

For Project Location Map  
Refer to Sheet No. A.2

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<b>CS Sheets</b>	<b>Soils Tabulations</b>
CS.1 - 11	Soils Tabulations
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<b>R Sheets</b>	<b>Erosion Control Sheets</b>
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PLANS OF PROPOSED IMPROVEMENT ON THE  
PRIMARY ROAD SYSTEM  
**MONONA COUNTY**  
PCC Pavement - Grade and Replace  
I-29/IA 175 Interchange Near Onawa

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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



DESIGN DATA RURAL			
20 26	AADT	3700	V.P.D.
20 46	AADT	4600	V.P.D.
20 56	AADT	5200	V.P.D.
20 46	DHV	480	V.P.H.
TRUCKS		16	%
Total			
Design ESALs		-	

INDEX OF SEALS			
SHEET NO.	NAME	TYPE	BID QUANTITY SHEETS
A.1	Jason A. Lastovica	Primary Signature Block	C.1-11A
CS.1	Zachary A. Bonzer	Geotechnical Design	
D.1	David B. Sibert	Roadway Design	
B.9	Thomas Jantscher	Staging & Traffic Control	
M.1	David VerBockel	Storm Sewer Design	
V.1	Sean E. Connor	Structural Design	V.1, V.5, V.9, V.13, V.17, V.20

REVISIONS

TOTAL

1146

PROJECT IDENTIFICATION NUMBER

21-67-175-020

PROJECT NUMBER

STP-175-1(95)--2C-67

R.O.W. PROJECT NUMBER

STPN -175-1(100)--2J-67

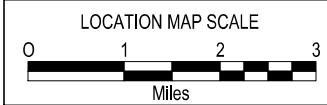
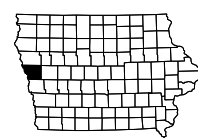
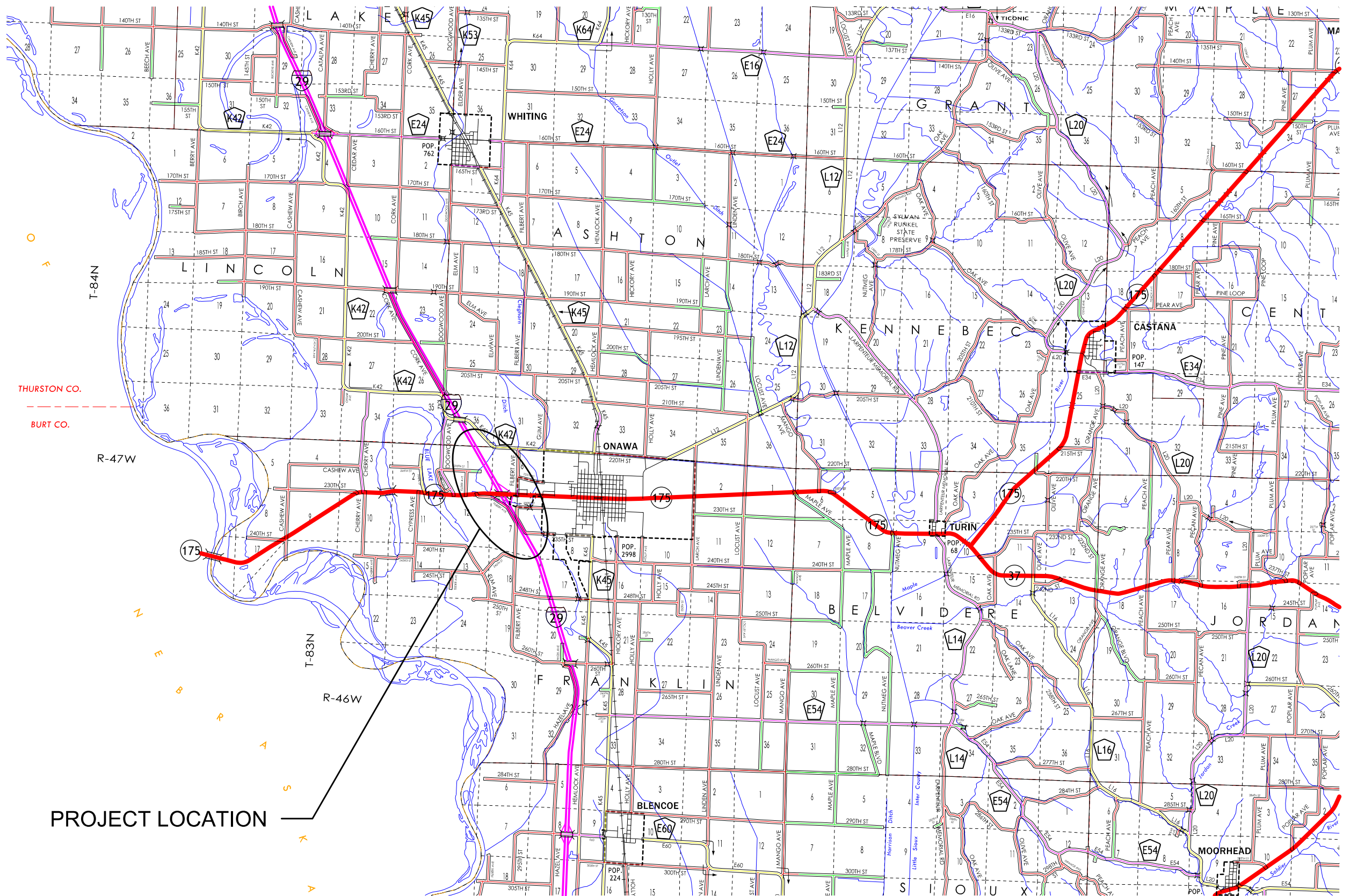
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U.8	Ramp D Ditch Channel Plan and Profile
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Z.65 - 69	Detour 28th Street Frontage Road - Stage 6



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.

10/17/2025  
JASON A. LASTOVICA, P.E. DATE  
License Number: 19543  
My license renewal date is December 31, 2026.  
Pages or sheets covered by this seal:  
A.1-2, B.1-8, B.10-12, C.1-55, L.1-82, RC.1-16, RR.1-15,  
U.1-18, W.82-84, X.279-280, Y.229-230, Z.1-25  
V.3, V.7, V.11, V.15, V.19, V.22 (Hydraulic Design)

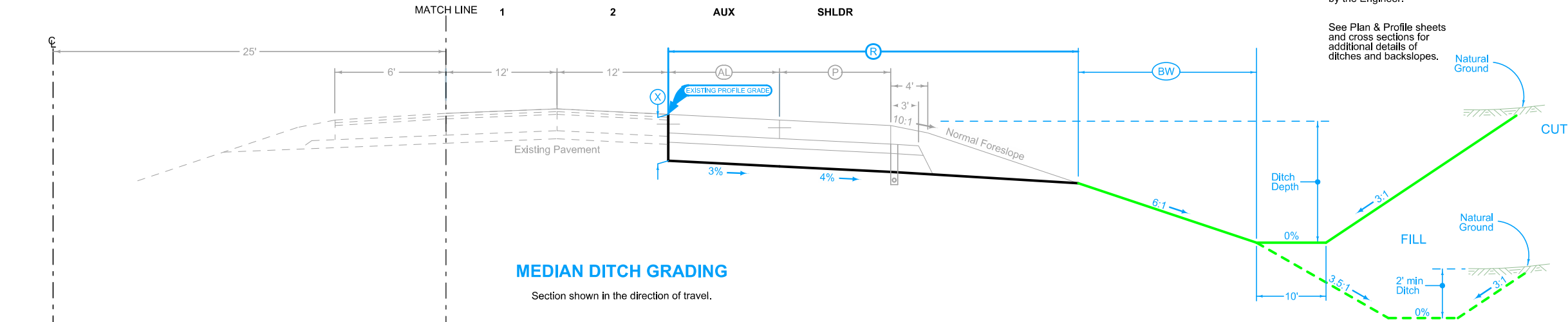




FILE NO.	ENGLISH	DESIGN TEAM <b>Iowa DOT / HR Green</b>	<b>MONONA COUNTY</b>	PROJECT NUMBER <b>STP-175-1(95)--2C-67</b>	SHEET NUMBER <b>A.2</b>
3:16:17 PM	10/6/2025	rttyrel	pw:\\projectwise.dot.int.lan:PWM\\Main\\Documents\\Projects\\6717502021\\Design\\CADD_Files\\Sheet_Files\\SHT_67175095_A01_Z06		

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.



MEDIAN DITCH GRADING

Section shown in the direction of travel.

LOCATION		
ROAD IDENTIFICATION	STATION TO STATION	
I-29 NB	749+00.00	750+50.00
I-29 SB	750+00.00	750+50.00

WIDENING GRADING

Section shown in the direction of travel.

LOCATION			DIMENSIONS		
ROAD IDENTIFICATION	STATION TO STATION		(R) Feet	(X) Inches	(BW) Feet
I-29 NB	715+30.00	718+30.00	VARIES	34.5	VARIES
I-29 NB	718+30.00	728+30.00	42	34.5	4.4
I-29 NB	728+30.00	734+50.00	42 - 70	34.5	4.4
I-29 NB	757+89.85	761+00.00	66 - 42	34.5	4.4
I-29 NB	761+00.00	771+00.00	42	34.5	4.4
I-29 NB	771+00.00	777+00.00	VARIES	34.5	VARIES
I-29 SB	715+50.00	721+50.00	42	34.5	4.4
I-29 SB	721+50.00	731+50.00	VARIES	34.5	VARIES
I-29 SB	731+50.00	734+60.15	42 - 66	34.5	4.4
I-29 SB	762+25.00	766+45.00	70 - 42	34.5	4.4
I-29 SB	766+45.00	776+45.00	42	34.5	4.4
I-29 SB	776+45.00	779+45.00	42	34.5	4.4

INSIDE SHOULDER GRADING

Section shown in the direction of travel.

LOCATION			DIMENSIONS		
ROAD IDENTIFICATION	STATION TO STATION		(R) Feet	(X) Inches	(BW) Feet
I-29 NB	744+00.00	747+65.00	VARIES	34.5	VARIES
I-29 SB	745+00.00	749+25.00	VARIES	34.5	VARIES

INSIDE SHOULDER & MEDIAN DITCH GRADING

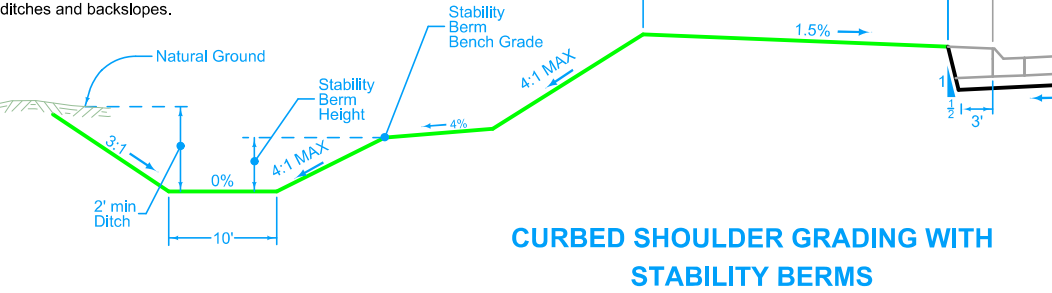
Section shown in the direction of travel.

LOCATION			DIMENSIONS		
ROAD IDENTIFICATION	STATION TO STATION		(R) Feet	(X) Inches	(BW) Feet
I-29 NB	748+40.00	749+00.00	VARIES	34.5	VARIES
I-29 SB	749+25.00	750+00.00	VARIES	34.5	VARIES

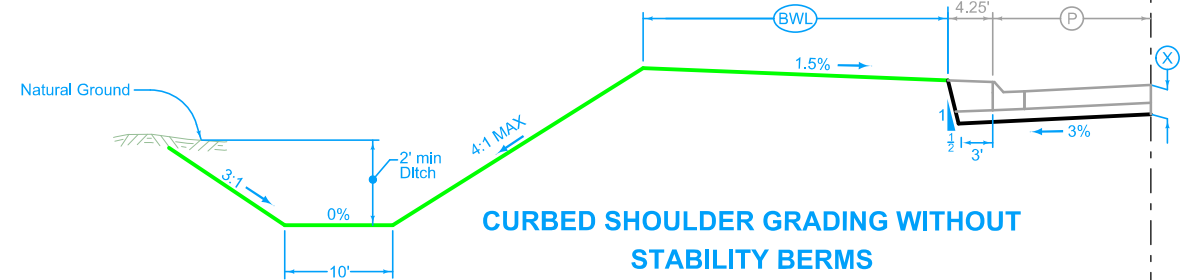
I-29  
Grading

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

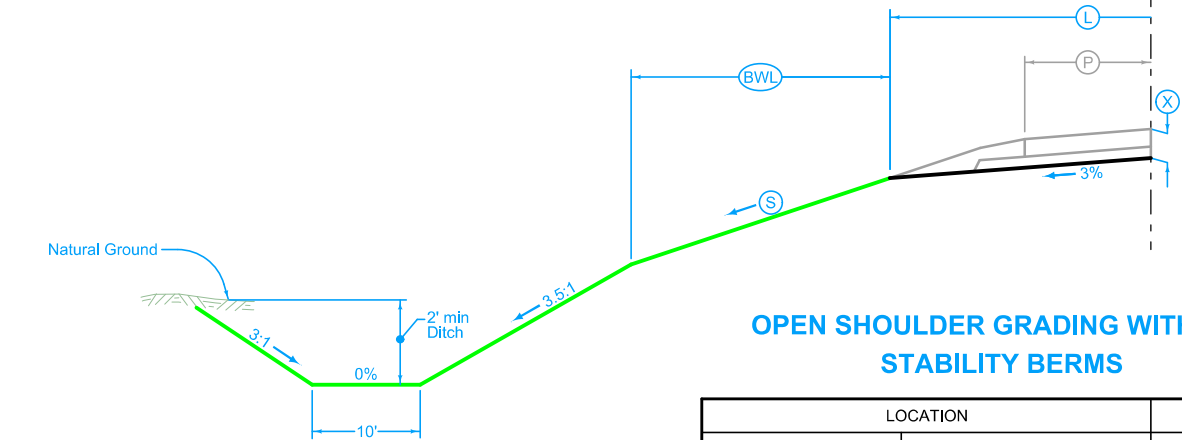
See Plan & Profile sheets and cross sections for additional details of ditches and backlopes.



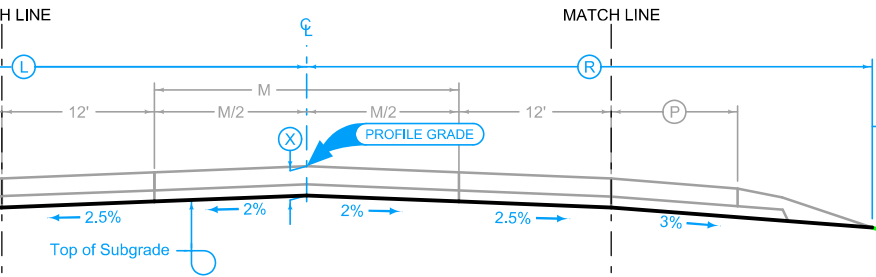
LOCATION			DIMENSIONS	
ROAD IDENTIFICATION	STATION TO STATION		(X) Inches	(BWL) Feet
IA 175	1735+90.00	1739+25.00	21.5	13.75
IA 175	1741+40.00	1743+40.00	21.5	13.75
IA 175	1746+40.00	1748+25.00	21.5	13.75



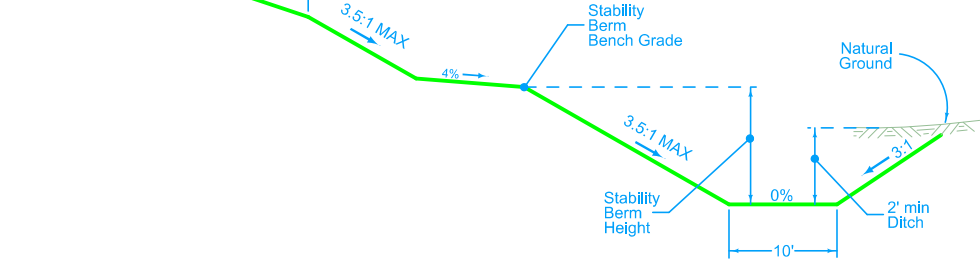
LOCATION			DIMENSIONS	
ROAD IDENTIFICATION	STATION TO STATION		(X) Inches	(BWL) Feet
IA 175	1725+00.00	1735+90.00	21.5	13.75
IA 175	1748+00.00	1750+21.58	21.5	13.75
IA 175	1751+98.67	1761+79.93	21.5	13.75



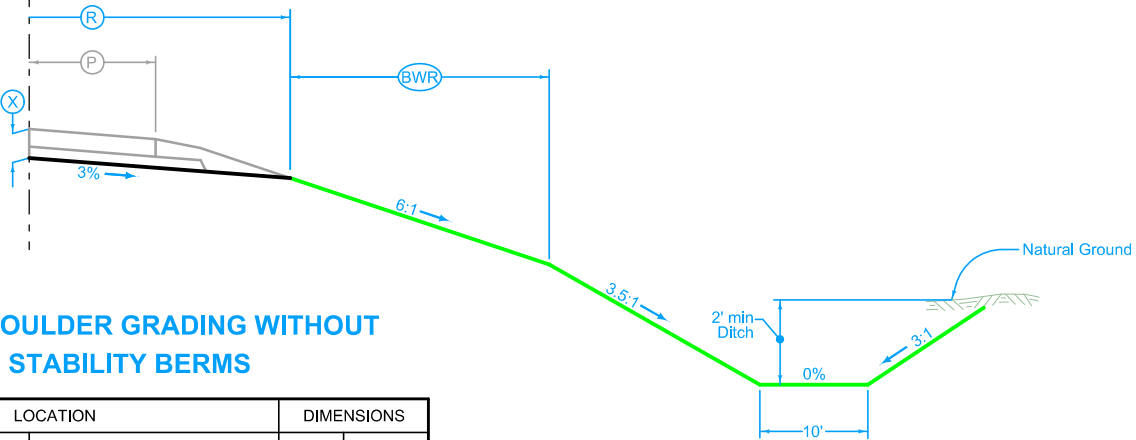
LOCATION			DIMENSIONS		
ROAD IDENTIFICATION	STATION TO STATION		(X) Inches	(BWL) Feet	(S)
IA 175	1722+00.00	1725+00.00	21.5	19	4:1
IA 175	1763+37.26	1771+49.11	21.5	19-24	6:1



LOCATION			DIMENSIONS		
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches
IA 175	1725+00.00	1726+80.00	40.0	37.1	21.5
IA 175	1726+80.00	1738+31.75	40.0 - 47.0	37.1 - 44.1	21.5
IA 175	1738+31.75	1738+79.94	47.0	44.1	21.5
IA 175	1740+69.39	1743+64.39	47.0	44.1	21.5
IA 175	1748+07.64	1750+21.58	47.0	44.1	21.5
IA 175	1752+33.04	1756+70.00	55.0	44.1	21.5
IA 175	1756+70.00	1757+83.93	55.0 - 47.0	44.1	21.5
IA 175	1757+83.93	1761+79.93	47.0	44.1	21.5
IA 175	1764+04.37	1771+49.11	44.1	44.1	21.5



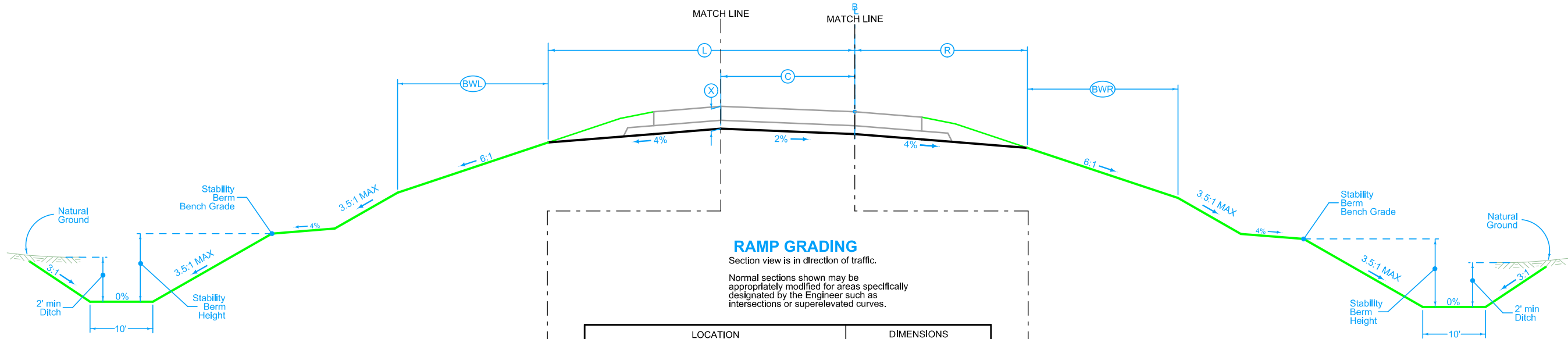
LOCATION			DIMENSIONS	
ROAD IDENTIFICATION	STATION TO STATION		(X) Inches	(BWR) Feet
IA 175	1734+50.00	1739+25.00	21.5	12.2-46.5
IA 175	1742+00.00	1745+30.00	21.5	11.6-18
IA 175	1748+00.00	1750+75.00	21.5	28



LOCATION			DIMENSIONS	
ROAD IDENTIFICATION	STATION TO STATION		(X) Inches	(BWR) Feet
IA 175	1722+00.00	1734+50.00	21.5	4
IA 175	1752+33.04	1761+89.69	21.5	22
IA 175	1764+04.37	1771+49.11	21.5	4

IA 175  
Grading





#### RAMP GRADING

Section view is in direction of traffic.

Normal sections shown may be appropriately modified for areas specifically designated by the Engineer such as intersections or superelevated curves.

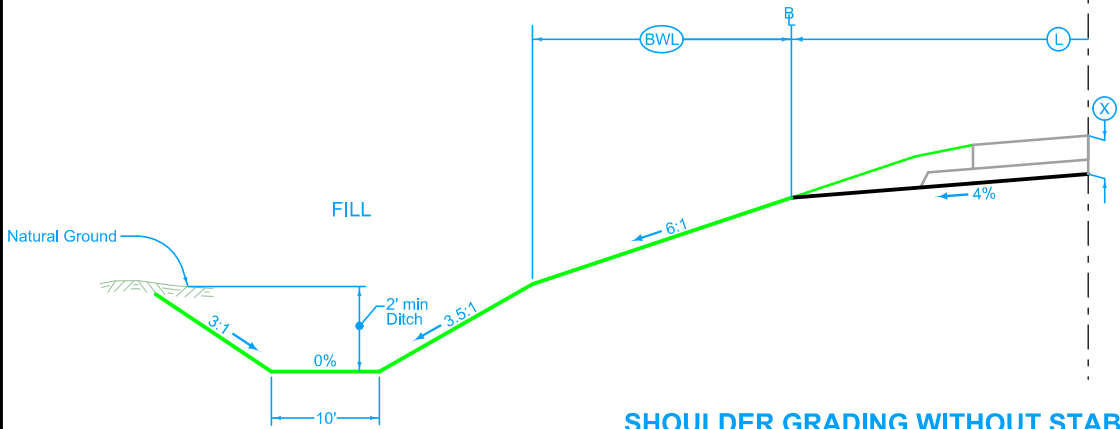
LOCATION				DIMENSIONS			
INTERCHANGE	RAMP	STATION TO STATION		L Feet	R Feet	C Feet	X Inches
IA 175	A	1549+34.61	1562+26.06	34.3	25.7	16	21.5
IA 175	B	2532+49.07	2544+57.44	36.6	22.6	16	21.5
IA 175	C	3534+58.92	3550+79.14	36.6	22.6	16	21.5
IA 175	D	4543+72.26	4557+91.09	36.6	22.6	16	21.5

#### SHOULDER GRADING WITH STABILITY BERMS

LOCATION				DIMENSIONS	
INTERCHANGE	RAMP	STATION TO STATION		X Inches	BWL Feet
IA 175	A	1550+50.00	1557+00.00	21.5	9.7-15
IA 175	B	2538+09.00	2543+00.00	21.5	10.2-12.3
IA 175	C	3544+50.00	3548+50.00	21.5	13.3-15
IA 175	D	4547+00.00	4551+50.00	21.5	12.3-15

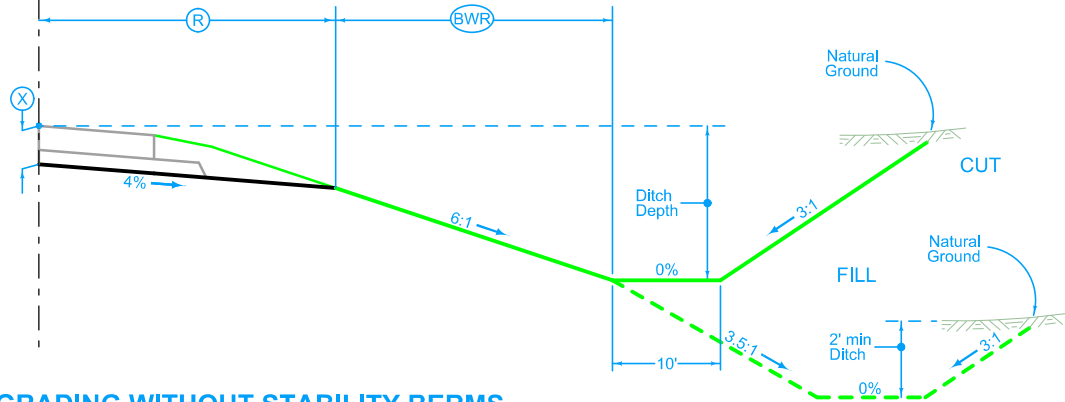
#### SHOULDER GRADING WITH STABILITY BERMS

LOCATION				DIMENSIONS	
INTERCHANGE	RAMP	STATION TO STATION		X Inches	BWR Feet
IA 175	A	1550+30.00	1557+25.00	21.5	4.7-60.6
IA 175	B	2537+85.00	2541+75.00	21.5	12.3-15
IA 175	C	3544+50.00	3547+50.00	21.5	10.2-12.3



#### SHOULDER GRADING WITHOUT STABILITY BERMS

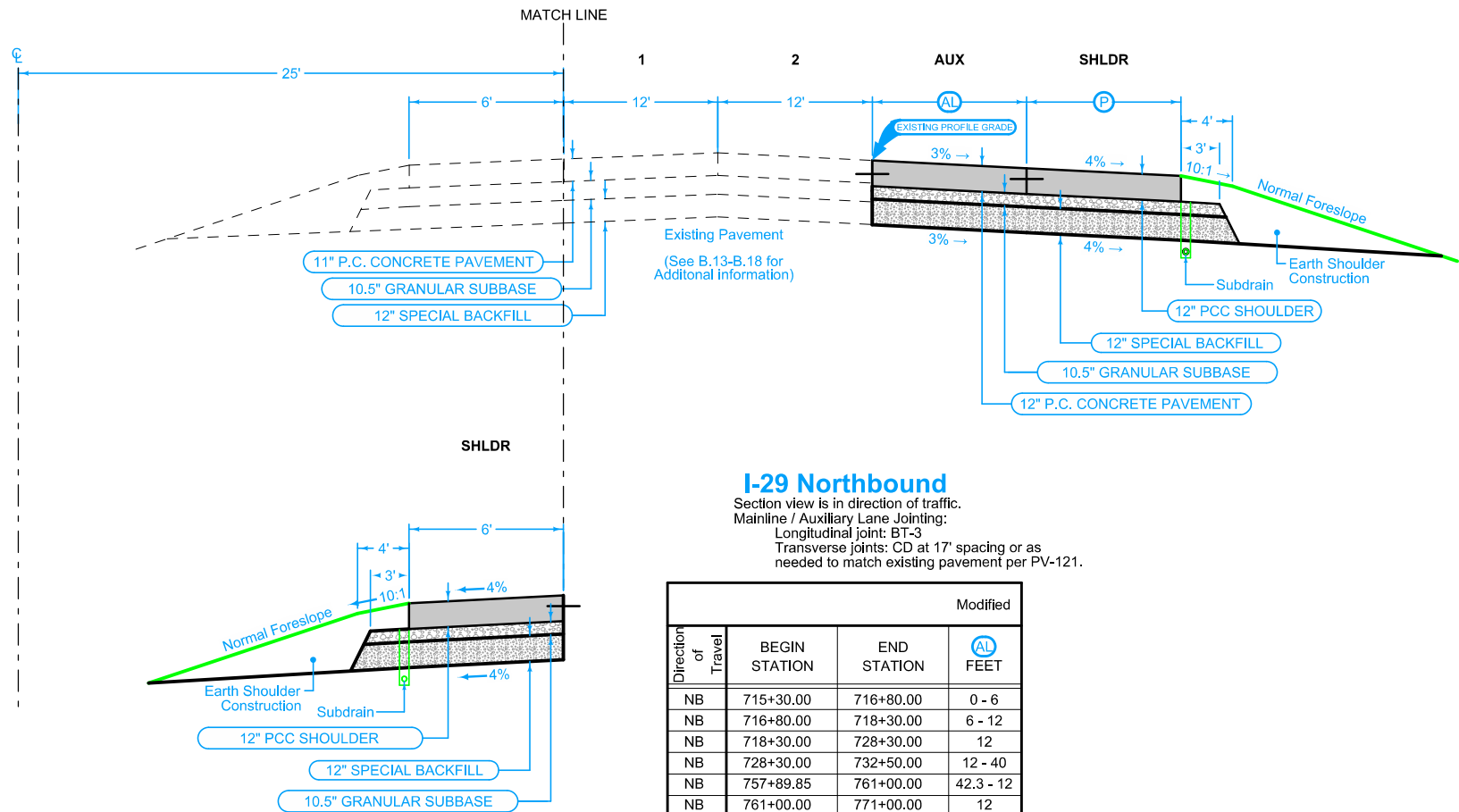
LOCATION				DIMENSIONS	
INTERCHANGE	RAMP	STATION TO STATION		X Inches	BWL Feet
IA 175	A	1549+34.61	1551+50.00	21.5	40.1
IA 175	A	1557+00.00	1562+26.06	21.5	40.1
IA 175	B	2532+49.07	2538+09.00	21.5	52.2
IA 175	B	2543+00.00	2544+57.44	21.5	52.2
IA 175	C	3534+58.92	3544+50.00	21.5	52.2
IA 175	C	3548+50.00	3550+79.14	21.5	52.2
IA 175	D	4543+72.26	4547+00.00	21.5	29.4
IA 175	D	4551+50.00	4557+91.09	21.5	29.4



#### SHOULDER GRADING WITHOUT STABILITY BERMS

LOCATION				DIMENSIONS	
INTERCHANGE	RAMP	STATION TO STATION		X Inches	BWR Feet
IA 175	A	1549+34.61	1550+30.00	21.5	39.2
IA 175	A	1557+25.00	1562+26.06	21.5	39.2
IA 175	B	2532+49.07	2537+85.00	21.5	52.2
IA 175	B	2541+75.00	2544+57.44	21.5	52.2
IA 175	C	3534+58.92	3544+50.00	21.5	52.2
IA 175	C	3547+50.00	3550+79.14	21.5	52.2
IA 175	D	4543+72.26	4557+91.09	21.5	29.4

#### IA 175 Ramps Grading



### I-29 Northbound

Section view is in direction of traffic.  
Mainline / Auxiliary Lane Jointing:  
Longitudinal joint: BT-3  
Transverse joints: CD at 17' spacing or as needed to match existing pavement per PV-121.

Modified			
Direction of Travel	BEGIN STATION	END STATION	AL FEET
NB	715+30.00	716+80.00	0 - 6
NB	716+80.00	718+30.00	6 - 12
NB	718+30.00	728+30.00	12
NB	728+30.00	732+50.00	12 - 40
NB	757+89.85	761+00.00	42.3 - 12
NB	761+00.00	771+00.00	12
NB	771+00.00	774+00.00	12 - 6
NB	774+00.00	777+00.00	6 - 0

### Full Depth PCC Shoulder

Shoulder Jointing:  
Longitudinal joint: BT-3  
Transverse joints: C at 17' spacing or as needed to match existing pavement per PV-121.

LOCATION		
Direction of Travel	BEGIN STATION	END STATION
NB	744+00.00	749+00.00

### Full Depth PCC Shoulder

Shoulder Jointing:  
Longitudinal joint: BT-2 or L-2, or BT-3 when shoulder abuts existing pavement.  
Transverse joints: C at 17' spacing or as needed to match existing pavement per PV-121.

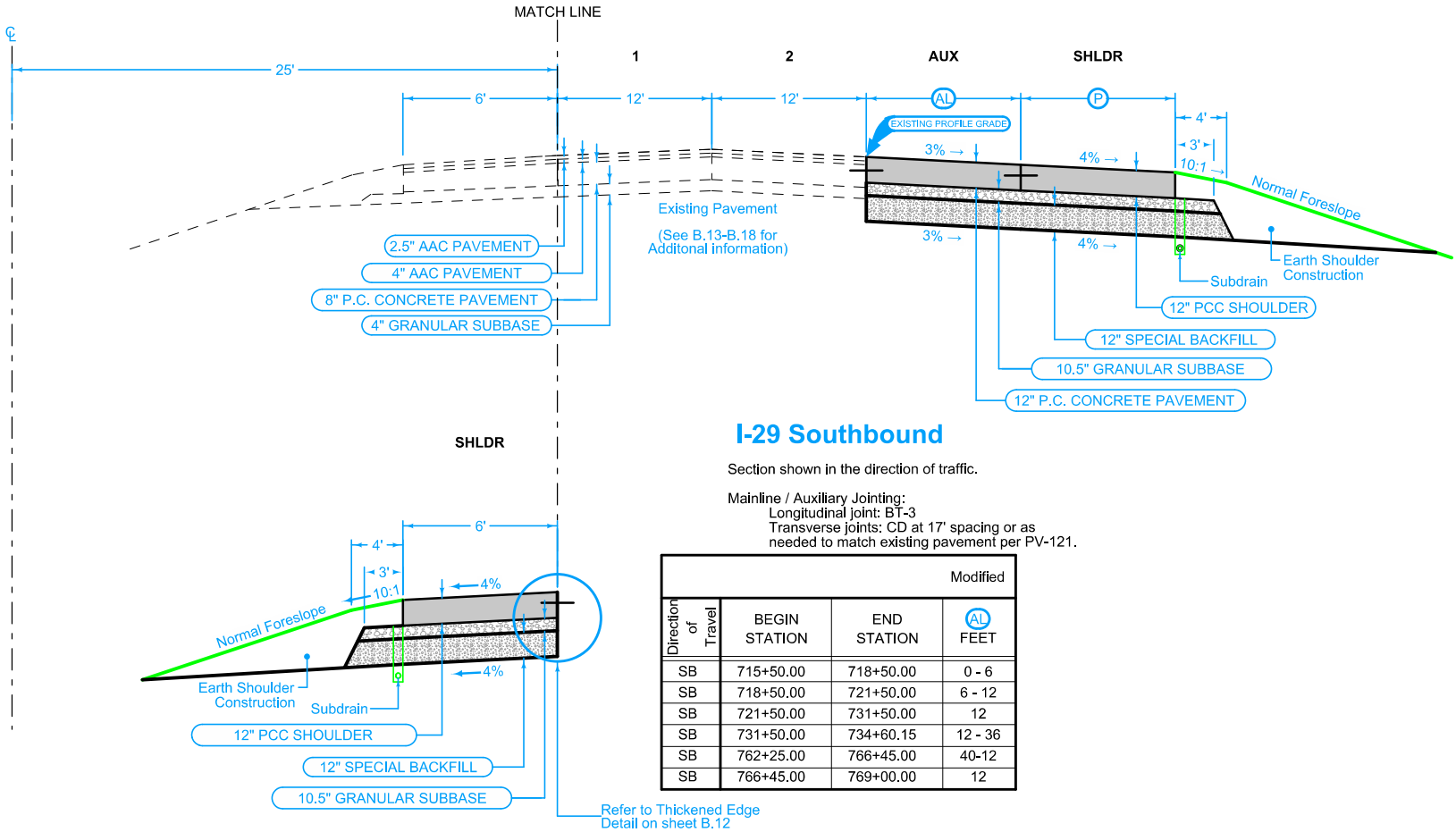
Modified			
Direction of Travel	BEGIN STATION	END STATION	P FEET
NB	715+30.00	716+80.00	12 - 6
NB	716+80.00	718+30.00	6
NB	718+30.00	728+30.00	6
NB	728+30.00	732+50.00	6
NB	732+50.00	736+27.90	12
NB	744+35.00	745+56.42	12
NB	745+56.42	747+74.00	17
NB	757+55.95	757+89.85	12
NB	757+89.85	761+00.00	6
NB	761+00.00	771+00.00	6
NB	771+00.00	774+00.00	6
NB	774+00.00	777+00.00	6 - 1 2

I-29  
Paving

Full Depth PCC Shoulder

Shoulder Jointing:  
Longitudinal joint: BT-3  
Transverse joints: C at 17' spacing or as needed to match existing pavement per PV-121.

LOCATION		
Direction of Travel	BEGIN STATION	END STATION
SB	745+00.00	750+00.00



I-29 Southbound

Section shown in the direction of traffic.  
Mainline / Auxiliary Jointing:  
Longitudinal joint: BT-3  
Transverse joints: CD at 17' spacing or as needed to match existing pavement per PV-121.

Modified			
Direction of Travel	BEGIN STATION	END STATION	AL FEET
SB	715+50.00	718+50.00	0 - 6
SB	718+50.00	721+50.00	6 - 12
SB	721+50.00	731+50.00	12
SB	731+50.00	734+60.15	12 - 36
SB	762+25.00	766+45.00	40-12
SB	766+45.00	769+00.00	12

Full Depth PCC Shoulder

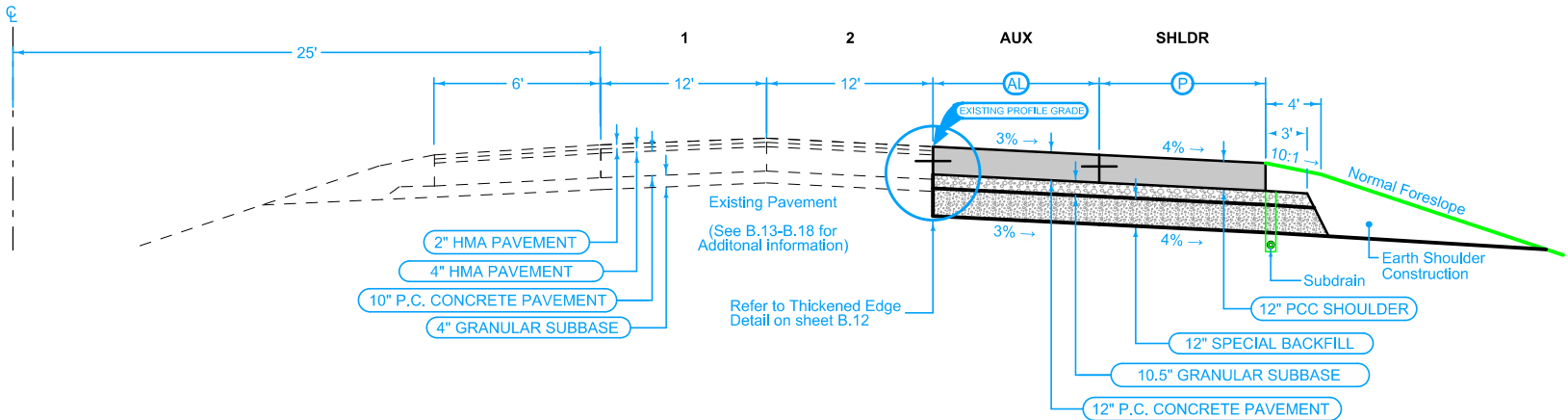
Shoulder Jointing:  
Longitudinal joint: BT-2 or L-2, or BT-3 when shoulder abuts existing pavement.  
Transverse joints: C at 17' spacing or as needed to match existing pavement per PV-121.

Modified			
Direction of Travel	BEGIN STATION	END STATION	P FEET
SB	715+50.00	718+50.00	12 - 6
SB	718+50.00	721+50.00	6
SB	721+50.00	731+50.00	6
SB	731+50.00	734+60.15	6
SB	734+60.15	735+14.15	12
SB	746+24.00	748+43.00	17
SB	757+87.28	762+25.00	12
SB	762+25.00	766+45.00	6
SB	766+45.00	769+00.00	6

Full Depth PCC Shoulder

Shoulder Jointing:  
Longitudinal joint: BT-2 or L-2, or BT-3 when shoulder abuts existing pavement.  
Transverse joints: C at 17' spacing or as needed to match existing pavement per PV-121.

Modified			
Direction of Travel	BEGIN STATION	END STATION	P FEET
SB	769+00.00	776+45.00	6
SB	776+45.00	777+95.00	6
SB	777+95.00	779+45.00	6 - 12



I-29 Southbound

Section shown in the direction of traffic.  
Mainline / Auxiliary Jointing:  
Longitudinal joint: BT-3  
Transverse joints: CD at 17' spacing or as needed to match existing pavement per PV-121.

Modified			
Direction of Travel	BEGIN STATION	END STATION	AL FEET
SB	769+00.00	776+45.00	12
SB	776+45.00	777+95.00	12 - 6
SB	777+95.00	779+45.00	6 - 0

I-29

Paving



Full Depth PCC Shoulder

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

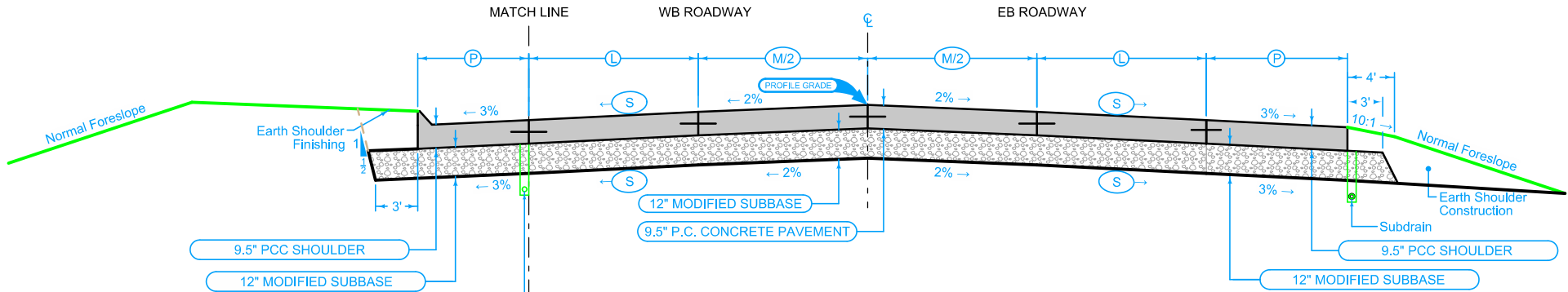
2_P_FullPCC_ Modified		
BEGIN STATION	END STATION	(P) FEET
1722+00.00	1738+65.77	10
1740+75.03	1743+64.39	10
1748+07.64	1750+67.73	10
1752+82.32	1761+89.69	10
1764+04.37	1771+49.11	10

Curbed Shoulder

Shoulder Jointing:  
Longitudinal joint not required when distance from back of curb to nearest joint is less than 15':

Longitudinal Joint: BT-2 or L-2  
Transverse: C at 17' spacing

2_Curb_ Modified			
STATION TO STATION		(P) Feet	Curb Type See PV-102
1725+00.00	1725+05.00	10 - 11	4" Sloped
1725+05.00	1738+36.41	11	4" Sloped
1740+27.93	1743+64.39	11	4" Sloped
1748+07.64	1750+17.84	11	4" Sloped
1758+50.00	1761+19.83	11	4" Sloped



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

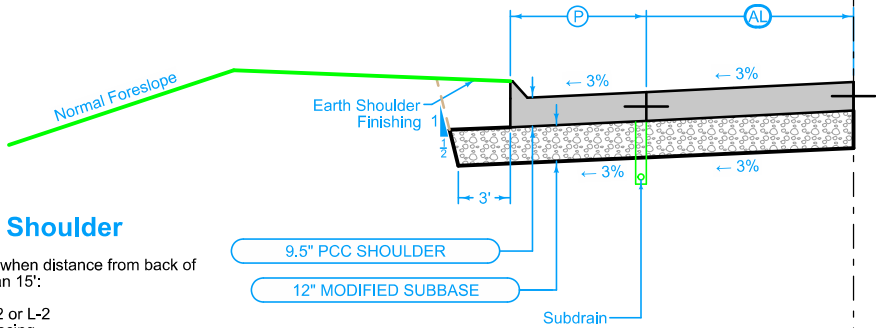
2P_TWLTL_ Modified					
DIR OF TRAV	STATION TO STATION		(M/2) Feet	(L) Feet	(S) Percent
WB	1722+00.00	1725+82.80	0	12	2
WB	1725+82.80	1731+08.54	0	12-14.2	2
WB	1731+08.54	1731+36.93	2.2-2.4	12	2 - 2.5
WB	1731+36.93	1738+31.75	2.4-7	12	2.5
WB	1738+31.75	1743+64.39	7	12	2.5
WB	1748+07.64	1771+10.02	7	12	2.5
WB	1771+10.02	1771+49.11	7	12	2.5
EB	1722+00.00	1725+82.80	0	12	2
EB	1723+38.08	1731+08.54	0	12-14	2
EB	1731+08.54	1731+36.93	2.0-2.2	12	2 - 2.5
EB	1731+36.93	1737+53.27	2.2-7	12	2.5
EB	1737+53.27	1743+64.39	7	12	2.5
EB	1748+07.64	1771+10.02	7	12	2.5
EB	1771+10.02	1771+49.11	7	12	2.5

Added Lane Shoulder

Shoulder Jointing:  
Longitudinal joint not required when distance from back of curb to nearest joint is less than 15':

Longitudinal Joint: BT-2 or L-2  
Transverse: C at 17' spacing

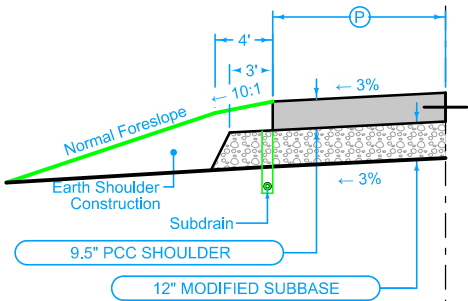
2_Curb_ Modified				
STATION TO STATION		(P) Feet	(AL) Feet	Curb Type See PV-102
1751+98.67	1756+70.00	7	12	4" Sloped
1756+70.00	1757+83.93	7	12 - 4	4" Sloped
1757+83.93	1758+50.00	7 - 11	4 - 0	4" Sloped



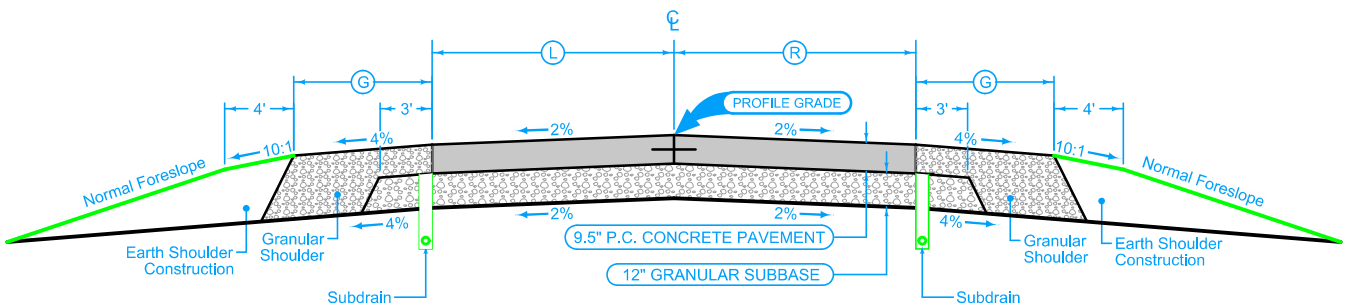
Full Depth PCC Shoulder

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

Modified		
STATION TO STATION		(P) Feet
1722+00.00	1725+00.00	10
1763+37.26	1771+49.11	10



IA 175  
Paving



Granular Shoulder

2_G_SR_ 04-21-20		
STATION TO STATION		G Feet
283+34.55	284+05.83	2
284+63.78	285+08.00	2

Mainline Jointing: Transverse joints: CD at 17' spacing Longitudinal joint: L-2			
		2P_ 04-21-20	
STATION TO STATION		L Feet	R Feet
283+34.55	284+00.00	16-40.3	12-70.6
284+51.80	285+08.00	18-74.3	28.7-49.4

Granular Shoulder

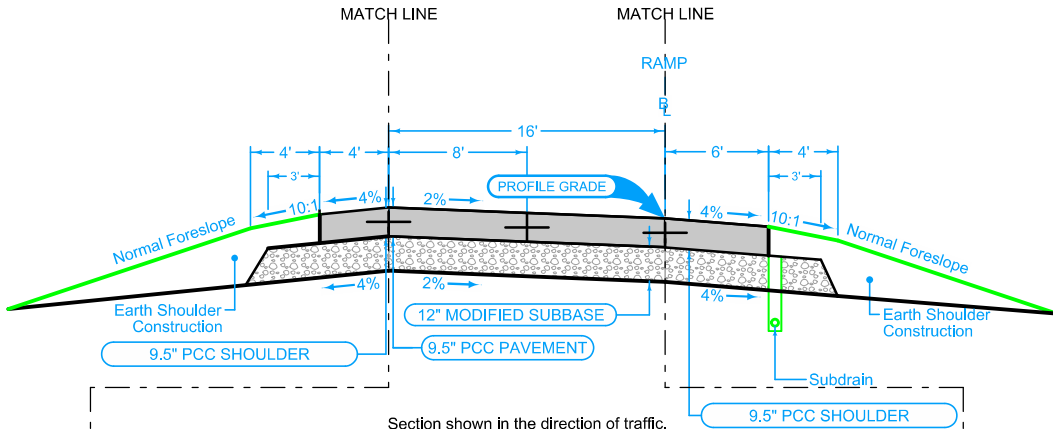
2_G_SR_ 04-21-20		
STATION TO STATION		G Feet
283+44.04	284+00.00	3
284+60.64	284+00.00	3-10

28th Street  
Paving

Full Depth PCC Shoulder

Longitudinal joint: BT-2 or L-2  
Transverse joints: C at 15' spacing, except:  
CD at 15' spacing at Ramp A 1551+48.46 to 1554+54.14  
CD at 15' spacing at Ramp B 2539+26.74 to 2540+48.40

INTERCHANGE	RAMP	BEGIN STATION	END STATION
IA 175	A	1549+74.74	1562+26.06
IA 175	B	2532+49.07	2544+25.96
IA 175	C	3534+58.92	3550+37.53
IA 175	D	4544+55.85	4557+91.09



Section shown in the direction of traffic.

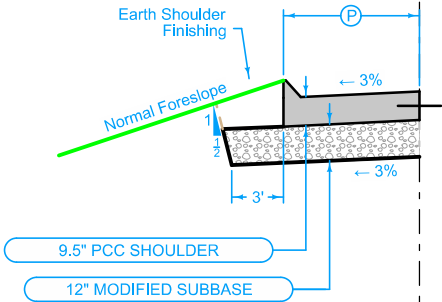
Ramp Jointing:  
Transverse joints: CD at 15' spacing.  
Longitudinal joints: L-2

INTERCHANGE	RAMP	BEGIN STATION	END STATION
IA 175	A	1549+34.61	1562+26.06
IA 175	B	2532+49.07	2544+57.44
IA 175	C	3534+58.92	3550+79.14
IA 175	D	4543+72.26	4557+91.09

Full Depth PCC Shoulder

Longitudinal joint: BT-2 or L-2  
Transverse joints: C at 15' spacing

INTERCHANGE	RAMP	BEGIN STATION	END STATION
IA 175	A	1550+25.74	1562+26.06
IA 175	B	2532+49.07	2544+53.91
IA 175	C	3534+58.92	3550+97.52
IA 175	D	4544+85.07	4557+91.09

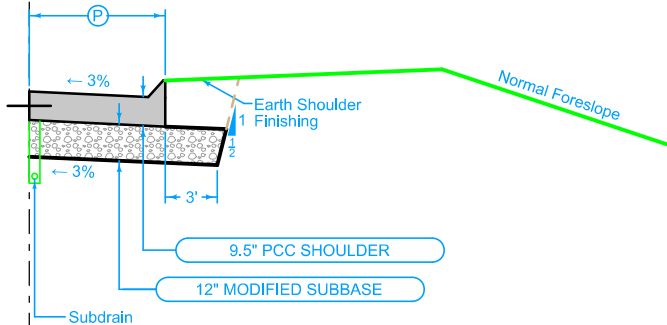


Curbed Shoulder

Shoulder Jointing:  
Longitudinal joint not required when distance from back of curb to nearest joint is less than 15'

Longitudinal Joint: BT-2 or L-2  
Transverse: C at 17' spacing

INTERCHANGE	RAMP	BEGIN STATION	END STATION
IA 175	A	1549+44.61	1549+74.74
IA 175	D	4544+13.99	4544+55.85



Curbed Shoulder


Shoulder Jointing:  
Longitudinal joint not required when distance from back of curb to nearest joint is less than 15'

Longitudinal Joint: BT-2 or L-2  
Transverse: C at 17' spacing

INTERCHANGE	RAMP	BEGIN STATION	END STATION
IA 175	A	1549+45.61	1550+25.74
IA 175	D	4543+51.30	4544+85.70

IA 175 Ramps  
Paving



LOCATION				Area	Special Backfill		Earth Shoulder Construction
ROAD IDENTIFICATION	STATION TO STATION		SIDE		Square Yard		Tons
Detour Widening IA 175 North	1760+20.73	1767+36.52	LT	534.2	6"	255.640	7.1
IA 175 Patch West	1761+43.98	1761+66.03	RT	33.7	6"	10.605	0.0
IA 175 Patch East	1763+42.01	1763+57.99	RT	6.9	6"	2.170	0.0
Detour Widening Ramp C	719+92.92	3536+94.63	LT	2102.6	12"	1739.630	16.9
Detour Widening Ramp D	4554+59.66	772+11.90	RT	2742.7	12"	2154.390	17.4
Detour Widening IA 175 West	1712+74.54	1733+58.52	RT	5796.8	12"	4177.390	21.4
Detour Widening IA 175 East	1766+85.73	1777+71.64	RT	6411.6	12"	4556.230	21.0
Transition Pavement IA 175 W.	1722+00.00	1725+00.00	RT	66.7	6"	21.000	0.0
Transition Pavement IA 175 E.	1760+00.00	1763+50.00	RT	316.2	6"	91.035	0.0

Quantity calculations based on vertical pavement edges and a Special Backfill unit weight of 140 pounds per cubic foot.

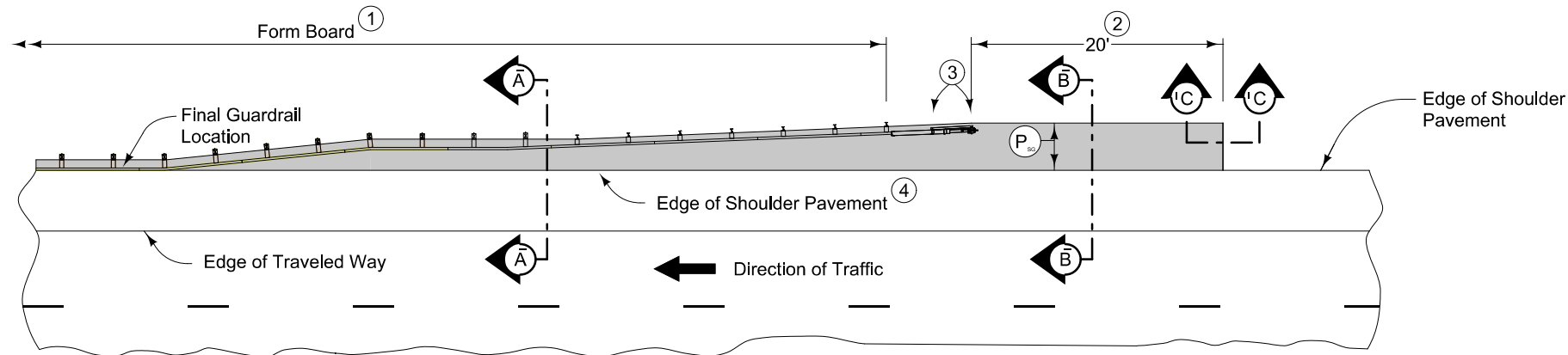
Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.

Refer to F Sheets and J sheets for additional staking and geometric details.

① Possible HMA 1:1 slope

② If present, existing shoulder subbase material may be used with Engineer Approval. Quantity assumes special backfill will be placed by the Contractor at all shoulder widening detour pavement locations. Partial detour pavement may be left-in-place as shoulder pavement. See Tabulation 112-9 in the C sheets for locations and follow removal limits shown in the J sheets.

FILE NO.	ENGLISH	DESIGN TEAM <b>Iowa DOT / HR Green</b>	<b>MONONA</b> COUNTY	PROJECT NUMBER <b>STP-175-1(95)--2C-67</b>	SHEET NUMBER <b>B.9</b>	
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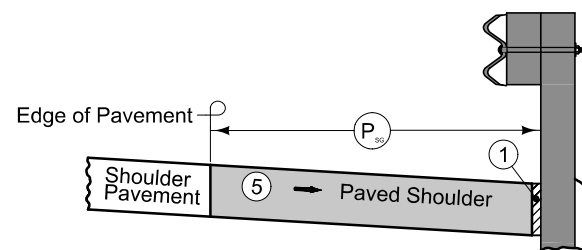
PLAN VIEW

9.5" PCC Paved Shoulder at guardrail.

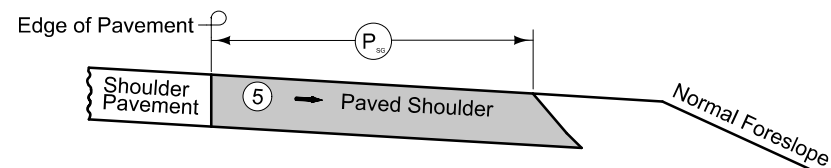
Match mainline pavement joint spacing. When mainline pavement is 8" or greater in thickness, place additional transverse 'C' joints in shoulder at mid-panel of the mainline pavement. Place longitudinal 'C' joint at P/2 from edge of mainline pavement when P is greater than 10' wide. Terminate longitudinal joint at transverse joint less than 10' in length.

Refer to Tabulation 112-9 for shoulder quantities.

- ① When guardrail posts are installed prior to construction of PCC paved shoulder, fasten form board to the face of guardrail posts for the length shown.
- ② Continue paved shoulder 20 feet beyond the center of the first post.
- ③ Shoulder may be notched for first 2 posts or post sleeves may be installed through pavement. Do not drive posts through pavement.
- ④ 'BT' (per PV-101) joint for PCC shoulder.
- ⑤ Match shoulder slope.
- ⑥ The Contractor has the option to pave the paved shoulder at guardrail and the full width paved shoulder as one operation.

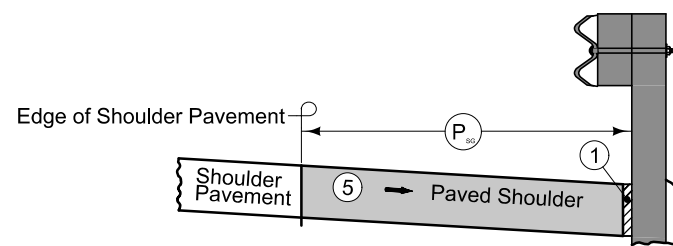


Section A-A

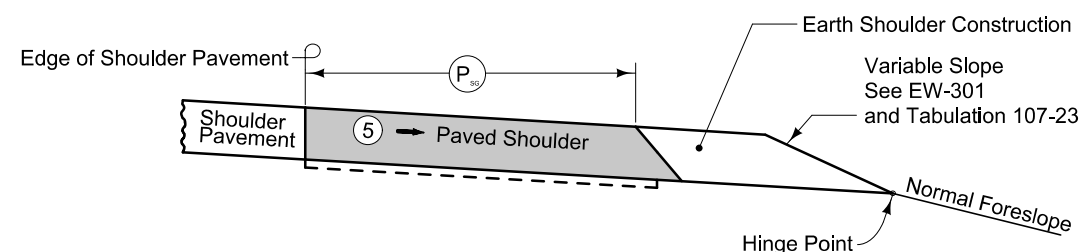


Section B-B

NEW CONSTRUCTION ⑥

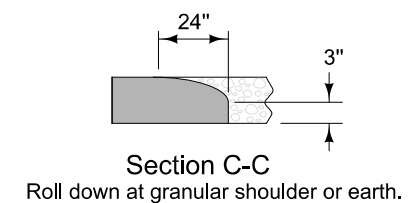


Section A-A



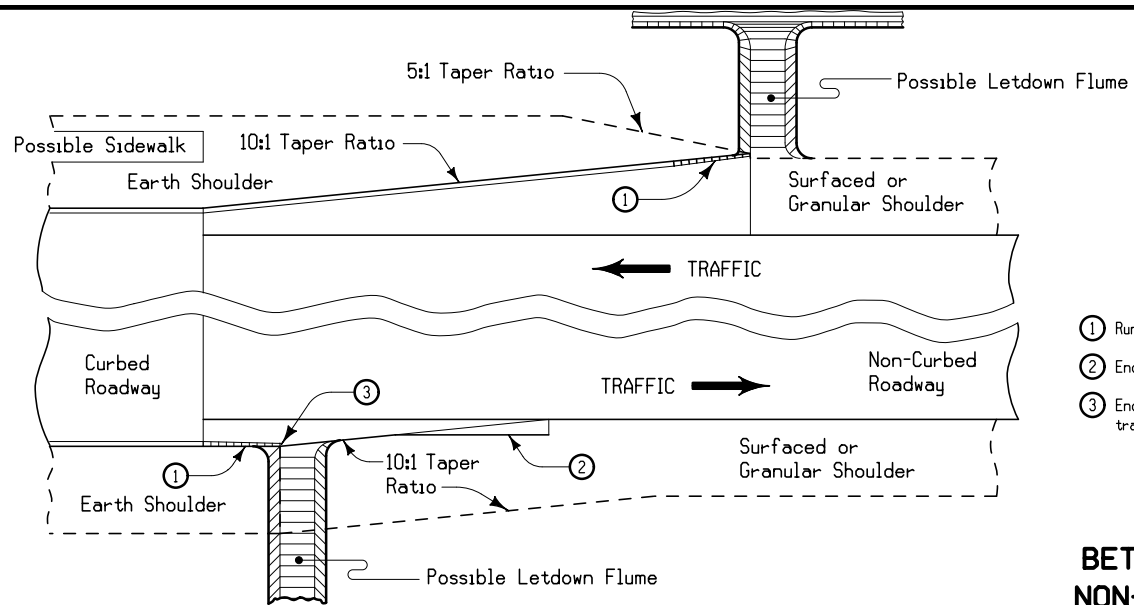
Section B-B

EXISTING SHOULDER



PAVED SHOULDER AT GUARDRAIL  
(ADJACENT TO FULL WIDTH PAVED SHOULDER)

6147  
10-20-15

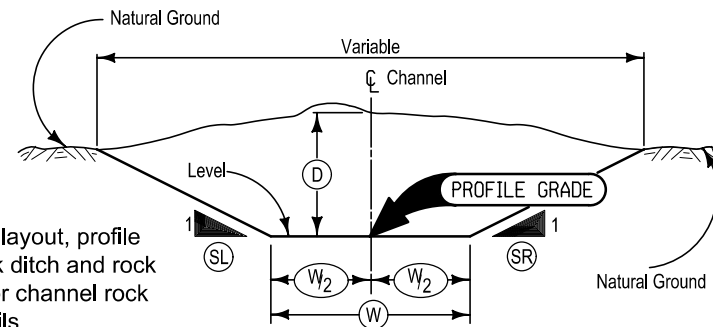


- ① Runout curb according to PV-102  
② End of Taper Details see Typical Detail 7101  
③ End earth shoulder at the end of the curb transition when no flume is needed.

**TRANSITION  
BETWEEN CURBED AND  
NON-CURBED ROADWAYS**

4201  
MODIFIED

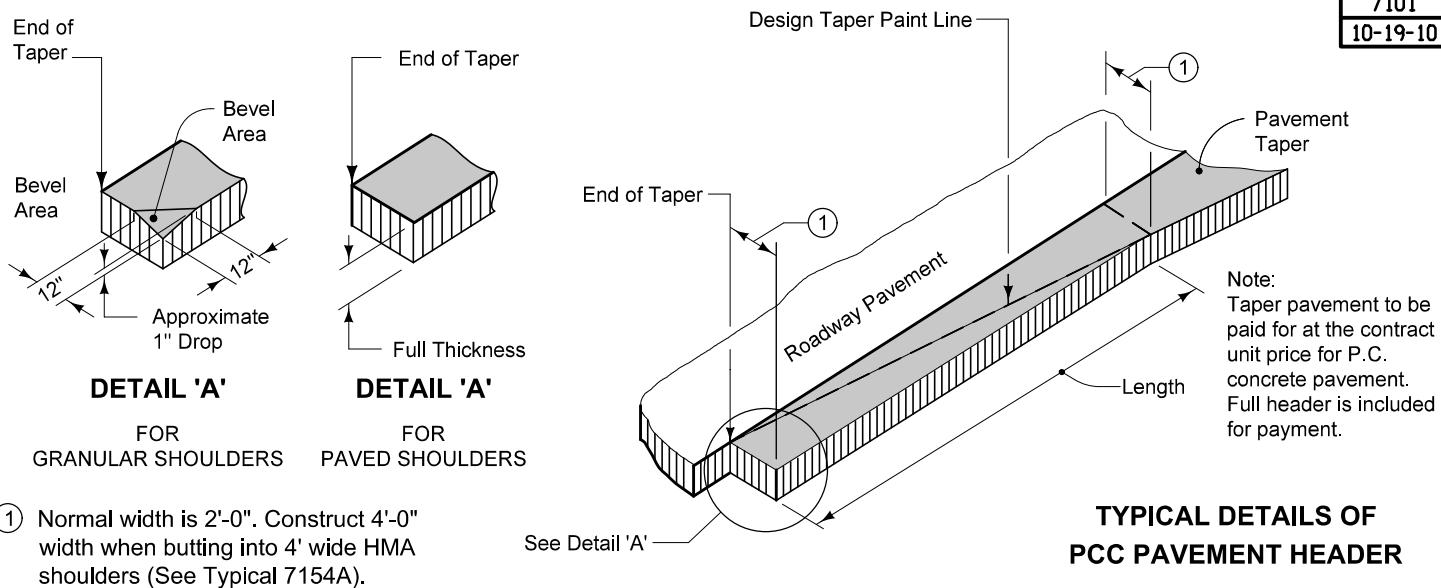
**TYPICAL CROSS SECTION  
TYPE 1 CHANNEL**



Note: Refer to U sheets for channel layout, profile grade, and locations of channel rock ditch and rock slope protection. Refer to EC-301 for channel rock ditch and rock slope protection details.

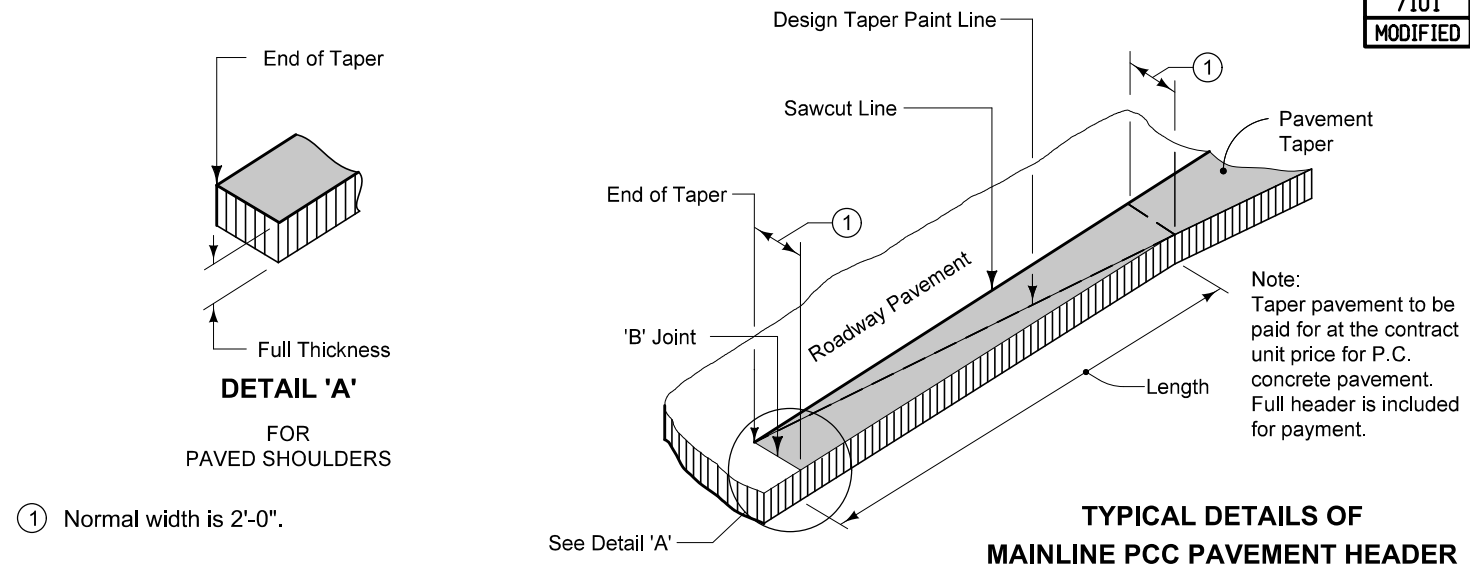
LOCATION			WIDTH (W)	DEPTH (Average) (D)	SLOPE (Left Run) (SL)	SLOPE (Right Run) (SR)
STATION FROM	STATION TO	CHAIN				
503+67.96	514+50.00	GEO_CH029	8'	2.5'	3	3
514+50.00	515+00.00	GEO_CH029	8'	5'	3-2.5	3
515+00.00	515+75.00	GEO_CH029	8'	5'	2.5	3
515+75.00	516+25.00	GEO_CH029	8'	5'	2.5-3	3
516+25.00	518+40.00	GEO_CH029	8'	5'	3	3
524+25.50	526+97.69	GEO_CH029	10'	5'	3	3
400+16.00	401+36.00	GEO_CHRPD	5'	2.5'	3	3

7101  
10-19-10



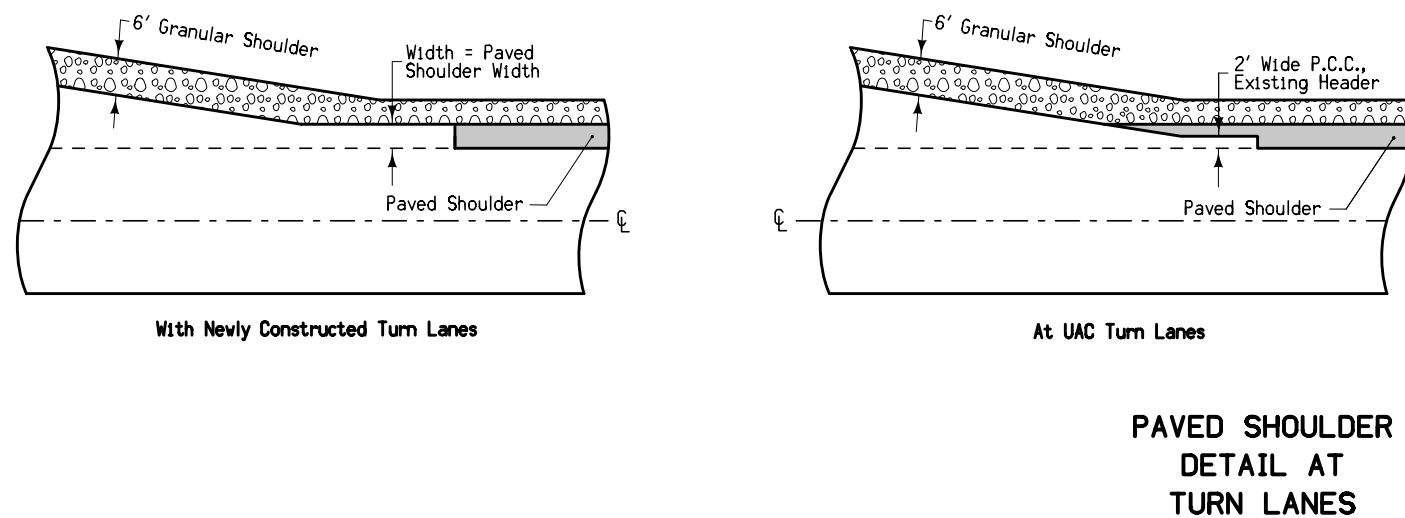
**TYPICAL DETAILS OF  
PCC PAVEMENT HEADER**

7101  
MODIFIED



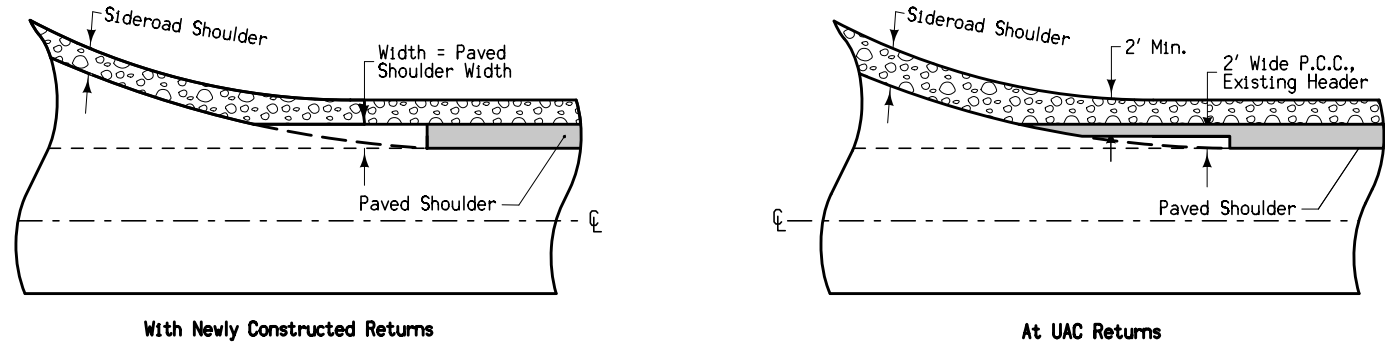
**TYPICAL DETAILS OF  
MAINLINE PCC PAVEMENT HEADER**

7154A  
10-20-09



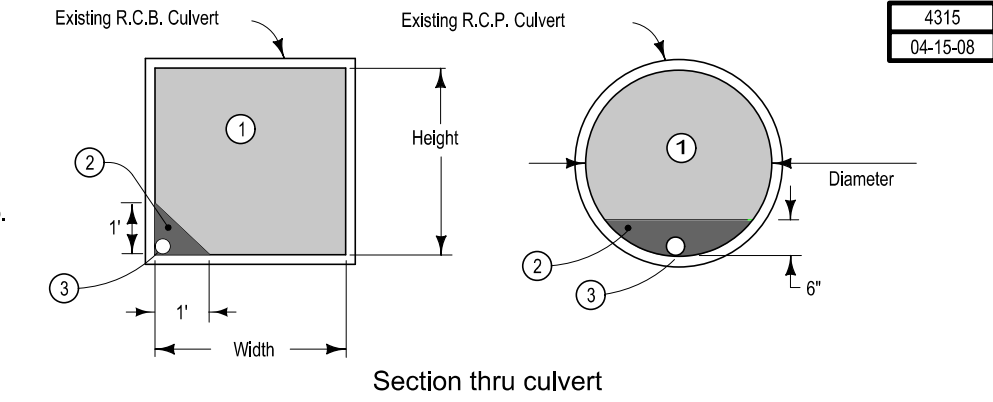
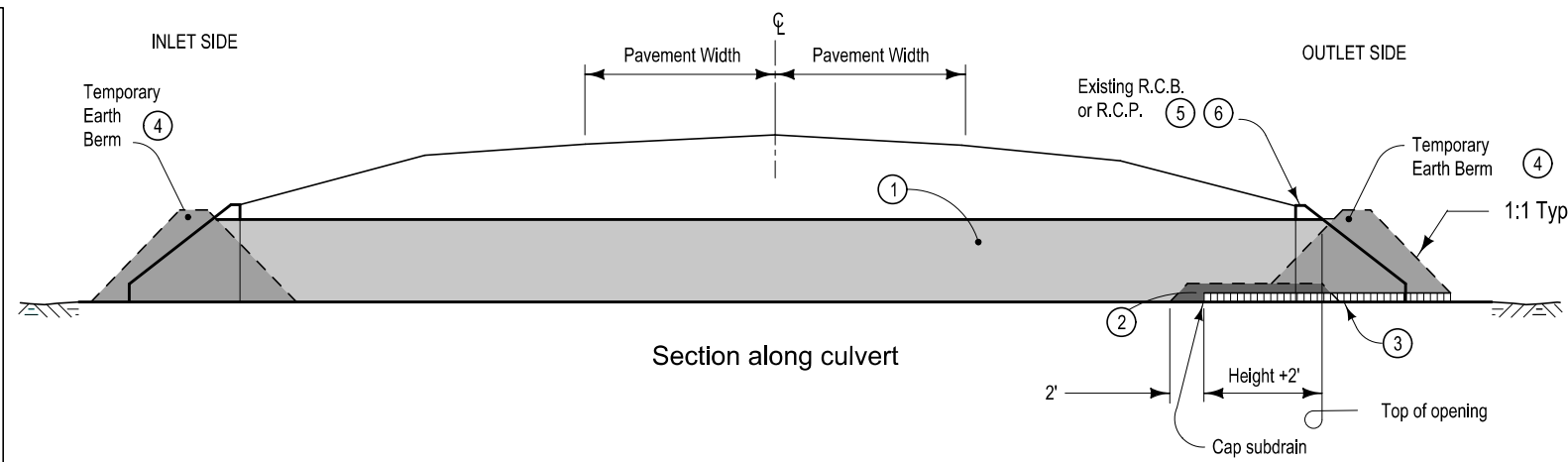
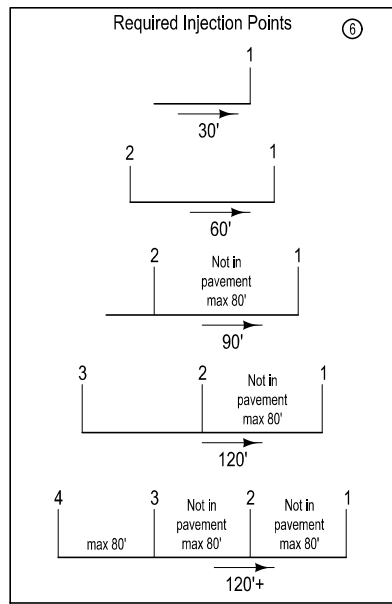
**PAVED SHOULDER  
DETAIL AT  
TURN LANES**

7154B  
10-19-21



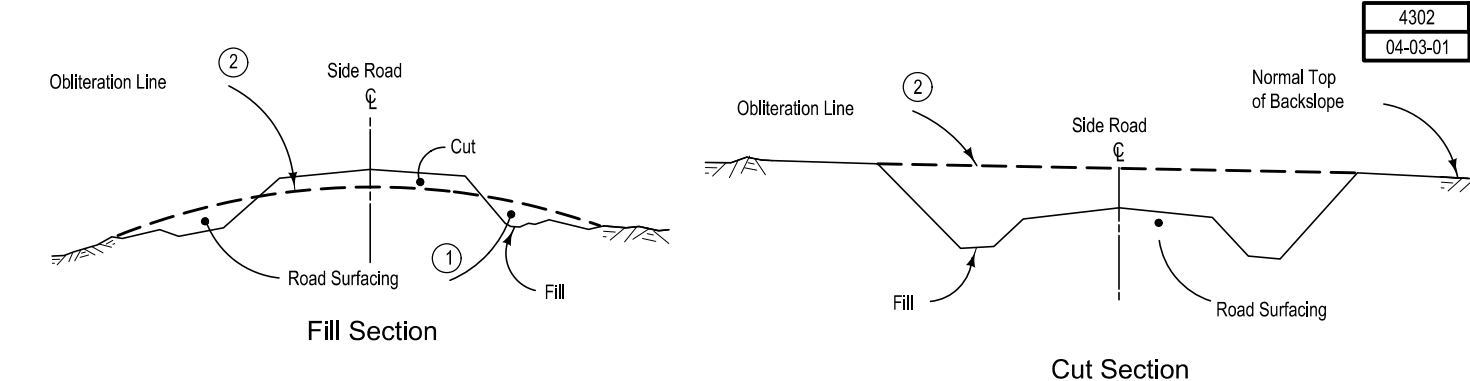
**PAVED SHOULDER  
DETAIL AT RETURNS**





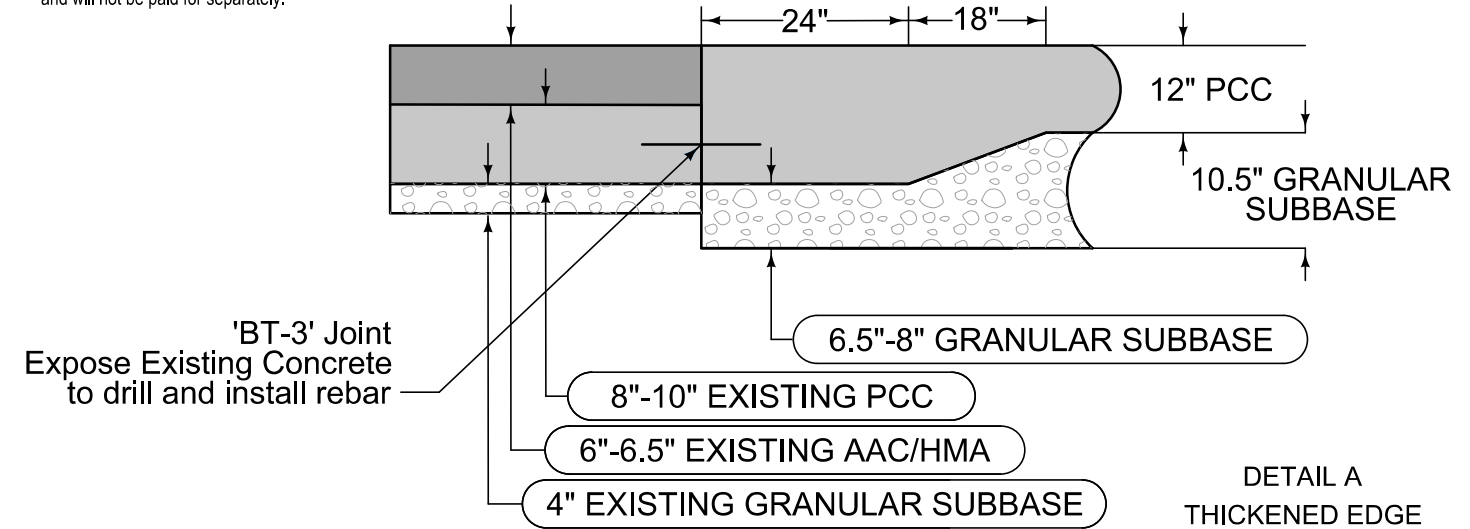
DETAILS OF CULVERT ABANDONMENT WITH FLOWABLE MORTAR  
(Rectangular structures less than 8' in either height or width.  
Circular structures less than 10' Dia.)

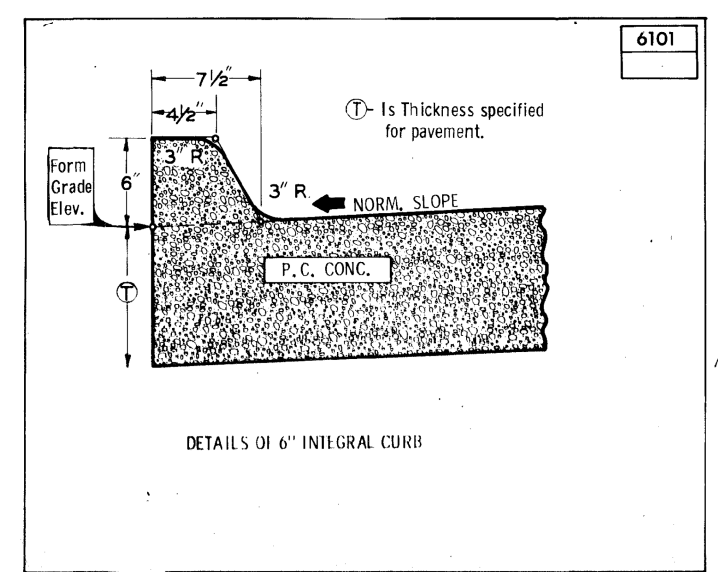
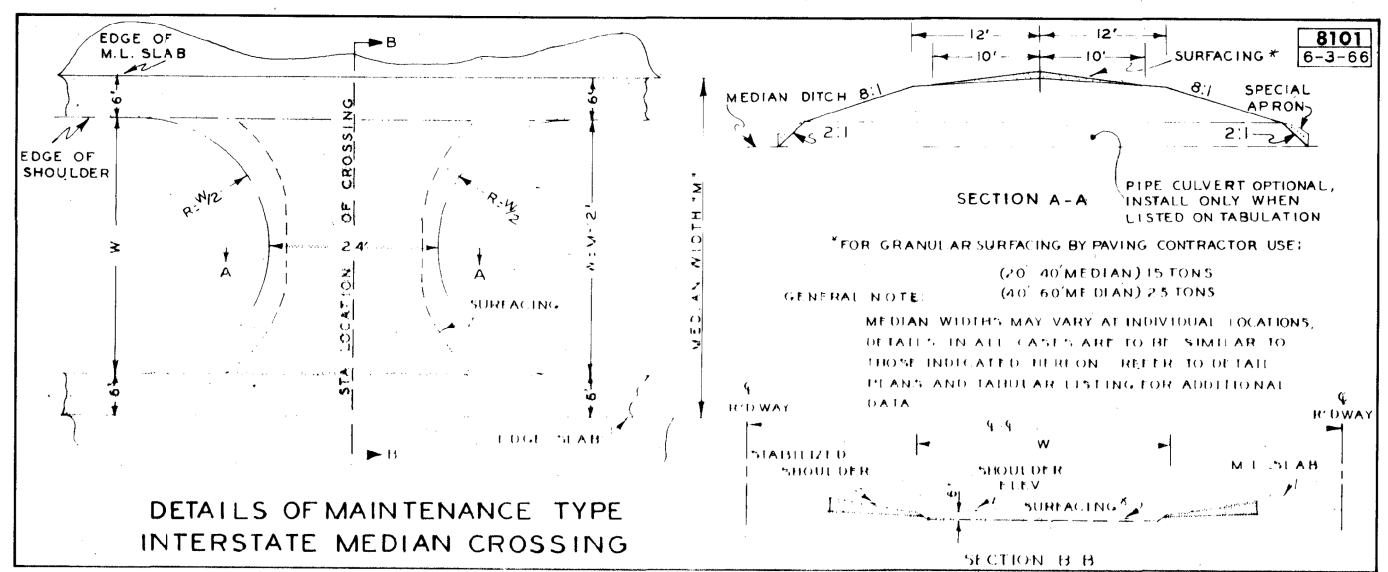
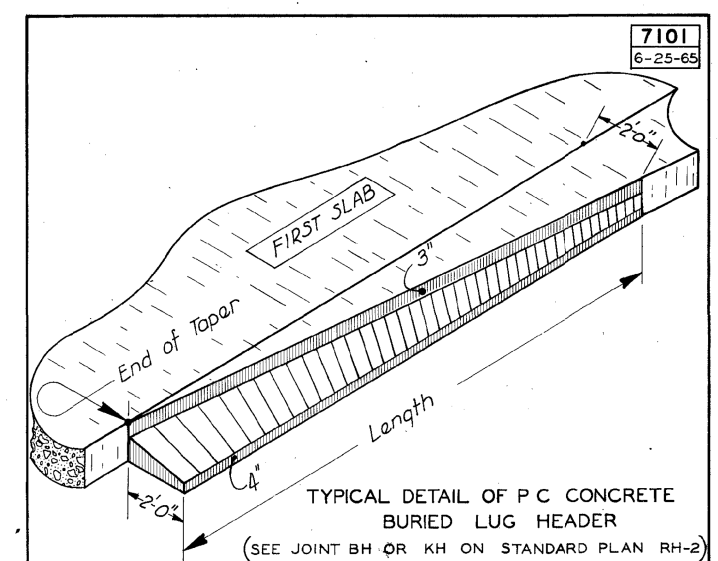
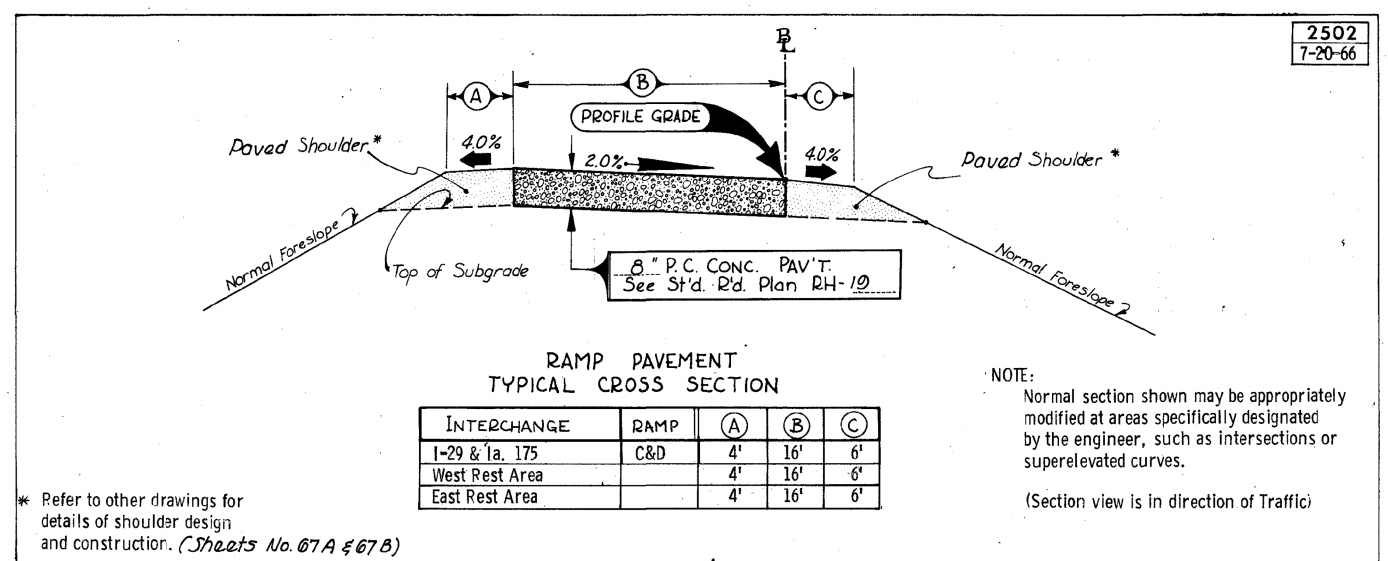
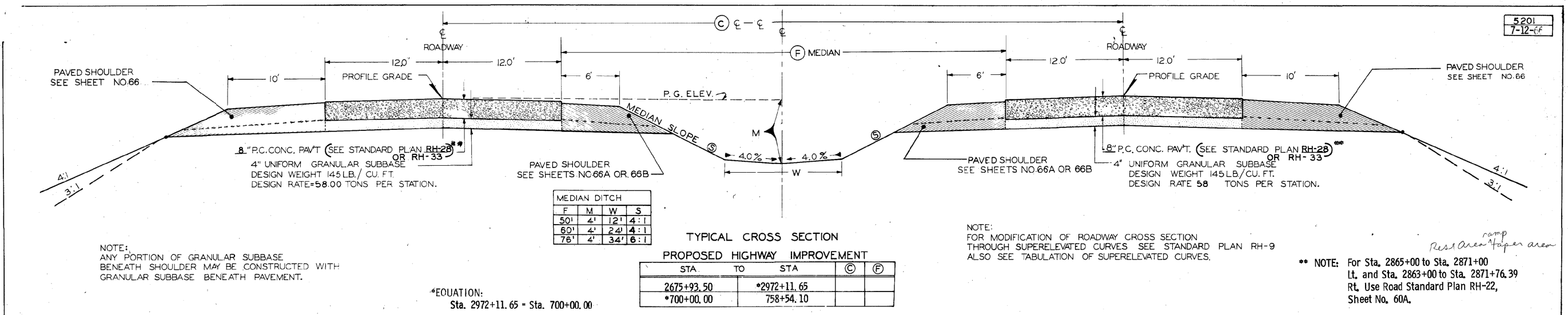
- ① Flowable Mortar.
- ② Granular Backfill.
- ③ 4" subdrain at flowline elevation of culvert shall be extended into the culvert a distance of 2' plus the height of the culvert. Granular Backfill covers subdrain and extends an additional 2'. Subdrain and granular backfill are incidental to flowable mortar.
- ④ Ends of culvert shall be plugged sufficiently to retain flowable mortar. Temporary earth berms are incidental to flowable mortar.
- ⑤ Removal of headwalls may be required.
- ⑥ Outlet shall be filled first. See injection point detail for additional information.



TYPICAL DETAILS FOR OBLITERATION EXISTING ROADBED

- ① Thickened edge is incidental to PCC paving and will not be paid for separately.

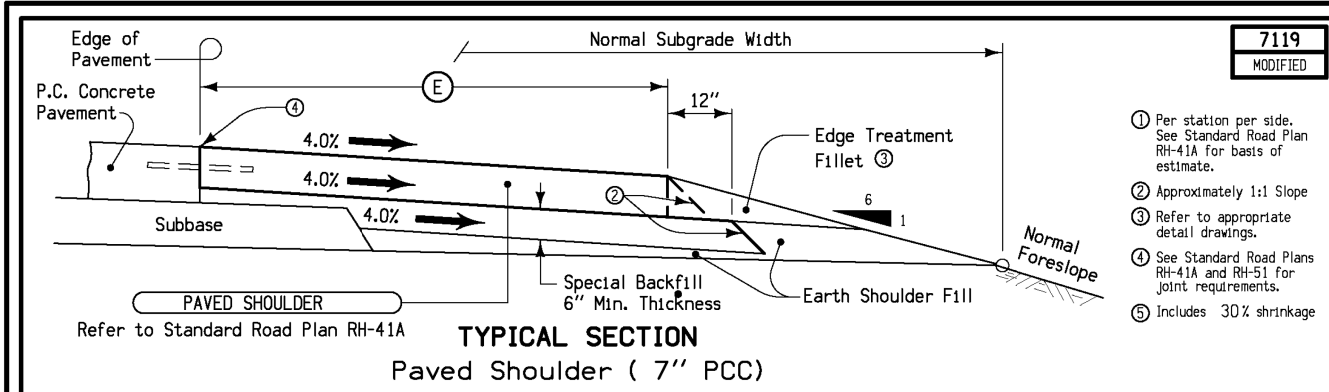




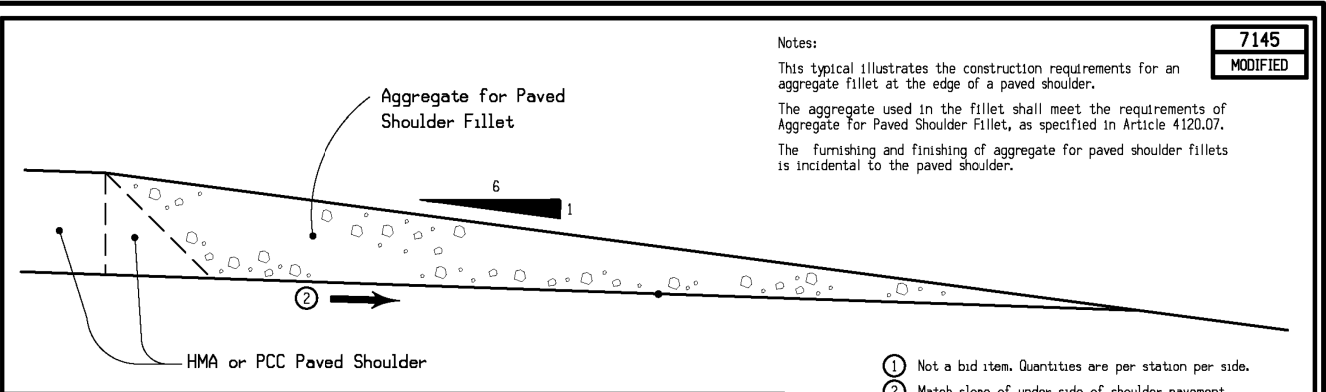
**FOR REFERENCE INFORMATION ONLY**







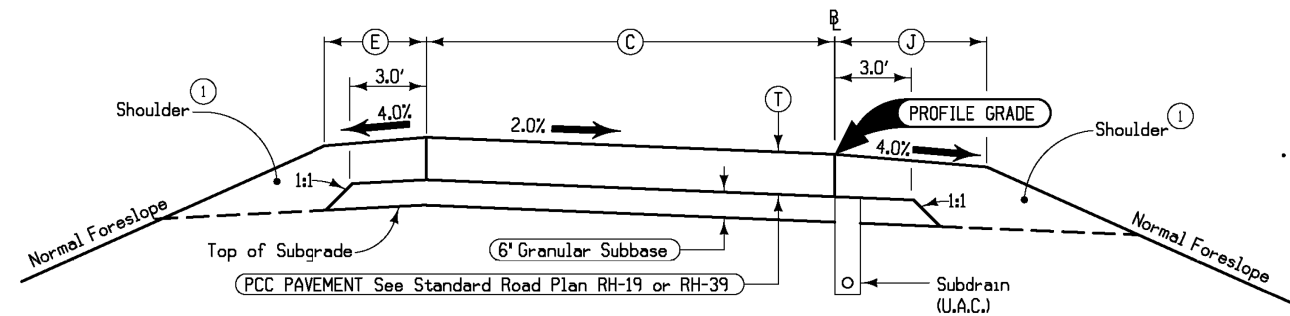
Eq. Sta. 2972+11.65 BK= Sta. 700+00.00 AH			LOCATION		⑤	SIDE	QUANTITIES ①	
ROAD IDENTIFICATION		STATION TO STATION		②			PCC Tons	PCC Cu. Yds.
NB I-29	2097+59.22	2156+92.19	6	LT	21.8	21.2		
NB I-29	2097+59.22	2156+92.19	8	RT	28.1	28.8		
NB I-29	2164+12.19	2221+68.68	6	LT	21.8	21.2		
NB I-29	2164+12.19	2221+68.68	8	RT	28.1	21.8		
NB I-29	2226+18.68	2395+00	6	LT	21.8	21.2		
NB I-29	2226+18.68	2395+00	8	RT	28.1	21.8		
NB I-29	2427+50	2778+35.38	6	LT	21.8	21.2		
NB I-29	2427+50	2778+35.38	8	RT	28.1	21.8		
NB I-29	2781+11.93	781+70.54	6	LT	21.8	21.2		
NB I-29	2781+11.93	781+70.54	8	RT	28.1	21.8		
SB I-29	2097+59.22	2156+92.19	6	LT	21.8	21.2		
SB I-29	2097+59.22	2156+92.19	8	RT	28.1	21.8		
SB I-29	2164+12.19	2221+81.32	6	LT	21.8	21.2		
SB I-29	2164+12.19	2221+81.32	8	RT	28.1	21.8		
SB I-29	2226+31.32	2395+00	6	LT	21.8	21.2		
SB I-29	2226+31.32	2395+00	8	RT	28.1	21.8		
SB I-29	2427+50	2675+93.50	6	LT	21.8	21.2		
SB I-29	2427+50	2675+93.50	8	RT	28.1	21.8		
F-20 Ramp B	229+20.65	230+45.65	4	LT	14.6	18.4		
F-20 Ramp B	229+20.65	230+45.65	6	RT	21.9	16.3		
F-20 Ramp C	332+00.66	334+75.66	4	LT	14.6	18.4		
F-20 Ramp C	332+00.66	334+75.66	6	RT	21.9	16.3		
F-20 Ramp E	550+24.31	552+99.31	4	LT	14.6	18.4		
F-20 Ramp E	550+24.31	552+99.31	6	RT	21.9	16.3		
F-20 Ramp D	447+31.77	448+56.77	4	LT	14.6	18.4		
F-20 Ramp D	447+31.77	448+56.77	6	RT	21.9	16.3		
E-60 Ramp B	2537+26.39	2540+01.39	4	LT	14.6	18.4		
E-60 Ramp B	2537+26.39	2540+01.39	6	RT	21.9	16.3		
E-60 Ramp C	3539+68.98	3542+43.98	4	LT	14.6	18.4		
E-60 Ramp C	3539+68.98	3542+43.98	6	RT	21.9	16.3		
E-60 Ramp A	1561+73.61	1568+50.00	4	LT	14.6	18.4		
E-60 Ramp A	1561+73.61	1568+50.00	6	RT	21.9	16.3		
E-60 Ramp D	4556+55.84	4559+30.84	4	LT	14.6	18.4		
E-60 Ramp D	4556+55.84	4559+30.84	6	RT	21.9	16.3		
IA-175 Ramp D	6+46.73	8+46.73	4	LT	14.6	18.4		
IA-175 Ramp D	6+46.73	8+46.73	6	RT	21.9	16.3		
IA-175 Ramp B	15+79.31	17+79.31	4	LT	14.6	18.4		
IA-175 Ramp B	15+79.31	17+79.31	6	RT	21.9	16.3		



Eq. Sta. 2972+11.65 BK= Sta. 700+00.00 AH			LOCATION		SIDE	QUANTITIES ①	
ROAD IDENTIFICATION		STATION TO STATION		②		AGGREGATE FOR PAVED SHOULDER FILLET	PCC Tons
NB I-29	2097+59.22	2156+92.19	LT			16.3	
NB I-29	2097+59.22	2156+92.19	RT			16.2	
NB I-29	2164+12.19	2221+68.68	LT			16.3	
NB I-29	2164+12.19	2221+68.68	RT			16.2	
NB I-29	2226+18.68	2395+01.50	LT			16.3	
NB I-29	2226+18.68	2395+01.50	RT			16.2	
NB I-29	2427+51.50	2778+35.38	LT			16.3	
NB I-29	2427+51.50	2778+35.38	RT			16.2	
NB I-29	2781+11.93	781+70.54	LT			16.3	
NB I-29	2781+11.93	781+70.54	RT			16.2	
SB I-29	2097+59.22	2156+92.19	LT			16.3	
SB I-29	2097+59.22	2156+92.19	RT			16.2	
SB I-29	2164+12.19	2221+81.32	LT			16.3	
SB I-29	2164+12.19	2221+81.32	RT			16.2	
SB I-29	2226+31.32	2395+00	LT			16.3	
SB I-29	2226+31.32	2395+00	RT			16.2	
SB I-29	2427+50	2675+93.50	LT			16.3	
SB I-29	2427+50	2675+93.50	RT			16.2	
F-20 Ramp B	229+20.65	230+45.65	LT			8.2	
F-20 Ramp B	229+20.65	230+45.65	RT			8.2	
F-20 Ramp C	332+00.66	334+75.66	LT			8.2	
F-20 Ramp C	332+00.66	334+75.66	RT			8.2	
F-20 Ramp E	550+24.31	552+99.31	LT			8.2	
F-20 Ramp E	550+24.31	552+99.31	RT			8.2	
F-20 Ramp D	447+31.77	448+56.77	LT			8.2	
F-20 Ramp D	447+31.77	448+56.77	RT			8.2	
E-60 Ramp B	2537+26.39	2540+01.39	LT			8.2	
E-60 Ramp B	2537+26.39	2540+01.39	RT			8.2	
E-60 Ramp C	3539+68.98	3542+43.98	LT			8.2	
E-60 Ramp C	3539+68.98	3542+43.98	RT			8.2	
E-60 Ramp A	1561+73.61	1568+50.00	LT			8.2	
E-60 Ramp A	1561+73.61	1568+50.00	RT			8.2	
E-60 Ramp D	4556+55.84	4559+30.84	LT			8.2	
E-60 Ramp D	4556+55.84	4559+30.84	RT			8.2	
IA-175 Ramp D	6+46.73	8+46.73	LT			8.2	
IA-175 Ramp D	6+46.73	8+46.73	RT			8.2	
IA-175 Ramp B	15+79.31	17+79.31	LT			8.2	
IA-175 Ramp B	15+79.31	17+79.31	RT			8.2	

**AGGREGATE FOR PAVED SHOULDER FILLET**

**FOR REFERENCE INFORMATION ONLY**



**TYPICAL CROSS SECTION  
PCC RAMP PAVING**

Notes:

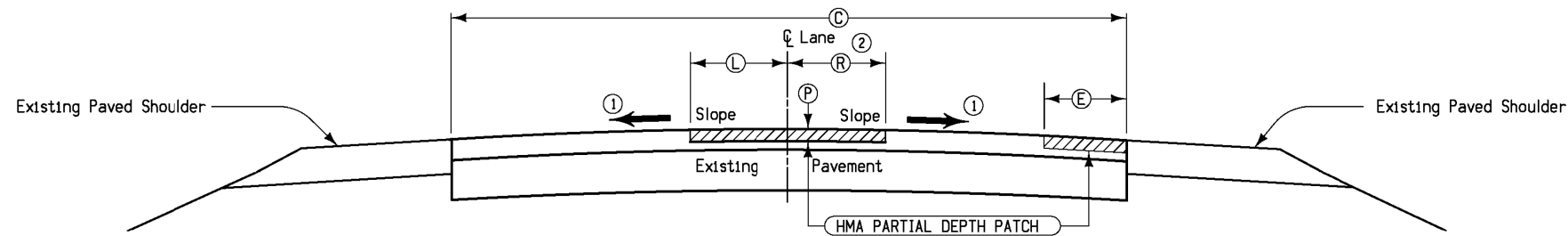
Subbase may be constructed to a width greater than that indicated.

Any such extra width of subbase shall be considered incidental to other work and not be measured for payment.

Section view is in direction of traffic.

Normal section shown may be appropriately modified for areas specifically designated by the Engineer, such as intersections or superelevated curves.

① Refer to D Sheets for details of shoulder design and construction.

[illegible]

Notes:

- ① Finished slope shall match existing pavement except that the maximum allowable slope is 3.0 %, minimum allowable slope is 2.0 %. Section may be modified as directed by the Engineer through areas of special shaping.
- ② Partial depth patch construction shall be limited to one traffic lane at a time except for minor intermittent encroachment into the adjacent lane.

DESIGN RATES		(Per Station)	
ITEM	RATE	QUANTITY	W
Surface Course	145 lbs./cu.ft	Tons	
Inter. Course	145 lbs./cu.ft	Tons	
Base Course	145 lbs./cu.ft	Tons	
Tack Coat	0.05 gal./sq.yd.	Gal.	
Milling	145 lbs./cu.ft	Tons	

Design Quantities Per Station										
Location			P Inches	C Feet	L Feet	R Feet	E Feet	Hot Mix Asphalt		Remarks
								Sq. Yds.	Tons	
SB I-29	2389+86		3	26	1.5	1.5		124.3	20.3	CL Joint
SB I-29	2382+45		3	26	1.5	1.5		61	10.0	CL Joint
SB I-29	2371+87		3	26	1.5	1.5		557	90.9	CL Joint
SB I-29	2305+06		3	26	1.5	1.5		306	49.9	CL Joint
SB I-29	2286+84		3	26	1.5	1.5		90.7	14.8	CL Joint
SB I-29	2268+41		3	26	1.5	1.5		70	11.4	CL Joint
SB I-29	2253+58		3	26	1.5	1.5		37.7	6.1	CL Joint
SB I-29	2239+20		3	26	1.5	1.5		332	54.2	CL Joint
SB I-29	2220+84		3	26	1.5	1.5		75.3	12.3	CL Joint
SB I-29	2166+73		3	26	1.5	1.5		71.7	11.7	CL Joint
SB I-29	2156+52		3	26	1.5	1.5		72.3	11.8	CL Joint
SB I-29	2120+53		3	26	1.5	1.5		131.3	21.4	CL Joint
SB I-29	2113+11		3	26	1.5	1.5		205.3	33.5	CL Joint
SB I-29	2354+38		3	26	1.5	1.5		65.5	10.7	CL Joint
SB I-29	2301+41		3	26			1.5	170.2	27.8	RT Edge Of Pavement
SB I-29	2243+57		3	26			1.5	54.3	8.9	RT Edge Of Pavement
SB I-29	2215+17		3	26			1.5	86.8	14.2	RT Edge Of Pavement
SB I-29	2204+42		3	26			1.5	144.8	23.6	RT Edge Of Pavement
SB I-29	2180+92		3	26			1.5	91.3	14.9	RT Edge Of Pavement
SB I-29	2174+53		3	26			1.5	27	4.4	RT Edge Of Pavement
SB I-29	2141+58		3	26			1.5	46.2	7.5	RT Edge Of Pavement
	TOTALS							2820.8	460.1	

TYPICAL CROSS SECTION  
HMA PARTIAL DEPTH REGULAR  
FINISH PATCH



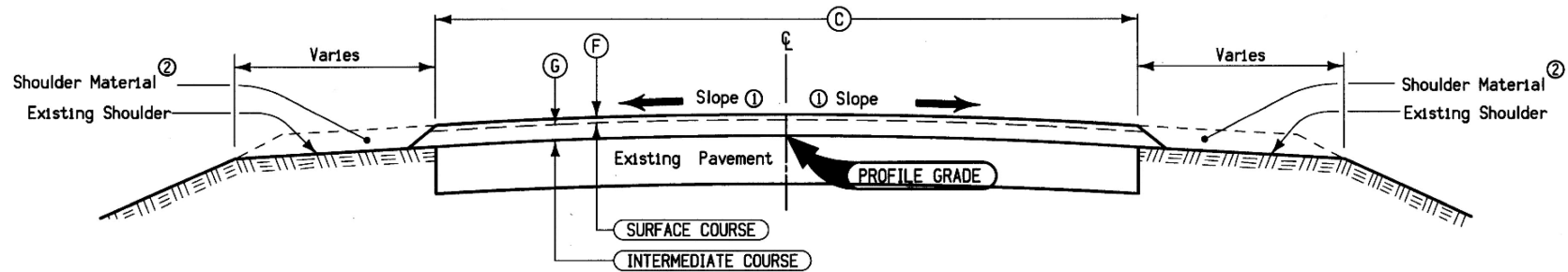


TABLE OF DESIGN QUANTITIES

LOCATION		⑥	⑥	⑥	DISTANCE Feet	SURFACE AREA Sq. Yds.	TACK COAT Gallons ③	ASPHALT BINDER (Tons)		HOT MIX ASPHALT (Tons)		REMARKS
ROAD IDENTIFICATION	STATION TO STATION	Inches	Inches	Feet				30 ESAL SURFACE	1/2" MIX INTERMEDIATE	SURFACE	INTERMEDIATE	
I-29 NB	781+70.54 824+77.00	2	4	24	4306	11484	1723	78	156	1301	2602	
I-29 NB	844+77.00 983+81.40	2	4	24	13904	37078	5562	252	504	4200	8401	
I-29 NB	990+81.40 1151+27.58	2	4	24	16046	42790	6418	291	582	4847	9695	
Whiting Ramp D	0+00.00 4+58.15	2	4	Var.	458	503	75	3	7	55	109	
Whiting Ramp B	8+57.54 12+73.07	2	4	Var.	416	431	65	3	6	47	94	
I-29 NB	1174+57.58 1282+40.40	2	4	24	10783	28754	4313	195	391	3257	6515	
I-29 NB	1289+40.40 1311+31.76	2	4	24	2191	5844	877	40	79	662	1324	
I-29 NB	1336+87.30 1387+64.20	2	4	24	5077	13538	2031	92	184	1534	3067	
I-29 NB	1394+64.20 1493+45.35	2	4	24	9881	26350	3952	181	360	3018	6002	Includes 150ft Taper
I-29 SB	769+00.00 825+28.50	2	4	24	5629	15009	2251	102	204	1700	3401	Includes 25ft Taper
I-29 SB	845+28.50 984+17.40	2	4	24	13889	37037	5556	252	503	4196	8391	
I-29 SB	991+17.40 1151+62.40	2	4	24	16045	42787	6418	291	582	4847	9694	
Whiting Ramp C	8+88.24 12+63.07	2	4	Var.	375	373	56	2	5	41	81	
Whiting Ramp A	0+00.00 4+38.15	2	4	Var.	438	484	73	3	6	53	105	
I-29 SB	1174+62.40 1282+58.50	2	4	24	10796	28790	4318	196	391	3261	6523	
I-29 SB	1289+58.50 1311+31.76	2	4	24	2173	5795	869	39	79	657	1313	
I-29 SB	1339+40.10 1387+89.10	2	4	24	4849	12931	1940	88	176	1465	2930	
I-29 SB	1394+89.10 1498+50.00	2	4	24	10656	28417	4263	193	386	3219	6438	

- ⑥ Pavement Width  
⑥ Surface Course Thickness  
⑥ Intermediate Course Thickness

Notes:

① Finished slope shall match existing pavement except that the maximum allowable slope is 3.0%, minimum allowable slope is 2.0%. Section may be modified as directed by the Engineer through areas of special shaping.

② Shoulder material as specified elsewhere in these plans.

③ Tack Coat estimated for three applications.

Notes:

DESIGN RATES		
ITEM	RATE	QUANTITY
Surface Course	145 lbs./cu.ft	Tons
Inter. Course	145 lbs./cu.ft	Tons
Base Course	145 lbs./cu.ft	Tons
Tack Coat	0.05 gal./sq.yd.	Gal.

Station Equation:  
STA. 1500+45.35 (BACK)  
STA. 1014+00.00 (AHEAD)

**TYPICAL CROSS SECTION  
FULL-DEPTH HMA  
PAVEMENT RESURFACING**

Refer to Typicals TIE-2 and TIE-3

ENGLISH IOWA DOT DESIGN TEAM **Schoenrock\Drake\Sullivan\Steffen**

MONONA COUNTY PROJECT NUMBER **ESIMX-029-6(167)112--1S-67**

SHEET NUMBER **B.2**

4/16/2009

ksull12

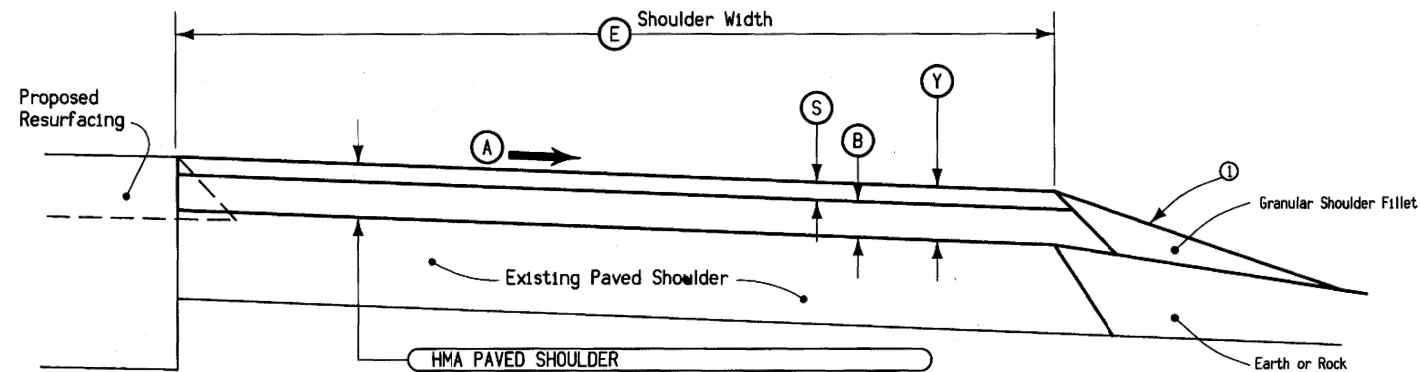
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**FOR REFERENCE INFORMATION ONLY**

FILE NO. ENGLISH DESIGN TEAM **Iowa DOT / HR Green**

MONONA COUNTY PROJECT NUMBER **STP-175-1(95)--2C-67**

SHEET NUMBER **B.18**



- (A) Slope
- (S) Surface Course
- (B) Intermediate Course
- (Y) Base Course
- (E) Shoulder Width

**Notes:**

- ① 6:1 Typical, may vary to 4:1 Maximum
- ② Tack Coat estimated for three applications.

DESIGN RATES		
ITEM	RATE	QUANTITY
Surface Course	145 lbs./cuft	Tons
Inter. Course	145 lbs./cuft	Tons
Base Course	145 lbs./cuft	Tons
Tack Coat	0.05 gal./sq.yd.	Gal.

Station Equation:  
STA. 1500+45.35 (BACK)  
STA. 1014+00.00 (AHEAD)

**6" HMA SHOULDER  
FULL-DEPTH RESURFACING**

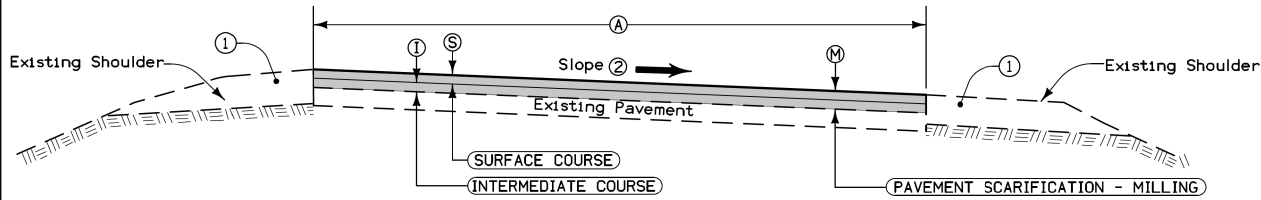
ROAD IDENTIFICATION	STATION TO STATION		RIGHT OR LEFT / INSIDE OR OUTSIDE	(A)	(S)	(B)	(Y)	(E)	DISTANCE Feet	SURFACE AREA Sq. Yds.	TACK COAT ② Gallons	ASPHALT BINDER			HOT MIX ASPHALT			GRANULAR SHD. FILL. Tons	REMARKS
				%	Inches	Inches	Inches	Inches				SURFACE Tons	INTER. Tons	BASE Tons	SURFACE Tons	INTER. Tons	BASE Tons		
I-29 NB	781+70.54	824+77.00	LT	4	2	4	0	6	4306	2871	431	21.9	62.4	0.0	364.3	1040.7	0.0	150.7	
I-29 NB	781+70.54	824+77.00	RT	4	0	0	6	10	4306	4785	718	0.0	0.0	121.8	0.0	0.0	2029.4	150.7	
I-29 NB	844+77.00	983+81.40	LT	4	2	4	0	6	13904	9270	1390	70.6	201.6	0.0	1176.1	3360.2	0.0	486.7	
I-29 NB	844+77.00	983+81.40	RT	4	0	0	6	10	13904	15449	2317	0.0	0.0	393.1	0.0	0.0	6552.4	486.7	
I-29 NB	990+81.40	1151+27.58	LT	4	2	4	0	6	16046	10697	1605	81.4	232.7	0.0	1357.2	3877.8	0.0	561.6	
I-29 NB	990+81.40	1147+09.39	RT	4	0	0	6	10	15628	17364	2605	0.0	0.0	441.9	0.0	0.0	7364.7	547.0	
Whit. Ramp D	0+00.00	4+58.15	RT	4	0	0	6	10	548	609	91	0.0	0.0	15.5	0.0	0.0	258.3	19.2	
Whit Ramp B	8+57.54	12+73.07	RT	4	0	0	6	10	416	462	69	0.0	0.0	11.7	0.0	0.0	195.8	14.5	
I-29 NB	1174+57.58	1282+40.40	LT	4	2	4	0	6	10783	7189	1078	54.7	156.4	0.0	912.0	2605.8	0.0	377.4	
I-29 NB	1178+72.69	1282+40.40	RT	4	0	0	6	10	10368	11520	1728	0.0	0.0	293.1	0.0	0.0	4885.8	362.9	
I-29 NB	1289+40.40	1311+31.76	LT	4	2	4	0	6	2191	1461	219	11.1	31.8	0.0	185.4	529.6	0.0	76.7	
I-29 NB	1289+40.40	1311+31.76	RT	4	0	0	6	10	2191	2435	365	0.0	0.0	62.0	0.0	0.0	1032.7	76.7	
I-29 NB	1336+87.30	1387+64.20	LT	4	2	4	0	6	5077	3385	508	25.8	73.6	0.0	429.4	1226.9	0.0	177.7	
I-29 NB	1336+87.30	1387+64.20	RT	4	0	0	6	10	5077	5641	846	0.0	0.0	143.5	0.0	0.0	2392.5	177.7	
I-29 NB	1394+64.20	1493+45.35	LT	4	2	4	0	6	9881	6587	988	50.1	143.3	0.0	835.8	2387.9	0.0	345.8	
I-29 NB	1394+64.20	1493+45.35	RT	4	0	0	6	10	9881	10979	1647	0.0	0.0	279.4	0.0	0.0	4656.5	345.8	
I-29 SB	769+00.00	825+28.50	LT	4	2	4	0	6	5629	3752	563	28.6	81.6	0.0	476.1	1360.2	0.0	197.0	
I-29 SB	769+00.00	825+28.50	RT	4	0	0	6	10	5629	6254	938	0.0	0.0	159.1	0.0	0.0	2652.4	197.0	
I-29 SB	845+28.50	984+17.40	LT	4	2	4	0	6	13889	9259	1389	70.5	201.4	0.0	1174.8	3356.5	0.0	486.1	
I-29 SB	845+28.50	984+17.40	RT	4	0	0	6	10	13889	15432	2315	0.0	0.0	392.7	0.0	0.0	6545.1	486.1	
I-29 SB	991+17.40	1151+62.40	LT	4	2	4	0	6	16045	10697	1605	81.4	232.7	0.0	1357.1	3877.5	0.0	561.6	
I-29 SB	991+17.40	1147+87.40	RT	4	0	0	6	10	15670	17411	2612	0.0	0.0	443.1	0.0	0.0	7384.5	548.5	
Whit Ramp C	8+88.24	12+63.07	RT	4	0	0	6	10	375	416	62	0.0	0.0	10.6	0.0	0.0	176.6	13.1	
Whit. Ramp A	0+00.00	4+38.15	RT	4	0	0	6	10	438	487	73	0.0	0.0	12.4	0.0	0.0	206.5	15.3	
I-29 SB	1174+62.40	1282+58.50	LT	4	2	4	0	6	10796	7197	1080	54.8	156.5	0.0	913.2	2609.1	0.0	377.9	
I-29 SB	1178+60.05	1282+58.50	RT	4	0	0	6	10	10398	11554	1733	0.0	0.0	294.0	0.0	0.0	4900.3	363.9	
I-29 SB	1289+58.50	1311+31.76	LT	4	2	4	0	6	2173	1449	217	11.0	31.5	0.0	183.8	525.2	0.0	76.1	
I-29 SB	1289+58.50	1311+31.76	RT	4	0	0	6	10	2173	2415	362	0.0	0.0	61.4	0.0	0.0	1024.1	76.1	
I-29 SB	1339+40.10	1387+89.10	LT	4	2	4	0	6	4849	3233	485	24.6	70.3	0.0	410.1	1171.8	0.0	169.7	
I-29 SB	1339+40.10	1387+89.10	RT	4	0	0	6	10	4849	5388	808	0.0	0.0	137.1	0.0	0.0	2285.1	169.7	
I-29 SB	1394+89.10	1498+50.00	LT	4	2	4	0	6	10361	6907	1036	52.6	150.2	0.0	876.4	2503.9	0.0	362.6	
I-29 SB	1394+89.10	1498+50.00	RT	4	0	0	6	10	10361	11512	1727	0.0	0.0	293.0	0.0	0.0	4882.6	362.6	

**FOR REFERENCE INFORMATION ONLY**

Notes:  
Section view is in the direction of traffic.  
Refer to other drawings for details of  
shoulder design and construction.

- ① Refer to shoulder typicals or when shoulder is not present match existing  
pavement elevations.  
② Match finished slope to existing pavement. Section may be modified as  
directed by the Engineer through areas of special shaping.

Refer to tabulation listing of superelevated curves and Standard Road Plans for  
additional requirements through superelevated curves.



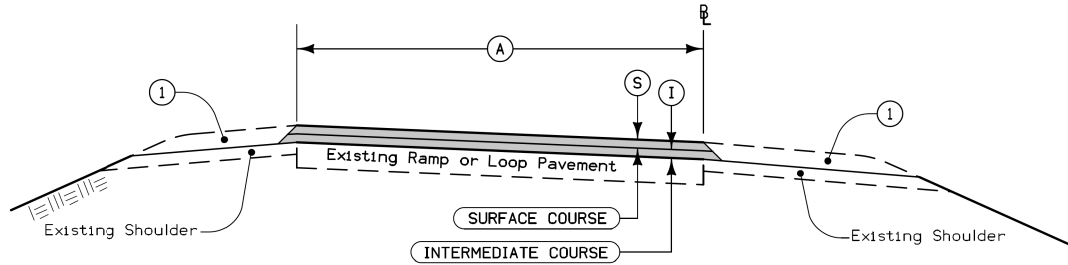
Design Quantities		Per Station					
Location			⑤	①	④	③	Remarks
Road Identification	Station To Station		Inches	Inches	Inches	Feet	
I-29 and IA 175 - Ramp A	6+00.00	17+00.00	1.5	2.5	4	16	
	17+00.00	18+00.00	1.5	2.5	4	Varies	
I-29 and IA 175 - Ramp B	17+79.31	35+75.00	1.5	2.5	4	16	
	130+08.38	133+75.19	1.5	2.5	4	Varies	
I-29 and IA 175 - Ramp C	3514+60.00	3533+00.00	1.5	2.5	4	16	
	3533+00.00	3536+00.00	1.5	2.5	4	Varies	
I-29 and IA 175 - Ramp D	4507+26.25	4517+00.00	1.5	2.5	4	16	
	4517+00.00	4517+75.00	1.5	2.5	4	Varies	

TYPICAL CROSS SECTION  
HMA RESURFACING & PAVEMENT  
SCARIFICATION

2618  
MODIFIED

Section view is in the direction of traffic.  
Refer to other drawings for details of  
shoulder design and construction.

- ① Refer to shoulder typicals



Design Quantities			Per Station			Remarks
Location			Ⓢ	Ⓜ	Ⓐ	
Road Identification	Station To Station		Inches	Inches	Feet	
I-29 and Co Rd E24 - Ramp A	7+38.15	14+00.00	1.5	1.5	16	
	14+00.00	15+00.00	1.5	1.5	Varies	
I-29 and Co Rd E24 - Ramp B	15+73.07	31+00.00	1.5	1.5	16	
	125+00.00	128+75.00	1.5	1.5	Varies	
I-29 and Co Rd E24 - Ramp C	15+63.07	30+00.00	1.5	1.5	16	
	115+00.00	118+50.00	1.5	1.5	Varies	
I-29 and Co Rd E24 - Ramp D	7+58.15	14+00.00	1.5	1.5	16	
	14+00.00	15+00.00	1.5	1.5	Varies	
I-29 and Co Rd E60 - Ramp A	1548+75.00	1550+00.00	1.5	1.5	Varies	
	1550+00.00	1558+98.61	1.5	1.5	16	
I-29 and Co Rd E60 - Ramp B	2540+01.39	2548+50.00	1.5	1.5	16	
I-29 and Co Rd E60 - Ramp C	3542+43.98	3549+50.00	1.5	1.5	16	
I-29 and Co Rd E60 - Ramp D	4548+50.00	4550+00.00	1.5	1.5	Varies	
	4550+00.00	4556+55.84	1.5	1.5	16	

TYPICAL CROSS SECTION  
HMA RESURFACING  
RAMP or LOOP

2616  
MODIFIED

FILE NO.

ENGLISH

DESIGN TEAM **SNYDER & ASSOCIATES, INC.**

**MONONA**

COUNTY

PROJECT NUMBER

**IMN-029-5(250)105--0E-67**

SHEET NUMBER

**B.1**

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FOR REFERENCE INFORMATION ONLY

FILE NO.

