



Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

INTERSTATE ROAD SYSTEM

IOWA COUNTY

PCC PAVEMENT - GRADE AND NEW

Rest Area near Victor (EB)

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.14 of the Specifications.



REVISIONS

TOTAL

162

PROJECT IDENTIFICATION NUMBER

19-48-080-010

PROJECT NUMBER

IMN-080-6(483)208--0E-48

R.O.W. PROJECT NUMBER

IMN-080-6(486)208--0E-48

No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Title Sheet
A.2	Location Map Sheet
A.3	Design Criteria
B Sheets	Typical Cross Sections and Details
B.1 - 4	Typical Cross Sections and Details
C Sheets	Quantities and General Information
C.1 - 3	Tabulations
D Sheets	Mainline Plan and Profile Sheets
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2 - 6	Interstate 80
G Sheets	Survey Sheets
G.1 - 4	Reference Ties and Bench Marks
G.5	Horizontal Control Tab. & Super for all Alignments
J Sheets	Traffic Control and Staging Sheets
* J.1	Traffic Control Plan
* J.2	Traffic Control & Staging Legend & Symbol Info. Sheet
* J.3 - 11	Staging and Traffic Control Sheets
K Sheets	Interchange Sheets
* K.1 - 2	Interchange Layout Sheets
* K.3 - 4	I80 Ramp E Plan and Profile Sheets
* K.5 - 6	I80 Ramp F Plan and Profile Sheets
* K.7 - 8	I80 Ramp G Plan and Profile Sheets
* K.9 - 10	I80 Ramp H Plan and Profile Sheets
M Sheets	Storm Sewer Sheets
M.1	Storm Sewer Tabulations
U Sheets	500 Series, Mod.Stds. and Detail Sheets
U.1 - 2	500 Series, Modified Standards and Detail Sheets
V Sheets	Culvert Situation Plans
* V.1 - 16	Culvert Situation Plans
W Sheets	Mainline Cross Sections
W.1	Cross Sections Legend & Symbol Information Sheet
W.2 - 38	Interstate 80 Cross Sections
Y Sheets	Ramp Cross Sections
Y.1 - 19	I80 Ramp E Cross Sections
Y.20 - 36	I80 Ramp F Cross Sections
Y.37 - 51	I80 Ramp G Cross Sections
Y.52 - 63	I80 Ramp H Cross Sections
	* Color Plan Sheets

H Sheets

Anticipated Project Development Schedule:

D0 Pre-Design Concept
 August 25, 2020

D2 Design Field Exam
 January 11, 2021

D3 Plans for Preliminary Bridge
 March 23, 2021

D5 Plans to Right of Way
 April 30, 2021

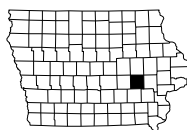
Preliminary Earthwork:

107,630 CY Cut (Total)

15,120 CY Fill (Total)

92,514 CY Balance

For Project Location Map refer to Sheet A.2



I-80 EB Rest Area			
DESIGN DATA RURAL			
2020	AADT	1,200	V.P.D.
2040	AADT	1,400	V.P.D.
20--	DHV	--	V.P.H.
	TRUCKS	--	%
Total			
Design	ESALs	--	

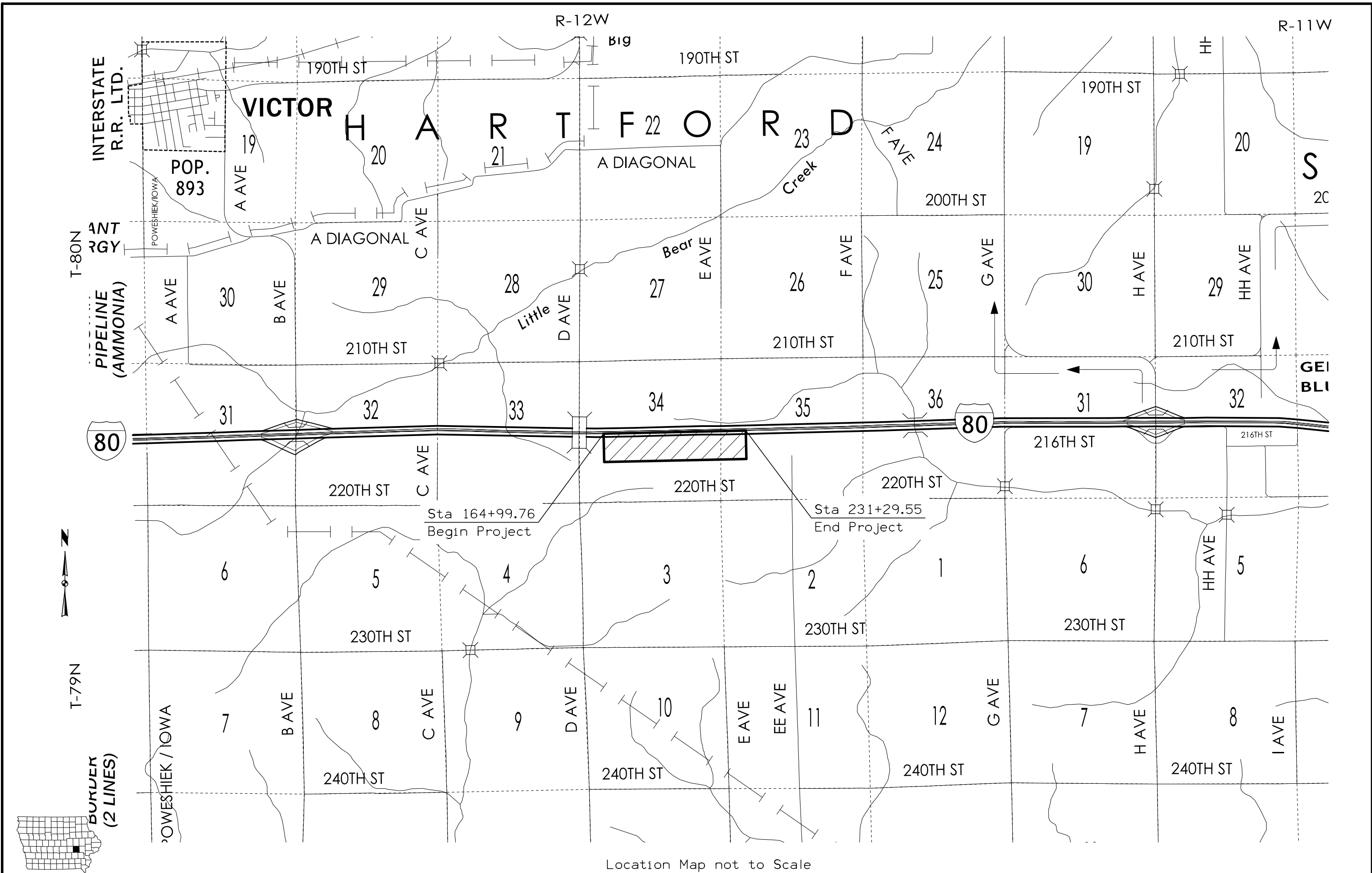
I-80 EB			
DESIGN DATA RURAL			
2020	AADT	29,600	V.P.D.
2040	AADT	--	V.P.D.
20--	DHV	--	V.P.H.
	TRUCKS	28	%
Total			
Design	ESALs	--	

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

PRELIMINARY PLANS

Subject to change by final design.

D5 PLAN - Date: 07/21/2021



Location Map not to Scale

Roadway	I-80 EB Rest Area - Victor		Submission Date
PIN Number	19-48-080-010		
Project Number	IMN-080-6(483)208--0E-48		Approval Date
District	District 6	Assistant District Engineer	
County	IOWA	or	
Route	I-80	Office Director	
Location	EB Rest Area near Victor		
Work Type	PCC Pavement - Grade and New		
Segment Manager	Cindy Spencer, Snyder & Associates, Inc.		
Designer	Cindy Spencer, Snyder & Associates, Inc.		

Design Element		Preferred Values	Acceptable Values	Project Values
Design speed (mph)		See Design Speed for Ramps Table Below	See Design Speed for Ramps Table Below	60 / 40
Design lane width (ft)		12	12	N/A
Turn-lane width (ft)	Interstate ramps	12	10	
	Non-Interstate ramps	2%		2%
Pavement cross-slope (on tangent sections)		4	1.5% minimum, 2% maximum	4%
Shoulder cross-slope (on tangent sections)			Shoulder cross-slope cannot be less than the adjacent lane, 6% max for paved or granular shoulders, 8% max for earth shoulders	10:1 / 6:1
Foreslope	Adjacent to shoulder	10:1 for 4' then 6:1		3.5:1
	Beyond standard ditch depth ft, contact the Soils Design and design clear zone Section for assistance)	3.5:1		
Bridge width—new**	Curbed roadways	2%	not steeper than 3:1	N/A
Bridge width—existing**			design lane widths + effective shoulder widths	N/A
Vertical clearance (ft)	Over primary	16.5	design lane widths + effective shoulder widths	N/A
(above lanes, shoulders and 25 feet left and right of the center of railroad tracks)	over non-primary over railroad sign truss and pedestrian bridges	23.3	16.5 at interchange locations, 15 at all other locations	
Structural Capacity		17.5	23.3	
			Contact Office of Bridges and Structures	

*Design Exception required for ramps on the Interstate system only
 **FHWA notification via email is required if acceptable criteria is not met on the Interstate or NHS systems (No formal design exception required)

Design Element	Effective Shoulder Width and Type for Ramps									
	Preferred					Acceptable				
	Diagonal	Loop	Semi-Directional	Directional	Diagonal	Loop	Semi-Directional	Directional	Project Values	
Full depth paved width (ft)	one lane	two lane	one lane	two lane	one lane	two lane	one lane	two lane	one lane	two lane
Design lane width (ft)	16	24	16	24	14	22	14	22	14	22
Paved shoulder width (ft) (in the Left direction of travel)**	16	12	16	12	14	11	14	11	14	11
***Granular shoulder width (ft) (in the direction of travel)	4	4	4	4	4	4	4	4	4	4
Curb type	4	6	6	8	6	6	6	6	8	8
	4	-	-	-	4	-	-	-	-	-
	6	-	-	-	6	-	-	-	-	-
	Interstate	4-inch sloped	4-inch sloped	4-inch sloped	4-inch sloped	4-inch sloped	4-inch sloped	4-inch sloped	4-inch sloped	4-inch sloped
	Non-Interstate	4-inch sloped	4-inch sloped	4-inch sloped	4-inch sloped	4-inch sloped	4-inch sloped	4-inch sloped	4-inch sloped	4-inch sloped

*For radii less than 500 feet, refer to design widths of pavement for turning roadways in A. Policy on Geometric Design of Highways and Streets
 **Left and right shoulders widths may be reversed if needed to provide additional sight distance
 ***Non-Interstate interchanges only

Notes:
 Curb in parking area will be 6" non-sloped. No curb expected in locations where design speed is over 40 mph.

Design Element	Design Criteria for Ramps Based Upon Design Speed									
	Preferred Criteria					Acceptable Criteria				
	25	30	35	40	45	50	55	60	65	70
Stopping sight distance (ft) (Refer to Section 6D-1)	155	200	250	305	360	425	495	570	650	730
Minimum horizontal curve radius (ft) and superelevation rate (Refer to Sections 2A-2 and 2A-3)	144	231	340	485	643	833	1060	1330	1600	1900
Minimum vertical curve length (ft) (Refer to Section 2B-1)	75	90	105	120	135	150	165	180	200	220
Minimum Rate of Vertical Curvature (Refer to Section 2B-1)	12	19	29	44	61	84	114	151	199	259
Minimum gradient (%) (Refer to Section 2B-1)	26	37	49	64	79	96	115	136	165	200
Maximum gradient (%) on ramps	26	37	49	64	79	96	115	136	165	200
Clear zone	See "Preferred Clear Zone" table in Section 9A-2									

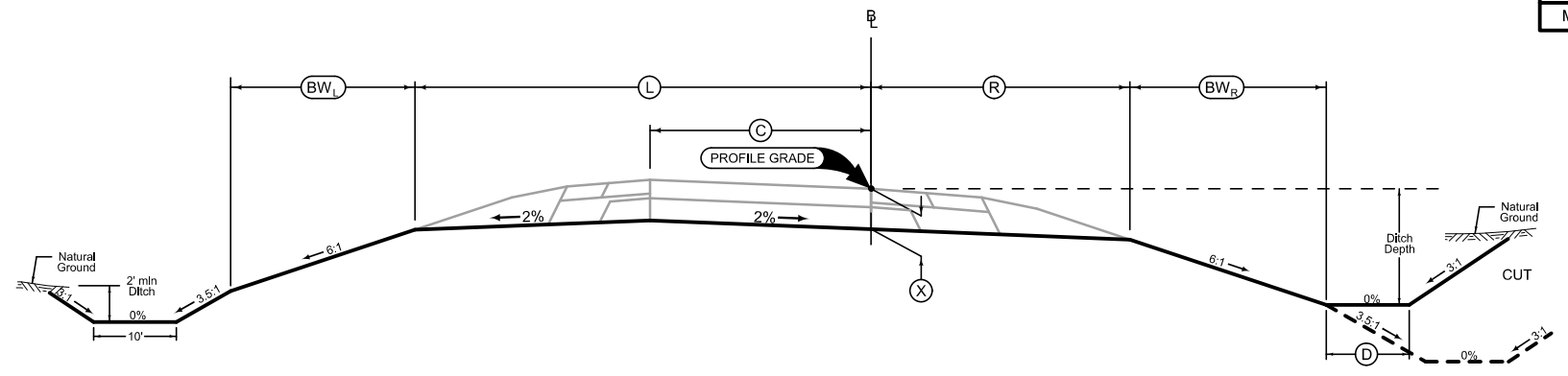
See "Preferred Clear Zone" table in Section 9A-2

Design Element	Design Speed for Ramps									
	Preferred					Acceptable				
	Diagonal	Loop	Semi-Directional	Directional	Diagonal	Loop	Semi-Directional	Directional	Project Values	
Design speed (mph)	60	40	50	60	50	35	40	40	60 / 40	
Maximum superelevation rate (Refer to Section 2A-2 for details)	6%	4%	6%	6%	8%	8%	8%	8%	6%	

Ramp Design Criteria

LOCATION				DIMENSIONS						
INTERCHANGE	RAMP	STATION TO STATION		(L) Feet	(R) Feet	(C) Feet	(X) Inches	(BW _L) Feet	(BW _R) Feet	(D) Feet
INTERSTATE 80	E	2173+11.59	2184+90.82	33.77	19.5	16	22	6.2	4.5	10.0
INTERSTATE 80	F	4206+48.47	4212+27.76	33.77	19.5	16	22	6.2	4.5	10.0
INTERSTATE 80	G	3178+86.70	3189+65.06	33.77	19.5	16	22	6.2	4.5	5.0
INTERSTATE 80	H	3195+18.71	3208+75.32	33.77	19.5	16	22	6.2	4.5	5.0

G_1R_Grade
Modified



RAMP GRADING

Paved Shoulder Alternates

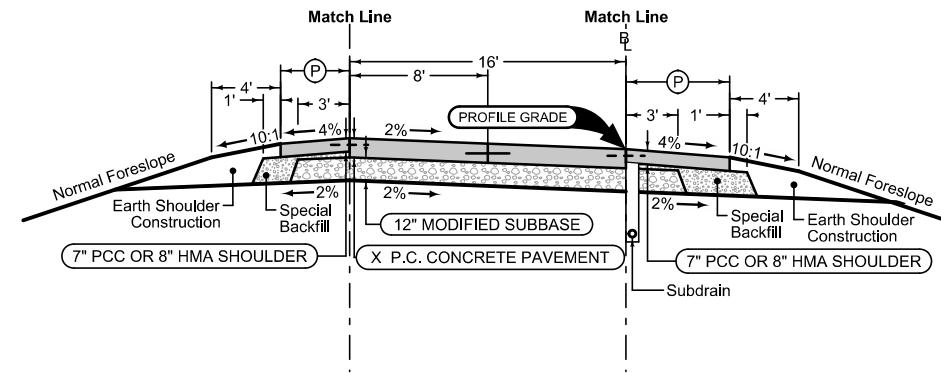
PCC Shoulder Jointing:
Longitudinal joint: BT-1 or BT-5
Transverse joints: C at 15' spacing
HMA Shoulder Jointing:
Longitudinal joint: B

1R_P_ALT_10-16-18				
RAMP	BEGIN STATION	END STATION	(P) Feet	
E	2173+11.59	2184+90.82	4	
F	4206+48.47	4212+78.44	4	
G	3178+86.70	3189+65.06	4	
H	3195+18.71	3208+75.32	4	

Paved Shoulder Alternates

PCC Shoulder Jointing:
Longitudinal joint: BT-1 or BT-5
Transverse joints: C at 15' spacing
HMA Shoulder Jointing:
Longitudinal joint: B

1R_P_ALT_10-16-18				
RAMP	BEGIN STATION	END STATION	(P) Feet	
E	2173+11.59	2184+90.82	6	
F	4206+48.47	4212+78.44	6	
G	3178+86.70	3189+65.06	6	
H	3195+18.71	3208+75.32	6	



Section shown in the direction of traffic.

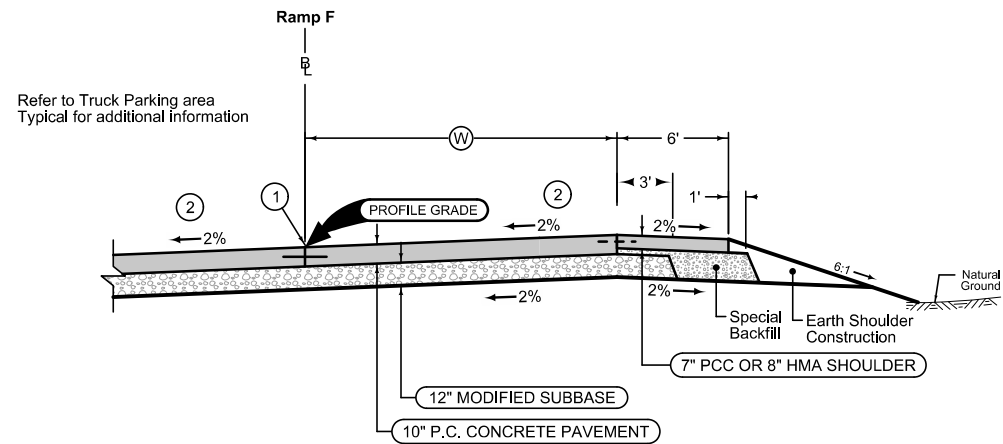
Ramp Jointing:
Transverse joints: CD at 15' spacing.
Longitudinal joints: L-2

1RP_10-17-17				
RAMP	BEGIN STATION	END STATION	(X) Inches	
E	2173+11.59	2184+90.82	10	
F	4206+48.47	4212+78.44	10	
G	3178+86.70	3189+65.06	8.5	
H	3195+18.71	3208+75.32	8.5	

See Tab 100-24 or 100-25 for pavement quantities.

See Tab 112-9 for shoulder quantities.

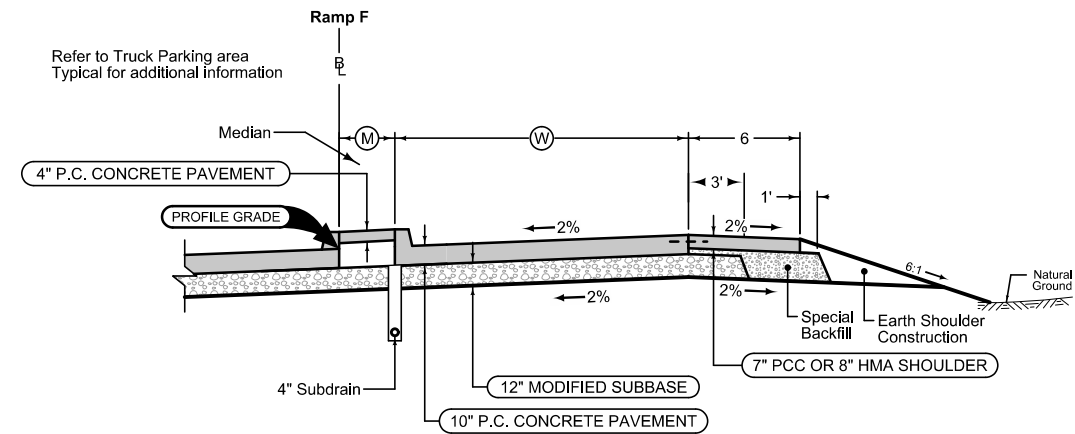
**INTERSTATE 80 IOWA COUNTY REST AREA
EASTBOUND RAMPS**



BEGIN STATION	END STATION	(W) Feet
4195+72.54	4197+32.54	0-16.0
4202+16.37	4206+48.47	60.64-0

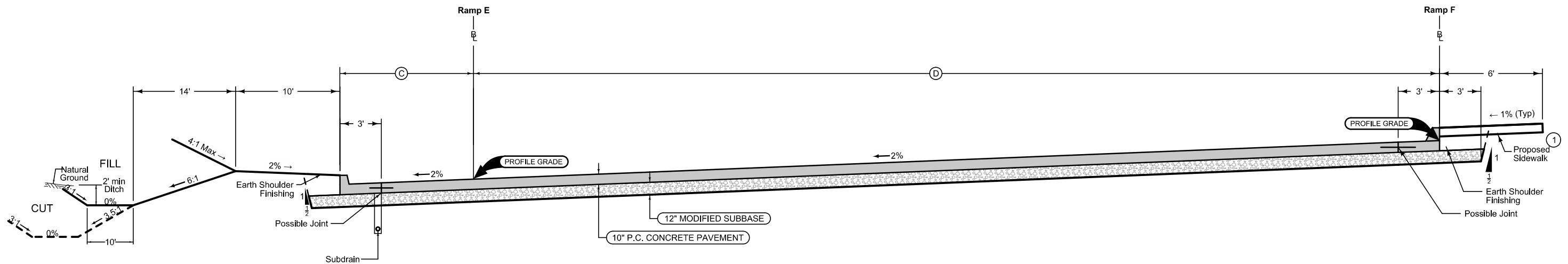
- ① Eliminate curb on right side of Truck Parking area thru Tapers.
- ② Cross slope may vary in areas of Super Elevation.

**INTERSTATE 80 IOWA COUNTY REST AREA
TRUCK INSPECTION AREA - TAPERS**



BEGIN STATION	END STATION	(M) Feet	(W) Feet
4197+32.54	4197+79.28	0-4.67	16.0
4197+79.28	4198+32.54	4.67-10.0	16.0-22.86
4198+32.54	4200+47.28	10.0	22.86-72.0
4200+47.28	4201+27.28	10.0	72.0
4201+27.28	4202+16.37	10.0	72.0-50.64

**INTERSTATE 80 IOWA COUNTY REST AREA
TRUCK INSPECTION AREA - PARKING**



Integral Curb

Shoulder jointing:
Longitudinal joint not required when distance from back of curb to nearest joint is less than 16':

Transverse: CD at 17' spacing
Single pour: L-2
Staged: KT-2

BEGIN STATION	END STATION	(C) Feet	Curb Type See PV-102
2184+90.82	2186+45.82	16-31.5	
2186+45.82	2199+91.95	31.5	

Integral Curb

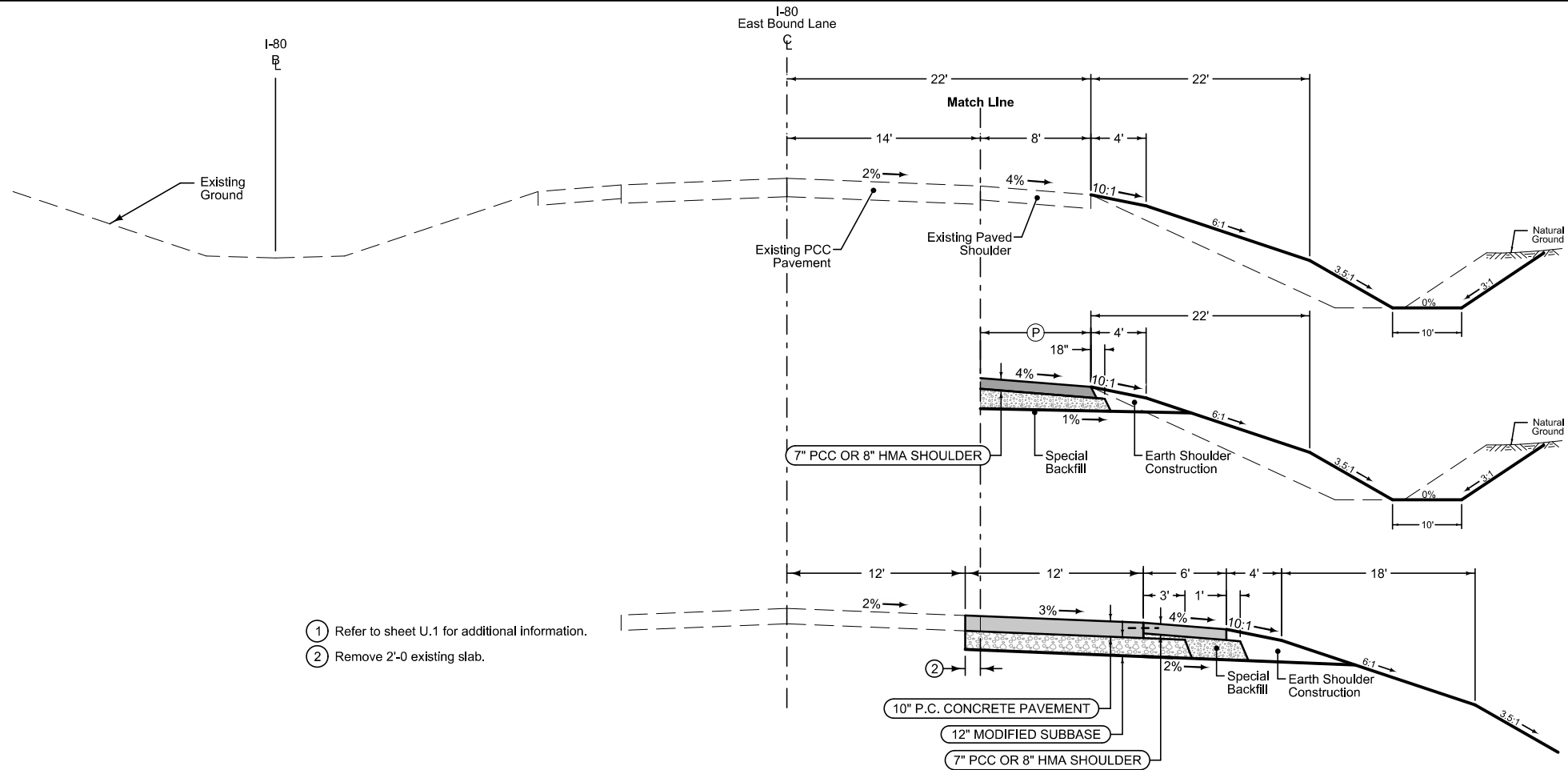
Shoulder jointing:
Longitudinal joint not required when distance from back of curb to nearest joint is less than 16':

Transverse: CD at 17' spacing
Single pour: L-2
Staged: KT-2

BEGIN STATION	END STATION	(D) Feet	Curb Type See PV-102
2184+91.80	2187+21.32	0-61.5	
2187+21.32	2195+99.50	61.5	

- ① Only install sidewalk adjacent to full-width pavement. Do not install in tapers.

**INTERSTATE 80 IOWA COUNTY REST AREA
TRUCK PARKING LOTS**



- ① Refer to sheet U.1 for additional information.
- ② Remove 2'-0 existing slab.

**INTERSTATE 80
FORESLOPE IMPROVEMENTS**

Refer to Plan and Profile sheets for Ditch Grade elevations

Direction of Travel	BEGIN STATION	END STATION
E.B.	164+99.76	167+11.42
E.B.	173+09.85	178+07.63
E.B.	184+51.07	200+30.00

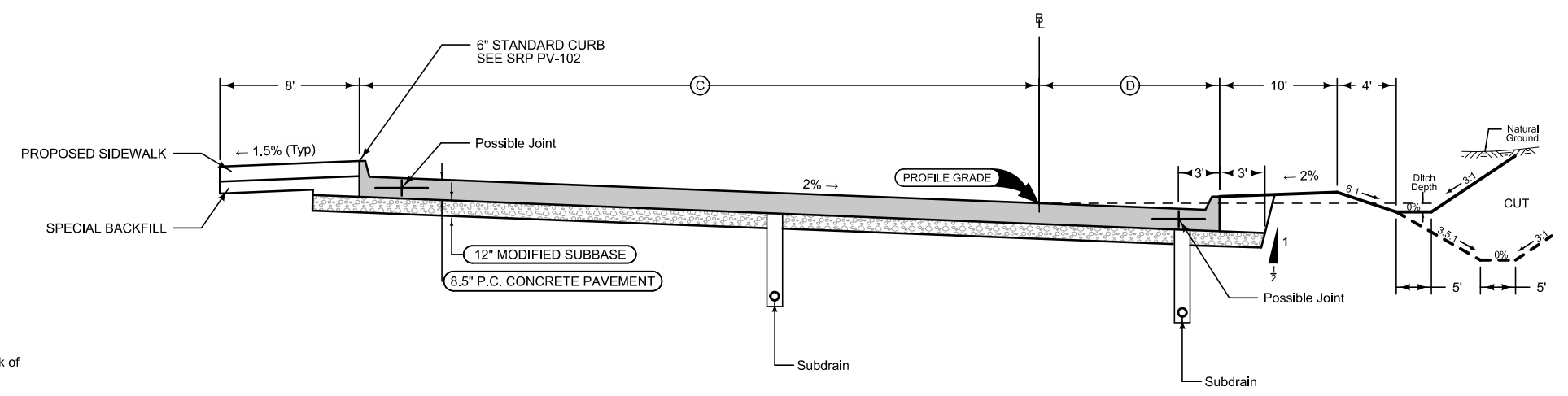
Full Depth HMA Shoulder

Shoulder Jointing:
Longitudinal joint: B

4_P_FullHMA_04-21-20			
Direction of Travel	BEGIN STATION	END STATION	(P) Feet
E.B.	178+07.63	184+51.07	8.0
E.B.	200+30.00	212+21.82	8.0

Auxiliary Lane ①

Direction of Travel	BEGIN STATION	END STATION
E.B.	167+11.42	173+09.85
E.B.	212+21.82	231+29.55



Integral Curb

Shoulder jointing:
Longitudinal joint not required when distance from back of curb to nearest joint is less than 16'.

Transverse: C at 17' spacing
Single pour: L-2
Staged: KT-2

BEGIN STATION	END STATION	(C) Feet
3189+65.06	3189+78.34	16-39
3189+78.34	3195+05.44	39

PARK. LOT	BEGIN STATION	END STATION
Ramp G	3189+65.06	3195+05.44

Section view is in direction of traffic.

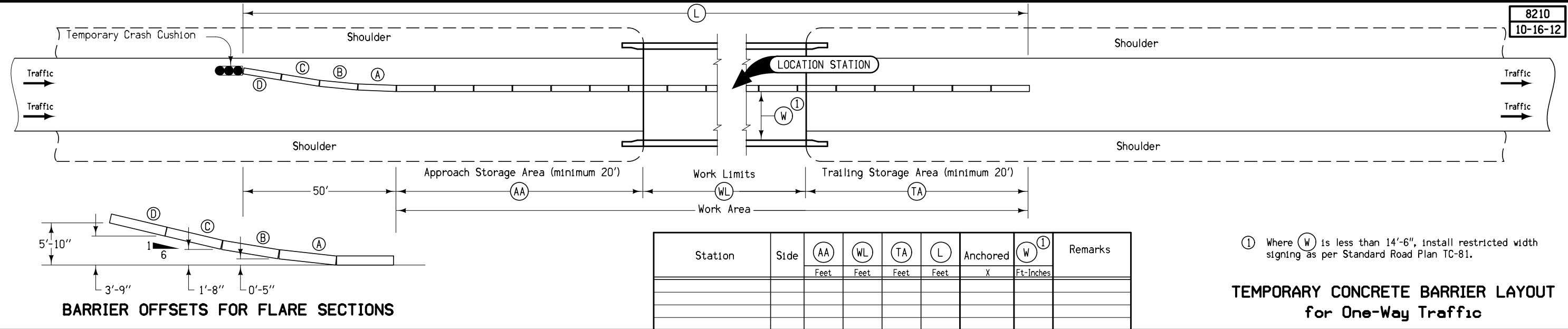
Integral Curb

Shoulder jointing:
Longitudinal joint not required when distance from back of curb to nearest joint is less than 16'.

Transverse: C at 17' spacing
Single pour: L-2
Staged: KT-2

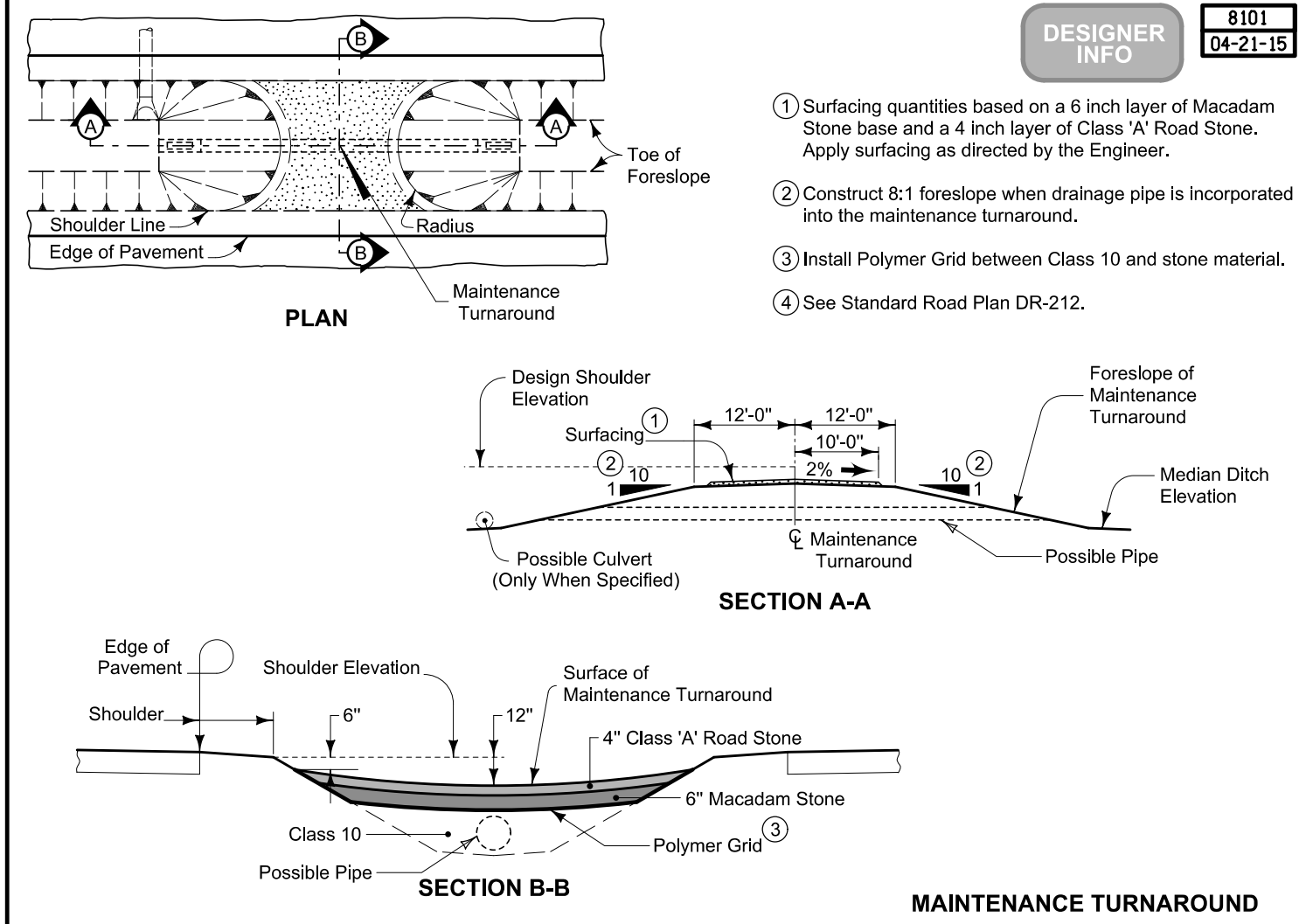
BEGIN STATION	END STATION	(D) Feet
3189+65.06	3189+73.24	0-10
3189+73.24	3195+05.44	10

**INTERSTATE 80 IOWA COUNTY REST AREA
AUTO PARKING LOTS**



① Where W is less than 14'-6", install restricted width signing as per Standard Road Plan TC-81.

**TEMPORARY CONCRETE BARRIER LAYOUT
for One-Way Traffic**



- 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 Class 10 and stone material.
- ④ See Standard Road Plan DR-212.

MAINTENANCE TURNAROUND

Location	Class 'A' Road Stone	Macadam Stone	Polymer Grid	Class 10	Pipe Length	Beveled Pipe & Guard ^④	Radius	Remarks
Road Identification	Station	TONS	TONS	SY	CY	LF	EACH	FT
Ramp E	2183+00.00					N/A	N/A	15
Ramp H	3202+50.00					N/A	N/A	15

DRAINAGE STRUCTURE BY ROAD CONTRACTOR

Length of unclassified pipe calculated is based on using Reinforced Concrete Pipe.

- * Not a bid item
- ① Diameter or equivalent diameter
- ② UNCL = Unclassified Pipe CMP = Corrugated Metal Pipe RCP = Reinforced Concrete Pipe LCP = Arch or Elliptical Low Clearance Pipe SARC = Steel Arch Pipe
- ③ Backfill according to DR-101

Drainage Area ACRE	Location	Type	Size ① IN	Kind Of Pipe ②	Length New Const. LF	Bedding Class	Design Cover (H)		Apron No.		Apron Guard* (DR-213)	Elbow* (DR-141)	Diaphragm* (DR-501)	Tee Section* (DR-142)	"D" Section* (DR-141)	Reducer*	Type 'C' Connections* (DR-122)		Connected Pipe Joint* (DR-121)	4" Perforated Subdrain*	Flow Line Elevations				Dimensions Lin. Ft.		Skew Ahead Degrees		Dike			Class 20 CY	Flowable Mortar CY	Floodable* Backfill (A) CY	Porous* Backfill (B) CY	Flooded Backfill (A+B) CY	Remarks						
							FT	FT	LT	RT							No.	No.			No.	No.	No.	Type	No.	Lt.	Rt.	Other	Other	Lt.	Rt.							Lt.	Rt.	Rt.	Location Station	Top Elev.	Type
							Total		Extensions								Lt.	Rt.			Lt.	Rt.	Lt.	Rt.																			
25.0	2185+80.00	DR-601	24	LCP	96	B	3.0	0.08	1	1	1										914.00	914.50																Twin pipe					
		DR-601	24	LCP	96	B	3.0	0.08	1	1	1										914.00	914.50																					
3.9	3182+70.00	DR-601	24	2000D	134	B	4.5	0.08	1	1	1										916.00	917.11																					
22.6	3187+54.00	DR-601	36	2000D	70	B	5.1	0.17	1	1	1										915.52	916.42																					
11.5	3201+68.00	DR-601	30	2000D	74	B	5.2	0.17			1										911.50	913.50																					
12.8	4200+17.80	DR-601	30	2000D	254	B	6.7	0.17	1												909.80	911.40						17													SW-511 LT end SW-511 RT end		
2.0	4209+65.00	DR-601	24	2000D	64	B	2.3	0.08	1	1	1										901.50	900.21																					
	164+99.76	DR-621	30	2000D	14	C											C-1	1			912.60	912.67			88.0	14.0															Rmv & reinst apron		
	180+98.74	DR-621	24		-6																921.50				88.4	-6.0															Rmv & reinst apron		
	185+27.70	DR-621	42		-44																913.91				107.3	-44.0		25													Rmv & reinst apron		
	194+38.67	DR-621	24	2000D	14	C											C-1	1			914.35	914.25			88.1	14.0															Rmv & reinst apron		
	199+92.10	DR-621	30		-44																909.61				95.7	-44.0		10													Rmv & reinst apron		
	206+70.37	DR-621	24	2000D	6	C											C-1	1			909.04	908.98			88.4	6.0			RT	206+90.00	910.54	M									Rmv & reinst apron		
	213+75.10	DR-621	30	2000D	34	C											C-1	1			892.38	891.58			167.2	34.0															Rmv & reinst apron		
	219+44.37	DR-621	24	2000D	18	C											C-1	1			881.58	881.37			90.7	16.0			RT	219+65.00	883.08	M										Rmv & reinst apron	

ROADWAY ITEMS FOR DRAINAGE STRUCTURES INSTALLED BY CULVERT CONTRACTOR

- * Not a Bid Item
- ① Backfill according to DR-111

Location	Design Number	Size	Kind	By Road Contractor					Floodable* Backfill (A) CY	Porous* Backfill (B) CY	Flooded Backfill (A+B) CY	Excavation		Revetment		Engineering Fabric SY	Remarks		
				Dike				Compaction w/Moisture Control CY				Compaction w/Moisture and Density CY	Type	Type	Quantity CY			Type	Quantity TONS
				Rt.	Location Station	Top Elev.	Type												
226+40.00	123	8' x 4'	RCB								Class 10, Channel	4.0	Class E	22.000	46.0				

110-1
04-16-13

REMOVAL OF PAVEMENT

Refer to Tabulation 102-5

* Not a Bid Item

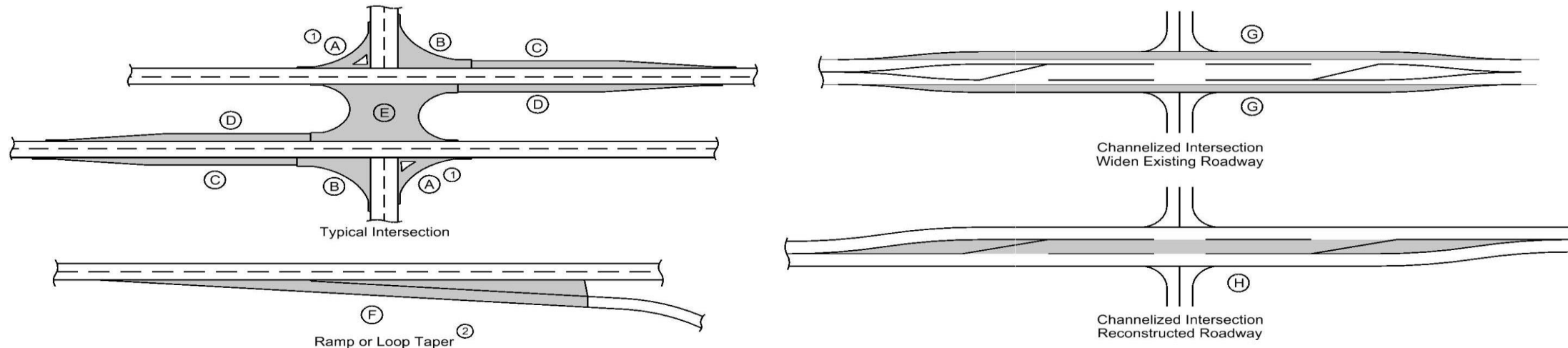
Begin Station	End Station	Side	Pavement Type	Area	Saw Cut*	Remarks
				SY	LF	
167+10.93	173+10.93	RT	PCC	133.3	604.0	Mainline slab
167+10.93	173+10.93	RT	HMA	533.3	16.0	Shoulder
178+08.08	184+51.08	RT	PCC	1551.3	651.0	Exit taper
178+08.08	186+45.00	RT	HMA	546.2	8.0	Shoulder
184+51.07	200+95.50	RT	PCC	6565.3	0.0	Ramps and car parking area
185+93.73	197+98.01	RT	PCC	9329.0	0.0	Truck parking area
200+95.50	218+58.60	RT	HMA / PCC	3699.8	1154.0	Entrance taper and accel lane; includes shoulder
212+19.40	231+29.55	RT	PCC	424.5	1914.2	Mainline slab
218+58.60	231+29.55	RT	HMA	1129.7	8.0	Shoulder

110-15
04-16-13

REMOVAL OF INTAKES AND UTILITY ACCESSES

No.	Location/Description	Type	Remarks
	2186+67.5, 53.5' LT	Manhole	
	2189+14.42, 34' RT	Intakes	
	2191+68.39, 10' RT	Intakes	
	2194+47.34, 10' RT	Intakes	
	2200+37.30, 113' LT	Intakes	
	2200+44.30, 83.5' LT	Intakes	

PCC PAVEMENT



- ① Does not include raised island area or curb. Refer to tabulation 112-4 for quantities.
- ② Refer to PV-410, PV-411, PV-412, and PV-414.
- ③ Quantity includes Pavement Header.

Road Identification	Location Direction of Travel	Station to Station	Mainline		Area ③								Total Area By Pavement Thickness		Special Backfill TONS	Modified Subbase CY	Granular Subbase SY	Remarks	
			Width FT	Length FT	Area SY	A ① SY	B SY	C SY	D SY	E SY	F ② SY	G SY	H SY	SY					
														10 IN					8 1/2 IN
																			10 IN
Ramp E	EB	2173+11.59 - 2184+90.82	16.0	1179.2	2096.4								1332.0			3428.4		1471.5	
		2184+90.82 - 2186+45.82	16-31.5	155.0	409.0										409.0		153.6		
		2184+91.80 - 2187+21.32	0-61.5	229.5	784.2										784.2		286.9		
		2186+45.82 - 2199+91.95	31.5	1346.1	4711.5										4711.5		1720.1		
Ramp F	EB	4186+94.37 - 4199+65.00	61.5	1270.6	8682.6										8682.6		3035.4		
		4195+72.54 - 4206+48.47	Varies	1075.9	3714.2										3714.2		1357.6		
		4199+65.00 - 4202+58.95	93-16	294.0	1780.0										1780.0		626.0		
		4202+58.95 - 4212+20.08	16.0	961.1	1708.7								2416.8		4125.5		1801.0		Includes acceleration lane
Ramp G	EB	3178+86.70 - 3189+65.06	16.0	1078.4	1917.1										2130.4		949.8		
		3189+65.06 - 3189+78.34	Varies	13.3	50.8										50.8		19.9		
		3189+78.34 - 3194+95.44	49.0	517.1	2815.3										2815.3		1053.4		
		3194+95.44 - 3195+18.72	Varies	23.3	89.5										89.5		35.0		
Ramp H	EB	3195+18.72 - 3209+05.35	16.0	1386.6	2465.1								213.3		2678.4		1200.9		

106-4
04-16-13
SHOULDERS FOR WIDENING & RESURFACING

*Not a Bid Item

Begin Station	End Station	Side	Length of Shoulder Type in Stations			
			A	B	C	D*
159+41.00	234+30.50	L				

110-14
04-16-13
SANITARY OR STORM SEWER ABANDONMENT OR REMOVAL

* Not a bid item

Location/Description	Sanitary or Storm Sewer	Abandonment, Plug Only or Abandonment, Plug and Fill or Removal	Length of Pipe		Fill Material* Flowable Mortar or CLSM CY	Remarks
			≤ 36 inch diameter	> 36 inch diameter		
			LF	LF		
2186+05.17 - 2186+67.54, 53' LT	Storm Sewer	Removal	62			18" dia storm and 1 FES
2186+69+60, 53' LT - 2189+11.81, 35' RT	Storm Sewer	Removal	258			15" dia storm
2191+70.30 - 2194+45.00, 8' RT	Storm Sewer	Removal	274			15" dia storm
2194+46.48, 6' RT - 112' LT	Storm Sewer	Removal	118			15" dia storm and 1 FES
2200+37.30, 113' LT - 2200+44.20, 83' LT	Storm Sewer	Removal	31			18" dia storm
2199+83.70, 54' LT - 2200+42.50, 81' LT	Storm Sewer	Removal	65			24" dia storm and 1 FES

SHOULDERS

- ① Lane(s) to which the shoulder is adjacent.
- ② See Typ. 7156, 7157, or 7158.
- ③ Bid Item.
- ④ Applies only for Paved Shoulders constructed on project with existing granular shoulders.
- ⑤ Bid Item. Typ. 7156, 7157, or 7158.
- ⑥ Does not include shrink.

Calculations assume a HMA unit weight (lbs/cf) of 150, a Special Backfill unit weight (lbs/cf) of 140, and a Granular Shoulder unit weight (lbs/cf) of 140.

Road Identification	① Direction Of Traffic	Location							Quantities															Remarks							
		Station to Station		Side	P Width FT	P _{SG} Width FT ②	G Width FT	L Length FT	Class 13 ^④ Excavation CY ③	Hot Mix Asphalt		Binder TONS	Paved Shoulder SY ③	Paved Shoulder at Guardrail SY ⑤	Reinforced Paved Shoulder SY ③	Special Backfill				Subbase CY ③	Granular Shoulder		Earth Shoulder Construction Alternates								
		Start	End							TON	TON/STA					HMA Alternate		PCC Alternate			TON	TON/STA	TON		TON/STA	TON	TON/STA	TON	TON/STA	STA ③	HMA CY ⑥
Ramp E	EB	2167+11.32	2167+79.62	R	10 to 6		68.3		27.457	40.200	1.647	60.7					39.443	57.750										0.7			
		2167+79.62	2176+43.73	R	6.0		864.1		259.233	30.000	15.554	576.1					347.804	40.250										8.6			
		2178+84.26	2179+99.56	R	0 to 6		115.3		17.295	15.000	1.038	38.4					23.204	20.125										1.2			
		2179+99.56	2184+91.80	R	6.0		492.2		147.672	30.000	8.860	328.2					198.127	40.250										4.9			
		2184+91.80	2185+14.19	R	6 to 0		22.4		3.359	15.000	0.202	7.5					4.506	20.125										0.2			
		2173+11.59	2184+90.13	L	4.0		1178.5		236.003	20.025	14.160	523.8					268.118	22.750										11.8			
		2184+90.13	2185+30.82	L	4 to 0		40.7		4.059	9.975	0.244	9.0					4.628	11.375										0.4			
Ramp F	EB	4195+71.95	4206+24.88	R	6.0		1075.1		322.530	30.000	19.352	716.7					216.364	20.125										10.8			
		4206+24.88	4207+74.92	R	6 to 0		150.0		22.506	15.000	1.350	50.0					30.196	20.125										1.5			
		4210+15.46	4225+29.00	R	6.0		1513.5		454.062	30.000	27.244	1009.0					609.200	40.250										15.1			
		225+29.61	229+21.30	R	6.0		391.7		117.507	30.000	7.050	261.1																3.9			
		229+21.30	231+29.55	R	6 to 10		208.3		83.717	40.200	5.023	185.1					120.264	57.750										2.1			
		4202+37.44	4202+58.95	L	0 to 4		21.5		2.146	9.975	0.129	4.8					2.447	11.375										0.2			
		4202+58.95	4212+20.08	L	4.0		961.1		192.466	20.025	11.548	427.2					218.657	22.750										9.6			
Ramp G	EB	3176+46.70	3189+65.06	R	6.0		1318.4		395.508	30.000	23.730	878.9					449.890	34.125										13.2			
		3189+65.06	3189+69.97	R	6 to 0		4.9		0.736	15.000	0.044	1.6					0.838	17.066										0.0			
		3178+86.70	3180+00.57	L	0 to 4		113.9		11.359	9.975	0.682	25.3					10.466	9.191										1.1			
		3180+00.57	3189+65.06	L	4.0		964.5		193.139	20.025	11.588	428.7					177.225	18.375										9.6			
		3189+65.06	3189+67.37	L	4 to 0		2.3		0.230	9.975	0.014	0.5					0.212	9.191										0.0			
Ramp H	EB	3194+99.43	3195+05.43	R	0 to 6		6.0		0.900	15.000	0.054	2.0					1.024	17.066										0.1			
		3195+05.43	3211+45.35	R	6.0		1639.9		491.976	30.000	29.519	1093.3					559.623	34.125											16.4		
		3195+05.43	3195+07.74	L	0 to 4		2.3		0.230	9.975	0.014	0.5					0.212	9.191										0.0			
		3195+07.74	3207+57.40	L	4.0		1249.7		250.244	20.025	15.015	555.4					229.625	18.375										12.5			
		3207+57.40	3209+05.35	L	4 to 0		147.9		14.758	9.975	0.885	32.9					13.598	9.191										1.5			
I-80	EB	178+08.08	184+51.07	R	8.0		643.0		257.035	39.975	15.422	571.5																6.4			
	EB	200+91.58	212+27.88	R	8.0		1136.3		454.236	39.975	27.254	1010.0																	11.4		

108-33
10-15-19

TEMPORARY BARRIER RAIL

Possible Standard: BA-401 Possible Detail: 560-7

* Not a bid item. Anchorage requirements are based on TBR locations shown in the plans. TBR alignments that vary from what is shown in the plans may result in additional TBR sections requiring anchorage.

No.	Station to Station	Length	(Select One)		Anchored*	Modular Glare Screen System (Y/N)	Remarks
			Concrete BA-401	Steel 560-7			
1	166+31.00 - 174+18.50	787.5	X		Yes	No	Stage 2 construction
2	211+28.00 - 231+90.50	2062.5	X		Yes	No	Stage 2 construction
3	177+06.00 - 184+81.00	775.0	X		Yes	No	Stage 3 construction
4	200+20.00 - 212+32.50	1212.5	X		Yes	No	Stage 3 construction

108-30
04-16-13

CRASH CUSHIONS

* Bid Item

- ① Lane(s) to which the installation is adjacent.
- ② Complete this section when using the Temporary Crash Cushion bid item and Earthwork is needed for Sand Barrel placement. Refer to BA-500

No.	① Direction of Traffic	Location Station	Side	Obstacle Width FT	Crash Cushion (Select One)*					Sand Barrel Details ②					Earthwork*		Spare Parts Kit (Select One)*		Obstacle Description	Remarks		
					Temporary	Temporary Reductive	Temporary Severe Use	Permanent	Permanent Severe Use	V	W	X	Y	Z	Excavation Class 10	Embankment in Place	Permanent	Permanent Severe Use				
																					Length	Length
1	EB	166+31.00	RT	1.88	X																Temporary barrier rail	Stage 2
2	EB	211+28.00	RT	1.88	X																Temporary barrier rail	Stage 2
3	EB	177+06.00	RT	1.88	X																Temporary barrier rail	Stage 3
4	EB	200+20.00	RT	1.88	X																Temporary barrier rail	Stage 3

SURVEY SYMBOLS

- ▲ ROW Right of Way Mark
- MM Mile Marker Post
- CP Control Point
- ▲ SCR Section Corner
- ⊕ REF Reference Tie Point
- WC Wild Card (Misc. Field Shot)
- ⊕ MH Utility Access (Manhole)
- UE Utility Elevation
- MIS Miscellaneous
- CON Concrete or A/C Slab
- IN Storm Sewer Intake
- PIP Pipe Culvert
- PRO Profile Shot
- PLG Location of General Photo
- LIN Miscellaneous Line
- BL Topo Breakline
- LUM Luminaire
- UV Underground Utility Vault
- SIGN SI Sign
- SIGN SL Speed Limit Sign
- EB Electrical Box
- ⊗ WEL Well
- FWD Wood Fence
- GL1D Gas Line Co. 1 - Quality D
- TP TPD Telephone Pedestal
- LP L.P. Tank
- OUT Tile Outlet
- SH Paved Shoulder
- CU Back of Curb
- GU Gutter In Front of Curb
- D Centerline Draw or Stream (Down)
- DU Centerline Draw or Stream (Up)
- GR Ground Shot
- FW Wire Fence
- FCL Chain Link and Security Fence
- EP Edge of Paved Roads (ML or SR)
- BLD Building or Foundation
- WV Water Valve
- SWK Sidewalk
- FLG Flag Poles
- RIP Rip-Rap
- SOP Size of Pipe or Culvert
- HDG Hedge Row
- GP Guard Post (Less Than 4 Posts)
- Default_Point Default Point Feature
- BM Bench Mark

UTILITY LEGEND

- SAN.(C) --- SA1C Iowa DOT- Quality C
Contact Name: _____
Contact Phone: _____
Contact Email: _____
- SAN. --- SA1D Iowa DOT- Quality D
Contact Name: _____
Contact Phone: _____
Contact Email: _____
- ST S(C) --- ST1C Iowa DOT - Quality C
Contact Name: _____
Contact Phone: _____
Contact Email: _____
- E1 --- EL1D TIP Rural Electric Cooperative - Quality D
Contact Name: _____
Contact Phone: _____
Contact Email: _____
- E2 --- EL2D Iowa DOT - Quality D
Contact Name: _____
Contact Phone: _____
Contact Email: _____
- T1 --- TL1D Cooperative Telephone Company - Quality D
Contact Name: _____
Contact Phone: _____
Contact Email: _____
- G2 --- GL2D Iowa DOT - Quality D
Contact Name: _____
Contact Phone: _____
Contact Email: _____
- F0 --- FO1D Iowa Communications Network - Quality D
Contact Name: _____
Contact Phone: _____
Contact Email: _____
- F02 --- FO2D Cooperative Telephone Company - Quality D
Contact Name: _____
Contact Phone: _____
Contact Email: _____
- F03 --- FO3D Iowa DOT - Quality D
Contact Name: _____
Contact Phone: _____
Contact Email: _____
- W --- WL1D Poweshiek Water Association - Quality D
Contact Name: _____
Contact Phone: _____
Contact Email: _____

PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

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

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

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

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

- ### RIGHT-OF-WAY LEGEND
- ▲ Proposed Right-of-Way
 - △ Existing Right of Way
 - ▲ Existing and Proposed Right-of-Way
 - ▲ Easement and Existing Right-of-Way
 - Easement (Temporary)
 - Easement
 - C/A Access Control
 - Property Line

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

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

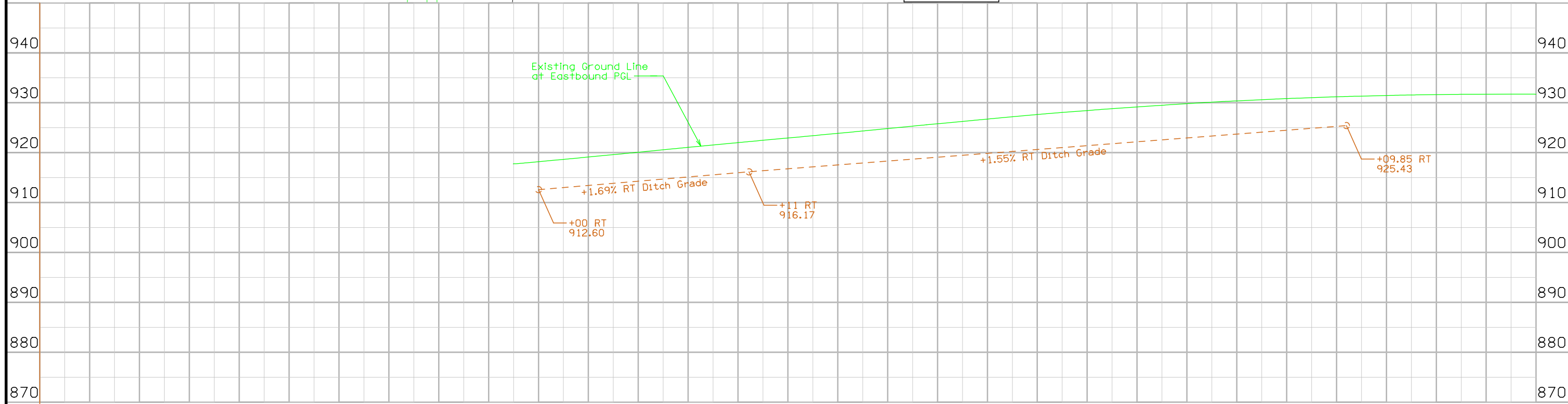
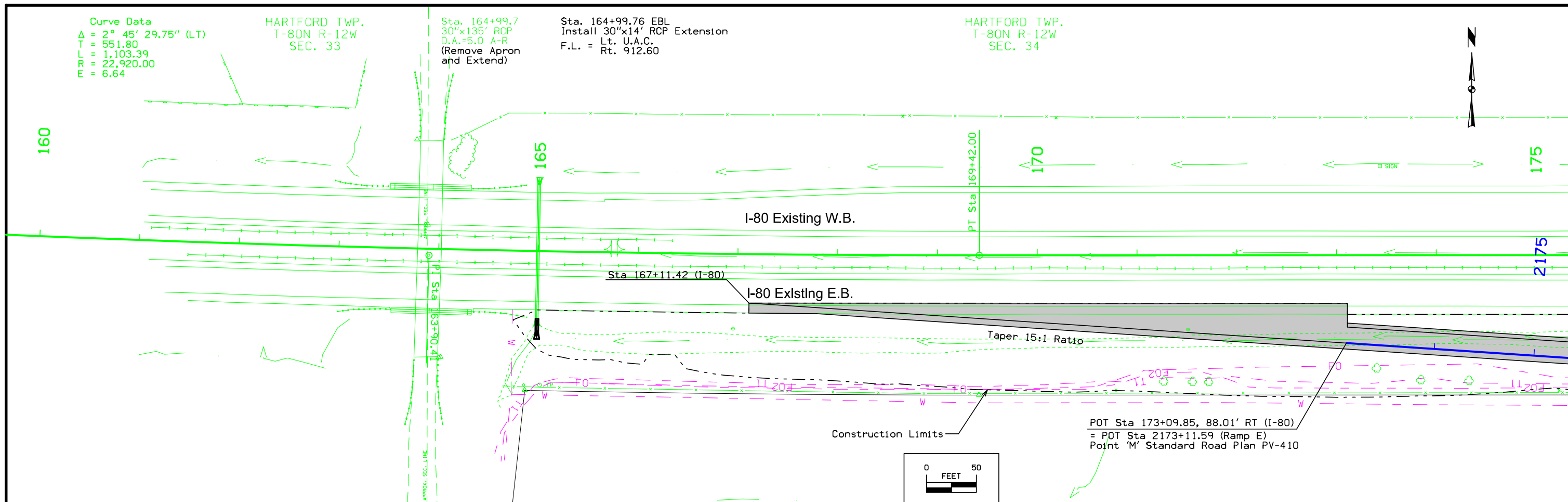
Curve Data
 $\Delta = 2^\circ 45' 29.75''$ (LT)
 T = 551.80
 L = 1,103.39
 R = 22,920.00
 E = 6.64

HARTFORD TWP.
 T-80N R-12W
 SEC. 33

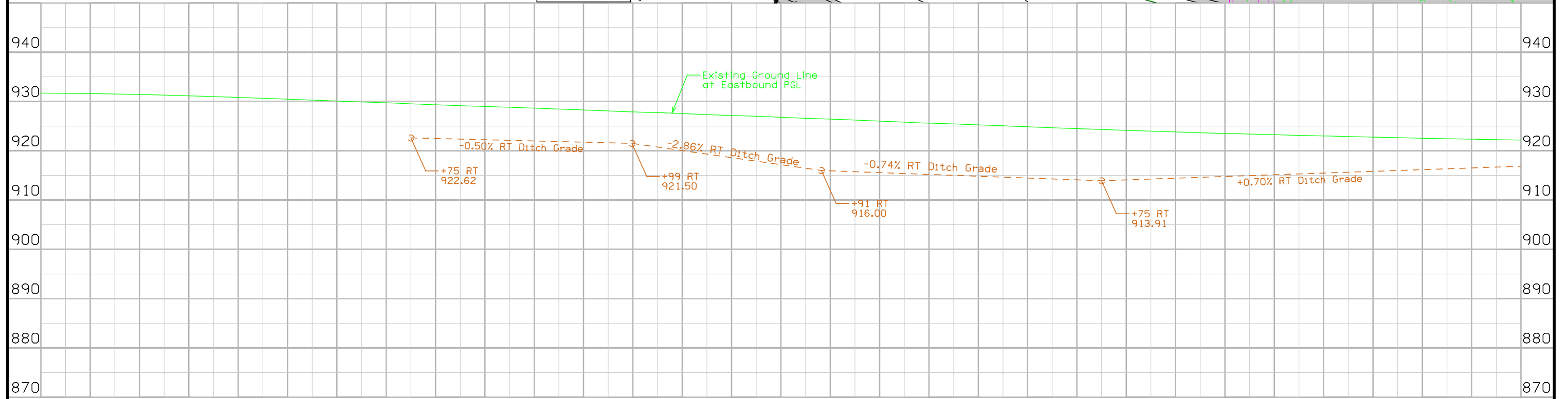
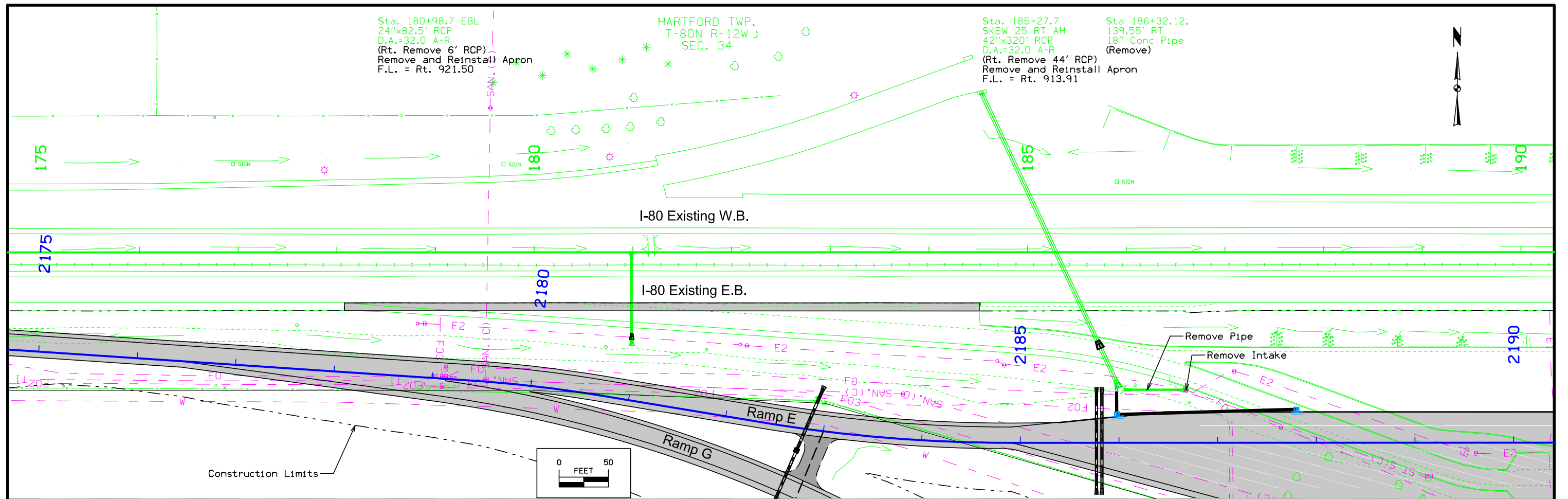
Sta. 164+99.7
 30"x135' RCP
 D.A.=5.0 A-R
 (Remove Apron
 and Extend)

Sta. 164+99.76 EBL
 Install 30"x14' RCP Extension
 Lt. U.A.C.
 F.L. = Rt. 912.60

HARTFORD TWP.
 T-80N R-12W
 SEC. 34



Lt	U.A.C.																				Lt																																
Med	U.A.C.										Ditch Grade										Med																																
Rt	U.A.C.										V-Ditch										Rt																																
											917.77	918.20	918.65	919.13	919.61	920.09	920.58	921.07	921.55	922.02	922.48	922.94	923.41	923.88	924.35	924.84	925.33	925.80	926.27	926.74	927.19	927.65	928.06	928.45	928.83	929.17	929.51	929.81	930.11	930.38	930.62	930.85	931.02	931.20	931.34	931.46	931.57	931.63	931.70	931.72	931.74	931.72	
											165	166	167	168	169	170	171	172	173	174	175																																



931.74	931.72	931.67	931.62	931.52	931.43	931.30	931.15	931.00	930.83	930.66	930.48	930.30	930.10	929.91	929.75	929.54	929.34	929.16	929.00	928.84	928.65	928.47	928.29	928.08	927.89	927.75	927.55	927.35	927.16	927.01	926.81	926.60	926.43	926.24	926.02	925.81	925.61	925.45	925.26	925.08	924.87	924.68	924.51	924.33	924.16	923.98	923.82	923.67	923.52	923.40	923.27	923.14	923.01	922.90	922.78	922.67	922.55	922.45	922.36	922.27	922.18
175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190																																														

Sta. 194+38.67
Install 24"x14' RCP Extension
F.L. = Lt. U.A.C.
Other 914.26
Rt. 914.35

Sta. 194+38.7
24"x137' RCP
D.A.=4.0 A-R
(Remove Apron
and Extend)

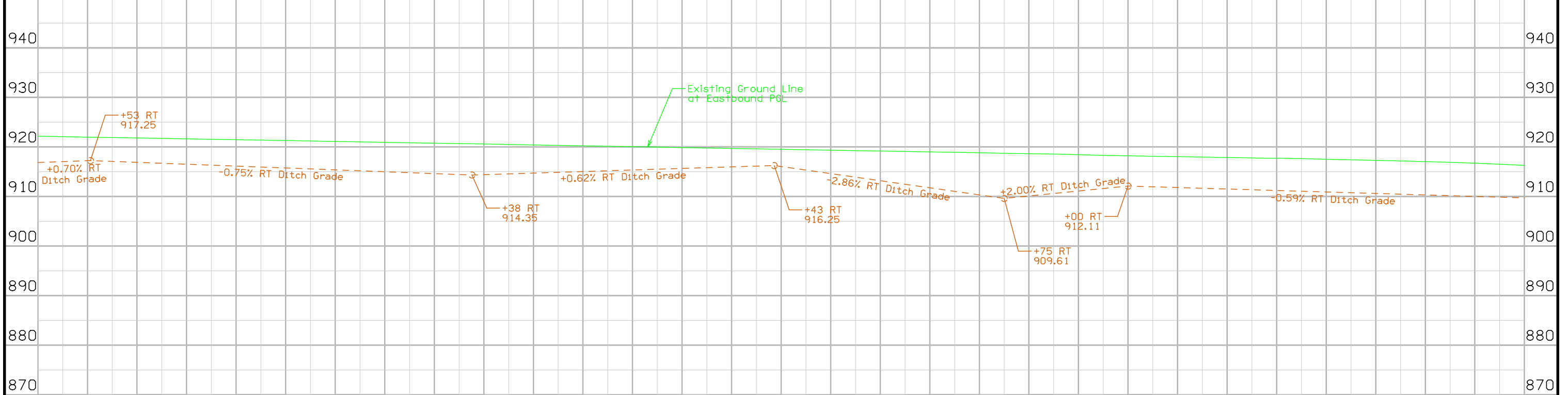
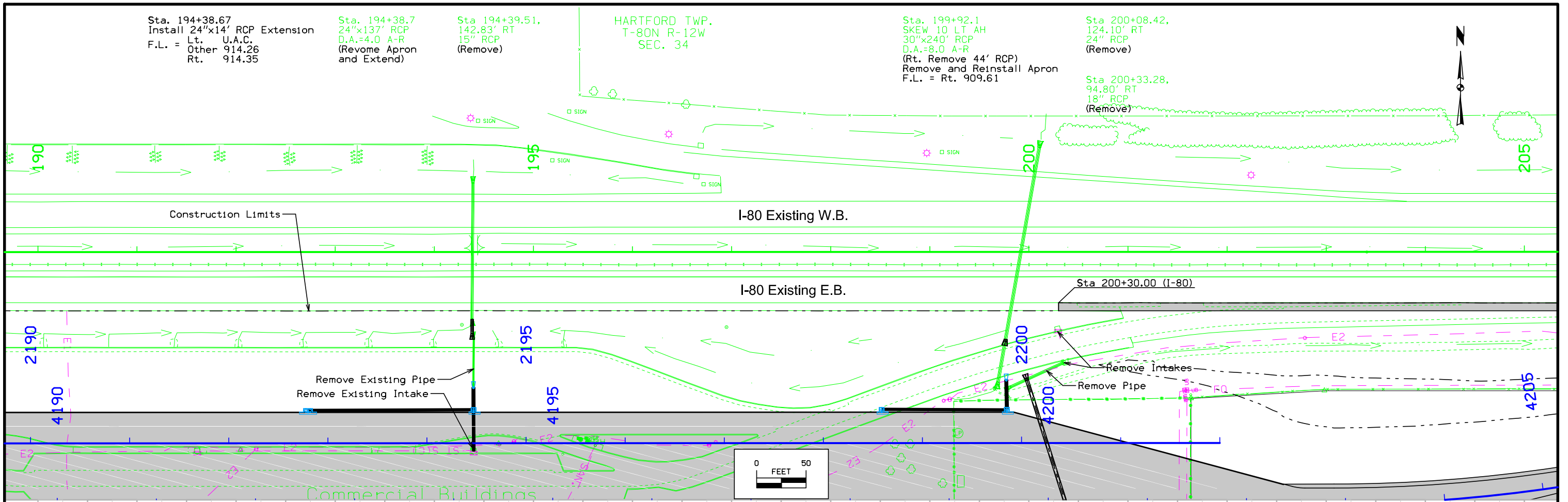
Sta. 194+39.51,
142.83' RT
15" RCP
(Remove)

HARTFORD TWP.
T-80N R-12W
SEC. 34

Sta. 199+92.1
SKEW 10 LT AH
30"x240' RCP
D.A.=8.0 A-R
(Rt. Remove 44' RCP)
Remove and Reinstall Apron
F.L. = Rt. 909.61

Sta. 200+08.42,
124.10' RT
24" RCP
(Remove)

Sta. 200+33.28,
94.80' RT
18" RCP
(Remove)



Station	Profile Elevation
190	922.27
191	922.18
192	922.08
193	921.82
194	921.73
195	921.64
196	921.56
197	921.47
198	921.38
199	921.30
200	921.21
201	921.12
202	921.03
203	920.94
204	920.85
205	920.76
190	920.68
191	920.61
192	920.51
193	920.41
194	920.32
195	920.24
196	920.15
197	920.06
198	919.98
199	919.89
200	919.80
201	919.71
202	919.63
203	919.54
204	919.45
205	919.35
190	919.26
191	919.19
192	919.11
193	919.02
194	918.93
195	918.83
196	918.73
197	918.65
198	918.58
199	918.44
200	918.32
201	918.22
202	918.12
203	918.05
204	917.96
205	917.88
190	917.79
191	917.73
192	917.64
193	917.53
194	917.41
195	917.30
196	917.18
197	917.04
198	916.90
199	916.73
200	916.52
201	916.29

Sta. 206+70.4
24"x142' RCP
D.A.=2.0 A-R
(Remove Apron
and Extend)

Sta. 206+70.37
Install 24"x6' RCP Extension
Lt. U.A.C.
Other 908.98
Rt. 909.04

Sta. 206+90.00 Rt.
Install Type M Dike
Top Elev = 910.54

HARTFORD TWP.
T-80N R-12W
SEC. 34

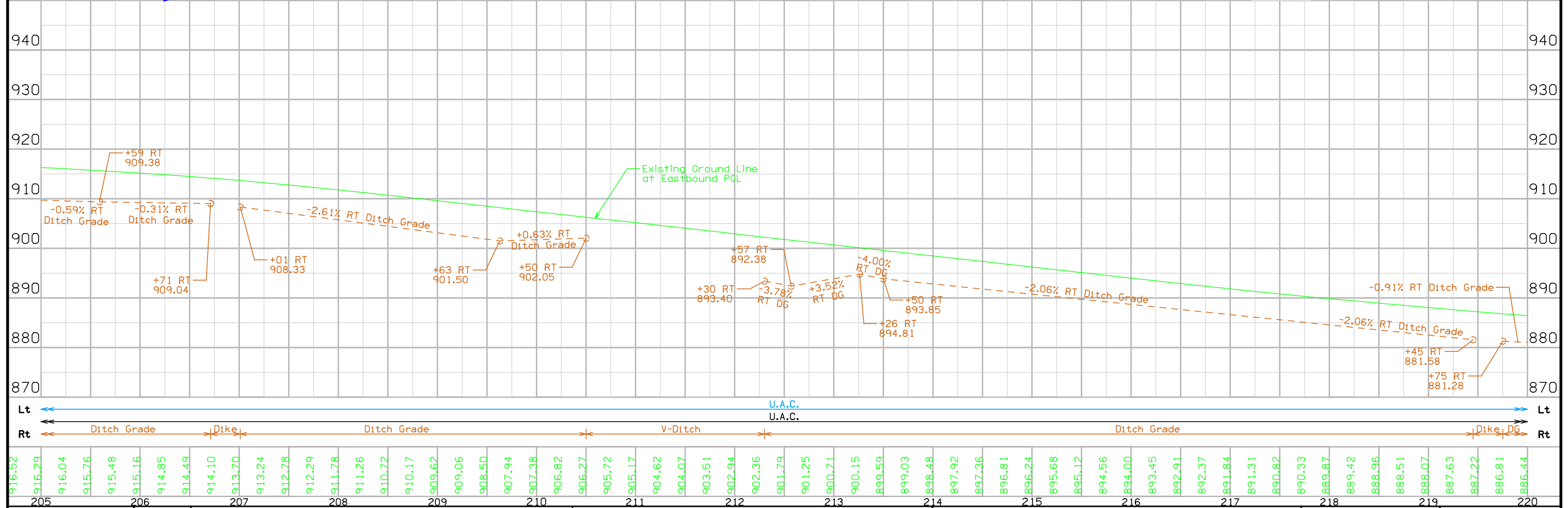
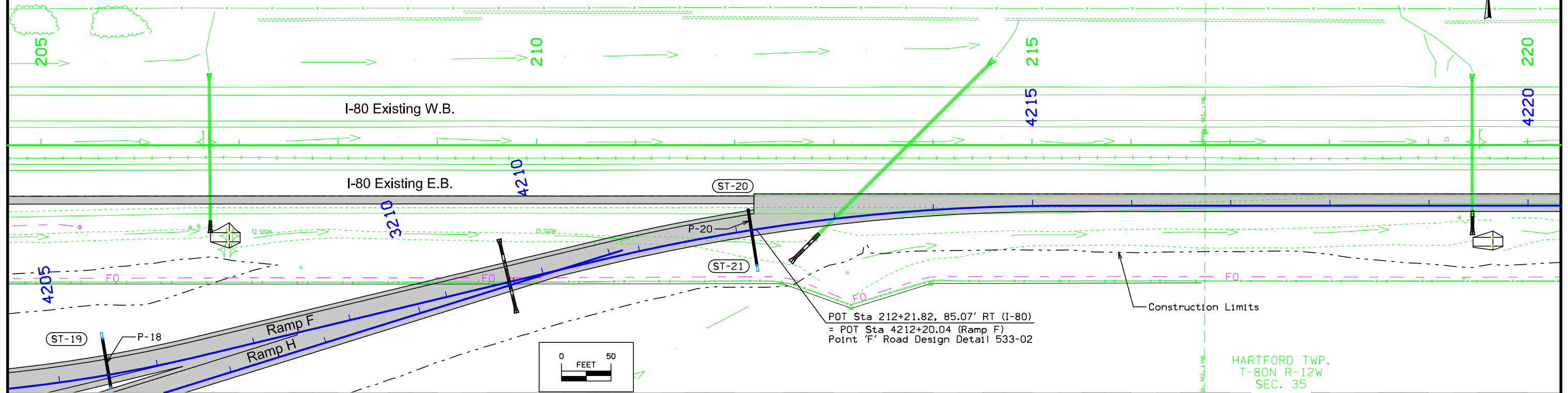
Sta. 213+75.1
SKEW 45° LT AH
30"x242' RCP
D.A.=2.0 A-R
(Remove Apron
and Extend)

Sta. 213+75.10
Skew 45° Lt. Ahead
Install 30"x34' RCP Extension
F.L. = Lt. U.A.C.
Other 891.58
Rt. 892.38

Sta. 219+44.4
24"x131' RCP
D.A.=0.5 A-R
(Remove Apron
and Extend)

Sta. 219+44.37
Install 24"x18' RCP Extension
F.L. = Lt. U.A.C.
Other 881.37
Rt. 881.58

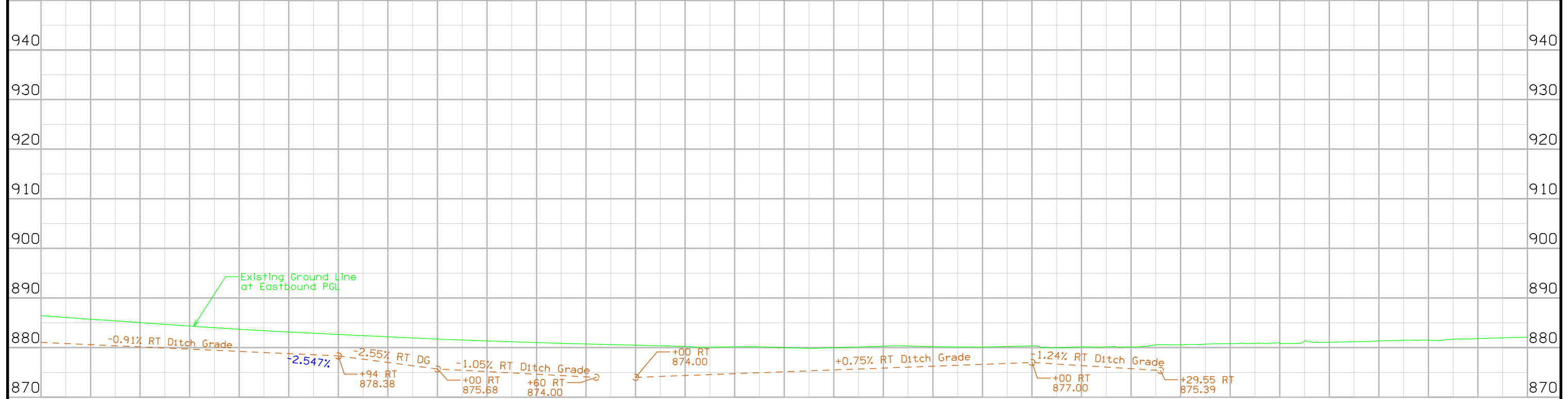
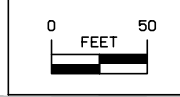
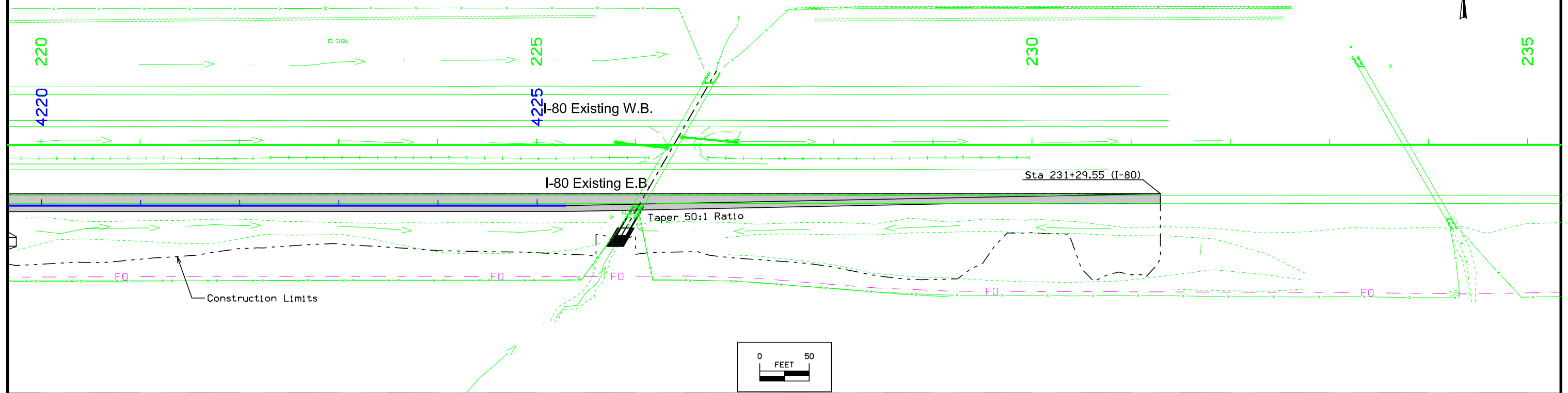
Sta. 219+65.00 Rt.
Install Type M Dike
Top Elev = 883.08



HARTFORD TWP.
T-80N R-12W
SEC. 35

Sta. 226+38.5
SKEW 30 LT AH
8'x4'x144' RCB
D.A.=168 A-R
(Remove
Headwalls Rt)

Sta. 226+38.50
Install 8'x4'x25 RCB Extension
F.L. = Lt. U.A.C.
Other 873.36
Rt. 873.60



Lt																					Lt																																								
U.A.C.																					U.A.C.																																								
Ditch Grade											U.A.C.											Ditch Grade																																							
Rt																					Rt																																								
886.81	886.44	886.07	885.72	885.38	885.04	884.69	884.34	884.02	883.71	883.41	883.15	882.90	882.66	882.41	882.18	881.95	881.72	881.54	881.35	881.18	881.02	880.86	880.73	880.61	880.49	880.37	880.21	880.10	880.15	880.15	879.99	879.84	879.97	880.13	880.28	880.32	880.18	880.14	880.11	880.22	880.34	879.97	880.13	880.14	880.12	880.55	880.55	880.70	880.81	880.85	880.93	881.29	881.07	881.19	881.35	881.48	881.50	881.71	881.80	881.96	882.08
220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235											235																																			

Survey Information

Iowa County
IMN-080-6(483)208--0E-48
PIN 19-48-080-010
I 80-Survey of Rest Stop near Victor (EB)
Approx. 3.5 Miles Southeast of Victor
SAP0843.1

BM 521 Project IM-80-6(199)208—13-48 Elev. 936.694
Survey Elev. = 936.717

Horizontal Control

The project coordinate system for this survey is IaRCS Zone 10(U.S. Survey Feet). This survey control is relative to IaRTN reference stations. IaRTN Reference Station coordinates are relative to the National Reference Station network datum: NAD83 (2011) for Epoch 2010.00. We established 6 control points surrounding the project limits, observing each for 180 epochs. Then a calibration was performed from BASE100. Additional points were placed throughout the project using GNSS Base-Rover setup relative to Pt.

