

INDEX OF SHEETS	
No.	DESCRIPTION
<b>A Sheets</b>	<b>Title Sheets</b>
* A.1	Title Sheet
* A.2	Location Map Sheet
A.3 - 7	Project Key Maps
<b>B Sheets</b>	<b>Typical Cross Sections and Details</b>
B.1 - 15	Roadway Typical Sections and Details
<b>D Sheets</b>	<b>Mainline Plan and Profile Sheets</b>
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2	I-80 Eastbound
* D.3 - 11	I-80 Mainline
* D.12	I-80 Westbound Interim
* D.13 - 14	I-80 Westbound
* D.15 - 20	I-80 Ultimate Mainline
<b>E Sheets</b>	<b>Side Road Plan and Profile Sheets</b>
* E.1	NE 38th Street
* E.2	Four Mile Creek - Gay Lea Wilson Trail
* E.3	Chichaqua Valley Trail-For Information Only
<b>F Sheets</b>	<b>Detour or Temporary Pavement Sheets</b>
* F.1	Detour Stage 1 80EB_2_1
* F.2	Detour Stage 1 80EB_2_2
* F.3	Detour Stage 1 80WB_2_1
<b>G Sheets</b>	<b>Survey Sheets</b>
G.1 - 4	Survey Control Points, Reference Ties & Bench Marks
G.5 - 7	Horizontal Control Alignment Geometry
<b>J Sheets</b>	<b>Traffic Control and Staging Sheets</b>
J.1	Traffic Control Plan
J.2	Staging Notes
* J.3 - 9	On Site Detour Routes
<b>K Sheets</b>	<b>Interchange Sheets</b>
* K.1	Ramp D Plan & Profile Sheets
* K.2 - 3	Interim Ramp D Plan & Profile Sheets
* K.4	Ramp H Plan & Profile Sheets
<b>M Sheets</b>	<b>Storm Sewer Sheets</b>
M.1 - 2	Storm Sewer Tabulations
<b>N Sheets</b>	<b>Traffic Signs and Signal Sheets</b>
* N.1 - 12	Signing Locations and Detail Sheets
<b>U Sheets</b>	<b>500 Series, Mod.Stds. and Detail Sheets</b>
* U.1 - 5	Special Details
* U.6 - 11	Removals
* U.12 - 14	Special Grading
* U.15	ML235 NB - Ramp H Detail
* U.16 - 18	ML80 EB - Crown Transition Details
<b>V Sheets</b>	<b>Bridge and Culvert Situation Plans</b>
* V.1 - 15	Bridge Plan Sheets
* V.16 - 17	MSE Retaining Wall and Cast In Place Retaining Wall
* V.18 - 26	Culvert Plat Plans-Mainline, Side Road & Ramps
<b>W Sheets</b>	<b>Mainline Cross Sections</b>
W.1	Cross Sections Legend & Symbol Information Sheet
W.2 - 169	Mainline Cross Sections
<b>X Sheets</b>	<b>Side Road Cross Sections</b>
X.1 - 23	Side Road Cross Sections
X.24 - 26	Four Mile Creek - Gay Lea Wilson Trail Cross Sections
<b>Y Sheets</b>	<b>Ramp Cross Sections</b>
Y.1 - 24	Ramp Cross Sections
	* Color Plan Sheets



PLANS OF PROPOSED IMPROVEMENT ON THE  
**INTERSTATE ROAD SYSTEM**  
**POLK COUNTY**  
**PRELIMINARY**

**I-80 From Junction of  
I-80/35/235 Northeast Mixmaster System Interchange To US 65**

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.  
Value Engineering Saves. Refer to Article 1105.14 of the Specifications.



For Project Location Map  
Refer to Sheet A.2

INTERSTATE 80 DESIGN DATA URBAN			
2012	AADT	75,700	V.P.D.
2050	AADT	130,100	V.P.D.
2050	DHV	10,790	V.P.H.
	TRUCKS	17	%
	Total		
	Design ESALs	--	

REVISIONS

TOTAL
T B D
PROJECT IDENTIFICATION NUMBER
10-77-035-010-05
PROJECT NUMBER
IM-NHS-080-4(80)138--03-77
R.O.W. PROJECT NUMBER
IMN-080-4(92)138--0E-77

Revised 2/14/2022

**PRELIMINARY PLANS**

Subject to change by final design.

**D5 PLAN SUBMITTAL**  
**Date: January, 2022**



Sta. 4128+95.91 (WB I-80)  
Sta. 5128+00.00 (ULT ML I-80)  
End WB Construction  
Begin ULT ML080 Construction

Sta. 5208+07.97 (ULT ML I-80)  
End ULT ML080 Construction

Sta. 1208+50.00 (ML I-80)  
End ML080 Construction

Sta. 7406+44.66 (INT WB I-80)  
Sta. 4103+49.83 (WB I-80)  
End Interim Construction  
Begin WB ML080 Construction

Sta. 7401+43.52 (INT WB I-80)  
Begin Interim Construction

Sta. 39651+00.00 (RAMP H)  
End Ramp H Construction

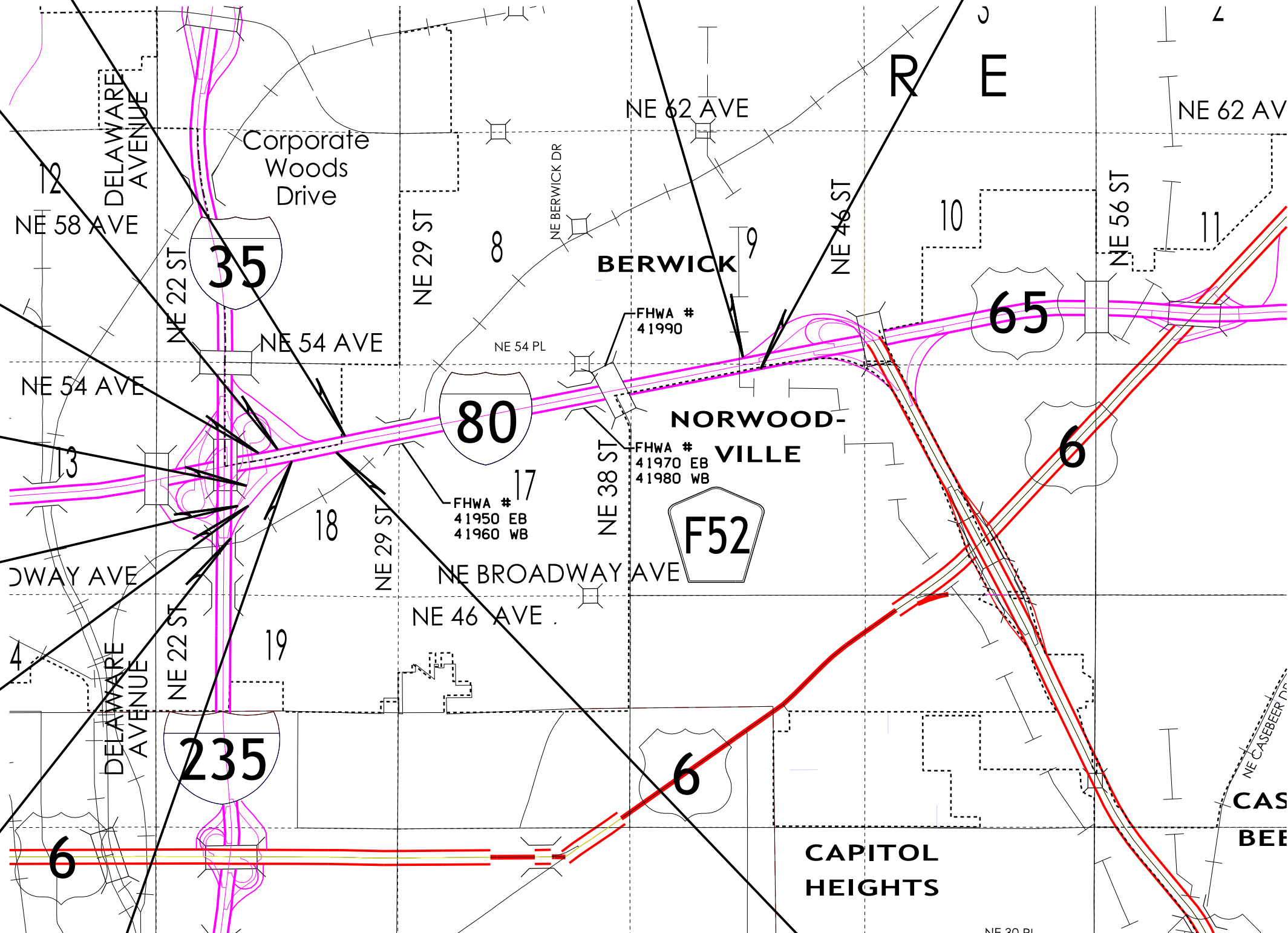
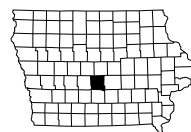
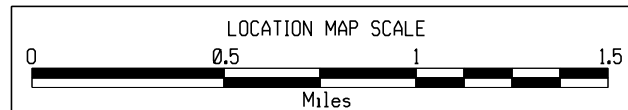
Sta. 39651+00.00 (RAMP H)  
Begin Ramp H Construction

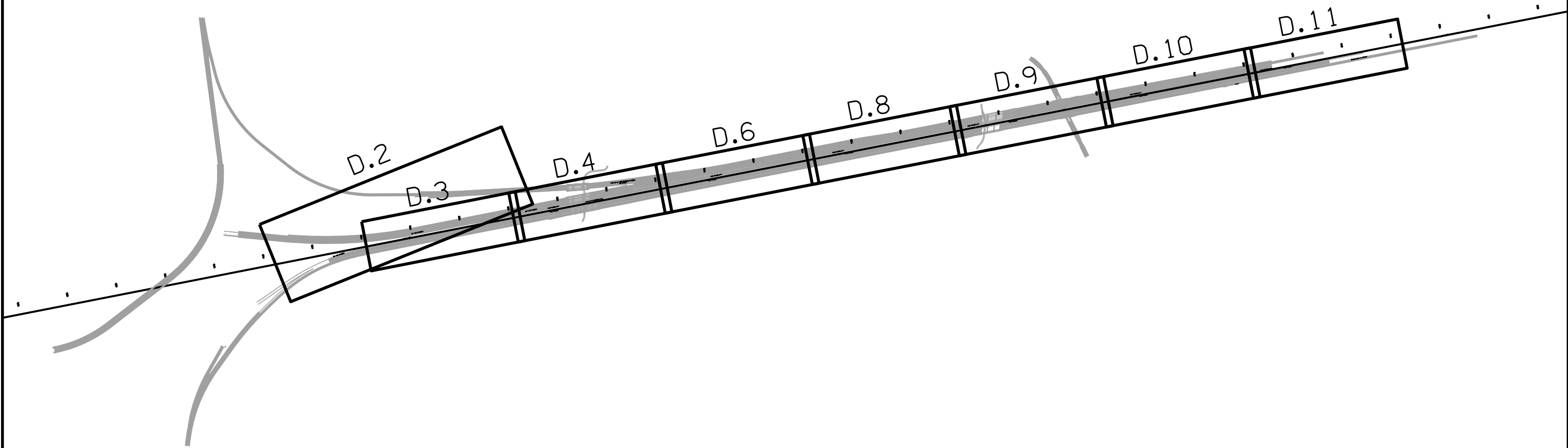
Sta. 33551+92.33 (RAMP D)  
Sta. 37007+85.73 (INT RAMP D)  
End Ultimate Ramp D Construction  
Begin Interim Ramp D Construction

Sta. 33544+06.61 (RAMP D)  
Begin Ultimate Ramp D Construction

Sta. 37023+99.35 (INT RAMP D)  
Sta. 38+37.50, 48.00' RT (EB I-80)  
End Interim Ramp D Construction  
Begin EB ML080 Construction

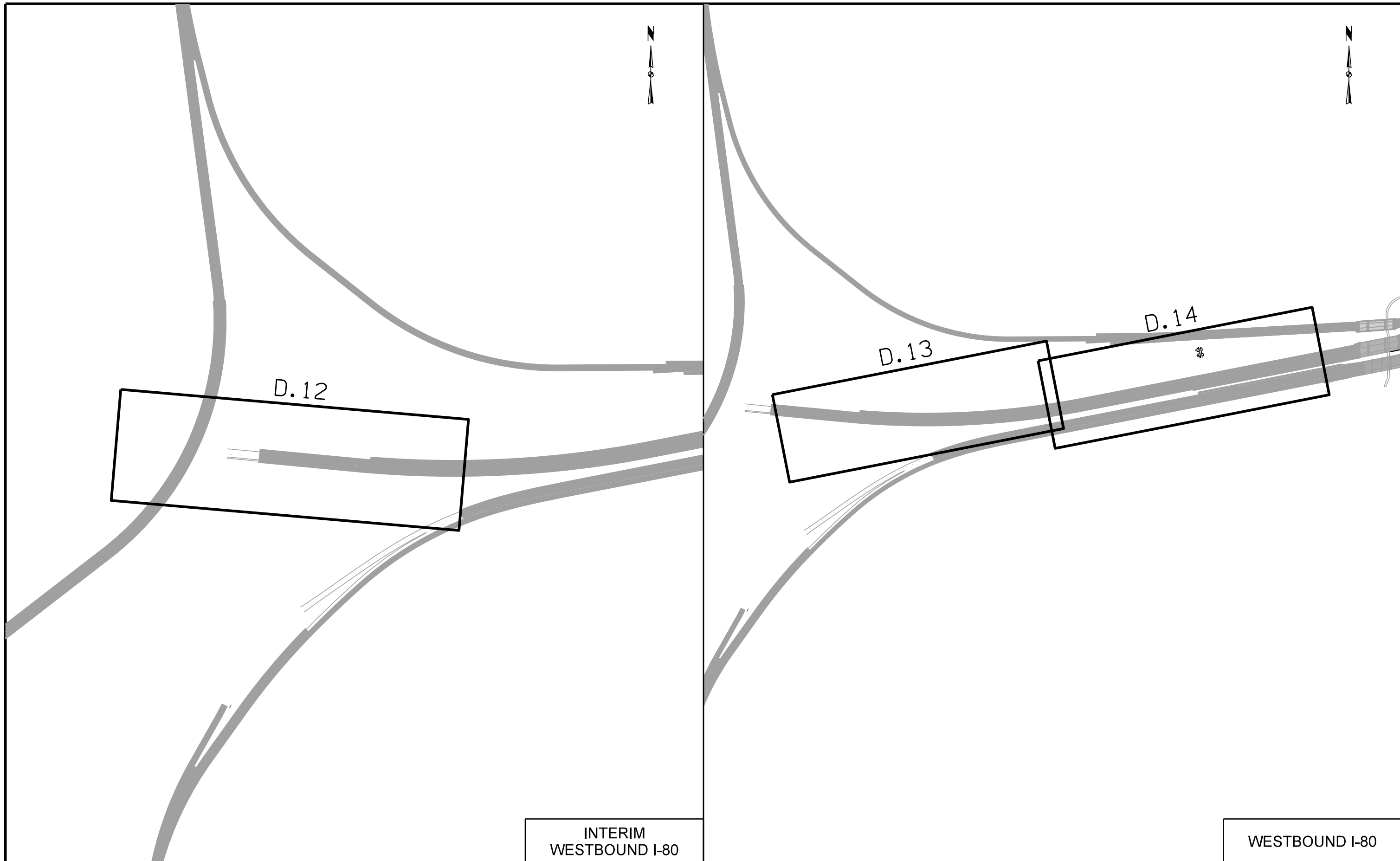
Sta. 43+58.66 (EB I-80)  
Sta. 1111+51.67 (ML080)  
End EB ML080 Construction  
Begin ML080 Construction





I-80 (EASTBOUND)

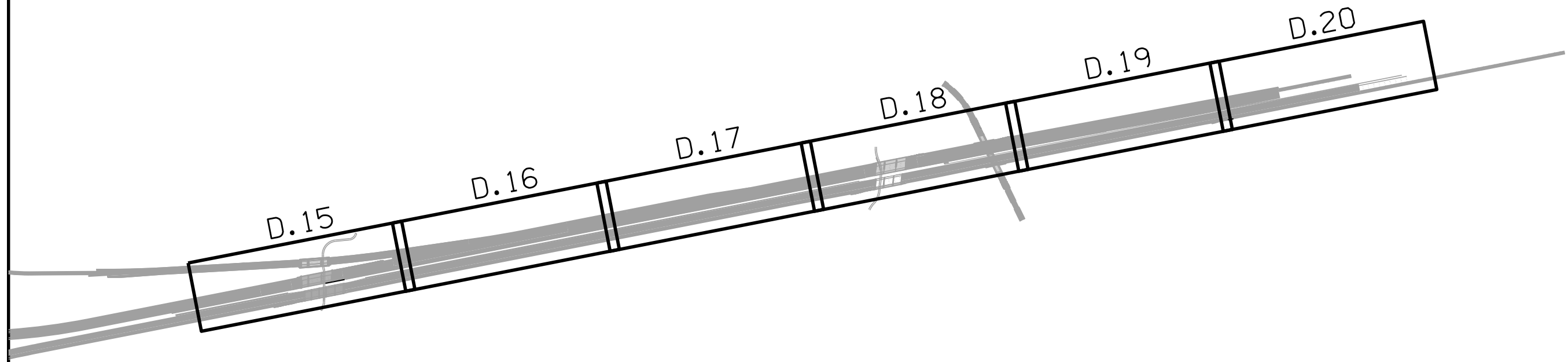
**Project Key Maps**



INTERIM  
WESTBOUND I-80

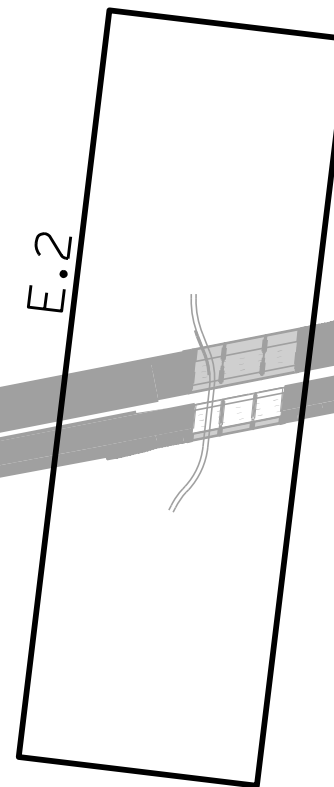
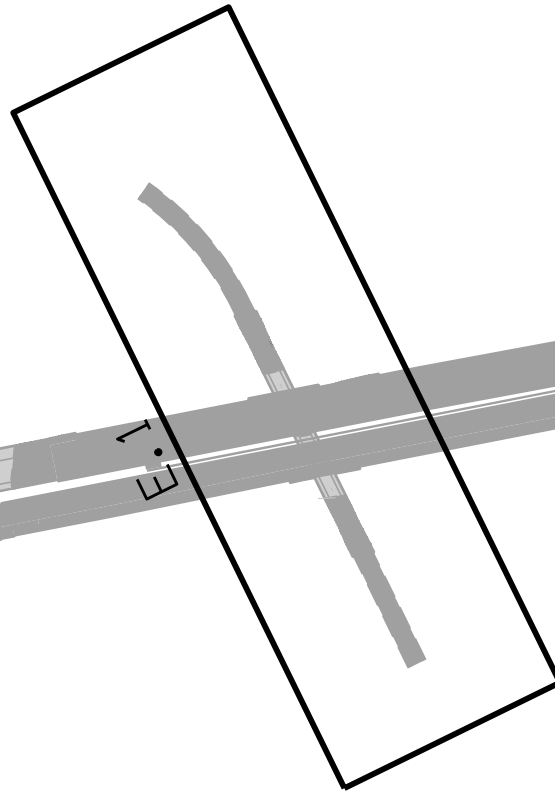
WESTBOUND I-80

**Project Key Maps**



I-80 (WESTBOUND)

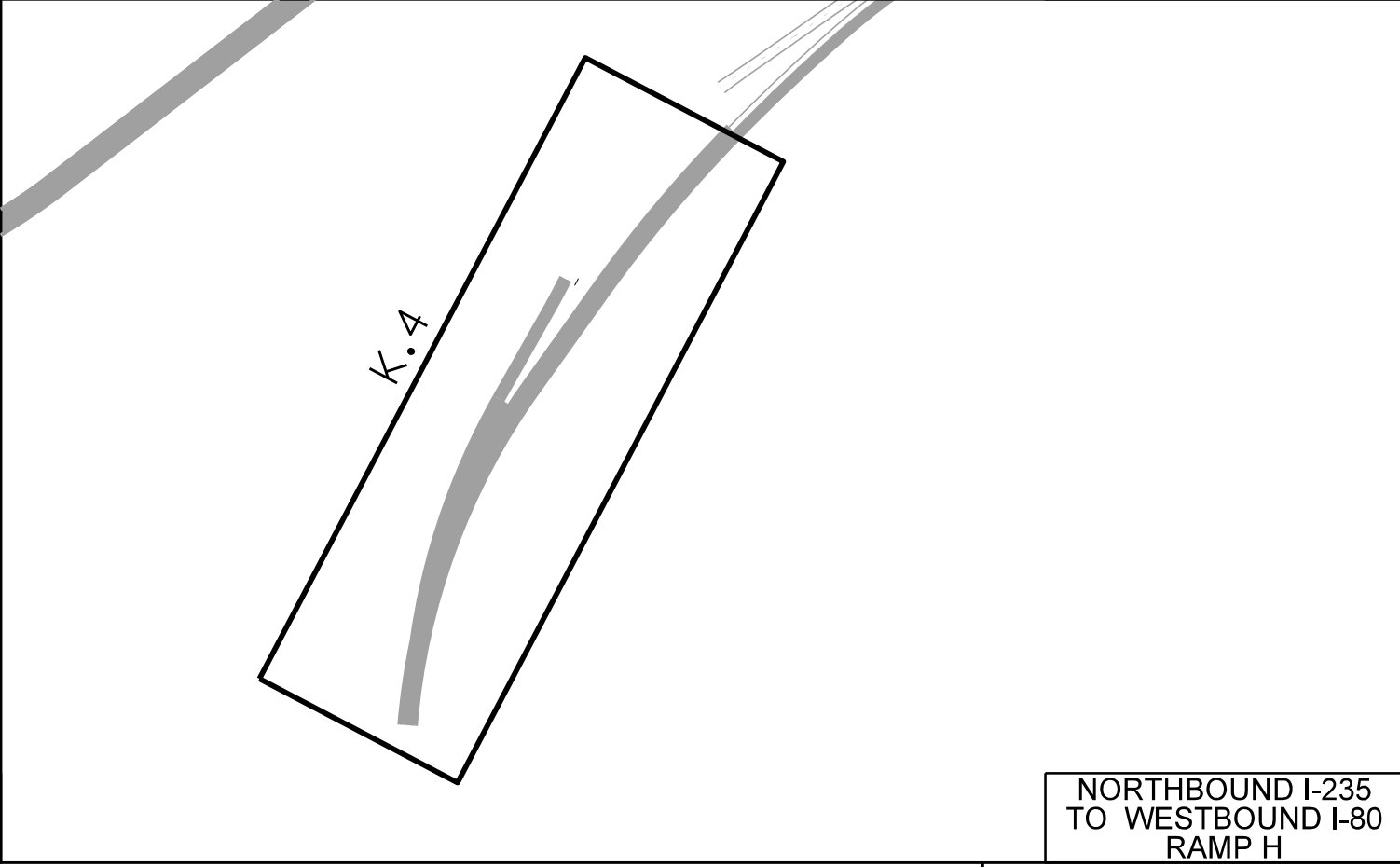
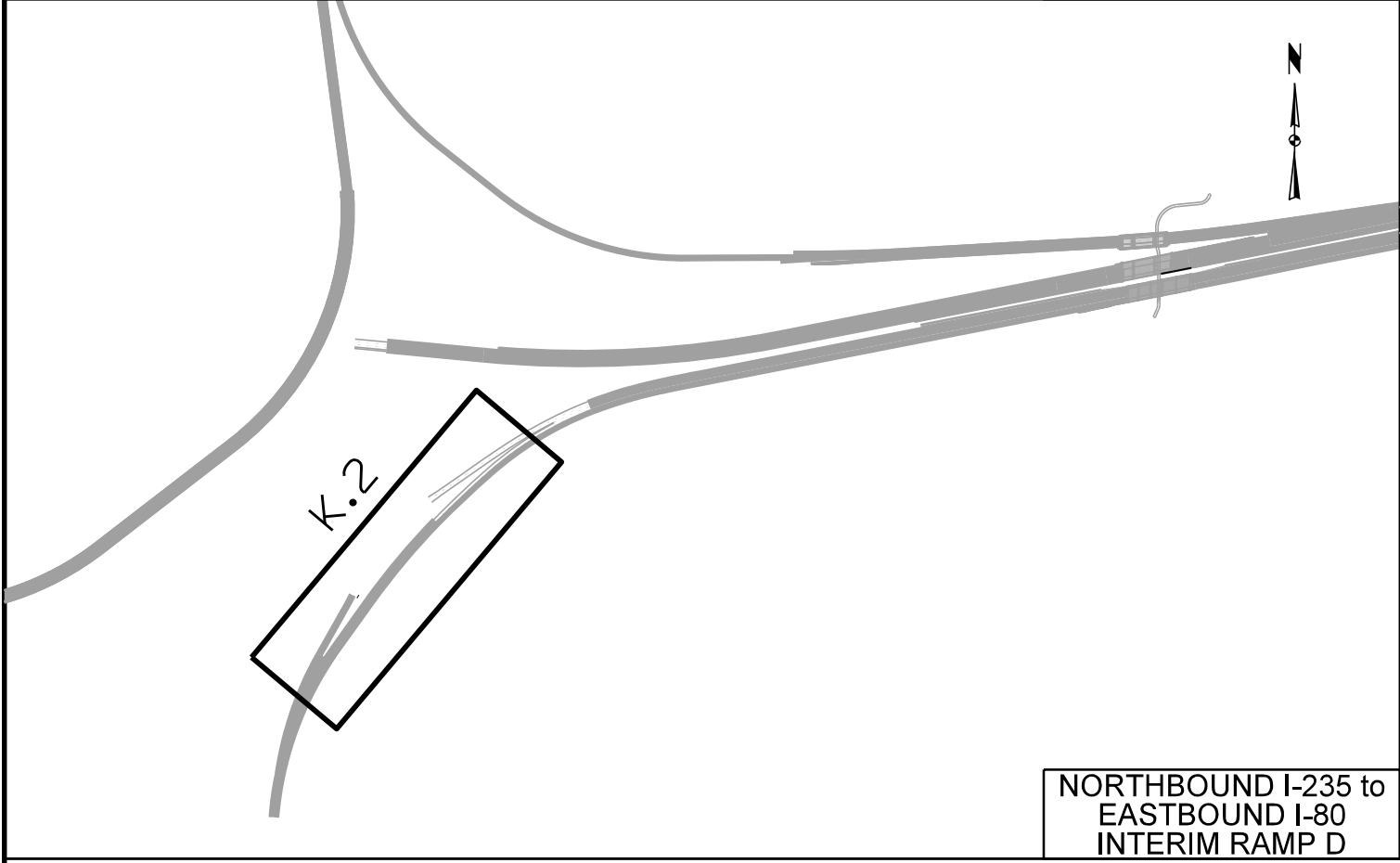
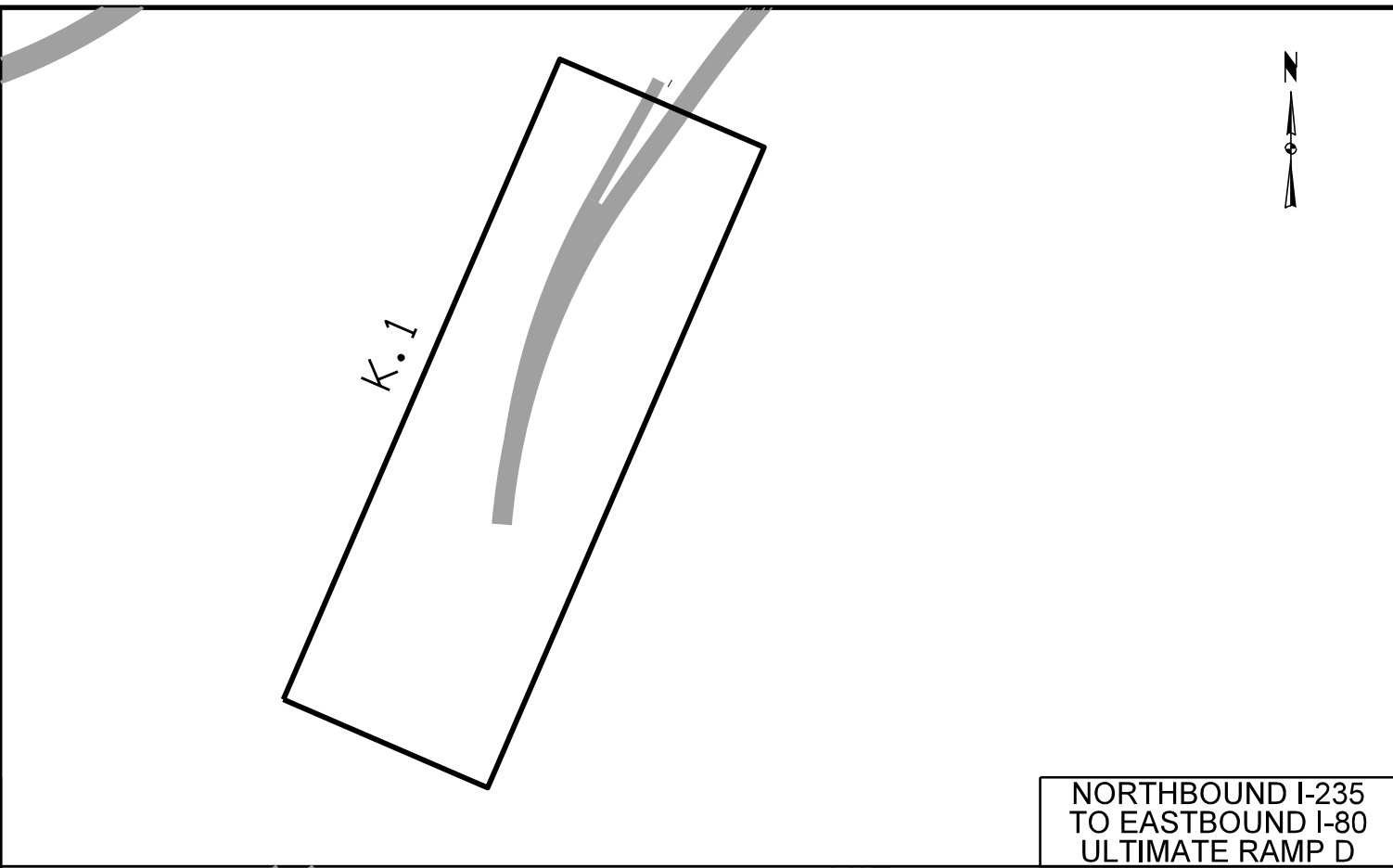
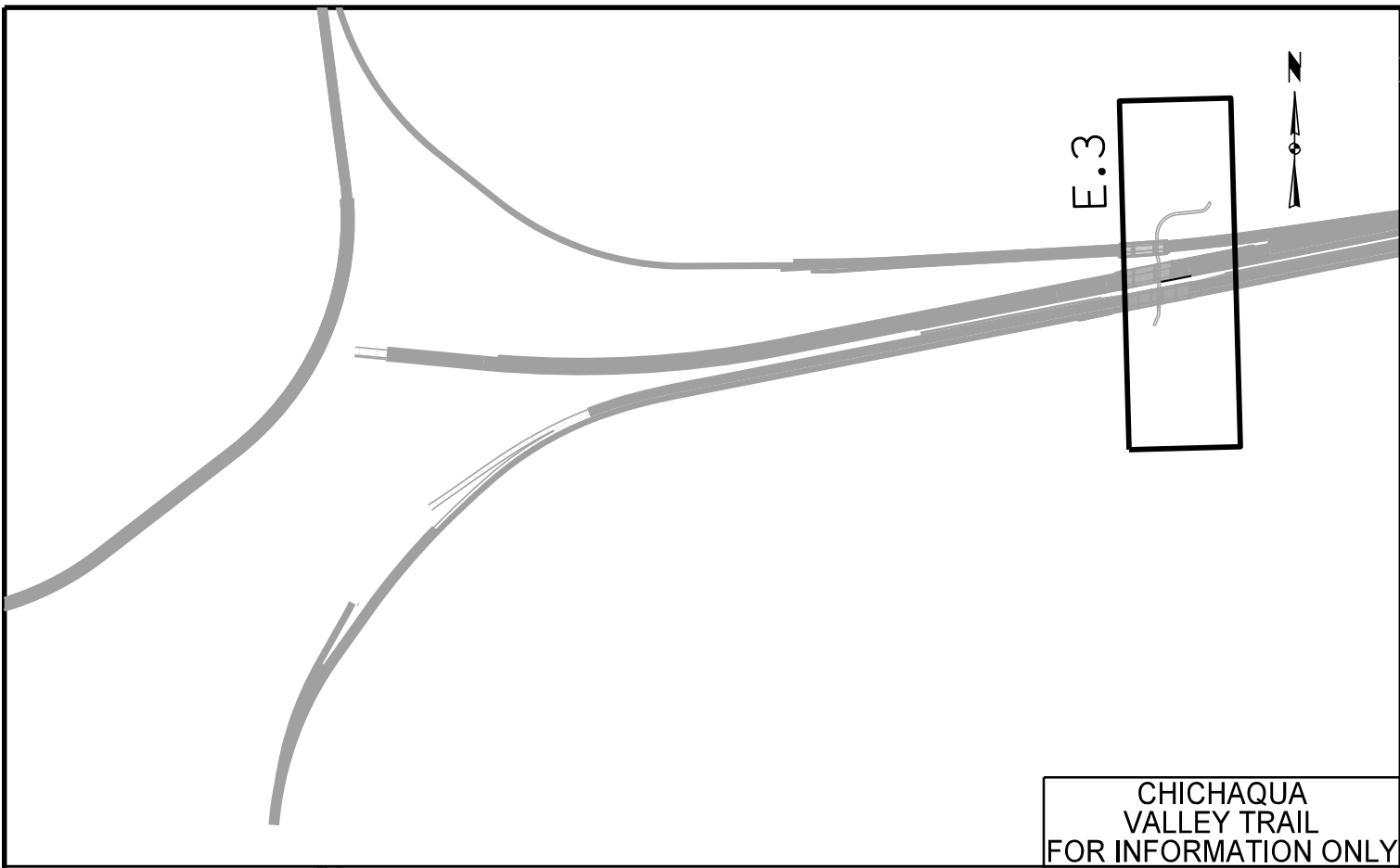
**Project Key Maps**



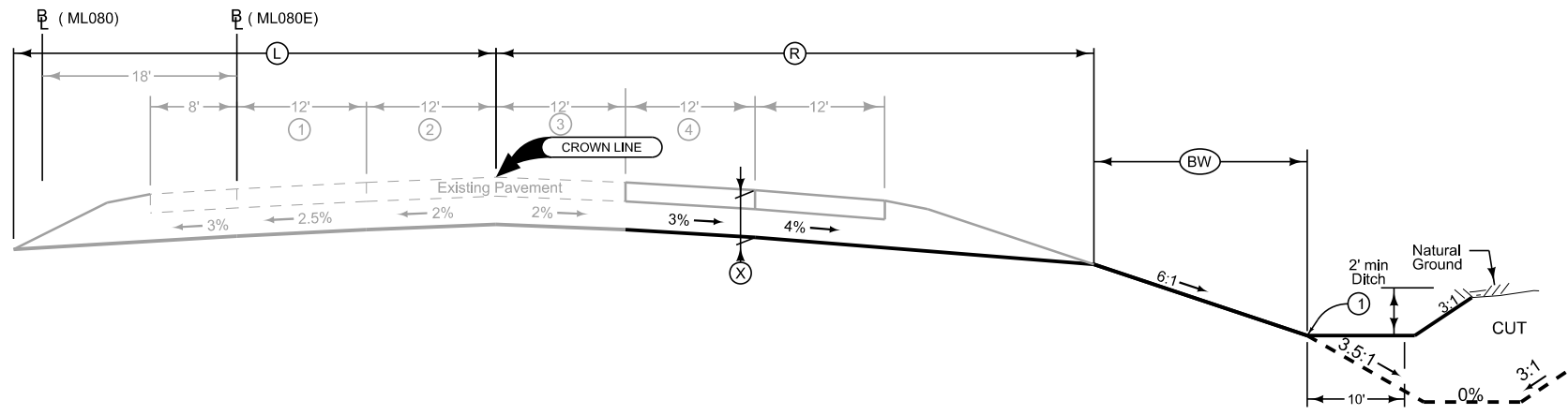
NE 38TH STREET

FOUR MILE CREEK  
GAY LEA WILSON TRAIL

**Project Key Maps**



**Project Key Maps**



**8 LANE GRADING**

DIMENSIONS				LOCATION		
(X) Inches	(L) Feet	(R) Feet	(BW) Feet	STATION TO STATION	ROAD IDENTIFICATION	
28.5	44.7	56.8	1.2	38+37.50	43+58.66	ML080E
28.5	44.7	56.8	1.2	1111+51.67	1121+65.75	ML080

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

See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

See U Sheets for Crown Line Transitions.

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

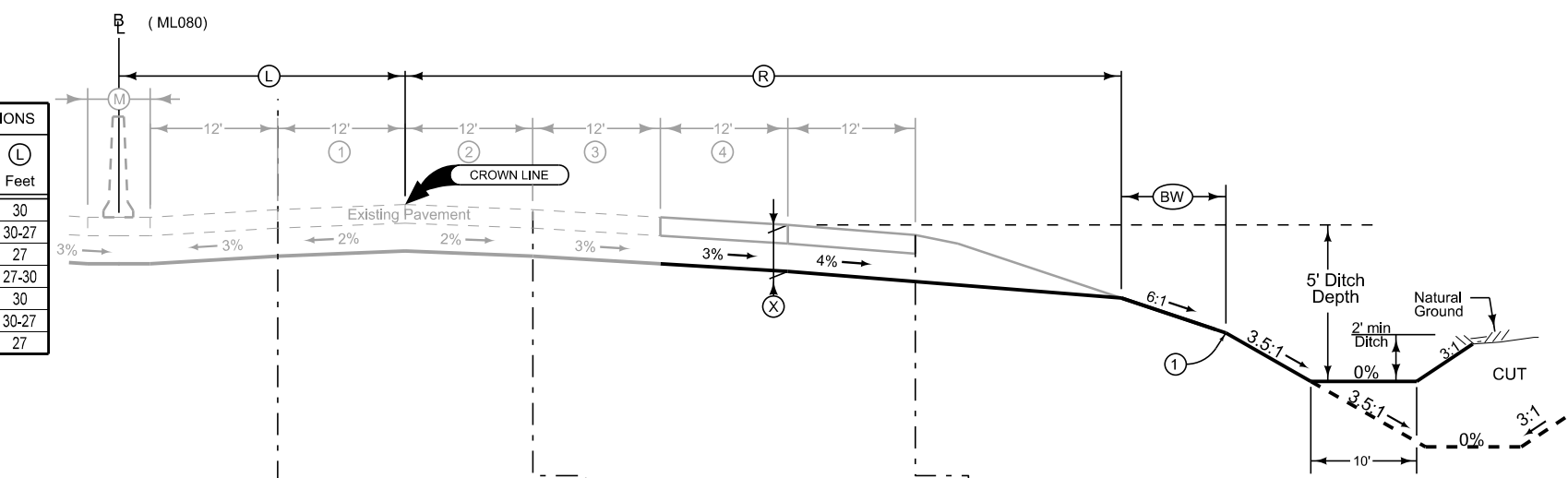
See Tab 100-24 or 100-25 for pavement quantities.

See Tab 112-9 for shoulder quantities.

**GRADING EASTBOUND I-80**

**8 Lane Grading**

ROAD IDENTIFICATION	LOCATION		DIMENSIONS	
	STATION TO STATION	STATION TO STATION	(M) Feet	(L) Feet
ML080	1121+65.75	1136+00.00	12	30
ML080	1136+00.00	1140+00.00	12-6	30-27
ML080	1140+00.00	1166+75.00	6	27
ML080	1166+75.00	1170+75.00	6-12	27-30
ML080	1170+75.00	1177+25.00	12	30
ML080	1177+25.00	1181+25.00	12-6	30-27
ML080	1181+25.00	1208+50.00	6	27



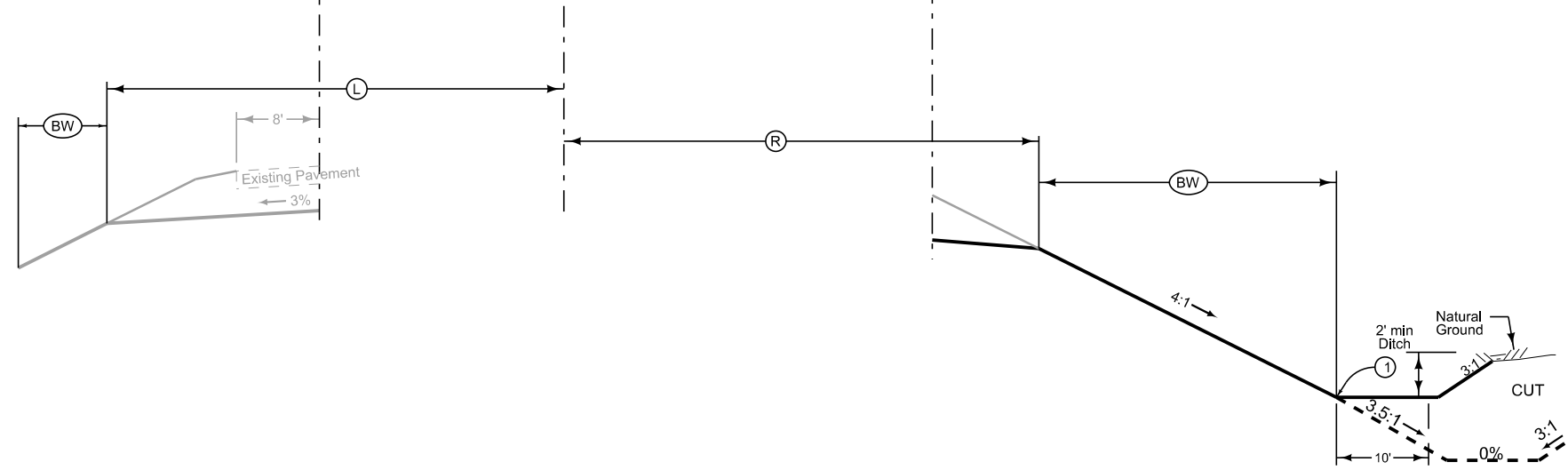
**8 LANE GRADING**

DIMENSIONS			LOCATION		
(BW) Feet	(X) Inches	(R) Feet	STATION TO STATION	STATION TO STATION	ROAD IDENTIFICATION
1.2	28.5	56.8	1121+65.75	1129+00.00	ML080
1.2	26.5	56.8	1129+00.00	1131+00.00	ML080
1.2	26.5	56.8-68.8	1133+82.00	1140+00.00	ML080
1.2	26.5	68.8	1140+00.00	1166+75.00	ML080
1.2	26.5	68.8-56.8	1166+75.00	1170+75.00	ML080
1.2	26.5	56.8	1170+75.00	1172+85.00	ML080
1.2	26.5	56.8	1174+76.00	1177+25.00	ML080
1.2	26.5	56.8-68.8	1177+25.00	1181+25.00	ML080
1.2	26.5	68.8	1181+25.00	1190+25.00	ML080

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

**8 Lane Foreslope Grading**

ROAD IDENTIFICATION	LOCATION		DIMENSIONS	
	STATION TO STATION	STATION TO STATION	(L) Feet	(BW) Feet
ML080	1111+51.67	1121+65.75	44.7	2.2



**8 LANE GRADING**

DIMENSIONS			LOCATION		
(BW) Feet	(X) Inches	(R) Feet	STATION TO STATION	STATION TO STATION	ROAD IDENTIFICATION
11.6	26.5	58.4	1190+25.00	1208+50.00	ML080

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

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

See Tab 112-9 for shoulder quantities.

**GRADING MAINLINE I-80 (EASTBOUND)**

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

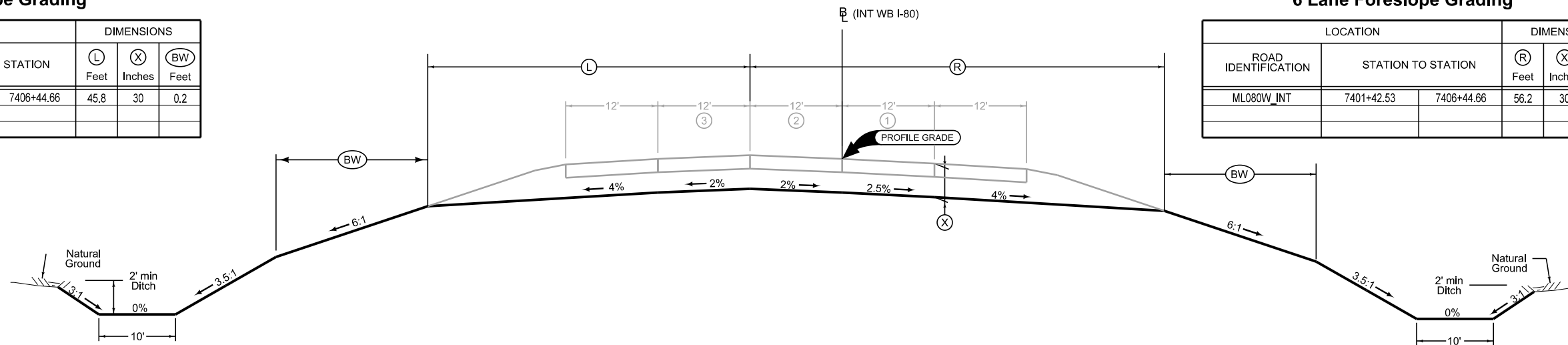
See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

See U Sheets for Crown Line Transitions.



### 6 Lane Foreslope Grading

LOCATION		DIMENSIONS		
ROAD IDENTIFICATION	STATION TO STATION	(L) Feet	(X) Inches	(BW) Feet
ML080W_INT	7401+42.53 - 7406+44.66	45.8	30	0.2



### 6 Lane Foreslope Grading

LOCATION		DIMENSIONS		
ROAD IDENTIFICATION	STATION TO STATION	(R) Feet	(X) Inches	(BW) Feet
ML080W_INT	7401+42.53 - 7406+44.66	56.2	30	1.8

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

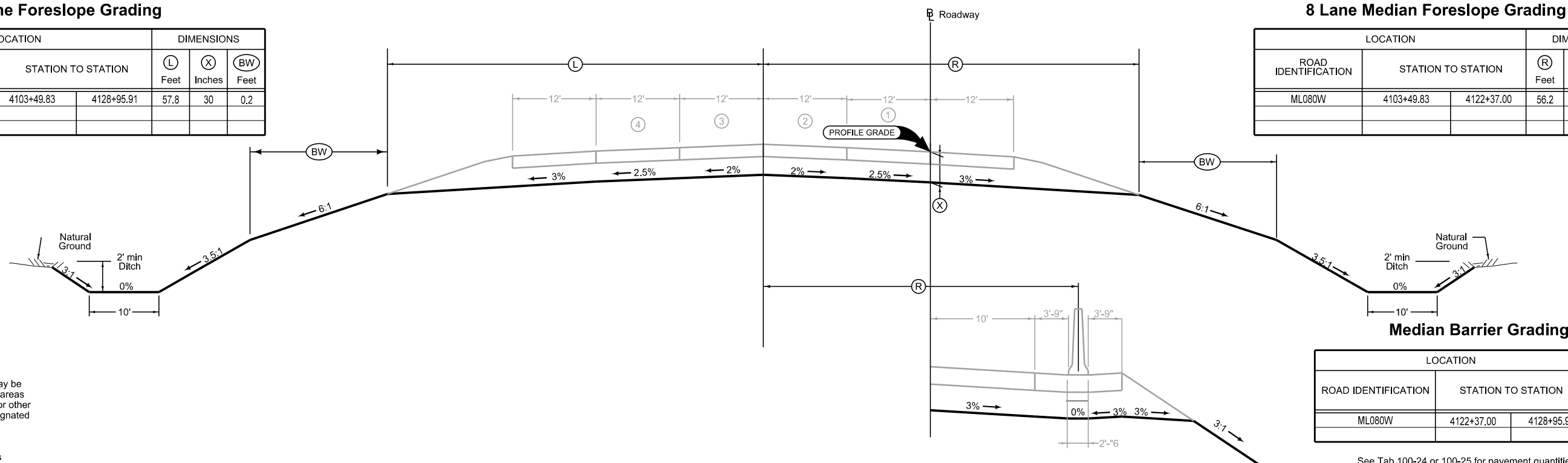
See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

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

### GRADING INTERIM WESTBOUND I-80

### 8 Lane Foreslope Grading

LOCATION		DIMENSIONS		
ROAD IDENTIFICATION	STATION TO STATION	(L) Feet	(X) Inches	(BW) Feet
ML080W	4103+49.83 - 4128+95.91	57.8	30	0.2



### 8 Lane Median Foreslope Grading

LOCATION		DIMENSIONS		
ROAD IDENTIFICATION	STATION TO STATION	(R) Feet	(X) Inches	(BW) Feet
ML080W	4103+49.83 - 4122+37.00	56.2	30	1.8

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

See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

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

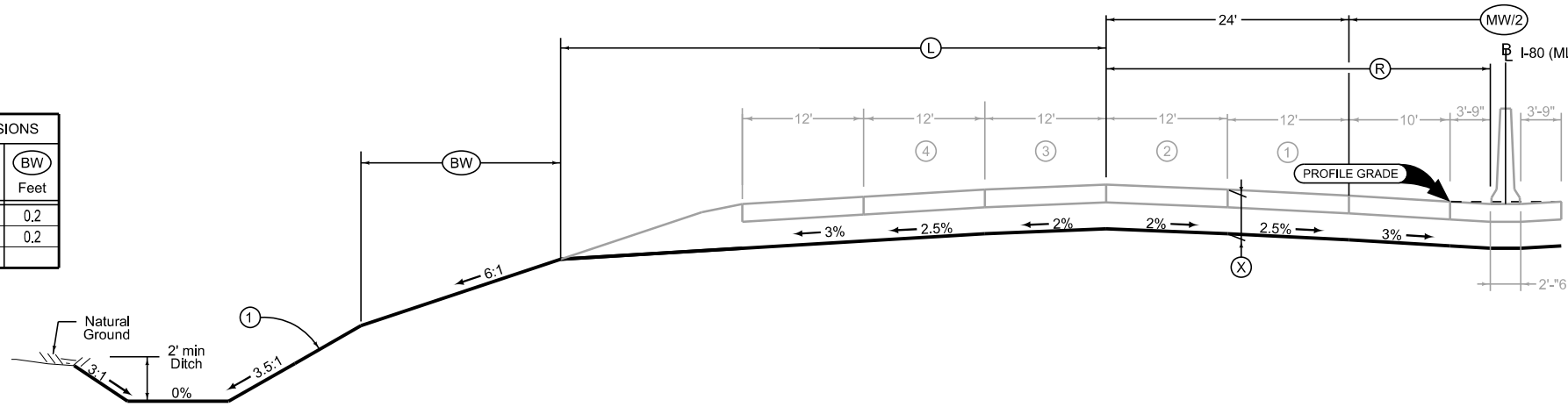
### Median Barrier Grading

LOCATION		(R) Feet
ROAD IDENTIFICATION	STATION TO STATION	
ML080W	4122+37.00 - 4128+95.91	39.0

### GRADING WESTBOUND I-80

### 8 Lane Foreslope Grading

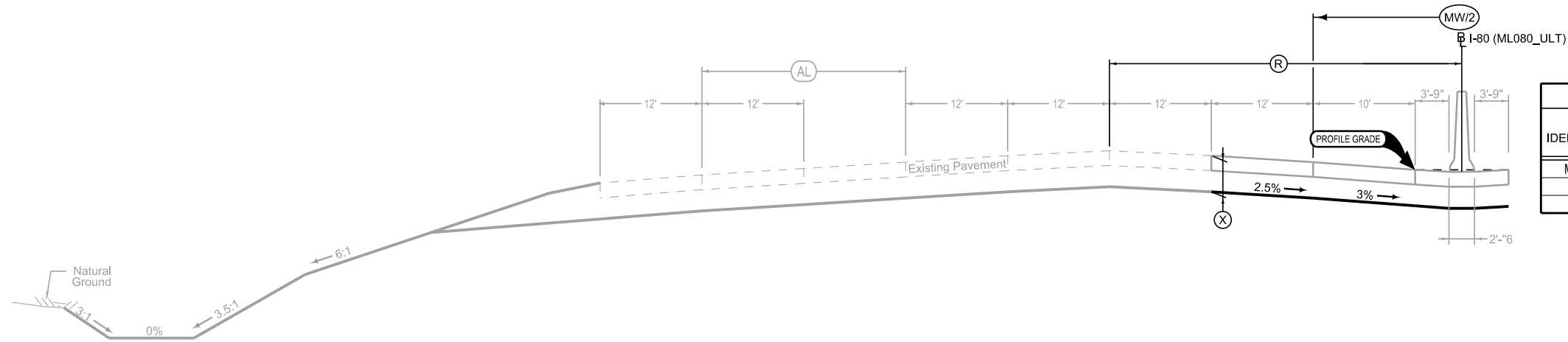
ROAD IDENTIFICATION	LOCATION		DIMENSIONS	
	STATION TO STATION		(L) Feet	(BW) Feet
ML080_ULT	5128+00.00	5130+93.59	57.8	0.2
ML080_ULT	5132+87.59	5137+77.87	57.8	0.2



### 8 LANE GRADING

ROAD IDENTIFICATION	LOCATION		DIMENSIONS		
	STATION TO STATION		(R) Feet	(X) Inches	(MW) Feet
ML080_ULT	5128+00.00	5130+93.59	37.75	30	30
ML080_ULT	5132+87.59	5137+77.87	37.75	30	30

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



### 8 LANE GRADING

ROAD IDENTIFICATION	LOCATION		DIMENSIONS		
	STATION TO STATION		(R) Feet	(X) Inches	(MW) Feet
ML080_ULT	5137+77.87	5150+58.17	37.75	30	30

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

See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

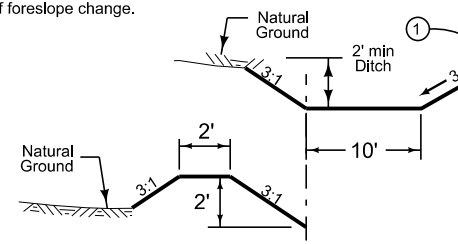
See Tab 100-24 or 100-25 for pavement quantities.  
See Tab 112-9 for shoulder quantities.

### GRADING MAINLINE I-80 (WESTBOUND)

### 10 LANE GRADING

LOCATION		DIMENSIONS				
ROAD IDENTIFICATION	STATION TO STATION	L Feet	R Feet	X Inches	MW Feet	BW Feet
ML080_ULT	5164+00.00 - 5202+75.09	69.8	37.75	30	30	0.2

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



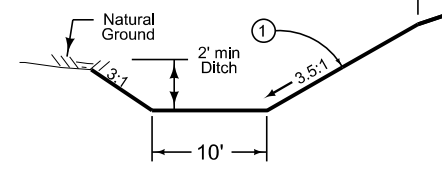
### Earth Dike

LOCATION	
ROAD IDENTIFICATION	STATION TO STATION
ML080_ULT	5169+30.00 - 5171+00.00
ML080_ULT	5183+75.00 - 5185+50.00

### 10 Lane Foreslope Grading w/Auxiliary Lane

LOCATION		DIMENSIONS		
ROAD IDENTIFICATION	STATION TO STATION	L Feet	X Inches	BW Feet
ML080_ULT	5150+58.17 - 5161+00.00	81.8	30	0.2
ML080_ULT	5161+00.00 - 5164+00.00	81.8 - 69.8	30	0.2

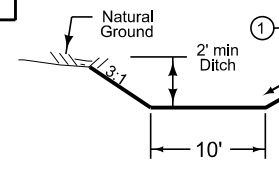
① Refer to project plan and cross sections for specific location of foreslope change.



### 8 Lane Foreslope Grading

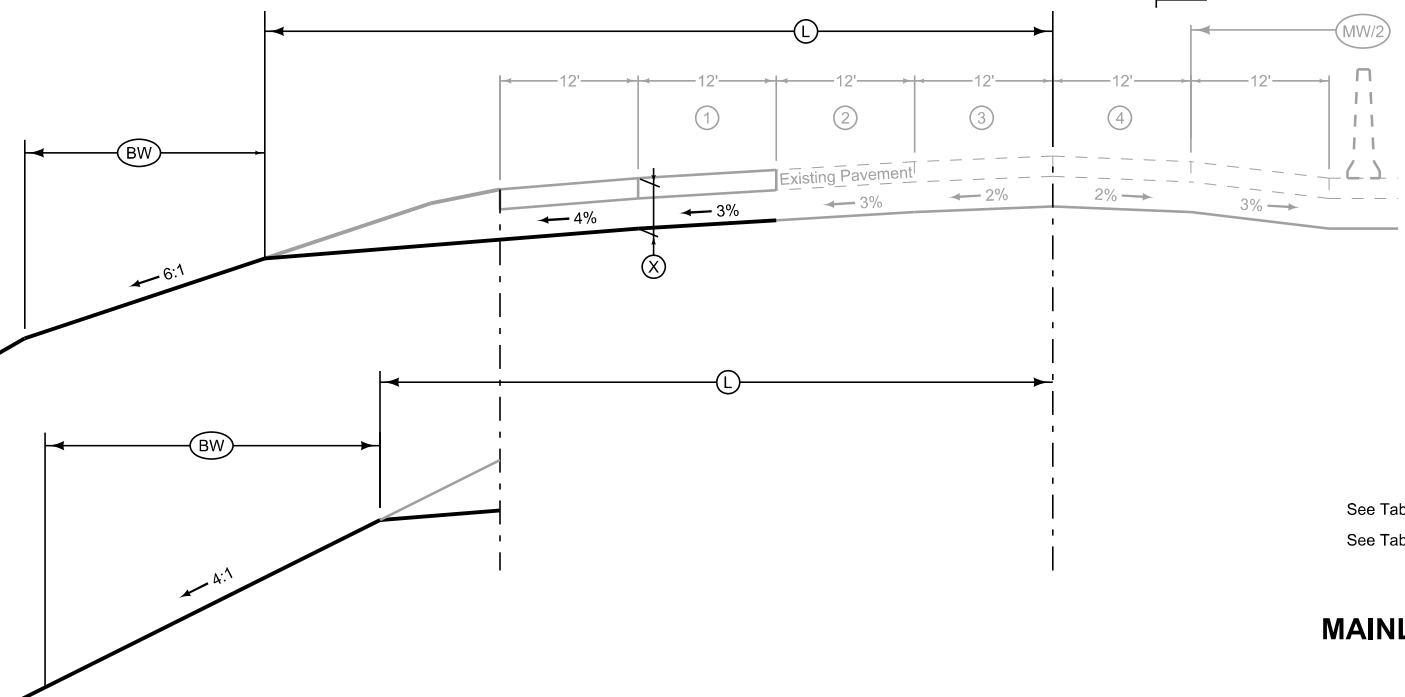
LOCATION		DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION	L Feet	X Inches	BW Feet	M Feet
ML080_ULT	5202+75.09 - 5206+50.00	70.0 - 58.0	30	0.0	

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



### 8 Lane Foreslope Grading

LOCATION		DIMENSIONS	
ROAD IDENTIFICATION	STATION TO STATION	L Feet	BW Feet
ML080_ULT	5206+50.00 - 5208+07.97	58.0 - 48.0	9.7



### Full Median Barrier

Direction of Travel	BEGIN STATION	END STATION
WB	5128+00.00	5137+77.87
WB	5150+58.17	5198+50.00

### Full Median Barrier Without PCC Shoulder

Direction of Travel	BEGIN STATION	END STATION
WB	5190+00.00	5194+50.00

### Half Median Barrier

Direction of Travel	BEGIN STATION	END STATION
WB	5194+50.00	5198+92.64

### Existing Median Barrier

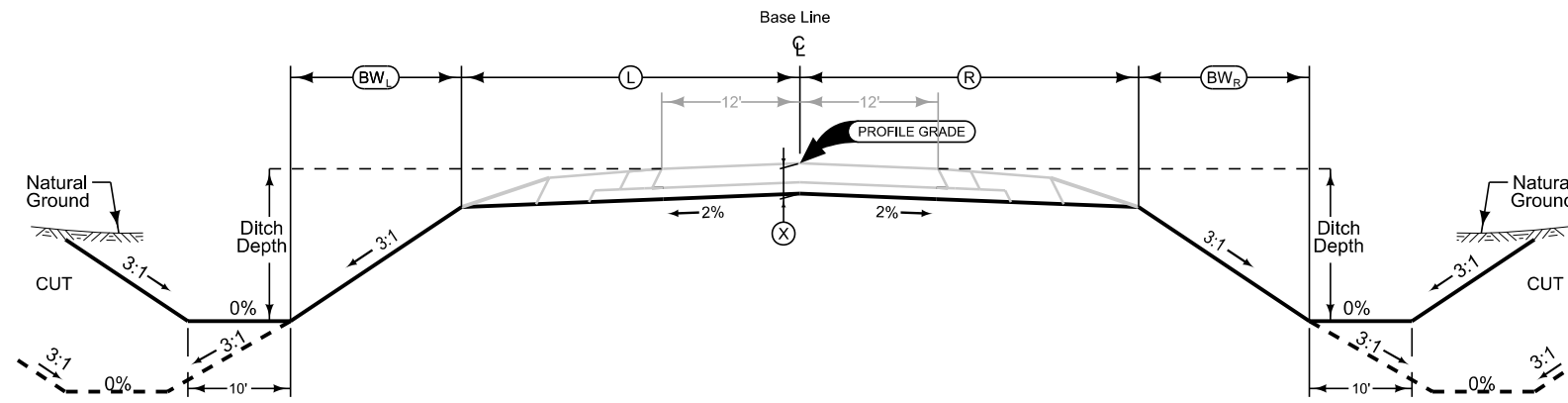
Direction of Travel	BEGIN STATION	END STATION	M Feet
WB	5198+92.64	5202+75.09	3.8-0

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

See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

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

## GRADING MAINLINE I-80 (WESTBOUND)



**2 LANE GRADING**

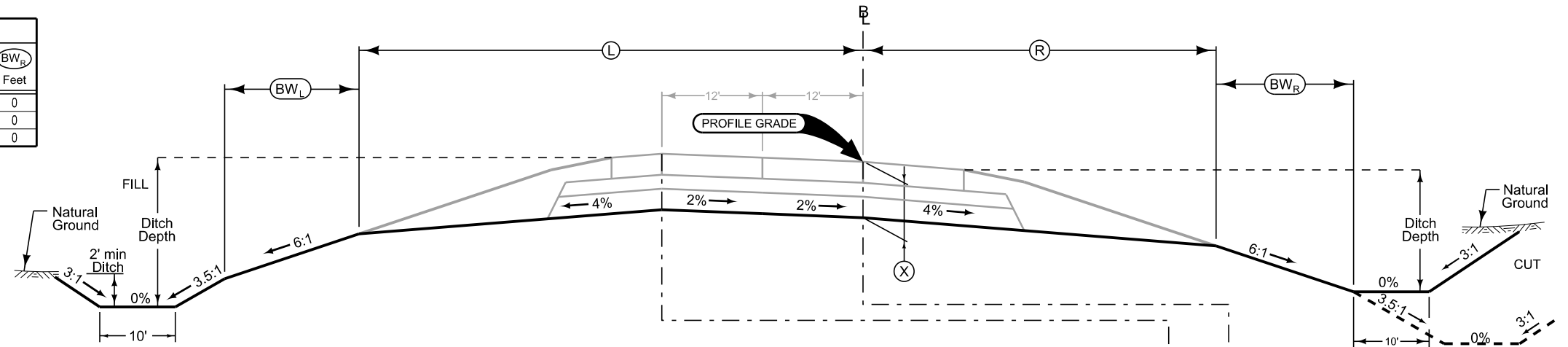
ROAD IDENTIFICATION	LOCATION		DIMENSIONS			
	STATION TO STATION		L Feet	R Feet	X Inches	BW Feet
NE 38TH STREET	2146+50.00	2150+35.33	28.6	28.6	17	13.1
NE 38TH STREET	2153+30.43	2158+00.00	28.6	28.6	17	13.1

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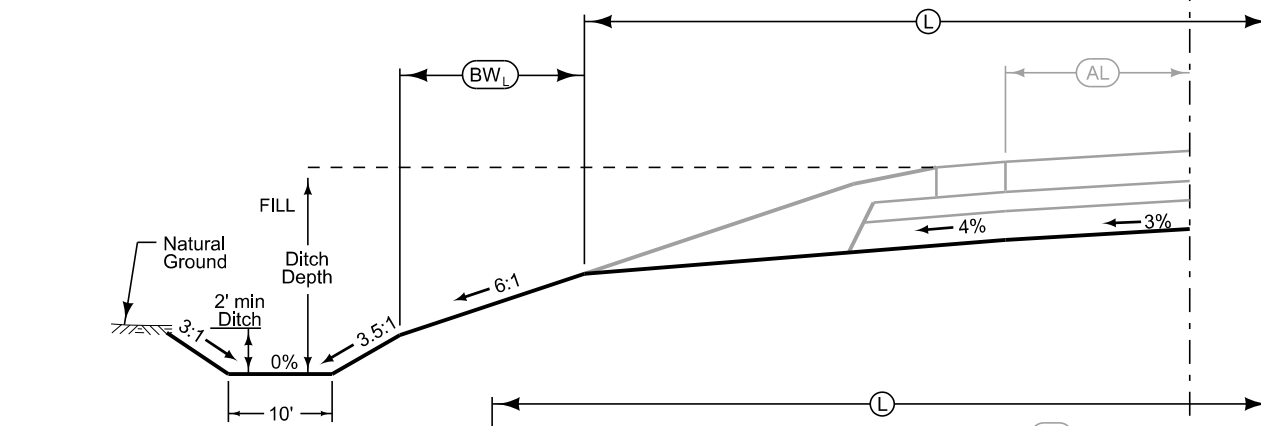
See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

**GRADING  
NE 38TH STREET**

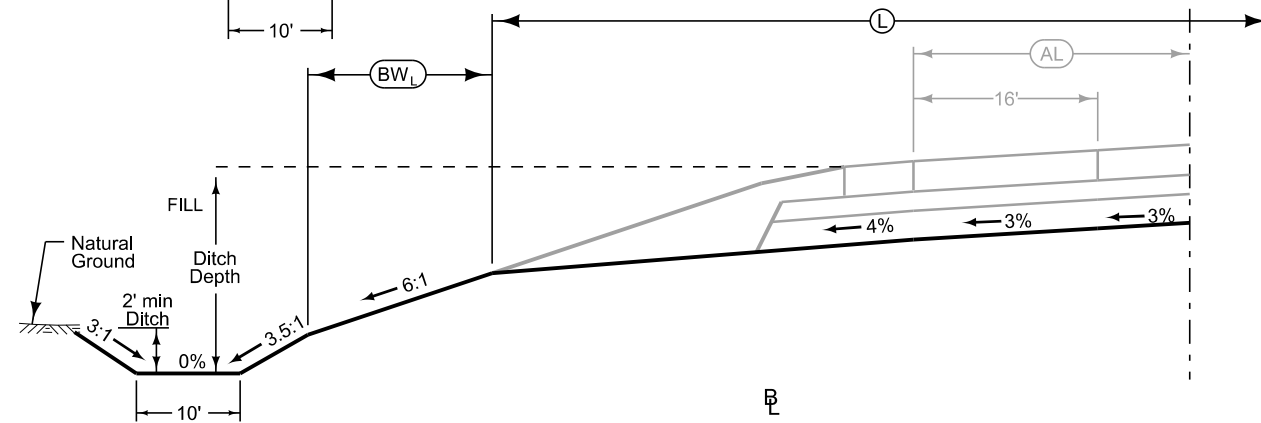
LOCATION				DIMENSIONS				
INTERCHANGE	RAMP	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches	(BW <sub>L</sub> ) Feet	(BW <sub>R</sub> ) Feet
NEMM	235D	33544+06.61	33545+64.80	51.8	33.8	30	0	0
NEMM	235D	33551+55.35	33551+92.33	51.8	33.8	30	0	0
NEMM	235D_INT	37007+85.73	37015+38.39	51.8	33.8	30	0	0



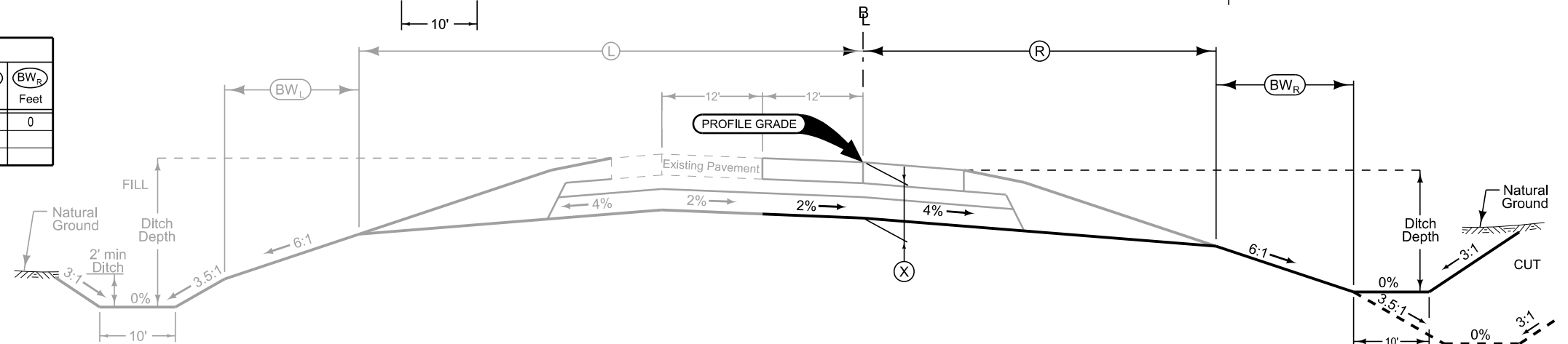
LOCATION				DIMENSIONS						
INTERCHANGE	RAMP	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches	(BW <sub>L</sub> ) Feet	(BW <sub>R</sub> ) Feet	(AL) Feet	
NEMM	235D	33545+64.80	33548+40.39	76.4	51.8	33.8	30	0	0	0-18.6



LOCATION				DIMENSIONS						
INTERCHANGE	RAMP	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches	(BW <sub>L</sub> ) Feet	(BW <sub>R</sub> ) Feet	(AL) Feet	
NEMM	235D	33548+40.39	33551+55.35	97.8	76.4	33.8	30	0	0	18.6-40



LOCATION				DIMENSIONS				
INTERCHANGE	RAMP	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches	(BW <sub>L</sub> ) Feet	(BW <sub>R</sub> ) Feet
NEMM	235D_INT	37015+38.39	37023+99.35	51.8	33.8	30	0	0

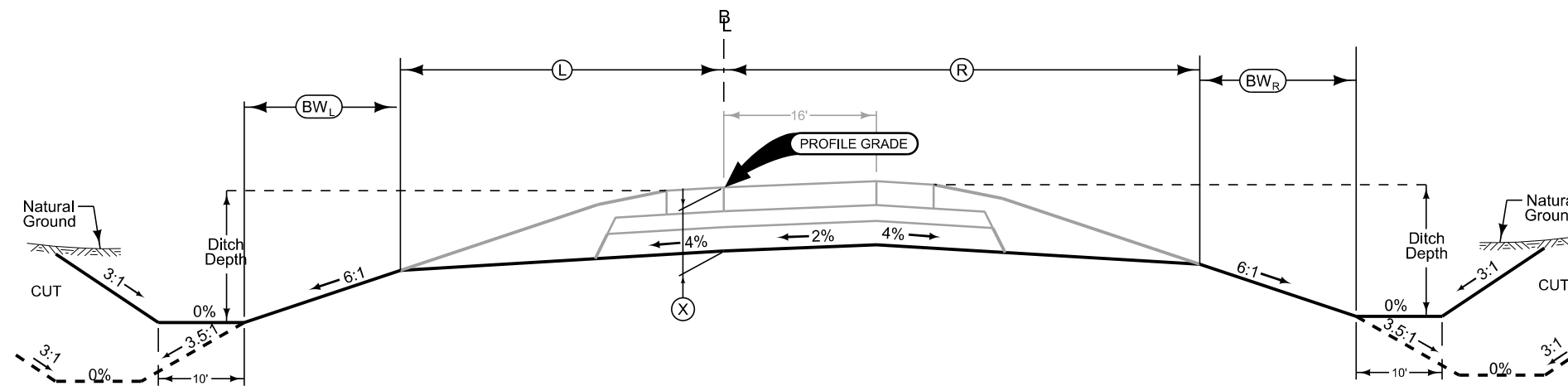


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See Tab 100-24 or 100-25 for pavement quantities.  
See Tab 112-9 for shoulder quantities.

**GRADING  
RAMP 235D &  
INTERIM RAMP 235D**



LOCATION				DIMENSIONS				
INTERCHANGE	RAMP	STATION TO STATION		Ⓛ Feet	Ⓡ Feet	Ⓧ Inches	Ⓛ Feet	Ⓡ Feet
NEMM	235H	39651+00.00	39654+06.33	25.8	43.8	30	0	0

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

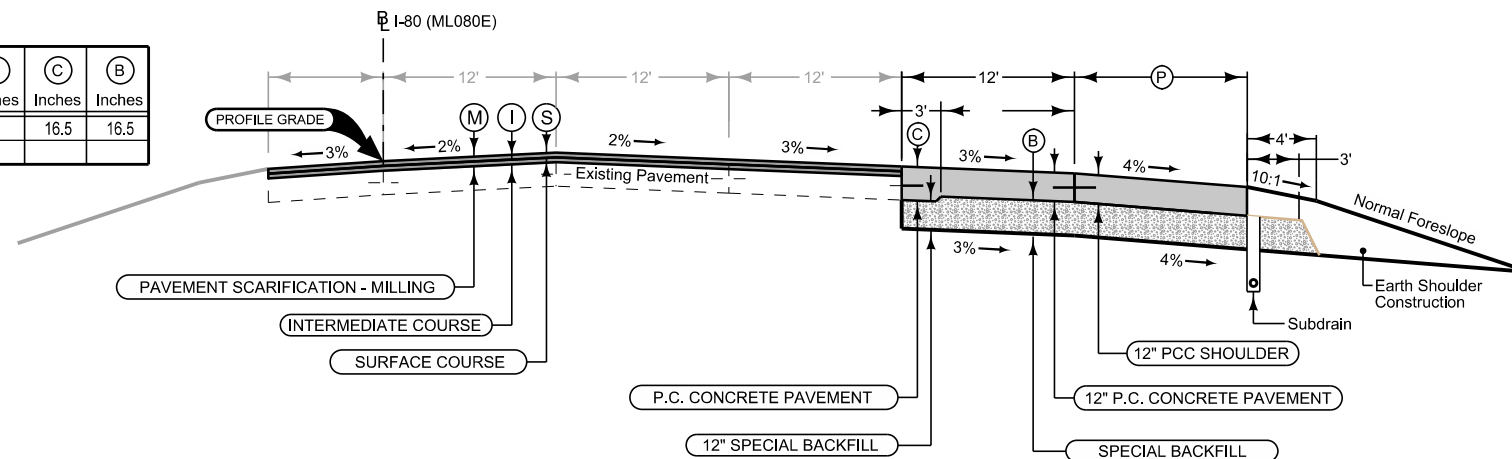
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See Tab 100-24 or 100-25 for pavement quantities.  
See Tab 112-9 for shoulder quantities.

**GRADING  
RAMP 235H**

Mainline Jointing:  
Transverse joints: CD at 17' spacing

ROAD IDENTIFICATION	Direction of Travel	BEGIN STATION	END STATION	(M) Inches	(S) Inches	(I) Inches	(C) Inches	(B) Inches
ML080E	EB	38+37.50	43+58.66	5	2	3	16.5	16.5



**Full Depth PCC Shoulder**

Shoulder Jointing:  
Longitudinal joint: L-2 or KT-2  
Transverse joints: C at 17' spacing

(P) Feet	STATION TO STATION		Direction of Travel
12	38+37.50	43+58.66	EB

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

**PAVING  
EASTBOUND I-80**

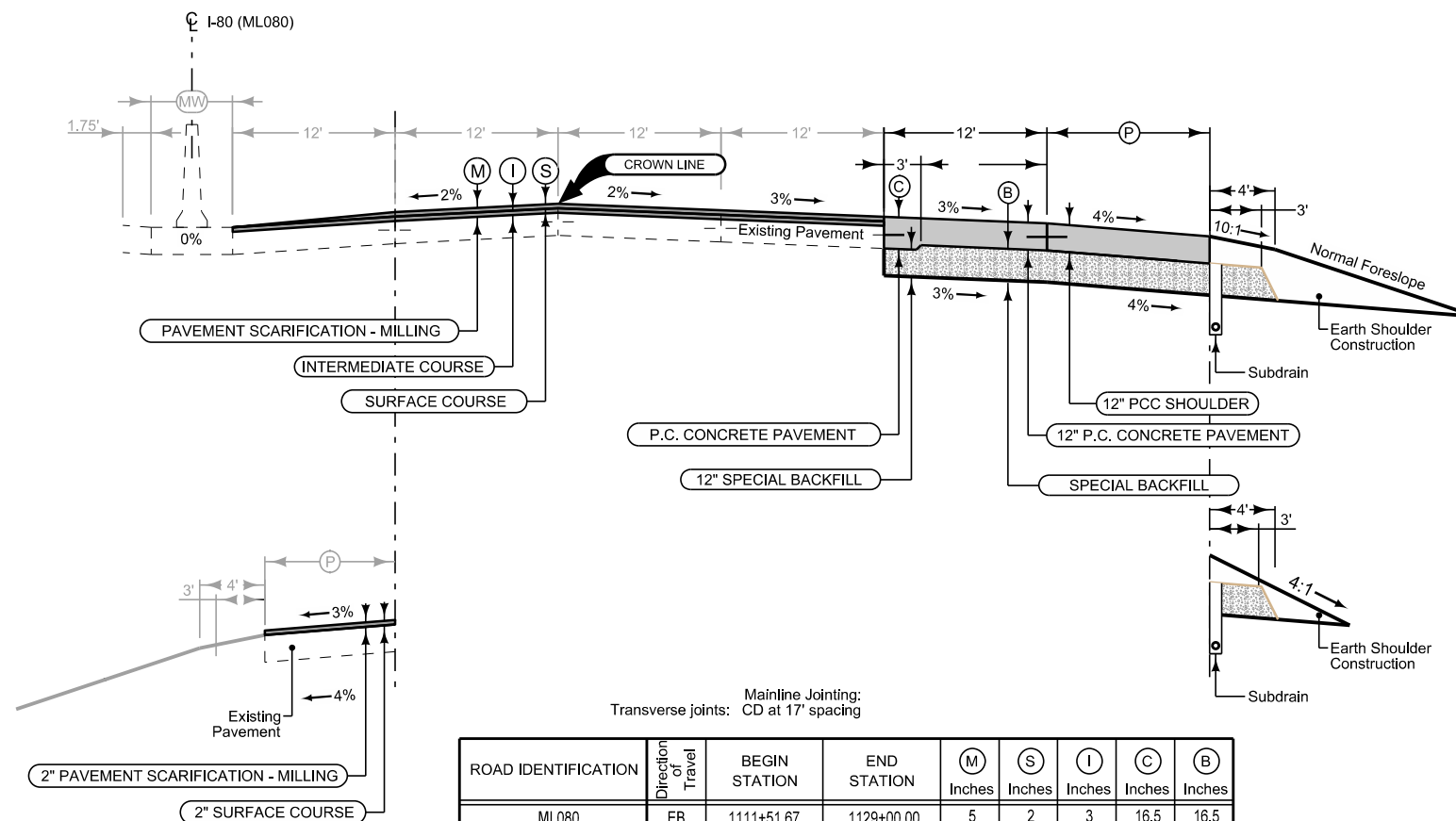
**Median Barrier**

(MW) Feet	STATION TO STATION		Direction of Travel
12	1121+65.75	1136+00.00	EB
12-6	1136+00.00	1140+00.00	EB
6	1140+00.00	1166+75.00	EB
6-12	1166+75.00	1170+75.00	EB
12	1170+75.00	1177+25.00	EB
12-6	1177+25.00	1181+25.00	EB
6	1181+25.00	1208+50.00	EB

**Full Depth PCC Shoulder**

Shoulder Jointing:  
Longitudinal joint: L-2 or KT-2  
Transverse joints: C at 17' spacing

(P) Feet	STATION TO STATION		Direction of Travel
8	1111+51.67	1121+65.75	EB



**Full Depth PCC Shoulder**

Shoulder Jointing:  
Longitudinal joint: L-2 or KT-2  
Transverse joints: C at 17' spacing

(P) Feet	STATION TO STATION		Direction of Travel
12	1111+51.67	1190+25.00	EB

**Full Depth PCC Shoulder**

Shoulder Jointing:  
Longitudinal joint: L-2 or KT-2  
Transverse joints: C at 17' spacing

(P) Feet	STATION TO STATION		Direction of Travel
12	1190+25.00	1208+50.00	EB

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

**PAVING  
MAINLINE I-80 (EASTBOUND)**

ROAD IDENTIFICATION	Direction of Travel	BEGIN STATION	END STATION	(M) Inches	(S) Inches	(I) Inches	(C) Inches	(B) Inches
ML080	EB	1111+51.67	1129+00.00	5	2	3	16.5	16.5
ML080	EB	1129+00.00	1208+50.00	3	2	1	14.5	14.5

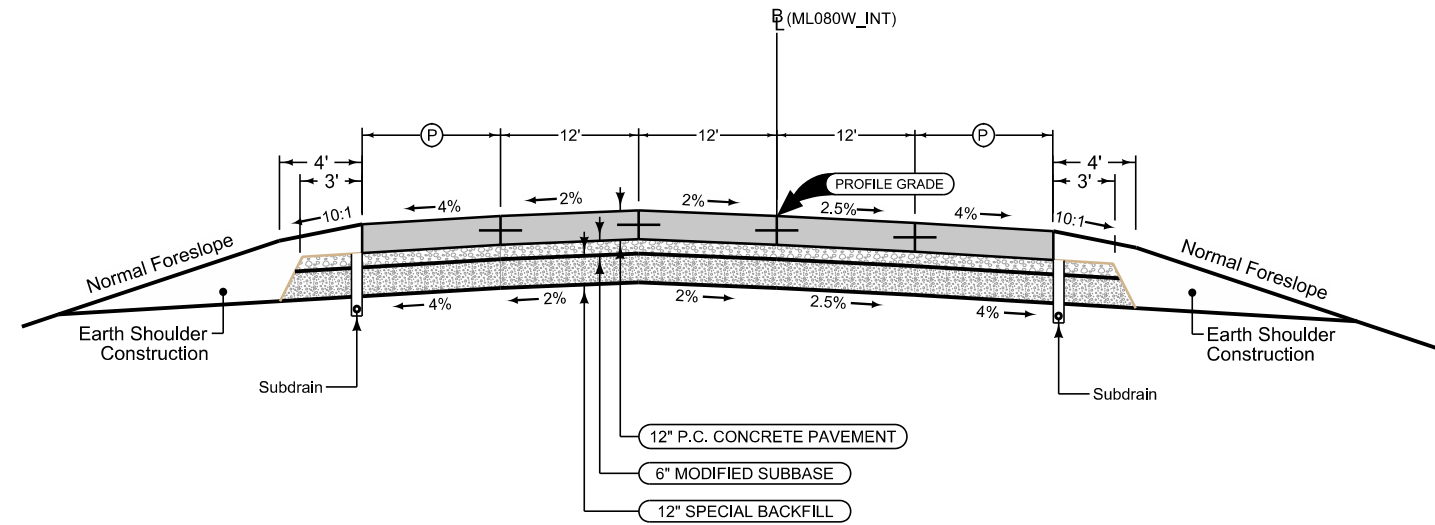
Mainline Jointing:  
Transverse joints: CD at 17' spacing

See U Sheets for Crown Line Transitions.

### Full Depth PCC Shoulder

Shoulder Jointing:  
 Longitudinal joint: L-2 or KT-2  
 Transverse joints: C at 17' spacing

Direction of Travel	STATION TO STATION		(P) Feet
WB	7401+43.52	7406+44.66	12



Mainline Jointing:  
 Transverse joints: CD at 17' spacing

ROAD IDENTIFICATION	Direction of Travel	BEGIN STATION	END STATION
ML080W_INT	WB	7401+43.52	7406+44.66

### Full Depth PCC Shoulder

Shoulder Jointing:  
 Longitudinal joint: L-2 or KT-2  
 Transverse joints: C at 17' spacing

Direction of Travel	STATION TO STATION		(P) Feet
WB	7401+43.52	7406+44.66	12

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

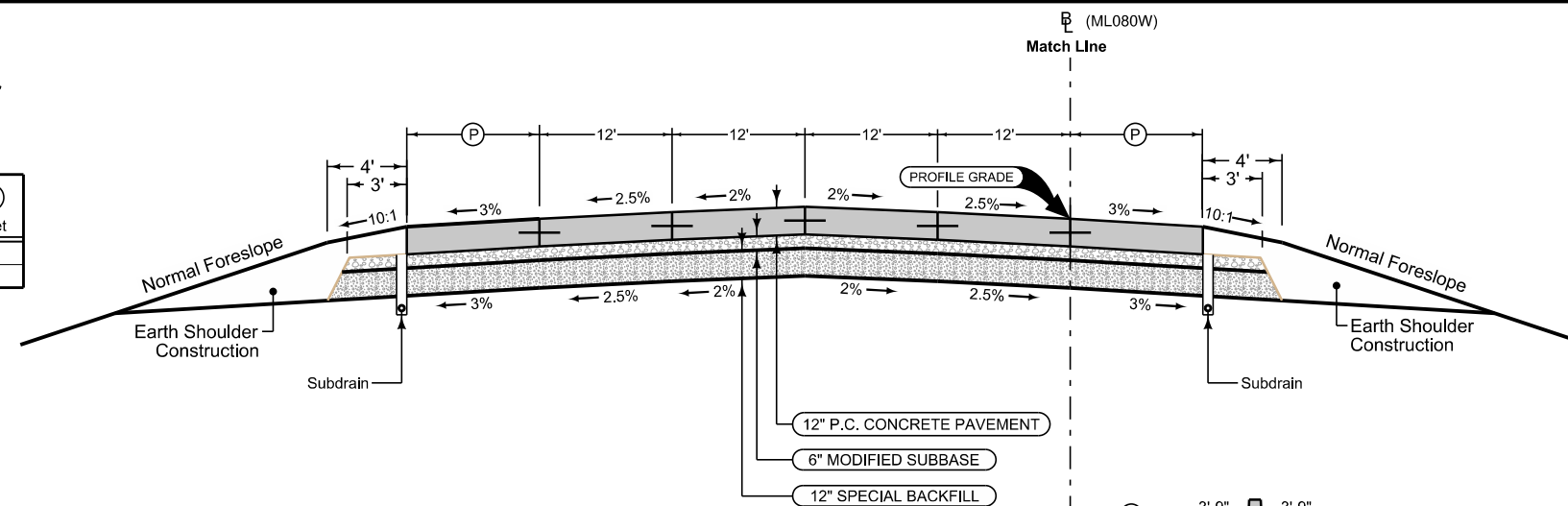
See Tab 112-9 for shoulder quantities.

## PAVING INTERIM WESTBOUND I-80

### Full Depth PCC Shoulder

Shoulder Jointing:  
 Longitudinal joint: L-2 or KT-2  
 Transverse joints: C at 17' spacing

Direction of Travel	STATION TO STATION		(P) Feet
WB	4103+49.83	4128+95.91	12



Mainline Jointing:  
 Transverse joints: CD at 17' spacing

ROAD IDENTIFICATION	Direction of Travel	BEGIN STATION	END STATION
ML080W	WB	4103+49.83	4128+95.91

### Full Depth PCC Shoulder

Shoulder Jointing:  
 Longitudinal joint: L-2 or KT-2  
 Transverse joints: C at 17' spacing

Direction of Travel	STATION TO STATION		(P) Feet
WB	4103+49.83	4122+37.00	12

### Full Depth PCC Shoulder w/ Barrier

Shoulder Jointing:  
 Longitudinal joint: L-2 or KT-2  
 Transverse joints: C at 17' spacing

Direction of Travel	BEGIN STATION	END STATION	(P) Feet
EB	4122+37.00	4128+95.91	10.0

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

See Tab 112-9 for shoulder quantities.

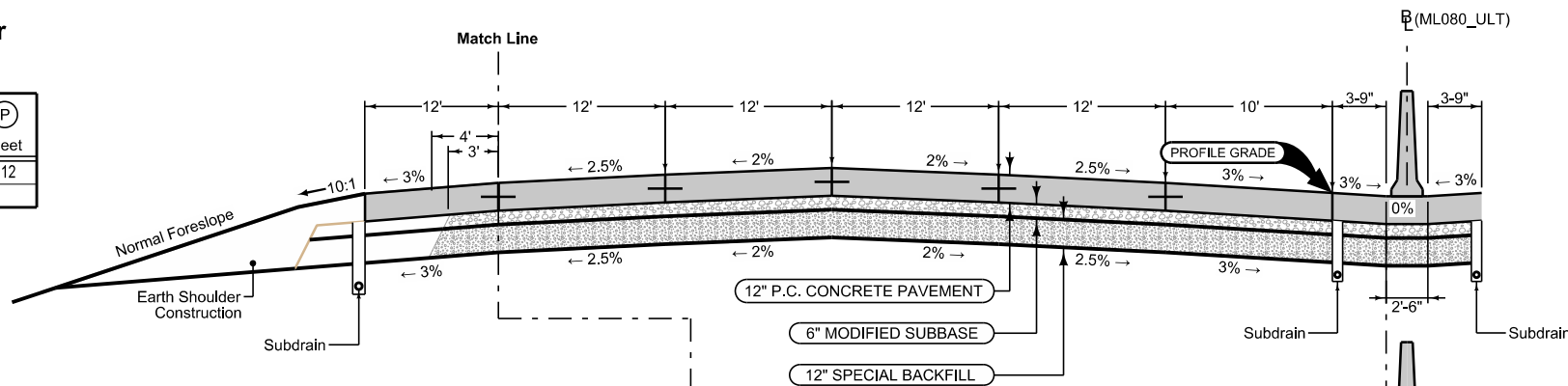
## PAVING WESTBOUND I-80



**Full Depth PCC Shoulder**

Longitudinal joint: L or KT  
Transverse joint: Match Mainline

Direction of Travel	BEGIN STATION	END STATION	(P) Feet
WB	5128+00.00	5137+77.87	12



**Full Median Barrier**

Direction of Travel	BEGIN STATION	END STATION
WB	5128+00.00	5137+77.87
WB	5150+58.17	5198+50.00

**Full Median Barrier Without PCC Shoulder**

Direction of Travel	BEGIN STATION	END STATION
WB	5190+00.00	5194+50.00

**Half Median Barrier**

Direction of Travel	BEGIN STATION	END STATION
WB	5194+50.00	5198+92.64

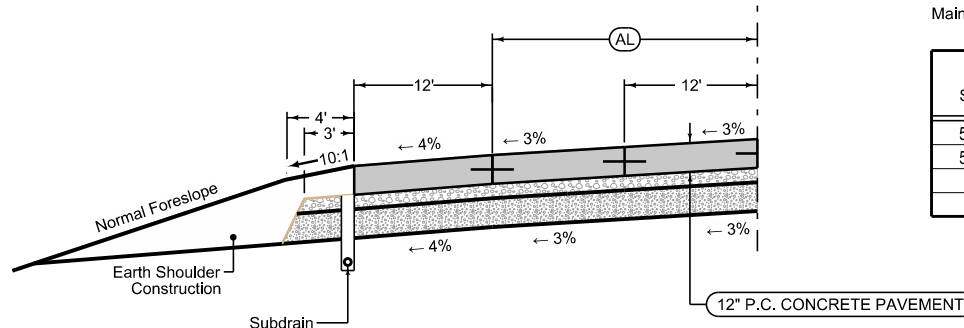
**Existing Median Barrier**

Direction of Travel	BEGIN STATION	END STATION	(M) Feet
WB	5198+92.64	5202+75.09	3.8-0

**Auxiliary Lane with Full Depth PCC Shoulder**

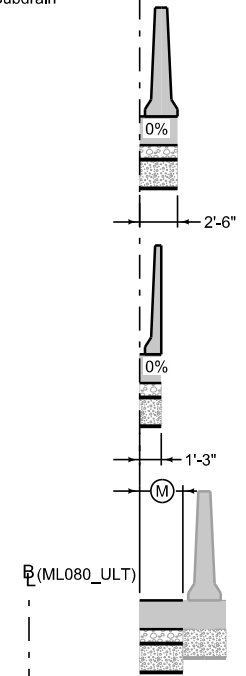
Shoulder Jointing:  
Longitudinal joint: L-2 or KT-2  
Transverse joints: C at 17' spacing

Direction of Travel	STATION TO STATION	(AL) Feet	(P) Feet
WB	5150+58.17 - 5161+00.00	24	12
WB	5161+00.00 - 5164+00.00	24 - 12	12
WB	5164+00.00 - 5202+75.09	12	12



Mainline Jointing:  
Transverse joints: CD at 17' spacing

BEGIN STATION	END STATION
5128+00.00	5137+77.87
5150+58.17	5202+75.09



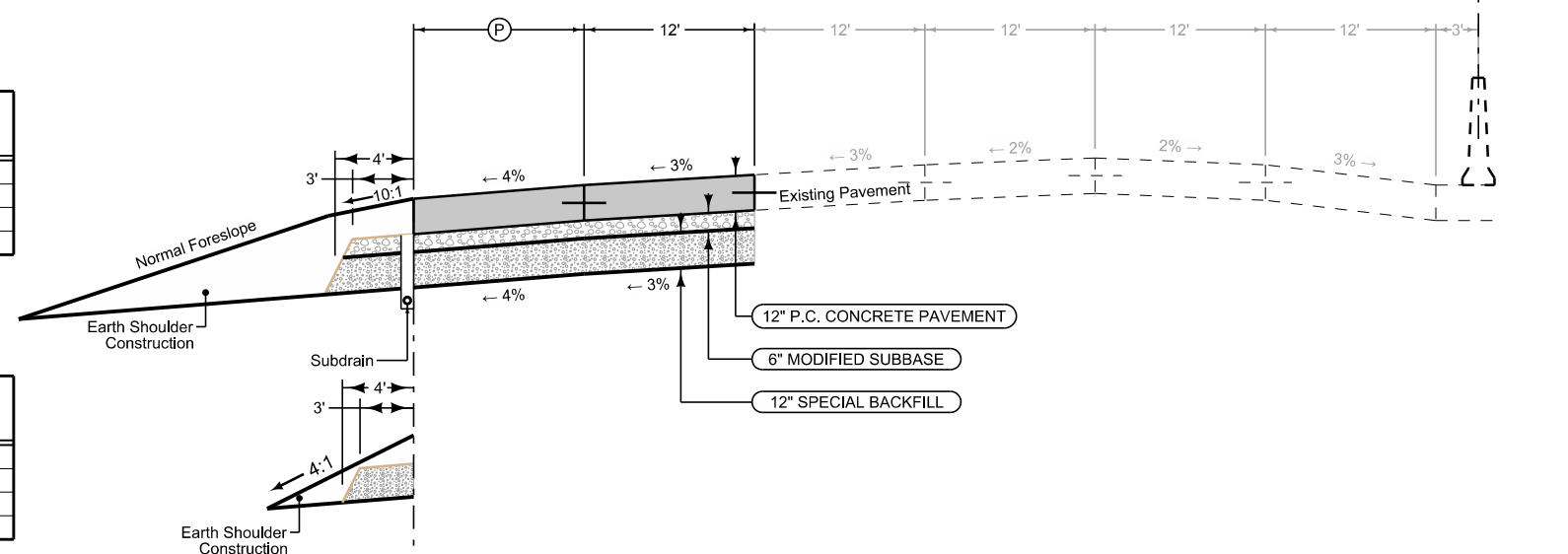
Mainline Jointing:  
Transverse joints: CD at 17' spacing

BEGIN STATION	END STATION
5137+77.87	5150+58.17

**Full Depth PCC Shoulder**

Shoulder Jointing:  
Longitudinal joint: L-2 or KT-2  
Transverse joints: C at 17' spacing

Direction of Travel	STATION TO STATION	(P) Feet
WB	5202+75.09 - 5206+50.00	12



Mainline Jointing:  
Transverse joints: CD at 17' spacing

BEGIN STATION	END STATION
5202+75.09	5208+07.97

**Full Depth PCC Shoulder**

Shoulder Jointing:  
Longitudinal joint: L-2 or KT-2  
Transverse joints: C at 17' spacing

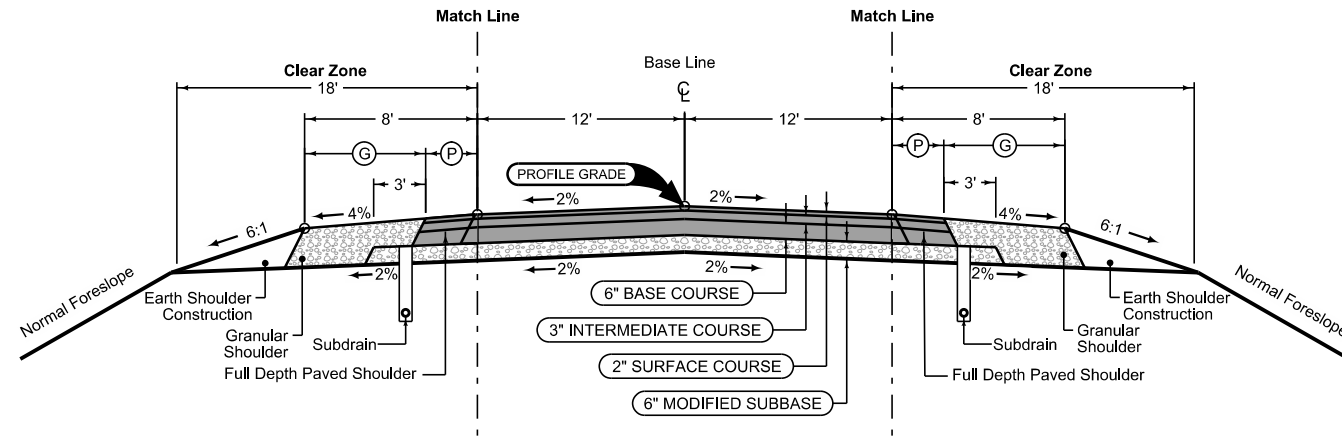
Direction of Travel	STATION TO STATION	(P) Feet
WB	5206+50.00 - 5208+07.97	12

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

**PAVING  
MAINLINE I-80 (WESTBOUND)**

**Combination Shoulder**

2_C_ MODIFIED				
Direction of Travel	BEGIN STATION	END STATION	(P) Feet	(G) Feet
SB	2146+50.00	2149+07.98	3.0	5.0
SB	2154+70.02	2158+00.00	3.0	5.0



**Combination Shoulder**

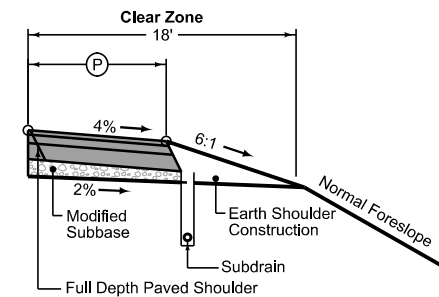
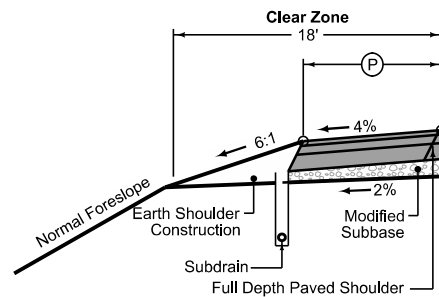
2_C_ MODIFIED				
Direction of Travel	BEGIN STATION	END STATION	(P) Feet	(G) Feet
NB	2146+50.00	2148+97.25	3.0	5.0
NB	2154+59.28	2158+00.00	3.0	5.0

**2 LANE PAVING**

2H_ MODIFIED	
STATION TO STATION	
2146+50.00	2150+35.35
2153+30.46	2158+00.00

**Paved Shoulder at Guardrail**

4_P_Guard_ MODIFIED				
Direction of Travel	BEGIN STATION	END STATION	(P) Feet	(G) Feet
SB	2149+07.98	2149+38.06	11.0	
SB	2149+38.06	2149+77.39	11.0 - 9.6	
SB	2149+77.39	2150+40.68	9.6	
SB	2153+35.79	2154+03.37	9.6	
SB	2154+03.37	2154+39.94	9.6 - 11.0	
SB	2154+39.94	2154+70.02	11.0	



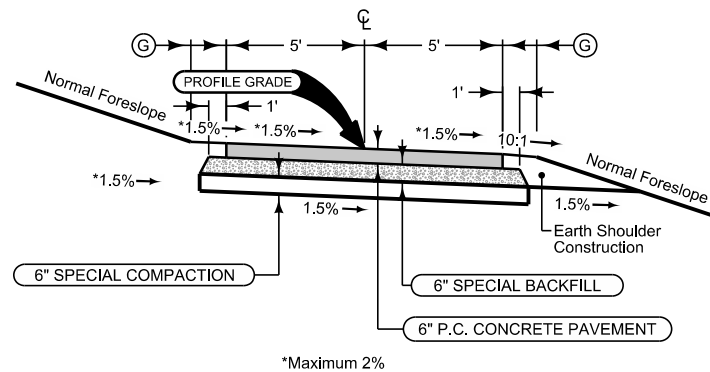
**Paved Shoulder at Guardrail**

4_P_Guard_ MODIFIED				
Direction of Travel	BEGIN STATION	END STATION	(P) Feet	(G) Feet
NB	2148+97.25	2149+27.33	11.0	
NB	2149+27.33	2149+63.61	11.0 - 9.6	
NB	2149+63.61	2150+29.97	9.6	
NB	2153+25.07	2153+87.71	9.6	
NB	2153+87.71	2154+29.20	9.6 - 11.0	
NB	2154+29.20	2154+59.28	11.0	

**PAVING  
NE 38TH STREET**

**Earth Shoulder**

BEGIN STATION	END STATION	(G) Feet
301+70.00	306+45.00	2 (MIN)



**Earth Shoulder**

BEGIN STATION	END STATION	(G) Feet
301+00.00	306+45.00	2 (MIN)

Trail Jointing:  
Transverse joints: C at 10' spacing.

ROAD IDENTIFICATION	BEGIN STATION	END STATION
FOUR MILE CREEK	301+70.00	306+45.00
GAY LEA WILSON TRAIL		

**PAVING  
FOURMILE CREEK  
GAY LEA WILSON TRAIL**

### Full Depth PCC Shoulder

Shoulder Jointing:  
 Longitudinal joint: L-2 or KT-2  
 Transverse joints: C at 17' spacing

ROAD IDENTIFICATION	Direction of Travel	BEGIN STATION	END STATION	(P) Feet
RAMP 235D	NB	33544+06.61	33545+64.80	6
RAMP 235D	NB	33551+55.35	33551+92.33	6
RAMP 235D_INT	NB	37007+85.73	37015+38.39	6

### Auxiliary Lane with Full Depth PCC Shoulder

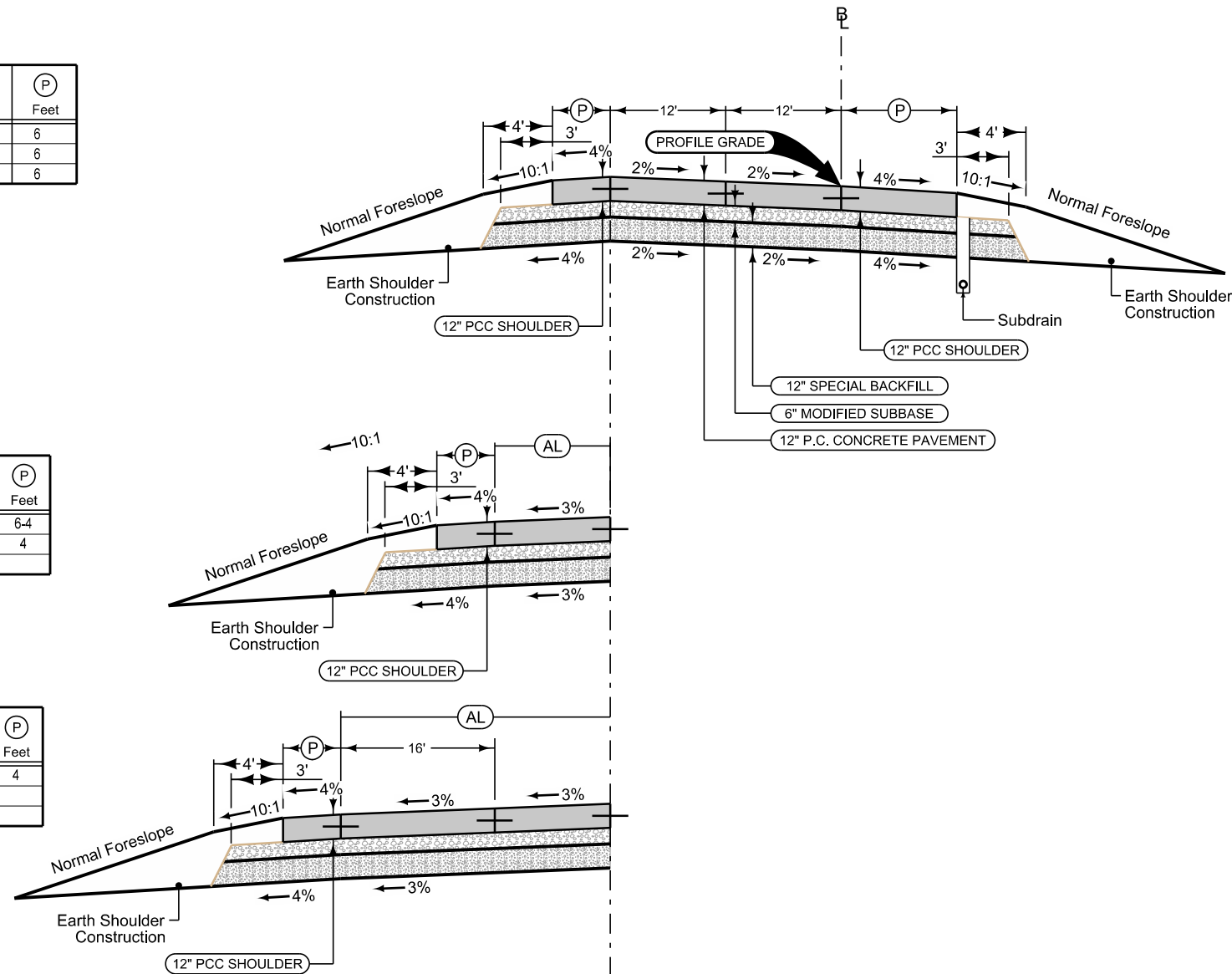
Longitudinal joint: L or KT  
 Transverse joint: Match Mainline

ROAD IDENTIFICATION	Direction of Travel	BEGIN STATION	END STATION	(AL) Feet	(P) Feet
RAMP 235D	NB	33545+64.80	33545+94.42	0-2	6-4
RAMP 235D	NB	33545+94.42	33548+40.39	2-18.6	4

### Auxiliary Lane with Full Depth PCC Shoulder

Longitudinal joint: L or KT  
 Transverse joint: Match Mainline

ROAD IDENTIFICATION	Direction of Travel	BEGIN STATION	END STATION	(AL) Feet	(P) Feet
RAMP 235D	NB	33548+40.39	33551+55.35	18.6-40	4



### Full Depth PCC Shoulder

Shoulder Jointing:  
 Longitudinal joint: L-2 or KT-2  
 Transverse joints: C at 17' spacing

ROAD IDENTIFICATION	Direction of Travel	BEGIN STATION	END STATION	(P) Feet
RAMP 235D	NB	33544+06.61	33551+92.33	12
RAMP 235D_INT	NB	37007+85.73	37015+38.39	12

Section shown in the direction of traffic.

Ramp Jointing:  
 Transverse joints: CD at 17' spacing.  
 Longitudinal joint: L-2

ROAD IDENTIFICATION	Direction of Travel	BEGIN STATION	END STATION
RAMP 235D	NB	33544+06.61	33551+92.33
RAMP 235D_INT	NB	37007+85.73	37015+38.39

Section shown in the direction of traffic.

Ramp Jointing:  
 Transverse joints: CD at 17' spacing.  
 Longitudinal joint: L-2

ROAD IDENTIFICATION	Direction of Travel	BEGIN STATION	END STATION
RAMP 235D_INT	NB	37015+38.39	37023+99.35

### Full Depth PCC Shoulder

Shoulder Jointing:  
 Longitudinal joint: L-2 or KT-2  
 Transverse joints: C at 17' spacing

ROAD IDENTIFICATION	Direction of Travel	BEGIN STATION	END STATION	(P) Feet
RAMP 235D_INT	NB	37015+38.39	37023+99.35	12

## PAVING RAMP 235D INTERIM RAMP 235D

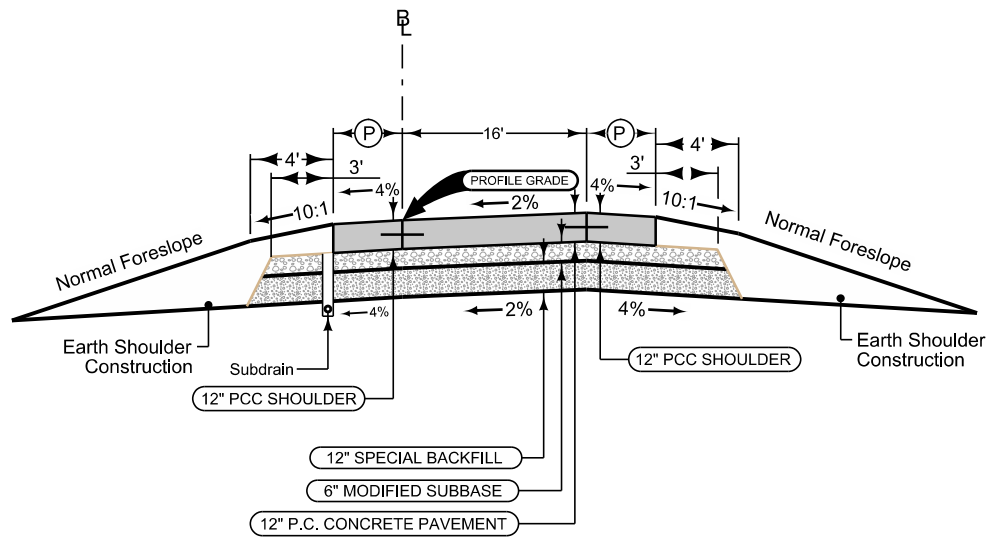
See Tab 100-24 or 100-25 for pavement quantities.

See Tab 112-9 for shoulder quantities.

**Full Depth PCC Shoulder**

Shoulder Jointing:  
 Longitudinal joint: L-2 or KT-2  
 Transverse joints: C at 12' spacing

ROAD IDENTIFICATION	Direction of Travel	BEGIN STATION	END STATION	(P) Feet
RAMP 235H	NB	39651+00.00	39654+06.33	4



Section shown in the direction of traffic.

Ramp Jointing:  
 Transverse joints: CD at 12' spacing.  
 Longitudinal joint: L-2

ROAD IDENTIFICATION	Direction of Travel	BEGIN STATION	END STATION
RAMP 235H	NB	39651+00.00	39654+06.33

**Full Depth PCC Shoulder**

Shoulder Jointing:  
 Longitudinal joint: L-2 or KT-2  
 Transverse joints: C at 12' spacing

ROAD IDENTIFICATION	Direction of Travel	BEGIN STATION	END STATION	(P) Feet
RAMP 235H	NB	39651+00.00	39654+06.33	6

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

**PAVING  
 RAMP 235H**

BEGIN STATION	END STATION	(PL) Feet	(A) Feet	(B) Feet	(PR) Feet
1112+60.97	1114+54.06	0	0	9.37 - 0	4.25 - 13.63
1114+54.06	1115+45.19	0 - 11	0	0	13.63
1115+45.19	1117+16.10	13	0	0	13.63
1117+16.10	1118+16.71	13	0	0	11.63 - 0
1118+16.71	1119+95.11	13 - 7	0 - 8	0	0

Refer to F Sheets for geometric layout

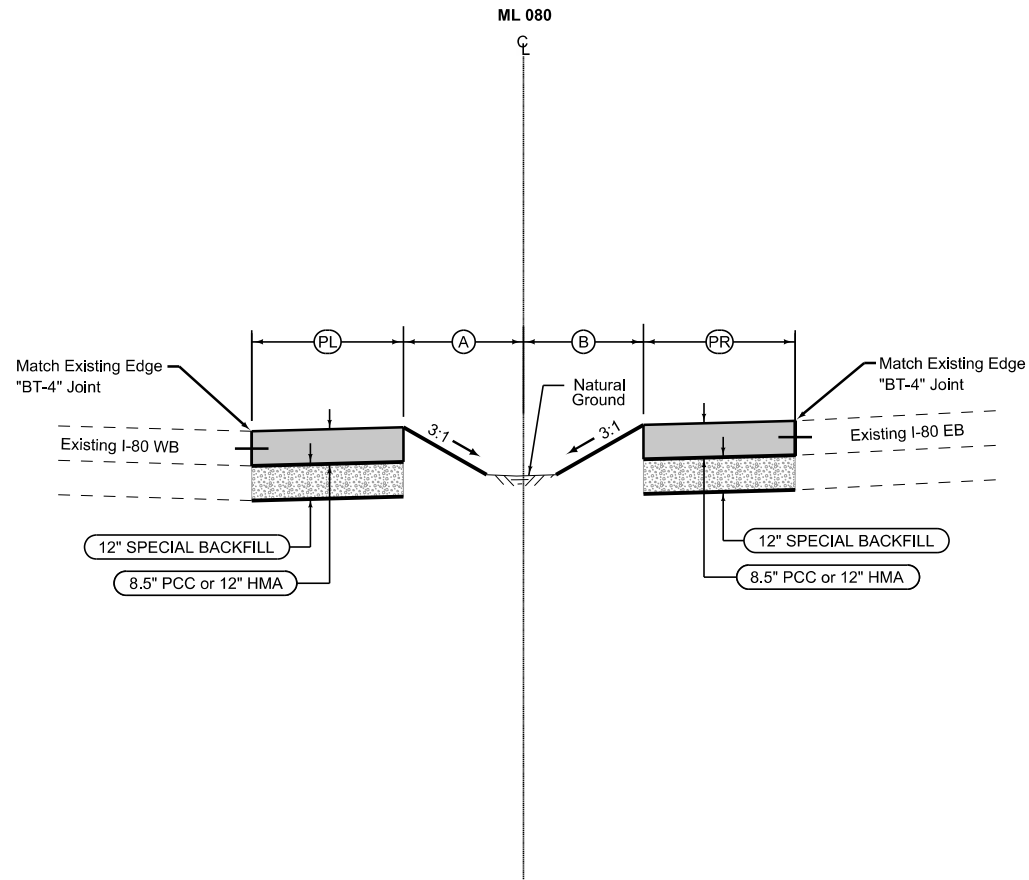
Section shown in the direction of stationing.

Detour Jointing:  
 Transverse joints: Refer to PV-121  
 Longitudinal joint: BT-4

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

See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

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



**DET\_80EB\_2\_1**  
**Stage 1**  
**I-80 MEDIAN**

BEGIN STATION	END STATION	(WL) Feet	(WR) Feet
1208+15.45	1212+63.45	2.43 - 2.52	2.04 - 1.93

Refer to F Sheets for geometric layout

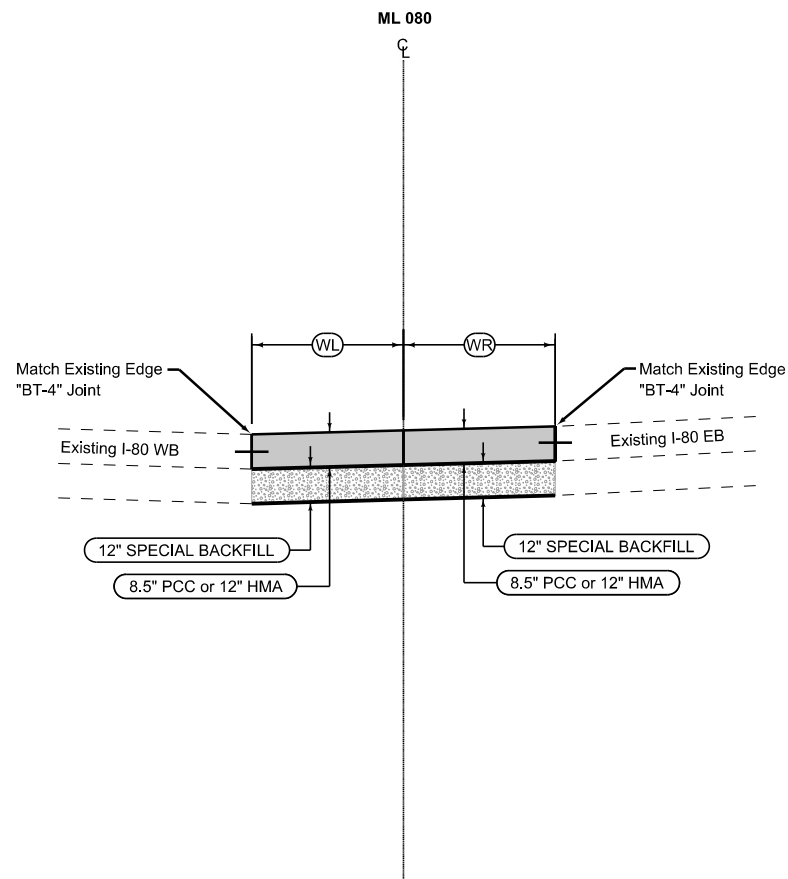
Section shown in the direction of stationing.

Detour Jointing:  
 Transverse joints: Refer to PV-121  
 Longitudinal joint: BT-4

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

See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

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



**DET\_80EB\_2\_2**  
**Stage 1**  
**I-80 MEDIAN**

BEGIN STATION	END STATION	(A) Feet
23001+00.00	23005+63.04	26.15 - 16.77
23005+63.04	23009+90.41	16.77 - 0

Refer to F Sheets for Slope and Geometric Layout

Section shown in the direction of traffic.

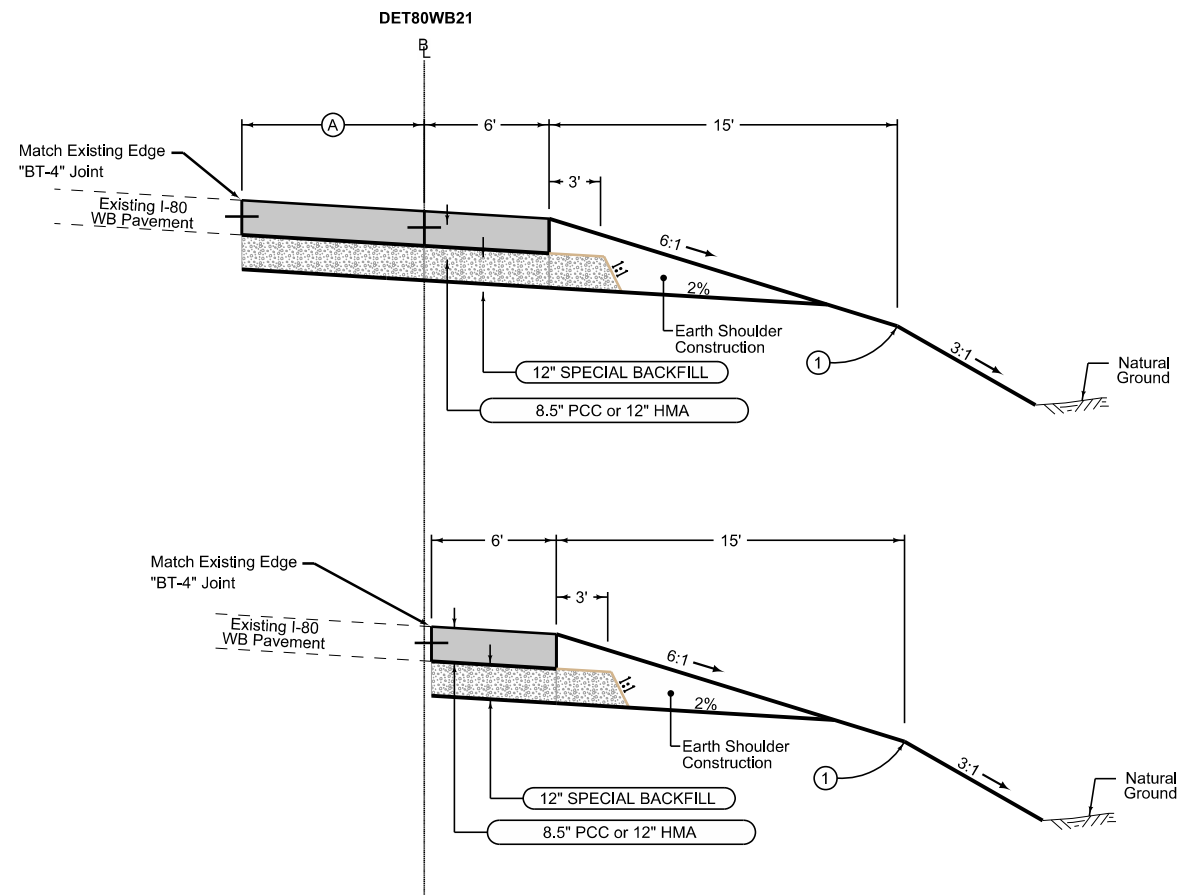
Detour Jointing:  
 Transverse joints: Refer to PV-121  
 Longitudinal joint: BT-4

BEGIN STATION	END STATION
23009+90.41	23012+95.02

Refer to F Sheets Geometric Layout

Section shown in the direction of traffic.

Detour Jointing:  
 Transverse joints: Refer to PV-121  
 Longitudinal joint: BT-4



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

See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

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

**DET\_80WB\_2\_1**  
**Stage 1**  
**I-80 WB**

### SURVEY SYMBOLS

	PPA Power Pole Co. 1		EP Edge of Paved Roads (ML or SR)
	PRA Power Riser Co. 1		SNP Unpaved Shoulder
	UB Utility Box		CU Back of Curb
	TSG Traffic Signal		GU Gutter In Front of Curb
	TSL Traffic Signal and Luminaire		ENT Centerline BL of Entrance
	TCB Traffic Signal Box		ENP Edge Paved Entrance & Park Lot
	LUM Luminaire		ENU Edge Unpaved Entrance & Parking
	TPD Telephone Pedestal		SWK Sidewalk
	MH Utility Access (Manhole)		CON Concrete or A/C Slab
	IN Storm Sewer Intake		E1 - ELA Underground Electric Line Co. 1
	INB Storm Sewer Beehive Intake		E2 - ELA Underground Electric Line Co. 2
	WV Water Valve		E3 - ELA Underground Electric Line Co. 3
	FHYD Fire Hydrant		T1 - ELA Underground Telephone Line Co. 1
	SI Sign		F0 - FOA Underground Fiber Optic Co. 1
	SL Speed Limit Sign		F02 - FOB Underground Fiber Optic Co. 2
	BB Billboard		F03 - FOB Underground Fiber Optic Co. 3
	MM Mile Marker Post		F04 - FOB Underground Fiber Optic Co. 4
	ROW Right of Way Rail		G - GLA Underground Gas Line Co. 1
	TEV Evergreen Tree		W - WLA Underground Water Line Co. 1
	SHR Shrub		St.S. - STA Storm Sewer Line Co. 1
	TDC Tree Deciduous		St.S.2 - STA Storm Sewer Line Co. 2
	SWAMP		
	FLG Flagpole		
	BCL Bridge Centerline		
	BD Bridge Deck		
	BLS Bridge Low Steel		
	UE Utility Elevation		
	PRO Profile Shot		
	BRG Bridge		
	PLG Location of General Photo		
	PIP Pipe Culvert		
	SOP Size of Pipe or Culvert		
	DU Centerline Draw or Stream (Up)		
	D Centerline Draw or Stream (Down)		
	DIK Centerline of Dike or Dam		
	GDL Guard Rail Steel		
	GPR Guard Post (4 or More Posts)		
	GDC Guard Rail Cable		
	RIP Rip-Rap		
	TLN Tree Line		
	TIL Tile Line		
	FCL Chain Link and Security Fence		
	FW Wire Fence		
	RET Retaining Walls		

### UTILITY LEGEND

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

	Mid American Energy - Power and Gas Michael Younts 10510 Douglas Avenue Urbandale, Iowa 50322 515-252-6565 - myounts@midamerican.com
	Iowa D. O. T. - Lighting and Fiber Optic Tony Taylor 800 Lincoln Way Ames, Iowa 50010 515-239-1902 - Tony.Taylor@dot.iowa.gov Olsson Associates - Gregory T. Seib 601 P Street Lincoln, Nebraska 68508 402-458-5037 gseib@olssonassociates.com
	Polk County - Lighting and Traffic Signals Kurt Bailey 5885 NE 14th Street Des Moines, Iowa 50313 515-286-3705 Kurt.Bailey@polkcountyia.gov
	Century Link - Telephone and Fiber Optics Dustin Withers 2103 East University Avenue Des Moines, Iowa 50317 515-263-7202 Dustin.Withers@centurylink.com
	Windstream - Fiber Optics Jim Wland 115 South 2nd Avenue West Newton, Iowa 50208 641-787-2270 jim.wland@windstream.com
	Iowa Communications Network (ICN) - Fiber Optics Larry Klawitter Grimes State Office Building 400 East 14th Street Des Moines, Iowa 50319 515-229-2046 larry.klawitter@iowa.gov
	Iowa Network Services (INS) - Fiber Optics Jeff Klocko 7760 Office Plaza Drive South West Des Moines, Iowa 50266 515-830-0445 Jeff@netins.com
	Des Moines Water Works - Water Matt Smith 2201 George Flagg Parkway Des Moines, Iowa 50321 515-283-8781 msmith@dmww.com
	IDOT or Private
	Polk County - Storm Sewer Kurt Bailey 5885 NE 14th Street Des Moines, Iowa 50313 515-286-3705 Kurt.Bailey@polkcountyia.gov

### 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, Med	(96)	Paving by Others Shading
Gray, Dark	(112)	Proposed Grade and Pave Shading "In conjunction with a paving project"
Gray, Dark	(128)	Proposed HMA Overlay Shading
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	Survey Line

### 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)

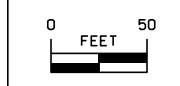
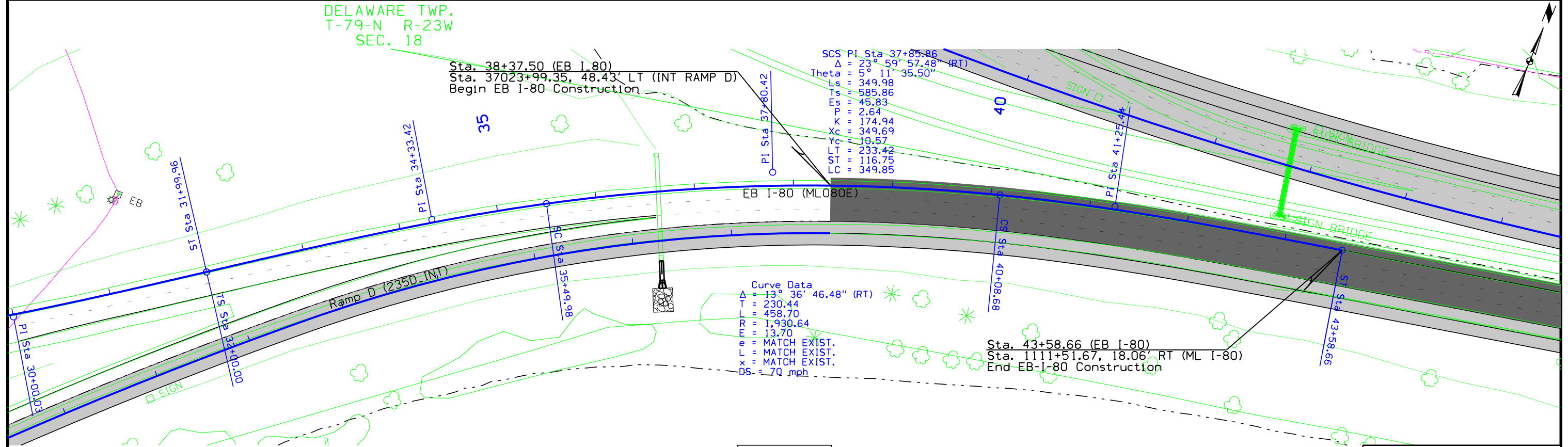
DELAWARE TWP.  
T-79-N R-23W  
SEC. 18

Sta. 38+37.50 (EB I-80)  
Sta. 37023+99.35, 48.43' LT (INT RAMP D)  
Begin EB I-80 Construction

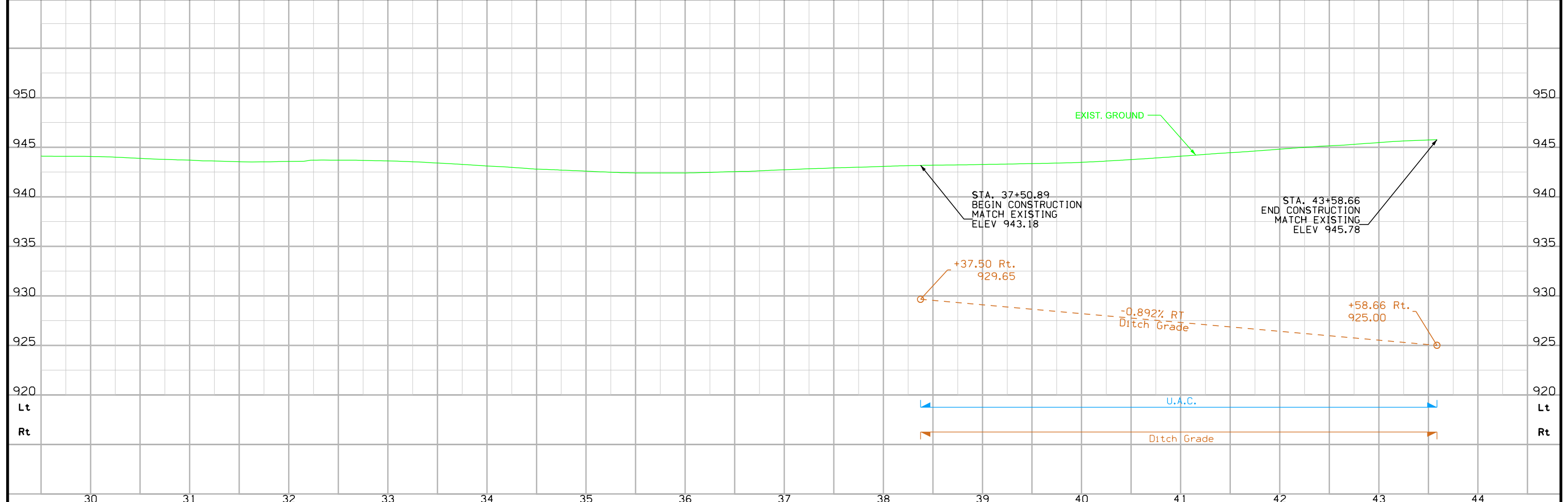
SCS PI Sta 37+85.86  
 $\Delta = 23^\circ 59' 57.48''$  (RT)  
Theta =  $5^\circ 11' 35.50''$   
Ls = 349.98  
Ts = 585.86  
Es = 45.83  
P = 2.64  
K = 174.94  
Xc = 349.69  
Yc = 10.57  
LT = 233.42  
ST = 116.75  
LC = 349.85

Curve Data  
 $\Delta = 13^\circ 36' 46.48''$  (RT)  
T = 230.44  
L = 458.70  
R = 1,930.64  
E = 13.70  
e = MATCH EXIST.  
L = MATCH EXIST.  
x = MATCH EXIST.  
DS = 70 mph

Sta. 43+58.66 (EB I-80)  
Sta. 1111+51.67, 18.06' RT (ML I-80)  
End EB-I-80 Construction



MAINLINE  
EASTBOUND I-80





DELAWARE TWP.  
T-79-N R-23W  
SEC. 18

1115

1120

1125

WB I-80 (ML080W)

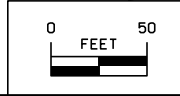
I-80 (ML080)

EB I-80 (ML080E)

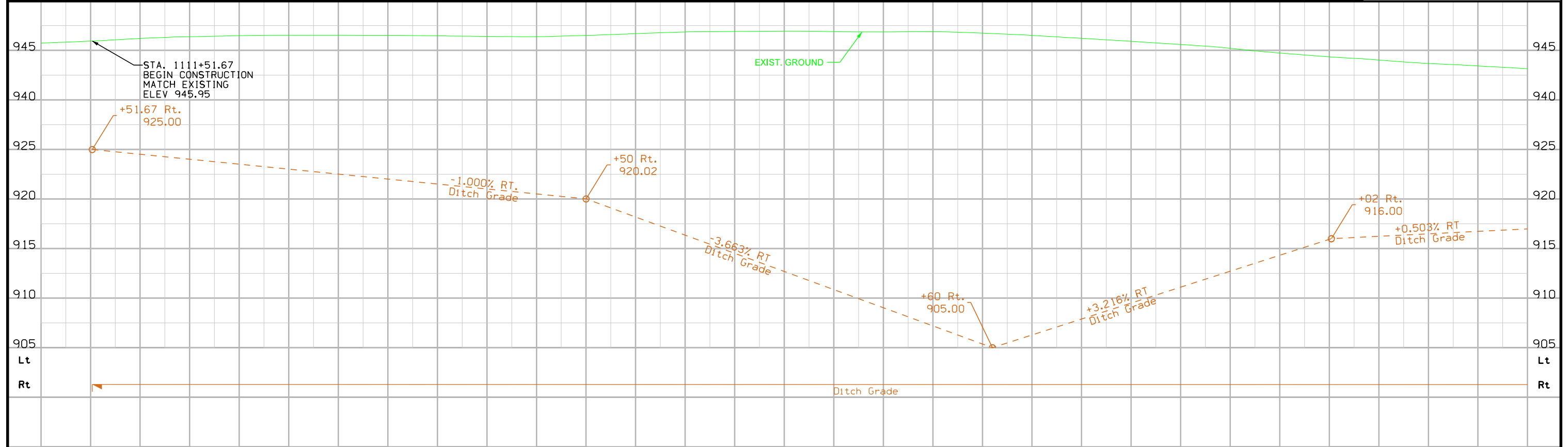
Sta. 1111+51.67 (I-80)  
Sta. 43+58.66 (EB I-80, 18.06' LT)  
Sta. 4112+51.15 (WB I-80, 49.22' RT)  
Resume I-80 Construction ML I-80

Sta. 4117+33.36  
4' X 4' X 401'  
Conc Box Culvert

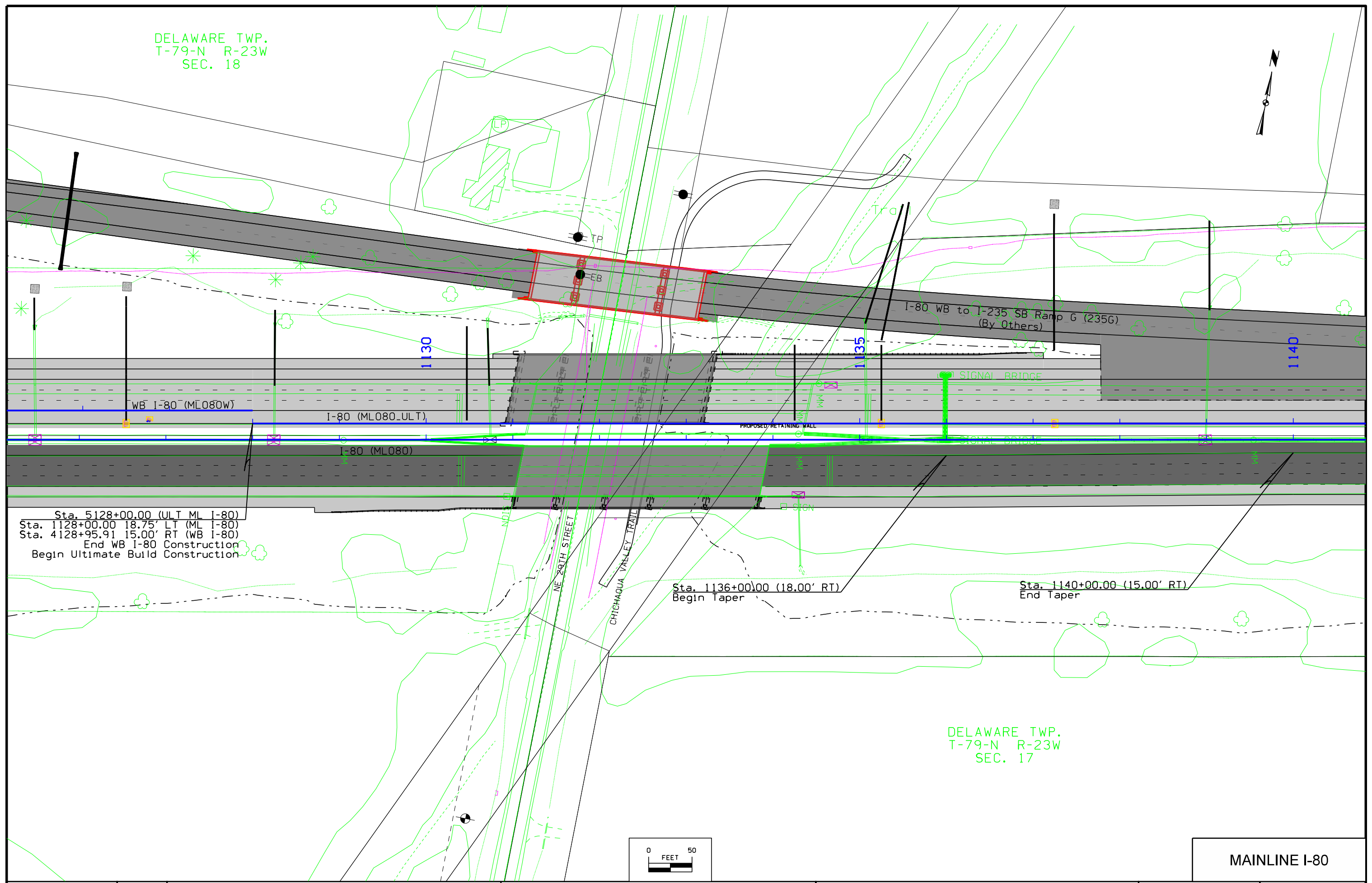
Extend Existing 4' X 4' BOX  
w/60" x 146' DR-621



MAINLINE I-80



DELAWARE TWP.  
T-79-N R-23W  
SEC. 18

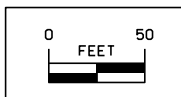


Sta. 5128+00.00 (ULT ML I-80)  
Sta. 1128+00.00 18.75' LT (ML I-80)  
Sta. 4128+95.91 15.00' RT (WB I-80)  
End WB I-80 Construction  
Begin Ultimate Build Construction

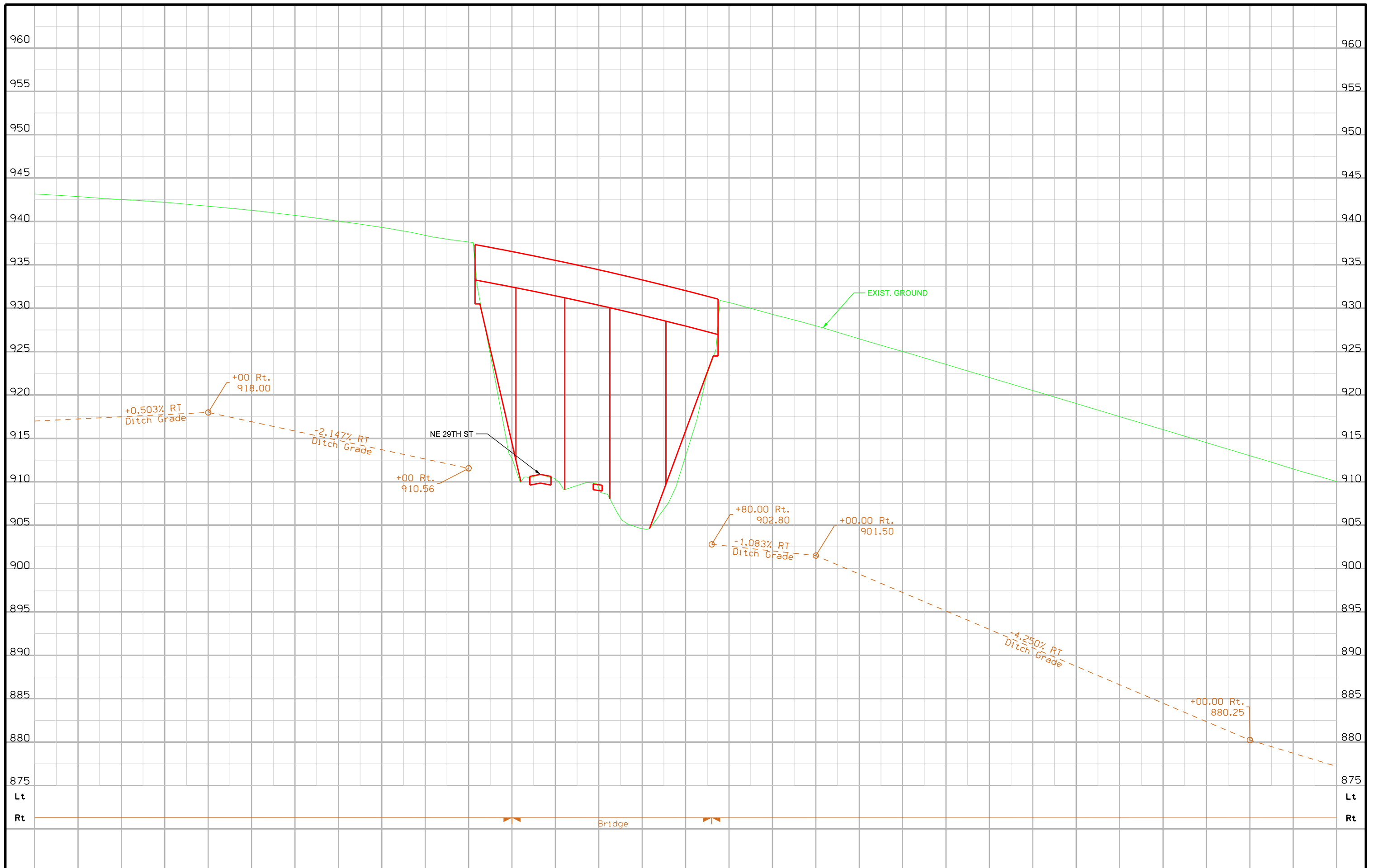
Sta. 1136+00.00 (18.00' RT)  
Begin Taper

Sta. 1140+00.00 (15.00' RT)  
End Taper

DELAWARE TWP.  
T-79-N R-23W  
SEC. 17



MAINLINE I-80



DELAWARE TWP.  
T-79-N R-23W  
SEC. 17



1145

1150

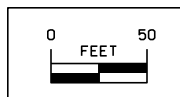
I-80 (ML080\_ULT)

I-80 (ML080)

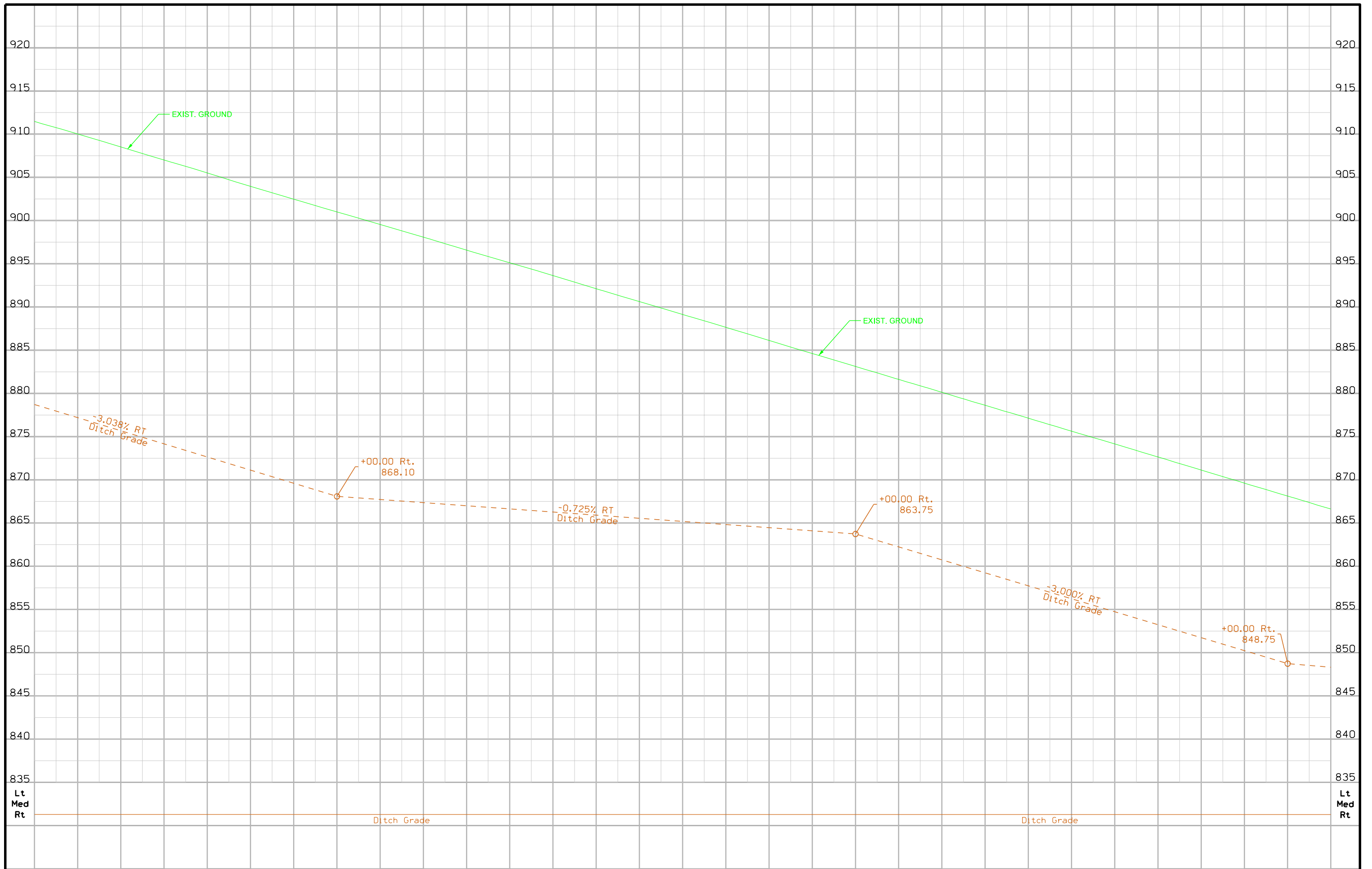
NOIS

SIGN

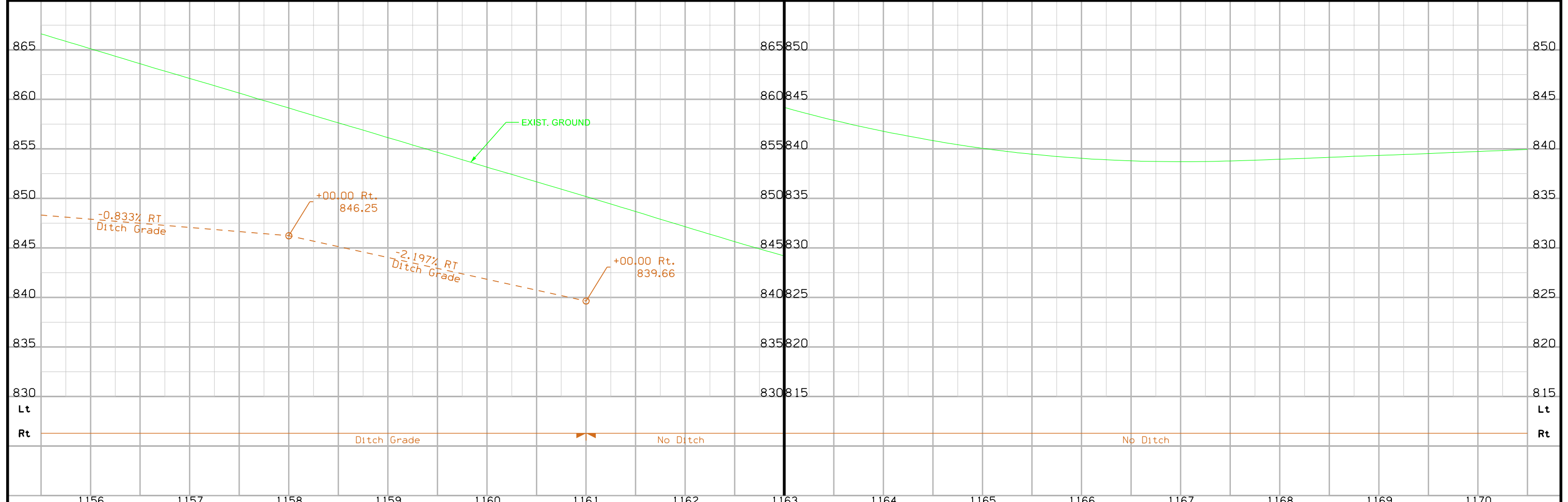
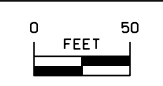
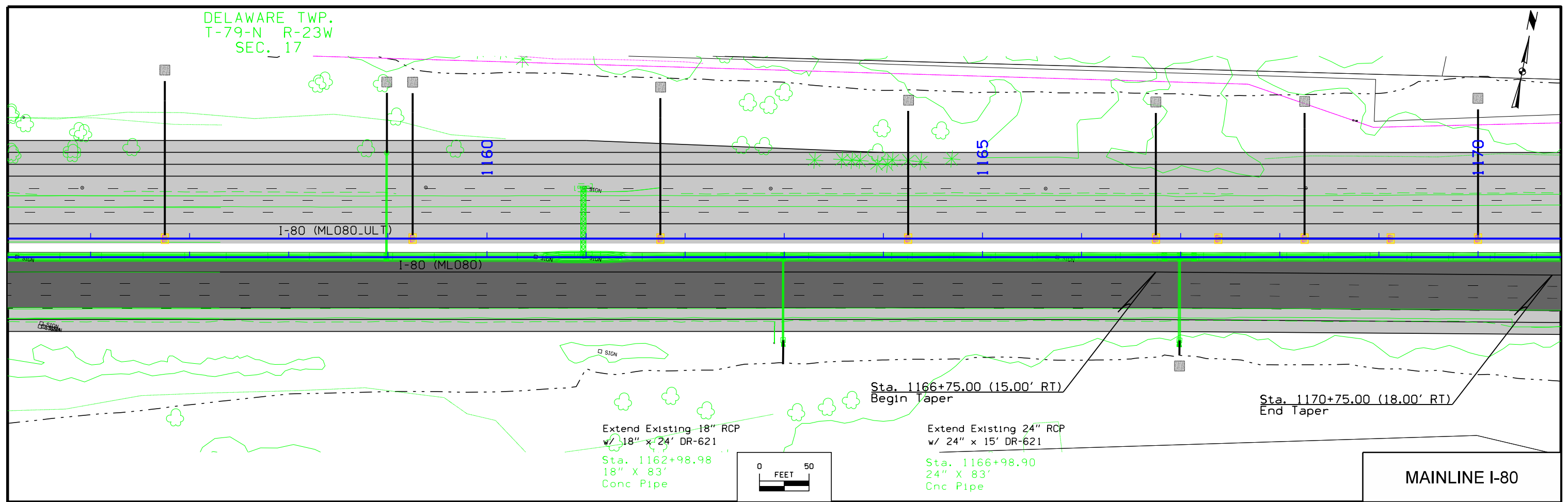
SIGN SIGN



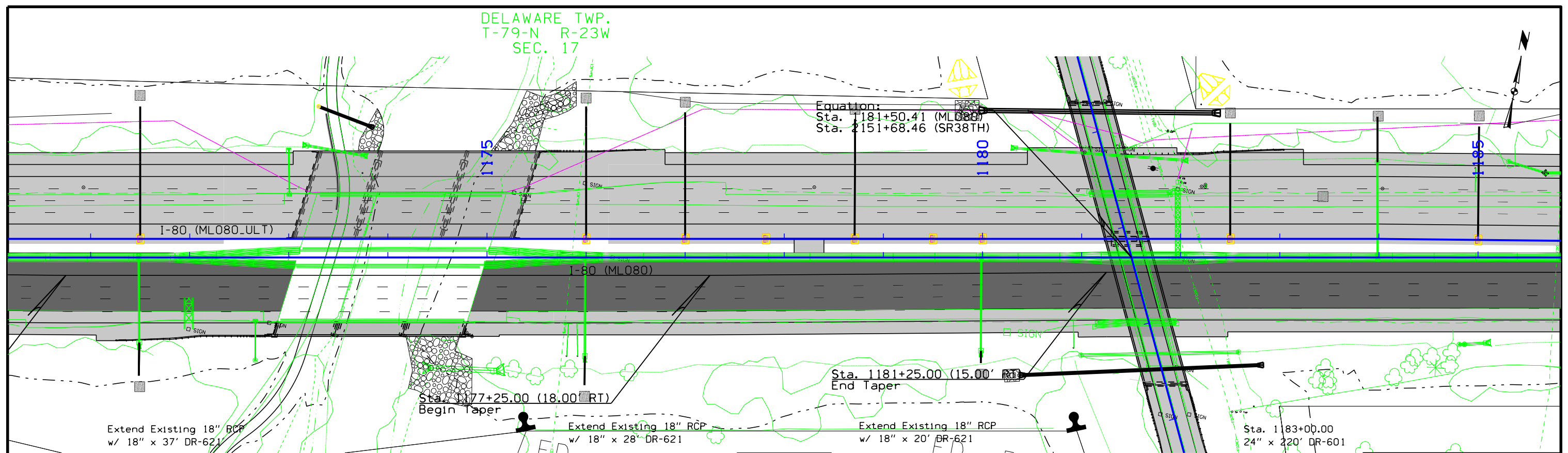
MAINLINE I-80



DELAWARE TWP.  
T-79-N R-23W  
SEC. 17



DELAWARE TWP.  
T-79-N R-23W  
SEC. 17



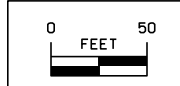
Extend Existing 18" RCP w/ 18" x 37' DR-621  
Sta. 1171+48.98  
18" X 85'  
Cnc Pipe

Extend Existing 18" RCP w/ 18" x 28' DR-621  
Sta. 1174+42.82  
60" X 63'  
Cnc Pipe (Remove)

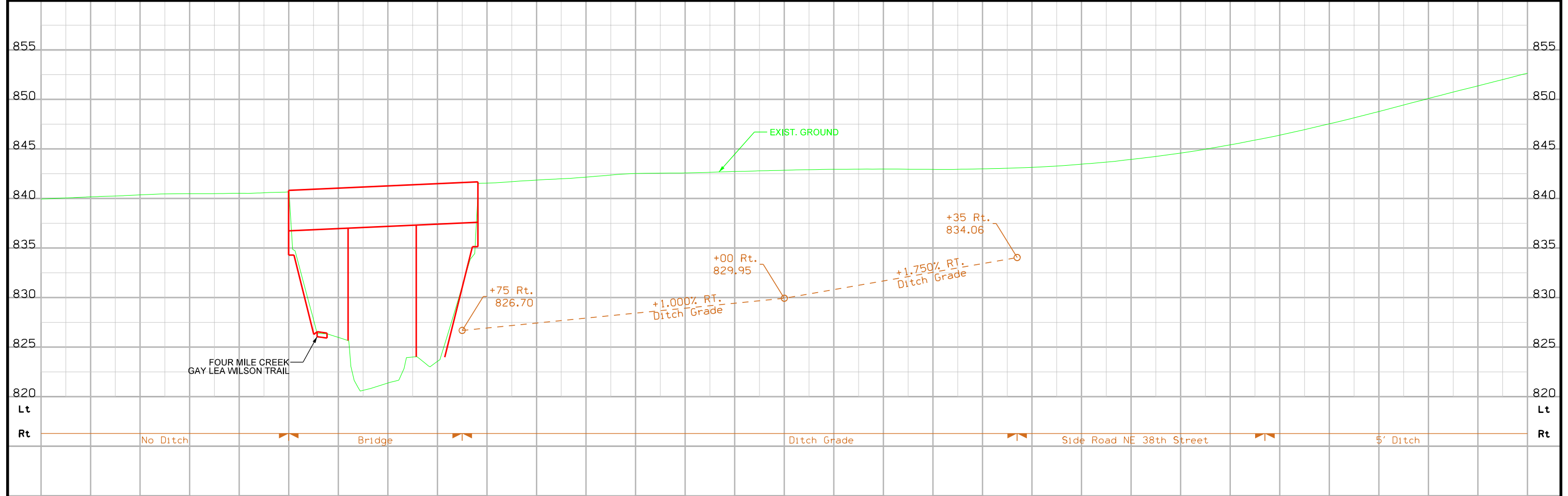
Extend Existing 18" RCP w/ 18" x 28' DR-621  
Sta. 1175+98.77  
18" X 99'  
Cnc Pipe

Extend Existing 18" RCP w/ 18" x 20' DR-621  
Sta. 1179+98.47  
18" X 93'  
Cnc Pipe

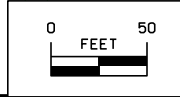
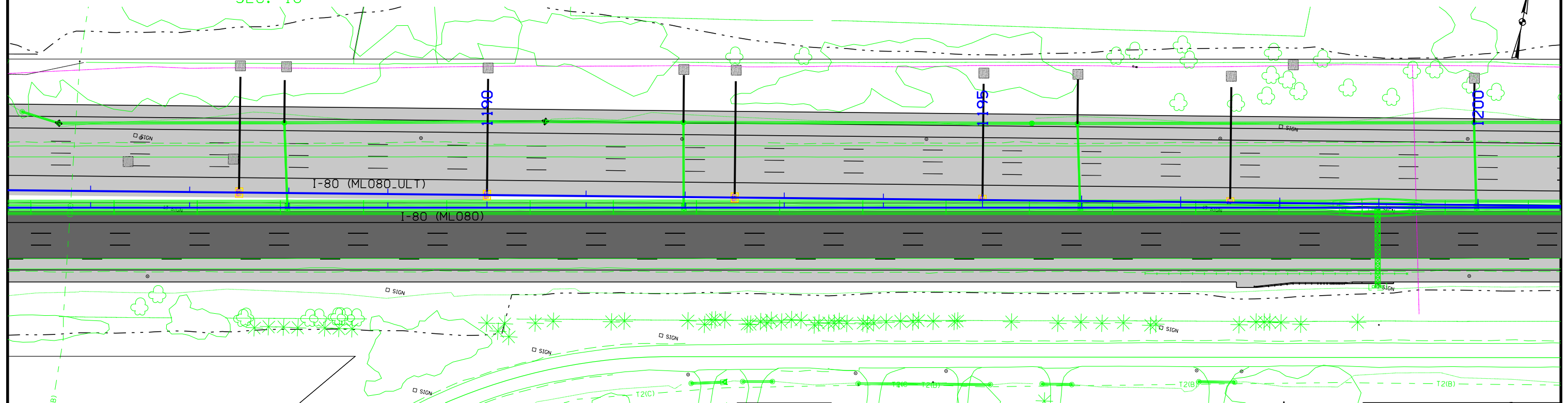
Extend Existing 18" RCP w/ 18" x 20' DR-621  
Sta. 1182+58.38  
30" X 159'  
Cnc Pipe



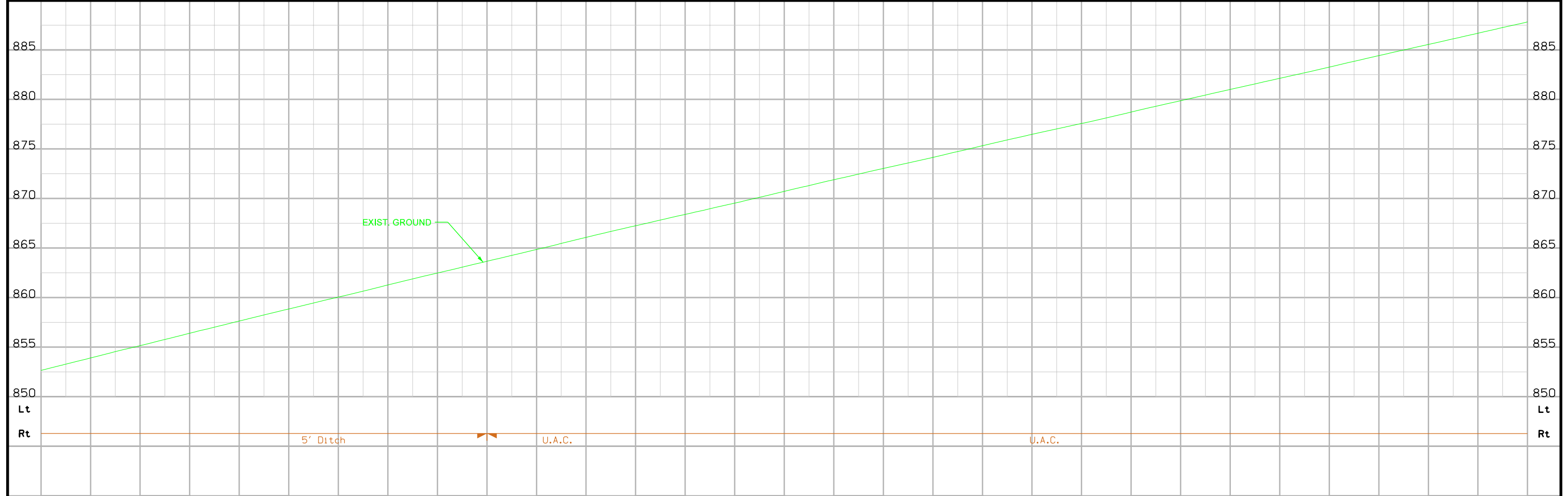
MAINLINE I-80



DELAWARE TWP.  
T-79-N R-23W  
SEC. 16

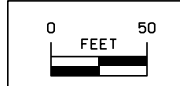
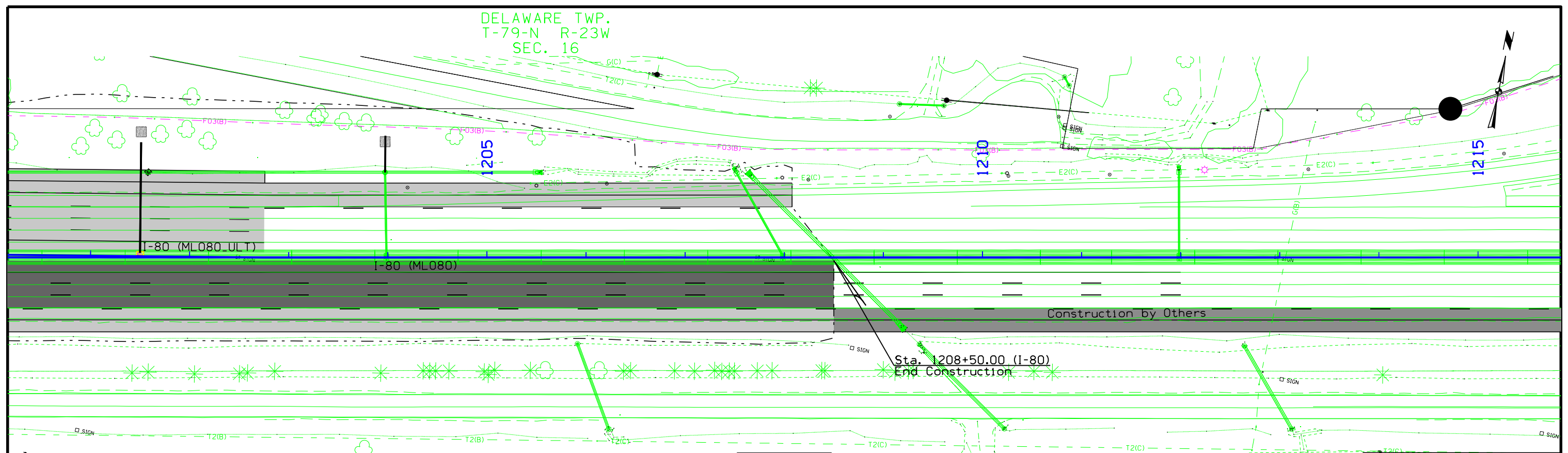


MAINLINE I-80

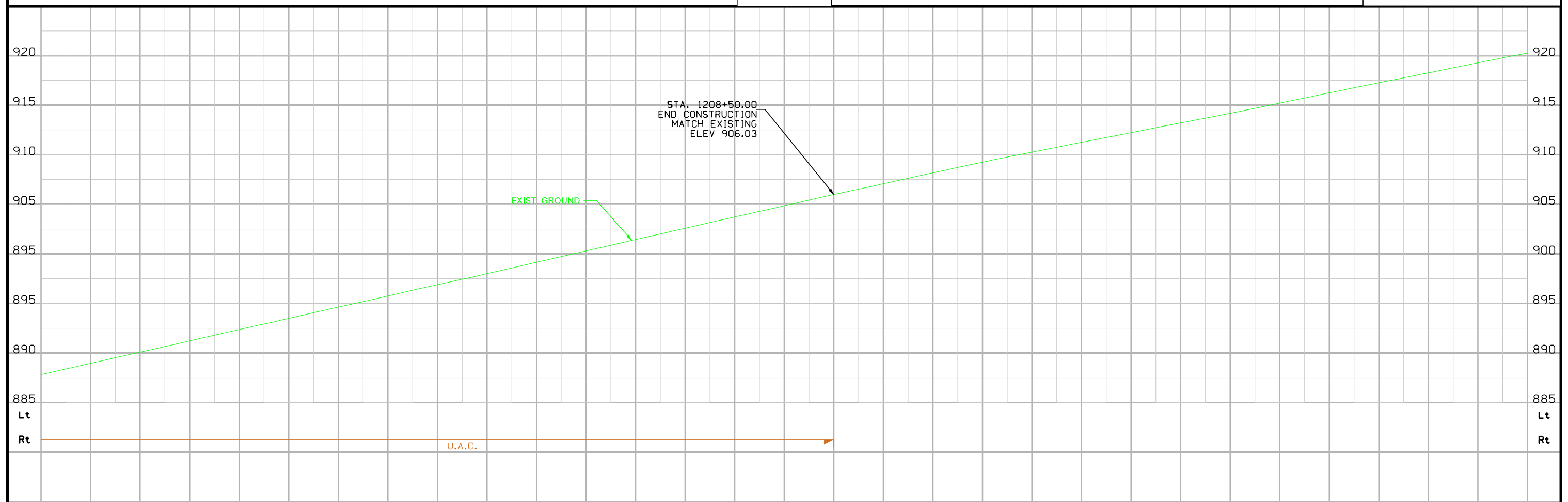




DELAWARE TWP.  
T-79-N R-23W  
SEC. 16

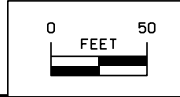
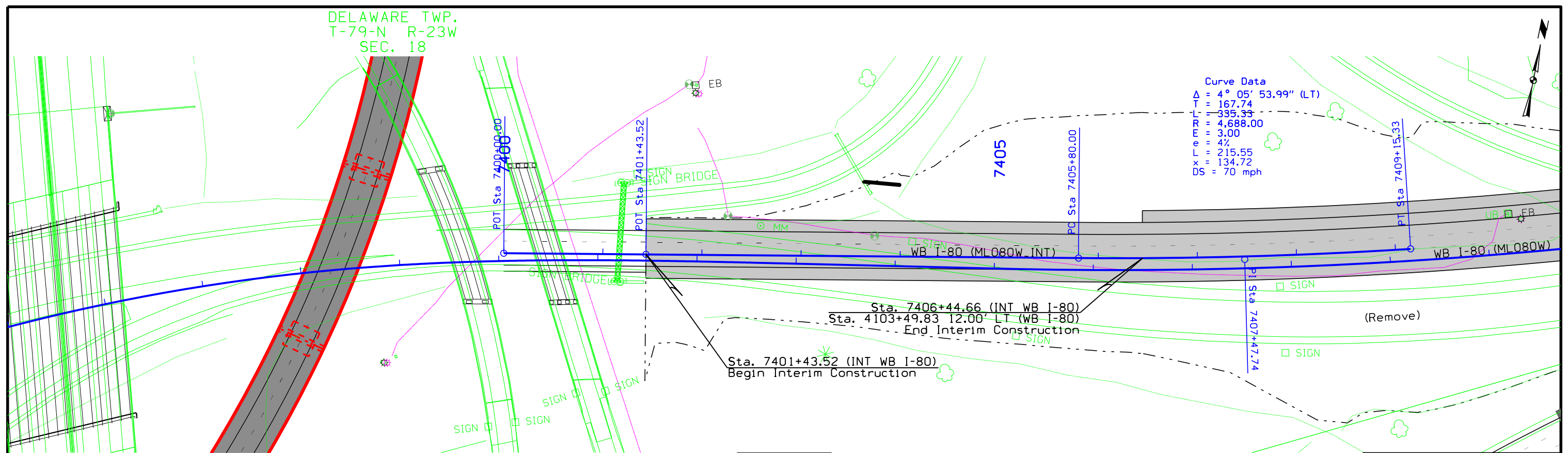


MAINLINE I-80

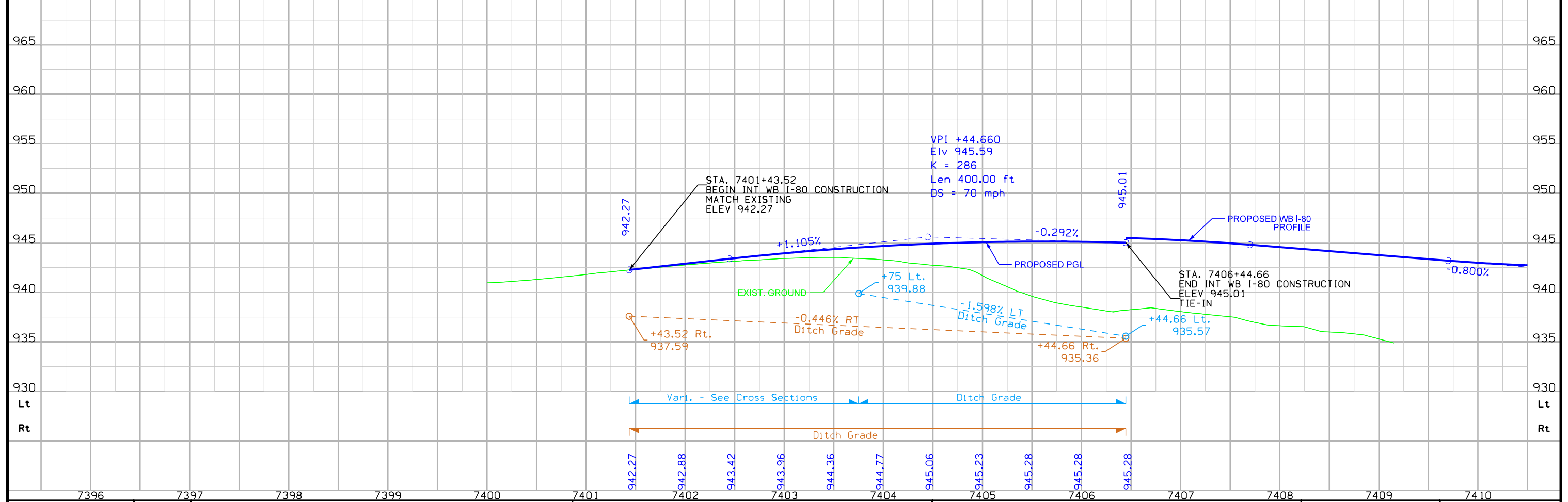


DELAWARE TWP.  
T-79-N R-23W  
SEC. 18

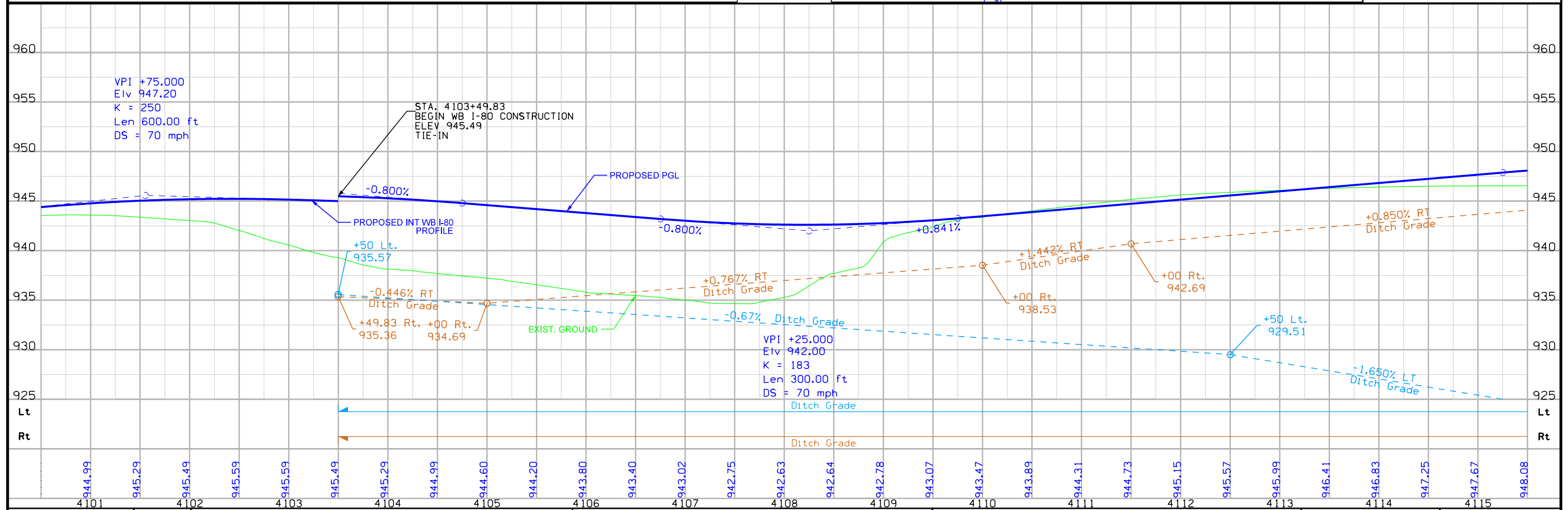
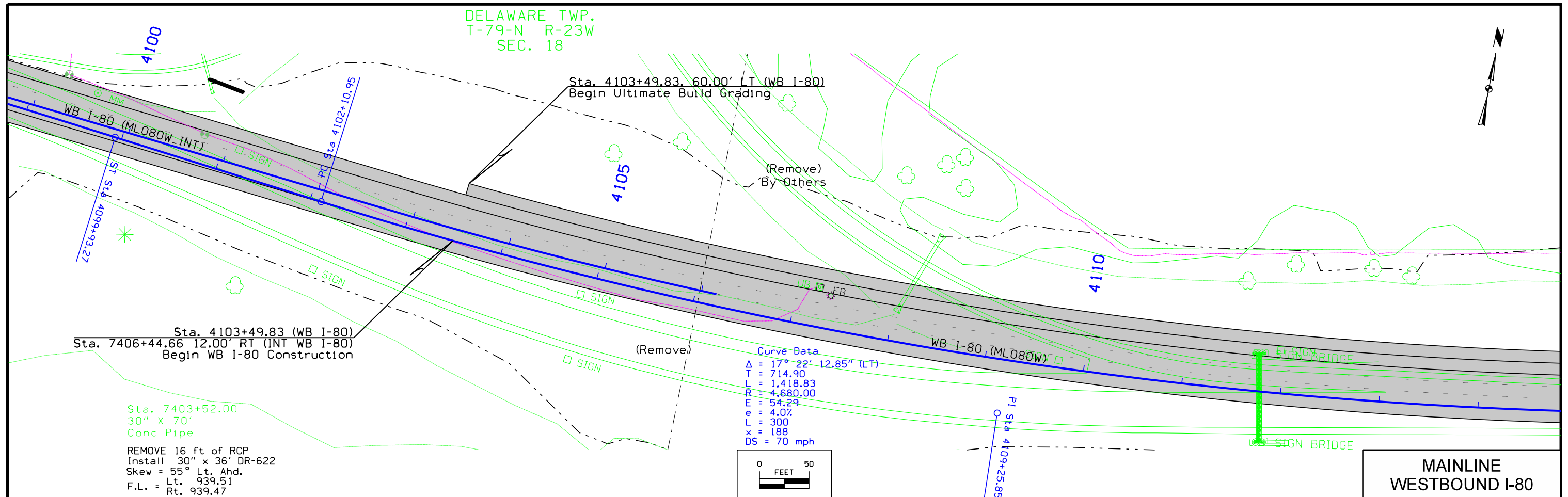
Curve Data  
 $\Delta = 4^\circ 05' 53.99''$  (LT)  
 $T = 167.74$   
 $L = 335.33$   
 $R = 4,688.00$   
 $e = 3.00$   
 $e = 4\%$   
 $L = 215.55$   
 $x = 134.72$   
 $DS = 70$  mph

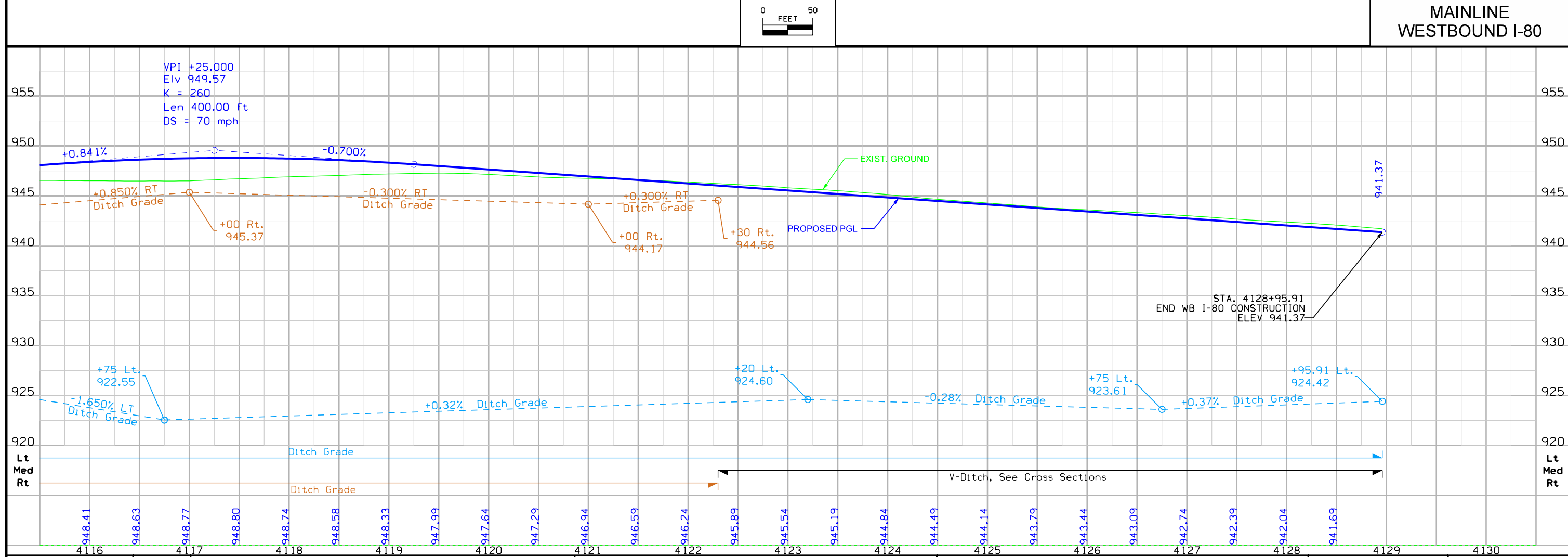
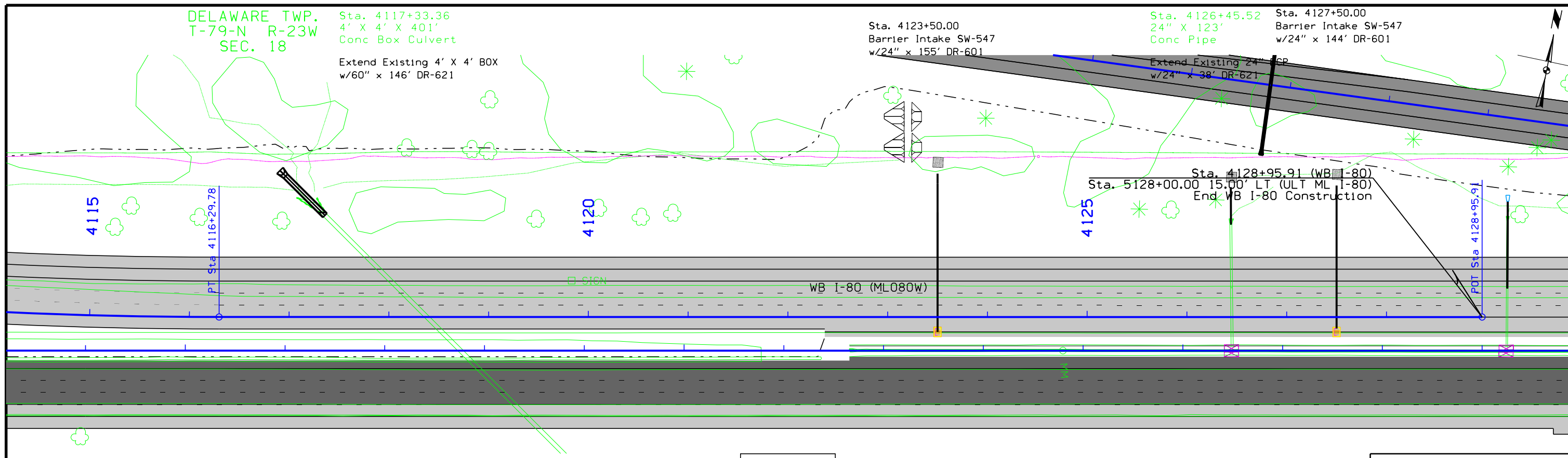


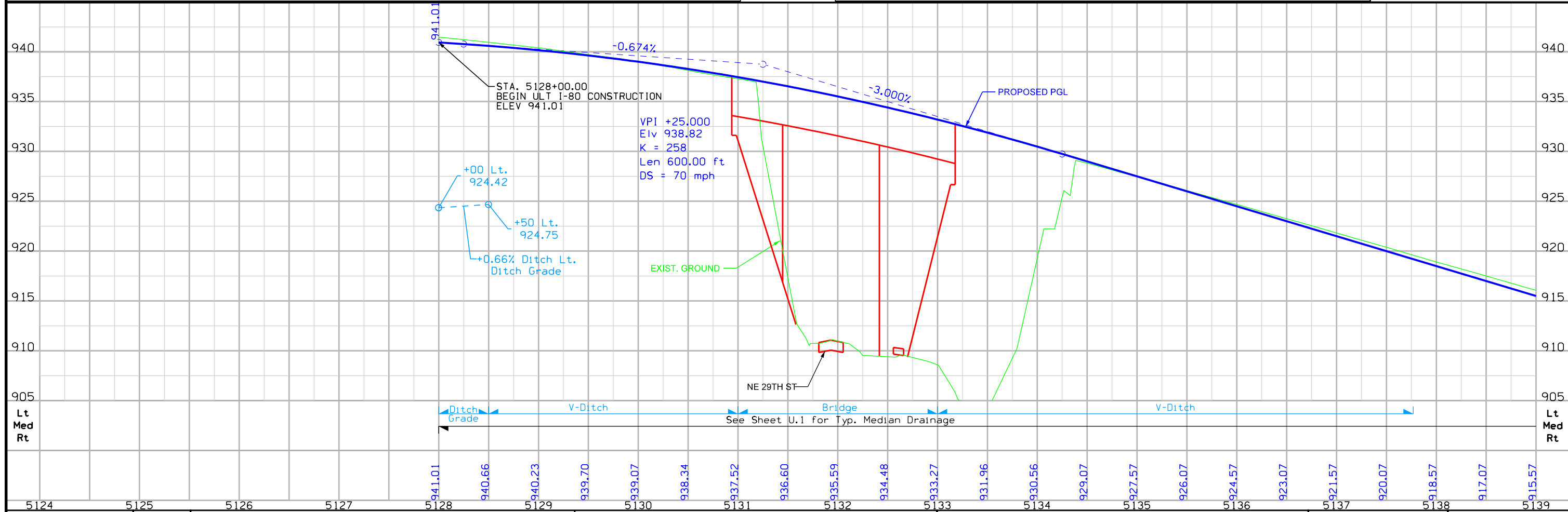
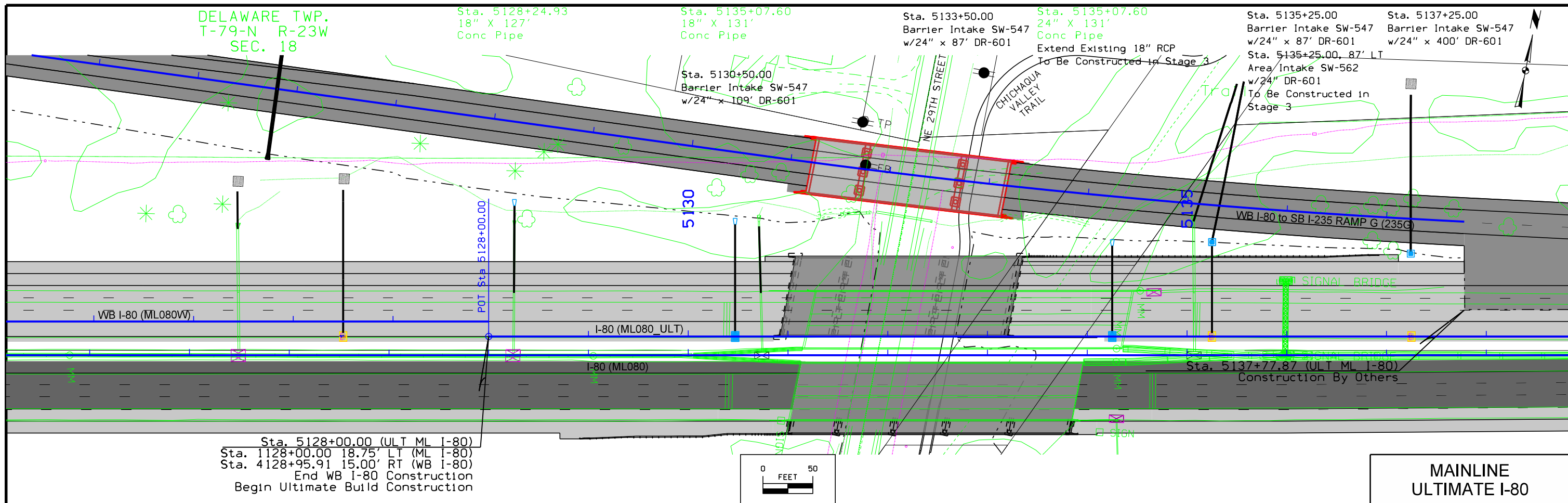
MAINLINE  
WESTBOUND I-80  
INTERIM PAVING



