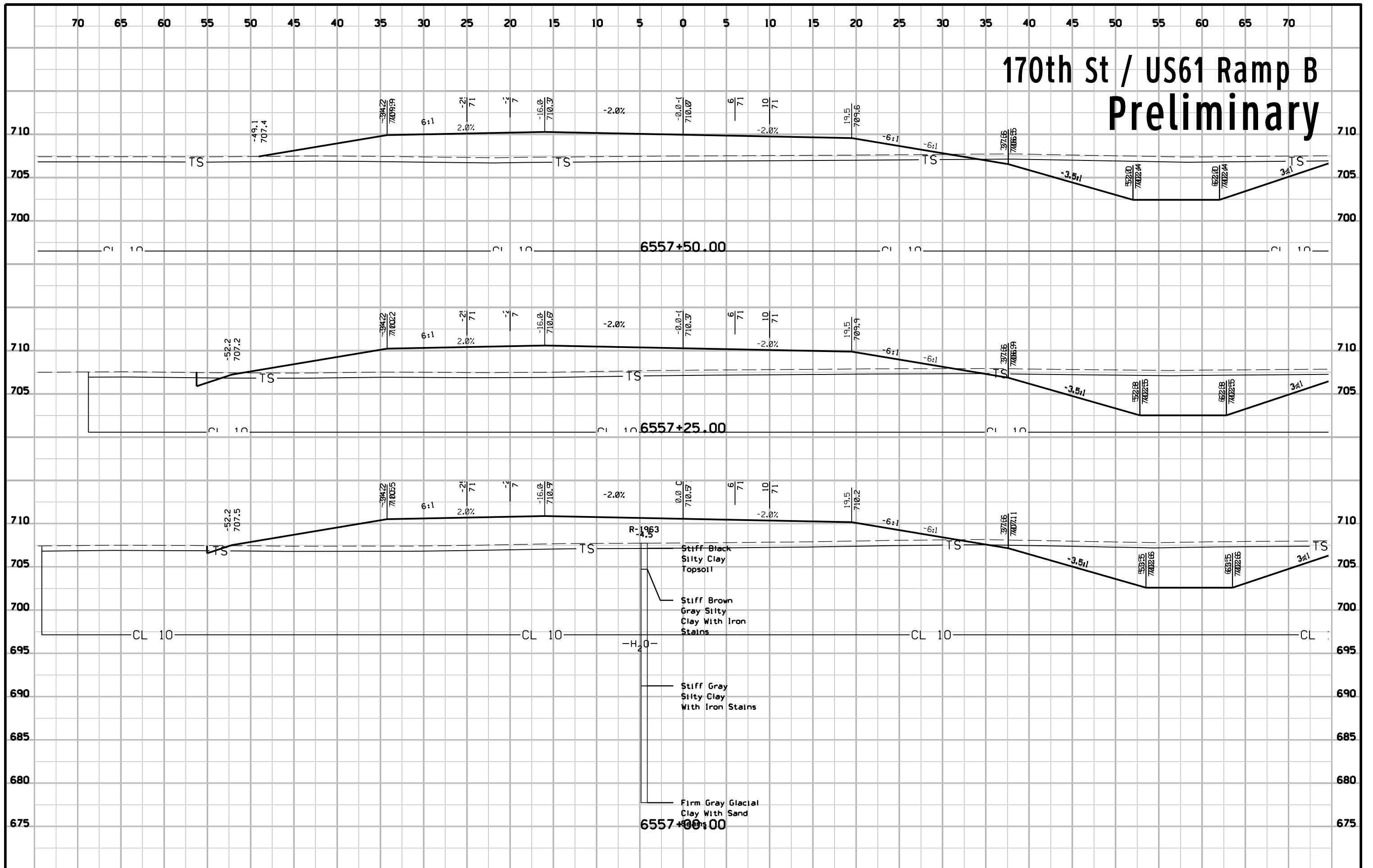
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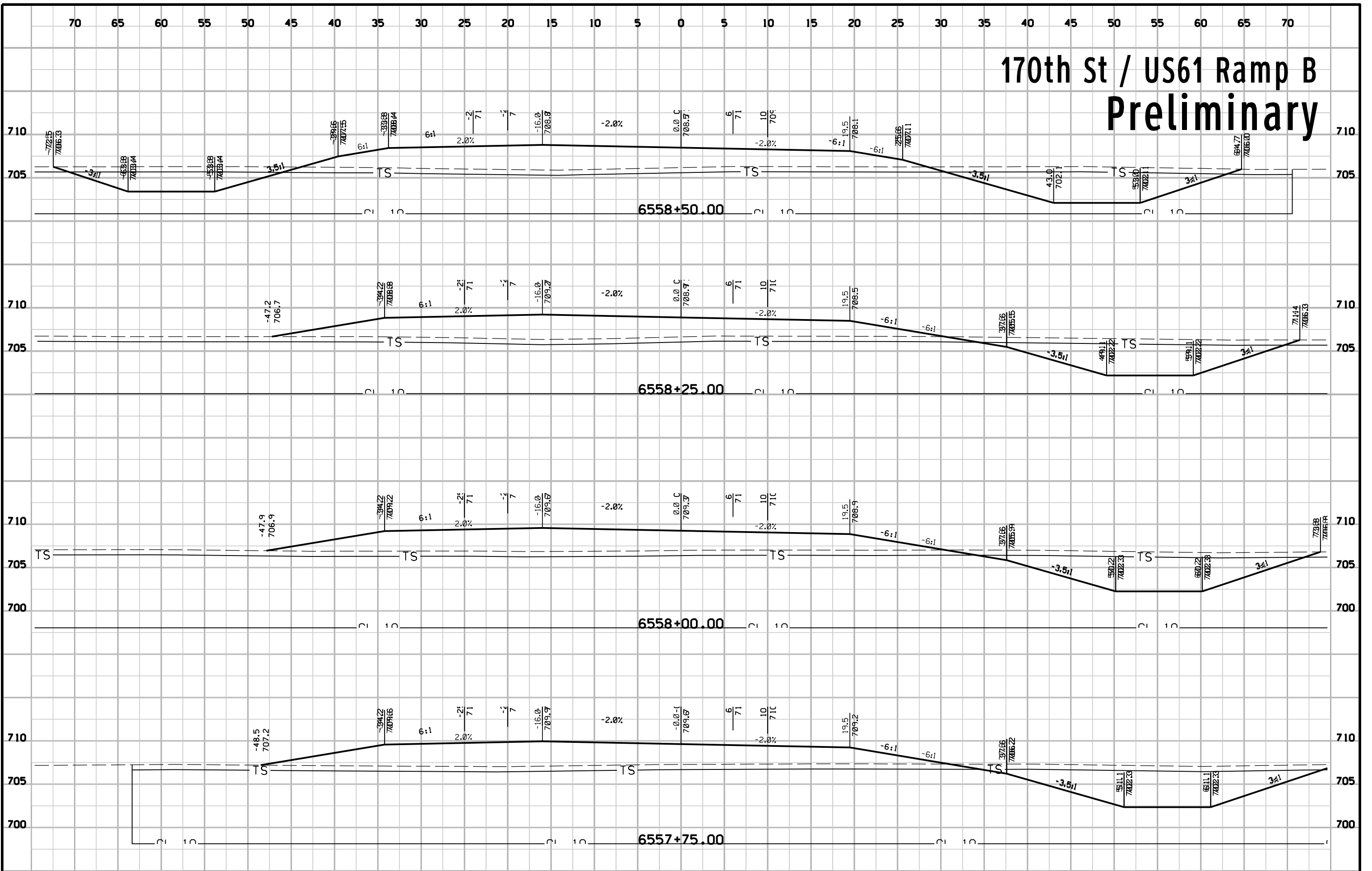
170th St / US61 Ramp B Preliminary