The Combined Scale Factor may be used for total station stakeout and location to survey in the State Plane coordinate system.

Alignment Information

The horizontal alignment for this survey is a retrace of As-built Plans No. I-80-6(24)208. Survey stationing was equated to the plan PC at STA 158+38.7 and run back and ahead without equation throughout the survey.

Survey stationing relates to as built plan stationing as follows:

PC Sta. 158+38.69 As-built Plans Project No. I-80-6(24)208
Survey PC Sta. 158+38.7

PI Sta 163+90.32 Project No. I-80-6(24)208
Survey PI STA 163+90.5

PT STA 169+42.00 Project No. I-80-6(24)208
Survey PT STA 169+42.0

POT STA 175+99.98 Project No. I-80-6(24)208
Survey POT STA 176+00

POT STA 203+41.16 Project No. I-80-6(24)208
Survey POT STA 203+42.7

PC STA 253+26.72 Project No. I-80-6(24)208
Survey PC STA 253+31.4

Party Personnel

Jeremy Leemon- Survey Project Manager
Larry Boyer- Assistant Survey Project Manager
Steve Lentz- Survey Party Chief
Jacob Powers- Assistant Survey Party Chief
John Kropp- Instrument

Date(s) of Survey

Begin Date 04/2/2019
End Date 08/14/2019

General Information

Measurement units for this survey are US survey feet. Project datum and control was established using IARTN and USGS BM DWB. This is a partial DTM survey with photo control of the rest area on the eastbound lane of Interstate 80.

Vertical Control

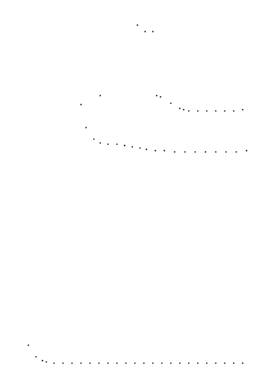
Vertical datum for this survey is relative to NGVD29=NAVD88 at this location. Geoid12B was used in this survey. A Digital level loop was run from BM #511 (USGS BM DWB) through the project benchmarks and returned to BM # 511. The loop error met 3rd Order accuracy and the error was distributed proportionately among the project bench marks.

This survey observed 1 USGS Control Monument with published NGVD29=NAVD88 heights to compare to local ground control:

USGS mark designated DWB has a published Elev. Of 936.744
Survey Elev. = 936.750

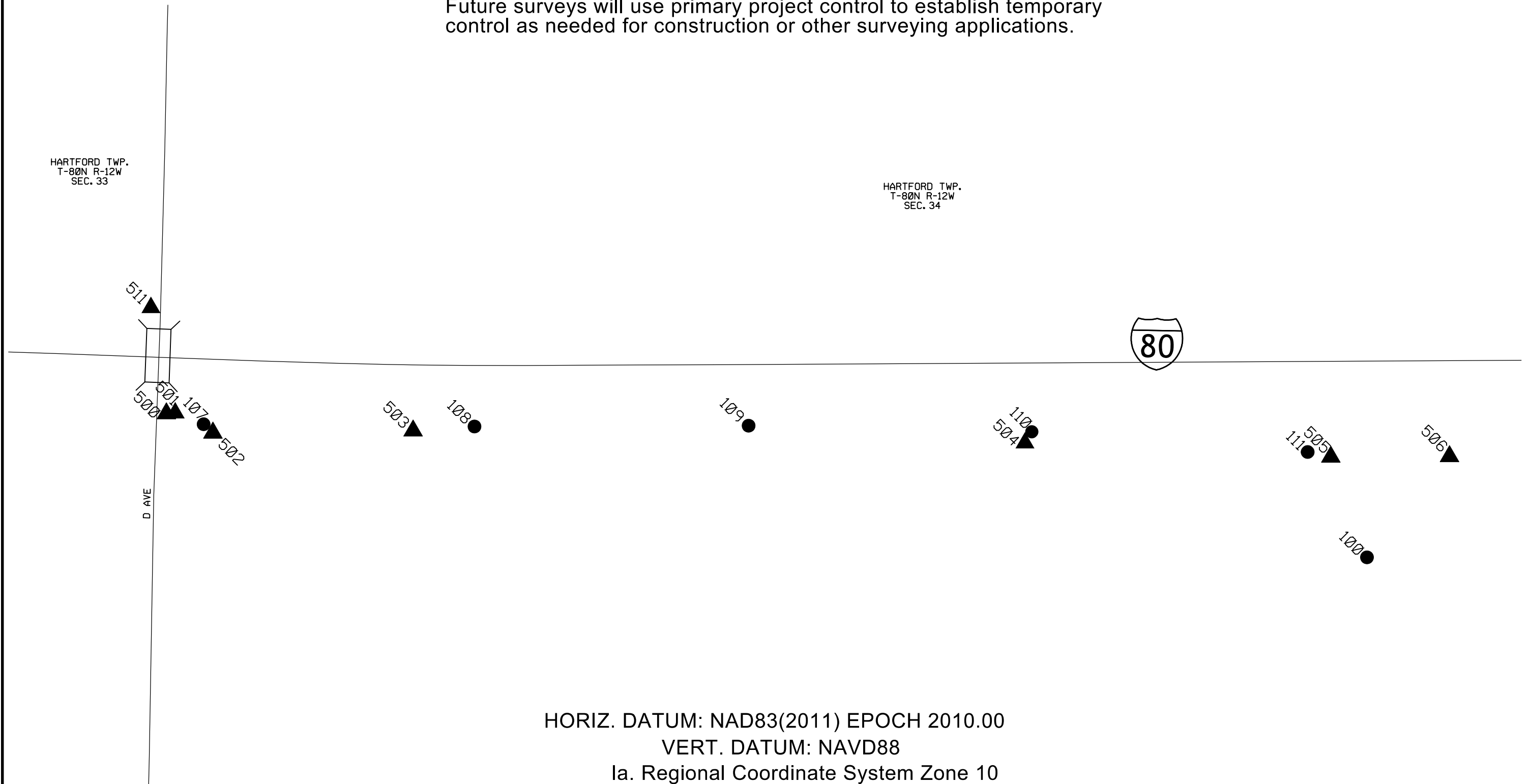
This survey observed 2 As-Built plan bench marks to compare to local ground control:

BM 520 Project IM-80-6(199)208—13-48 Elev. 936.74
Survey Elev. = 936.750



CONTROL POINT VICINITY MAP

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



HORIZ. DATUM: NAD83(2011) EPOCH 2010.00

VERT. DATUM: NAVD88

1a. Regional Coordinate System Zone 10

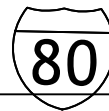
Coordinate listing from next sheet will be used with 1aRTN for monument
 recovery. No other reference ties are given.

CONTROL POINT VICINITY MAP

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

HARTFORD TWP.
T-80N R-12W
SEC. 34

HARTFORD TWP.
T-80N R-12W
SEC. 35



507 ▲ 112 ●

113 ●
508 ▲

114 ●

115 ● 509 ▲

116 ●

510 ▲
117 ●

HORIZ. DATUM: NAD83(2011) EPOCH 2010.00

VERT. DATUM: NAVD88

1a. Regional Coordinate System Zone 10

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

HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING

HORIZ. DATUM: NAD83(2011) EPOCH 2010.00

VERT. DATUM: NAVD88

Ia. Regional Coordinate System Zone 10

Point Name	Northing	Easting	Elevation	Feature	Description
100	7949968.31	20345761.88	926.00	CP	SET REBAR 6" DEEP
107	7950260.03	20343221.00	914.01	CP	SET REBAR 6" DEEP
108	7950254.63	20343814.83	927.39	CP	SET REBAR 6" DEEP
109	7950255.55	20344413.16	930.13	CP	SET REBAR 6" DEEP
110	7950243.09	20345022.56	921.90	CP	SET REBAR 6" DEEP
111	7950198.72	20345631.24	921.17	CP	SET REBAR 6" DEEP
112	7950186.16	20346265.49	920.04	CP	SET REBAR 6" DEEP
113	7950246.16	20346899.15	919.29	CP	SET REBAR 6" DEEP
114	7950266.97	20347498.27	914.40	CP	SET REBAR 6" DEEP
115	7950261.64	20348049.69	896.03	CP	SET REBAR 6" DEEP
116	7950255.92	20348671.57	888.64	CP	SET REBAR 6" DEEP
117	7950256.84	20349278.49	875.99	CP	SET REBAR 6" DEEP
500	7950287.50	20343136.05	939.18	BM	FD DOT BRASS BUTTON SE ABUT. HANDRAIL
501	7950287.77	20343137.89	936.72	BM	FD IHC BM ON SE ABUTMENT
502	7950254.70	20343221.96	915.17	BM	CUT X ON ROW RAIL
503	7950250.01	20343677.38	928.43	BM	CUT X ON ROW RAIL
505	7950189.86	20345681.01	923.10	BM	SET MAG NAIL SE SIDE LUM BASE
506	7950190.42	20345940.17	922.41	BM	SET MAG NAIL S SIDE LUM BASE
507	7950197.02	20346200.75	922.30	BM	SET CUT X SIDE LUM BASE
508	7950242.70	20346899.36	920.63	BM	CUT X ON ROW RAIL
509	7950250.87	20348133.47	895.99	BM	CUT X ON ROW RAIL
510	7950328.09	20349337.85	879.49	BM	FD IHC BM ON INLET HEADWALL
511	7950505.78	20343114.19	936.74	BM	FD USGS MONUMENT

SUPERELEVATION DATA

See PV-300 Series

Road Identification	Circular Curve or Spiral Curve Name	Radius FT	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 FT	x FT														
Ramp E	RPE_3	1330	6.0	186	62	PV-303	2179+03.56		2179+40.76	2179+96.56						2179+34.56	2179+34.56		60 mph. A-A at 3% x-slope
Ramp E	RPE_6	1530	4.0	96	48	PV-303		2181+71.24	2180+70.44	2180+27.24						2180+75.24	2180+75.24		40 mph
							2185+38.13		2182+38.44	2182+67.24						2182+67.24	2182+67.24		40 mph
Ramp G	RPG_3	1330	6.0	186	62	PV-303	3178+65.85		2184+90.13	2184+61.33						2184+61.33	2184+61.33		40 mph
Ramp G	RPG_6	485	6.0	144	48	PV-303		3185+11.78	3184+10.98	3183+67.78						3178+96.85	3178+96.85		60 mph. A-A at 3% x-slope
							3190+11.21	3189+63.21	3188+62.41	3188+19.21						3184+15.78	3184+15.78		40 mph
Ramp F	RPF_3	1530	4.0	96	48	PV-303	4202+69.21		3186+12.57	3186+55.77						3186+07.77	3186+07.77		40 mph
Ramp F	RPF_6	2000	5.4	168	62	PV-303	4207+63.66	4207+15.66	4206+48.46	4206+19.66						3188+67.21	3188+67.21		40 mph
							4210+02.38		4202+88.41	4203+17.21						4206+19.66	4206+19.66		40 mph
Ramp H	RPH_3	1000	5.0	120	48	PV-303	3197+16.15	3197+64.15	3198+48.15	3198+84.15						4210+64.82	4210+64.82		60 mph
							3202+82.37	3202+34.37	3201+50.37	3201+14.37						3198+60.15	3198+60.15		40 mph
																3201+38.37	3201+38.37		40 mph

ALIGNMENT COORDINATES

Name	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates	
			Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)
Ramp E	Point RPE1	2166+00.00	7950349.46	20343335.57															
	Curve RPE_3						2179+40.76	7950260.14	20344673.34	2180+05.65	7950255.82	20344738.09	2180+70.44	7950245.22	20344802.11				
	Curve RPE_6						2182+38.44	7950217.76	20344967.85	2183+64.57	7950197.14	20345092.29	2184+90.13	7950197.19	20345218.42				
	Point RPE8	2203+21.42	7950197.80	20347049.71															
Ramp F	Point RPF1	4186+00.00	7950135.73	20345355.26															
	Curve RPF_3						4202+88.41	7950136.30	20347043.68	4204+69.28	7950136.36	20347224.54	4206+48.47	7950178.59	20347400.40				
	Curve RPF_6						4210+57.98	7950274.20	20347798.60	4212+94.59	7950329.45	20348028.66	4215+29.00	7950329.48	20348265.26				
	Point RPF8	4225+29.00	7950329.64	20349265.26															
Ramp G	Point RPG1	3176+00.00	7950286.14	20344330.69															
	Curve RPG_3						3179+03.05	7950245.88	20344631.06	3181+60.15	7950211.72	20344885.87	3184+10.98	7950085.07	20345109.60				
	Curve RPG_6						3186+12.57	7949985.75	20345285.04	3187+40.33	7949922.81	20345396.22	3188+62.41	7949922.81	20345523.98				
	Point RPG8	3195+68.72	7949922.81	20346230.28															
Ramp H	Point RPH1	3194+00.00	7949922.81	20346061.57															
	Curve RPH_3						3198+48.15	7949922.81	20346509.72	3200+00.42	7949922.81	20346661.99	3201+50.37	7949968.13	20346807.36				
	Point RPH5	3212+13.31	7950284.50	20347822.12															
ML I-80	SURML080																		
	Curve SURML080_1						158+38.61	7950416.39	20342574.74	163+90.41	7950389.93	20343125.90	169+42.00	7950390.01	20343677.70				
	Point SURML0803	253+26.72	7950391.34	20352062.42															

NO ACCESS RIGHTS ARE TO BE ACQUIRED ON THIS PROJECT.

ACCESS CONTROL PREVIOUSLY ACQUIRED.

HARTFORD TWP.
T-80N R-12W
SEC. 34

Sta. 164+99.7
30"x135' RCP
D.A.=5.0 A-R
(Remove Apron
and Extend)

Sta. 164+99.76 EBL
Install 30"x14' RCP Extension
F.L. = Lt. U.A.C.
Rt. 912.60

170

ROBERT C & PATRICIA L SEYE

SW 1/4 NW 1/4
SEC. 34

175

STATE OF IOWA

I-80

I-80

Ramp E

169+41.61
±140'±EX. R/W Cor

176+61
±155'

NW 1/4 SW 1/4
SEC. 34

II

ROBERT C & PATRICIA L SEYE

Right of Way Design Information
THIS SHEET INCLUDED
FOR INFORMATION ONLY

ROW Team: Larson / Hughes
ROW #: IMN-080-6(486)208--0E-48
Plan Date: 9-21-2021

Color Legend:
 Property Lines
 Temporary Easement
 Permanent Acquisition



HARTFORD TWP.
T-80N R-12W
SEC. 34

Sta. 185+27.7
SKEW 25 RT AH
42"x320' RCP
D.A.=32.0 A-R
(Rt. Remove 44' RCP)
Remove and Reinstall Apron
F.L. = Rt. 913.91

Sta. 180+98.7 EBL
24"x82.5' RCP
D.A.=32.0 A-R
(Rt. Remove 6' RCP)
Remove and Reinstall Apron
F.L. = Rt. 921.50

Sta 186+32.12,
139.55' RT
18" Conc Pipe
(Remove)

Sta. 2182+82.02
Install 24"x64' RCP
F.L. = Lt. 916.00
Rt. 916.34

Sta. 2185+80.00
Install Twin 24"EQx96'
Low Clearance RCP
F.L. = Lt. 914.00
Rt. 914.50

Sta. 3182+70.00
Install 24"x70' RCP
F.L. = Lt. 916.53
Rt. 917.11




Sta. 3187+54.00
Install 36"x70' RCP
F.L. = Lt. 915.52
Rt. 916.42

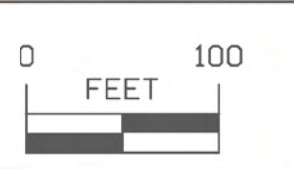
ROBERT C & PATRICIA L SEYE

ZUBER FAMILY
FARMS LLC

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STATE OF IOWA

HARTFORD TWP.
T-80N R-12W
SEC. 34

Sta. 194+39.51,
142.83' RT
15" RCP
(Remove)

Sta. 194+38.7
24"x137' RCP
D.A.=4.0 A-R
(Remove Apron
and Extend)

Sta. 194+38.67
Install 24"x14' RCP Extension
F.L. = Lt. U.A.C.
Other 914.26
Rt. 914.35

Sta. 199+92.10 EBL
Install 30" Apron
F.L. = Lt. U.A.C.
Rt. 909.61

Sta. 199+92.1
SKEW 10 LT AH
30"x240' RCP
D.A.=8.0 A-R
(Rt. Remove 44' RCP)
Remove and Reinstall Apron
F.L. = Rt. 909.61

Sta. 200+08.42,
124.10' RT
24" RCP
(Remove)

Sta. 200+33.28,
94.80' RT
18" RCP
(Remove)

SW 1/4 NE 1/4
SEC. 34

SE 1/4 NE 1/4
SEC. 34

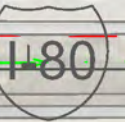
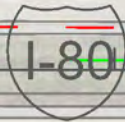
190

195

200

205

GARY LYNN WIEDEMEIER



2195

2200

4205

Remove Existing Pipe
Remove Existing Intake

Remove Intakes
Remove Pipe

Sta. 4200+17.81
Skew 17° Rt. Ahead
Install 30"x252' RCP
F.L. = Lt. 909.80
Rt. 911.40

Ramp F

Ramp H

STATE OF IOWA

NE 1/4 SE 1/4
SEC. 34

Sta. 3201+68.00
Install 30"x74' RCP
F.L. = Lt. 911.50
Rt. 913.50

Sta. 4200+17.81
Skew 17° Rt. Ahead
Install 30"x252' RCP
F.L. = Lt. 909.80
Rt. 911.40

190+12±R
Q558'

198+64
Q558'

2

ZUBER FAMILY FARMS LLC



Right of Way Design Information

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ROW #: IMN-080-6(486)208--0E-48
Plan Date: 9-21-2021

Color Legend:

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- Permanent Acquisition

HARTFORD TWP.
T-80N R-12W
SEC. 34

GARY LYNN WIEDEMEIER

SE 1/4 NE 1/4
SEC. 34

SW 1/4 NW 1/4
SEC. 35

Sta. 213+75.10
Skew 45° Lt. Ahead
Install 30"x34' RCP Extension
F.L. = Lt. U.A.C. 891.58
Rt. 892.38

Sta. 213+75.1
SKEW 45 LT AH
30"x242' RCP
D.A.=2.0 A-R
(Remove Apron
and Extend)

Sta. 219+44.4
24"x131' RCP
D.A.=0.5 A-R
(Remove Apron
and Extend)

Sta. 219+44.37
Install 24"x18' RCP Extension
F.L. = Lt. U.A.C. 881.37
Other 881.37
Rt. 881.58

Sta. 219+65.00 Rt.
Install Type M Dike
Top Elev = 883.08

Sta. 206+70.37
Install 24"x6' RCP Extension
F.L. = Lt. U.A.C. 909.04
Other 908.98
Rt. 909.04

Sta. 206+70.4
24"x142' RCP
D.A.=2.0 A-R
(Remove Apron
and Extend)

Sta. 206+90.00 Rt.
Install Type M Dike
Top Elev = 910.54

210

215

4210

4215

3210

4205

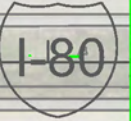
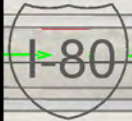
Sta. 4209+65.00
Install 24"x64' RCP
F.L. = Lt. 901.50
Rt. 900.21

2

ZUBER FAMILY FARMS LLC

NW 1/4 SW 1/4
SEC. 35

212+62
ϕ145'±EX. R/W



Ramp F

Ramp H

Right of Way Design Information
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Plan Date: 9-21-2021

- Color Legend:
- Property Lines
 - Temporary Easement
 - Permanent Acquisition



HARTFORD TWP.
T-80N R-12W
SEC. 35

Sta. 226+38.1
8'x4.25'x144' RCBC

Sta. 219+44.4
24"x131' RCP
D.A.=0.5 A-R
(Remove Apron
and Extend)

Sta. 219+44.37
Install 24"x18' RCP Extension
F.L. = Lt. U.A.C.
Other 881.37
Rt. 881.58

Sta. 219+65.00 Rt.
Install Type M Dike
Top Elev = 883.08

SW 1/4 NW 1/4
SEC. 35

GARY LYNN WIEDEMEIER

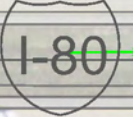
Sta. 226+38.5
SKEW 30 LT AH
8'x4'x144' RCB
D.A.=168 A-R
(Remove
Headwalls Rt)

Sta. 226+38.50
Install 8'x4'x25' RCB Extension
F.L. = Lt. U.A.C.
Other 873.36
Rt. 873.60

220

225

230



NW 1/4 SW 1/4
SEC. 35

2

ZUBER FAMILY FARMS LLC

Right of Way Design Information
THIS SHEET INCLUDED
FOR INFORMATION ONLY

ROW Team: Larson / Hughes
ROW #: IMN-080-6(486)208--0E-48
Plan Date: 9-21-2021

Color Legend:
Property Lines
Temporary Easement
Permanent Acquisition



Sta. 233+77.4
4'x4.2'x177' RCP

Sta. 235+96.7
24"x65' RCP
D.A.=MEDIAN A-R

HARTFORD TWP.
T-80N R-12W
SEC. 35

GARY LYNN WIEDEMEIER

SE 1/4 NW 1/4
SEC. 35

245

240

235

230

(2)

ZUBER FAMILY FARMS LLC

NE 1/4 SW 1/4
SEC. 35

Right of Way Design Information

**THIS SHEET INCLUDED
FOR INFORMATION ONLY**

ROW Team: Larson / Hughes
ROW #: IMN-080-6(486)208--0E-48
Plan Date: 9-21-2021

Color Legend:

-  Property Lines
-  Temporary Easement
-  Permanent Acquisition



TRAFFIC CONTROL PLAN

1. Two lanes of I-80 shall remain open to traffic at all time. Shoulder closures as necessary will be allowed during nighttime hours only, as follows:
 Sunday: 9 PM - 6 AM Monday
 Monday: 7 PM - 6 AM Tuesday
 Tuesday: 7 PM - 6 AM Wednesday
 Wednesday: 7 PM - 6 AM Thursday
 Thursday: 7 PM - 6 AM Friday
 Shoulder closures will not be allowed overnights on Fridays and Saturdays.
2. For construction in the outside shoulder area, shift traffic per details shown elsewhere in these plans.
3. Refer to staging plan for rest area closure information. The existing rest area is to remain open to traffic as much as possible. Notify DOT staff at least 2 weeks prior to expected closing date.

STAGING NOTES

- Stage 1: Traffic utilizes existing I-80 and existing rest area ramps. Rest area remains open to traffic.
 - Construct inside shoulder strengthening on I-80. Will require traffic shift to construct.
- Stage 2: Shift I-80 traffic onto inside shoulder. Existing rest area ramps and parking area remain open to traffic. Construct car parking areas and ramps outside of proposed tapers and existing pavement. Includes:
 - Deceleration taper
 - Ramp E: Sta. 2173-11.59 - Sta. 2185+00
 - Ramp F: Sta. 4202+50 - Sta. 4210+50
 - Ramps G / H: Sta. 3176+47 - Sta. 3211+45 (Entire lenth)
 - Acceleration taper and acceleration lane
- Stage 3: I-80 traffic remains shifted to inside shoulder. Rest area traffic limited to passenger vehicles (no trucks) and utilizes ramps and pavement constructed during Stage 2. Close existing rest area ramps and pavement.
 - Remove existing tapers, ramps, and parking area.
 - Construct truck parking area and truck inspection area.

**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
Violet	(15)	Temporary barrier rail, Unpinned
Flush Orange	(228)	Temporary barrier rail, Pinned

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)	Temporary Pavement Shading
Brown, Light	(236)	Proposed Grading Limits Shading
Pink, Dark	(13)	Proposed MSE or CIP Wall Shading
Red	(3)	Proposed Bridge Shading and Sign Trusses
Black w/Gray, Light Fill	(0,48)	Previously Constructed Structure

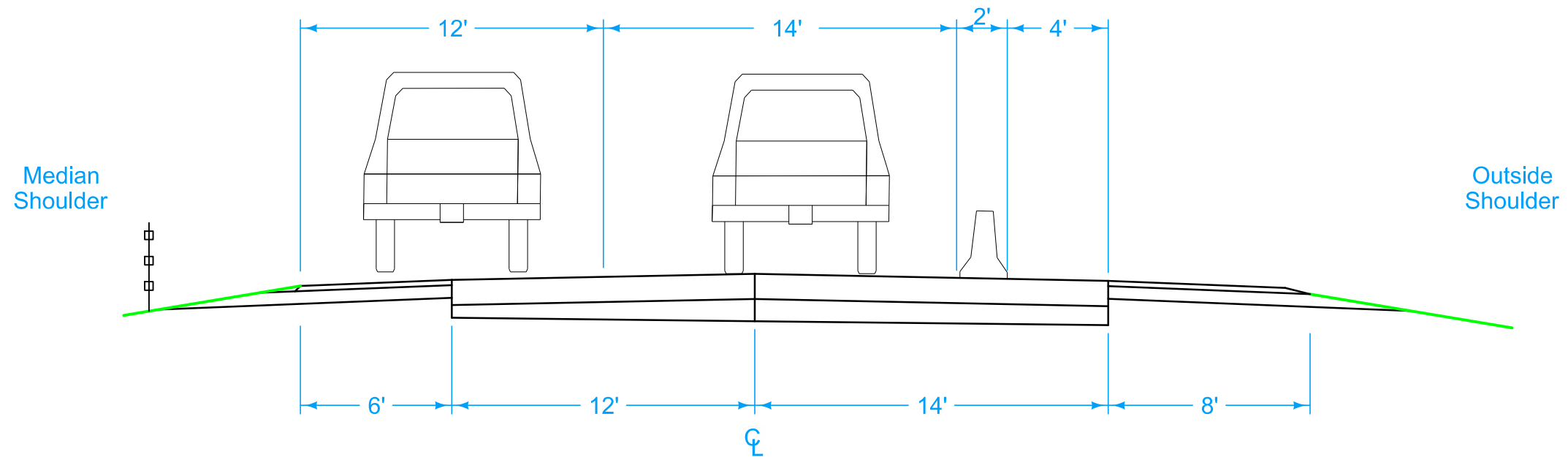
**PLAN VIEW PATTERN AND SYMBOL LEGEND
OF TRAFFIC CONTROL AND STAGING SHEETS**

	Channelizing Device		Crash Cushion (Temp or Perm)
	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
	Pavement Removal		Safety Closure
	Sand Barrel Layout		Lane Identification

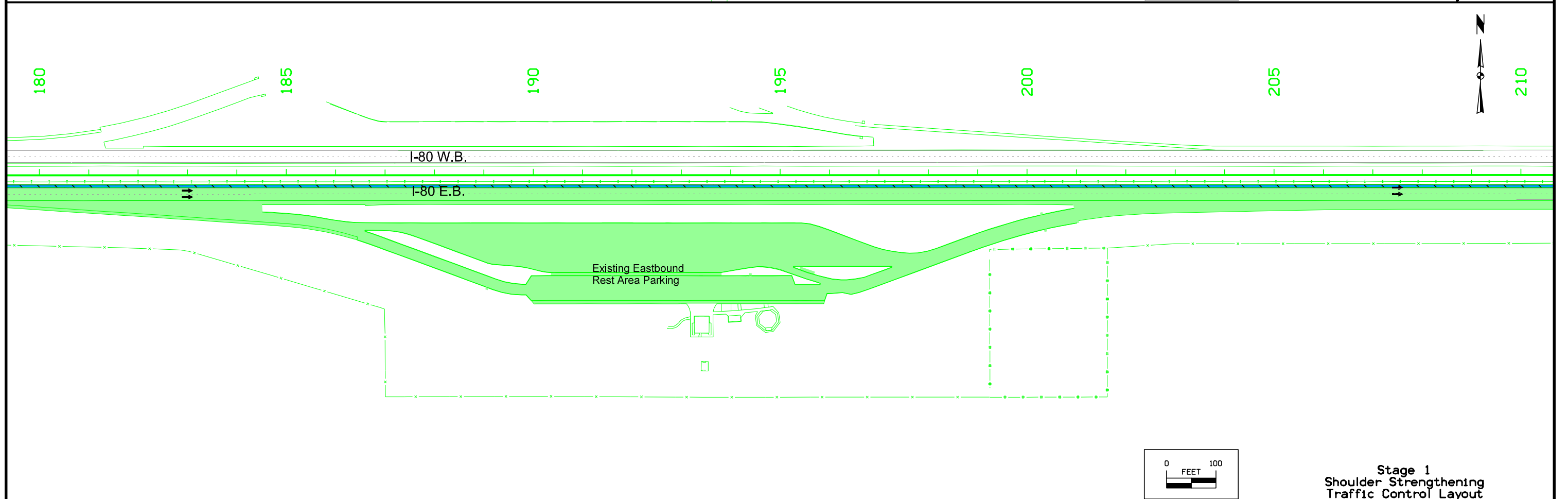
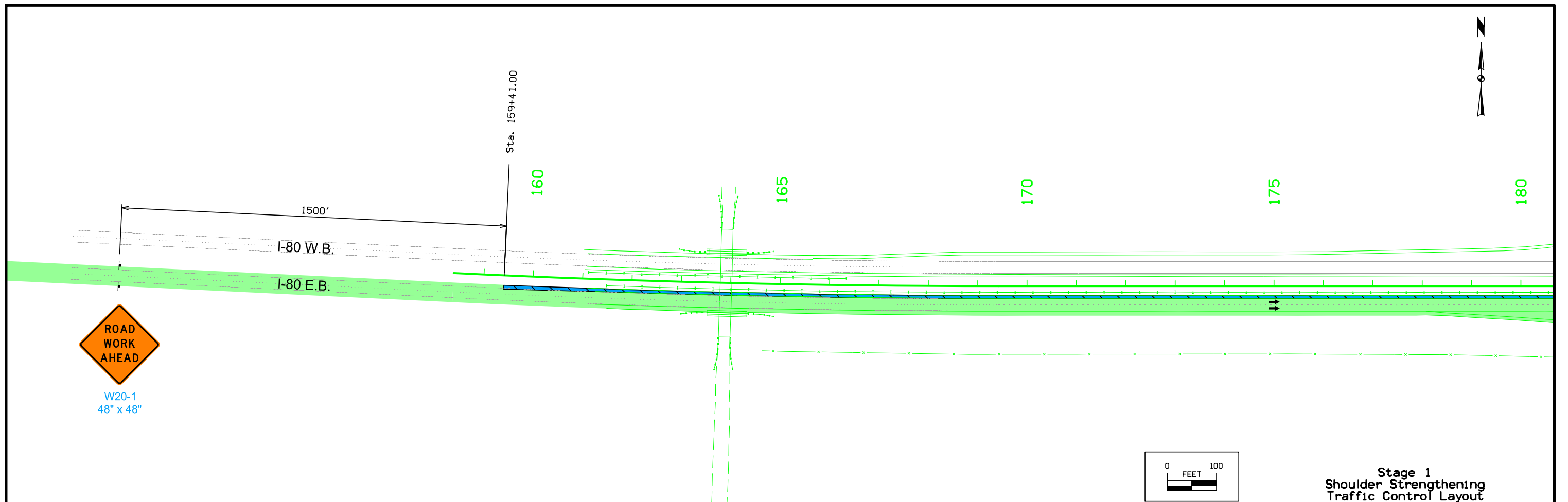
NOTE: Device spacing according to Standard Road Plans unless specifically dimensioned.

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

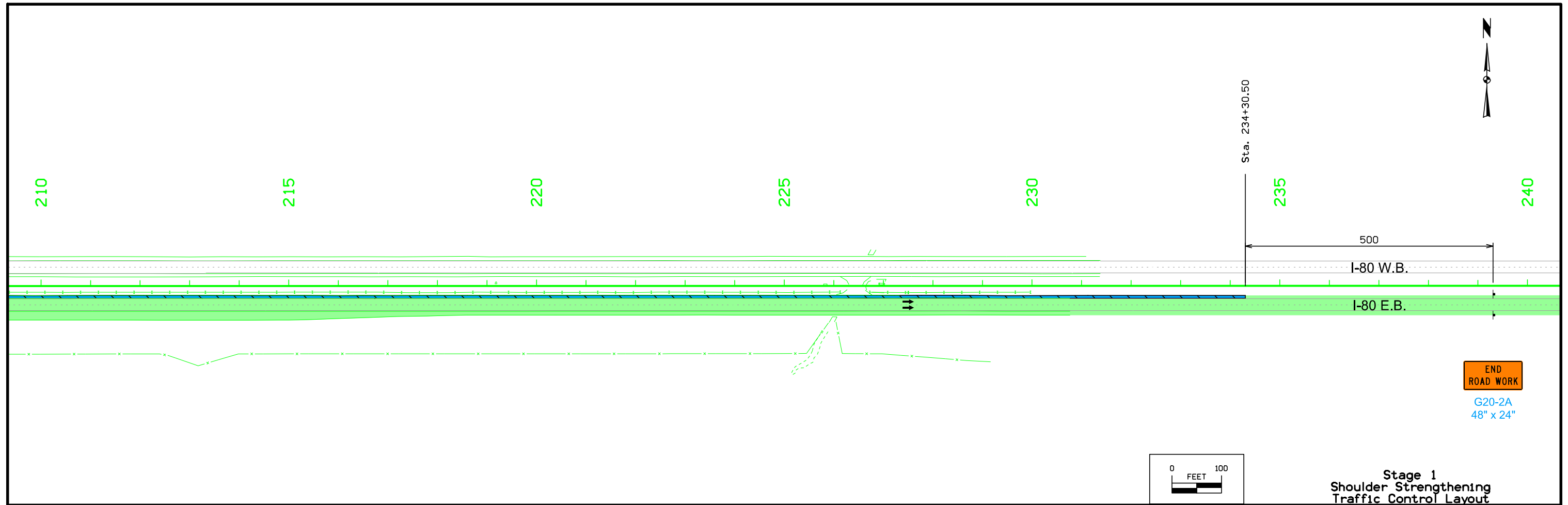
(COVERS SHEET SERIES J)

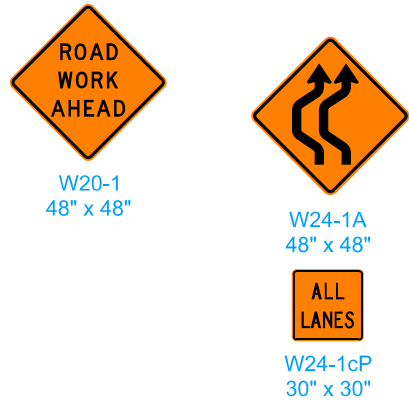
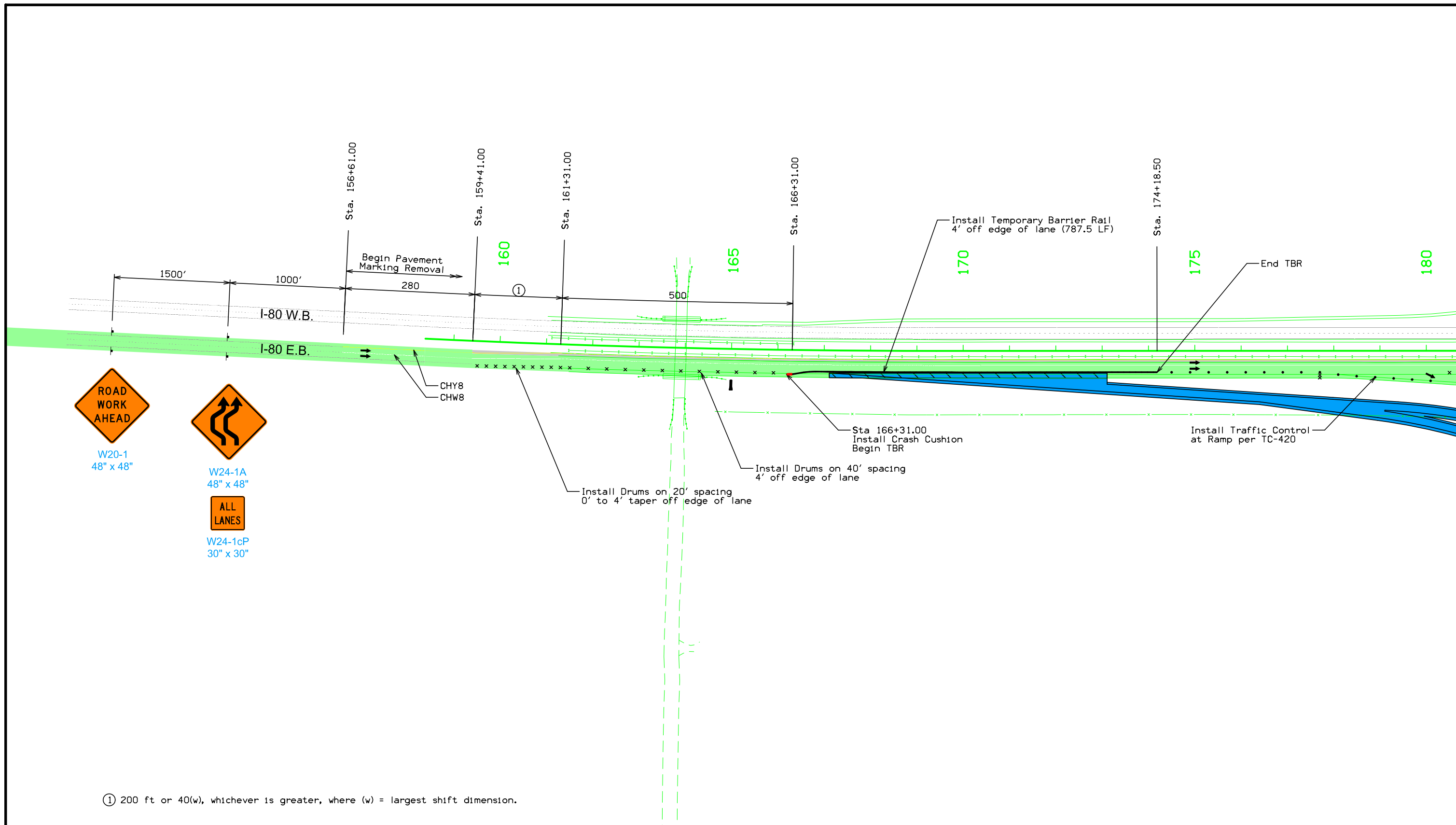


**INTERSTATE 80 E.B. IOWA COUNTY
Traffic Control Lane Shift**



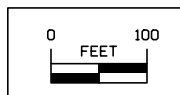
FILE NO.	ENGLISH	DESIGN TEAM	SNYDER AND ASSOCIATES, INC.	IOWA COUNTY	PROJECT NUMBER	IMN-080-6(483)208--0E-48	SHEET NUMBER	J.4
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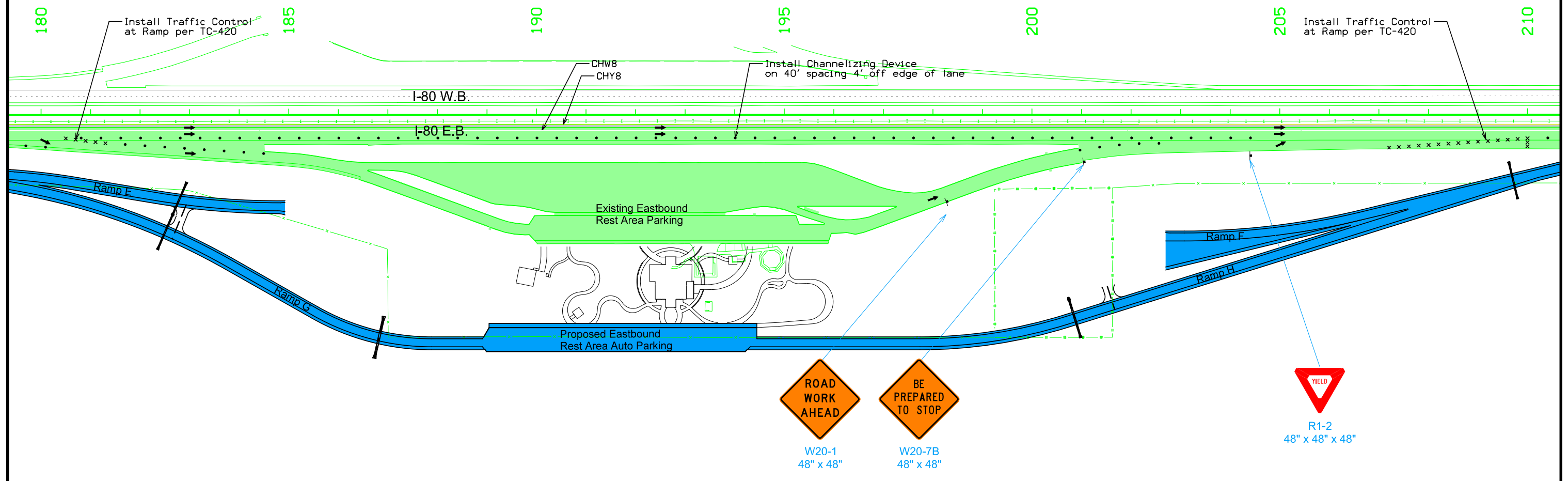


① 200 ft or 40(w), whichever is greater, where (w) = largest shift dimension.

- When a temporary lane shift is necessary:
1. Place solid white line (CHW8) between all lanes. Also place a yellow lane line (CHY8) on median side through this area.
 2. Install sign W24-1 1000 ft prior to shift on both shoulders.

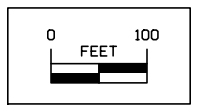


Stage 2
Traffic Control Layout
I-80 Lane Shift

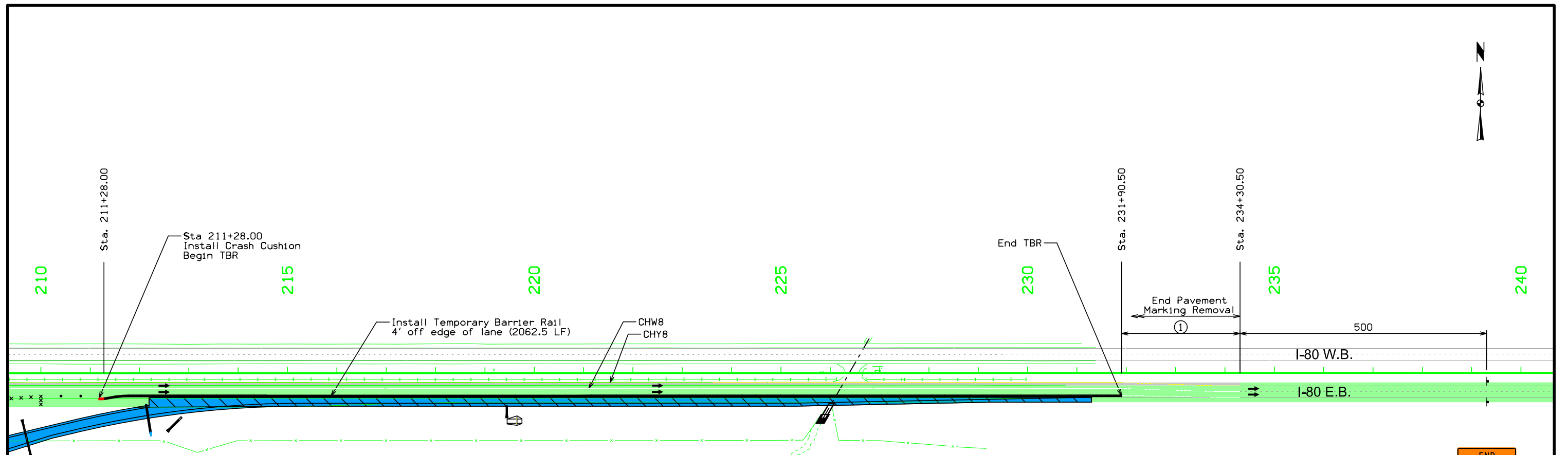


When a temporary lane shift is necessary:

1. Place solid white line (CHW8) between all lanes. Also place a yellow lane line (CHY8) on median side through this area.



Stage 2
Traffic Control Layout
I-80 Lane Shift



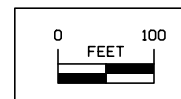
END ROAD WORK

G20-2A
48" x 24"

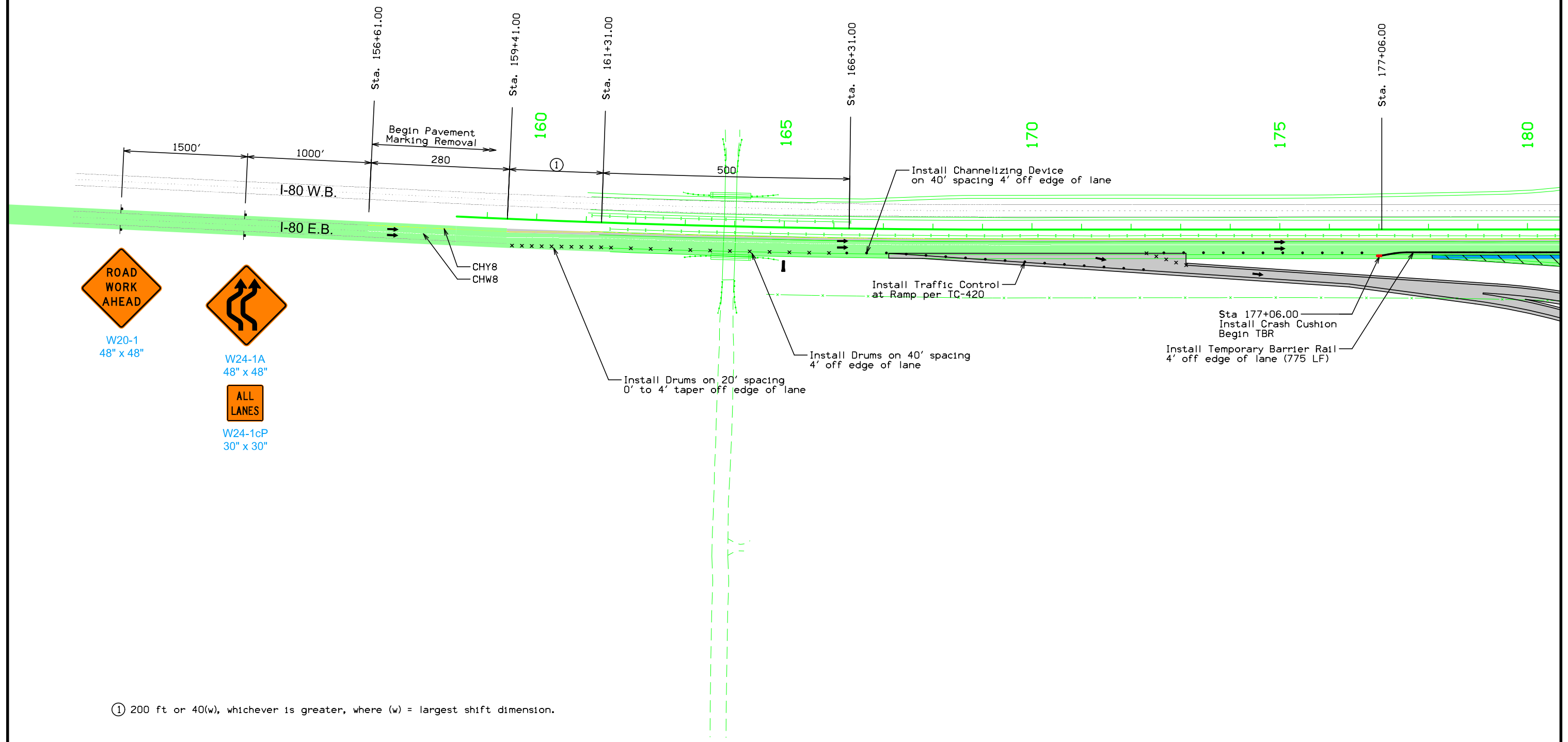
① 200 ft or 40(w), whichever is greater, where (w) = largest shift dimension.




When a temporary lane shift is necessary:

1. Place solid white line (CHW8) between all lanes. Also place a yellow lane line (CHY8) on median side through this area.



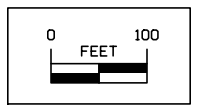
Stage 2
Traffic Control Layout
I-80 Lane Shift



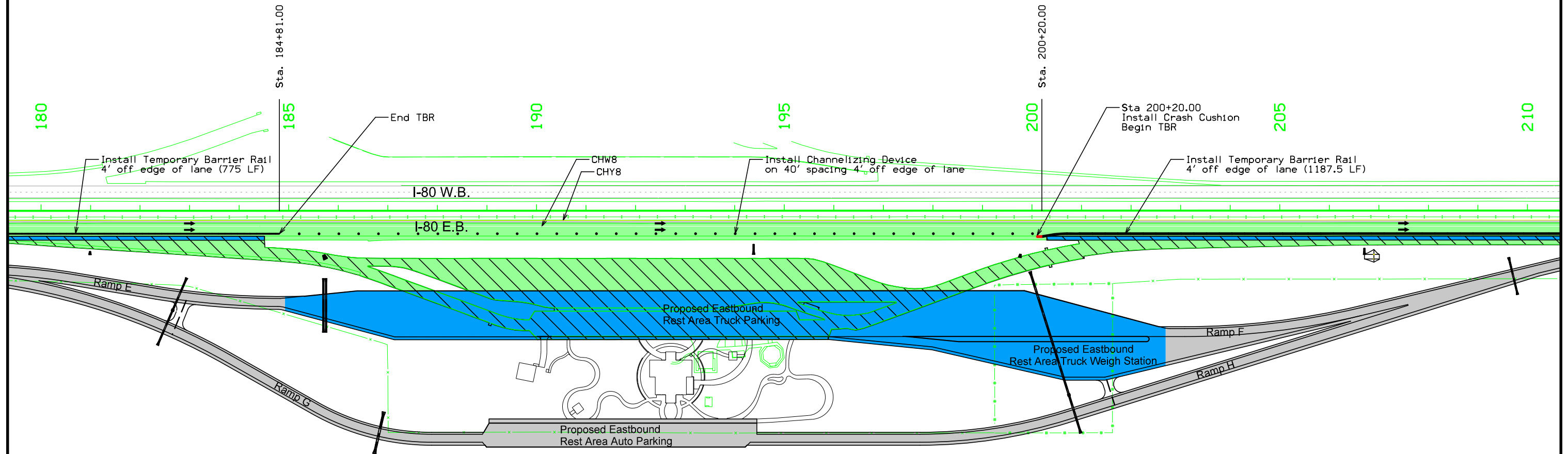
-  W20-1
48" x 48"
-  W24-1A
48" x 48"
-  ALL
LANES
- W24-1cP
30" x 30"

① 200 ft or 40(w), whichever is greater, where (w) = largest shift dimension.

- When a temporary lane shift is necessary:
1. Place solid white line (CHW8) between all lanes. Also place a yellow lane line (CHY8) on median side through this area.
 2. Install sign W24-1 1000 ft prior to shift on both shoulders.

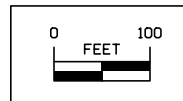


Stage 3
Traffic Control Layout
I-80 Lane Shift

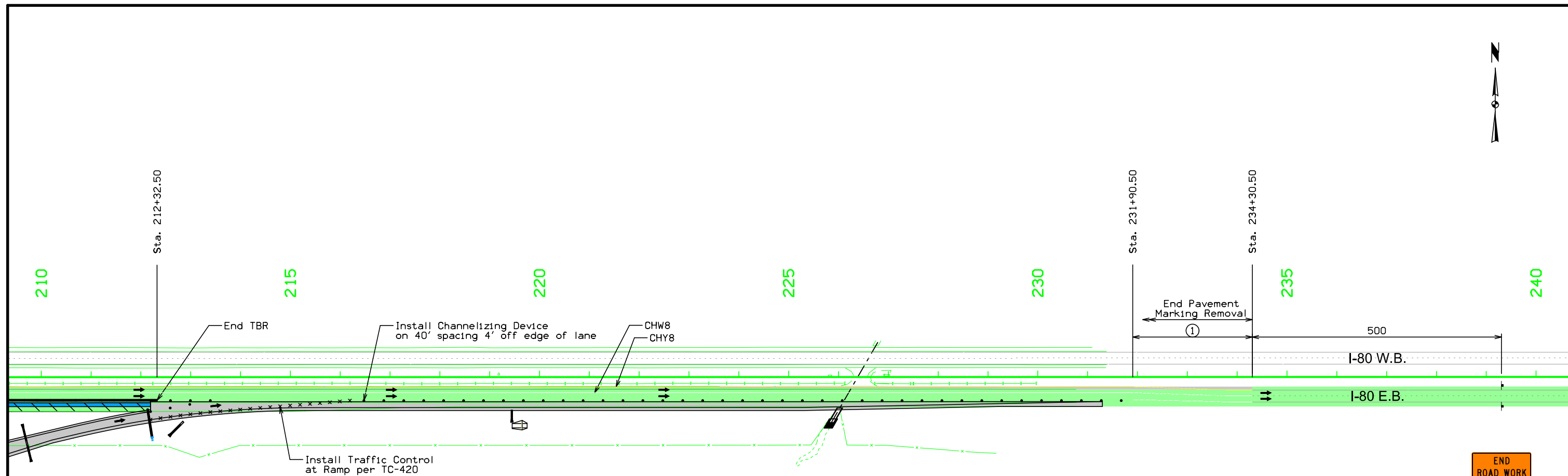


When a temporary lane shift is necessary:

1. Place solid white line (CHW8) between all lanes. Also place a yellow lane line (CHY8) on median side through this area.



Stage 3
Traffic Control Layout
I-80 Lane Shift



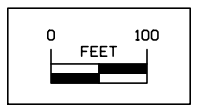
END ROAD WORK

G20-2A
48" x 24"

① 200 ft or 40(w), whichever is greater, where (w) = largest shift dimension.

When a temporary lane shift is necessary:

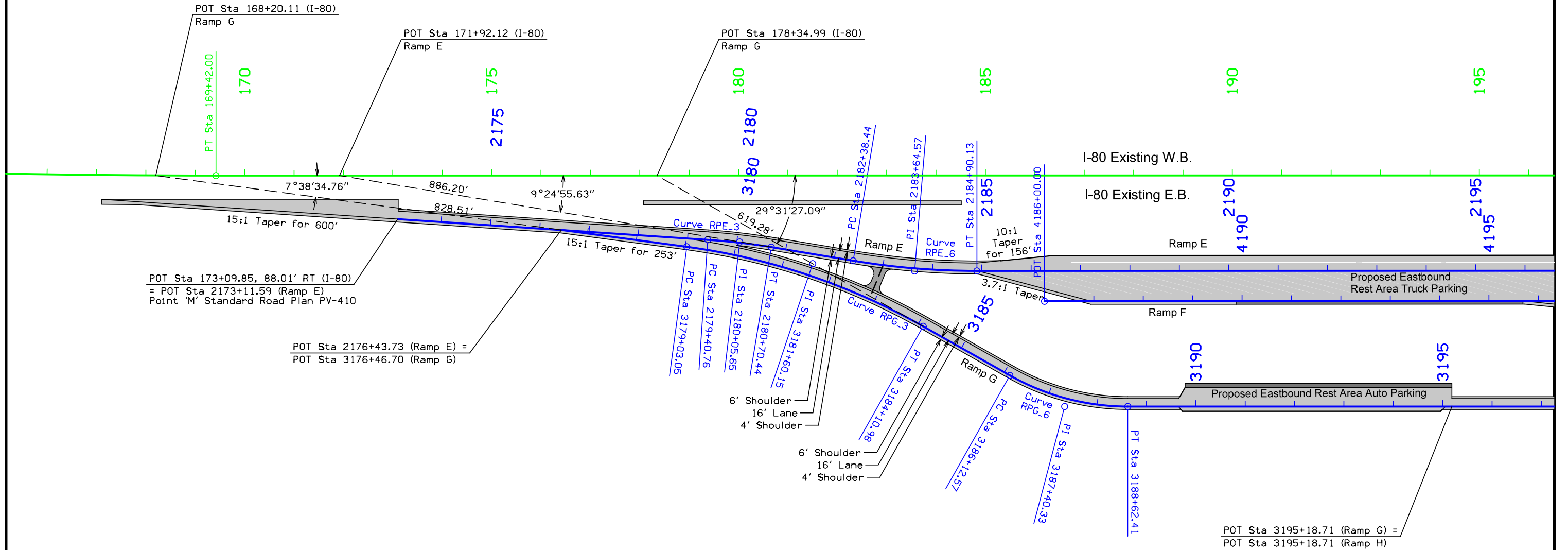
1. Place solid white line (CHW8) between all lanes. Also place a yellow lane line (CHY8) on median side through this area.



Stage 3
Traffic Control Layout
I-80 Lane Shift

Curve Data
 $\Delta = 2^\circ 45' 29.75''$ (LT)
 T = 551.80
 L = 1,103.39
 R = 22,920.00
 E = 6.64

HARTFORD TWP.
 T-80N R-12W
 SEC. 34

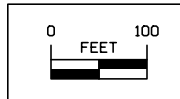


Curve RPE_3 Data
 $\Delta = 5^\circ 35' 11.53''$ (RT)
 T = 64.89
 L = 129.68
 R = 1,330.00
 E = 1.58
 e = 6.0%
 l = 55.8'
 x = 62'

Curve RPG_3 Data
 $\Delta = 21^\circ 52' 52.32''$ (RT)
 T = 257.10
 L = 507.93
 R = 1,330.00
 E = 24.62
 e = 6.0%
 l = 186'
 x = 62'

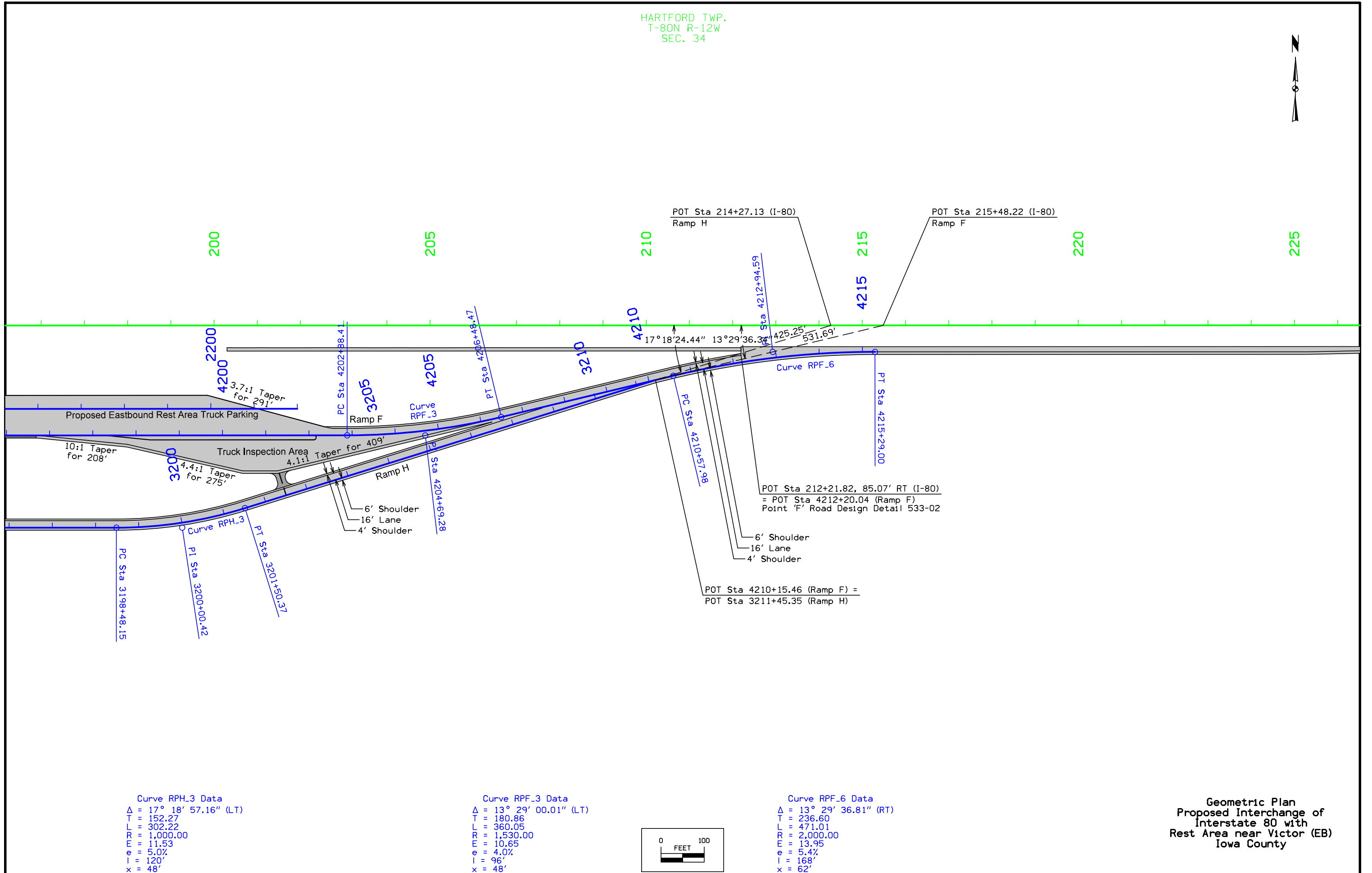
Curve RPE_6 Data
 $\Delta = 9^\circ 25' 31.96''$ (LT)
 T = 126.13
 L = 251.70
 R = 1,530.00
 E = 5.19
 e = 4.0%
 l = 28.8'
 x = 48'

Curve RPG_6 Data
 $\Delta = 29^\circ 30' 54.30''$ (LT)
 T = 127.76
 L = 249.84
 R = 485.00
 E = 16.54
 e = 6.0%
 l = 43.2'
 x = 48'



Geometric Plan
 Proposed Interchange of
 Interstate 80 with
 Rest Area near Victor (EB)
 Iowa County

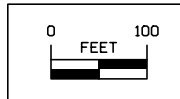
HARTFORD TWP.
T-80N R-12W
SEC. 34



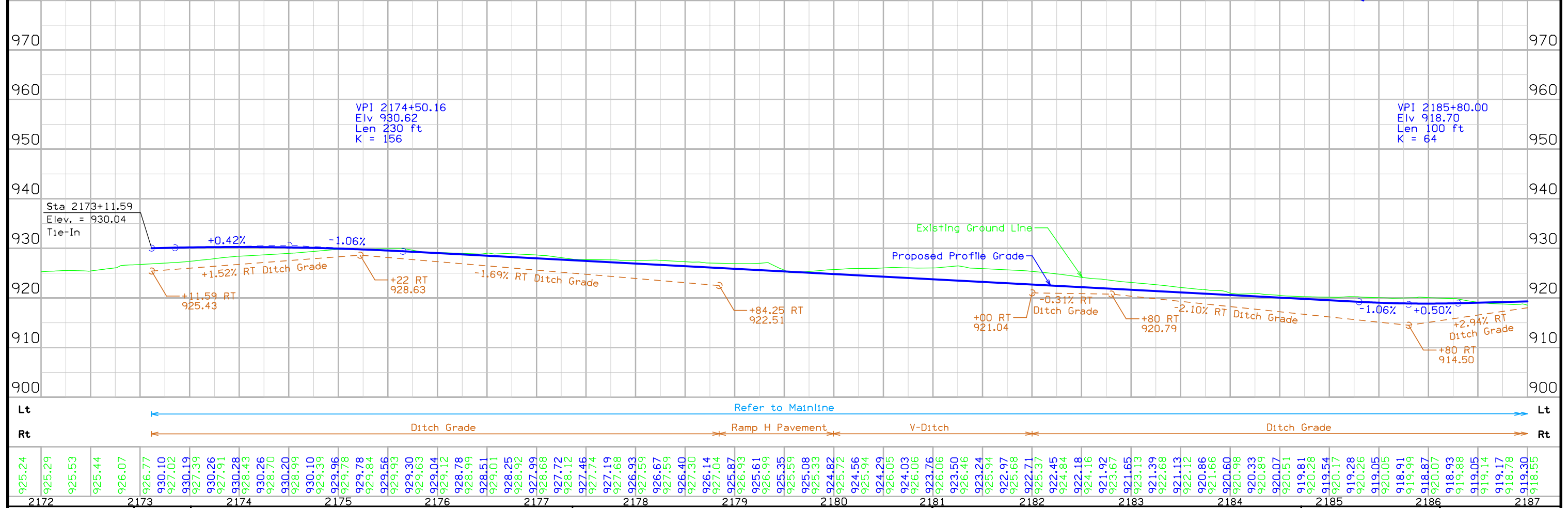
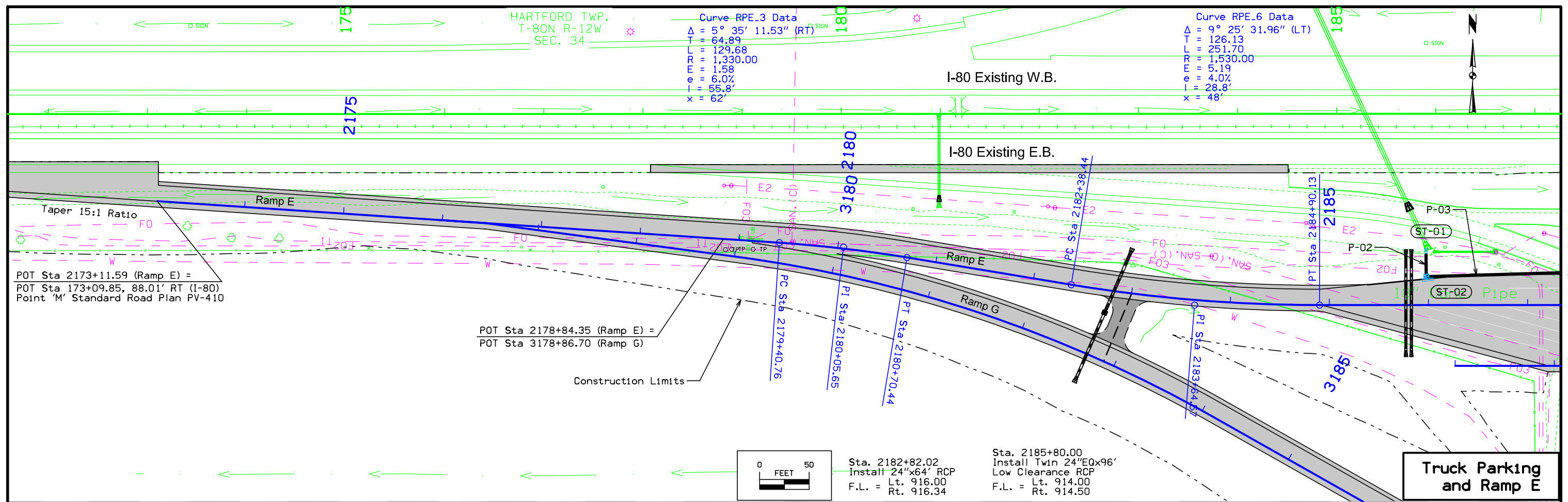
Curve RPH_3 Data
 $\Delta = 17^\circ 18' 57.16''$ (LT)
 $T = 152.27$
 $L = 302.22$
 $R = 1,000.00$
 $E = 11.53$
 $e = 5.0\%$
 $l = 120'$
 $x = 48'$

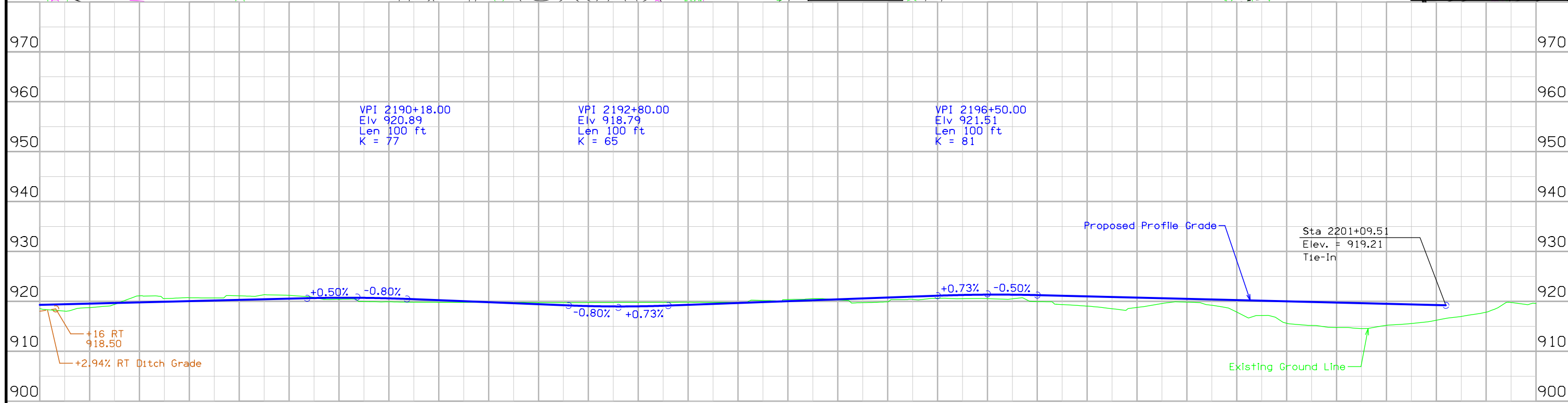
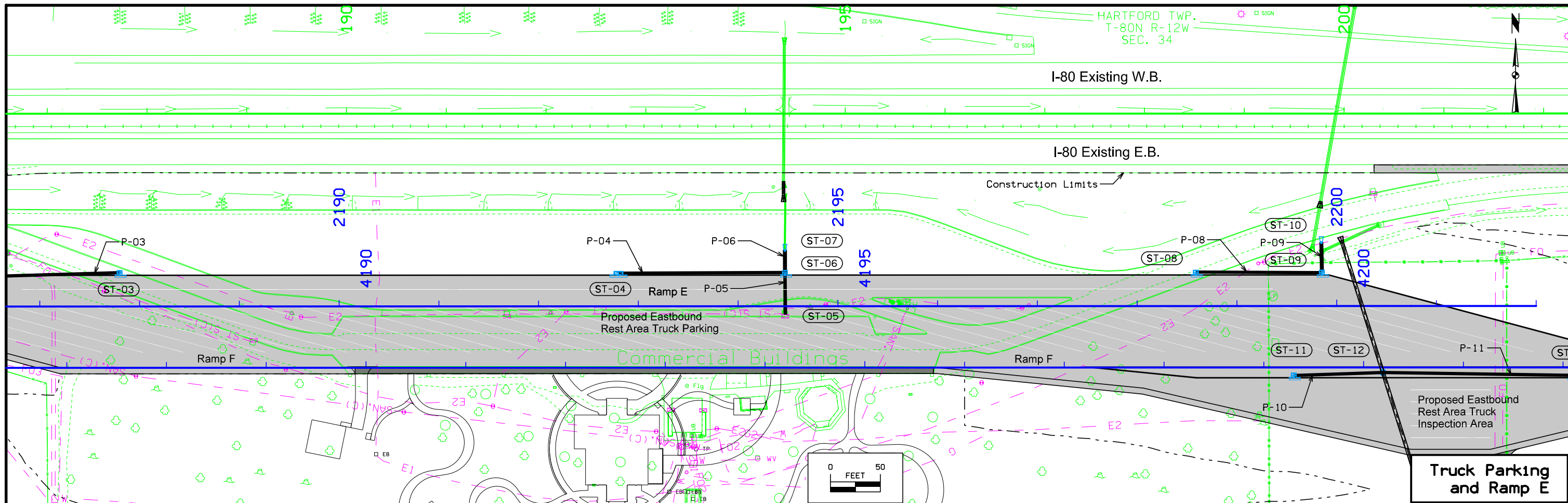
Curve RPF_3 Data
 $\Delta = 13^\circ 29' 00.01''$ (LT)
 $T = 180.86$
 $L = 360.05$
 $R = 1,530.00$
 $E = 10.65$
 $e = 4.0\%$
 $l = 96'$
 $x = 48'$

Curve RPF_6 Data
 $\Delta = 13^\circ 29' 36.81''$ (RT)
 $T = 236.60$
 $L = 471.01$
 $R = 2,000.00$
 $E = 13.95$
 $e = 5.4\%$
 $l = 168'$
 $x = 62'$

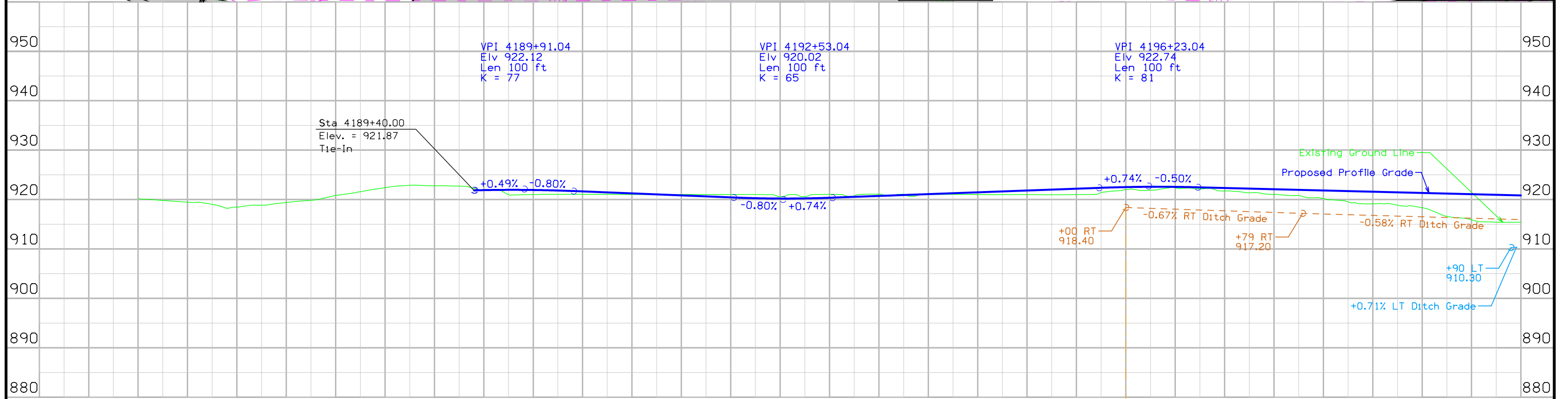
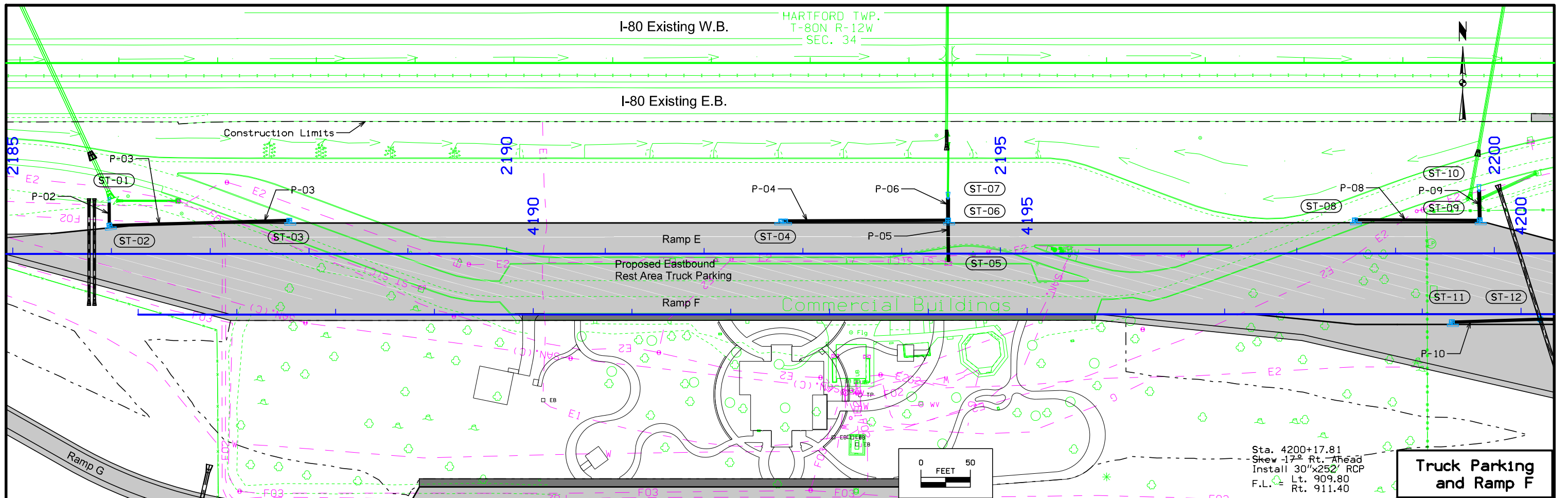


Geometric Plan
 Proposed Interchange of
 Interstate 80 with
 Rest Area near Victor (EB)
 Iowa County

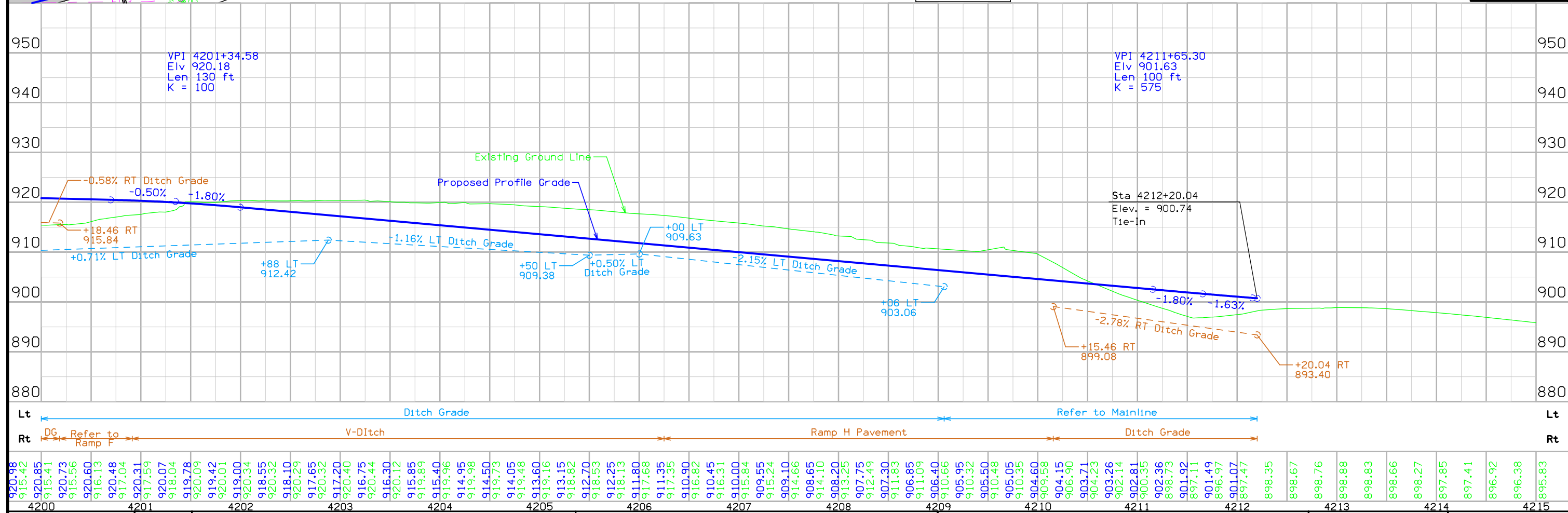
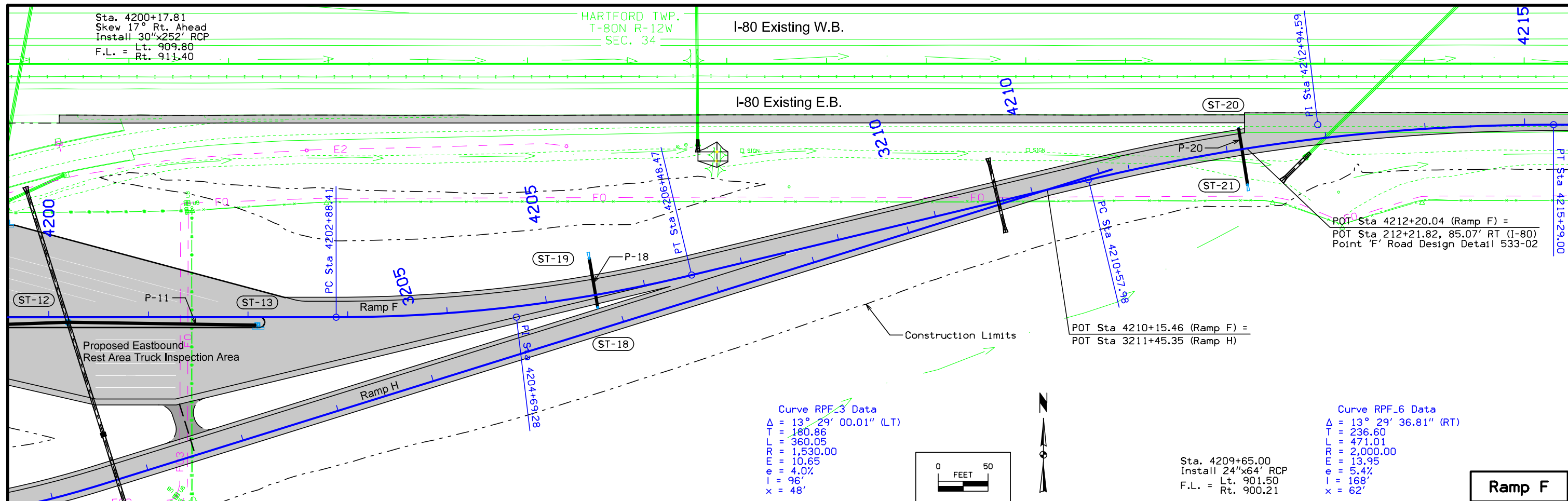