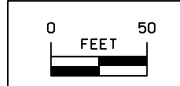
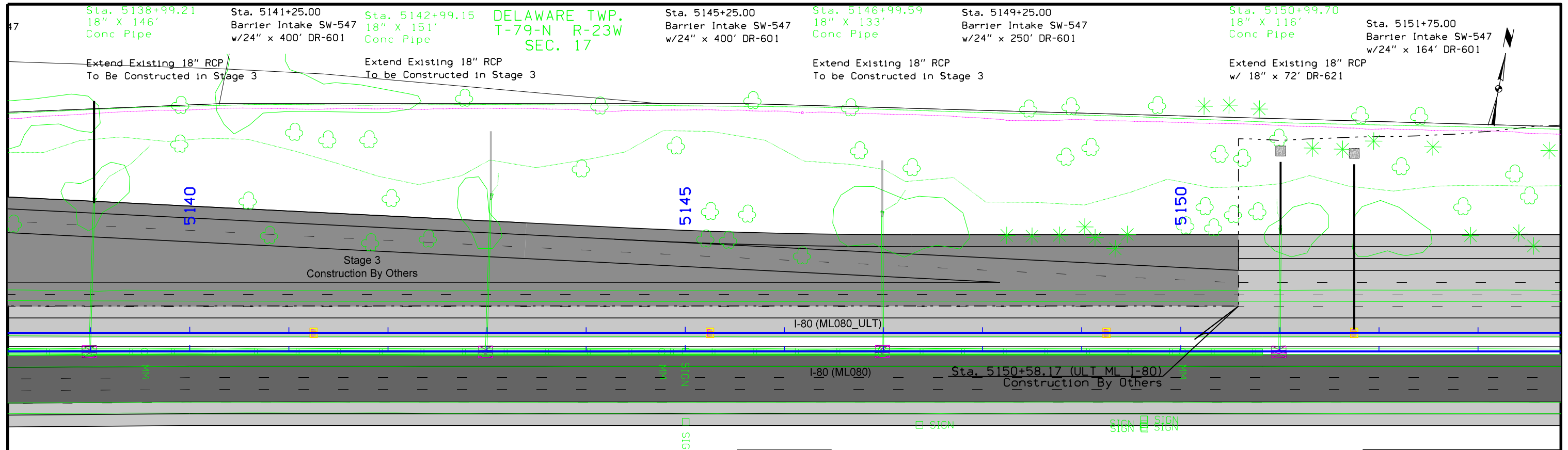
DELAWARE TWP.  
T-79-N R-23W  
SEC. 18



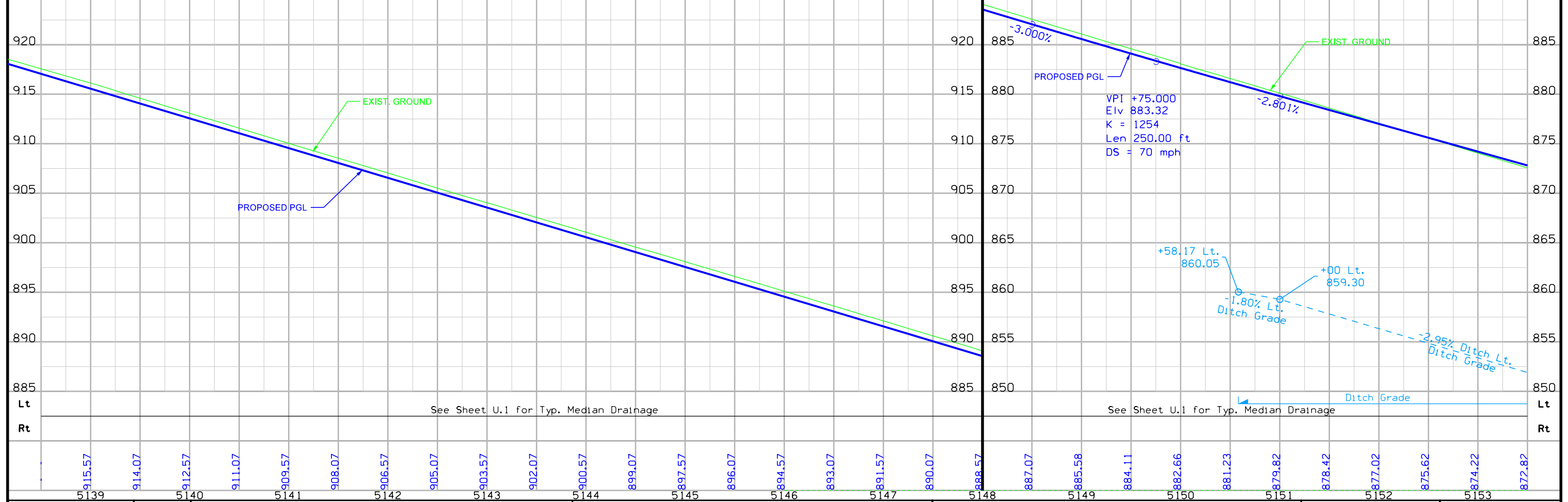




FILE NO.	ENGLISH	DESIGN TEAM	Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER	IM-NHS-080-4(80)138--03-77	SHEET NUMBER	D.15
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**MAINLINE  
ULTIMATE I-80**



Sta. 5154+99.08  
18" X 113'  
Conc Pipe

DELAWARE TWP.  
T-79-N R-23W  
SEC. 17

Sta. 5156+75.00  
Barrier Intake SW-547  
w/24" x 156' DR-601

Sta. 5158+98.71  
18" X 107'  
Conc Pipe

Sta. 5159+25.00  
Barrier Intake SW-547  
w/24" x 144' DR-601

Sta. 5161+75.00  
Barrier Intake SW-547  
w/24" x 138' DR-601

Sta. 5164+25.00  
Barrier Intake SW-547  
w/24" x 125' DR-601

Sta. 5166+75.00  
Barrier Intake SW-547  
w/24" x 123' DR-601

Sta. 5167+37.94  
Barrier Intake SW-547  
w/24" x 82' DR-601

Sta. 5168+25.02  
Barrier Intake SW-547  
w/24" x 123' DR-601

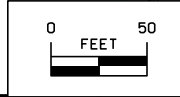
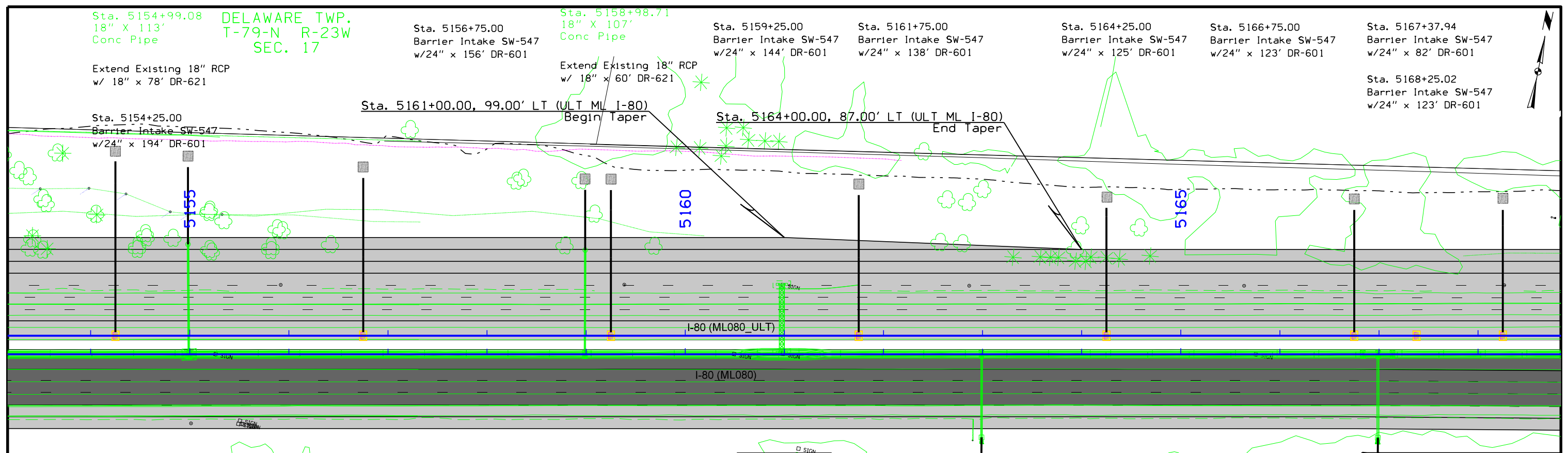
Extend Existing 18" RCP  
w/ 18" x 78' DR-621

Extend Existing 18" RCP  
w/ 18" x 60' DR-621

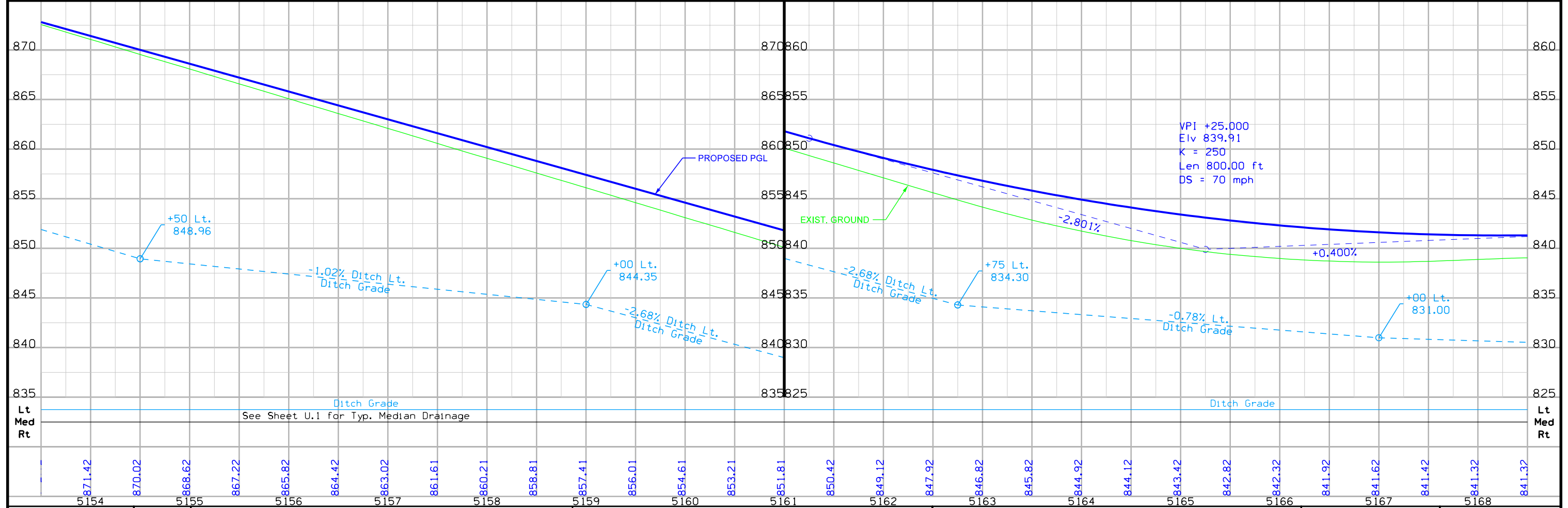
Sta. 5154+25.00  
Barrier Intake SW-547  
w/24" x 194' DR-601

Sta. 5161+00.00, 99.00' LT (ULT ML I-80)  
Begin Taper

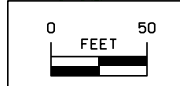
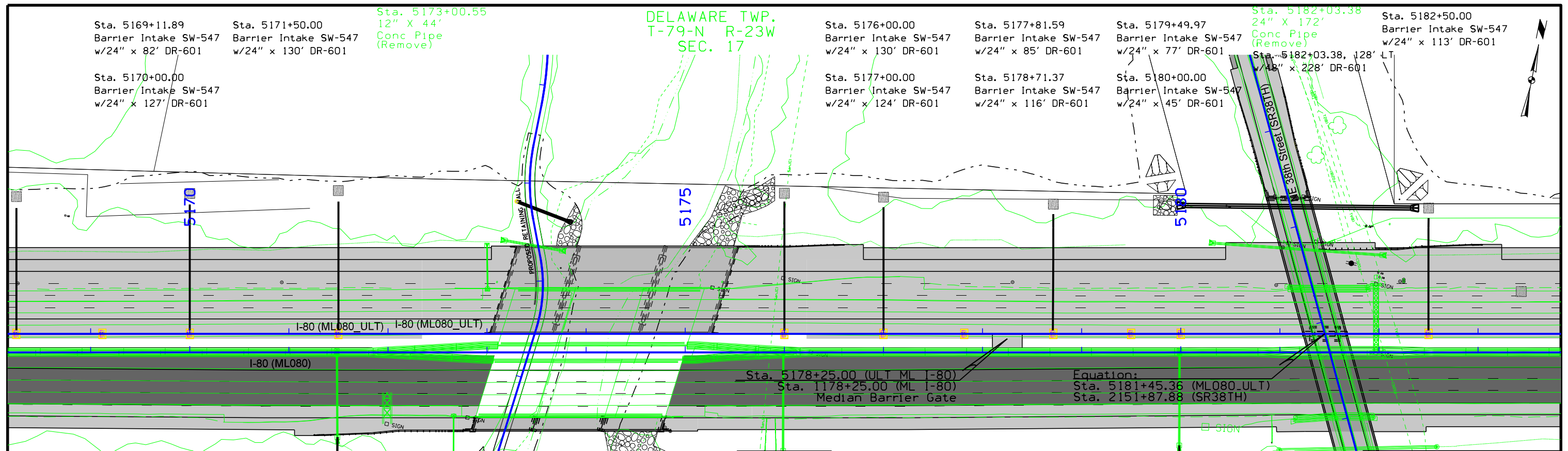
Sta. 5164+00.00, 87.00' LT (ULT ML I-80)  
End Taper



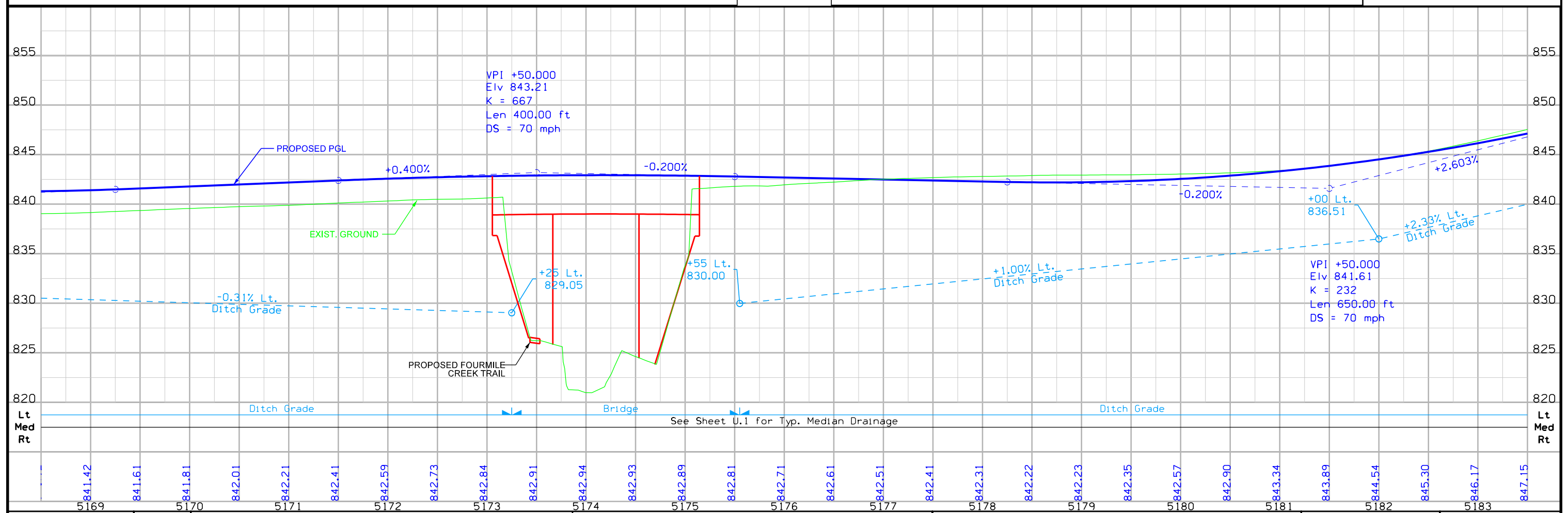
MAINLINE  
ULTIMATE I-80



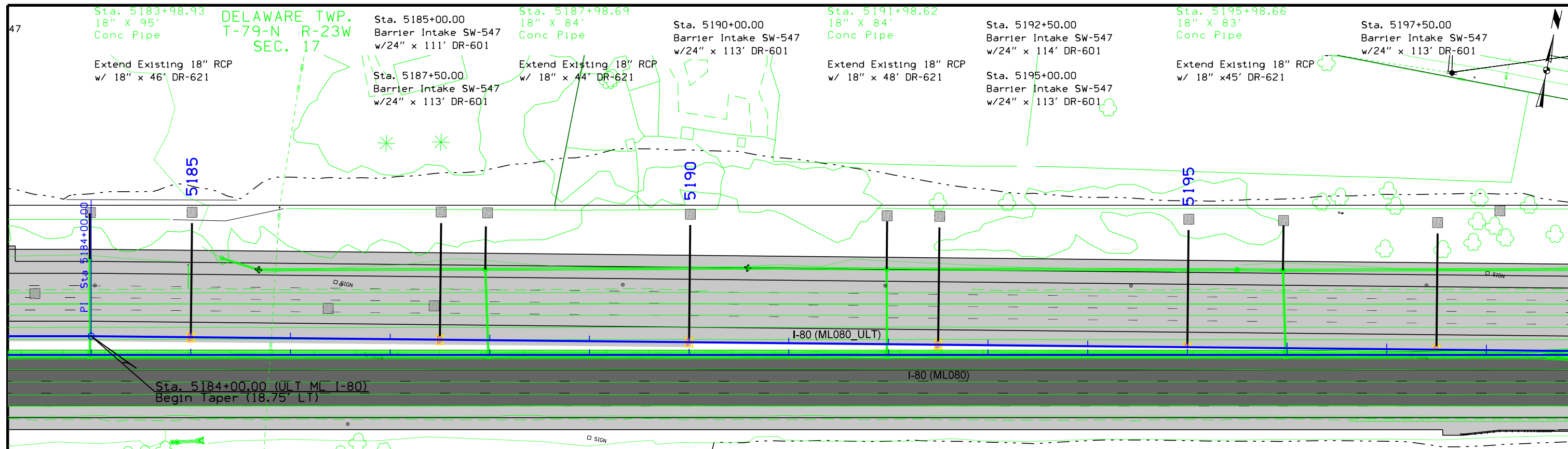
FILE NO.	ENGLISH	DESIGN TEAM	Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER	IM-NHS-080-4(80)138--03-77	SHEET NUMBER	D.17
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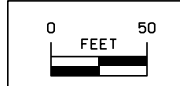
**MAINLINE  
ULTIMATE I-80**



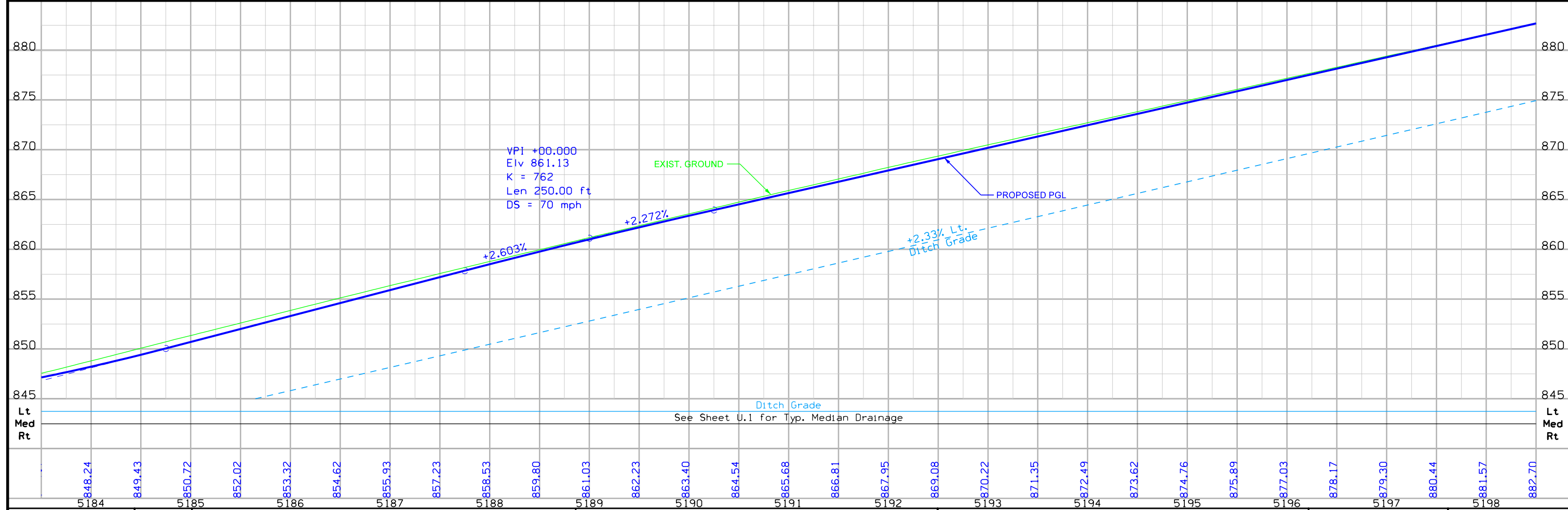




Sta. 5183+98.93 18" X 95' Conc Pipe  
 DELAWARE TWP. T-79-N R-23W SEC. 17  
 Sta. 5185+00.00 Barrier Intake SW-547 w/24" x 111' DR-601  
 Sta. 5187+98.69 18" X 84' Conc Pipe  
 Sta. 5190+00.00 Barrier Intake SW-547 w/24" x 113' DR-601  
 Sta. 5191+98.62 18" X 84' Conc Pipe  
 Sta. 5192+50.00 Barrier Intake SW-547 w/24" x 114' DR-601  
 Sta. 5195+98.66 18" X 83' Conc Pipe  
 Sta. 5197+50.00 Barrier Intake SW-547 w/24" x 113' DR-601  
 Sta. 5185+67.34 30" X 39' Conc Pipe (Remove)  
 Sta. 5187+94.78 30" X 228' Conc Pipe (Remove)  
 Sta. 5190+58.18 30" X 264' Conc Pipe (Remove)  
 Sta. 5191+97.34 30" X 139' Conc Pipe (Remove)  
 Sta. 5195+49.26 30" X 352' Conc Pipe (Remove)  
 DELAWARE TWP. T-79-N R-23W SEC. 16  
 Sta. 5195+95.02 30" X 46' Conc Pipe (Remove)

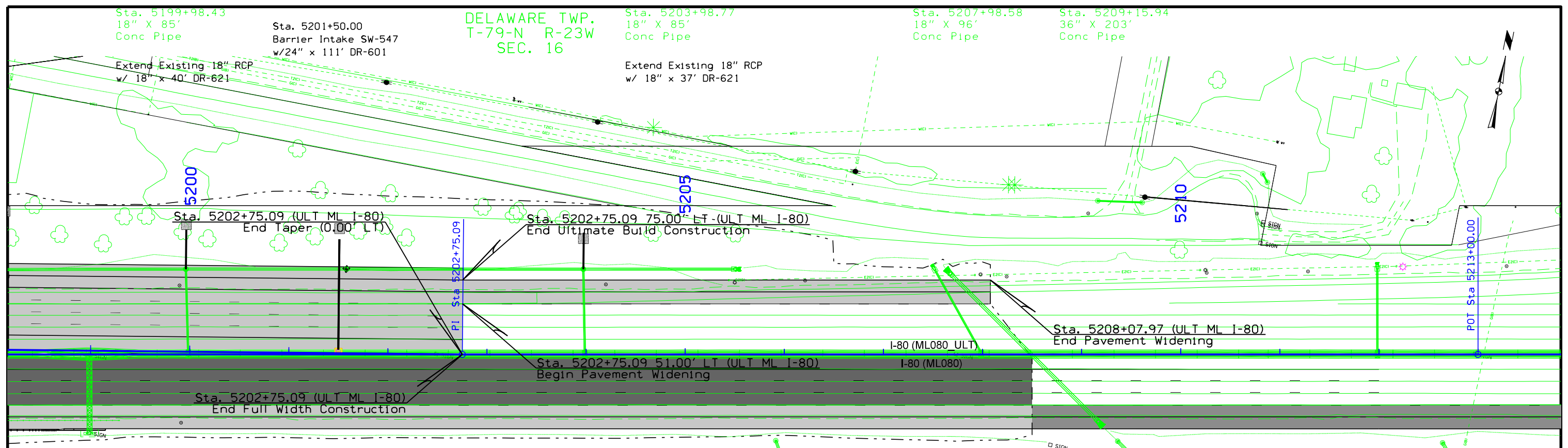


**MAINLINE ULTIMATE I-80**



FILE NO.	ENGLISH	DESIGN TEAM	Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER	IM-NHS-080-4(80)138--03-77	SHEET NUMBER	D.19
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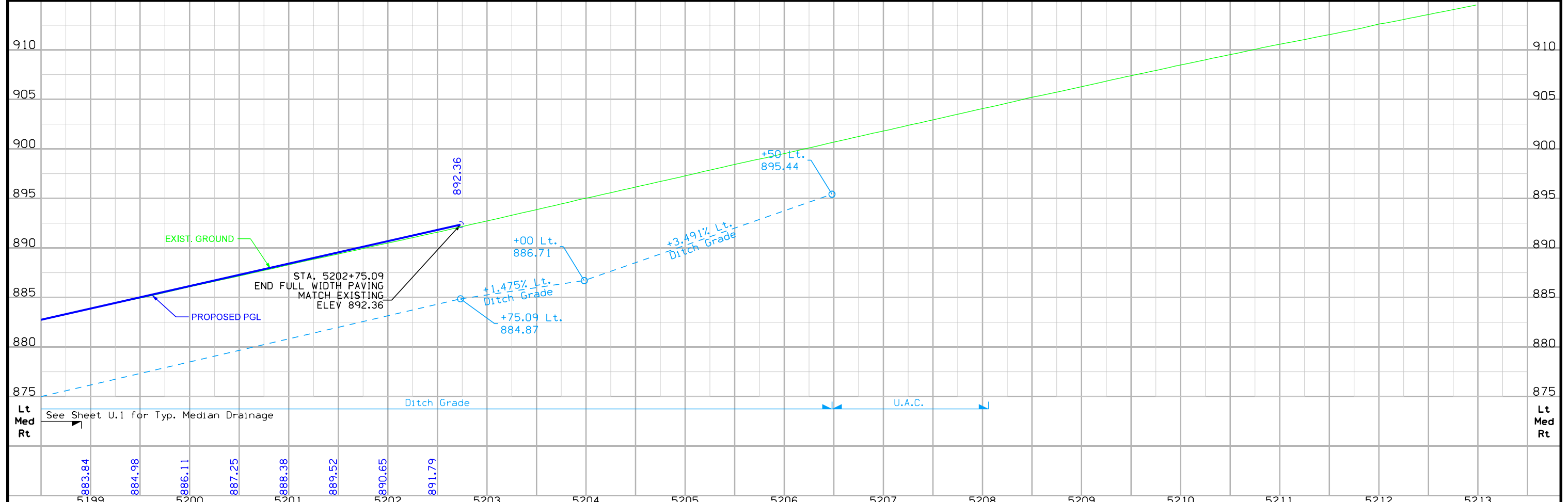
DELAWARE TWP.  
T-79-N R-23W  
SEC. 16



Sta. 5199+95.09 30" X 400' Conc Pipe (Remove)  
 Sta. 5201+57.27 30" X 162' Conc Pipe (Remove)  
 Sta. 5203+97.09 30" X 239' Conc Pipe (Remove)  
 Sta. 5205+49.17 30" X 152' Conc Pipe (Remove)

0 FEET 50

**MAINLINE ULTIMATE I-80**



FILE NO.	ENGLISH	DESIGN TEAM	Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER	IM-NHS-080-4(80)138--03-77	SHEET NUMBER	D.20
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DELAWARE TWP.  
T-79-N R-23W  
SEC. 17

+83 Prop.  
Type F Dike  
Elev. =837.0

Sta. 2157+62.54  
30" X 110'  
Conc Pipe  
(U.A.C.)  
Install 30" Apron DR-201

Sta. 2158+00.00 (38th St)  
End Construction

Sta. 2146+50.00 (38th St)  
Begin Construction

Equation:  
Sta. 2151+68.46 (SR38TH)  
Sta. 1181+50.41 (ML080)

Equation:  
Sta. 2151+87.88 (SR38TH)  
Sta. 5181+45.36 (ML080.ULT)

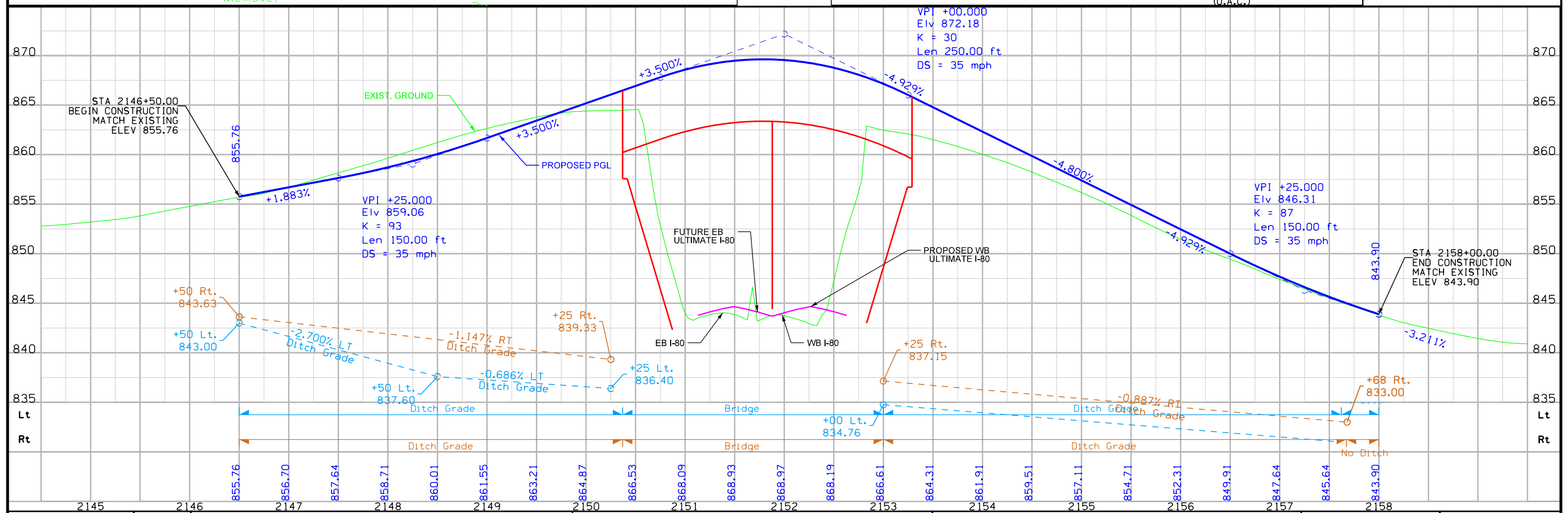
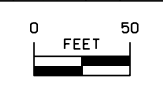
Curve Data  
Δ = 42° 00' 47.03" (LT)  
T = 240.00  
L = 458.28  
R = 625.00  
e = 44.49  
e = 5.27  
L = 100  
x = 39  
DS = 35 mph

Sta. 2147+21.18  
48" x 216' DR-601  
Sta. 2147+42.81  
48" X 107'  
Conc Pipe  
(Remove)

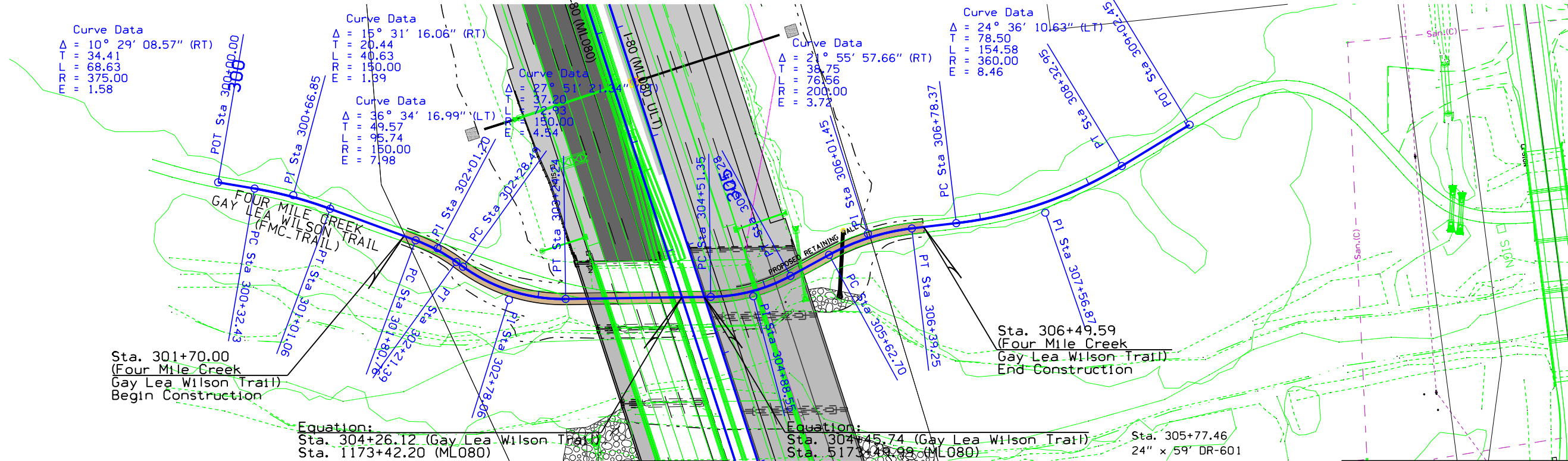
+19 Prop.  
Type F Dike  
Elev. =841.0

Sta. 2157+67.45  
30" X 110'  
Conc Pipe  
(U.A.C.)

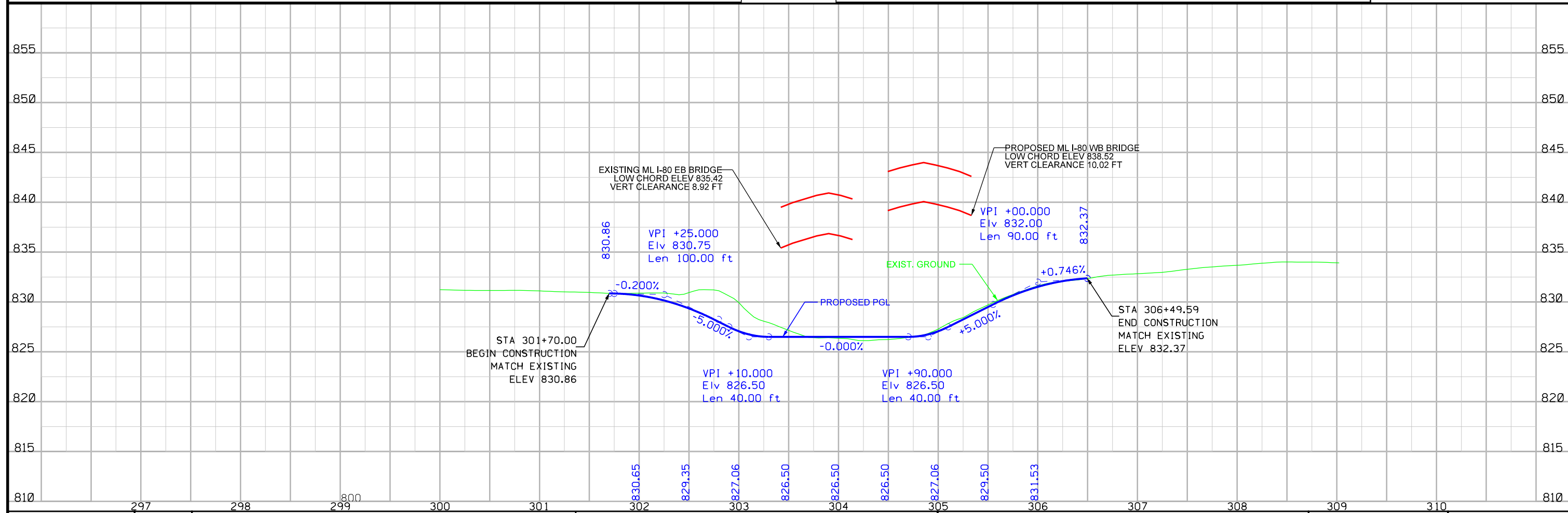
SIDE ROAD  
NE 38TH STREET



DELAWARE TWP.  
T-79-N R-23W  
SEC. 17

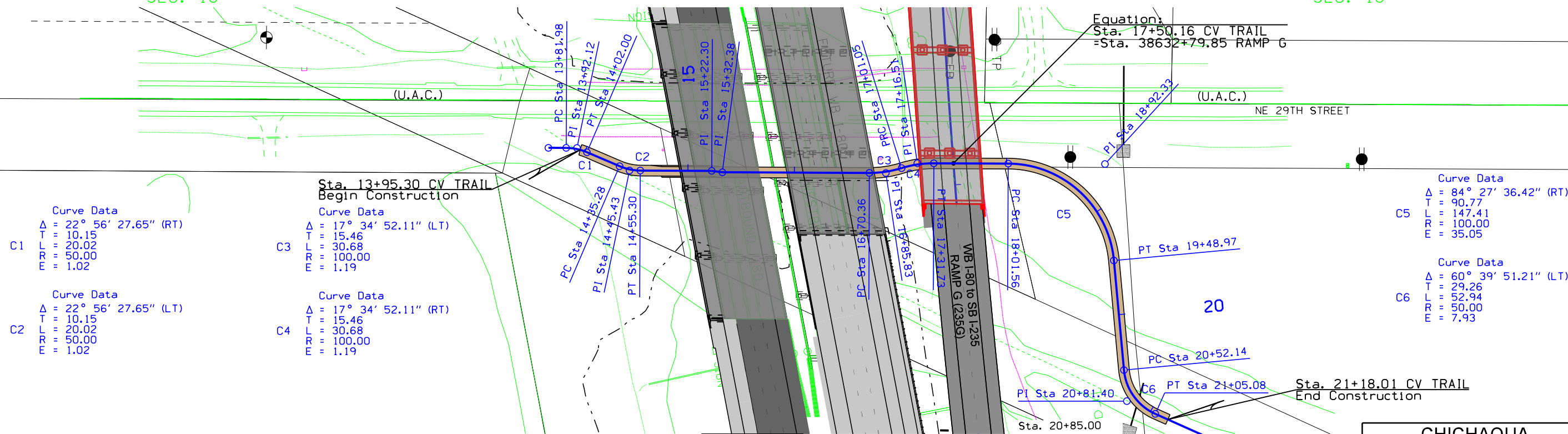
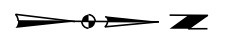


**FOUR MILE CREEK  
GAY LEA WILSON TRAIL**



DELAWARE TWP.  
T-79-N R-23W  
SEC. 18

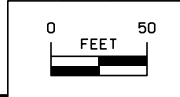
DELAWARE TWP.  
T-79-N R-23W  
SEC. 18



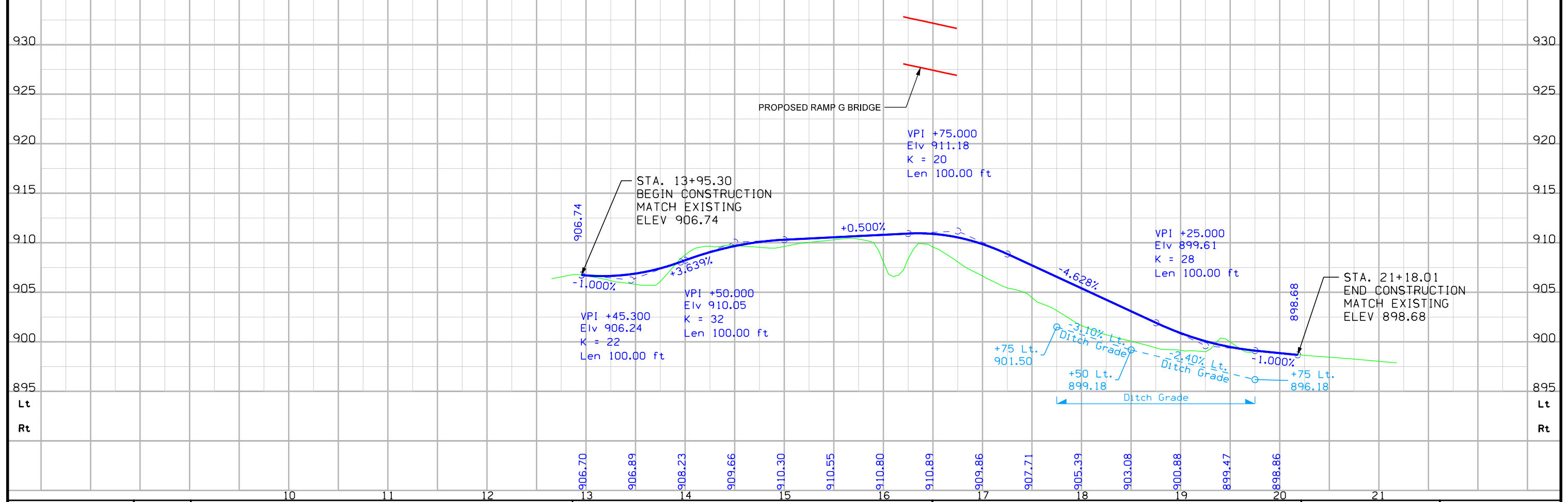
DELAWARE TWP.  
T-79-N R-23W  
SEC. 17

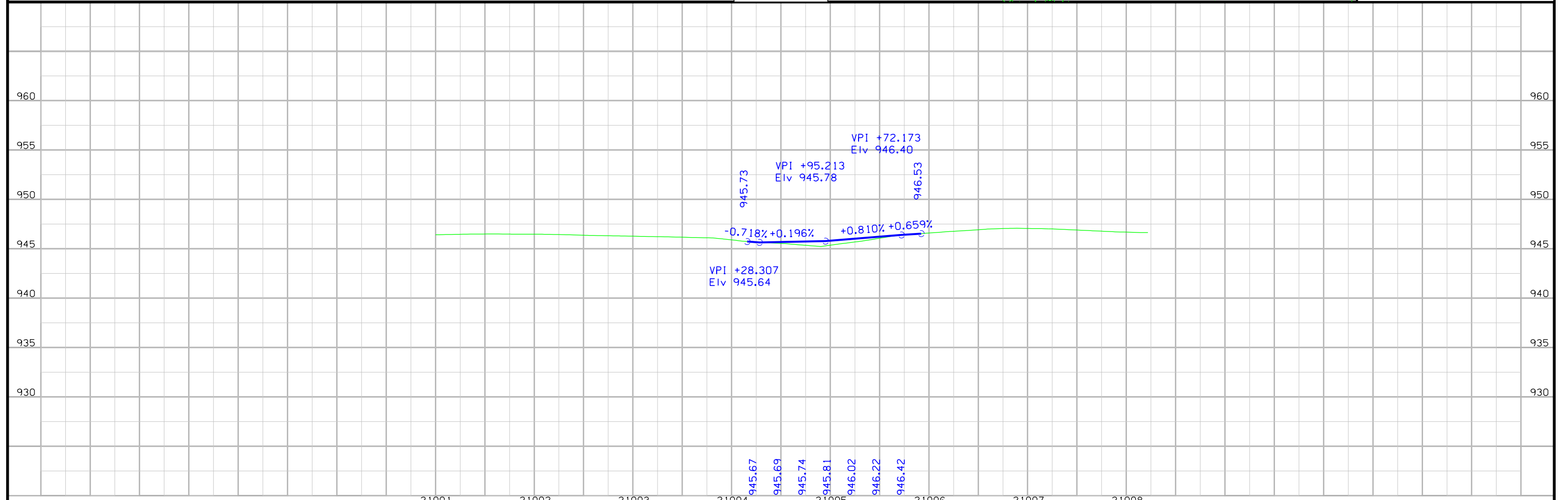
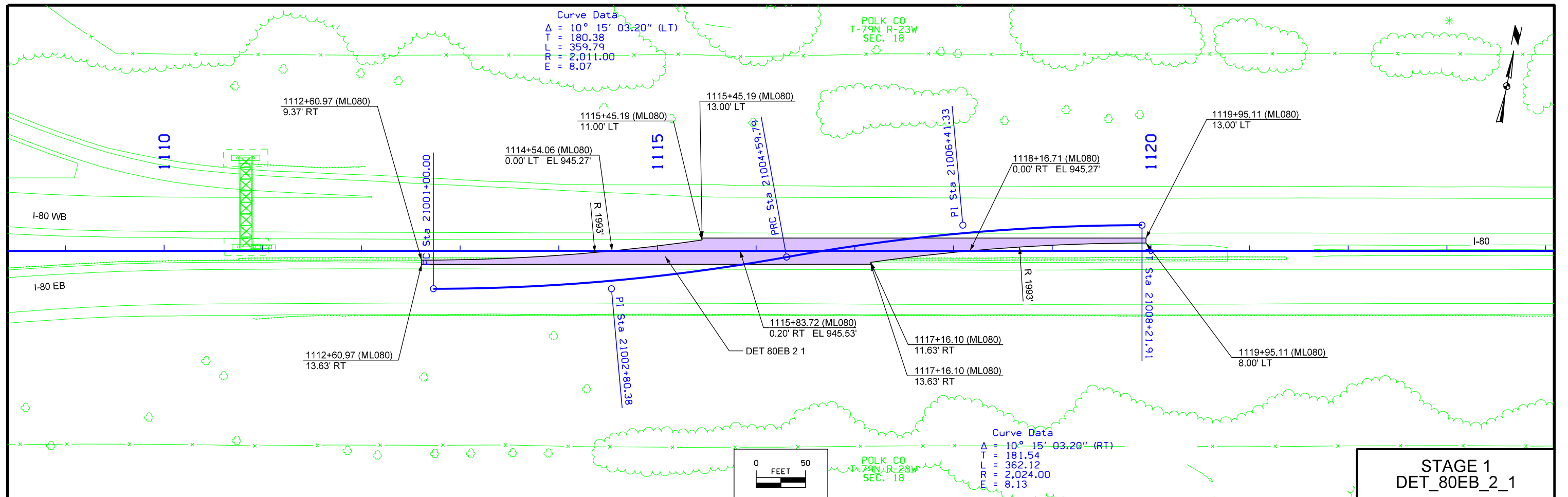
DELAWARE TWP.  
T-79-N R-23W  
SEC. 17

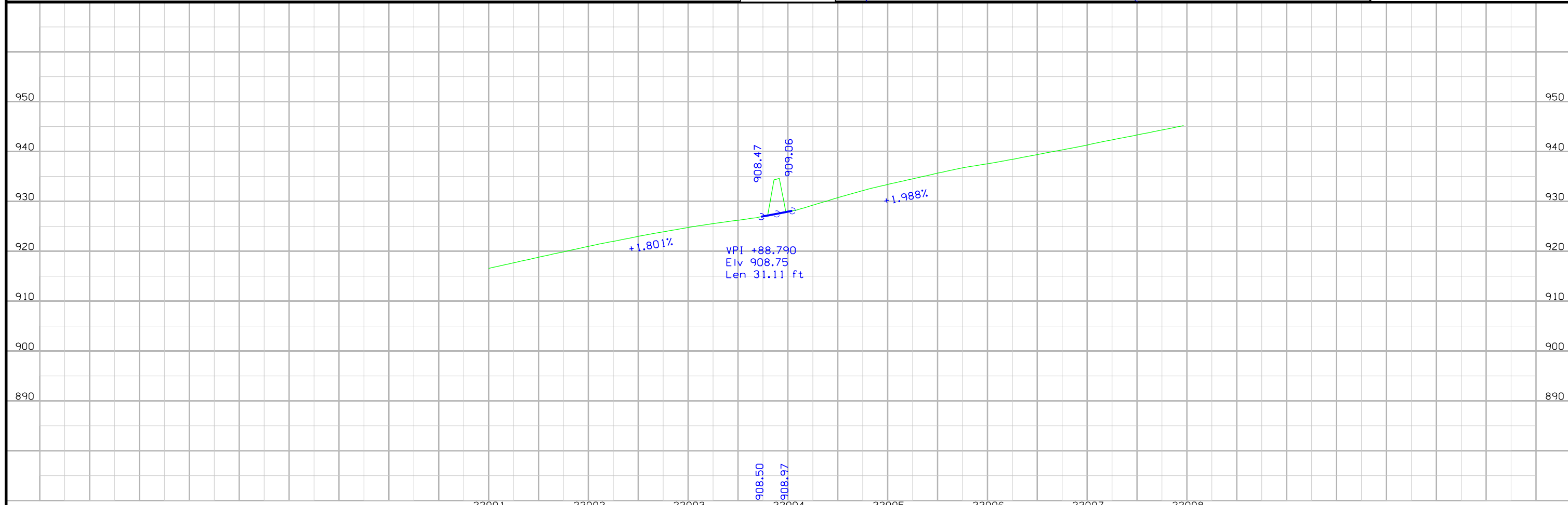
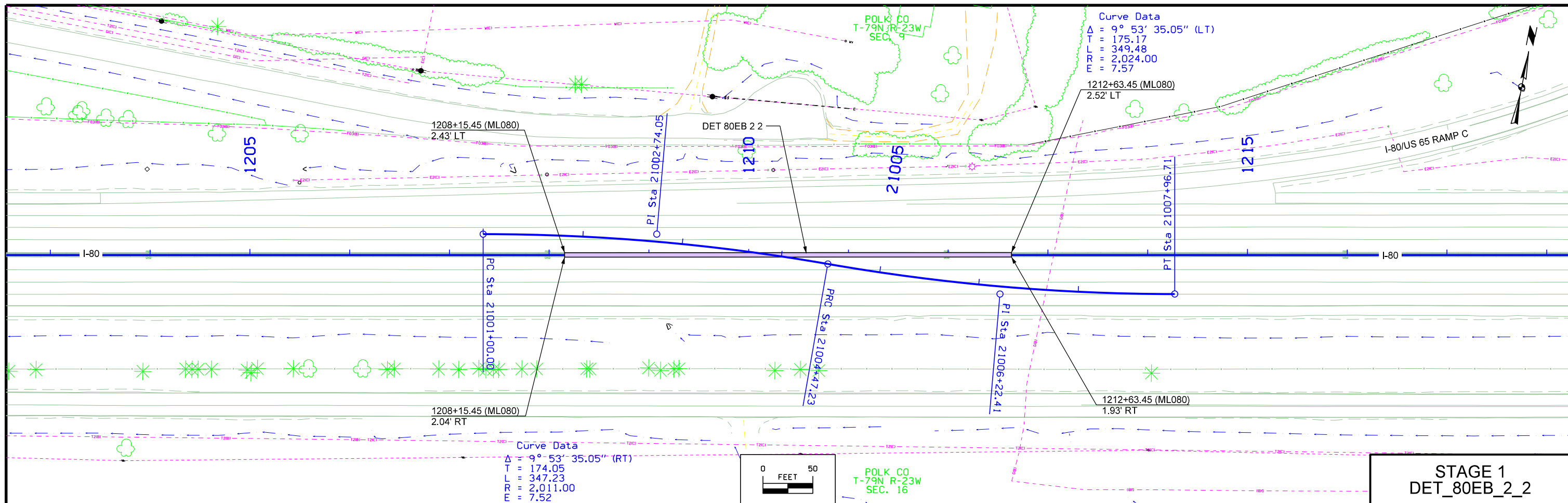
CHICHAQUA  
VALLEY TRAIL  
FOR INFORMATION ONLY

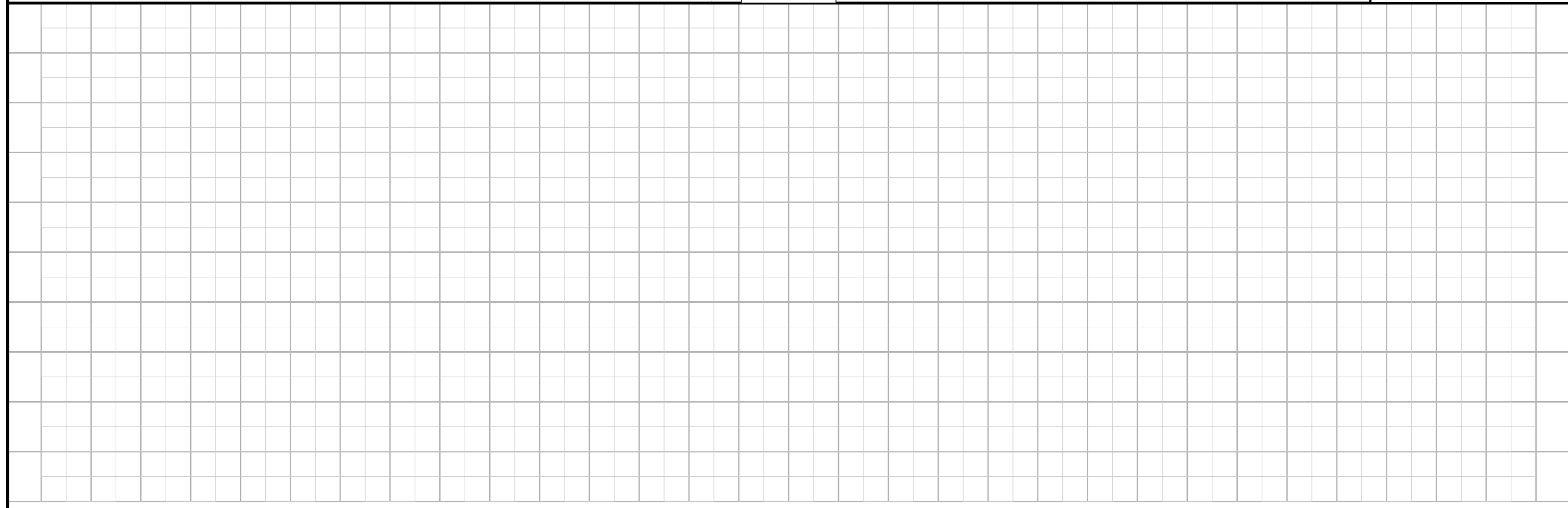
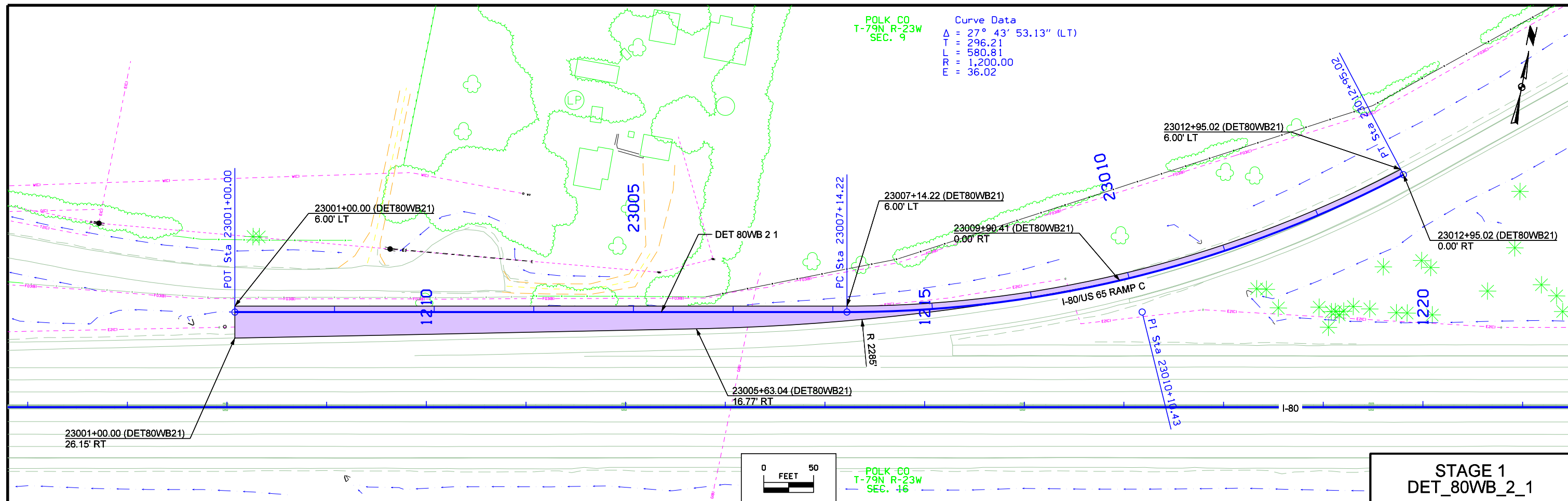


Sta. 20+85.00  
Install 44" x 27" x 26' DR-601  
Skew 30° Rt. Ahd.  
F.L. = Lt. 895.15'  
Rt. 893.89'











## Survey Information

**Polk County**  
**IM-035-4(158)87--0E-77**  
**Northeast Mix Master – I80 Des Moines, IA**  
**I-80 from NEMM to US 65, Stage 5**  
**PIN 10-77-035-010**

### Party Personnel

Jody Budde - PLS  
 Wes Shimp – PLS  
 Dave Overman – Party Chief  
 Aaron Paulsen - Party Chief  
 Logan Hook - Party Chief  
 Katerina Wyatt - Party Chief  
 Jason Flaherty - Assistant Party Chief

### Date(s) of Survey

Begin Date            01/22/2020  
 End Date              05/29/2020

### General Information

Measurement units for this survey are US survey feet. This survey is for the preliminary design for the section of I-80 just east of the I-80/I-35/I-235 interchange on the northeast side of Des Moines to the I-80/US 65 Interchange near Altoona, Iowa. Project datum and control information is provided by Design Survey Office. This project is a Partial DTM with Photo control. This survey request was for the I-80 corridor only, along with some side road areas adjacent to I-80. Project horizontal datum is NAD83(2011) Iowa State Plane South zone, with local project scale factor adjustment for ground coordinates based on a continuation of a legacy project.

### Vertical Control

Vertical datum for this survey is relative to NAVD88(Geoid12B). This survey consisted of setting and observing 3 new FENO 1-meter rod monuments using minimum 2hr initial static observations along with data from 3 Iowa RTN CORS sites: Des Moines (IADM), Ames (IAAM), and Newton (IANT).

Additionally, three local existing FENO monuments established prior by the Iowa DOT with published NAVD88 elevations were observed and used that are located in proximity to the I-80 corridor project area:

FENO 26 has published Elv of: 886.70 usft  
 Survey Elv = 886.70 usft

FENO 100 has published Elv of: 904.54 usft  
 Survey Elv = 904.54 usft

FENO 101 has published Elv of: 932.94 usft  
 Survey Elv = 932.94 usft

The final vertical adjustment results show standard deviations were less than 0.04 ft. at 95% confidence level (2 sigma) for the new FENO monuments.

### Horizontal Control

Project horizontal datum is NAD83(2011) Iowa State Plane South zone, US Survey Feet, with local project scale factor adjustment for ground coordinates. Point 30 is the project Grid/Ground origin point for this survey with details:

Point Name	Grid/Ground Northing	Grid/Ground Easting	Elevation
Point30	609616.47	1618959.90	945.43

Grid to Ground Project Scalar: 1.000062537

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. Coordinates were determined by observing each mark for 120 minutes minimum for the primary observation. Additionally, independent 3-minute control point RTK observations using the Iowa RTN were also observed on a separate day as QA/QC check points of the static adjusted points.

The horizontal standard deviation of these adjusted observations was less than 0.03 ft. at 95% confidence level (2 sigma).

### Alignment Information

The mainline horizontal alignment for this survey is a retrace of As-built Plans No. I-IG-80-4(2)142. This alignment is an extension from a previous phase of the project to meet the new project limits for Stage 5. Survey stationing was equated to the plan PI at STA 1181+53.00 and extended ahead through the survey. The sideroad horizontal alignments for this survey are a retrace of As-built Plans No. I-IG-80-4(2)142, BRM-FM-2820(3)--5Q-77, and F-500-1(2)--20-77.

Survey stationing relates to as built plan stationing as follows:

POT STA 1181+53.00 As-built Plans Project No. I-IG-80-4(2)142  
 Survey POT STA 1181+51.88

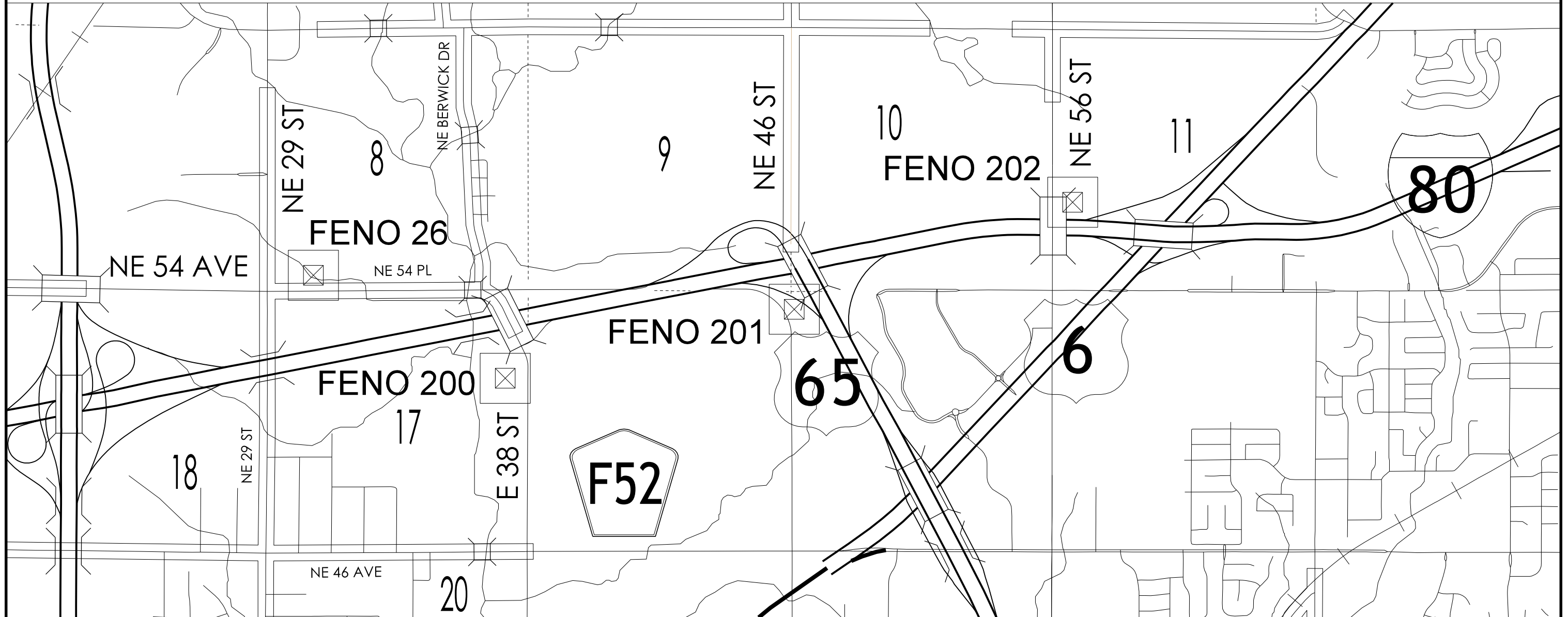
POT STA 1214+28.05 As-built Plans Project No. I-IG-80-4(2)142  
 Survey POT STA 1214+27.31

POT STA 1239+54.26 As-built Plans Project No. I-IG-80-4(2)142  
 Survey POT STA 1239+52.69

## Project Control -FENO monuments are also Bench Marks

Name	Ground Northing (USft)	Ground Easting (USft)		
26	604283.735	1624489.54	886.7	
100	601242.32	1613129.09	904.54	
101	612281.88	1619265.53	932.94	
FENO200	602872.23	1628931.66	851.56	Feno Monument
FENO201	604250.2	1633818.53	951.47	Feno. Monument
FENO202	605718.69	1639601.06	987.16	Feno. Monument

PROJECT CONTROL POINT LOCATION MAP



HORIZ. DATUM: NAD83(2011) EPOCH 2010.00  
VERT. DATUM: NAVD88

## Survey Information

County: Polk  
 PIN: 10-77-035-010-03  
 Project Number: IM-035-3(194)87--13-77  
 Location: I-35/80/235 Interchange NE Of Des Moines(Stage 3A)  
 Type of Work: Grading  
 Project Directory: 7703501010  
 This Index covers SAP's 0742.2, 0742.3 and 0742.4

### General Information

Measurement units for this survey are US survey feet. This survey is for phase 3 of the NE Mixmaster ramp reconstruction. This survey uses the same coordinate system as the Delaware Ave. IM-035-4(161)87--13-77 and 54th. Ave. IM-035-4(160)87--13-77 Surveys. Phase 3 surveying was accomplished by an IDOT design survey crew and 2 consulting firms. IDOT surveyed project control, mainline alignments, culvert surveys, utility survey, photo control survey and selected ground features. R.E.Y. Consultants surveyed mainline pavement and interchange ramps using mobile LiDAR. Snyder and Associates surveyed railroads. Aerial survey will also be used to create a project surface and to add other topographic features.

### IDOT Design Party Personnel

John Dewey- Party Chief  
 Robert Mingus- Party Chief  
 Myron Fox- Assistant Party Chief

### IDOT Date(s) of Survey

Begin Date 04/2014  
 End Date 09/2014

R.E.Y Engineers, Inc.  
 Contract No. 801AH; WO7

Date(s) of R.E.Y. Survey  
 June-July 2014

Snyder and Associates  
 Contract No. 433AF; WO 5

Date(s) of R.E.Y. Survey  
 Oct. 2014

### Project Control Information

GPS Control from previous surveys were used as follows:  
 GPS PROJECT : Sap 323 & 324 STP-69-4(65)--2c-77 (2000 Survey)  
 STATE PLANE COORDINATE ZONE 1402 ( IOWA SOUTH LAMBERT )  
 STATE PLANE COORDINATES HELD AT POINT G030  
 AVERAGE PROJECT LATITUDE = 41 40 12.05576  
 RESULTING RADIUS = 6363663.482 (METERS)  
 MEAN PROJECT ELEVATION = 285.000 (METERS)  
 SEA LEVEL FACTOR = 0.999955216  
 AVERAGE PROJECT SCALE FACTOR = 0.999982250  
 COMBINED FACTOR (GRID) = 0.999937467  
 1 / GRID = 1.000062537  
 VERTICAL DATUM = NAVD 88 <> HORIZONTAL DATUM = NAD 83 (1996)

GPS Control point G024 coordinates from previous surveys were used and the following points were re-observed and adjusted: G013, G025, G026 and G027. G010, G011, G029 and G030 were searched for but not found. It is presumed reconstruction has obliterated those points. Point G128 from an I-235 survey was re- observed and adjusted. Points G128 and G026 are FENO monuments. All other points are 5/8" Rebar. Two FENO monuments were added. These are points 100 and 101.  
 It is intended that the control included in the re-observation will be the primary control used for future survey work. The FENO monuments designated as 26,100,101 and 128 to the north, south, east and west of the interchange are constructed to hold horizontal and vertical position reasonably well. The other rebar can be used but should be verified first relative to the FENO monuments. It is anticipated additional temporary marks in the interchange will be needed at various stages as the project progresses. Those temporary marks will be established as needed relative to this control.

### Alignment Information

#### Mainline Alignment (I-80)

The I 80 alignment is relative to the control in the metric as-built plans IM-35-3(116)85--13-77 computed from a 1994 metric I 80 survey alignment. Metric alignment points were scaled and translated to this survey coordinate system. No rotation was required. Sta 2000+00.00 was assigned to the PC of the metric I 80 curve west of the Delaware Ave. Bridge. Stationing was run ahead without station equation to the end of the alignment at the mixmaster interchange central intersection point.

This Mainline survey relates to the mainline plan stationing as follows:

CP Sta. 1024+84.88, 97.35' Lt this survey (English)  
 =CP Sta. 312+34.97, 29.67m Lt Project # IM-35-3(116)85—13-77 (Metric)

POT Sta. 1075+46.01, 0.04' Lt this survey (English)  
 =POT Sta. 327+77.59, 0.010m Lt Project # IM-35-3(116)85—13-77 (Metric)

POT Sta. 1181+51.81 this survey (English)  
 =POT Sta. 1181+53.0 Project # IM-80-5(145)137--13-77 (English)

#### Mainline Alignment (I-35)

From 2001/2002 I-35 Realignment, Project # IM-35-4(101)—13-77  
 The mainline alignment for this survey is a retrace of Project # IM-35-4(101)—13-77. The mainline alignment was created in centerline of median. Stationing was obtained at PI Sta. 2001+60.36 and carried ahead to PI Sta. 3100+53.44 without equation. The following PI points were used to create this CL alignment.

PI 2001+60.36 Project # IM-35-4(101)88—13-77 (not found or set)  
 PI 3100+53.44 Project # IM-35-4(101)88—13-77 (not found or set)

This Mainline survey relates to the mainline plan stationing as follows:

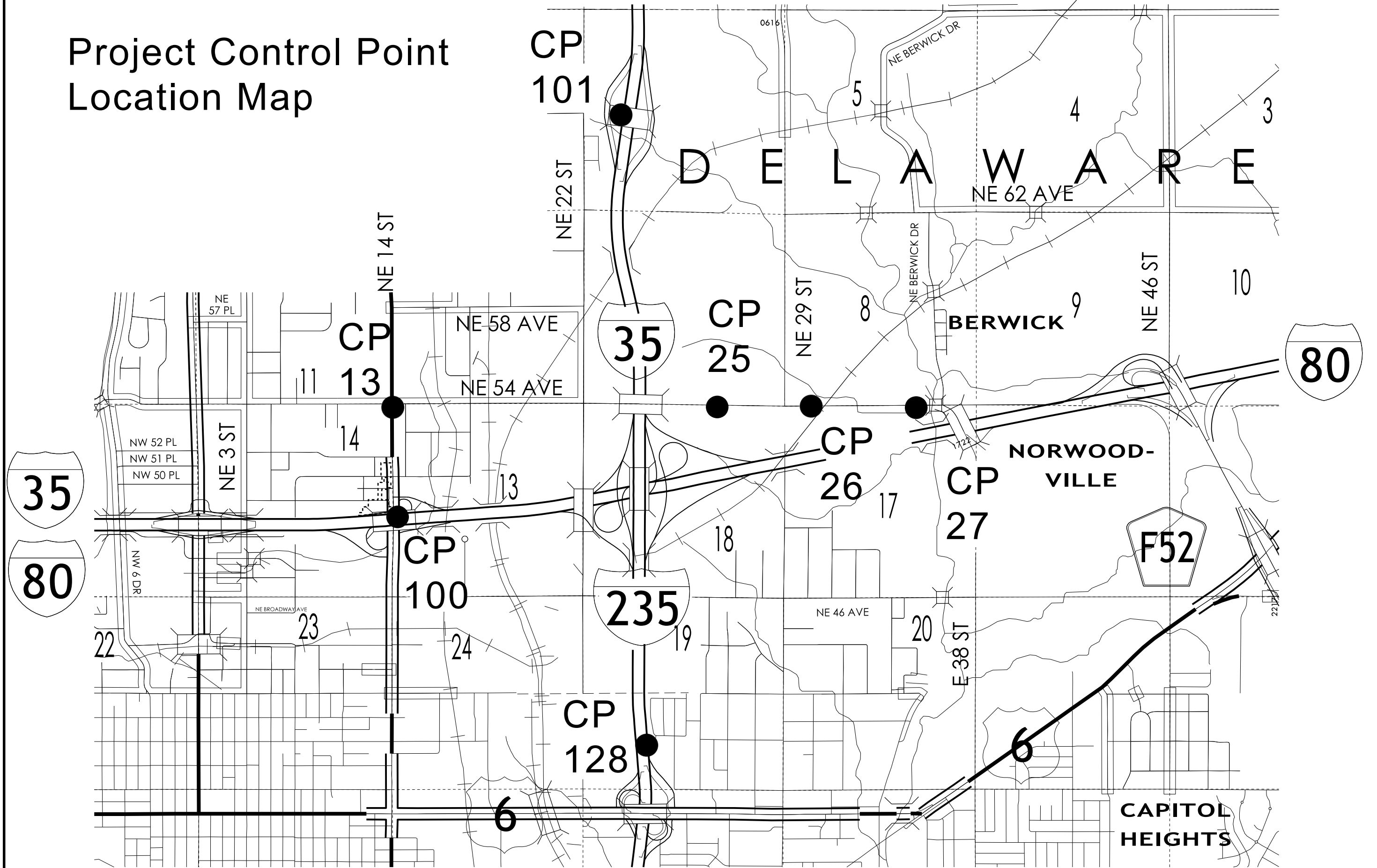
PI Sta. 2001+60.36 this survey  
 =PI Sta. 2001+60.36 Project # IM-35-4(101)88—13-77

PI Sta. 2100+53.74 this survey  
 =PI Sta. 3100+53.44 Project # IM-35-4(101)88—13-77

## Project Control -FENO monuments are also Bench Marks

Name	Ground Northing (USft)	Ground Easting (USft)		
13	604251.756	1612997.613		
25	604260.796	1621907.741	939.609	
26	604283.735	1624489.54	886.7	
27	604243.29	1627372.639	838.959	
100	601242.316	1613129.094	904.541	Feno. Monument
101	612281.879	1619265.525	932.935	Feno. Monument
128	594971.978	1619970.2	933.868	Feno. Monument between top backslope and ROW fence in east ROW

# Project Control Point Location Map





ALIGNMENT COORDINATES

101-16  
10-20-09

Name	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates	
			Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)
	RAMP H																		
308009		39651+00.00	601,045.03	1,620,021.78															
308008		39653+34.76	601,249.44	1,620,137.22															
CUR 308008							39653+34.76	601,249.44	1,620,137.22	39658+35.08	601,658.10	1,620,383.24	39662+91.48	602,174.59	1,620,279.66				
308007		39662+91.48	602,174.59	1,620,279.66															
308006		39664+22.29	602,302.56	1,620,252.58															
308005		39667+23.19	602,596.94	1,620,190.29															
308004		39667+52.75	602,625.86	1,620,184.17															
CUR 308004							39667+52.75	602,625.86	1,620,184.17	39667+88.70	602,661.04	1,620,176.73	39668+24.62	602,696.69	1,620,172.06				
308003		39668+24.62	602,696.69	1,620,172.06															
CUR 308003							39668+24.62	602,696.69	1,620,172.06	39675+29.26	603,395.37	1,620,080.68	39674+68.25	602,931.37	1,620,610.98				
308002		39674+68.25	602,931.37	1,620,610.98															
CUR 308002							39674+68.25	602,931.37	1,620,610.98	39681+73.68	602,466.86	1,621,141.87	39681+12.08	602,465.19	1,620,436.45				
308001		39681+12.08	602,465.19	1,620,436.45															
308000		39683+73.06	602,464.57	1,620,175.47															
	NE 38th STREET																		
307000		2139+87.91	602,574.98	1,628,993.17															
307001		2141+82.24	602,769.31	1,628,991.99															
CUR 307001							2141+82.24	602,769.31	1,628,991.99	2142+80.98	602,868.05	1,628,991.39	2143+76.63	602,957.46	1,628,949.51				
307002		2143+76.63	602,957.46	1,628,949.51															
307003		2145+93.72	603,154.05	1,628,857.42															
307004		2154+83.48	603,952.92	1,628,465.66															
CUR 307004							2154+83.48	603,952.92	1,628,465.66	2157+23.48	604,168.41	1,628,359.99	2159+41.78	604,257.78	1,628,137.26				
307005		2159+41.78	604,257.78	1,628,137.26															
CUR 307005							2159+41.78	604,257.78	1,628,137.26	2160+06.04	604,281.71	1,628,077.62	2160+68.66	604,281.15	1,628,013.36				
307006		2160+68.66	604,281.15	1,628,013.36															
307007		2164+11.47	604,278.13	1,627,670.57															
	FOURMILE TRAIL																		
TRAIL 100		300+00.00	603,124.02	1,627,662.18															
CUR TRAIL 1							300+32.43	603,155.09	1,627,671.49	300+66.85	603,188.05	1,627,681.36	301+01.06	603,218.67	1,627,697.07				
CUR TRAIL 2							301+80.76	603,289.58	1,627,733.45	302+01.20	603,307.77	1,627,742.78	302+21.39	603,322.80	1,627,756.63				
CUR TRAIL 3							302+28.49	603,328.02	1,627,761.45	302+78.06	603,364.45	1,627,795.05	303+24.24	603,413.74	1,627,800.32				
CUR TRAIL 4							304+51.35	603,540.14	1,627,813.85	304+88.55	603,577.12	1,627,817.81	305+24.28	603,611.67	1,627,644.70				
CUR TRAIL 5							305+62.70	603,647.35	1,627,789.79	306+01.45	603,683.35	1,627,775.43	306+39.25	603,722.10	1,627,775.43				
CUR TRAIL 6							306+78.37	603,761.22	1,627,775.68	307+56.87	603,839.72	1,627,775.94	308+32.95	603,911.20	1,627,743.49				
TRAIL 101		309+02.45	603,974.48	1,627,714.76															

**SPIRAL OR CIRCULAR CURVE DATA**

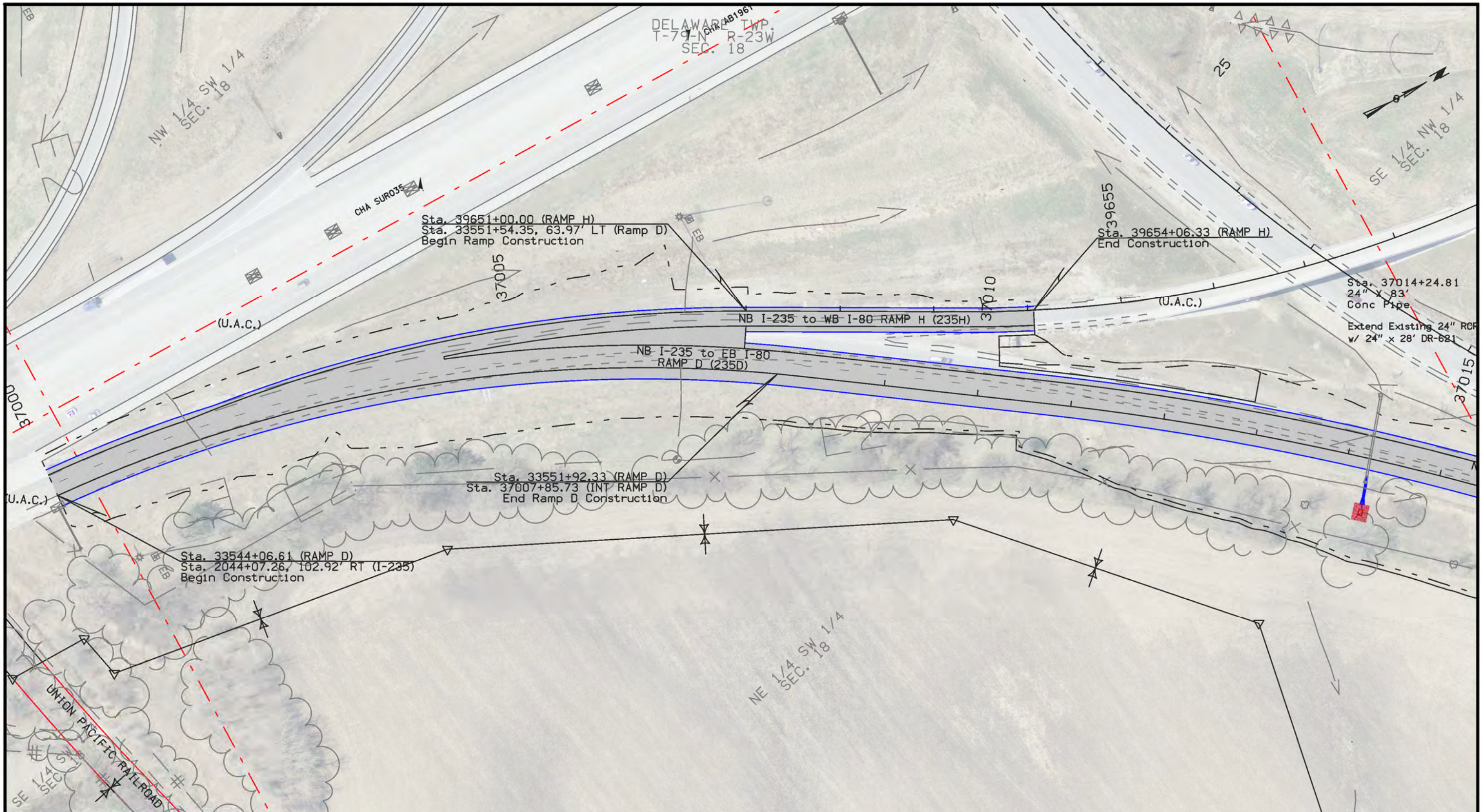
101-17  
04-19-11

Name	Location	Δ <sub>scs</sub>	Horizontal Alignment Data												Remarks		
			Spiral Data						Curve Data								
			θs	Ls	Ts	Es	Xc	Yc	L.T.	S.T.	Δ <sub>c</sub>	T	L	R		E	
	I-80 EASTBOUND																
SCS ML080SE-1		23° 59' 57.93" RT	4° 29' 57.93"	299.98'	556.32'	44.67'	299.80'	7.85'	200.05'	100.05'	15° 00' 00.10" RT	251.44'	500.00'	1,909.86'	16.48'		
SCS ML080SE-2		47° 59' 57.83" LT	4° 29' 58.91"	299.98'	1,001.15'	182.89'	299.80'	7.85'	200.05'	100.05'	39° 00' 00.00" LT	676.32'	1,300.00'	1,909.86'	116.21'		
SCS ML080SE-3		23° 59' 57.48" RT	5° 11' 35.50"	349.98'	585.86'	45.83'	349.69'	10.57'	233.42'	116.75'	13° 36' 46.48" RT	230.44'	458.70'	1,930.64'	13.70'		
	I-80																
CUR MLA080.3											6° 57' 38.61" LT	653.65'	1,305.88'	10,747.47'	19.86'		
	I-80 WESTBOUND																
CUR 200001											2° 50' 19.67" LT	420.49'	840.80'	16,970.00'	5.21'		
CUR 200002											21° 15' 25.45" LT	878.25'	1,736.31'	4,680.00'	81.69'		
SCS 200004		34° 29' 58.92" RT	6° 19' 09.79"	450.00'	859.62'	100.41'	449.45'	16.53'	300.19'	150.17'	21° 51' 39.33" RT	393.97'	2,040.00'	2,040.00'	37.69'		
CUR 200008											17° 22' 12.85" LT	714.90'	1,418.83'	4,680.00'	54.29'		
	I-80 WESTBOUND (INTERIM)																
CUR 740002											4° 05' 53.99" LT	167.74'	335.33'	4,688.00'	3.00'		
	RAMP D (ULTIMATE)																
CUR 335000											3° 49' 10.99" RT	576.84'	1,101.38'	1,500.00'	107.09'		
CUR 335001											21° 18' 26.17" RT	658.40'	1,301.59'	3,500.00'	61.39'		
	RAMP D (INTERIM)																
CUR 307600											30° 58' 30.45" RT	415.64'	810.93'	1,500.00'	56.52'		
CUR 307602											8° 52' 41.29" RT	232.90'	464.86'	3,000.00'	9.03'		
CUR 307603											4° 07' 19.61" RT	161.66'	323.17'	4,492.00'	2.91'		
CUR 307604											20° 06' 45.51" RT	271.69'	537.78'	1,532.00'	23.90'		
	RAMP H																
CUR 308008											41° 24' 07.36" LT	500.32'	956.73'	1,324.00'	91.38'		
CUR 308004											4° 29' 44.91" RT	35.96'	71.88'	916.00'	0.71'		
CUR 308003											138° 38' 13.27" RT	704.64'	643.63'	266.00'	487.17'		
CUR 308002											138° 40' 45.93" RT	705.43'	705.43'	266.00'	487.91'		
	NE 38th STREET																
CUR 307001											24° 45' 02.67" LT	98.74'	194.39'	450.00'	10.70'		
CUR 307004											42° 00' 47.03" LT	240.00'	458.29'	625.00'	44.49'		
CUR 307005											22° 22' 09.15" LT	64.26'	126.89'	325.00'	6.29'		
	FOURMILE TRAIL																
CUR TRAIL1											10° 29' 08.57" RT	34.41'	68.63'	375.00'	1.57'		
CUR TRAIL2											15° 31' 16.06" RT	20.44'	40.63'	150.00'	1.39'		
CUR TRAIL3											36° 34' 16.99" LT	49.57'	95.74'	150.00'	7.97'		
CUR TRAIL4											27° 51' 21.34" LT	37.19'	72.93'	150.00'	4.54'		
CUR TRAIL5											21° 55' 57.66" RT	38.75'	76.56'	200.00'	3.72'		
CUR TRAIL6											24° 36' 10.63" LT	78.50'	154.58'	360.00'	8.46'		

NO ACCESS RIGHTS ARE TO BE ACQUIRED ON THIS PROJECT.

ACCESS CONTROL PREVIOUSLY ACQUIRED.





DELAWARE TWP.  
T-79-N R-23W  
SEC. 18

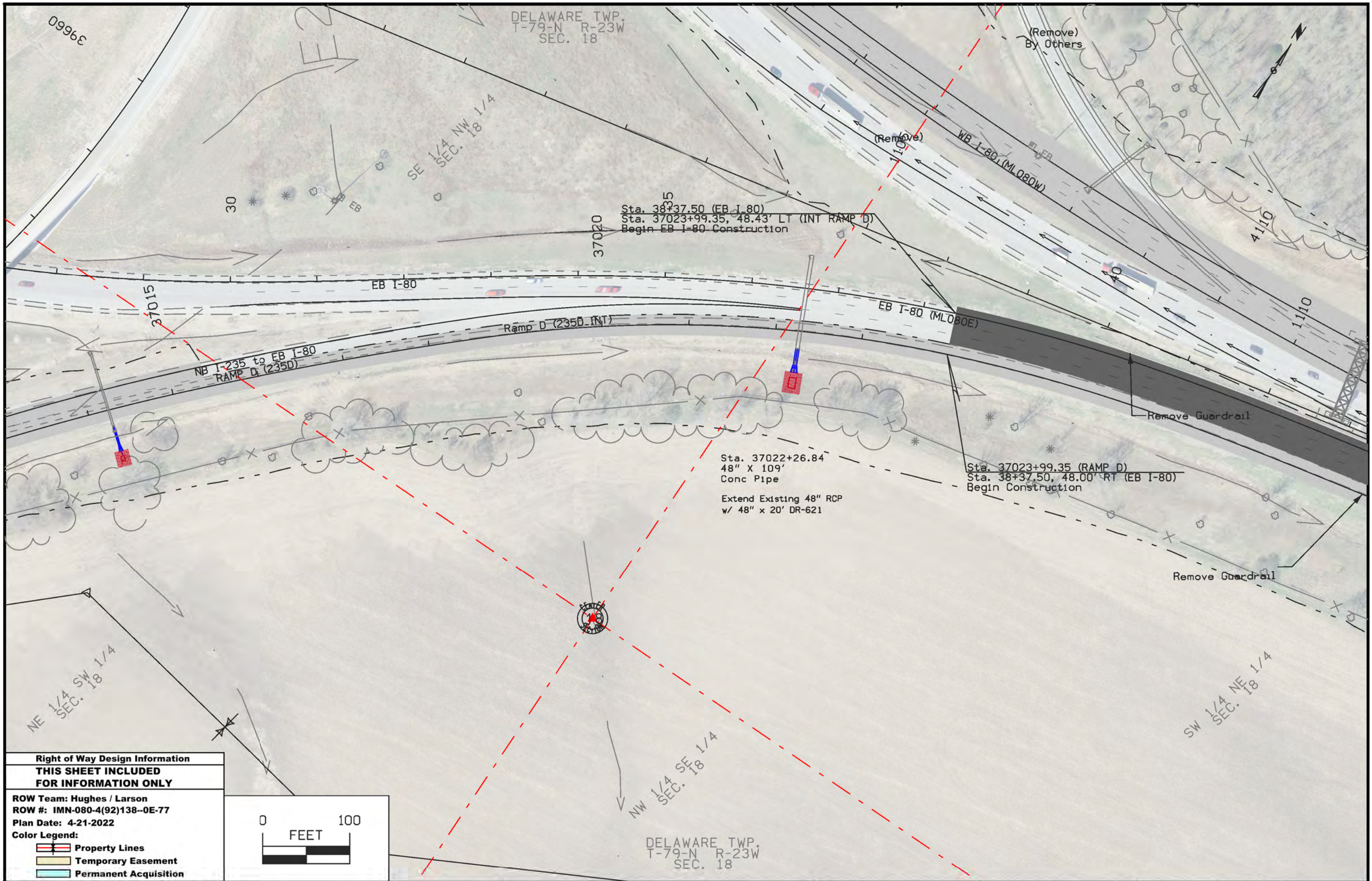
DELAWARE TWP.  
T-79-N R-23W  
SEC. 18

**Right of Way Design Information**  
**THIS SHEET INCLUDED**  
**FOR INFORMATION ONLY**

ROW Team: Hughes / Larson  
ROW #: IMN-080-4(92)138-0E-77  
Plan Date: 4-21-2022

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



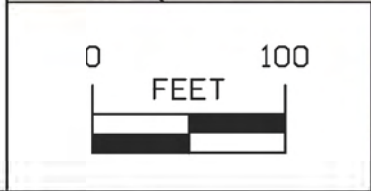


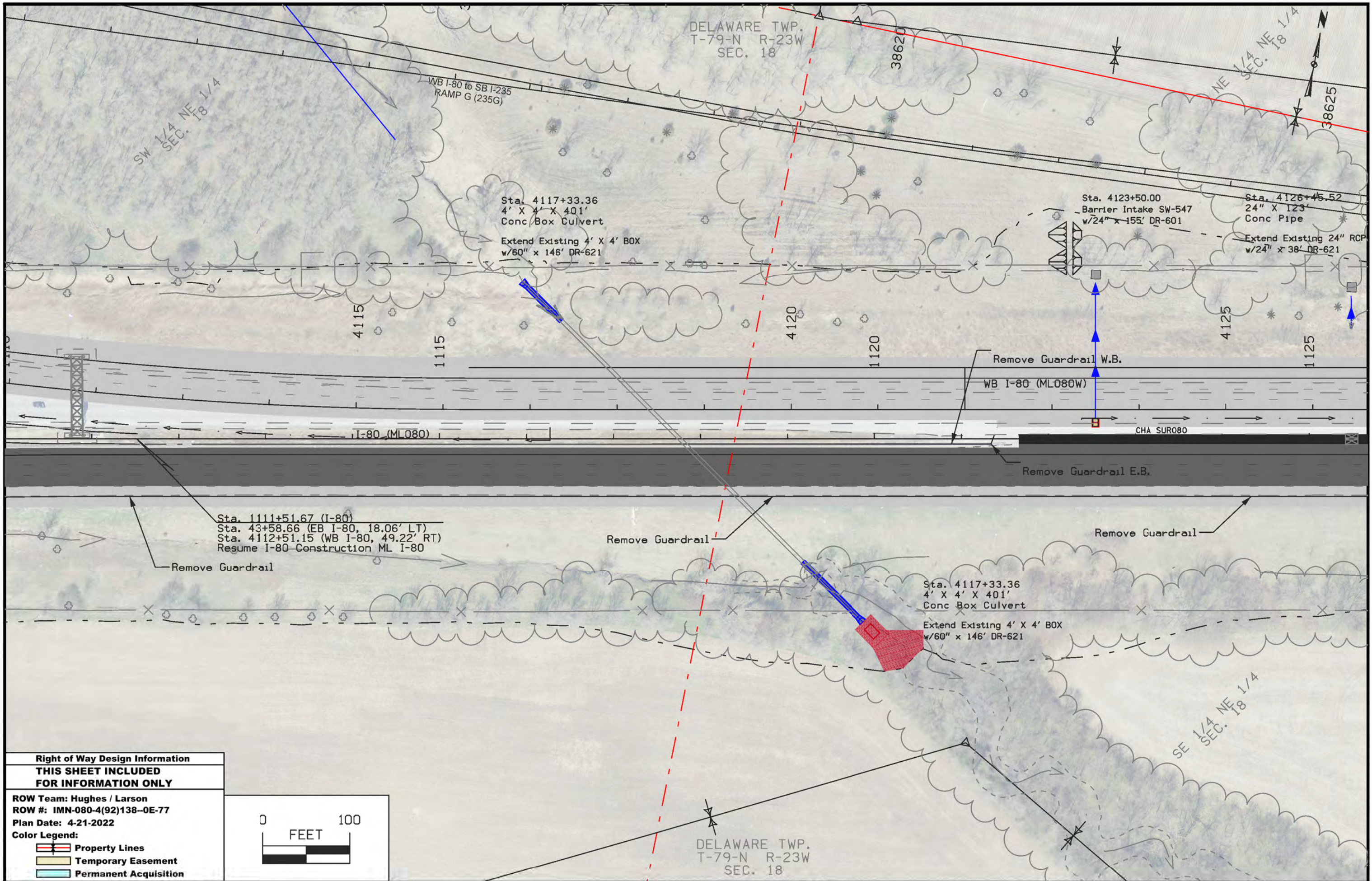
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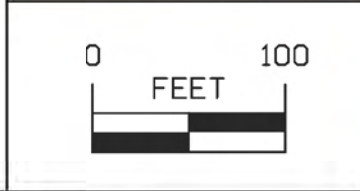


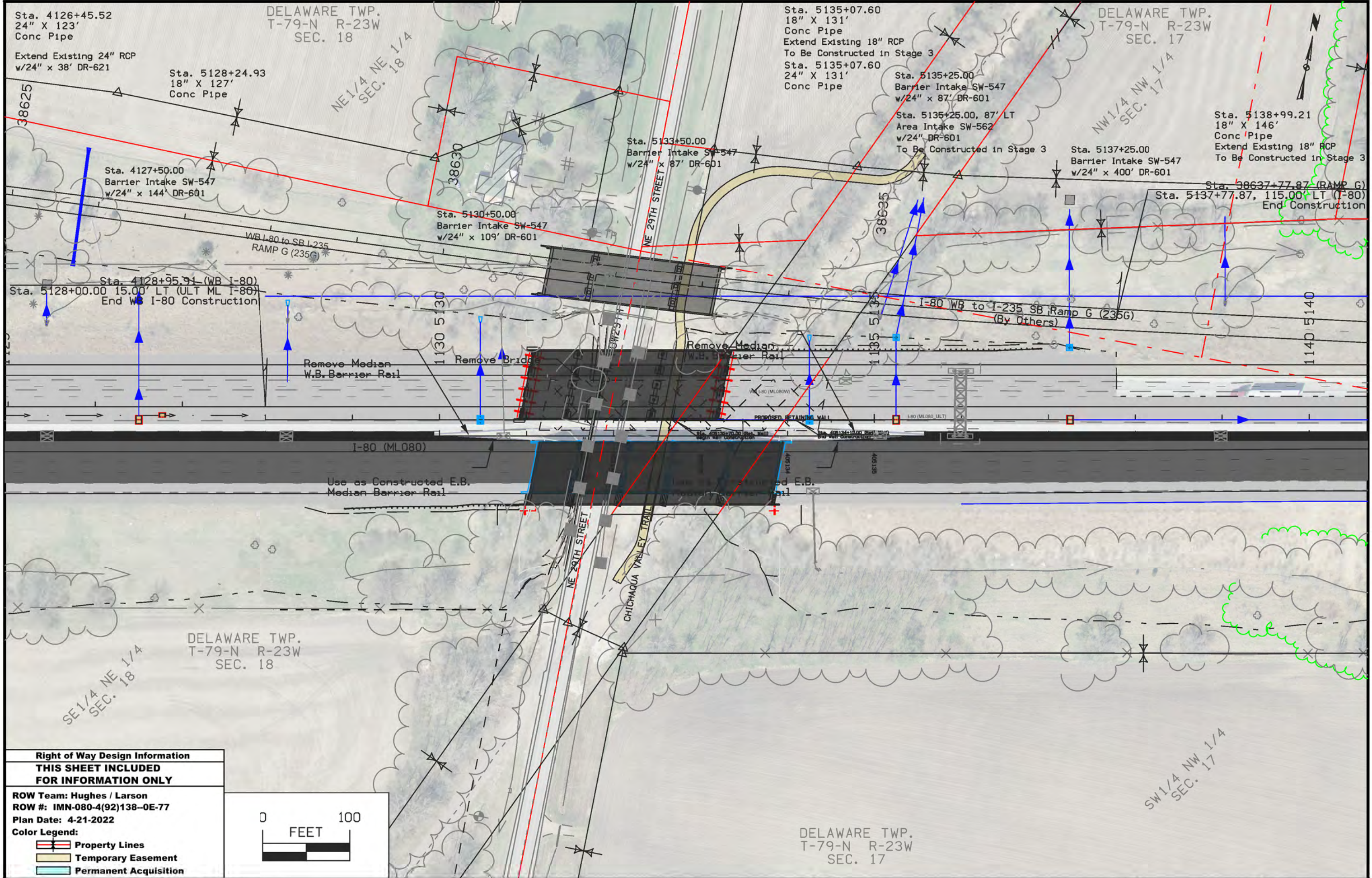
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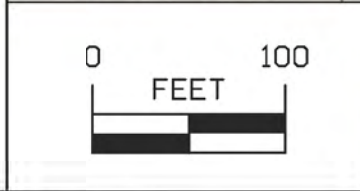


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ROW Team: Hughes / Larson  
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 Plan Date: 4-21-2022

**Color Legend:**

- Property Lines
- Temporary Easement
- Permanent Acquisition



DELAWARE TWP.  
T-79-N R-23W  
SEC. 17

①  
BRENDA R SAFRANSKI,  
CARMEN SCHAMP-PRYOR LIFE ESTATE

NE 1/4 NW 1/4  
SEC. 17

Sta. 5150+99.70  
18" X 116'  
Conc Pipe  
Extend Existing 18" RCP  
w/ 18" x 72' DR-621

Sta. 5138+99.21  
18" X 146'  
Conc Pipe

Extend Existing 18" RCP  
To Be Constructed in Stage 3

Sta. 5141+25.00  
Barrier Intake SW-547  
w/24" x 400' DR-601

Sta. 5142+99.15  
18" X 151'  
Conc Pipe

Extend Existing 18" RCP  
To Be Constructed in Stage 3

Sta. 5145+25.00  
Barrier Intake SW-547  
w/24" x 400' DR-601

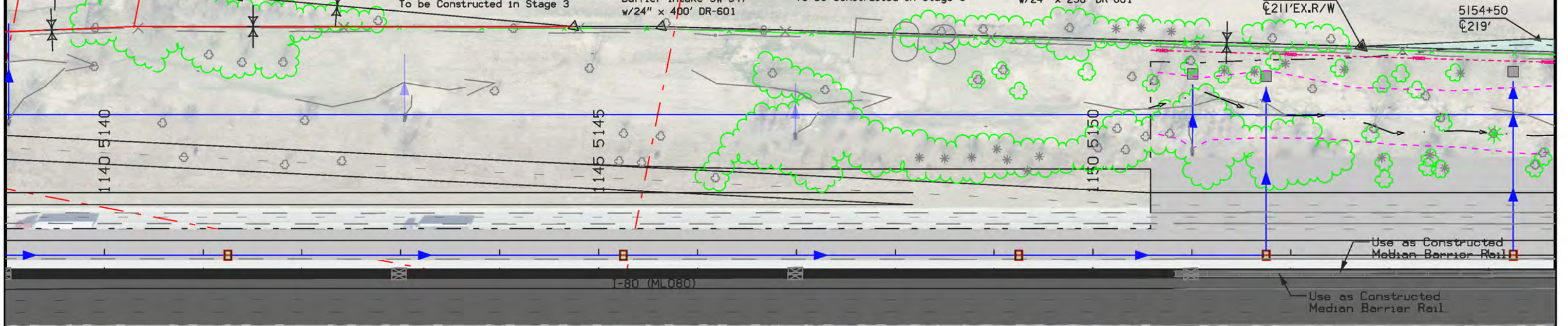
Sta. 5146+99.59  
18" X 133'  
Conc Pipe

Extend Existing 18" RCP  
To Be Constructed in Stage 3

Sta. 5149+25.00  
Barrier Intake SW-547  
w/24" x 250' DR-601

Sta. 5151+75.00  
Barrier Intake SW-547  
w/24" x 164' DR-601

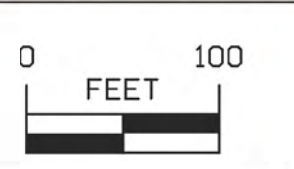
Sta. 5154+25.00  
Barrier Intake SW-547  
w/24" x 194' DR-601



Right of Way Design Information  
THIS SHEET INCLUDED  
FOR INFORMATION ONLY

ROW Team: Hughes / Larson  
ROW #: IMN-080-4(92)138-0E-77  
Plan Date: 4-21-2022

Color Legend:  
Property Lines  
Temporary Easement  
Permanent Acquisition



DELAWARE TWP.  
T-79-N R-23W  
SEC. 17

1

DELAWARE TWP.  
T-79-N R-23W  
SEC. 17

BRENDA R SAFRANSKI,

GARMEN SCHAMP-PRYOR LIFE ESTATE

Sta. 5154+25.00  
Barrier Intake SW-547  
w/24" x 194' DR-601

Sta. 5154+99.08  
18" X 113'  
Conc Pipe

Extend Existing 18" RCP  
w/ 18" x 78' DR-621

Sta. 5156+75.00  
Barrier Intake SW-547  
w/24" x 156' DR-601

Sta. 5158+98.71  
18" X 107'  
Conc Pipe  
Extend Existing 18" RCP  
w/ 18" x 60' DR-621

Sta. 5159+25.00  
Barrier Intake SW-547  
w/24" x 144' DR-601

Sta. 5161+75.00  
Barrier Intake SW-547  
w/24" x 138' DR-601

Sta. 5164+25.00  
Barrier Intake SW-547  
w/24" x 125' DR-601

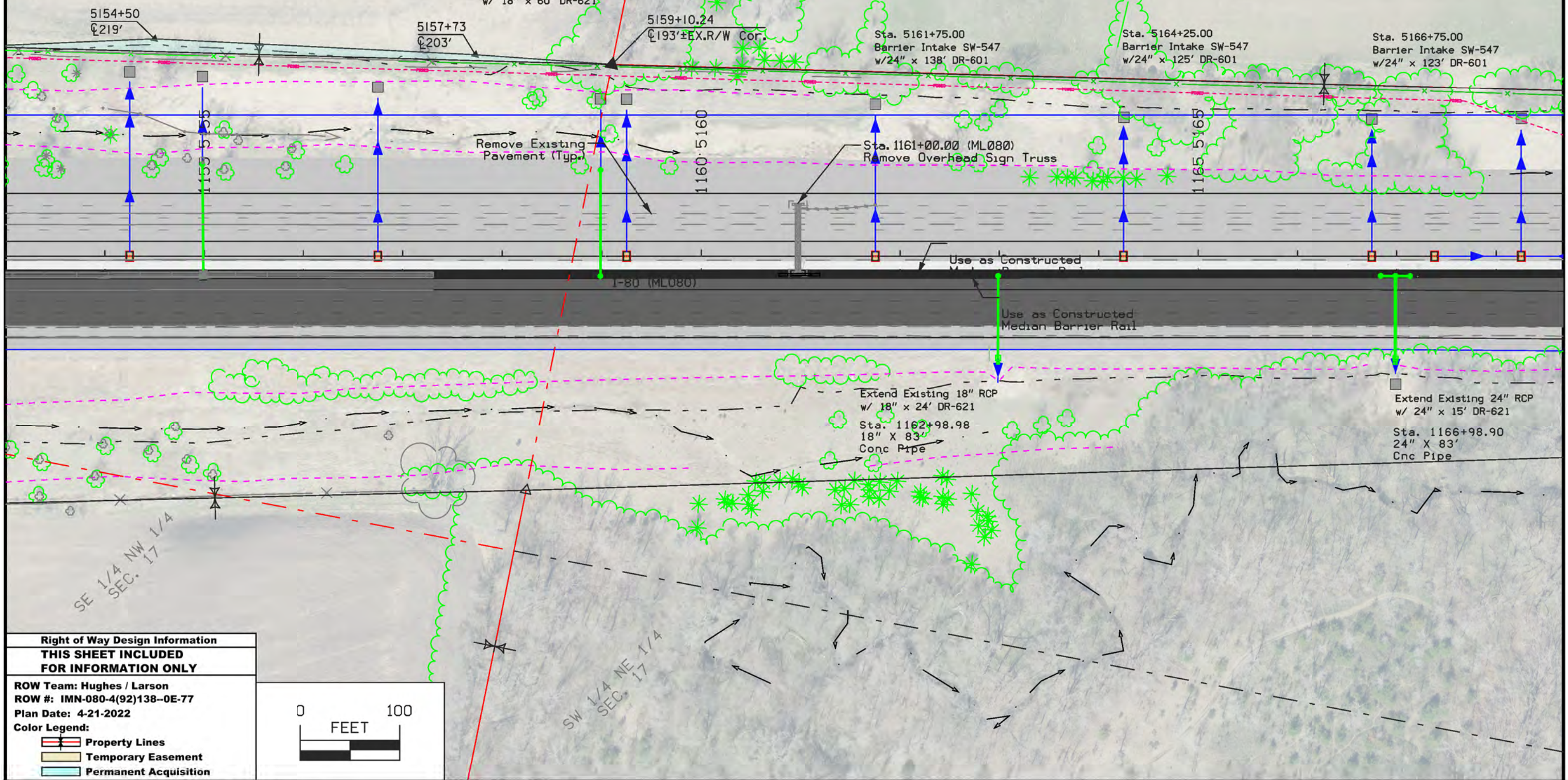
Sta. 5166+75.00  
Barrier Intake SW-547  
w/24" x 123' DR-601

Sta. 5168+25.02  
Barrier Intake SW-547  
w/24" x 123' DR-601

Sta. 5167+37.94  
Barrier Intake SW-547  
w/24" x 82' DR-601

NE 1/4 NW 1/4  
SEC. 17

NW 1/4 NE 1/4  
SEC. 17



Right of Way Design Information  
THIS SHEET INCLUDED  
FOR INFORMATION ONLY

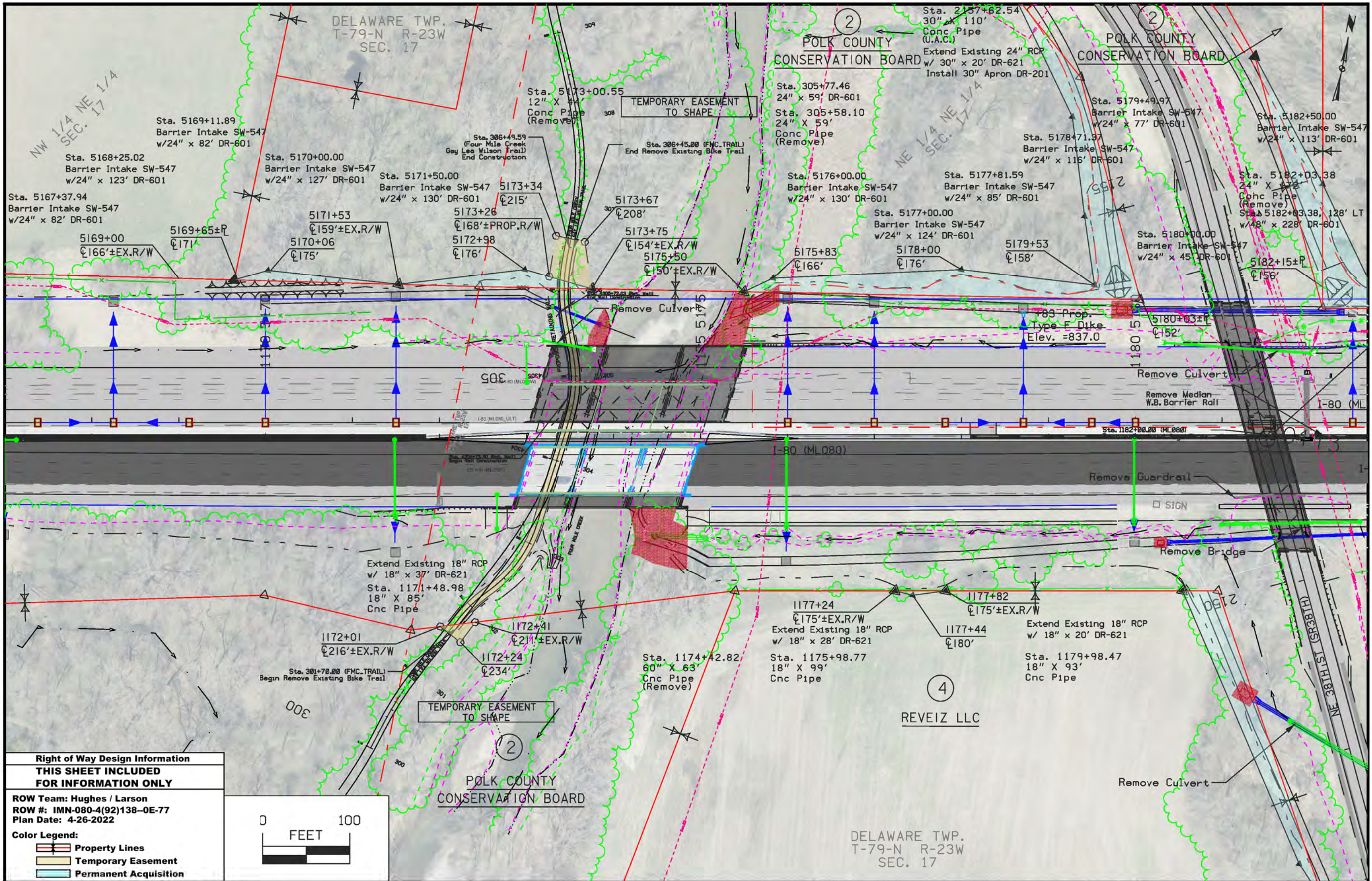
ROW Team: Hughes / Larson  
ROW #: IMN-080-4(92)138--0E-77  
Plan Date: 4-21-2022

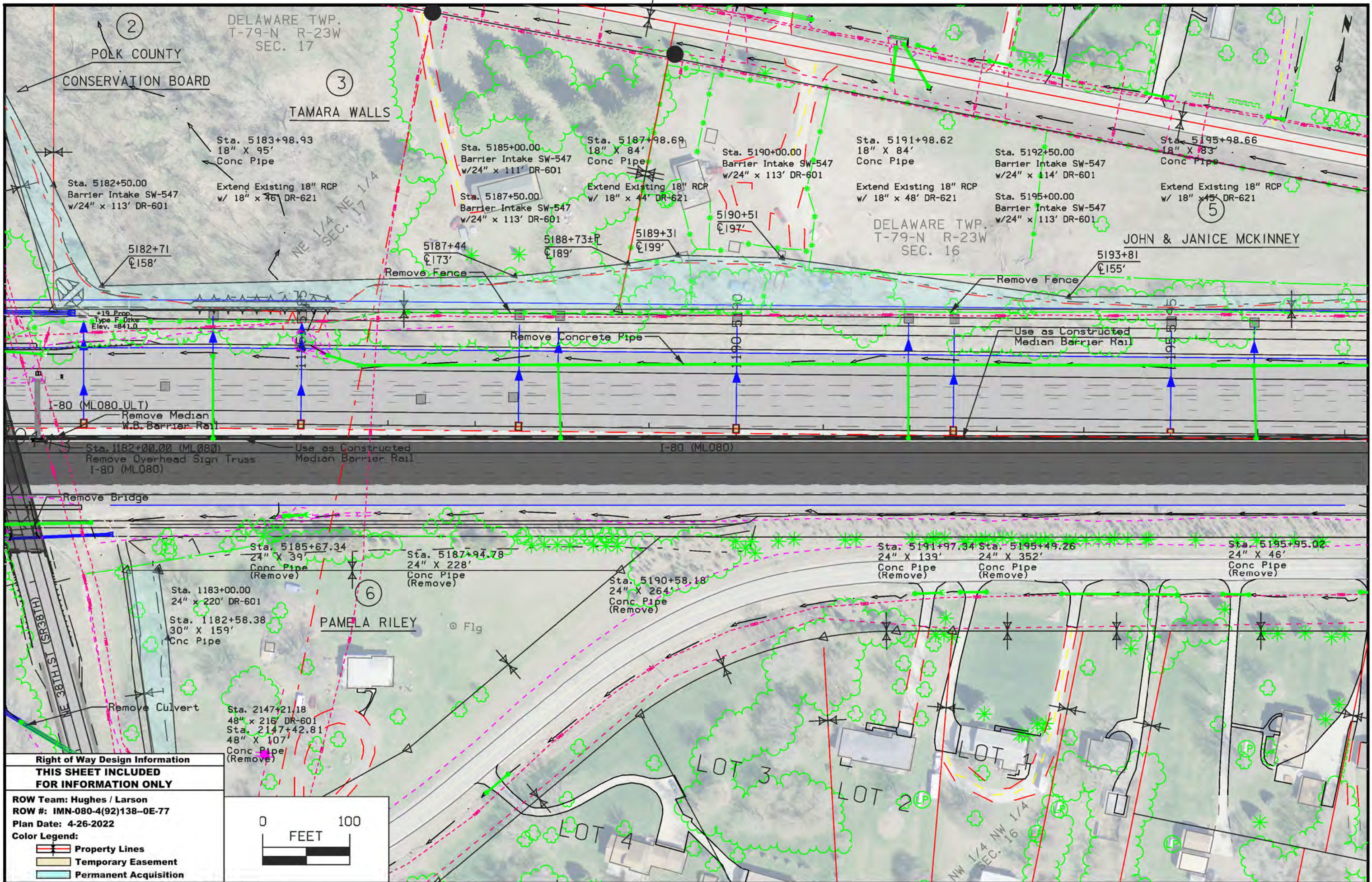
Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition



SW 1/4 NE 1/4  
SEC. 17



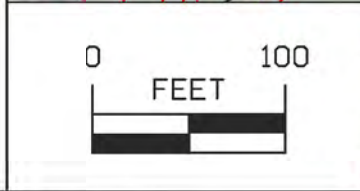


**Right of Way Design Information**  
**THIS SHEET INCLUDED FOR INFORMATION ONLY**

ROW Team: Hughes / Larson  
 ROW #: IMN-080-4(92)138-0E-77  
 Plan Date: 4-26-2022

**Color Legend:**

- Property Lines
- Temporary Easement
- Permanent Acquisition



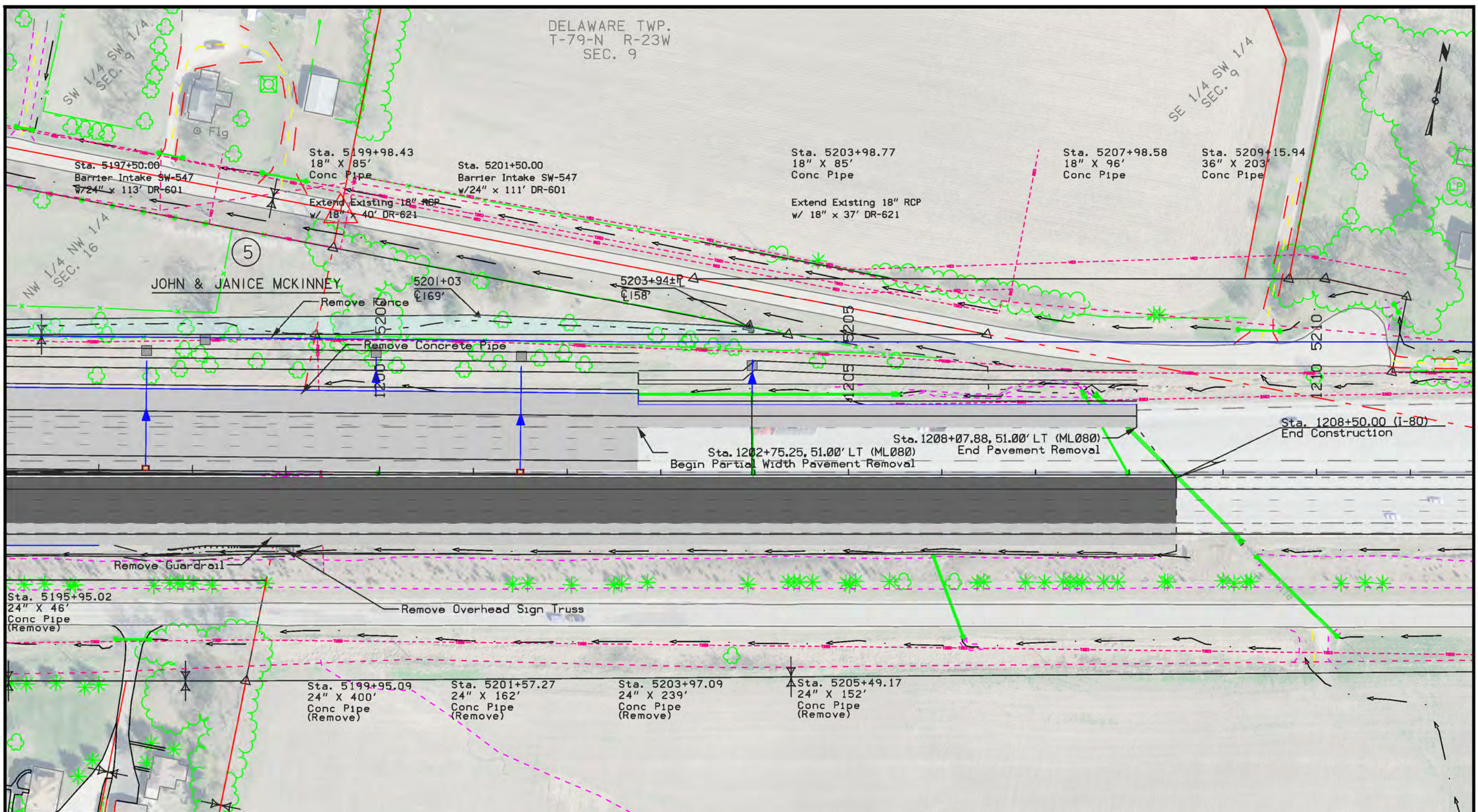


DELAWARE TWP.  
T-79-N R-23W  
SEC. 9

SE 1/4 SW 1/4  
SEC. 9

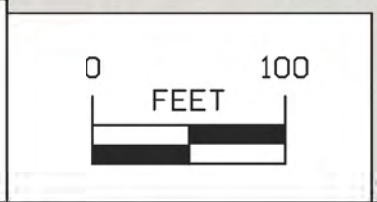
NW 1/4 NW 1/4  
SEC. 16

NE 1/4 NW 1/4  
SEC. 16



**Right of Way Design Information**  
**THIS SHEET INCLUDED**  
**FOR INFORMATION ONLY**

ROW Team: Hughes / Larson  
 ROW #: IMN-080-4(92)138-0E-77  
 Plan Date: 4-26-2022  
 Color Legend:  
 - Property Lines  
 - Temporary Easement  
 - Permanent Acquisition



DELAWARE TWP.  
T-79-N R-23W  
SEC. 16

DELAWARE TWP.  
T-79-N R-23W  
SEC. 17

NE 1/4 NE 1/4  
SEC. 17

4

REVEIZ LLC

Extend Existing 18" RCP  
w/ 18" x 20' DR-621

Sta. 1179+98.47  
18" X 93'  
Cnc Pipe

Sta. 305+77.46  
24" x 59' DR-601  
Sta. 305+58.10  
24" x 59'  
Conc Pipe  
(Remove)

POLK COUNTY  
CONSERVATION BOARD

Sta. 5176+00.00  
Barrier Intake SW-547  
w/24" x 130' DR-601

Sta. 5177+00.00  
Barrier Intake SW-547  
w/24" x 124' DR-601

Sta. 5177+81.59  
Barrier Intake SW-547  
w/24" x 85' DR-601

Sta. 5178+71.37  
Barrier Intake SW-547  
w/24" x 116' DR-601

Sta. 2157+62.54  
30" x 110'  
Conc Pipe

2154+70  
135'  
Sta. 2158+00.00 (38th St)  
End Construction  
2156+06  
109'

Extend Existing 24" RCP  
w/ 30" x 20' DR-621

2146+87  
90'  
Sta. 2146+50.00 (38th St)  
Begin Construction

2150+24±EX.R/W  
138'

Remove Culvert

Remove Guardrail

NE 38TH ST (SR38TH)

Remove Bridge  
Sta. 1183+00.00  
24" x 220' DR-601  
Sta. 1182+58.38  
30" x 159'  
Cnc Pipe

Sta. 5182+03.38  
24" x 172'  
Conc Pipe  
(Remove)

Sta. 5182+03.38, 128' LT  
w/48" x 228' DR-601

2147+03±P  
93'

2148+97  
130'

2149+75±EX.R/W  
140'

Sta. 5185+67.34  
24" x 39'  
Conc Pipe  
(Remove)

Sta. 5182+50.00  
Barrier Intake SW-547  
w/24" x 113' DR-601

+19 Prop.  
Type F Dike  
Elev. =841.0

POLK COUNTY  
CONSERVATION BOARD

Extend Existing 60" RCP  
w/ 30" x 10' DR-621  
Sta. 2157+87.45  
30" x 110'  
Conc Pipe

2

3

TAMARA WALLS

Sta. 5183+98.93  
18" x 95'  
Conc Pipe  
Remove Fence

Extend Existing 18" RCP  
w/ 18" x 46' DR-621  
Sta. 17022+26.84  
48" x 109'  
Conc Pipe

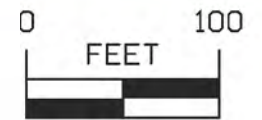
Extend Existing 48" RCP  
w/ 48" x 48' DR-621

PAMELA RILEY

Right of Way Design Information  
THIS SHEET INCLUDED  
FOR INFORMATION ONLY

ROW Team: Hughes / Larson  
ROW #: IMN-080-4(92)138--0E-77  
Plan Date: 4-21-2022

Color Legend:  
Property Lines  
Temporary Easement  
Permanent Acquisition



**TRAFFIC CONTROL PLAN**

1. 3 lanes of traffic shall be maintained on I-80 and Ramps at all times, except as provided for in the following notes, Staging Notes and Staging Sheets.
2. The contractor shall submit any requests for closures or traffic control plan modifications to the engineer for review and approval 2 weeks prior to any changes being made. Traffic control for closures / detours not shown in the plans will be the responsibility of the Contractor to provide to the Engineer for review and approval.
  - A. Temporary nighttime full road closures of I-80 will be permitted as follows.
    - Short duration of up to 20 minutes to complete overhead work and to set new bridge beams. The Contractor shall submit the traffic control plan 2 weeks in advance to the Engineer for approval.
    - Extended durations of over 20 minutes to remove existing bridge or place bridge beams. I-80 traffic will be detoured to local roads per Off Site Detours. The Contractor shall submit the traffic control plan 2 weeks in advance for the Engineer's approval.
  - B. Allowable interstate lane closure times are shown in the graphics on the following sheets as provided by the IDOT.
    - RT & LT lane & Inside Shoulder closures allowed from 8 PM - 5 AM Sunday through Thursday.
    - Center Lane closing require a Left Lane closure and are allowed from 10 PM - 5 AM Sunday through Thursday.
    - No outside shoulder closures allowed 6 AM - 9 AM Monday through Friday nor 3 PM - 6 PM daily.
3. Traffic control devices shall not be placed in the traveled way before the permitted times shown.
4. Traffic control devices shall be removed from the traveled way before the ending times shown.
5. Contractor shall fully remove all detour signing nightly.
6. Contractor is responsible for installation, maintenance, and removal of all detour signing.
7. Coordinate with Engineer during temporary nighttime road closures to display sign messages on permanent DMS on I-80.
8. Install Portable Dynamic Message Signs (PDMS) on interstates per Off-Site Detour plans for extended duration temporary nighttime full road closure.
9. PDMS shall be deployed 3 days prior to any overnight closure of ramps or interstate mainline. All PDMS units shall be furnished, maintained and removed by the Contractor. The Contractor shall coordinate with the Engineer to determine appropriate locations.
10. All PDMS shall be connected to the Statewide Traffic Management Center (TMC), at least 1 week before the PDMS is first activated. The Contractor must provide the TMC with necessary PDMS connection information. The TMC will develop and post all messages.
11. The Contractor shall provide notification to the Statewide Traffic Management Center (515-237-3300) immediately prior to deployment and upon removal of lane closures. If a planned lane closure does not occur at the scheduled time immediately contact the Statewide Traffic Management Center.
12. Ramp closures shall be in accordance with Standard Road Plan TC-417. The Contractor shall notify the Engineer two weeks in advance of the time of closure. "Need to Provide an off site detour for Ramp H"
13. The Contractor shall provide, install, maintain, and remove traffic control for detours. Refer to the detour maps provided on the J-sheets for route and sign location details. Existing alternate route signs that conflict with active detours shall be covered by the Contractor for the duration of the detour.
14. The Contractor shall coordinate traffic control with other projects.
15. Contractor shall maintain access to Chichaqua Valley Trail at all times except in the event of overhead bridge work.
16. The Contractor shall maintain clean pavement leading into and out of the work areas at all times.

**COORDINATED OPERATIONS**

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

Project	Type of Work
IM-035-3(194)87--13-77	Grading
IM-035-3(197)87--13-77	Grading and Paving
IM-035-3(195)87--13-77	Bridge I-35 NB
IM-035-3(196)87--13-77	Bridge Ramp G (Over Broadway)
IM-035-3(203)87--13-77	Bridge Ramp B
IM-035-3(070)87--13-77	Bridge Ramp G (Over 29th)
	Signing
	Lighting

**STAGING NOTES**

**STAGING NOTES**

**Stage 1**

- Traffic:
- Maintain 3 lanes Traffic on existing I-80 EB and I-80 WB roadways via lane shifts.
  - Maintain 2 lanes of Traffic to Ramp D / Ramp H
  - Temporary closures of Chichaqua Valley Trail and NE 29th St for partial removal of I-80 WB Bridge and setting beams
  - Temporary closures of Fourmile Creek Trail for partial removal of I-80 WB Bridge, Trail and Retaining Wall Construction and setting beams
  - Closure of NE 38th St
  - Temporary short term closures of I-80 WB for removal of the North portion of the existing NE 38th Street Bridge

- Construction:
- Partial removal of the existing I-80 WB Bridges at NE 29th Street, Fourmile Creek and NE 38th Street
  - Remove existing pavement at NE 38th Street
  - Construct temporary shoring along existing I-80 WB at the NE 29th Street Bridge
  - Construct partial I-80 WB bridge over NE 29th St. and Chichaqua Valley Trail
  - Construct partial I-80 WB bridge over Fourmile Creek
  - Construct cast in place retaining wall along Fourmile Creek Greenway Trail
  - Construct Fourmile Creek Greenway Trail
  - Construct grading at NE 38th St
  - Construct pavement on the north portion of I-80 WB
  - Construct detour pavement on I-80 WB
  - Construct detour pavement on Ramp D
  - Construct Median crossovers on I-80
  - Remove remainder of existing I-80 WB to I-35 NB ramp
  - Remove existing Dynamic Message Sign (DMS), truss and footings on I-80 WB east of NE 38th Street
  - Install Portable Dynamic Message Sign (PDMS), on I-80 WB east of NE 38th Street

**Stage 2A**

- Traffic:
- Maintain 3 lanes I-80 WB traffic on new pavement
  - Maintain 3 lanes I-80 EB traffic on existing pavement
  - Maintain traffic to Ramp D \ Ramp H
  - Maintain closure of NE 38th Street

- Construction:
- Remove Detour Pavement along Ramp G gore, placed by previous project, and replace with proposed pavement on I-80 WB.

**Stage 2B**

- Traffic:
- Maintain 3 lanes I-80 WB traffic on new pavement
  - Maintain 3 lanes I-80 EB traffic on existing I-80 WB pavement via median crossovers
  - Maintain 1 lane of Traffic on Ramp D with temporary short term closures for removal of truss sign and construction of truss sign
  - Close Ramp H for I-80 WB roadway construction
  - Temporary closures of Chichaqua Valley Trail and NE 29th St for removal of deck and setting beams
  - Maintain closure of NE 38th St

- Construction:
- Remove Truss Sign Structure at Ramp D and Cantilever Sign Structure along I-80 EB at NE 38th Street
  - Partial removal of the south half of existing I-80 EB Bridge at NE 38th Street
  - Construct Truss Sign Structure at Ramp D and Cantilever Sign Structures along I-80 EB at NE 38th Street
  - Construct pavement widening on I-80 EB and Ramp D
  - Construct sections of pavement and temporary pavement on I-80 WB by Ramp H (Stage to complete just prior to beginning Stage 3)
  - Construct EB I-80 bridge widening and deck replacement over NE 29th St. and Chichaqua Valley Trail
  - Construct EB I-80 bridge widening and deck replacement over Fourmile Creek
  - Mill and overlay portions of EB I-80

**Stage 3**

- Traffic:
- Maintain 3 lanes I-80 WB traffic on new pavement
  - Temporary short term closure of I-80 WB for placement of truss sign
  - Maintain 3 lanes I-80 EB traffic on new I-80 EB pavement
  - Temporary closures of NE 29th St, Chichaqua Valley Trail and Four Mile Creek Trail for partial removal of I-80 Bridges and setting beams
  - Close Ramp H
  - Maintain 1 lane of traffic on newly constructed Ramp D
  - Maintain closure of NE 38th St

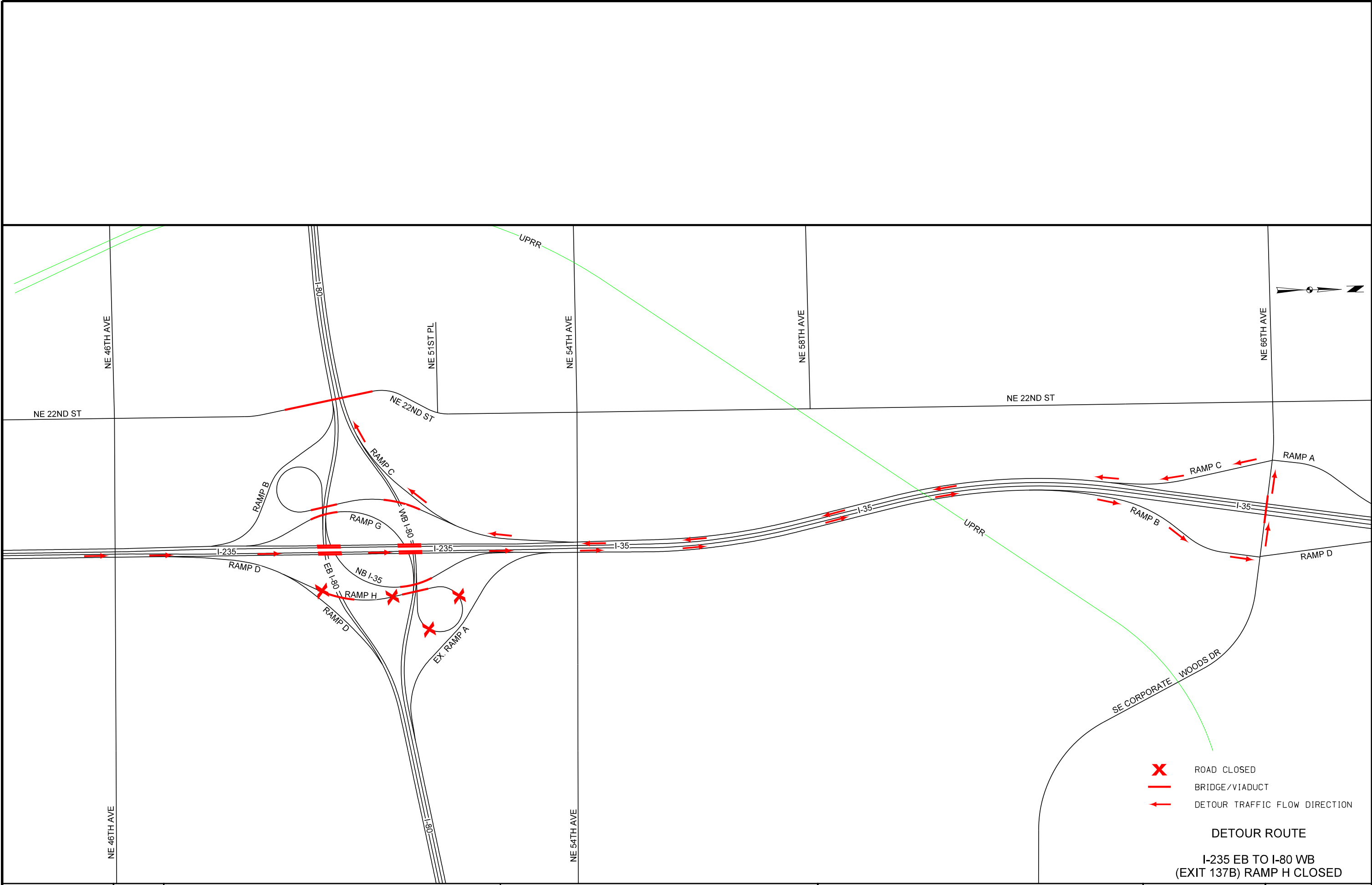
- Construction:
- Construct MSE Wall along the I-80 WB Bridge over NE 29th St and Chichaqua Valley Trail
  - Complete construction of I-80 WB Pavement and Bridges
  - Construct bridge on NE 38th St over I-80
  - Construct pavement of NE 38th St
  - Construct remaining portion of Ramp D, Ramp H and gore
  - Remove median crossovers and the remaining portion of existing WB I-80 pavement
  - Construct truss sign structure and reinstall DMS sign on I-80 WB east of NE 38th Street

**STAGING NOTES**

**Stage 4**

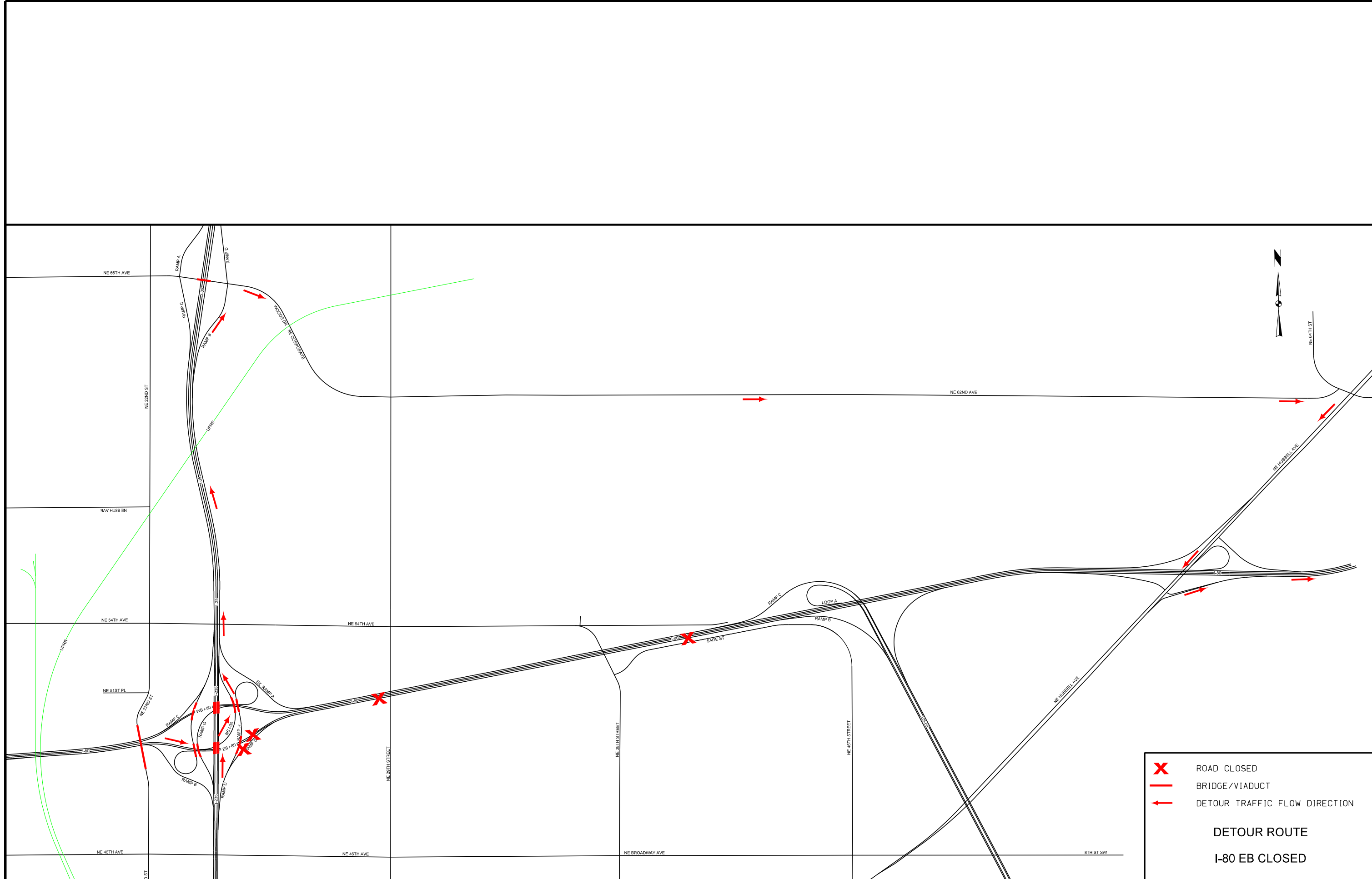
- Traffic:
- Maintain 3 lanes I-80 EB traffic utilizing off peak hours and lane closures for milling and overlay
  - Open Ramp H to traffic
  - Open Ramp D to two lanes of traffic
  - Open I-80 WB to traffic
  - Open NE 38th St to traffic

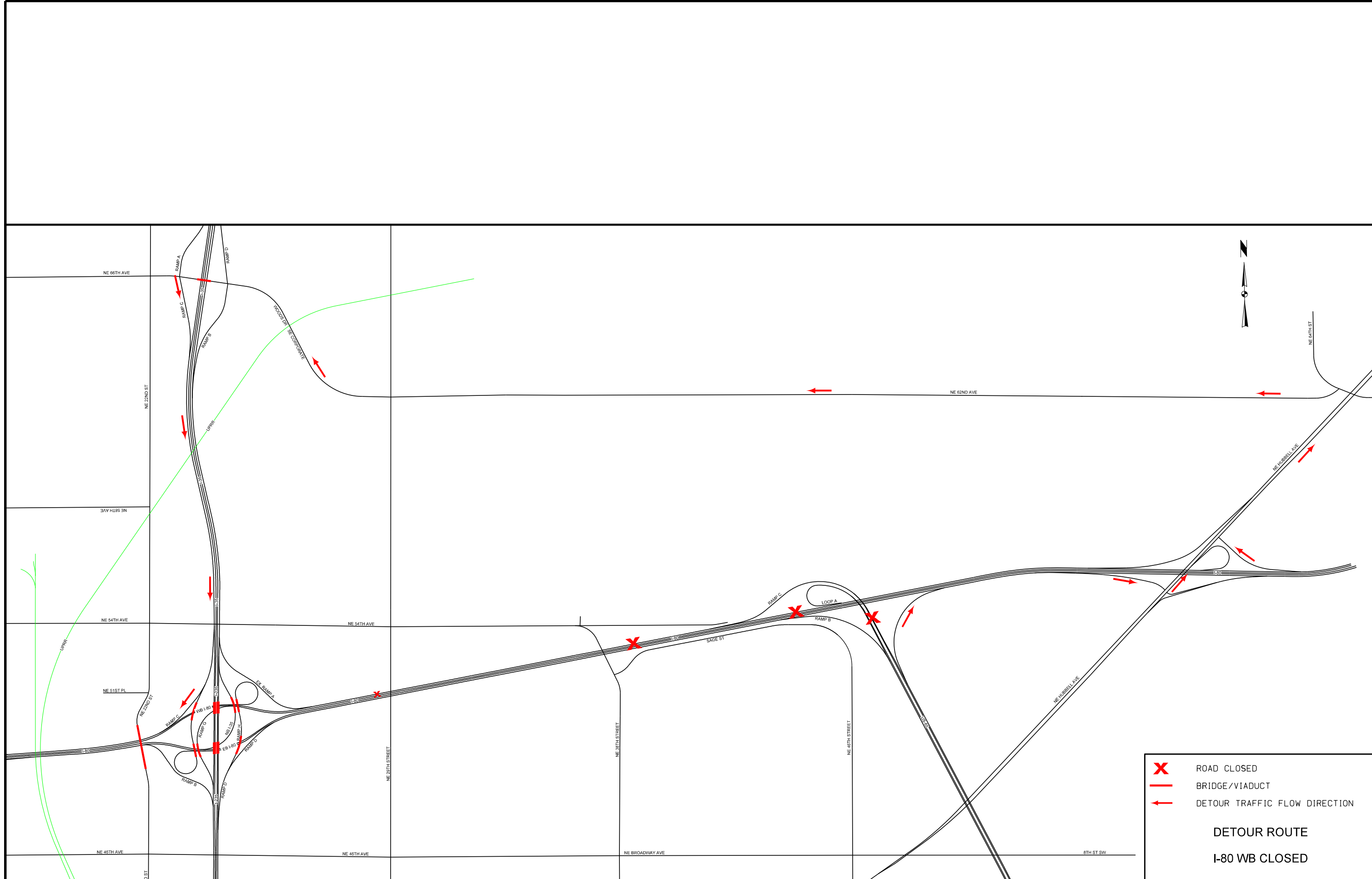
- Construction:
- Mill and overlay remainder of EB I-80.



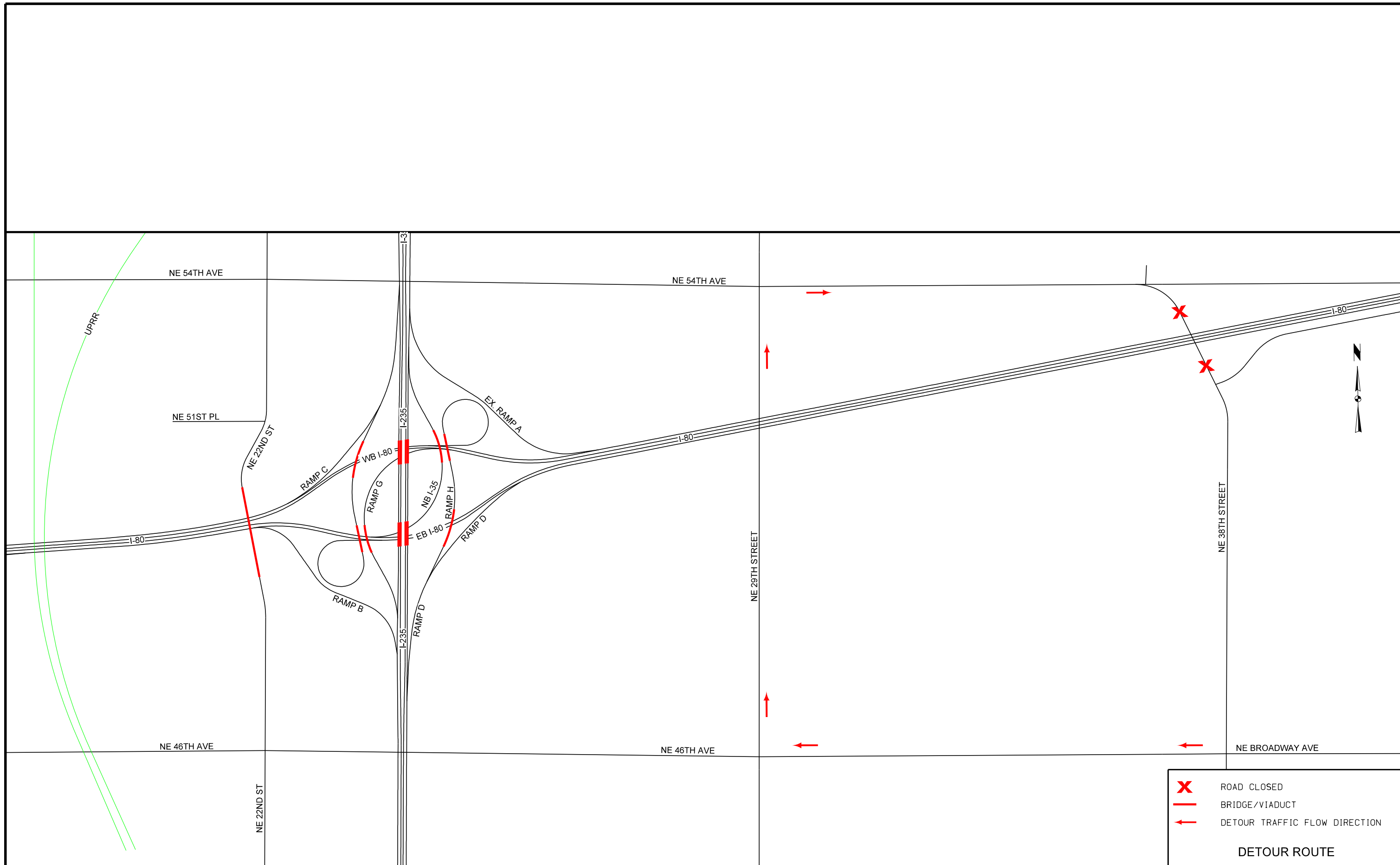
- X ROAD CLOSED
- BRIDGE/VIADUCT
- ← DETOUR TRAFFIC FLOW DIRECTION

**DETOUR ROUTE**  
**I-235 EB TO I-80 WB**  
**(EXIT 137B) RAMP H CLOSED**





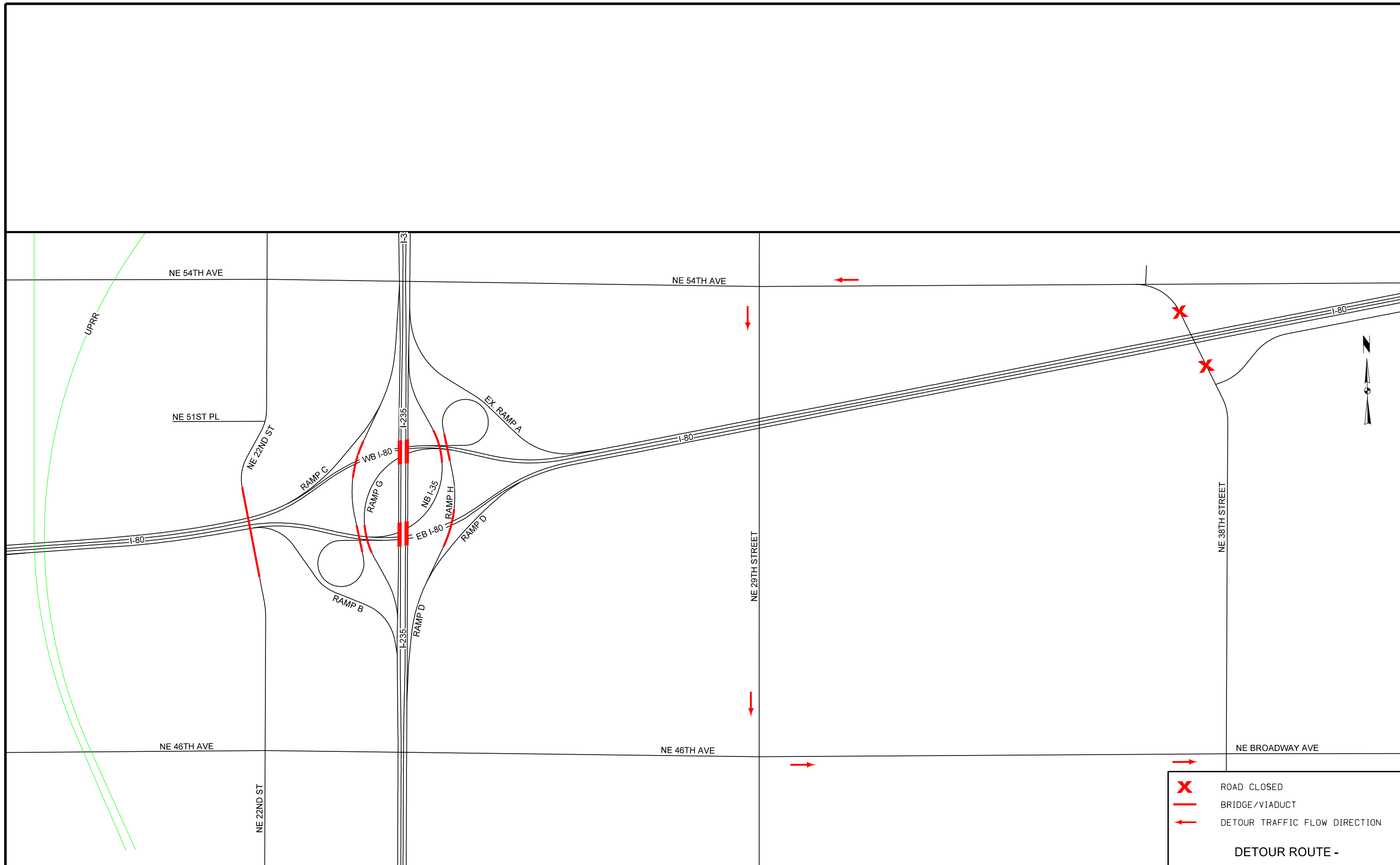
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	BRIDGE/VIADUCT
	DETOUR TRAFFIC FLOW DIRECTION
DETOUR ROUTE	
I-80 WB CLOSED	






- X ROAD CLOSED
- BRIDGE/VIADUCT
- ← DETOUR TRAFFIC FLOW DIRECTION

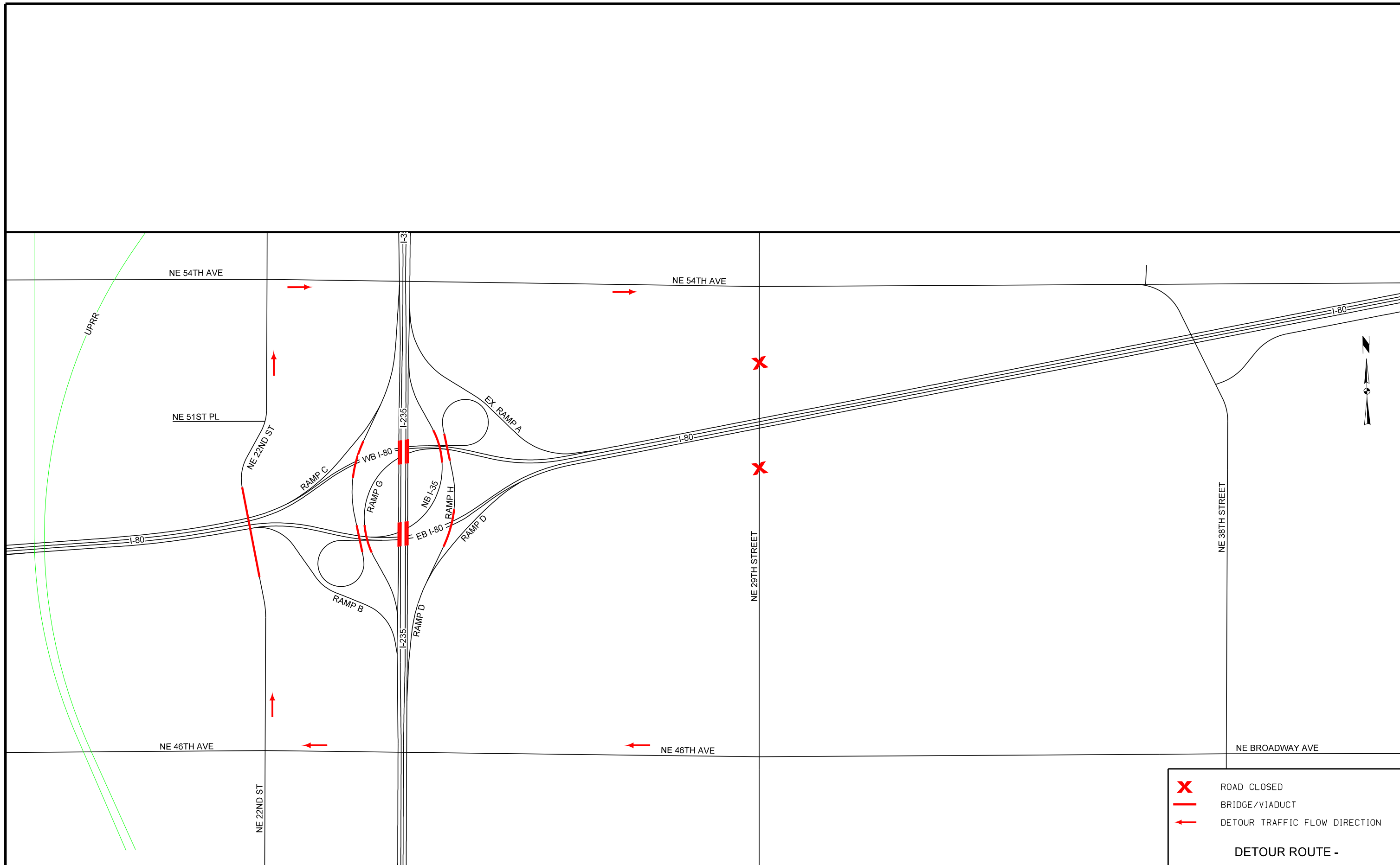
**DETOUR ROUTE**  
**NE 38TH STREET NB CLOSED**








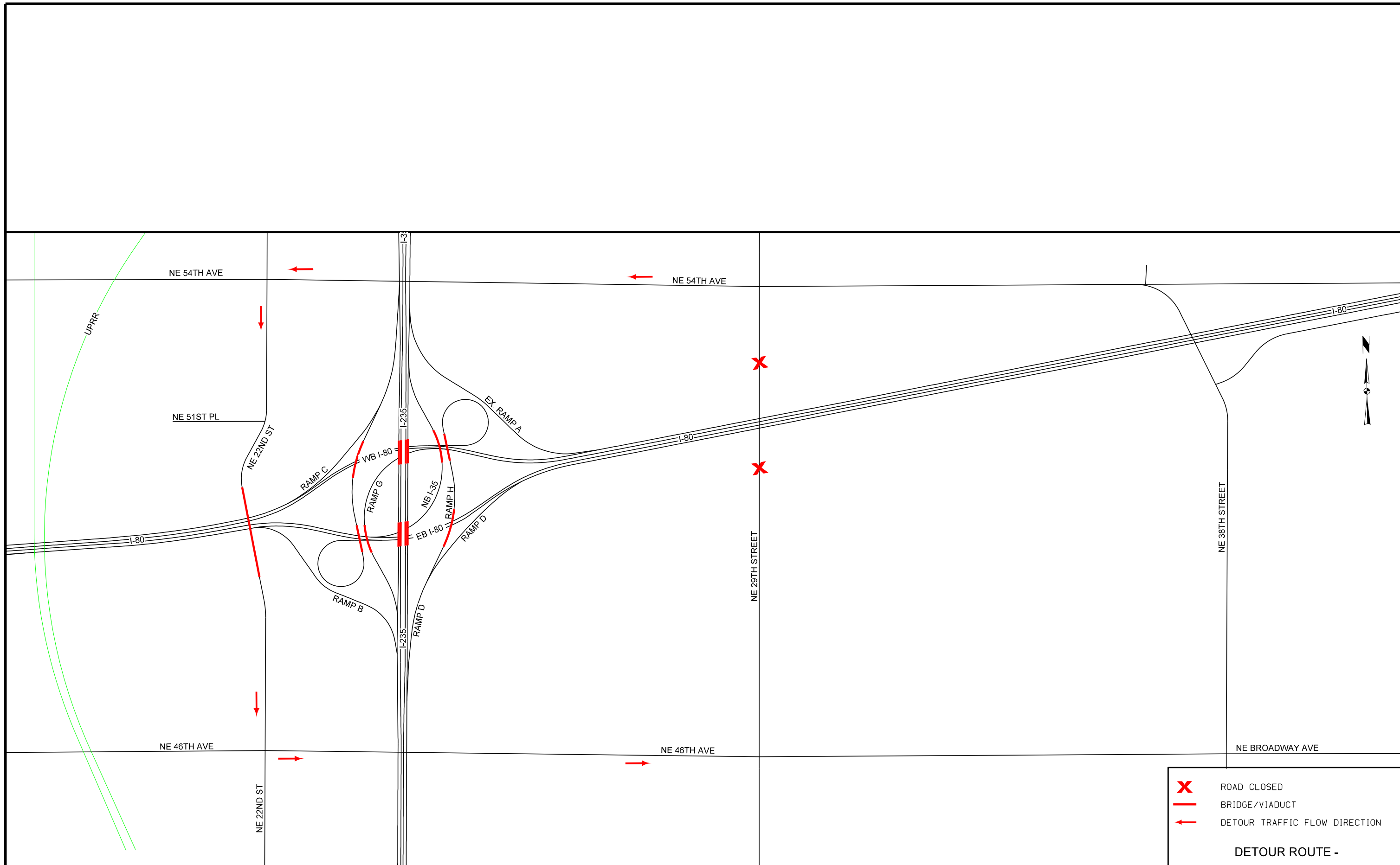
 ROAD CLOSED  
 BRIDGE/VIADUCT  
 DETOUR TRAFFIC FLOW DIRECTION

**DETOUR ROUTE -**  
**38TH STREET SB CLOSED**

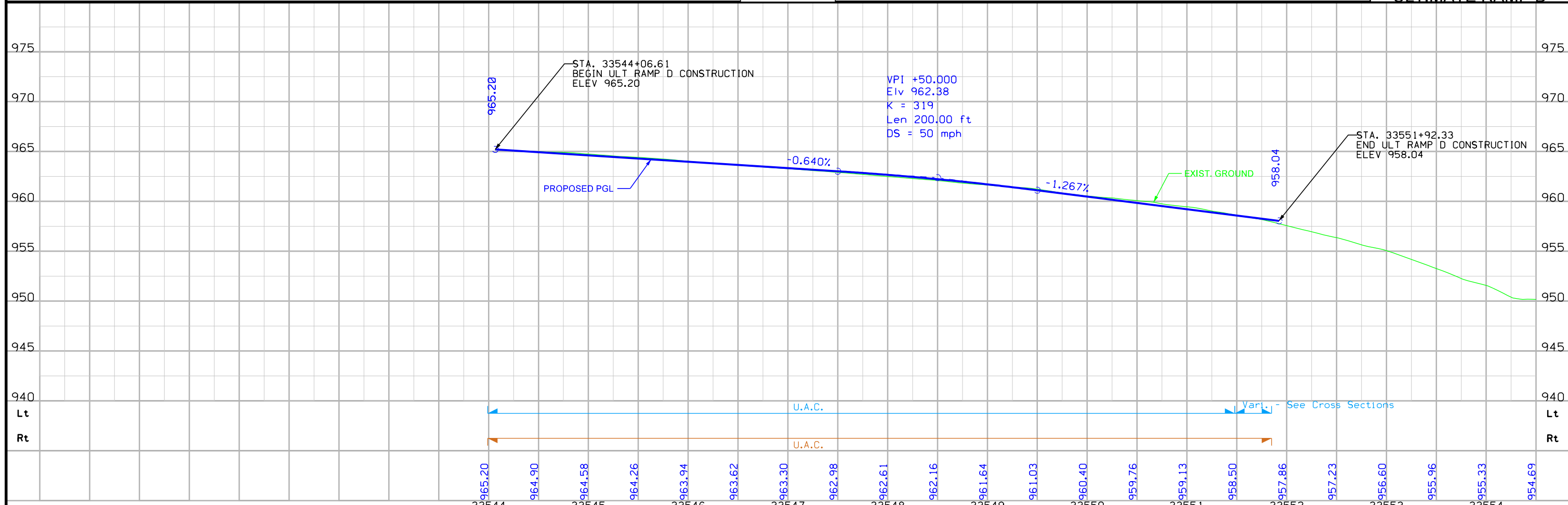
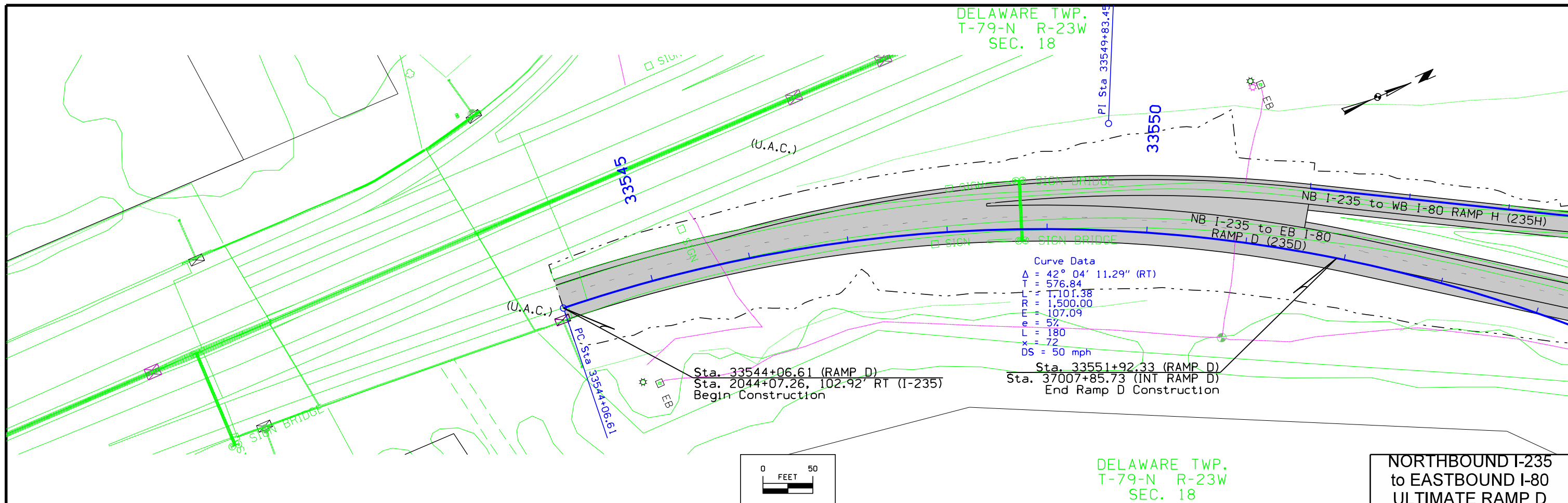


-  ROAD CLOSED
-  BRIDGE/VIADUCT
-  DETOUR TRAFFIC FLOW DIRECTION

DETOUR ROUTE -  
29TH STREET NB CLOSED



	ROAD CLOSED
	BRIDGE/VIADUCT
	DETOUR TRAFFIC FLOW DIRECTION
DETOUR ROUTE -	
29TH STREET SB CLOSED	

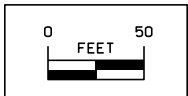
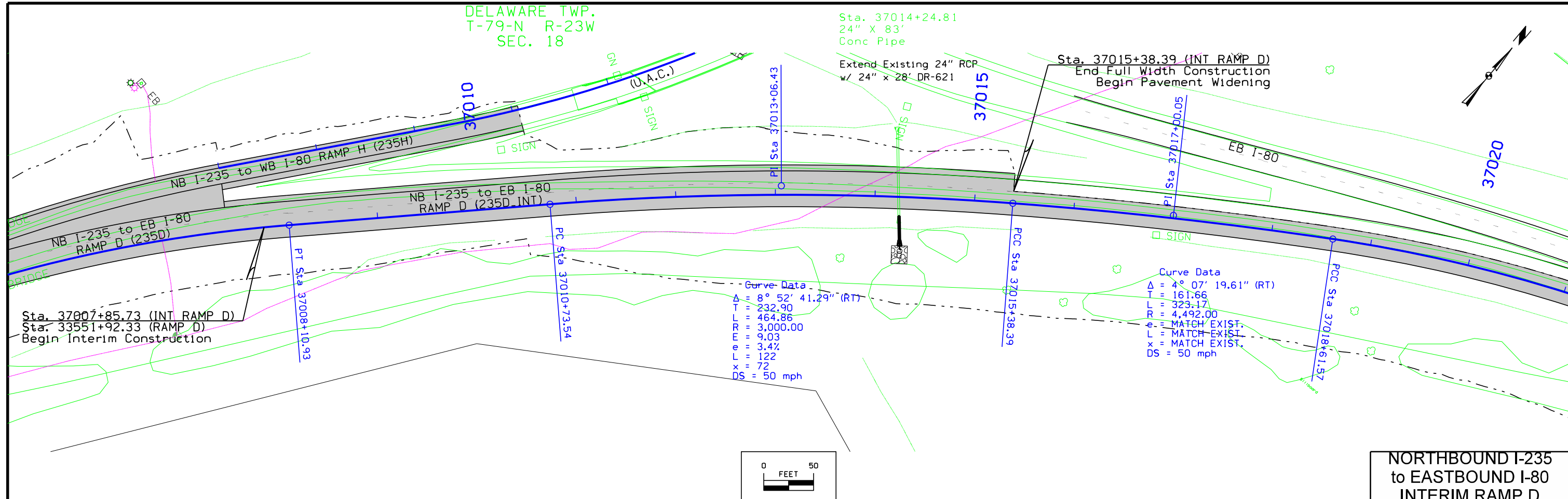


DELAWARE TWP.  
T-79-N R-23W  
SEC. 18

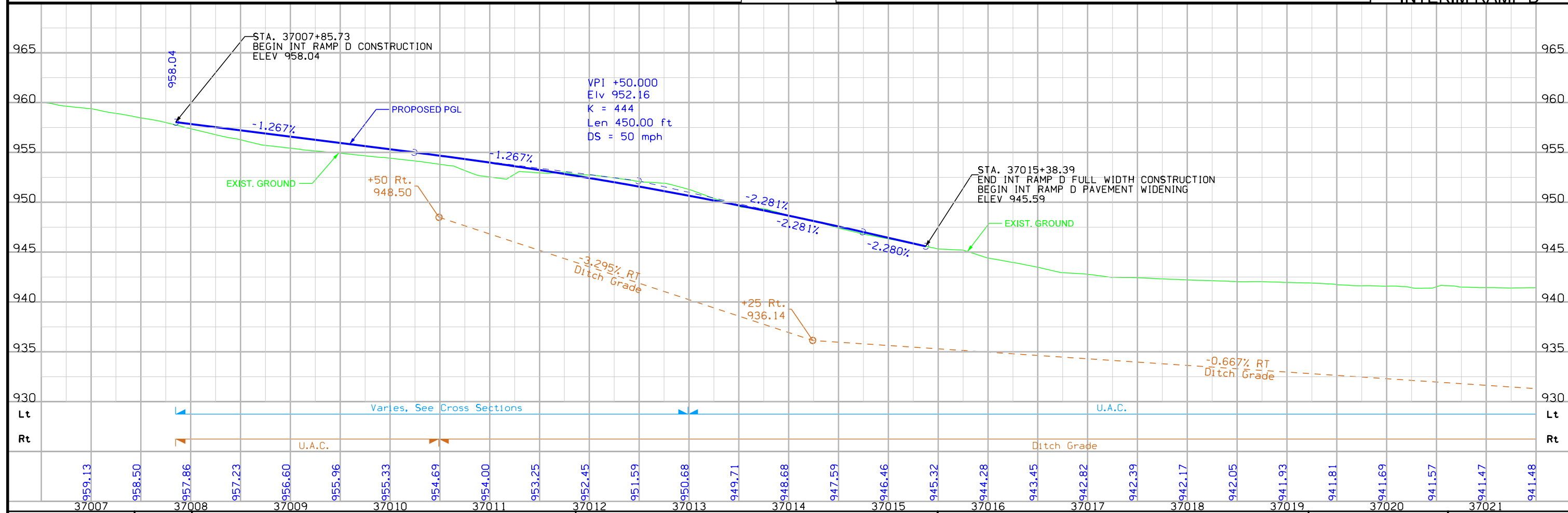
Sta. 37014+24.81  
24" X 83'  
Conc Pipe

Extend Existing 24" RCP  
w/ 24" x 28' DR-621

Sta. 37015+38.39 (INT RAMP D)  
End Full Width Construction  
Begin Pavement Widening



NORTHBOUND I-235  
to EASTBOUND I-80  
INTERIM RAMP D



FILE NO.	ENGLISH	DESIGN TEAM	Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER	IM-NHS-080-4(80)138--03-77	SHEET NUMBER	K.2
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DELAWARE TWP.  
T-79-N R-23W  
SEC. 18

Sta. 37022+26.84  
48" X 109'  
Conc Pipe

Extend Existing 48" RCP  
w/ 48" x 20' DR-621

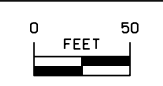
PI Sta 37021+33.25

EB I-80  
NB I-235 to EB I-80  
RAMP D (235D.INT)

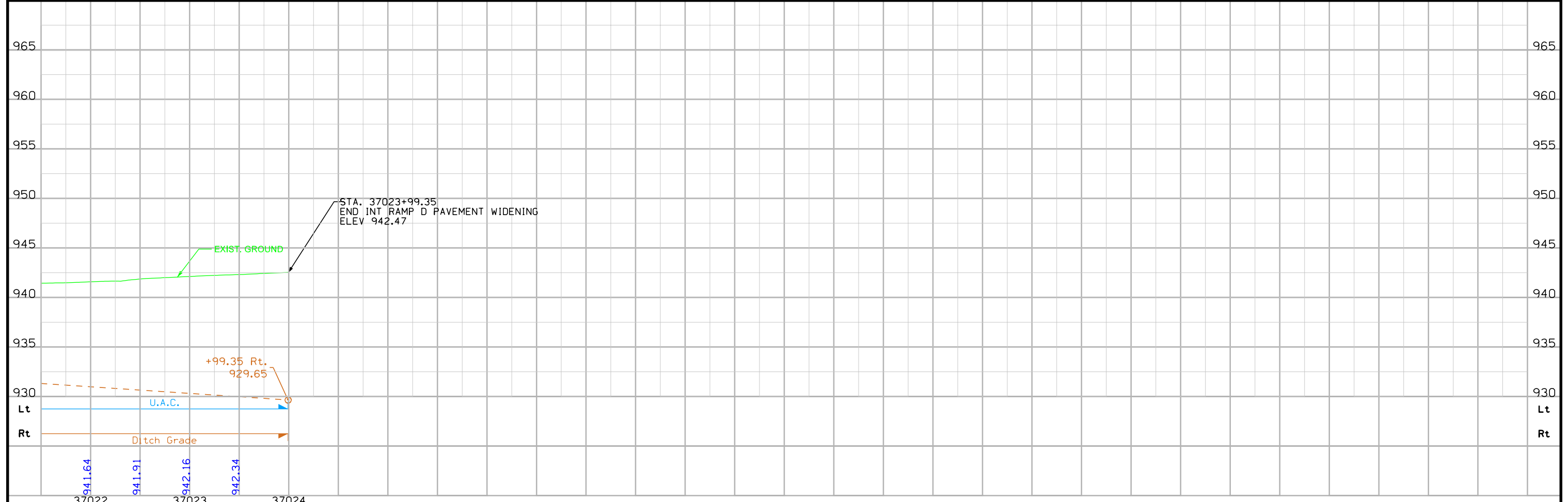
Curve Data  
Δ = 20° 06' 45.51" (RT)  
T = 271.69  
L = 537.78  
E = 1,532.00  
P = 23.90  
e = MATCH EXIST.  
L = MATCH EXIST.  
x = MATCH EXIST.  
DS = 50 mph

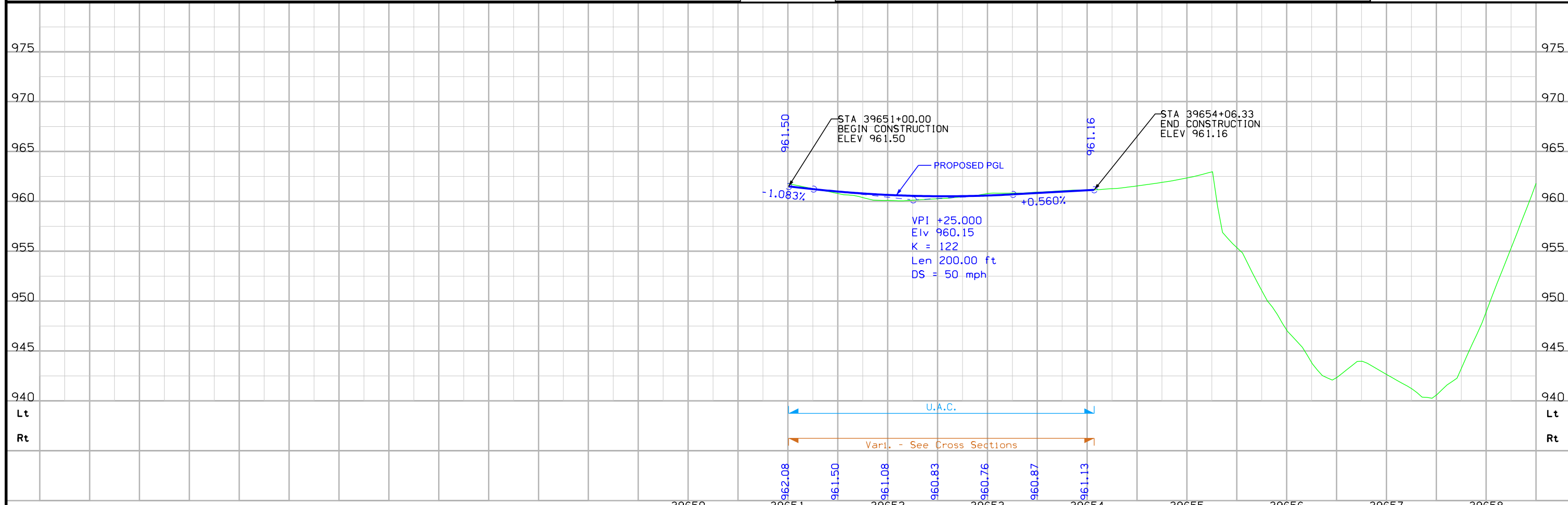
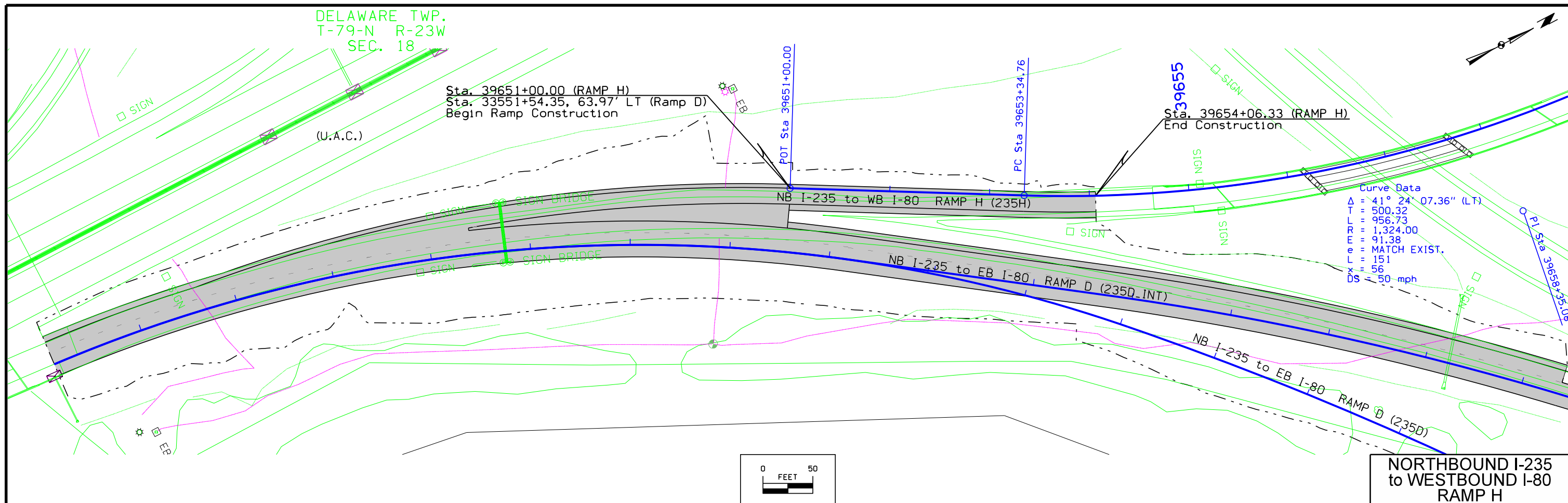
PI Sta 37023+99.35

Sta. 37023+99.35 (INT RAMP D)  
Sta. 38+37.50, 48.00' RT (EB I-80)  
End Ramp Pavement Widening



NORTHBOUND I-235  
to EASTBOUND I-80  
INTERIM RAMP D





**STORM SEWER**

① Diameter or equivalent diameter

\* Bid Item

\*\* For SW-545

**INTAKES AND UTILITY ACCESSES**

**PIPES**

Design Length, Slope, and Flowlines are calculated from inside wall to inside wall along CL of pipe. An additional 2 ft length is added to each side of the Design Length to account for estimated length to center of structures.