ENGLISH

DESIGN TEAM **Iowa DOT / HR Green**

**MONONA**

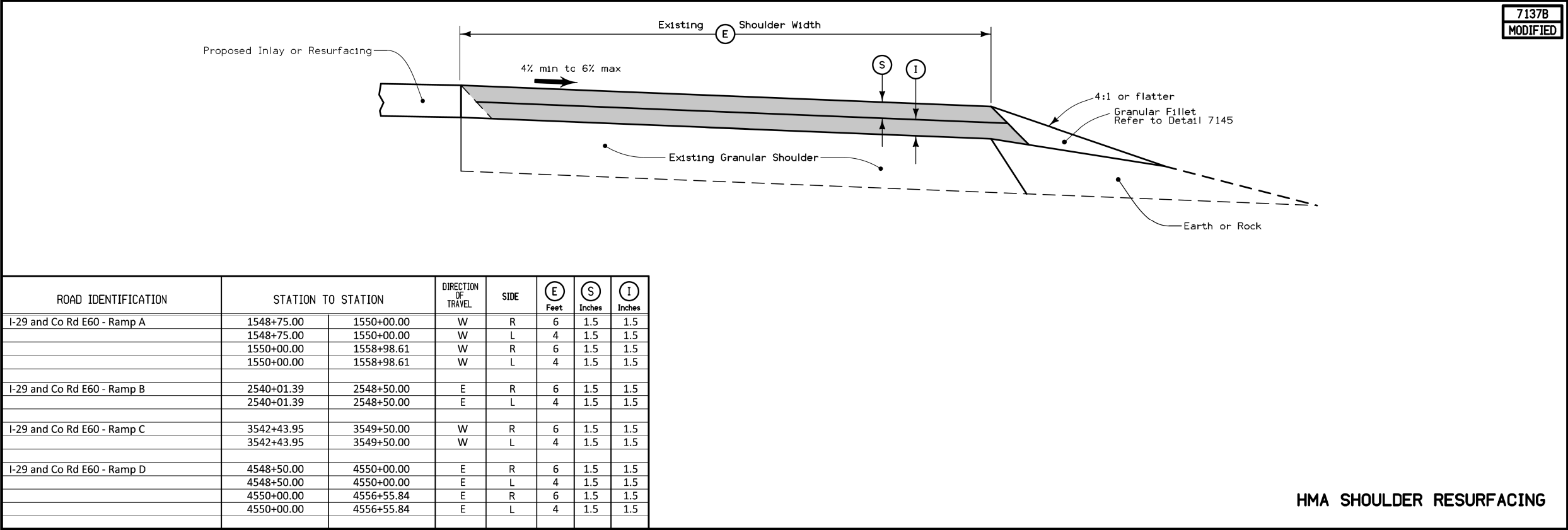
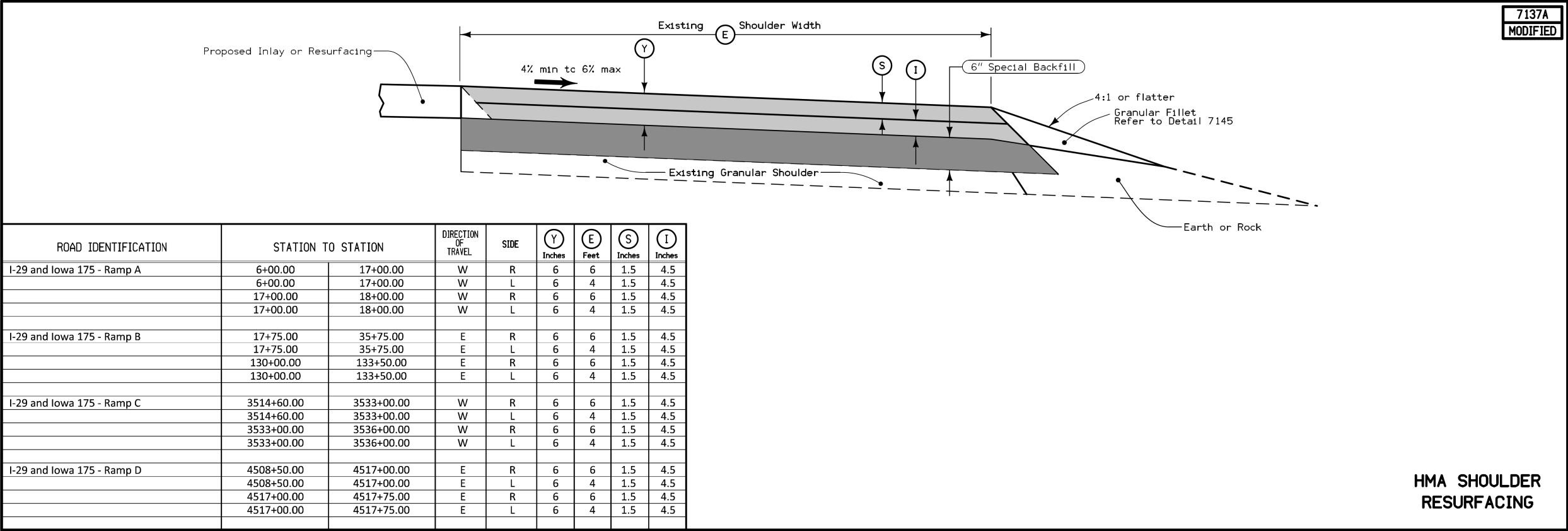
COUNTY

PROJECT NUMBER

**STP-175-1(95)--2C-67**

SHEET NUMBER **B.20**

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FOR REFERENCE INFORMATION ONLY

ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Roadway Items : Roadway Items

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
1	2101-0850001	CLEARING AND GRUBBING	ACRE	57.56	<p>Refer to Tab. 110-17 in the C Sheets. Refer to U Sheets for location and areas.</p> <p>All material generated as a result of Clearing and Grubbing shall become the property of the contractor and must be disposed off site. All wood material must be disposed of according to Iowa Department of Agriculture and Land Stewardship Emerald Ash Borer Quarantine Order. For more information see <a href="http://www.iowatreepests.com">www.iowatreepests.com</a>.</p>
2	2102-0425070	SPECIAL BACKFILL	TON	22,657.18	<p>Refer to Tab. 112-9 and Tab. 110-24 in the C Sheets.</p> <p>Refer to Typical Sections for I-29 and Detour Pavement in B Sheets.</p>
3	2102-2625001	EMBANKMENT-IN-PLACE, CONTRACTOR FURNISHED	CY	310,223	<p>Refer to Tabs. 103-6, 103-7, and 107-31 in the CS Sheets, Tab. 107-28 in the T Sheets, and the Typical Sections in the B Sheets.</p> <p>Placement of Settlement Plates is incidental to this bid item. Refer to Tab. 103-5 in the CS Sheets.</p> <p>Overhaul is incidental to roadway excavation on this project and will not be paid for separately.</p>
4	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	CY	1,005	<p>Refer to Tab. 107-28 in the T Sheets.</p>
5	2102-2710090	EXCAVATION, CLASS 10, WASTE	CY	126,636	<p>Refer to Tab. 107-28 in the T Sheets.</p> <p>Dispose of excess material according to Article 1106.07 of the current specifications. Overhaul will not be measured or paid for, but shall be considered incidental to excavation on this project.</p>
6	2102-2712015	EXCAVATION, CLASS 12, BOULDERS OR ROCK FRAGMENTS	CY	10	<p>A. Refer to Tab. 103-7.</p> <p>B. Dispose of excess material according to Article 1106.07 of the current specifications.</p>
7	2102-4560000	LOCATING TILE LINES	STA	85.3	<p>Locate tile lines in accordance with Section 2102.03, H., 3. The Engineer may adjust locations to fit field conditions. This task shall be performed before grading. Excavation areas outside the grading limits shall be compacted and restored to natural grades</p>



Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
8	2102-5020010	OBLITERATE OLD ROADBED	STA	30	<p>The work consists of obliterating existing IA 175 ramps and temporary detours as shown on Typical 4302 when work falls outside of proposed roadway reconstruction limits.</p> <p>Existing Ramp A: 5 STA</p> <p>Existing Ramp B: 9 STA</p> <p>Existing Ramp C: 11.5 STA</p> <p>DETSRFR28: 4 STA</p> <p>DETSR28: 0.5 STA</p> <p>Method of measurement will be in stations measured along centerline of old roadbed.</p> <p>Basis of payment will be the contract unit price for the number of stations of old roadbed obliterated. Payment is full compensation for construction as shown on Typical 4302. Eight (8) inches of topsoil may be placed instead of the 12 inches of soil suitable for vegetation prescribed in note (2) of Typical 4302. Excavation will not be paid separately. Pavement removal is bid separately.</p>
9	2104-2713020	EXCAVATION, CLASS 13, CHANNEL	CY	11,897	<p>For excavation of channel muck to the profile elevation shown in the U Sheets based on the section shown in Typical Detail 4201. Refer to Tab. 107-28 in the T Sheets.</p> <p>Dispose of channel muck according to Article 1106.07 of the current specifications.</p> <p>Includes all work in preparation of grade for placement of revetment.</p>
10	2105-8425005	TOPSOIL, FURNISH AND SPREAD	CY	23,018	Refer to Tab. 103-10 in the CS Sheets and Tab. 107-28 in the T Sheets.
11	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD	CY	26,141	Refer to Tab. 103-10 in the CS Sheets and Tab. 107-28 in the T Sheets.
12	2107-0425020	COMPACTING BACKFILL ADJACENT TO BRIDGES, CULVERTS OR STRUCTURES	CY	100	Refer to Tab.104-4 in the C Sheets.
13	2107-0875100	COMPACTION WITH MOISTURE CONTROL	CY	310,953	<p>Refer to Tab. 103-6 in the CS Sheets and Tab. 107-28 in the T Sheets.</p> <p>Cubic yards shown on the contract documents as determined by the template fill volume. Shrinkage will not be included in the moisture control quantity.</p>
14	2111-8174100	GRANULAR SUBBASE	SY	22,130	<p>Includes 3,024.2 CY for I-29 mainline acceleration and deceleration lanes, shoulders, and ramp tapers.</p> <p>Refer to I-29 Paving Typical Section in the B Sheets and Tab. 100-24 and Tab. 112-09 in the C Sheets.</p>
15	2112-0000100	WICK DRAIN	LF	614,737	
16	2112-0000300	HORIZONTAL STRIP DRAIN	LF	159,662	
17	2115-0100000	MODIFIED SUBBASE	CY	17,925.74	Refer to Typical Sections in B Sheets and Tabs. 100-24 and 112-9 in the C Sheets

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
18	2121-7425010	GRANULAR SHOULDERS, TYPE A	TON	83.64	Item is for granular shoulders at the intersection of IA 175 and 28th Street.  Refer to Tab. 112-9 in the C Sheets.
19	2122-5190012	PAVED SHOULDER, P.C. CONCRETE, 12 IN.	SY	7,982.77	Refer to Tab. 112-9 in the C Sheets. Refer to Typical Sections in the B Sheets.  Item is for I-29 mainline shoulders.
20	2122-5190095	PAVED SHOULDER, P.C. CONCRETE, 9.5 IN.	SY	15,427.69	Refer to Tab. 112-9 in the C Sheets. Refer to Typical Sections in the B Sheets.  Item is for IA 175 and ramp shoulders. Integral curb is incidental to this item.
21	2123-7450000	SHOULDER CONSTRUCTION, EARTH	STA	384.43	Includes 95.4 Sta. of shoulders on I-29 mainline, 109.7 Sta. of shoulders on ramps, and 50.5 Sta. of shoulders on IA 175.  Requires 18388.7 cu. yds. for Earth Shoulder Fill.  Requires a minimum of 4 inches of topsoil. Place according to Article 2105.03, B. of the Standard Specifications.
22	2123-7450020	SHOULDER FINISHING, EARTH	STA	35.42	Includes 28.6 Sta. of shoulders on IA 175 westbound.  Requires 791.2 cu. yds. for Earth Shoulder Fill.  Requires a minimum of 4 inches of topsoil. Place according to Article 2105.03, B. of the Standard Specifications.
23	2301-1003095	STANDARD OR SLIP-FORM PORTLAND CEMENT CONCRETE PAVEMENT, QM-C, CLASS 3 DURABILITY, 9.5 IN.	SY	30,952.1	Item is for ramp and sideroad pavement. Refer to Tab. 100-24 in the C Sheets. Refer to Typical Sections in the B Sheets.
24	2301-1004120	STANDARD OR SLIP-FORM PORTLAND CEMENT CONCRETE PAVEMENT, QM-C, CLASS 3I DURABILITY, 12 IN.	SY	10,368.6	Item is for I-29 mainline pavement. Refer to Tab. 100-24 in the C Sheets. Refer to Typical Sections in the B Sheets.
25	2301-7000110	PAYMENT ADJUSTMENT INCENTIVE/DISINCENTIVE FOR PCC PAVEMENT THICKNESS (BY SCHEDULE)	EACH	48,345.22	Bid item is based on a factor of 1.17 of PCC Pavement.
26	2304-0100000	DETOUR PAVEMENT	SY	23,632.33	Refer to Detour Pavement Typical Sections in the B Sheets. Refer to F Sheets and J Sheets.  Detour Pavement may be left in place where noted in the F Sheets and J Sheets.
27	2315-8275025	SURFACING, DRIVEWAY, CLASS A CRUSHED STONE	TON	76.5	Refer to Tab. 102-3 in the C Sheets. Quantities assume a 3-inch layer of Class A crushed stone.
28	2317-7000110	PAYMENT ADJUSTMENT INCENTIVE/DISINCENTIVE FOR PCC PAVEMENT SMOOTHNESS (BY SCHEDULE)	EACH	30,990.53	Bid item is based on a factor of 0.75 of PCC Pavement.

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
29	2401-6745650	REMOVAL OF EXISTING STRUCTURES	LS	1	Refer to Tab. 110-2 in the CD Sheets and refer to V Sheets for locations and details of existing structures.
30	2402-0425040	FLOODED BACKFILL	CY	1,112	Refer to Tab. 104-3 in the CD Sheets and Tab. 104-4 in the C Sheets.
31	2402-2720100	EXCAVATION, CLASS 20, FOR ROADWAY PIPE CULVERT	CY	982.8	Refer to Tab. 104-3 in the CD Sheets.
32	2402-2725000	INTERMEDIATE FOUNDATION IMPROVEMENTS	LS	1	Refer to Q Sheets for locations and details. Refer to Special Provisions for Intermediate Foundation Improvements.
33	2402-2725002	INTERMEDIATE FOUNDATION IMPROVEMENTS VERIFICATION TESTING	LS	1	
34	2416-0100018	APRONS, CONCRETE, 18 IN. DIA.	EACH	1	Refer to Tab. 104-5B in the M Sheets.
35	2416-0100024	APRONS, CONCRETE, 24 IN. DIA.	EACH	10	Refer to Tab. 104-3 in the CD Sheets and Tab. 104-5B in the M Sheets.
36	2416-0100030	APRONS, CONCRETE, 30 IN. DIA.	EACH	6	Refer to Tab. 104-3 in the CD Sheets.
37	2416-0102224	APRON, LOW CLEARANCE CONCRETE, EQUIVALENT DIAMETER 24 IN.	EACH	3	Refer to Tab. 104-3 in the CD Sheets and Tab. 104-5B in the M Sheets.
38	2416-0102230	APRON, LOW CLEARANCE CONCRETE, EQUIVALENT DIAMETER 30 IN.	EACH	4	Refer to Tab. 104-3 in the CD Sheets.
39	2416-1180024	CULVERT, CONCRETE ROADWAY PIPE, 24 IN. DIA.	LF	210	
40	2416-1180030	CULVERT, CONCRETE ROADWAY PIPE, 30 IN. DIA.	LF	54	
41	2416-1200224	CULVERT, LOW CLEARANCE CONCRETE ROADWAY PIPE, EQUIVALENT DIAMETER 24 IN.	LF	132	Refer to Tab. 104-3 in the CD Sheets and Tab. 104-5B in the M Sheets.
42	2416-1200230	CULVERT, LOW CLEARANCE CONCRETE ROADWAY PIPE, EQUIVALENT DIAMETER 30 IN.	LF	232	Refer to Tab. 104-3 in the CD Sheets.
43	2416-1240030	CULVERT, 3000D CONCRETE ROADWAY PIPE, 30 IN. DIA.	LF	254	
44	2416-1262024	CULVERT, CONCRETE PIPE, 2000D, TRENCHLESS, 24 IN. DIA.	LF	126	
45	2416-1262030	CULVERT, CONCRETE PIPE, 2000D, TRENCHLESS, 30 IN. DIA.	LF	240	
46	2417-0250028	APRONS, METAL, ARCH, 28 IN. X 20 IN.	EACH	2	
47	2417-1060018	CULVERT, CORRUGATED METAL ROADWAY PIPE, 18 IN. DIA.	LF	78	
48	2417-1100021	CULVERT, CORRUGATED METAL ARCH ROADWAY PIPE, 21 IN. X 15 IN.	LF	44	
49	2417-1100028	CULVERT, CORRUGATED METAL ARCH ROADWAY PIPE, 28 IN. X 20 IN.	LF	68	

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
50	2418-0000010	TEMPORARY STREAM DIVERSION	EACH	3	Refer to Standard Road Plan EW-402 for more details. Temporary Steam Diversion will be required at all three proposed RCB sites.  Payment is full compensation for furnishing all tools, equipment, labor, and material necessary for installation and removal of Temporary Steam Diversion.
51	2422-1722018	CULVERT, UNCLASSIFIED ENTRANCE PIPE, 18 IN. DIA.	LF	144	Refer to Tab. 102-3 in the C Sheets.
52	2422-1723018	CULVERT, UNCLASSIFIED ROADWAY PIPE, 18 IN. DIA.	LF	72	Refer to Tab. 104-3 in the CD Sheets.
53	2422-1723024	CULVERT, UNCLASSIFIED ROADWAY PIPE, 24 IN. DIA.	LF	90	
54	2422-1723036	CULVERT, UNCLASSIFIED ROADWAY PIPE, 36 IN. DIA.	LF	24	
55	2435-0250900	INTAKE, SW-509	EACH	17	Refer to Tab. 104-5B in the M Sheets.
56	2435-0600020	MANHOLE ADJUSTMENT, MAJOR	EACH	1	Refer to F Sheets and J Sheets. The work includes removal of lid and casting, installation, and removal of temporary manhole plate cover such as a steel plate to protect manhole during construction (incidental), and re-installation of lid and casting.
57	2502-8212034	SUBDRAIN, LONGITUDINAL, (SHOULDER) 4 IN. DIA.	LF	25,688	Refer to Tab. 104-9A in the CS Sheets.
58	2502-8221303	SUBDRAIN OUTLET, DR-303	EACH	21	
59	2502-8221306	SUBDRAIN OUTLET, DR-306	EACH	115	
60	2502-8225010	SUBDRAIN OUTLET, 500-10	EACH	20	Refer to U Sheets.  Includes payment for the extension of existing subdrain outlets in conflict with proposed widening and the temporary widening of I-29. Contractor to locate and verify presence of existing subdrain outlets in conflict with proposed widening and temporary widening of I-29.
61	2503-0110015	STORM SEWER GRAVITY MAIN, TRENCHED, 15 IN.	LF	1,074	Refer to Tab. 104-5B in the M Sheets.
62	2503-0110018	STORM SEWER GRAVITY MAIN, TRENCHED, 18 IN.	LF	176	
63	2503-0110024	STORM SEWER GRAVITY MAIN, TRENCHED, 24 IN.	LF	876	
64	2505-4008120	REMOVAL OF STEEL BEAM GUARDRAIL	LF	852.6	Refer to Tab. 110-7A and Tab. 110-13 in the C Sheets.
65	2505-4008130	REMOVAL OF CABLE GUARDRAIL	LF	542	Refer to Tab. 110-7B and Tab. 110-13 in the C Sheets.
66	2505-4008300	STEEL BEAM GUARDRAIL	LF	62.5	Refer to Tab. 108-8A in the C Sheets.
67	2505-4008415	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA-209	EACH	2	
68	2505-4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	EACH	2	

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
69	2505-4021720	STEEL BEAM GUARDRAIL TANGENT END TERMINAL, BA-205	EACH	2	
70	2505-6000111	HIGH TENSION CABLE GUARDRAIL	LF	620	Refer to Tab. 108-9A in the C Sheets and the project plans for locations and details.
71	2505-6000121	HIGH TENSION CABLE GUARDRAIL, END ANCHOR	EACH	4	
72	2505-6000131	HIGH TENSION CABLE GUARDRAIL, SPARE PARTS KIT	EACH	2	
73	2506-4984000	FLOWABLE MORTAR	CY	101.2	Refer to Tab. 110-9 and Tab. 104-3 in the CD Sheets and Typical Detail 4315 in the B Sheets.  Silt inside existing culverts need not be removed prior to placing flowable mortar.
74	2507-3250005	ENGINEERING FABRIC	SY	5,820.8	Refer to Tab. 100-23 in the RC Sheets.  Use material specified for embankment erosion control according to Article 4196.01, B., 3.  The tabulation includes estimated locations for placement of "Engineering Fabric" to address erosion. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 30% additional quantity.
75	2507-6800061	REVETMENT, CLASS E	TON	4,270.236	Refer to Tab. 100-23 in the RC Sheets.  The tabulation includes estimated locations for placement of "Revetment, Class E" to address erosion. Verify the specific locations with the Engineer prior to beginning placement.  Bid item includes 30% additional quantity for other locations of erosion. Estimated at 1.5 ton/cu yd. Class E revetment shall meet requirements of Article 4130.
76	2510-6745850	REMOVAL OF PAVEMENT	SY	70,742.1	Refer to Tab. 110-1in the C Sheets.
77	2515-2475006	DRIVEWAY, P.C. CONCRETE, 6 IN.	SY	67.6	Refer to Tab. 102-3 in the C Sheets.
78	2515-6745600	REMOVAL OF PAVED DRIVEWAY	SY	121.9	Refer to Tab. 110-8 in the C Sheets.  Requires 80 LF of full depth saw cut. Saw cut is incidental to driveway removal
79	2519-2000010	FENCE, CHANNEL CROSSING, TYPE A	LF	216.5	Refer to Tab. 100-7 in the C Sheets. Refer to U Sheets for location and details.
80	2519-3280000	FENCE, FIELD	LF	11,481.8	
81	2519-3300400	FIELD FENCE BRACE PANELS	EACH	84	
82	2520-3350015	FIELD OFFICE	EACH	1	



Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
83	2526-8285000	CONSTRUCTION SURVEY	LS	1	Refer to TC-283 for traffic control layout.  Construction Survey shall be in accordance with Section 2526 of the current Specification.
84	2527-9263137	PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED	EACH	12	Refer to Tab. 108-29 in the C Sheets. Refer to J Sheets for locations and details.
85	2527-9263181	PAVEMENT MARKINGS REMOVED	STA	2,554.6	Refer to Tab. 108-22 in the C Sheets. Refer to J Sheets for locations and details.
86	2527-9263209	PAINTED PAVEMENT MARKINGS, WATERBORNE OR SOLVENT-BASED	STA	3,058.9	
87	2527-9263216	PAINTED PAVEMENT MARKINGS, MULTI-COMPONENT LIQUID	STA	358.3	
88	2527-9270112	GROOVES CUT FOR PAVEMENT MARKINGS	STA	484.19	
89	2528-2518000	SAFETY CLOSURE	EACH	20	Refer to Tab. 108-13A in the C Sheets. Refer to the J Sheets.
90	2528-8400048	TEMPORARY BARRIER RAIL, CONCRETE	LF	35,763.2	Refer to Tab. 108-33 in the C Sheets. Refer to J Sheets.  Temporary barrier rail shall be nominal 12'-6 long concrete units.
91	2528-8400157	TEMPORARY FLOODLIGHTING LUMINAIRE	EACH	13	Refer to Tab. 108-27 in the C Sheets. Refer to the J Sheets.
92	2528-8445110	TRAFFIC CONTROL	LS	1	Refer to Tab. 108-23A Traffic Control Plan on Sheet J.1, Tab. 108-25 511 Travel Restrictions on Sheet J.2, Tab. 108-26A Staging Notes on Sheet J.3, and Tab. 111-01 Coordinated Operations on Sheet J.4.  Refer to Traffic Control and Staging layout in the J Sheets.
93	2528-8445113	FLAGGERS	EACH	4	Refer to Traffic Control Plan and Staging Notes in J Sheets.
94	2528-9109020	TEMPORARY LANE SEPARATOR SYSTEM	LF	688	Refer to Tab. 108-35 in the C Sheets.
95	2528-9290050	PORTABLE DYNAMIC MESSAGE SIGN (PDMS)	CDAY	0	Refer to Traffic Control Plans in the J Sheets. Provide four (4) PDMS, one for each direction of I-29 travel and of IA 175 travel. Place PDMS units with a message noting a pending change in traffic for at least one week prior to a change in traffic pattern. PDMS units may also be used for other unique related construction events as directed or coordinated with the Engineer. The Engineer will provide the Contractor the message to be displayed on the PDMS units.
96	2533-4980005	MOBILIZATION	LS	1	
97	2548-0000260	DIAMOND GROUND SHOULDER SINUSOIDAL RUMBLE STRIPS, PCC SURFACE	STA	82.62	Refer to Tab. 112-10 in the C Sheets.
98	2549-0023005	MAINLINE CLEANING, CULVERT	LF	359	Item is for cleaning the existing box culverts under IA 175 at Sta. 1735+02, under existing Ramp C at Sta. 3539+95, and under existing I-29 mainline at Sta. 738+50 and the existing arch pipe under existing Ramp B at Sta. 2537+25.

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
99	2551-0000110	TEMP CRASH CUSHION	EACH	5	Refer to J Sheets and Tab. 108-30 in the C Sheets.  Winterize sand filled or water filled crash cushions according to the manufacturer's recommendations during winter months.
100	2551-0000130	TEMP CRASH CUSHION, SEVERE USE (SU)	EACH	20	Refer to Tab. 108-30 in the C Sheets. Refer to J Sheets.
101	2599-9999003	('CUBIC YARDS' ITEM) LIGHTWEIGHT FOAMED CONCRETE FILL (LFCF)	CY	43	Refer to Tab. 104-4 in the C Sheets and E Sheets.  Refer to Special Provision for Lightweight Foamed Concrete Fill for description, materials, construction, method of measurement, and basis of payment.
102	2599-9999010	('LUMP SUM' ITEM) LIGHTWEIGHT FOAMED CONCRETE FILL TRIAL BATCH	LS	1	Refer to Special Provision for Lightweight Foamed Concrete Fill for description, materials, construction, method of measurement, and basis of payment.
103	2601-2634100	MULCHING	ACRE	63.36	Refer to RR Sheets for locations.  Perform mulching according to Article 2601.03, E., 2., of the Standard Specifications. Anchor mulch into the soil using mulch anchoring equipment with a minimum of two passes.  Item is included for areas requiring reshaping and seedbed preparation. Use mulch that is Certified Noxious Weed Seed Free Mulch as certified by the Iowa Crop Improvement Association or adjacent states Crop Improvement Association.  Mulch Rate: 1 1/2 tons of dry cereal straw or native grass straw per acre.
104	2601-2636015	NATIVE GRASS SEEDING	ACRE	55.43	Seed all areas outside eight feet adjacent to outside shoulder along mainline, side roads, and infield areas at interchanges with "Native Grass Seeding".  Supply all seed for "Native Grass Seeding".  Remove seed remaining in the drill at the end of each day. At the completion of all seeding, remove remaining seed from the drill by vacuum or other means. Hand broadcast remaining seed on the project.  The Engineer will review the limits with the Contractor prior to seeding. Seeding and seed bed preparation shall be as described in the Standard Specifications Section 2601 and as shown on the plans. Refer to RR Sheets.
105	2601-2636043	SEEDING AND FERTILIZING (RURAL)	ACRE	5.48	Seed and fertilize all areas 8 foot adjacent to the shoulder mainline, medians, and side according to Article 2601.03, C, 3, of the Standard Specifications.
106	2601-2638352	SLOPE PROTECTION, WOOD EXCELSIOR MAT	SQ	393.3	Refer to Tab. 100-22 in the RC Sheets. Refer to Standard Road Plan EC-103  Prepare seedbed according to Article 2601.03, B., 4., of the Standard Specifications prior to seeding and fertilizing under the slope protection.  Use material meeting Article 4169.10, C. of the Standard Specifications.
107	2601-2640350	SPECIAL DITCH CONTROL, WOOD EXCELSIOR MAT	SQ	126.1	Refer to Tab. 100-22 in the RC Sheets. Refer to Standard Road Plan EC-101.  Prepare seedbed according to Article 2601.03, B., 4. of the Standard Specifications. Install according to Article 2601.03, H., 2., of the Standard Specifications. Seed according to Article 2601.03, H., 2., of the Standard Specifications. Use material meeting the requirements of Article 4169.10, B of the Standard Specifications.

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
108	2601-2642100	STABILIZING CROP - SEEDING AND FERTILIZING	ACRE	118.8	<p>Item is included for disturbed areas.</p> <p>Seed and fertilize all disturbed areas according to Article 2601.03, C., 1., of the Standard Specifications.</p> <p>Reseeding of these areas will be required at the Contractor's expense if damage occurs due to Contractor's negligence during the contract period.</p>
109	2601-2643110	WATERING FOR SOD, SPECIAL DITCH CONTROL, OR SLOPE PROTECTION	MGAL	104	<p>Estimate for watering Special Ditch Control, Slope Protection Areas, Turf Reinforcement Mat, or Transition Mat is based on a total of four waterings at a rate of 50 gallons per square.</p> <p>Estimate for watering Sod is based on a total of six waterings at a rate of 100 gallons per square.</p>
110	2601-2643300	MOBILIZATION FOR WATERING	EACH	3	
111	2602-0000020	SILT FENCE	LF	41,963	<p>Refer to Tab. 100-17 in the RC Sheets.</p> <p>The tabulation includes estimated locations for placement of "Silt Fence" to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 25% additional quantity for field adjustments and replacements.</p> <p>Refer to Standard Road Plan EC-201. Refer to RR Sheets.</p>
112	2602-0000030	SILT FENCE FOR DITCH CHECKS	LF	3,668	<p>Refer to Tab. 100-18 in the RC Sheets.</p> <p>The tabulation includes estimated locations for placement of "Silt Fence for Ditch Checks" to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 50% additional quantity for field adjustments and replacements.</p> <p>Refer to Standard Road Plan EC-201. Refer to RR Sheets.</p>
113	2602-0000050	SILT BASINS	EACH	76	<p>Refer to Tab. 100-14 in the RC Sheets. Refer to RR Sheets.</p> <p>The tabulation includes estimated locations for placement of "Silt Basins" to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 100% additional quantity for field adjustment and maintenance.</p>
114	2602-0000071	REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS	LF	18,008	<p>Refer to Tab. 100-17 and Tab. 100-18 in the RC Sheets.</p> <p>This item is included for silt fence and silt fence for ditch check removal required for staging reasons, removal to allow for replacement (replacement to be paid separately), or for areas that have achieved 70% permanent growth.</p>

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
115	2602-0000080	REMOVAL OF SILT BASINS	EACH	38	Refer to Tab. 100-14 in the RC Sheets. Refer to RR Sheets.
116	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK	LF	3,602	Refer to Tab. 100-17 and Tab. 100-18 in the RC Sheets.  This item is included for clean-out and repair of the silt fence and silt fence for ditch checks during the project.
117	2602-0000130	TEMPORARY SEDIMENT CONTROL BASIN	EACH	1	Refer to Tab. 100-33 in the RC Sheets.
118	2602-0000135	REMOVAL OF TEMPORARY SEDIMENT CONTROL BASIN	EACH	1	
119	2602-0000140	MAINTENANCE OF TEMPORARY SEDIMENT CONTROL BASIN	EACH	3	
120	2602-0000150	STABILIZED CONSTRUCTION ENTRANCE, EC-303	LF	700	Item is for stabilized construction access to individual construction sites. Bid quantity is based on estimated occurrences for need. Obtain Engineer's approval for location and length of stabilized entrance prior to constructing.  Refer to Standard Road Plan EC-303.  Contractor to maintain existing drainage patterns and provide temporary drainage structures, as necessary. Cost for temporary drainage structures shall be considered incidental to this bid item.
121	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.	LF	4,410	Refer to Tab. 100-19 in the RC Sheets.  The tabulation includes estimated locations for placement of "Perimeter and Slope Sediment Control Device, 12 in. dia." to address erosion. Verify the specific locations with the Engineer prior to beginning placement.  Bid item includes 1000 LF of additional quantity for field adjustments and replacements.
122	2602-0000320	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 20 IN. DIA.	LF	1,000	Refer to Tab. 100-19 in the RC Sheets.  The tabulation includes estimated locations for placement of "Perimeter and Slope Sediment Control Device, 20 in. dia." to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement.  Bid item includes 1000 LF of additional quantity for field adjustments and replacements.
123	2602-0000351	REMOVAL OF PERIMETER AND SLOPE OR DITCH CHECK SEDIMENT CONTROL DEVICE	LF	7,410	Refer to Tab. 100-19 in the RC Sheets.  Item included for removal of both 12 in. diam. and 20 in. diam. Perimeter and Slope Sediment Control Devices and Ditch Check Sediment Control Devices. Remove devices as needed for construction staging and as approved by the Engineer.

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
124	2602-0000362	DITCH CHECK SEDIMENT CONTROL DEVICE, 12 IN. DIA.	LF	1,000	Refer to Tab. 100-19 in the RC Sheets.  The tabulation includes estimated locations for placement of "Ditch Check Sediment Control Device, 12 in. dia." to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement.  Bid item includes 1000 LF of additional quantity for field adjustments and replacements.
125	2602-0000370	DITCH CHECK SEDIMENT CONTROL DEVICE, 20 IN. DIA.	LF	1,000	Refer to Tab. 100-19 in the RC Sheets.  The tabulation includes estimated locations for placement of "Ditch Check Sediment Control Device, 20 in. dia." to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement.  Bid item includes 1000 LF of additional quantity for field adjustments and replacements.
126	2602-0000500	OPEN-THROAT CURB INTAKE SEDIMENT FILTER, EC-602	LF	160	Refer to Tab. 100-36 in the RC Sheets. Refer to RR Sheets for location and details.
127	2602-0000510	MAINTENANCE OF OPEN-THROAT CURB INTAKE SEDIMENT FILTER	EACH	16	
128	2602-0000520	REMOVAL OF OPEN-THROAT CURB INTAKE SEDIMENT FILTER	EACH	16	
129	2602-0010010	MOBILIZATIONS, EROSION CONTROL	EACH	25	
130	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL	EACH	25	



ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

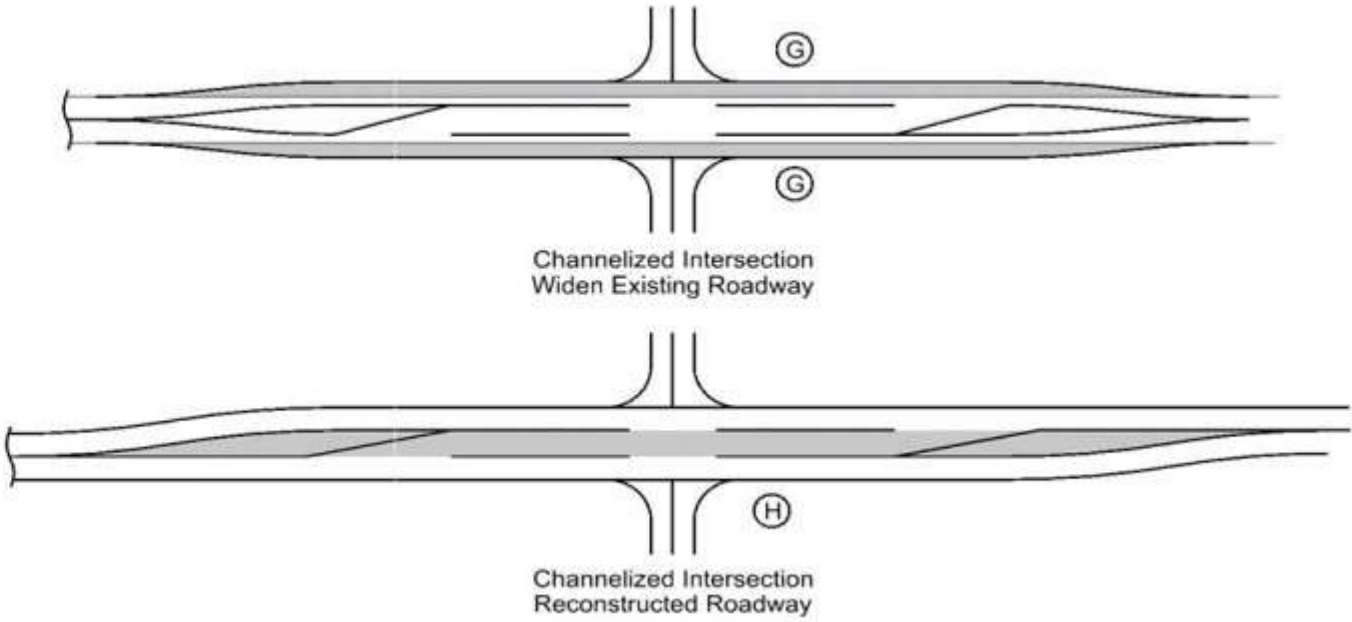
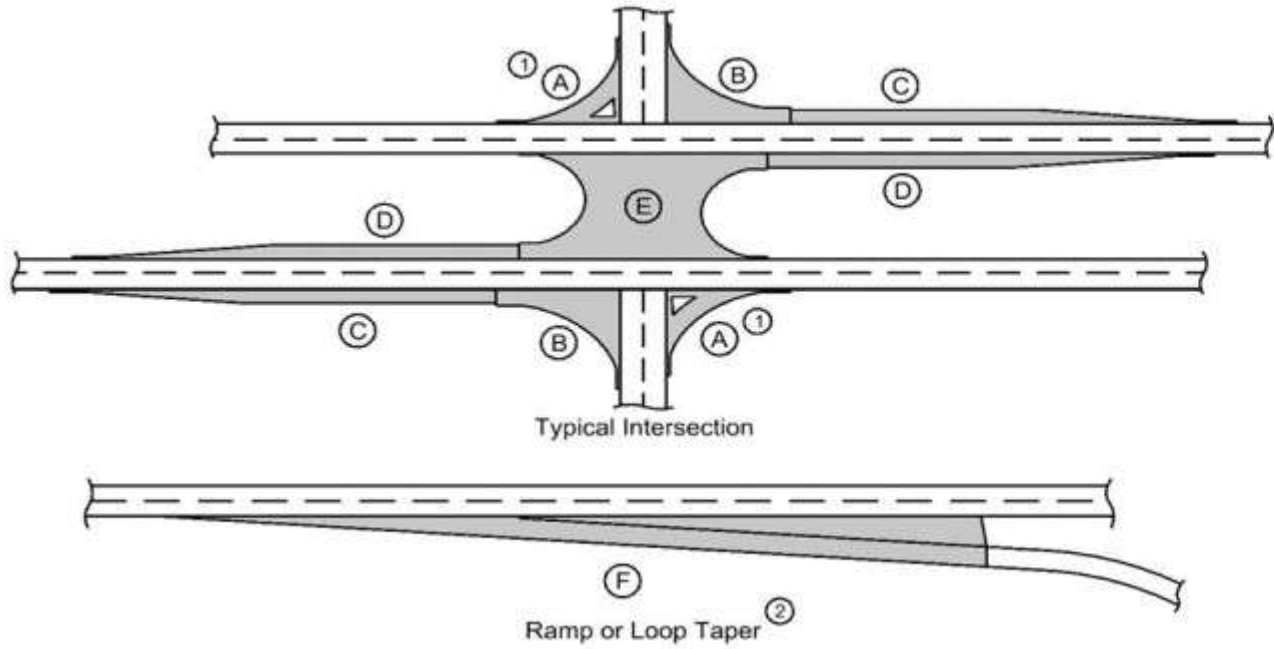
Deliver and Salvage Material Items : Deliver and Salvage Material Items

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Deliver and Salvage Material Items	
1	2599-9999005	('EACH' ITEM) REMOVE ACCESS GATE ASSEMBLY	EACH	4	<p>Remove and salvage gate assemblies from existing Ramp B and Ramp D entrance ramps.</p> <p>The Contractor shall take care to salvage and not damage gate assemblies and deliver the assemblies to the Iowa DOT Onawa Maintenance Garage. Removed assemblies shall remain the property of the State.</p> <p>This work will be measured and paid for at the contract unit price per ramp access gate assembly removed and salvaged. Each ramp includes two gate assemblies.</p>

FENCING										100_07 1/13/23
* Bid Item										
Station From	Offset	Station To	Offset	Side	Fence Type	Fence Feature	Height (FT)	Quantity (EA) *	Length (LF) *	Remarks
715+29.78	135.7	2536+55.29	260.1	Right	Field	Brace Panel	4.0	16	2003.0	
2537+22.17	291.0	2542+06.57	615.6	Right	Field	Brace Panel	4.0	10	506.9	
1759+75.99	84.6	4546+33.59	195.7	Right	Field	Brace Panel	4.0	10	870.4	
4546+62.26	186.4	771+48.71	123.7	Right	Field	Brace Panel	4.0	12	2384.9	
772+14.57	123.6	777+00.00	123.2	Right	Field	Brace Panel	4.0	4	453.4	
715+50.00	125.1	739+83.59	538.1	Left	Field	Brace Panel		12	2436.7	
1550+64.22	393.1	773+60.92	123.0	Left	Field	Brace Panel	4.0	16	2113.9	
774+16.91	123.0	779+45.00	123.0	Left	Field	Brace Panel	4.0	4	496.1	
								84	11265.3	
Fence Feature Brace Panel:										
2536+56.30	260.6	2537+21.11	290.3	Right	Field	Channel Crossing	4.0		62.6	Type A
4546+34.84	195.5	4546+61.53	186.7	Right	Field	Channel Crossing	4.0		36.0	Type A
771+49.71	123.7	772+13.57	123.6	Right	Field	Channel Crossing	4.0		63.9	Type A
773+61.92	123.0	774+15.92	123.0	Left	Field	Channel Crossing	4.0		54.0	Type A
									216.5	
Fence Feature Channel Crossing:										
Total:								84	11481.8	

REMOVAL OF FENCE								100_08 8/15/22
Removal of Field Fence is incidental to Clearing and Grubbing.								
Line No.	Station From	Offset	Station To	Offset	Side	Type	Length (LF)	Remarks
1.0	715+29.78	135.8	731+60.19	148.1	Right	Field	1630.3	
2.0	732+06.25	153.5	2536+76.94	268.9	Right	Field	473.9	
3.0	2539+90.67	395.1	2541+92.50	591.7	Right	Field	297.1	
4.0	4543+51.30	656.4	777+00.00	123.2	Right	Field	3776.4	
5.0	715+50.00	125.1	3541+34.96	267.3	Left	Field	2533.0	
6.0	1551+78.42	352.7	779+45.00	122.4	Left	Field	2688.3	
Total:							11399	

PCC PAVEMENT



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

Line No.	Road Identification	Direction of Travel	Station From	Station To	Width (FT)	Length (FT)	Area (SY)	Area A(1) (SY)(3)	Area B (SY)(3)	Area C (SY)(3)	Area D (SY)(3)	Area E (SY)(3)	Area F(2) (SY)(3)	Area G (SY)(3)	Area H (SY)(3)	Area by Thickness - Thickness(IN)	Area by Thickness - Area (SY)	Polymer Grid (SY)	Special Backfill (TON)	Modified Subbase (CY)	Granular Subbase (SY)	Remarks
1.0	I-29	NB	715+30.00	732+50.00		1720.00							2751.27			12.0	2751.3		1733.303		2751.27	
2.0	I-29	NB	757+89.85	777+00.00		1910.15							2433.01			12.0	2433.0		1532.798		2433.01	
3.0	I-29	SB	715+50.00	734+60.15		1910.15							2433.01			12.0	2433.0		1532.794		2433.01	
4.0	I-29	SB	762+25.00	779+45.00		1720.00							2751.27			12.0	2751.3		1733.303		2751.27	
5.0	I-29 Ramp A	SB	1549+34.61	1562+26.06	16.0	1291.45	2302.89	360.66	84.40							9.5	2747.9			915.98		
6.0	I-29 Ramp B	NB	2532+49.07	2544+57.70	16.0	1208.63	2155.45	50.38	384.72							9.5	2590.5			863.52		
7.0	I-29 Ramp C	SB	3534+58.92	3550+79.14	16.0	1620.22	2869.86	247.45	230.82							9.5	3348.1			1116.04		
8.0	I-29 Ramp D	NB	4543+72.26	4557+91.09	16.0	1418.83	2511.81	222.43	308.15							9.5	3042.4			1014.13		
9.0	Highway 175	Both	1722+00.00	1743+64.39	24.0	2164.39	5771.77								1681.13	9.5	7452.9			2484.30		
10.0	Highway 175	Both	1748+07.64	1771+49.11	38.0	2341.47	9906.65			744.46						9.5	10651.1			3550.37		
11.0	28th St.	Both	283+34.55	284+13.75	24.0	79.20	198.56	254.25	153.47							9.5	606.3			202.09		
12.0	Filbert Ave.	Both	284+51.80	285+05.64	37.0	53.84	227.27	177.36	108.11							9.5	512.7			170.91		

Total: 6532.198 10317.34 10368.56

Bid Item Quantities  
STANDARD PCC PAVEMENT, 9.5 IN. = 30952.1 SY  
STANDARD PCC PAVEMENT, 12 IN. = 10368.6 SY  
SPECIAL BACKFILL = 6532.2 TON  
MODIFIED SUBBASE = 10317.4 CY  
GRANULAR SUBBASE = 10368.6 SY

PROPOSED POSTED SPEED LIMIT					
Line No.	Roadway Identification	Station From	Station To	Proposed Posted Speed	Remarks
1.0	I-29 (ML029)	715+30.00	779+45.00	over 45	
2.0	IA 175 (SR175)	1722+00.00	1771+50.00	40-45	
3.0	IA 175 Ramp A (RPA175)	1549+34.61	1562+26.06	over 45	
4.0	IA 175 Ramp B (RPB175)	2532+49.07	2544+57.44	over 45	
5.0	IA 175 Ramp C (RPC175)	3534+58.92	3550+79.44	over 45	
6.0	IA 175 Ramp D (RPD175)	4543+72.26	4557+91.09	over 45	

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10/15/24

ACCESS POINTS AND SAFETY RAMPS

Refer to Cross-Sections

Length of Unclassified Pipe calculated is based on using Corrugated Metal Pipe.

(1) Refer to MI-210.

(2) Refer to EW-501.

(3) Refer to EW-501 or EW-502.

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

Line No.	Station	Side	Access Type	Descriptor	Case	Curb Type	Curb Length (1) (LF)	Width (FT)	PR (1) (2) (FT)	SR (2) (FT)	Pipe Culvert (H) (3) (FT)	Pipe Culvert Size (3) (IN)	Culvert Length (3) (LF)	Pipe Culvert Lt. (3) (LF)	Pipe Culvert Rt. (3) (LF)	Culvert Aprons (3) (No.)	Driveway Surface Type	Driveway Surface Area (SY)	Driveway Surfacing Material (TON)	Remarks
1.0	1721+65.00	Left	D					20.0		20.0							Granular	116.5	18.400	[1],[4]
2.0	1729+04.45	Right	D					30.0		30.0	1.8	18.0	72.0	38.58	38.58	2	Granular	219.7	34.597	[1]
3.0	1729+06.20	Left	D		2	1.5 inch Dropped	46.0	30.0			2.3	18.0	72.0	38.58	38.58	2		149.3	23.512	[1],[2],[3]
Total:																			76.509	

- Notes:
- Quantities assume a 3-inch layer of Class A crushed stone.
  - Combination Entrance, granular and P.C. Concrete.
  - Driveway, P.C. Concrete 6 IN. = 67.6 SY
  - Temporary driveway to be removed by the end of project, removal incidental to Surfacing, Driveway, Class A Crushed Stone. Refer to F Sheets and J Sheets.



102\_05  
9/29/23

EXISTING PAVEMENT																				
County	Route	Direction of Travel	Begin Ref. Location Sign	End Ref. Location Sign	Year	Type	Project Number	Surface Type	Surface Depth (IN)	Base Type	Base Depth (IN)	Subbase Type	Subbase Depth (IN)	Removal Type	Removal Depth (IN)	Coarse Aggregate Source	Coarse Aggregate Type	Course Aggregate Durability Class	Reinforcement Type	Remarks
Monona	I-29	NB	101.12	113	2010		ESIMX-029-5(100)95--1S-43	PCC	11.0	GSB	10.5	SBF	12.0			DELL RAPIDS	QUART	1		
Monona	I-29	SB	101.12	113	1961		I-29-6(7)114	PCC	10.0	GSB	4.0					GILMORE CITY	C. LST.	1		
Monona	I 29	SB	112.73	126.55	2010		ESIMX-029-6(167)112--1s-67	HMA	2.0	HMA	4.0					DELL RAPIDS	QUART			
Monona	IA 175	2-Lane	4.66	5.41	1961	1	F-993(1)	PCC	10.0							GILMORE CITY	C. LST.	1		
Monona	IA 175	2-Lane	5.41	6.01	1965	1	I-29-5(16)108	PCC	10.0							HAWARDEN	GRAVEL	2		

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8/15/22

ROADWAY ITEMS FOR DRAINAGE STRUCTURES INSTALLED BY CULVERT CONTRACTOR

\* Not a Bid Item

(1) Backfill according to DR-111

Location	Design No.	Size	Kind	Dike Lt.	Dike Rt.	Dike Station	Dike Top Elevation	Dike Type	Compacting Backfill Adjacent (CY)	Compaction w/ Moisture Control (CY)	Compaction w/ Moisture and Density (CY)	Floodable Backfill* (A) (CY)	Porous Backfill* (B) (CY)	Flooded Backfill (1) (A+B) (CY)	Excavation Type	Excavation Quantity (CY)	Revetment Type	Revetment Quantity (TONS)	Engineering Fabric (SY)	Remarks
2537+85.00	326	8x8	RCB						27.4			37.2	9.6	46.8						
3539+25.00	426	8x8	RCB						30.4			41.4	8.7	50.1						
1735+02.05	226	6x8	RCB						42.6			74.9	7.0	82.0						[1]
Total:									100.4					178.9						

Notes:  
1. 43 CY of Lightweight Foamed Concrete is needed to be placed above the culvert extension. Refer to E sheets for more details.

<div>105_04 10/21/25</div> <div>STANDARDS</div> <div>The following Standards apply to construction work on this project.</div>		
Number	Date	Title
BA-200	04-15-25	Steel Beam Guardrail Components
BA-202	04-15-25	Steel Beam Guardrail Bolted End Anchor
BA-205	10-17-23	Steel Beam Guardrail Tangent End Terminal (MASH TL-3)
BA-209	10-15-24	Steel Beam Guardrail Barrier Transition Section (Mash TL-3, 34in Mounting Height)
BA-250	10-21-25	Steel Beam Guardrail Installation at Concrete Barrier or Bridge End Post (MASH TL-3)
BA-351	10-19-21	High Tension Cable Guardrail
BA-401	04-20-21	Temporary Barrier Rail (Precast Concrete)
BA-500	04-20-21	Temporary Crash Cushions Sand Barrel
DR-101	04-18-17	Pipe Culvert (Bedding and Backfill)
DR-102	04-21-15	Pipe Culvert (Cover and Camber)
DR-103	04-21-15	Pipe Culvert (Installation Details)
DR-104	04-19-16	Depth of Cover Tables for Concrete and Corrugated Pipe
DR-111	04-17-18	Box Culvert (Backfill)
DR-121	04-18-23	Connected Pipe Joints
DR-122	10-18-16	Construction of Type 'C' Concrete Adaptors for Pipe Culvert Connections
DR-141	04-18-17	Pipe Bends and Half Pipe
DR-201	10-17-23	Concrete Aprons
DR-202	10-17-23	Low Clearance Concrete Pipe Aprons
DR-303	10-17-17	Subdrains (Longitudinal)
DR-306	10-17-23	Precast Concrete Headwall for Subdrain Outlets
DR-401	04-16-24	Scour Protection for Bridge End Drain
DR-402	04-16-24	Rock Flume for Bridge End Drain
DR-601	04-18-17	Reinforced Concrete Pipe Culvert
DR-621	04-18-17	Pipe Extension
DR-651	04-18-17	Unclassified Pipe Culvert
EC-103	04-21-15	Wood Excelsior Mat for Slope Protection
EC-201	04-20-21	Silt Fence
EC-204	10-19-21	Perimeter, Slope and Ditch Check Sediment Control Devices
EC-301	10-18-22	Rock Erosion Control (REC)
EC-303	10-19-21	Stabilized Construction Entrance
EC-502	04-21-15	Seeding in Rural Areas
EC-601	10-16-18	Temporary Sediment Control Basin
EC-602	10-15-24	Open-Throat Curb Intake Sediment Filter
EW-301	04-16-24	Guardrail Grading
EW-403	04-18-17	Temporary Erosion Control Measures
EW-501	10-17-23	Rural Entrance
EW-503	10-20-15	Side Road Grading
LI-130	10-17-17	Temporary Floodlighting Luminaires
MI-101	10-20-15	Fencing Layout
MI-103	10-20-15	Deer Fence and Field Fence Construction
MI-104	10-17-17	Fence Construction at Channel Crossings, Flood Plains, and Minor Ground Depressions
MI-210	10-21-25	PCC Driveways and Alleys
PM-110	10-15-24	Line Types
PM-111	04-21-20	Symbols and Legends
PM-115	04-15-25	Grooving for Line Types
PM-120	10-15-24	Stop Lines and Islands
PM-210	10-15-24	Separation in Two-Lane Roadway
PM-310	04-15-25	Entrance and Exit Ramps
PM-521	10-15-24	Two-Lane Roadway with Right Turn Lanes
PM-522	10-15-24	Two-Lane Roadway with Left Turn Lanes
PM-560	10-15-24	Divided Multi-Lane Roadway with no Turn Lanes
PV-12	04-16-24	Milled Shoulder Rumble Strips
PV-101	10-21-25	Joints
PV-102	10-21-25	PCC Curb Details
PV-121	10-21-25	Jointing PCC Pavement Widening

<div>105_04 10/21/25</div> <div>STANDARDS</div> <div>The following Standards apply to construction work on this project.</div>		
Number	Date	Title
PV-303	04-21-20	Superelevation Details Ramps
SI-173	04-19-16	Object Markers
SI-211	10-18-22	Object Marker and Delineator Placement with Guardrail
SI-881	04-16-19	Special Signs for Workzones
SW-102	10-21-25	Rigid Gravity Pipe Trench Bedding
SW-211	10-21-25	Storm Sewer Pipe Connections
SW-509	10-21-25	Double Open-Throat Curb Intake, Small Box
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-202	04-18-23	Work Within 15 ft of Traveled Way
TC-213	04-18-23	Lane Closure with Flaggers
TC-233	10-17-17	Pavement Marking Operations Two-Lane
TC-253	04-18-23	Paved On-Site Detour
TC-283	04-18-23	Surveying Operations
TC-402	04-18-23	Work Within 15 ft of Traveled Way
TC-417	04-21-20	Exit Ramp Closure
TC-418	04-18-23	Lane Closure on Divided Highway
TC-420	10-16-18	Lane Closure at Ramps
TC-421	10-21-25	Lane Closure with TBR
TC-433	10-17-17	Pavement Marking Operations
TC-454	04-18-23	Temporary Detour Using Ramps on Divided Highway

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8/15/22

GRADING FOR GUARDRAIL INSTALLATIONS

Refer to EW-301.

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

Line No.	Direction of Traffic (1)	Station	Side	Foreslope at Guardrail	X1 (FT)	Y1 (FT)	X2 (FT)	Y2 (FT)	X3 (FT)	Y3 (FT)	X4 (FT)	Y4 (FT)	Z (FT)	Excavation Class 10 (CY)	Embankment-in-Place (CY)	Remarks
1.0	EB	1744+55.08	Right	6:1	52.1	6.2	68.8	8.2			138.2	10.9	58.8			Earthwork included in T Sheets

108\_08A

4/25/25

STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION

Possible Standards: BA-200, BA-201, BA-202, BA-205, BA-206, BA-209, BA-210, BA-211, BA-221, BA-225, BA-250, BA-260, LS-625, LS-626, LS-630, LS-635, SI-172, SI-173 and SI-211.

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

(2) Not a bid item. Incidental to guardrail installation.

Line No.	Direction of Travel (1)	Side	Station	Offset (FT)	Barrier Transition Section	Barrier Transition Section (EA)	End Terminal	End Terminal Count (EA)	VT1 (LF)	VF (LF)	VT2 (LF)	ET (LF)	BA-211 Station	BA-211 (Type)	SI-211 (Type) (2)	Delineator SI-172 Type 1 (EA) (2)	Object Marker Type 2 (EA) (2)	Object Marker Type 3 Lt (EA)(2)	Object Marker Type 3 Rt (EA)(2)	Bolted End Anchor BA-202 (Type)	Bolted End Anchor BA-202 (EA)	Post Adapter BA-210 (EA)	Steel Beam Guardrail BA-200 (LF)	Remarks
1.0	EB	Right	1744+55.08	10.3	BA-209	1	BA-205	1	53.125	37.50		47.70			3				1		1		50.0	
2.0	WB	Right	1747+57.64	10.0	BA-209	1	BA-205	1	53.125			47.70				3			1		1		12.5	
Total:						2		2															62.5	



## HIGH TENSION CABLE GUARDRAIL

Refer to BA-351.

108\_09A  
12/15/23

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

Line No.	Item No.	Lane (1)	Station	Side	Offset DO (FT)	Approach CA (FT)	Obstacle CO (FT)	Trailing CT (FT)	Protection Length (CA+CO+CT) (FT)	End Anchor (EA)	Remarks
1.0		NB	744+37.00	Median	8.0	220.0	90.0		310.0	2	
2.0		SB	746+49.00	Median	8.0	220.0	90.0		310.0	2	
<b>Total:</b>									<b>620</b>	<b>4</b>	

<div>108_13A 3/27/25</div> <div><b>SAFETY CLOSURES</b> Refer to Section 2528 of the Standard Specifications</div>			
Station	Road Closure Qty.	Hazard Closure Qty.	Remarks
1721+90.00	1		STG 3,4
1755+51.00	1		STG 3
1762+40.00	1		STG 3
1762+60.00	1		STG 3,4
1771+88.00	1		STG 3,4
2536+30.00	1		STG 3,4,5
1558+15.00	1		STG 3,4
1756+25.00	1		STG 4
1762+10.00	1		STG 4
1763+00.00	1		STG 4
1764+00.00	1		STG 4
1560+07.00	1		STG 4,5
1721+25.10	1		STG 5
1737+25.00	1		STG 5
1756+50.00	1		STG 5
4556+00.00	1		STG 5
1762+00.00	1		STG 6
1763+50.00	1		STG 6
1771+60.00	1		STG 6
283+25.00	1		STG 7
Total: 20			

PAVEMENT MARKING LINE TYPES

Line factors based on 6-inch wide continuous line.

\*BCY4 - Place on the same side of the roadway to match existing markings near the project.

\*\*NPY4 - Estimating purposes only. No Passing Zone Lines will be located in the field.

\*\*\*MNY6 - Factor of 1.00 includes number of 6-inch passes to cover median nose area.

BCY4: Broken Centerline (Yellow) @ 0.17

BCY6: Broken Centerline (Yellow) @ 0.25

BLC6: Broken Line Contrast (White/Black) @ 0.50

BLW4: Broken Lane Line (White) @ 0.17

BLW6: Broken Lane Line (White) @ 0.25

CBW6: Crosswalk Bar (White) @ 10.00

CHW8: Channelizing Line (White) @ 1.33

CHW10: Channelizing Line (White) @ 1.67

CHY8: Channelizing Line (Yellow) @ 1.33

CHY10: Channelizing Line (Yellow) @ 1.67

CLW6: Crosswalk Line (White) @ 2.00

DCY4: Double Centerline (Yellow) @ 1.34

DCY6: Double Centerline (Yellow) @ 2.00

DDY4: Double Dotted Line (Yellow) @ 0.44

DDY6: Double Dotted Line (Yellow) @ 0.67

DLW4: Dotted Line (White) @ 0.22

DLW6: Dotted Line (White) @ 0.33

DLY4: Dotted Line (Yellow) @ 0.22

DLY6: Dotted Line (Yellow) @ 0.33

ELW4: Edge Line Right (White) @ 0.67

ELW6: Edge Line Right (White) @ 1.00

ELY4: Edge Line Left (Yellow) @ 0.67

ELY6: Edge Line Left (Yellow) @ 1.00

LDW8: Lane Drop (White) @ 0.33

LDW10: Lane Drop (White) @ 0.42

MNY6: Median Nose (Yellow) @ 1.00

NPY4: No Passing Zone Line (Yellow) @ 0.84

NPY6: No Passing Zone Line (Yellow) @ 1.25

RLW4: Ramp Edge Line Right (White) @ 0.67

RLW6: Ramp Edge Line Right (White) @ 1.00

RLY4: Ramp Edge Line Left (Yellow) @ 0.67

RLY6: Ramp Edge Line Left (Yellow) @ 1.00

SLW2: Stop Line (White) @ 4.00

SLW4: Solid Lane Line (White) @ 0.67

SLW6: Solid Lane Line (White) @ 1.00

SPW4: Sloped Curb 4" (White) @ 2.16

SPW6: Sloped Curb 6" (White) @ 2.28

SPY4: Sloped Curb 4" (Yellow) @ 2.16

SPY6: Sloped Curb 6" (Yellow) @ 2.28

STW6: Standard Curb 6" (Yellow) @ 2.03

STY6: Standard Curb 6" (Yellow) @ 2.03

YLW2: Yield Line (White) @ 1.15

Road ID	Station From	Station To	Lane	Marking Type	Left	Center	Right	Groove Marking Needed?	Groove Qty. (STA)	BCY6 Factored (STA)	BLW6 Factored (STA)	CHW10 Factored (STA)	CHY10 Factored (STA)	DCY6 Factored (STA)	DLW6 Factored (STA)	ELW6 Factored (STA)	ELY6 Factored (STA)	NPY6** Factored (STA)	RLW6 Factored (STA)	RLY6 Factored (STA)	SLW2 Factored (STA)	SLW6 Factored (STA)	Remarks
SUR I-29	2967+88.46	2972+11.64	NB	Multi-Component Liquid Material	1			Yes	4.23								4.23						STG 8
I-29	700+00.00	777+00.00	NB	Multi-Component Liquid Material	1			Yes	77.00								77.00						STG 8
SUR I-29	2967+88.46	2972+11.64	NB	Multi-Component Liquid Material		1		Yes	4.23		1.06												STG 8
I-29	700+00.00	778+00.00	NB	Multi-Component Liquid Material		1		Yes	78.00		19.50												STG 8
SUR I-29	2967+88.46	2972+11.64	NB	Multi-Component Liquid Material			1	Yes	4.23							4.23							STG 8
I-29	700+00.00	715+30.00	NB	Multi-Component Liquid Material			1	Yes	15.30							15.30							STG 8
I-29	715+30.00	723+30.00	NB	Multi-Component Liquid Material			1	Yes	8.00						2.64								STG 8
I-29	723+30.00	732+50.00	NB	Multi-Component Liquid Material			1	Yes	9.20			15.36											STG 8
I-29	732+50.00	757+76.65	NB	Multi-Component Liquid Material			1	Yes	25.27							25.27							STG 8
I-29	757+76.65	763+50.00	NB	Multi-Component Liquid Material			1	Yes	5.73			9.57											STG 8
I-29	763+50.00	771+00.00	NB	Multi-Component Liquid Material			1	Yes	7.50						2.48								STG 8
I-29	715+50.00	799+00.00	SB	Multi-Component Liquid Material	1			Yes	83.50								83.50						STG 8
I-29	714+50.00	799+00.00	SB	Multi-Component Liquid Material		1		Yes	84.50		21.13												STG 8
I-29	721+50.00	729+00.00	SB	Multi-Component Liquid Material			1	Yes	7.50						2.48								STG 8
I-29	729+00.00	734+60.15	SB	Multi-Component Liquid Material			1	Yes	5.60			9.35											STG 8
I-29	734+60.15	762+25.00	SB	Multi-Component Liquid Material			1	Yes	27.65							27.65							STG 8
I-29	762+25.00	771+45.00	SB	Multi-Component Liquid Material			1	Yes	9.20			15.36											STG 8
I-29	771+45.00	779+45.00	SB	Multi-Component Liquid Material			1	Yes	8.00						2.64								STG 8
I-29	779+45.00	799+00.00	SB	Multi-Component Liquid Material			1	Yes	19.55							19.55							STG 8

Marking Type Multi-Component Liquid Material: 41.69 49.64 10.24 92 164.73

I-29	705+87.97	744+00.00	NB	Removal of Paint	1												38.12						STG 1
I-29	705+87.97	751+00.00	NB	Removal of Paint		1					11.28												STG 1
I-29	750+00.00	783+94.16	SB	Removal of Paint	1												33.94						STG 1
I-29	743+00.00	783+94.16	SB	Removal of Paint		1					10.23												STG 1
IA 175 Ramp D	4543+51.30	4543+51.30	NB	Removal of Paint			1												1.71				STG 1
IA 175 Ramp D	4543+51.30	4543+51.30	NB	Removal of Paint	1															3.20			STG 1
IA 175	1756+57.14	1761+43.98	Right	Removal of Paint			1									4.87							STG 1
IA 175	1761+66.02	1761+77.77	Right	Removal of Paint			1									0.12							STG 1
IA 175	1763+37.53	1763+42.01	Right	Removal of Paint			1									0.05							STG 1
IA 175	1763+57.99	1767+36.48	Right	Removal of Paint			1									3.84							STG 1
IA 175	1712+62.77	1734+00.00	Center	Removal of Paint		1				5.34													STG 1
IA 175	1734+00.00	1741+00.00	Center	Removal of Paint		1												8.75					STG 1
IA 175	1741+00.00	1749+50.00	Center	Removal of Paint		1								17.00									STG 1
IA 175	1749+50.00	1774+82.35	Center	Removal of Paint		1												31.72					STG 1
IA 175	1774+82.35	1777+80.17	Center	Removal of Paint		1								5.96									STG 1
IA 175	1754+08.80	1755+58.12	Left	Removal of Paint	1						2.49												STG 1
IA 175	1756+57.89	1757+63.93	Left	Removal of Paint	1						2.05												STG 1
IA 175	1759+07.23	1761+86.69	Left	Removal of Paint	1											2.79							STG 1
IA 175	1763+11.91	1767+36.48	Left	Removal of Paint	1											4.25							STG 1
28th St	283+22.41	284+14.49	Left	Removal of Paint	1											1.35							STG 1 - Includes Returns

PAVEMENT MARKING LINE TYPES

Line factors based on 6-inch wide continuous line.

\*BCY4 - Place on the same side of the roadway to match existing markings near the project.

\*\*NPY4 - Estimating purposes only. No Passing Zone Lines will be located in the field.

\*\*\*MNY6 - Factor of 1.00 includes number of 6-inch passes to cover median nose area.

BCY4: Broken Centerline (Yellow) @ 0.17

BCY6: Broken Centerline (Yellow) @ 0.25

BLC6: Broken Line Contrast (White/Black) @ 0.50

BLW4: Broken Lane Line (White) @ 0.17

BLW6: Broken Lane Line (White) @ 0.25

CBW6: Crosswalk Bar (White) @ 10.00

CHW8: Channelizing Line (White) @ 1.33

CHW10: Channelizing Line (White) @ 1.67

CHY8: Channelizing Line (Yellow) @ 1.33

CHY10: Channelizing Line (Yellow) @ 1.67

CLW6: Crosswalk Line (White) @ 2.00

DCY4: Double Centerline (Yellow) @ 1.34

DCY6: Double Centerline (Yellow) @ 2.00

DDY4: Double Dotted Line (Yellow) @ 0.44

DDY6: Double Dotted Line (Yellow) @ 0.67

DLW4: Dotted Line (White) @ 0.22

DLW6: Dotted Line (White) @ 0.33

DLY4: Dotted Line (Yellow) @ 0.22

DLY6: Dotted Line (Yellow) @ 0.33

ELW4: Edge Line Right (White) @ 0.67

ELW6: Edge Line Right (White) @ 1.00

ELY4: Edge Line Left (Yellow) @ 0.67

ELY6: Edge Line Left (Yellow) @ 1.00

LDW8: Lane Drop (White) @ 0.33

LDW10: Lane Drop (White) @ 0.42

MNY6: Median Nose (Yellow) @ 1.00

NPY4: No Passing Zone Line (Yellow) @ 0.84

NPY6: No Passing Zone Line (Yellow) @ 1.25

RLW4: Ramp Edge Line Right (White) @ 0.67

RLW6: Ramp Edge Line Right (White) @ 1.00

RLY4: Ramp Edge Line Left (Yellow) @ 0.67

RLY6: Ramp Edge Line Left (Yellow) @ 1.00

SLW2: Stop Line (White) @ 4.00

SLW4: Solid Lane Line (White) @ 0.67

SLW6: Solid Lane Line (White) @ 1.00

SPW4: Sloped Curb 4" (White) @ 2.16

SPW6: Sloped Curb 6" (White) @ 2.28

SPY4: Sloped Curb 4" (Yellow) @ 2.16

SPY6: Sloped Curb 6" (Yellow) @ 2.28

STW6: Standard Curb 6" (Yellow) @ 2.03

STY6: Standard Curb 6" (Yellow) @ 2.03

YLW2: Yield Line (White) @ 1.15

Road ID	Station From	Station To	Lane	Marking Type	Left	Center	Right	Groove Marking Needed?	Groove Qty. (STA)	BCY6 Factored (STA)	BLW6 Factored (STA)	CHW10 Factored (STA)	CHY10 Factored (STA)	DCY6 Factored (STA)	DLW6 Factored (STA)	ELW6 Factored (STA)	ELY6 Factored (STA)	NPY6** Factored (STA)	RLW6 Factored (STA)	RLY6 Factored (STA)	SLW2 Factored (STA)	SLW6 Factored (STA)	Remarks
28th St	283+22.44	284+12.79	Right	Removal of Paint			1									1.30							STG 1 - Includes Return
28th St	284+38.38	284+92.31	Left	Removal of Paint	1											0.85							STG 1 - Return
28th St	284+47.55	284+82.55	Right	Removal of Paint			1									0.51							STG 1 - Return
I-29	706+41.91	750+00.00	NB	Removal of Paint	1												43.58						STG 2
SUR I-29	2967+88.46	2972+11.64	NB	Removal of Paint		1					1.06												STG 2
I-29	700+00.00	706+41.92	NB	Removal of Paint		1					1.60												STG 2
I-29	751+00.00	778+00.00	NB	Removal of Paint		1					6.75												STG 2
SUR I-29	2967+88.46	2972+11.64	NB	Removal of Paint			1										4.23						STG 2
I-29	700+00.00	724+63.94	NB	Removal of Paint			1										24.64						STG 2
I-29	727+02.88	731+04.44	NB	Removal of Paint			1					6.71											STG 2
I-29/Ramp B	727+02.88	731+04.44	NB	Removal of Paint	1							6.71											STG 2
I-29	731+04.44	732+50.00	NB	Removal of Paint			1									1.46							STG 2
I-29	736+27.90	759+73.76	NB	Removal of Paint			1									23.46							STG 2
I-29	759+73.76	763+62.91	NB	Removal of Paint			1					6.50											STG 2
I-29/Ramp D	759+73.76	763+62.91	NB	Removal of Paint	1							6.50											STG 2
I-29	744+00.00	783+94.16	SB	Removal of Paint	1												39.94						STG 2
I-29	714+50.00	743+00.00	SB	Removal of Paint		1					7.13												STG 2
I-29	783+94.16	799+00.00	SB	Removal of Paint		1					3.77												STG 2
I-29	728+20.63	731+75.71	SB	Removal of Paint			1					5.93											STG 2
I-29/Ramp C	728+20.63	731+75.71	SB	Removal of Paint	1							5.93											STG 2
I-29	731+75.71	757+87.28	SB	Removal of Paint			1									26.12							STG 2
I-29	760+90.83	761+55.83	SB	Removal of Paint			1									0.65							STG 2
I-29	761+55.83	763+20.96	SB	Removal of Paint			1					2.76											STG 2
I-29/Ramp A	761+55.83	763+20.96	SB	Removal of Paint	1							2.76											STG 2
I-29	765+74.23	799+00.00	SB	Removal of Paint			1									33.26							STG 2
IA 175 Ramp C	3531+75.69	3539+03.95	SB	Removal of Paint	1															7.22			STG 2
IA 175 Ramp C	3536+95.67	3539+02.88	SB	Removal of Paint			1												2.00				STG 2
IA 175 Ramp D	4552+54.59	4559+74.19	NB	Removal of Paint	1															7.19			STG 2
IA 175 Ramp D	4552+55.49	4554+58.94	NB	Removal of Paint			1												2.00				STG 2
I-29	758+28.14	759+78.58	NB	Removal of Paint			1					2.50											STG 3
I-29/Ramp D	759+23.18	759+78.58	NB	Removal of Paint	1							0.92											STG 3
I-29/Ramp D	762+10.01	763+87.72	NB	Removal of Paint			1												1.78				STG 3
I-29	763+87.72	778+00.00	NB	Removal of Paint			1									14.12							STG 3
I-29	714+50.00	727+32.51	SB	Removal of Paint			1									12.83							STG 3
I-29/Ramp C	727+32.51	729+07.09	SB	Removal of Paint			1												1.75				STG 3
I-29	731+35.50	732+91.91	SB	Removal of Paint			1																STG 3
I-29/Ramp C	731+35.50	732+01.26	SB	Removal of Paint	1							1.10											STG 3
IA 175 Ramp C	3533+80.38	3539+03.95	SB	Removal of Paint	1															5.18			STG 3
IA 175 Ramp C	3531+70.56	3539+02.88	SB	Removal of Paint			1												7.23				STG 3
IA 175 Ramp D	4552+54.59	4556+84.77	NB	Removal of Paint	1															4.28			STG 3
IA 175 Ramp D	4552+55.49	4557+82.26	NB	Removal of Paint			1												5.23				STG 3
IA 175 Ramp D	4543+51.30	4543+51.30	NB	Removal of Paint			1												1.20				STG 3

PAVEMENT MARKING LINE TYPES

Line factors based on 6-inch wide continuous line.

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\*\*NPY4 - Estimating purposes only. No Passing Zone Lines will be located in the field.

\*\*\*MNY6 - Factor of 1.00 includes number of 6-inch passes to cover median nose area.

BCY4: Broken Centerline (Yellow) @ 0.17

BCY6: Broken Centerline (Yellow) @ 0.25

BLC6: Broken Line Contrast (White/Black) @ 0.50

BLW4: Broken Lane Line (White) @ 0.17

BLW6: Broken Lane Line (White) @ 0.25

CBW6: Crosswalk Bar (White) @ 10.00

CHW8: Channelizing Line (White) @ 1.33

CHW10: Channelizing Line (White) @ 1.67

CHY8: Channelizing Line (Yellow) @ 1.33

CHY10: Channelizing Line (Yellow) @ 1.67

CLW6: Crosswalk Line (White) @ 2.00

DCY4: Double Centerline (Yellow) @ 1.34

DCY6: Double Centerline (Yellow) @ 2.00

DDY4: Double Dotted Line (Yellow) @ 0.44

DDY6: Double Dotted Line (Yellow) @ 0.67

DLW4: Dotted Line (White) @ 0.22

DLW6: Dotted Line (White) @ 0.33

DLY4: Dotted Line (Yellow) @ 0.22

DLY6: Dotted Line (Yellow) @ 0.33

ELW4: Edge Line Right (White) @ 0.67

ELW6: Edge Line Right (White) @ 1.00

ELY4: Edge Line Left (Yellow) @ 0.67

ELY6: Edge Line Left (Yellow) @ 1.00

LDW8: Lane Drop (White) @ 0.33

LDW10: Lane Drop (White) @ 0.42

MNY6: Median Nose (Yellow) @ 1.00

NPY4: No Passing Zone Line (Yellow) @ 0.84

NPY6: No Passing Zone Line (Yellow) @ 1.25

RLW4: Ramp Edge Line Right (White) @ 0.67

RLW6: Ramp Edge Line Right (White) @ 1.00

RLY4: Ramp Edge Line Left (Yellow) @ 0.67

RLY6: Ramp Edge Line Left (Yellow) @ 1.00

SLW2: Stop Line (White) @ 4.00

SLW4: Solid Lane Line (White) @ 0.67

SLW6: Solid Lane Line (White) @ 1.00

SPW4: Sloped Curb 4" (White) @ 2.16

SPW6: Sloped Curb 6" (White) @ 2.28

SPY4: Sloped Curb 4" (Yellow) @ 2.16

SPY6: Sloped Curb 6" (Yellow) @ 2.28

STW6: Standard Curb 6" (Yellow) @ 2.03

STY6: Standard Curb 6" (Yellow) @ 2.03

YLW2: Yield Line (White) @ 1.15

Road ID	Station From	Station To	Lane	Marking Type	Left	Center	Right	Groove Marking Needed?	Groove Qty. (STA)	BCY6 Factored (STA)	BLW6 Factored (STA)	CHW10 Factored (STA)	CHY10 Factored (STA)	DCY6 Factored (STA)	DLW6 Factored (STA)	ELW6 Factored (STA)	ELY6 Factored (STA)	NPY6** Factored (STA)	RLW6 Factored (STA)	RLY6 Factored (STA)	SLW2 Factored (STA)	SLW6 Factored (STA)	Remarks
IA 175 Ramp D	4543+51.30	4544+70.01	NB	Removal of Paint			1												3.54				STG 3
IA 175	1712+74.54	1722+00.00	Right	Removal of Paint			1									9.25							STG 3
IA 175	1725+00.00	1733+58.61	Right	Removal of Paint			1									8.57							STG 3
IA 175	1756+51.49	1760+61.19	Right	Removal of Paint			1									4.11							STG 3
IA 175	1771+49.11	1777+71.64	Right	Removal of Paint			1									6.23							STG 3
IA 175	1712+62.77	1722+00.00	Center	Removal of Paint		1								18.74									STG 3
IA 175	1727+24.89	1733+66.33	Center	Removal of Paint		1								12.80									STG 3
IA 175	1756+58.58	1760+00.00	Center	Removal of Paint		1								6.82									STG 3
IA 175	1771+49.11	1777+80.17	Center	Removal of Paint		1								12.62									STG 3
IA 175	1712+51.15	1722+00.00	Left	Removal of Paint	1											9.49							STG 3
IA 175	1729+37.58	1733+74.04	Left	Removal of Paint	1											4.36							STG 3
IA 175	1754+08.80	1757+47.30	Left	Removal of Paint	1							6.11											STG 3
IA 175	1771+49.11	1771+81.16	Left	Removal of Paint	1											0.32							STG 3
IA 175	1773+31.15	1777+88.69	Left	Removal of Paint	1											4.58							STG 3
28th St	283+24.19	284+20.78	Left	Removal of Paint	1											0.99							STG 3 - Includes Return
28th St	283+69.93	284+17.43	Center	Removal of Paint		1								0.94									STG 3
28th St	284+17.43	284+17.43	Right	Removal of Paint		1														0.72			STG 3
28th St	283+22.97	284+18.83	Right	Removal of Paint			1									0.98							STG 3 - Includes Return
28th St	285+03.21	285+16.99	Right	Removal of Paint			1									0.29							STG 3 - Return
26th St	1771+81.16	1772+36.25	Left	Removal of Paint	1											0.87							STG 3 - Return
26th St	1772+76.07	1773+31.15	Right	Removal of Paint			1									0.87							STG 3 - Return
SUR I-29	2967+88.46	2972+11.64	NB	Removal of Paint			1									4.23							STG 4
I-29	700+00.00	722+85.15	NB	Removal of Paint			1									22.85							STG 3
I-29/Ramp B	722+85.15	724+63.94	NB	Removal of Paint			1												1.79				STG 4
I-29	730+04.12	731+00.97	NB	Removal of Paint			1					1.62											STG 4
I-29/Ramp B	730+04.12	731+00.97	NB	Removal of Paint	1							1.79											STG 4
I-29	731+00.97	763+87.38	NB	Removal of Paint			1									32.86							STG 4
I-29	763+87.38	777+00.00	NB	Removal of Paint			1					21.93											STG 4
I-29/Ramp D	763+87.38	777+00.00	NB	Removal of Paint	1							21.93											STG 4
I-29	777+00.00	778+00.00	NB	Removal of Paint		1																1.00	STG 4
I-29	714+50.00	715+50.00	SB	Removal of Paint		1																1.00	STG 4
I-29	715+50.00	727+33.18	SB	Removal of Paint			1					19.76											STG 4
I-29/Ramp C	715+50.00	727+33.18	SB	Removal of Paint	1							19.76											STG 4
I-29	727+33.18	761+55.83	SB	Removal of Paint			1									34.23							STG 4
I-29	761+55.83	762+62.02	SB	Removal of Paint			1					1.77											STG 4
I-29/Ramp A	761+55.83	762+62.02	SB	Removal of Paint	1							1.82											STG 4
I-29/Ramp A	761+57.23	767+63.81	SB	Removal of Paint			1												6.08				STG 4
I-29	767+63.81	799+00.00	SB	Removal of Paint			1									31.36							STG 4
IA 175 Ramp A	1560+19.77	1561+57.94	SB	Removal of Paint	1															1.39			STG 4
IA 175 Ramp A	1560+22.57	1561+57.89	SB	Removal of Paint			1												1.36				STG 4
IA 175 Ramp D	4544+15.26	4546+48.47	NB	Removal of Paint	1															3.08			STG 4
IA 175 Ramp D	4543+68.96	4546+51.76	NB	Removal of Paint			1												4.89				STG 4

PAVEMENT MARKING LINE TYPES

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\*\*NPY4 - Estimating purposes only. No Passing Zone Lines will be located in the field.

\*\*\*MNY6 - Factor of 1.00 includes number of 6-inch passes to cover median nose area.

BCY4: Broken Centerline (Yellow) @ 0.17

BCY6: Broken Centerline (Yellow) @ 0.25

BLC6: Broken Line Contrast (White/Black) @ 0.50

BLW4: Broken Lane Line (White) @ 0.17

BLW6: Broken Lane Line (White) @ 0.25

CBW6: Crosswalk Bar (White) @ 10.00

CHW8: Channelizing Line (White) @ 1.33

CHW10: Channelizing Line (White) @ 1.67

CHY8: Channelizing Line (Yellow) @ 1.33

CHY10: Channelizing Line (Yellow) @ 1.67

CLW6: Crosswalk Line (White) @ 2.00

DCY4: Double Centerline (Yellow) @ 1.34

DCY6: Double Centerline (Yellow) @ 2.00

DDY4: Double Dotted Line (Yellow) @ 0.44

DDY6: Double Dotted Line (Yellow) @ 0.67

DLW4: Dotted Line (White) @ 0.22

DLW6: Dotted Line (White) @ 0.33

DLY4: Dotted Line (Yellow) @ 0.22

DLY6: Dotted Line (Yellow) @ 0.33

ELW4: Edge Line Right (White) @ 0.67

ELW6: Edge Line Right (White) @ 1.00

ELY4: Edge Line Left (Yellow) @ 0.67

ELY6: Edge Line Left (Yellow) @ 1.00

LDW8: Lane Drop (White) @ 0.33

LDW10: Lane Drop (White) @ 0.42

MNY6: Median Nose (Yellow) @ 1.00

NPY4: No Passing Zone Line (Yellow) @ 0.84

NPY6: No Passing Zone Line (Yellow) @ 1.25

RLW4: Ramp Edge Line Right (White) @ 0.67

RLW6: Ramp Edge Line Right (White) @ 1.00

RLY4: Ramp Edge Line Left (Yellow) @ 0.67

RLY6: Ramp Edge Line Left (Yellow) @ 1.00

SLW2: Stop Line (White) @ 4.00

SLW4: Solid Lane Line (White) @ 0.67

SLW6: Solid Lane Line (White) @ 1.00

SPW4: Sloped Curb 4" (White) @ 2.16

SPW6: Sloped Curb 6" (White) @ 2.28

SPY4: Sloped Curb 4" (Yellow) @ 2.16

SPY6: Sloped Curb 6" (Yellow) @ 2.28

STW6: Standard Curb 6" (Yellow) @ 2.03

STY6: Standard Curb 6" (Yellow) @ 2.03

YLW2: Yield Line (White) @ 1.15

Road ID	Station From	Station To	Lane	Marking Type	Left	Center	Right	Groove Marking Needed?	Groove Qty. (STA)	BCY6 Factored (STA)	BLW6 Factored (STA)	CHW10 Factored (STA)	CHY10 Factored (STA)	DCY6 Factored (STA)	DLW6 Factored (STA)	ELW6 Factored (STA)	ELY6 Factored (STA)	NPY6** Factored (STA)	RLW6 Factored (STA)	RLY6 Factored (STA)	SLW2 Factored (STA)	SLW6 Factored (STA)	Remarks
IA 175/Ramp A	1733+74.04	1735+35.03	Left	Removal of Paint	1														1.60				STG 4 - Return
IA 175/Ramp A	1736+69.81	1736+83.79	Left	Removal of Paint	1															0.17			STG 4 - Return
IA 175/Ramp D	1750+81.69	1753+89.62	Left	Removal of Paint	1											3.08							STG 4 - Includes Return
I-29/Ramp D	1755+37.69	1761+90.42	Left	Removal of Paint	1											6.53							STG 4 - Includes Return
I-29/Ramp B	724+63.94	731+05.62	NB	Removal of Paint			1												6.43				STG 5
I-29/Ramp B	727+02.88	731+04.44	NB	Removal of Paint	1							6.71											STG 5
I-29	727+02.88	731+04.44	NB	Removal of Paint			1					6.71											STG 5
I-29	757+76.65	763+87.72	NB	Removal of Paint			1									6.11							STG 5
I-29	763+87.72	766+66.79	NB	Removal of Paint			1					4.66											STG 5
I-29/Ramp D	763+87.72	766+66.79	NB	Removal of Paint	1							4.68											STG 5
I-29/Ramp D	761+00.00	763+87.72	NB	Removal of Paint	1															2.88			STG 5
I-29/Ramp D	761+00.00	777+00.00	NB	Removal of Paint			1												16.00				STG 5
I-29	758+53.28	762+14.87	SB	Removal of Paint			1									3.62							STG 5
IA 175 Ramp C	3550+82.05	3551+00.10	SB	Removal of Paint			1												0.79				STG 5
IA 175 Ramp D	4557+71.88	4561+00.00	NB	Removal of Paint	1															3.26			STG 5
IA 175 Ramp D	4557+80.43	4561+00.00	NB	Removal of Paint			1												3.15				STG 5
Detour Ramp D	11760+00.00	11765+46.50	NB	Removal of Paint	1															5.50			STG 5
Detour Ramp D	11760+00.00	11765+46.50	NB	Removal of Paint			1												5.50				STG 5
IA 175/Detour Ramp D	1759+68.02	1760+00.40	NB	Removal of Paint	1															0.32			STG 5
IA 175/Detour Ramp D	1760+00.40	1761+05.45	NB	Removal of Paint	1							1.84											STG 5
IA 175/Detour Ramp D	1759+69.49	1761+90.42	NB	Removal of Paint			1												2.26				STG 5
IA 175	1712+74.54	1719+80.81	Right	Removal of Paint			1									7.07							STG 5
IA 175	1722+00.00	1727+06.66	Right	Removal of Paint			1									5.06							STG 5
IA 175	1735+73.27	1736+96.32	Right	Removal of Paint			1					2.05											STG 5
IA 175	1759+99.82	1761+90.38	Right	Removal of Paint			1									1.91							STG 5
IA 175	1763+27.01	1772+13.44	Right	Removal of Paint			1									8.86							STG 5
IA 175	1773+12.70	1777+50.01	Right	Removal of Paint			1									4.39							STG 5
IA 175	1712+62.77	1738+30.71	Center	Removal of Paint		1								51.26									STG 5
IA 175	1760+00.00	1777+58.11	Center	Removal of Paint		1								35.34									STG 5
IA 175	1712+51.15	1738+27.64	Left	Removal of Paint	1											25.76							STG 5
IA 175	1760+00.18	1761+05.46	Left	Removal of Paint	1							1.75											STG 5
IA 175	1761+90.42	1771+70.82	Left	Removal of Paint	1											9.80							STG 5
IA 175	1773+45.87	1777+66.11	Left	Removal of Paint	1											4.20							STG 5
Filbert Ave	1719+80.81	1720+65.82	Left	Removal of Paint	1											1.31							STG 5 - Includes Return
Filbert Ave	1720+52.51	1721+03.57	Right	Removal of Paint		1															2.16		STG 5
Filbert Ave	1720+87.44	1722+00.00	Right	Removal of Paint			1									1.65							STG 5 - Return
28th St	283+22.42	283+84.04	Left	Removal of Paint	1											0.93							STG 5 - Return
28th St	283+70.94	283+70.94	Right	Removal of Paint		1															1.28		STG 5
28th St	283+22.97	283+77.99	Right	Removal of Paint			1									0.88							STG 5 - Return
26th St	1772+13.44	1772+41.50	Left	Removal of Paint	1											0.59							STG 5 - Includes Return
26th St	1772+64.78	1772+91.08	Right	Removal of Paint		1															1.04		STG 5
26th St	1772+87.30	1773+12.70	Right	Removal of Paint			1									0.42							STG 5 - Return

PAVEMENT MARKING LINE TYPES

Line factors based on 6-inch wide continuous line.

\*BCY4 - Place on the same side of the roadway to match existing markings near the project.

\*\*NPY4 - Estimating purposes only. No Passing Zone Lines will be located in the field.

\*\*\*MNY6 - Factor of 1.00 includes number of 6-inch passes to cover median nose area.

BCY4: Broken Centerline (Yellow) @ 0.17

BCY6: Broken Centerline (Yellow) @ 0.25

BLC6: Broken Line Contrast (White/Black) @ 0.50

BLW4: Broken Lane Line (White) @ 0.17

BLW6: Broken Lane Line (White) @ 0.25

CBW6: Crosswalk Bar (White) @ 10.00

CHW8: Channelizing Line (White) @ 1.33

CHW10: Channelizing Line (White) @ 1.67

CHY8: Channelizing Line (Yellow) @ 1.33

CHY10: Channelizing Line (Yellow) @ 1.67

CLW6: Crosswalk Line (White) @ 2.00

DCY4: Double Centerline (Yellow) @ 1.34

DCY6: Double Centerline (Yellow) @ 2.00

DDY4: Double Dotted Line (Yellow) @ 0.44

DDY6: Double Dotted Line (Yellow) @ 0.67

DLW4: Dotted Line (White) @ 0.22

DLW6: Dotted Line (White) @ 0.33

DLY4: Dotted Line (Yellow) @ 0.22

DLY6: Dotted Line (Yellow) @ 0.33

ELW4: Edge Line Right (White) @ 0.67

ELW6: Edge Line Right (White) @ 1.00

ELY4: Edge Line Left (Yellow) @ 0.67

ELY6: Edge Line Left (Yellow) @ 1.00

LDW8: Lane Drop (White) @ 0.33

LDW10: Lane Drop (White) @ 0.42

MNY6: Median Nose (Yellow) @ 1.00

NPY4: No Passing Zone Line (Yellow) @ 0.84

NPY6: No Passing Zone Line (Yellow) @ 1.25

RLW4: Ramp Edge Line Right (White) @ 0.67

RLW6: Ramp Edge Line Right (White) @ 1.00

RLY4: Ramp Edge Line Left (Yellow) @ 0.67

RLY6: Ramp Edge Line Left (Yellow) @ 1.00

SLW2: Stop Line (White) @ 4.00

SLW4: Solid Lane Line (White) @ 0.67

SLW6: Solid Lane Line (White) @ 1.00

SPW4: Sloped Curb 4" (White) @ 2.16

SPW6: Sloped Curb 6" (White) @ 2.28

SPY4: Sloped Curb 4" (Yellow) @ 2.16

SPY6: Sloped Curb 6" (Yellow) @ 2.28

STW6: Standard Curb 6" (Yellow) @ 2.03

STY6: Standard Curb 6" (Yellow) @ 2.03

YLV2: Yield Line (White) @ 1.15

Road ID	Station From	Station To	Lane	Marking Type	Left	Center	Right	Groove Marking Needed?	Groove Qty. (STA)	BCY6 Factored (STA)	BLW6 Factored (STA)	CHW10 Factored (STA)	CHY10 Factored (STA)	DCY6 Factored (STA)	DLW6 Factored (STA)	ELW6 Factored (STA)	ELY6 Factored (STA)	NPY6** Factored (STA)	RLW6 Factored (STA)	RLY6 Factored (STA)	SLW2 Factored (STA)	SLW6 Factored (STA)	Remarks
26th St	1771+70.82	1772+40.05	Left	Removal of Paint	1											1.10							STG 5 - Return
26th St	1772+25.44	1772+63.12	Left	Removal of Paint	1																1.68		STG 5
26th St	1772+60.13	1772+63.12	Center	Removal of Paint		1								0.68									STG 5
26th St	1772+76.04	1773+45.87	Right	Removal of Paint			1									1.06							STG 5 - Return
SUR I-29	2967+88.46	2972+11.64	NB	Removal of Paint		1					1.06												STG 6
I-29	700+00.00	762+53.07	NB	Removal of Paint		1					15.63												STG 6
SUR I-29	2967+88.46	2972+11.64	NB	Removal of Paint			1									4.23							STG 6
I-29	700+00.00	715+30.00	NB	Removal of Paint			1									15.30							STG 6
I-29	732+50.00	744+35.00	NB	Removal of Paint			1									11.85							STG 6
I-29	747+74.00	757+89.85	NB	Removal of Paint			1									10.16							STG 6
I-29	757+89.85	763+50.00	NB	Removal of Paint			1					9.35											STG 6
I-29	763+50.00	777+00.00	NB	Removal of Paint			1								4.46								STG 6
I-29/Ramp D	759+73.07	777+00.00	NB	Removal of Paint			1												17.27				STG 6
I-29	730+00.00	799+00.00	SB	Removal of Paint		1					17.25												STG 6
I-29	715+50.00	724+53.53	SB	Removal of Paint			1								2.98								STG 6
I-29/Ramp C	715+50.00	720+81.58	SB	Removal of Paint			1												5.32				STG 6
I-29/Ramp C	724+53.53	726+54.60	SB	Removal of Paint	1							3.36											STG 6
I-29	724+53.53	727+32.89	SB	Removal of Paint			1					4.66											STG 6
I-29	727+32.89	746+24.00	SB	Removal of Paint			1									18.91							STG 6
I-29	748+43.00	758+53.28	SB	Removal of Paint			1									10.10							STG 6
I-29	758+53.28	759+33.75	SB	Removal of Paint			1						1.34										STG 6
I-29/Detour Ramp A	758+53.28	759+33.75	SB	Removal of Paint	1							1.35											STG 6
I-29/Detour Ramp A	759+35.71	762+25.00	SB	Removal of Paint			1												2.89				STG 6
I-29	779+45.00	799+00.00	SB	Removal of Paint			1									19.55							STG 6
IA 175/Ramp C	1721+34.56	1722+67.98	SB	Removal of Paint			1												1.34				STG 6
IA 175/Ramp C	1722+86.47	1724+48.38	SB	Removal of Paint	1							2.74											STG 6
IA 175	1722+86.47	1725+13.70	Right	Removal of Paint			1					3.87											STG 6
IA 175	1738+48.32	1740+86.55	Right	Removal of Paint			1									2.38							STG 6
IA 175	1750+25.39	1752+36.21	Right	Removal of Paint			1									2.11							STG 6
26th St	1771+89.93	1772+39.90	Left	Removal of Paint	1											0.83							STG 6
SUR I-29	2967+88.46	2972+11.64	NB	Removal of Paint			1									4.23							STG 7
I-29	700+00.00	732+00.00	NB	Removal of Paint			1									32.00							STG 7
I-29/Detour Ramp B	732+00.00	734+40.34	NB	Removal of Paint			1												2.40				STG 7
I-29/Detour Ramp B	734+80.34	735+60.34	NB	Removal of Paint	1							1.39											STG 7
I-29	734+80.34	735+60.34	NB	Removal of Paint			1					1.34											STG 7
I-29	735+60.34	757+89.85	NB	Removal of Paint			1									22.30							STG 7
I-29	757+89.85	762+53.07	NB	Removal of Paint			1					7.73											STG 7
I-29/Ramp D	759+73.07	762+53.07	NB	Removal of Paint	1							4.68											STG 7
I-29/Ramp D	759+73.07	762+53.07	NB	Removal of Paint			1												2.80				STG 7
I-29	762+53.07	777+00.00	NB	Removal of Paint			1									14.47							STG 7
I-29	715+50.00	730+00.00	SB	Removal of Paint			1									14.50							STG 7
I-29/Ramp C	730+00.00	732+80.00	SB	Removal of Paint			1												2.80				STG 7



PAVEMENT MARKING LINE TYPES

Line factors based on 6-inch wide continuous line.

\*BCY4 - Place on the same side of the roadway to match existing markings near the project.

\*\*NPY4 - Estimating purposes only. No Passing Zone Lines will be located in the field.

\*\*\*MNY6 - Factor of 1.00 includes number of 6-inch passes to cover median nose area.

BCY4: Broken Centerline (Yellow) @ 0.17

BCY6: Broken Centerline (Yellow) @ 0.25

BLC6: Broken Line Contrast (White/Black) @ 0.50

BLW4: Broken Lane Line (White) @ 0.17

BLW6: Broken Lane Line (White) @ 0.25

CBW6: Crosswalk Bar (White) @ 10.00

CHW8: Channelizing Line (White) @ 1.33

CHW10: Channelizing Line (White) @ 1.67

CHY8: Channelizing Line (Yellow) @ 1.33

CHY10: Channelizing Line (Yellow) @ 1.67

CLW6: Crosswalk Line (White) @ 2.00

DCY4: Double Centerline (Yellow) @ 1.34

DCY6: Double Centerline (Yellow) @ 2.00

DDY4: Double Dotted Line (Yellow) @ 0.44

DDY6: Double Dotted Line (Yellow) @ 0.67

DLW4: Dotted Line (White) @ 0.22

DLW6: Dotted Line (White) @ 0.33

DLY4: Dotted Line (Yellow) @ 0.22

DLY6: Dotted Line (Yellow) @ 0.33

ELW4: Edge Line Right (White) @ 0.67

ELW6: Edge Line Right (White) @ 1.00

ELY4: Edge Line Left (Yellow) @ 0.67

ELY6: Edge Line Left (Yellow) @ 1.00

LDW8: Lane Drop (White) @ 0.33

LDW10: Lane Drop (White) @ 0.42

MNY6: Median Nose (Yellow) @ 1.00

NPY4: No Passing Zone Line (Yellow) @ 0.84

NPY6: No Passing Zone Line (Yellow) @ 1.25

RLW4: Ramp Edge Line Right (White) @ 0.67

RLW6: Ramp Edge Line Right (White) @ 1.00

RLY4: Ramp Edge Line Left (Yellow) @ 0.67

RLY6: Ramp Edge Line Left (Yellow) @ 1.00

SLW2: Stop Line (White) @ 4.00

SLW4: Solid Lane Line (White) @ 0.67

SLW6: Solid Lane Line (White) @ 1.00

SPW4: Sloped Curb 4" (White) @ 2.16

SPW6: Sloped Curb 6" (White) @ 2.28

SPY4: Sloped Curb 4" (Yellow) @ 2.16

SPY6: Sloped Curb 6" (Yellow) @ 2.28

STW6: Standard Curb 6" (Yellow) @ 2.03

STY6: Standard Curb 6" (Yellow) @ 2.03

YLW2: Yield Line (White) @ 1.15

Road ID	Station From	Station To	Lane	Marking Type	Left	Center	Right	Groove Marking Needed?	Groove Qty. (STA)	BCY6 Factored (STA)	BLW6 Factored (STA)	CHW10 Factored (STA)	CHY10 Factored (STA)	DCY6 Factored (STA)	DLW6 Factored (STA)	ELW6 Factored (STA)	ELY6 Factored (STA)	NPY6** Factored (STA)	RLW6 Factored (STA)	RLY6 Factored (STA)	SLW2 Factored (STA)	SLW6 Factored (STA)	Remarks
I-29/Ramp C	730+00.00	732+80.00	SB	Removal of Paint	1							4.68											STG 7
I-29	730+00.00	734+60.15	SB	Removal of Paint			1					7.68											STG 7
I-29	734+60.15	758+53.28	SB	Removal of Paint			1									23.93							STG 7
I-29	758+53.28	760+20.00	SB	Removal of Paint			1					2.79											STG 7
I-29/Detour Ramp A	758+53.28	760+20.00	SB	Removal of Paint	1							2.81											STG 7
I-29/Detour Ramp A	759+60.46	760+90.83	SB	Removal of Paint			1												1.30				STG 7
I-29/Detour Ramp A	761+20.00	763+00.00	SB	Removal of Paint			1												1.80				STG 7
I-29	767+34.47	770+05.00	SB	Removal of Paint			1									2.71							STG 7
Detour Ramp A	11551+48.46	11552+12.77	SB	Removal of Paint	1															0.64			STG 7
Detour Ramp A	11551+48.46	11554+00.20	SB	Removal of Paint			1												2.52				STG 7
Detour Ramp B	12540+28.02	12540+92.35	NB	Removal of Paint	1															0.64			STG 7
Detour Ramp B	12539+45.85	12540+92.35	NB	Removal of Paint			1												1.47				STG 7
IA 175 Ramp B	2544+64.97	2544+76.74	NB	Removal of Paint	1															0.47			STG 7 - Return
IA 175 Ramp B	2544+67.37	2544+67.37	NB	Removal of Paint		1															4.40		STG 7
IA 175 Ramp B	2543+49.80	2544+54.87	NB	Removal of Paint			1												1.88				STG 7 - Return
IA 175 Ramp C	3549+90.61	3550+57.47	SB	Removal of Paint	1															1.05			STG 7 - Return
IA 175 Ramp C	3550+63.62	3551+00.10	SB	Removal of Paint			1												1.38				STG 7 - Return
IA 175	1722+06.80	1738+48.32	Right	Removal of Paint			1									16.42							STG 7
IA 175	1740+86.55	1750+25.39	Right	Removal of Paint			1									9.39							STG 7
IA 175	1752+36.21	1761+44.97	Right	Removal of Paint			1									9.09							STG 7
IA 175	1722+06.80	1761+44.97	Center	Removal of Paint		1								78.76									STG 7
IA 175	1751+69.67	1754+35.00	Left	Removal of Paint	1																2.65		STG 7
IA 175	1722+06.80	1738+62.88	Left	Removal of Paint	1											16.56							STG 7
IA 175	1740+22.82	1750+23.33	Left	Removal of Paint	1											10.01							STG 7
IA 175	1751+49.20	1761+44.97	Left	Removal of Paint	1											9.96							STG 7
28th St	283+22.42	283+43.40	Left	Removal of Paint	1											0.21							STG 7
28th St	284+26.99	284+35.07	Left	Removal of Paint	1											0.22							STG 7 - Return
28th St	283+22.43	283+34.53	Center	Removal of Paint		1								0.24									STG 7
28th St	283+22.44	283+44.02	Right	Removal of Paint			1									0.22							STG 7
28th St	284+24.77	284+30.95	Right	Removal of Paint			1									0.19							STG 7 - Return
SUR I-29	2967+88.46	2972+11.64	NB	Removal of Paint	1												4.23						STG 8
I-29	700+00.00	777+00.00	NB	Removal of Paint	1												77.00						STG 8
SUR I-29	2967+88.46	2972+11.64	NB	Removal of Paint		1					1.06												STG 8
I-29	700+00.00	778+00.00	NB	Removal of Paint		1					19.50												STG 8
SUR I-29	2967+88.46	2972+11.64	NB	Removal of Paint			1									4.23							STG 8
I-29	700+00.00	715+30.00	NB	Removal of Paint			1									15.30							STG 8
I-29	715+30.00	723+30.00	NB	Removal of Paint			1								2.64								STG 8
I-29	723+30.00	732+50.00	NB	Removal of Paint			1				15.36												STG 8
I-29	732+50.00	757+76.65	NB	Removal of Paint			1									25.27							STG 8
I-29	757+76.65	763+50.00	NB	Removal of Paint			1				9.57												STG 8
I-29	763+50.00	771+00.00	NB	Removal of Paint			1								2.48								STG 8
I-29/Ramp B	715+30.00	732+49.07	NB	Removal of Paint			1												17.19				STG 8

PAVEMENT MARKING LINE TYPES

Line factors based on 6-inch wide continuous line.

\*BCY4 - Place on the same side of the roadway to match existing markings near the project.

\*\*NPY4 - Estimating purposes only. No Passing Zone Lines will be located in the field.

\*\*\*MNY6 - Factor of 1.00 includes number of 6-inch passes to cover median nose area.

BCY4: Broken Centerline (Yellow) @ 0.17

BCY6: Broken Centerline (Yellow) @ 0.25

BLC6: Broken Line Contrast (White/Black) @ 0.50

BLW4: Broken Lane Line (White) @ 0.17

BLW6: Broken Lane Line (White) @ 0.25

CBW6: Crosswalk Bar (White) @ 10.00

CHW8: Channelizing Line (White) @ 1.33

CHW10: Channelizing Line (White) @ 1.67

CHY8: Channelizing Line (Yellow) @ 1.33

CHY10: Channelizing Line (Yellow) @ 1.67

CLW6: Crosswalk Line (White) @ 2.00

DCY4: Double Centerline (Yellow) @ 1.34

DCY6: Double Centerline (Yellow) @ 2.00

DDY4: Double Dotted Line (Yellow) @ 0.44

DDY6: Double Dotted Line (Yellow) @ 0.67

DLW4: Dotted Line (White) @ 0.22

DLW6: Dotted Line (White) @ 0.33

DLY4: Dotted Line (Yellow) @ 0.22

DLY6: Dotted Line (Yellow) @ 0.33

ELW4: Edge Line Right (White) @ 0.67

ELW6: Edge Line Right (White) @ 1.00

ELY4: Edge Line Left (Yellow) @ 0.67

ELY6: Edge Line Left (Yellow) @ 1.00

LDW8: Lane Drop (White) @ 0.33

LDW10: Lane Drop (White) @ 0.42

MNY6: Median Nose (Yellow) @ 1.00

NPY4: No Passing Zone Line (Yellow) @ 0.84

NPY6: No Passing Zone Line (Yellow) @ 1.25

RLW4: Ramp Edge Line Right (White) @ 0.67

RLW6: Ramp Edge Line Right (White) @ 1.00

RLY4: Ramp Edge Line Left (Yellow) @ 0.67

RLY6: Ramp Edge Line Left (Yellow) @ 1.00

SLW2: Stop Line (White) @ 4.00

SLW4: Solid Lane Line (White) @ 0.67

SLW6: Solid Lane Line (White) @ 1.00

SPW4: Sloped Curb 4" (White) @ 2.16

SPW6: Sloped Curb 6" (White) @ 2.28

SPY4: Sloped Curb 4" (Yellow) @ 2.16

SPY6: Sloped Curb 6" (Yellow) @ 2.28

STW6: Standard Curb 6" (Yellow) @ 2.03

STY6: Standard Curb 6" (Yellow) @ 2.03

YLW2: Yield Line (White) @ 1.15

Road ID	Station From	Station To	Lane	Marking Type	Left	Center	Right	Groove Marking Needed?	Groove Qty. (STA)	BCY6 Factored (STA)	BLW6 Factored (STA)	CHW10 Factored (STA)	CHY10 Factored (STA)	DCY6 Factored (STA)	DLW6 Factored (STA)	ELW6 Factored (STA)	ELY6 Factored (STA)	NPY6** Factored (STA)	RLW6 Factored (STA)	RLY6 Factored (STA)	SLW2 Factored (STA)	SLW6 Factored (STA)	Remarks
I-29/Ramp B	728+90.53	732+50.00	NB	Removal of Paint			1					6.00											STG 8
I-29/Ramp D	757+89.85	759+73.07	NB	Removal of Paint			1					3.06											STG 8
I-29/Ramp D	757+92.31	777+00.00	NB	Removal of Paint			1												19.08				STG 8
I-29	715+50.00	799+00.00	SB	Removal of Paint	1												83.50						STG 8
I-29	714+50.00	757+47.72	SB	Removal of Paint		1					10.74												STG 8
I-29/Ramp C	715+50.00	734+57.69	SB	Removal of Paint			1												19.08				STG 8
I-29	721+50.00	729+00.00	SB	Removal of Paint			1								2.48								STG 8
I-29	729+00.00	734+60.15	SB	Removal of Paint			1					9.35											STG 8
I-29/Ramp C	732+76.93	734+60.15	SB	Removal of Paint			1					3.06											STG 8
I-29	734+60.15	757+47.72	SB	Removal of Paint			1									22.88							STG 8
I-29	757+47.72	764+34.58	SB	Removal of Paint			1									6.87							STG 8
I-29	764+34.58	767+34.47	SB	Removal of Paint			1					5.01											STG 8
I-29/Ramp A	762+25.00	765+84.47	SB	Removal of Paint			1					6.00											STG 8
I-29/Ramp A	762+26.06	766+45.00	SB	Removal of Paint			1												4.19				STG 8
I-29/Ramp A	765+84.53	767+34.47	SB	Removal of Paint	1							2.50											STG 8
I-29/Ramp A	766+45.00	770+05.00	SB	Removal of Paint			1												3.60				STG 8
I-29	770+05.00	799+00.00	SB	Removal of Paint			1									28.95							STG 8
I-29	779+45.00	799+00.00	SB	Removal of Paint			1									19.55							STG 8
IA 175 Ramp A	1549+45.60	1549+45.60	SB	Removal of Paint		1															3.60		STG 8
IA 175 Ramp A	1549+34.61	1562+26.06	SB	Removal of Paint	1															13.07			STG 8 - Includes Return
IA 175 Ramp A	1549+34.56	1562+26.06	SB	Removal of Paint			1												14.21				STG 8 - Includes Return
IA 175 Ramp B	2532+49.07	2544+64.97	NB	Removal of Paint	1															12.29			STG 8 - Includes Return
IA 175 Ramp B	2532+49.07	2544+26.61	NB	Removal of Paint			1												13.15				STG 8 - Includes Return
IA 175 Ramp B	2544+46.02	2544+46.02	NB	Removal of Paint		1															3.72		STG 8
IA 175 Ramp C	3534+58.92	3550+44.21	SB	Removal of Paint	1															16.08			STG 8 - Includes Return
IA 175 Ramp C	3534+58.92	3551+00.10	SB	Removal of Paint			1												17.24				STG 8 - Includes Return
IA 175 Ramp D	4544+06.51	4557+91.09	NB	Removal of Paint	1															14.07			STG 8 - Includes Return
IA 175 Ramp D	4543+51.30	4557+91.09	NB	Removal of Paint			1												14.91				STG 8 - Includes Return
IA 175	1712+51.15	1719+86.09	Right	Removal of Paint			1									7.35							STG 8
IA 175	1721+60.29	1738+65.77	Right	Removal of Paint			1									17.05							STG 8
IA 175	1740+75.03	1750+67.73	Right	Removal of Paint			1									9.93							STG 8
IA 175	1752+82.32	1765+81.70	Right	Removal of Paint			1									12.99							STG 8
IA 175	1766+71.71	1771+40.52	Right	Removal of Paint			1									4.69							STG 8
IA 175	1771+40.52	1771+91.33	Right	Removal of Paint			1									0.51							STG 8
IA 175	1773+37.00	1777+88.69	Right	Removal of Paint			1									4.52							STG 8
IA 175	1712+51.15	1738+02.92	Left	Removal of Paint	1											25.52							STG 8
IA 175	1740+27.93	1750+17.84	Left	Removal of Paint	1											9.90							STG 8
IA 175	1751+98.67	1753+20.26	Left	Removal of Paint	1											1.22							STG 8
IA 175	1753+20.26	1761+86.06	Left	Removal of Paint	1											8.67							STG 8
IA 175	1763+11.00	1771+40.52	Left	Removal of Paint	1											8.30							STG 8
IA 175	1771+40.52	1772+00.62	Left	Removal of Paint	1											0.60							STG 8
IA 175	1773+31.15	1777+88.69	Left	Removal of Paint	1											4.58							STG 8

PAVEMENT MARKING LINE TYPES

Line factors based on 6-inch wide continuous line.

\*BCY4 - Place on the same side of the roadway to match existing markings near the project.

\*\*NPY4 - Estimating purposes only. No Passing Zone Lines will be located in the field.

\*\*\*MNY6 - Factor of 1.00 includes number of 6-inch passes to cover median nose area.

BCY4: Broken Centerline (Yellow) @ 0.17	BCY6: Broken Centerline (Yellow) @ 0.25	BLC6: Broken Line Contrast (White/Black) @ 0.50	BLW4: Broken Lane Line (White) @ 0.17	BLW6: Broken Lane Line (White) @ 0.25
CBW6: Crosswalk Bar (White) @ 10.00	CHW8: Channelizing Line (White) @ 1.33	CHW10: Channelizing Line (White) @ 1.67	CHY8: Channelizing Line (Yellow) @ 1.33	CHY10: Channelizing Line (Yellow) @ 1.67
CLW6: Crosswalk Line (White) @ 2.00	DCY4: Double Centerline (Yellow) @ 1.34	DCY6: Double Centerline (Yellow) @ 2.00	DDY4: Double Dotted Line (Yellow) @ 0.44	DDY6: Double Dotted Line (Yellow) @ 0.67
DLW4: Dotted Line (White) @ 0.22	DLW6: Dotted Line (White) @ 0.33	DLY4: Dotted Line (Yellow) @ 0.22	DLY6: Dotted Line (Yellow) @ 0.33	ELW4: Edge Line Right (White) @ 0.67
ELW6: Edge Line Right (White) @ 1.00	ELY4: Edge Line Left (Yellow) @ 0.67	ELY6: Edge Line Left (Yellow) @ 1.00	LDW8: Lane Drop (White) @ 0.33	LDW10: Lane Drop (White) @ 0.42
MNY6: Median Nose (Yellow) @ 1.00	NPY4: No Passing Zone Line (Yellow) @ 0.84	NPY6: No Passing Zone Line (Yellow) @ 1.25	RLW4: Ramp Edge Line Right (White) @ 0.67	RLW6: Ramp Edge Line Right (White) @ 1.00
RLY4: Ramp Edge Line Left (Yellow) @ 0.67	RLY6: Ramp Edge Line Left (Yellow) @ 1.00	SLW2: Stop Line (White) @ 4.00	SLW4: Solid Lane Line (White) @ 0.67	SLW6: Solid Lane Line (White) @ 1.00
SPW4: Sloped Curb 4" (White) @ 2.16	SPW6: Sloped Curb 6" (White) @ 2.28	SPY4: Sloped Curb 4" (Yellow) @ 2.16	SPY6: Sloped Curb 6" (Yellow) @ 2.28	STW6: Standard Curb 6" (Yellow) @ 2.03
STY6: Standard Curb 6" (Yellow) @ 2.03	YLW2: Yield Line (White) @ 1.15			

Road ID	Station From	Station To	Lane	Marking Type	Left	Center	Right	Groove Marking Needed?	Groove Qty. (STA)	BCY6 Factored (STA)	BLW6 Factored (STA)	CHW10 Factored (STA)	CHY10 Factored (STA)	DCY6 Factored (STA)	DLW6 Factored (STA)	ELW6 Factored (STA)	ELY6 Factored (STA)	NPY6** Factored (STA)	RLW6 Factored (STA)	RLY6 Factored (STA)	SLW2 Factored (STA)	SLW6 Factored (STA)	Remarks
IA 175	1712+51.15	1719+82.80	Center	Removal of Paint		1				1.83													STG 8
IA 175	1719+82.80	1725+82.80	Center	Removal of Paint		1												7.50					STG 8
IA 175	1725+82.80	1739+83.51	Center	Removal of Paint		1							53.74										STG 8
IA 175	1740+90.00	1743+15.00	Center	Removal of Paint		1								4.50									STG 8
IA 175	1740+90.00	1743+15.00	Center	Removal of Paint		1																2.25	STG 8
IA 175	1743+15.00	1748+47.50	Center	Removal of Paint		1							21.88										STG 8
IA 175	1748+47.50	1749+97.50	Center	Removal of Paint		1								3.00									STG 8
IA 175	1748+47.50	1749+97.50	Center	Removal of Paint		1																1.50	STG 8
IA 175	1751+07.73	1755+20.00	Center	Removal of Paint		1							21.41										STG 8
IA 175	1755+20.00	1758+94.97	Center	Removal of Paint	1								6.26										STG 8
IA 175	1756+69.97	1758+94.97	Center	Removal of Paint			1						3.76										STG 8
IA 175	1758+94.97	1771+40.52	Center	Removal of Paint		1								24.92									STG 8
IA 175	1771+40.52	1777+88.69	Center	Removal of Paint		1								12.96									STG 8
Filbert Ave	1719+86.09	1720+65.82	Left	Removal of Paint	1											1.57							STG 8 - Includes Return
Filbert Ave	1720+47.81	1720+76.63	Center	Removal of Paint		1								2.24									STG 8
Filbert Ave	1720+47.81	1720+81.60	Right	Removal of Paint			1														1.44		STG 8
Filbert Ave	1720+87.44	1721+60.29	Right	Removal of Paint			1									1.84							STG 8 - Includes Return
28th St	284+58.51	285+06.65	Left	Removal of Paint	1											0.78							STG 8 - Return
28th St	284+64.43	285+07.09	Center	Removal of Paint		1								0.86									STG 8
28th St	284+52.16	285+02.96	Right	Removal of Paint			1									0.69							STG 8 - Return
26th St	1771+91.33	1772+41.50	Left	Removal of Paint	1											1.07							STG 8 - Includes Return
26th St	1772+64.24	1772+64.24	Center	Removal of Paint		1								1.36									STG 8
26th St	1772+64.24	1772+98.17	Right	Removal of Paint			1														1.48		STG 8
26th St	1772+87.94	1773+37.00	Right	Removal of Paint			1									1.06							STG 8 - Includes Return
26th St	1772+00.62	1772+36.25	Left	Removal of Paint	1											0.75							STG 8 - Includes Return
26th St	1772+30.45	1772+62.57	Left	Removal of Paint																	1.36		STG 8
26th St	1772+56.16	1772+62.57	Center	Removal of Paint		1								0.92									STG 8
26th St	1772+76.07	1773+31.15	Right	Removal of Paint			1									0.87							STG 8 - Includes Return
Frontage Road Detour 28th St	31000+00.00	31003+76.04	Right	Removal of Paint			1									3.77							STG 8 - Includes Return
Frontage Road Detour 28th St	31000+35.62	31003+67.43	Center	Removal of Paint		1								6.64									STG 8
Frontage Road Detour 28th St	31000+17.36	31003+55.73	Left	Removal of Paint	1											4.03							STG 8 - Includes Return
Detour 28th St	21000+58.11	21000+88.14	Left	Removal of Paint	1											0.46							STG 8 - Return
Detour 28th St	21001+09.96	21001+79.46	Left	Removal of Paint	1											1.09							STG 8 - Return
Detour 28th St	21000+60.50	21000+88.93	Center	Removal of Paint		1								0.56									STG 8
Detour 28th St	21000+88.93	21000+88.93	Right	Removal of Paint		1															0.48		STG 8
Detour 28th St	21001+16.55	21001+73.00	Center	Removal of Paint		1								1.12									STG 8
Detour 28th St	21001+73.00	21001+73.00	Right	Removal of Paint		1															0.96		STG 8
Detour 28th St	21000+63.04	21001+80.00	Right	Removal of Paint			1									1.59							STG 8 - Includes Returns

7.17    107.06    300.04    107.05    300.24    15.04    942.88    349.18    47.97    244.11    101.98    24.32    8.4

Marking Type    Removal of Paint:

I-29	705+87.97	750+00.00	NB	Waterborne/Solvent Paint	1											44.12							STG 1
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PAVEMENT MARKING LINE TYPES

Line factors based on 6-inch wide continuous line.

\*BCY4 - Place on the same side of the roadway to match existing markings near the project.

\*\*NPY4 - Estimating purposes only. No Passing Zone Lines will be located in the field.

\*\*\*MNY6 - Factor of 1.00 includes number of 6-inch passes to cover median nose area.

BCY4: Broken Centerline (Yellow) @ 0.17

BCY6: Broken Centerline (Yellow) @ 0.25

BLC6: Broken Line Contrast (White/Black) @ 0.50

BLW4: Broken Lane Line (White) @ 0.17

BLW6: Broken Lane Line (White) @ 0.25

CBW6: Crosswalk Bar (White) @ 10.00

CHW8: Channelizing Line (White) @ 1.33

CHW10: Channelizing Line (White) @ 1.67

CHY8: Channelizing Line (Yellow) @ 1.33

CHY10: Channelizing Line (Yellow) @ 1.67

CLW6: Crosswalk Line (White) @ 2.00

DCY4: Double Centerline (Yellow) @ 1.34

DCY6: Double Centerline (Yellow) @ 2.00

DDY4: Double Dotted Line (Yellow) @ 0.44

DDY6: Double Dotted Line (Yellow) @ 0.67

DLW4: Dotted Line (White) @ 0.22

DLW6: Dotted Line (White) @ 0.33

DLY4: Dotted Line (Yellow) @ 0.22

DLY6: Dotted Line (Yellow) @ 0.33

ELW4: Edge Line Right (White) @ 0.67

ELW6: Edge Line Right (White) @ 1.00

ELY4: Edge Line Left (Yellow) @ 0.67

ELY6: Edge Line Left (Yellow) @ 1.00

LDW8: Lane Drop (White) @ 0.33

LDW10: Lane Drop (White) @ 0.42

MNY6: Median Nose (Yellow) @ 1.00

NPY4: No Passing Zone Line (Yellow) @ 0.84

NPY6: No Passing Zone Line (Yellow) @ 1.25

RLW4: Ramp Edge Line Right (White) @ 0.67

RLW6: Ramp Edge Line Right (White) @ 1.00

RLY4: Ramp Edge Line Left (Yellow) @ 0.67

RLY6: Ramp Edge Line Left (Yellow) @ 1.00

SLW2: Stop Line (White) @ 4.00

SLW4: Solid Lane Line (White) @ 0.67

SLW6: Solid Lane Line (White) @ 1.00

SPW4: Sloped Curb 4" (White) @ 2.16

SPW6: Sloped Curb 6" (White) @ 2.28

SPY4: Sloped Curb 4" (Yellow) @ 2.16

SPY6: Sloped Curb 6" (Yellow) @ 2.28

STW6: Standard Curb 6" (Yellow) @ 2.03

STY6: Standard Curb 6" (Yellow) @ 2.03

YLW2: Yield Line (White) @ 1.15

Road ID	Station From	Station To	Lane	Marking Type	Left	Center	Right	Groove Marking Needed?	Groove Qty. (STA)	BCY6 Factored (STA)	BLW6 Factored (STA)	CHW10 Factored (STA)	CHY10 Factored (STA)	DCY6 Factored (STA)	DLW6 Factored (STA)	ELW6 Factored (STA)	ELY6 Factored (STA)	NPY6** Factored (STA)	RLW6 Factored (STA)	RLY6 Factored (STA)	SLW2 Factored (STA)	SLW6 Factored (STA)	Remarks
I-29	744+00.00	783+94.16	SB	Waterborne/Solvent Paint	1												39.94						STG 1
IA 175 Ramp D	4543+51.30	4544+64.22	NB	Waterborne/Solvent Paint	1															3.95			STG 1 - Includes Return
IA 175	1756+57.14	1762+14.58	Right	Waterborne/Solvent Paint			1									5.59							STG 1
IA 175	1762+94.23	1767+36.48	Right	Waterborne/Solvent Paint			1									4.47							STG 1
IA 175	1712+62.77	1777+80.17	Center	Waterborne/Solvent Paint		1								130.34									STG 1
IA 175	1753+86.83	1754+67.61	Left	Waterborne/Solvent Paint	1											0.81							STG 1
IA 175	1756+57.89	1757+47.30	Left	Waterborne/Solvent Paint	1							1.49											STG 1
IA 175	1759+07.23	1761+97.08	Left	Waterborne/Solvent Paint	1											2.91							STG 1
IA 175	1763+12.46	1767+36.48	Left	Waterborne/Solvent Paint	1											4.30							STG 1
28th St	283+22.42	284+28.67	Left	Waterborne/Solvent Paint	1											1.22							STG 1 - Includes Return
28th St	283+22.43	284+17.43	Center	Waterborne/Solvent Paint		1								1.90									STG 1
28th St	284+17.21	284+17.21	Right	Waterborne/Solvent Paint			1														0.72		STG 1
28th St	283+22.44	284+26.50	Right	Waterborne/Solvent Paint			1									1.19							STG 1 - Includes Return
28th St	284+50.84	284+96.03	Left	Waterborne/Solvent Paint	1											0.71							STG 1 - Includes Return
28th St	284+59.57	284+59.57	Left	Waterborne/Solvent Paint	1																1.28		STG 1
28th St	284+59.10	284+91.29	Center	Waterborne/Solvent Paint		1								0.64									STG 1
28th St	284+47.99	284+82.82	Right	Waterborne/Solvent Paint			1									0.35							STG 1 - Includes Return
I-29	706+41.91	749+00.00	NB	Waterborne/Solvent Paint	1												42.58						STG 2
SUR I-29	2967+88.46	2972+11.64	NB	Waterborne/Solvent Paint			1									4.23							STG 2
I-29	700+00.00	724+63.94	NB	Waterborne/Solvent Paint			1									24.64							STG 2
I-29/Ramp B	728+06.09	731+03.56	NB	Waterborne/Solvent Paint	1							5.01											STG 2
I-29	728+06.09	731+03.56	NB	Waterborne/Solvent Paint			1					4.98											STG 2
I-29	731+03.56	758+28.14	NB	Waterborne/Solvent Paint			1									27.25							STG 2
I-29	758+28.14	759+78.58	NB	Waterborne/Solvent Paint			1					2.50											STG 2
I-29/Ramp D	758+28.14	759+78.58	NB	Waterborne/Solvent Paint	1							2.57											STG 2
I-29/Ramp D	758+30.46	763+87.72	NB	Waterborne/Solvent Paint			1												5.57				STG 2
I-29	763+87.72	777+00.00	NB	Waterborne/Solvent Paint			1									13.12							STG 2
I-29	745+00.00	783+94.16	SB	Waterborne/Solvent Paint	1												38.94						STG 2
I-29	715+50.00	727+32.51	SB	Waterborne/Solvent Paint			1									11.83							STG 2
I-29/Ramp C	727+32.51	732+90.37	SB	Waterborne/Solvent Paint			1												5.58				STG 2
I-29/Ramp C	731+35.50	732+91.91	SB	Waterborne/Solvent Paint	1							2.66											STG 2
I-29	731+35.50	732+91.91	SB	Waterborne/Solvent Paint	1							2.61											STG 2
I-29	732+91.91	761+55.83	SB	Waterborne/Solvent Paint			1									28.64							STG 2
I-29/Ramp A	761+55.83	764+06.61	SB	Waterborne/Solvent Paint	1							4.21											STG 2
I-29	765+84.21	799+00.00	SB	Waterborne/Solvent Paint			1									33.16							STG 2
IA 175 Ramp C	3532+92.00	3539+03.95	SB	Waterborne/Solvent Paint	1															6.06			STG 2
IA 175 Ramp C	3532+91.30	3539+02.88	SB	Waterborne/Solvent Paint			1												6.02				STG 2
IA 175 Ramp D	4543+51.30	4543+51.30	SB	Waterborne/Solvent Paint	1															3.20			STG 2
IA 175 Ramp D	4543+51.30	4543+51.30	SB	Waterborne/Solvent Paint			1												1.71				STG 2
IA 175 Ramp D	4552+54.59	4558+28.64	NB	Waterborne/Solvent Paint	1															5.73			STG 2
IA 175 Ramp D	4552+55.49	4558+29.36	NB	Waterborne/Solvent Paint			1												5.71				STG 2
IA 175	1754+08.80	1755+58.12	Left	Waterborne/Solvent Paint	1											1.49							STG 2

PAVEMENT MARKING LINE TYPES

Line factors based on 6-inch wide continuous line.

\*BCY4 - Place on the same side of the roadway to match existing markings near the project.

\*\*NPY4 - Estimating purposes only. No Passing Zone Lines will be located in the field.

\*\*\*MNY6 - Factor of 1.00 includes number of 6-inch passes to cover median nose area.

BCY4: Broken Centerline (Yellow) @ 0.17

BCY6: Broken Centerline (Yellow) @ 0.25

BLC6: Broken Line Contrast (White/Black) @ 0.50

BLW4: Broken Lane Line (White) @ 0.17

BLW6: Broken Lane Line (White) @ 0.25

CBW6: Crosswalk Bar (White) @ 10.00

CHW8: Channelizing Line (White) @ 1.33

CHW10: Channelizing Line (White) @ 1.67

CHY8: Channelizing Line (Yellow) @ 1.33

CHY10: Channelizing Line (Yellow) @ 1.67

CLW6: Crosswalk Line (White) @ 2.00

DCY4: Double Centerline (Yellow) @ 1.34

DCY6: Double Centerline (Yellow) @ 2.00

DDY4: Double Dotted Line (Yellow) @ 0.44

DDY6: Double Dotted Line (Yellow) @ 0.67

DLW4: Dotted Line (White) @ 0.22

DLW6: Dotted Line (White) @ 0.33

DLY4: Dotted Line (Yellow) @ 0.22

DLY6: Dotted Line (Yellow) @ 0.33

ELW4: Edge Line Right (White) @ 0.67

ELW6: Edge Line Right (White) @ 1.00

ELY4: Edge Line Left (Yellow) @ 0.67

ELY6: Edge Line Left (Yellow) @ 1.00

LDW8: Lane Drop (White) @ 0.33

LDW10: Lane Drop (White) @ 0.42

MNY6: Median Nose (Yellow) @ 1.00

NPY4: No Passing Zone Line (Yellow) @ 0.84

NPY6: No Passing Zone Line (Yellow) @ 1.25

RLW4: Ramp Edge Line Right (White) @ 0.67

RLW6: Ramp Edge Line Right (White) @ 1.00

RLY4: Ramp Edge Line Left (Yellow) @ 0.67

RLY6: Ramp Edge Line Left (Yellow) @ 1.00

SLW2: Stop Line (White) @ 4.00

SLW4: Solid Lane Line (White) @ 0.67

SLW6: Solid Lane Line (White) @ 1.00

SPW4: Sloped Curb 4" (White) @ 2.16

SPW6: Sloped Curb 6" (White) @ 2.28

SPY4: Sloped Curb 4" (Yellow) @ 2.16

SPY6: Sloped Curb 6" (Yellow) @ 2.28

STW6: Standard Curb 6" (Yellow) @ 2.03

STY6: Standard Curb 6" (Yellow) @ 2.03

YLW2: Yield Line (White) @ 1.15

Road ID	Station From	Station To	Lane	Marking Type	Left	Center	Right	Groove Marking Needed?	Groove Qty. (STA)	BCY6 Factored (STA)	BLW6 Factored (STA)	CHW10 Factored (STA)	CHY10 Factored (STA)	DCY6 Factored (STA)	DLW6 Factored (STA)	ELW6 Factored (STA)	ELY6 Factored (STA)	NPY6** Factored (STA)	RLW6 Factored (STA)	RLY6 Factored (STA)	SLW2 Factored (STA)	SLW6 Factored (STA)	Remarks
I-29	759+78.58	763+88.06	NB	Waterborne/Solvent Paint			1									4.09							STG 3
I-29	763+88.06	777+00.00	NB	Waterborne/Solvent Paint			1					21.91											STG 3
I-29/Ramp D	761+00.00	763+87.72	NB	Waterborne/Solvent Paint	1															2.88			STG 3
I-29/Ramp D	763+87.38	777+00.00	NB	Waterborne/Solvent Paint	1								21.93										STG 3
I-29/Ramp D	761+00.00	777+00.00	NB	Waterborne/Solvent Paint			1												16.00				STG 3
I-29	777+00.00	778+00.00	NB	Waterborne/Solvent Paint		1																1.00	STG 3
I-29	714+50.00	715+50.00	SB	Waterborne/Solvent Paint		1																1.00	STG 3
I-29	715+50.00	727+32.85	SB	Waterborne/Solvent Paint			1					19.76											STG 3
I-29	727+32.51	731+35.50	SB	Waterborne/Solvent Paint			1									4.03							STG 3
I-29/Ramp C	715+50.00	727+32.71	SB	Waterborne/Solvent Paint	1							19.76											STG 3
I-29/Ramp C	727+32.71	731+50.00	SB	Waterborne/Solvent Paint	1															4.17			STG 3
I-29/Ramp C	715+50.00	731+50.00	SB	Waterborne/Solvent Paint			1												16.00				STG 3
IA 175 Ramp C	3531+50.00	3539+03.95	SB	Waterborne/Solvent Paint	1															7.44			STG 3
IA 175 Ramp C	3531+50.00	3539+02.88	SB	Waterborne/Solvent Paint			1												7.38				STG 3
IA 175 Ramp D	4552+54.59	4561+00.00	NB	Waterborne/Solvent Paint	1															8.45			STG 3
IA 175 Ramp D	4552+55.49	4561+00.00	NB	Waterborne/Solvent Paint			1												8.45				STG 3
IA 175 Ramp D	4543+51.30	4543+51.30	NB	Waterborne/Solvent Paint			1												1.72				STG 3
IA 175 Ramp D	4543+51.30	4544+70.01	NB	Waterborne/Solvent Paint			1												1.62				STG 3
IA 175	1712+74.54	1719+80.81	Right	Waterborne/Solvent Paint			1									7.06							STG 3
IA 175	1722+00.00	1733+58.61	Right	Waterborne/Solvent Paint			1									11.54							STG 3
IA 175	1756+54.10	1761+90.38	Right	Waterborne/Solvent Paint			1									5.37							STG 3
IA 175	1763+27.01	1772+13.43	Right	Waterborne/Solvent Paint			1									8.93							STG 3
IA 175	1773+12.70	1777+71.64	Right	Waterborne/Solvent Paint			1									4.60							STG 3
IA 175	1712+62.77	1720+06.41	Center	Waterborne/Solvent Paint		1								14.90									STG 3
IA 175	1720+06.41	1722+00.00	Center	Waterborne/Solvent Paint		1								3.88									STG 3
IA 175	1722+00.00	1735+72.11	Center	Waterborne/Solvent Paint		1								27.44									STG 3
IA 175	1735+72.11	1737+60.65	Center	Waterborne/Solvent Paint		1								3.78									STG 3
IA 175	1737+60.65	1753+71.45	Center	Waterborne/Solvent Paint		1								32.22									STG 3
IA 175	1753+71.45	1755+54.86	Center	Waterborne/Solvent Paint		1								3.66									STG 3
IA 175	1755+54.86	1762+05.72	Center	Waterborne/Solvent Paint		1								13.02									STG 3
IA 175	1762+05.72	1763+21.31	Center	Waterborne/Solvent Paint		1								2.32									STG 3
IA 175	1763+21.31	1772+27.59	Center	Waterborne/Solvent Paint		1								18.12									STG 3
IA 175	1772+27.59	1773+04.29	Center	Waterborne/Solvent Paint		1								1.54									STG 3
IA 175	1773+04.29	1777+80.17	Center	Waterborne/Solvent Paint		1								9.54									STG 3
IA 175	1712+51.15	1733+74.04	Left	Waterborne/Solvent Paint	1											21.21							STG 3
IA 175	1755+43.86	1771+70.82	Left	Waterborne/Solvent Paint	1											16.27							STG 3
IA 175	1773+45.87	1777+88.69	Left	Waterborne/Solvent Paint	1											4.44							STG 3
Filbert Ave	1719+80.81	1720+65.82	Left	Waterborne/Solvent Paint	1											1.31							STG 3
Filbert Ave	1720+52.30	1720+76.63	Center	Waterborne/Solvent Paint		1								1.56									STG 3
Filbert Ave	1720+52.30	1721+03.57	Right	Waterborne/Solvent Paint			1														2.16		STG 3
Filbert Ave	1720+87.44	1721+97.76	Right	Waterborne/Solvent Paint			1									1.62							STG 3
28th St	283+24.19	283+84.04	Left	Waterborne/Solvent Paint	1											0.91							STG 3

PAVEMENT MARKING LINE TYPES

Line factors based on 6-inch wide continuous line.

\*BCY4 - Place on the same side of the roadway to match existing markings near the project.

\*\*NPY4 - Estimating purposes only. No Passing Zone Lines will be located in the field.

\*\*\*MNY6 - Factor of 1.00 includes number of 6-inch passes to cover median nose area.