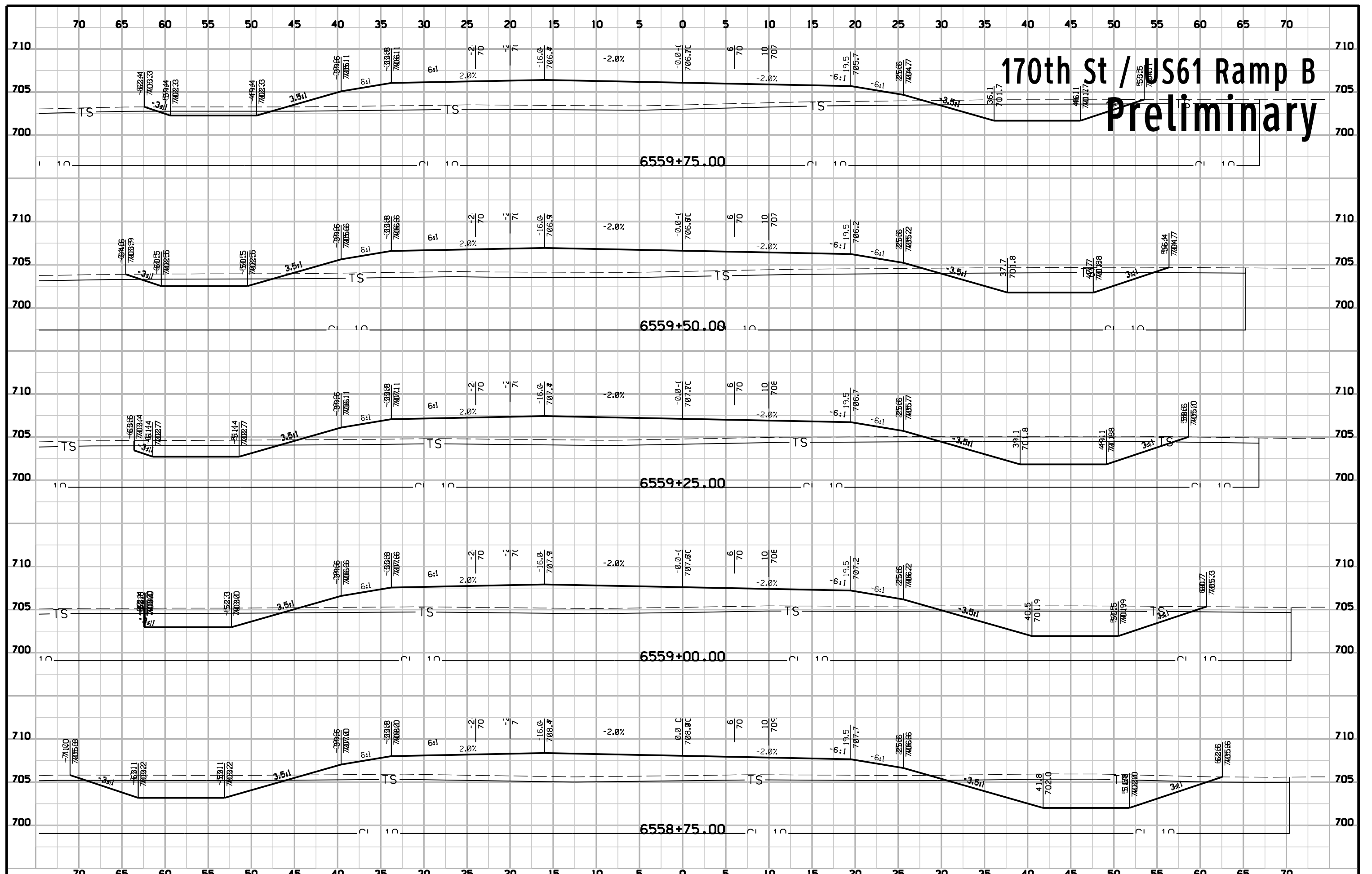
170th St / US61 Ramp B Preliminary



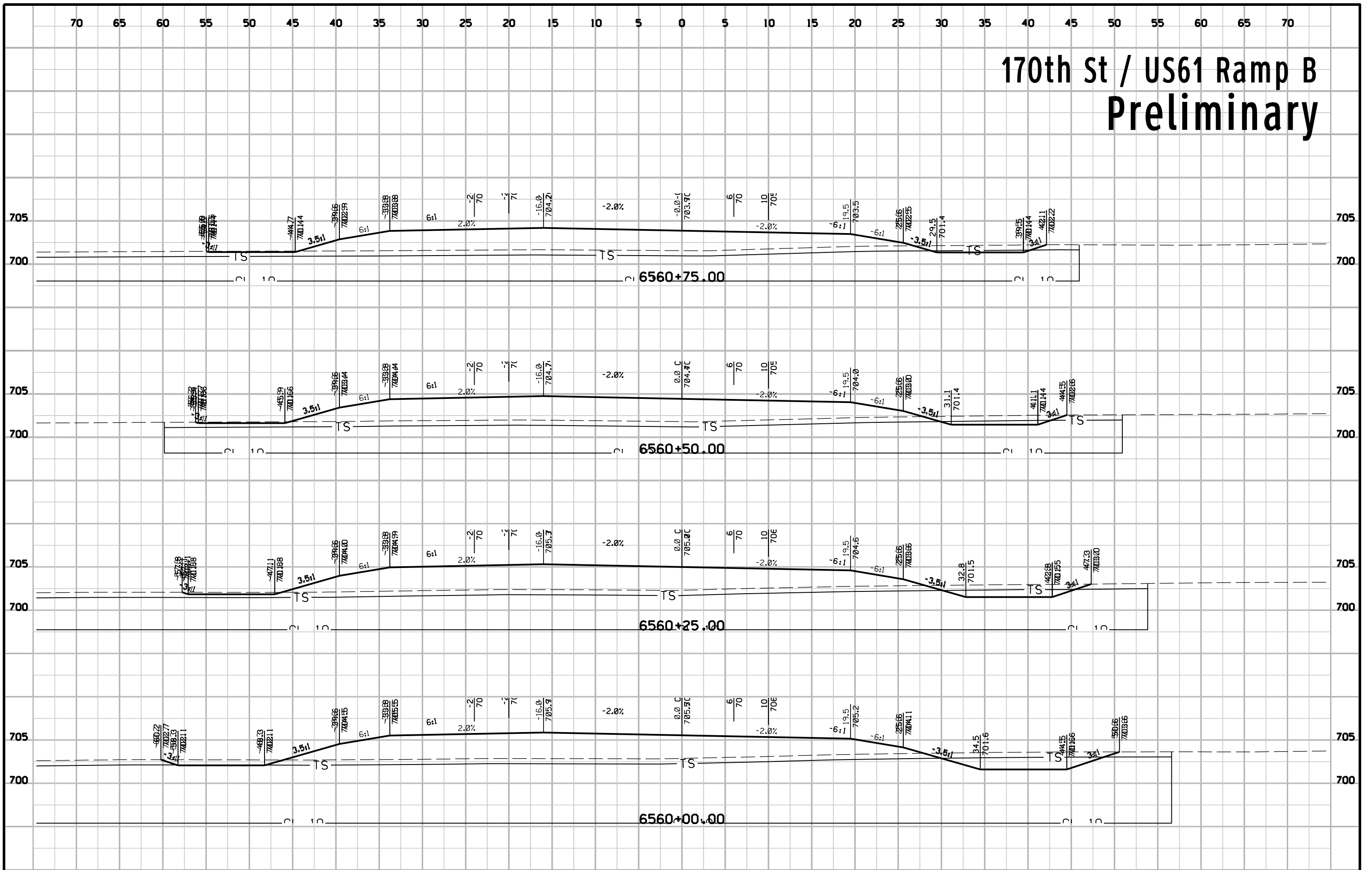
170th St / US61 Ramp B Preliminary



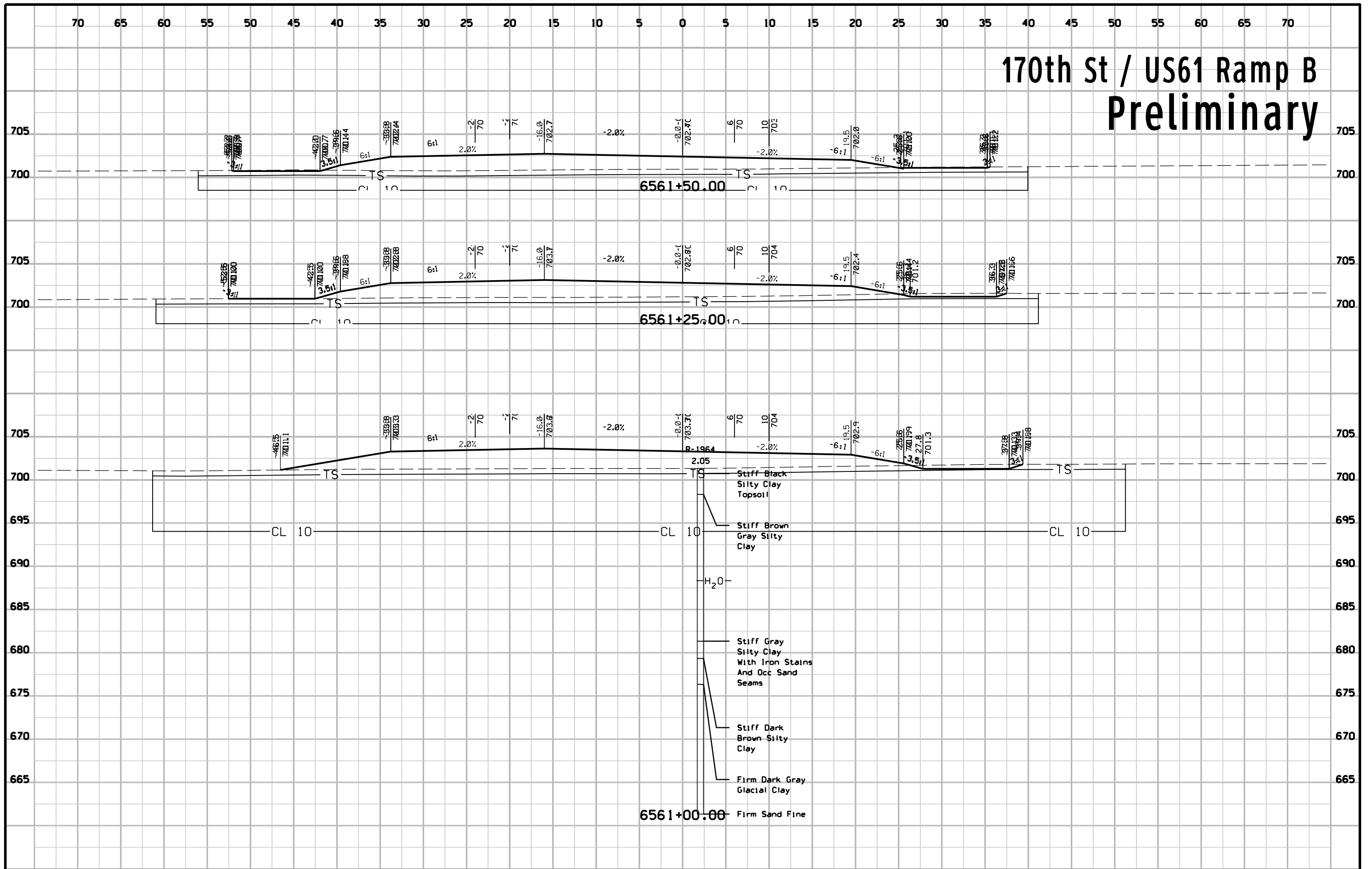
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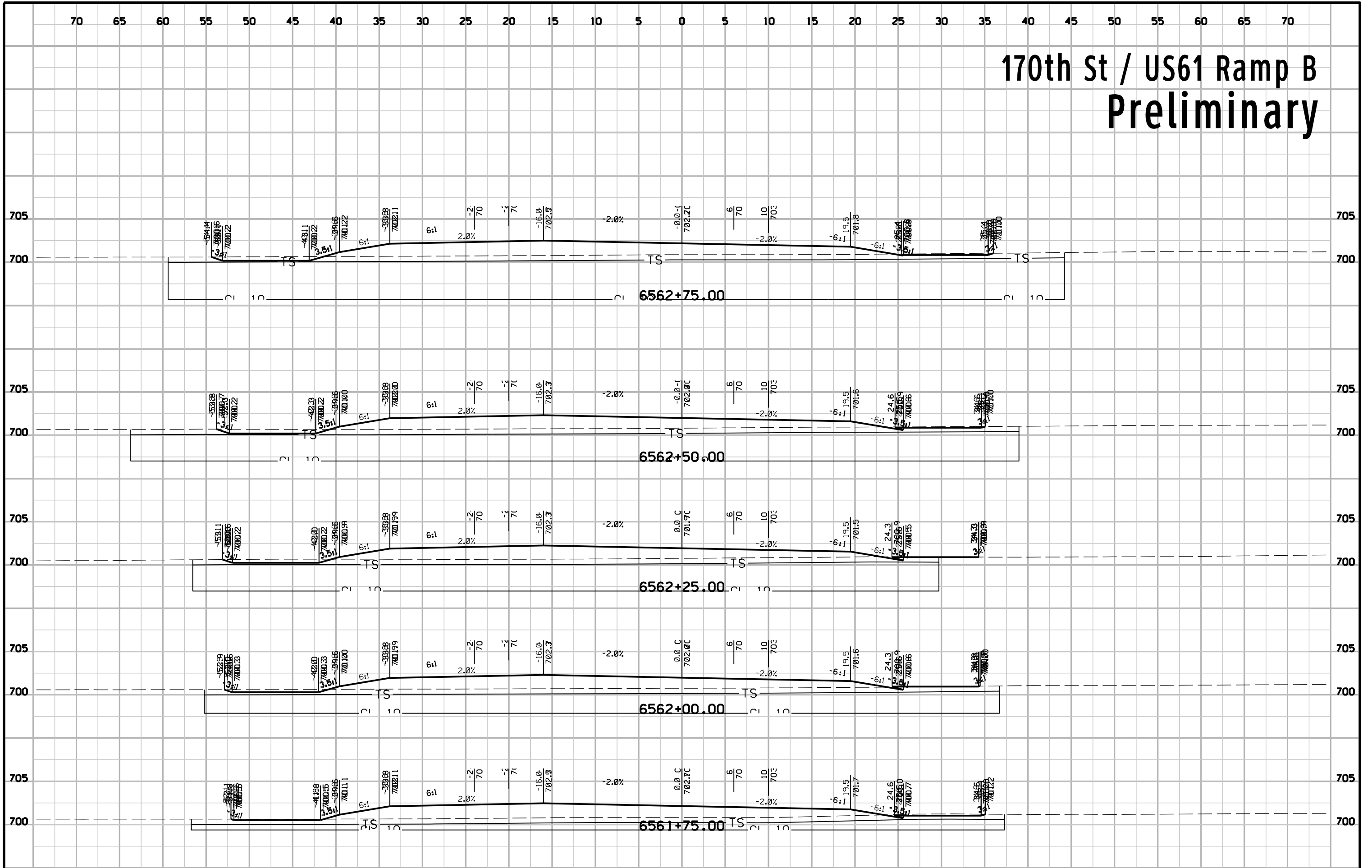
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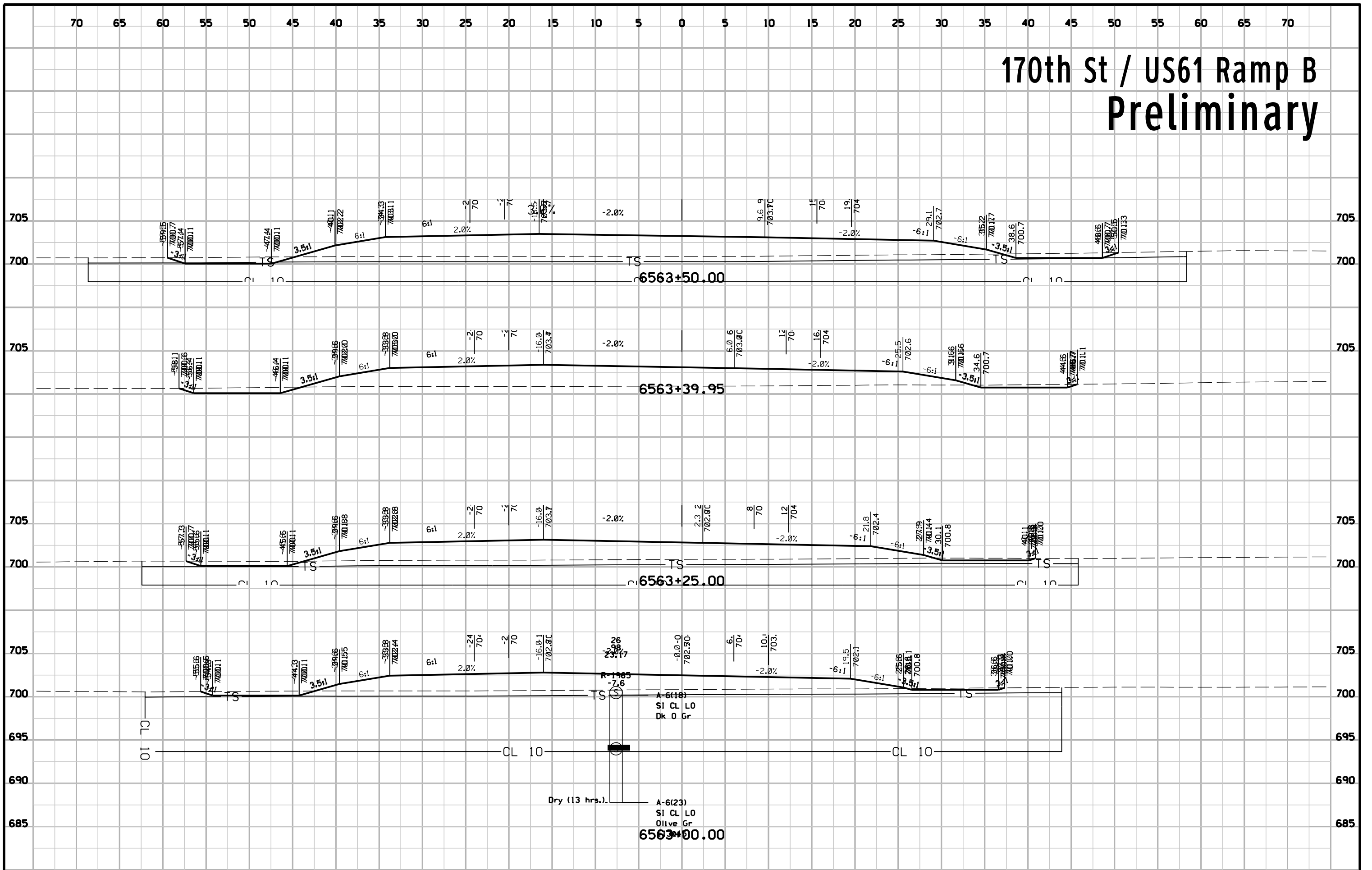
170th St / US61 Ramp B Preliminary



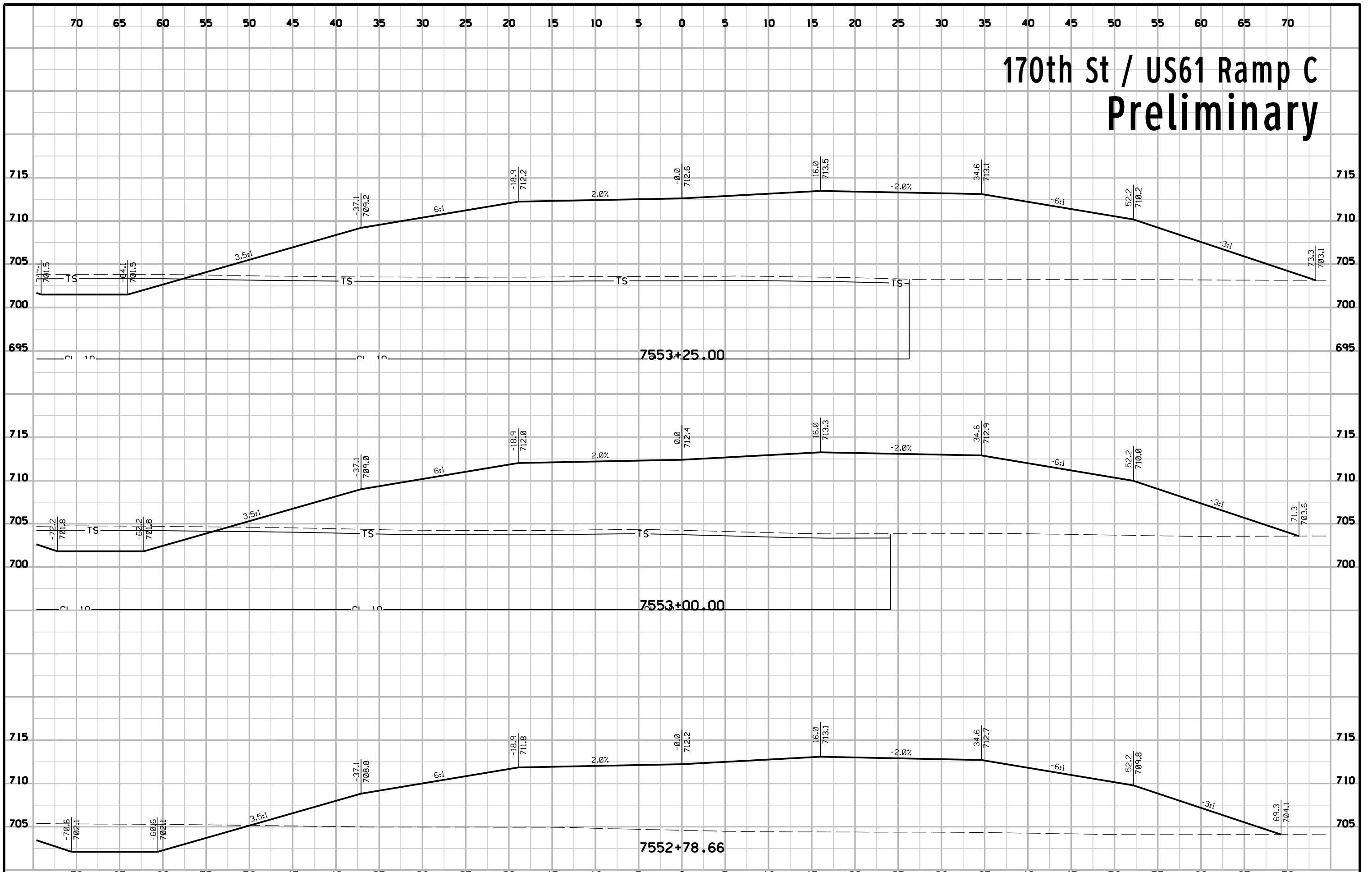
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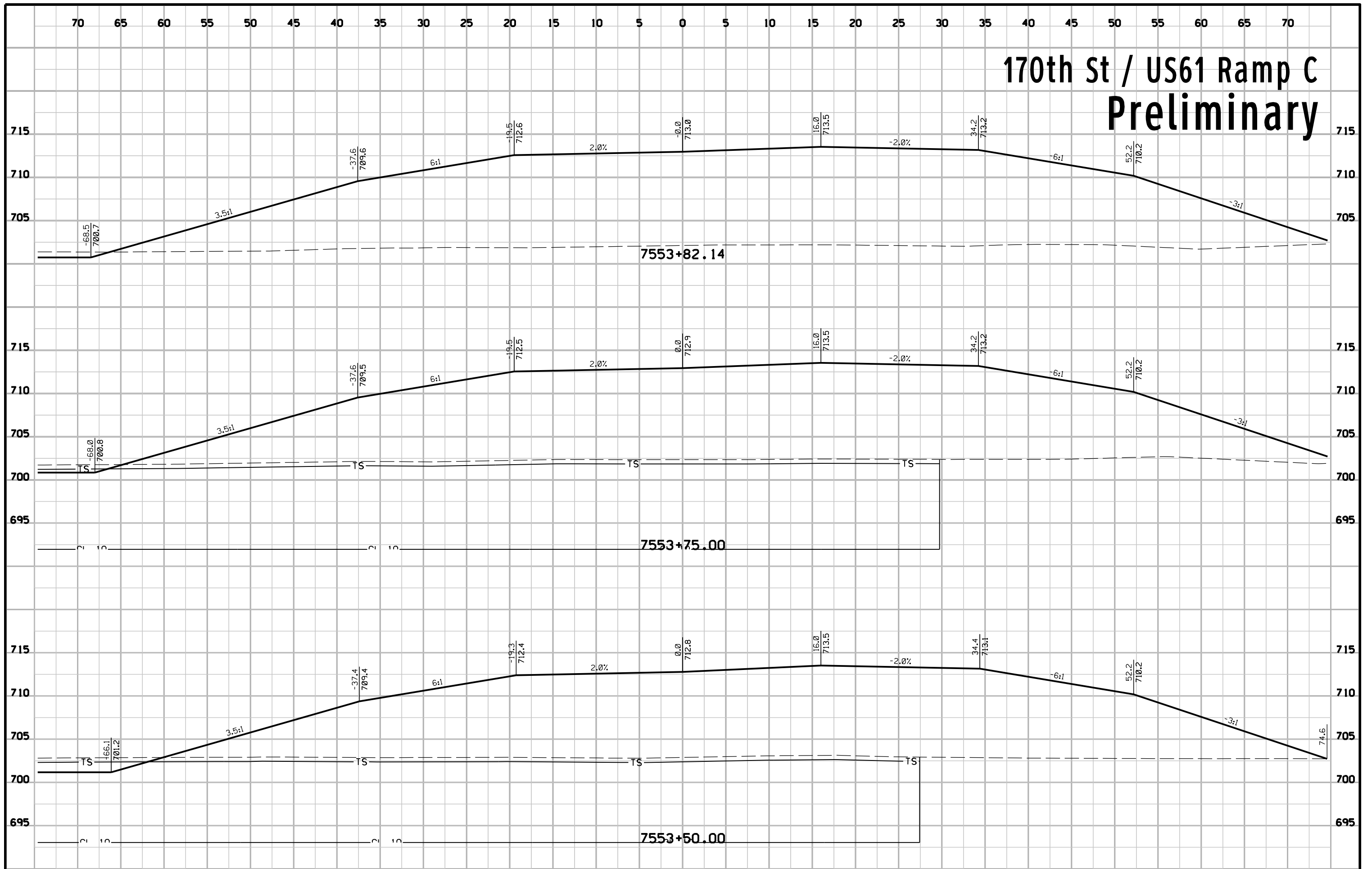
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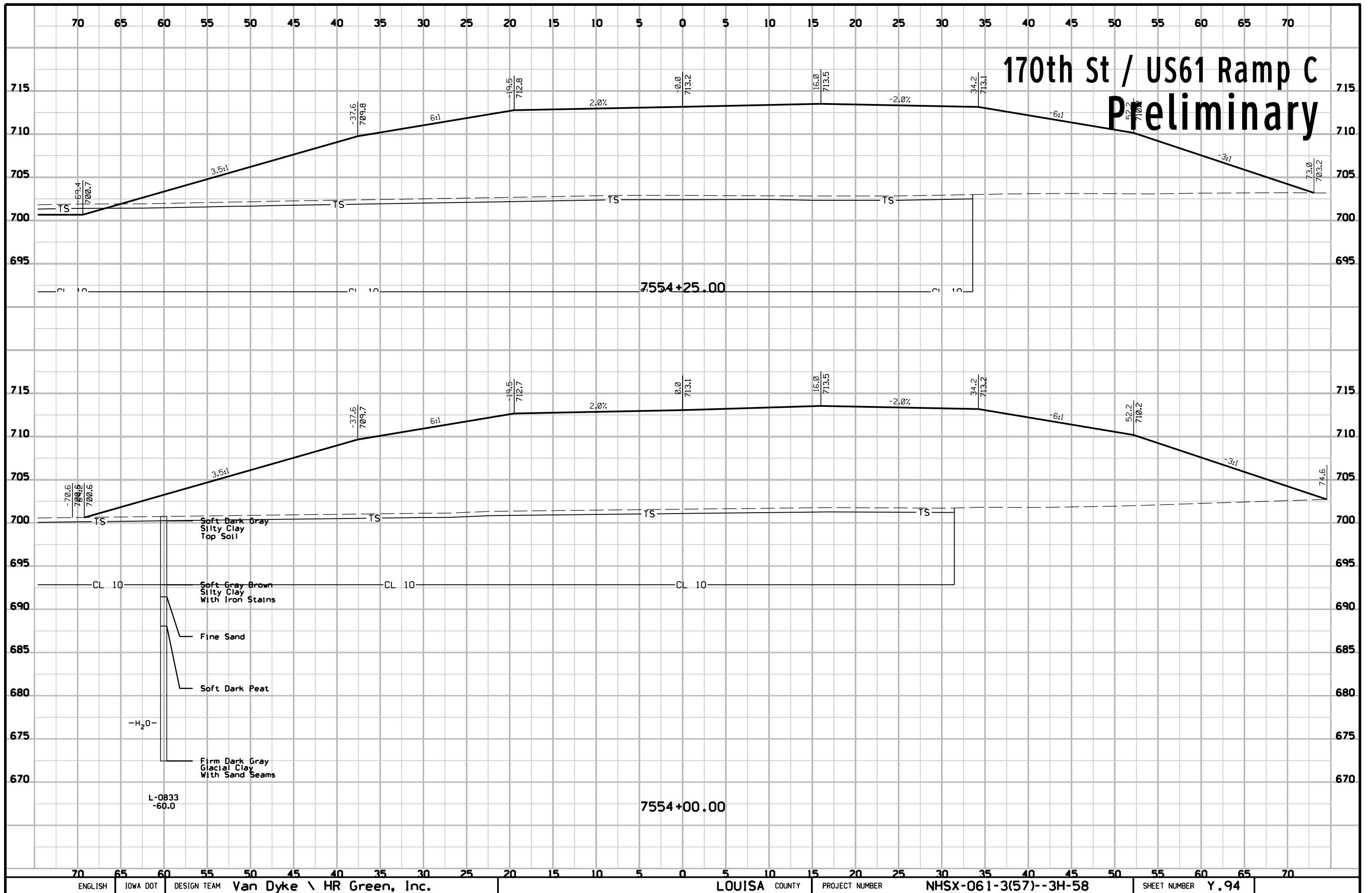
170th St / US61 Ramp C Preliminary