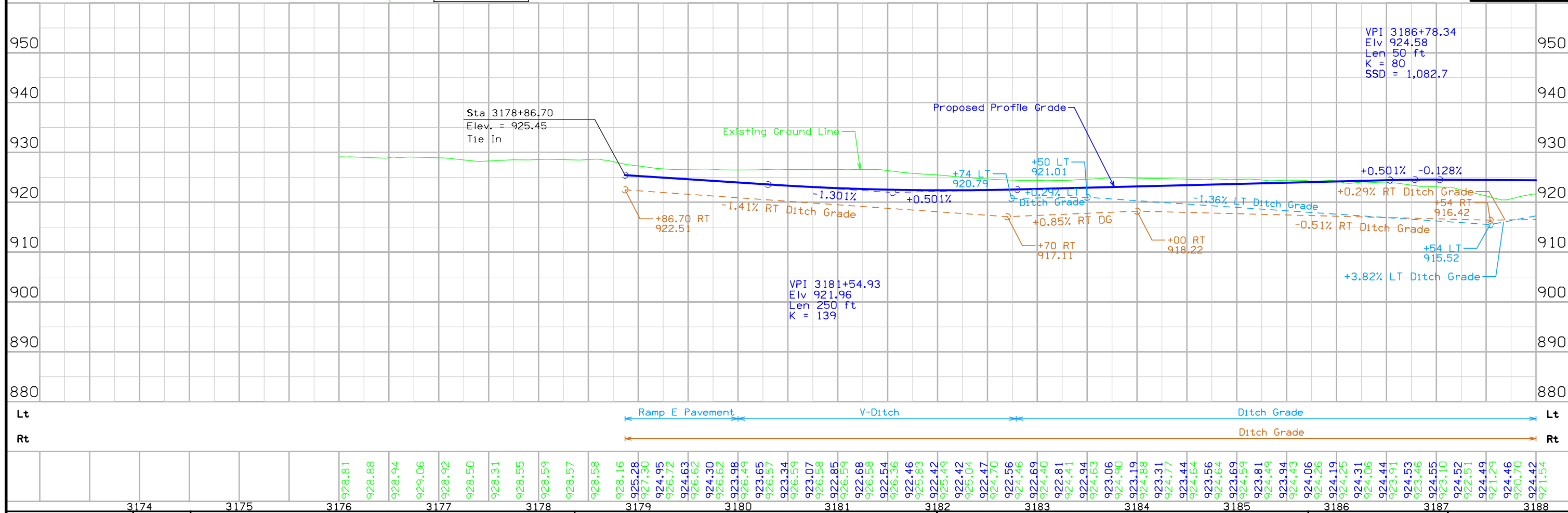
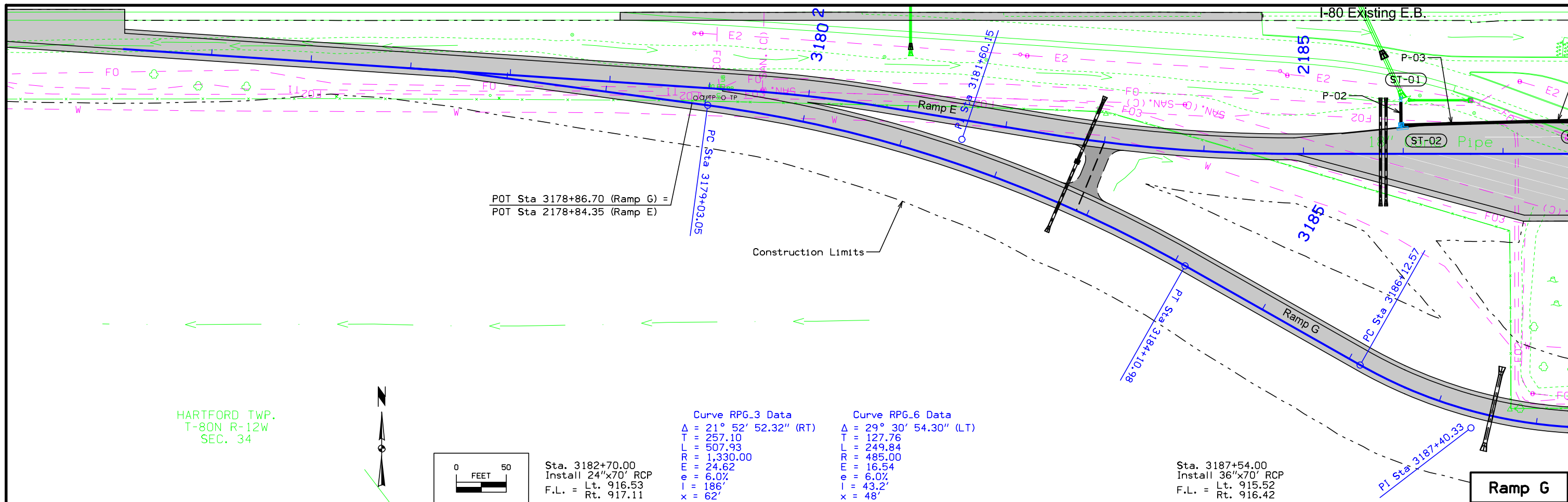


Lt	Refer to Mainline																				Lt																																																																																																	
Rt	Rest Area (By others)																				Rt																																																																																																	
919.17	918.78	919.30	918.55	919.42	918.05	919.55	918.75	919.67	919.39	919.80	921.11	919.92	920.56	920.05	920.74	920.17	920.70	920.30	921.12	920.42	921.34	920.55	921.20	920.67	920.78	920.73	920.42	920.71	920.61	919.91	919.91	919.83	919.83	920.23	919.82	920.03	919.81	919.83	919.81	919.63	919.79	919.43	919.77	919.23	919.74	919.06	919.77	918.99	919.79	919.01	919.81	919.12	919.31	919.82	919.49	919.81	919.67	919.78	919.86	920.19	920.04	920.37	920.22	920.55	920.41	920.32	920.59	920.77	919.90	920.96	920.42	921.14	920.62	921.29	920.55	921.35	920.55	921.34	920.50	921.26	919.96	921.13	919.36	921.01	919.05	920.88	918.52	920.76	918.78	920.63	919.58	919.86	920.51	920.38	919.21	920.26	917.86	920.13	917.18	920.01	915.63	919.88	915.18	919.76	914.76	919.63	914.55	919.51	915.19	919.38	915.57	919.26	916.22	916.98	917.84	919.78	919.59	919.44

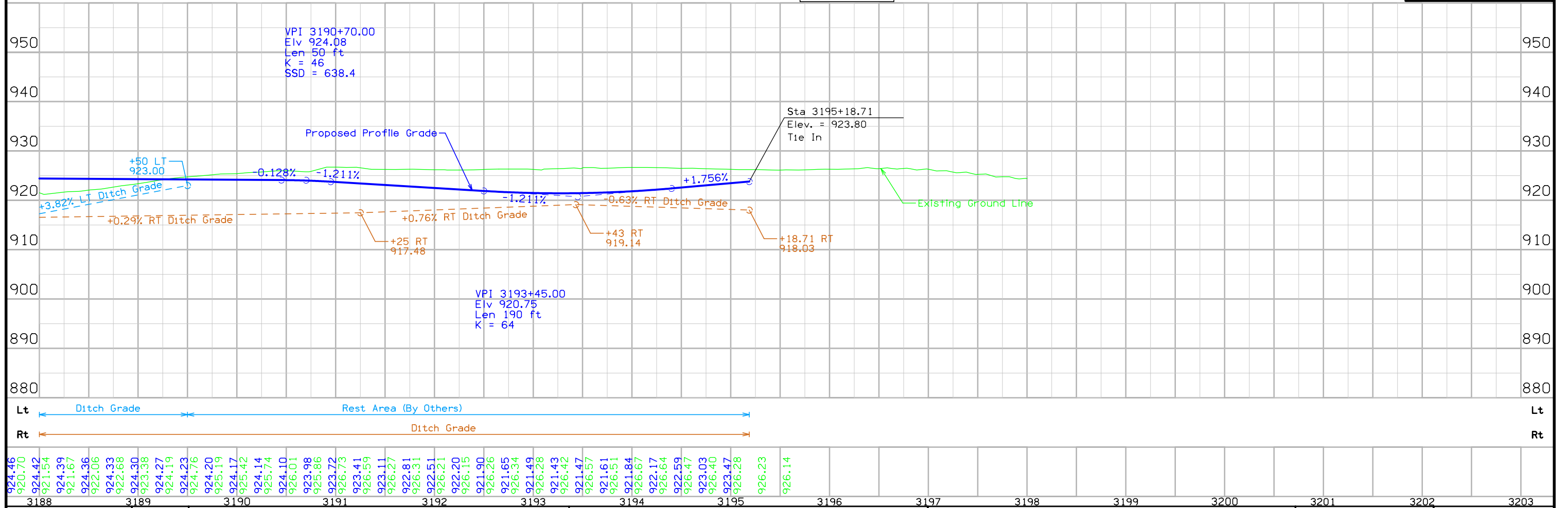
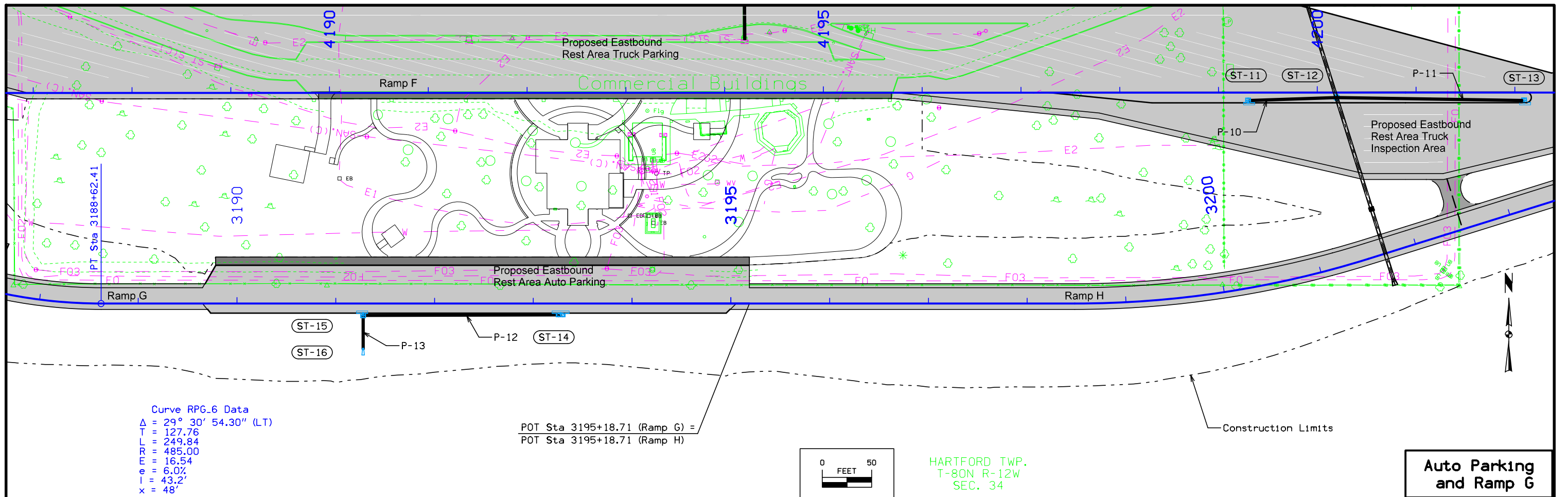


Lt	Refer to Mainline																				Lt																																																																										
Rt	Rest Area (By Others)															Ditch Grade					Rt																																																																										
4185	920.18	919.82	919.49	919.03	918.48	918.86	919.41	919.84	920.85	921.57	922.41	922.89	922.78	922.72	921.91	921.95	921.97	921.01	921.94	921.01	921.83	921.05	921.06	921.45	921.07	921.25	921.04	921.05	920.85	920.65	921.03	920.45	921.04	920.28	921.04	920.62	920.24	920.60	920.37	921.06	920.55	920.76	920.73	921.09	920.92	921.08	921.10	921.03	921.28	921.06	921.47	921.02	921.65	920.99	921.84	921.00	922.02	920.97	922.20	921.01	922.39	921.45	922.53	922.07	922.59	921.90	922.57	922.40	922.48	922.35	921.75	922.23	921.38	922.10	921.02	921.98	920.84	921.85	920.21	921.73	919.52	921.60	919.15	921.48	918.85	921.35	918.35	921.23	916.61	921.10	915.90	920.98	915.42	920.85	915.41

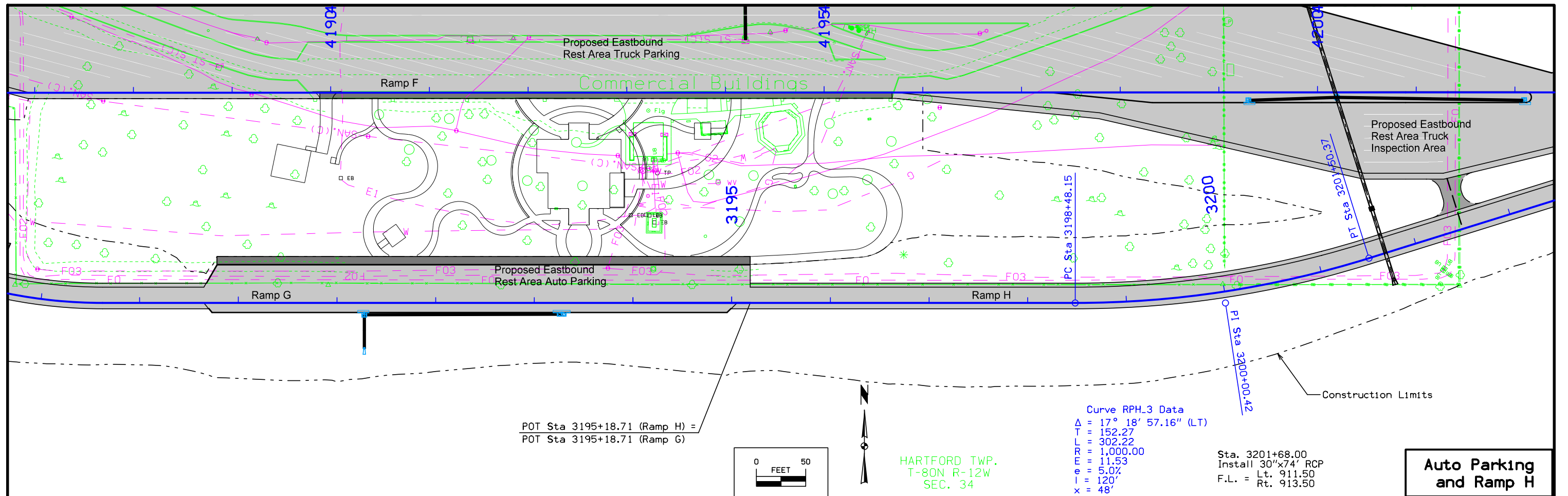




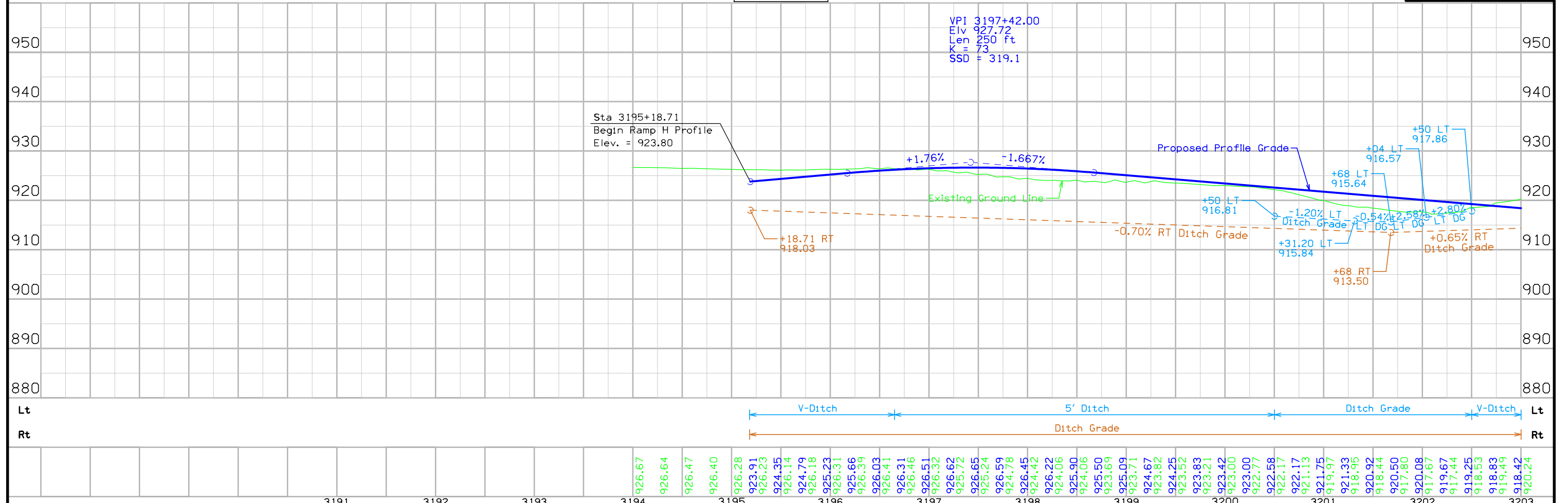
FILE NO.	ENGLISH	DESIGN TEAM	SNYDER AND ASSOCIATES, INC.	IOWA COUNTY	PROJECT NUMBER	IMN-080-6(483)208--0E-48	SHEET NUMBER	K.7
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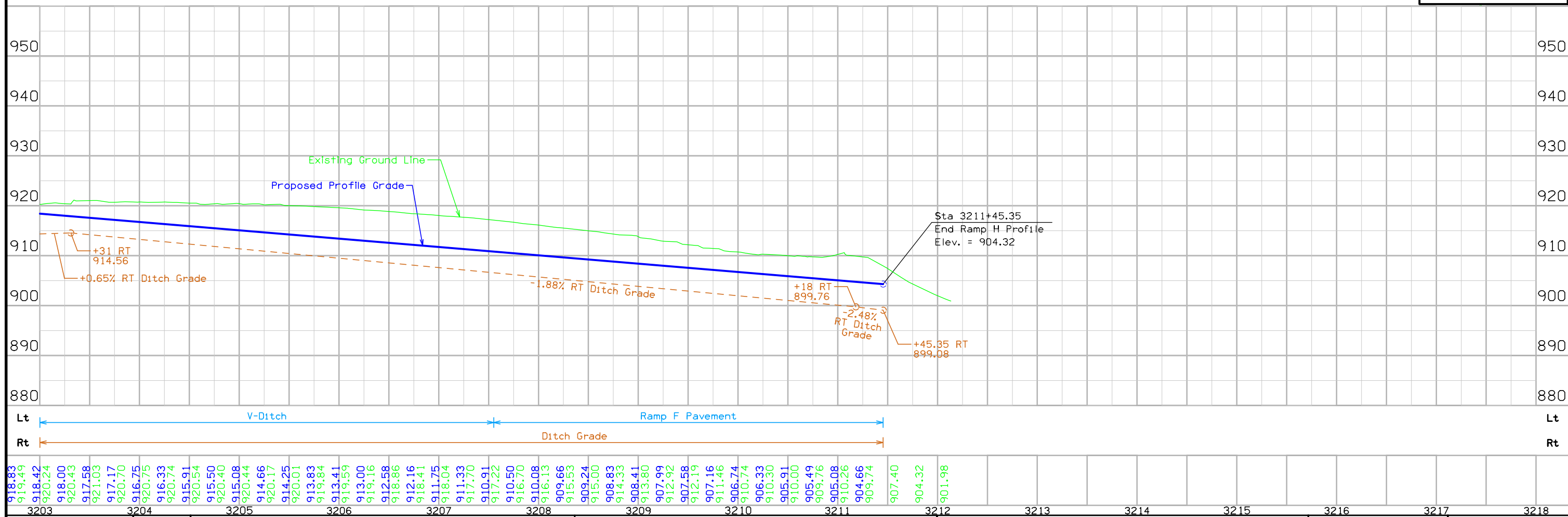
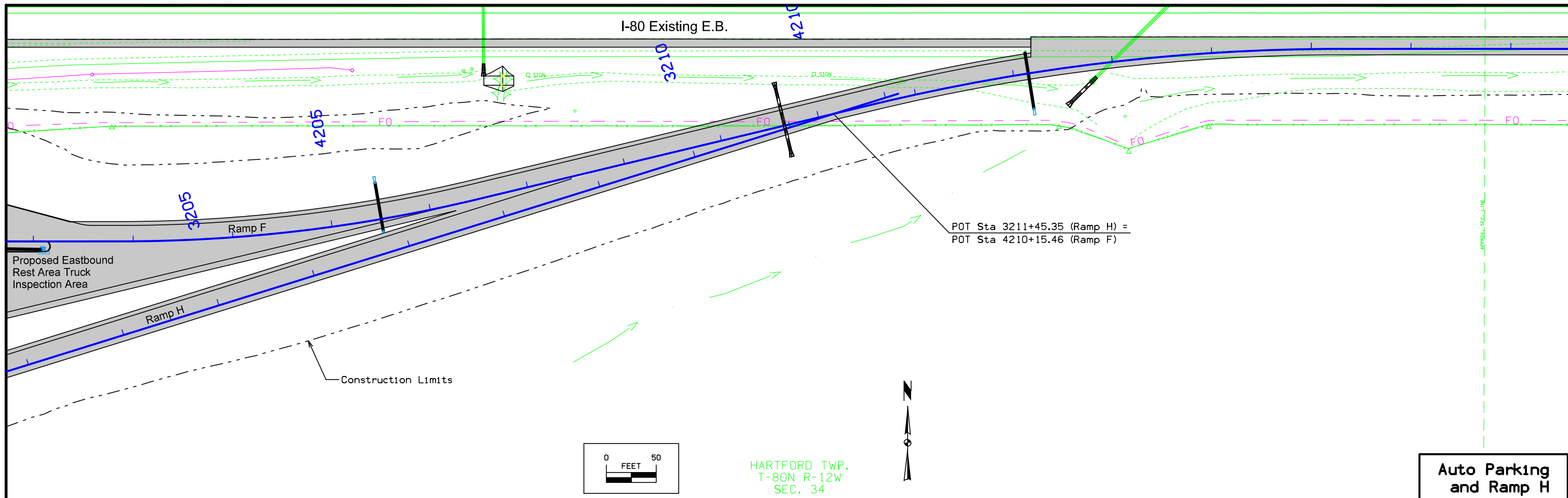


FILE NO.	ENGLISH	DESIGN TEAM	SNYDER AND ASSOCIATES, INC.	IOWA COUNTY	PROJECT NUMBER	IMN-080-6(483)208--0E-48	SHEET NUMBER	K.8
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**Auto Parking
and Ramp H**





① Diameter or equivalent diameter
* Bid Item
** For SW-545

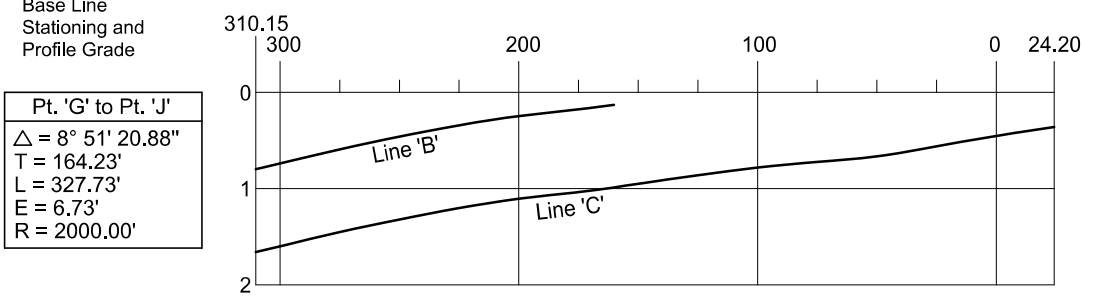
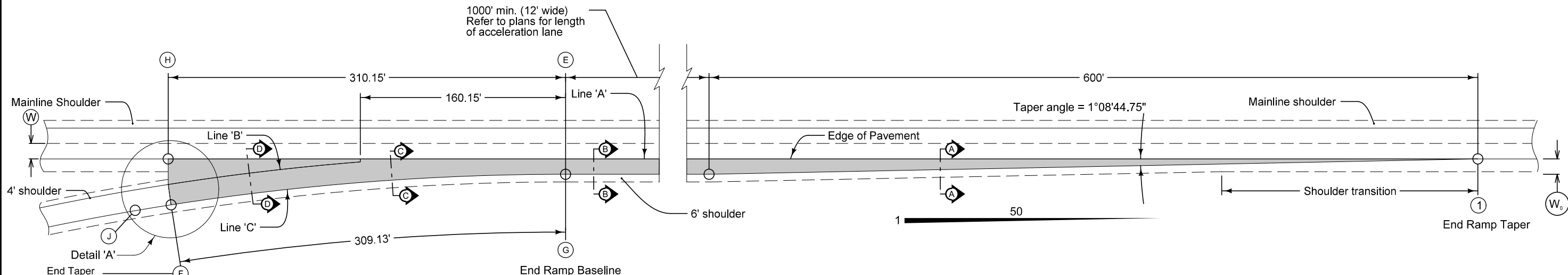
STORM SEWER

INTAKES AND UTILITY ACCESSES

PIPES

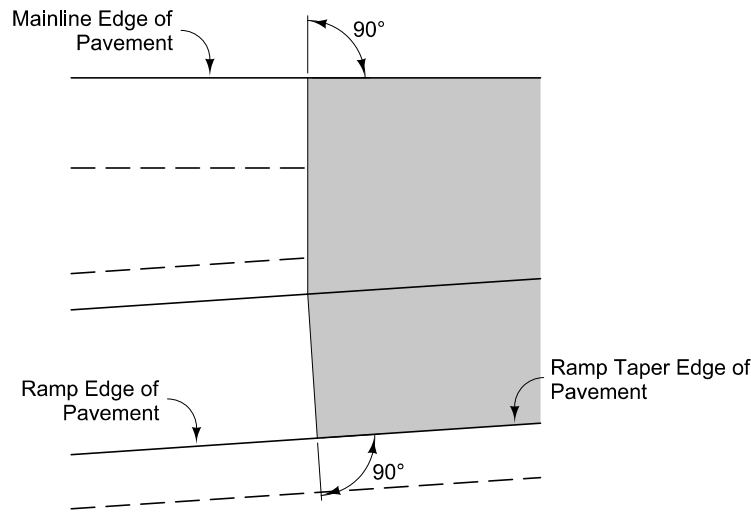
Design Length, Slope, and Flowlines are calculated from center to center of structures.

No.	Location Station and Offset	*Type or Standard Road Plan	Form	Bottom	Ext.	Notes	Line Number	Intake/Utility Access No.		Class 'D'	Pipe	Bid* Length	Design Length	Slope %	Connected Pipe Joint (DR-121)	Flow Lines			Pipe Profile Sheet No.	Notes
			Grade	Well	Length**			Size	Inlet		Outlet					Other				
			Elev.	Elev.	FT			IN	FT		FT					Elevation	Elevation	Elevation		
ST-01	2185+97.76, -56.881	DR-201 (15")	914.43			Loc sta=end pipe	2	ST-01	ST-02	2000	15	20	20.0	0.50%		915.13	915.03			
ST-02	2185+98.35, -26.439	SW-508	918.33	914.63			3	ST-02	ST-03	2000	15	182	182.0	0.50%		915.33	916.55			
ST-03	2187+80.01, -31.50	SW-508	918.00	916.05			4	ST-04	ST-06	2000	15	167	167.0	0.50%		915.55	914.72			
ST-04	2191+80.00, -31.50	SW-508	918.35	915.05			5	ST-05	ST-06	2000	18	47	46.4	0.43%		914.90	914.72			
ST-05	2194+47.30, 7.379	Concrete Collar				Loc sta=end pipe	6	ST-06	ST-07	2000	24	22	22.0	0.50%		914.62	914.51			Field Verify EX
ST-06	2194+47.00, -31.50	SW-508	919.39	914.12			8	ST-08	ST-09	2000	15	196	196.0	1.00%		916.93	915.69			
ST-07	2195+43.00, -32.13	SW-508	914.48			Loc sta=end pipe	9	ST-09	ST-10	2000	15	238	238.0	1.00%		915.69	915.13			
ST-08	2197+43.17, -31.50	SW-508	919.93	916.93			10	ST-11	ST-12	2000	15	90	90.0	1.00%		916.14	915.24			
ST-09	2199+89.20, -31.50	SW-508	919.20	914.99			11	ST-13	ST-12	2000	15	190	190.0	1.00%		914.66	912.76			
ST-10	2199+84.70, -69.630	DR-201(24")	915.13			Loc sta=end pipe	12	ST-14	ST-15	2000	15	200	200.0	0.50%		918.79	917.79			
ST-11	4199+30.00, 10.5' RT	SW-508	919.64	915.64			13	ST-15	ST-16	2000	15	34	34.0	0.50%		917.69	917.52			
ST-12	4200+19.50, 5.0' RT	SW-401 (60")	921.05	912.47																
ST-13	4202+09.00, 10.0' RT	SW-508	918.66	916.15																
ST-14	3193+28, 10.0' RT	SW-510	921.23	918.29																
ST-15	3191+28, 10.0' RT	SW-508	923.18	917.19																
ST-16	3191+20.90, 52.1' RT	DR-201 (15")	917.49			Loc sta=end pipe														
ST-17	3201+68.00, 45.8' LT	SW-511	915.63	910.90			18	ST-18	ST-19	2000	15	50	56.1	0.59%		909.71	909.38			
ST-18	4205+50.00, 12.8' RT	SW-512	912.12																	
ST-19	4205+50.00, 43.3' LT	DR-201 (15")	909.38																	
ST-20	4212+15.00, 21.0' LT	SW-512	901.30	893.89			20	ST-20	ST-21	2000	15	50	56.1	1.52%		894.39	893.54			
ST-21	4212+15.00, 36.0' RT	DR-201 (15")	893.54																	
ST-22	3182+70.00, 46.4' LT	SW-511	920.80	916.05																



NOTE: The algebraic difference between ramp profile grade at point (F) and relative profile grade of mainline at point (H) is 0.62%

W ₀	Shoulder Width beyond Edge of Mainline Pavement		
	8'	10'	12'
12'	NA	100'	150'



DETAIL A

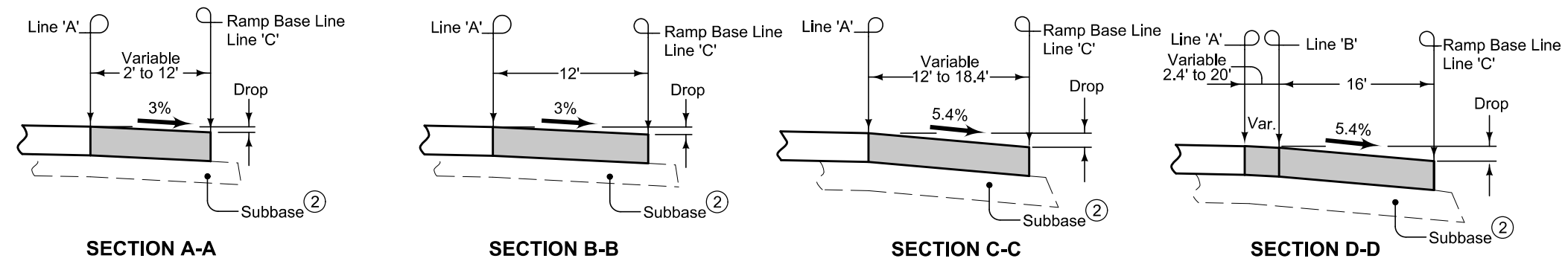
Construct ramp exit pavement the same thickness as mainline pavement.

For joint detail, see PV-101.

① For header construction detail at the end of taper, see Typical 7101 or Typical 7102.

② Construct subbase for ramp exit pavement the same thickness as mainline subbase.

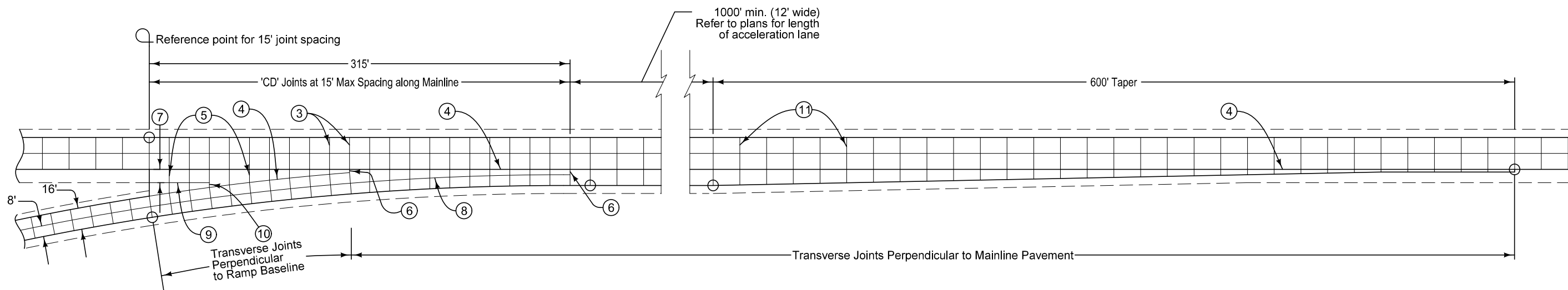
		DISTANCE FROM POINT (E) ALONG LINE 'A' (Ft.)																		
		310.15	300	275	250	225	204	200	175	160.15	150	125	100	75	50	25	0	24.2		
From Line 'A' To Line 'B'	OFFSET (Ft.)	20.00	18.45	14.84	11.56	8.60	6.30	5.95	3.61	2.37										
	SLOPE (%)	← Constant 4.0% Slope →										4.11	4.92	5.40						
	DROP (Ft.)	0.80	0.74	0.59	0.46	0.34	0.25	0.24	0.18	0.13										
From Line 'B' To Line 'C'	OFFSET (Ft.)	← Constant 16' Offset →																		
	SLOPE (%)	← Constant 5.4% Slope →																		
	DROP (Ft.)	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86										
From Line 'A' To Line 'C'	OFFSET (Ft.)										17.63	15.91	14.50	13.41	12.63	12.16	12.00	12.00		
	SLOPE (%)										5.40	5.40	5.40	5.40	5.40	4.59	3.78	3.00		
	DROP (Ft.)	1.66	1.60	1.45	1.32	1.20	1.11	1.10	1.04	0.99	0.95	0.86	0.78	0.72	0.68	0.56	0.45	0.36		
DISTANCE FROM POINT (G) ALONG LINE 'C' (Ft.)		309.13	298.73	273.67	248.66	223.68	202.73	198.74	173.83	159.04	150.14	125.08	100.04	75.02	50.01	25.00	0.00			



 ROAD DESIGN DETAIL	REVISION	
	3	04-20-21
	533-02	
SHEET 1 of 2		

REVISIONS: Added Point J and Ramp Profile note.

**PARALLEL ACCELERATION TAPER
FOR 16' RAMP
(60 MPH DESIGN SPEED)**

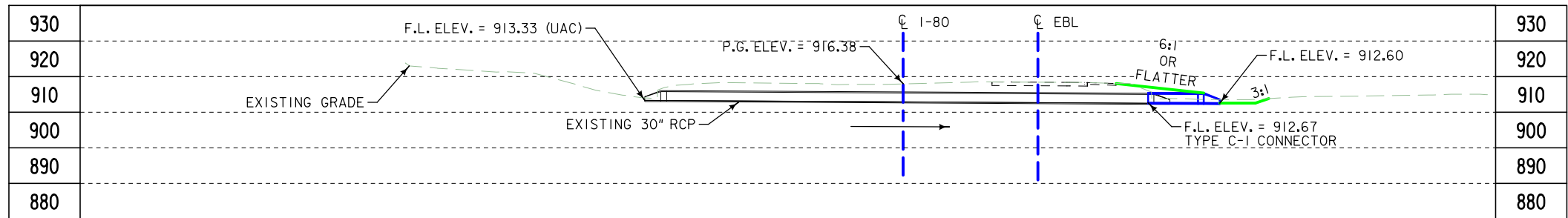


- ③ 'CD' Joints at 15' spacing.
- ④ 'BT-2' or 'KT-2' Joint.
- ⑤ 'C' Joint.
- ⑥ 'B' Joint. 2' minimum, 4' maximum.
- ⑦ 10' minimum or equal to mainline shoulder width.
- ⑧ 'L-2' Joint.
- ⑨ 'C' Joint parallel to mainline pavement.
- ⑩ 'B' or 'C' Joint. 2' minimum, 4' maximum.
- ⑪ 'CD' Joints at 17' spacing.

IOWADOT	REVISION	
	3	04-20-21
ROAD DESIGN DETAIL		533-02
		SHEET 2 of 2

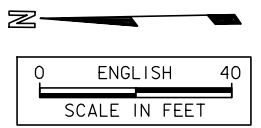
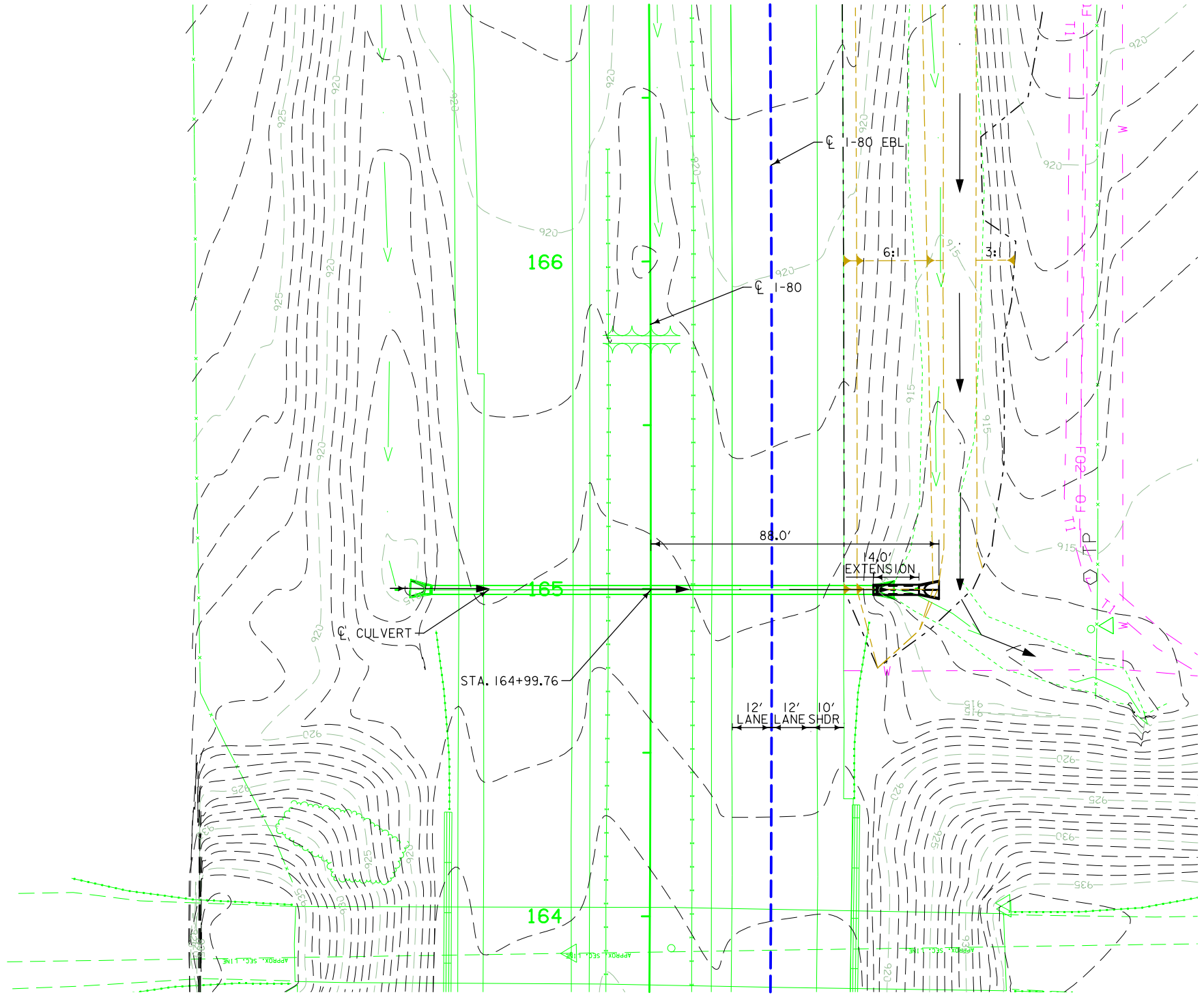
REVISIONS: Added Point J and Ramp Profile note.

**PARALLEL ACCELERATION TAPER
FOR 16' RAMP
(60 MPH DESIGN SPEED)**



BM506
 Sta 192+04.43 out 199.95 Rt
 YC7950190.423 XC20345940.165
 Elev= 922.406
 Description: SET MAG NAIL S SIDE LU

LONGITUDINAL SECTION ALONG ϕ CULVERT

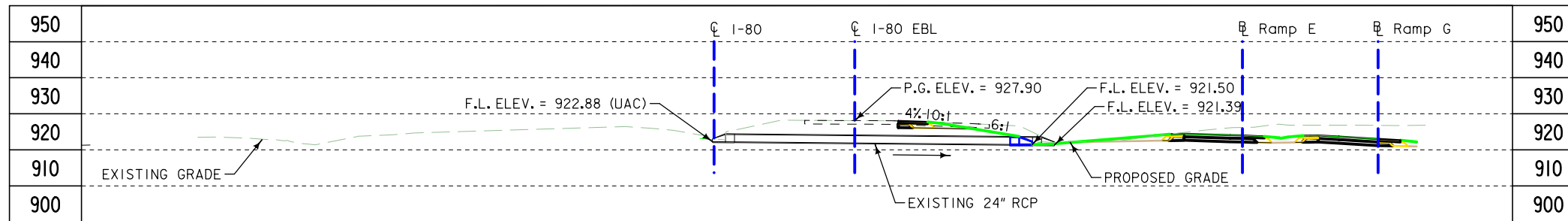


UTILITIES LEGEND:
 REFER TO D.1

HYDRAULIC DATA
 DRAINAGE AREA = 5.0 ACRES ROLLING

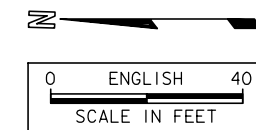
LOCATION
 T-80N R-12W
 SECTION 34
 HARTFORD TOWNSHIP
 IOWA COUNTY

DESIGN FOR 0° SKEW
30" X 14'
REINFORCED CONCRETE
PIPE EXTENSION
PLAT PLAN
 STATION 164+99.76 04/30/21
IOWA COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. _____ OF _____ FILE NO. 32062 DESIGN NO. _____



LONGITUDINAL SECTION ALONG CULVERT

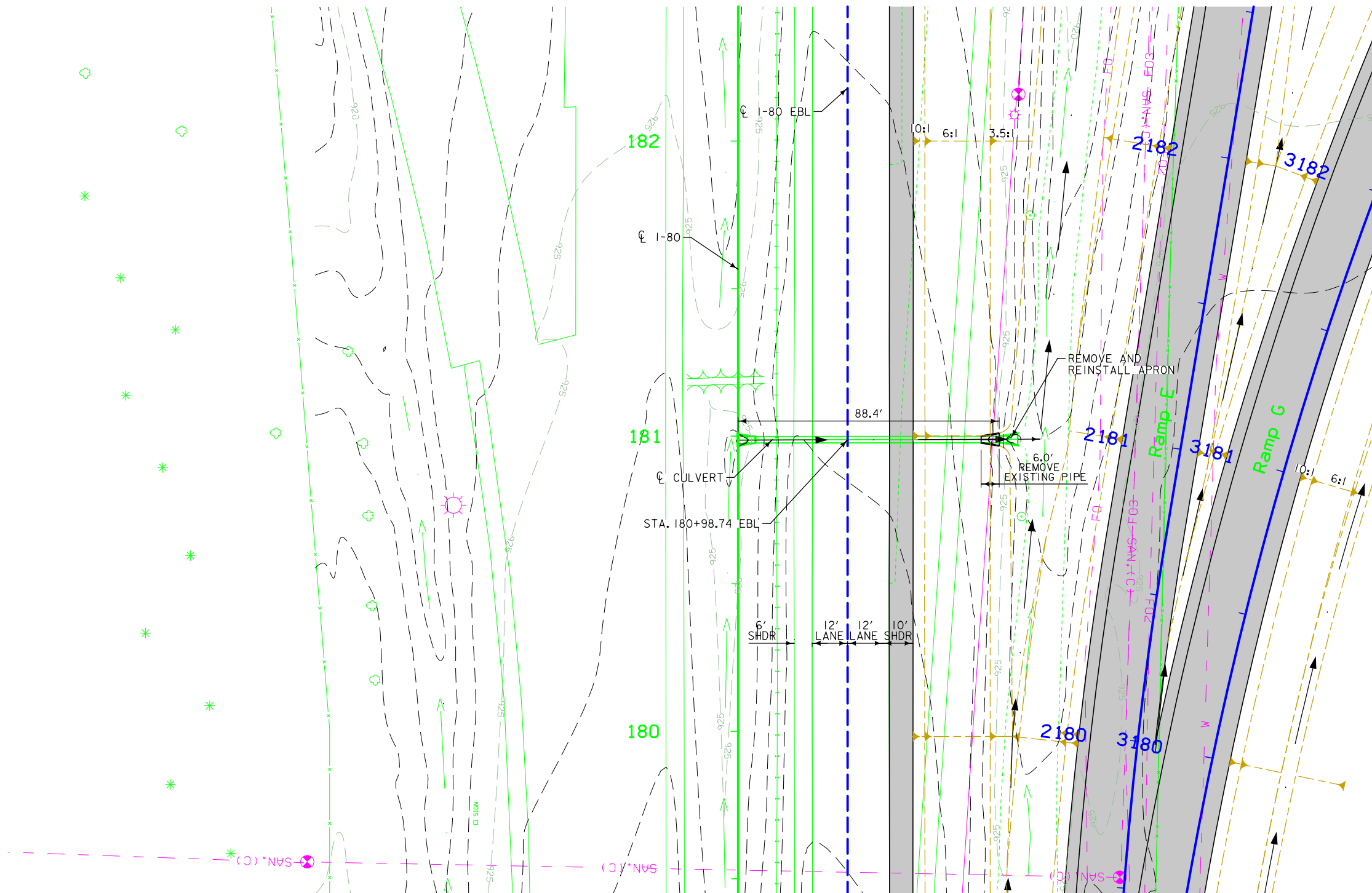
BM502
Sta. 164+88.96 out 139.74 Rt
Elev = 928.432



UTILITIES LEGEND:
REFER TO D.1

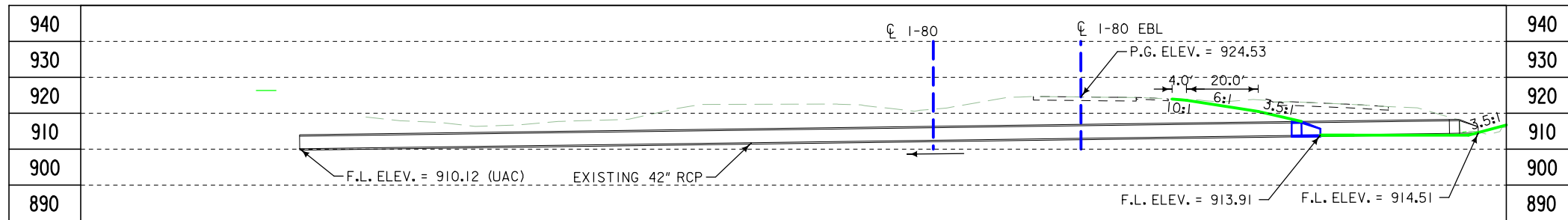
LOCATION

T-80N R-12W
SECTION 34
HARTFORD TOWNSHIP
IOWA COUNTY



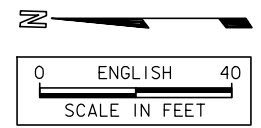
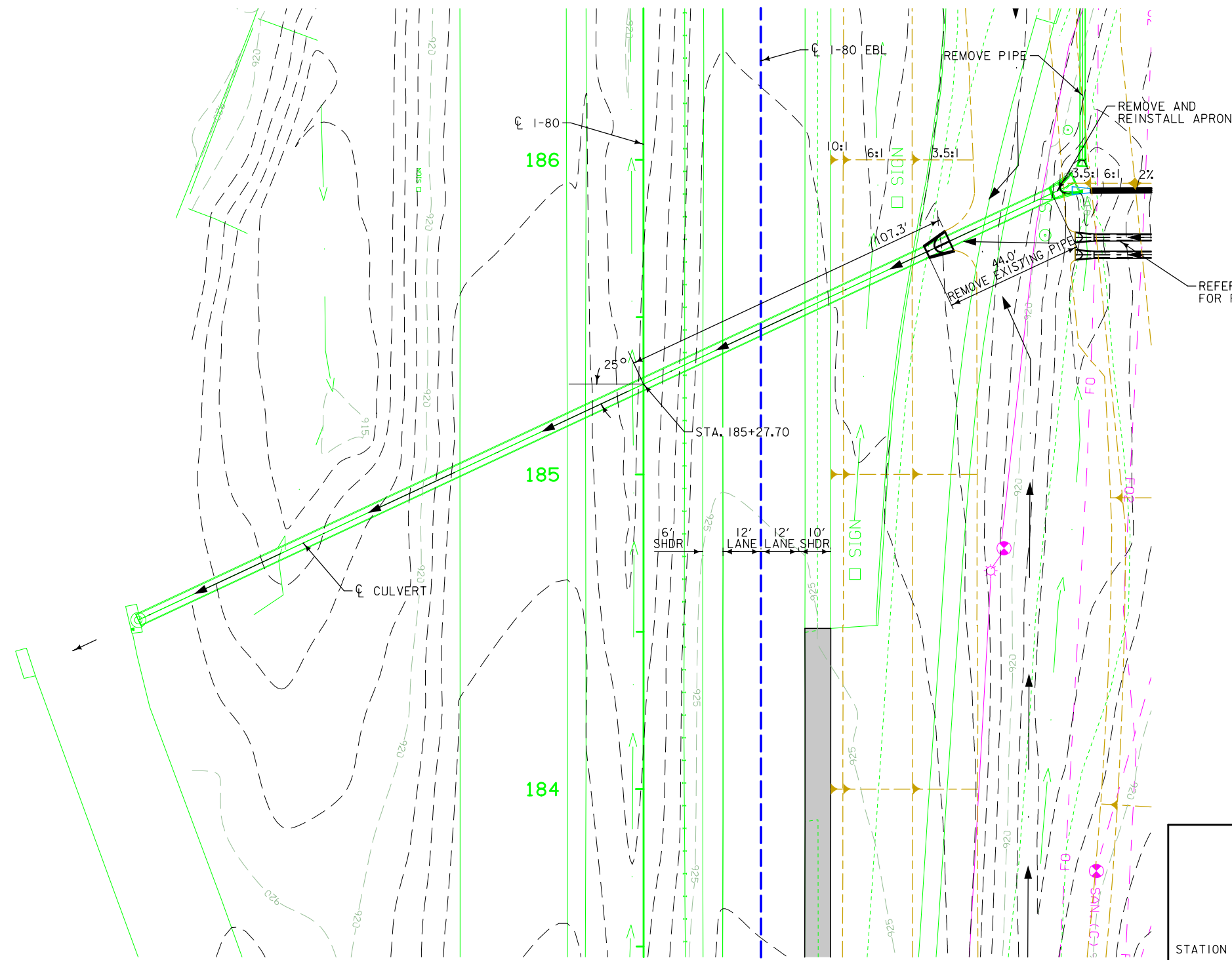
PLAT PLAN

DESIGN FOR 0° SKEW
24" X -6'
REINFORCED CONCRETE
PIPE EXTENSION
PLAT PLAN
STATION 180+98.74 EBL 04/30/21
IOWA COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ___ OF ___ FILE NO. 32062 DESIGN NO. ___



BM506
 Sta 192+04.43 out 199.95 Rt
 YC7950190.423 XC20345940.165
 Elev= 922.406
 Description: SET MAG NAIL S SIDE LU

LONGITUDINAL SECTION ALONG ϕ CULVERT



REFER TO SHEET V.15
 FOR PIPE INFORMATION

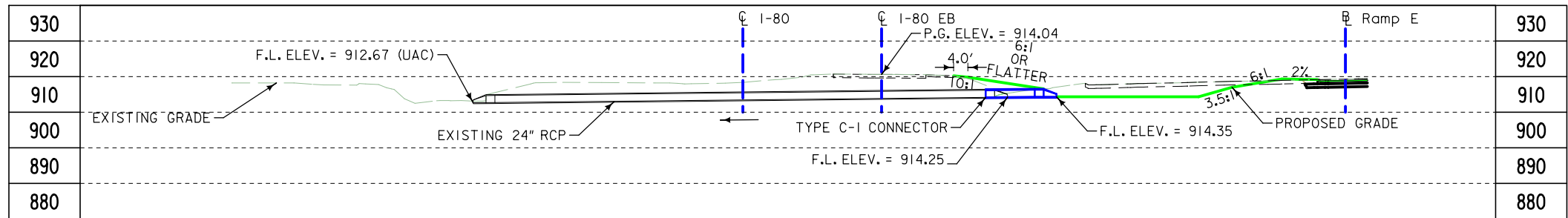
UTILITIES LEGEND:
 REFER TO D.1

HYDRAULIC DATA
 DRAINAGE AREA = 32.0 ACRES ROLLING

LOCATION
 T-80N R-12W
 SECTION 34
 HARTFORD TOWNSHIP
 IOWA COUNTY

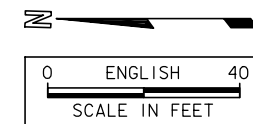
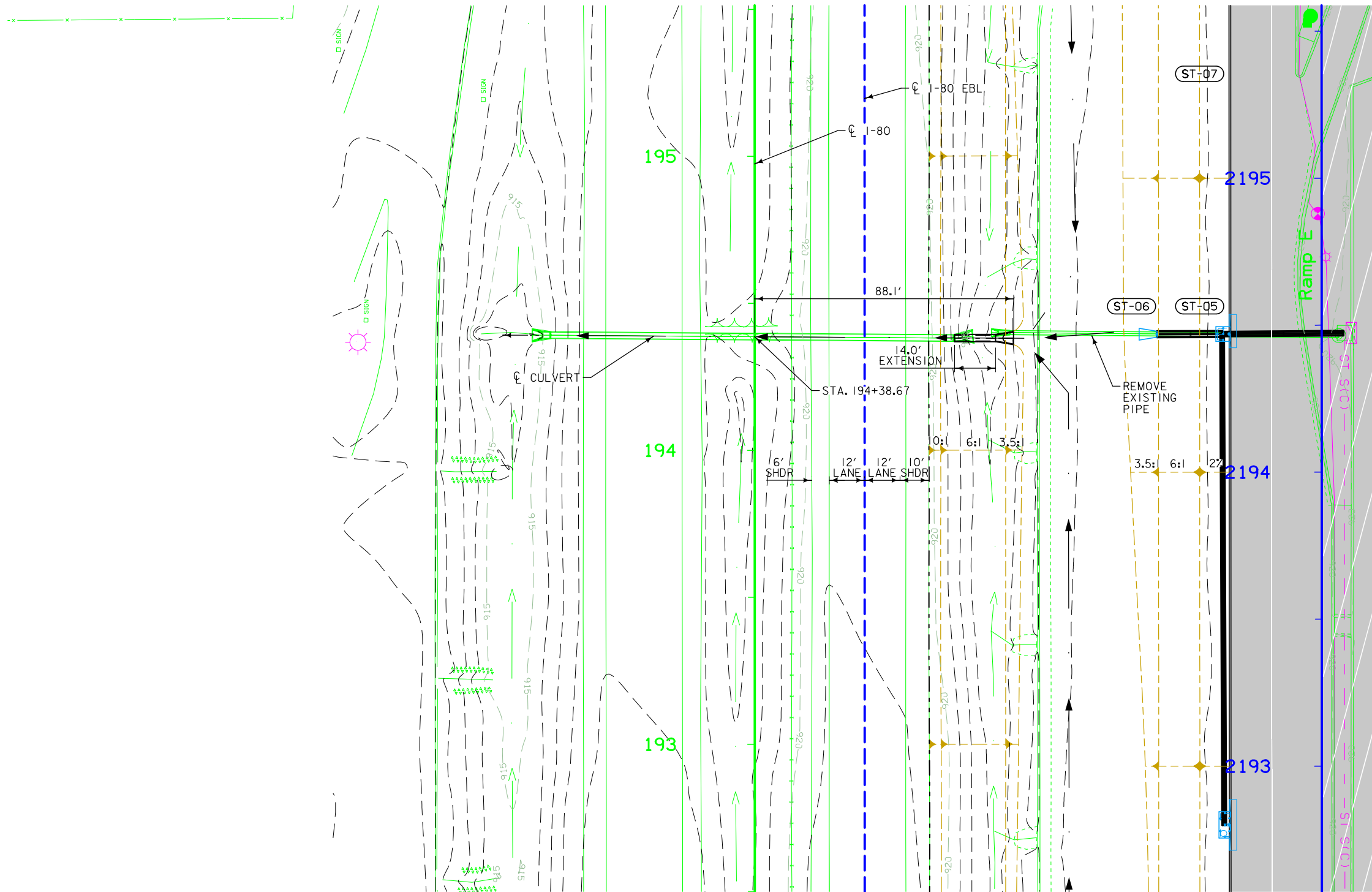
DESIGN FOR 25° SKEW RT AHEAD
42" X -44'
REINFORCED CONCRETE
PIPE EXTENSION
PLAT PLAN
 STATION 185+27.70 04/30/21
IOWA COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. ___ OF ___ FILE NO. 32062 DESIGN NO. ___

PLAT PLAN



BM502
 Sta 164+88.96 out 139.74 Rt
 YC7950250.007 XC20343677.380
 Elev= 928.432
 Description: CUT X ON ROW RAIL

LONGITUDINAL SECTION ALONG ϕ CULVERT

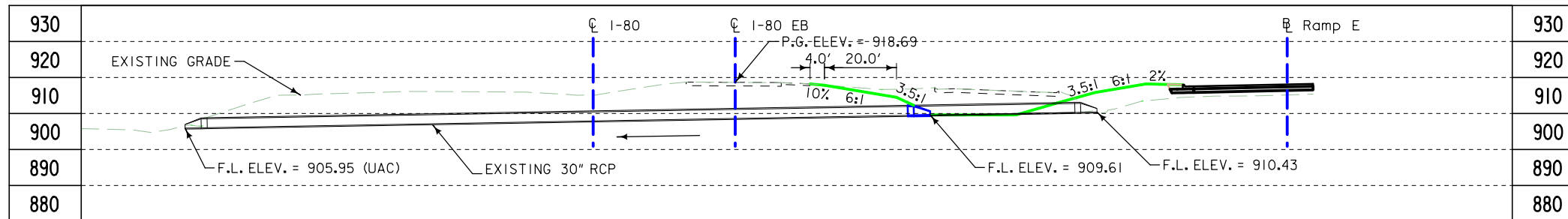


UTILITIES LEGEND:
 REFER TO D.1

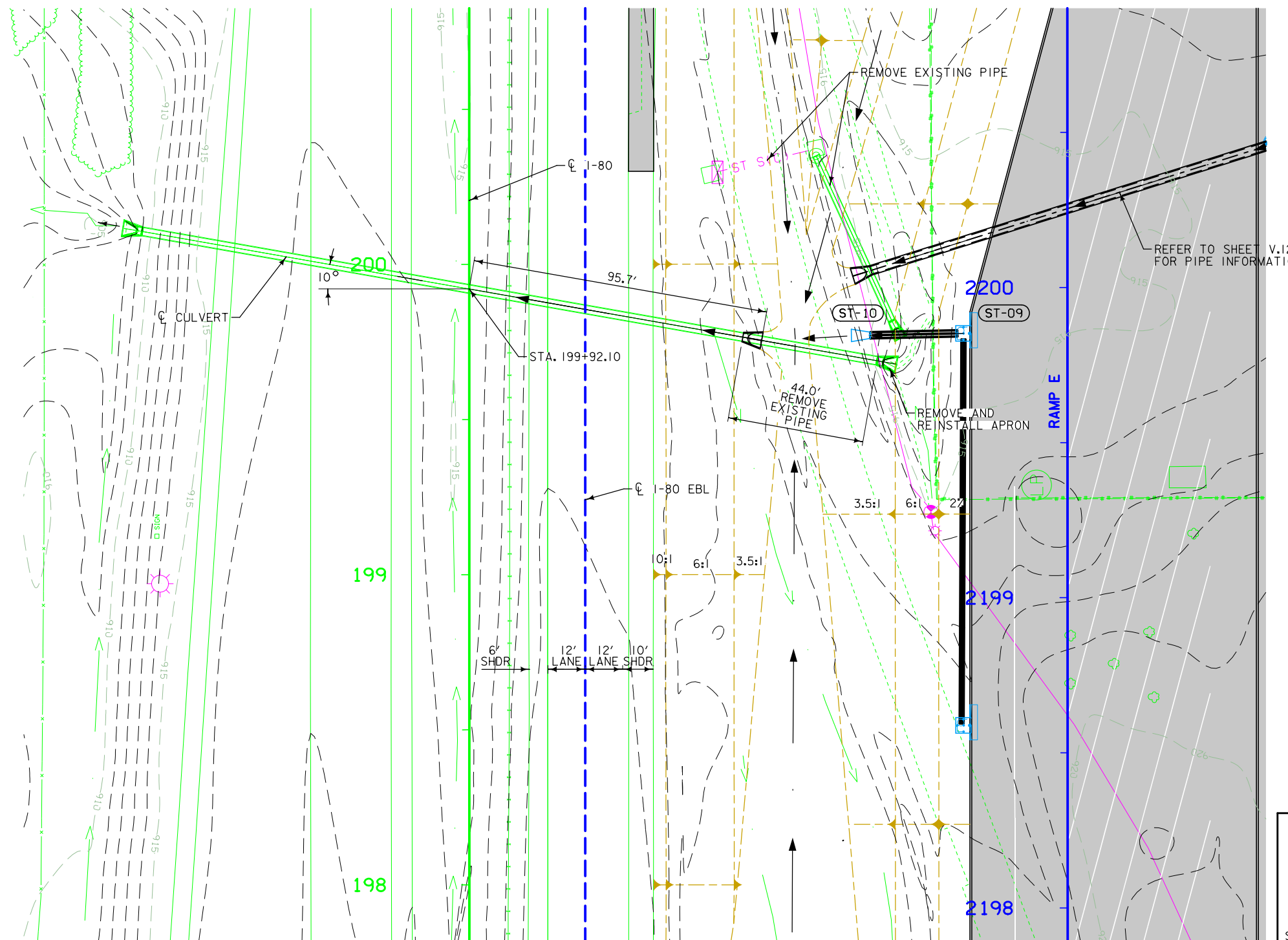
HYDRAULIC DATA
 DRAINAGE AREA = 4.0 ACRES ROLLING

LOCATION
 T-80N R-12W
 SECTION 34
 HARTFORD TOWNSHIP
 IOWA COUNTY

DESIGN FOR 0° SKEW
24" X 14'
REINFORCED CONCRETE
PIPE EXTENSION
PLAT PLAN
 STATION 194+38.67 04/30/21
IOWA COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. ___ OF ___ FILE NO. 32062 DESIGN NO. ___

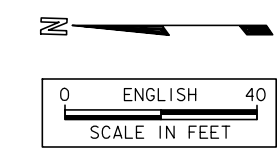


LONGITUDINAL SECTION ALONG CL CULVERT



PLAT PLAN

BM508
Sta 201+63.63 out 147.82 Rt
YC7950242.703 XC20346899.362
Elev= 920.634
Description: CUT X ON ROW RAIL

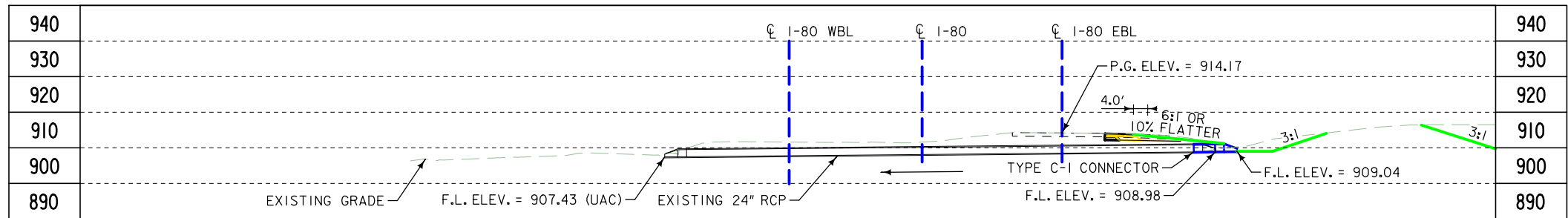


UTILITIES LEGEND:
REFER TO D.I

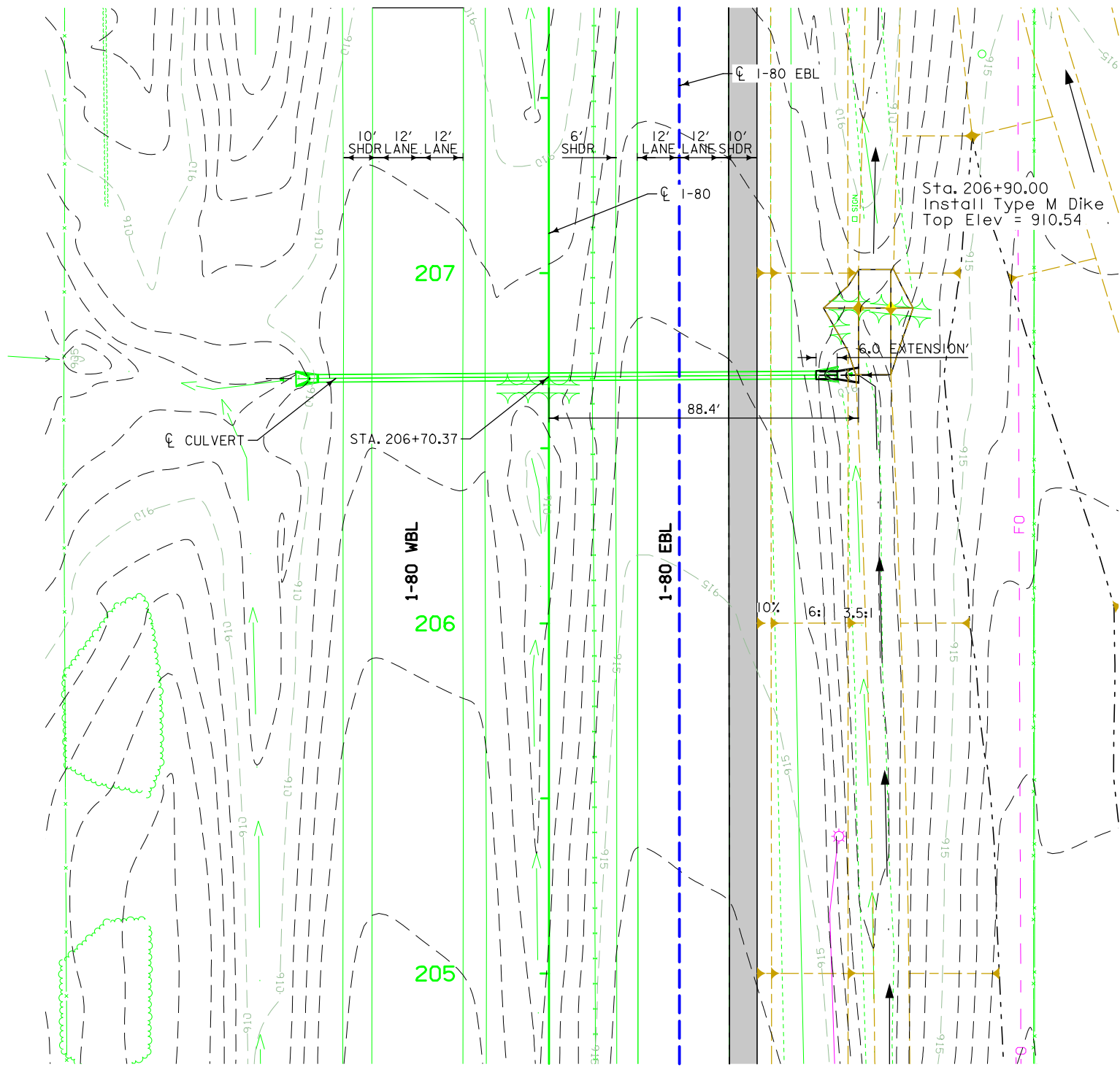
HYDRAULIC DATA
DRAINAGE AREA = 8.0 ACRES ROLLING

LOCATION
T-80N R-12W
SECTION 34
HARTFORD TOWNSHIP
IOWA COUNTY

DESIGN FOR 10° SKEW LT AHEAD
30" X -44'
REINFORCED CONCRETE
PIPE EXTENSION
PLAT PLAN
STATION 199+92.10 04/30/21
IOWA COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ___ OF ___ FILE NO. 32062 DESIGN NO. ___

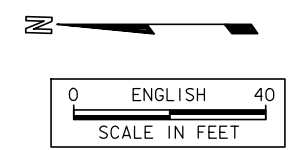


LONGITUDINAL SECTION ALONG ϕ CULVERT



PLAT PLAN

BM508
Sta 201+63.63 out 147.82
R+ YC7950242.703 XC20346899.362
Elev= 920.634
Description: CUT X ON ROW RAIL

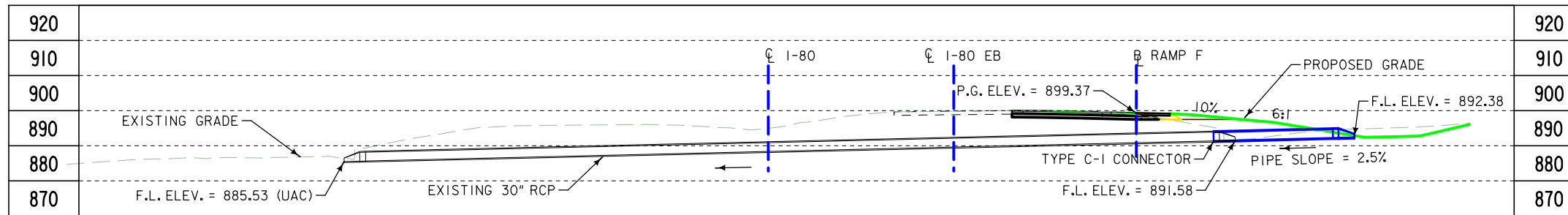


UTILITIES LEGEND:
REFER TO D.1

HYDRAULIC DATA
DRAINAGE AREA = 2.0 ACRES ROLLING

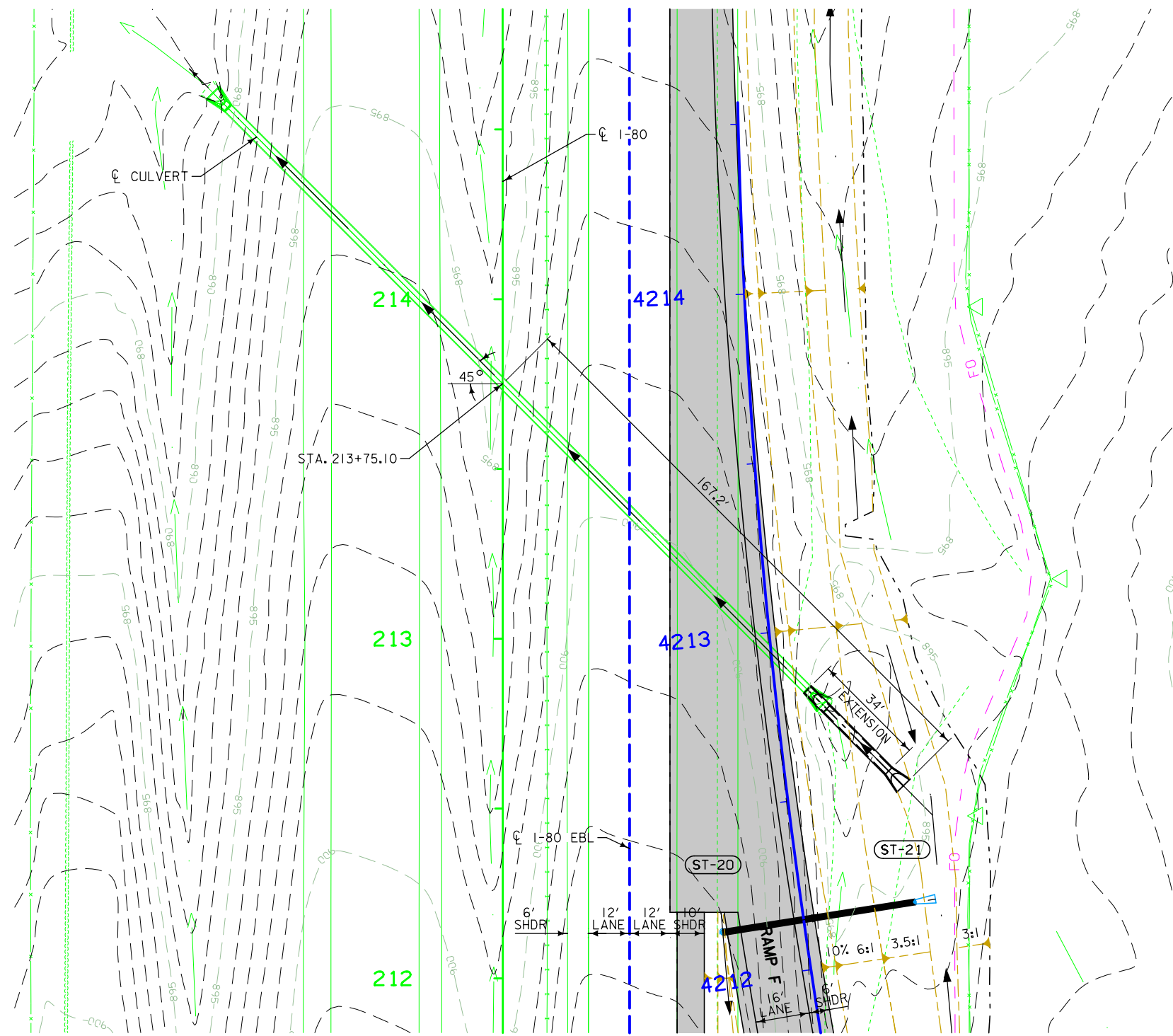
LOCATION
T-80N R-12W
SECTION 34
HARTFORD TOWNSHIP
IOWA COUNTY

DESIGN FOR 0° SKEW
24" X 6'
REINFORCED CONCRETE
PIPE EXTENSION
PLAT PLAN
STATION 206+70.37 04/30/21
IOWA COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ___ OF ___ FILE NO. 32062 DESIGN NO. ___

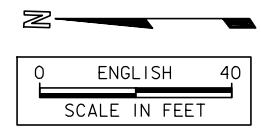


LONGITUDINAL SECTION ALONG ϕ CULVERT

BM509
 Sta 213+97.74 out 139.85 Rt
 YC7950250.874 XC20348133.467
 Elev= 895.992
 Description: CUT X ON ROW RAIL



PLAT PLAN

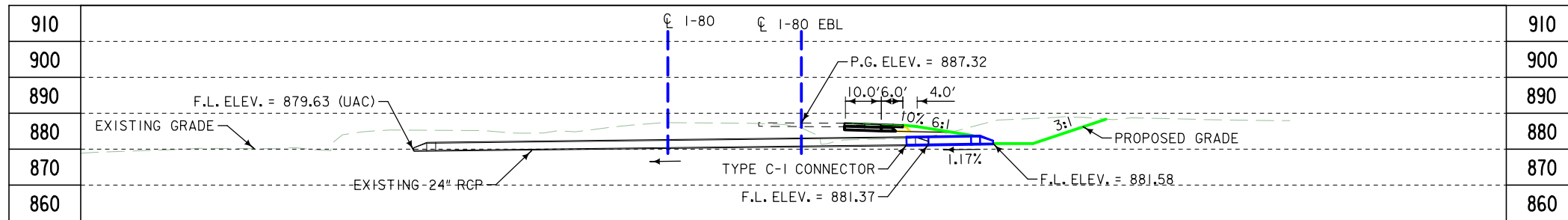


UTILITIES LEGEND:
 REFER TO D.I

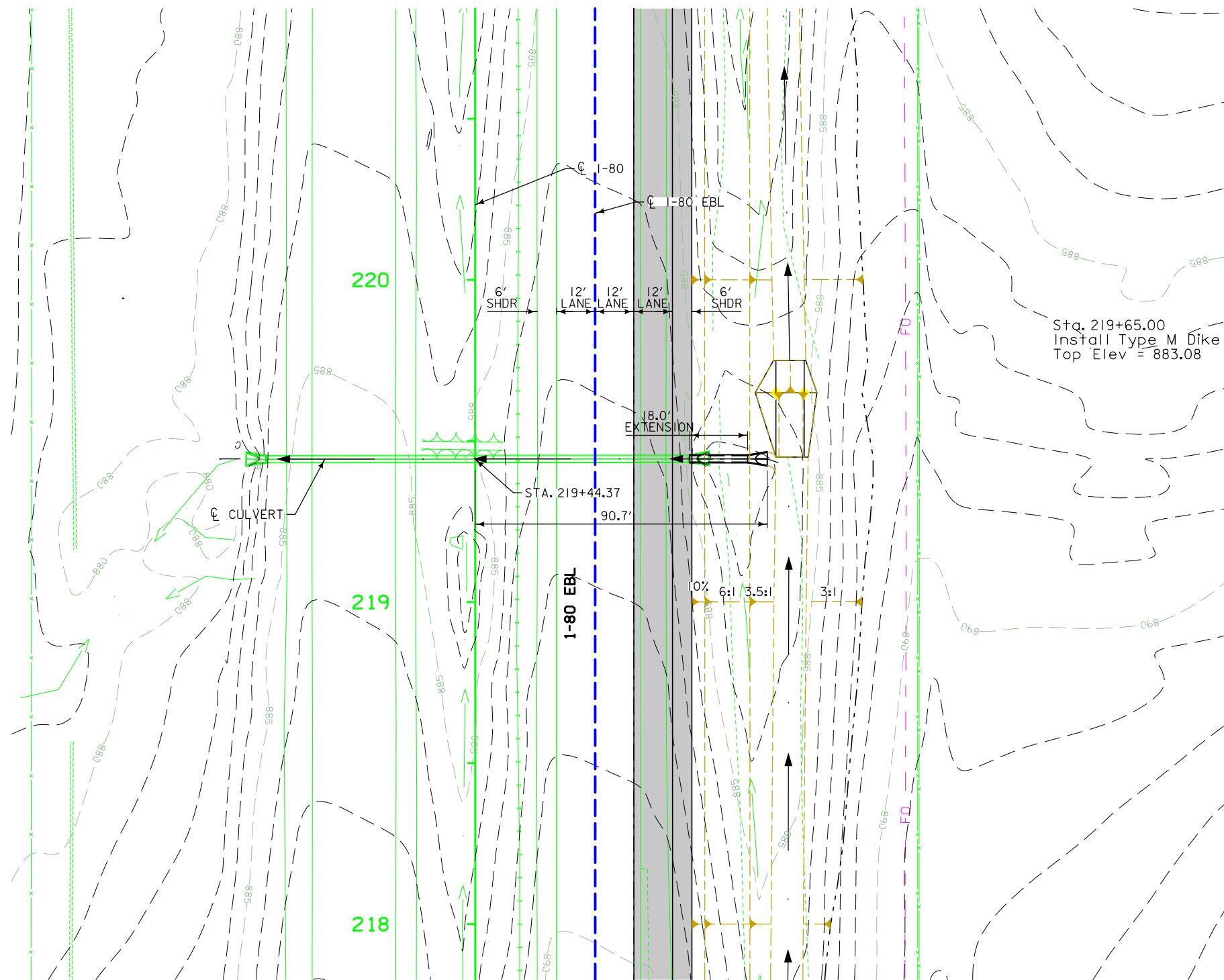
HYDRAULIC DATA
 DRAINAGE AREA = 18.0 ACRES ROLLING

LOCATION
 T-80N R-12W
 SECTION 34
 HARTFORD TOWNSHIP
 IOWA COUNTY

DESIGN FOR 45° SKEW LT AHEAD
30" X 34'
REINFORCED CONCRETE
PIPE EXTENSION
PLAT PLAN
 STATION 213+75.10 04/30/21
IOWA COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. ___ OF ___ FILE NO. 32062 DESIGN NO. ___

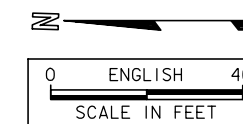


LONGITUDINAL SECTION ALONG ϕ CULVERT



PLAT PLAN

BM509
 Sta 213+97.74 out 139.85 R+
 YC7950250.874 XC20348133.467
 Elev= 895.992
 Description: CUT X ON ROW RAIL

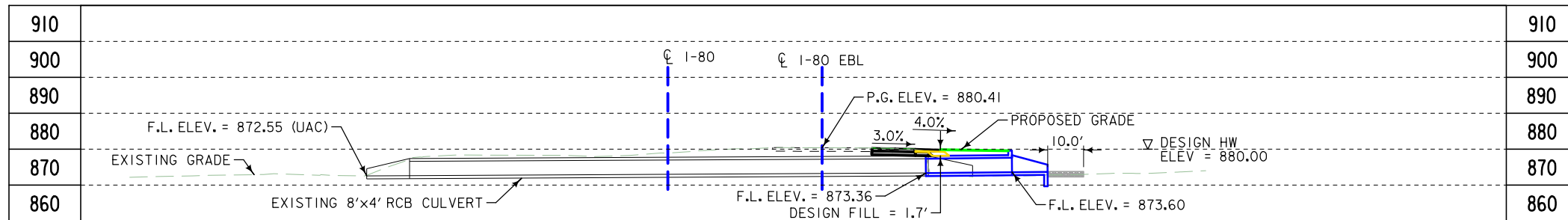


UTILITIES LEGEND:
 REFER TO D.1

HYDRAULIC DATA
 DRAINAGE AREA = 0.5 ACRES ROLLING

LOCATION
 T-80N R-12W
 SECTION 34
 HARTFORD TOWNSHIP
 IOWA COUNTY

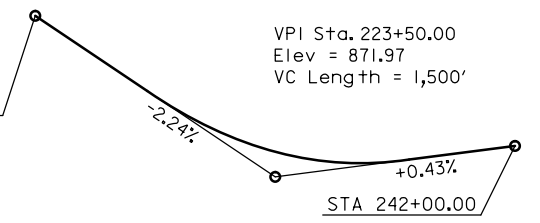
DESIGN FOR 0° SKEW
24" X 18'
REINFORCED CONCRETE
PIPE EXTENSION
PLAT PLAN
 STATION 219+44.37 04/30/21
IOWA COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. ___ OF ___ FILE NO. 32062 DESIGN NO. ___



LONGITUDINAL SECTION ALONG ϕ CULVERT

STA 206+00.00

PROFILE GRADE I-80 EB



ESTIMATED REVETMENT QUANTITIES INCLUDED WITH ROAD PLANS

LOCATION	REVETMENT CL. 'E (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
INLET	22	46	4