BCY4: Broken Centerline (Yellow) @ 0.17

BCY6: Broken Centerline (Yellow) @ 0.25

BLC6: Broken Line Contrast (White/Black) @ 0.50

BLW4: Broken Lane Line (White) @ 0.17

BLW6: Broken Lane Line (White) @ 0.25

CBW6: Crosswalk Bar (White) @ 10.00

CHW8: Channelizing Line (White) @ 1.33

CHW10: Channelizing Line (White) @ 1.67

CHY8: Channelizing Line (Yellow) @ 1.33

CHY10: Channelizing Line (Yellow) @ 1.67

CLW6: Crosswalk Line (White) @ 2.00

DCY4: Double Centerline (Yellow) @ 1.34

DCY6: Double Centerline (Yellow) @ 2.00

DDY4: Double Dotted Line (Yellow) @ 0.44

DDY6: Double Dotted Line (Yellow) @ 0.67

DLW4: Dotted Line (White) @ 0.22

DLW6: Dotted Line (White) @ 0.33

DLY4: Dotted Line (Yellow) @ 0.22

DLY6: Dotted Line (Yellow) @ 0.33

ELW4: Edge Line Right (White) @ 0.67

ELW6: Edge Line Right (White) @ 1.00

ELY4: Edge Line Left (Yellow) @ 0.67

ELY6: Edge Line Left (Yellow) @ 1.00

LDW8: Lane Drop (White) @ 0.33

LDW10: Lane Drop (White) @ 0.42

MNY6: Median Nose (Yellow) @ 1.00

NPY4: No Passing Zone Line (Yellow) @ 0.84

NPY6: No Passing Zone Line (Yellow) @ 1.25

RLW4: Ramp Edge Line Right (White) @ 0.67

RLW6: Ramp Edge Line Right (White) @ 1.00

RLY4: Ramp Edge Line Left (Yellow) @ 0.67

RLY6: Ramp Edge Line Left (Yellow) @ 1.00

SLW2: Stop Line (White) @ 4.00

SLW4: Solid Lane Line (White) @ 0.67

SLW6: Solid Lane Line (White) @ 1.00

SPW4: Sloped Curb 4" (White) @ 2.16

SPW6: Sloped Curb 6" (White) @ 2.28

SPY4: Sloped Curb 4" (Yellow) @ 2.16

SPY6: Sloped Curb 6" (Yellow) @ 2.28

STW6: Standard Curb 6" (Yellow) @ 2.03

STY6: Standard Curb 6" (Yellow) @ 2.03

YLW2: Yield Line (White) @ 1.15

Road ID	Station From	Station To	Lane	Marking Type	Left	Center	Right	Groove Marking Needed?	Groove Qty. (STA)	BCY6 Factored (STA)	BLW6 Factored (STA)	CHW10 Factored (STA)	CHY10 Factored (STA)	DCY6 Factored (STA)	DLW6 Factored (STA)	ELW6 Factored (STA)	ELY6 Factored (STA)	NPY6** Factored (STA)	RLW6 Factored (STA)	RLY6 Factored (STA)	SLW2 Factored (STA)	SLW6 Factored (STA)	Remarks
28th St	283+22.43	283+71.23	Center	Waterborne/Solvent Paint		1								0.98									STG 3
28th St	283+71.23	283+71.23	Right	Waterborne/Solvent Paint			1														1.28		STG 3
28th St	283+22.97	283+77.99	Right	Waterborne/Solvent Paint			1									0.88							STG 3
26th St	1772+13.43	1772+41.50	Left	Waterborne/Solvent Paint	1											0.59							STG 3
26th St	1772+64.74	1772+64.74	Center	Waterborne/Solvent Paint		1								0.66									STG 3
26th St	1772+64.74	1772+91.08	Right	Waterborne/Solvent Paint			1														1.04		STG 3
26th St	1772+87.94	1773+12.70	Right	Waterborne/Solvent Paint			1									0.60							STG 3
26th St	1771+70.82	1772+40.05	Left	Waterborne/Solvent Paint	1											1.10							STG 3
26th St	1772+25.44	1772+63.12	Left	Waterborne/Solvent Paint	1																1.52		STG 3
26th St	1772+56.16	1772+63.12	Center	Waterborne/Solvent Paint		1								1.58									STG 3
26th St	1772+76.04	1773+45.87	Right	Waterborne/Solvent Paint			1									1.07							STG 3
I-29	706+41.91	749+00.00	NB	Waterborne/Solvent Paint	1												42.58						STG 4
SUR I-29	2967+89.06	2972+11.64	NB	Waterborne/Solvent Paint		1					1.06												STG 4
I-29	700+00.00	778+00.00	NB	Waterborne/Solvent Paint		1					19.50												STG 4
SUR I-29	2967+89.06	2972+11.64	NB	Waterborne/Solvent Paint		1										4.23							STG 4
I-29	700+00.00	724+63.94	NB	Waterborne/Solvent Paint			1									24.64							STG 4
I-29	727+02.88	731+04.44	NB	Waterborne/Solvent Paint			1					6.71											STG 4
I-29/Ramp B	727+02.88	731+04.44	NB	Waterborne/Solvent Paint	1							6.71											STG 4
I-29	731+04.44	763+87.38	NB	Waterborne/Solvent Paint			1									32.83							STG 4
I-29	763+87.38	766+66.79	NB	Waterborne/Solvent Paint			1					4.66											STG 4
I-29/Ramp D	763+87.38	766+66.79	NB	Waterborne/Solvent Paint	1							4.68											STG 4
I-29	766+66.79	771+00.00	NB	Waterborne/Solvent Paint			1								1.43								STG 4
I-29	745+00.00	783+94.16	SB	Waterborne/Solvent Paint	1												38.94						STG 4
I-29	714+50.00	798+98.80	SB	Waterborne/Solvent Paint		1					21.12												STG 4
I-29	721+50.00	724+53.53	SB	Waterborne/Solvent Paint			1								1.00								STG 4
I-29	724+53.53	727+32.88	SB	Waterborne/Solvent Paint			1					4.66											STG 4
I-29/Ramp C	724+53.53	727+32.88	SB	Waterborne/Solvent Paint	1							4.68											STG 4
I-29	727+32.88	799+00.00	SB	Waterborne/Solvent Paint			1									71.67							STG 4
Detour Ramp D	11760+00.00	11770+00.00	NB	Waterborne/Solvent Paint	1															10.07			STG 4
Detour Ramp D	11760+00.00	11770+00.00	NB	Waterborne/Solvent Paint			1												10.00				STG 4
IA 175/Detour Ramp D	1759+68.02	1760+00.40	NB	Waterborne/Solvent Paint	1															0.33			STG 4
IA 175/Detour Ramp D	1760+00.40	1761+05.45	NB	Waterborne/Solvent Paint	1							1.84											STG 4
IA 175/Detour Ramp D	1759+69.49	1761+90.42	NB	Waterborne/Solvent Paint			1												2.26				STG 4
IA 175	1750+81.69	1755+24.17	Center	Waterborne/Solvent Paint		1								8.84									STG 4
IA 175	1755+24.17	1756+26.22	Center	Waterborne/Solvent Paint		1								2.04									STG 4
IA 175	1756+26.22	1760+00.00	Center	Waterborne/Solvent Paint		1								7.48									STG 4
IA 175	1733+74.04	1736+83.79	Left	Waterborne/Solvent Paint	1												3.08						STG 4
IA 175	1750+81.69	1760+00.18	Left	Waterborne/Solvent Paint	1											9.18							STG 4
IA 175	1760+00.18	1761+05.45	Left	Waterborne/Solvent Paint	1							1.75											STG 4
I-29	724+63.94	731+04.44	NB	Waterborne/Solvent Paint			1									6.41							STG 5
I-29	757+76.65	763+50.00	NB	Waterborne/Solvent Paint			1					9.57											STG 5
I-29	763+50.00	766+66.79	NB	Waterborne/Solvent Paint			1								1.05								STG 5

PAVEMENT MARKING LINE TYPES

Line factors based on 6-inch wide continuous line.

\*BCY4 - Place on the same side of the roadway to match existing markings near the project.

\*\*NPY4 - Estimating purposes only. No Passing Zone Lines will be located in the field.

\*\*\*MNY6 - Factor of 1.00 includes number of 6-inch passes to cover median nose area.

BCY4: Broken Centerline (Yellow) @ 0.17

BCY6: Broken Centerline (Yellow) @ 0.25

BLC6: Broken Line Contrast (White/Black) @ 0.50

BLW4: Broken Lane Line (White) @ 0.17

BLW6: Broken Lane Line (White) @ 0.25

CBW6: Crosswalk Bar (White) @ 10.00

CHW8: Channelizing Line (White) @ 1.33

CHW10: Channelizing Line (White) @ 1.67

CHY8: Channelizing Line (Yellow) @ 1.33

CHY10: Channelizing Line (Yellow) @ 1.67

CLW6: Crosswalk Line (White) @ 2.00

DCY4: Double Centerline (Yellow) @ 1.34

DCY6: Double Centerline (Yellow) @ 2.00

DDY4: Double Dotted Line (Yellow) @ 0.44

DDY6: Double Dotted Line (Yellow) @ 0.67

DLW4: Dotted Line (White) @ 0.22

DLW6: Dotted Line (White) @ 0.33

DLY4: Dotted Line (Yellow) @ 0.22

DLY6: Dotted Line (Yellow) @ 0.33

ELW4: Edge Line Right (White) @ 0.67

ELW6: Edge Line Right (White) @ 1.00

ELY4: Edge Line Left (Yellow) @ 0.67

ELY6: Edge Line Left (Yellow) @ 1.00

LDW8: Lane Drop (White) @ 0.33

LDW10: Lane Drop (White) @ 0.42

MNY6: Median Nose (Yellow) @ 1.00

NPY4: No Passing Zone Line (Yellow) @ 0.84

NPY6: No Passing Zone Line (Yellow) @ 1.25

RLW4: Ramp Edge Line Right (White) @ 0.67

RLW6: Ramp Edge Line Right (White) @ 1.00

RLY4: Ramp Edge Line Left (Yellow) @ 0.67

RLY6: Ramp Edge Line Left (Yellow) @ 1.00

SLW2: Stop Line (White) @ 4.00

SLW4: Solid Lane Line (White) @ 0.67

SLW6: Solid Lane Line (White) @ 1.00

SPW4: Sloped Curb 4" (White) @ 2.16

SPW6: Sloped Curb 6" (White) @ 2.28

SPY4: Sloped Curb 4" (Yellow) @ 2.16

SPY6: Sloped Curb 6" (Yellow) @ 2.28

STW6: Standard Curb 6" (Yellow) @ 2.03

STY6: Standard Curb 6" (Yellow) @ 2.03

YLW2: Yield Line (White) @ 1.15

Road ID	Station From	Station To	Lane	Marking Type	Left	Center	Right	Groove Marking Needed?	Groove Qty. (STA)	BCY6 Factored (STA)	BLW6 Factored (STA)	CHW10 Factored (STA)	CHY10 Factored (STA)	DCY6 Factored (STA)	DLW6 Factored (STA)	ELW6 Factored (STA)	ELY6 Factored (STA)	NPY6** Factored (STA)	RLW6 Factored (STA)	RLY6 Factored (STA)	SLW2 Factored (STA)	SLW6 Factored (STA)	Remarks
I-29/Ramp D	757+89.95	759+73.07	NB	Waterborne/Solvent Paint	1							3.06											STG 5
I-29/Ramp D	757+92.31	777+00.00	NB	Waterborne/Solvent Paint			1												19.08				STG 5
I-29	758+53.28	759+33.75	SB	Waterborne/Solvent Paint			1					1.34											STG 5
I-29/Detour Ramp A	758+53.28	759+33.75	SB	Waterborne/Solvent Paint	1							1.35											STG 5
I-29/Detour Ramp A	758+56.28	762+14.87	SB	Waterborne/Solvent Paint			1												3.60				STG 5
IA 175 Ramp A	1549+38.61	1551+48.46	SB	Waterborne/Solvent Paint	1															2.15			STG 5 - Includes Return
IA 175 Ramp A	1549+45.60	1549+45.60	SB	Waterborne/Solvent Paint		1															3.60		STG 5
IA 175 Ramp A	1549+38.61	1551+48.46	SB	Waterborne/Solvent Paint			1												2.81				STG 5 - Includes Return
Detour Ramp A	11551+48.46	11558+74.91	SB	Waterborne/Solvent Paint	1															7.26			STG 5
Detour Ramp A	11551+48.46	11558+74.91	SB	Waterborne/Solvent Paint	1														7.26				STG 5
IA 175 Ramp D	4544+07.82	4557+91.09	NB	Waterborne/Solvent Paint	1															14.00			STG 5 - Includes Return
IA 175 Ramp D	4543+55.83	4557+91.09	NB	Waterborne/Solvent Paint			1												14.62				STG 5 - Includes Return
IA 175/Ramp C	1721+34.56	1727+06.66	SB	Waterborne/Solvent Paint			1												5.73				STG 5
IA 175/Ramp C	1722+86.47	1725+13.70	SB	Waterborne/Solvent Paint	1							3.84											STG 5
IA 175/Ramp C	1725+13.70	1737+82.03	SB	Waterborne/Solvent Paint	1															13.01			STG 5
IA 175	1712+74.54	1719+86.09	Right	Waterborne/Solvent Paint			1									7.12							STG 5
IA 175	1722+86.47	1725+13.70	Right	Waterborne/Solvent Paint			1					3.79											STG 5
IA 175	1725+13.70	1762+12.24	Right	Waterborne/Solvent Paint			1									36.99							STG 5
IA 175	1762+94.02	1771+91.33	Right	Waterborne/Solvent Paint			1									9.03							STG 5
IA 175	1773+37.00	1777+50.00	Right	Waterborne/Solvent Paint			1									4.13							STG 5
IA 175	1712+62.77	1719+81.27	Center	Waterborne/Solvent Paint		1								14.36									STG 5
IA 175	1719+81.27	1721+10.73	Center	Waterborne/Solvent Paint		1				0.32				2.58									STG 5
IA 175	1721+10.73	1738+76.11	Center	Waterborne/Solvent Paint		1								35.34									STG 5
IA 175	1738+76.11	1740+17.82	Center	Waterborne/Solvent Paint		1								2.84									STG 5
IA 175	1740+17.82	1750+18.87	Center	Waterborne/Solvent Paint		1								20.02									STG 5
IA 175	1750+18.87	1751+35.97	Center	Waterborne/Solvent Paint		1								2.34									STG 5
IA 175	1751+35.97	1762+18.74	Center	Waterborne/Solvent Paint		1								21.66									STG 5
IA 175	1751+69.67	1754+35.00	Left	Waterborne/Solvent Paint	1																2.65		STG 5
IA 175	1762+18.74	1762+96.97	Center	Waterborne/Solvent Paint		1								1.56									STG 5
IA 175	1762+96.97	1772+04.83	Center	Waterborne/Solvent Paint		1								18.26									STG 5
IA 175	1772+04.83	1773+14.34	Center	Waterborne/Solvent Paint		1								2.20									STG 5
IA 175	1773+14.34	1777+58.11	Center	Waterborne/Solvent Paint		1								8.88									STG 5
IA 175	1712+51.15	1738+64.88	Left	Waterborne/Solvent Paint	1											26.16							STG 5
IA 175	1740+22.82	1750+23.33	Left	Waterborne/Solvent Paint	1											10.01							STG 5
IA 175	1751+69.67	1761+86.06	Left	Waterborne/Solvent Paint	1											10.18							STG 5
IA 175	1763+11.00	1771+89.93	Left	Waterborne/Solvent Paint	1											8.83							STG 5
IA 175	1773+31.15	1777+66.11	Left	Waterborne/Solvent Paint	1											4.35							STG 5
Filbert Ave	1719+86.09	1720+65.82	Left	Waterborne/Solvent Paint	1											1.57							STG 5 - Includes Return
Filbert Ave	1720+47.81	1720+52.29	Center	Waterborne/Solvent Paint		1								0.68									STG 5
Filbert Ave	1720+47.81	1720+81.60	Right	Waterborne/Solvent Paint			1														1.44		STG 5
Filbert Ave	1720+87.44	1721+34.56	Right	Waterborne/Solvent Paint			1									1.58							STG 5 - Includes Return
28th St	283+22.42	284+35.07	Left	Waterborne/Solvent Paint	1											1.30							STG 5 - Includes Return

PAVEMENT MARKING LINE TYPES

Line factors based on 6-inch wide continuous line.

\*BCY4 - Place on the same side of the roadway to match existing markings near the project.

\*\*NPY4 - Estimating purposes only. No Passing Zone Lines will be located in the field.

\*\*\*MNY6 - Factor of 1.00 includes number of 6-inch passes to cover median nose area.

BCY4: Broken Centerline (Yellow) @ 0.17

BCY6: Broken Centerline (Yellow) @ 0.25

BLC6: Broken Line Contrast (White/Black) @ 0.50

BLW4: Broken Lane Line (White) @ 0.17

BLW6: Broken Lane Line (White) @ 0.25

CBW6: Crosswalk Bar (White) @ 10.00

CHW8: Channelizing Line (White) @ 1.33

CHW10: Channelizing Line (White) @ 1.67

CHY8: Channelizing Line (Yellow) @ 1.33

CHY10: Channelizing Line (Yellow) @ 1.67

CLW6: Crosswalk Line (White) @ 2.00

DCY4: Double Centerline (Yellow) @ 1.34

DCY6: Double Centerline (Yellow) @ 2.00

DDY4: Double Dotted Line (Yellow) @ 0.44

DDY6: Double Dotted Line (Yellow) @ 0.67

DLW4: Dotted Line (White) @ 0.22

DLW6: Dotted Line (White) @ 0.33

DLY4: Dotted Line (Yellow) @ 0.22

DLY6: Dotted Line (Yellow) @ 0.33

ELW4: Edge Line Right (White) @ 0.67

ELW6: Edge Line Right (White) @ 1.00

ELY4: Edge Line Left (Yellow) @ 0.67

ELY6: Edge Line Left (Yellow) @ 1.00

LDW8: Lane Drop (White) @ 0.33

LDW10: Lane Drop (White) @ 0.42

MNY6: Median Nose (Yellow) @ 1.00

NPY4: No Passing Zone Line (Yellow) @ 0.84

NPY6: No Passing Zone Line (Yellow) @ 1.25

RLW4: Ramp Edge Line Right (White) @ 0.67

RLW6: Ramp Edge Line Right (White) @ 1.00

RLY4: Ramp Edge Line Left (Yellow) @ 0.67

RLY6: Ramp Edge Line Left (Yellow) @ 1.00

SLW2: Stop Line (White) @ 4.00

SLW4: Solid Lane Line (White) @ 0.67

SLW6: Solid Lane Line (White) @ 1.00

SPW4: Sloped Curb 4" (White) @ 2.16

SPW6: Sloped Curb 6" (White) @ 2.28

SPY4: Sloped Curb 4" (Yellow) @ 2.16

SPY6: Sloped Curb 6" (Yellow) @ 2.28

STW6: Standard Curb 6" (Yellow) @ 2.03

STY6: Standard Curb 6" (Yellow) @ 2.03

YLW2: Yield Line (White) @ 1.15

Road ID	Station From	Station To	Lane	Marking Type	Left	Center	Right	Groove Marking Needed?	Groove Qty. (STA)	BCY6 Factored (STA)	BLW6 Factored (STA)	CHW10 Factored (STA)	CHY10 Factored (STA)	DCY6 Factored (STA)	DLW6 Factored (STA)	ELW6 Factored (STA)	ELY6 Factored (STA)	NPY6** Factored (STA)	RLW6 Factored (STA)	RLY6 Factored (STA)	SLW2 Factored (STA)	SLW6 Factored (STA)	Remarks
28th St	283+70.00	284+17.91	Center	Waterborne/Solvent Paint		1								0.96									STG 5
28th St	284+17.91	284+17.91	Right	Waterborne/Solvent Paint			1														1.92		STG 5
28th St	283+22.44	284+30.95	Right	Waterborne/Solvent Paint			1									1.24							STG 5 - Includes Return
28th St	284+58.51	285+08.00	Left	Waterborne/Solvent Paint	1											0.78							STG 5 - Includes Return
28th St	284+63.39	284+63.39	Left	Waterborne/Solvent Paint	1																1.52		STG 5
28th St	284+63.39	285+07.09	Center	Waterborne/Solvent Paint		1								0.88									STG 5
28th St	284+52.16	285+02.96	Right	Waterborne/Solvent Paint			1									0.69							STG 5 - Includes Return
26th St	1771+91.33	1772+41.50	Left	Waterborne/Solvent Paint	1											1.07							STG 5 - Includes Return
26th St	1772+64.24	1772+64.24	Center	Waterborne/Solvent Paint		1								1.36									STG 5
26th St	1772+63.63	1772+98.17	Right	Waterborne/Solvent Paint			1														1.48		STG 5
26th St	1772+87.30	1773+37.00	Right	Waterborne/Solvent Paint			1									0.88							STG 5 - Includes Return
26th St	1771+89.93	1772+39.90	Left	Waterborne/Solvent Paint	1											0.83							STG 5 - Includes Return
26th St	1772+28.35	1772+62.57	Left	Waterborne/Solvent Paint	1																1.52		STG 5
26th St	1772+56.16	1772+62.57	Center	Waterborne/Solvent Paint		1								0.92									STG 5
26th St	1772+76.07	1773+31.15	Right	Waterborne/Solvent Paint			1									0.87							STG 5 - Includes Return
I-29	705+87.97	749+00.00	NB	Waterborne/Solvent Paint	1												43.12						STG 6
SUR I-29	2967+88.46	2972+11.64	NB	Waterborne/Solvent Paint			1									4.23							STG 6
I-29	700+00.00	732+00.34	NB	Waterborne/Solvent Paint			1									32.00							STG 6
I-29/Detour Ramp B	732+00.34	735+57.51	NB	Waterborne/Solvent Paint			1												3.59				STG 6
I-29/Detour Ramp B	734+80.34	735+60.34	NB	Waterborne/Solvent Paint	1							1.39											STG 6
I-29	734+80.34	735+60.34	NB	Waterborne/Solvent Paint			1					1.34											STG 6
I-29	735+60.34	759+73.07	NB	Waterborne/Solvent Paint			1									24.13							STG 6
I-29	759+73.07	762+53.07	NB	Waterborne/Solvent Paint			1					4.68											STG 6
I-29/Ramp D	759+73.07	762+53.07	NB	Waterborne/Solvent Paint	1							4.68											STG 6
I-29/Ramp D	759+73.07	762+53.07	NB	Waterborne/Solvent Paint			1												2.80				STG 6
I-29	762+53.07	777+00.00	NB	Waterborne/Solvent Paint			1									14.47							STG 6
I-29	745+00.00	783+94.16	SB	Waterborne/Solvent Paint	1												38.94						STG 6
I-29	715+50.00	729+99.22	SB	Waterborne/Solvent Paint			1									14.49							STG 6
I-29	729+99.22	734+60.15	SB	Waterborne/Solvent Paint			1					7.70											STG 6
I-29/Ramp C	729+99.22	734+60.15	SB	Waterborne/Solvent Paint	1							7.72											STG 6
I-29/Ramp C	729+99.22	734+57.69	SB	Waterborne/Solvent Paint			1												4.60				STG 6
I-29	734+60.15	759+33.64	SB	Waterborne/Solvent Paint			1									24.73							STG 6
I-29	759+33.64	760+20.00	SB	Waterborne/Solvent Paint			1					1.44											STG 6
I-29/Detour Ramp A	759+33.64	760+20.00	SB	Waterborne/Solvent Paint	1							1.49											STG 6
I-29/Detour Ramp A	759+35.71	763+00.00	SB	Waterborne/Solvent Paint			1												3.64				STG 6
I-29	763+00.00	799+00.00	SB	Waterborne/Solvent Paint			1									36.00							STG 6
Detour Ramp B	12535+38.06	12540+92.35	NB	Waterborne/Solvent Paint	1															5.58			STG 6
Detour Ramp B	12535+38.06	12540+92.35	NB	Waterborne/Solvent Paint			1												5.54				STG 6
IA 175 Ramp B	2540+92.35	2544+76.74	NB	Waterborne/Solvent Paint	1															4.27			STG 6 - Includes Return
IA 175 Ramp B	2544+67.37	2544+67.37	NB	Waterborne/Solvent Paint		1															4.40		STG 6
IA 175 Ramp B	2540+92.35	2544+54.87	NB	Waterborne/Solvent Paint			1												4.45				STG 6 - Includes Return
IA 175 Ramp C	3534+58.92	3550+57.47	SB	Waterborne/Solvent Paint	1															16.33			STG 6 - Includes Return



PAVEMENT MARKING LINE TYPES

Line factors based on 6-inch wide continuous line.

\*BCY4 - Place on the same side of the roadway to match existing markings near the project.

\*\*NPY4 - Estimating purposes only. No Passing Zone Lines will be located in the field.

\*\*\*MNY6 - Factor of 1.00 includes number of 6-inch passes to cover median nose area.

BCY4: Broken Centerline (Yellow) @ 0.17

BCY6: Broken Centerline (Yellow) @ 0.25

BLC6: Broken Line Contrast (White/Black) @ 0.50

BLW4: Broken Lane Line (White) @ 0.17

BLW6: Broken Lane Line (White) @ 0.25

CBW6: Crosswalk Bar (White) @ 10.00

CHW8: Channelizing Line (White) @ 1.33

CHW10: Channelizing Line (White) @ 1.67

CHY8: Channelizing Line (Yellow) @ 1.33

CHY10: Channelizing Line (Yellow) @ 1.67

CLW6: Crosswalk Line (White) @ 2.00

DCY4: Double Centerline (Yellow) @ 1.34

DCY6: Double Centerline (Yellow) @ 2.00

DDY4: Double Dotted Line (Yellow) @ 0.44

DDY6: Double Dotted Line (Yellow) @ 0.67

DLW4: Dotted Line (White) @ 0.22

DLW6: Dotted Line (White) @ 0.33

DLY4: Dotted Line (Yellow) @ 0.22

DLY6: Dotted Line (Yellow) @ 0.33

ELW4: Edge Line Right (White) @ 0.67

ELW6: Edge Line Right (White) @ 1.00

ELY4: Edge Line Left (Yellow) @ 0.67

ELY6: Edge Line Left (Yellow) @ 1.00

LDW8: Lane Drop (White) @ 0.33

LDW10: Lane Drop (White) @ 0.42

MNY6: Median Nose (Yellow) @ 1.00

NPY4: No Passing Zone Line (Yellow) @ 0.84

NPY6: No Passing Zone Line (Yellow) @ 1.25

RLW4: Ramp Edge Line Right (White) @ 0.67

RLW6: Ramp Edge Line Right (White) @ 1.00

RLY4: Ramp Edge Line Left (Yellow) @ 0.67

RLY6: Ramp Edge Line Left (Yellow) @ 1.00

SLW2: Stop Line (White) @ 4.00

SLW4: Solid Lane Line (White) @ 0.67

SLW6: Solid Lane Line (White) @ 1.00

SPW4: Sloped Curb 4" (White) @ 2.16

SPW6: Sloped Curb 6" (White) @ 2.28

SPY4: Sloped Curb 4" (Yellow) @ 2.16

SPY6: Sloped Curb 6" (Yellow) @ 2.28

STW6: Standard Curb 6" (Yellow) @ 2.03

STY6: Standard Curb 6" (Yellow) @ 2.03

YLW2: Yield Line (White) @ 1.15

Road ID	Station From	Station To	Lane	Marking Type	Left	Center	Right	Groove Marking Needed?	Groove Qty. (STA)	BCY6 Factored (STA)	BLW6 Factored (STA)	CHW10 Factored (STA)	CHY10 Factored (STA)	DCY6 Factored (STA)	DLW6 Factored (STA)	ELW6 Factored (STA)	ELY6 Factored (STA)	NPY6** Factored (STA)	RLW6 Factored (STA)	RLY6 Factored (STA)	SLW2 Factored (STA)	SLW6 Factored (STA)	Remarks
IA 175 Ramp C	3534+58.92	3551+00.10	SB	Waterborne/Solvent Paint			1												17.46				STG 6 - Includes Return
IA 175	1721+34.56	1725+13.70	Right	Waterborne/Solvent Paint			1									2.32							STG 6
IA 175	1738+76.11	1740+17.82	Center	Waterborne/Solvent Paint		1								2.84									STG 6
IA 175	1750+18.87	1751+35.97	Center	Waterborne/Solvent Paint		1								2.34									STG 6
26th St	1772+00.62	1772+36.25	Left	Waterborne/Solvent Paint	1											0.75							Stage 6 - Includes Return
SUR I-29	2967+88.46	2972+11.64	NB	Waterborne/Solvent Paint		1					1.06												STG 7
I-29	700+00.00	762+53.07	Center	Waterborne/Solvent Paint		1					15.63												STG 7
SUR I-29	2967+88.46	2972+11.64	NB	Waterborne/Solvent Paint			1									4.23							STG 7
I-29	700+00.00	715+30.00	NB	Waterborne/Solvent Paint			1									15.30							STG 7
I-29	715+30.00	723+30.00	NB	Waterborne/Solvent Paint			1								2.64								STG 7
I-29	723+30.00	732+50.00	NB	Waterborne/Solvent Paint			1					15.36											STG 7
I-29/Ramp B	728+90.53	732+50.00	NB	Waterborne/Solvent Paint	1							6.00											STG 7
I-29/Ramp B	715+30.00	732+49.07	NB	Waterborne/Solvent Paint			1												17.19				STG 7
I-29	732+50.00	757+76.65	NB	Waterborne/Solvent Paint			1									25.27							STG 7
I-29	757+76.65	763+50.00	NB	Waterborne/Solvent Paint			1					9.57											STG 7
I-29	763+50.00	771+00.00	NB	Waterborne/Solvent Paint			1								2.48								STG 7
I-29/Ramp D	759+73.05	777+00.00	NB	Waterborne/Solvent Paint			1												17.27				STG 7
I-29	730+00.00	757+47.72	SB	Waterborne/Solvent Paint		1					6.87												STG 7
I-29	721+50.00	729+00.00	SB	Waterborne/Solvent Paint			1				1.88												STG 7
I-29	729+00.00	734+60.15	SB	Waterborne/Solvent Paint			1					9.35											STG 7
I-29/Ramp C	715+50.00	732+79.23	SB	Waterborne/Solvent Paint			1												17.29				STG 7
I-29	734+60.15	757+47.72	SB	Waterborne/Solvent Paint			1									22.88							STG 7
I-29	758+53.28	764+34.59	SB	Waterborne/Solvent Paint			1									5.81							STG 7
I-29	764+34.59	767+34.47	SB	Waterborne/Solvent Paint			1					5.01											STG 7
I-29/Ramp A	764+34.59	767+34.47	SB	Waterborne/Solvent Paint	1							5.06											STG 7
I-29/Ramp A	762+25.00	764+34.59	SB	Waterborne/Solvent Paint	1															2.10			STG 7
I-29/Ramp A	762+26.06	770+05.00	SB	Waterborne/Solvent Paint			1												7.79				STG 7
IA 175 Ramp A	1551+48.46	1562+26.10	SB	Waterborne/Solvent Paint	1															10.78			STG 7
IA 175 Ramp A	1551+48.46	1562+26.06	SB	Waterborne/Solvent Paint			1												10.78				STG 7
IA 175 Ramp A	1549+34.61	1549+38.61	SB	Waterborne/Solvent Paint	1															0.07			STG 7 - Return
IA 175 Ramp A	1549+34.56	1549+38.61	SB	Waterborne/Solvent Paint			1												0.62				STG 7 - Return
IA 175 Ramp B	2532+49.07	2540+92.35	NB	Waterborne/Solvent Paint	1															8.43			STG 7
IA 175 Ramp B	2532+49.07	2540+92.35	NB	Waterborne/Solvent Paint			1												8.43				STG 7
IA 175 Ramp B	2544+05.32	2544+64.97	NB	Waterborne/Solvent Paint	1															0.60			STG 7 - Return
IA 175 Ramp B	2544+46.02	2544+46.02	NB	Waterborne/Solvent Paint		1															3.72		STG 7
IA 175 Ramp B	2543+49.80	2544+26.61	NB	Waterborne/Solvent Paint			1												2.14				STG 7 - Return
IA 175 Ramp C	3549+90.61	3550+44.21	SB	Waterborne/Solvent Paint	1															0.80			STG 7 - Return
IA 175 Ramp C	3550+63.62	3551+00.10	SB	Waterborne/Solvent Paint			1												1.15				STG 7 - Return
IA 175 Ramp D	4544+06.51	4544+07.82	NB	Waterborne/Solvent Paint	1															0.07			STG 7 - Return
IA 175 Ramp D	4543+51.30	4543+66.48	NB	Waterborne/Solvent Paint			1												0.50				STG 7 - Return
IA 175	1722+06.80	1738+65.77	Right	Waterborne/Solvent Paint			1									16.59							STG 7
IA 175	1740+75.03	1750+67.73	Right	Waterborne/Solvent Paint			1									9.93							STG 7

PAVEMENT MARKING LINE TYPES

Line factors based on 6-inch wide continuous line.

\*BCY4 - Place on the same side of the roadway to match existing markings near the project.

\*\*NPY4 - Estimating purposes only. No Passing Zone Lines will be located in the field.

\*\*\*MNY6 - Factor of 1.00 includes number of 6-inch passes to cover median nose area.

BCY4: Broken Centerline (Yellow) @ 0.17

BCY6: Broken Centerline (Yellow) @ 0.25

BLC6: Broken Line Contrast (White/Black) @ 0.50

BLW4: Broken Lane Line (White) @ 0.17

BLW6: Broken Lane Line (White) @ 0.25

CBW6: Crosswalk Bar (White) @ 10.00

CHW8: Channelizing Line (White) @ 1.33

CHW10: Channelizing Line (White) @ 1.67

CHY8: Channelizing Line (Yellow) @ 1.33

CHY10: Channelizing Line (Yellow) @ 1.67

CLW6: Crosswalk Line (White) @ 2.00

DCY4: Double Centerline (Yellow) @ 1.34

DCY6: Double Centerline (Yellow) @ 2.00

DDY4: Double Dotted Line (Yellow) @ 0.44

DDY6: Double Dotted Line (Yellow) @ 0.67

DLW4: Dotted Line (White) @ 0.22

DLW6: Dotted Line (White) @ 0.33

DLY4: Dotted Line (Yellow) @ 0.22

DLY6: Dotted Line (Yellow) @ 0.33

ELW4: Edge Line Right (White) @ 0.67

ELW6: Edge Line Right (White) @ 1.00

ELY4: Edge Line Left (Yellow) @ 0.67

ELY6: Edge Line Left (Yellow) @ 1.00

LDW8: Lane Drop (White) @ 0.33

LDW10: Lane Drop (White) @ 0.42

MNY6: Median Nose (Yellow) @ 1.00

NPY4: No Passing Zone Line (Yellow) @ 0.84

NPY6: No Passing Zone Line (Yellow) @ 1.25

RLW4: Ramp Edge Line Right (White) @ 0.67

RLW6: Ramp Edge Line Right (White) @ 1.00

RLY4: Ramp Edge Line Left (Yellow) @ 0.67

RLY6: Ramp Edge Line Left (Yellow) @ 1.00

SLW2: Stop Line (White) @ 4.00

SLW4: Solid Lane Line (White) @ 0.67

SLW6: Solid Lane Line (White) @ 1.00

SPW4: Sloped Curb 4" (White) @ 2.16

SPW6: Sloped Curb 6" (White) @ 2.28

SPY4: Sloped Curb 4" (Yellow) @ 2.16

SPY6: Sloped Curb 6" (Yellow) @ 2.28

STW6: Standard Curb 6" (Yellow) @ 2.03

STY6: Standard Curb 6" (Yellow) @ 2.03

YLW2: Yield Line (White) @ 1.15

Road ID	Station From	Station To	Lane	Marking Type	Left	Center	Right	Groove Marking Needed?	Groove Qty. (STA)	BCY6 Factored (STA)	BLW6 Factored (STA)	CHW10 Factored (STA)	CHY10 Factored (STA)	DCY6 Factored (STA)	DLW6 Factored (STA)	ELW6 Factored (STA)	ELY6 Factored (STA)	NPY6** Factored (STA)	RLW6 Factored (STA)	RLY6 Factored (STA)	SLW2 Factored (STA)	SLW6 Factored (STA)	Remarks
IA 175	1752+82.32	1761+44.97	Right	Waterborne/Solvent Paint			1									8.63							STG 7
IA 175	1762+12.24	1762+94.02	Right	Waterborne/Solvent Paint			1									0.82							STG 7
IA 175	1719+81.27	1725+82.80	Center	Waterborne/Solvent Paint		1								12.04									STG 7
IA 175	1725+82.80	1739+83.51	Center	Waterborne/Solvent Paint		1							53.74										STG 7
IA 175	1740+90.00	1743+15.00	Center	Waterborne/Solvent Paint		1								4.50									STG 7
IA 175	1740+90.00	1743+15.00	Center	Waterborne/Solvent Paint		1															2.25		STG 7
IA 175	1743+15.00	1748+47.50	Center	Waterborne/Solvent Paint		1							21.88										STG 7
IA 175	1748+47.50	1749+97.50	Center	Waterborne/Solvent Paint		1								3.00									STG 7
IA 175	1748+47.50	1749+97.50	Center	Waterborne/Solvent Paint		1															1.50		STG 7
IA 175	1751+07.73	1758+94.97	Center	Waterborne/Solvent Paint		1							31.11										STG 7
IA 175	1758+94.97	1761+44.97	Center	Waterborne/Solvent Paint		1								5.00									STG 7
IA 175	1752+00.00	1753+20.26	Left	Waterborne/Solvent Paint	1																	1.20	STG 7
IA 175	1722+06.80	1738+02.92	Left	Waterborne/Solvent Paint	1											15.96							STG 7
IA 175	1740+27.93	1750+17.84	Left	Waterborne/Solvent Paint	1											9.90							STG 7
IA 175	1751+98.67	1761+44.97	Left	Waterborne/Solvent Paint	1											9.48							STG 7
Frontage Road Detour 28th St	31000+00.00	31003+76.04	Right	Waterborne/Solvent Paint			1									3.77							STG 7
Frontage Road Detour 28th St	31000+17.36	31003+55.73	Left	Waterborne/Solvent Paint	1											4.03							STG 7
Frontage Road Detour 28th St	31000+35.62	31003+67.43	Center	Waterborne/Solvent Paint		1								6.64									STG 7
Detour 28th St	21000+63.04	21001+80.00	Right	Waterborne/Solvent Paint			1									1.59							STG 7 - Includes Returns
Detour 28th St	21000+58.11	21000+88.14	Left	Waterborne/Solvent Paint	1											0.46							STG 7 - Return
Detour 28th St	21001+09.96	21001+79.46	Left	Waterborne/Solvent Paint	1											1.09							STG 7 - Return
Detour 28th St	21000+60.50	21000+88.93	Center	Waterborne/Solvent Paint		1								0.56									STG 7
Detour 28th St	21000+88.93	21000+88.93	Right	Waterborne/Solvent Paint			1														0.48		STG 7
Detour 28th St	21001+16.55	21001+73.00	Center	Waterborne/Solvent Paint		1								1.12									STG 7
Detour 28th St	21001+73.00	21001+73.00	Right	Waterborne/Solvent Paint			1														0.96		STG 7
I-29/Ramp B	715+30.00	732+49.07	NB	Waterborne/Solvent Paint			1												17.19				STG 8
I-29/Ramp B	728+90.53	732+50.00	NB	Waterborne/Solvent Paint			1					6.00											STG 8
I-29/Ramp D	757+89.85	759+73.07	NB	Waterborne/Solvent Paint			1					3.06											STG 8
I-29/Ramp D	757+92.31	777+00.00	NB	Waterborne/Solvent Paint			1												19.08				STG 8
I-29/Ramp C	715+50.00	734+57.69	SB	Waterborne/Solvent Paint			1												19.08				STG 8
I-29/Ramp C	732+76.93	734+60.15	SB	Waterborne/Solvent Paint			1					3.06											STG 8
I-29/Ramp A	762+25.00	765+84.47	SB	Waterborne/Solvent Paint			1					6.00											STG 8
I-29/Ramp A	762+26.06	779+45.00	SB	Waterborne/Solvent Paint			1												17.19				STG 8
IA 175 Ramp A	1549+45.60	1549+45.60	SB	Waterborne/Solvent Paint		1															3.60		STG 8
IA 175 Ramp A	1549+34.61	1562+26.06	SB	Waterborne/Solvent Paint	1															13.07			STG 8 - Includes Return
IA 175 Ramp A	1549+34.56	1562+26.06	SB	Waterborne/Solvent Paint			1												14.21				STG 8 - Includes Return
IA 175 Ramp B	2532+49.07	2544+64.97	NB	Waterborne/Solvent Paint	1															12.29			STG 8 - Includes Return
IA 175 Ramp B	2532+49.07	2544+26.61	NB	Waterborne/Solvent Paint			1												13.15				STG 8 - Includes Return
IA 175 Ramp B	2544+46.02	2544+46.02	NB	Waterborne/Solvent Paint		1															3.72		STG 8
IA 175 Ramp C	3534+58.92	3550+44.21	SB	Waterborne/Solvent Paint	1															16.08			STG 8 - Includes Return
IA 175 Ramp C	3534+58.92	3551+00.10	SB	Waterborne/Solvent Paint			1												17.24				STG 8 - Includes Return
IA 175 Ramp D	4544+06.51	4557+91.09	NB	Waterborne/Solvent Paint	1															14.07			STG 8 - Includes Return

PAVEMENT MARKING LINE TYPES

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BCY4: Broken Centerline (Yellow) @ 0.17

BCY6: Broken Centerline (Yellow) @ 0.25

BLC6: Broken Line Contrast (White/Black) @ 0.50

BLW4: Broken Lane Line (White) @ 0.17

BLW6: Broken Lane Line (White) @ 0.25

CBW6: Crosswalk Bar (White) @ 10.00

CHW8: Channelizing Line (White) @ 1.33

CHW10: Channelizing Line (White) @ 1.67

CHY8: Channelizing Line (Yellow) @ 1.33

CHY10: Channelizing Line (Yellow) @ 1.67

CLW6: Crosswalk Line (White) @ 2.00

DCY4: Double Centerline (Yellow) @ 1.34

DCY6: Double Centerline (Yellow) @ 2.00

DDY4: Double Dotted Line (Yellow) @ 0.44

DDY6: Double Dotted Line (Yellow) @ 0.67

DLW4: Dotted Line (White) @ 0.22

DLW6: Dotted Line (White) @ 0.33

DLY4: Dotted Line (Yellow) @ 0.22

DLY6: Dotted Line (Yellow) @ 0.33

ELW4: Edge Line Right (White) @ 0.67

ELW6: Edge Line Right (White) @ 1.00

ELY4: Edge Line Left (Yellow) @ 0.67

ELY6: Edge Line Left (Yellow) @ 1.00

LDW8: Lane Drop (White) @ 0.33

LDW10: Lane Drop (White) @ 0.42

MNY6: Median Nose (Yellow) @ 1.00

NPY4: No Passing Zone Line (Yellow) @ 0.84

NPY6: No Passing Zone Line (Yellow) @ 1.25

RLW4: Ramp Edge Line Right (White) @ 0.67

RLW6: Ramp Edge Line Right (White) @ 1.00

RLY4: Ramp Edge Line Left (Yellow) @ 0.67

RLY6: Ramp Edge Line Left (Yellow) @ 1.00

SLW2: Stop Line (White) @ 4.00

SLW4: Solid Lane Line (White) @ 0.67

SLW6: Solid Lane Line (White) @ 1.00

SPW4: Sloped Curb 4" (White) @ 2.16

SPW6: Sloped Curb 6" (White) @ 2.28

SPY4: Sloped Curb 4" (Yellow) @ 2.16

SPY6: Sloped Curb 6" (Yellow) @ 2.28

STW6: Standard Curb 6" (Yellow) @ 2.03

STY6: Standard Curb 6" (Yellow) @ 2.03

YLW2: Yield Line (White) @ 1.15

Road ID	Station From	Station To	Lane	Marking Type	Left	Center	Right	Groove Marking Needed?	Groove Qty. (STA)	BCY6 Factored (STA)	BLW6 Factored (STA)	CHW10 Factored (STA)	CHY10 Factored (STA)	DCY6 Factored (STA)	DLW6 Factored (STA)	ELW6 Factored (STA)	ELY6 Factored (STA)	NPY6** Factored (STA)	RLW6 Factored (STA)	RLY6 Factored (STA)	SLW2 Factored (STA)	SLW6 Factored (STA)	Remarks
IA 175 Ramp D	4543+51.30	4557+91.09	NB	Waterborne/Solvent Paint			1												14.91				STG 8 - Includes Return
IA 175	1712+51.15	1719+86.09	Right	Waterborne/Solvent Paint			1									7.35							STG 8
IA 175	1721+60.29	1738+65.77	Right	Waterborne/Solvent Paint			1									17.05							STG 8
IA 175	1740+75.03	1750+67.73	Right	Waterborne/Solvent Paint			1									9.93							STG 8
IA 175	1752+82.32	1761+89.69	Right	Waterborne/Solvent Paint			1									9.07							STG 8
IA 175	1764+04.37	1771+91.33	Right	Waterborne/Solvent Paint			1									7.87							STG 8
IA 175	1773+37.00	1777+88.69	Right	Waterborne/Solvent Paint			1									4.52							STG 8
IA 175	1712+51.15	1738+02.92	Left	Waterborne/Solvent Paint	1											25.52							STG 8
IA 175	1740+27.93	1750+17.84	Left	Waterborne/Solvent Paint	1											9.90							STG 8
IA 175	1751+98.67	1761+19.83	Left	Waterborne/Solvent Paint	1											9.21							STG 8
IA 175	1763+37.26	1772+00.62	Left	Waterborne/Solvent Paint	1											8.63							STG 8
IA 175	1773+31.15	1777+88.69	Left	Waterborne/Solvent Paint	1											4.58							STG 8
IA 175	1712+51.15	1719+82.80	Center	Waterborne/Solvent Paint		1				1.83													STG 8
IA 175	1719+82.80	1725+82.80	Center	Waterborne/Solvent Paint		1												7.50					STG 8
IA 175	1725+82.80	1739+83.51	Center	Waterborne/Solvent Paint		1							53.74										STG 8
IA 175	1740+90.00	1743+15.00	Center	Waterborne/Solvent Paint		1								4.50									STG 8
IA 175	1740+90.00	1743+15.00	Center	Waterborne/Solvent Paint		1															2.25		STG 8
IA 175	1743+15.00	1748+47.50	Center	Waterborne/Solvent Paint		1							21.88										STG 8
IA 175	1748+47.50	1749+97.50	Center	Waterborne/Solvent Paint		1								3.00									STG 8
IA 175	1748+47.50	1749+97.50	Center	Waterborne/Solvent Paint		1															1.50		STG 8
IA 175	1751+07.73	1760+50.00	Center	Waterborne/Solvent Paint		1							41.53										STG 8
IA 175	1752+00.00	1756+70.00	Left	Waterborne/Solvent Paint	1																4.70		STG 8
IA 175	1760+50.00	1762+00.00	Center	Waterborne/Solvent Paint		1								3.00									STG 8
IA 175	1760+50.00	1762+00.00	Center	Waterborne/Solvent Paint		1															1.50		STG 8
IA 175	1763+20.00	1764+70.00	Center	Waterborne/Solvent Paint		1								3.00									STG 8
IA 175	1763+20.00	1764+70.00	Center	Waterborne/Solvent Paint		1															1.50		STG 8
IA 175	1764+70.00	1770+95.15	Center	Waterborne/Solvent Paint		1							24.37										STG 8
IA 175	1770+95.15	1777+88.69	Center	Waterborne/Solvent Paint		1								13.88									STG 8
Filbert Ave	1719+86.09	1720+65.82	Left	Waterborne/Solvent Paint	1											1.57							STG 8 - Includes Return
Filbert Ave	1720+47.81	1720+76.63	Center	Waterborne/Solvent Paint		1												1.40					STG 8
Filbert Ave	1720+47.81	1720+81.60	Right	Waterborne/Solvent Paint			1													1.44			STG 8
Filbert Ave	1720+87.44	1721+60.29	Right	Waterborne/Solvent Paint			1									1.84							STG 8 - Includes Return
28th St	283+22.42	284+17.36	Left	Waterborne/Solvent Paint	1											1.18							STG 8 - Includes Return
28th St	283+22.43	284+03.29	Center	Waterborne/Solvent Paint		1								1.62									STG 8
28th St	284+03.29	284+03.29	Right	Waterborne/Solvent Paint			1													1.92			STG 8
28th St	283+22.44	284+07.55	Right	Waterborne/Solvent Paint			1									1.87							STG 8 - Includes Return
28th St	284+59.57	285+07.93	Left	Waterborne/Solvent Paint	1											1.40							STG 8 - Includes Return
28th St	284+63.39	284+63.39	Left	Waterborne/Solvent Paint	1															1.76			STG 8
28th St	284+63.39	285+07.09	Center	Waterborne/Solvent Paint		1								0.88									STG 8
28th St	284+48.05	285+02.96	Right	Waterborne/Solvent Paint			1									0.87							STG 8 - Includes Return
26th St	1771+91.33	1772+41.50	Left	Waterborne/Solvent Paint	1											1.07							STG 8 - Includes Return
26th St	1772+64.24	1772+64.24	Center	Waterborne/Solvent Paint		1								1.36									STG 8

<div>108_22 10/21/25</div> <div>PAVEMENT MARKING LINE TYPES</div> <div>Line factors based on 6-inch wide continuous line. *BCY4 - Place on the same side of the roadway to match existing markings near the project. **NPY4 - Estimating purposes only. No Passing Zone Lines will be located in the field. ***MNY6 - Factor of 1.00 includes number of 6-inch passes to cover median nose area. BCY4: Broken Centerline (Yellow) @ 0.17    BCY6: Broken Centerline (Yellow) @ 0.25    BLC6: Broken Line Contrast (White/Black) @ 0.50    BLW4: Broken Lane Line (White) @ 0.17    BLW6: Broken Lane Line (White) @ 0.25 CBW6: Crosswalk Bar (White) @ 10.00    CHW8: Channelizing Line (White) @ 1.33    CHW10: Channelizing Line (White) @ 1.67    CHY8: Channelizing Line (Yellow) @ 1.33    CHY10: Channelizing Line (Yellow) @ 1.67 CLW6: Crosswalk Line (White) @ 2.00    DCY4: Double Centerline (Yellow) @ 1.34    DCY6: Double Centerline (Yellow) @ 2.00    DDY4: Double Dotted Line (Yellow) @ 0.44    DDY6: Double Dotted Line (Yellow) @ 0.67 DLW4: Dotted Line (White) @ 0.22    DLW6: Dotted Line (White) @ 0.33    DLY4: Dotted Line (Yellow) @ 0.22    DLY6: Dotted Line (Yellow) @ 0.33    ELW4: Edge Line Right (White) @ 0.67 ELW6: Edge Line Right (White) @ 1.00    ELY4: Edge Line Left (Yellow) @ 0.67    ELY6: Edge Line Left (Yellow) @ 1.00    LDW8: Lane Drop (White) @ 0.33    LDW10: Lane Drop (White) @ 0.42 MNY6: Median Nose (Yellow) @ 1.00    NPY4: No Passing Zone Line (Yellow) @ 0.84    NPY6: No Passing Zone Line (Yellow) @ 1.25    RLW4: Ramp Edge Line Right (White) @ 0.67    RLW6: Ramp Edge Line Right (White) @ 1.00 RLY4: Ramp Edge Line Left (Yellow) @ 0.67    RLY6: Ramp Edge Line Left (Yellow) @ 1.00    SLW2: Stop Line (White) @ 4.00    SLW4: Solid Lane Line (White) @ 0.67    SLW6: Solid Lane Line (White) @ 1.00 SPW4: Sloped Curb 4" (White) @ 2.16    SPW6: Sloped Curb 6" (White) @ 2.28    SPY4: Sloped Curb 4" (Yellow) @ 2.16    SPY6: Sloped Curb 6" (Yellow) @ 2.28    STW6: Standard Curb 6" (Yellow) @ 2.03 STY6: Standard Curb 6" (Yellow) @ 2.03    YLW2: Yield Line (White) @ 1.15</div>																							
Road ID	Station From	Station To	Lane	Marking Type	Left	Center	Right	Groove Marking Needed?	Groove Qty. (STA)	BCY6 Factored (STA)	BLW6 Factored (STA)	CHW10 Factored (STA)	CHY10 Factored (STA)	DCY6 Factored (STA)	DLW6 Factored (STA)	ELW6 Factored (STA)	ELY6 Factored (STA)	NPY6** Factored (STA)	RLW6 Factored (STA)	RLY6 Factored (STA)	SLW2 Factored (STA)	SLW6 Factored (STA)	Remarks
26th St	1772+64.24	1772+98.17	Right	Waterborne/Solvent Paint			1														1.48		STG 8
26th St	1772+87.94	1773+37.00	Right	Waterborne/Solvent Paint			1									1.06							STG 8 - Includes Return
26th St	1772+00.62	1772+36.25	Left	Waterborne/Solvent Paint	1											0.75							STG 8 - Includes Return
26th St	1772+30.45	1772+62.57	Left	Waterborne/Solvent Paint																	1.36		STG 8
26th St	1772+56.16	1772+62.57	Center	Waterborne/Solvent Paint		1								0.92									STG 8
26th St	1772+76.07	1773+31.15	Right	Waterborne/Solvent Paint			1									0.87							STG 8 - Includes Return
Marking Type Waterborne/Solvent Paint:										2.15	67.12	245.01	270.18	491.48	8.6	973.07	332.24	8.9	398.41	193.24	44.32	21.05	
Total:										9.32	215.87	594.69	377.23	791.72	33.88	2007.95	846.15	56.87	642.52	295.22	68.64	29.45	

<div>108_27 8/15/22</div> <div>TEMPORARY FLOODLIGHTING LUMINAIRES</div> <div>Possible Standard: LI-130</div>					
Line No.	Item No.	Station	Offset (FT)	Number Luminaires	Remarks
1.0		1754+93.91	10.0	1	STG 1
2.0		1712+99.00	10.0	1	STG 3,4
3.0		1733+51.92	10.0	1	STG 3,4
4.0		1756+81.68	10.0	1	STG 3,4
5.0		1777+21.89	10.0	1	STG 3,4
6.0		1761+76.01	10.0	1	STG 4
7.0		11769+34.34	15.0	1	STG 4,5
8.0		11551+63.31	15.0	1	STG 5,6
9.0		11559+10.93	15.0	1	STG 5,6
10.0		12534+73.57	15.0	1	STG 6
11.0		12540+41.99	15.0	1	STG 6
12.0		31000+23.84	10.0	1	STG 7
13.0		31003+81.28	10.0	1	STG 7

<div>108_29 4/15/25</div> <div>PAVEMENT MARKING SYMBOLS AND LEGENDS</div> <div>Refer to PM-111</div>					
Roadway Identification	Station	Side	Pavement Symbol	Quantity (EA)	Remarks
IA 175	1741+65.00	Median	LTAW	1	
IA 175	1742+02.50	Median	ONLW	1	
IA 175	1742+40.00	Median	LTAW	1	
IA 175	1748+81.00	Median	LTAW	1	
IA 175	1749+18.50	Median	ONLW	1	
IA 175	1749+56.00	Median	LTAW	1	
IA 175	1752+20.00	Left	RTAW	1	
IA 175	1752+95.00	Left	RTAW	1	
IA 175	1755+20.00	Left	RTAW	1	
IA 175	1755+95.00	Left	RTAW	1	
IA 175 Ramp A	1552+25.00	Right	FERW	1	
IA 175 Ramp B	2541+75.00	Left	FERW	1	

CRASH CUSHIONS

108\_30  
4/16/24

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

Line No.	Lane	Station	Side	Obstacle Width (FT)	Crash Cushion Type	Crash Cushion Quantity	V (FT) (2)	W (FT) (2)	X (FT) (2)	Y (FT) (2)	Z (FT) (2)	Excavation Class 10* (CY)	Embankment in Place* (CY)	Obstacle Description	Remarks
1.0	SB	753+93.32	Right	2.0	Temporary Severe Use	1									STG 0
2.0	NB	743+36.52	Left	2.0	Temporary Severe Use	1									STG 1
3.0	SB	750+87.07	Left	2.0	Temporary Severe Use	1									STG 1
4.0	SB	1552+55.72	Right	2.0	Temporary Severe Use	1									STG 1
5.0	SB	1552+63.81	Left	2.0	Temporary Severe Use	1									STG 1,2,3
6.0	SB	3537+60.24	Right	2.0	Temporary Redirective	1									STG 2
7.0	NB	4553+93.78	Right	2.0	Temporary Redirective	1									STG 2
8.0	SB	761+65.09	Median	2.0	Temporary Severe Use	1									STG 2
9.0	NB	731+51.92	Right	2.0	Temporary Severe Use	1									STG 2
10.0	SB	737+88.29	Right	2.0	Temporary Severe Use	1									STG 3
11.0	NB	755+24.25	Right	2.0	Temporary Severe Use	1									STG 3
12.0	WB	1771+49.11	Right	2.0	Temporary Severe Use	1									STG 3
13.0	SB	3534+78.38	Left	2.0	Temporary Redirective	1									STG 3
14.0	NB	4555+95.23	Left	2.0	Temporary Redirective	1									STG 3
15.0	EB	1724+50.21	Median	2.0	Temporary Severe Use	1									STG 5
16.0	EB	1752+32.82	Right	2.0	Temporary Redirective	1									STG 6
17.0	SB	3538+00.00	Right	2.0	Temporary Severe Use	1									STG 6
18.0	NB	4553+39.04	Right	2.0	Temporary Severe Use	1									STG 6
19.0	NB	713+66.52	Right	2.0	Temporary Severe Use	1									STG 6
20.0	NB	742+60.52	Right	2.0	Temporary Severe Use	1									STG 6
21.0	SB	750+12.48	Right	2.0	Temporary Severe Use	1									STG 6
22.0	SB	781+08.48	Right	2.0	Temporary Severe Use	1									STG 6
23.0	NB	731+87.19	Median	2.0	Temporary Severe Use	1									STG 7
24.0	SB	765+27.46	Left	2.0	Temporary Severe Use	1									STG 7
25.0	EB	1764+14.50	Left	2.0	Temporary Severe Use	1									STG 7

<div>108_33 8/15/22</div> <div>TEMPORARY BARRIER RAIL</div> <div>Possible Standard: BA-401 Possible Detail: 560-7</div> <div>* Not a bid item. Anchorage requirements are based on TBR locations shown in the plans. TBR alignments that vary from what is shown in the plans may result in additional TBR sections requiring anchorage.</div>								
Line No.	No.	Station From	Station To	Length (FT)	Barrier Rail Type	Anchored*	Modular Glare Screen System	Remarks
1.0	1	746+05.06	750+05.06	400.0	Concrete BA-401	No	No	STG 0
2.0	2	749+93.32	753+93.32	400.0	Concrete BA-401	No	No	STG 0
3.0	3	1727+70.15	1735+59.48	787.5	Concrete BA-401	No	No	STG 1,2,3
4.0	4	1753+51.45	1754+89.27	137.5	Concrete BA-401	No	No	STG 1
5.0	5	1760+78.63	1761+65.83	87.5	Concrete BA-401	Yes	No	STG 1
6.0	6	1762+94.59	1763+58.00	62.5	Concrete BA-401	Yes	No	STG 1
7.0	7	743+36.52	750+00.00	662.5	Concrete BA-401	No	No	STG 1
8.0	8	744+00.00	750+87.07	687.5	Concrete BA-401	No	No	STG 1
9.0	9	1550+31.15	1552+55.72	237.5	Concrete BA-401	No	No	STG 1
10.0	10	1550+34.63	1552+63.81	237.5	Concrete BA-401	No	No	STG 1,2,3
11.0	11	715+50.00	3537+60.24	2212.5	Concrete BA-401	No	No	STG 2
12.0	12	731+51.92	736+27.90	475.0	Concrete BA-401	No	No	STG 2
13.0	13	757+76.45	761+65.09	387.5	Concrete BA-401	No	No	STG 2
14.0	14	759+81.37	761+65.09	187.5	Concrete BA-401	No	No	STG 2
15.0	15	4553+93.78	777+00.00	2300.0	Concrete BA-401	No	No	STG 2
16.0	16	1721+17.57	1721+65.09	75.0	Concrete BA-401	No	No	STG 3,4
17.0	17	1721+93.40	1726+18.45	425.0	Concrete BA-401	Yes	No	STG 3
18.0	18	1726+18.45	1735+59.48	737.5	Concrete BA-401	No	No	STG 3
19.0	19	1755+28.97	1768+36.61	1312.5	Concrete BA-401	No	No	STG 3,4
20.0	20	1768+36.61	1771+49.11	312.5	Concrete BA-401	Yes	No	STG 3
21.0	21	727+24.81	737+88.29	1062.5	Concrete BA-401	No	No	STG 3
22.0	22	755+24.25	763+87.72	862.5	Concrete BA-401	No	No	STG 3
23.0	23	727+25.00	3532+88.29	562.5	Concrete BA-401	Yes	No	STG 3
24.0	24	3532+88.29	3534+78.38	187.5	Concrete BA-401	No	No	STG 3
25.0	25	1753+92.73	4545+45.83	275.0	Concrete BA-401	No	No	STG 3
26.0	26	4555+95.23	4559+36.87	337.5	Concrete BA-401	No	No	STG 3
27.0	27	4559+36.87	763+87.72	450.0	Concrete BA-401	Yes	No	STG 3
28.0	28	1734+74.53	1736+75.43	200.0	Concrete BA-401	Yes	No	STG 4
29.0	29	1736+75.43	1743+64.14	687.5	Concrete BA-401	No	No	STG 4
30.0	30	1748+68.23	1752+82.43	412.5	Concrete BA-401	No	No	STG 4
31.0	31	1752+82.43	1756+58.84	375.0	Concrete BA-401	Yes	No	STG 4
32.0	32	1753+00.64	1757+67.57	500.0	Concrete BA-401	No	No	STG 4
33.0	33	1724+50.21	1757+89.40	3337.5	Concrete BA-401	No	No	STG 5
34.0	34	1724+24.17	1739+11.93		Concrete BA-401	No	No	STG 6: 1485.5 LF Placed previously in STG 5
35.0	35	1752+32.82	1757+89.40		Concrete BA-401	No	No	STG 6: 555 LF Placed previously in STG 5
36.0	36	1757+89.40	1761+96.39	412.5	Concrete BA-401	No	No	STG 6
37.0	37	1763+41.14	1771+48.97	812.5	Concrete BA-401	No	No	STG 6
38.0	38	742+60.52	747+74.00	512.5	Concrete BA-401	No	No	STG 6
39.0	39	746+24.00	750+12.48	387.5	Concrete BA-401	No	No	STG 6
40.0	40	713+66.52	735+77.47	2212.5	Concrete BA-401	No	No	STG 6
41.0	41	719+93.02	3538+00.00	1812.5	Concrete BA-401	No	No	STG 6
42.0	42	4553+39.74	772+11.78	1875.0	Concrete BA-401	No	No	STG 6
43.0	43	11557+39.84	781+08.48	2387.5	Concrete BA-401	No	No	STG 6
44.0	44	731+87.19	736+25.79	437.5	Concrete BA-401	No	No	STG 7
45.0	45	731+87.19	2540+56.20	875.0	Concrete BA-401	No	No	STG 7
46.0	46	1551+36.77	765+27.46	1400.0	Concrete BA-401	No	No	STG 7
47.0	47	758+51.20	765+27.46	675.0	Concrete BA-401	No	No	STG 7
48.0	48	1756+62.82	1759+38.27	275.0	Concrete BA-401	No	No	STG 7
49.0	49	1761+01.77	1764+14.50	312.5	Concrete BA-401	No	No	STG 7



<div>108_35 8/15/22</div> <div>TEMPORARY LANE SEPARATOR SYSTEM</div> <div>See TC-61</div>				
Line No.	Station From	Station To	Length (LF)	Remarks
1.0	1759+23.00	1761+99.00	276.0	STG 4
2.0	1721+13.00	1725+25.00	412.0	STG 5
Total:			688	

REMOVAL OF PAVEMENT							110_01 4/5/24
Refer to Tabulation 102-5.							
* Not a bid item.							
Line No.	Station From	Station To	Side	Pavement Type	Area (SY)	Saw Cut* (LF)	Remarks
1.0	744+00.00	749+00.00	NB	PCC/HMA	337.2	512.0	Stage 1 ML029
2.0	745+00.00	750+00.00	SB	PCC/HMA	283.5	512.0	Stage 1 ML029
3.0	732+50.00	736+27.90	NB	PCC/HMA	425.5	398.1	Stage 2 ML029
4.0	763+87.72	777+00.00	NB	PCC/HMA	1826.2	1343.6	Stage 2 ML029
5.0	715+50.00	727+32.51	SB	PCC/HMA	1672.5	1215.2	Stage 2 ML029
6.0	757+87.28	760+90.83	SB	PCC/HMA	419.9	326.2	Stage 2 ML029
7.0	756+78.65	763+87.72	NB	PCC/HMA	1561.8	1249.3	Stage 3 ML029
8.0	727+25.00	735+14.15	SB	PCC/HMA	1446.7	1314.2	Stage 3 ML029
9.0	1722+00.00	1729+69.35	Both	PCC/HMA	1880.9	815.0	Stage 3 SR175
10.0	1755+81.09	1771+49.11	Both	PCC/HMA	4148.0	1745.0	Stage 3 SR175
11.0	1549+15.61	1551+31.59	Left	PCC/HMA	1528.5	218.7	Stage 4 EXRPA175
12.0	4543+51.30	4544+15.26	Right	PCC/HMA	2626.8	444.7	Stage 4 EXRPD175
13.0	1738+27.07	1745+04.46	Right	PCC/HMA	2338.3	29.4	Stage 5 SR175
14.0	1747+42.73	1753+31.49	Right	PCC/HMA	2055.9	28.8	Stage 5 SR175
15.0	715+30.00	732+50.00	NB	PCC/HMA	3197.4	1740.2	Stage 6 ML029
16.0	744+35.00	747+74.00	Right	PCC/HMA	311.1	355.0	Stage 6 ML029
17.0	758+31.04	772+11.86	NB	PCC/HMA	309.9	1381.7	Stage 6 ML029
18.0	719+92.96	732+91.79	SB	PCC/HMA	1997.2	1299.0	Stage 6 ML029
19.0	746+24.00	748+43.00	SB	PCC/HMA	231.6	237.7	Stage 6 ML029
20.0	760+16.46	779+45.00	SB	PCC/HMA	2932.0	1939.2	Stage 6 ML029
21.0	1551+14.59	1560+19.67	Left	PCC/HMA	2612.2		Stage 6 EXRPA175
22.0	2532+49.07	2543+33.26	Right	PCC/HMA	4093.0		Stage 6 EXRPB175
23.0	3532+92.34	3551+00.00	Left	PCC/HMA	6818.9		Stage 6 EXRPC175
24.0	4543+51.30	4558+29.41	Right	PCC/HMA	6287.9	148.3	Stage 6 EXRPD175
25.0	1712+74.54	1720+64.01	Right	PCC/HMA	1328.4	866.6	Stage 6 SR175
26.0	1720+74.57	1738+34.35	Right	PCC/HMA	6667.7	997.1	Stage 6 SR175
27.0	1753+26.42	1761+89.57	Right	PCC/HMA	3069.6	629.8	Stage 6 SR175
28.0	1764+04.37	1772+39.33	Right	PCC/HMA	3374.2	914.1	Stage 6 SR175
29.0	1772+89.03	1777+71.64	Right	PCC/HMA	679.3	519.3	Stage 6 SR175
30.0	760+90.83	762+25.00	SB	PCC/HMA	158.1	155.4	Stage 7 ML029
31.0	1551+48.46	1560+18.64	Right	PCC/HMA	1535.5	481.7	Stage 7 DETRPA175
32.0	2533+76.74	2540+48.40	Left	PCC/HMA	1213.4	307.6	Stage 7 DETRPB175
33.0	1756+70.00	1758+95.00	Left	PCC/HMA	325.3	255.4	Stage 7 SR175
34.0	1761+89.57	1764+04.51	Right	PCC/HMA	1047.7	277.3	Stage 7 SR175
Total:					70742.1		

<div>110_07A 8/15/22</div> <div>REMOVAL OF STEEL BEAM GUARDRAIL</div> <div>(1) Lane(s) to which the installation is adjacent. (2) Includes length of End Terminals and End Anchors.</div>						
Line No.	No.	Direction of Traffic (1)	Station From	Station To	Side	Removal of Guardrail (2) (LF)
1.0		NB	744+44.00	745+41.00	Right	97.0
2.0		SB	747+01.00	747+91.00	Left	90.3
3.0		EB	1743+20.00	1744+85.00	Left	165.6
4.0		EB	1743+40.00	1745+05.00	Right	165.7
5.0		WB	1747+42.00	1749+09.00	Left	168.0
6.0		WB	1747+61.00	1749+26.00	Right	166.0
Total:						852.6

FILE NO.32285

ENGLISH

DESIGN TEAM

Iowa DOT / HR Green, Inc.

MONONA COUNTY

PROJECT NUMBER

STP-175-1(95)--2C-67

SHEET NUMBER

C.48

10/6/2025 11:01:49 AMXINYU.HU@IOWA.ID

REMOVAL OF CABLE GUARDRAIL										110_07B 5/22/24
* Not a bid item (1) Lane(s) to which the installation is adjacent.										
Line No.	No.	Direction of Traffic (1)	Station From	Station To	Side	Cable Type	Cable Remove (LF)	Post Footings Concrete Remove* (Yes/No)	End Terminal Remove* (No.)	Remarks
1.0		NB	744+07.00	746+77.00	Median	High Tension	270.00	Yes	2	
2.0		SB	745+67.00	748+39.00	Median	High Tension	272.00	Yes	2	
Total:							542			

REMOVAL OF CONCRETE DRIVES					110.08 8/15/22
* Not a Bid Item.					
Line No.	Station	Side	Area (SY)	Saw Cut* (LF)	Remarks
1.0	285+38.94	Left	121.9	52.5	

CLEARING AND GRUBBING																							110_17 1/27/25
Line No.	Station From	Station To	Direction of Traffic	Work and Material Type	>3"-6"	>6"-9"	>9"-12"	>12"-15"	>15"-18"	>18"-24"	>24"-30"	>30"-36"	>36"-42"	>42"-48"	>48"-60"	>60"-72"	>72"	Other Materials Length (FT)	Other Materials Width (FT)	Estimated Units	Estimated Area (Acres)	Estimated Herbicide Application (EA)	Remarks
1.0	715+50.04	1722+00.00	SB	Trees - Clearing and Grubbing																	6.090		
2.0	715+29.76	2542+97.81	NB	Trees - Clearing and Grubbing																	4.520		
3.0	2532+49.07	2544+73.37	NB	Trees - Clearing and Grubbing																	7.160		
4.0	3532+92.40	3551+00.10	SB	Trees - Clearing and Grubbing																	8.350		
5.0	1762+31.93	777+00.86	NB	Trees - Clearing and Grubbing																	6.740		
6.0	1722+00.00	1728+94.88	EB	Trees - Clearing and Grubbing																	0.890		
7.0	1729+13.74	779+45.48	SB	Trees - Clearing and Grubbing																	6.080		
8.0	1549+15.61	1560+19.97	SB	Trees - Clearing and Grubbing																	9.550		
9.0	4543+51.30	4558+15.26	NB	Trees - Clearing and Grubbing																	8.180		
Total:																					57.56		

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- | Line No. | Roadway Identification | Direction of Travel (1) | Station From | Station To | Side   | P Start Width (FT) | P End Width (FT) | P Width (FT) | P SG Width (2) (FT) | G Width (FT) | L Length (FT) | Class 13 Excavation (CY)(3)(4) | HMA (TON) | HMA (TON/ STA) | Binder (TONS) | Paved Shoulder (3) (SY) | Shoulder at Grd rail (5)(7) | Reinforced Paved Shoulder(3) (SY) | Special Backfill PCC Alt. (3) (TON) | Special Backfill PCC Alt. (TON/STA) | Polymer Grid (SY) | Subbase (3) (8) (CY) | Granular Shoulder (3) (TON) | Granular Shoulder (TON/STA) | Shoulder Const. Alt (3) (STA) | Shoulder Const. Alt PCC (6) (CY) | Remarks |
|----------|------------------------|-------------------------|--------------|------------|--------|--------------------|------------------|--------------|---------------------|--------------|---------------|--------------------------------|-----------|----------------|---------------|-------------------------|-----------------------------|-----------------------------------|-------------------------------------|-------------------------------------|-------------------|----------------------|-----------------------------|-----------------------------|-------------------------------|----------------------------------|---------|
| 1.0      | I-29                   | NB                      | 715+30.00    | 715+80.00  | Right  | 0.0                | 0.0              | 10           |                     |              | 50.00         |                                |           |                |               | 55.6                    |                             |                                   | 47.250                              | 94.500                              |                   | 21.88                |                             |                             | 0.50                          | 49.50                            | [1]     |
| 2.0      | I-29                   | NB                      | 715+80.00    | 716+80.00  | Right  | 10.0               | 6.0              |              |                     |              | 100.00        |                                |           |                |               | 88.9                    |                             |                                   | 80.453                              | 80.453                              |                   | 37.25                |                             |                             | 1.00                          | 99.00                            | [1]     |
| 3.0      | I-29                   | NB                      | 716+80.00    | 732+50.00  | Right  | 0.0                | 0.0              | 6            |                     |              | 1570.00       |                                |           |                |               | 1046.5                  |                             |                                   | 1043.876                            | 66.489                              |                   | 483.28               |                             |                             | 15.70                         | 1554.30                          | [1]     |
| 4.0      | I-29                   | NB                      | 732+50.00    | 736+27.90  | Right  | 0.0                | 0.0              | 12           |                     |              | 377.90        |                                |           |                |               | 503.9                   |                             |                                   | 410.022                             | 108.500                             |                   | 189.83               |                             |                             | 3.78                          | 445.99                           | [1]     |
| 5.0      | I-29                   | NB                      | 744+35.00    | 745+56.42  | Right  | 0.0                | 0.0              | 12           |                     |              | 121.42        |                                |           |                |               | 161.9                   |                             |                                   | 131.737                             | 108.497                             |                   | 60.99                |                             |                             | 1.21                          | 143.30                           | [1]     |
| 6.0      | I-29                   | NB                      | 745+56.42    | 746+11.06  | Right  | 0.0                | 0.0              | 17           |                     |              | 54.64         |                                |           |                |               | 103.2                   |                             |                                   | 78.407                              | 143.497                             |                   | 36.30                |                             |                             | 0.55                          | 64.49                            | [1]     |
| 7.0      | I-29                   | NB                      | 746+11.06    | 747+03.13  | Right  | 0.0                | 0.0              | 18           |                     |              | 92.07         |                                |           |                |               | 184.2                   |                             |                                   | 138.578                             | 150.514                             |                   | 64.16                |                             |                             | 0.92                          | 108.66                           | [1],[3] |
| 8.0      | I-29                   | NB                      | 747+03.13    | 747+74.00  | Right  | 0.0                | 0.0              | 17           |                     |              | 70.87         |                                |           |                |               | 133.9                   |                             |                                   | 101.693                             | 143.492                             |                   | 47.08                |                             |                             | 0.71                          | 83.64                            | [1]     |
| 9.0      | I-29                   | NB                      | 757+55.95    | 757+89.85  | Right  | 0.0                | 0.0              | 12           |                     |              | 33.90         |                                |           |                |               | 45.2                    |                             |                                   | 36.779                              | 108.492                             |                   | 17.03                |                             |                             | 0.34                          | 40.01                            | [1]     |
| 10.0     | I-29                   | NB                      | 757+89.85    | 774+00.00  | Right  | 0.0                | 0.0              | 6            |                     |              | 1610.15       |                                |           |                |               | 1072.3                  |                             |                                   | 1069.510                            | 66.423                              |                   | 495.14               |                             |                             | 16.10                         | 1900.28                          | [1]     |
| 11.0     | I-29                   | NB                      | 774+00.00    | 776+00.00  | Right  | 6.0                | 10.0             |              |                     |              | 200.00        |                                |           |                |               | 177.8                   |                             |                                   | 160.977                             | 80.488                              |                   | 74.53                |                             |                             | 2.00                          | 236.04                           | [1]     |
| 12.0     | I-29                   | NB                      | 776+00.00    | 777+00.00  | Right  | 0.0                | 0.0              | 10           |                     |              | 100.00        |                                |           |                |               | 111.1                   |                             |                                   | 94.665                              | 94.665                              |                   | 43.83                |                             |                             | 1.00                          | 118.02                           | [1]     |
| 13.0     | I-29                   | NB                      | 744+00.00    | 749+00.00  | Median | 0.0                | 0.0              | 6            |                     |              | 500.00        |                                |           |                |               | 333.3                   |                             |                                   | 332.148                             | 66.430                              |                   | 153.77               |                             |                             | 5.00                          | 590.09                           | [1]     |
| 14.0     | I-29                   | SB                      | 715+50.00    | 716+50.00  | Right  | 0.0                | 0.0              | 10           |                     |              | 100.00        |                                |           |                |               | 111.1                   |                             |                                   | 94.500                              | 94.500                              |                   | 43.75                |                             |                             | 1.00                          | 118.02                           | [1]     |
| 15.0     | I-29                   | SB                      | 716+50.00    | 718+50.00  | Right  | 10.0               | 6.0              |              |                     |              | 200.00        |                                |           |                |               | 177.8                   |                             |                                   | 160.977                             | 80.488                              |                   | 74.53                |                             |                             | 2.00                          | 236.04                           | [1]     |
| 16.0     | I-29                   | SB                      | 718+50.00    | 734+60.15  | Right  | 0.0                | 0.0              | 6            |                     |              | 1610.15       |                                |           |                |               | 1072.3                  |                             |                                   | 1069.511                            | 66.423                              |                   | 495.14               |                             |                             | 16.10                         | 1900.28                          | [1]     |
| 17.0     | I-29                   | SB                      | 734+60.15    | 735+14.15  | Right  | 0.0                | 0.0              | 12           |                     |              | 54.00         |                                |           |                |               | 72.0                    |                             |                                   | 58.590                              | 108.500                             |                   | 27.13                |                             |                             | 0.54                          | 63.73                            | [1]     |
| 18.0     | I-29                   | SB                      | 746+24.00    | 746+94.48  | Right  | 0.0                | 0.0              | 17           |                     |              | 70.48         |                                |           |                |               | 133.1                   |                             |                                   | 101.143                             | 143.507                             |                   | 46.83                |                             |                             | 0.70                          | 83.18                            | [1]     |
| 19.0     | I-29                   | SB                      | 746+94.48    | 747+86.56  |        |                    |                  |              |                     |              |               |                                |           |                |               |                         |                             |                                   |                                     |                                     |                   |                      |                             |                             |                               |                                  |         |



112.09  
10/15/24

SHOULDERS

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

(2) See Typ. 7156, 7157, or 7158.

(3) Bid Item.

(4) Applies only for Paved Shoulders constructed on project with existing granular shoulders.

(5) Bid Item. Typ. 7156, 7157, or 7158.

(6) Does not include shrink.

(7) Paved shoulder thickness specified in Remarks.

(8) Subbase type specified in Remarks.

Line No.	Roadway Identification	Direction of Travel (1)	Station From	Station To	Side	P Start Width (FT)	P End Width (FT)	P Width (FT)	P SG Width (2) (FT)	G Width (FT)	L Length (FT)	Class 13 Excavation (CY)(3)(4)	HMA (TON)	HMA (TON/ STA)	Binder (TONS)	Paved Shoulder (3) (SY)	Shoulder at Grdtrail (5)(7)	Reinforced Paved Shoulder(3) (SY)	Special Backfill PCC Alt. (3) (TON)	Special Backfill PCC Alt. (TON/STA)	Polymer Grid (SY)	Subbase (3) (8) (CY)	Granular Shoulder (3) (TON)	Granular Shoulder (TON/STA)	Shoulder Const. Alt (3) (STA)	Shoulder Const. Alt PCC (6) (CY)	Remarks	
46.0	Highway 175	EB	1740+75.03	1743+64.39	Right	0.0	0.0	10			289.36					321.5						136.00			2.89	93.06	[2]	
47.0	Highway 175	EB	1742+97.43	1743+64.39	Right	0.0	0.0				66.96					40.9						17.04			0.67	11.05	[2],[4]	
48.0	Highway 175	EB	1748+07.64	1750+67.73	Right	0.0	0.0	10			260.09					289.0						130.04			2.60	108.85	[2]	
49.0	Highway 175	EB	1752+82.32	1761+89.69	Right	0.0	0.0	10			907.37					1007.4						453.29			9.07	379.75	[2]	
50.0	Highway 175	EB	1764+04.37	1771+49.11	Right	0.0	0.0	10			744.74					833.5						375.09			7.45	311.69	[2]	
51.0	Highway 175	WB	1722+00.00	1725+00.00	Right	0.0	0.0	10			300.00					333.3						149.86			3.00	125.56	[2]	
52.0	Highway 175	WB	1725+00.00	1738+36.41	Right	0.0	0.0	11			1336.41					1637.3						719.53			13.36	227.68	[2],[3]	
53.0	Highway 175	WB	1740+27.93	1743+64.39	Right	0.0	0.0	11			336.46					413.9						181.57			3.36	57.32	[2],[3]	
54.0	Highway 175	WB	1748+07.64	1750+17.84	Right	0.0	0.0	11			210.20					257.0						112.90			2.10	35.81	[2],[3]	
55.0	Highway 175	WB	1751+98.67	1757+83.52	Right	0.0	0.0	7			584.85					457.0						228.56			5.85	99.64	[2],[3]	
56.0	Highway 175	WB	1757+83.52	1758+50.00	Right	7.0	11.0				66.48					66.7						30.82			0.66	11.33	[2],[3]	
57.0	Highway 175	WB	1758+50.00	1761+19.83	Right	0.0	0.0	11			269.83					329.1						144.58			2.70	45.97	[2],[3]	
58.0	Highway 175	WB	1761+19.83	1761+79.93	Right	0.0	0.0				60.10					55.8						26.35			0.60	10.24	[2],[3],[4]	
59.0	Highway 175	WB	1763+37.26	1771+49.11	Right	0.0	0.0	10			811.85					906.6						407.96			8.12	339.77	[2]	
60.0	RETA028	NB	10+00.00	10+87.13	Right	0.0	0.0				87.13											10.53	53.700	61.632	0.87	36.47	[2],[4]	
61.0	RETB028	SB	20+00.00	20+61.20	Right	0.0	0.0				61.20											9.88	5.487	8.966	0.61	25.61	[2]	
62.0	RETC028	SB	30+00.00	31+06.18	Right	0.0	0.0				106.18											13.10	7.173	6.756	1.06	44.44	[2]	
63.0	RETD028	NB	40+00.00	40+88.32	Right	0.0	0.0				88.32											11.54	17.281	19.567	0.88	36.96	[2]	
Total:																			7409.389		83.641							

Notes:

1. 10.5" Granular Subbase

2. 12" Modified Subbase

3. Quantity includes 4" Sloped Curb and Shoulder Finishing is listed under the Shoulder Construction column.

4. Shoulder width varies; see plans and cross sections for details.

Bid Item Quantities

PAVED SHOULDER, PCC, 12 IN. = 7982.77 SY

PAVED SHOULDER, PCC, 9.5 IN. = 15427.69 SY

SPECIAL BACKFILL = 7409.39 TON

MODIFIED SUBBASE = 7608.4 CY

GRANULAR SUBBASE = 11760.9 SY

GRANULAR SHOULDERS, TYPE A = 83.64 TON

SHOULDER CONSTRUCTION, EARTH = 258.93 STA

SHOULDER FINISHING, EARTH = 35.42 STA

MILLED RUMBLE STRIPS																112_10 4/15/25
* Calculated at 18" width for Shoulder. ** For use with penetrating Engineered Fog Seal. Calculated at 2" wider than rumble strips.																
Line No.	Road Identification	Station From	Station To	Shoulder Pavement Type	Rumble Strip Lane	Rumble Strip Type	Fog Seal Type	L (IN)	PCC Length (STA)	HMA Length (STA)	Fog Seal* Shoulder (GAL)	Fog Seal (SY)**	Effective Shoulder Width PCC (FT)	Effective Shoulder Width HMA (FT)	Effective Shoulder Width Granular\Earth (FT)	Remarks
1.0	I-29	715+30.00	728+30.00	PCC	Right Shoulder				13.00				6.0			NB
2.0	I-29	732+50.00	736+28.00	PCC	Right Shoulder				3.78				12.0			NB
3.0	I-29	744+00.00	749+00.00	PCC	Left Shoulder				5.00				6.0			NB
4.0	I-29	744+35.00	747+74.00	PCC	Right Shoulder				3.39				12.0			NB
5.0	I-29	757+56.00	757+90.00	PCC	Right Shoulder				0.34				12.0			NB
6.0	I-29	761+00.00	777+00.00	PCC	Right Shoulder				16.00				6.0			NB
7.0	I-29	715+50.00	731+50.00	PCC	Right Shoulder				16.00				6.0			SB
8.0	I-29	734+60.00	735+14.00	PCC	Right Shoulder				0.54				12.0			SB
9.0	I-29	745+00.00	750+00.00	PCC	Left Shoulder				5.00				6.0			SB
10.0	I-29	746+24.00	748+43.00	PCC	Right Shoulder				2.19				12.0			SB
11.0	I-29	757+87.00	762+25.00	PCC	Right Shoulder				4.38				12.0			SB
12.0	I-29	766+45.00	779+45.00	PCC	Right Shoulder				13.00				6.0			SB
Total:									82.62							

(3) Backfill according to DR-101

Total:	982.8	51.8	933.1
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CULVERT, UNCLASSIFIED, 18 IN. DIA = 72 (TEMP)

DRAINAGE STRUCTURE BY ROAD CONTRACTOR

Length of unclassified pipe calculated is based on using Reinforced Concrete Pipe.  
\* Not a bid item  
(1) Diameter or equivalent diameter  
(2) UNCL = Unclassified Pipe   CMP = Corrugated Metal Pipe   RCP = Reinforced Concrete Pipe   LCP = Arch or Elliptical Low Clearance Pipe   SARC = Steel Arch Pipe  
(3) Backfill according to DR-101

Drainage Area (ACRE)	Location	Type	Size (IN) (1)	Pipe Classification	Kind of Pipe (2)	Length New Const. (LF)	Length of total that is Trenchless Bedding Class	Design Cover (H) (FT)	Camber* (DR-102) (FT)	Apron No. (IN)	Apron No. (OUT)	Apron Guard* (DR-213) (No.)	Elbow* (DR-141) (No.)	Diaphragm* (DR-501) (No.)	Tee Section* (DR-142) (No.)	"D" Section* (DR-141) (No.)	Reducer* (No.)	Type 'C' Conn.* (DR-122)	Type 'C' Conn.* (No.)	Connected Pipe Joint* (DR-121)	4" Perforated Subdrain* (FT)	Flow Line Elevation LT.	Flow Line Elevation RT.	Flow Line Elevation Other	Flow Line Elevation Other	Dimensions Lineal Feet Total (Left)	Dimensions Lineal Feet Total (Right)	Dimensions Lineal Feet Extensions	Dimensions Lineal Feet Extensions	Skew Ahead Degrees (Left)	Skew Ahead Degrees (Right)	Dike Location	Dike Station	Dike Elevation	Dike Type	Class 20 (CY)	Flowable Mortar	Floodable Backfill* (A)	Porous Backfill* (B)	Flooded Backfill (A+B)	Remarks
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CULVERT, UNCLASSIFIED, 24 IN. DIA = 90 (TEMP)  
CULVERT, UNCLASSIFIED, 36 IN. DIA = 24 (TEMP)  
CULVERT, CMAP, 21 IN. X 15 IN. = 44 (TEMP)  
CULVERT, CMAP, 28 IN. X 20 IN. = 68  
CULVERT, CMP, 18 IN. DIA = 78 (TEMP)

REMOVAL OF EXISTING STRUCTURES				110_02 8/15/22
Line No.	Location	Description	Remarks	
1.0	722+49.78	24 IN x 6 FT RCP LT		
2.0	722+49.78	One 24 IN RCP Apron LT		
3.0	763+99.3	24 IN x 14 FT RCP RT		
4.0	763+99.3	One 24 IN RCP Apron RT		
5.0	772+56.8	30 IN x 6 FT RCP RT		
6.0	772+56.8	30 IN x 6 FT RCP LT		
7.0	772+56.8	30 IN RCP Aprons Both		
8.0	777+48.9	24 IN x 6 FT RCP LT		
9.0	777+48.9	One 24 IN RCP Apron LT		
10.0	1729+04.45	18 IN x 29 FT CMP		
11.0	1729+06.20	18 IN x 28 FT CMP		
12.0	1735+02	One 6 FT x 8 FT RCB Apron LT		
13.0	1762+03.4	36 IN x 61 FT RCP		
14.0	1762+03.4	36 IN RCP Aprons Both		
15.0	1762+21.42	18 IN x 88 FT CMP RT		
16.0	1763+02.3	24 IN x 67 FT RCP		
17.0	1763+02.3	24 IN RCP Aprons Both		
18.0	1772+64.94	24 IN x 48 FT CMP		
19.0	1772+64.94	24 IN CMP Aprons Both		
20.0	1549+77.34	30 IN x 73 FT RCP LT		
21.0	1549+77.34	30 IN RCP Aprons Both		
22.0	2537+25.2	6 FT x 9.5 FT x 72 FT RCP ARCH		
23.0	2537+25.2	6 FT x 9.5 FT RCP ARCH Aprons Both		
24.0	3539+95	8.3 FT x 6 FT x 51 FT RCB		
25.0	3539+95	8.3 FT x 6 FT Aprons Both		
26.0	1736+75.00	30 IN x 82 FT RCP	Temp Pipe	
27.0	11764+00.00	24 IN x 56 FT UNCL	Temp Pipe	
28.0	1753+65.00	24 IN x 20 FT RCP	Temp Pipe	
29.0	1761+51.96	30 IN x 20 FT LCP	Temp Pipe	
30.0	1761+58.04	30 IN x 20 FT LCP	Temp Pipe	
31.0	1762+10.01	36 IN x 24 FT UNCL	Temp Pipe	
32.0	1763+08.06	24 IN x 24 FT UNCL	Temp Pipe	
33.0	1763+50.00	24 IN x 20 FT LCP	Temp Pipe	
34.0	1772+32.19	24 IN x 10 FT UNCL	Temp Pipe	
35.0	21000+87.63	18 IN x 44 FT SARC	Temp Pipe	
36.0	21001+26.42	18 IN x 72 FT UNCL	Temp Pipe	

Notes:  
Certain existing structures will need to be removed in phases. See the staging plans for details.

<div>CULVERT ABANDONMENT</div> <div>Refer to Details 4315 and 4316</div> <div>* Not a bid item</div>						
110_09 8/15/22	Line No.	Station	Description	Flowable Mortar (CY)	Granular Backfill* (TON)	4" Perforated Subdrain* (LF)
	1.0	747+39.80	30 IN x 154' RCP	28.0	0.399	11.0
	2.0	1734+82.00	24 IN x 76' RCP	8.8	0.235	6.0
	3.0	1736+90.00	24 IN x 78' RCP	9.1	0.235	6.0
	4.0	1753+65.00	24 IN x 30' RCP	3.5	0.235	6.0
	Total:			49.4		

Notes:  
1. Remove 20 feet of the temporary pipe and abandon the remaining 30 feet.

GEOTECHNICAL DESIGN	
	<p>I hereby certify that this plan was prepared under my supervision and that engineering decisions with regard to the design were made by me or by other duly licensed Professional Engineers under the laws of the State of Iowa.</p> <p><u>Zachary A. Bonzer</u> <u>10-3-2025</u> Signature Date</p> <p><u>Zachary A. Bonzer, P.E.</u> Printed or Typed Name</p> <p>My license renewal date is _____</p> <p>Pages or sheets covered by this seal: <u>CS.1 - CS.11, Q.1 - Q.26</u></p>

103\_06  
8/15/22

EMBANKMENT WITH MOISTURE CONTROL

Moisture Control is required for all Class 10 fill placed in all locations and depths. Topsoil will not require Moisture Control.



LONGITUDINAL SUBDRAIN SHOULDER											104_09A 5/6/24
* Not a bid item.											
Line No.	Road or Lane Identification	Station From	Station To	Side	Depth (IN) (D)	Subdrain Size (IN)	Length (FT)	Outlet Station	Outlet Type	Porous Backfill* (CY)	Remarks
1.0	I-29 NB	715+30.00	718+29.88	Right	42.0	4.0	329.9	715+30.00	DR-306	30.5	Note 1, 2, 3
1.1							30.0	718+29.88	DR-306	0.3	
2.0	I-29 NB	718+29.88	723+30.00	Right	42.0	4.0	530.1	718+29.88	DR-306	49.1	Note 1, 2, 3
2.1							30.0	723+30.00	DR-306	0.3	
3.0	I-29 NB	723+30.00	728+30.00	Right	42.0	4.0	530.0	723+30.00	DR-306	49.1	Note 1, 2, 3
3.1							30.0	728+30.00	DR-306	0.3	
4.0	I-29 NB	728+30.00	732+50.00	Right	42.0	4.0	450.0	728+30.00	DR-306	41.7	Note 1, 2, 3
4.1							30.0	732+50.00	DR-306	0.3	
5.0	I-29 NB	744+35.00	745+56.42	Right	42.0	4.0	151.4	744+35.00	DR-306	14.0	Note 1, 2, 3
5.1							30.0	745+56.42	DR-306	0.3	
6.0	I-29 NB	745+56.42	747+74.00	Right	42.0	4.0	247.6	745+56.42	DR-306	22.9	Note 1, 2, 3
6.1							30.0	747+74.00	DR-306	0.3	
7.0	I-29 NB	757+89.85	761+00.00	Right	42.0	4.0	340.1	757+89.85	DR-306	31.5	Note 1, 2, 3
7.1							30.0	761+00.00	DR-306	0.3	
8.0	I-29 NB	761+00.00	765+00.00	Right	42.0	4.0	430.0	761+00.00	DR-306	39.8	Note 1, 2, 3
8.1							30.0	765+00.00	DR-306	0.3	
9.0	I-29 NB	765+00.00	769+00.00	Right	42.0	4.0	430.0	765+00.00	DR-306	39.8	Note 1, 2, 3
9.1							30.0	769+00.00	DR-306	0.3	
10.0	I-29 NB	769+00.00	772+00.00	Right	42.0	4.0	330.0	769+00.00	DR-306	30.6	Note 1, 2, 3
10.1							30.0	772+00.00	DR-306	0.3	
11.0	I-29 NB	772+20.00	777+00.00	Right	42.0	4.0	510.0	772+20.00	DR-306	47.2	Note 1, 2, 3
11.1							30.0	777+00.00	DR-306	0.3	
12.0	I-29 NB	744+00.00	749+00.00	Left	42.0	4.0	530.0	744+00.00	DR-306	49.1	Note 1, 2, 3
12.1							30.0	749+00.00	DR-306	0.3	
13.0	I-29 SB	745+00.00	750+00.00	Right	42.0	4.0	530.0	745+00.00	DR-306	49.1	Note 1, 2, 3
13.1							30.0	750+00.00	DR-306	0.3	
14.0	I-29 SB	715+50.00	719+00.00	Left	42.0	4.0	380.0	715+50.00	DR-306	35.2	Note 1, 2, 3
14.1							30.0	719+00.00	DR-306	0.3	
15.0	I-29 SB	719+00.00	722+45.00	Left	42.0	4.0	375.0	719+00.00	DR-306	34.7	Note 1, 2, 3
15.1							30.0	722+45.00	DR-306	0.3	
16.0	I-29 SB	722+55.00	727+00.00	Left	42.0	4.0	475.0	722+55.00	DR-306	44.0	Note 1, 2, 3
16.1							30.0	727+00.00	DR-306	0.3	
17.0	I-29 SB	727+00.00	731+50.00	Left	42.0	4.0	480.0	727+00.00	DR-306	44.4	Note 1, 2, 3
17.1							30.0	731+50.00	DR-306	0.3	
18.0	I-29 SB	731+50.00	734+60.15	Left	42.0	4.0	340.1	731+50.00	DR-306	31.5	Note 1, 2, 3
18.1							30.0	734+60.15	DR-306	0.3	
19.0	I-29 SB	746+24.00	748+43.00	Left	42.0	4.0	249.0	746+24.00	DR-306	23.1	Note 1, 2, 3
19.1							30.0	748+43.00	DR-306	0.3	
20.0	I-29 SB	762+25.00	766+45.00	Left	42.0	4.0	450.0	762+25.00	DR-306	41.7	Note 1, 2, 3
20.1							30.0	766+45.00	DR-306	0.3	
21.0	I-29 SB	766+45.00	769+75.00	Left	42.0	4.0	360.0	766+45.00	DR-306	33.3	Note 1, 2, 3
21.1							30.0	769+75.00	DR-306	0.3	
22.0	I-29 SB	769+75.00	772+93.00	Left	42.0	4.0	348.0	769+75.00	DR-306	32.2	Note 1, 2, 3
22.1							30.0	772+93.00	DR-306	0.3	
23.0	I-29 SB	773+25.00	777+44.00	Left	42.0	4.0	449.0	773+25.00	DR-306	41.6	Note 1, 2, 3
23.1							30.0	777+44.00	DR-306	0.3	
24.0	I-29 SB	777+54.00	779+45.00	Left	42.0	4.0	221.0	777+54.00	DR-306	20.5	Note 1, 2, 3
24.1							30.0	779+45.00	DR-306	0.3	
25.0	IA 175 EB	1723+38.00	1727+20.00	Right	42.0	4.0	412.0	1723+38.00	DR-306	38.1	Note 1, 2, 3
25.1							30.0	1727+20.00	DR-306	0.3	
26.0	IA 175 EB	1727+20.00	1730+25.00	Right	42.0	4.0	335.0	1727+20.00	DR-306	31.0	Note 1, 2, 3, 8
26.1							30.0	1730+25.00	DR-306	0.3	
27.0	IA 175 EB	1730+25.00	1734+75.00	Right	42.0	4.0	480.0	1730+25.00	DR-306	44.4	Note 1, 2, 3
27.1							30.0	1734+75.00	DR-306	0.3	
28.0	IA 175 EB	1734+75.00	1738+65.29	Right	42.0	4.0	420.3	1734+75.00	DR-306	38.9	Note 1, 2, 3

LONGITUDINAL SUBDRAIN SHOULDER											104_09A 5/6/24
* Not a bid item.											
Line No.	Road or Lane Identification	Station From	Station To	Side	Depth (IN) (D)	Subdrain Size (IN)	Length (FT)	Outlet Station	Outlet Type	Porous Backfill* (CY)	Remarks
28.1							30.0	1738+65.29	DR-306	0.3	
29.0	IA 175 EB	1740+75.03	1743+05.00	Right	42.0	4.0	260.0	1740+75.03	DR-306	24.1	Note 1, 2, 3
29.1							30.0	1743+05.00	DR-306	0.3	
30.0	IA 175 EB	1748+68.00	1750+67.73	Right	42.0	4.0	229.7	1748+68.00	DR-306	21.3	Note 1, 2, 3
30.1							30.0	1750+67.73	DR-306	0.3	
31.0	IA 175 EB	1753+15.69	1757+36.00	Right	42.0	4.0	450.3	1753+15.69	DR-306	41.7	Note 1, 2, 3
31.1							30.0	1757+36.00	DR-306	0.3	
32.0	IA 175 EB	1757+36.00	1761+56.96	Right	42.0	4.0	451.0	1757+36.00	DR-306	41.8	Note 1, 2, 3
32.1							30.0	1761+56.96	DR-306	0.3	
33.0	IA 175 EB	1763+55.00	1767+50.00	Right	42.0	4.0	425.0	1763+55.00	DR-306	39.4	Note 1, 2, 3
33.1							30.0	1767+50.00	DR-306	0.3	
34.0	IA 175 EB	1767+50.00	1771+49.11	Right	42.0	4.0	429.1	1767+50.00	DR-306	39.7	Note 1, 2, 3
34.1							30.0	1771+49.11	DR-306	0.3	
35.0	IA 175 WB	1722+00.00	1725+00.00	Left	42.0	4.0	330.0	1722+00.00	DR-306	30.6	Notes 1, 2, 3
35.1							30.0	1725+00.00	DR-306	0.3	
36.0	IA 175 WB	1725+00.00	1728+68.07	Left	24.0	4.0	398.1	1725+00.00	DR-306	18.4	Note 1, 2, 3
36.1							30.0	1728+68.07	DR-303		Outlet to Intake S-100
37.0	IA 175 WB	1731+05.00	1732+95.00	Left	24.0	4.0	220.0	1731+05.00	DR-303	10.2	Note 1, 2, 3, Outlet to Intake S-105
37.1							30.0	1732+95.00	DR-303		Outlet to Intake S-104
38.0	IA 175 WB	1733+05.00	1735+20.00	Left	24.0	4.0	245.0	1733+05.00	DR-303	11.3	Note 1, 2, 3, Outlet to Intake S-104
38.1							30.0	1735+20.00	DR-303		Outlet to Intake S-103
39.0	IA 175 WB	1735+30.00	1737+20.00	Left	24.0	4.0	220.0	1735+29.00	DR-303	10.2	Note 1, 2, 3, Outlet to Intake S-103
39.1							30.0	1737+20.00	DR-303		Outlet to Intake S-200
40.0	IA 175 WB	1737+30.00	1738+03.00	Left	24.0	4.0	103.0	1737+30.00	DR-303	4.8	Note 1, 2, 3, Outlet to Intake S-200
40.1							30.0	1738+03.00	DR-306	0.3	
41.0	IA 175 WB	1740+55.00	1742+70.00	Left	24.0	4.0	245.0	1740+55.00	DR-303	11.3	Note 1, 2, 3, Outlet to Intake S-300
41.1							30.0	1742+70.00	DR-303		Outlet to Intake S-301
42.0	IA 175 WB	1749+05.00	1749+95.00	Left	24.0	4.0	120.0	1749+05.00	DR-303	5.6	Note 1, 2, 3, Outlet to Intake S-400
42.1							30.0	1749+95.00	DR-303		Outlet to Intake S-500
43.0	IA 175 WB	1752+80.00	1754+20.00	Left	24.0	4.0	170.0	1752+80.00	DR-303	7.9	Note 1, 2, 3, Outlet to Intake S-501
43.1							30.0	1754+20.00	DR-303		Outlet to Intake S-601
44.0	IA 175 WB	1754+30.00	1755+95.00	Left	24.0	4.0	195.0	1754+30.00	DR-303	9.0	Note 1, 2, 3, Outlet to Intake S-601
44.1							30.0	1755+95.00	DR-303		Outlet to Intake S-600
45.0	IA 175 WB	1756+05.00	1758+70.00	Left	24.0	4.0	295.0	1756+05.00	DR-303	13.7	Note 1, 2, 3, Outlet to Intake S-600
45.1							30.0	1758+70.00	DR-303		Outlet to Intake S-700
46.0	IA 175 WB	1758+80.00	1760+70.00	Left	24.0	4.0	220.0	1758+80.00	DR-303	10.2	Note 1, 2, 3, Outlet to Intake S-700
46.1							30.0	1760+70.00	DR-303		Outlet to Intake S-701
47.0	IA 175 WB	1760+80.00	1761+45.00	Left	24.0	4.0	95.0	1760+80.00	DR-303	4.4	Note 1, 2, 3, Outlet to Intake S-701
47.1							30.0	1761+45.00	DR-306	0.3	
48.0	IA 175 WB	1763+57.00	1767+00.00	Left	42.0	4.0	373.0	1763+57.00	DR-306	34.5	Notes 1, 2, 3
48.1							30.0	1767+00.00	DR-306	0.3	
49.0	IA 175 WB	1767+00.00	1771+49.11	Left	42.0	4.0	479.1	1767+00.00	DR-306	44.4	Notes 1, 2, 3
49.1							30.0	1771+49.11	DR-306	0.3	
50.0	IA 175 Ramp A	1549+34.61	1552+75.00	Left	42.0	4.0	370.4	1549+34.61	DR-306	34.3	Note 1, 2, 3, 4
50.1							30.0	1552+75.00	DR-306	0.3	
51.0	IA 175 Ramp A	1552+75.00	1557+25.00	Left	42.0	4.0	480.0	1552+75.00	DR-306	44.4	Note 1, 2, 3
51.1							30.0	1557+25.00	DR-306	0.3	
52.0	IA 175 Ramp A	1557+25.00	1561+75.00	Left	42.0	4.0	480.0	1557+25.00	DR-306	44.4	Note 1, 2, 3
52.1							30.0	1561+75.00	DR-306	0.3	
53.0	IA 175 Ramp A	1561+75.00	1562+26.06	Left	42.0	4.0	81.1	1561+75.00	DR-306	7.5	Note 1, 2, 3
53.3							30.0	1562+26.06	DR-306	0.3	
54.0	IA 175 Ramp B	2532+49.07	2533+50.00	Right	42.0	4.0	130.9	2532+49.07	DR-306	12.1	Note 1, 2, 3
54.1							30.0	2533+50.00	DR-306	0.3	
55.0	IA 175 Ramp B	2533+50.00	2537+25.00	Right	42.0	4.0	405.0	2533+50.00	DR-306	37.5	Note 1, 2, 3
55.1							30.0	2537+25.00	DR-306	0.3	

LONGITUDINAL SUBDRAIN SHOULDER											104_09A 5/6/24
* Not a bid item.											
Line No.	Road or Lane Identification	Station From	Station To	Side	Depth (IN) (D)	Subdrain Size (IN)	Length (FT)	Outlet Station	Outlet Type	Porous Backfill* (CY)	Remarks
56.0	IA 175 Ramp B	2537+25.00	2541+00.00	Right	42.0	4.0	405.0	2537+25.00	DR-306	37.5	Note 1, 2, 3
56.1							30.0	2541+00.00	DR-306	0.3	
57.0	IA 175 Ramp B	2541+00.00	2544+57.44	Right	42.0	4.0	387.4	2541+00.00	DR-306	35.9	Note 1, 2, 3
57.1							30.0	2544+57.44	DR-306	0.3	Note 5
58.0	IA 175 Ramp C	3534+58.92	3538+75.00	Left	42.0	4.0	446.1	3534+58.92	DR-306	41.3	Note 1, 2, 3
58.1							30.0	3538+75.00	DR-306	0.3	
59.0	IA 175 Ramp C	3538+75.00	3542+75.00	Left	42.0	4.0	430.0	3538+75.00	DR-306	39.8	Note 1, 2, 3
59.1							30.0	3542+75.00	DR-306	0.3	
60.0	IA 175 Ramp C	3542+75.00	3545+24.00	Left	42.0	4.0	279.0	3542+75.00	DR-306	25.8	Note 1, 2, 3
60.1							30.0	3545+24.00	DR-306	0.3	
61.0	IA 175 Ramp C	3549+60.00	3550+79.14	Left	42.0	4.0	149.1	3549+60.00	DR-306	13.8	Note 1, 2, 3
61.1							30.0	3550+79.14	DR-306	0.3	Note 6
62.0	IA 175 Ramp C	3543+23.00	3547+00.00	Right	42.0	4.0	407.0	3543+23.00	DR-306	37.7	Note 1, 2, 3
62.1							30.0	3547+00.00	DR-306	0.3	
63.0	IA 175 Ramp C	3547+00.00	3550+30.00	Right	42.0	4.0	360.0	3547+00.00	DR-306	33.3	Note 1, 2, 3
63.1							30.0	3550+30.00	DR-306	0.3	
64.0	IA 175 Ramp D	4543+72.26	4547+00.00	Left	42.0	4.0	357.7	4543+72.26	DR-306	33.1	Note 1, 2, 3, 7
64.1							30.0	4547+00.00	DR-306	0.3	
65.0	IA 175 Ramp D	4547+00.00	4550+15.00	Left	42.0	4.0	345.0	4547+00.00	DR-306	31.9	Note 1, 2, 3
65.1							30.0	4550+15.00	DR-306	0.3	
66.0	IA 175 Ramp D	4548+14.00	4552+00.00	Right	42.0	4.0	416.0	4548+14.00	DR-306	38.5	Note 1, 2, 3
66.1							30.0	4552+00.00	DR-306	0.3	
67.0	IA 175 Ramp D	4552+00.00	4555+00.00	Right	42.0	4.0	330.0	4552+00.00	DR-306	30.6	Note 1, 2, 3
67.1							30.0	4555+00.00	DR-306	0.3	
68.0	IA 175 Ramp D	4555+00.00	4557+91.10	Right	42.0	4.0	321.1	4555+00.00	DR-306	29.7	Note 1, 2, 3
68.1							30.0	4557+91.10	DR-306	0.3	
Total:							25687.6	2090			

Total number of DR-306 outlets = 115  
Total number of DR-303 outlets = 21  
Notes:  
1. Subdrains may be adjusted both vertically and horizontally in the field as necessary.  
2. All longitudinal subdrains are Type 7 with PCC or Type 8 with HMA (ACC)  
3. Any existing longitudinal subdrains encountered during construction that are not removed shall remain functioning and include the extension of existing outlets where necessary. Refer to U Sheets for outlet extension details.  
4. Continue subdrain around curve to IA 175 Station 1738+03 Left  
5. Continue subdrain around curve to IA 175 Station 1753+16 Right  
6. Continue subdrain around curve to IA 175 Station 1738+65 Right  
7. Continue subdrain around curve to Intake S-201  
8. Install subdrain prior to paving side road

103\_05  
1/14/25

SETTLEMENT PLATES  
Refer to Standard Road Plan EW-212

Line No.	No.	Station	Side	Offset	Remarks
1.0	SP1	1738+45.00	Left	33.0	IA 175
2.0	SP2	1744+00.00	Left	45.0	IA 175
3.0	SP3	1747+20.00	Left	45.0	IA 175
4.0	SP4	1752+00.00	Left	40.0	IA 175
5.0	SP5	1553+00.00	Left	10.0	Ramp A
6.0	SP6	2538+05.00	Right	10.0	Ramp B
7.0	SP7	2541+00.00	Right	10.0	Ramp B
8.0	SP8	3539+30.00	Right	25.0	Ramp C
9.0	SP9	3545+00.00	Right	25.0	Ramp C

- Notes:
1. Install settlement plate prior to the placement of the embankment fill materials.
  2. Elevation of the base plate shall be determined on the day of installation.
  3. Approximate 60-day delay between the completion of fill placement and commencement of paving, to reduce expected post-construction settlement of the pavement to less than one inch (to be confirmed by settlement plate readings), at the following locations:

A: IA 175: Station 1736+63 to approximate Station 1744+66 (IA 175 over I-29 west bridge abutment)

B: IA 175: Approximate Station 1747+08 (IA 175 over I-29 east bridge abutment) to Station 1753+00

C: Ramp A: Station 1549+67 to Station 1557+00

D: Ramp B: Station 2537+00 to Station 2544+01

E: Ramp C: Station 3538+00 to Station 3548+00

<div>104_06 8/15/22</div> <div>WICK DRAIN OR SAND DRAIN FIELDS</div> <div>Possible Standards: DR-301 and DR-305, Detail 500-10, and Tabulation 104-5C.</div> <div>* Not a bid item.</div>													
Line No.	Station From	Station To	Drain Type	Drain Total (LF)	Horizontal Strip Drain Longitudinal (LF)	Horizontal Strip Drain Transverse (LF)	Horizontal Strip Drain Total (LF)	Granular Material for Blanket and Subdrain (CY)	Drain DR-301 Type 2 (LF)	Porous Backfill* (CY)	Outlet Type	Outlet Quantity	Remarks
1.0	1736+63.00	1744+66.00	Wick Drain	157248.0	46512.0	6210.0	52722.0				500-10	18	Notes 1 & 6
2.0	1747+08.00	1753+00.00	Wick Drain	54069.0	32560.0	3885.0	36445.0				500-10	14	Notes 2 & 6
3.0	1549+67.00	1557+00.00	Wick Drain	73174.0	14660.0	3290.0	17950.0				500-10	17	Notes 3 & 6
4.0	2537+00.00	2544+01.00	Wick Drain	100636.0	14400.0	3680.0	18080.0				500-10	16	Notes 4 & 6
5.0	3538+00.00	3548+00.00	Wick Drain	229610.0	31000.0	3465.0	34465.0				500-10	16	Notes 5 & 6
Total:				614737			159662					81	

1. Use Wick Drain Layout Pattern Zone 1 (IA 175 - West of I-29) installed to at least elevations shown on Q.7, or refusal.
2. Use Wick Drain Layout Pattern Zone 2 (IA 175 - East of I-29) installed to at least elevations shown on Q.11, or refusal.
3. Use Wick Drain Layout Pattern Zone 3 (Ramp A) installed to at least elevations shown on Q.16, or refusal.
4. Use Wick Drain Layout Pattern Zone 4 (Ramp B) installed to at least elevations shown on Q.18, or refusal.
5. Use Wick Drain Layout Pattern Zone 5 (Ramp C) installed to at least elevations shown on Q.21, or refusal.
6. Wick drain spacings designed for 60-day settlement delay period.

103\_07  
8/15/22

SHRINKAGE DATA

Material	%	Remarks
Class 10	30.0	
Unsuitable Soils	35.0	
Topsoil	40.0	
Estimated Boulder Quantity	0.0	10 CY Class 12 Excavation

TOPSOIL STRIPPING AND PLACEMENT							
Line No.	Road Identification	Dir. of Traffic	Station From	Station To	Topsoil Stripping Thickness (IN)	Topsoil Placement Thickness (IN)	Remarks
1.0	I-29	NB	715+30.00	732+49.00	4.0	8.0	Right (Strip / Place)
2.0	I-29	NB	744+00.00	747+00.00	4.0	8.0	Median (Strip / Place)
3.0	I-29	NB	747+00.00	750+00.00	3.0	8.0	Median (Strip / Place)
4.0	I-29	NB	748+00.00	750+50.00	3.0	8.0	Right (Strip / Place)
5.0	I-29	NB	761+00.00	777+00.00	3.0	8.0	Right (Strip / Place)
6.0	I-29	SB	715+50.00	731+50.00	4.0	8.0	Left (Strip / Place)
7.0	I-29	SB	744+00.00	751+25.00	3.0	8.0	Left (Strip / Place)
8.0	I-29	SB	762+26.00	779+45.00	3.0	8.0	Left (Strip / Place)
9.0	IA 175	EB	1722+00.00	1736+00.00	4.0	8.0	Right (Strip / Place)
10.0	IA 175	EB	1736+00.00	1739+50.00		8.0	Existing IA 175 (Place)
11.0	IA 175	EB	1741+75.00	1745+75.00	4.0	8.0	Right (Strip / Place)
12.0	IA 175	EB	1747+00.00	1751+00.00	4.0	8.0	Right (Strip / Place)
13.0	IA 175	EB	1751+00.00	1752+00.00	4.0		Right (Strip)
14.0	IA 175	EB	1752+00.00	1755+00.00	4.0	8.0	Right (Strip / Place)
15.0	IA 175	EB	1755+00.00	1756+00.00		8.0	Rt. Exst. IA 175 and Ramp D (Place)
16.0	IA 175	EB	1756+00.00	1762+00.00	4.0	8.0	Right (Strip / Place)
17.0	IA 175	EB	1763+00.00	1771+49.11	4.0	8.0	Right (Strip / Place)
18.0	IA 175	WB	1722+00.00	1736+00.00	4.0	8.0	Left (Strip / Place)
19.0	IA 175	WB	1736+00.00	1737+00.00		8.0	Existing IA 175 and Ramp A (Place)
20.0	IA 175	WB	1737+00.00	1739+50.00	3.0	8.0	Left (Strip / Place)
21.0	IA 175	WB	1739+50.00	1740+25.00	3.0		Left (Strip)
22.0	IA 175	WB	1740+25.00	1744+25.00	3.0	8.0	Left (Strip / Place)
23.0	IA 175	WB	1746+25.00	1750+00.00	3.0	8.0	Left (Strip / Place)
24.0	IA 175	WB	1750+00.00	1751+50.00	3.0		Left (Strip)
25.0	IA 175	WB	1751+50.00	1754+00.00	3.0	8.0	Left (Strip / Place)
26.0	IA 175	WB	1754+00.00	1756+00.00		8.0	Left (Place)
27.0	IA 175	WB	1756+00.00	1762+00.00	4.0	8.0	Left (Strip / Place)
28.0	IA 175	WB	1763+00.00	1771+49.11	4.0	8.0	Left (Strip / Place)
29.0	Ramp A	SB	1549+15.00	1553+00.00	3.0	8.0	(Strip / Place)
30.0	Ramp A	SB	1553+00.00	1562+26.00	4.0	8.0	(Strip / Place)
31.0	Ramp B	NB	2532+49.00	2544+00.00	4.0	8.0	(Strip / Place)
32.0	Ramp B	NB	2532+49.00	2544+00.00		8.0	Existing Ramp B (Place)
33.0	Ramp C	NB	3531+50.00	3550+00.00	4.0	8.0	(Strip / Place)
34.0	Ramp C	NB	3548+00.00	3550+00.00		8.0	Existing Ramp C (Place)
35.0	Ramp D	SB	4544+00.00	4561+00.00	3.0	8.0	(Strip / Place)

103\_10  
4/30/25

<div><div>107_31 8/15/22</div><div>PLOWING AND SHAPING</div><div>Refer to Standard Road Plan EW-101</div></div>				
Line No.	Station From	Station To	D (FT)	Remarks
1.0	1729+50.00	1733+00.00		Depth varies - IA 175
2.0	1757+50.00	1762+00.00		Depth varies - IA 175
3.0	1559+00.00	1562+26.00		Depth varies - Ramp A













































300\_99  
Modified

















PAVING DELAY HOLDING TIMES

Line No.	Road Identification	Begin Station	End Station	Time Delay (days) (Note 1)	Remarks
1	IA 175, LT	1737+18	1744+66	60	Note 2
2	IA 175, LT	1747+08	1753+00	60	Note 2
3	Ramp A	1549+67	1557+00	60	Note 2
4	Ramp B	2537+00	2544+01	60	Note 2
5	Ramp C	3538+00	3548+00	60	Note 3
6	IA 175, LT	1736+63	1737+18	20	Note 4
7	IA 175, RT	1738+66	1744+66	50	Note 5
8	IA 175, RT	1747+08	1753+00	30	Note 5
9	IA 175, RT	1736+63	1738+66	60	Note 6

1. Approximate time between the completion of fill placement and commencement of paving, to reduce expected post-construction settlement of pavement to less than one inch (to be confirmed by settlement plate readings).
2. Construction delay start begins after completion of fill placement of Stage 2 grading.
3. Construction delay start begins after completion of fill placement of Stage 3 grading.
4. Construction delay start begins after completion of fill placement of Stage 4 grading.
5. Construction delay start begins after completion of fill placement of Stage 5 grading.
6. Construction delay start begins after completion of fill placement of Stage 6 grading.