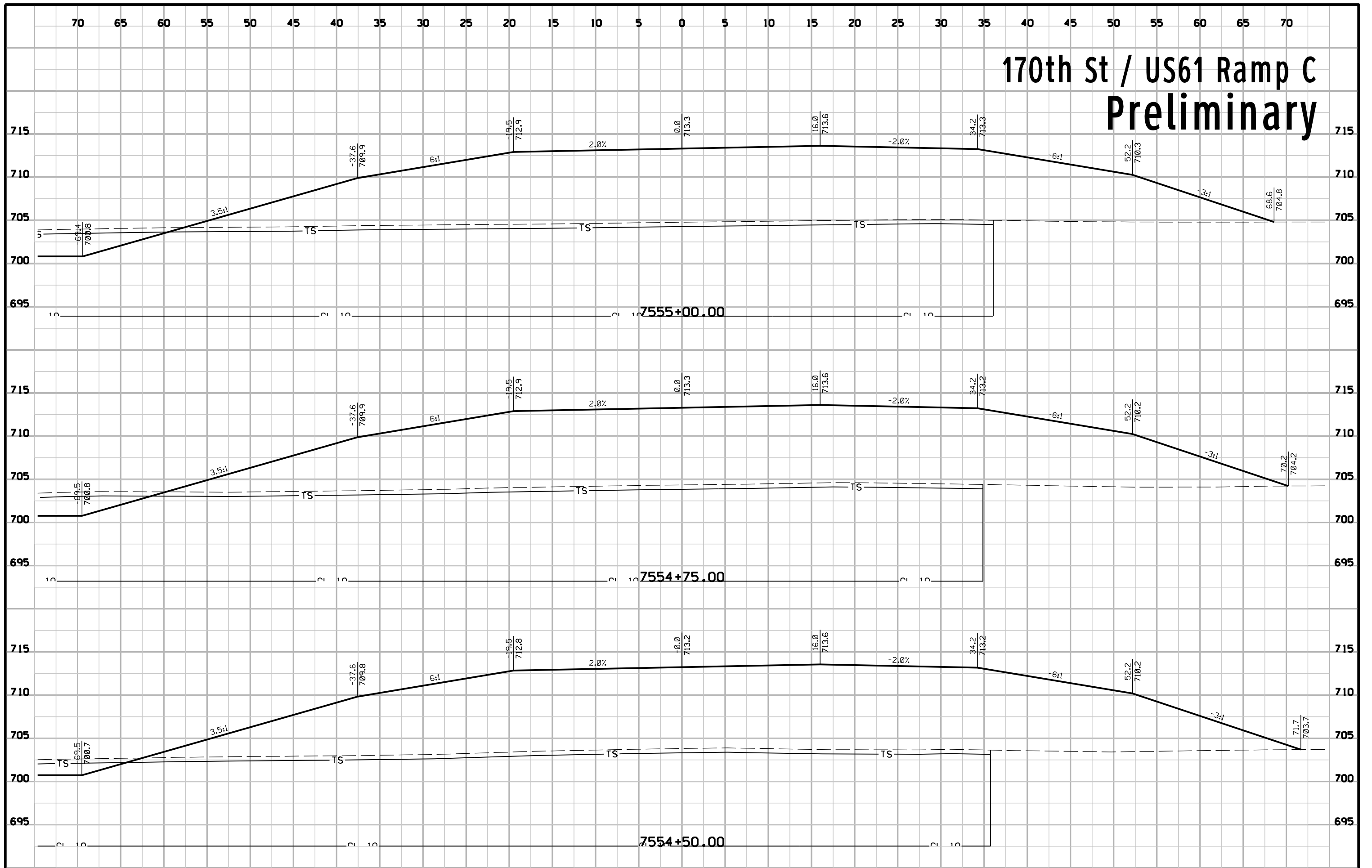
170th St / US61 Ramp C Preliminary



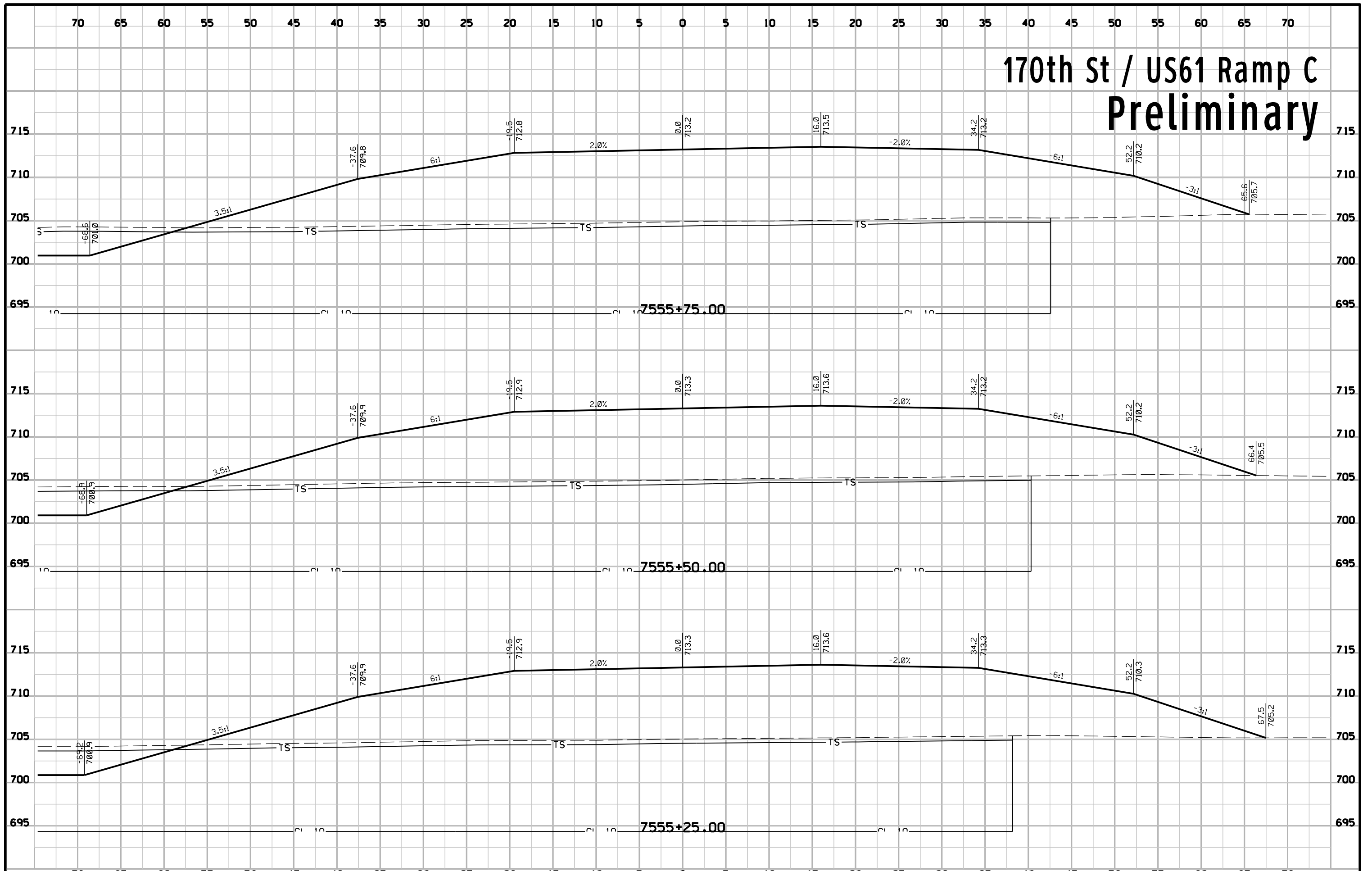
170th St / US61 Ramp C Preliminary



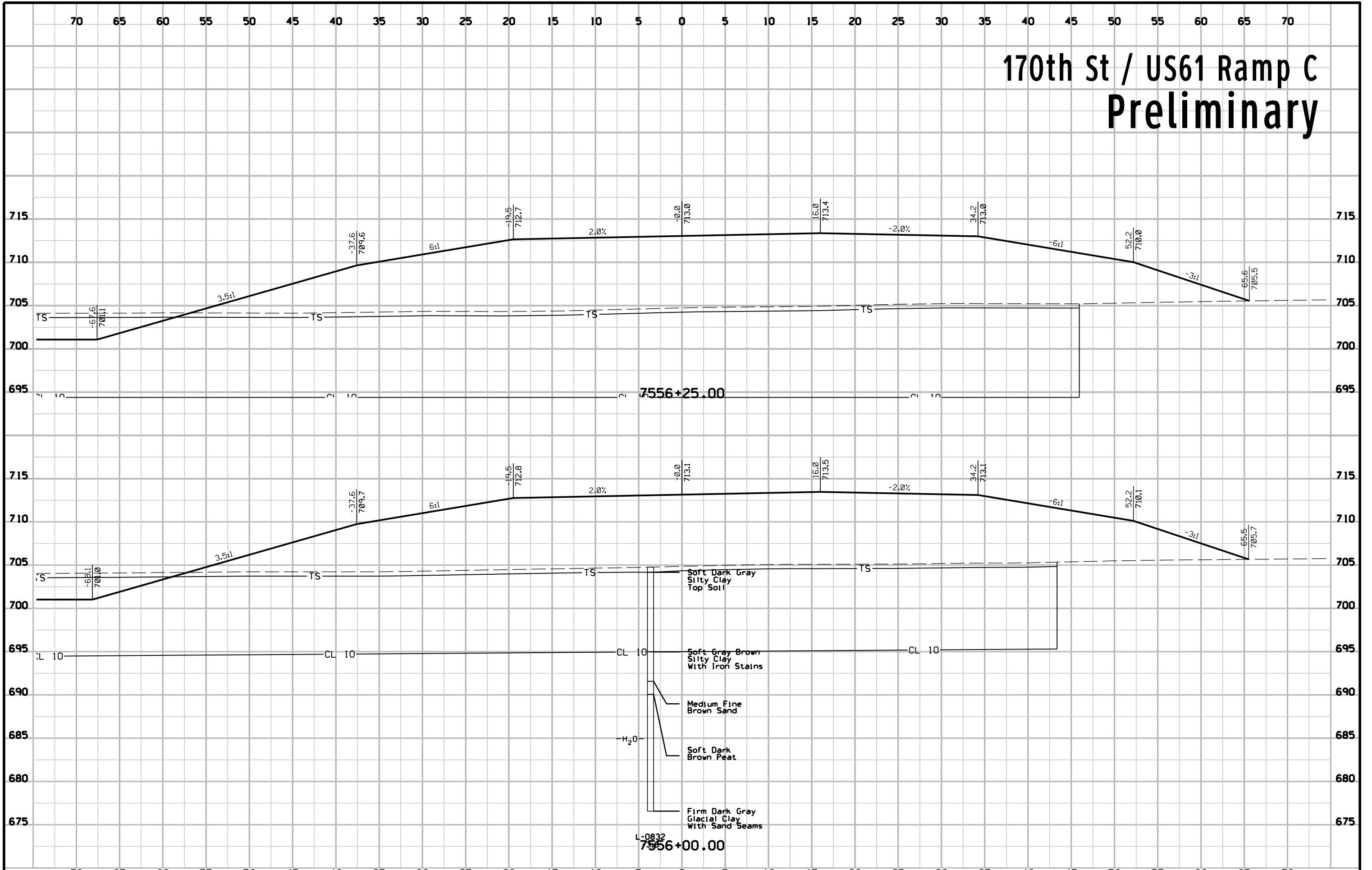
170th St / US61 Ramp C Preliminary



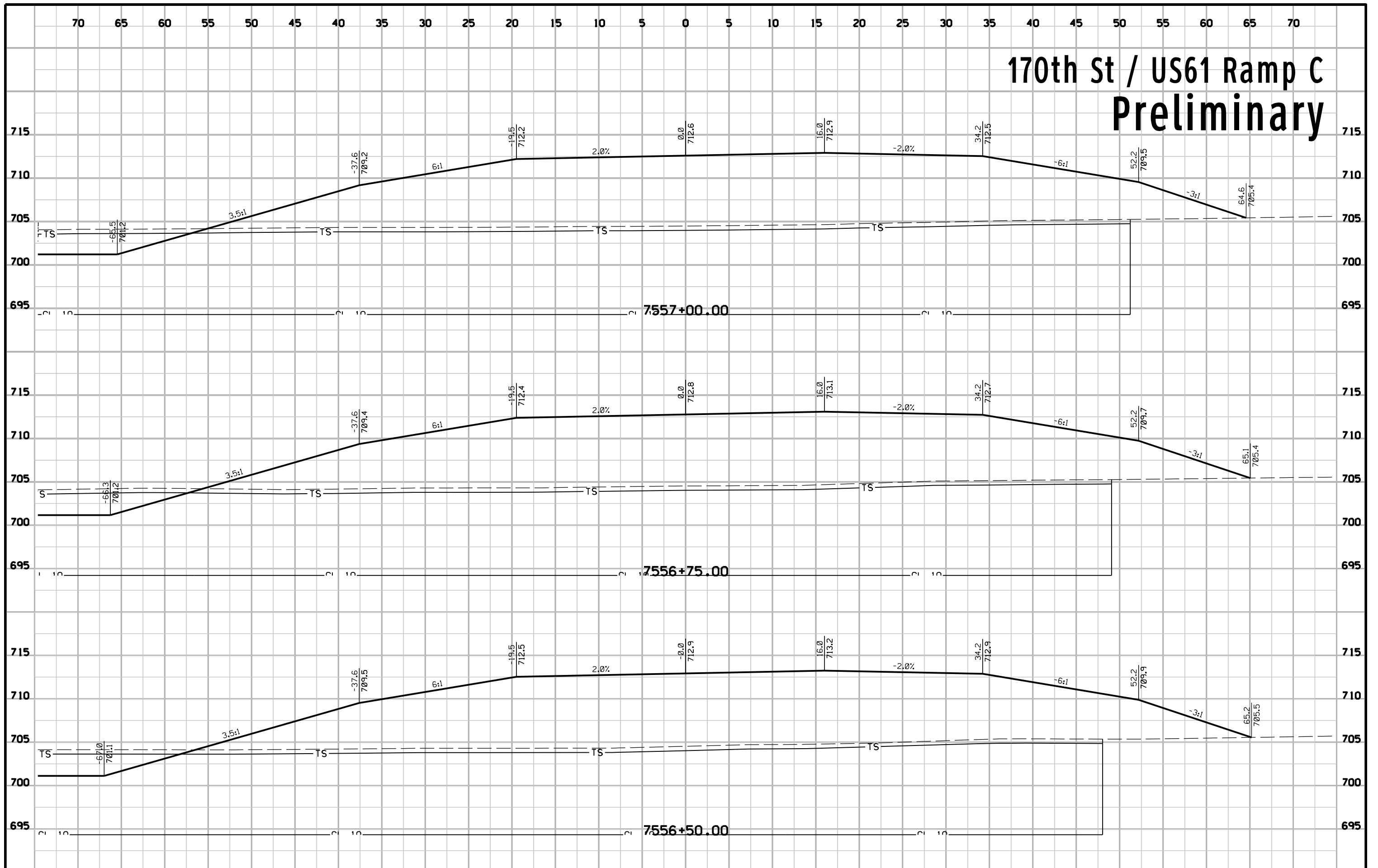
170th St / US61 Ramp C Preliminary



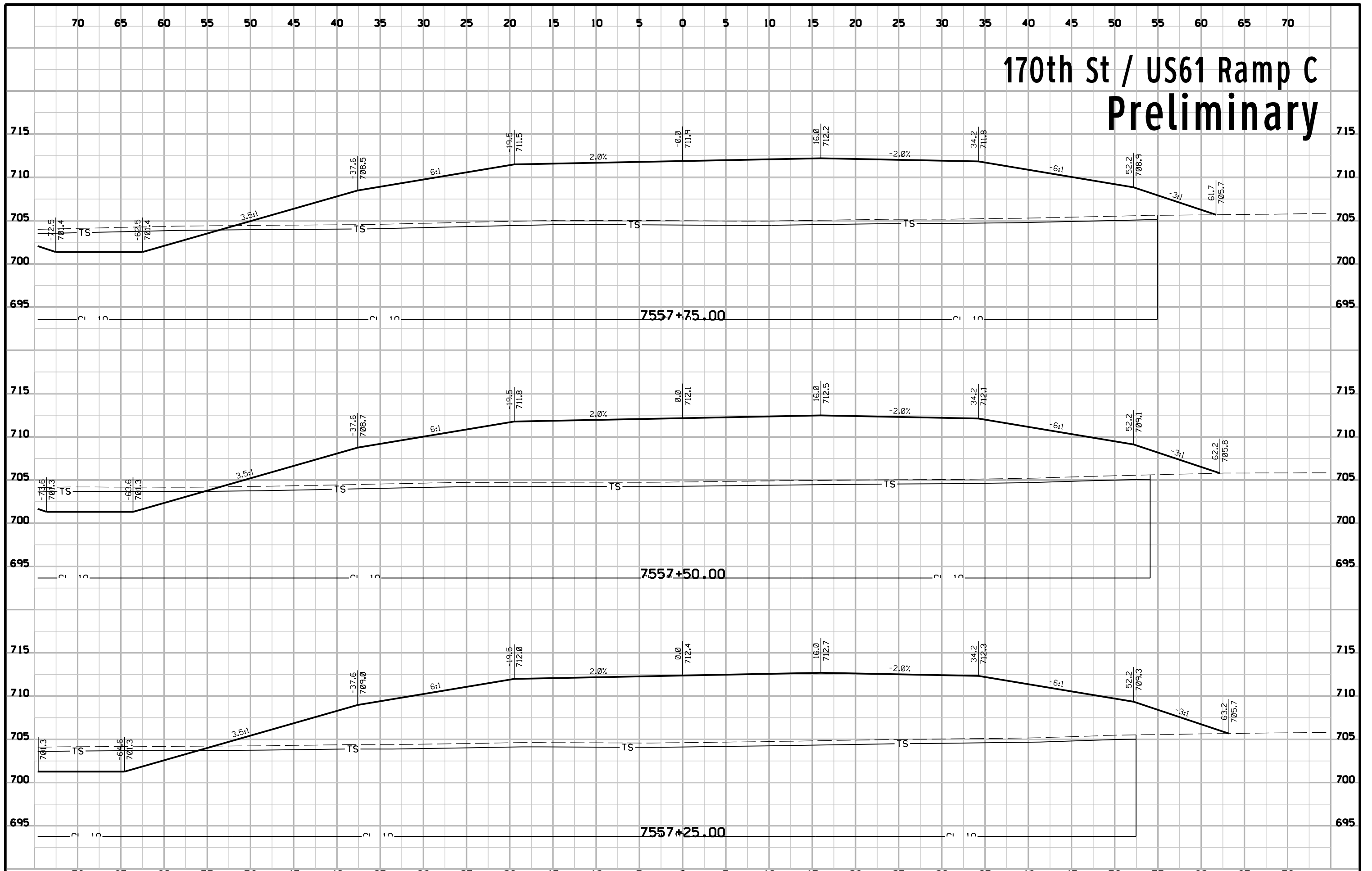
170th St / US61 Ramp C Preliminary



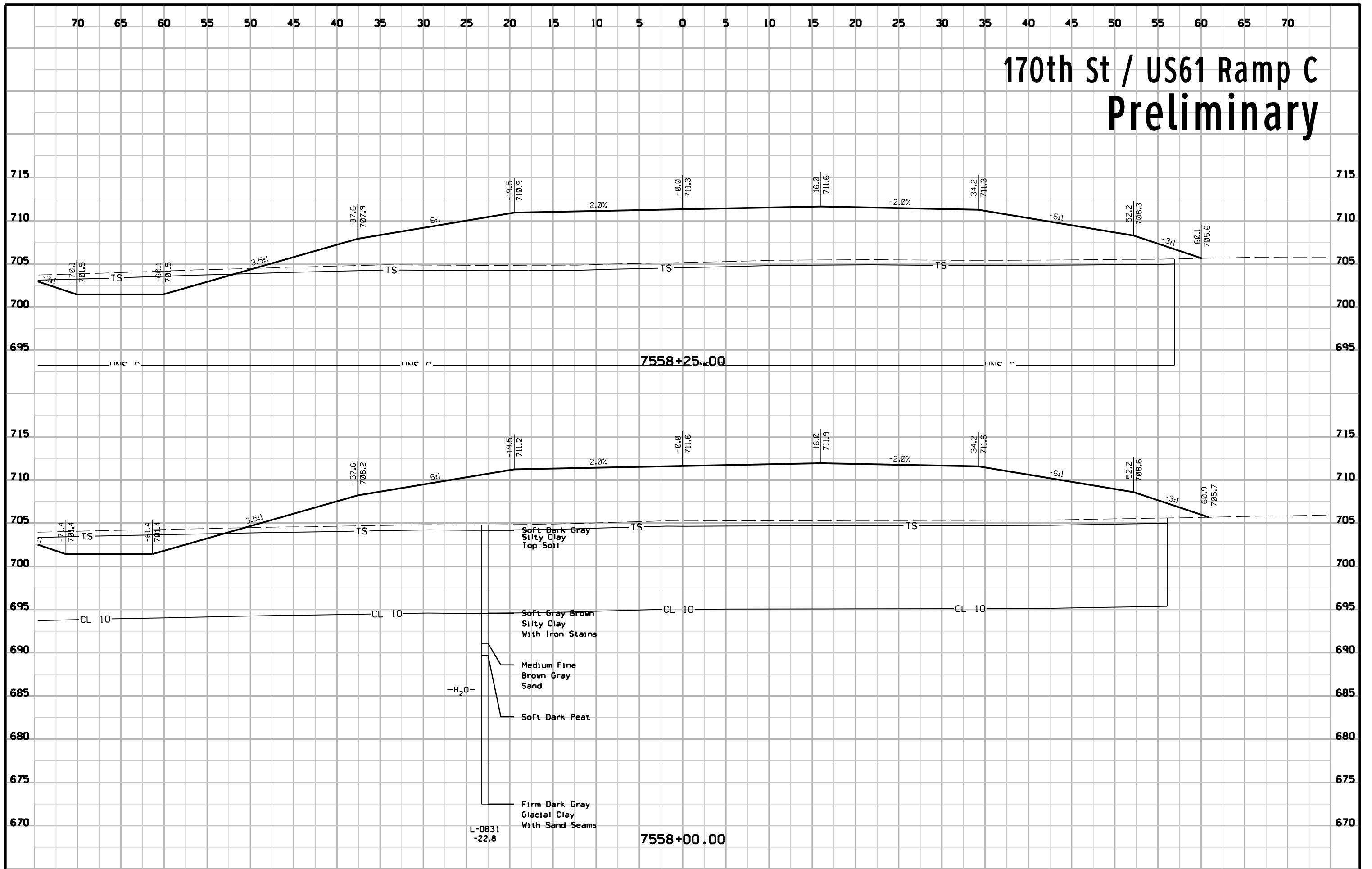
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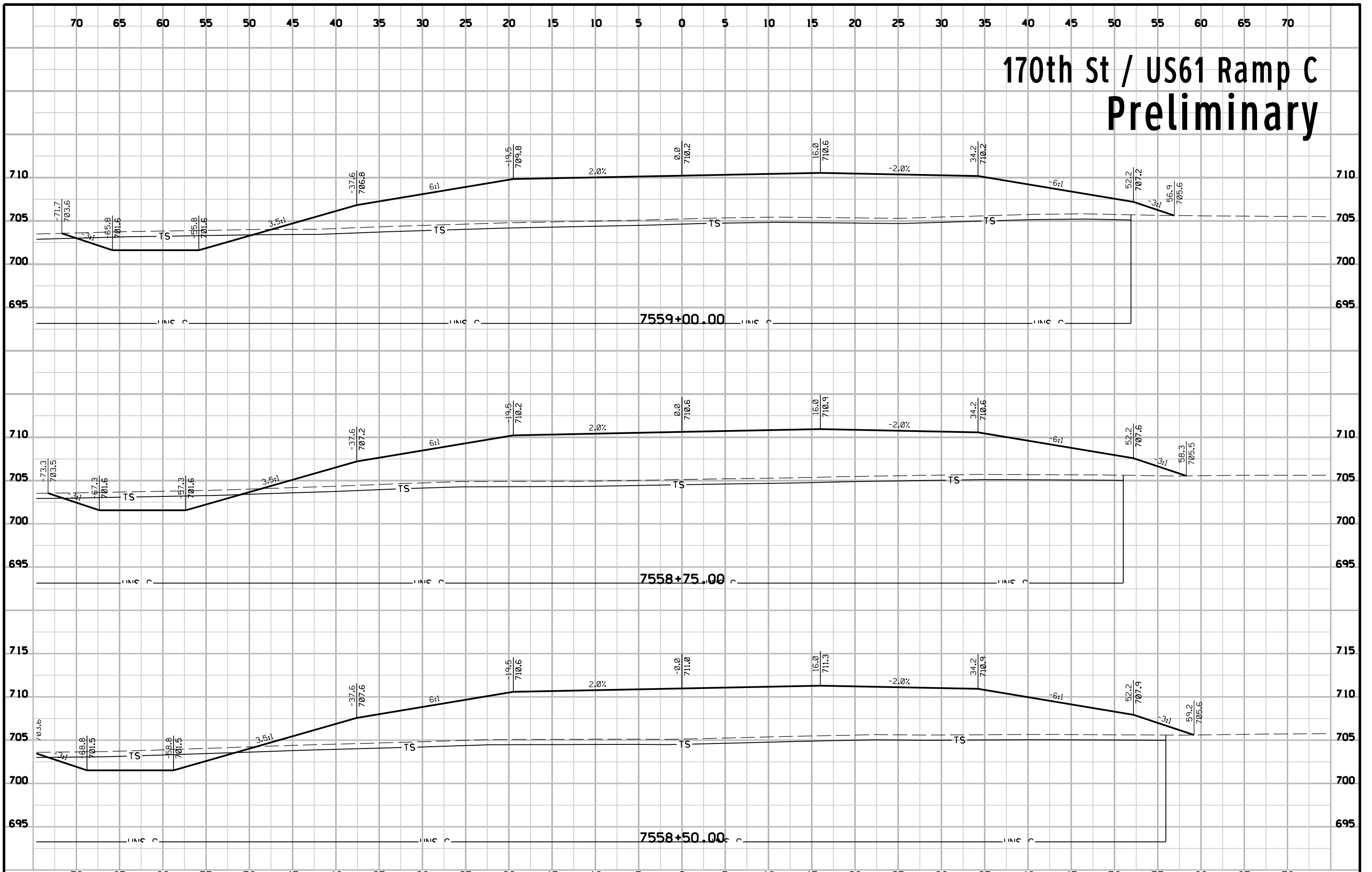
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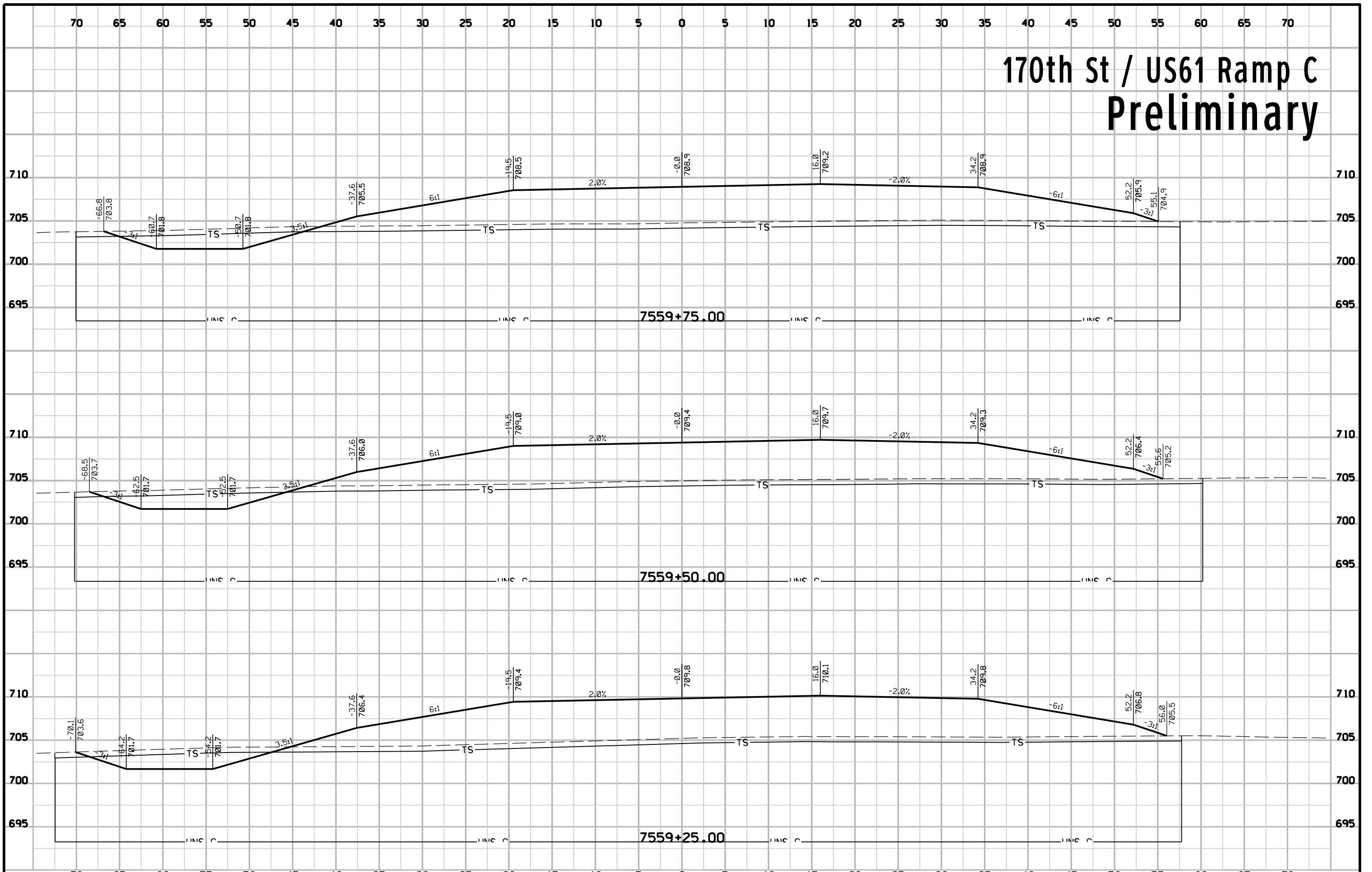