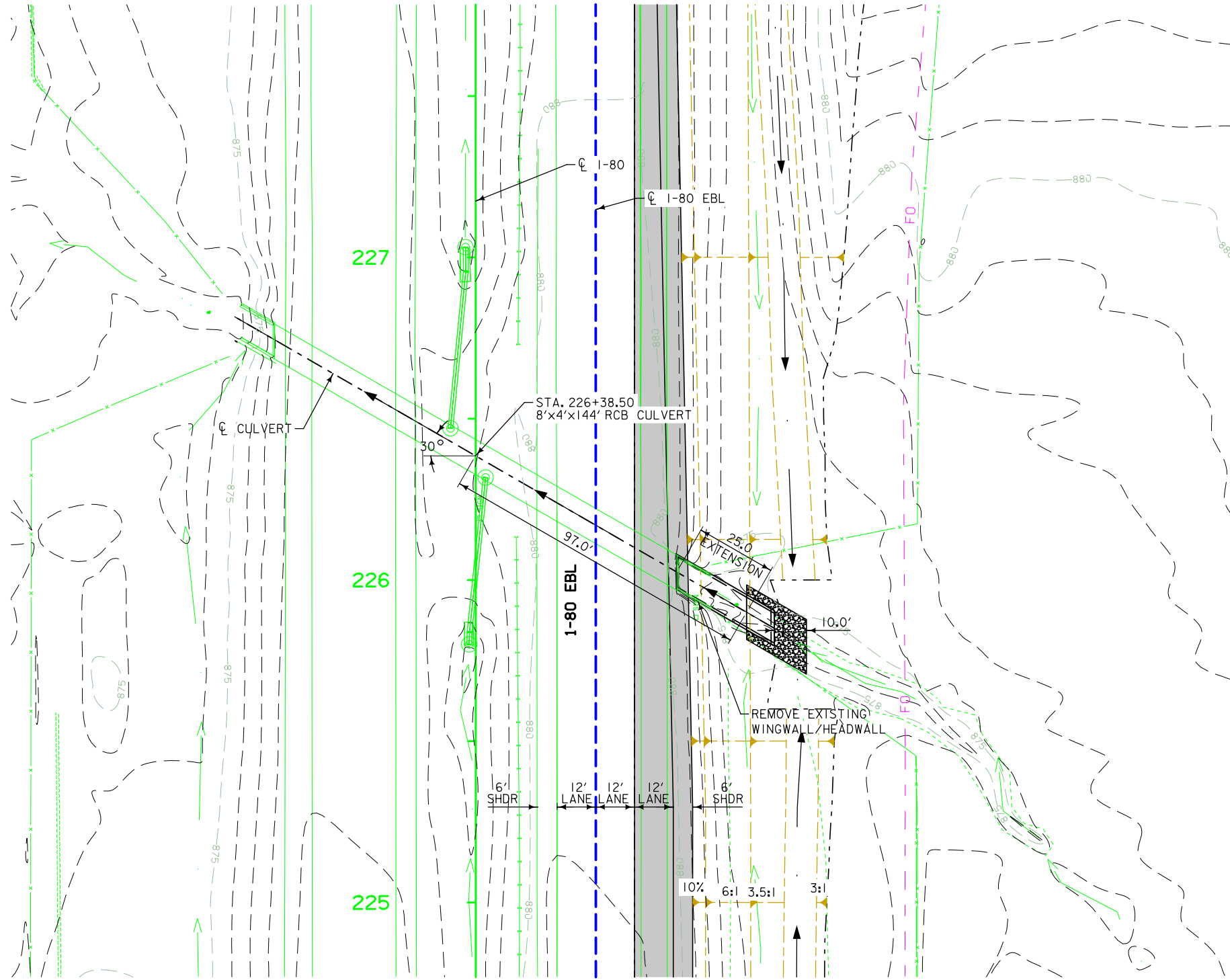
I-80 EB
DESIGN DATA RURAL

2020 AADT	29,600	V.P.D.
2040 AADT	--	V.P.D.
20-- DHV	--	V.P.H.
TRUCKS	28 %	
Total Design ESALs	--	

UTILITIES LEGEND:
REFER TO D.1

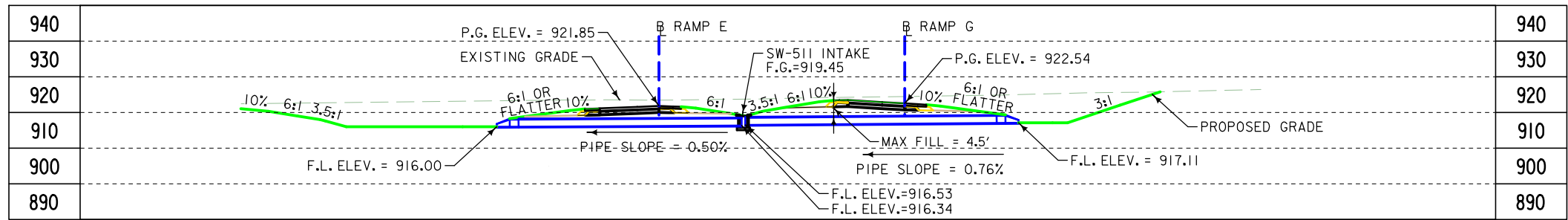
HYDRAULIC DATA
DRAINAGE AREA = 168 ACRES ROLLING
 $Q_{50}=214.5cfs$

LOCATION
T-80N R-12W
SECTION 35
HARTFORD TOWNSHIP
IOWA COUNTY
LATITUDE = 41.695850
LONGITUDE = 92.218197



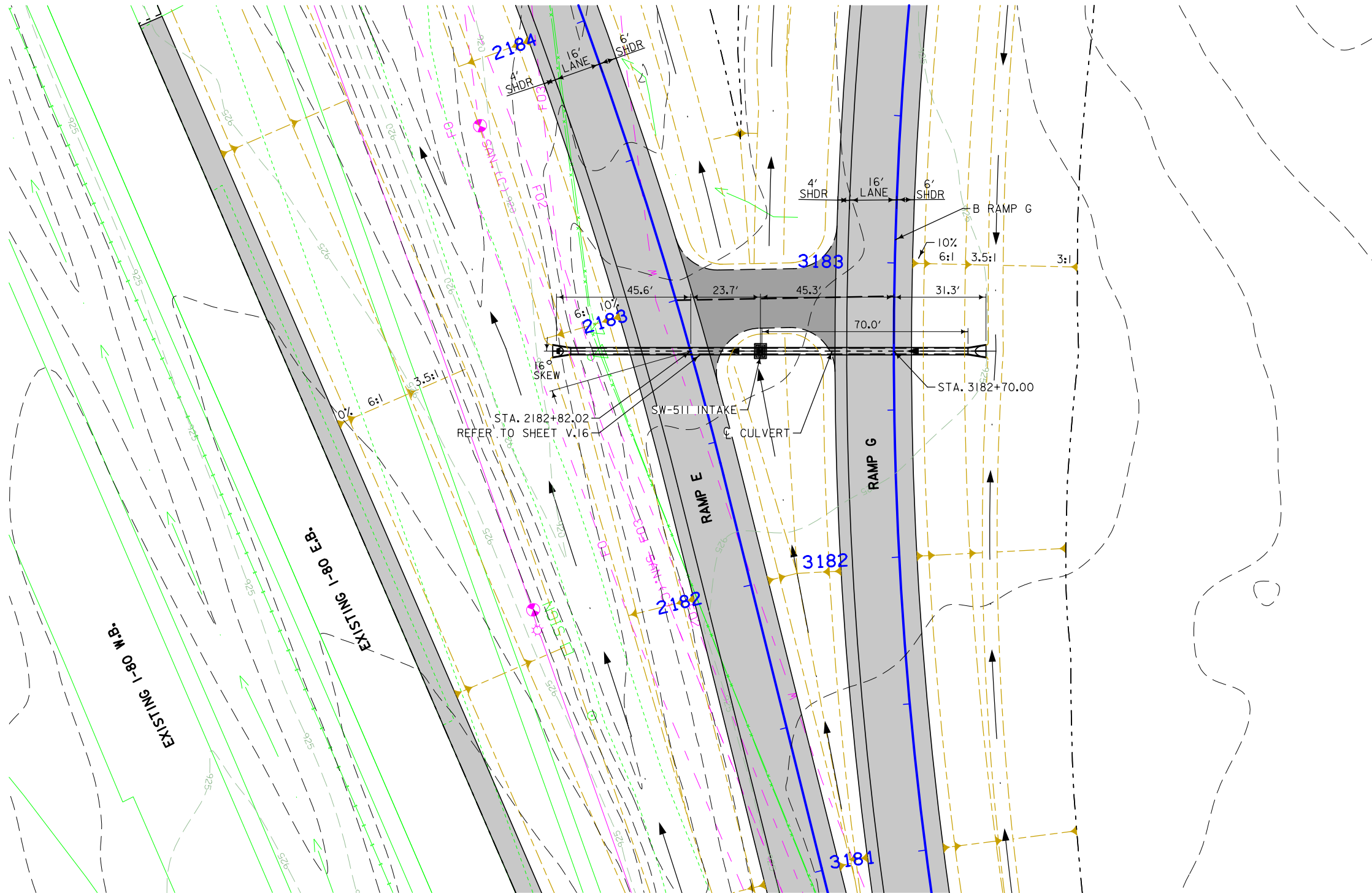
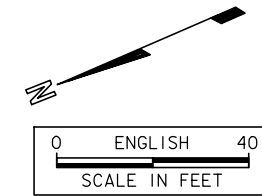
SITUATION PLAN

PRELIMINARY
DESIGN FOR 30° SKEW LT AHEAD
8' X 4' X 25'
REINFORCED CONCRETE
BOX CULVERT EXTENSION
SITUATION PLAN
STATION 226+38.50 04/30/21
IOWA COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ___ OF ___ FILE NO. 32062 DESIGN NO. 123



LONGITUDINAL SECTION ALONG ϕ CULVERT

BM509
Sta 213+97.74 out 139.85 Rt
YC7950250.874 XC20348133.467
Elev= 895.992
Description: CUT X ON ROW RAIL



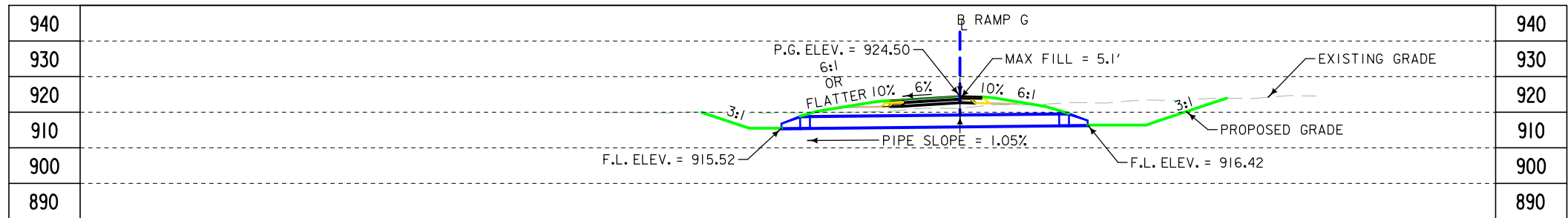
PLAT PLAN

UTILITIES LEGEND:
REFER TO D.1

HYDRAULIC DATA
DRAINAGE AREA = 3.88 ACRES FLAT
DESIGN DISCHARGE, Q_{50} = 8.16 CFS

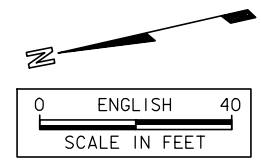
LOCATION
T-80N R-12W
SECTION 34
HARTFORD TOWNSHIP
IOWA COUNTY

DESIGN FOR 0° SKEW
24" X 70'
REINFORCED CONCRETE
PIPE
PLAT PLAN
STATION 3182+70.00 RAMP G 04/30/21
IOWA COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. _____ OF _____ FILE NO. 32062 DESIGN NO. _____



BM509
 Sta 213+97.74 out 139.85 Rt
 YC7950250.874 XC20348133.467
 Elev= 895.992
 Description: CUT X ON ROW RAIL

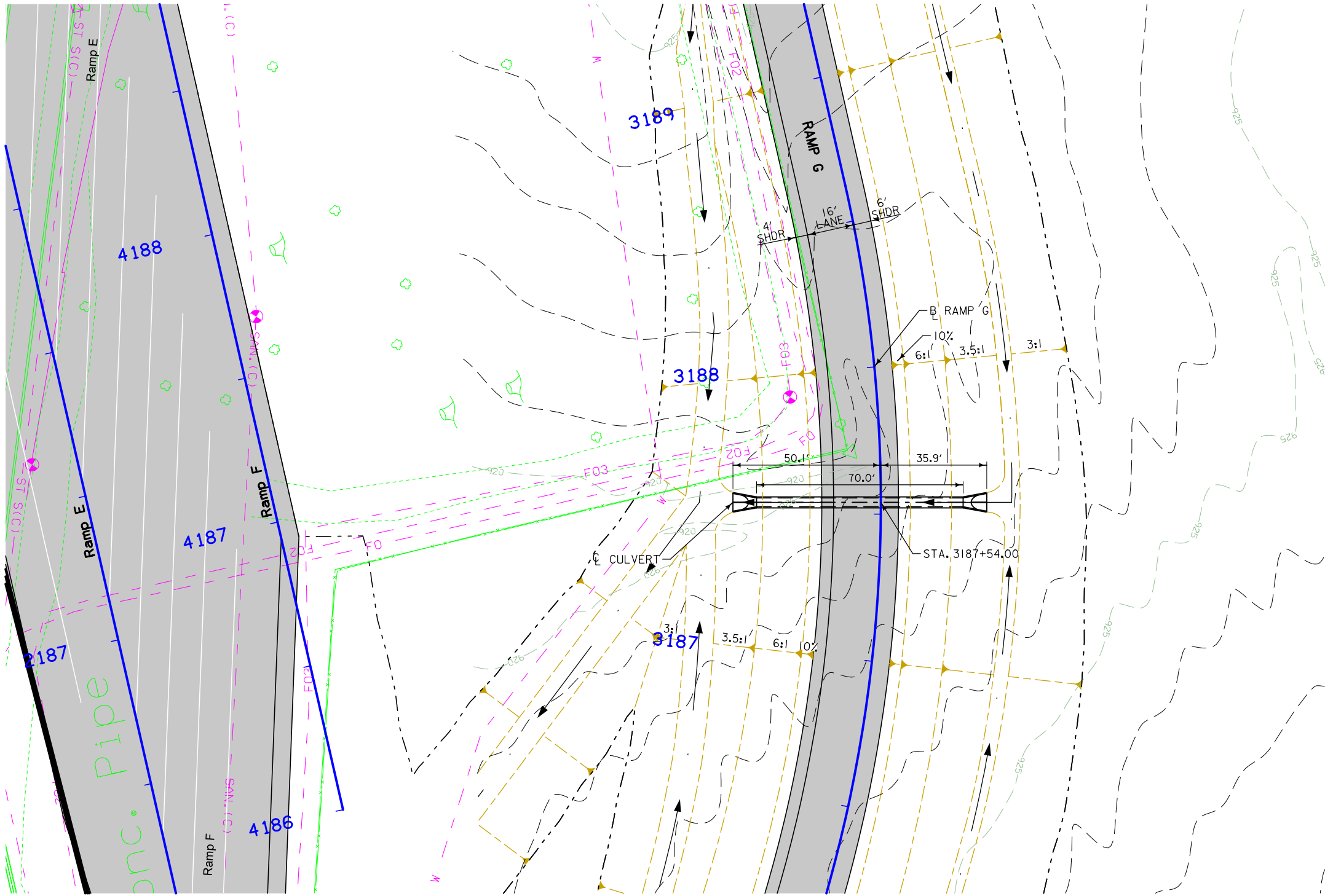
LONGITUDINAL SECTION ALONG ϕ CULVERT



UTILITIES LEGEND:
 REFER TO D.1

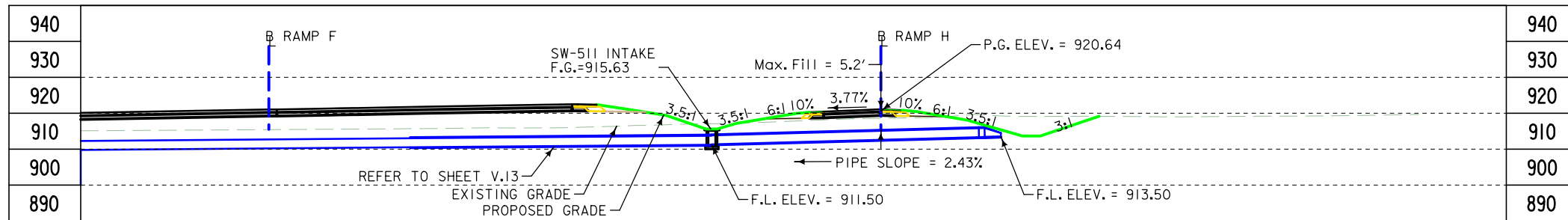
HYDRAULIC DATA
 DRAINAGE AREA = 22.6 ACRES FLAT
 DESIGN DISCHARGE, Q_{50} = 31.2 CFS

LOCATION
 T-80N R-12W
 SECTION 34
 HARTFORD TOWNSHIP
 IOWA COUNTY



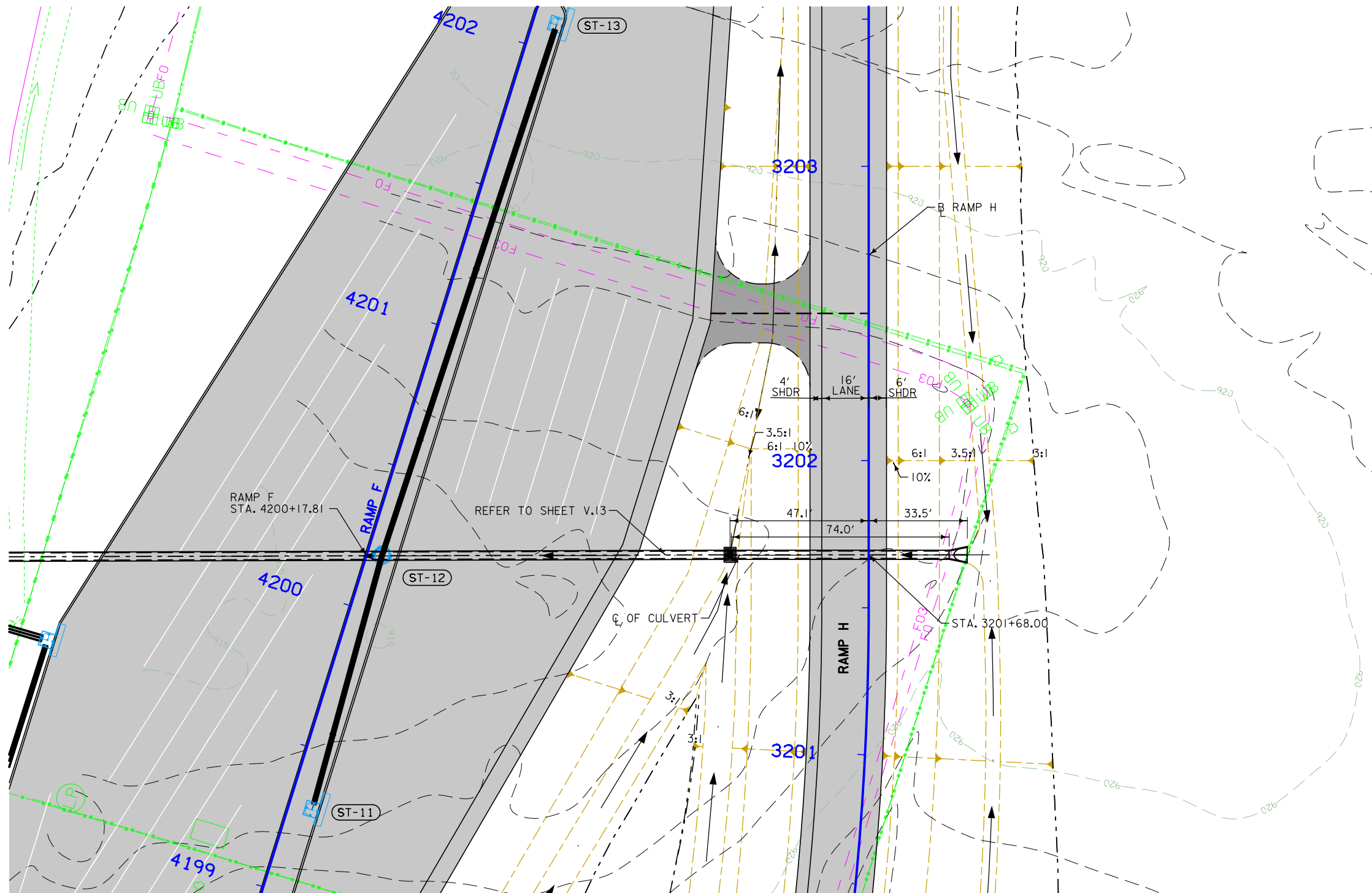
PLAT PLAN

DESIGN FOR 0° SKEW
36" X 70'
REINFORCED CONCRETE
PIPE
PLAT PLAN
 STATION 3187+54.00 RAMP G 04/30/21
IOWA COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. ___ OF ___ FILE NO. 32062 DESIGN NO. ___

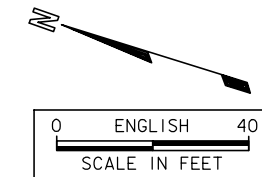


LONGITUDINAL SECTION ALONG ϕ CULVERT

BM509
Sta 213+97.74 out 139.85 R+
YC7950250.874 XC20348133.467
Elev= 895.992
Description: CUT X ON ROW RAIL



PLAT PLAN

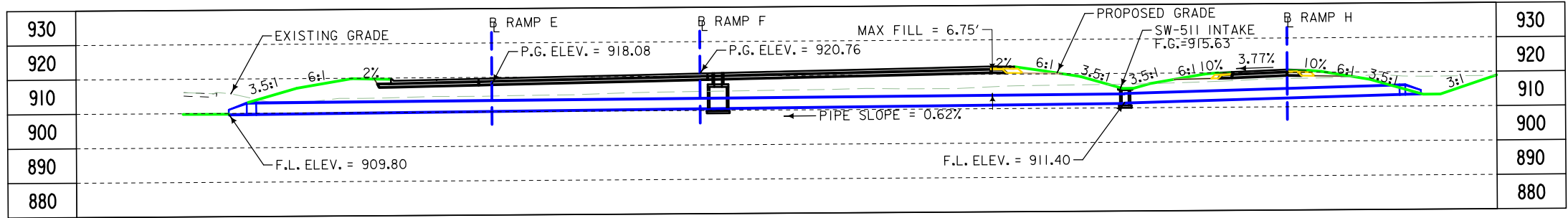


UTILITIES LEGEND:
REFER TO D.1

HYDRAULIC DATA
DRAINAGE AREA = 11.45 ACRES FLAT
DESIGN DISCHARGE, $Q_{50} = 18.6$ CFS

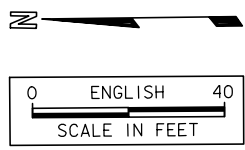
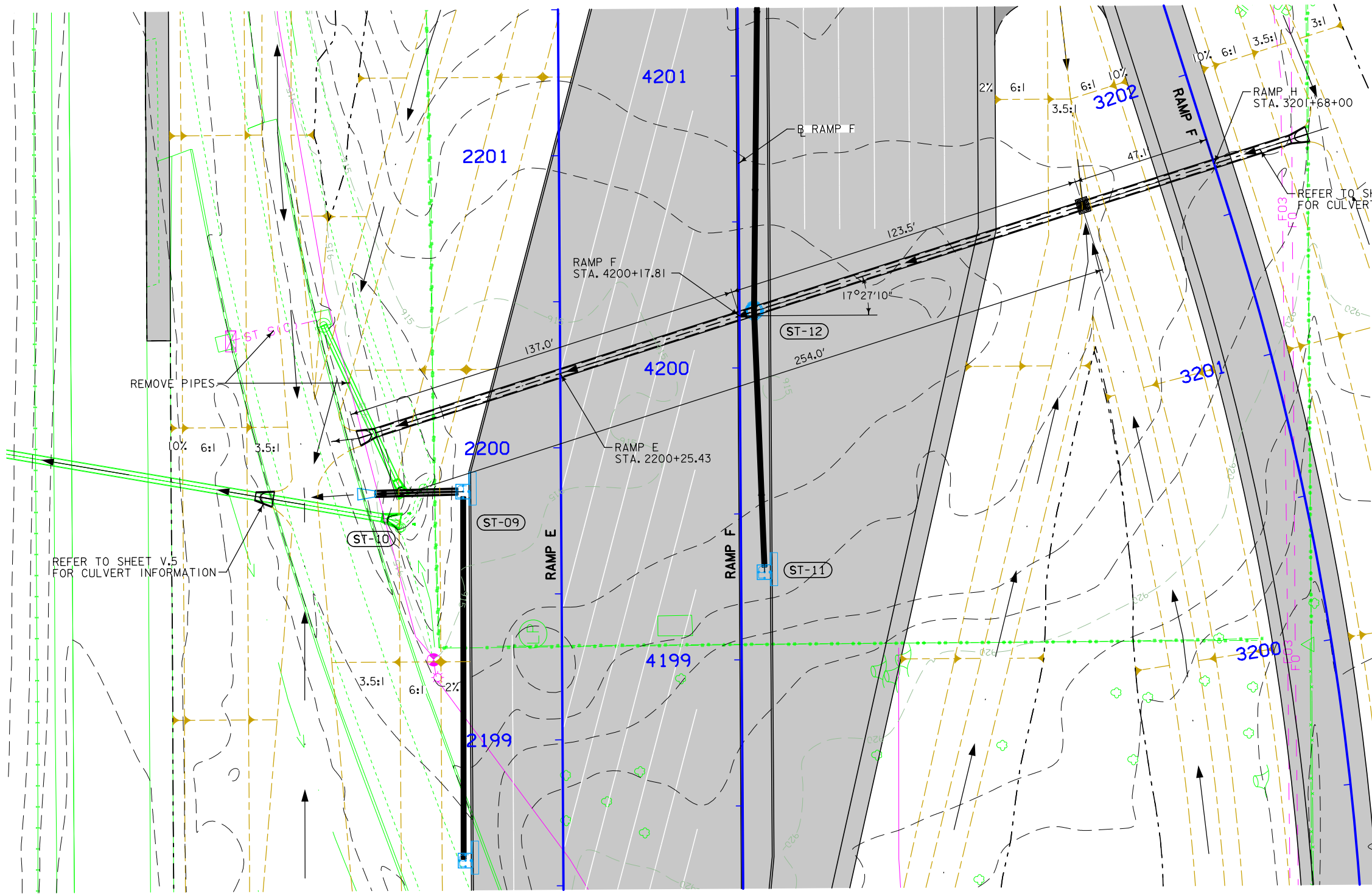
LOCATION
T-80N R-12W
SECTION 34
HARTFORD TOWNSHIP
IOWA COUNTY

DESIGN FOR 0° SKEW
30" X 74'
REINFORCED CONCRETE
PIPE
PLAT PLAN
STATION 3201+68.00 RAMP H 04/30/21
IOWA COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ___ OF ___ FILE NO. 32062 DESIGN NO. ___



BM509
Sta 213+97.74 out 139.85 Rt
YC7950250.874 XC20348133.467
Elev= 895.992
Description: CUT X ON ROW RAIL

LONGITUDINAL SECTION ALONG ϕ CULVERT



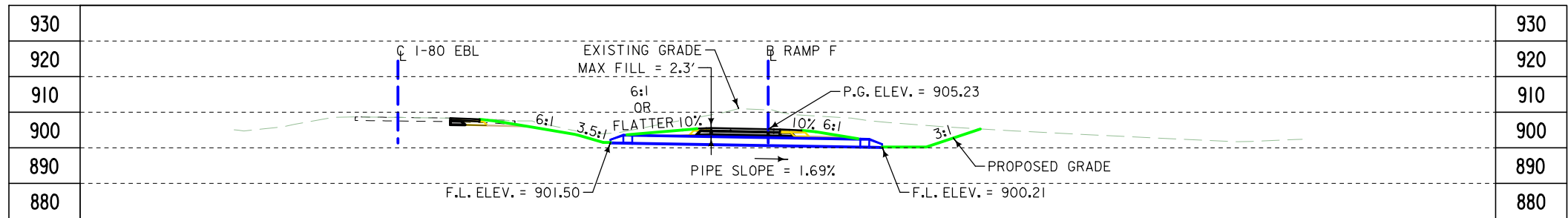
UTILITIES LEGEND:
REFER TO D.I

HYDRAULIC DATA
DRAINAGE AREA = 12.8 ACRES FLAT
DESIGN DISCHARGE, $Q_{50} = 20.2$ CFS

LOCATION
T-80N R-12W
SECTION 34
HARTFORD TOWNSHIP
IOWA COUNTY

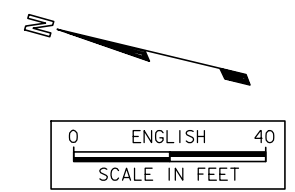
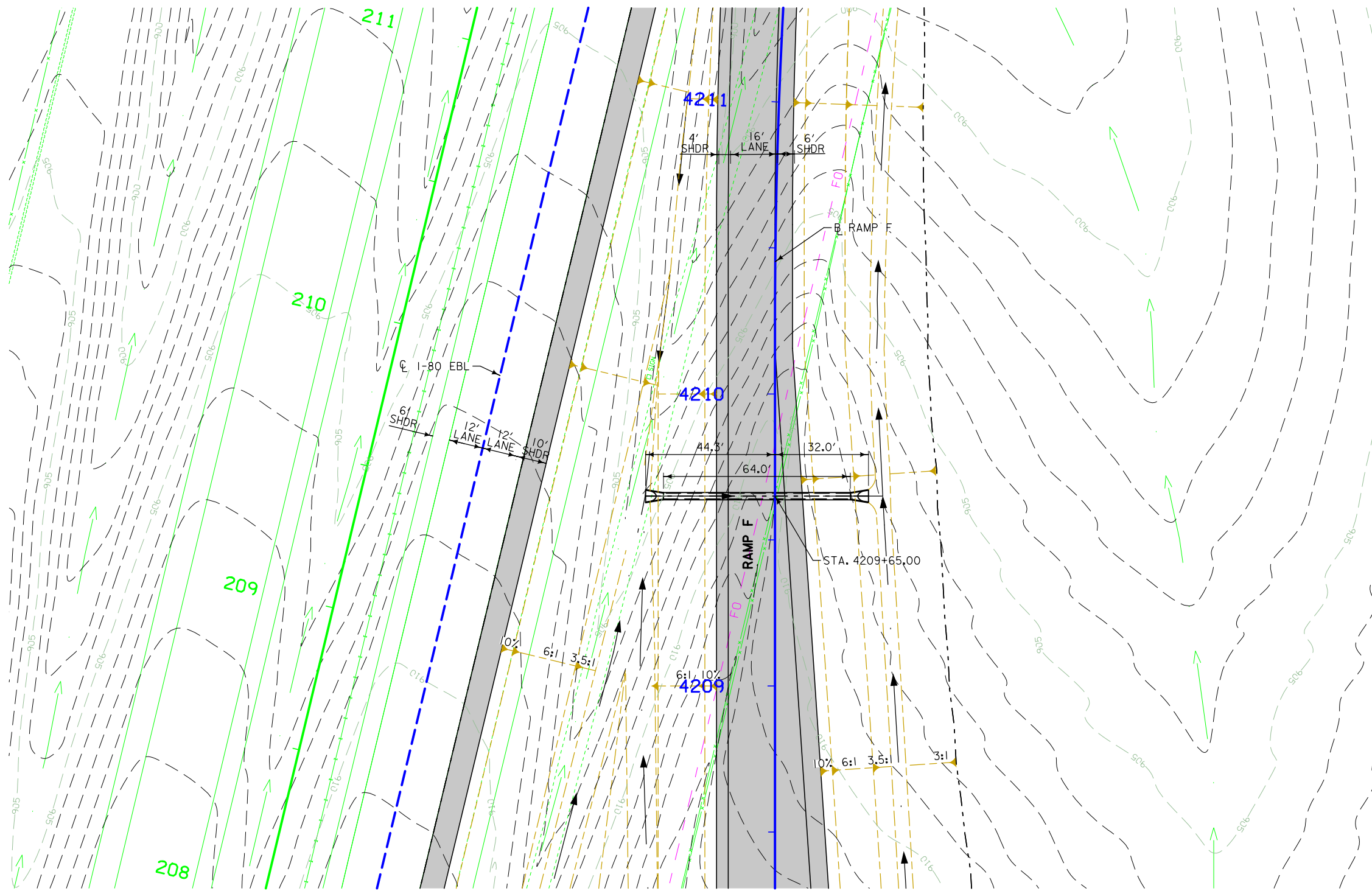
DESIGN FOR 17° SKEW RT AHEAD
30" X 252'
REINFORCED CONCRETE
PIPE
PLAT PLAN
STATION 4200+17.81 RAMP F 04/30/21
IOWA COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. _____ OF _____ FILE NO. 32062 DESIGN NO. _____

PLAT PLAN



LONGITUDINAL SECTION ALONG ϕ CULVERT

BM509
 Sta 213+97.74 out 139.85 R+
 YC7950250.874 XC20348133.467
 Elev= 895.992
 Description: CUT X ON ROW RAIL



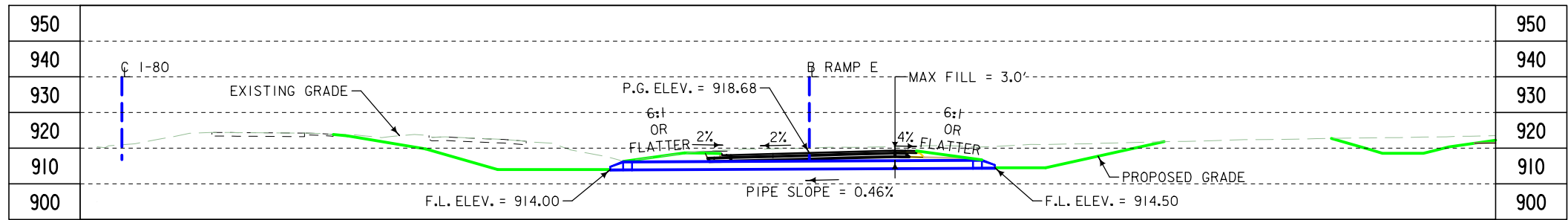
UTILITIES LEGEND:
 REFER TO D.1

HYDRAULIC DATA
 DRAINAGE AREA = 2.0 ACRES FLAT
 DESIGN DISCHARGE, Q_{50} = 6.14 CFS

LOCATION
 T-80N R-12W
 SECTION 34
 HARTFORD TOWNSHIP
 IOWA COUNTY

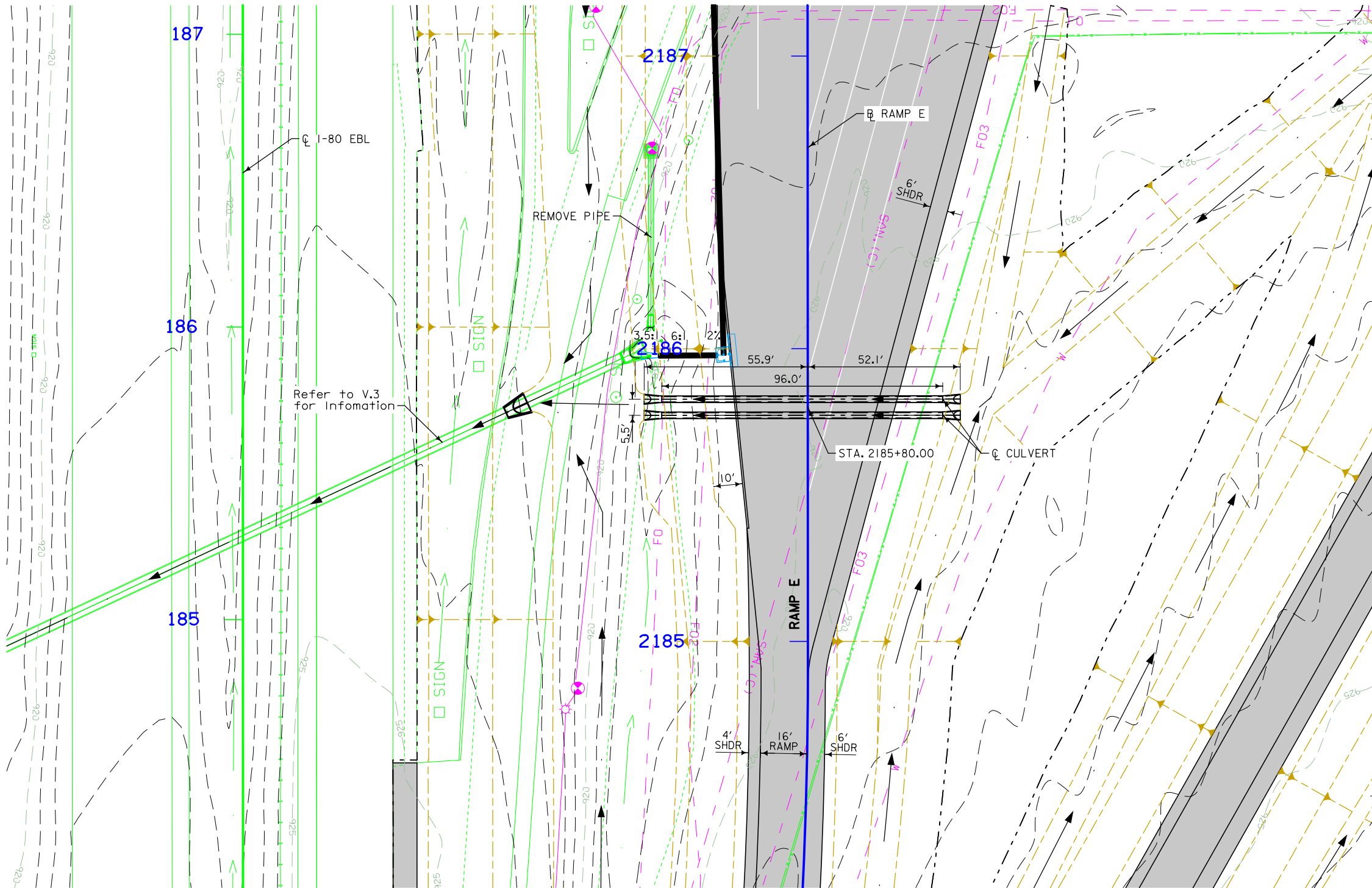
DESIGN FOR 0° SKEW
24" X 64'
REINFORCED CONCRETE
PIPE
PLAT PLAN
 STATION 4209+65.00 RAMP F 04/30/21
IOWA COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. _____ OF _____ FILE NO. 32062 DESIGN NO. _____

PLAT PLAN



LONGITUDINAL SECTION ALONG ϕ CULVERT

BM509
Sta 213+97.74 out 139.85 Rt
YC7950250.874 XC20348133.467
Elev= 895.992
Description: CUT X ON ROW RAIL



PLAT PLAN

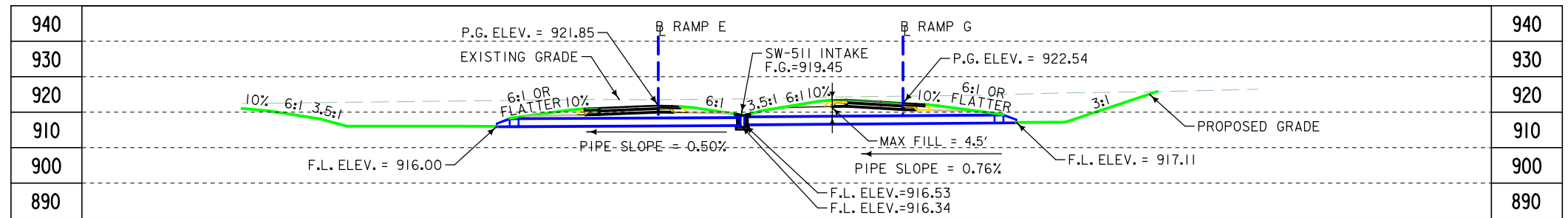


UTILITIES LEGEND:
REFER TO D.1

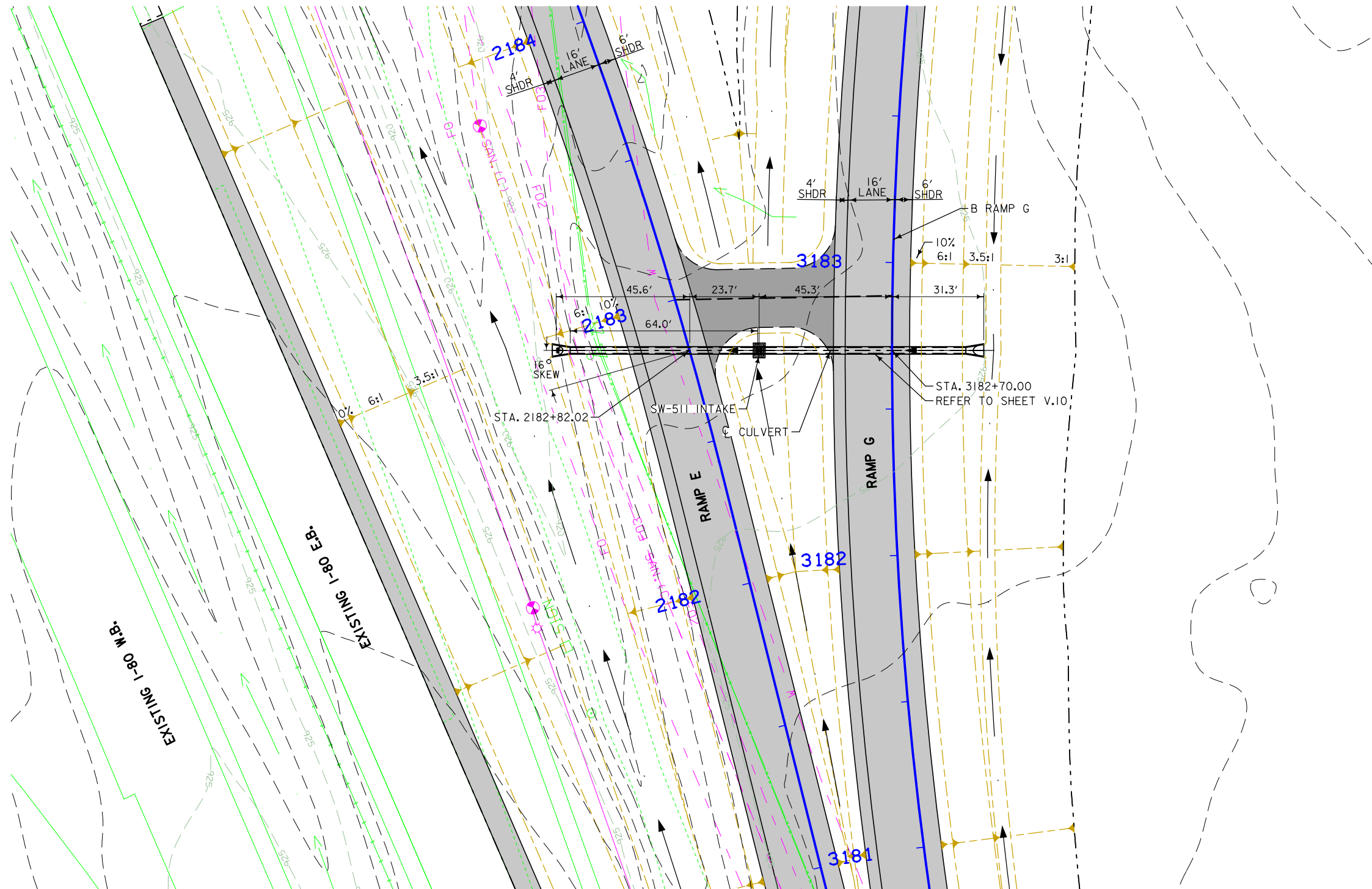
HYDRAULIC DATA
DRAINAGE AREA = 25.0 ACRES FLAT
DESIGN DISCHARGE, Q_{50} = 33.60 CFS

LOCATION
T-80N R-12W
SECTION 34
HARTFORD TOWNSHIP
IOWA COUNTY

DESIGN FOR 0° SKEW
**TWIN 24" EQUIVALENT X 96'
LOW CLEARANCE
REINFORCED CONCRETE PIPE
PLAT PLAN**
STATION 2185+80.00 RAMP E 04/30/21
IOWA COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. _____ OF _____ FILE NO. 32062 DESIGN NO. _____

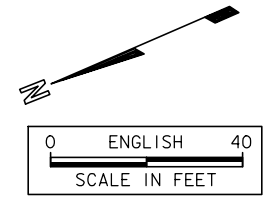


LONGITUDINAL SECTION ALONG CULVERT



PLAT PLAN

BM509
Sta 213+97.74 out 139.85 R+
YC7950250.874 XC20348133.467
Elev= 895.992
Description: CUT X ON ROW RAIL



UTILITIES LEGEND:
REFER TO D.I

HYDRAULIC DATA
DRAINAGE AREA = 3.88 ACRES FLAT
DESIGN DISCHARGE, Q₅₀ = 8.16 CFS

LOCATION
T-80N R-12W
SECTION 34
HARTFORD TOWNSHIP
IOWA COUNTY

DESIGN FOR 16° SKEW LT AHEAD
24" X 64'
REINFORCED CONCRETE
PIPE
PLAT PLAN
STATION 2182+82.02 RAMP E 04/30/21
IOWA COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ___ OF ___ FILE NO. 32062 DESIGN NO. ___

LINE STYLE LEGEND OF CROSS SECTION SHEETS (ROAD)

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

LINE STYLE LEGEND OF CROSS SECTION SHEETS (SOILS)

- TOPSOIL ----- Topsoil (Class 10)
- Slope Dressing Only
- CLM ----- 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
- BRW LS ----- Broken and Weathered Rock
- ROCK ----- Solid Rock
- BLDGS ----- Boulders

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

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

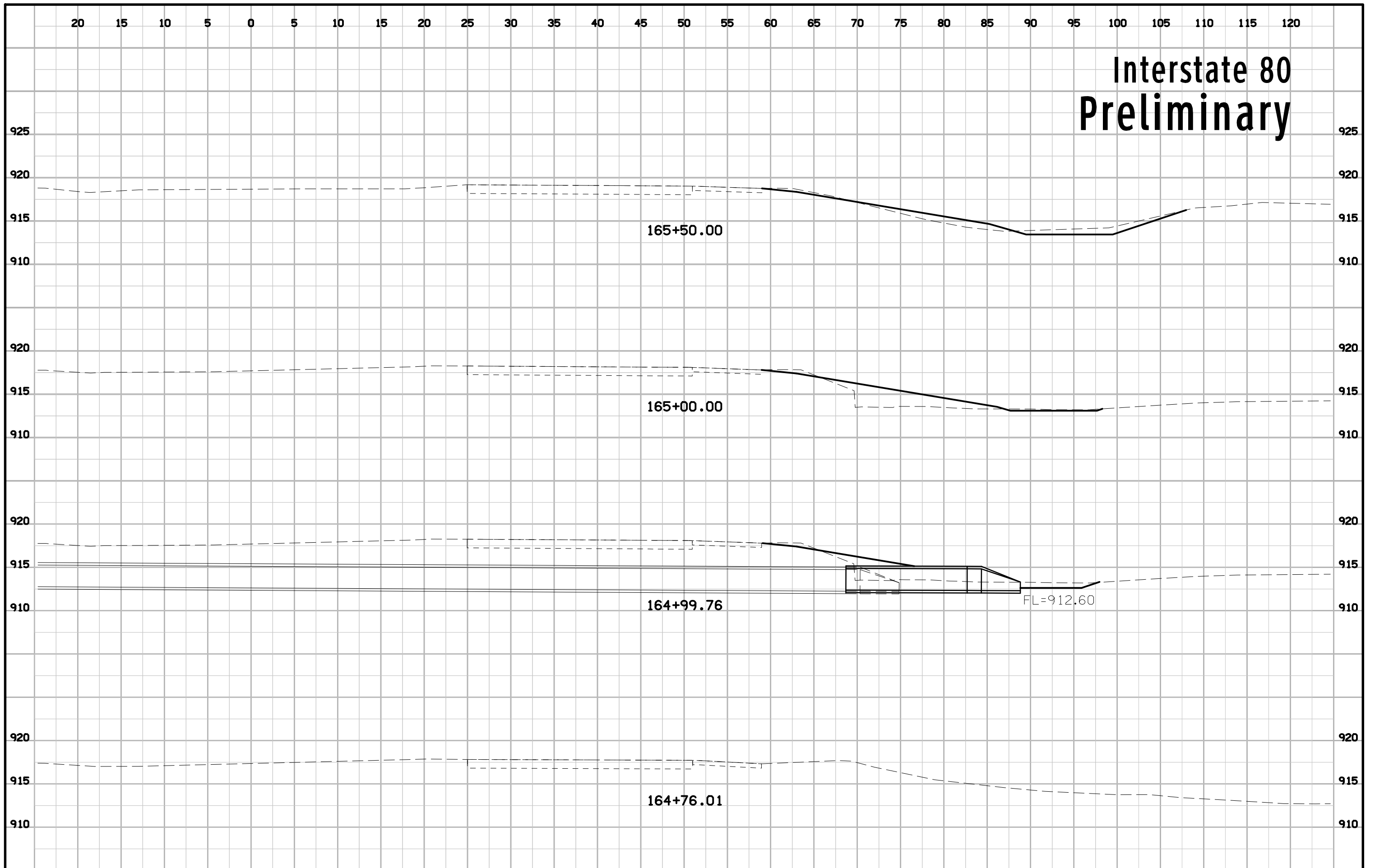
SYMBOL LEGEND OF CROSS SECTION SHEETS

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

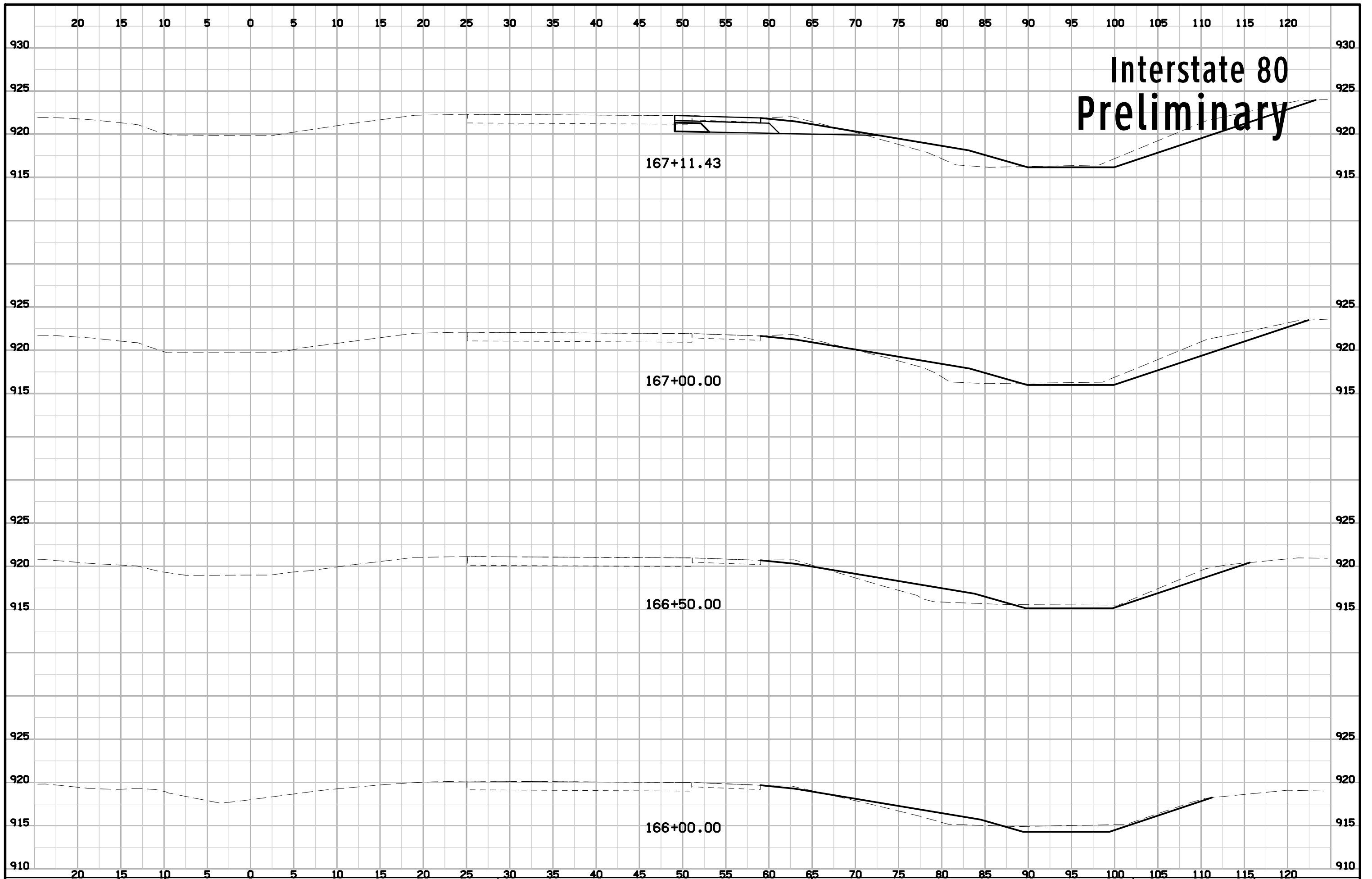
**CROSS SECTION
LEGEND AND SYMBOL
INFORMATION SHEET**

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

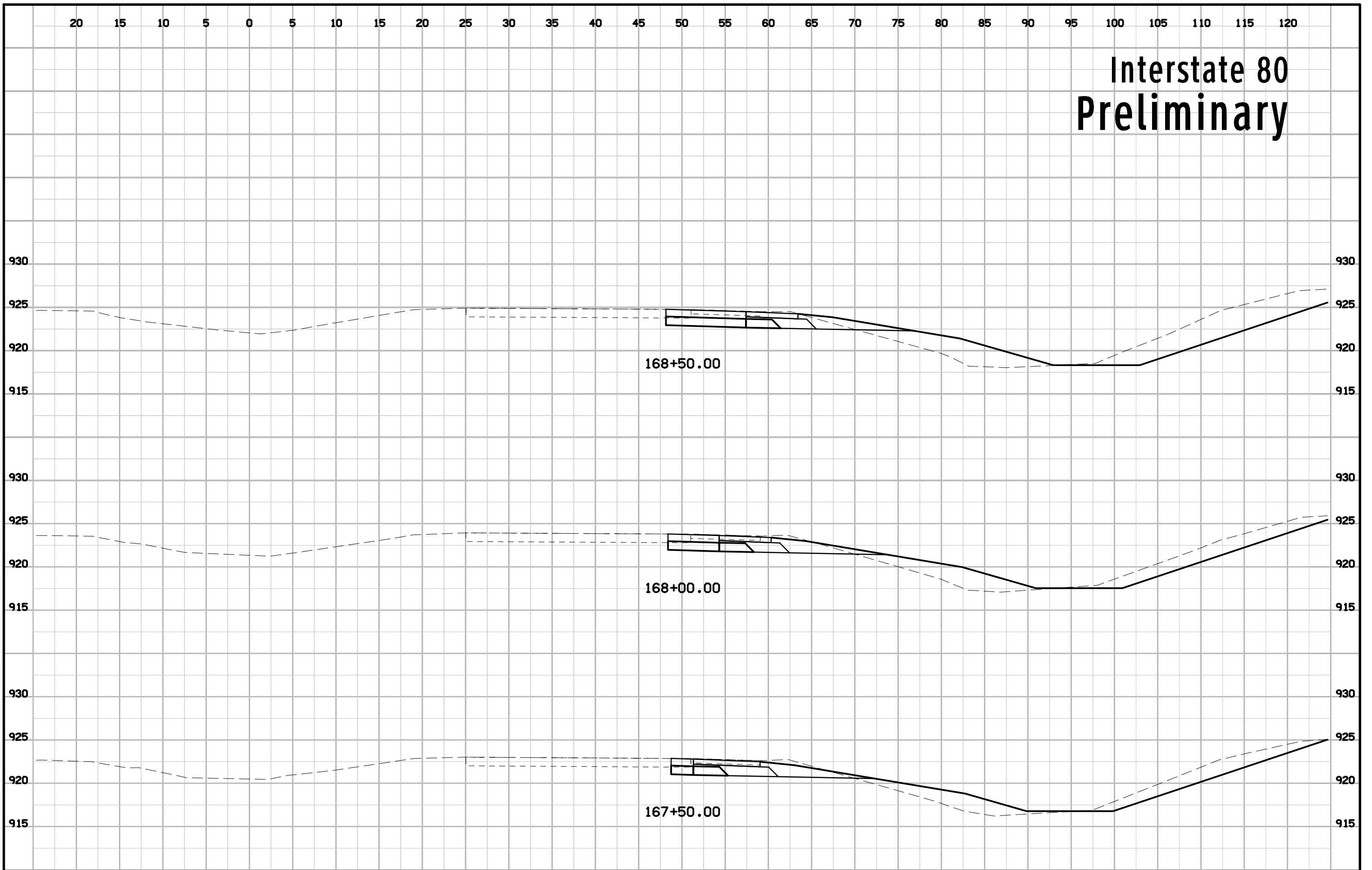
Interstate 80 Preliminary



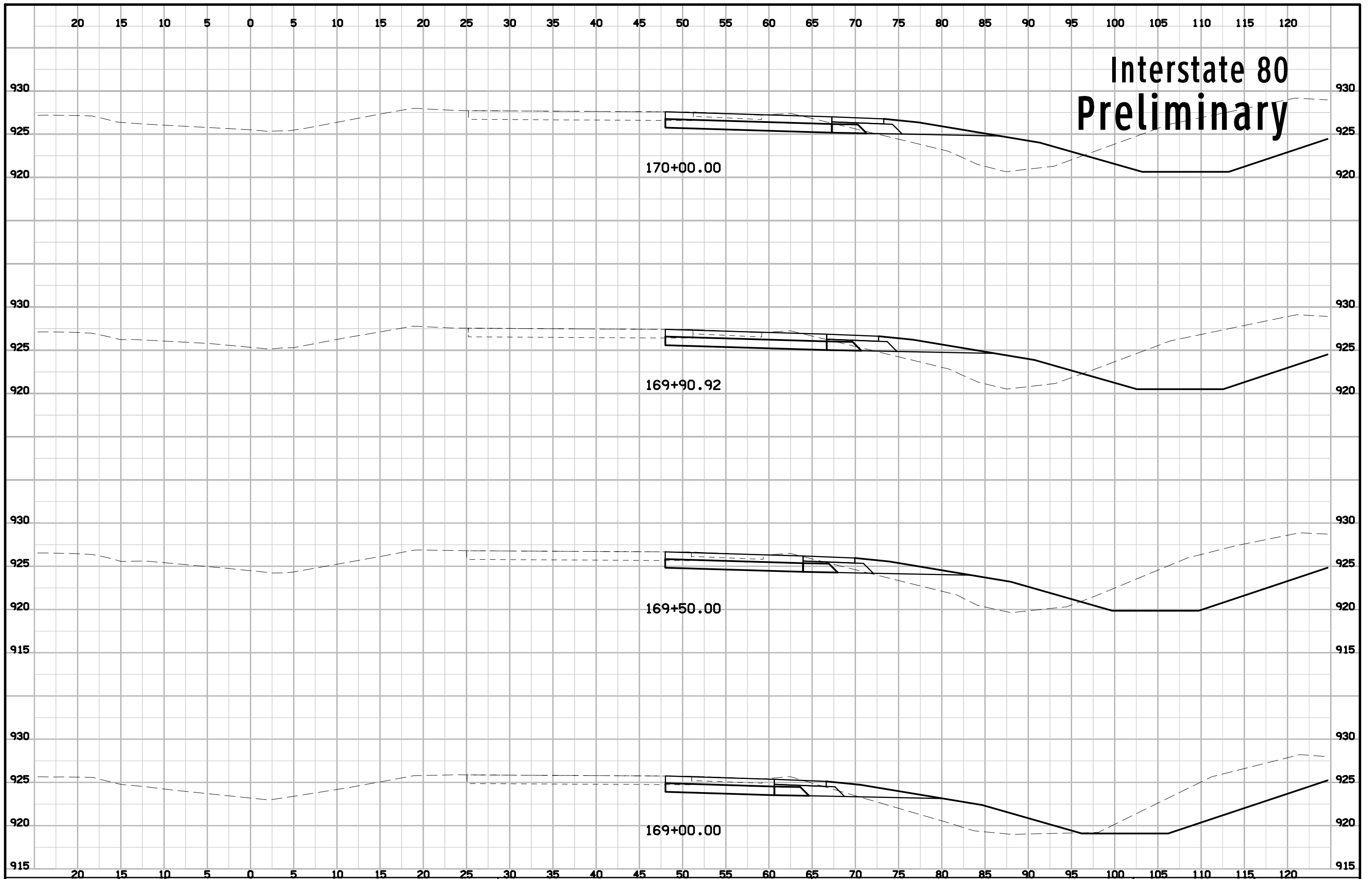
Interstate 80 Preliminary



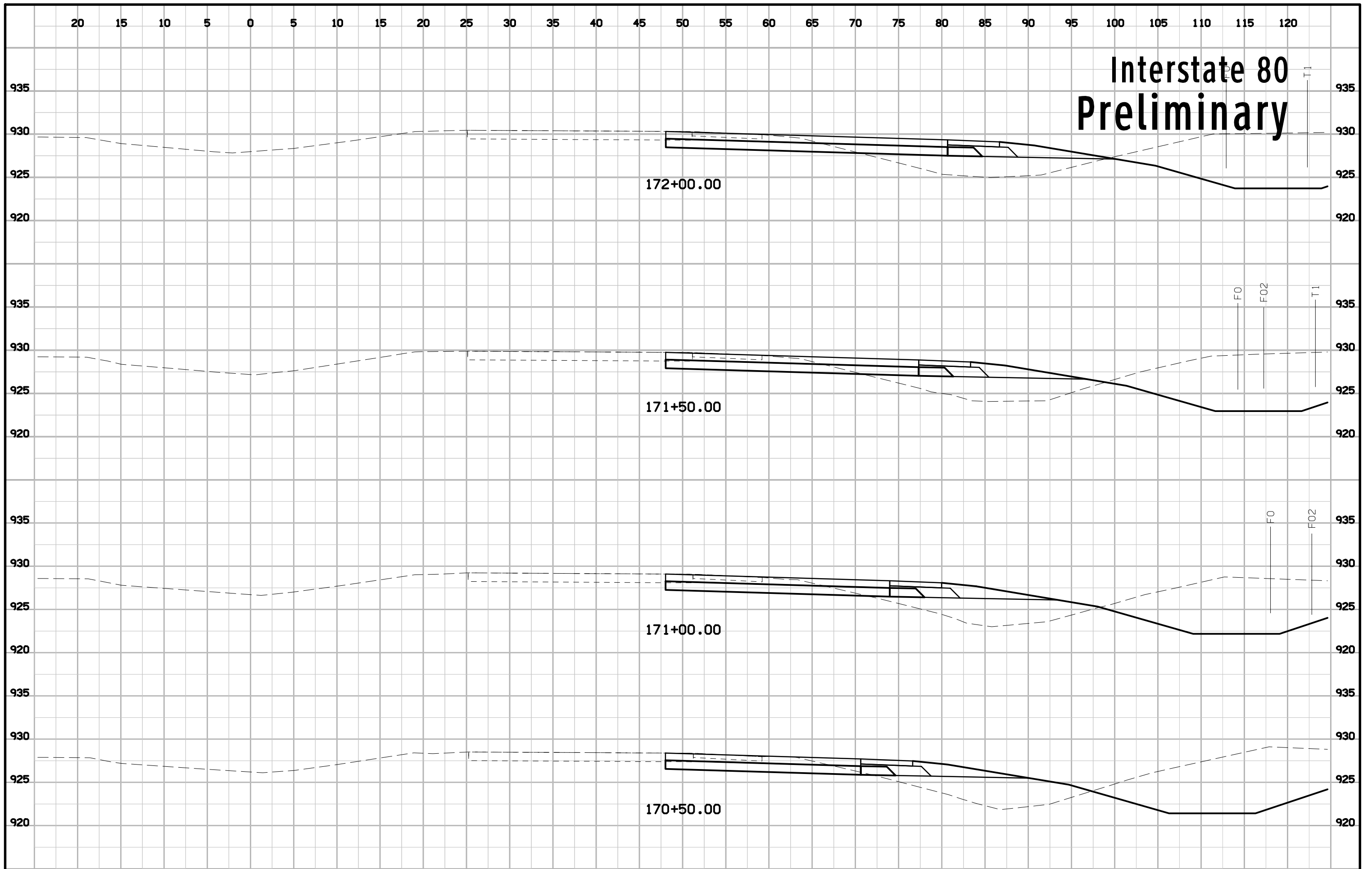
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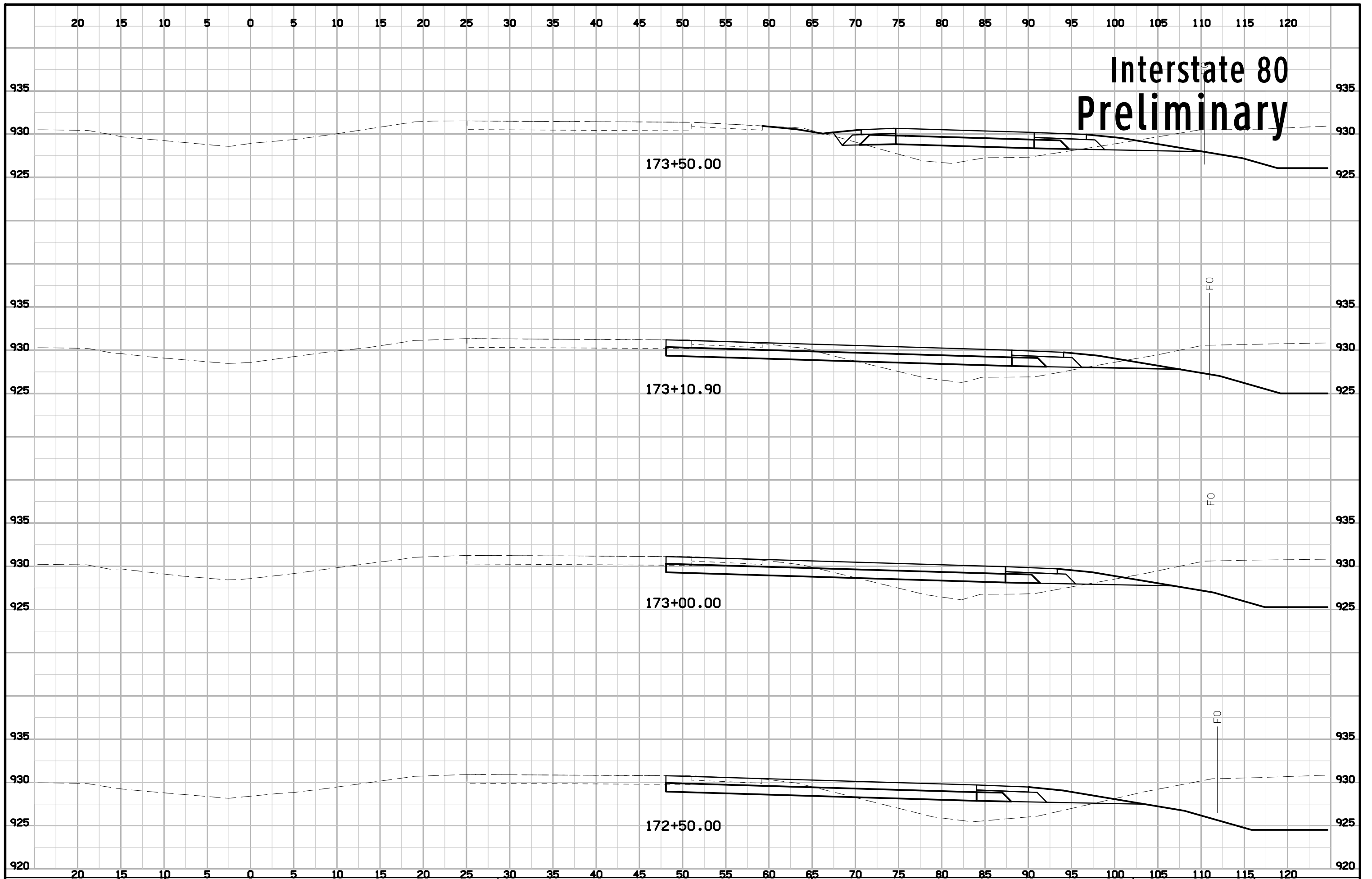
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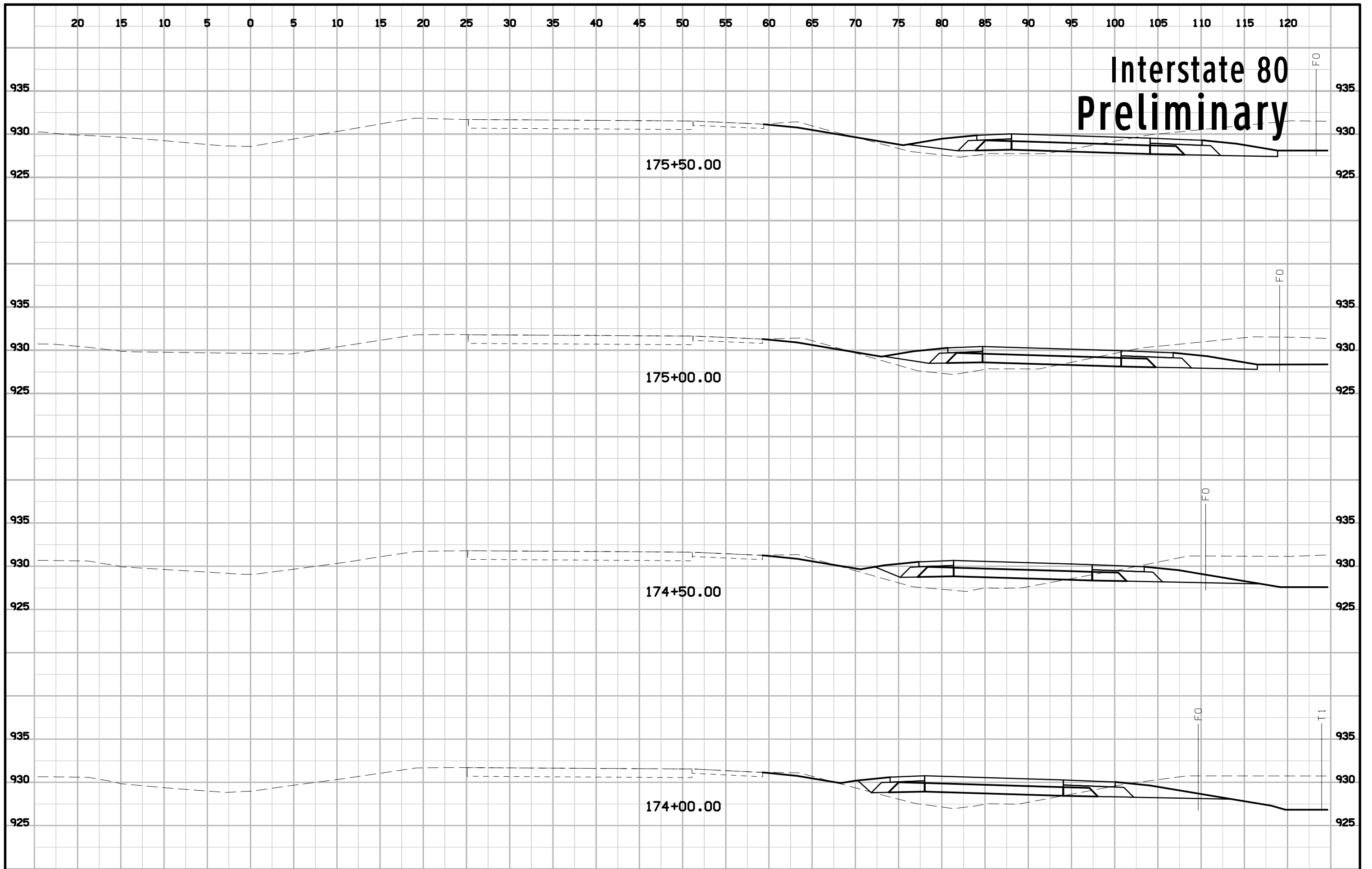
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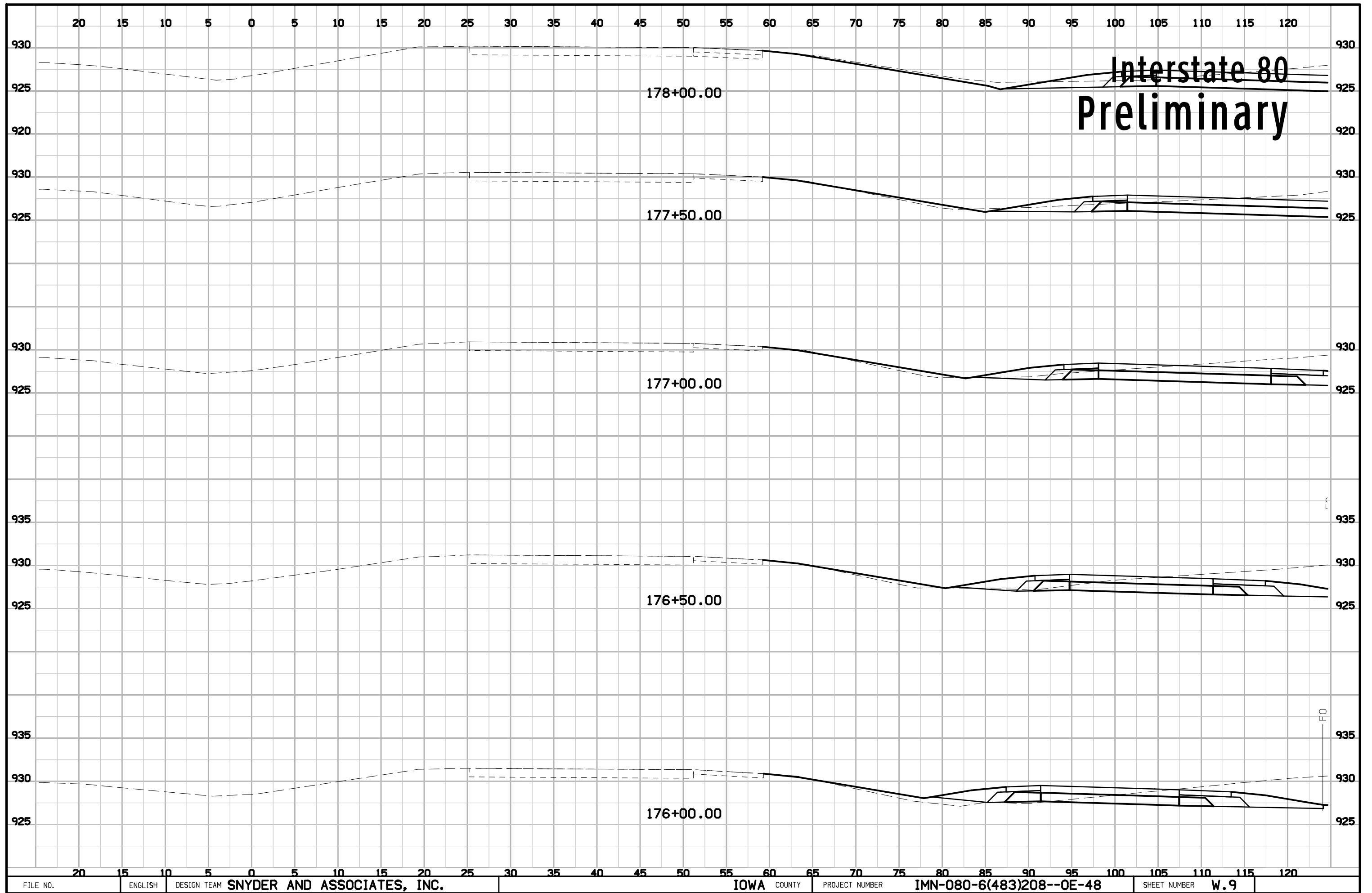


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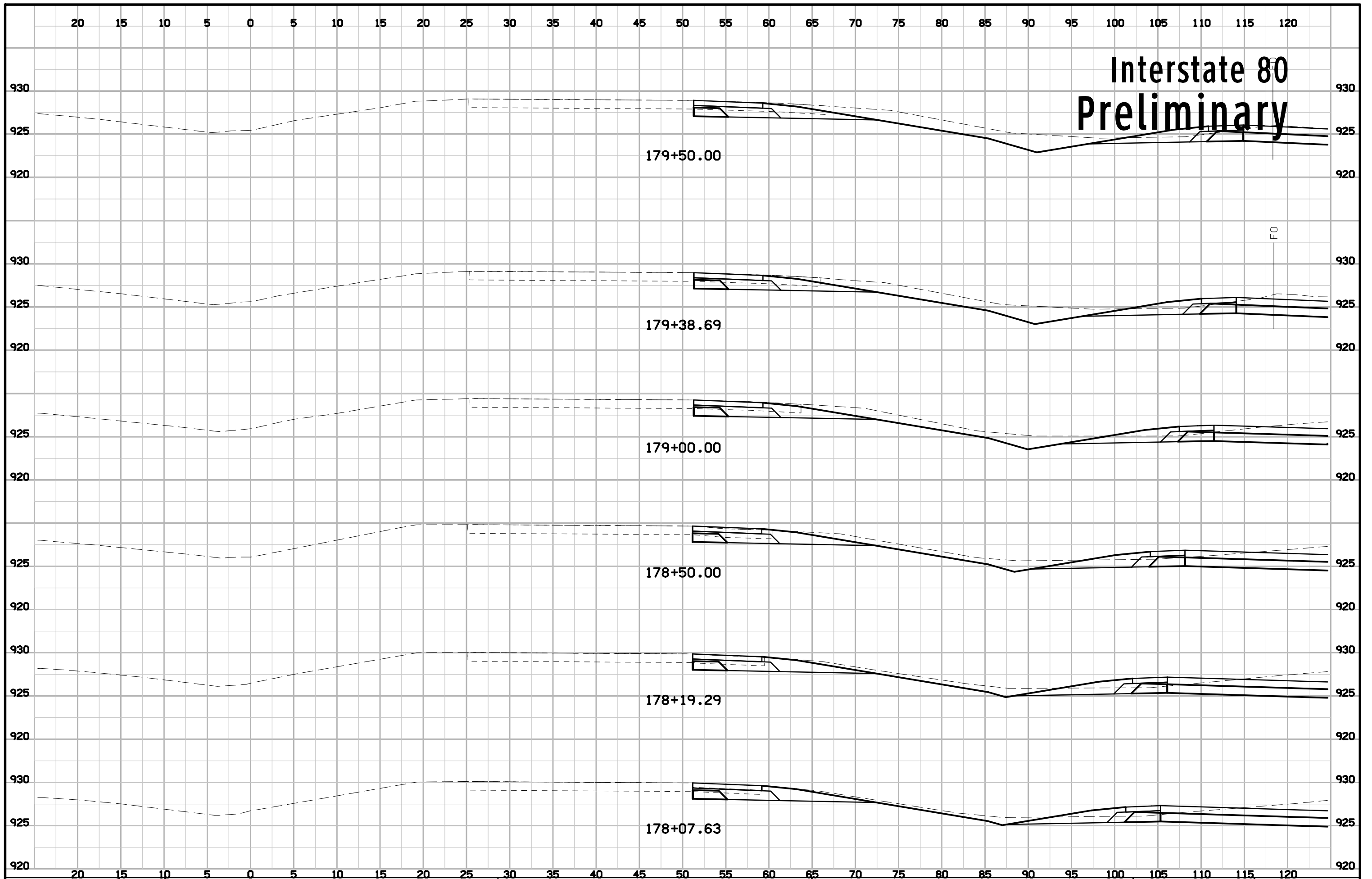


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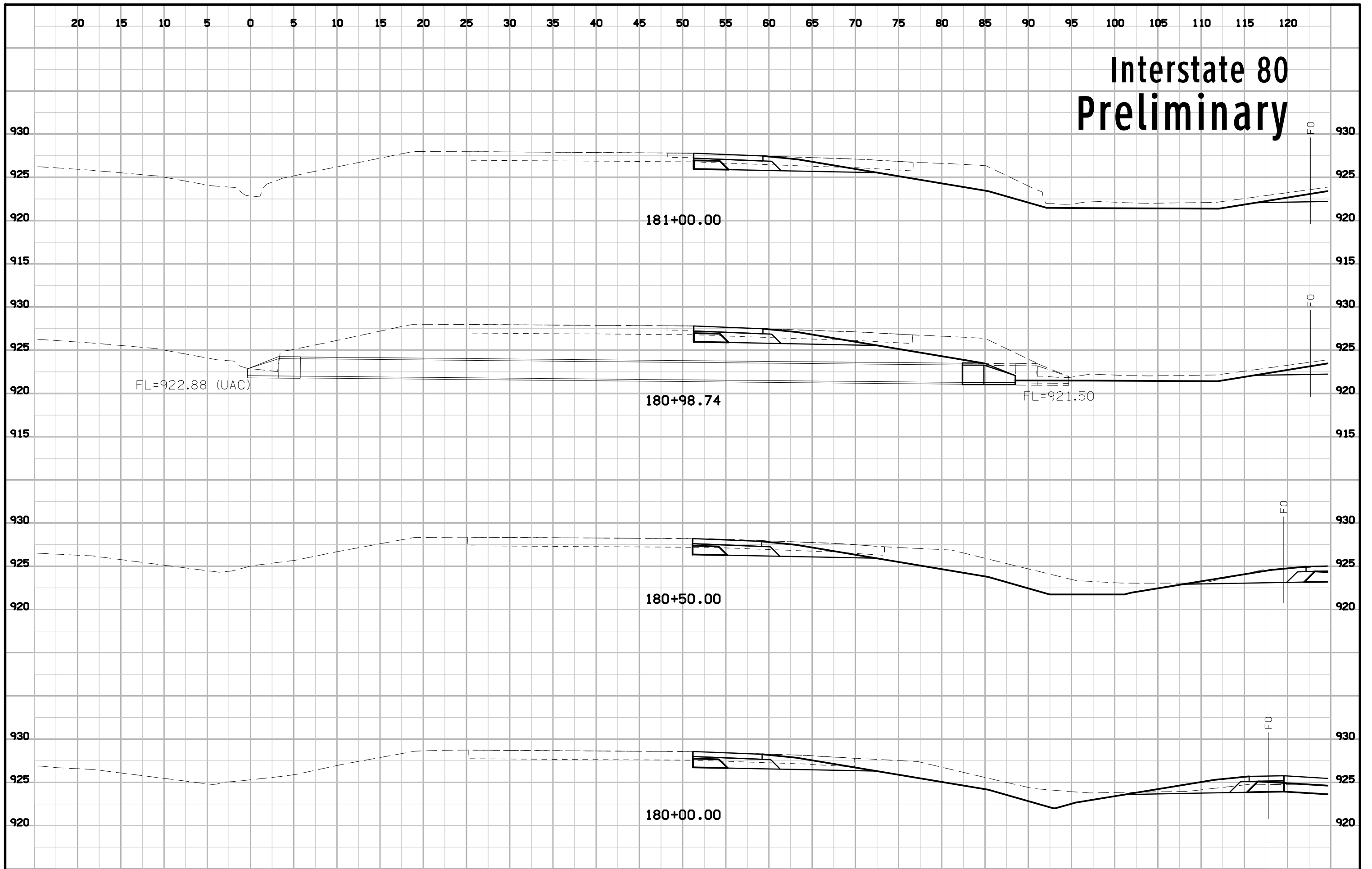