SURVEY SYMBOLS

-  Interstate Highway Symbol
-  U.S. Highway Symbol
-  Iowa Highway Symbol
-  County Road Highway Symbol
-  Evergreen Tree
-  Deciduous Tree
-  Fruit Tree
-  Shrub (Bushes)
-  Timber
-  Hedge
-  Stump
-  Swamp
-  Rock Outcrop
-  Broken Concrete
-  Revetment (Rip Rap)
-  Cemetery
-  Grave
-  Cave
-  Sink Hole
-  Board Fence
-  Chain Link or Security Fence
-  Wire Fence
-  Terrace
-  Earth Dam or Dike (Existing)
-  Tile Outlet
-  Edge of Water
-  Existing Drainage
-  Right of Way Rail or Lot Corner
-  Concrete Monument
-  Well
-  Windmill
-  Beehive Intake
-  Existing Intake
-  Existing Utility Access (Manhole)
-  Fire Hydrant
-  Water Hydrant (Rural)
-  Septic Tank
-  SIGN Sign
-  TCB Traffic Signal Control Box
-  RRB Rail Road Signal Control Box
-  TSB Telephone Switch Box
-  EB Electric Box

-  Cistern
-  L.P. Gas Tank (No Footing)
-  Underground Storage Tank
-  Latrine
-  Satellite TV Dish
-  Water Hook Up
-  Radio Tower
-  Tower Anchor
-  Guardrail (Beam or Cable)
-  Guard Post (one or two)
-  Guard Post (over two)
-  Filler Pipe
-  Gas Valve
-  Water Valve
-  Speed Limit Sign
-  Mile Marker Post

UTILITY LEGEND

- F0

Midwest Fiber Networks  
Contact Name: Cory Schmuki  
Contact Phone: (414) 349-2764  
Contact Email: cschmuki@midwestfibernetworks.com
- F02

Long Lines Ltd.  
Contact Name: Tom Connors  
Contact Phone: (712) 333-5526  
Contact Email: tom.connors@longlines.biz
- W

City Of Onawa  
Contact Name: John Casady  
Contact Phone: (712) 420-0941  
Contact Email: jcasady@onawa.com
- TV

Long Lines Ltd.  
Contact Name: Tom Connors  
Contact Phone: (712) 333-5526  
Contact Email: tom.connors@longlines.biz
- T1

Lumen Centurylink  
Contact Name: Steve Parker  
Contact Phone: (507) 358-1978  
Contact Email: Steve.Parker4@lumen.com
- T2

Long Lines Ltd.  
Contact Name: Tom Connors  
Contact Phone: (712) 333-5526  
Contact Email: tom.connors@longlines.biz
- E1

Western Iowa Power Cooperative  
Contact Name: Jeremy Kreger  
Contact Phone: (712) 420-1126  
Contact Email: jeremy.kreger@wipco.com
- E2

Iowa Department Of Transportation  
Contact Name: Jason Dale  
Contact Phone: (515) 239-1995  
Contact Email: Jason.Dale@iowadot.us
- G

Black Hills Energy  
Contact Name: Brad Fleming  
Contact Phone: (402) 660-0812  
Contact Email: brad.fleming@blackhillscorp.com
- SAN. (B)

City Of Onawa  
Contact Name: John Casady  
Contact Phone: (712) 420-0941  
Contact Email: jcasady@onawa.com

PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

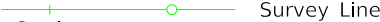
LINEWORK		Design	Color No.
Green	(2)	<div></div>	Existing Topographic Features and Labels
Blue	(1)	<div></div>	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)	<div></div>	Existing Utilities
SHADING		Design	Color No.
Lavender	(9)	<div></div>	Temporary Pavement Shading
Yellow	(4)	<div></div>	Proposed Pavement Shading
Orange	(6)	<div></div>	Proposed Granular Shading
Orange	(70)	<div></div>	Proposed Shoulder Granular Shading
Yellow	(68)	<div></div>	Proposed Shoulder Paved Full Depth Shading
Yellow	(132)	<div></div>	Proposed Shoulder Paved Partial Depth Shading
Brown, Light	(112)	<div></div>	Proposed Roadway Grading Shading
Brown, Light	(236)	<div></div>	Proposed Grading Shading
Brown	(238)	<div></div>	Previously Constructed Grading Shading
Orange, Light	(134)	<div></div>	Proposed Granular Entrance Shading
Yellow	(220)	<div></div>	Proposed Paved Entrance Shading
Tan	(8)	<div></div>	Proposed Sidewalk Shading
Blue, Light	(230)	<div></div>	Proposed Sidewalk Landing Shading
Pink	(11)	<div></div>	Proposed Sidewalk Ramp Shading
Green, Light	(225)	<div></div>	Existing Pavement Shading
Red	(131)	<div></div>	Proposed Structure Shading (50% Transparency)
Gray, Light	(48)	<div></div>	Bridge Approach Shading
Red	(3)	<div></div>	Delineates Restricted Areas


PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS


LINEWORK		Design	Color No.
Green	(10)	<div></div>	Existing Ground Line Profile
Blue	(1)	<div></div>	Proposed Profile and Annotation
Magenta	(5)	<div></div>	Existing Utilities
Blue, Light	(230)	<div></div>	Proposed Ditch Grades, Left
Black	(0)	<div></div>	Proposed Ditch Grades, Median
Rust	(14)	<div></div>	Proposed Ditch Grades, Right


Reference Point


Station


 Survey Line


 Section Corner

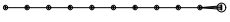
 Ground Line Intercept


 Saw Cut


 Guardrail


 Trench Drain


 HighTension Cable Guardrail

 Sheet Pile









 Pavement Removal

 Clearing & Grubbing Area

 Permanent Rock

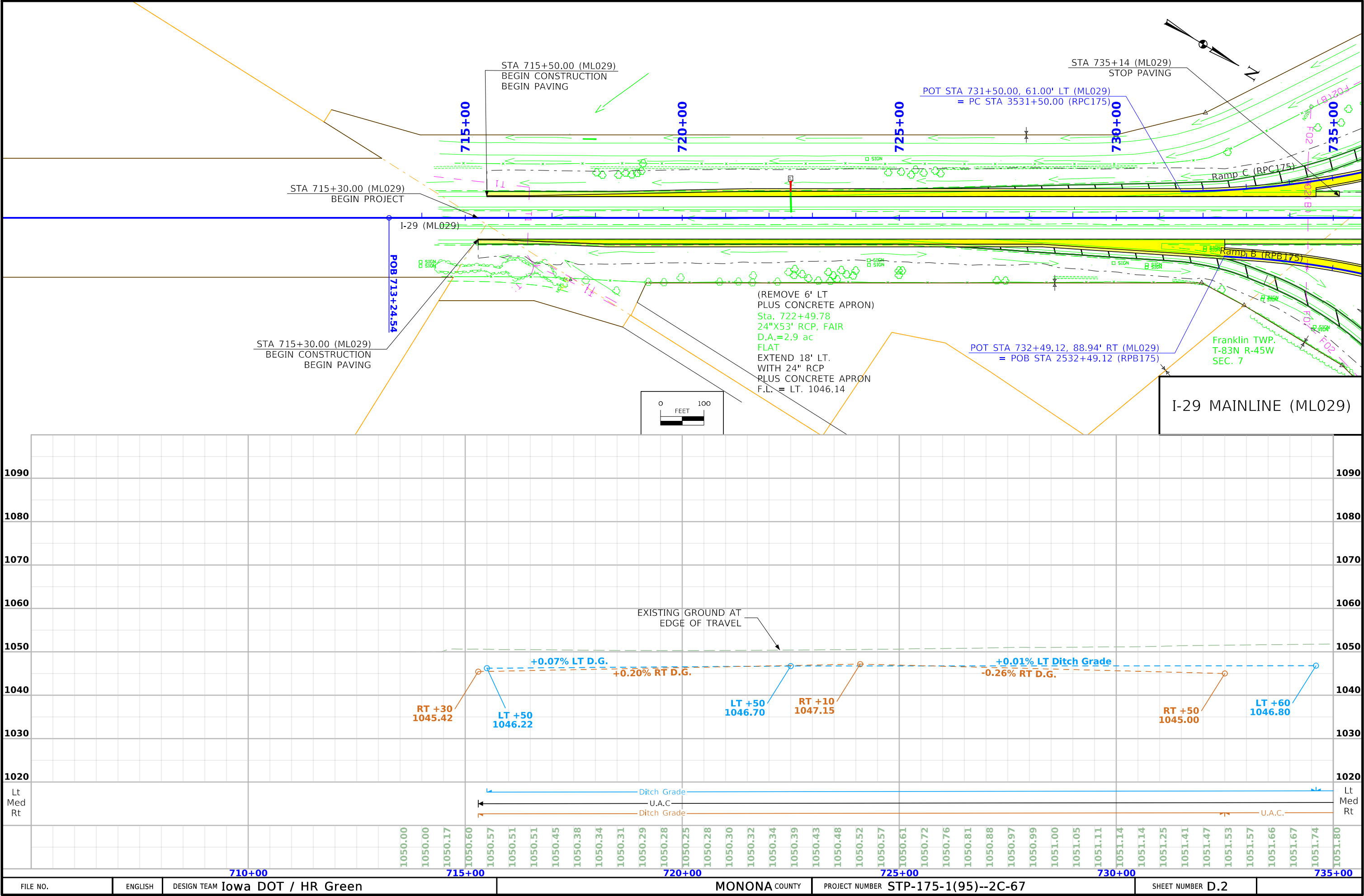
 Lightweight Foamed Concrete Fill

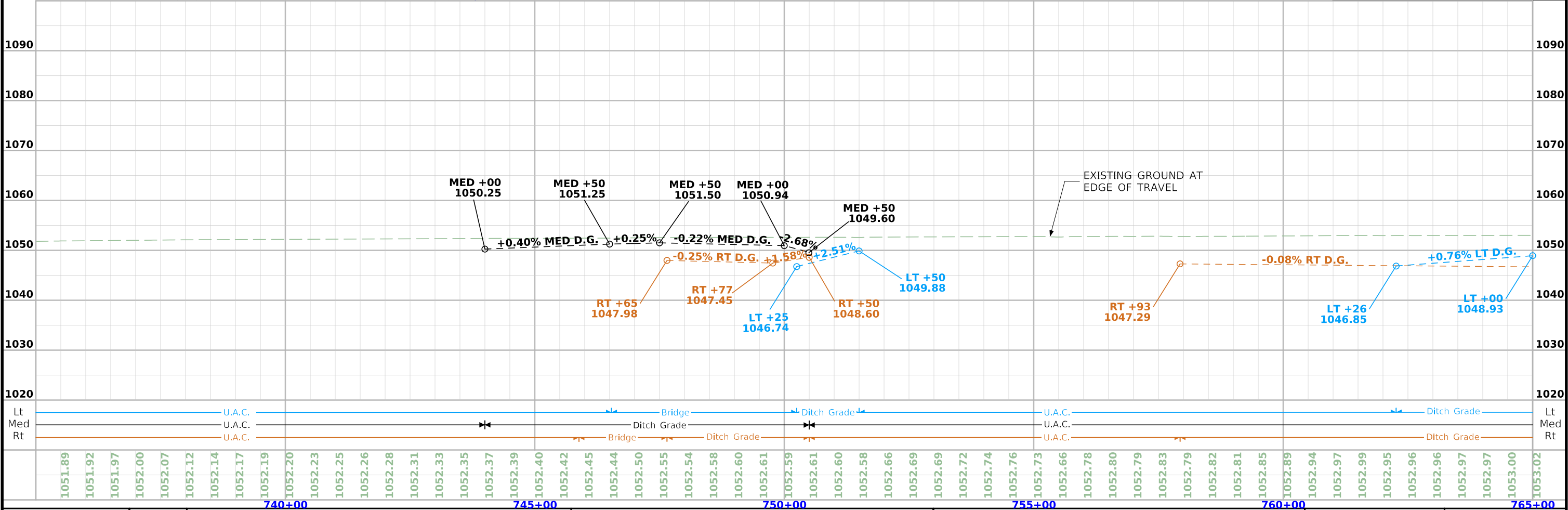
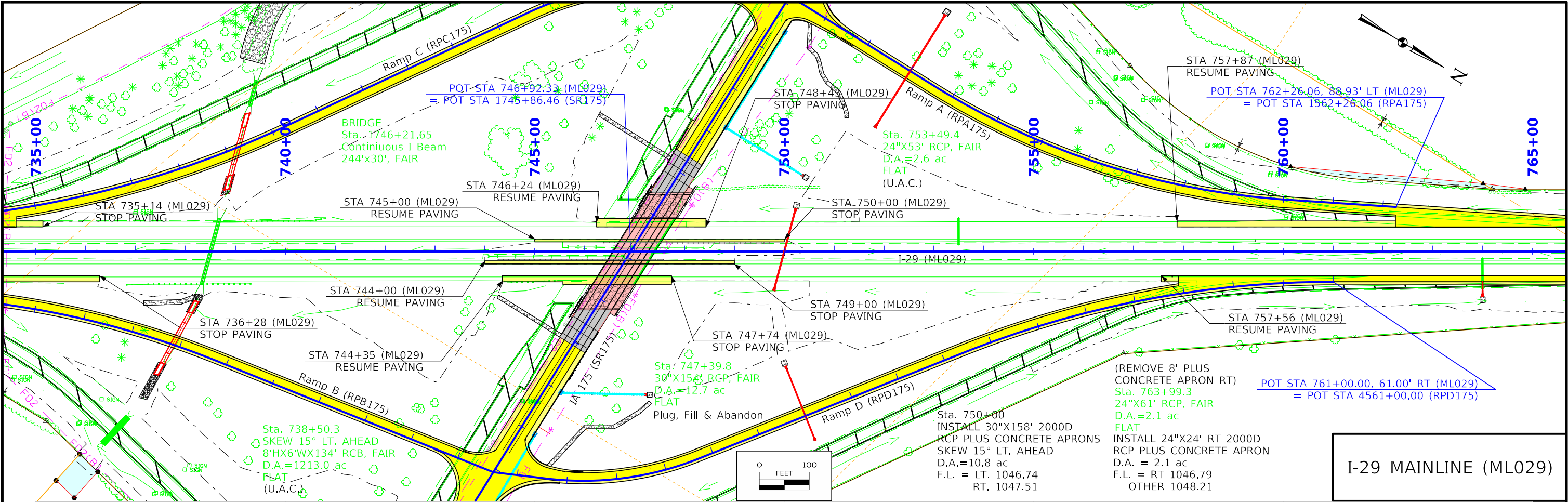
RIGHT-OF-WAY LEGEND

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

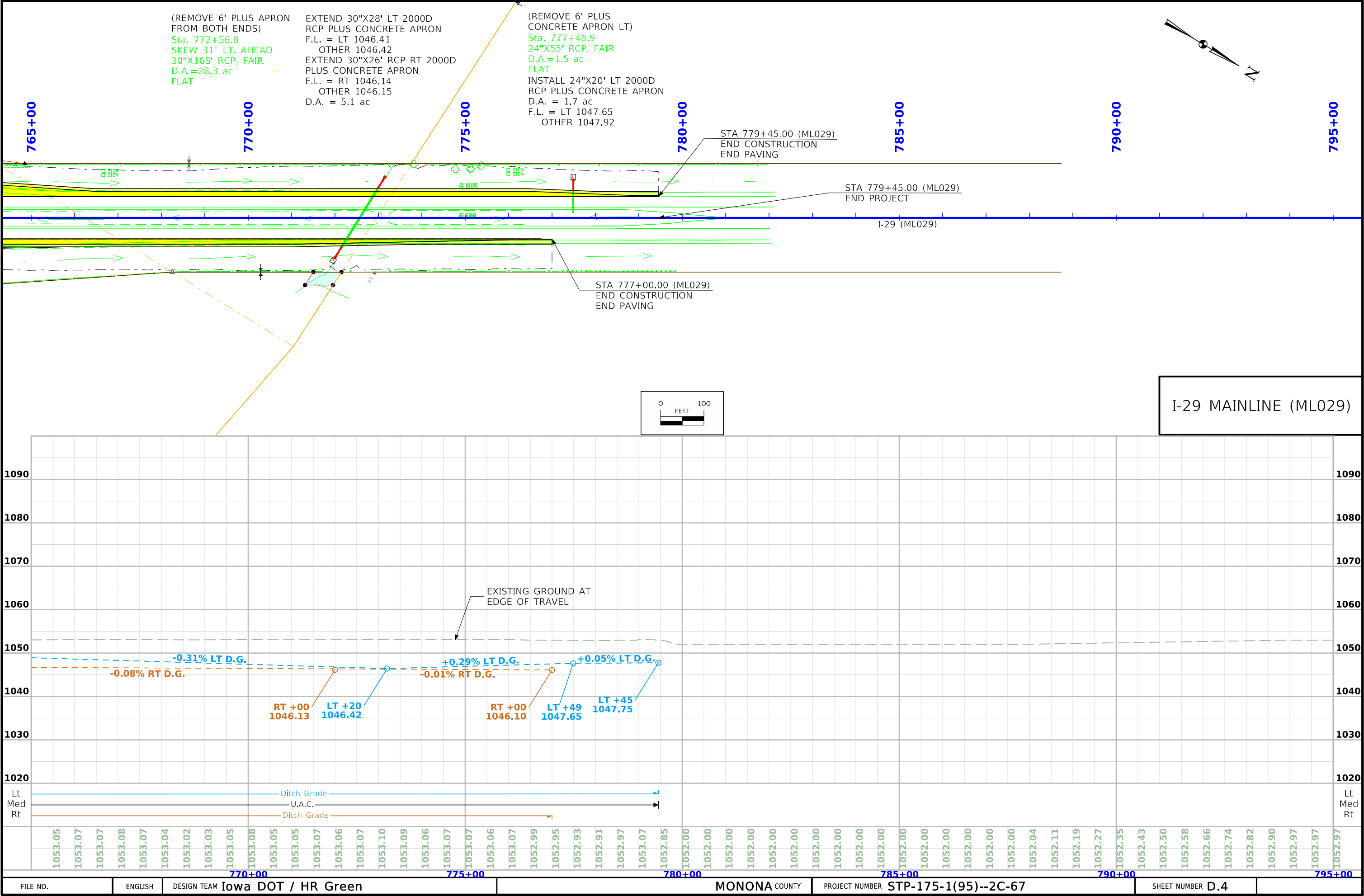
PLAN AND PROFILE  
LEGEND AND SYMBOL  
INFORMATION SHEET

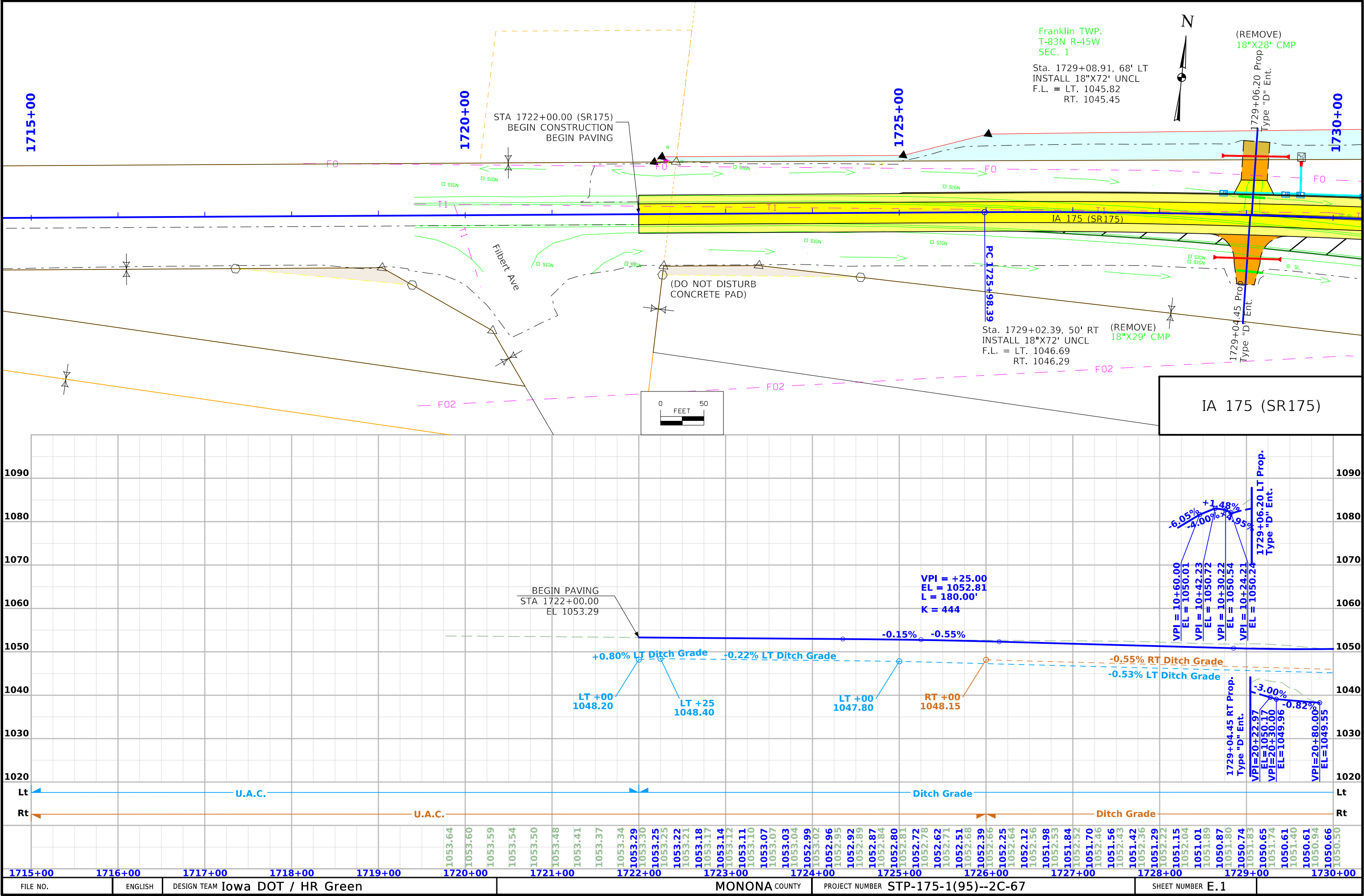
(COVERS SHEET SERIES D, E, F, & K)



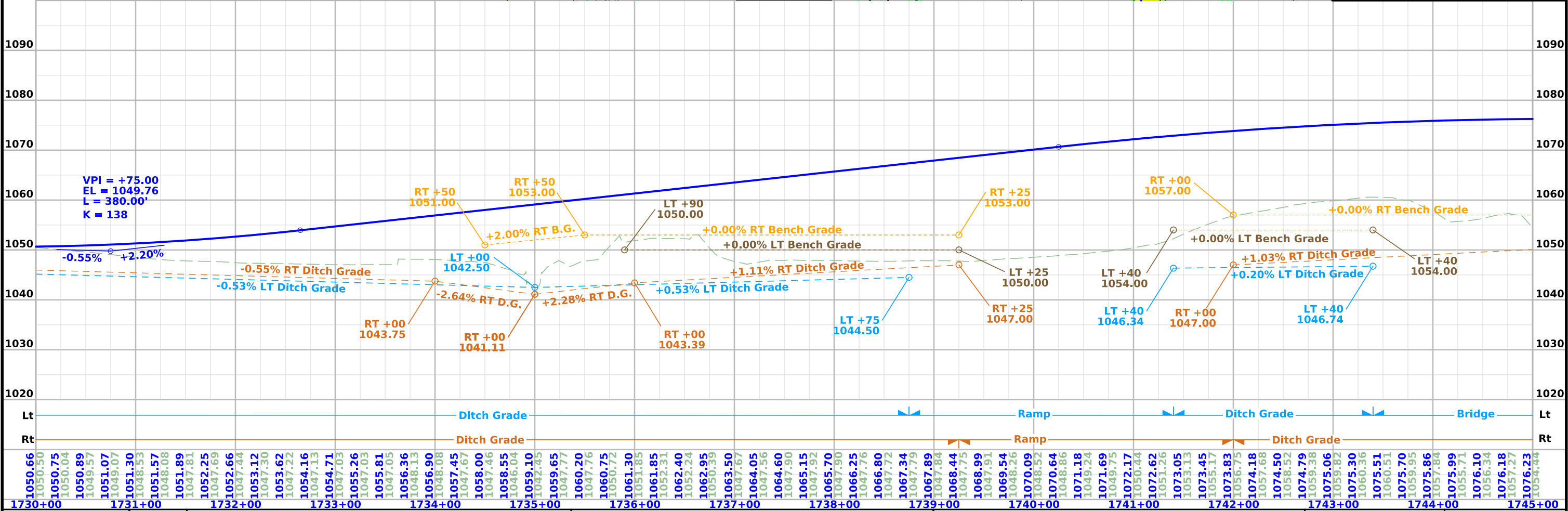
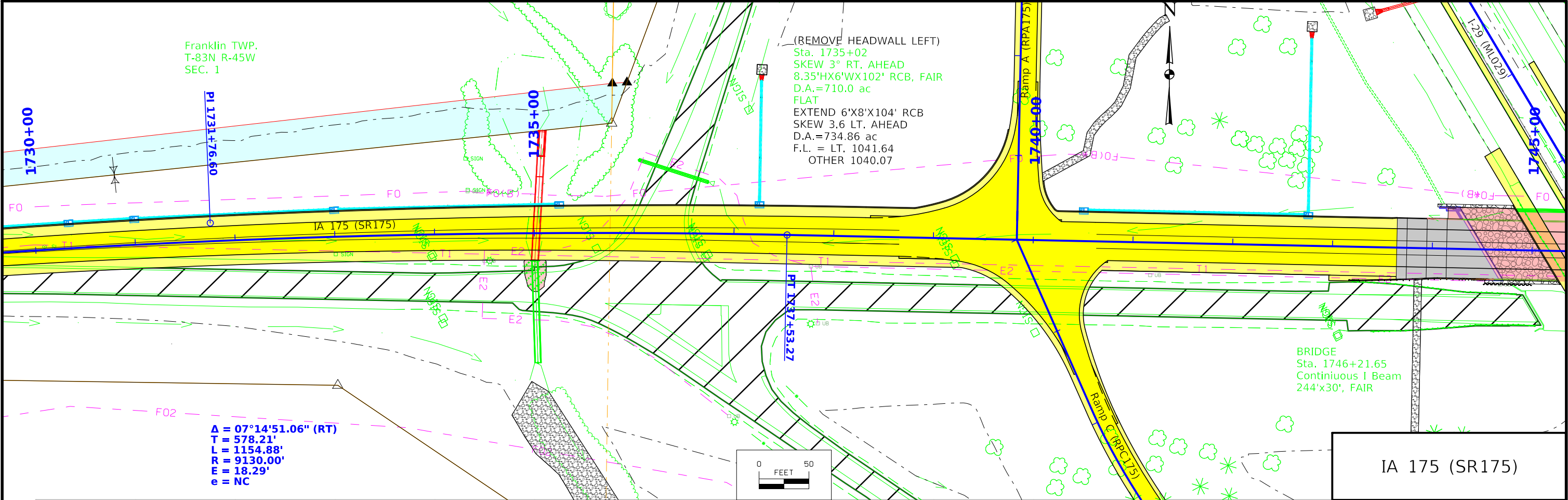


FILE NO.	ENGLISH	DESIGN TEAM	Iowa DOT / HR Green	MONONA COUNTY	PROJECT NUMBER	STP-175-1(95)--2C-67	SHEET NUMBER	D.3
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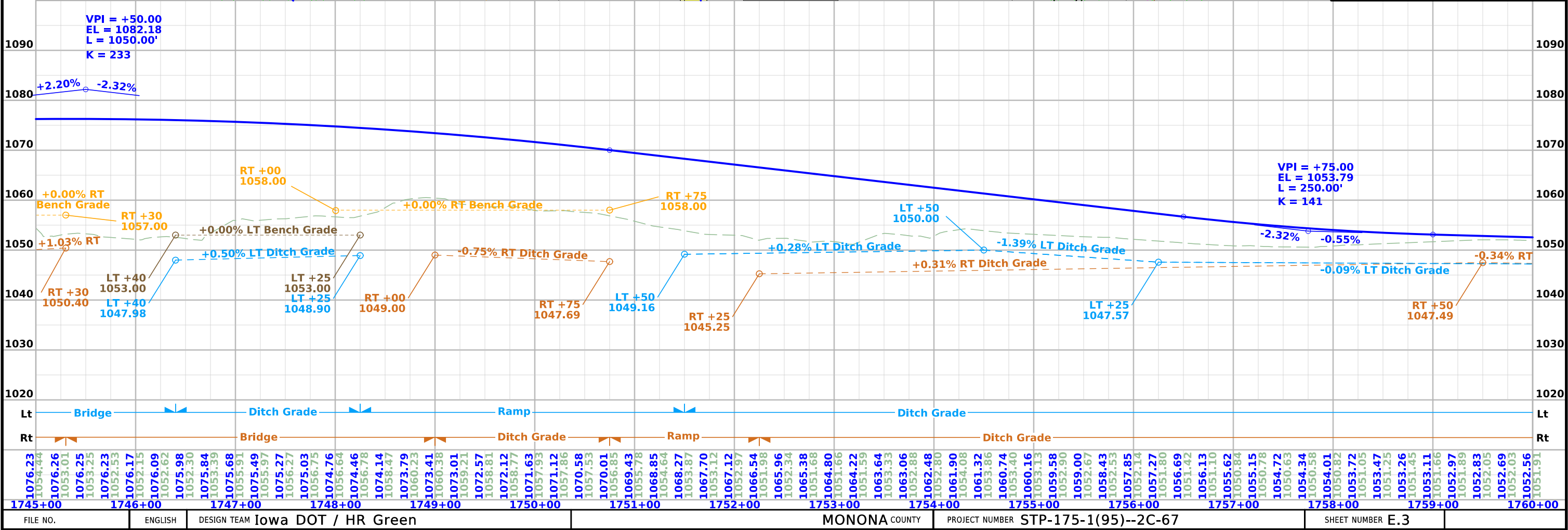
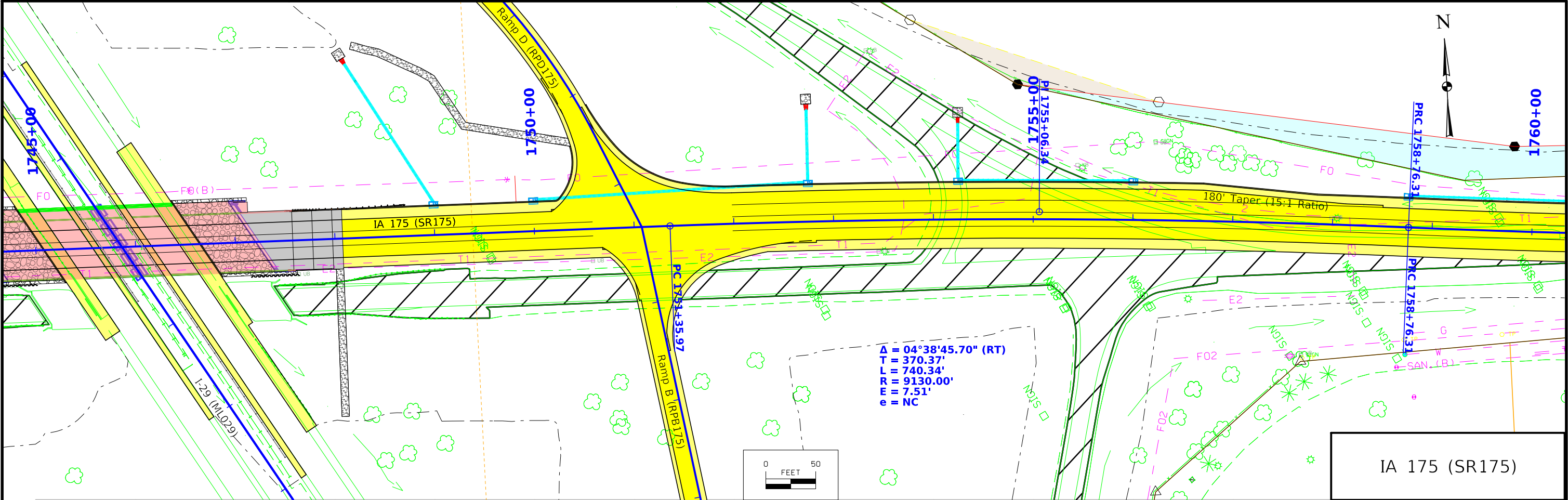




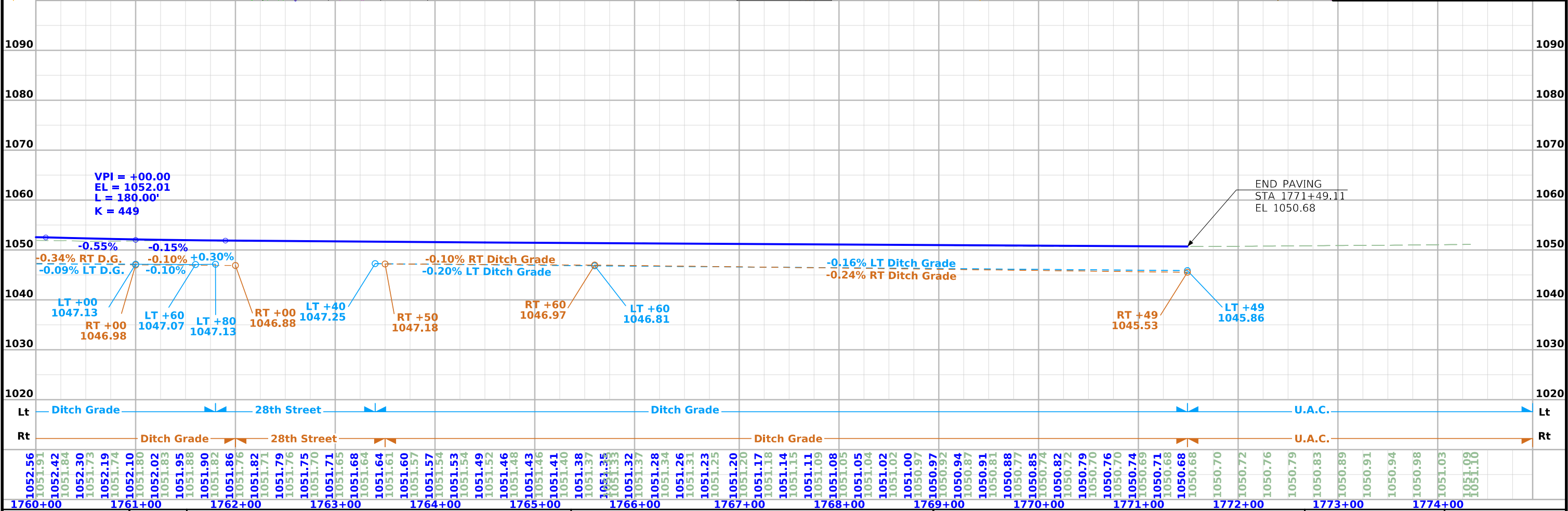
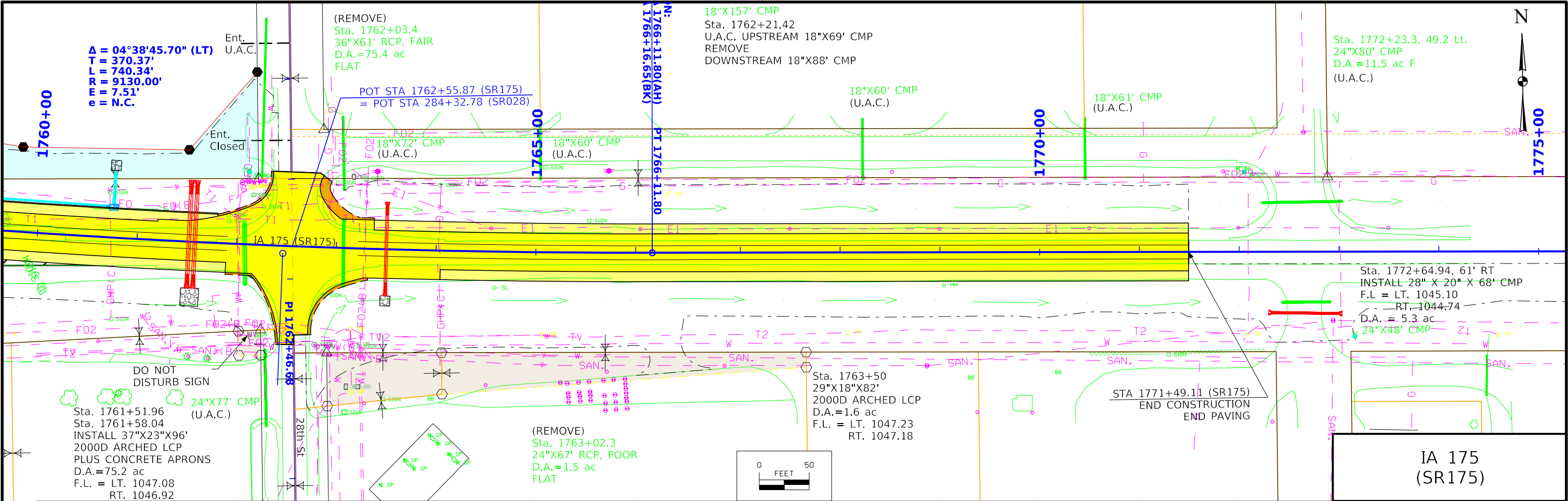




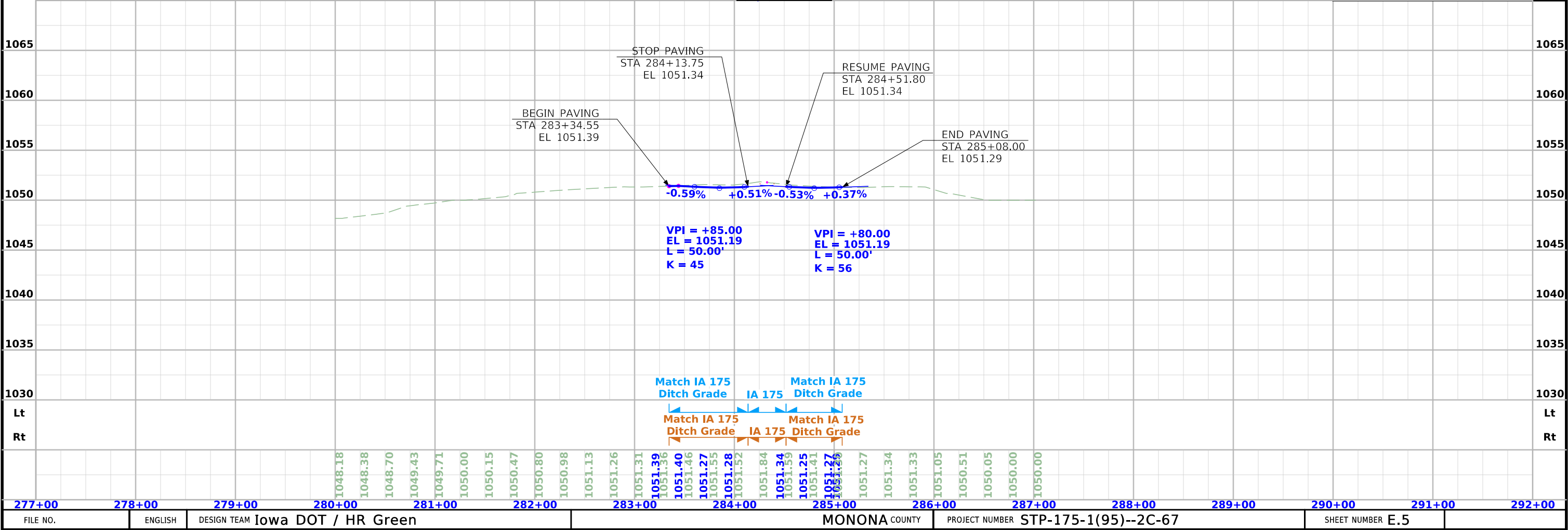
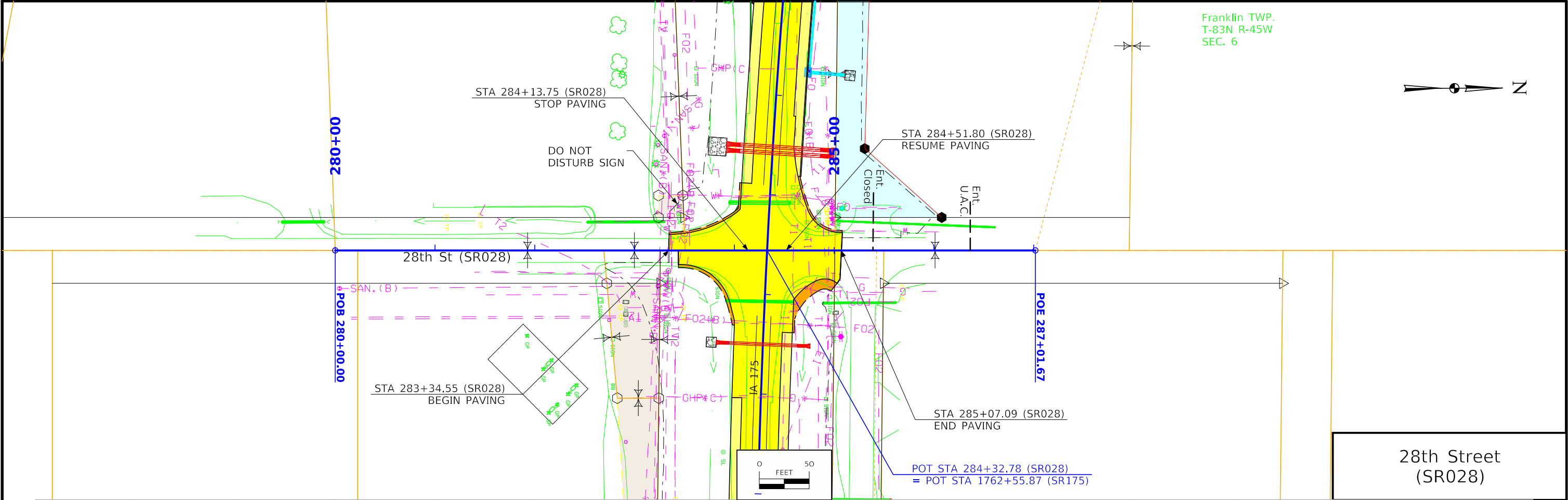
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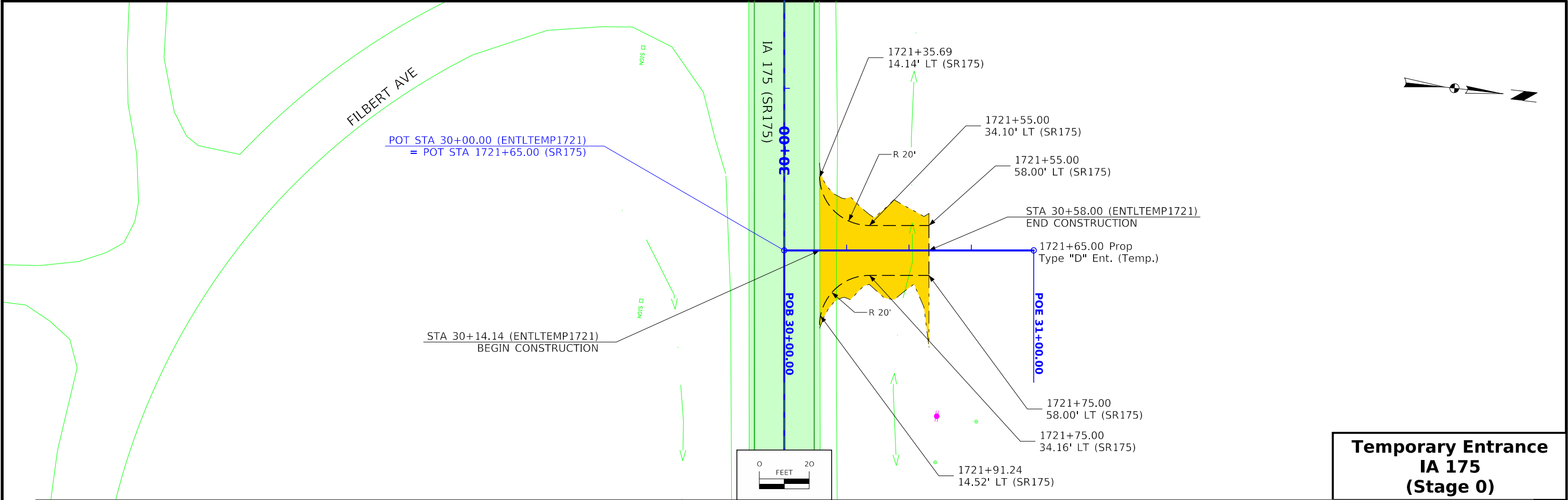




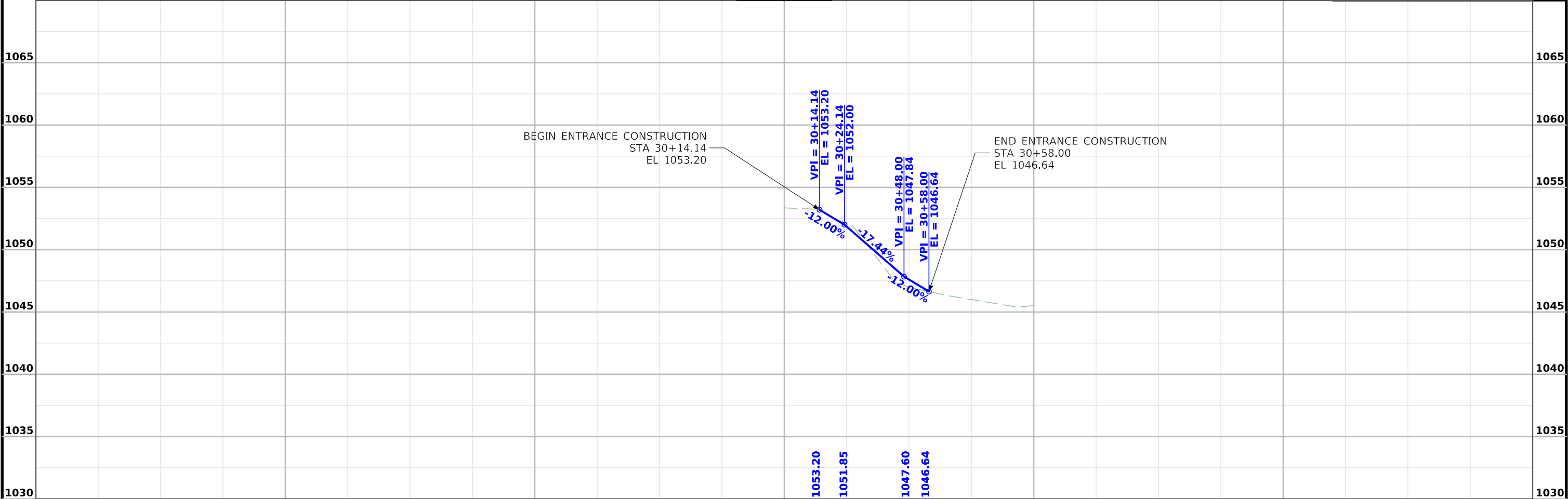


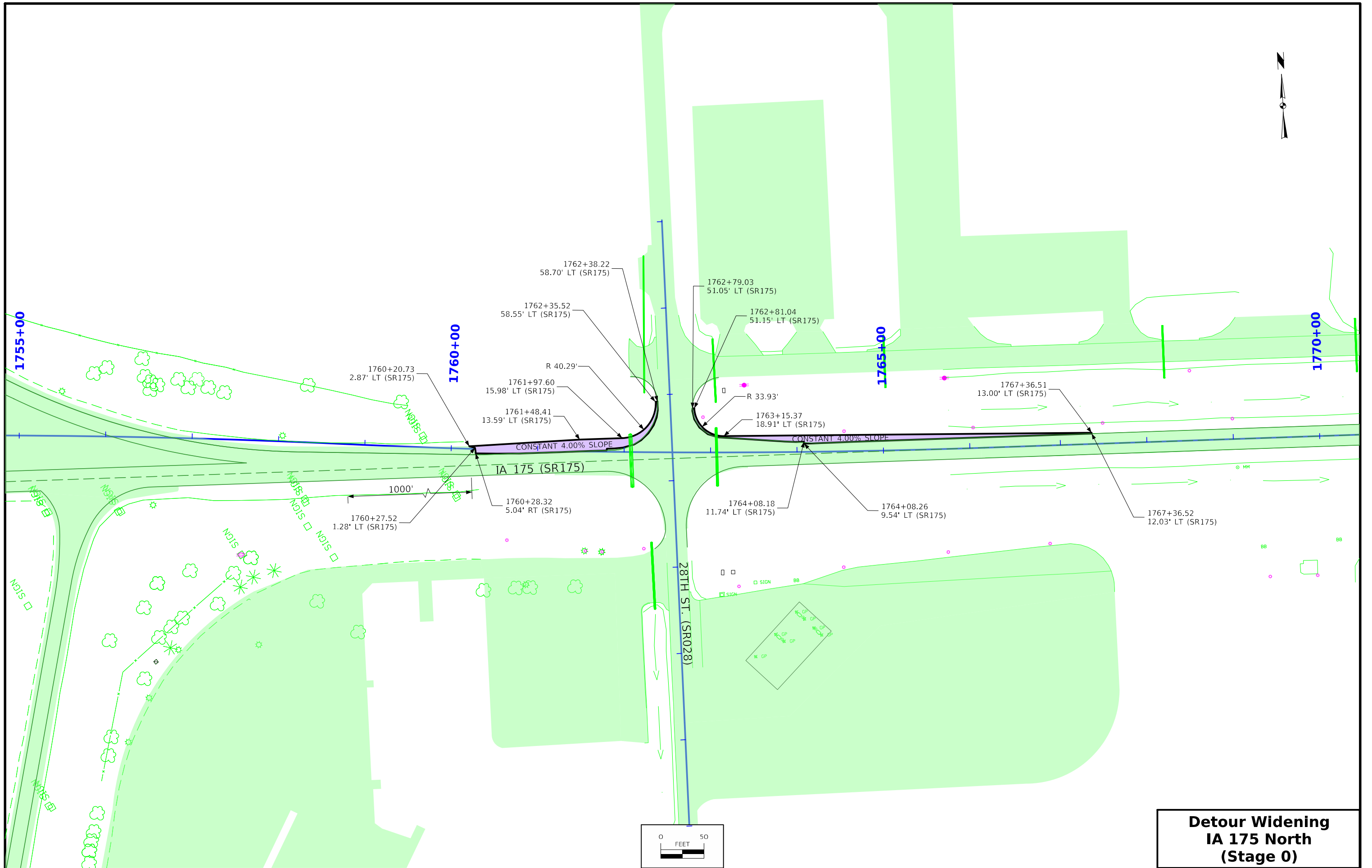
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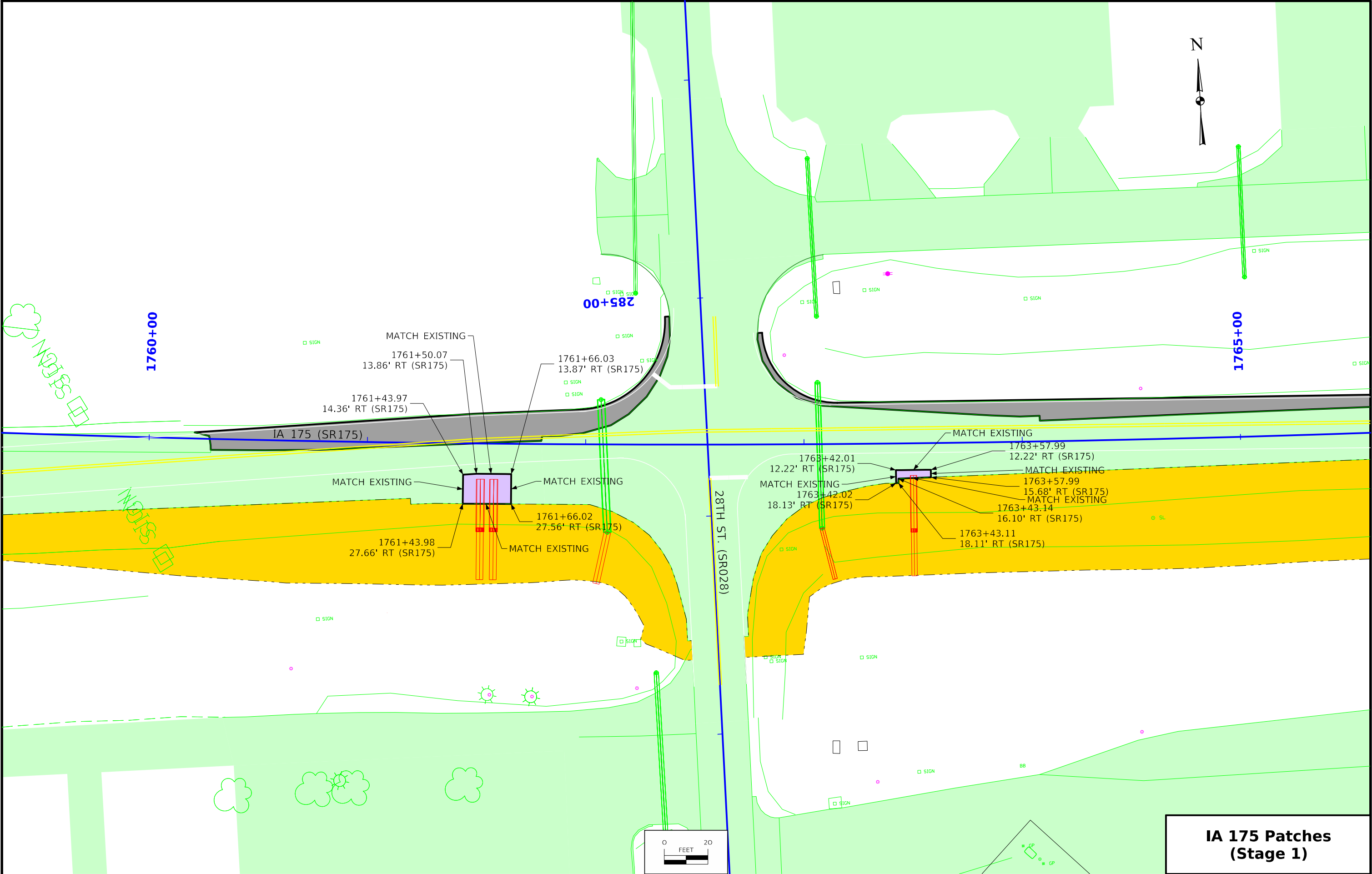




**Temporary Entrance  
IA 175  
(Stage 0)**



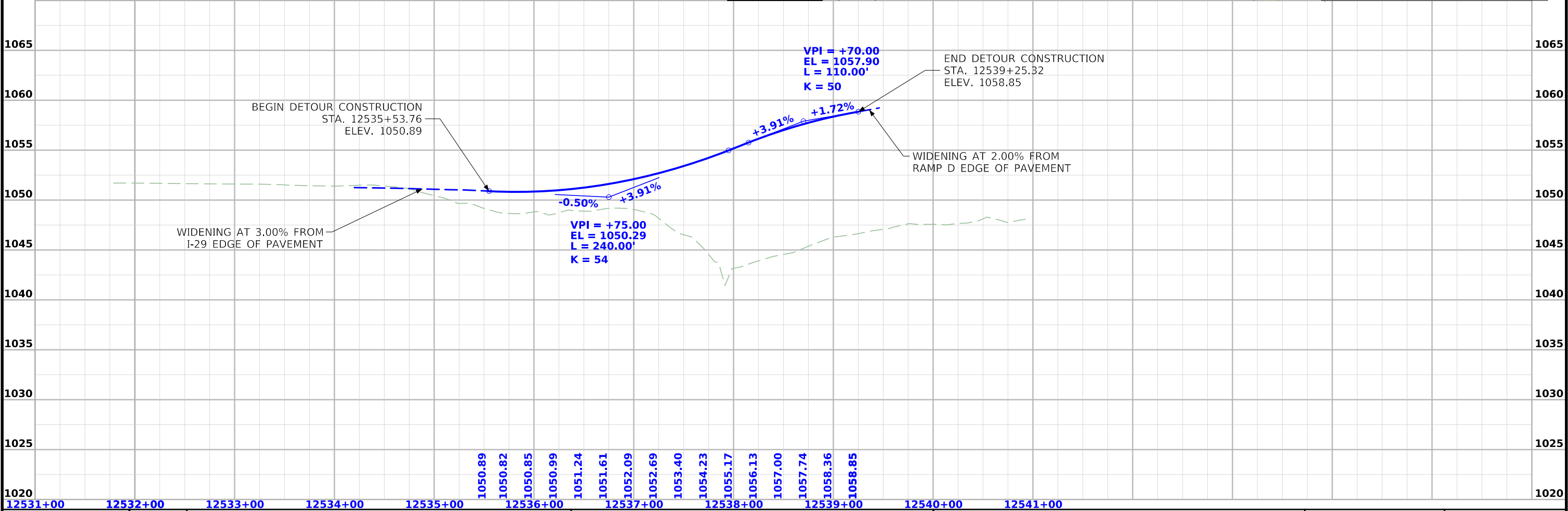
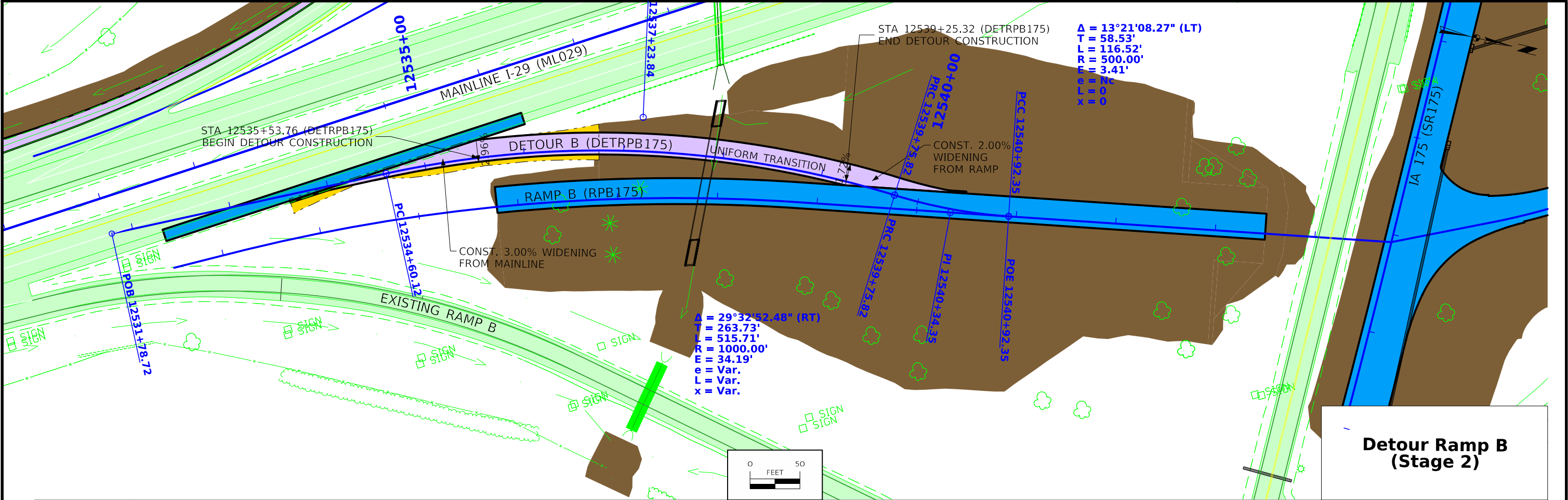


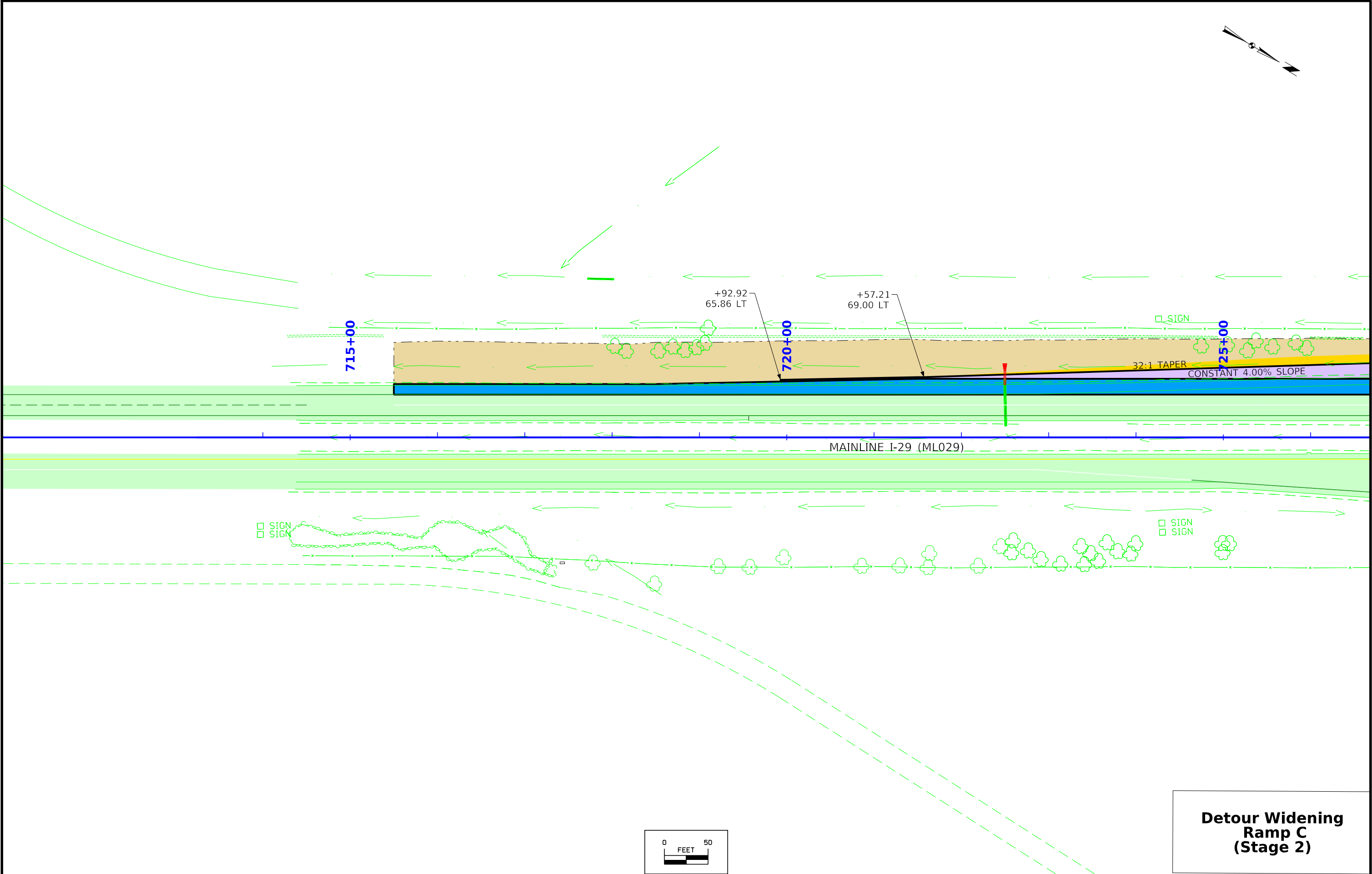


**IA 175 Patches  
(Stage 1)**

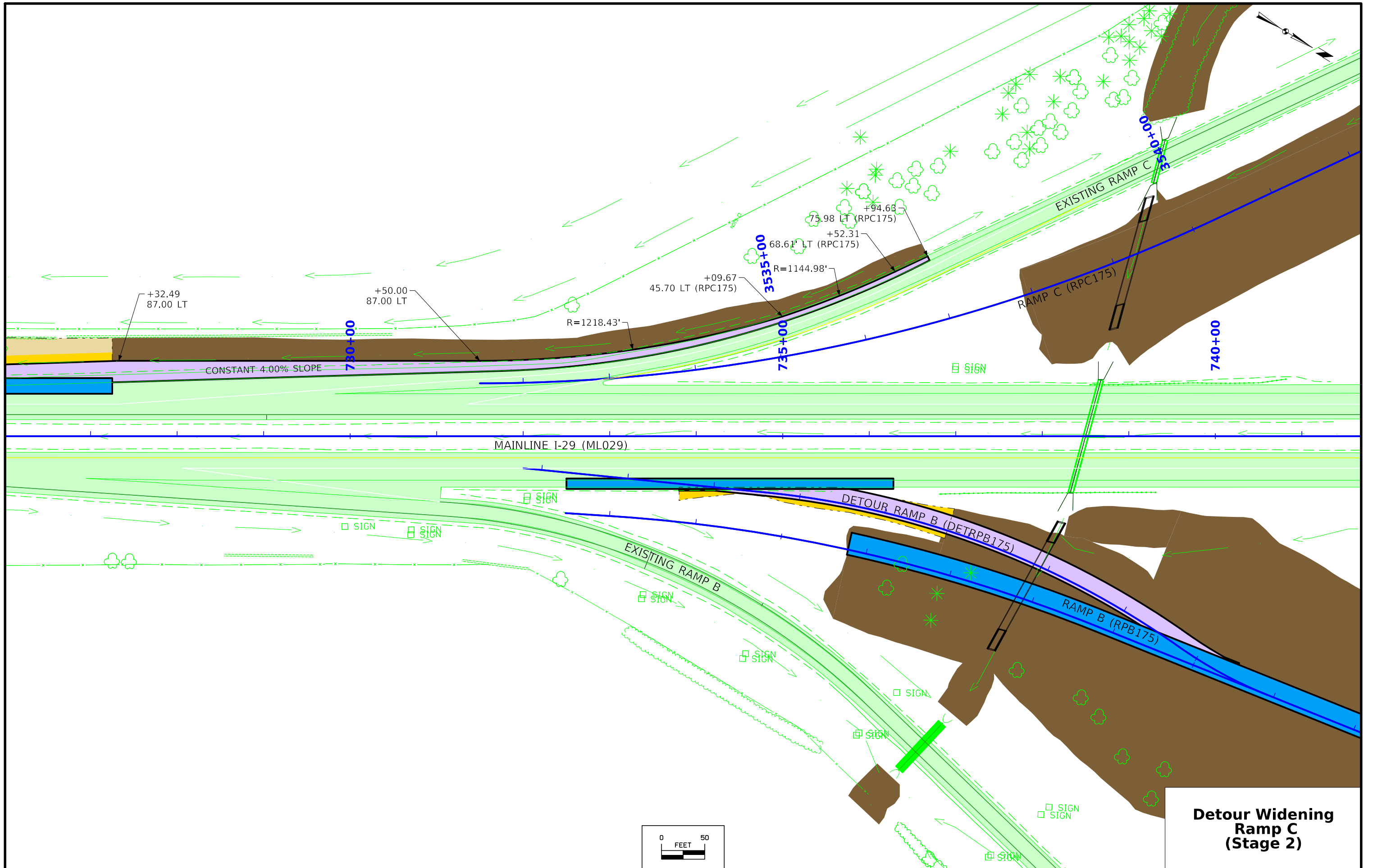


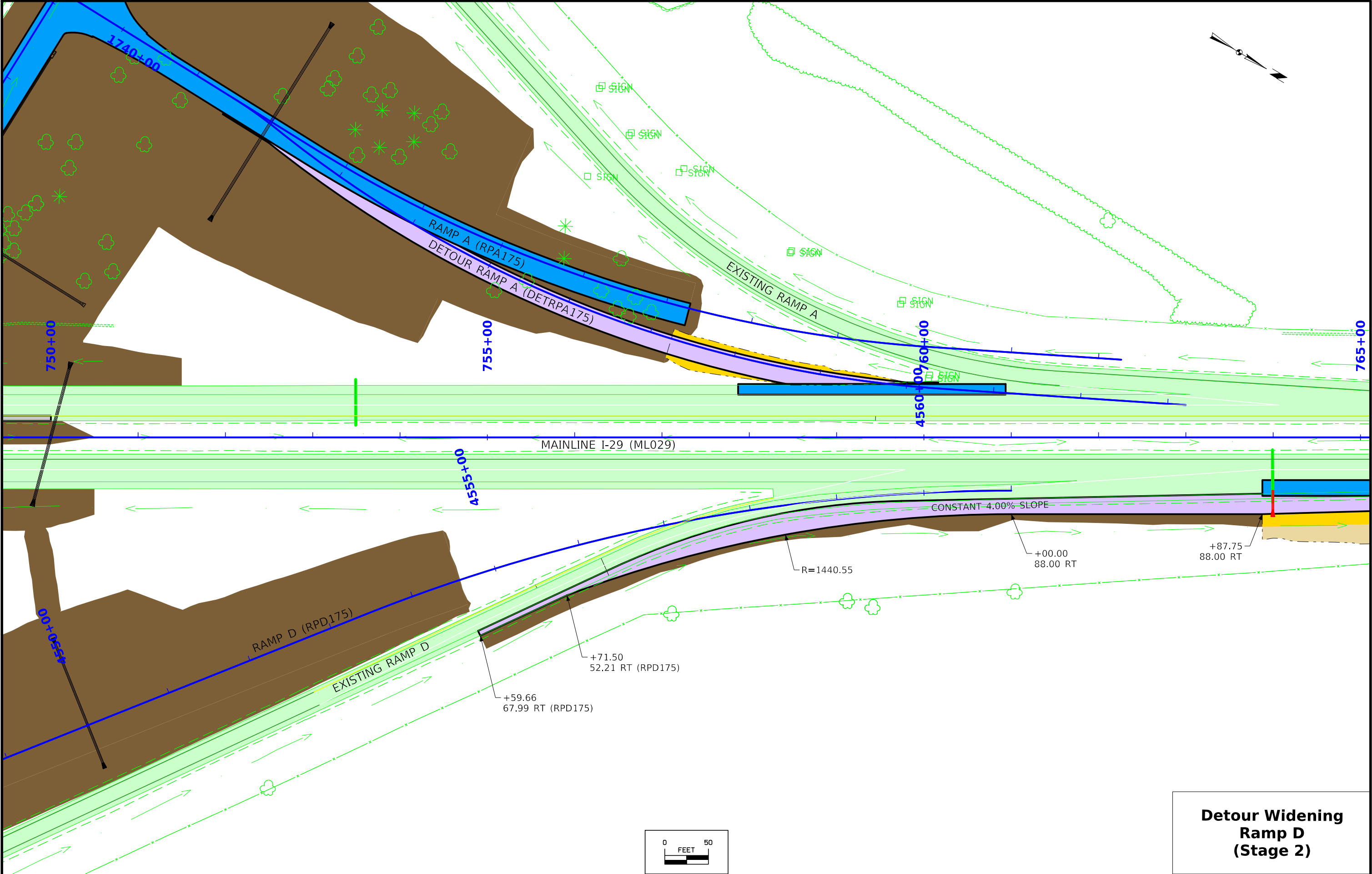




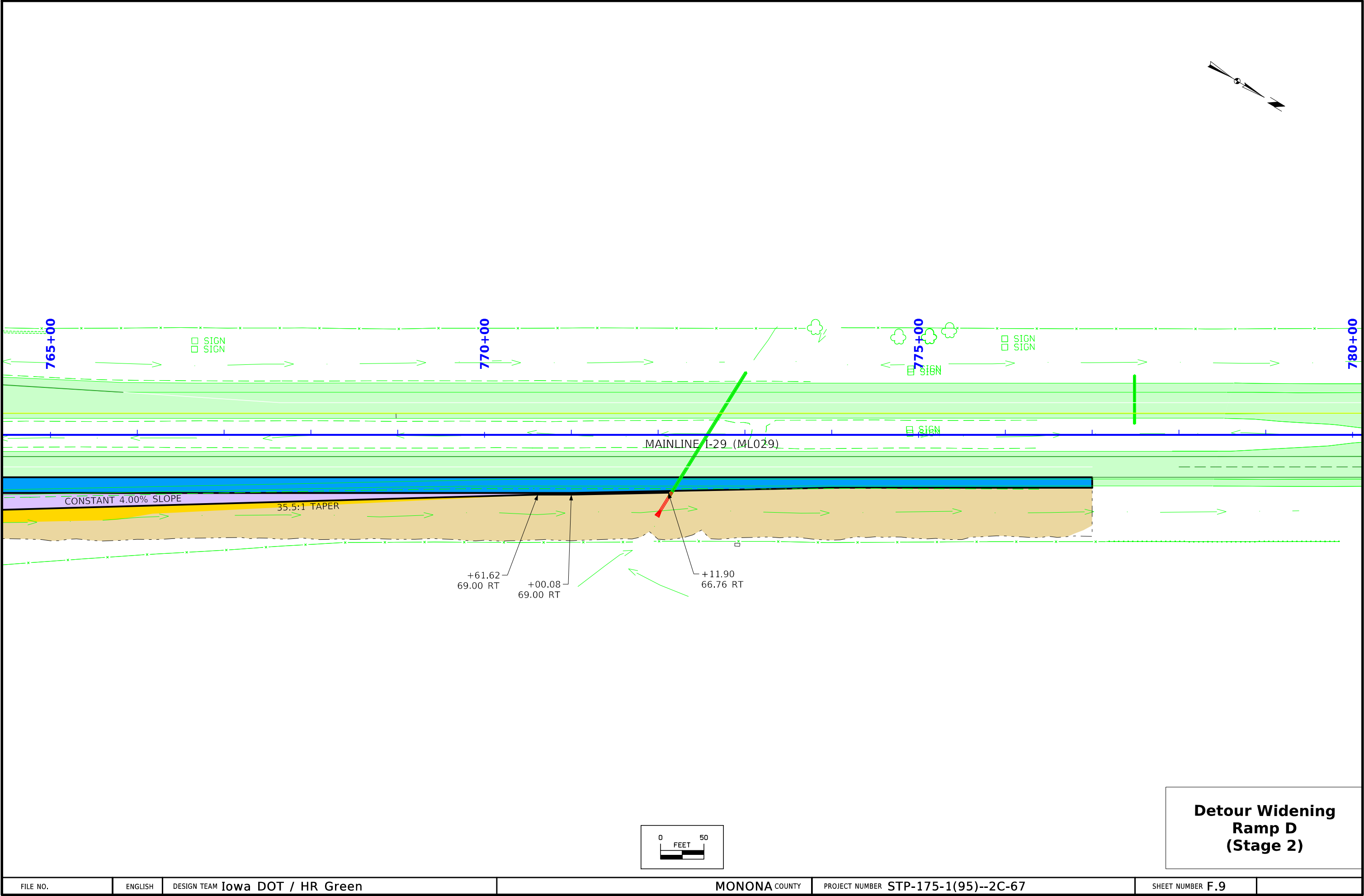




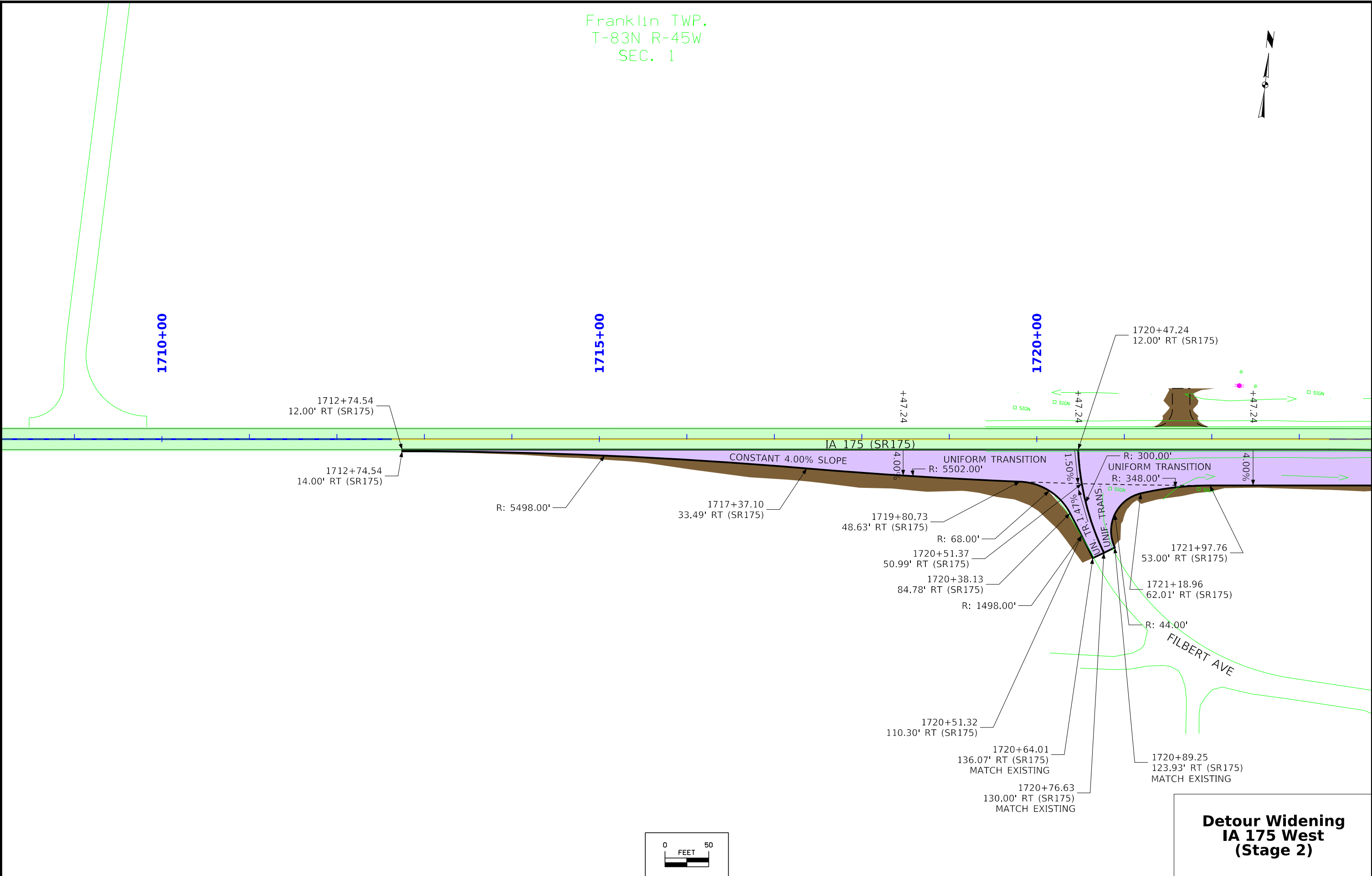




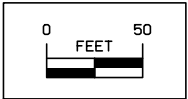
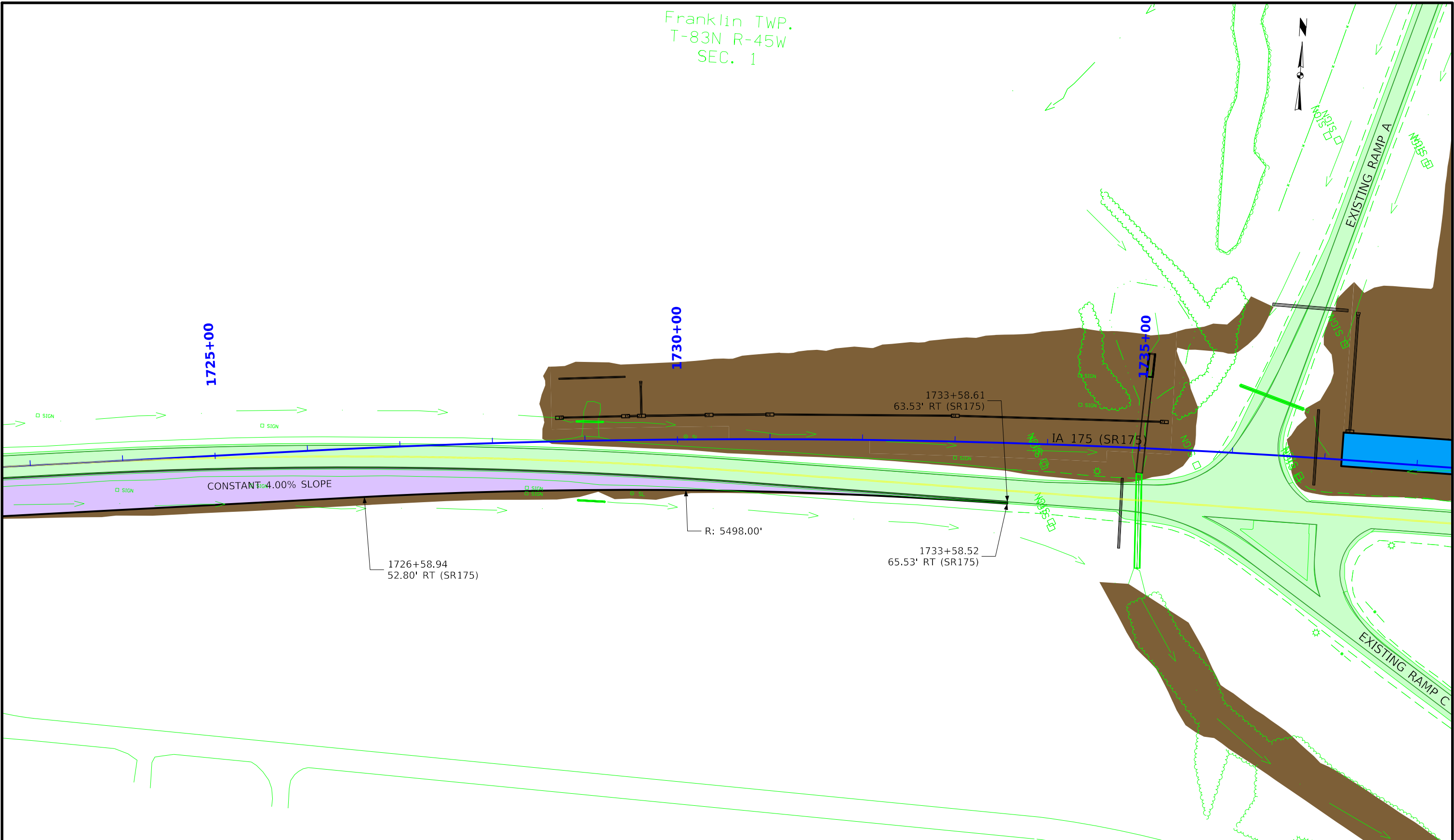
**Detour Widening  
Ramp D  
(Stage 2)**



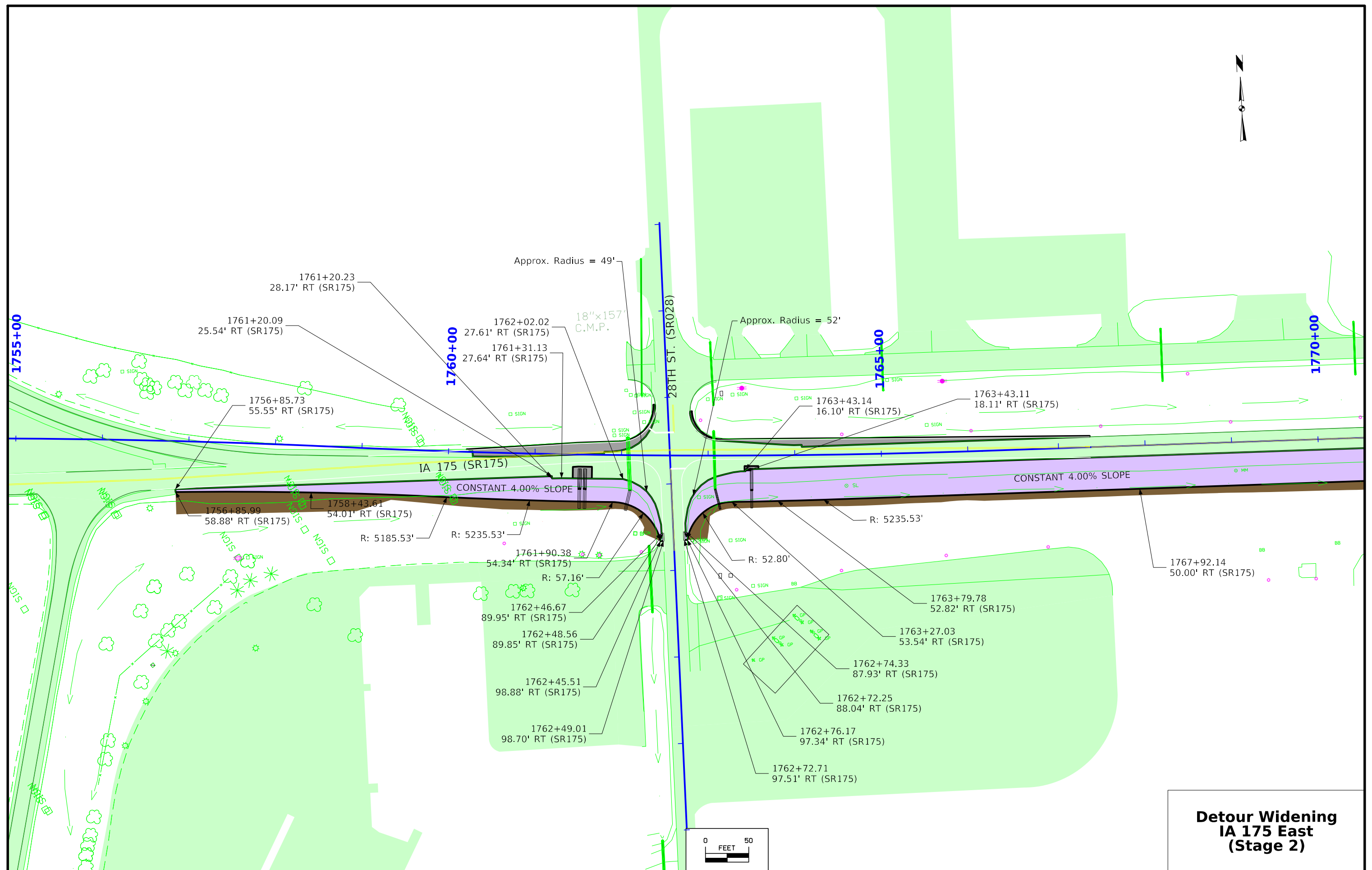
Franklin TWP.  
T-83N R-45W  
SEC. 1

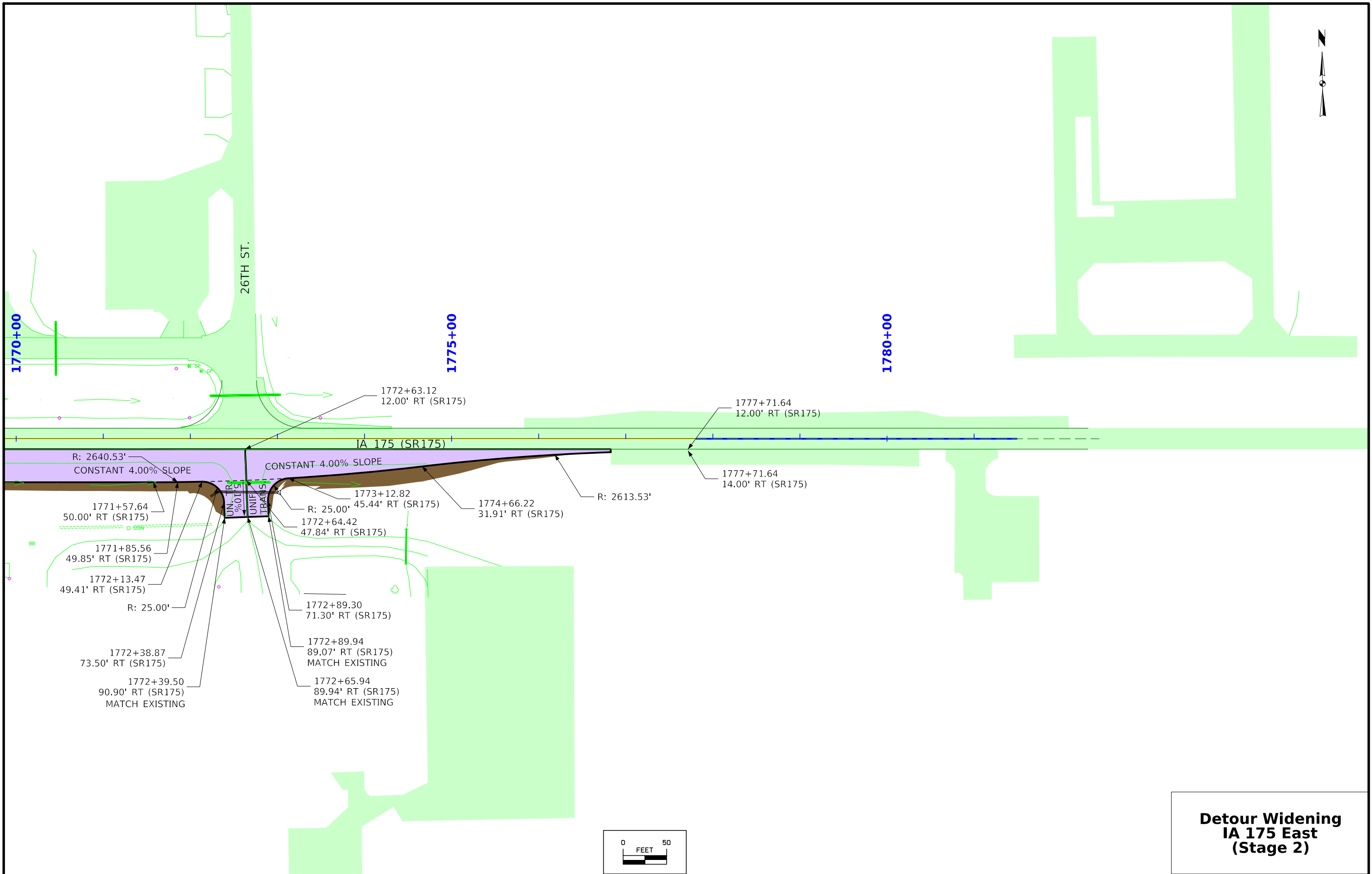


Franklin TWP.  
T-83N R-45W  
SEC. 1



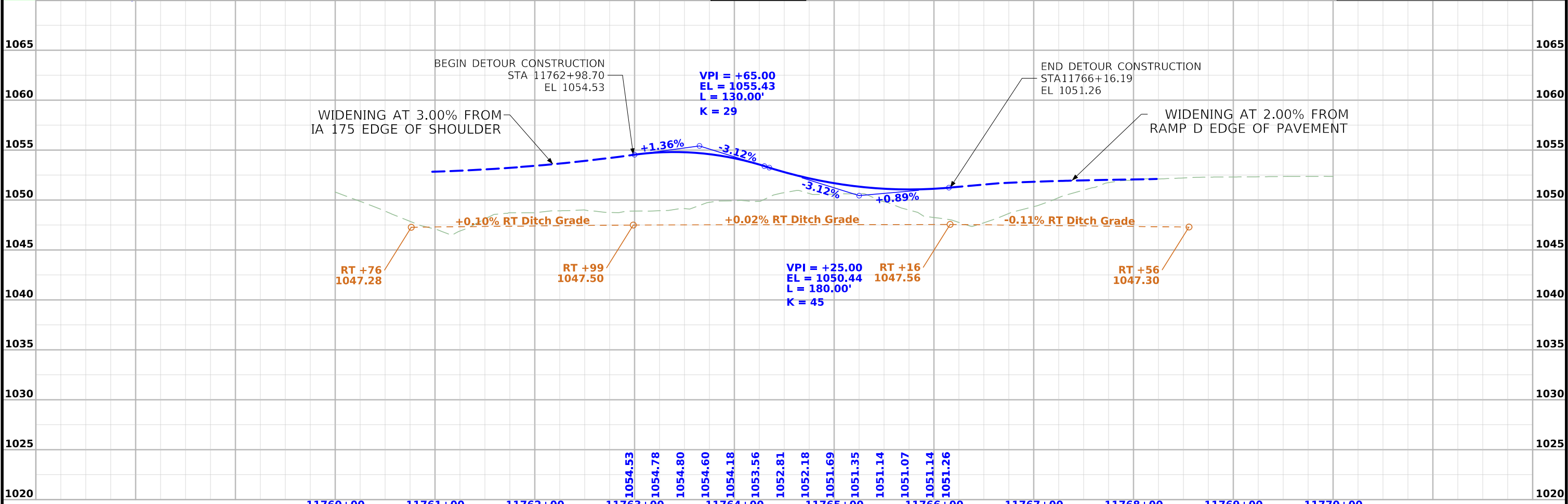
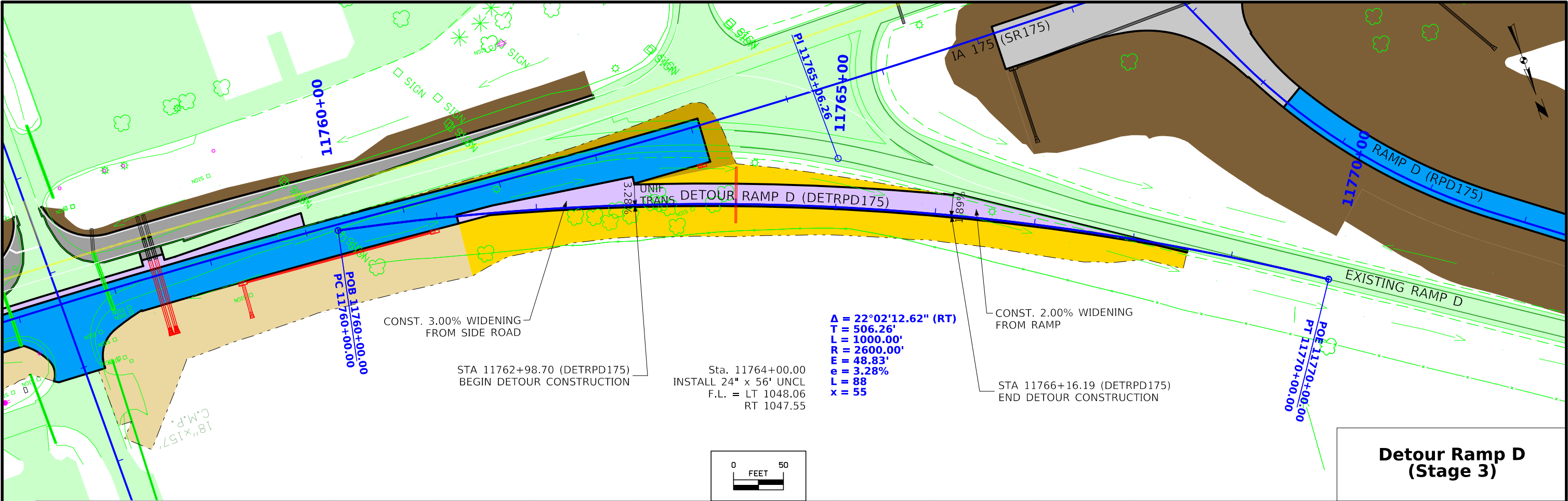
**Detour Widening  
IA 175 West  
(Stage 2)**



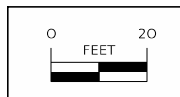
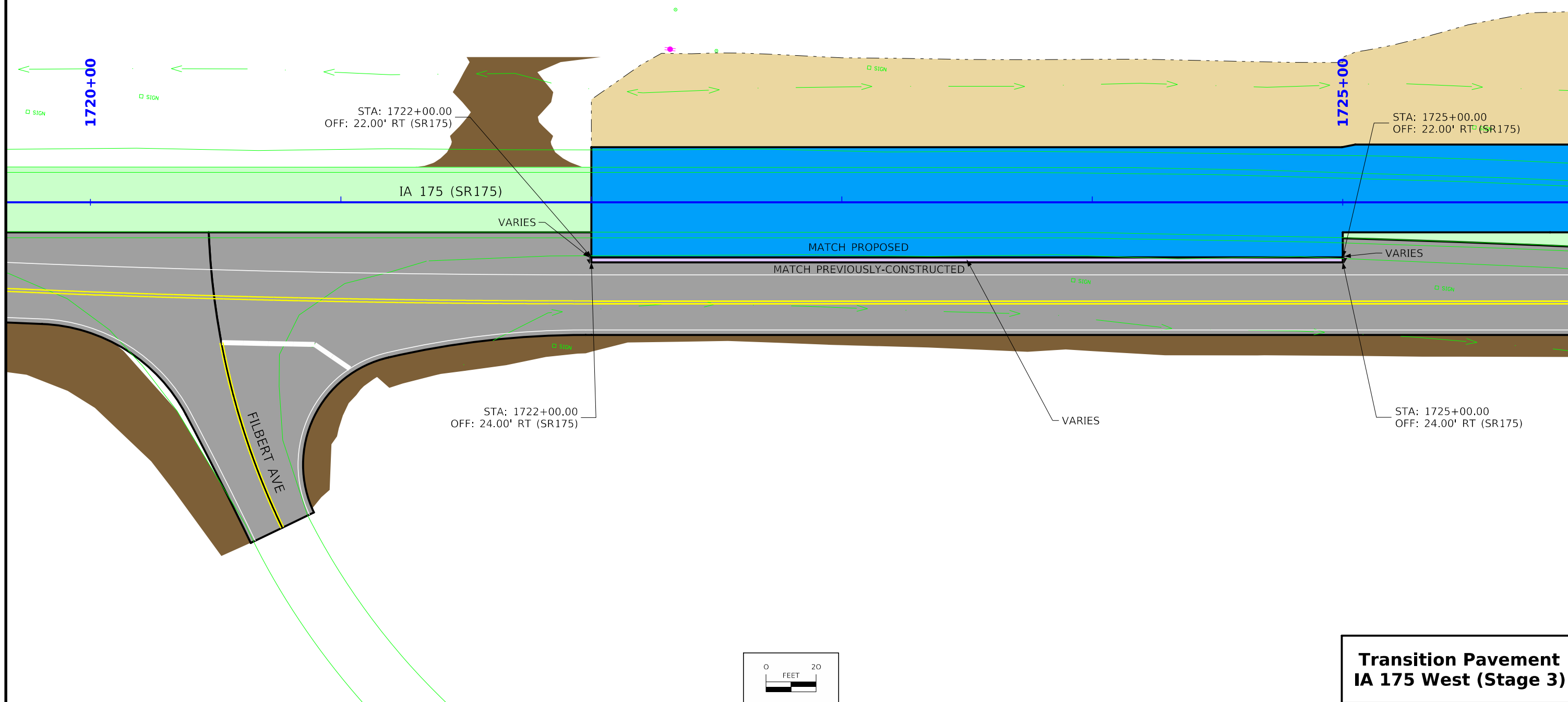


**Detour Widening  
IA 175 East  
(Stage 2)**

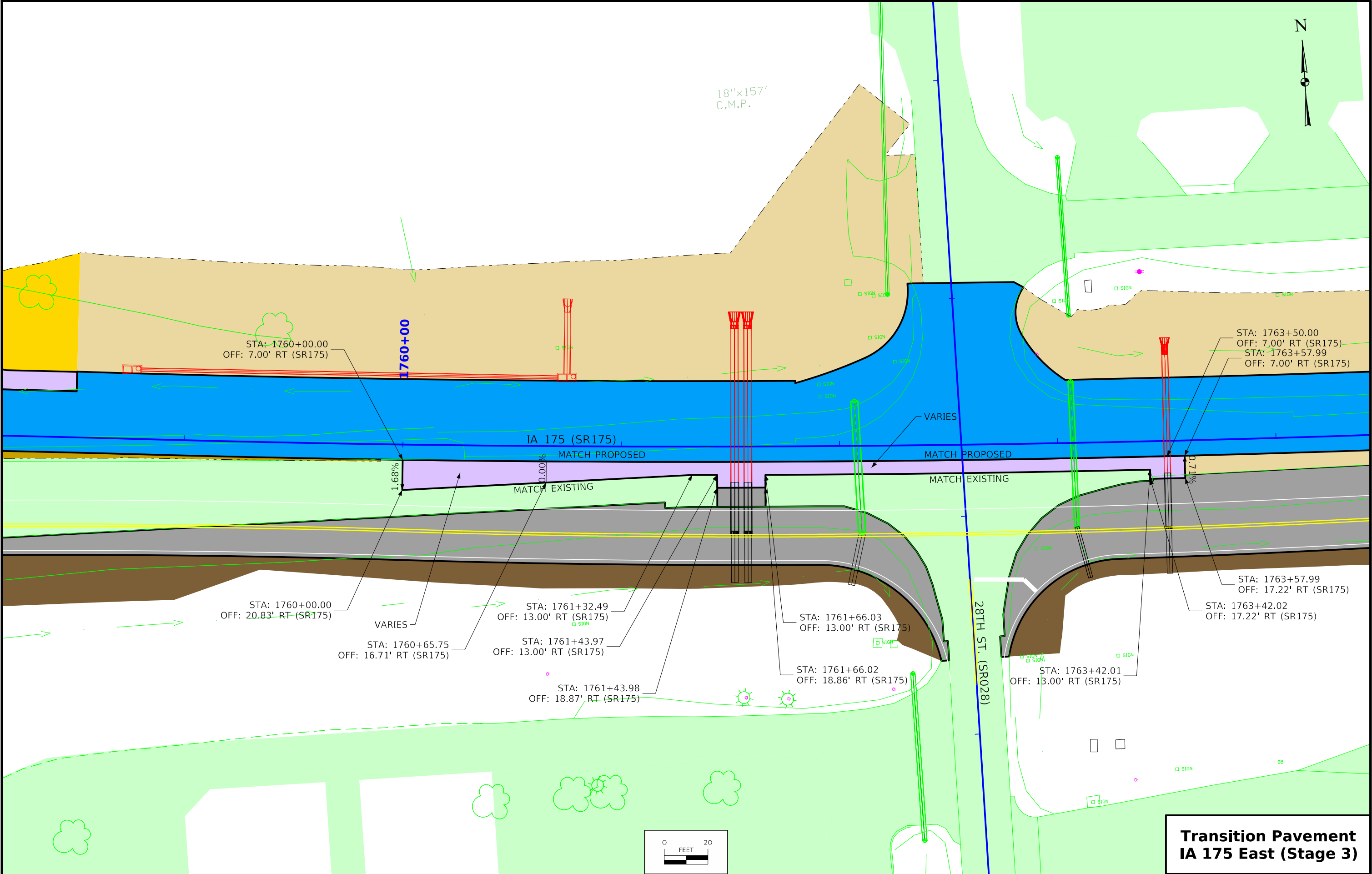


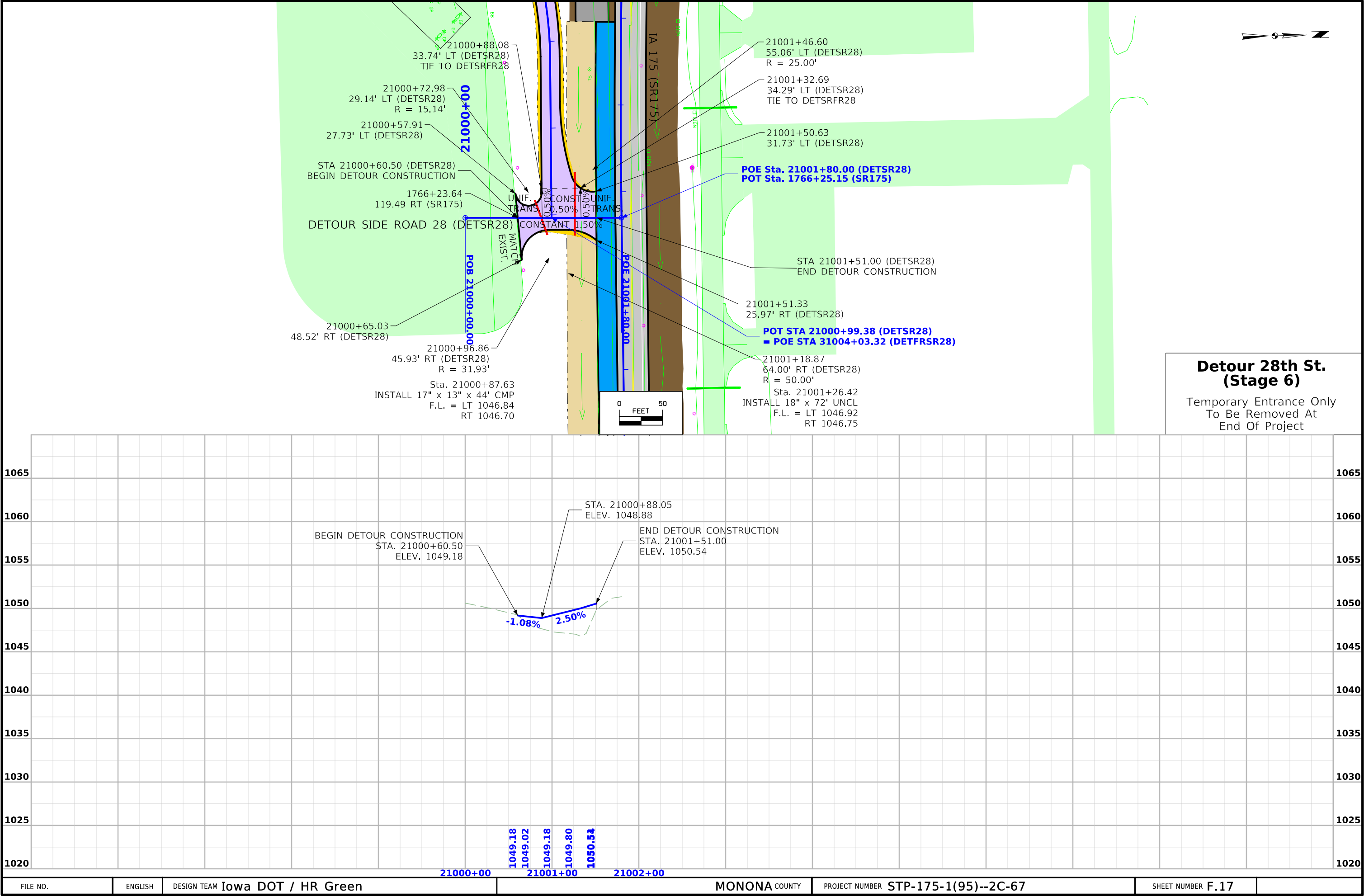


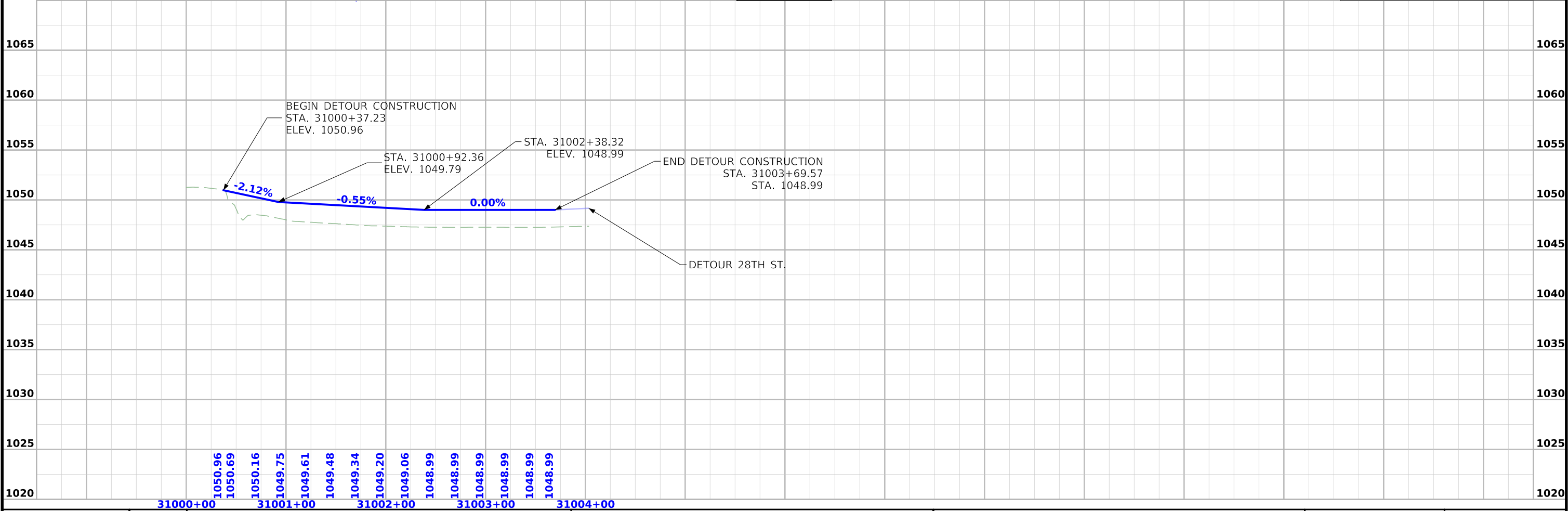
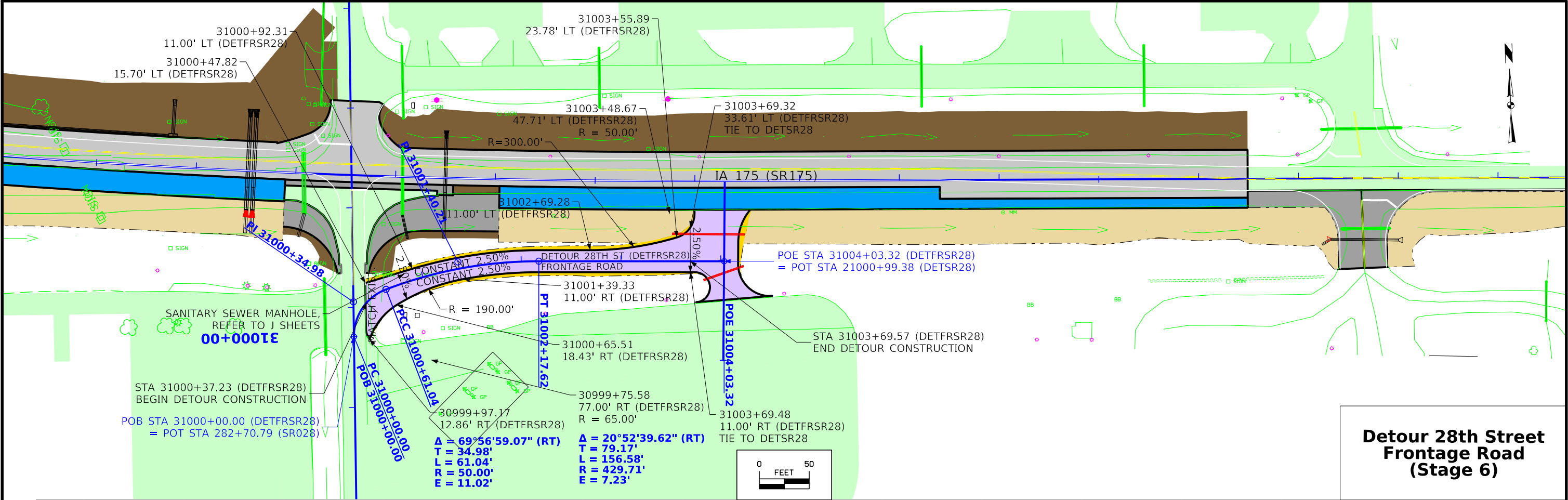


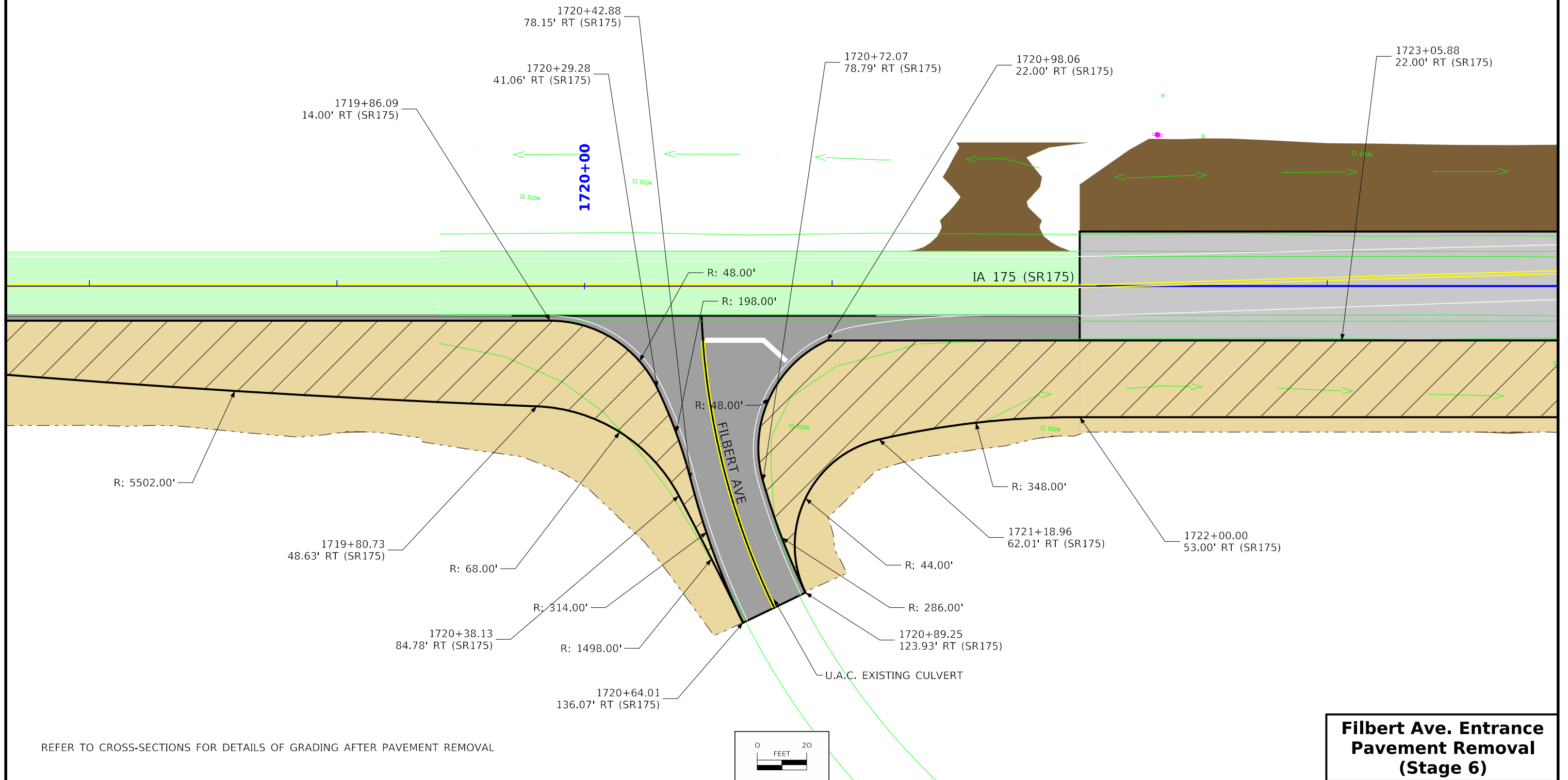


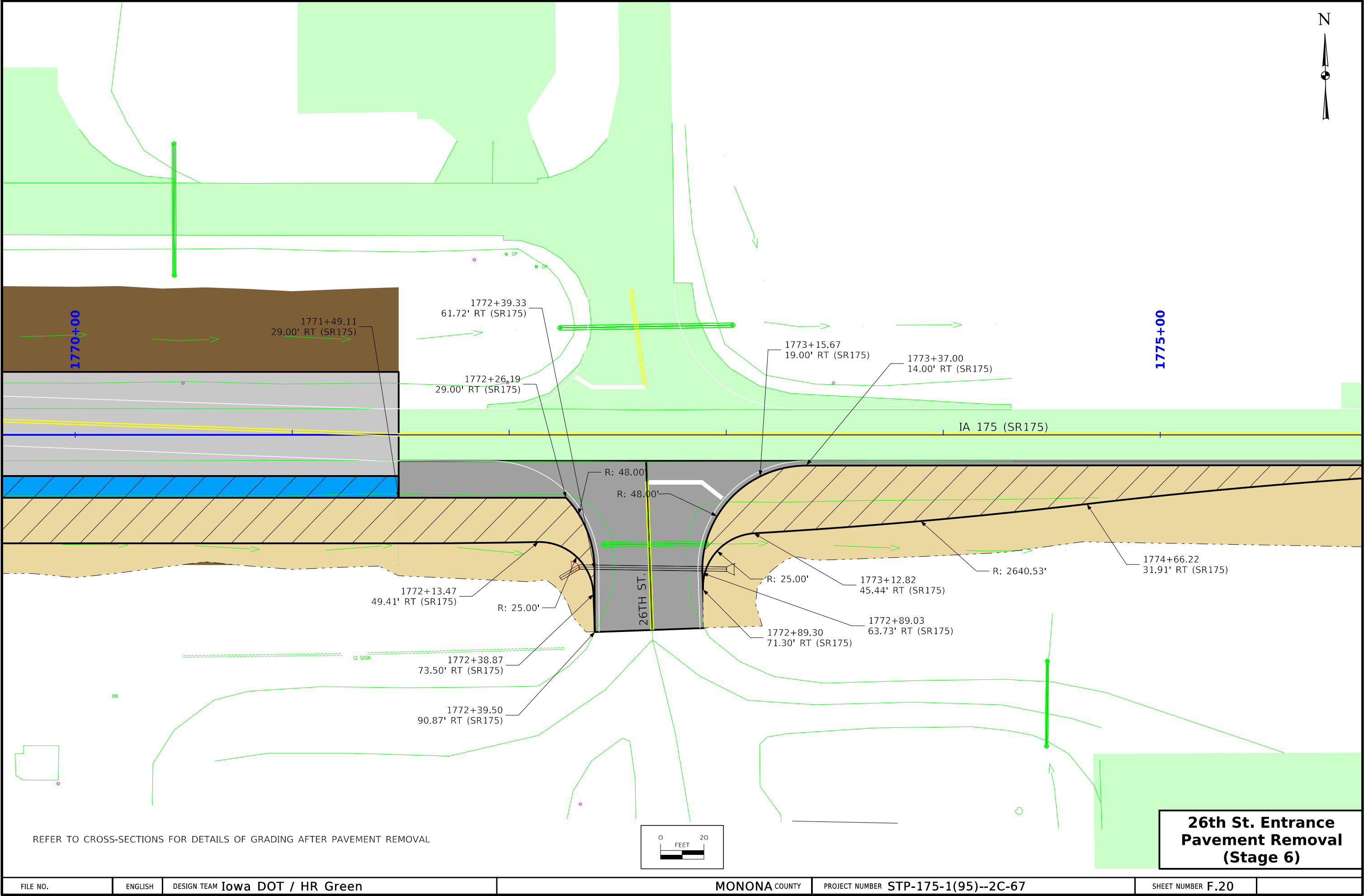
**Transition Pavement  
IA 175 West (Stage 3)**











Survey Information

**SURVEY INDEX**

**County: Monona**  
**PIN: 21-67-175-020**  
**Project Number: STP-175-1(95)—2C-67**  
**Location: I-29 and IA 175 interchange**  
**Type of Work: PCC pavement grade and replace**  
**Project Directory: 6717502021**

**Survey Personnel**

Tom Hoyle – Lead Survey Technician  
Brad Duffy – Survey Technician  
Max Phillips - Survey Technician  
Dave Ciskowski – Survey Technician

**Date(s) of Survey**

Begin Date                   10/10/2022  
End Date                    12/09/2022

**General Information**

This survey is for the I-29 and IA 175 interchange west of Onawa. This project is a partial and Full Field DTM survey with Photo control. Measurement units for this survey are US survey feet.

**Utility Information**

For logging data and other utility details see Utility Survey and Ownership Report in the Utility folder of the PrelimSurvey project directory.

**Project Control**

Coordinates were determined for primary project control points 1, 2, and 3 by conducting multiple 30-minute static observations. Post processing is constrained to nearby Iowa Real Time Network reference stations.

The RTN position of reference station Onawa (IAOA) was held fixed horizontally and vertically, Sloan (IASN) was held horizontally. NGS mark Q 181 (NM1907) was tied it's record orthometric height of 1051.06 is 0.177' higher than the elevation derived by this survey of 1050.883.

A double run level loop was run through control points 1-9 and benchmarks 500-505. The GPS derived elevations of control points 1 and 2 were held fixed. The estimated standard error of the observed height differences from the network adjustment was 0.0069 ft/mile.

**PROJECT DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 ADJUSTMENT)**  
**COORDINATE SYSTEM: IOWA REGIONAL COORDINATE SYSTEM ZONE 6**  
**(U.S. SURVEY FOOT)**  
**VERTICAL DATUM: NAVD88**  
**GEOID MODEL: 2018**

**Alignment Information**

The horizontal alignment for I-29 in this survey is a retrace of As-built Plans No. I-29\_6(7)114. Several monuments were found along the tangent of I-29 and used to create the tangent of I-29 in this project area. This tangent was intersected with the tangent of IA 175 and the Survey stationing was equated to the IA 175 and I-29 intersection plan Sta. of 746+21.65 and run back and ahead without equation throughout the survey.

Survey stationing relates to as built plan stationing as follows:

PI Sta. 746+21.65 As-built Plans Project No. I-29\_6(7)114  
Survey POT Sta. 746+21.65.

The horizontal alignment for IA 175 this survey is a retrace of As-built Plans No. F-993(1) and I-29\_6(7)114. Survey stationing was equated to the plan PI at Sta. 1727+01.00 and run back and ahead without equation throughout the survey.

Survey stationing relates to as built plan stationing as follows:

PI Sta. 1727+01.00 As-built Plans Project No. F-993(1) and I-29\_6(7)114.  
Survey PI Sta. 1727+01.00.



CONTROL POINT VICINITY MAP

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



HORIZ. DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 Adjustment) - Iowa RCS Zone 6 (U.S. Survey Foot)

VERT. DATUM: NAVD88 - Geoid Model: 2018

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



HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING  
HORIZ. DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 Adjustment)  
Ia. Regional Coordinate System Zone 6 (U.S. Survey Foot)  
VERT. DATUM: NAVD88  
Geoid Model: 2018

Point Name	Northing	Easting	Elevation	Feature Definition- Description
1	7246812.8146	16392085.3359	1047.760	CP FD 1/2" REBAR 20" DEEP 1080' SOUTH OF IA 175 IN THE MEDIAN OF I29
2	7250024.4466	16390151.0886	1050.287	CP FD 5/8" REBAR 15" DEEP 2670' NORTH OF IA 175 IN THE MEDIAN OF I29
3	7247826.5308	16389650.3128	1049.455	CP CONCRETE MONUMENT 1880'WEST OF I29 68' NORTH OF IA 175

101_16 10/25/24																			
ALIGNMENT COORDINATES																			
Name	Location	Point on Tangent Station	Point on Tangent Y Northing	Point on Tangent X Easting	Begin Spiral Station	Begin Spiral Y Northing	Begin Spiral X Easting	Begin Curve Station	Begin Curve Y Northing	Begin Curve X Easting	Simple Curve PI or Master PI Station	Simple Curve PI or Master PI Y Northing	Simple Curve PI or Master PI X Easting	End Curve Station	End Curve Y Northing	End Curve X Easting	End Spiral Station	End Spiral Y Northing	End Spiral X Easting
I-29 alignment for (97) Plans																			
1	SUR029	2915+00.00	7238637.107	16396326.16															
2	SUR029							2935+28.90	7240562.541	16395686.52	2941+65.67	7241166.835	16395485.77	2947+97.23	7241712.312	16395157.24			
3	SUR029	840+00.00	7255773.479	16386688.67															
Mainline I-29																			
1	ML029	713+24.54	7244915.236	16393228.23															
1	ML029	803+33.31	7252632.464	16388580.4															
IA 175																			
1	SR175	1707+00.26	7247545.012	16387618.55															
2	SR175							1725+98.39	7247756.61	16389504.85	1731+76.60	7247821.067	16390079.46	1737+53.27	7247812.52	16390657.61			
4	SR175							1751+35.97	7247792.079	16392040.16	1755+06.35	7247786.604	16392410.49	1758+76.31	7247751.15	16392779.16			
5	SR175							1758+76.31	7247751.15	16392779.16	1762+46.68	7247715.696	16393147.83	1766+11.80	7247710.221	16393518.16			
7	SR175	1771+49.11	7247702.278	16394055.41															
7	SR175	1781+49.11	7247687.494	16395055.3															
Left Field Entrance																			
1	ENTL1729	10+00.00	7247785.761	16389811.26															
2	ENTL1729	11+00.00	7247885.689	16389807.47															
Right Field Entrance																			
1	ENTR1729	20+00.00	7247785.625	16389809.52															
2	ENTR1729	21+25.00	7247660.711	16389814.16															
28th Street																			
1	SR028	280+00.00	7247289.906	16393155.82															
1	SR028	287+01.67	7247991.567	16393158.74															
Detour 28th Street Frontage Road																			
1	DETFRSR28							31000+00.00	7247560.698	16393156.95	31000+34.98	7247595.675	16393157.09	31000+61.04	7247607.53	16393190			
2	DETFRSR28							31000+61.04	7247607.53	16393190	31001+40.21	7247634.362	16393264.48	31002+17.62	7247632.888	16393343.63			
3	DETFRSR28	31004+03.32	7247629.433	16393529.3															
Detour Ramp A																			
1	DETRPA175							11551+48.46	7248041.947	16390891.26	11551+78.86	7248072.342	16390891.71	11552+09.18	7248102.459	16390895.84			
2	DETRPA175							11552+09.18	7248102.459	16390895.84	11556+38.65	7248527.943	16390954.17	11560+41.15	7248909.76	16390757.56			
3	DETRPA175	11563+20.71	7249158.3	16390629.58															
Detour Ramp B																			
1	DETRPB175	12531+78.72	7246541.202	16392292.15															
2	DETRPB175							12534+60.12	7246795.506	16392171.68	12537+23.84	7247033.839	16392058.78	12539+75.82	7247296.856	16392078.09			
3	DETRPB175							12539+75.82	7247296.856	16392078.09	12540+34.35	7247355.225	16392082.37	12540+92.35	7247413.005	16392073.06			
Detour Ramp D																			
1	DETRPD175							11760+00.00	7247748.657	16392871.56	11765+06.26	7247852.959	16392376.17	11770+00.00	7248135.513	16391956.1			
Detour 28th Street																			
1	DETSR28	21000+00.00	7247530.091	16393526.57															
1	DETSR28	21001+80.00	7247710.023	16393531.51															
IA 175 Ramp A																			
1	RPA175	1549+15.61	7247809.116	16390887.82															
2	RPA175							1552+57.34	7248150.809	16390892.87	1556+40.12	7248533.546	16390898.53	1560+07.50	7248873.858	16390723.3			
3	RPA175	1562+26.06	7249068.173	16390623.24															
IA 175 Ramp B																			
1	RPB175	2532+49.07	7246609.739	16392311.51															
2	RPB175							2533+05.90	7246660.265	16392285.49	2535+95.66	7246917.878	16392152.84	2538+80.60	7247203.948	16392106.75			
3	RPB175	2544+76.74	7247792.497	16392011.92															
IA 175 Ramp C																			
1	RPC175							3531+50.00	7246447.518	16392234.18	3535+95.02	7246828.738	16392004.58	3540+25.77	7247076.635	16391635			
3	RPC175							3545+69.08	7247379.282	16391183.79	3547+46.84	7247478.3	16391036.17	3549+15.30	7247640.493	16390963.44			
4	RPC175	3551+00.10	7247809.116	16390887.82															
IA 175 Ramp D																			
1	RPD175	4543+51.30	7247792.497	16392011.92															
2	RPD175							4544+58.36	7247890.181	16391968.11	4546+16.89	7248034.836	16391903.25	4547+68.77	7248130.599	16391776.9			
4	RPD175							4553+39.74	7248475.492	16391321.88	4557+24.52	7248707.919	16391015.23	4561+00.00	7249037.533	16390816.71			

101_16 10/25/24																			
ALIGNMENT COORDINATES																			
Name	Location	Point on Tangent Station	Point on Tangent Y Northing	Point on Tangent X Easting	Begin Spiral Station	Begin Spiral Y Northing	Begin Spiral X Easting	Begin Curve Station	Begin Curve Y Northing	Begin Curve X Easting	Simple Curve PI or Master PI Station	Simple Curve PI or Master PI Y Northing	Simple Curve PI or Master PI X Easting	End Curve Station	End Curve Y Northing	End Curve X Easting	End Spiral Station	End Spiral Y Northing	End Spiral X Easting
28th Street Return A																			
1	RETA028							10+00.00	7247792.719	16393190.89	10+13.27	7247782.386	16393182.56	10+23.44	7247770.693	16393188.84			
2	RETA028							10+23.44	7247770.693	16393188.84	10+58.65	7247739.202	16393204.6	10+87.13	7247737.604	16393239.78			
Ramp A Return A																			
1	RETARPA							10+00.00	7247967.428	16390906.16	10+50.04	7247917.392	16390905.42	11+00.00	7247867.531	16390909.68			
2	RETARPA							11+00.00	7247867.531	16390909.68	11+25.40	7247842.222	16390911.85	11+47.59	7247827.457	16390932.52			
Ramp D Return A																			
1	RETARPD							10+00.00	7247914.875	16391956.38	10+25.08	7247892.462	16391967.64	10+50.00	7247872.733	16391983.13			
2	RETARPD							10+50.00	7247872.733	16391983.13	10+94.46	7247837.762	16392010.59	11+35.44	7247827.987	16392053.97			
3	RETARPD							11+35.44	7247827.987	16392053.97	11+60.52	7247822.473	16392078.44	11+85.44	7247821.93	16392103.52			
28th Street Return B																			
1	RETB028							20+00.00	7247750.028	16393023.16	20+48.56	7247746.671	16393071.61	20+95.66	7247763.593	16393117.12			
2	RETB028							20+95.66	7247763.593	16393117.12	21+19.88	7247772.033	16393139.83	21+38.03	7247796.253	16393139.93			
3	RETB028	21+39.76	7247797.979	16393139.93															
Ramp A Return B																			
1	RETB RPA							20+00.00	7247830.288	16390741.02	20+37.78	7247829.73	16390778.8	20+75.00	7247840.361	16390815.06			
2	RETB RPA							20+75.00	7247840.361	16390815.06	21+36.59	7247857.692	16390874.16	21+85.41	7247918.275	16390885.28			
3	RETB RPA							21+85.41	7247918.275	16390885.28	22+10.47	7247942.922	16390889.8	22+35.41	7247967.977	16390890.17			
Ramp D Return B																			
1	RETB RPD							20+00.00	7247812.823	16391922.31	20+43.42	7247835.815	16391959.15	20+75.18	7247877.993	16391948.82			
2	RETB RPD							20+75.18	7247877.993	16391948.82	21+12.96	7247914.692	16391939.84	21+50.18	7247947.097	16391920.41			
28th Street Return C																			
1	RETC028							30+00.00	7247707.546	16393090.38	30+19.44	7247706.351	16393109.79	30+36.19	7247690.354	16393120.84			
2	RETC028							30+36.19	7247690.354	16393120.84	30+72.31	7247660.637	16393141.36	31+06.18	7247624.52	16393141.21			
Ramp B Return C																			
1	RETC RPB							30+00.00	7247774.09	16391971.64	30+35.80	7247754.786	16392001.79	30+67.32	7247719.446	16392007.48			
Ramp C Return C																			
1	RETC RPC							30+00.00	7247791.859	16390769.81	30+29.63	7247791.421	16390799.43	30+59.18	7247787.487	16390828.8			
2	RETC RPC							30+59.18	7247787.487	16390828.8	30+87.91	7247783.674	16390857.27	31+15.12	7247765.336	16390879.37			
3	RETC RPC							31+15.12	7247765.336	16390879.37	31+73.22	7247728.238	16390924.09	32+29.30	7247675.221	16390947.86			
28th Street Return D																			
1	RETD028	40+00.00	7247633.88	16393171.25															
2	RETD028							40+02.62	7247636.499	16393171.26	40+39.54	7247673.419	16393171.42	40+66.22	7247684.137	16393206.75			
3	RETD028							40+66.22	7247684.137	16393206.75	41+16.57	7247698.754	16393254.93	41+66.00	7247696.84	16393305.24			
Ramp B Return D																			
1	RETD RPB							40+00.00	7247667.178	16392032.11	40+69.32	7247735.618	16392021.08	41+14.24	7247756.271	16392087.26			
2	RETD RPB							41+14.24	7247756.271	16392087.26	41+64.71	7247771.307	16392135.43	42+14.24	7247769.752	16392185.88			
Ramp C Return D																			
1	RETD RPC							40+00.00	7247625.019	16390988.45	40+50.17	7247669.929	16390966.09	41+00.00	7247718.386	16390953.11			
2	RETD RPC							41+00.00	7247718.386	16390953.11	41+45.92	7247762.739	16390941.22	41+79.95	7247788.765	16390979.05			
I-29 Ditch Channel																			
1	GEO_CH029	500+00.00	7248017.224	16390383.91															
2	GEO_CH029	500+66.74	7247957.492	16390413.69															
3	GEO_CH029	502+38.59	7247785.866	16390405.03															
4	GEO_CH029	503+67.96	7247656.58	16390409.69															
5	GEO_CH029	505+06.60	7247540.418	16390485.38															
6	GEO_CH029	512+44.86	7247160.838	16391118.58															
7	GEO_CH029																		
9	GEO_CH029	522+38.50	7247106.059	16392019.76															
10	GEO_CH029	524+80.41	7247115.187	16392261.5															
10	GEO_CH029	526+97.69	7247069.836	16392474															
Ramp D Ditch Channel																			
1	GEO_CHRPD	400+00.00	7248184.629	16391527.72															
1	GEO_CHRPD	401+53.24	7248086.285	16391410.2															

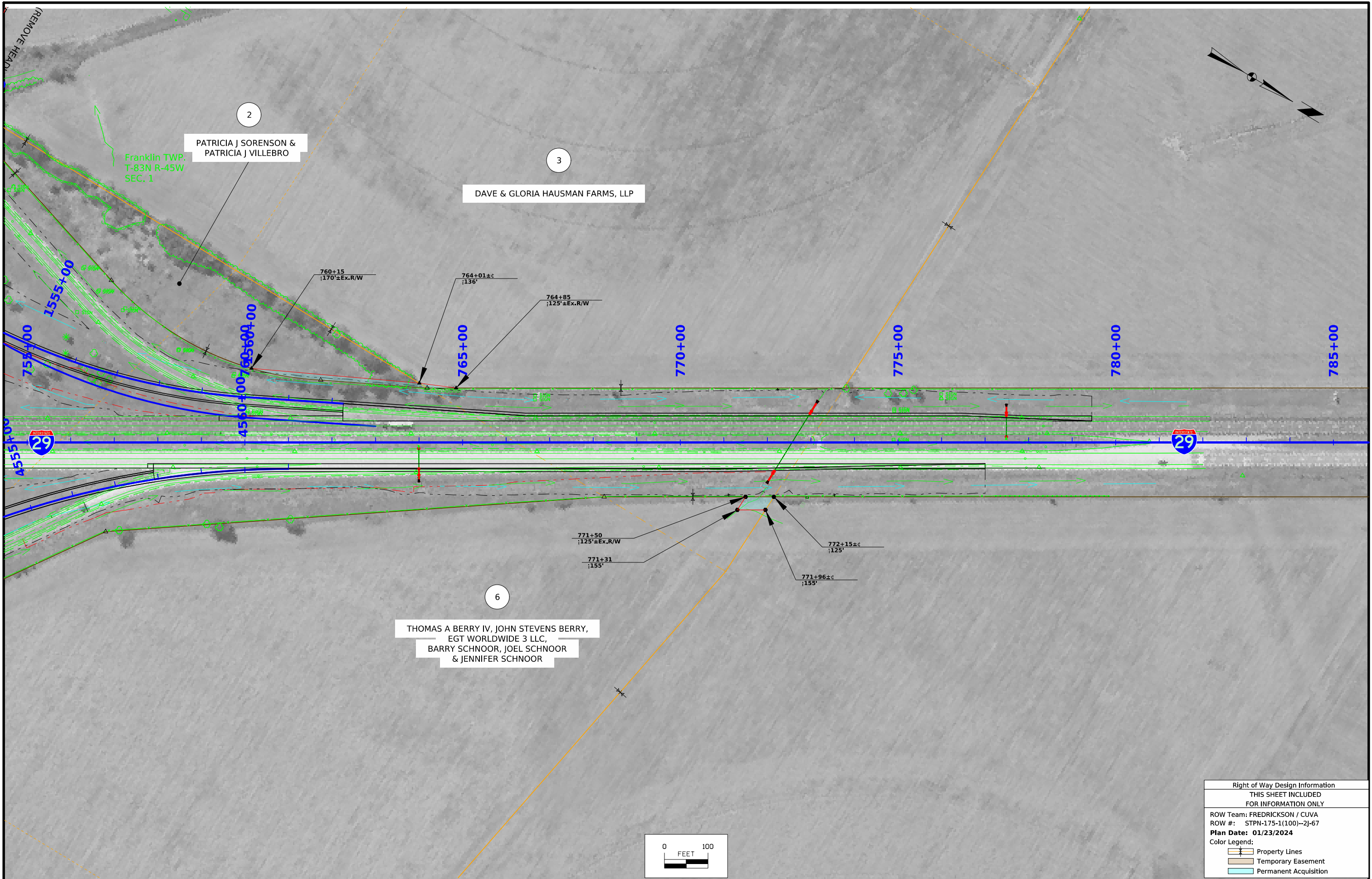
SPIRAL OR CIRCULAR CURVE DATA																101_17 1/17/24
Name	Location	SCS	S	Ls	Ts	Es	Xc	Yc	L.T.	S.T.	C	T	L	R	E	Remarks
C1	SUR029										12.682	636.767	1268.33	5730	35.273	Included for tied (97) Signing plans
C1	SR175										7.248	578.212	1154.881	9130	18.291	
C2	SR175										4.646	370.372	740.338	9130	7.509	
C3	SR175										4.646	370.372	740.338	9130	7.509	
C1	DETFRSR28										69.95	34.978	61.043	50	11.02	
C6	DETFRSR28										20.878	79.167	156.578	429.705	7.232	
C1	DETRPA175										6.958	30.398	60.722	500	0.923	
C2	DETRPA175										35.05	429.463	831.971	1360	66.197	
C1	DETRPB175										29.548	263.725	515.708	1000	34.191	
C2	DETRPB175										13.352	58.526	116.521	500	3.414	
C1	DETRPD175										22.037	506.256	1000	2600	48.829	
C1	RPA175										28.092	382.779	750.159	1530	47.156	
C1	RPB175										18.092	289.76	574.696	1820	22.922	
C1	RPC175										25.089	445.02	875.773	2000	48.913	
C2	RPC175										31.995	177.754	346.222	620	24.978	
C1	RPD175										28.686	158.533	310.416	620	19.948	
C2	RPD175										21.78	384.778	760.267	2000	36.677	
C1	RETA028										67.15	13.275	23.44	20	4.005	
C11	RETA028										60.816	35.213	63.687	60	9.57	
C1	RETARPA										5.73	50.042	100	1000	1.251	
C3	RETARPA										49.58	25.402	47.593	55	5.583	
C1	RETARPD										11.459	25.084	50	250	1.255	
C4	RETARPD										39.162	44.463	85.437	125	7.672	
C4	RETARPD										11.459	25.084	50	250	1.255	
C1	RETB028										24.359	48.562	95.657	225	5.181	
C7	RETB028										69.367	24.22	42.374	35	7.563	
C1	RETB RPA										17.189	37.784	75	250	2.839	
C8	RETB RPA										63.262	61.595	110.413	100	17.448	
C8	RETB RPA										9.549	25.058	50	300	1.045	
C1	RETB RPD										71.789	43.424	75.177	60	14.065	
C9	RETB RPD										17.189	37.784	75	250	2.839	
C1	RETC028										51.842	19.441	36.192	40	4.474	
C5	RETC028										34.871	36.117	69.99	115	5.538	
C1	RETC RPB										48.212	35.796	67.316	80	7.643	
C1	RETC RPC										6.782	29.627	59.184	500	0.877	
C13	RETC RPC										32.05	28.722	55.938	100	4.043	
C13	RETC RPC										26.168	58.103	114.18	250	6.663	

SPIRAL OR CIRCULAR CURVE DATA																101_17 1/17/24
Name	Location	SCS	S	Ls	Ts	Es	Xc	Yc	L.T.	S.T.	C	T	L	R	E	Remarks
C1	RETD028										72.885	36.921	63.604	50	12.154	
C13	RETD028										19.055	50.351	99.772	300	4.196	
C1	RETDRPB										81.82	69.322	114.242	80	25.856	
C2	RETDRPB										19.099	50.468	100	300	4.215	
C1	RETDRPC										11.459	50.167	100	500	2.51	
C14	RETDRPC										70.477	45.918	79.954	65	14.583	
C1	GEO_CH029										55.102	93.906	173.108	180	23.023	

101-18 04-19-11																			
SUPERELEVATION DATA																			
See PV-300 Series																			
Road Identification	Circular Curve or Spiral Curve Name	Radius	Superelevation Data			Standard Road Plan	Section A-A	Section B-B	Section C-C	Section D-D	Section E-E	Section F-F	Case A	Case B	Case C	Case S	Case T	Case U	Remarks
			e	L	x														
Ramp A	RPA175	1530	6.0	186	62	PV-303	1551+89.14 1560+75.70		1552+57.34 1560+07.50	1553+13.14 1559+51.70						1552+51.14 1560+13.70	1552+51.14 1560+13.70		
Ramp B	RPB175	1820	5.8	180	62	PV-303	2532+41.90 2539+44.60		2533+05.90 2538+80.60	2533+59.90 2538+26.60						2533+04.04 2538+82.46	2533+04.04 2538+82.46		Trans. begins 9.9' w/in gore
Ramp C	RPC175	2000	5.4	168	62	PV-303	3530+94.40 3540+81.37		3531+50.00 3540+25.77	3532+00.40 3539+75.37						3531+56.84 3540+18.93	3531+56.84 3540+18.93		
Ramp C	RPC175	620	5.8	140	48	PV-303	3544+23.08 3550+61.30	3544+71.08 3550+13.30	3545+69.08 3549+15.30	3546+11.08 3548+73.30						3545+67.63 3549+16.75	3545+67.63 3549+16.75		
Ramp D	RPD175	620	5.8	140	48	PV-303	* 4549+14.77	* 4548+66.77	* 4547+68.77	* 4547+26.77						* 4547+70.22	* 4547+70.22		* Nonstandard. Refer to L sheets.
Ramp D	RPD175	2000	5.4	168	62	PV-303	4552+84.14 4561+55.60		4553+39.74 4561+00.00	4553+90.14 4560+49.60						4553+46.58 4560+93.16	4553+46.58 4560+93.16		







FILE NO.	ENGLISH	DESIGN TEAM <b>IowaDOT/HR Green</b>	<b>MONONA</b> COUNTY	PROJECT NUMBER <b>STP-175-1(95)--2C-67</b>	SHEET NUMBER <b>H.2</b>
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8/5/2024

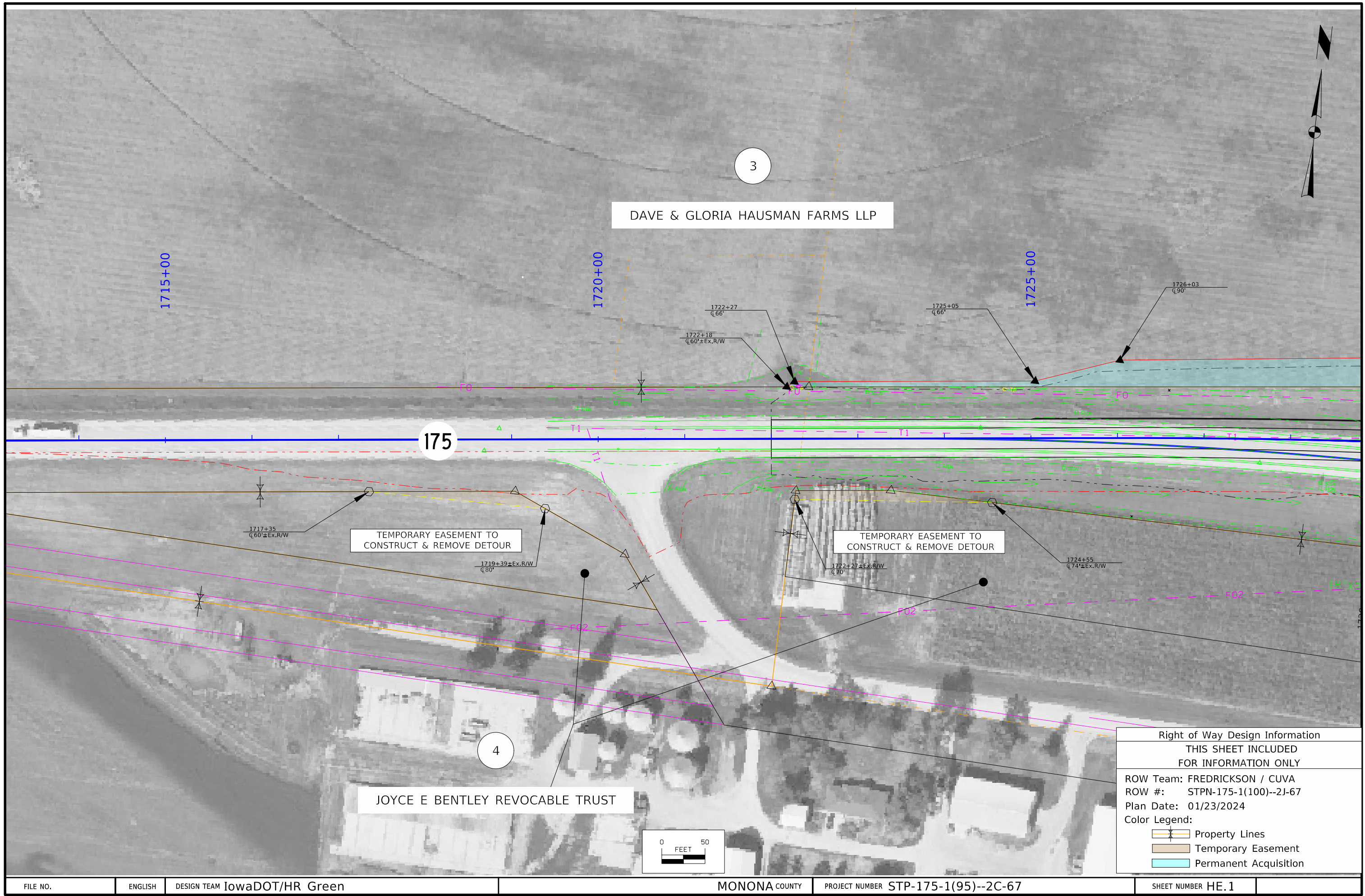
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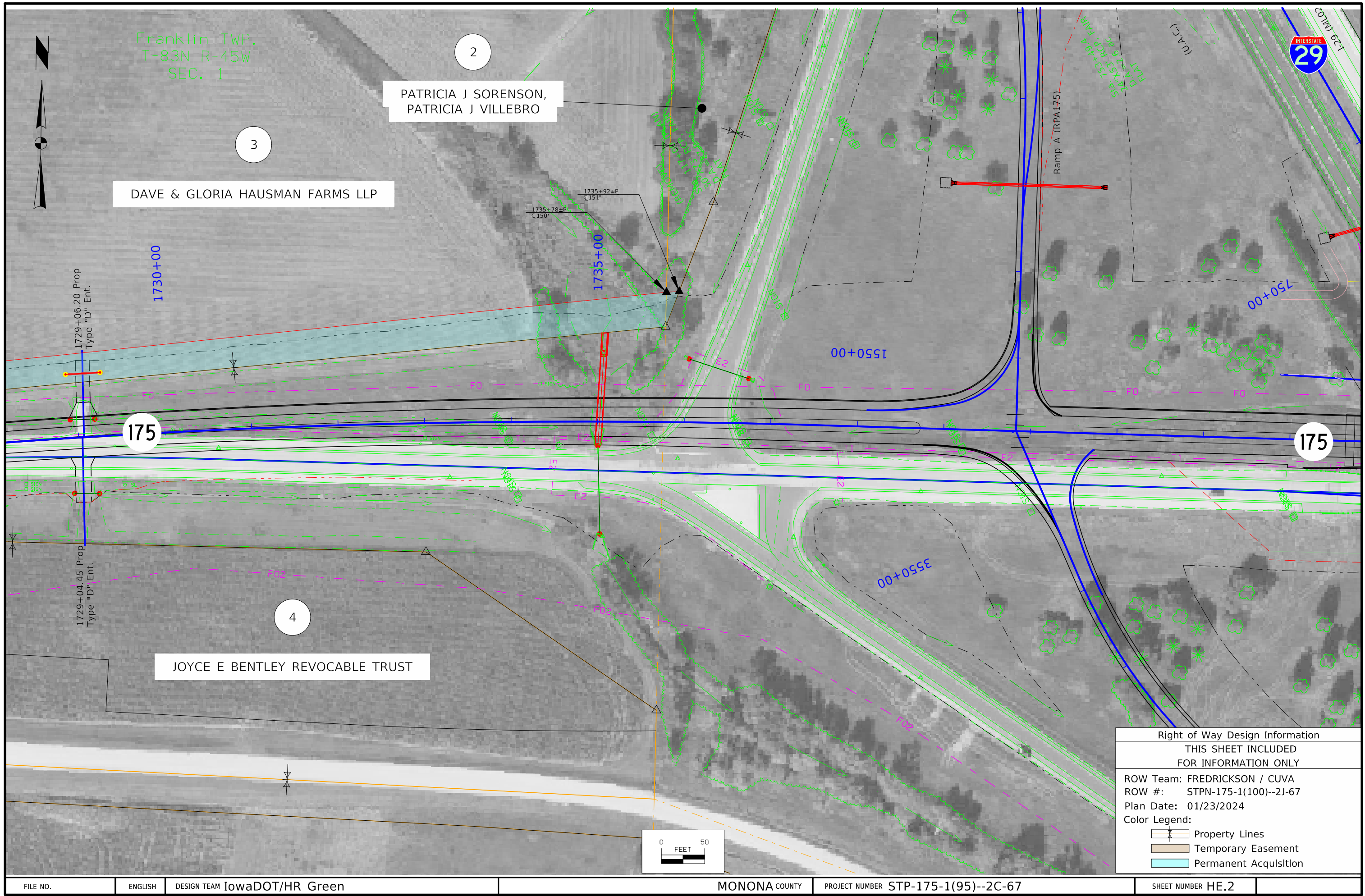
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Right of Way Design Information
THIS SHEET INCLUDED
FOR INFORMATION ONLY
ROW Team: FREDRICKSON / CUVA
ROW #: STPN-175-1(100)--2J-67
Plan Date: 01/23/2024
Color Legend:
Property Lines
Temporary Easement
Permanent Acquisition







Franklin TWP.  
T-83N R-45W  
SEC. 1

PATRICIA J SORENSON,  
PATRICIA J VILLEBRO

DAVE & GLORIA HAUSMAN FARMS LLP

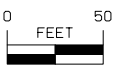
JOYCE E BENTLEY REVOCABLE TRUST

Right of Way Design Information

THIS SHEET INCLUDED  
FOR INFORMATION ONLY

ROW Team: FREDRICKSON / CUVA  
ROW #: STPN-175-1(100)--2J-67  
Plan Date: 01/23/2024  
Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition



FILE NO.