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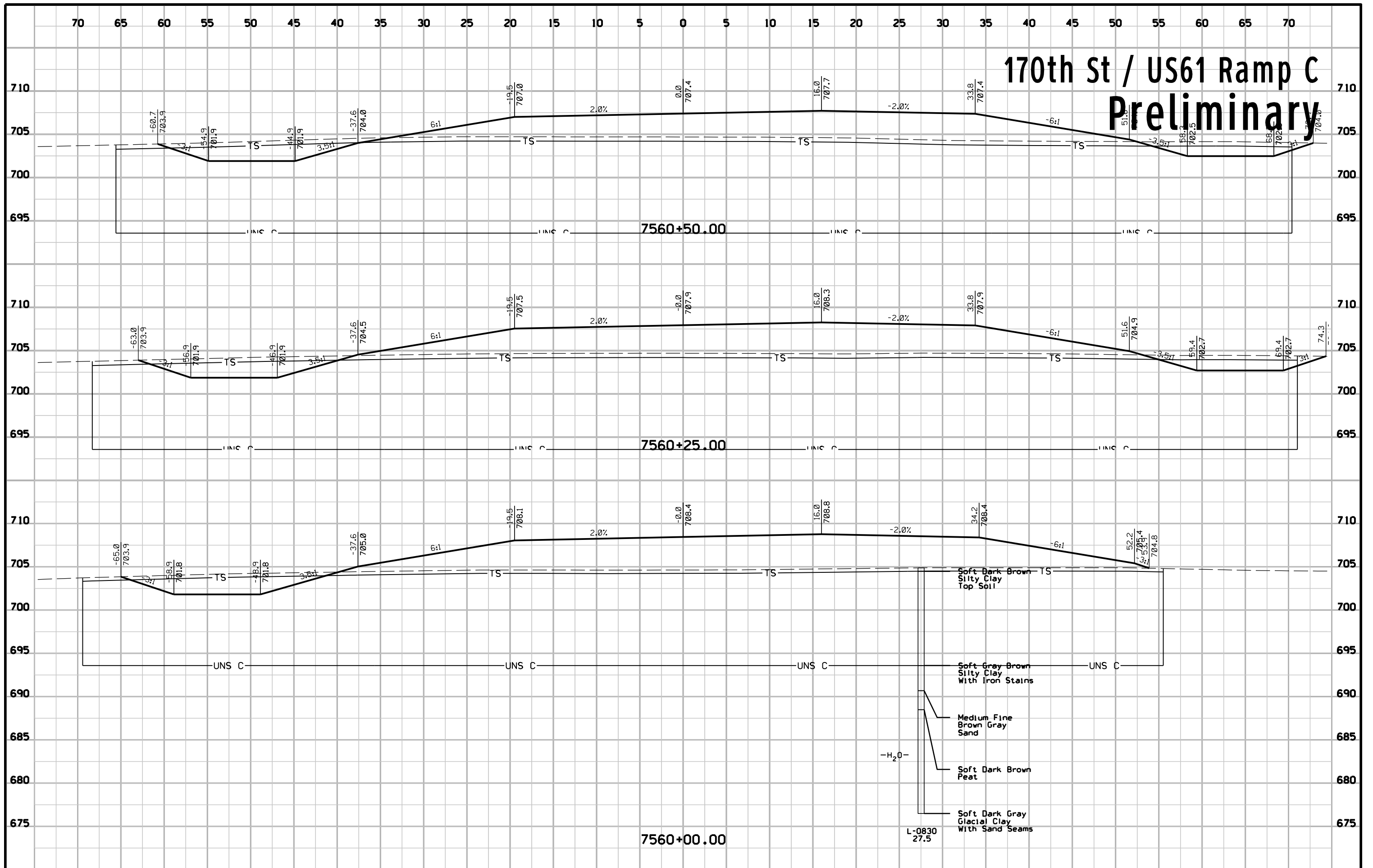
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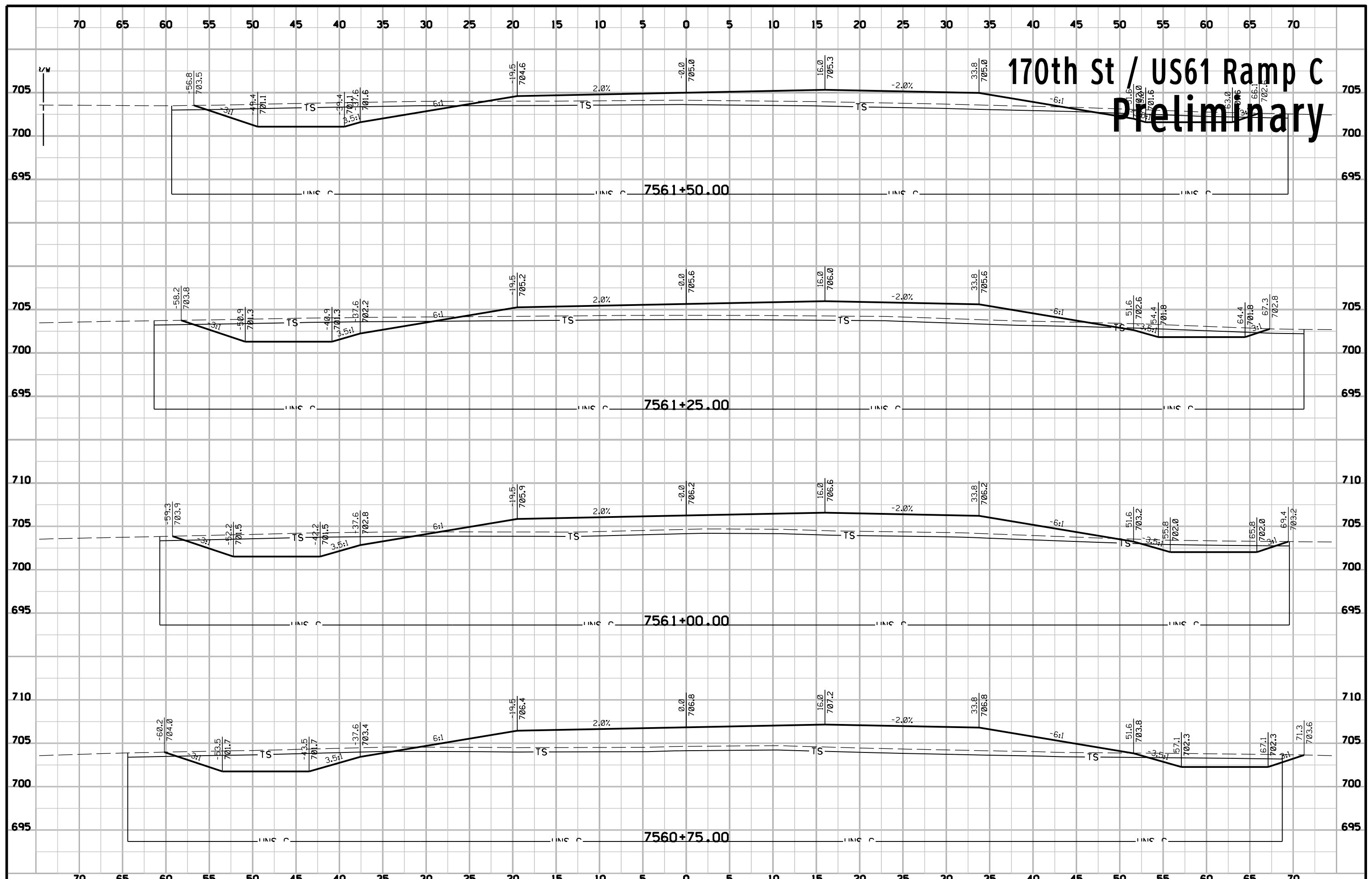
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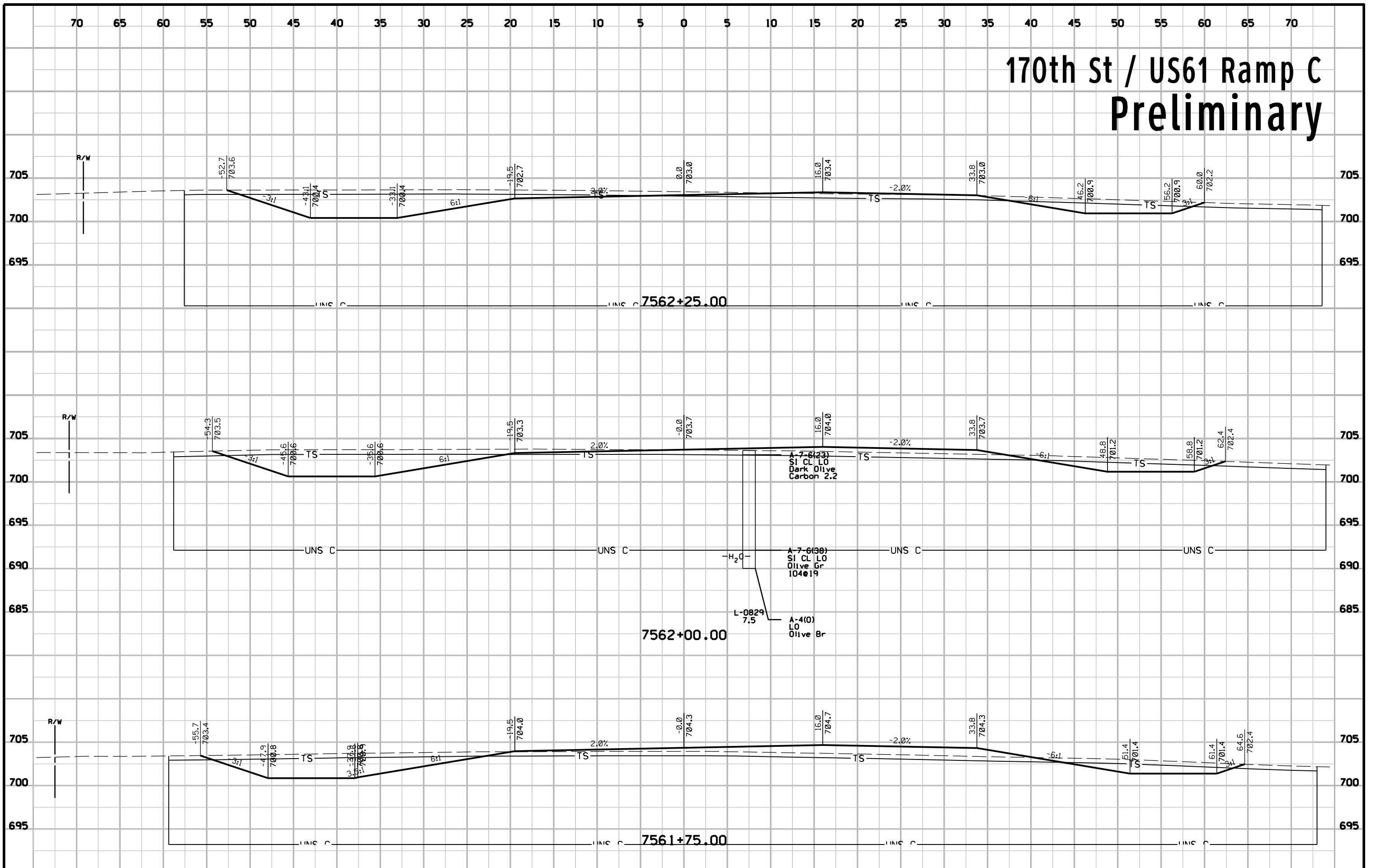
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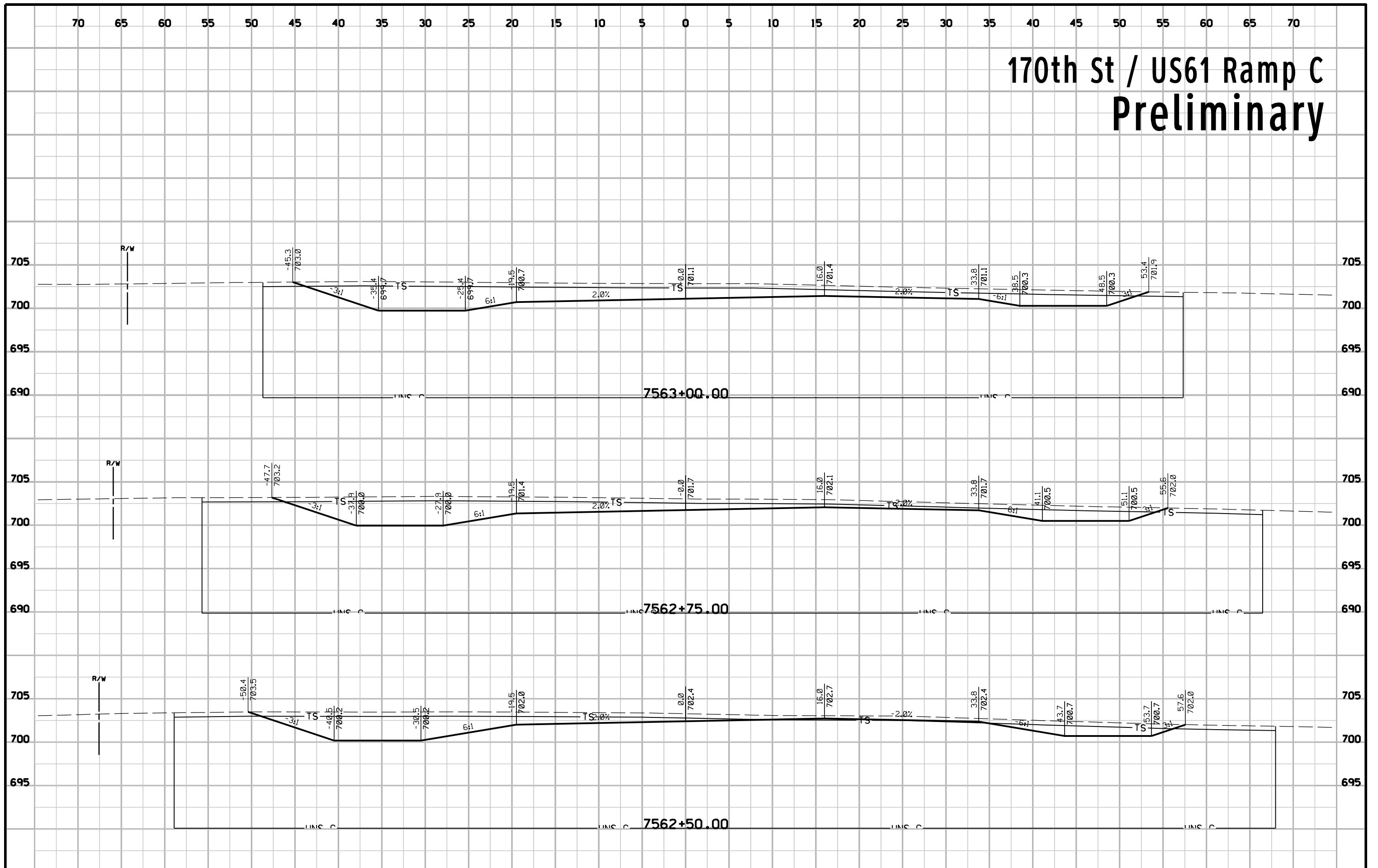
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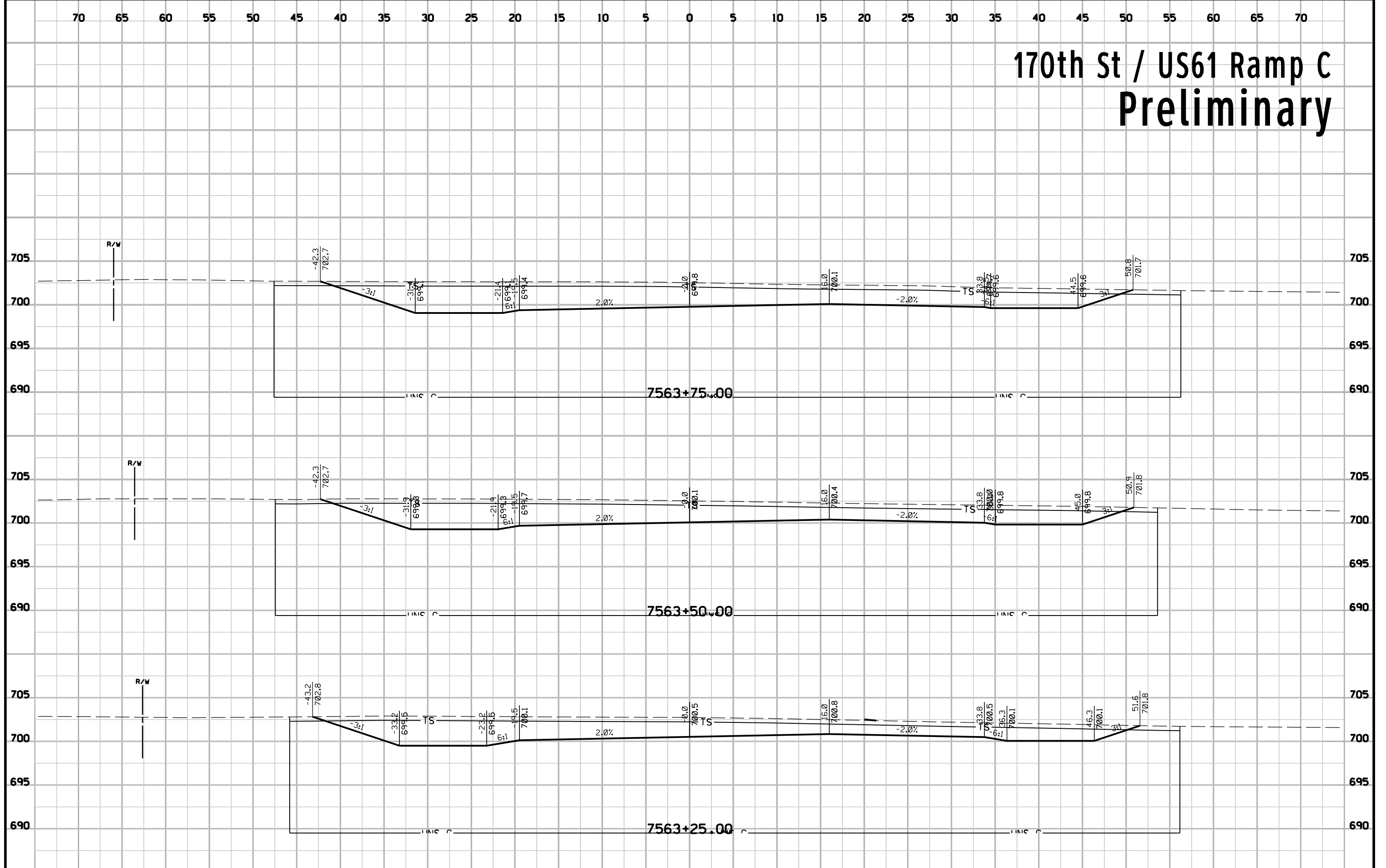
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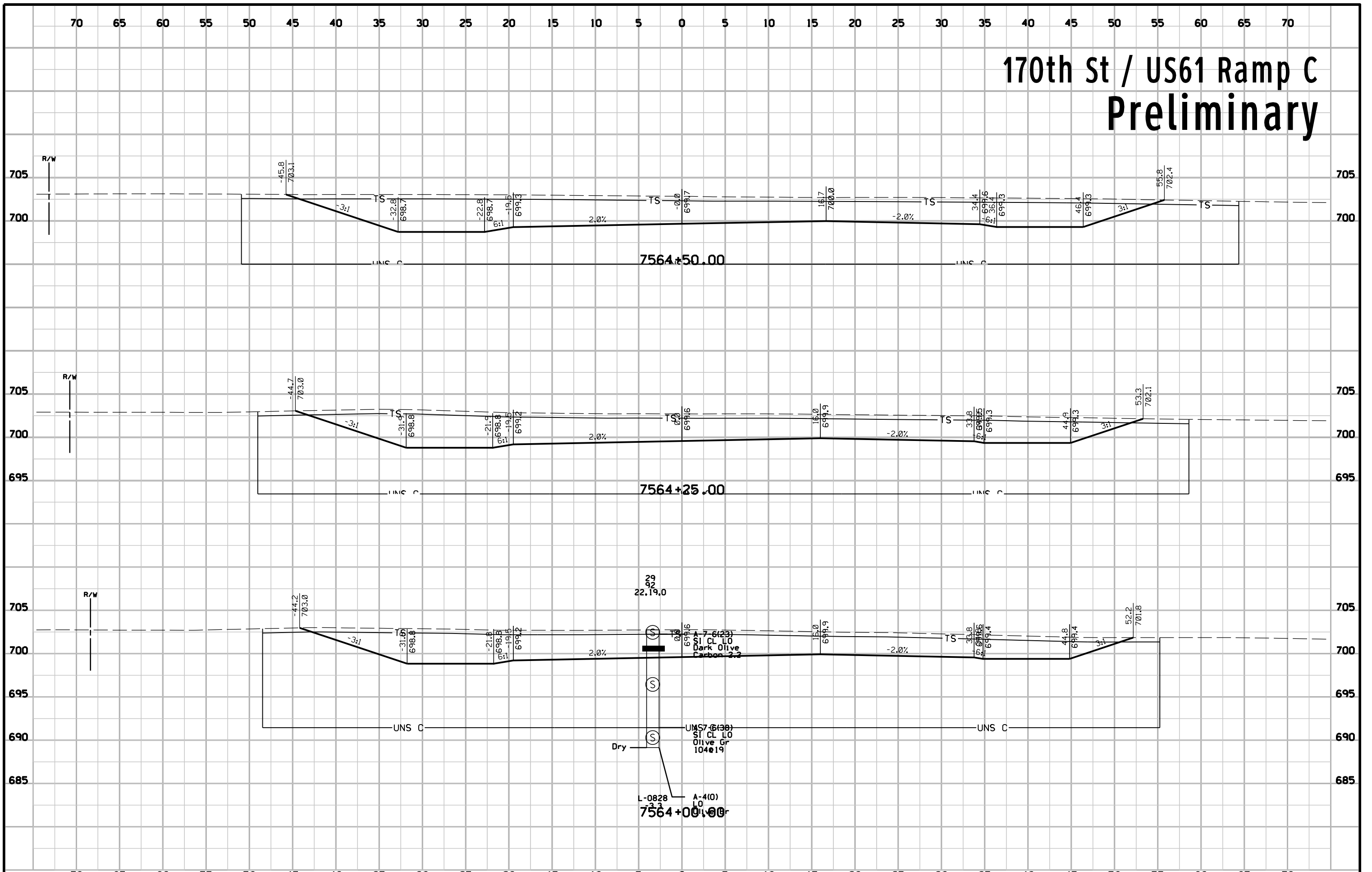
170th St / US61 Ramp C Preliminary