No.	Location Station and Offset	*Type or Standard Road Plan	Form Grade	Bottom Well	Extension Length**	Notes	Line Number	Intake/Utility Access No.		Class 'D'	Pipe Size ①	Bid* Length	Design Length	Slope %	Connected Pipe Joint (DR-121) Type	Flow Lines			Pipe Profile Sheet No.	Notes
			Elev.	Elev.	FT			From	To							Inlet Elevation	Outlet Elevation	Other Elevation		
			IN	FT	FT			IN	FT							FT	FT	FT		
19	4123+50.0, 15.0 Rt	SW-547	944.74	938.21			P-19A	19	19A	3750	24	52	48.0	0.429	2	938.21	938			
							P-19B	19A	19B	3750	24	102	97.5	16.51	2	938	921.9			
							P-19C	19B	19Out	3750	24	12	10.0	0.172	2	921.9	921.88			
20	4126+45.55, 34.0 Rt	SW-547	942.37	938.21		Existing Inlet	P-20AE	20	20A	2000	24		59.8	3.34	2	938.21	935.87		Existing pipe	
							P-20AE	20A	20B	2000	24		63.5	16.19	2	935.87	925.94		Existing pipe	
							P-20	20B	20Out	2000	24	40	37.5	5.93	2	925.94	923.72			
21	4127+50.00, 15.0 Rt.	SW-547	942.08	937.44			P-21A	21	21A	2000	24	58	53.5	1.98	2	937.44	936.38			
							P-21B	21A	21B	2000	24	82	78.0	16.32	2	936.38	923.654			
							P-21C	21B	21Out	2000	24	14	11.8	0.4	2	923.65	923.607			
22	5128+25, 19.5 Rt.	SW-547	940.33	935.86		Existing Inlet	P22A	22	22A	2000	24	63	59.0	3.27	2	935.86	933.91			
							P22B	22A	22Out	2000	24	90	87.4	7.7	2	933.91	925.22			
23	5130+47.00, 0.00 Rt	SW-547	938.34	931.88			P23	23	23Out	2000	24	111	109.0	3.56	2	931.88	928			
24	5130+75.00, 18.78 Rt.	SW-547	937.19	931.69		Existing Inlet	P24A	24	24A	2000	24	63	59.0	1.4	2	931.69	930.86			
							P24B	24A	24Out	2000	24	69	67.0	3.54	2	930.86	928.5			
25	5134+25.00, 0.00 Rt.	SW-547	932	927.75			P25	25	25Out	2000	24	90	87.4	0.572	2	927.75	927.25			
27	5135+25.00, 0.00 ft	SW-562	920.8	918.91			P27A	27	27Out	2000	24	94	89.5	2.57	2	920.9	918.5			
29	5137+25.00, 0.00 ft	Sw-547	920.82	912.82			P29	29	31	2000	24	399	395.0	3.28	2	912.82	899.87			
31	5141+25.00, 0.00 ft	Sw-547	908.8	899.87			P31	31	33	2000	24	399	395.0	3.04	2	899.87	887.87			
33	5145+25.00, 0.00 ft.	Sw-547	896.8	887.87			P33	33	35	2000	24	399	395.0	3.03	2	887.87	875.89			
35	5149+25.00, 0.00 ft.	Sw-547	884.8	875.89			P35	35	37	2000	24	249	245.0	2.52	2	875.89	869.72			
37	5151+75.00, 0.00 ft.	Sw-547	877.72	869.72			P37C	37	37A	2000	24	155	150.5	8.4	2	869.72	857.08			
							P37D	37A	37Out	2000	24	16	13.9	2	857.08	857.08				
39	5154+25.00, 0.00 ft.	SW-547	870.7	865.7			P39A	39	39A	2000	24	120	116.0	4.12	2	865.7	860.92			
							P39B	39A	39B	2000	24	39	34.5	32.23	2	860.92	849.8			
							P39C	39B	39Out	2000	24	24	21.9	0.46	2	849.8	879.7			
40	5154+99.00, 18.82 ft	SW-547	866.85	863.18		Existing Inlet	E_RCP41	40	40A	2000	24		107.5	9.67	2	863.18	852.78		Existing pipe	
							P40	40A	40Out	2000	24	80	78.0	5.55	2	852.78	848.46			
41	5156+75.00, 0.00 ft	SW-547	863.72	859.22			P41A	41	41A	2000	24	80	76.0	0.4	2	859.22	858.91			
							P41B	41A	41B	2000	24	64	60.0	20.6	2	858.91	846.65			
							P41C	41B	41Out	2000	24	22	20.0		2	846.65	846.65			
42	5158+98.71, 18.89 ft	SW-547	855.31	850.89		Existing Inlet	P42A	42	42A	2000	24		102.0	5.89	2	850.89	844.91		Existing pipe	
							P42B	42A	42Out	2000	24	63	61.0	0.9	2	844.91	844.36			
43	5159+25.00, 0.00 ft	SW-547	856.71	850.71			P43A	43	43A	2000	24	80	76.0	0.95	2	850.71	850			
							P43B	43A	43B	2000	24	52	48.0	13.18	2	850	843.69			
							P43C	43B	43Out	2000	24	22	20.0		2	843.69	843.69			
45	5161+75.00, 0.00 ft	SW-547	849.76	845.26			P45A	45	45A	2000	24	80	76.0	0.4	2	845.26	844.96			
							P45B	45A	45B	2000	24	47	43.0	18.42	2	844.96	837.06			
							P45C	45B	45Out	2000	24	22	20.0	0.01	2	837.06	837.06			
46	5162+99.03, 18.76 ft	SW-547	843.63	838.94		Existing Inlet	P46E	46	46A	2000	24	85	80.4	2.24	2	838.94	837.14		Existing pipe	
							46A	46A	46Out	2000	24	19	16.8	0.85	2	837.14	837			
47	5164+25.00, 0.00 ft	SW-547	844.5	839			P47A	47	47A	2000	24	81	76.5	3.92	2	839	836			
							P47B	47A	47B	2000	24	44	40.0	12.17	2	836	831.13			
							P47C	47B	47Out	2000	24	11	8.8	0.1	2	831.13	831.12			
49	5166+75.00, 0.00 ft	SW-547	841.7	836.2			P49A	49	49A	2000	24	80	75.5	0.4	2	836.2	835.9			
							P49B	49A	49B	2000	24	40	36.0	13.08	2	835.9	831.19			
							P49C	49C	49Out	2000	24	14	11.9	0.01	2	831.19	831.19			



### STORM SEWER

① Diameter or equivalent diameter

\* Bid Item

\*\* For SW-545

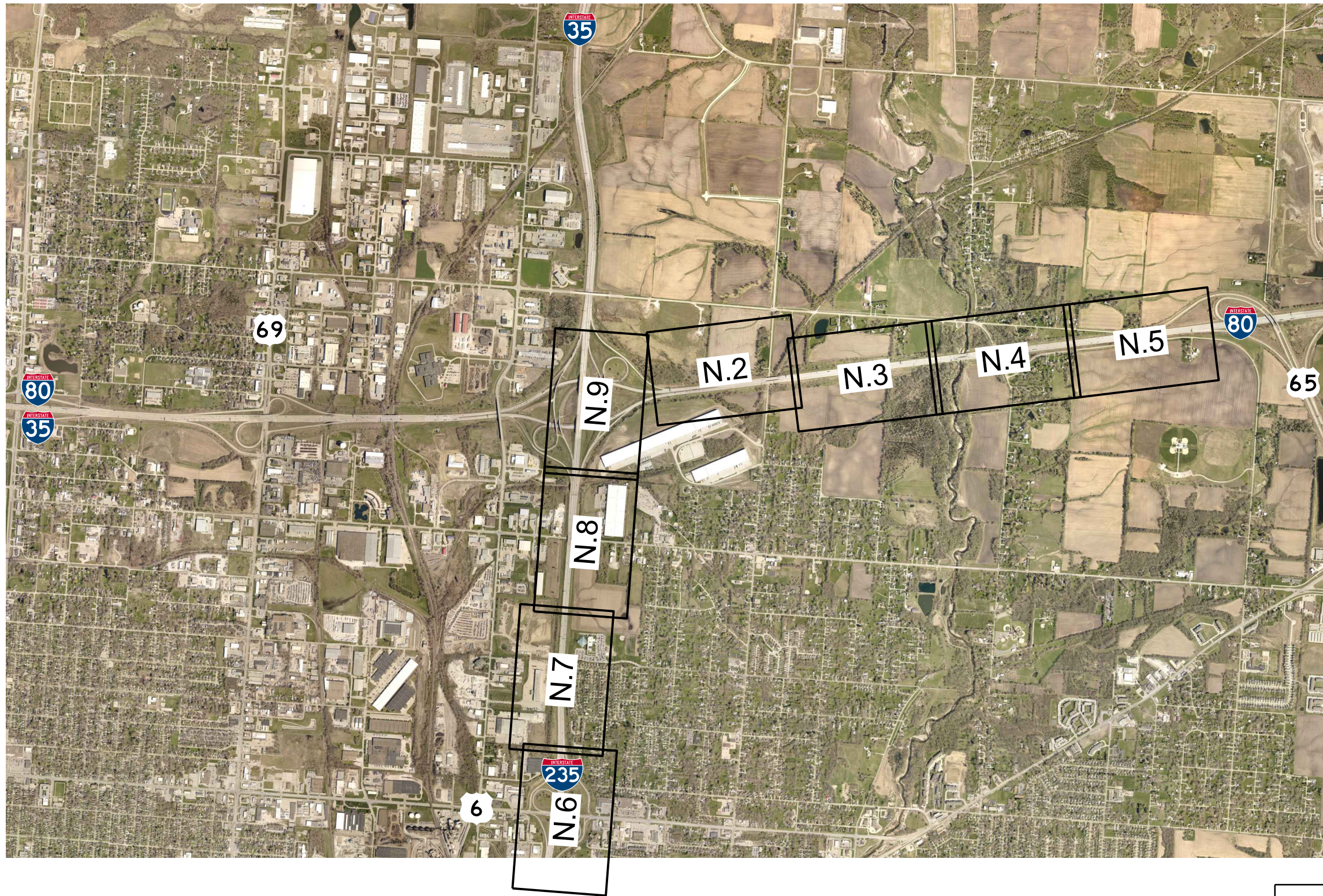
INTAKES AND UTILITY ACCESSES							PIPES														
							Design Length, Slope, and Flowlines are calculated from inside wall to inside wall along CL of pipe. An additional 3 ft length is added to each side of the Design Length to account for estimated length to center of structures.														
No.	Location Station and Offset	*Type or Standard Road Plan	Form Grade	Bottom Well	Extension Length**	Notes	Line Number	Intake/Utility Access No.		Class 'D'	Pipe Size ①	Bid* Length	Design Length	Slope %	Connected Pipe Joint (DR-121)	Flow Lines			Pipe Profile Sheet No.	Notes	
			Elev.	Elev.	FT			From	To							IN	FT	FT			Type
50	5166+98.93, 19.62 Ft.	SW-547	837.68	833.55		Existing Inlet	E_RCP50	50	50A	2000	24		79.8	0.77	2		833.55	832.94			Existing pipe
							P50	50A	50Out	2000	24	18	15.1	0.4	2		832.94	832.88			
51	5167+38.00, 0.00 ft.	SW-547	841.51	836.01		Flanker inlet	P51	51	53	2000	24	86	82.0	0.4	2		836.01	835.81			
55	5169+12.00, 0.00 ft	SW-547	841.81	836.01		Flanker inlet	P55	55	53	2000	24	86	82.0	0.61	2		836.31	835.81			
53	5168+25.00, 0.00 ft	SW-547	841.31	835.68			P53A	53	53A	2000	24	79	74.5	0.4	2		835.68	833.38			
							P53B	53A	53B	2000	24	37	33.0	14.445	2		835.38	830.61			
							P53C	53B	53Out	2000	24	18	15.9	0.01	2		830.61	830.61			
57	5170+00, 0.00 ft	SW-547	841.81	836.31			P57A	57	57A	2000	24	78	74.0	0.4	2		836.31	836.01			
							P57B	57A	57B	2000	24	37	33.0	17.92	2		836.01	830.1			
							P57C	57B	57Out	2000	24	22	20.0	0.2	2		830.1	830.06			
58	5171+48.54, 18.82 ft	SW-547	839.35	835.55		Existing Inlet	P58A	58	58A	2000	24		82.0	3.42	2		835.55	832.75			Existing pipe
							P58B	58A	58Out	2000	24	38	33.5	7.83	2		832.75	830.12			
59	5171+50.00, 0.00 ft.	SW-547	842.3	836.8			P59A	59	59A	2000	24	78	74.0	0.4	2		836.8	836.5			
							P59B	59A	59B	2000	24	37	33.0	20.65	2		836.5	829.69			
							P59C	59B	59Out	2000	24	25	23.0	0.4	2		829.69	829.6			
60	5176+00.00, 0.00 ft.	SW-547	842.6	837.1			P60A	60	60A	2000	24	76	72.0	0.4	2		837.1	836.81			
							P60B	60A	60B	2000	24	42	38.0	16.71	2		836.81	830.46			
							P60C	60B	60Out	2000	24	22	20.0	0.01	2		830.46	830.46			
61	5175+98.97, 18.75 ft.	SW-547	841.12	837.32		Existing Inlet	P61A	P61	P61A	2000	24		95.9	6.55	2		837.32	831.04			
							P61B	P61A	61Out	2000	24	32	29.5	10.56	2		831.04	827.93			
62	5177+00.00, 0.00 ft.	SW-547	842.4	83.9			P62A	62	62A	2000	24	77	72.5	0.59	2		836.9	836.47			
							P62B	62A	62B	2000	24	42	37.5	13.7	2		836.47	831.47			
							P62C	62B	62Out	2000	24	17	14.2	0.01	2		831.47	831.47			
64	5177+81.50, 0.00 ft.	SW-547	842.23	837.28			P64	64	66	2000	24	89	84.5	0.4	2		837.28	836.95			
66	5178+71.00, 0.00 ft	SW-547	842.1	836.59																	
68	5179+50.00, 0.00 ft	SW-547	842.23	836.9			P-68	68	66	2000	24	81	76.5	0.4	2		836.9	836.59			
70	5180+00.00,0.00 ft	SW-547	842.46	837.28			P70	70	68	2000	24	49	45.0	0.4	2		837.28	837.1			
							P66A	66	66A	2000	24	77	72.5	0.73	2		836.4	835.87			
							P66B	66A	66B	2000	24	35	31.0	8.58	2		835.87	833.21			
							P66C	66C	66Out	2000	24	15	12.8	0.01	2		833.21	831.21			
71	5179+99.00, 18.50 ft.	SW-547	842.14	838.01		Existing Inlet	P71A	71	71A	2000	24		90.7	2.82	2		838.01	835.46			Existing pipe
								71A	71Out	2000	24	15	12.5	15	2		835.46	833.42			
72	5182+50.00, 0.00 ft.	SW-547	845.19	839.69			P72A	72	72A	2000	24	77	72.5	0.4	2		839.69	839.4			
							P72B	72A	72B	2000	24	35	31.0	5.58	2		839.4	837.67			
							P72C	72B	72Out	2000	24	12	10.0	0.01	2		837.67	837.67			
74	5184+99.98, 0.00 ft.	SW-547	850.61	845.11			P74A	74	74A	2000	24	78	73.5	0.4	2		845.11	844.81			
							P74B	74A	74B	2000	24	34	30.0	7	2		844.81	843.5			
							P74C	74B	74Out	2000	24	10	7.4		2		843.5	843.5			
78	5190+00.00, 0.00 ft	SW-547	863.29	857.79			P76A	76	76Out	2000	24	116	113.4	2.02	2		851.61	849.33			
80	5192+50.00, 0.00 ft.	SW-547	868.97	863.47			P78A	78	78Out	2000	24	116	113.4	2.31	2		857.79	855.15			
82	5195+00.00, 0.00 ft.	SW-547	874.65	869.15			P80A	80	80Out	2000	24	116	114.0	2.18	2		863.47	860.98			
84	5197+50.00, 0.00 ft.	SW-547	880.32	874.82			P82A	82	82Out	2000	24	116	113.9	2.05	2		869.15	866.81			
86	5201+50.00, 0.00 ft.	SW-547	889.52	884.02			P84A	84	84Out	2000	24	115	113.0	1.94	2		874.82	872.63			
							P86A	86	86Out	2000	24	114	111.4	1.85	2		884.02	881.96			

KEY MAP



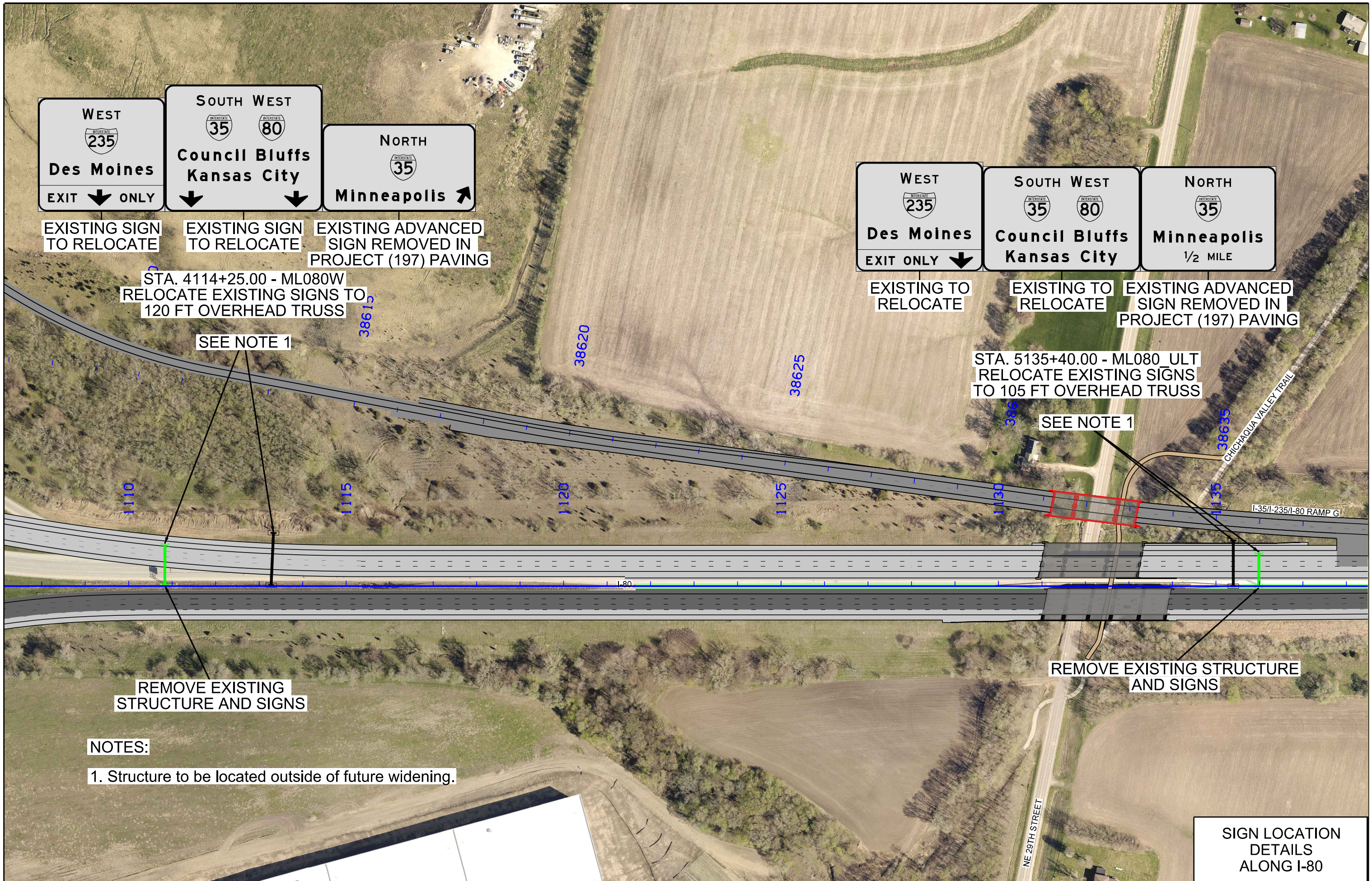
LEGEND

- Existing Structure
- Proposed Structure
- Existing Sign
- Proposed Sign



NO SCALE

SHEET LAYOUT  
OVERVIEW



WEST  
 INTERSTATE 235  
 Des Moines  
 EXIT ONLY

SOUTH WEST  
 INTERSTATE 35 INTERSTATE 80  
 Council Bluffs  
 Kansas City

NORTH  
 INTERSTATE 35  
 Minneapolis

EXISTING SIGN TO RELOCATE

EXISTING SIGN TO RELOCATE

EXISTING ADVANCED SIGN REMOVED IN PROJECT (197) PAVING

STA. 4114+25.00 - ML080W  
 RELOCATE EXISTING SIGNS TO 120 FT OVERHEAD TRUSS

SEE NOTE 1

WEST  
 INTERSTATE 235  
 Des Moines  
 EXIT ONLY

SOUTH WEST  
 INTERSTATE 35 INTERSTATE 80  
 Council Bluffs  
 Kansas City

NORTH  
 INTERSTATE 35  
 Minneapolis  
 1/2 MILE

EXISTING TO RELOCATE

EXISTING TO RELOCATE

EXISTING ADVANCED SIGN REMOVED IN PROJECT (197) PAVING

STA. 5135+40.00 - ML080 ULT  
 RELOCATE EXISTING SIGNS TO 105 FT OVERHEAD TRUSS

SEE NOTE 1

REMOVE EXISTING STRUCTURE AND SIGNS

REMOVE EXISTING STRUCTURE AND SIGNS

NOTES:

1. Structure to be located outside of future widening.

SIGN LOCATION DETAILS ALONG I-80



WEST  
 INTERSTATE 235  
 Des Moines  
 1 1/4 MILE  
 EXIT ↓ ONLY

SOUTH WEST  
 INTERSTATE 35 INTERSTATE 80  
 Council Bluffs  
 Kansas City

80-77-X  
 M4002 STAGE 5  
 INTERSTATE 35 NORTH  
 Minneapolis  
 ↑

MODIFY ADVANCE  
 SIGN - (083) PAVING  
 INTERSTATE 35 NORTH  
 Minneapolis  
 ↗ ↘

EXISTING TO  
 RELOCATE

EXISTING TO  
 RELOCATE

INSTALL ADVANCE SIGN  
 WITH OVERLAY PANEL

STA. 5155+50.00 - ML080 ULT  
 RELOCATE EXISTING SIGNS TO  
 130 FT OVERHEAD TRUSS

INSTALLED IN PROJECT  
 (197) PAVING  
 POST MOUNTED  
 (083) PAVING - MODIFIED  
 SIGN TRUSS MOUNTED

SEE NOTE 1

REMOVE EXISTING STRUCTURE  
 AND SIGNS

NOTES:

- 1. Structure to be located outside of future widening.
- 2. Structure lengths shown are approximate and are rounded to the nearest 5 feet.

SIGN LOCATION  
 DETAILS  
 ALONG I-80

**NOTES:**

1. Structure to be located in ultimate location outside of future widening.

**35 NORTH**  
Minneapolis  
1/2 MILE

STA. 5170+25.00 - ML080 ULT  
INSTALL RELOCATED  
ADVANCE SIGN

PROJECT (197) PAVING  
POST MOUNTED  
PROJECT (083) PAVING  
40' CANTILEVER MOUNTED

**DMS**

STA. 5182+10.00 - ML080 ULT  
INSTALL RELOCATED DYNAMIC  
MESSAGE SIGN ON 90 FT  
OVERHEAD TRUSS

PORTABLE DMS DURING ROADWAY CONST.

SEE NOTE 1

80-77-X M313

**65 SOUTH**  
Altoona  
Des Moines  
1 MILE  
EXIT **↓** ONLY

REMOVE EXISTING  
CANTILEVER STRUCTURE  
AND SIGNS

STA. 5172+25.00 - ML080 ULT  
INSTALL EXIT DIRECTION ON  
34 FT CANTILEVER

REMOVE EXISTING DYNAMIC  
MESSAGE SIGN AND STRUCTURE

80-77-X M314

**65 SOUTH**  
Altoona  
Des Moines  
EXIT **↓** ONLY

STA. 5194+00.00 - ML080 ULT  
INSTALL EXIT DIRECTION ON  
34 FT CANTILEVER

SIGN LOCATION  
DETAILS  
ALONG I-80

35 NORTH  
Minneapolis  
1 MILE

STA. 1201+63.12  
INTERIM ADVANCE ON  
50 FT INTERIM CANTILEVER

STRUCTURE AND SIGN  
INSTALLED IN PROJECT  
(197) PAVING

1200

NE 54TH PL

1205

1210

1215

I-80/US 65 RAMP C

1220

1225

I-80

SAGE ST

I-80/US 65 RAMP B

DMS

EXISTING DYNAMIC  
MESSAGE SIGN AND  
STRUCTURE TO REMAIN

EXIT 14 2

WEST NORTH NORTH  
6 65 330  
Marshalltown  
Bondurant  
1 1/4 MILE

EXIT 14 1

SOUTH  
65  
Altoona  
Des Moines

EXISTING STRUCTURE AND  
SIGNS TO REMAIN

NOTES:

- 1. Structure to be located outside of future widening.
- 2. Structure lengths shown are approximate and are rounded to the nearest 5 feet.

SIGN LOCATION  
DETAILS  
ALONG I-80



EXIT 12  
6  
E Euclid Ave  
Grand View Univ

EXISTING STRUCTURE AND SIGN TO REMAIN

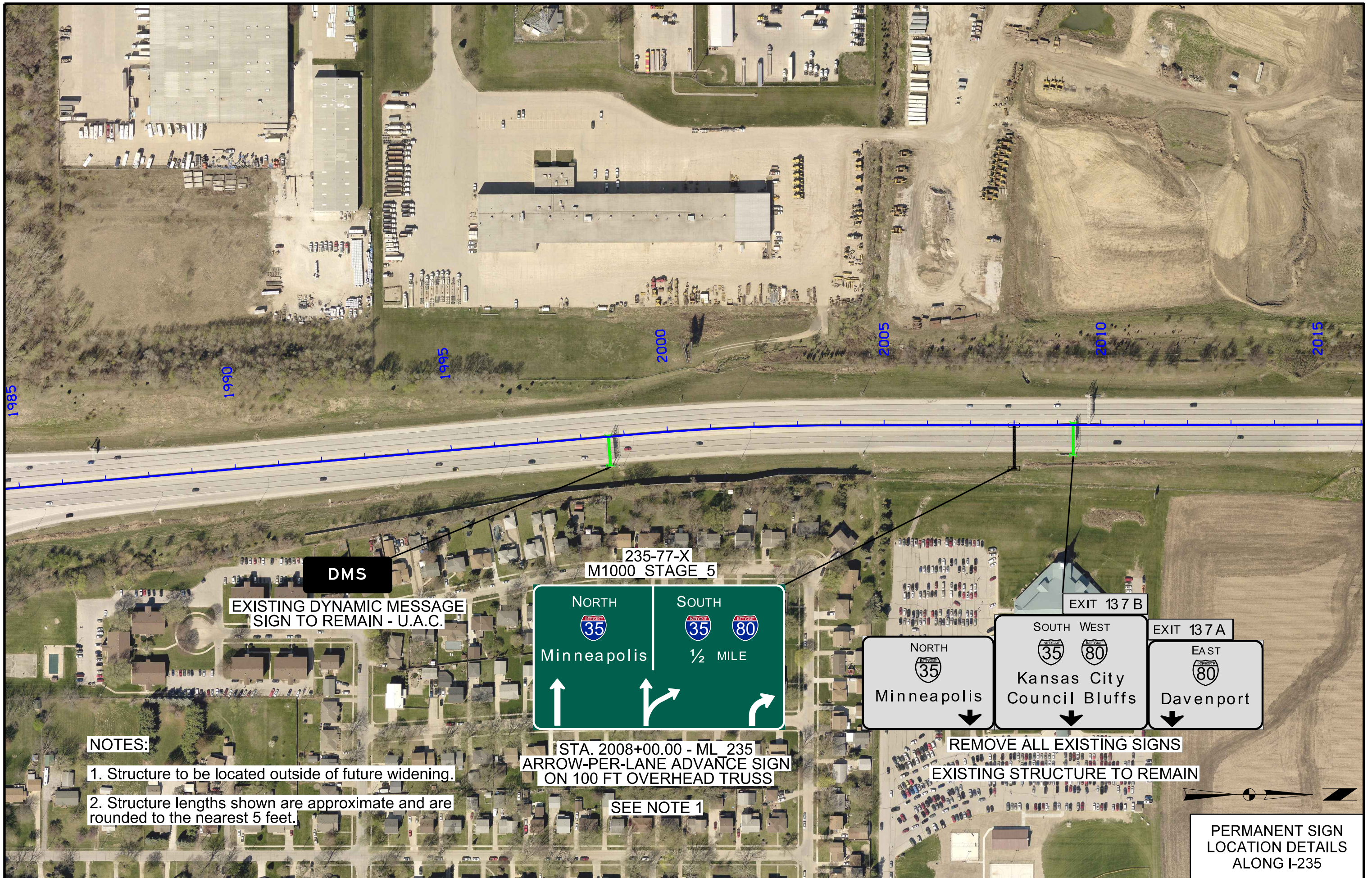
NORTH  
35  
MINNEAPOLIS

SOUTH  
35 80  
KANSAS CITY  
COUNCIL BLUFFS  
DAVENPORT

1/4 MILES

EXISTING STRUCTURE AND SIGN TO REMAIN  
REMOVE SIGN PANEL - EXIT 137

PERMANENT SIGN  
LOCATION DETAILS  
ALONG I-235



1985

1990

1995

2000

2005

2010

2015

**DMS**

235-77-X  
M1000 STAGE 5

EXISTING DYNAMIC MESSAGE  
SIGN TO REMAIN - U.A.C.

NORTH 35 Minneapolis ↑	SOUTH 35 80 1/2 MILE ↗
---------------------------------	---------------------------------

NORTH 35 Minneapolis ↓
---------------------------------

SOUTH WEST 35 80 Kansas City Council Bluffs ↓
---

EXIT 137 B EXIT 137 A EAST 80 Davenport ↓
--

**NOTES:**

1. Structure to be located outside of future widening.
2. Structure lengths shown are approximate and are rounded to the nearest 5 feet.

STA. 2008+00.00 - ML 235  
ARROW-PER-LANE ADVANCE SIGN  
ON 100 FT OVERHEAD TRUSS

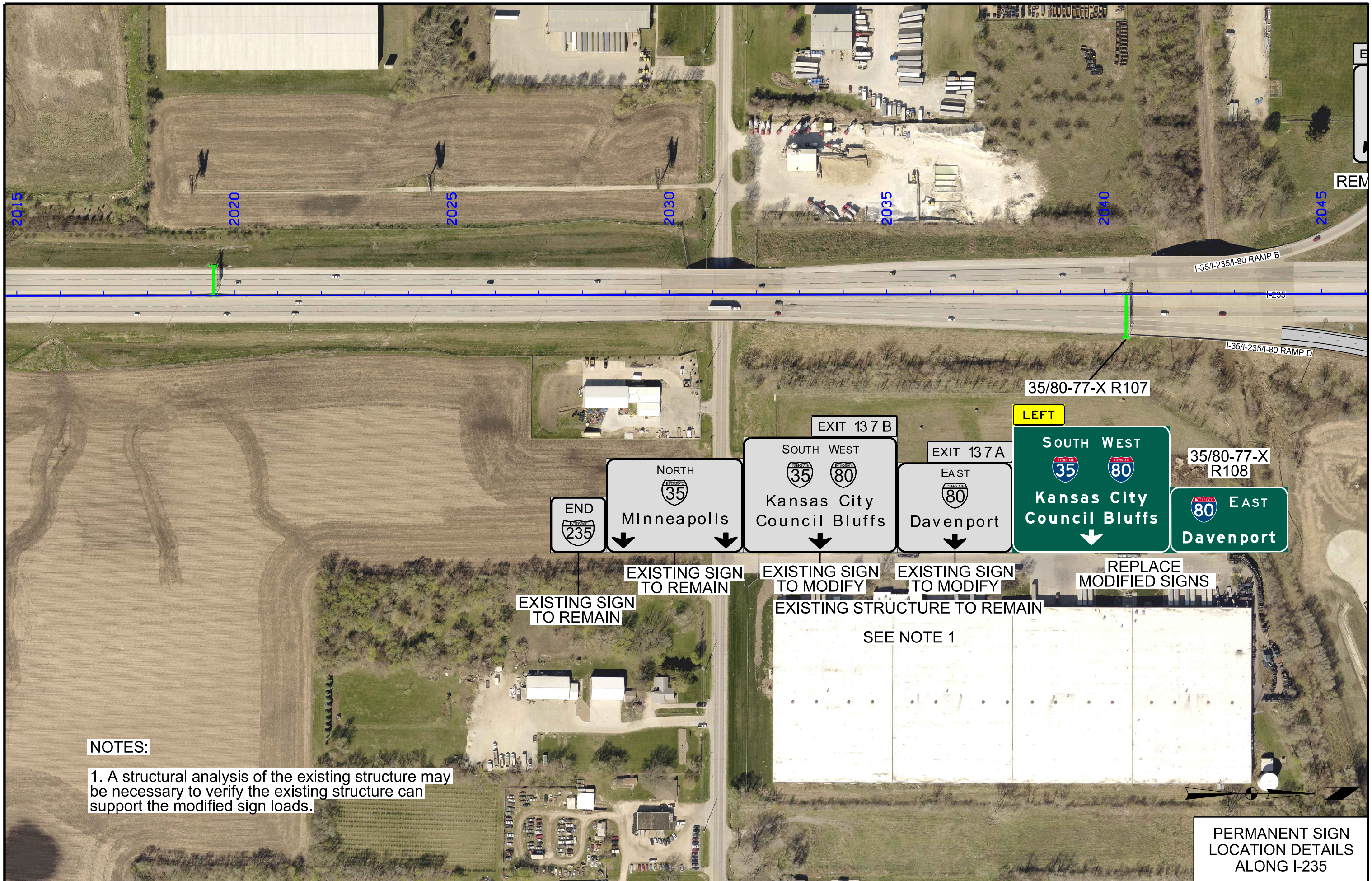
SEE NOTE 1

REMOVE ALL EXISTING SIGNS  
EXISTING STRUCTURE TO REMAIN



PERMANENT SIGN  
LOCATION DETAILS  
ALONG I-235





**NOTES:**

1. A structural analysis of the existing structure may be necessary to verify the existing structure can support the modified sign loads.

PERMANENT SIGN  
LOCATION DETAILS  
ALONG I-235

**NOTES:**

1. Structure to be located in ultimate location outside of future widening.

EXIT 137 B

SOUTH WEST  
 Interstate 35 Interstate 80  
 Kansas City  
 Council Bluffs

EXIT 137 A

EAST  
 Interstate 80  
 Davenport

REMOVE EXISTING STRUCTURE AND SIGNS

35/80-77-X R109

LEFT

SOUTH WEST  
 Interstate 35 Interstate 80  
 Kansas City  
 Council Bluffs

35/80-77-X R110

EAST  
 Interstate 80  
 Davenport

STA. 33549+00.00 - 235D ULT  
INSTALL EXIT DIRECTION  
AND EXIT DIRECTION SIGNS  
ON 120 FT OVERHEAD TRUSS

SEE NOTE 1

REMOVE EXISTING  
STRUCTURE AND SIGNS

LEFT  
EXIT 137 A

WEST  
 Interstate 235  
 45 MPH  
 Des Moines  
 EXIT ONLY

SOUTH WEST  
 Interstate 35 Interstate 80  
 Council Bluffs  
 Kansas City

LANE ENDS  
1200 FEET

STA. 4099+00.00 - ML080W  
RELOCATE EXISTING SIGNS TO  
130 FT OVERHEAD TRUSS

PERMANENT SIGN  
LOCATION DETAILS  
ALONG I-235 AND I-80

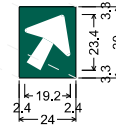
# 80-77-X M4002\_STAGE\_5



12.0" Radius, 2.0" Border, White on Green;  
 "N ORTH", E; "Minneapolis", E Mod; Arrow 8 - 25.0° 60°;  
 Arrow 8 - 25.0° 60°;

Table of letter and object lefts

34.7	N	O	R	T	H					
88.7	105.3	118.4	130.4	141.7						
M	i	n	n	e	a	p	o	i	s	
18.4	39.6	48.8	65.3	80.6	94.7	111.2	125.0	140.6	149.8	157.3
18.4	148.4									



No border, White on Green;  
 Arrow 8 - 25.0° 60°;

Table of letter and object lefts

2.4
-----

# 80-77-X M313



12.0" Radius, 2.0" Border, White on Green;

[S OUTH] E; [Altoona] E Mod; [Des Moines] E Mod;  
 [1 MILE] E;

12.0" Radius, 1.5" Border, 0.5" Indent, Black on Yellow;

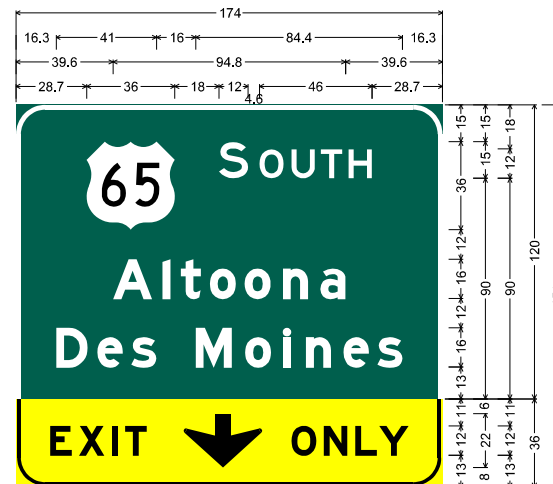
[EXIT] E Mod specified length; Down Arrow II-A - 22.0° 270°;

[ONLY] E Mod specified length;

Table of letter and object lefts.

28.7	S	O	U	T	H			
82.7	99.3	112.4	124.4	135.7				
A	i	t	o	n	a			
39.6	59.8	67.3	79.1	93.2	108.8	124.1		
D	e	s	M	o	i	n	e	s
16.3	33.2	47.0	73.3	93.5	109.1	118.3	133.6	147.4
E	X	I	T	O	N	L	Y	
13.8	25.7	39.1	44.5	68.4	112.4	125.6	138.4	148.2

# 80-77-X M314



12.0" Radius, 2.0" Border, White on Green;

[S OUTH] E; [Altoona] E Mod; [Des Moines] E Mod;

12.0" Radius, 1.5" Border, 0.5" Indent, Black on Yellow;

[EXIT] E Mod specified length; Down Arrow II-A - 22.0° 270°;

[ONLY] E Mod specified length;

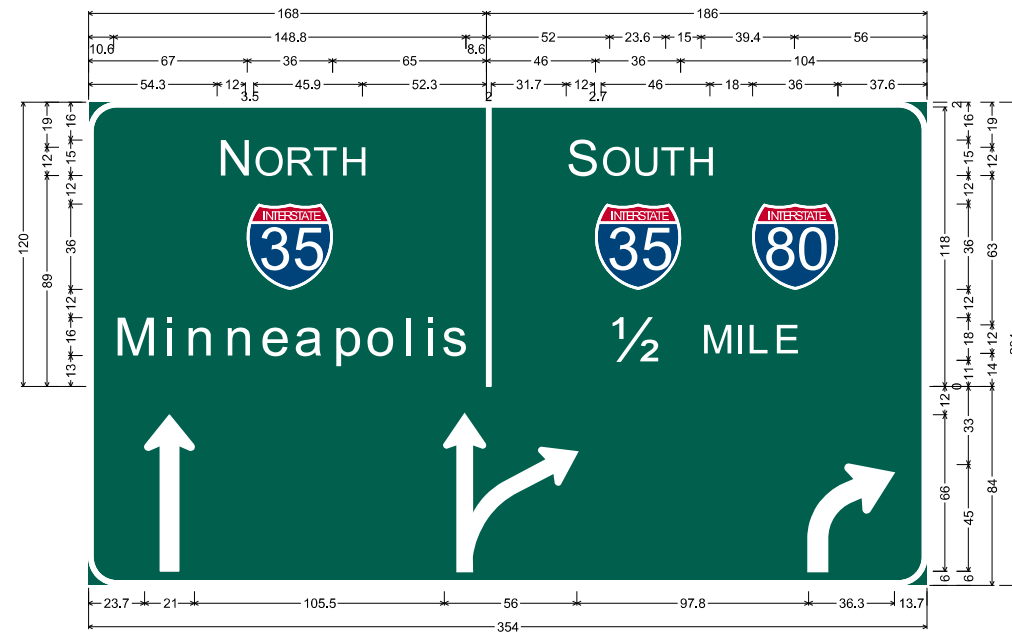
Table of letter and object lefts.

28.7	S	O	U	T	H			
82.7	99.3	112.4	124.4	135.7				
A	i	t	o	n	a			
39.6	59.8	67.3	79.1	93.2	108.8	124.1		
D	e	s	M	o	i	n	e	s
16.3	33.2	47.0	73.3	93.5	109.1	118.3	133.6	147.4
E	X	I	T	O	N	L	Y	
13.8	25.7	39.1	44.5	68.4	112.4	125.6	138.4	148.2

NOTE: SIGN DIMENSIONS ARE IN INCHES

SIGN  
DETAILS

# 235-77-X M1000\_STAGE\_5



12.0" Radius, 2.0" Border, White on Green;  
"NORTH", E: "Minneapolis", E;

12.0" Radius, 2.0" Border, White on Green;  
"SOUTH", E: "1/2 MILE", E;

12.0" Radius, 2.0" Border, White on Green;  
Arrow Custom - 66.0° 90°; 30D: 48A;

Table of letter and object lefts

N	O	R	T	H						
54.3	69.8	82.8	94.8	106.1						
↓										
M	i	n	n	e	a	p	o	i	s	
10.6	31.9	40.8	57.3	72.6	86.7	103.2	117.0	132.6	141.8	149.1
I	S	O	U	T	H	↓				
168.0	201.7	216.4	229.5	241.5	252.8	280.4				
↓										
1/2	M	I	L	E						
220.0	258.6	272.8	278.0	289.2						
↑	↓	↓								
23.7	150.2	304.0								

# 35/80-77-X R107



3.0" Radius, 1.3" Border, 0.8" Indent, Black on Yellow;

[LEFT] E specified length;

12.0" Radius, 2.0" Border, White on Green;

[S OUTH] E: [W EST] E: [Kansas City] E Mod: [Council Bluffs] E Mod;

Down Arrow 22.0° 270°;

Table of letter and object lefts.

L	E	F	T										
14.6	26.3	37.9	48.6										
S	O	U	T	H	W	E	S	T					
41.0	57.6	70.6	82.7	94.0	122.5	142.9	154.1	166.2					
↓													
54.3	130.8												
K	a	n	s	a	s	C	i	t	y				
31.8	48.0	64.5	79.3	93.1	107.9	134.2	152.2	159.7	171.1				
C	o	u	n	c	i	l	B	i	l	l	u	f	s
17.7	34.7	50.3	66.8	82.1	97.5	106.6	125.7	144.1	153.3	168.4	178.3	188.0	
↓													
92.0													

NOTE: SIGN DIMENSIONS ARE IN INCHES

SIGN  
DETAILS

# 35/80-77-X R108



12.0" Radius, 2.0" Border, White on Green;

[E AST] E; [Davenport] E Mod;

Table of letter and object lefts.

Ⓢ	E	A	S	T				
28.5	82.5	98.2	112.6	124.7				
D	a	v	e	n	p	o	r	t
17.8	34.7	49.5	64.7	80.1	96.7	110.5	126.1	136.1

# 35/80-77-X R109



3.0" Radius, 1.3" Border, 0.8" Indent, Black on Yellow;

[LEFT] E specified length;

12.0" Radius, 2.0" Border, White on Green;

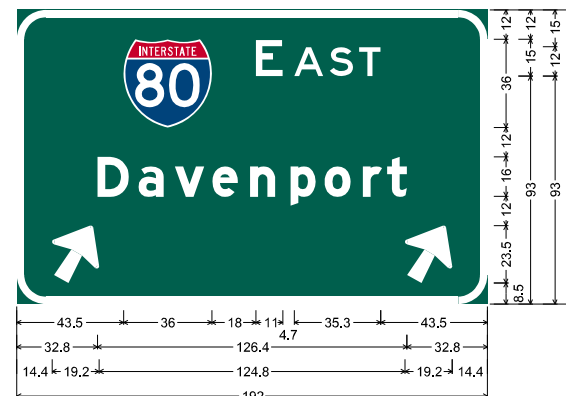
[S OUTH] E; [W EST] E; [Kansas City] E Mod; [Council Bluffs] E Mod;

Arrow 8 - 25.0" 120°;

Table of letter and object lefts.

L	E	F	T									
14.6	26.3	37.9	48.6									
S	O	U	T	H	W	E	S	T				
41.0	57.6	70.6	82.7	94.0	122.5	142.9	154.1	166.2				
Ⓢ	Ⓢ											
54.3	130.8											
K	a	n	s	a	s	C	i	t	y			
31.8	48.0	64.5	79.3	93.1	107.9	134.2	152.2	159.7	171.1			
C	o	u	n	c	i	B	i	u	f	f	s	
17.7	34.7	50.3	66.8	82.1	97.5	106.6	125.7	144.1	153.3	168.4	178.3	188.0
Ⓢ												
98.4												

# 35/80-77-X R110



12.0" Radius, 3.0" Border, White on Green;

[E AST] E; [Davenport] E Mod; Arrow 8 - 25.0" 60°;

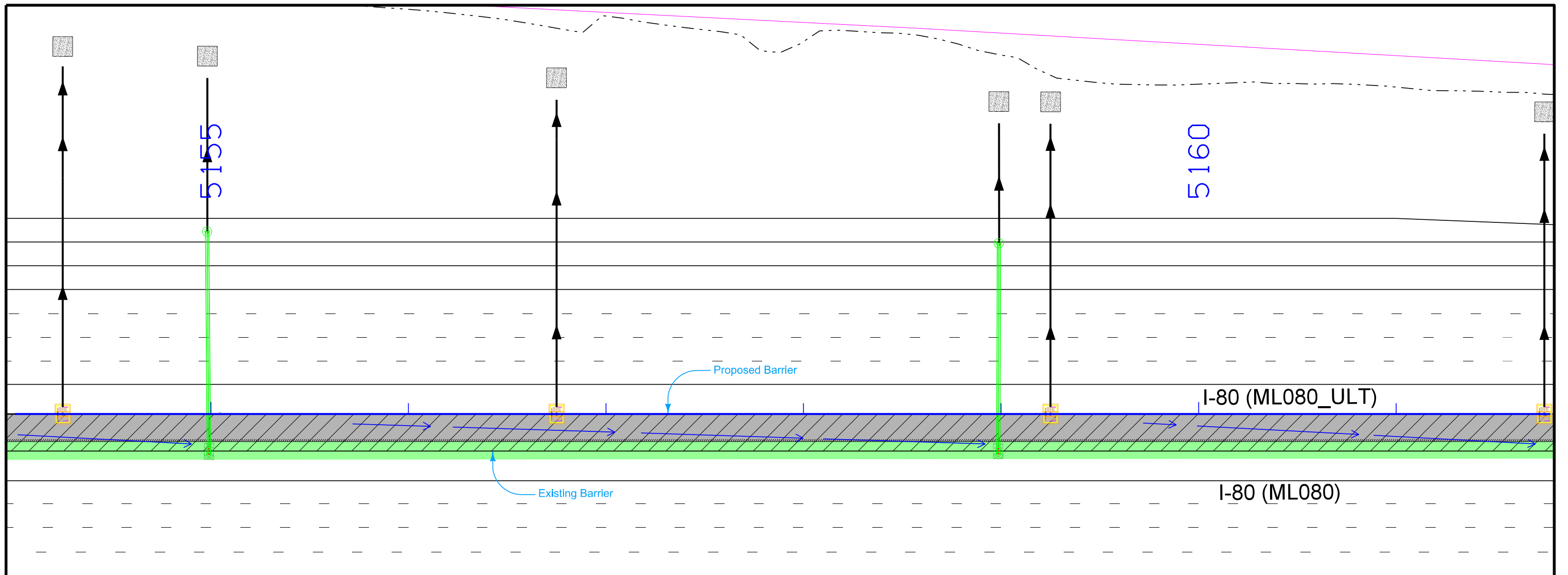
Arrow 8 - 25.0" 60°;

Table of letter and object lefts.

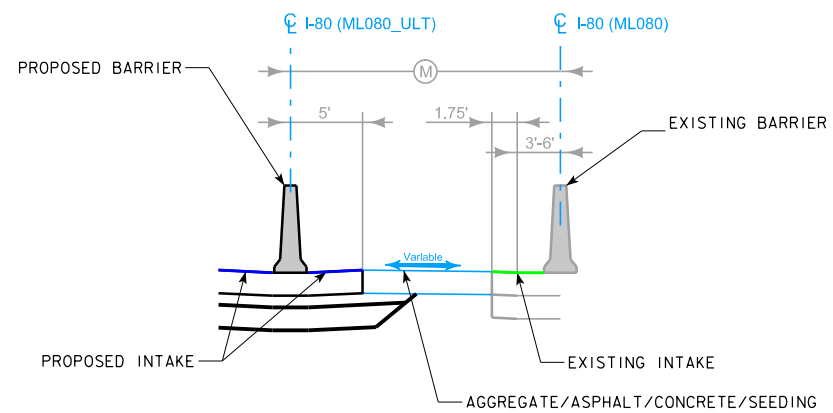
Ⓢ	E	A	S	T				
43.5	97.5	113.2	127.6	139.7				
D	a	v	e	n	p	o	r	t
32.8	49.7	64.5	79.7	95.1	111.7	125.5	141.1	151.1
Ⓢ	Ⓢ							
14.4	158.4							

NOTE: SIGN DIMENSIONS ARE IN INCHES

SIGN  
DETAILS

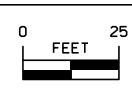


TYPICAL SECTION



LEGEND

- Median Surfacing (Seeding/Aggregate/Concrete/Asphalt)
- Existing Pavement
- Proposed Intake
- Existing Intake
- Sawcut Line
- Flow Direction
- Drainage Area



MEDIAN DRAINAGE  
DETAIL



WESTBOUND I-80

Sta. 1178+25 (ML080)  
Centerline of Crossing

Proposed Pavement

Movable Barrier Gate (Raising)

1177

18.75'

Full Barrier (Proposed)

Full Barrier (Existing)

Unpinned Barrier

1178

30'

Unpinned Barrier

Crash Cushion

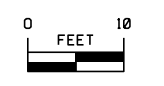
1179

Full Barrier (Existing)

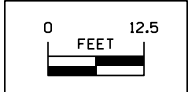
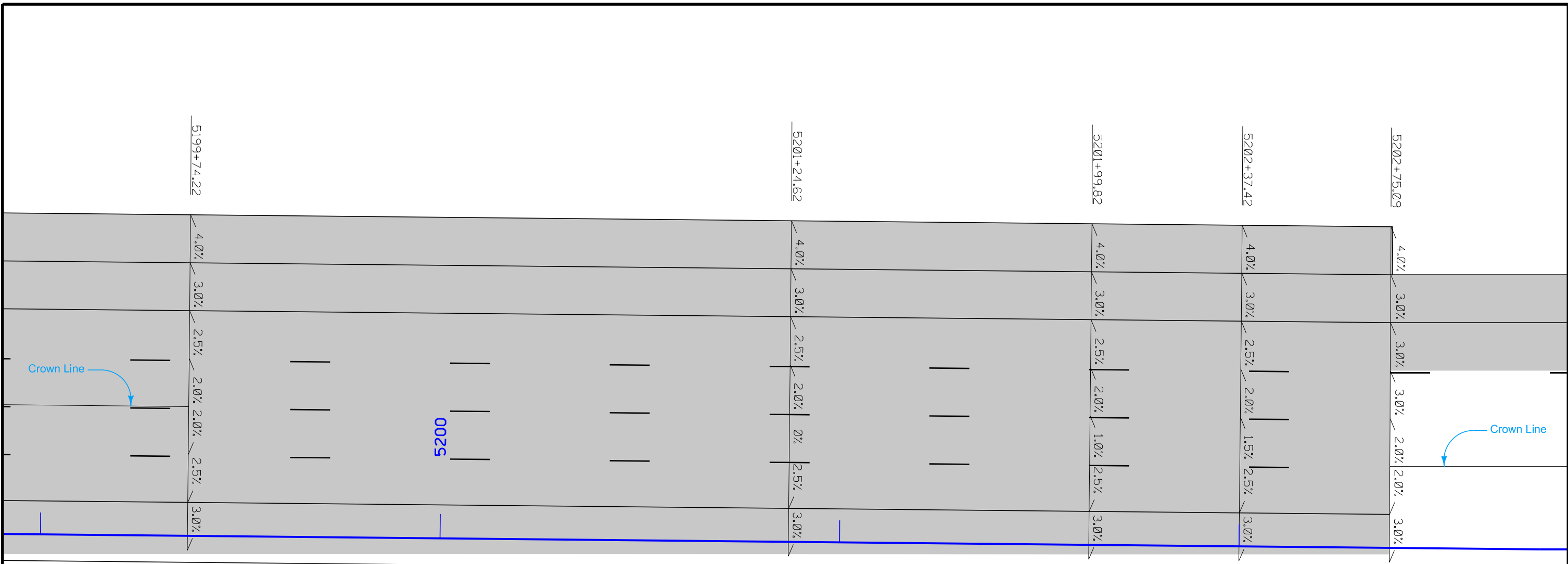
Full Barrier (Proposed)

Existing Pavement

EASTBOUND I-80

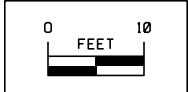
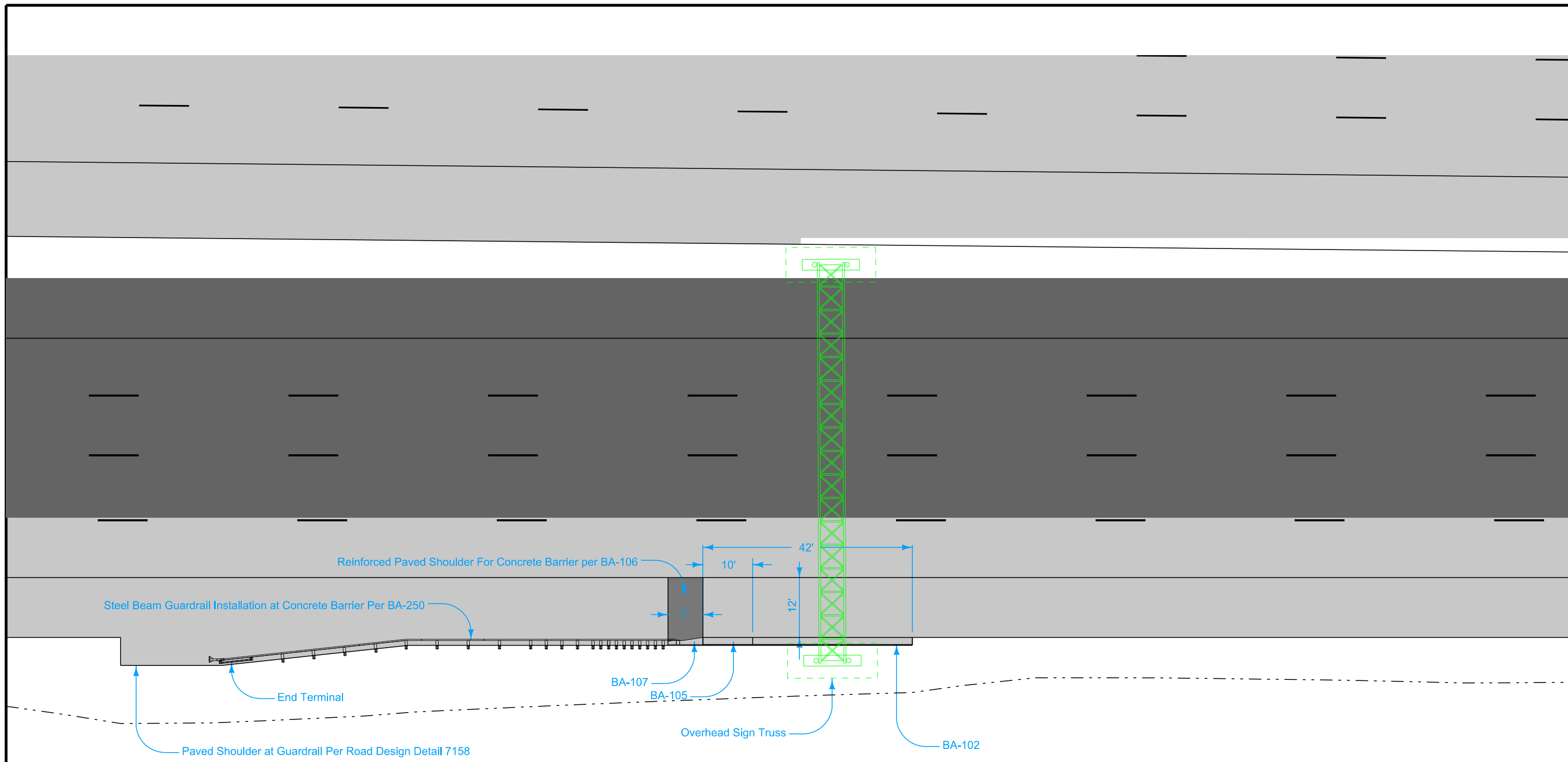


MEDIAN BARRIER GATE

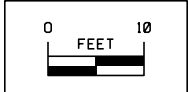
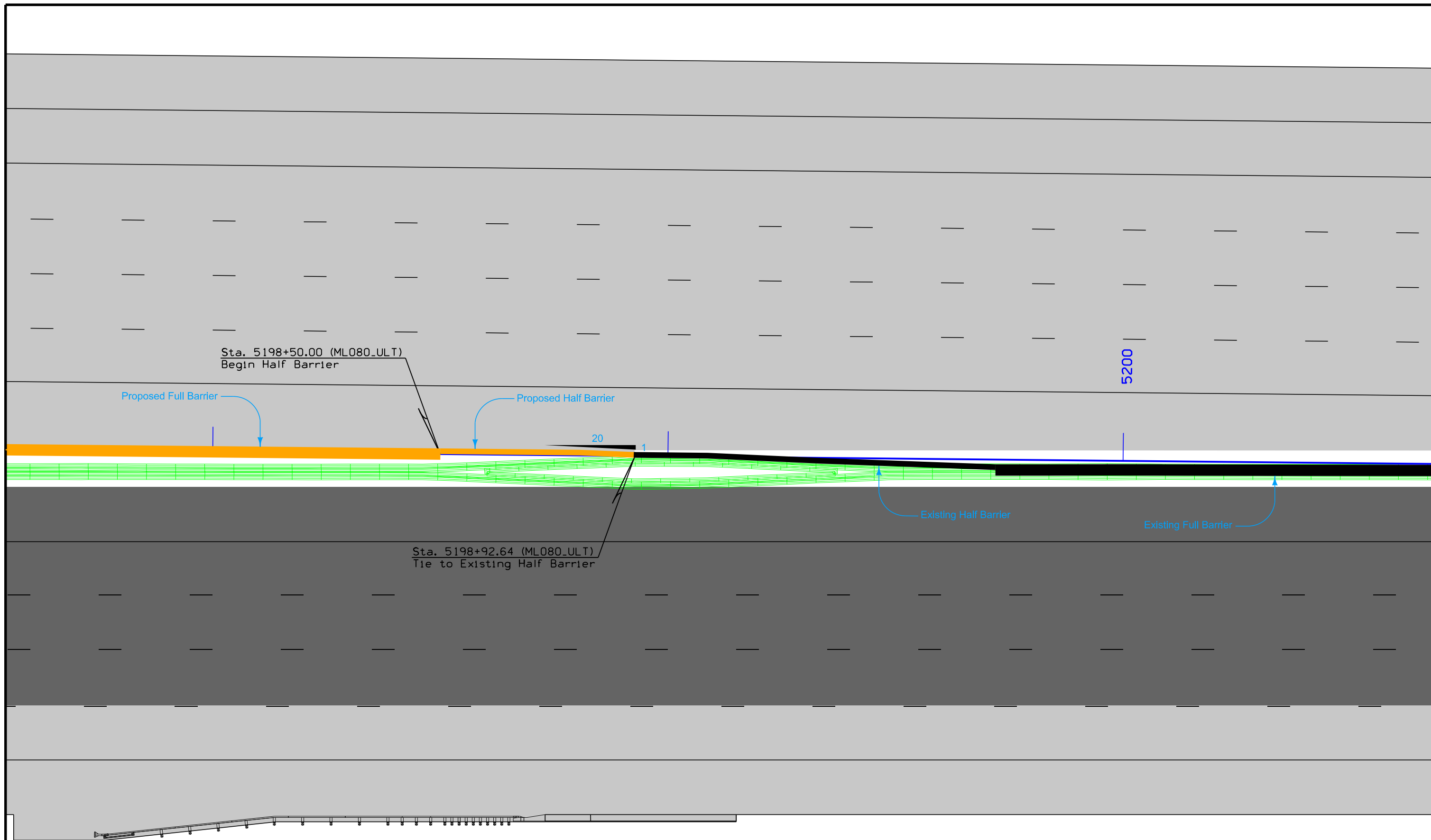


ML080 (WESTBOUND)  
CROWN TRANSITION



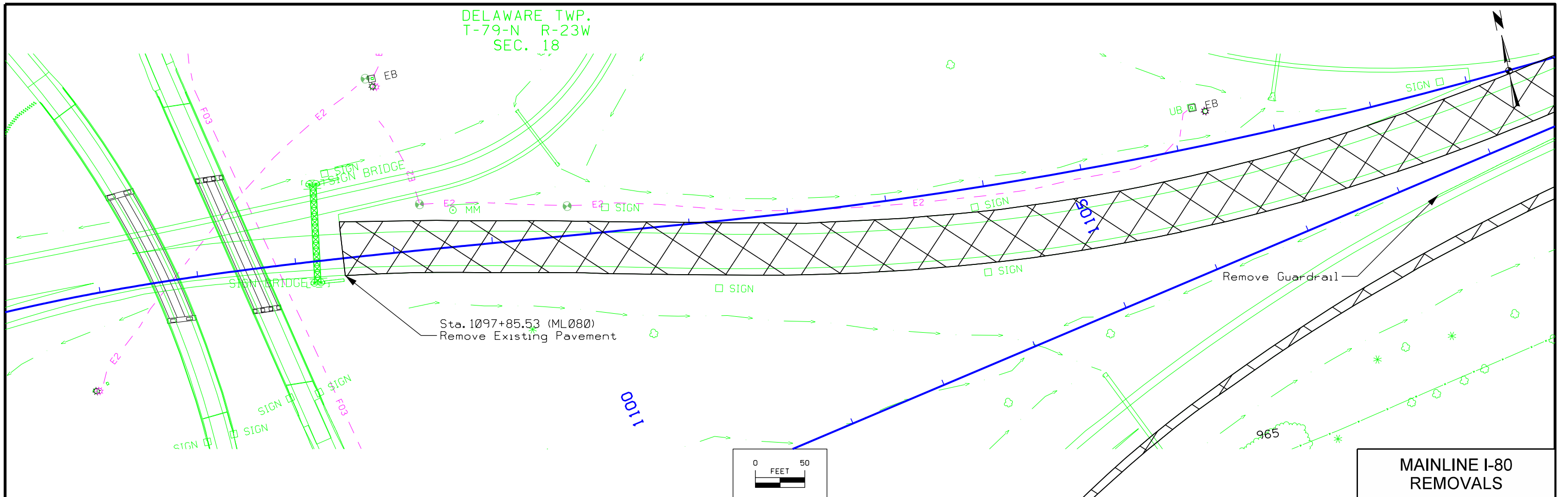


DMS  
PROTECTION PLAN



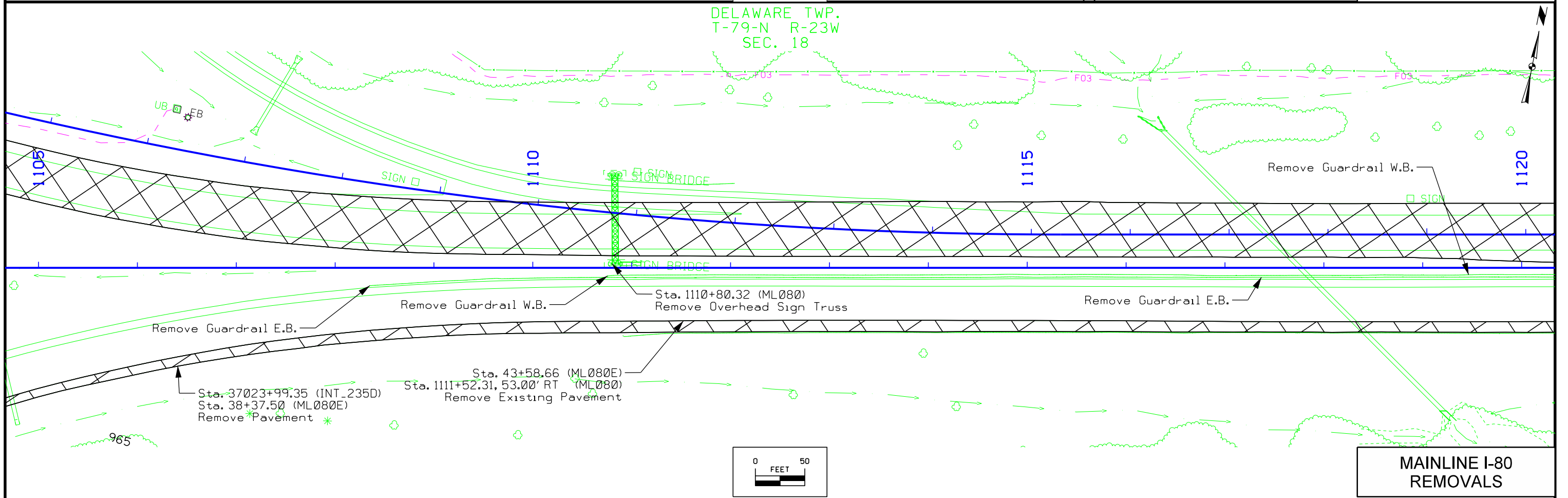
Barrier Transition  
into Existing Barrier

DELAWARE TWP.  
T-79-N R-23W  
SEC. 18

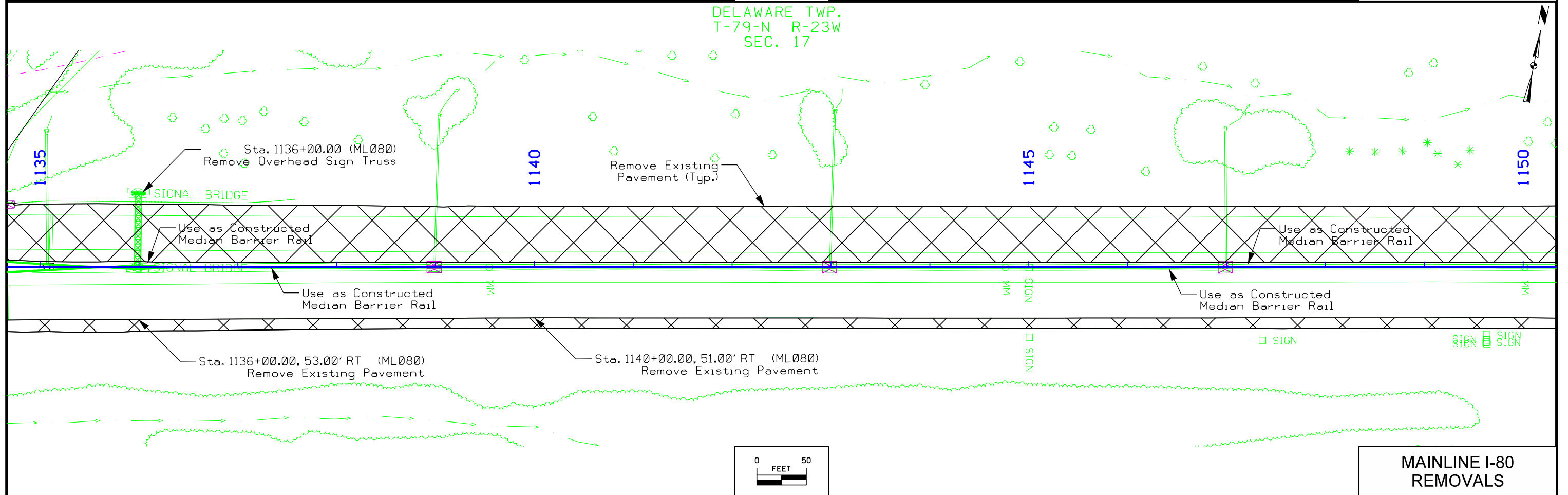
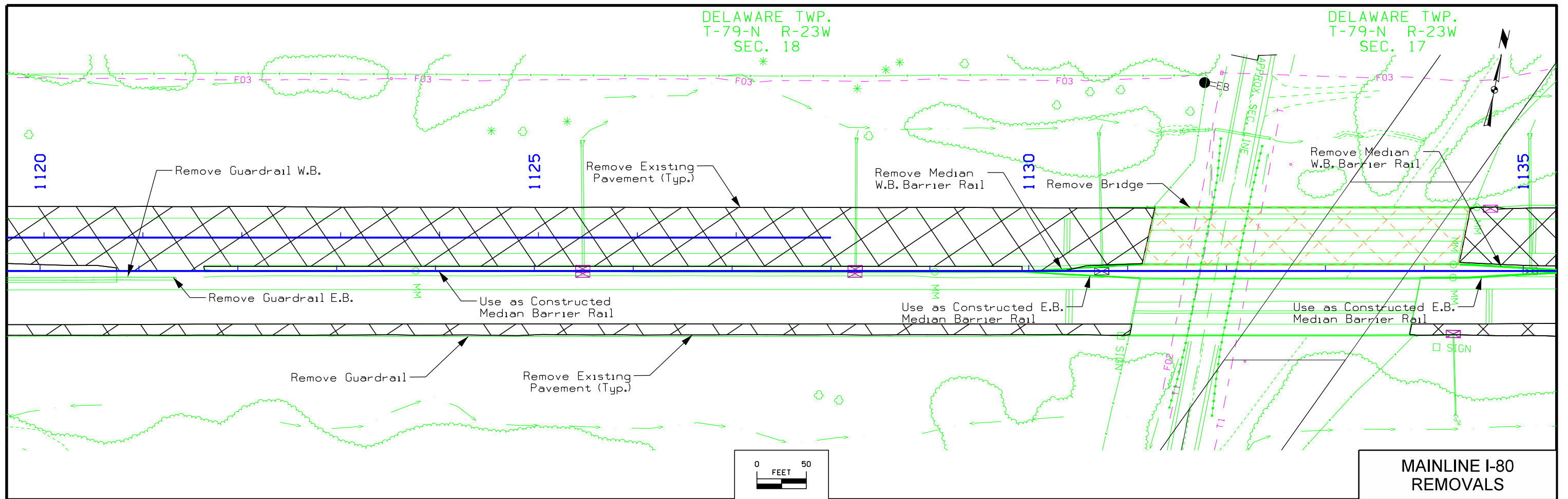


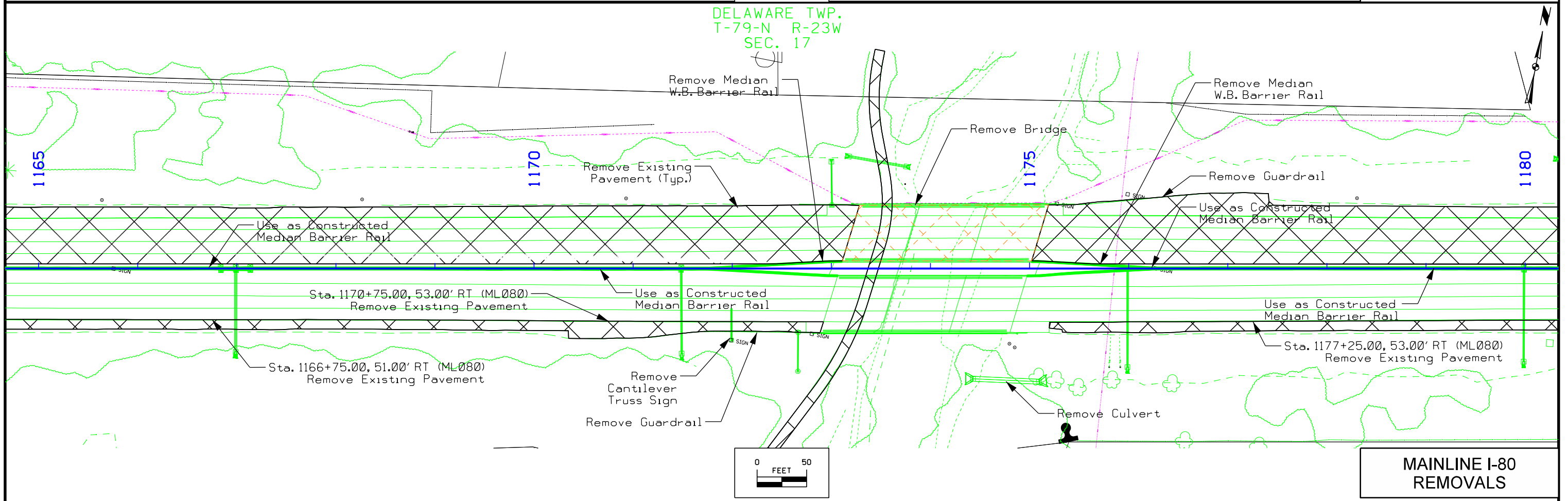
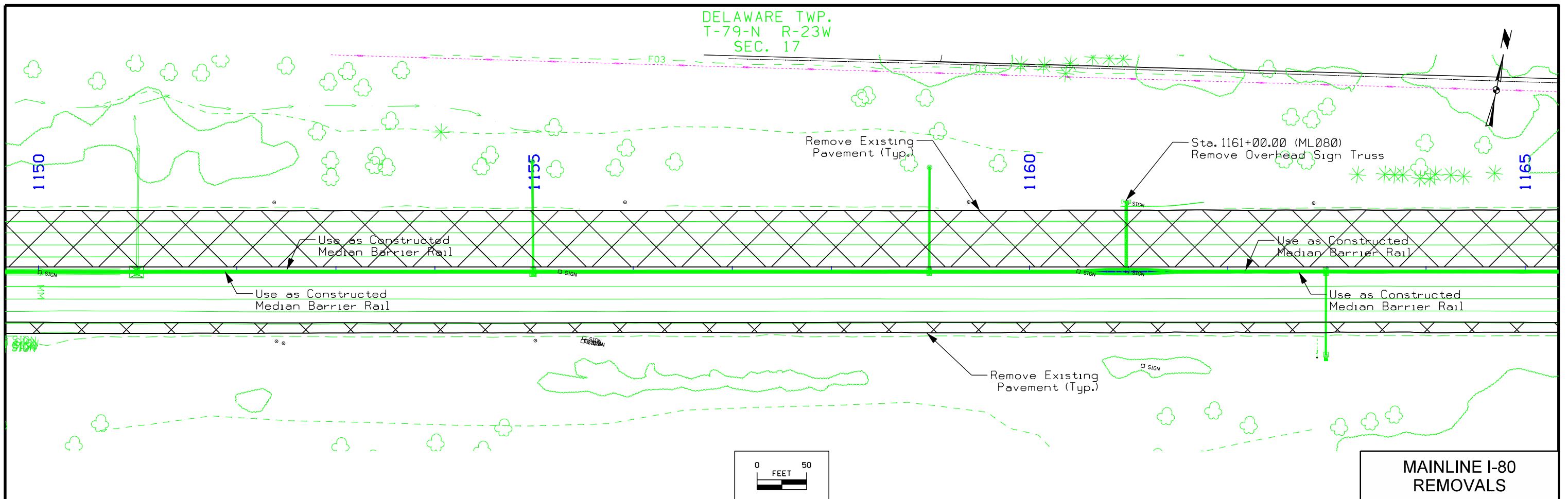
MAINLINE I-80  
REMOVALS

DELAWARE TWP.  
T-79-N R-23W  
SEC. 18



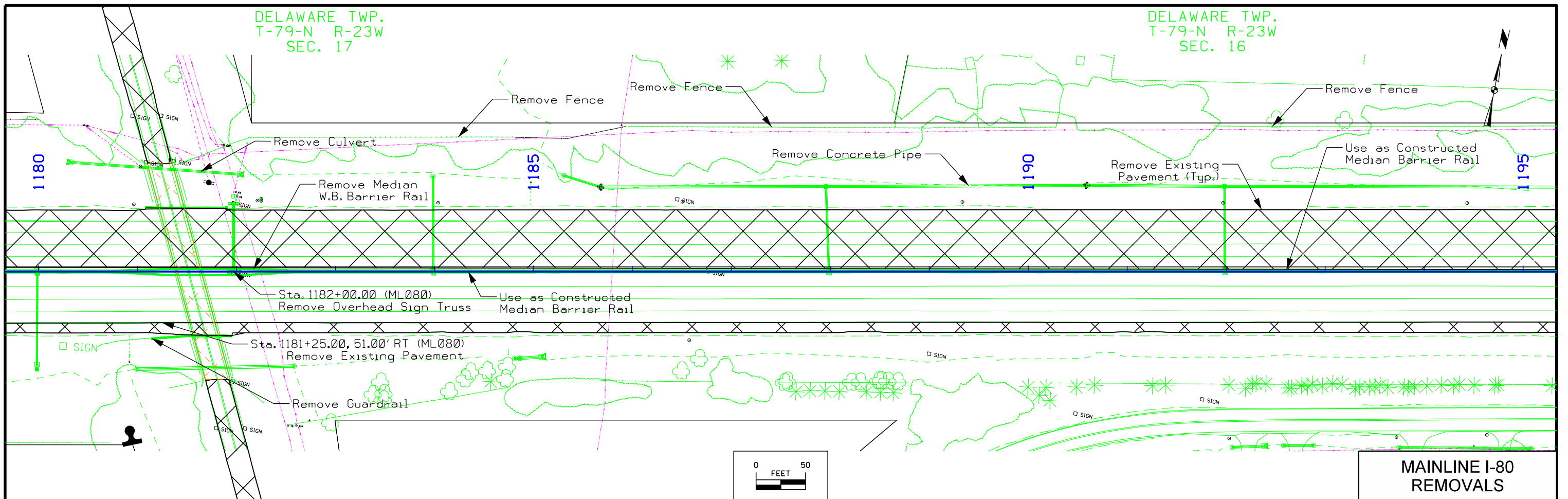
MAINLINE I-80  
REMOVALS





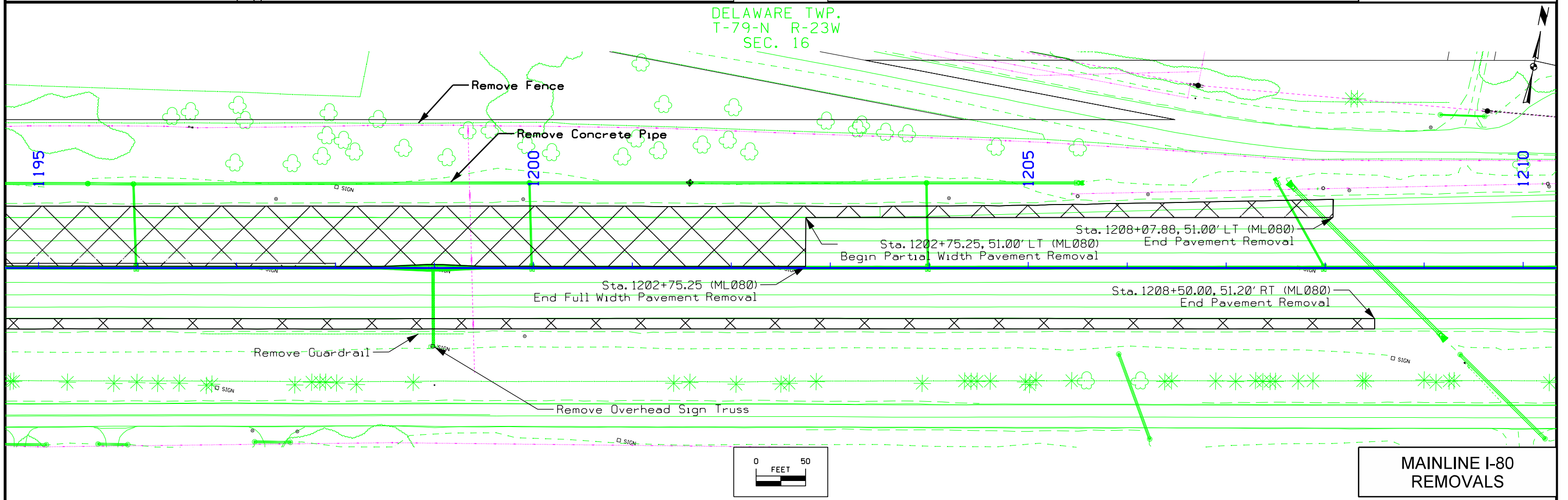
DELAWARE TWP.  
T-79-N R-23W  
SEC. 17

DELAWARE TWP.  
T-79-N R-23W  
SEC. 16

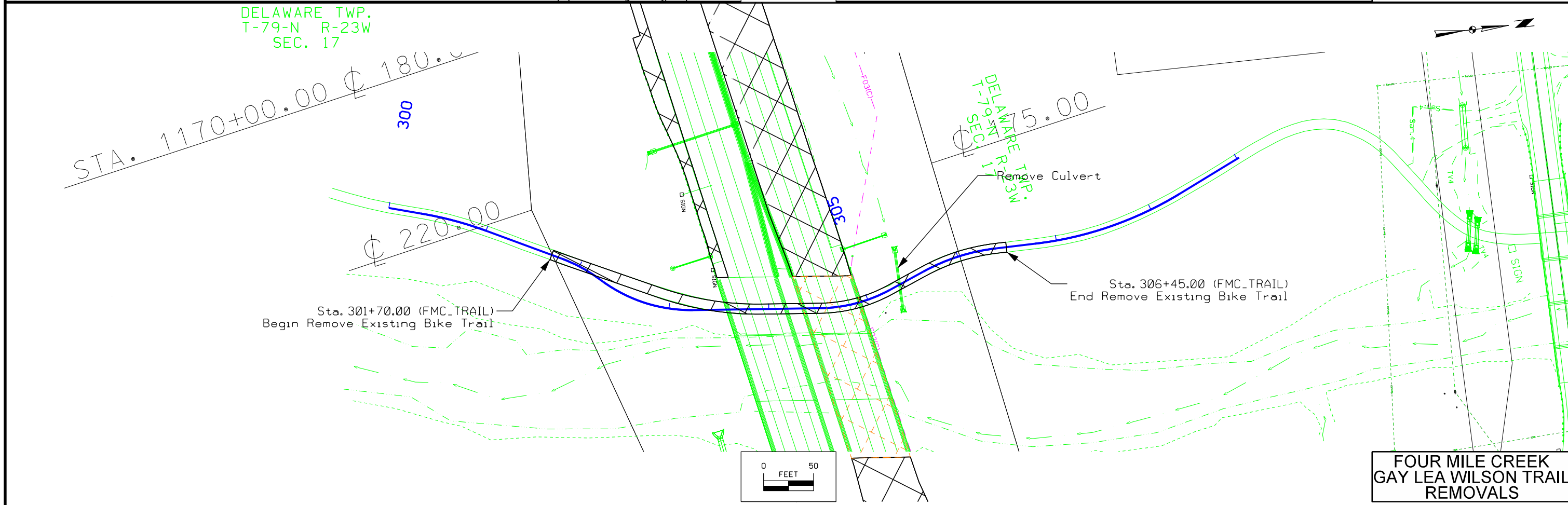
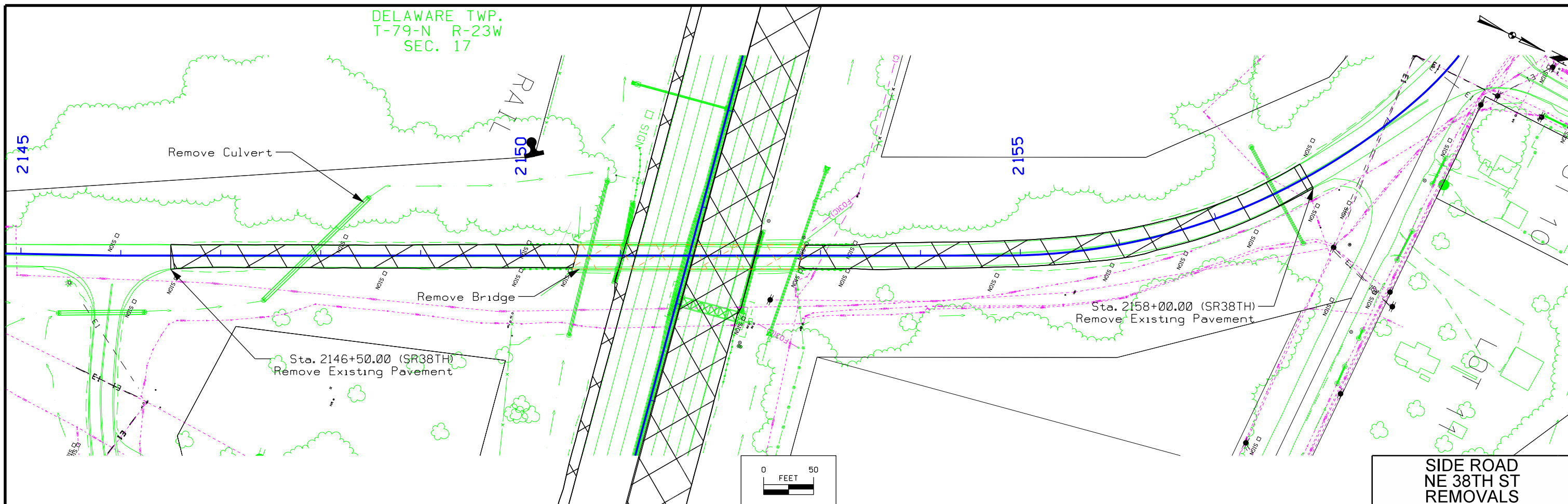


MAINLINE I-80  
REMOVALS

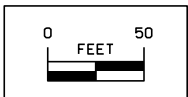
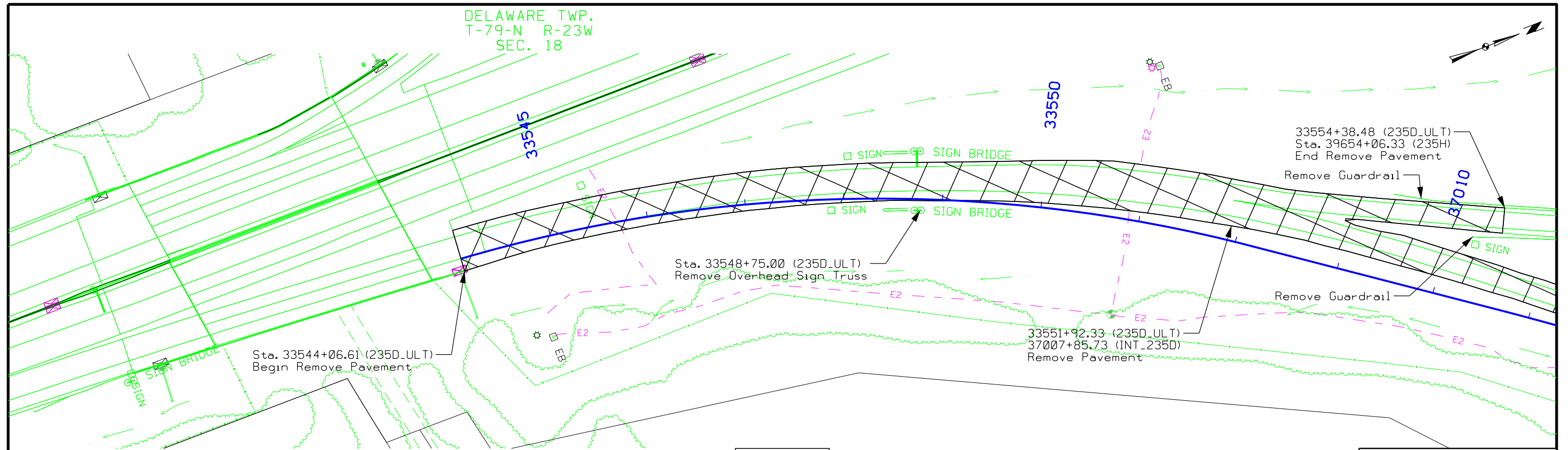
DELAWARE TWP.  
T-79-N R-23W  
SEC. 16



MAINLINE I-80  
REMOVALS

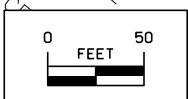
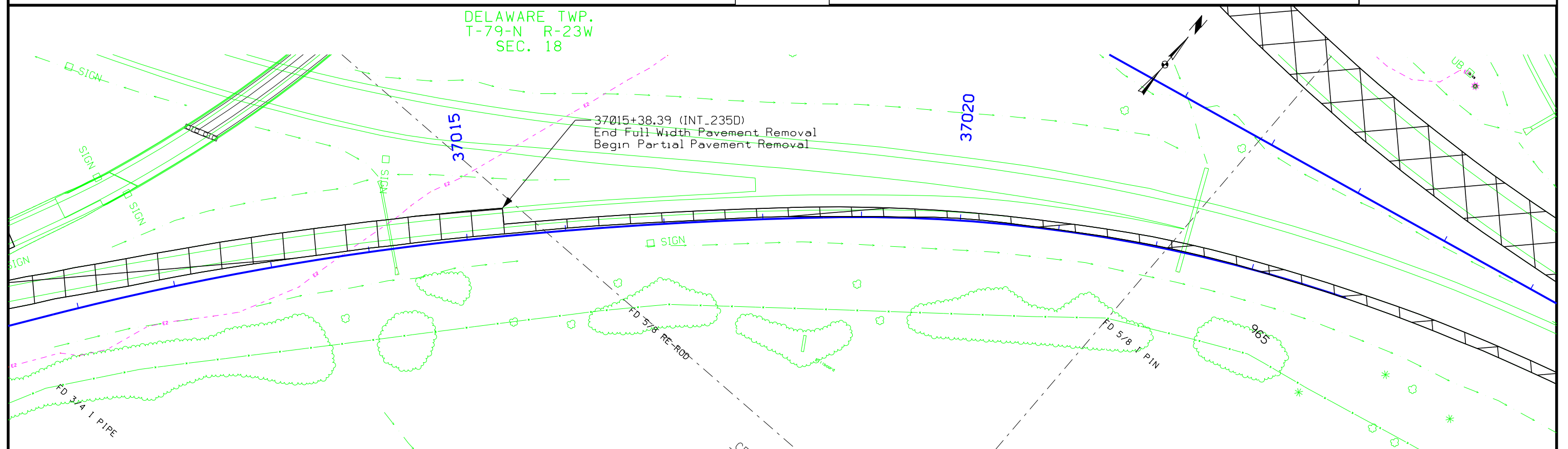


DELAWARE TWP.  
T-79-N R-23W  
SEC. 18



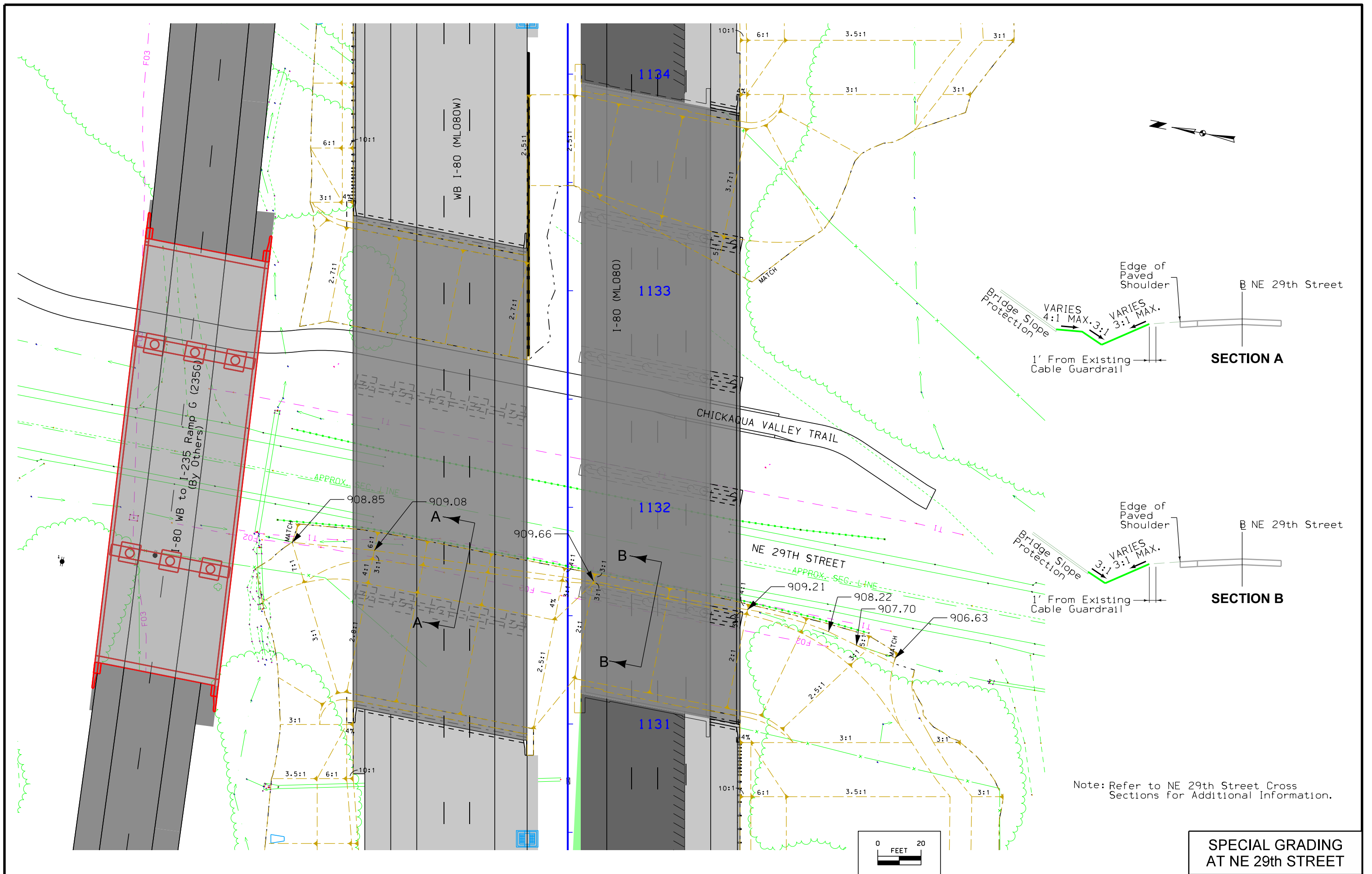
RAMP D  
REMOVALS

DELAWARE TWP.  
T-79-N R-23W  
SEC. 18



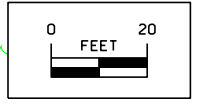
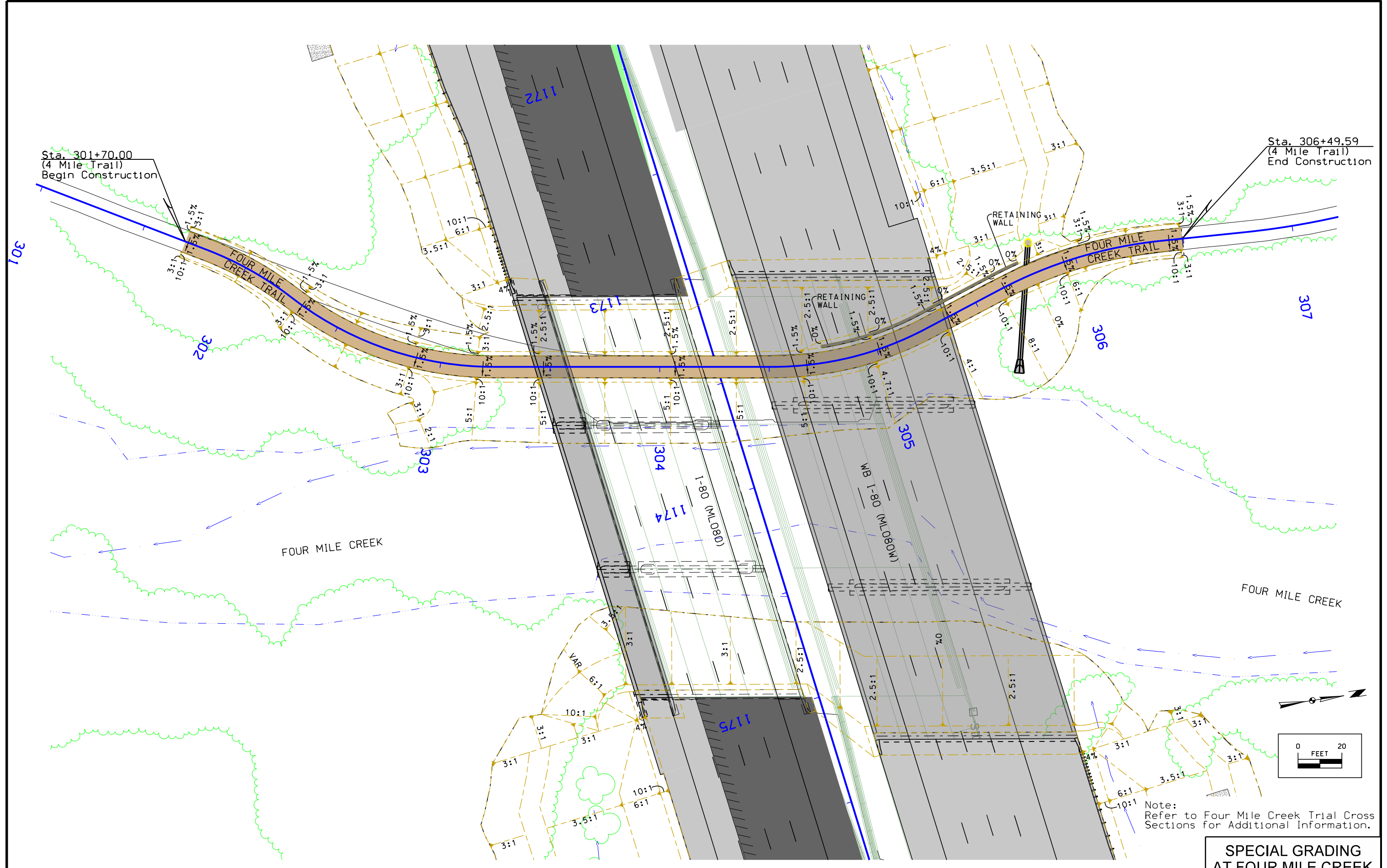
RAMP D  
REMOVALS





Note: Refer to NE 29th Street Cross Sections for Additional Information.

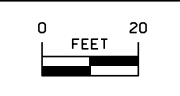
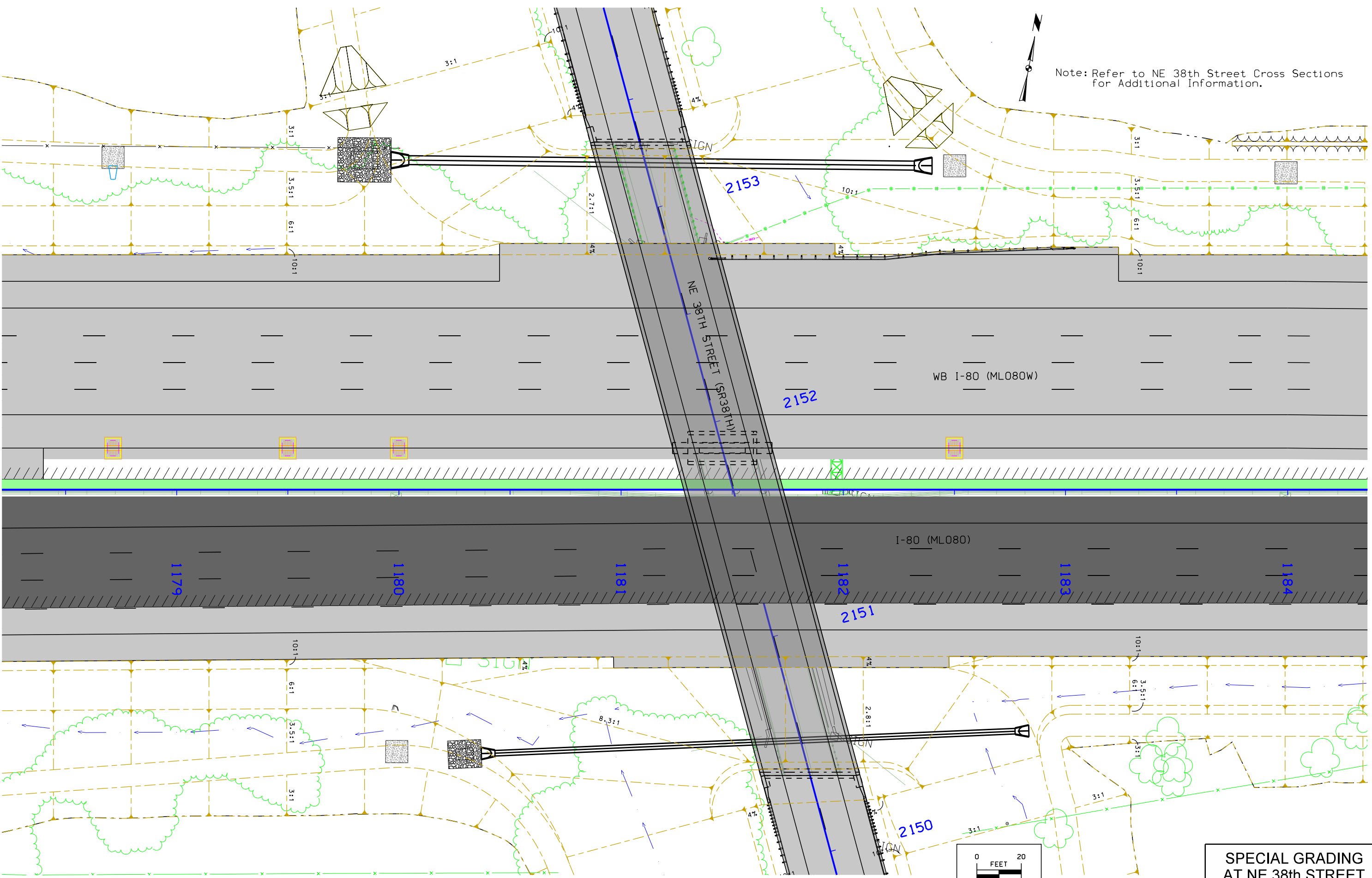
**SPECIAL GRADING  
AT NE 29th STREET**



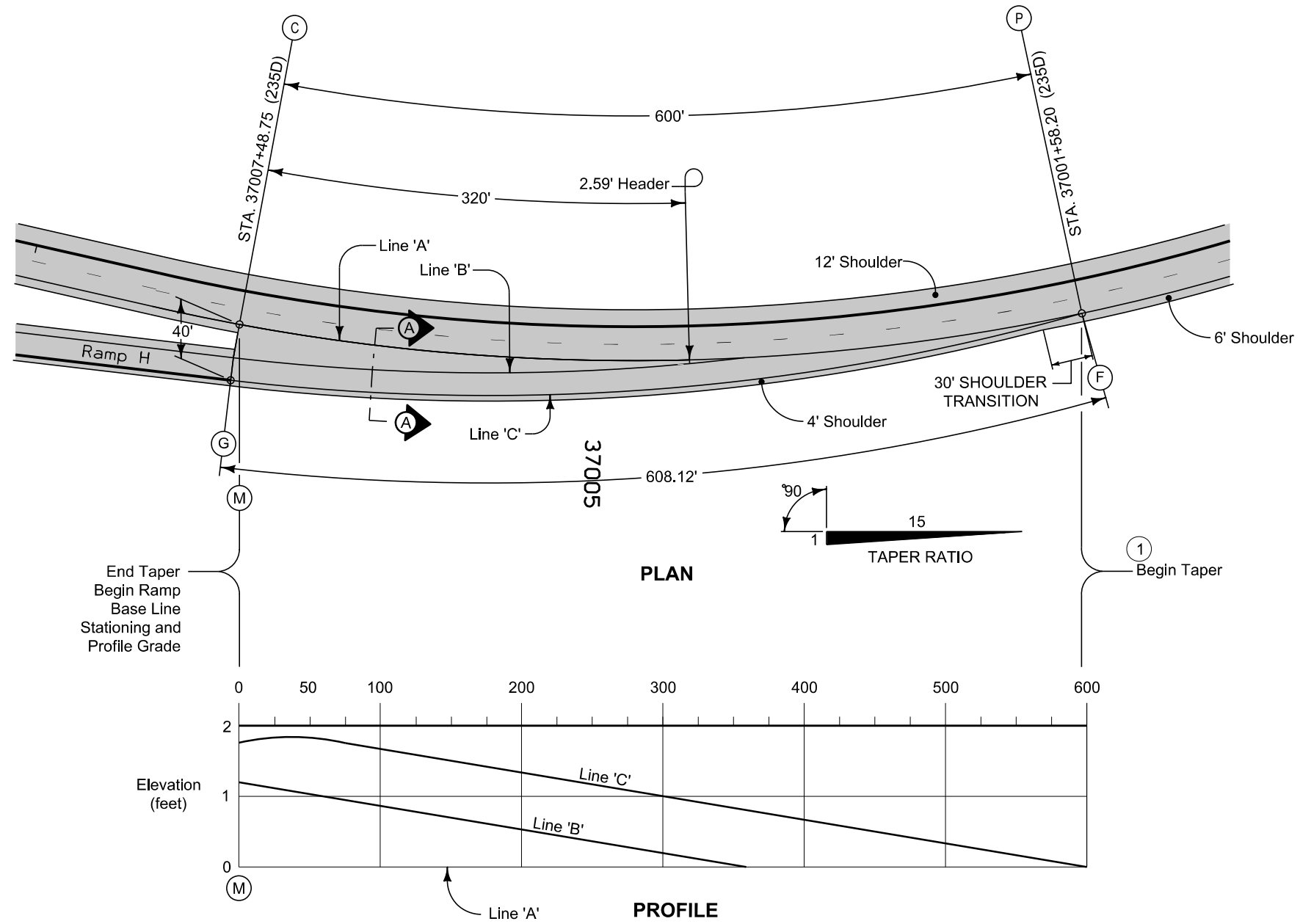
Note:  
Refer to Four Mile Creek Trail Cross  
Sections for Additional Information.

**SPECIAL GRADING  
AT FOUR MILE CREEK**

Note: Refer to NE 38th Street Cross Sections for Additional Information.



**SPECIAL GRADING  
AT NE 38th STREET**



Refer to detail project plans for mainline and ramp alignment and grade data.  
 Construct ramp exit pavement the same thickness as mainline pavement.  
 Ramp exit pavement shown by shaded area is 1129 square yards.  
 For jointing layout, see Standard Road Plan PV-411.  
 This design is based on 60 mph design speed at e max = 6%.

- ① For header construction details at the beginning of taper see Typical 7101.
- ② Construct subbase for ramp exit pavement the same thickness as mainline subbase.

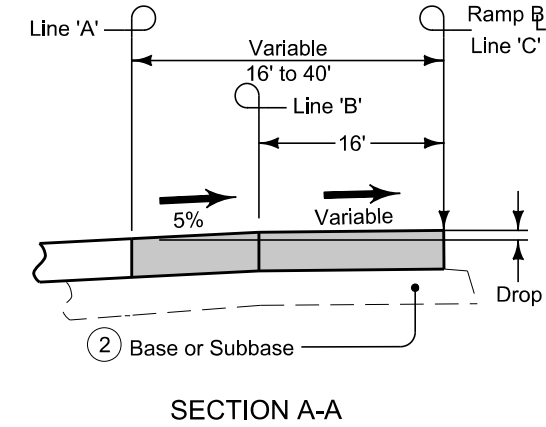
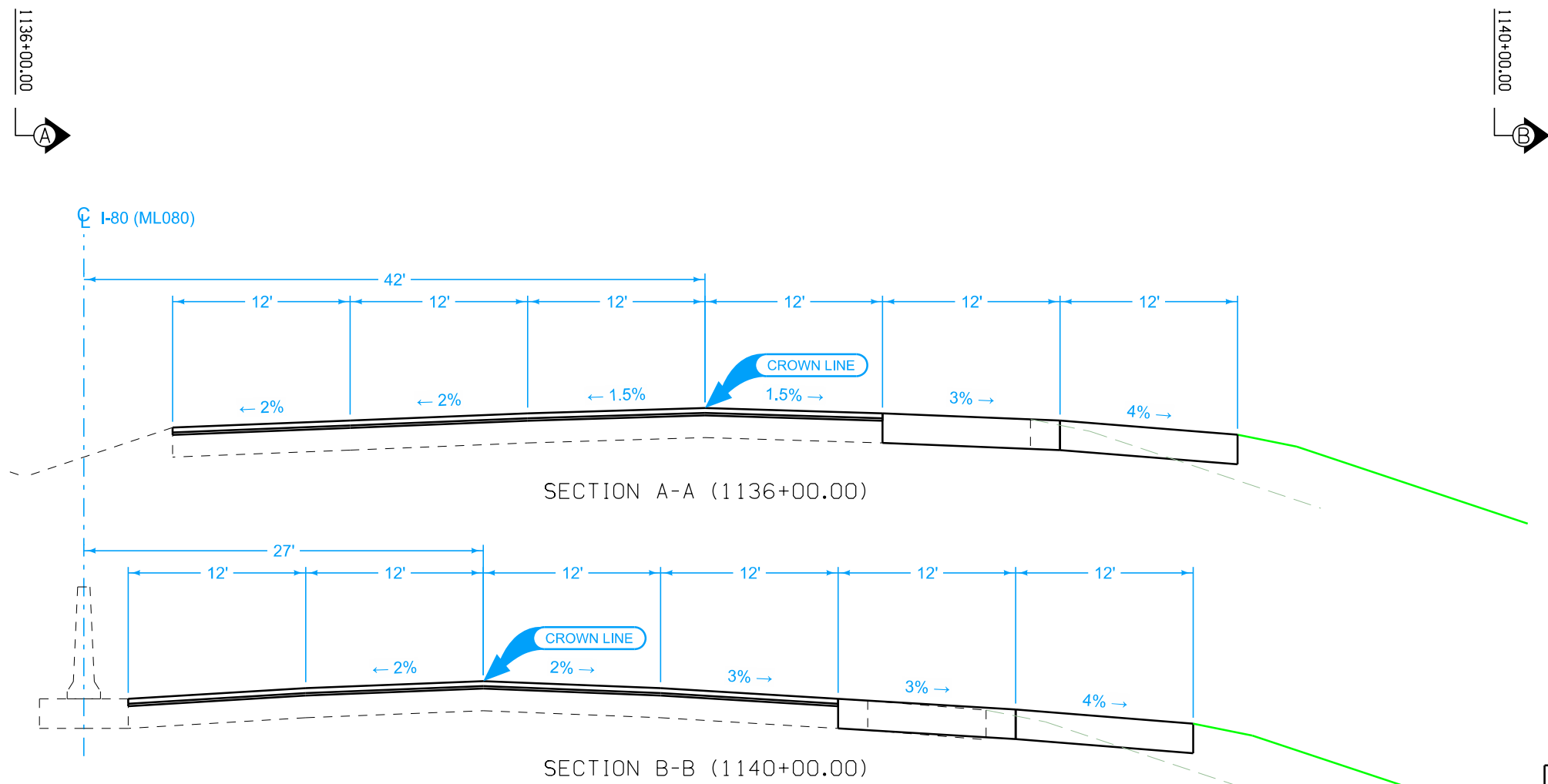
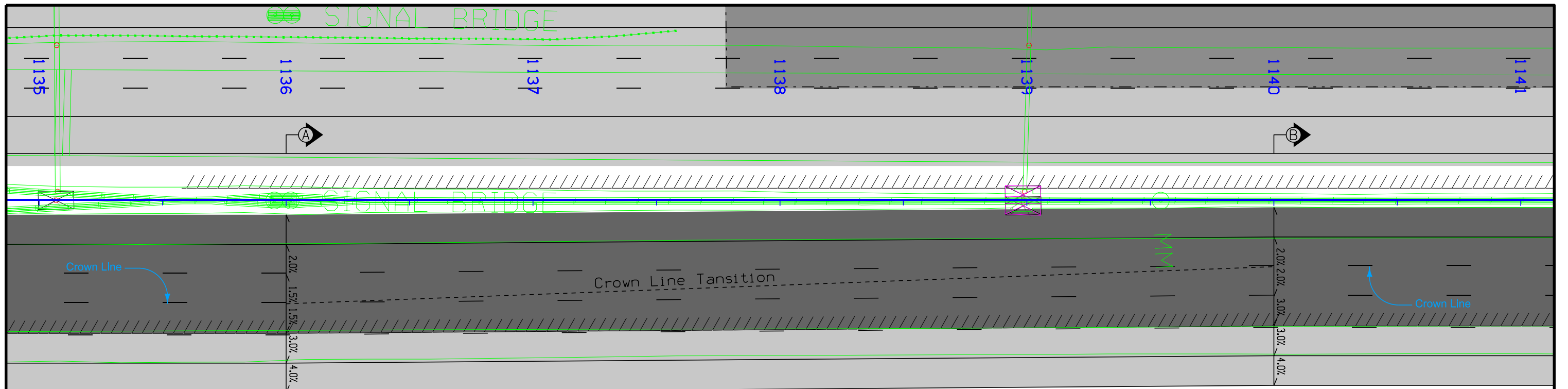


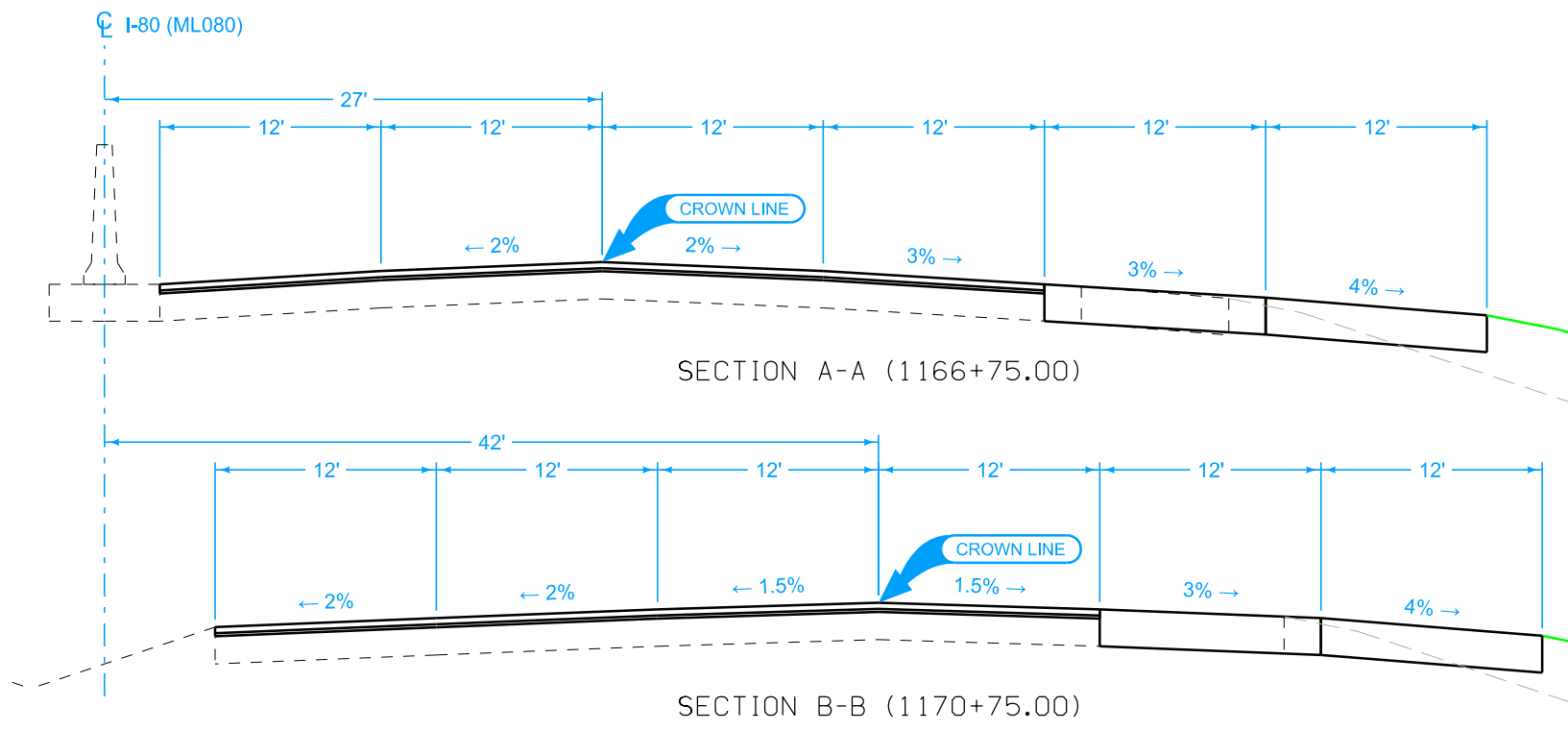
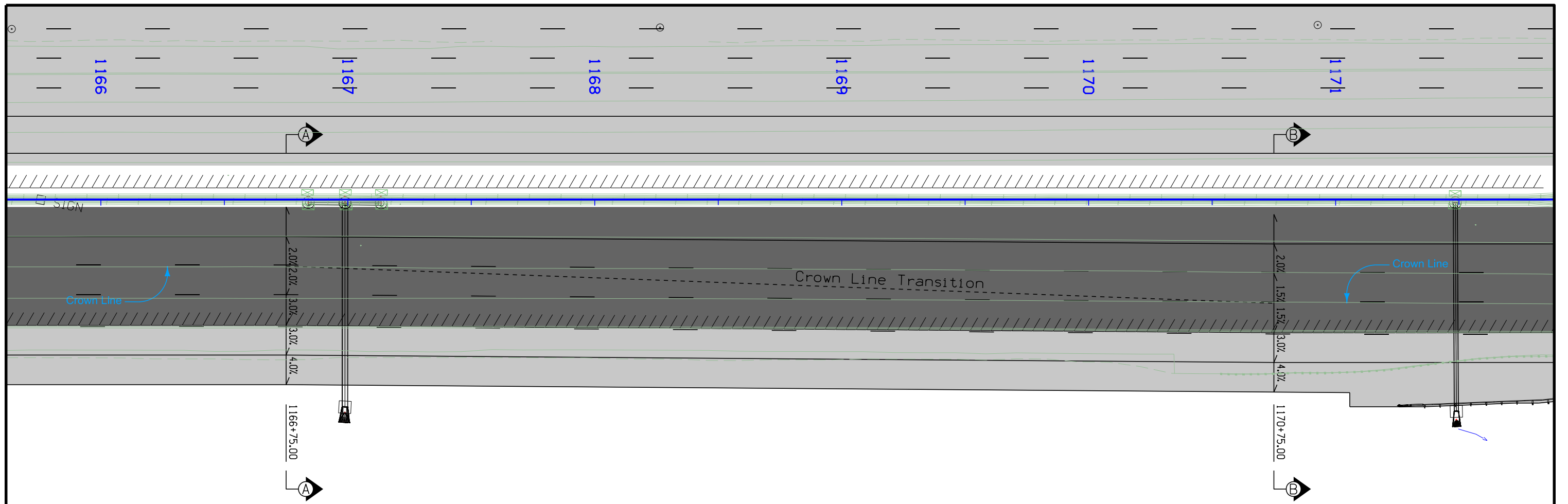
TABLE OF OFFSETS AND DROPS FOR 16' RAMP TAPER

DISTANCE FROM POINT (C) ALONG LINE 'A' (Ft.)		0	25	50	75	100	125	150	175	200	225	250	275	300	325	350	359	375	400	425	450	475	500	525	550	575	600																					
From Line 'A' To Line 'B'	OFFSET (Ft.)	24.00	22.33	20.65	18.97	17.29	15.62	13.94	12.27	10.59	8.92	7.26	5.59	3.92	2.26	0.60	0																															
	SLOPE (%)	← Constant 5.0% Slope →																																														
	DROP (Ft.)	1.20	1.12	1.03	0.95	0.86	0.78	0.70	0.61	0.53	0.45	0.36	0.28	0.20	0.11	0.03	0																															
From Line 'B' To Line 'C'	OFFSET (Ft.)	← Constant 16' Offset →																																														
	SLOPE (%)	3.5	4.42	← Constant 5.0% Slope →																																												
	DROP (Ft.)	0.56	0.71	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80																															
From Line 'A' To Line 'C'	OFFSET (Ft.)																	14.92	13.26	11.59	9.94	8.27	6.62	4.96	3.30	1.65	0																					
	SLOPE (%)	← Constant 5.0% Slope →																																														
	DROP (Ft.)	1.76	1.83	1.83	1.75	1.66	1.58	1.50	1.41	1.33	1.25	1.16	1.08	1.00	0.91	0.83	0.80	0.75	0.66	0.58	0.50	0.41	0.33	0.25	0.17	0.08	0																					

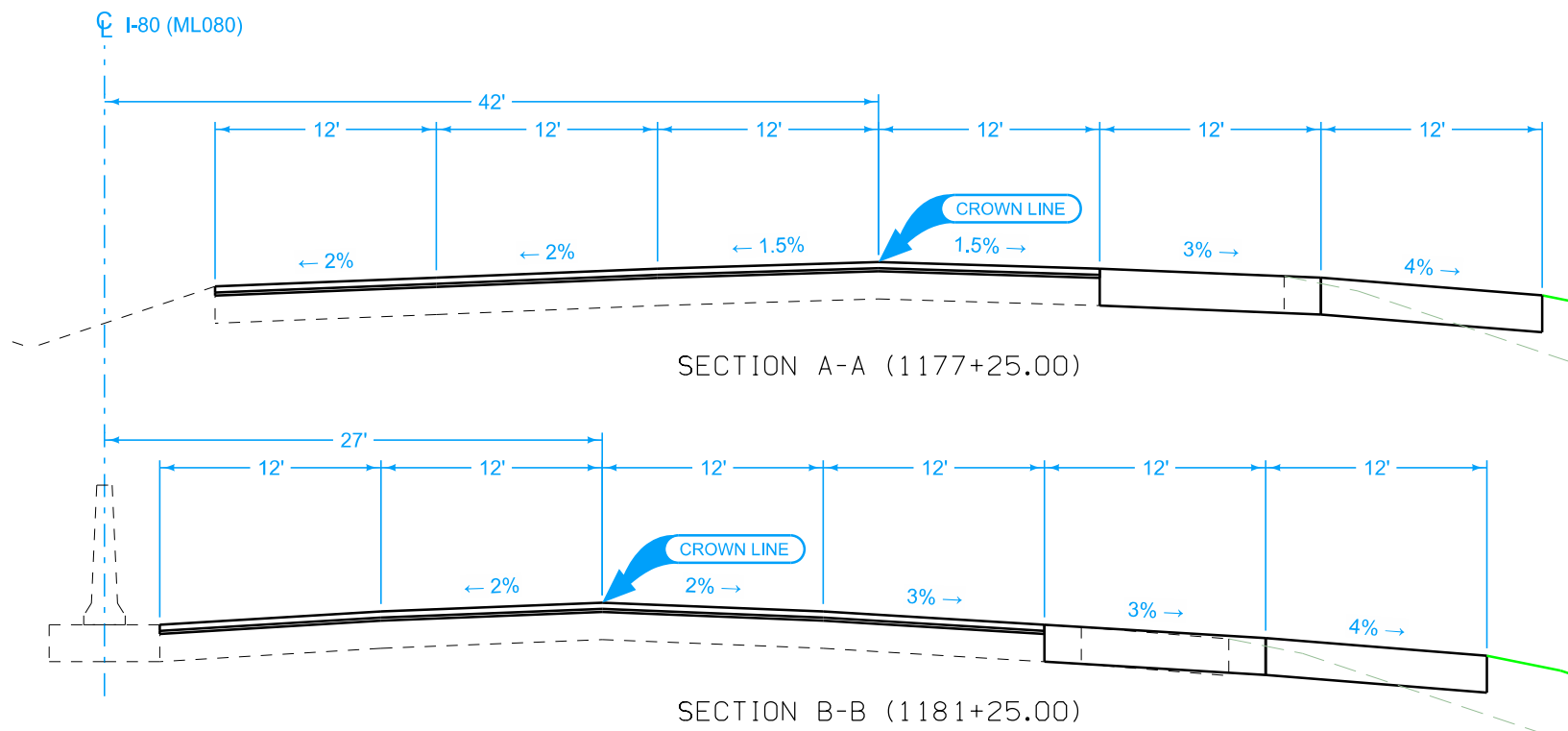
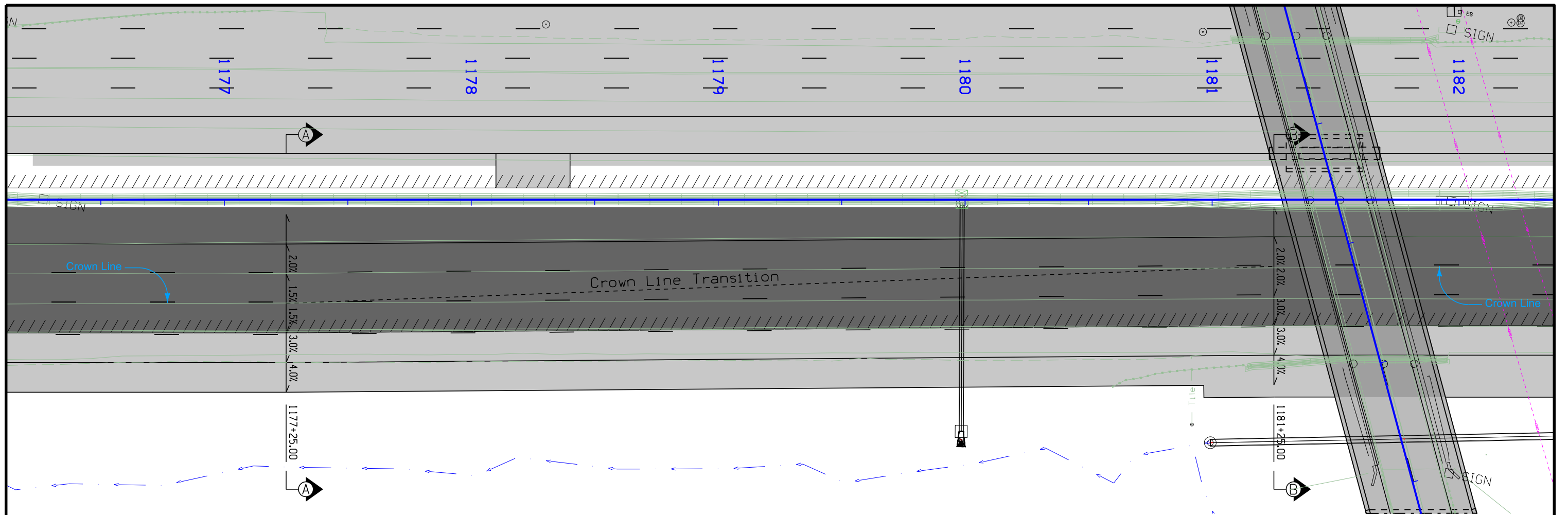
**ML235 NB  
RAMP H - EXIT**



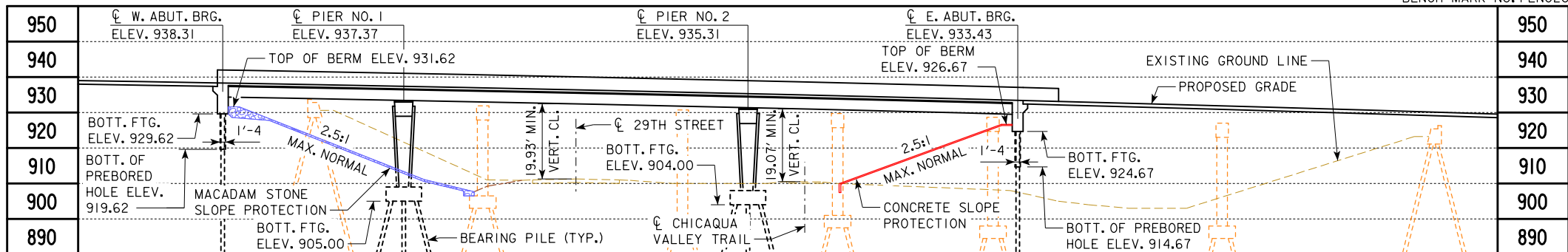
ML080 (EASTBOUND)  
CROWN TRANSITION



ML080 (EASTBOUND)  
CROWN TRANSITION



**ML080 (EASTBOUND)  
CROWN TRANSITION**



NOTES:  
 THIS DESIGN IS FOR THE REPLACEMENT OF THE EXISTING 315'-5" X 56'-0" PPCB BRIDGE, POLK DESIGN 4658, FHWA NO. 041960, MAINTENANCE NO. 7738.7L080.  
 ALL UNITS ARE IN FEET UNLESS NOTED OTHERWISE.  
 ALL DIMENSIONS ARE IN THE HORIZONTAL PLANE UNLESS NOTED OTHERWISE.  
 TL-5 BRIDGE RAILING PROPOSED.  
 PIER TYPE-FRAME; BEAM TYPE-BTB BEAM.  
 BRIDGE AESTHETICS TO BE INCORPORATED IN FINAL DESIGN.  
 BERM SLOPES TO BE CONFIRMED IN FINAL DESIGN.  
 COLLISION REQUIREMENTS AT PIERS SHALL BE EVALUATED DURING FINAL DESIGN.

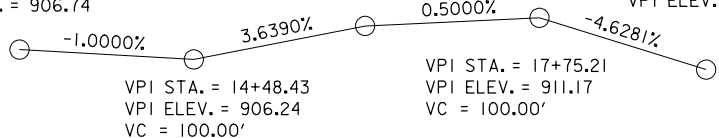
NOTE:  
 TOP OF BRIDGE DECK AT W.B. ROADWAY IS 0.81' ABOVE THE PROFILE GRADE TO ACCOUNT FOR DECK CROSS SLOPE AND PARABOLIC CROWN.

LONGITUDINAL SECTION ALONG W.B. ROADWAY

VPI STA. = 13+98.43  
 VPI ELEV. = 906.74

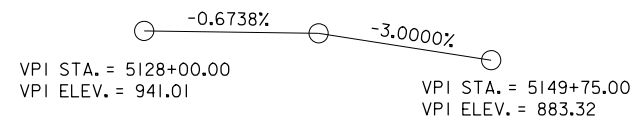
VPI STA. = 15+53.30  
 VPI ELEV. = 910.06  
 VC = 100.00'

VPI STA. = 20+25.00  
 VPI ELEV. = 899.61



PROPOSED PROFILE - CHICHAQUA VALLEY TRAIL

VPI STA. = 5131+25.00  
 VPI ELEV. = 938.82  
 VC = 600.00'



PROPOSED PROFILE - I-80 (ULTIMATE)

LOCATION

I-80 W.B. OVER 29TH ST.  
 T-79N R-23W  
 SECTIONS 17 & 18  
 DELAWARE TOWNSHIP  
 POLK COUNTY  
 FHWA NO. XXXXX  
 BRIDGE MAINT. NO. XXXXXX  
 LATITUDE 41.654427°  
 LONGITUDE -93.560996°

TRAFFIC ESTIMATE

2021 AADT	33,600	V.P.D.
2041 AADT	32,800	V.P.D.
2041 DHV	3,580	V.P.H.
TRUCKS	17	%
TOTAL DESIGN ESALS	-	

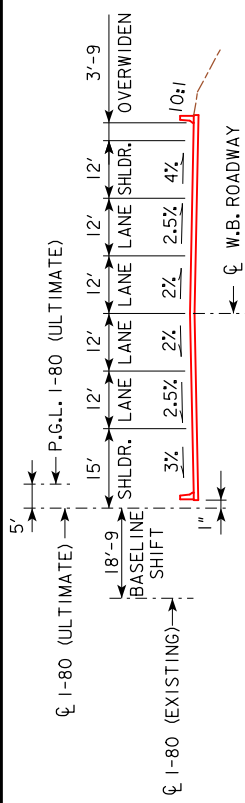
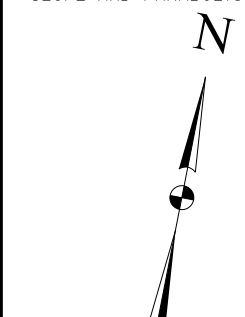


PRELIMINARY

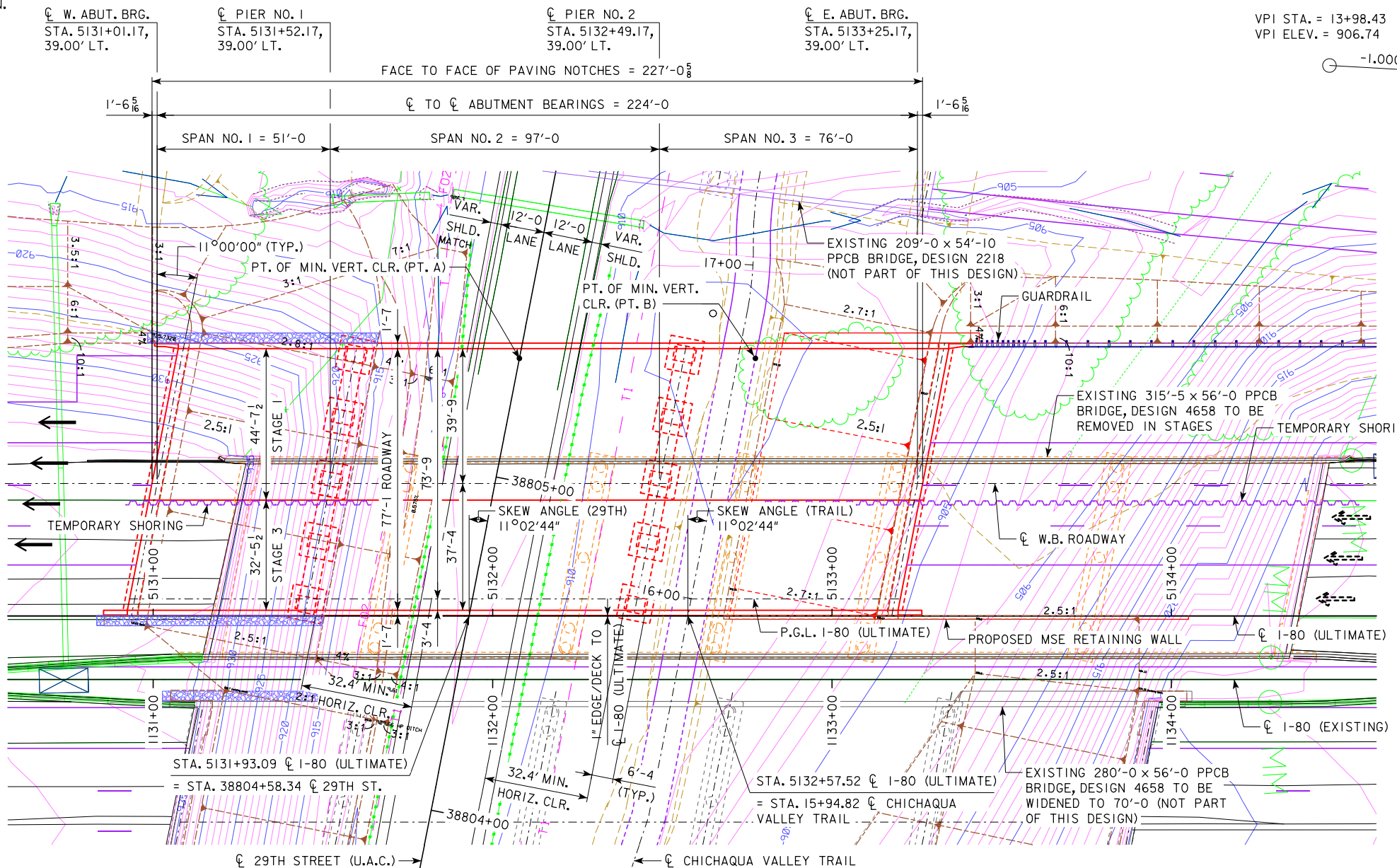
DESIGN FOR 11° SKEW (L.A.)  
**224'-0" X 77'-1" PRETENSIONED  
 PRESTRESSED CONCRETE BEAM BRIDGE**  
 51'-0" & 76'-0" END SPANS 97'-0" INTERIOR SPAN  
**SITUATION PLAN**  
 STATION 5132+13.17 (W.B. ROADWAY) NOVEMBER 2021  
**POLK COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 DESIGN SHEET NO. 1 OF 3 FILE NO. 32061 DESIGN NO. 524

UTILITIES LEGEND:

- T1 TELEPHONE (CENTURYLINK)
- F02 FIBER OPTIC (CENTURYLINK)



TYPICAL APPROACH ROADWAY



SITUATION PLAN

MINIMUM VERTICAL CLEARANCE (PT. A)

OVERHEAD STATION = 5132+08.09, 76.83' LT.  
 OVERHEAD ELEVATION = 935.37  
 DEPTH OF SUPERSTRUCTURE = 3.96'  
 UNDERPASS STATION = 38805+36.63  
 UNDERPASS ELEVATION = 911.48  
 MINIMUM VERTICAL CLEARANCE = 19.93'

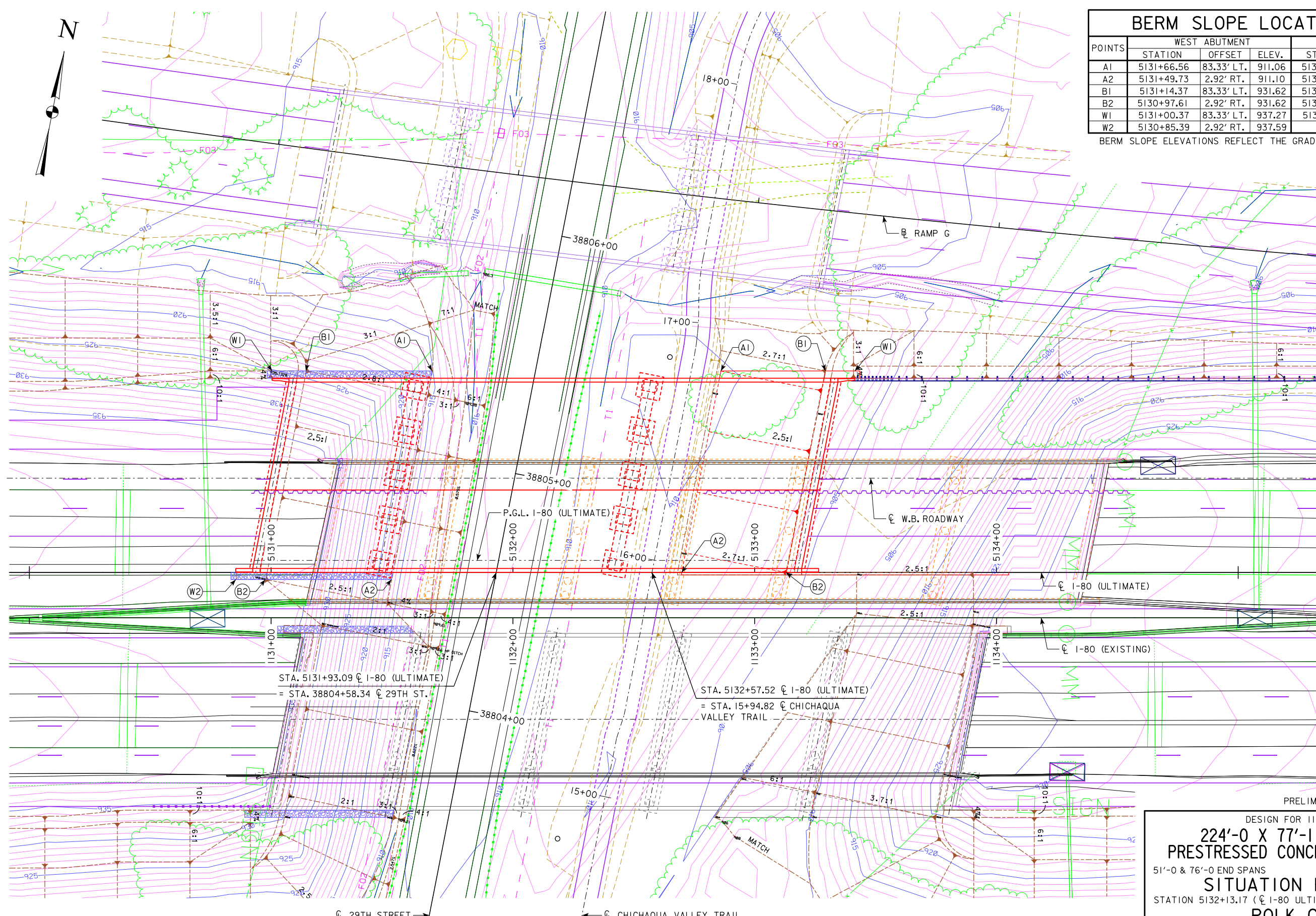
MINIMUM VERTICAL CLEARANCE (PT. B)

OVERHEAD STATION = 5132+77.62, 76.83' LT.  
 OVERHEAD ELEVATION = 933.77  
 DEPTH OF SUPERSTRUCTURE = 3.96'  
 UNDERPASS STATION = 16+74.07  
 UNDERPASS ELEVATION = 910.74  
 MINIMUM VERTICAL CLEARANCE = 19.07'



POINTS	WEST ABUTMENT			EAST ABUTMENT		
	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
A1	5131+66.56	83.33' LT.	911.06	5132+86.02	83.33' LT.	910.43
A2	5131+49.73	2.92' RT.	911.10	5132+69.75	0.00'	910.00
B1	5131+14.37	83.33' LT.	931.62	5133+29.20	83.33' LT.	926.67
B2	5130+97.61	2.92' RT.	931.62	5133+13.01	0.00'	926.67
W1	5131+00.37	83.33' LT.	937.27	5133+41.43	83.33' LT.	931.95
W2	5130+85.39	2.92' RT.	937.59	--	--	--

BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE.



PRELIMINARY

DESIGN FOR 11° SKEW (L.A.)

**224'-0 X 77'-1 PRETENSIONED  
PRESTRESSED CONCRETE BEAM BRIDGE**

51'-0 & 76'-0 END SPANS      97'-0 INTERIOR SPAN

**SITUATION PLAN - SITE**

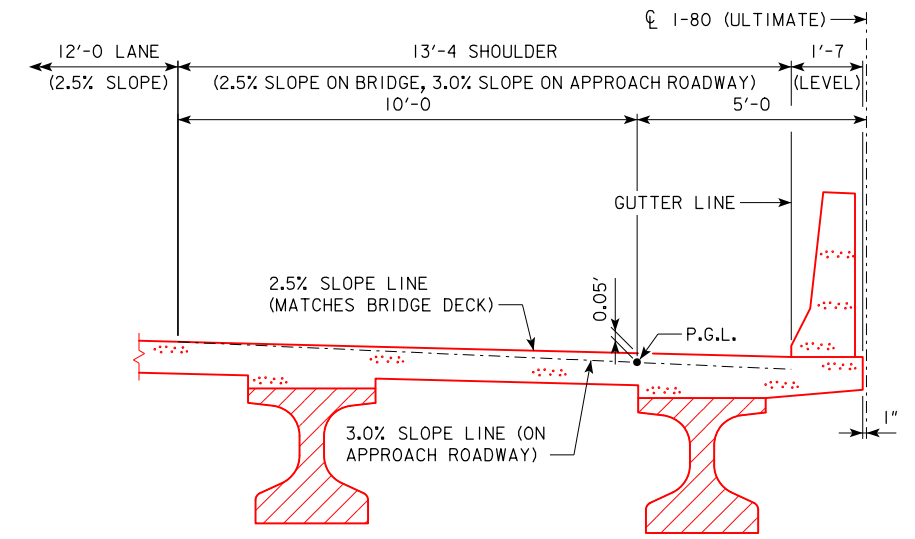
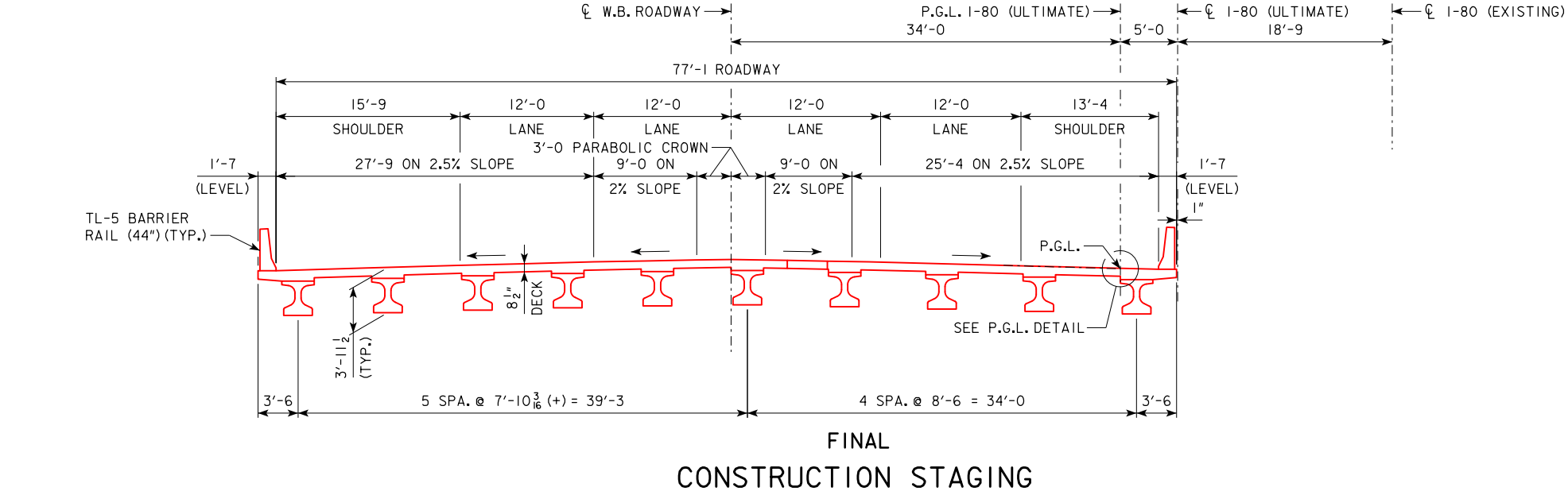
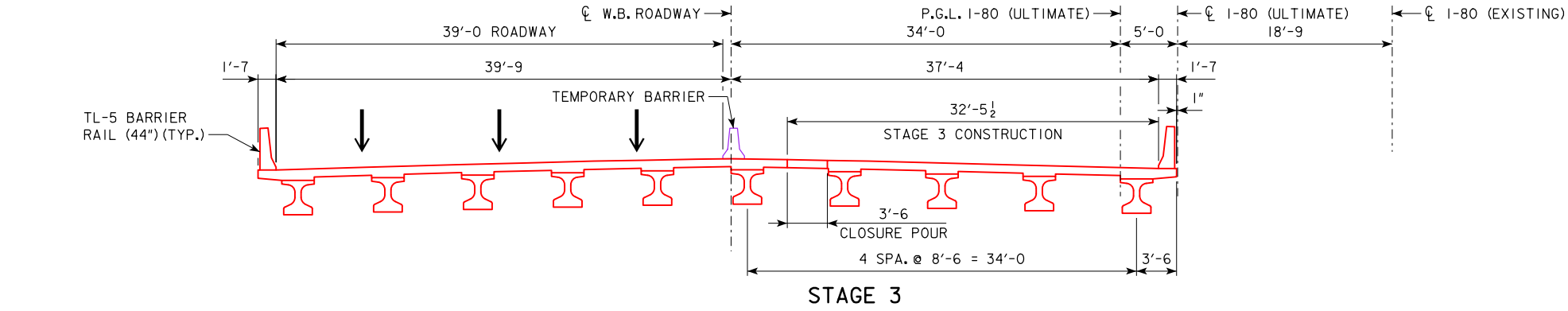
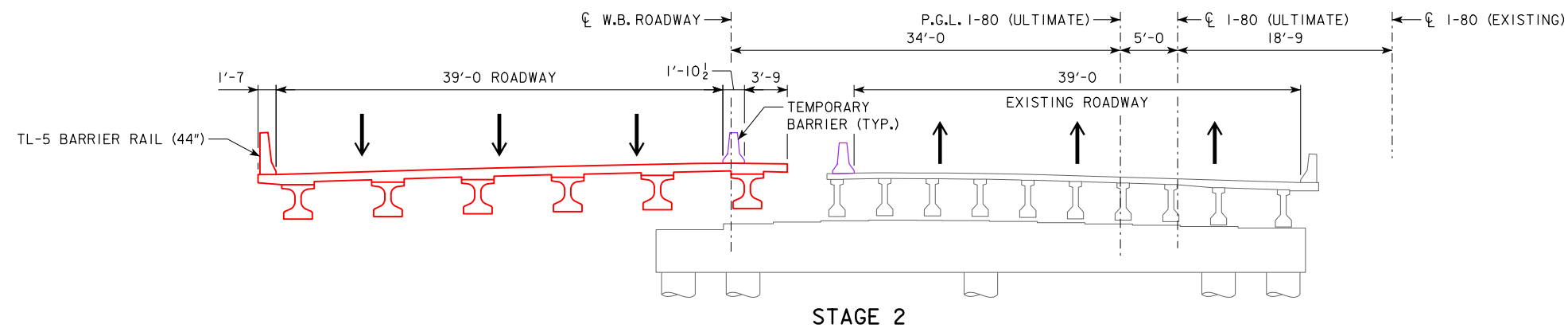
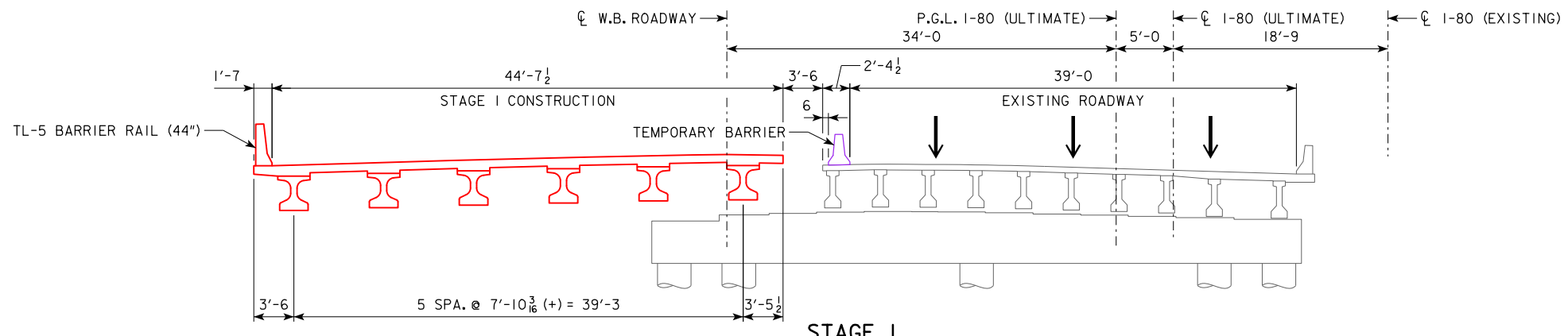
STATION 5132+13.17 (CL I-80 ULTIMATE)      NOVEMBER 2021

**POLK COUNTY**

IOWA DEPARTMENT OF TRANSPORTATION

DESIGN SHEET NO. 2 OF 3      FILE NO. 32061      DESIGN NO. 524

**SITE PLAN**



NOTE:  
 THE P.G.L. IS LOCATED WITHIN THE SOUTH SHOULDER OF THE I-80 WESTBOUND APPROACH ROADWAY. THE SHOULDER TRANSITIONS FROM A 3.0% CROSS SLOPE ON THE WEST APPROACH ROADWAY TO 2.5% ON THE BRIDGE, AND BACK TO 3.0% ON THE EAST APPROACH ROADWAY. HOWEVER, THE P.G.L. LOCATION DOES NOT CHANGE AND IS ALWAYS LOCATED ON THE 3.0% CROSS SLOPE LINE. THE RESULT IS THAT THE P.G.L. DOES NOT LIE ON THE BRIDGE DECK, BUT IS 0.05' BELOW THE BRIDGE DECK. SEE DETAIL ABOVE.

PRELIMINARY

DESIGN FOR 11° SKEW (L.A.)

**224'-0 X 77'-1 PRETENSIONED  
 PRESTRESSED CONCRETE BEAM BRIDGE**

51'-0 & 76'-0 END SPANS 97'-0 INTERIOR SPAN

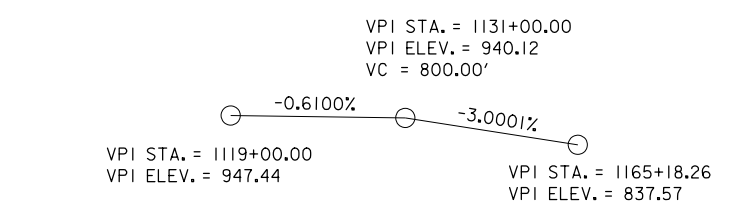
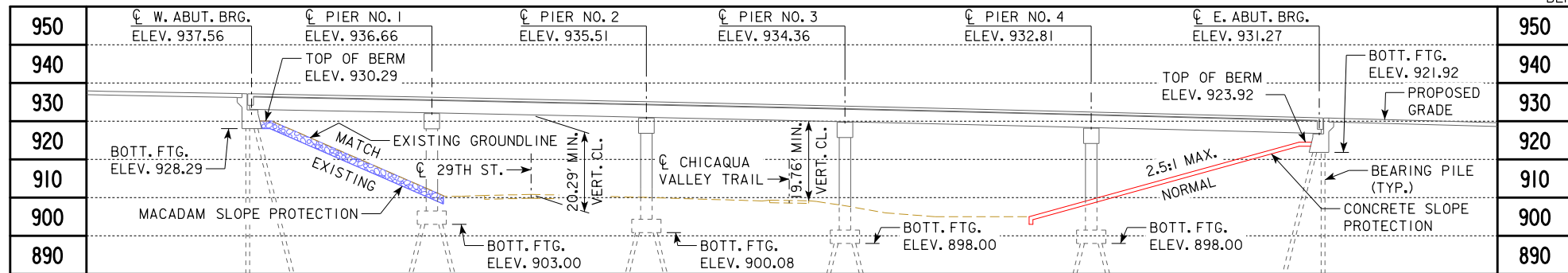
**SITUATION PLAN - MISC.**

STATION 5132+13.17 (I-80 ULTIMATE) NOVEMBER 2021

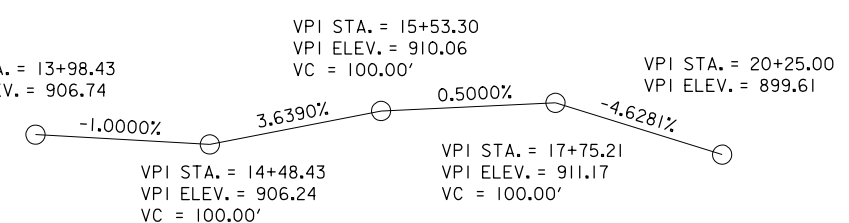
**POLK COUNTY**

IOWA DEPARTMENT OF TRANSPORTATION

DESIGN SHEET NO. 3 OF 3 FILE NO. 32061 DESIGN NO. 524



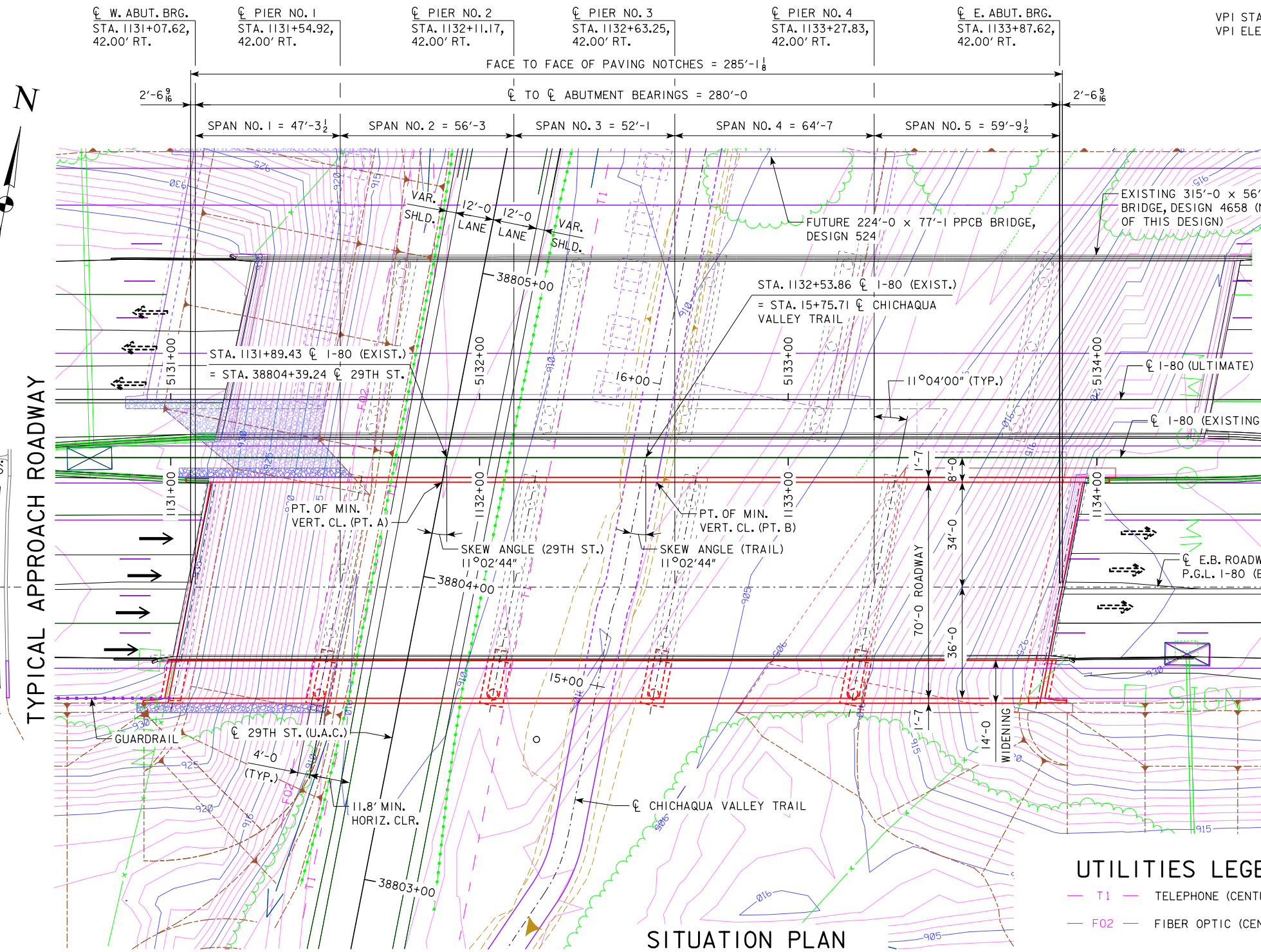
PROPOSED PROFILE - I-80 (EXISTING)



PROPOSED PROFILE - CHICHAQUA VALLEY TRAIL

NOTE:  
TOP OF BRIDGE DECK AT E.B. ROADWAY IS 0.03' BELOW THE PROFILE GRADE TO ACCOUNT FOR PARABOLIC CROWN.

LONGITUDINAL SECTION ALONG E.B. ROADWAY



MINIMUM VERTICAL CLEARANCE (PT. A)

OVERHEAD STATION = 1131+87.57, 9.50' RT.  
OVERHEAD ELEVATION = 935.18  
DEPTH OF SUPERSTRUCTURE = 3.92'  
UNDERPASS STATION = 38804+29.56  
UNDERPASS ELEVATION = 910.97  
MINIMUM VERTICAL CLEARANCE = 20.29'

MINIMUM VERTICAL CLEARANCE (PT. B)

OVERHEAD STATION = 1132+57.10, 9.50' RT.  
OVERHEAD ELEVATION = 933.67  
DEPTH OF SUPERSTRUCTURE = 3.92'  
UNDERPASS STATION = 15+67.01, 5.00' RT.  
UNDERPASS ELEVATION = 910.00  
MINIMUM VERTICAL CLEARANCE = 19.76'

NOTES:  
THIS DESIGN IS FOR THE WIDENING AND REDECKING OF THE EXISTING 280'-0 x 56'-0 PPCB BRIDGE, POLK DESIGN 4658, FHWA NO. 041950, MAINTENANCE NO. 7738.7R080.  
ALL UNITS ARE IN FEET UNLESS NOTED OTHERWISE.  
ALL DIMENSIONS ARE IN THE HORIZONTAL PLANE UNLESS NOTED OTHERWISE.  
TL-5 BRIDGE RAILING PROPOSED.  
PIER TYPE-FRAME; BEAM TYPE-BTB BEAM.  
BRIDGE AESTHETICS TO BE INCORPORATED IN FINAL DESIGN.  
BERM SLOPES TO BE CONFIRMED IN FINAL DESIGN.  
COLLISION REQUIREMENTS AT PIERS SHALL BE EVALUATED DURING FINAL DESIGN.

TRAFFIC ESTIMATE

2021 AADT	40,700	V.P.D.
2041 AADT	55,100	V.P.D.
2041 DHV	6,020	V.P.H.
TRUCKS	17	%
TOTAL DESIGN ESALS		

LOCATION

I-80 E.B. OVER 29TH ST.  
T-79N R-23W  
SECTIONS 17 & 18  
DELAWARE TOWNSHIP  
POLK COUNTY  
FHWA NO. \_\_\_\_\_  
BRIDGE MAINT. NO. \_\_\_\_\_  
LATITUDE 41.654177°  
LONGITUDE -93.560802°

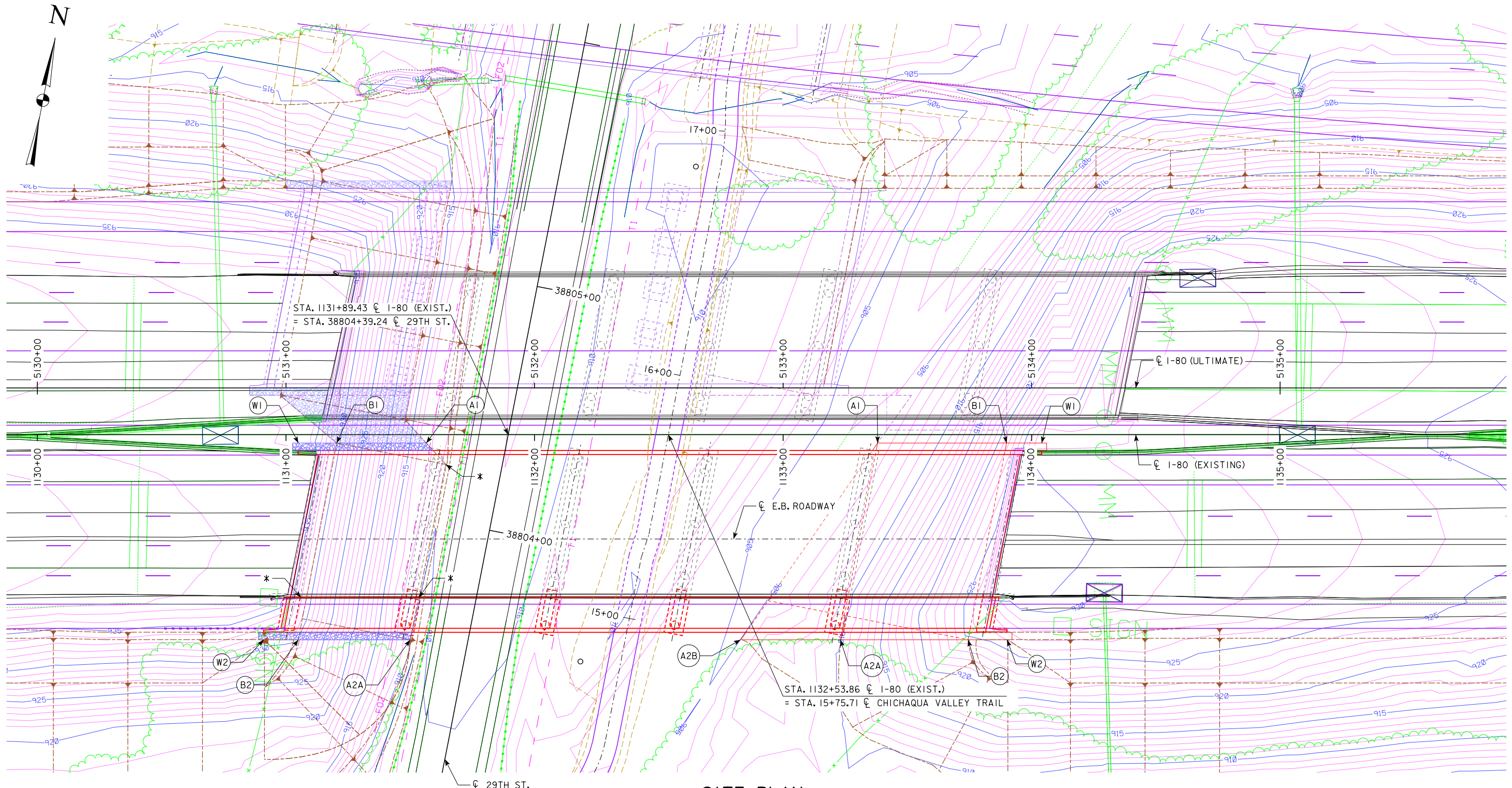


PRELIMINARY

DESIGN FOR WIDENING & REDECKING OF 11°04'00" SKEW (LA)  
**280'-0 X 56'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE TO 70'-0 ROADWAY BRIDGE**  
47'-3 1/2, 56'-3, 52'-1, 64'-7, 59'-9 1/2 SPANS

**SITUATION PLAN**  
STATION 1132+47.62 (E.B. ROADWAY) NOVEMBER 2021  
**POLK COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION  
DESIGN SHEET NO. 1 OF 3 FILE NO. 32061 DESIGN NO. 226

UTILITIES LEGEND:  
T1 TELEPHONE (CENTURYLINK)  
F02 FIBER OPTIC (CENTURYLINK)



SITE PLAN



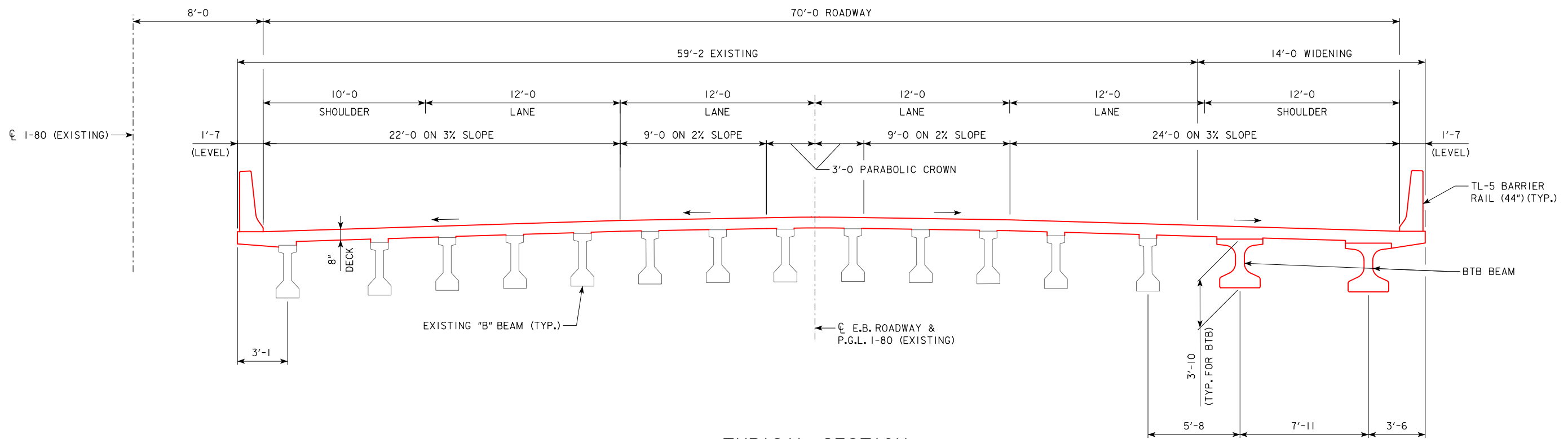
PRELIMINARY

POINTS	WEST ABUTMENT			EAST ABUTMENT		
	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
A1	1131+56.47	3.42' RT.	910.53	MATCH EXISTING		
A2A	1131+49.95	82.58' RT.	910.00	1133+23.09	82.58' RT.	910.00
A2B	--	--	--	1132+83.03	82.58' RT.	905.00
B1	MATCH EXISTING			MATCH EXISTING		
B2	1131+04.95	82.58' RT.	930.29	1133+74.42	82.58' RT.	923.92
W1	MATCH EXISTING			MATCH EXISTING		
W2	1130+91.03	82.58' RT.	936.78	1133+90.13	82.58' RT.	930.13

NOTE:  
\* MATCH EXISTING

BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE.

DESIGN FOR WIDENING & REDECKING OF 11°04'00" SKEW (LA)  
**280'-0 X 56'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE TO 70'-0 ROADWAY BRIDGE**  
 47'-3½, 56'-3, 52'-1, 64'-7, 59'-9½ SPANS  
**SITUATION PLAN - SITE**  
 STATION 1132+47.62 (I-80 EXISTING) NOVEMBER 2021  
**POLK COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 DESIGN SHEET NO. 2 OF 3 FILE NO. 32061 DESIGN NO. 226



TYPICAL SECTION

PRELIMINARY

DESIGN FOR WIDENING & REDECKING OF 11°04'00" SKEW (LA)  
**280'-0" X 56'-0" PRETENSIONED PRESTRESSED  
 CONCRETE BEAM BRIDGE TO 70'-0" ROADWAY BRIDGE**

47'-3½, 56'-3, 52'-1, 64'-7, 59'-9½ SPANS

**SITUATION PLAN - MISC.**

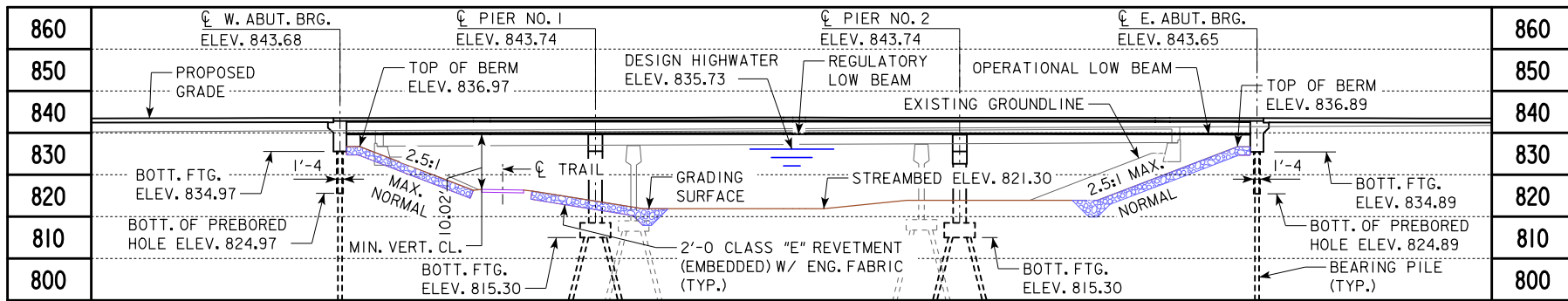
STATION 1132+47.62 (CL 1-80 EXISTING)

NOVEMBER 2021

**POLK COUNTY**

IOWA DEPARTMENT OF TRANSPORTATION

DESIGN SHEET NO. 3 OF 3 FILE NO. 32061 DESIGN NO. 226



NOTE:  
TOP OF BRIDGE DECK AT C W.B. ROADWAY IS 0.81' ABOVE THE PROFILE GRADE TO ACCOUNT FOR DECK CROSS SLOPE AND PARABOLIC CROWN.

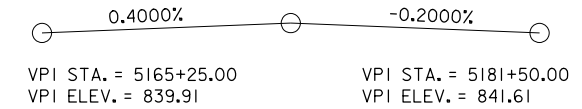
**LONGITUDINAL SECTION ALONG C W.B. ROADWAY**

**CURVE DATA**

FOUR MILE CREEK GREENWAY TRAIL  
 PI STA. 304+88.55  
 $\Delta = 24^\circ 51' 21.34''$  (LT.)  
 T = 37.20'  
 L = 72.93'  
 E = 4.54'  
 R = 150.00'  
 PC STA. 304+51.35  
 PT STA. 305+24.28

BENCH MARK NO. FEN0200, 1-METER ROD MONUMENT, STA. 1183+18.58, 845.82' RT., ELEV. 851.56

VPI STA. = 5173+50.00  
 VPI ELEV. = 843.21  
 VC = 400.00'



**PROPOSED PROFILE - I-80 (ULTIMATE)**

VPI STA. = 302+25.00  
 VPI ELEV. = 830.75

VPI STA. = 304+90.00  
 VPI ELEV. = 826.50  
 VC = 40.00'

**PROPOSED PROFILE - FOUR MILE CREEK GREENWAY TRAIL**

**LOCATION**

I-80 W.B. OVER FOUR MILE CREEK  
 T-79N R-23W  
 SECTION 17  
 DELAWARE TOWNSHIP  
 POLK COUNTY  
 FHWA NO. \_\_\_\_\_  
 BRIDGE MAINT. NO. \_\_\_\_\_  
 LATITUDE 41.656652°  
 LONGITUDE -93.545866°

**HYDRAULIC DATA**

DRAINAGE AREA = 83.9 SQ. MI.  
 STREAM SLOPE = 7.0 FT./MI.  
 REGULATORY LOW BEAM = 838.77  
 OPERATIONAL LOW BEAM = 838.64

$Q_{25} = 6,586$  CFS  
 STAGE = 834.33

$Q_{50} = 8,220$  CFS  
 STAGE = 835.00  
 BACKWATER = 0.57 FT.  
 CHANNEL VELOCITY = 4.5 FPS

$Q_{100} = 10,189$  CFS  
 STAGE = 835.73  
 BACKWATER = 0.60 FT.  
 CHANNEL VELOCITY = 5.2 FPS

$Q_{200} = 11,885$  CFS  
 STAGE = 836.32  
 CHANNEL VELOCITY = 5.8 FPS  
 CALCULATED DESIGN SCOUR = 814.1

$Q_{500} = 14,233$  CFS  
 STAGE = 838.43  
 CHANNEL VELOCITY = 5.7 FPS  
 CALCULATED CHECK SCOUR = 814.1

**MINIMUM VERTICAL CLEARANCE**

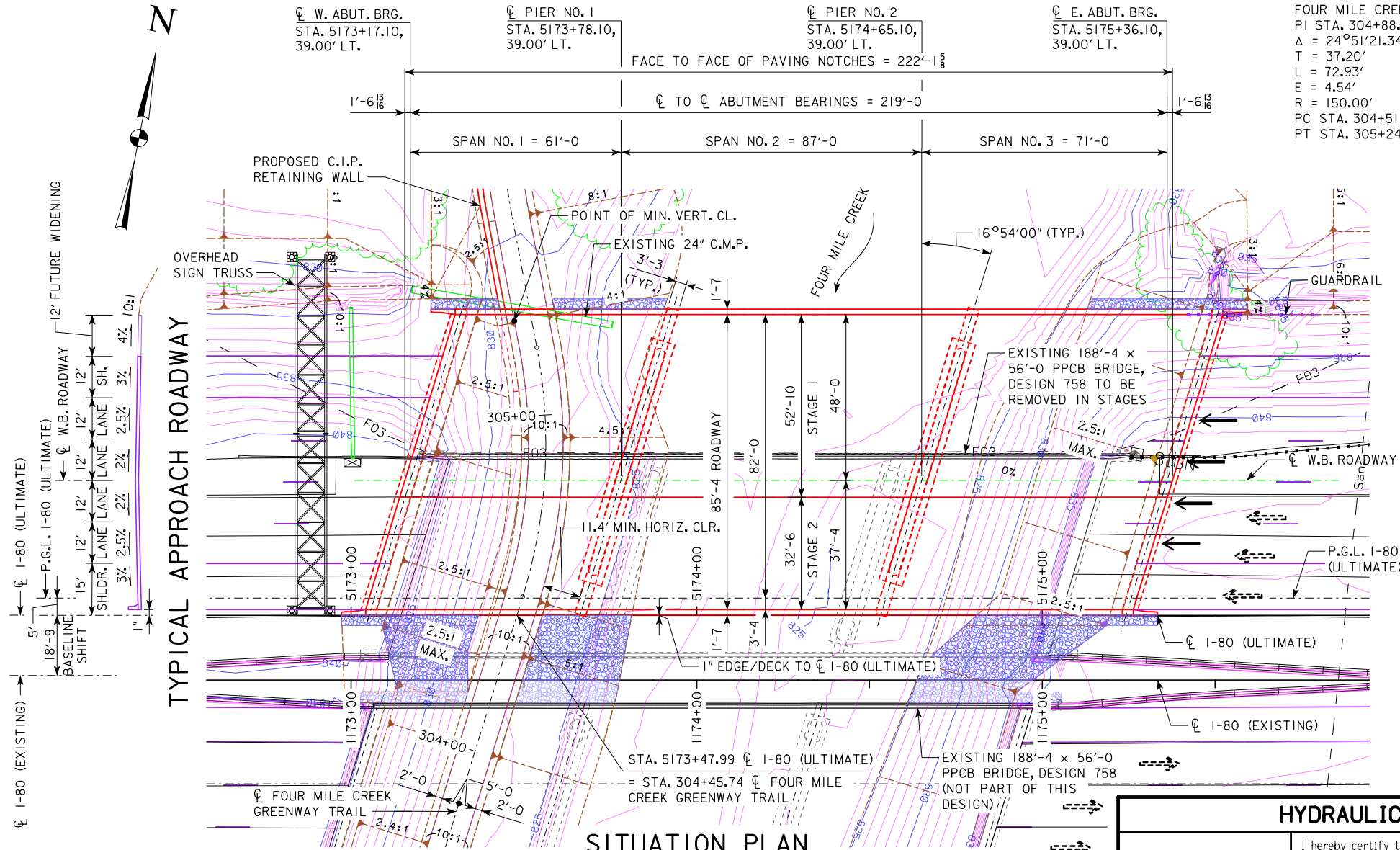
OVERHEAD STATION = 5173+47.20, 85.08' LT.  
 OVERHEAD ELEVATION = 842.66  
 DEPTH OF SUPERSTRUCTURE = 3.92'  
 UNDERPASS STATION = 305+32.99, 5.00' LT.  
 UNDERPASS ELEVATION = 828.72  
 MINIMUM VERTICAL CLEARANCE = 10.02'

**TRAFFIC ESTIMATE**

2021 AADT	40,700	V.P.D.
2041 AADT	55,100	V.P.D.
2041 DHV	6,020	V.P.H.
TRUCKS	17	%
TOTAL DESIGN ESALS		

EXTREME H.W. STAGE = 836.0 (EST.)  
 DATE = 7/1/2018

50, 100 & 500 YR. STAGES AND DISCHARGES FROM POLK COUNTY F.I.S., DATED 2/1/2019. 25 & 200 YR. DISCHARGES ESTIMATED FROM F.I.S. FLOW FREQUENCY RELATIONSHIP STAGES FROM HDR HYDRAULIC ANALYSIS. F.I.S. DATUM 0.0 FT. ABOVE PROJECT DATUM.

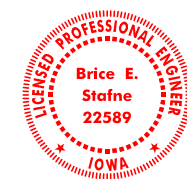


NOTES:  
 THIS DESIGN IS FOR THE REPLACEMENT OF THE EXISTING 188'-4 x 56'-0 PPCB BRIDGE, POLK DESIGN 758, FHWA NO. 041980, MAINT. NO. 7739.4L080.  
 ALL UNITS ARE IN FEET UNLESS NOTED OTHERWISE.  
 ALL DIMENSIONS ARE IN THE HORIZONTAL PLANE UNLESS NOTED OTHERWISE.  
 TL-5 BRIDGE RAILING PROPOSED.  
 PIER TYPE-T; BEAM TYPE-BTB BEAM.  
 BRIDGE AESTHETICS TO BE INCORPORATED IN FINAL DESIGN.  
 BERM SLOPES TO BE CONFIRMED IN FINAL DESIGN.

**UTILITIES LEGEND:**

- San. - SANITARY SEWER (CITY OF DES MOINES)
- F03 - FIBER OPTIC (ICN)

**HYDRAULIC DESIGN**



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

*Brice E. Stafne* 1/21/2022  
 Signature Date

Printed or Typed Name  
**BRICE E. STAFNE**

My license renewal date is December 31, 2022

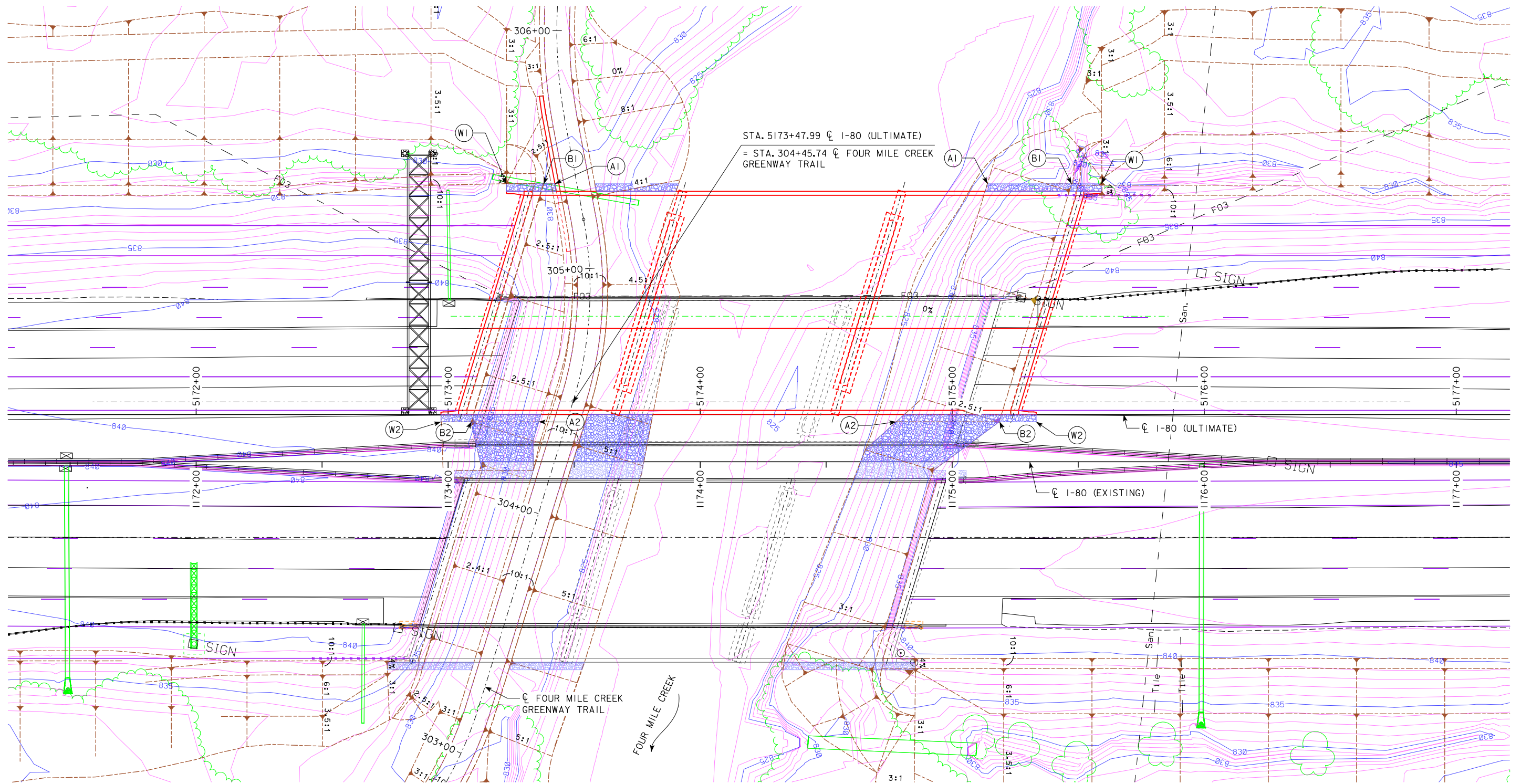
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 H&H DATA ONLY



PRELIMINARY

DESIGN FOR 16°54'00" SKEW (LA)  
**219'-0 X 85'-4 PRESTRESSED CONCRETE BEAM BRIDGE**  
 61'-0 AND 71'-0 END SPANS 87'-0 INTERIOR SPAN

**SITUATION PLAN**  
 STATION 5174+26.60 (C I-80 ULTIMATE) NOVEMBER 2021  
**POLK COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 DESIGN SHEET NO. 1 OF 3 FILE NO. 32061 DESIGN NO. 624



POINTS	WEST ABUTMENT			EAST ABUTMENT		
	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
A1	5173+42.41	91.58' LT.	835.12	5175+13.98	91.58' LT.	824.00
A2	5173+35.92	2.92' RT.	826.58	5174+77.81	2.92' RT.	824.00
B1	5173+37.78	91.58' LT.	836.97	5175+47.37	91.58' LT.	836.89
B2	5173+09.06	2.92' RT.	836.97	5175+18.66	2.92' RT.	836.89
W1	5173+23.11	91.58' LT.	842.43	5175+59.25	91.58' LT.	842.34
W2	5172+97.19	2.92' RT.	842.65	5175+33.32	2.92' RT.	842.66

BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE.

SITE PLAN



PRELIMINARY

DESIGN FOR 16°54'00" SKEW (LA)

**219'-0 X 85'-4 PRETENSIONED  
PRESTRESSED CONCRETE BEAM BRIDGE**

61'-0 AND 71'-0 END SPANS      87'-0 INTERIOR SPAN

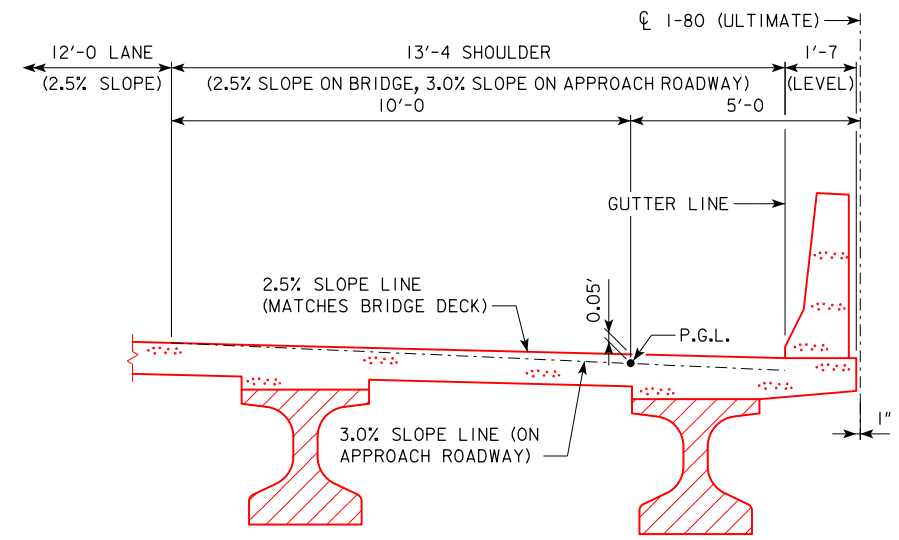
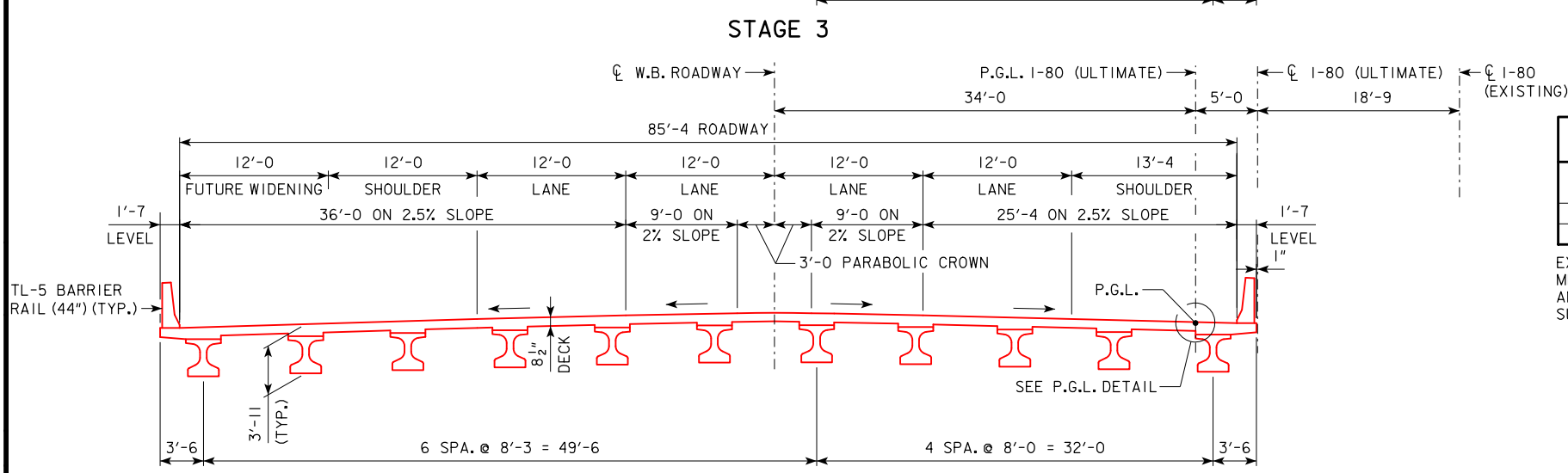
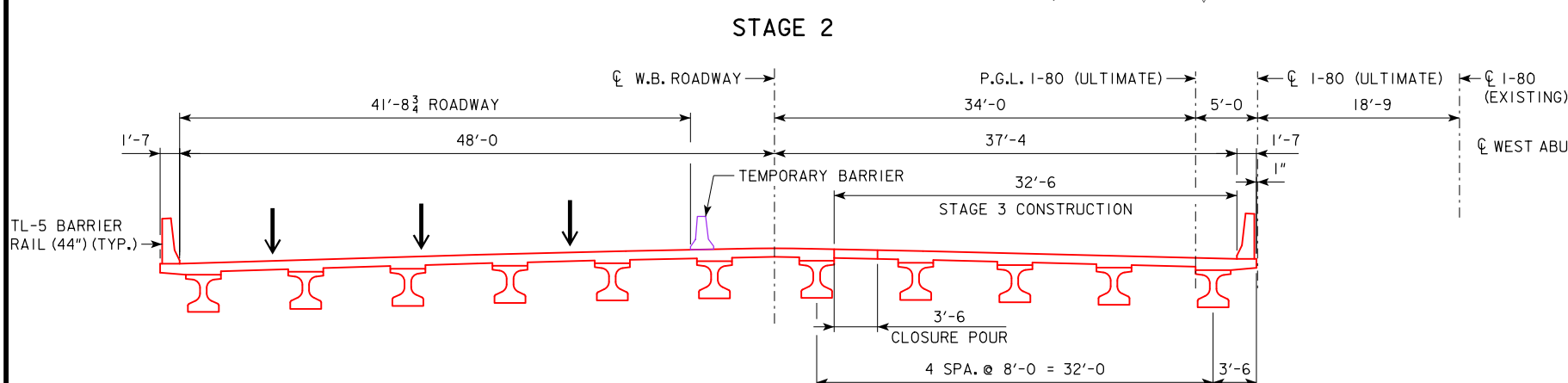
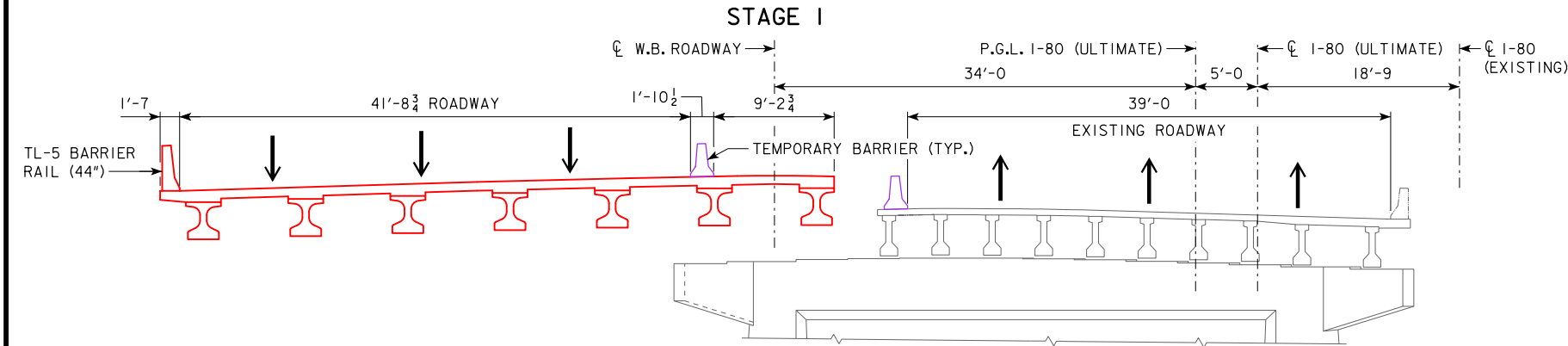
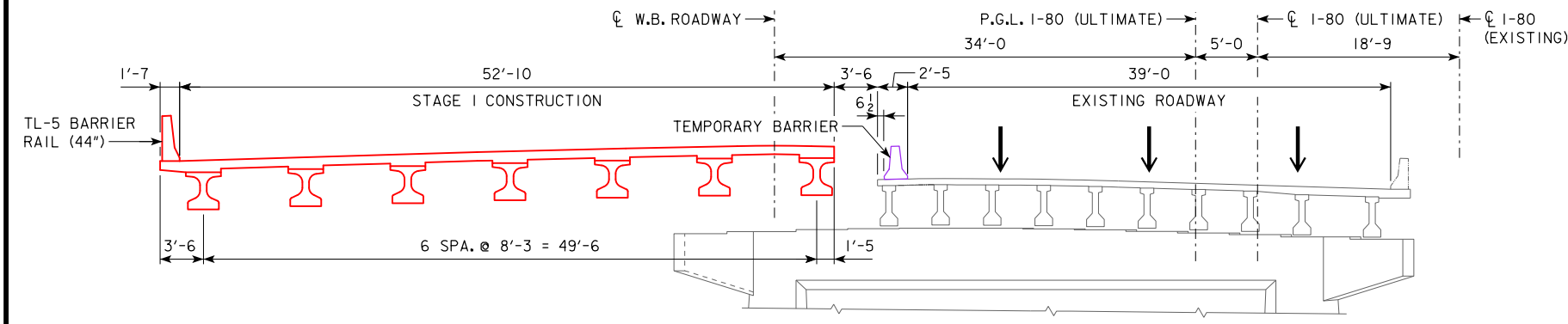
**SITUATION PLAN - SITE**

STATION 5174+26.60 (CL I-80 ULTIMATE)      NOVEMBER 2021

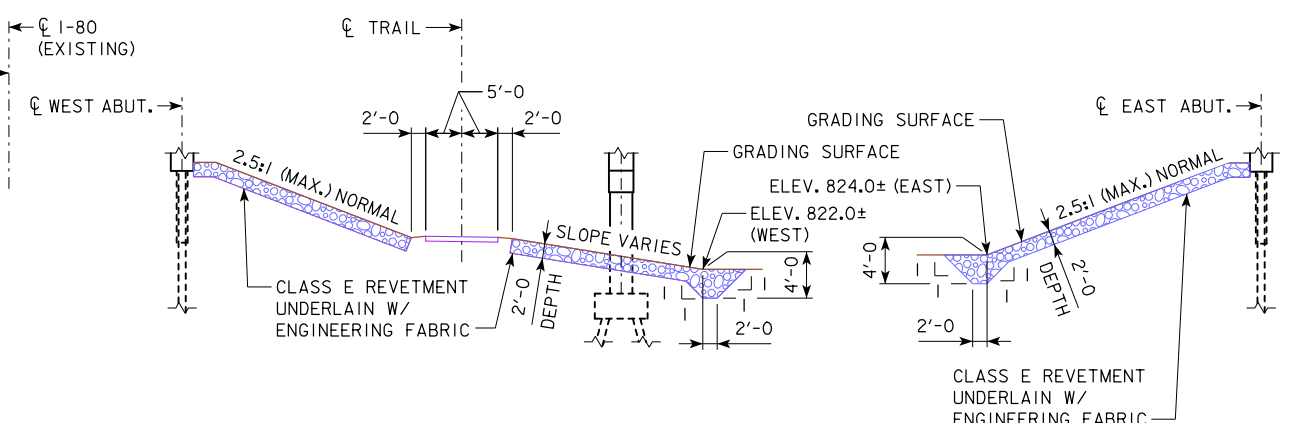
**POLK COUNTY**

IOWA DEPARTMENT OF TRANSPORTATION

DESIGN SHEET NO. 2 OF 3      FILE NO. 32061      DESIGN NO. 624



**NOTE:**  
 THE P.G.L. IS LOCATED WITHIN THE SOUTH SHOULDER OF THE I-80 WESTBOUND APPROACH ROADWAY. THE SHOULDER TRANSITIONS FROM A 3.0% CROSS SLOPE ON THE WEST APPROACH ROADWAY TO 2.5% ON THE BRIDGE, AND BACK TO 3.0% ON THE EAST APPROACH ROADWAY. HOWEVER, THE P.G.L. LOCATION DOES NOT CHANGE AND IS ALWAYS LOCATED ON THE 3.0% CROSS SLOPE LINE. THE RESULT IS THAT THE P.G.L. DOES NOT LIE ON THE BRIDGE DECK, BUT IS 0.05' BELOW THE BRIDGE DECK. SEE DETAIL ABOVE.