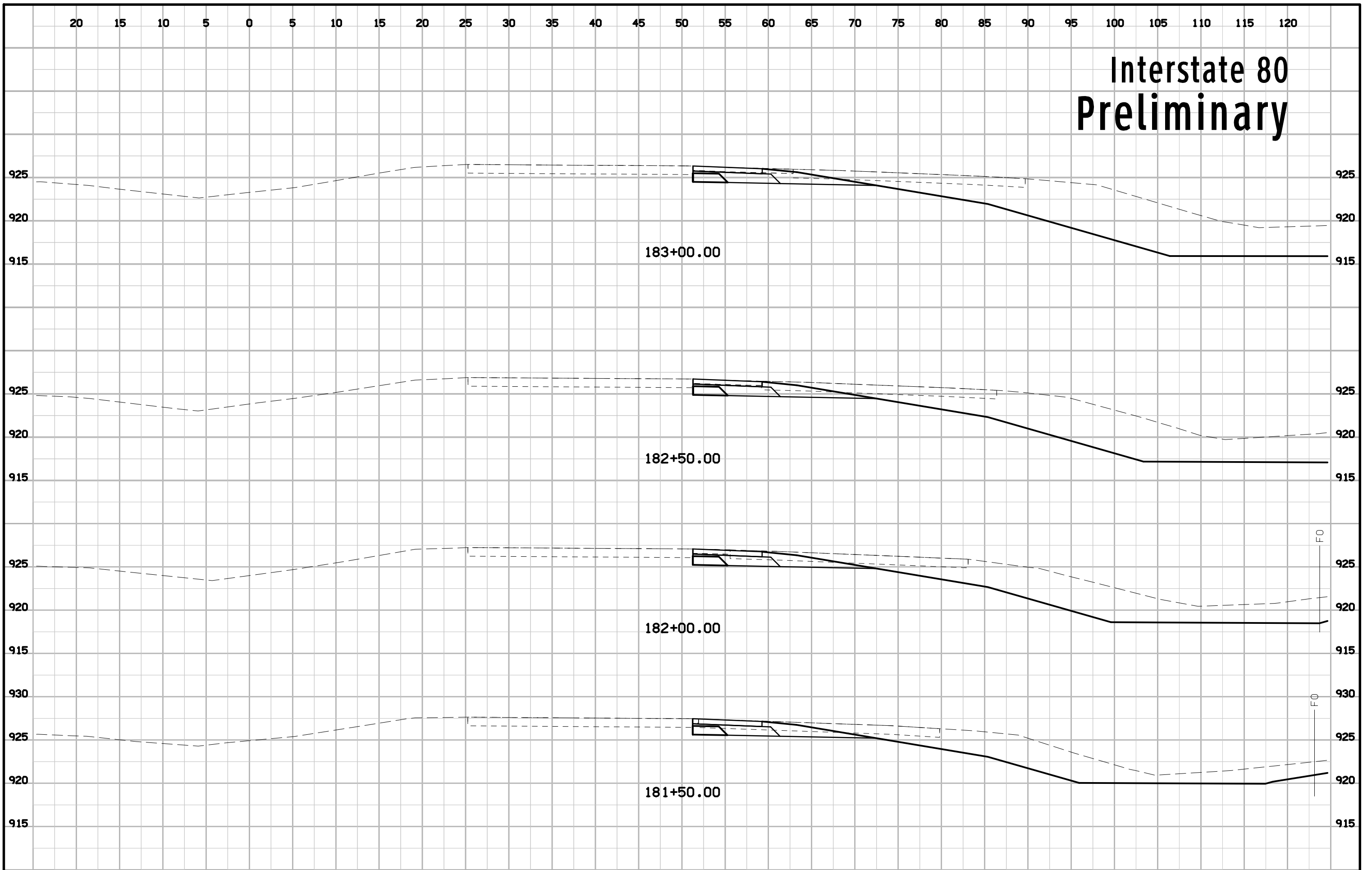
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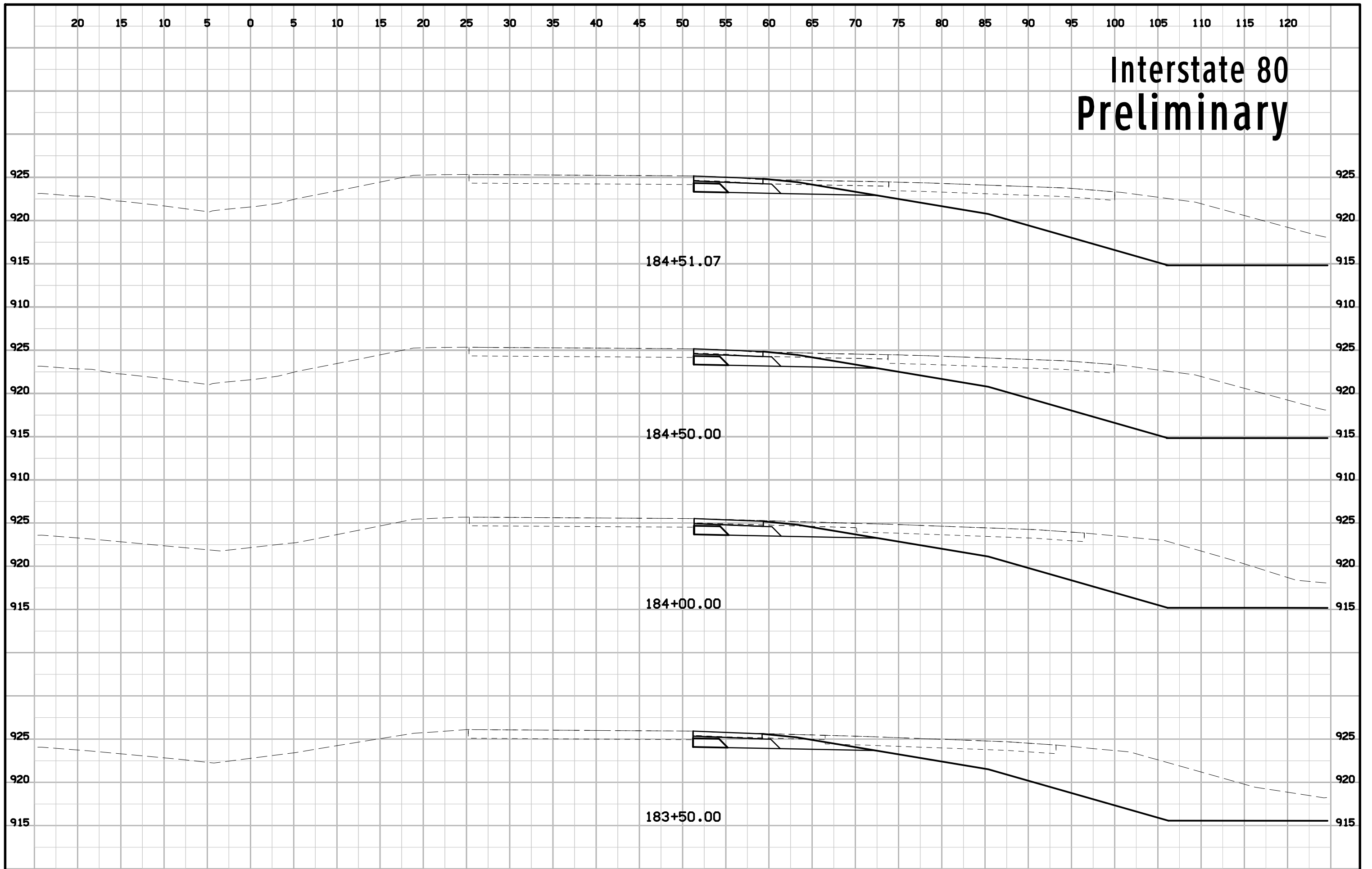
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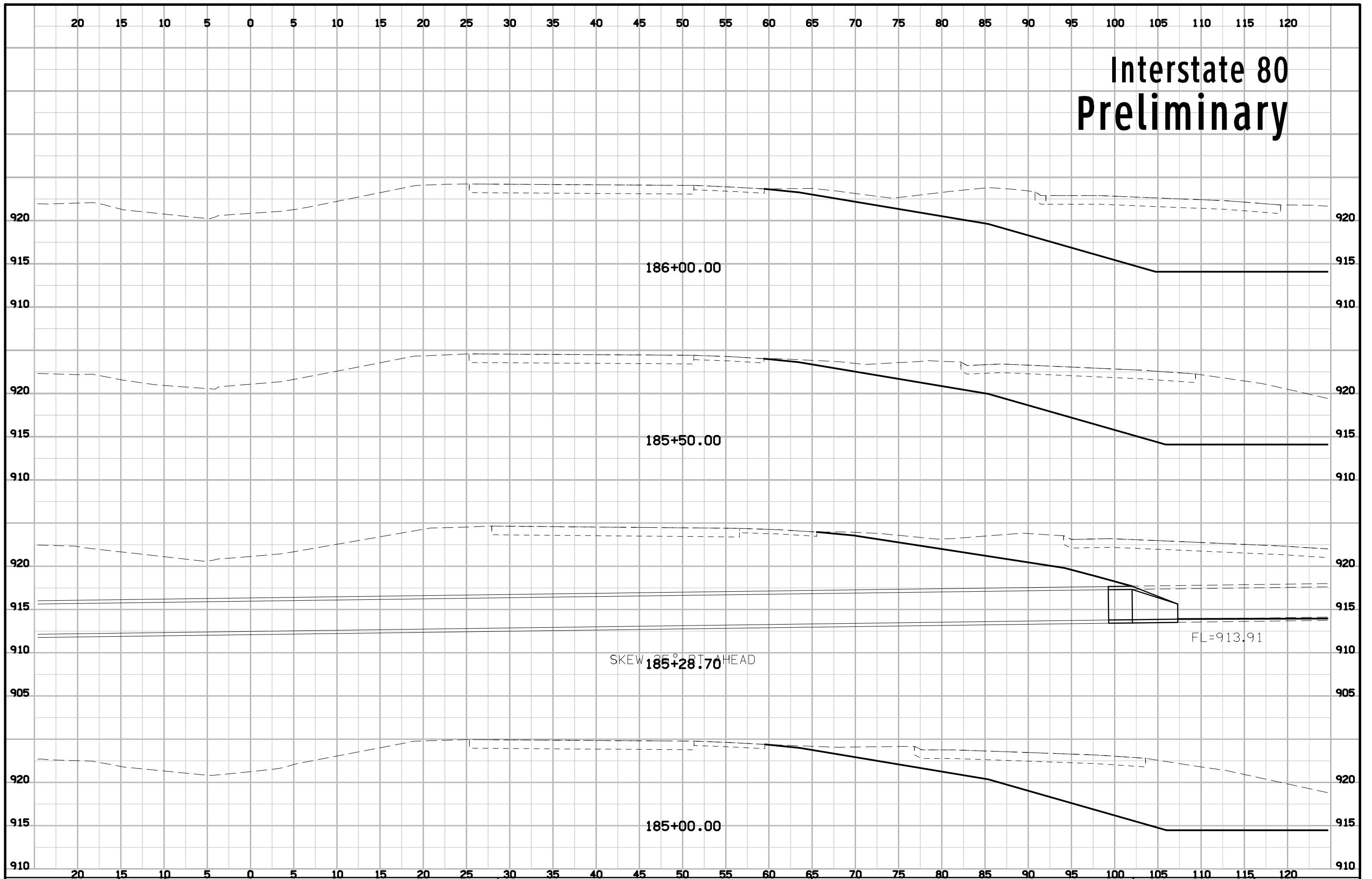
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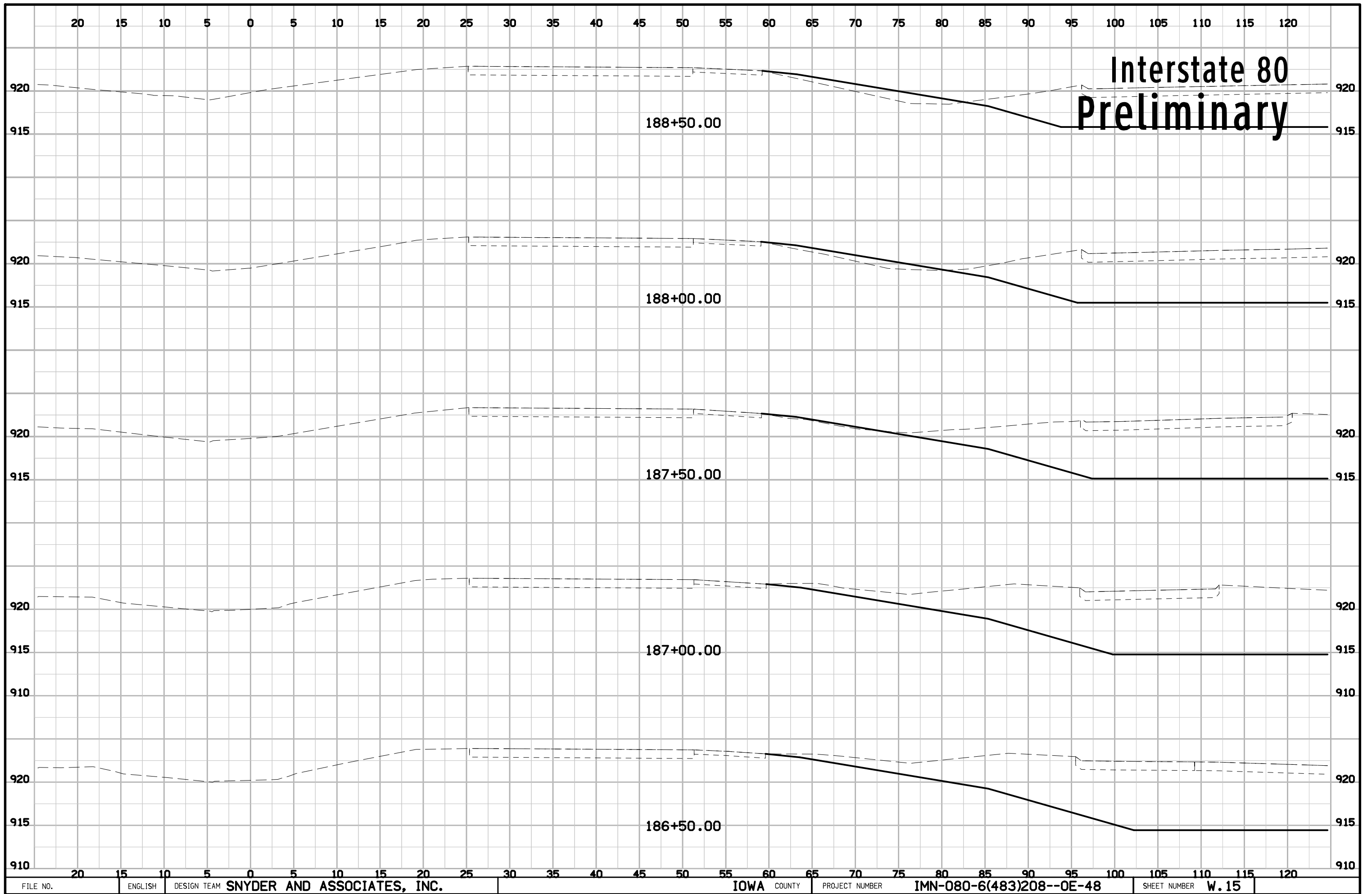


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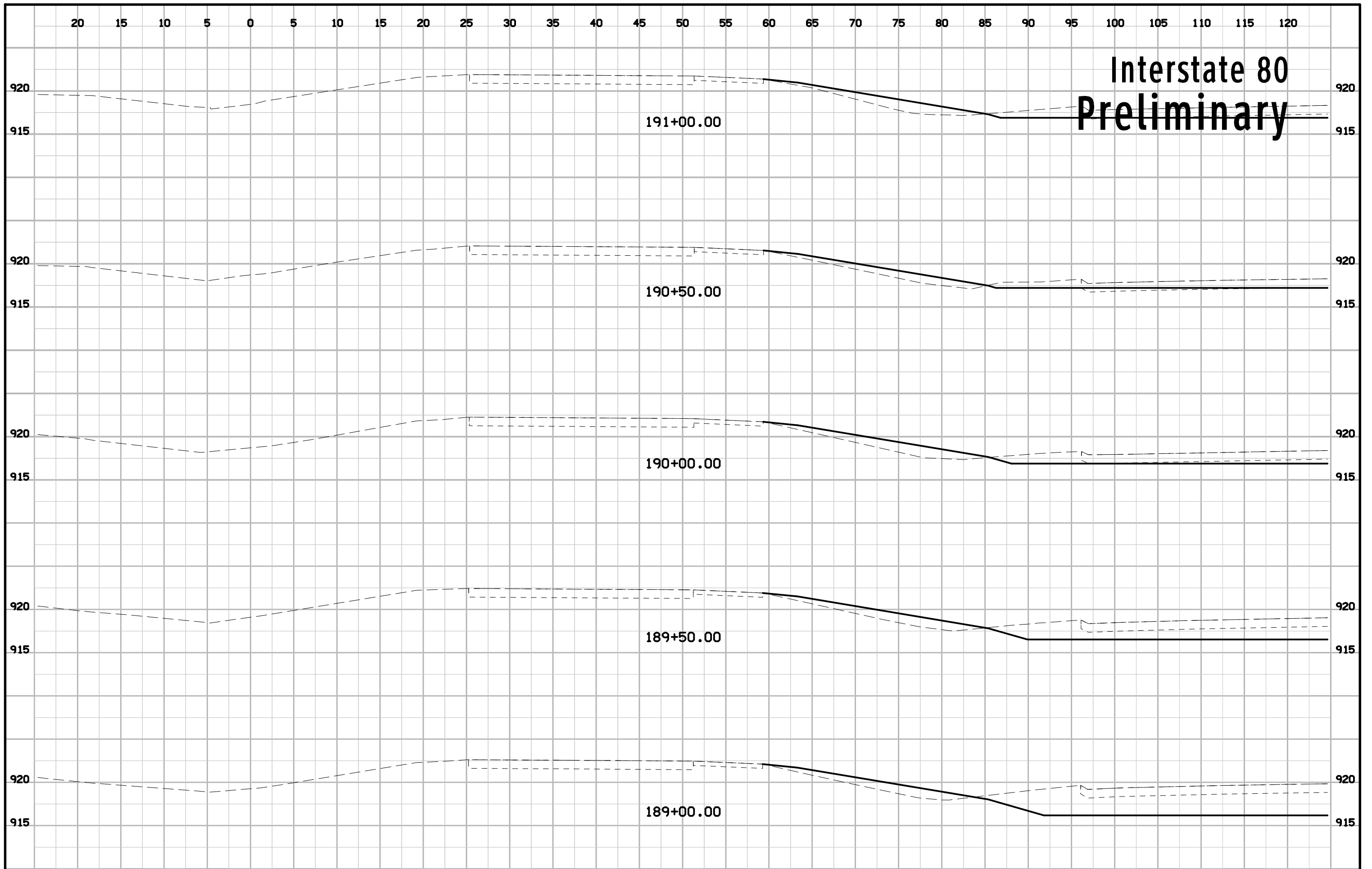


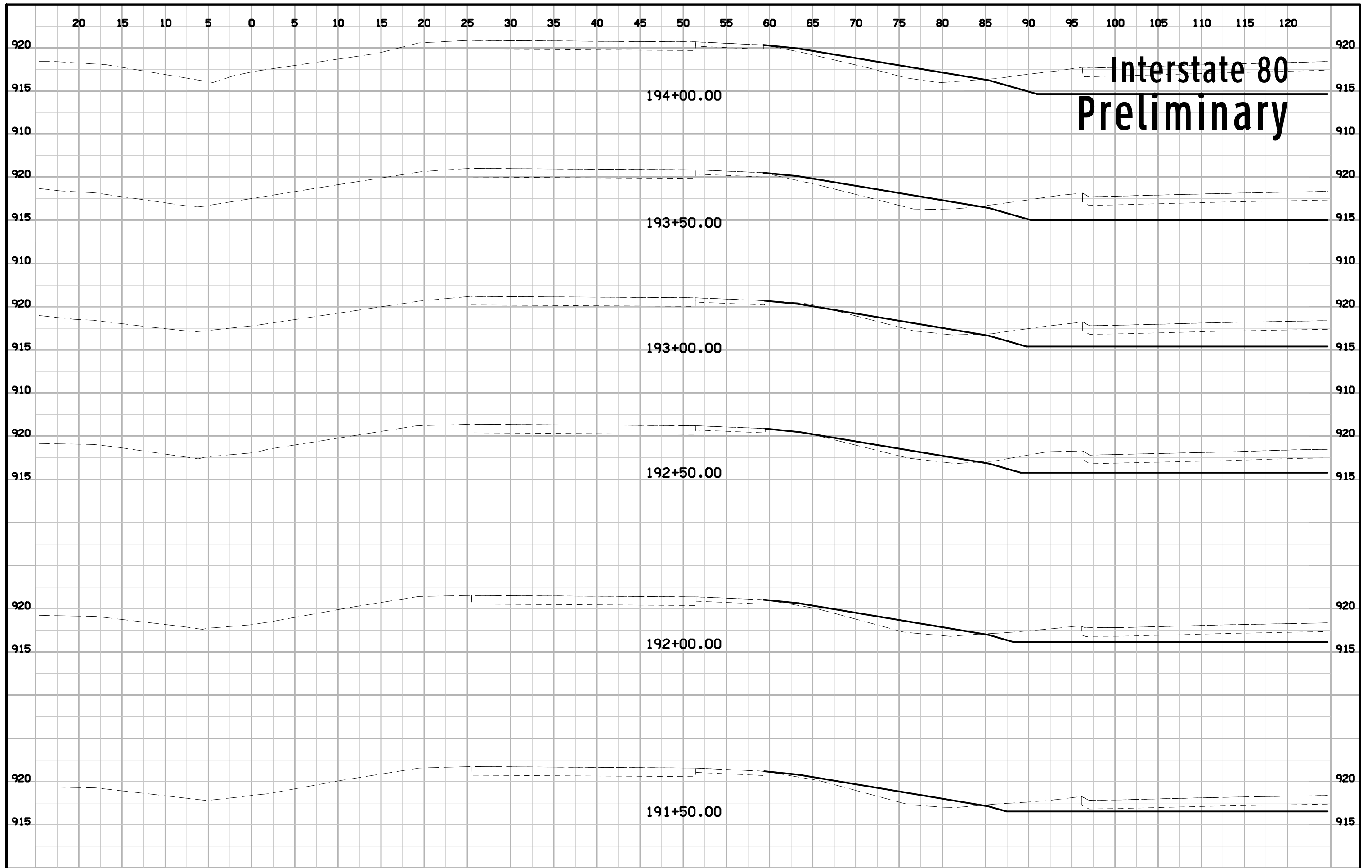
Interstate 80 Preliminary





Interstate 80 Preliminary





**Interstate 80
Preliminary**

194+00.00

193+50.00

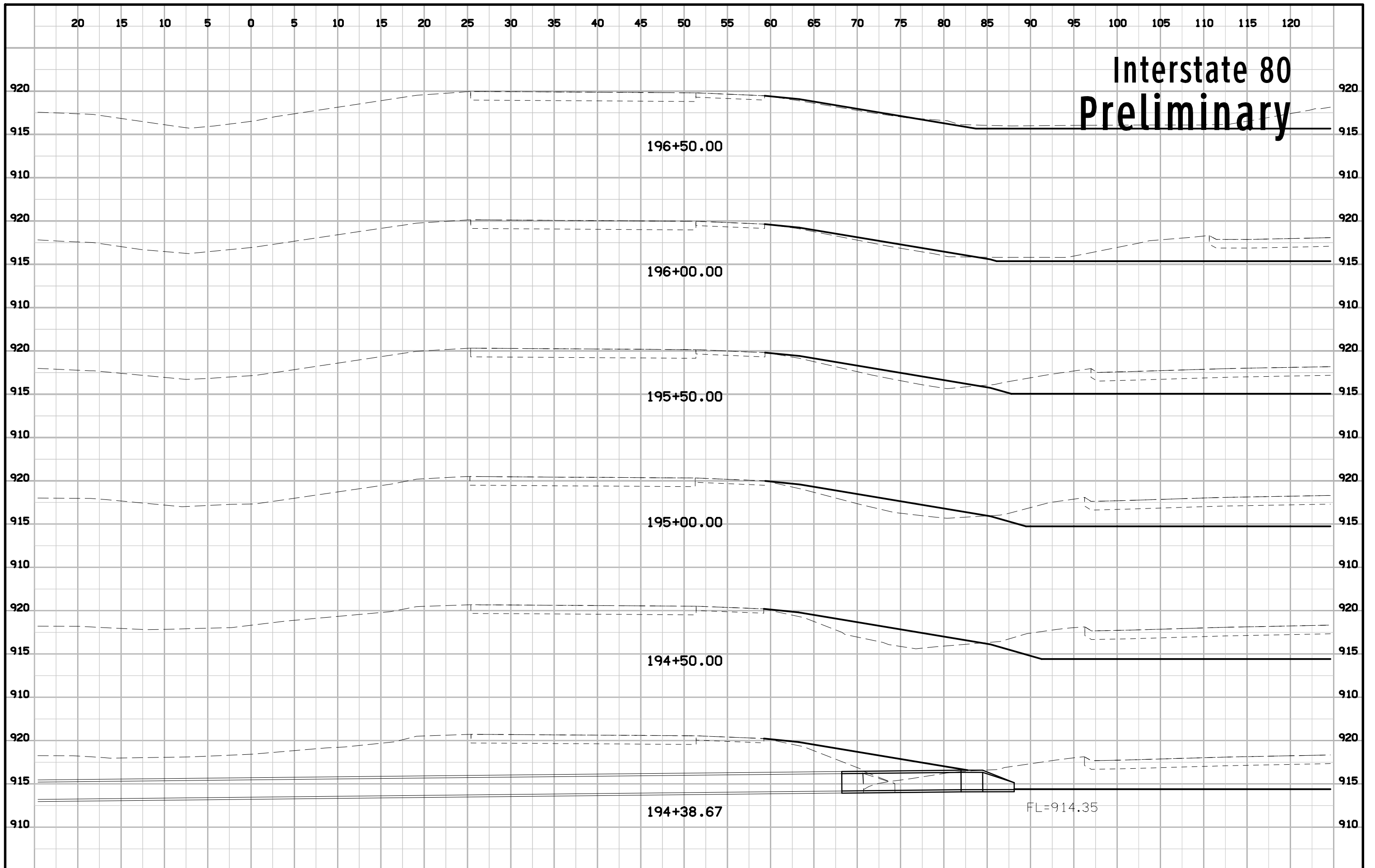
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192+50.00

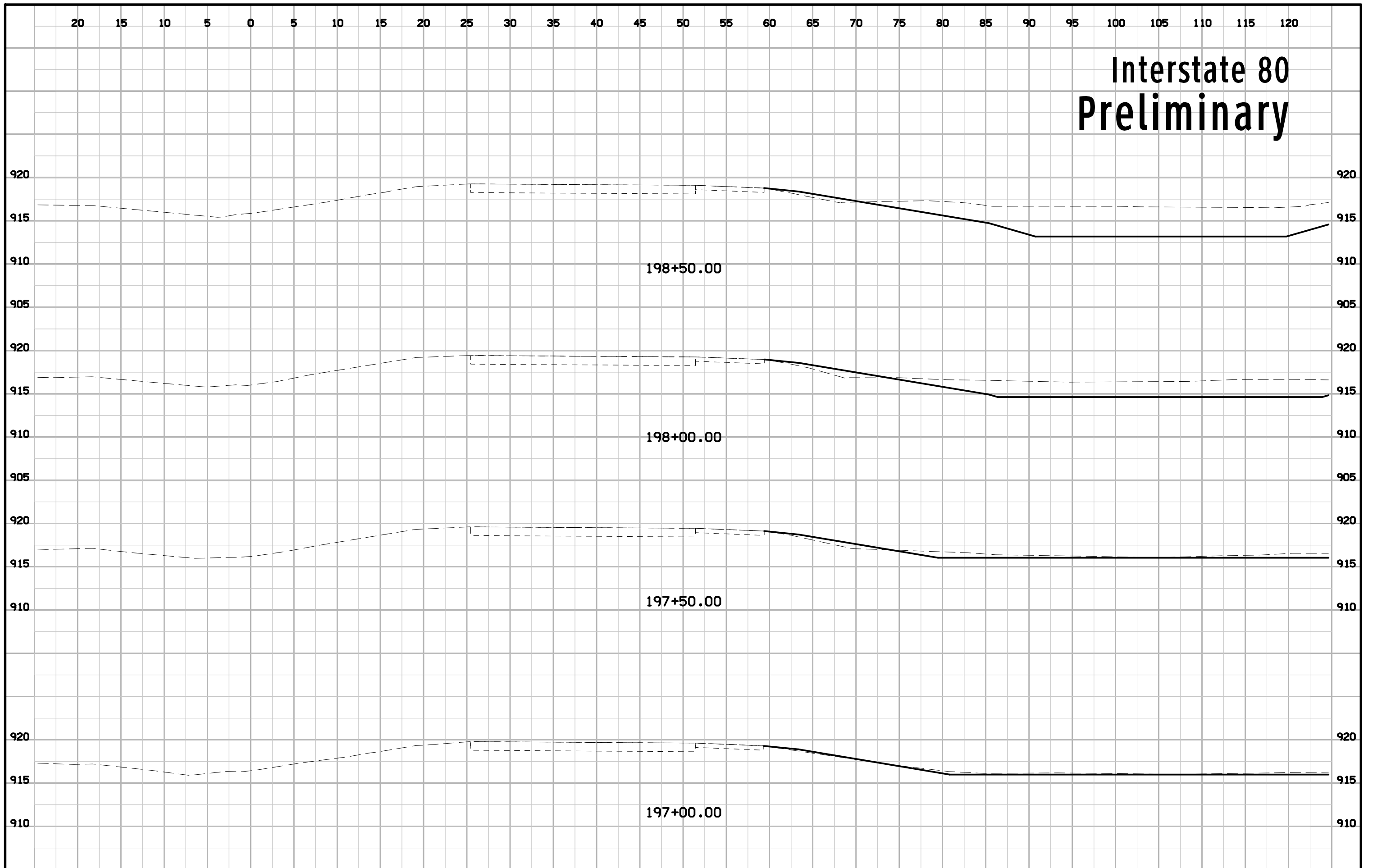
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191+50.00

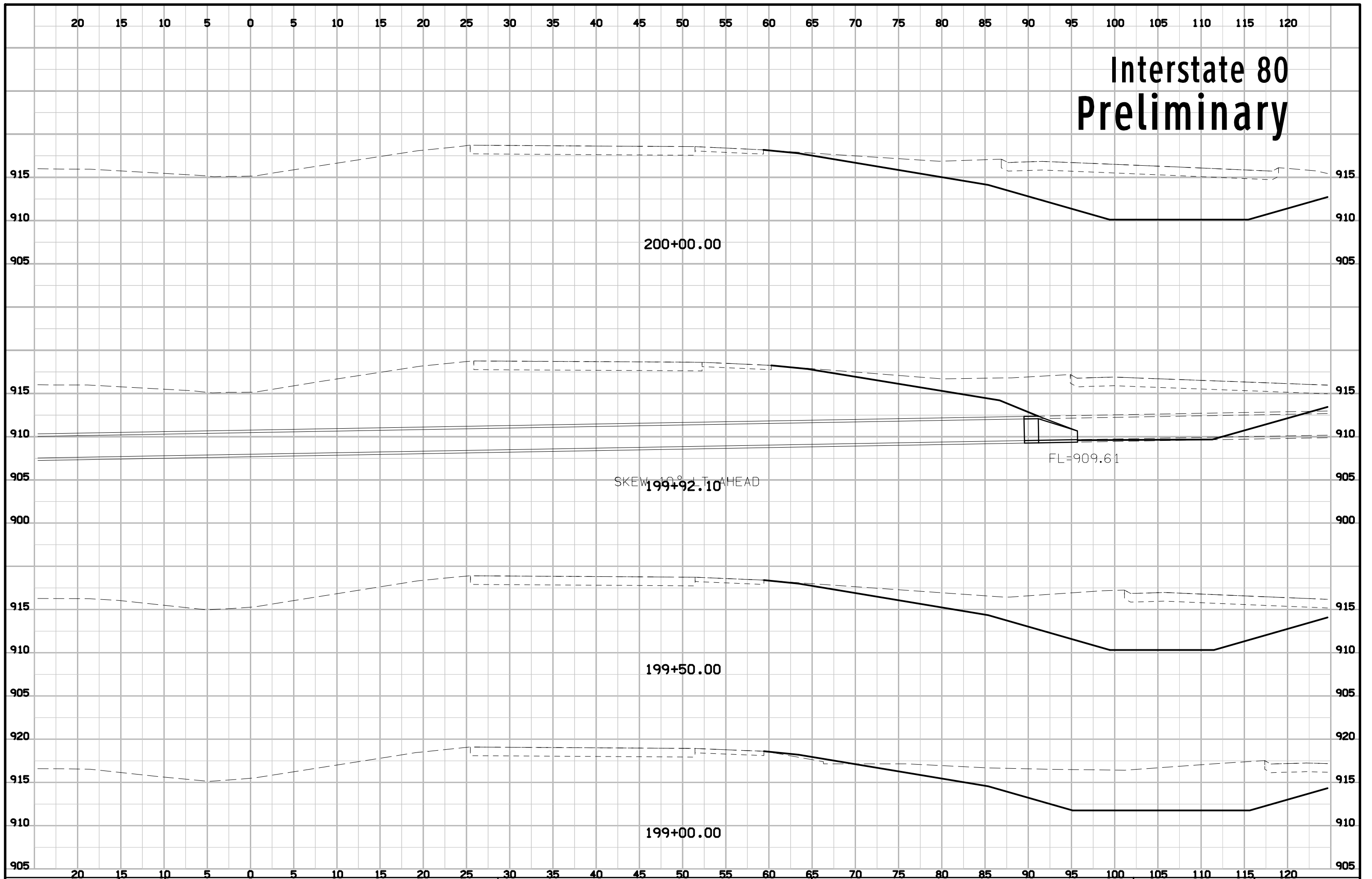
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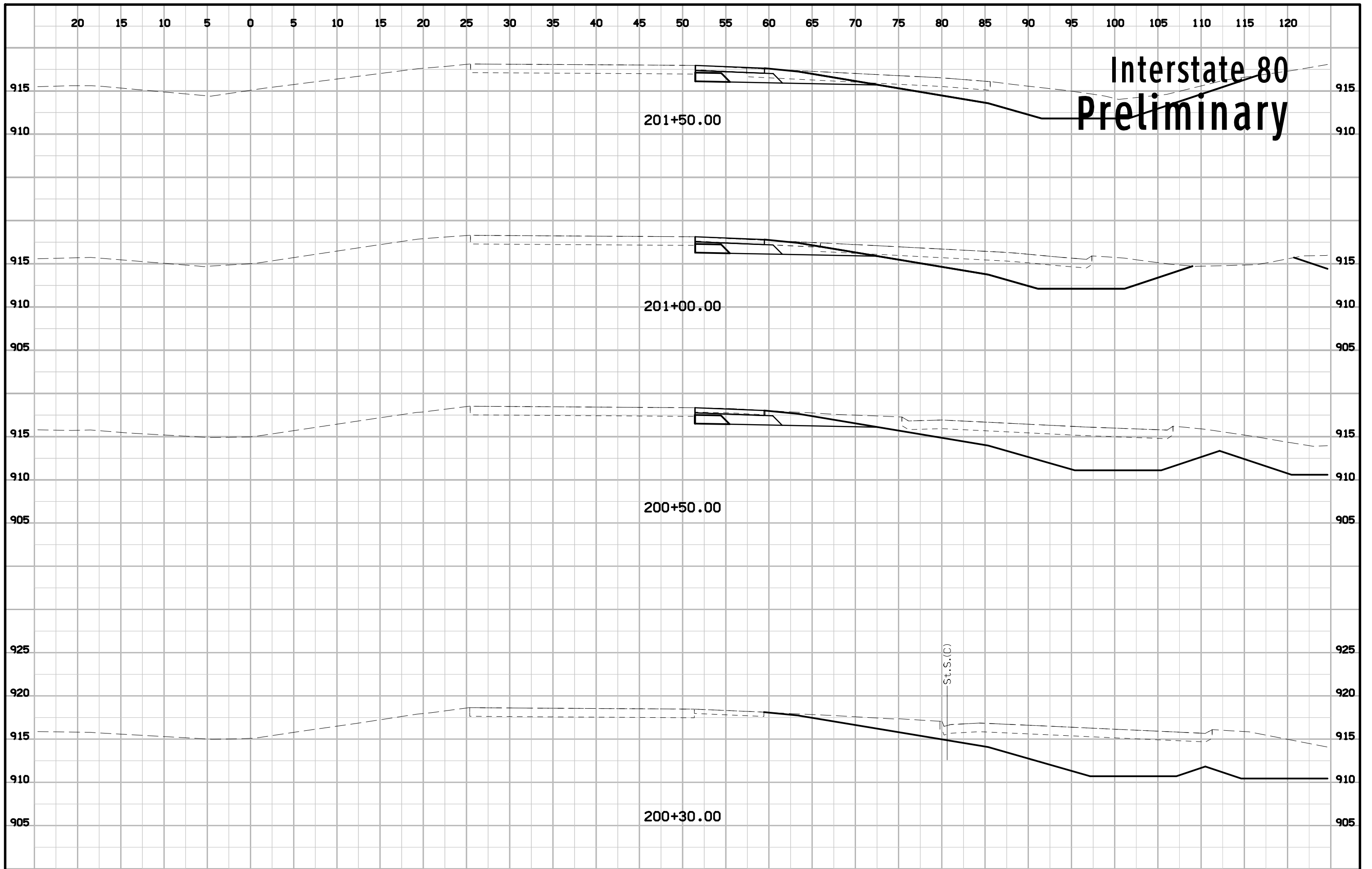


Interstate 80 Preliminary



Interstate 80 Preliminary





Interstate 80 Preliminary

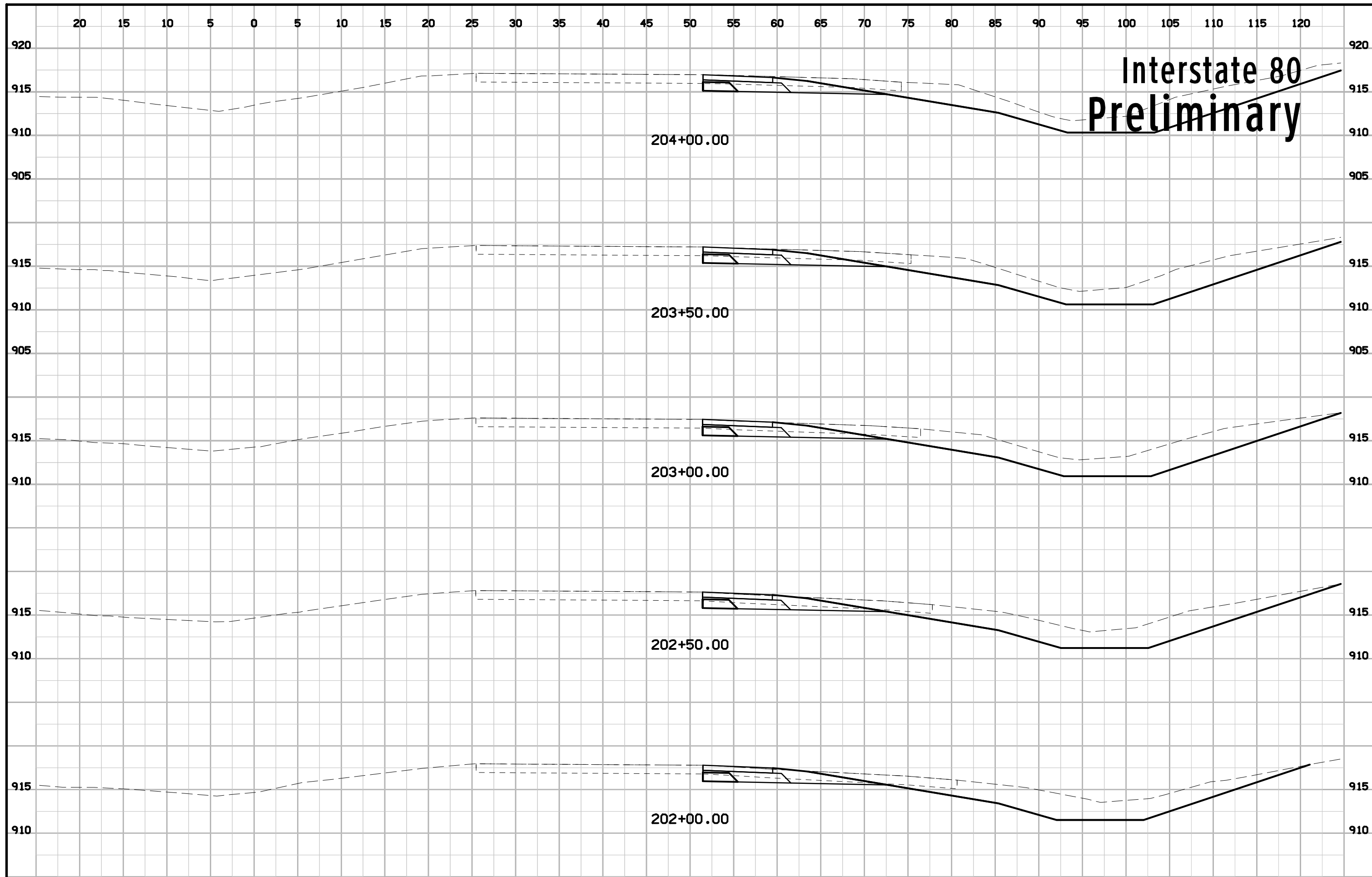
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201+00.00

200+50.00

200+30.00

St.S.(C)



Interstate 80 Preliminary

204+00.00

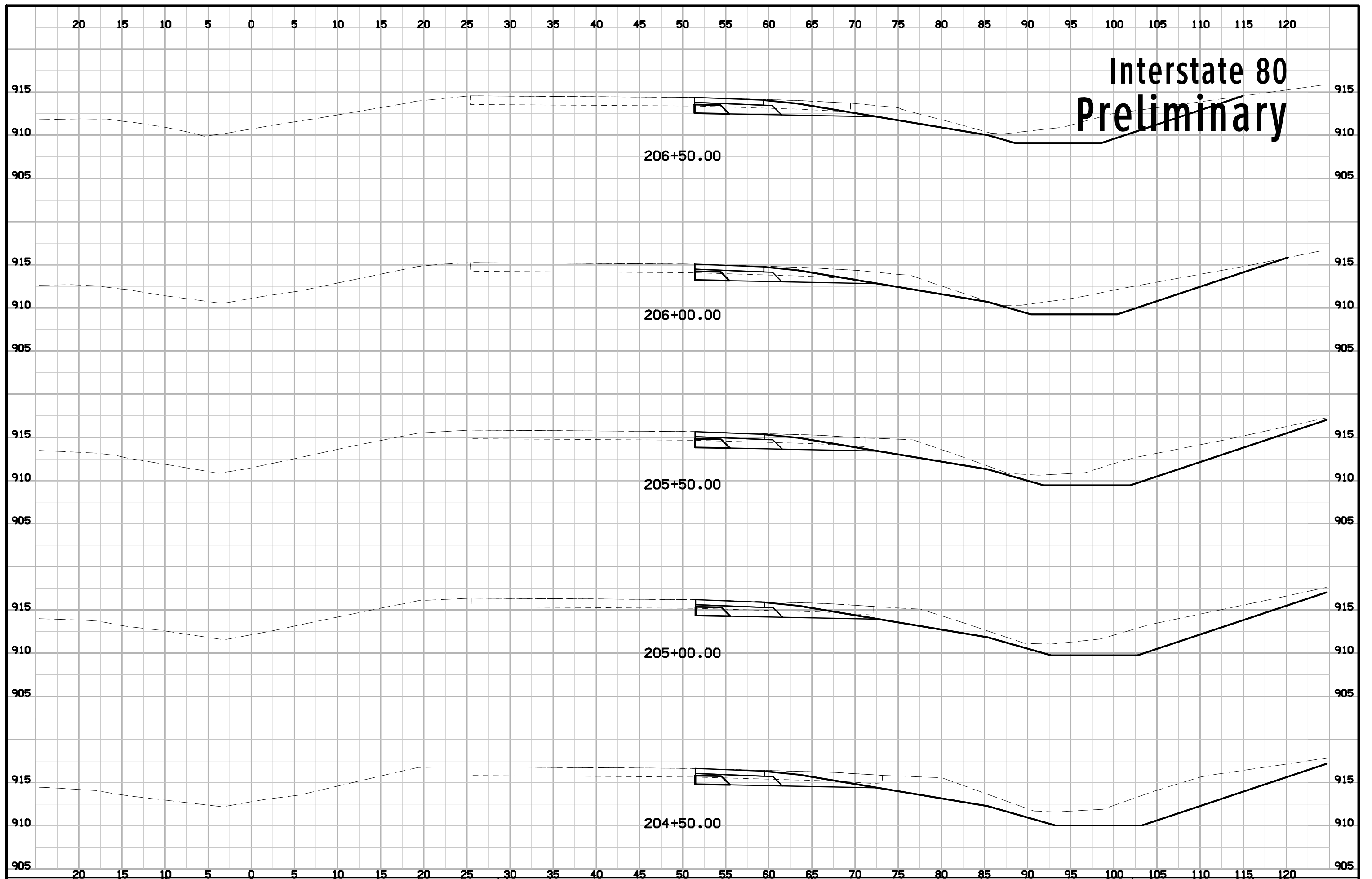
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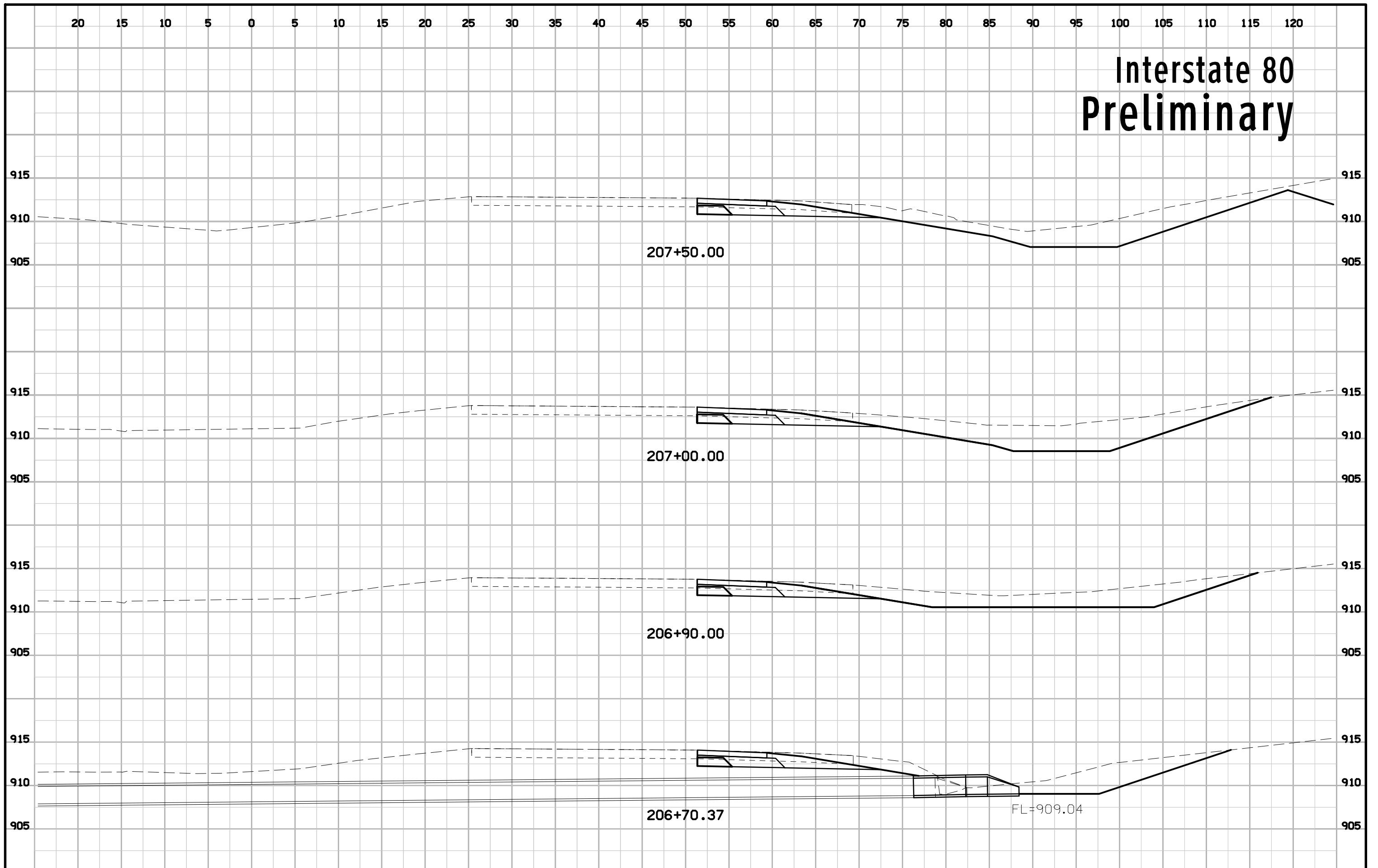
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202+00.00

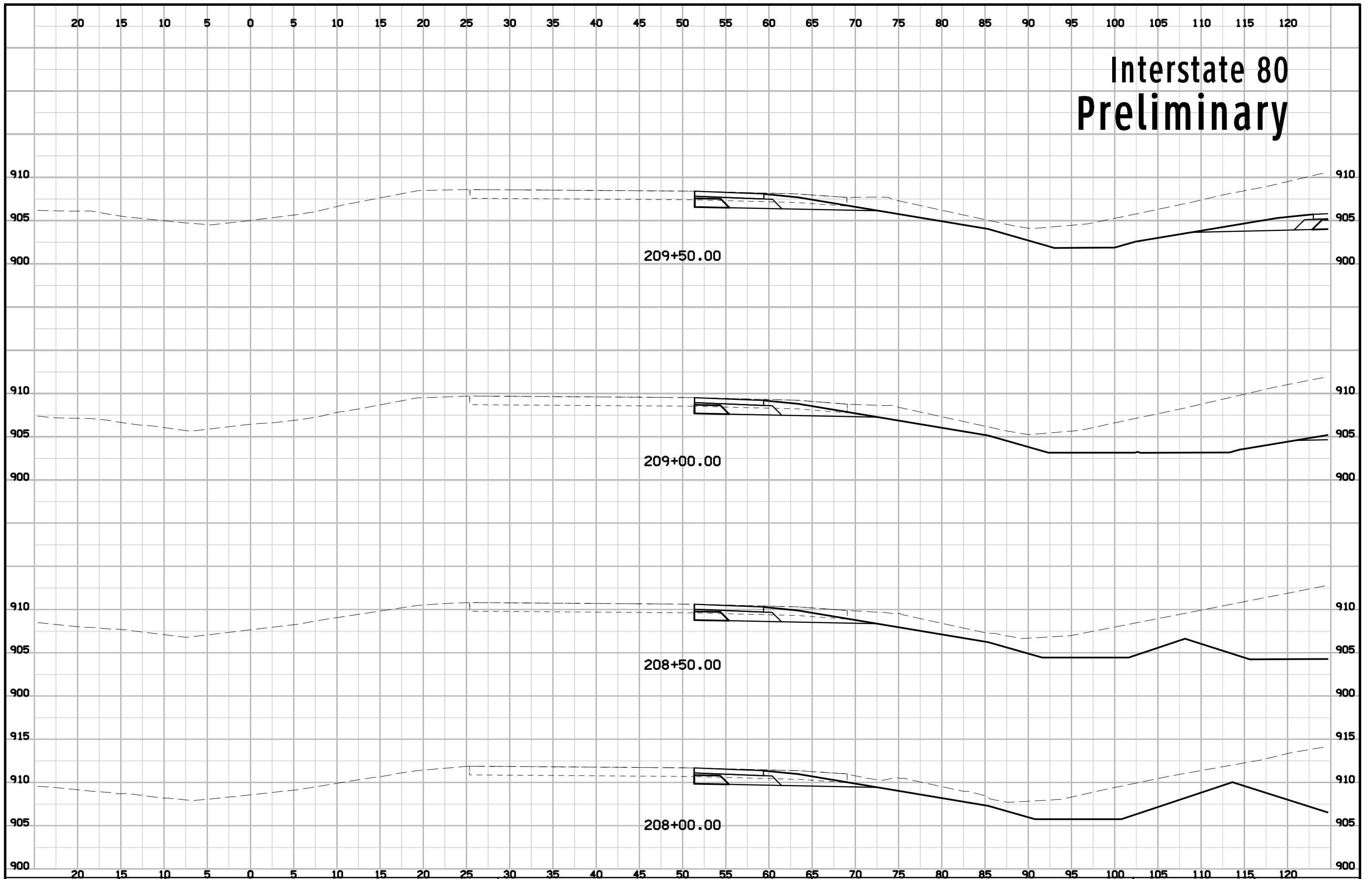
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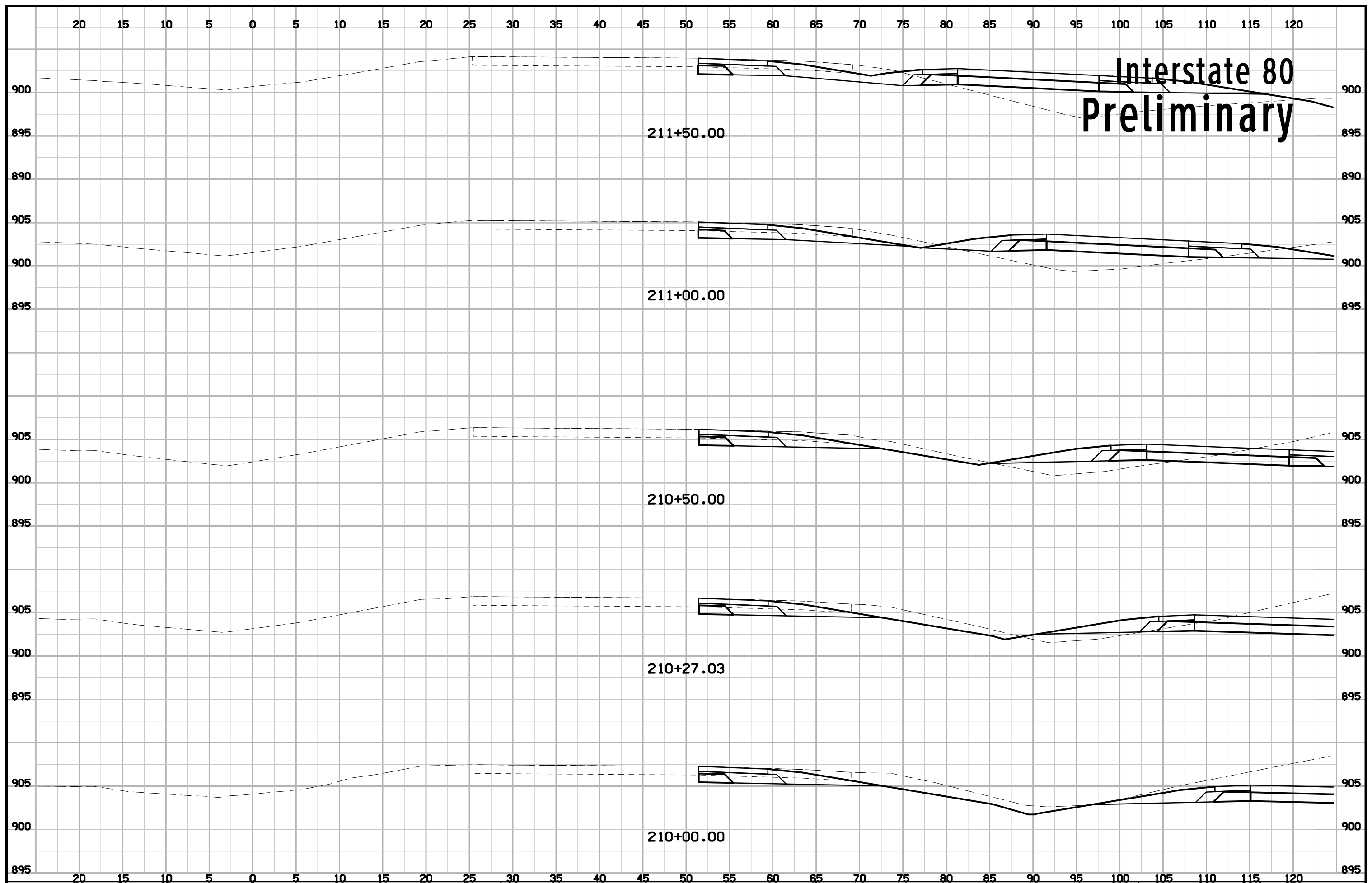


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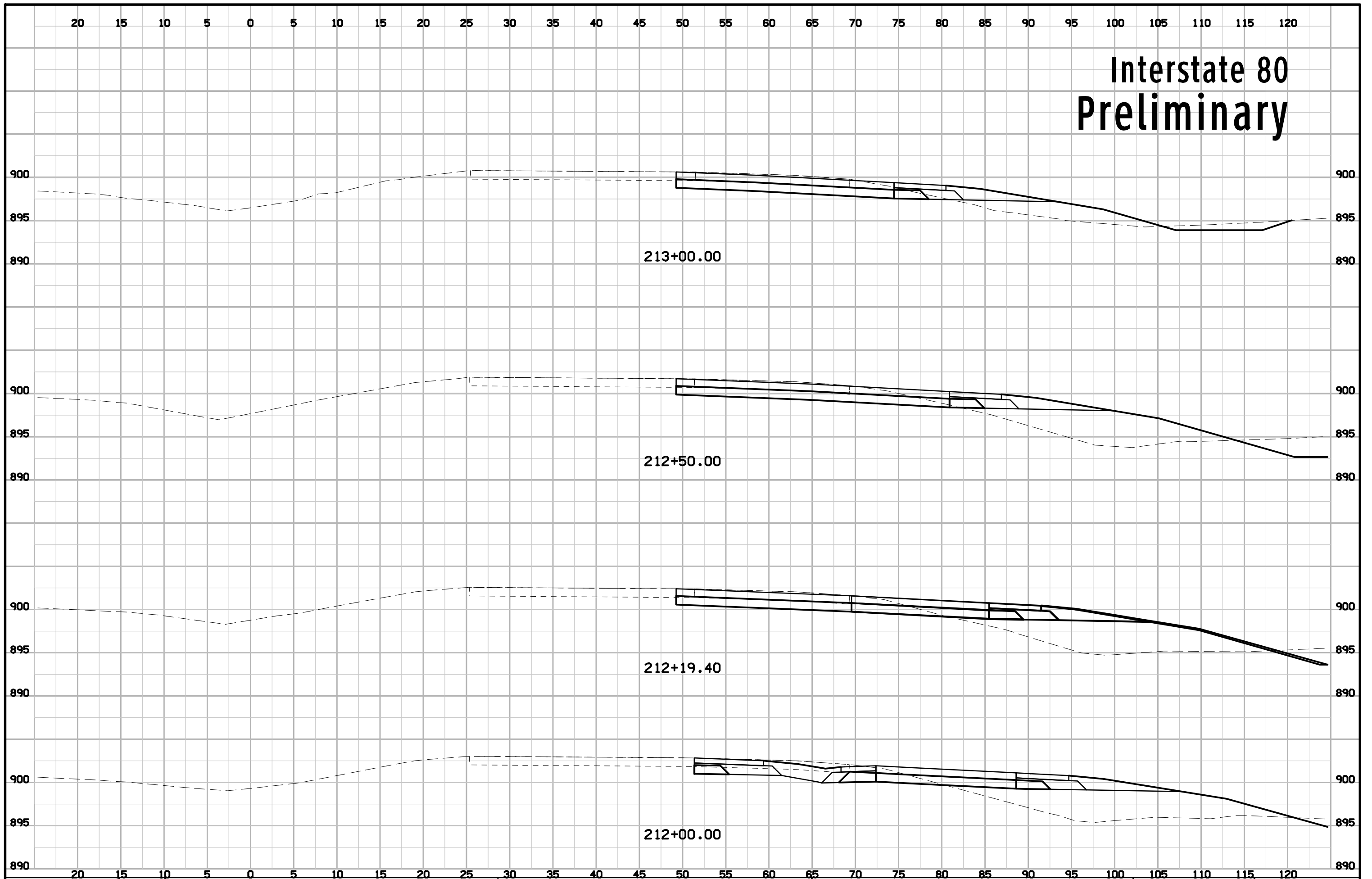
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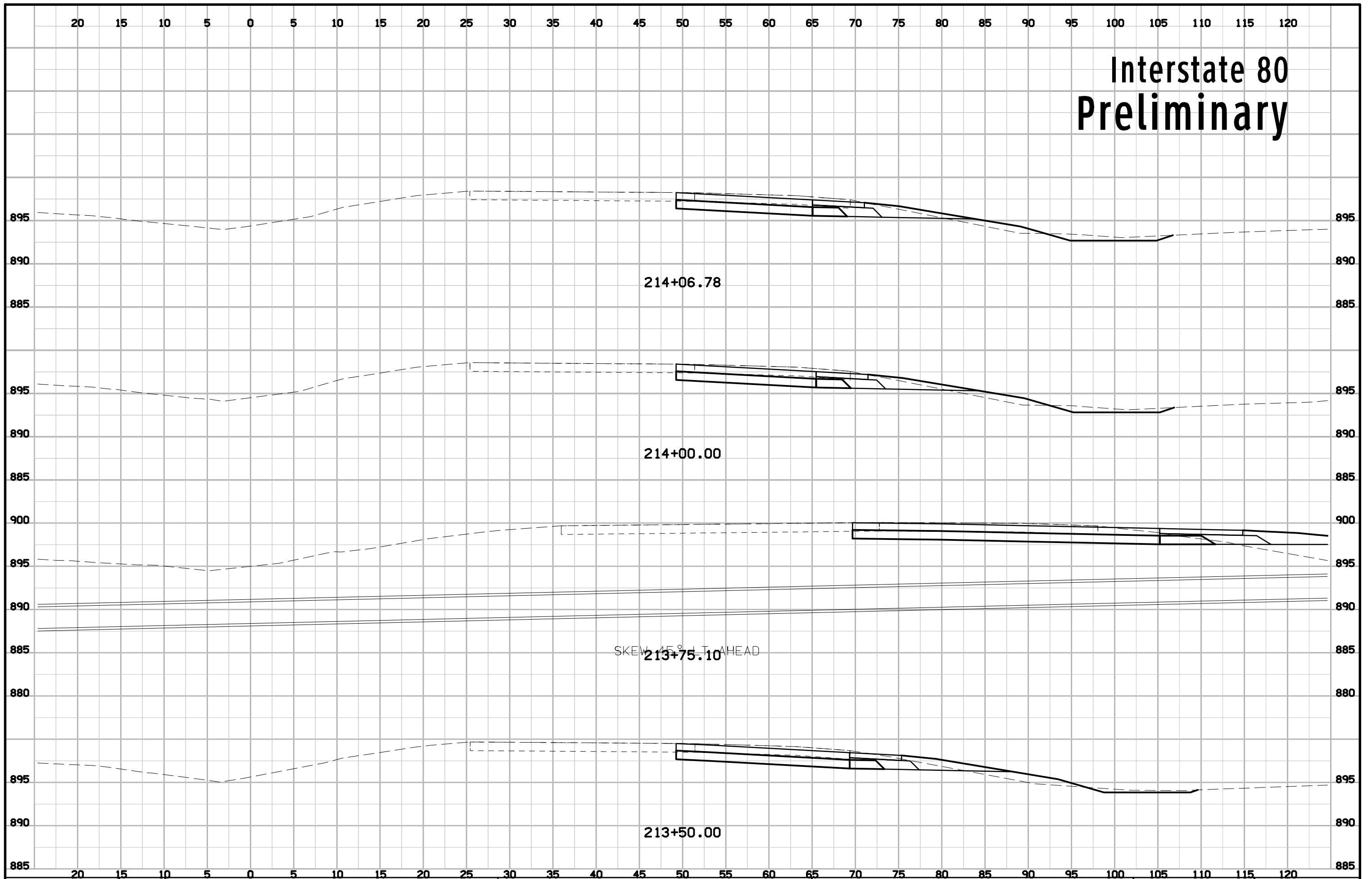


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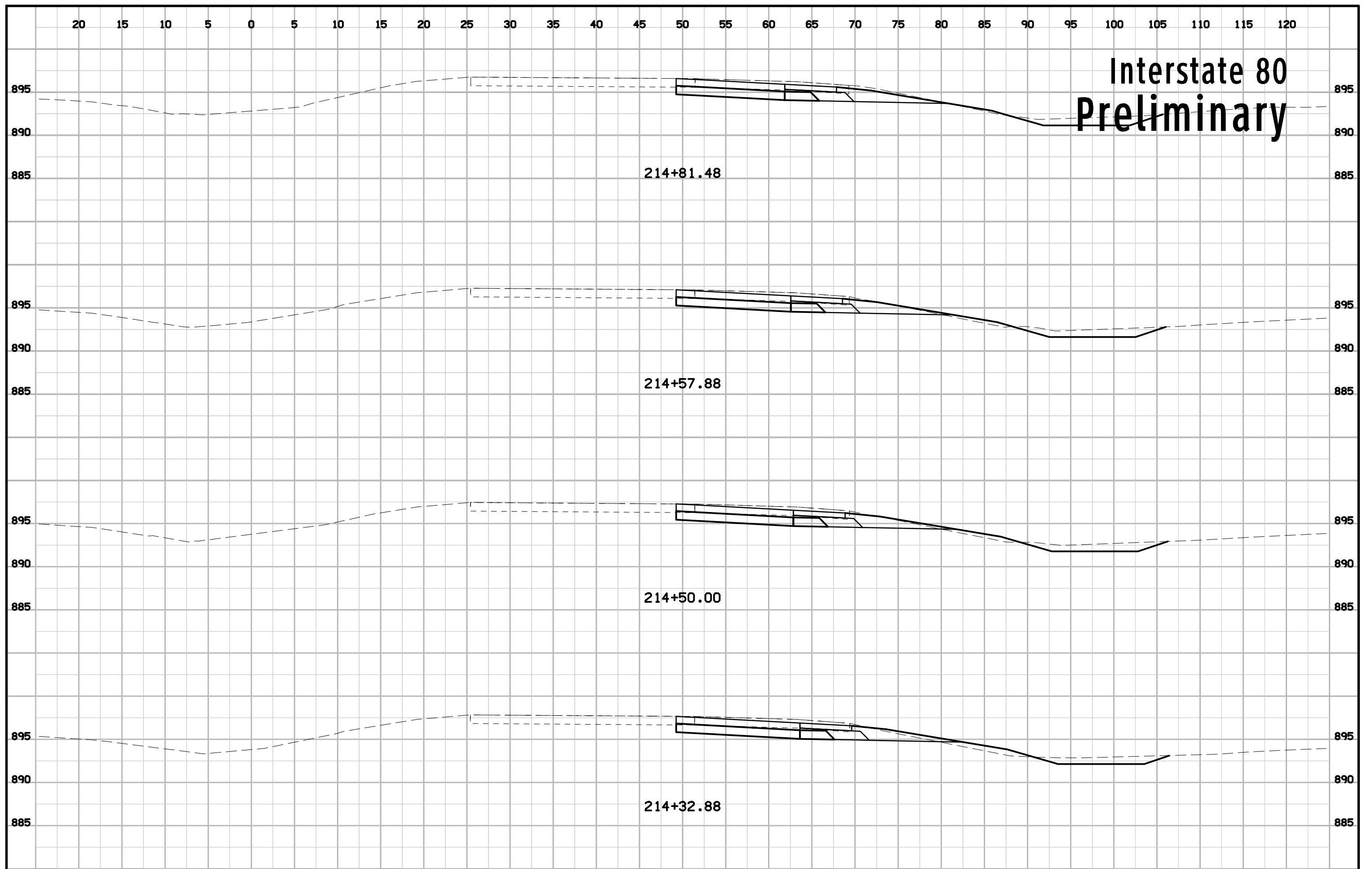
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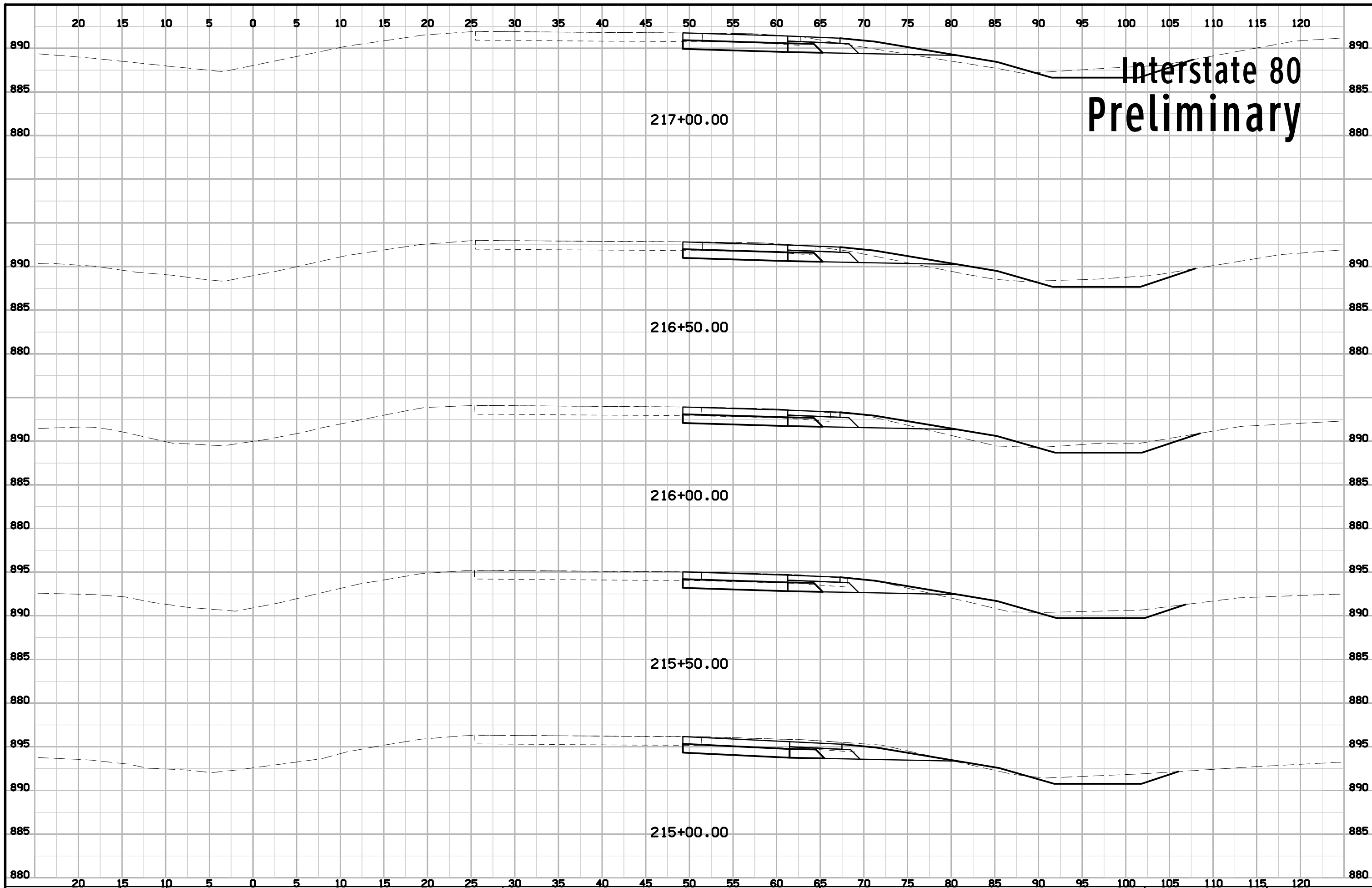


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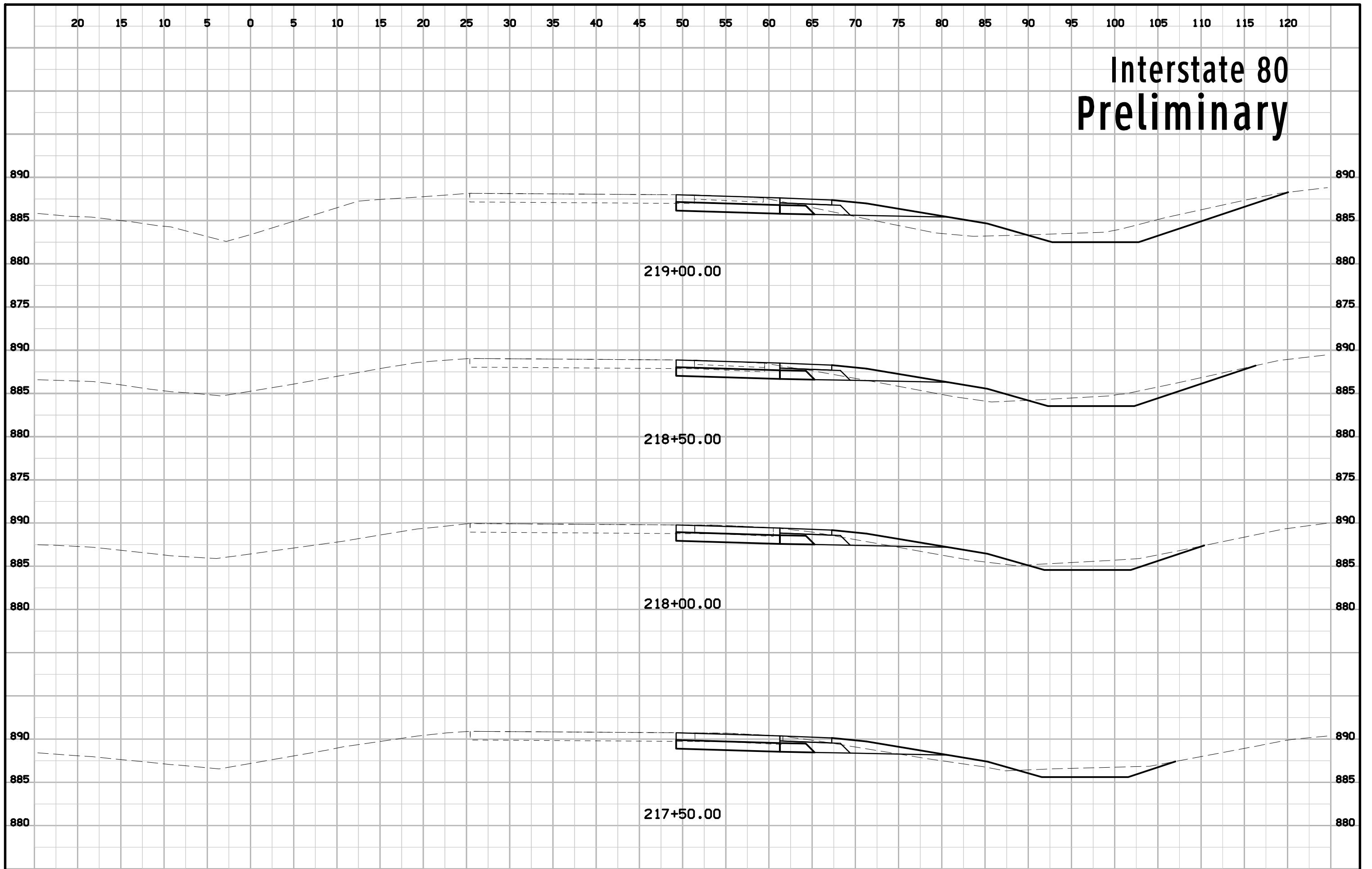
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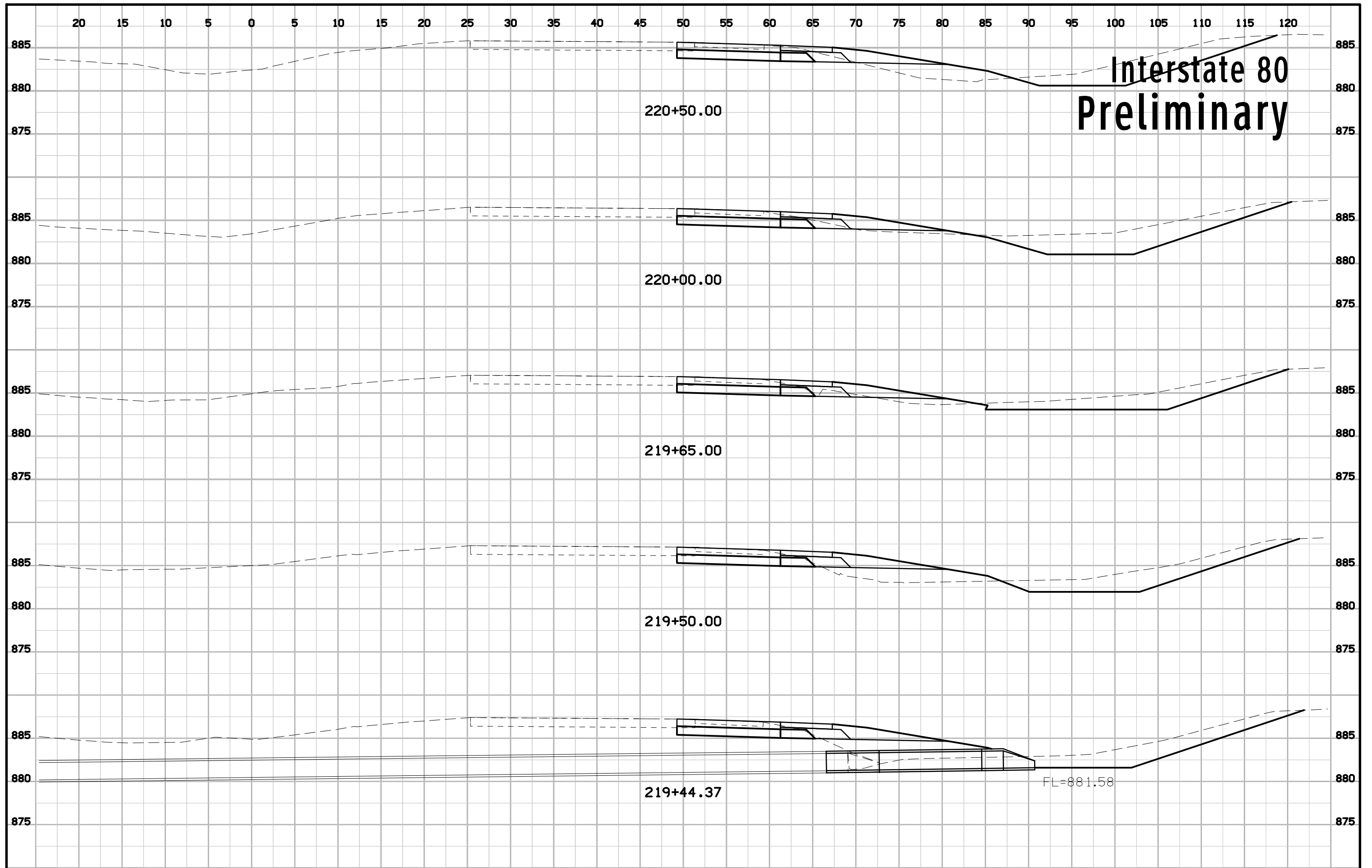