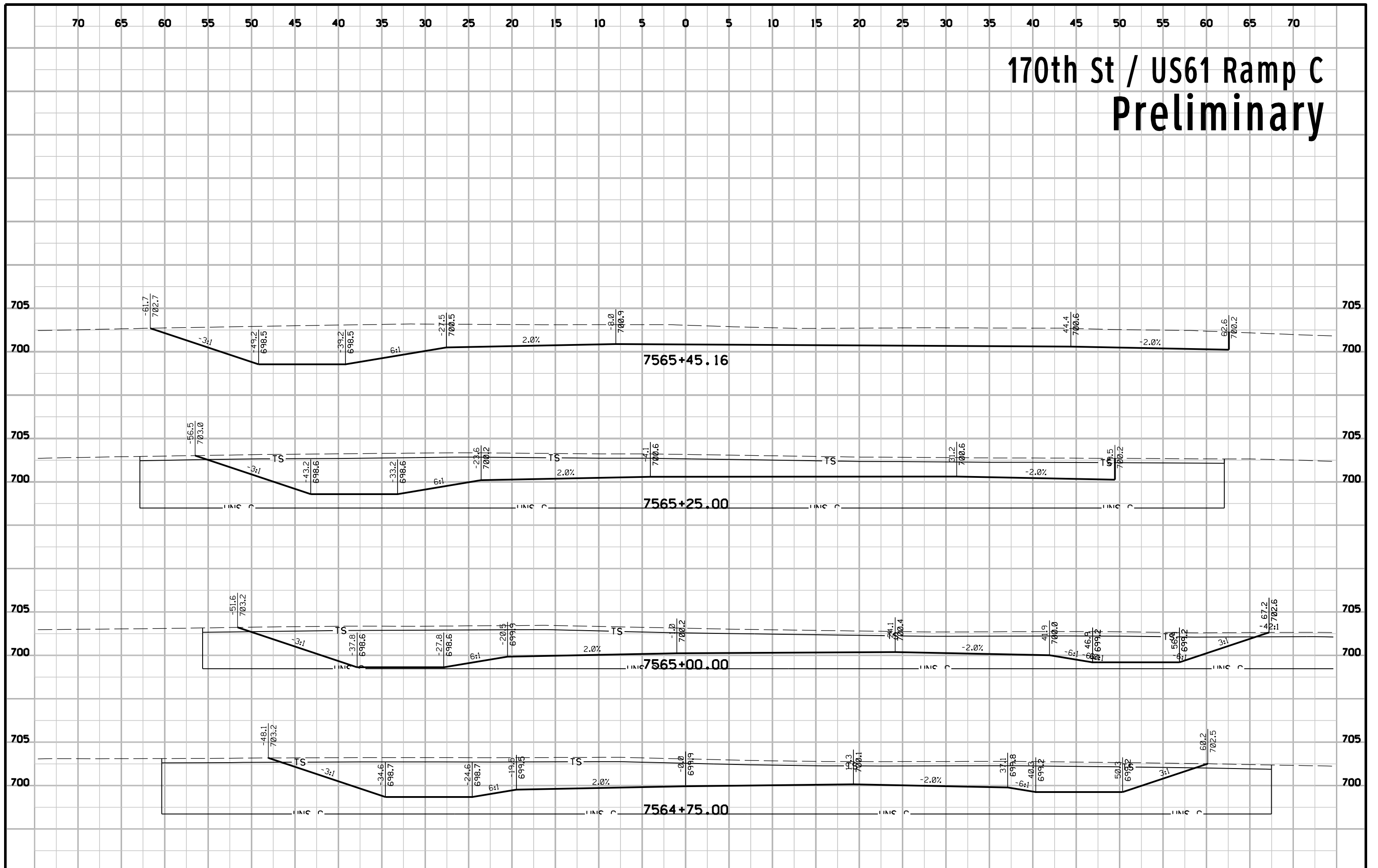
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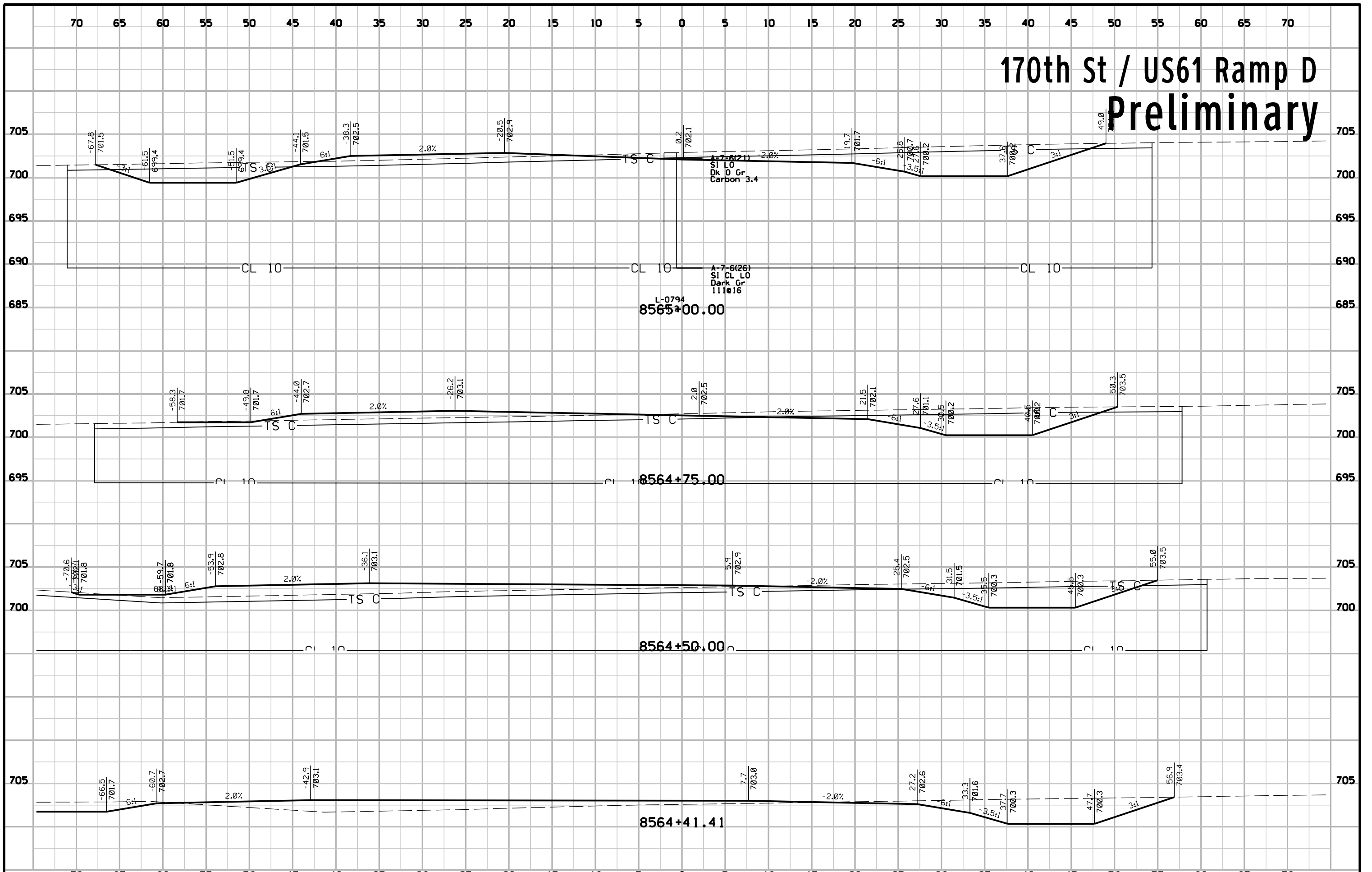
170th St / US61 Ramp C Preliminary