ENGLISH

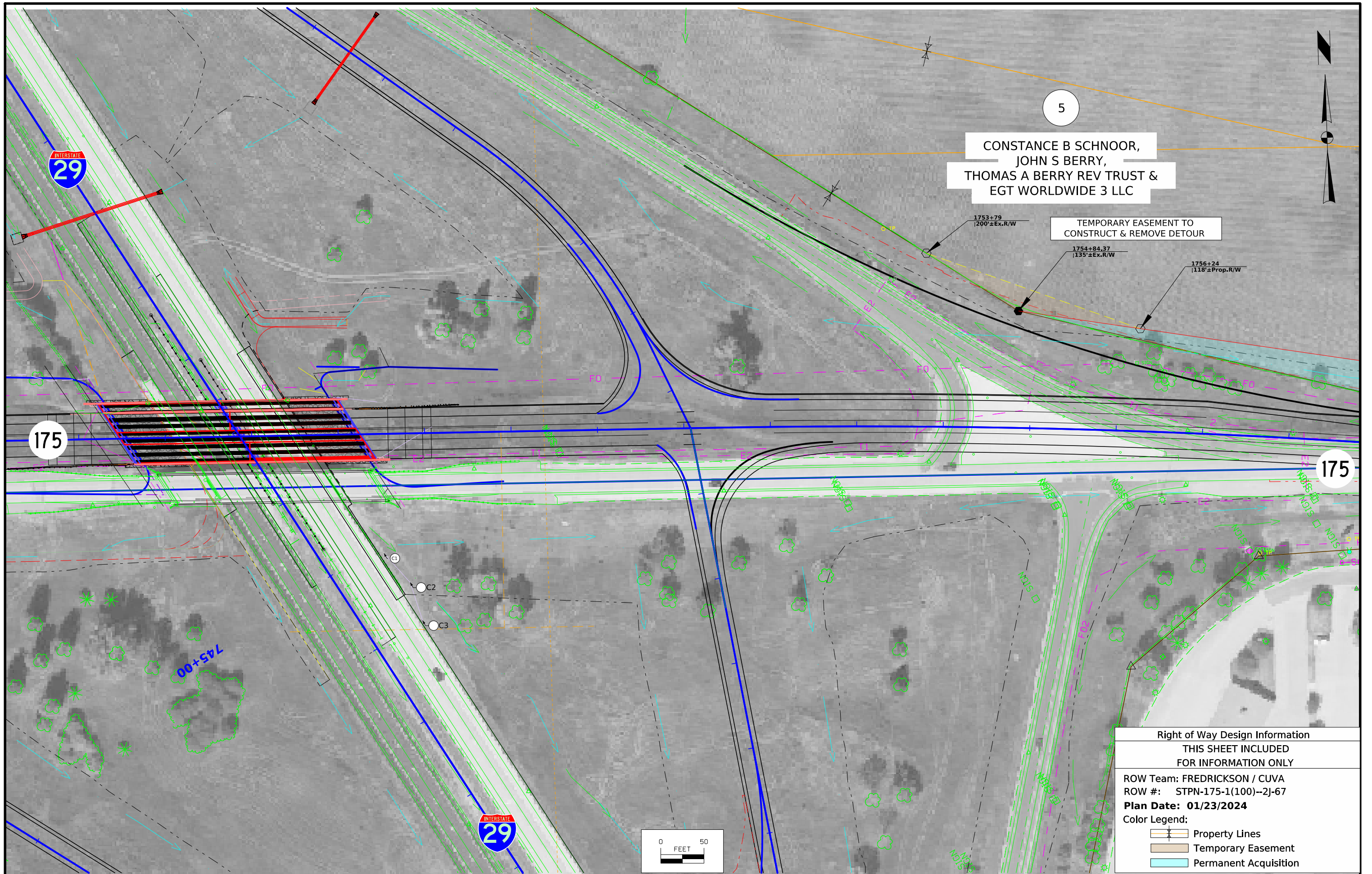
DESIGN TEAM IowaDOT/HR Green

MONONA COUNTY

PROJECT NUMBER STP-175-1(95)--2C-67




SHEET NUMBER HE.2

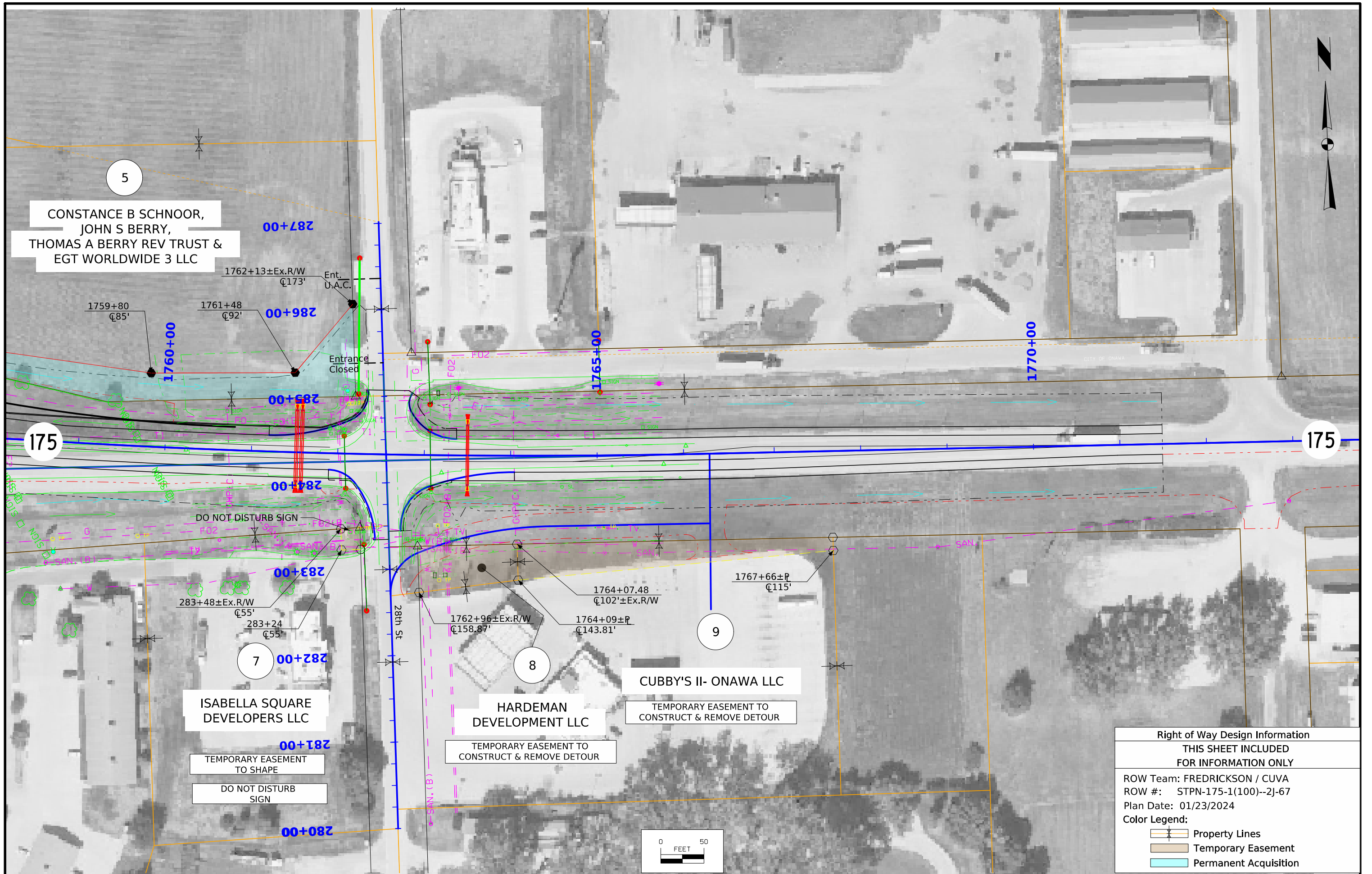




CONSTANCE B SCHNOOR,  
JOHN S BERRY,  
THOMAS A BERRY REV TRUST &  
EGT WORLDWIDE 3 LLC

TEMPORARY EASEMENT TO  
CONSTRUCT & REMOVE DETOUR

Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: FREDRICKSON / CUVA	
ROW #: STPN-175-1(100)--2J-67	
Plan Date: 01/23/2024	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



FILE NO.	ENGLISH	DESIGN TEAM IowaDOT/HR Green	MONONA COUNTY	PROJECT NUMBER STP-175-1(95)--2C-67	SHEET NUMBER HE.4
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TRAFFIC CONTROL PLAN					108_23A 8/15/22
<p>Traffic control on this project shall be in accordance with the standard road plans shown in tabulation 105-4 and the specific layouts show in the plans. For additional complementary information, refer to Part 6 of the Manual on Uniform Traffic Control Devices (MUTCD) and the current standard specifications and supplemental specifications.</p> <p>Maintain a minimum of one lane of traffic in each direction on I-29 at all times, excluding during the setting of new bridge girders and demolition of existing bridge.</p> <p>Maintain traffic on all adjacent local roadways at all times.</p> <p>I-29 mainline posted speed limit through the work zones shall be marked as 55 mph. Remove or cover all existing signs that conflict with 55 mph speed limit while the 55 mph speed limit is in effect.</p> <p>IA 175 posted speed limit through the work zones shall be marked as 40 mph. Remove or cover all existing signs that conflict with 40 mph speed limit while the 40 mph speed limit is in effect.</p> <p>For IA 175 detour widening paving operations, coordinate timing of short-term lane closures with the Engineer.</p> <p>Stockpiled TBR to be stored at least 15' away from the travel lanes at a location approved by the Engineer.</p> <p>Contractor shall provide four (4) Portable Dynamic Message Signs (PDMS), locations and messages as directed by the Engineer.</p> <p>Coordinate with the Engineer to obtain approved access routes to all four quadrants of the interchange infield.</p> <p>Overnight full closures of interstate mainline for setting new bridge girders and demolition of existing bridge are allowed. Install traffic control per IaDOT Standard Road Plan TC-454. Coordinate timing of closures with the Engineer a minimum of 14 days in advance of closures. Coordinate the use of PDMS's and other items for directing traffic during closures with the Engineer.</p>					
FILE NO.	32285	ENGLISH	DESIGN TEAM	Iowa DOT / HR Green, Inc.	
MONONA		COUNTY	PROJECT NUMBER	STP-175-1(95)--2C-67	SHEET NUMBER J.1

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BR@CENS@NELL@IOWAID

108\_25  
3/28/24

511 TRAVEL RESTRICTIONS												
Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No. or Structure ID or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
I-29	SB	Monona	IA 175 over I-29 bridge	IA 175	Bridge	36830	Vertical	14'-5"	N/A	N/A	N/A	Ex. bridge low clearance
I-29	SB	Monona	At IA 175 over I-29 bridge		Barrier	N/A	Horizontal	48'	23'			
I-29	NB	Monona	At IA 175 over I-29 bridge		Barrier	N/A	Horizontal	48'	23'			
I-29	SB	Monona	IA 175 over I-29 bridge	IA 175	Bridge	036831	Vertical	N/A	16'-9"		16'-9"	
I-29	NB	Monona	IA 175 over I-29 bridge	IA 175	Bridge	036831	Vertical	N/A	17'-4"		17'-4"	



<div>108_26A 8/15/22</div> <div>STAGING NOTES</div> <div>GENERAL NOTES: It is not the intent of the sequence of construction to confine the Contractor's activity to the areas of suggested stages alone. Various operations can occur concurrently provided that traffic is maintained and concurrent operations do not conflict with with staging and maintenance of traffic operations and requirements indicated herein.  STAGE 0 Traffic:<ul style="list-style-type: none"><li>- Maintain existing traffic along all roadways</li><li>- Along IA 175 at Sta. 1721+65.00, refer to IaDOT Standard Road Plan TC-202 for traffic control</li><li>- Along IA 175 detour widening at 28th St., refer to IaDOT Standard Road Plan TC-202 for traffic control during grading operations and IaDOT Standard Road Plan TC-213 during paving operations</li></ul>Construction:<ul style="list-style-type: none"><li>- Install proposed culvert beneath I-29 at Sta. 750+00.00 with pits and trenchless installation</li><li>- Construct temporary entrance along IA 175 at Sta. 1721+65.00 LT</li><li>- Construct detour widening pavement along the north side of IA 175 at 28th St.</li><li>- Clear and Grub areas identified in the U sheets</li></ul>STAGE 1 Traffic:<ul style="list-style-type: none"><li>- Maintain existing traffic along interchange Ramp A, Ramp B, Ramp C and Ramp D</li><li>- Close inside lane of I-29 in both directions at proposed IA 175 over I-29 bridge median pier. Refer to IaDOT Standard Road Plan TC-421</li><li>- Refer to IaDOT Standard Road Plans TC-202 and TC-402 for traffic control for IFI and Wick Drain Installation occurring within 15 feet of traveled way</li><li>- Shift IA 175 traffic onto temporary widening pavement across the 28th St. intersection</li></ul>Construction:<ul style="list-style-type: none"><li>- Construct proposed IA 175 over I-29 bridge median pier</li><li>- Install Wick Drain zones and IFI zones</li><li>- Construct Concrete Box Culvert Extension at IA 175 Sta. 1735+02.05</li><li>- Construct Concrete Box Culvert at Ramp B Sta. 2537+85.00</li><li>- Construct Concrete Box Culvert at Ramp C Sta. 3539+25.00</li><li>- Grade and pave permanent inside shoulder along both directions of I-29 at IA 175</li><li>- Grade portions of IA 175, Ramp A, Ramp B, Ramp C, and Ramp D</li><li>- Grade portions of Detour Ramp A and Detour Ramp B</li><li>- Grade I-29 Ditch Channel outside of existing culverts and roadway crossings</li><li>- Grade temporary widening pavement along IA 175 at east and west ends</li><li>- Grade temporary widening pavement along Ramps C and D</li></ul>STAGE 2 Traffic:<ul style="list-style-type: none"><li>- Maintain traffic along IA 175 and interchange Ramp A, Ramp B, Ramp C and Ramp D</li><li>- Close outside lane of I-29 in both directions through interchange. Refer to IaDOT Standard Road Plan TC-418 and TC-421</li><li>- Along IA 175 detour widening, refer to IaDOT Standard Road Plan TC-213 during paving operations</li><li>- Maintain access to Filbert Ave. west of I-29, 28th St. and 26th St.</li></ul>Construction:<ul style="list-style-type: none"><li>- Begin construction of abutments and superstructure of proposed IA 175 over I-29 bridge</li><li>- Grade remaining portions of Detour Ramp A and Detour Ramp B</li><li>- Grade and pave portions of acceleration lanes along I-29</li><li>- Pave previously-graded portions of IA 175 (no approach pavement at proposed IA 175 over I-29 bridge), Ramp A, and Ramp B, refer to Paving Delay Holding Times in CS Sheets</li><li>- Pave previously-graded Detour Ramp A and Detour Ramp B</li><li>- Pave previously-graded temporary widening along IA 175 at east and west ends</li><li>- Pave previously-graded temporary widening along Ramp C and Ramp D</li></ul>STAGE 3 Traffic:<ul style="list-style-type: none"><li>- Maintain traffic in the same configuration as in the previous stage along I-29 and Ramps A and B</li><li>- Shift IA 175 traffic onto temporary widening pavement along IA 175 at east and west ends</li><li>- Shift Ramp C and Ramp D traffic onto temporary widening pavement along Ramps C and D and acceleration lanes</li><li>- Close north leg of IA 175 and 28th St. intersection</li></ul>Construction:<ul style="list-style-type: none"><li>- Construction of abutments and superstructure of proposed IA 175 over I-29 bridge allowed to continue</li><li>- Grade and pave remaining portion of acceleration lanes along I-29</li></ul></div>					<div>108_26A 8/15/22</div> <div>STAGING NOTES</div> <div><ul style="list-style-type: none"><li>- Grade and pave remaining portion of Ramp C and Ramp D</li><li>- Grade and pave portions of IA 175</li><li>- Grade and pave Detour Ramp D</li><li>- Pave previously-graded portions of IA 175</li><li>- Pave previously-graded portion of Ramp C and Ramp D, refer to Paving Delay Holding Times in CS Sheets</li></ul>OVERWINTER Traffic:<ul style="list-style-type: none"><li>- Maintain traffic in the same configuration as Stage 3 along IA 175, Ramp A, Ramp B, Ramp C and Ramp D</li><li>- Open both lanes of travel for both directions along I-29</li></ul>Construction:<ul style="list-style-type: none"><li>- Complete construction of abutments and superstructure of proposed IA 175 over I-29 bridge</li></ul>STAGE 4 Traffic:<ul style="list-style-type: none"><li>- Maintain traffic in the same configuration as in the previous stage along I-29, IA 175, and Ramps B and C</li><li>- Keep both lanes of travel open for both directions along I-29</li><li>- Detour I-29 Southbound exit ramp (Ramp A) traffic via the E60 (Blencoe) interchange (see Detour Sheets)</li><li>- Detour IA 175 Eastbound to I-29 Northbound (Ramp D) traffic via the E60 (Blencoe) interchange (see Detour Sheets)</li><li>- Shift Ramp D traffic onto Detour Ramp D</li><li>- Maintain closure of north leg of IA 175 and 28th St. intersection</li></ul>Construction:<ul style="list-style-type: none"><li>- Grade and pave portions of IA 175, refer to Paving Delay Holding Times in CS Sheets</li></ul>STAGE 5 Traffic:<ul style="list-style-type: none"><li>- Maintain traffic in the same configuration as in the previous stage along I-29 and Ramp C</li><li>- Detour I-29 Northbound exit ramp (Ramp B) traffic via the E24 (Whiting) interchange (see Detour Sheets)</li><li>- Detour IA 175 Westbound to I-29 Southbound (Ramp C) traffic via the E24 (Whiting) interchange (see Detour Sheets)</li><li>- Shift Ramp A traffic onto Detour Ramp A</li><li>- Shift Ramp D traffic onto permanent Ramp D</li><li>- Shift IA 175 traffic onto permanent IA 175</li><li>- Shift Ramp C traffic onto temporary widening pavement along IA 175 west end</li><li>- Open north leg of IA 175 and 28th St. intersection to traffic</li></ul>Construction:<ul style="list-style-type: none"><li>- Begin removal of existing IA 175 over I-29 bridge</li><li>- Grade and pave portion of Ramp B</li><li>- Grade and pave remaining portion of Ramp C</li><li>- Grade and pave portions of IA 175 and approach pavement at proposed IA 175 over I-29 bridge, refer to Paving Delay Holding Times in CS Sheets</li></ul>STAGE 6 Traffic:<ul style="list-style-type: none"><li>- Complete removal of existing IA 175 over I-29 bridge</li><li>- Maintain traffic in the same configuration as in the previous stage along IA 175, and Ramps A and D</li><li>- Close the outside lane of I-29 in both directions through the interchange. Refer to IaDOT Standard Road Plan TC-418 and TC-421</li><li>- Shift Ramp B traffic onto Detour Ramp B</li><li>- Shift Ramp C traffic onto permanent Ramp C</li></ul>Construction:<ul style="list-style-type: none"><li>- Remove the temporary entrance at Sta. 1721+65 LT along IA 175</li><li>- Grade and pave permanent outside shoulder along both directions of I-29 at IA 175 bridge berms</li><li>- Grade and pave deceleration lanes along I-29</li><li>- Grade and pave remaining portions of Ramps A and B</li><li>- Grade and pave portions of IA 175, refer to Paving Delay Holding Times in CS Sheets</li><li>- Grade remaining portions of I-29 Ditch Channel</li><li>- Grade and pave Detour 28th St. Frontage Road</li><li>- Grade and pave Detour 28th St. south access</li><li>- Leave portions of temporary widening pavement at IA 175, Filbert Ave. and 26th St. Intersections</li></ul>STAGE 7 Traffic:<ul style="list-style-type: none"><li>- Maintain traffic in the same configuration as in the previous stage along IA 175 and Ramps C and D</li><li>- Open both lanes of I-29 Northbound to traffic</li></ul></div>					
FILE NO.	32285	ENGLISH	DESIGN TEAM	Iowa DOT / HR Green, Inc.	MONONA COUNTY	PROJECT NUMBER	STP-175-1(95)--2C-67	SHEET NUMBER	J.3	

## STAGING NOTES

108\_26A  
8/15/22

- Open both lanes of I-29 Southbound to traffic just north of the IA 175 over I-29 bridge
- Shift Ramp A traffic onto permanent Ramp A
- Shift Ramp B traffic onto permanent Ramp B
- Close south leg of IA 175 and 28th St. intersection
- Detour south leg of IA 175 and 28th St. intersection traffic to Detour 28th St. Frontage Road and Detour 28th St. south access

Construction:

- Grade and pave permanent outside shoulder along I-29 Southbound at Ramp A gore
- Grade and pave remaining portions of IA 175

## STAGE 8

## Traffic:

- Traffic in final configuration on all roadways
- Open both lanes of I-29 Southbound to traffic through entire work zone

Construction:










- Remove Detour 28th St. Frontage Road and Detour 28th St. south access





















<div>111_01 10/14/22</div> <div>COORDINATED OPERATIONS</div> <div>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.</div>	
Project	Type of Work
STP-175-1(96)--2C-67	Bridge Replacement
STP-175-1(97)--2C-67	Traffic Signs
STP-175-1(98)--2C-67	Lighting


















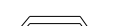




<div>INCIDENT MANAGEMENT</div> <div>An incident management plan, provided by the District Office, will be discussed at the pre-construction conference.</div>		254.01 9/28/22						
FILE NO. 32285		ENGLISH	DESIGN TEAM Iowa DOT / HR Green, Inc.	MONONA COUNTY		PROJECT NUMBER STP-175-1(95)--2C-67	SHEET NUMBER J.6	

CROSS SECTION VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS		
SHADING	Design Color No.	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(80)	Previously Constructed Detour Pavement
Blue, Light	(230)	Proposed Pavement Shading
Lavender	(9)	Detour Pavement Shading
Brown, Med	(237)	Future Proposed Pavement Shading

CROSS SECTION VIEW PATTERN AND SYMBOL LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS			
	Pavement Removal		Proposed Granular Shoulder
	Proposed Granular Subbase		Temporary Shoulder
	Proposed Special Backfill		Existing Shoulder Strengthening
	Temporary Barrier Rail, Unpinned		Temporary Barrier Rail, Pinned
			Channelizing Device

PLAN VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS			
LINEWORK	Design Color No.		
Green	(2)		Existing Topographic Features and Labels
Magenta	(5)		Pavement Marking Call Outs
Blue	(1)		Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Yellow	(4)		Pavement Markings, Yellow
Off White	(254)		Pavement Markings, White
Violet	(15)		Temporary barrier rail, Unpinned
Flush Orange	(228)		Temporary barrier rail, Pinned

SHADING	Design Color No.		
Green, Light	(225)		Existing Pavement Shading
Gray, Light	(48)		Previously Constructed Pavement Shading
Brown	(238)		Previously Constructed Grading Limits Shading
Blue, Light	(230)		Proposed Pavement Shading
Lavender	(9)		Detour Pavement Shading
Brown, Light	(236)		Proposed Grading Limits Shading
Yellow	(12)		Detour Grading Limits Shading
Gold	(231)		Temporary Grading Limits Shading
Gray, Med	(80)		Previously Constructed Detour Pavement Shading
Red	(3)		Proposed Structures
White	(0)		Pavement Removal Hatching

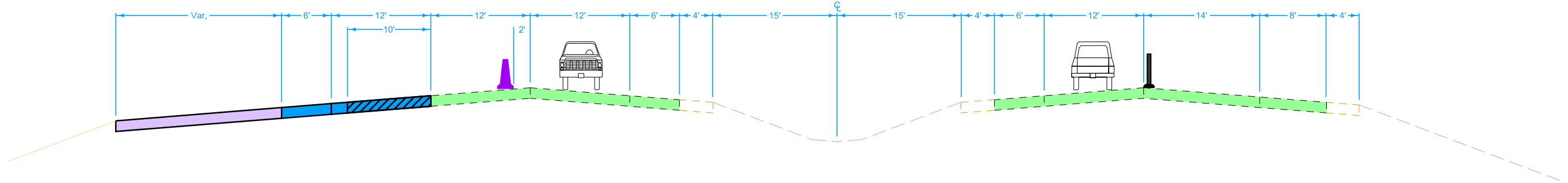
PLAN VIEW PATTERN AND SYMBOL LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS			
	Channelizing Device		Crash Cushion (Temp or Perm)
	Drum		Traffic Signal
	Temporary Lane Separator		Flagger
	Tubular Marker		Temporary Floodlighting
	Channelizer Marker		Traffic Sign
	Concrete Barrier Marker		Type III Barricade
	Delineator		Type A Warning Light
	Temporary Barrier Rail		Direction of Traffic
	Pavement Removal		Safety Closure
	Sand Barrel Layout		Lane Identification
	Arrow Board		Portable Dynamic Message Sign

**NOTE: Refer to Standard Road Plans and the Manual on Uniform Traffic Control Devices (MUTCD) for more information related to traffic control device placement and spacing.**

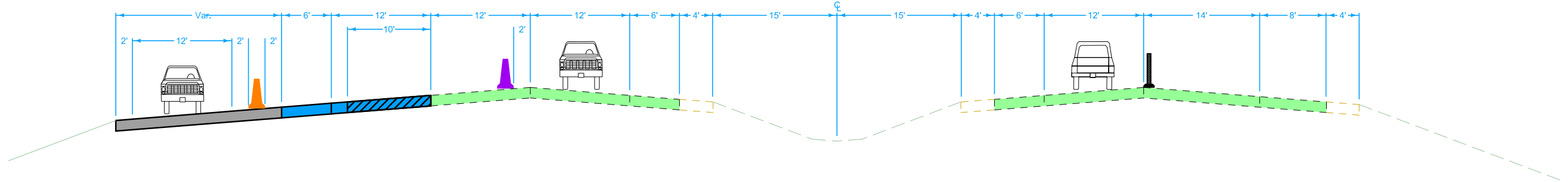
TRAFFIC CONTROL  
AND  
STAGING  
LEGEND AND SYMBOL  
INFORMATION SHEET

(COVERS SHEET SERIES J)

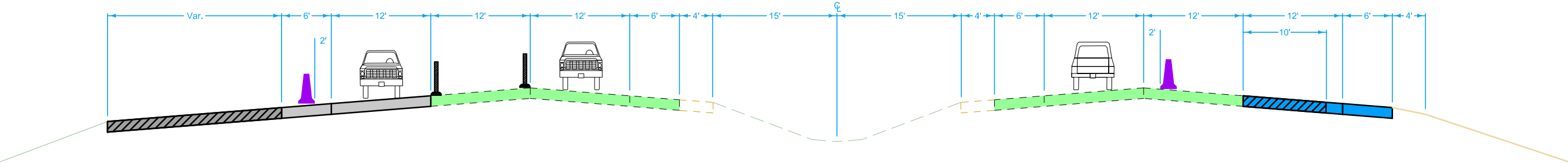
## Stage 2



## Stage 3

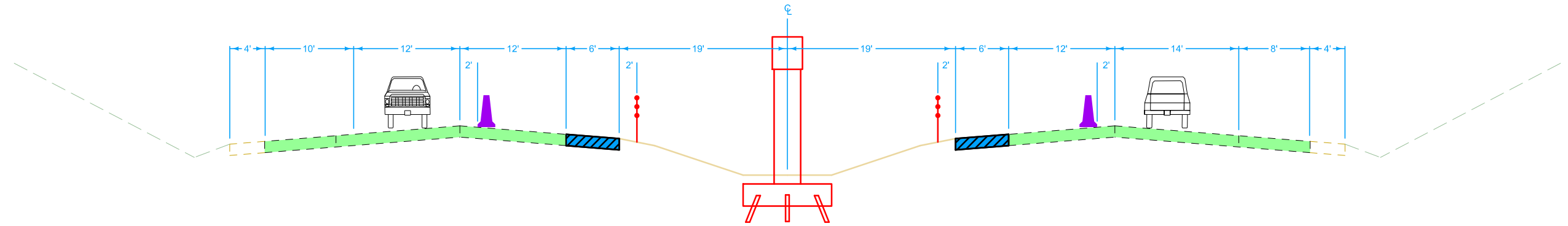


## Stage 6

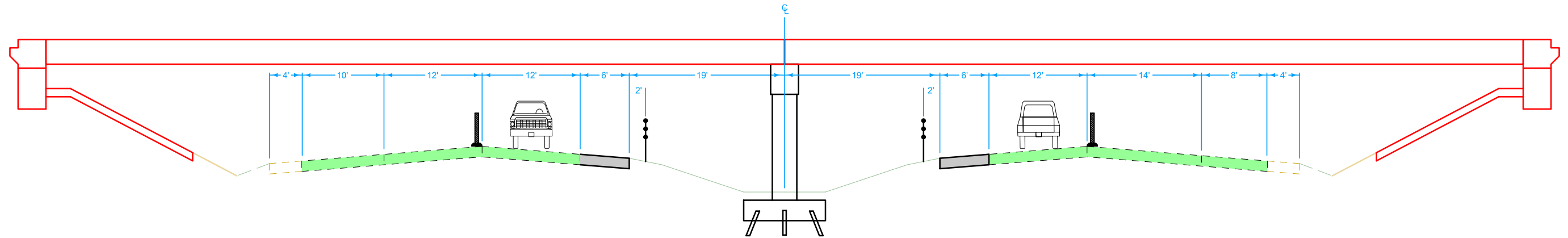


I-29  
South of IA 175  
(looking north)

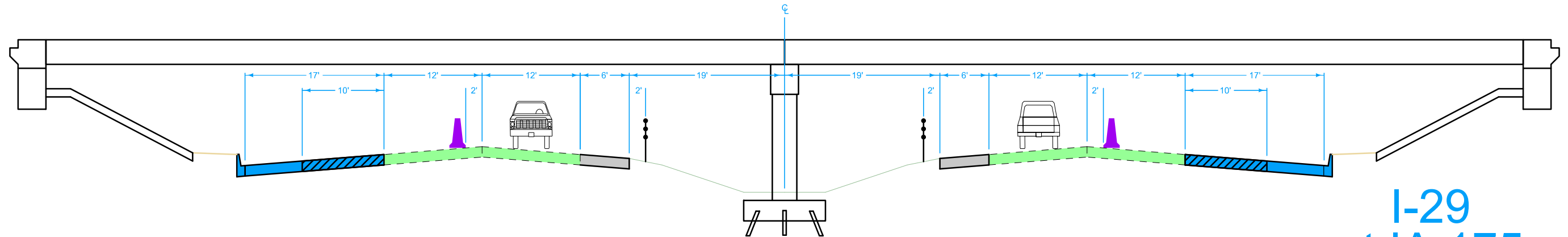
# Stage 1



# Stage 2

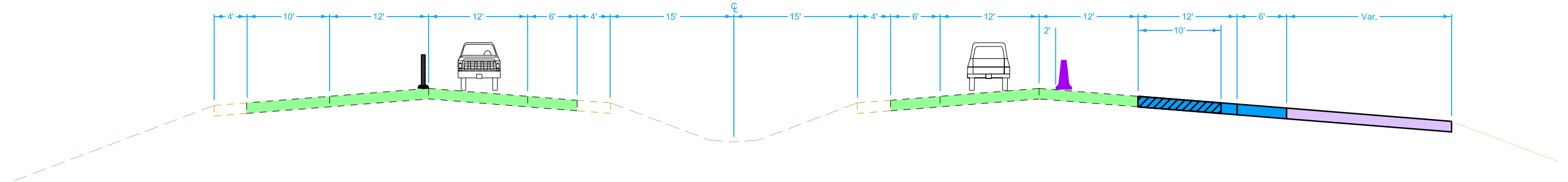


# Stage 6

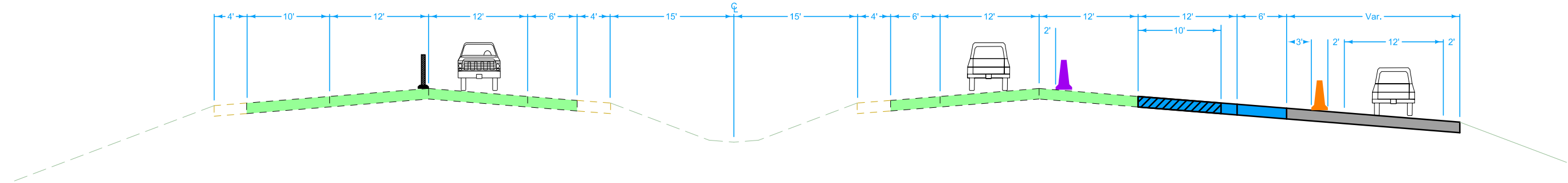


I-29  
at IA 175  
(looking north)

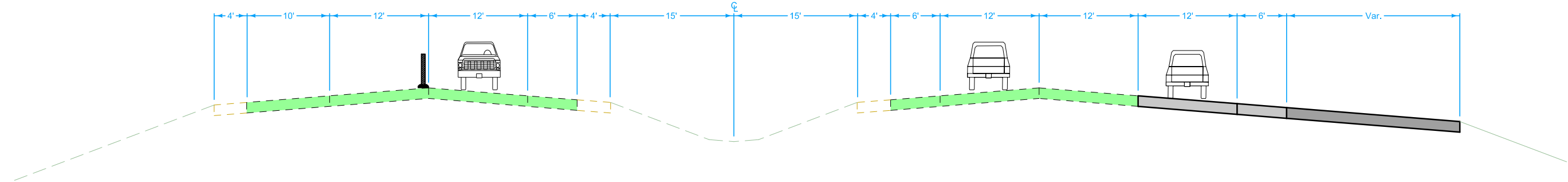
## Stage 2



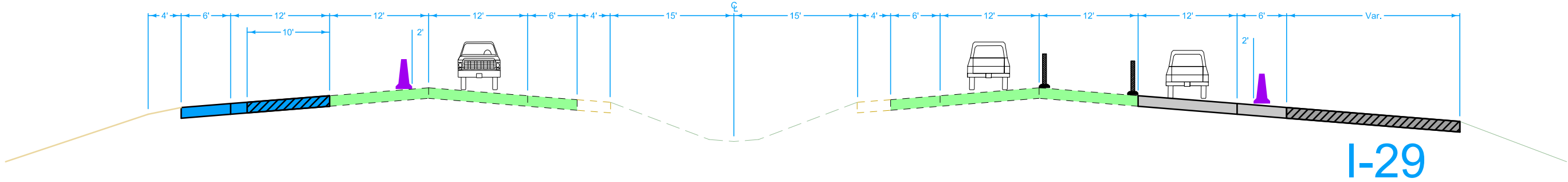
## Stage 3



## Stage 5



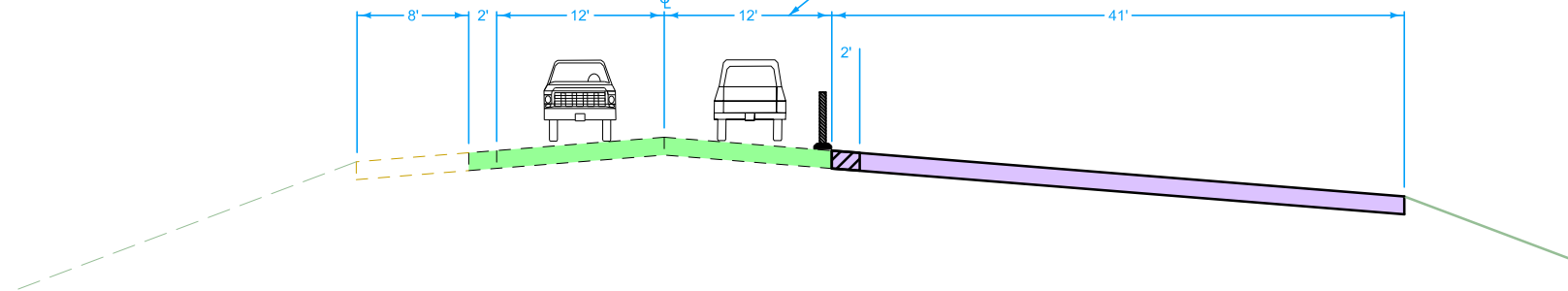
## Stage 6



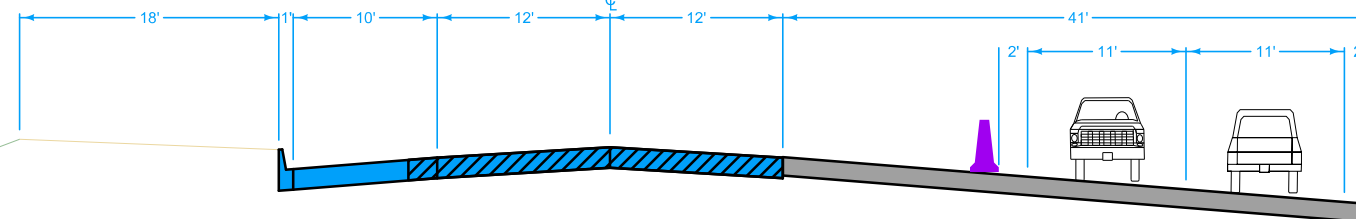
I-29  
North of IA 175  
(looking north)

## Stage 2

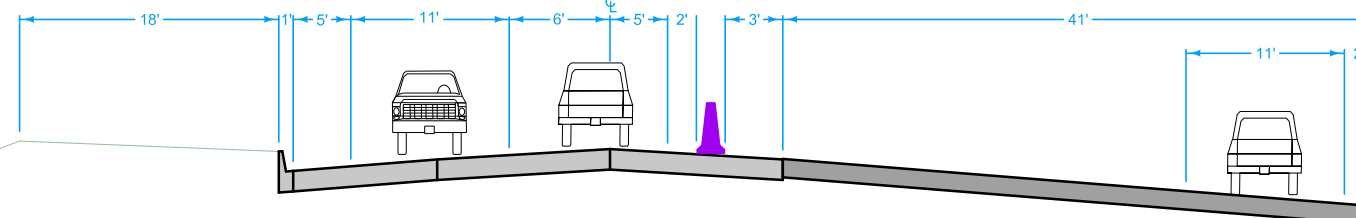
- Refer to IaDOT Standard Road Plan TC-213 for traffic control for short-term lane closures during paving operations



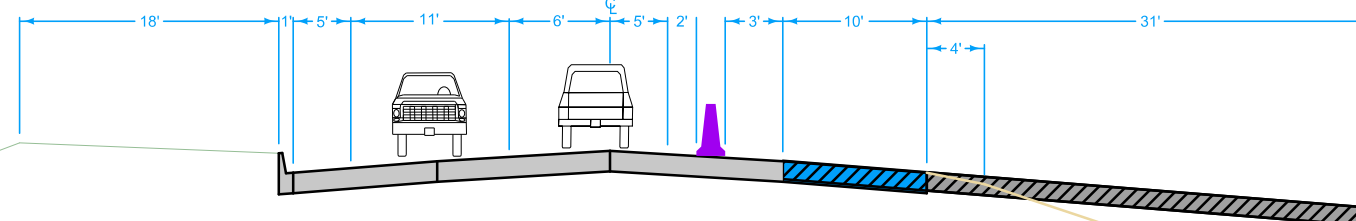
## Stage 3



## Stage 5

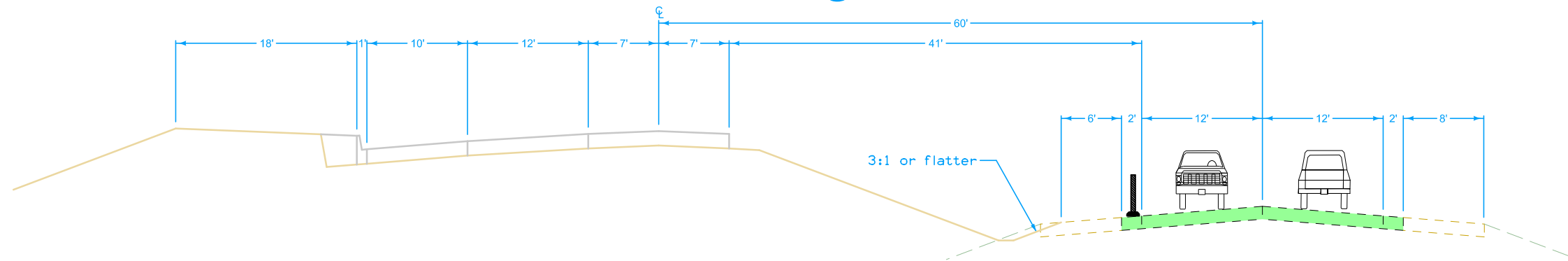


## Stage 6

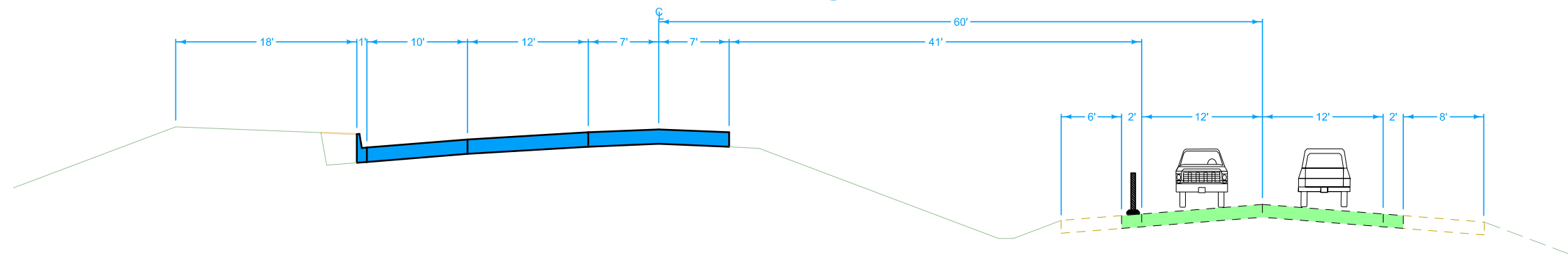


IA 175  
West of I-29  
Ramp Terminals  
(looking east)

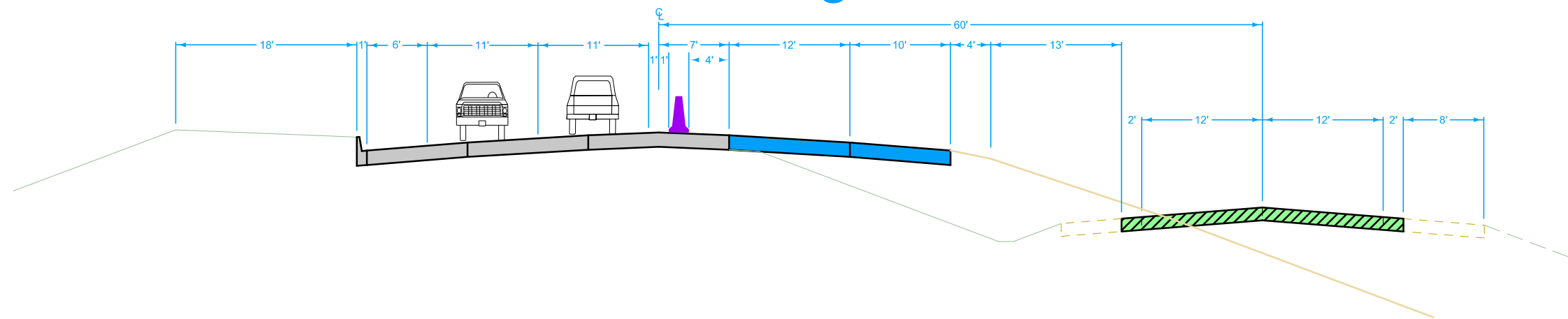
# Stage 1



# Stage 2



# Stage 5

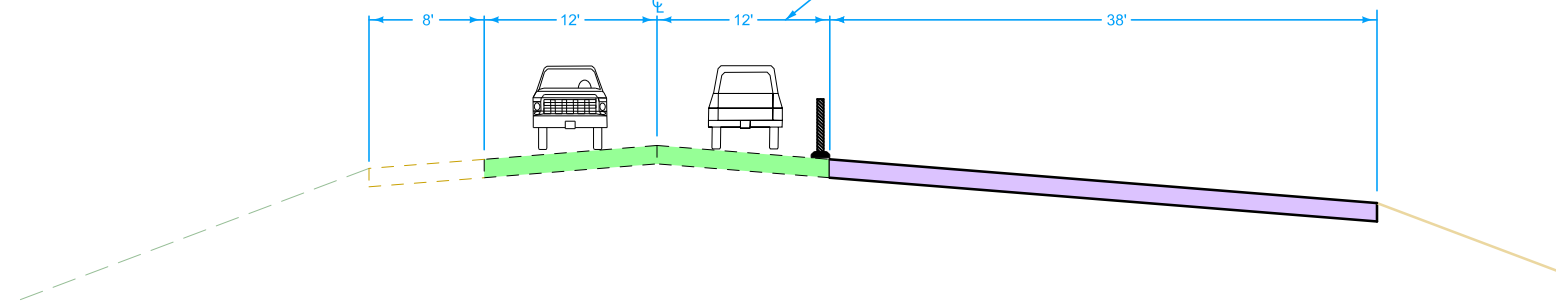


IA 175  
Between I-29  
Ramp Terminals  
(looking east)

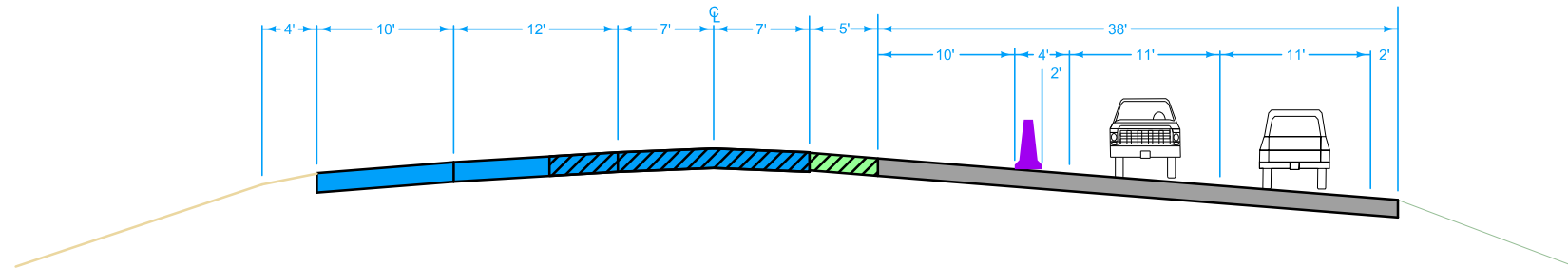


## Stage 2

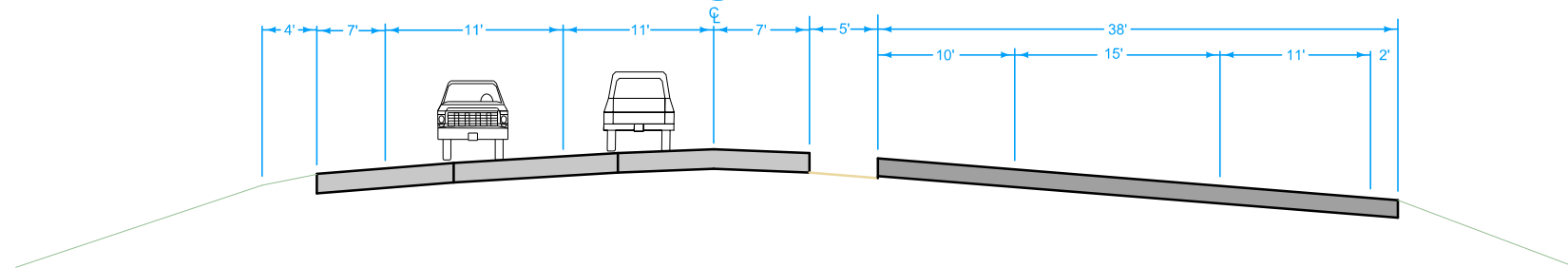
Refer to IaDOT Standard Road Plan TC-213 for traffic control for short-term lane closures during paving operations



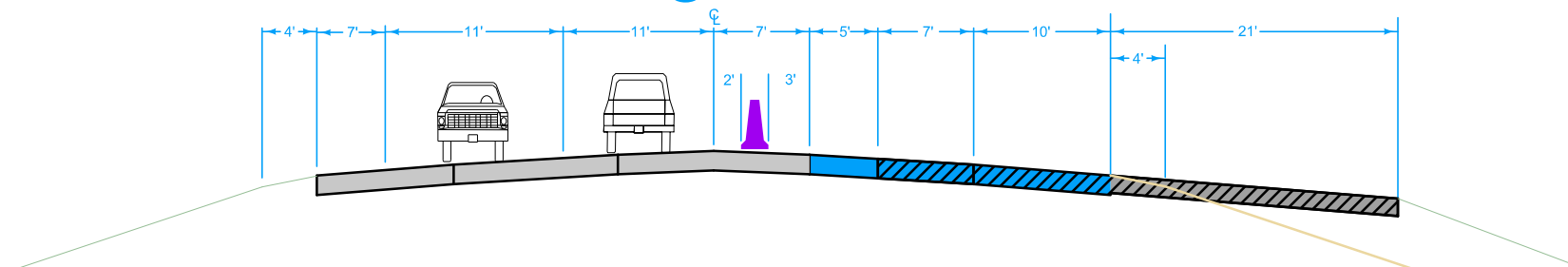
## Stage 3



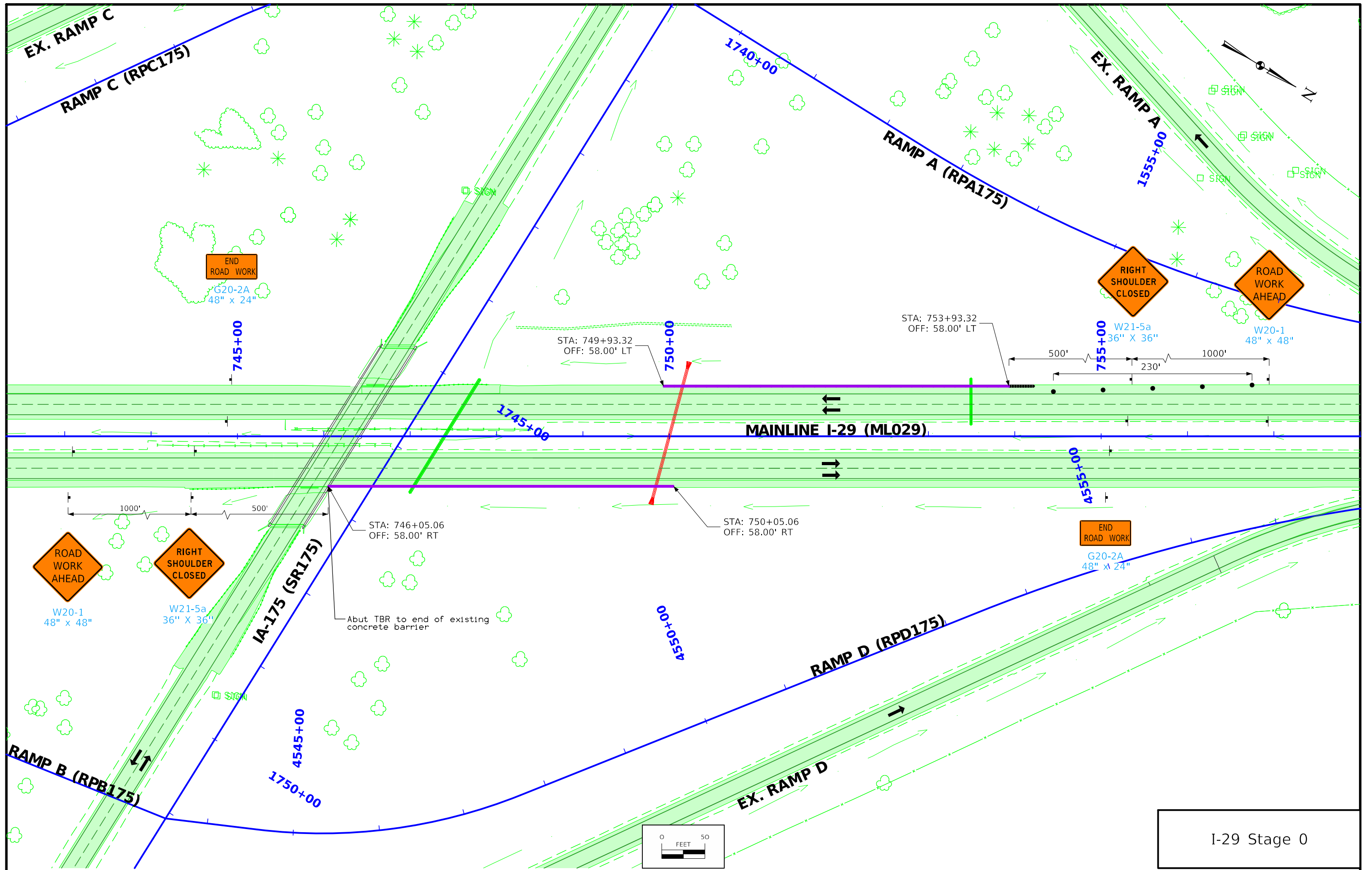
## Stage 5



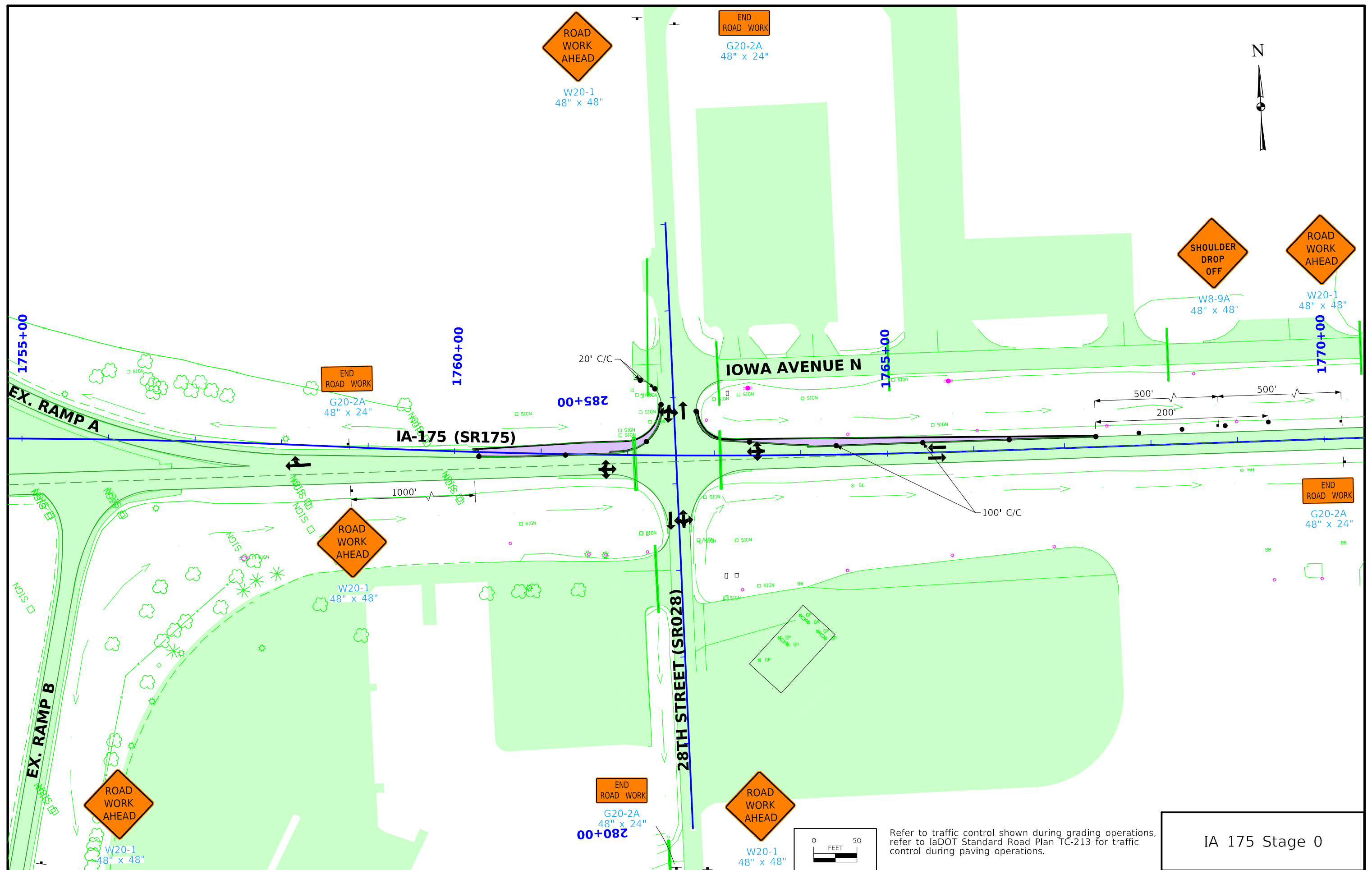
## Stage 6/7



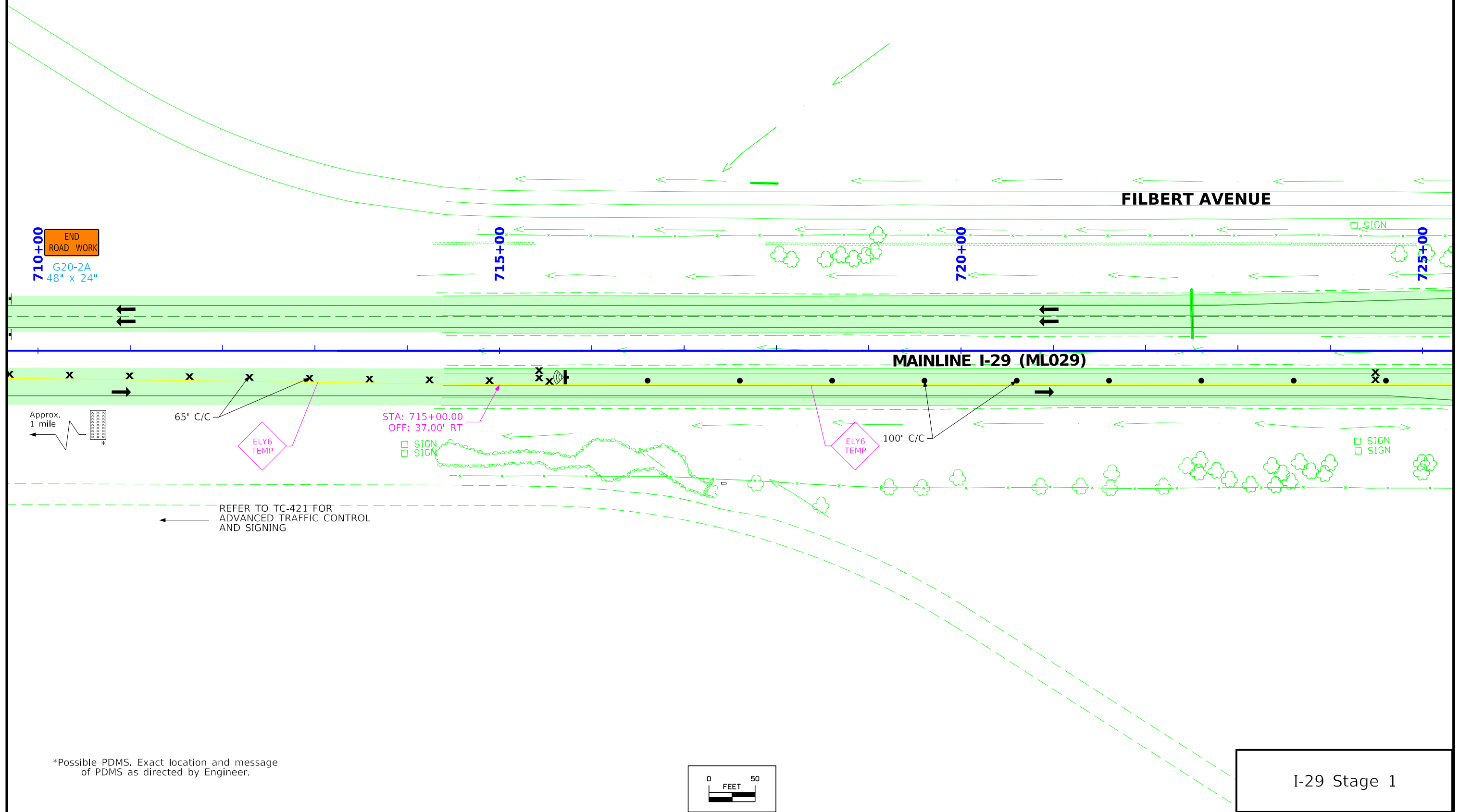
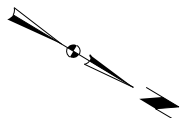
IA 175  
East of I-29  
Ramp Terminals  
(looking east)



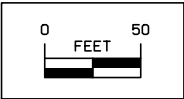
I-29 Stage 0



Franklin TWP.  
T-83N R-45W  
SEC. 7



\*Possible PDMS. Exact location and message  
of PDMS as directed by Engineer.



I-29 Stage 1

Franklin TWP.  
T-83N R-45W  
SEC. 7

**FILBERT AVENUE**

**EX. RAMP C**

**RAMP C (RPC175)**

**MAINLINE I-29 (ML029)**

**RAMP B (RPB175)**

**EX. RAMP B**

725+00 730+00 735+00 740+00 2535+00 2540+00

100' C/C 65' C/C

ELY6 TEMP

SIGN

0 50 FEET

I-29 Stage 1

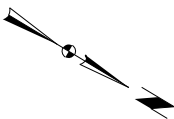
FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT / HR Green	MONONA COUNTY	PROJECT NUMBER STP-175-1(95)--2C-67	SHEET NUMBER J.17	
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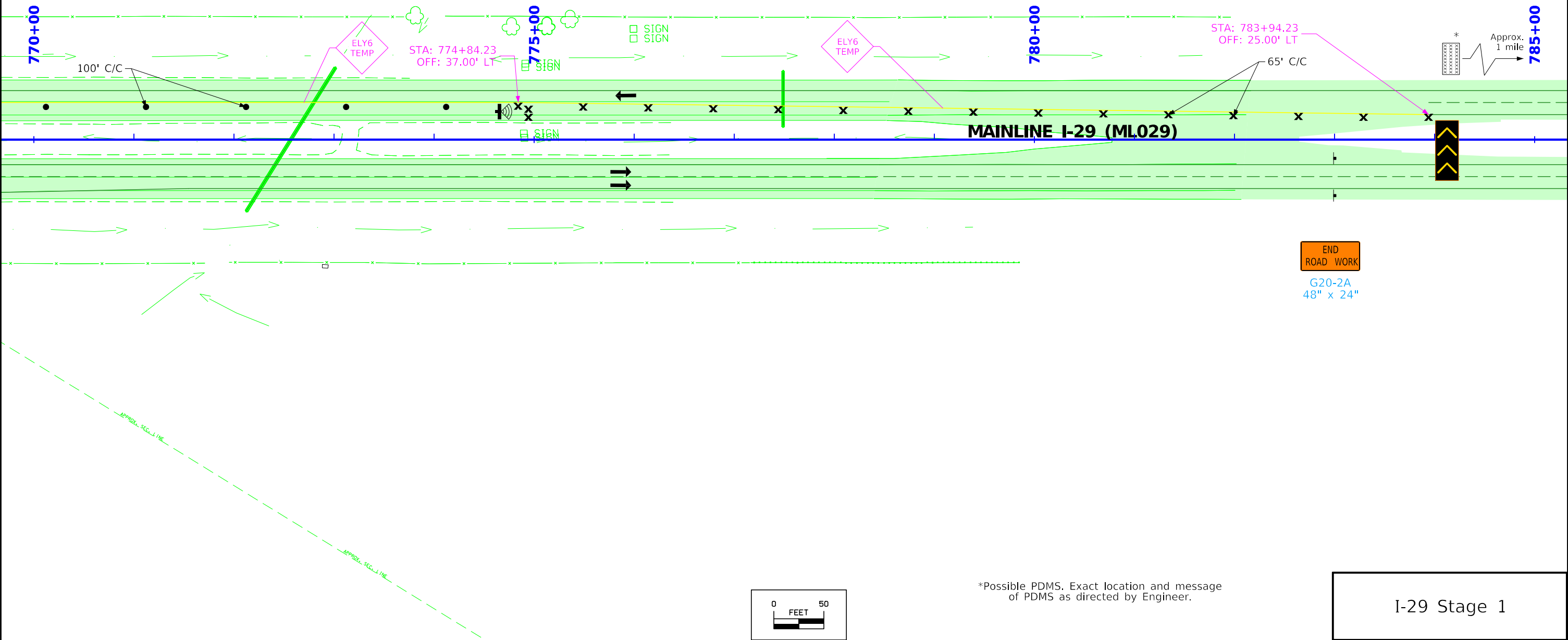




Franklin TWP.  
T-83N R-45W  
SEC. 1

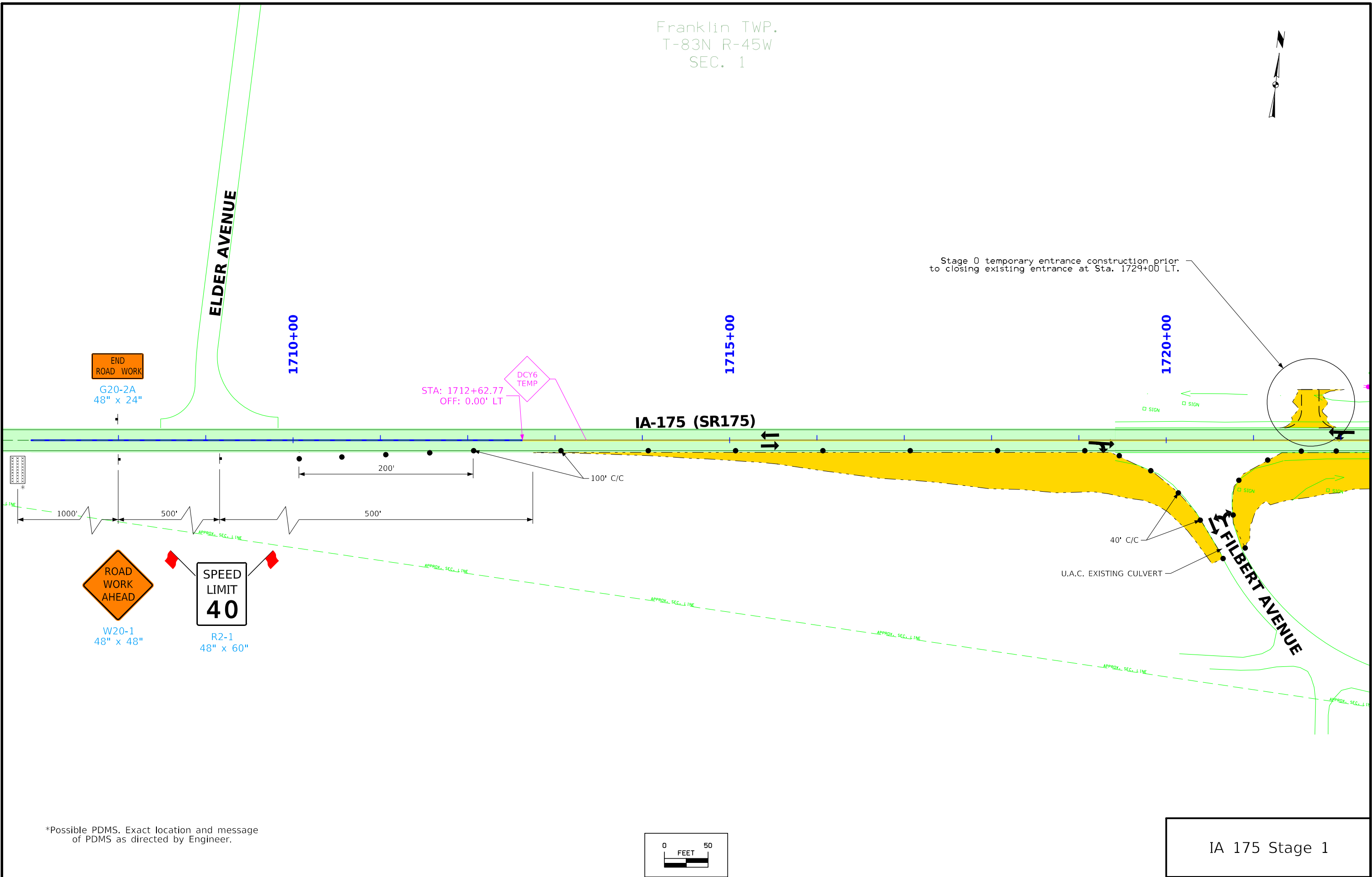


REFER TO TC-421 FOR  
ADVANCED SIGNING



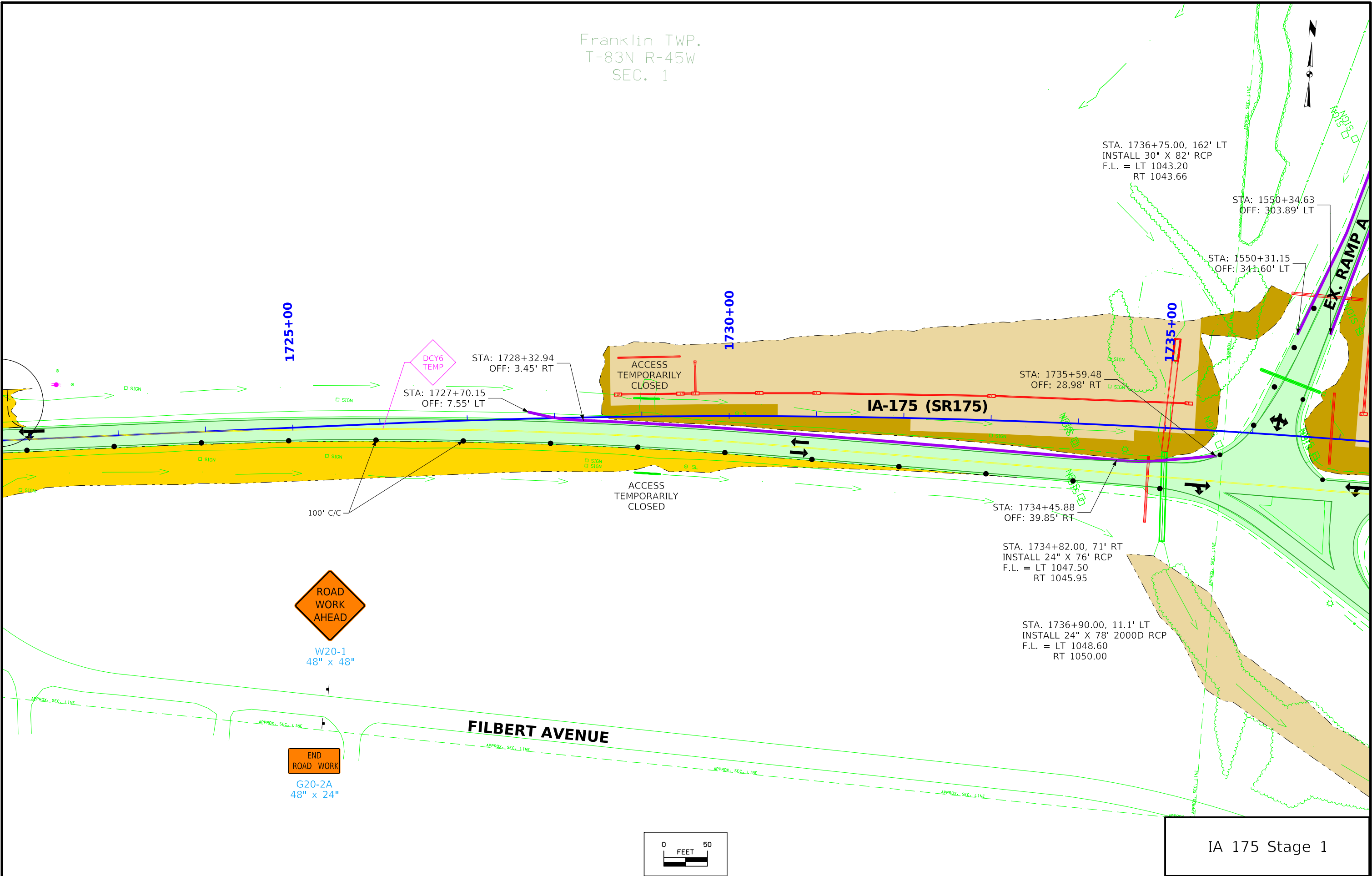


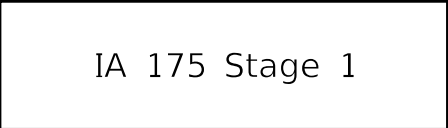
Franklin TWP.  
T-83N R-45W  
SEC. 1



FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT / HR Green	MONONA COUNTY	PROJECT NUMBER STP-175-1(95)--2C-67	SHEET NUMBER J.21
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Franklin TWP.  
T-83N R-45W  
SEC. 1

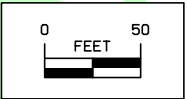
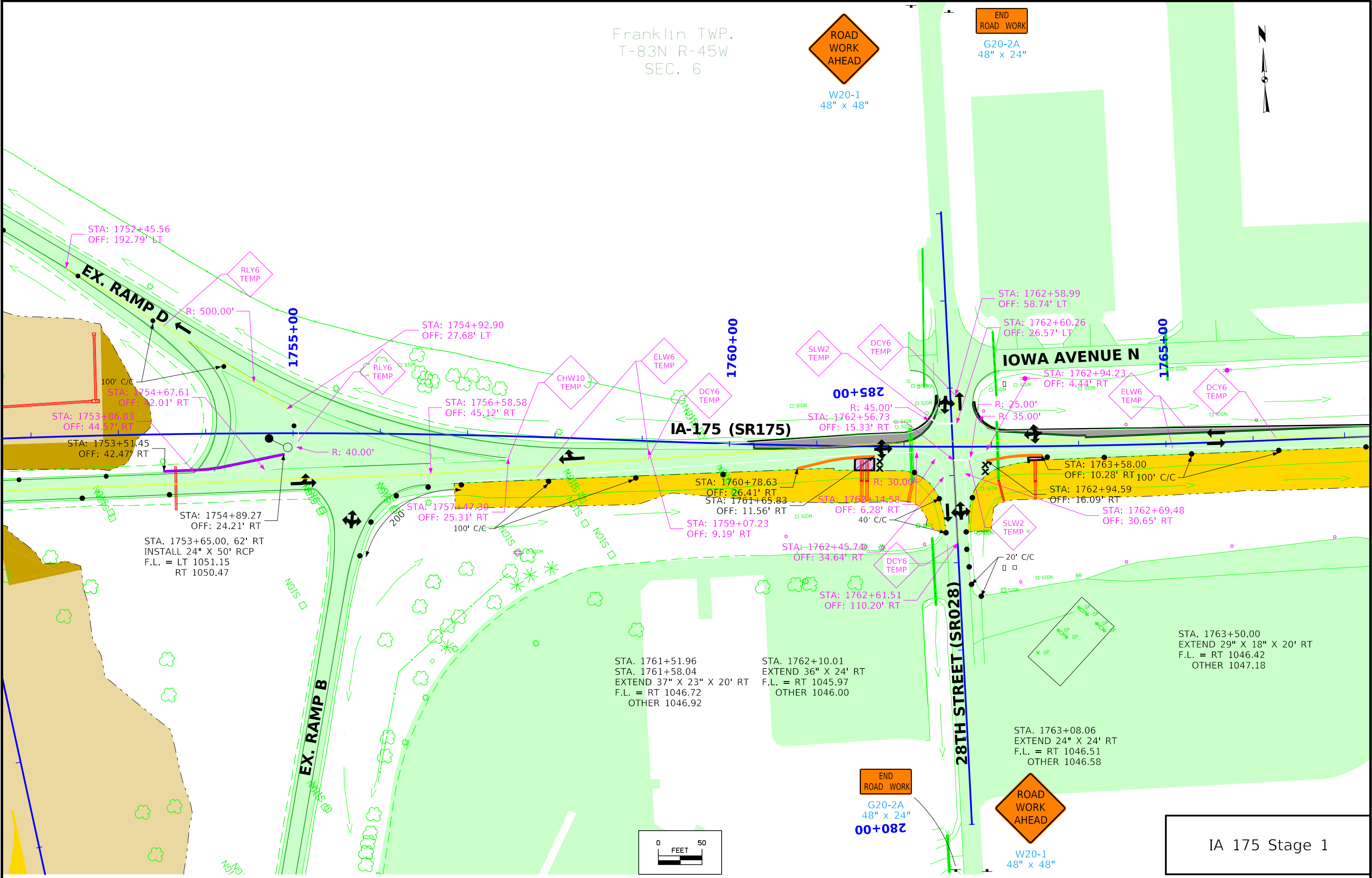




Franklin TWP.  
T-83N R-45W  
SEC. 6

ROAD  
WORK  
AHEAD  
W20-1  
48" x 48"

END  
ROAD WORK  
G20-2A  
48" x 24"



IA 175 Stage 1

ROAD  
WORK  
AHEAD

W20-1  
48" x 48"

END  
ROAD WORK

G20-2A  
48" x 24"

Franklin TWP.  
T-83N R-45W  
SEC. 6



26TH STREET

IOWA AVENUE N

1770+00

1775+00

1780+00

IA-175 (SR175)

SPEED  
LIMIT  
40

ROAD  
WORK  
AHEAD

STA: 1777+80.17  
OFF: 0.00' RT

R2-1  
48" x 60"

W20-1  
48" x 48"

ELW6  
TEMP

DCY6  
TEMP

STA: 1767+36.48  
OFF: 0.00' LT

ELW6  
TEMP

100' C/C

100' C/C

40' C/C

500'

500'

1000'

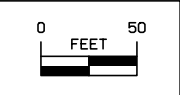
Stage construct culvert across 26th St.  
to provide continual access.  
Refer to Sheet E.4 for permanent  
culvert placement and information.

STA. 1772+32.19  
EXTEND 28" X 20' LT  
F.L. = LT 1045.18  
OTHER 1045.10

END  
ROAD WORK

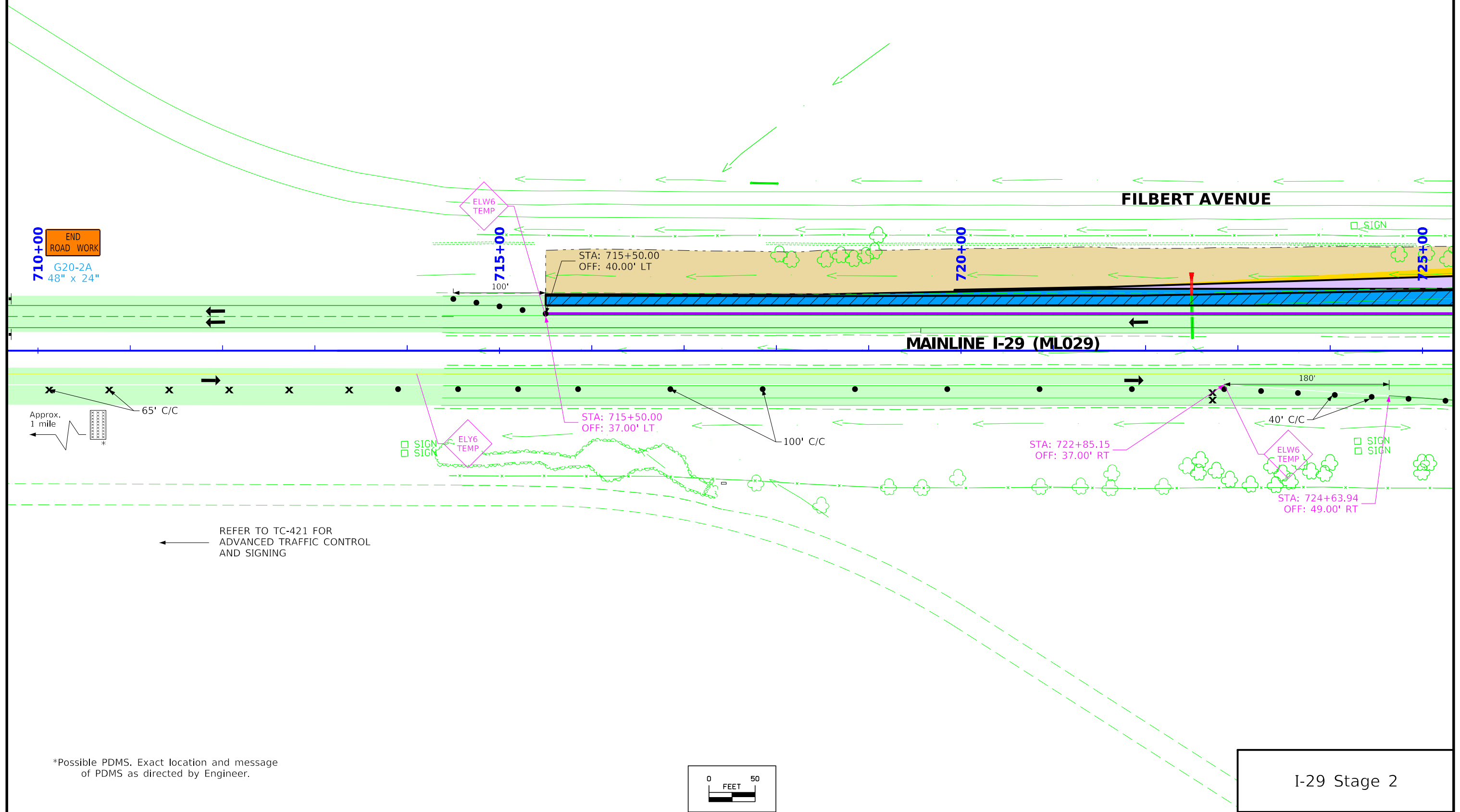
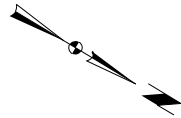
G20-2A  
48" x 24"

\*Possible PDMS. Exact location and message  
of PDMS as directed by Engineer.



IA 175 Stage 1

Franklin TWP.  
T-83N R-45W  
SEC. 7



710+00  
END  
ROAD WORK  
G20-2A  
48" x 24"

ELW6  
TEMP  
715+00  
100'

STA: 715+50.00  
OFF: 40.00' LT

720+00

725+00

MAINLINE I-29 (ML029)

Approx.  
1 mile  
65' C/C

ELY6  
TEMP  
SIGN  
SIGN

STA: 715+50.00  
OFF: 37.00' LT

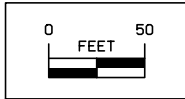
100' C/C

STA: 722+85.15  
OFF: 37.00' RT

ELW6  
TEMP  
SIGN  
SIGN

STA: 724+63.94  
OFF: 49.00' RT

REFER TO TC-421 FOR  
ADVANCED TRAFFIC CONTROL  
AND SIGNING

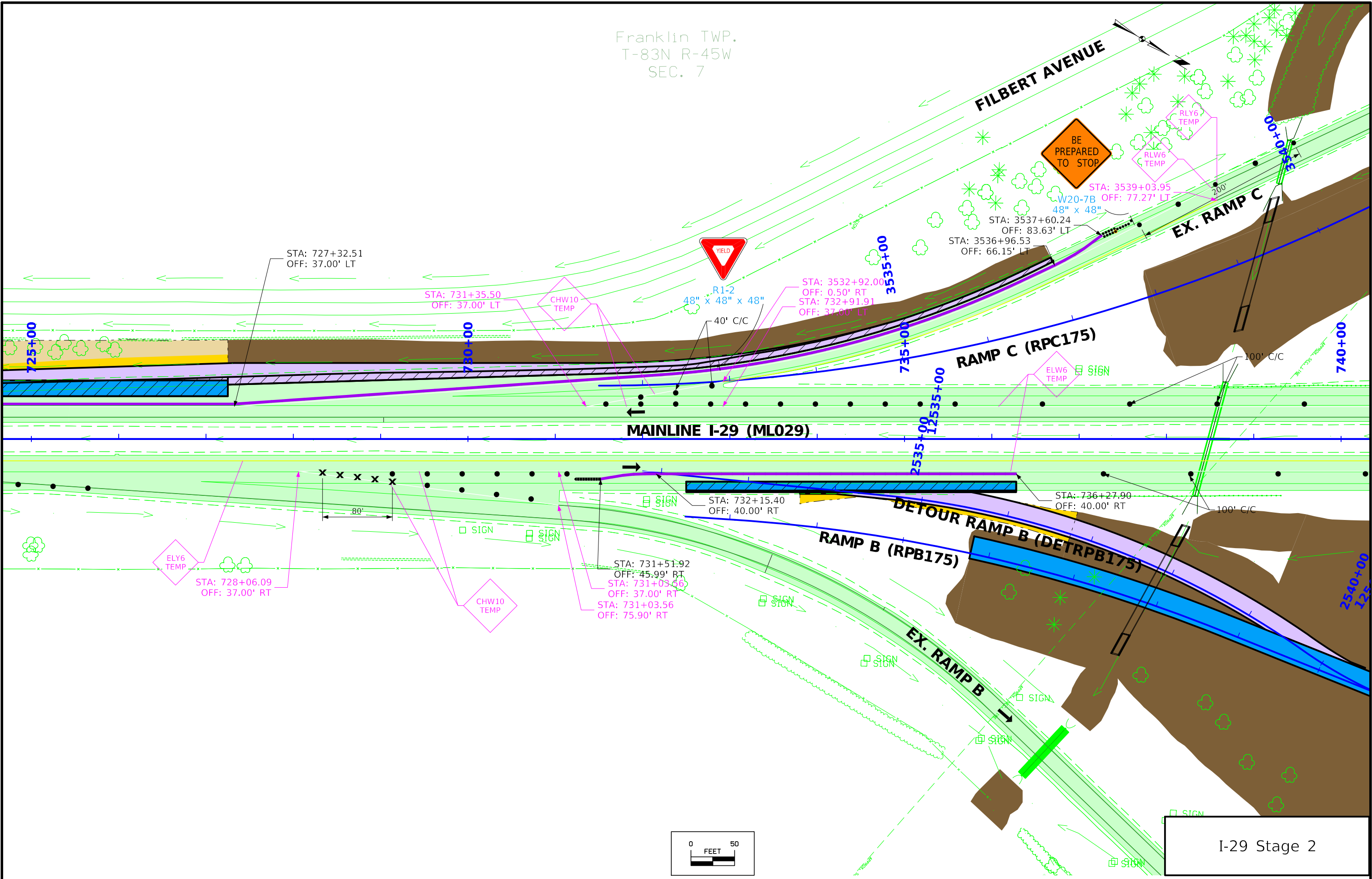


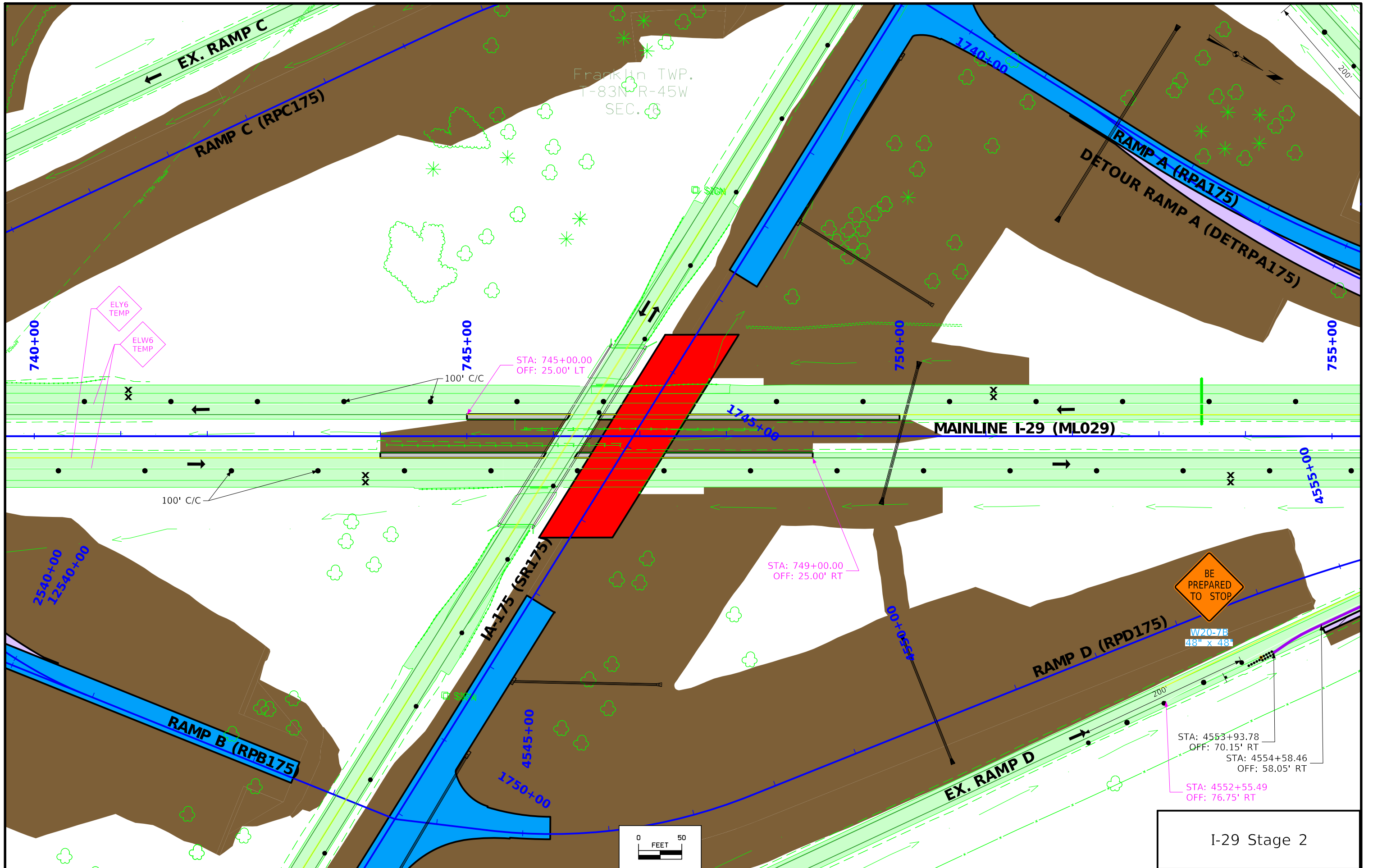
I-29 Stage 2

\*Possible PDMS. Exact location and message  
of PDMS as directed by Engineer.



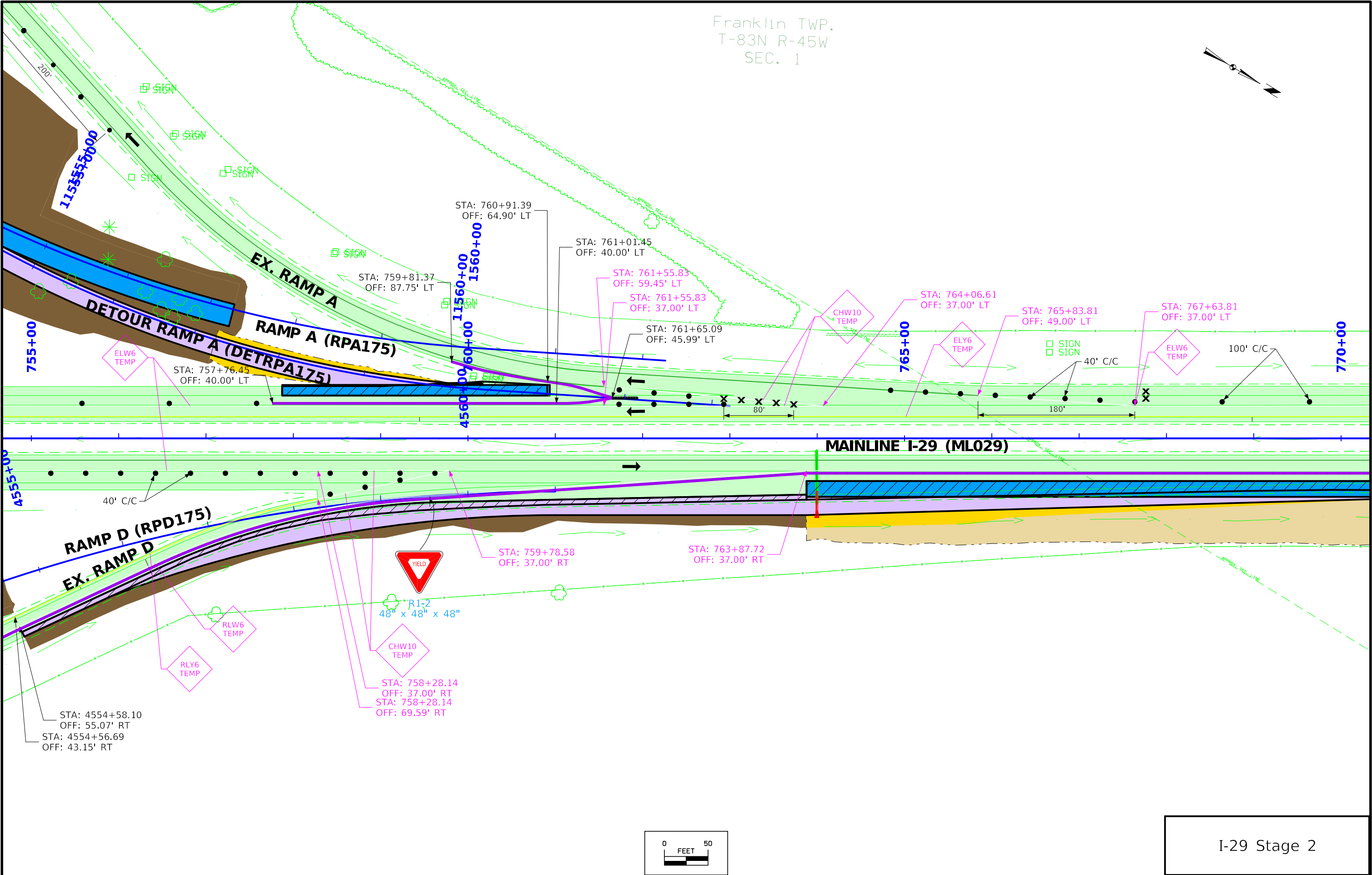
Franklin TWP.  
T-83N R-45W  
SEC. 7





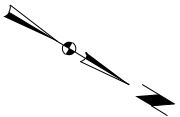
I-29 Stage 2



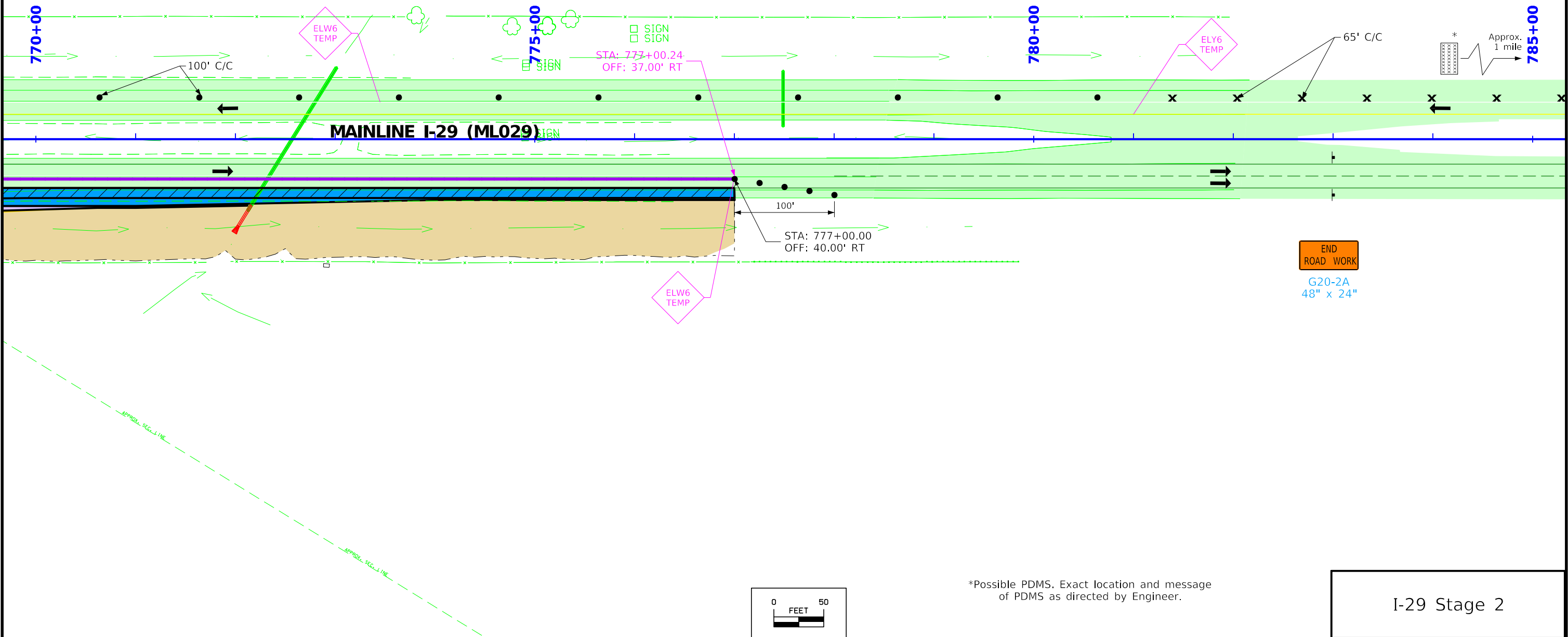


I-29 Stage 2

Franklin TWP.  
T-83N R-45W  
SEC. 1



REFER TO TC-421  
FOR ADVANCED TRAFFIC CONTROL  
AND SIGNING



Franklin TWP.  
T-83N R-45W  
SEC. 1



ELDER AVENUE

1710+00

1715+00

1720+00

IA-175 (SR175)

FILBERT AVENUE

END  
ROAD WORK  
G20-2A  
48" x 24"

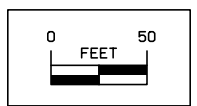
ROAD  
WORK  
AHEAD  
W20-1  
48" x 48"

SPEED  
LIMIT  
40  
R2-1  
48" x 60"

100' C/C

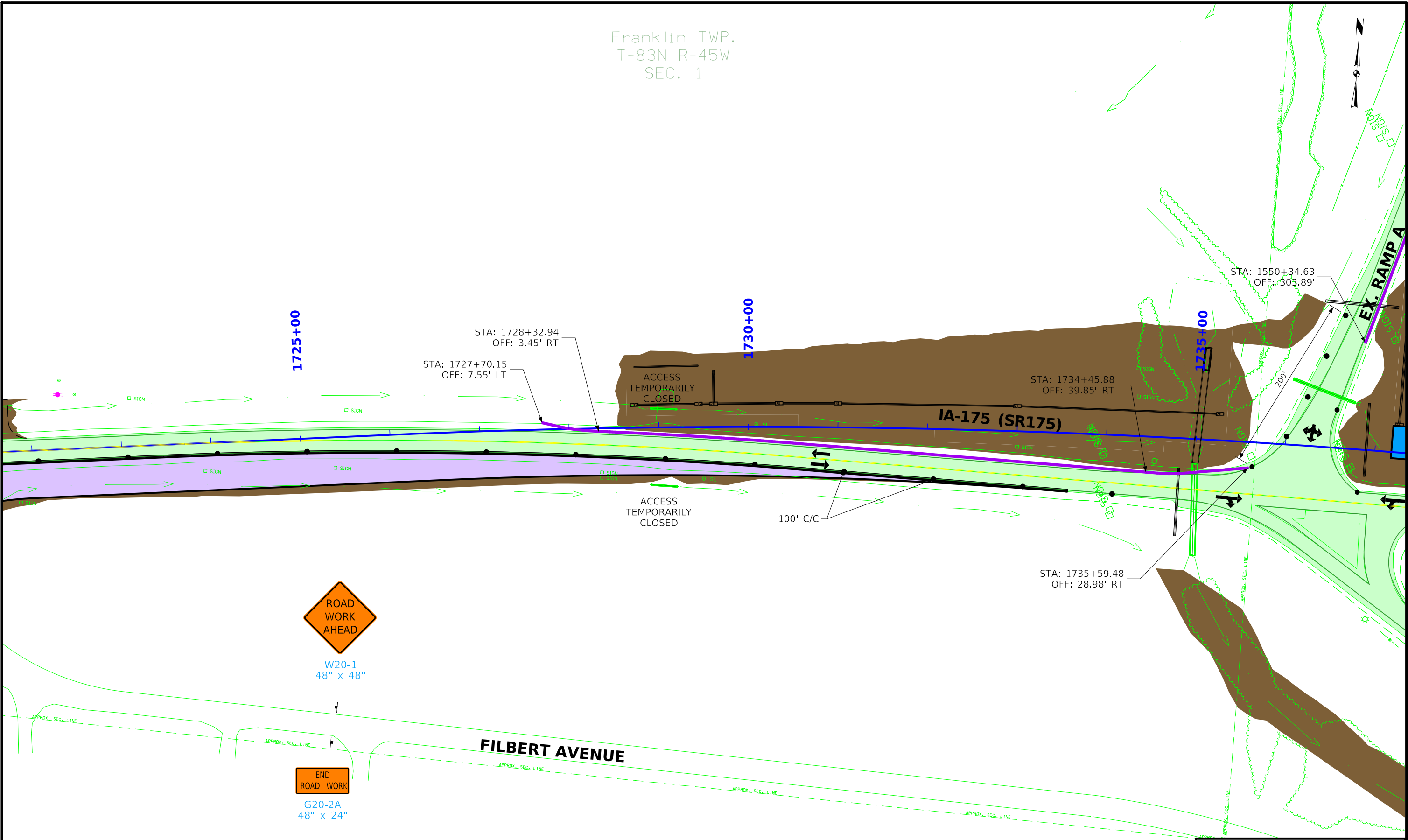
Stage construct across Filbert St.  
to provide continual access

\*Possible PDMS. Exact location and message  
of PDMS as directed by Engineer.



IA 175 Stage 2

Franklin TWP.  
T-83N R-45W  
SEC. 1



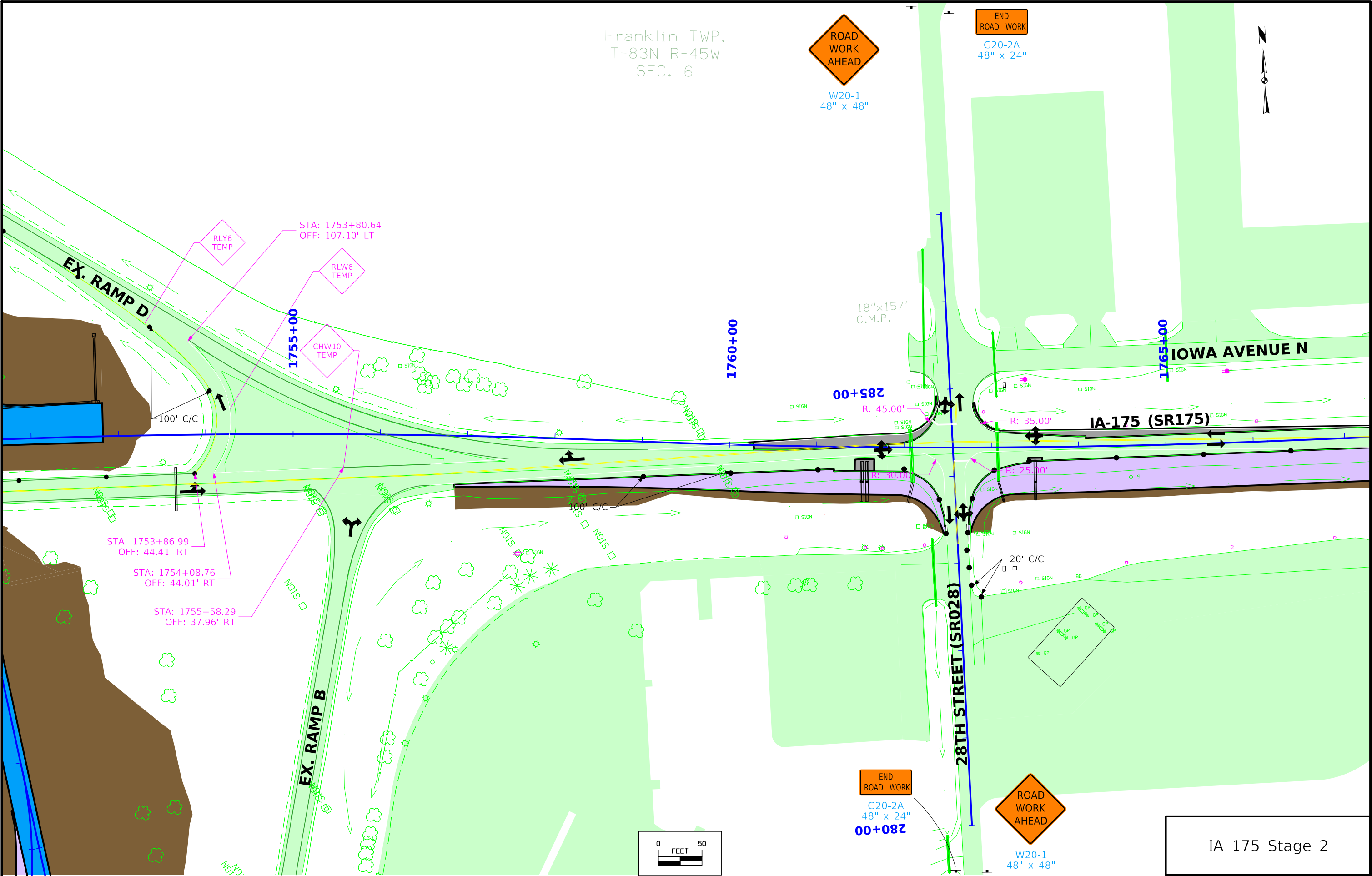
IA 175 Stage 2



Franklin TWP.  
T-83N R-45W  
SEC. 6

ROAD  
WORK  
AHEAD  
W20-1  
48" x 48"

END  
ROAD WORK  
G20-2A  
48" x 24"



IA 175 Stage 2





W20-1  
48" x 48"



G20-2A  
48" x 24"

Franklin TWP.  
T-83N R-45W  
SEC. 6



26TH STREET

IOWA AVENUE N

1770+00

1775+00

1780+00

IA-175 (SR175)



R2-1  
48" x 60"



W20-1  
48" x 48"



G20-2A  
48" x 24"

100' C/C

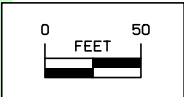
500'

500'

1000'

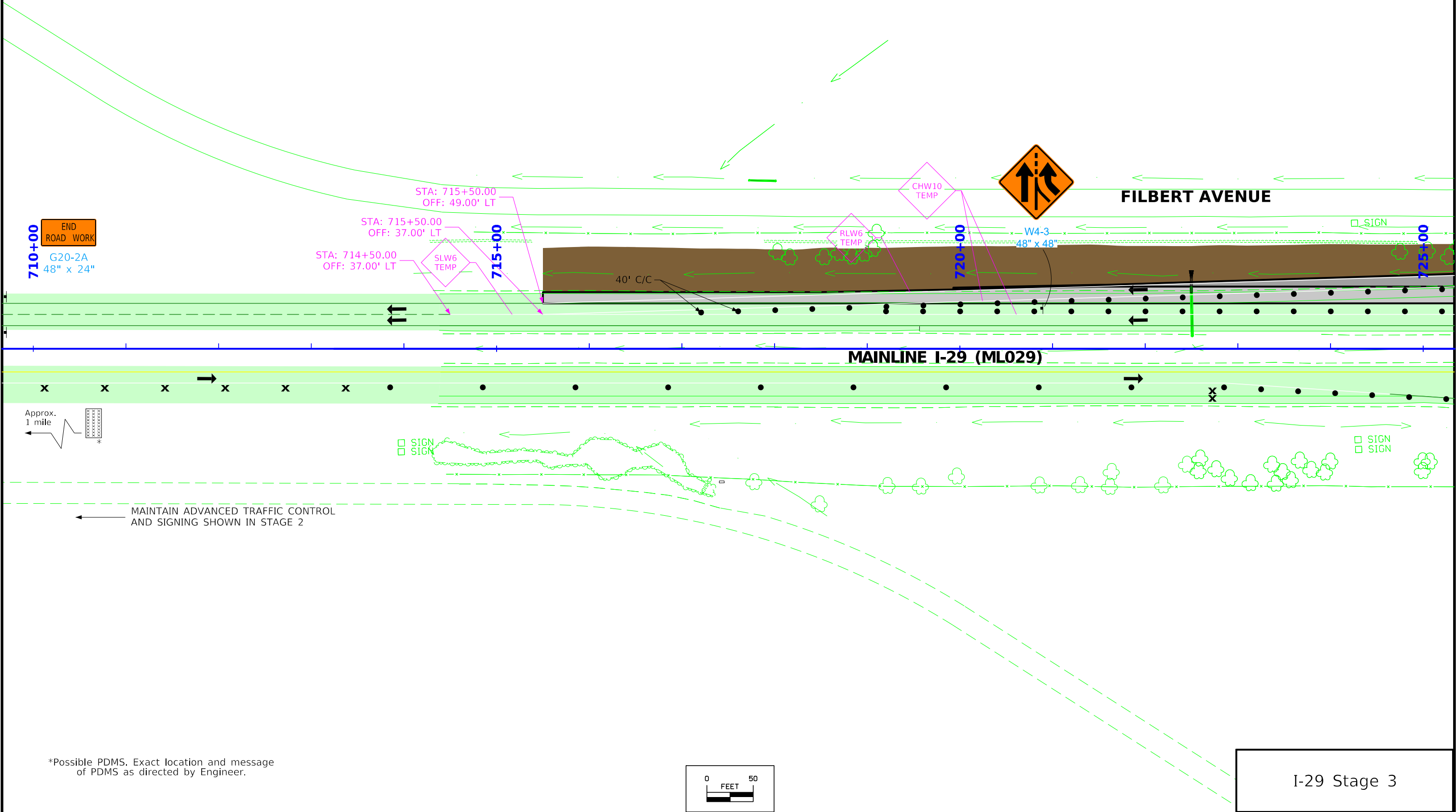
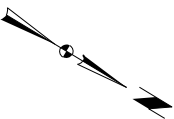
Stage construct 26th St.  
to provide continual access

\*Possible PDMS. Exact location and message  
of PDMS as directed by Engineer.



IA 175 Stage 2

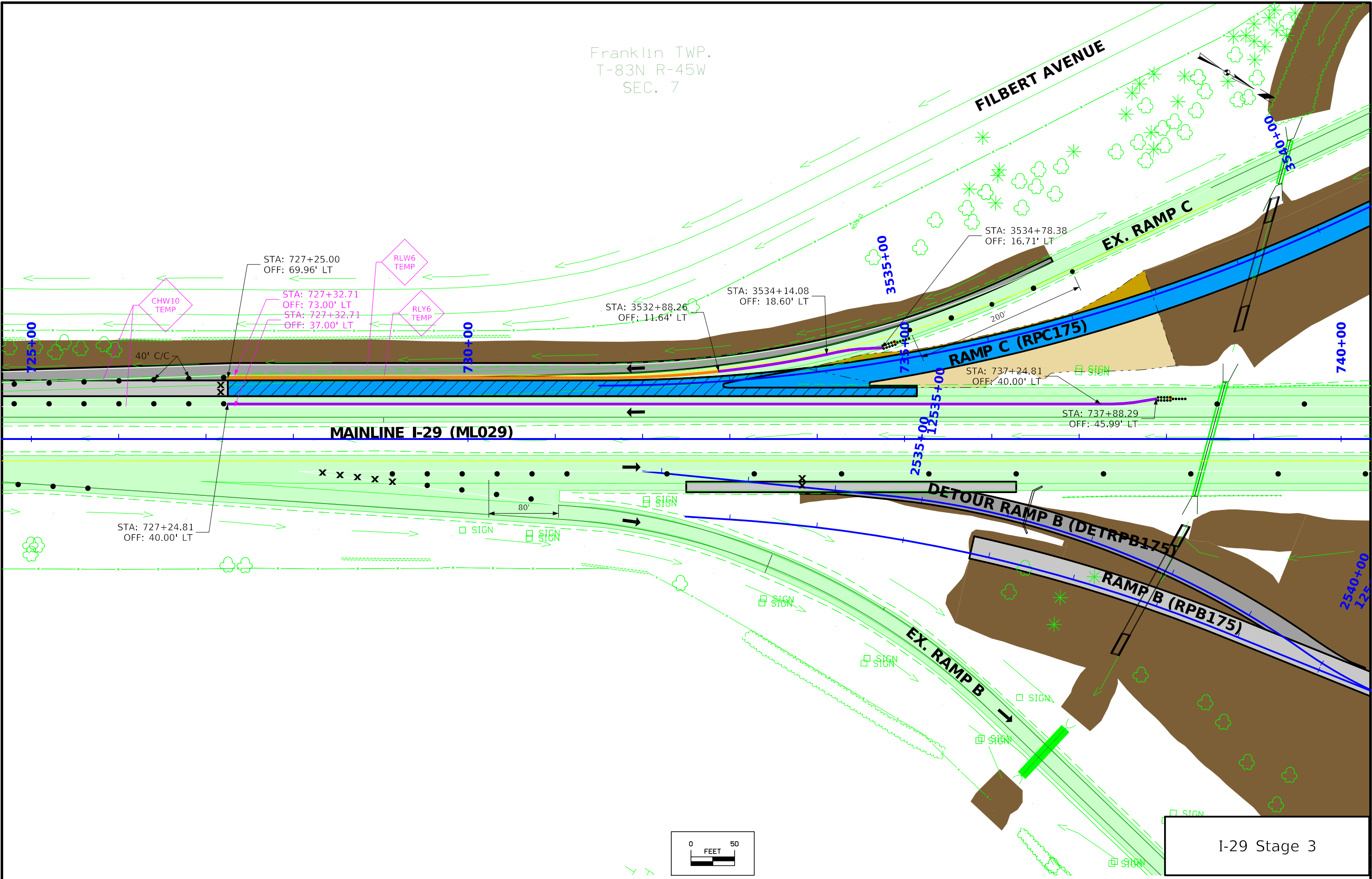
Franklin TWP.  
T-83N R-45W  
SEC. 7



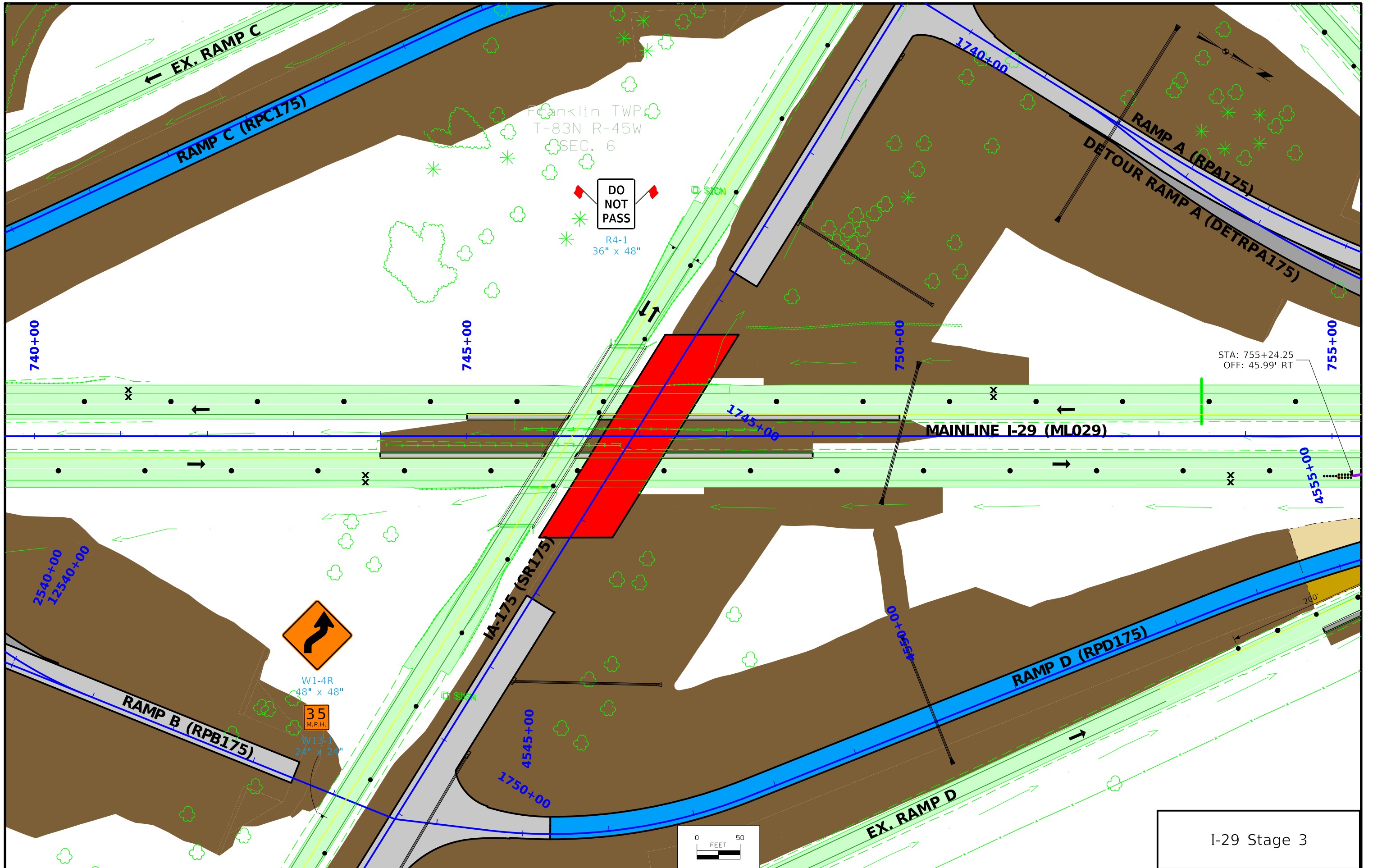
I-29 Stage 3

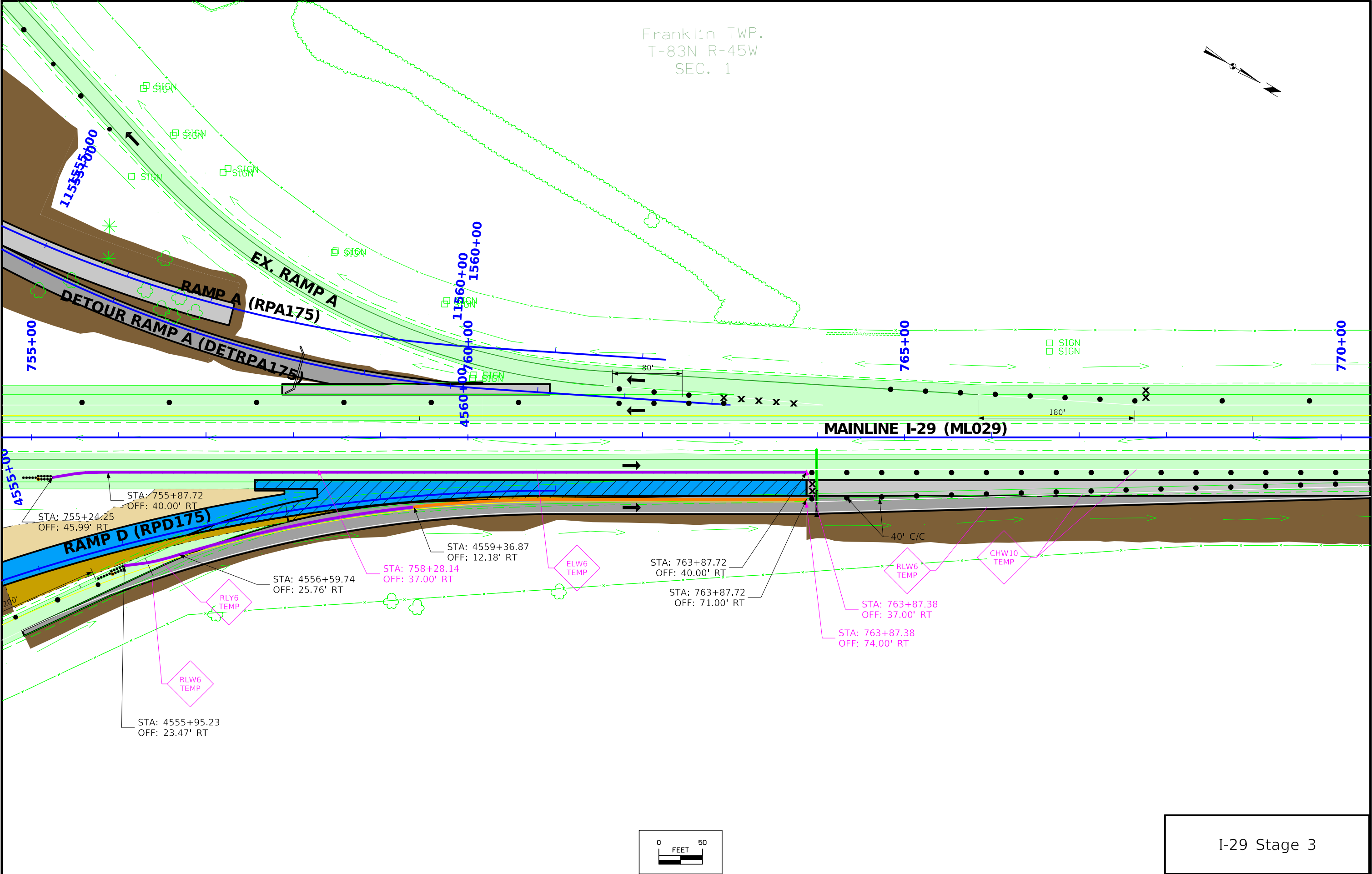


Franklin TWP.  
T-83N R-45W  
SEC. 7

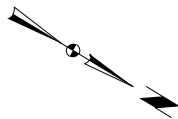


I-29 Stage 3

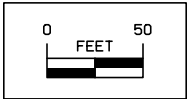
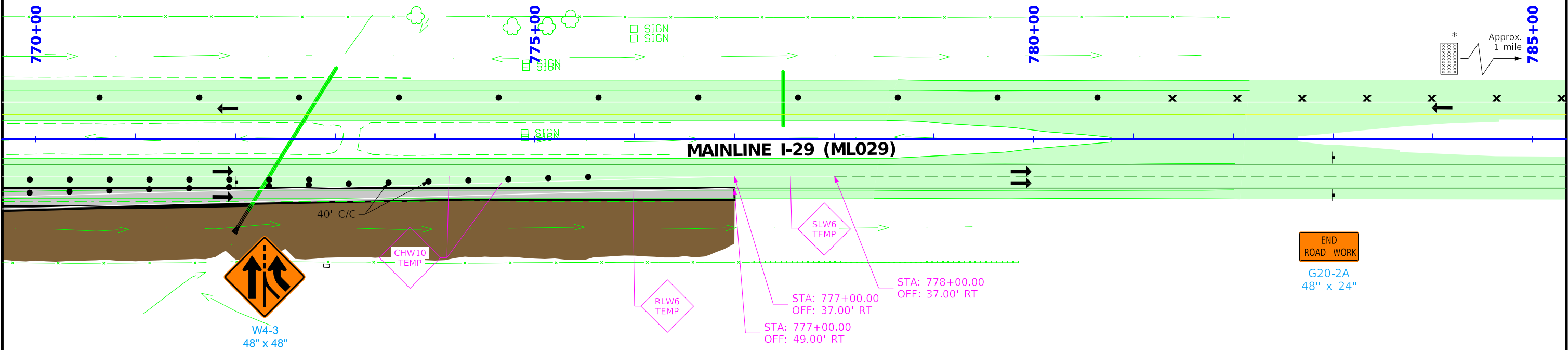




Franklin TWP.  
T-83N R-45W  
SEC. 1



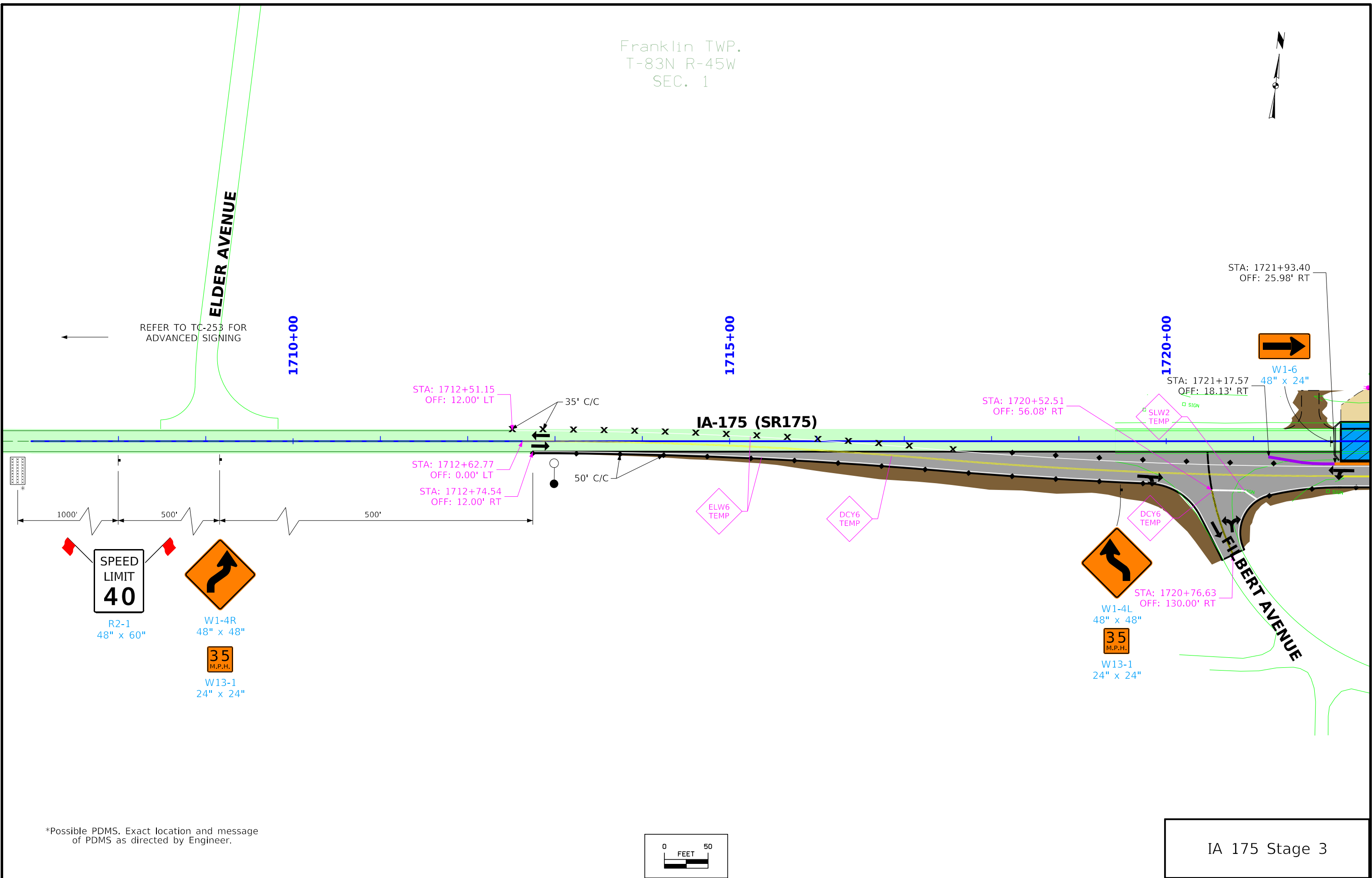
MAINTAIN ADVANCED TRAFFIC CONTROL  
AND SIGNING SHOWN IN STAGE 2



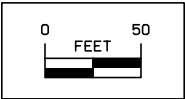
\*Possible PDMS. Exact location and message  
of PDMS as directed by Engineer.