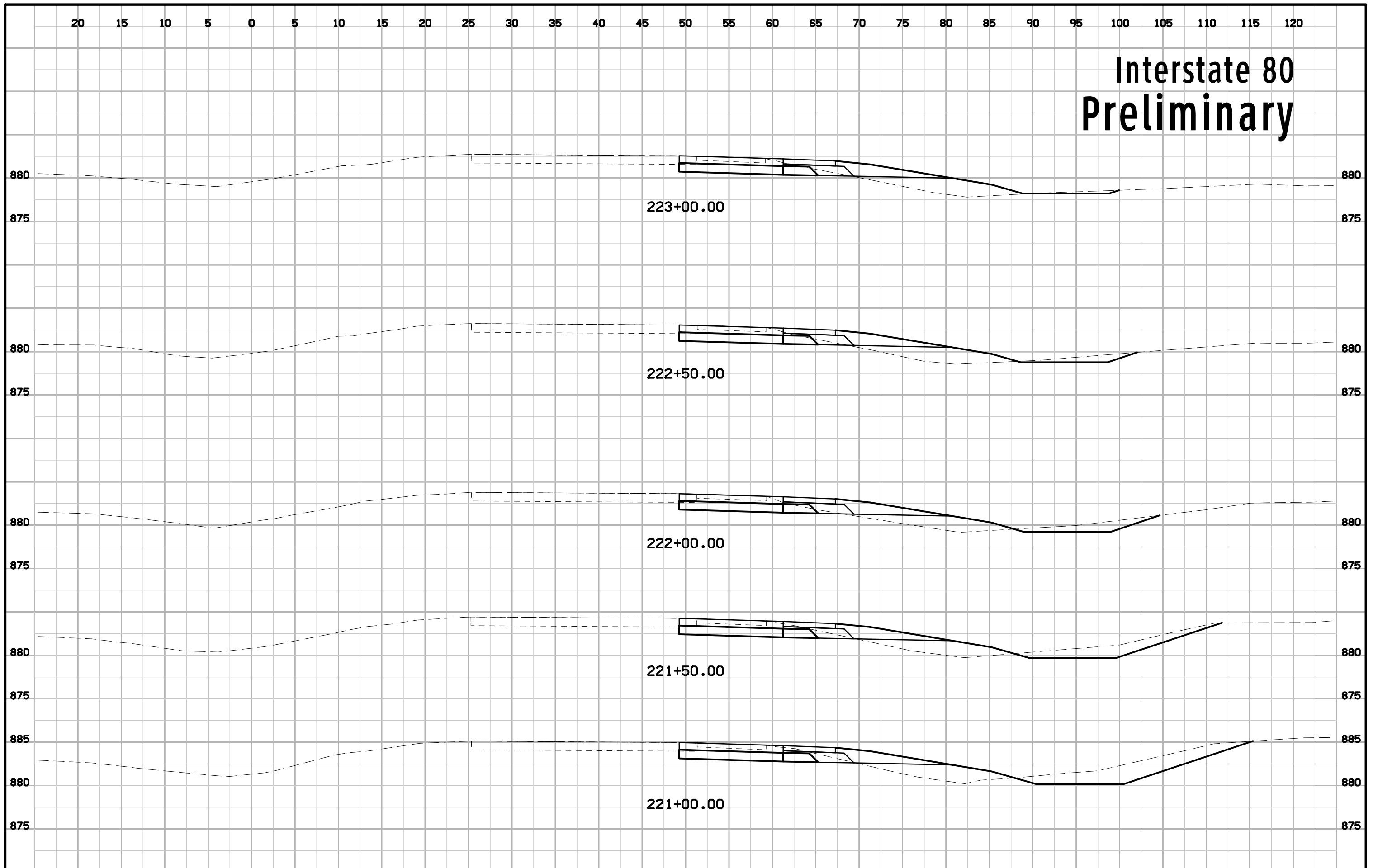
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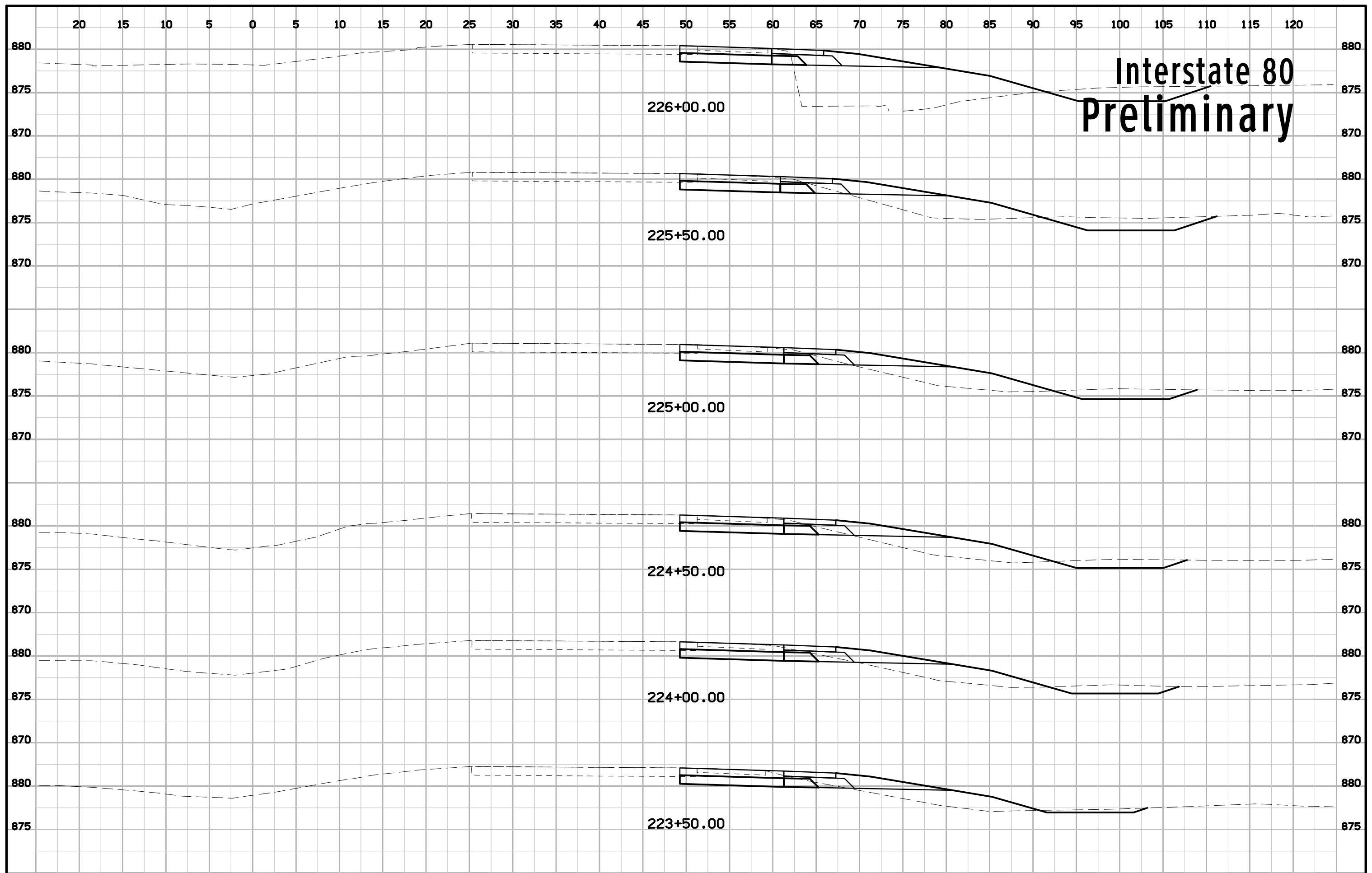
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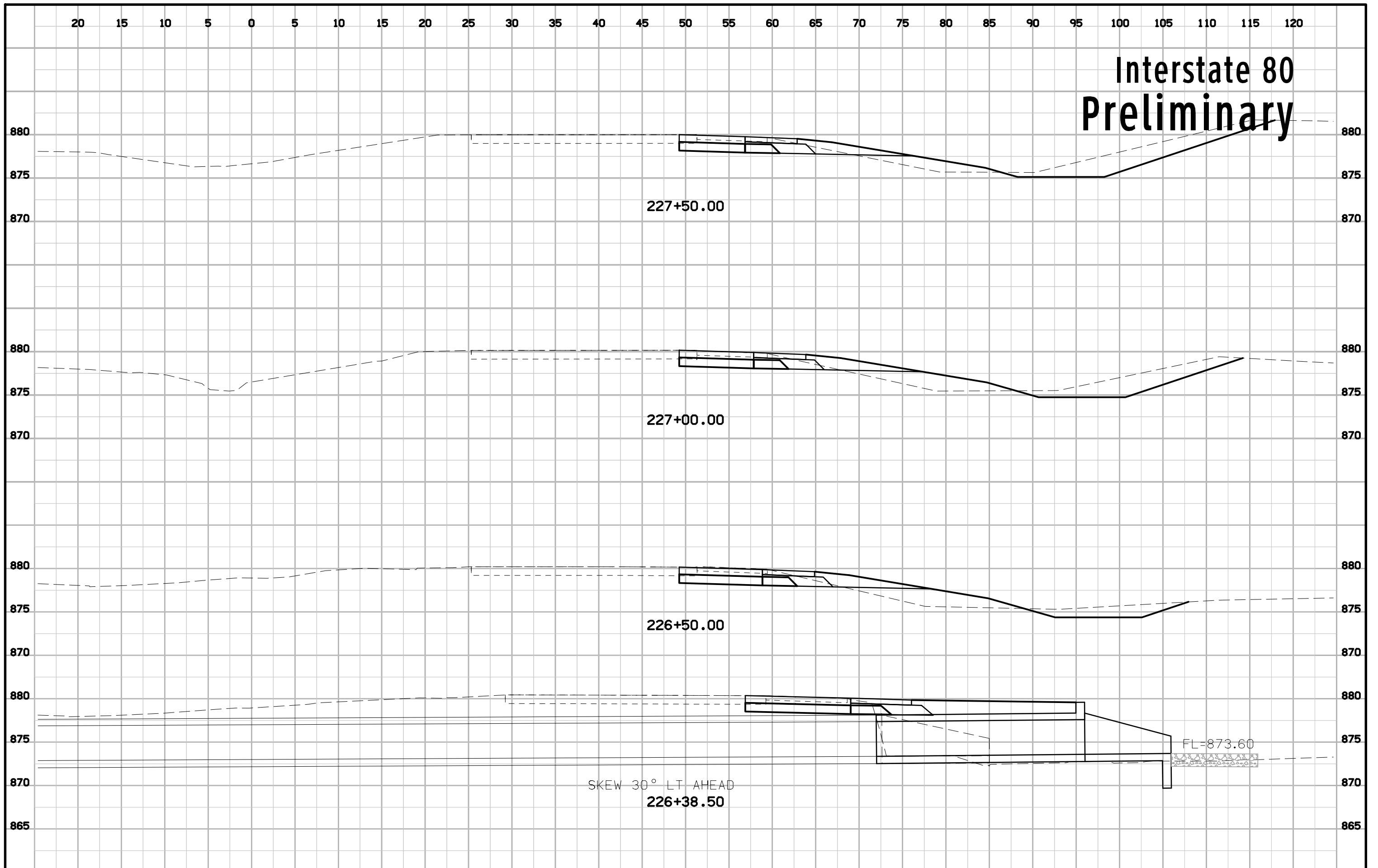
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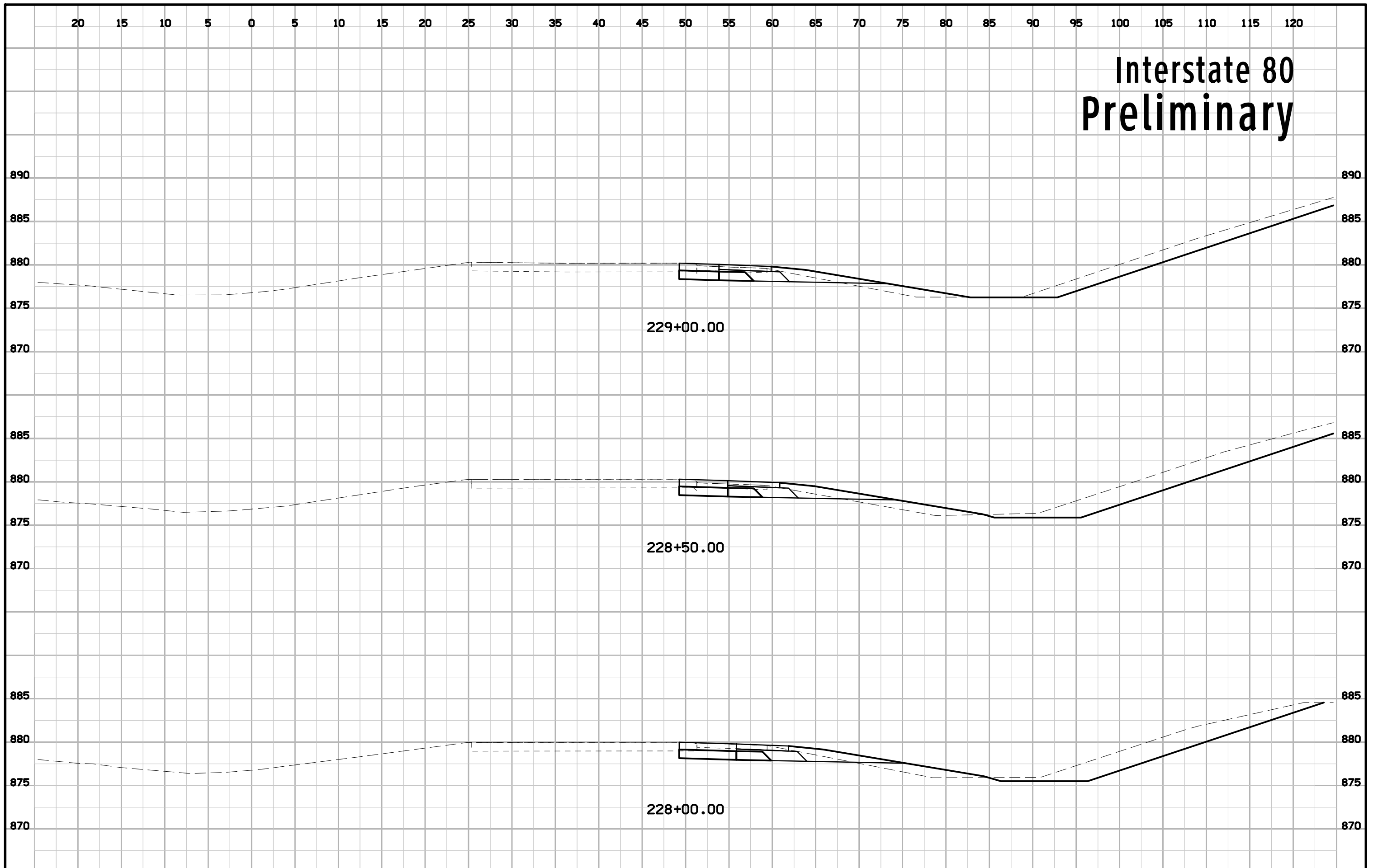


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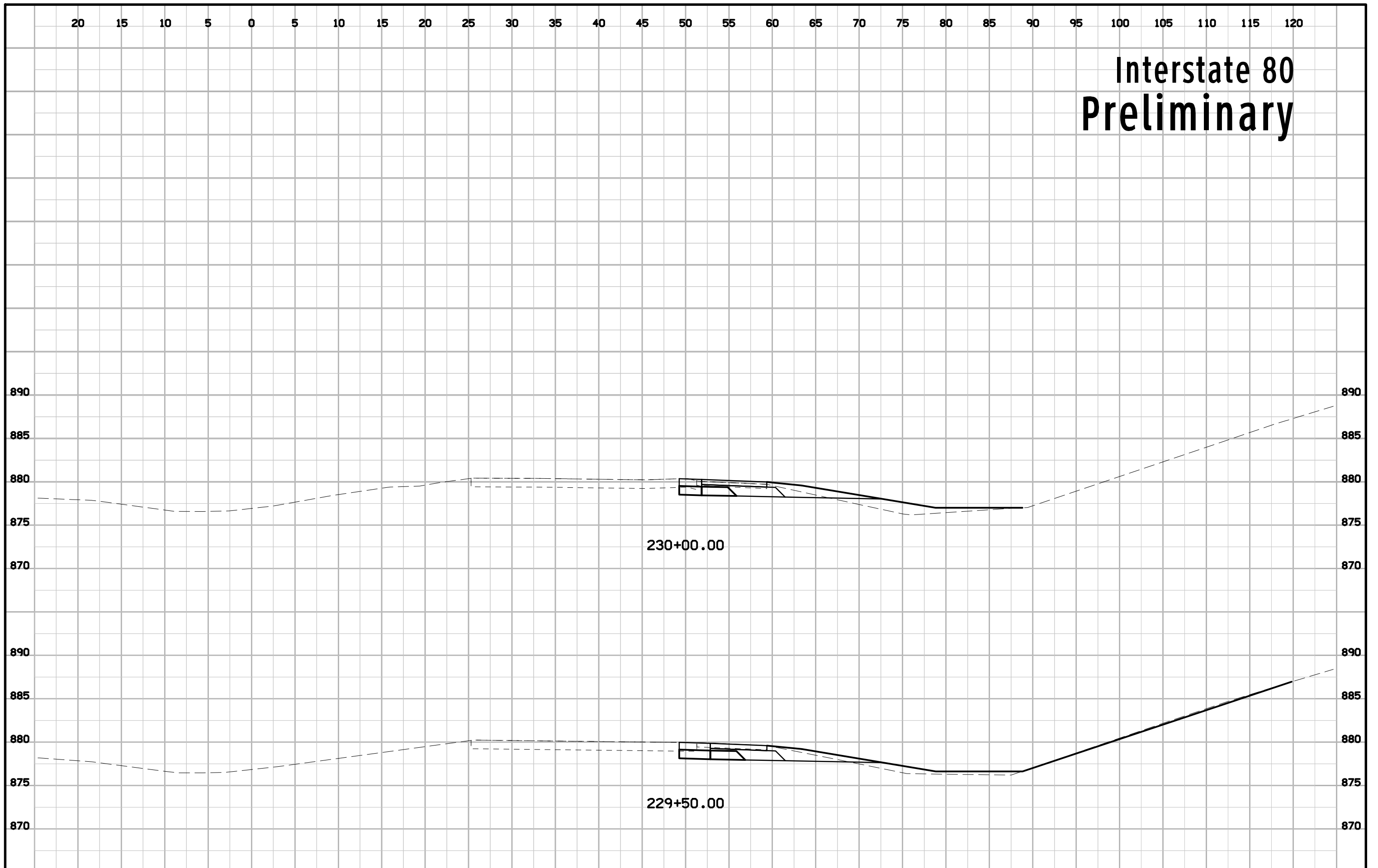
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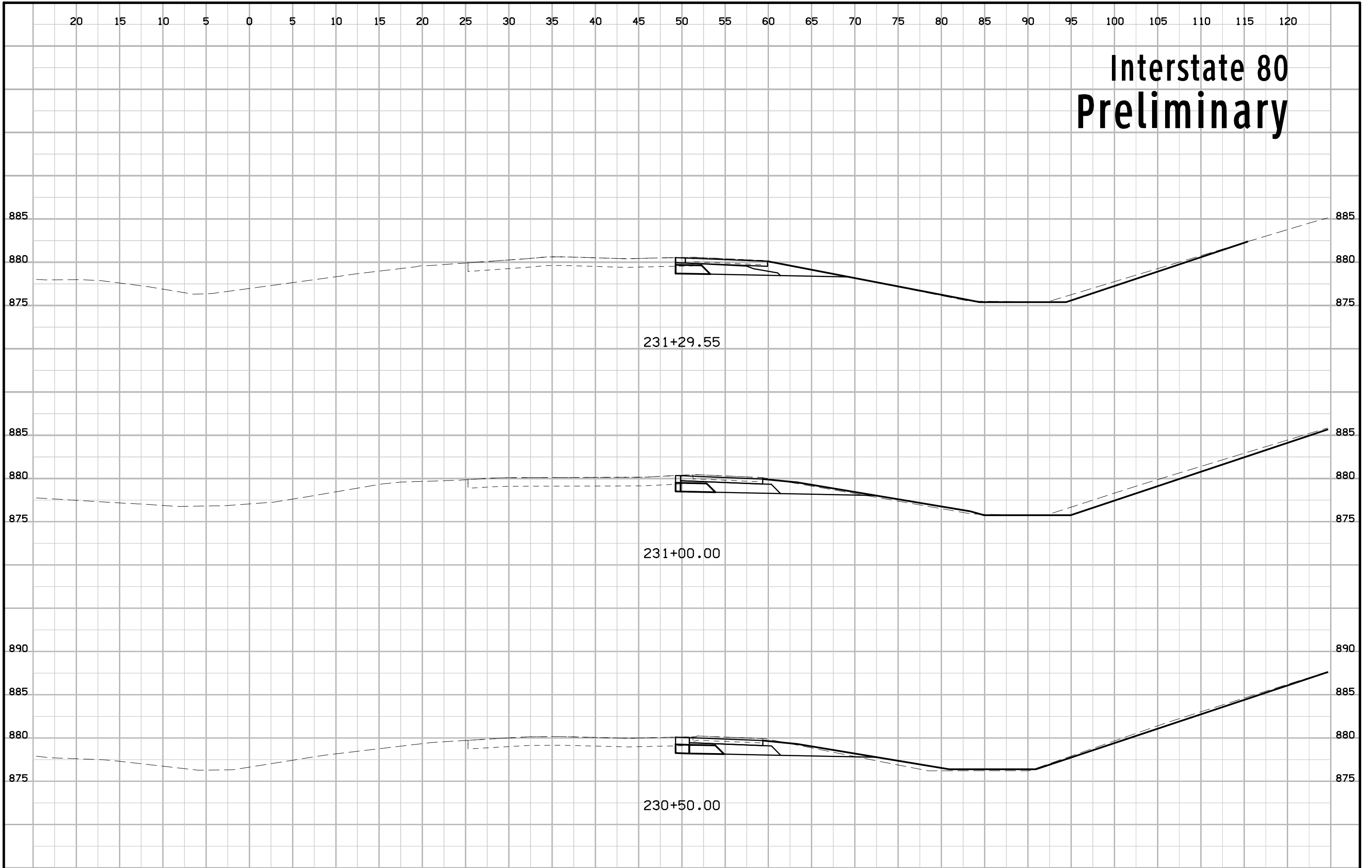
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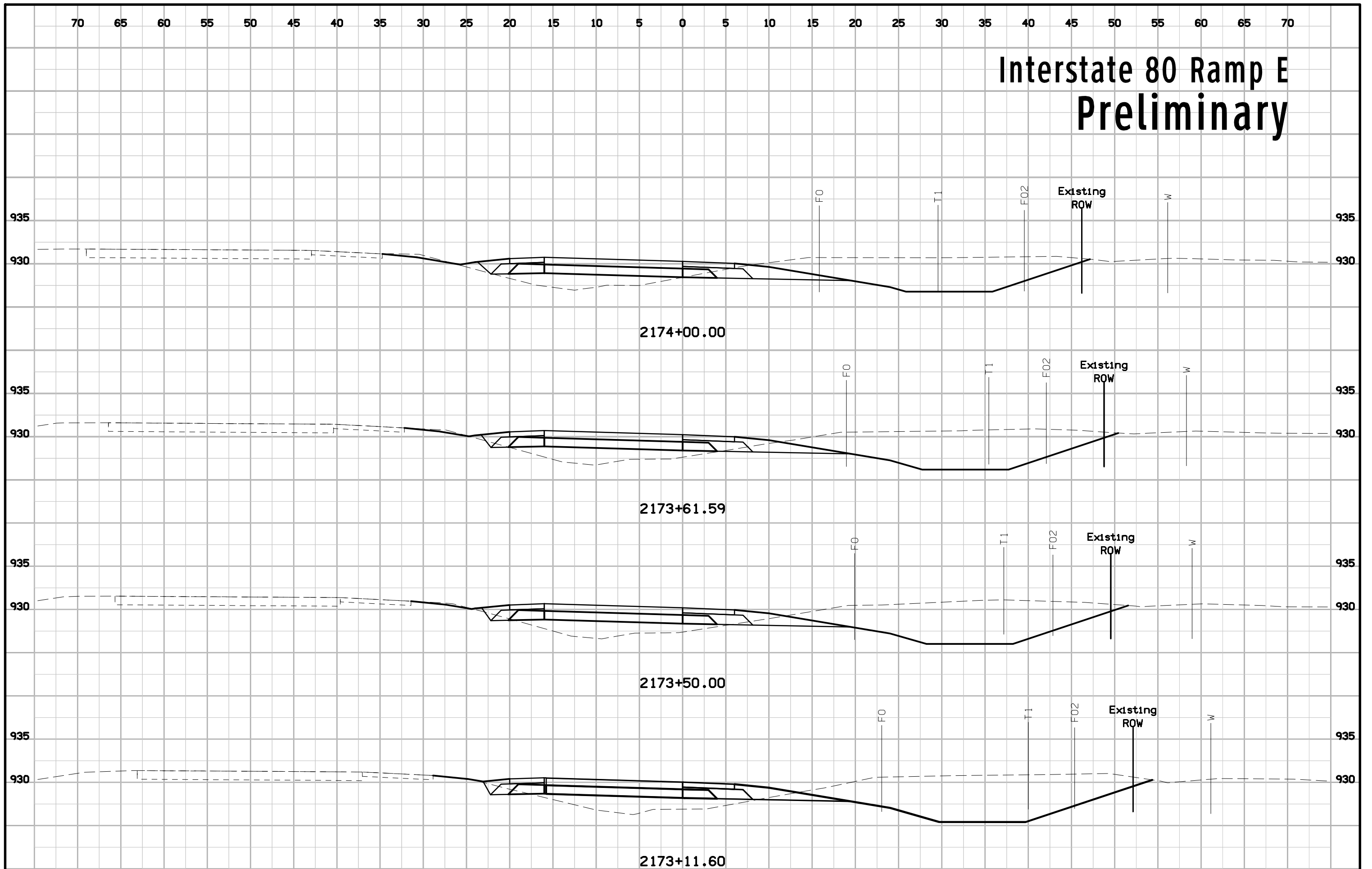
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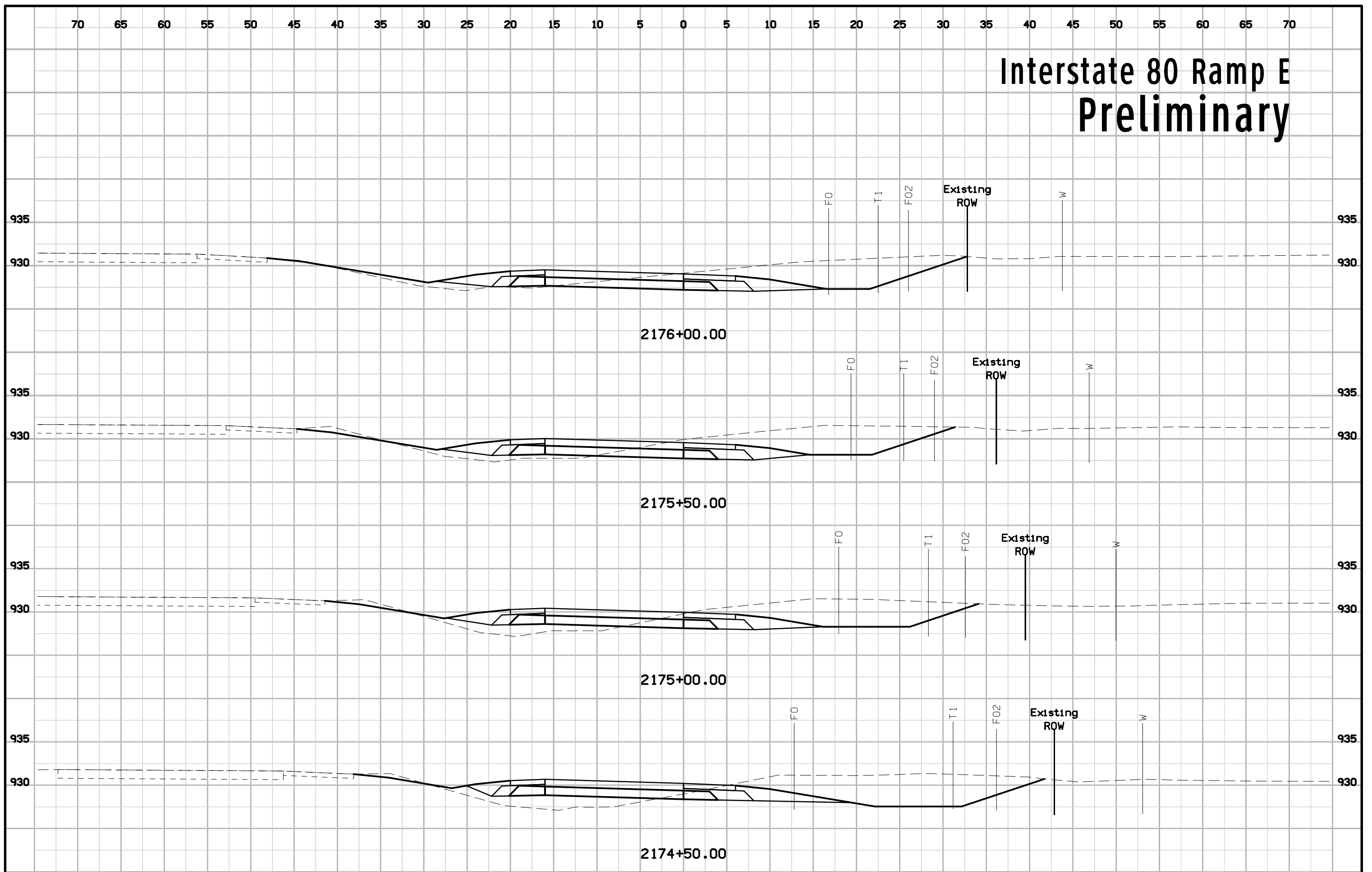
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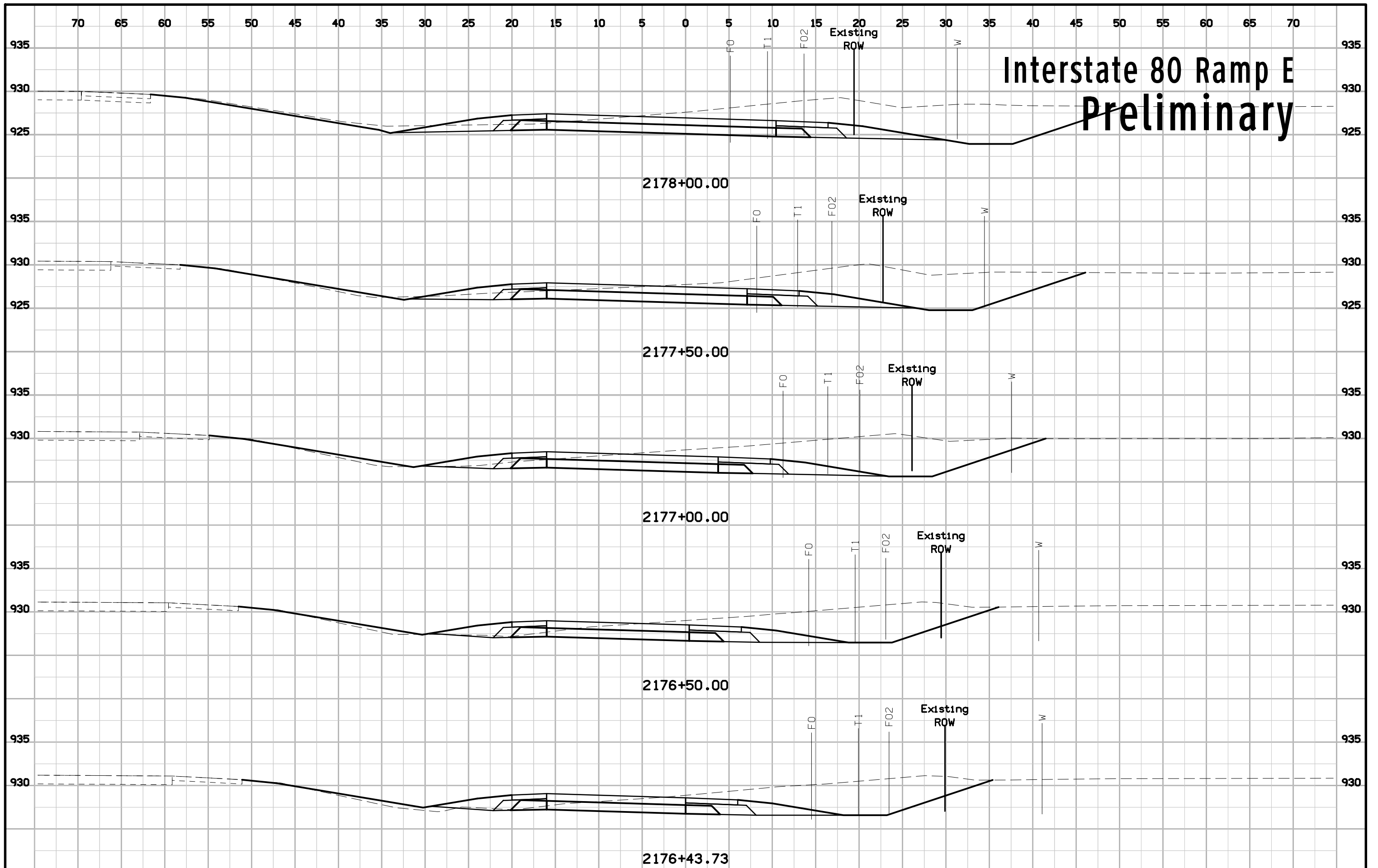
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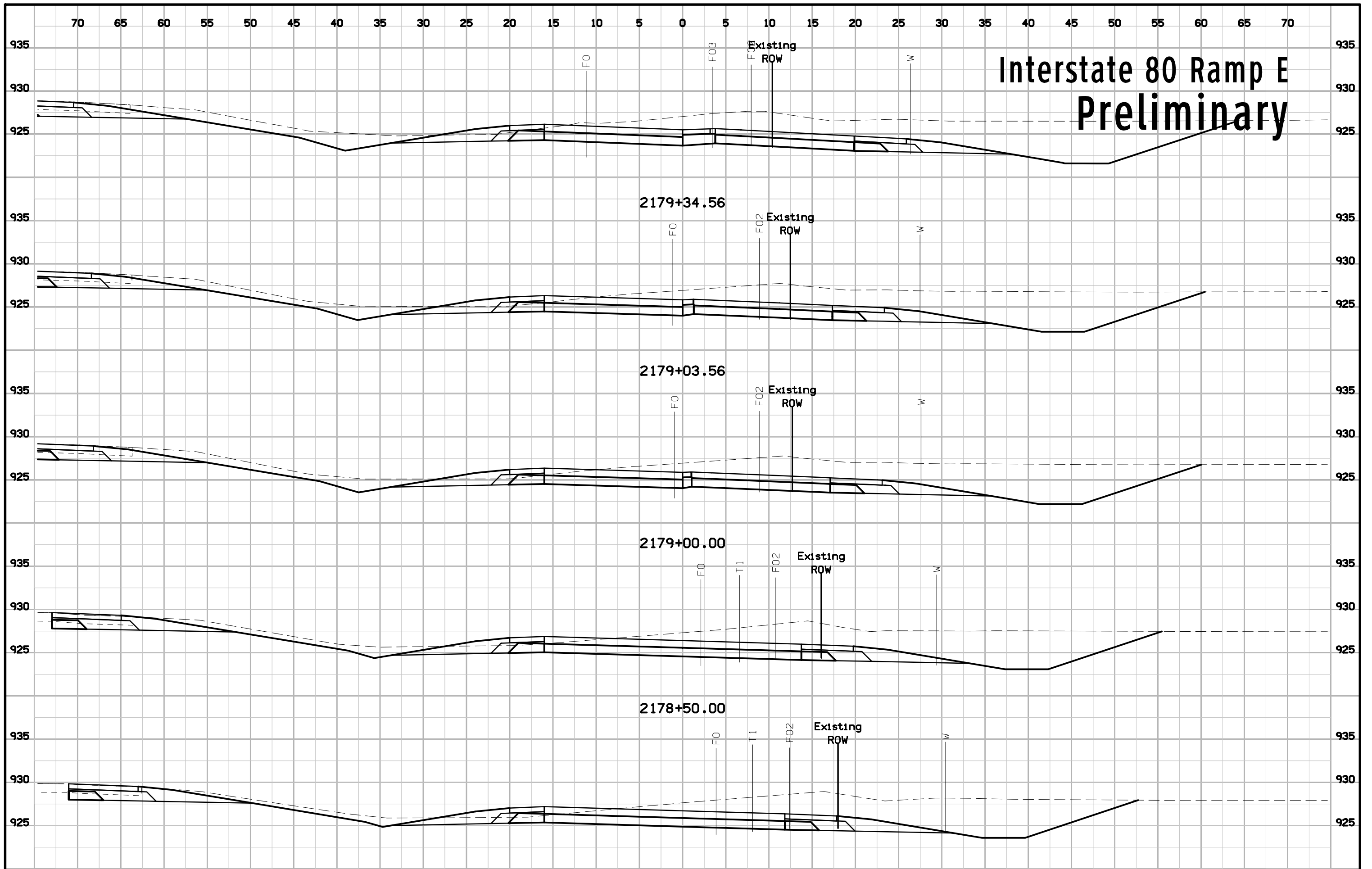
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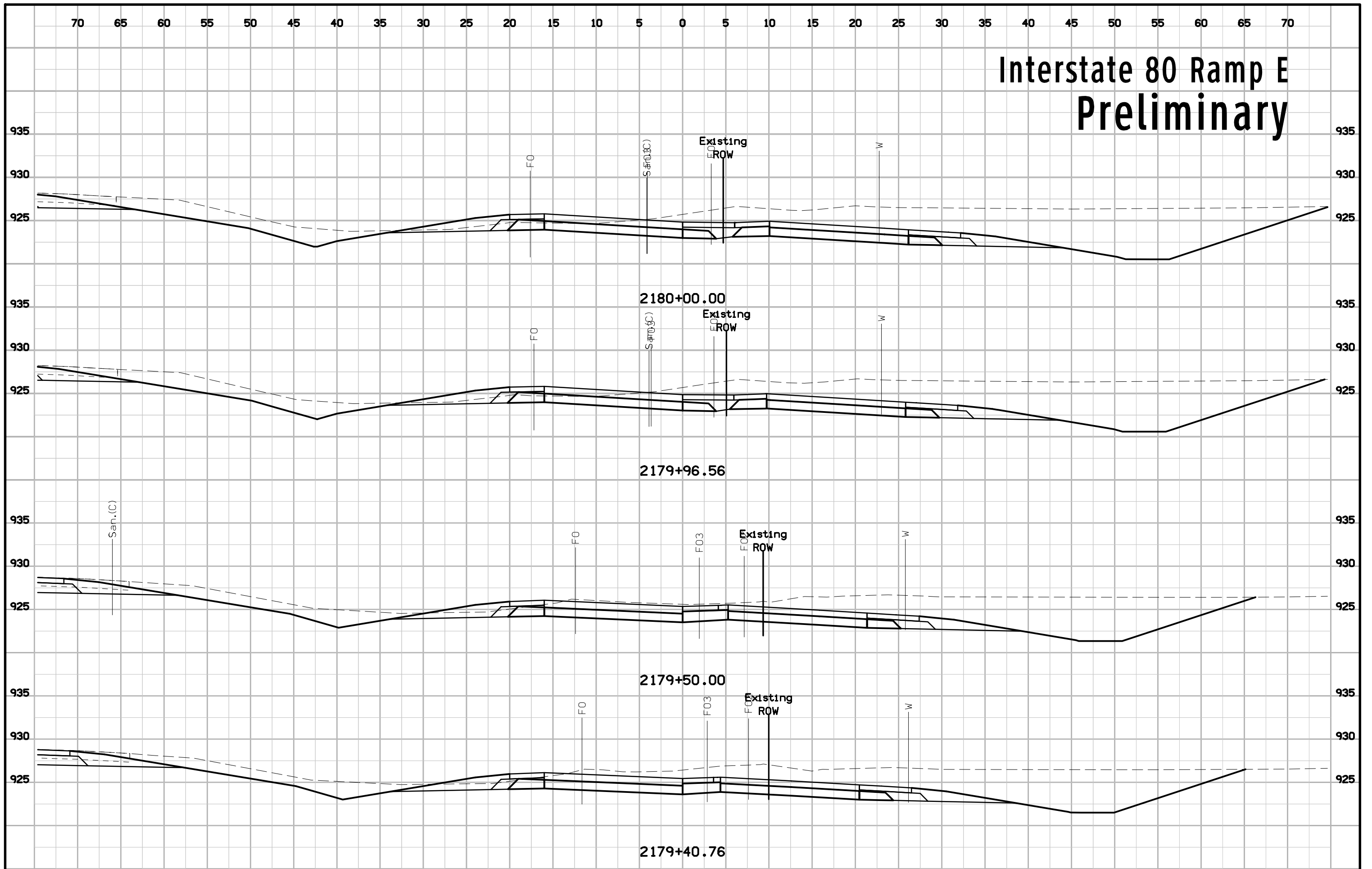
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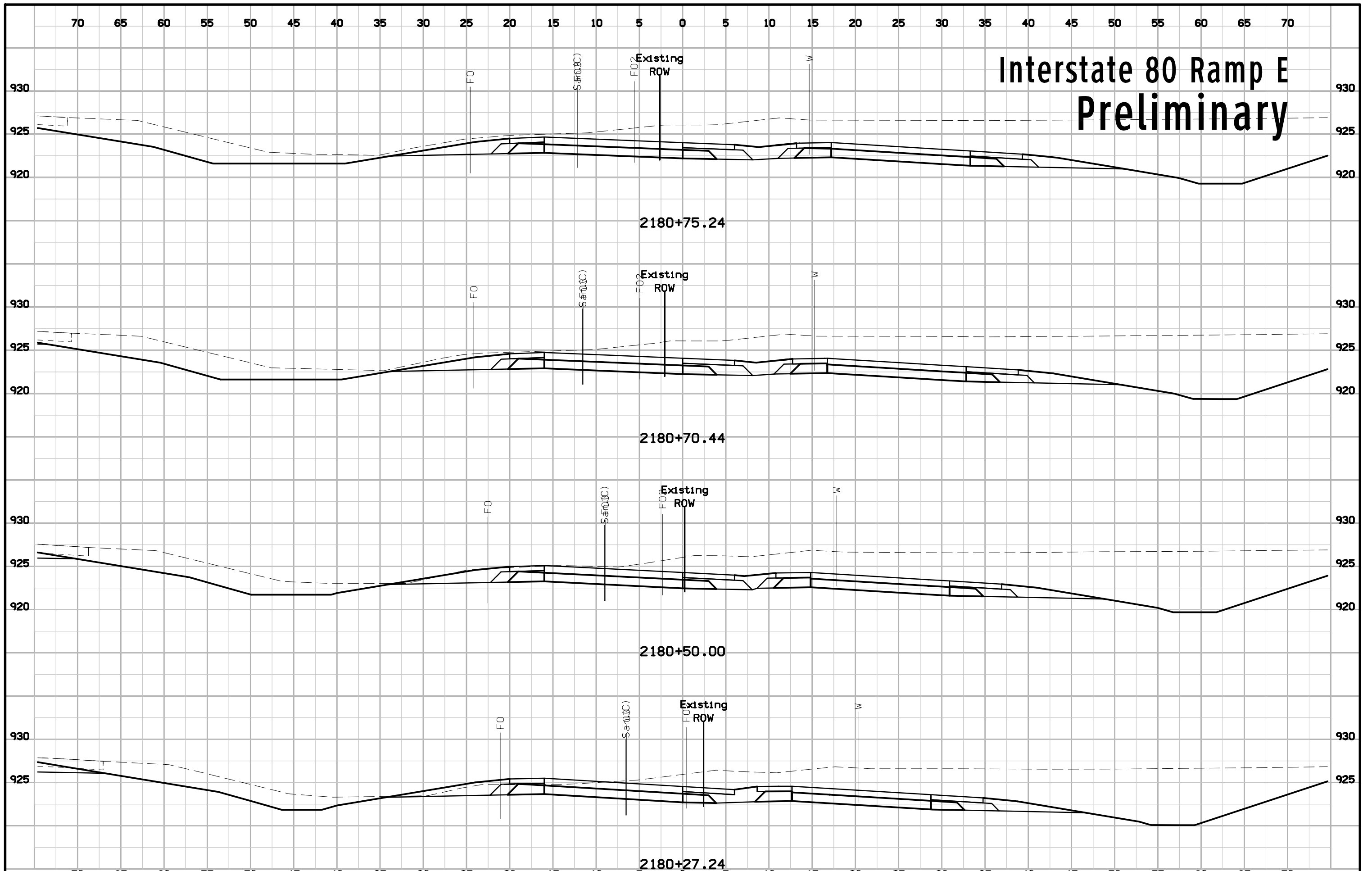
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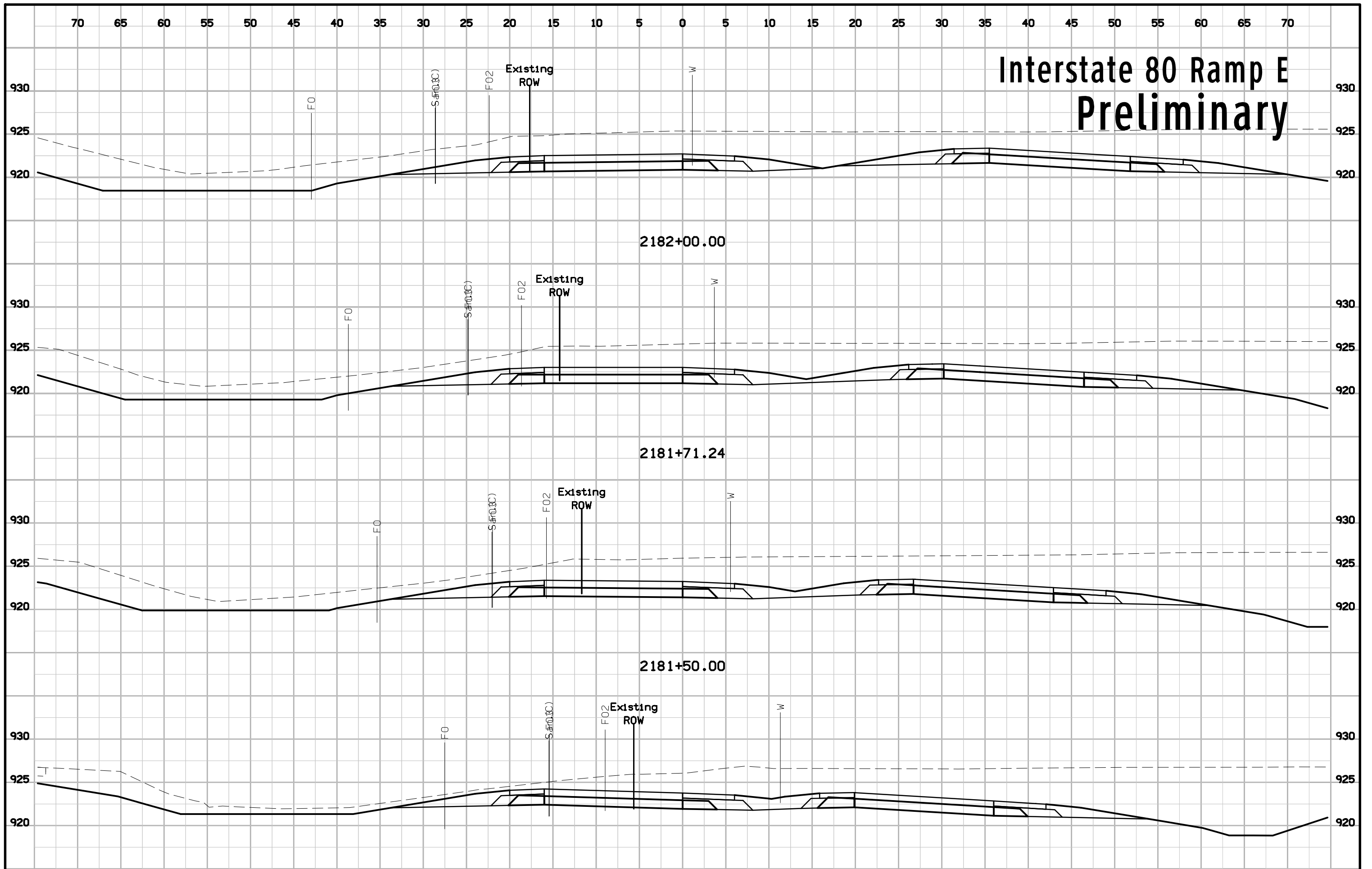
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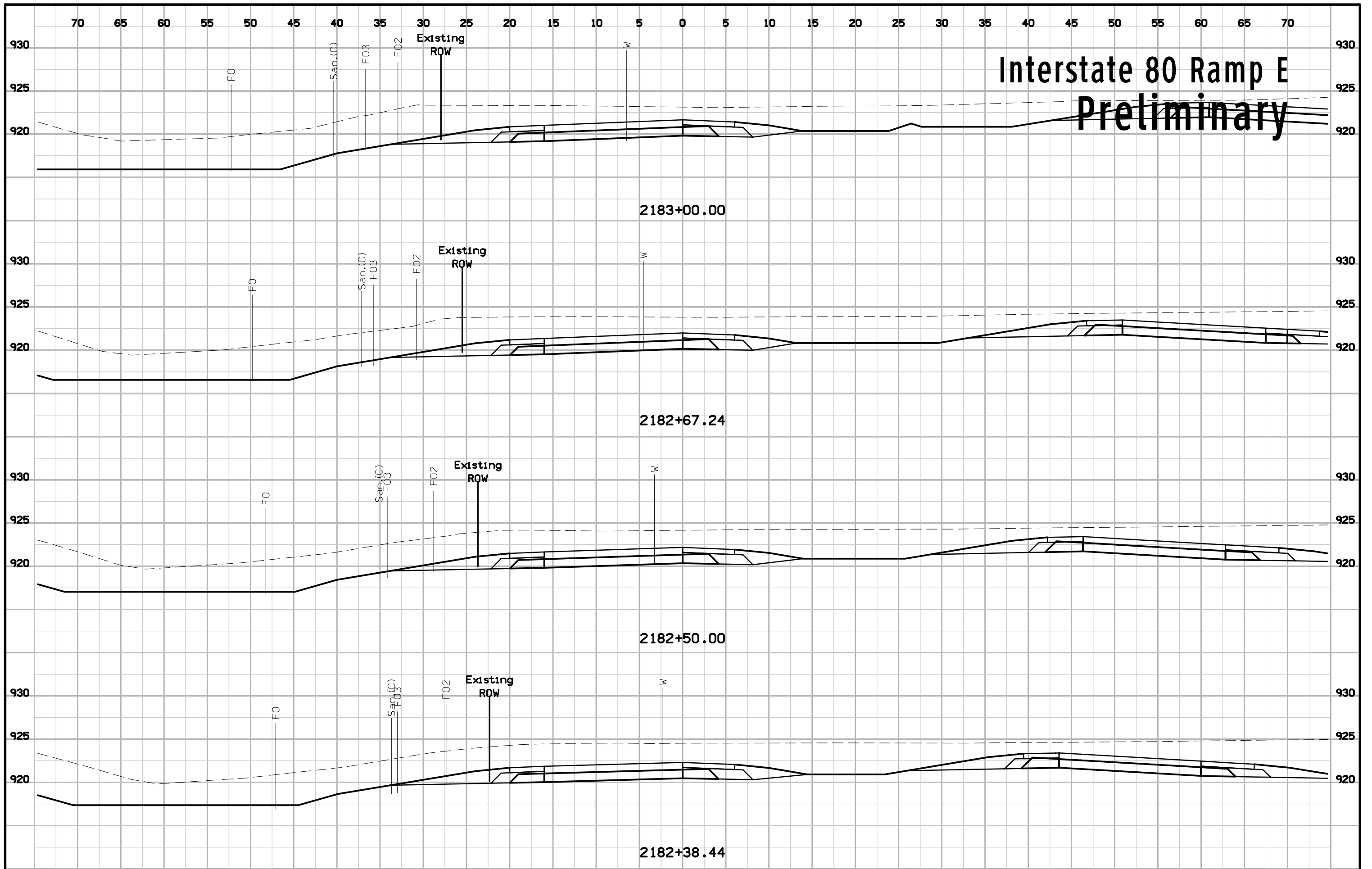
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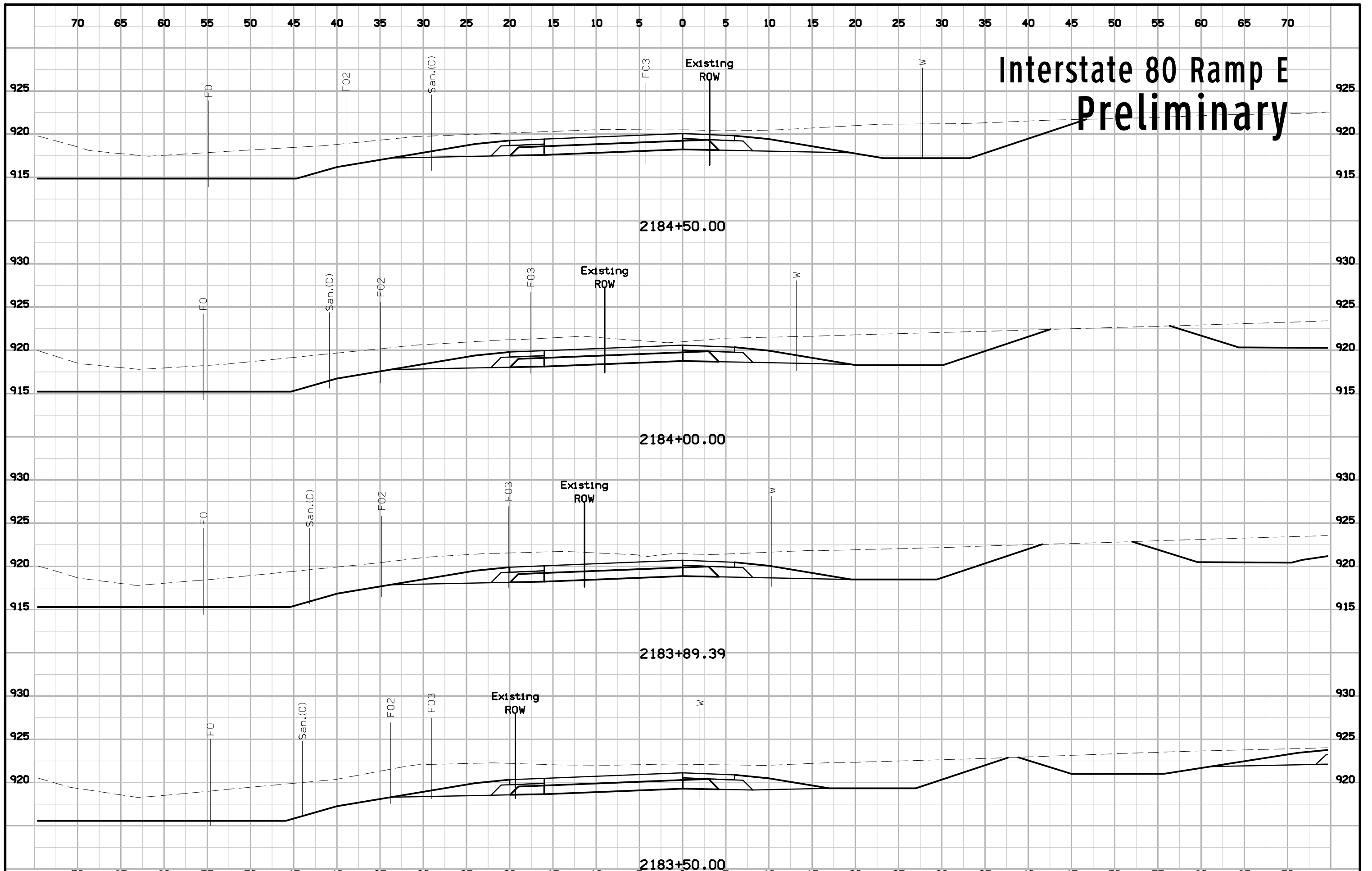
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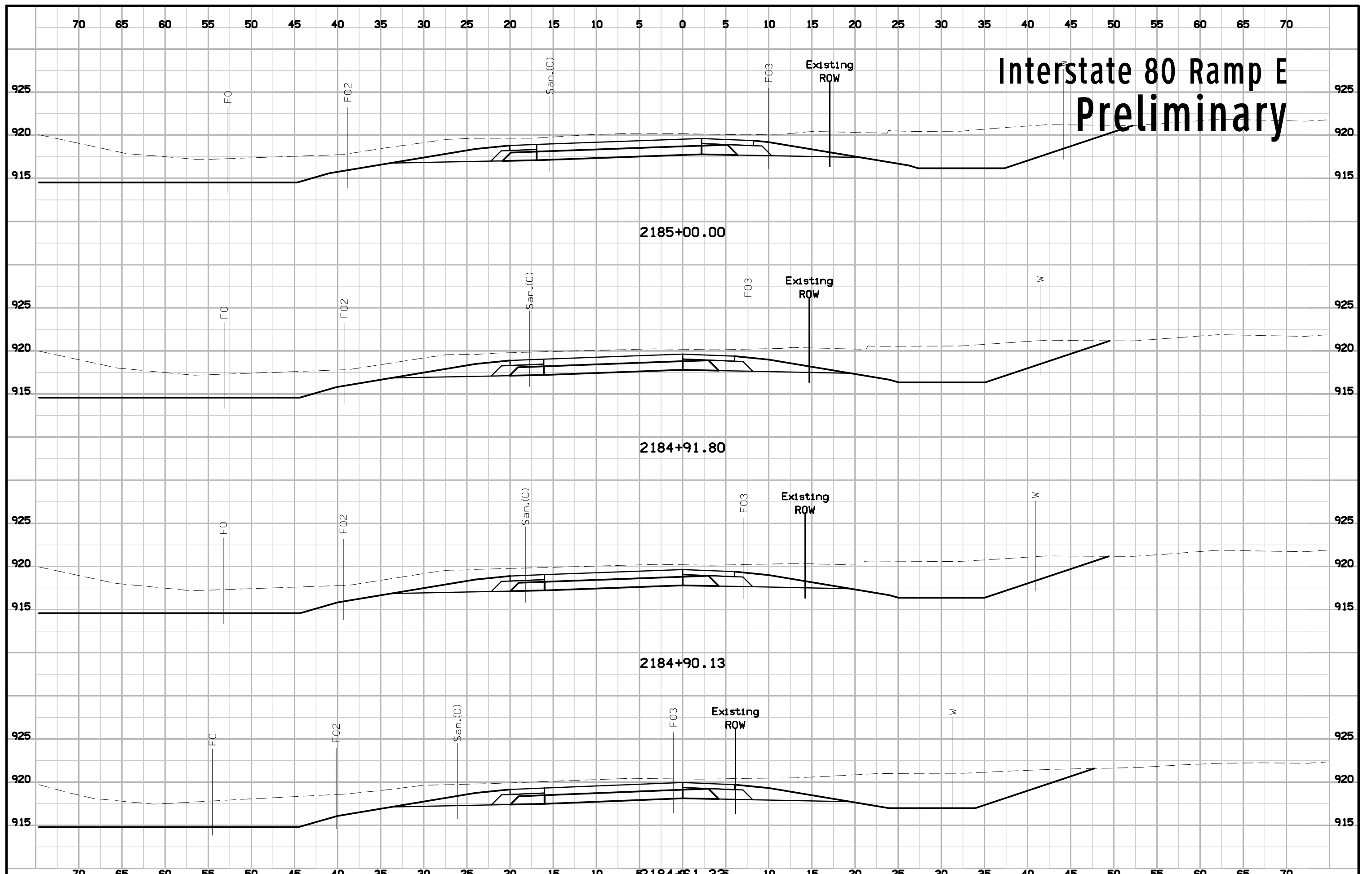
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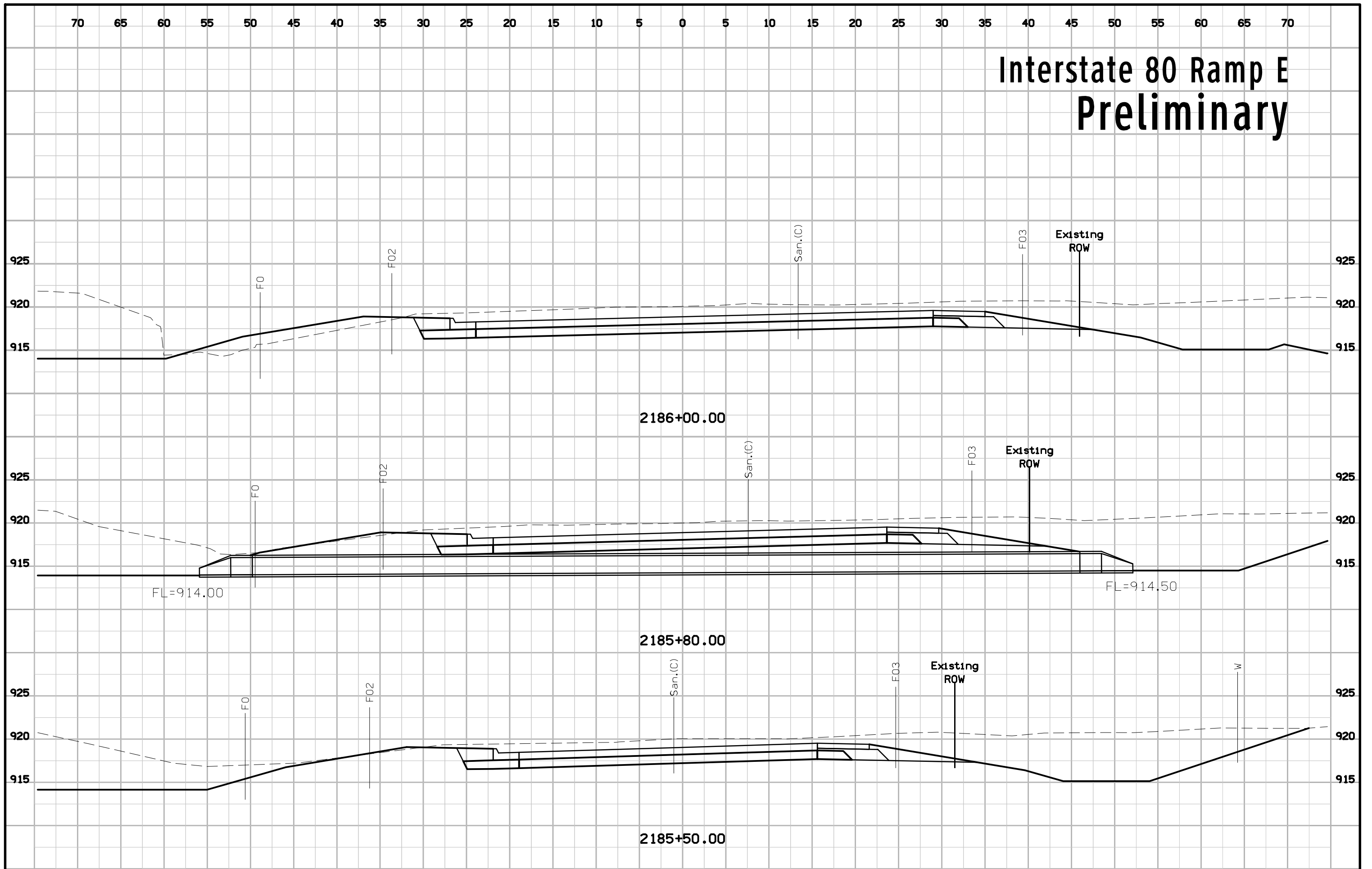
Interstate 80 Ramp E Preliminary



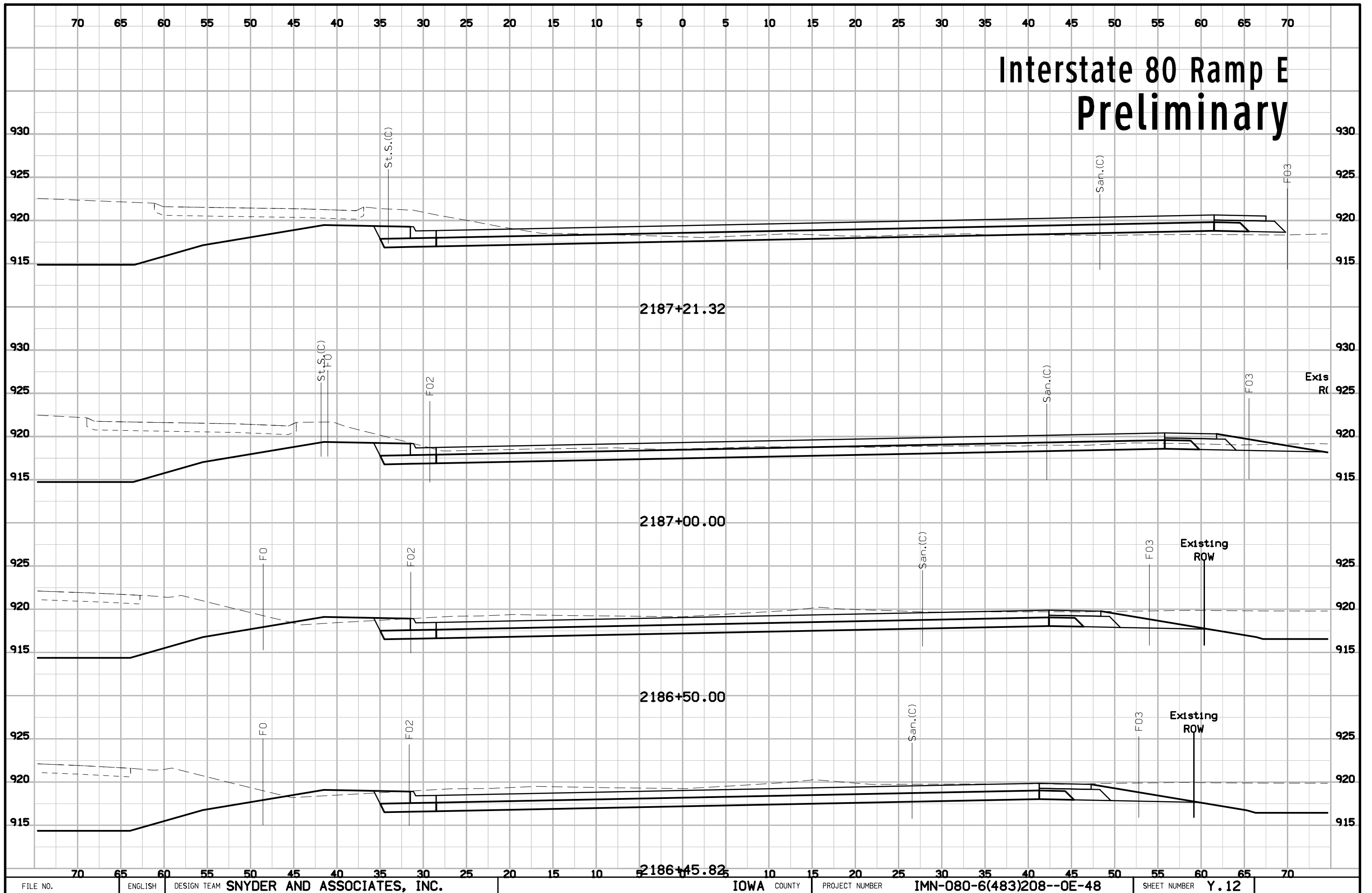
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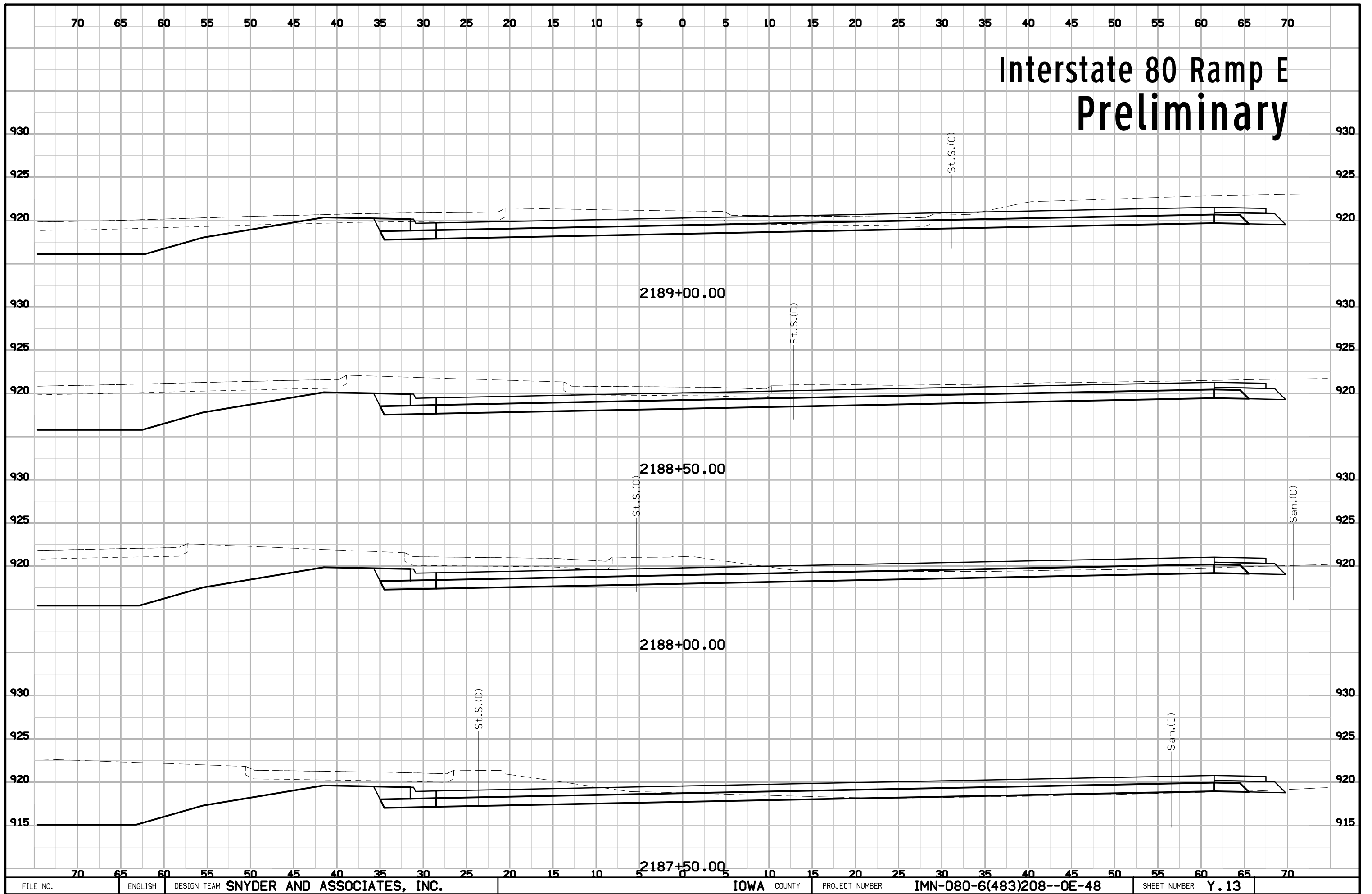
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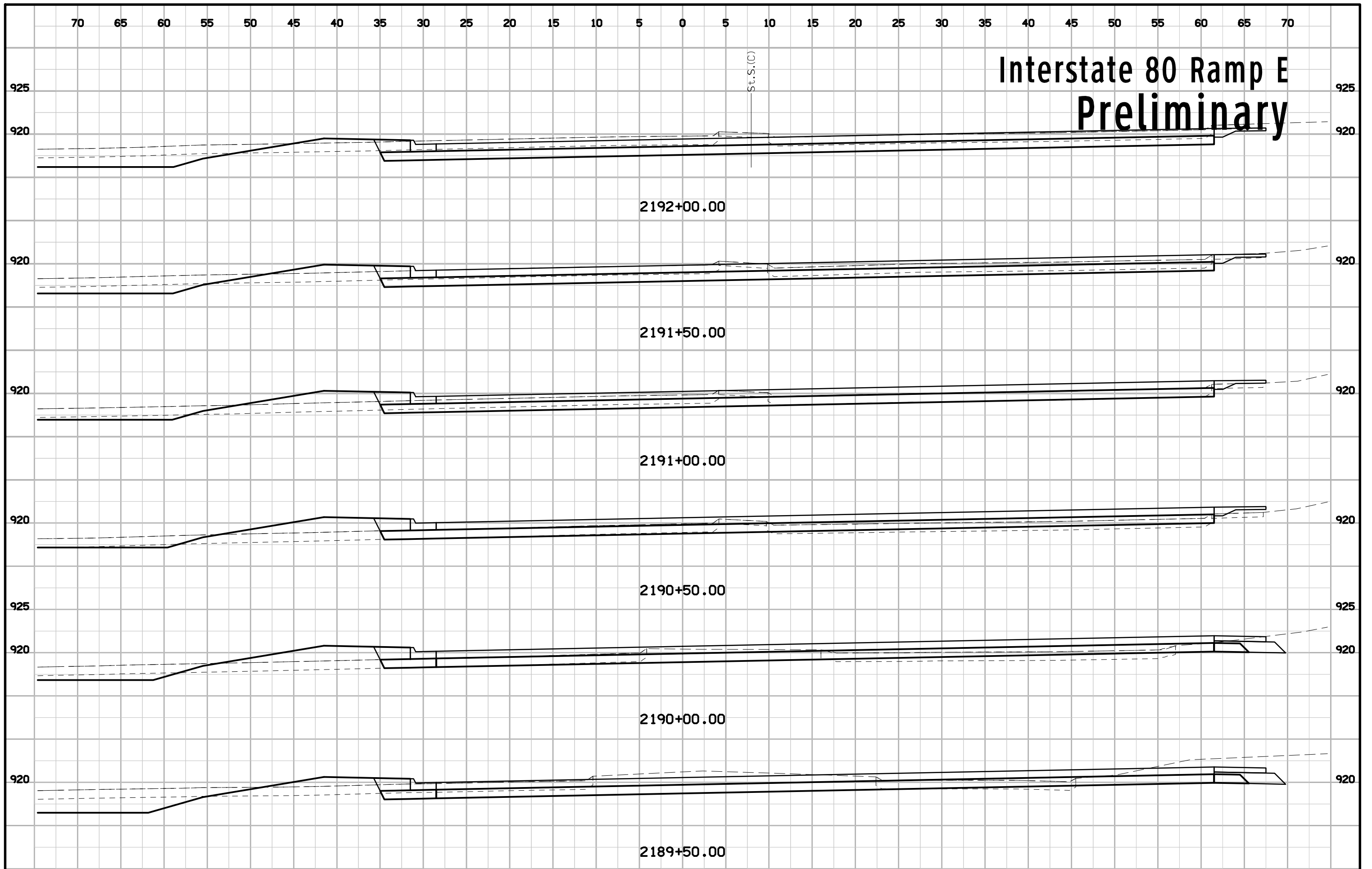
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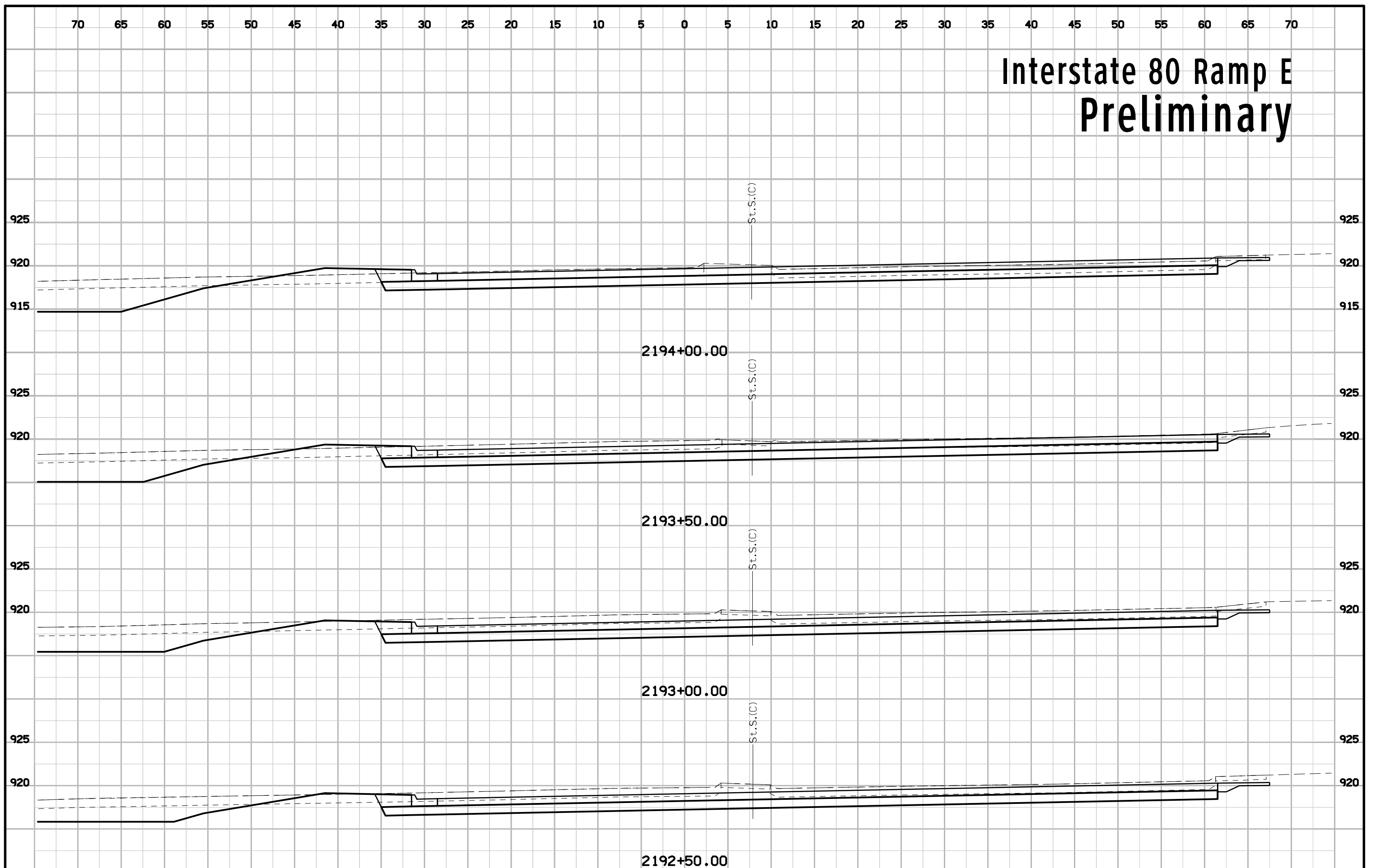
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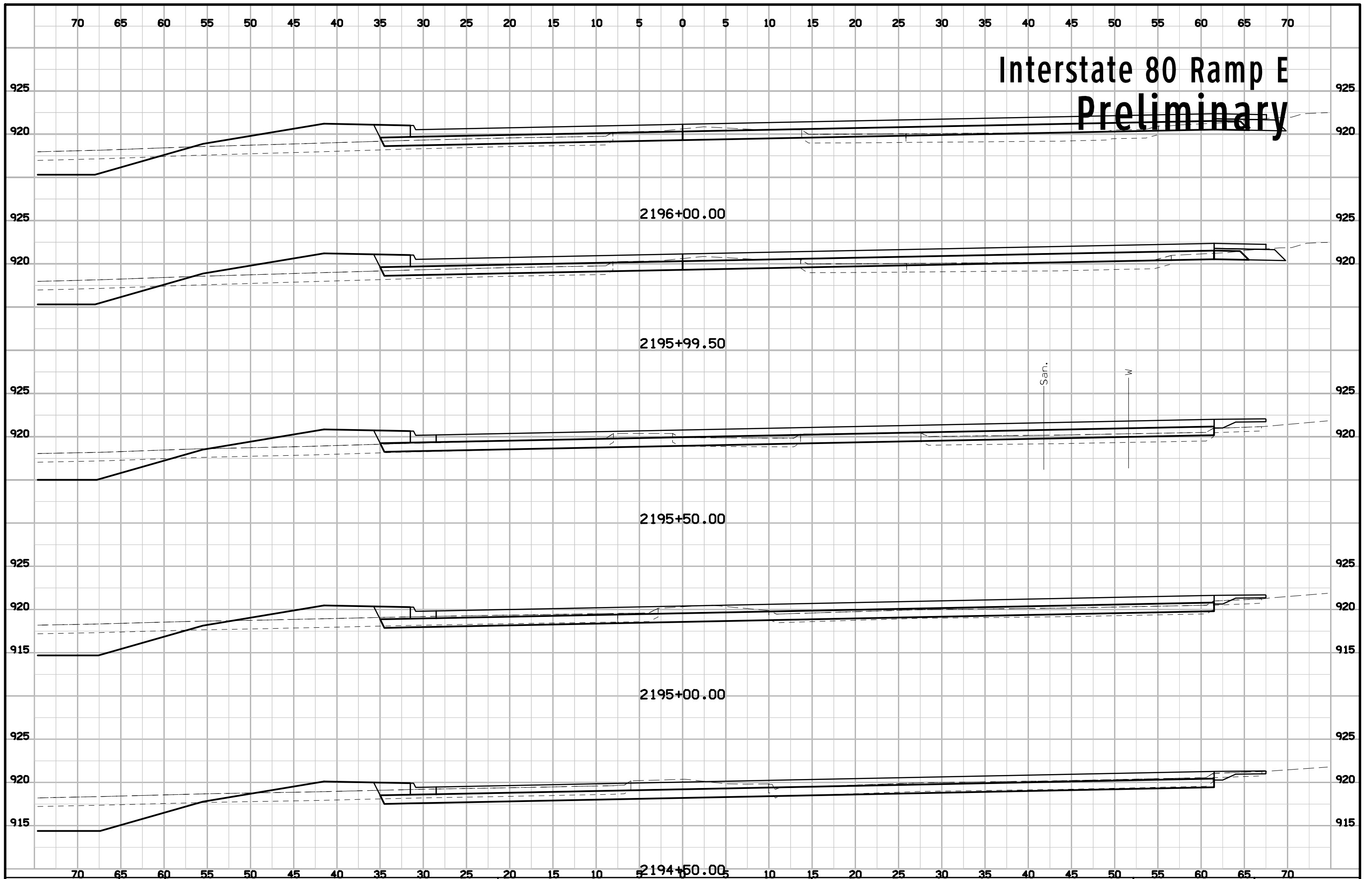
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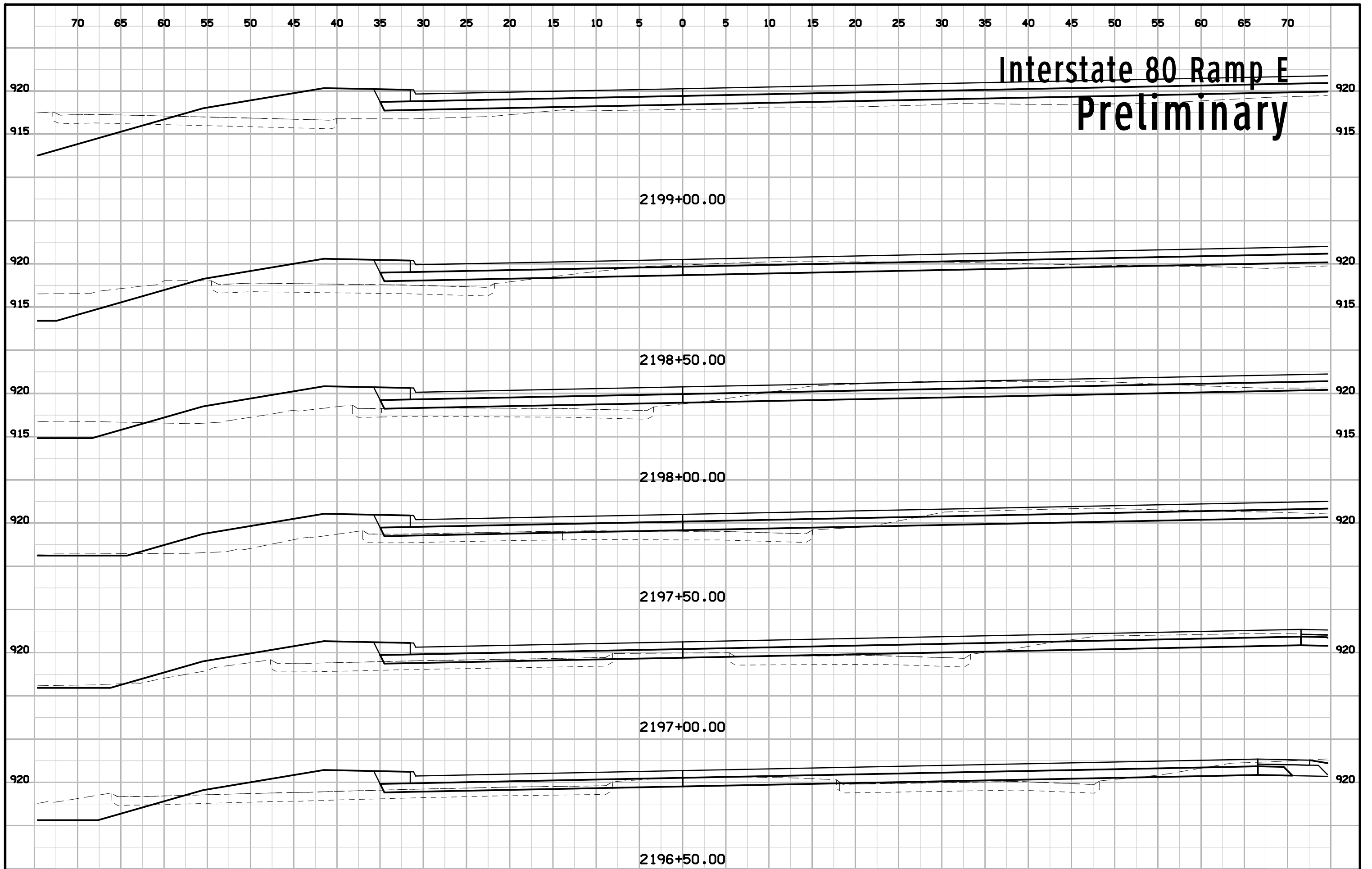
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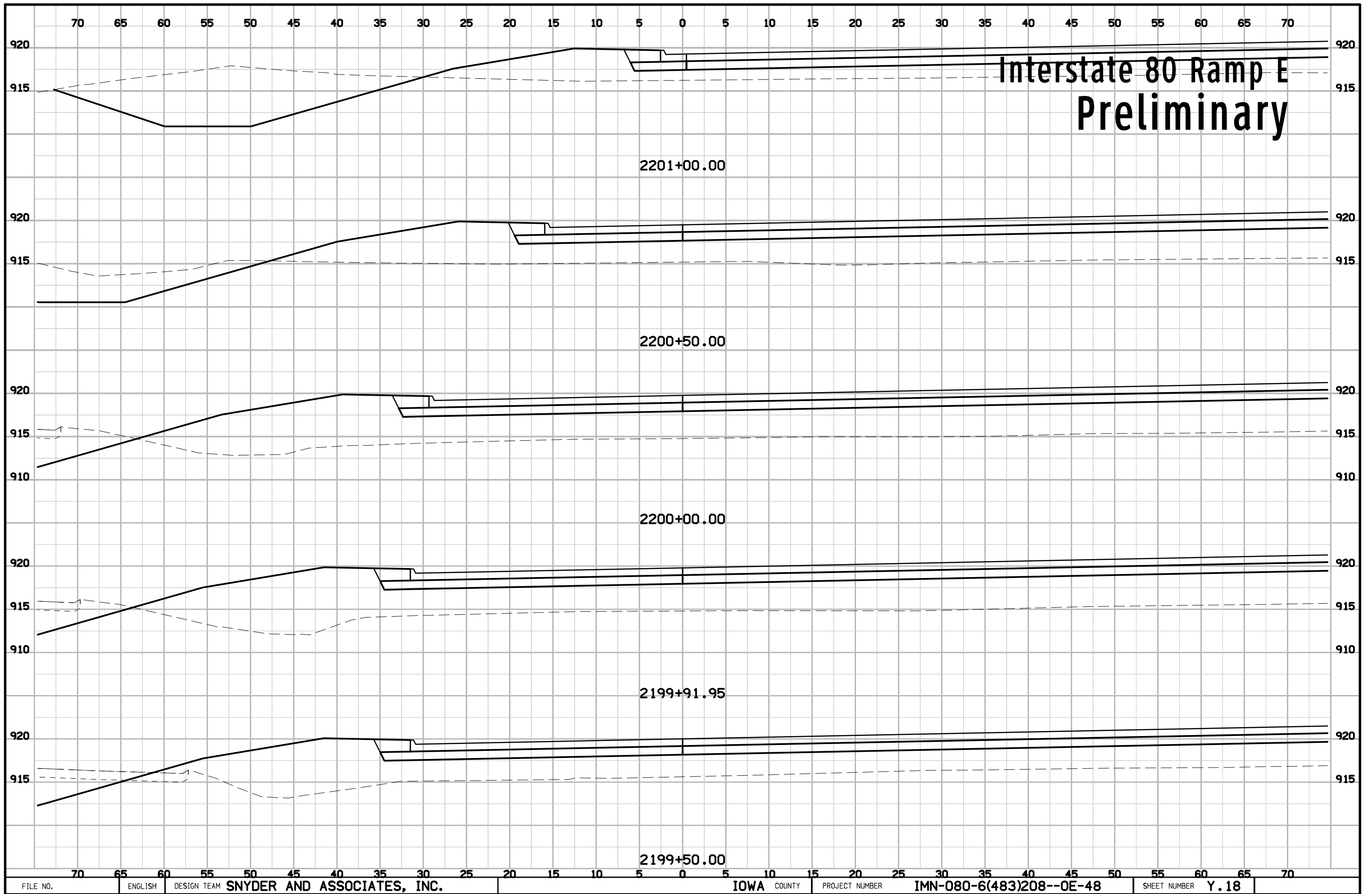