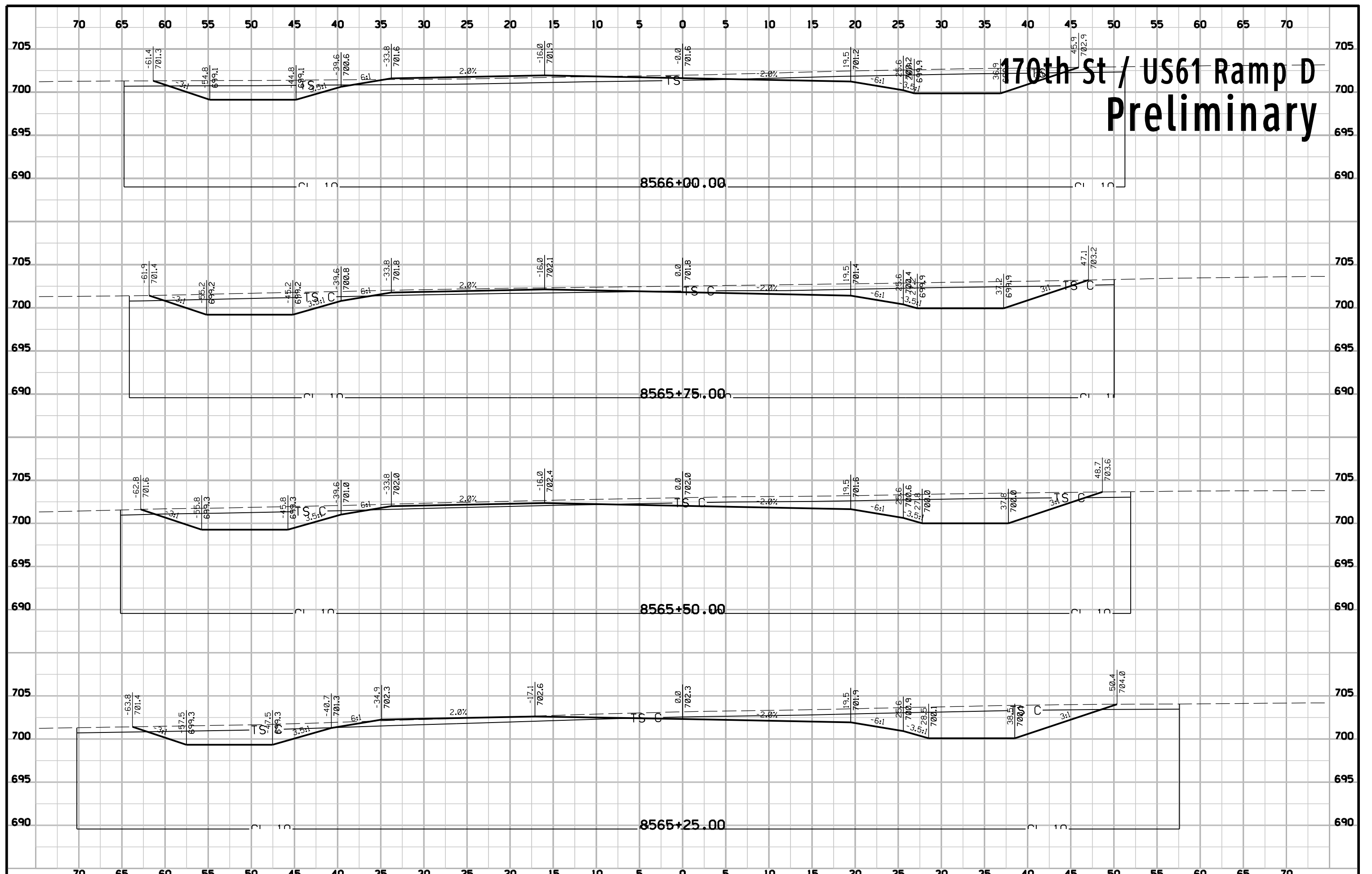
170th St / US61 Ramp C Preliminary



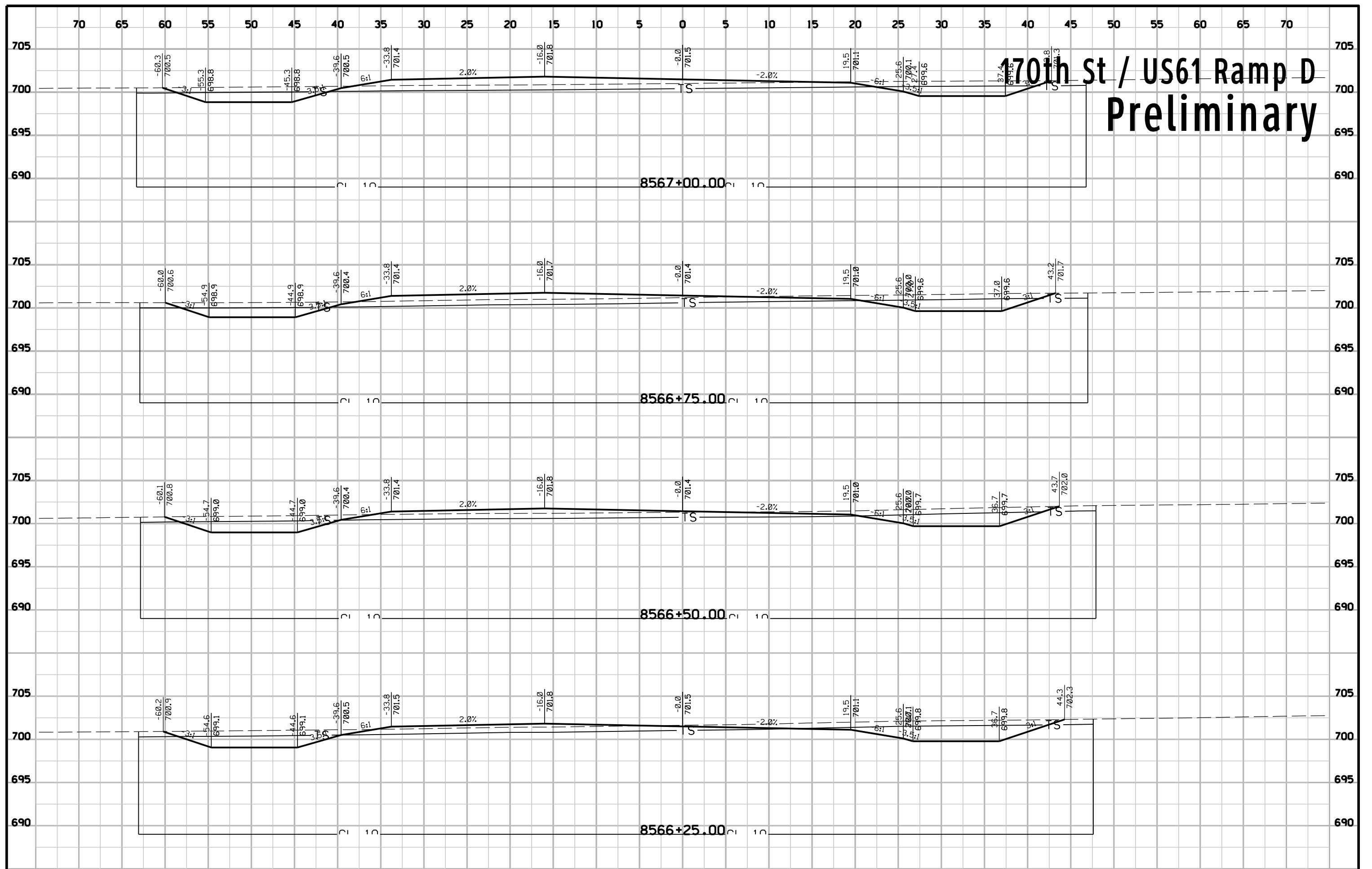
170th St / US61 Ramp D Preliminary



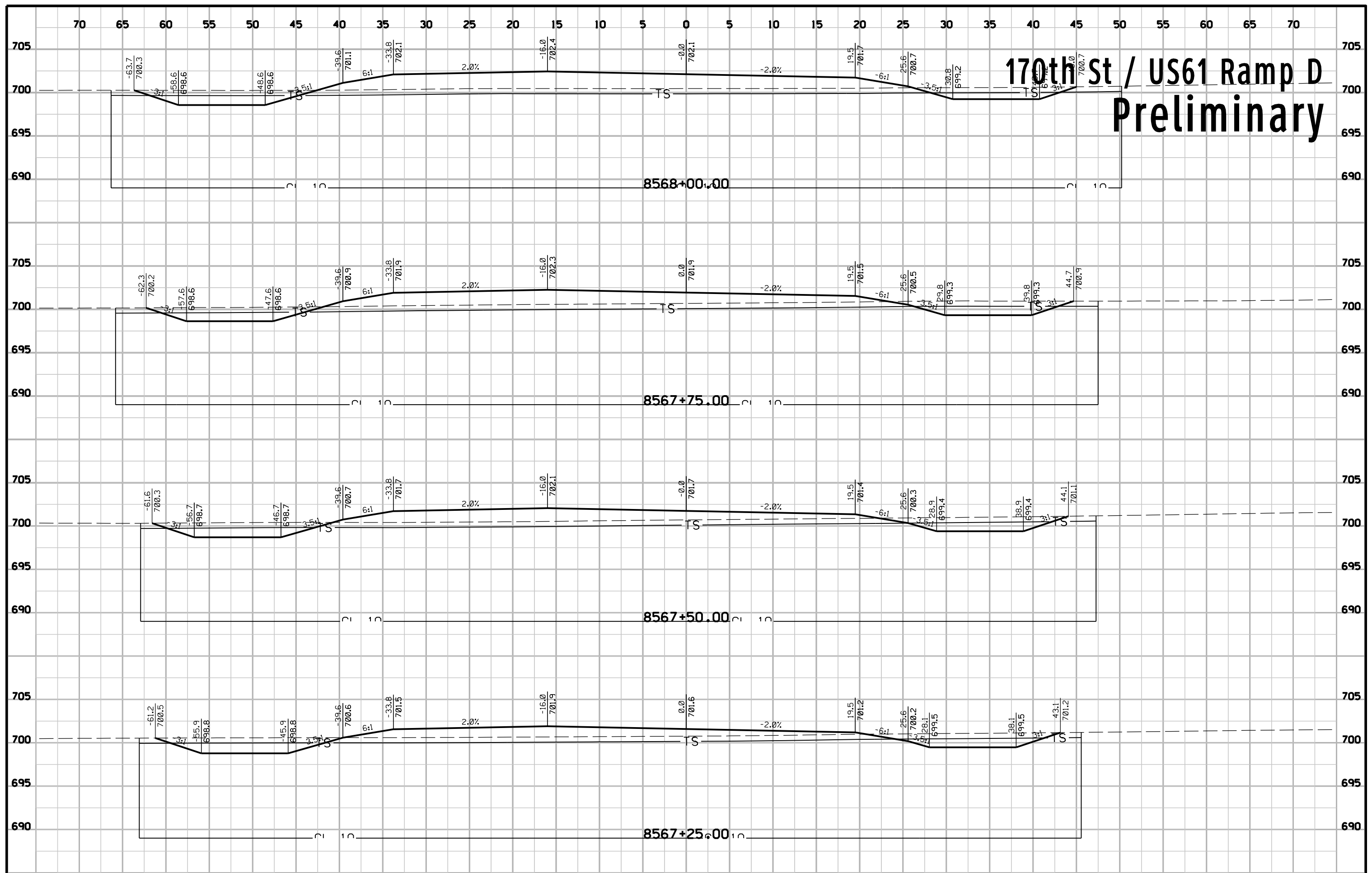
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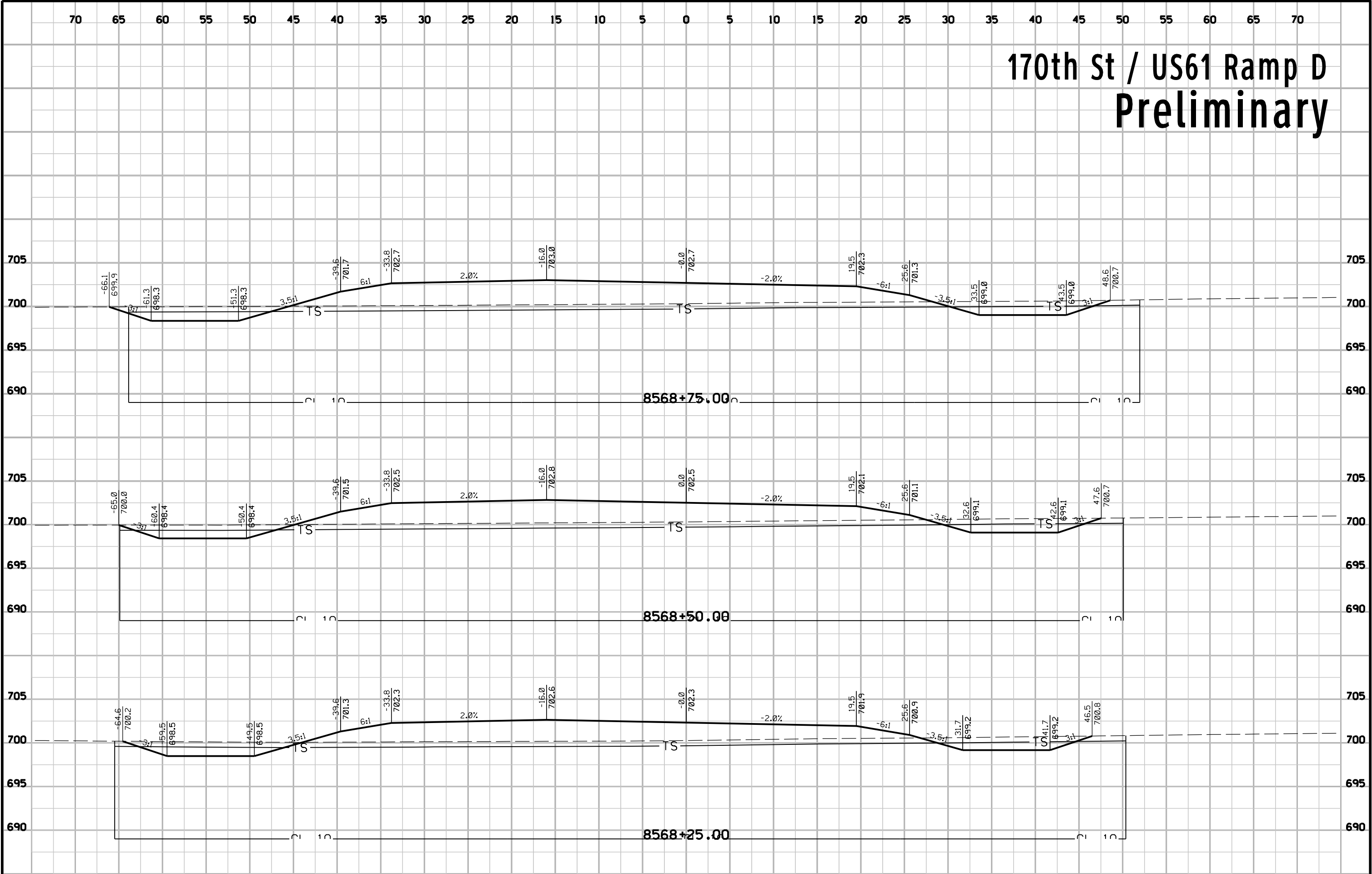
170th St / US61 Ramp D Preliminary