REVETMENT QUANTITIES			
REVETMENT LOCATION	REVETMENT CLASS E (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
WEST ABUTMENT BERM	807	779	505
EAST ABUTMENT BERM	658	412	648

EXCAVATION QUANTITY CALCULATED INCLUDES THE MATERIAL MEASURED FROM THE EXISTING GROUND TO THE GRADING SURFACE AND THE MATERIAL OF THE CORE OUT MEASURED FROM THE GRADING SURFACE TO THE BOTTOM OF THE REVETMENT.

PRELIMINARY

DESIGN FOR 16°54'00" SKEW (LA)

**219'-0" X 85'-4" PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE**

61'-0" AND 71'-0" END SPANS 87'-0" INTERIOR SPAN

**SITUATION PLAN - MISC.**

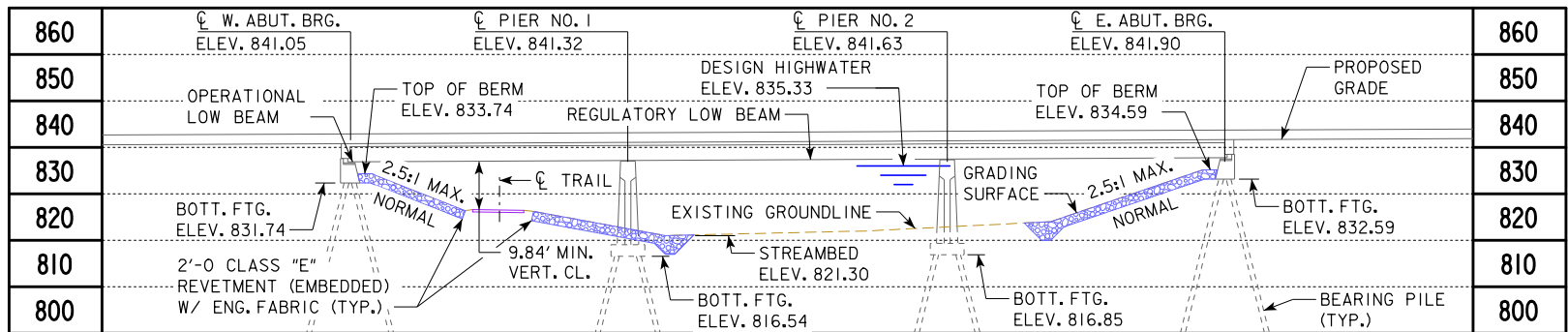
STATION 5174+26.60 (I-80 ULTIMATE) NOVEMBER 2021

**POLK COUNTY**

IOWA DEPARTMENT OF TRANSPORTATION

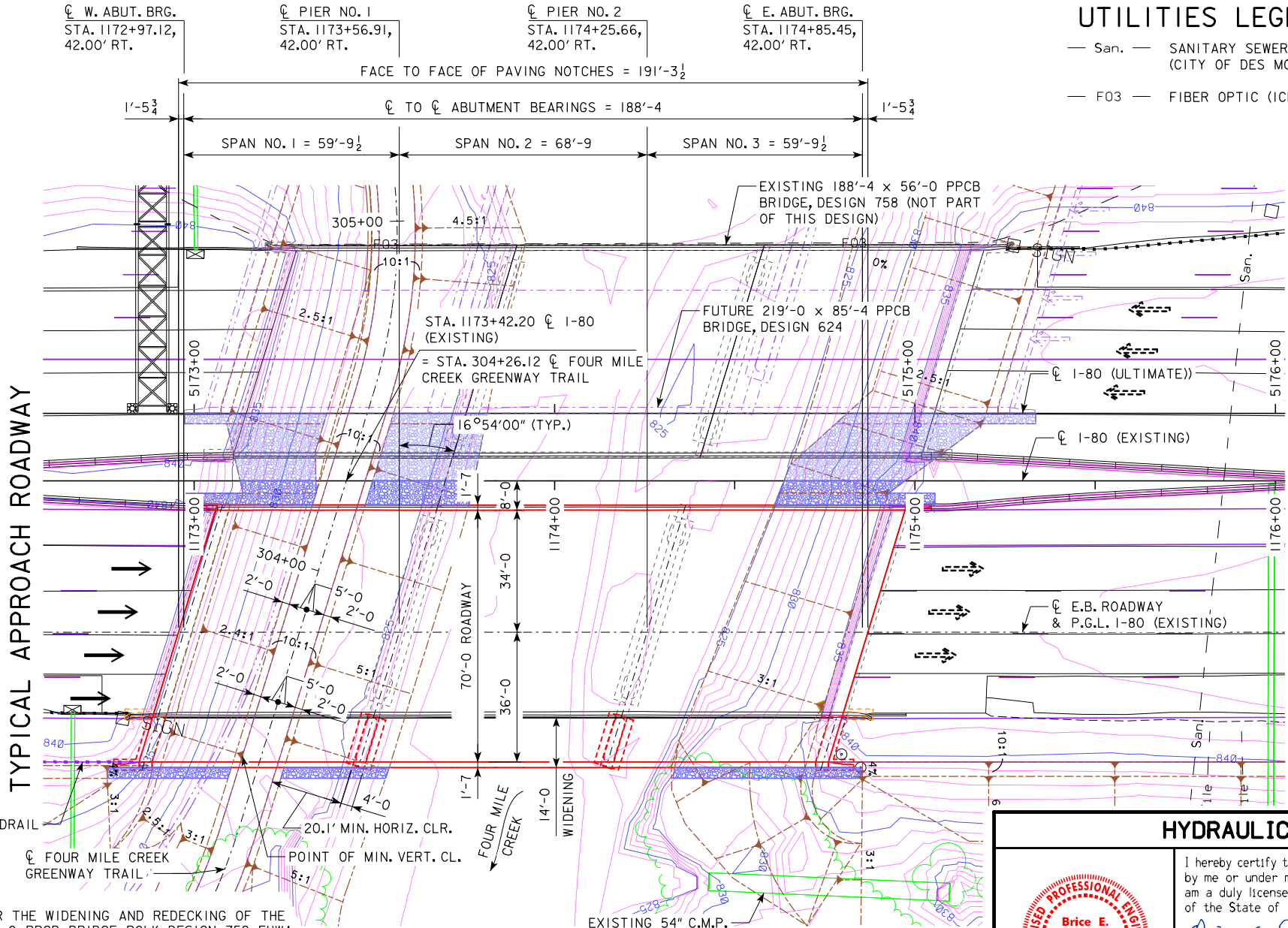
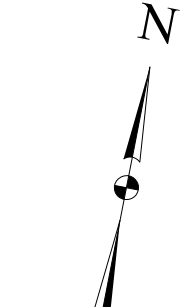
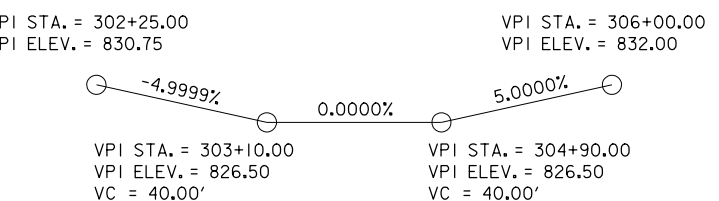
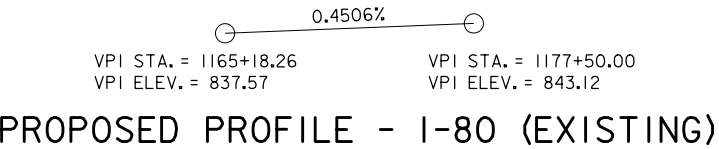
DESIGN SHEET NO. 3 OF 3 FILE NO. 32061 DESIGN NO. 624





NOTE:  
TOP OF BRIDGE DECK AT E.B. ROADWAY IS 0.03' BELOW THE PROFILE GRADE TO ACCOUNT FOR PARABOLIC CROWN.

LONGITUDINAL SECTION ALONG E.B. ROADWAY



UTILITIES LEGEND:

- San. — SANITARY SEWER (CITY OF DES MOINES)
- F03 — FIBER OPTIC (ICN)

LOCATION

I-80 E.B. OVER FOUR MILE CREEK  
T-79N R-23W  
SECTION 17  
DELAWARE TOWNSHIP  
POLK COUNTY  
FHWA NO. -----  
BRIDGE MAINT. NO. -----  
LATITUDE 41.656365°  
LONGITUDE -93.545922°

HYDRAULIC DATA

DRAINAGE AREA = 83.9 SQ. MI.  
STREAM SLOPE = 7.0 FT./MI.  
REGULATORY LOW BEAM = 836.72  
OPERATIONAL LOW BEAM = 836.24

Q<sub>25</sub> = 6,586 CFS  
STAGE = 834.13

Q<sub>50</sub> = 8,220 CFS  
STAGE = 834.72  
BACKWATER = 0.57 FT.  
CHANNEL VELOCITY = 5.2 FPS

Q<sub>100</sub> = 10,189 CFS  
STAGE = 835.33  
BACKWATER = 0.60 FT.  
CHANNEL VELOCITY = 6.0 FPS

Q<sub>200</sub> = 11,885 CFS  
STAGE = 835.80  
CHANNEL VELOCITY = 6.7 FPS  
CALCULATED DESIGN SCOUR = 814.1

Q<sub>500</sub> = 14,233 CFS  
STAGE = 837.91  
CHANNEL VELOCITY = 7.3 FPS  
CALCULATED CHECK SCOUR = 814.1

MINIMUM VERTICAL CLEARANCE

OVERHEAD STATION = 1173+13.46, 76.08' RT.  
OVERHEAD ELEVATION = 840.25  
DEPTH OF SUPERSTRUCTURE = 3.83'  
UNDERPASS STATION = 303+44.94, 5.00' LT.  
UNDERPASS ELEVATION = 826.58  
MINIMUM VERTICAL CLEARANCE = 9.84'

TRAFFIC ESTIMATE

2021 AADT	40,700	V.P.D.
2041 AADT	55,100	V.P.D.
2041 DHV	6,020	V.P.H.
TRUCKS	17	%
TOTAL DESIGN ESALS		

EXTREME H.W. STAGE = 836.0 (EST.)  
DATE = 7/1/2018

50, 100 & 500 YR. STAGES AND DISCHARGES FROM POLK COUNTY F.I.S., DATED 2/1/2019. 25 & 100 YR. DISCHARGES ESTIMATED FROM F.I.S. FLOW FREQUENCY RELATIONSHIP STAGES FROM HDR HYDRAULIC ANALYSIS. F.I.S. DATUM 0.0 FT. ABOVE PROJECT DATUM.

NOTES:  
THIS DESIGN IS FOR THE WIDENING AND REDECKING OF THE EXISTING 188'-4 x 56'-0 PPCB BRIDGE, POLK DESIGN 758, FHWA NO. 041970, MAINT. NO. 7739.4R080.  
ALL UNITS ARE IN FEET UNLESS NOTED OTHERWISE.  
ALL DIMENSIONS ARE IN THE HORIZONTAL PLANE UNLESS NOTED OTHERWISE.  
TL-5 BRIDGE RAILING PROPOSED.  
PIER TYPE-T; BEAM TYPE-BTB BEAM.  
BRIDGE AESTHETICS TO BE INCORPORATED IN FINAL DESIGN.  
BERM SLOPES TO BE CONFIRMED IN FINAL DESIGN.

SITUATION PLAN

THE PROJECT WILL IMPACT CITY OF DES MOINES STREAM GAGE ATN14, FOUR MILE CREEK (CENTRAL IOWA) NEAR ALTOONA I-80, IA (DMX). CONTACT CITY OF DES MOINES 30 DAYS PRIOR TO CONSTRUCTION THAT WILL IMPACT THE GAGE. CITY OF DES MOINES ENGINEERING DEPARTMENT CONTACT: DAN PRITCHARD (515) 323-8163

HYDRAULIC DESIGN

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

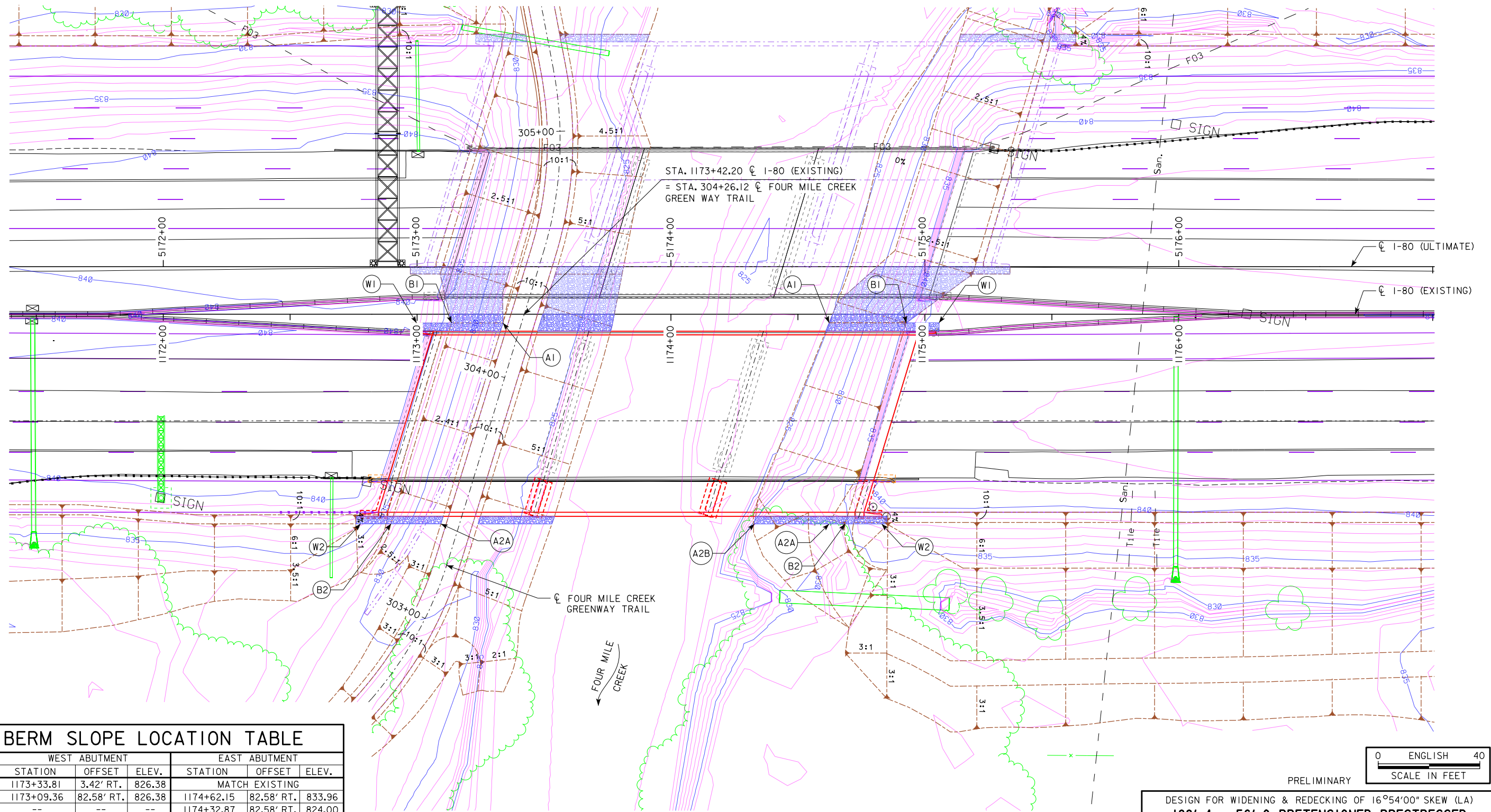
*Brice E. Stafne* 1/21/2022  
Signature Date  
**BRICE E. STAFNE**  
Printed or Typed Name

My license renewal date is December 31, 2022

Pages or sheets covered by this seal: DESIGN SHEET NO. 1  
H&H DATA ONLY

DESIGN FOR WIDENING & REDECKING OF 16°54'00" SKEW (LA)  
**188'-4 x 56'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE TO 70'-0 ROADWAY BRIDGE**  
59'-9 1/2' END SPANS 68'-9' INTERIOR SPAN

**SITUATION PLAN**  
STATION 1173+91.29 (CL I-80 EXISTING) NOVEMBER 2021  
**POLK COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION  
DESIGN SHEET NO. 1 OF 3 FILE NO. 32061 DESIGN NO. 326



BERM SLOPE LOCATION TABLE						
POINTS	WEST ABUTMENT			EAST ABUTMENT		
	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
A1	1173+33.81	3.42' RT.	826.38	MATCH EXISTING		
A2A	1173+09.36	82.58' RT.	826.38	1174+62.15	82.58' RT.	833.96
A2B	--	--	--	1174+32.87	82.58' RT.	824.00
B1	MATCH EXISTING			MATCH EXISTING		
B2	1172+89.49	82.58' RT.	833.74	1174+68.42	82.58' RT.	834.59
W1	MATCH EXISTING			MATCH EXISTING		
W2	1172+75.70	82.58' RT.	839.87	1174+85.00	82.58' RT.	840.82

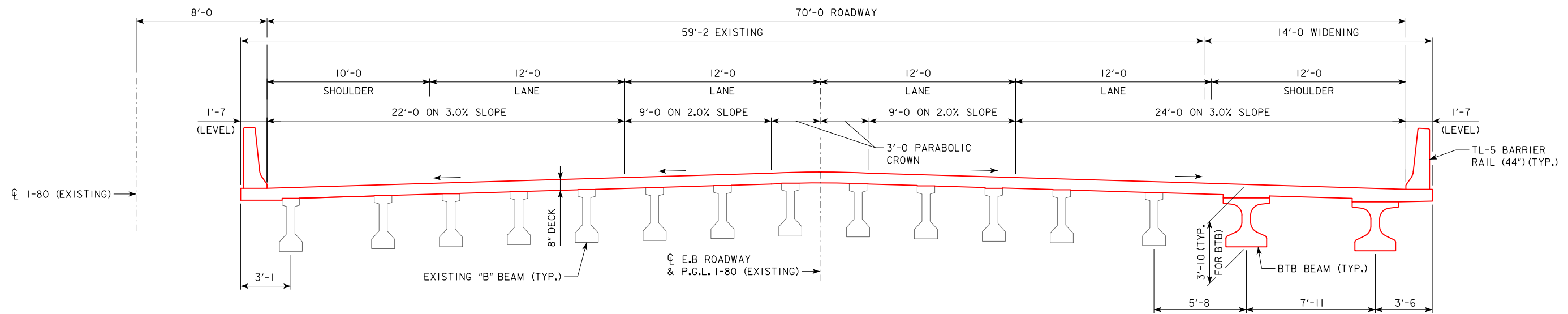
BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE.

SITE PLAN

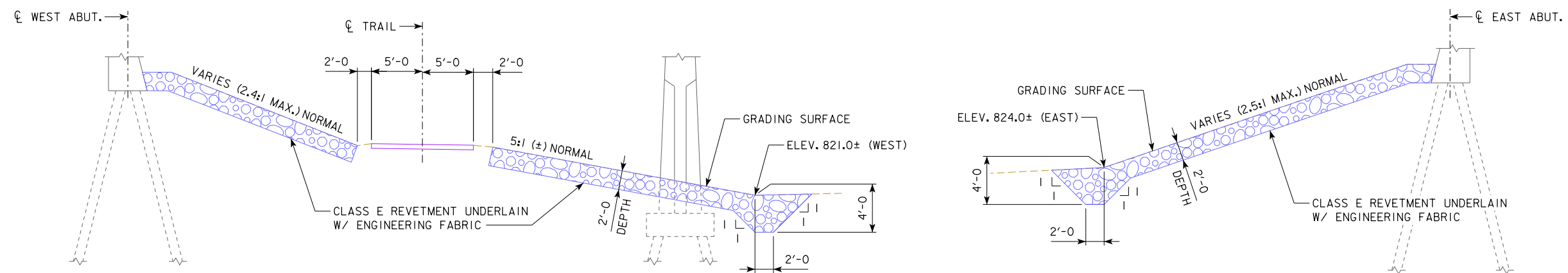


PRELIMINARY

DESIGN FOR WIDENING & REDECKING OF 16°54'00" SKEW (LA)  
**188'-4 x 56'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE TO 70'-0 ROADWAY BRIDGE**  
 59'-9½ END SPANS 68'-9 INTERIOR SPAN  
**SITUATION PLAN - SITE**  
 STATION 1173+91.29 (CL I-80 EXISTING) NOVEMBER 2021  
**POLK COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 DESIGN SHEET NO. 2 OF 3 FILE NO. 32061 DESIGN NO. 326



TYPICAL SECTION



SECTION THROUGH STONE TOE AND BERM LINING

REVETMENT QUANTITIES

REVETMENT LOCATION	REVETMENT CLASS E (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
WEST ABUTMENT BERM	625	628	391
EAST ABUTMENT BERM	500	435	311

EXCAVATION QUANTITY CALCULATED INCLUDES MATERIAL MEASURED FROM THE EXISTING GROUND TO THE GRADING SURFACE AND THE MATERIAL OF THE CORE OUT MEASURED FROM THE GRADING SURFACE TO THE BOTTOM OF REVETMENT.

PRELIMINARY

DESIGN FOR WIDENING & REDECKING OF 16°54'00" SKEW (LA)  
**188'-4 x 56'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE TO 70'-0 ROADWAY BRIDGE**

59'-9½ END SPANS 68'-9 INTERIOR SPAN

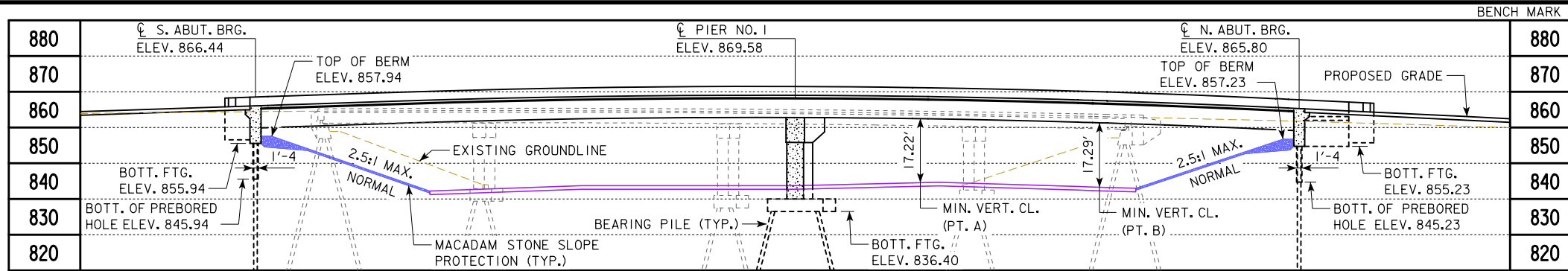
**SITUATION PLAN - MISC.**

STATION 1173+91.29 (1-80 EXISTING) NOVEMBER 2021

**POLK COUNTY**

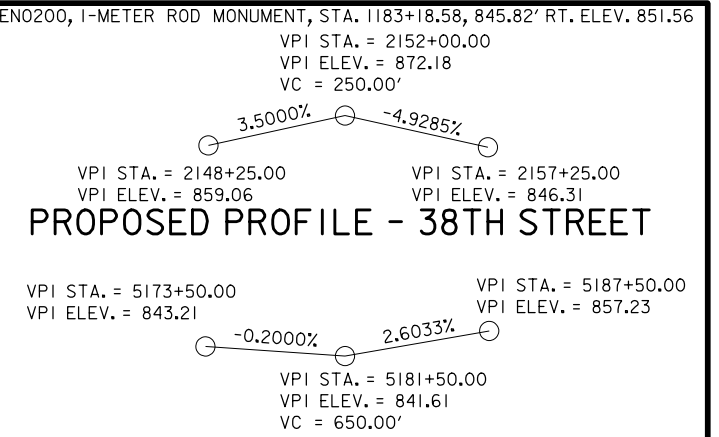
IOWA DEPARTMENT OF TRANSPORTATION

DESIGN SHEET NO. 3 OF 3 FILE NO. 32061 DESIGN NO. 326



NOTE:  
TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS  
0.03' BELOW THE PROFILE GRADE TO ACCOUNT FOR  
PARABOLIC CROWN.

LONGITUDINAL SECTION ALONG CL 38TH ST.



MINIMUM VERTICAL CLEARANCE (PT. A)

OVERHEAD STATION = 2152+23.40, 18.08' RT.  
OVERHEAD ELEVATION = 868.93  
DEPTH OF SUPERSTRUCTURE = 6.94' (TO CHORD LINE)  
UNDERPASS STATION = 5181+53.59, 39.00' LT.  
UNDERPASS ELEVATION = 844.77  
MINIMUM VERTICAL CLEARANCE = 17.22'

FUTURE MINIMUM VERTICAL CLEARANCE (PT. B)

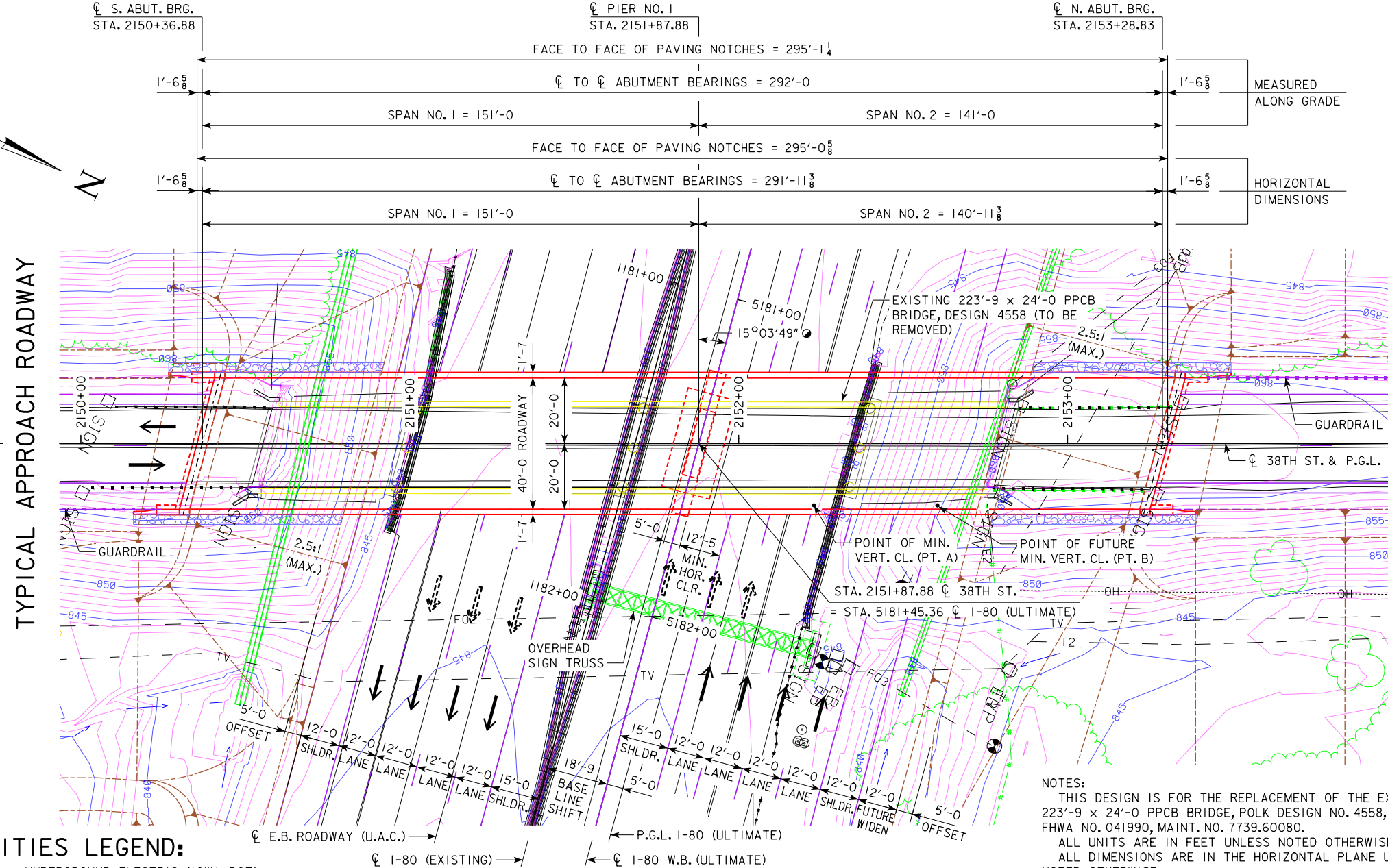
OVERHEAD STATION = 2152+60.68, 18.08' RT.  
OVERHEAD ELEVATION = 868.13  
DEPTH OF SUPERSTRUCTURE = 7.08' (TO CHORD LINE)  
UNDERPASS STATION = 5181+43.90, 75.00' LT.  
UNDERPASS ELEVATION = 843.76  
MINIMUM VERTICAL CLEARANCE = 17.29'

LOCATION

38TH STREET OVER I-80  
T-79N R-23W  
DELAWARE TOWNSHIP  
POLK COUNTY  
FHWA NO. -----  
BRIDGE MAINT. NO. -----  
LATITUDE 41.656914°  
LONGITUDE -93.543249°

TRAFFIC ESTIMATE

2021 AADT	2,600	V.P.D.
2041 AADT	5,000	V.P.D.
2041 DHV	500	V.P.H.
TRUCKS	2	%
TOTAL		
DESIGN ESALs		



- UTILITIES LEGEND:**
- E2 — UNDERGROUND ELECTRIC (IOWA DOT)
  - F02 — FIBER OPTIC (CENTURYLINK)
  - F03 — FIBER OPTIC (ICN)
  - OH — OVERHEAD UTILITY
  - TV — UNDERGROUND CABLE TV (MEDIACOM)
  - T2 — UNDERGROUND TELEPHONE (CENTURYLINK)

SITUATION PLAN

● SKEW ANGLE MEASURED BETWEEN  
CL I-80 (ULTIMATE) AND A  
PERPENDICULAR TO CL 38TH  
STREET.

NOTES:  
THIS DESIGN IS FOR THE REPLACEMENT OF THE EXISTING  
223'-9 x 24'-0 PPCB BRIDGE, POLK DESIGN NO. 4558,  
FHWA NO. 041990, MAINT. NO. 7739.60080.  
ALL UNITS ARE IN FEET UNLESS NOTED OTHERWISE.  
ALL DIMENSIONS ARE IN THE HORIZONTAL PLANE UNLESS  
NOTED OTHERWISE.  
TL-4 BRIDGE RAILING PROPOSED.  
PIER TYPE-T; BEAM TYPE-BTE.  
BRIDGE AESTHETICS TO BE INCORPORATED IN FINAL DESIGN.  
BERM SLOPES TO BE CONFIRMED IN FINAL DESIGN.  
2-SPAN GRADING SHOWN (SEE EW203/204 - 5' OFFSET).  
COLLISION REQUIREMENTS AT PIER SHALL BE EVALUATED  
DURING FINAL DESIGN.

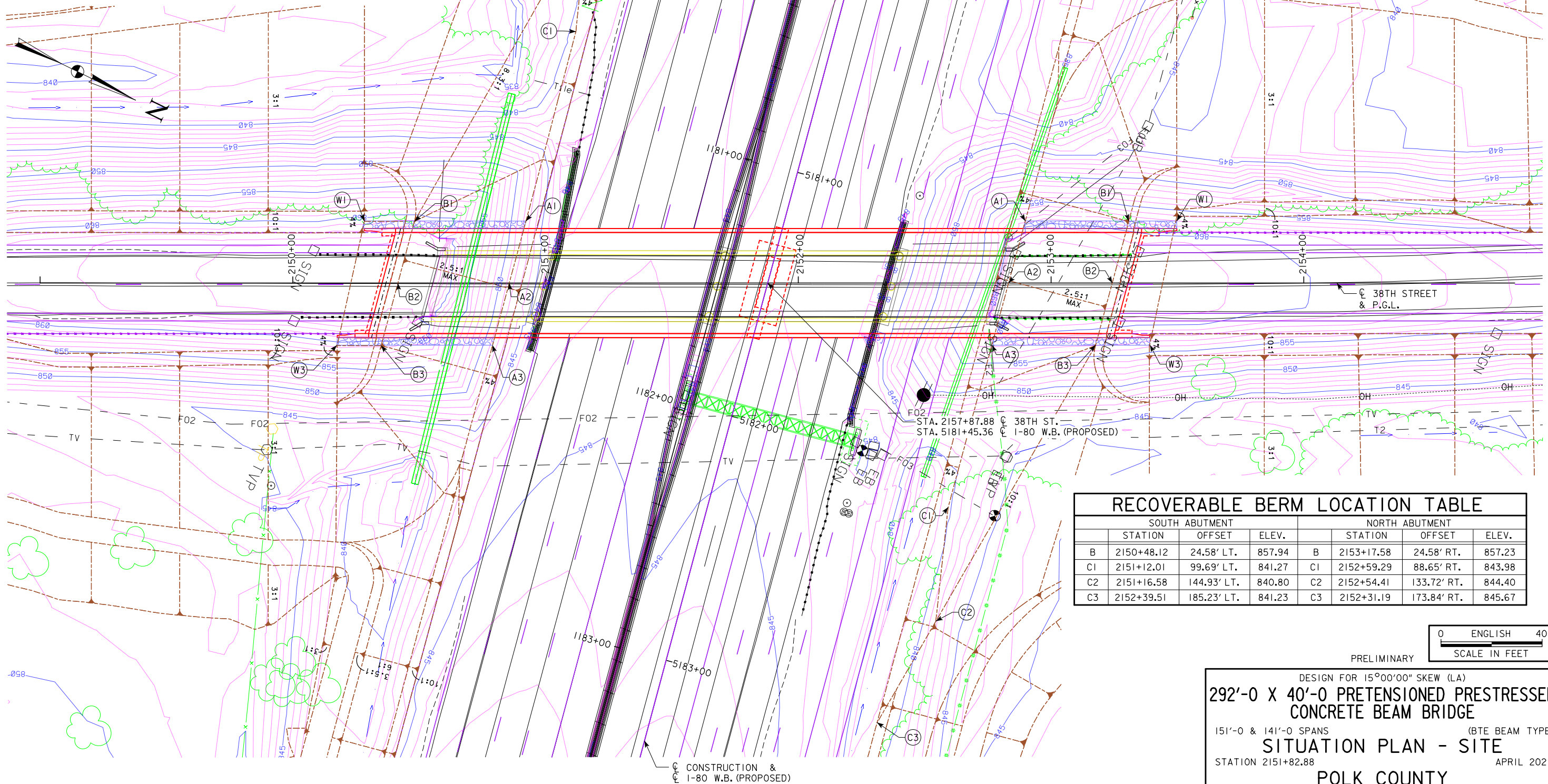


PRELIMINARY

DESIGN FOR 15°00'00" SKEW (LA)  
**292'-0 X 40'-0 PRETENSIONED  
PRESTRESSED CONCRETE BEAM BRIDGE**  
151'-0 & 141'-0 SPANS  
**SITUATION PLAN**  
STATION 2151+82.88 (CL 38TH ST.) NOVEMBER 2021  
**POLK COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION  
DESIGN SHEET NO. 1 OF 3 FILE NO. 32061 DESIGN NO. 126

**BERM SLOPE LOCATION TABLE**

SOUTH ABUTMENT			NORTH ABUTMENT				
	STATION	OFFSET	ELEV.		STATION	OFFSET	ELEV.
A1	2150+92.23	24.58' LT.	841.91	A1	2152+89.77	24.58' LT.	842.55
A2	2150+85.61	0.00'	842.21	A2	2152+83.15	0.00'	842.81
A3	2150+79.00	24.58' RT.	842.55	A3	2152+76.54	24.58' RT.	843.10
B1	2150+48.12	24.58' LT.	857.94	B1	2153+30.76	24.58' LT.	857.23
B2	2150+41.54	0.00'	857.94	B2	2153+24.17	0.00'	857.23
B3	2150+34.95	24.58' RT.	857.94	B3	2153+17.58	24.58' RT.	857.23
W1	2150+28.31	24.58' LT.	865.59	W1	2153+49.76	24.58' LT.	864.21
W3	2150+17.55	24.58' RT.	865.21	W2	2153+38.95	24.58' RT.	864.75



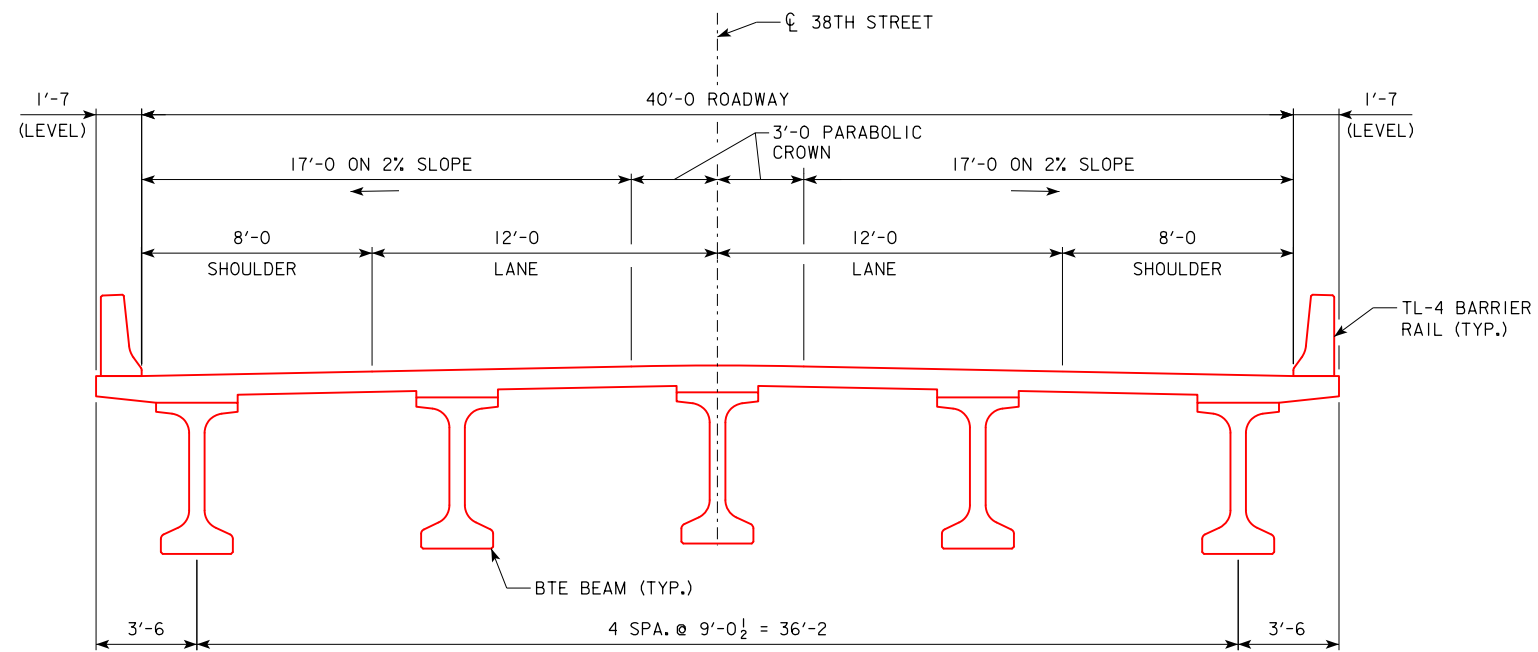
**RECOVERABLE BERM LOCATION TABLE**

SOUTH ABUTMENT			NORTH ABUTMENT				
	STATION	OFFSET	ELEV.		STATION	OFFSET	ELEV.
B	2150+48.12	24.58' LT.	857.94	B	2153+17.58	24.58' RT.	857.23
C1	2151+12.01	99.69' LT.	841.27	C1	2152+59.29	88.65' RT.	843.98
C2	2151+16.58	144.93' LT.	840.80	C2	2152+54.41	133.72' RT.	844.40
C3	2152+39.51	185.23' LT.	841.23	C3	2152+31.19	173.84' RT.	845.67



DESIGN FOR 15°00'00" SKEW (LA)  
**292'-0 X 40'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE**  
 151'-0 & 141'-0 SPANS (BTE BEAM TYPE)  
**SITUATION PLAN - SITE**  
 STATION 2151+82.88  
**POLK COUNTY**  
 IOWA DOT - TRANSPORTATION DEVELOPMENT DIVISION  
 DESIGN SHEET NO. 2 OF 3 FILE NO. 32061 DESIGN NO. 126  
 APRIL 2021

**SITE PLAN**



TYPICAL SECTION

PRELIMINARY

DESIGN FOR 15°00'00" SKEW (LA)

**292'-0 X 40'-0 PRETENSIONED PRESTRESSED  
CONCRETE BEAM BRIDGE**

151'-0 & 141'-0 SPANS (BTE BEAM TYPE)

**SITUATION PLAN - MISC.**

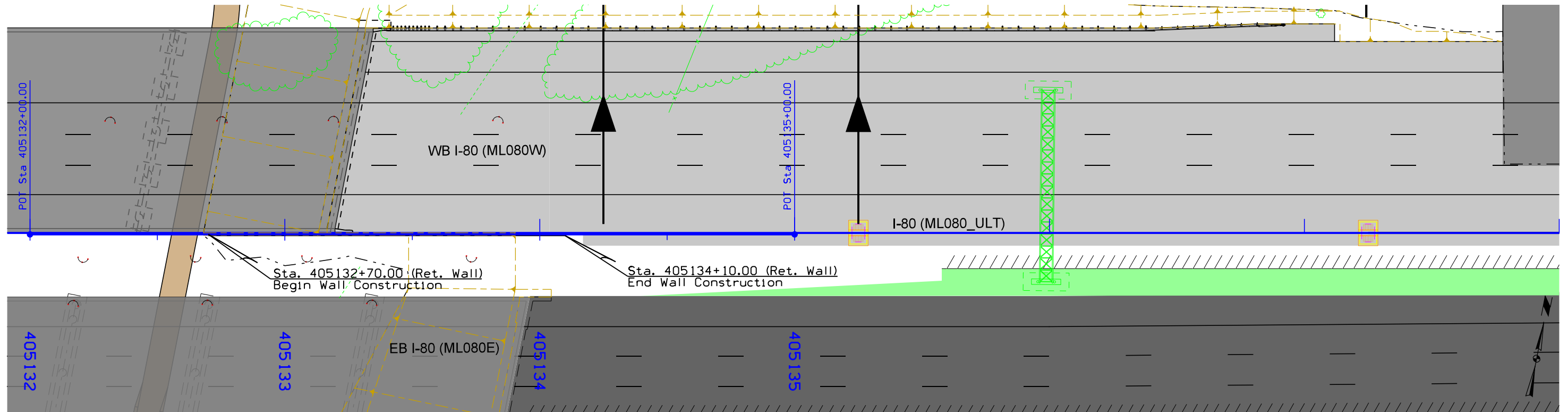
STATION 2151+82.88 APRIL 2021

**POLK COUNTY**

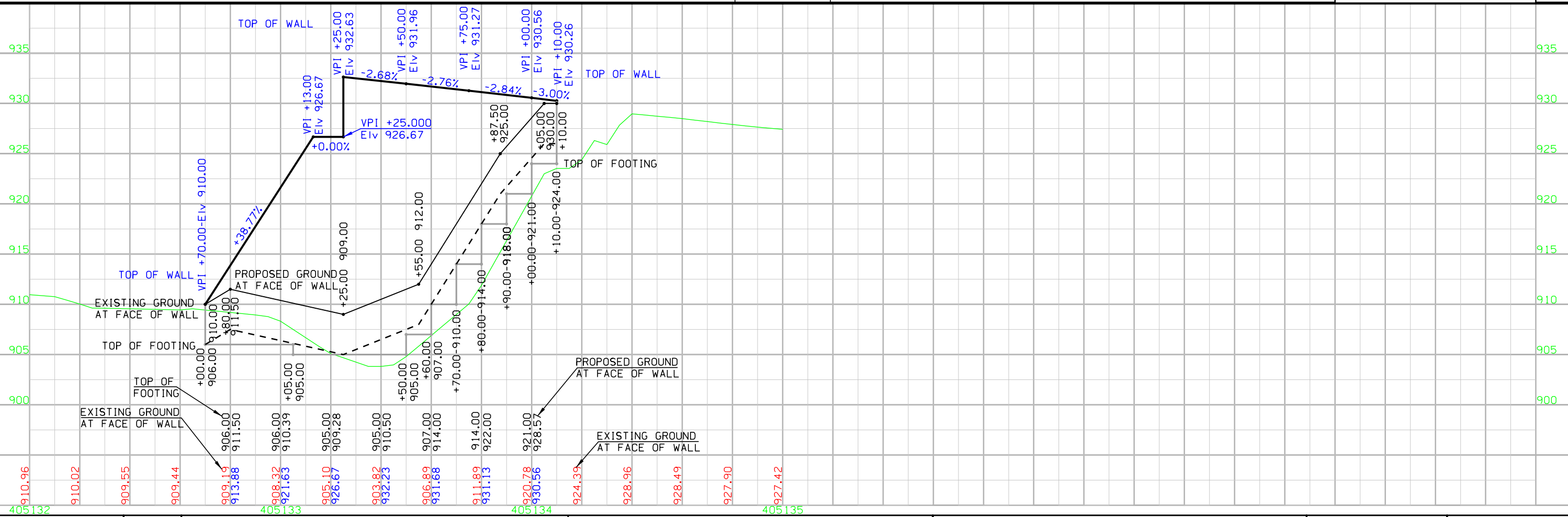
IOWA DOT - TRANSPORTATION DEVELOPMENT DIVISION

DESIGN SHEET NO. 3 OF 3 FILE NO. 32061 DESIGN NO. 126

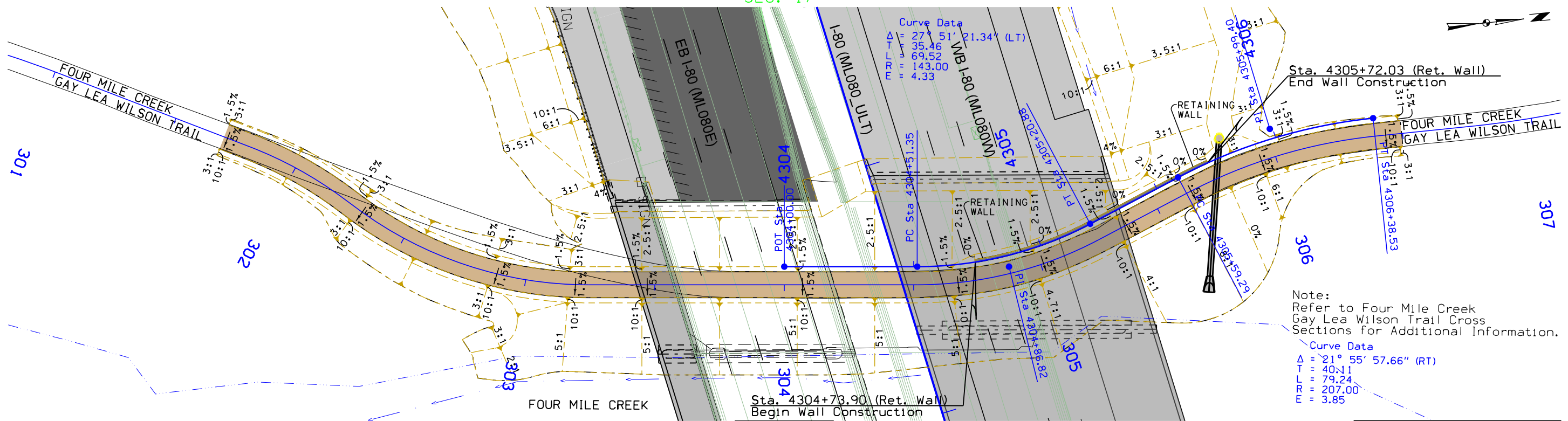
DELAWARE TWP.  
T-79-N R-23W  
SEC. 17



RETAINING WALL  
29TH STREET

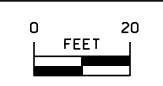


DELAWARE TWP.  
T-79-N R-23W  
SEC. 17

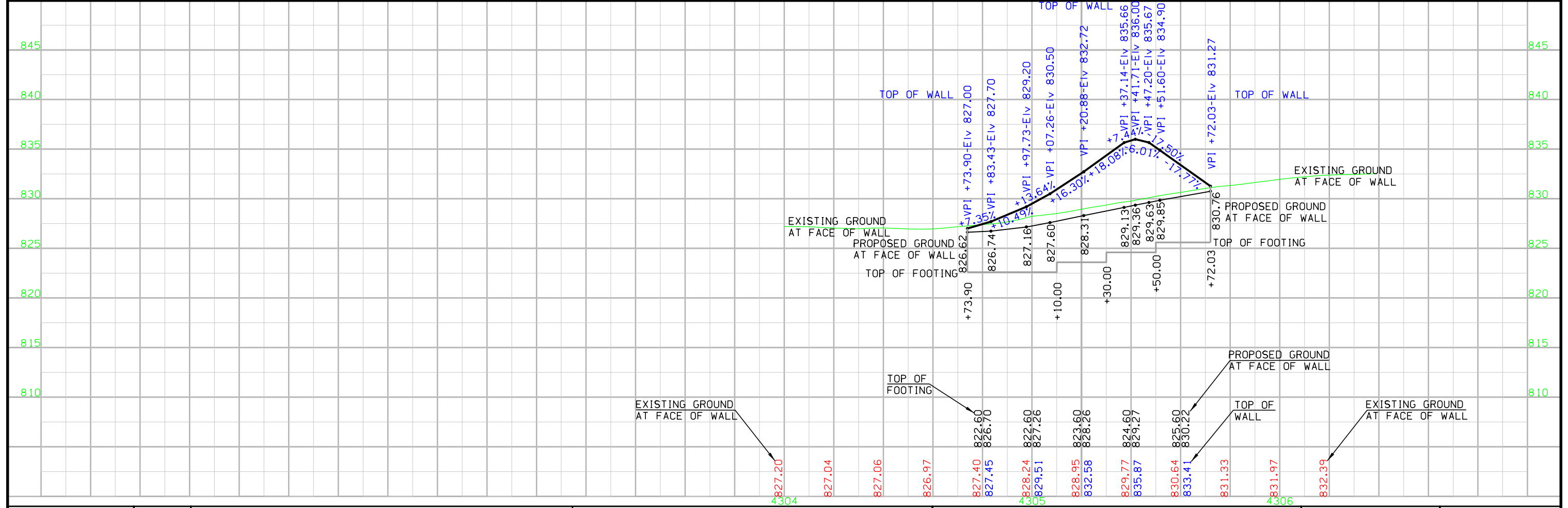


Note:  
Refer to Four Mile Creek  
Gay Lea Wilson Trail Cross  
Sections for Additional Information.

Curve Data  
 $\Delta = 21^\circ 55' 57.66''$  (RT)  
 T = 40.11  
 L = 79.24  
 R = 207.00  
 E = 3.85

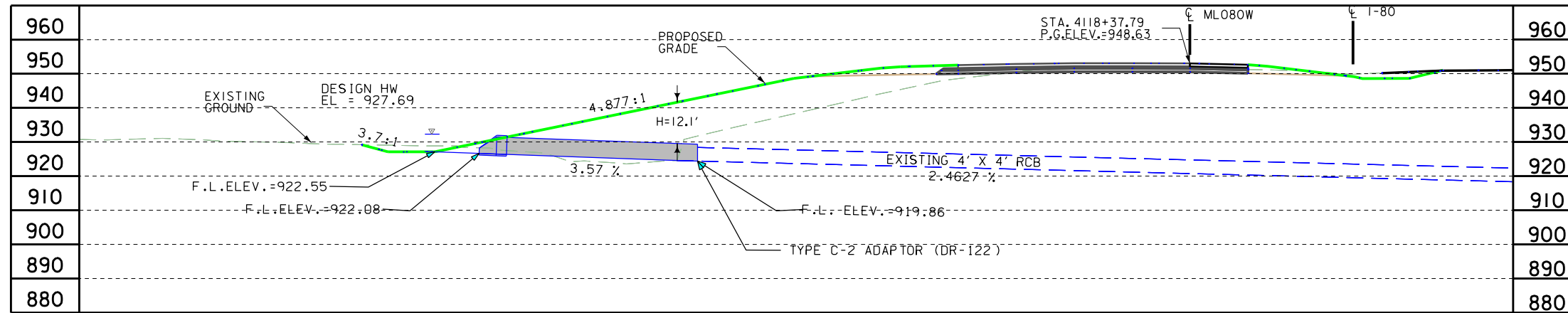


**RETAINING WALL  
FOUR MILE CREEK  
GAY LEA WILSON TRAIL**

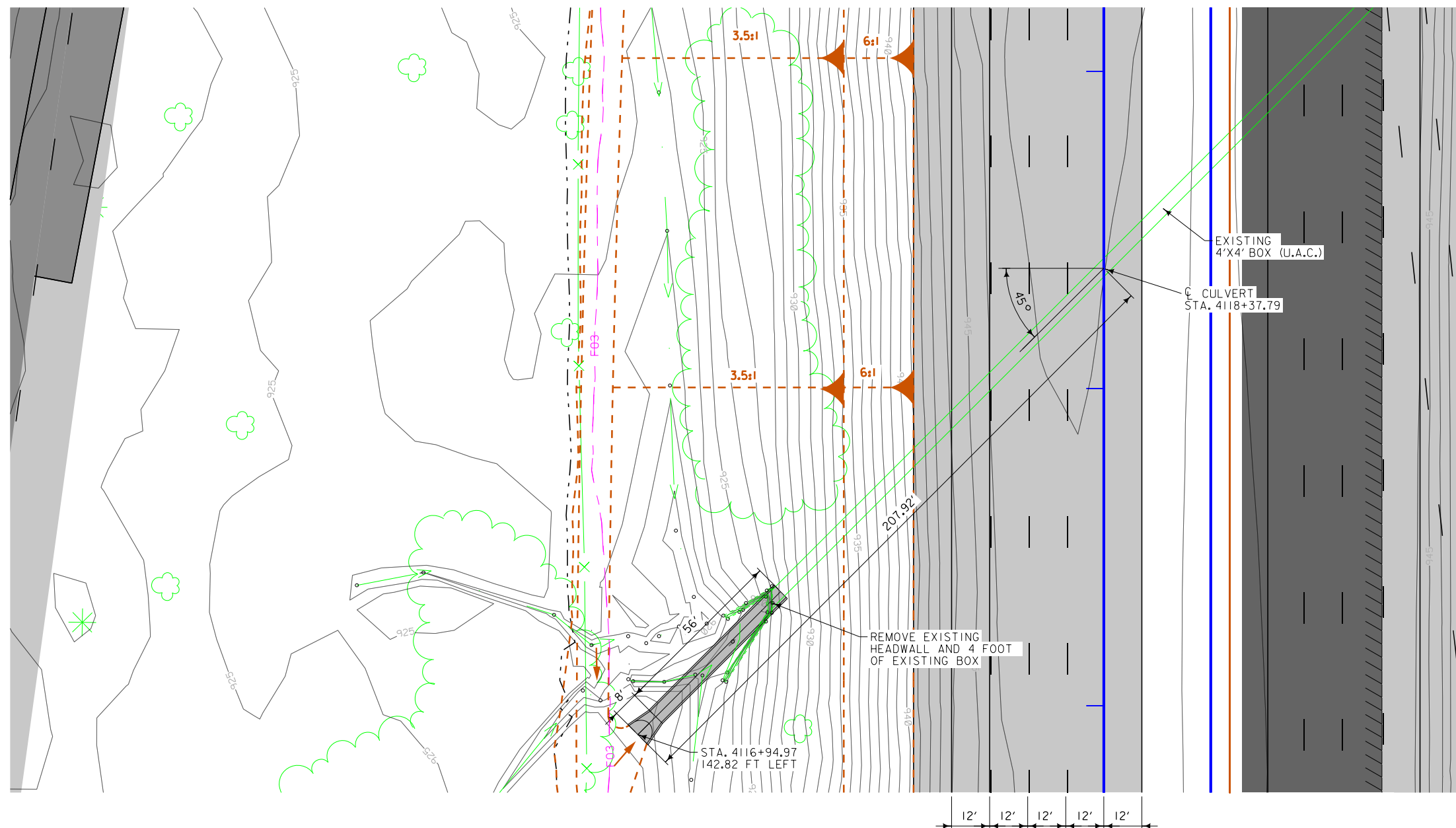


FILE NO.	ENGLISH	DESIGN TEAM	Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER	IM-NHS-080-4(80)138--03-77	SHEET NUMBER	V.17
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LONGITUDINAL SECTION ALONG  $\bar{C}$  CULVERT



PLAT PLAN

**TRAFFIC ESTIMATE**

2020 AADT	75,700	V.P.D.
2050 AADT	130,100	V.P.D.
2050 DHV	10,790	V.P.H.
TRUCKS	17	%
TOTAL DESIGN ESALS	--	

**LOCATION**

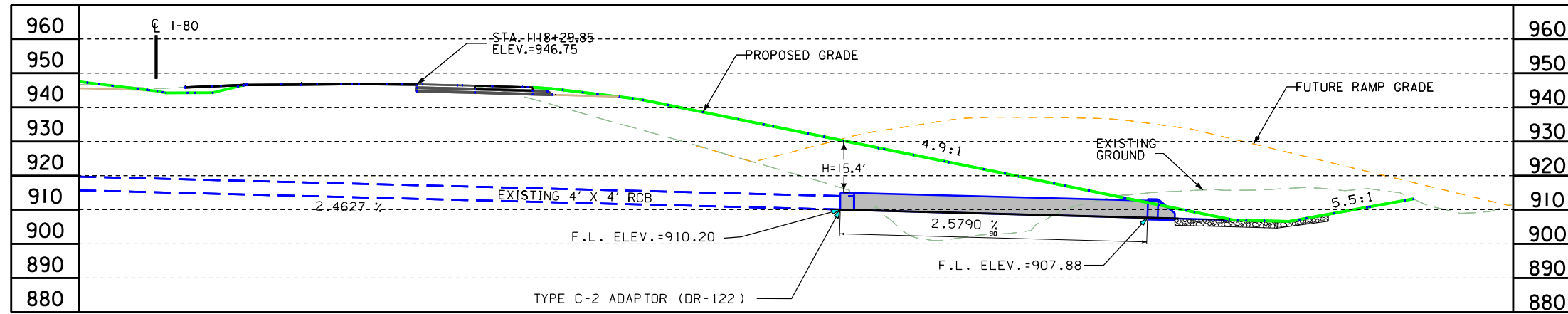
INTERSTATE 80  
 T-79 N R-23 W  
 SECTION 18  
 DELAWARE TOWNSHIP  
 POLK COUNTY  
 LATITUDE 41°39'13.82" N  
 LONGITUDE 93°34'00.37" W

**HYDRAULIC DATA**

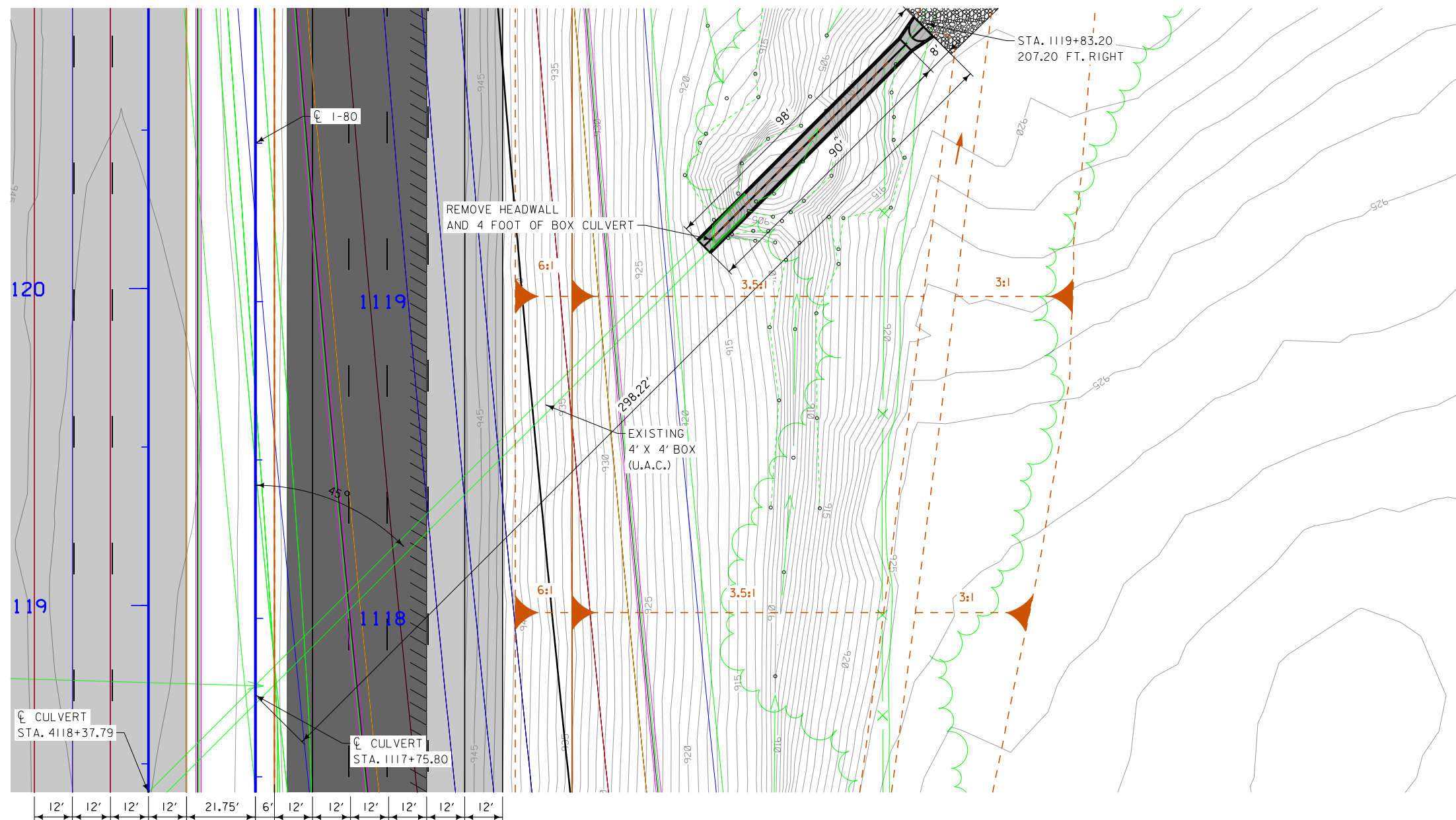
DRAINAGE AREA = 94.5 ACRES - ROLLING  
 $Q_{50}$  = 142 CFS  
 HW ELEV. = 927.69

DESIGN FOR A 0° SKEW  
**60 in. x 56 ft. (LEFT)  
 REINFORCED CONC. PIPE EXTENSION**

**PLAT PLAN**  
 STA. 4118+37.79 (ML\_080W) APRIL, 2021  
**POLK COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY ADMINISTRATION  
 DESIGN SHEET NO.    OF    FILE NO.    DESIGN NO.



LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



PLAT PLAN



TRAFFIC ESTIMATE

2020 AADT	75700	V.P.D.
2050 AADT	130100	V.P.D.
20XX DHV	10790	V.P.H.
TRUCKS	17	%
TOTAL DESIGN ESALS	--	

LOCATION

INTERSTATE 80  
 T-79 N R-23 W  
 SECTION 18  
 DELAWARE TOWNSHIP  
 POLK COUNTY  
 LATITUDE 41°39'11.29" N  
 LONGITUDE 93°33'55.36" W

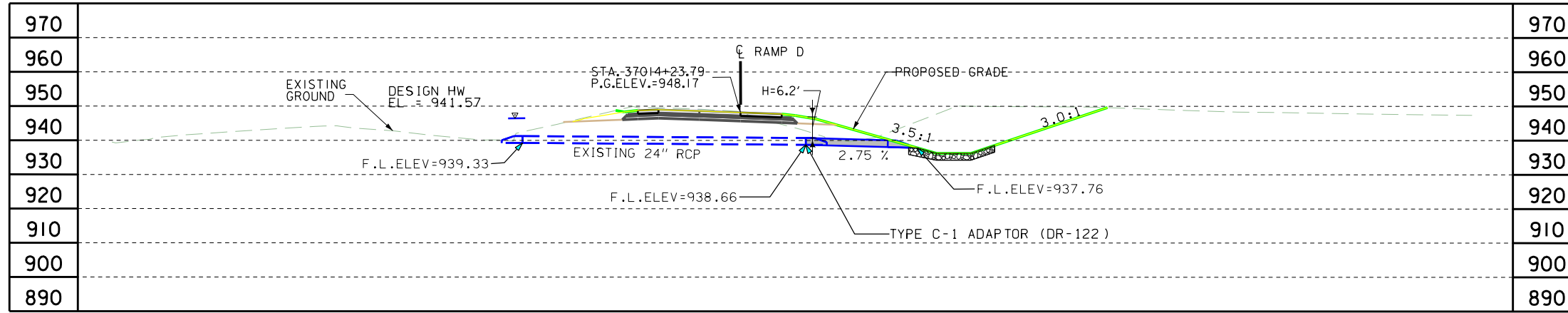
HYDRAULIC DATA

DRAINAGE AREA = 94.5 ACRES - HILLY  
 $Q_{50} = 142$  CFS  
 HW ELEV. = 927.69

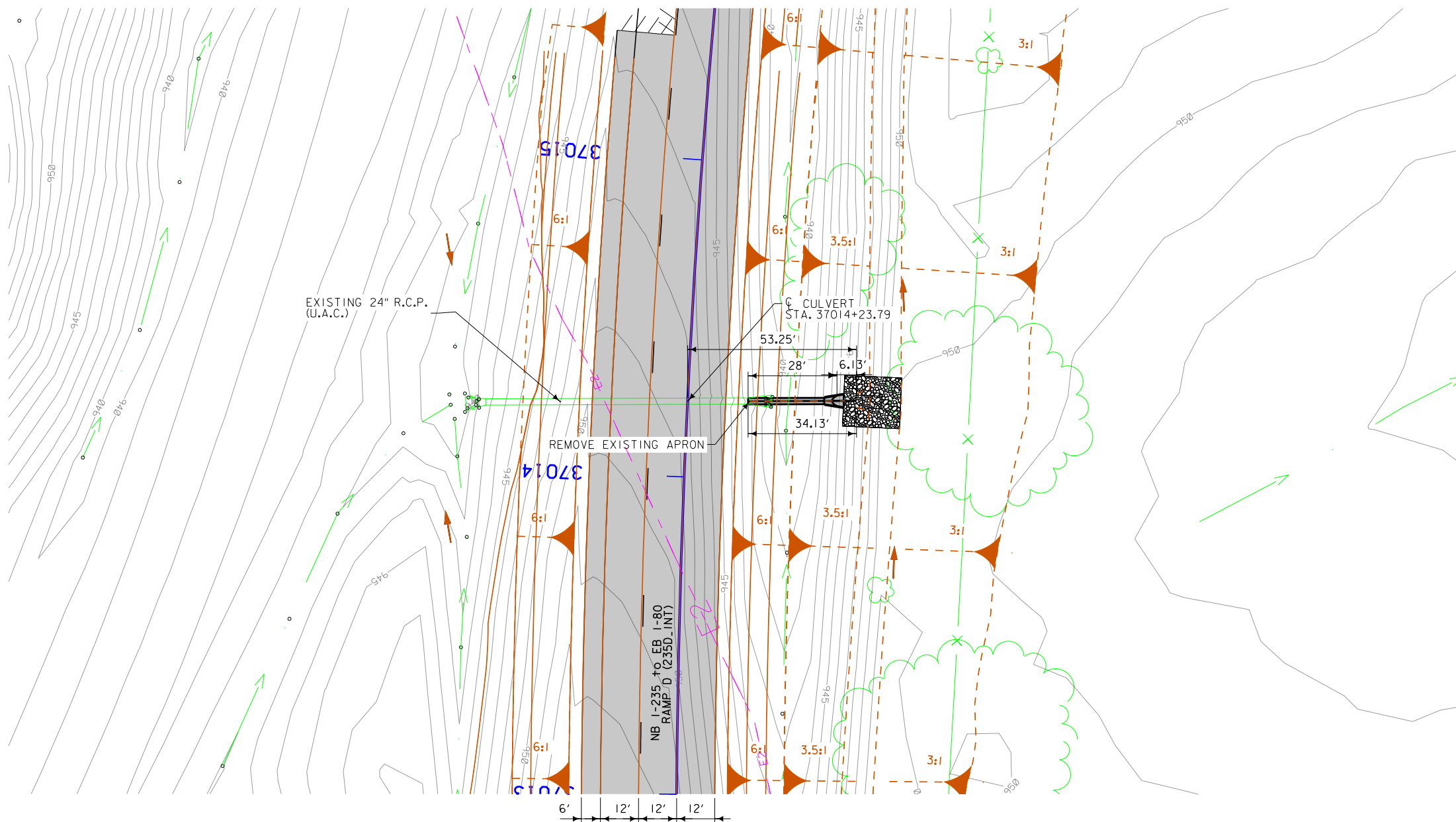
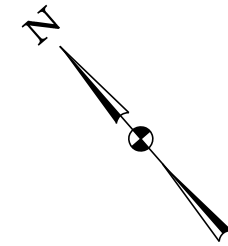
DESIGN FOR A 0° SKEW  
**60 in. x 90 ft. (RIGHT)  
 REINFORCED CONC. PIPE EXTENSION**

**PLAT PLAN**  
 STA. 4118+37.79 (ML\_080W) APRIL, 2021  
**POLK COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY ADMINISTRATION  
 DESIGN SHEET NO. 1 OF 1 FILE NO. DESIGN NO.





LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



PLAT PLAN

**TRAFFIC ESTIMATE**

2020 AADT	75700	V.P.D.
2050 AADT	130100	V.P.D.
20XX DHV	10790	V.P.H.
TRUCKS	17	%
TOTAL DESIGN ESALS	--	

**LOCATION**

INTERSTATE 80  
 T-79 N R-23 W  
 SECTION 18  
 DELAWARE TOWNSHIP  
 POLK COUNTY  
 LATITUDE 41°39'03.55" N  
 LONGITUDE 93°34'22.28" W

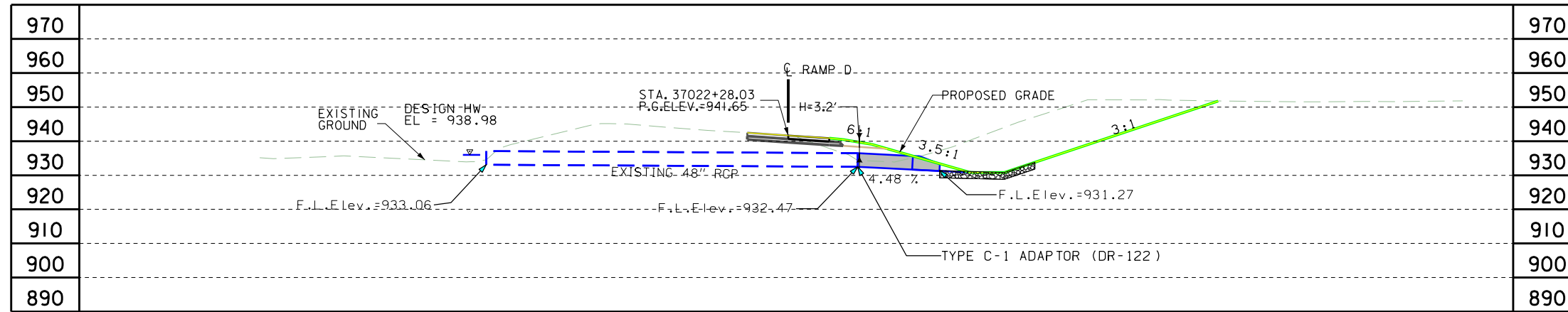
**HYDRAULIC DATA**

DRAINAGE AREA = 2.9 ACRES - ROLLING  
 $Q_{50}$  = 16 CFS  
 HW ELEV. = 941.57

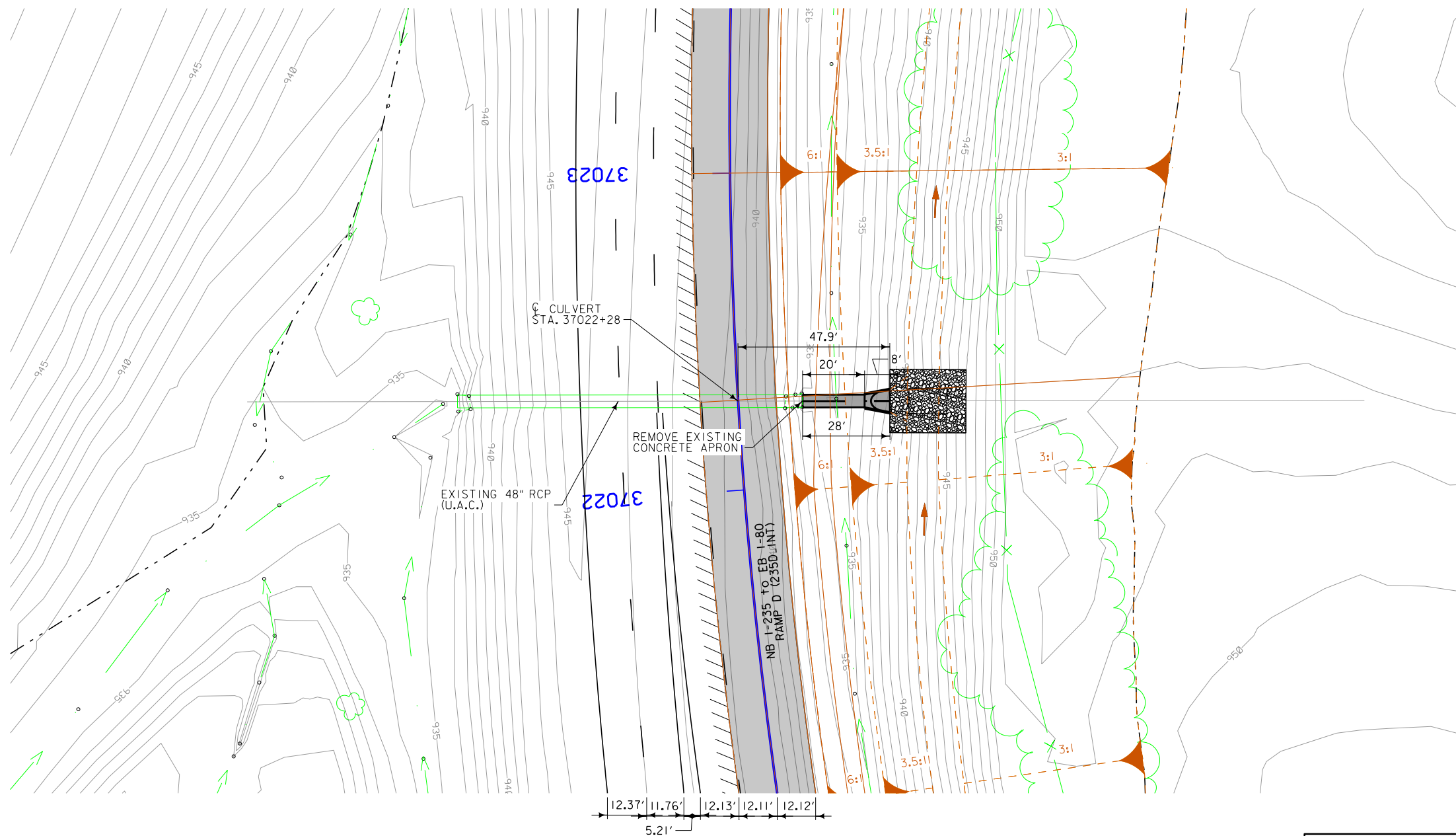
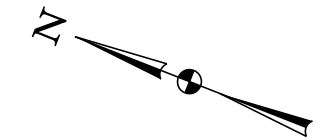
DESIGN FOR A 0° SKEW  
**24 in. x 28 ft. (RIGHT)**  
**REINFORCED CONC. PIPE EXTENSION**

**PLAT PLAN**  
 STA. 37014+23 (RAMP D) APRIL, 2021  
**POLK COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY ADMINISTRATION  
 DESIGN SHEET NO. 1 OF 1 FILE NO. DESIGN NO.





LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



PLAT PLAN

**TRAFFIC ESTIMATE**

2020 AADT	75700	V.P.D.
2050 AADT	130100	V.P.D.
20XX DHV	10790	V.P.H.
TRUCKS	17	%
TOTAL DESIGN ESALS	--	

**LOCATION**

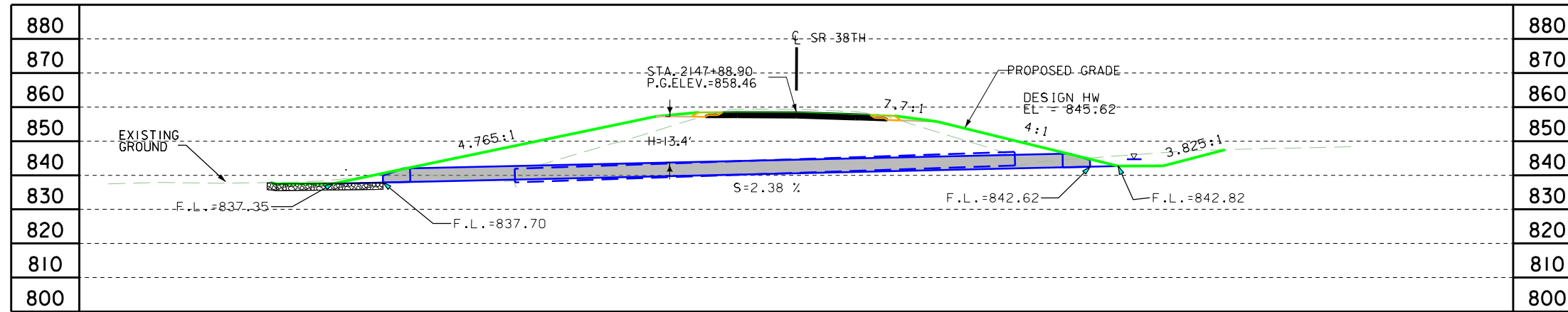
INTERSTATE 80  
 T-79 N R-23 W  
 SECTION 18  
 DELAWARE TOWNSHIP  
 POLK COUNTY  
 LATITUDE 41°39'08.53" N  
 LONGITUDE 93°34'14.30" W

**HYDRAULIC DATA**

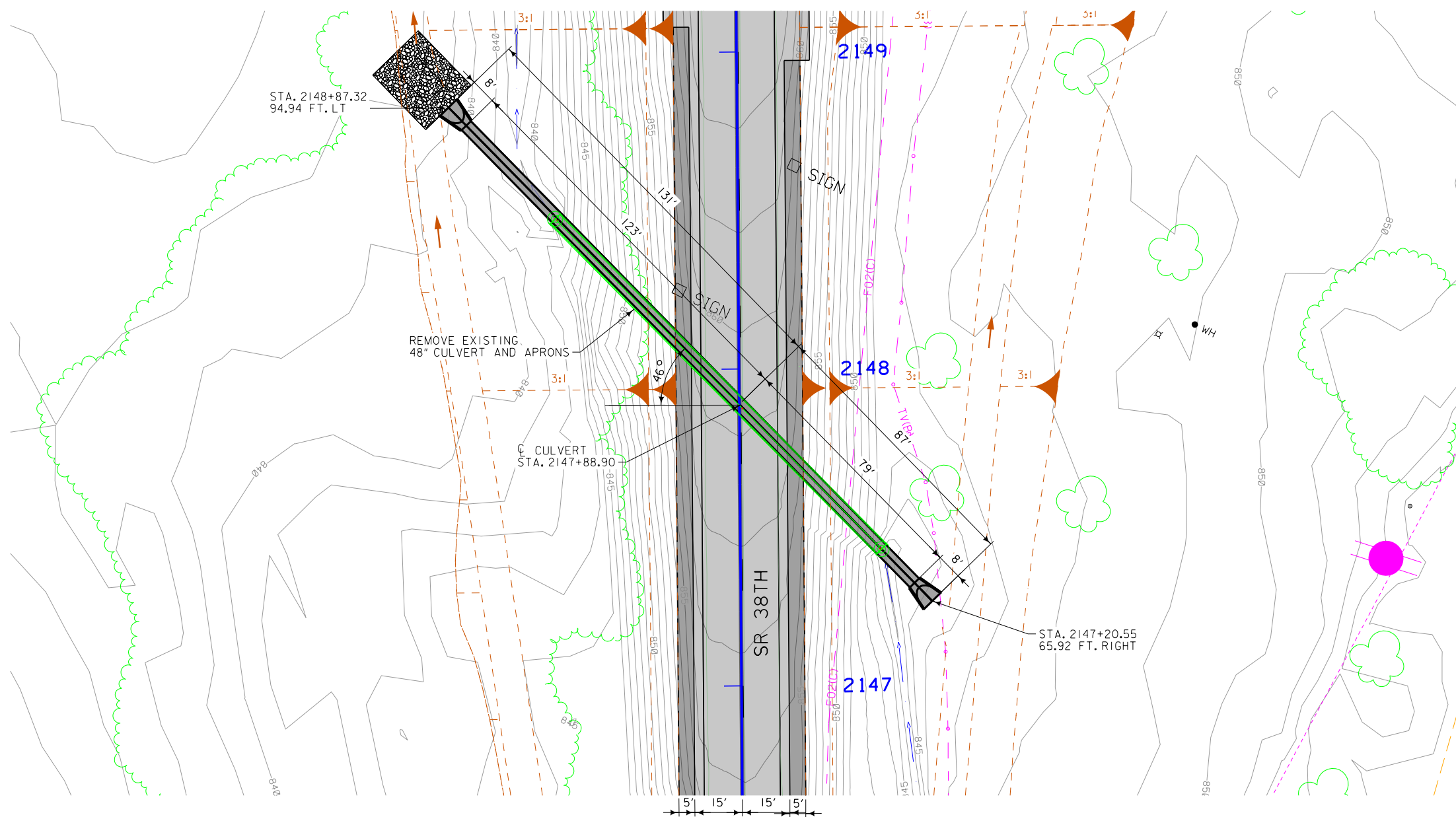
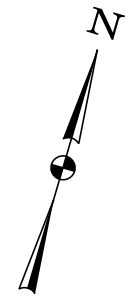
DRAINAGE AREA = 22.4 ACRES - ROLLING  
 Q<sub>50</sub> = 48 CFS  
 HW ELEV. = 935.98

DESIGN FOR A 0° SKEW  
**48 in. x 20 ft.**  
**REINFORCED CONCRETE PIPE**  
**REINFORCED CONC. PIPE EXTENSION**  
**PLAT PLAN**  
 STA. 37022+28 (Ramp D) APRIL, 2021  
**POLK COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY ADMINISTRATION  
 DESIGN SHEET NO. 1 OF 1 FILE NO. \_\_\_\_\_ DESIGN NO. \_\_\_\_\_





LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



PLAT PLAN

**TRAFFIC ESTIMATE**

2020 AADT	75700	V.P.D.
2050 AADT	130100	V.P.D.
20XX DHV	10790	V.P.H.
TRUCKS	17	%
TOTAL DESIGN ESALS	--	

**LOCATION**

INTERSTATE 80  
 T-79 N R-23 W  
 SECTION 17  
 DELAWARE TOWNSHIP  
 POLK COUNTY  
 LATITUDE 41°39'21.36" N  
 LONGITUDE 93°32'33.38" W

**HYDRAULIC DATA**

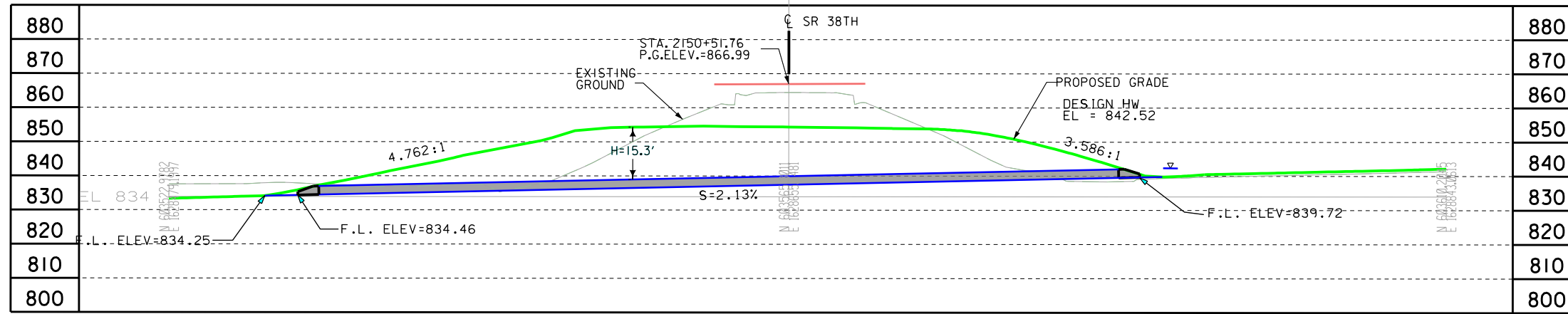
DRAINAGE AREA = 24.8 ACRES - ROLLING  
 Q<sub>50</sub> = 51 CFS  
 HW ELEV. = 845.62

DESIGN FOR A 46° SKEW  
**48 in. x 202 ft.**  
**REINFORCED CONCRETE PIPE**

**PLAT PLAN**

STA. 2147+88.90 (SR 38TH) APRIL, 2021  
**POLK COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY ADMINISTRATION  
 DESIGN SHEET NO. 1 OF 1 FILE NO. DESIGN NO.





LONGITUDINAL SECTION ALONG  $\phi$  CULVERT

**TRAFFIC ESTIMATE**

2020 AADT	75700	V.P.D.
2050 AADT	130100	V.P.D.
20XX DHV	10790	V.P.H.
TRUCKS	17	%
TOTAL DESIGN ESALS	--	

**LOCATION**

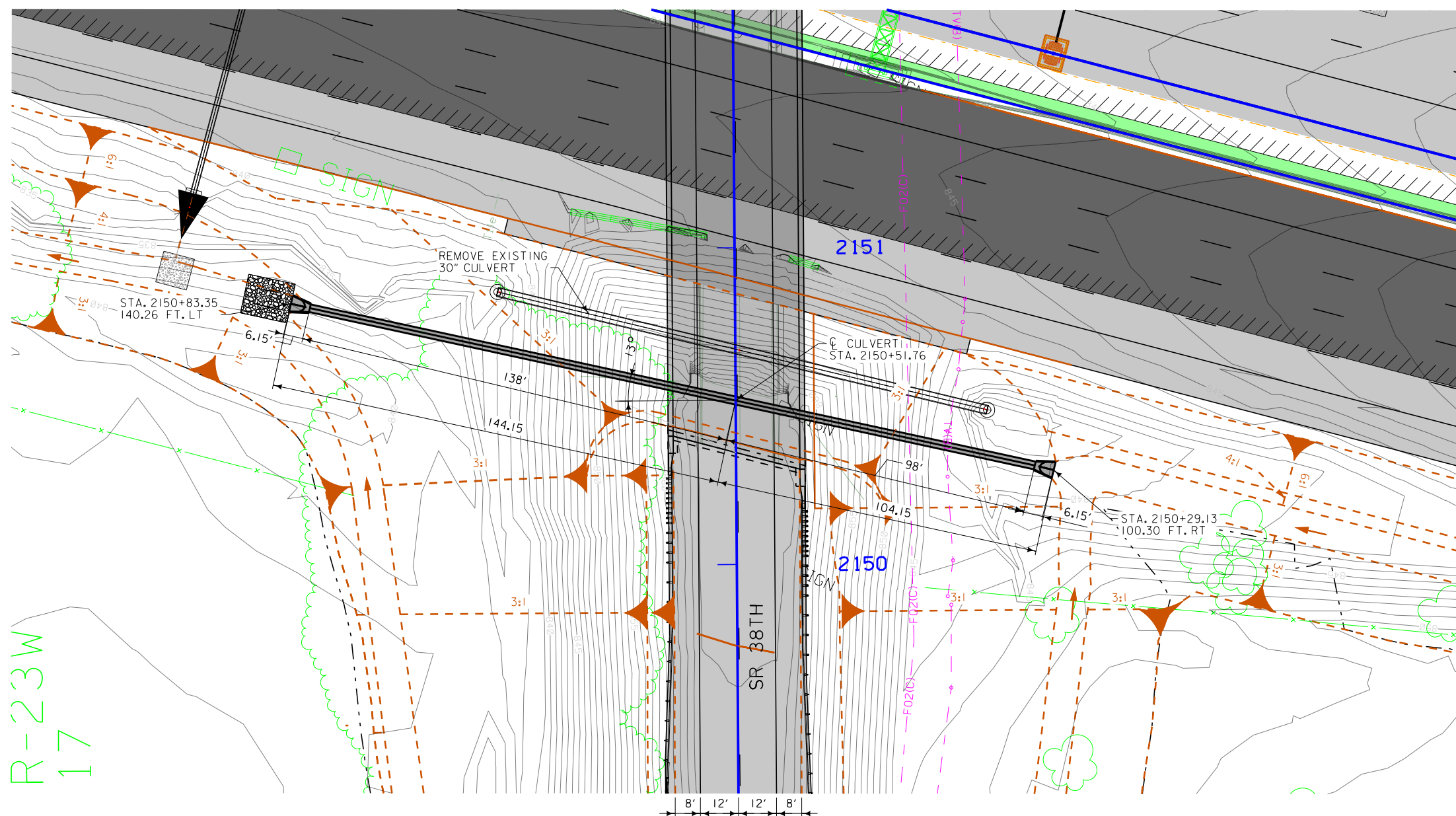
INTERSTATE 80  
 T-79 N R-23 W  
 SECTION 17  
 DELAWARE TOWNSHIP  
 POLK COUNTY  
 LATITUDE 41°39'23.65" N  
 LONGITUDE 93°32'34.88" W

**HYDRAULIC DATA**

DRAINAGE AREA = 11.1 ACRES - ROLLING  
 $Q_{50}$  = 28 CFS  
 HW ELEV. = 842.52

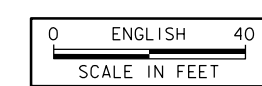
**BRIDGE INFO.**

38th Street Bridge Replacement over I-80 WB & EB  
 (replaces FHWA No. 041990,  
 Bridge Maintenance No. 7739.600080) IM-080-4(89)139- -03-77,  
 Design # 126, File # 32061



R-23W  
 17

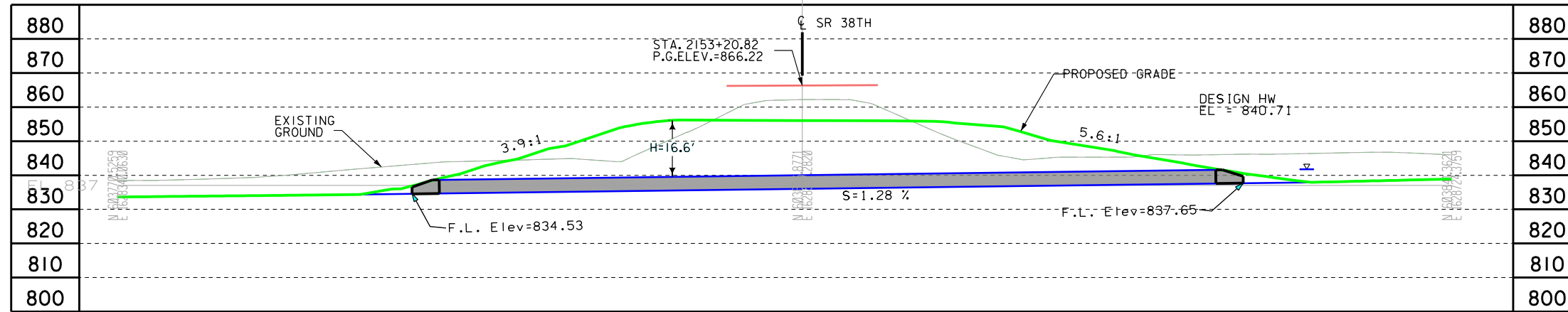
PLAT PLAN



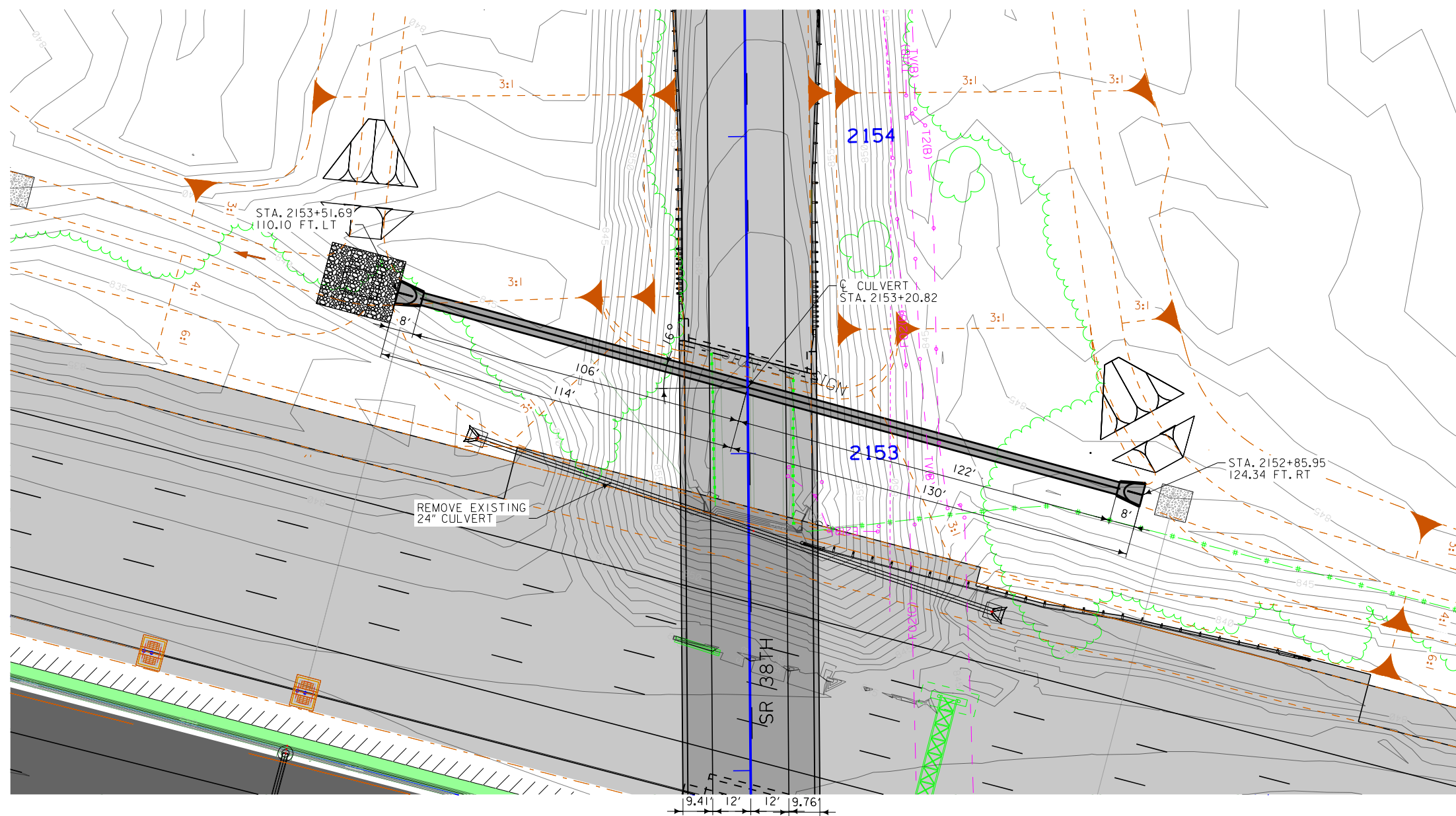
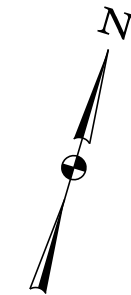
DESIGN FOR A 13° SKEW  
**30 in. x 236 ft.**  
**REINFORCED CONCRETE PIPE**

**PLAT PLAN**

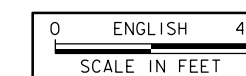
STA. 2150+51.76 (SR.38TH) APRIL, 2021  
**POLK COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY ADMINISTRATION  
 DESIGN SHEET NO. 1 OF 1 FILE NO. DESIGN NO.



LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



PLAT PLAN



**TRAFFIC ESTIMATE**

2020 AADT	75700	V.P.D.
2050 AADT	130100	V.P.D.
20XX DHV	10790	V.P.H.
TRUCKS	17	%
TOTAL DESIGN ESALs	--	

**LOCATION**

INTERSTATE 80  
 T-79 N R-23 W  
 SECTION 17  
 DELAWARE TOWNSHIP  
 POLK COUNTY  
 LATITUDE 41°39'26.04" N  
 LONGITUDE 93°32'36.45" W

**HYDRAULIC DATA**

DRAINAGE AREA = 12.7 ACRES - HILLY  
 $Q_{50} = 51$  CFS  
 HW ELEV. = 840.71

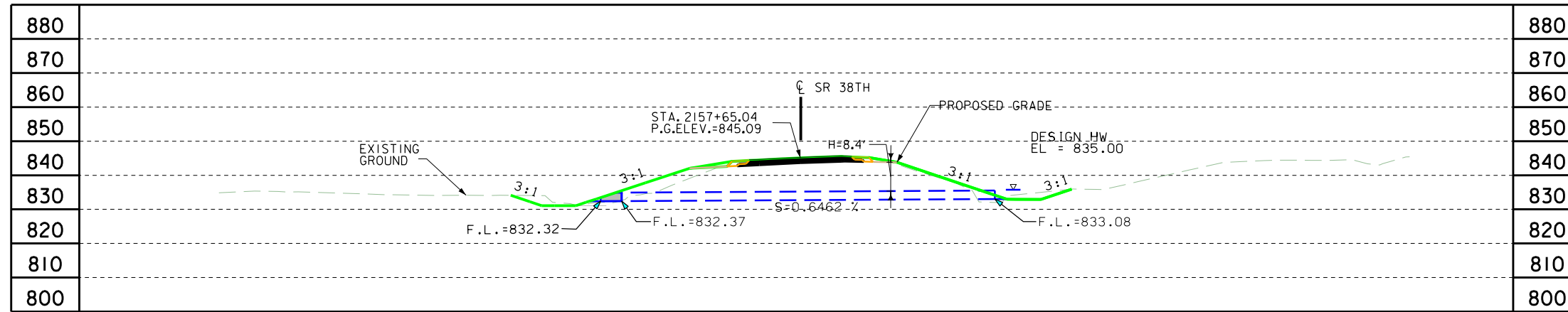
**BRIDGE INFO.**

38th Street Bridge Replacement over I-80 WB & EB  
 (replaces FHWA No. 041990,  
 Bridge Maintenance No. 7739.600080) IM-080-4(89)139- -03-77,  
 Design # 126, File # 32061

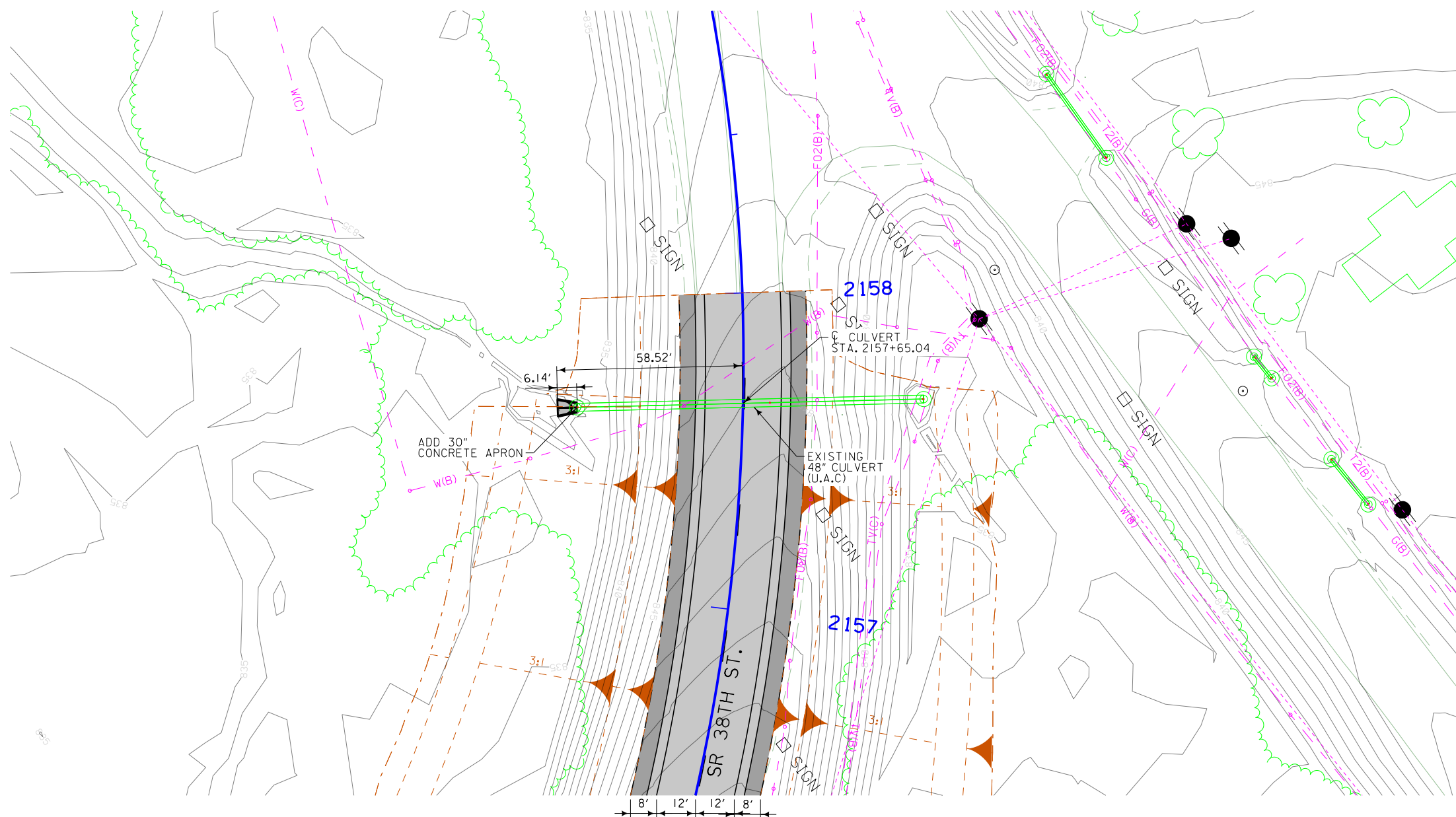
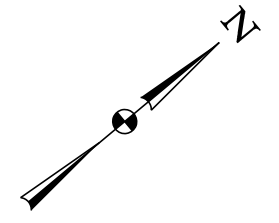
DESIGN FOR A 16° SKEW  
**48 in. x 228 ft.**  
**REINFORCED CONCRETE PIPE**

**PLAT PLAN**

STA. 2153+20 (SR-38TH) APRIL, 2021  
**POLK COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY ADMINISTRATION  
 DESIGN SHEET NO.    OF    FILE NO.    DESIGN NO.



LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



PLAT PLAN

**TRAFFIC ESTIMATE**

2020 AADT	75700	V.P.D.
2050 AADT	130100	V.P.D.
20XX DHV	10790	V.P.H.
TRUCKS	17	%
TOTAL DESIGN ESALS	--	

FOR INTERSTATE 80

**LOCATION**

INTERSTATE 80  
 T-79 N R-23 W  
 SECTION 17  
 DELAWARE TOWNSHIP  
 POLK COUNTY  
 LATITUDE 41°39'29.66" N  
 LONGITUDE 93°32'39.76" W

**HYDRAULIC DATA**

DRAINAGE AREA = 5.7 ACRES - ROLLING  
 $Q_{50} = 16$  CFS  
 HW ELEV. = 835.00

**CURVE DATA (SR 38TH ST)**

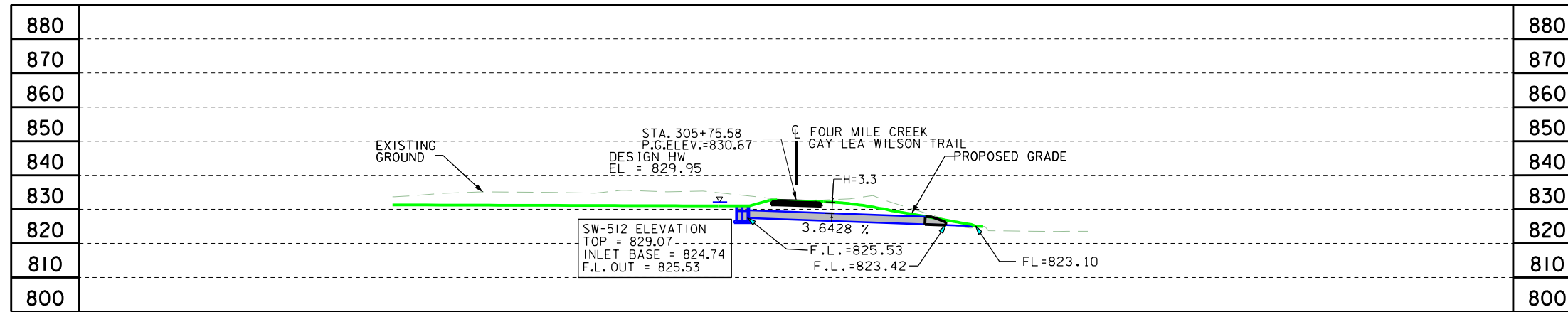
PC STA. 2154+83.48  
 $\Delta = 42^\circ 00' 47.03''$  (LT)  
 T = 240.00  
 L = 458.29  
 R = 625.00  
 E = 44.49  
 e = 5.2%  
 L = 100  
 x = 39  
 DS = 35 mph

DESIGN FOR A 0° SKEW  
**30 in. x 0 ft. RIGHT REINFORCED CONC. PIPE EXTENSION**

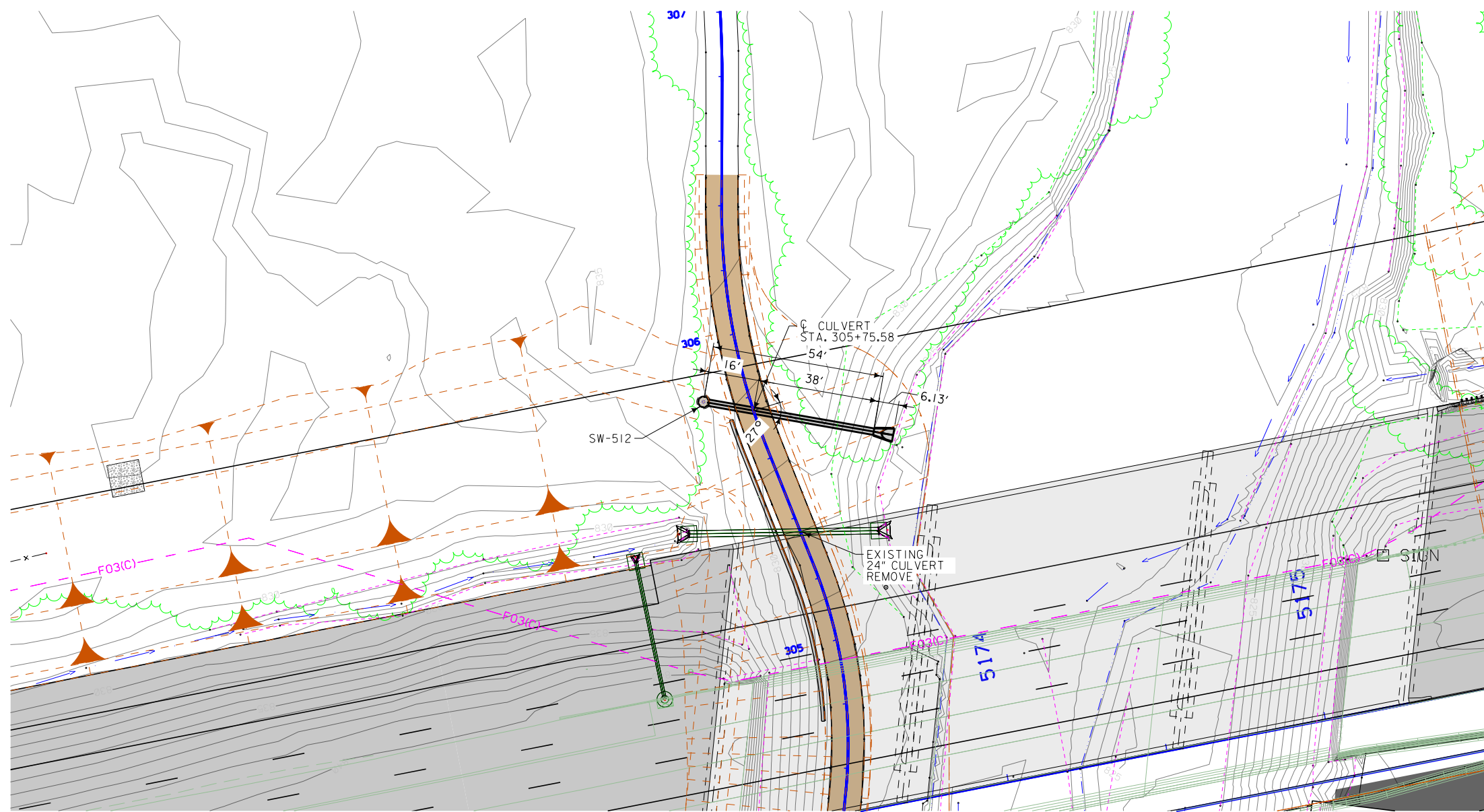
**PLAT PLAN**  
 STA. 2157+65 (SR-38TH) APRIL, 2021  
**POLK COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY ADMINISTRATION  
 DESIGN SHEET NO. 1 OF 1 FILE NO. DESIGN NO.



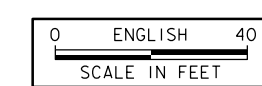




LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



PLAT PLAN



**TRAFFIC ESTIMATE**

2020 AADT	75700	V.P.D.
2050 AADT	130100	V.P.D.
20XX DHV	10790	V.P.H.
TRUCKS	17	%
TOTAL DESIGN ESALs	--	

**LOCATION**

INTERSTATE 80  
 T-79 N R-23 W  
 SECTION 17  
 DELAWARE TOWNSHIP  
 POLK COUNTY  
 LATITUDE 41°39'29.66" N  
 LONGITUDE 93°32'39.76" W

**HYDRAULIC DATA**

DRAINAGE AREA = 23.5 ACRES - ROLLING  
 $Q_{50}$  = 49 CFS  
 HW ELEV. = 829.95

**BRIDGE INFO.**

I-80 WB bridge replacement over Four Mile Creek  
 (replaces FHWA No. 041980, Bridge Maintenance No. 7738.4L080)  
 IM-NHS-080-4(82)139- -03-77, Design # 624, File # 32061

DESIGN FOR A 27° SKEW  
**27 in. x 54 ft.  
 REINFORCED CONC. PIPE  
 WITH INTAKE**  
**PLAT PLAN**  
 STA. 305+75  
 (FOUR MILE CREEK  
 GAY LEA WILSON TRAIL)  
 POLK COUNTY  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY ADMINISTRATION  
 DESIGN SHEET NO. 1 OF 1 FILE NO. \_\_\_\_\_ DESIGN NO. \_\_\_\_\_

APRIL, 2021

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

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

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

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

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

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

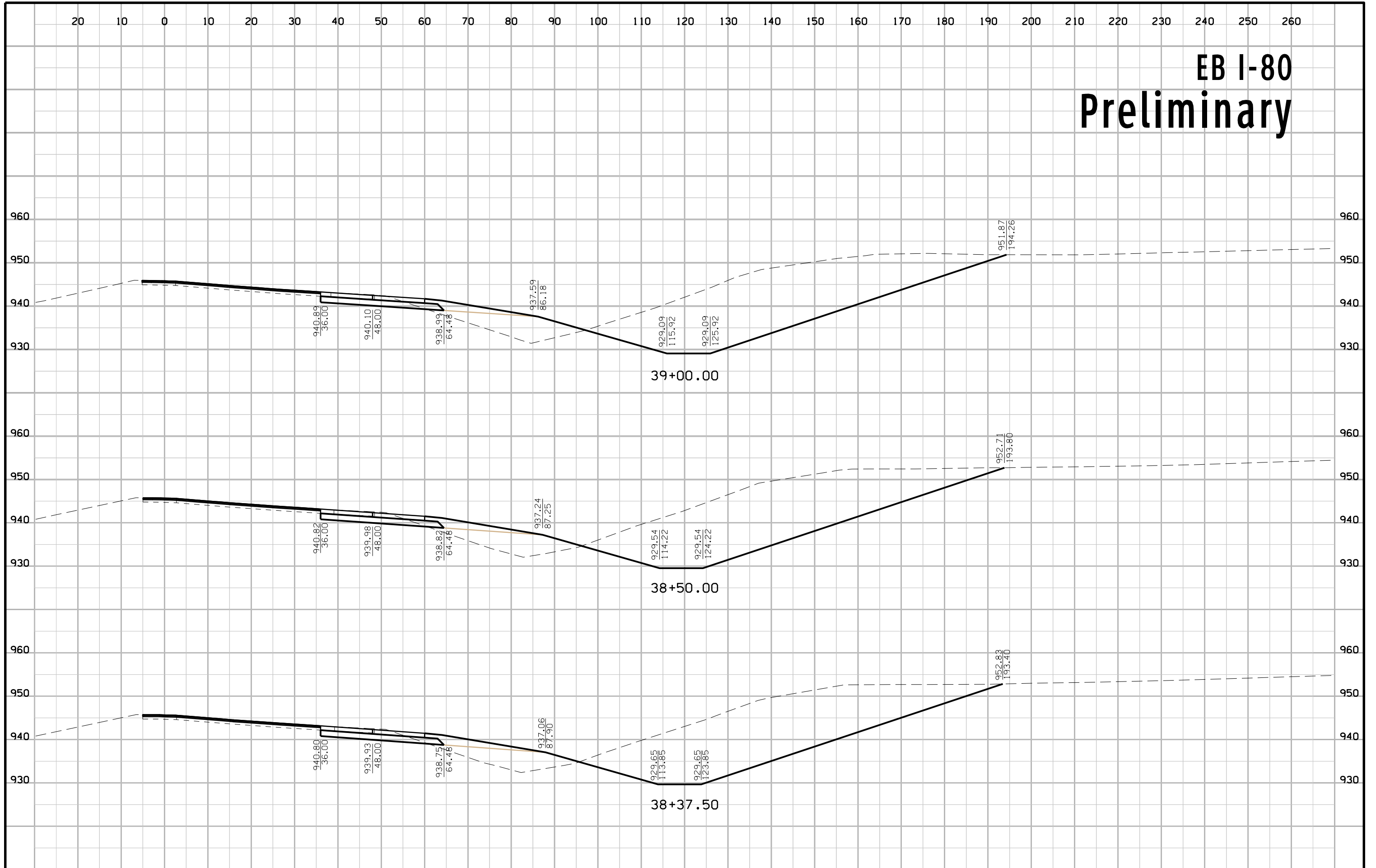
**SYMBOL LEGEND OF CROSS SECTION SHEETS**

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

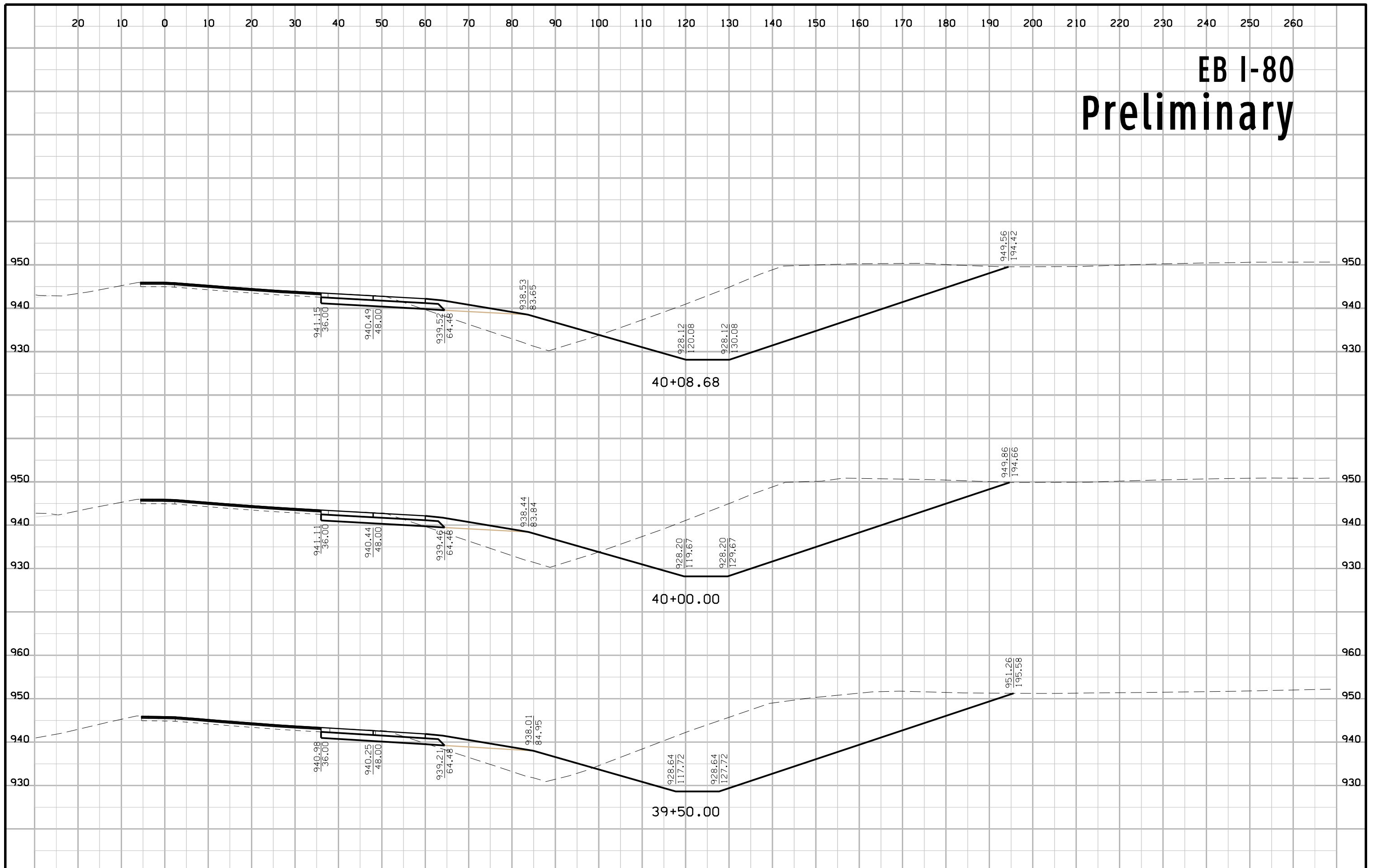
**CROSS SECTION  
LEGEND AND SYMBOL  
INFORMATION SHEET**

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

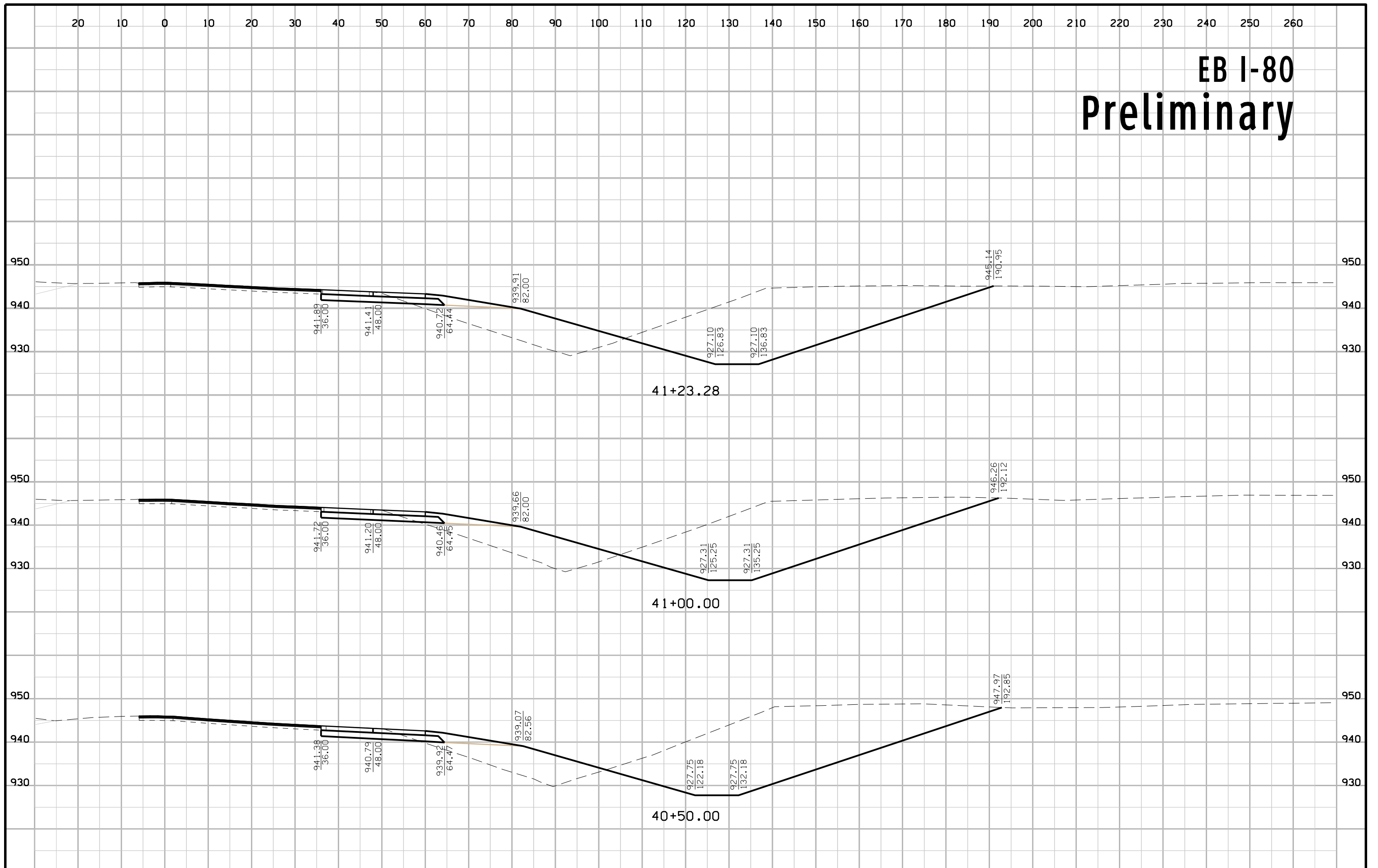
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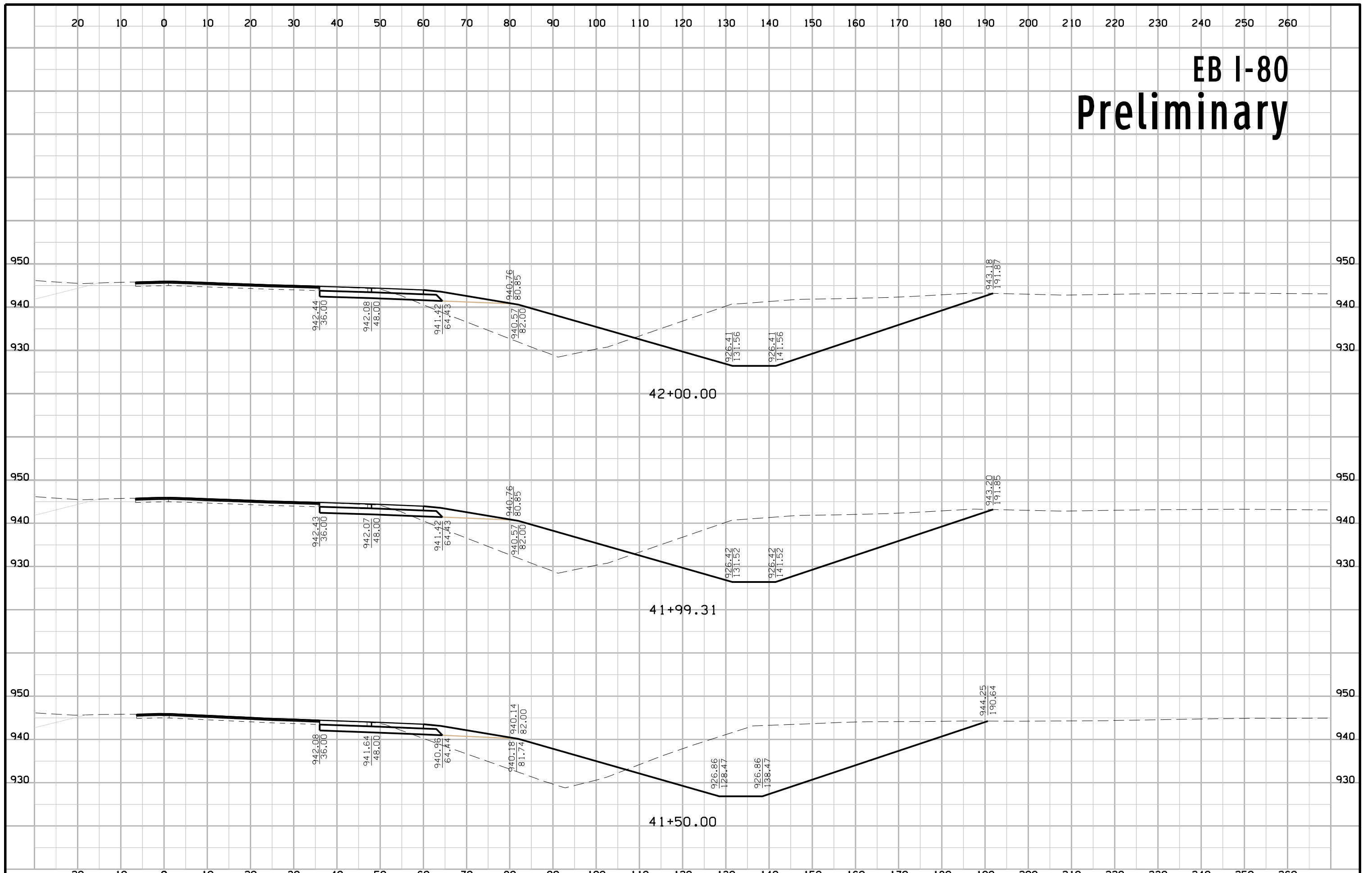
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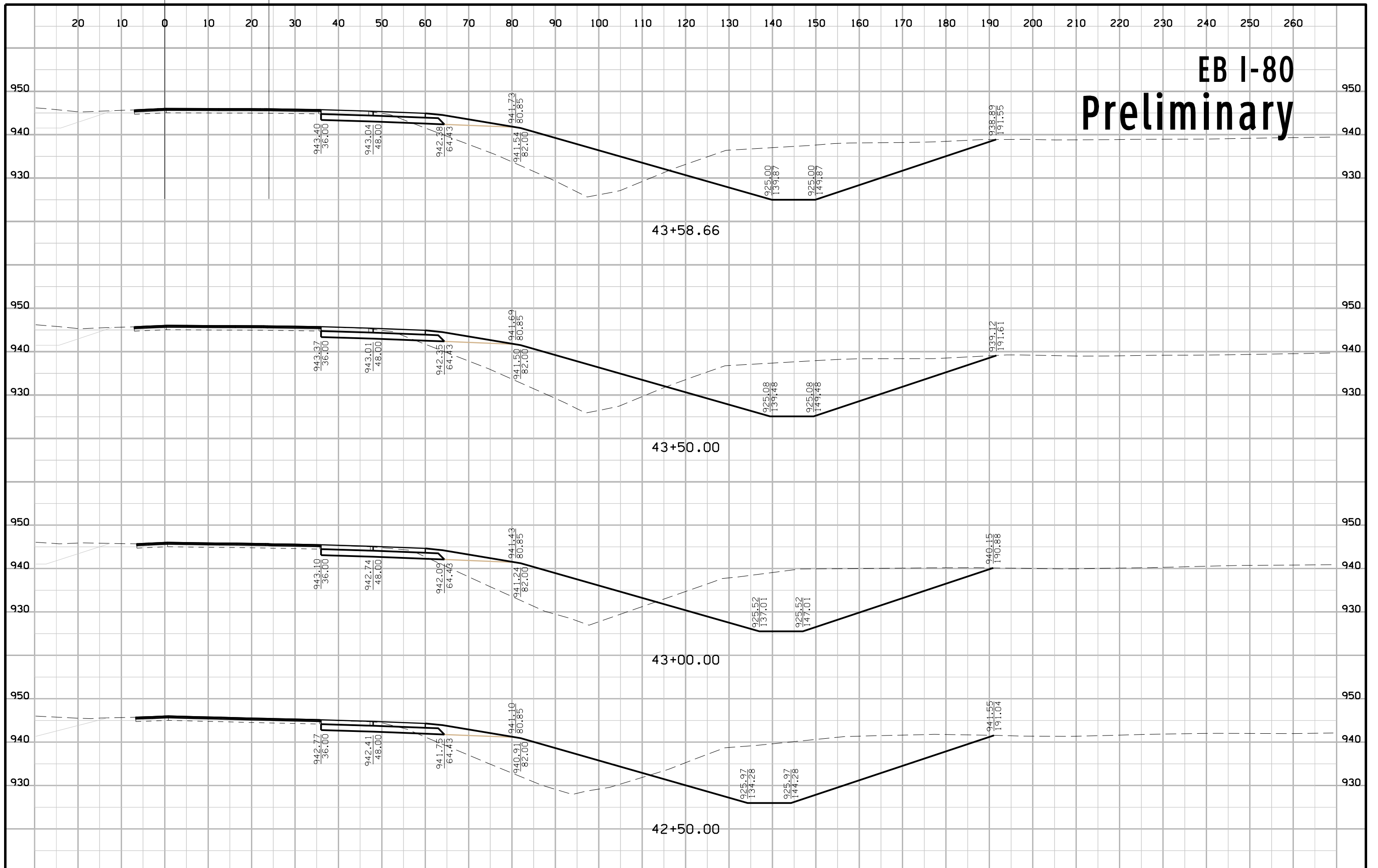
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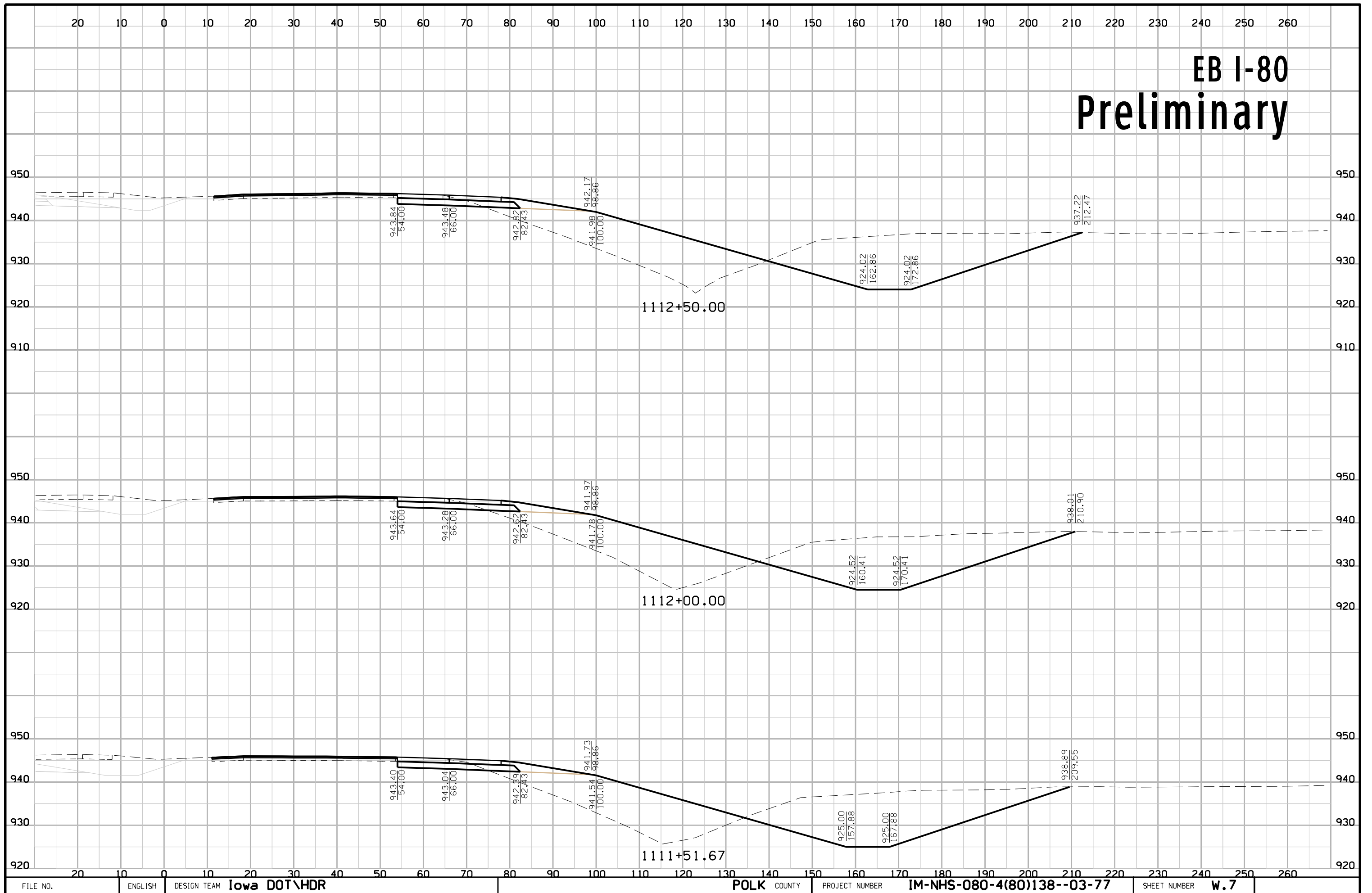
# EB I-80 Preliminary



# EB I-80 Preliminary

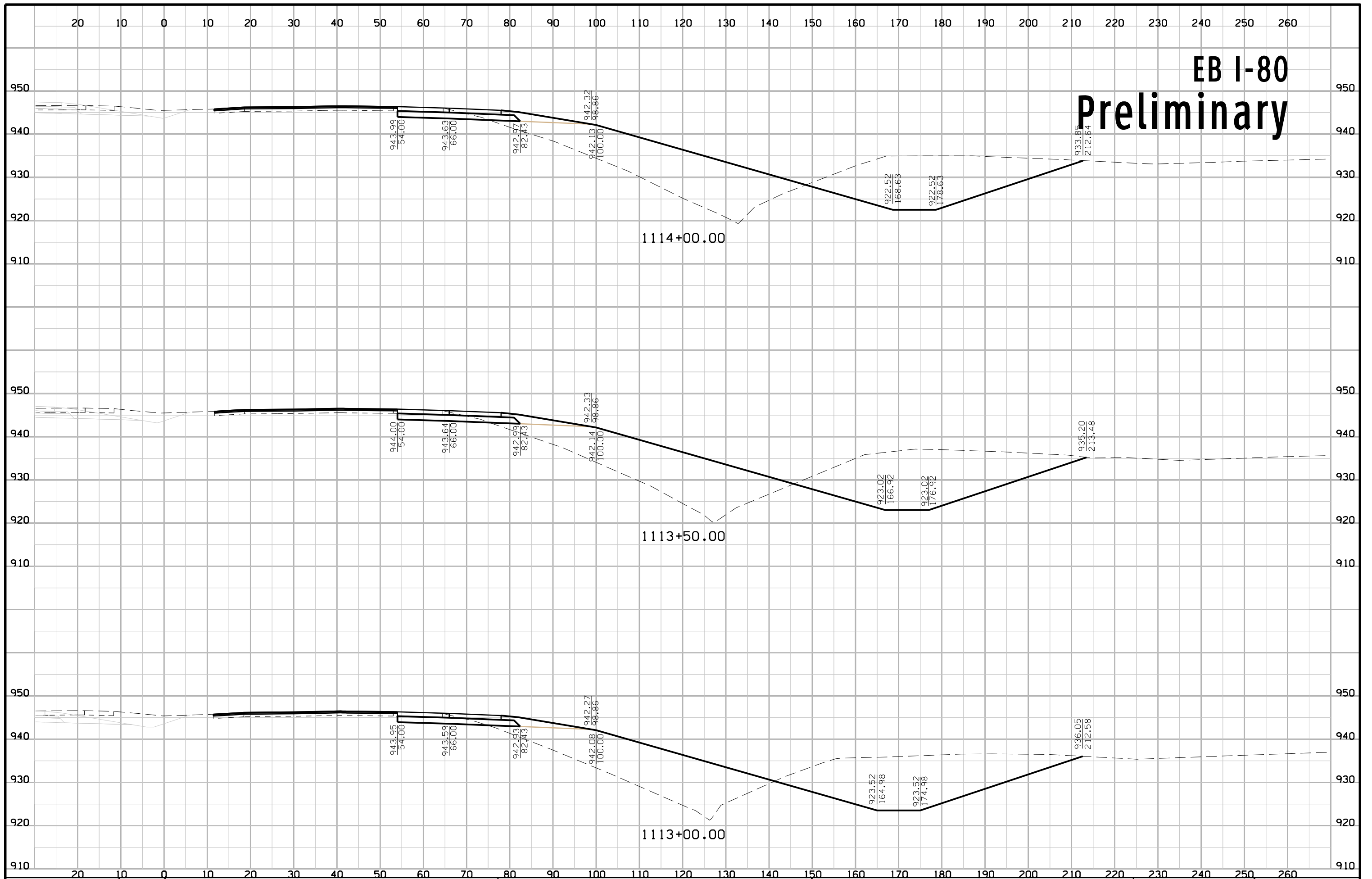


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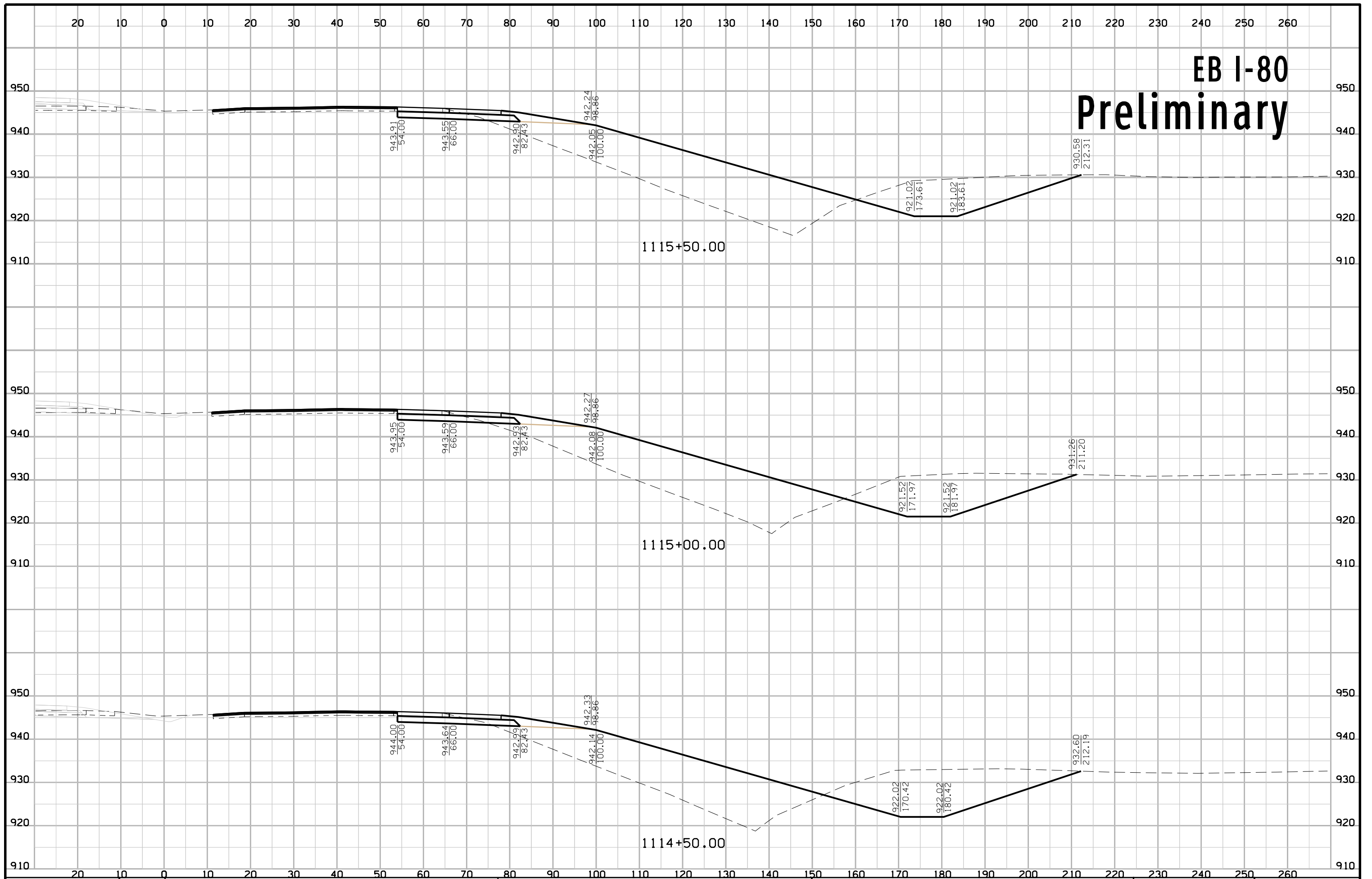




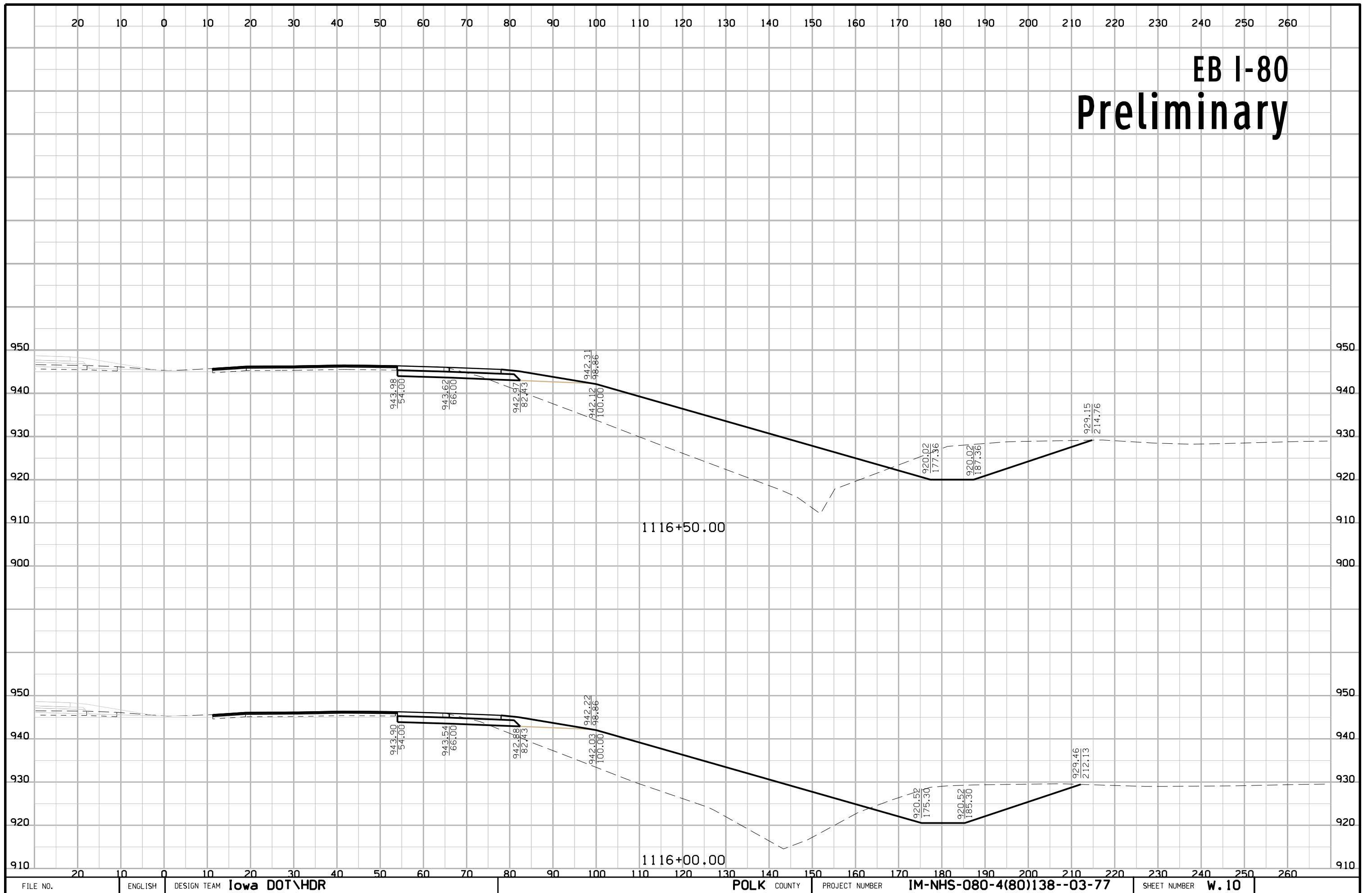
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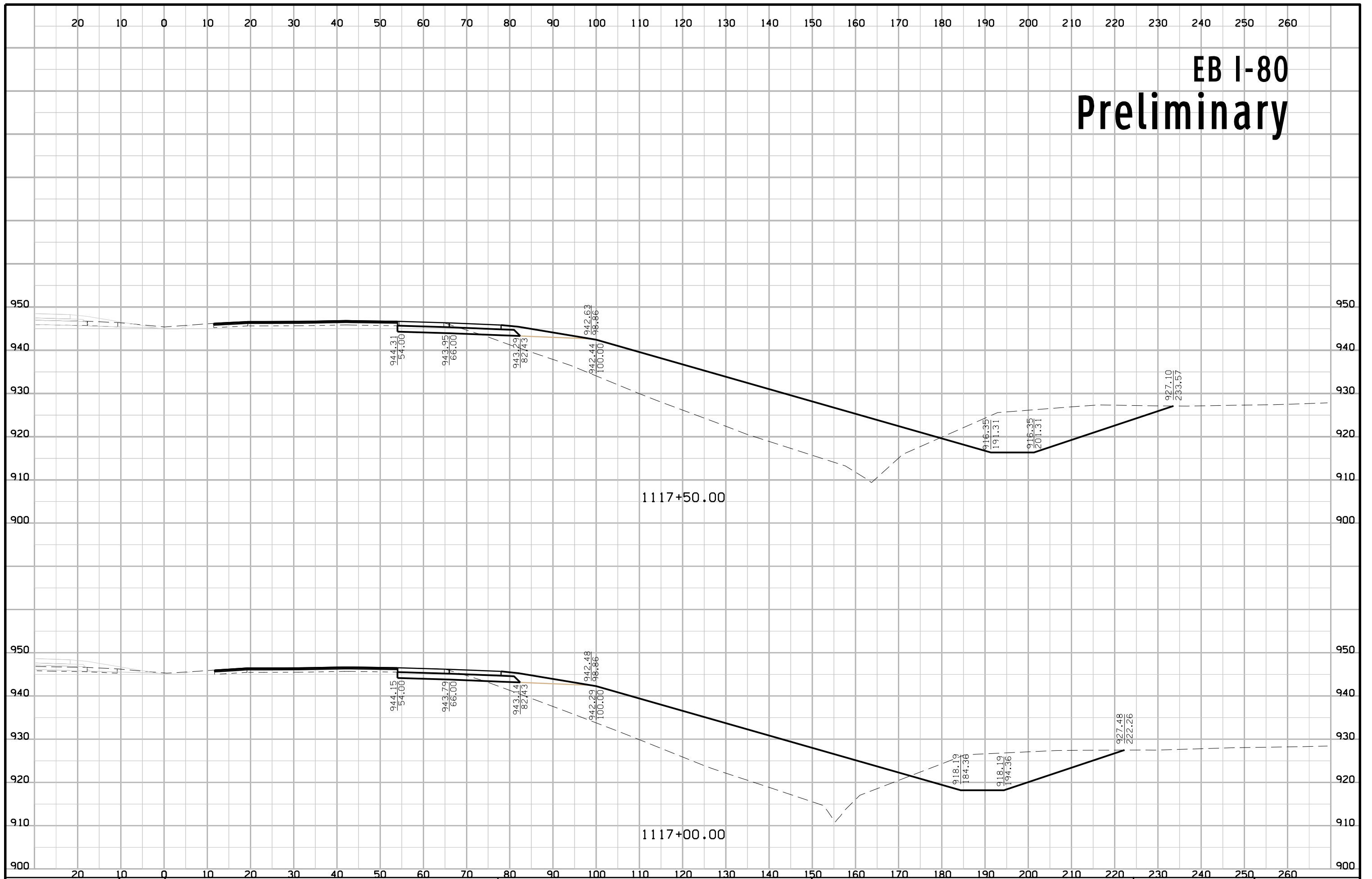
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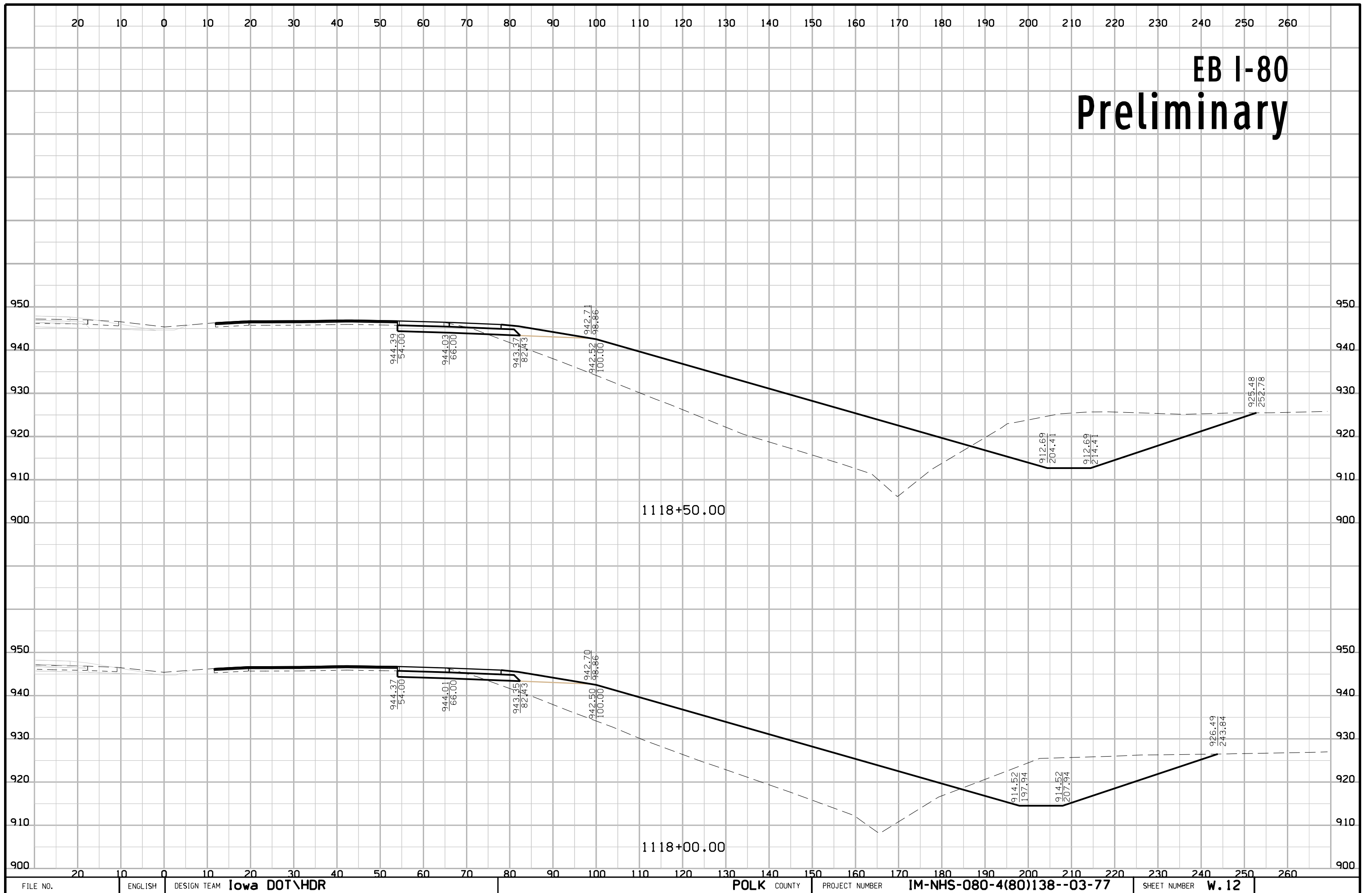
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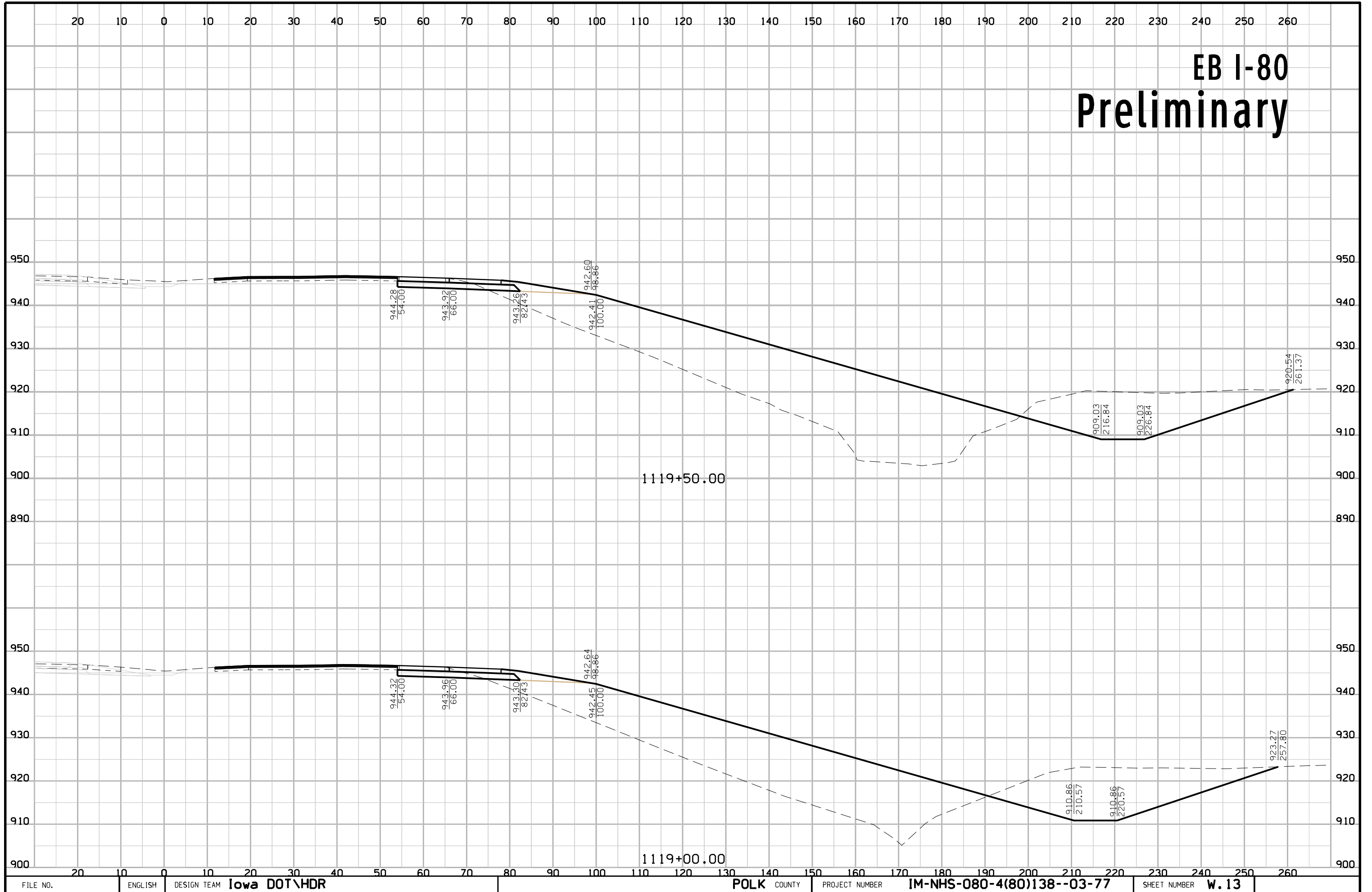
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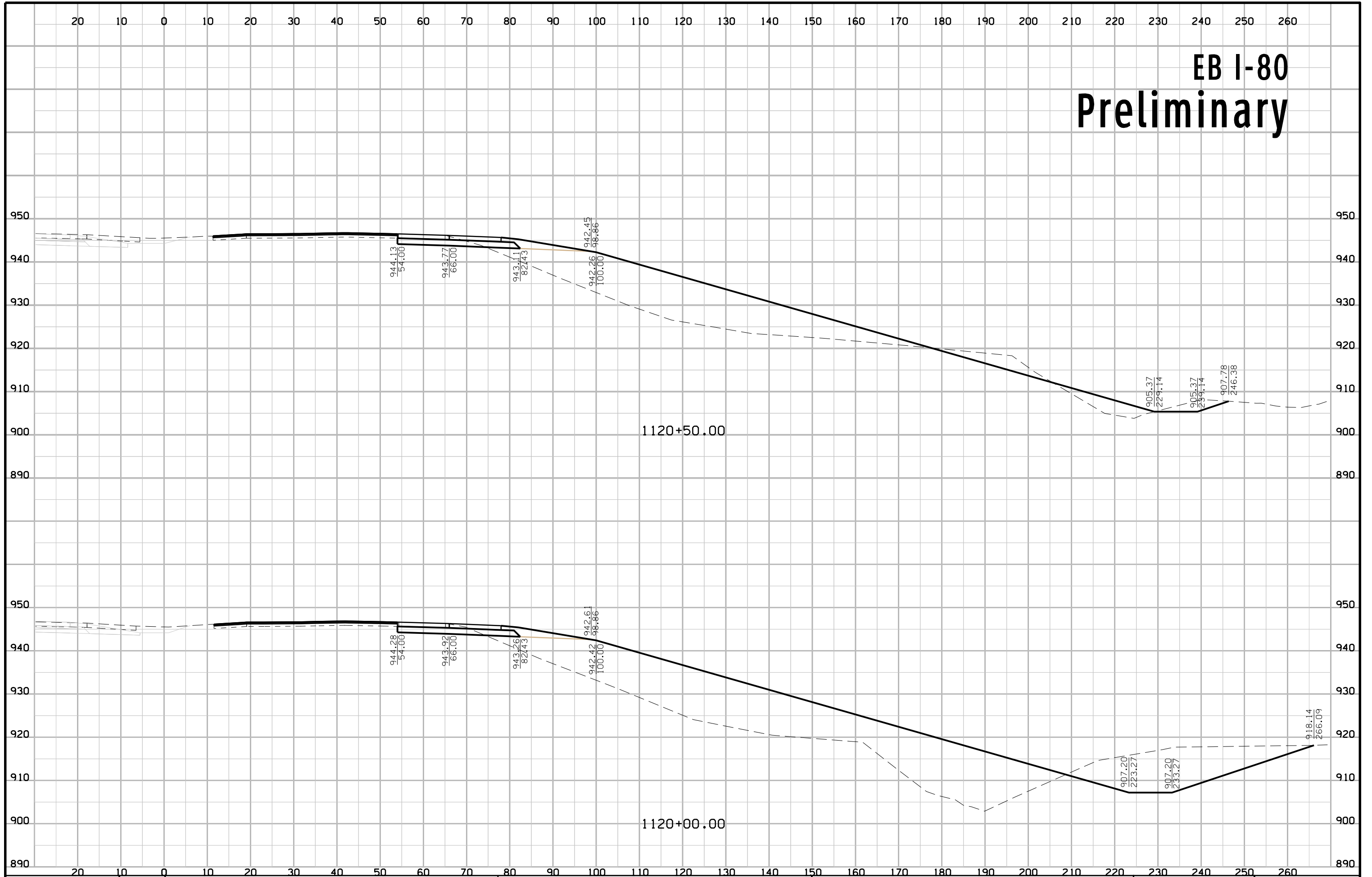
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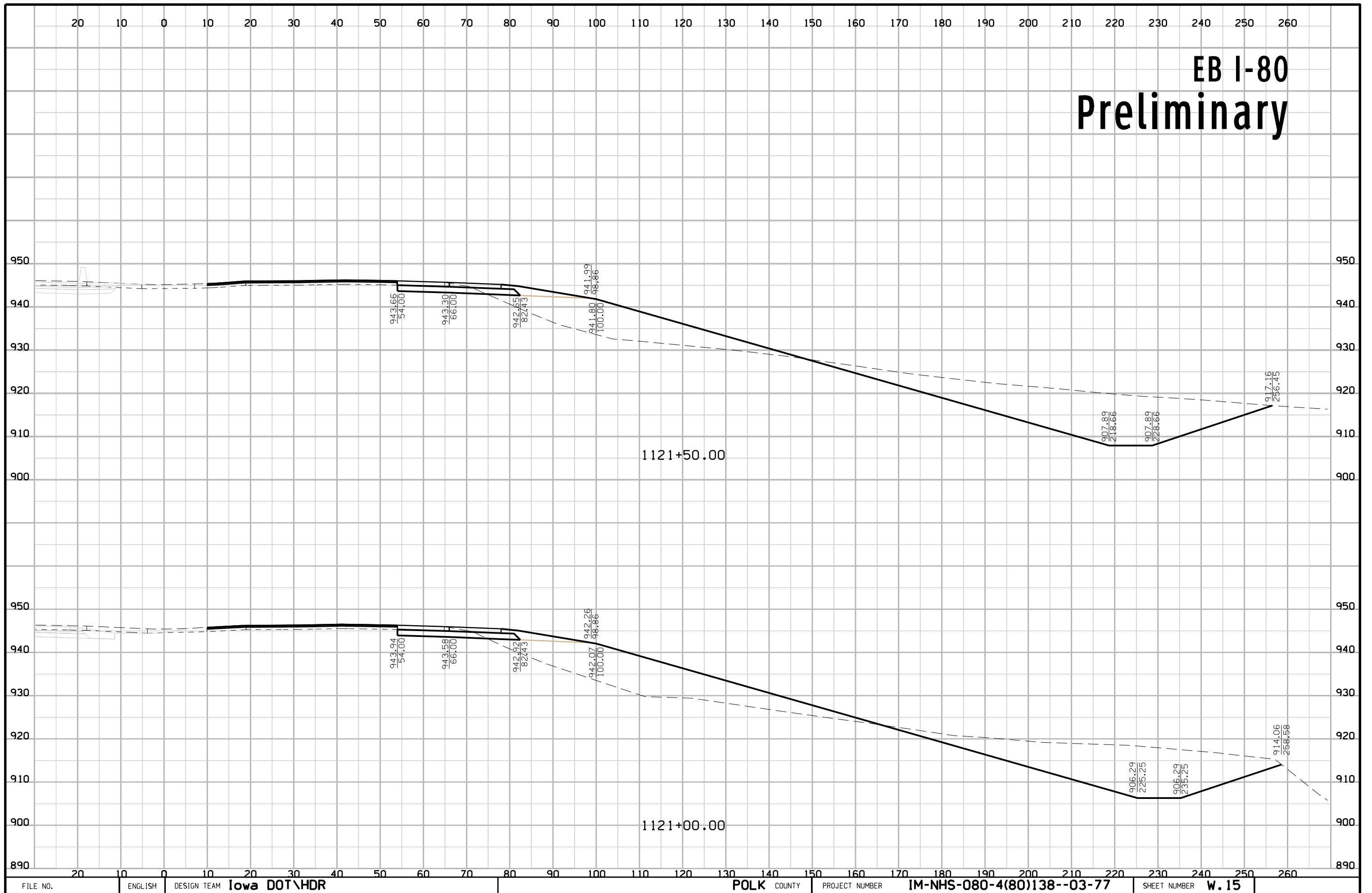
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# EB I-80 Preliminary

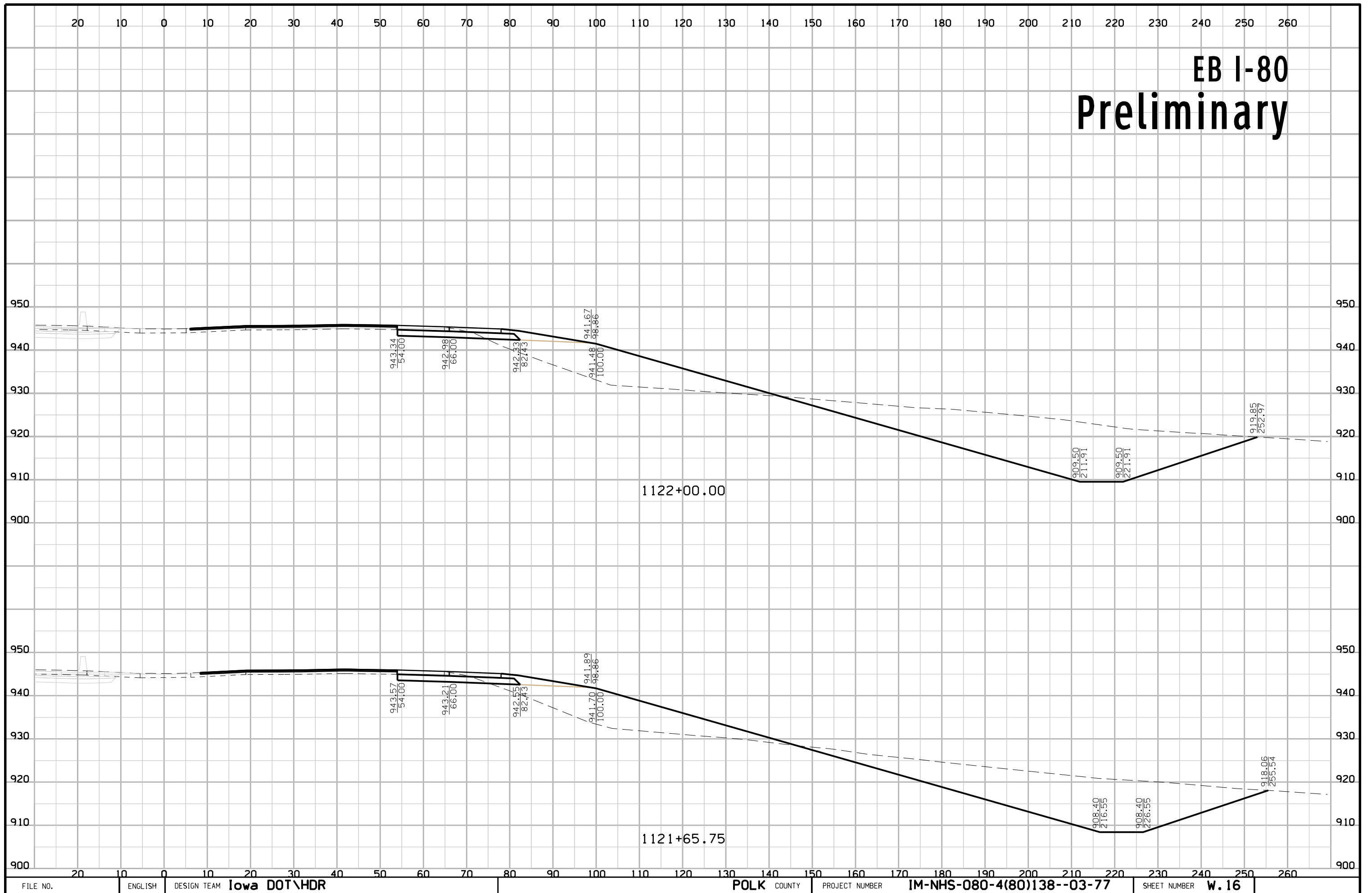


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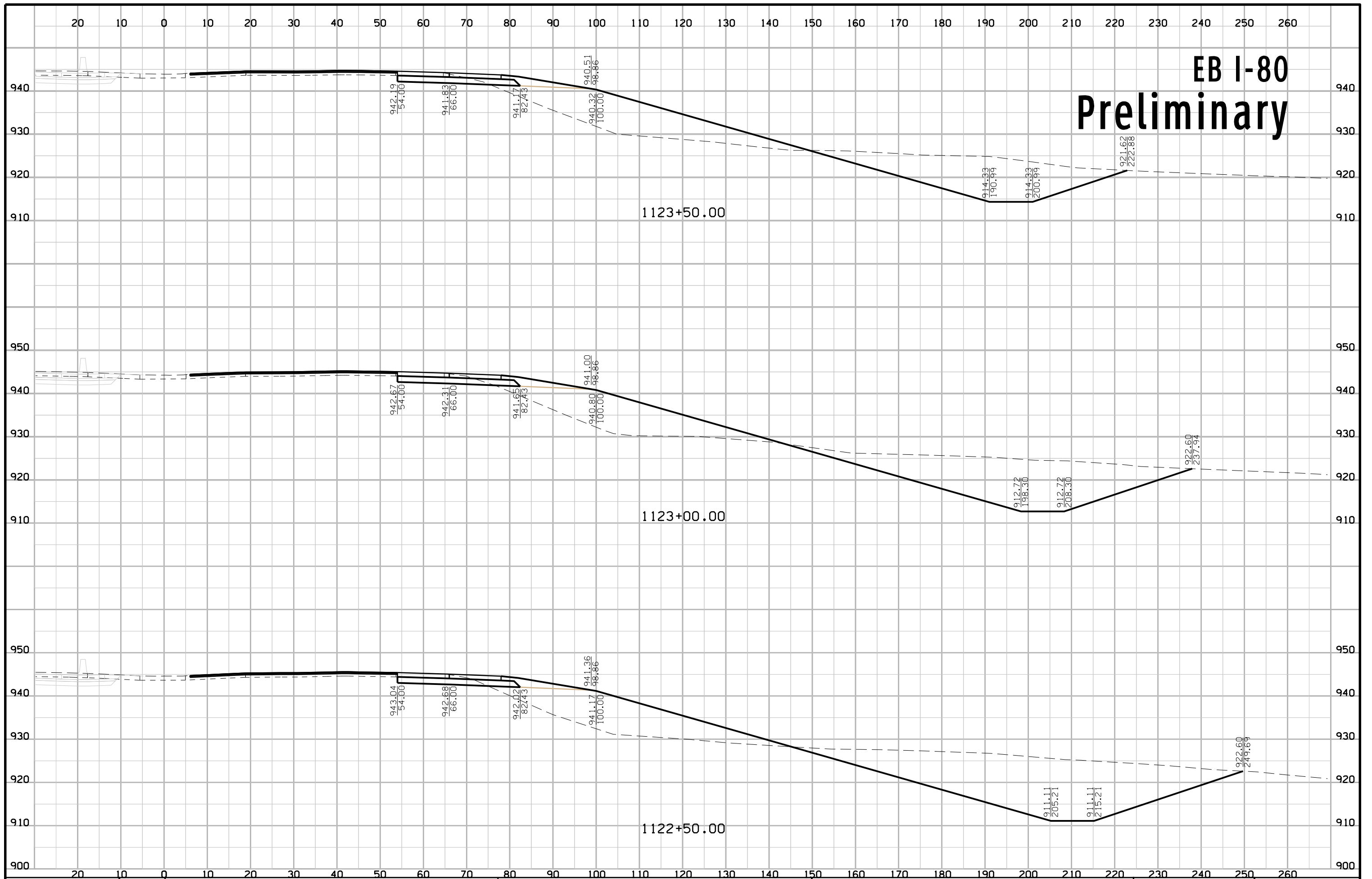




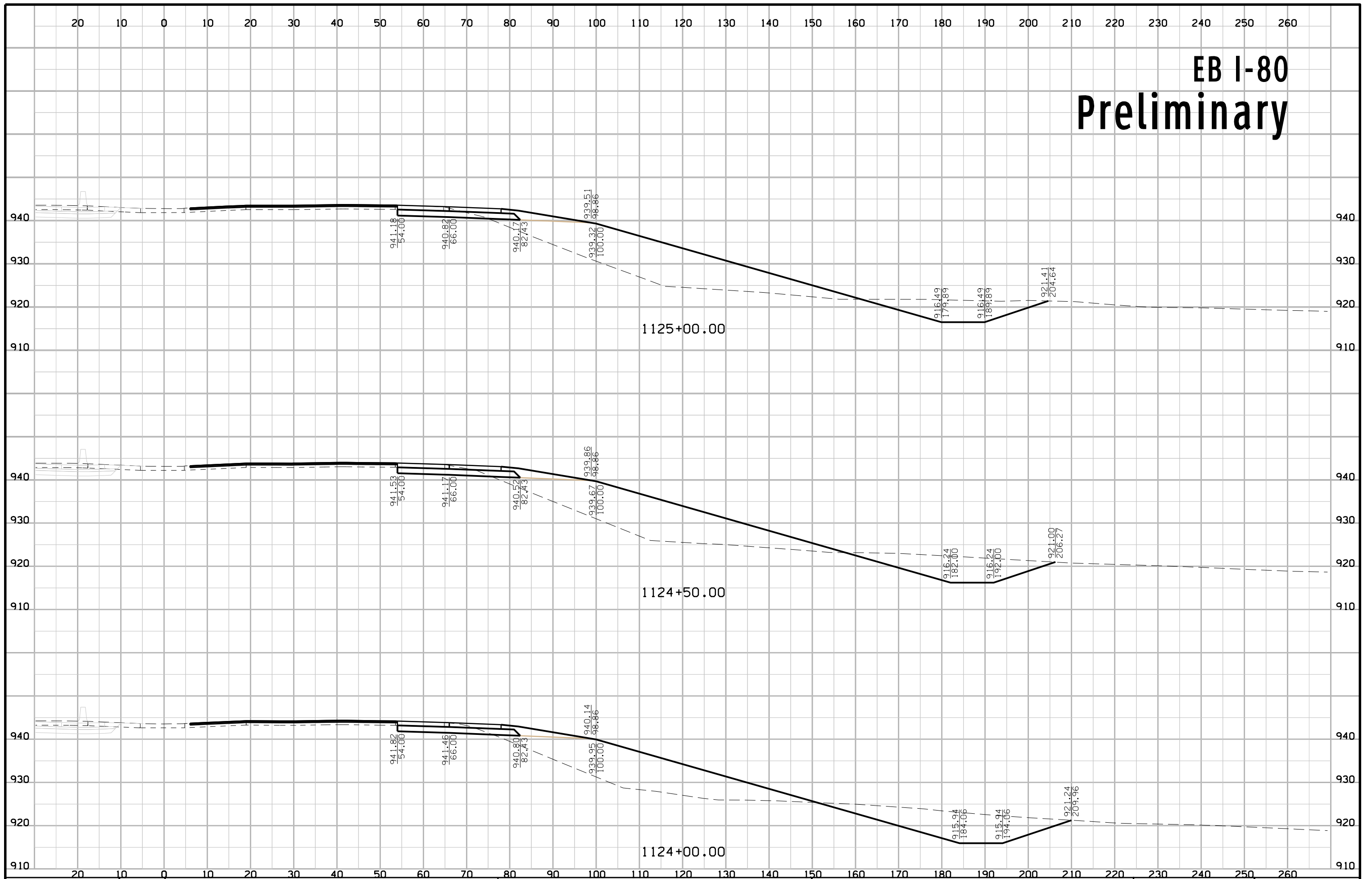
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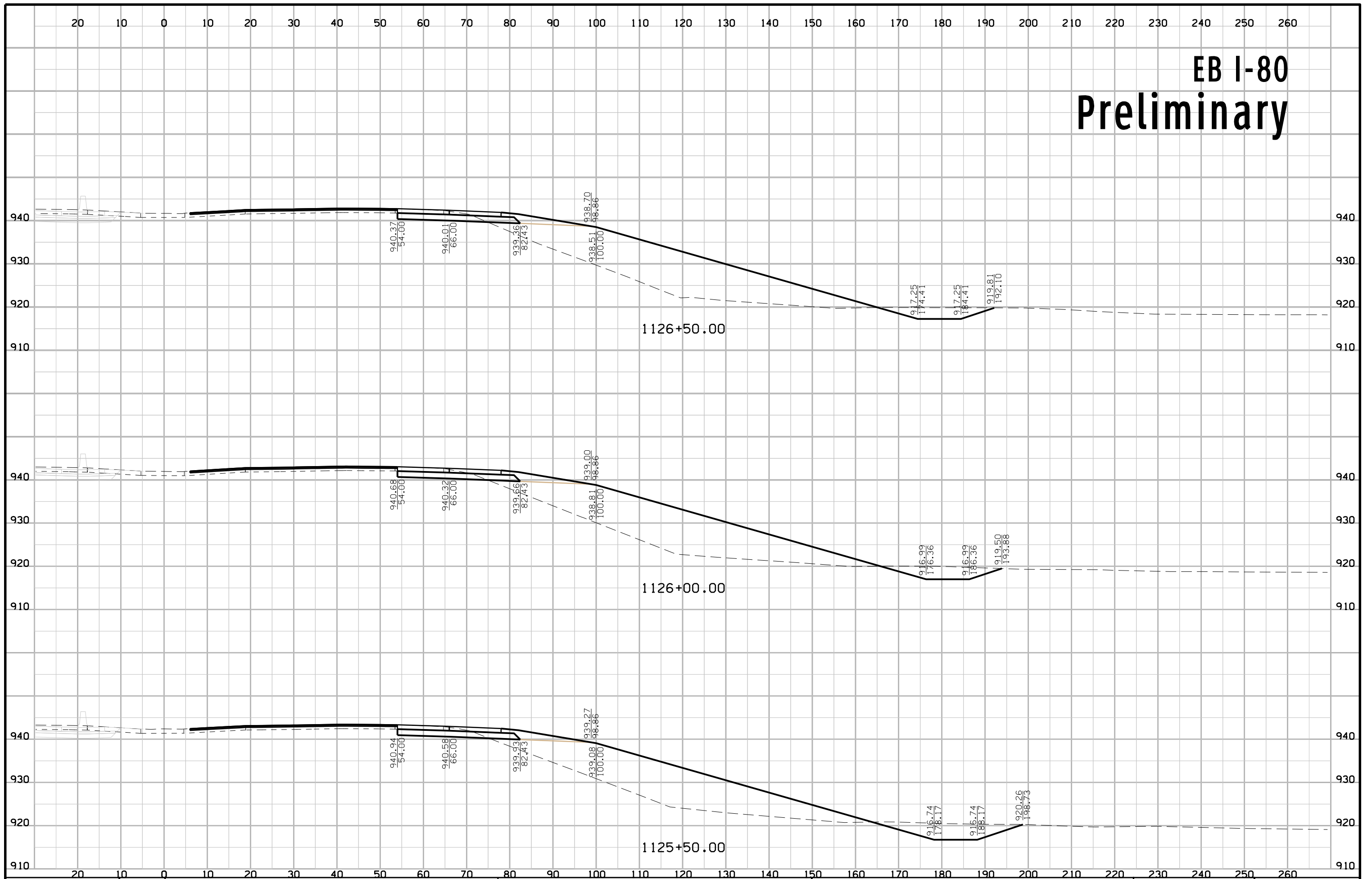
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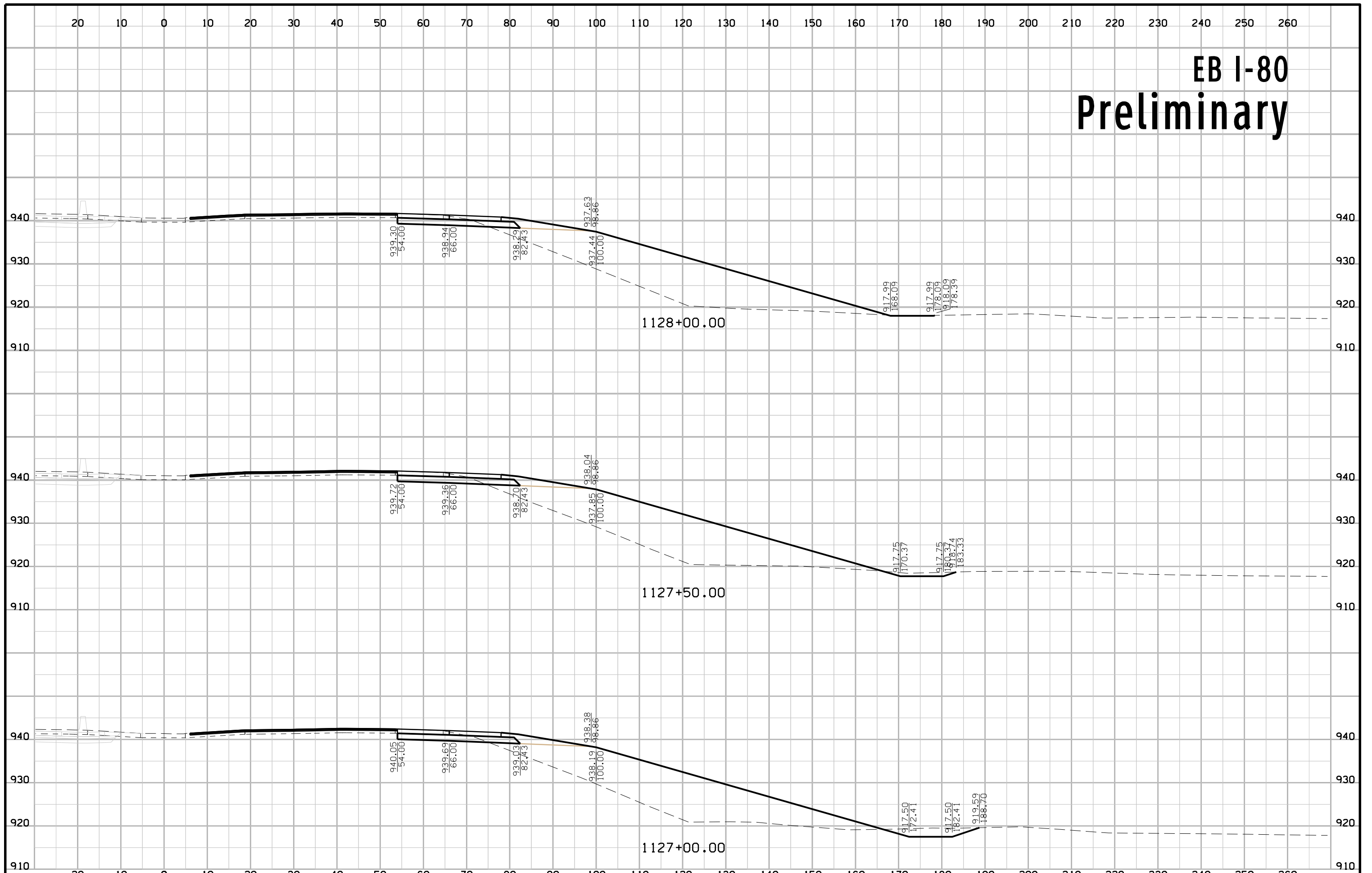
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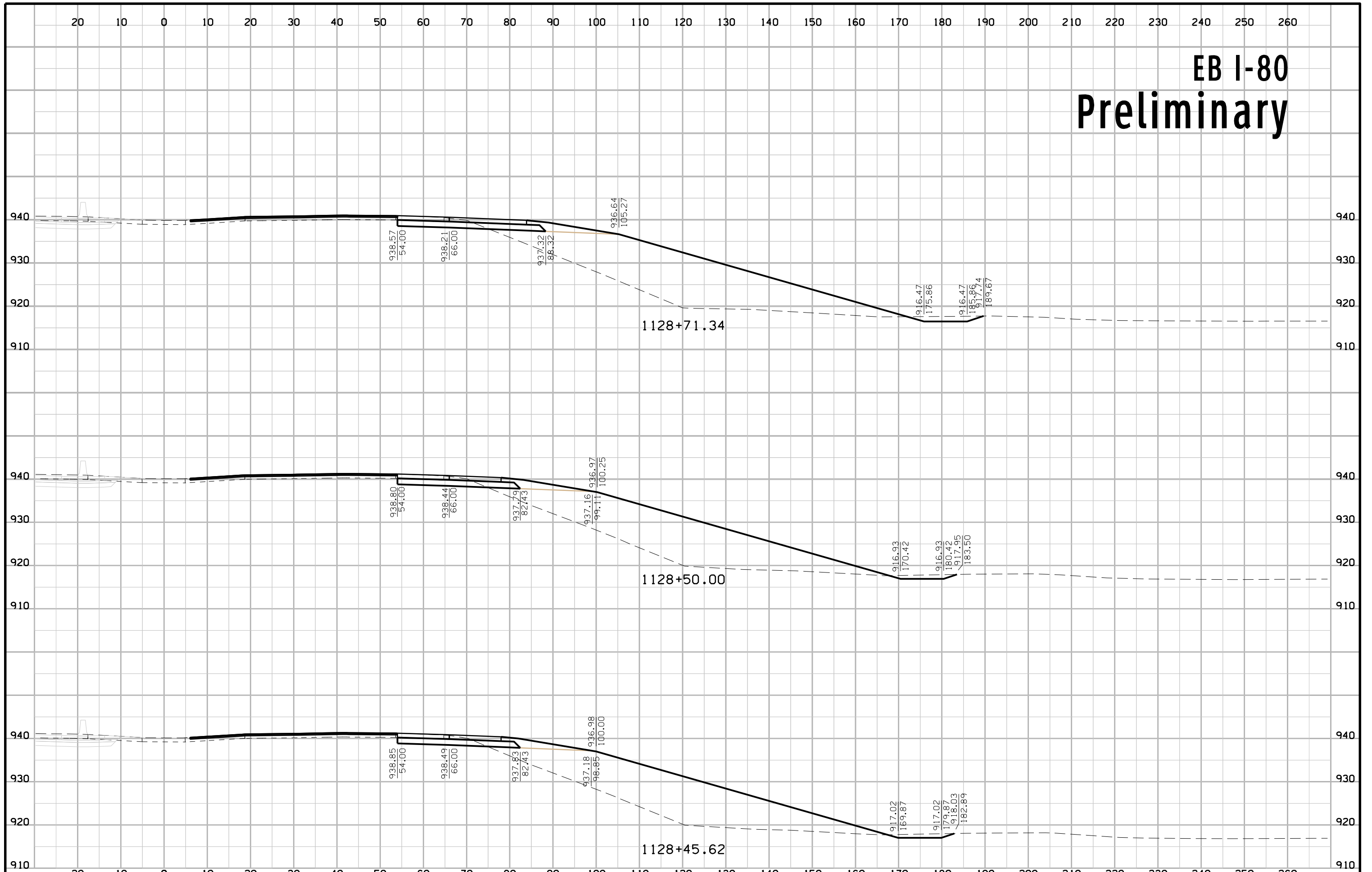
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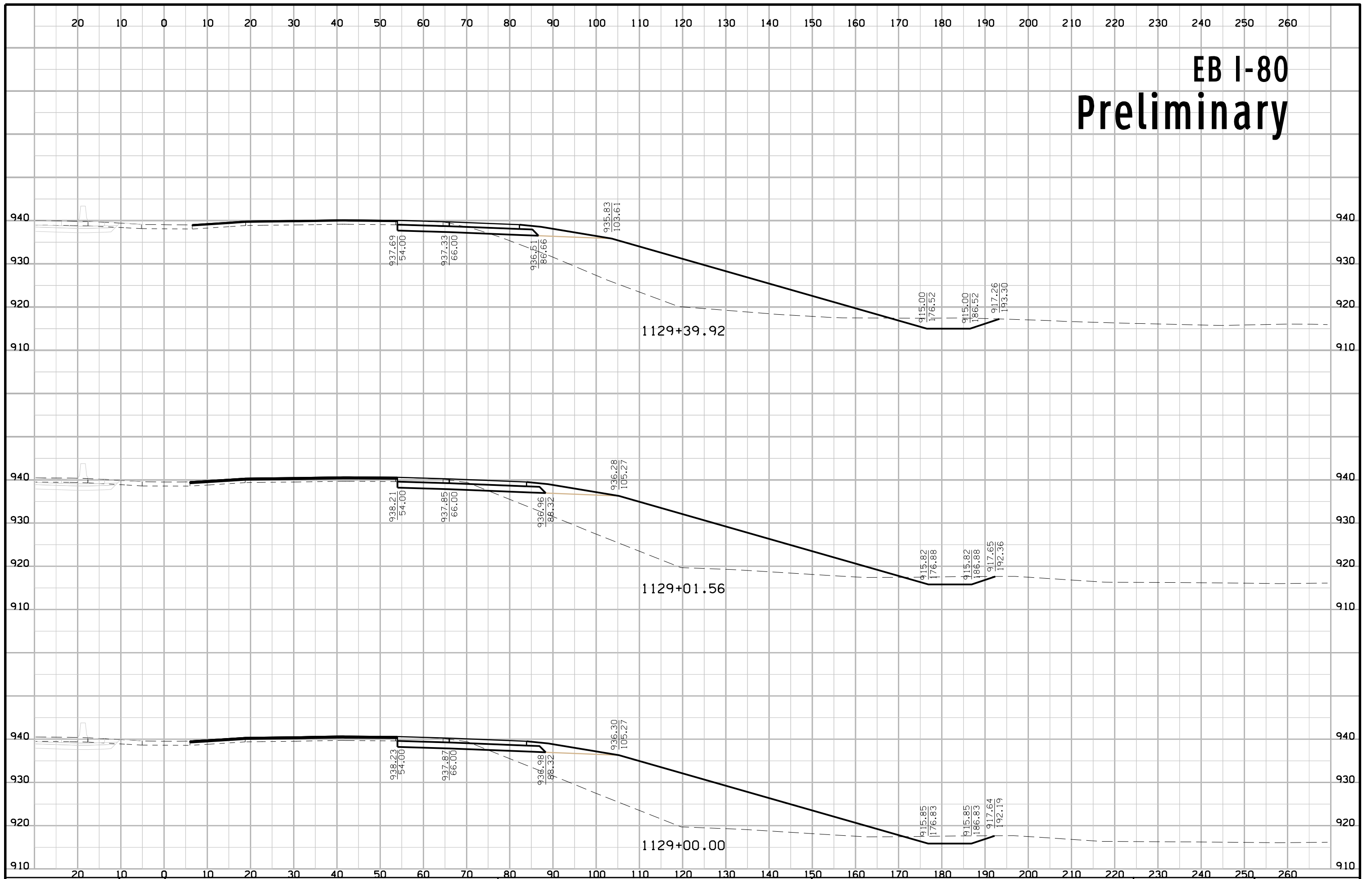
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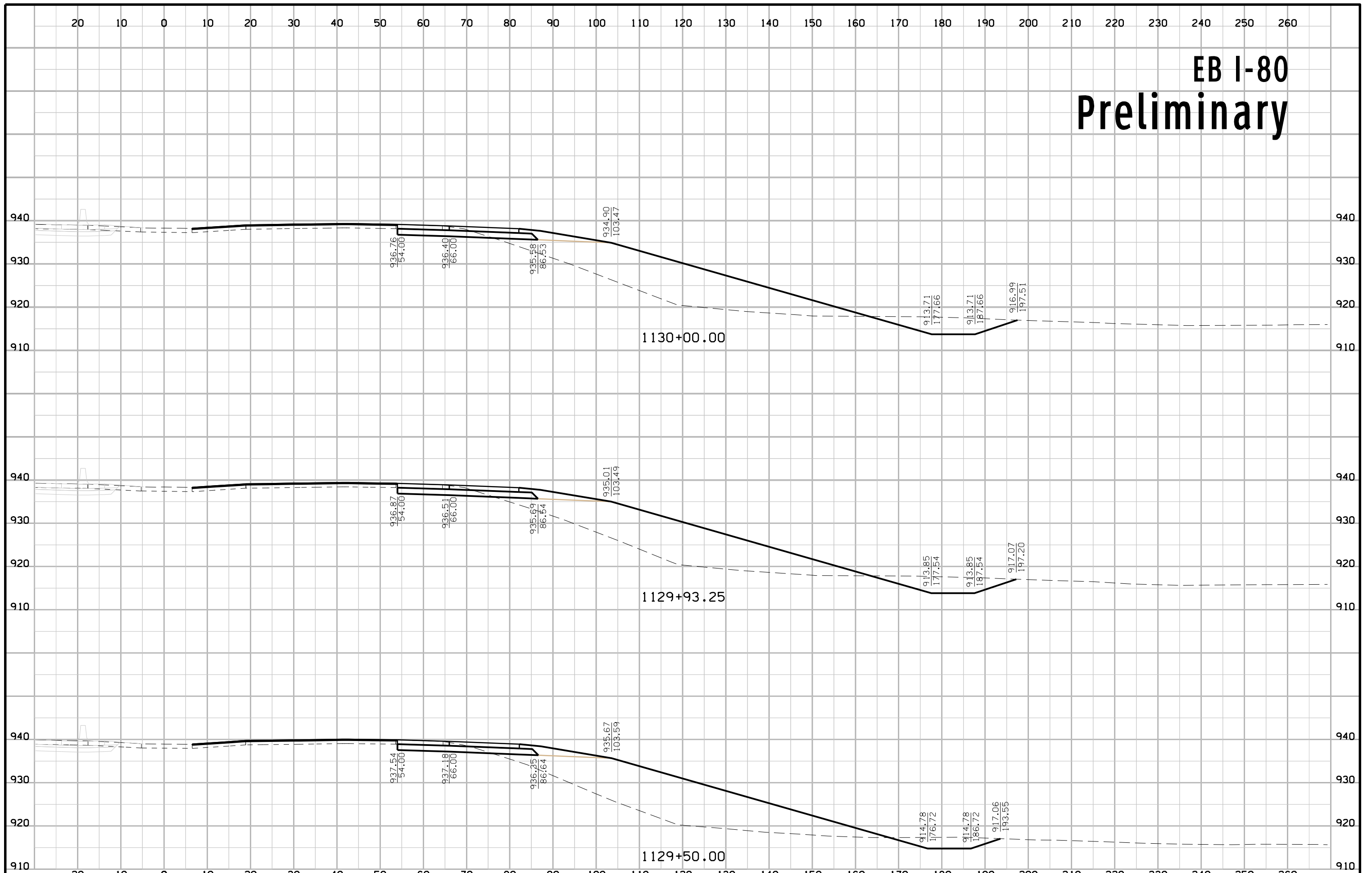
# EB I-80 Preliminary