I-29 Stage 3

Franklin TWP.  
T-83N R-45W  
SEC. 1

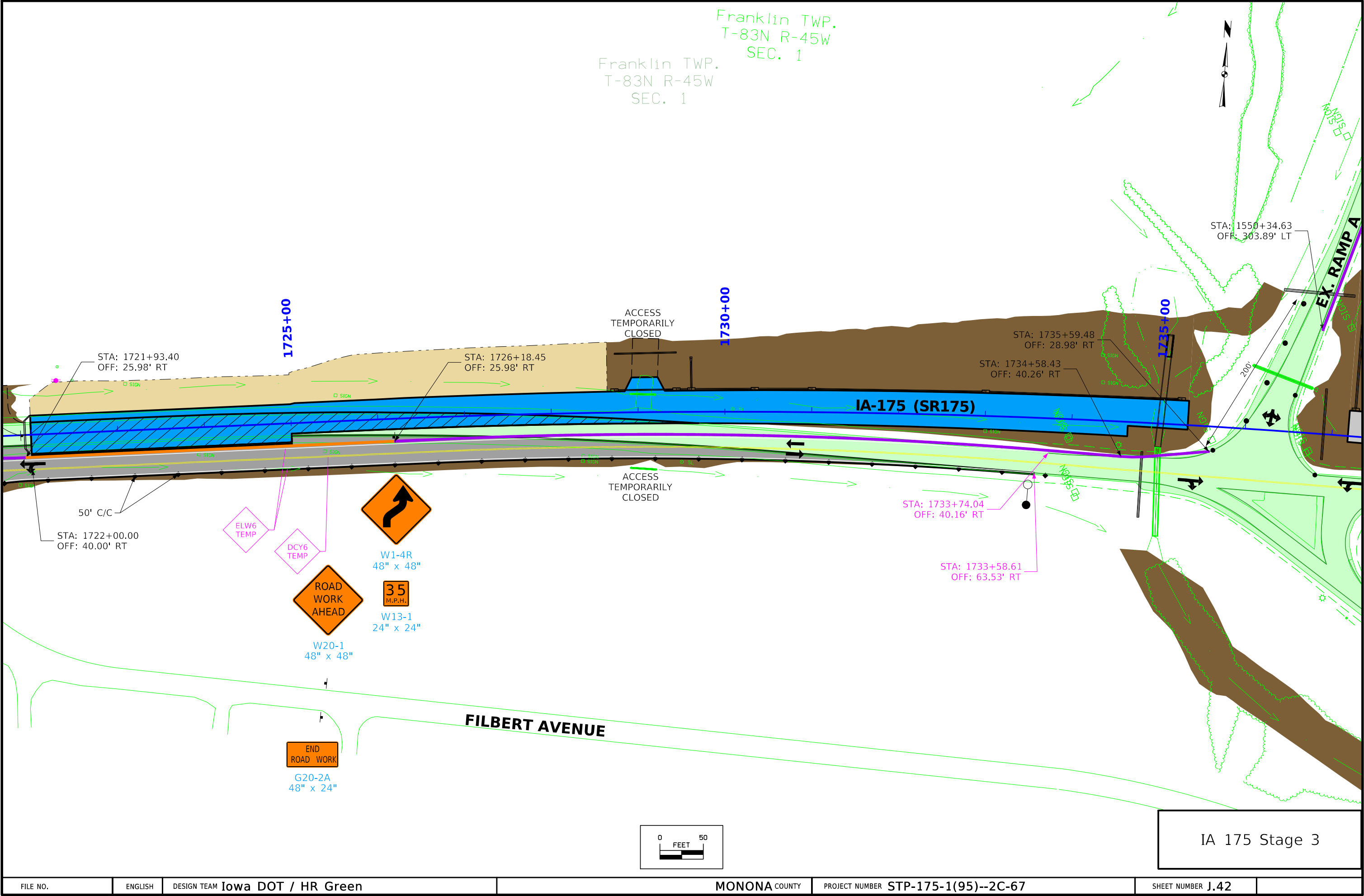


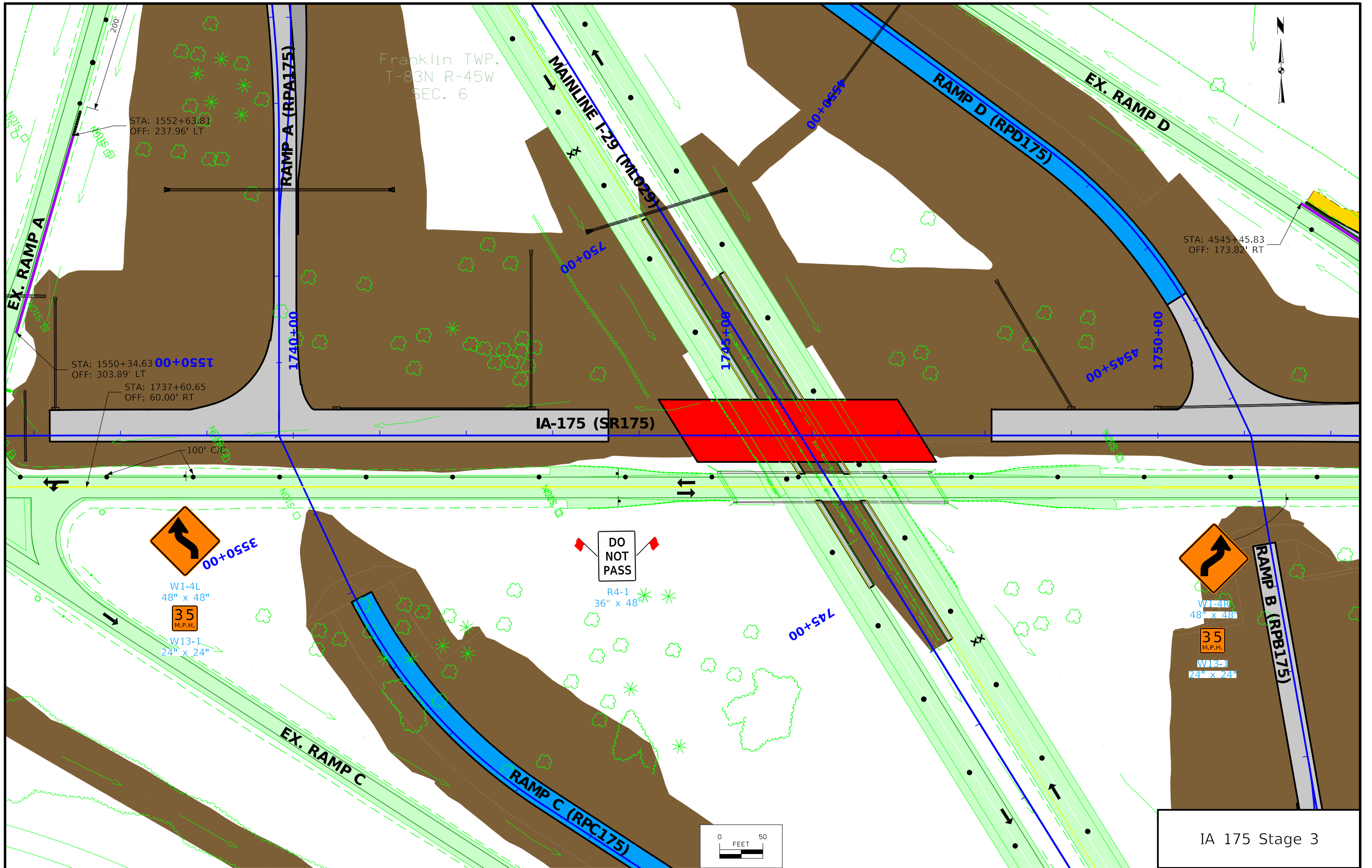
\*Possible PDMS. Exact location and message  
of PDMS as directed by Engineer.



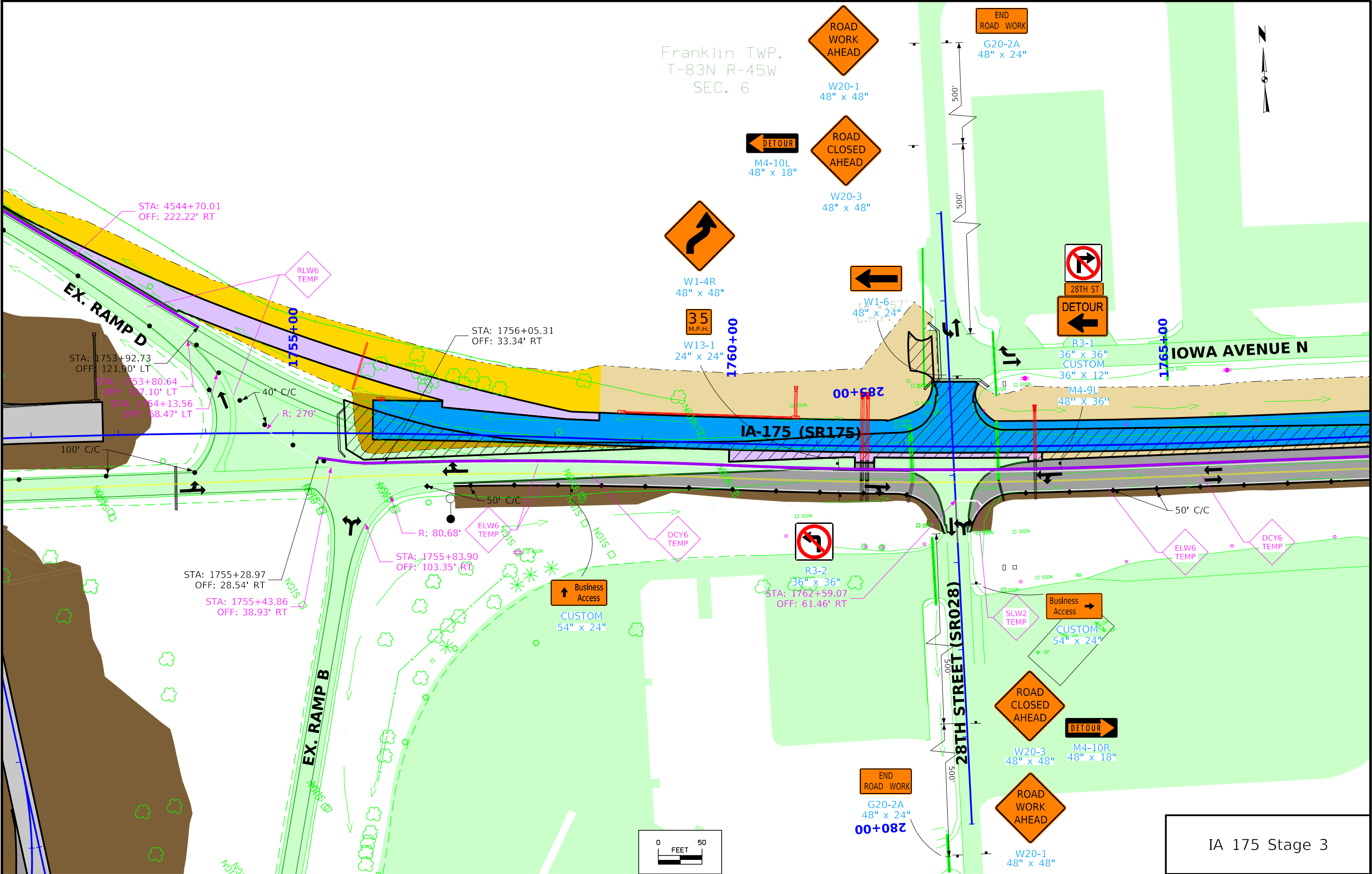
IA 175 Stage 3



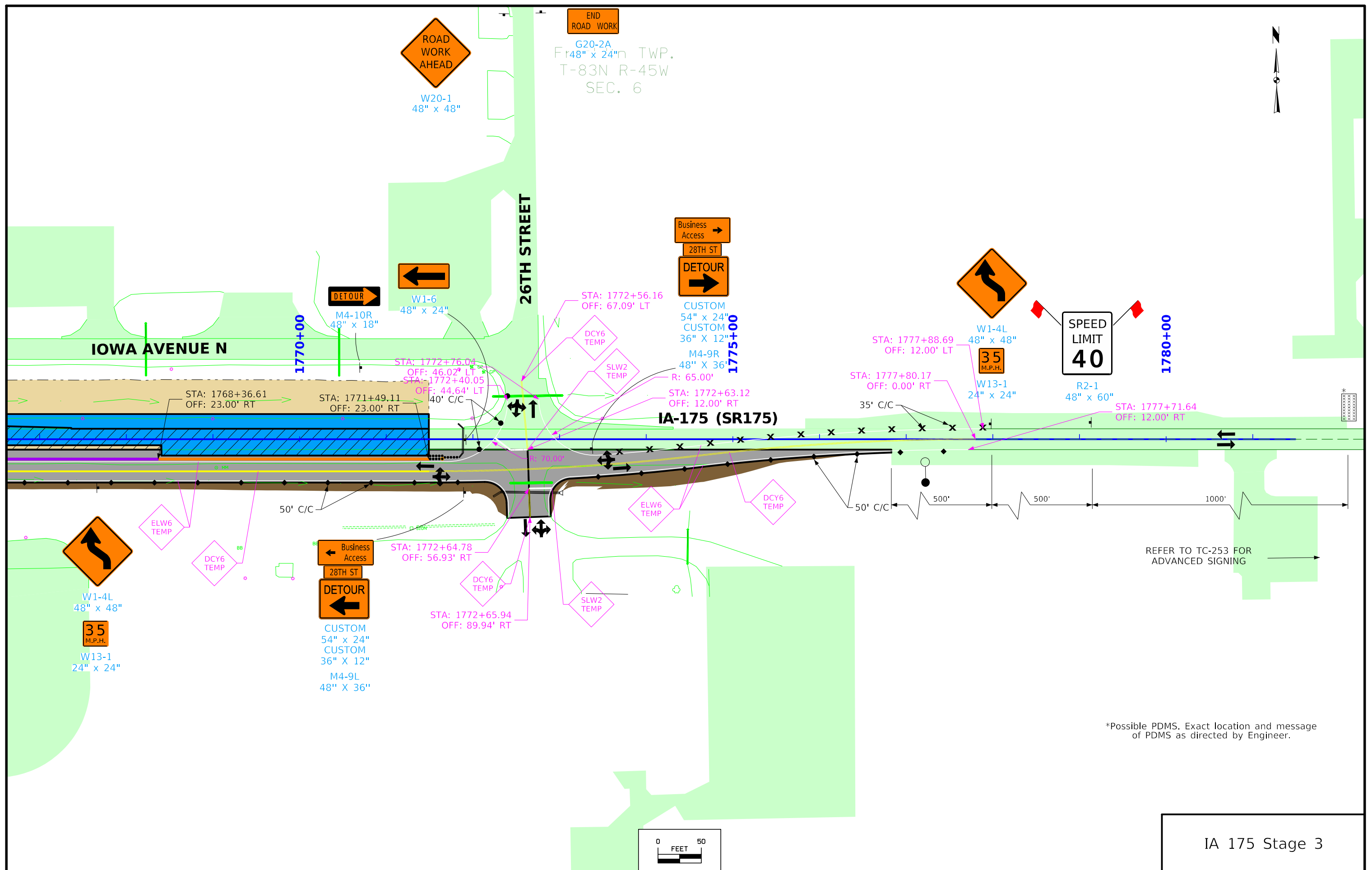




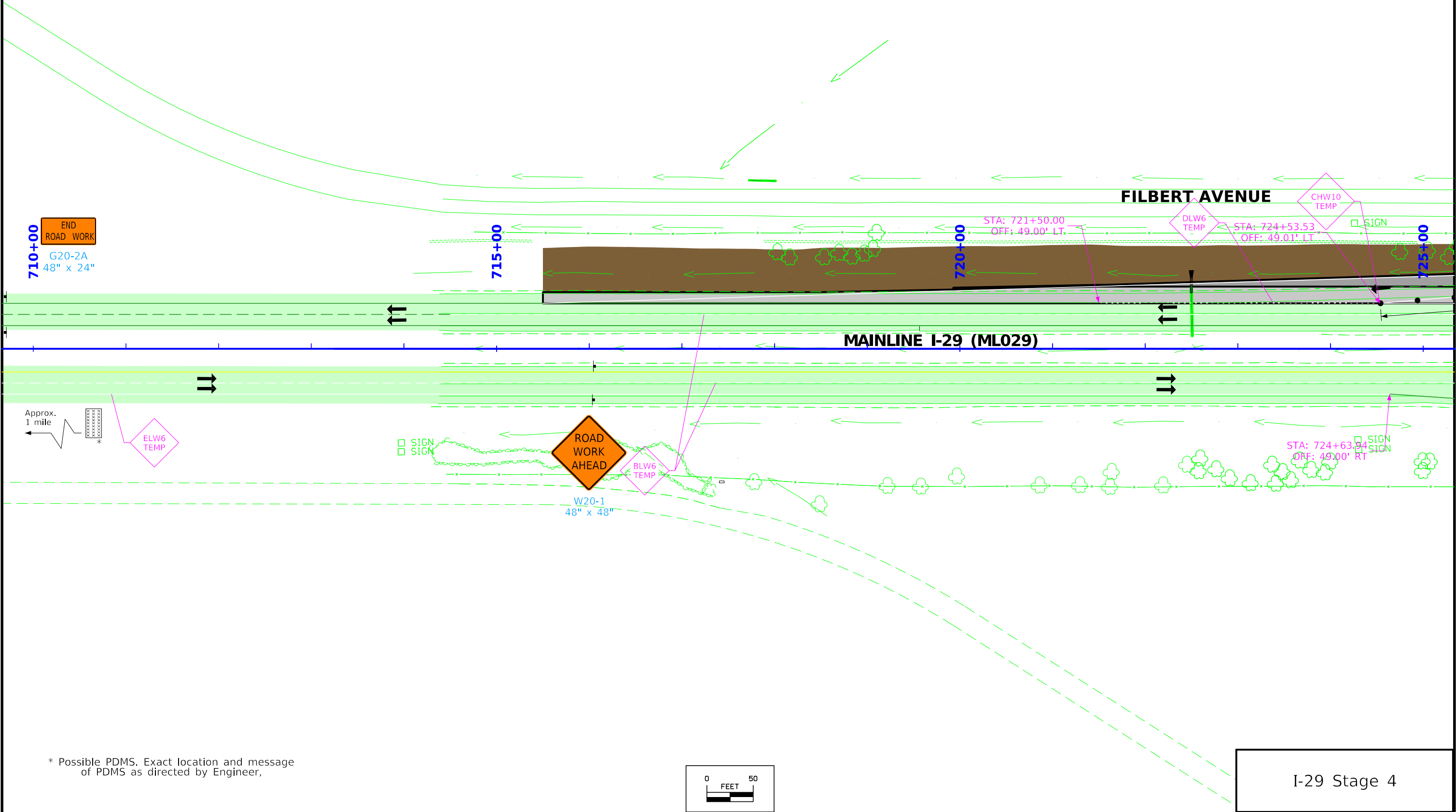
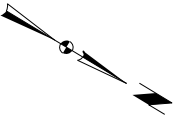
IA 175 Stage 3





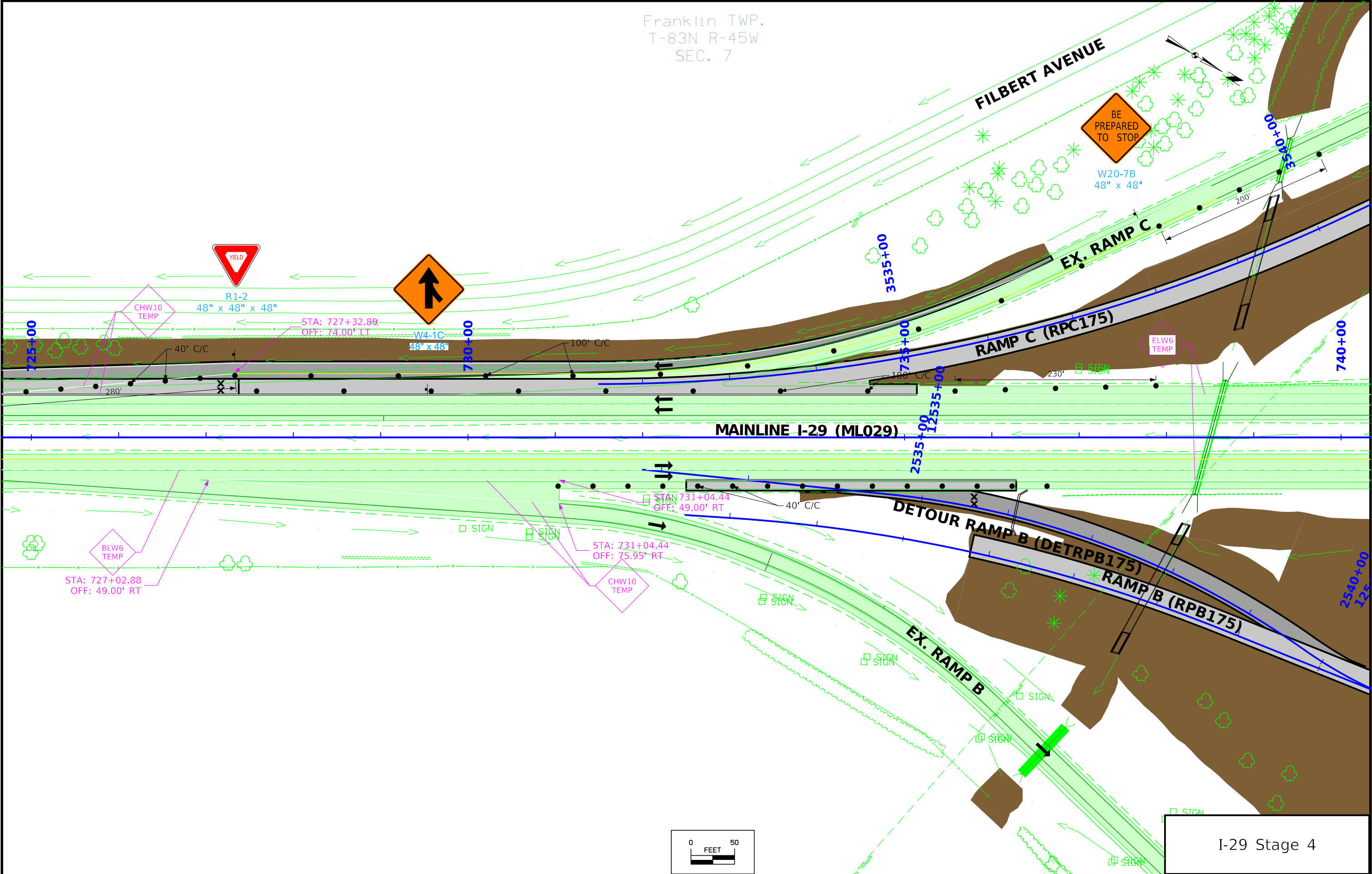


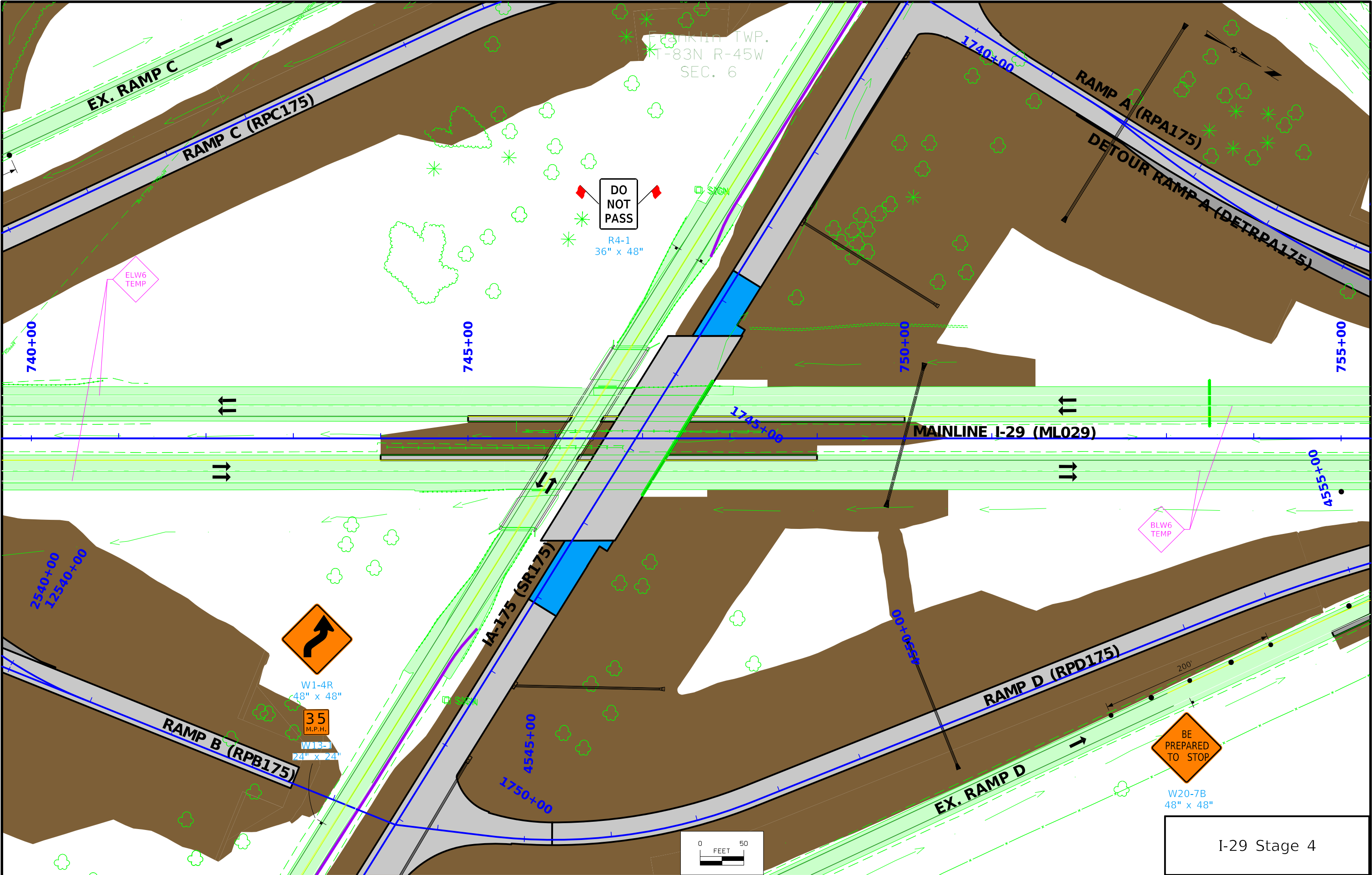
Franklin TWP.  
T-83N R-45W  
SEC. 7

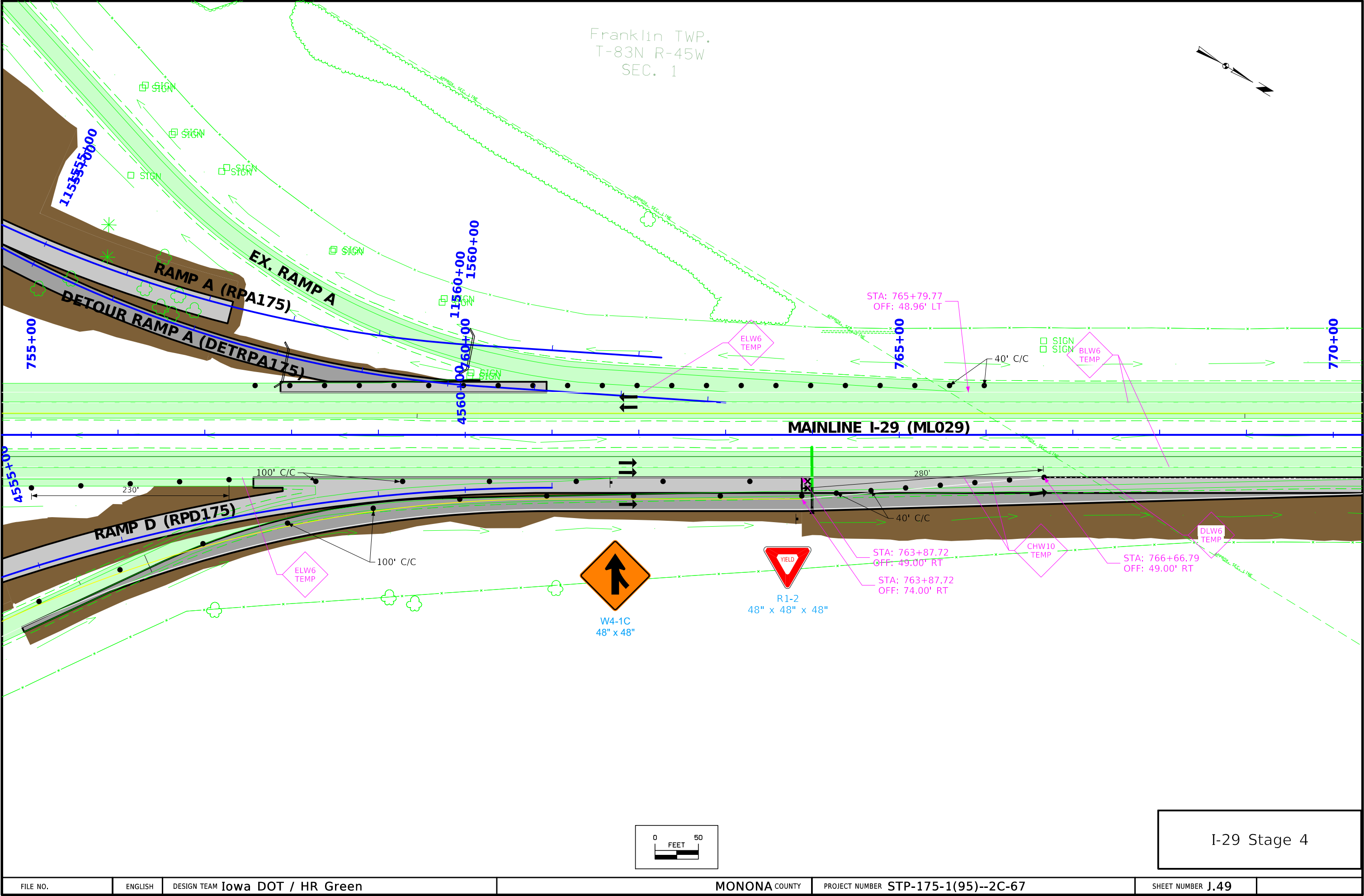


I-29 Stage 4

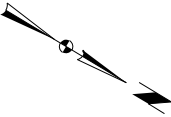
Franklin TWP.  
T-83N R-45W  
SEC. 7



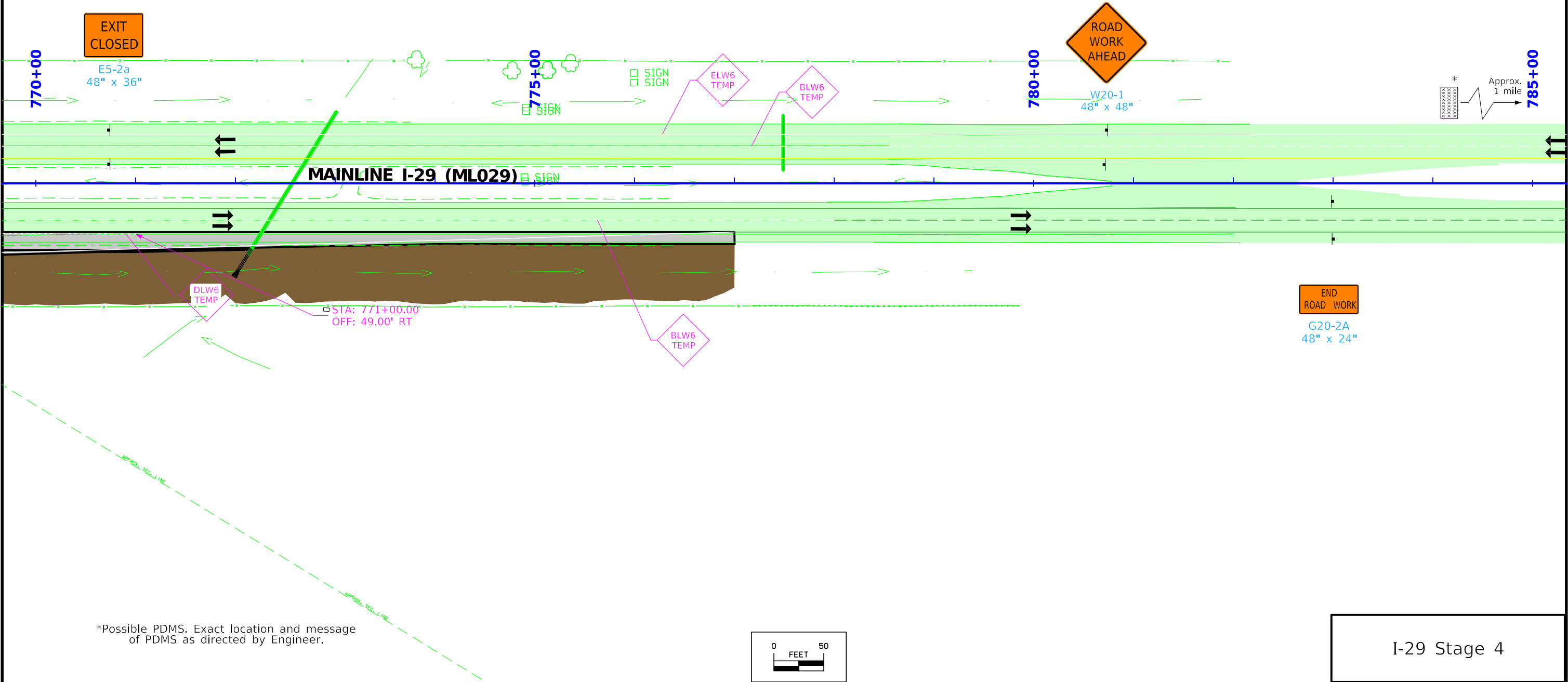




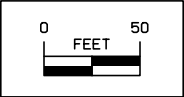
Franklin TWP.  
T-83N R-45W  
SEC. 1



REFER TO TC-417  
FOR ADVANCED SIGNING



\*Possible PDMS. Exact location and message  
of PDMS as directed by Engineer.



I-29 Stage 4



Franklin TWP.  
T-83N R-45W  
SEC. 1



ELDER AVENUE

REFER TO TC-253 FOR  
ADVANCED SIGNING

1710+00

1715+00

1720+00

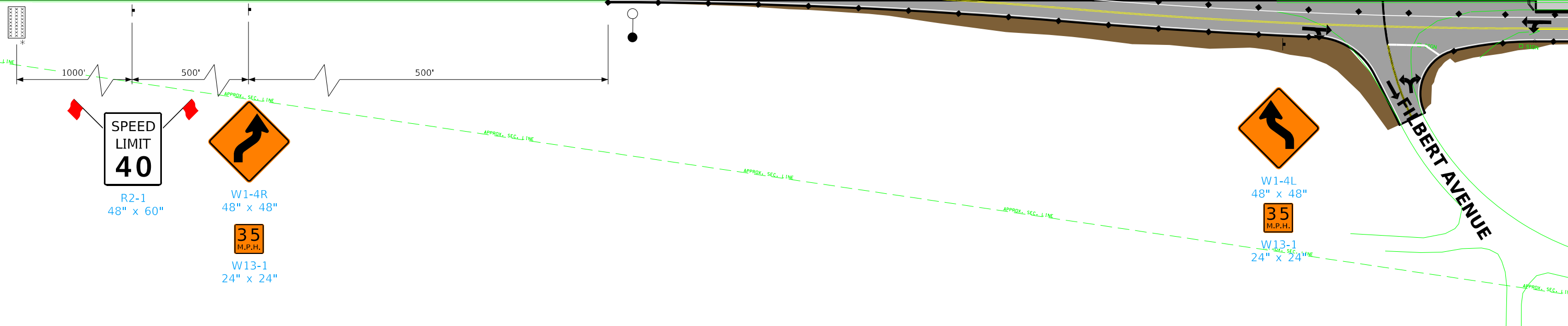
IA-175 (SR175)



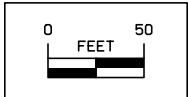
W1-6  
48" x 24"

□ SIGN

□ SIGN

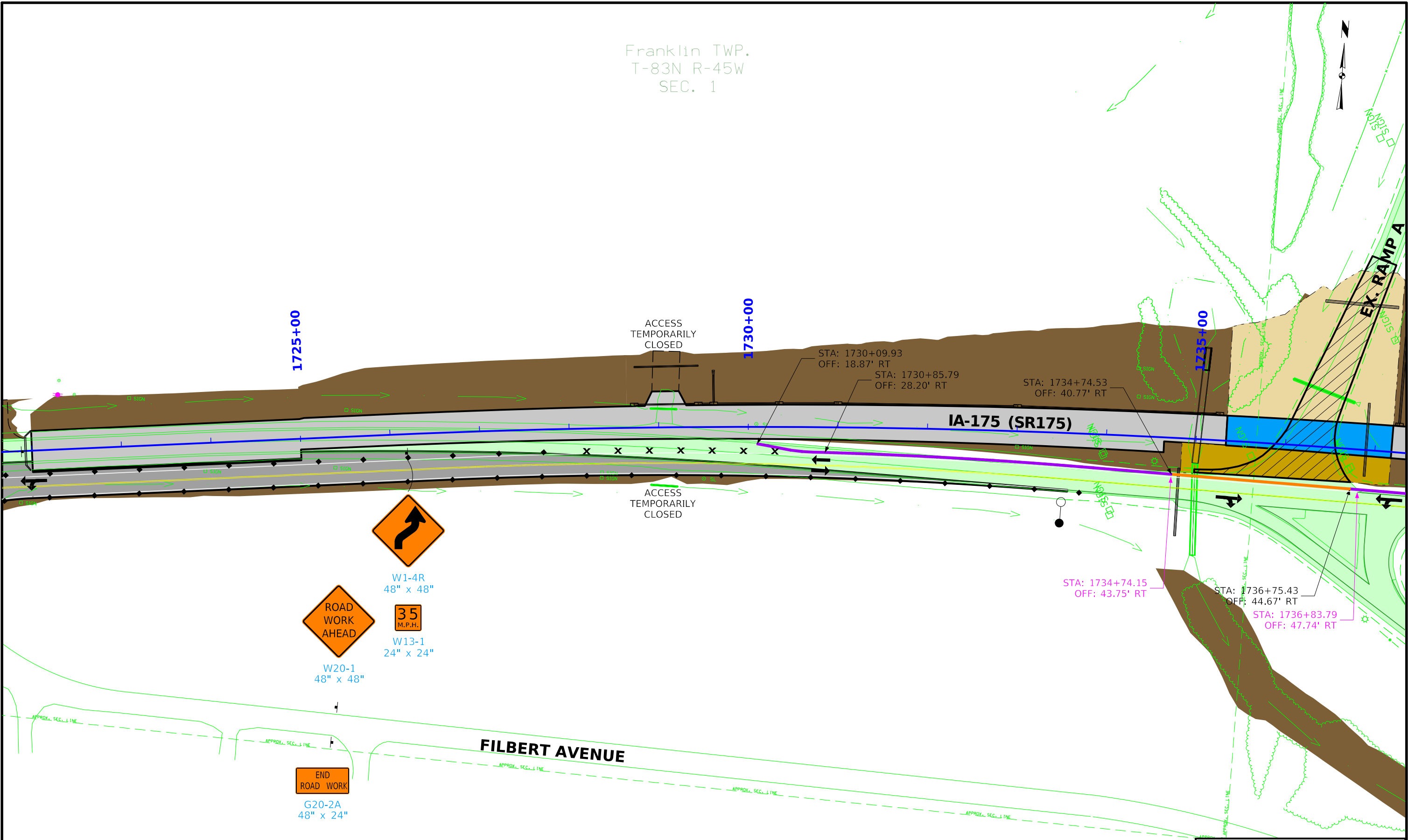


\*Possible PDMS. Exact location and message  
of PDMS as directed by Engineer.



IA 175 Stage 4

Franklin TWP.  
T-83N R-45W  
SEC. 1

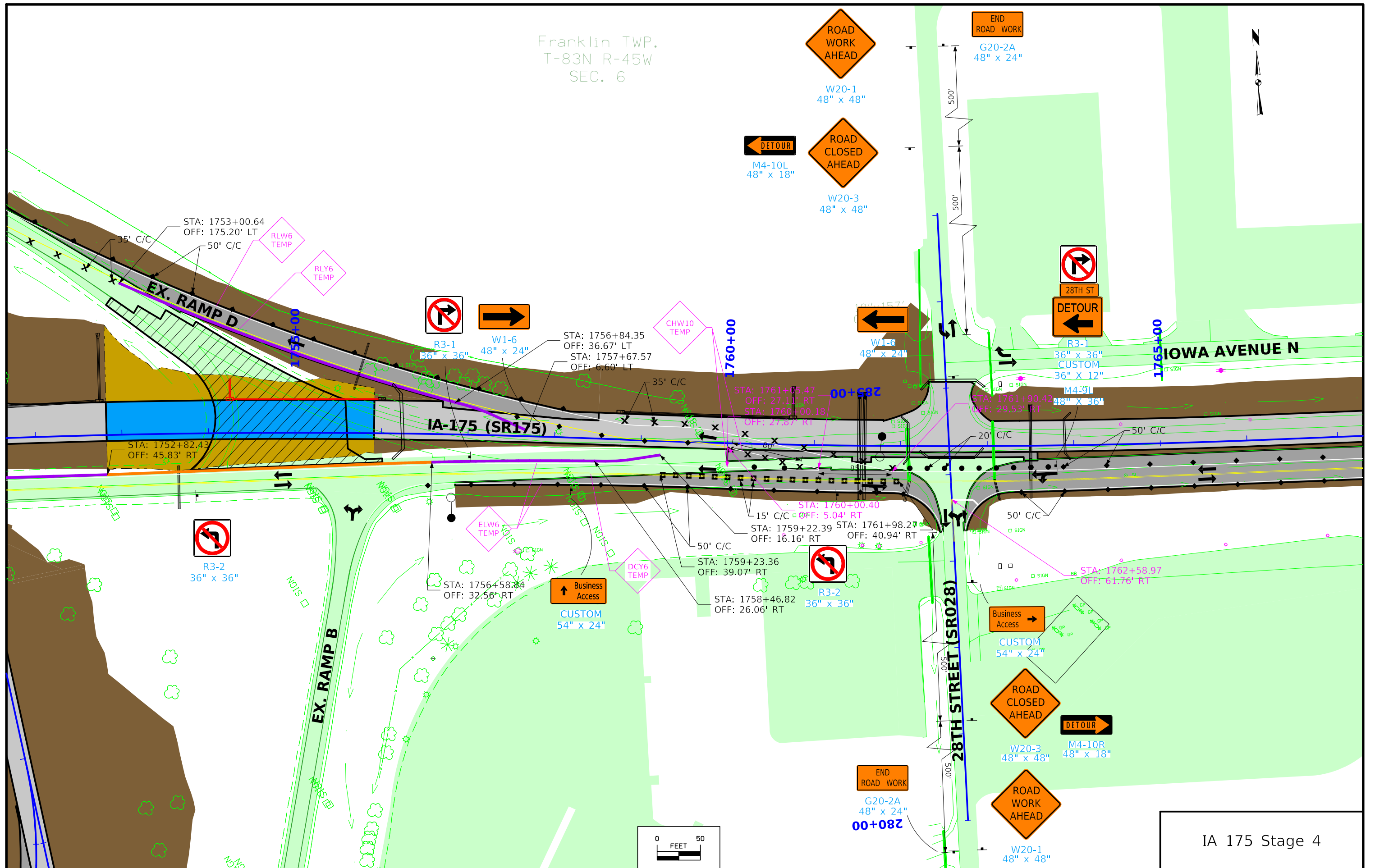


IA 175 Stage 4





Franklin TWP.  
T-83N R-45W  
SEC. 6



IA 175 Stage 4



W20-1  
48" x 48"

END  
ROAD WORK

G20-2A  
48" x 24"  
Franklin TWP.  
T-83N R-45W  
SEC. 6

Business  
Access →

28TH ST



CUSTOM  
54" x 24"  
CUSTOM  
36" x 12"  
M4-9R  
48" x 36"



W1-4L  
48" x 48"

35  
M.P.H.

W13-1  
24" x 24"

SPEED  
LIMIT  
40

R2-1  
48" x 60"

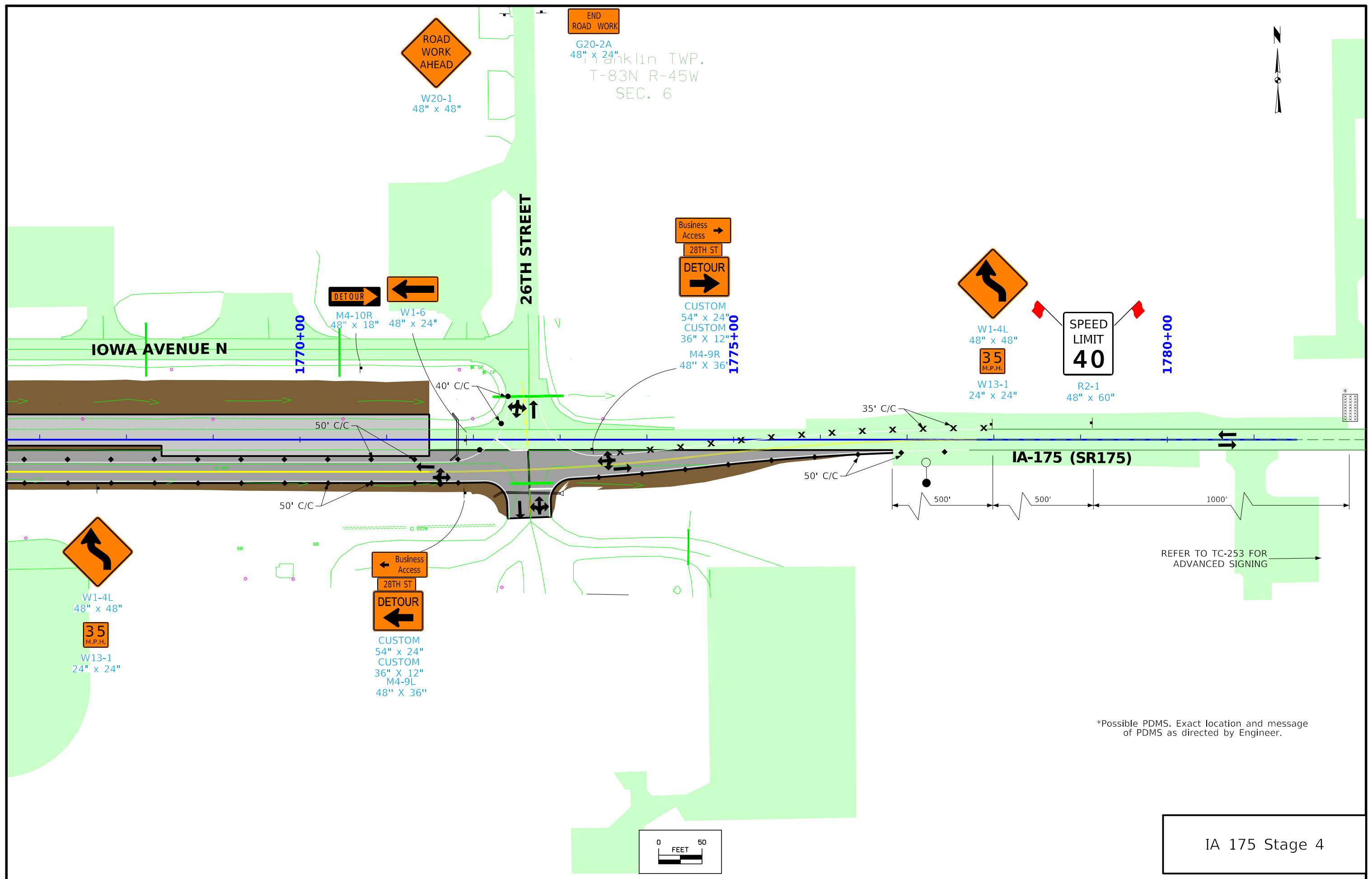
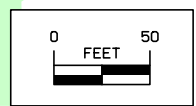
1780+00

IA-175 (SR175)

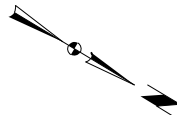
REFER TO TC-253 FOR  
ADVANCED SIGNING

\*Possible PDMS. Exact location and message  
of PDMS as directed by Engineer.

IA 175 Stage 4



Franklin TWP.  
T-83N R-45W  
SEC. 7



FILBERT AVENUE

710+00  
END  
ROAD WORK  
G20-2A  
48" x 24"

715+00

720+00

725+00

MAINLINE I-29 (ML029)



W20-1  
48" x 48"



REFER TO TC-417  
FOR ADVANCED SIGNING

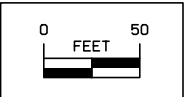
EXIT  
CLOSED

E5-2a  
48" x 36"

SIGN  
SIGN

SIGN  
SIGN

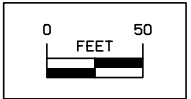
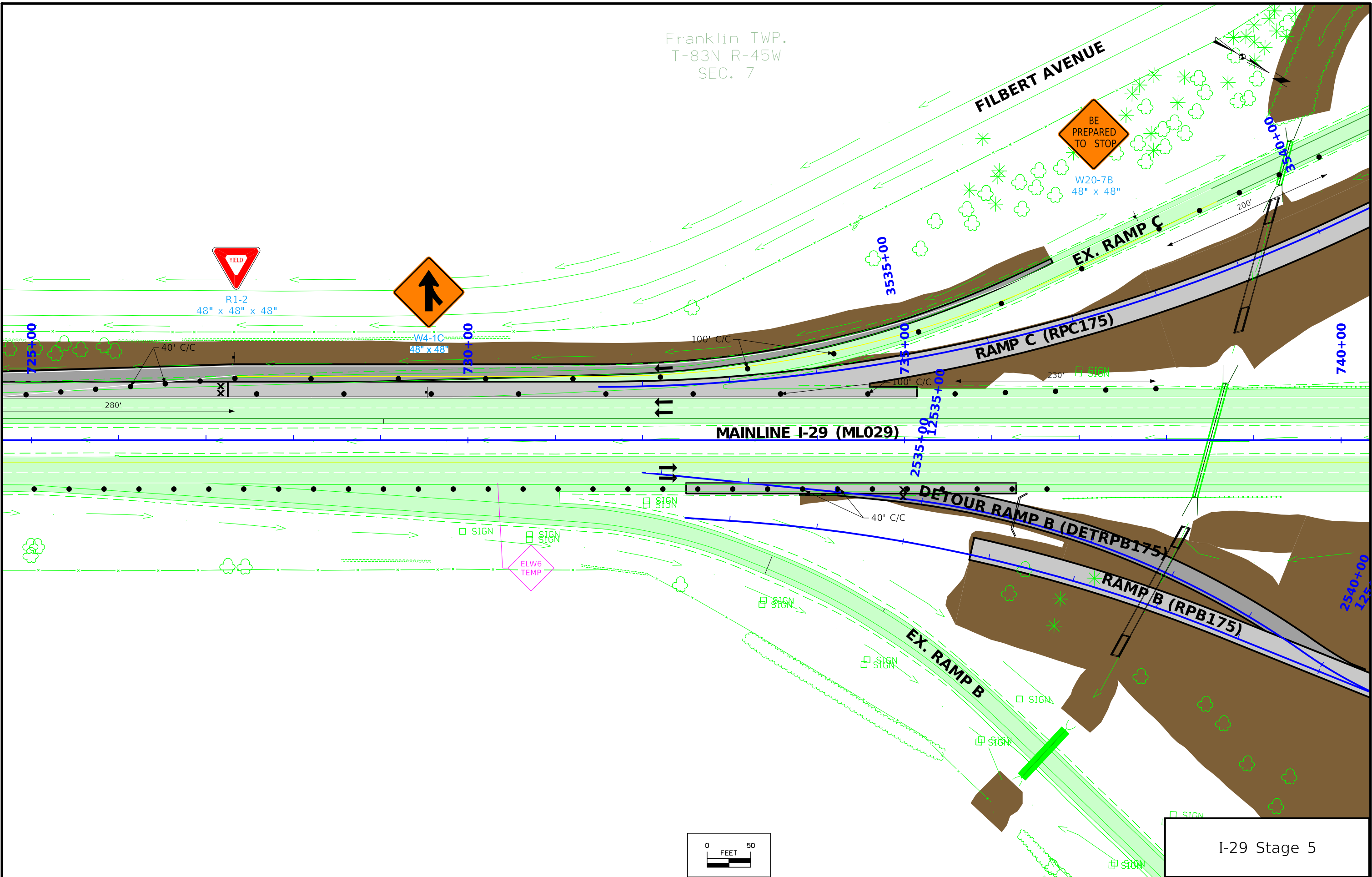
\*Possible PDMS. Exact location and message  
of PDMS as directed by Engineer.



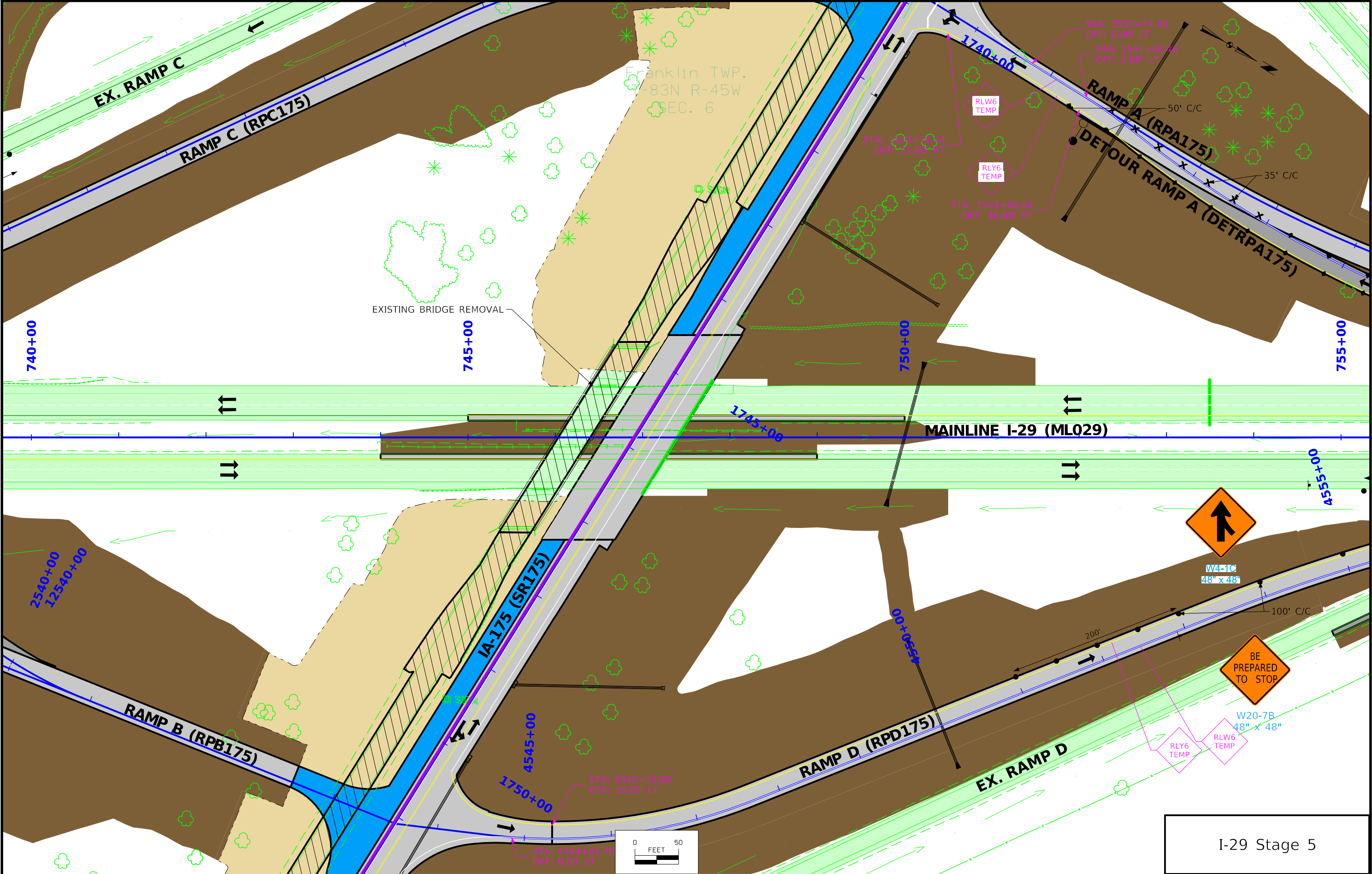
I-29 Stage 5

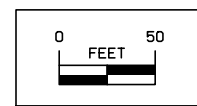


Franklin TWP.  
T-83N R-45W  
SEC. 7



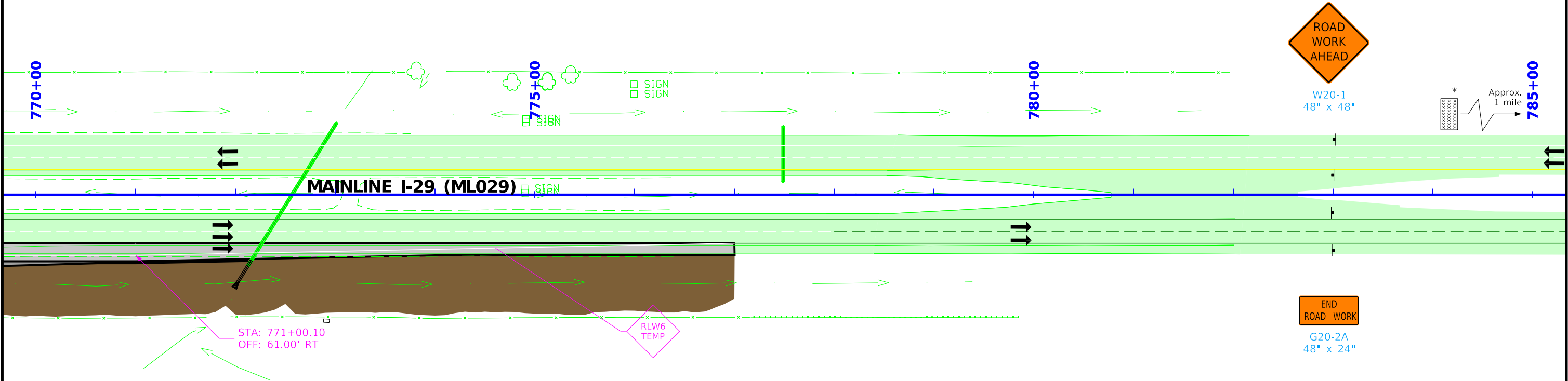
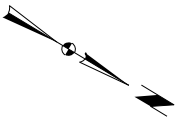
I-29 Stage 5



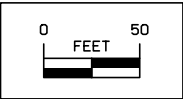


FILE NO.	ENGLISH	DESIGN TEAM <b>Iowa DOT / HR Green</b>	<b>MONONA COUNTY</b>	PROJECT NUMBER <b>STP-175-1(95)--2C-67</b>	SHEET NUMBER <b>J.59</b>
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Franklin TWP.  
T-83N R-45W  
SEC. 1



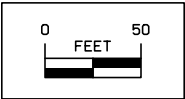
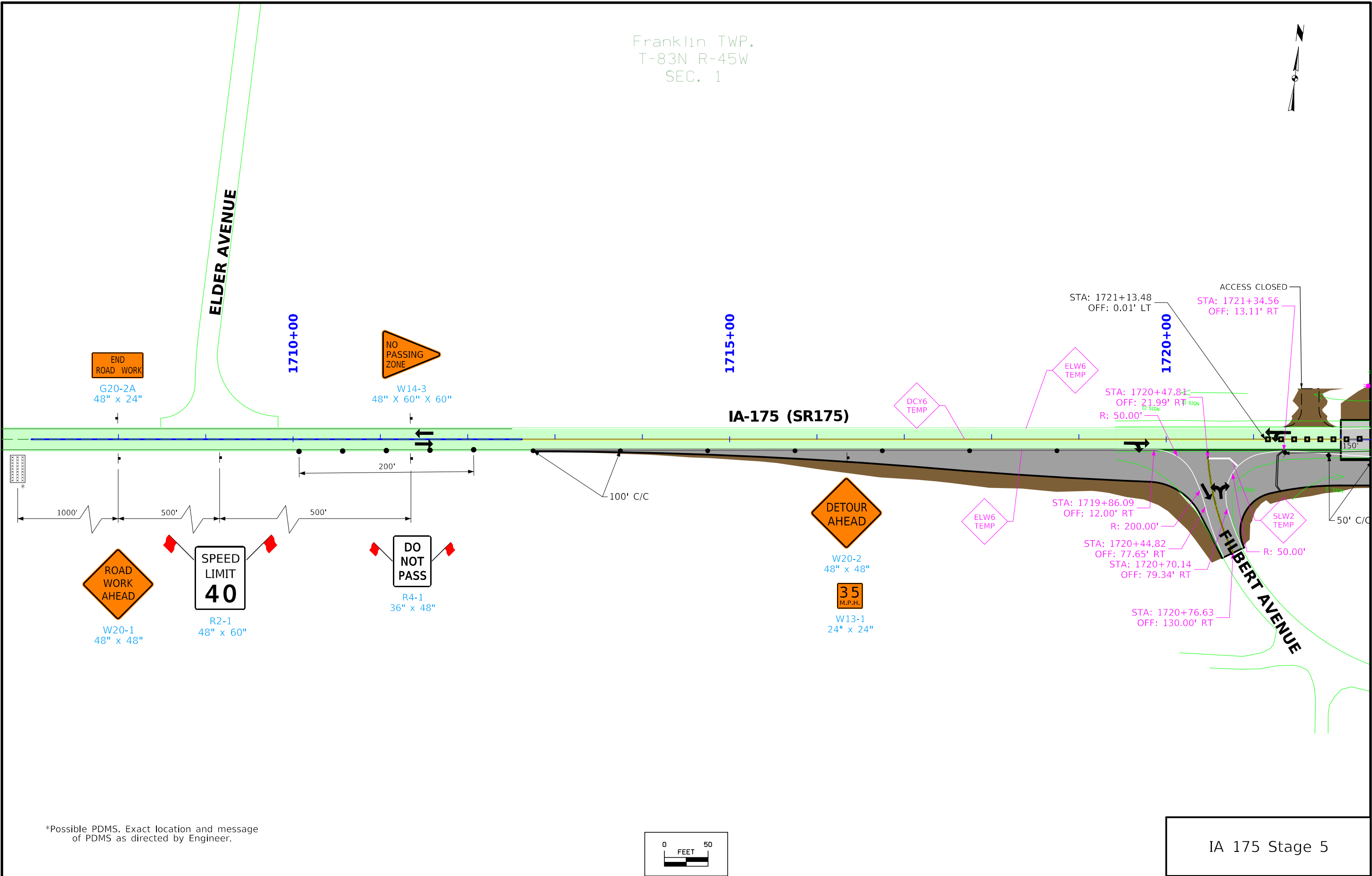
\*Possible PDMS. Exact location and message  
of PDMS as directed by Engineer.



I-29 Stage 5

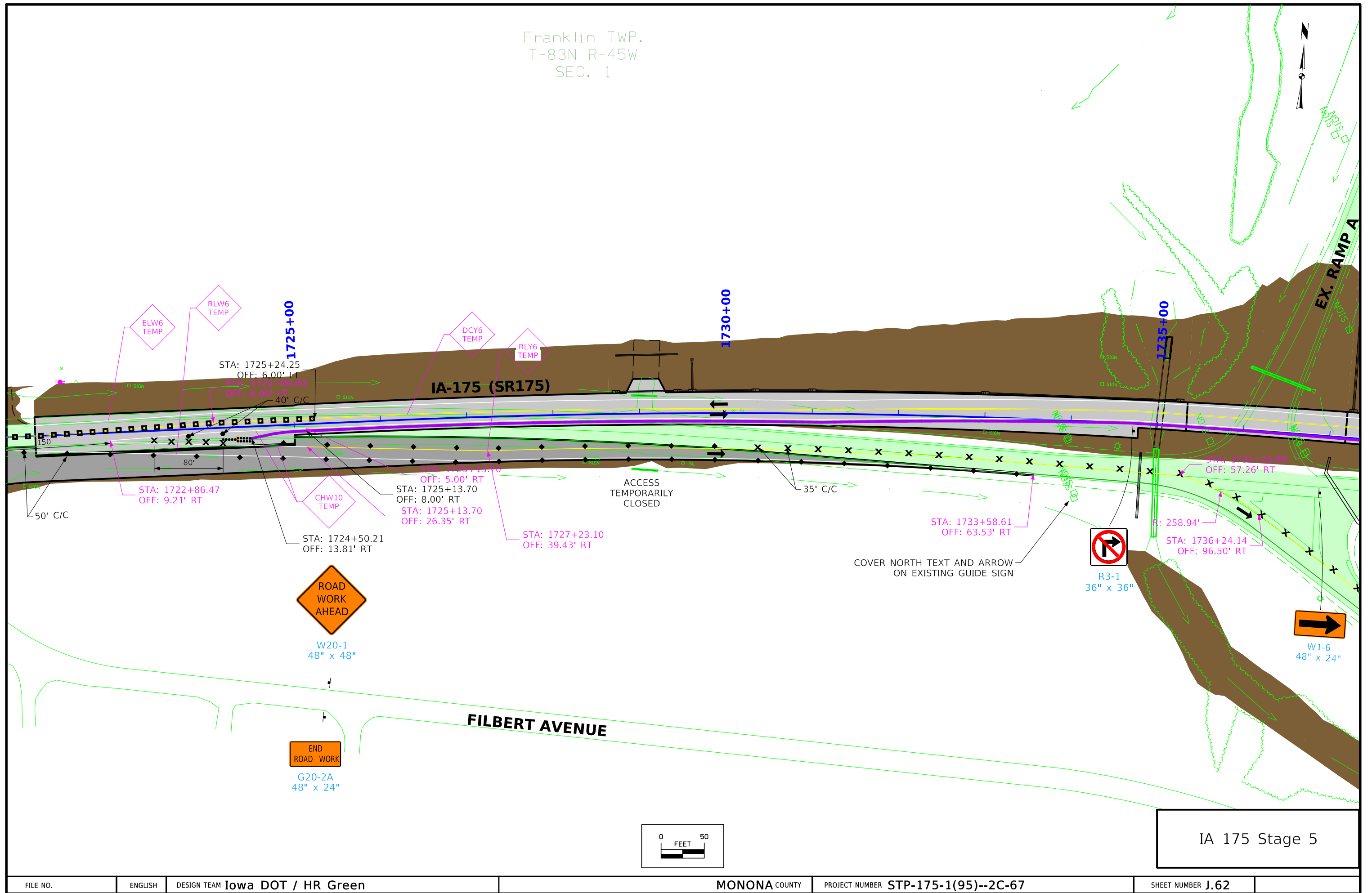


Franklin TWP.  
T-83N R-45W  
SEC. 1



IA 175 Stage 5

Franklin TWP.  
T-83N R-45W  
SEC. 1



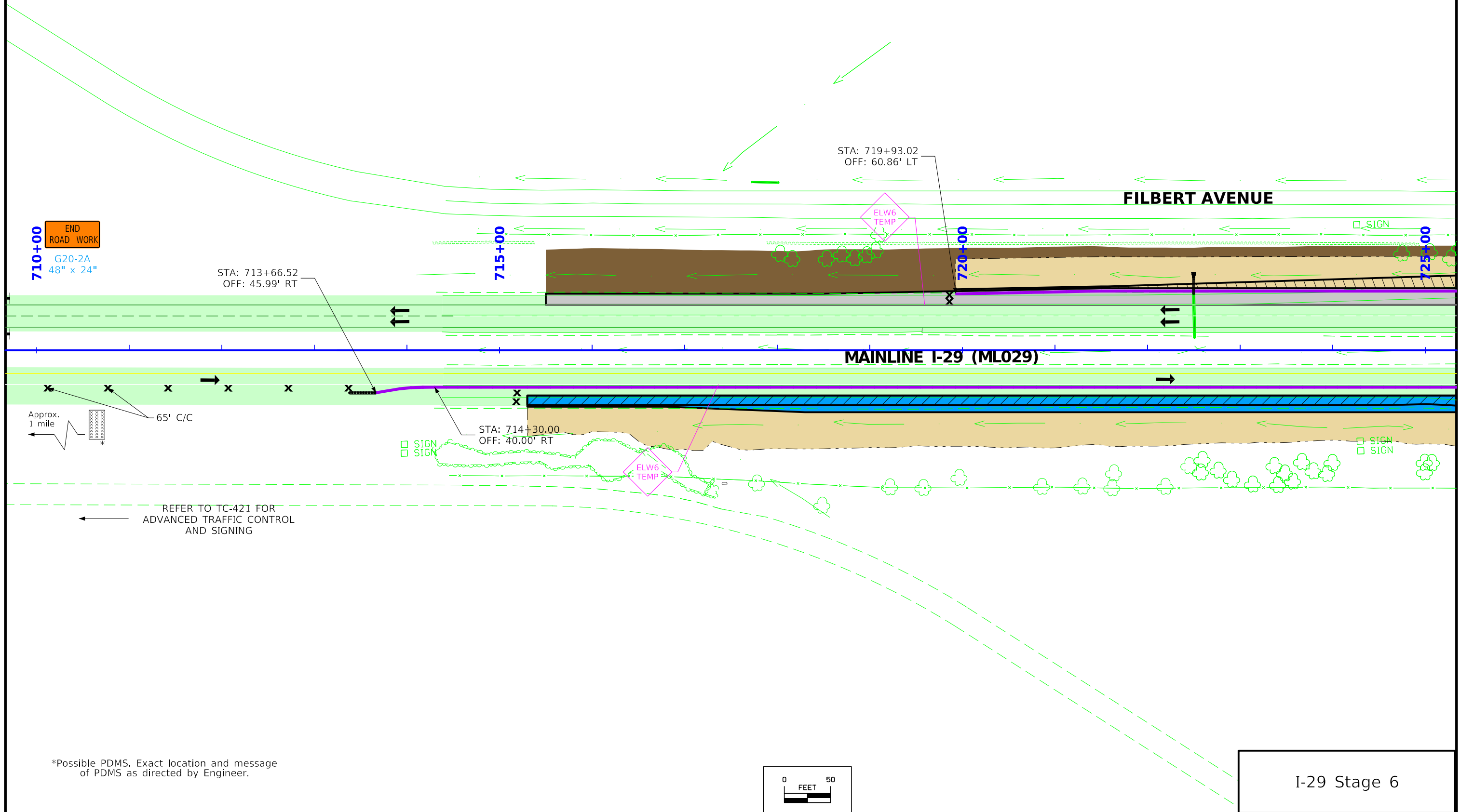
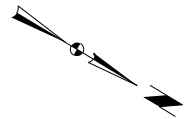


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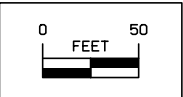




Franklin TWP.  
T-83N R-45W  
SEC. 7

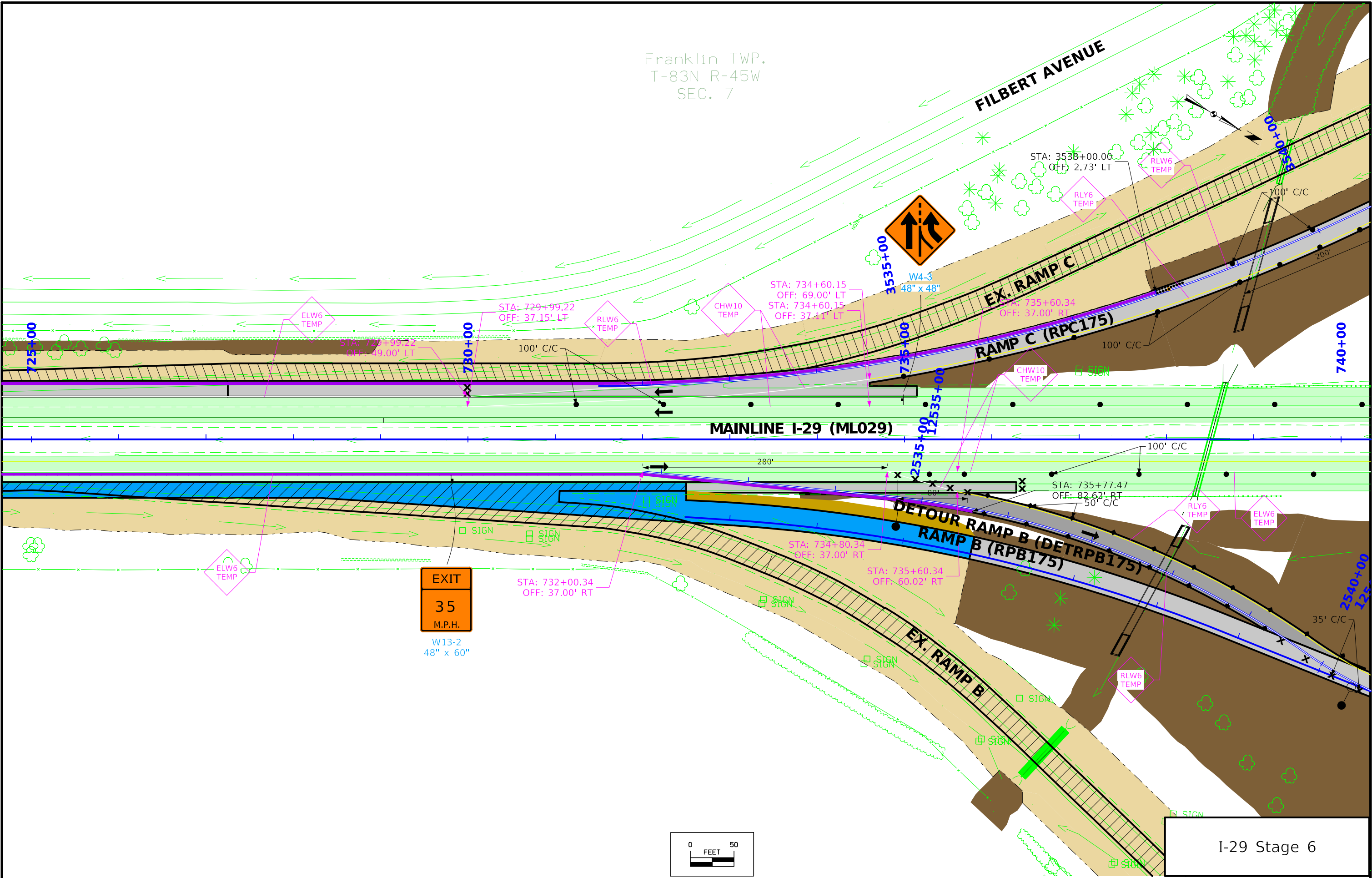


\*Possible PDMS. Exact location and message  
of PDMS as directed by Engineer.

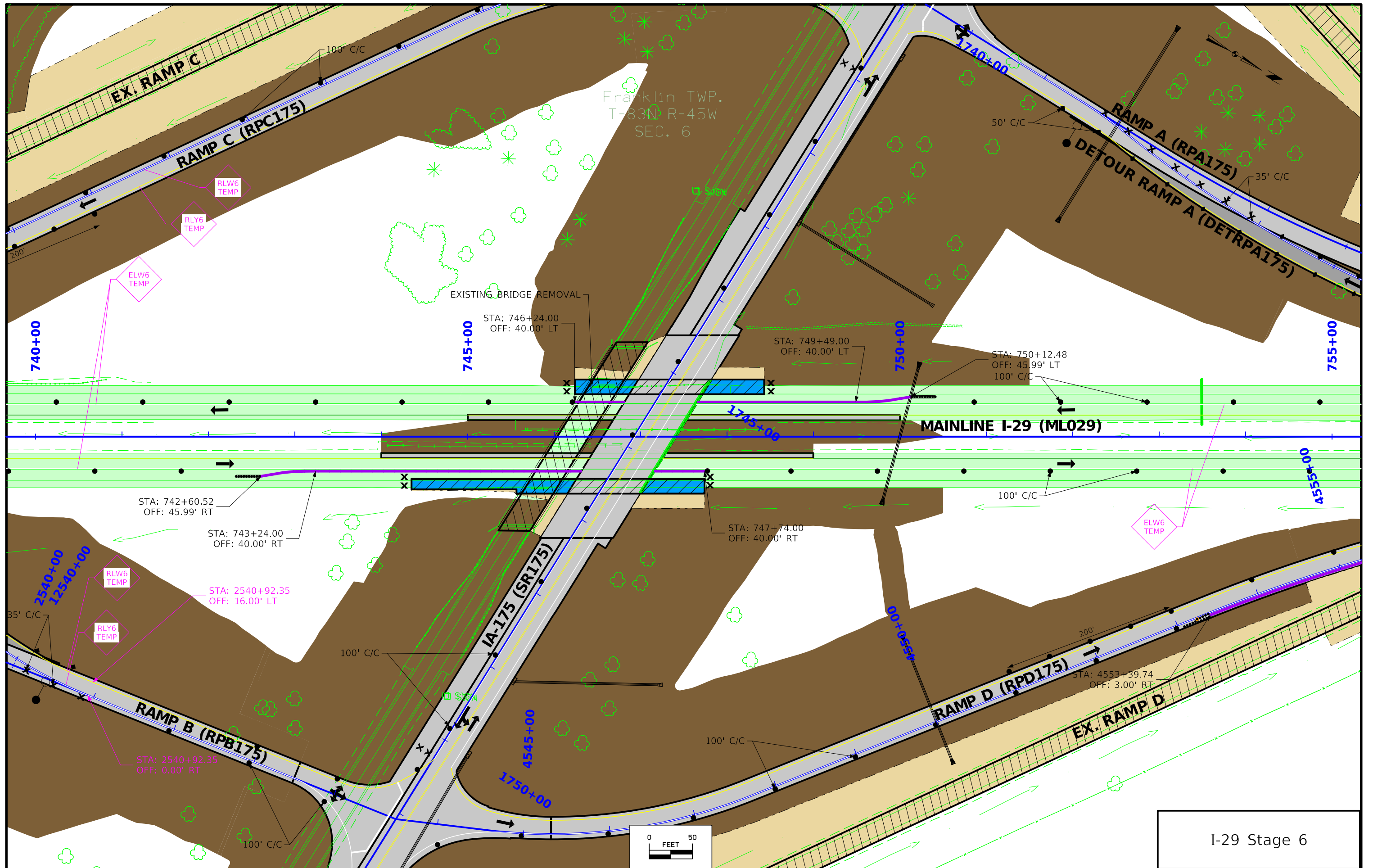


I-29 Stage 6

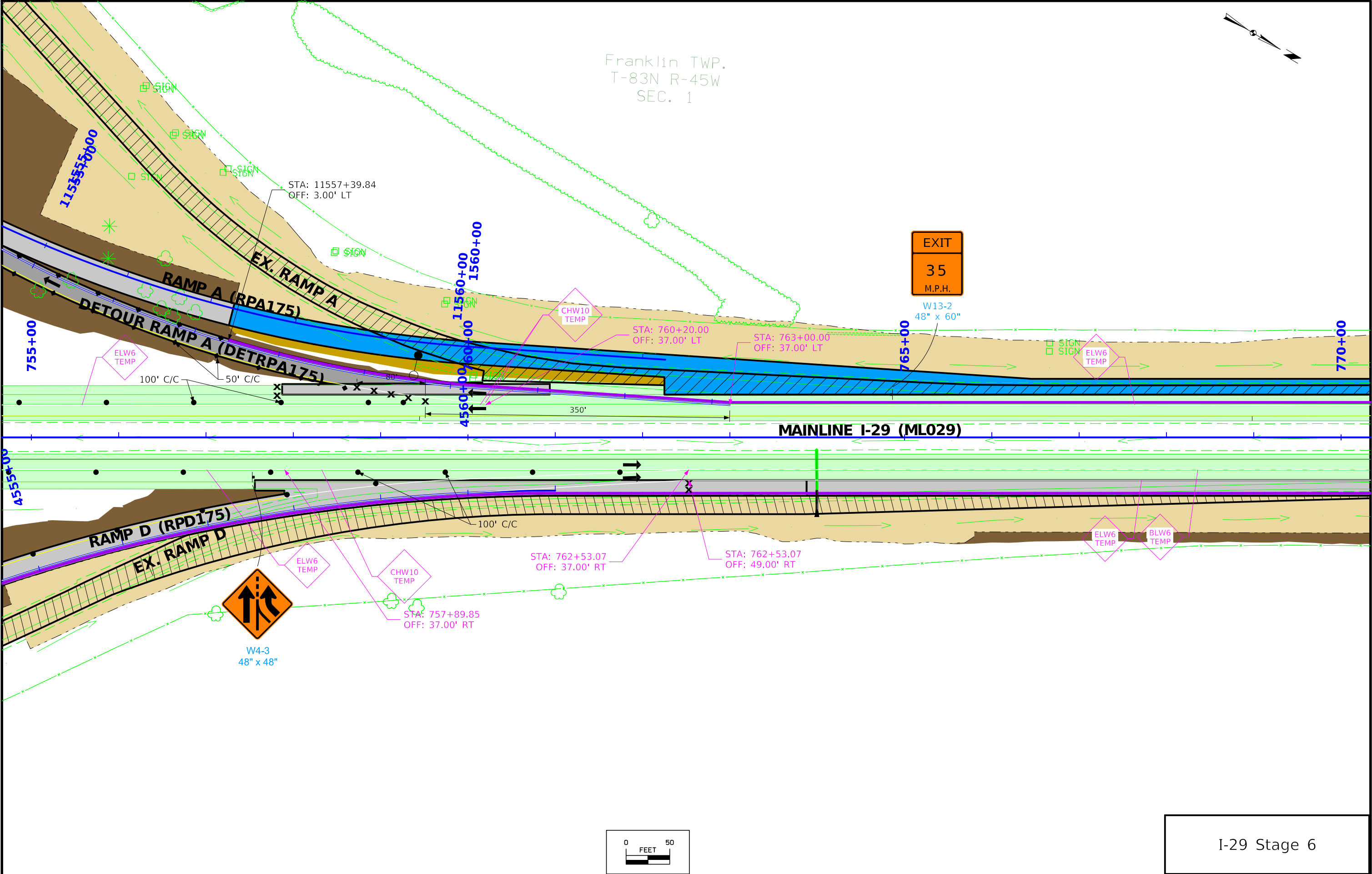
Franklin TWP.  
T-83N R-45W  
SEC. 7

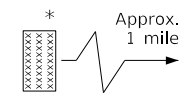




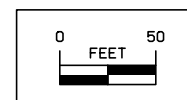


I-29 Stage 6

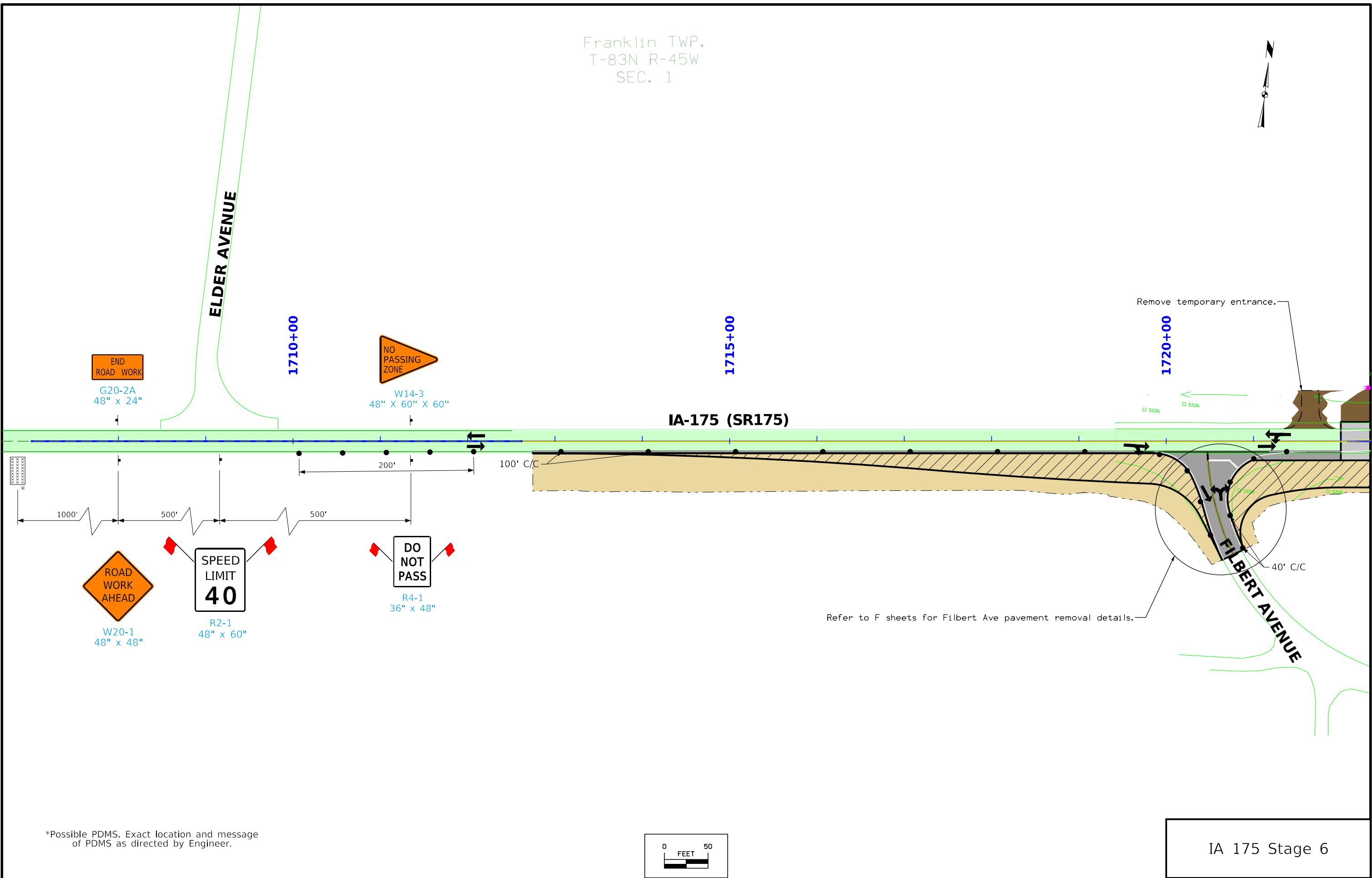




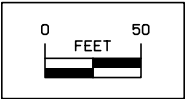
I-29 Stage 6



Franklin TWP.  
T-83N R-45W  
SEC. 1

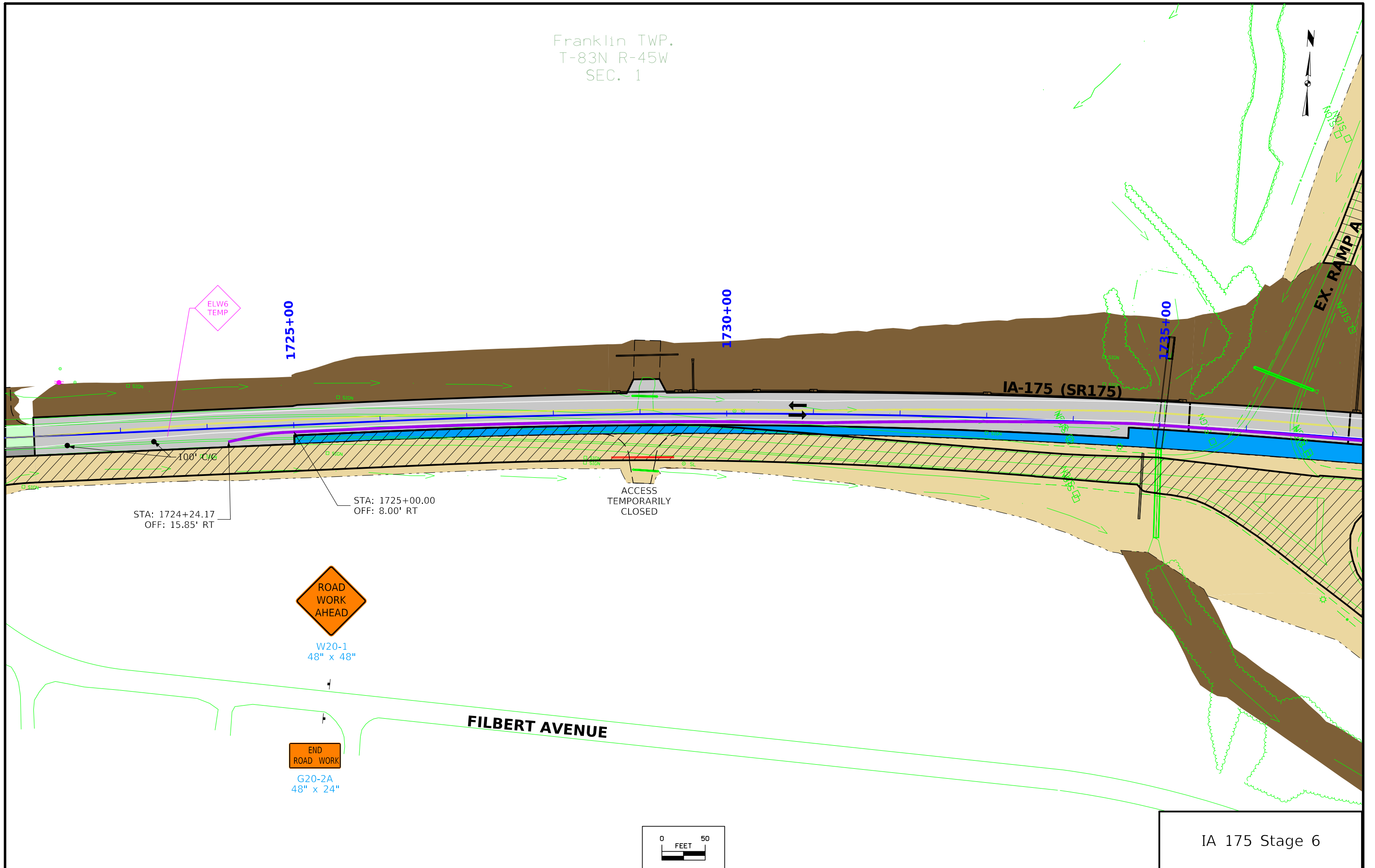


\*Possible PDMS. Exact location and message  
of PDMS as directed by Engineer.



IA 175 Stage 6

Franklin TWP.  
T-83N R-45W  
SEC. 1













W20-1  
48" x 48"

END  
ROAD WORK

G20-2A  
48" x 24"

Franklin TWP.  
T-83N R-45W  
SEC. 6

26TH STREET

IOWA AVENUE N

1770+00

1775+00

1780+00

DO NOT  
PASS

R4-1  
36" x 48"

SPEED  
LIMIT  
40

R2-1  
48" x 60"



W20-1  
48" x 48"

IA-175 (SR175)

100' C/C

500'

500'

1000'



W14-3  
48" X 60" X 60"

END  
ROAD WORK

G20-2A  
48" x 24"

STA: 1771+48.97  
OFF: 14.99' RT

Refer to F sheets for 26th St pavement removal details.

40' C/C

0 50  
FEET

\*Possible PDMS. Exact location and message  
of PDMS as directed by Engineer.

IA 175 Stage 6

FILE NO.

ENGLISH

DESIGN TEAM Iowa DOT / HR Green

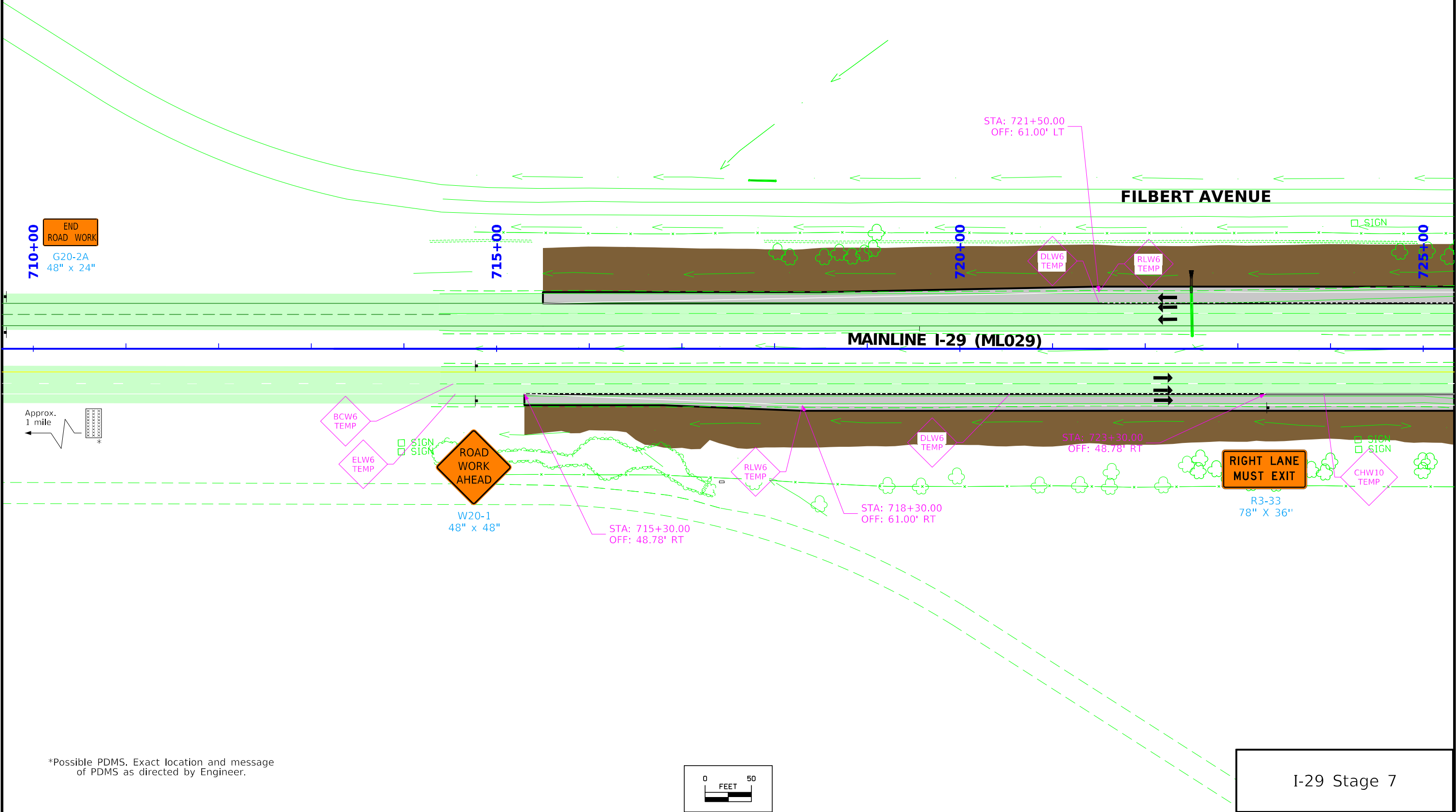
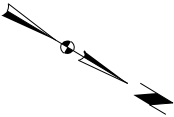
MONONA COUNTY

PROJECT NUMBER STP-175-1(95)--2C-67

SHEET NUMBER J.75

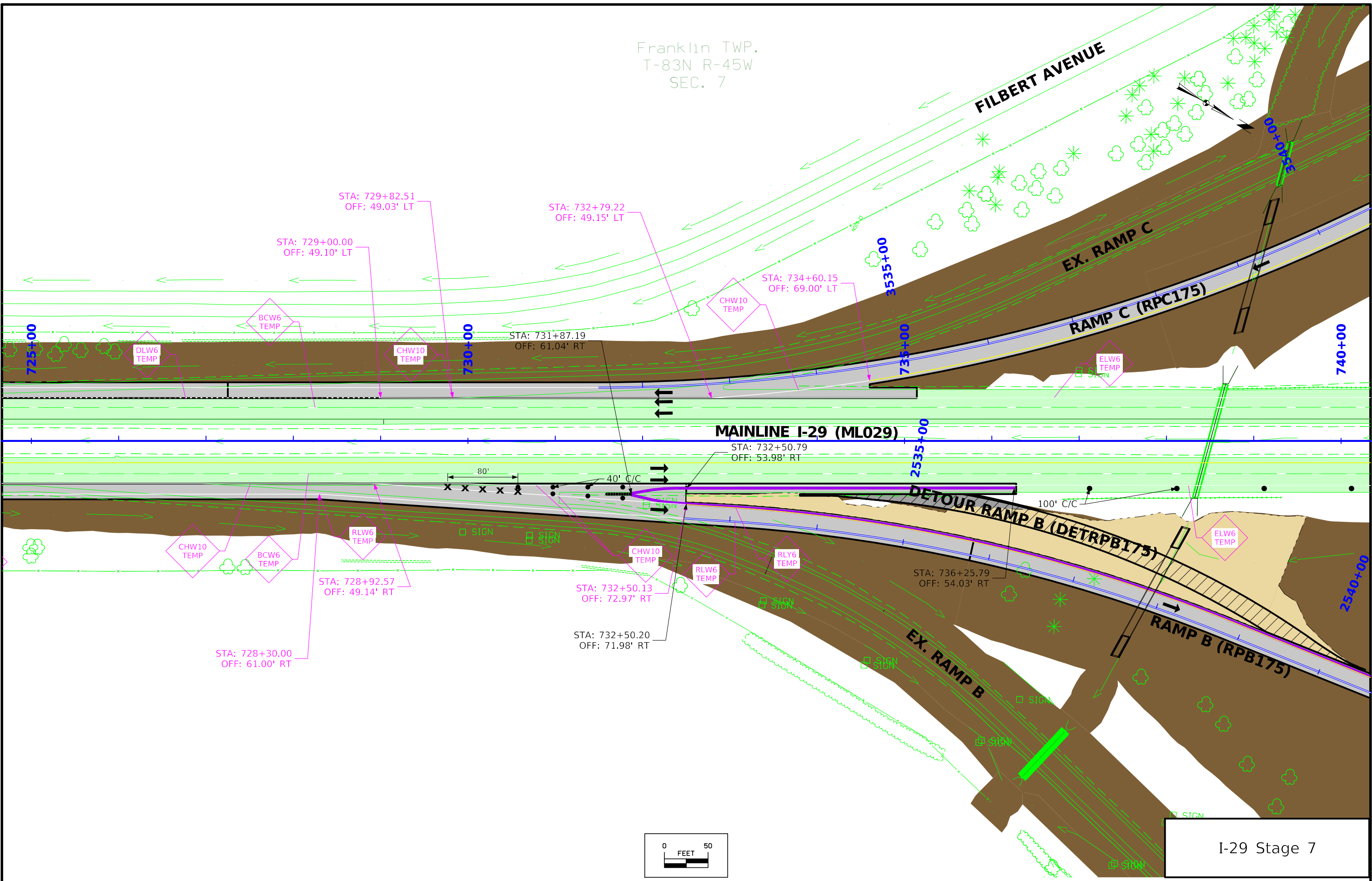
5:10:33 PM 10/15/2025 brycen.snell pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\6717502021\Design\CADD\_Files\Sheet\_Files\SHI\_67175095\_J13\_Z06

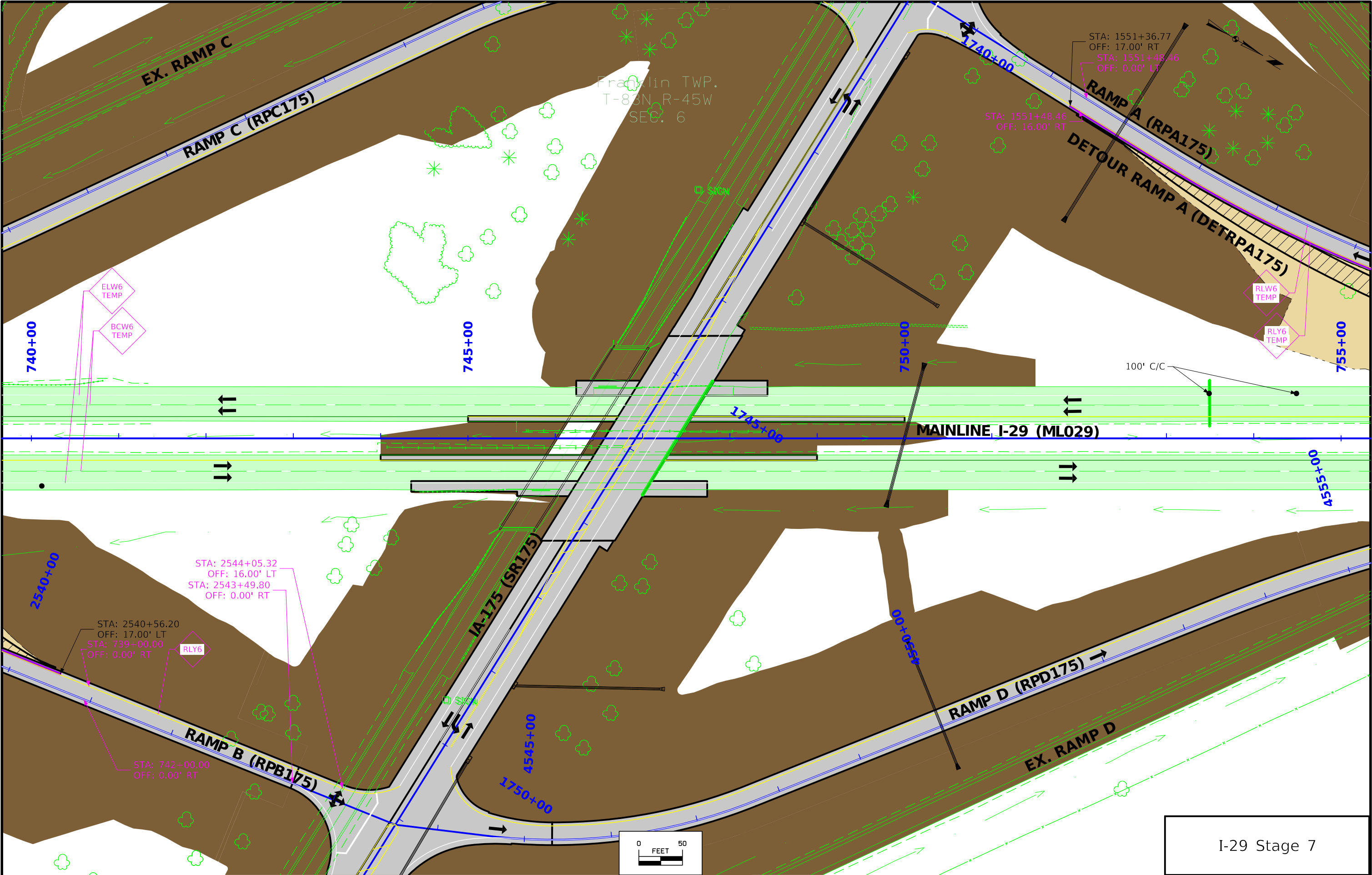
Franklin TWP.  
T-83N R-45W  
SEC. 7

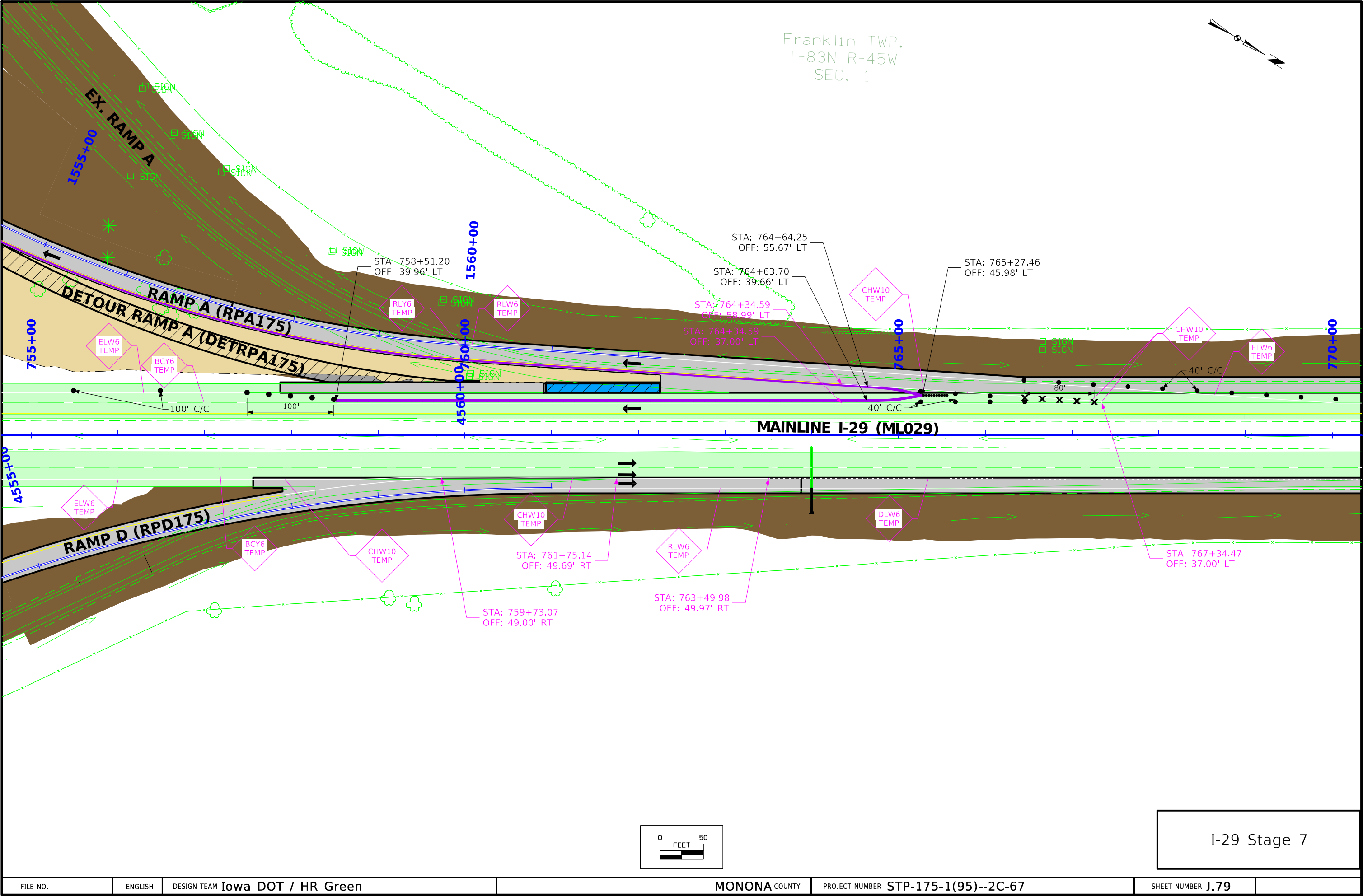


I-29 Stage 7

Franklin TWP.  
T-83N R-45W  
SEC. 7



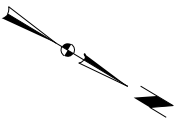




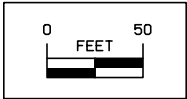
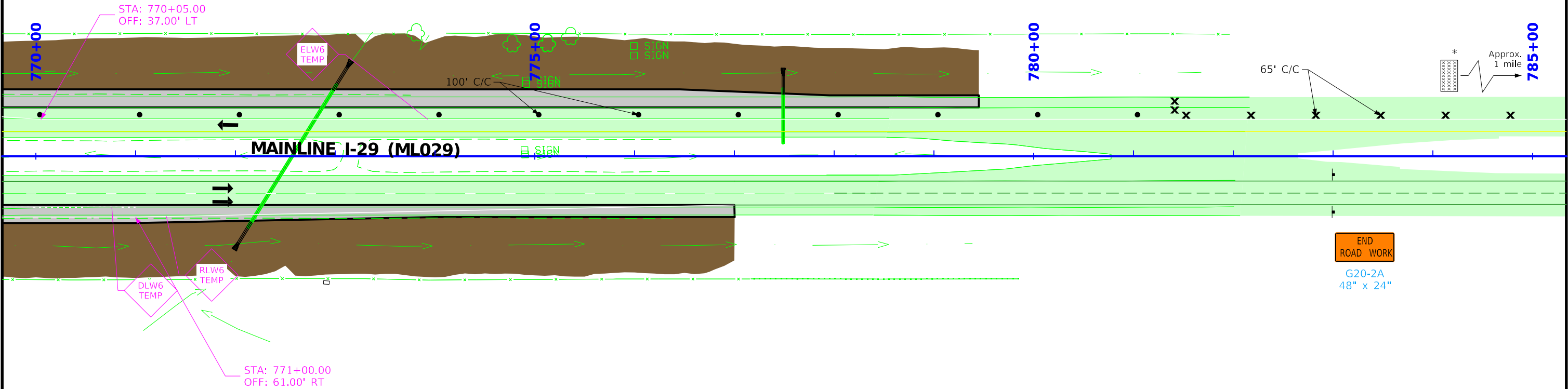
I-29 Stage 7



Franklin TWP.  
T-83N R-45W  
SEC. 1



MAINTAIN ADVANCED TRAFFIC CONTROL  
AND SIGNING SHOWN IN STAGE 6



\*Possible PDMS. Exact location and message  
of PDMS as directed by Engineer.

I-29 Stage 7

Franklin TWP.  
T-83N R-45W  
SEC. 1



ELDER AVENUE

1710+00

1715+00

1720+00

IA-175 (SR175)

HILBERT AVENUE

END  
ROAD WORK  
G20-2A  
48" x 24"

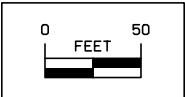
NO  
PASSING  
ZONE  
W14-3  
48" X 60" X 60"

ROAD  
WORK  
AHEAD  
W20-1  
48" x 48"

SPEED  
LIMIT  
40  
R2-1  
48" x 60"

DO  
NOT  
PASS  
R4-1  
36" x 48"

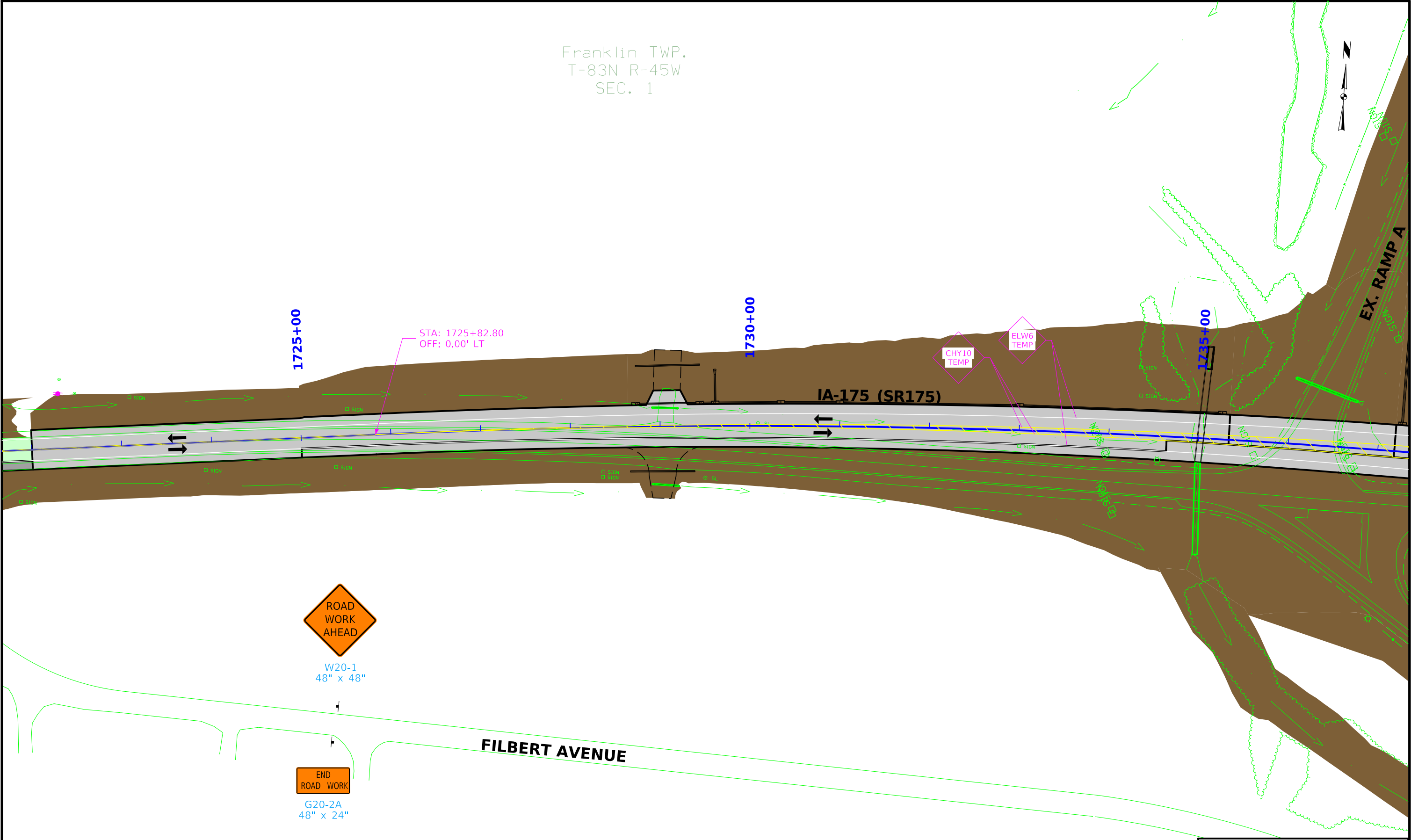
\*Possible PDMS. Exact location and message  
of PDMS as directed by Engineer.



IA 175 Stage 7



Franklin TWP.  
T-83N R-45W  
SEC. 1



W20-1  
48" x 48"

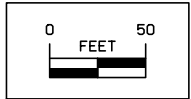


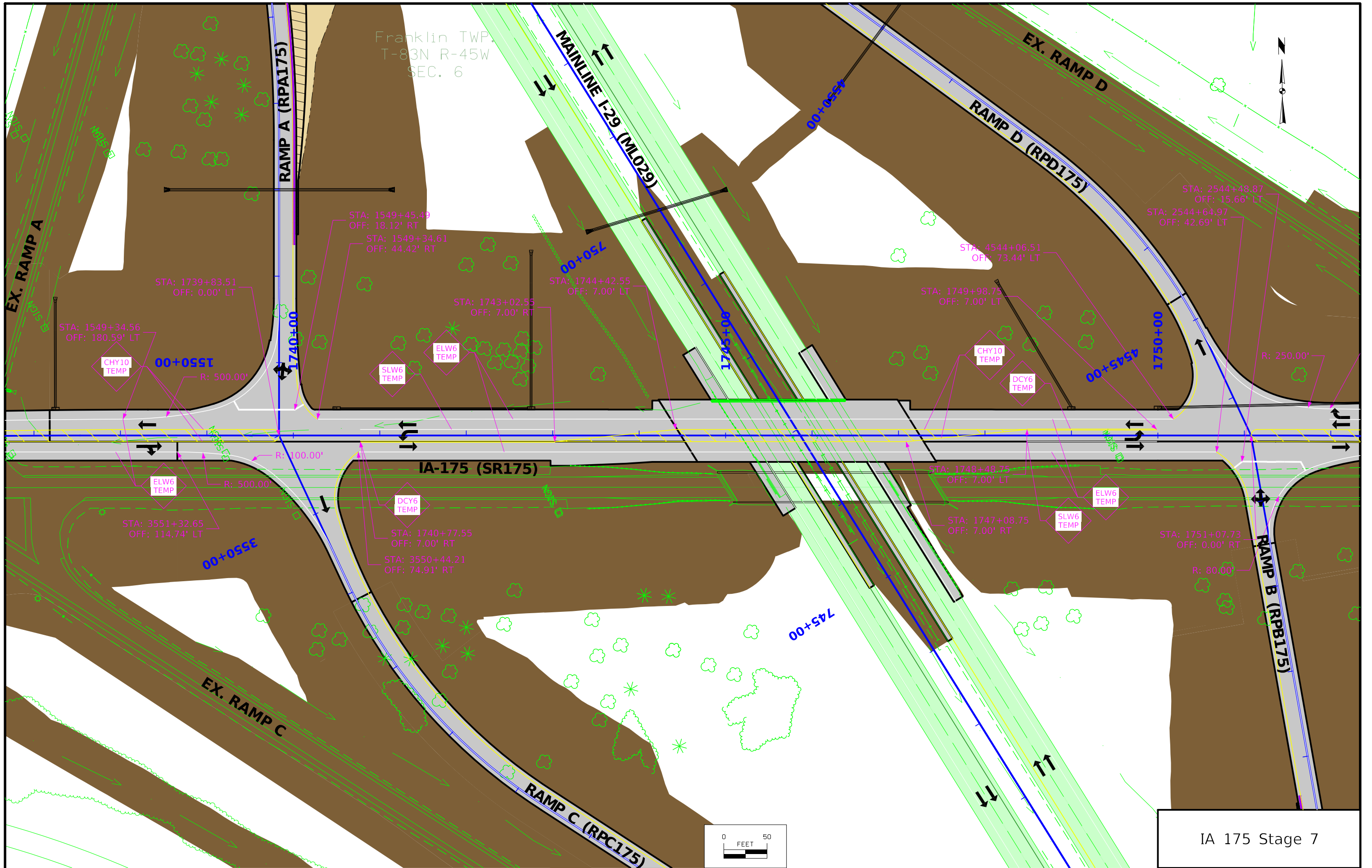
G20-2A  
48" x 24"

FILBERT AVENUE

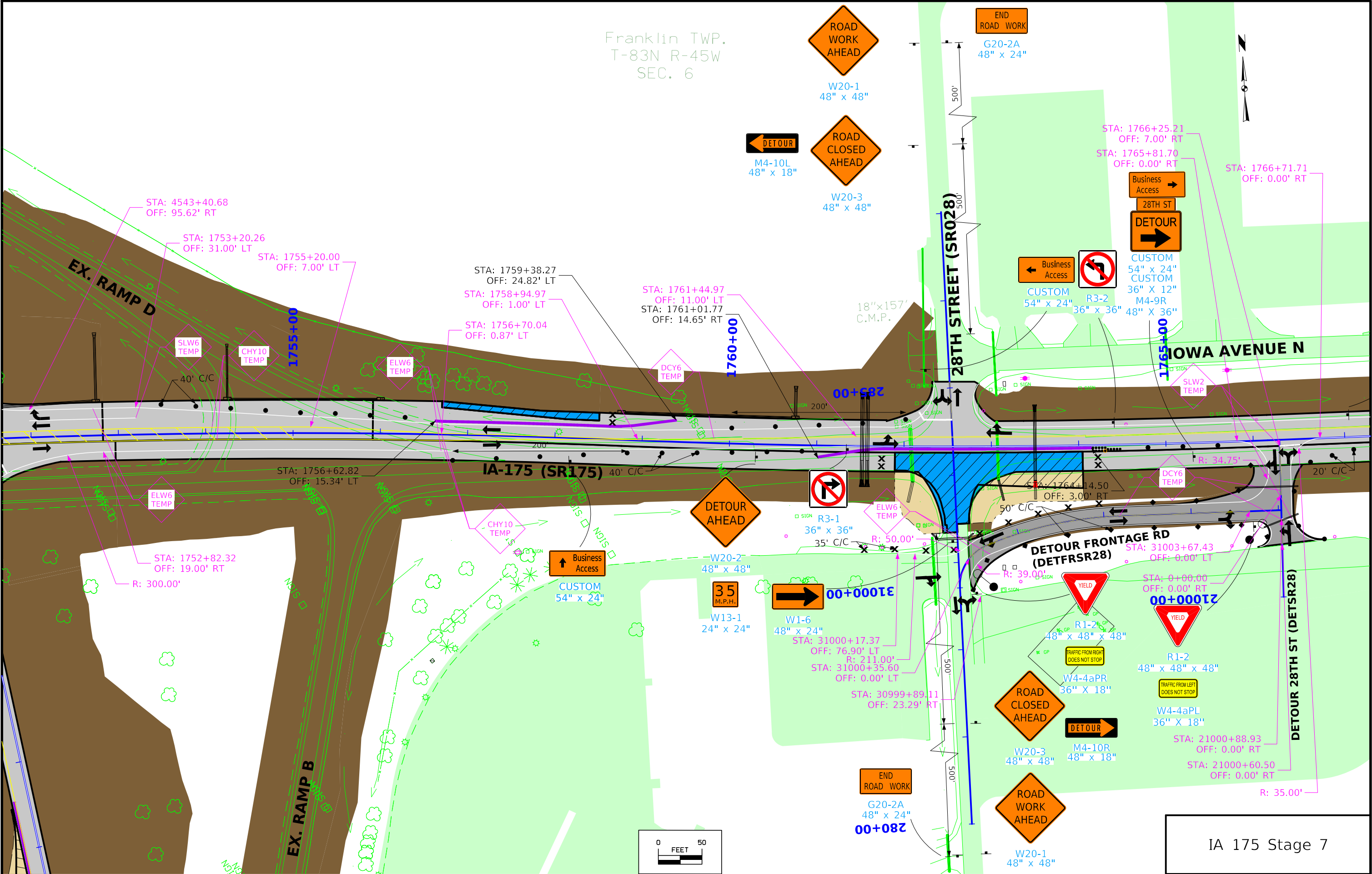
IA-175 (SR175)

IA 175 Stage 7





IA 175 Stage 7





W20-1  
48" x 48"

END  
ROAD WORK  
G20-2A  
48" x 24"

Franklin TWP.  
T-83N R-45W  
SEC. 6

Business  
Access  
28TH ST



CUSTOM  
54" x 24"  
CUSTOM  
36" x 12"  
M4-9L  
48" x 36"

IOWA AVENUE N

1770+00



W20-2  
48" x 48"

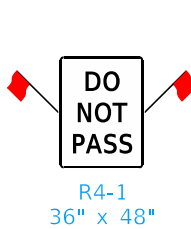
35  
M.P.H.

W13-1  
24" x 24"

26TH STREET

1775+00

IA-175 (SR175)



R4-1  
36" x 48"

SPEED  
LIMIT  
40

R2-1  
48" x 60"



W20-1  
48" x 48"

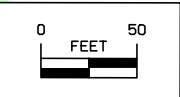
1780+00



W14-3  
48" x 60" x 60"

END  
ROAD WORK  
G20-2A  
48" x 24"

\*Possible PDMS. Exact location and message  
of PDMS as directed by Engineer.