Interstate 80 Ramp E Preliminary

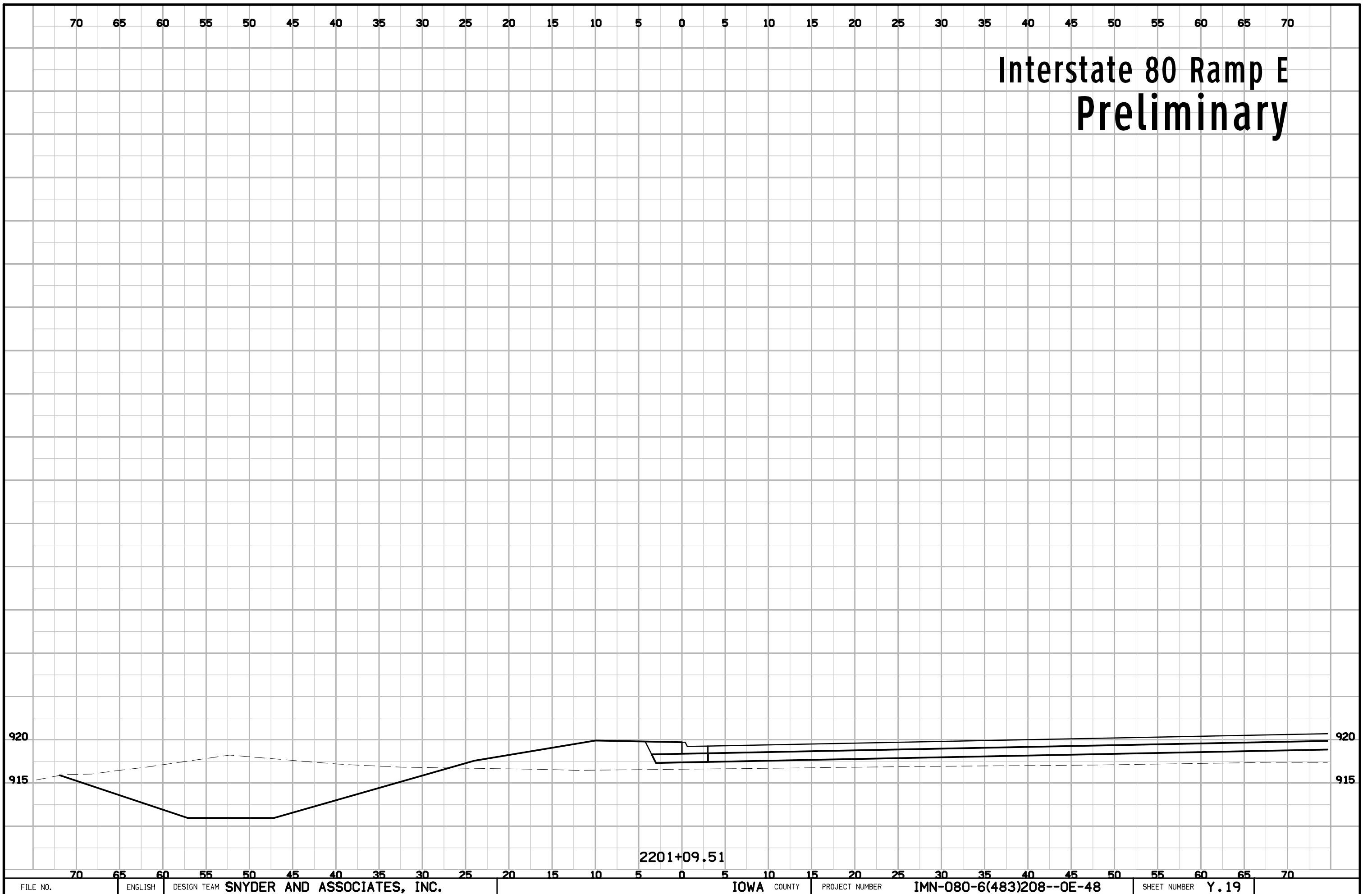


Interstate 80 Ramp E Preliminary



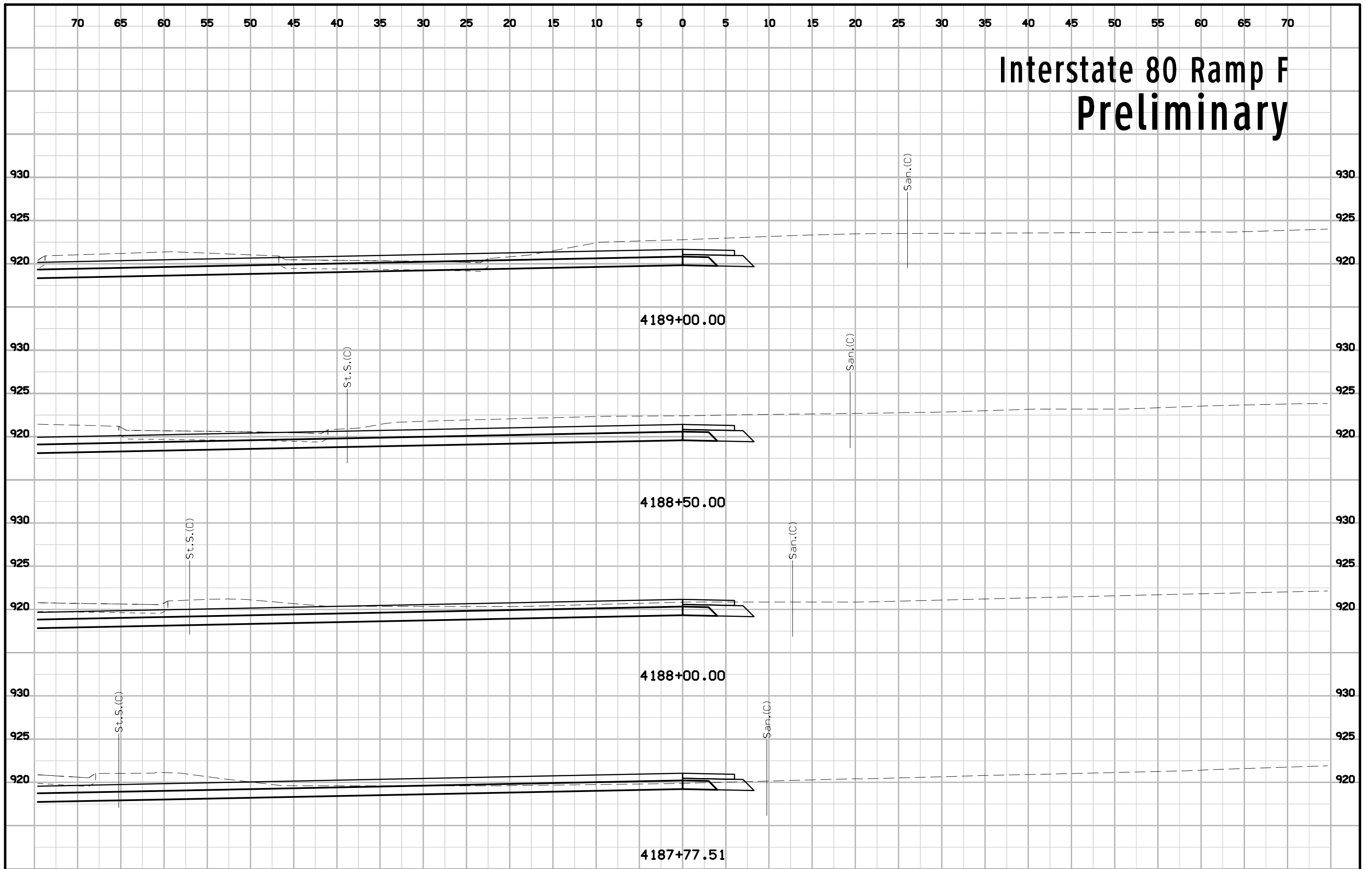


Interstate 80 Ramp E Preliminary

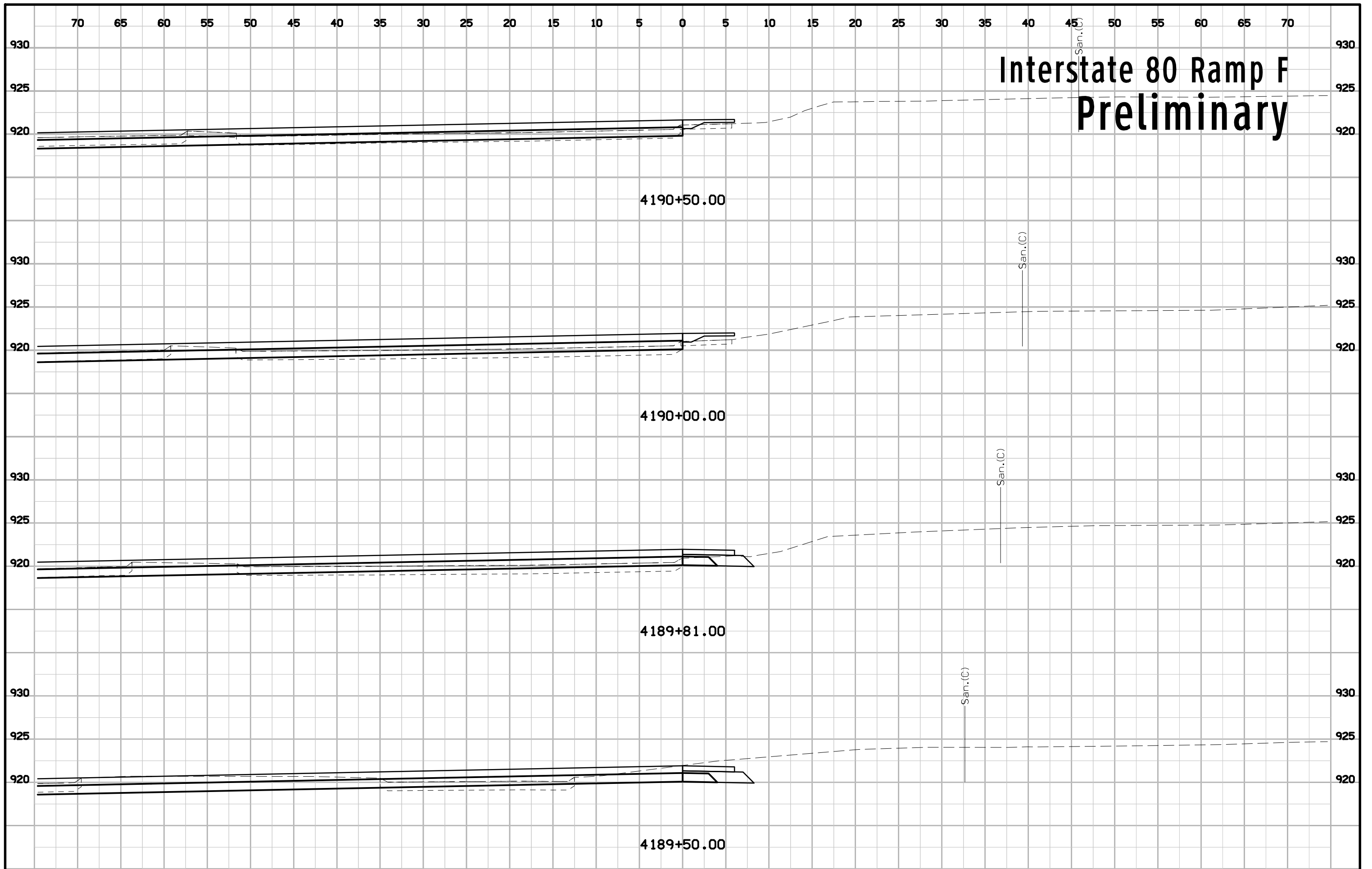


2201+09.51

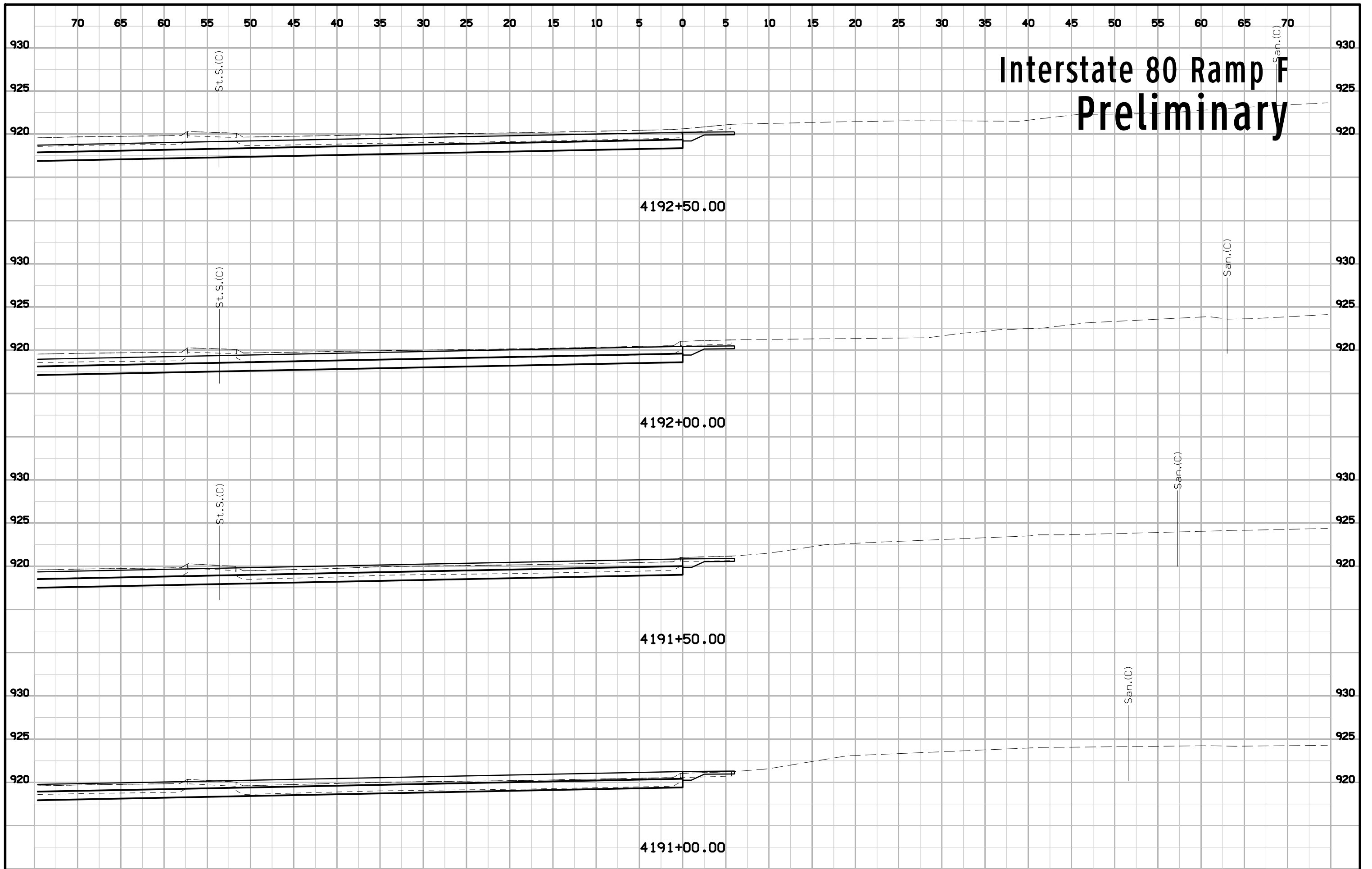
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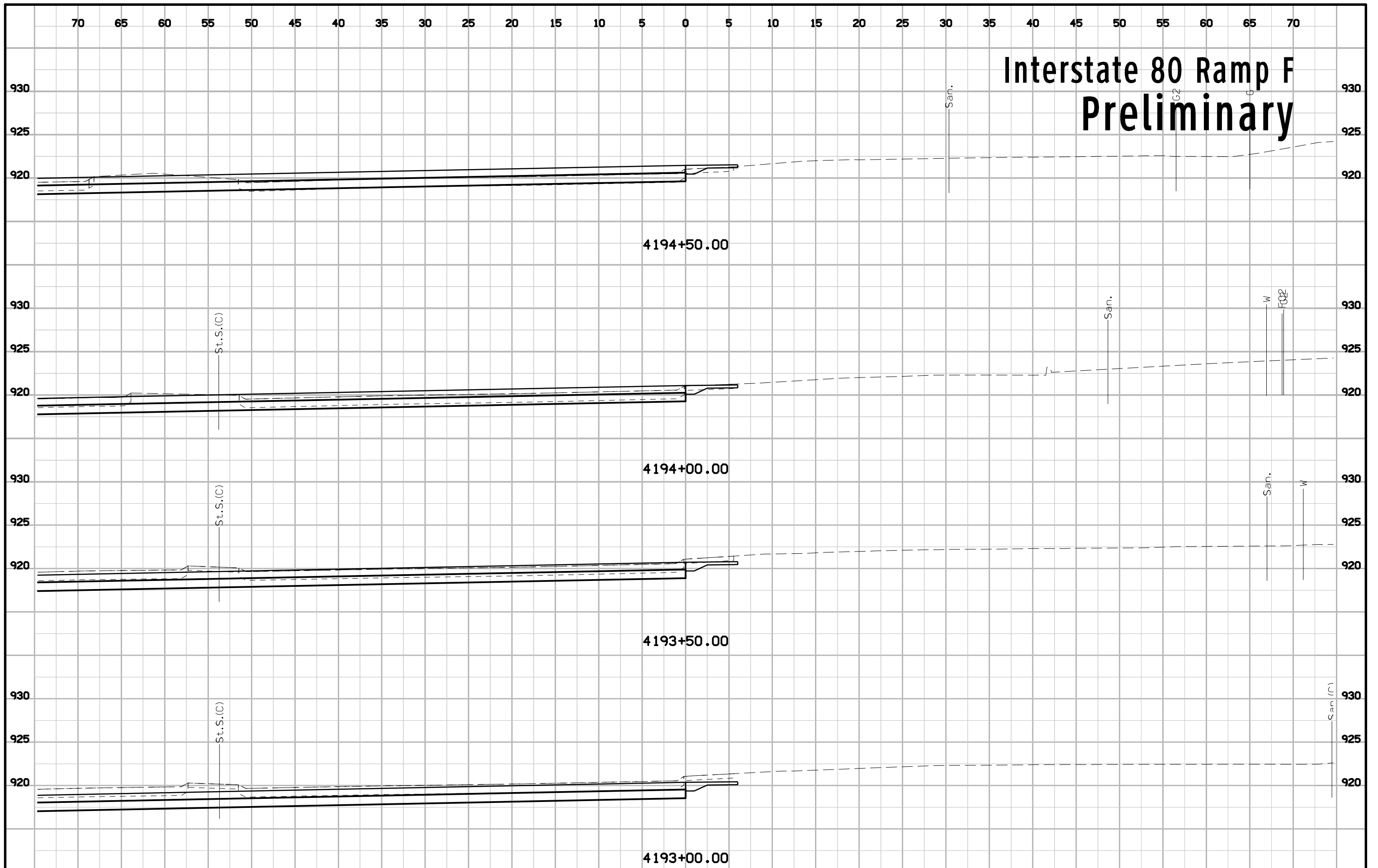
Interstate 80 Ramp F Preliminary



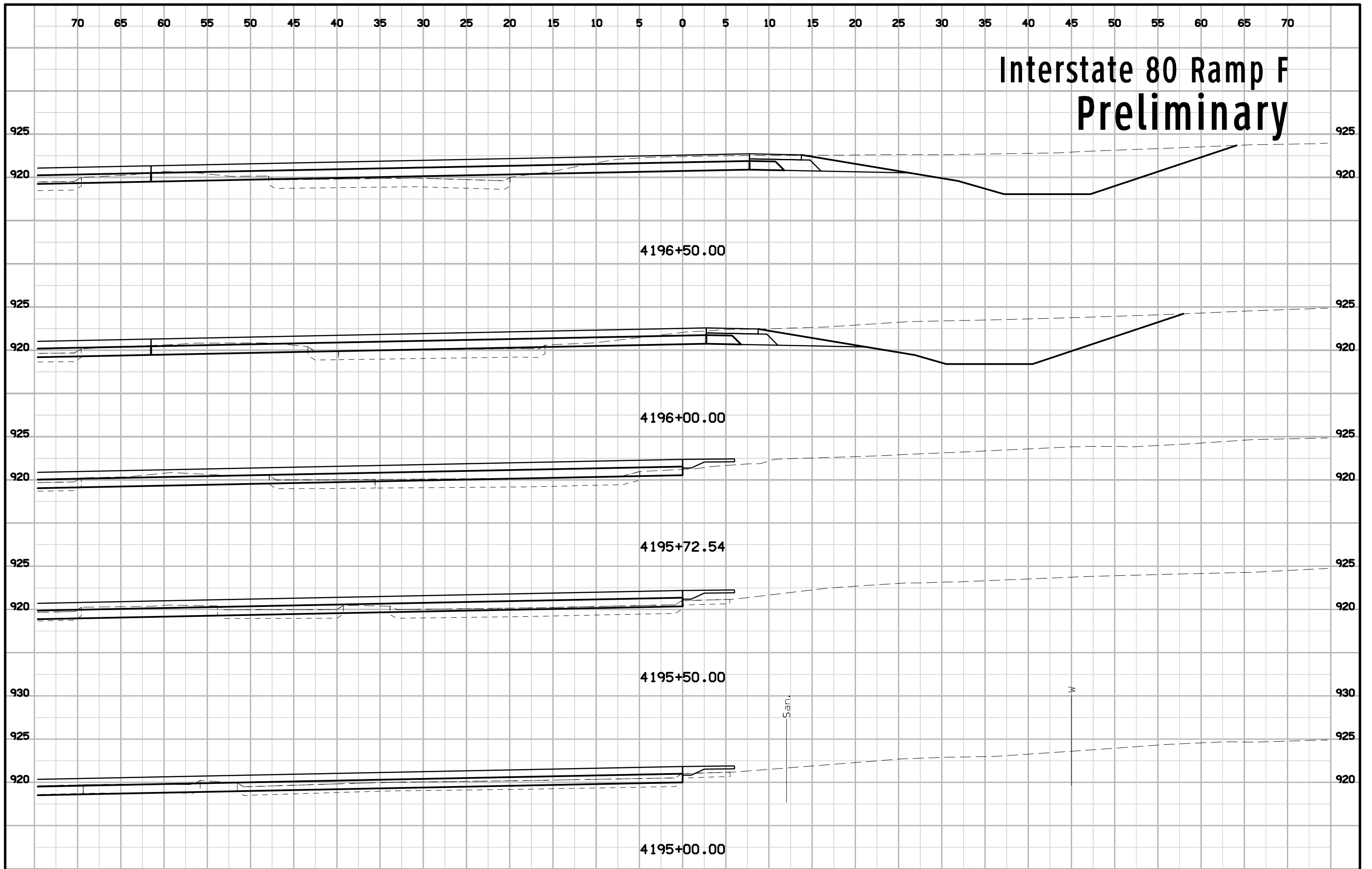
Interstate 80 Ramp F Preliminary



Interstate 80 Ramp F Preliminary



Interstate 80 Ramp F Preliminary



4196+50.00

4196+00.00

4195+72.54

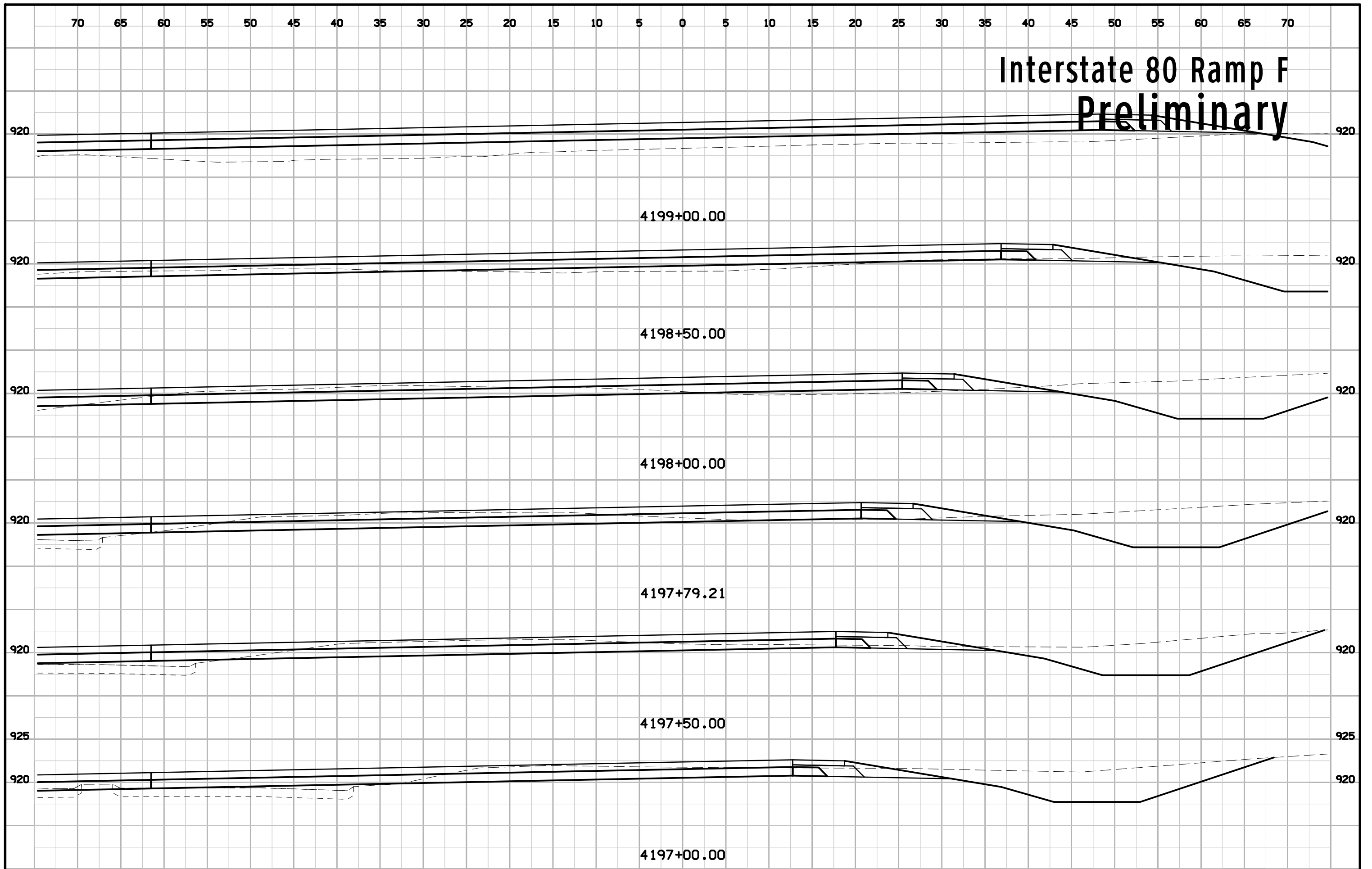
4195+50.00

4195+00.00

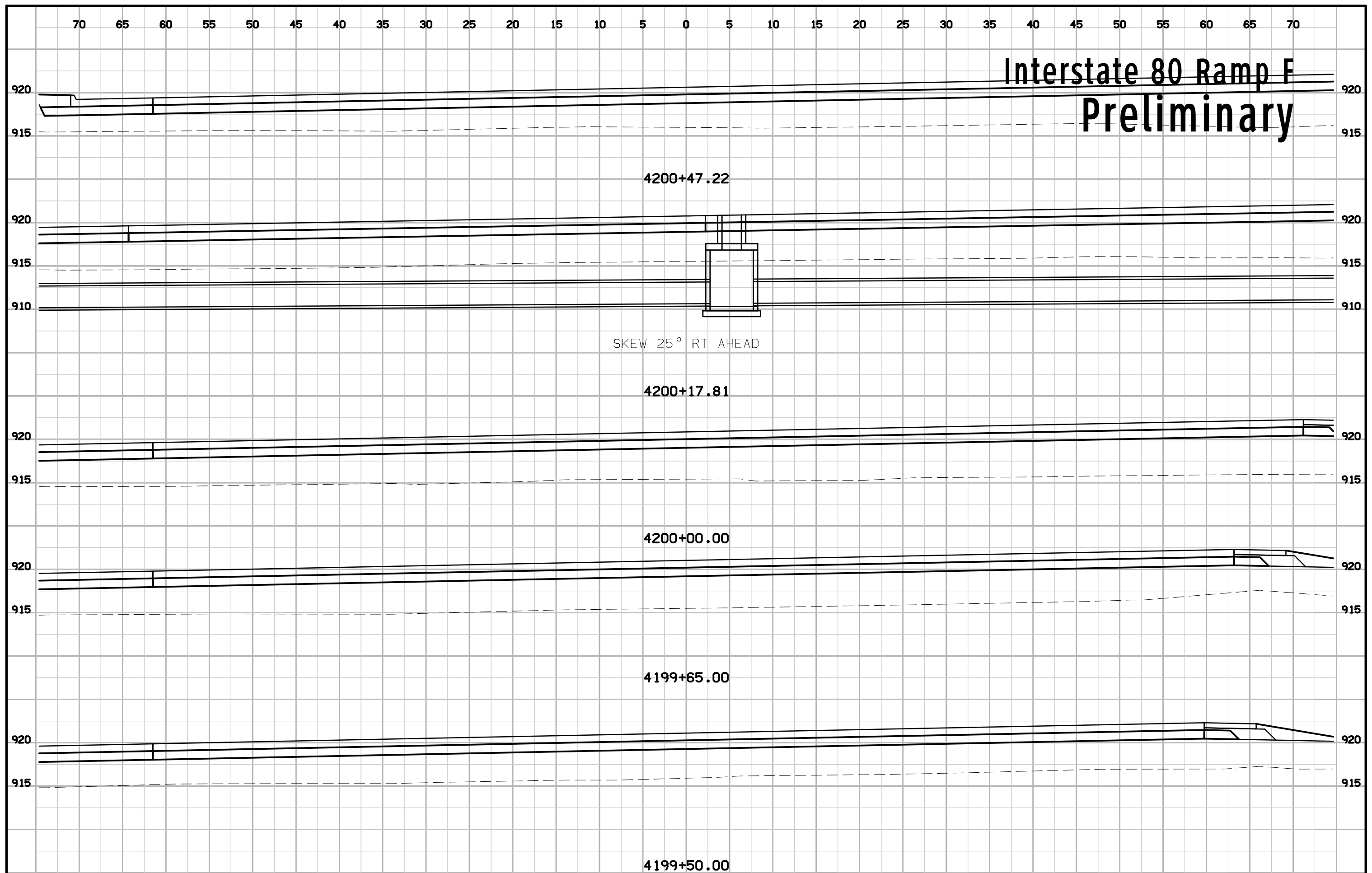
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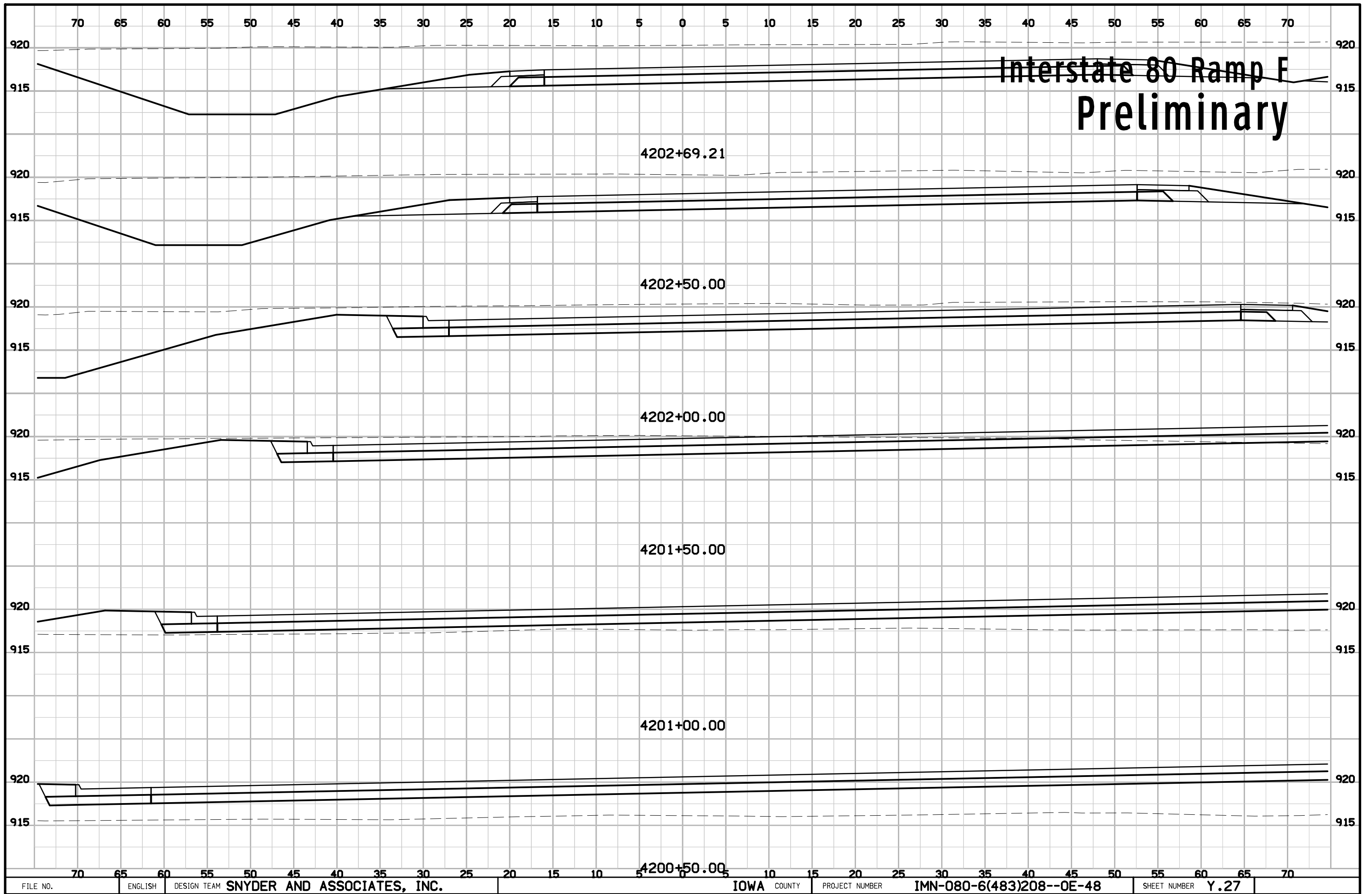
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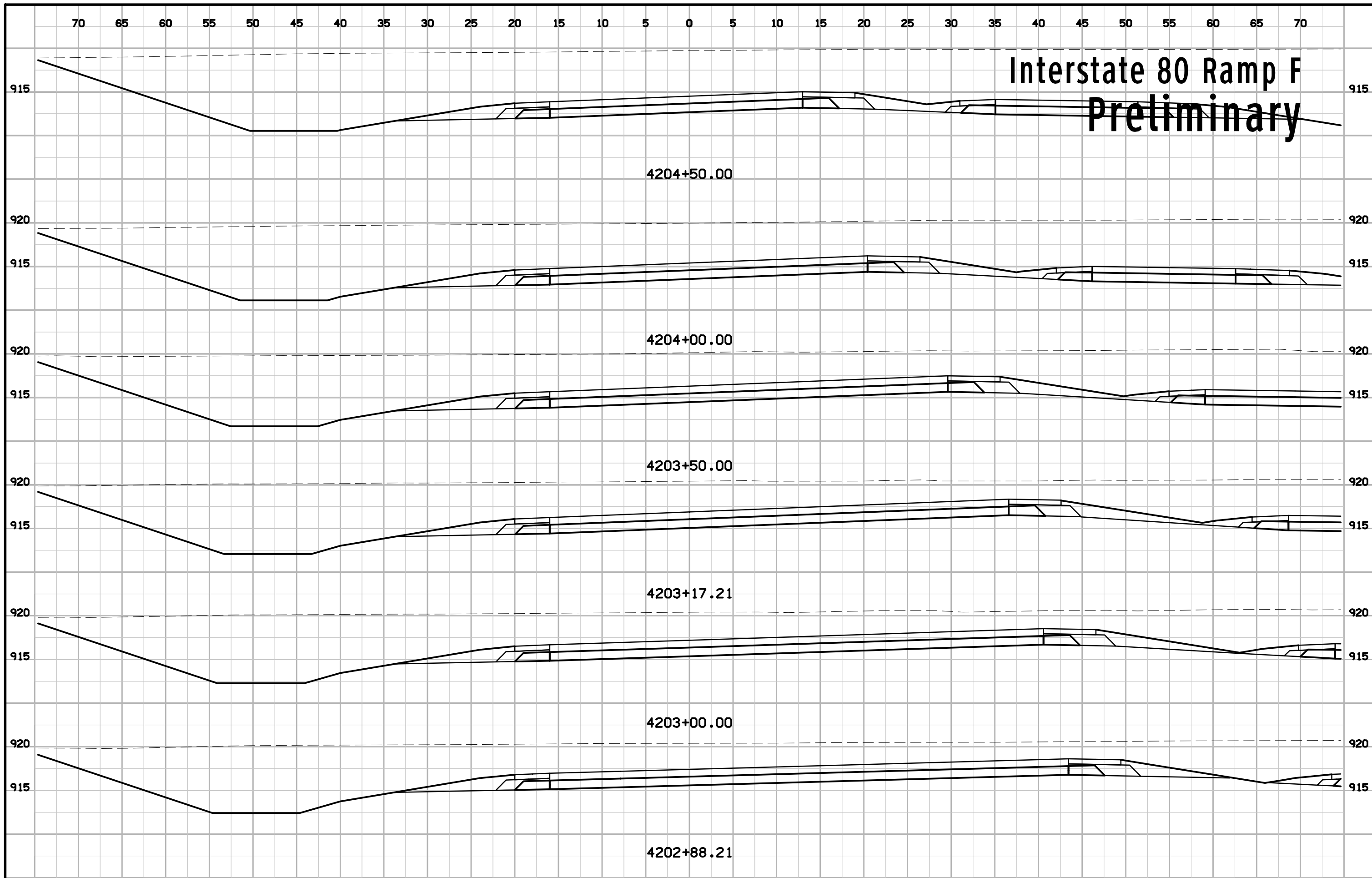
Interstate 80 Ramp F Preliminary



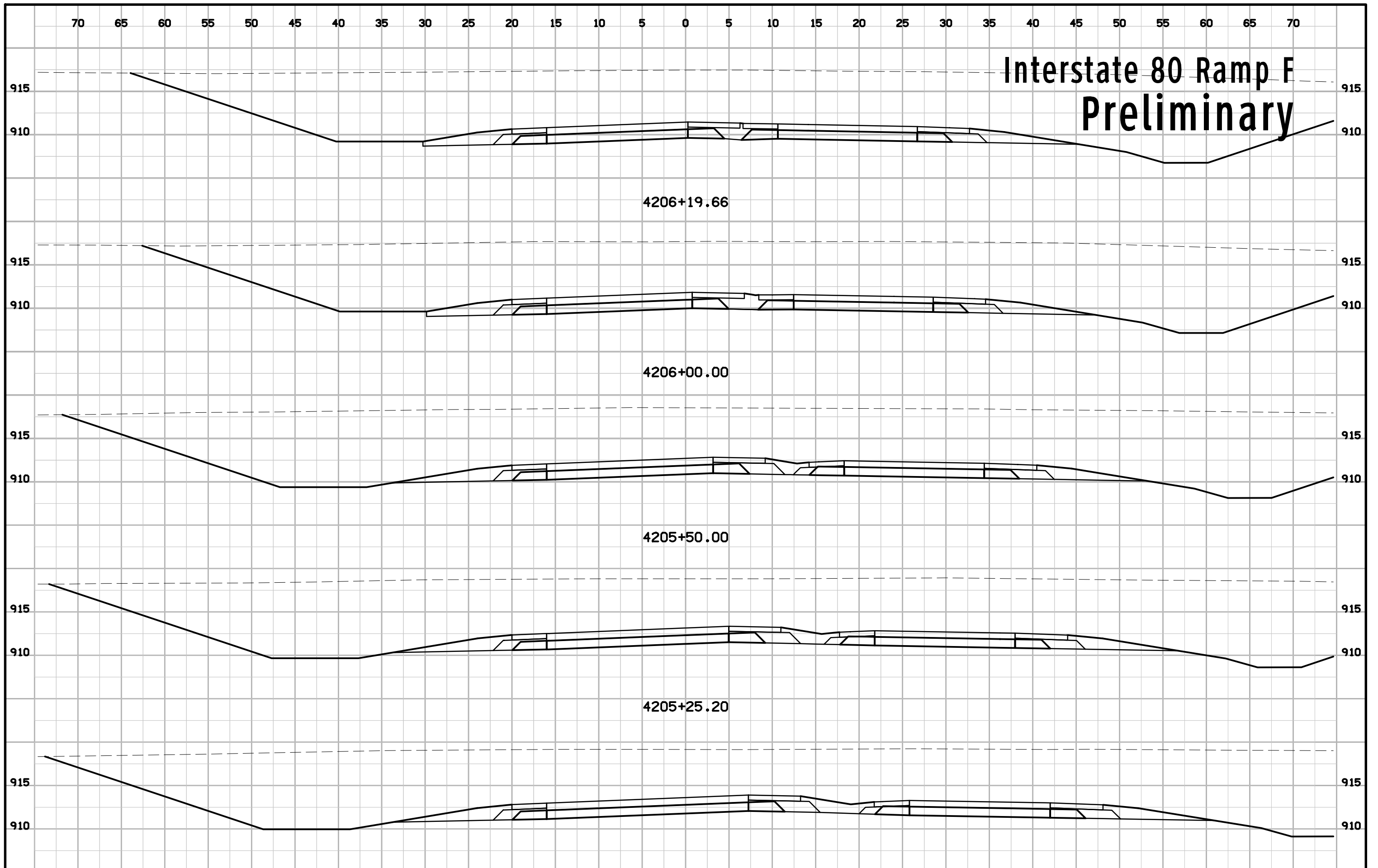
Interstate 80 Ramp F Preliminary







Interstate 80 Ramp F Preliminary



4206+19.66

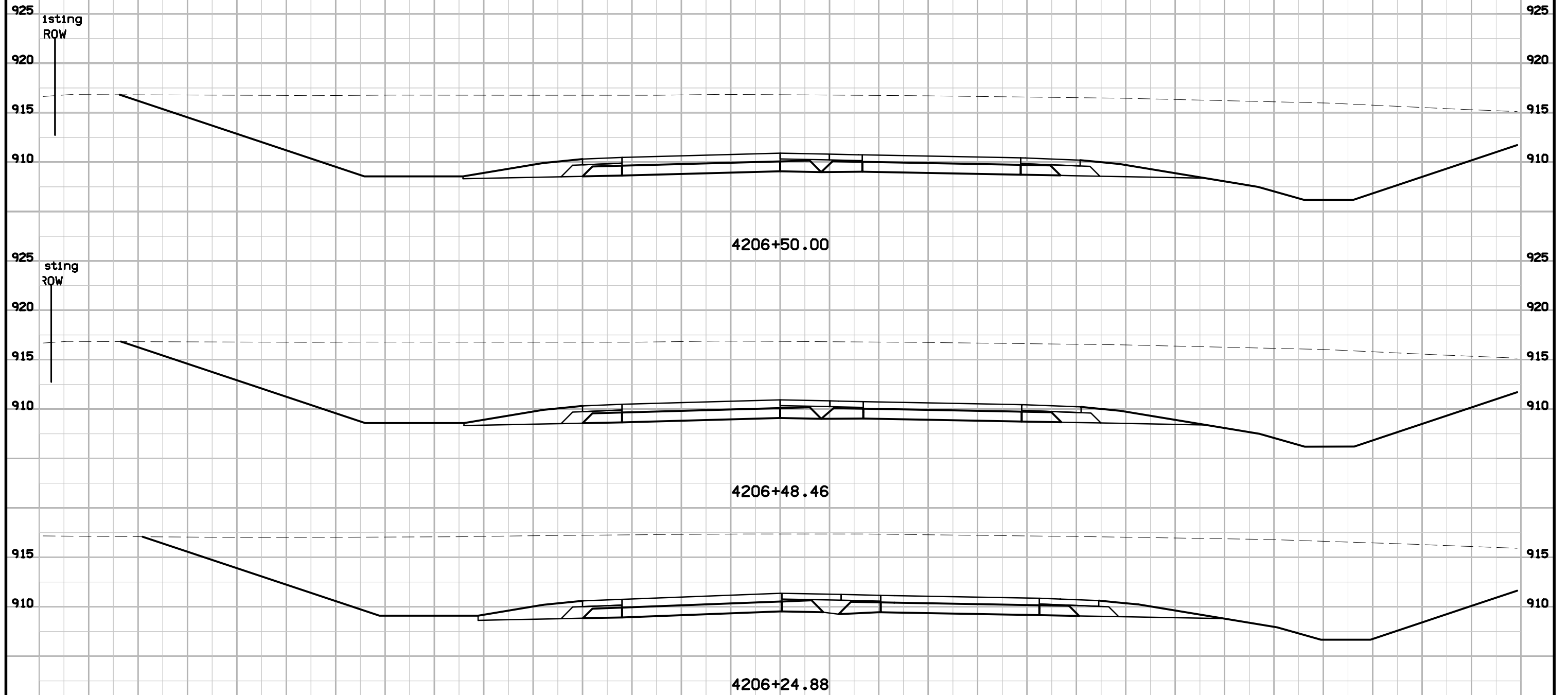
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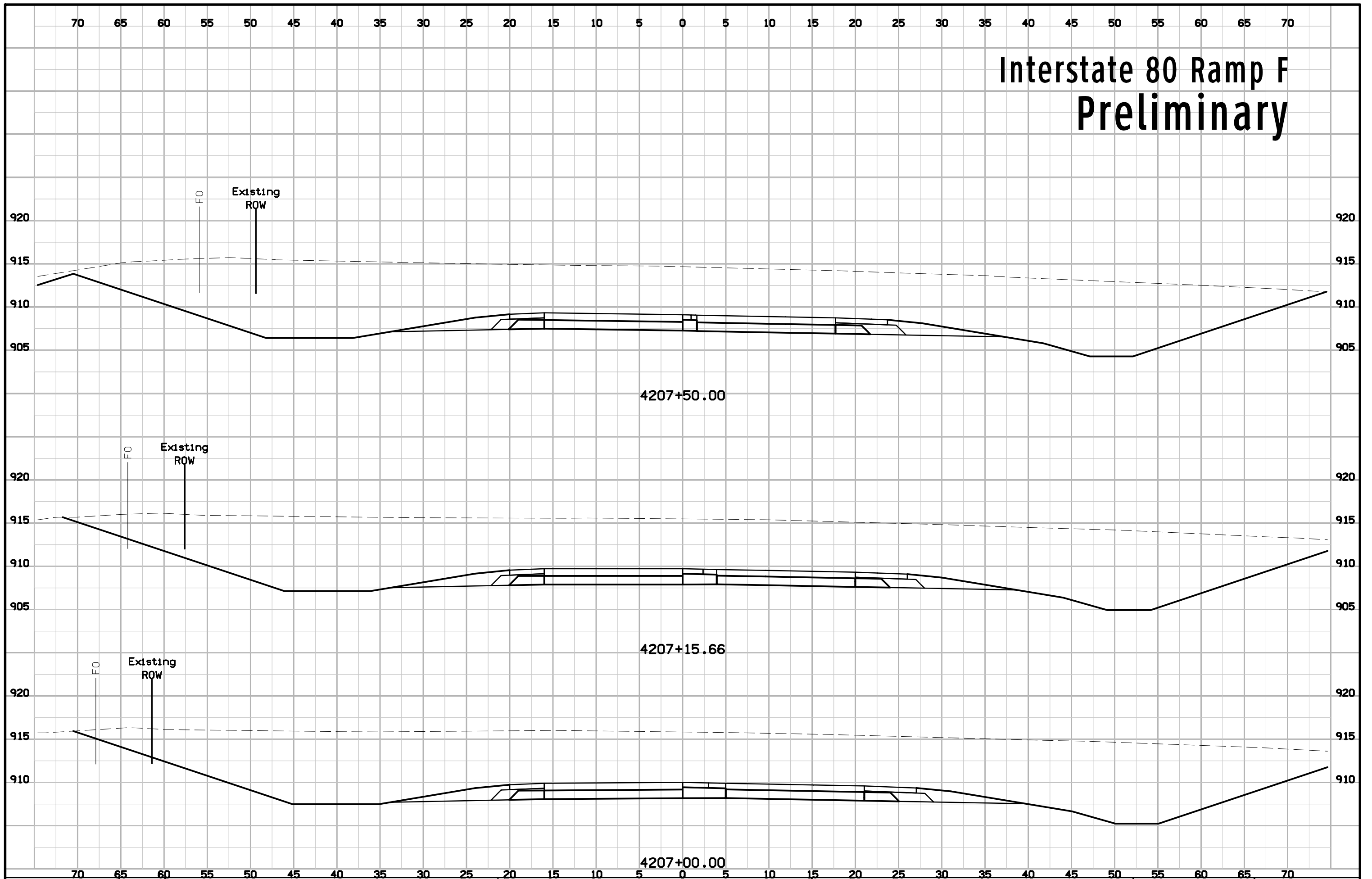
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4205+00.00

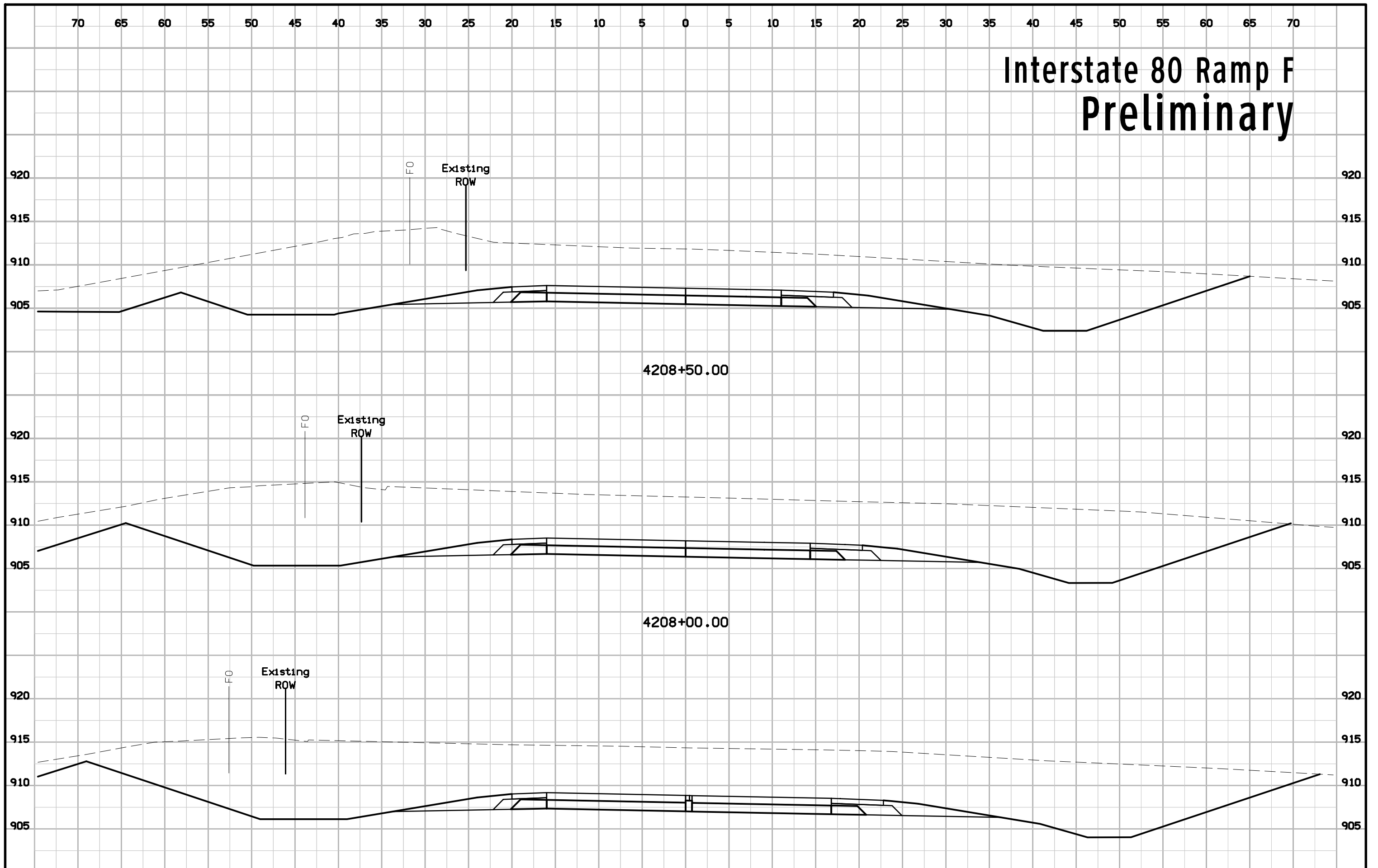
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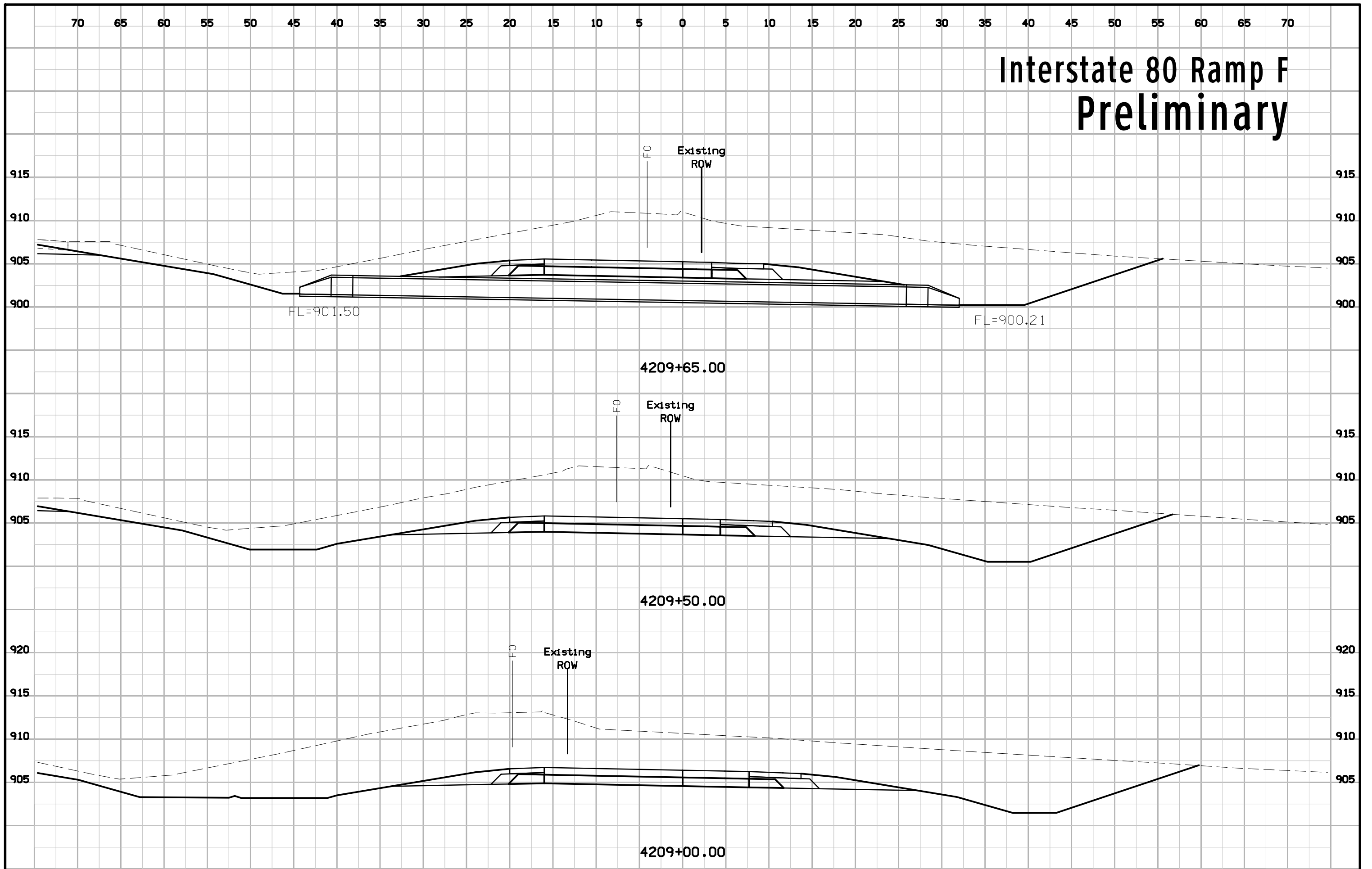
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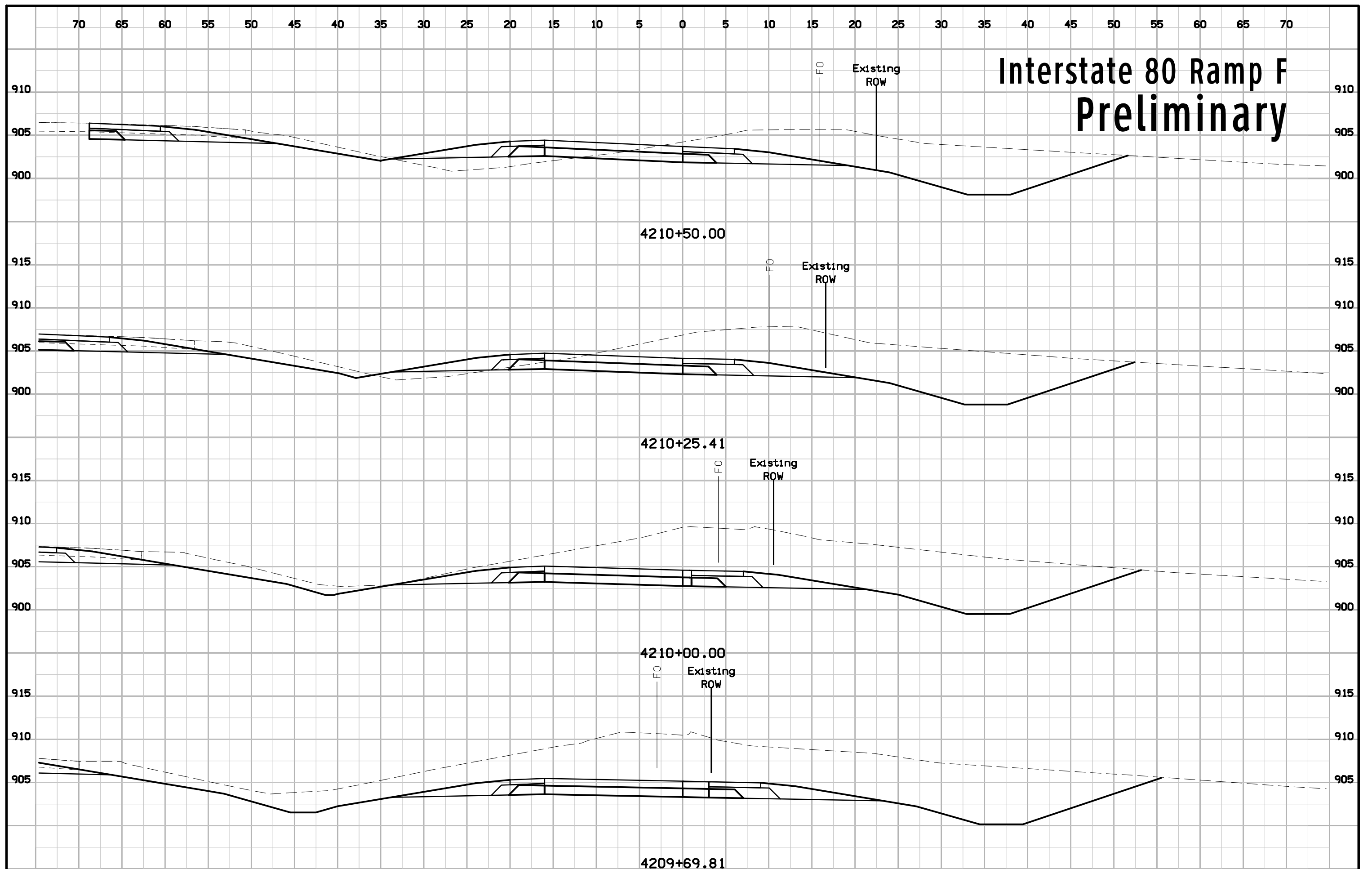
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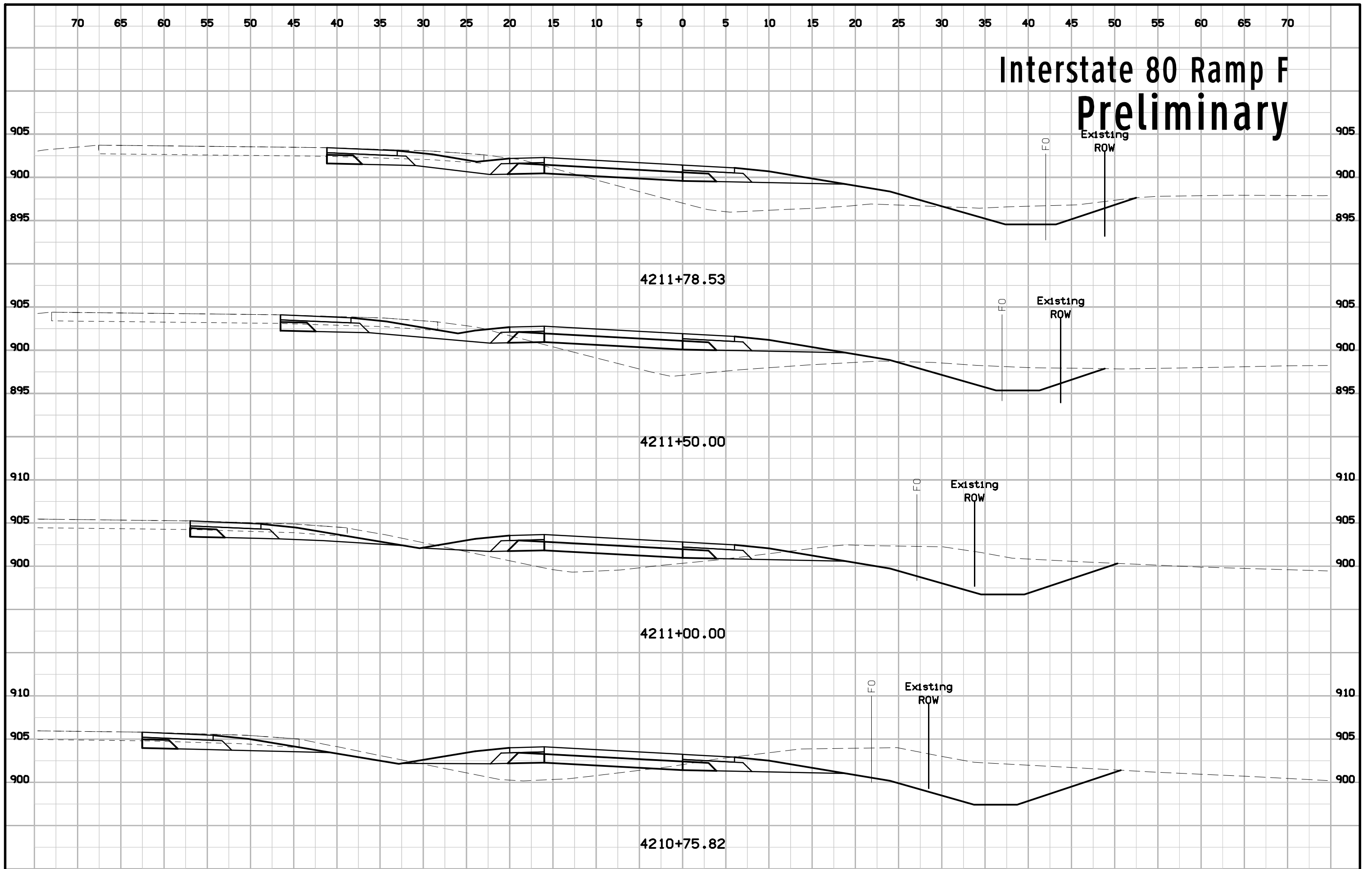
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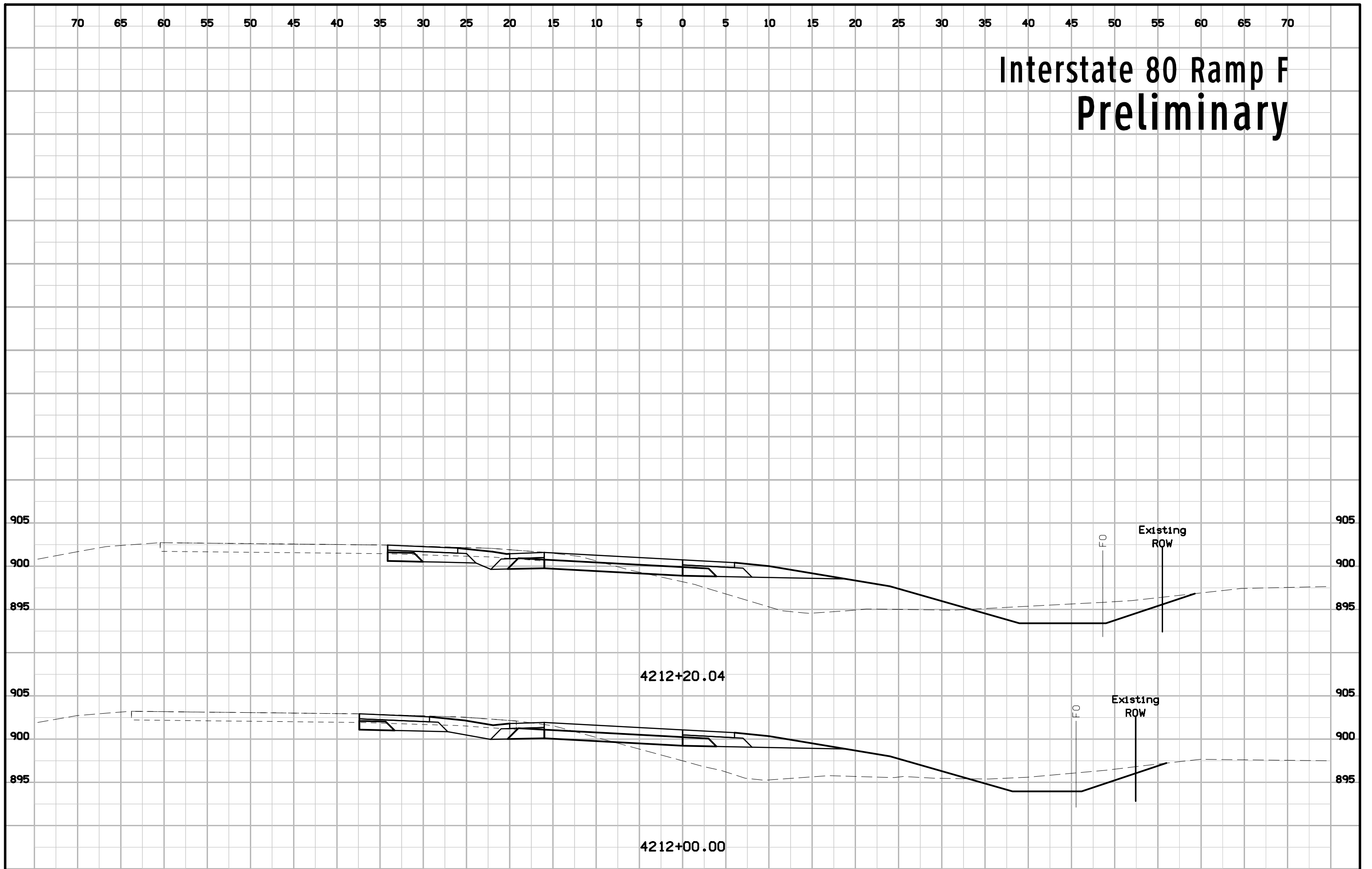
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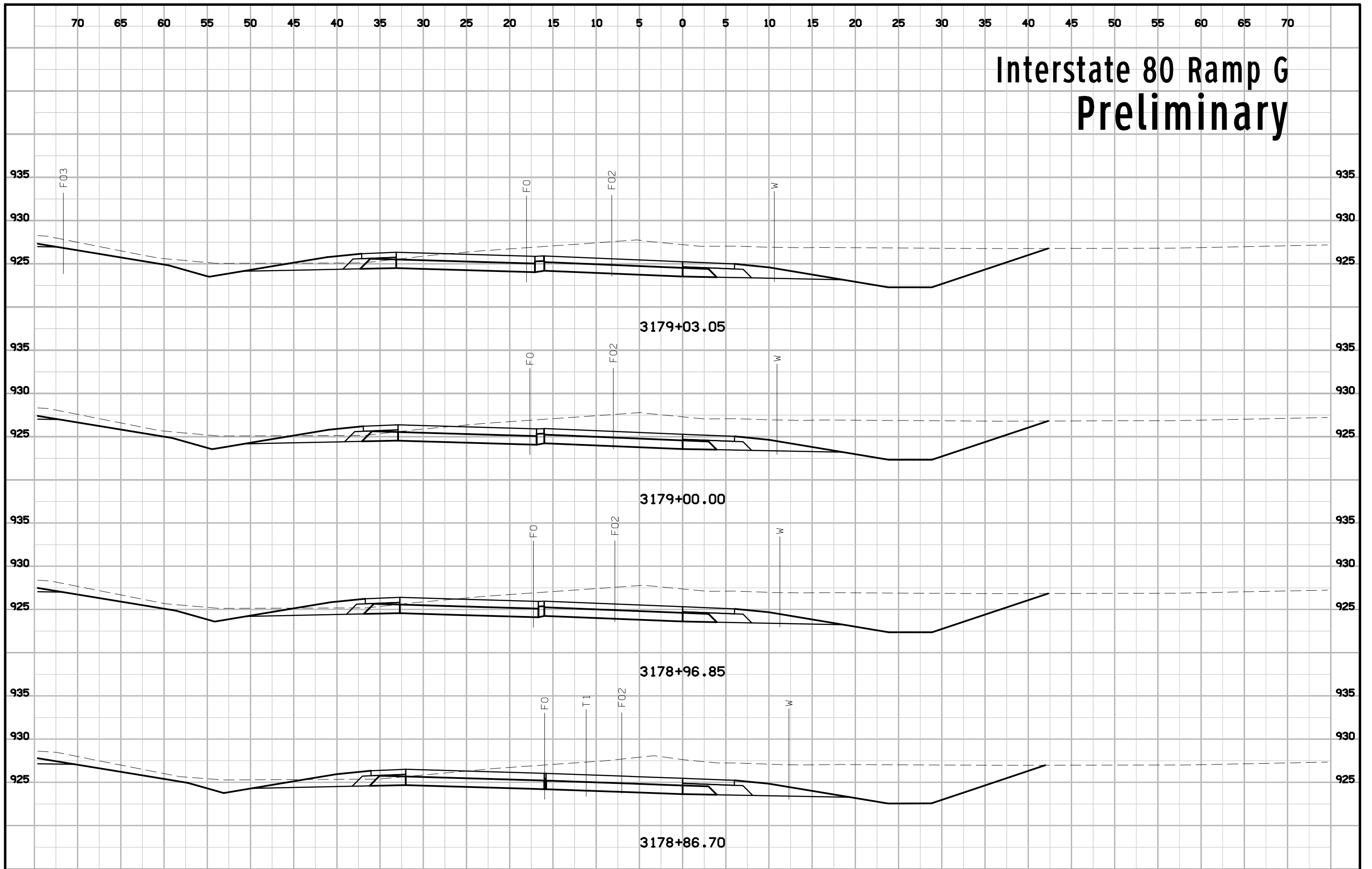
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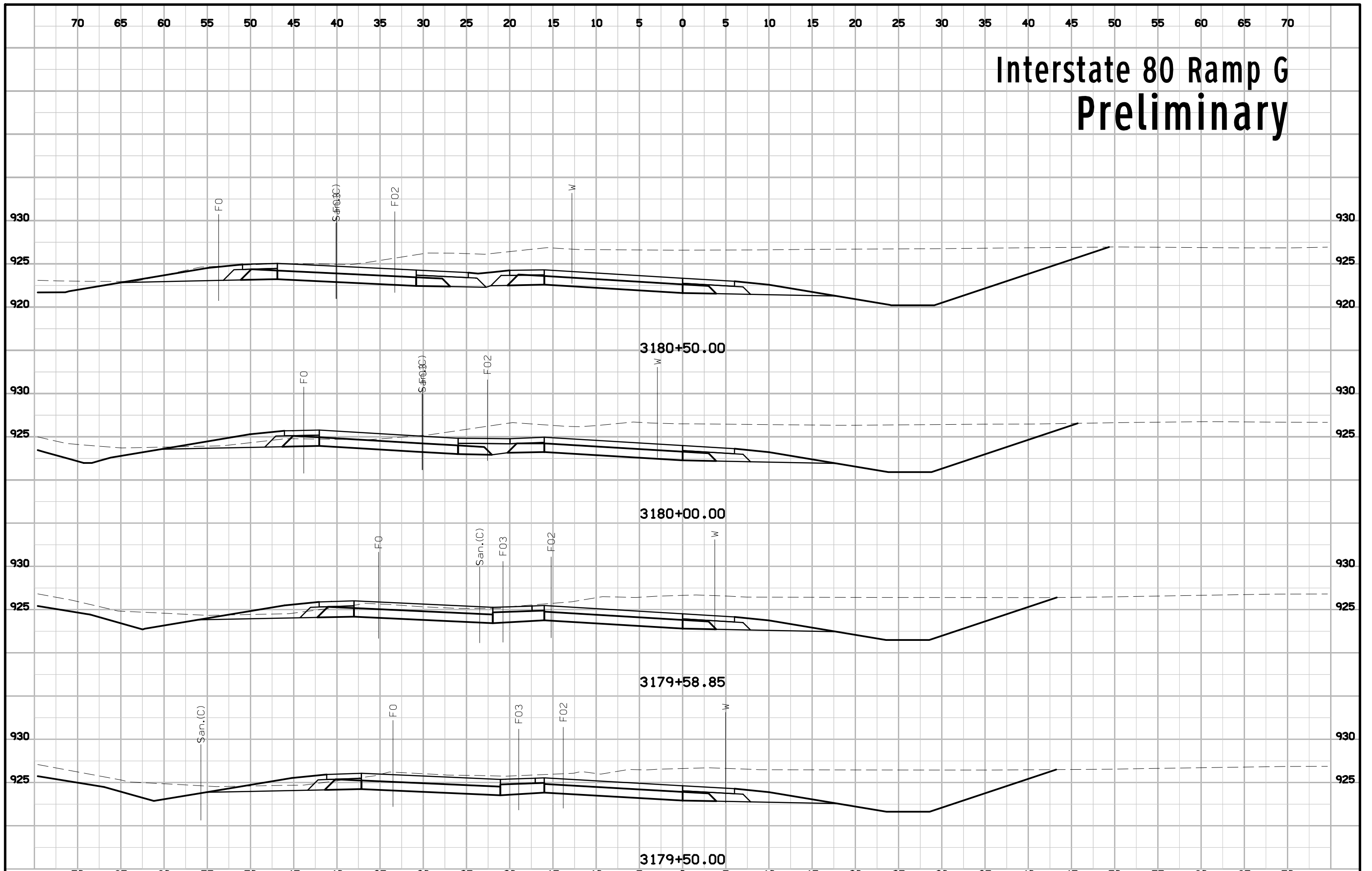
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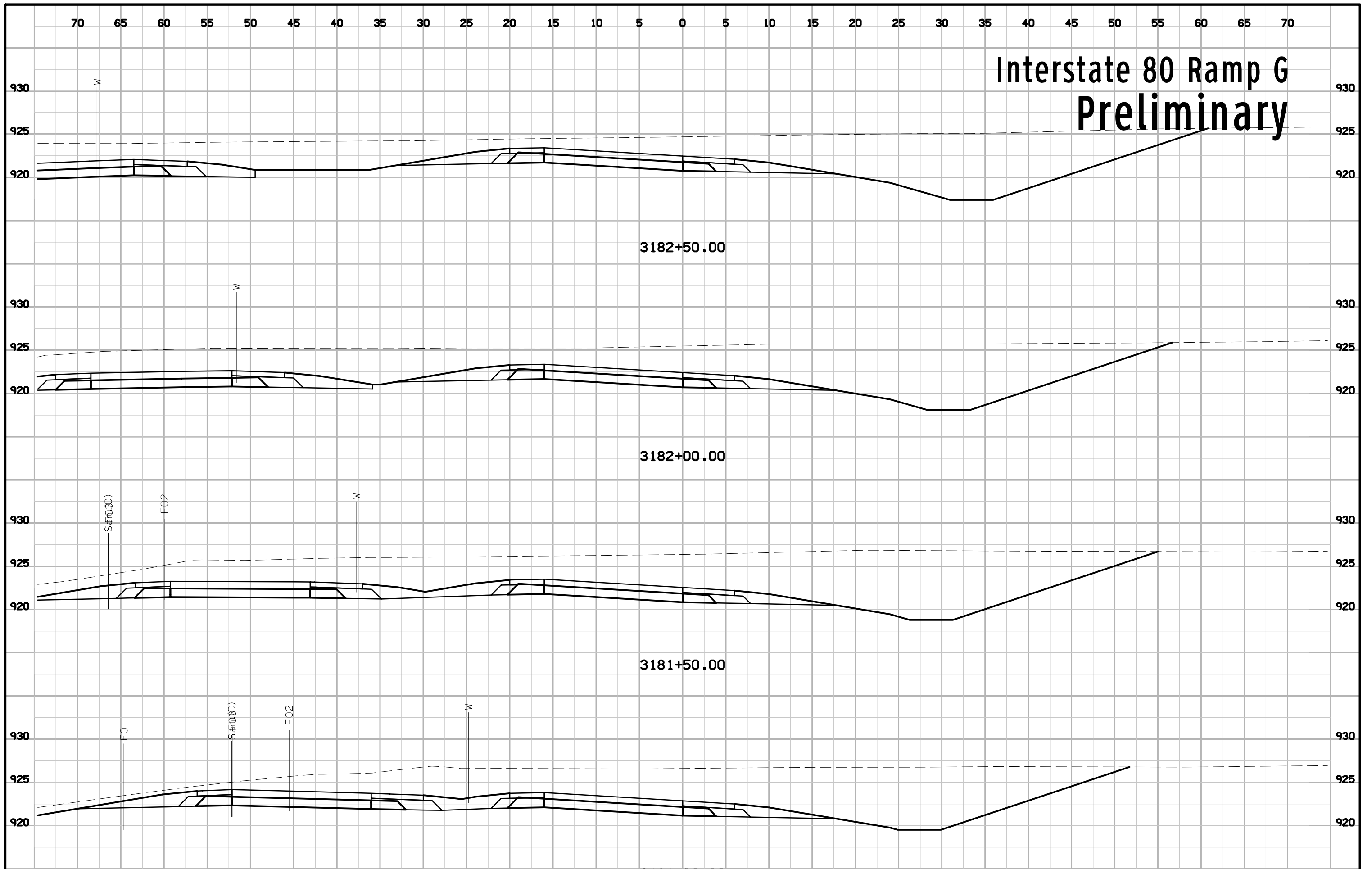
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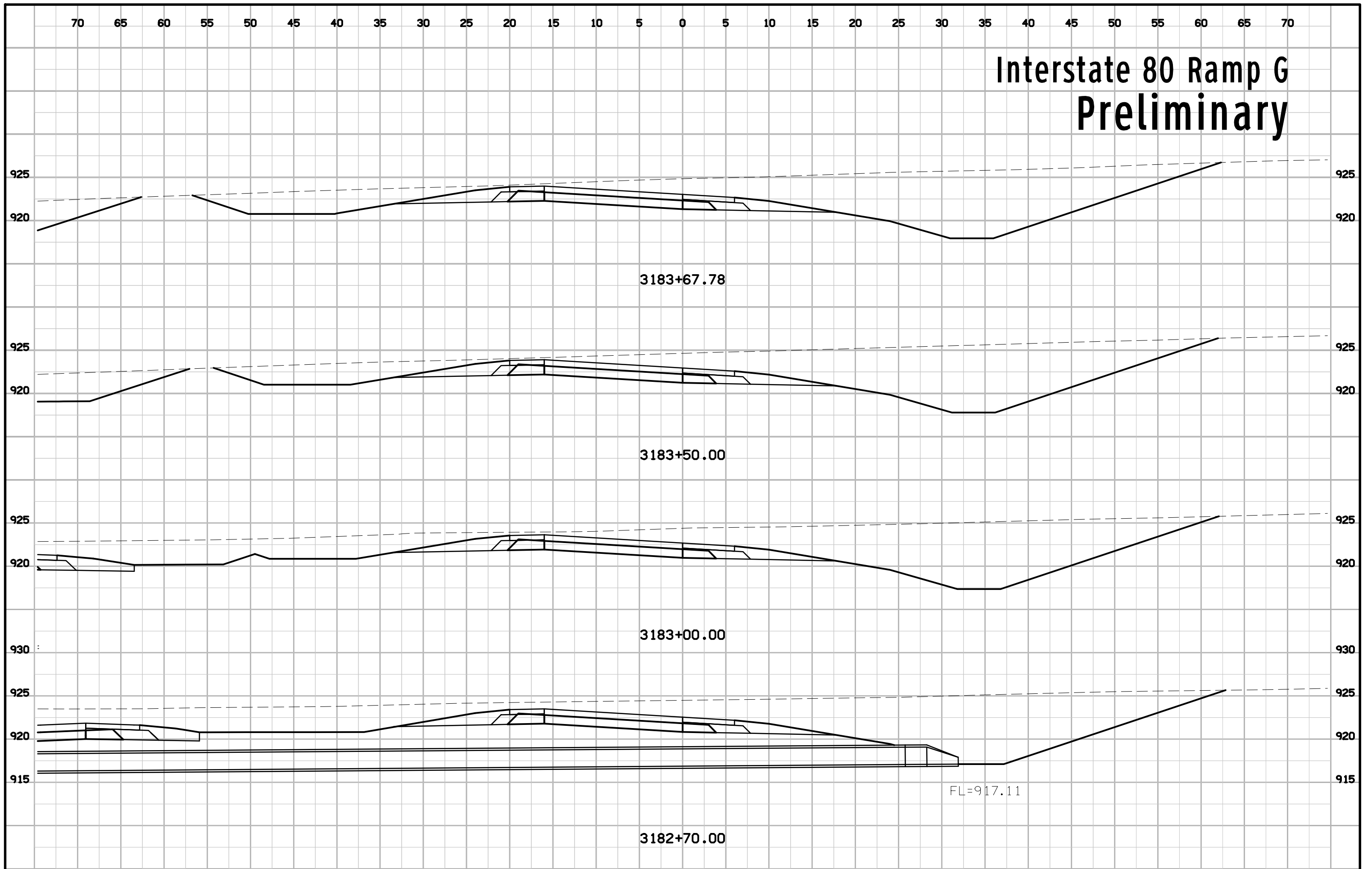
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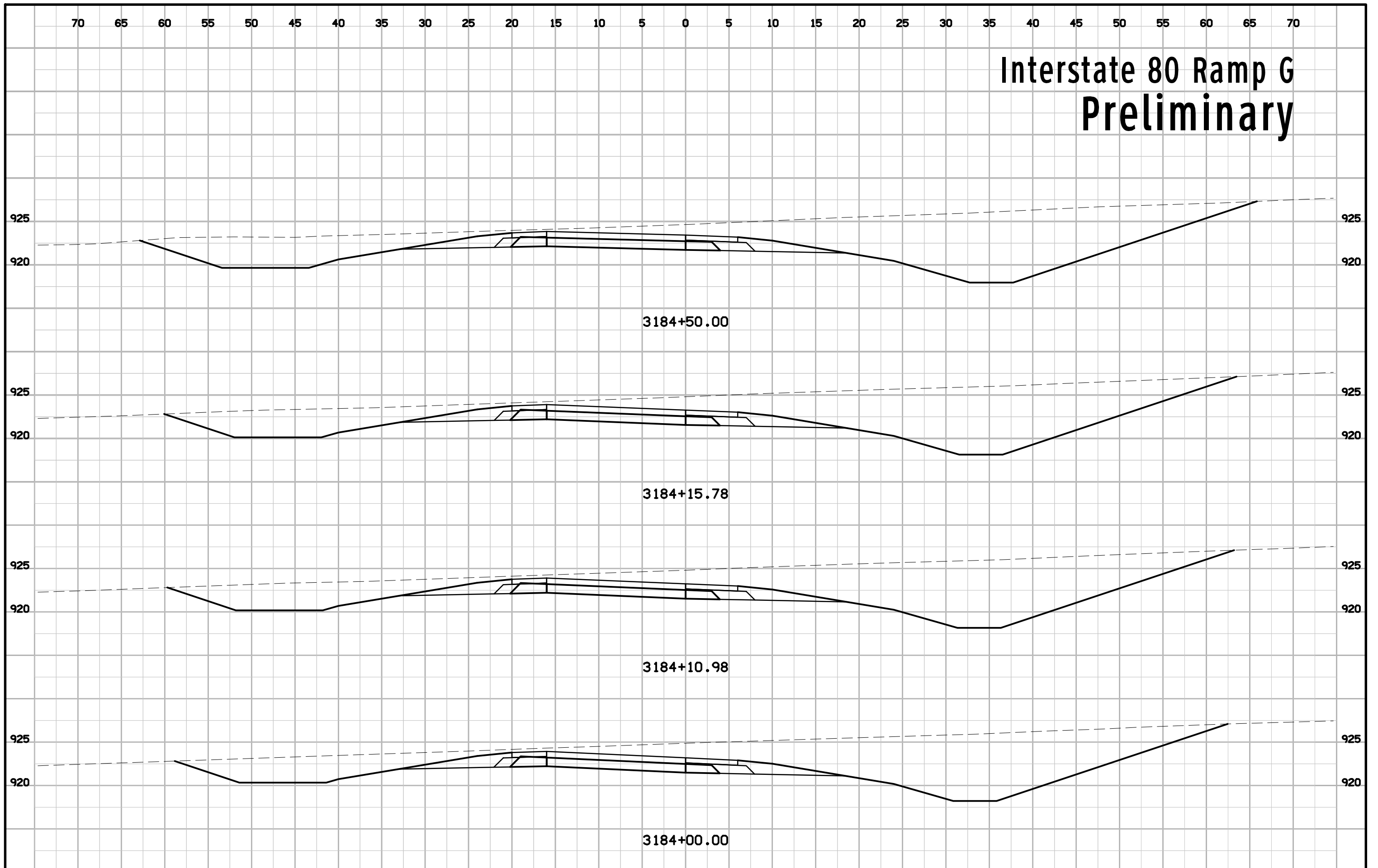
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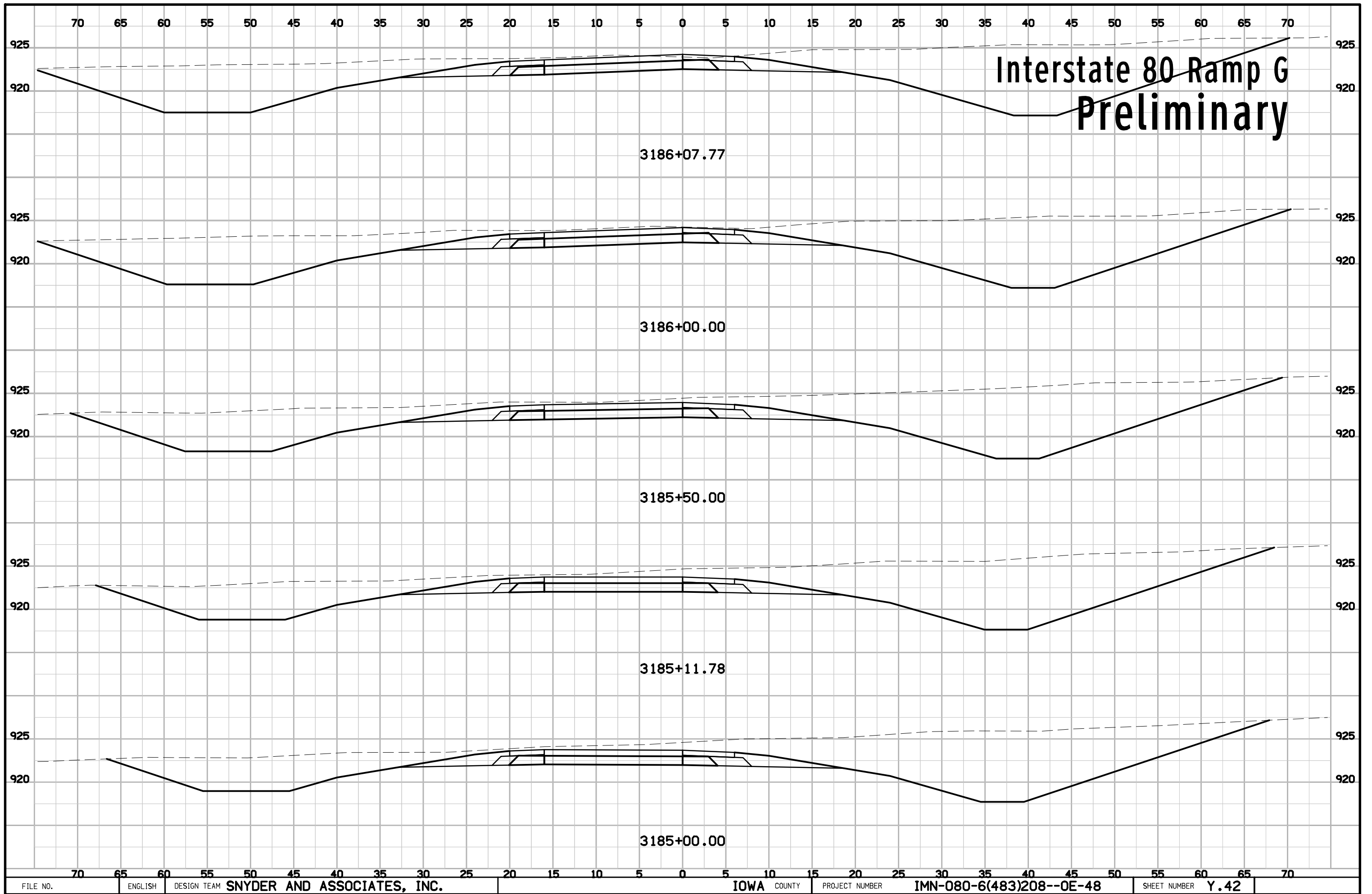