# EB I-80 Preliminary

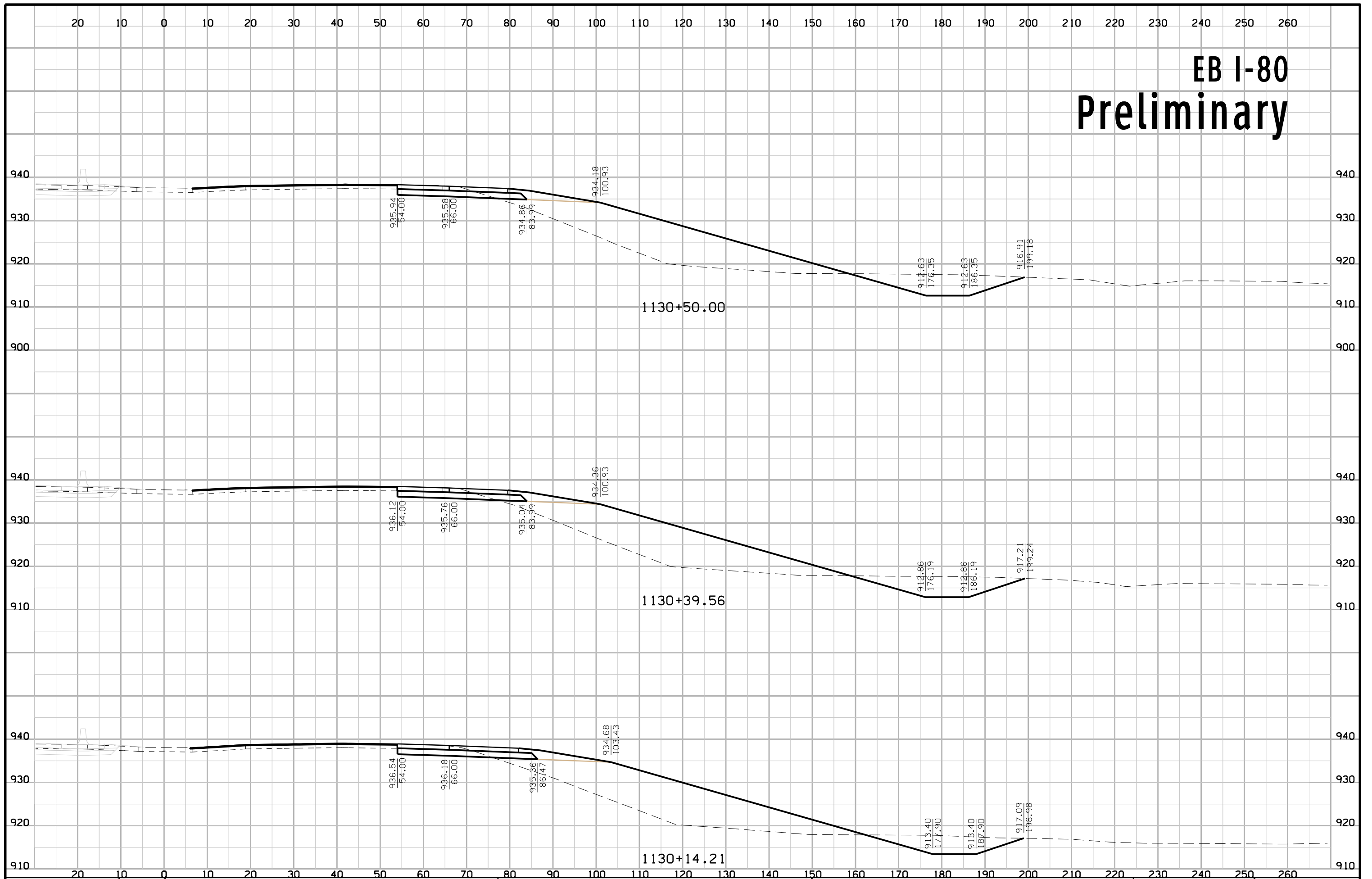


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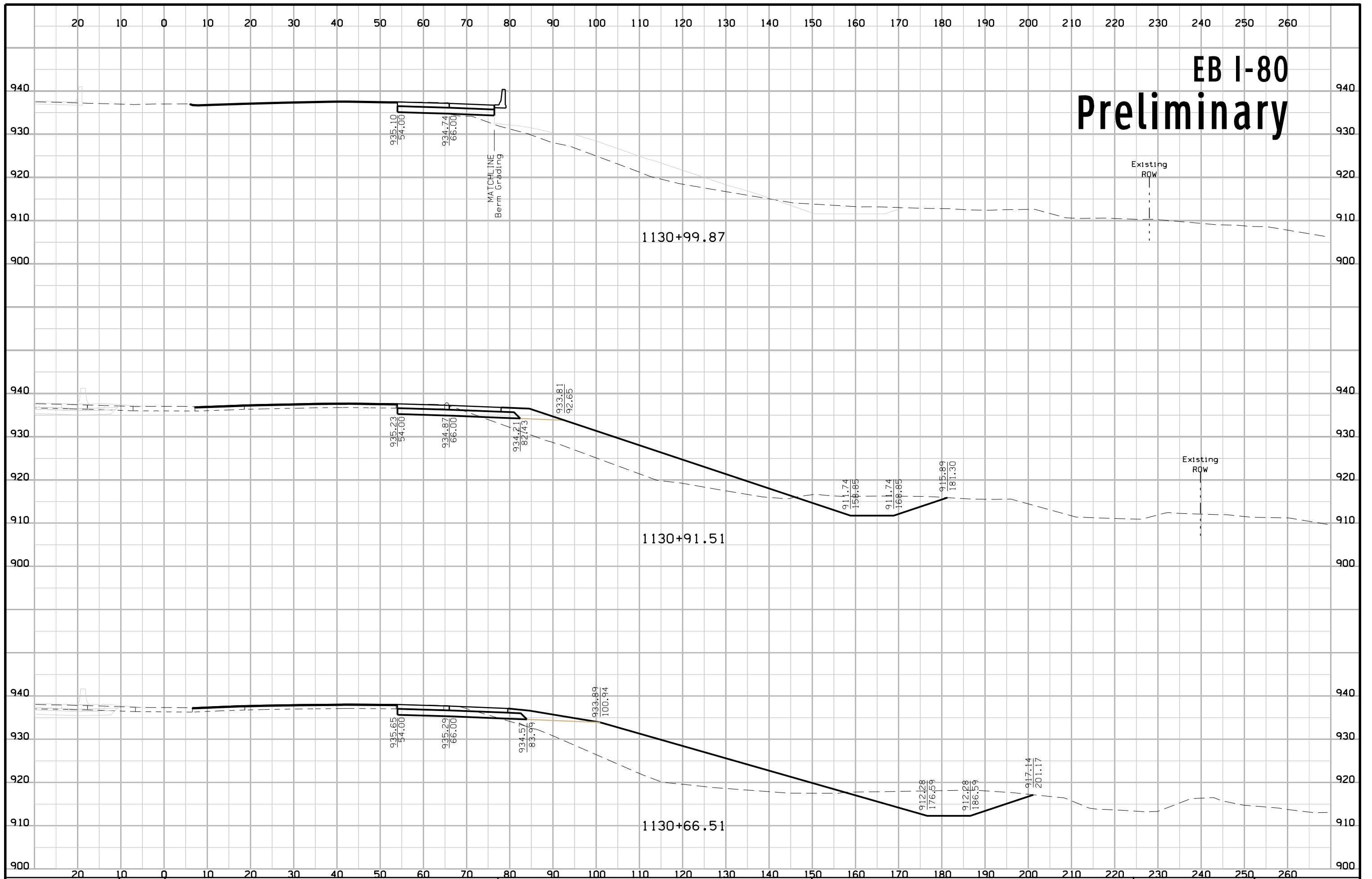




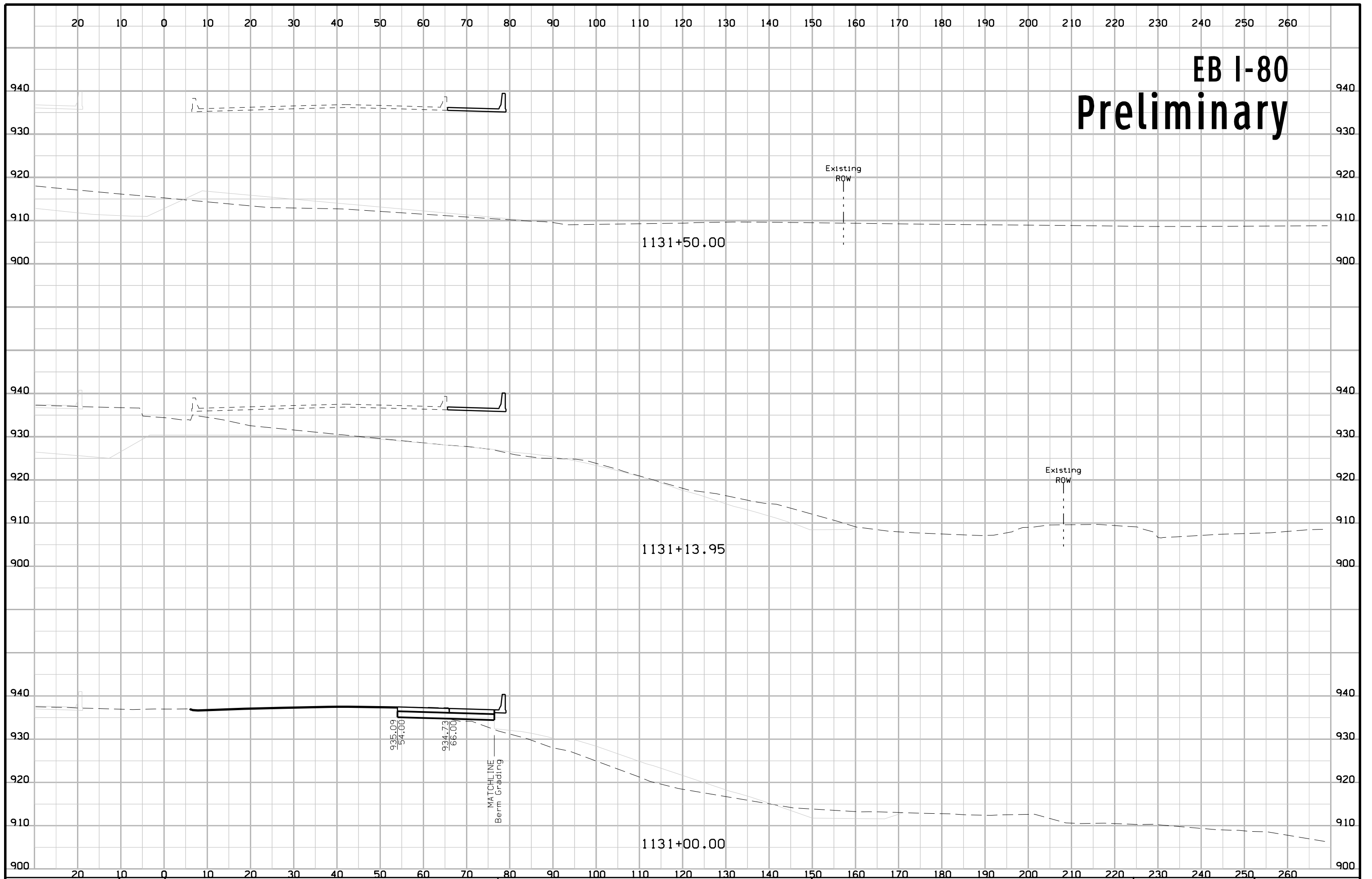
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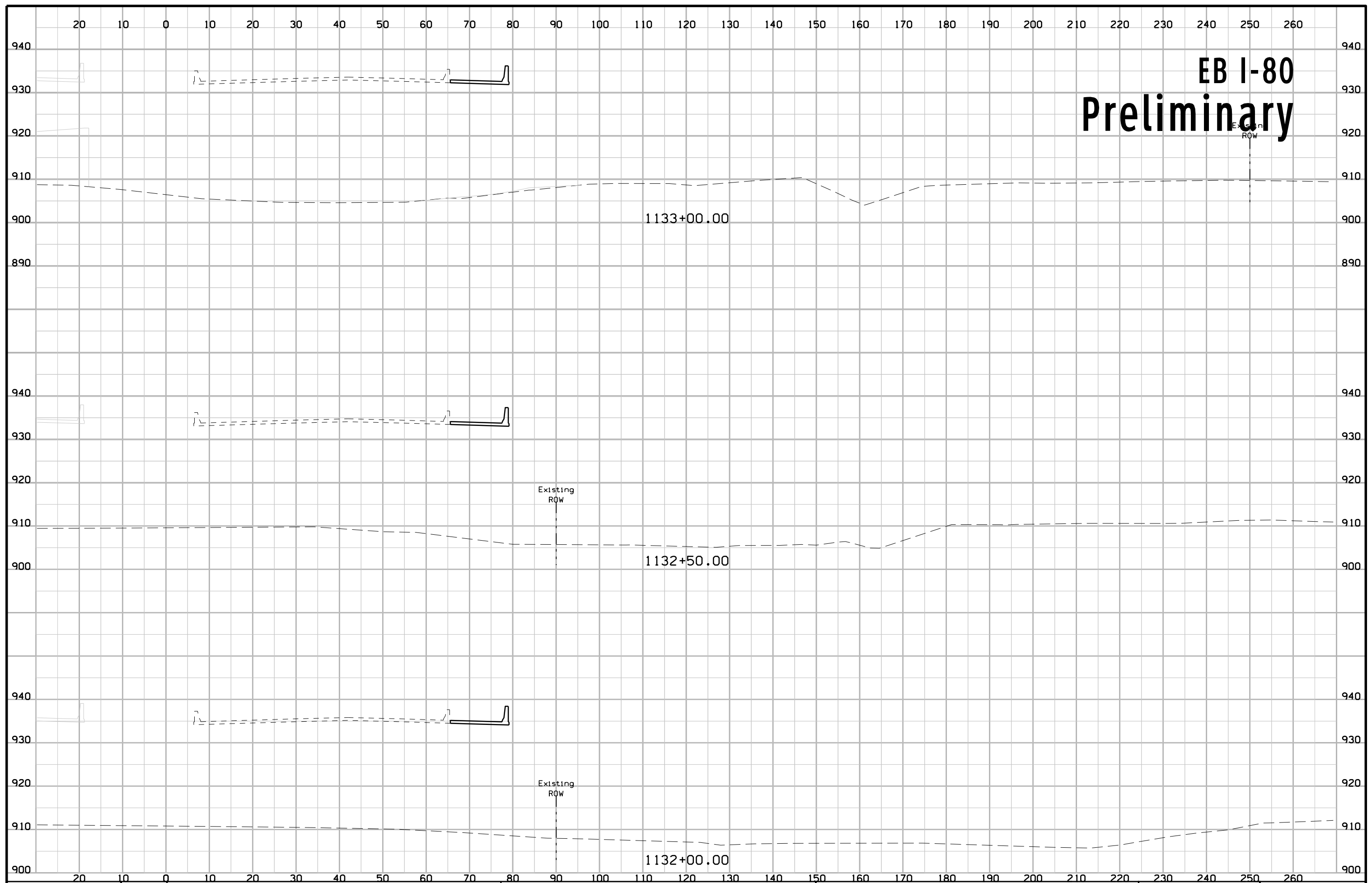
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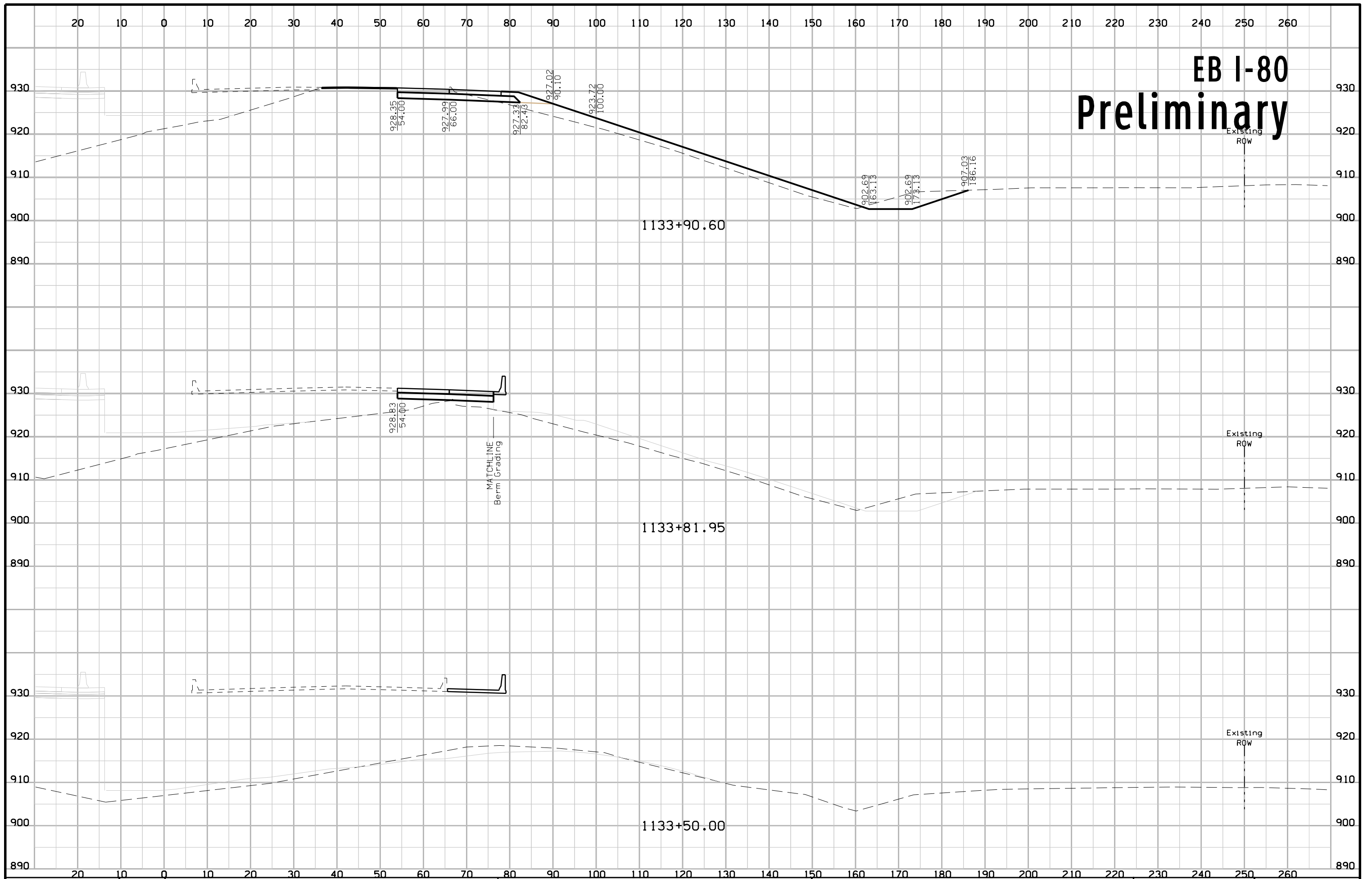
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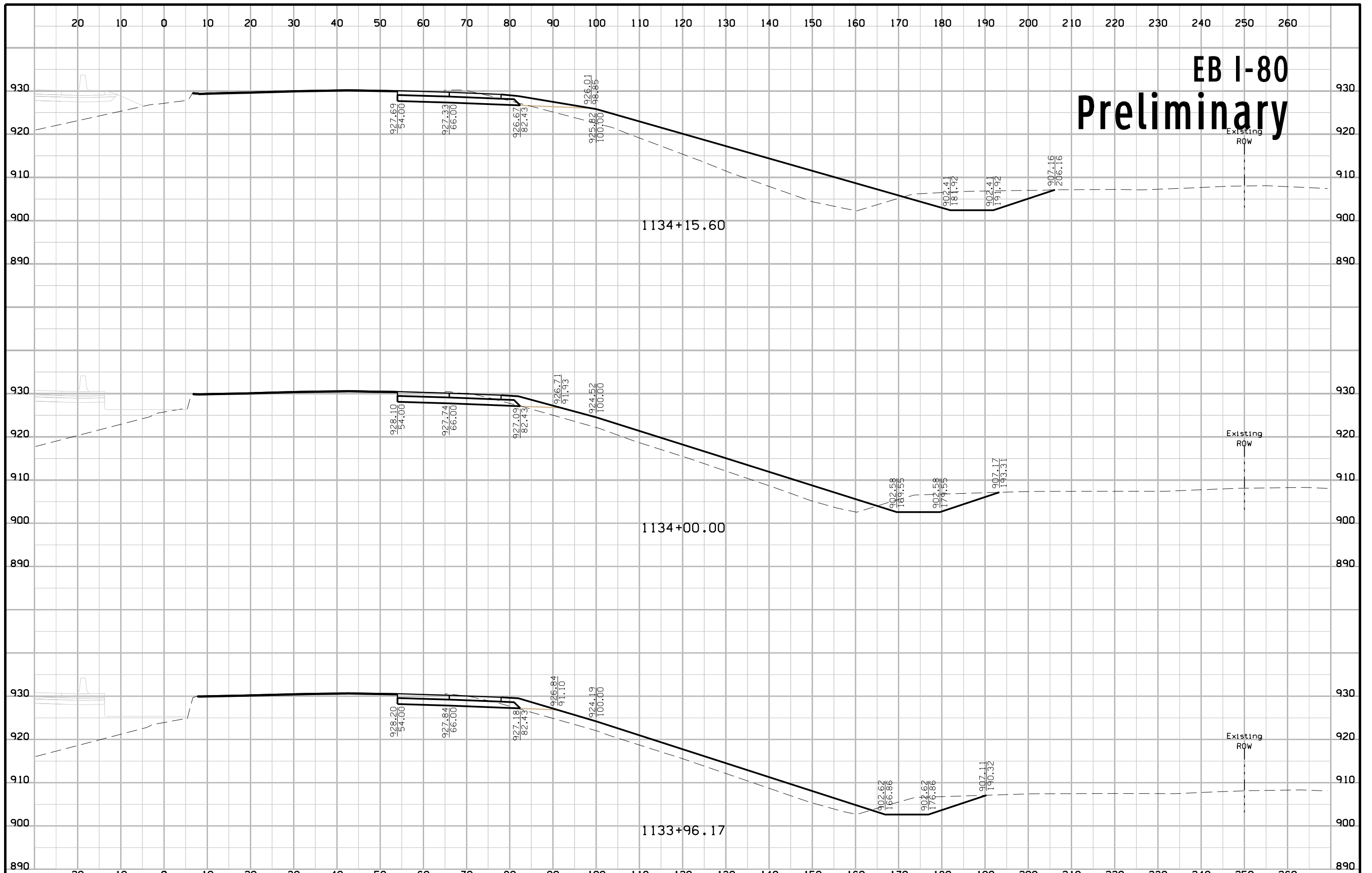
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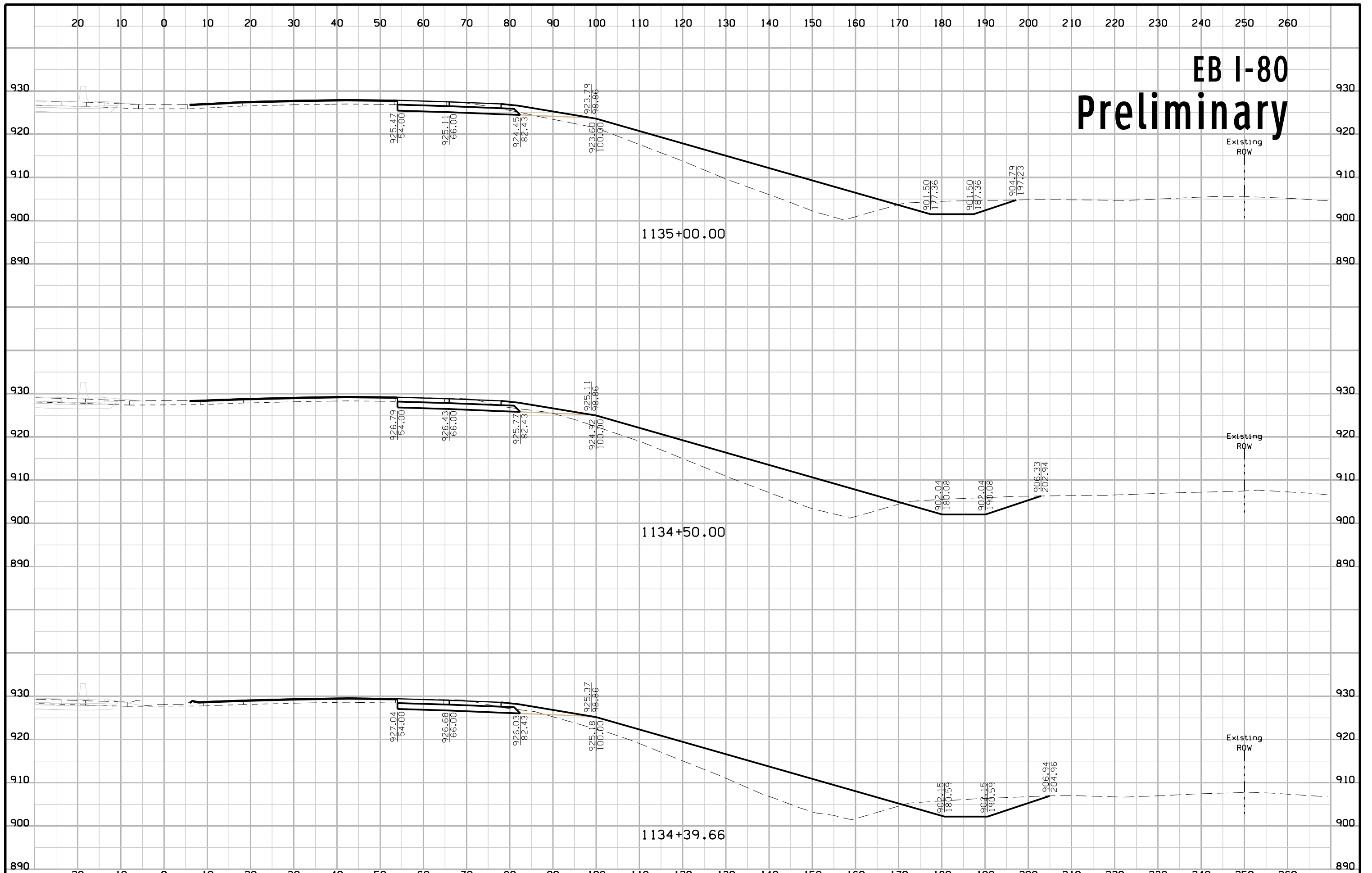
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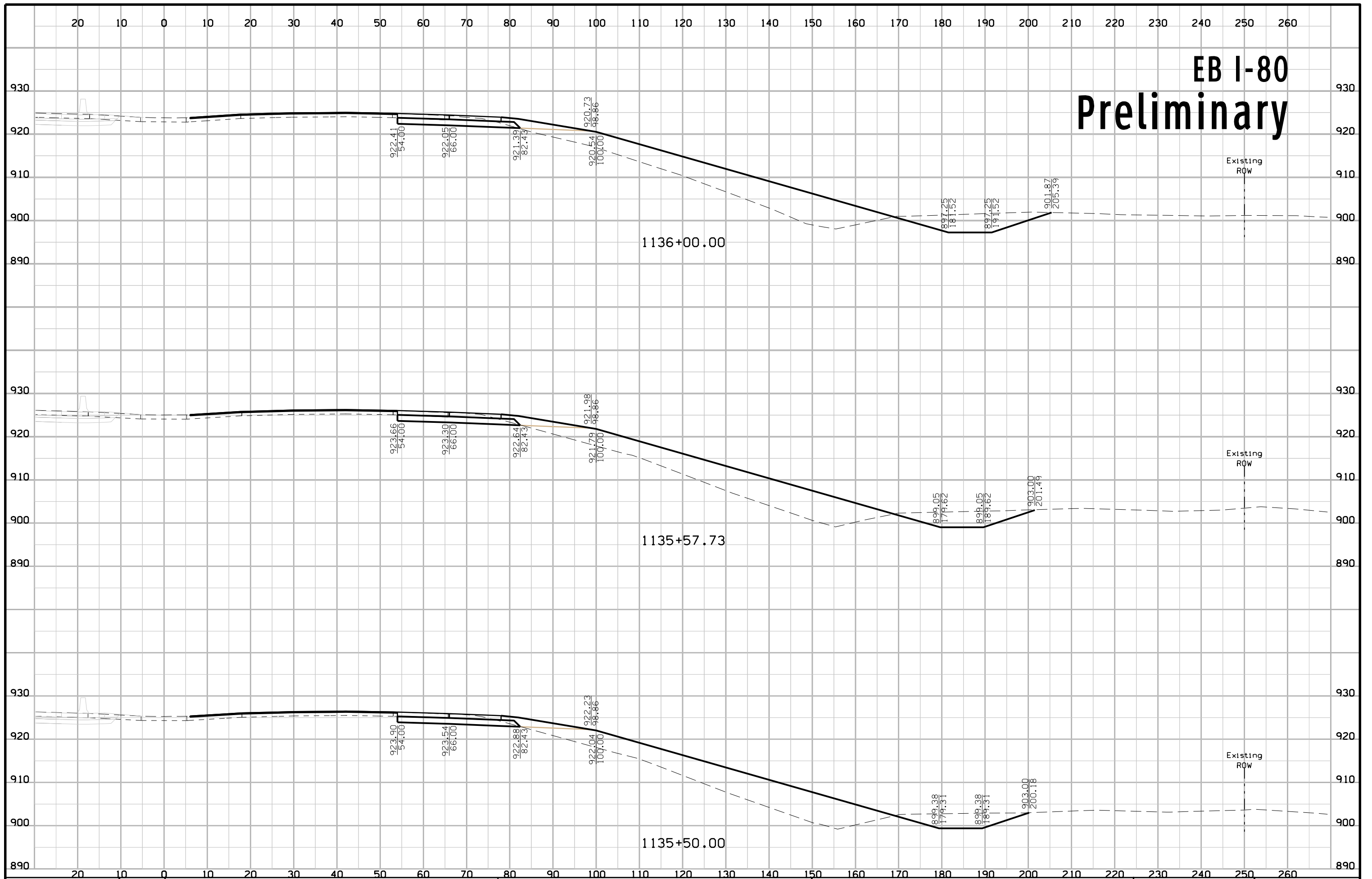
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# EB I-80 Preliminary

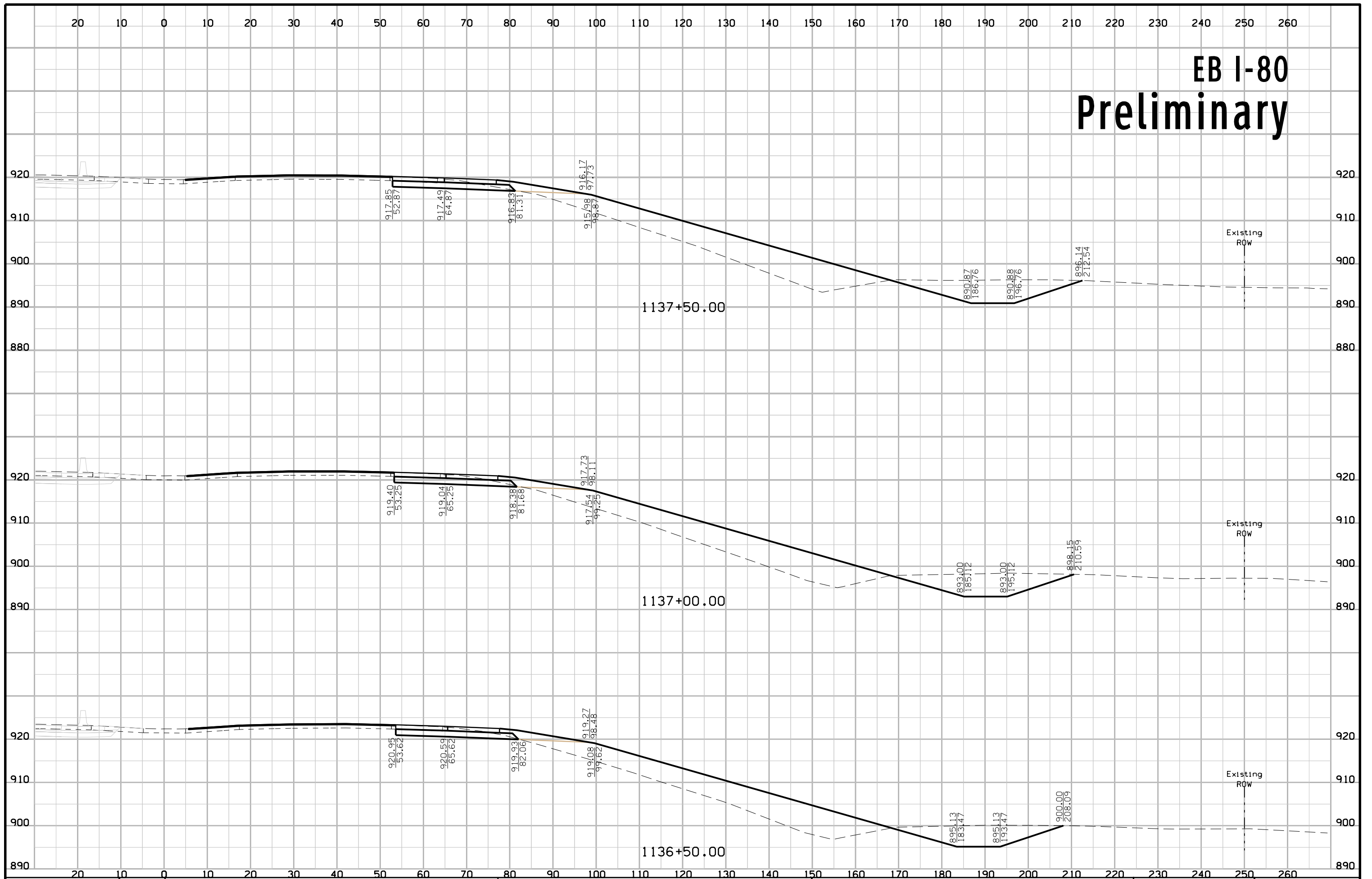


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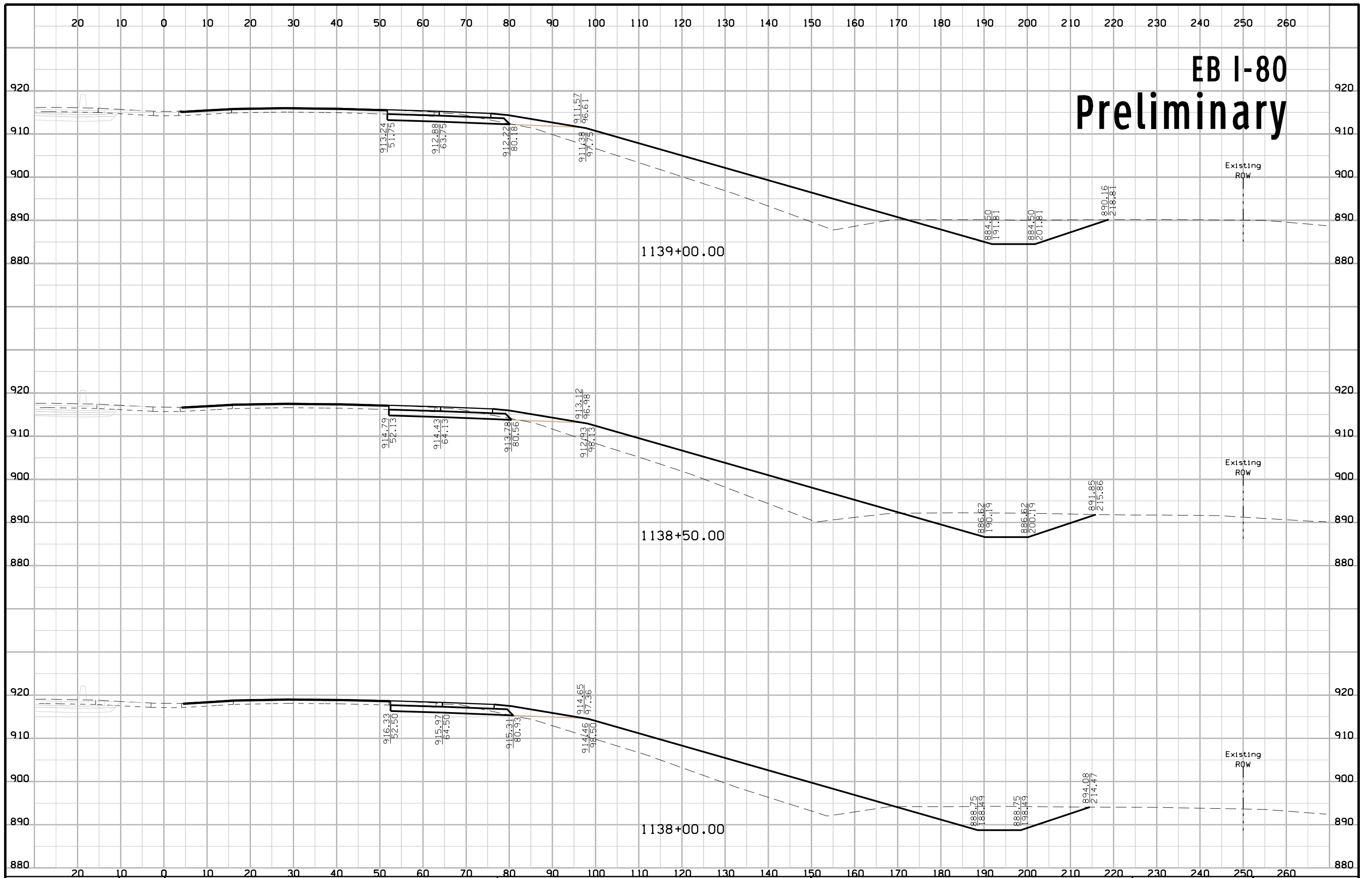




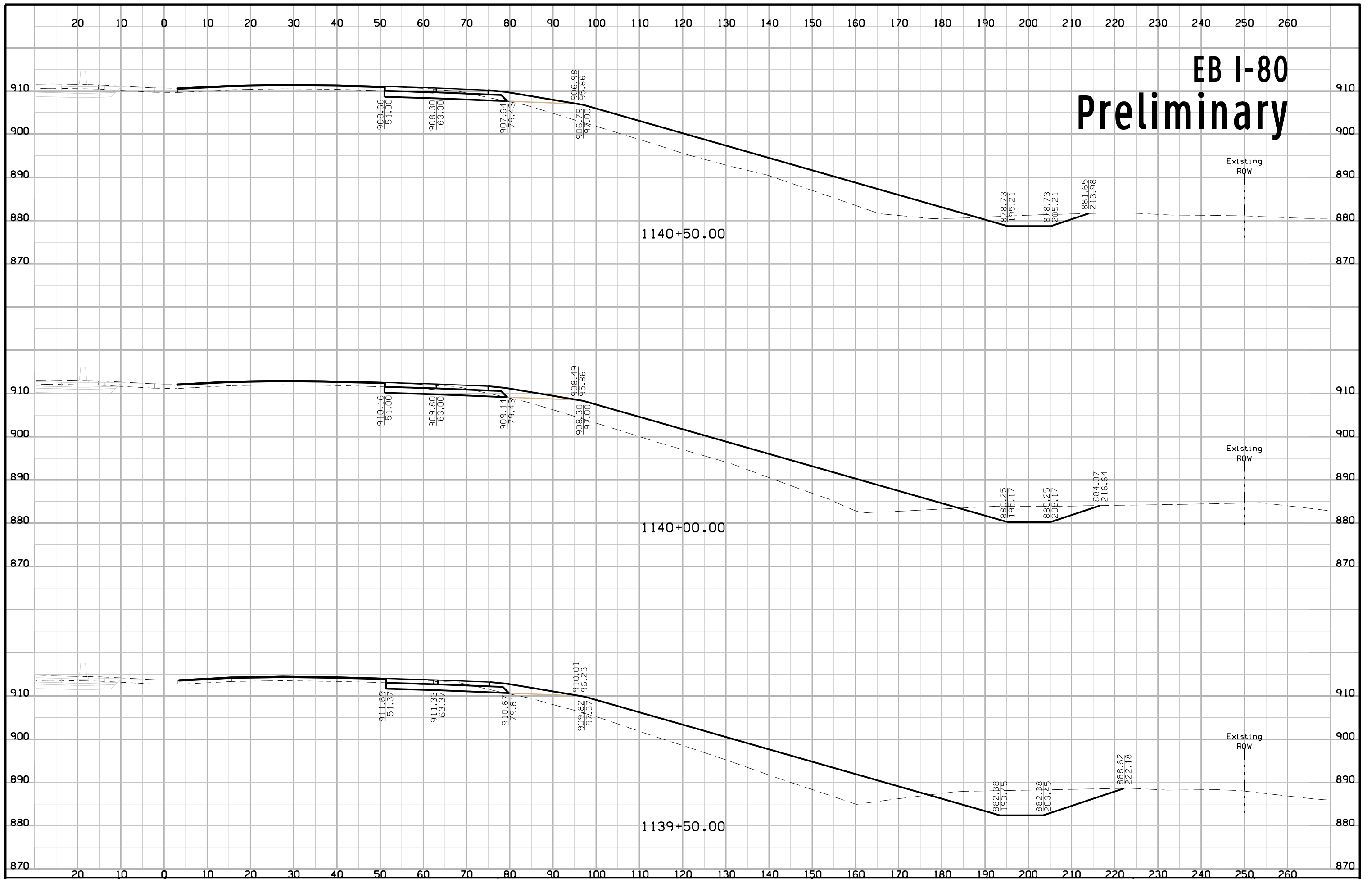
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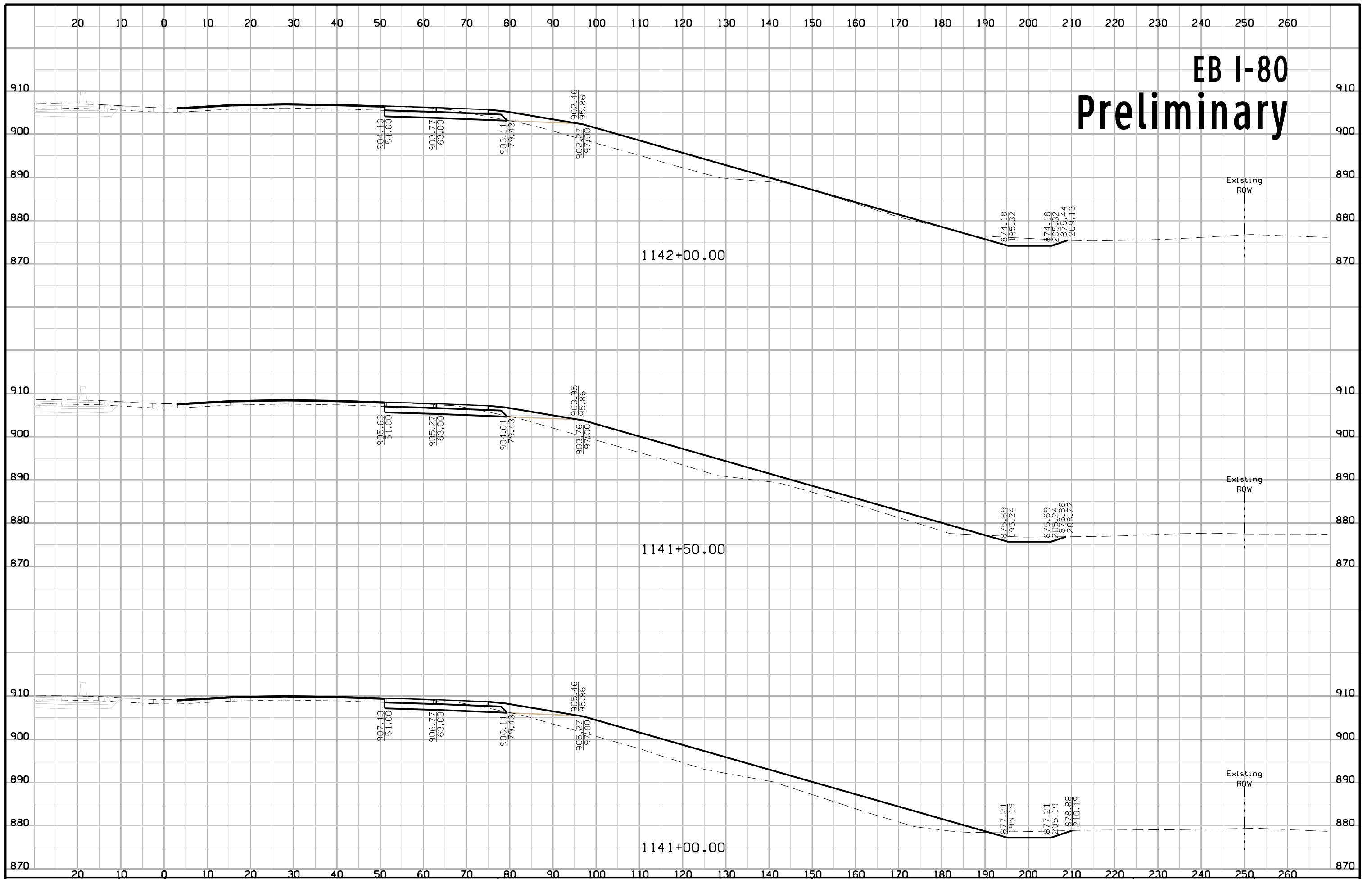
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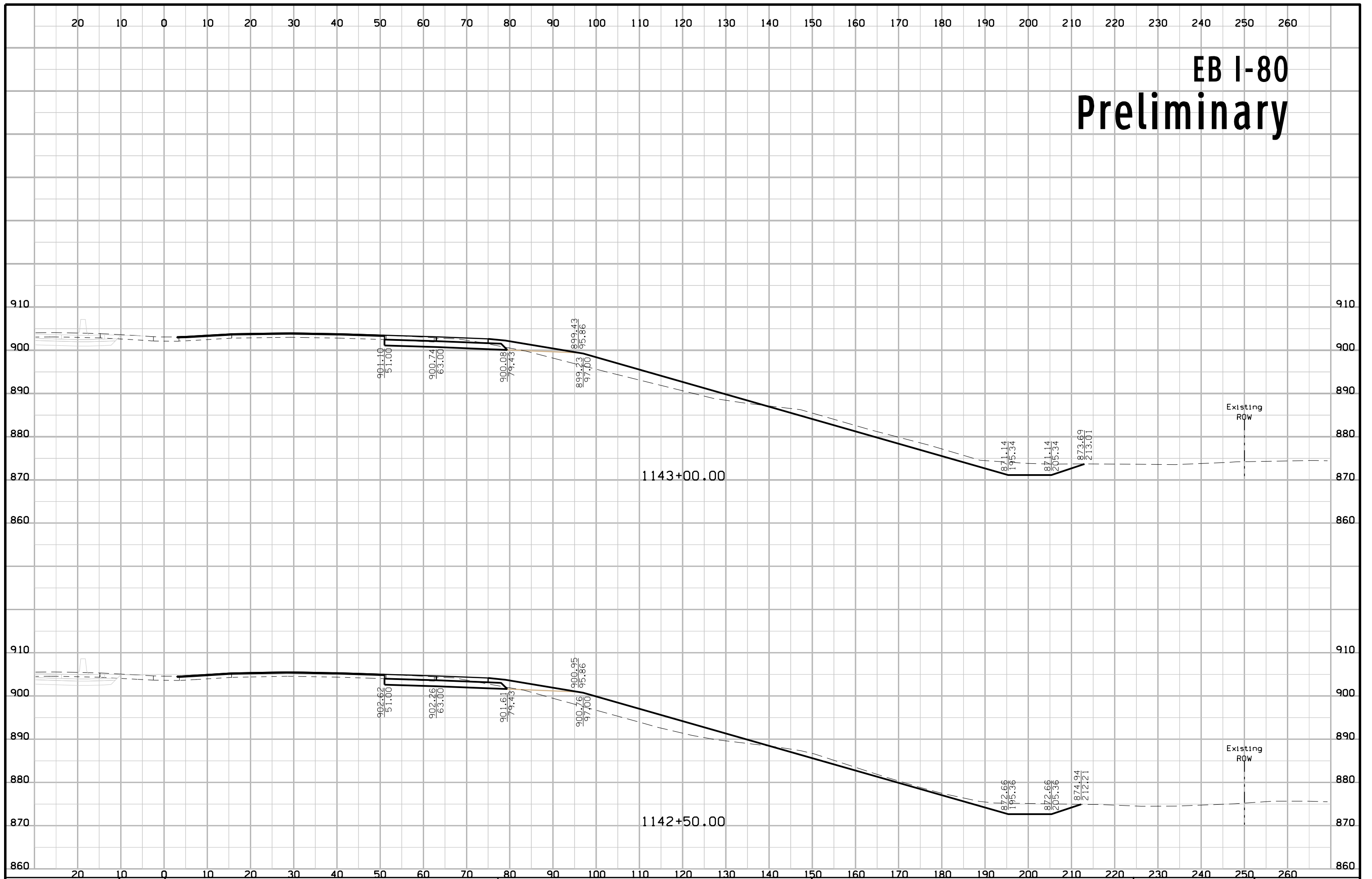
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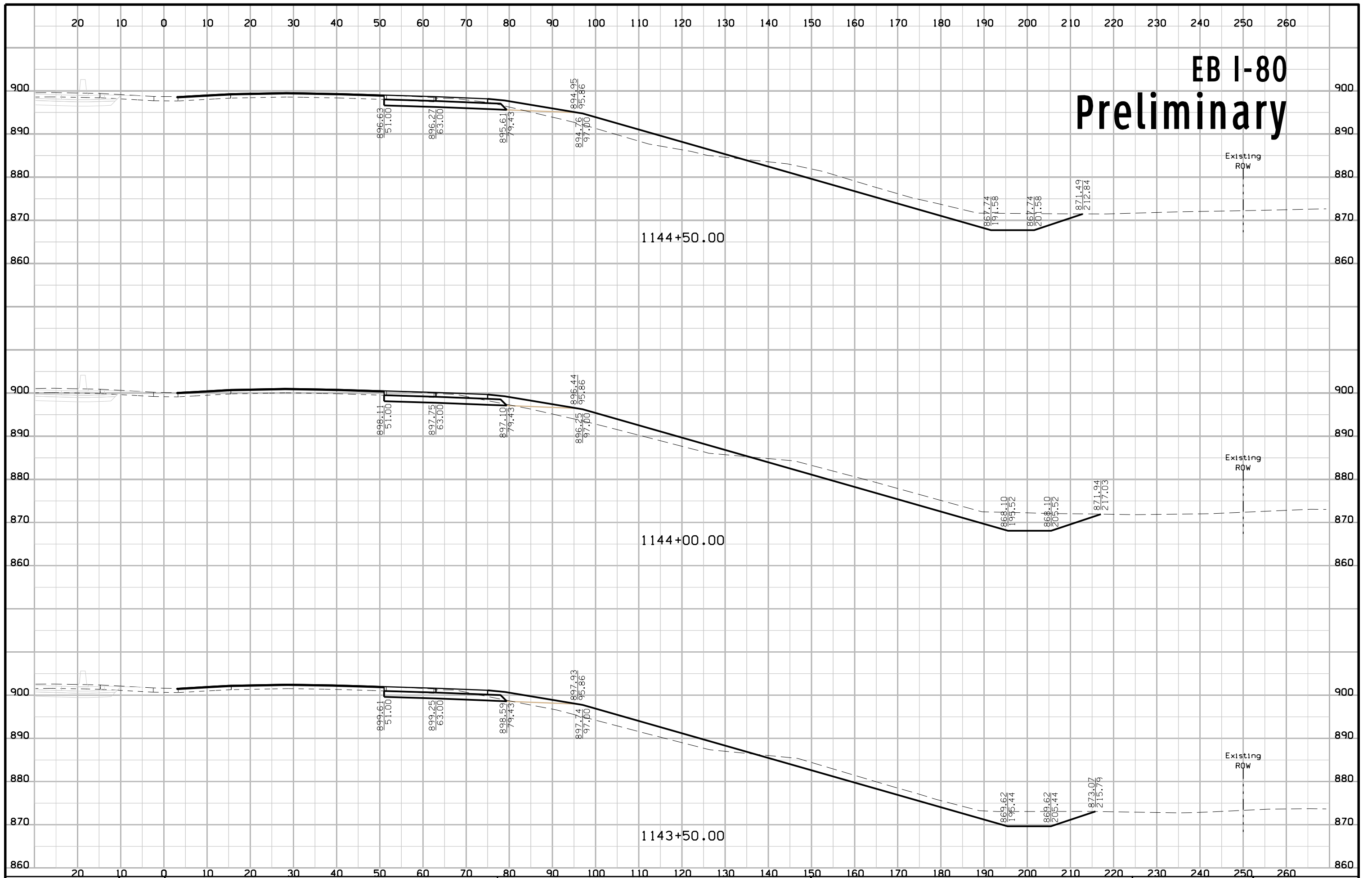
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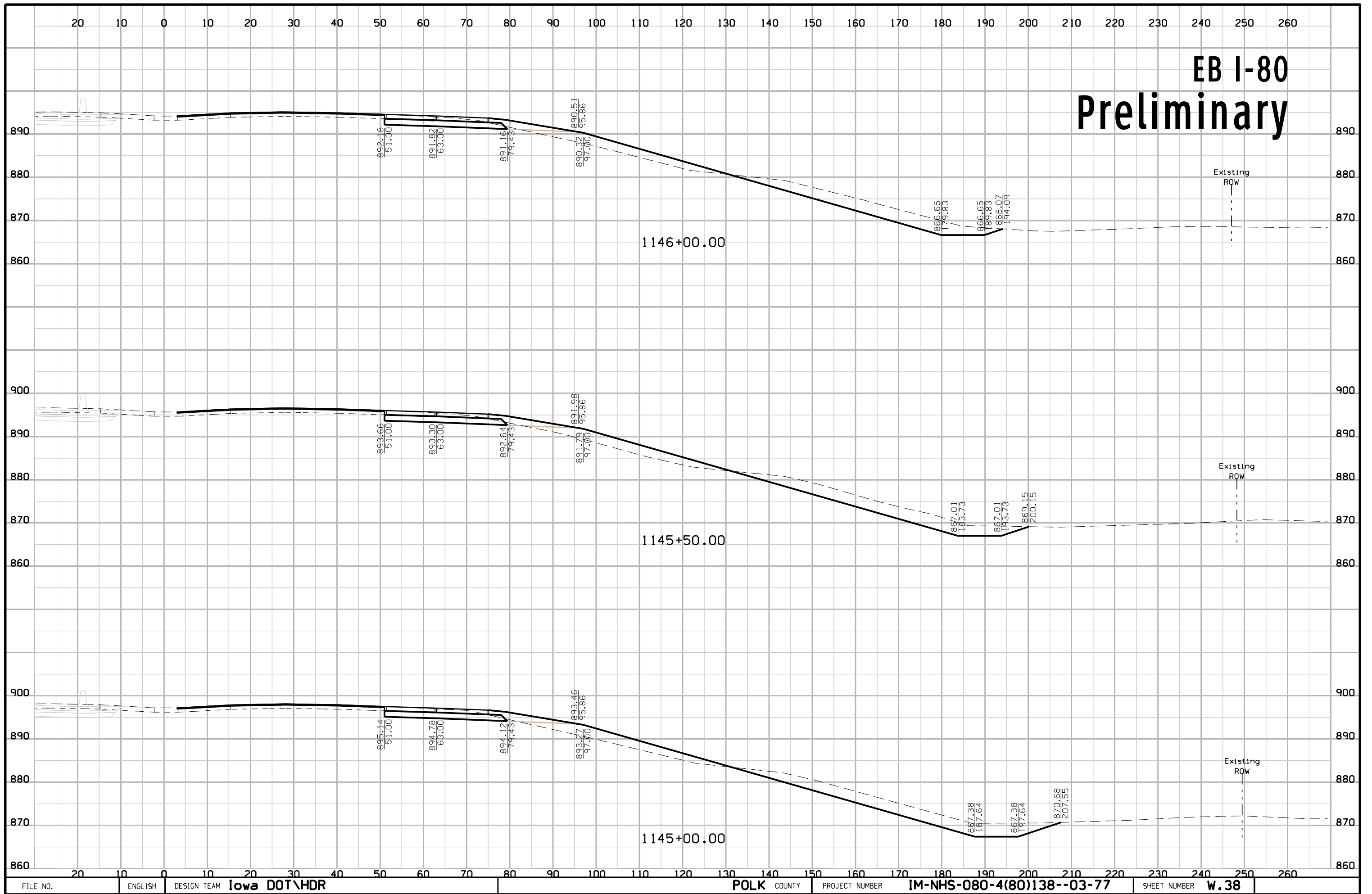
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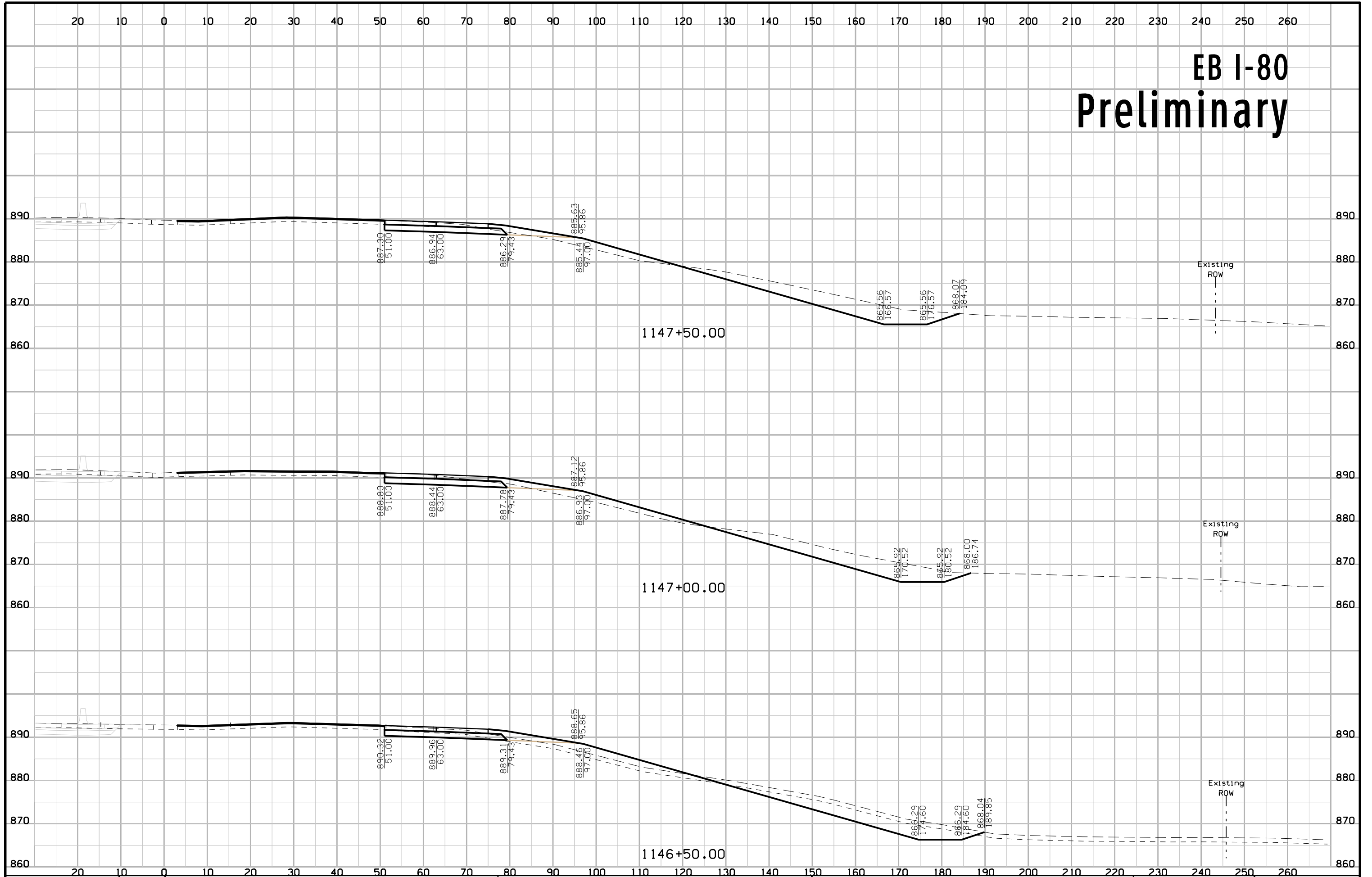
# EB I-80 Preliminary



# EB I-80 Preliminary

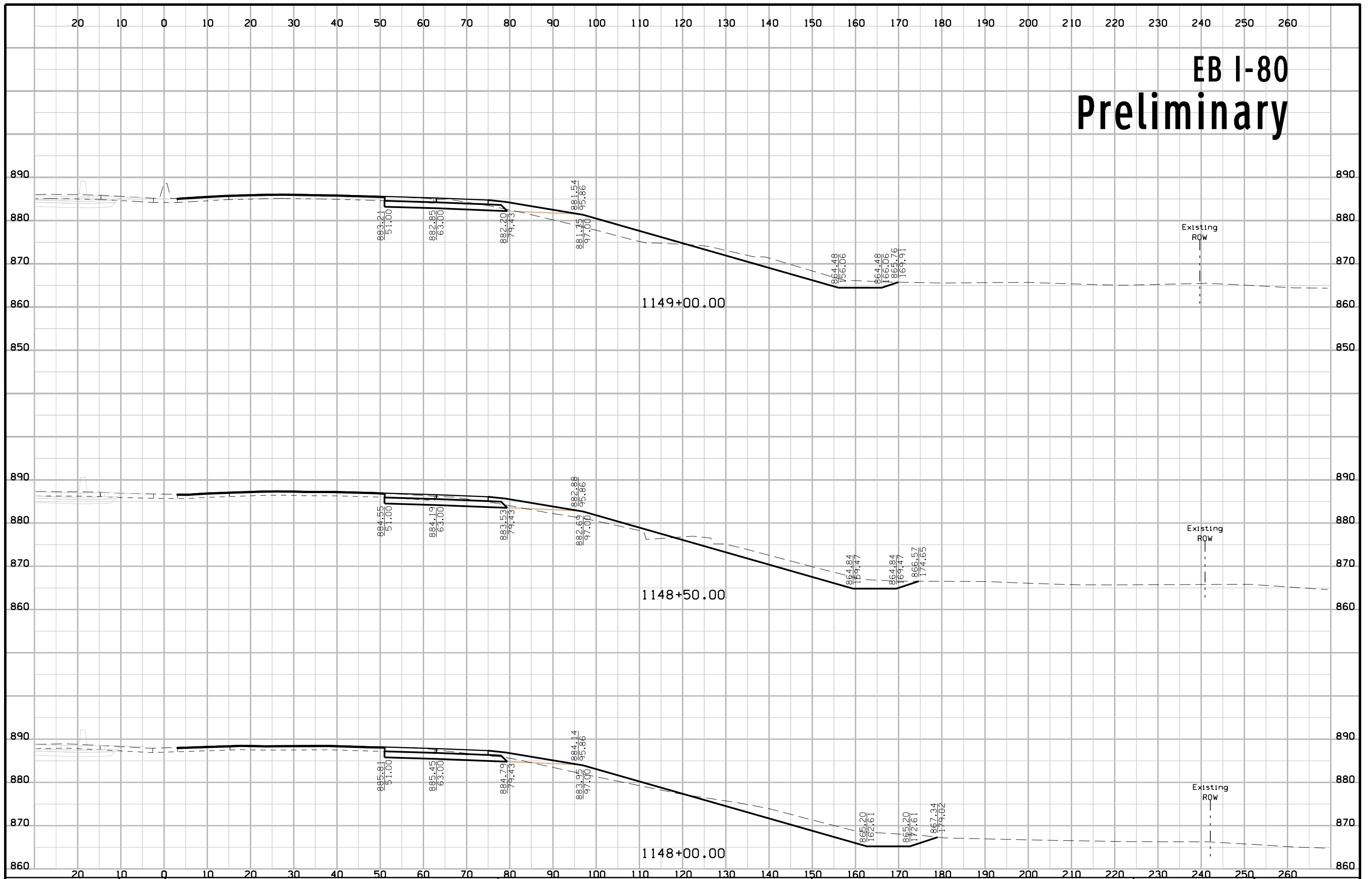


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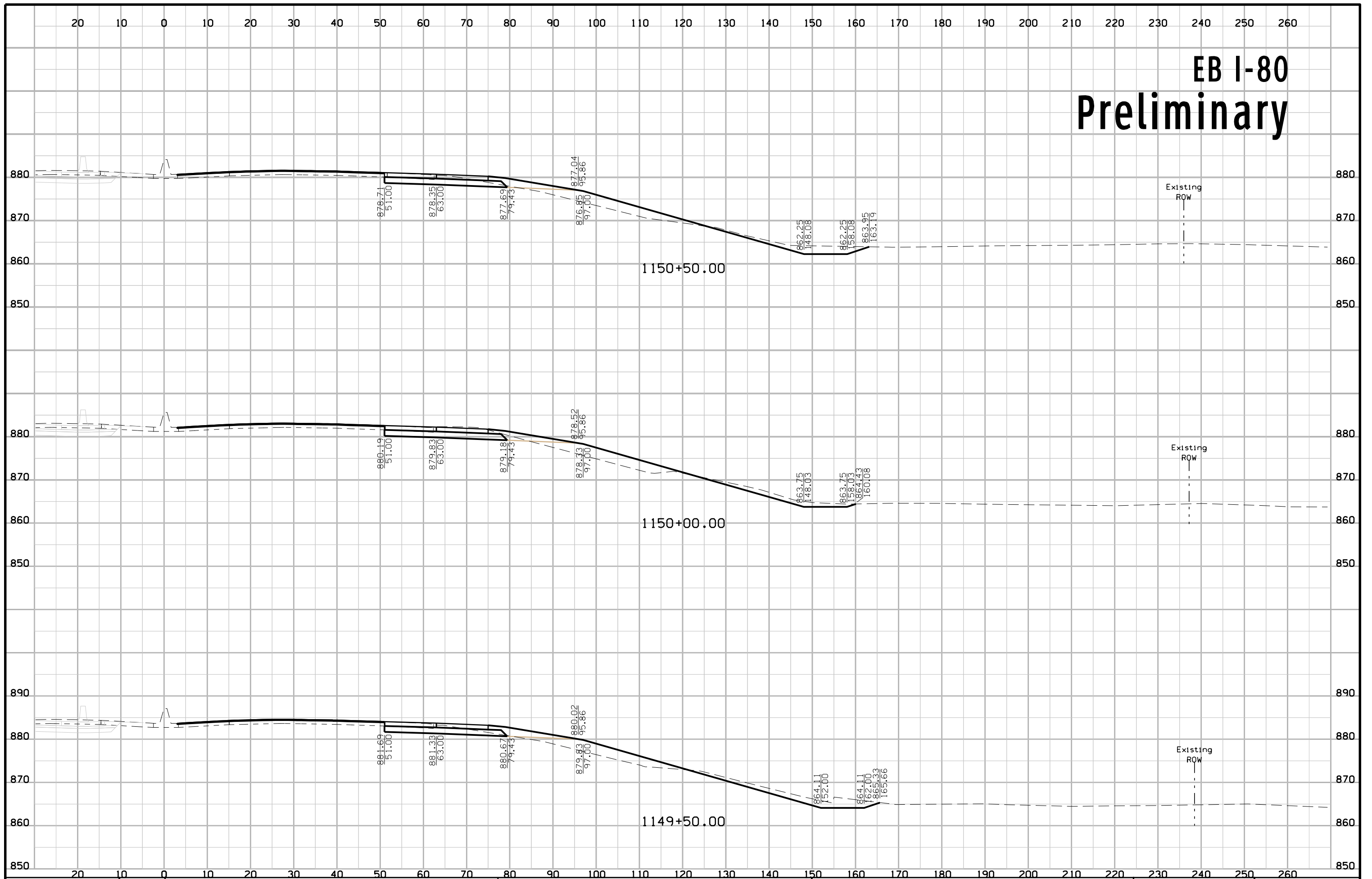




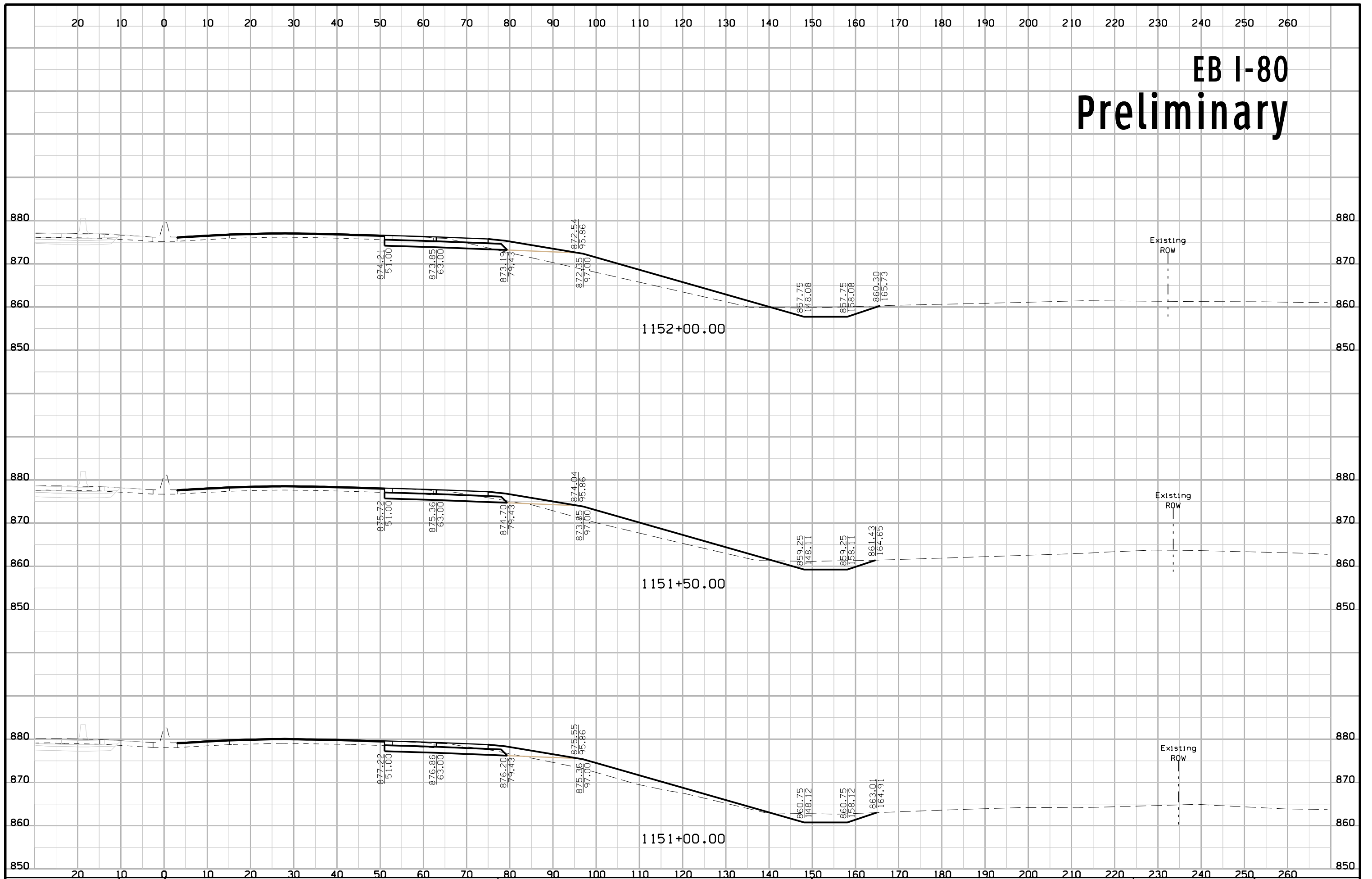
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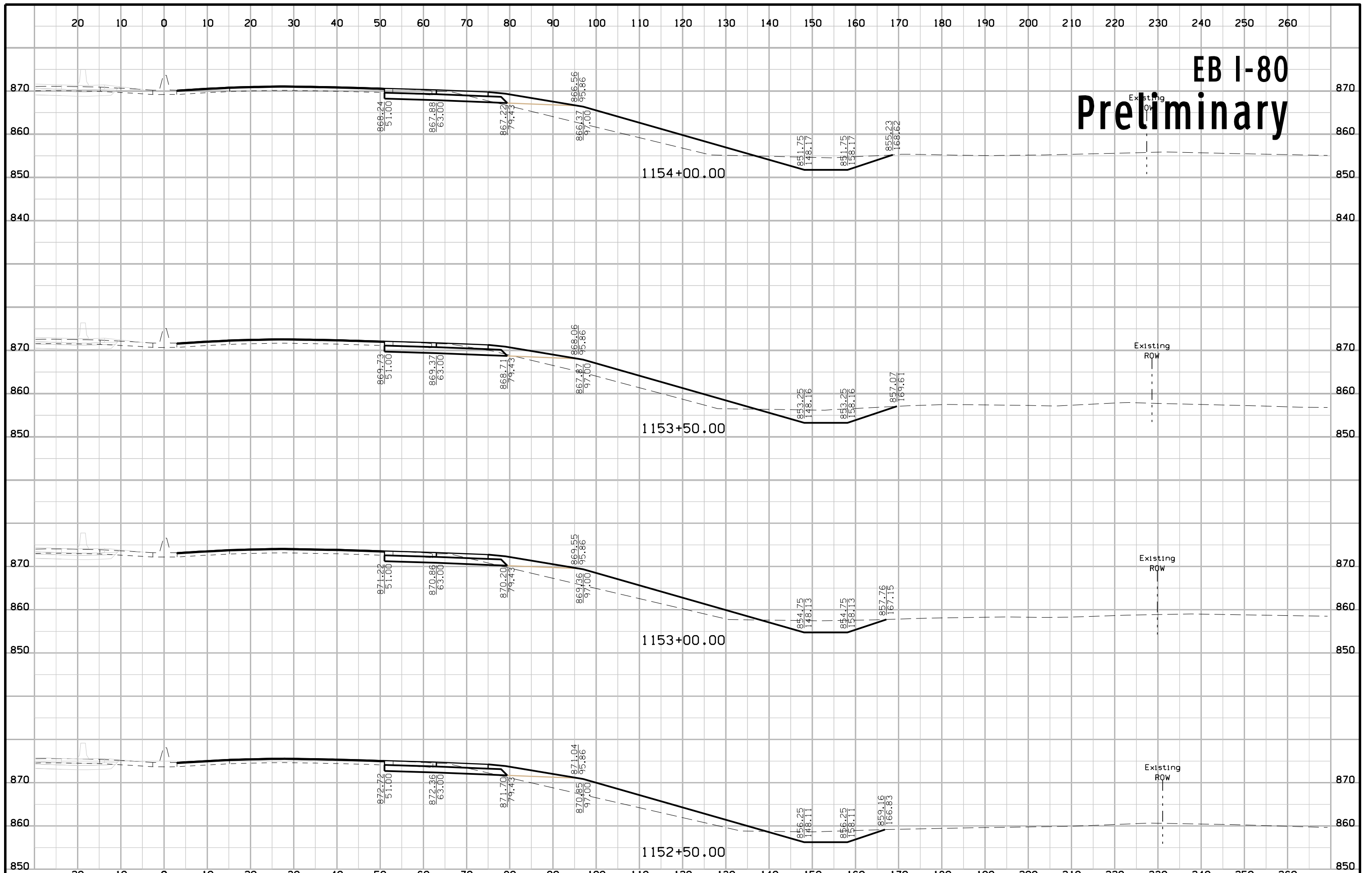
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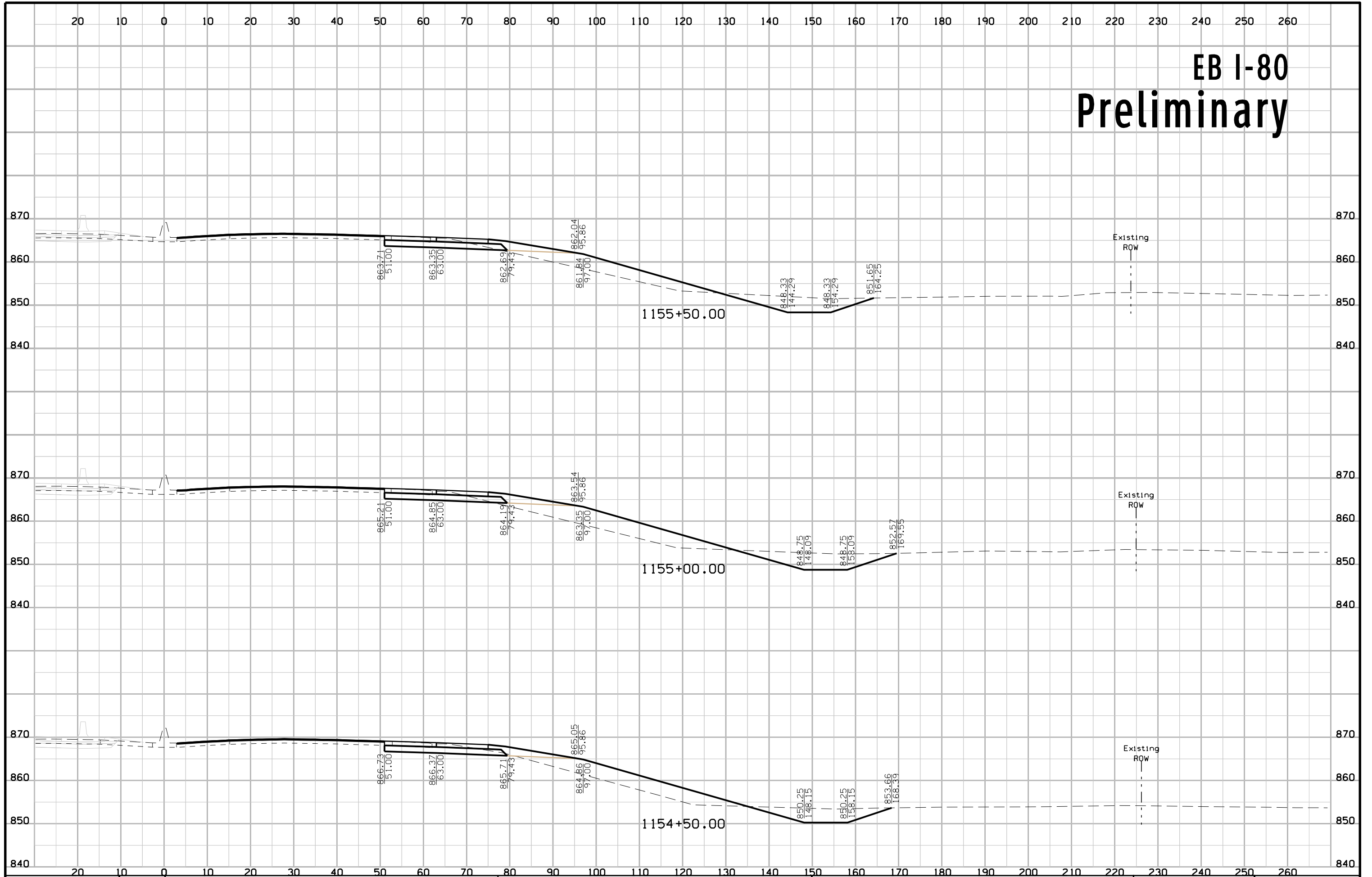
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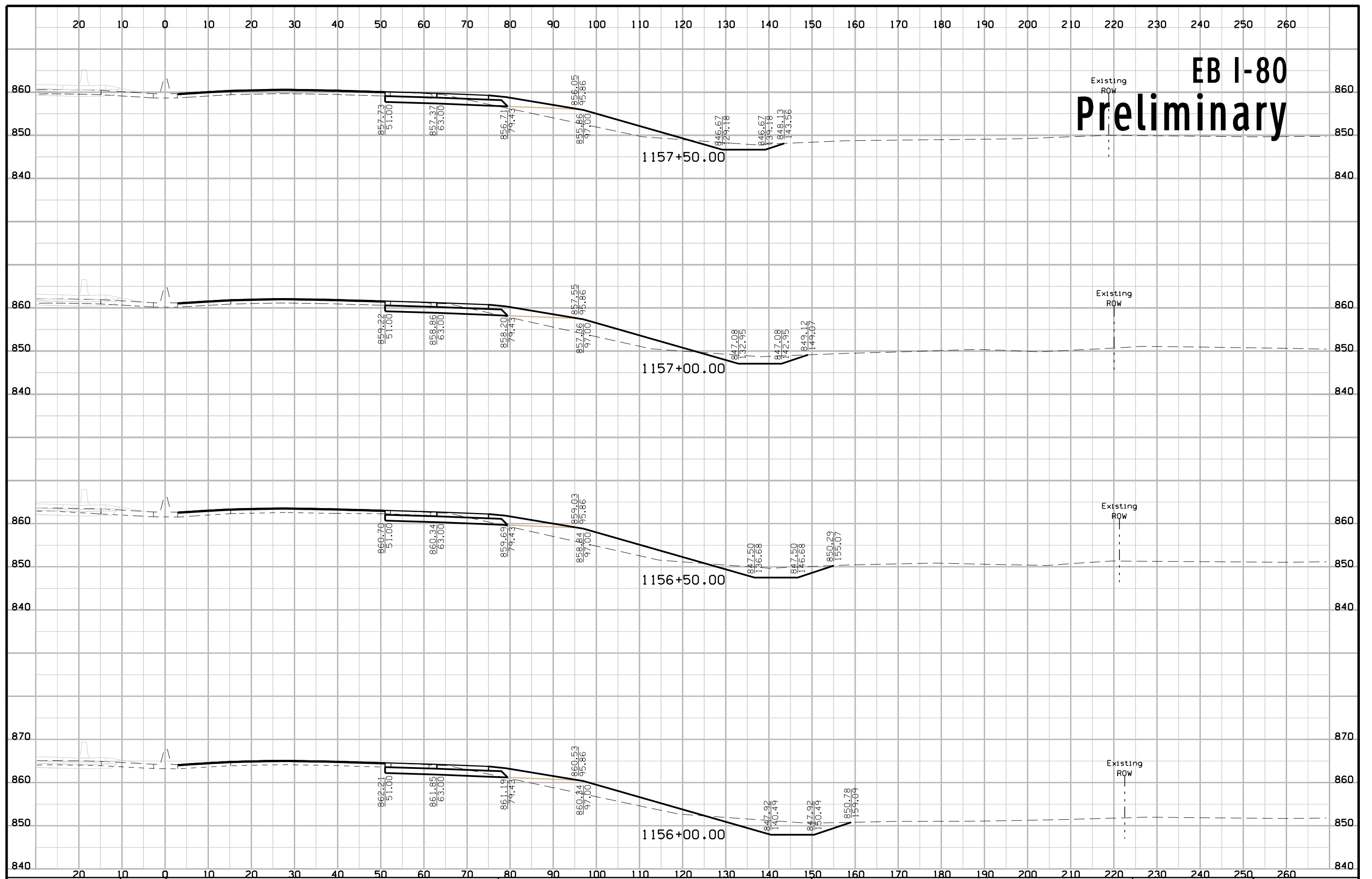


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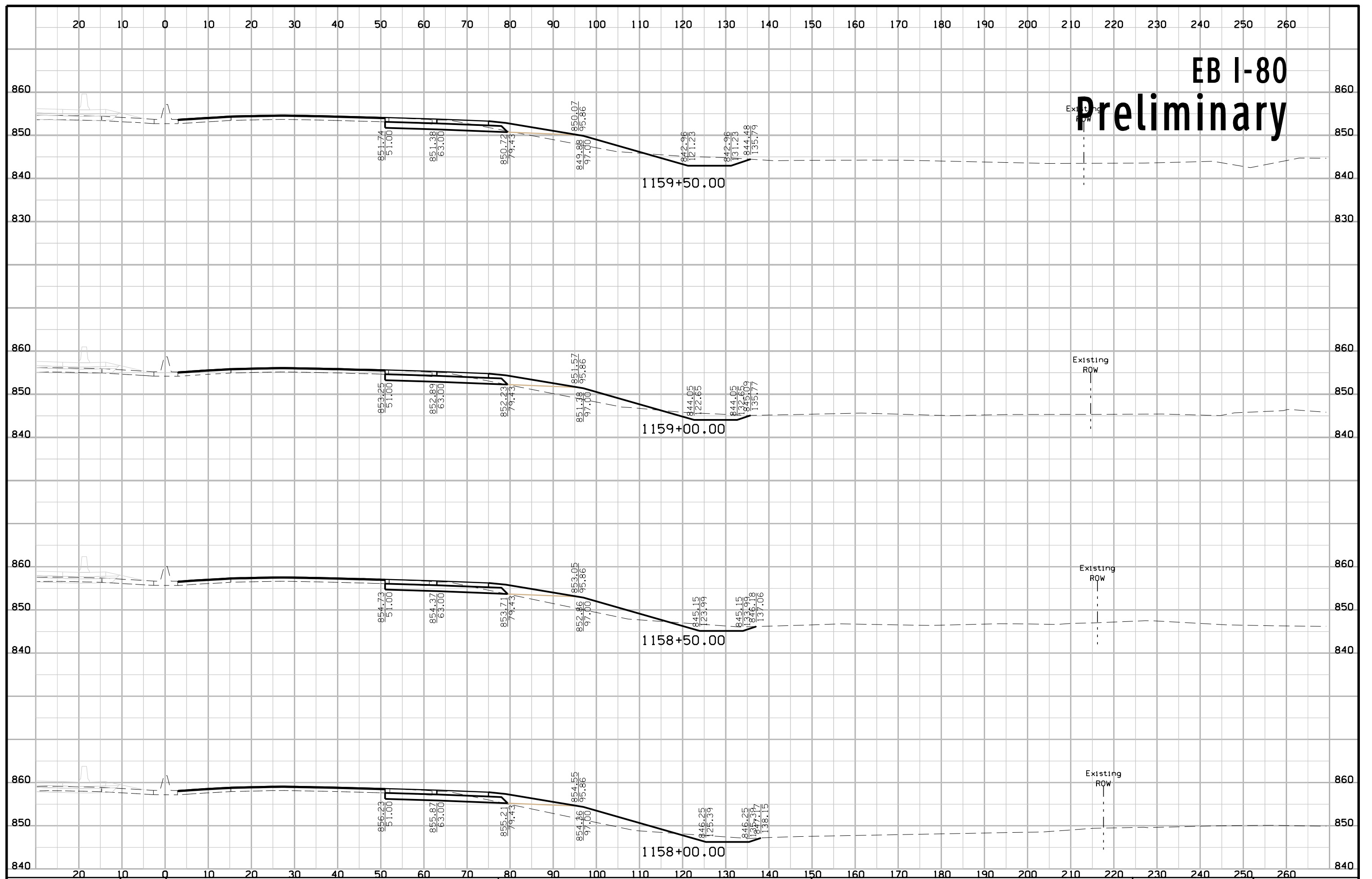
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## Preliminary

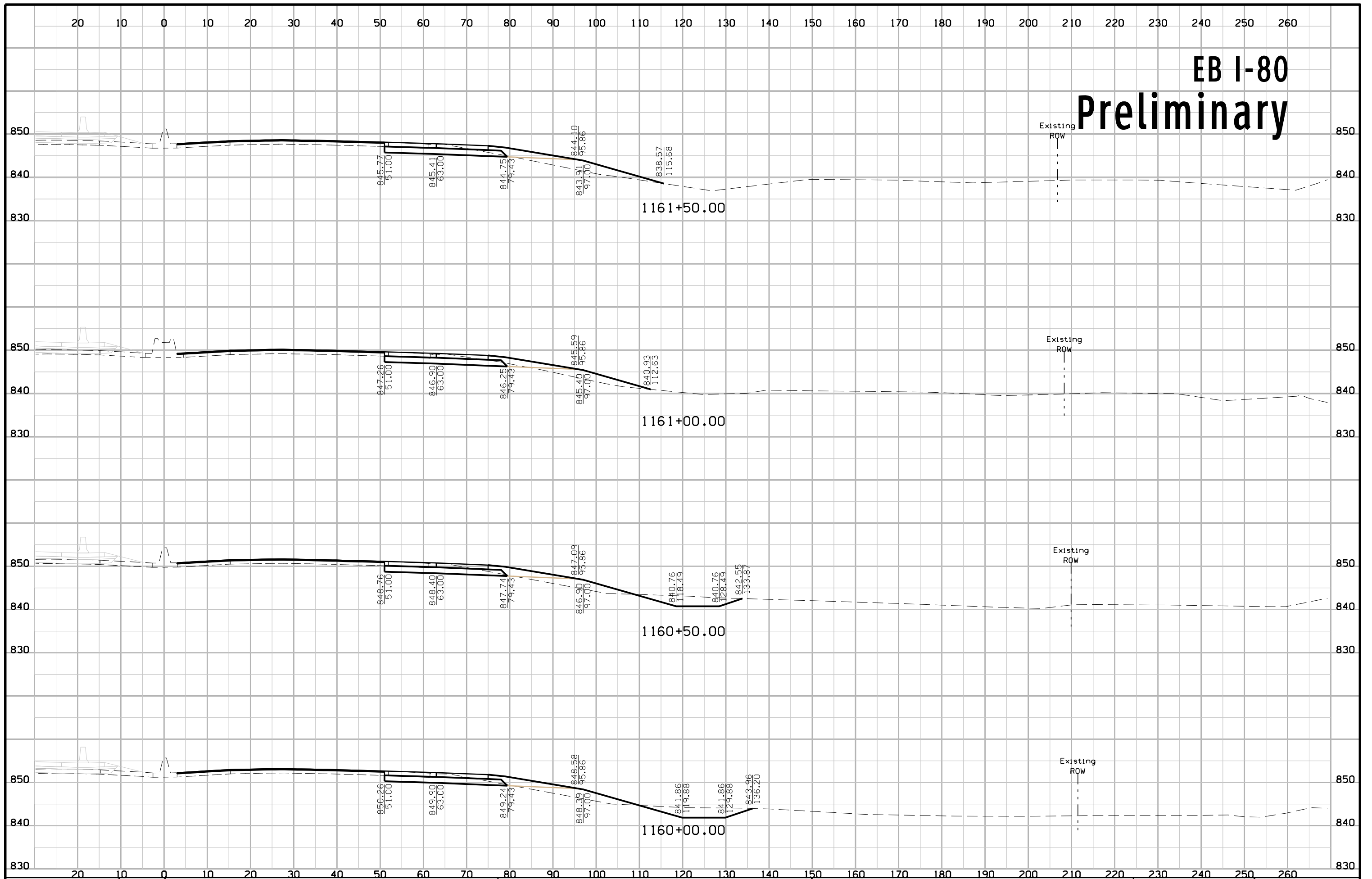


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# Preliminary

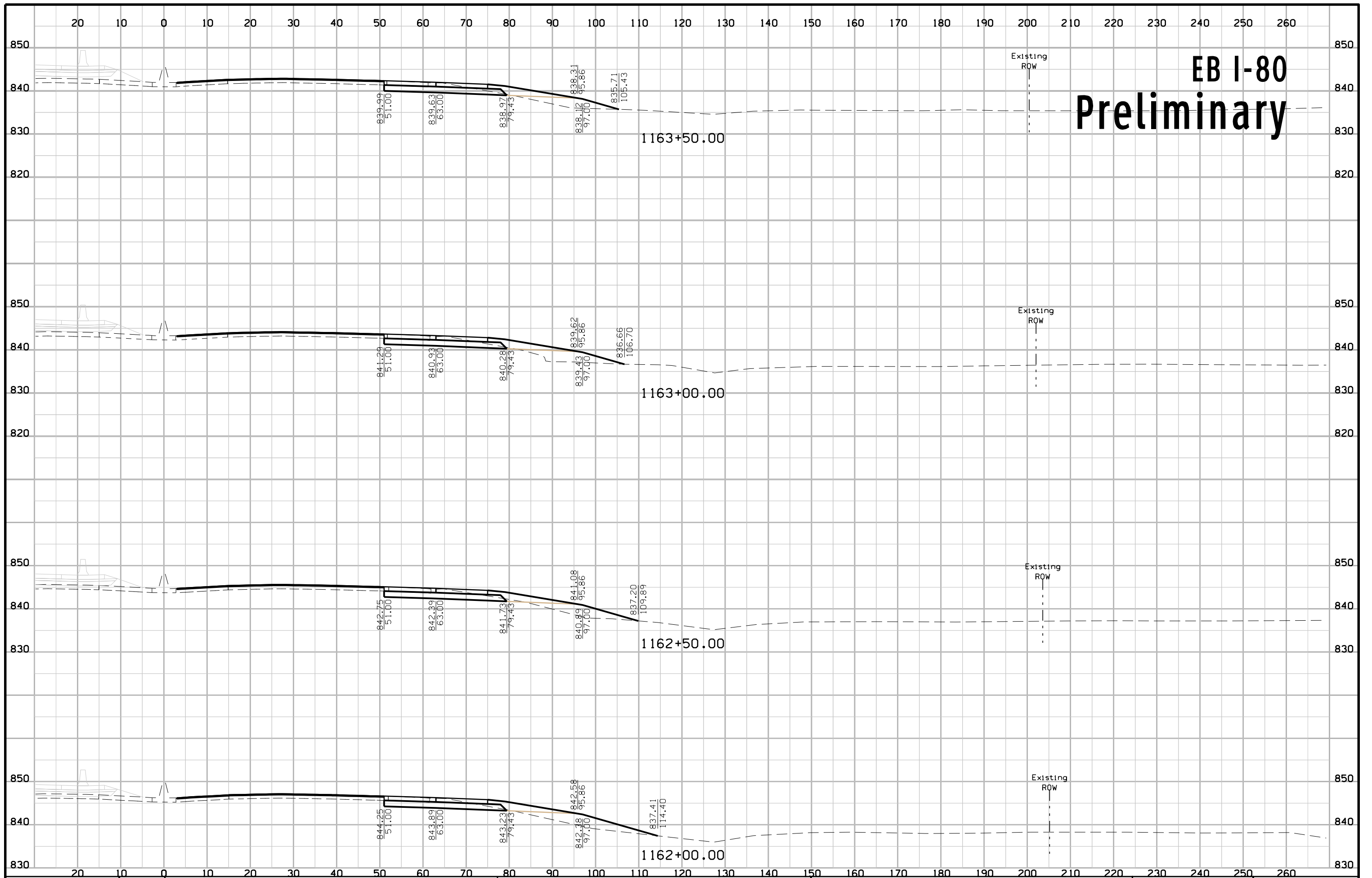


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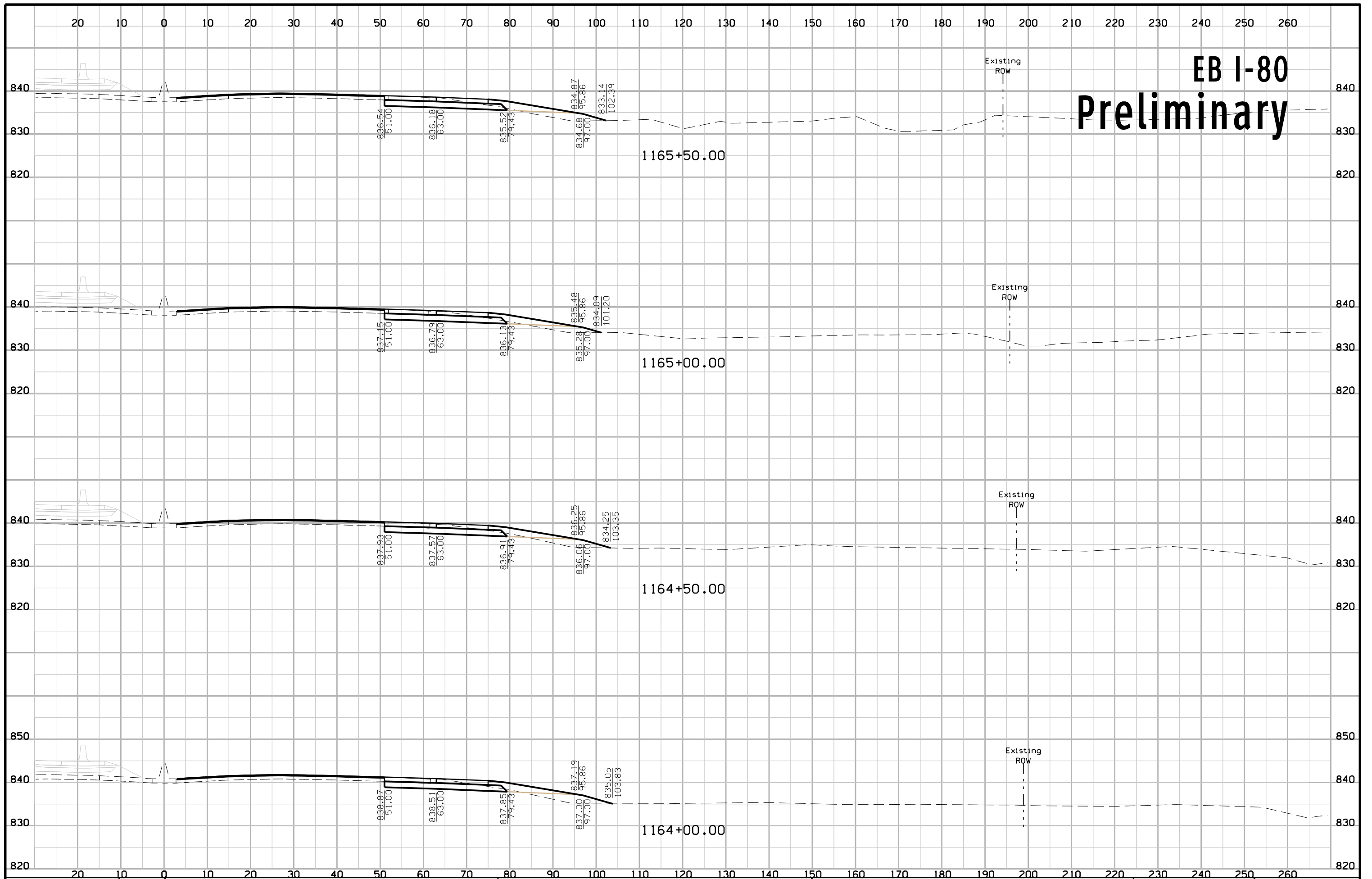




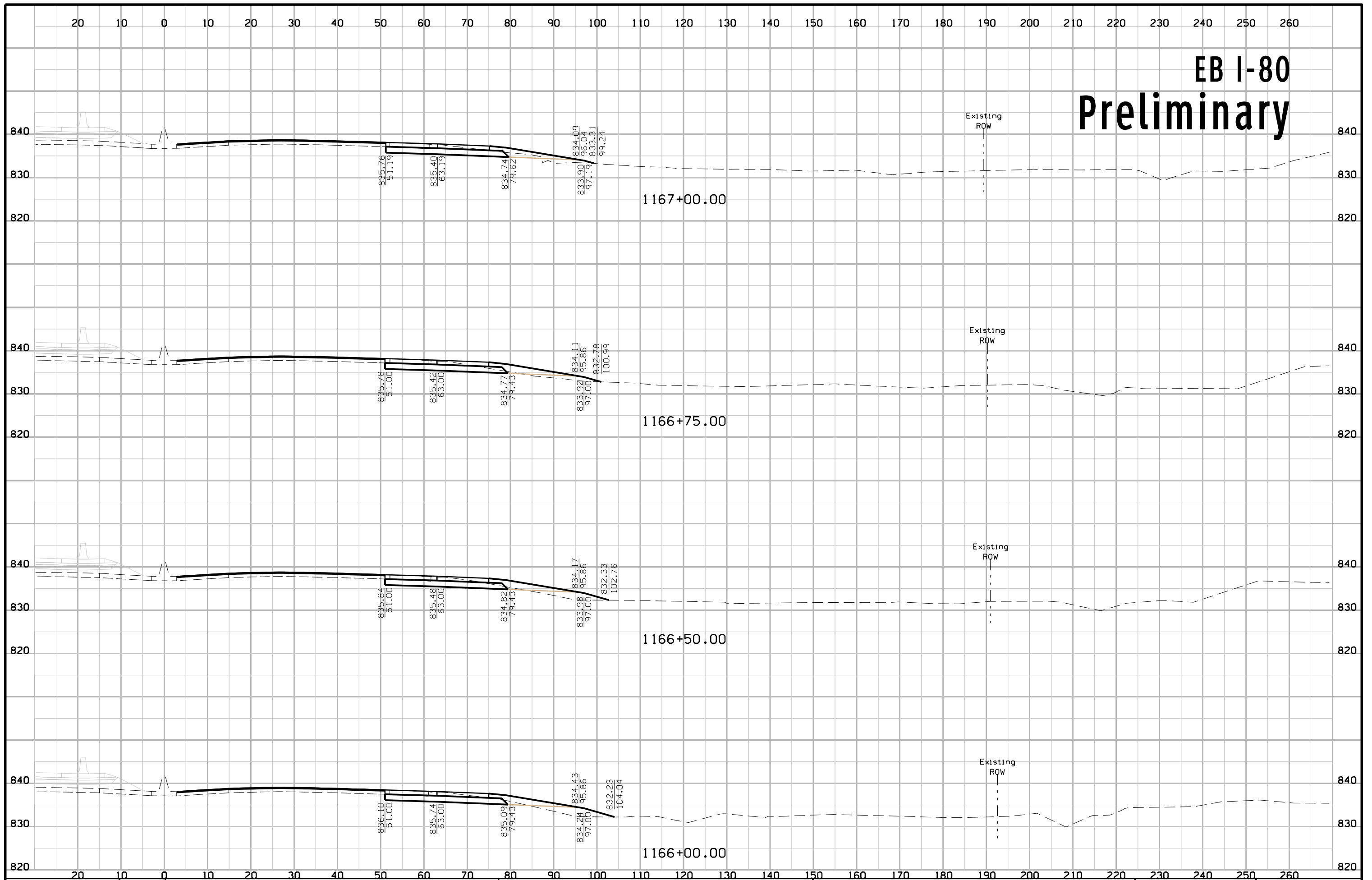
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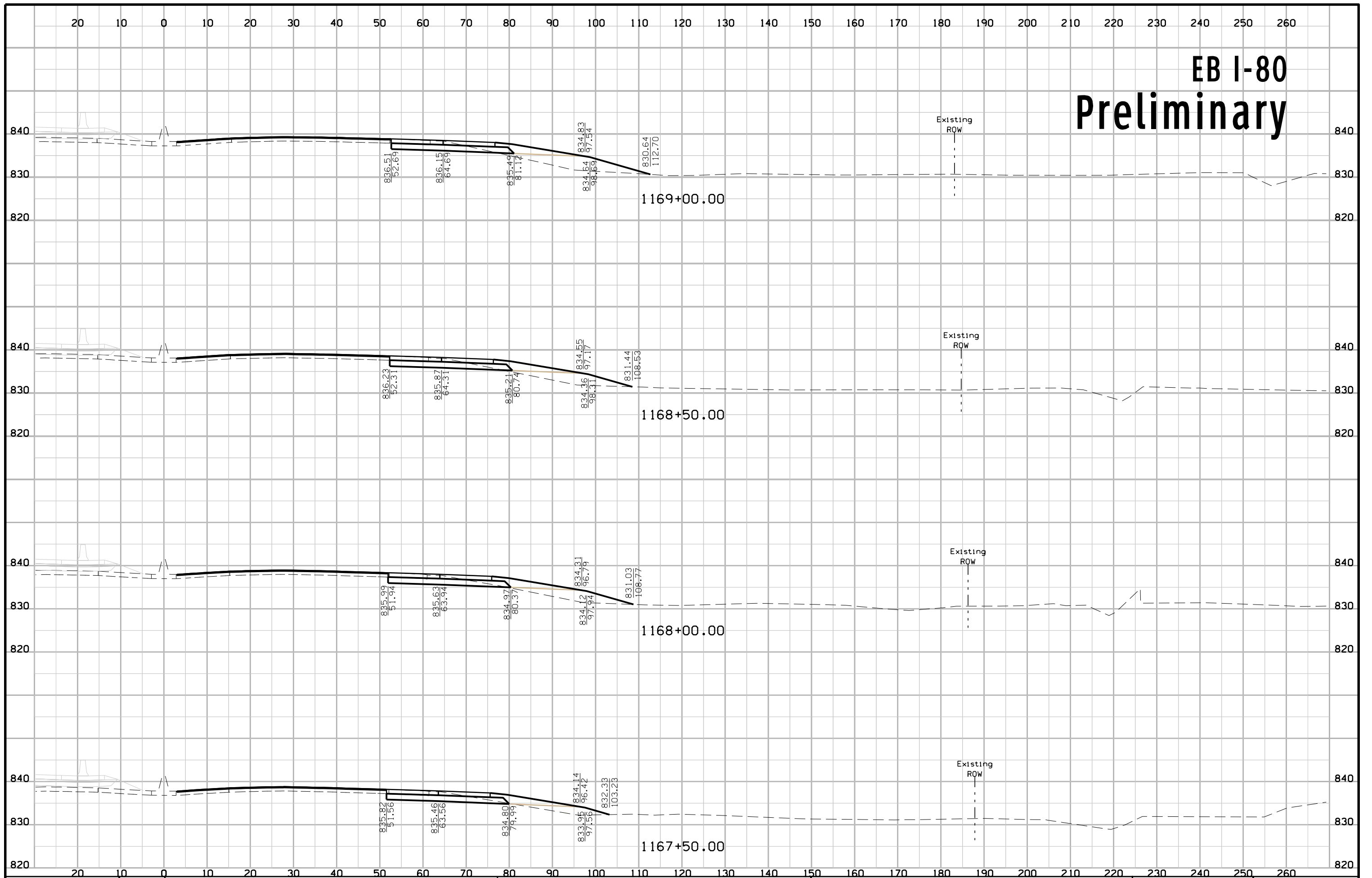
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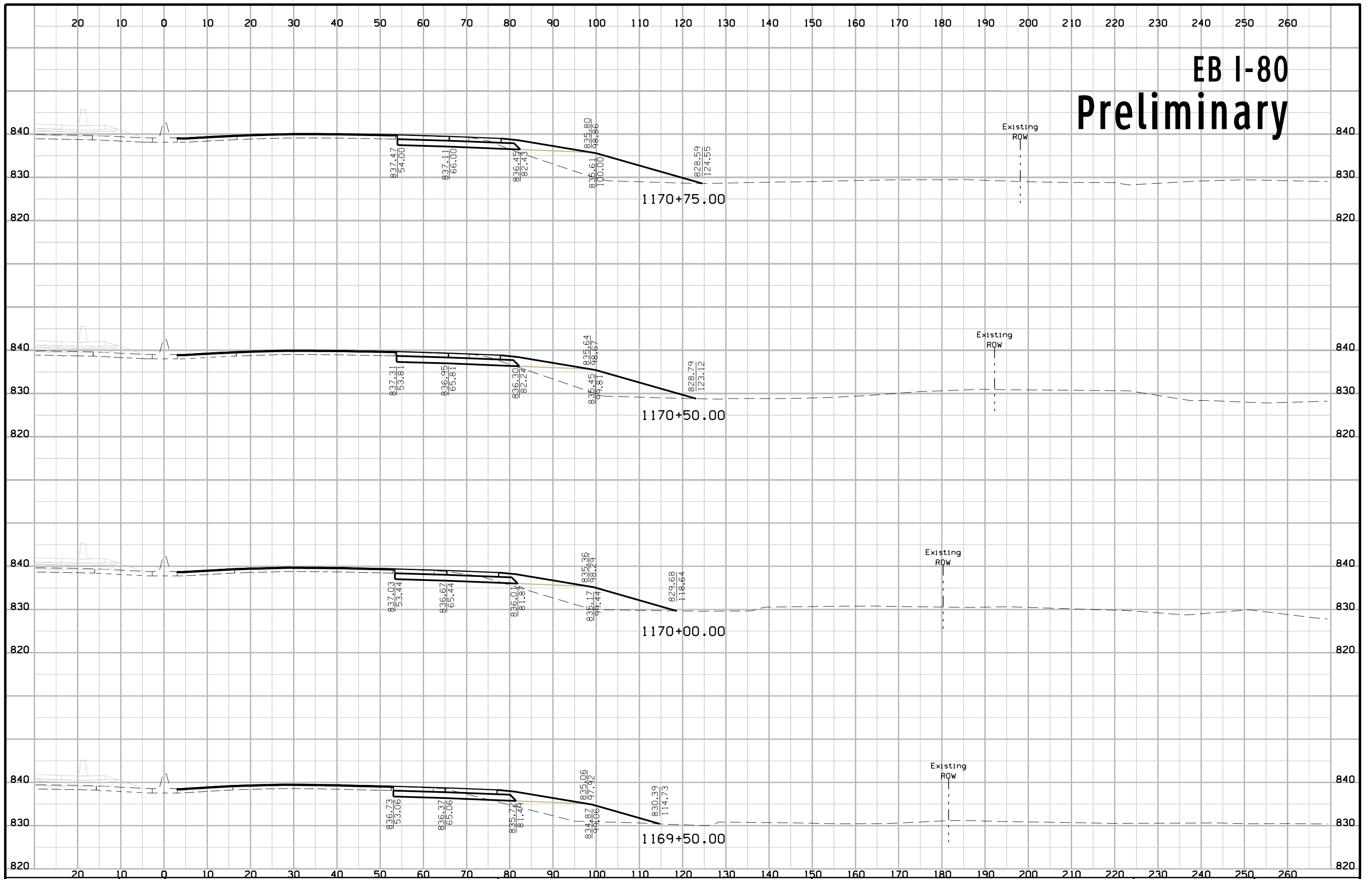
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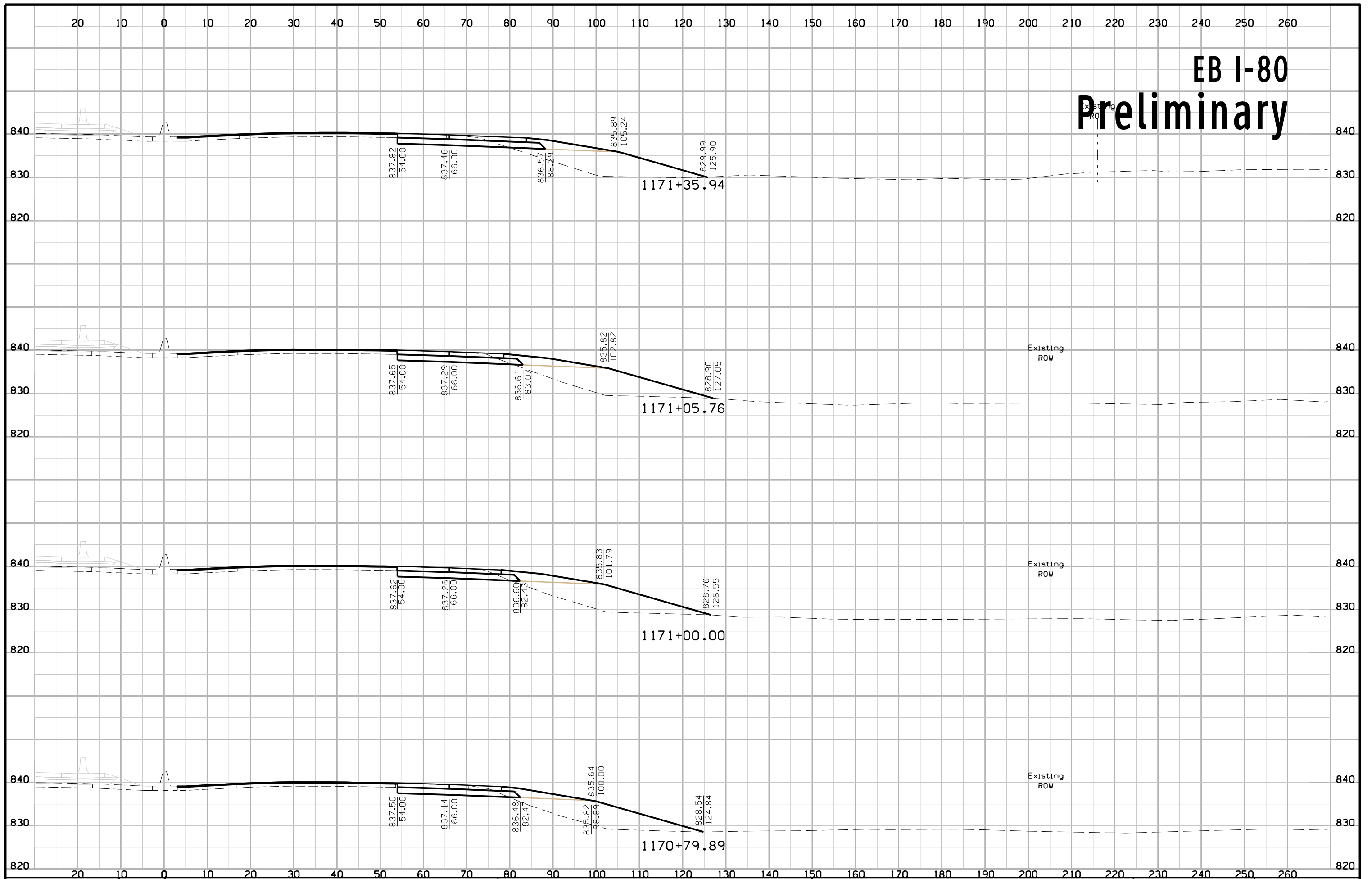
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# EB I-80 Preliminary

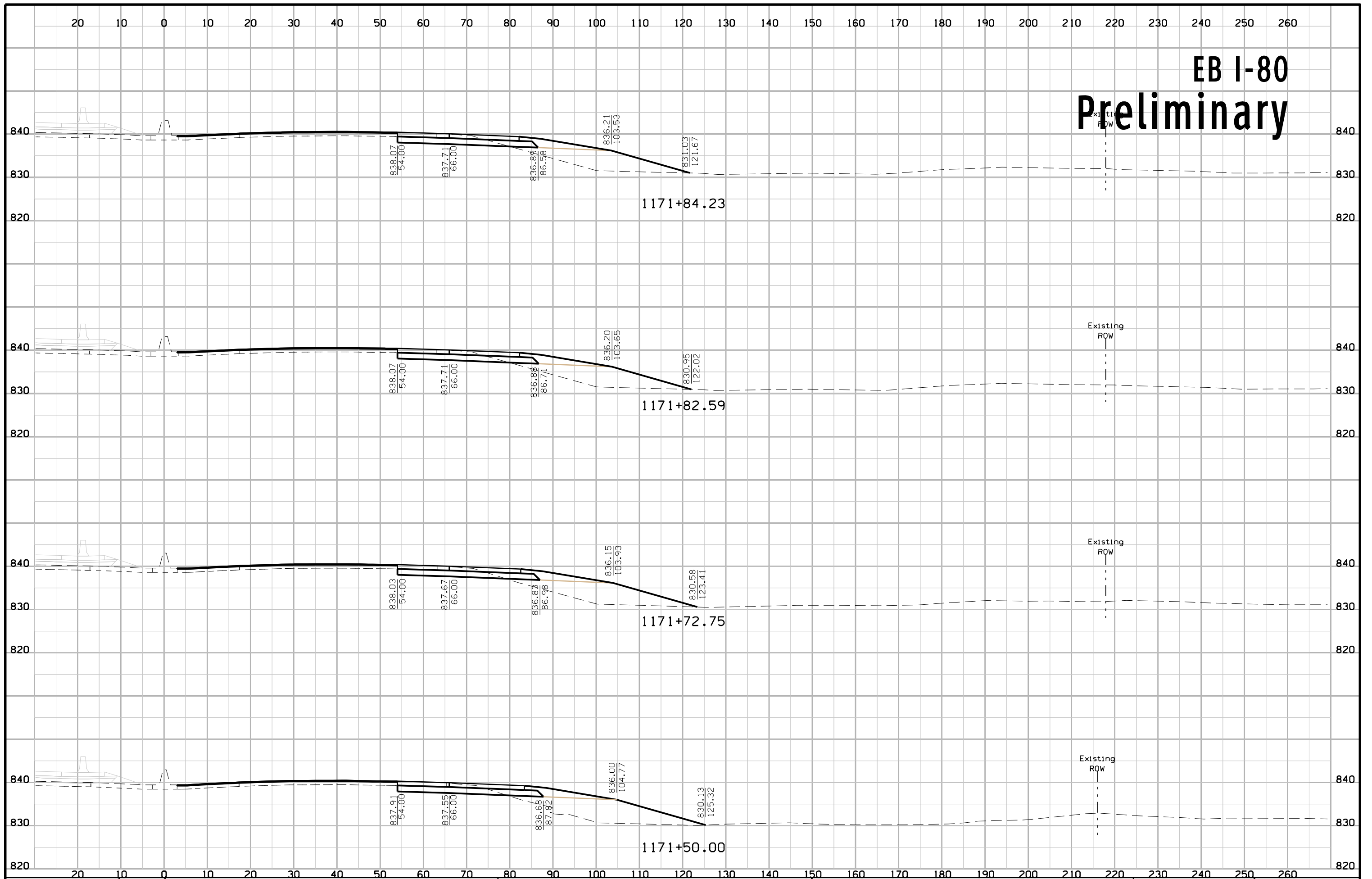


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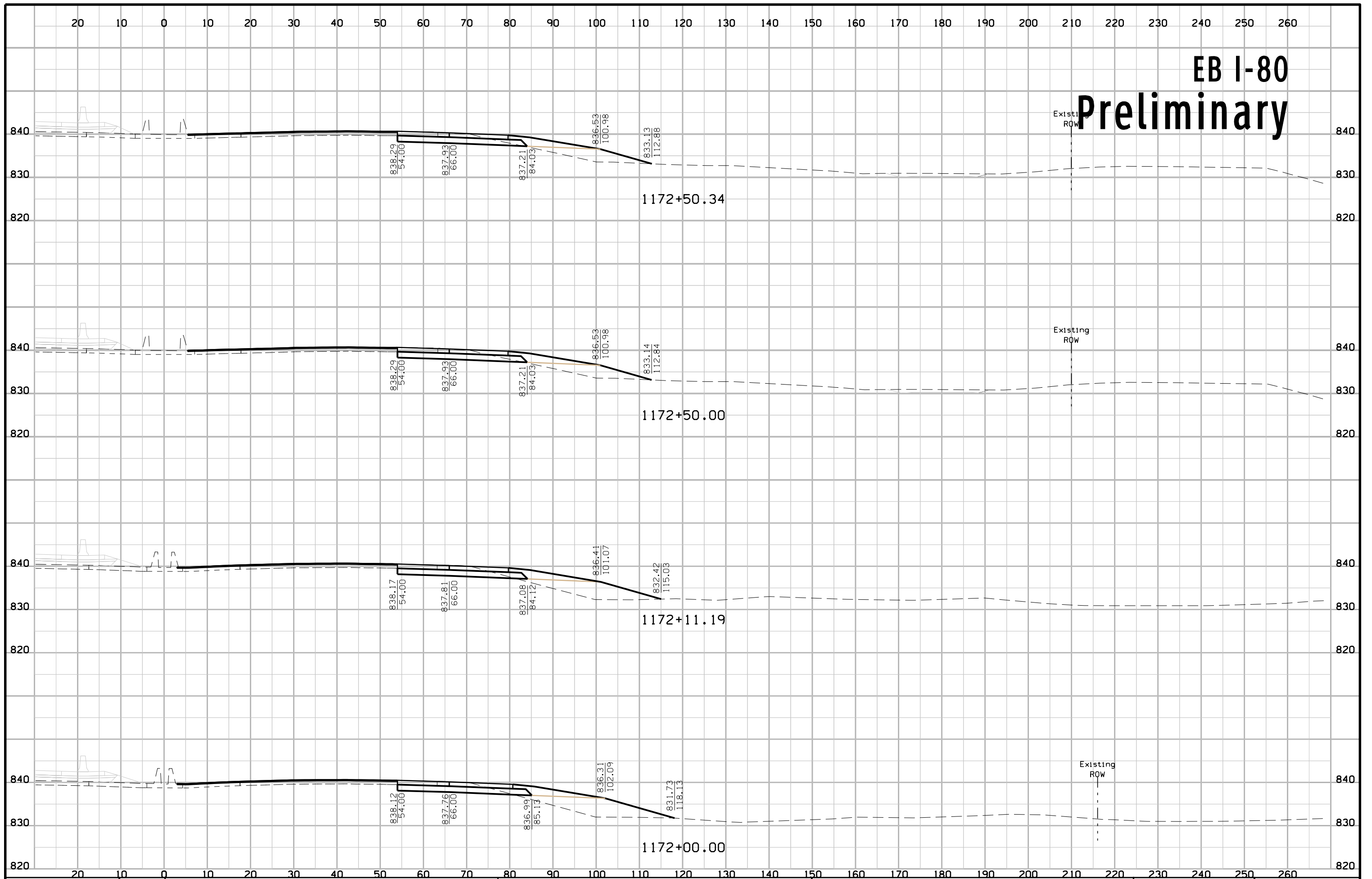
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# Preliminary



# EB I-80

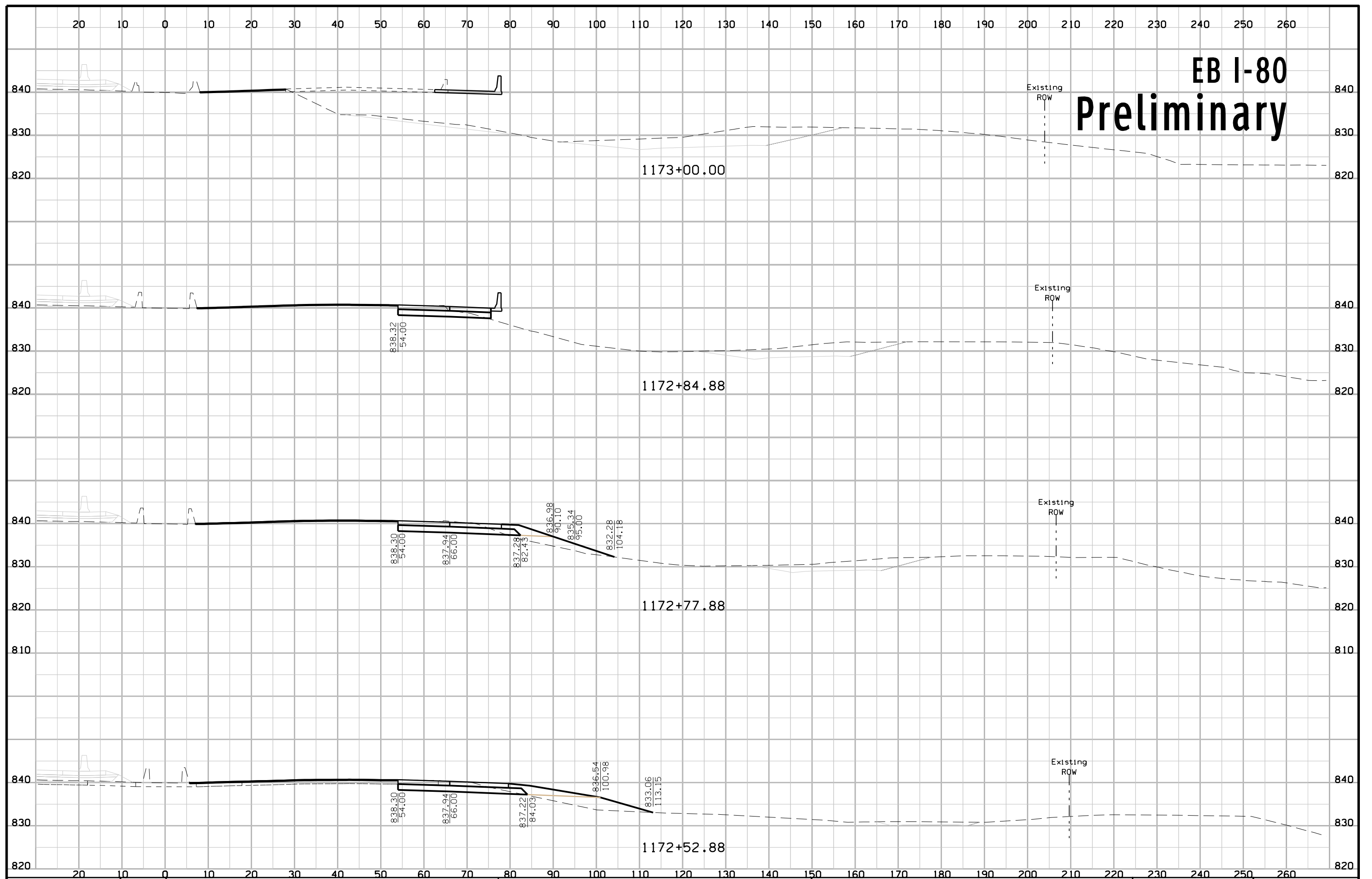
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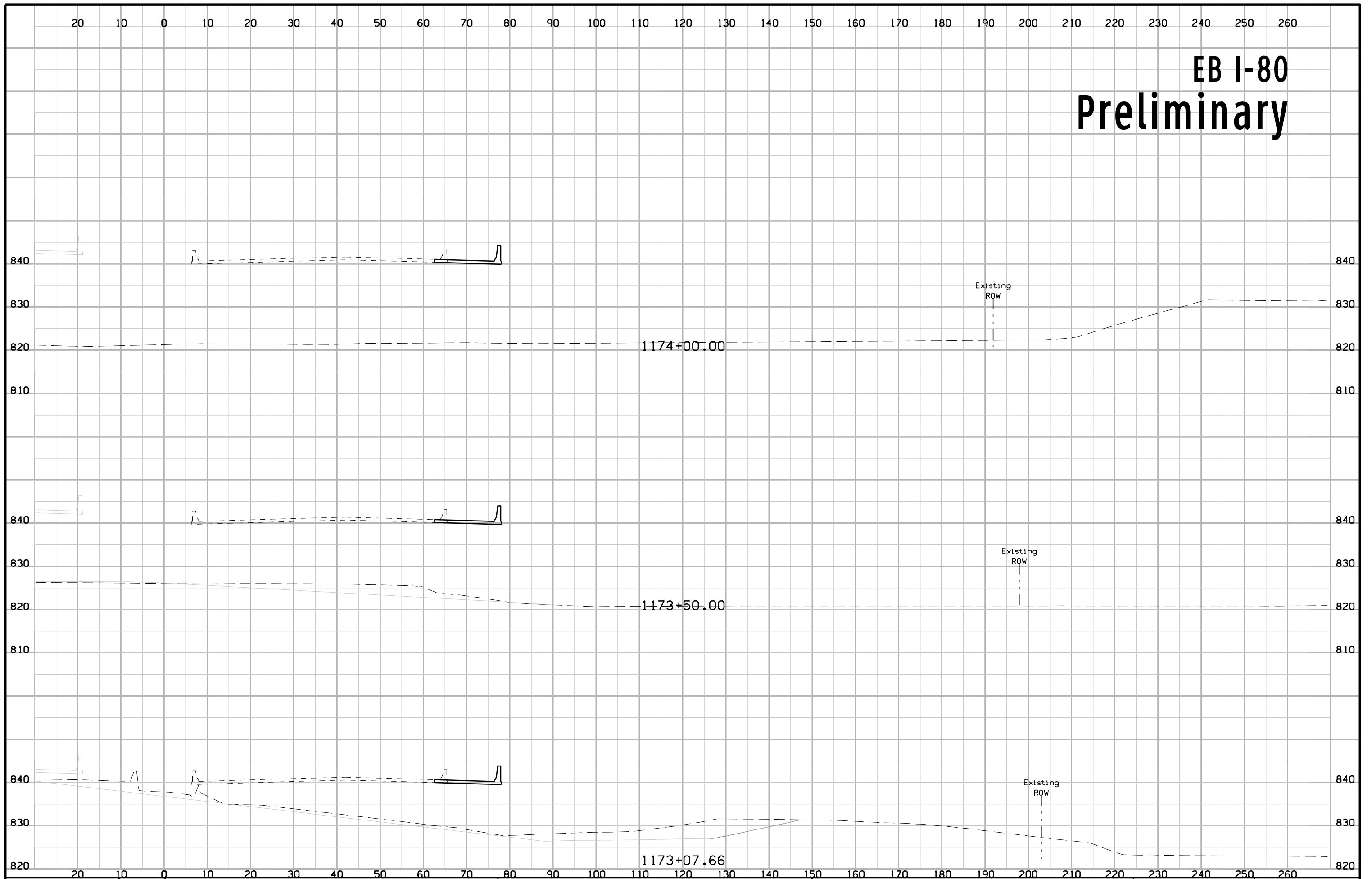


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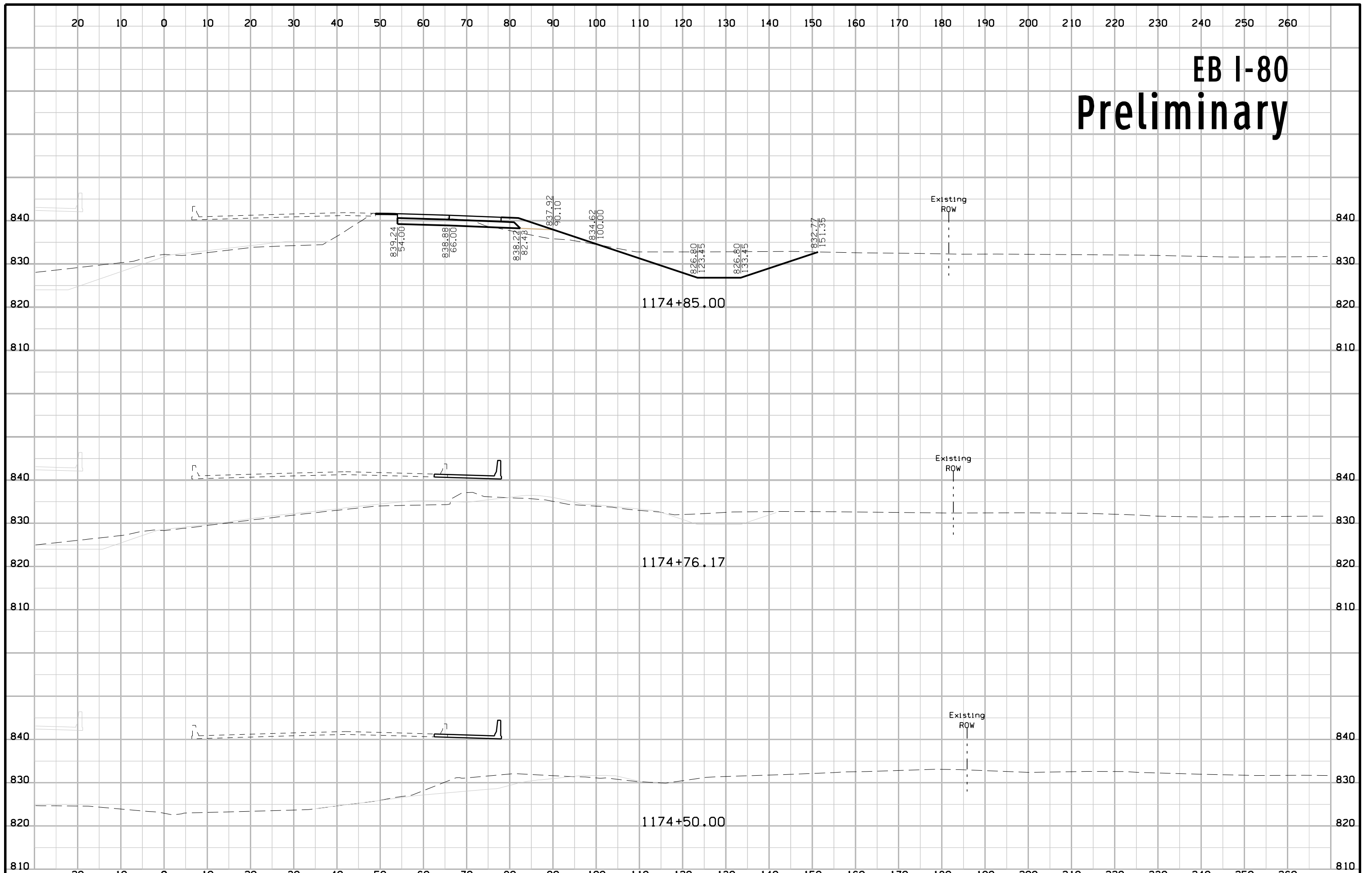
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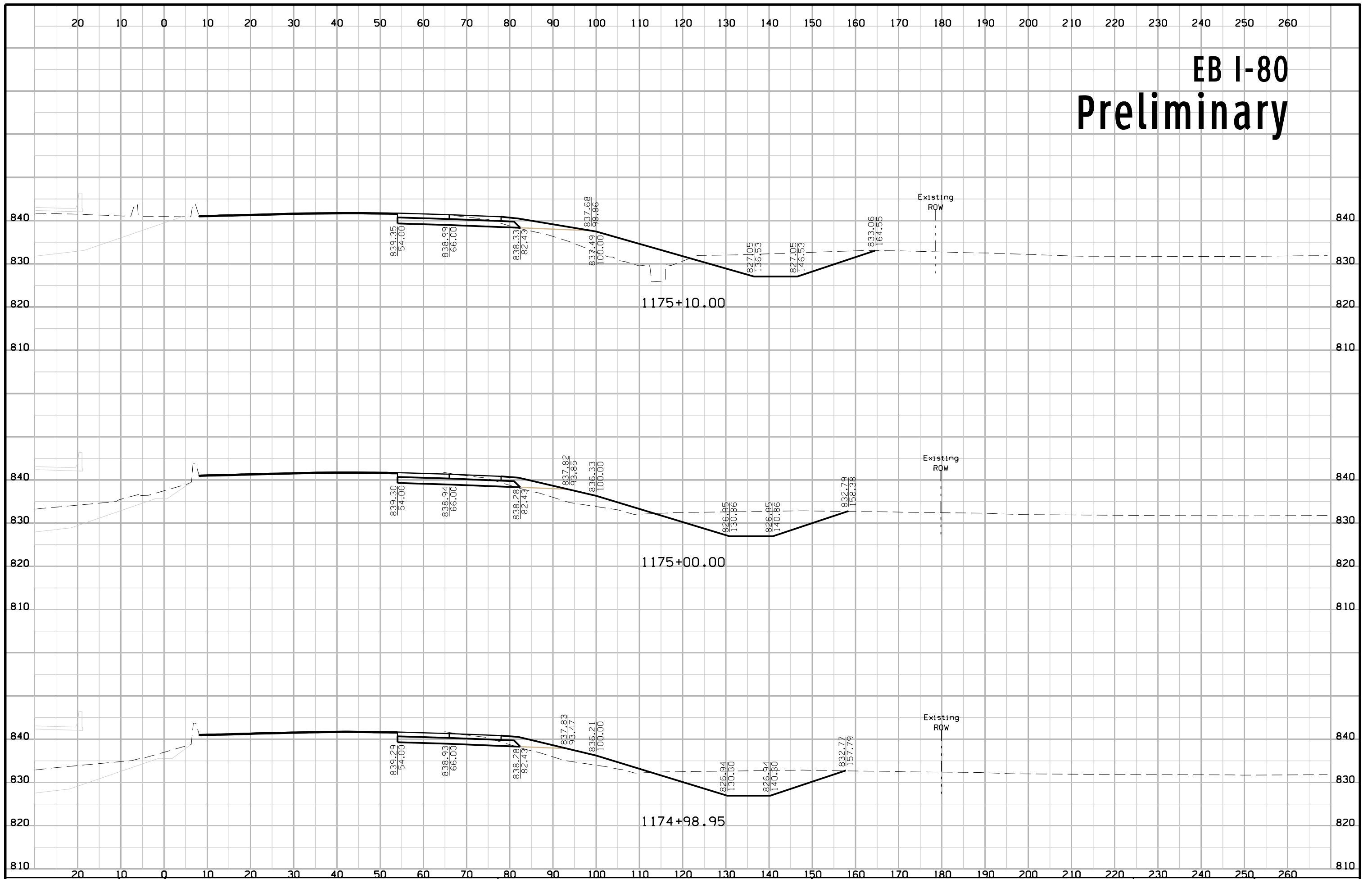
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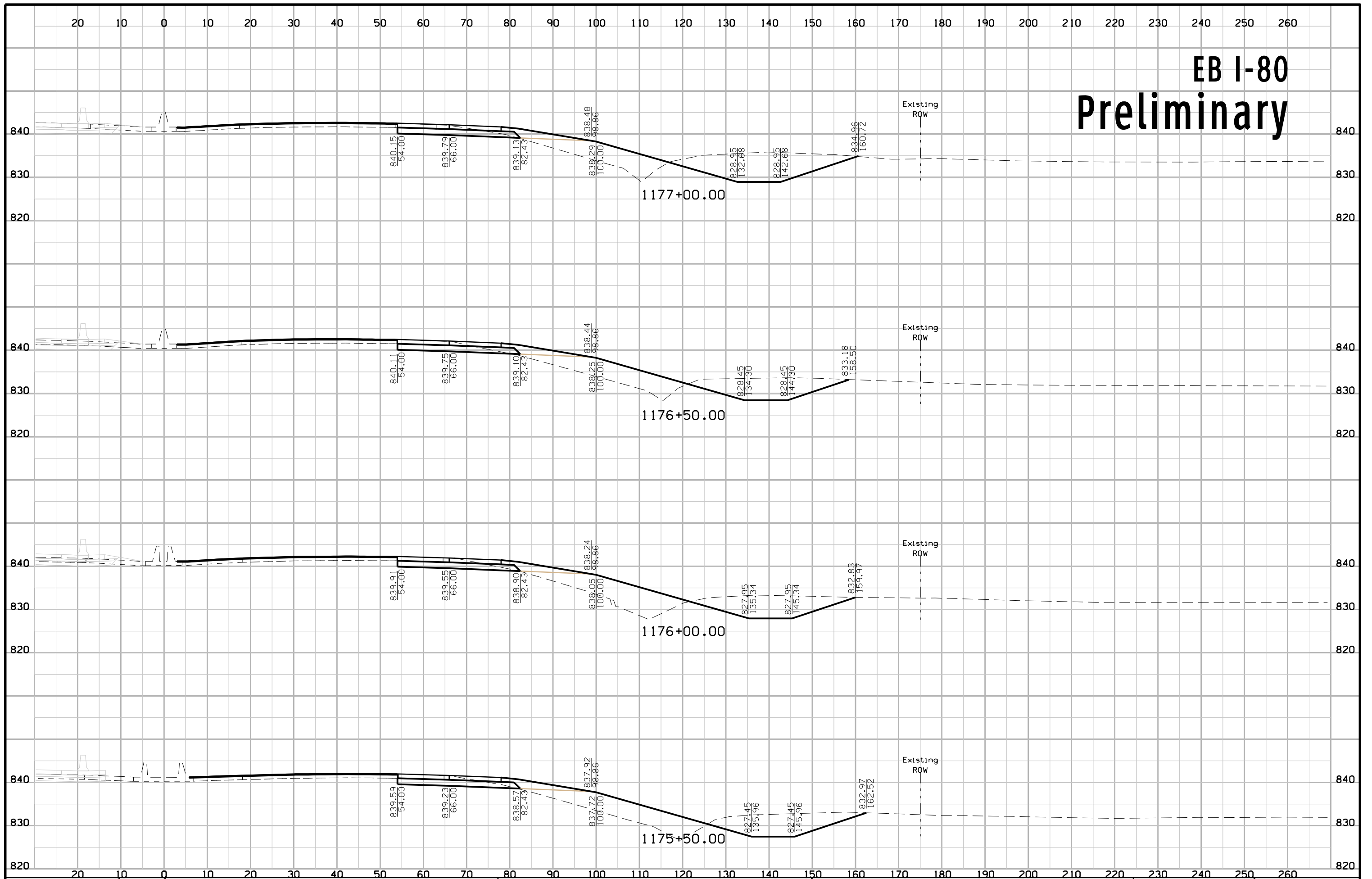
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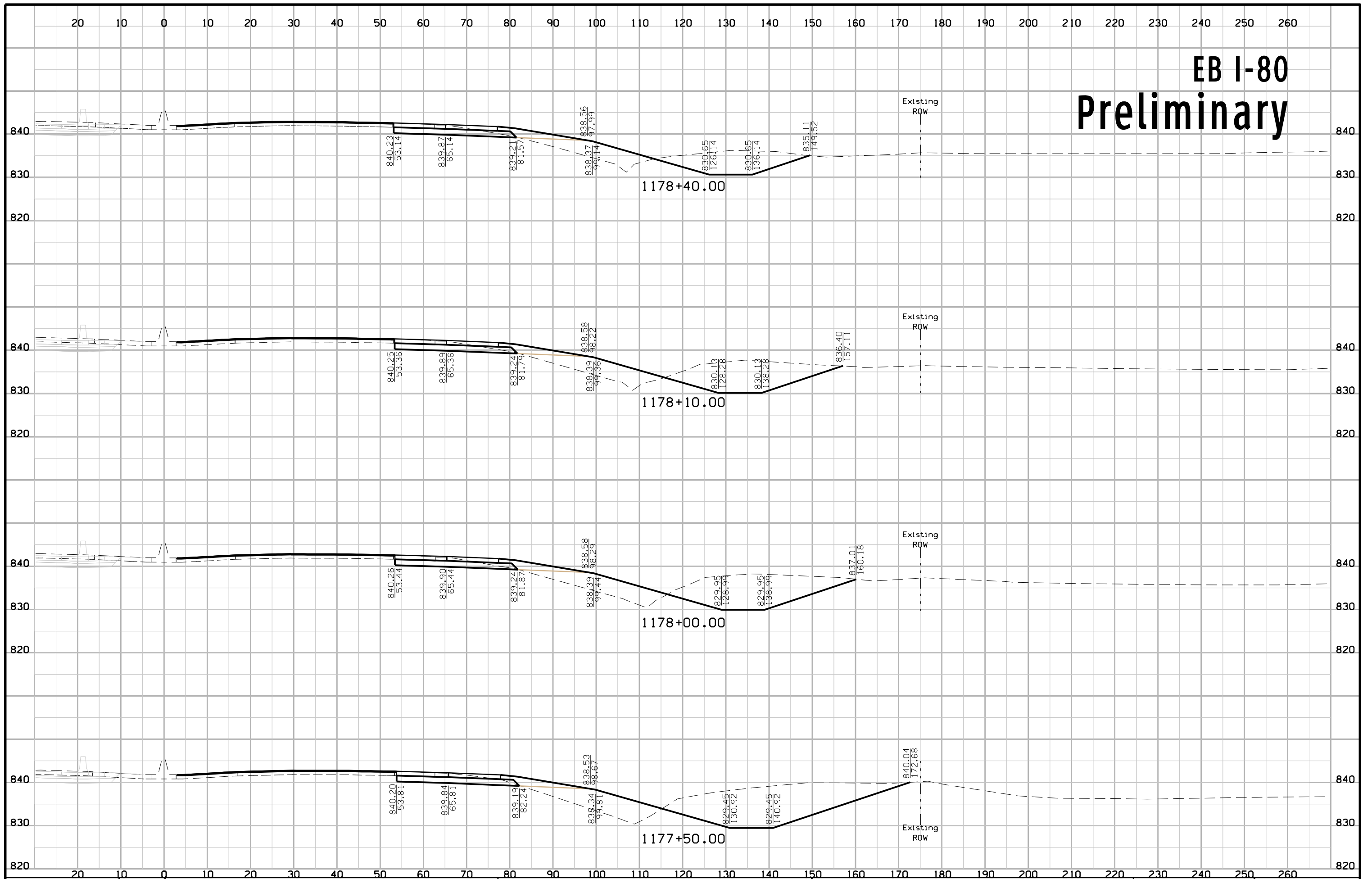
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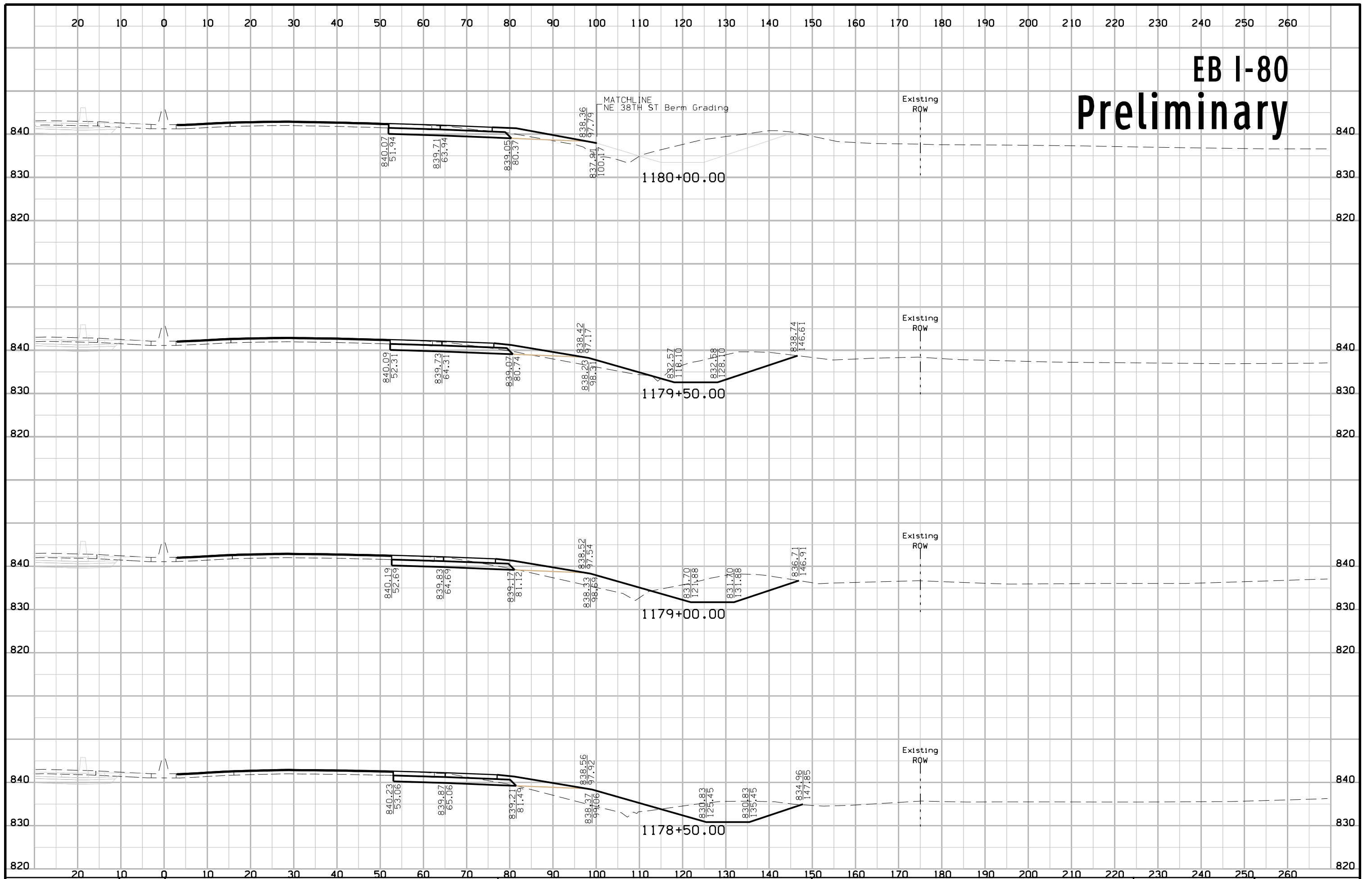
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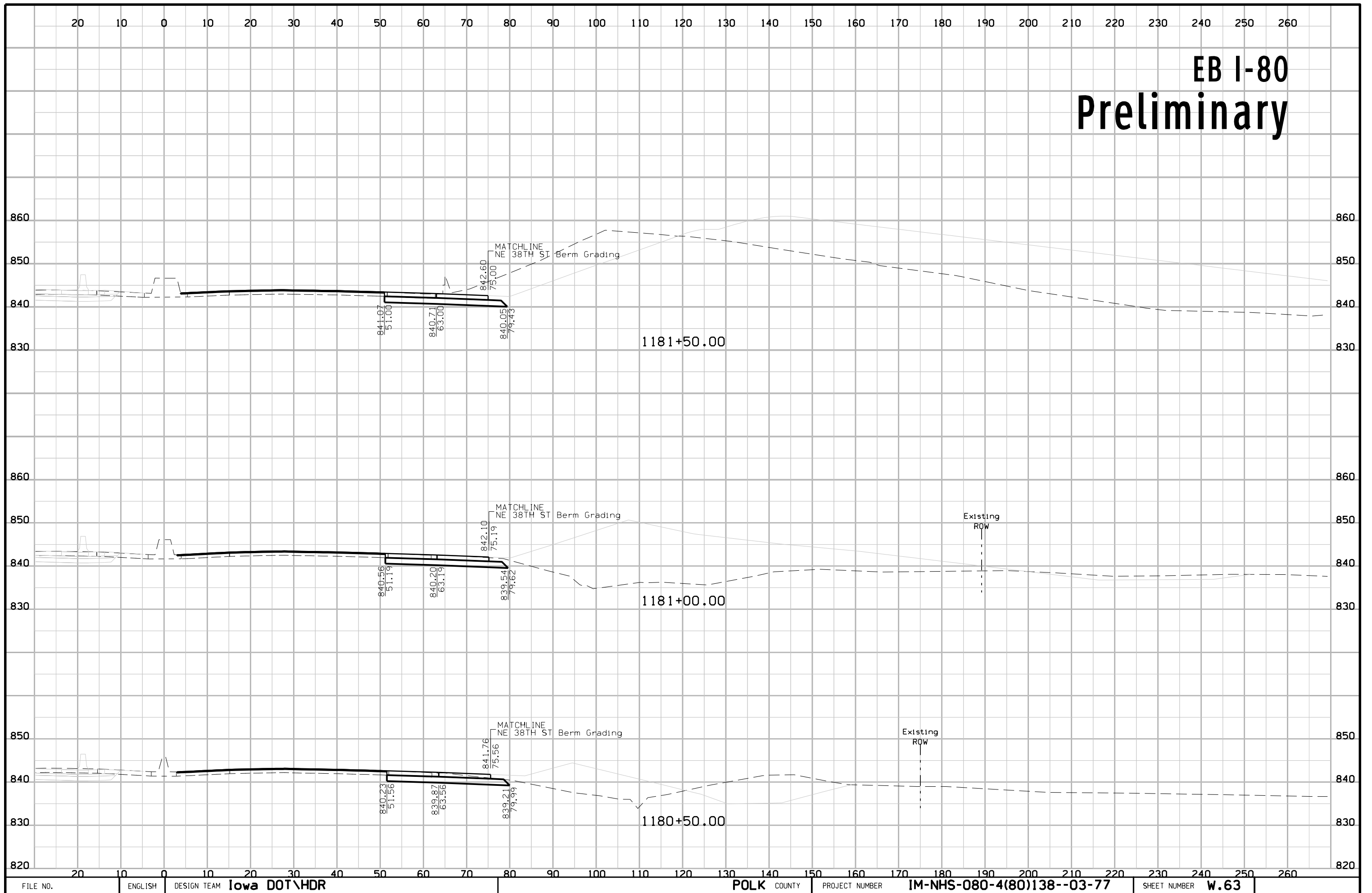
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# EB I-80 Preliminary

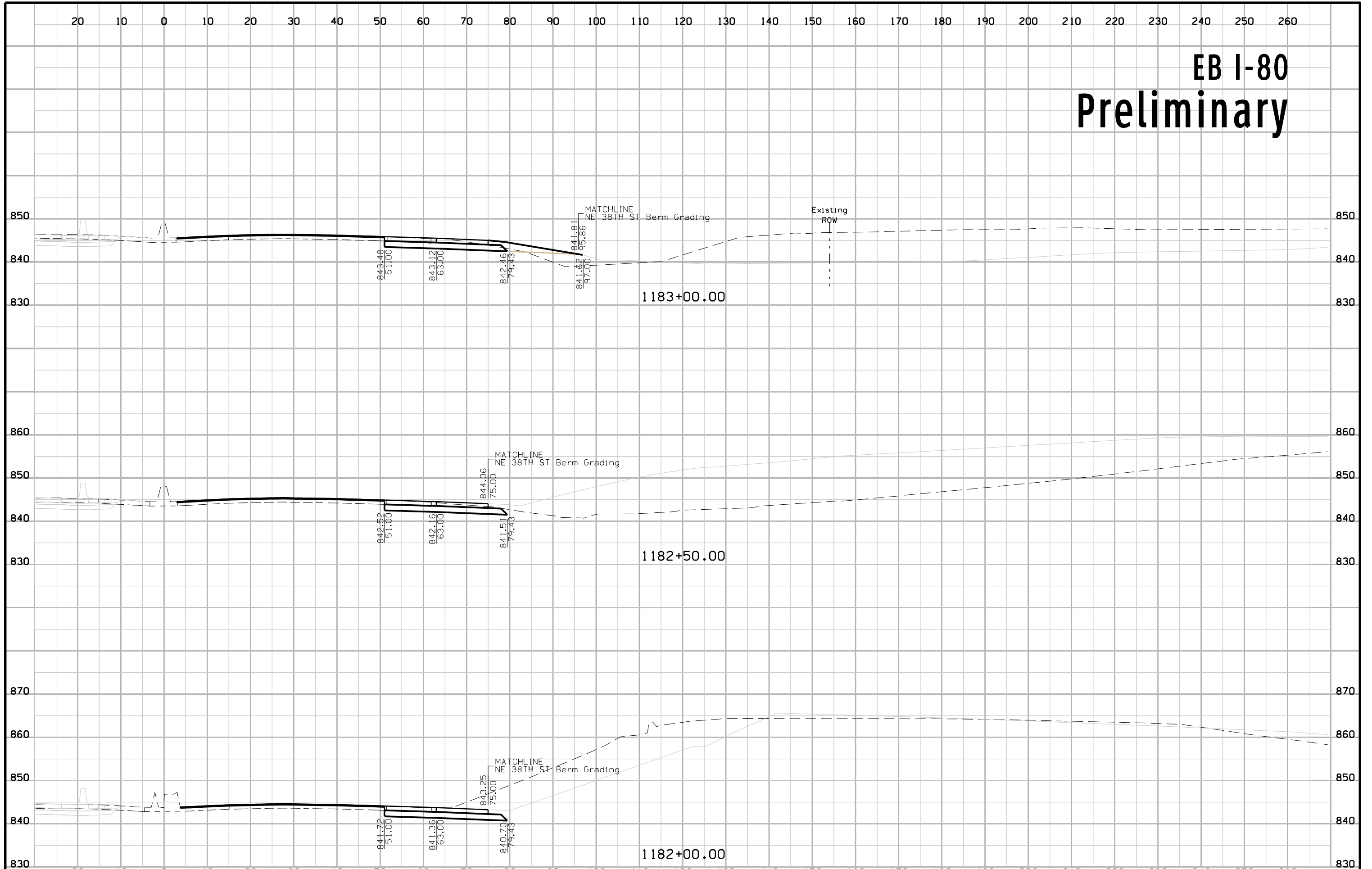


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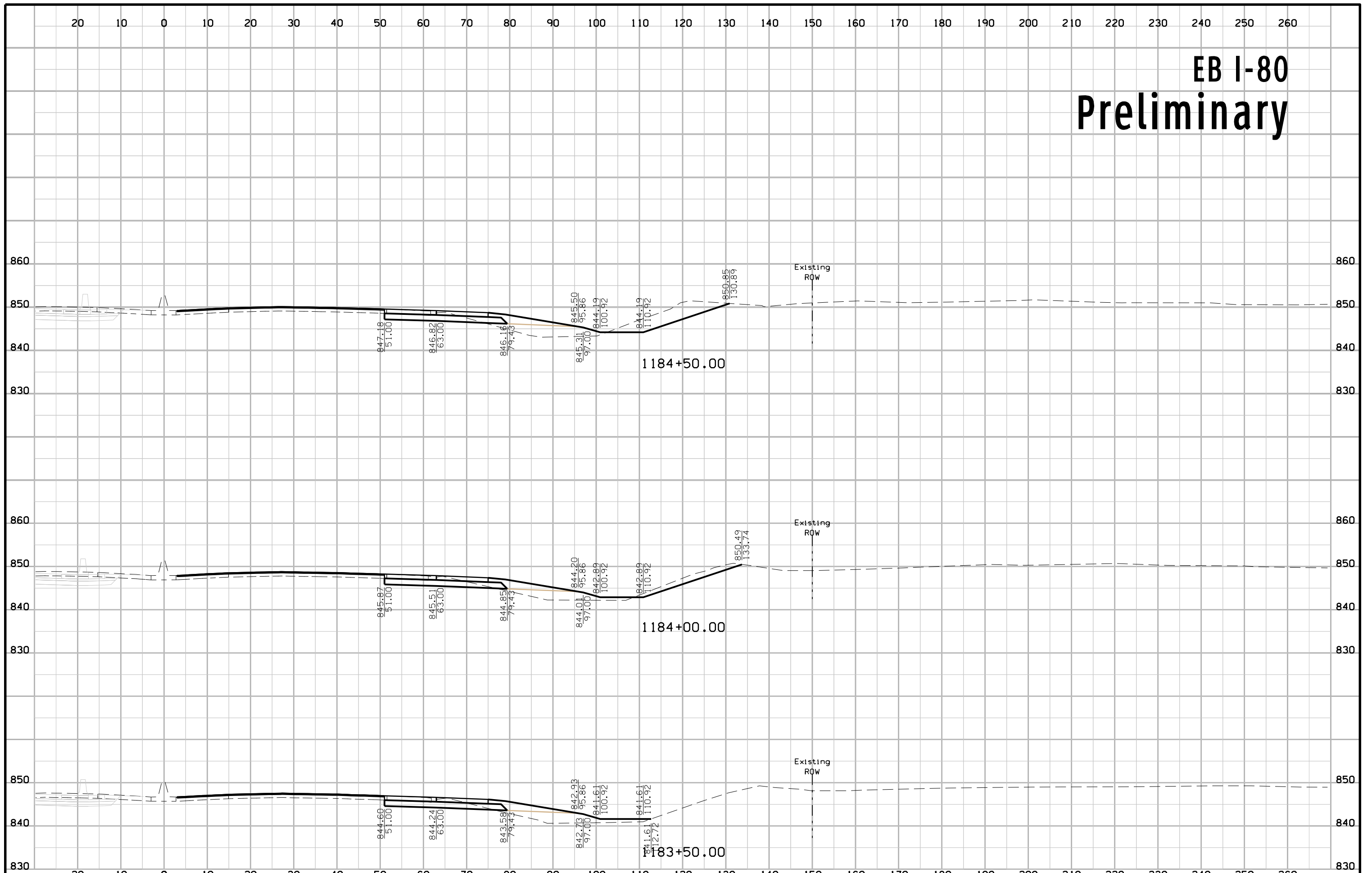




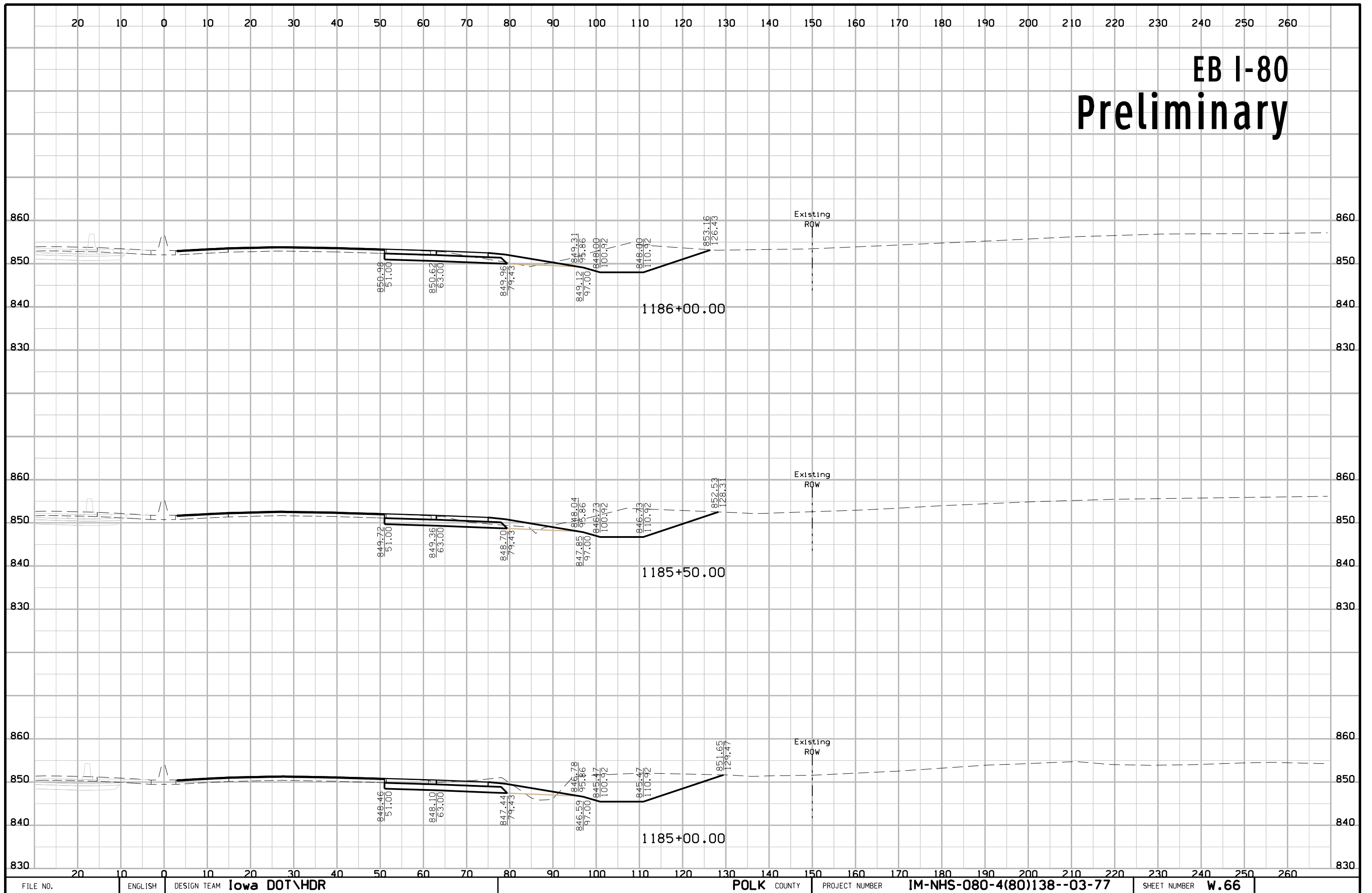
# EB I-80 Preliminary



# EB I-80 Preliminary

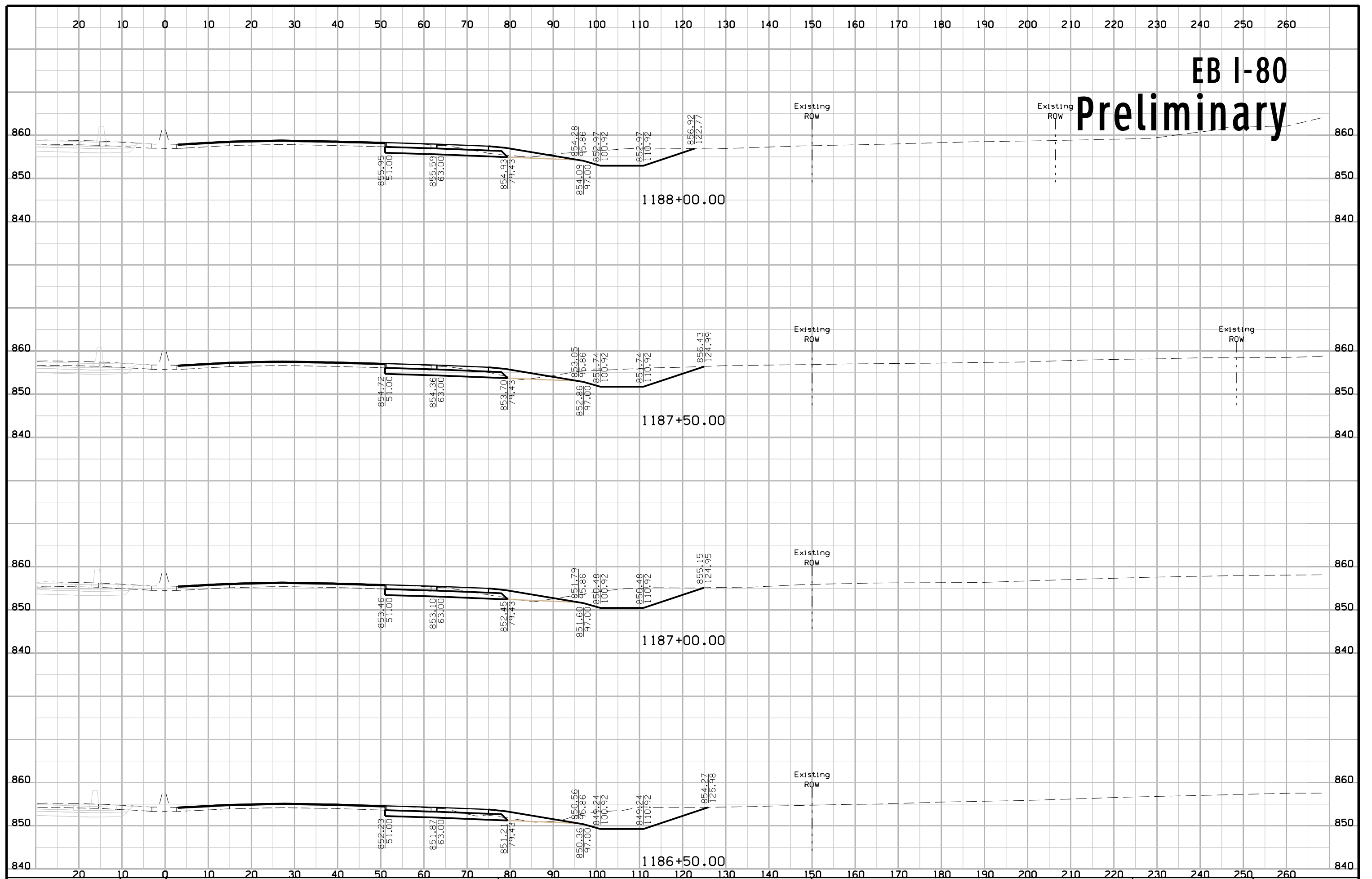


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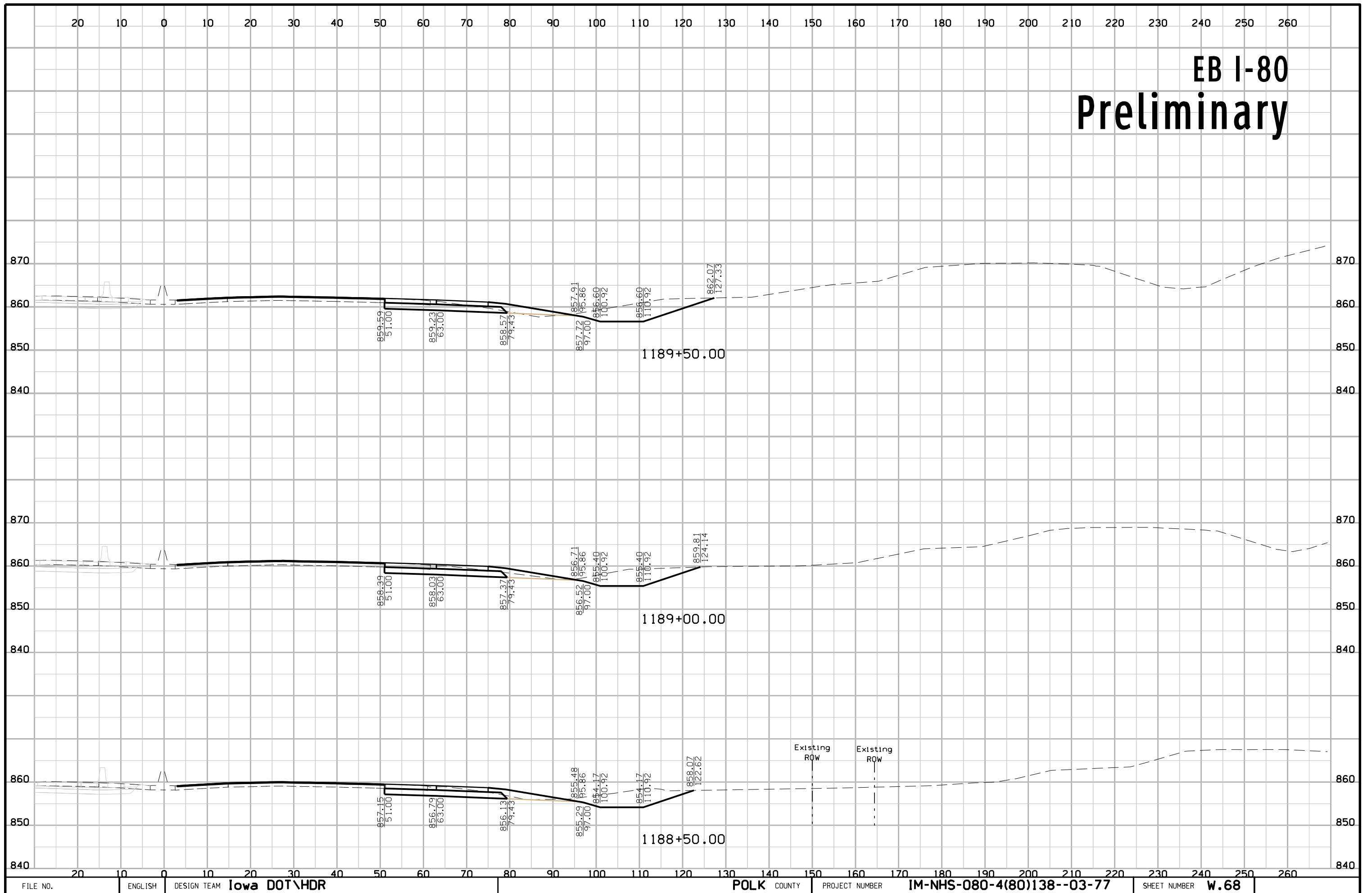


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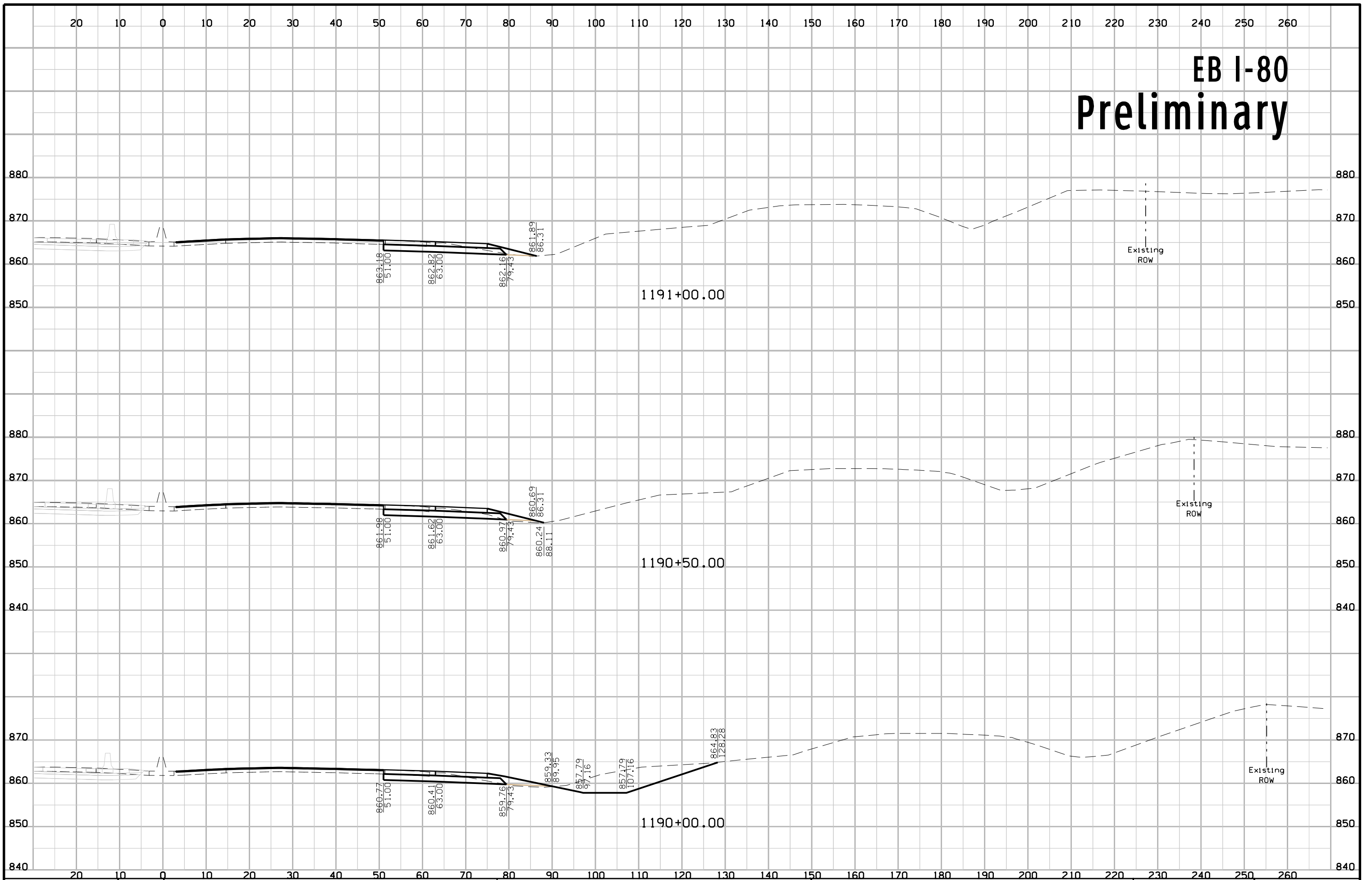
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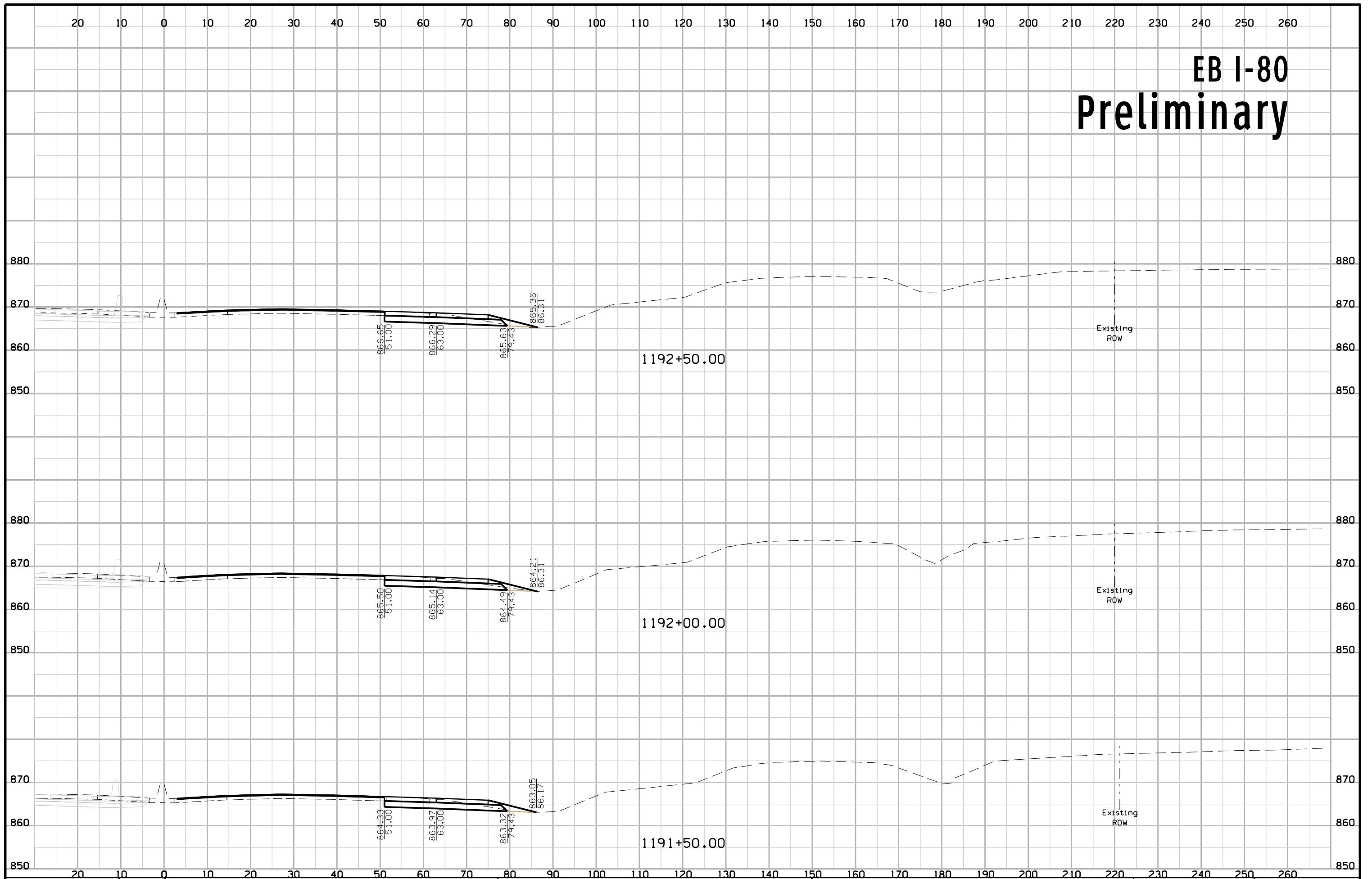
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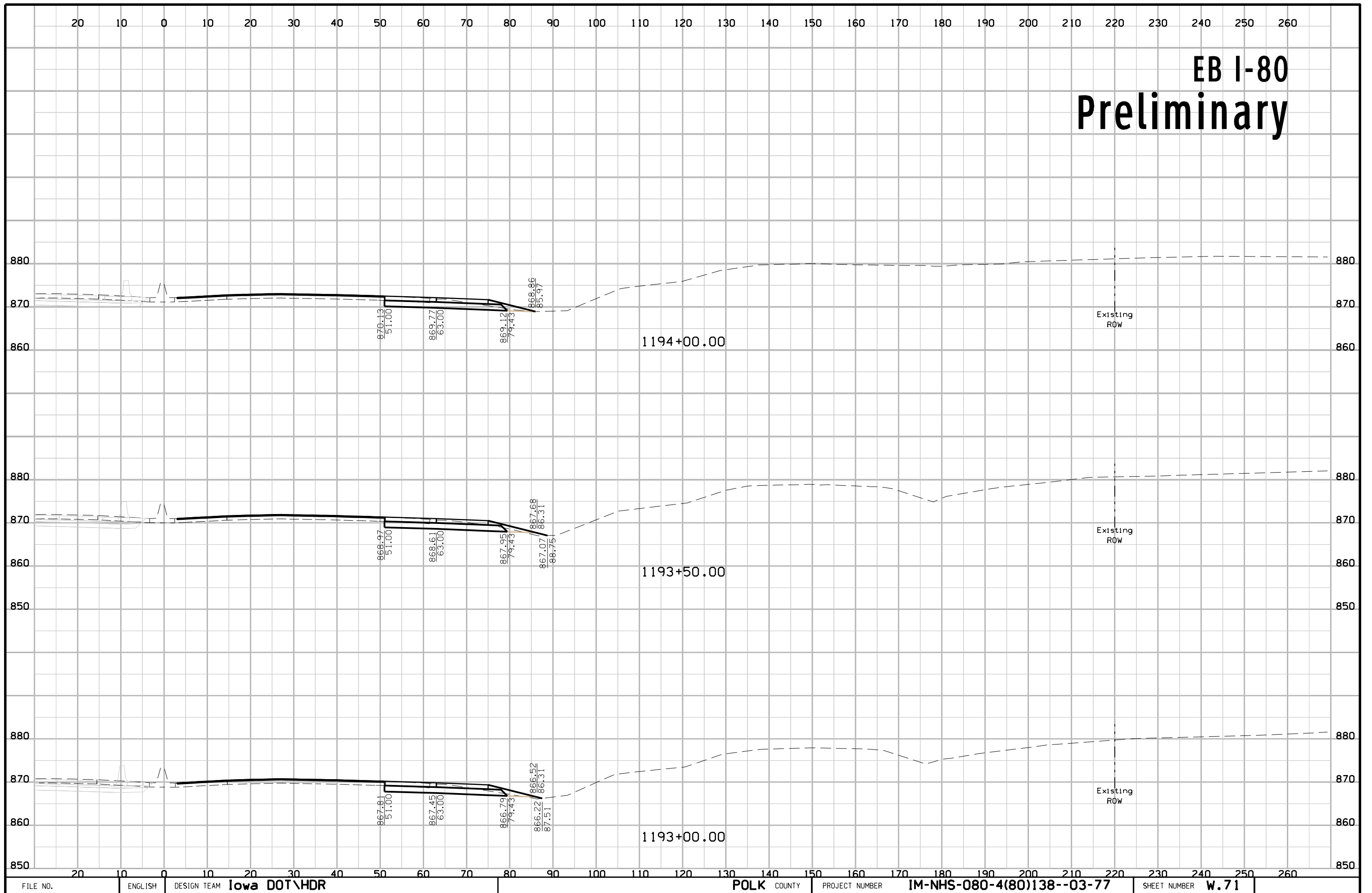
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# EB I-80 Preliminary