IA 175 Stage 7



Stage 4

Detour from I-29 Southbound to IA 175

175 Onawa

RAMP CLOSED

FOLLOW DETOUR

SPECIAL

①

EXIT

CLOSED

E5-2a

②

DETOUR

175

↑

M4-8

M1-5

M6-3

③

DETOUR

175

↗

M4-8

M1-5

M5-2R

④

DETOUR

175

↘

M4-8

M1-5

M6-2L

⑤

DETOUR

175

←

M4-8

M1-5

M6-1L

⑥

END

DETOUR

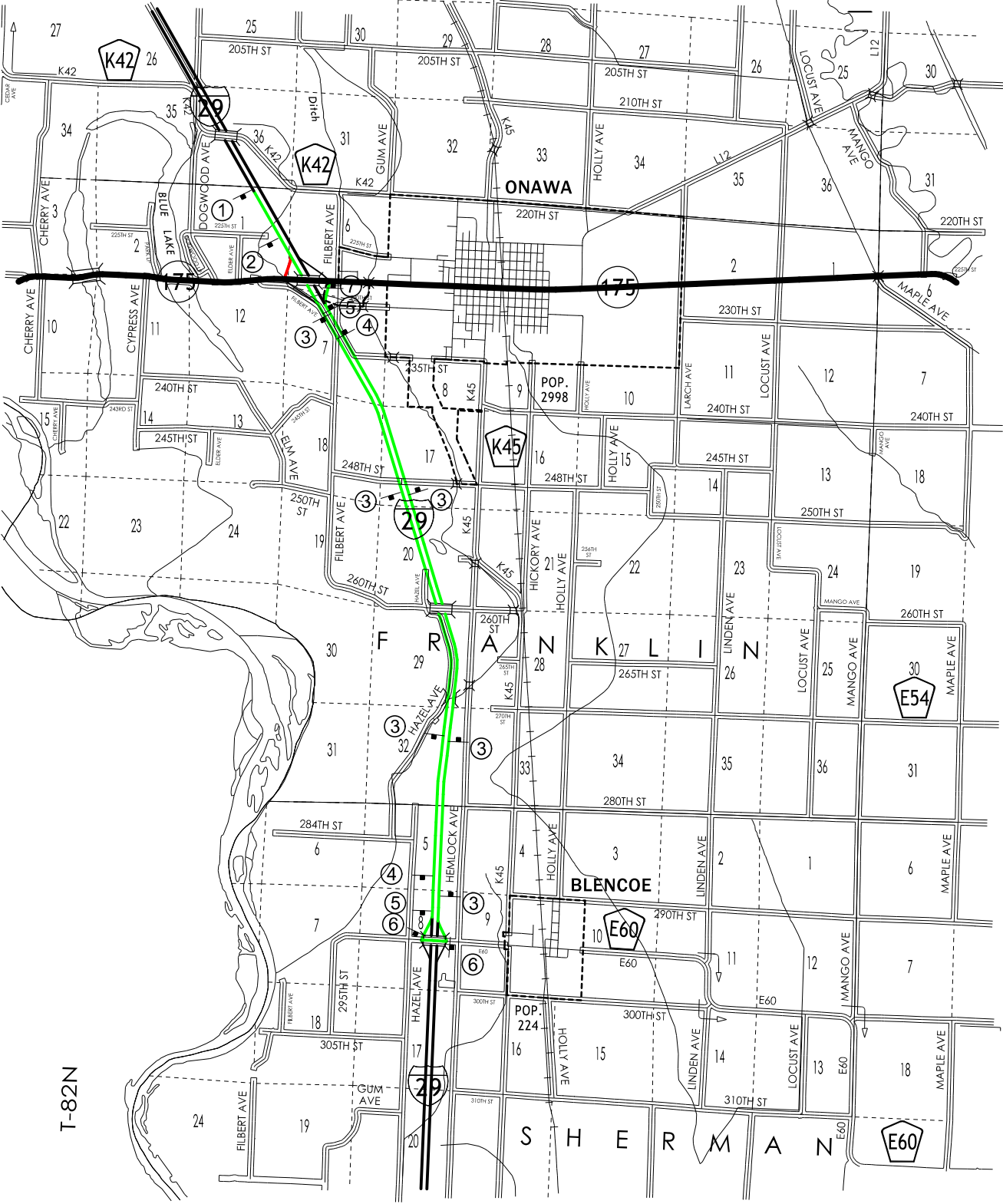
M4-8A

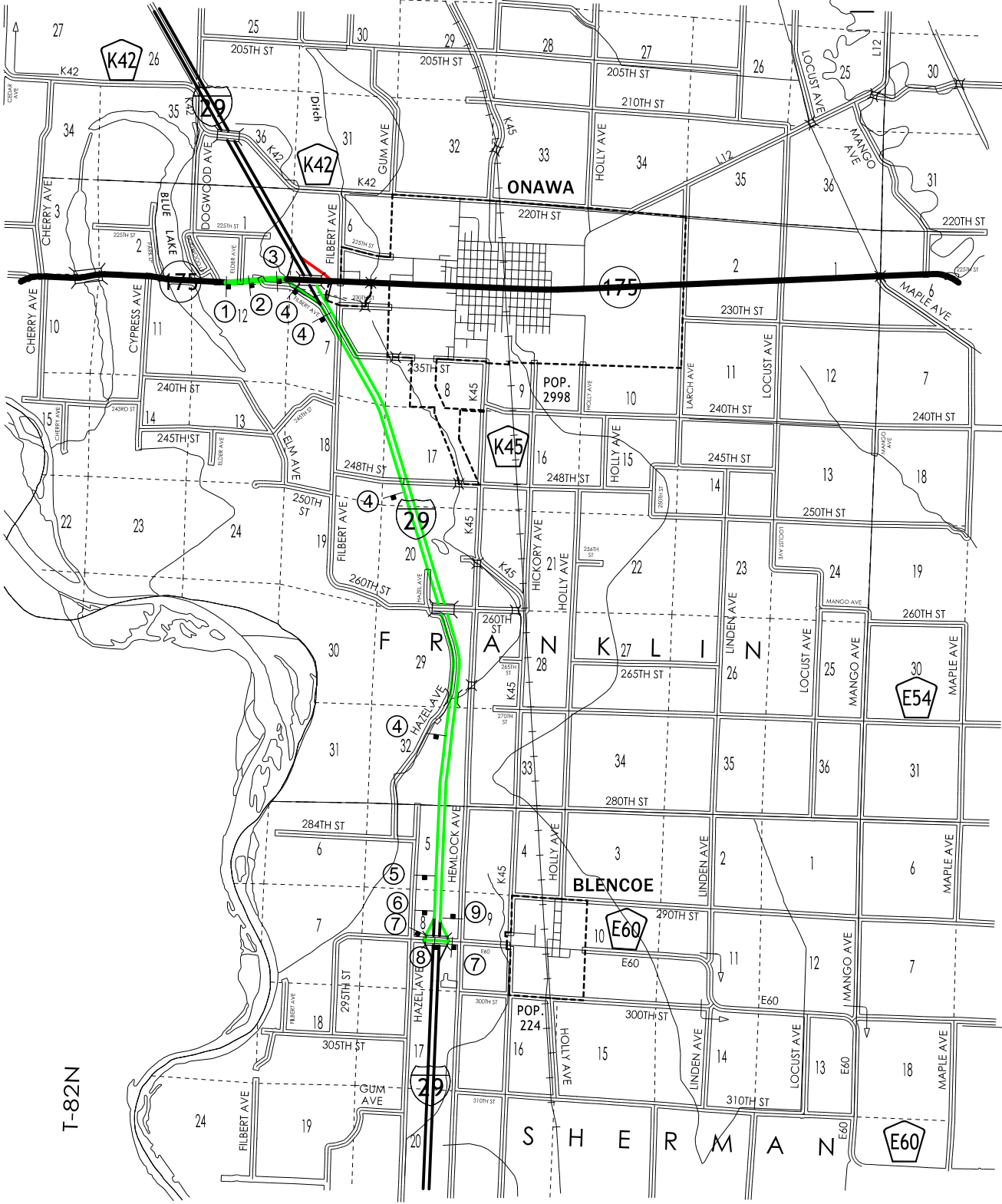
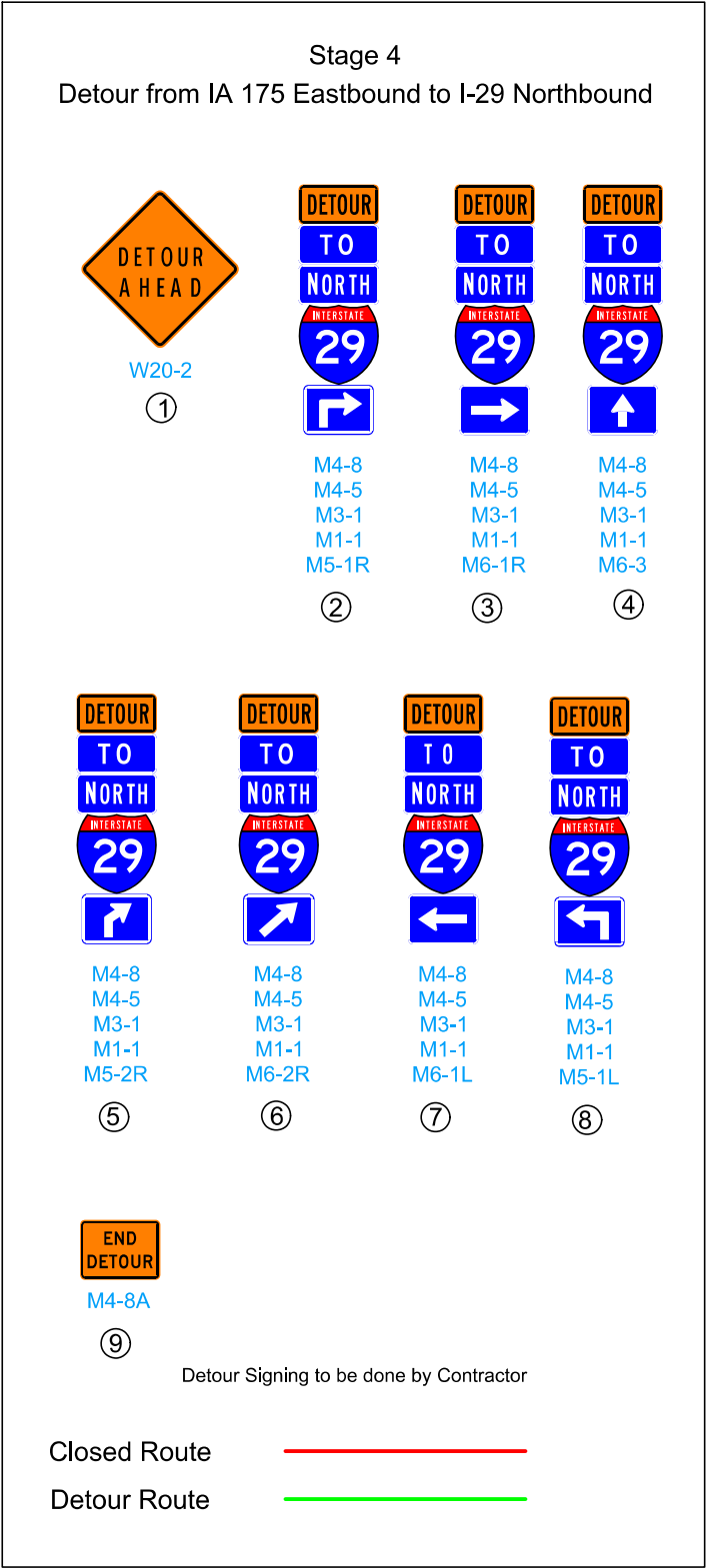
⑦

Detour Signing to be done by Contractor

Closed Route

Detour Route





175 Onawa  
RAMP CLOSED  
FOLLOW DETOUR

SPECIAL

①

EXIT  
CLOSED

E5-2a

②

DETOUR

175

DETOUR

175

DETOUR

175

DETOUR

175

M4-8  
M1-5  
M5-2R

M4-8  
M1-5  
M6-2L

M4-8  
M1-5  
M6-1L

④

⑤

⑥

END  
DETOUR

M4-8A

⑦

DETOUR

175

↑

M4-8  
M1-5  
M6-3

③

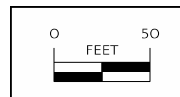
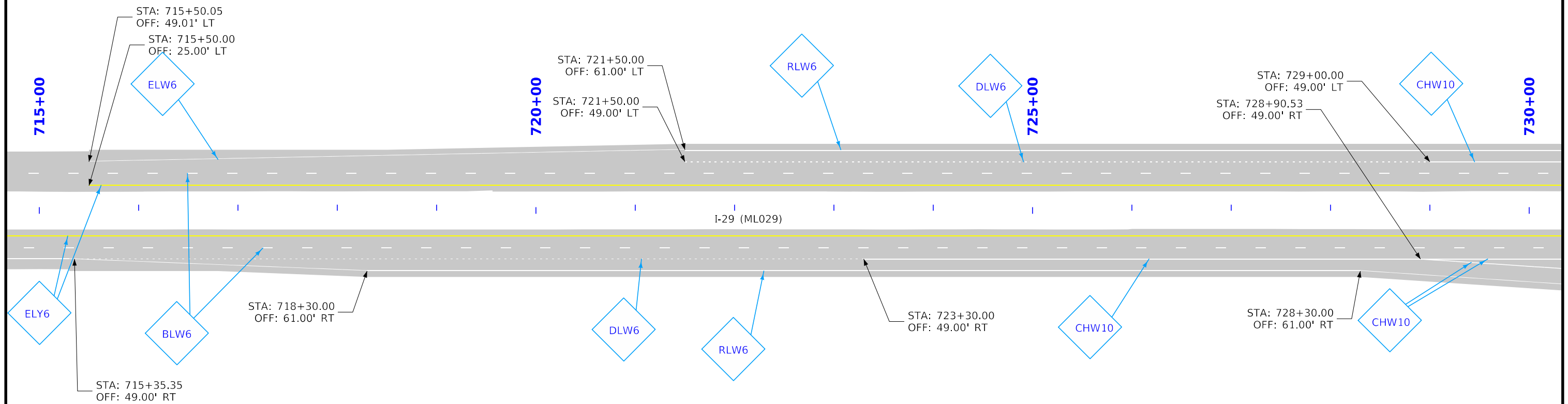
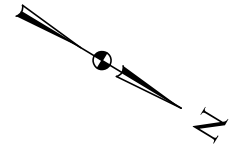
Closed Route 

Detour Route 

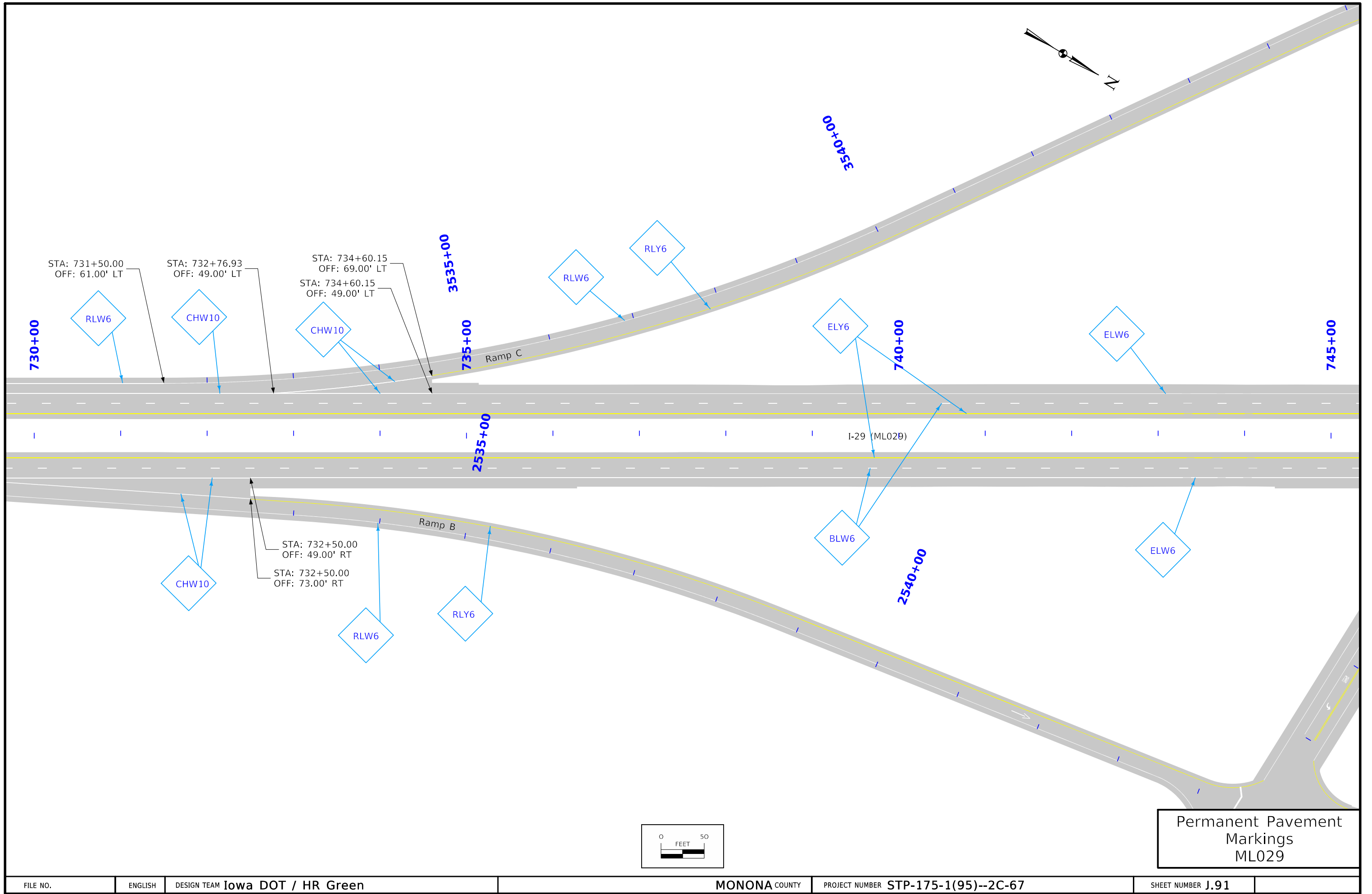


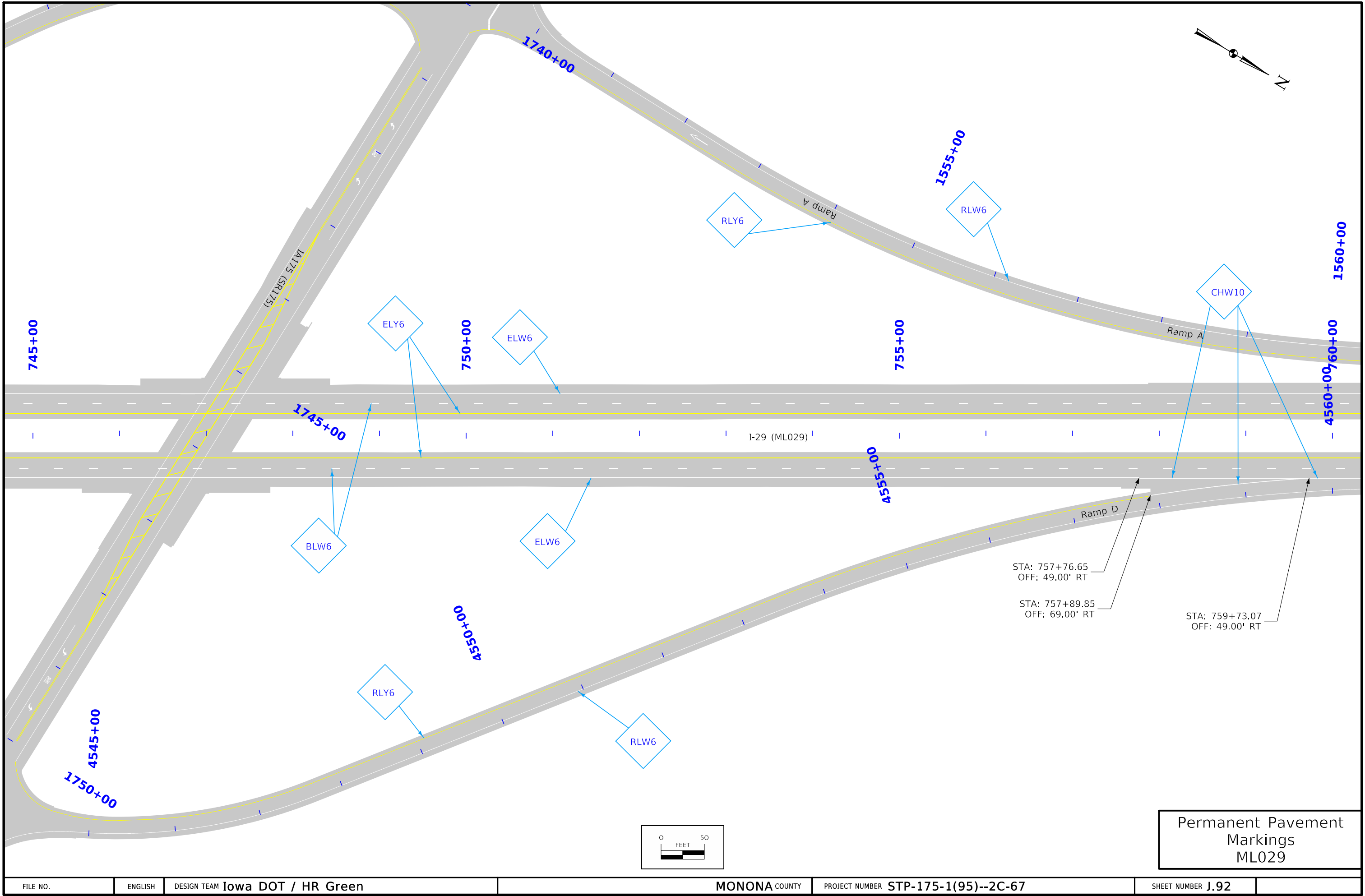


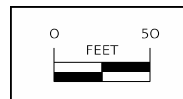
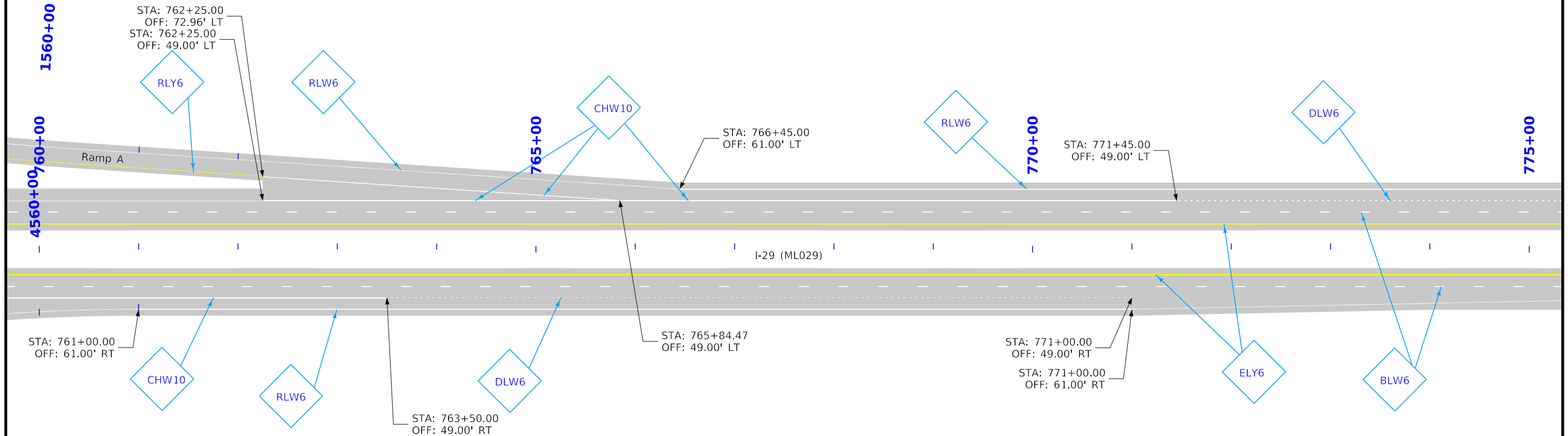
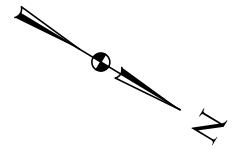




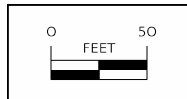
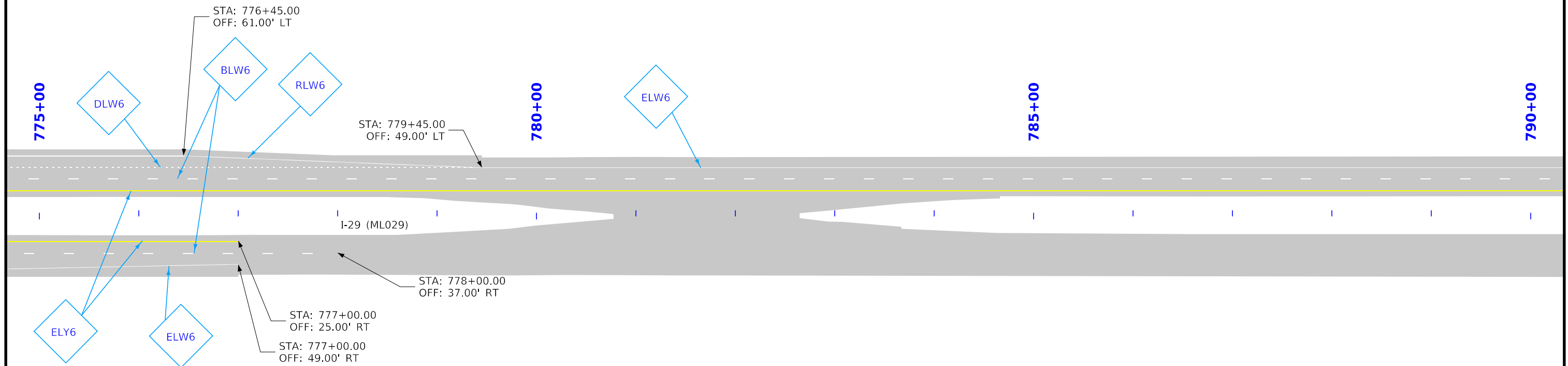
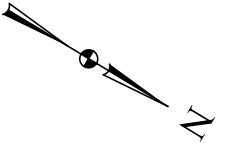
Permanent Pavement  
Markings  
ML029



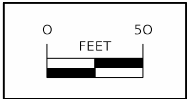
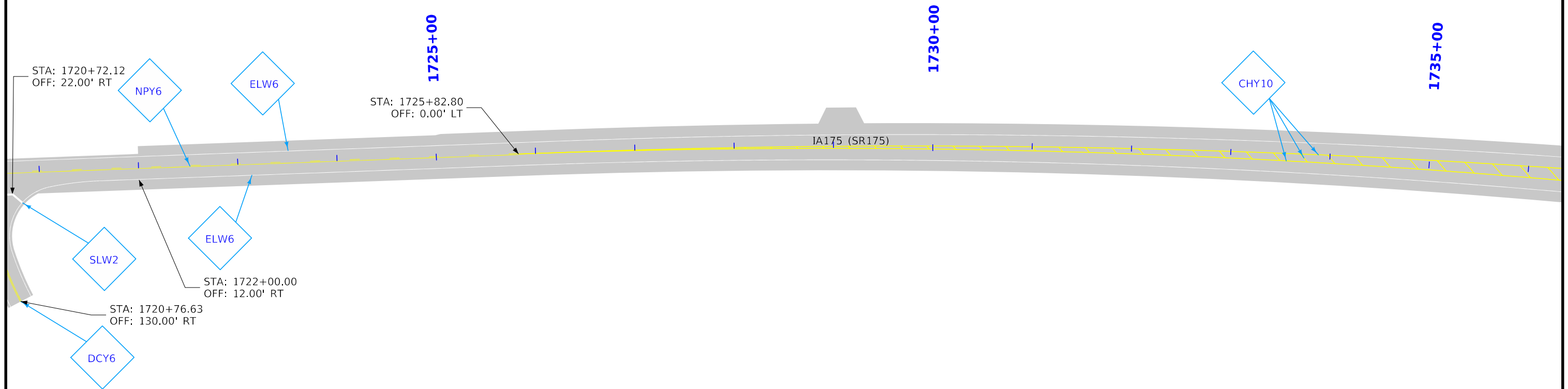




Permanent Pavement  
Markings  
ML029

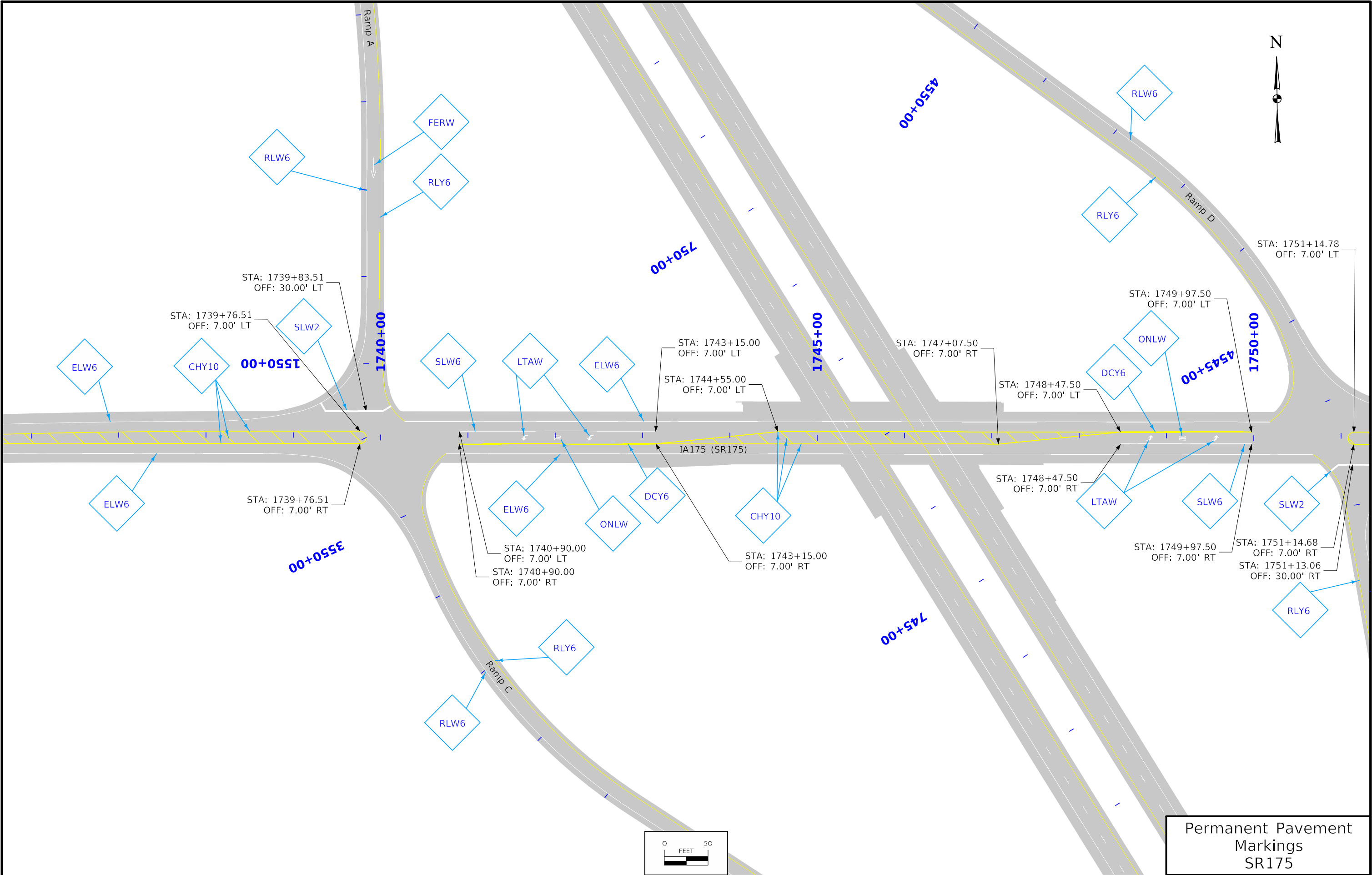


Permanent Pavement  
Markings  
ML029

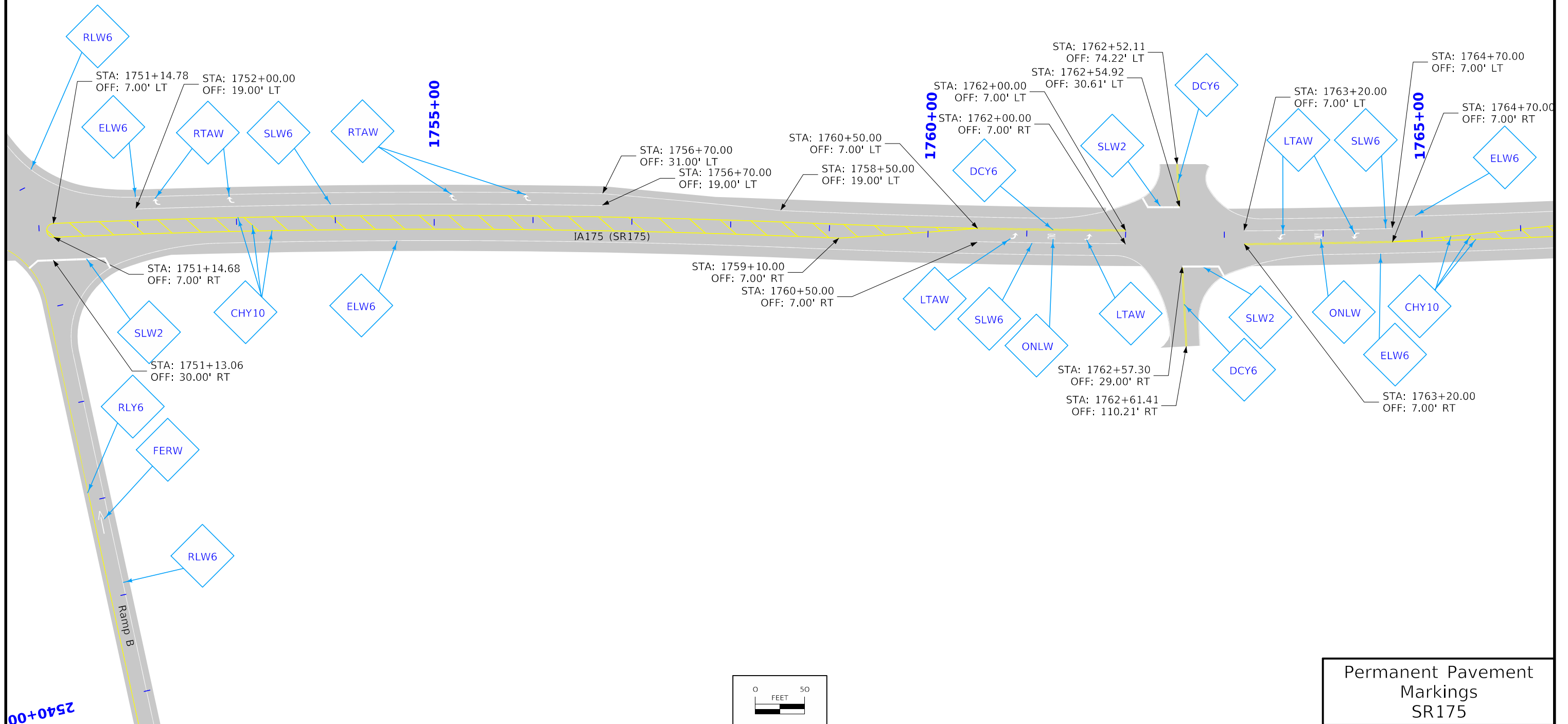


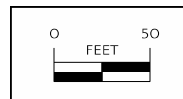
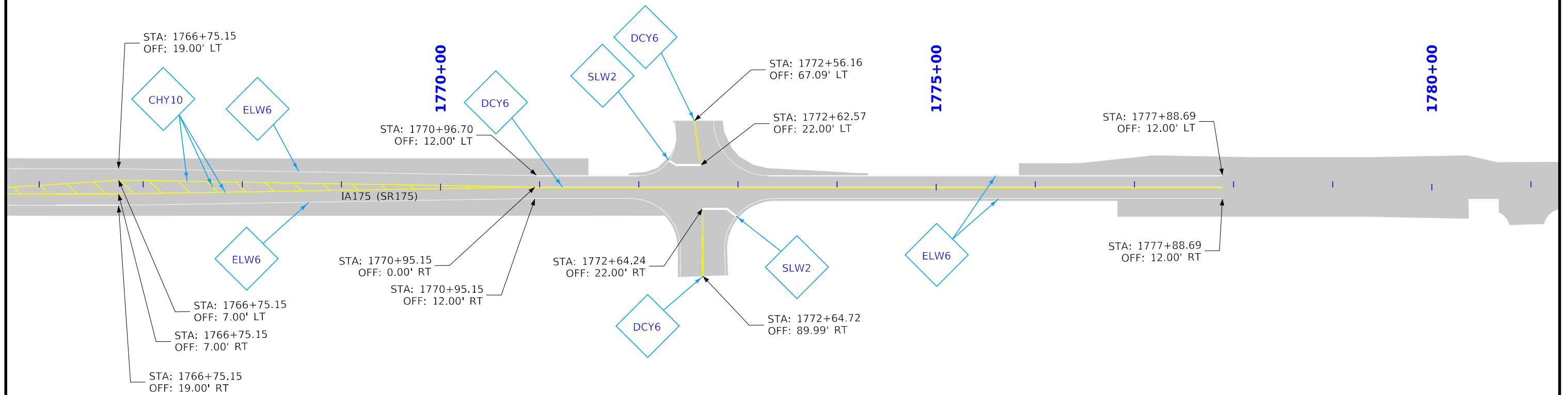
Permanent Pavement  
Markings  
SR175



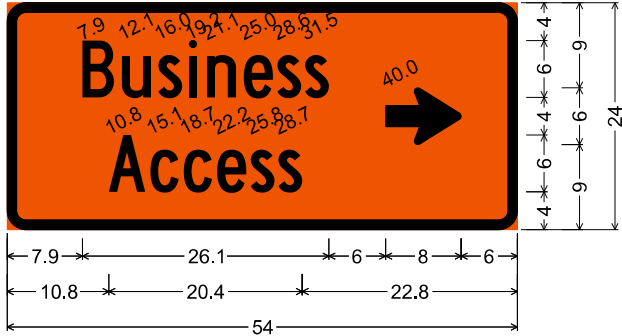


Permanent Pavement  
Markings  
SR175





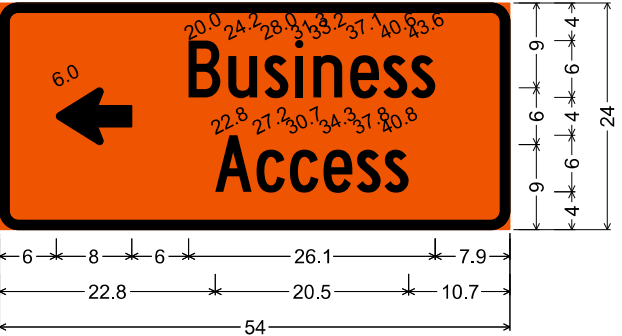
Permanent Pavement  
Markings  
SR175



2.0" Radius, 1.0" Border, Black on Orange;  
"Business", C 2K; "Access", C 2K;  
Arrow III-6S - 8.0" 0°;



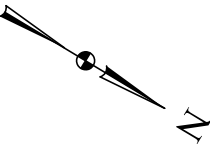
2.0" Radius, 1.0" Border, Black on Orange;  
Arrow III-6S - 8.0" 90°; "Business", C 2K;  
"Access", C 2K;



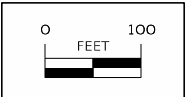
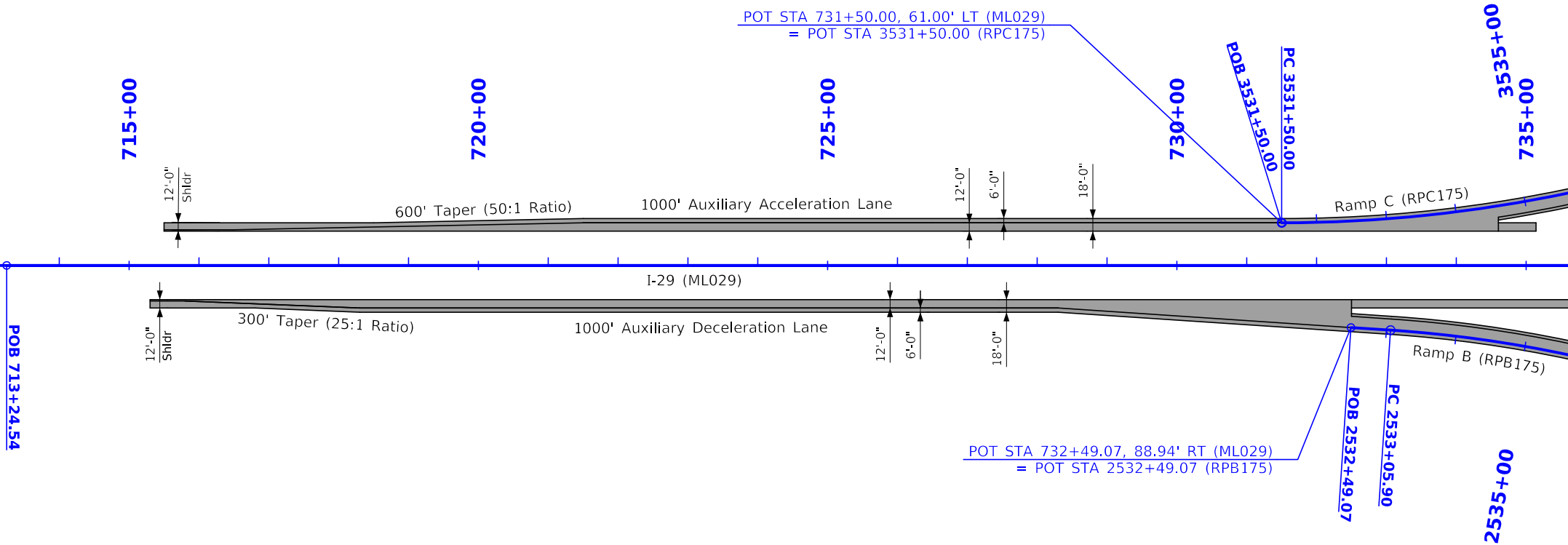
2.0" Radius, 1.0" Border, Black on Orange;  
Arrow III-6S - 8.0" 180°; "Business", C 2K;  
"Access", C 2K;



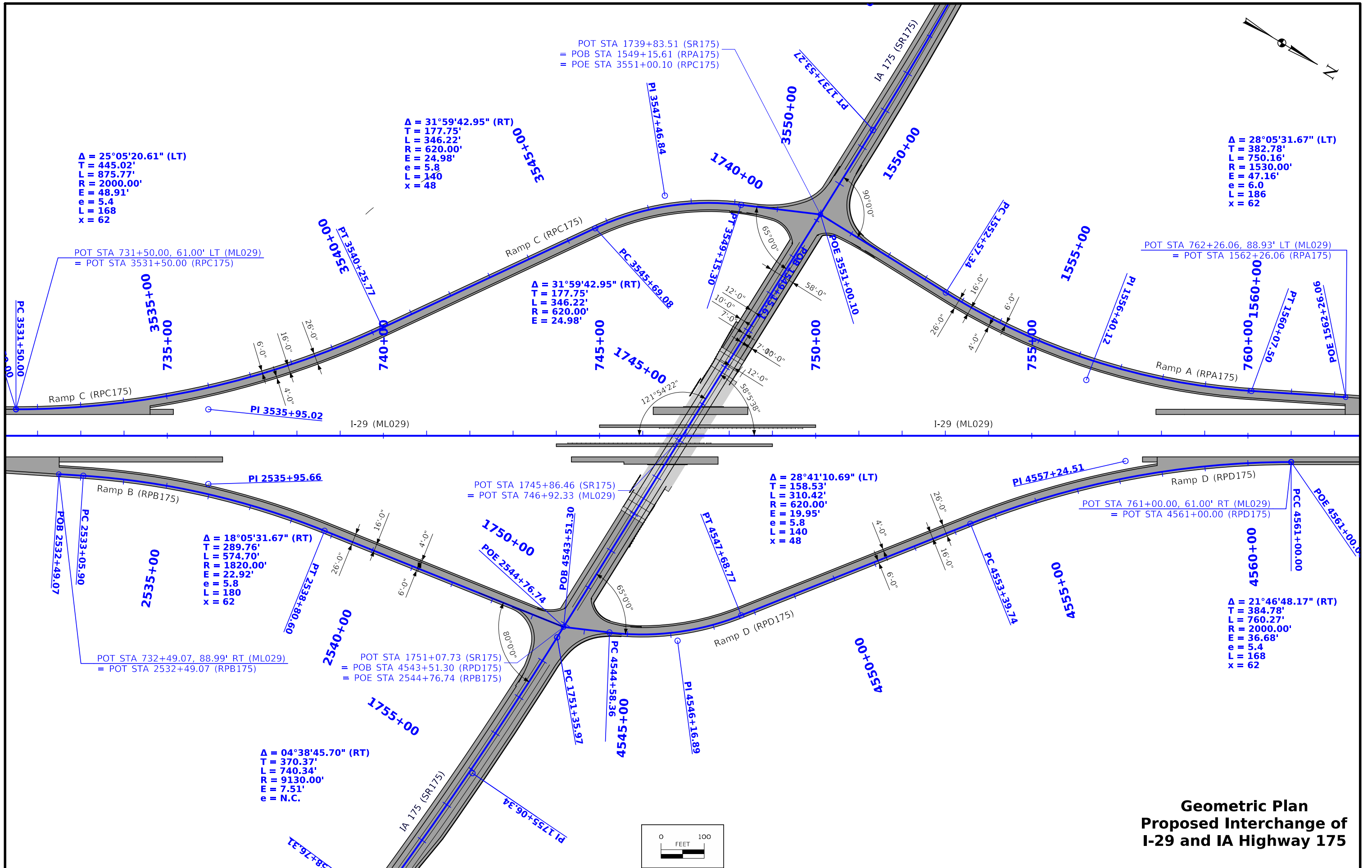
2.0" Radius, 0.8" Border, Black on Orange;  
"28th", C 2K; "St", C 2K;



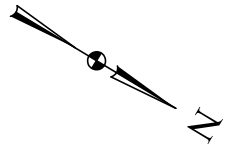
$\Delta = 25^{\circ}05'20.61''$  (LT)  
T = 445.02'  
L = 875.77'  
R = 2000.00'  
E = 48.91'  
e = 5.4  
L = 168  
x = 62



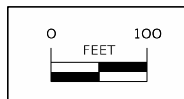
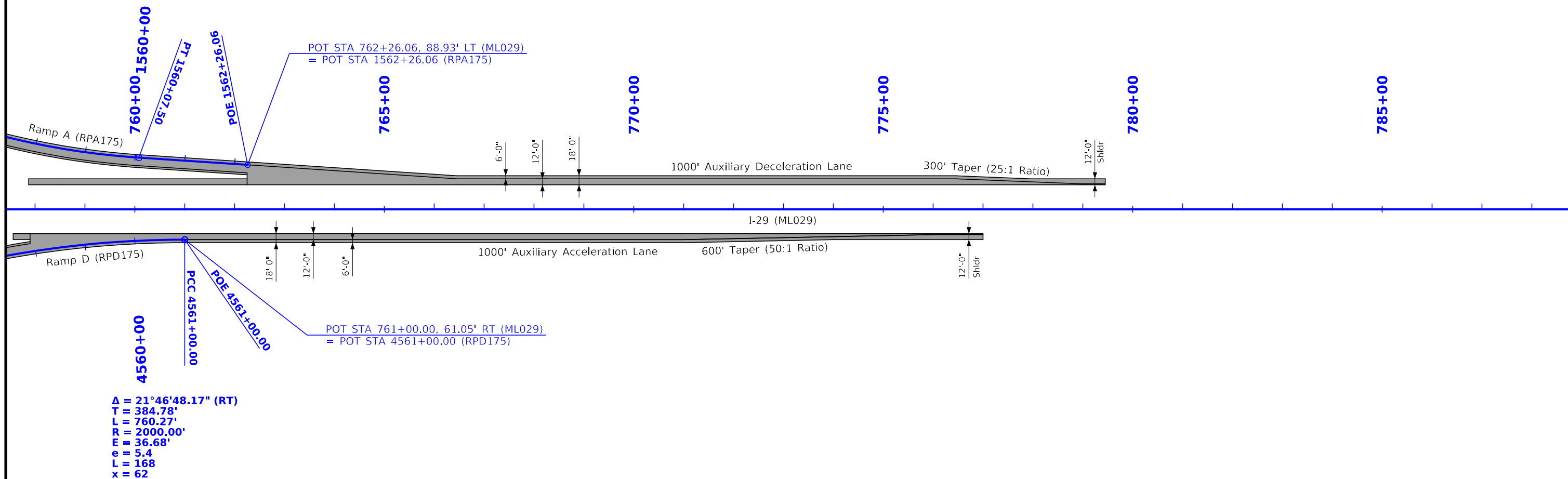
**Geometric Plan  
Proposed Interchange of  
I-29 and IA Highway 175**



**Geometric Plan  
Proposed Interchange of  
I-29 and IA Highway 175**



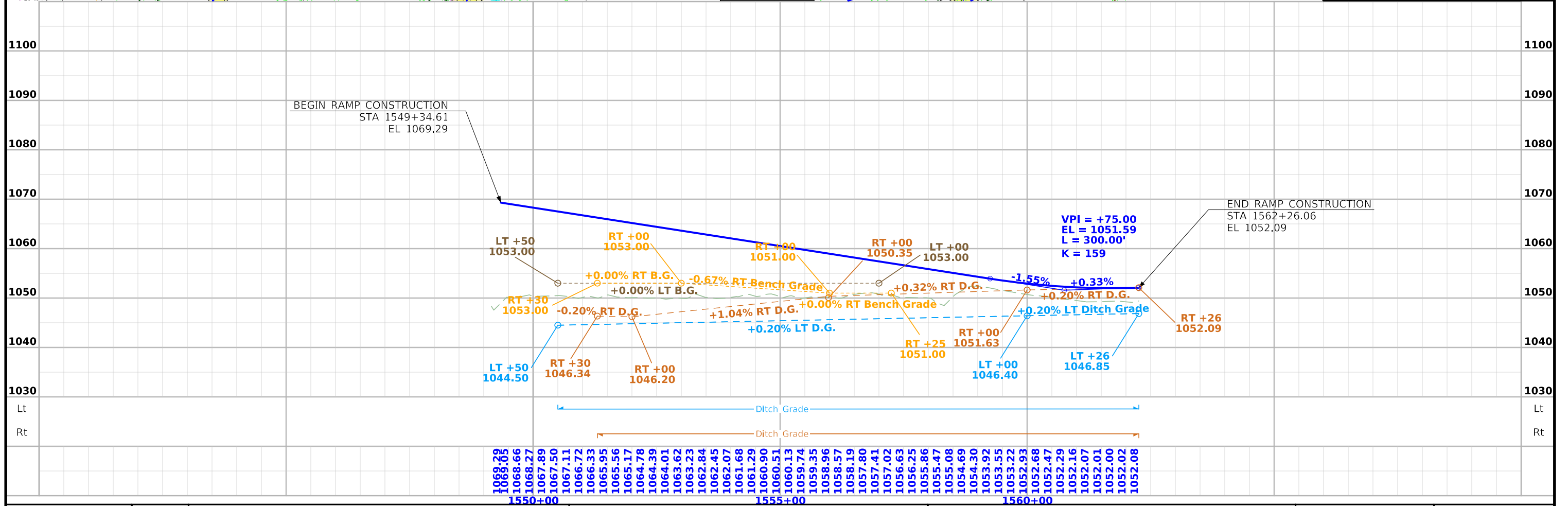
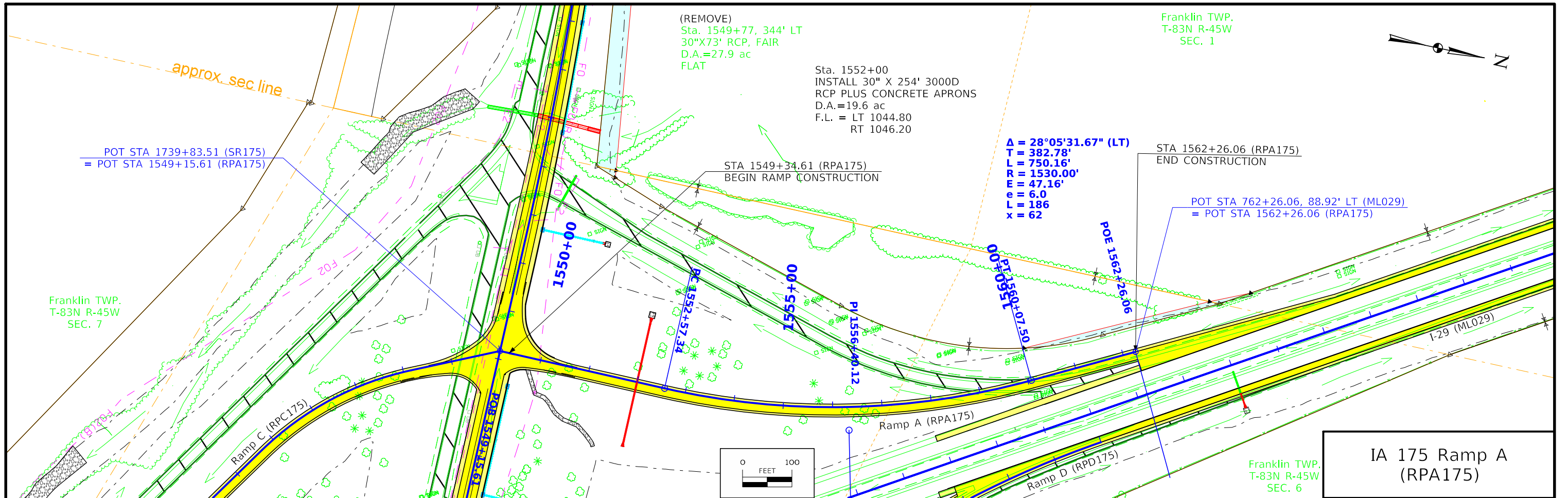
$\Delta = 28^{\circ}05'31.67''$  (LT)  
 $T = 382.78'$   
 $L = 750.16'$   
 $R = 1530.00'$   
 $E = 47.16'$   
 $e = 6.0$   
 $L = 186$   
 $x = 62$

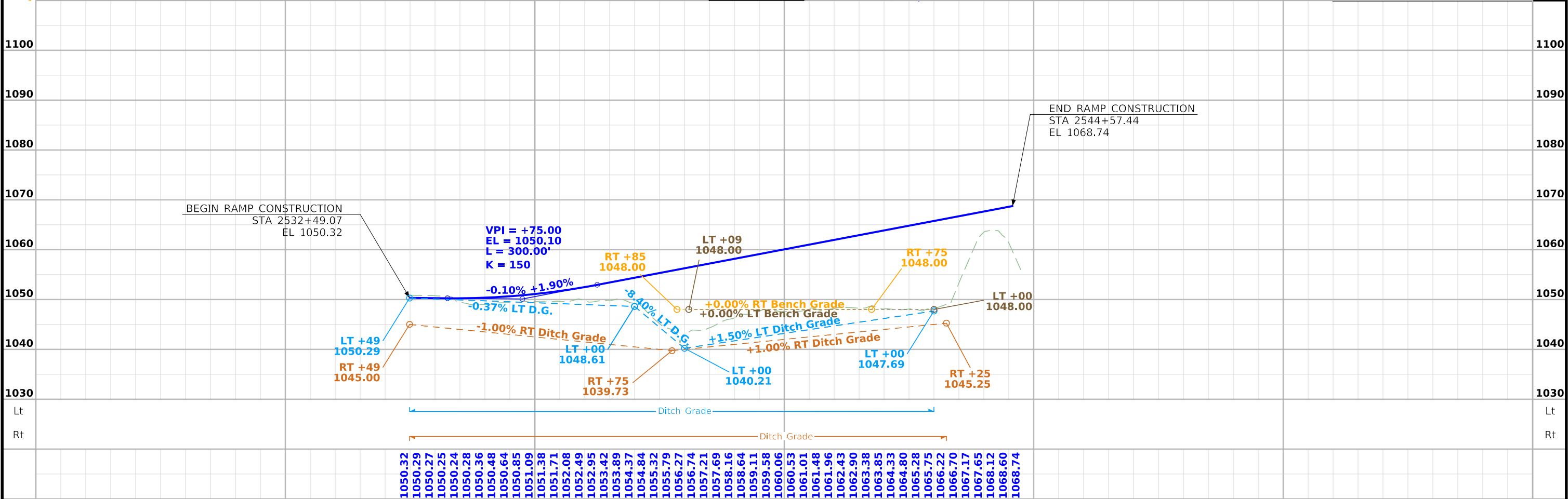
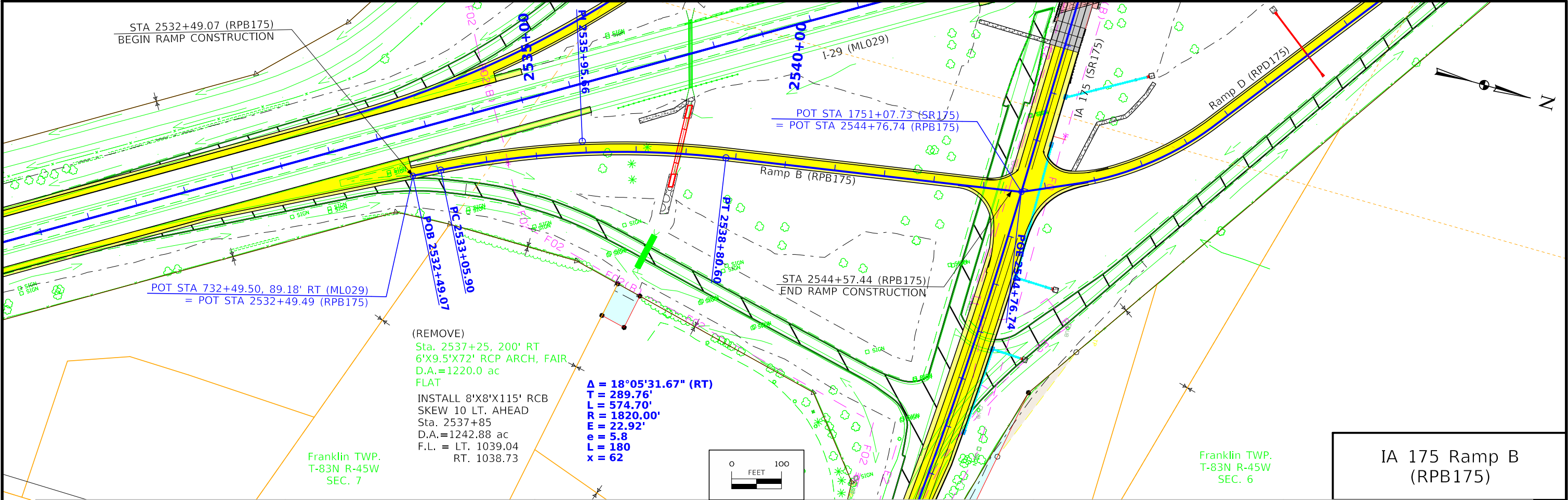


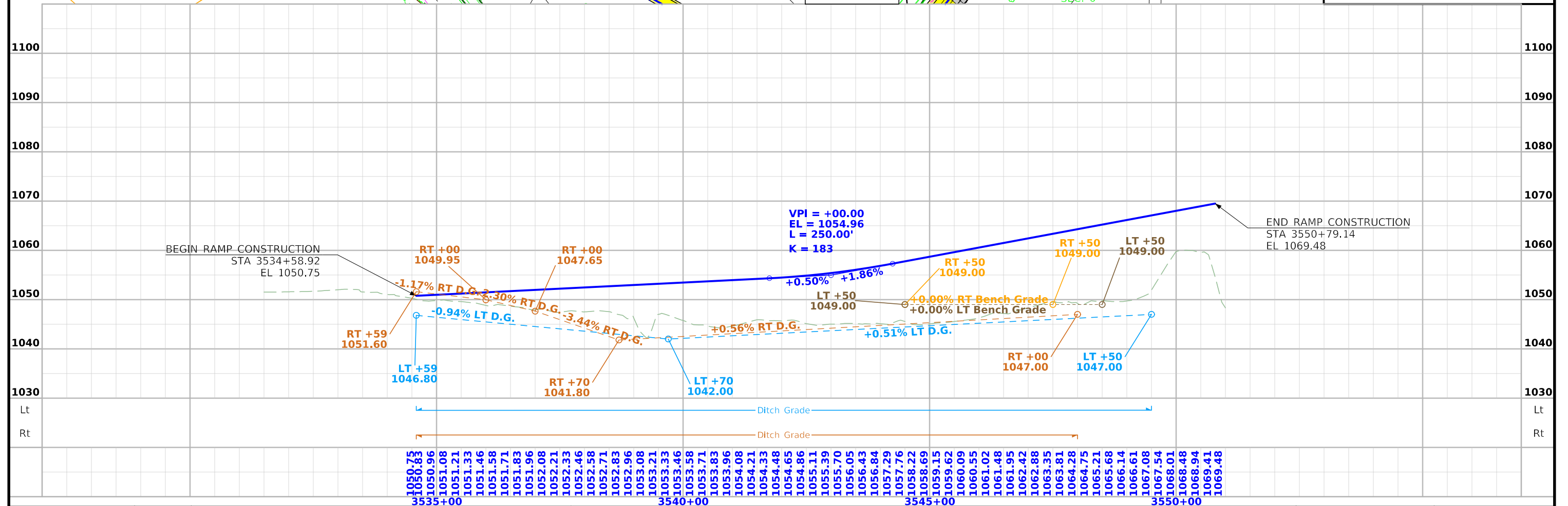
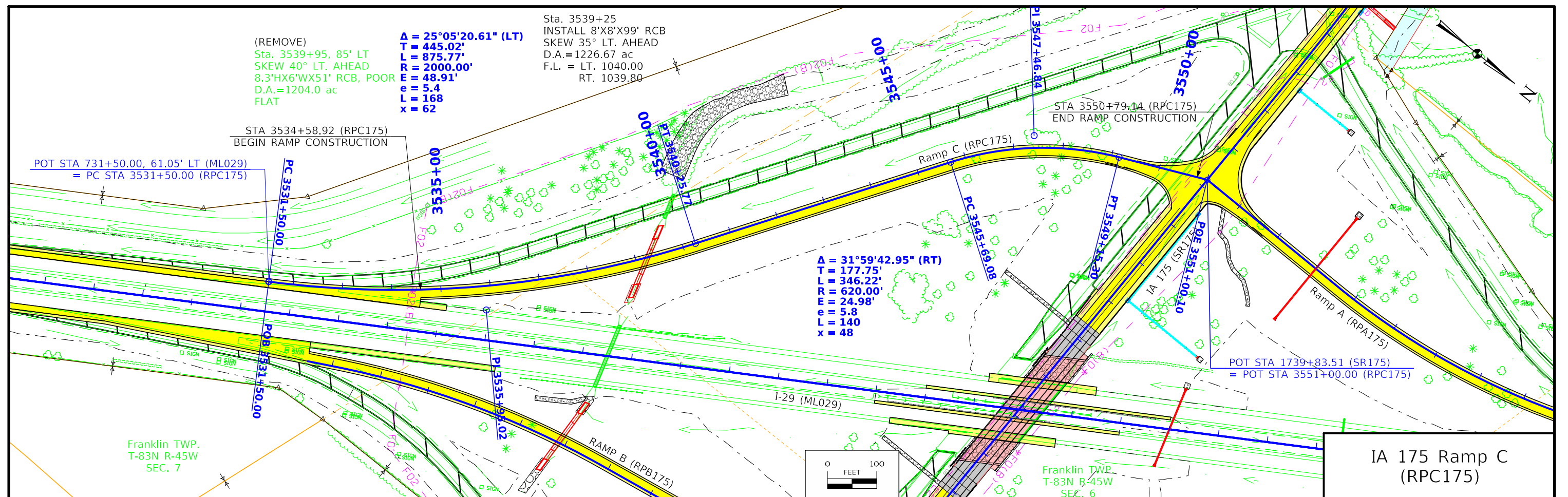
**Geometric Plan  
Proposed Interchange of  
I-29 and IA Highway 175**

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT / HR Green	MONONA COUNTY	PROJECT NUMBER STP-175-1(95)--2C-67	SHEET NUMBER K.3
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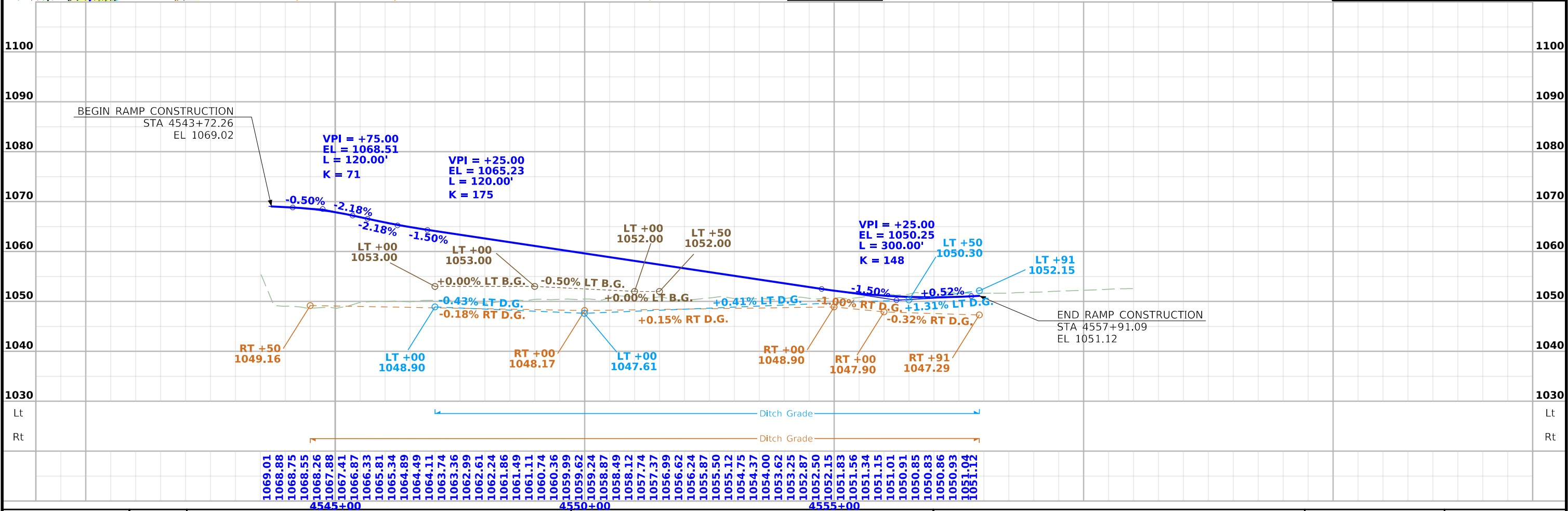
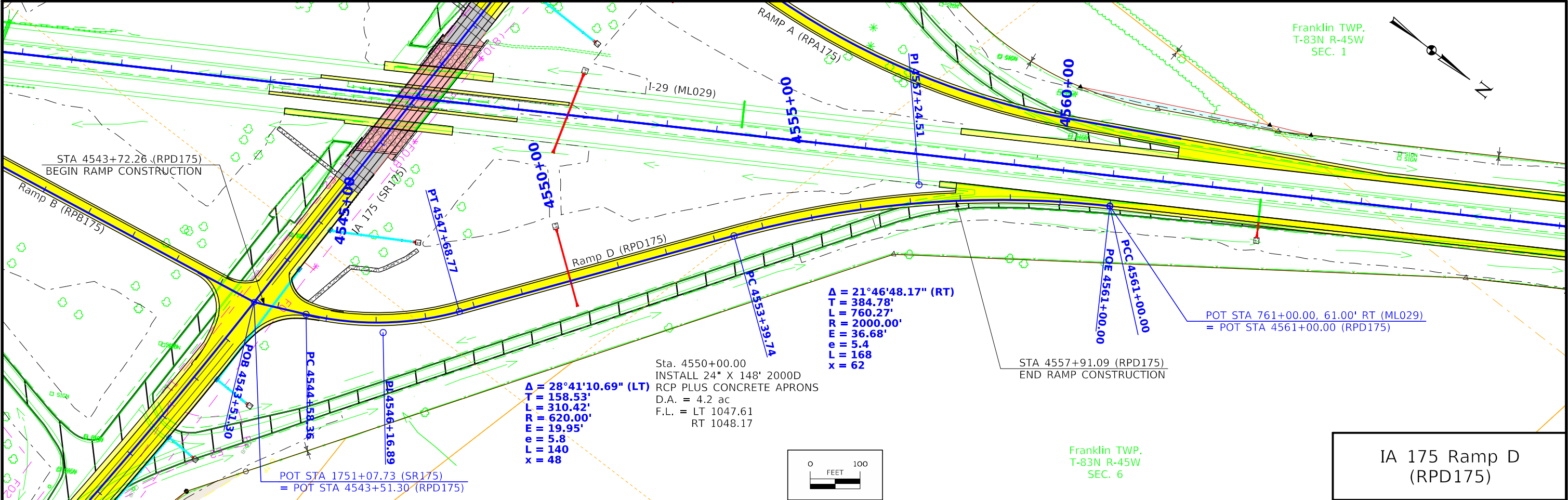












PLAN VIEW COLOR LEGEND OF JOINTING SHEETS		
Design Color No.	Linework	
(1)	<div></div>	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
(55)	<div></div>	B Joint
(223)	<div></div>	C Joint
(77)	<div></div>	CD Joint
(130)	<div></div>	RD Joint
(76)	<div></div>	RT Joint
(72)	<div></div>	E Joint
(3)	<div></div>	ED Joint
(142)	<div></div>	EF Joint
(143)	<div></div>	BT-2 Joint
(64)	<div></div>	BT-3 Joint
(138)	<div></div>	L-2 Joint
SHADING	Design Color No.	
Yellow	(4)	<div></div> Proposed Pavement Shading
Orange	(6)	<div></div> Proposed Granular Shading
Orange	(70)	<div></div> Proposed Shoulder Granular Shading
Yellow	(68)	<div></div> Proposed Shoulder Paved Full Depth Shading
Yellow	(132)	<div></div> Proposed Shoulder Paved Partial Depth Shading
Yellow	(220)	<div></div> Proposed Paved Entrance Shading
Red	(131)	<div></div> Proposed Structure Shading (50% Transparency)
Gray, Light	(48)	<div></div> Bridge Approach Shading

JOINTING NOTES:

Longitudinal jointing plan is based on construction staging plan shown in the J sheets. Refer to Standard Road Plan PV-101 for additional guidance on longitudinal and transverse jointing.

All longitudinal joints shall be L-2 or BT-3 unless indicated otherwise.

All transverse joints greater than 2' shall be CD joints with a maximum 17' spacing unless indicated otherwise,

Adjust transverse joint placement as needed to match existing pavement per Standard Road Plan PV-121.

If a joint length is 2' or less, a C joint shall be used instead of a CD joint.

Refer to the Thickened Edge Detail on sheet B.12 for proposed pavement abutting existing pavement on I-29 SB.

GEOMETRICS AND STAKING NOTES:

Refer to Appropriate Standard Road Plans for Additional Information.

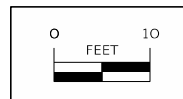
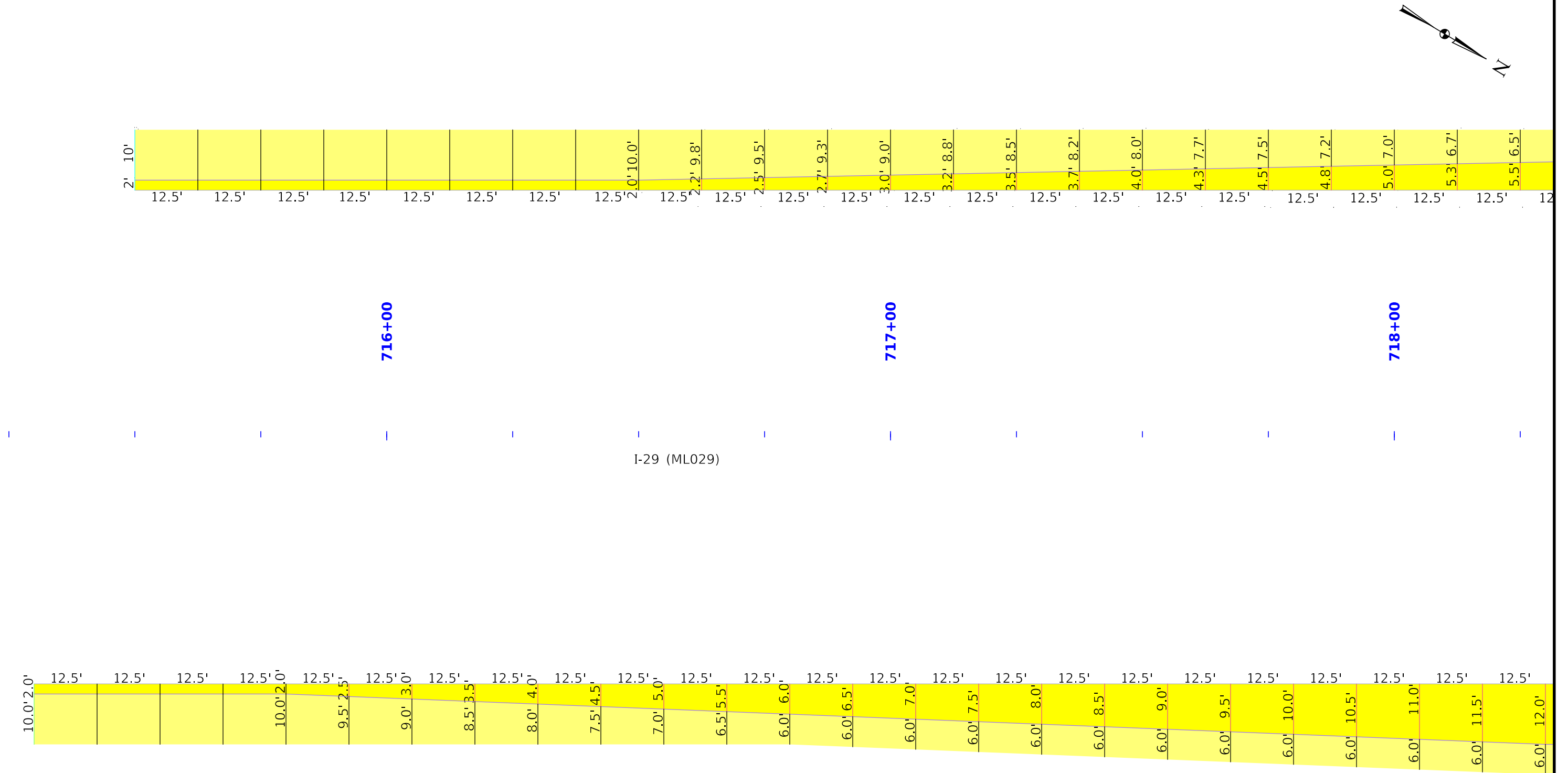
Refer to G Sheets for Horizontal Alignment Information.

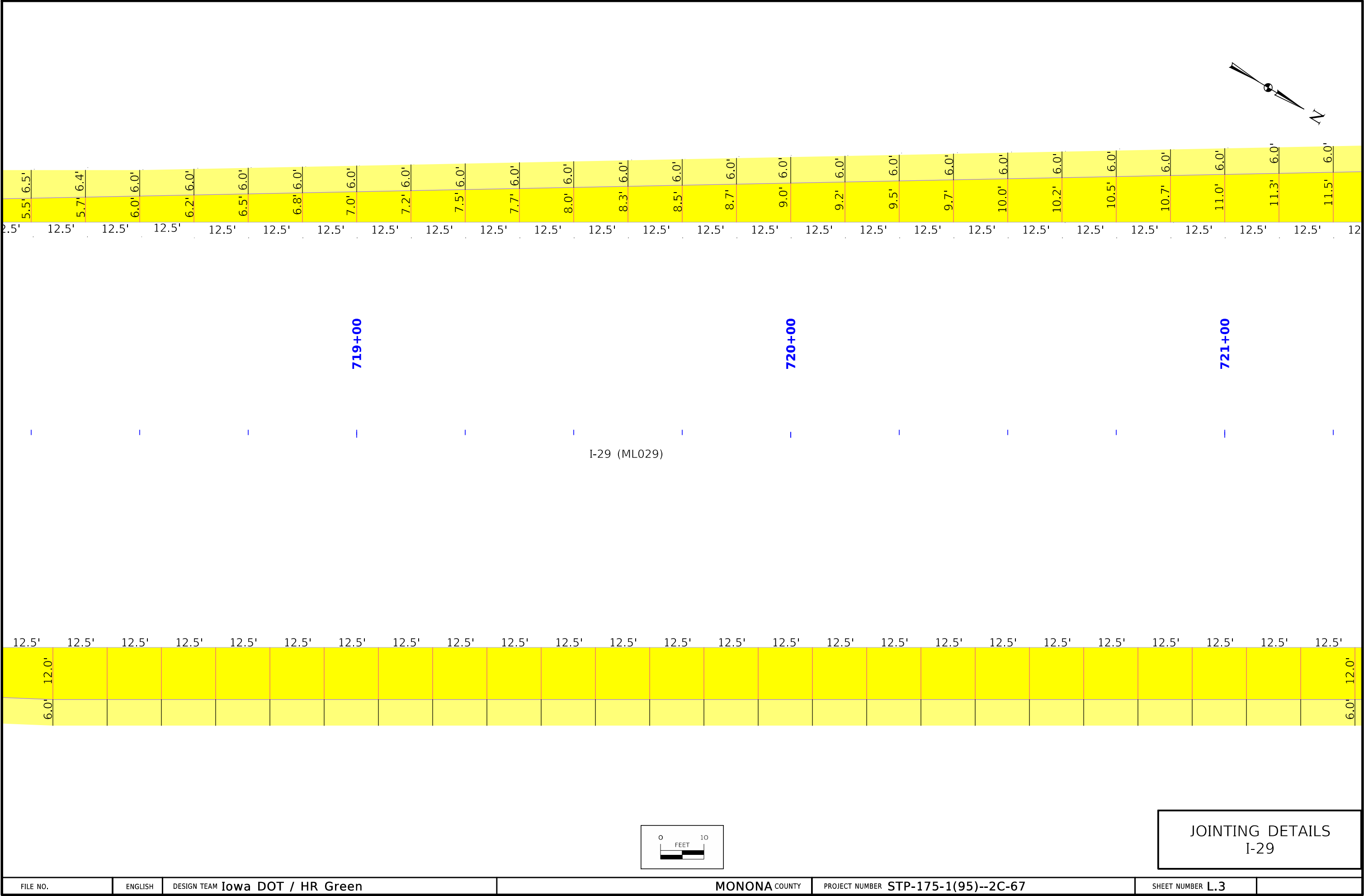
Refer to Typical Detail 7101 for detail of paved header.

Refer to Typicals Details 7154A and 7154B for paved shoulder details.

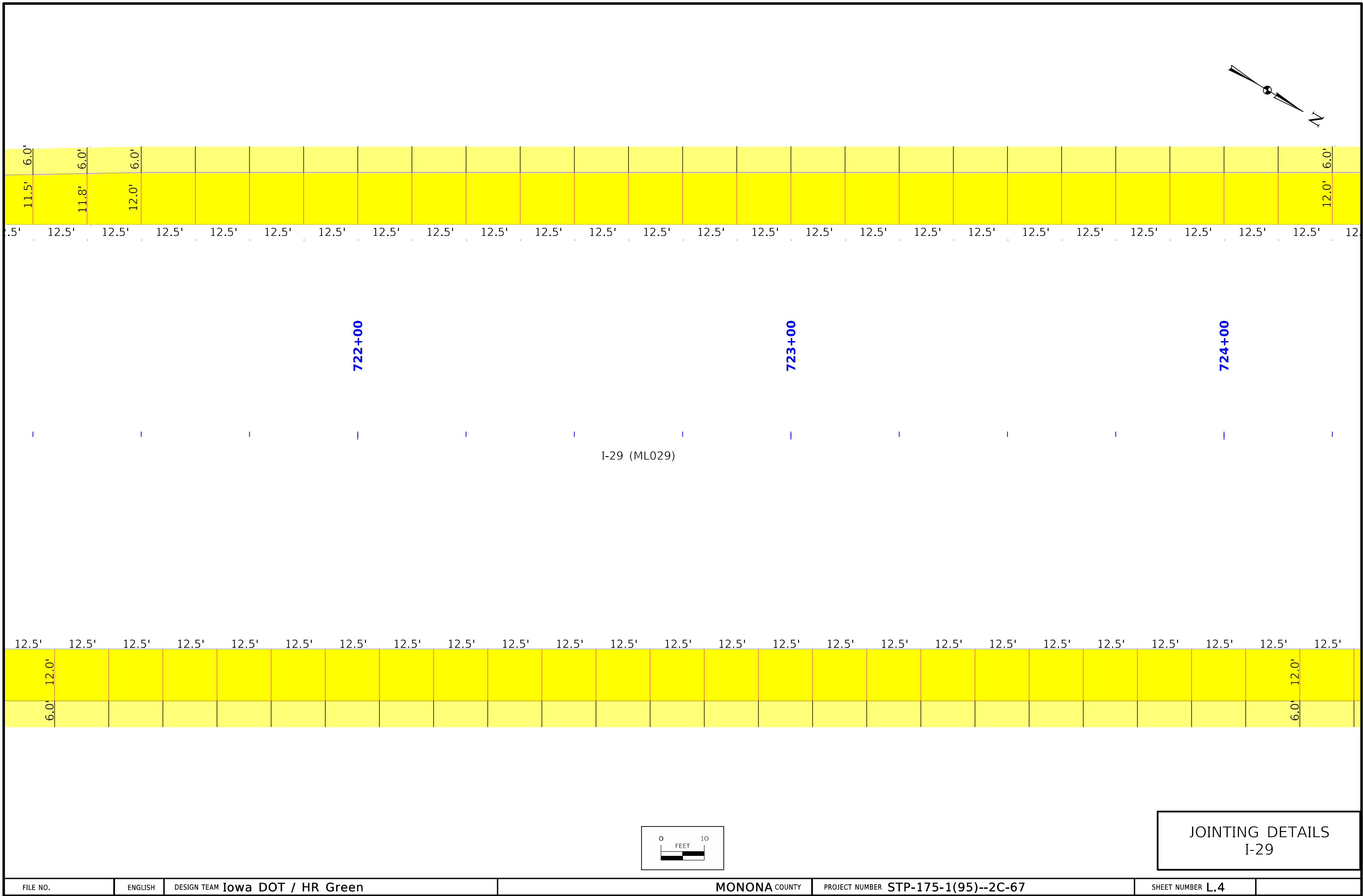
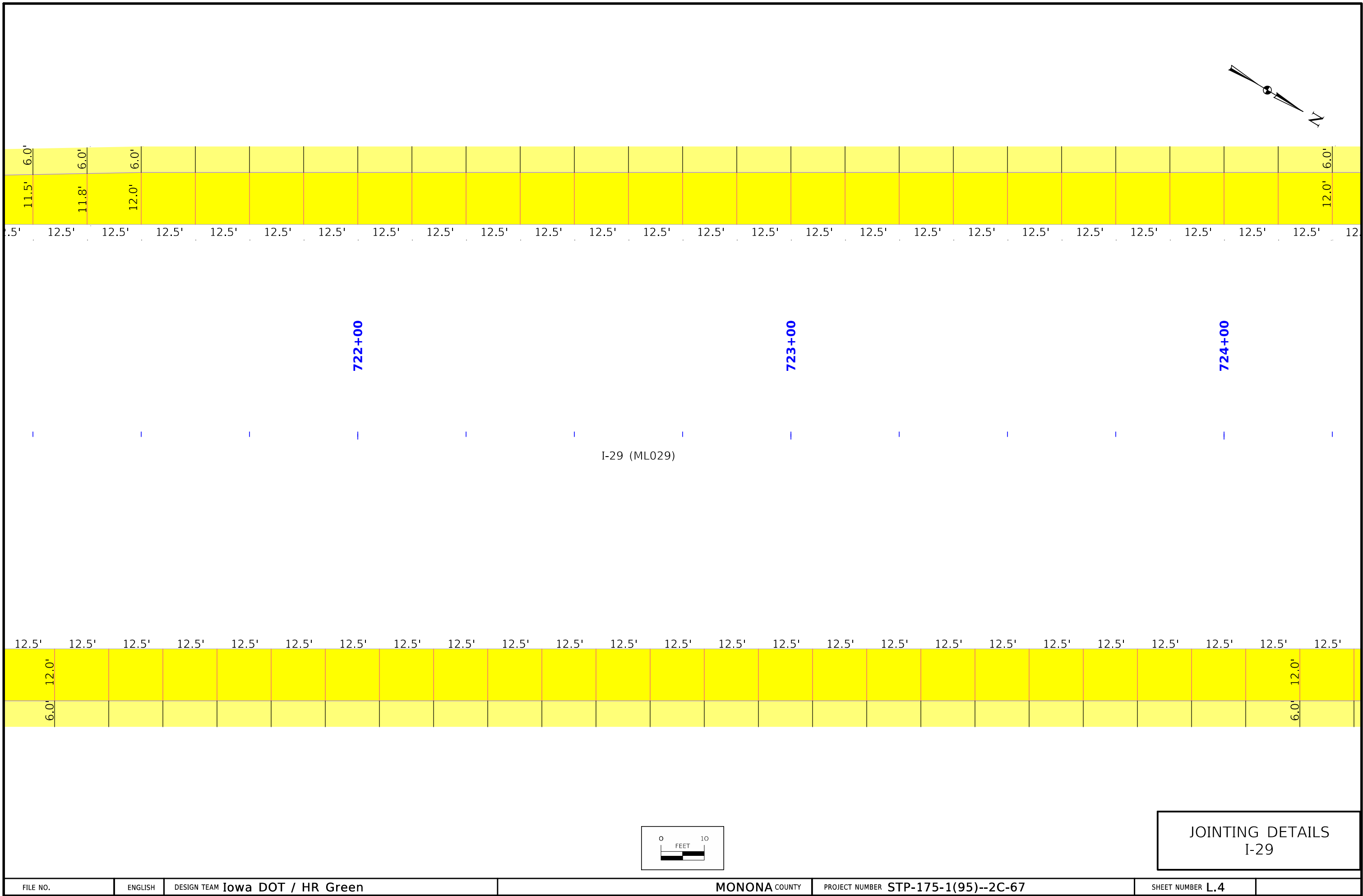
JOINTING AND GEOMETRICS  
LEGEND AND INFORMATION SHEET

(COVERS SHEET SERIES L)

JOINTING DETAILS  
I-29



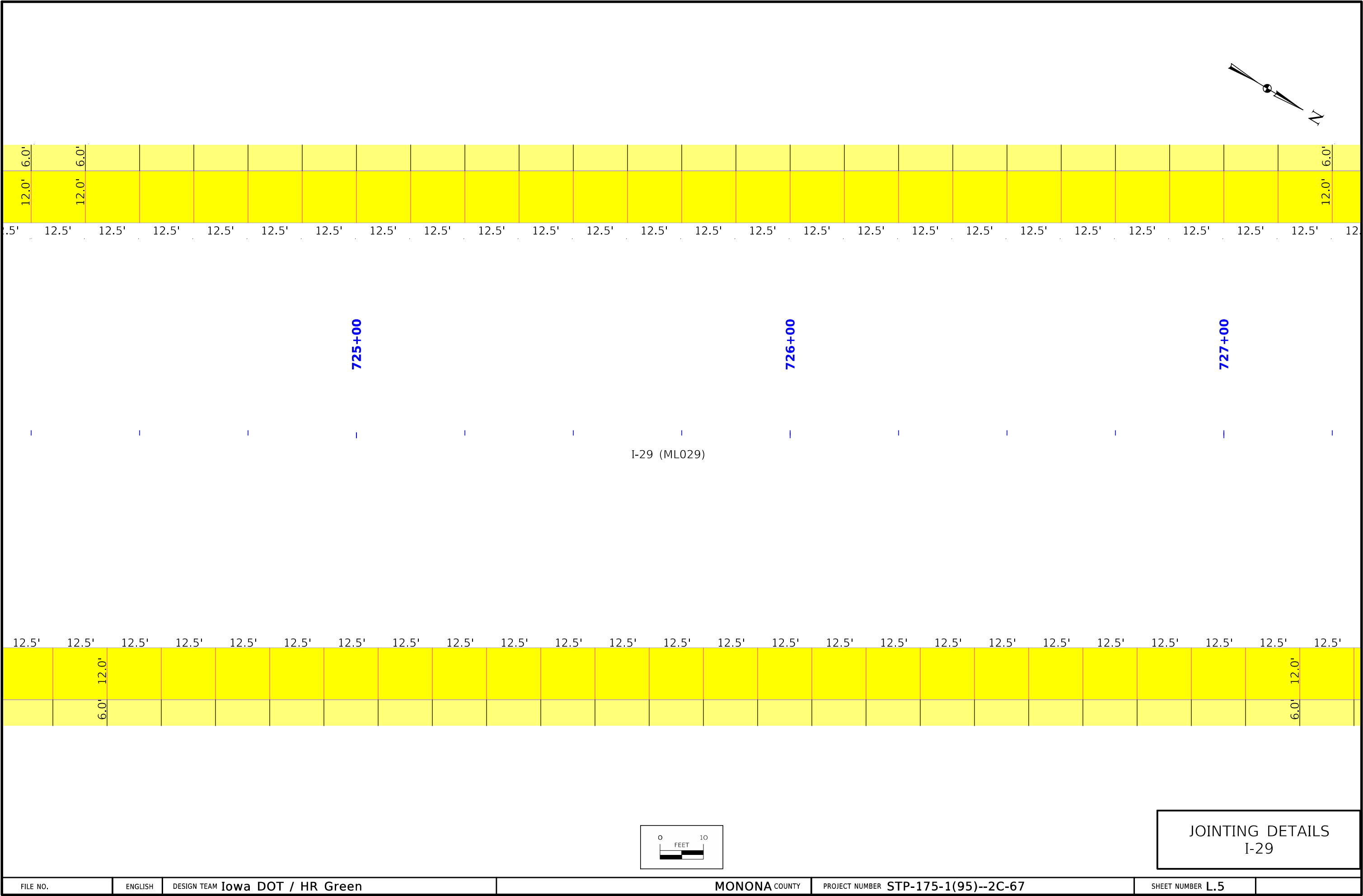


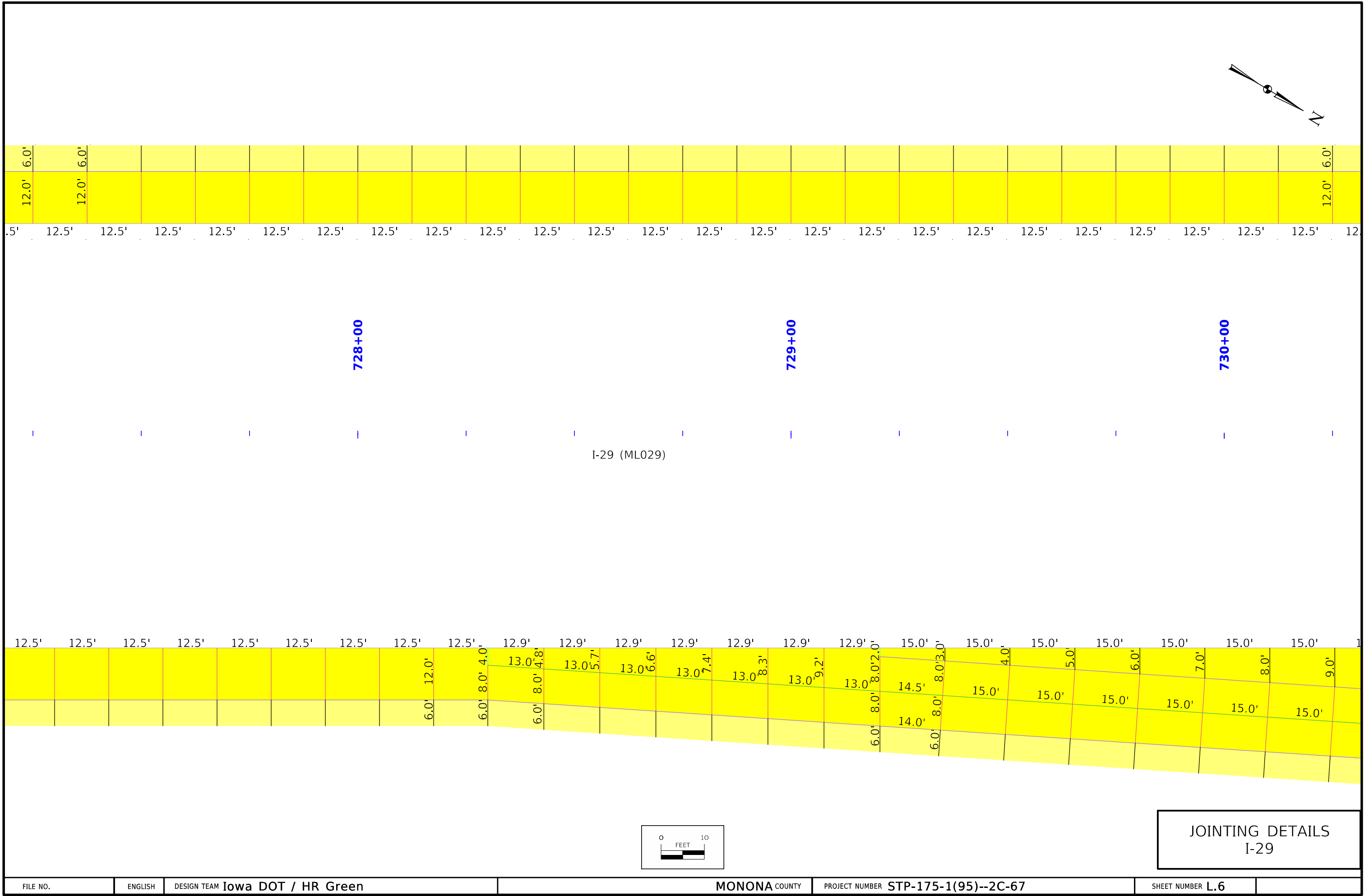


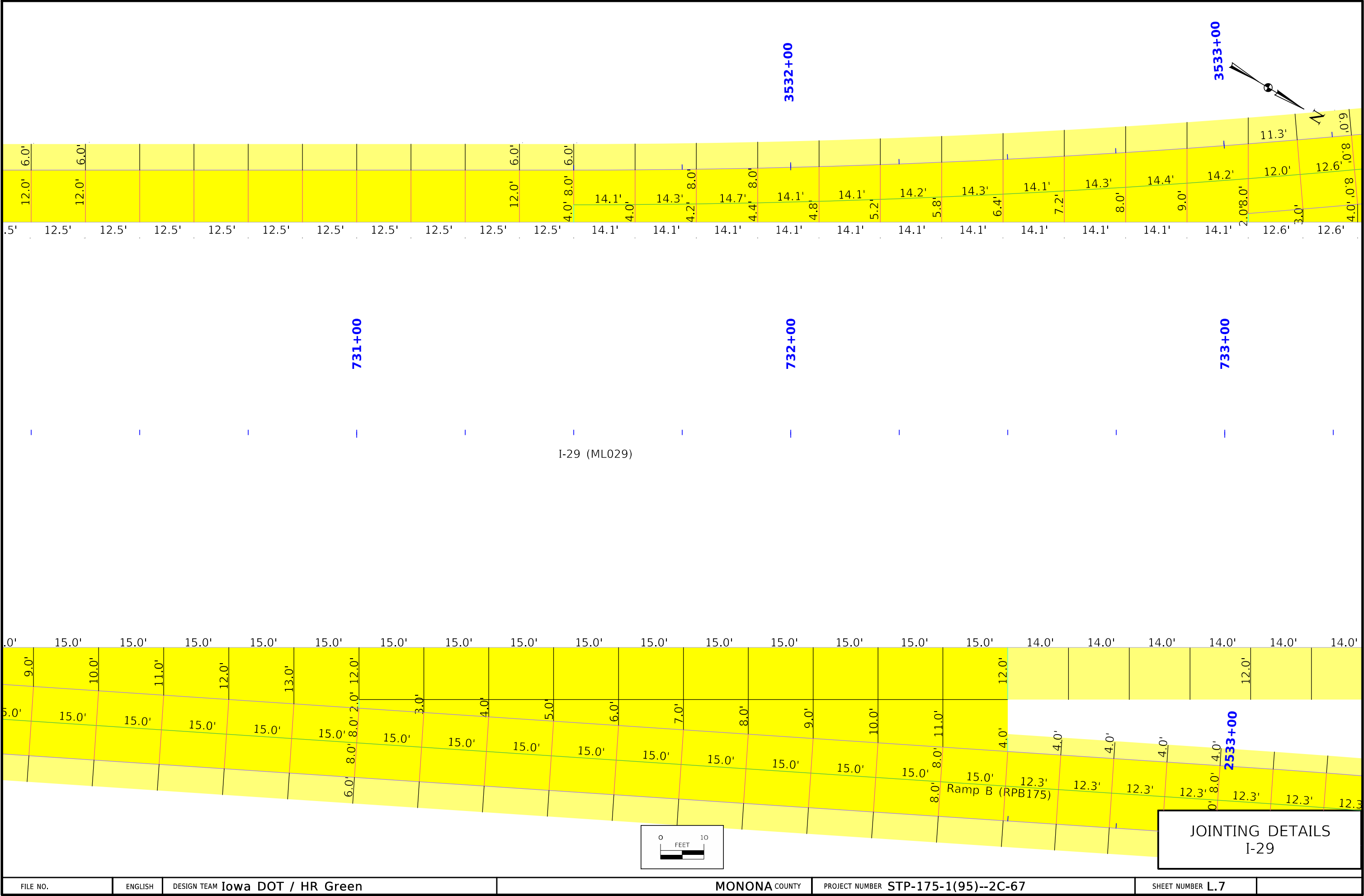
Plan view of I-29 (ML029) showing jointing details. The diagram includes stationing from 722+00 to 724+00, lane widths (11.5', 11.8', 12.0', 12.5'), and a north arrow.

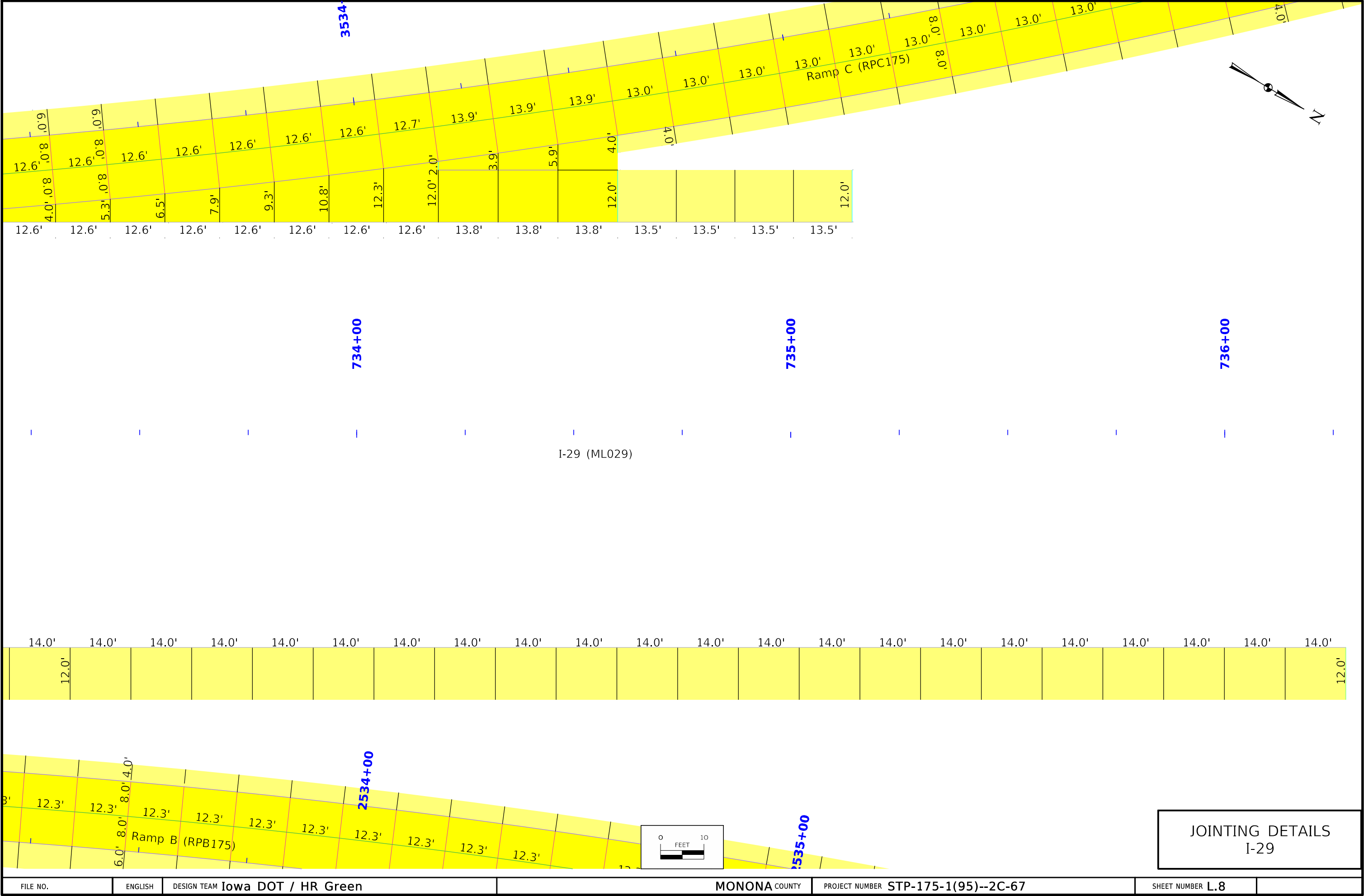
Station	Width (ft)
722+00	11.5'
722+00	11.8'
722+00	12.0'
722+00	12.5'
723+00	12.5'
724+00	12.5'

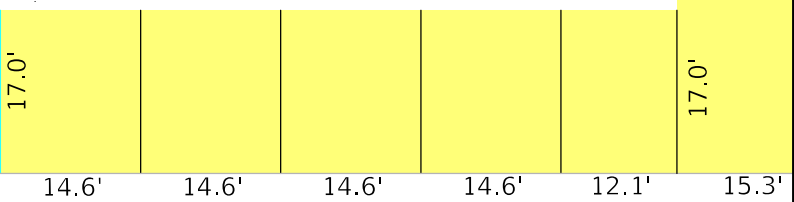
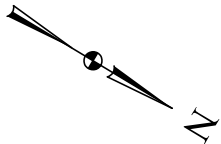
JOINTING DETAILS  
I-29









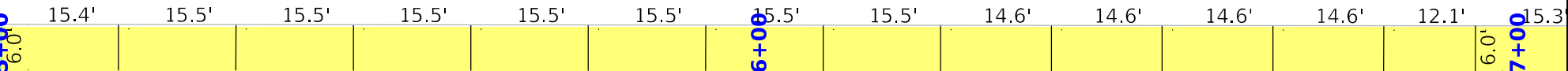


744+00

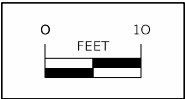
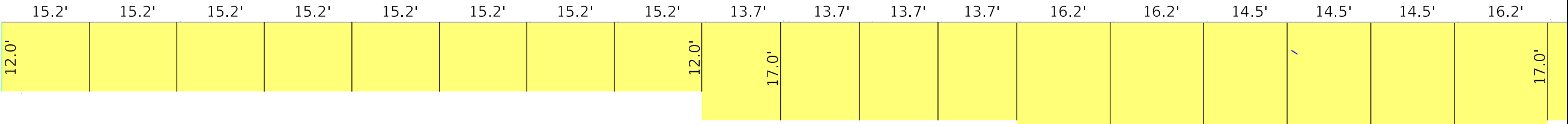
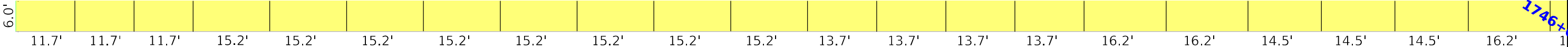
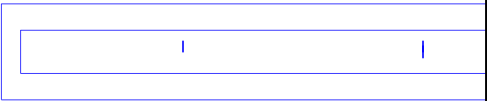
745+00

746+00

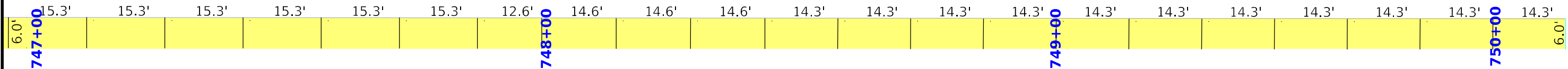
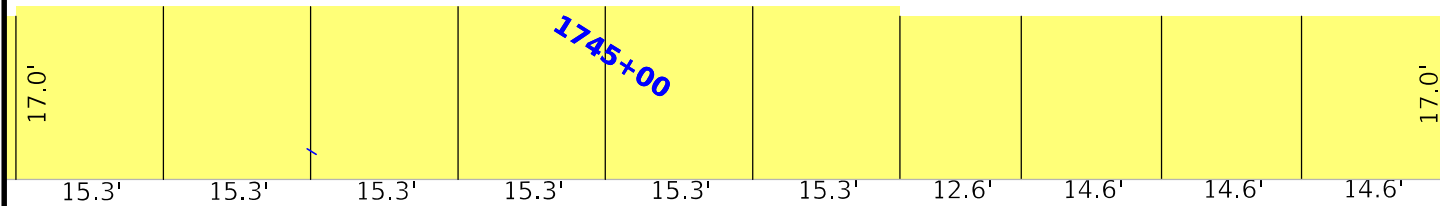
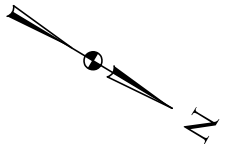
747+00



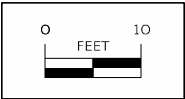
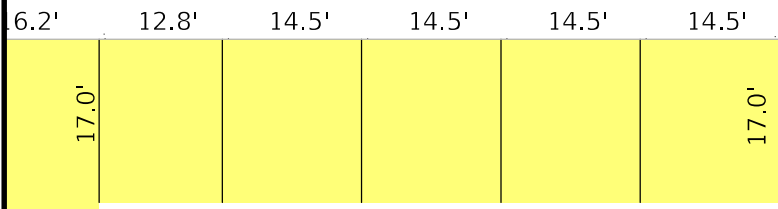
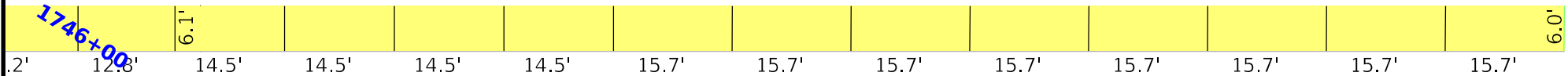
I-29 (ML029)



JOINTING DETAILS  
I-29

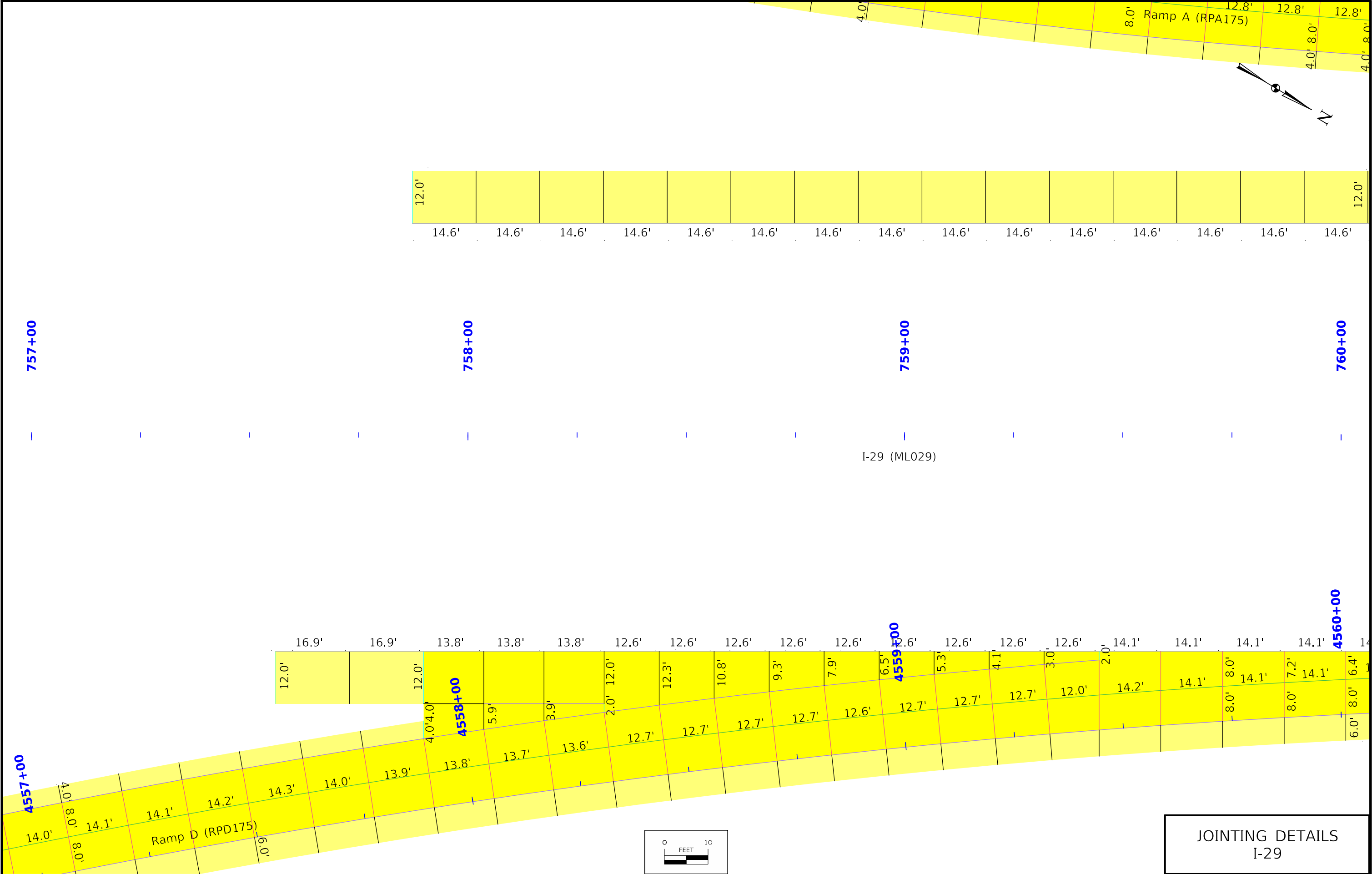


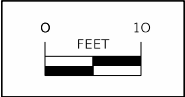
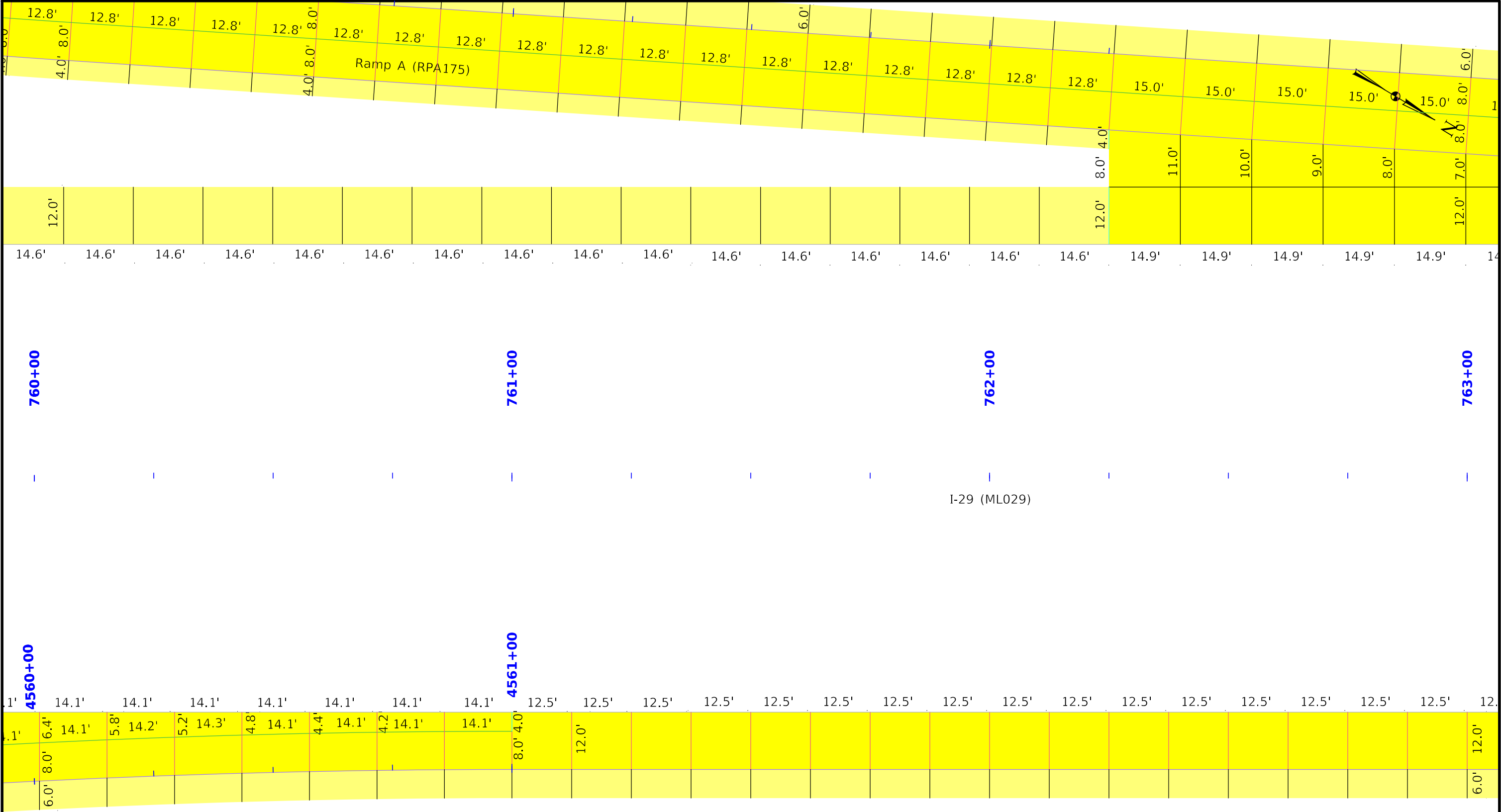
I-29 (ML029)



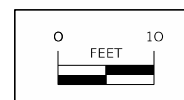
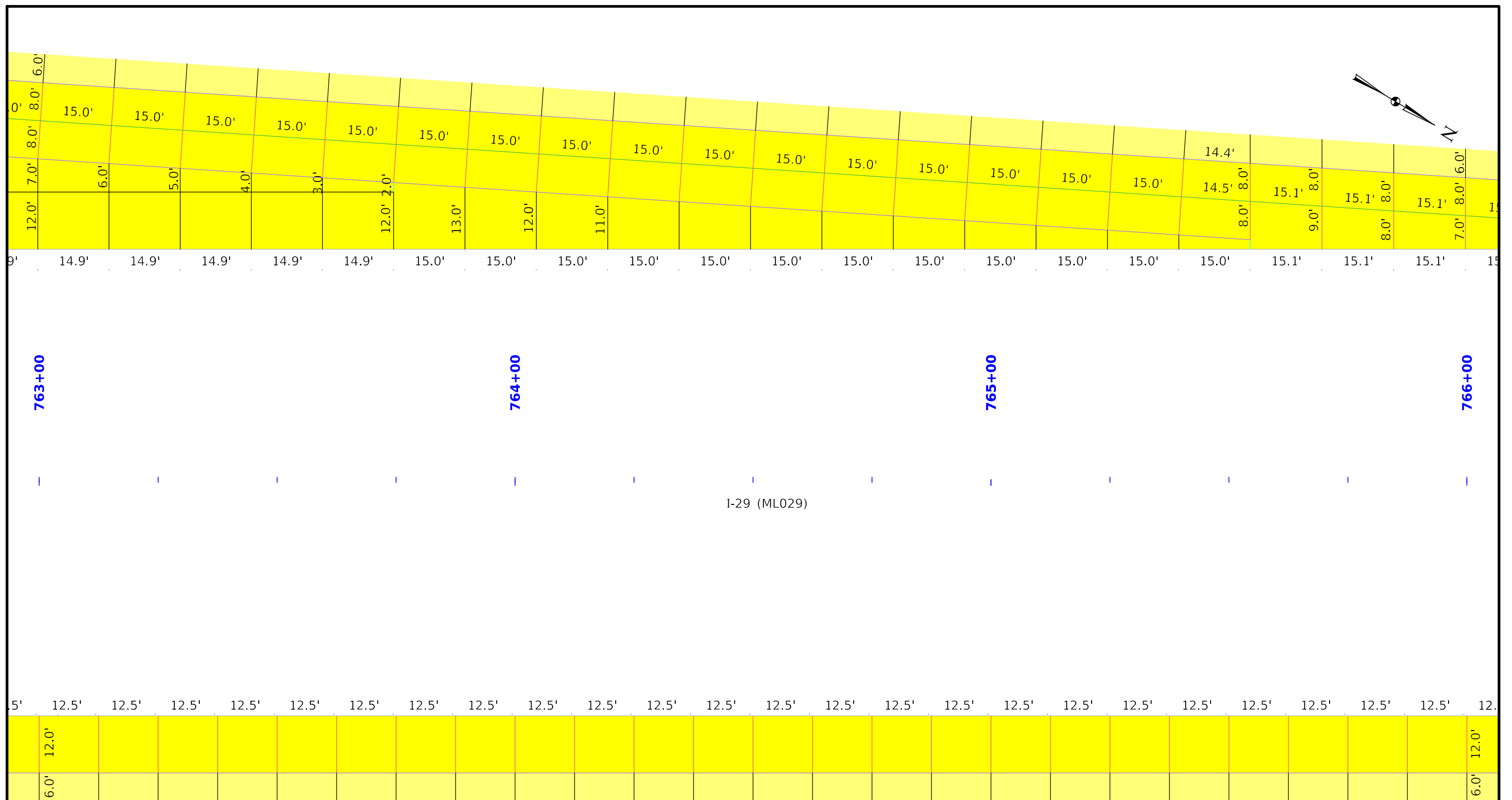
JOINTING DETAILS  
I-29

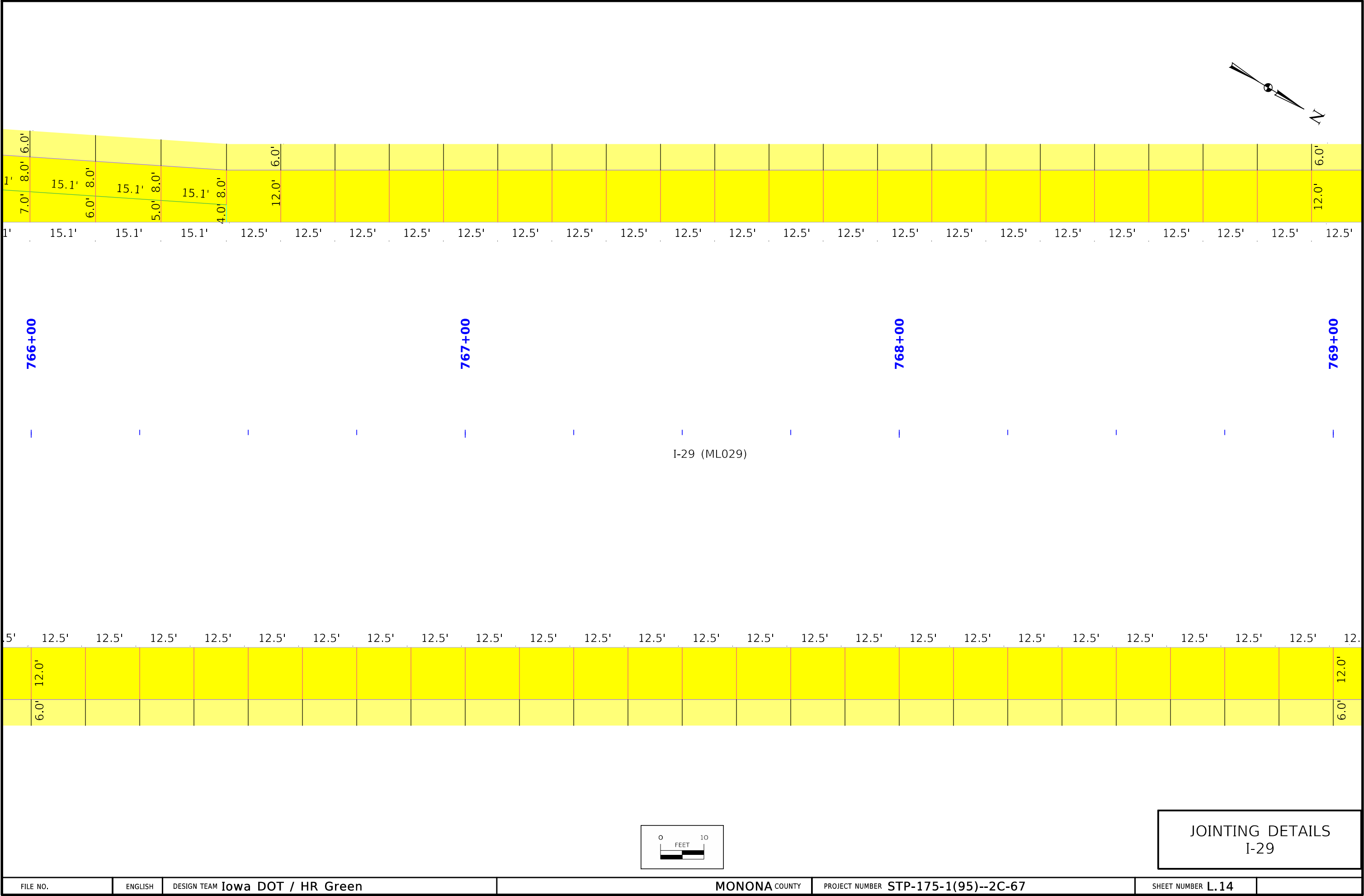


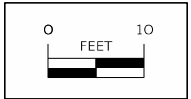
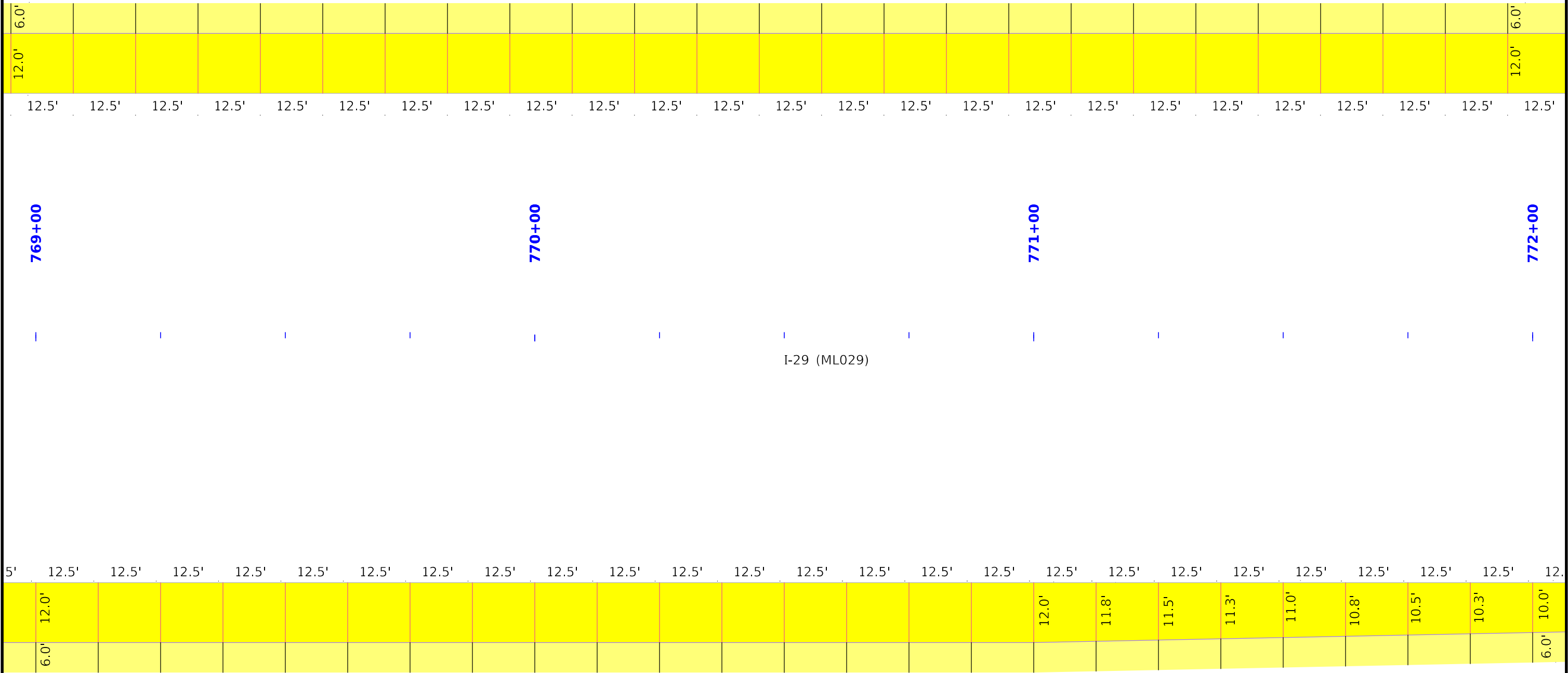
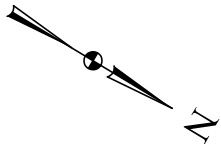




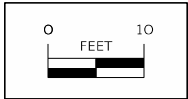
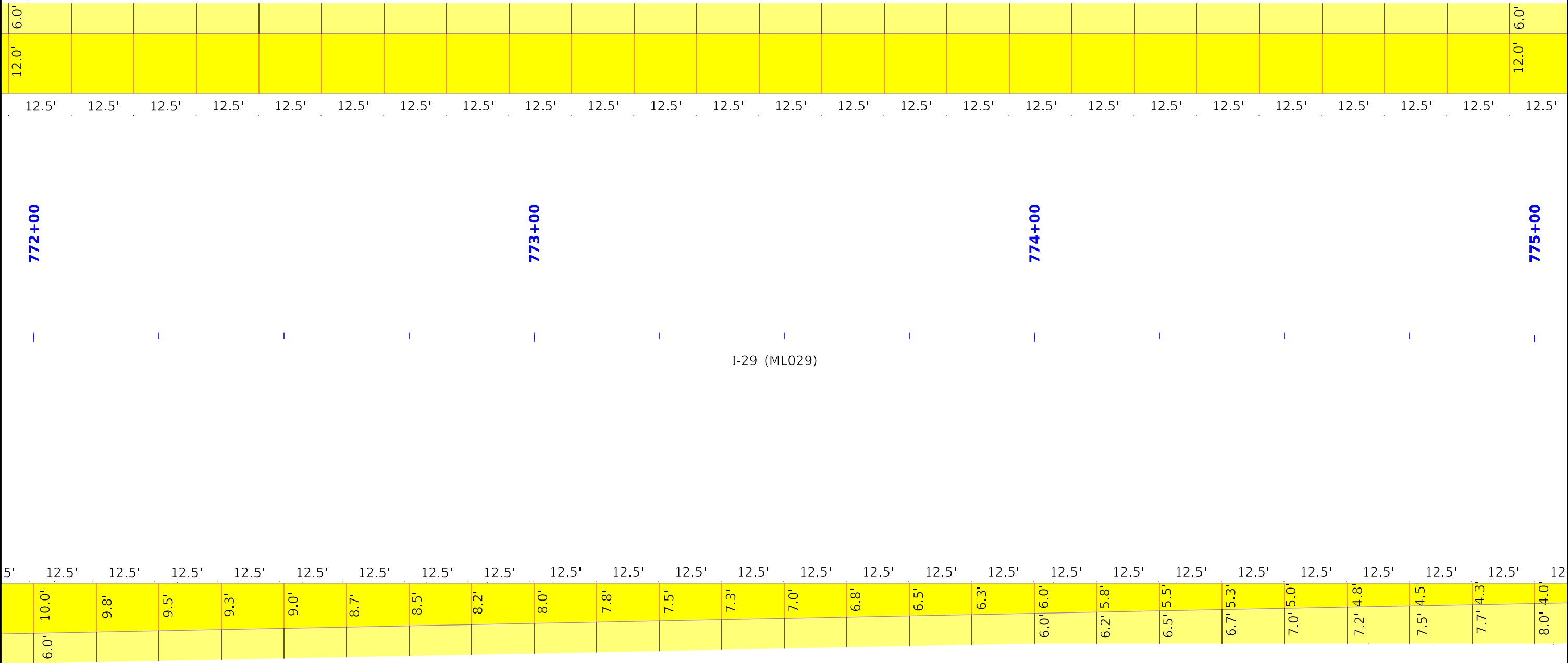
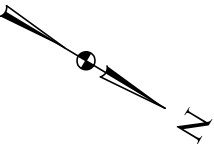
JOINTING DETAILS  
I-29

JOINTING DETAILS  
I-29

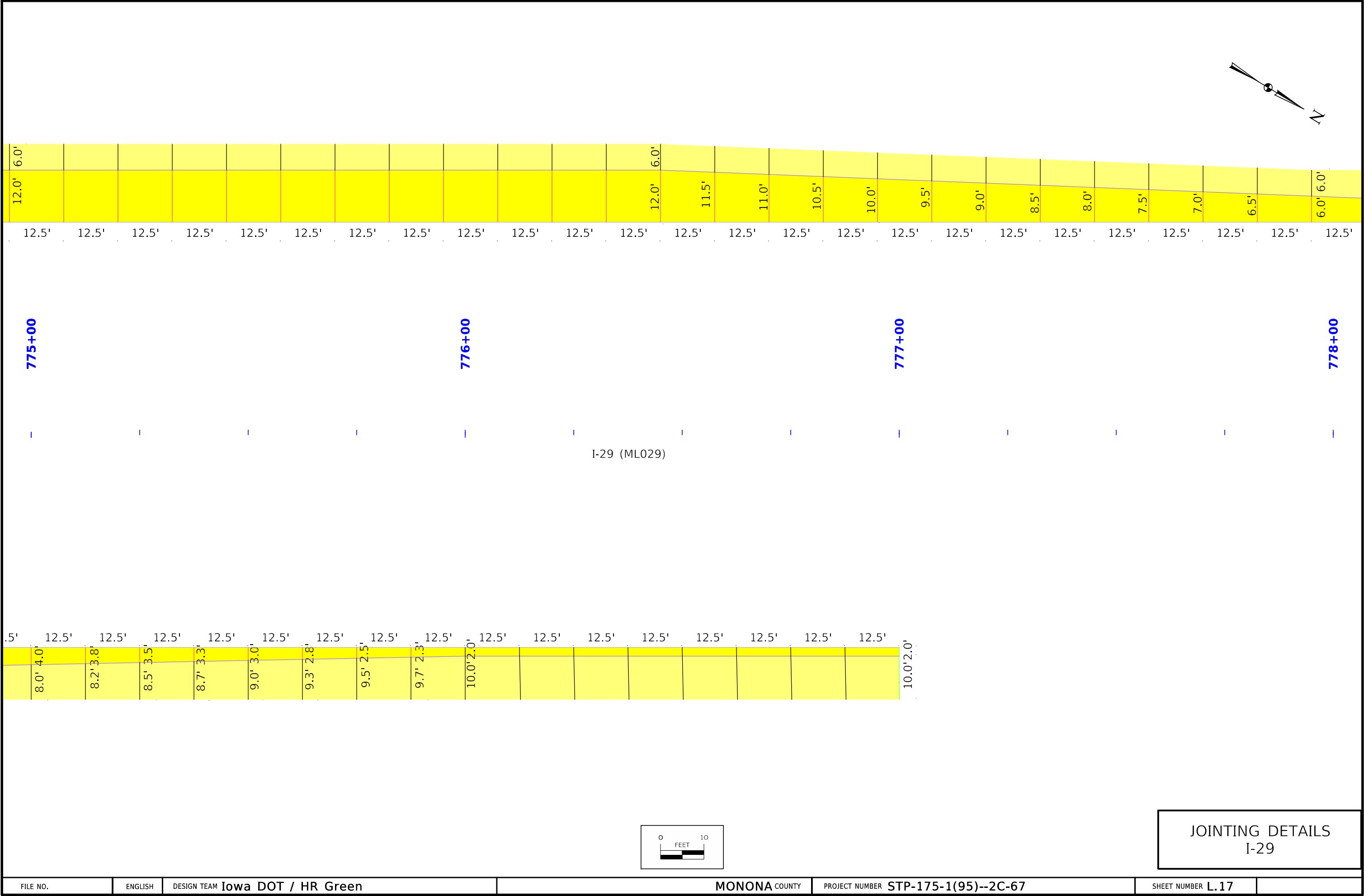




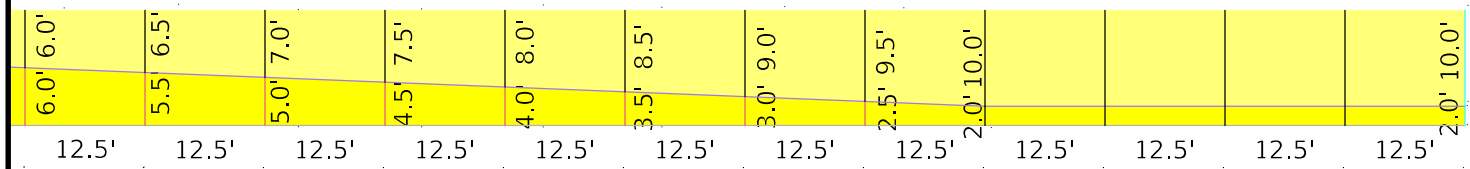
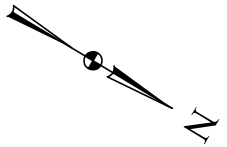
JOINTING DETAILS  
I-29



JOINTING DETAILS  
I-29







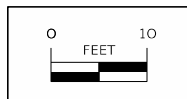
778+00

779+00

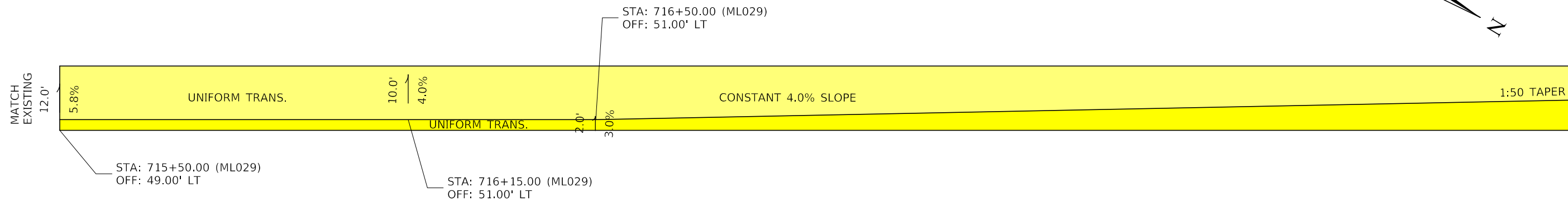
780+00

781+00

I-29 (ML029)



JOINTING DETAILS  
I-29

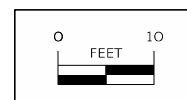
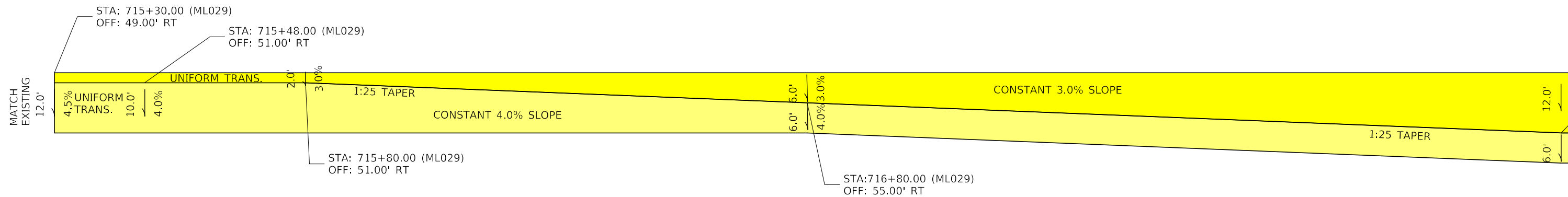


716+00

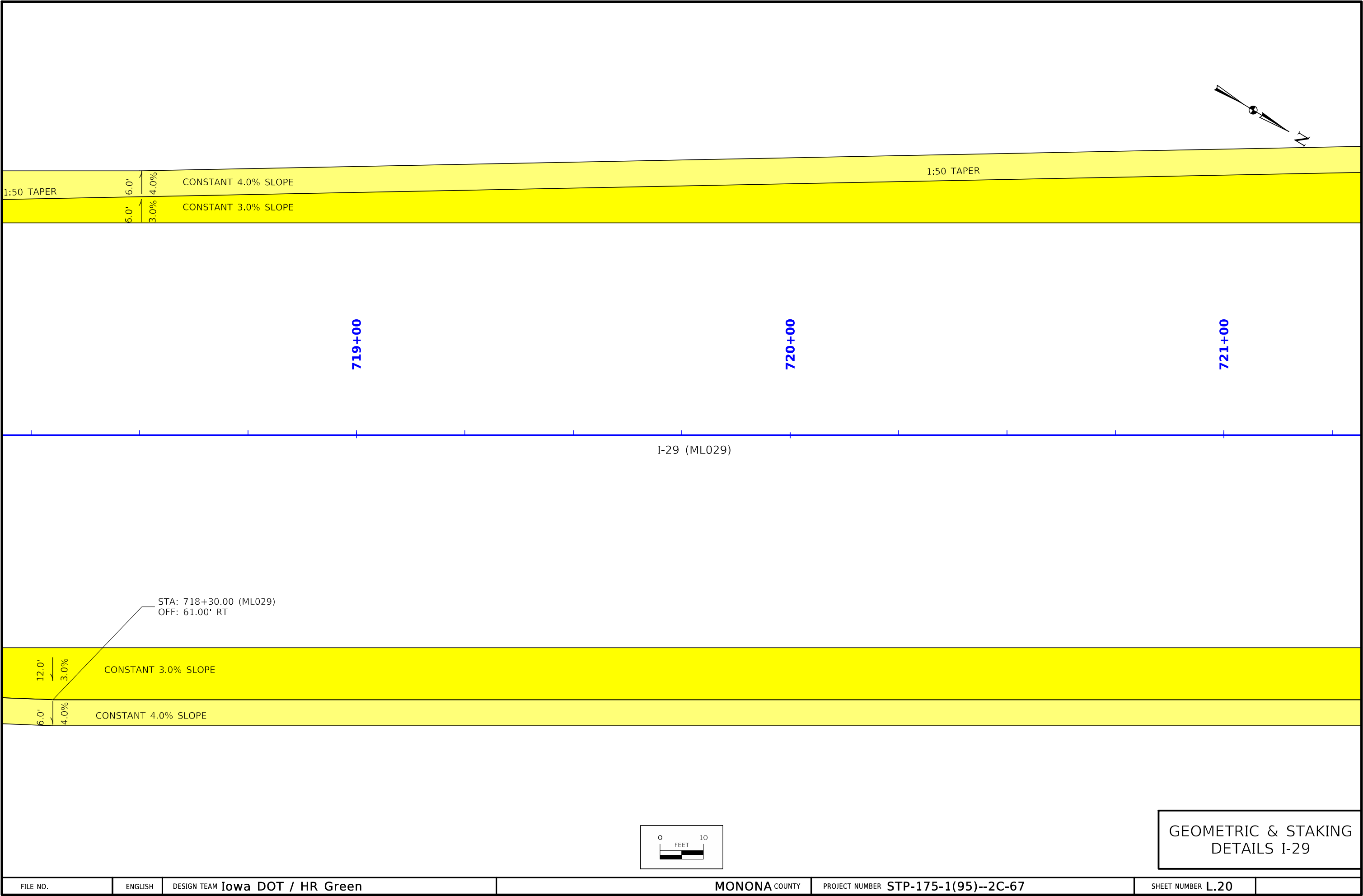
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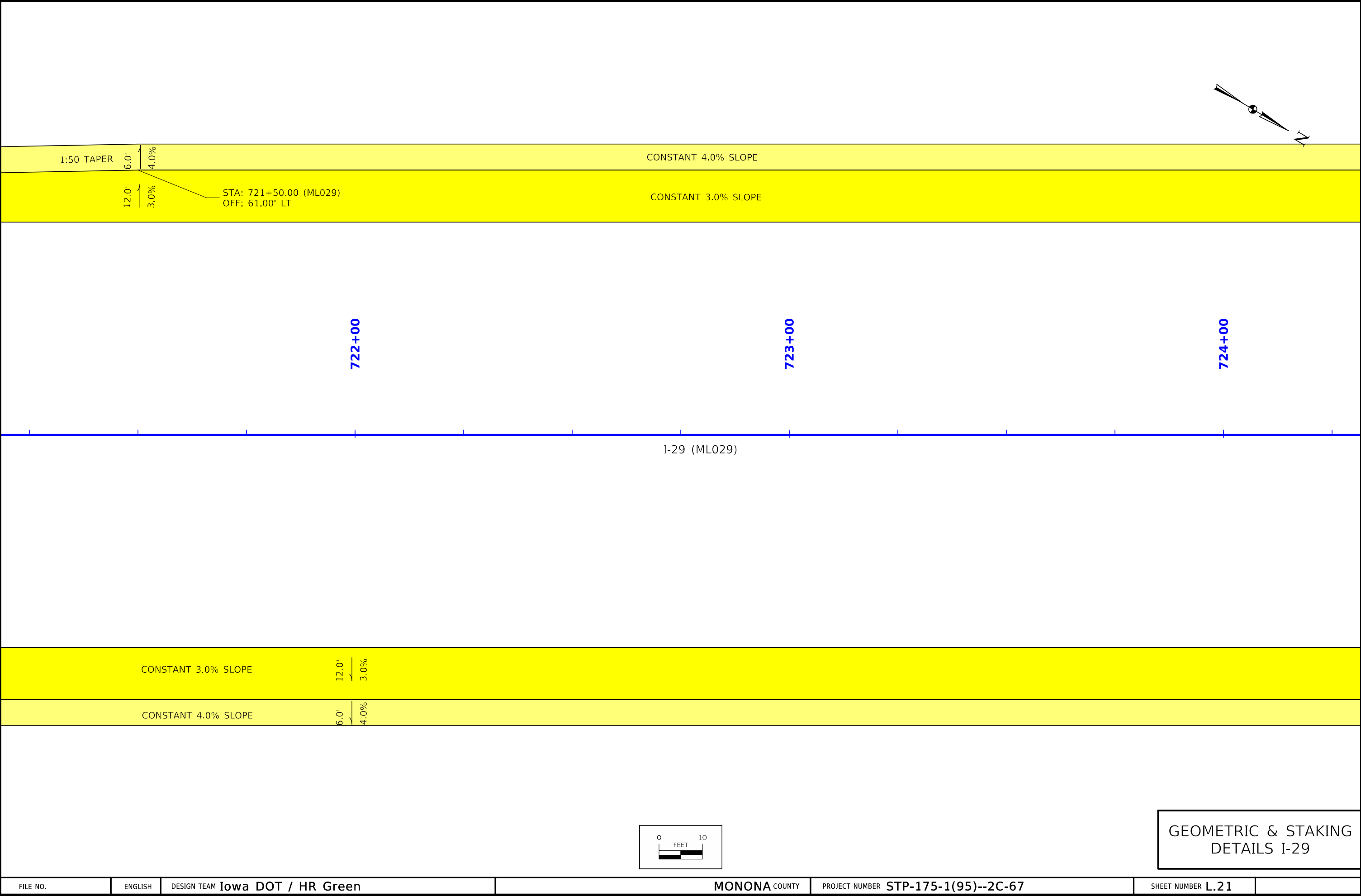
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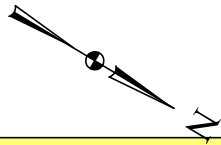
I-29 (ML029)



GEOMETRIC & STAKING  
DETAILS I-29







CONSTANT 4.0% SLOPE

6.0'  $\downarrow$  4.0%

CONSTANT 3.0% SLOPE

12.0'  $\downarrow$  3.0%

725+00

726+00

727+00

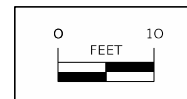
I-29 (ML029)

CONSTANT 3.0% SLOPE

12.0'  $\downarrow$  3.0%

CONSTANT 4.0% SLOPE

6.0'  $\downarrow$  4.0%



GEOMETRIC & STAKING  
DETAILS I-29

FILE NO.