Interstate 80 Ramp G Preliminary



Interstate 80 Ramp G Preliminary





Interstate 80 Ramp G Preliminary

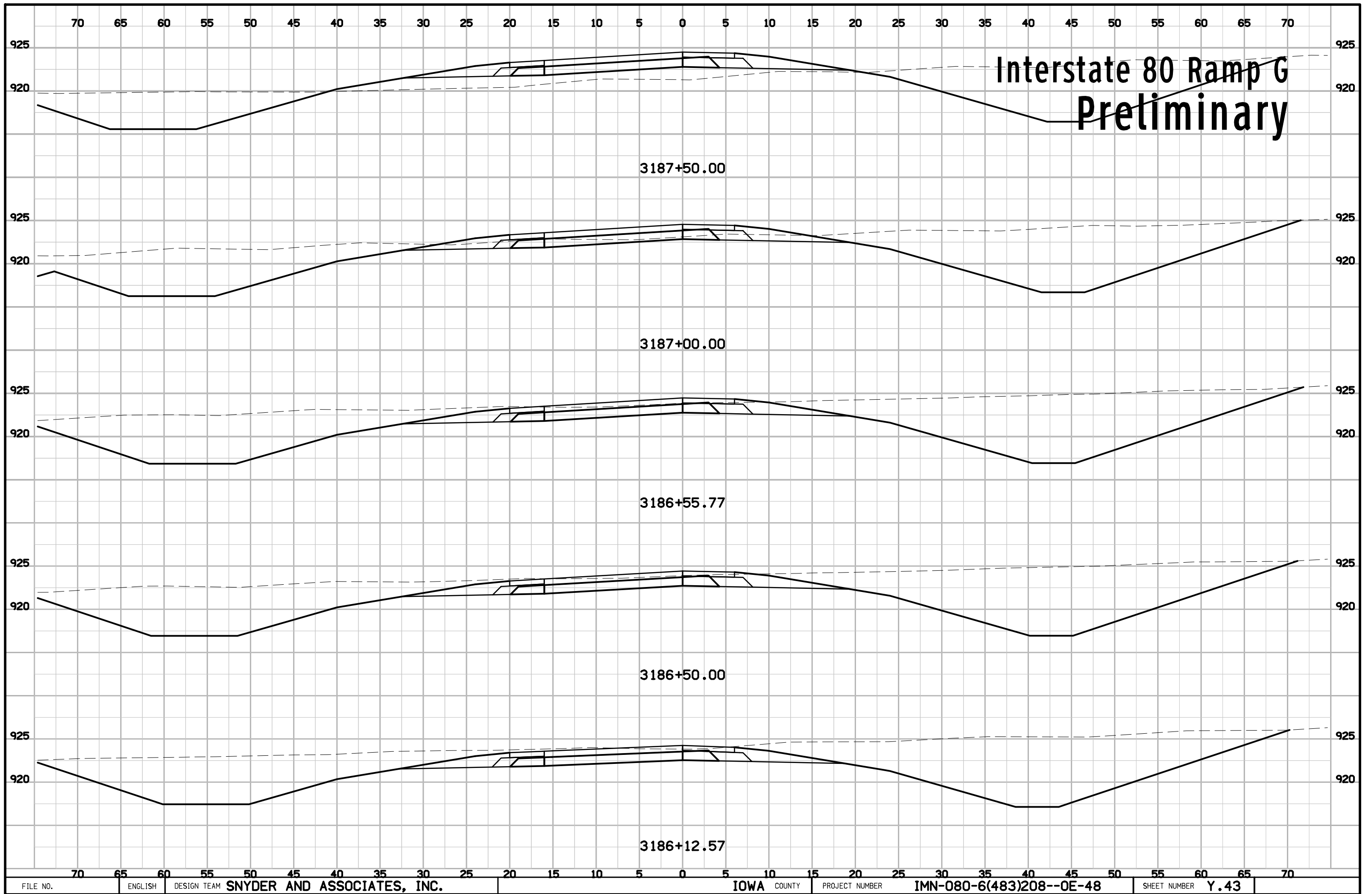
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3186+00.00

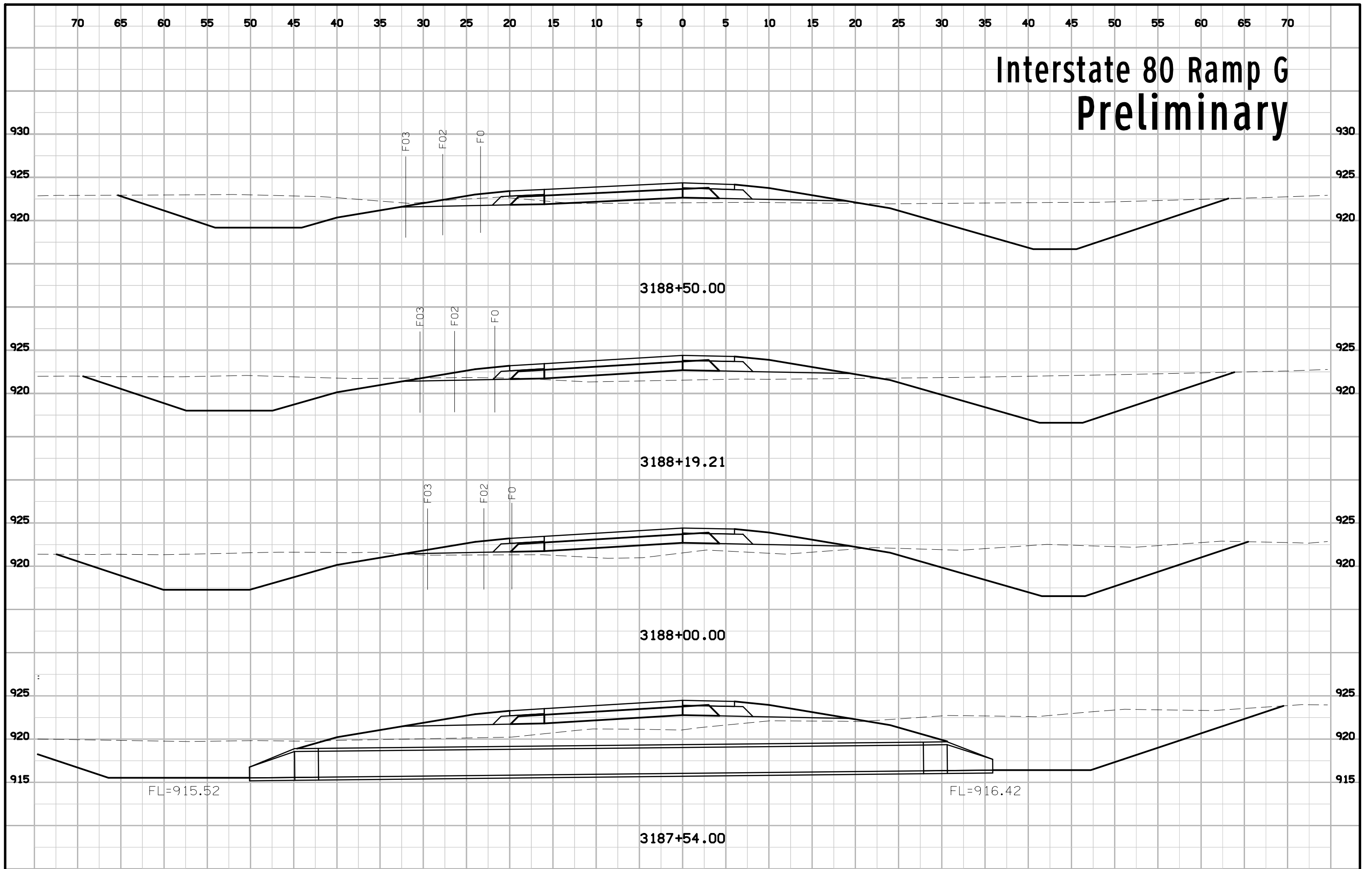
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3185+11.78

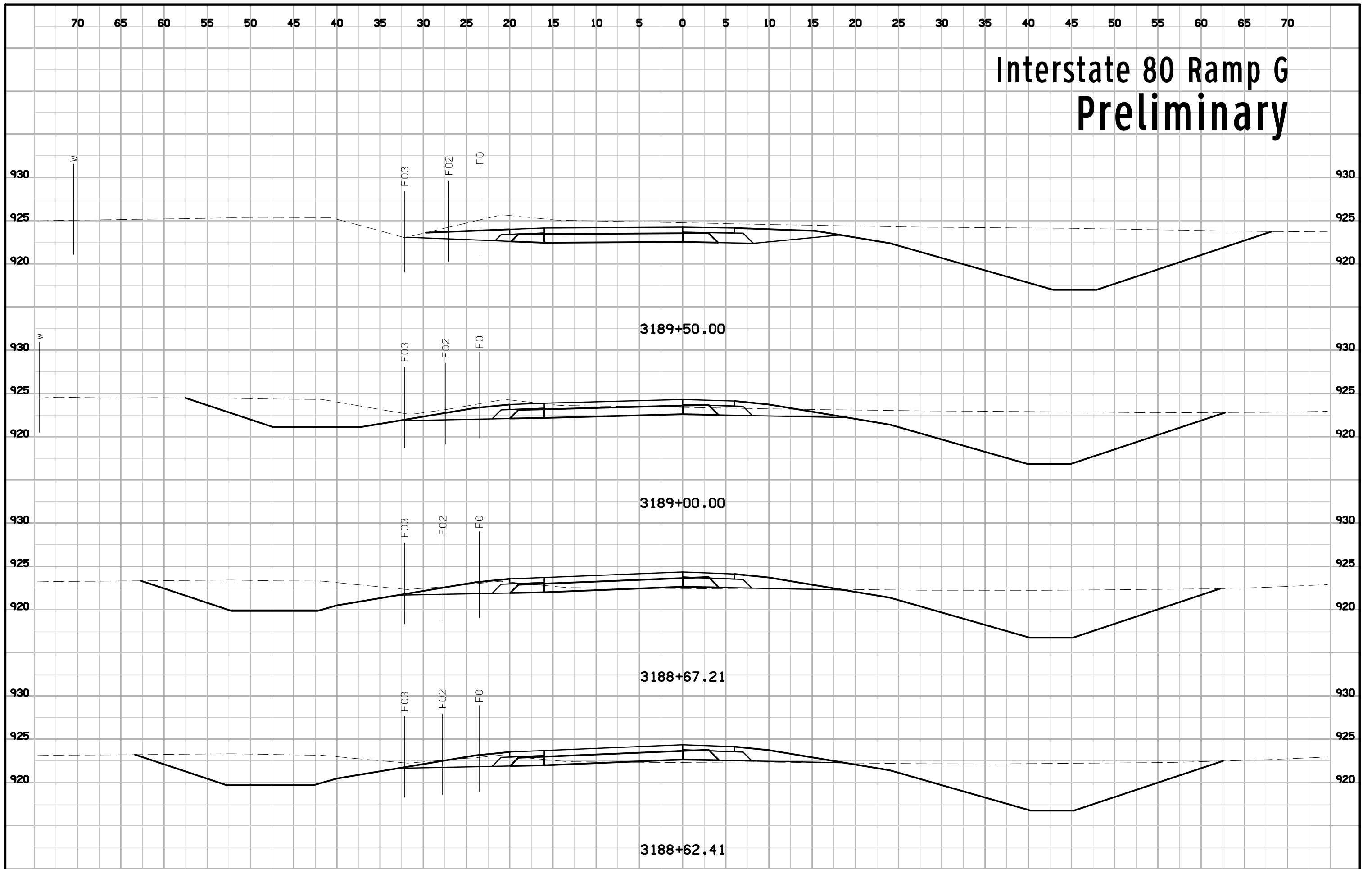
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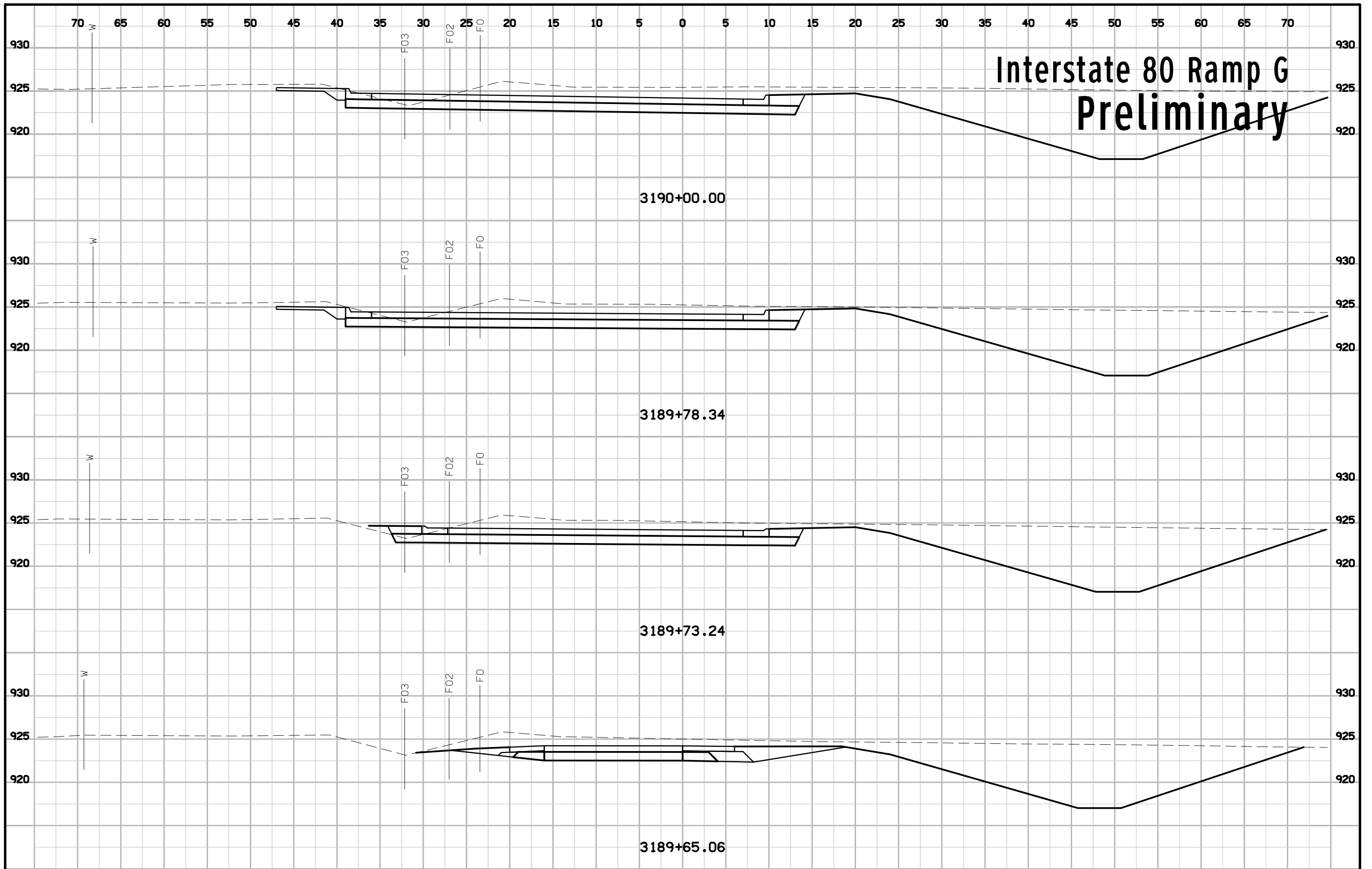


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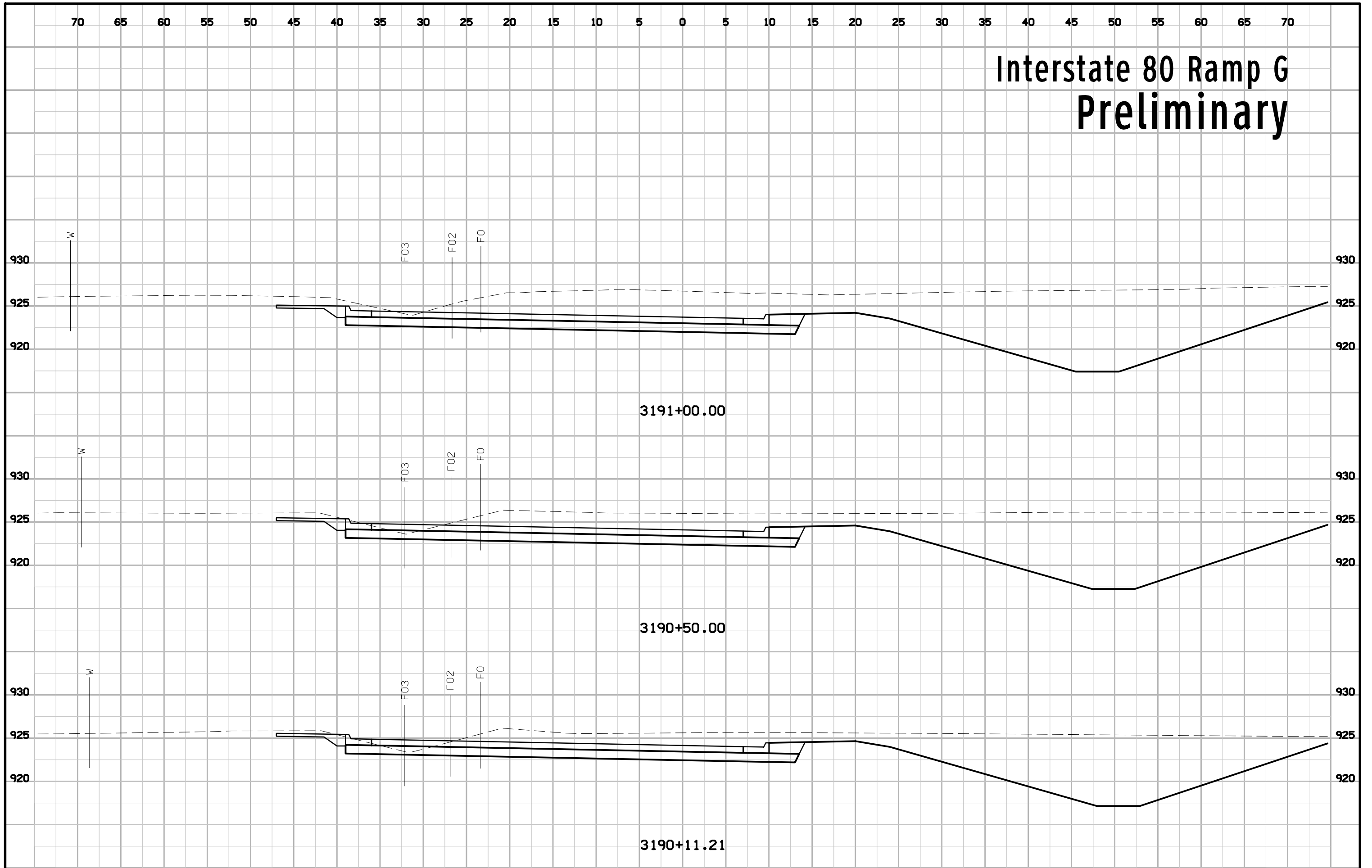


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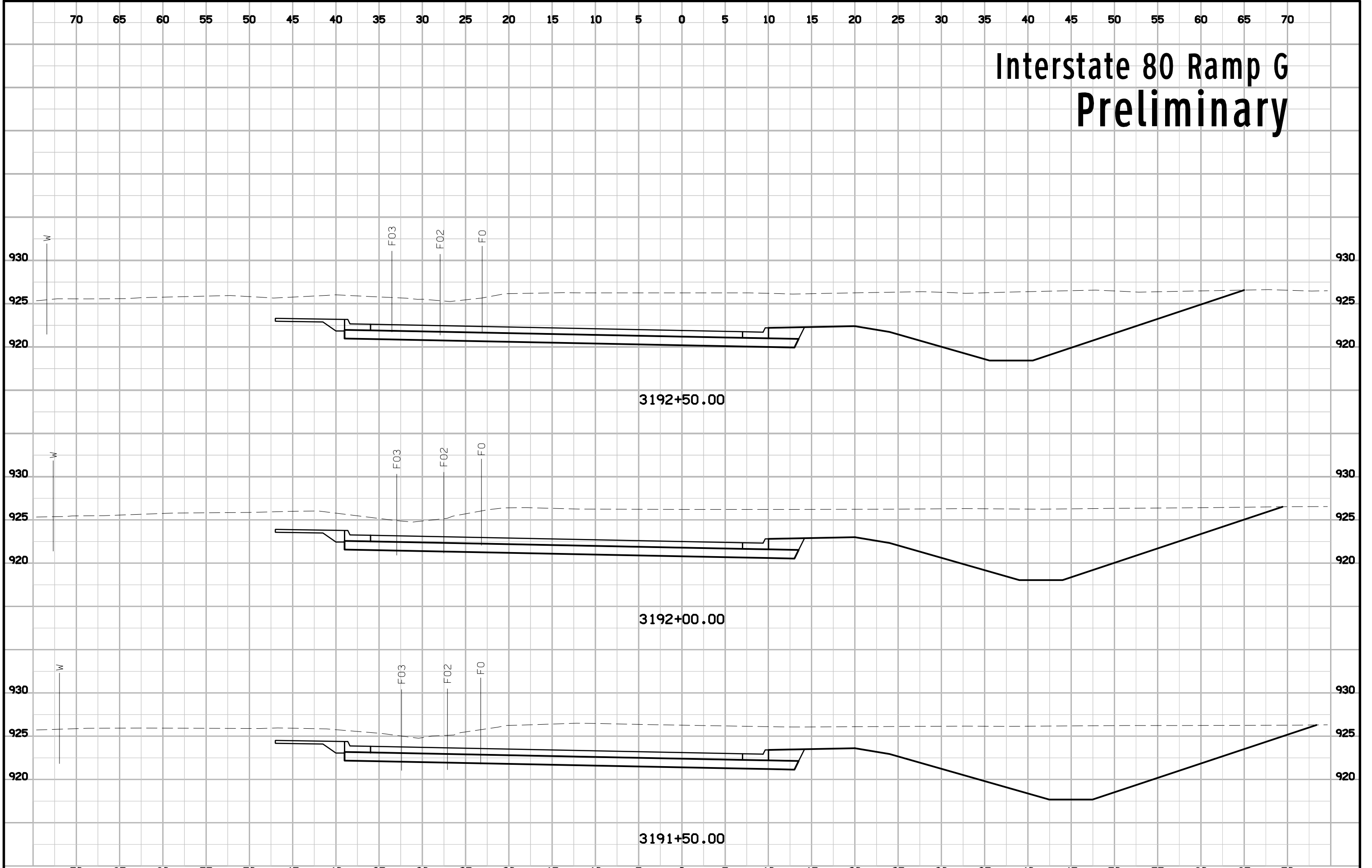




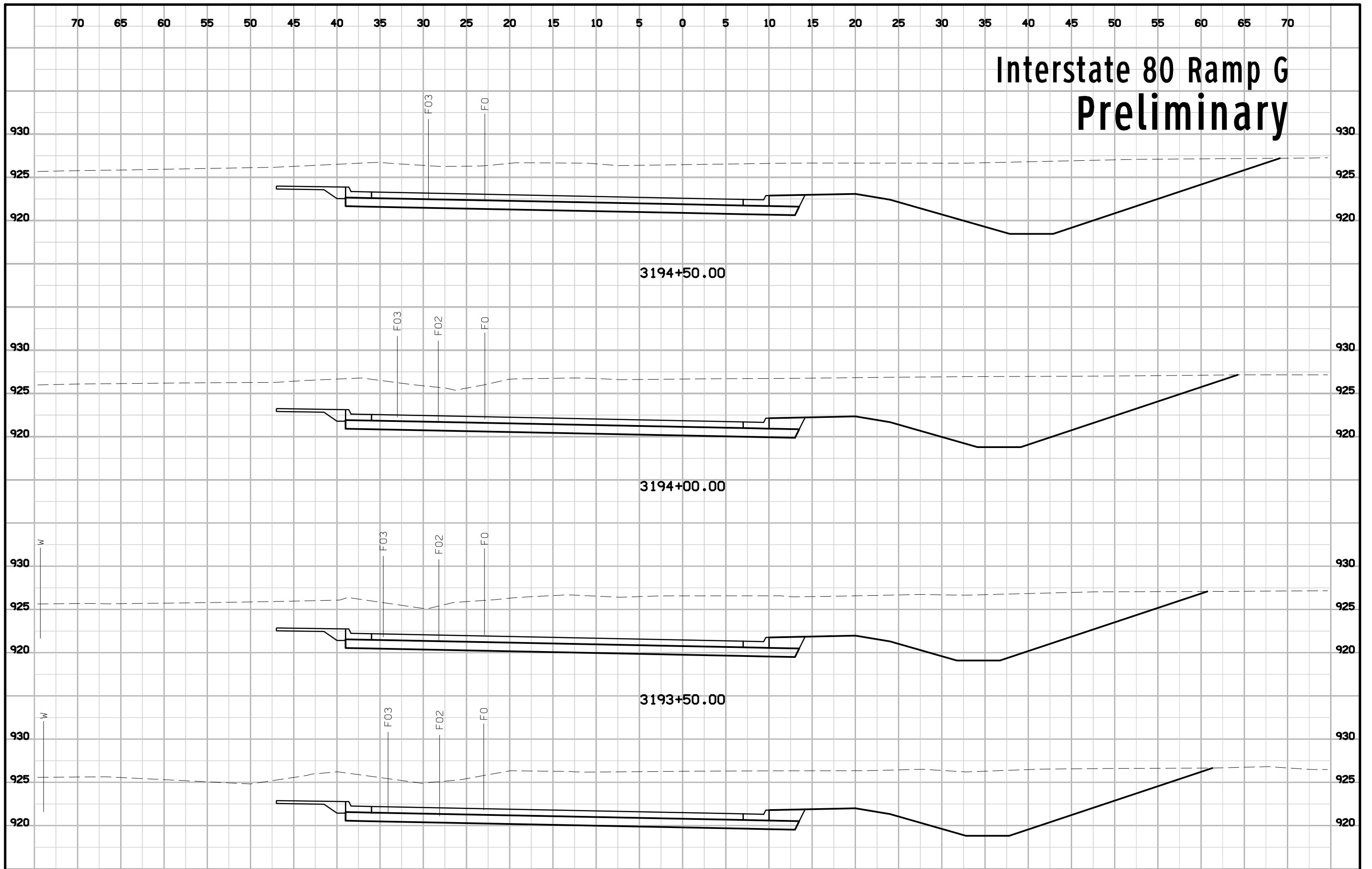
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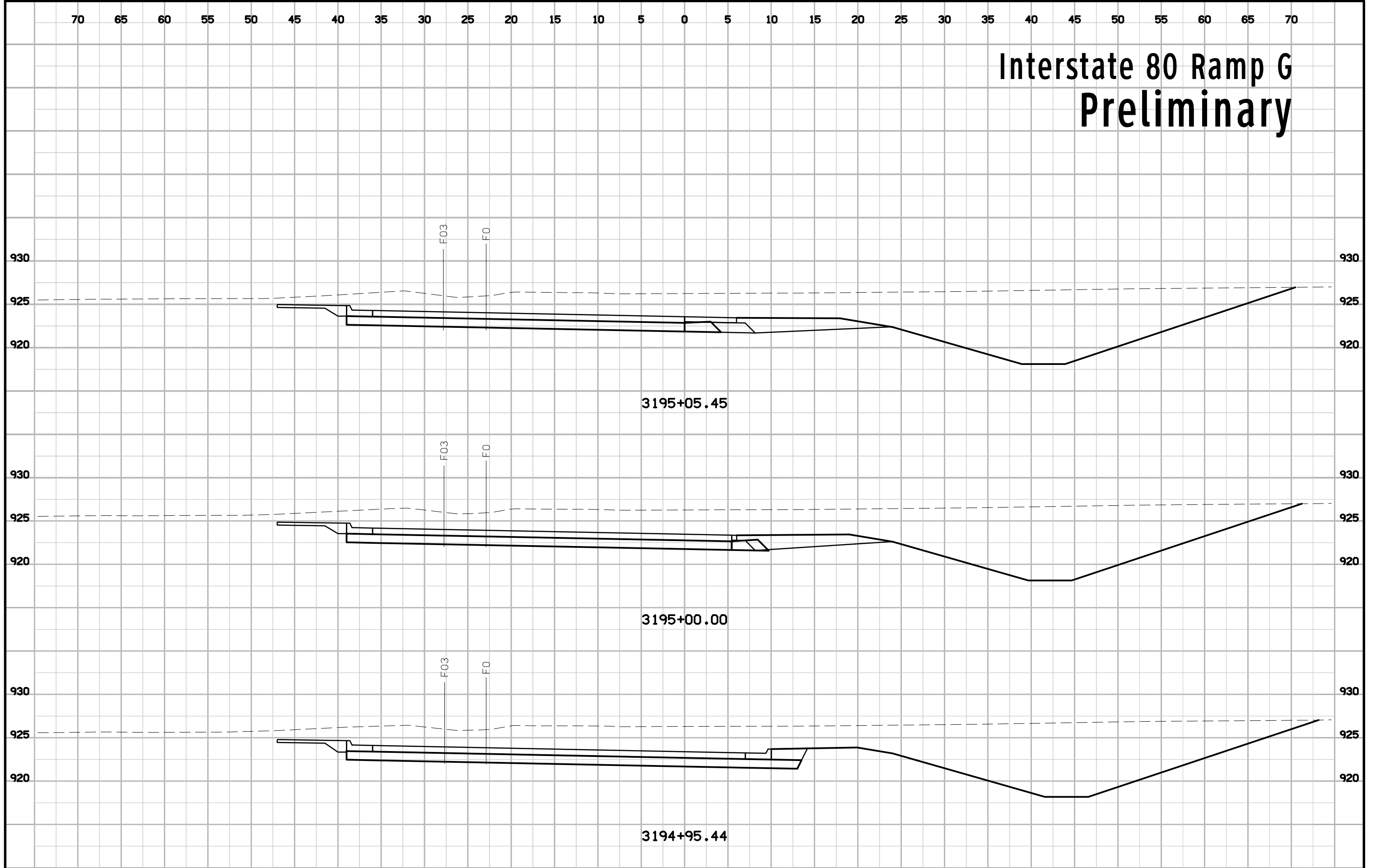
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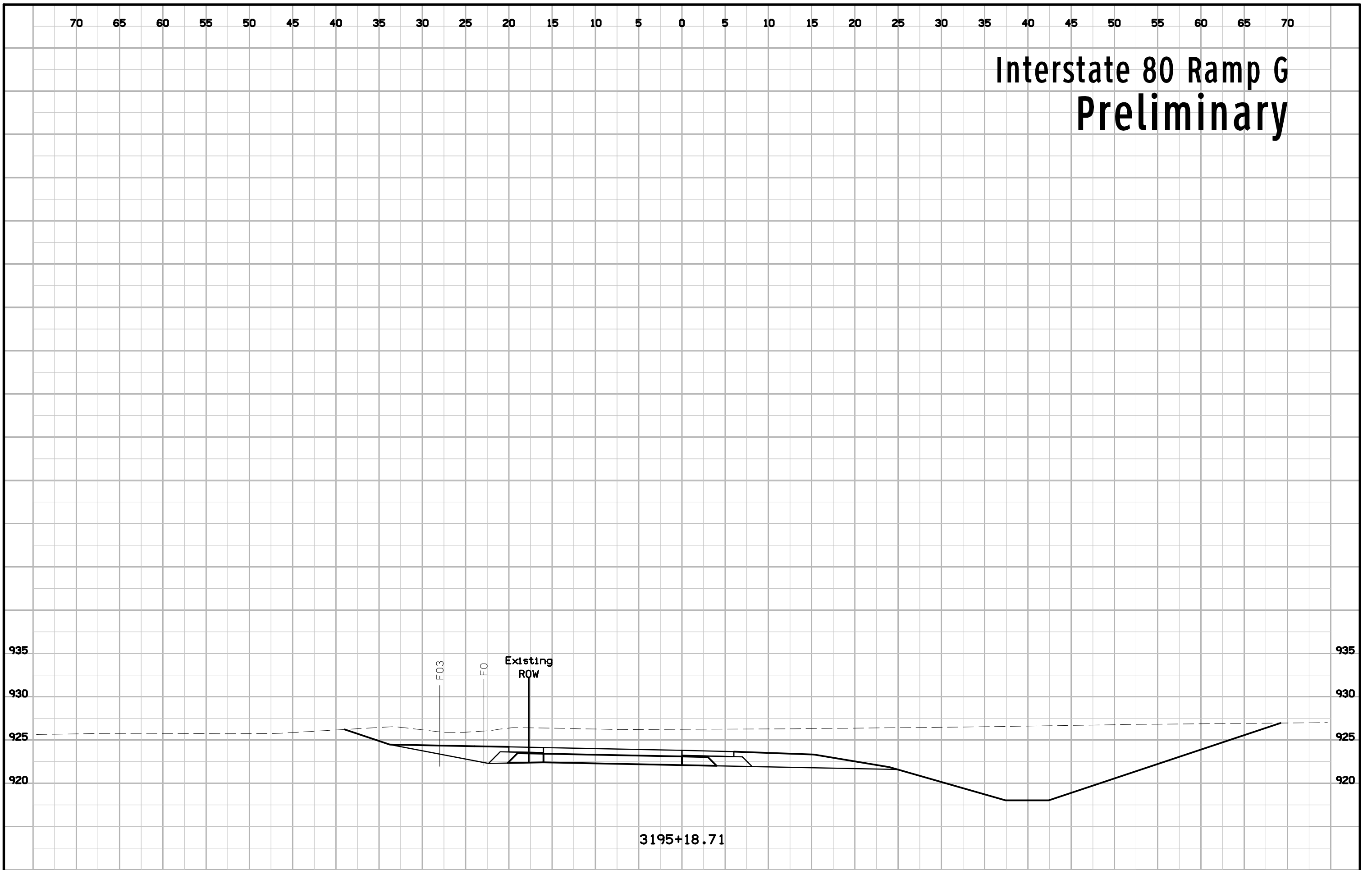
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Interstate 80 Ramp G Preliminary

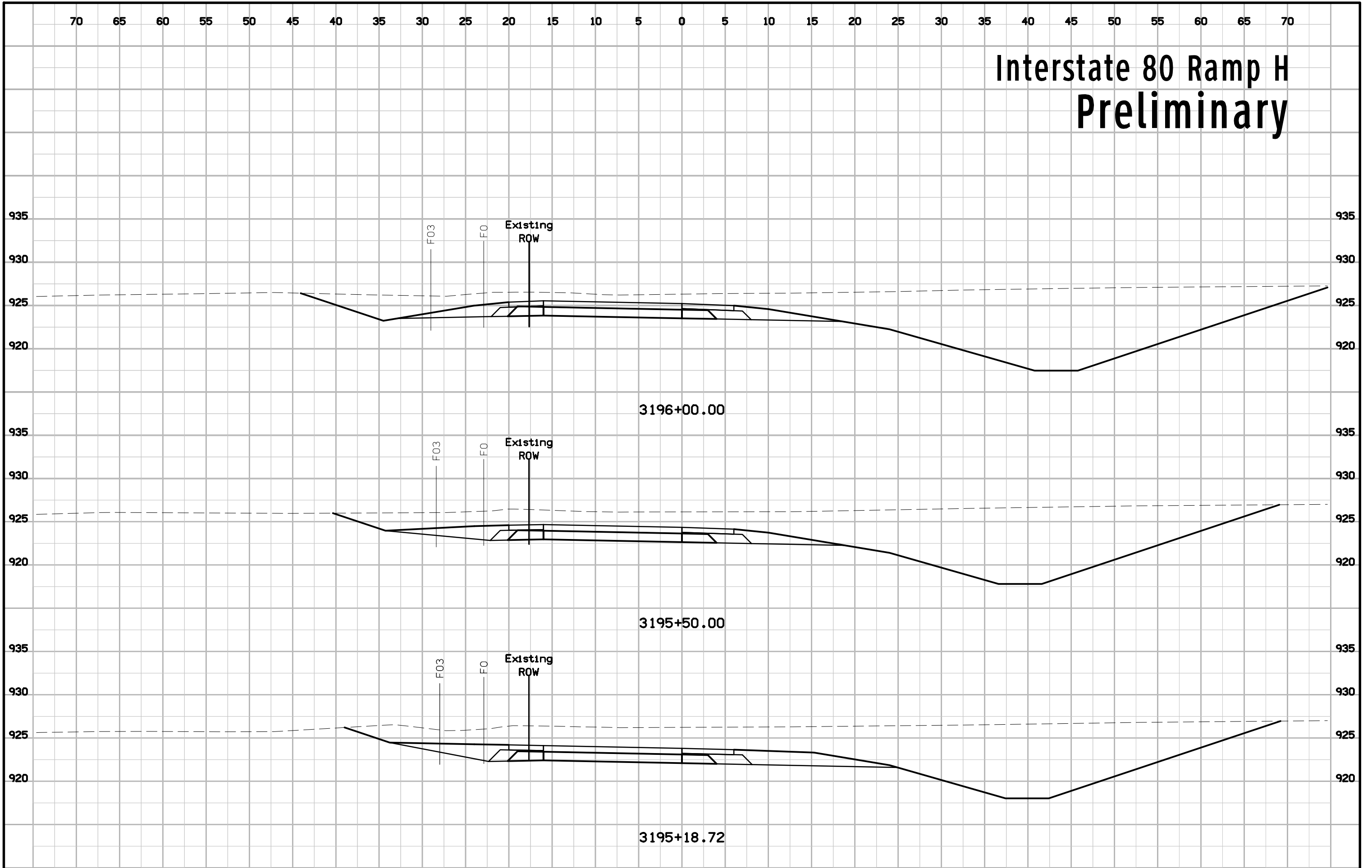


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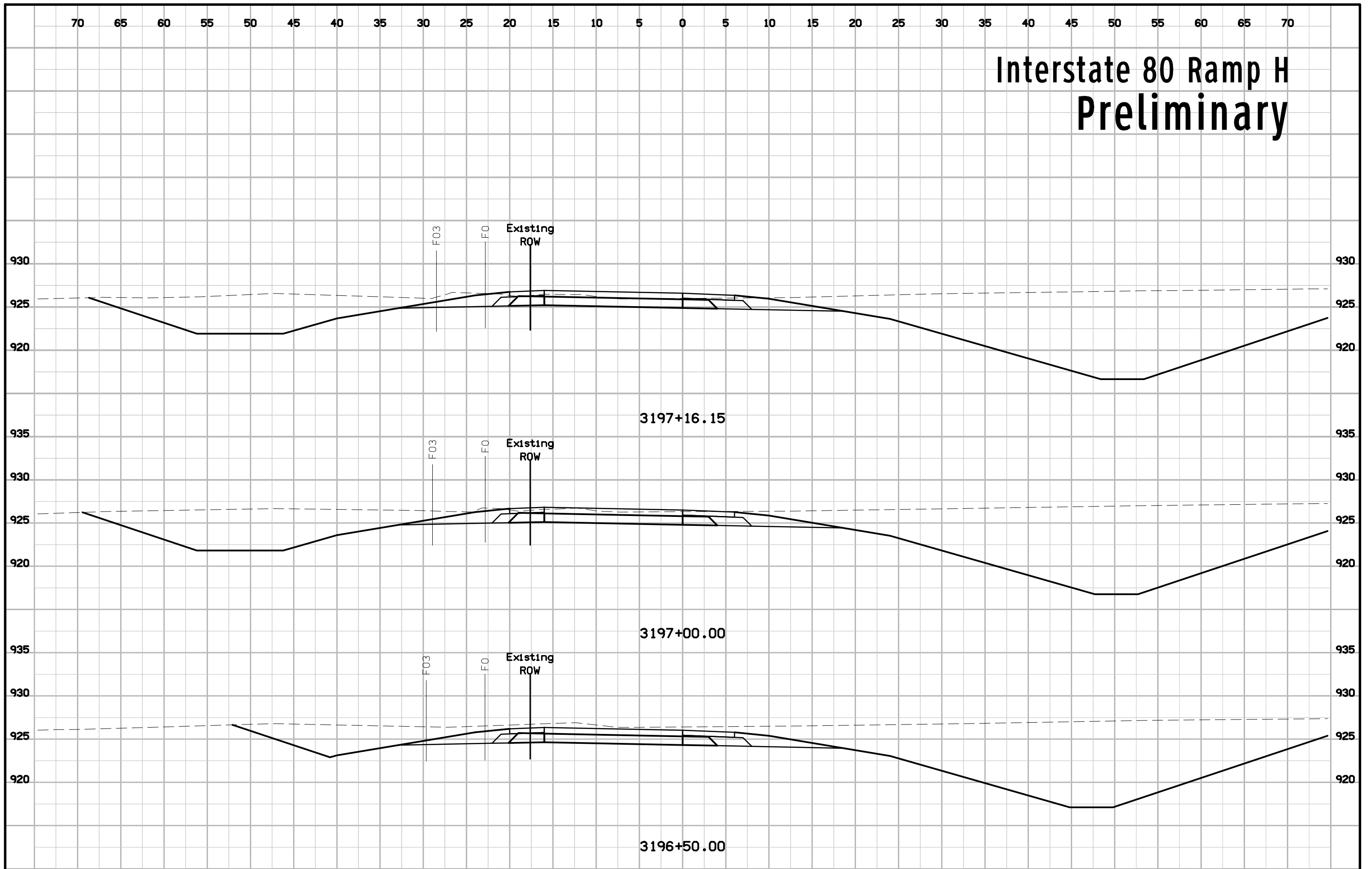


3195+18.71

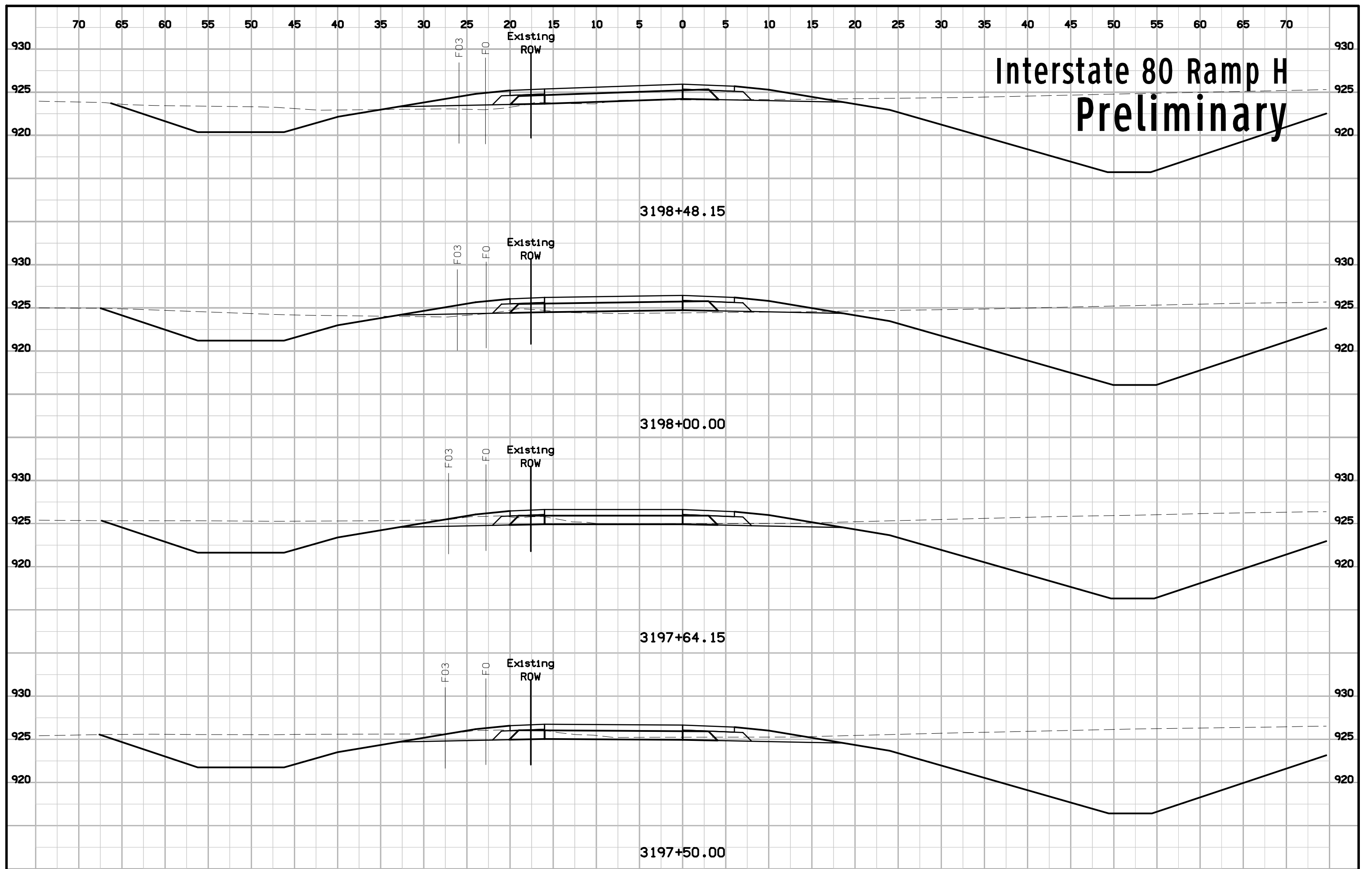
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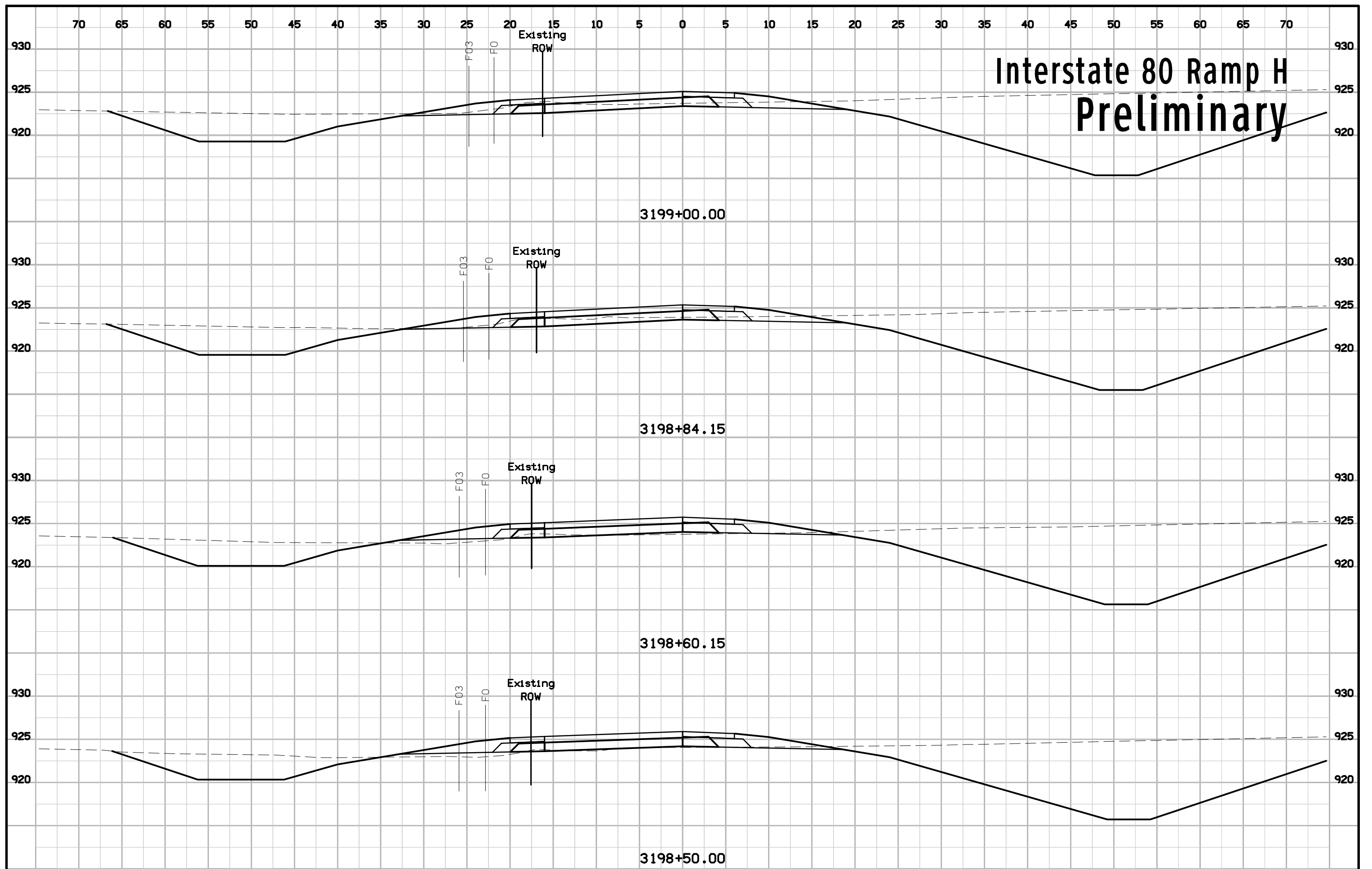
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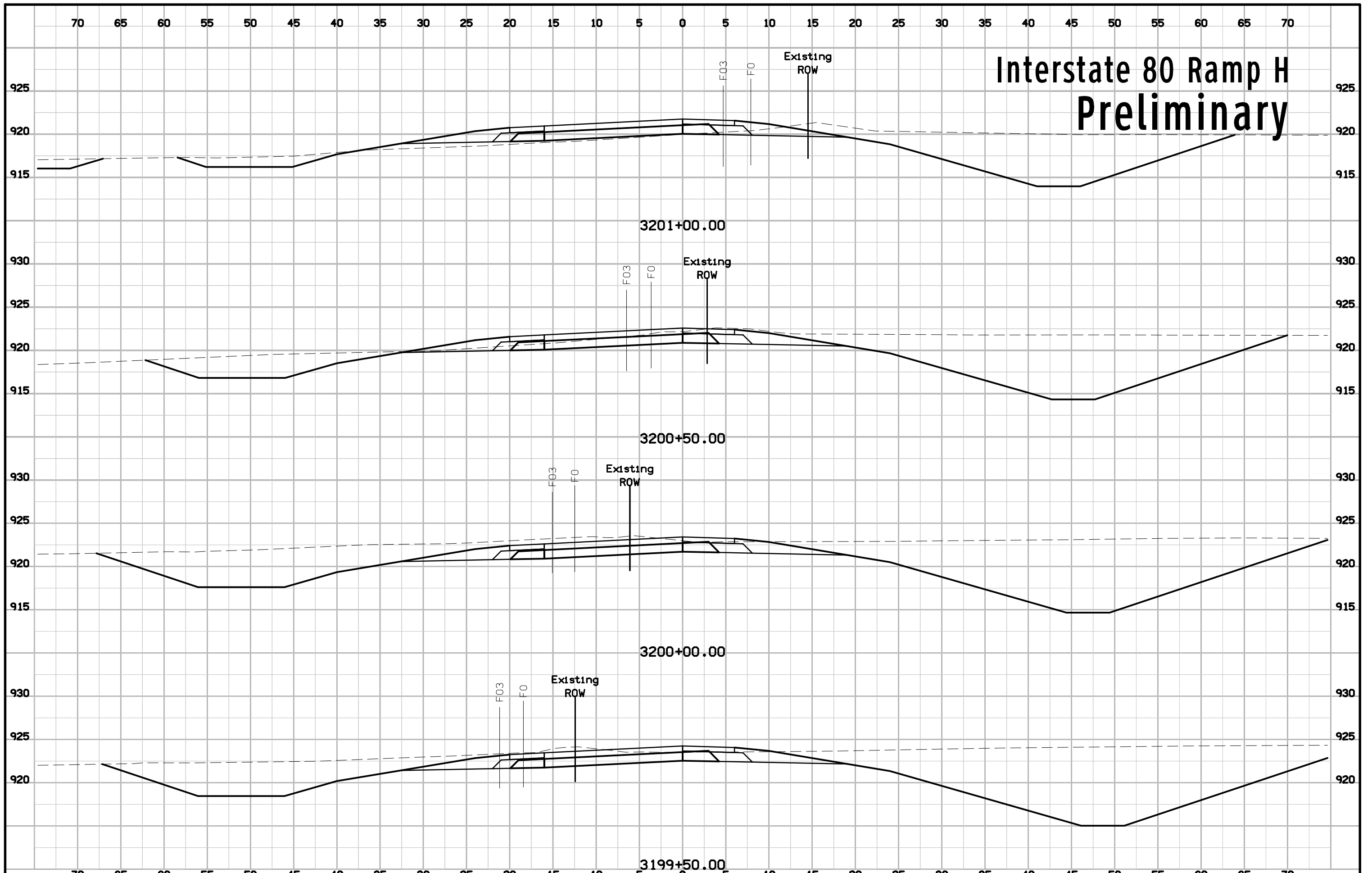
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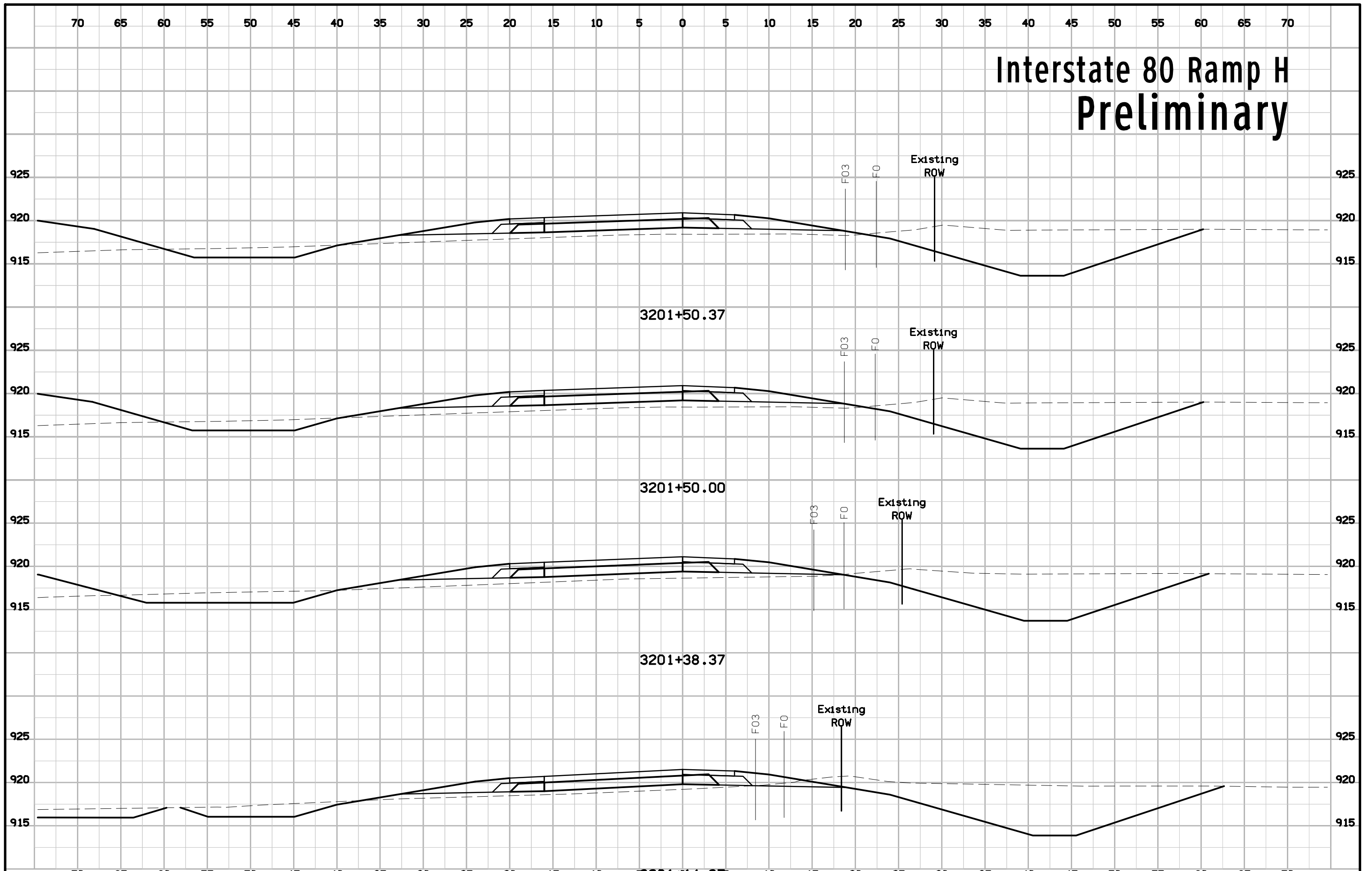
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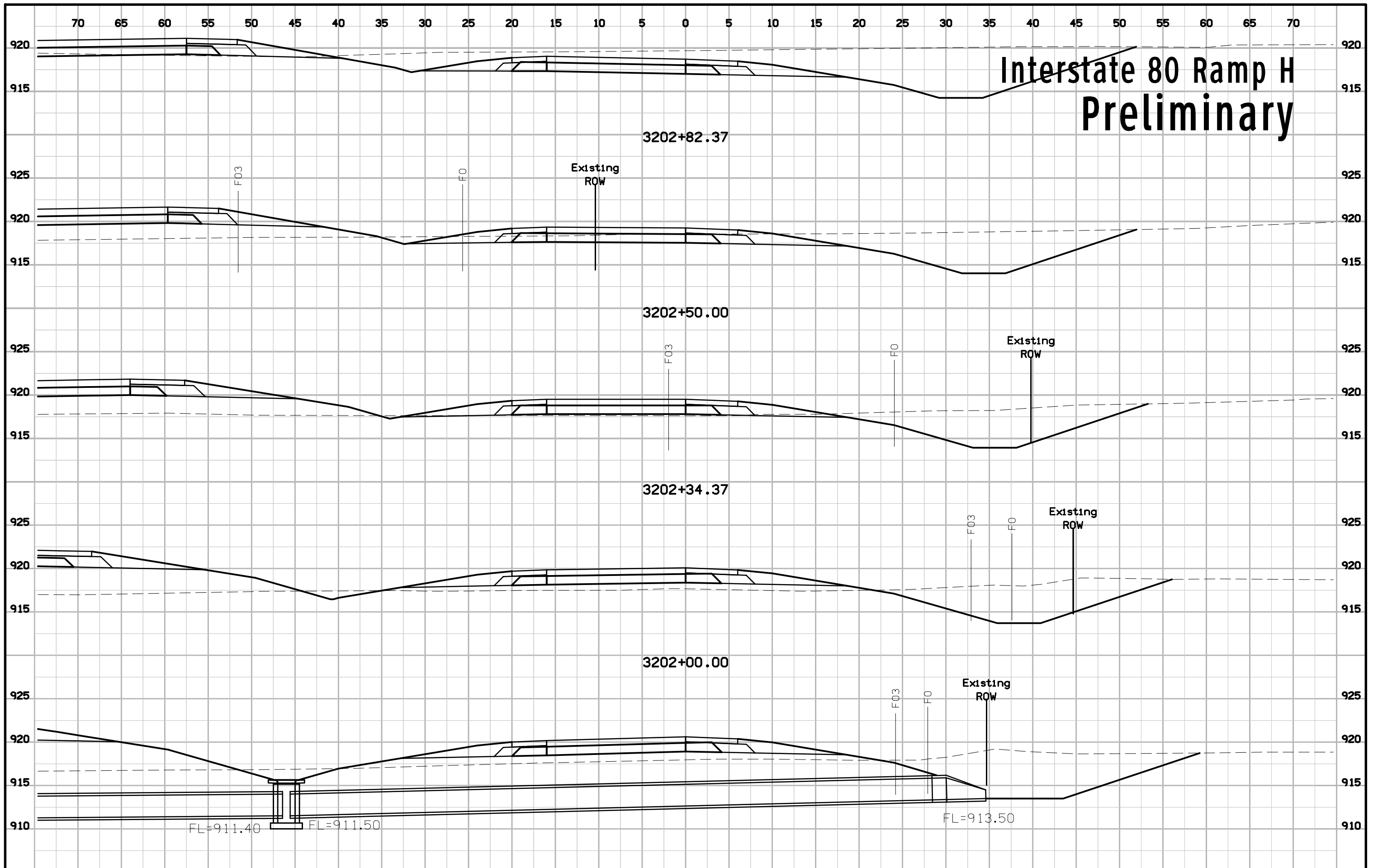
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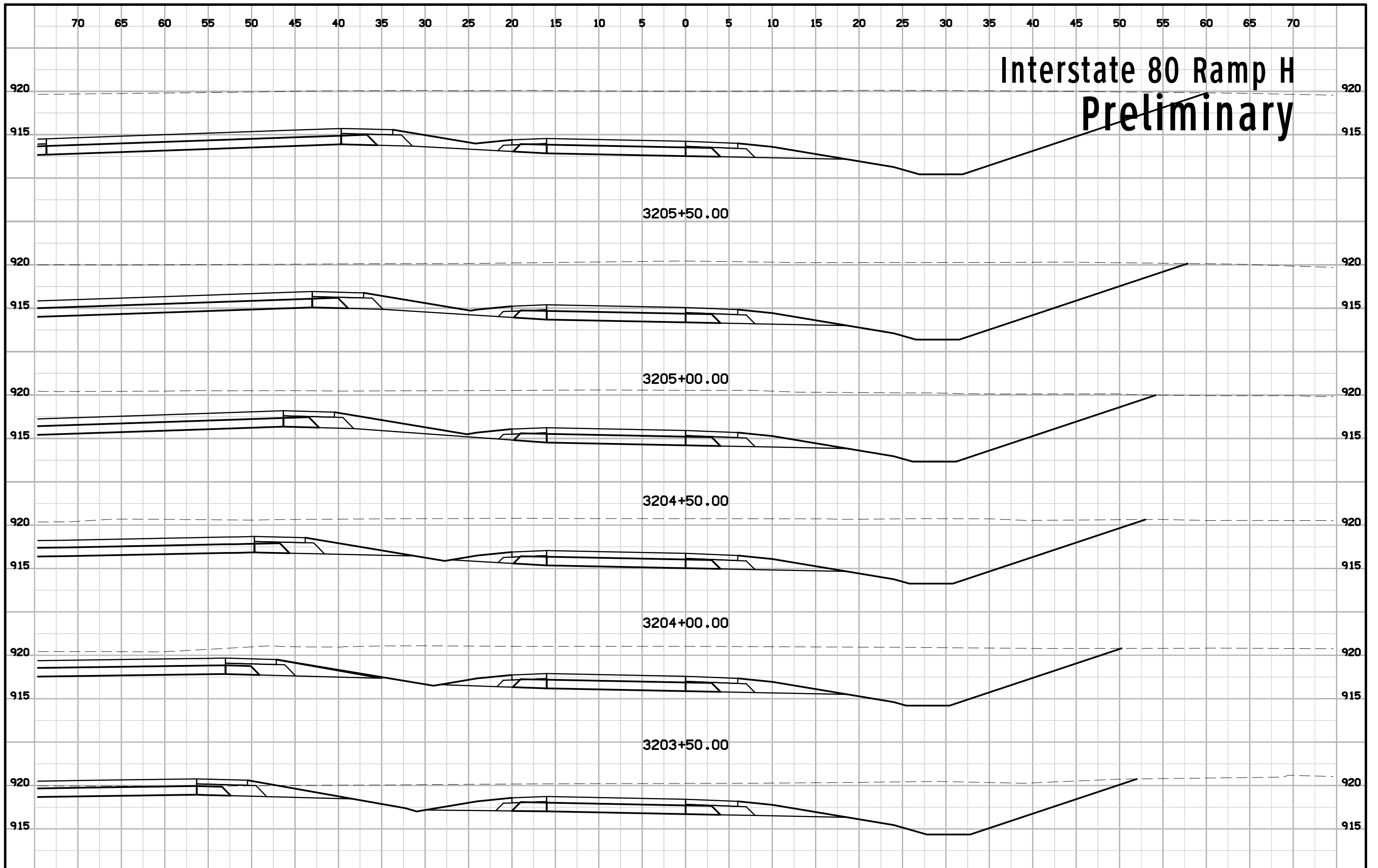
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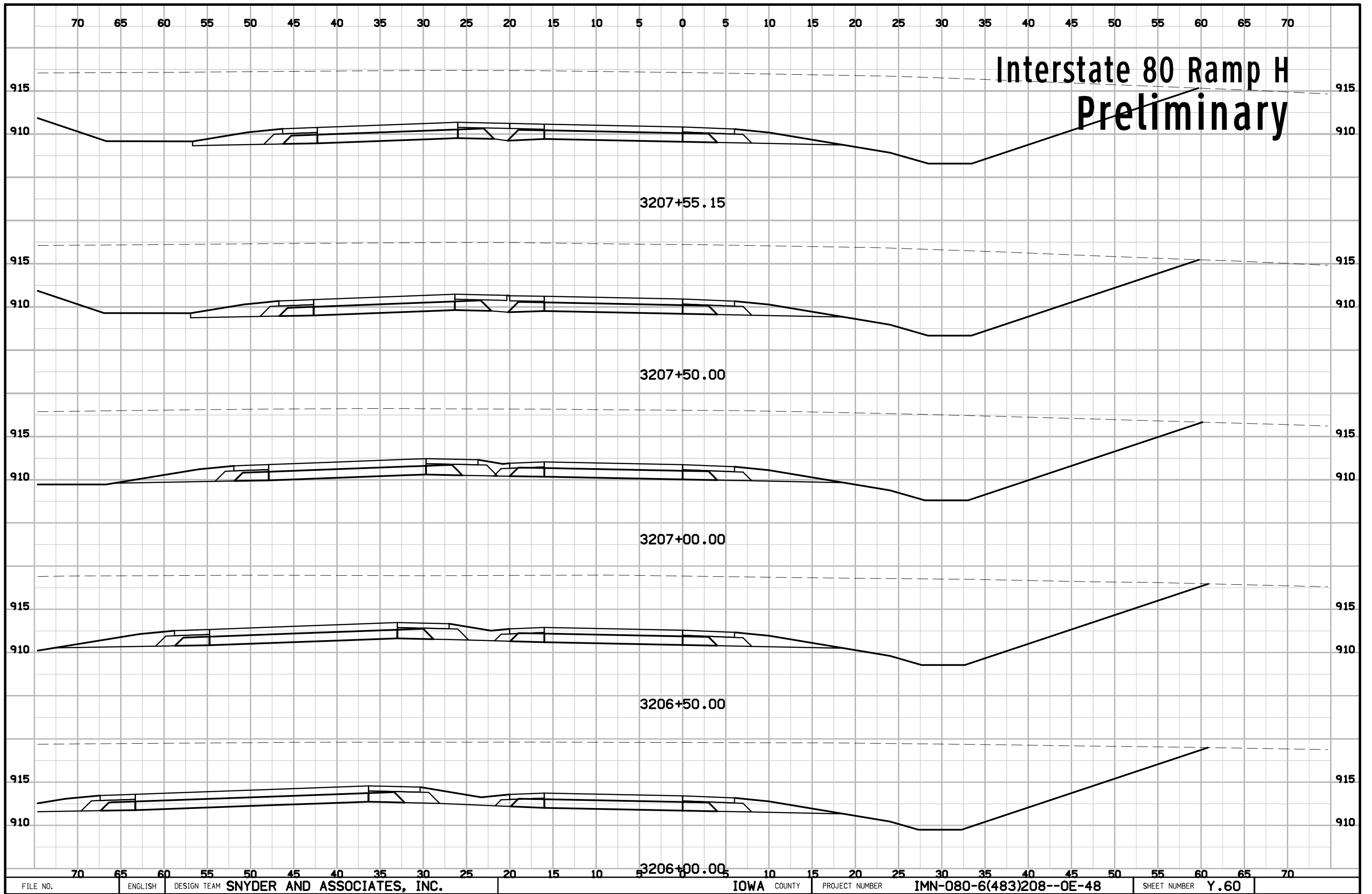


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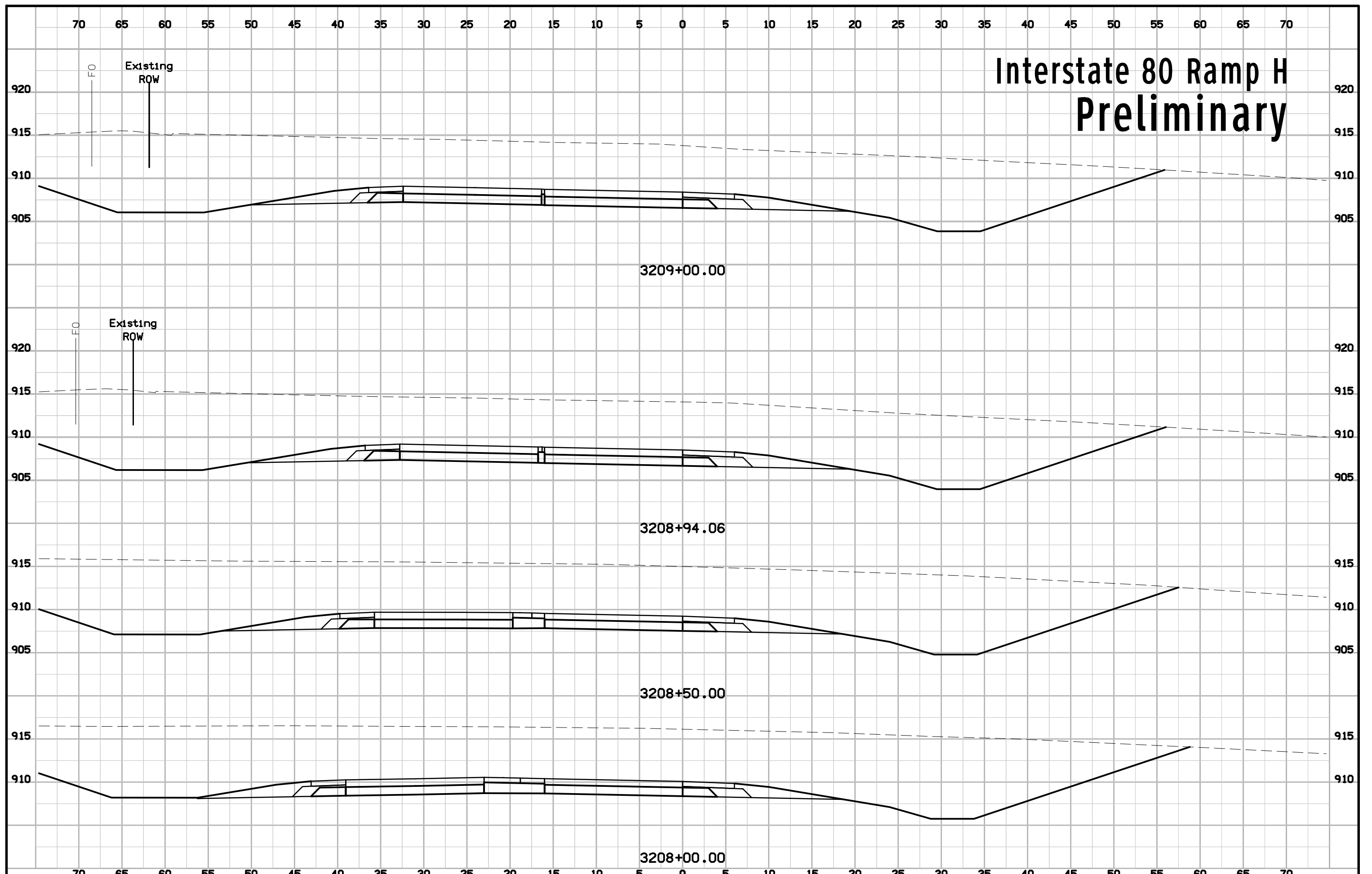


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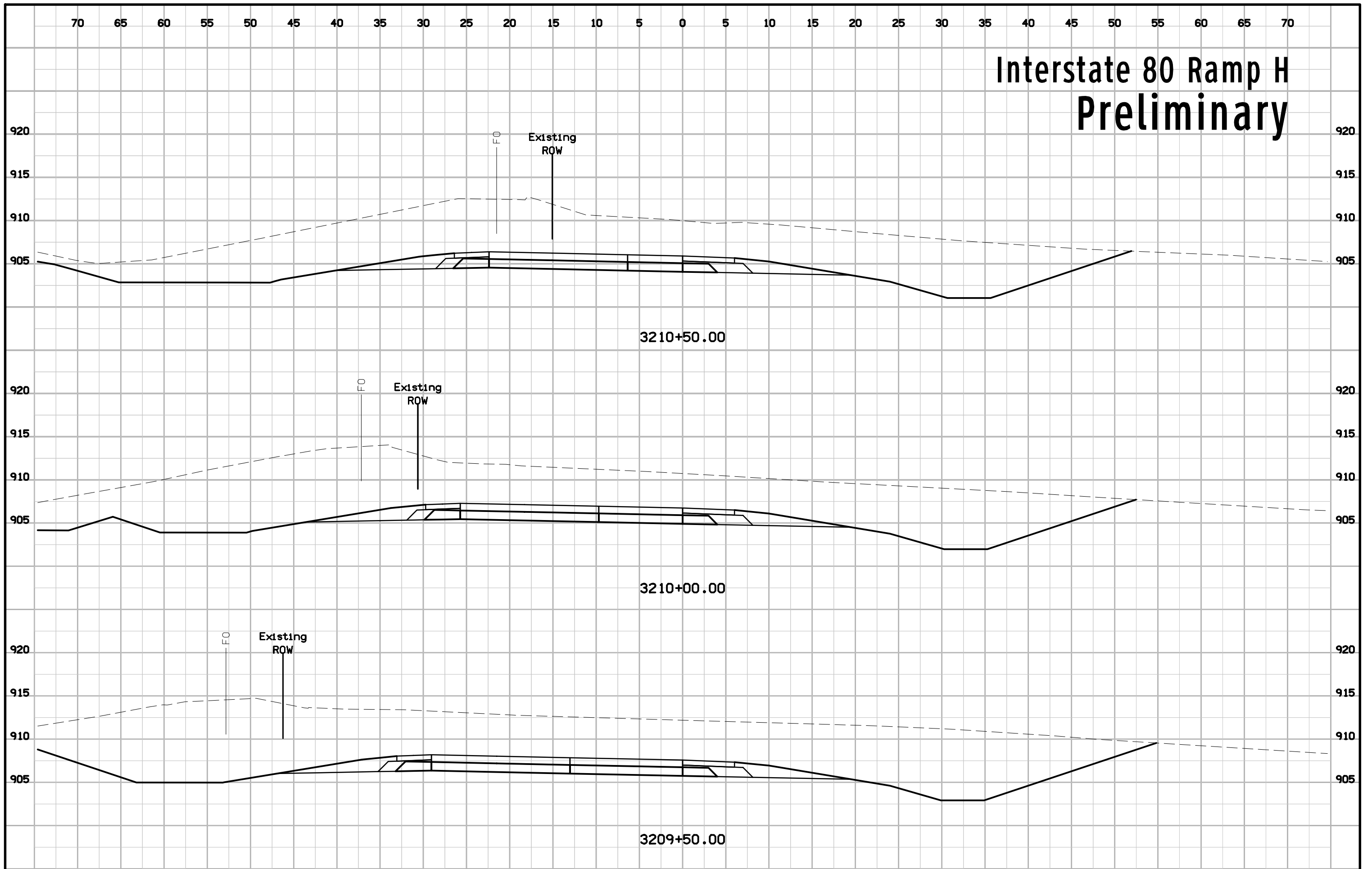




Interstate 80 Ramp H Preliminary



Interstate 80 Ramp H Preliminary



Interstate 80 Ramp H Preliminary