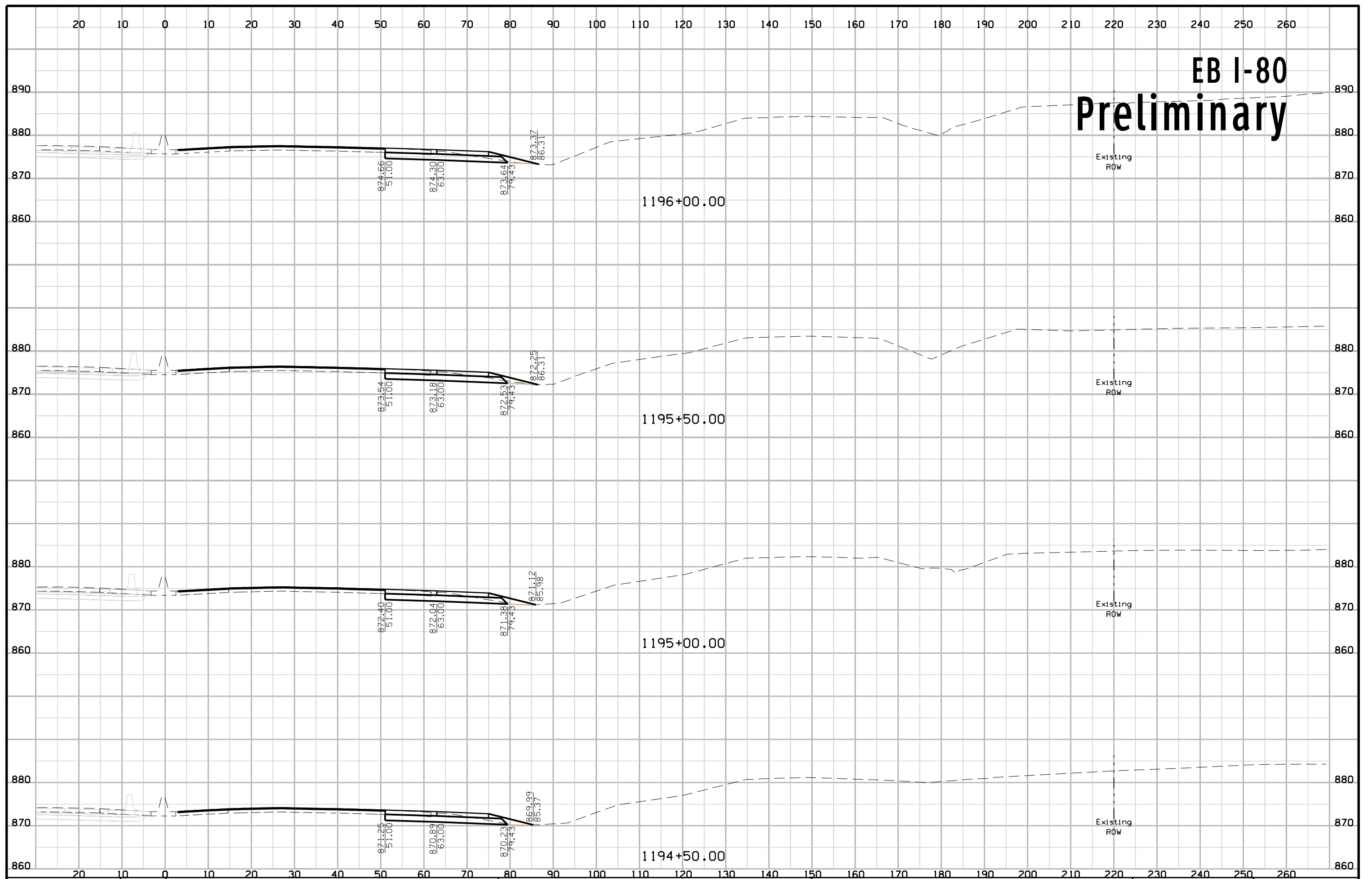
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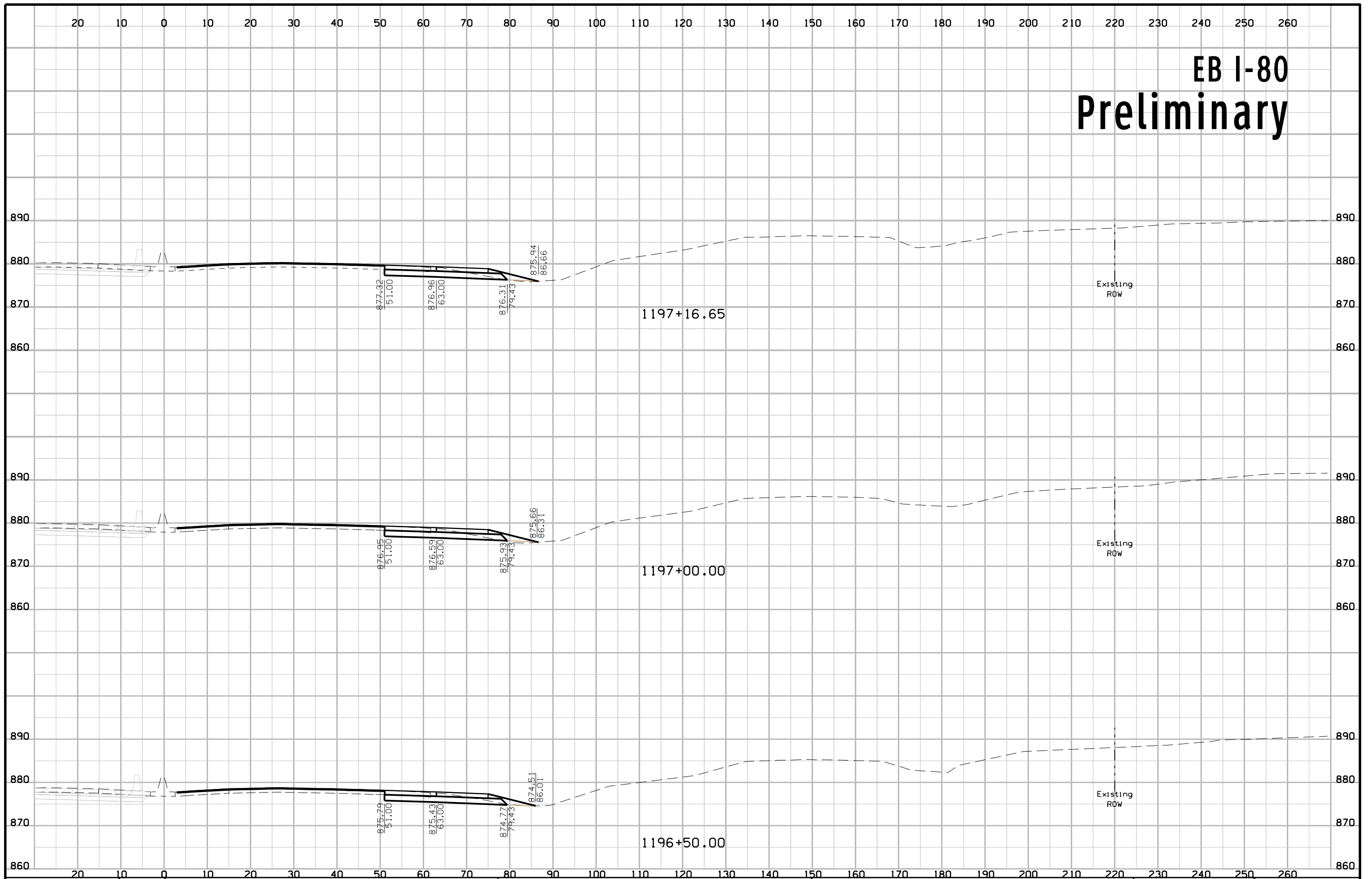


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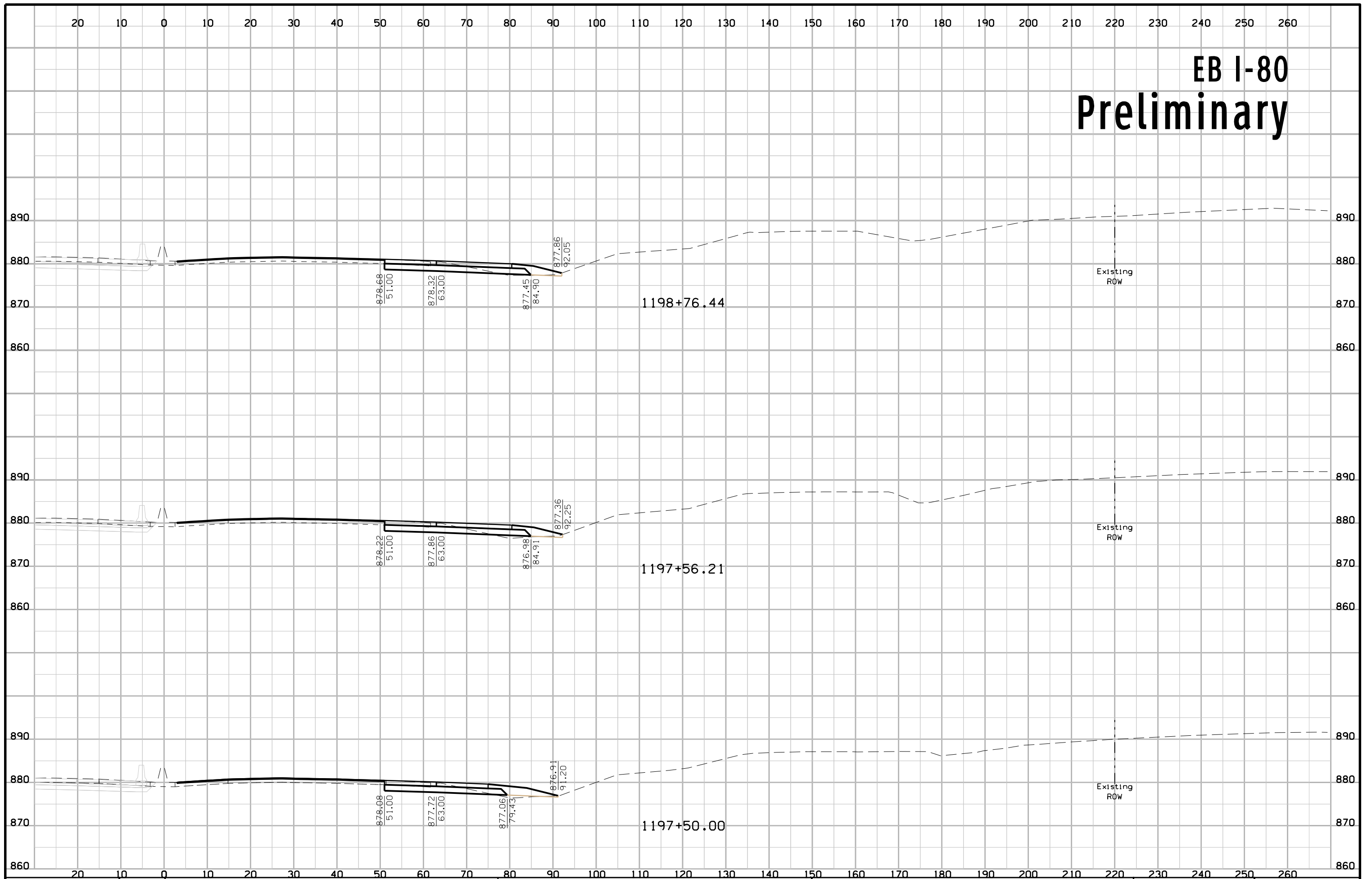
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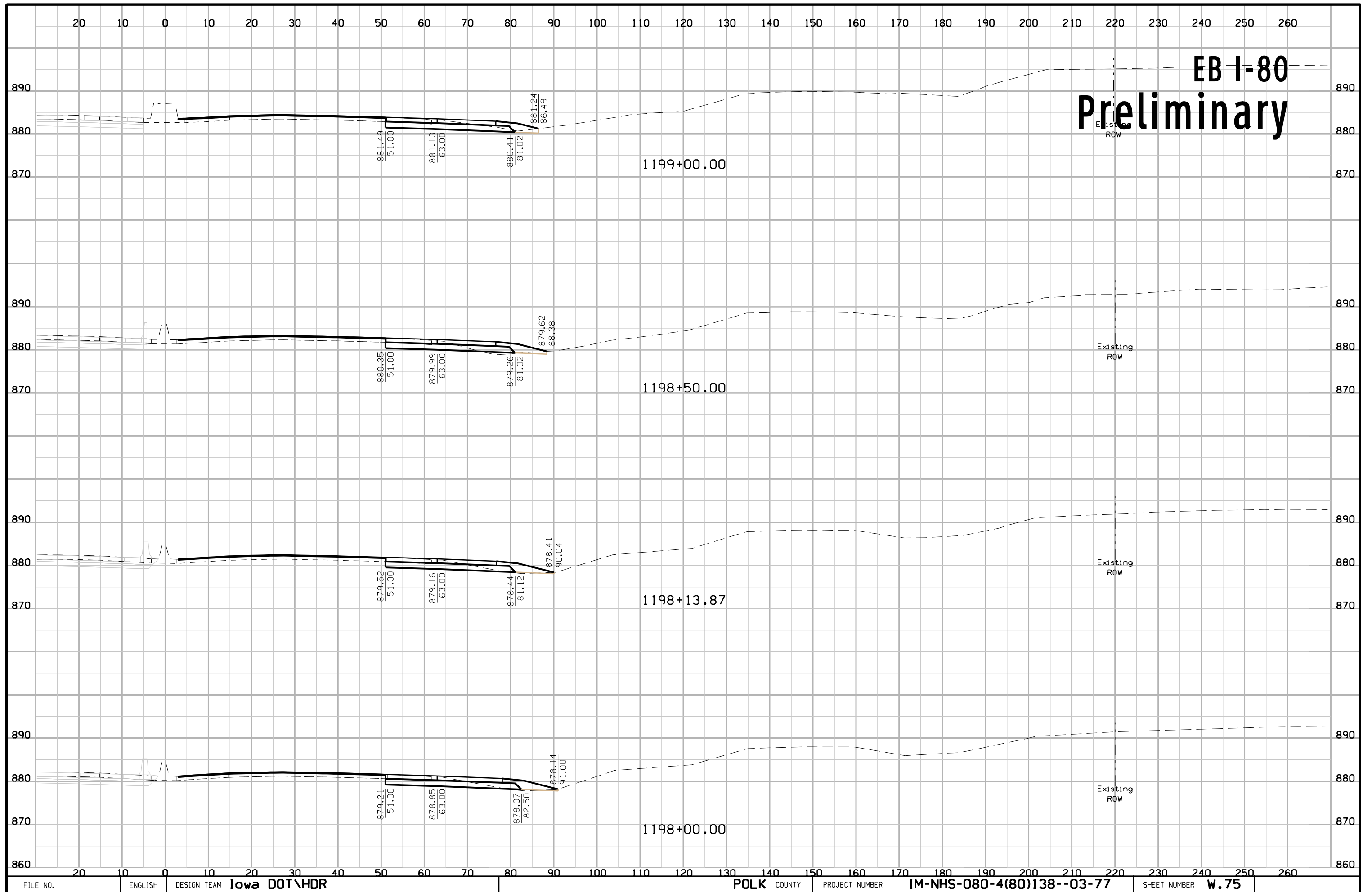


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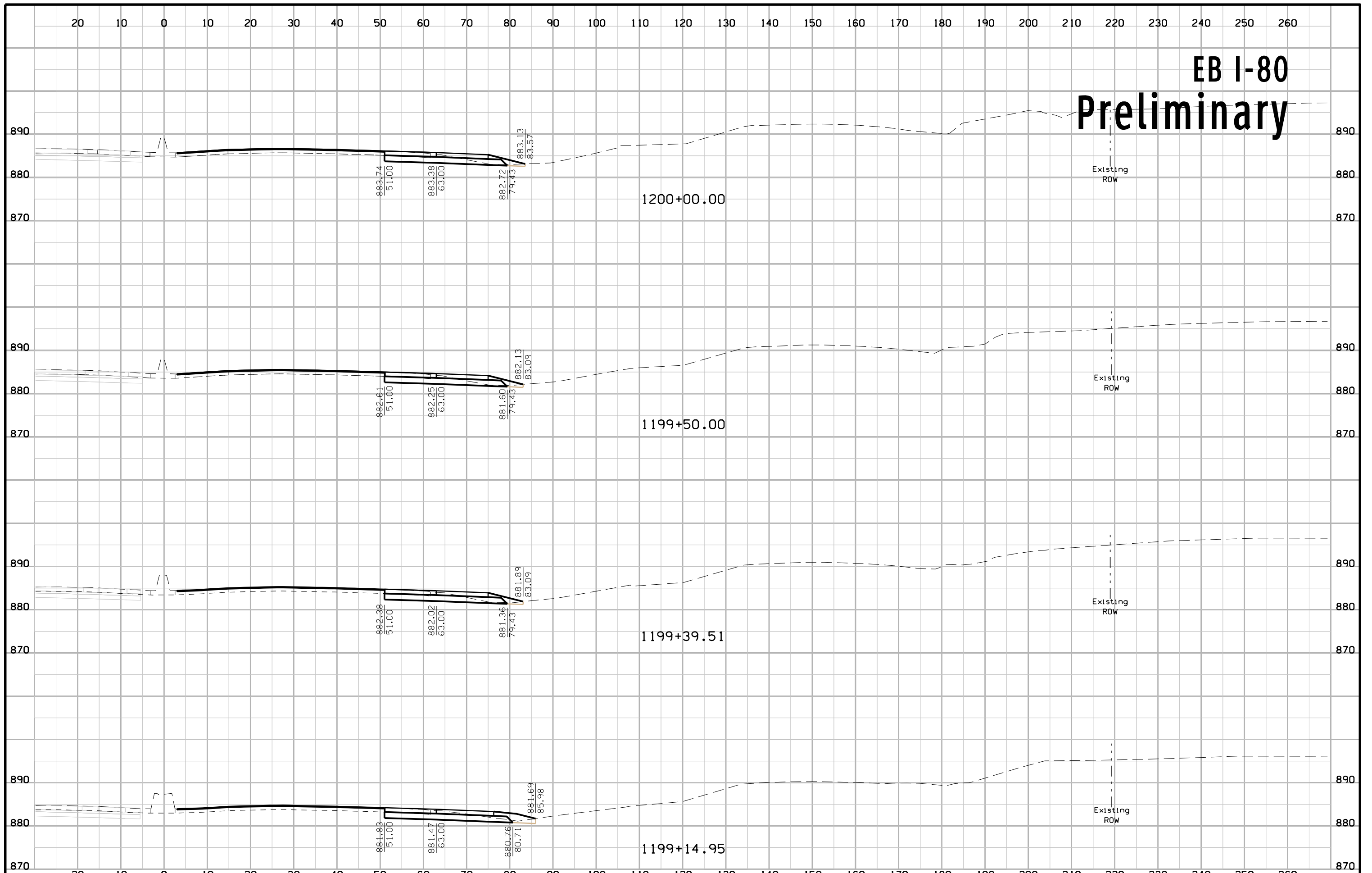
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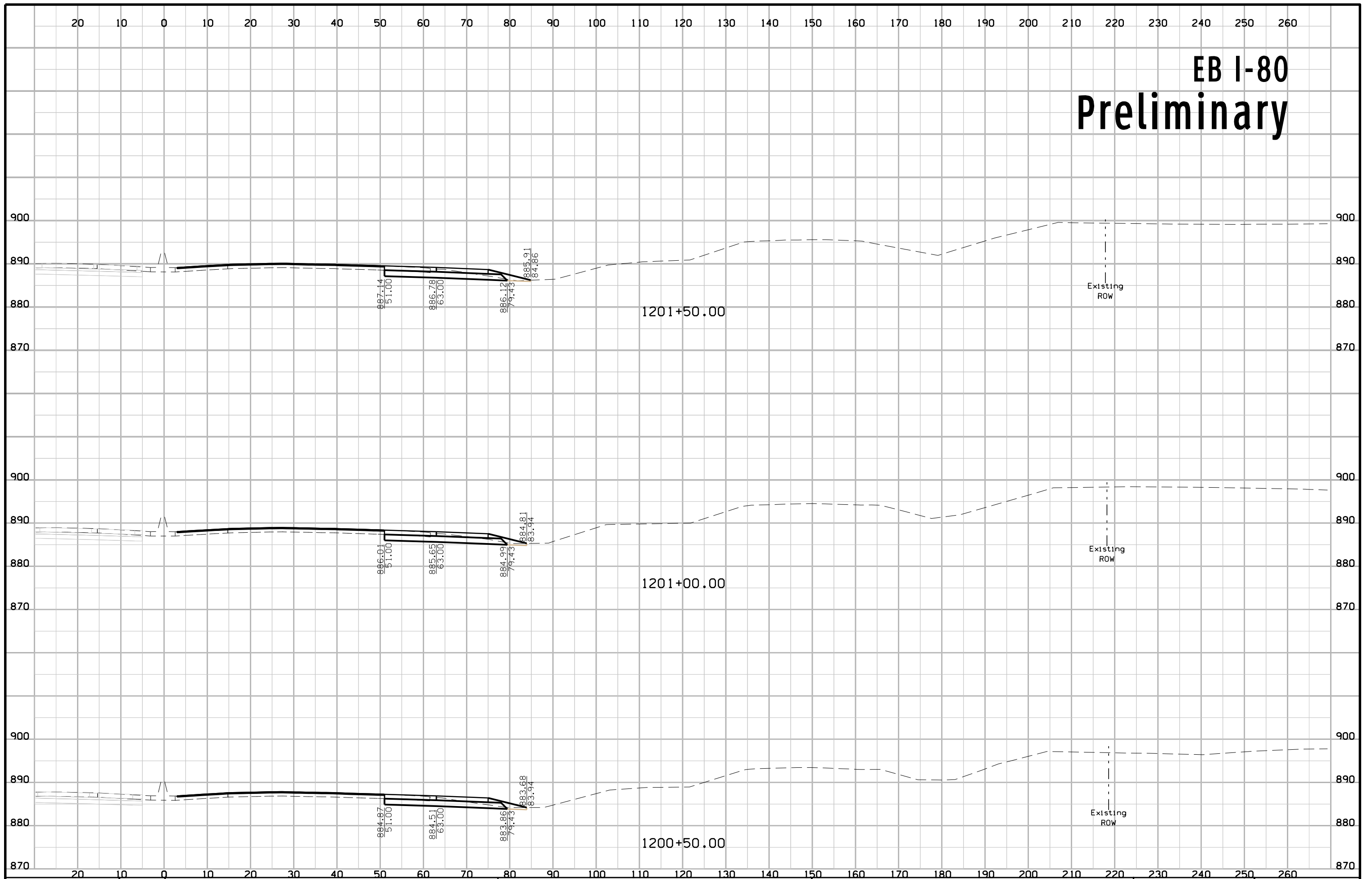


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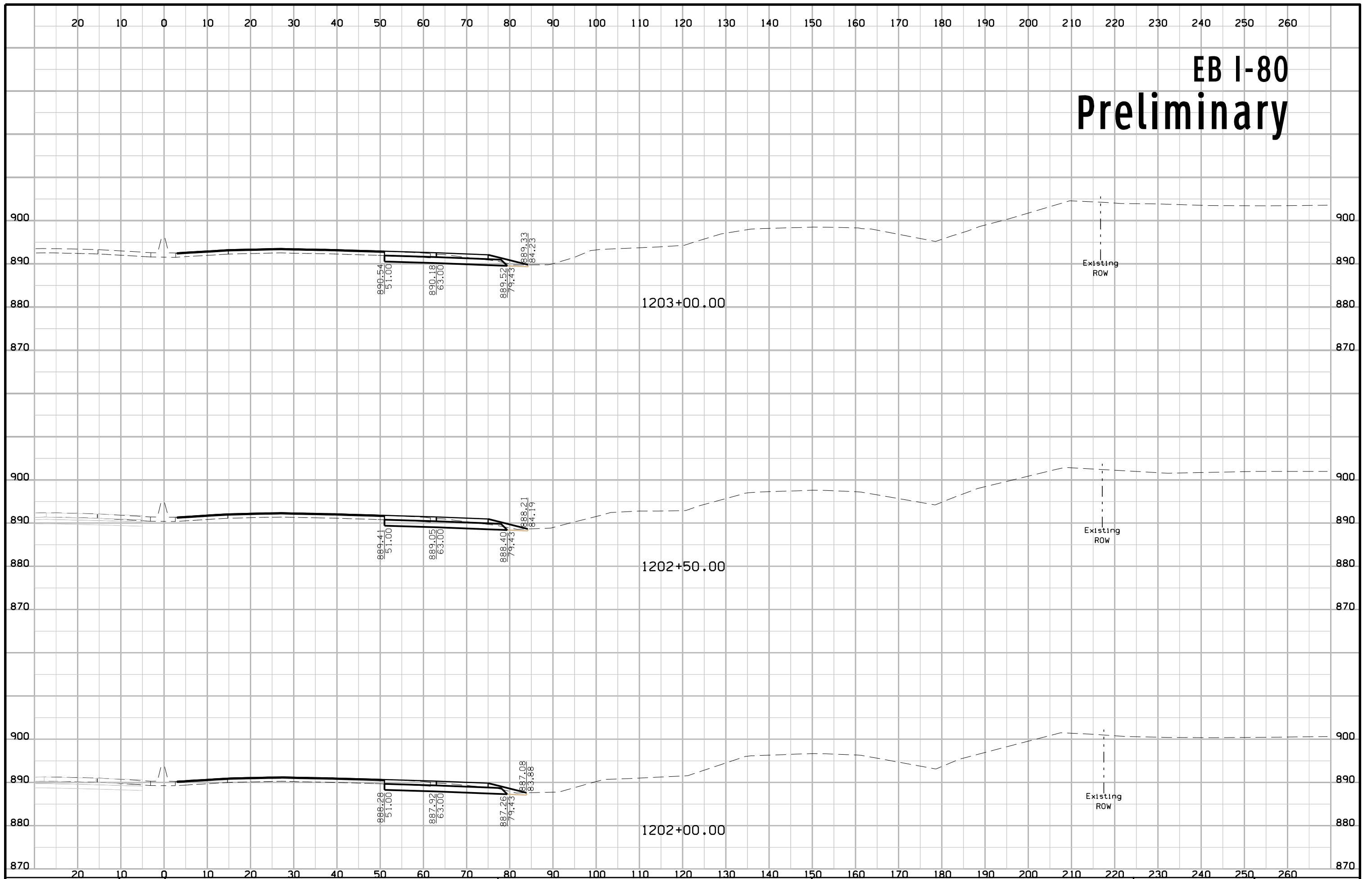
Preliminary

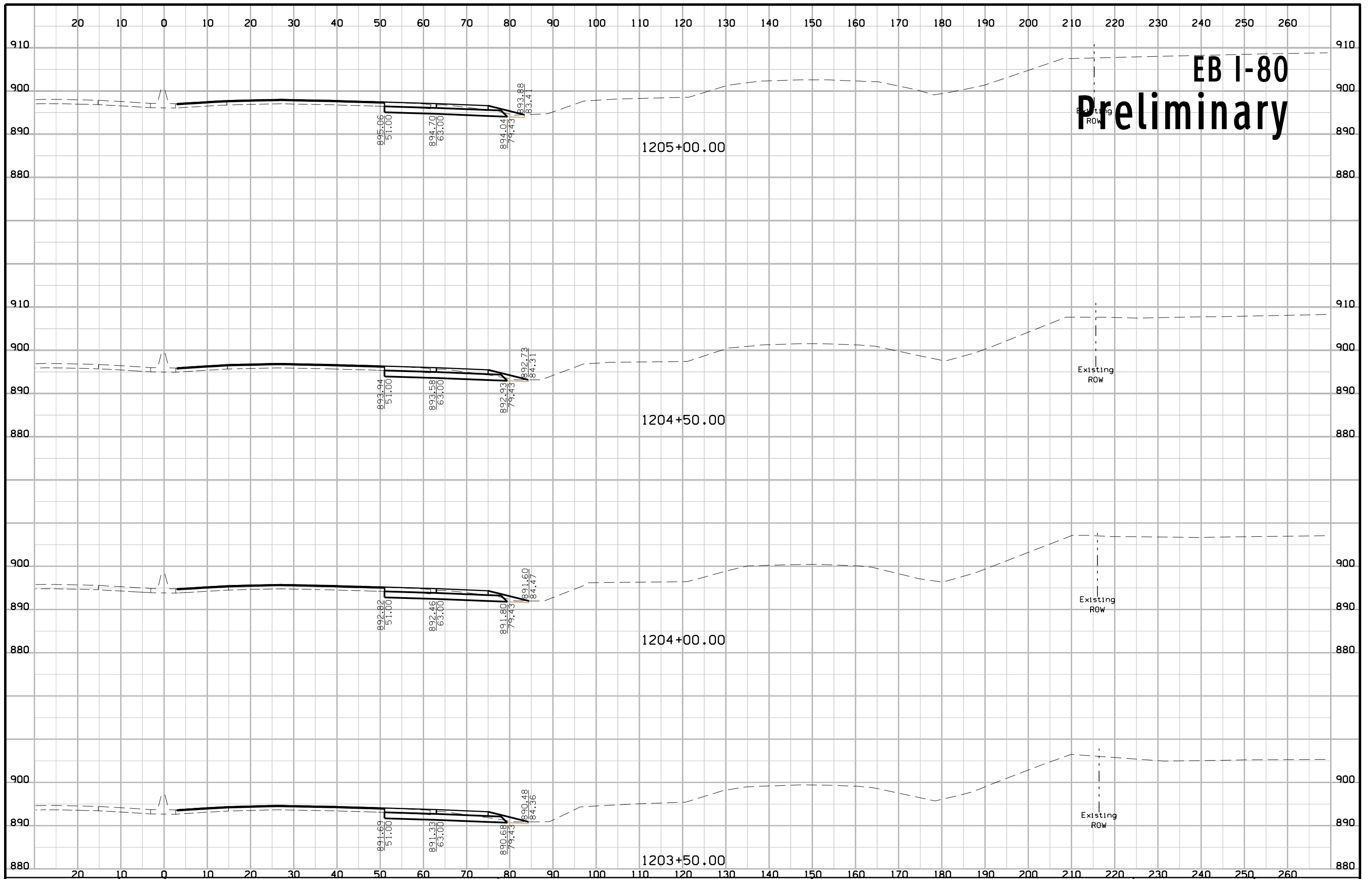


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# EB I-80 Preliminary

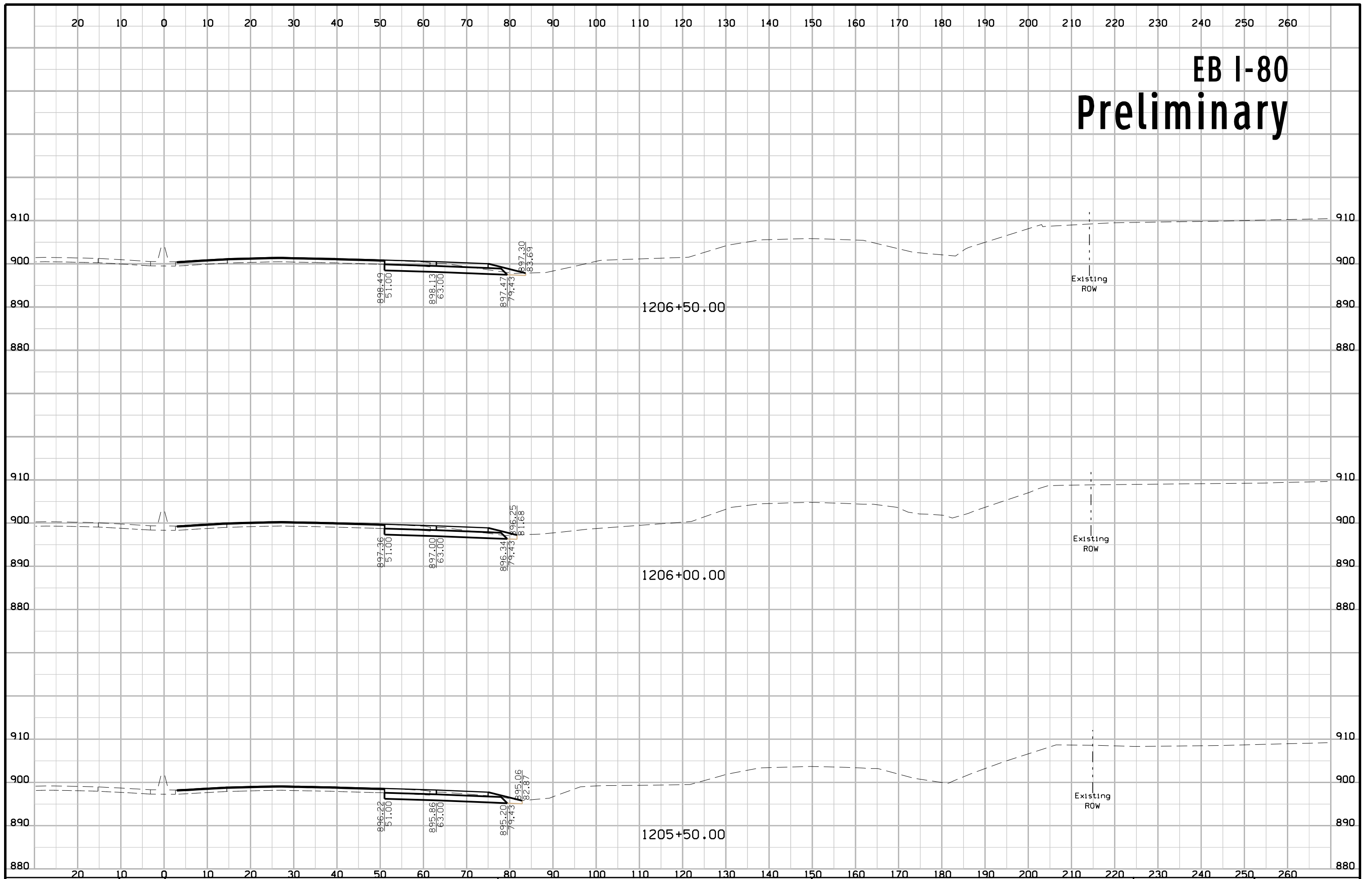




**EB I-80**  
**Preliminary**

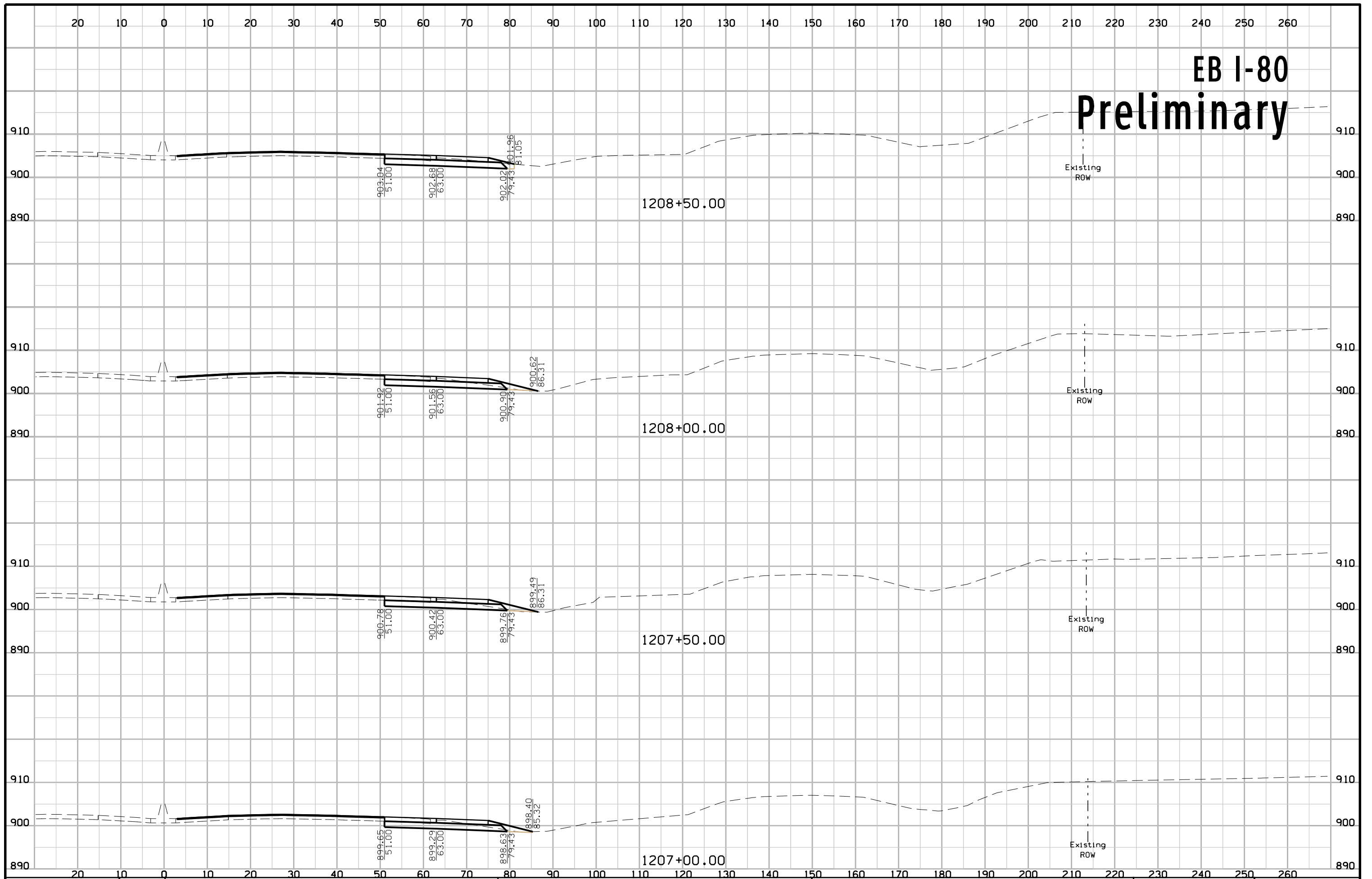


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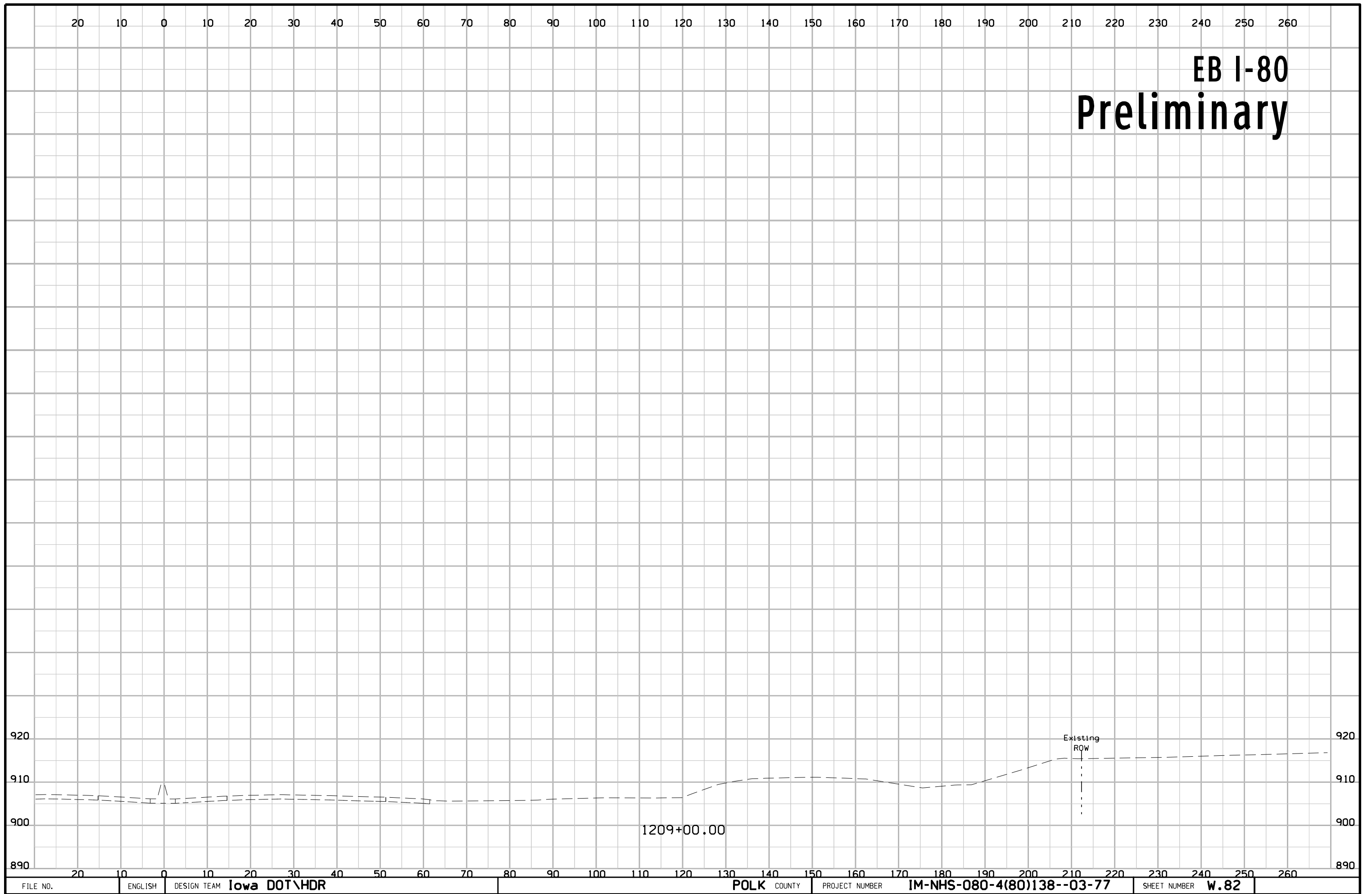


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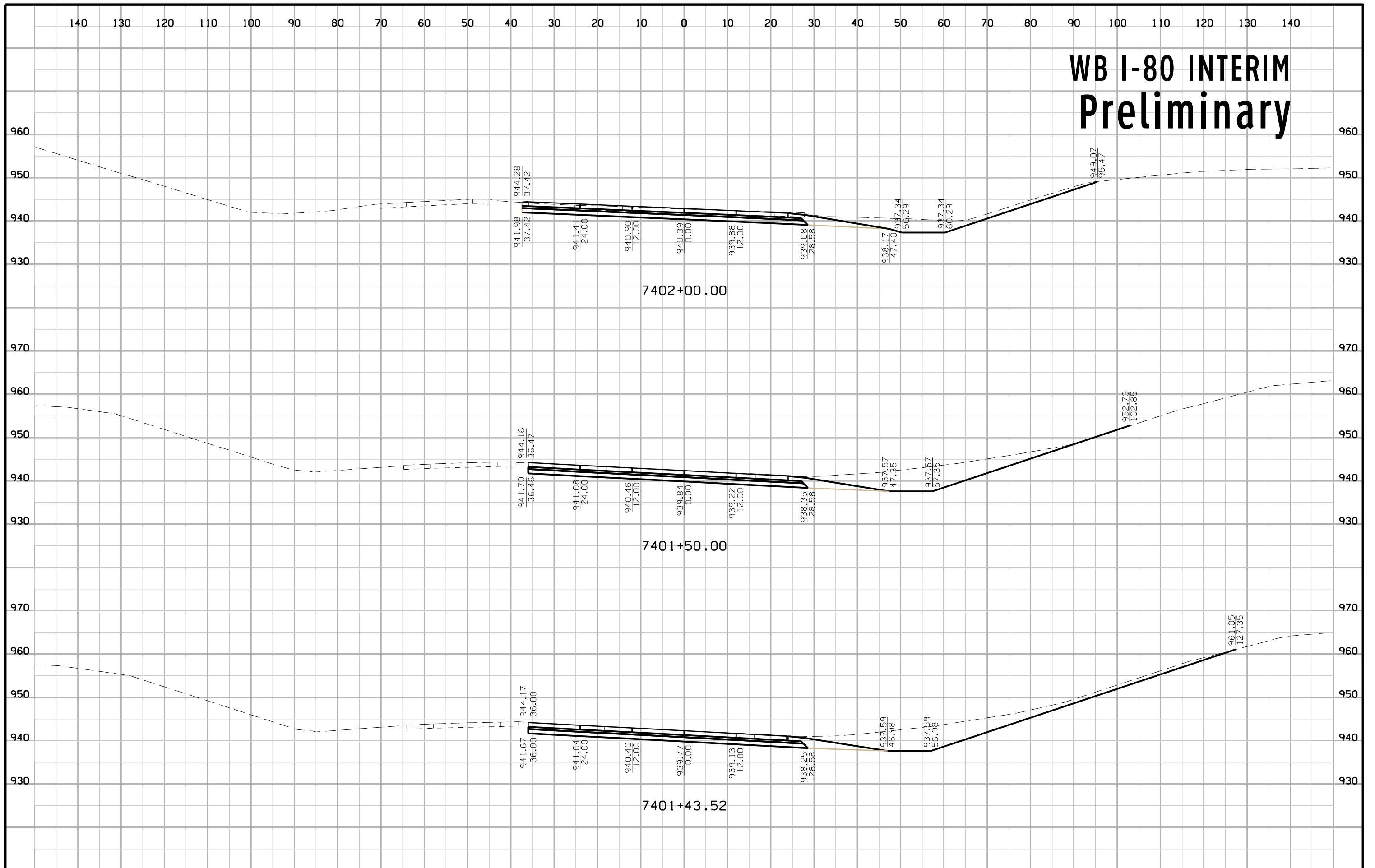
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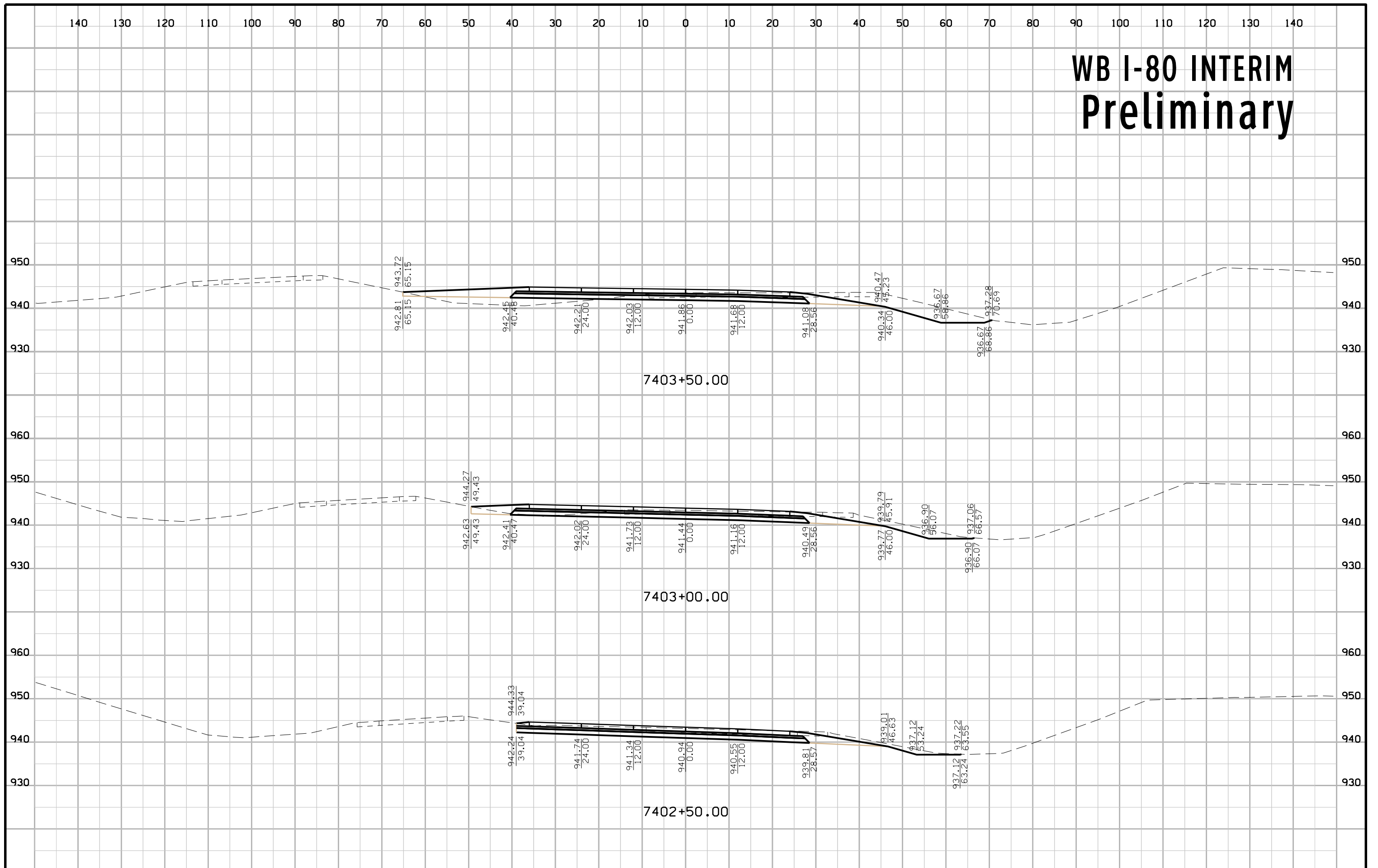
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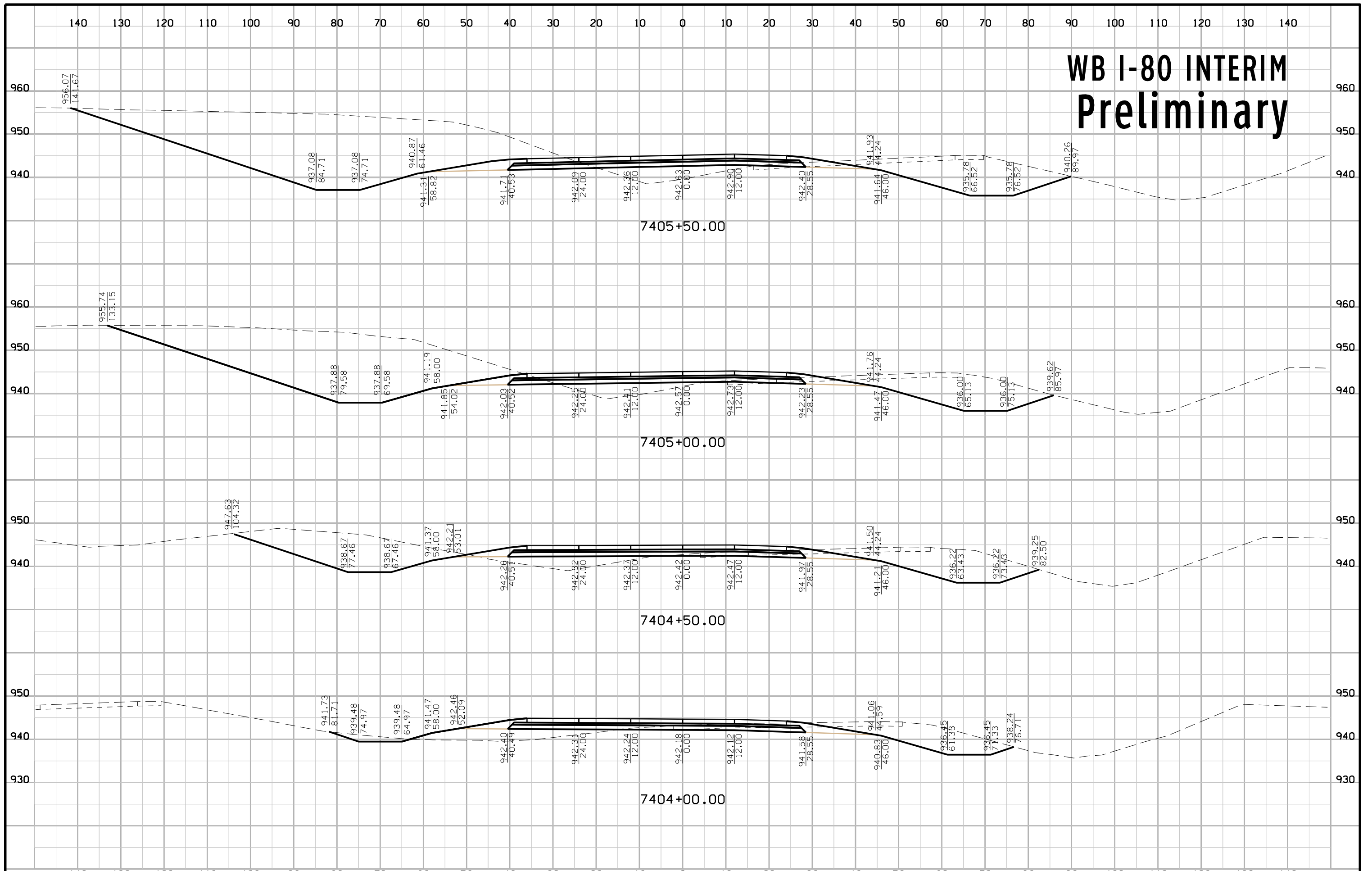
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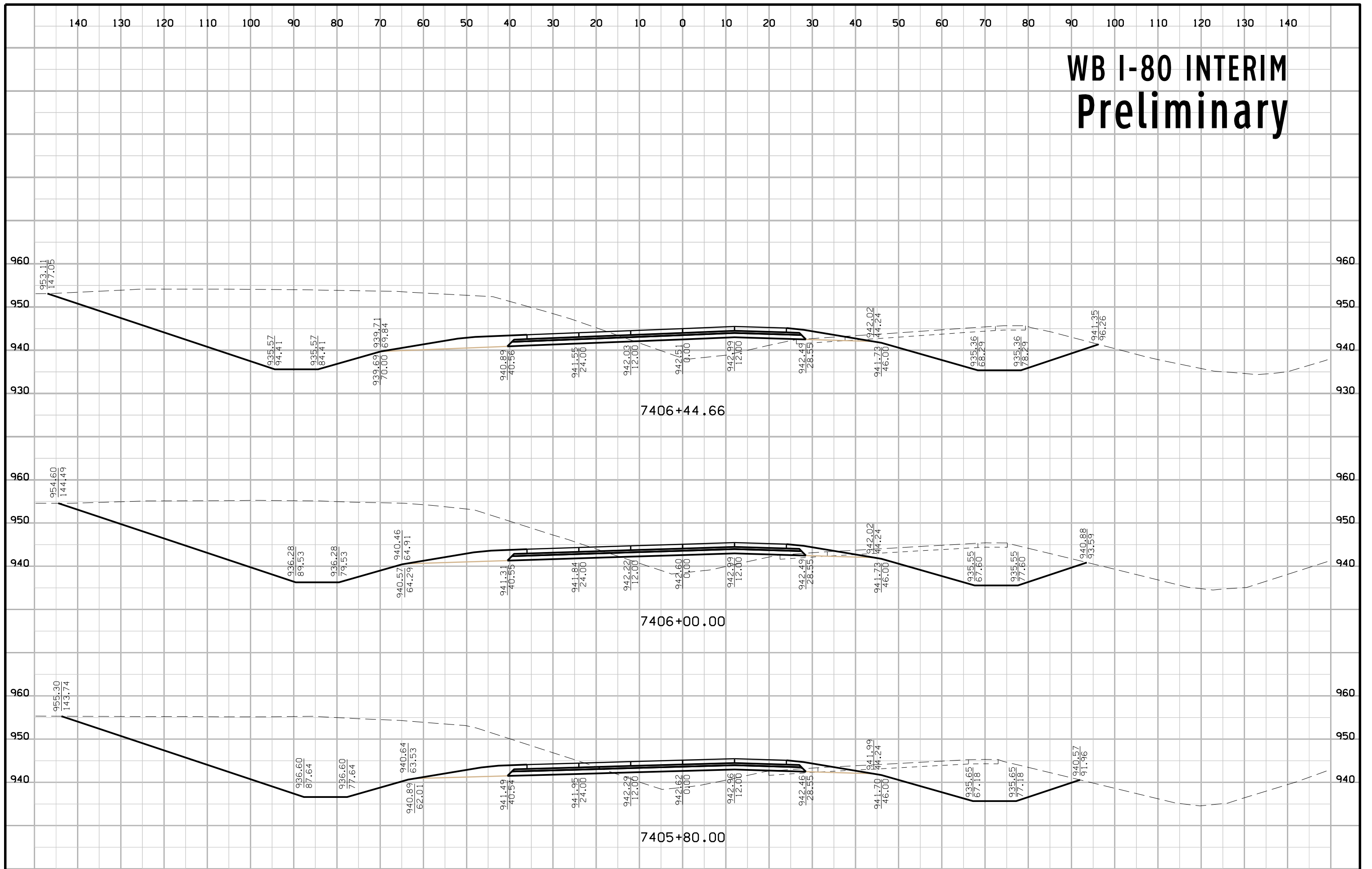
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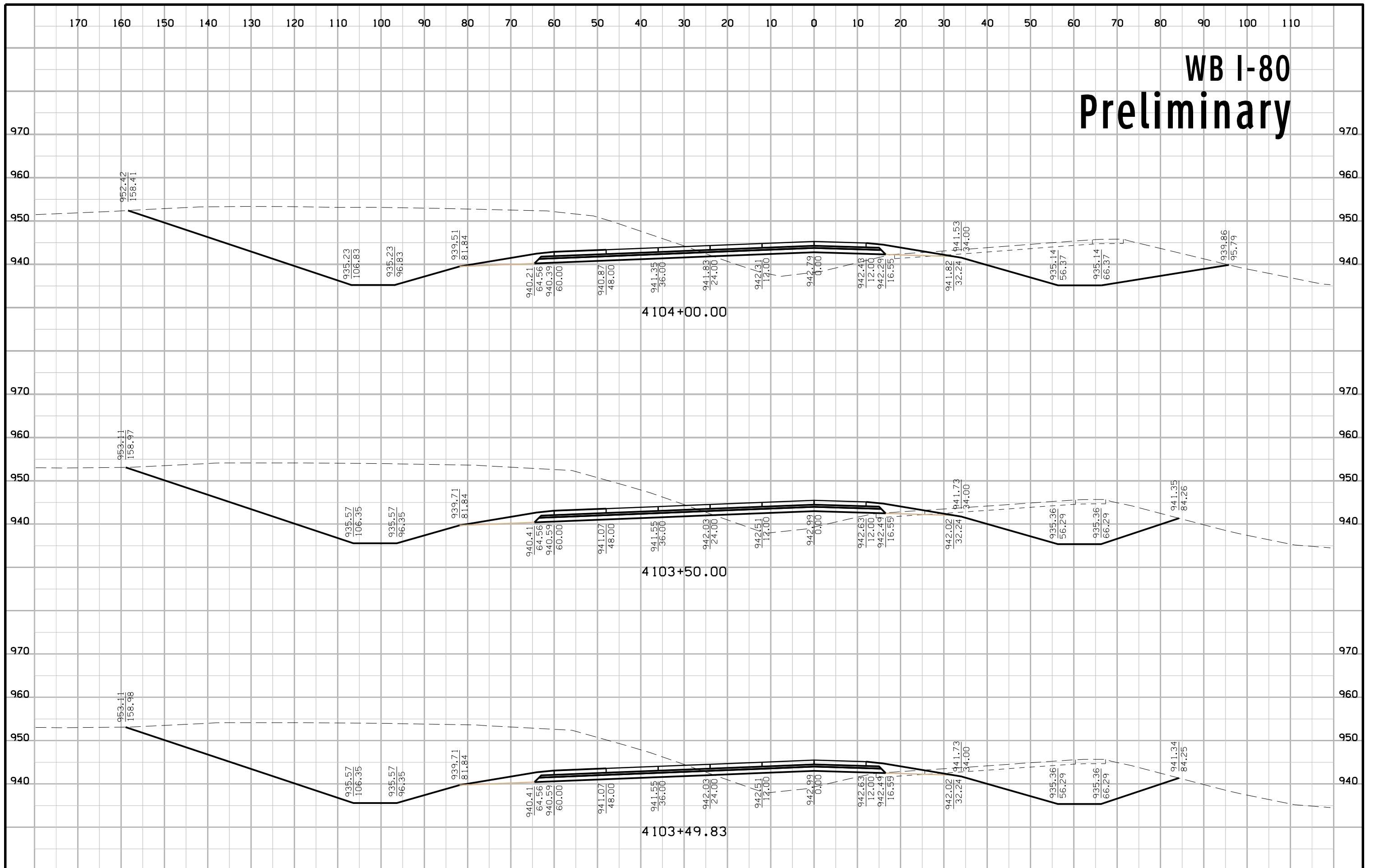
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# WB I-80 INTERIM Preliminary

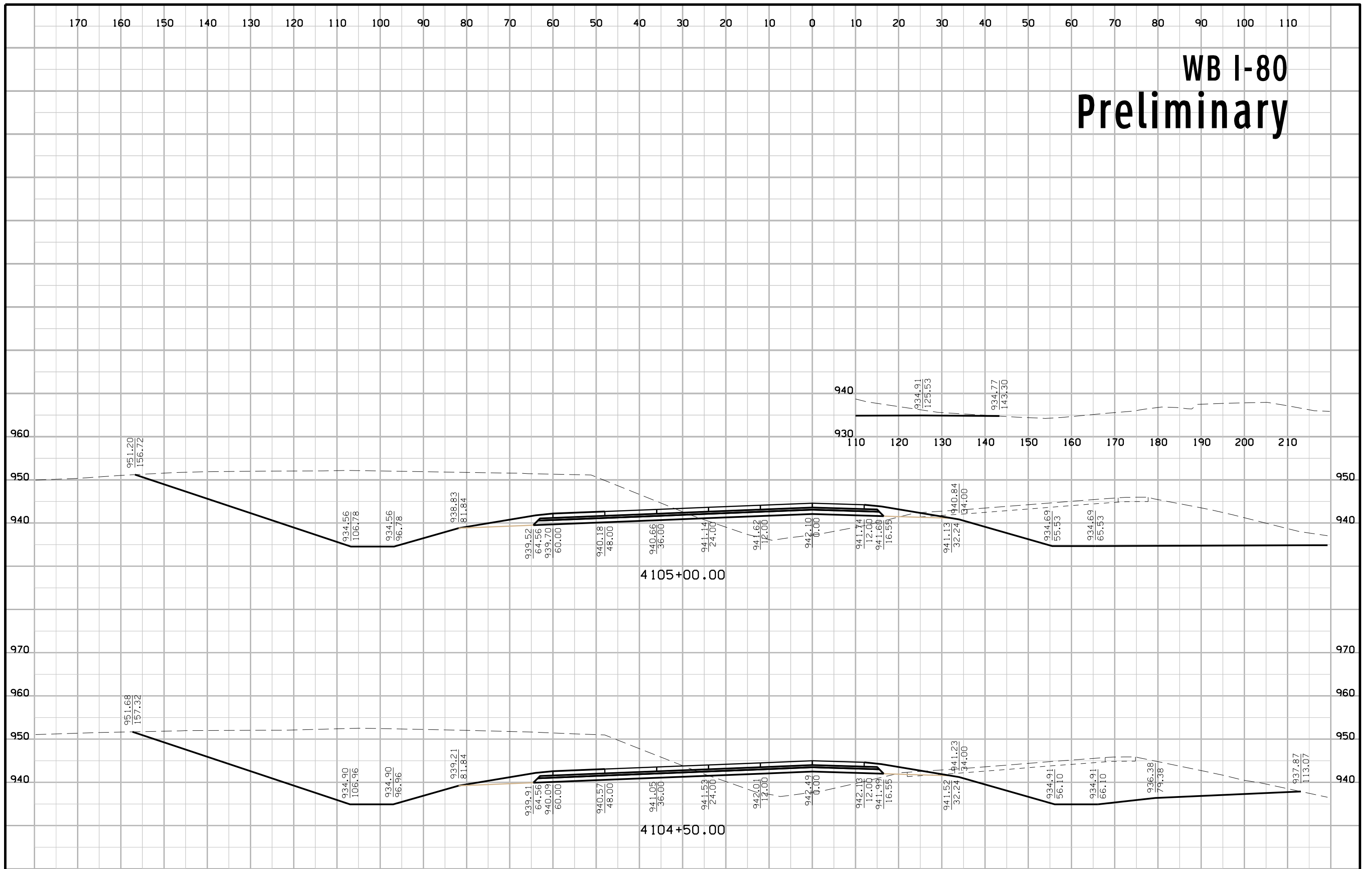


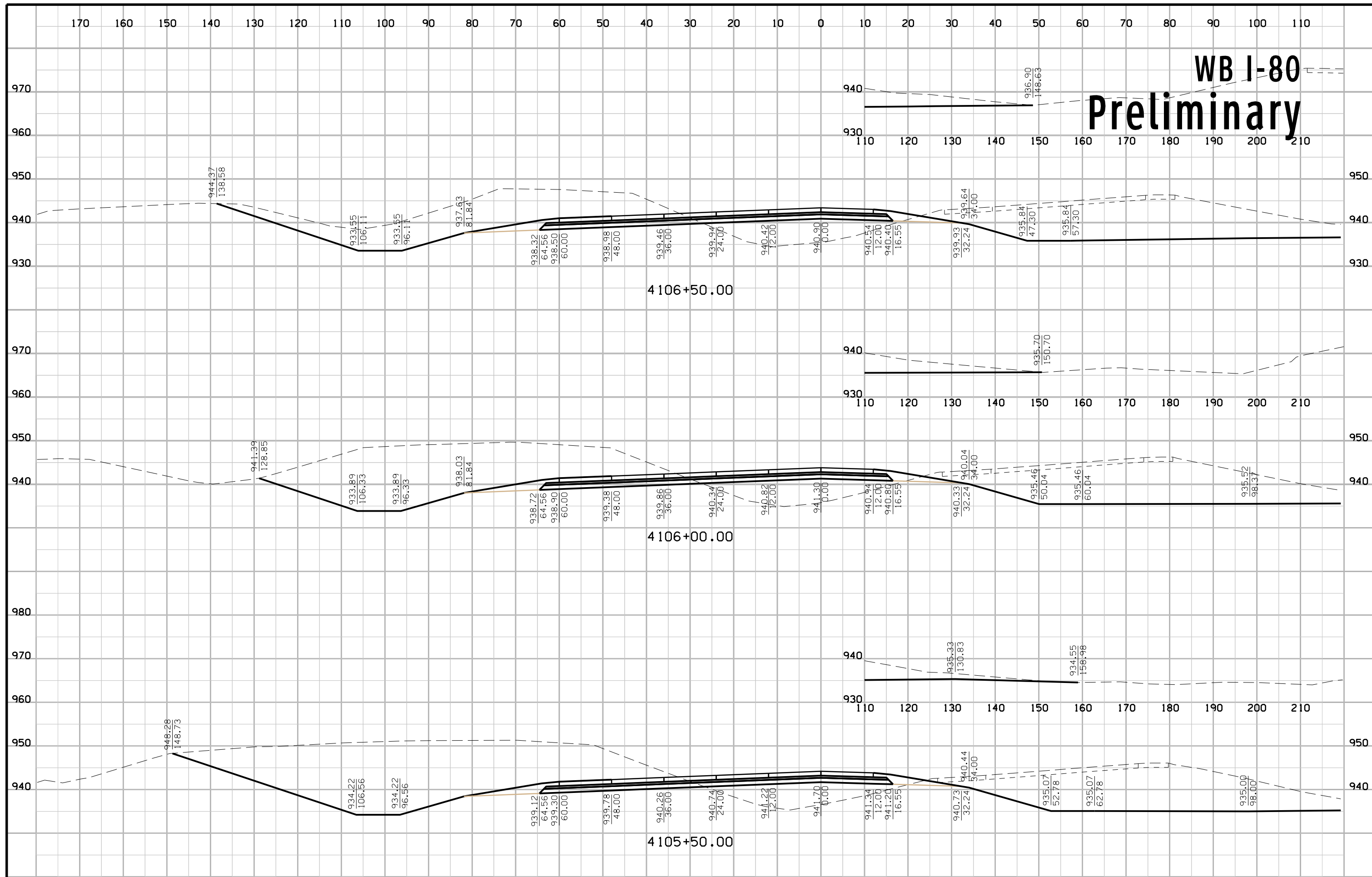
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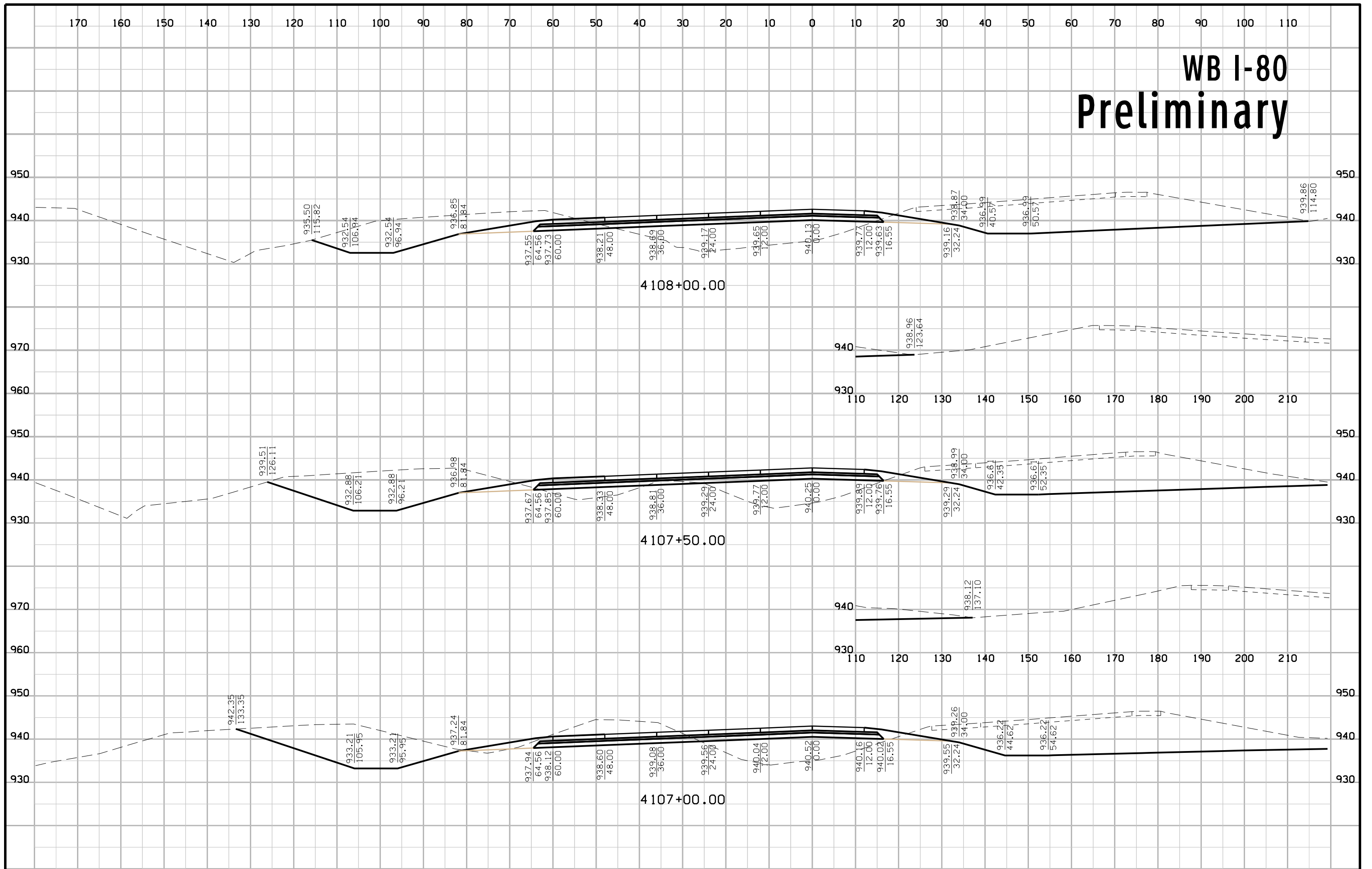


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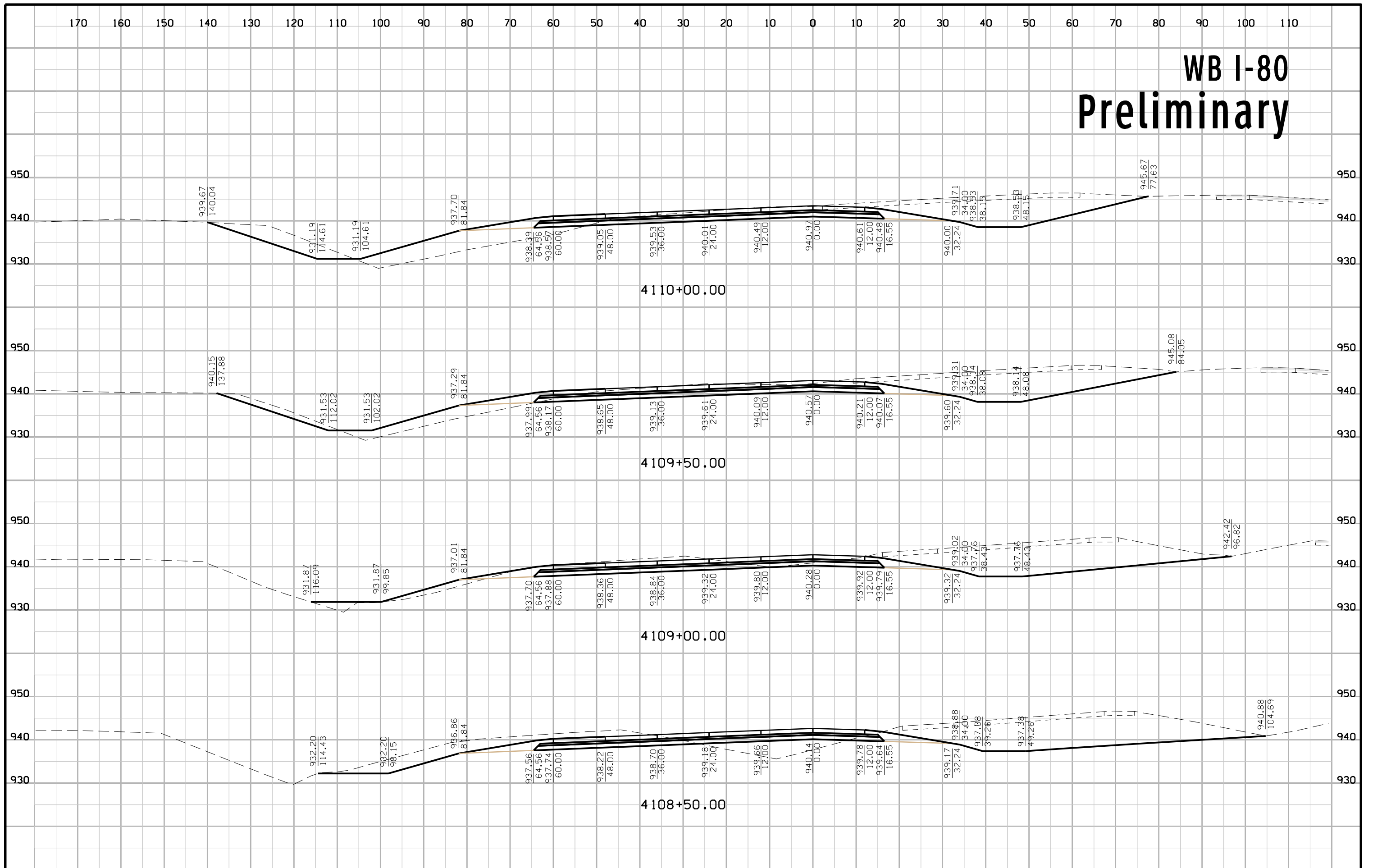




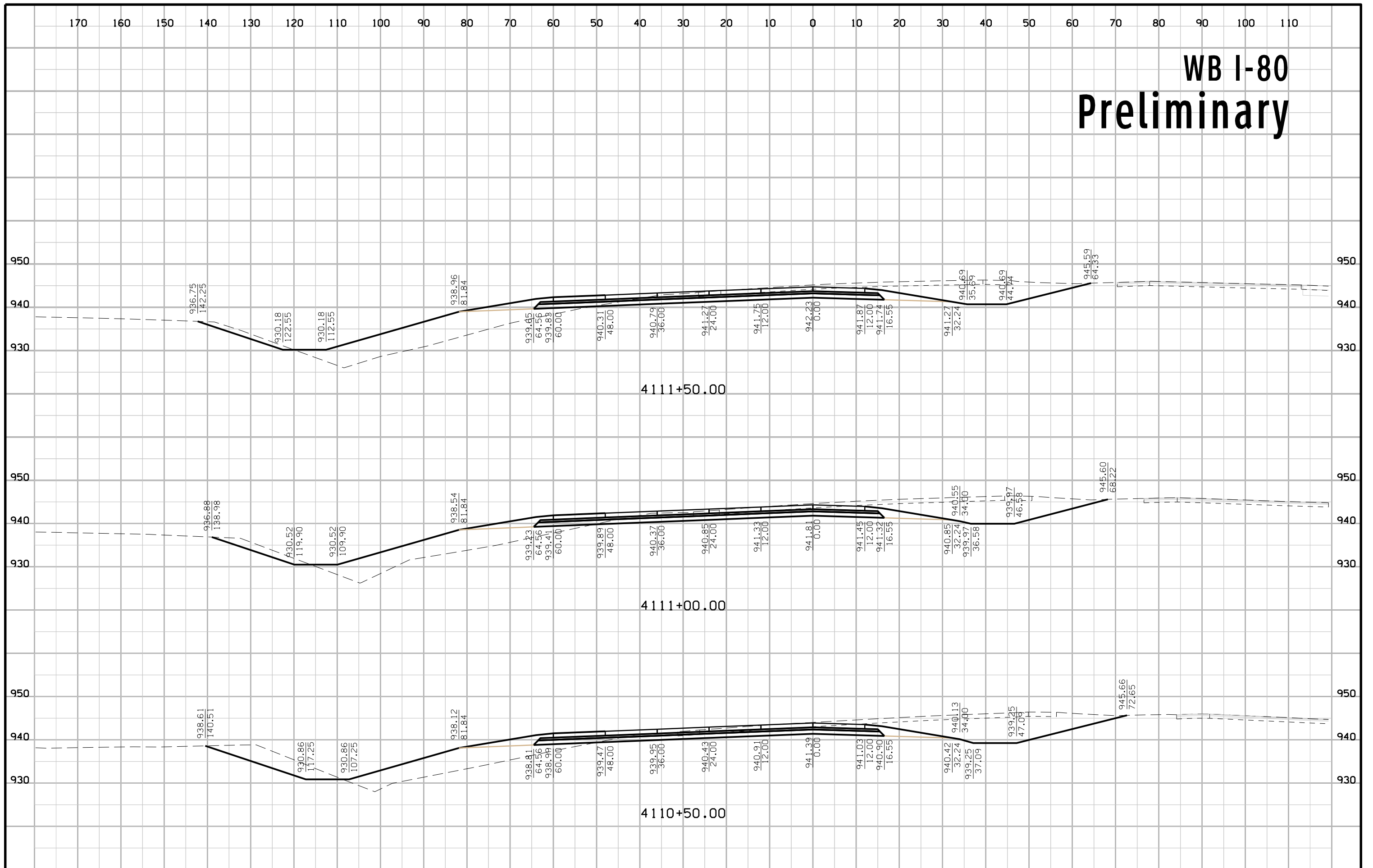
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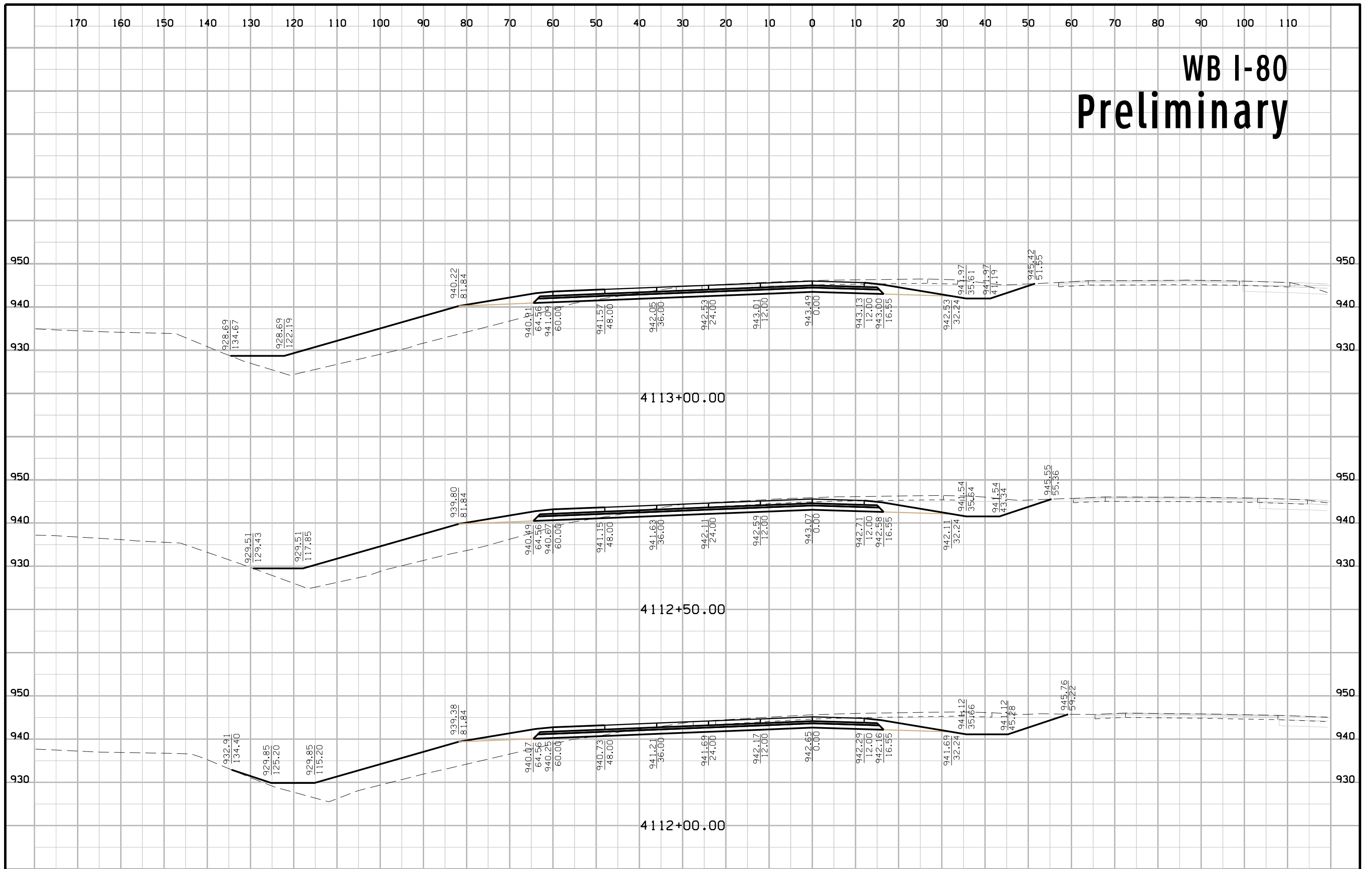
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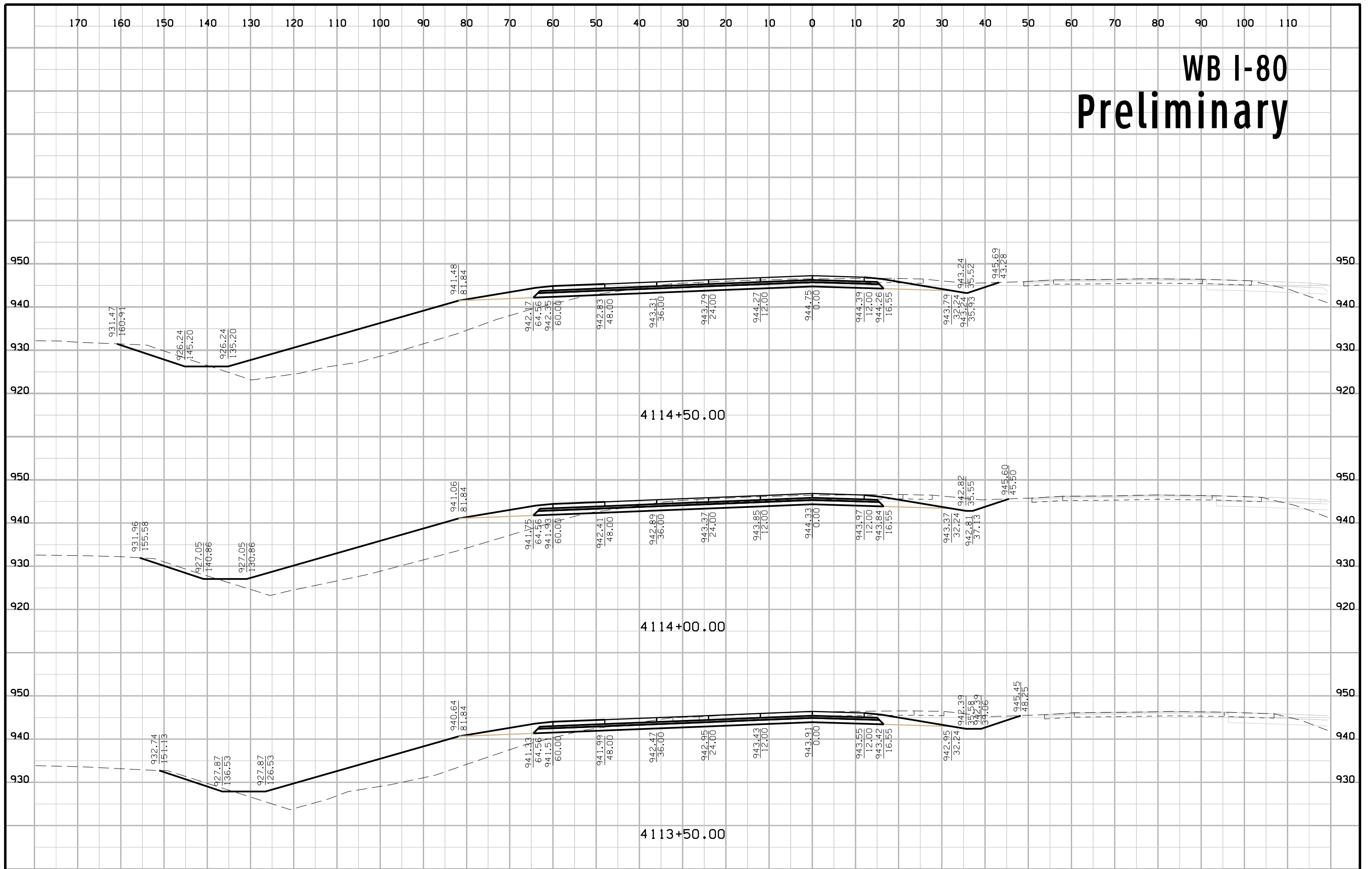
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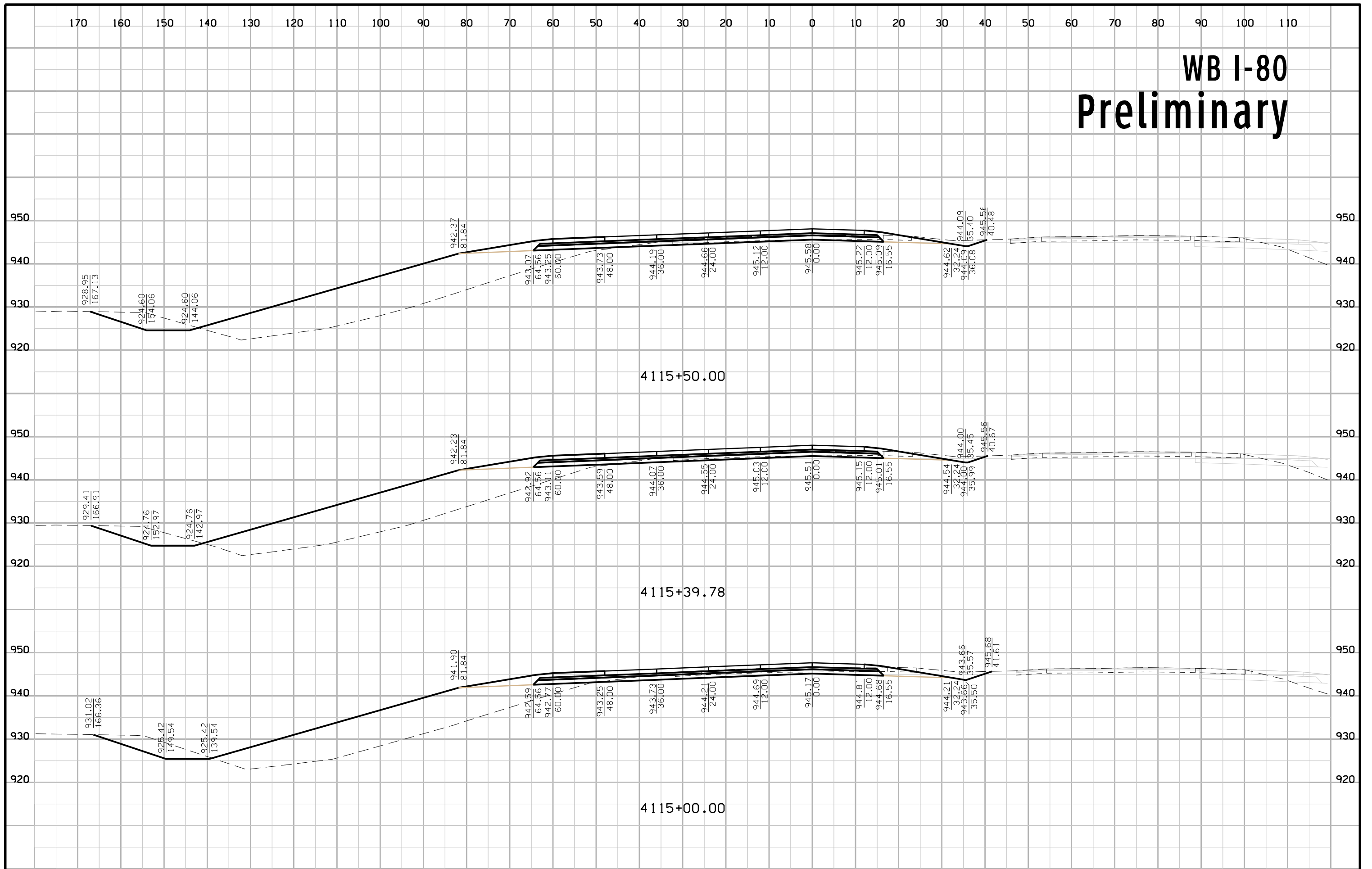
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# WB I-80 Preliminary

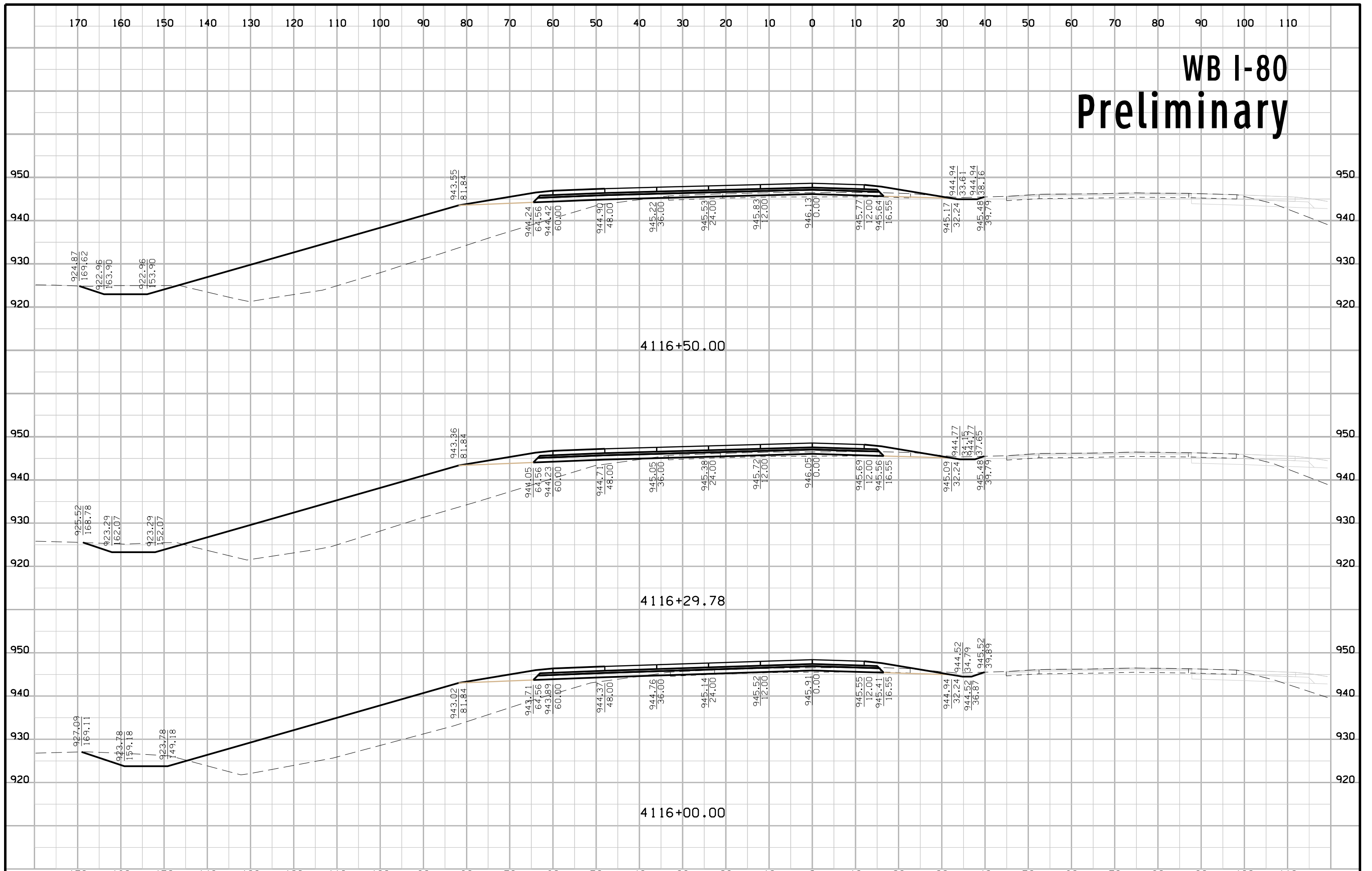


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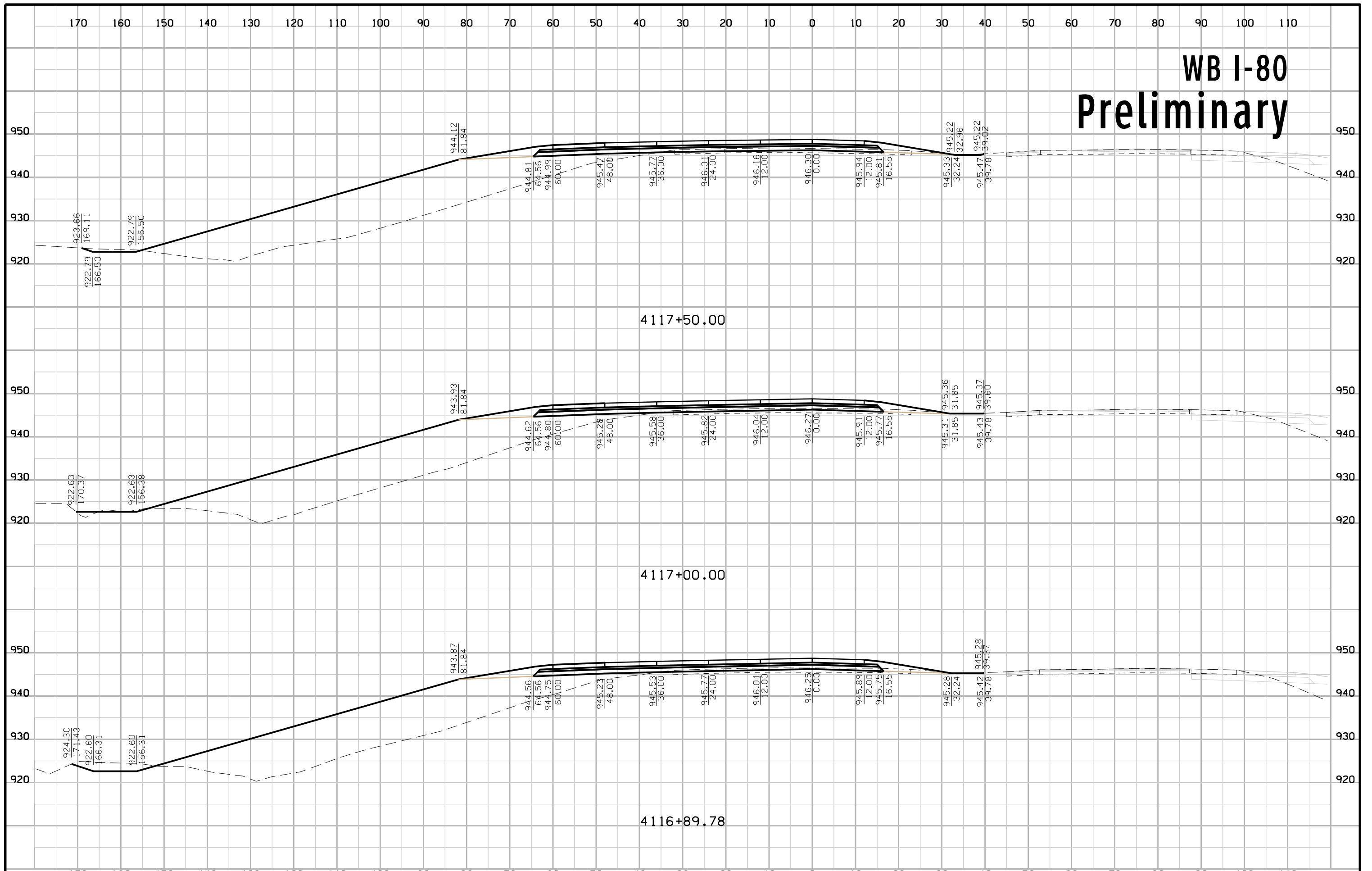




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# WB I-80 Preliminary

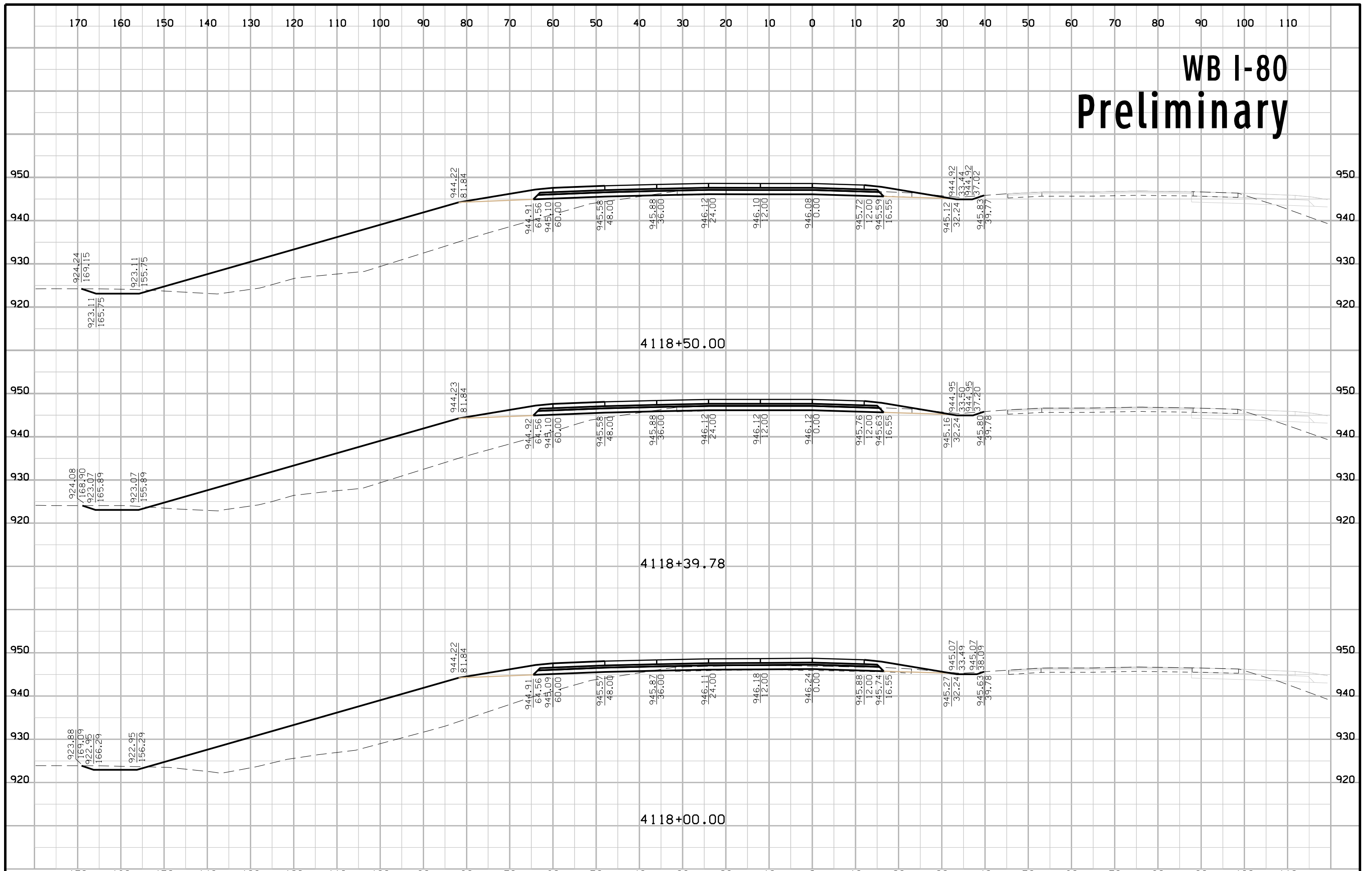


4117+50.00

4117+00.00

4116+89.78

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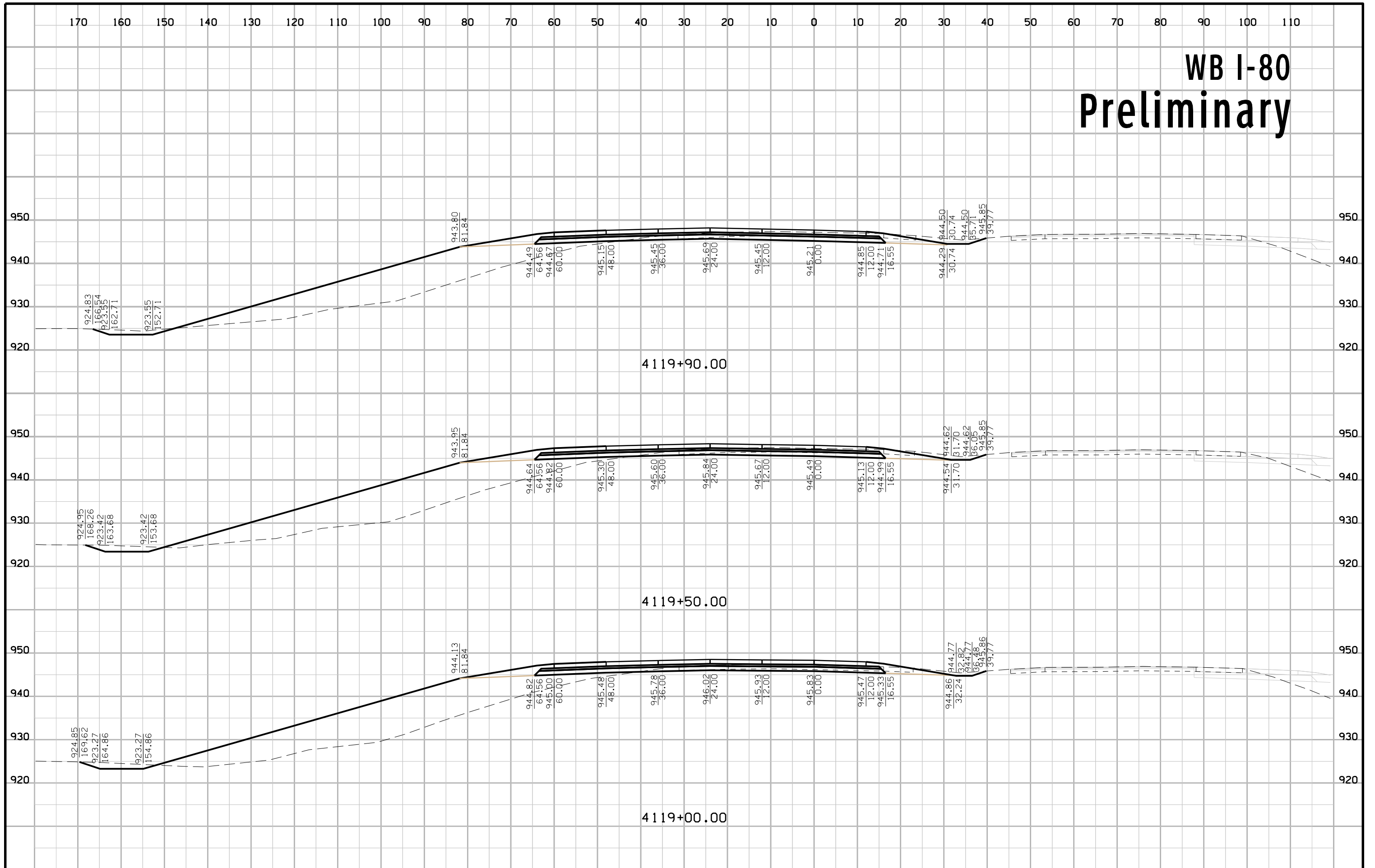


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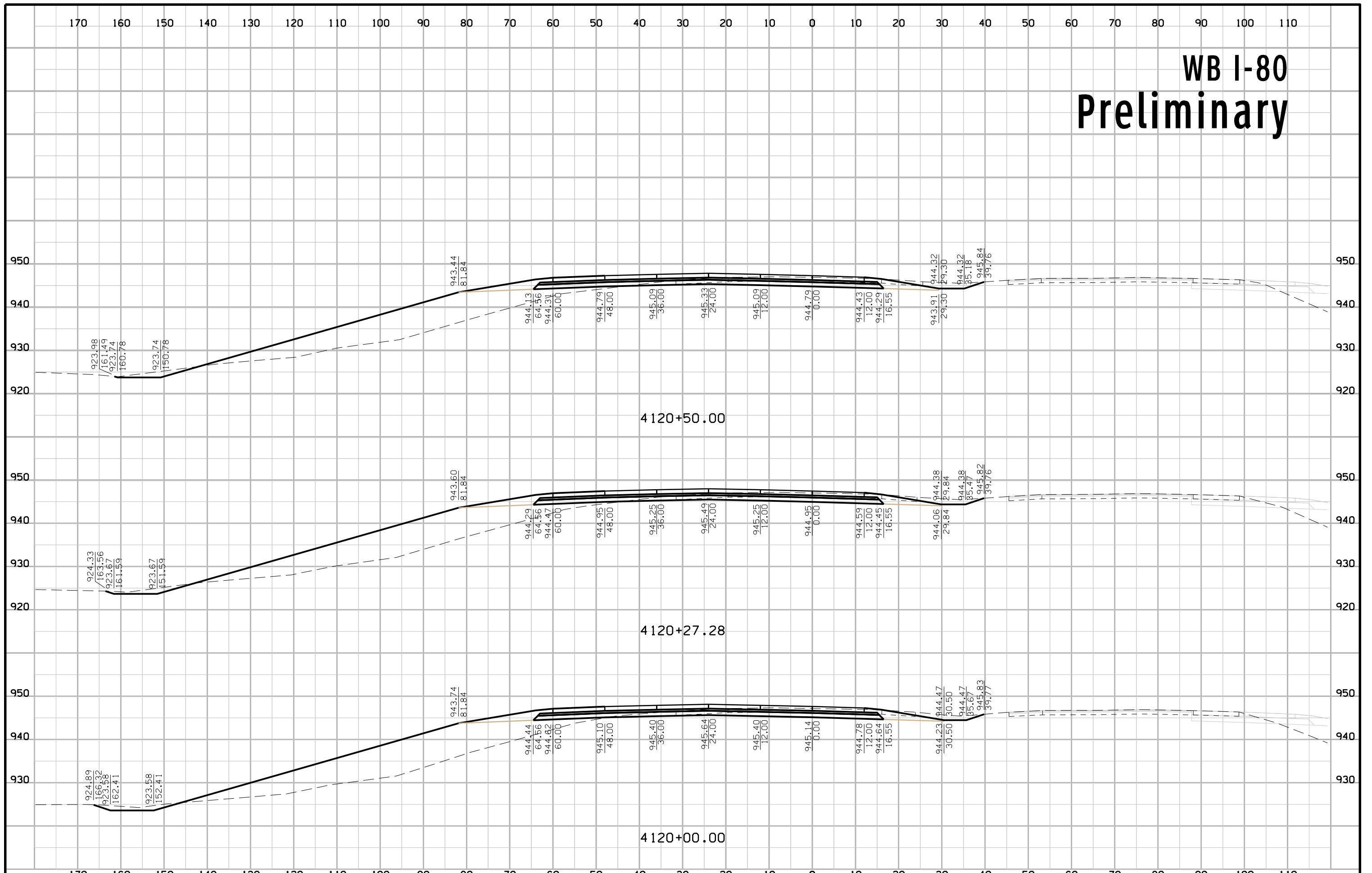
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4118+00.00

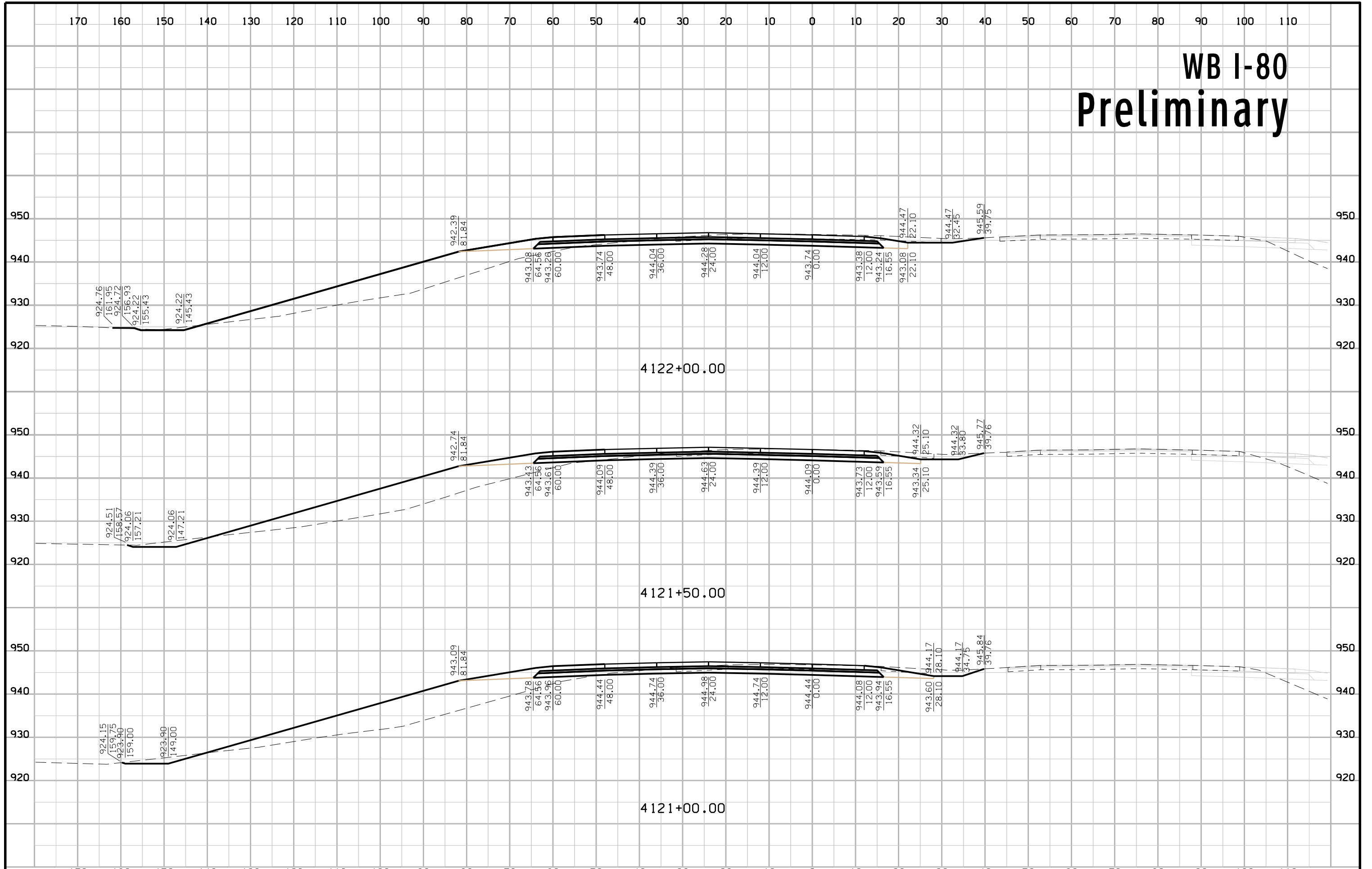
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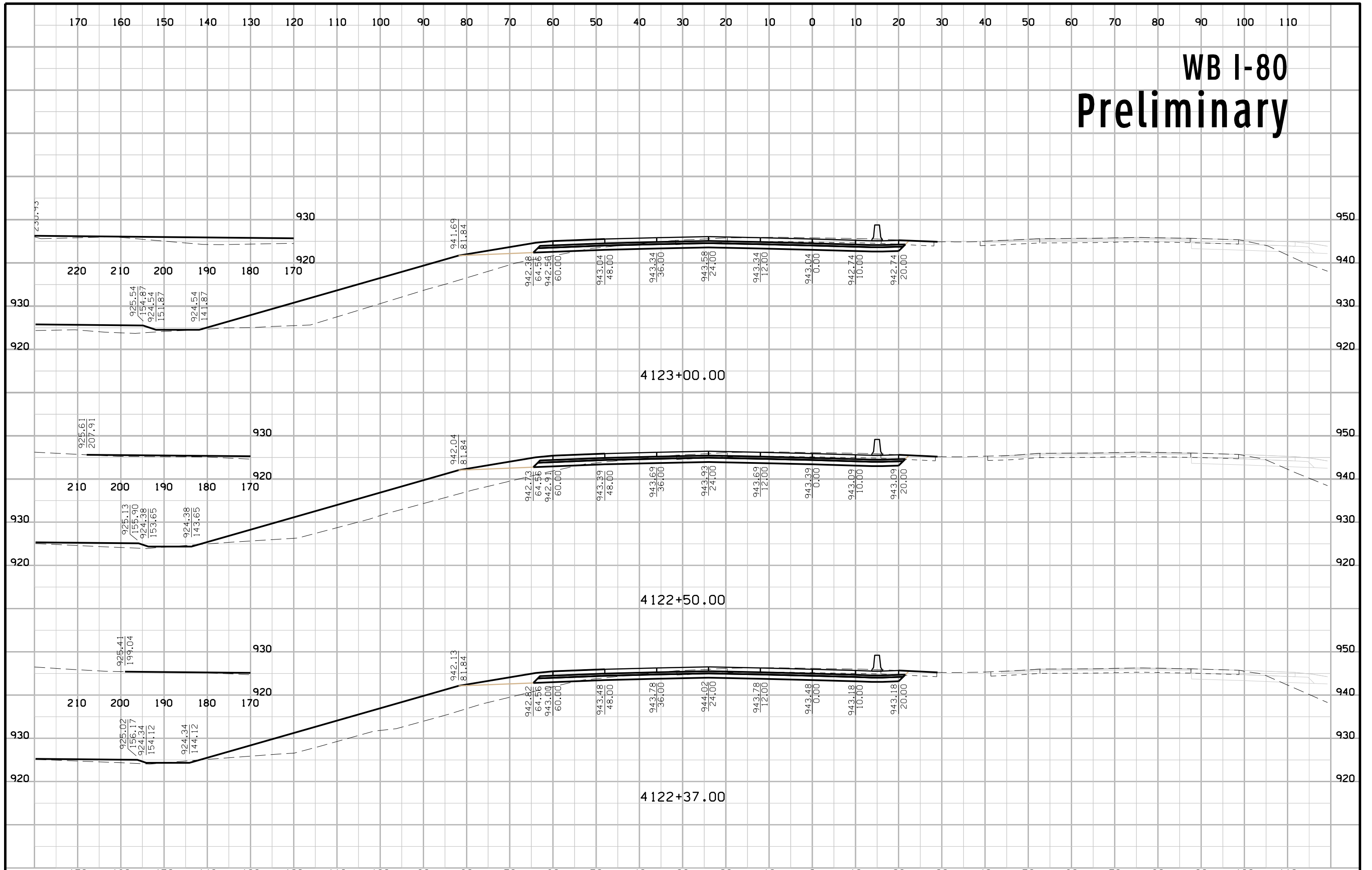
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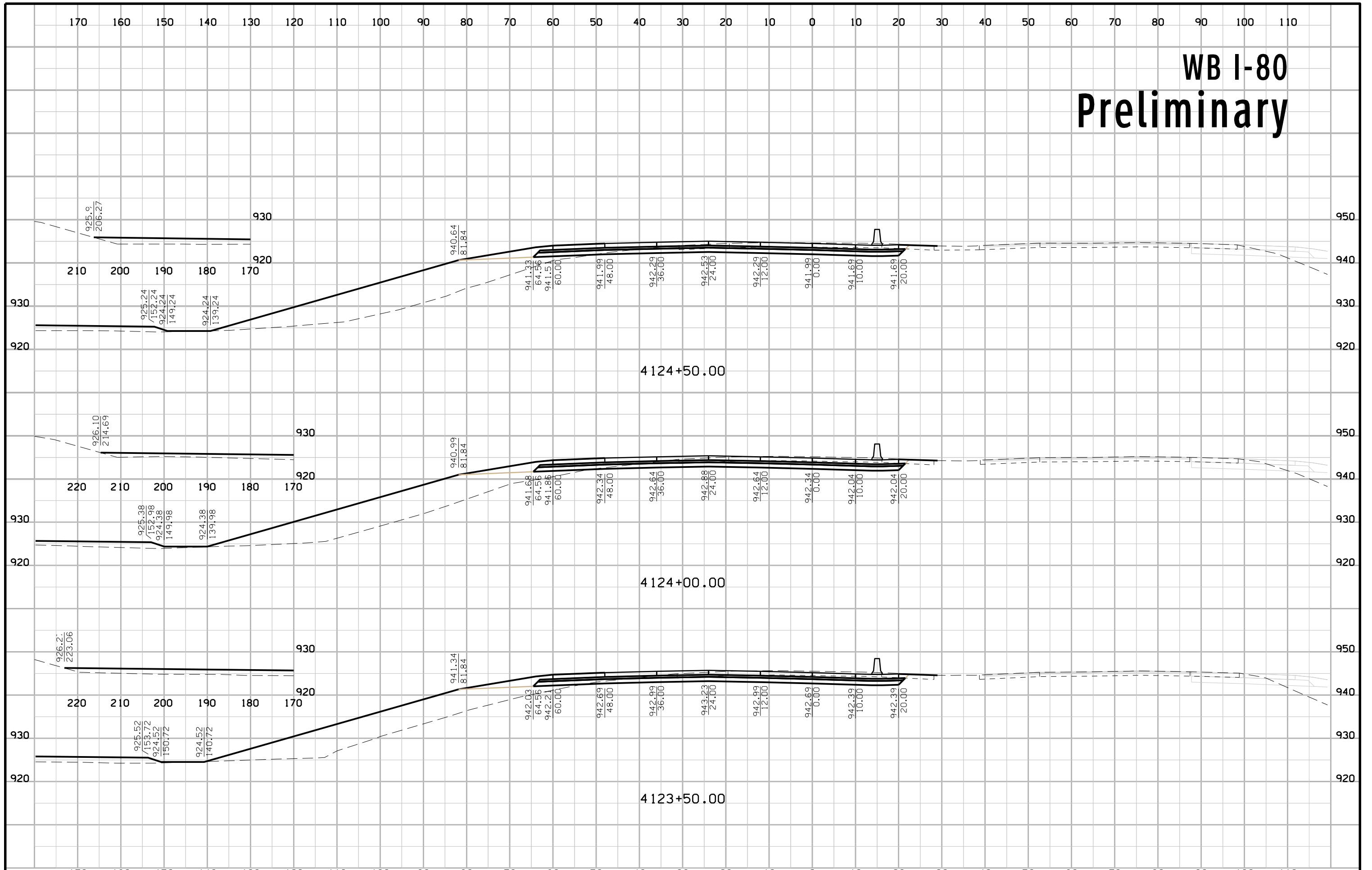
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# WB I-80 Preliminary



# WB I-80 Preliminary



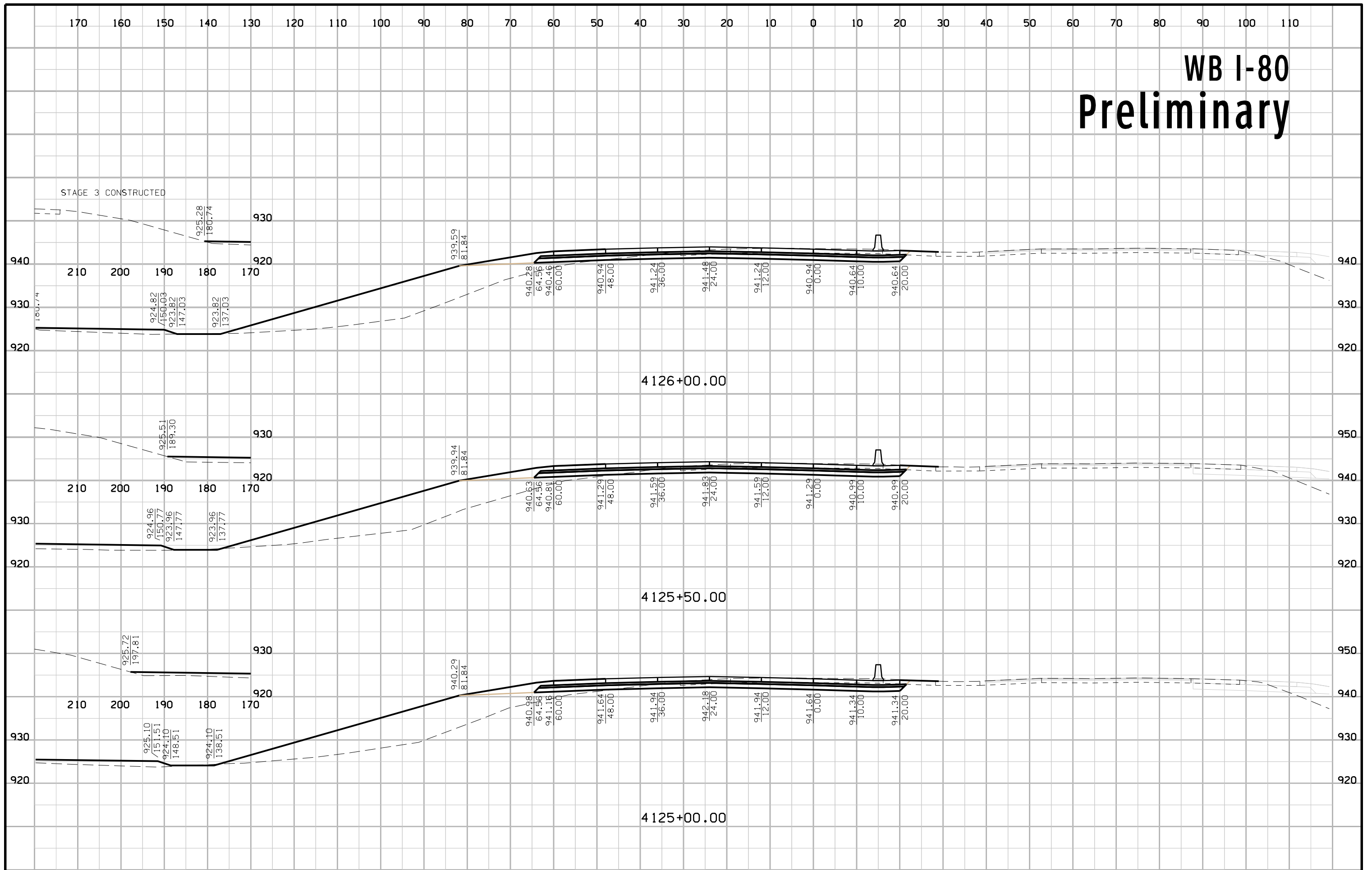
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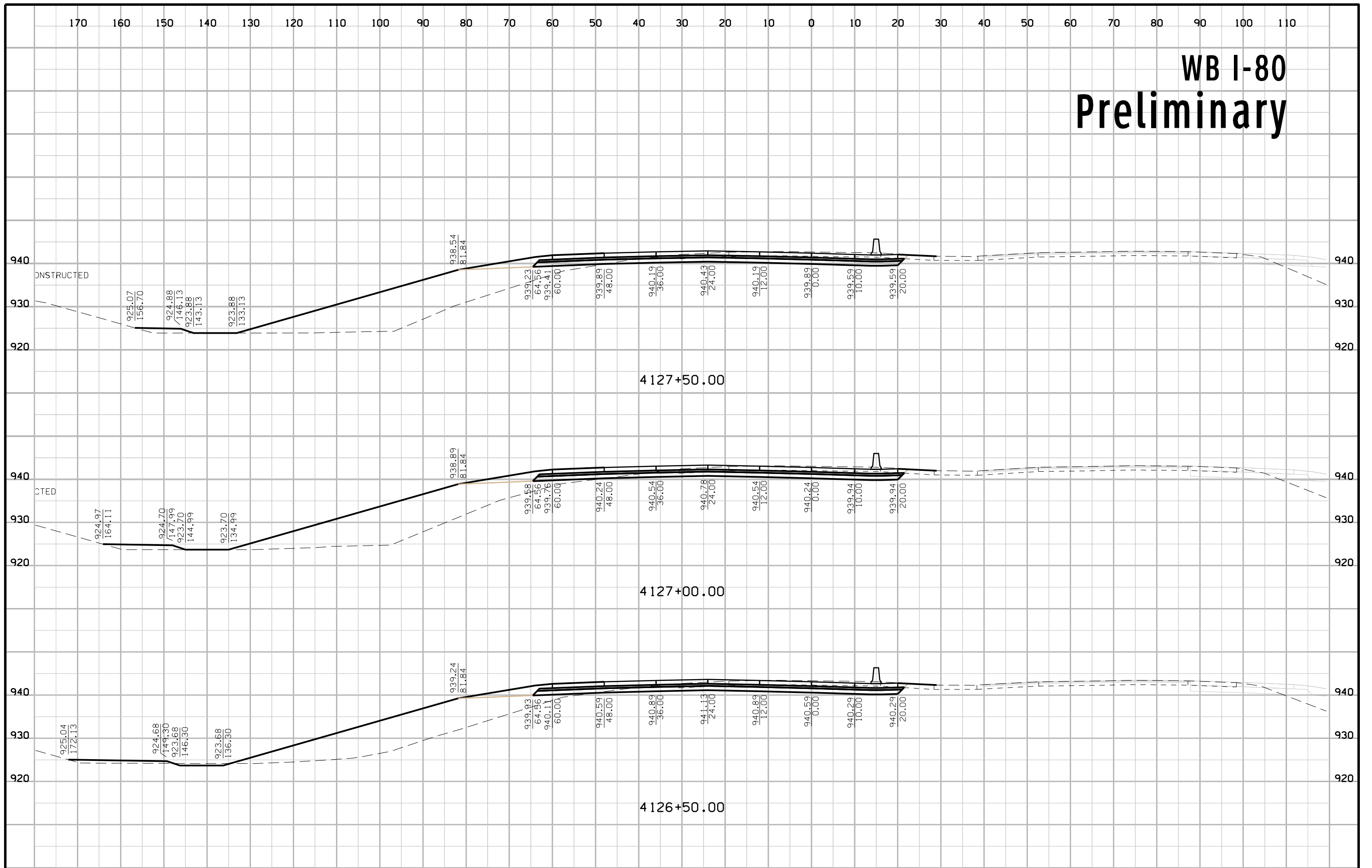
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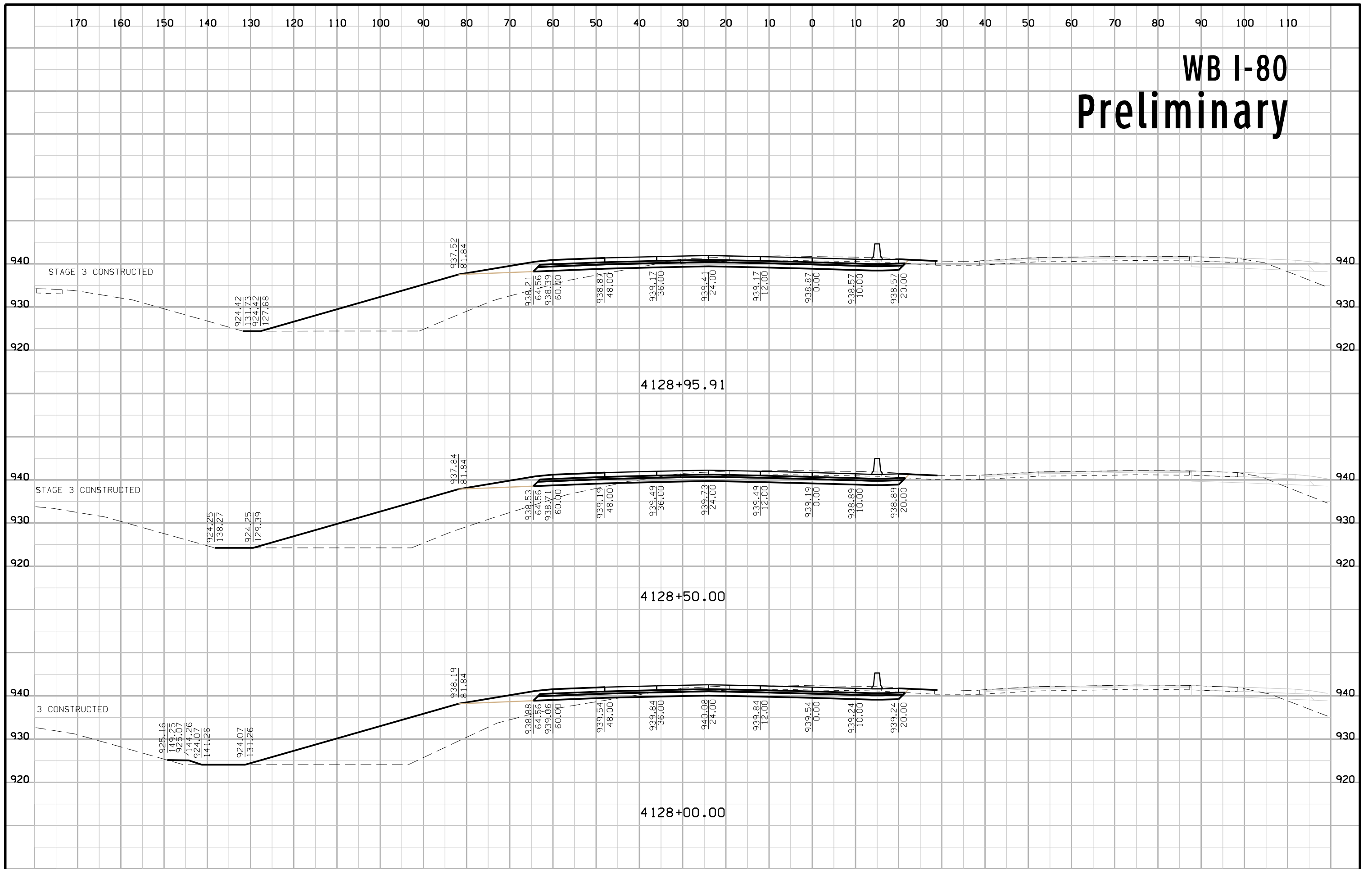
# WB I-80 Preliminary



# WB I-80 Preliminary



# WB I-80 Preliminary

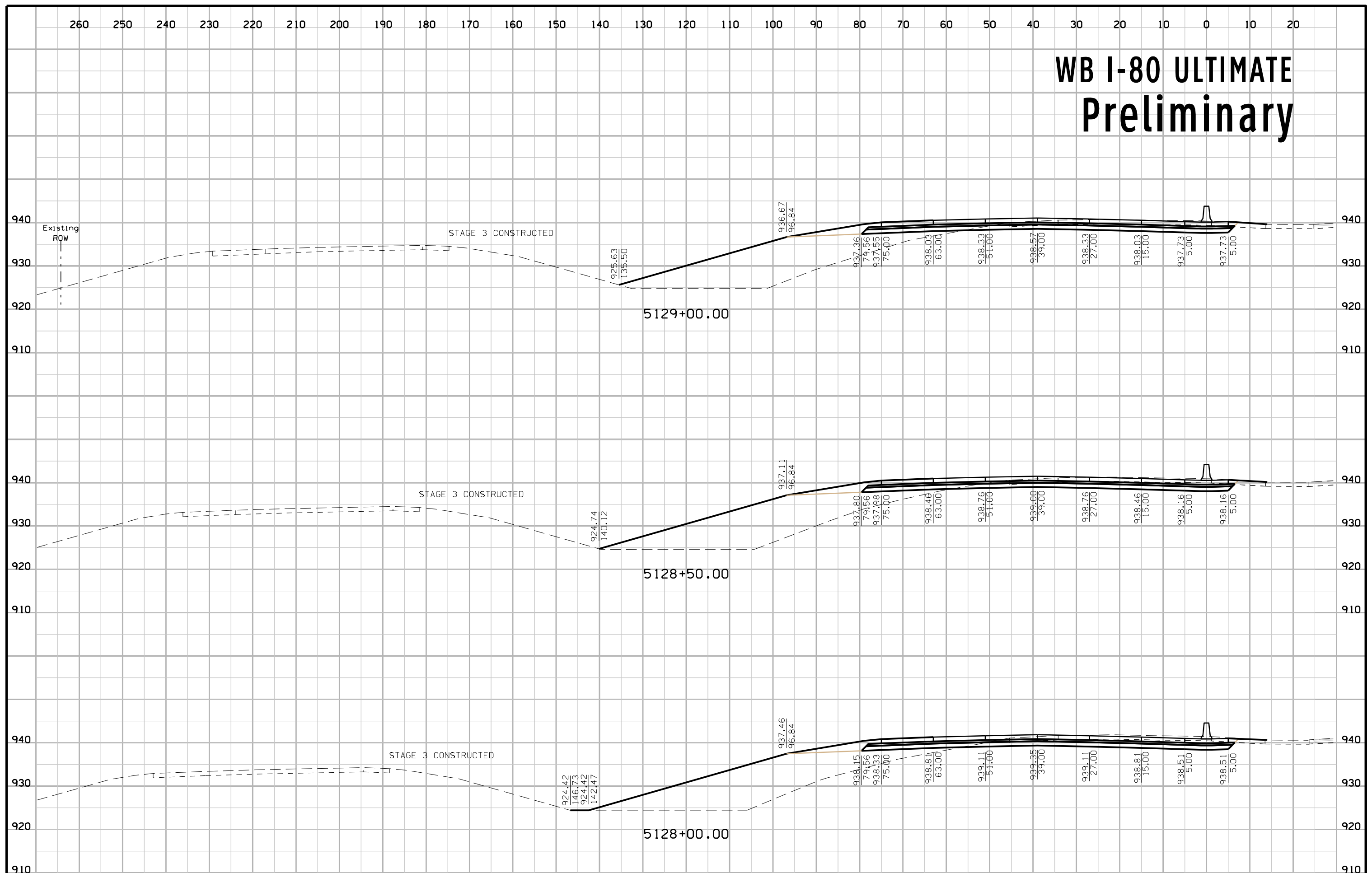


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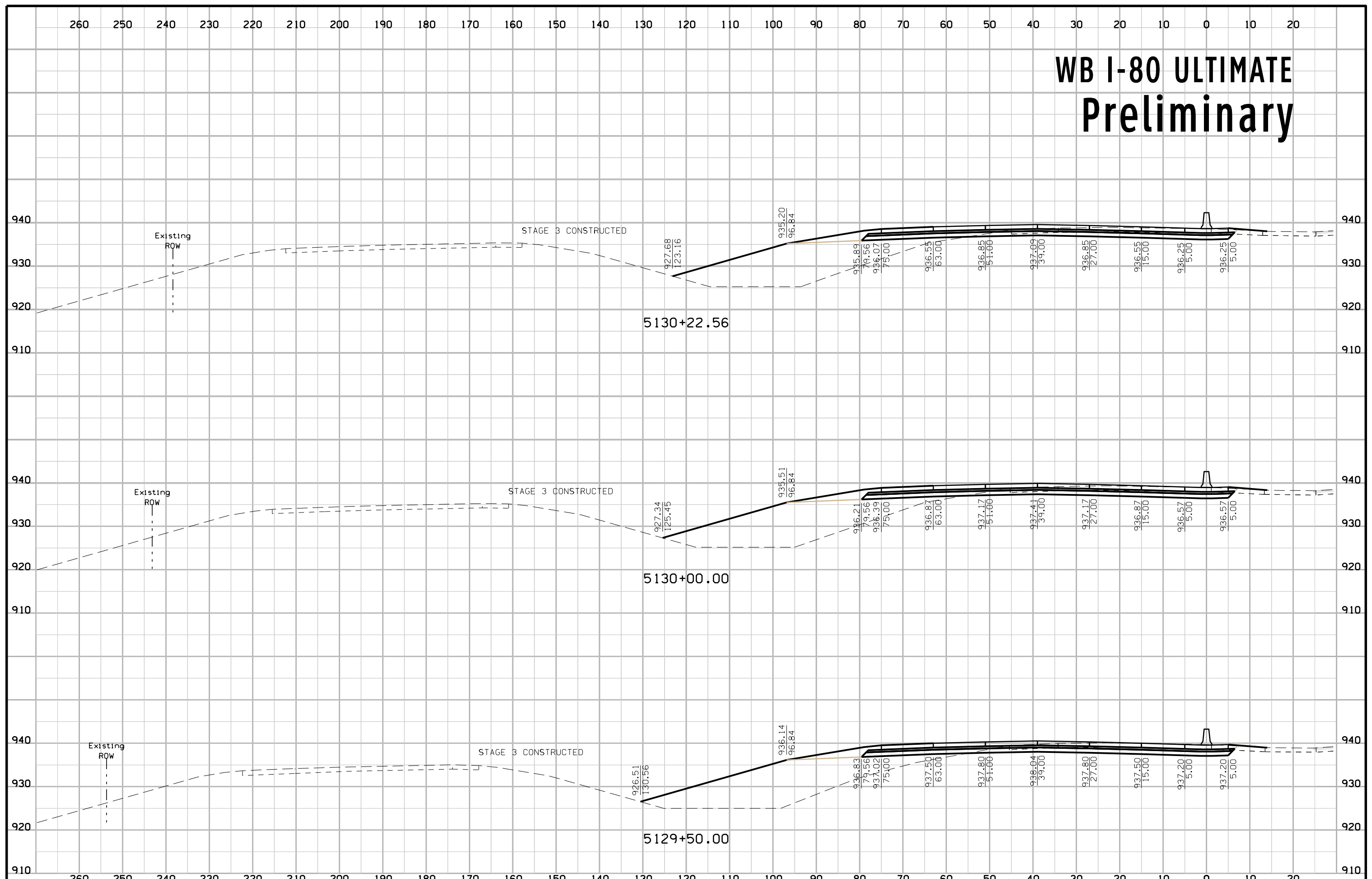
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4 128+00.00

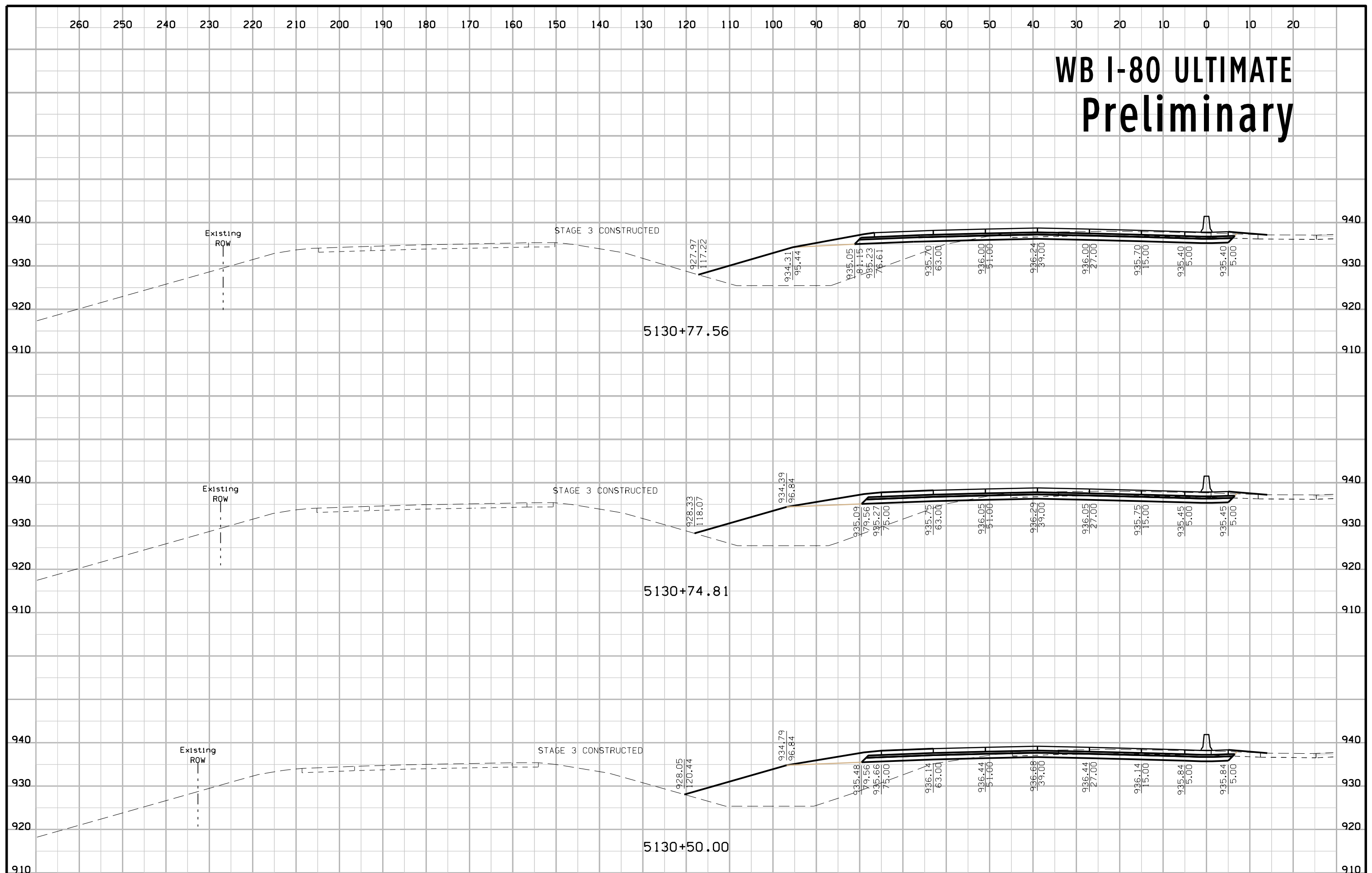
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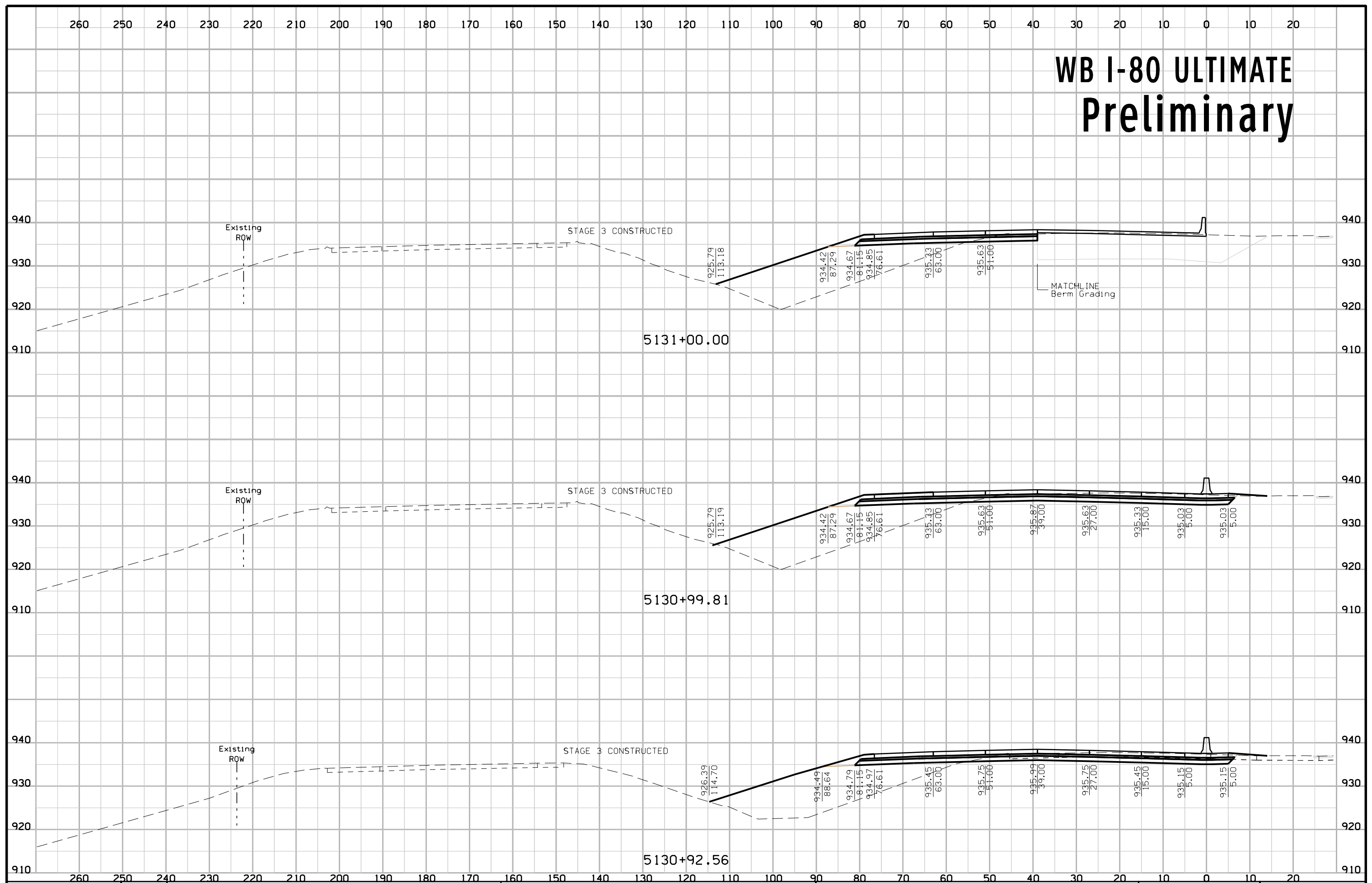
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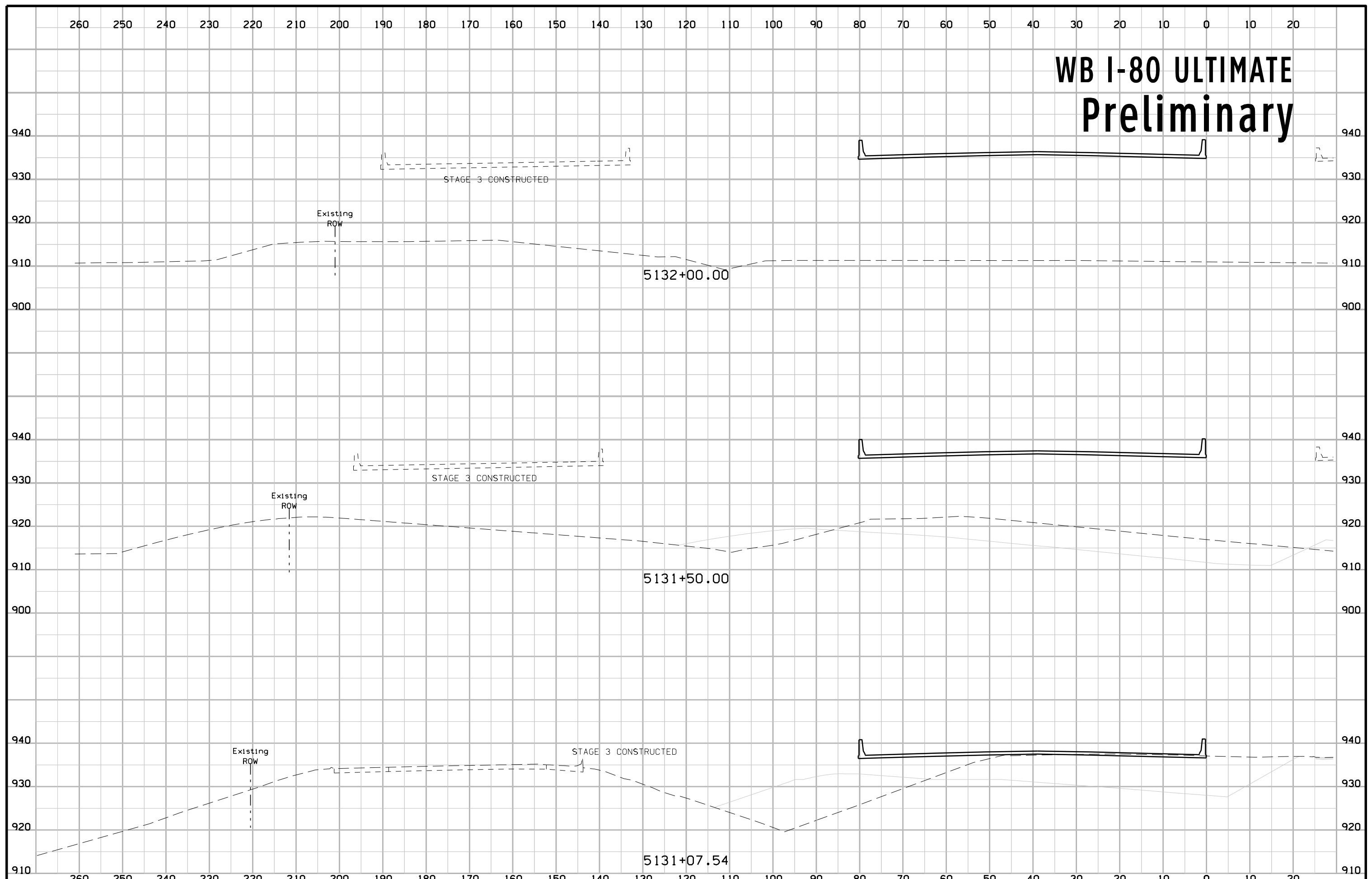
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# WB I-80 ULTIMATE Preliminary

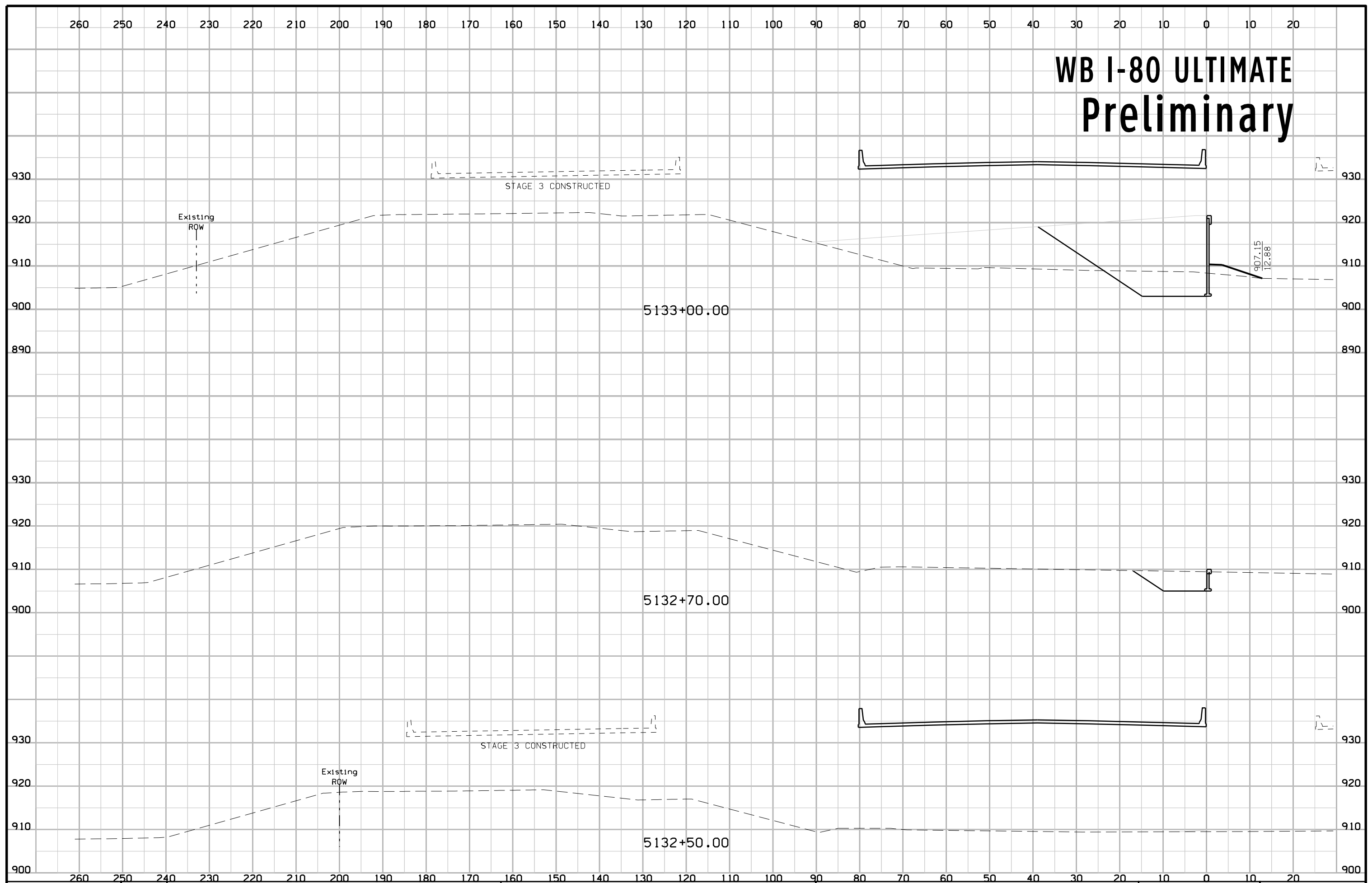


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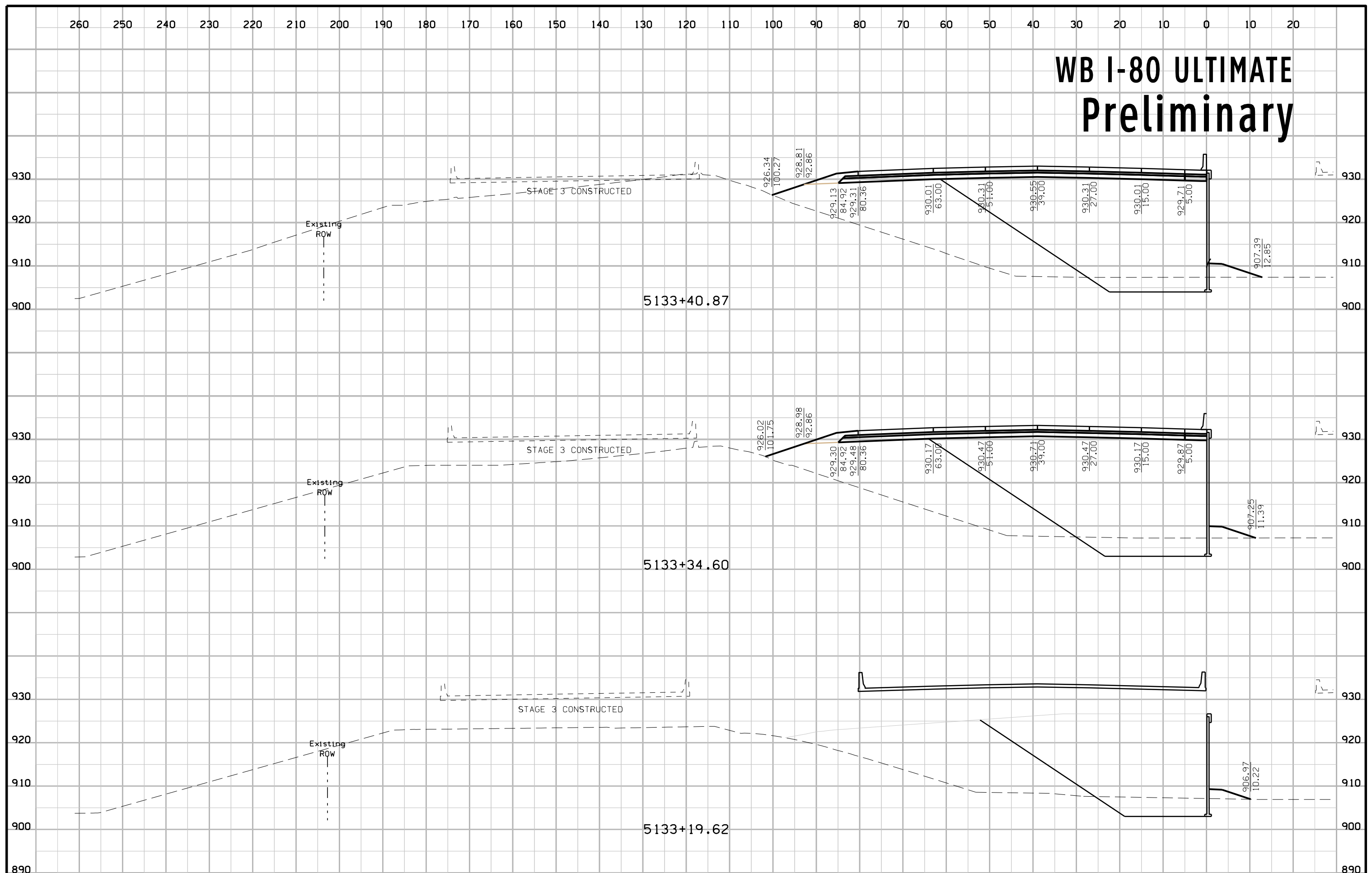




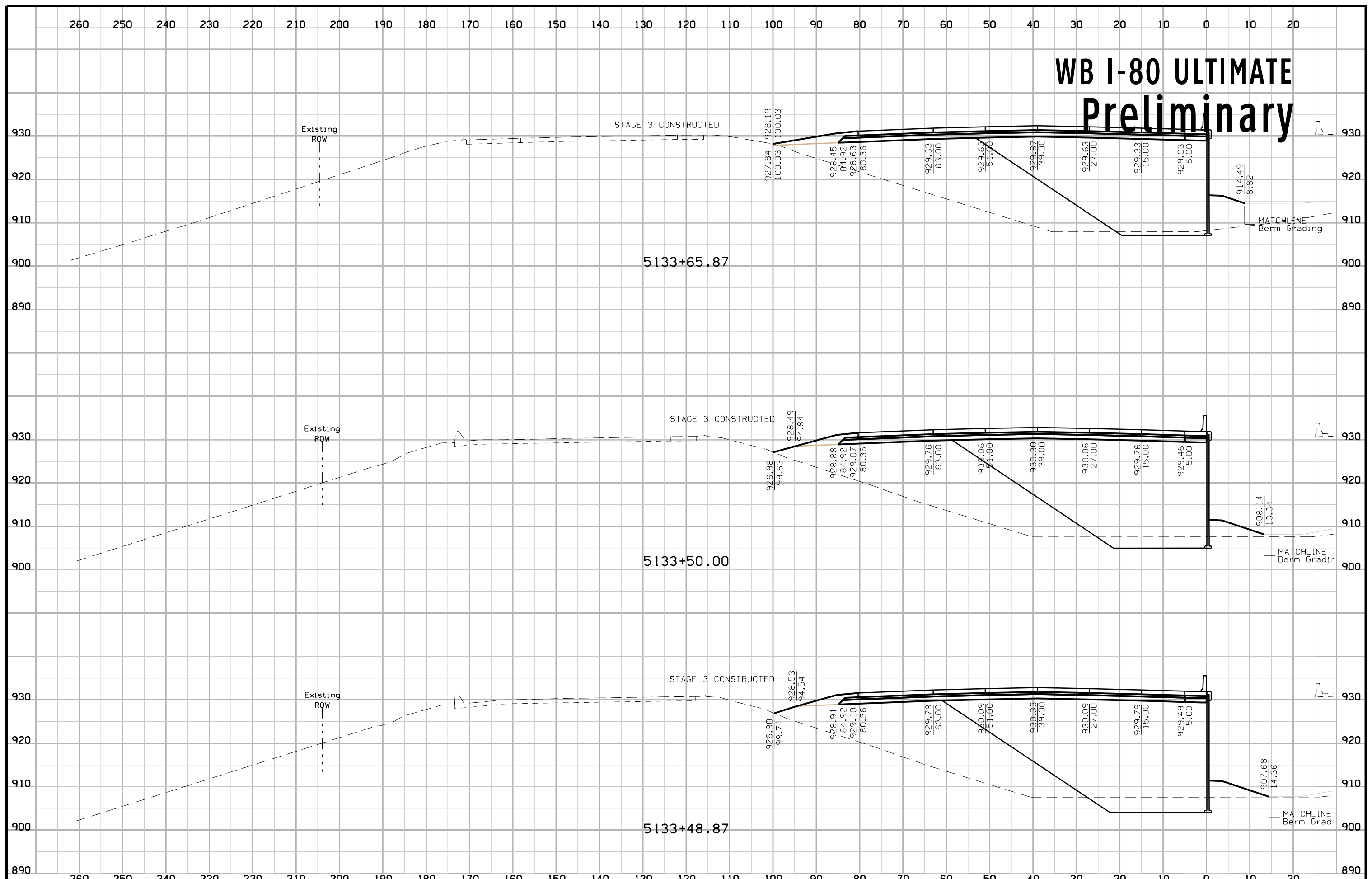
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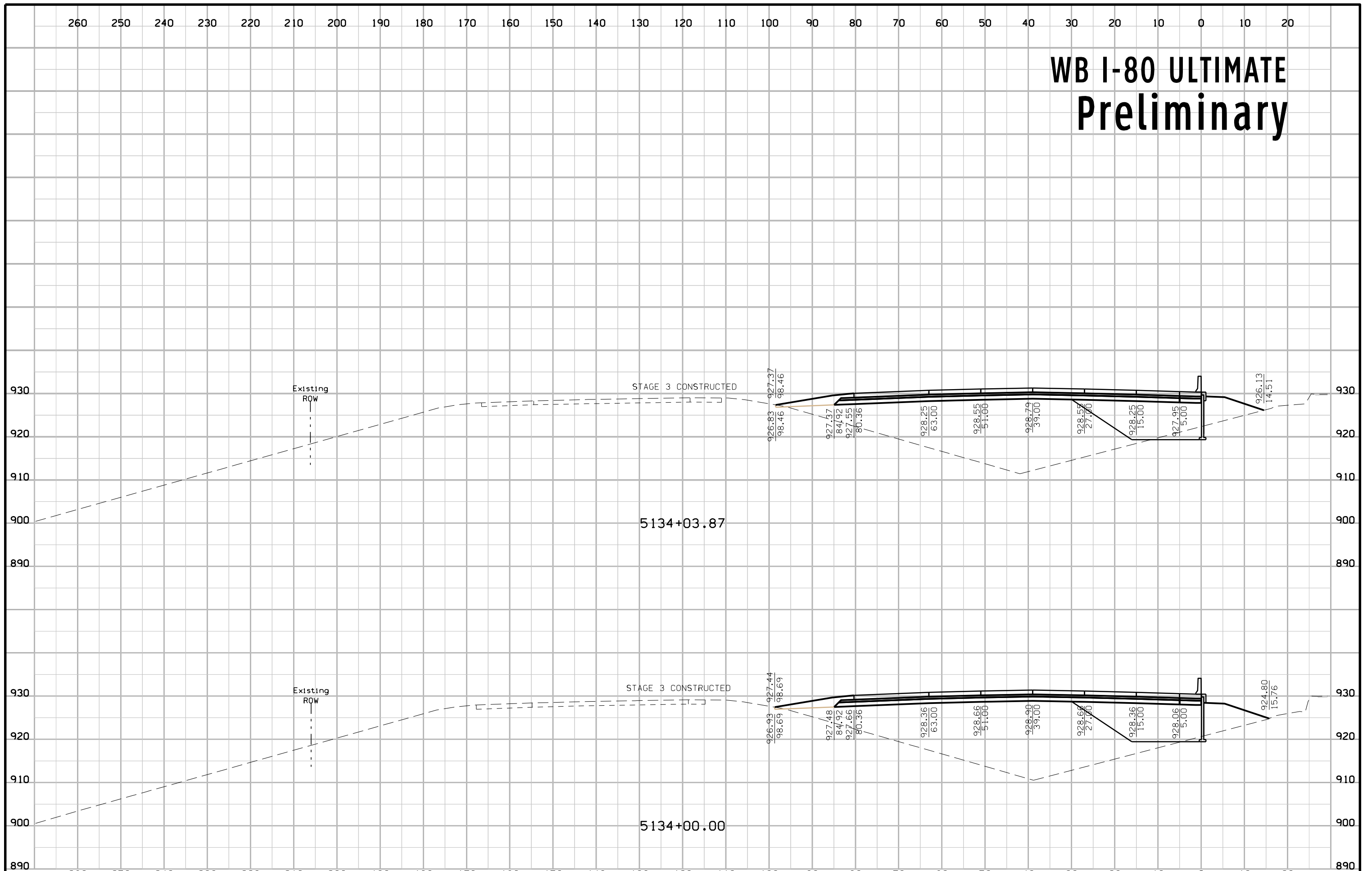
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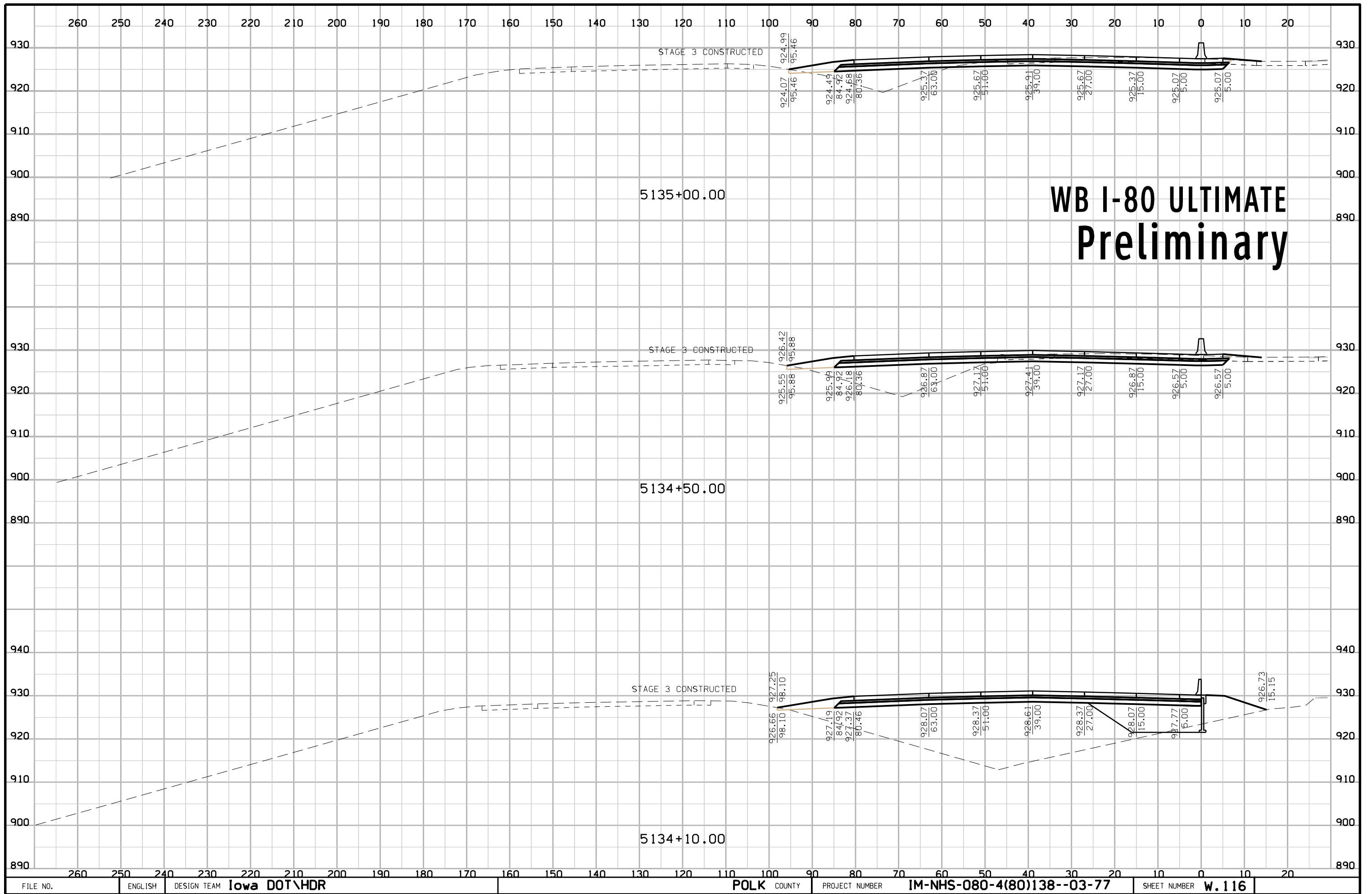


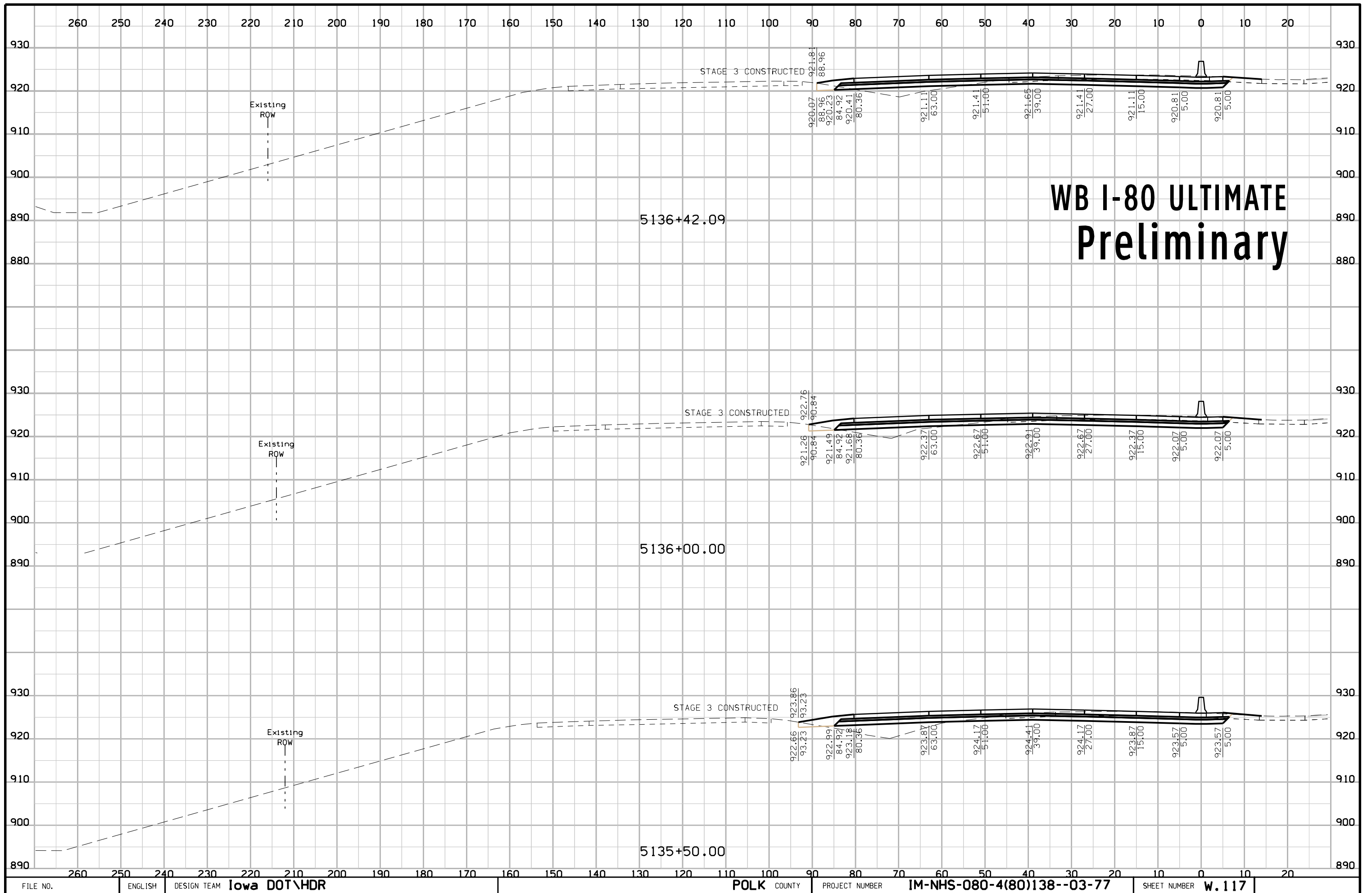
# WB I-80 ULTIMATE Preliminary



# WB I-80 ULTIMATE Preliminary

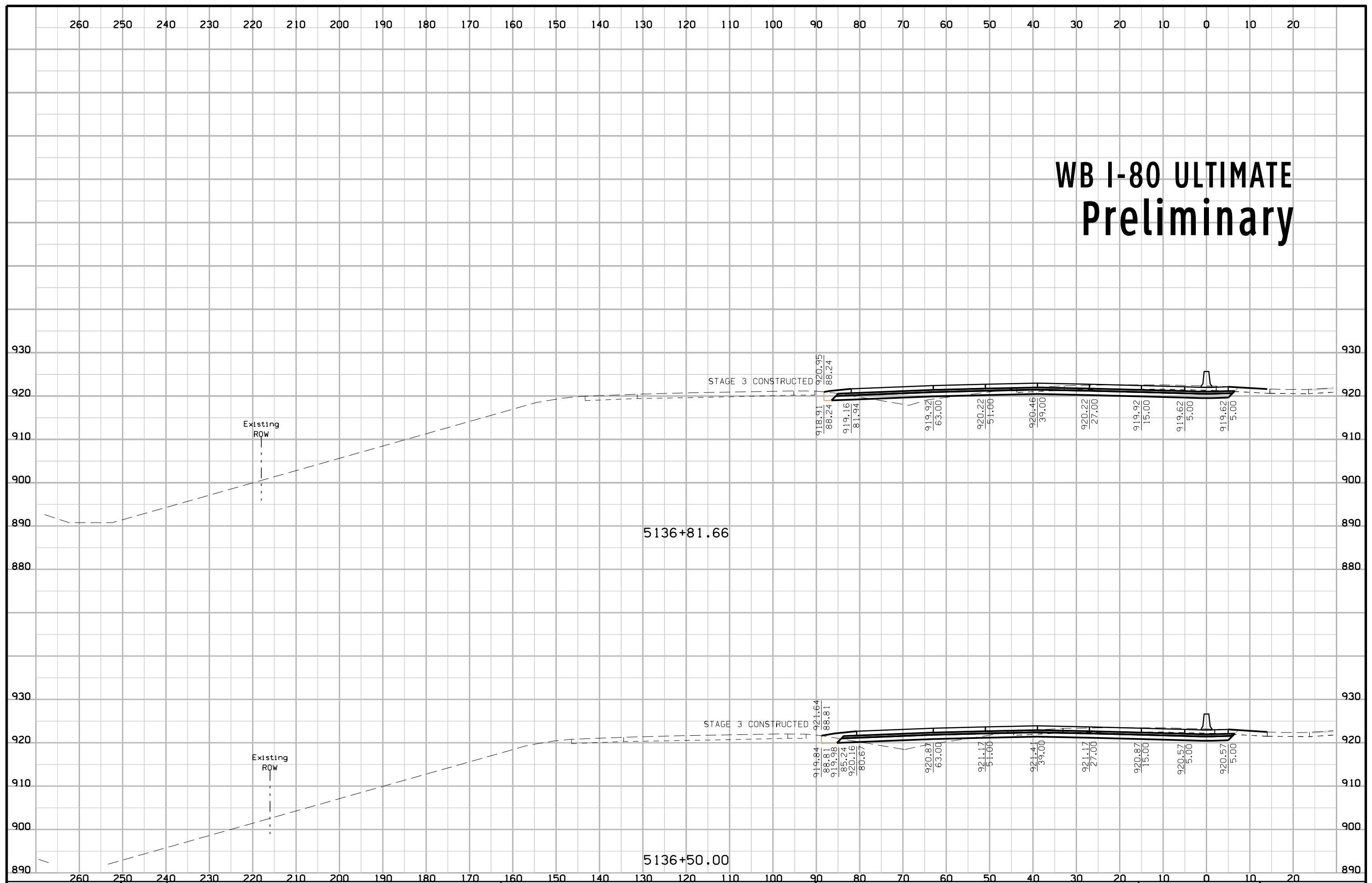


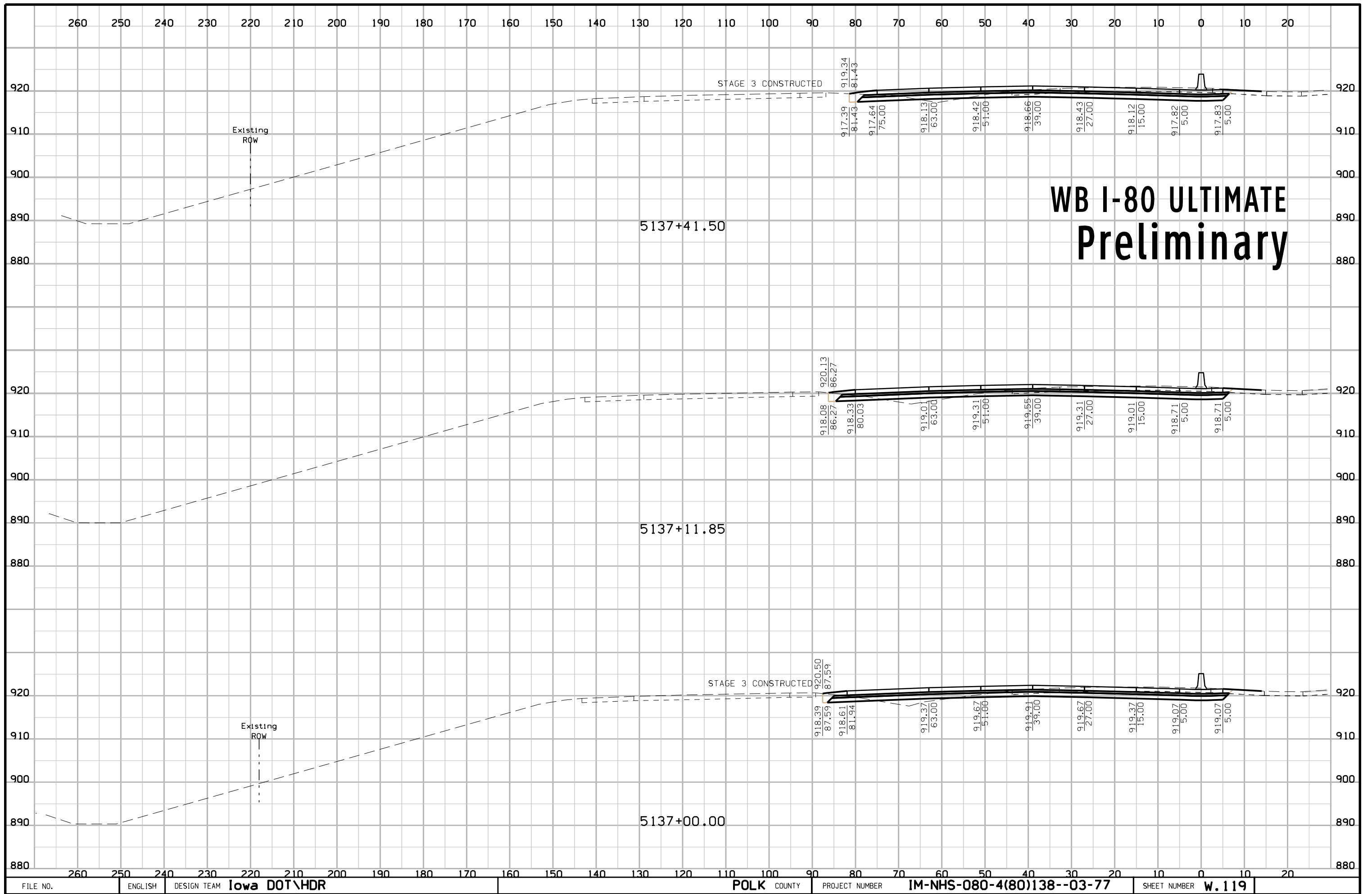




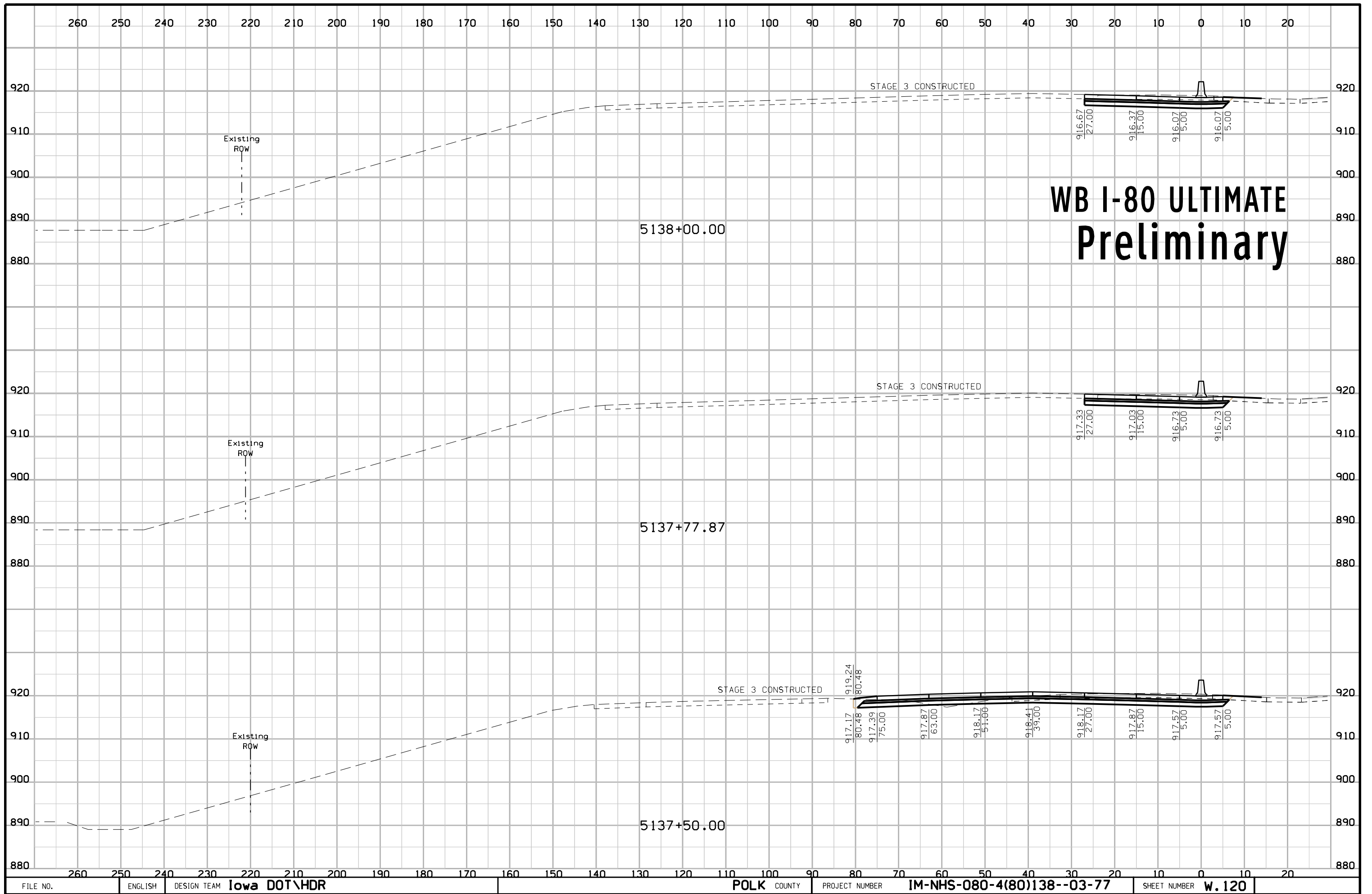
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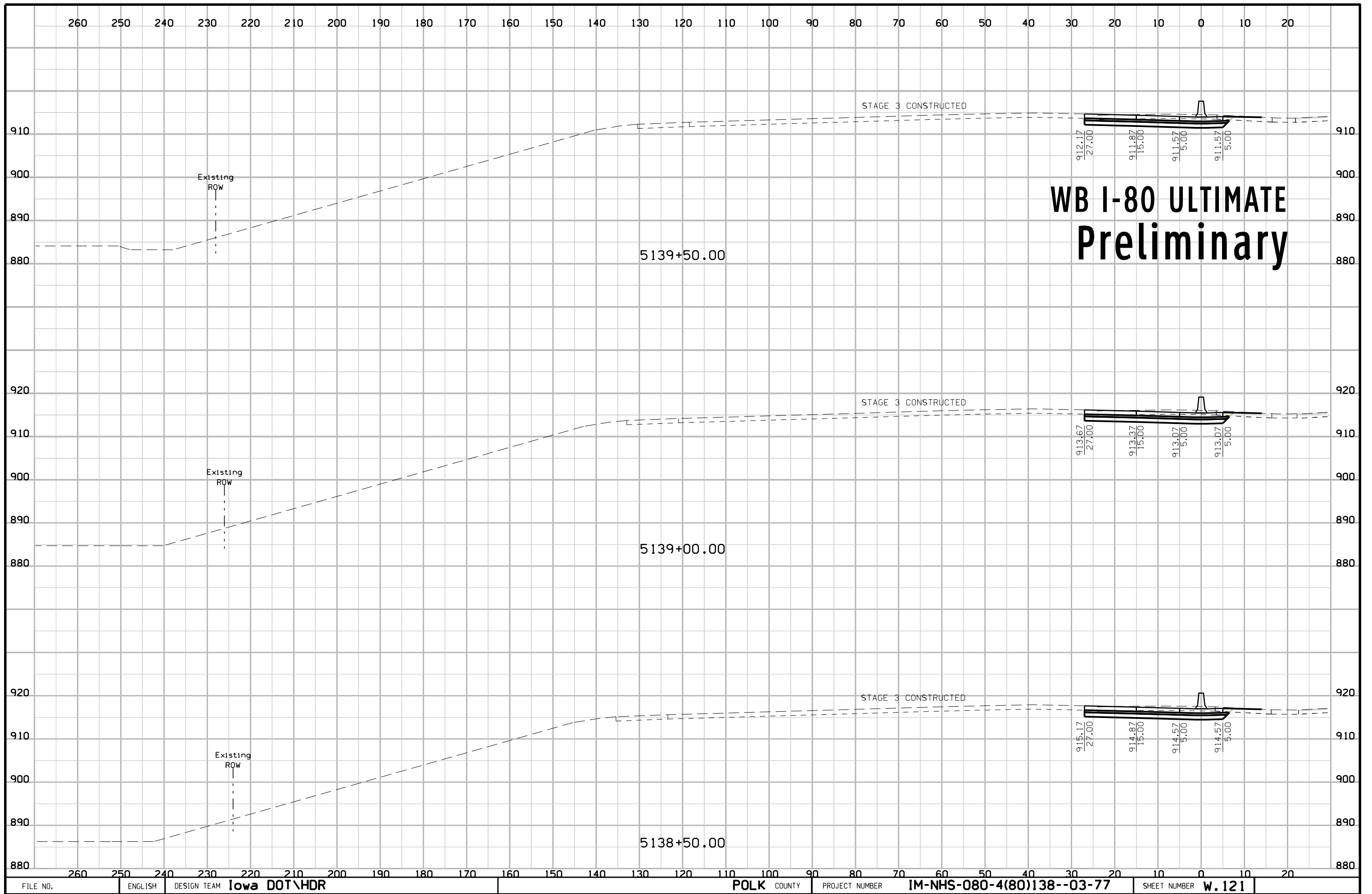
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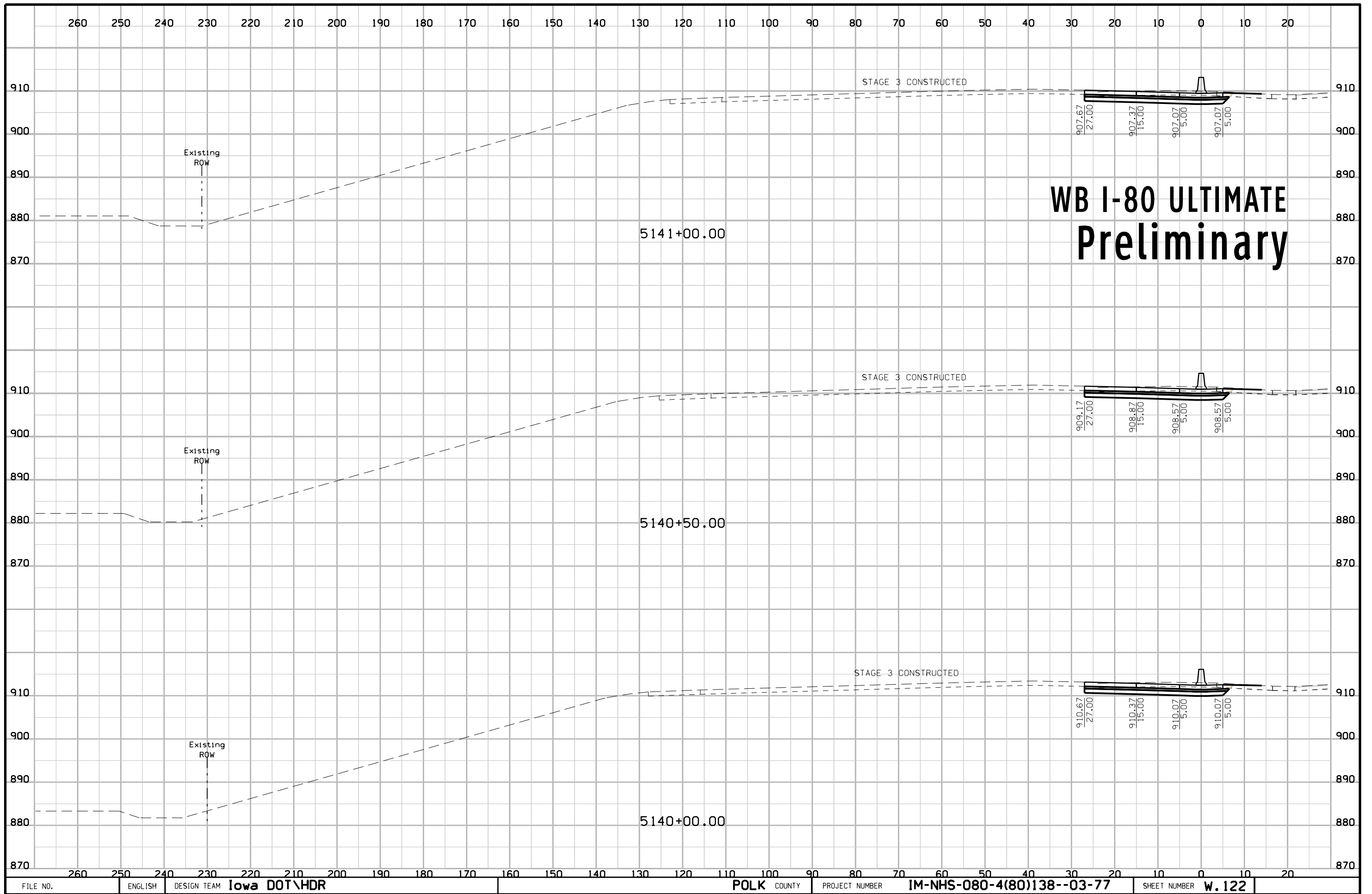