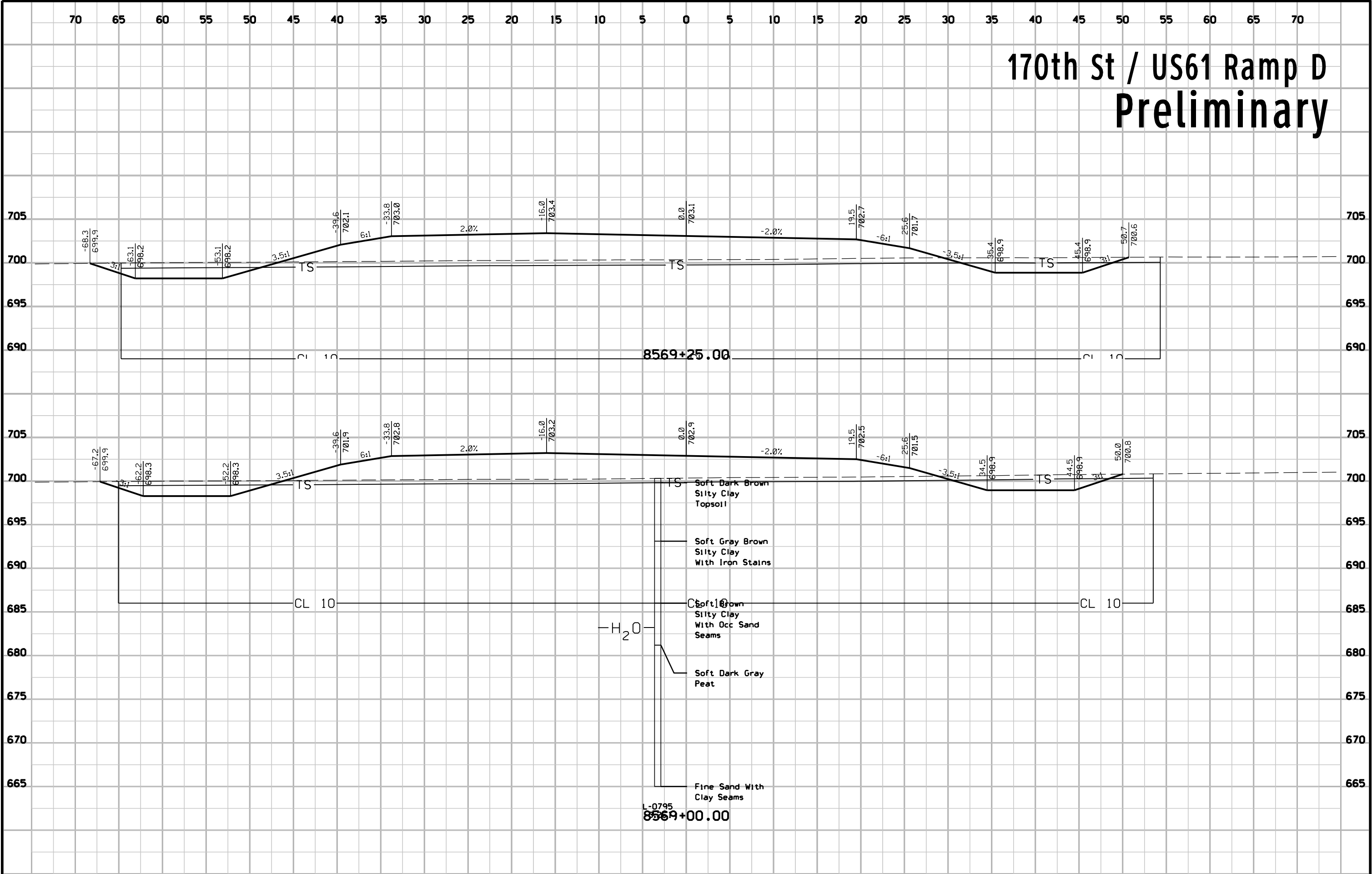
170th St / US61 Ramp D Preliminary



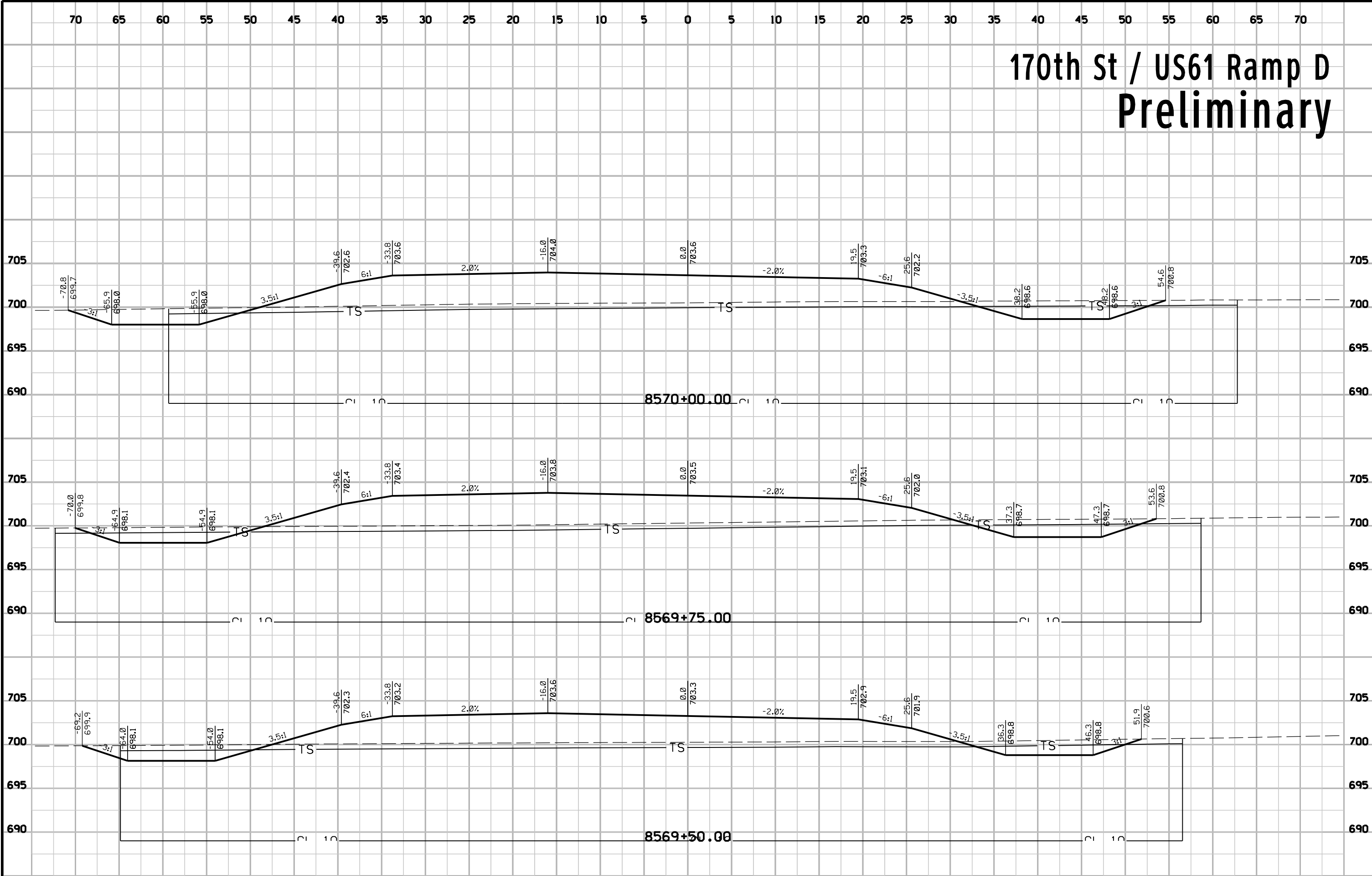
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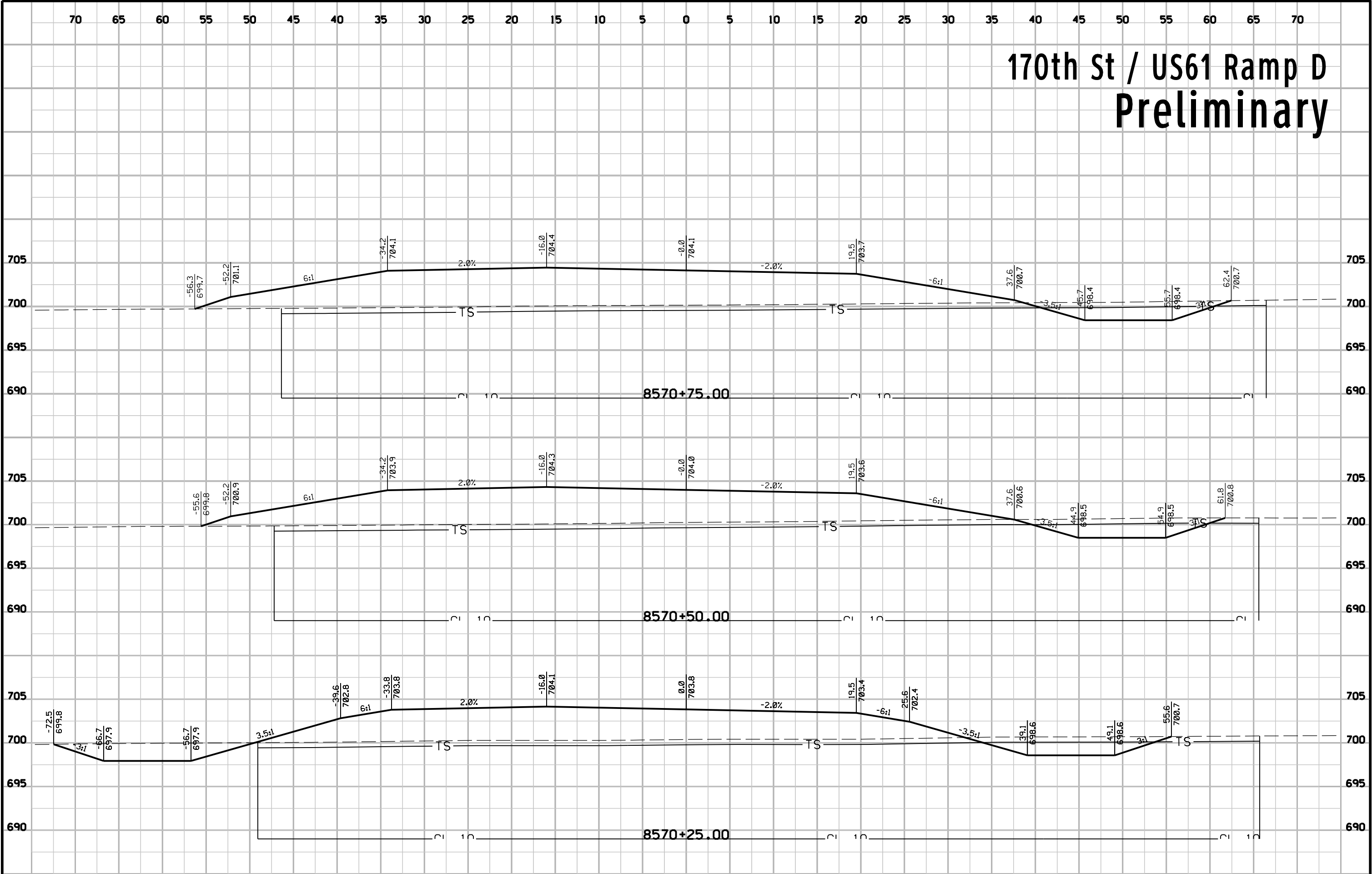
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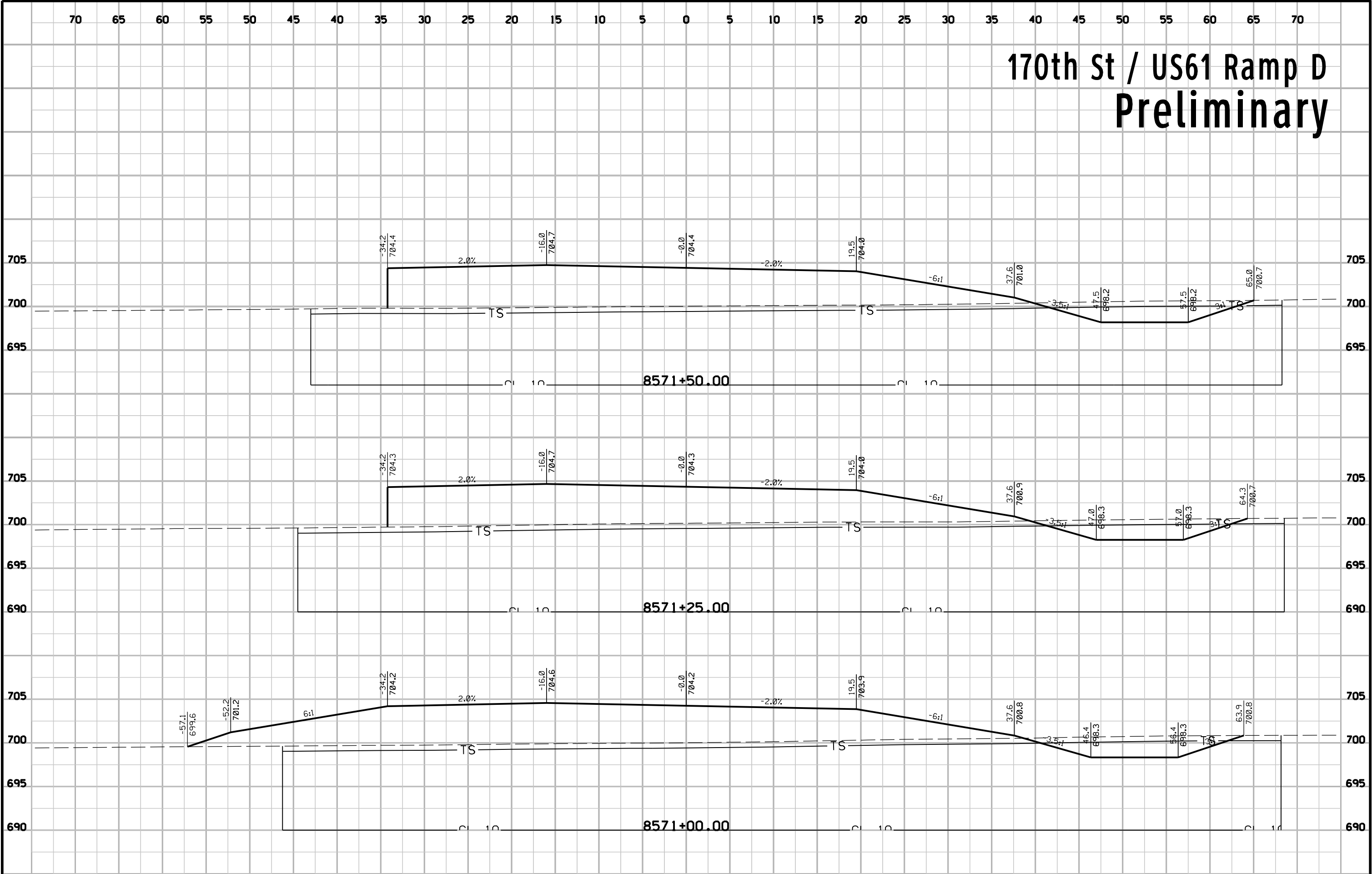
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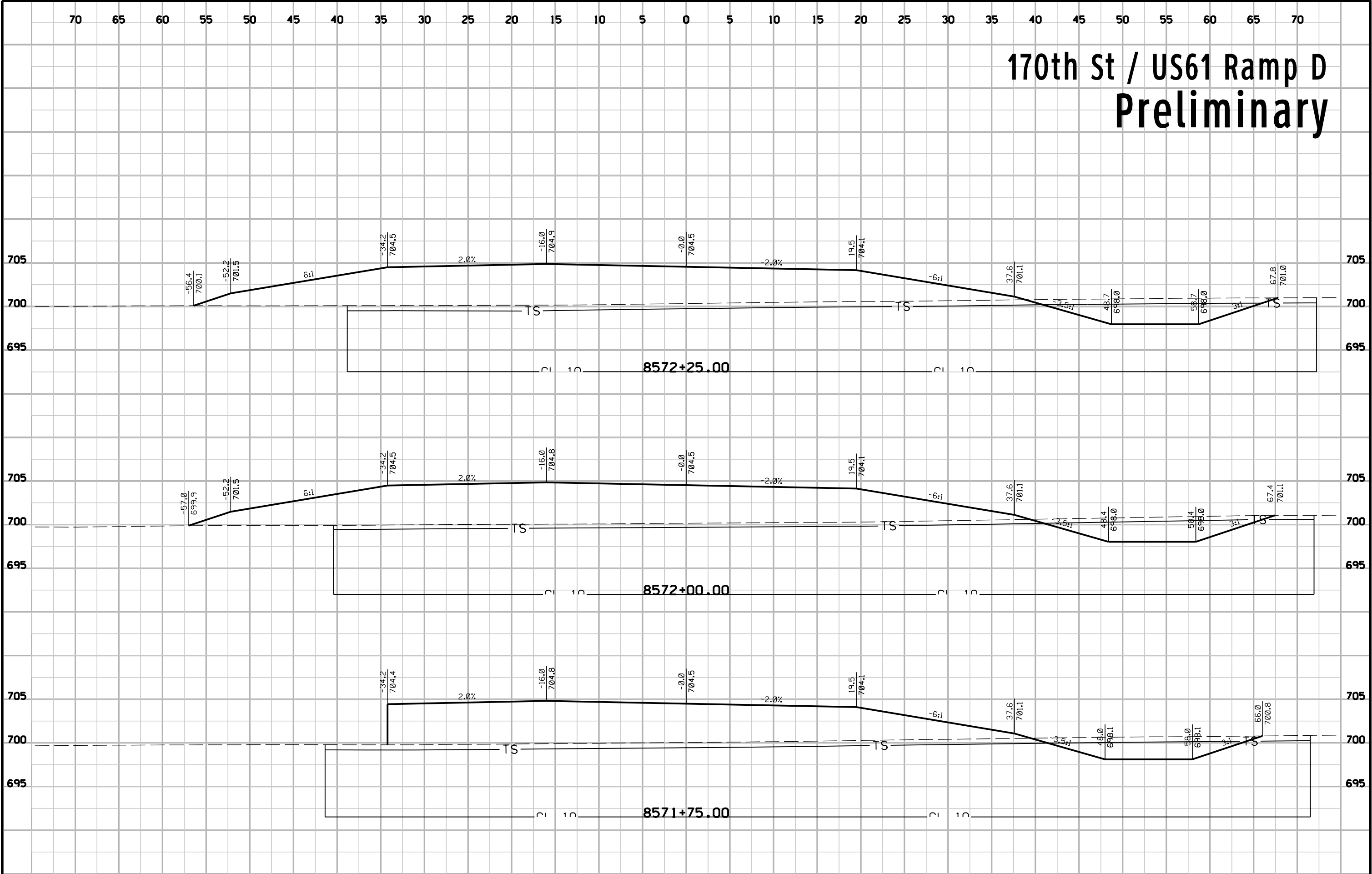
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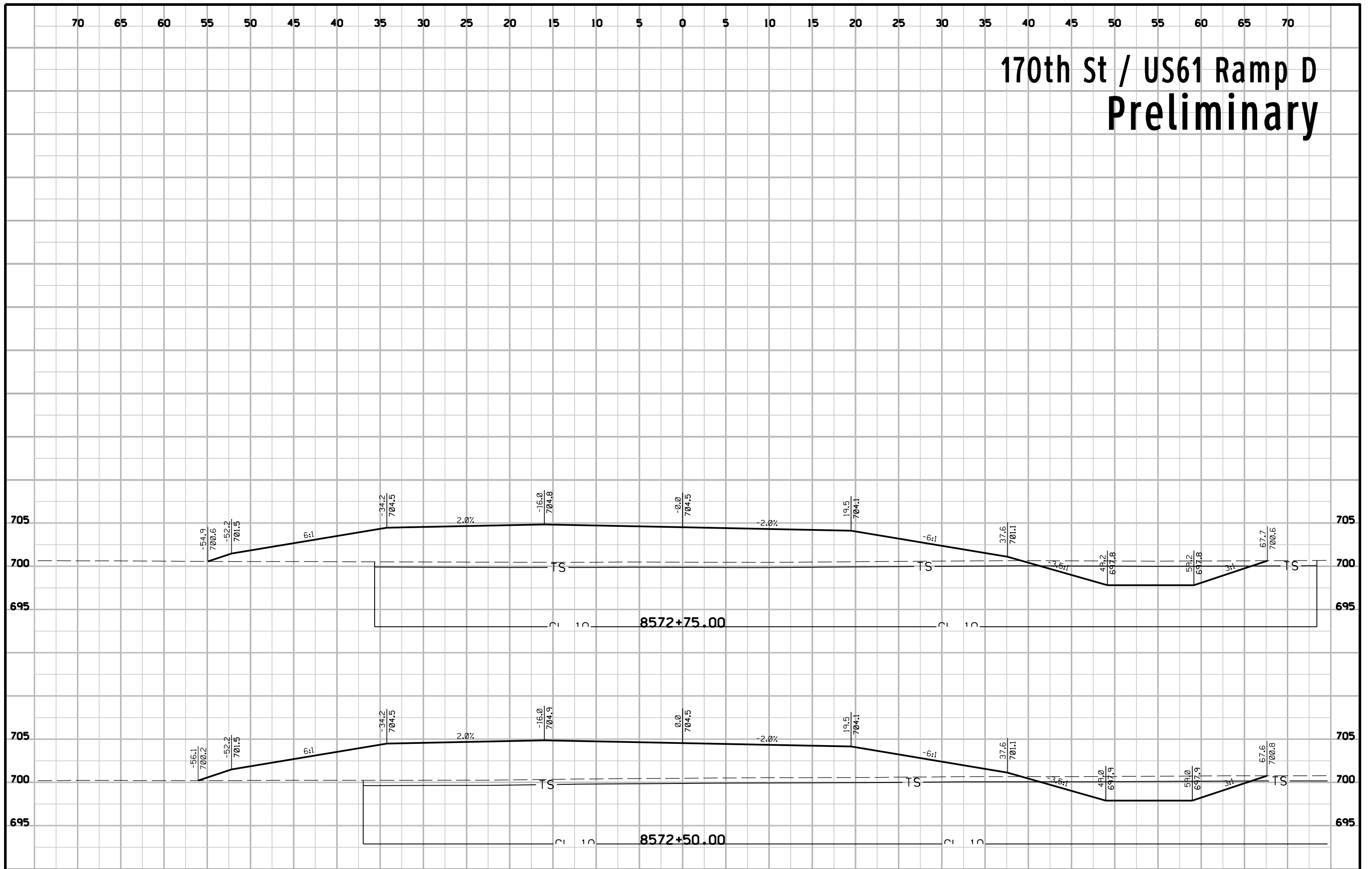
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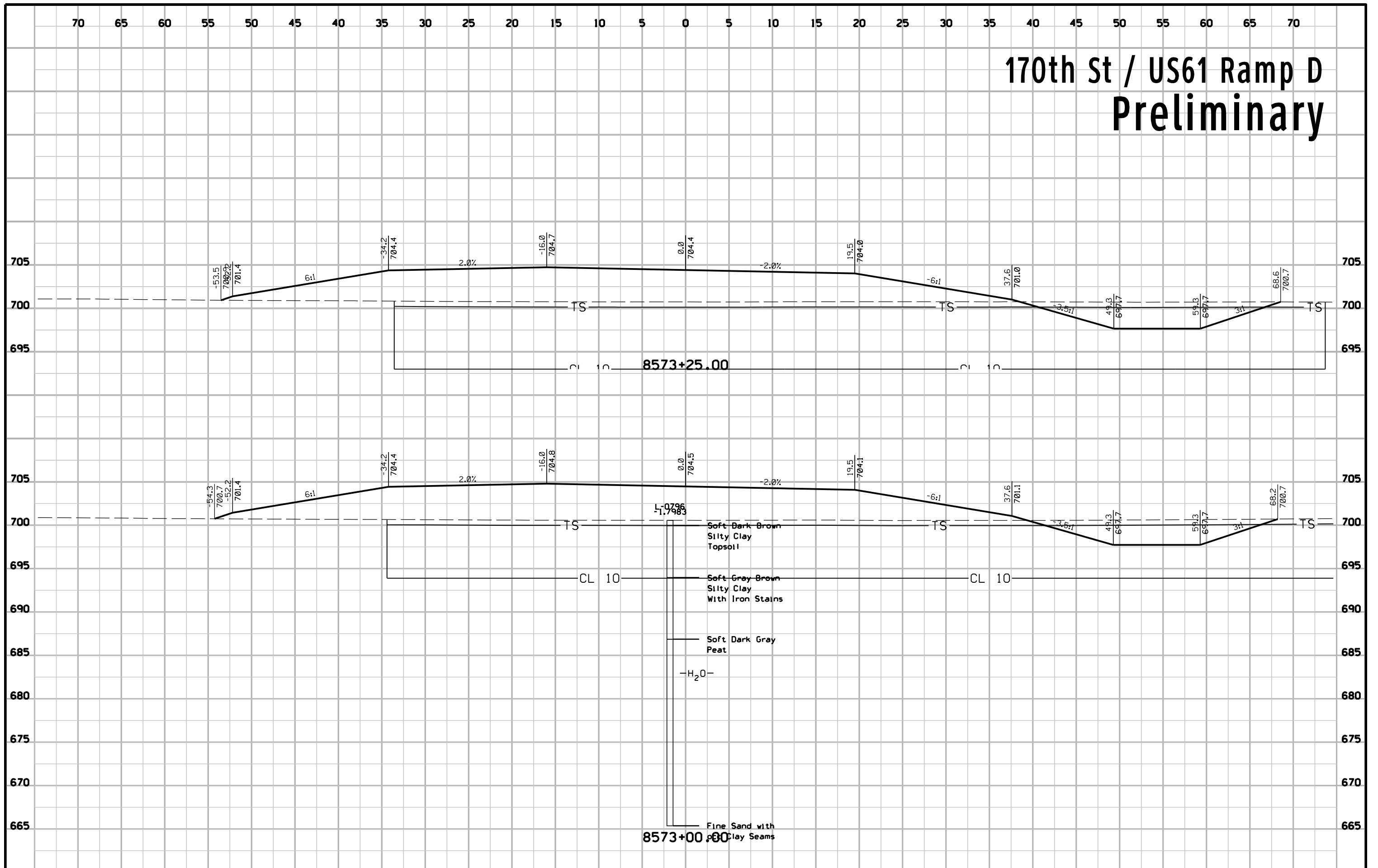
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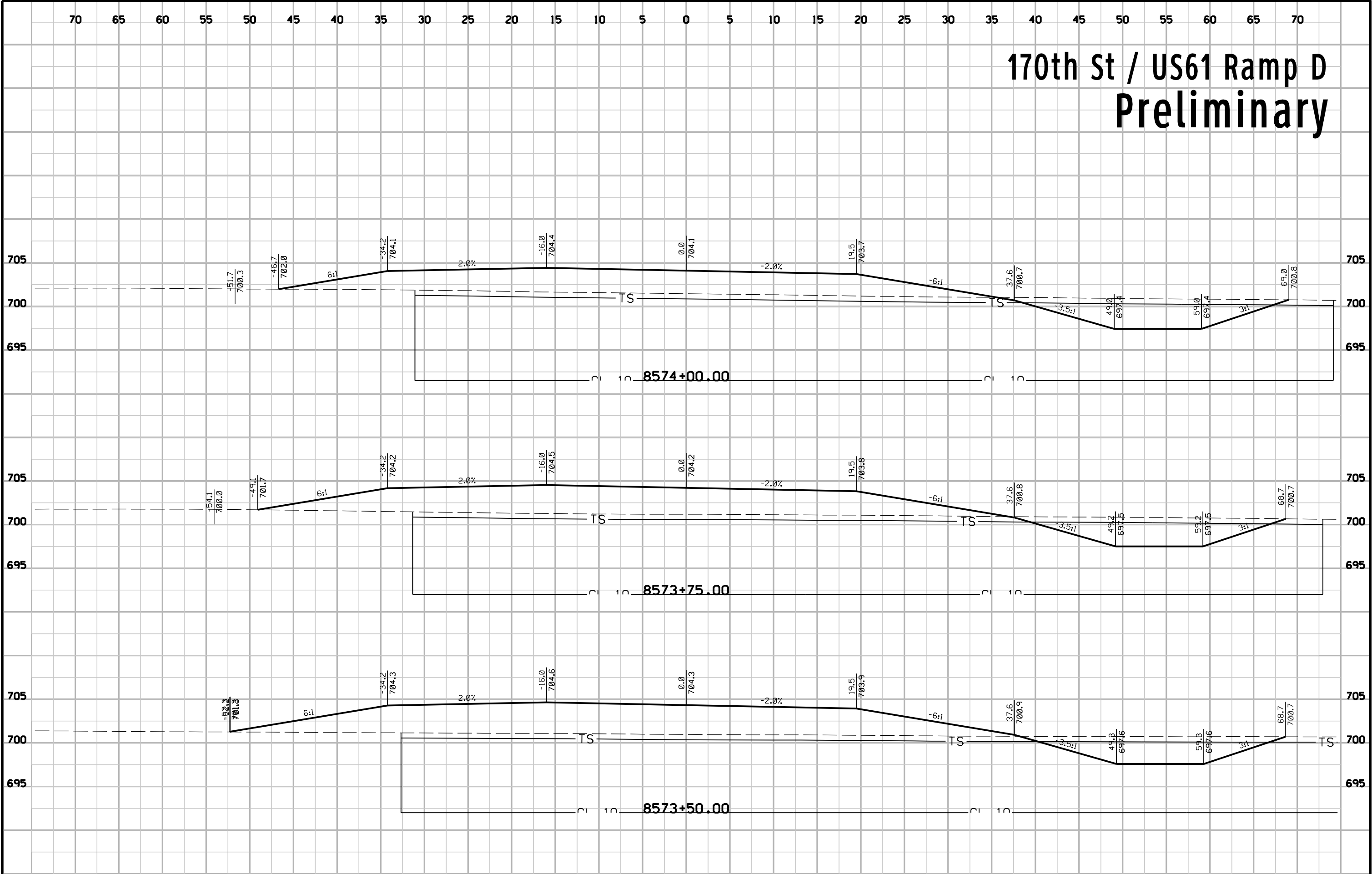
170th St / US61 Ramp D Preliminary