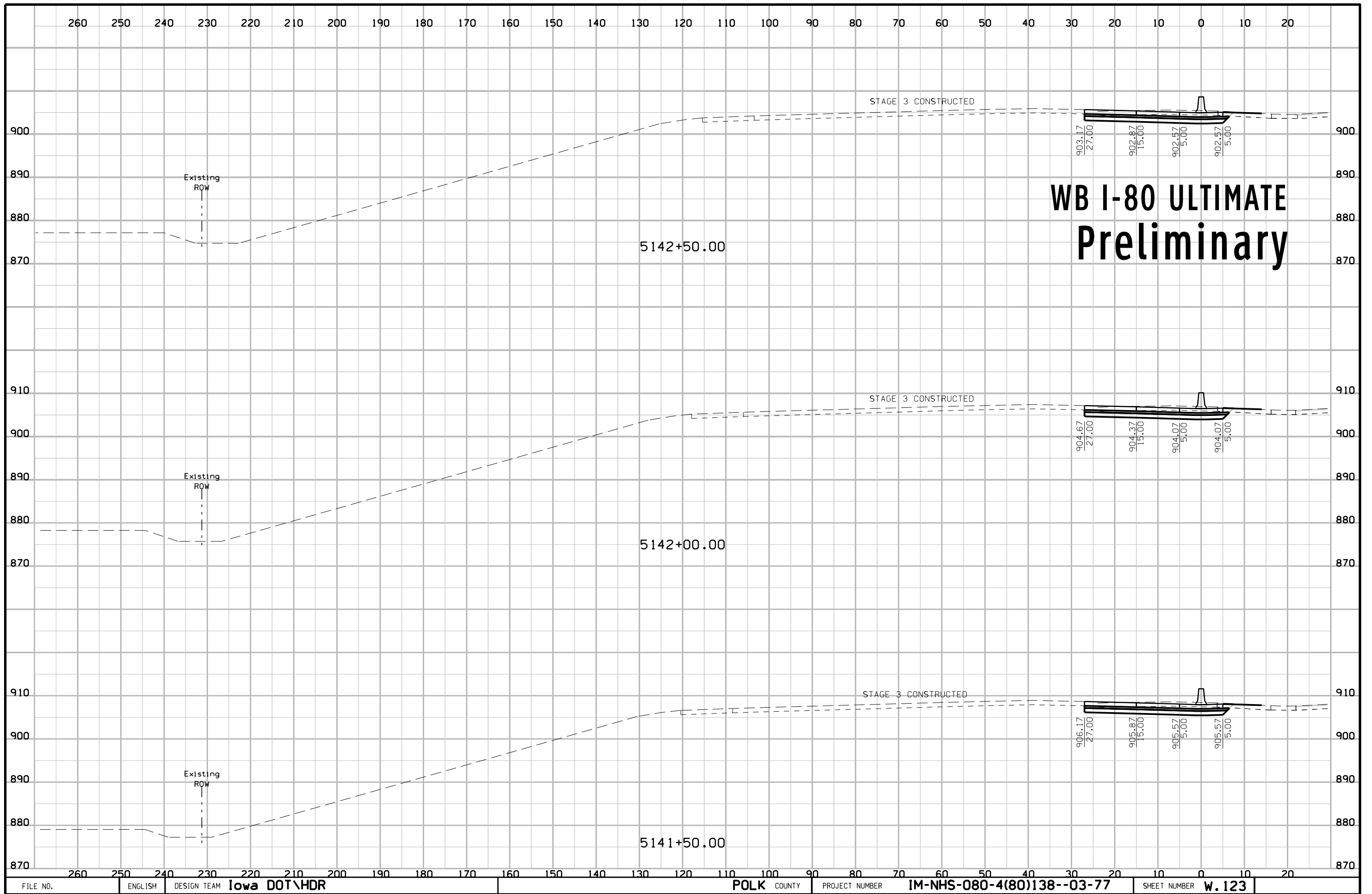






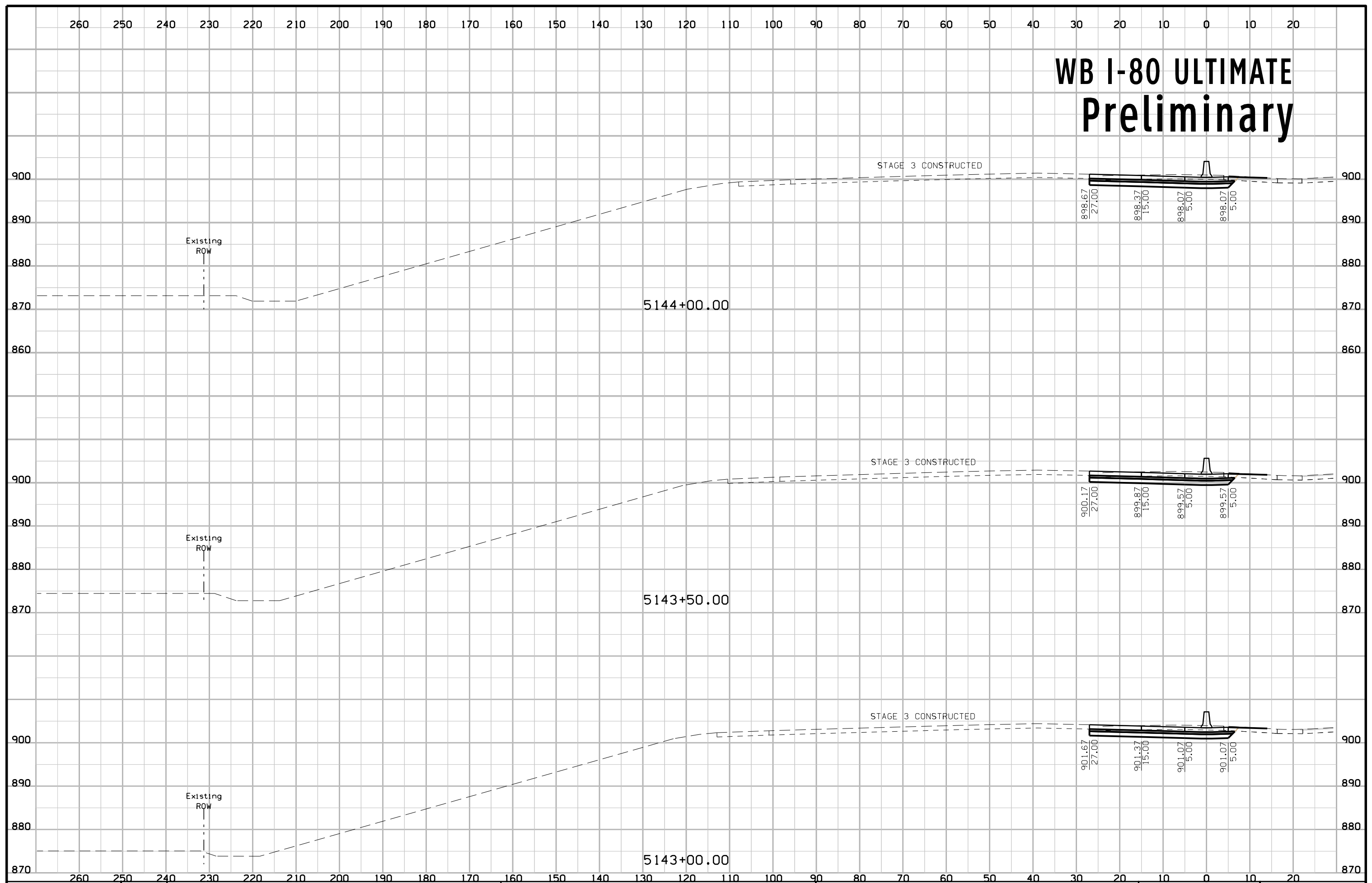


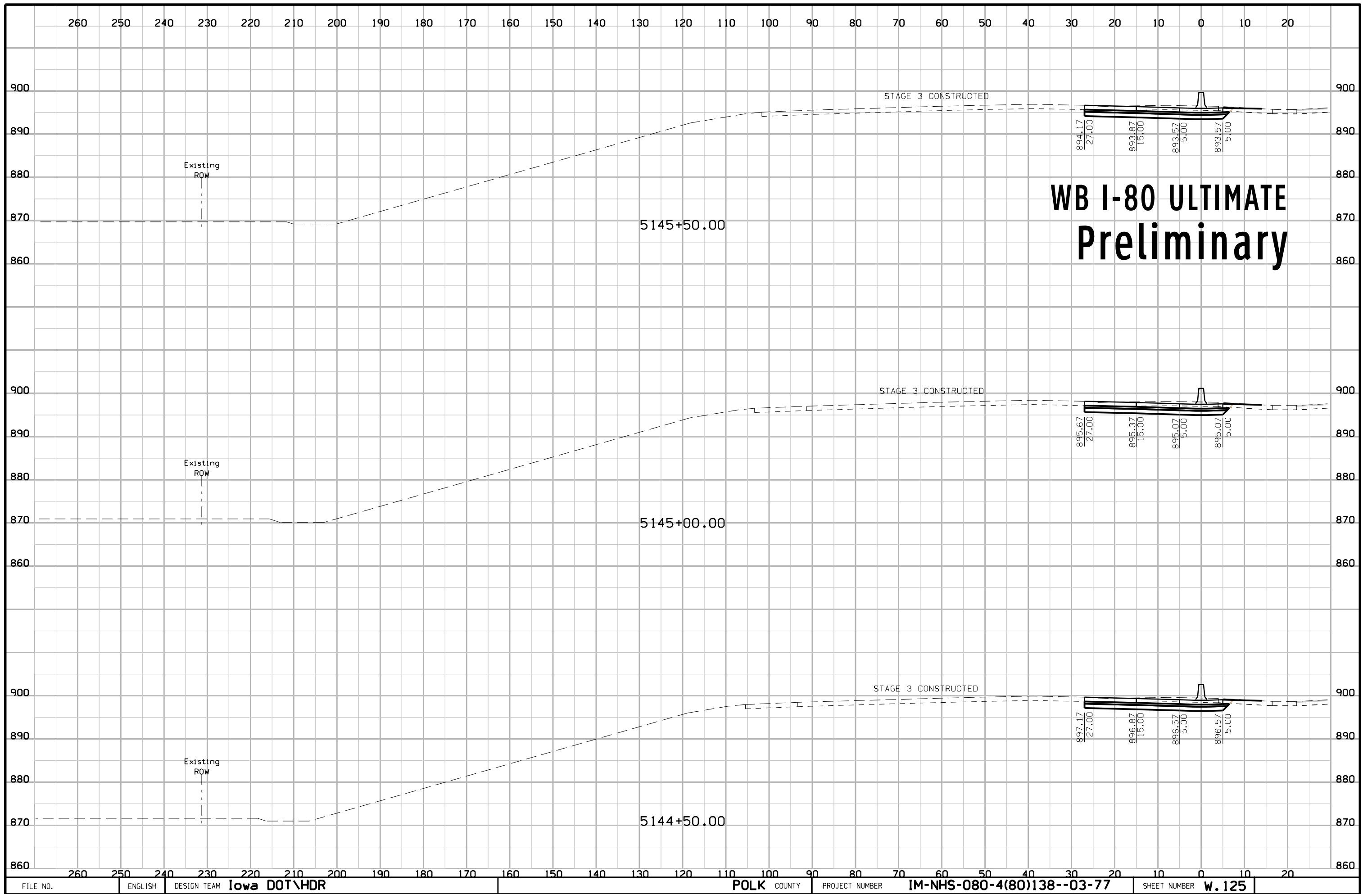




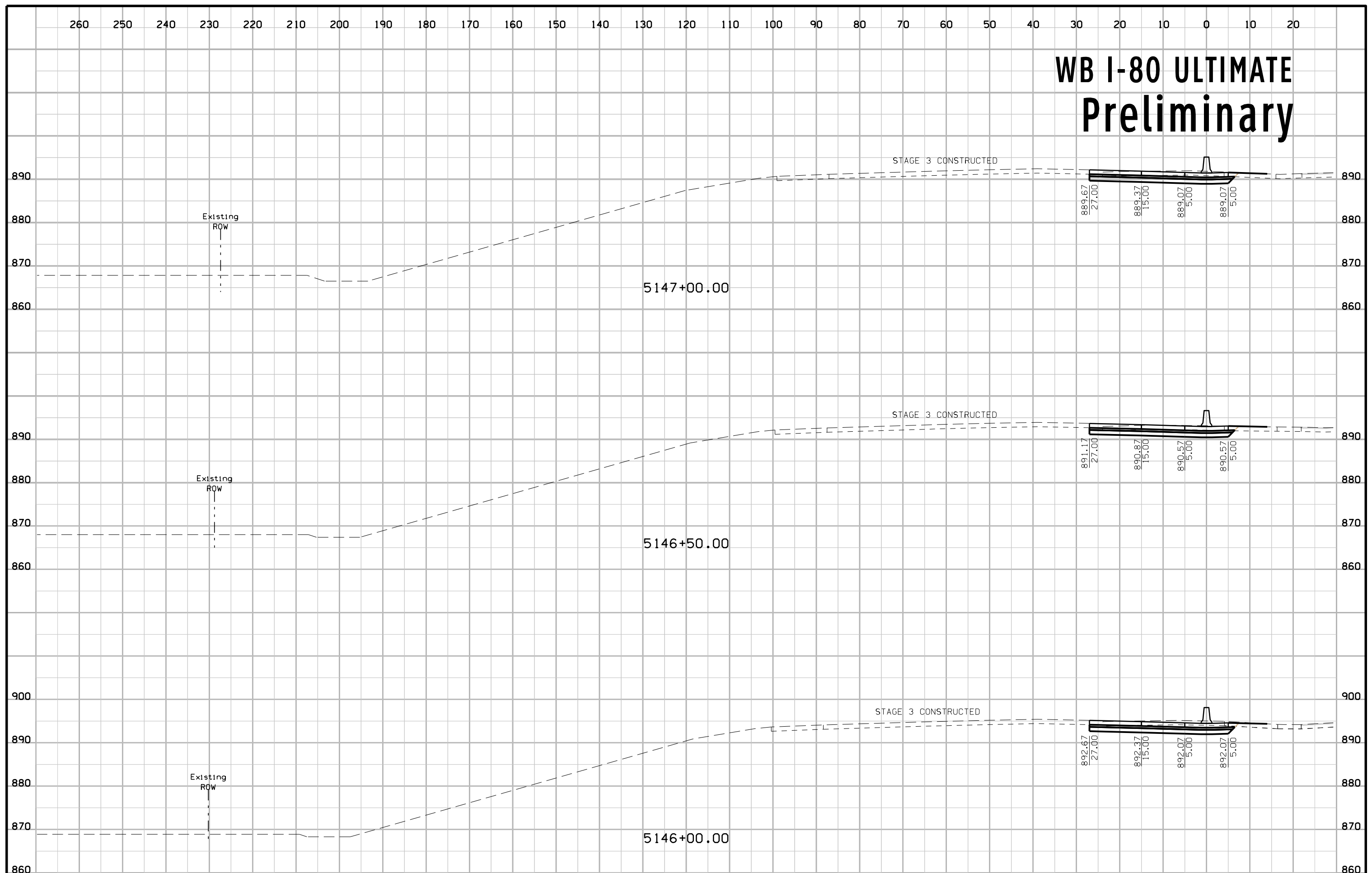
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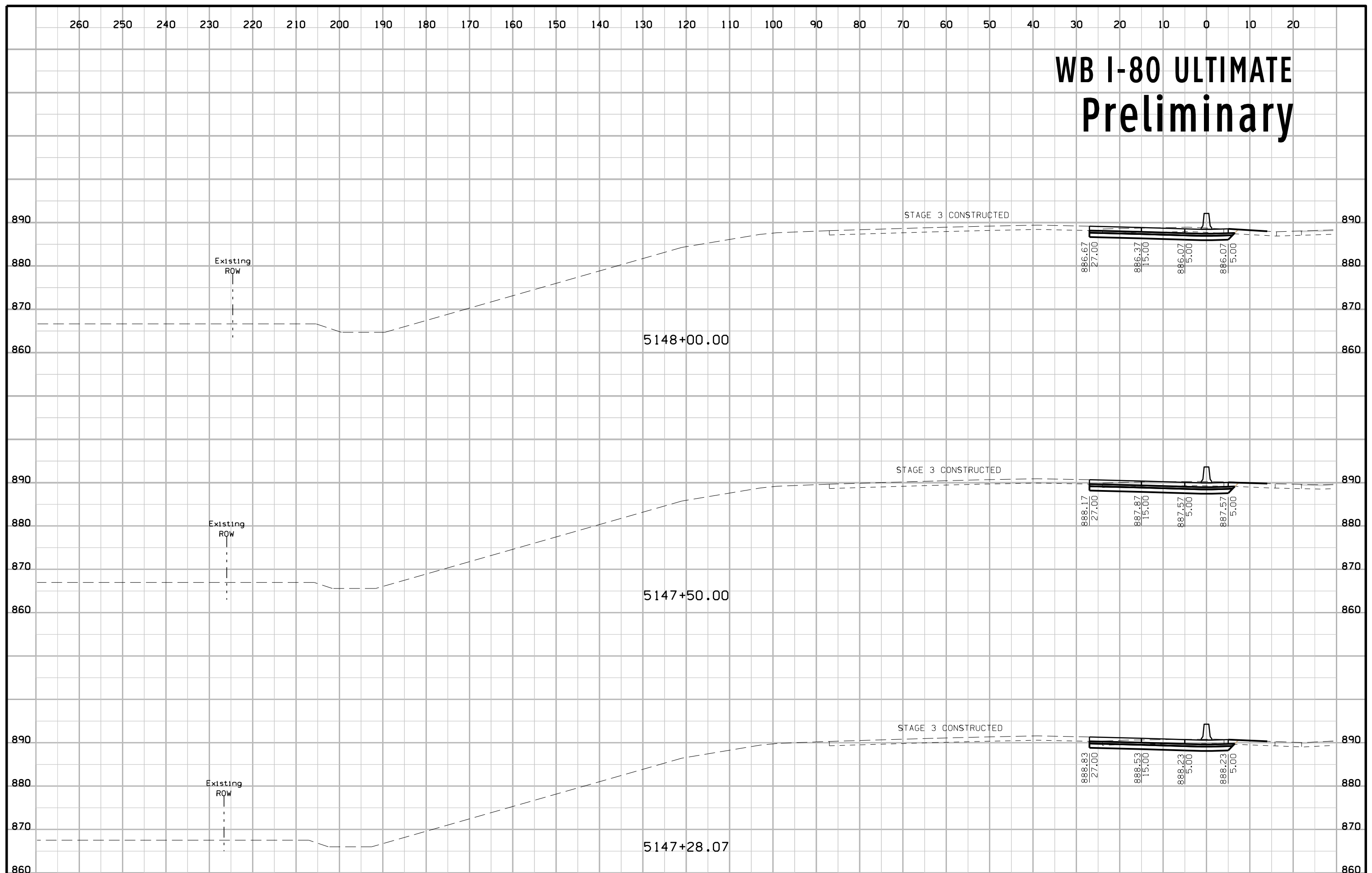




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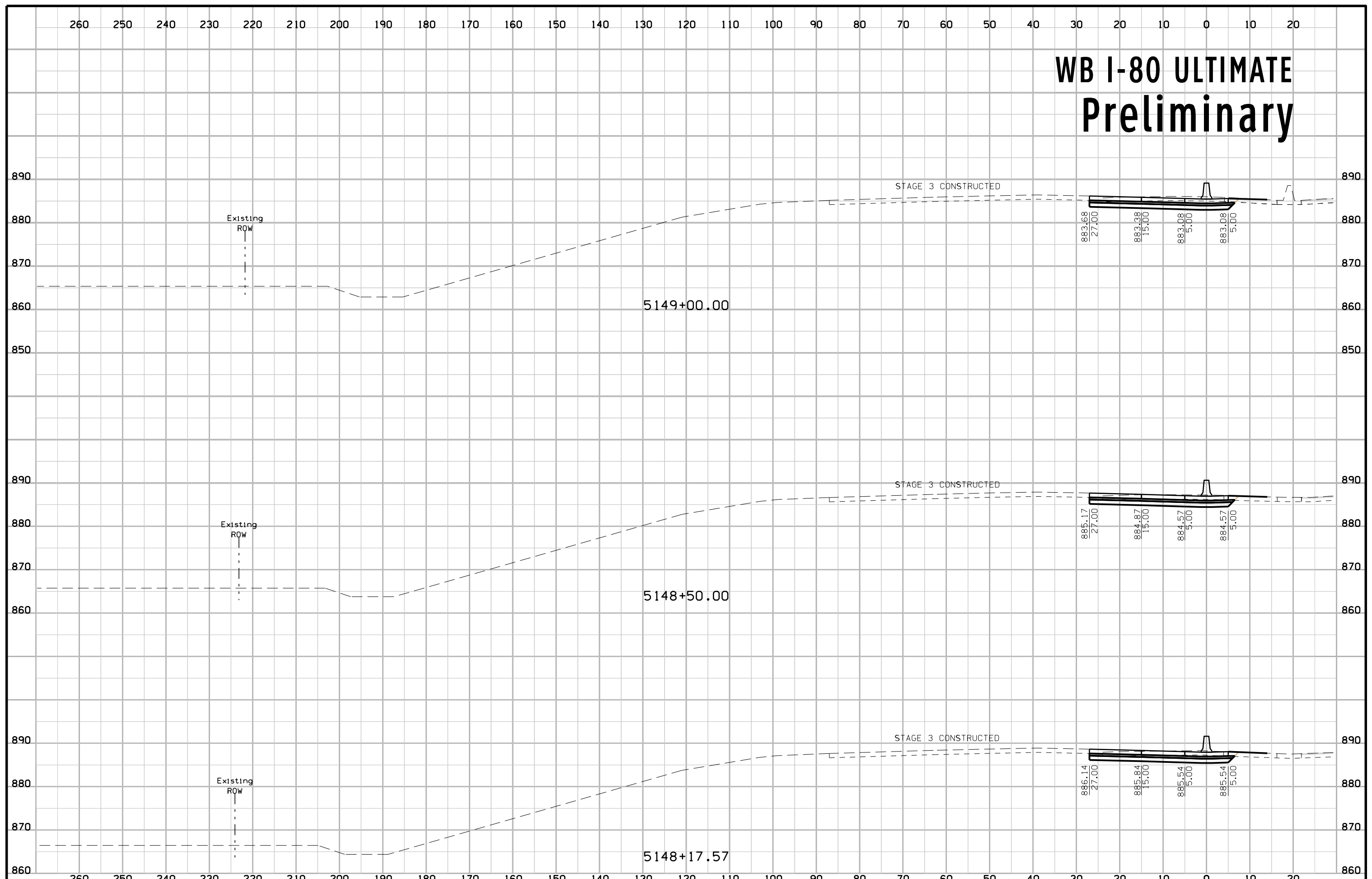


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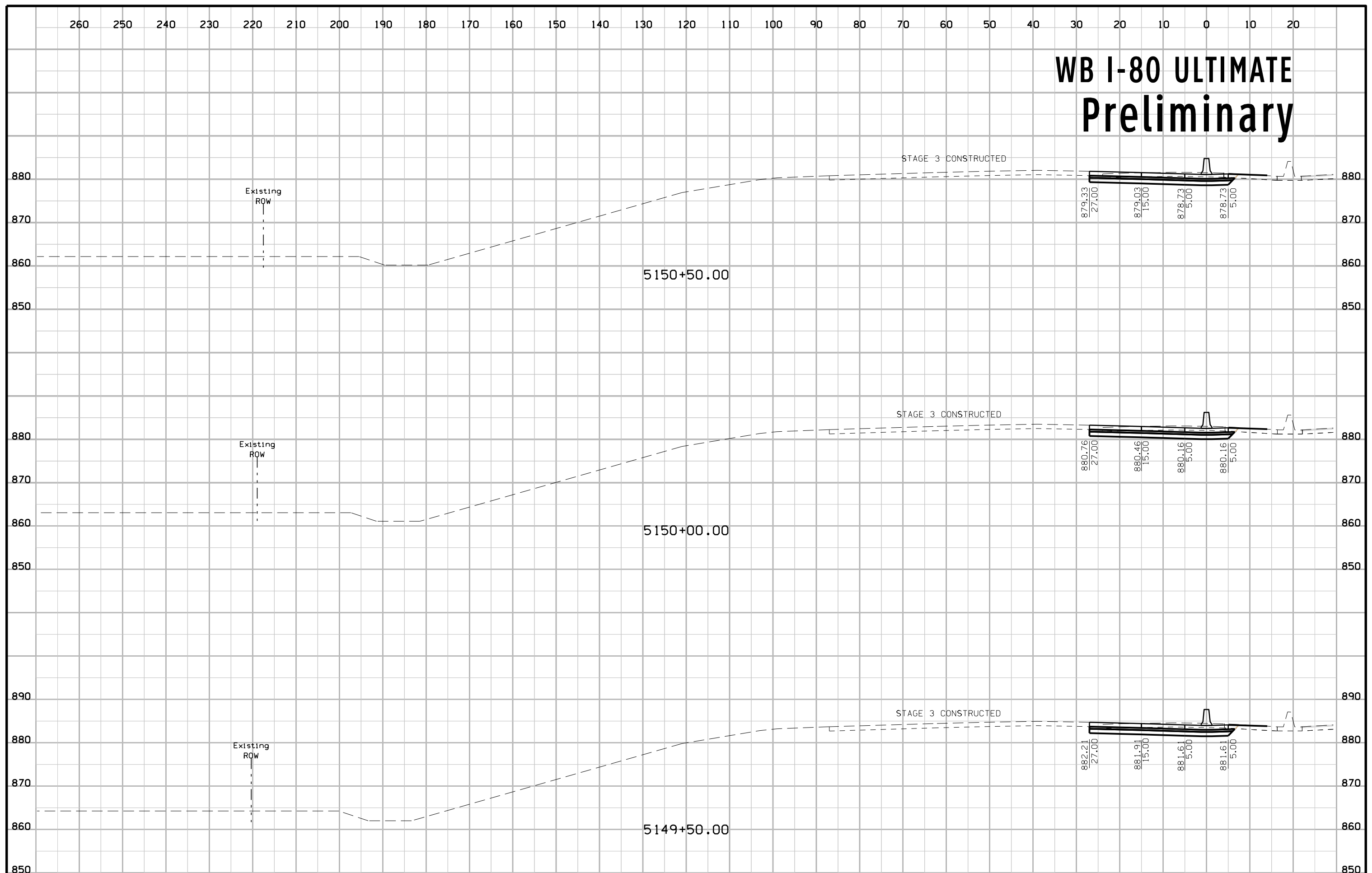




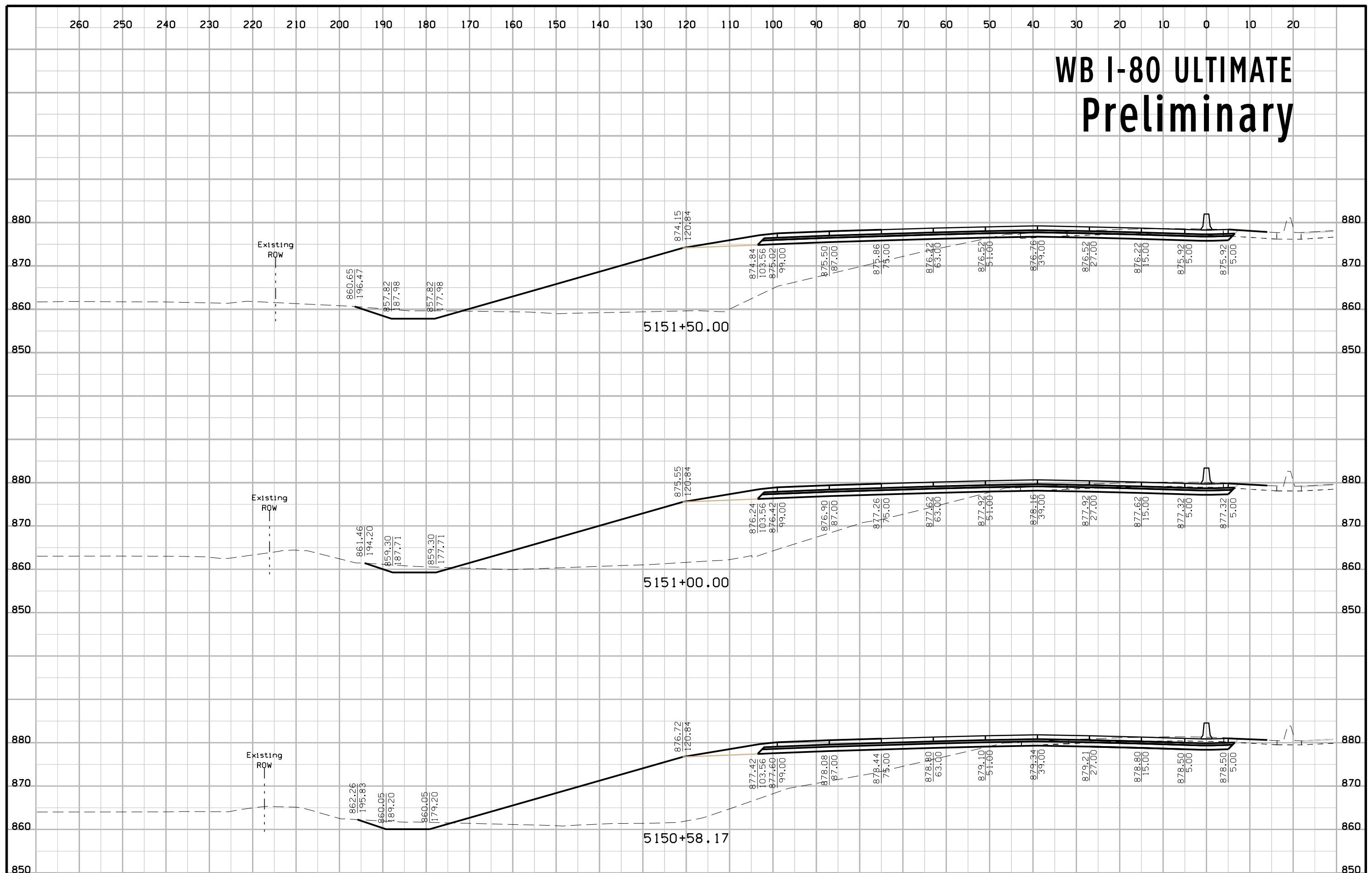
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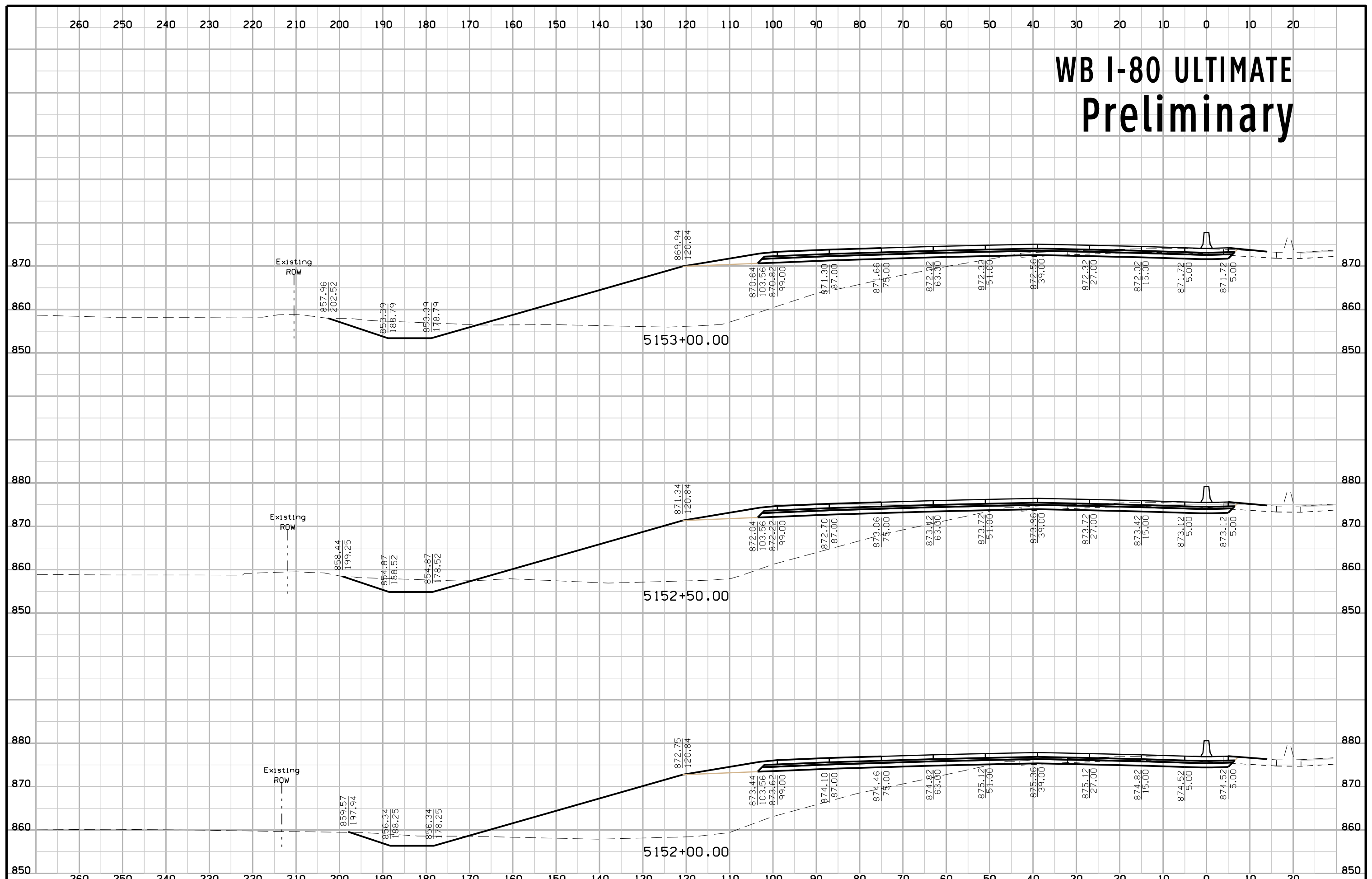
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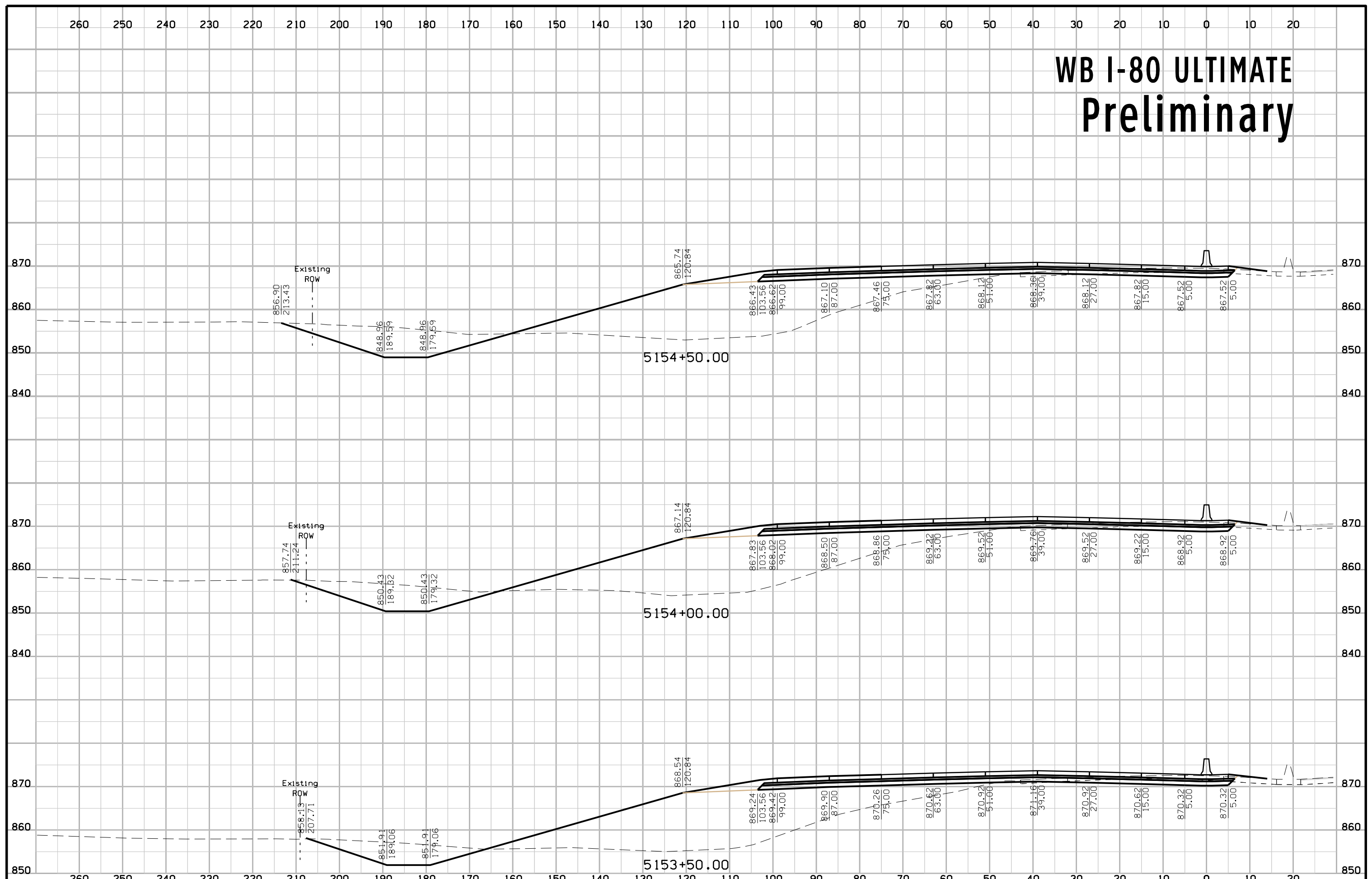
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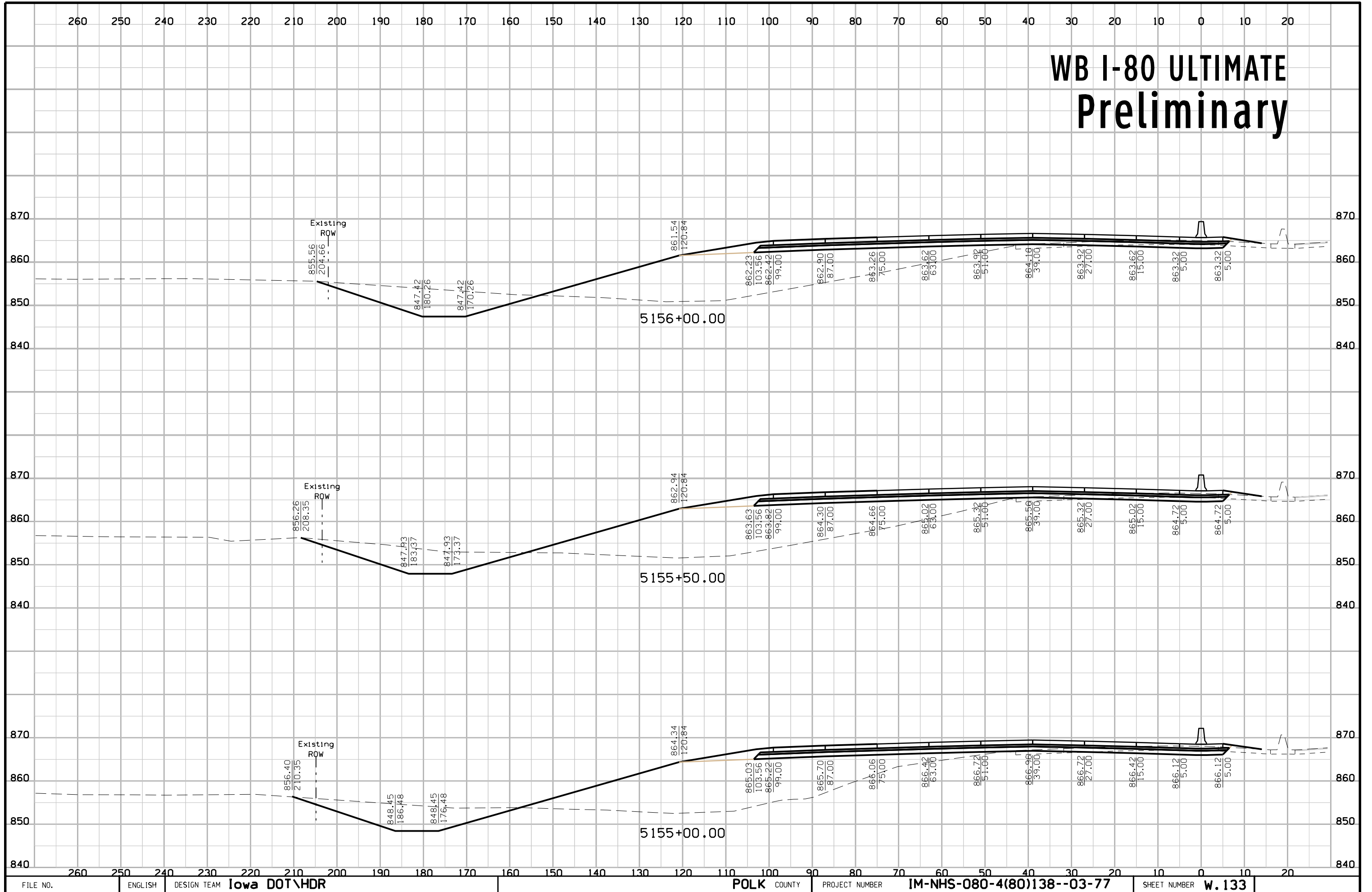
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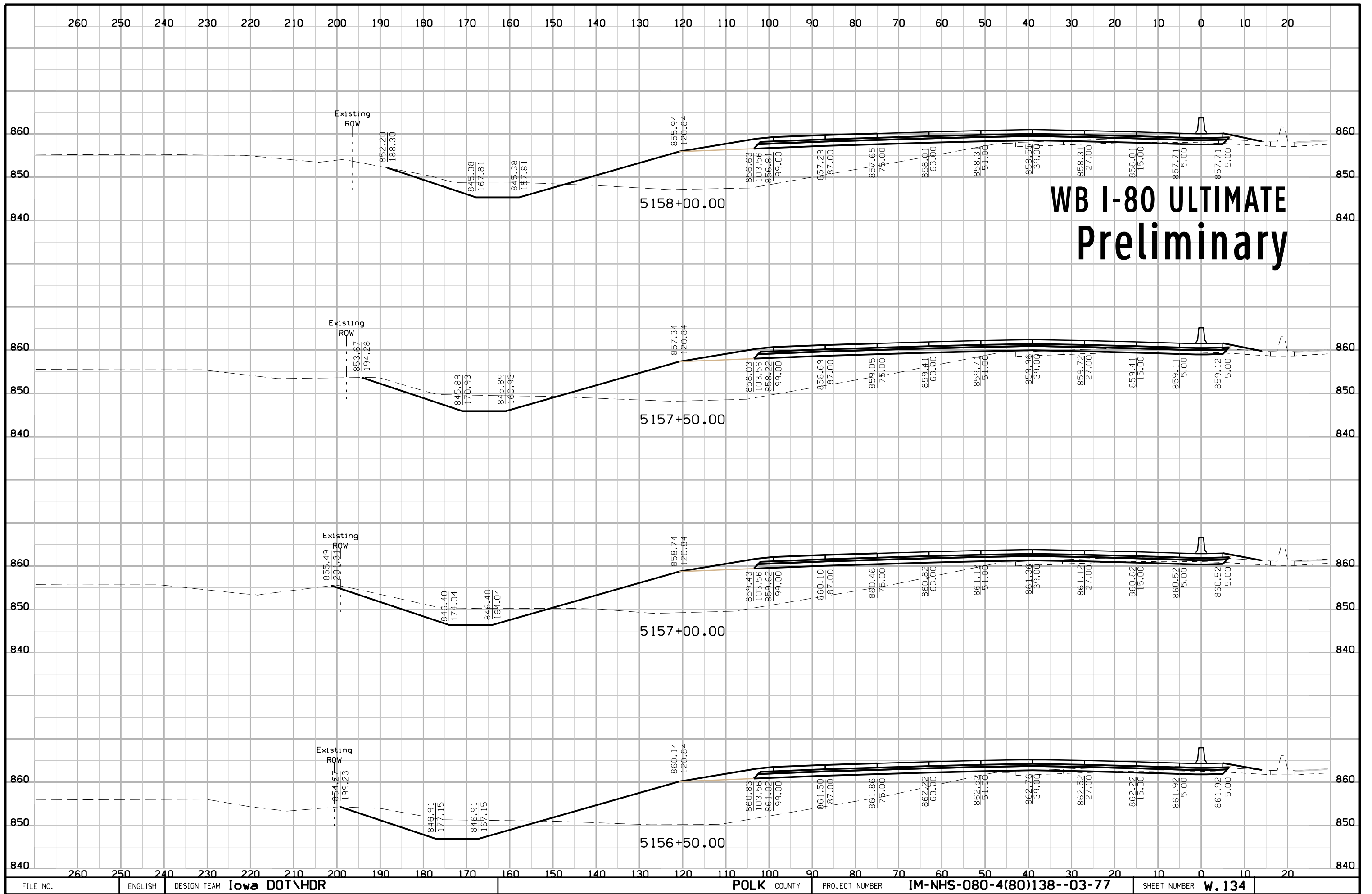


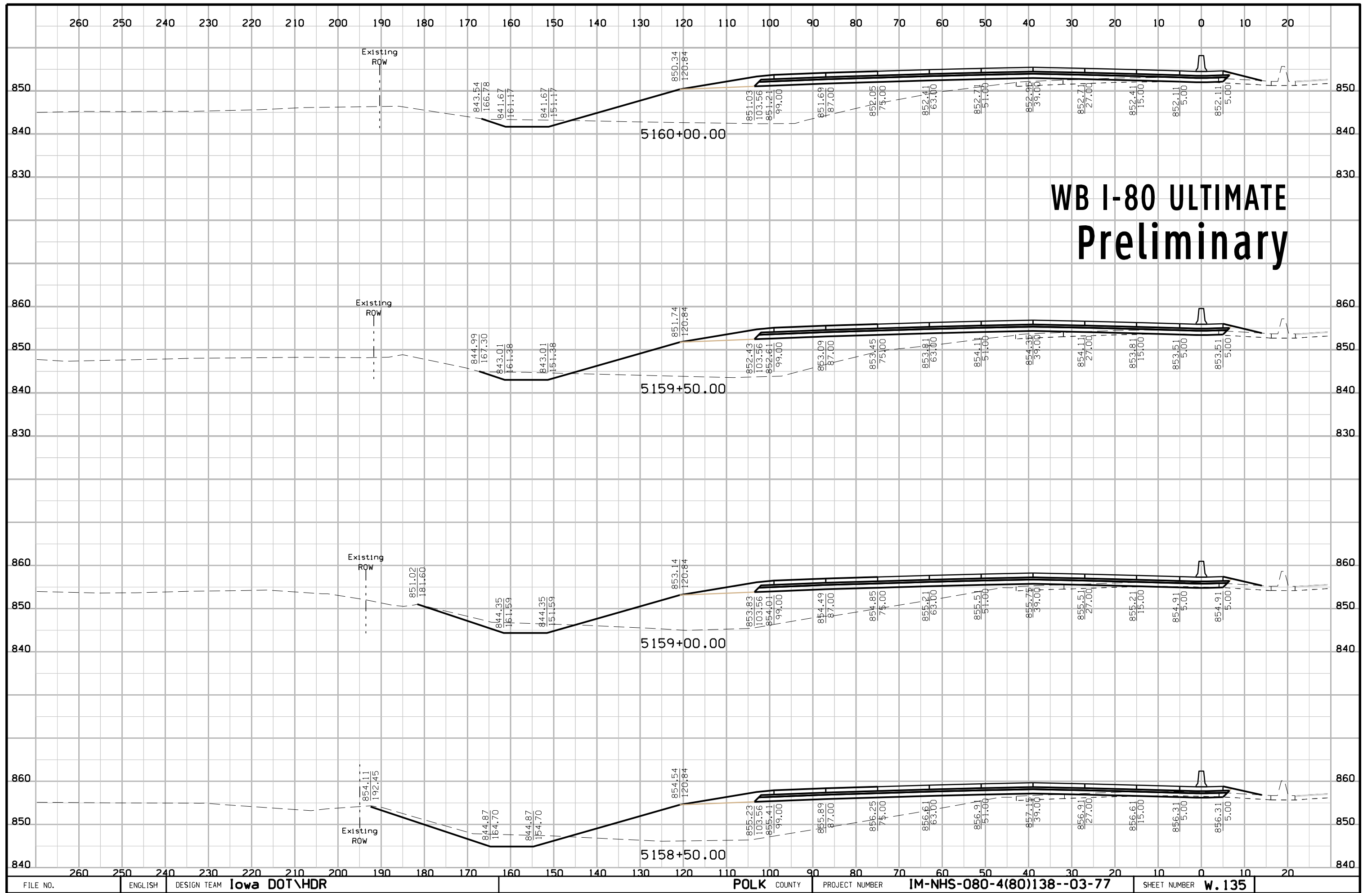
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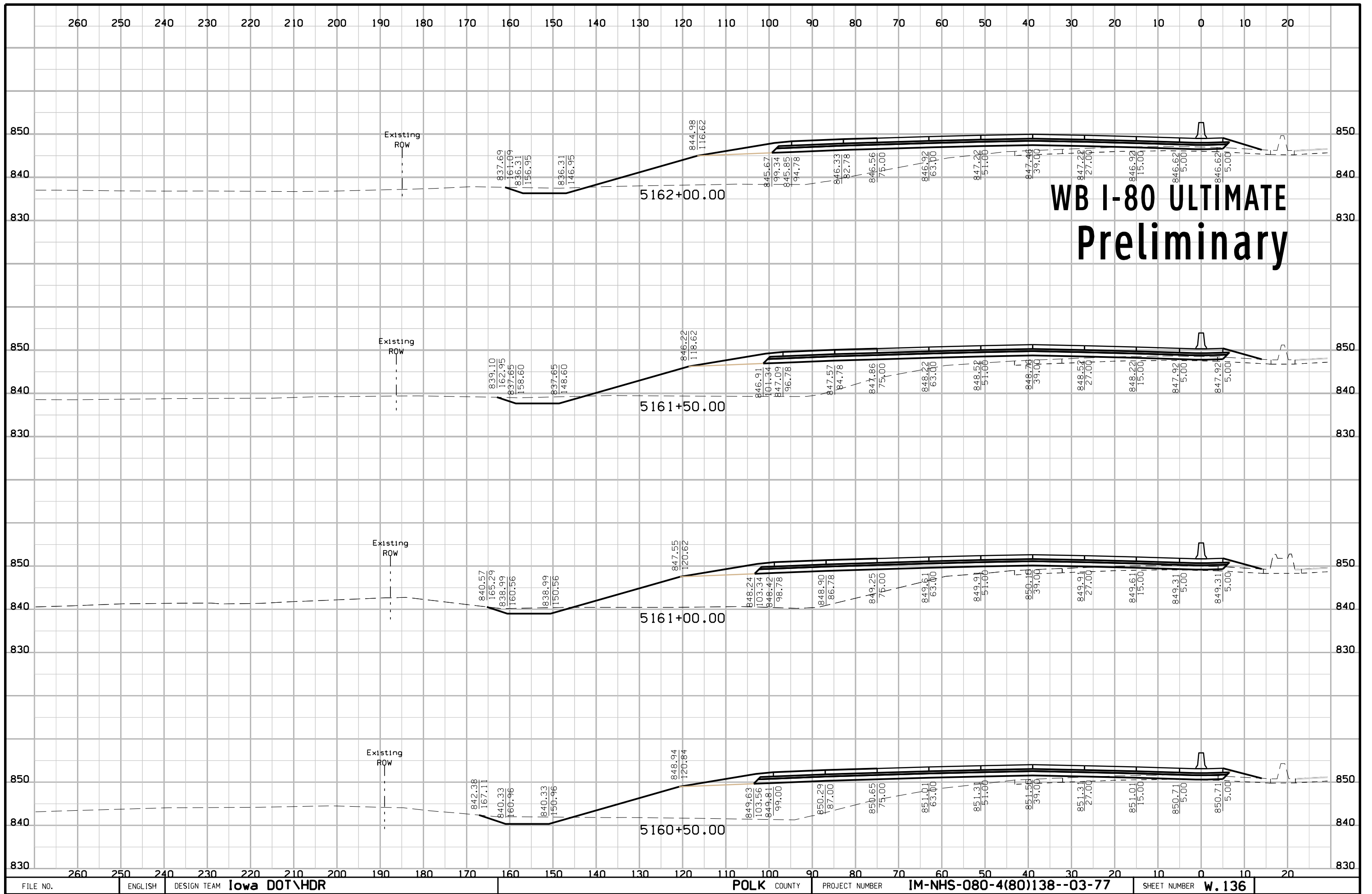
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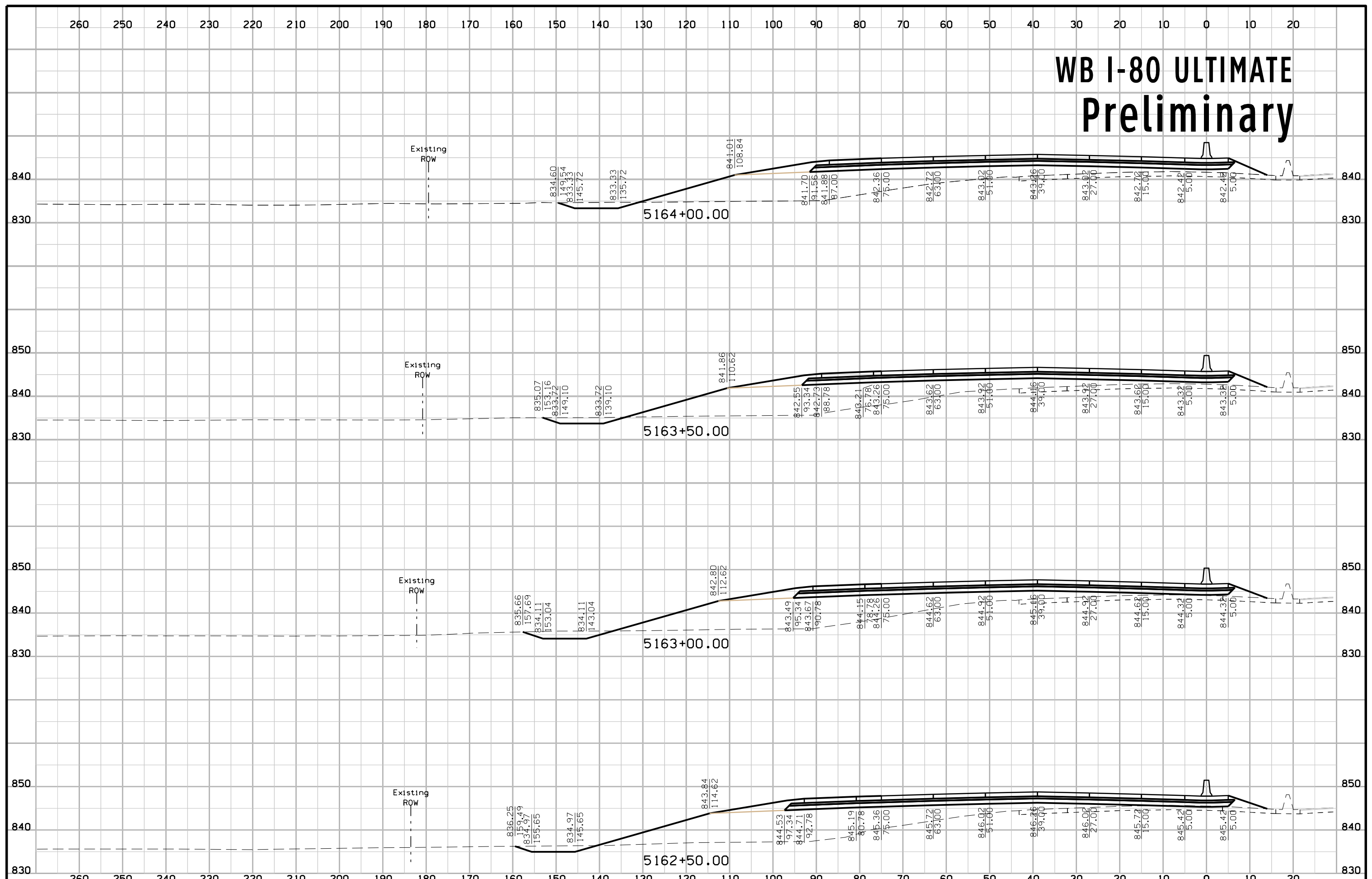




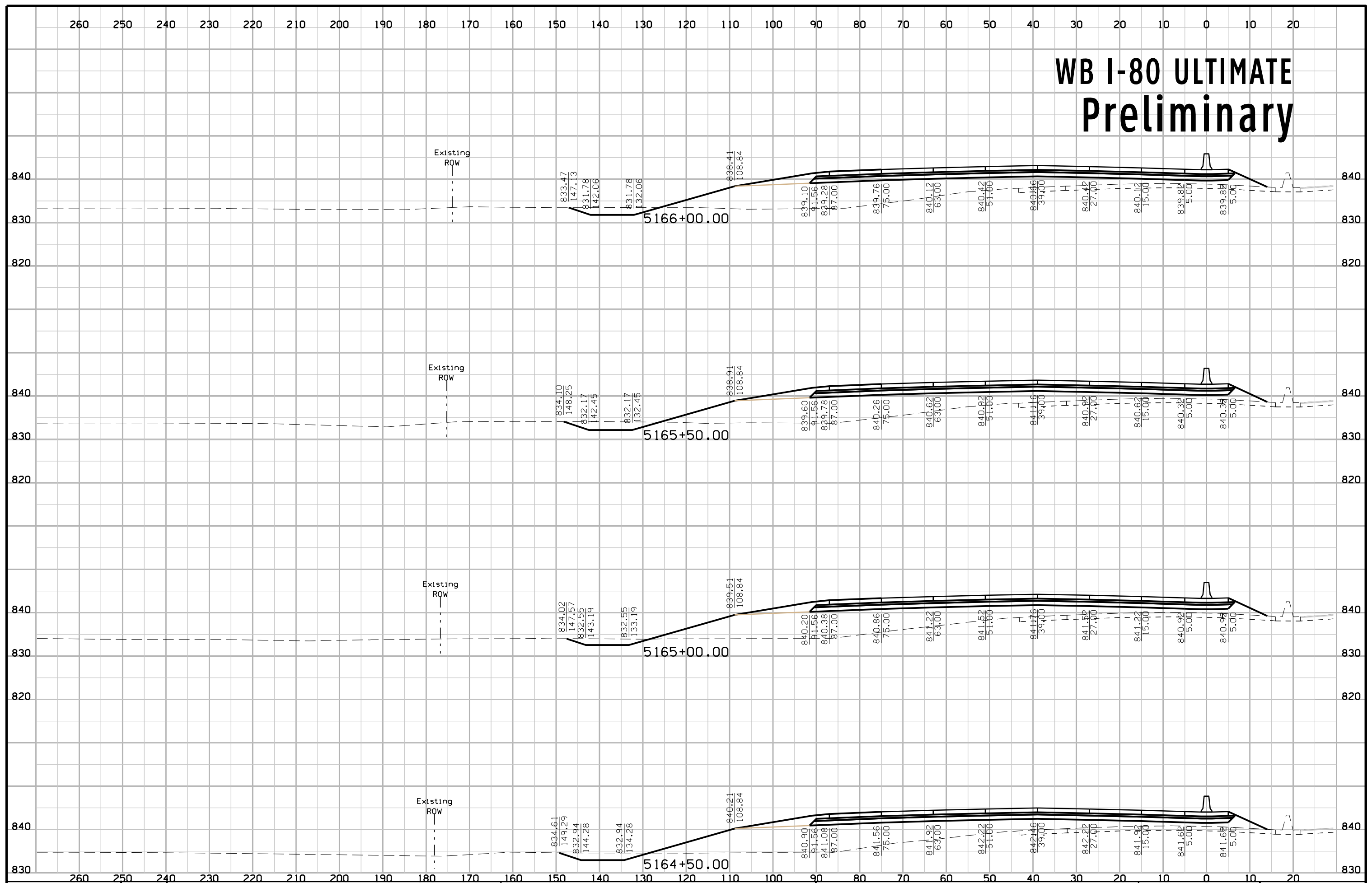


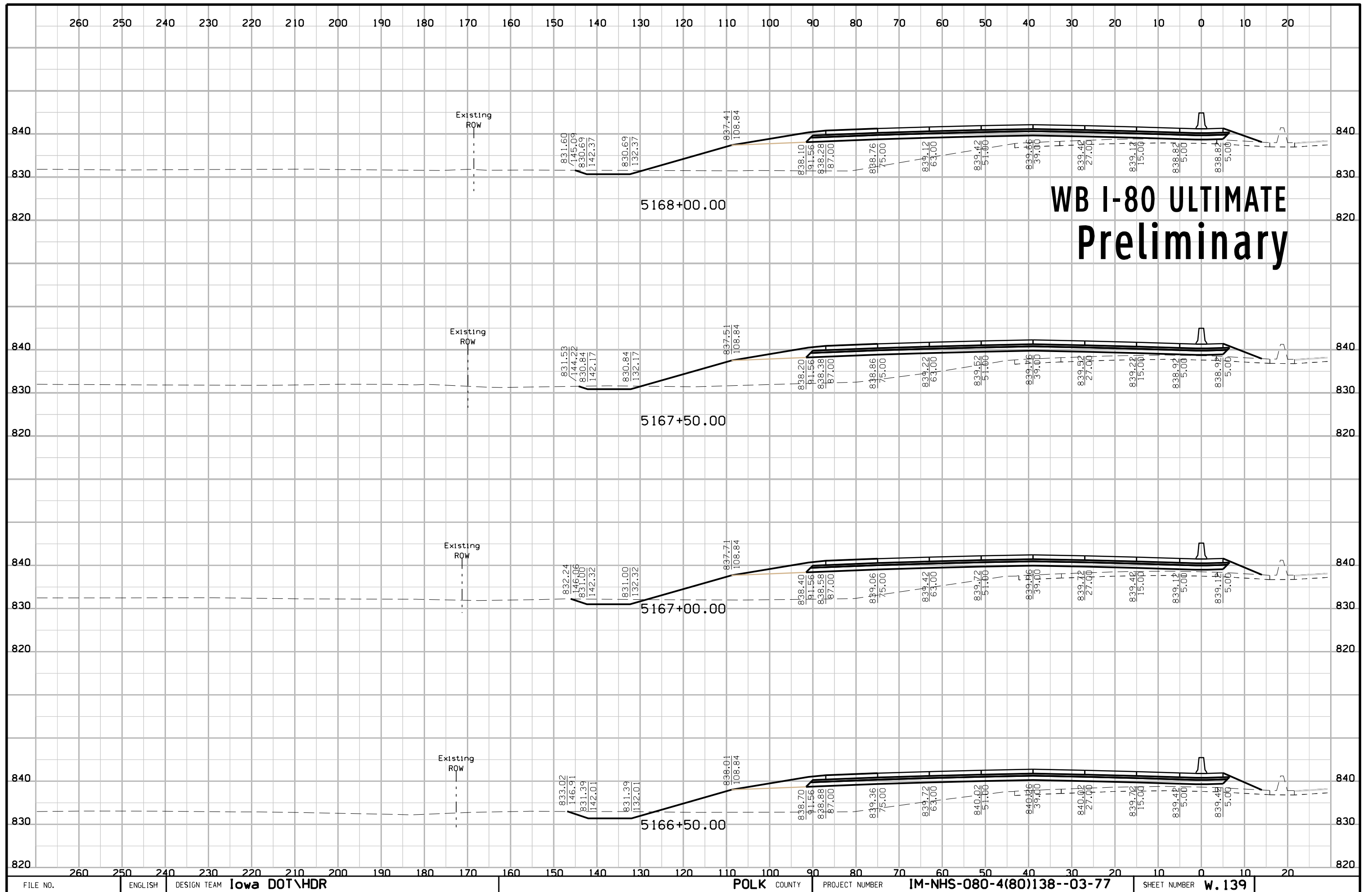


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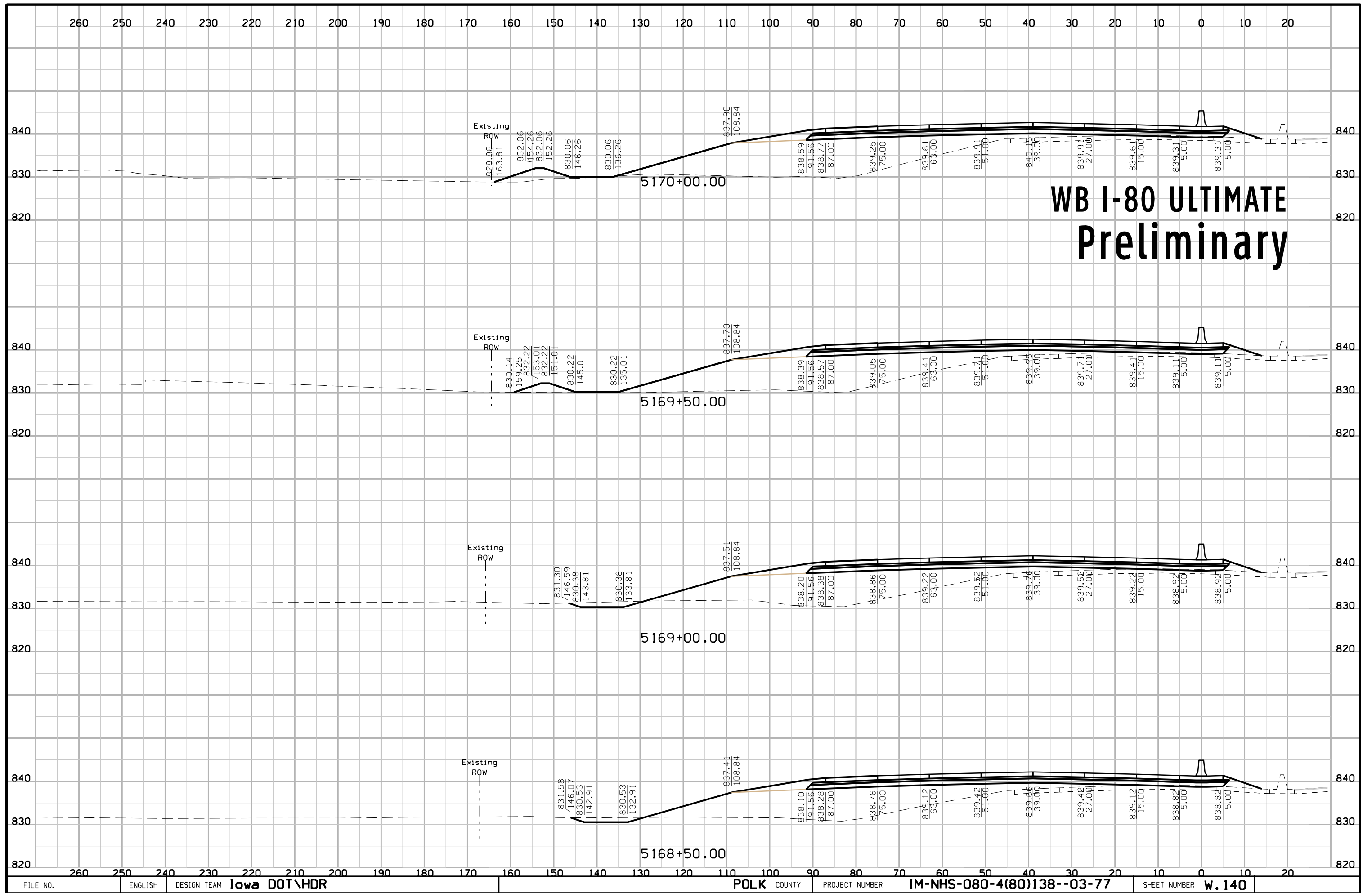


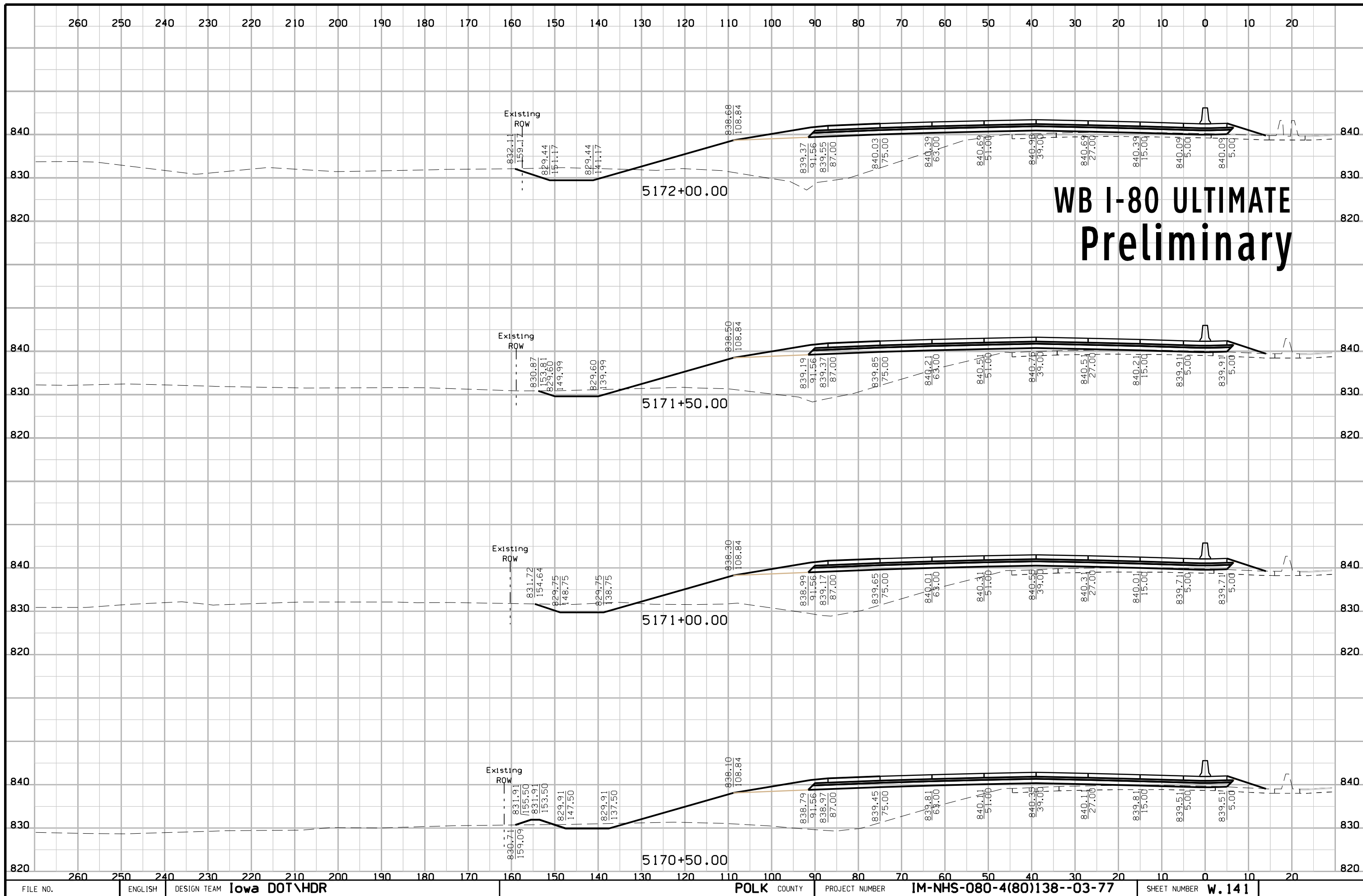
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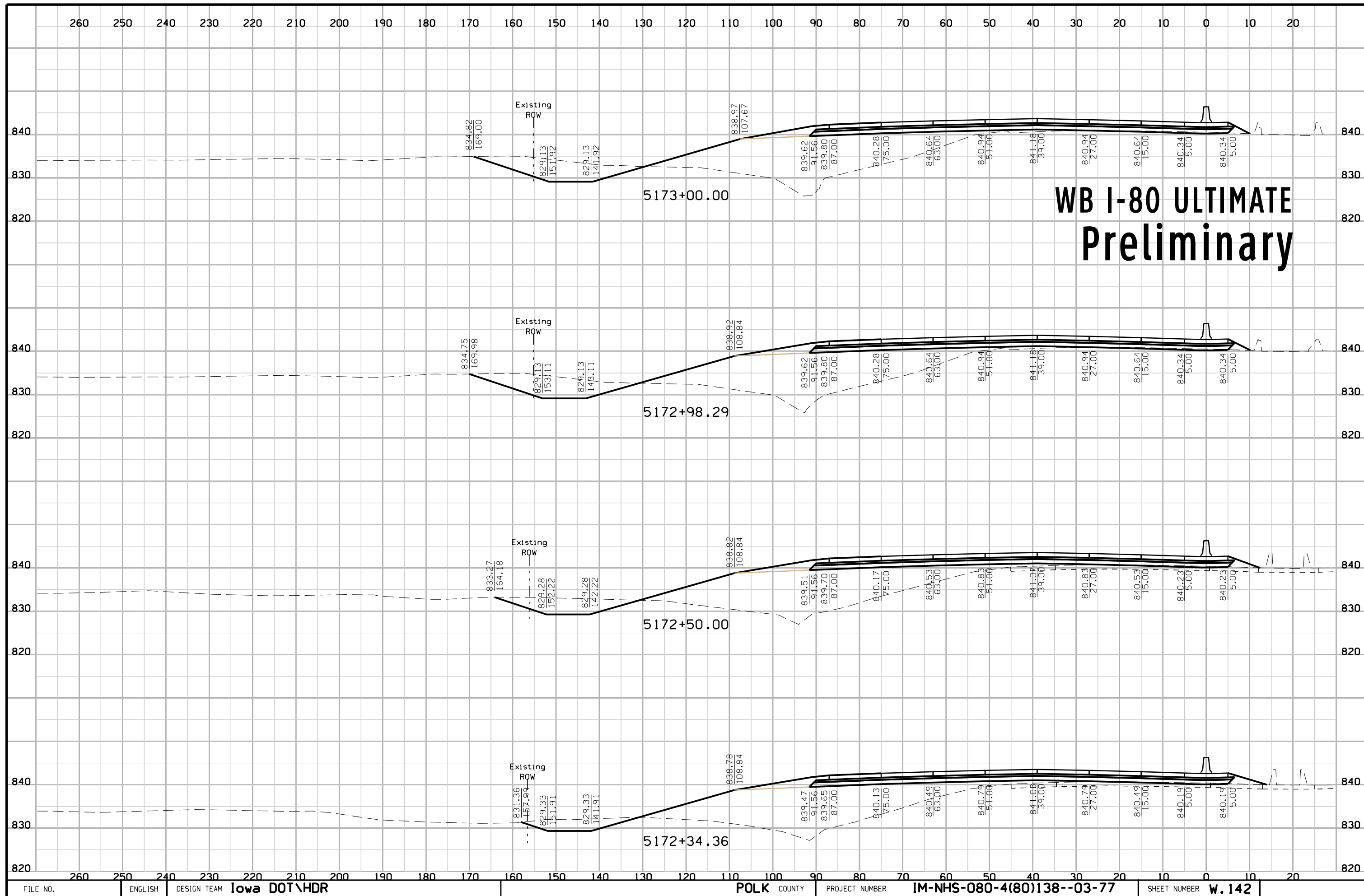


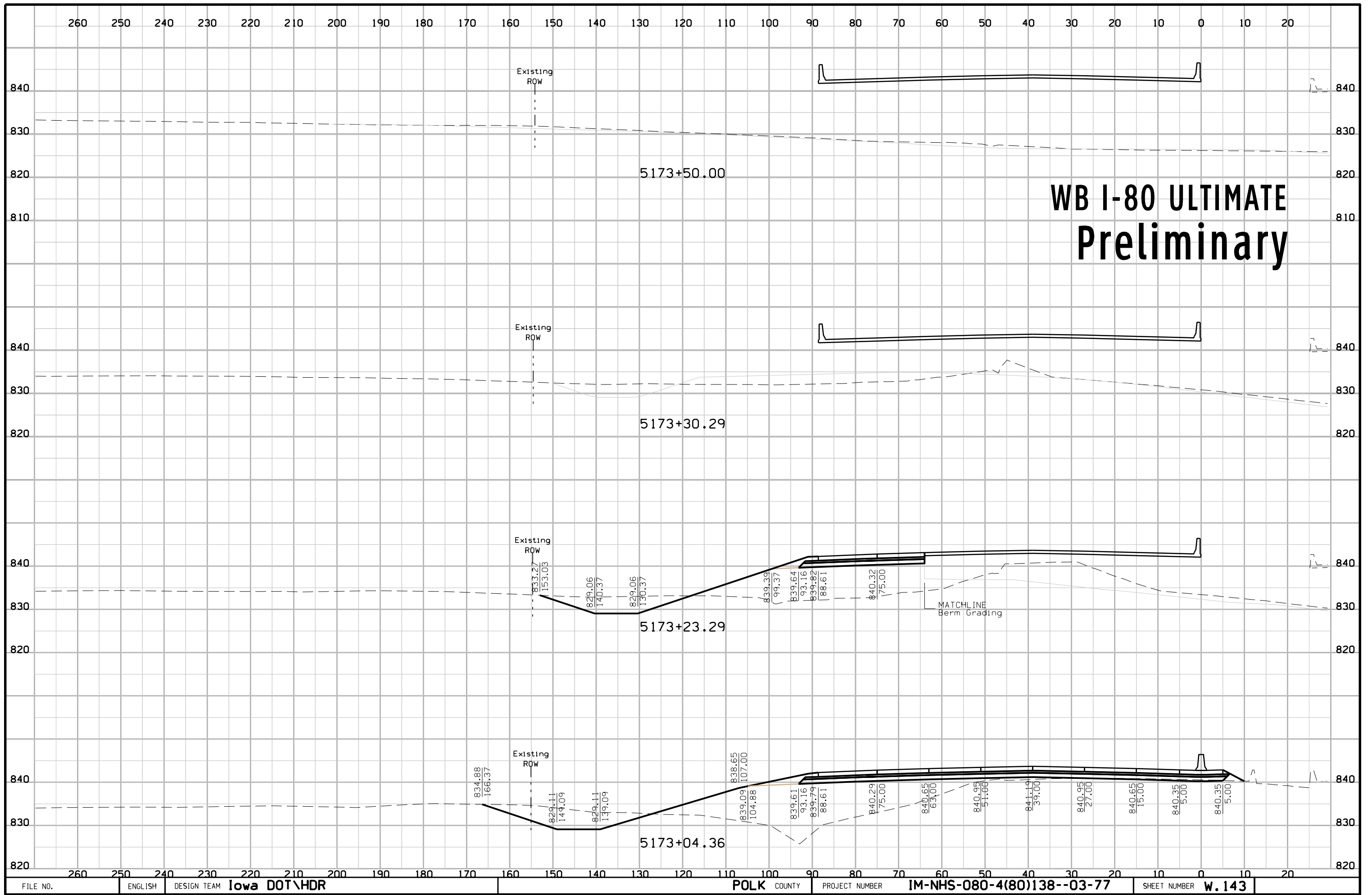


FILE NO.	ENGLISH	DESIGN TEAM	Iowa DOT\HDR		POLK COUNTY	PROJECT NUMBER	IM-NHS-080-4(80)138--03-77	SHEET NUMBER	W. 139
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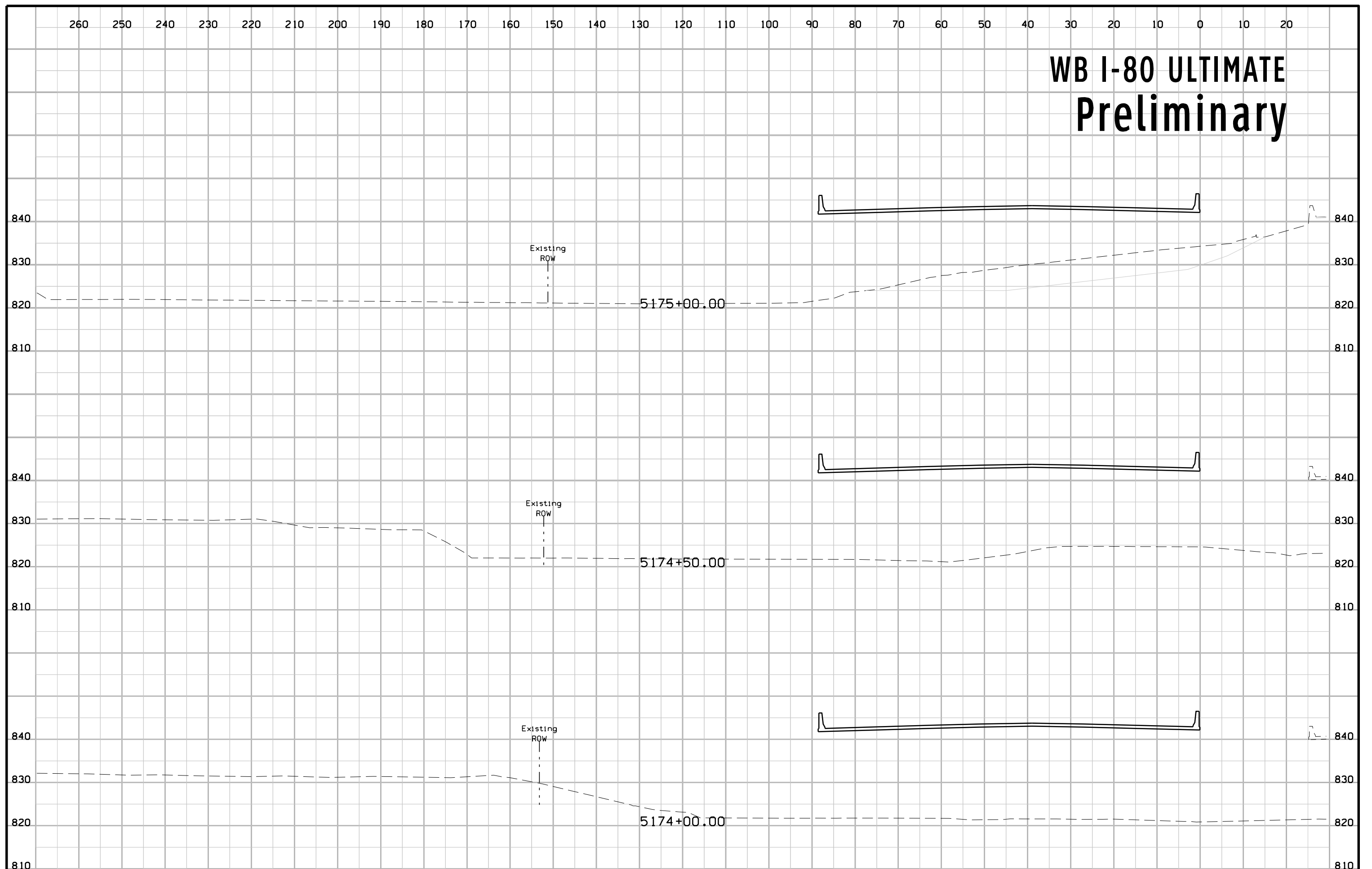




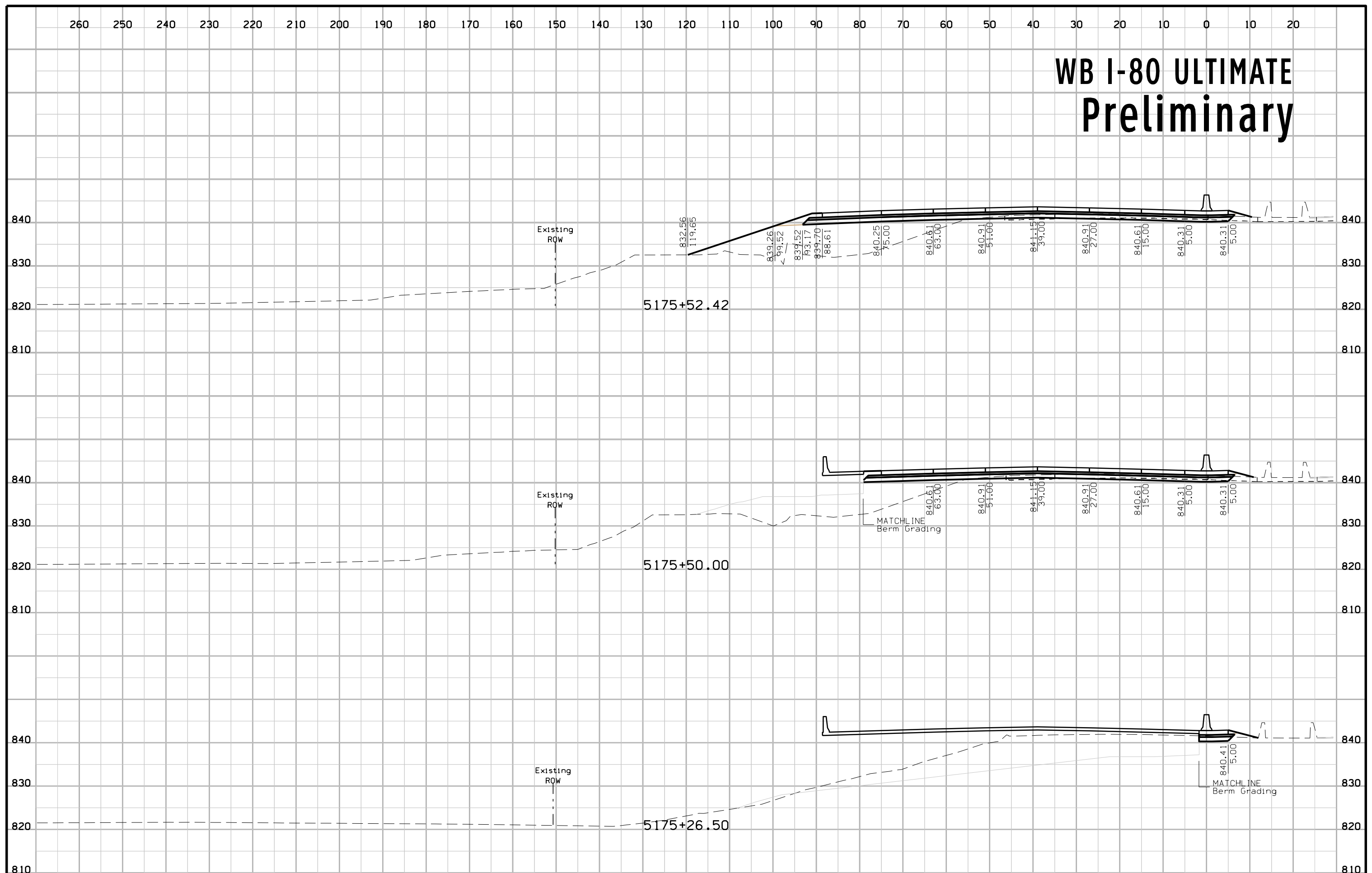


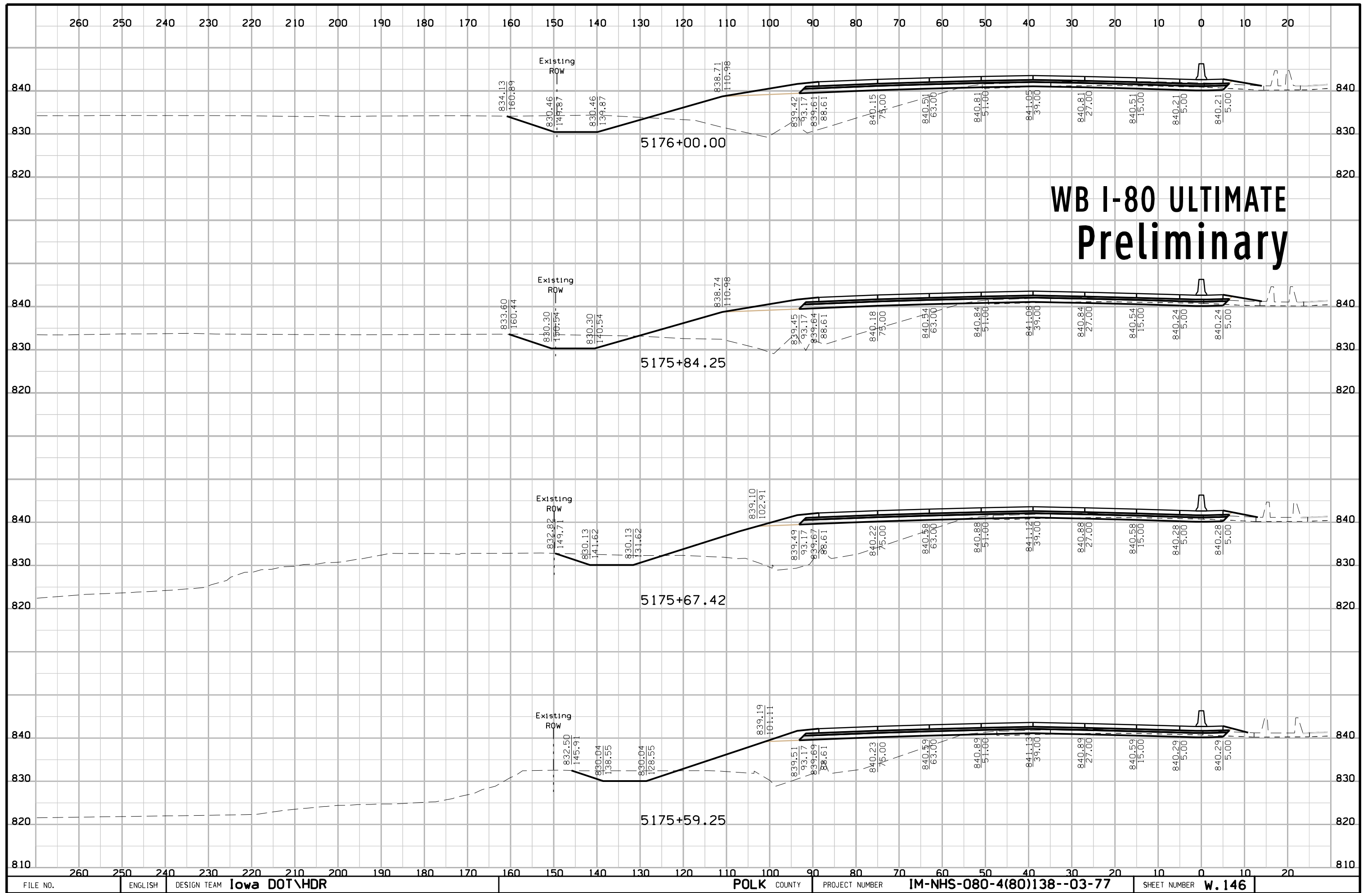


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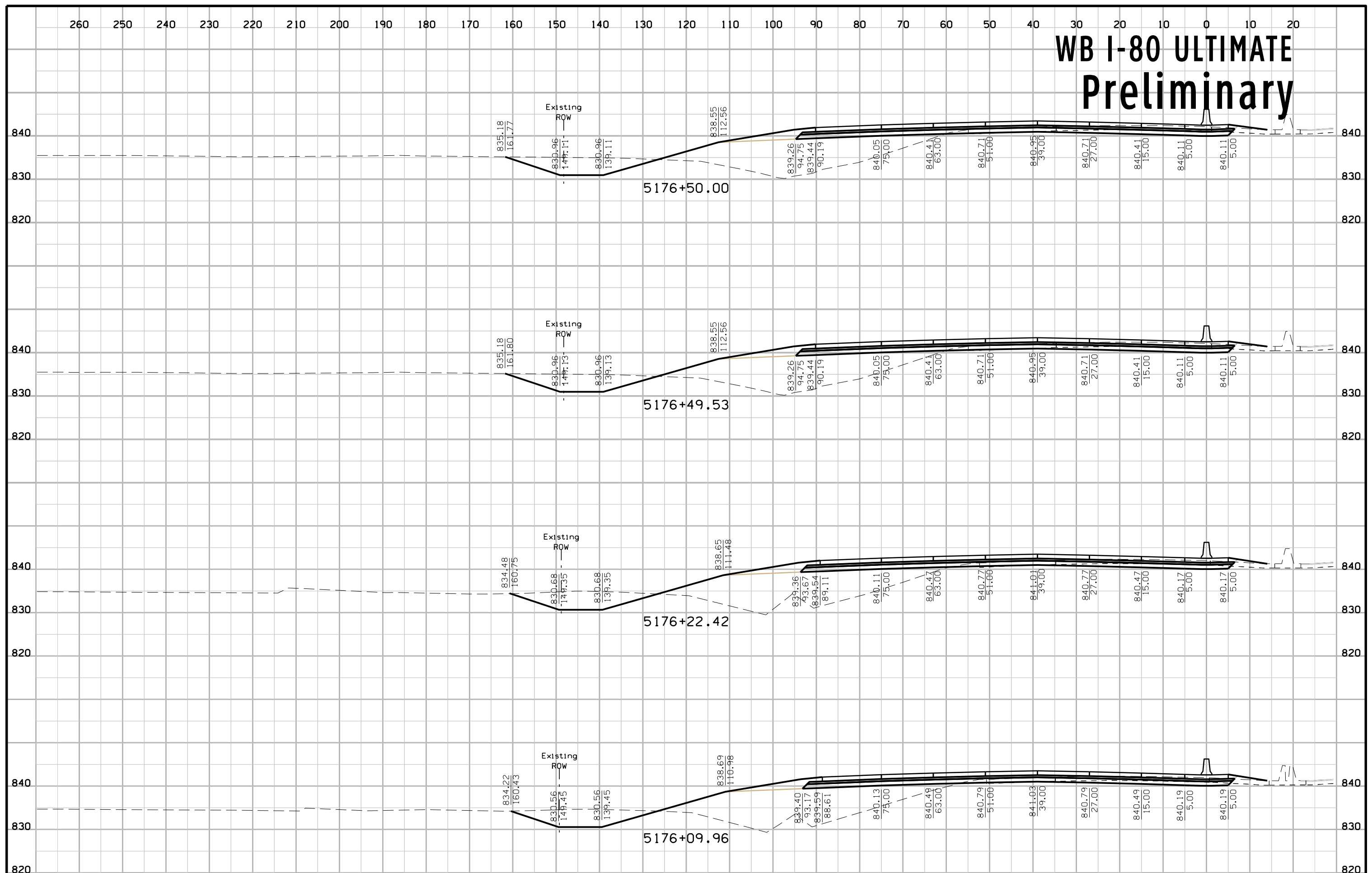


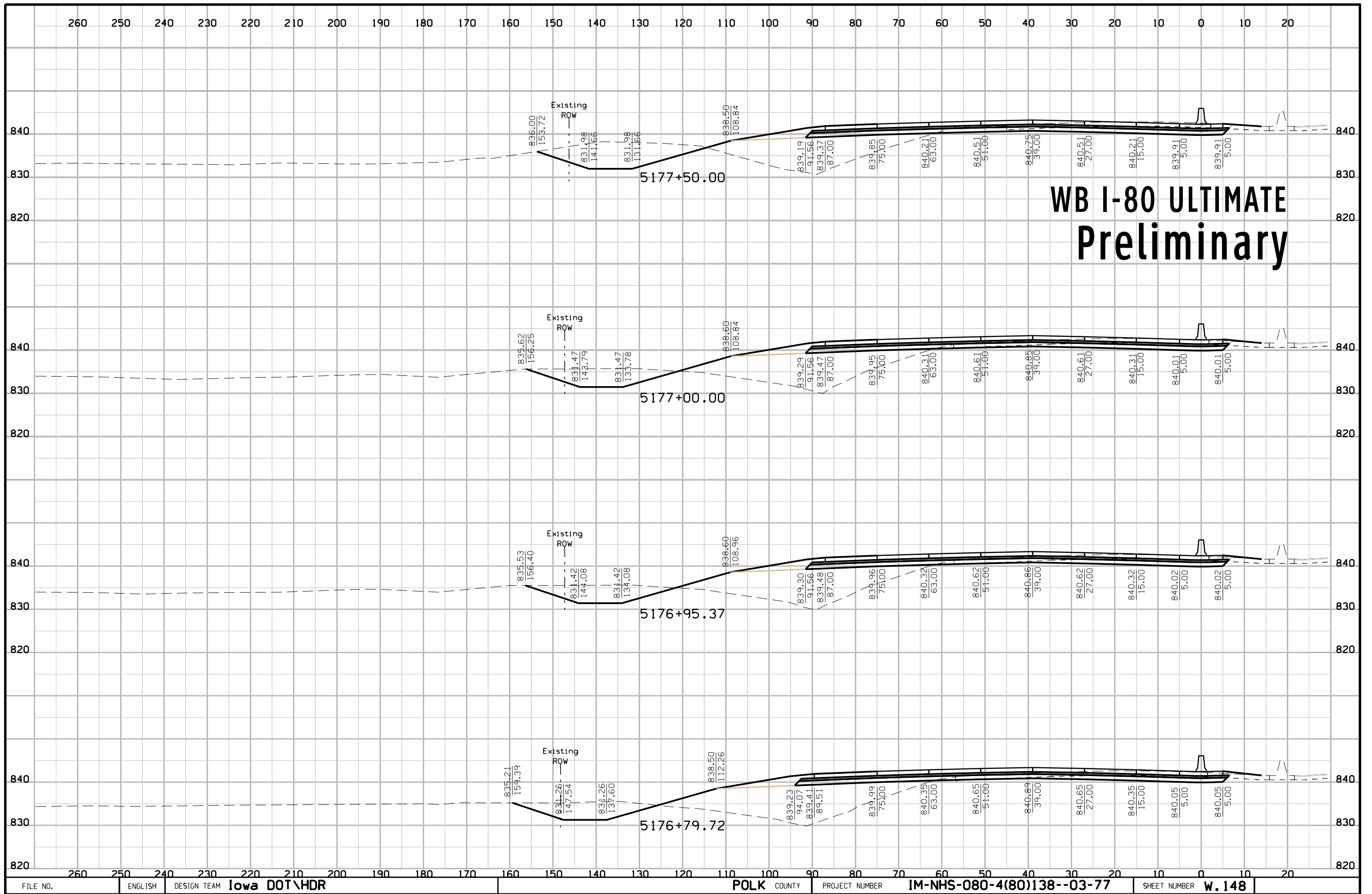
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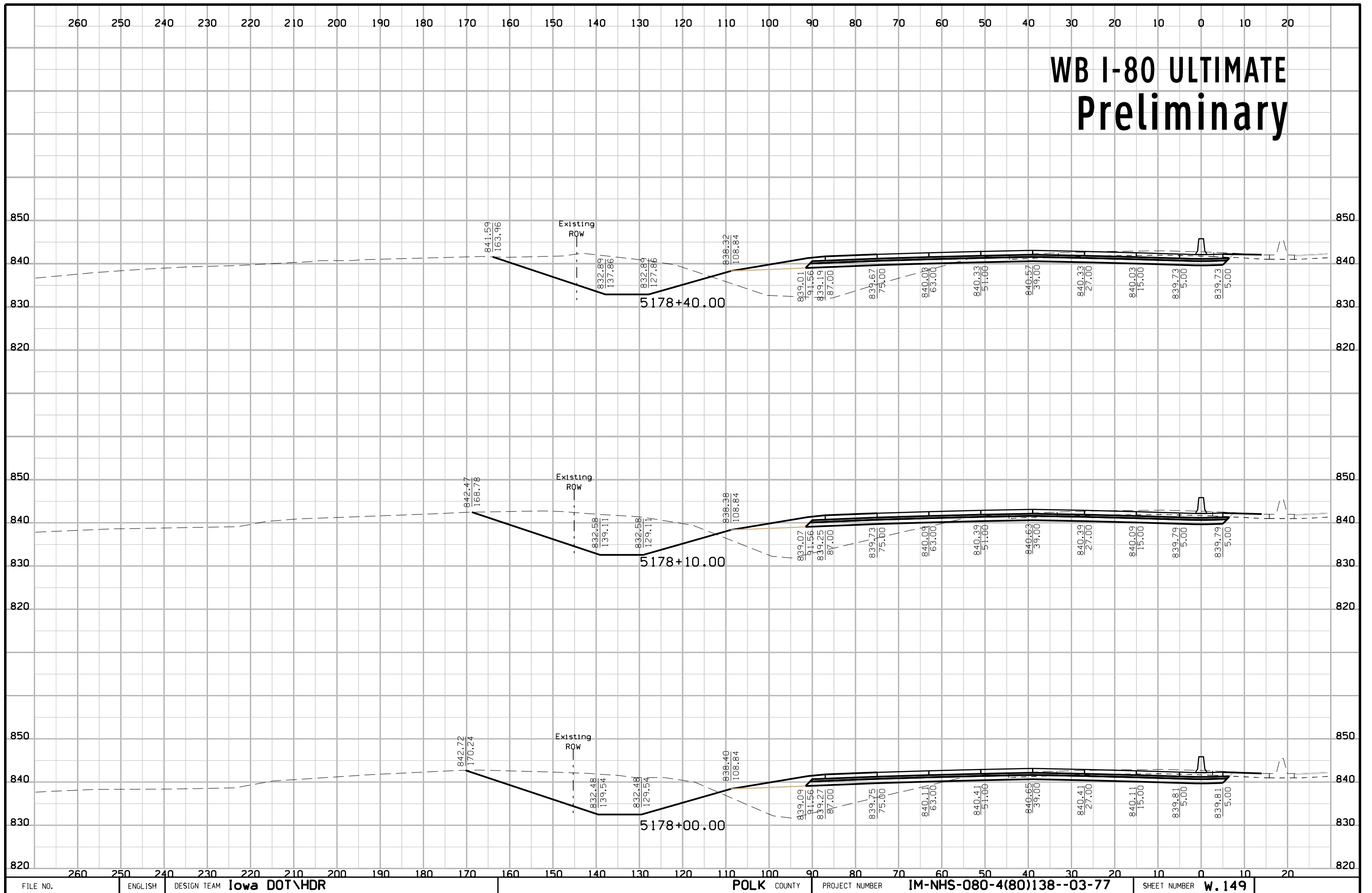


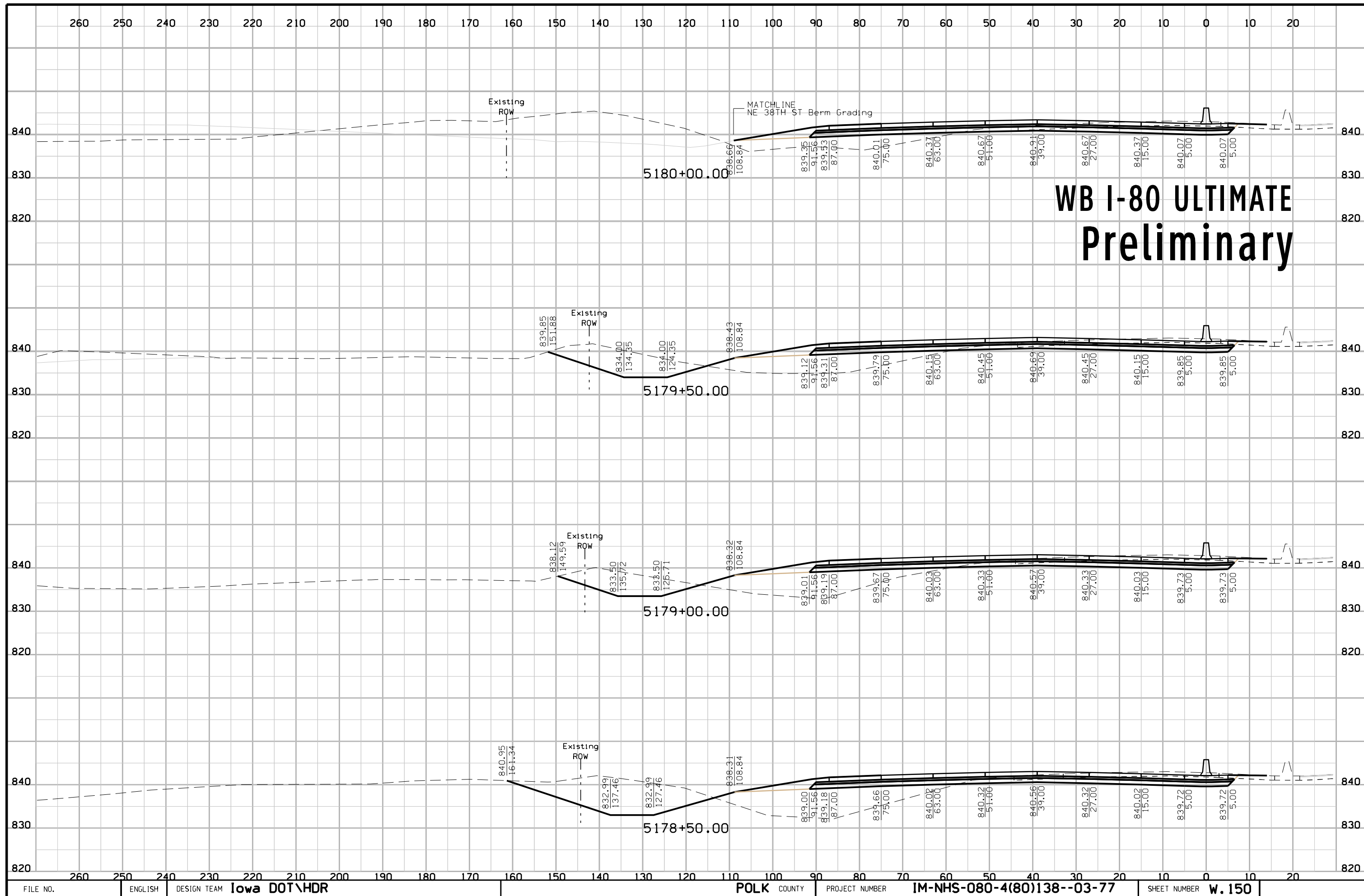
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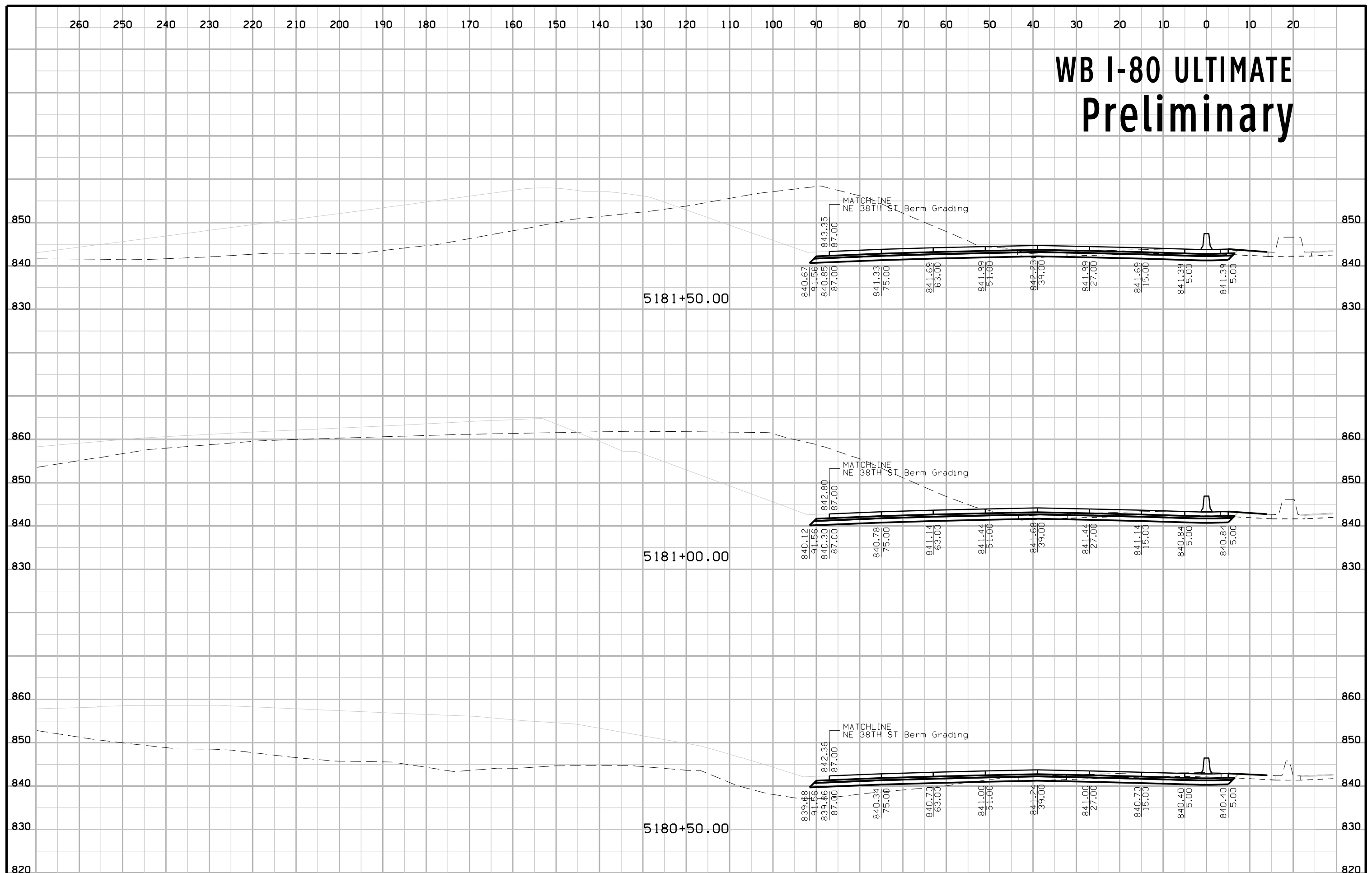


# WB I-80 ULTIMATE Preliminary



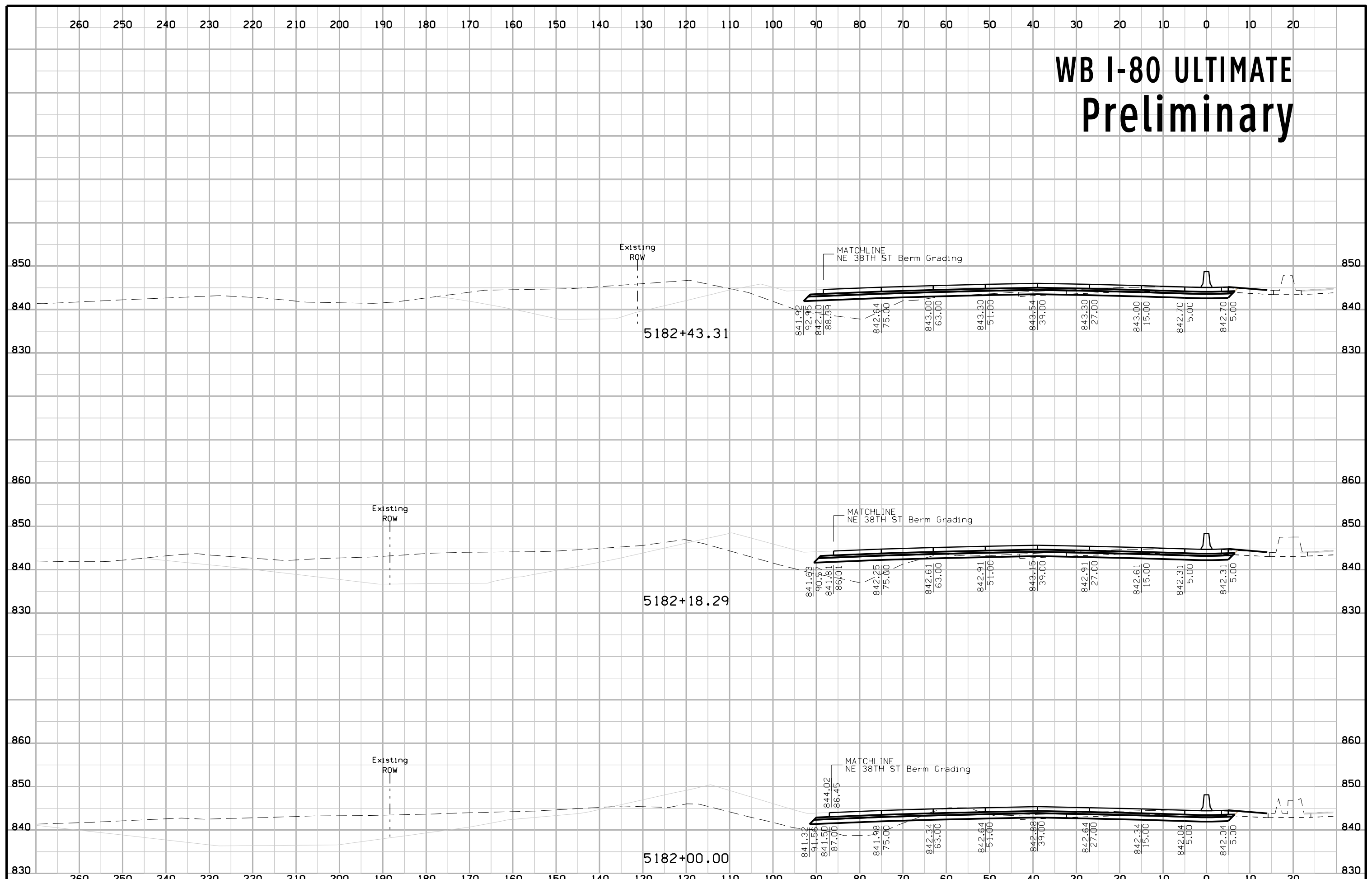


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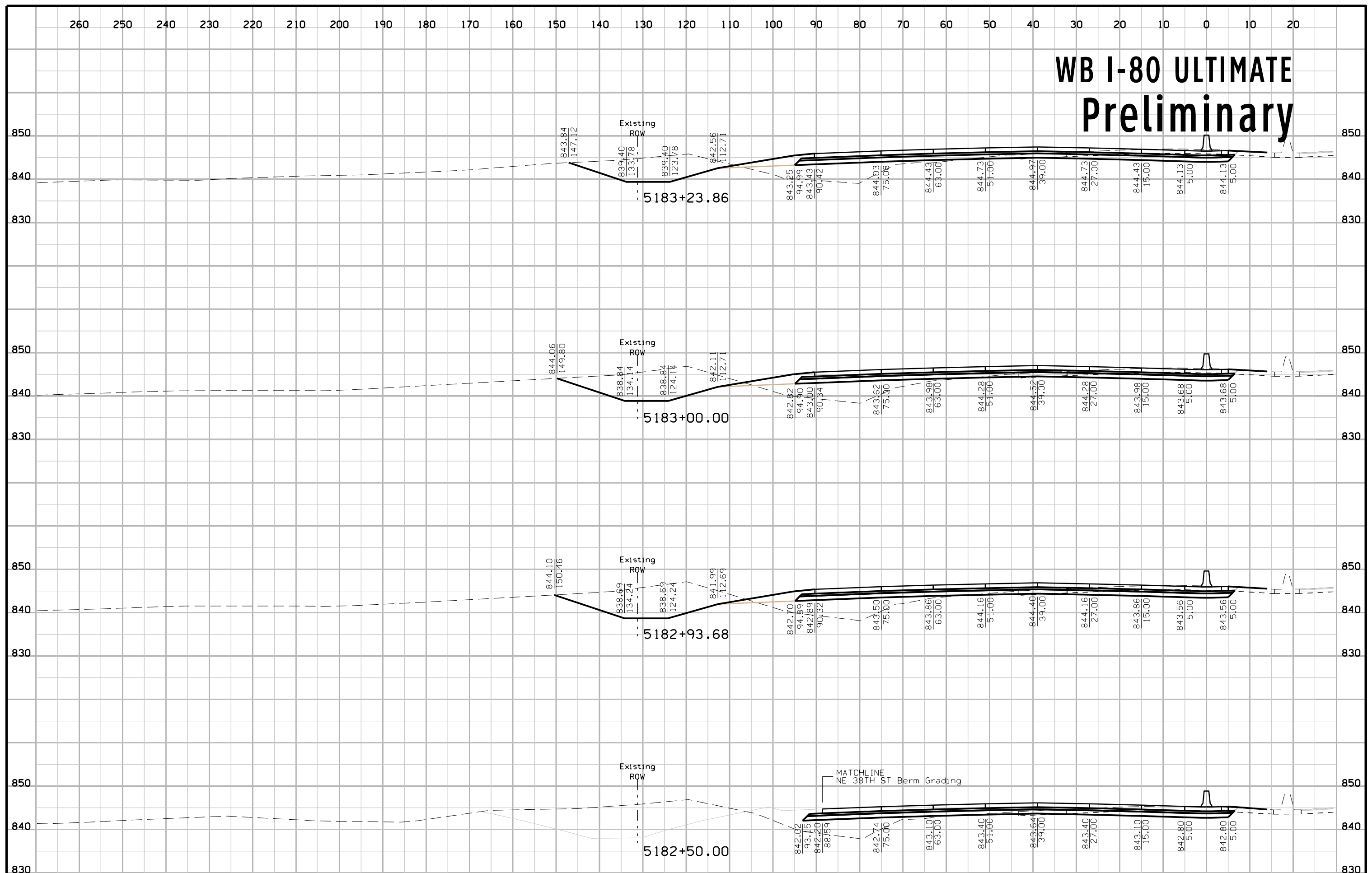


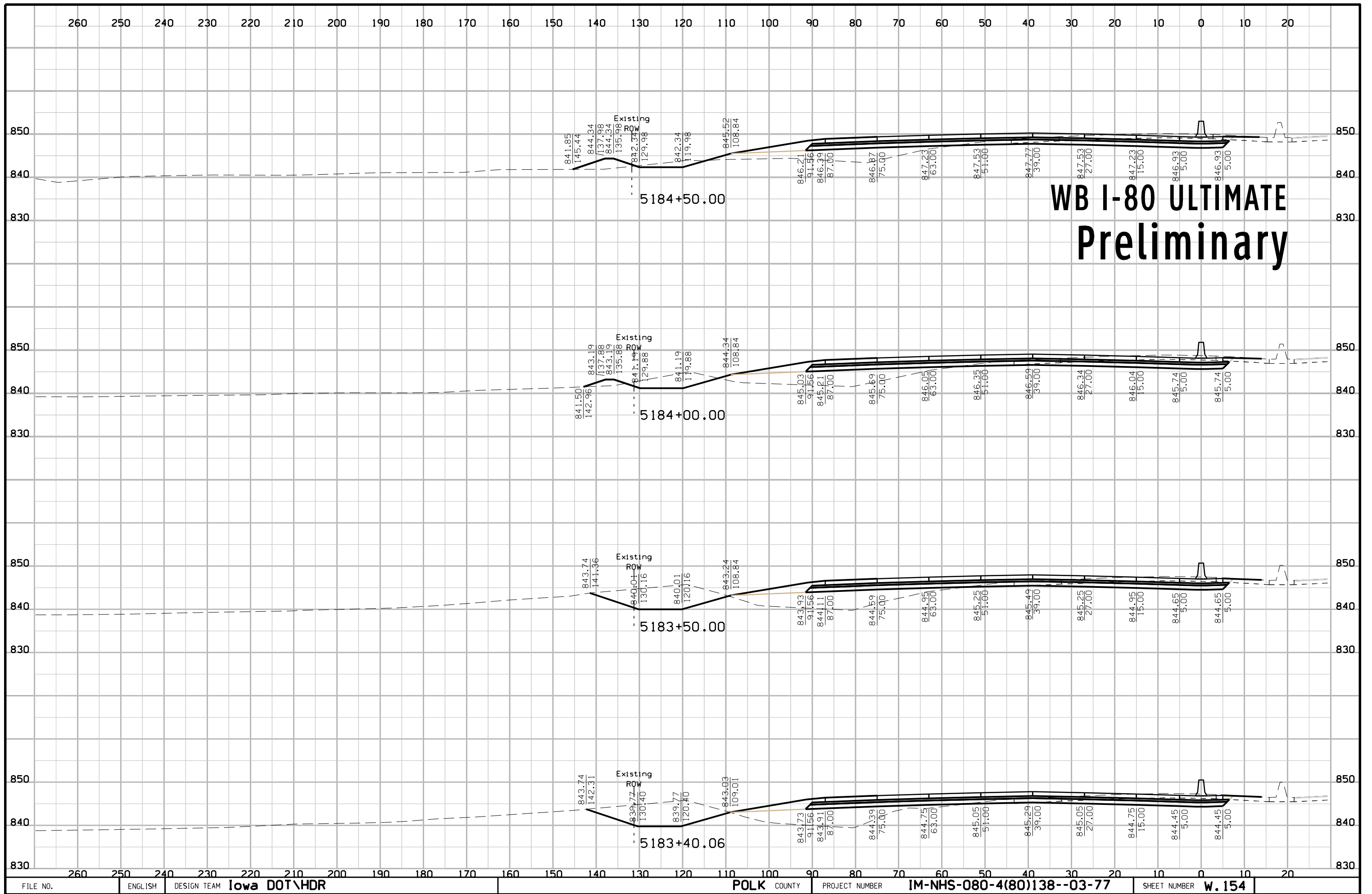


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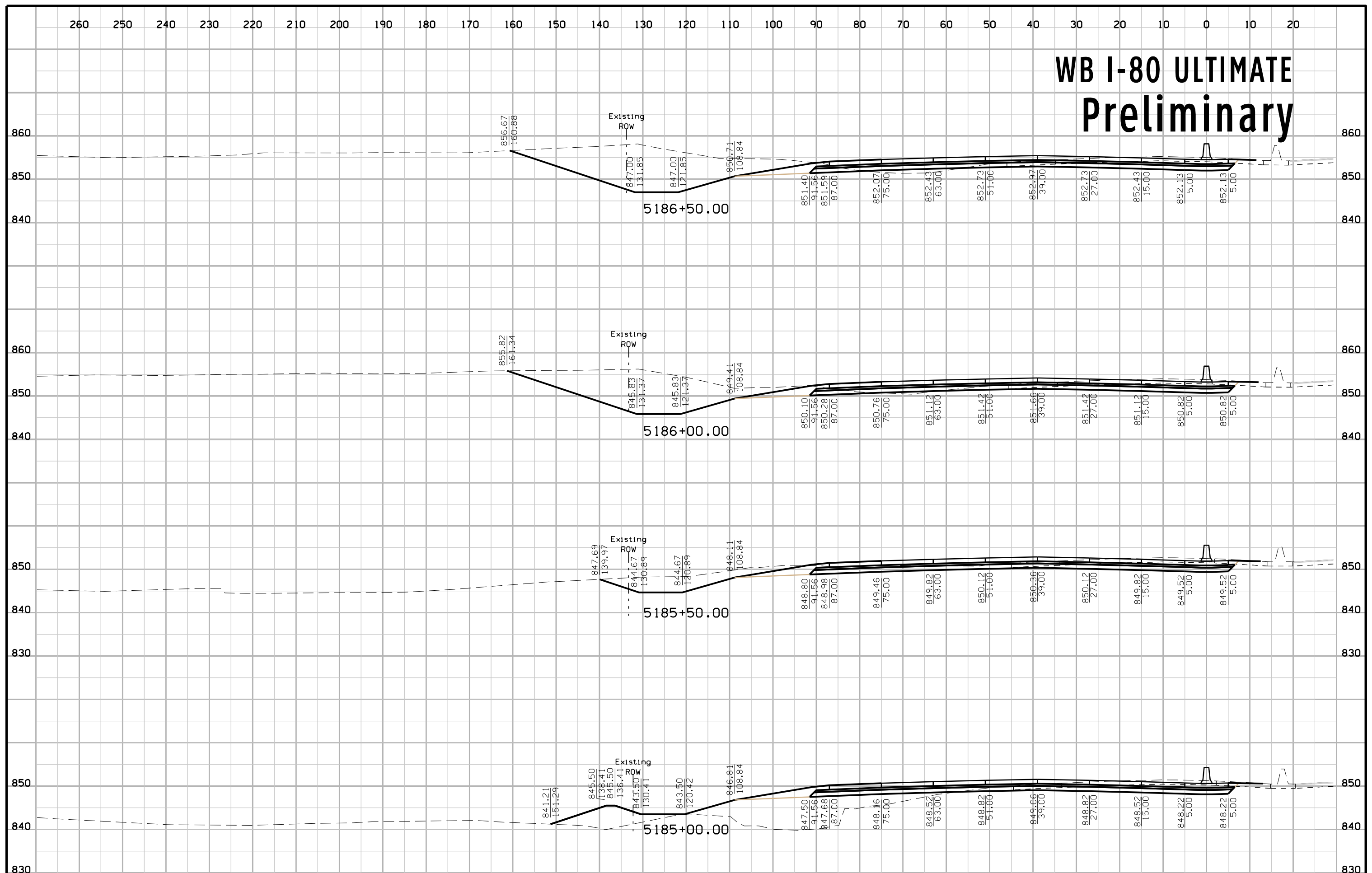


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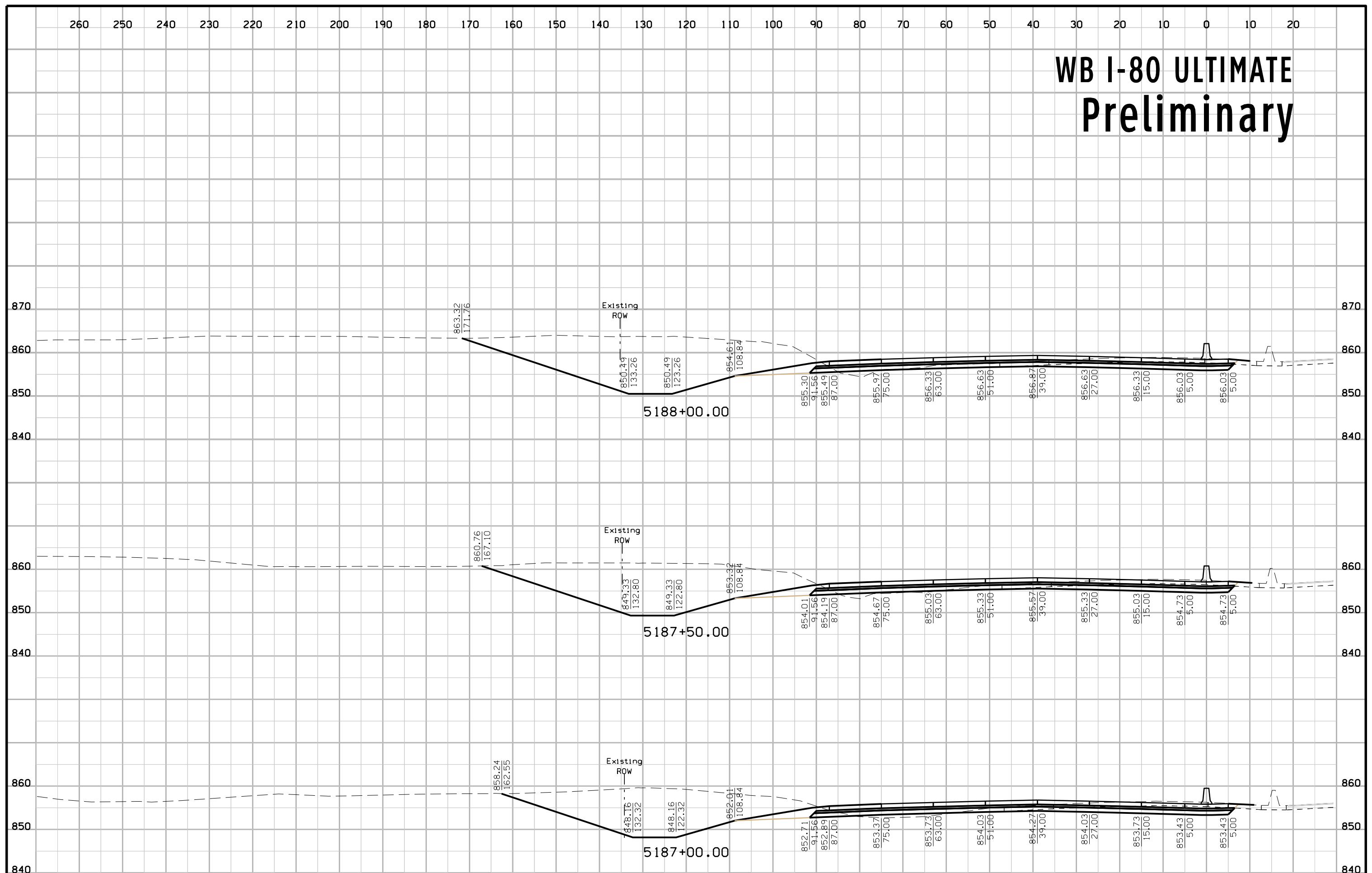




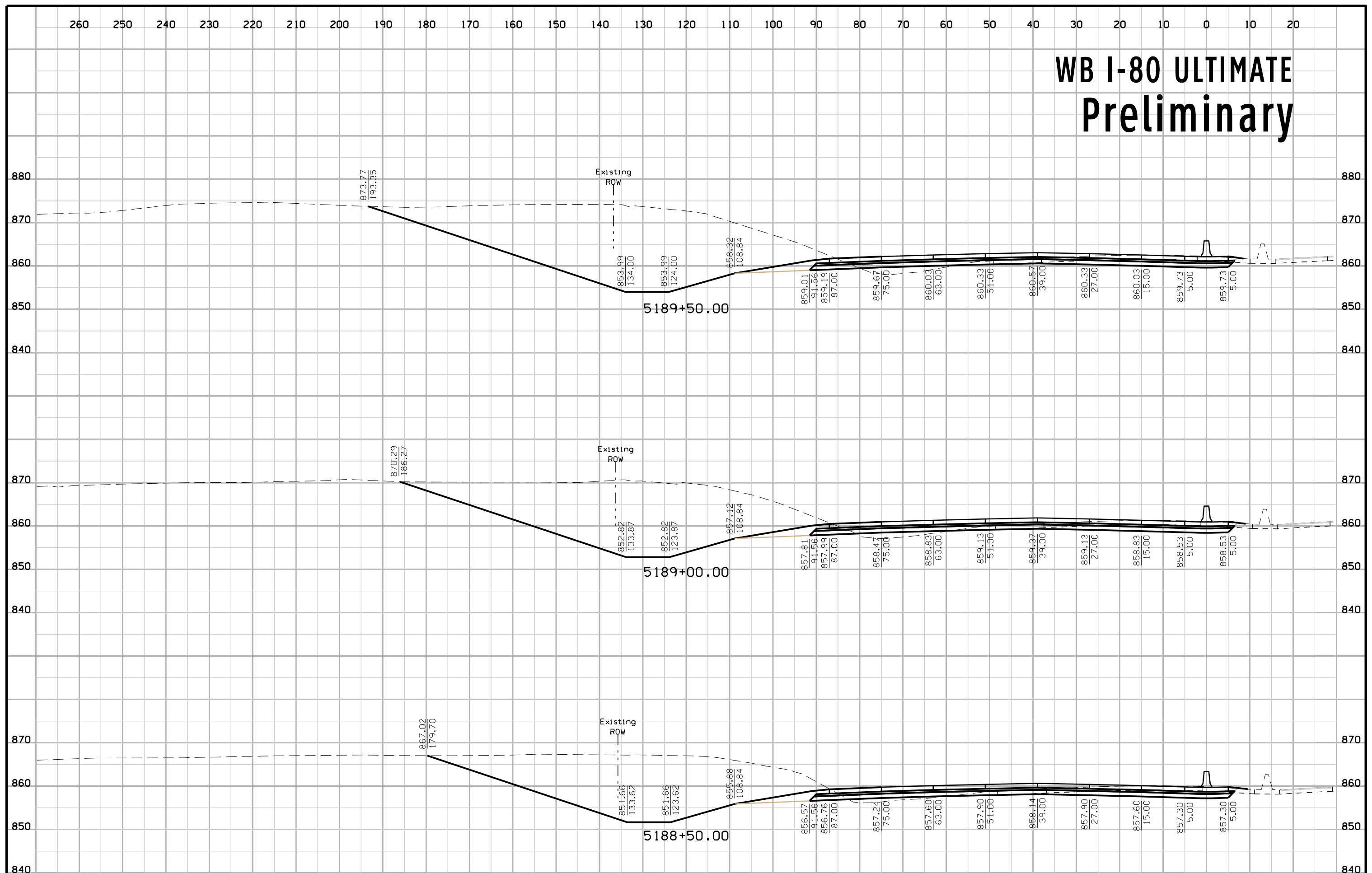
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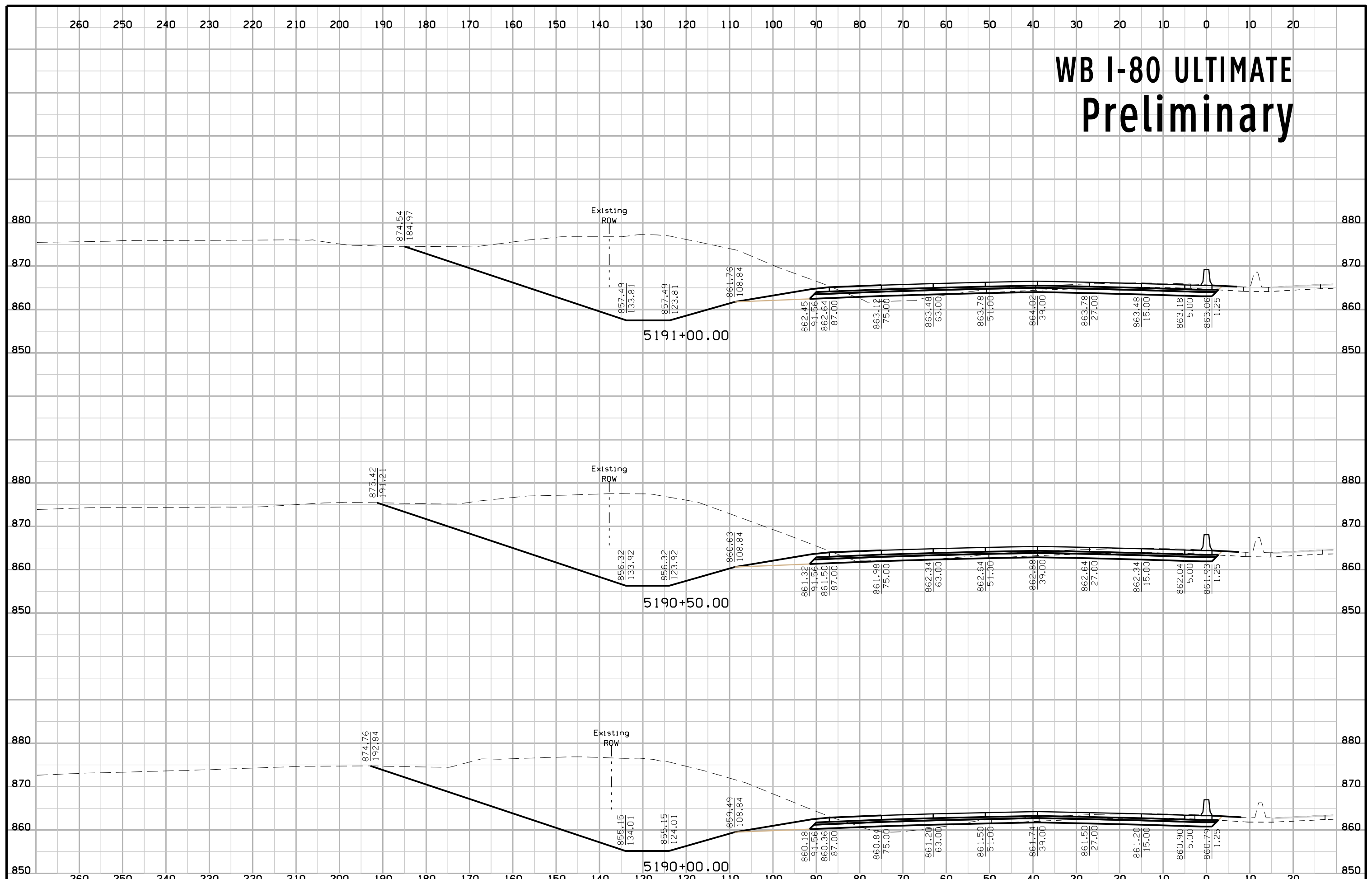
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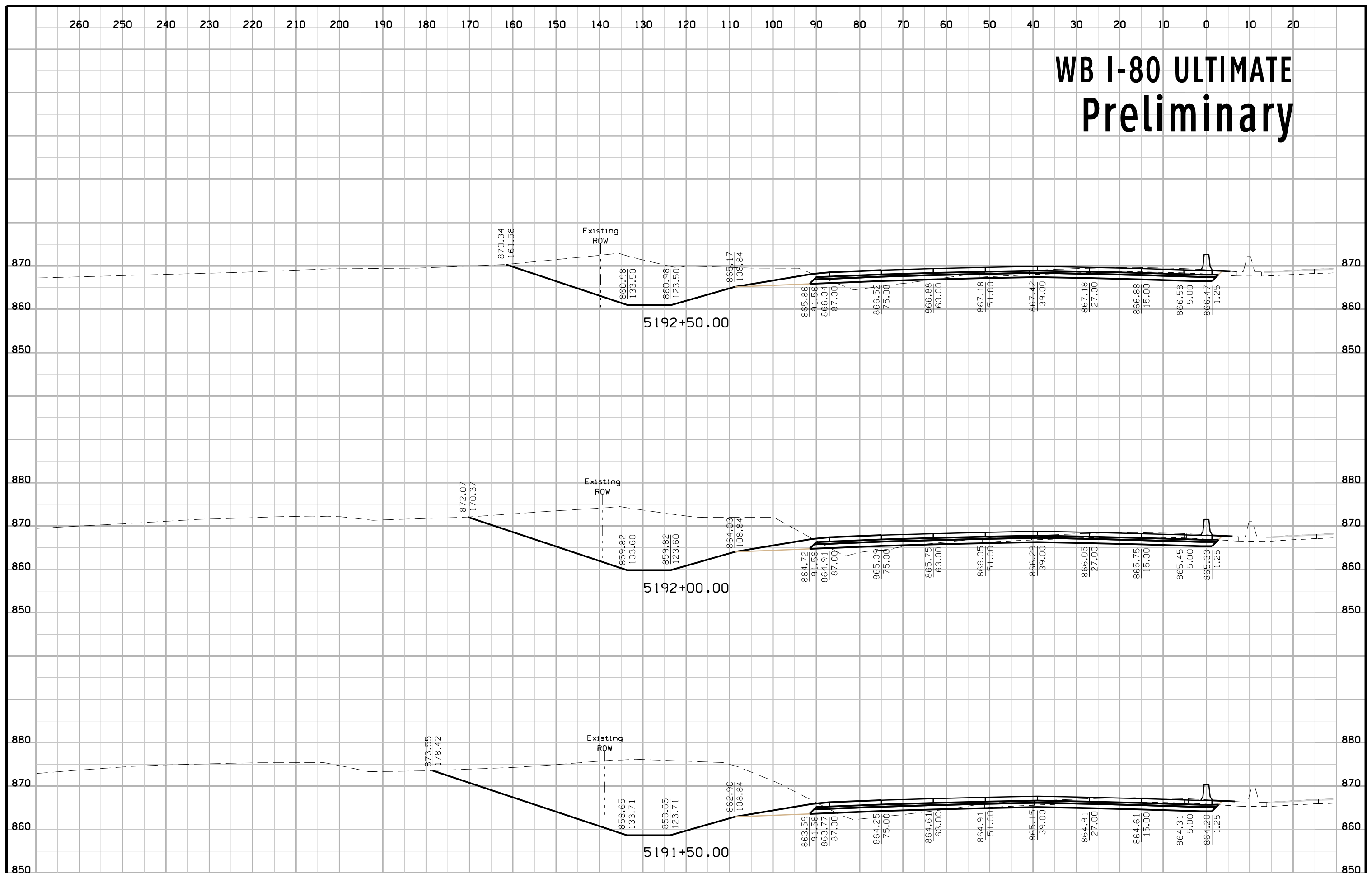
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# WB I-80 ULTIMATE Preliminary

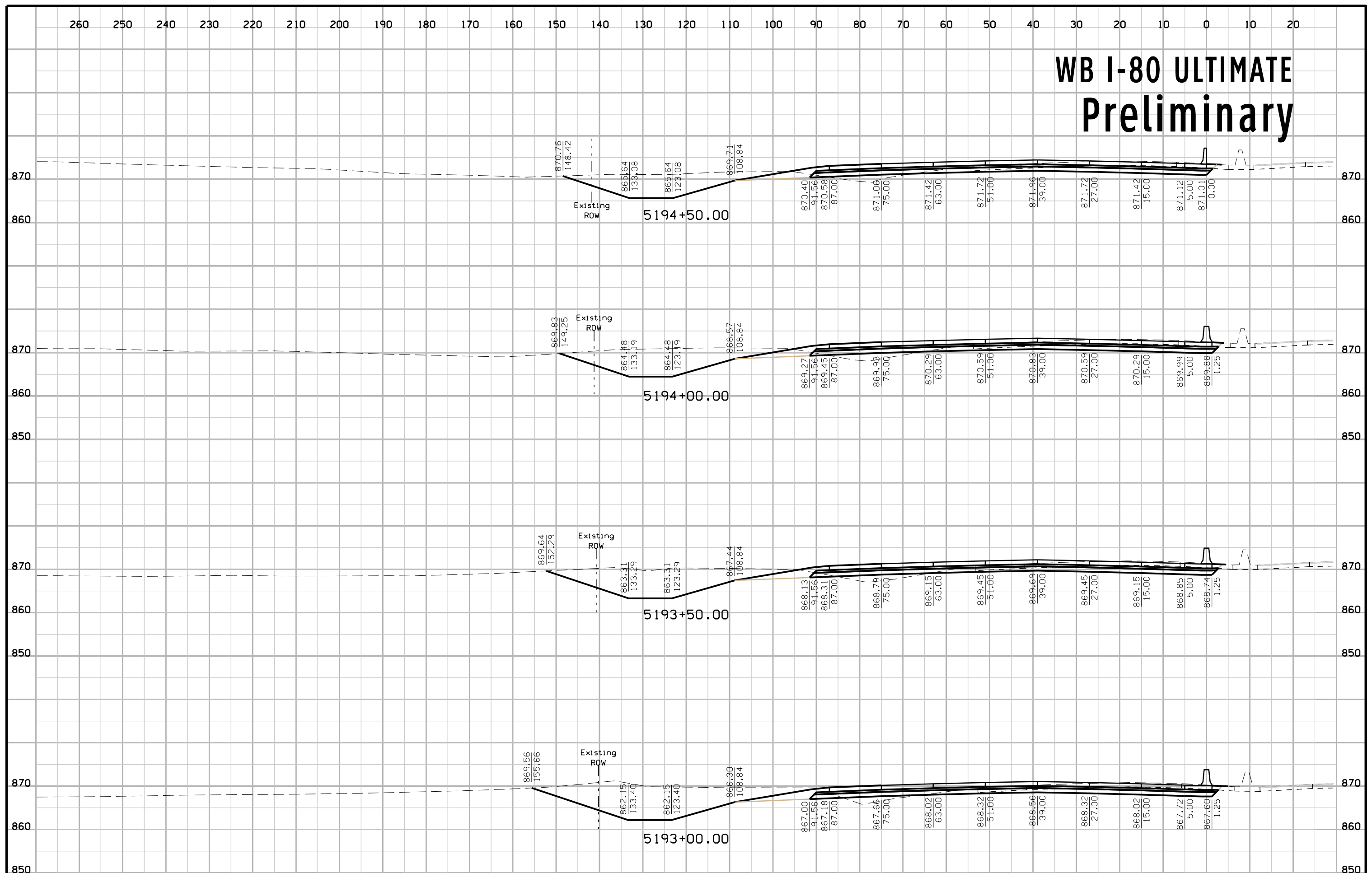


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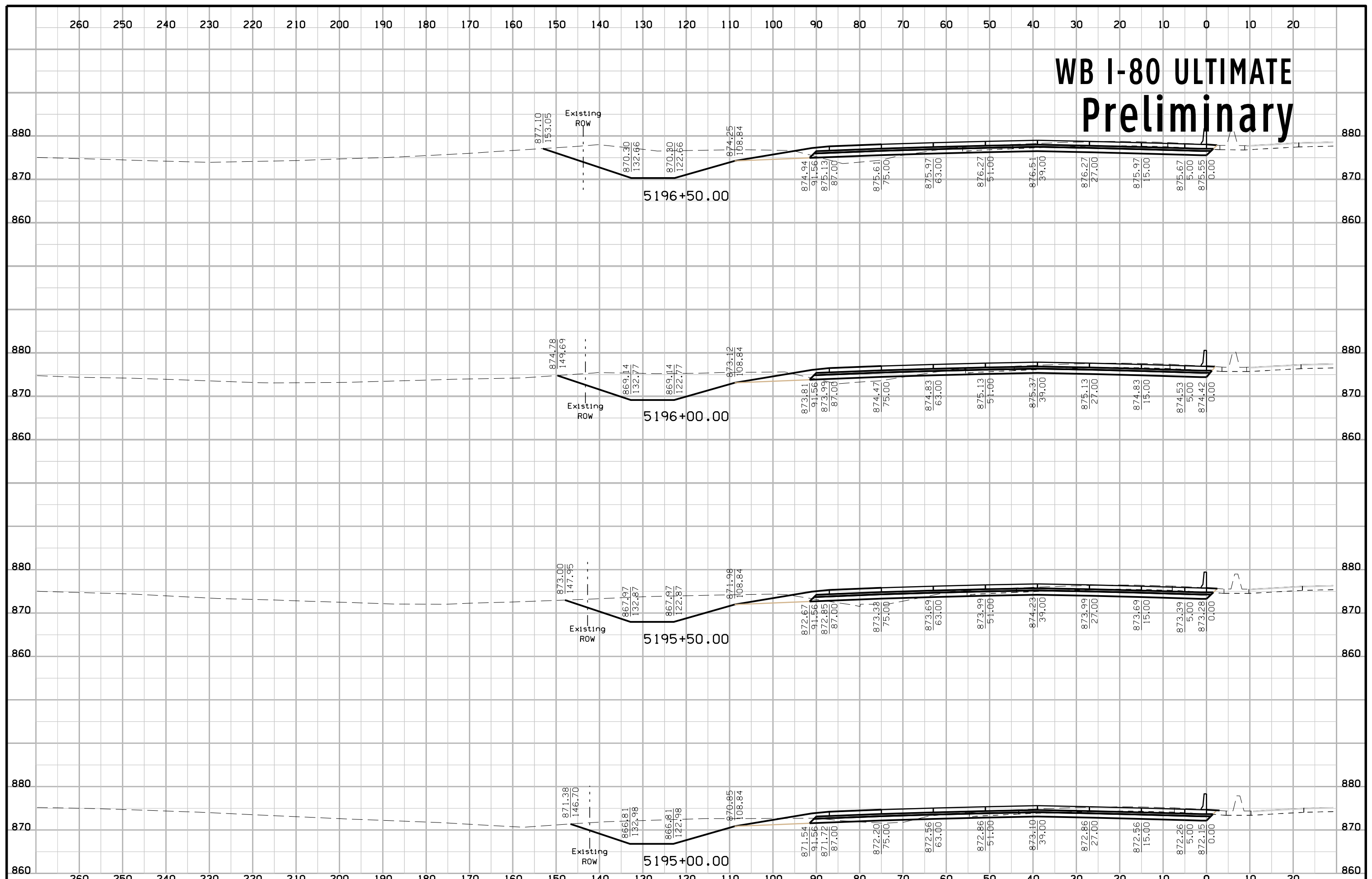


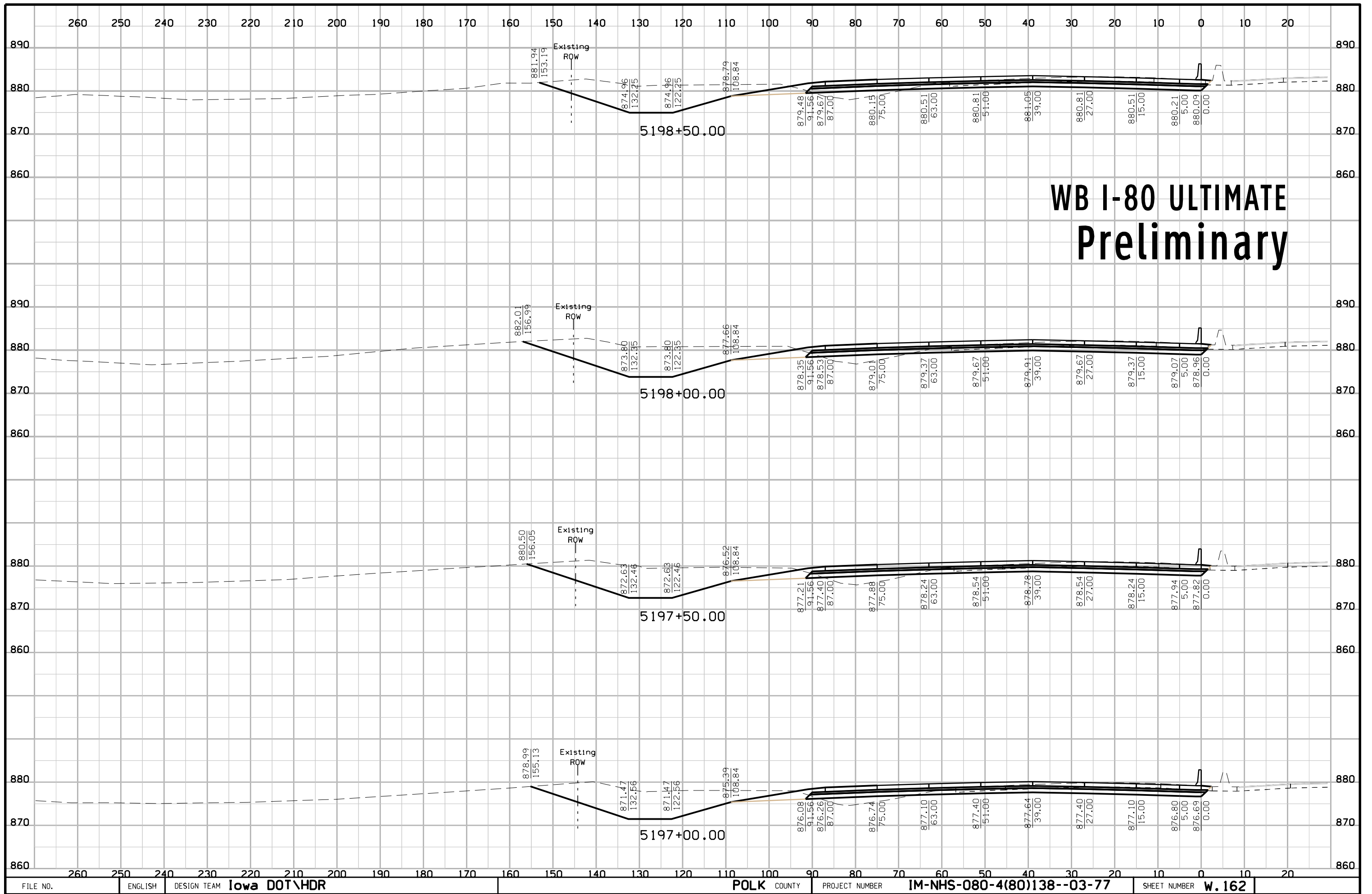


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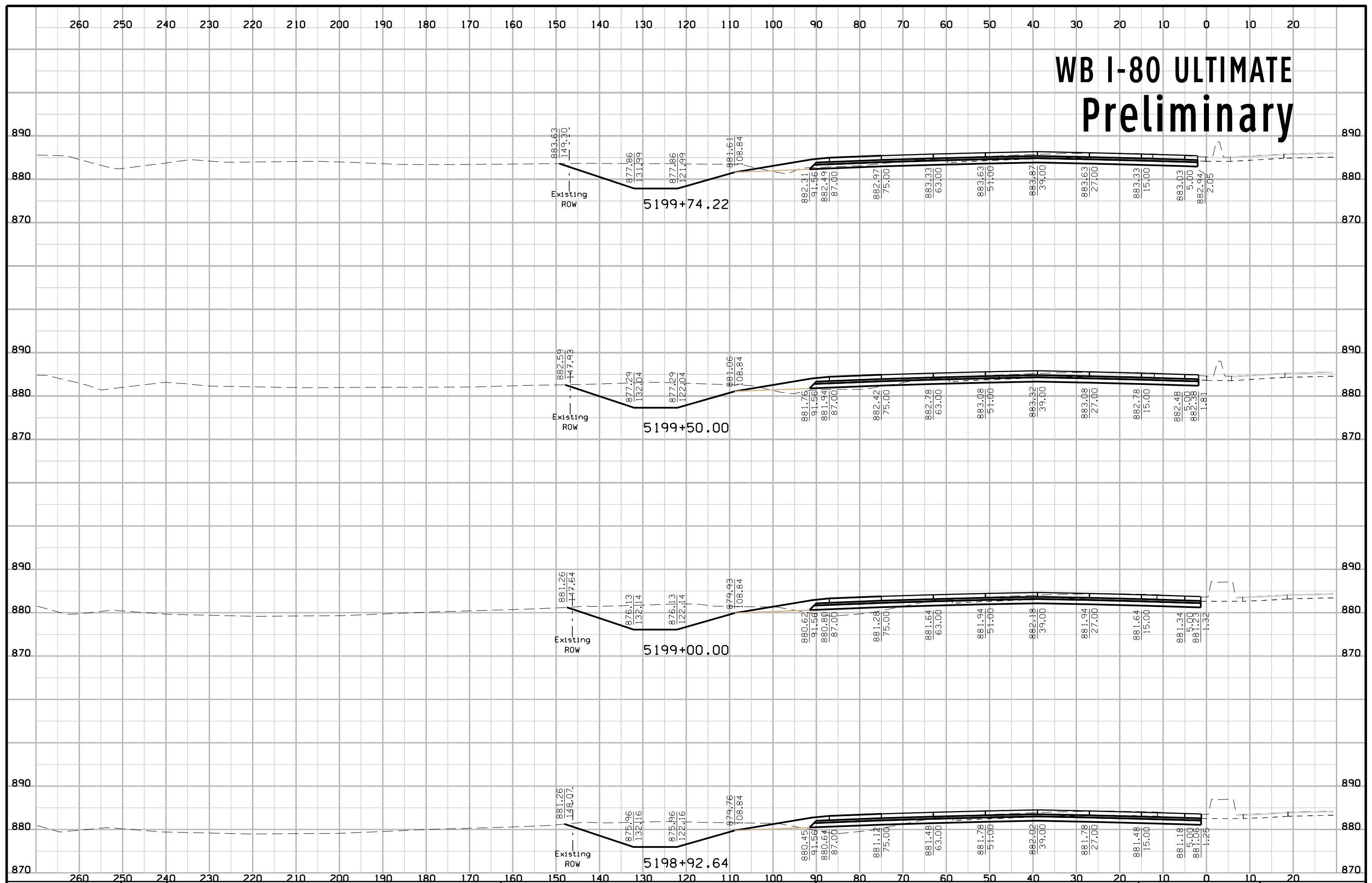


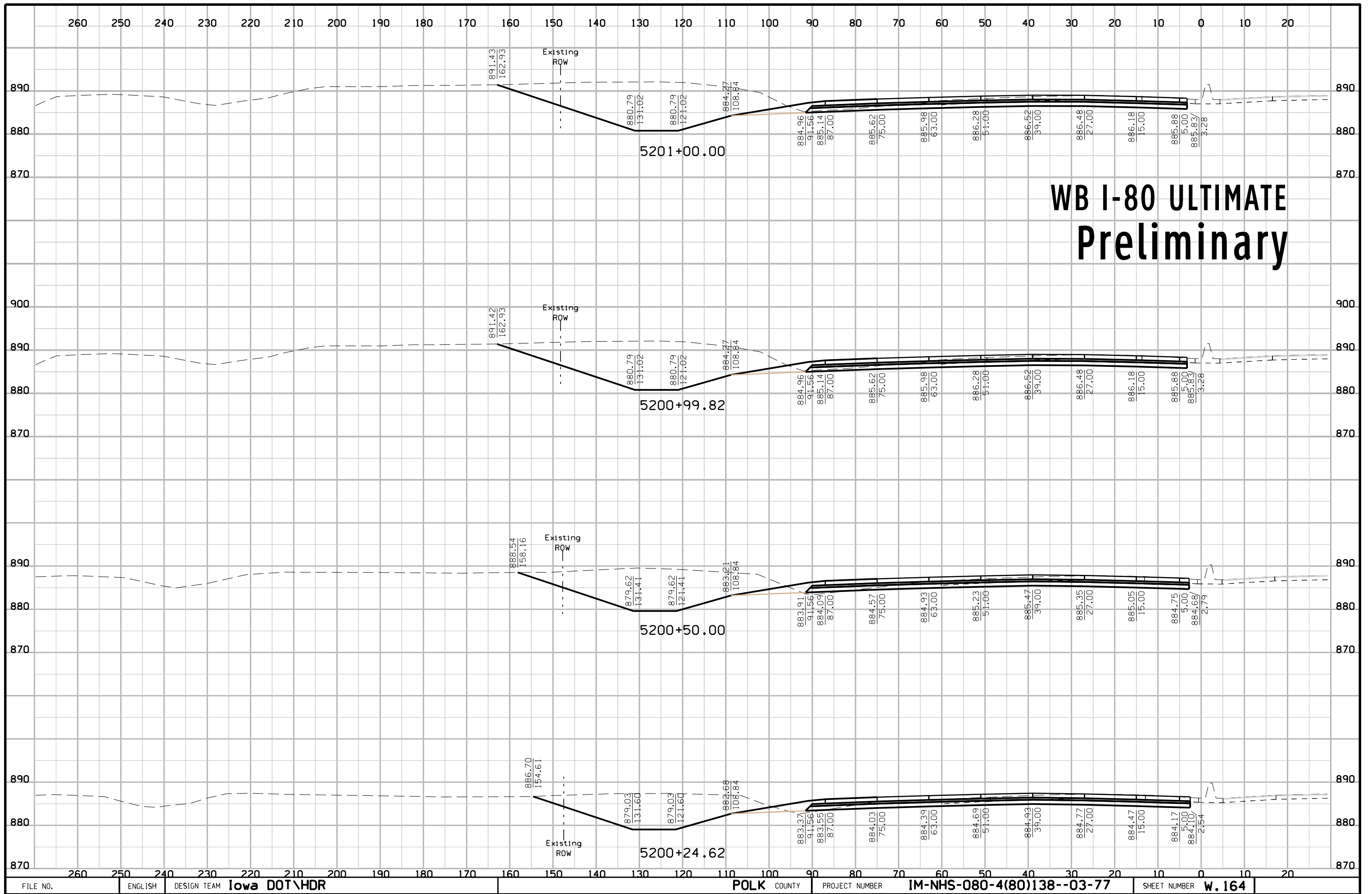
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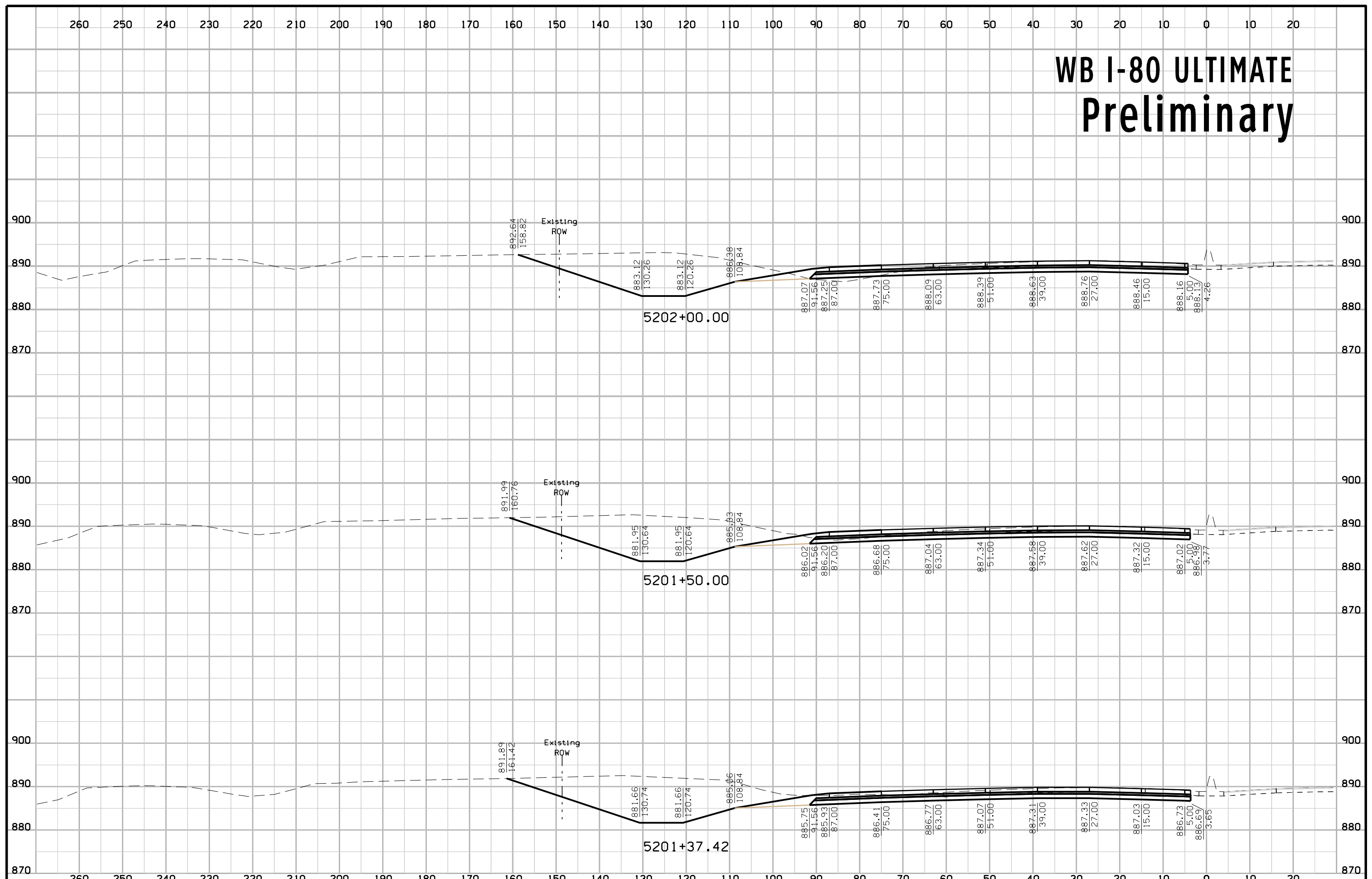


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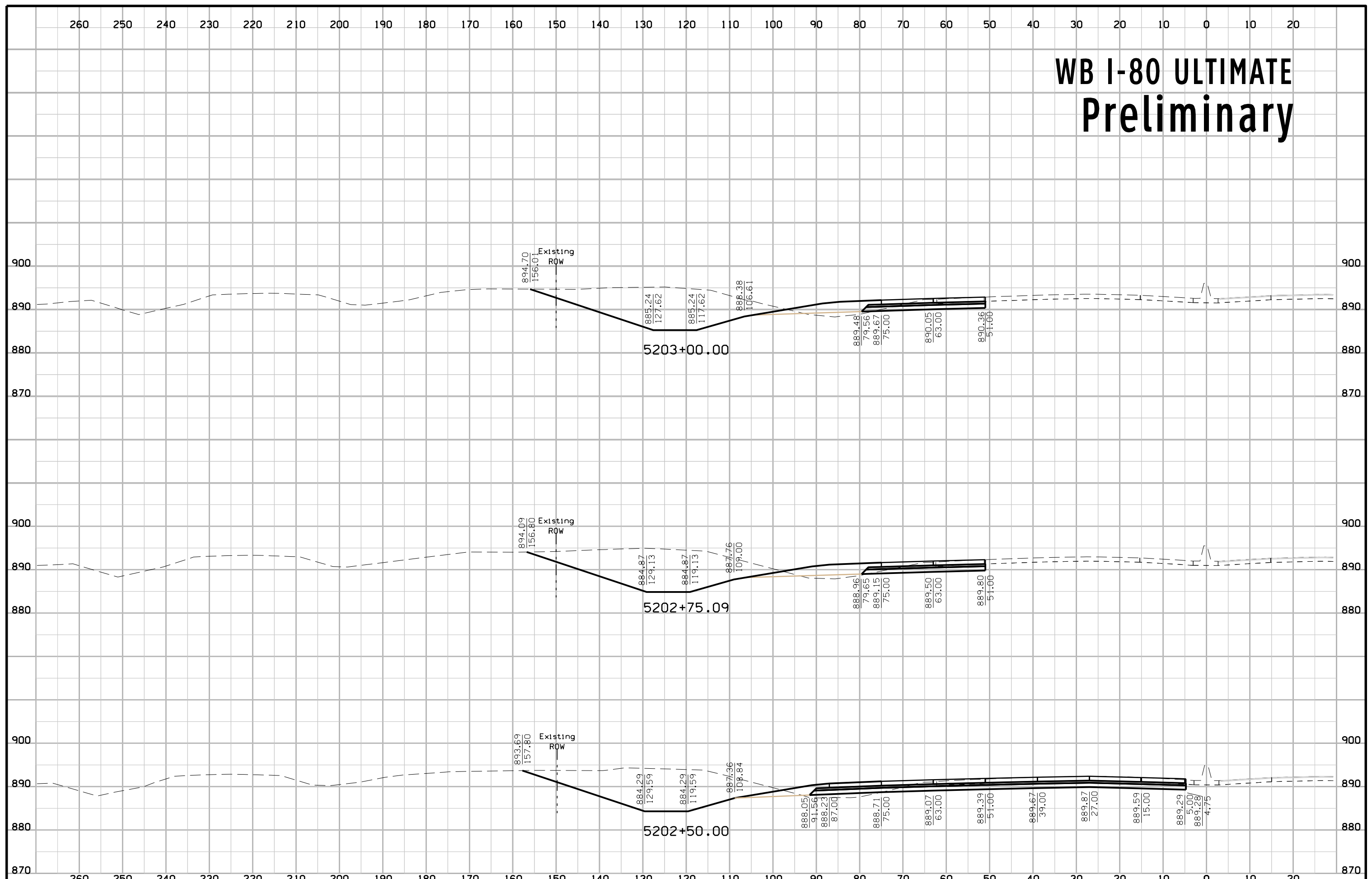




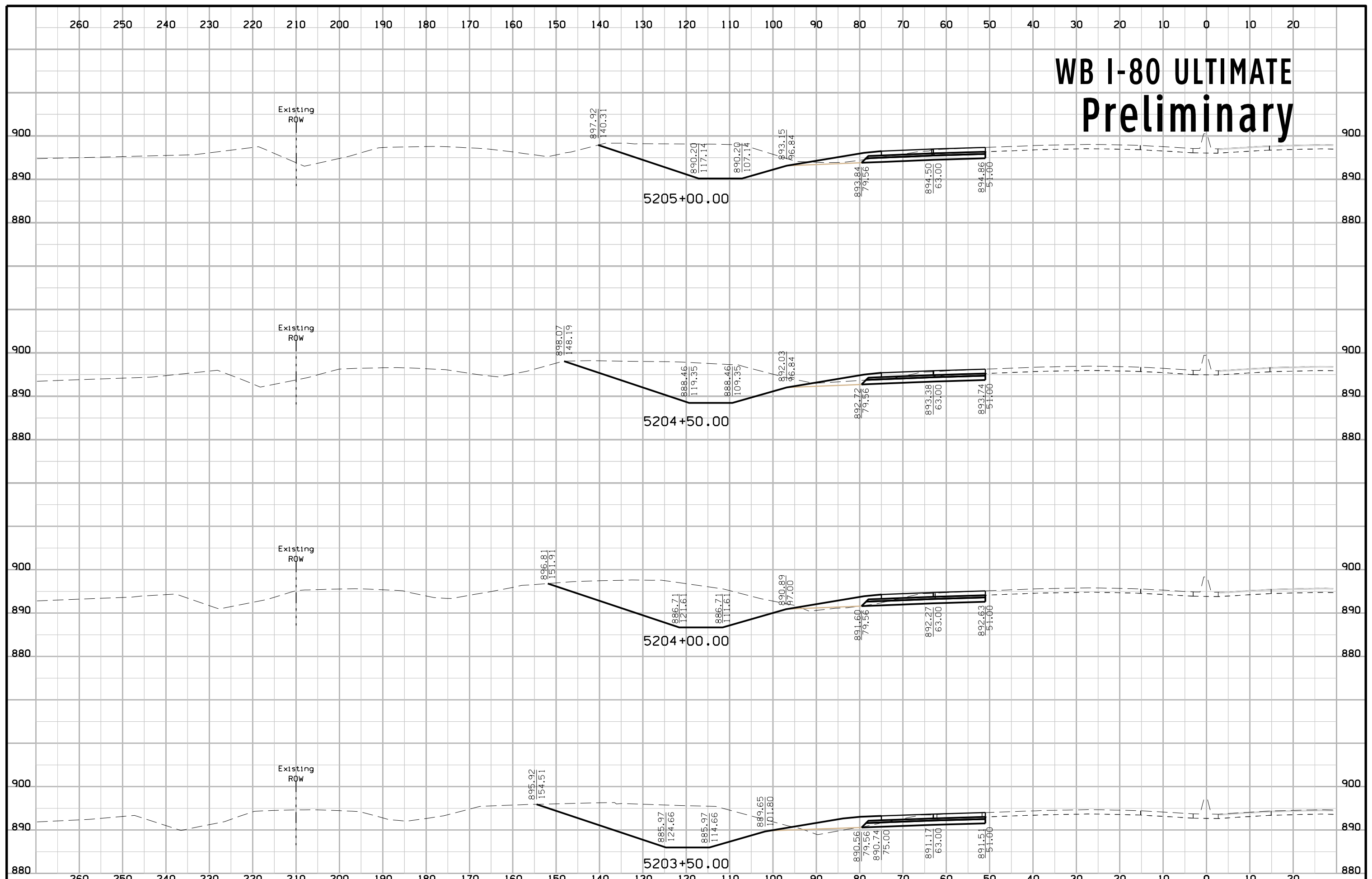
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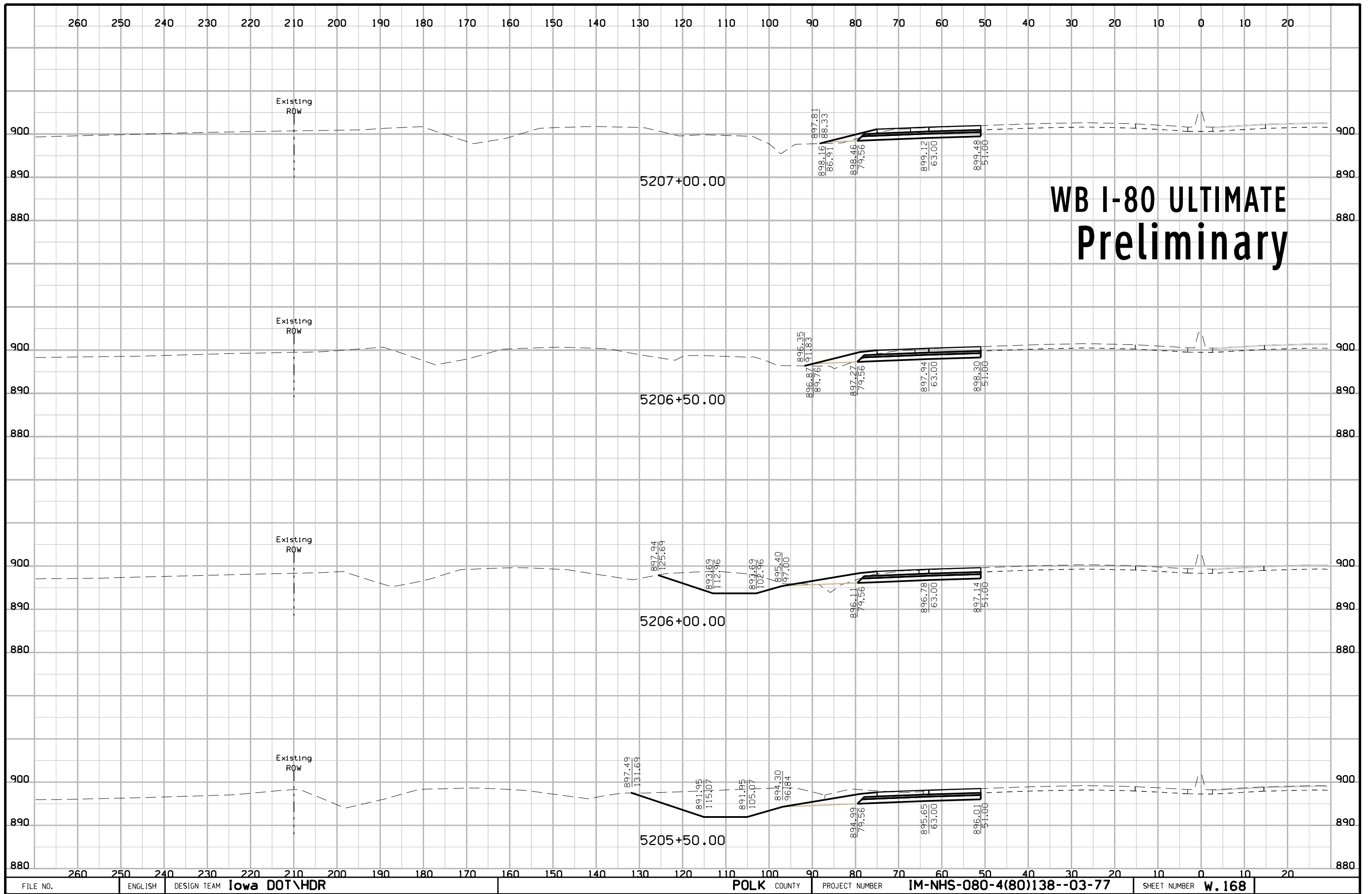
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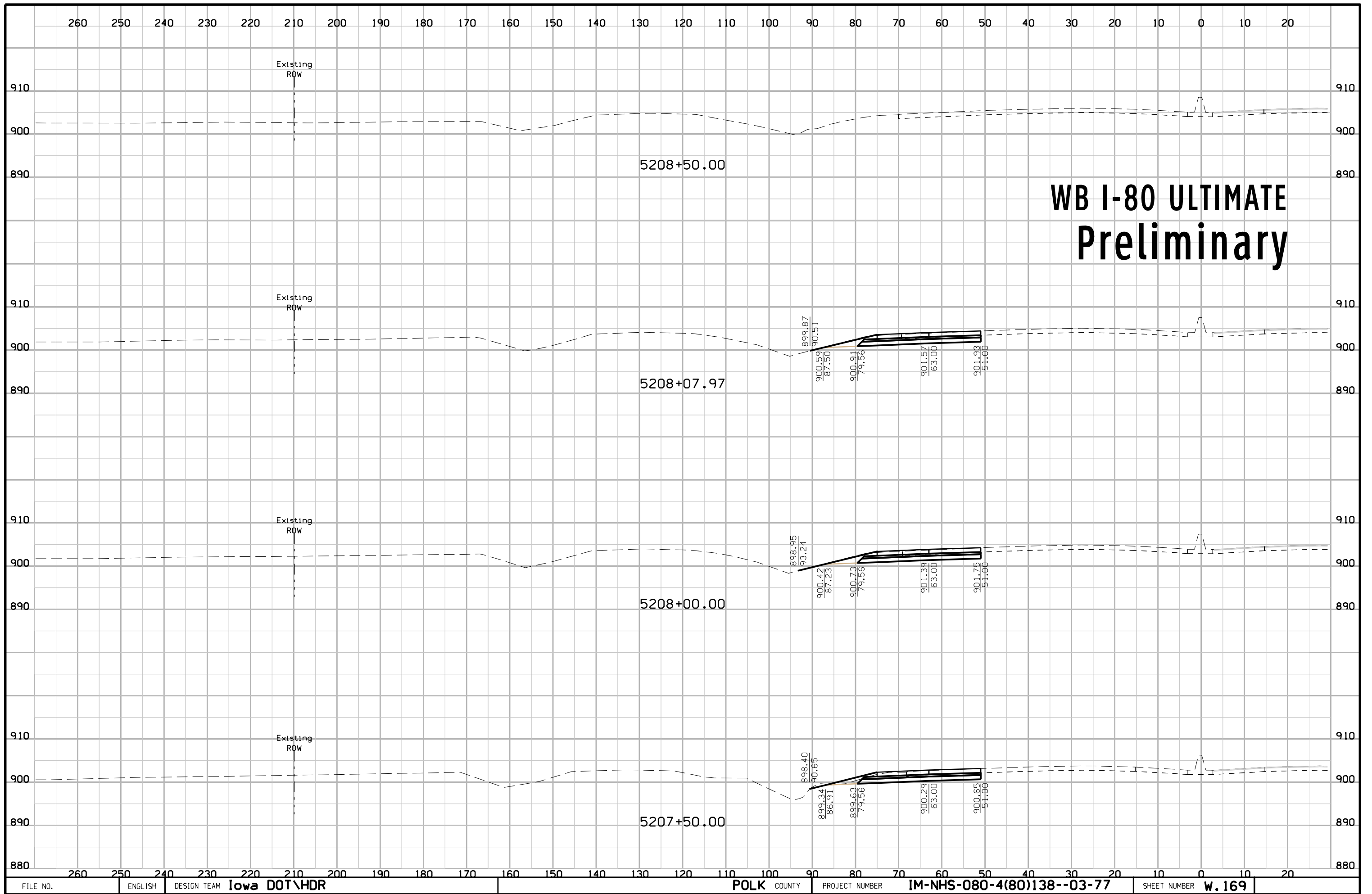