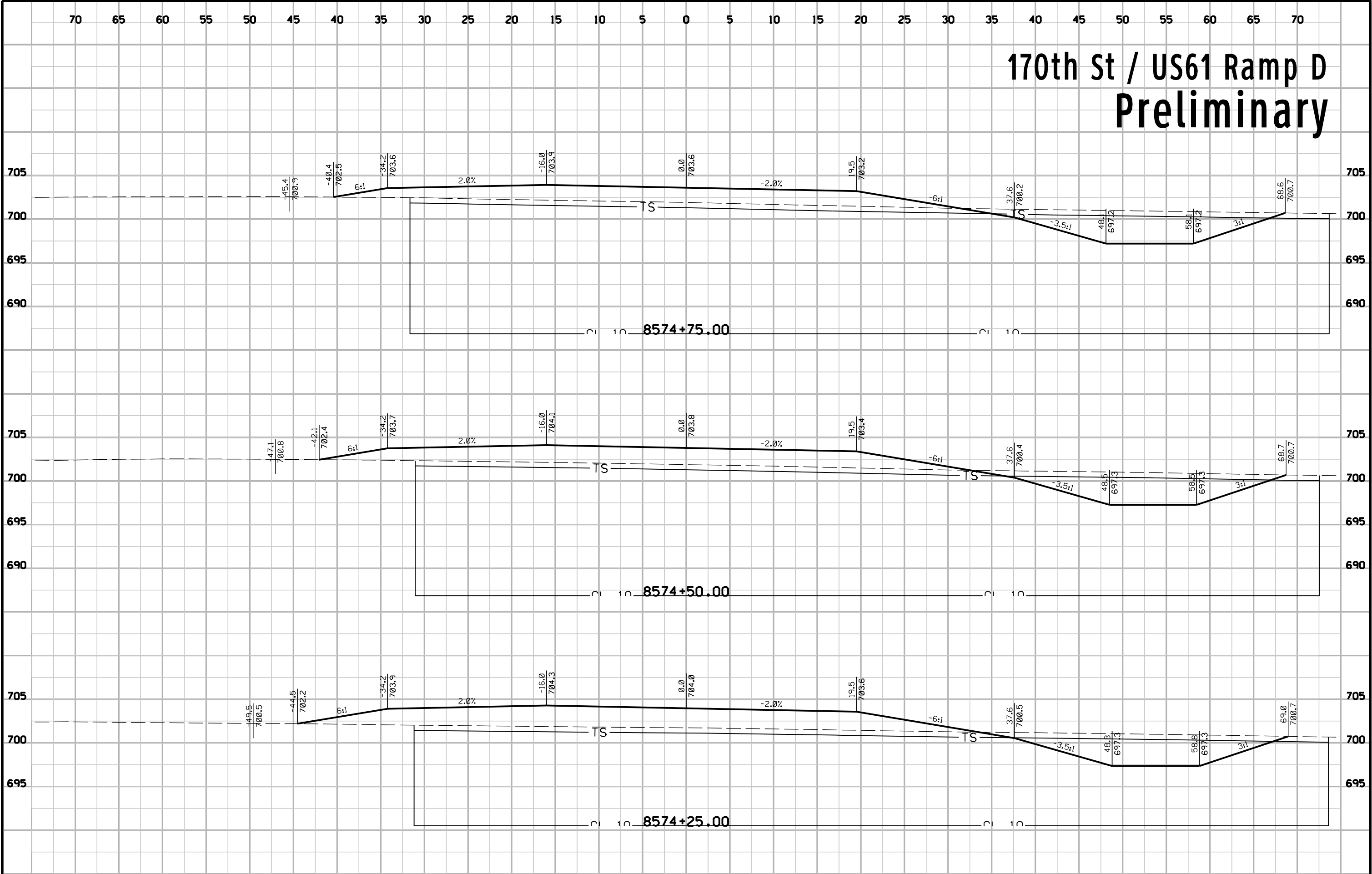
170th St / US61 Ramp D Preliminary



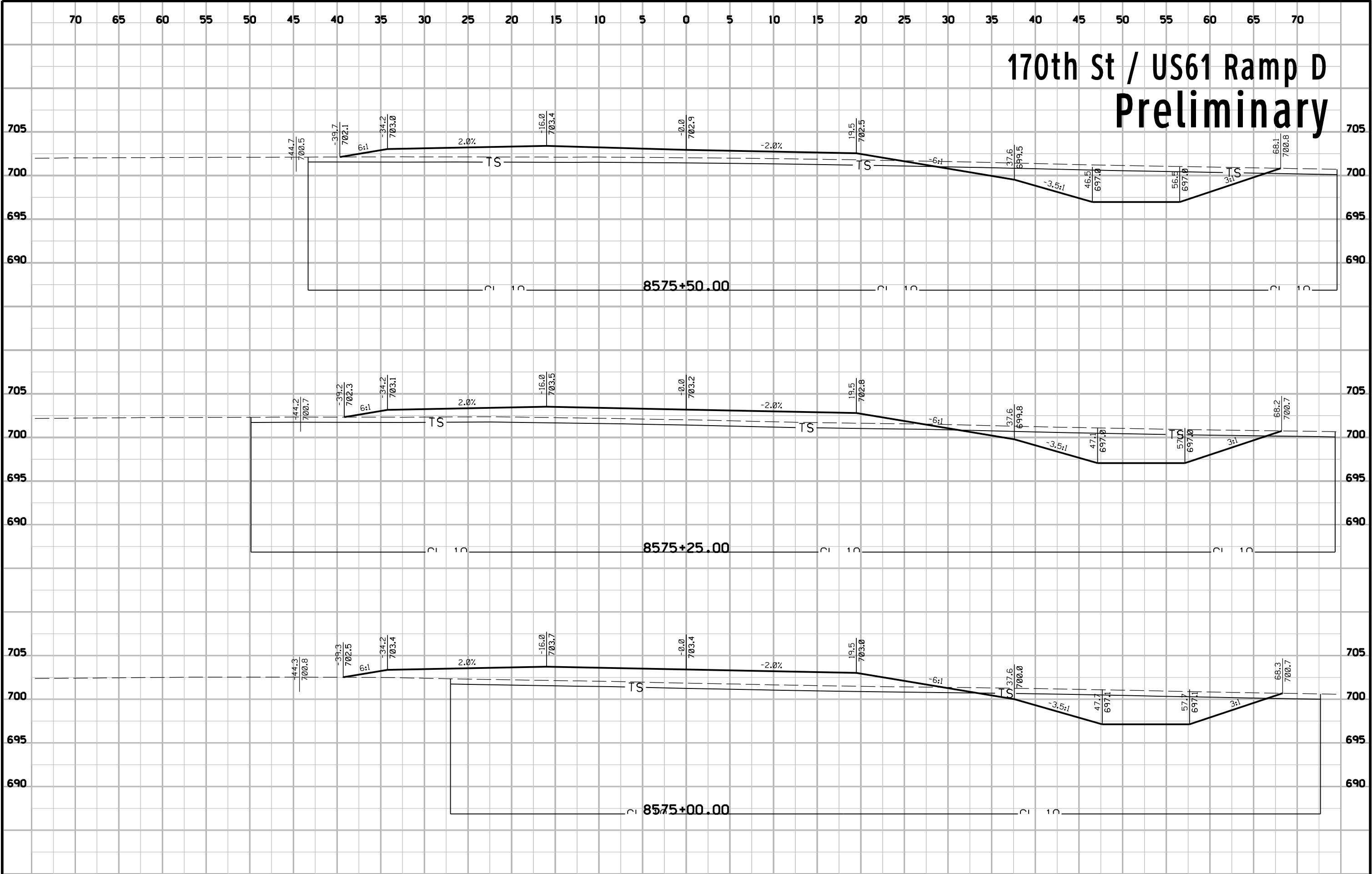
170th St / US61 Ramp D Preliminary



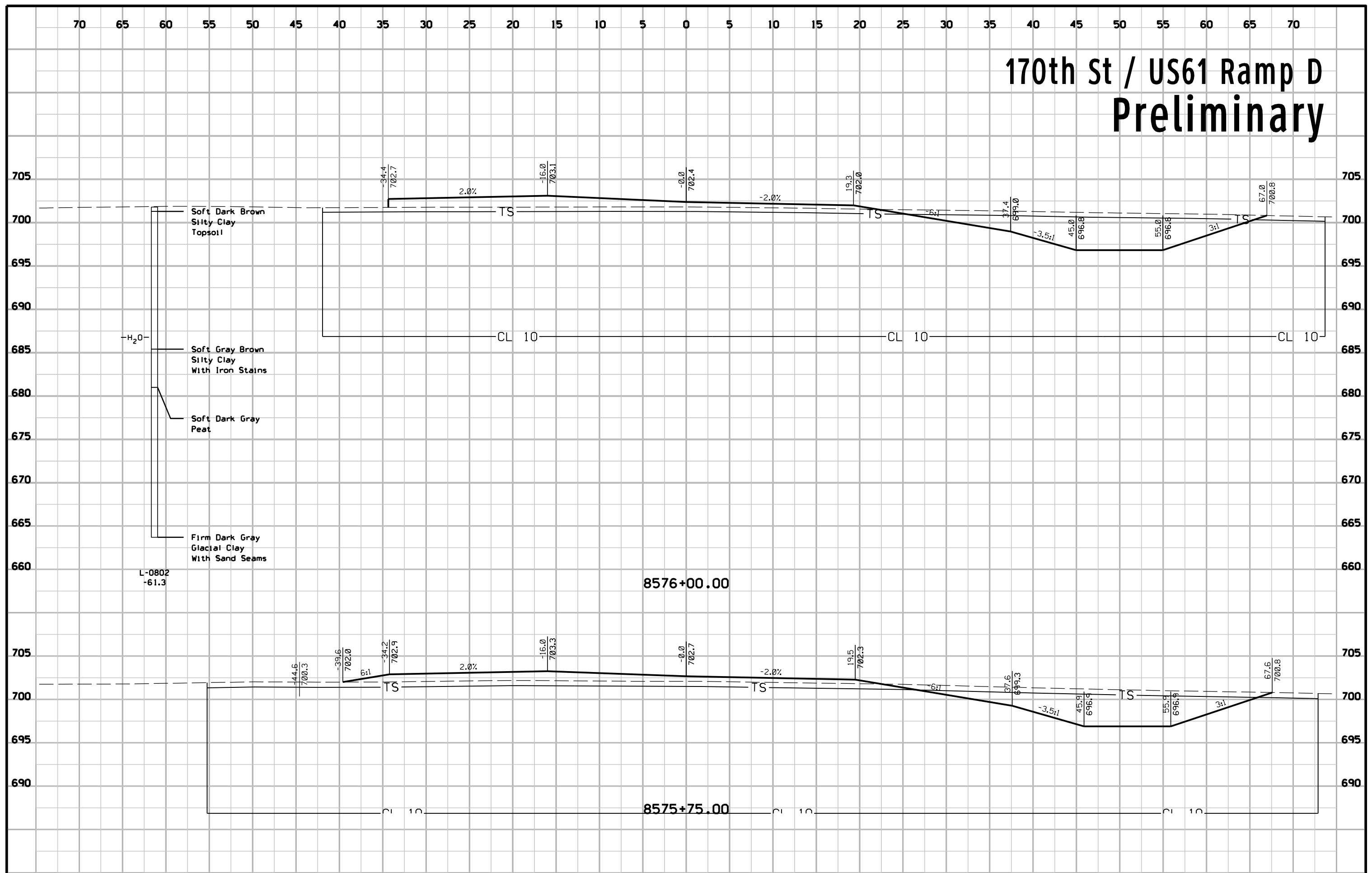
170th St / US61 Ramp D Preliminary



170th St / US61 Ramp D Preliminary



170th St / US61 Ramp D Preliminary



170th St / US61 Ramp D Preliminary