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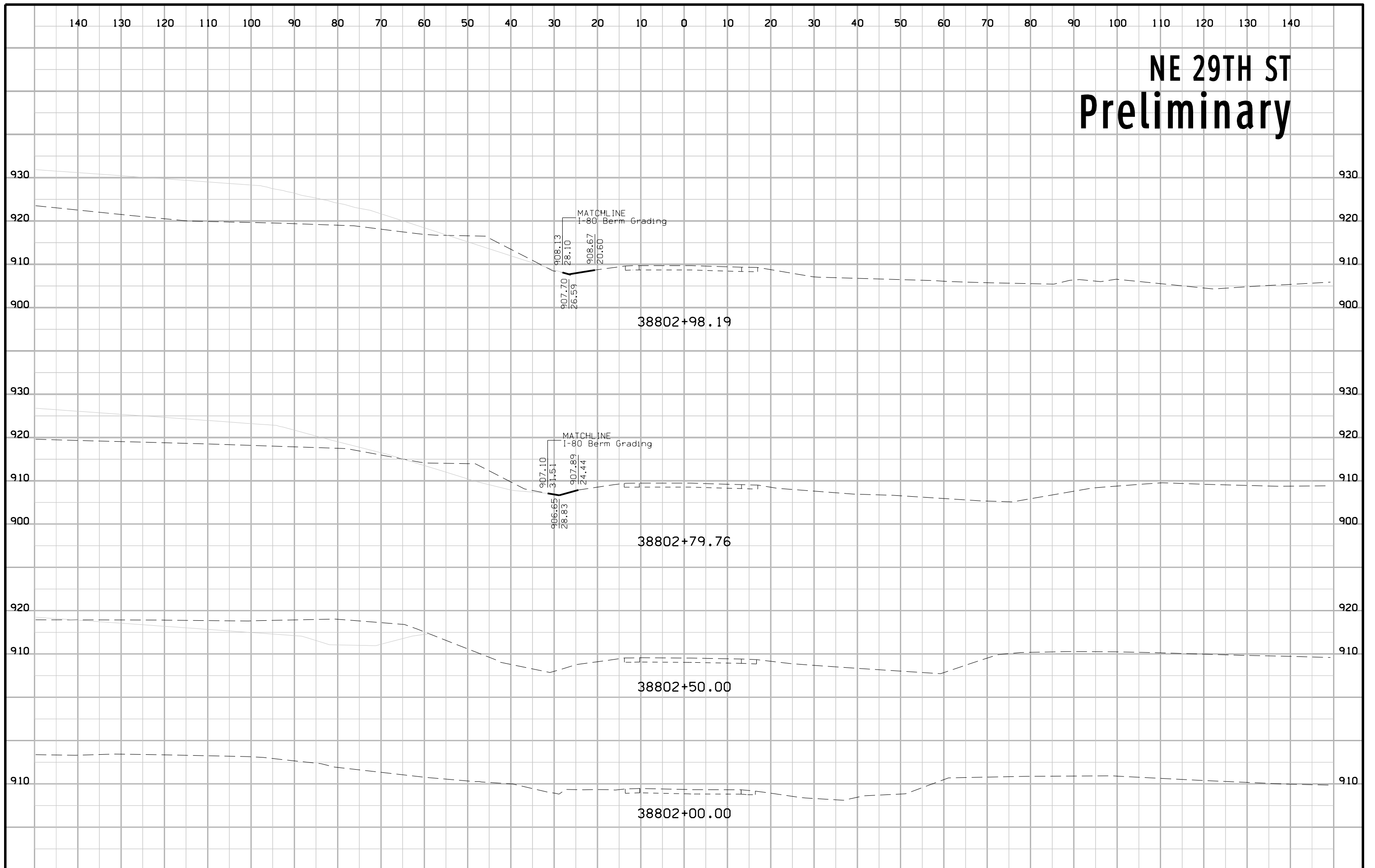




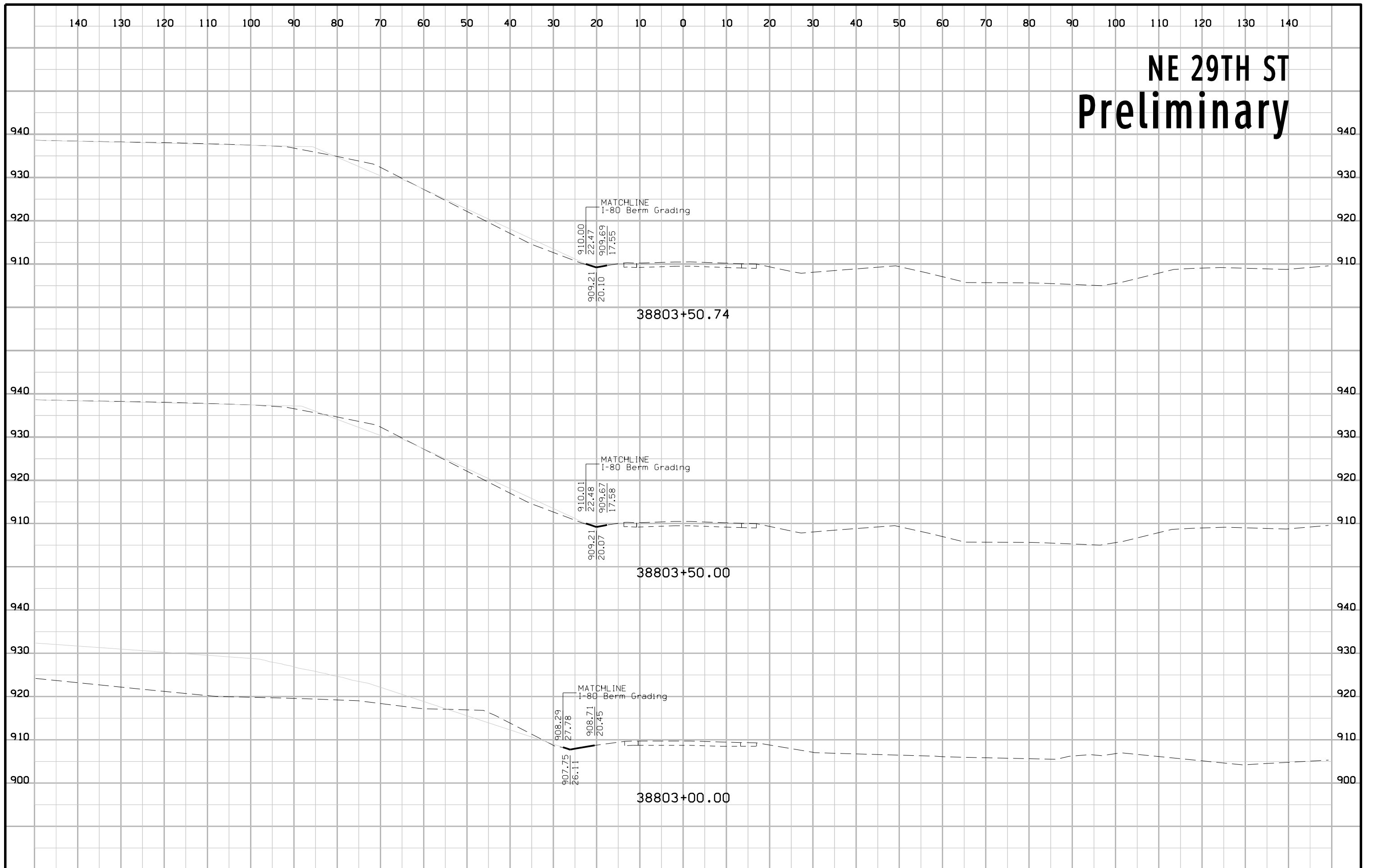




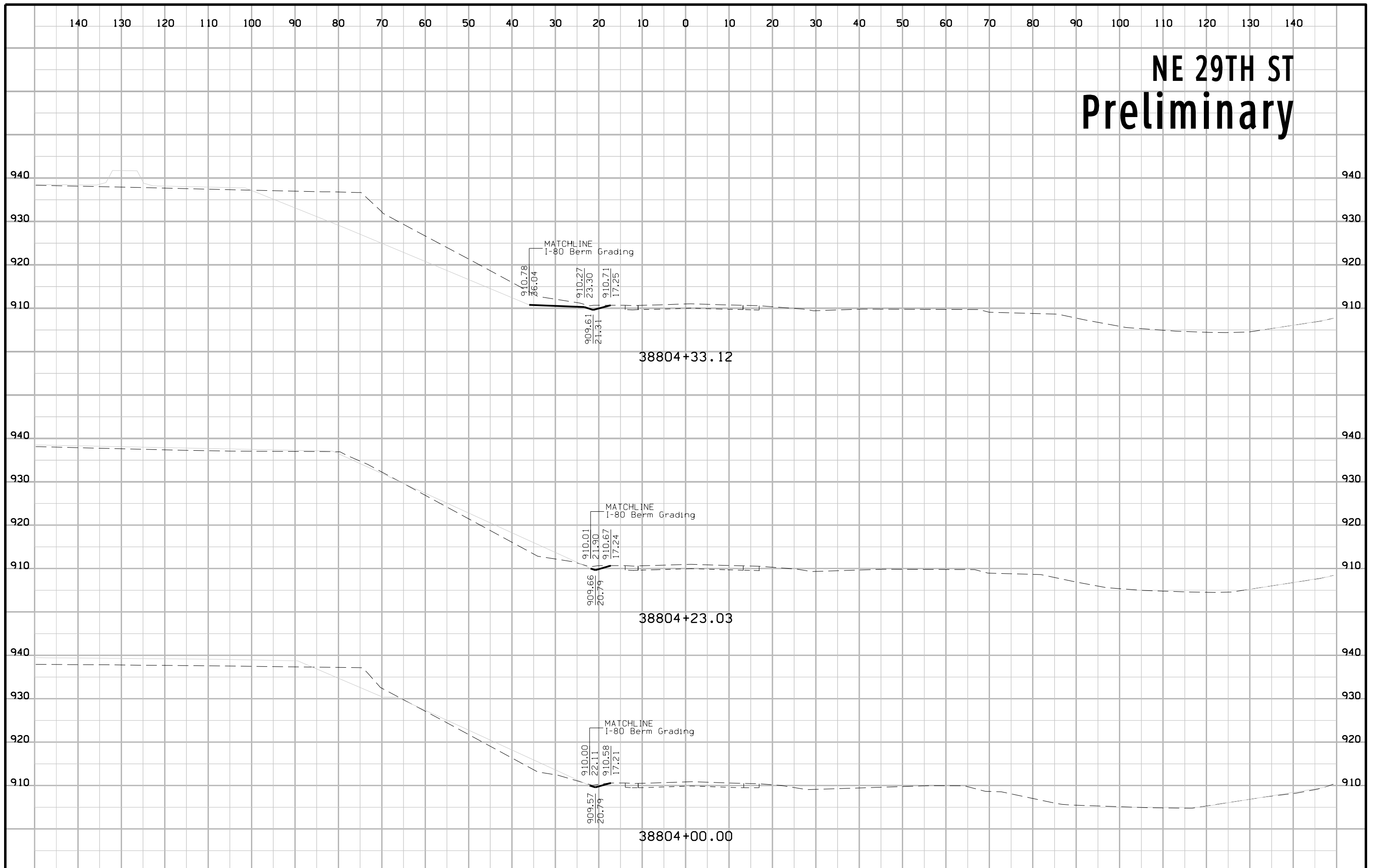
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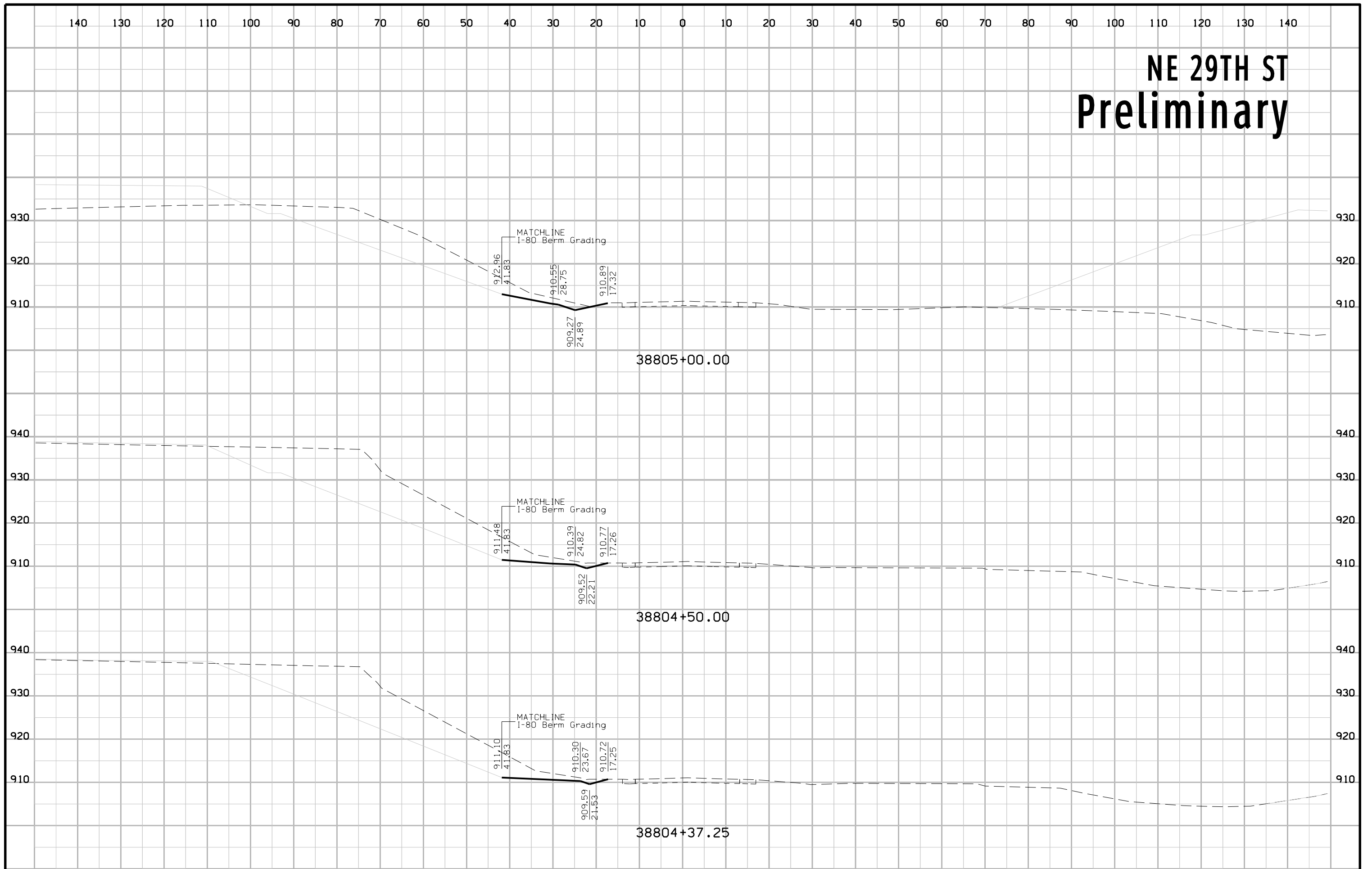
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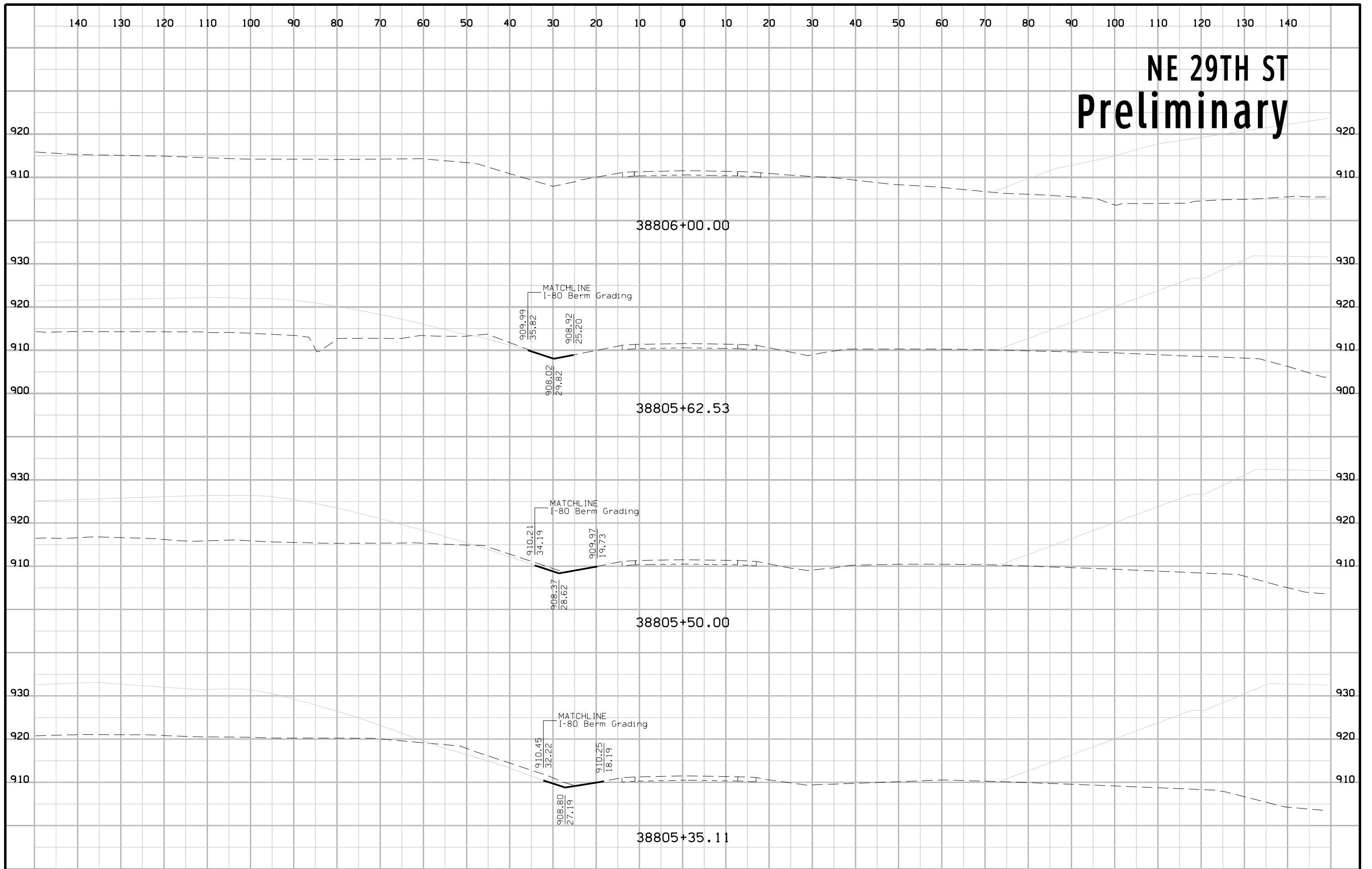
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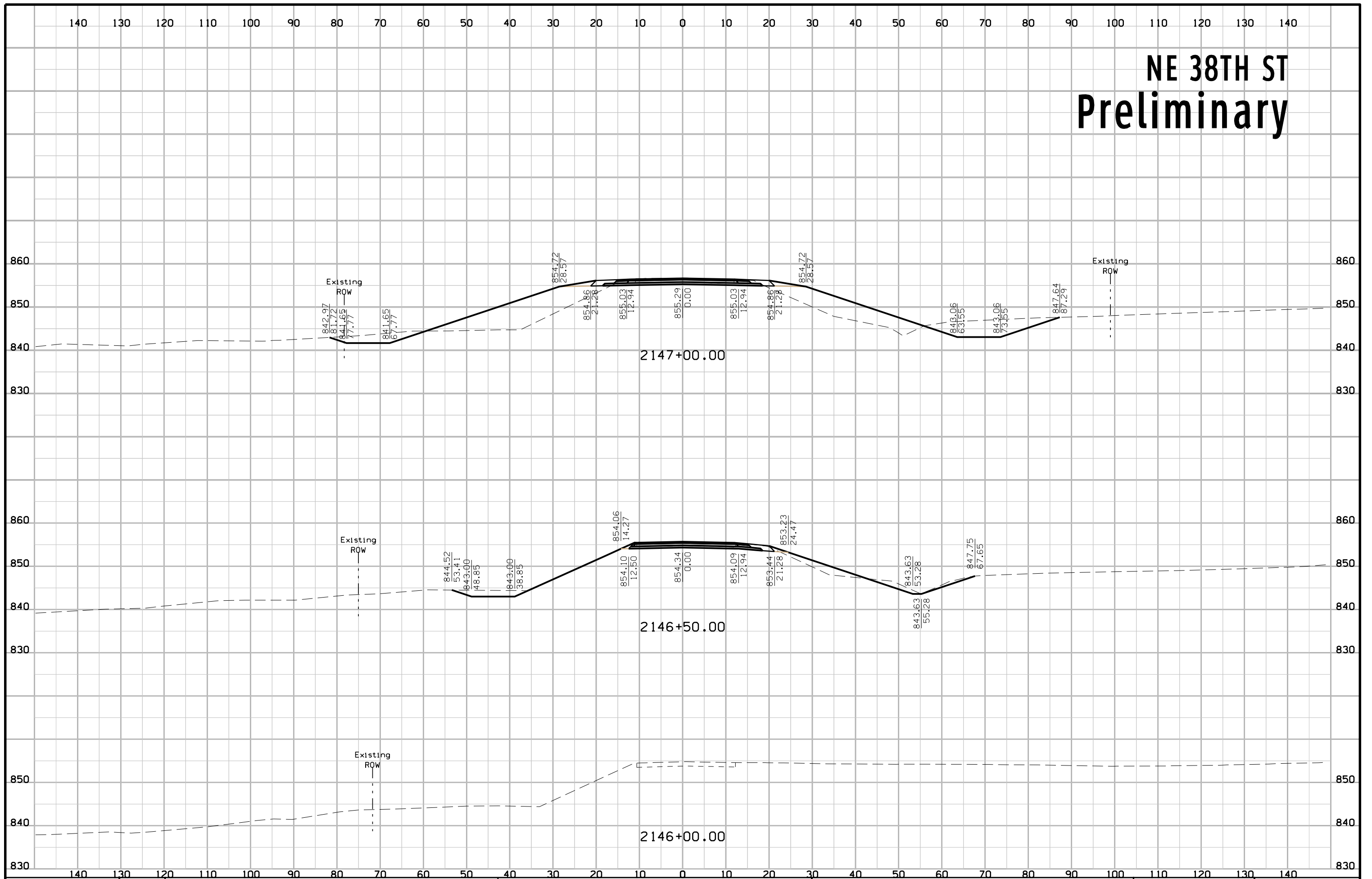
# NE 29TH ST Preliminary



# NE 29TH ST Preliminary

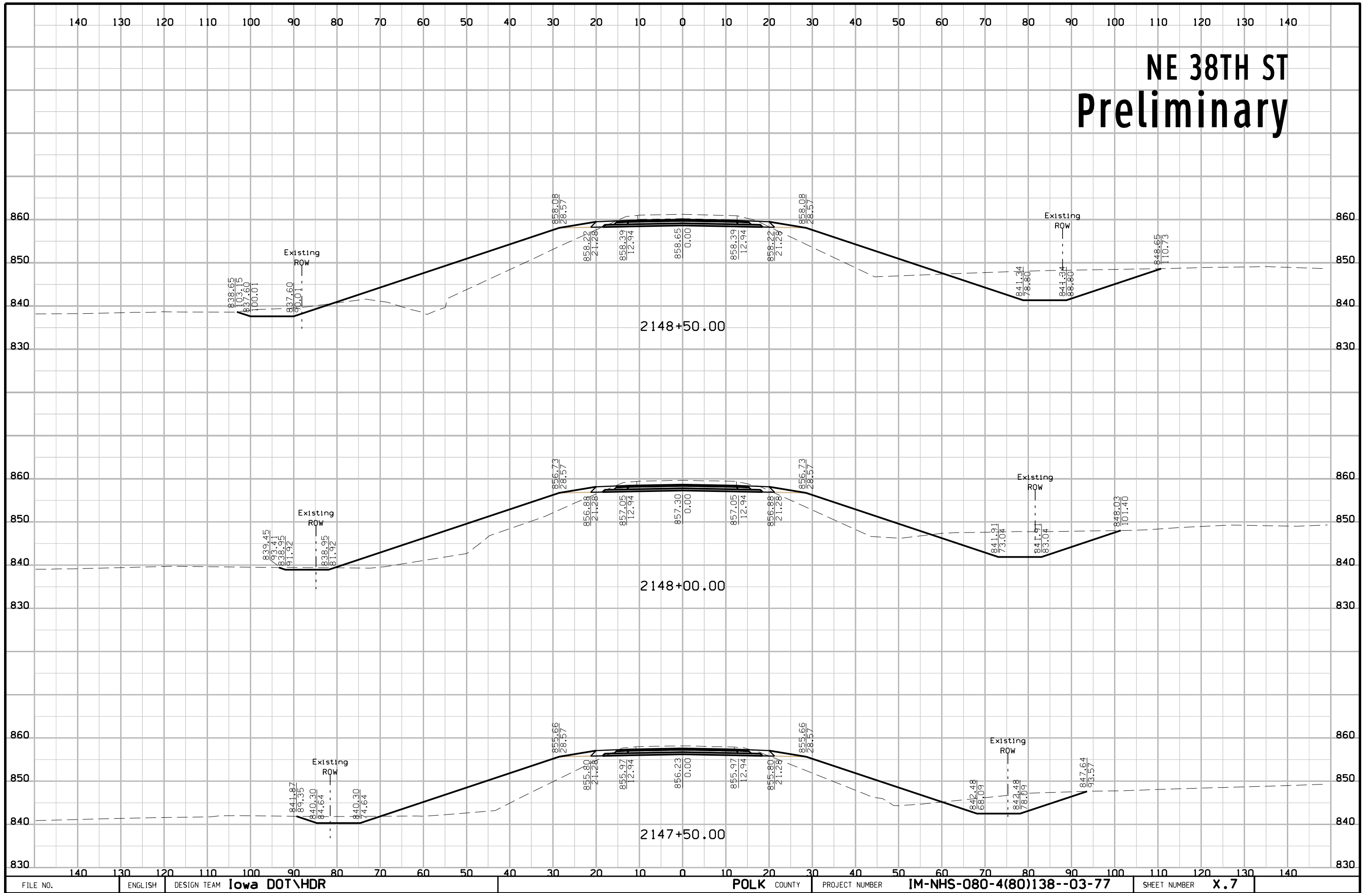


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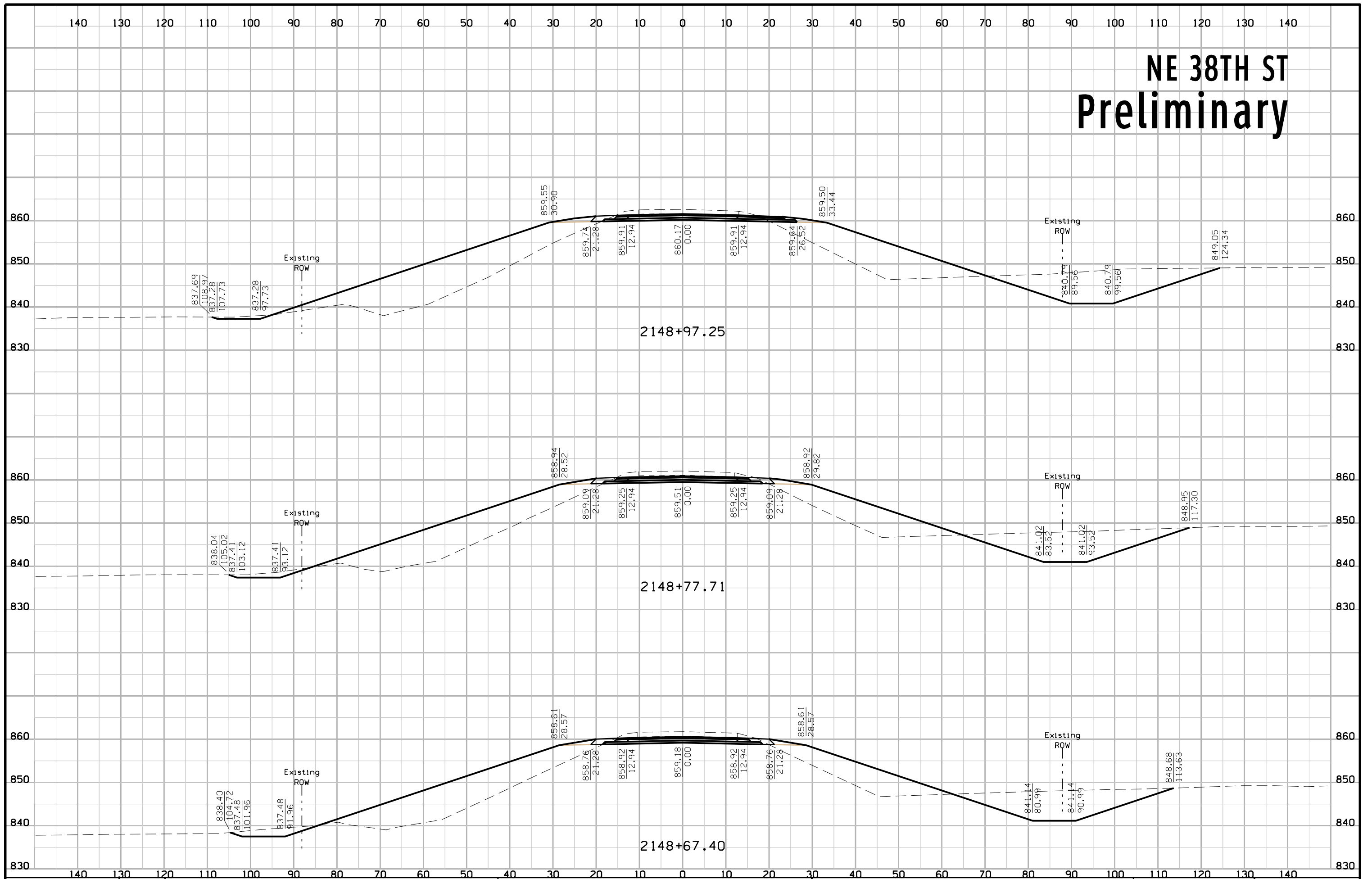




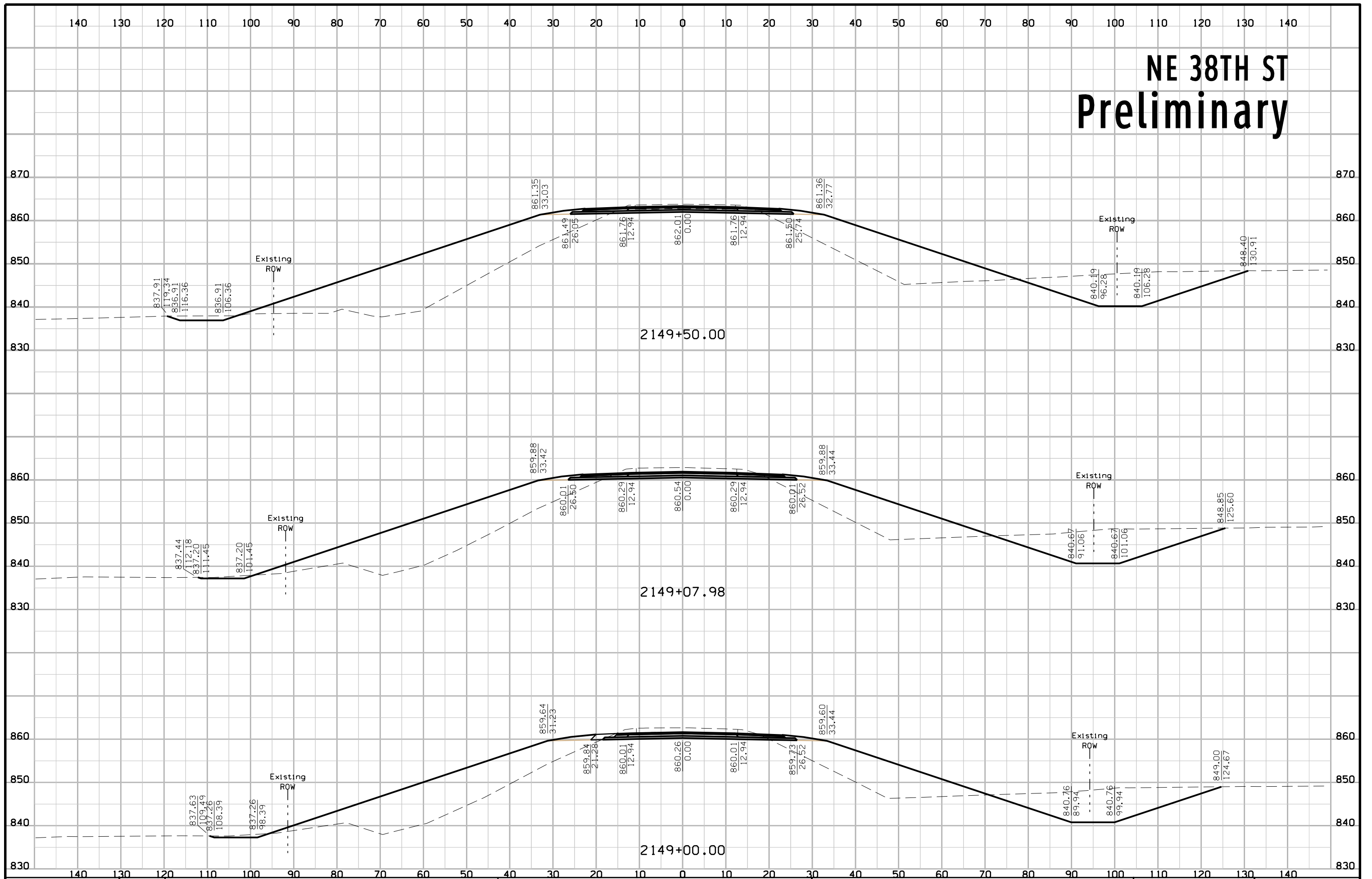
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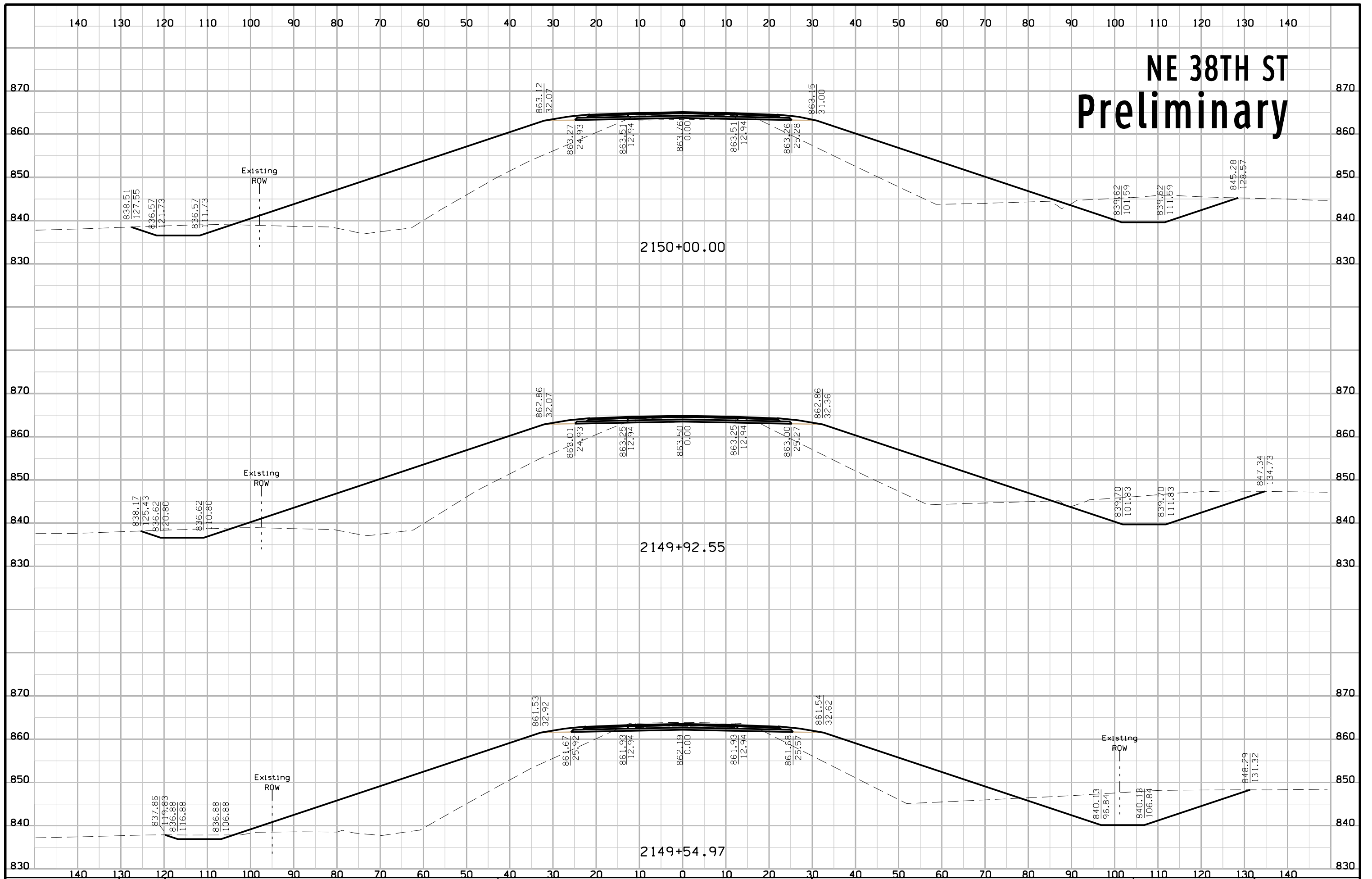
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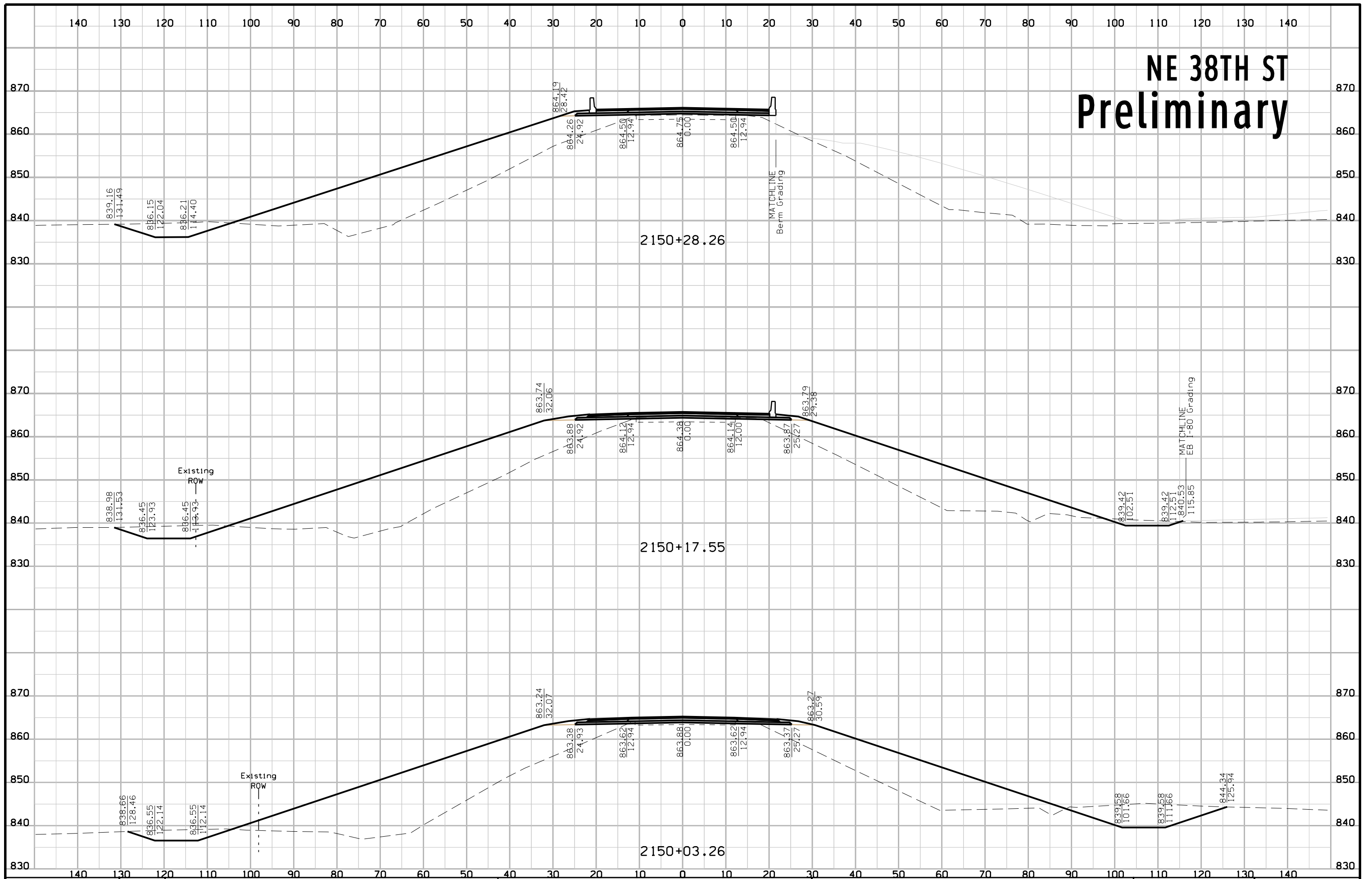
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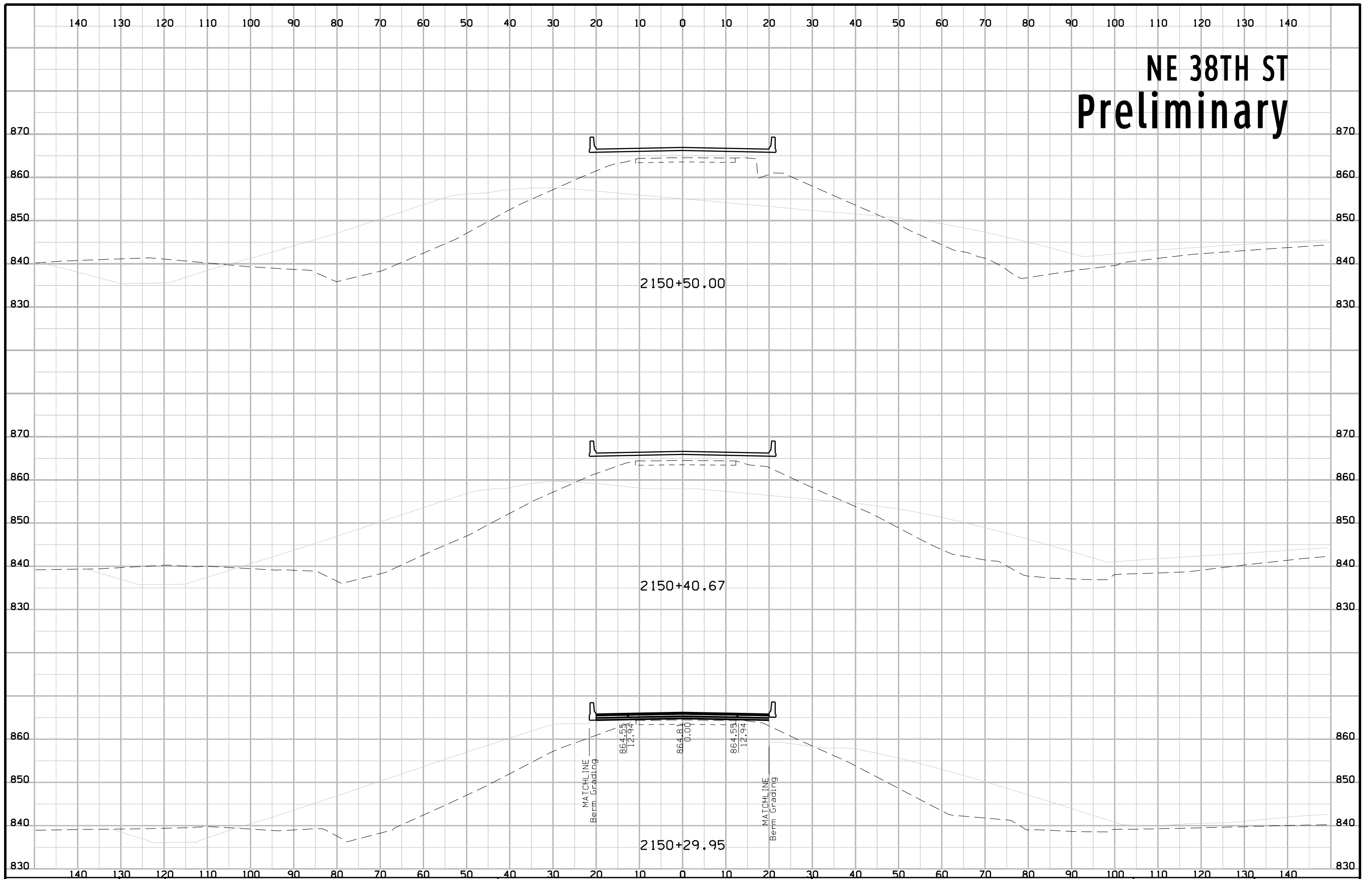
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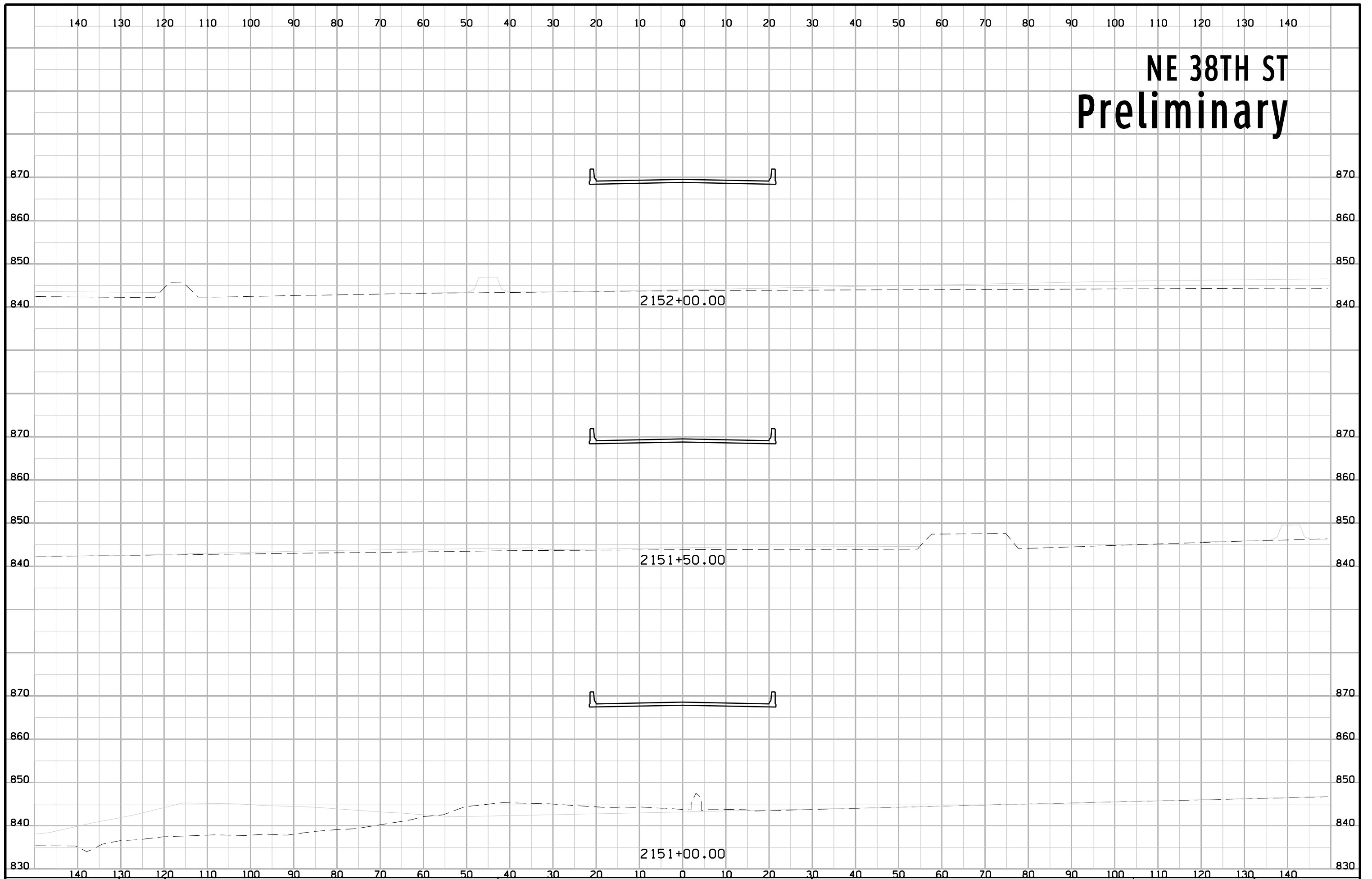
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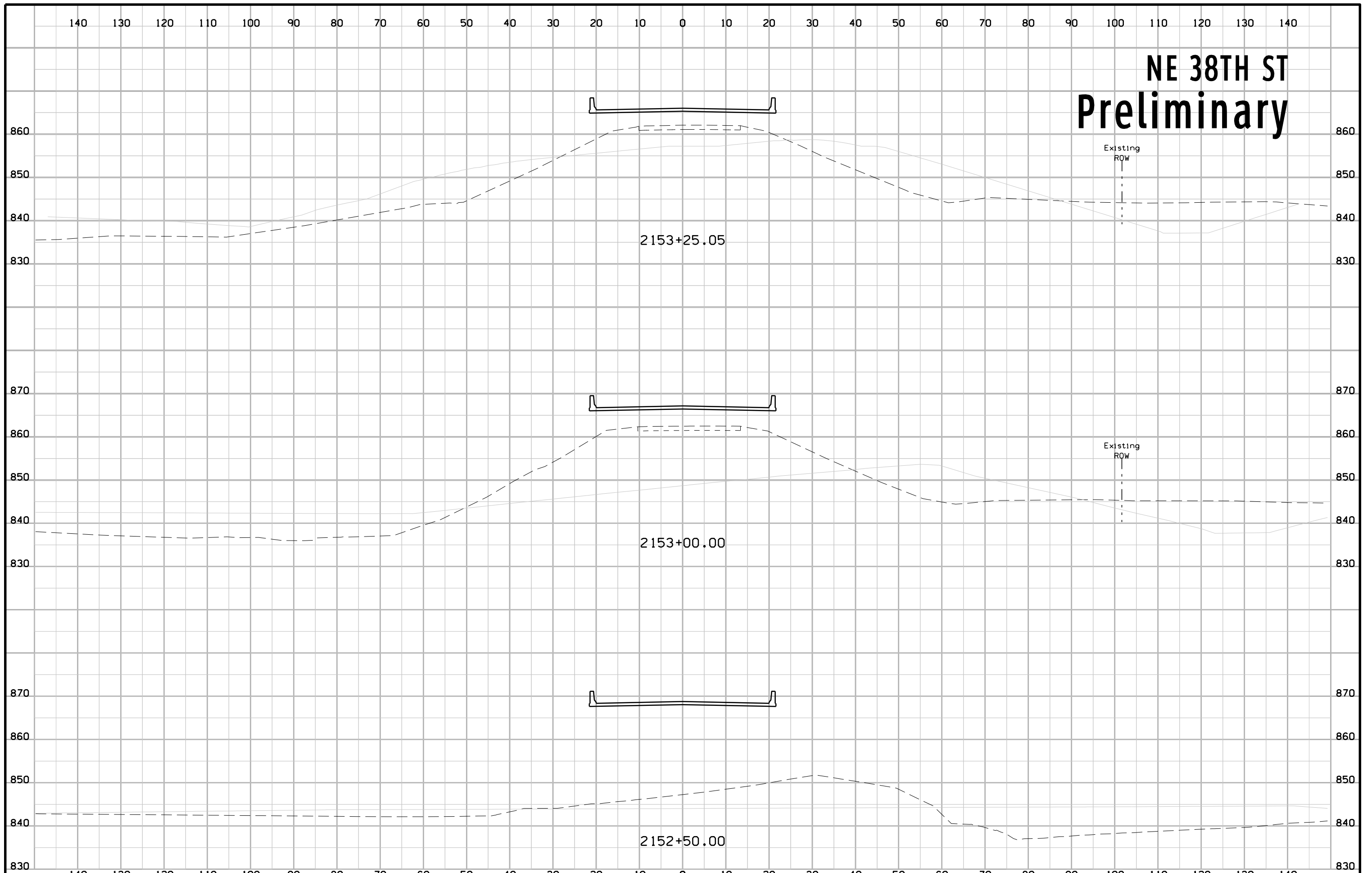
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# NE 38TH ST Preliminary

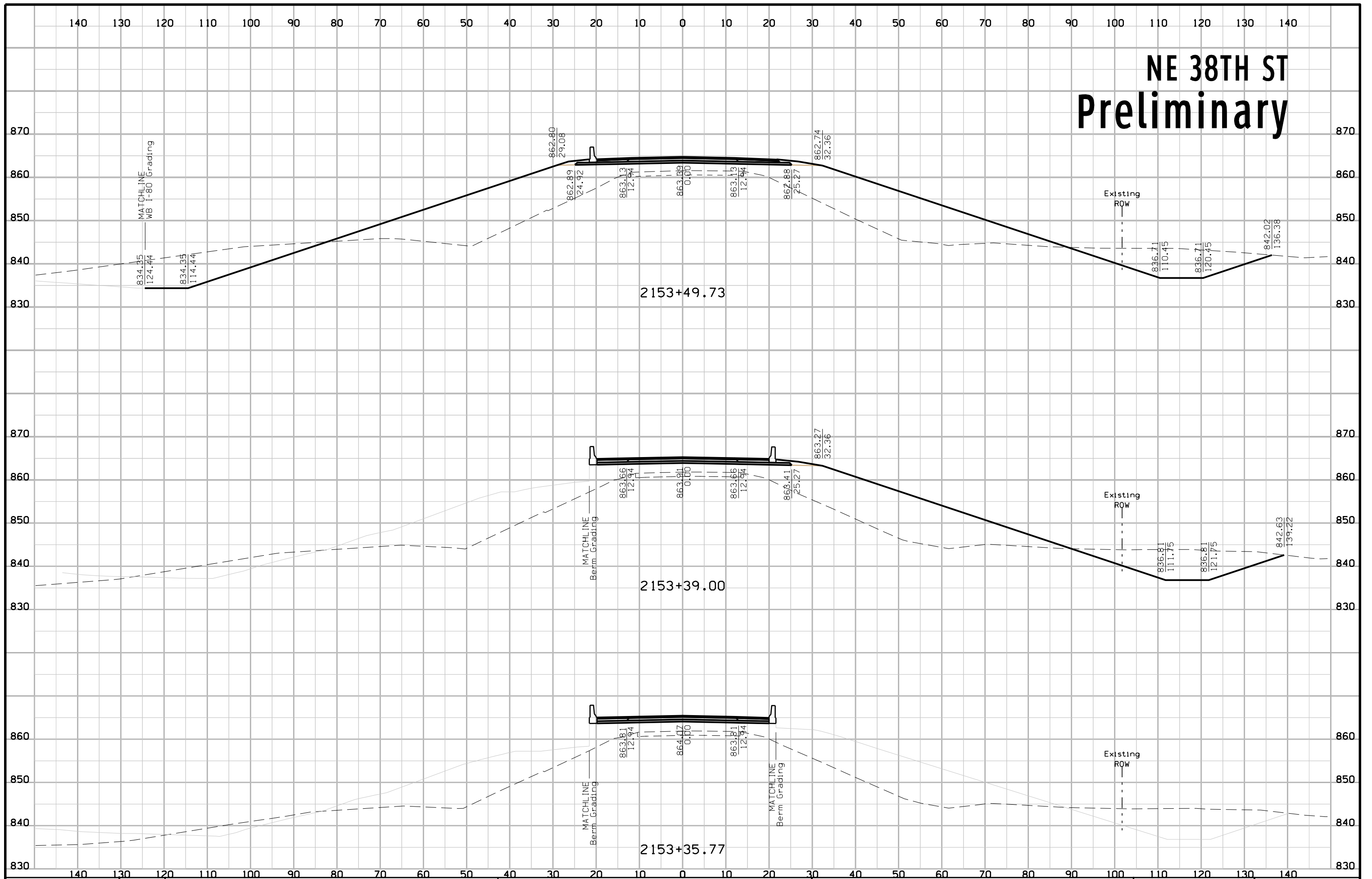


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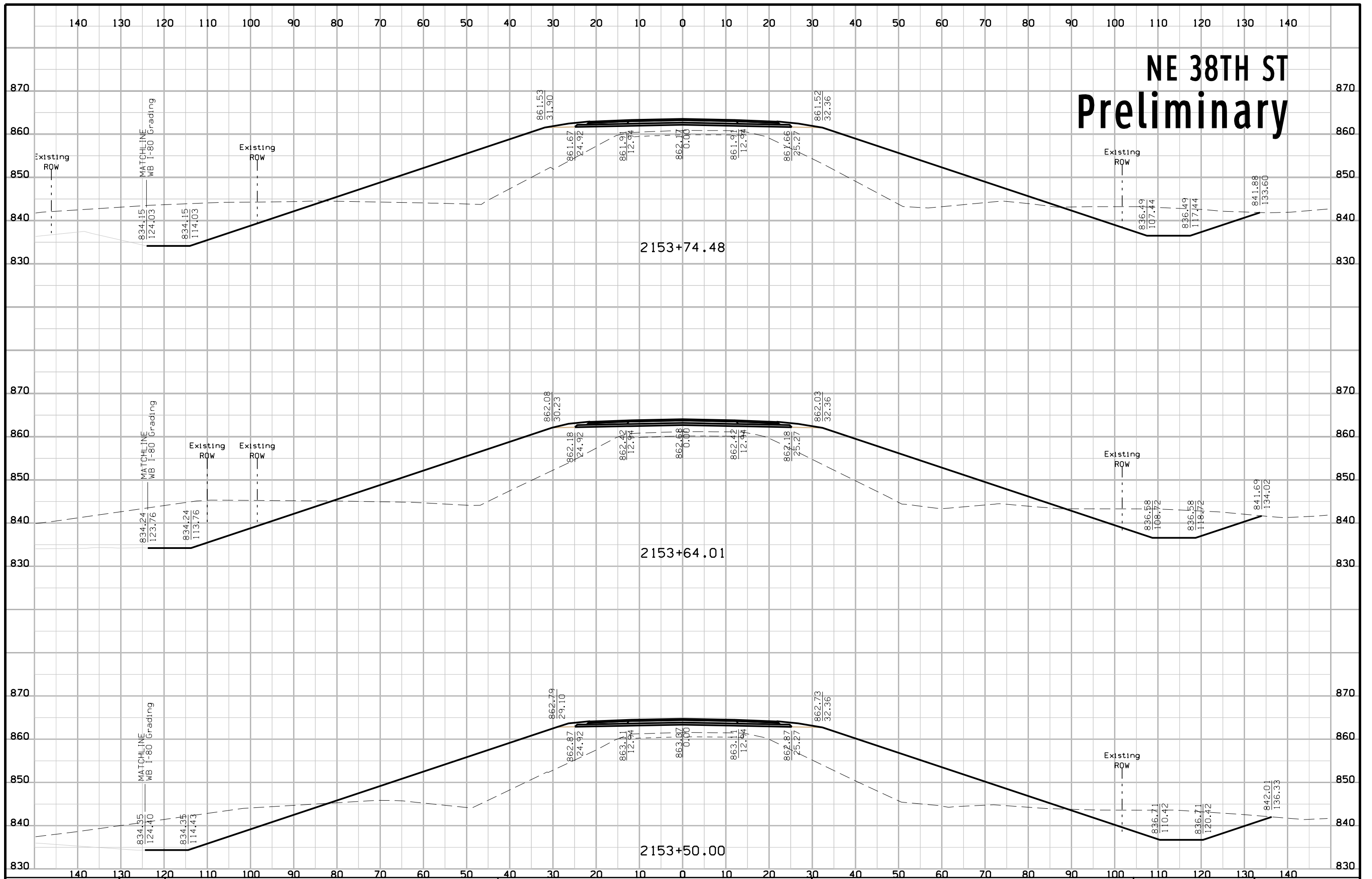




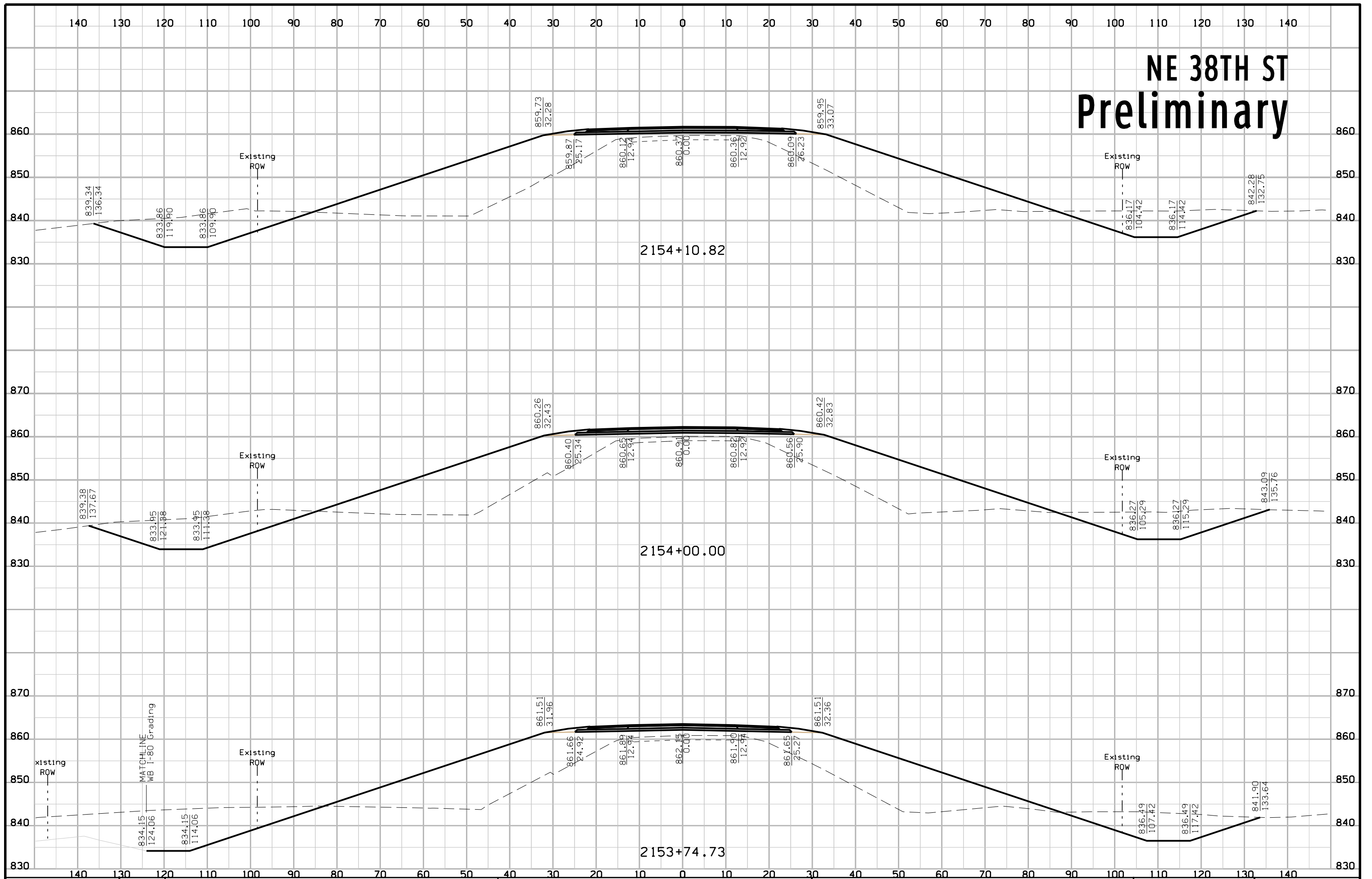
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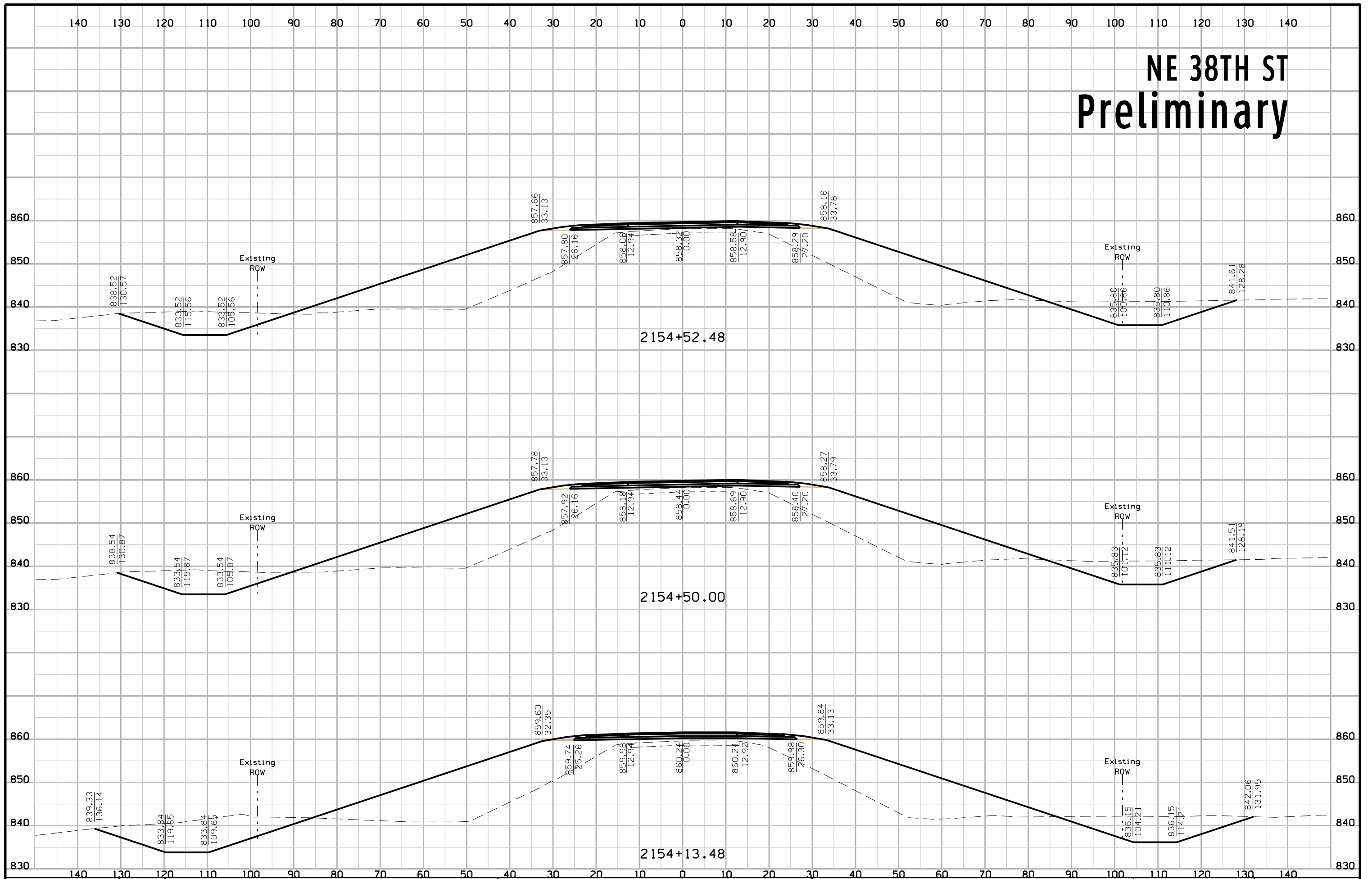
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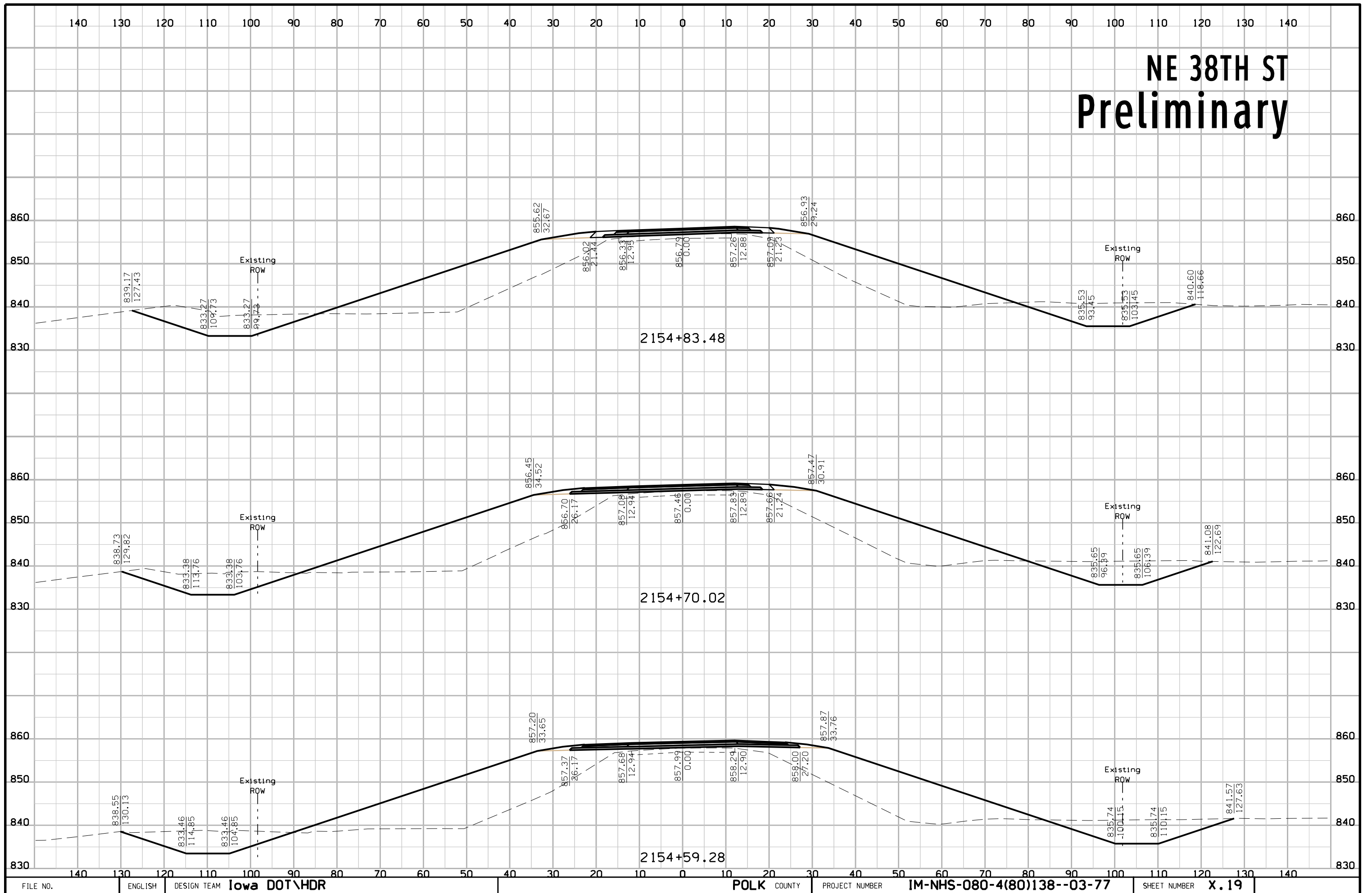
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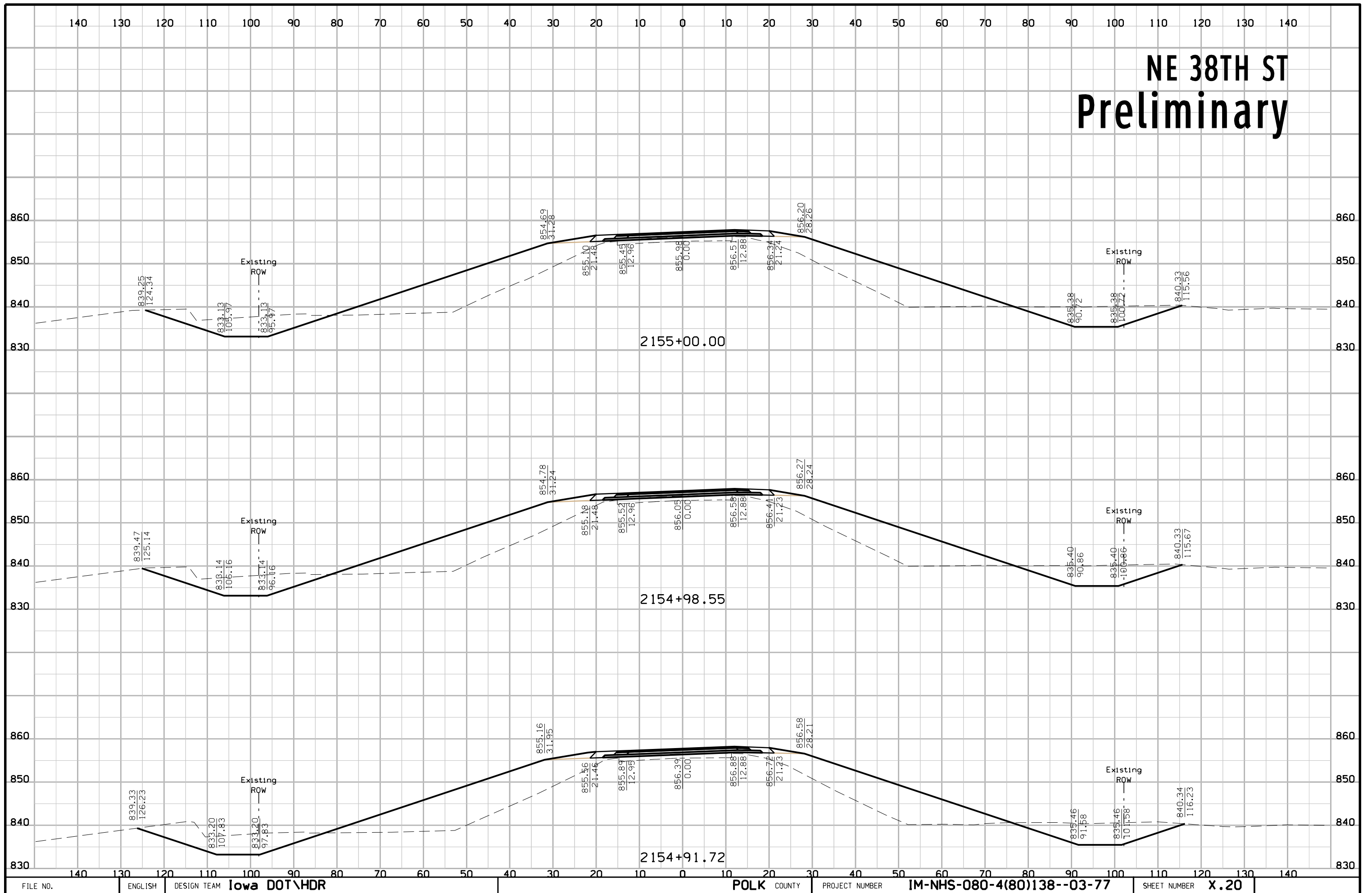
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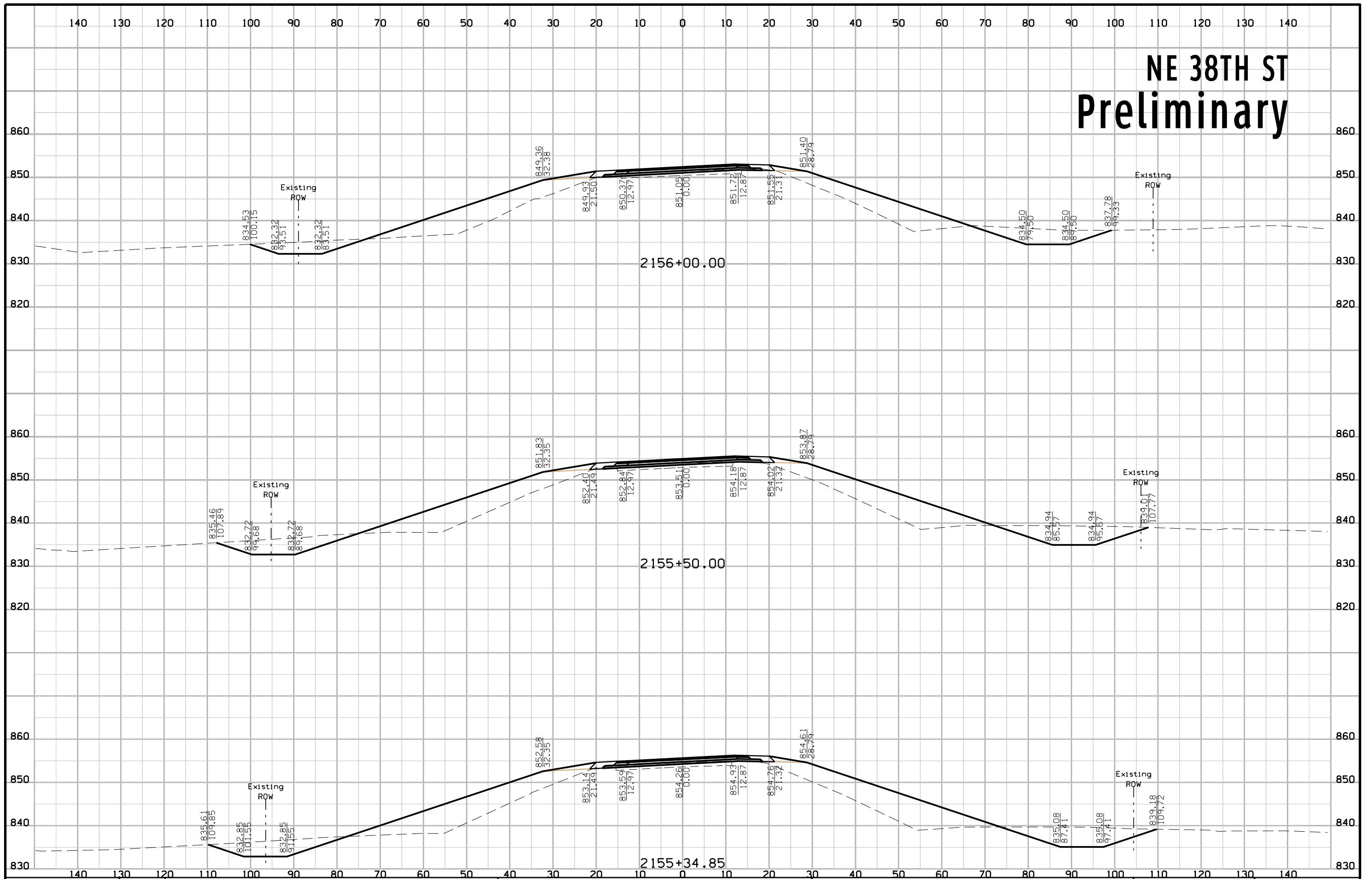
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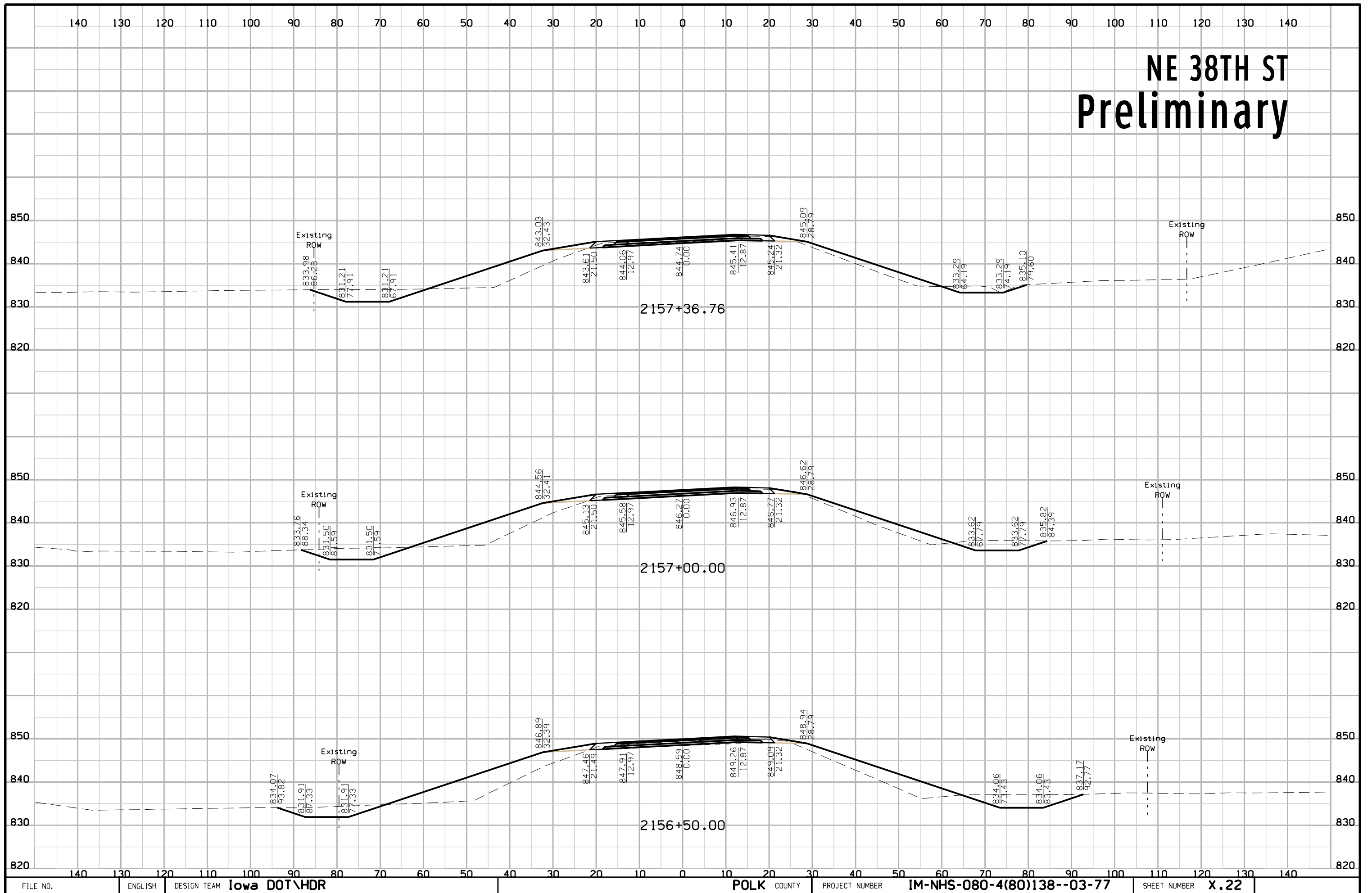
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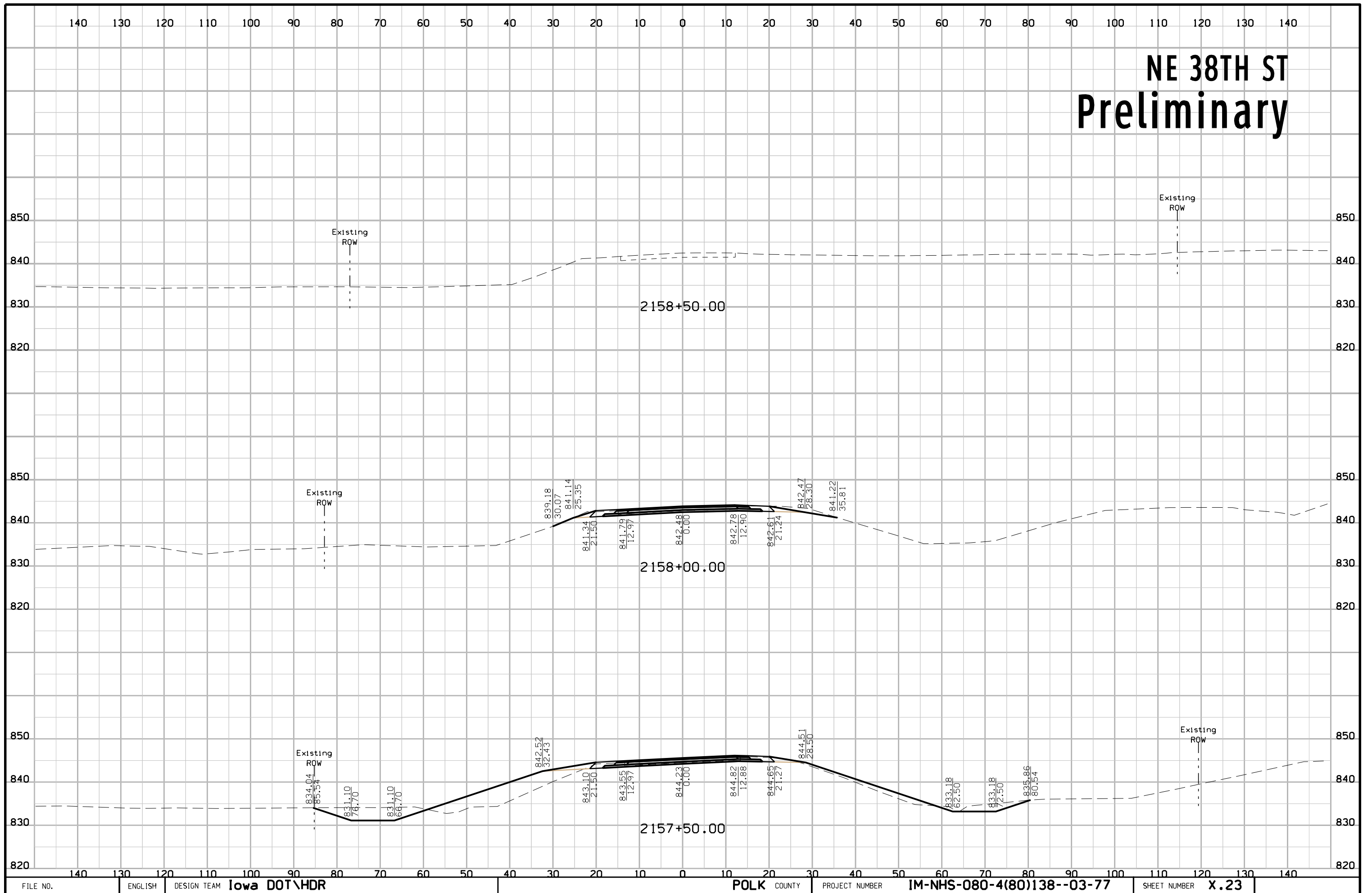


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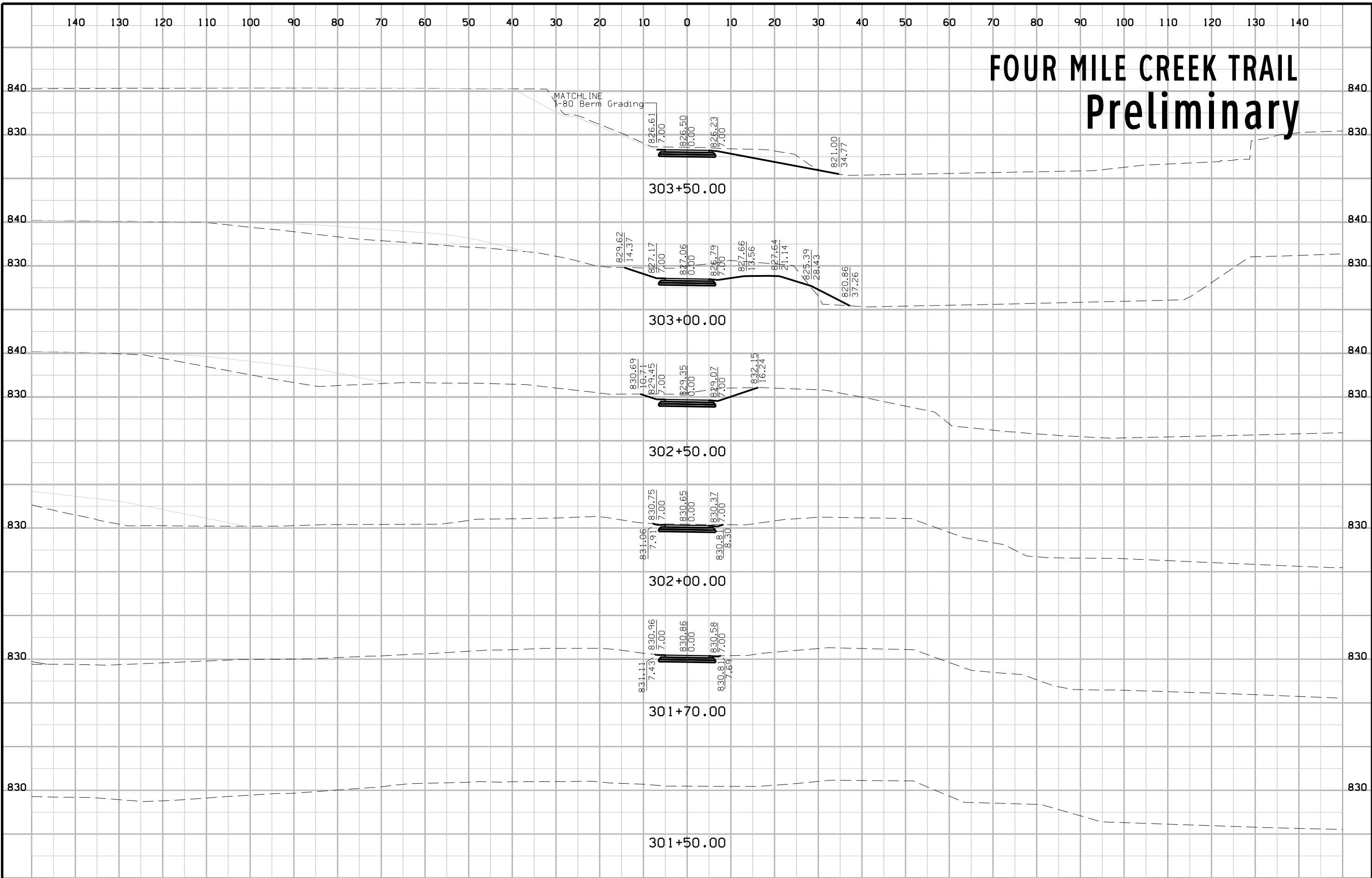




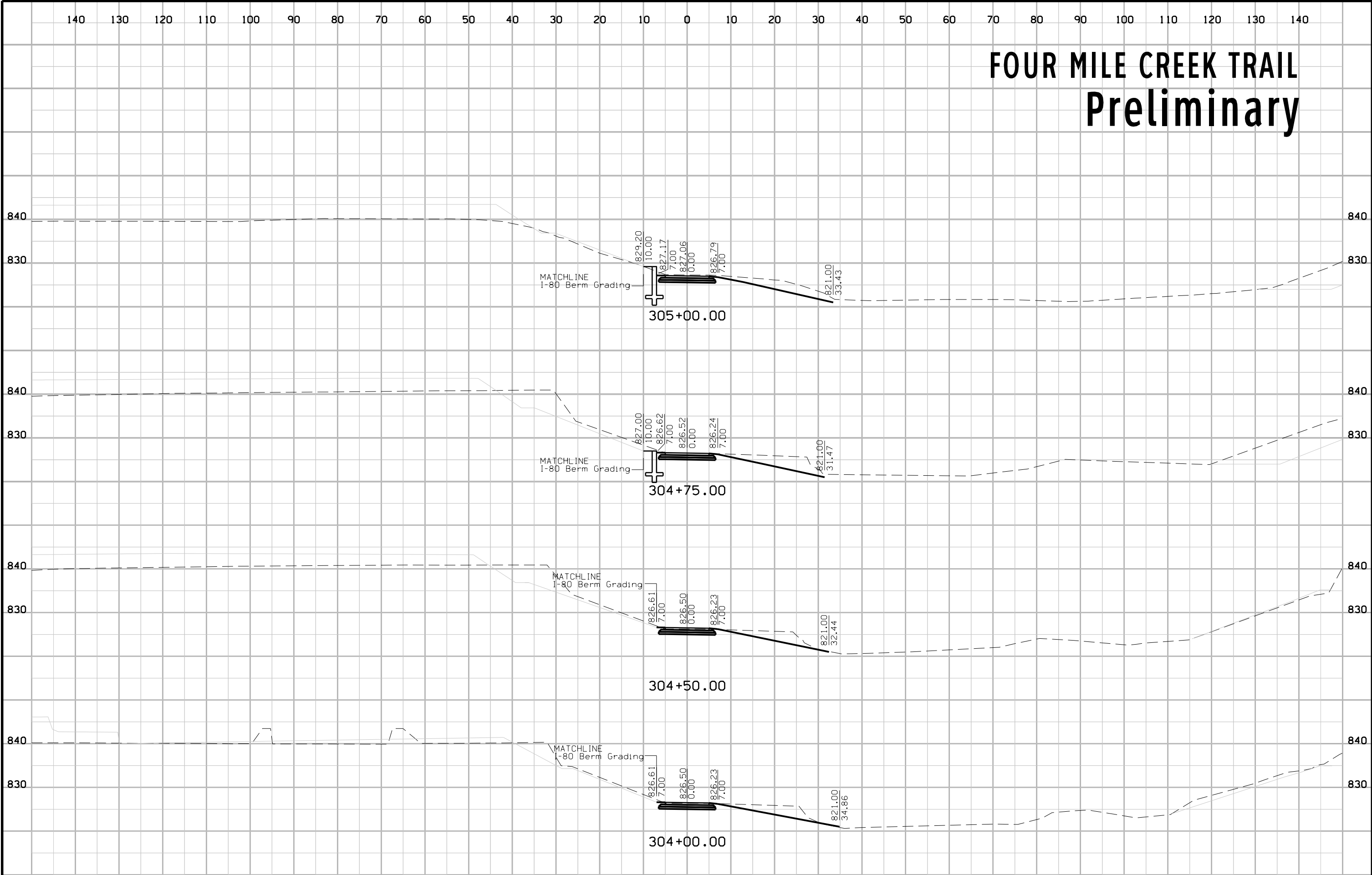
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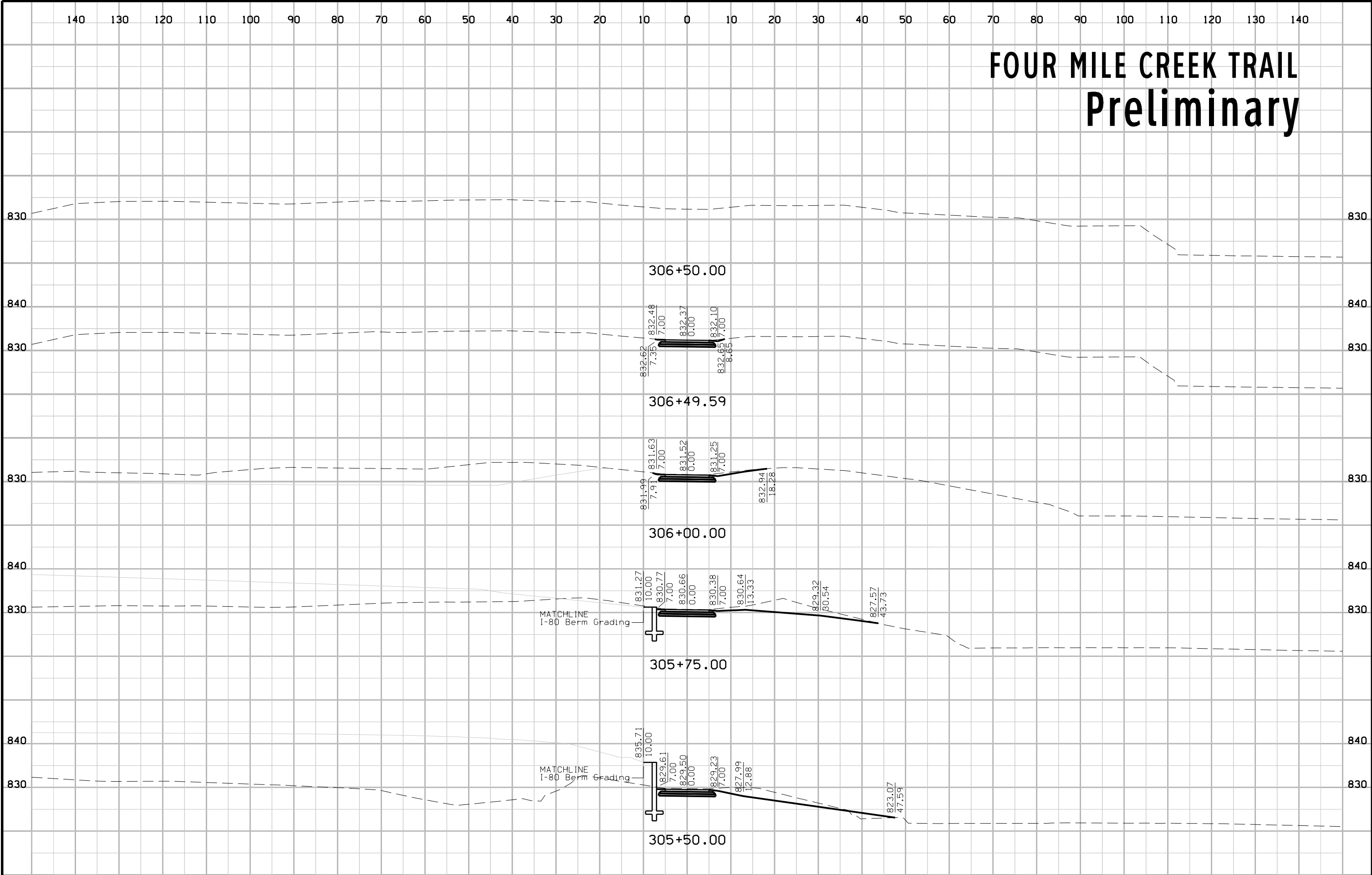
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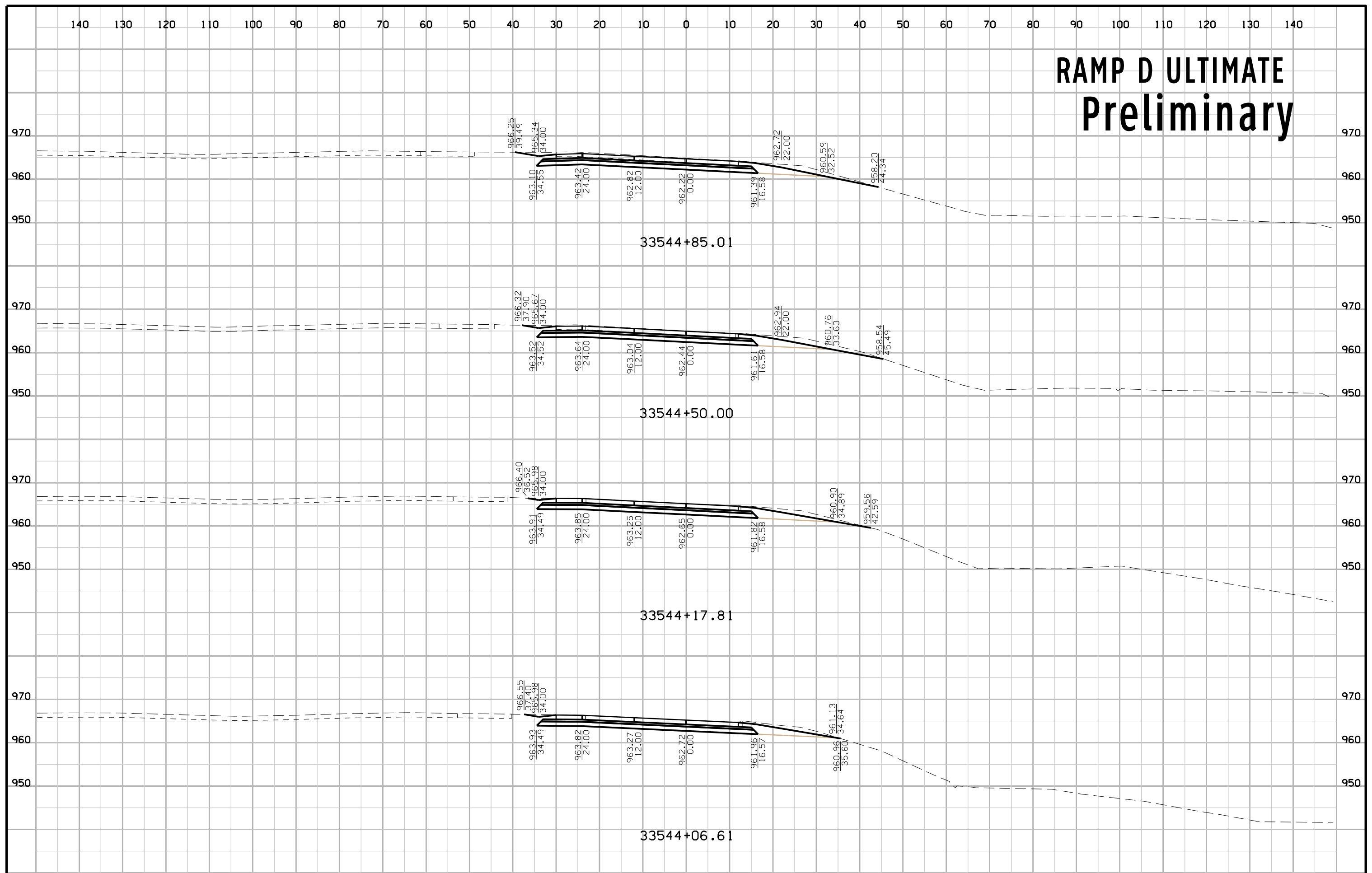
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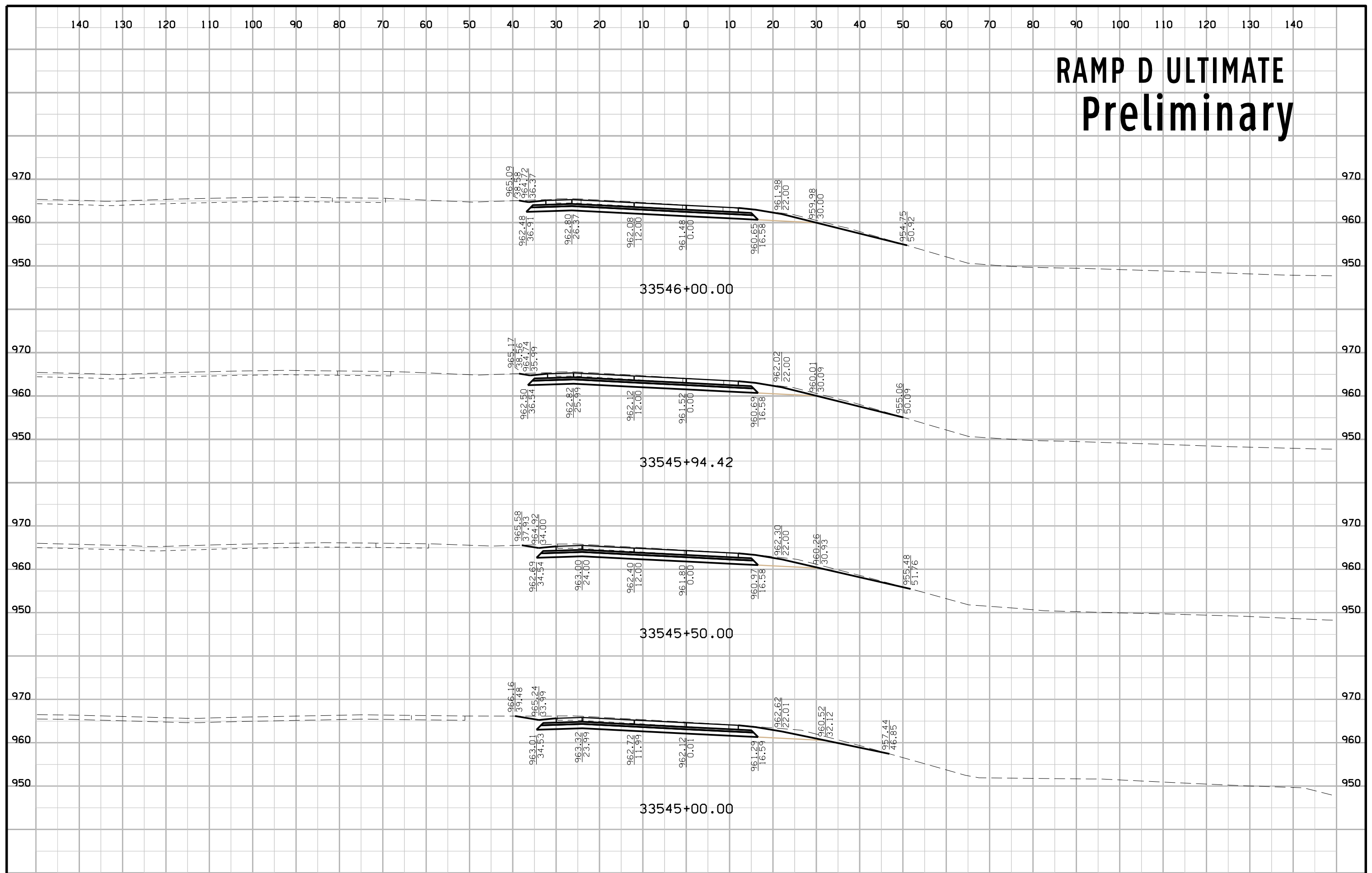
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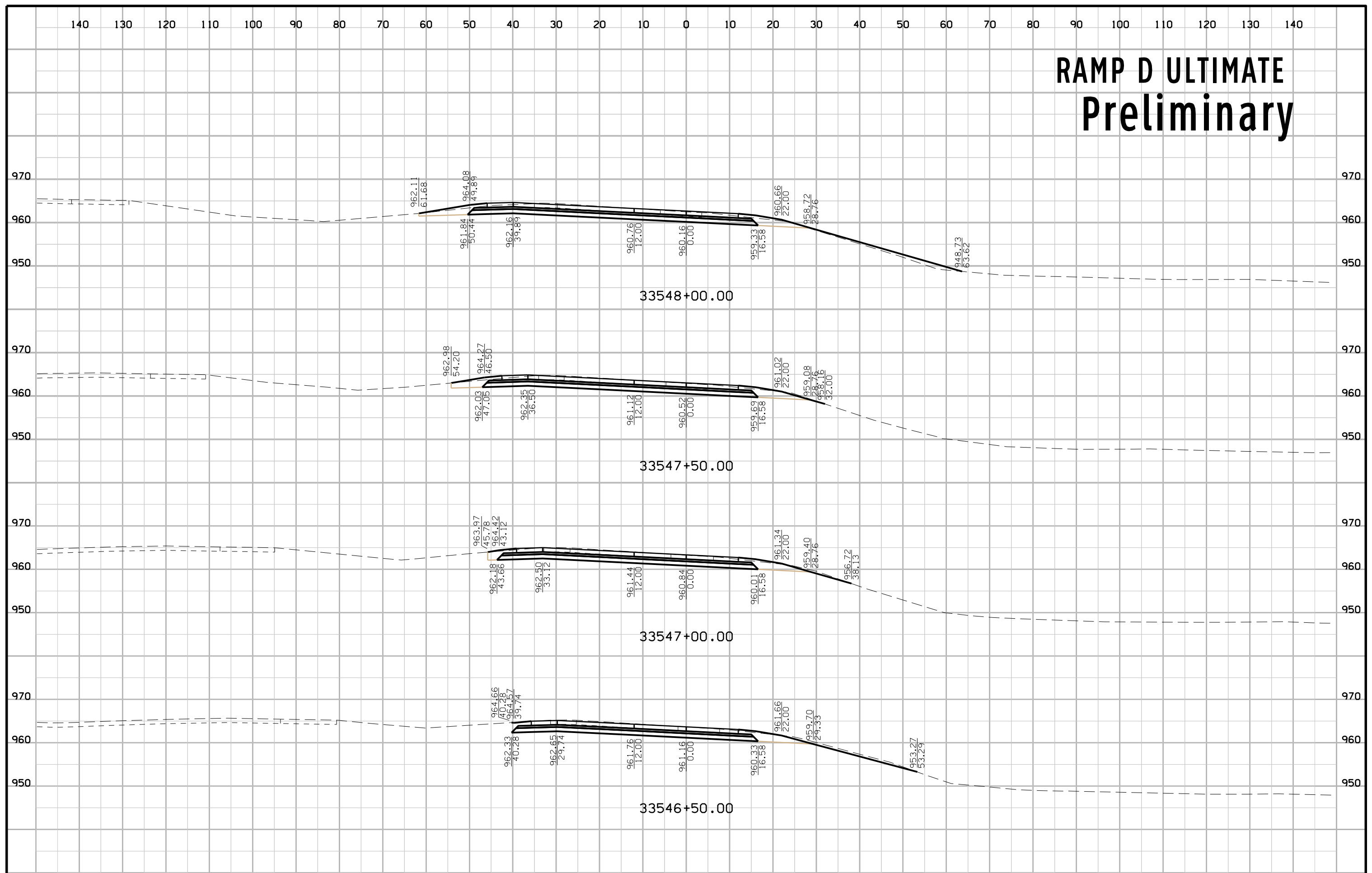
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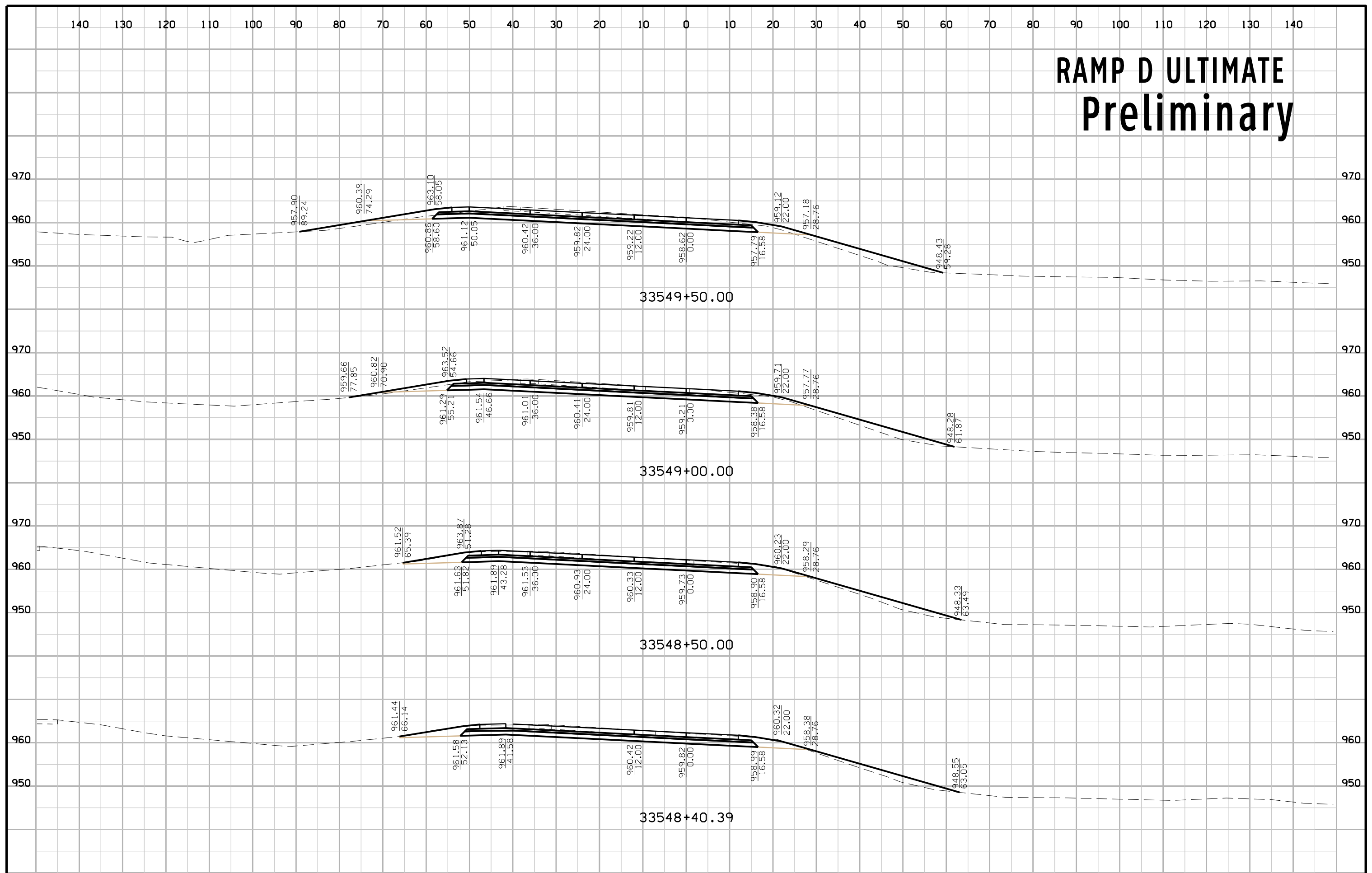
# RAMP D ULTIMATE Preliminary



# RAMP D ULTIMATE Preliminary

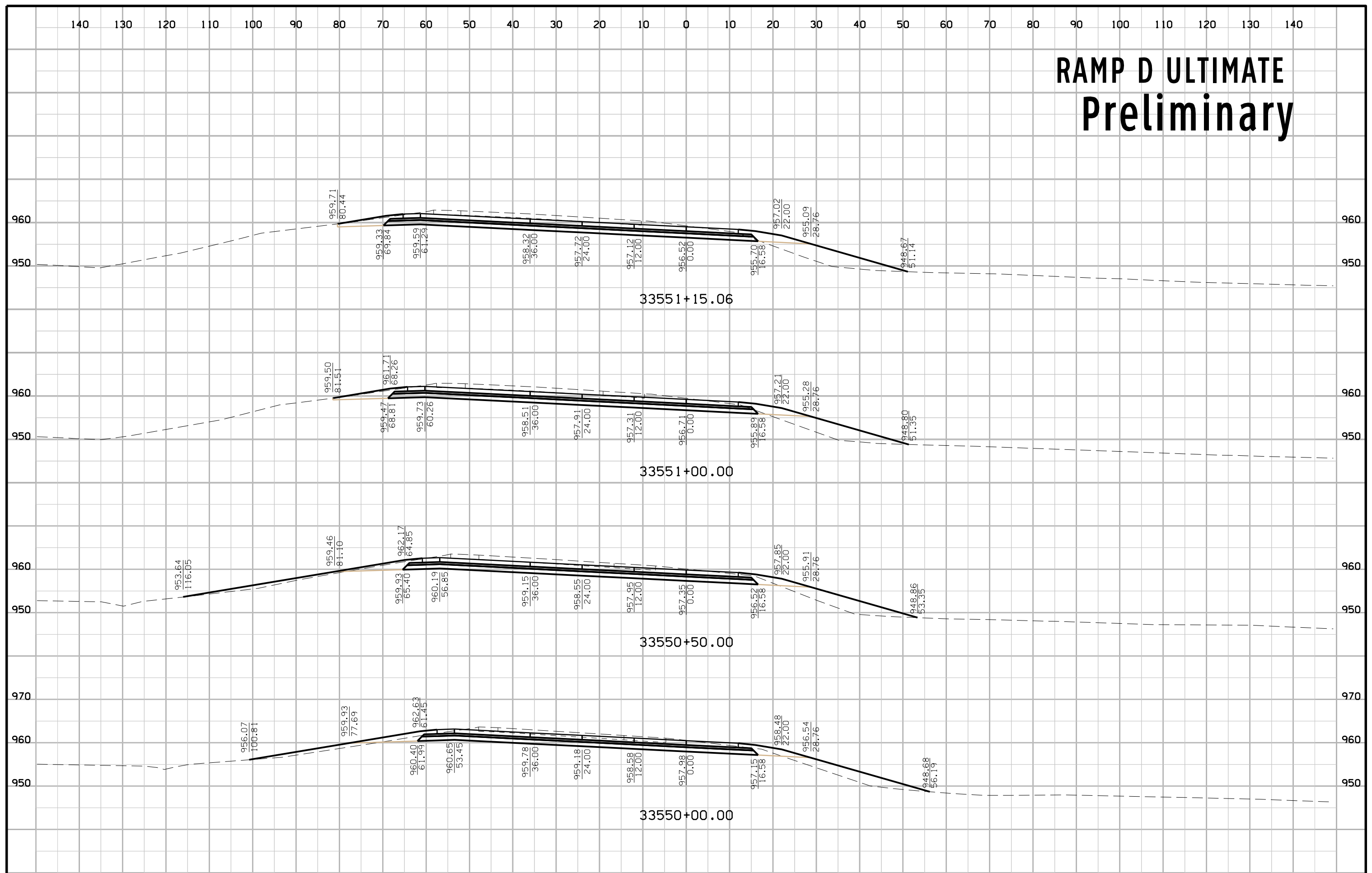


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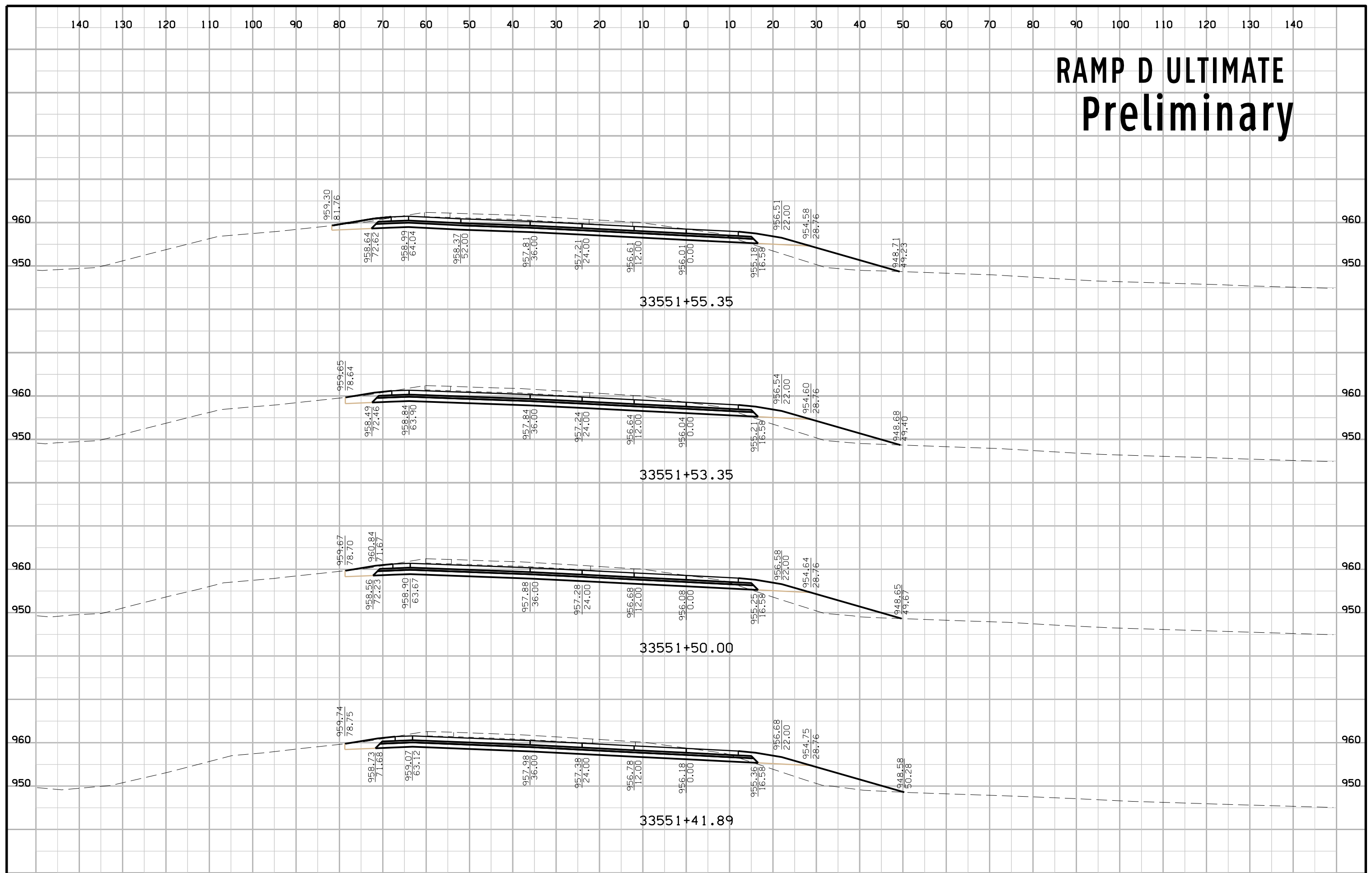




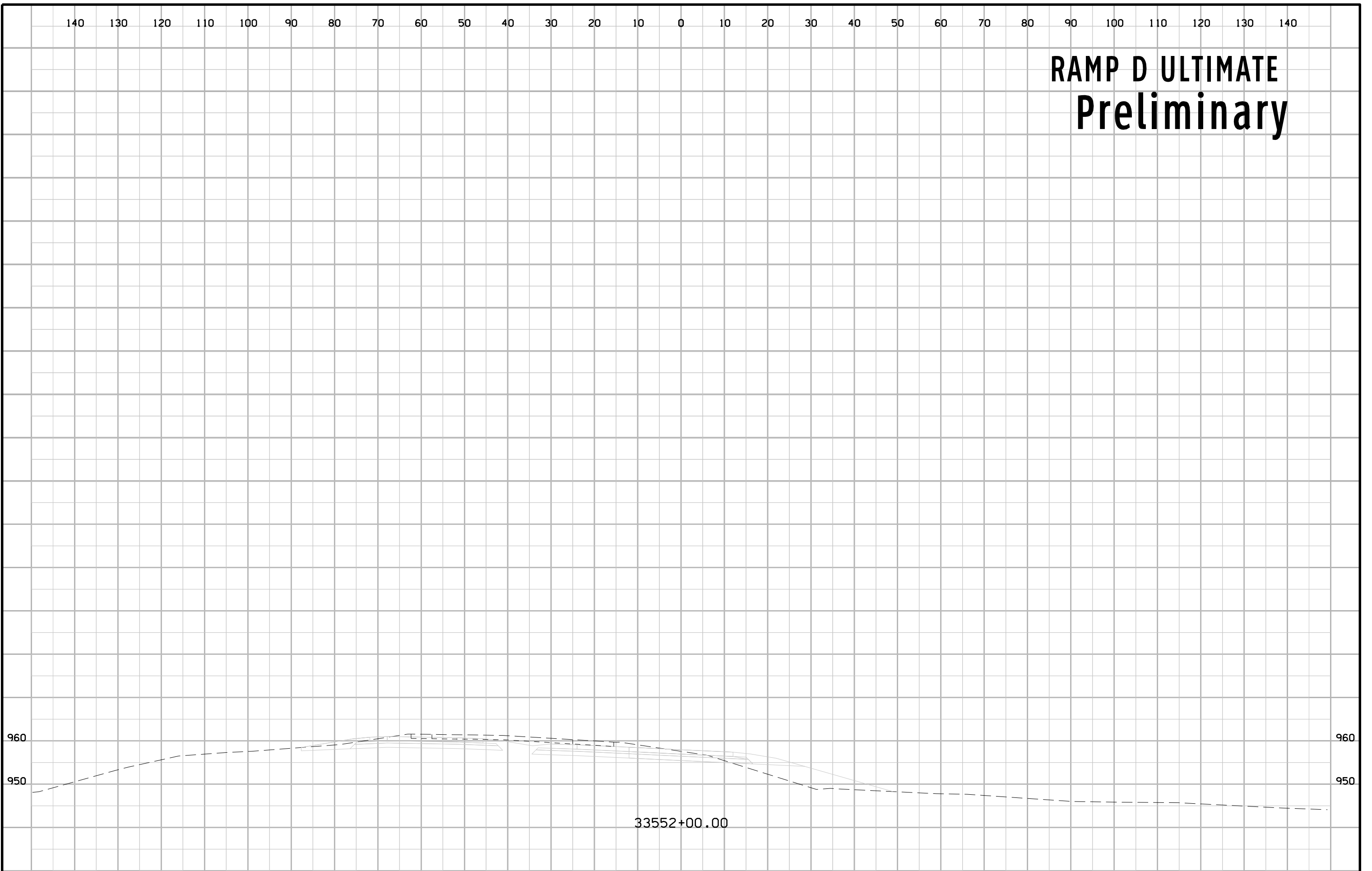
# RAMP D ULTIMATE Preliminary



# RAMP D ULTIMATE Preliminary

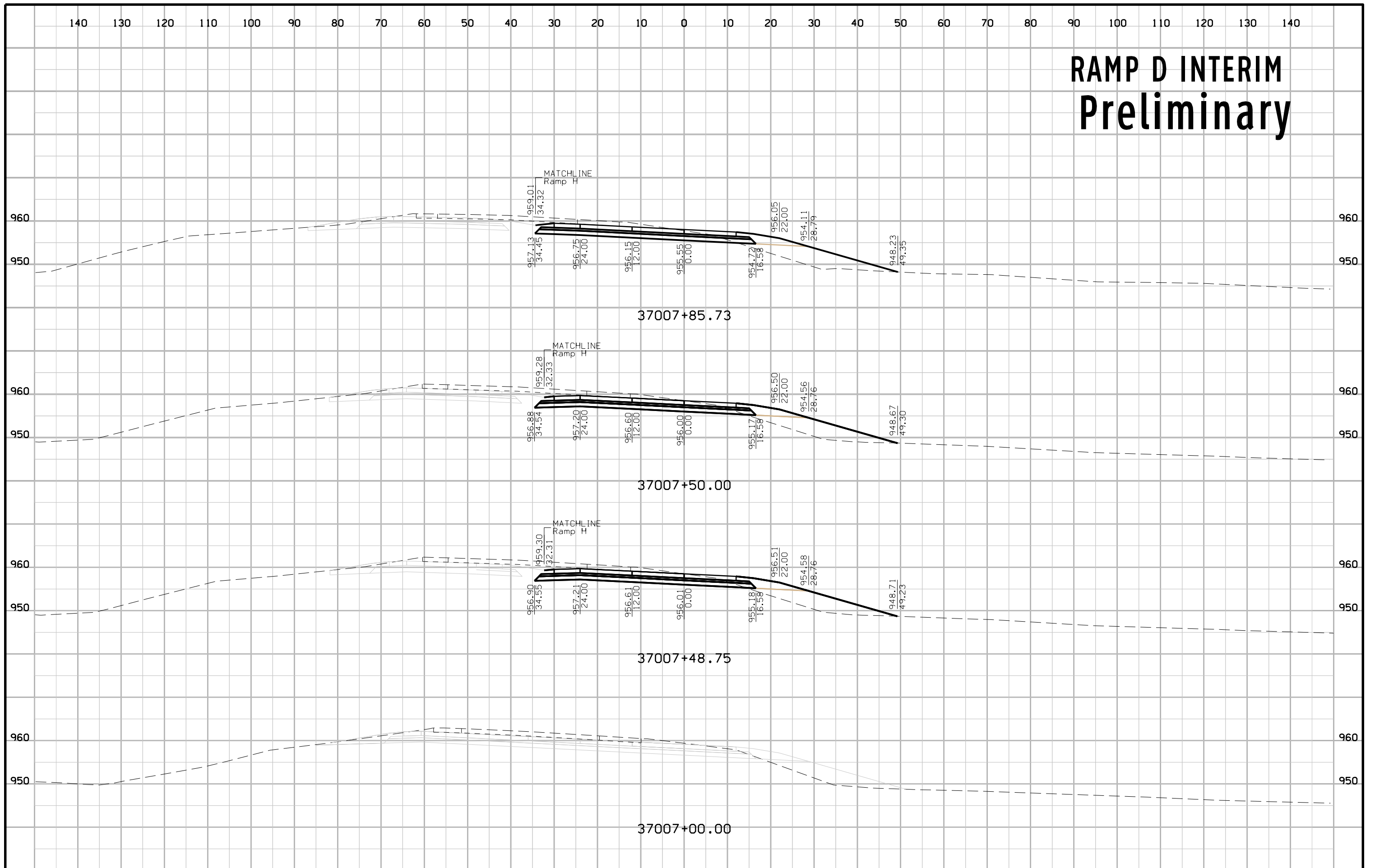


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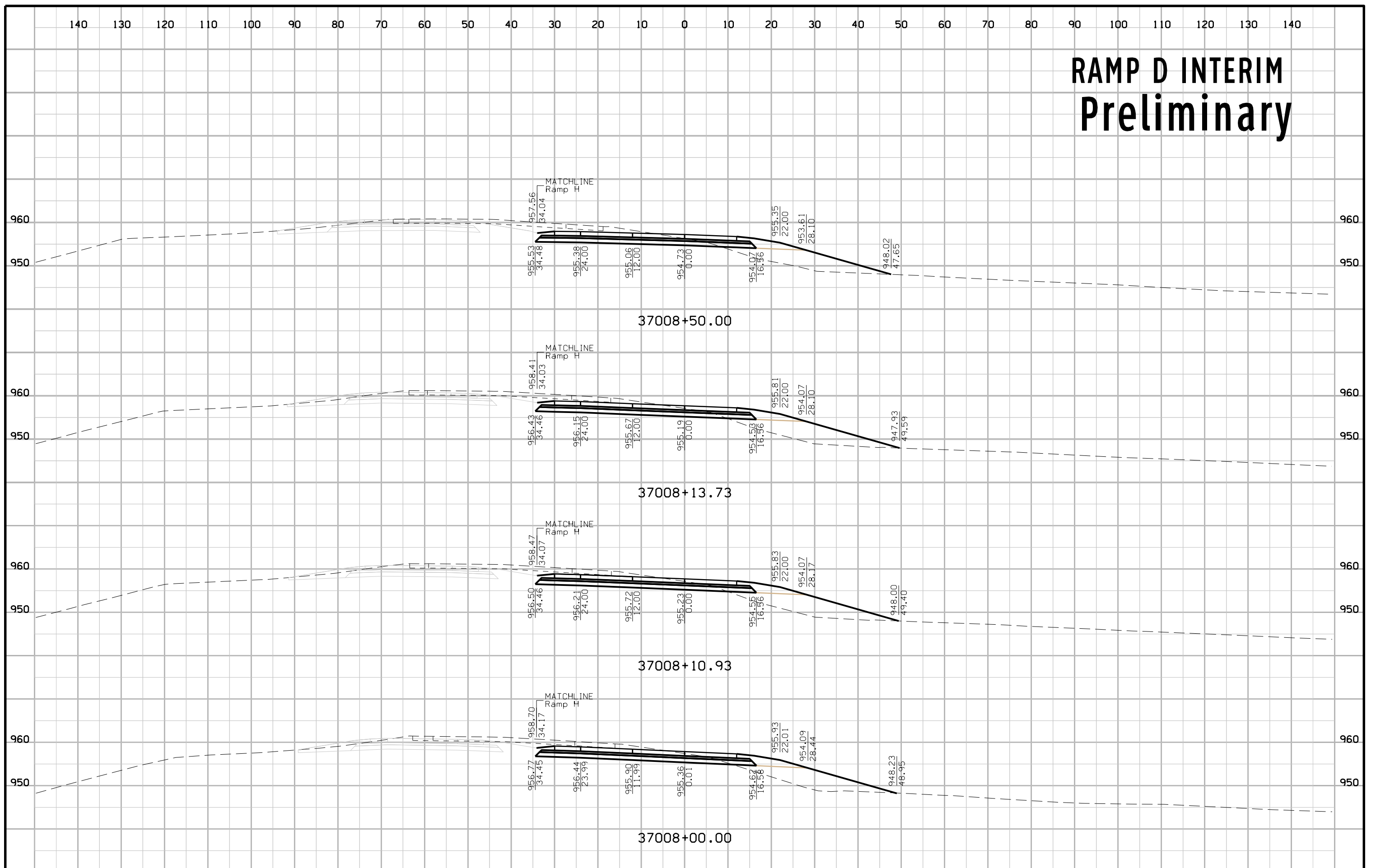


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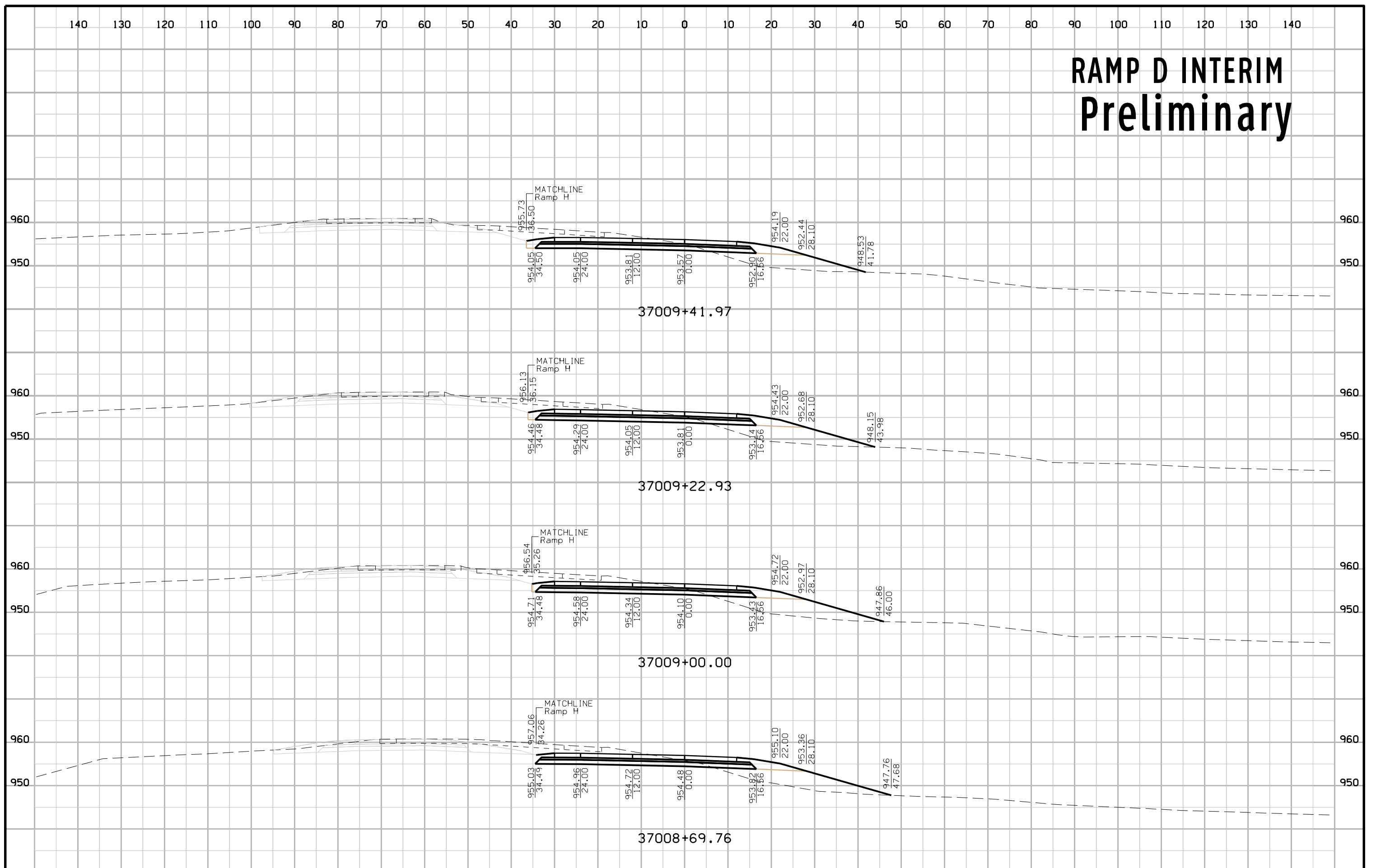
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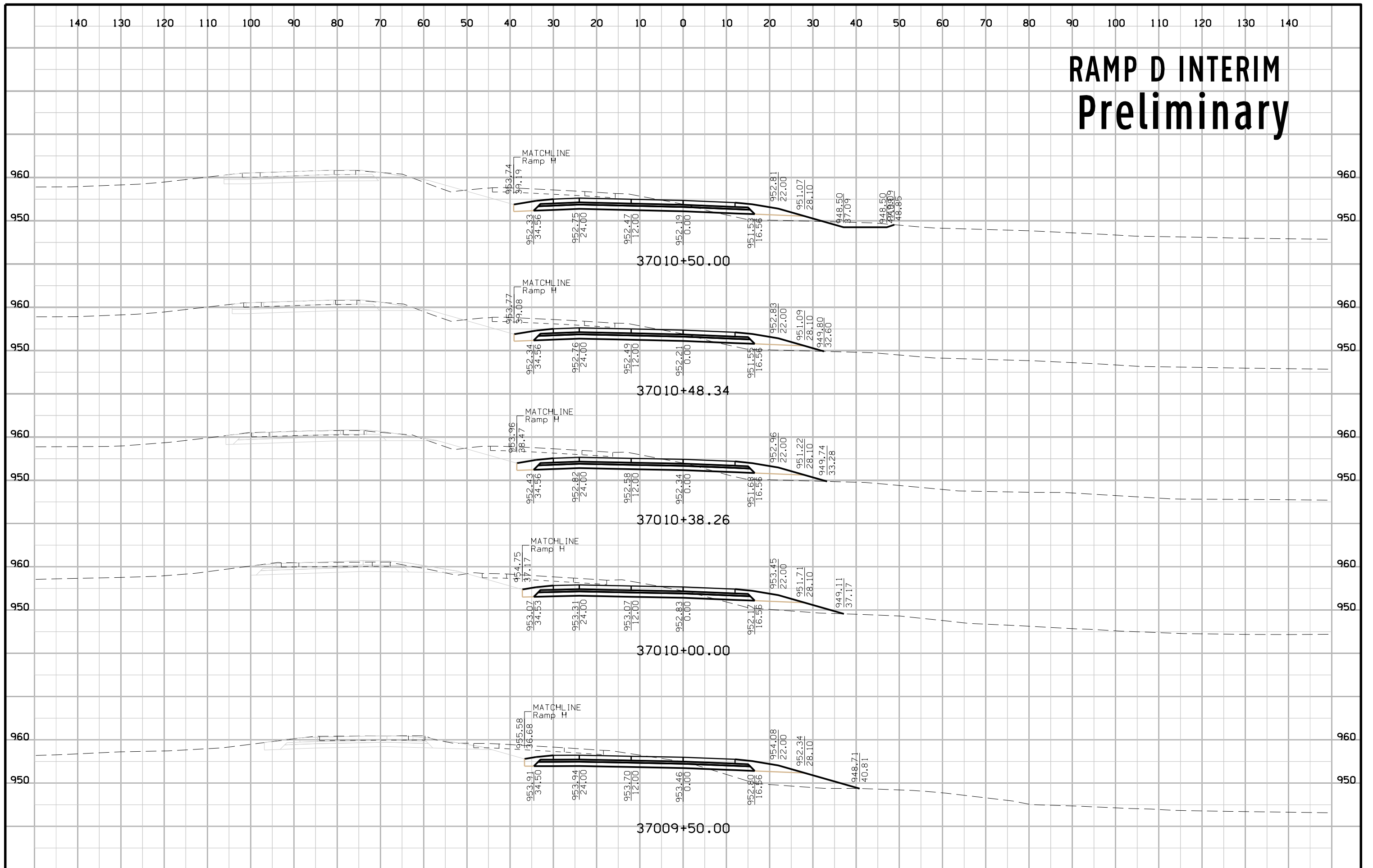
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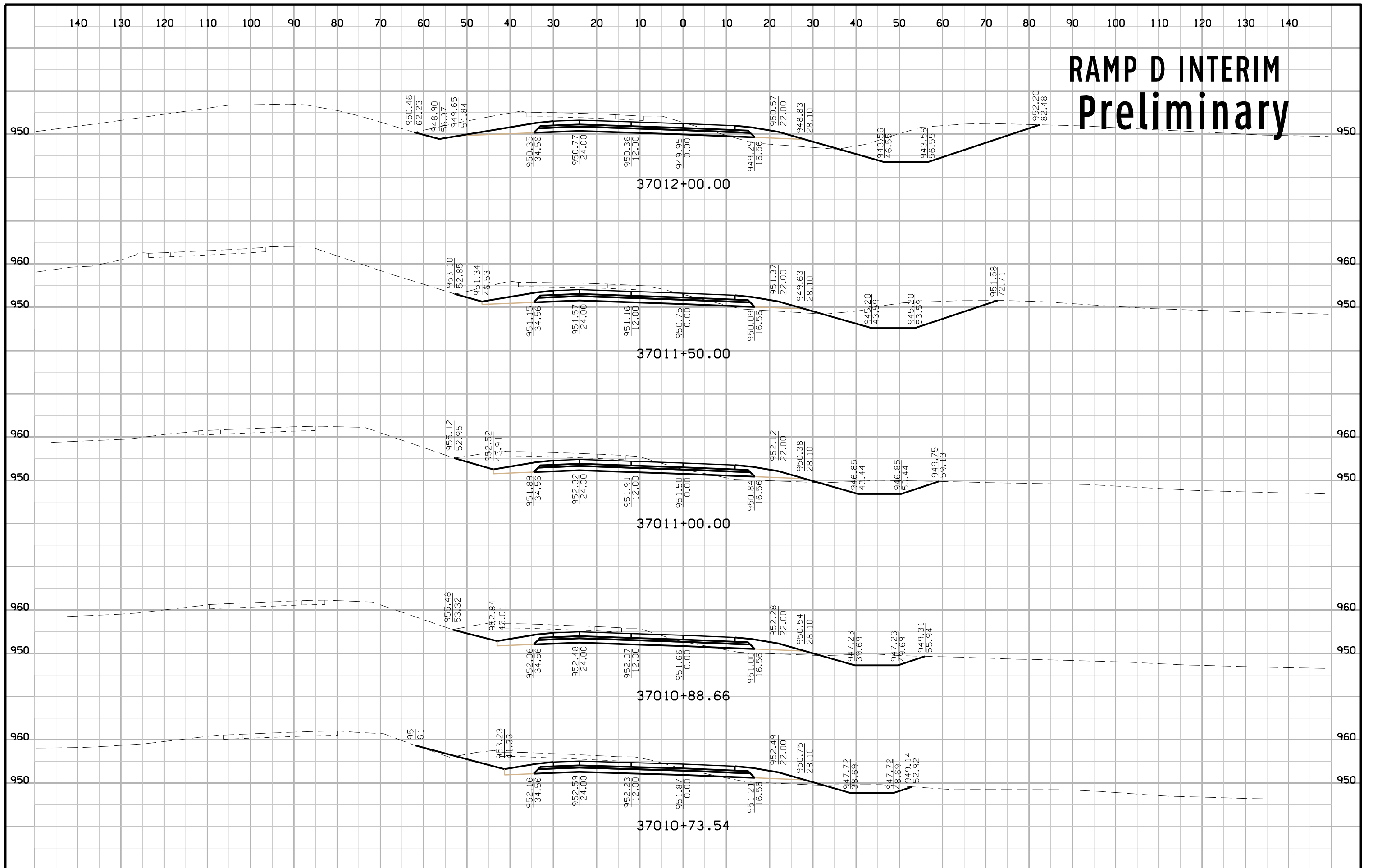
# RAMP D INTERIM Preliminary



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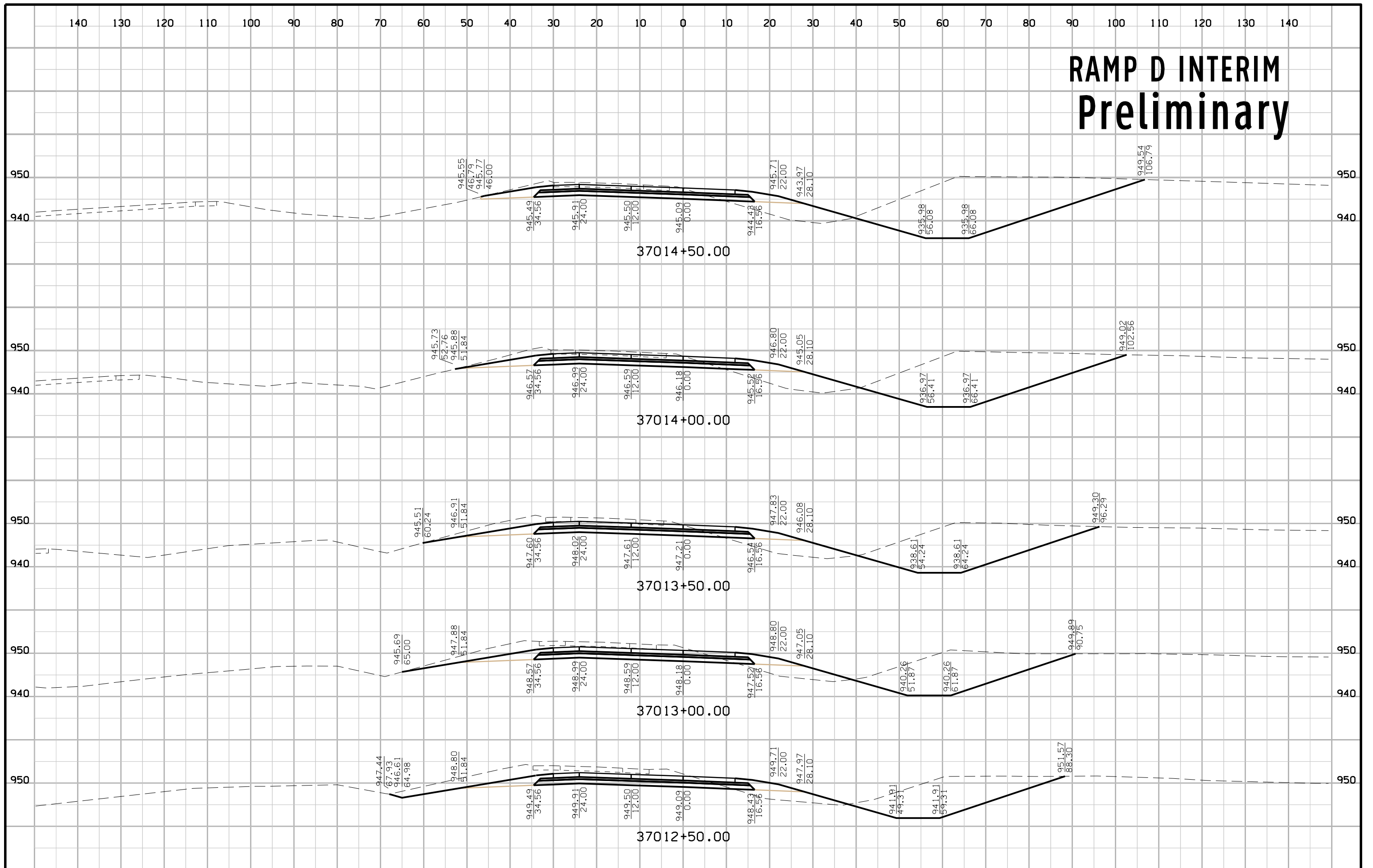


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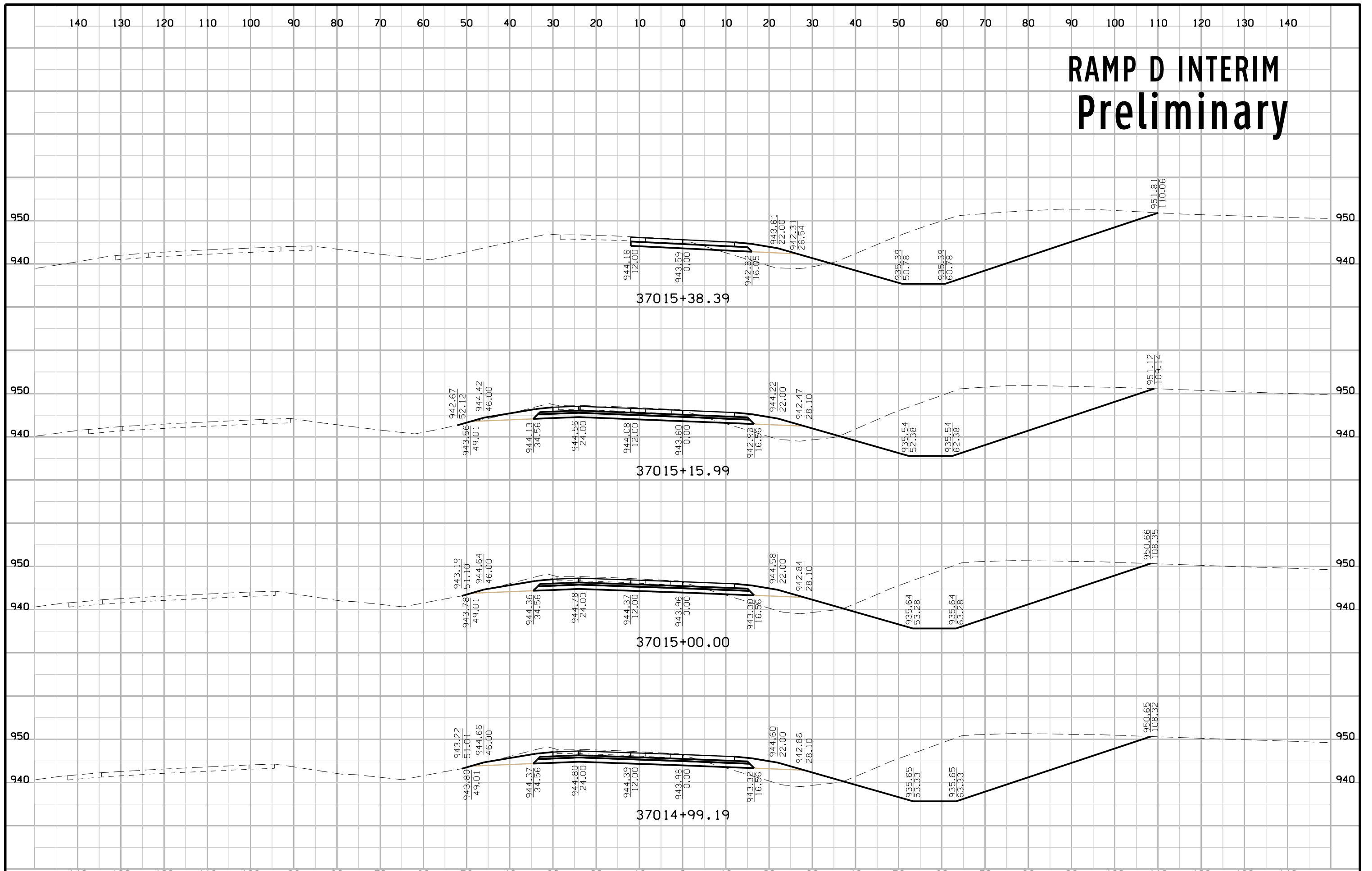




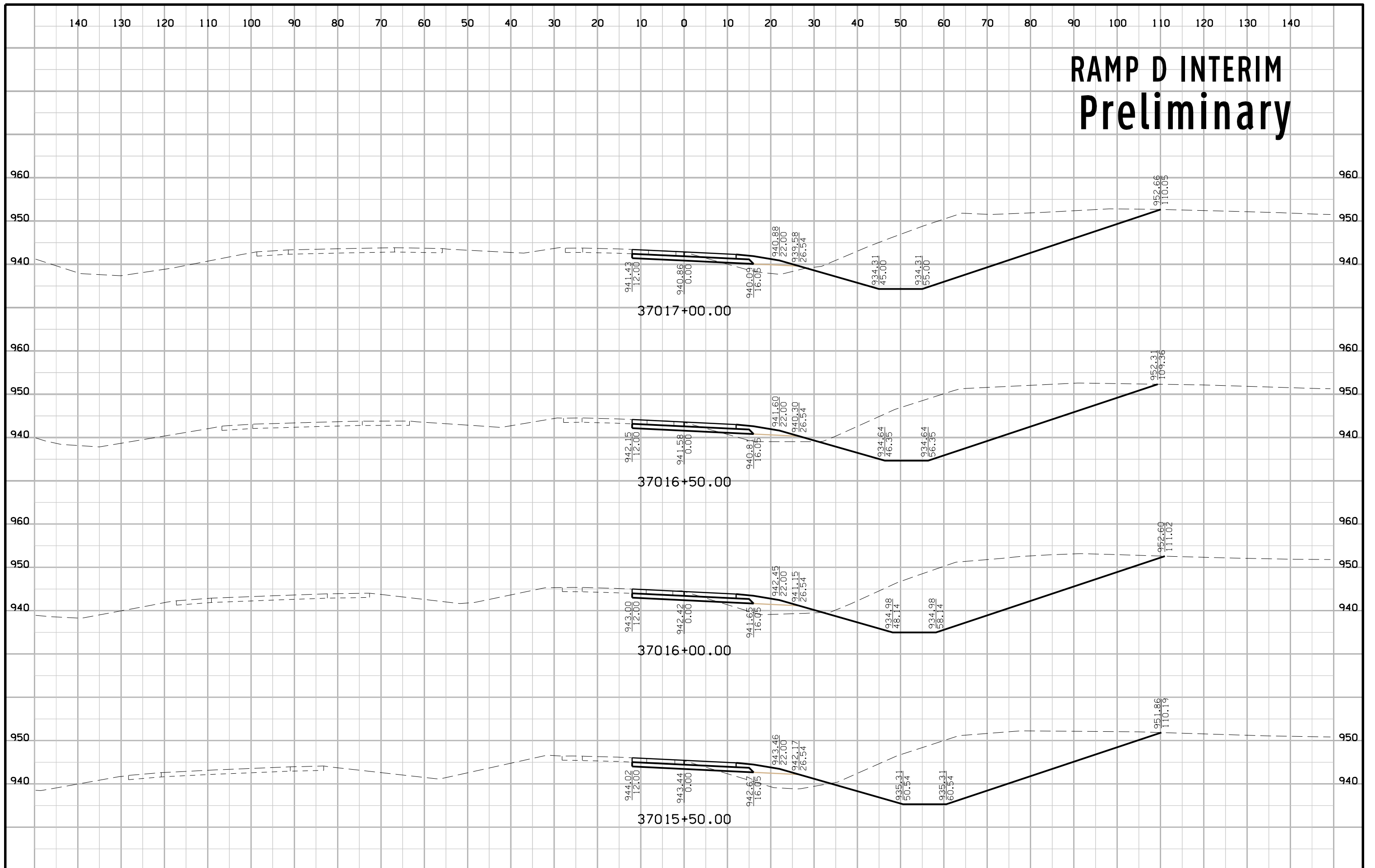
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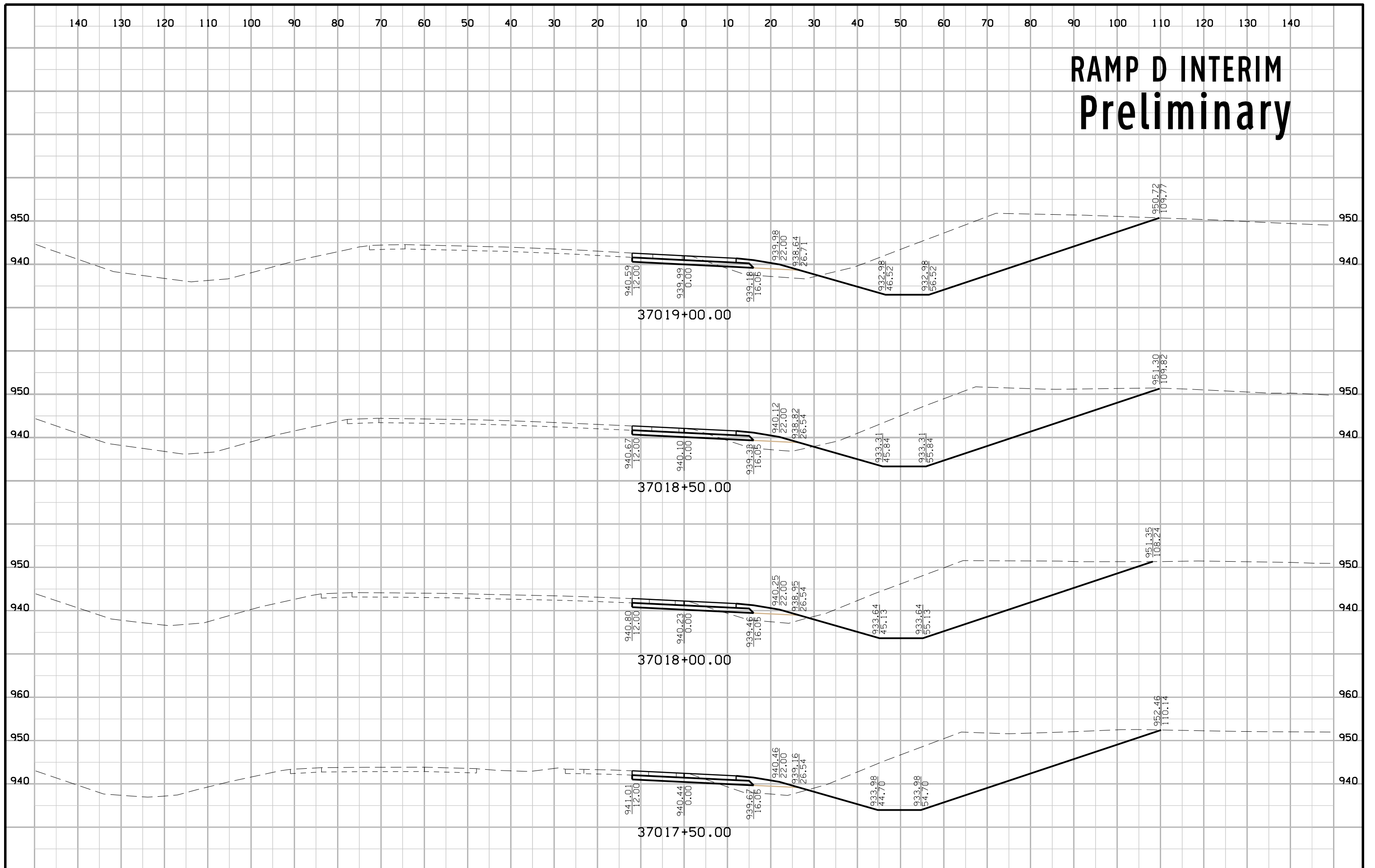
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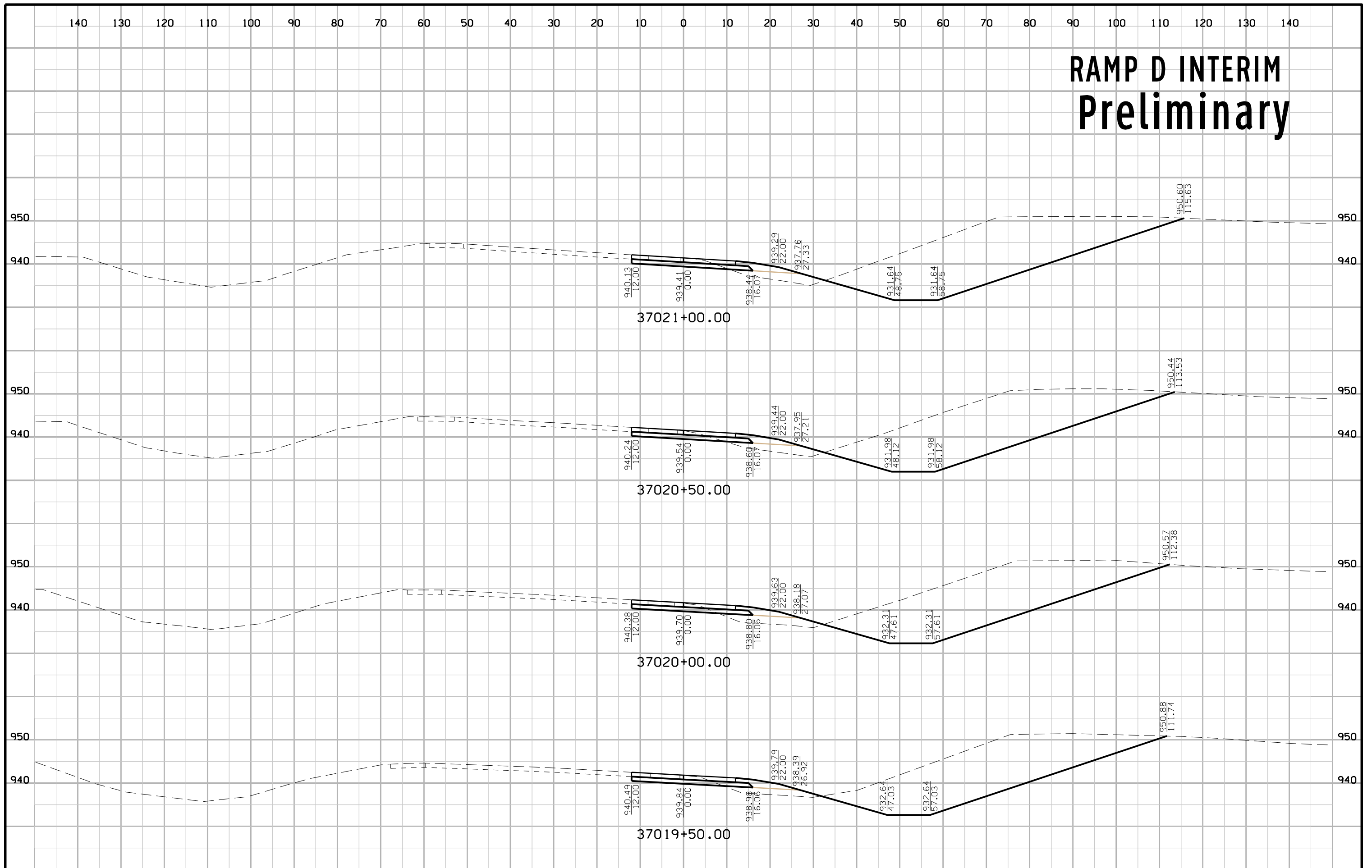
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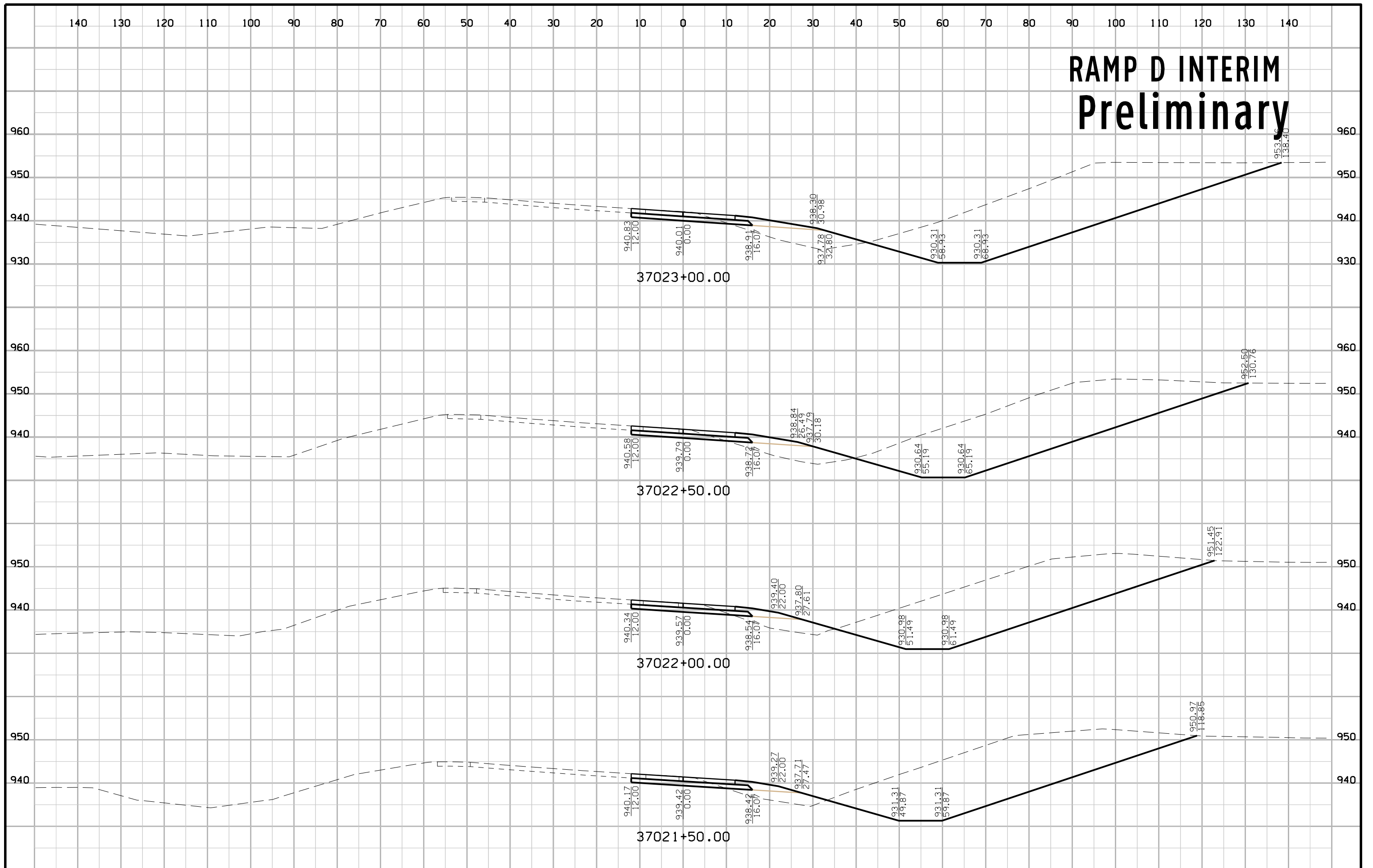
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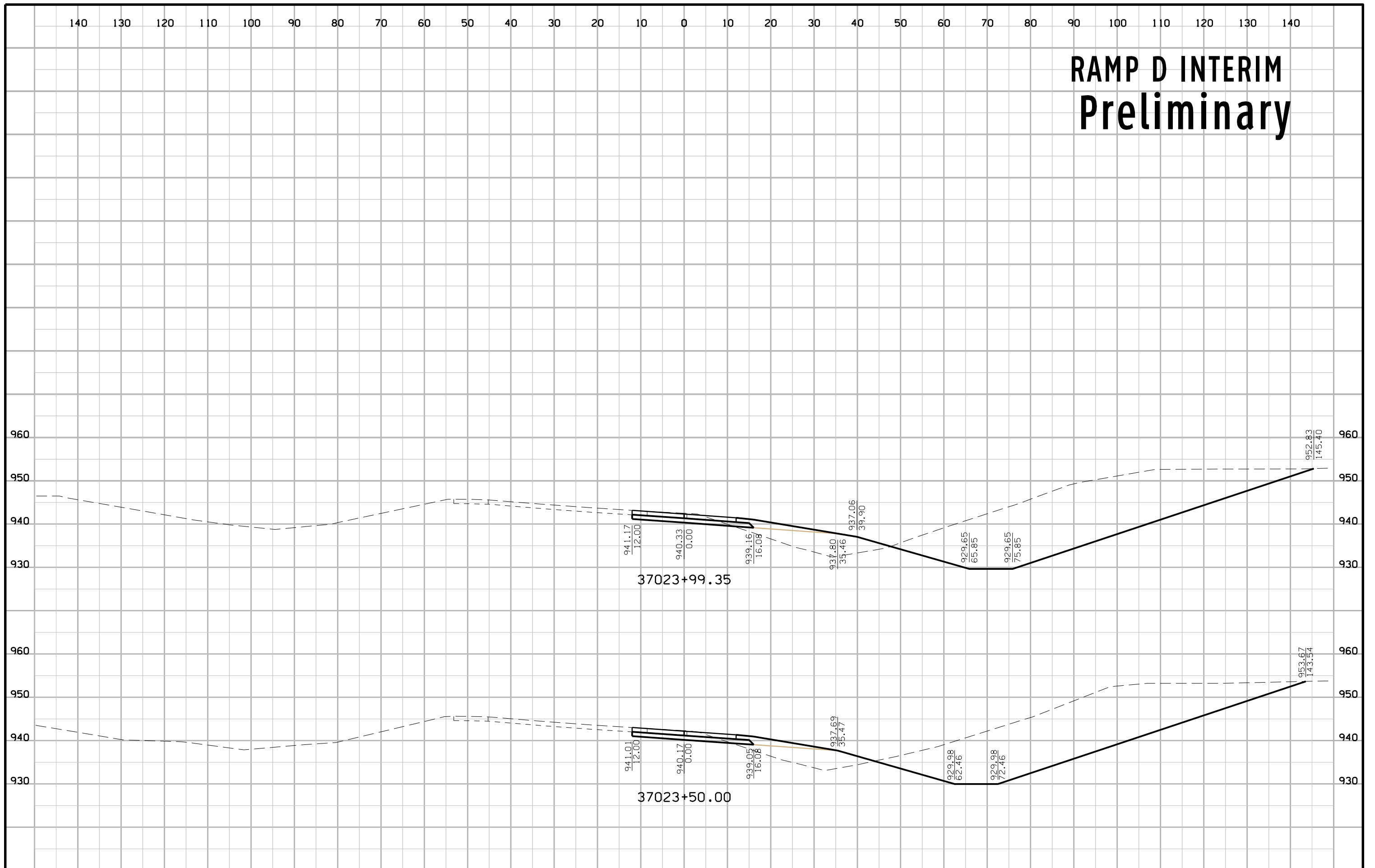
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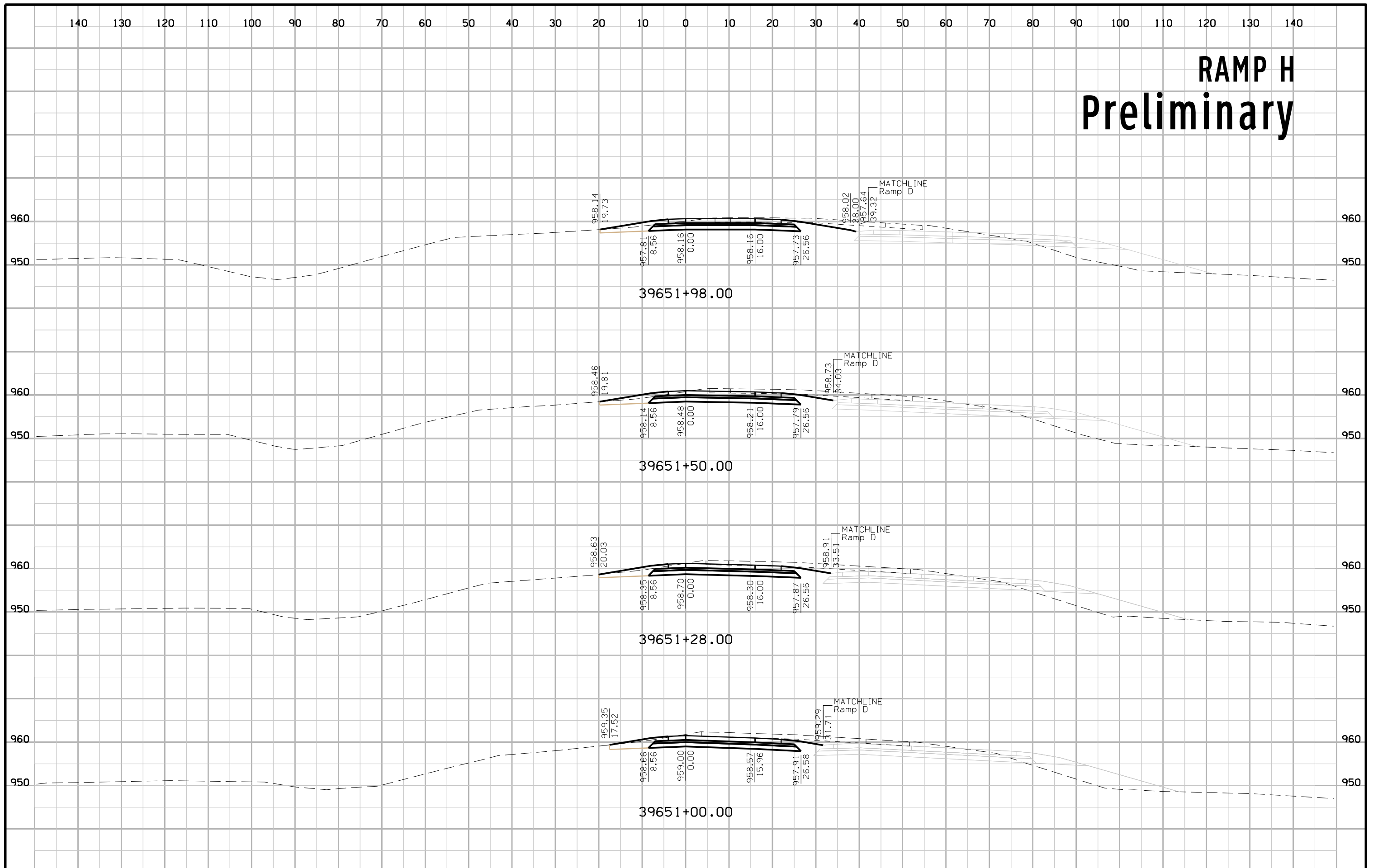
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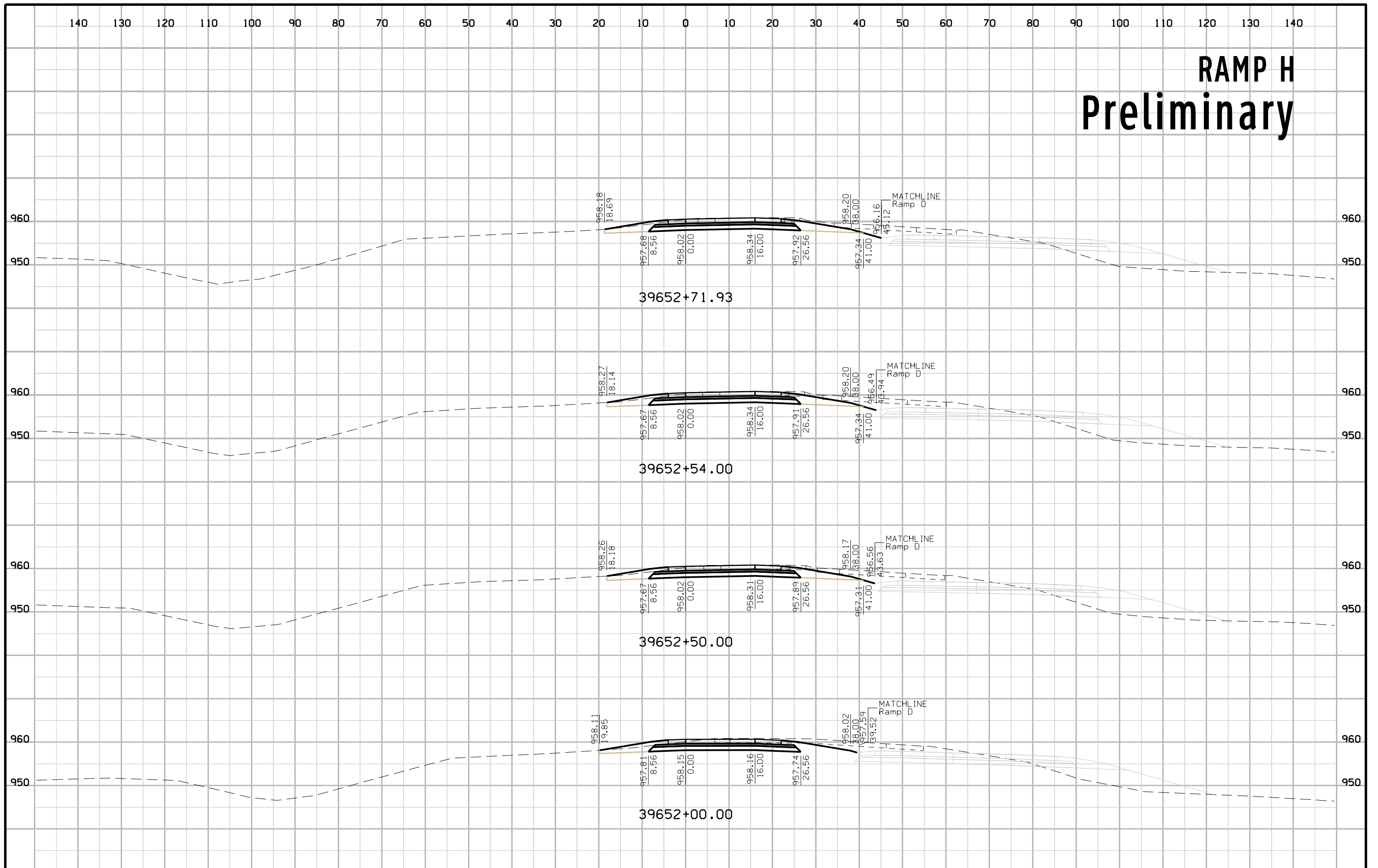


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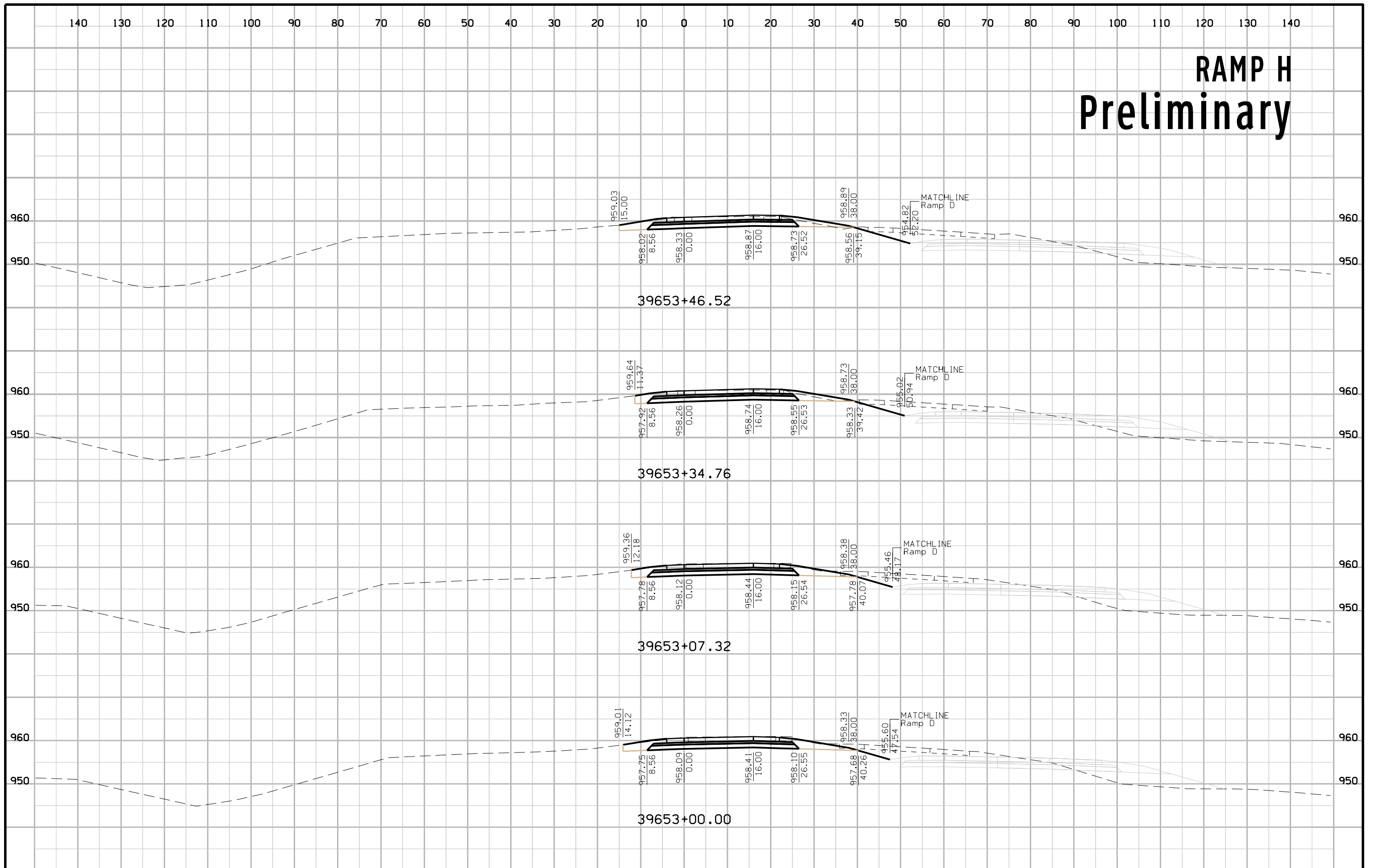




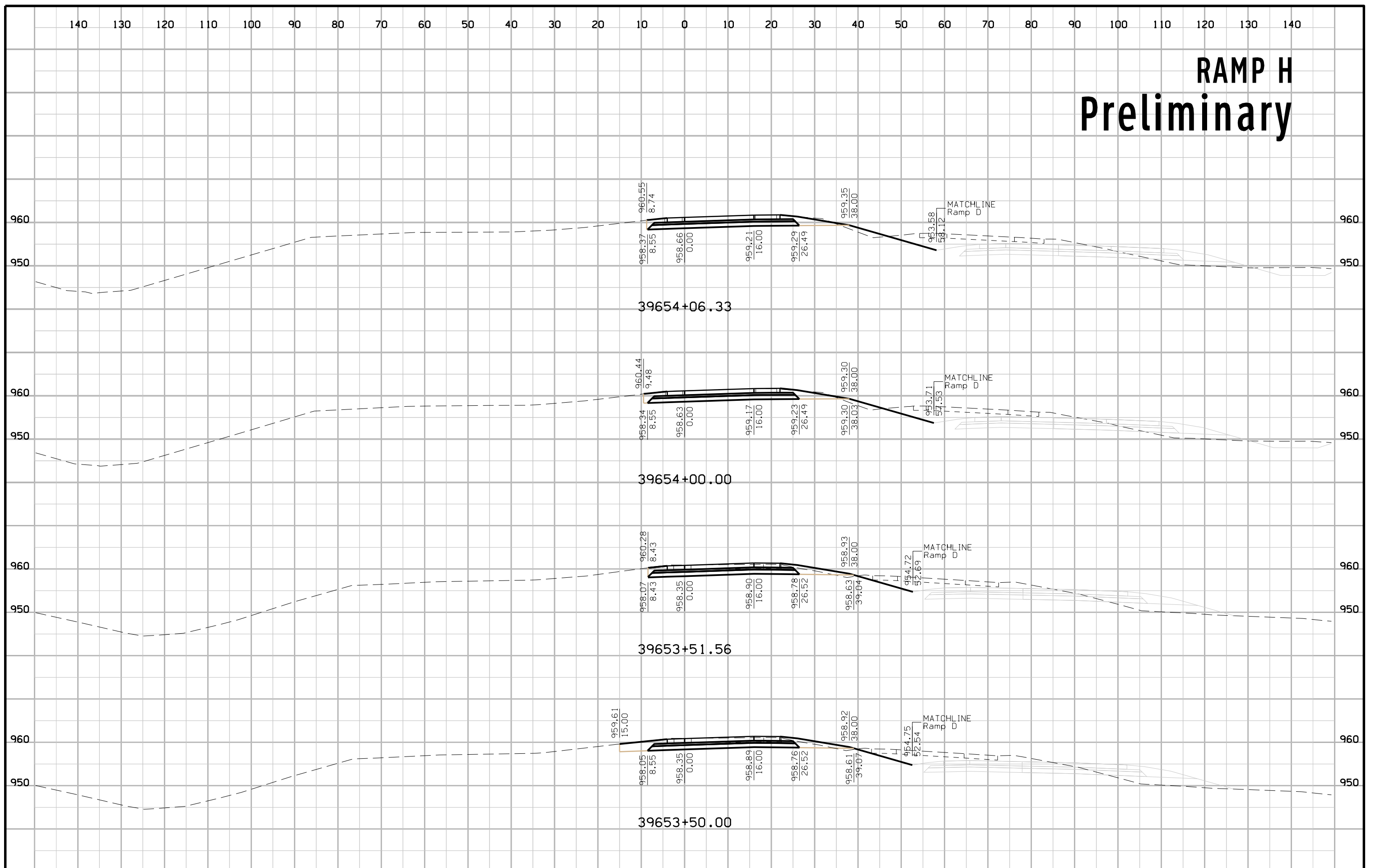
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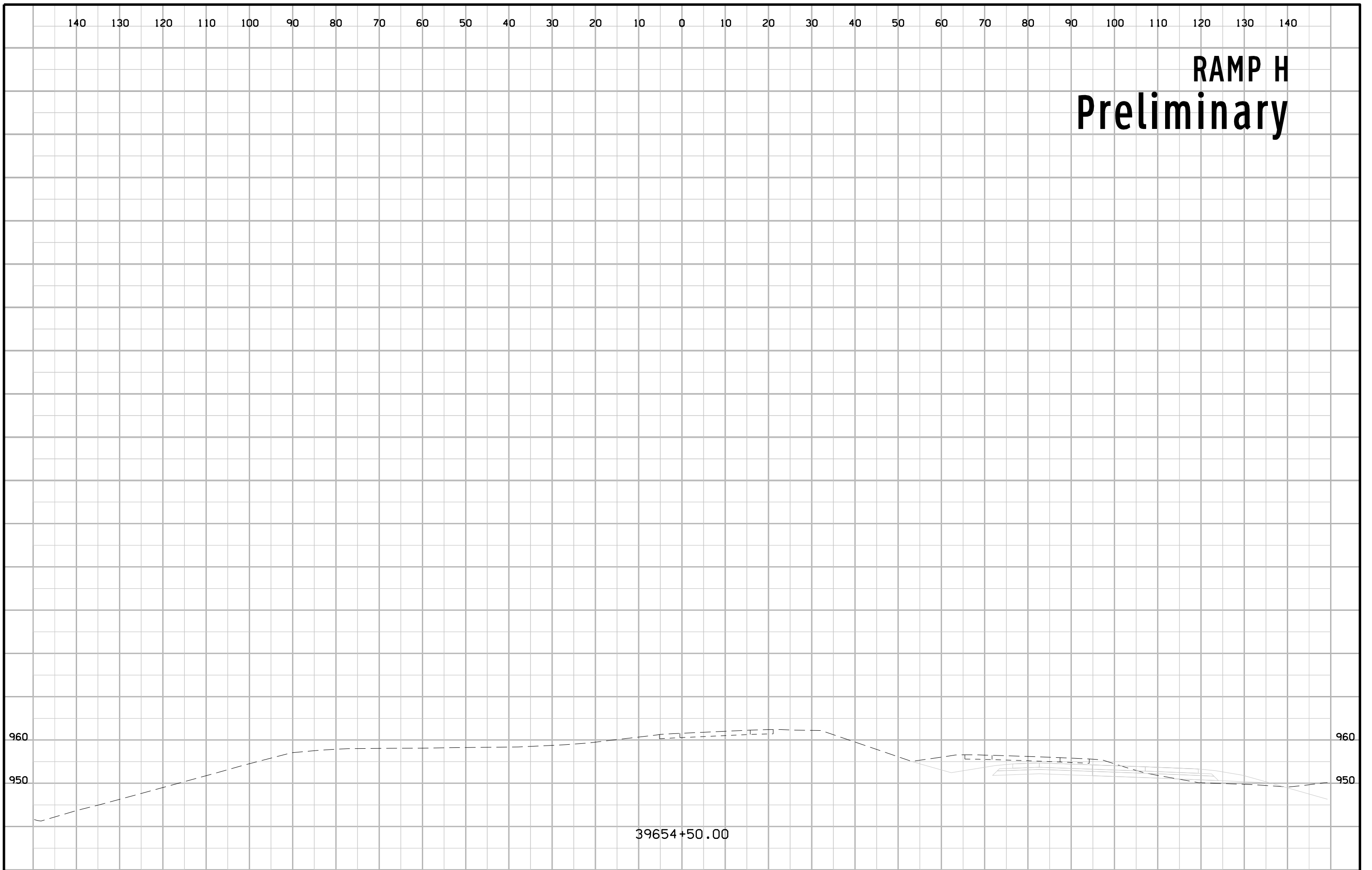
# RAMP H Preliminary



# RAMP H Preliminary



# RAMP H Preliminary



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