ENGLISH

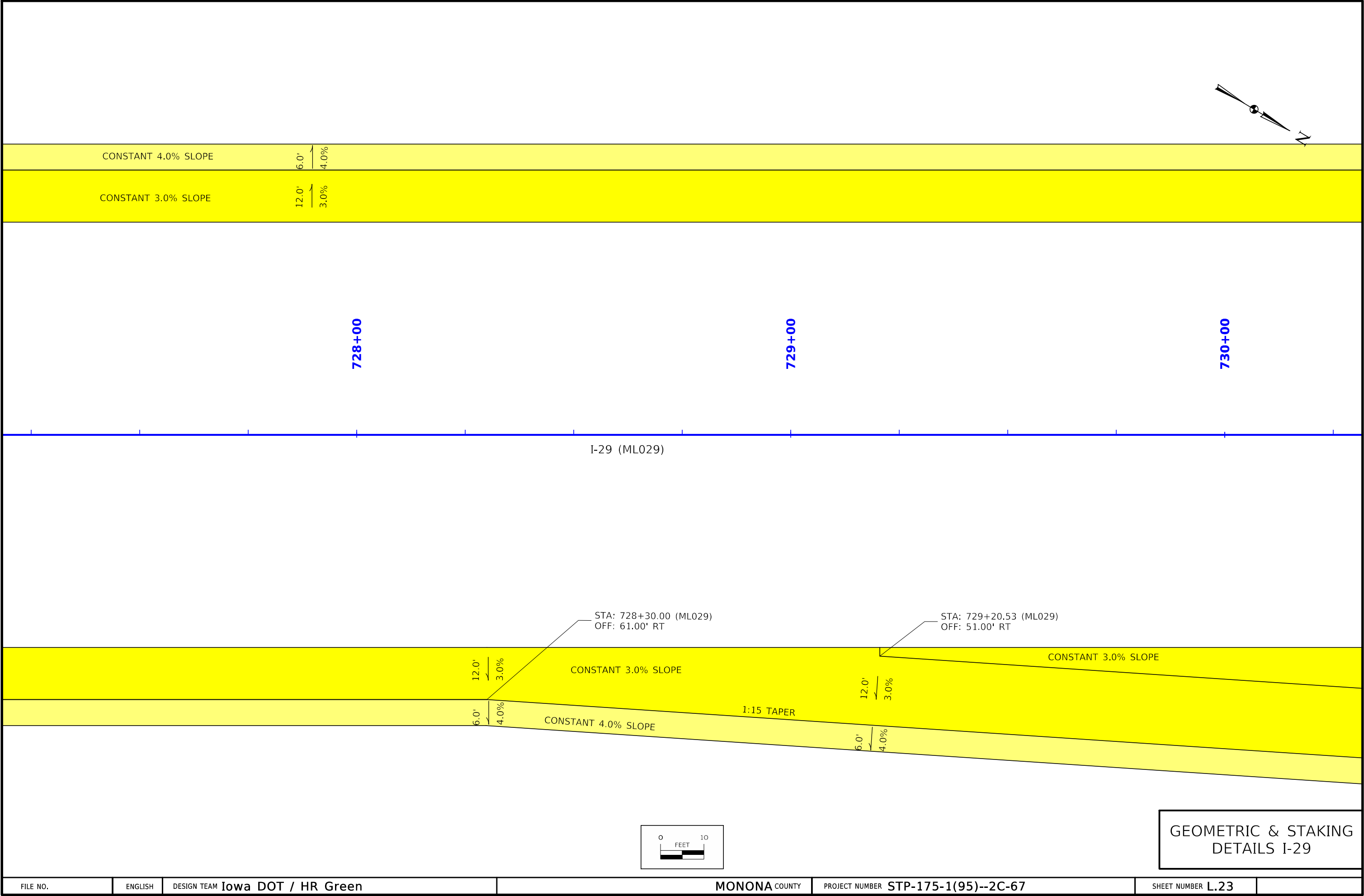
DESIGN TEAM Iowa DOT / HR Green

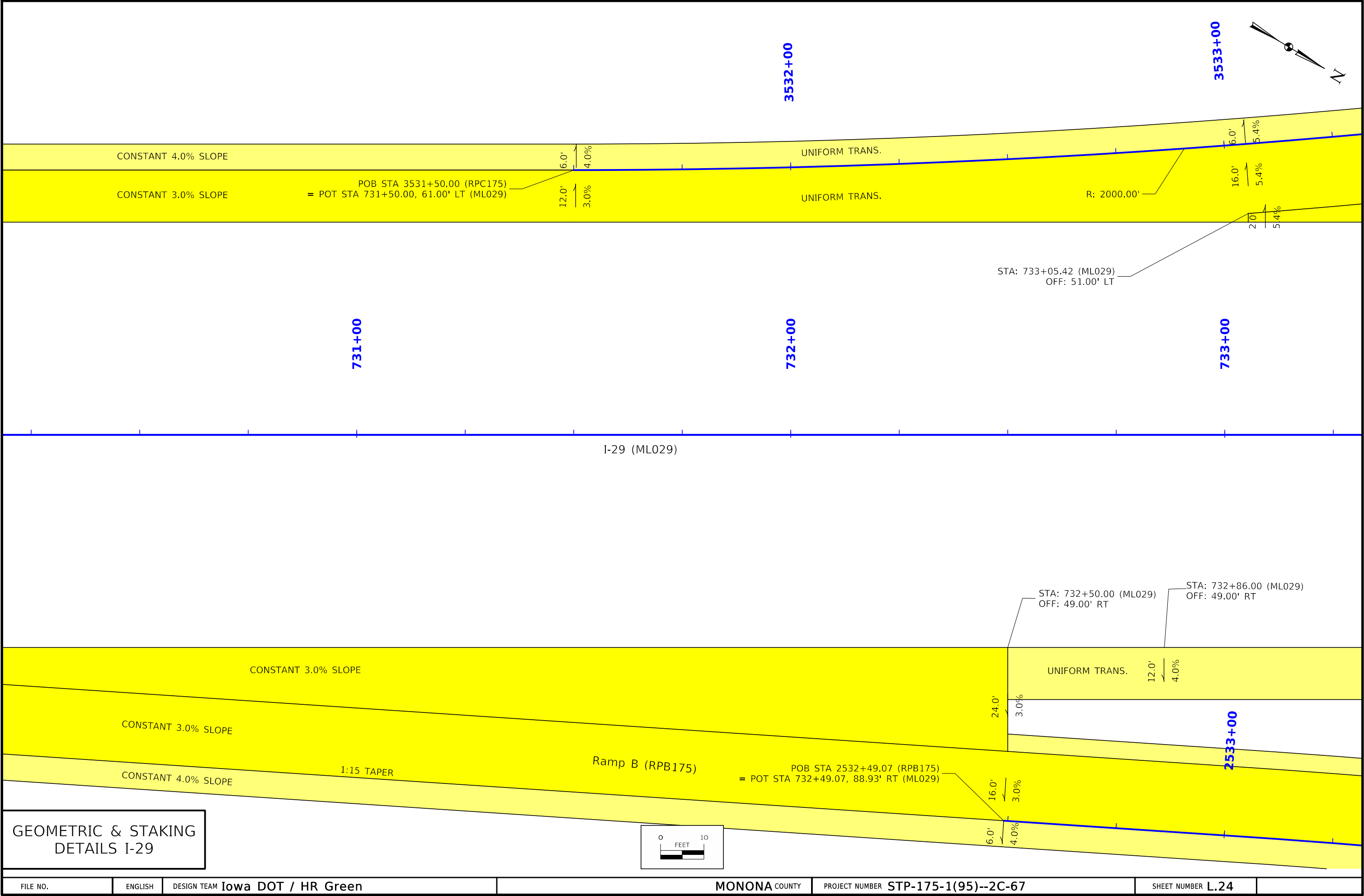
MONONA COUNTY

PROJECT NUMBER STP-175-1(95)--2C-67

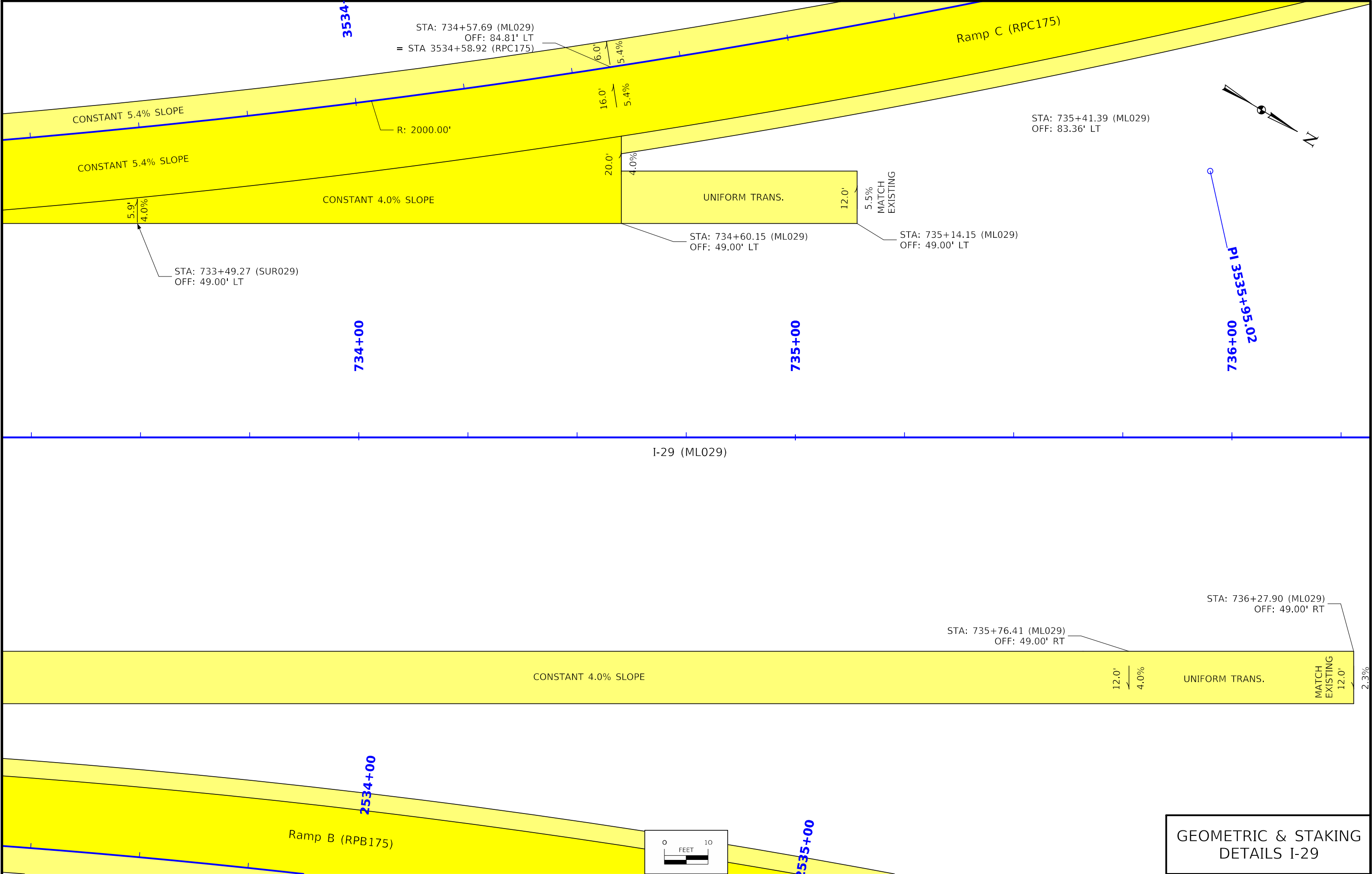
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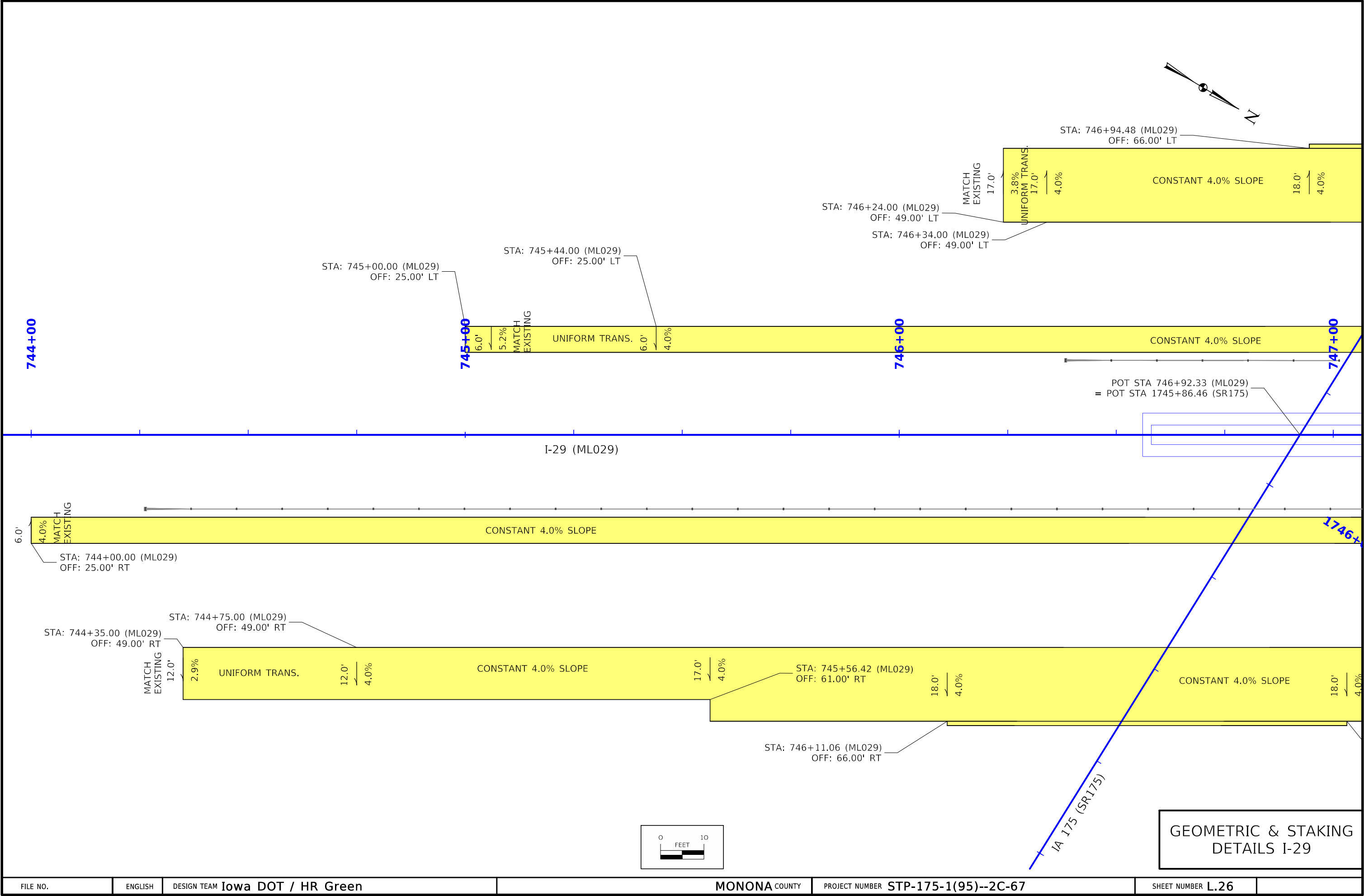
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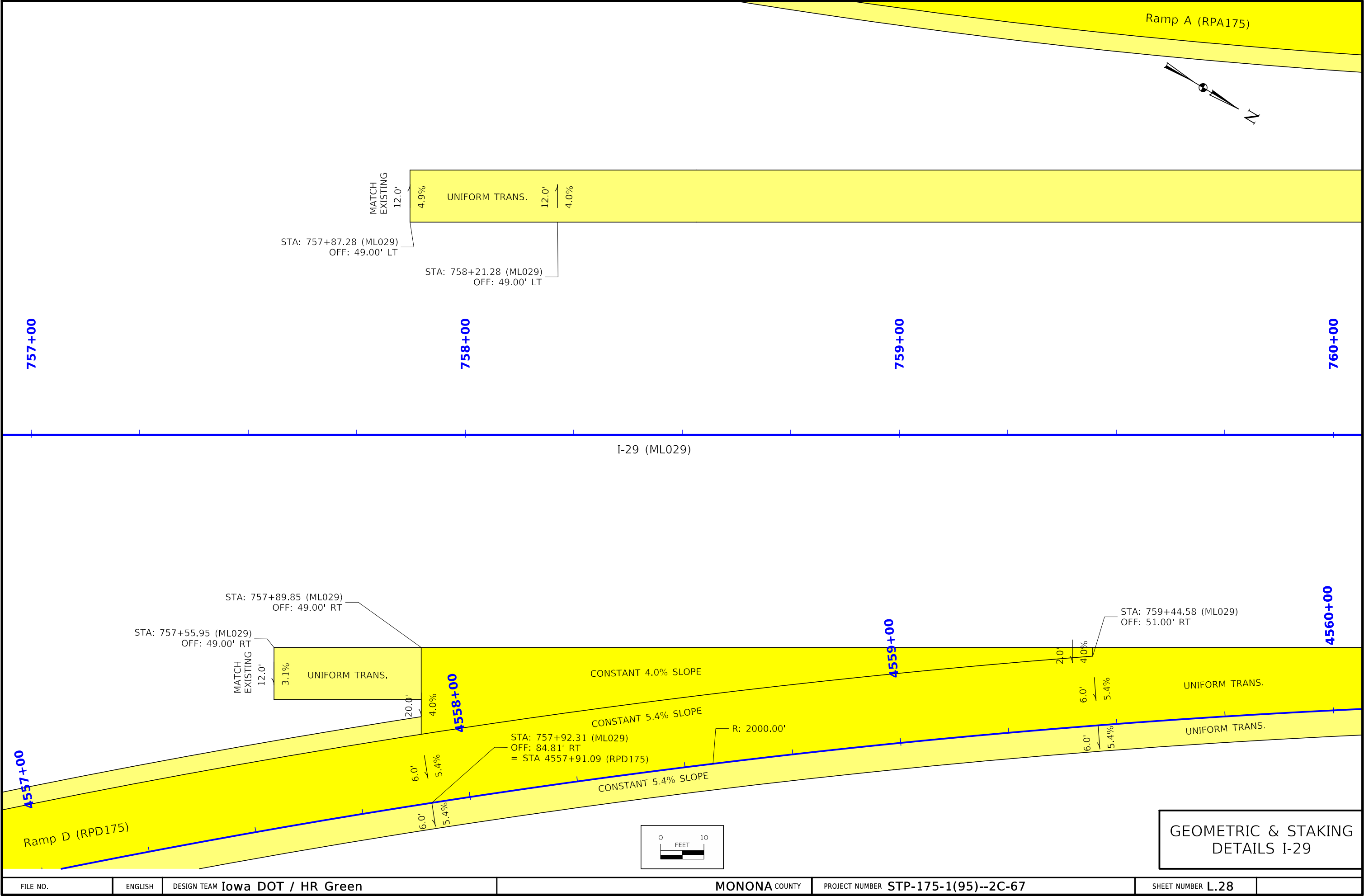


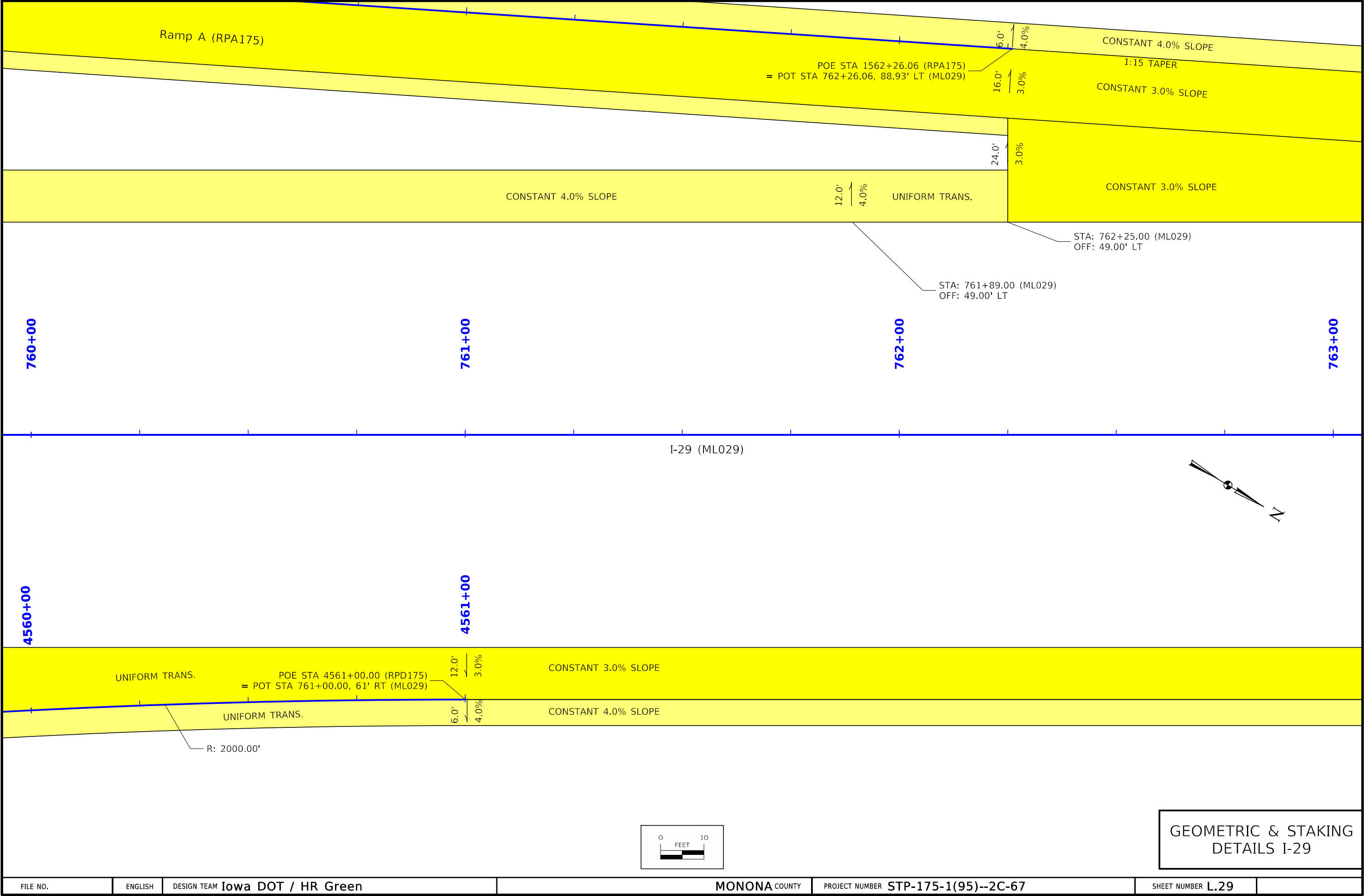


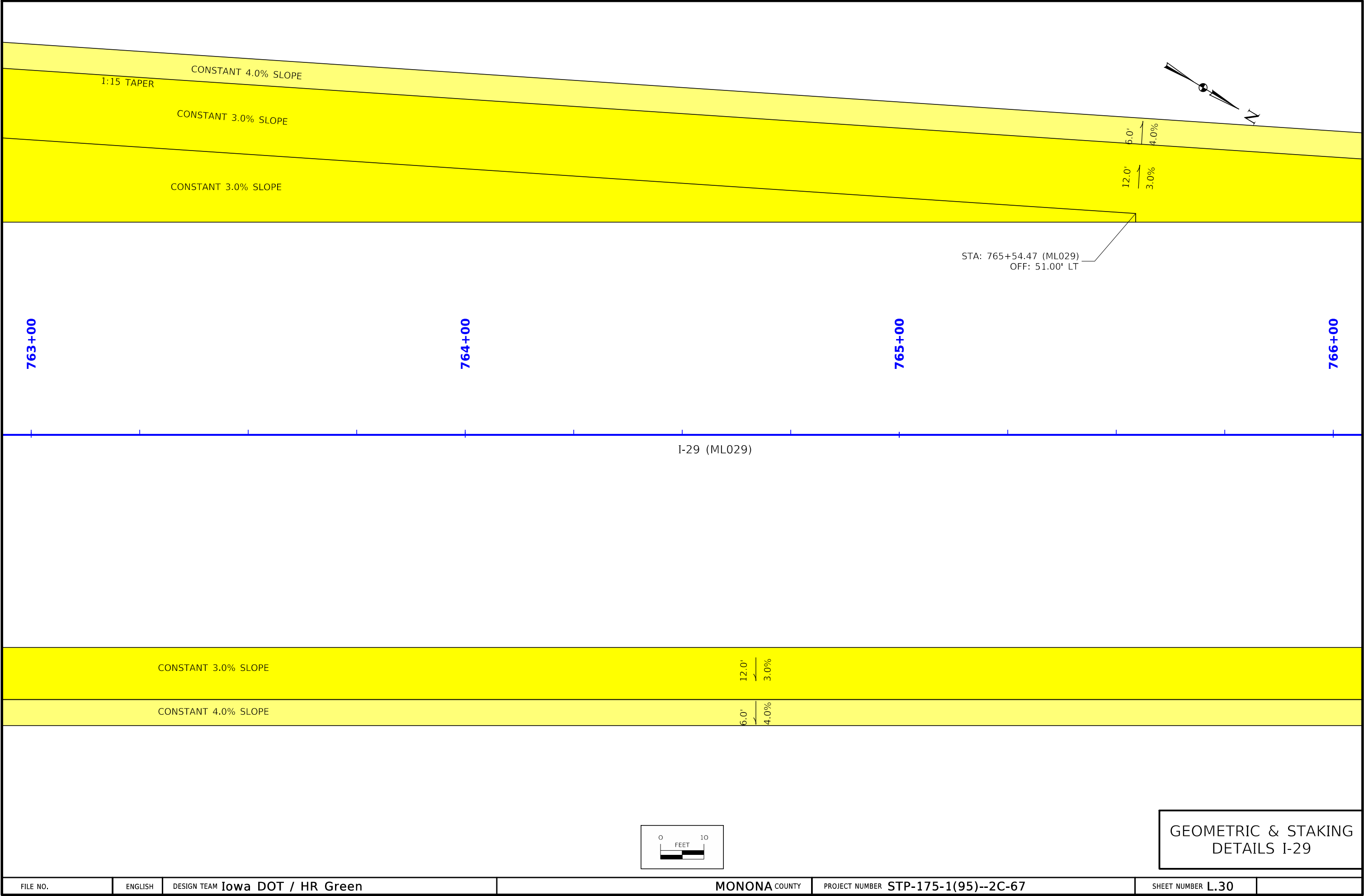


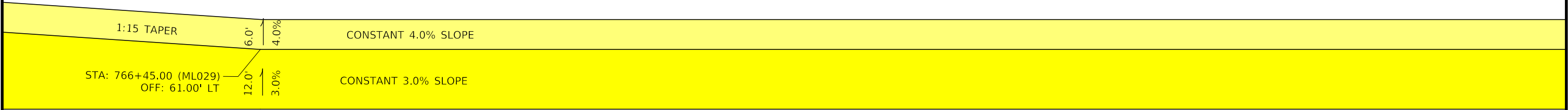
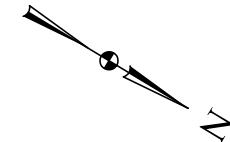












766+00

767+00

768+00

769+00

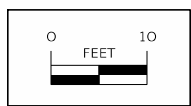
I-29 (ML029)

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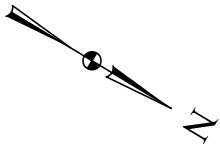
CONSTANT 4.0% SLOPE

6.0' ↓ 4.0%



GEOMETRIC & STAKING  
DETAILS I-29





CONSTANT 4.0% SLOPE

6.0' 4.0%

CONSTANT 3.0% SLOPE

12.0' 3.0%

769+00

770+00

771+00

772+00

I-29 (ML029)

CONSTANT 3.0% SLOPE

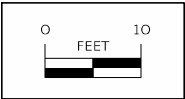
12.0' 3.0%

CONSTANT 4.0% SLOPE

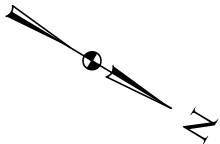
6.0' 4.0%

1:50 TAPER

STA: 771+00.00 (ML029)  
OFF: 61.00' RT



GEOMETRIC & STAKING  
DETAILS I-29



CONSTANT 4.0% SLOPE

6.0'  $\uparrow$  4.0%

CONSTANT 3.0% SLOPE

12.0'  $\uparrow$  3.0%

772+00

773+00

774+00

775+00

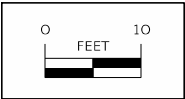
I-29 (ML029)

1:50 TAPER

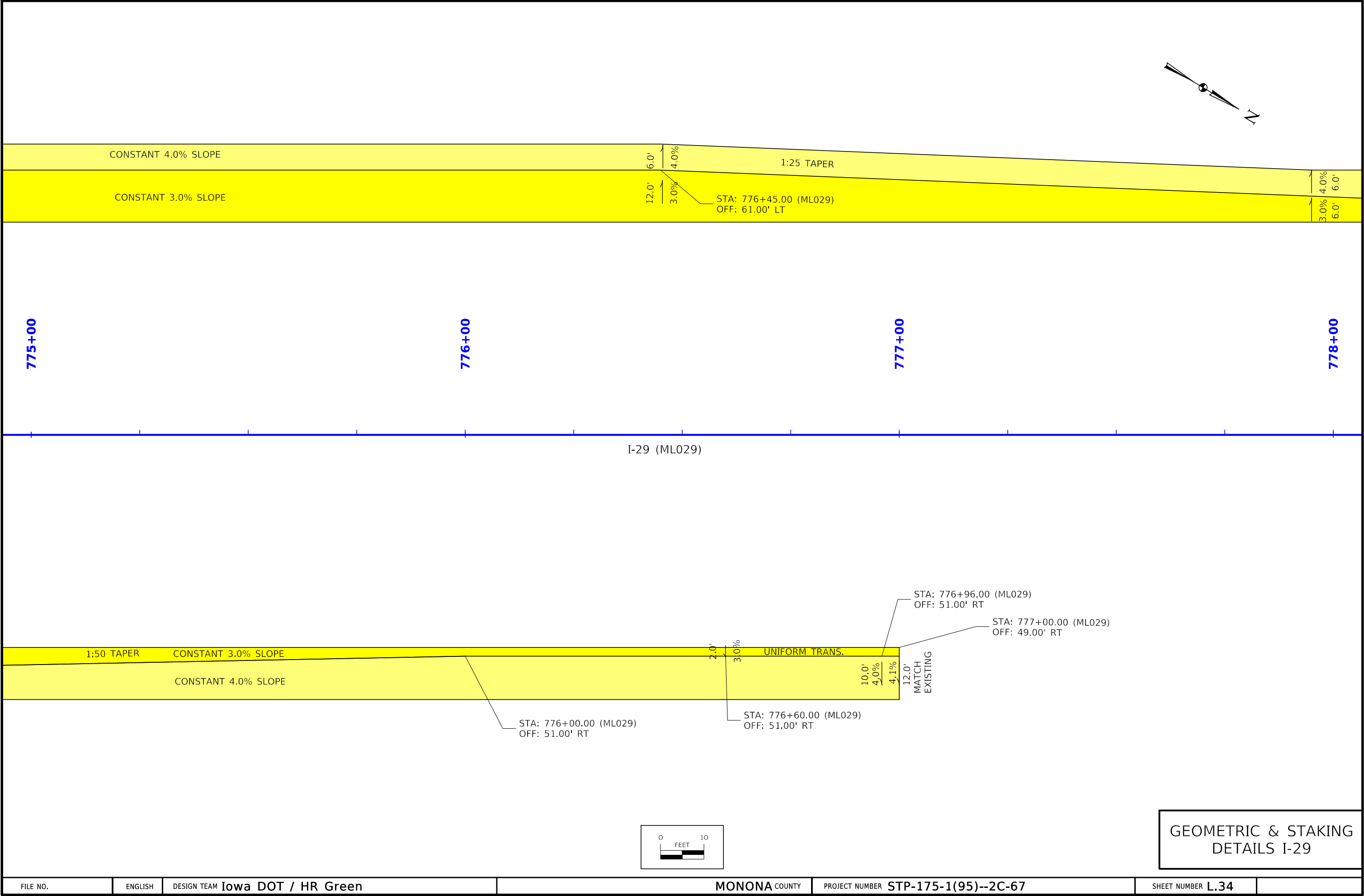
CONSTANT 3.0% SLOPE

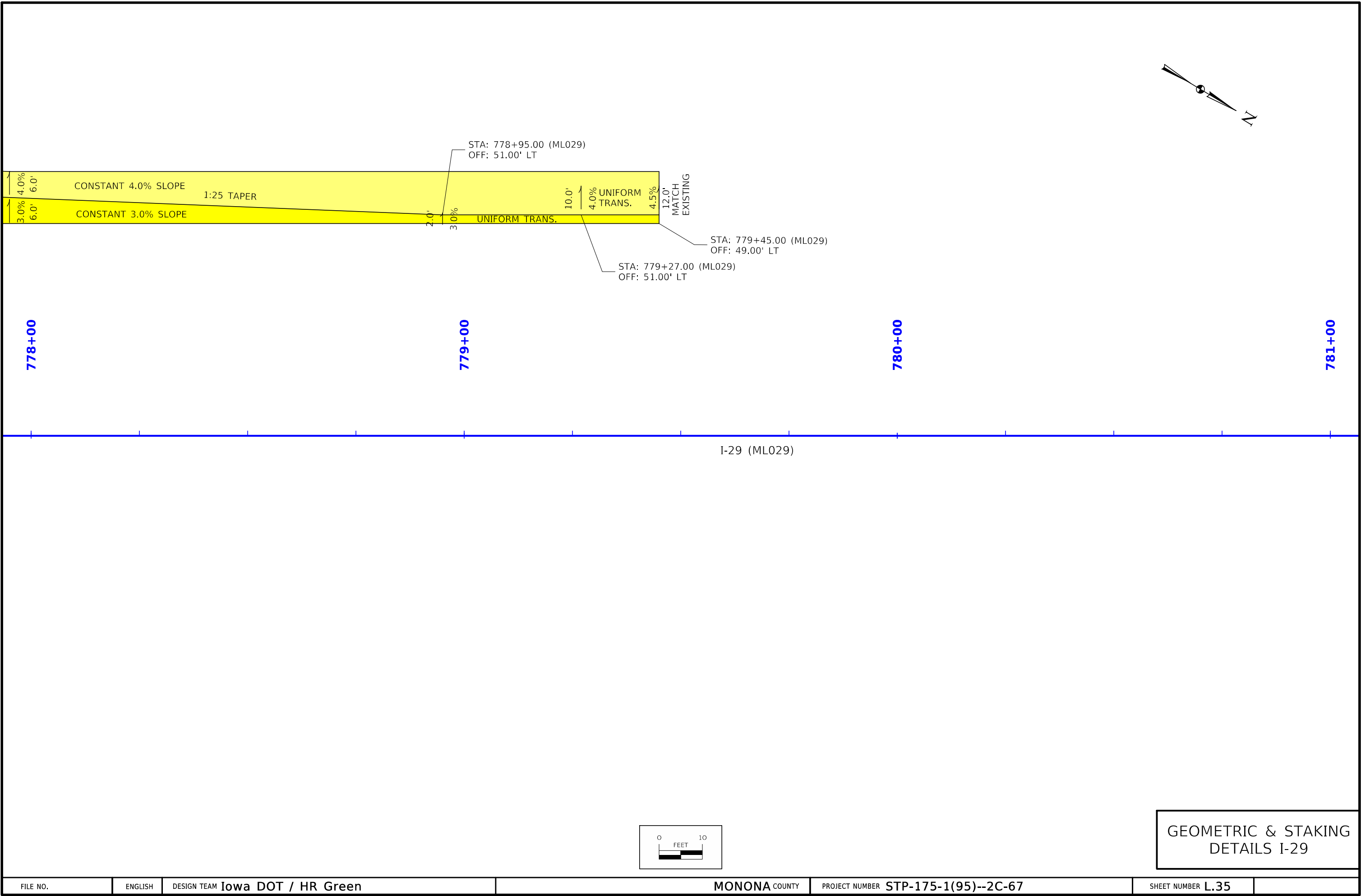
6.0'  $\downarrow$  3.0%

CONSTANT 4.0% SLOPE



GEOMETRIC & STAKING  
DETAILS I-29





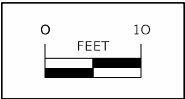
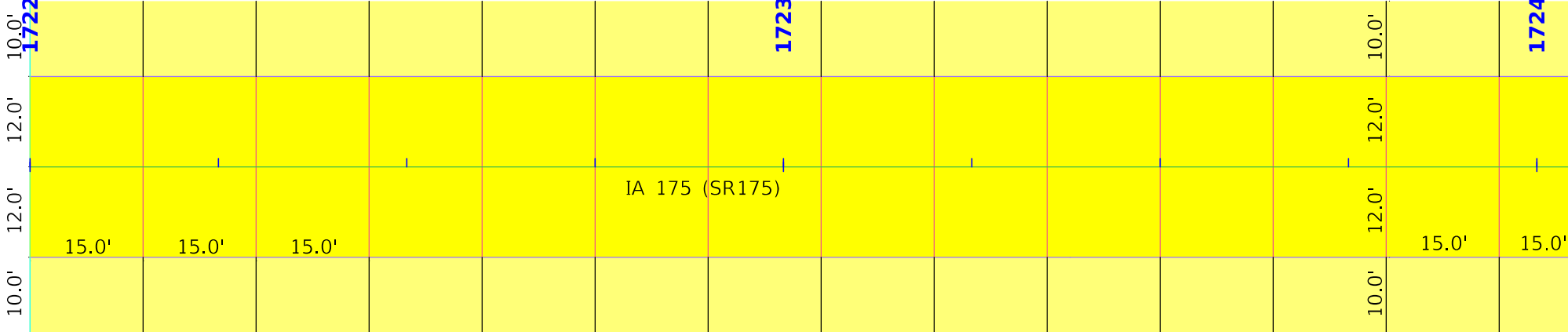


1721+00

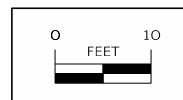
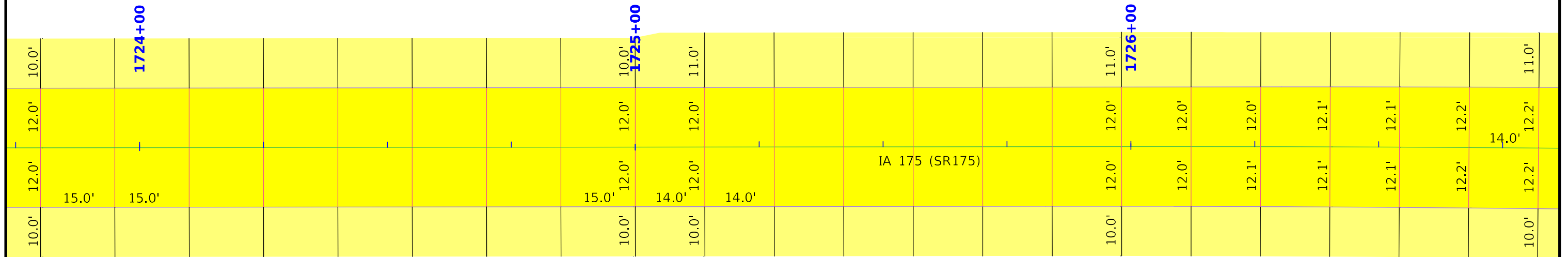
1722+00

1723+00

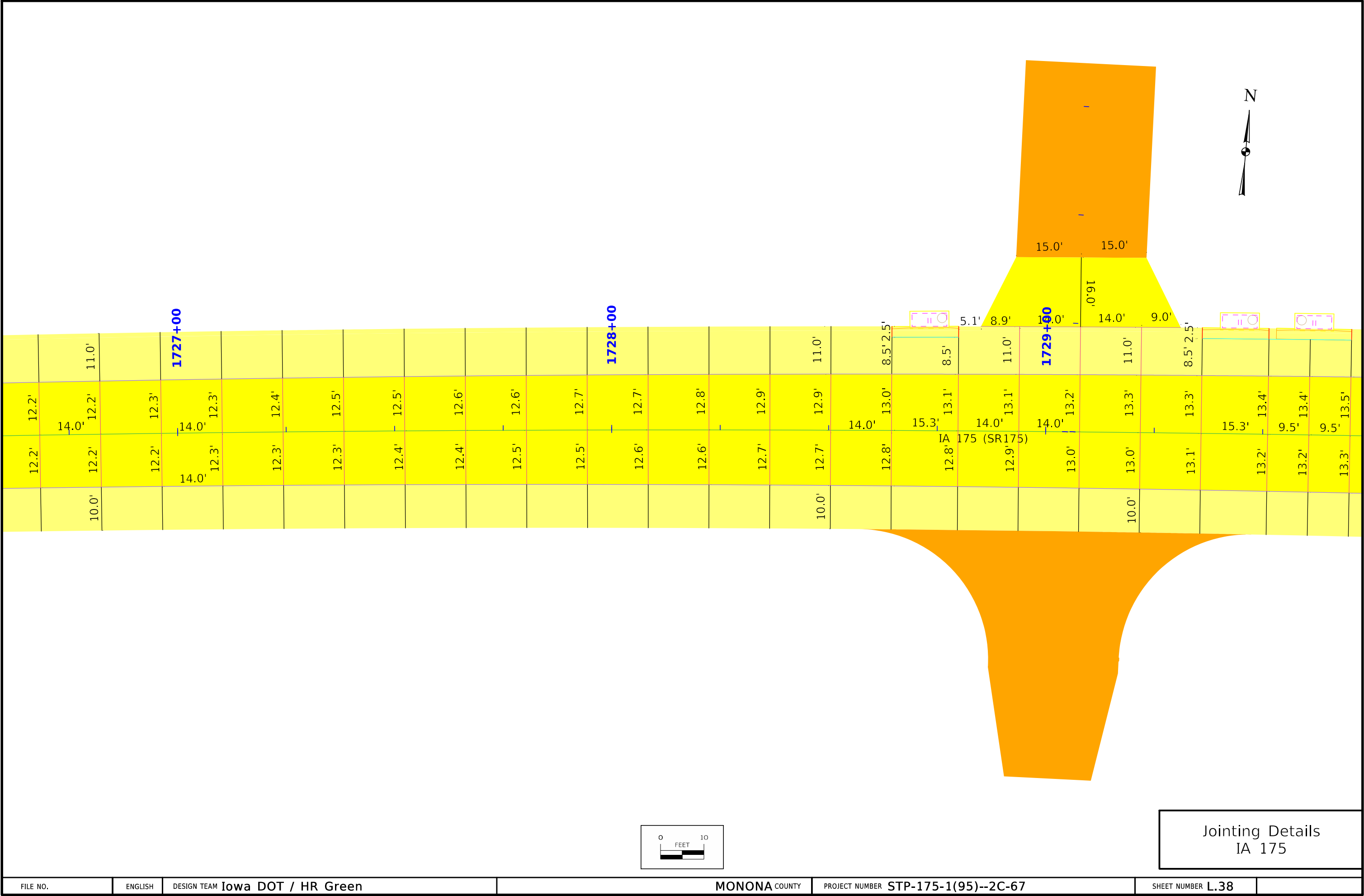
1724+00



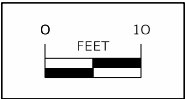
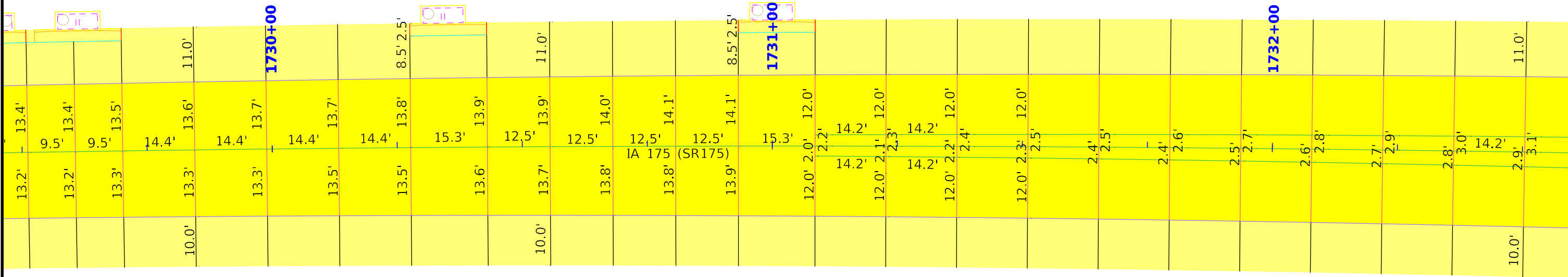
Jointing Details  
IA 175



Jointing Details  
IA 175

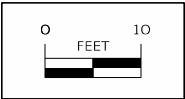
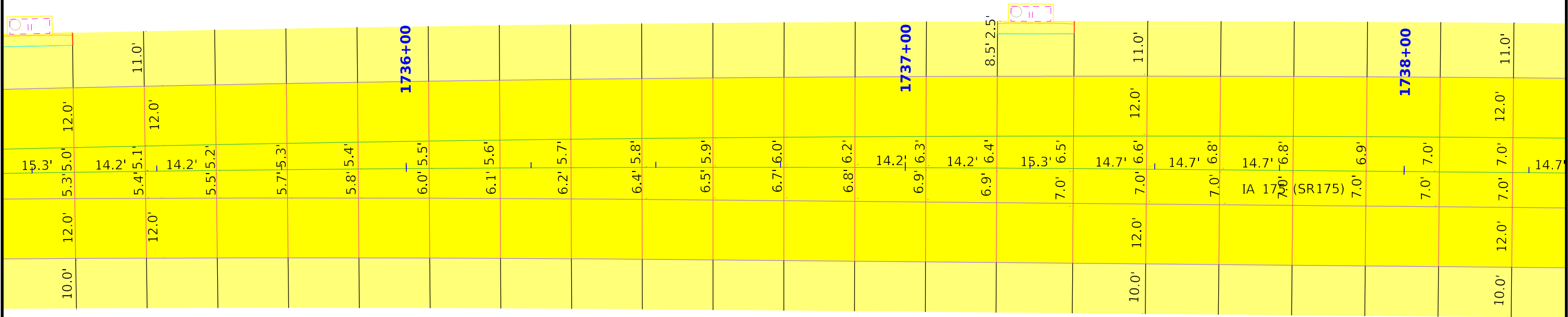




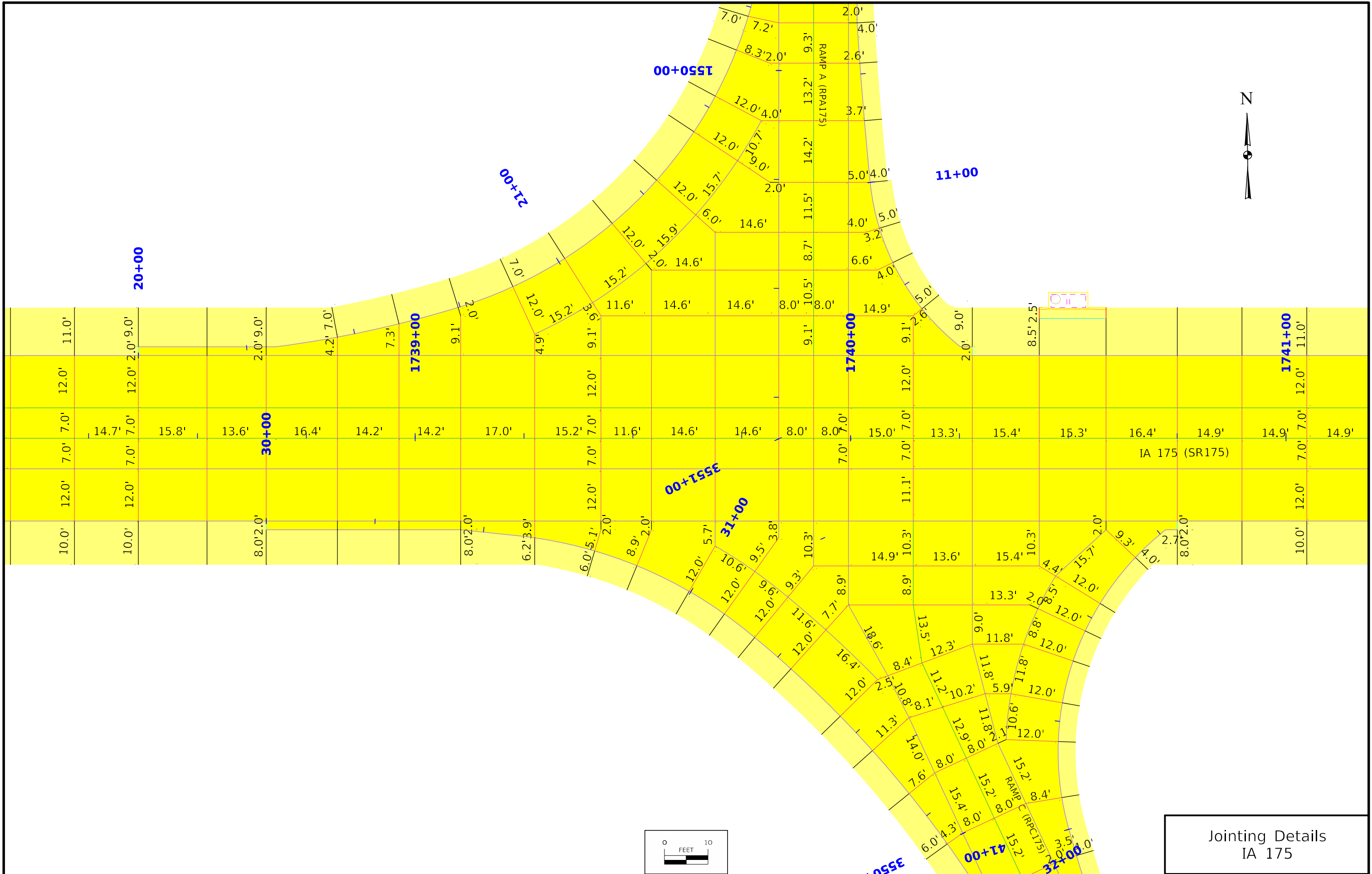


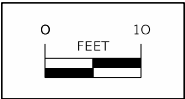
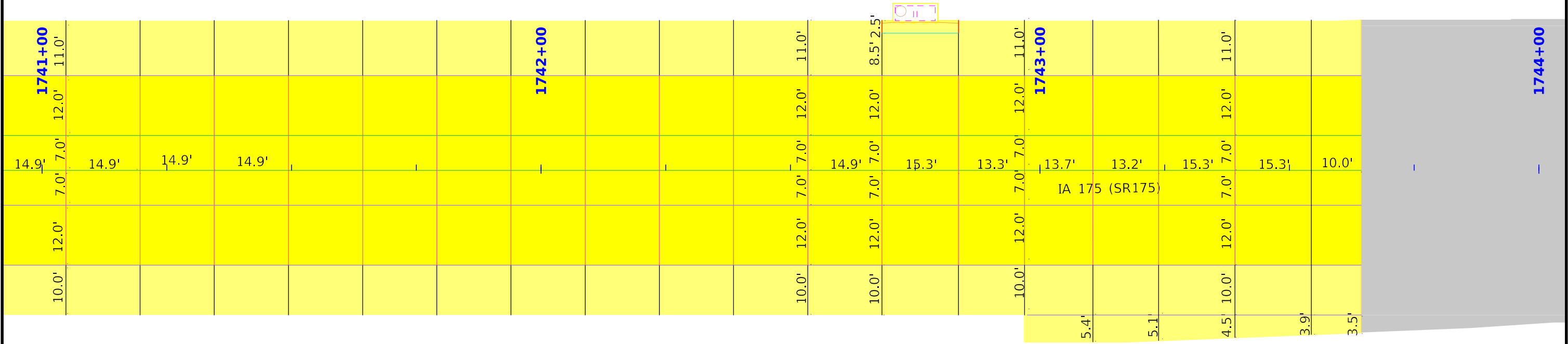
Jointing Details  
IA 175



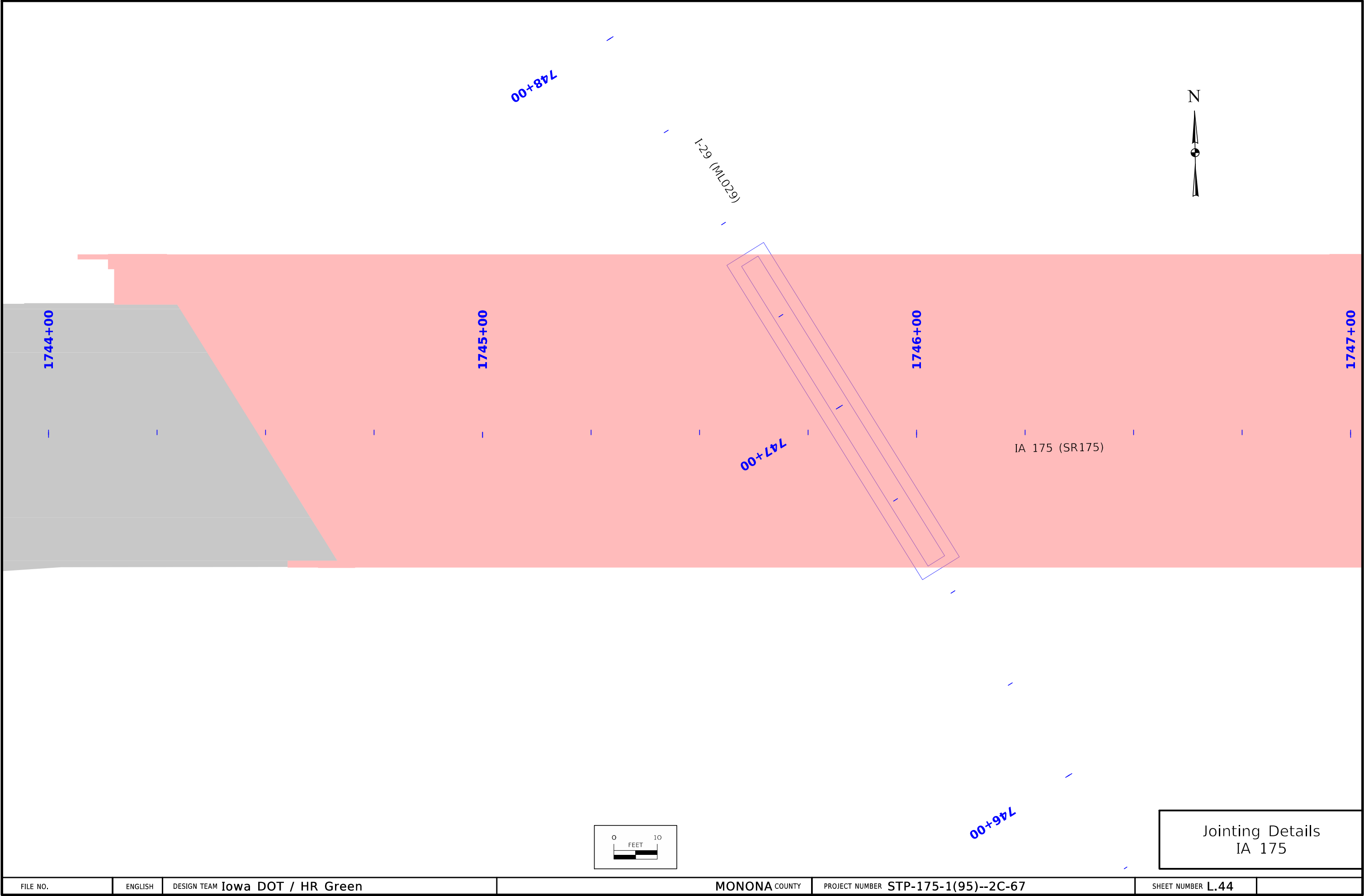


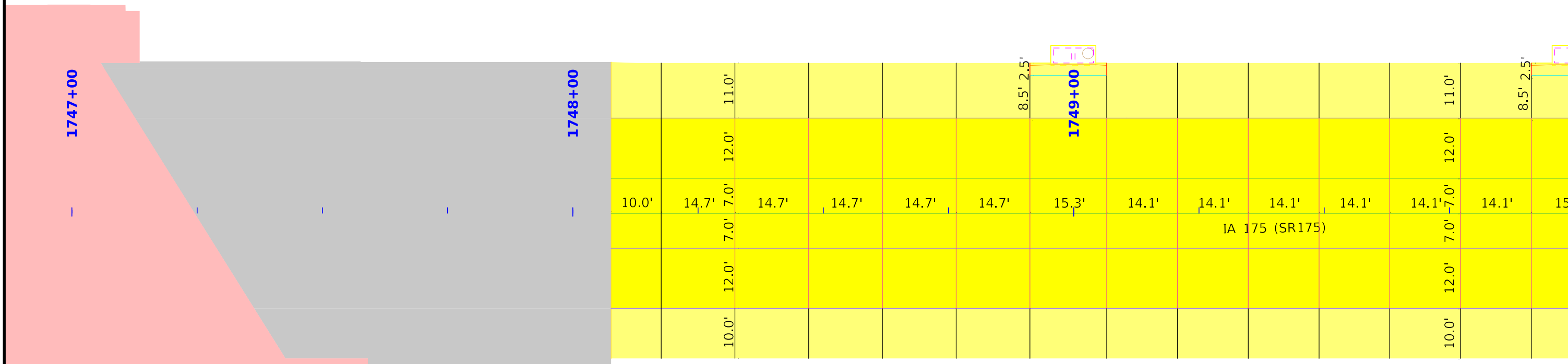
Jointing Details  
IA 175





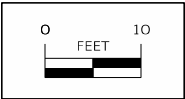
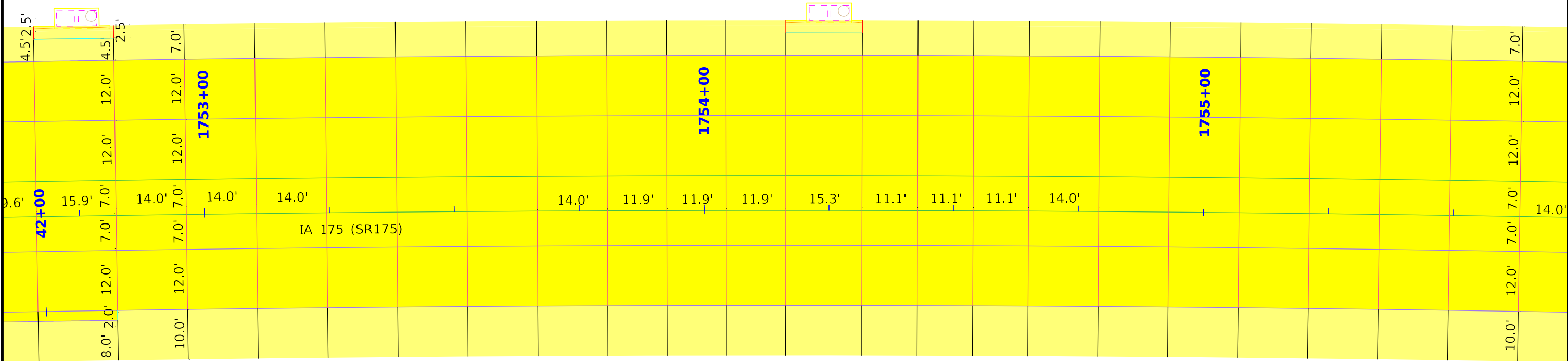
Jointing Details  
IA 175



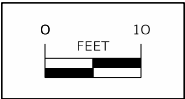
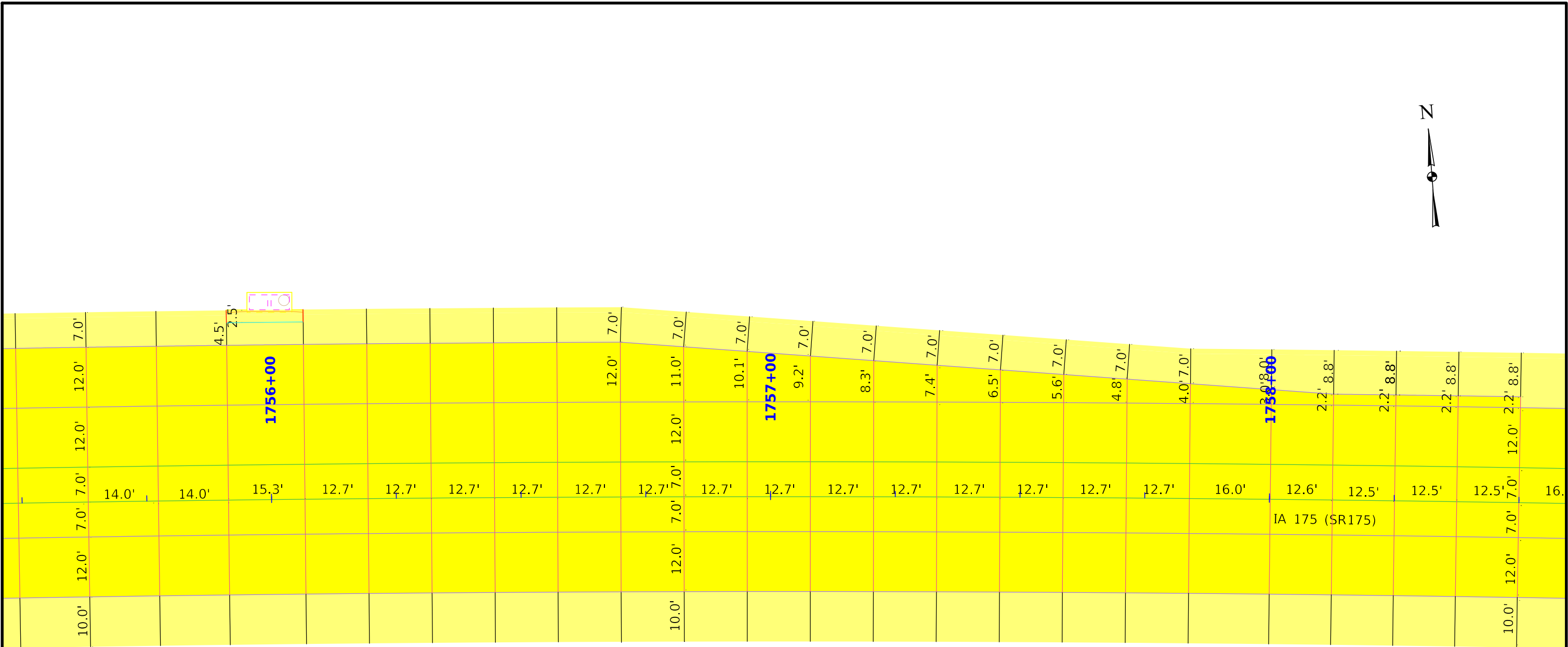




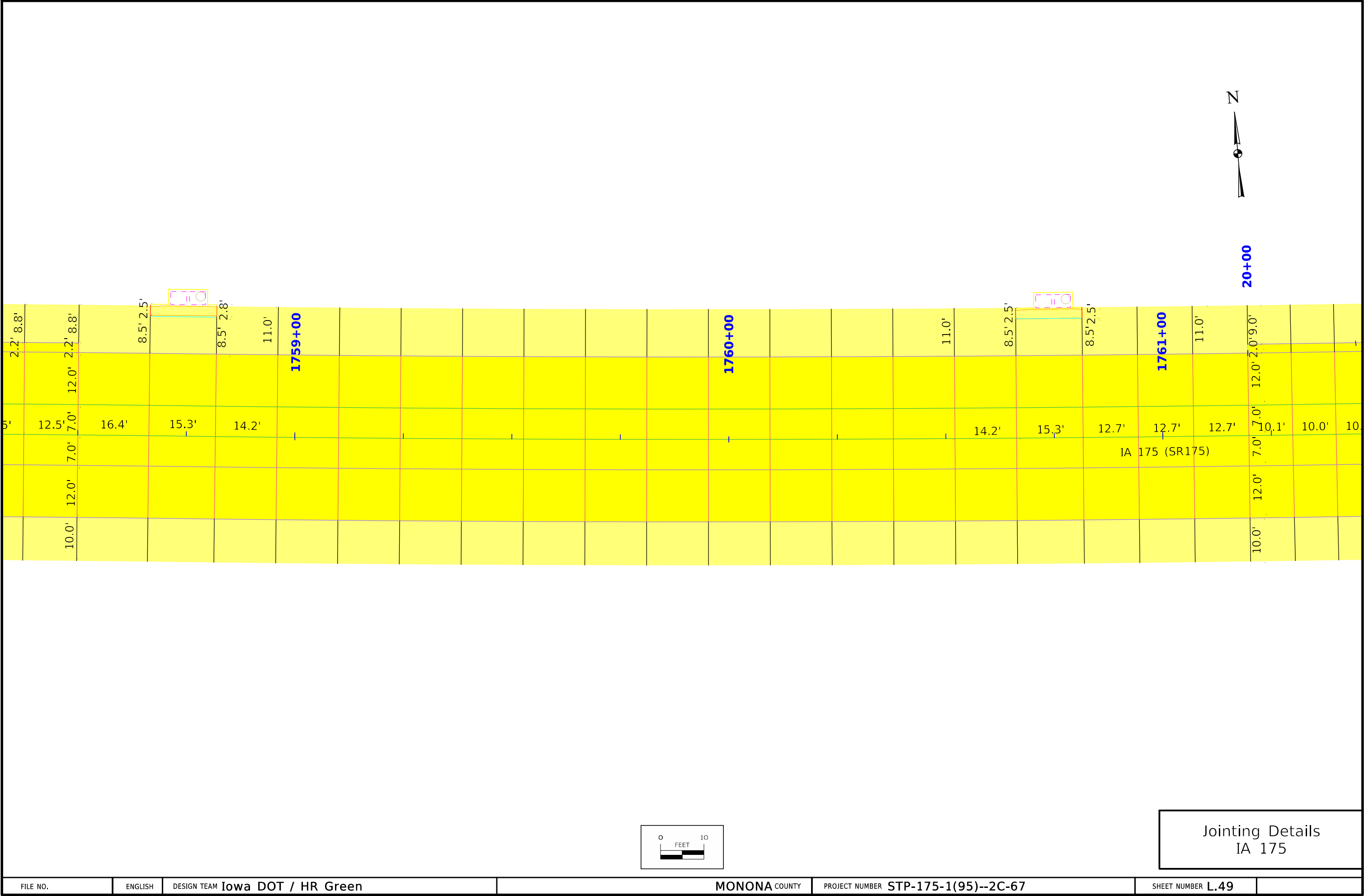


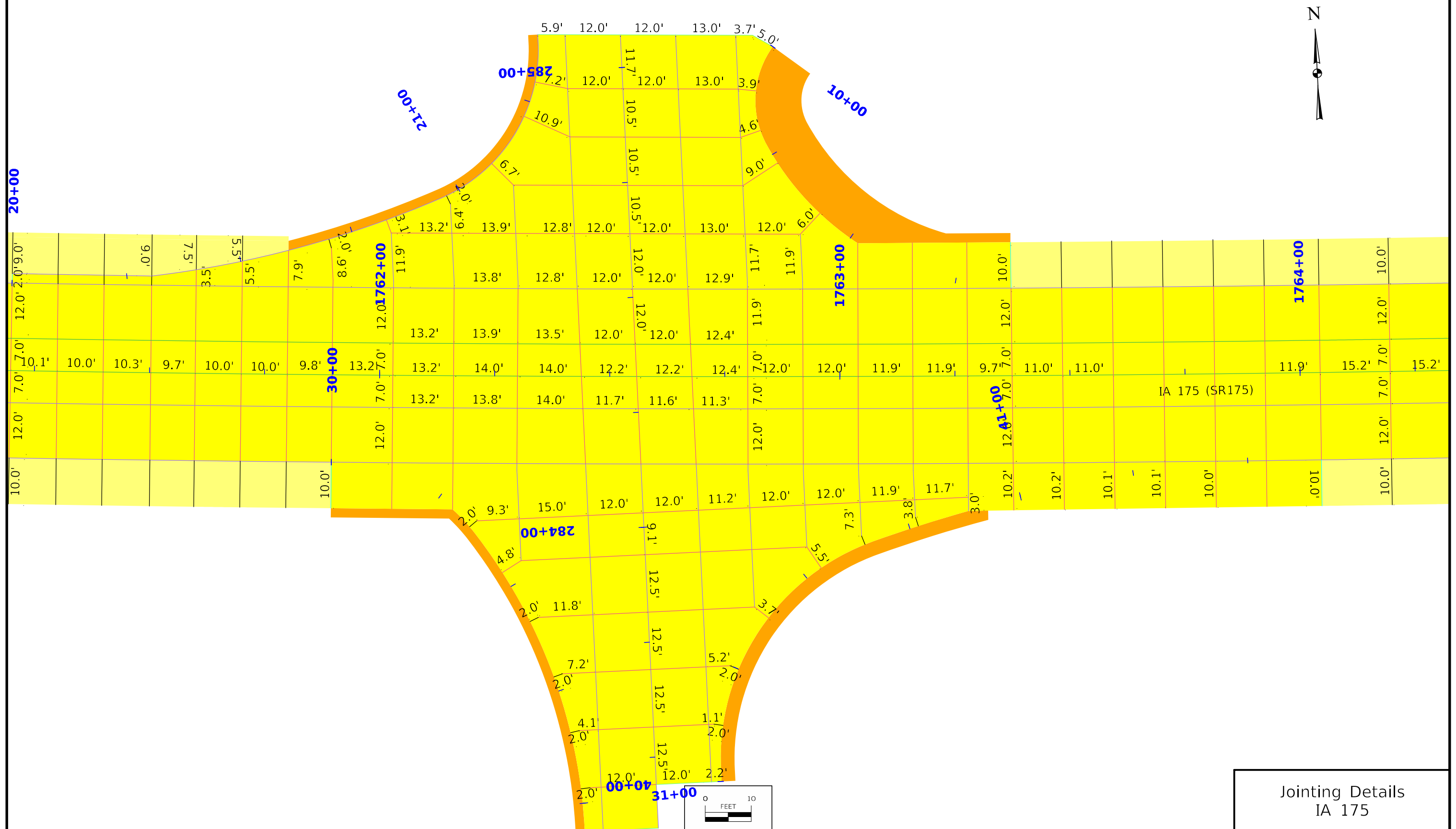


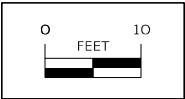
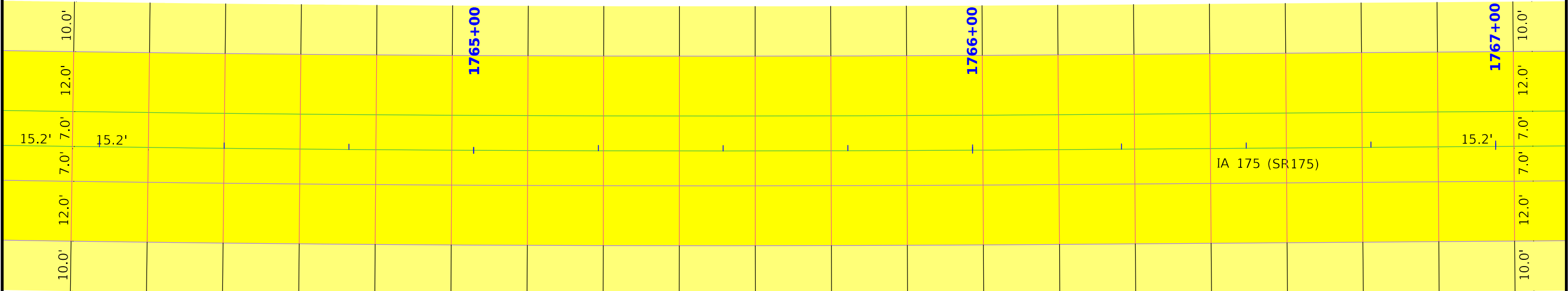
Jointing Details  
IA 175



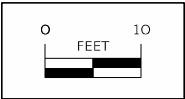
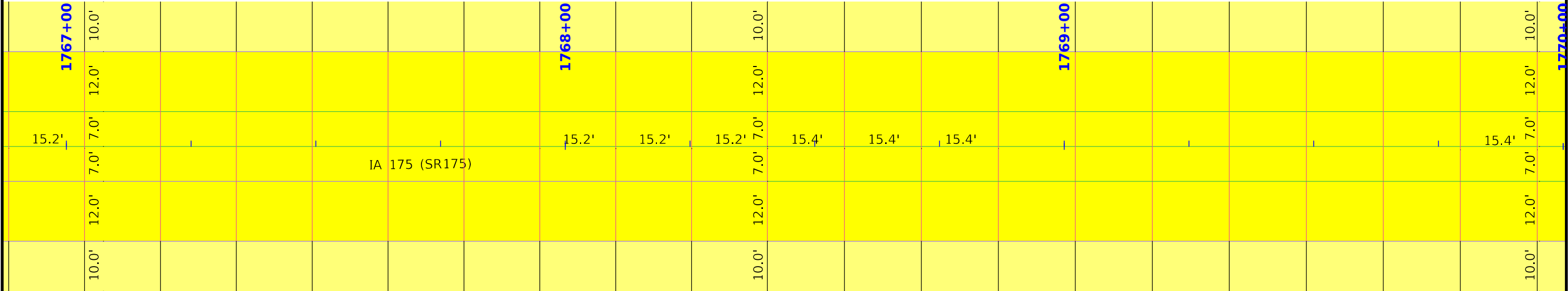
Jointing Details  
IA 175





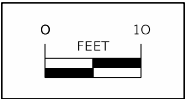
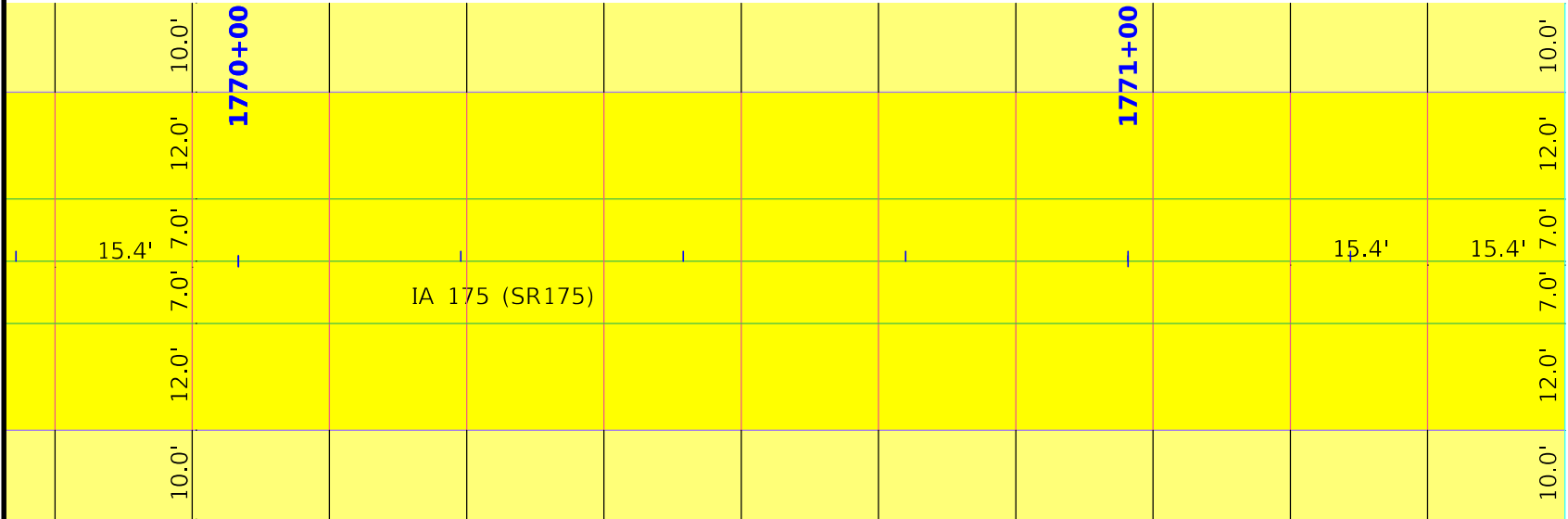


Jointing Details  
IA 175



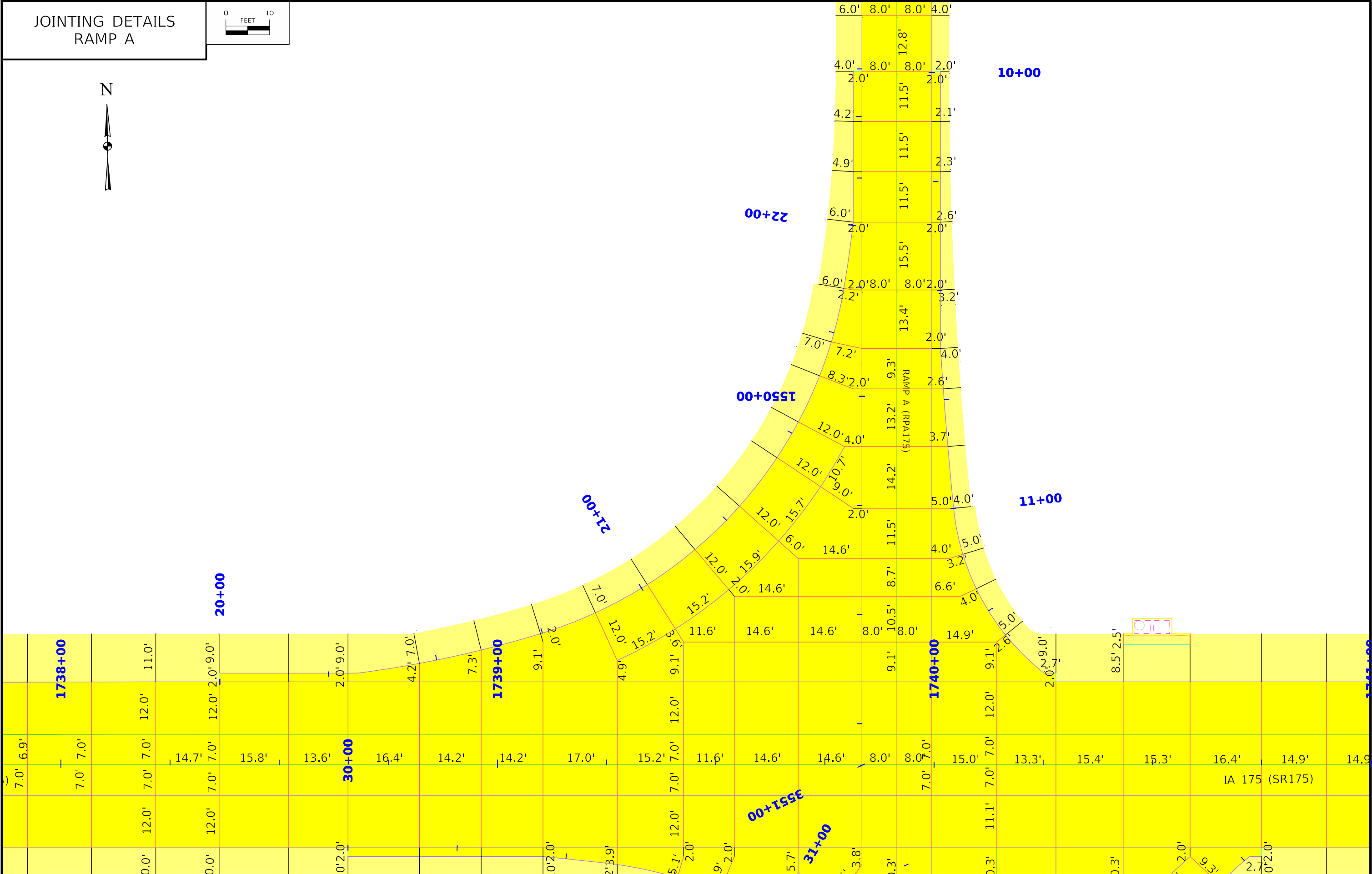
Jointing Details  
IA 175



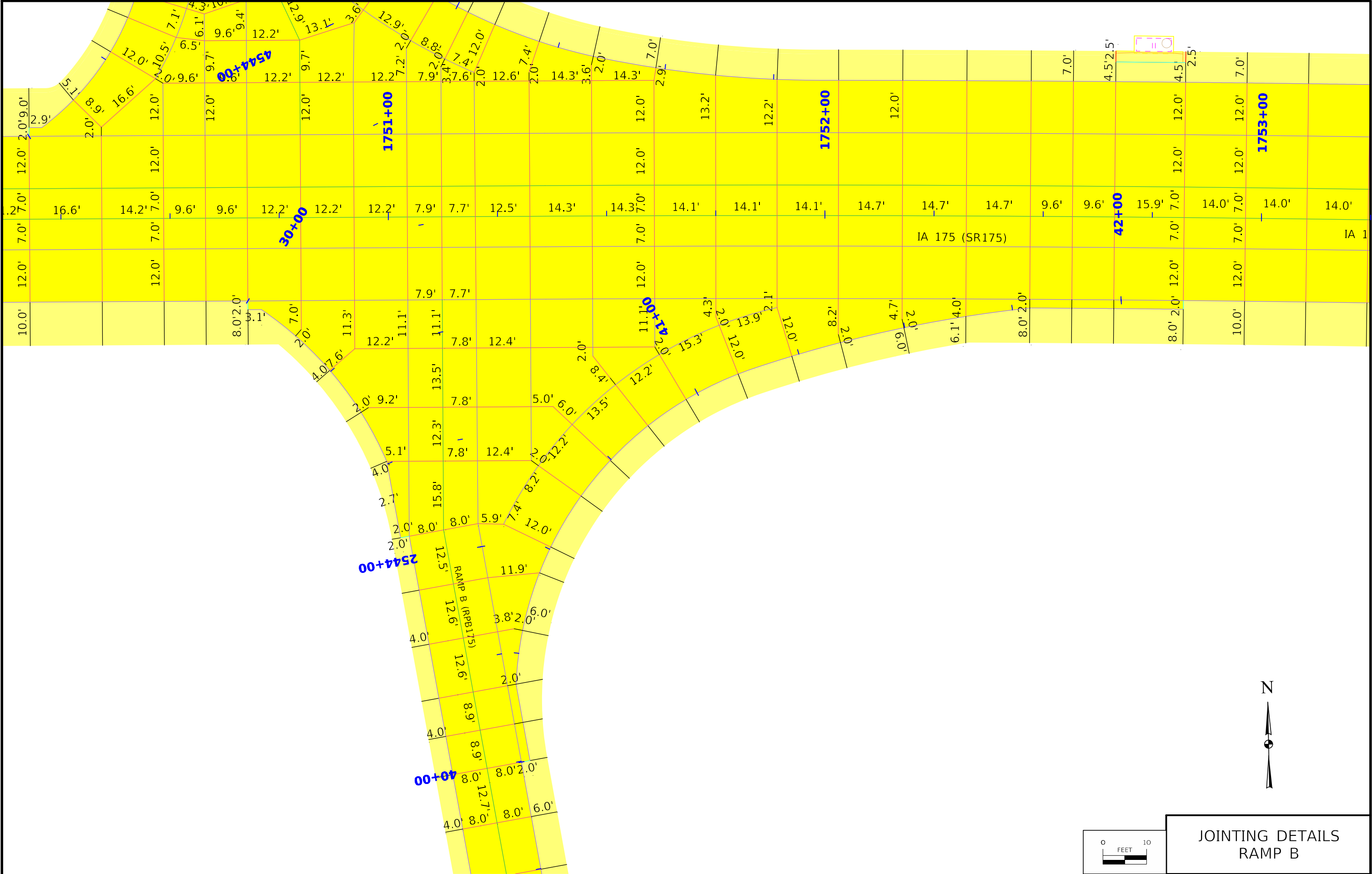


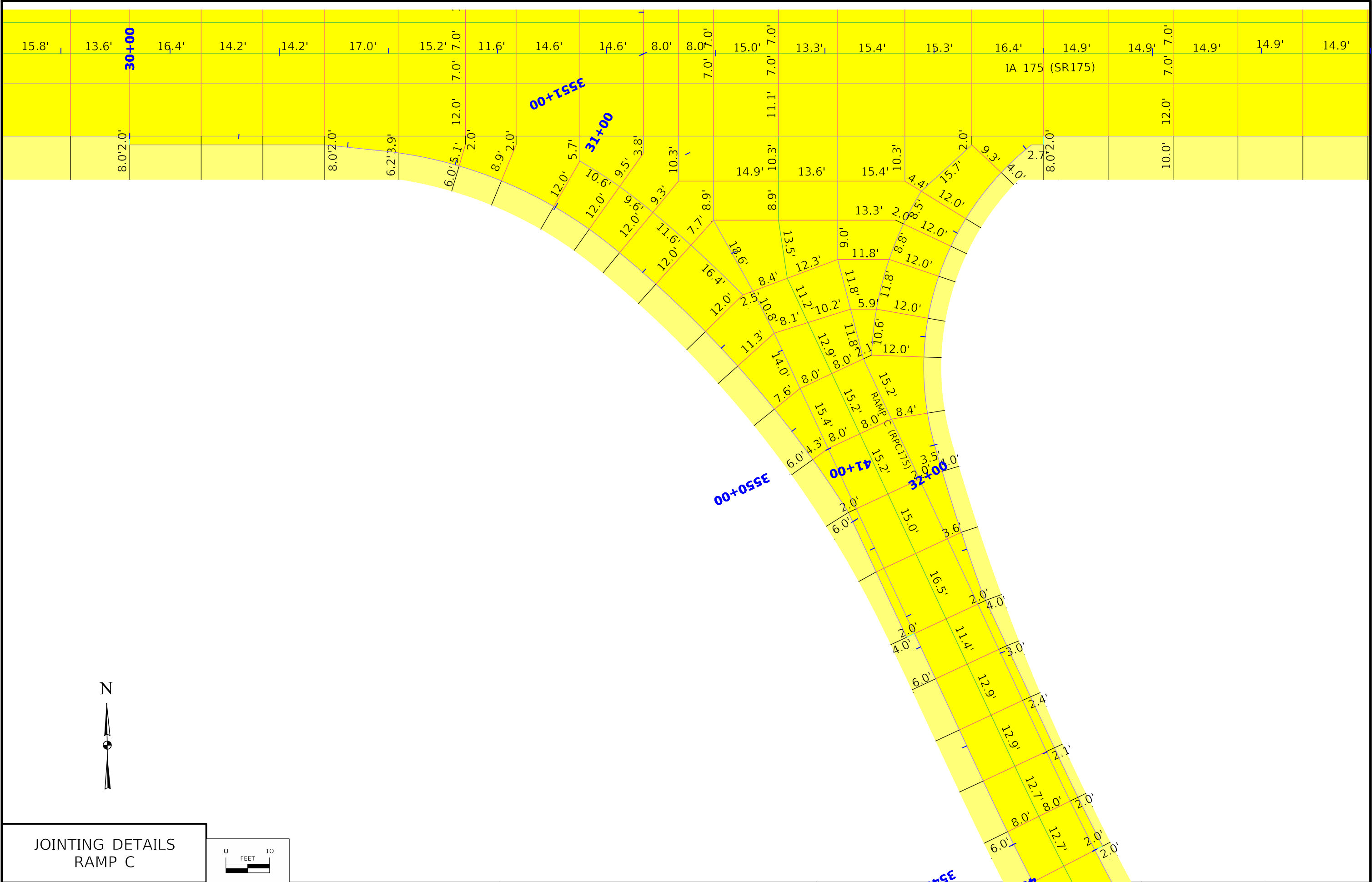
Jointing Details  
IA 175

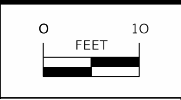
JOINTING DETAILS  
RAMP A



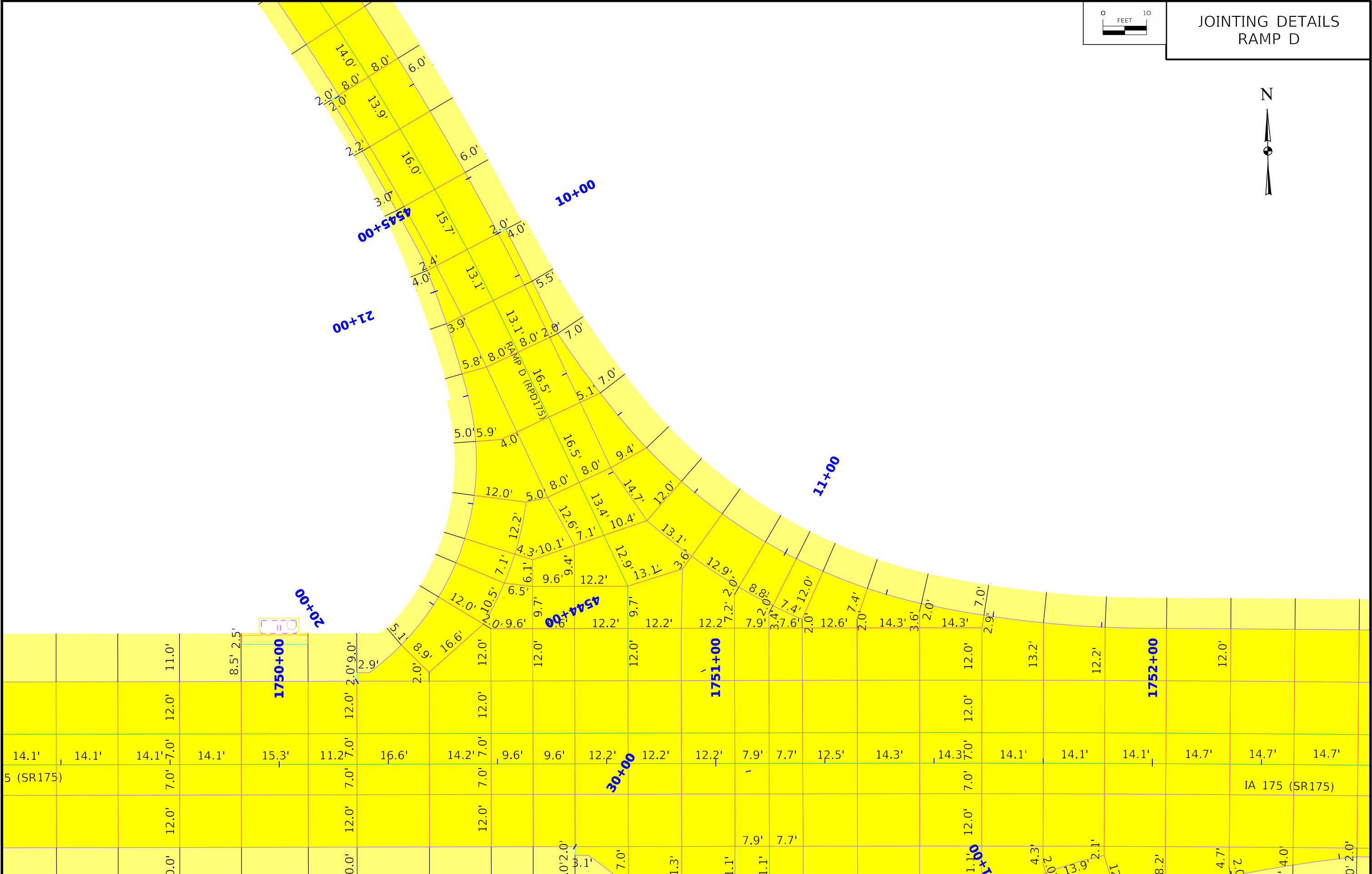
FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT / HR Green	MONONA COUNTY	PROJECT NUMBER STP-175-1(95)--2C-67	SHEET NUMBER L.54
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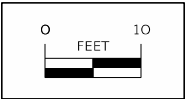
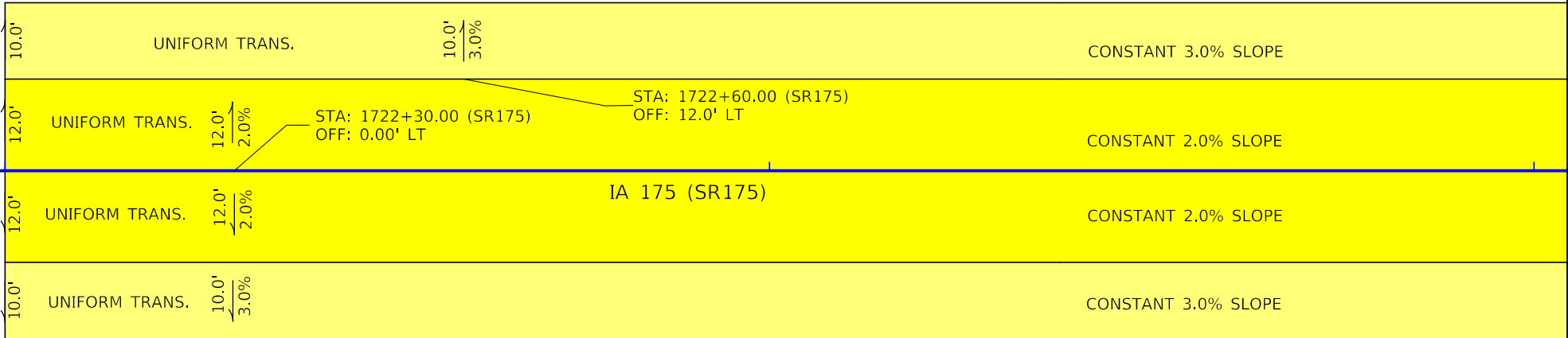




JOINTING DETAILS  
RAMP D



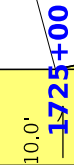
FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT / HR Green	MONONA COUNTY	PROJECT NUMBER STP-175-1(95)--2C-67	SHEET NUMBER L.57
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GEOMETRICS &  
STAKING DETAILS  
IA 175



BEGIN 5:1 CURB TAPER  
STA: 1725+00.00 (SR175)  
OFF: 22.00' LT



CONSTANT 3.0% SLOPE

$$\frac{11.0'}{3.0\%}$$

CONSTANT 3.0% SLOPE

CONSTANT 2.0% SLOPE

$$\frac{12.0'}{2.0\%}$$

STA: 1725+82.80 (SR175) -

$$\frac{12.0}{2.0\%}$$

CONSTANT 2.0% SLOPE

CONSTANT 2.0% SLOPE

$$\frac{12.0'}{2.0\%}$$

IA 175 (SR175)

$$\frac{12.0'}{20\%}$$

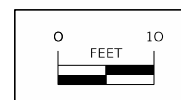
CONSTANT 2.0% SLOPE

CONSTANT 3.0% SLOPE

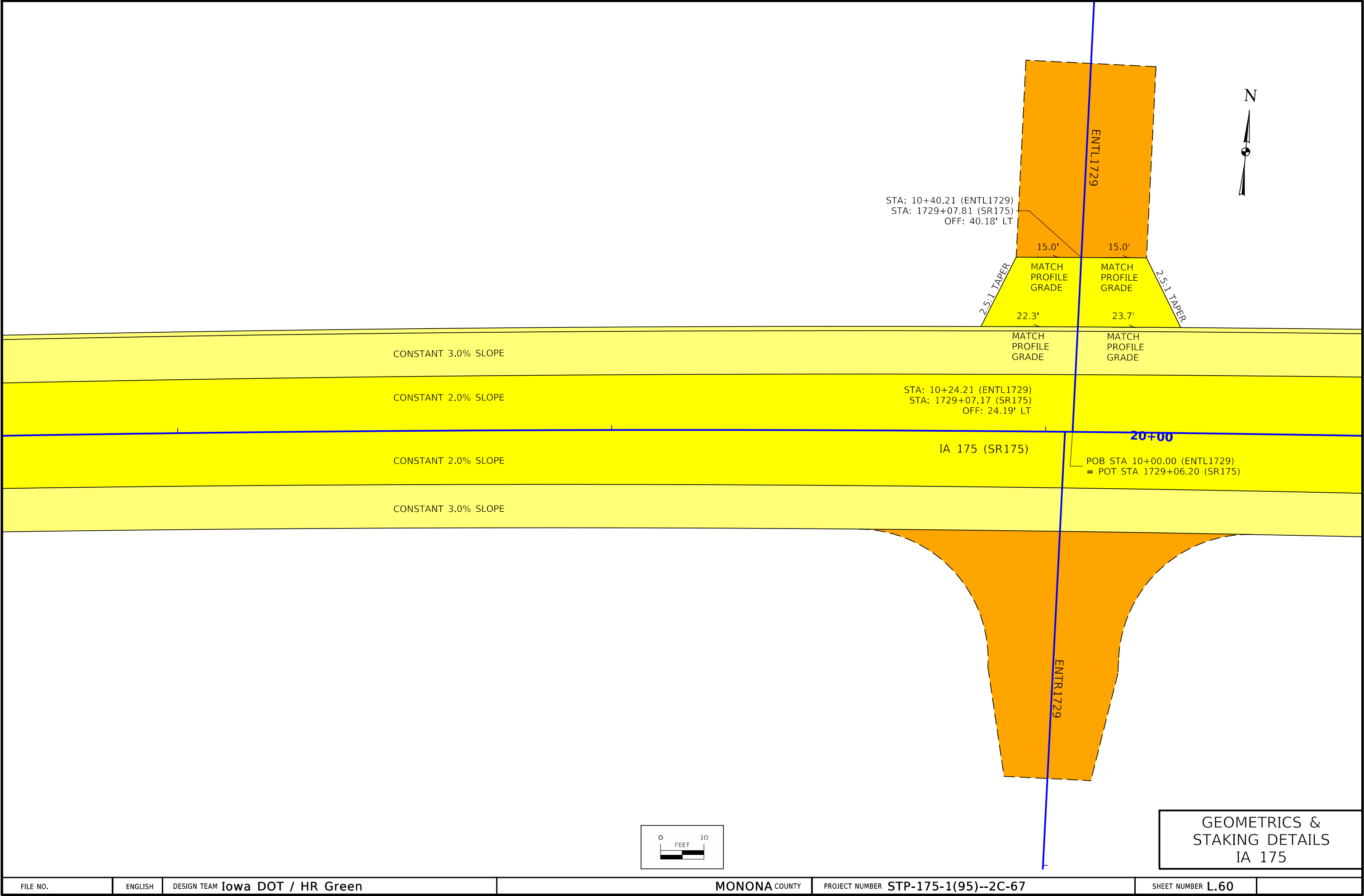
$$\frac{10.0'}{3.0\%}$$
$$\frac{10.0}{3.0\%}$$

CONSTANT 3.0% SLOPE

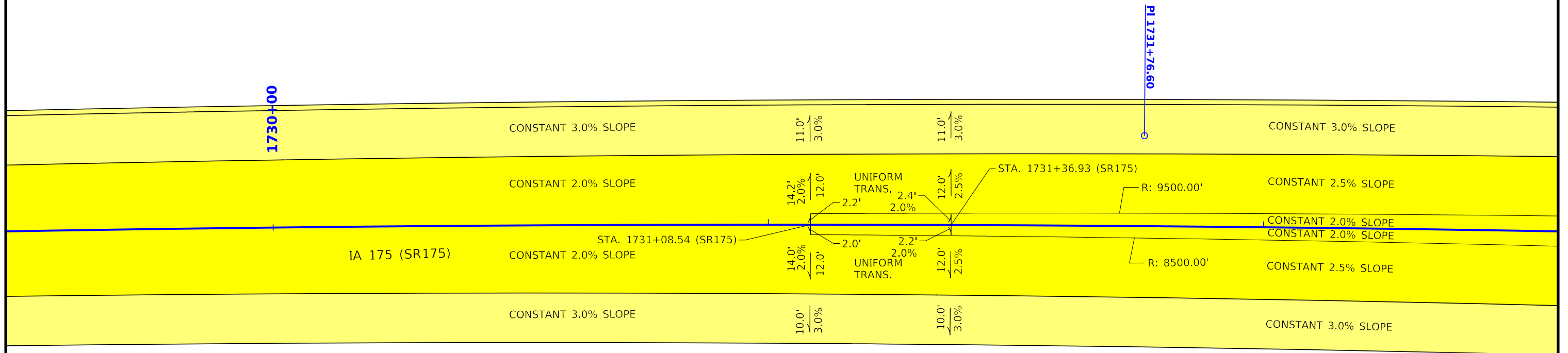
PC 1725+98.39



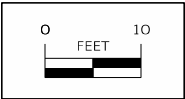
GEOMETRICS &  
STAKING DETAILS  
IA 175







$\Delta = 07^\circ 14' 51.06''$  (RT)  
T = 578.21'  
L = 1154.88'  
R = 9130.00'  
E = 18.29'



GEOMETRICS &  
STAKING DETAILS  
IA 175



1735+00

CONSTANT 3.0% SLOPE

CONSTANT 2.5% SLOPE

R: 9500.00'

CONSTANT 2.0% SLOPE

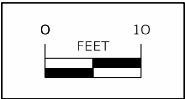
CONSTANT 2.0% SLOPE

IA 175 (SR175)

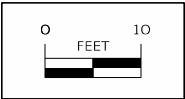
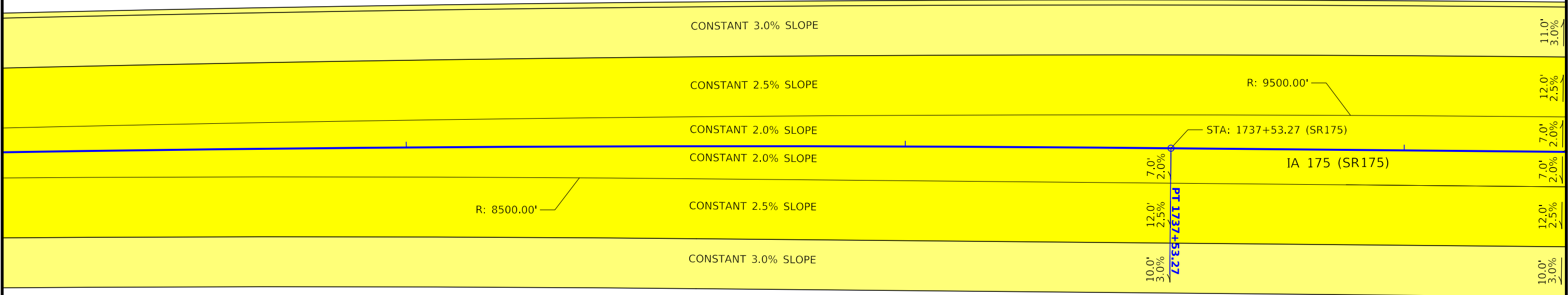
CONSTANT 2.5% SLOPE

R: 8500.00'

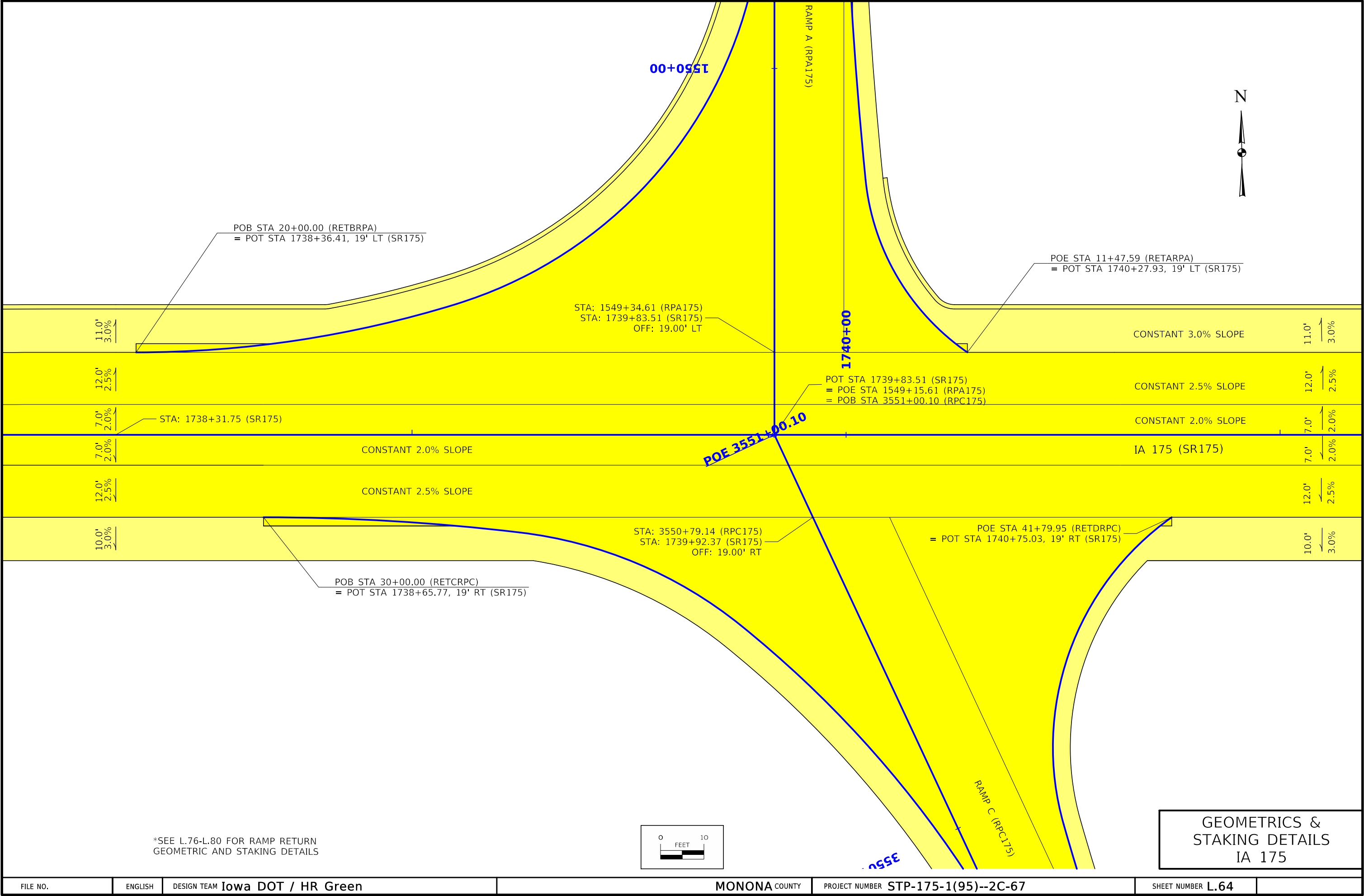
CONSTANT 3.0% SLOPE



GEOMETRICS &  
STAKING DETAILS  
IA 175



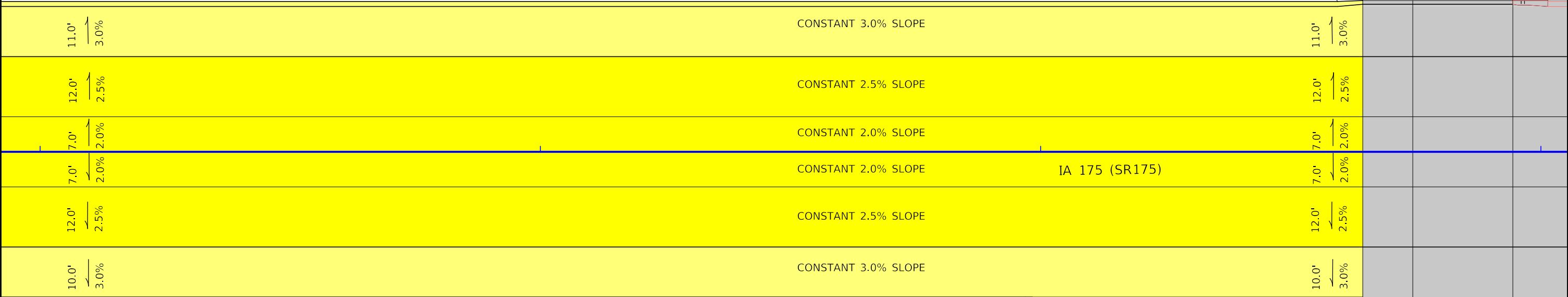
GEOMETRICS &  
STAKING DETAILS  
IA 175



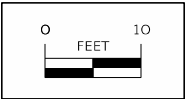


STA: 1743+64.39 (SR175)  
OFF: 30.19' LT

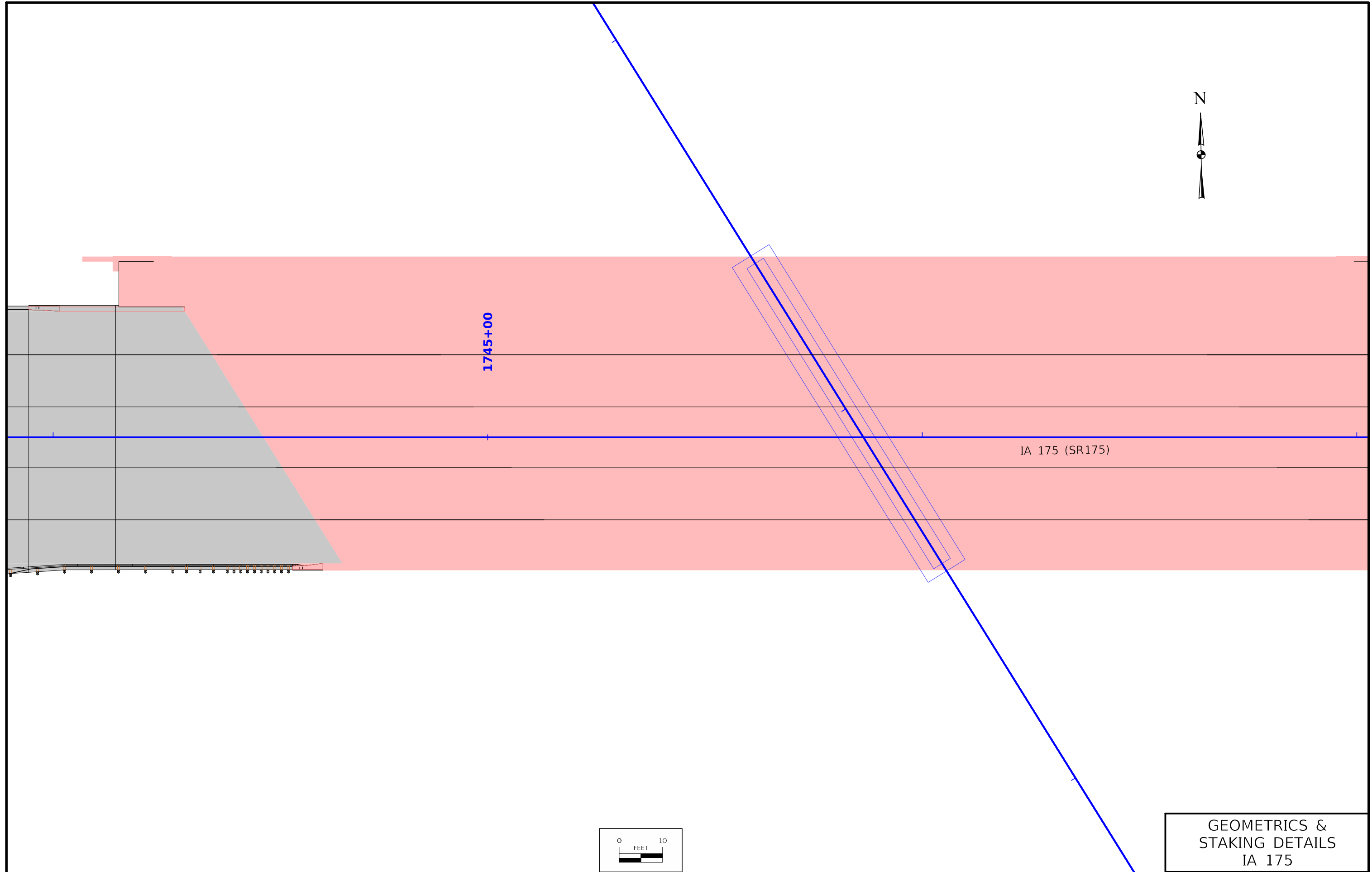
STA: 1743+59.39 (SR175)  
OFF: 30.00' LT



STA: 1742+96.92 (SR175)  
OFF: 29.00' RT



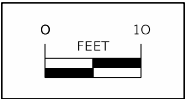
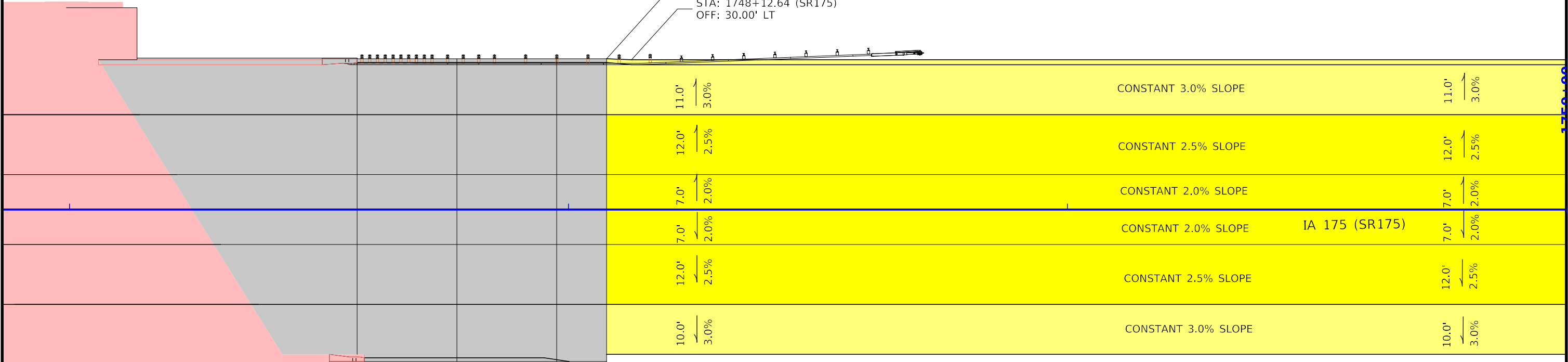
GEOMETRICS &  
STAKING DETAILS  
IA 175



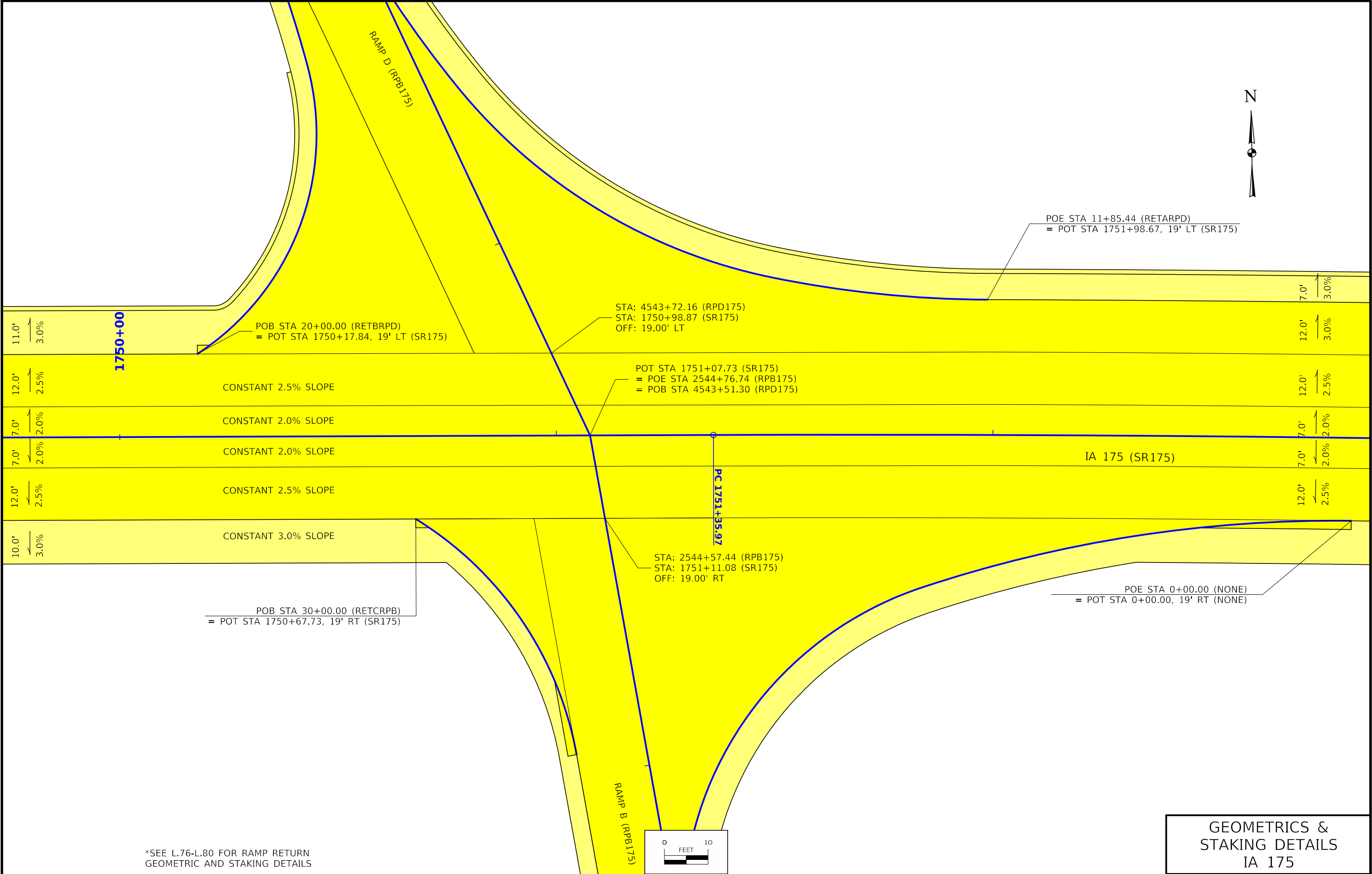


STA: 1748+07.64 (SR175)  
OFF: 30.19' LT

STA: 1748+12.64 (SR175)  
OFF: 30.00' LT



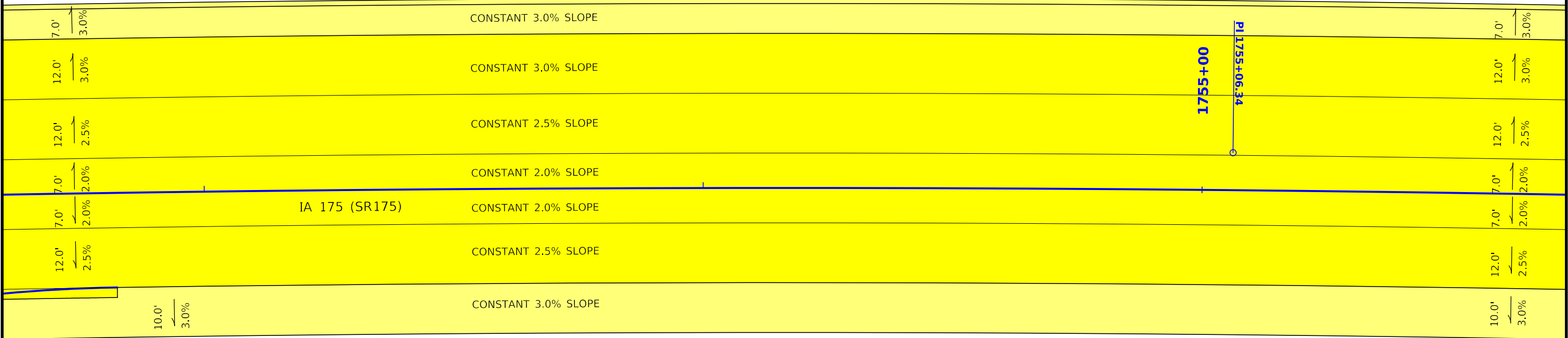
GEOMETRICS &  
STAKING DETAILS  
IA 175



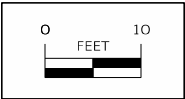
\*SEE L.76-L.80 FOR RAMP RETURN  
GEOMETRIC AND STAKING DETAILS

GEOMETRICS &  
STAKING DETAILS  
IA 175

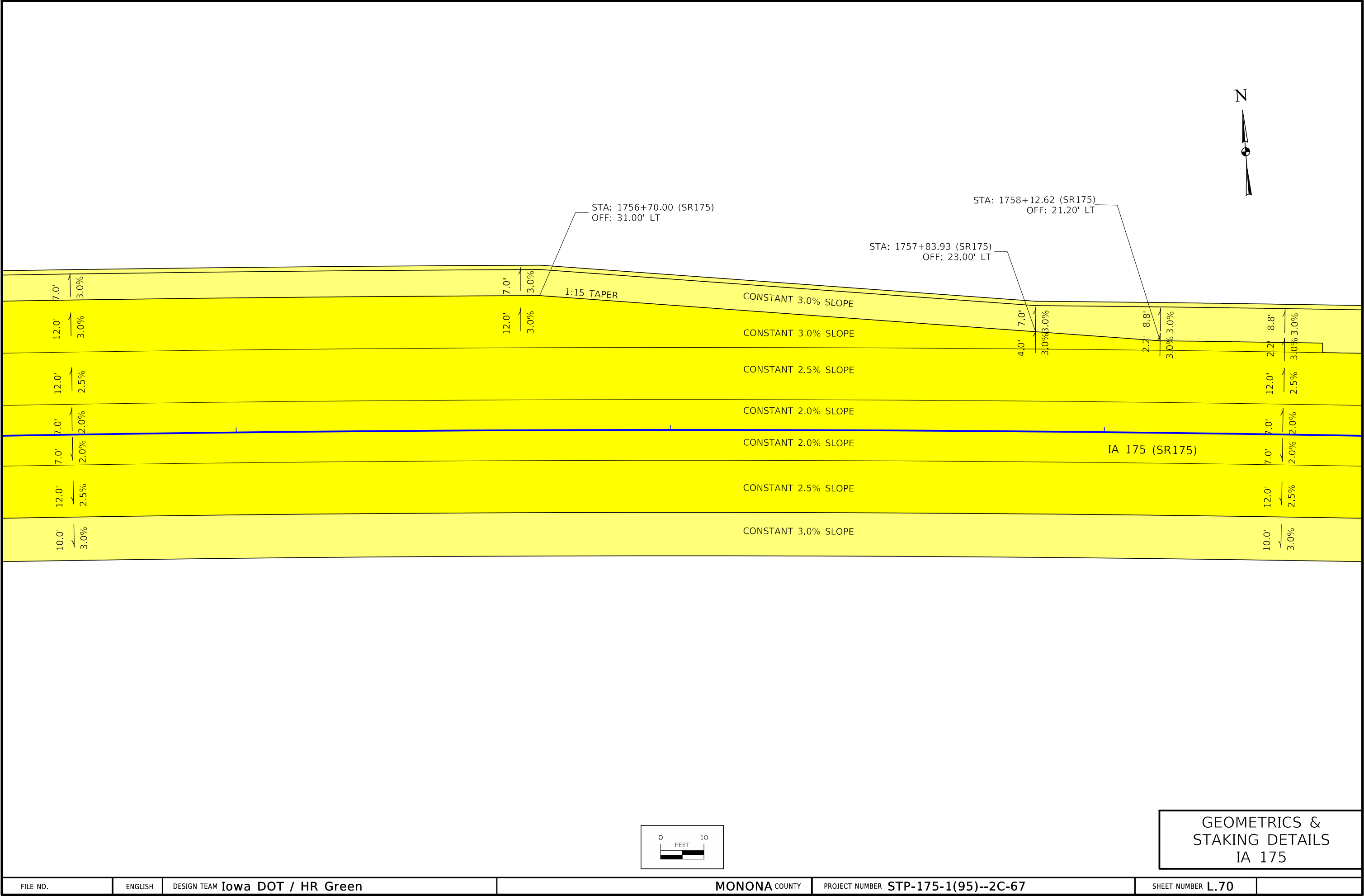


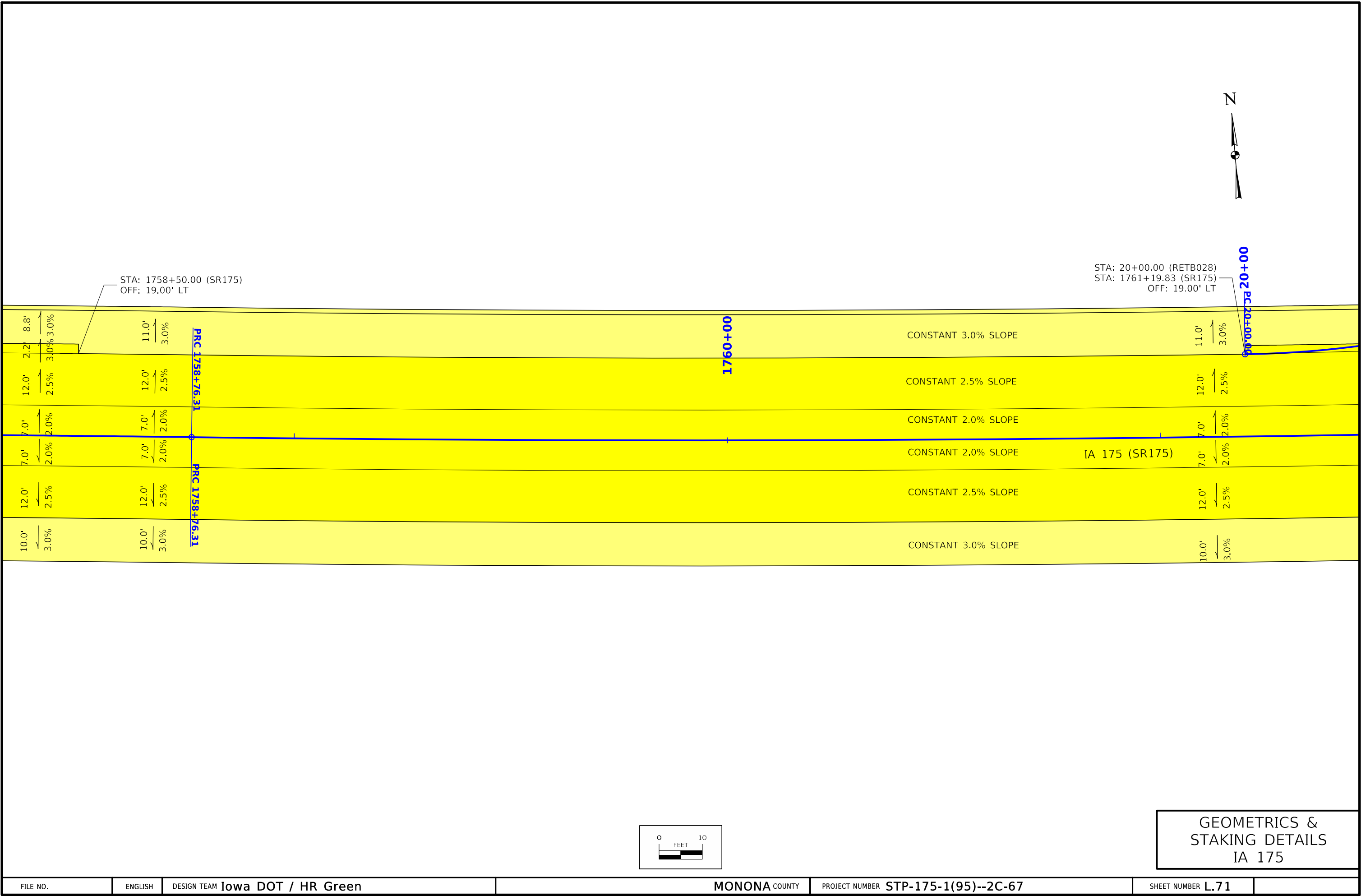


$\Delta = 04^{\circ}38'45.70''$  (RT)  
 $T = 370.37'$   
 $L = 740.34'$   
 $R = 9130.00'$   
 $E = 7.51'$



GEOMETRICS &  
STAKING DETAILS  
IA 175









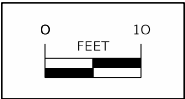
EQUATION:  
STA 1766+11.80(AH)  
= STA 1766+16.65(BK)

1765+00

CONSTANT 3.0% SLOPE	10.0' 	3.0%	10.0' 	3.0%
CONSTANT 2.5% SLOPE	12.0' 	2.5%	12.0' 	2.5%
CONSTANT 2.0% SLOPE	7.0' 	2.0%	7.0' 	2.0%
CONSTANT 2.0% SLOPE	7.0' 	2.0%	7.0' 	2.0%
CONSTANT 2.5% SLOPE	12.0' 	2.5%	12.0' 	2.5%
CONSTANT 3.0% SLOPE	10.0' 	3.0%	10.0' 	3.0%

IA 175 (SR175)

PT 1766+11.80



GEOMETRICS &  
STAKING DETAILS  
IA 175



1770+00

10.0'  3.0%

CONSTANT 3.0% SLOPE

10.0'  3.0%

12.0'  2.5%

CONSTANT 2.5% SLOPE

12.0'  2.5%

7.0'  2.0%

CONSTANT 2.0% SLOPE

7.0'  2.0%

7.0'  2.0%

CONSTANT 2.0% SLOPE      IA 175 (SR175)

7.0'  2.0%

12.0'  2.5%

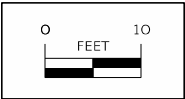
CONSTANT 2.5% SLOPE

12.0'  2.5%

10.0'  3.0%

CONSTANT 3.0% SLOPE

10.0'  3.0%



GEOMETRICS &  
STAKING DETAILS  
IA 175



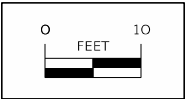
1770+00

CONSTANT 3.0% SLOPE		10.0'	3.0%	UNIFORM TRANS.	10.0'
CONSTANT 2.5% SLOPE		12.0'	2.5%	UNIFORM TRANS.	12.0'
CONSTANT 2.0% SLOPE		7.0'	2.0%	UNIFORM TRANS.	7.0'
CONSTANT 2.0% SLOPE	IA 175 (SR175)	7.0'	2.0%	UNIFORM TRANS.	7.0'
CONSTANT 2.5% SLOPE	STA. 1771+10.02 (SR175)	12.0'	2.5%	UNIFORM TRANS.	12.0'
CONSTANT 3.0% SLOPE		10.0'	3.0%	UNIFORM TRANS.	10.0'

MATCH EXISTING

MATCH EXISTING

POT 1771+49.11 (SR175)



GEOMETRICS &  
STAKING DETAILS  
IA 175



**RETBRPA**  
 **$\Delta = 63^{\circ}15'43.09''$  (LT)**  
 **$T = 61.59'$**   
 **$L = 110.41'$**   
 **$R = 100.00'$**   
 **$E = 17.45'$**

$$\frac{\text{POE STA } 22+35.41 \text{ (RETBRPA)}}{= \text{POT STA } 1550+74.49 \text{ (RPA175)}}$$

PI 22+10.47 (RETBRPA)

R: 300.00'

22+00

1550+00

21+00

20+00

1739+00

30+00

IA 175 (SR175)

175 (SR175)

E 31+00

**10+00**

POB STA 10+00.00 (RETARPA)  
= POT STA 1550+74.17, 16' RT (RPA175)

**RETARPA**  
 **$\Delta = 49^{\circ}34'47.94''$  (LT)**  
**T = 25.40'**  
**L = 47.59'**  
**R = 55.00'**  
**E = 5.58'**

RAMPA A (RPA175)

CONSTANT 2.0% SLOPE

11+00

1740+00

UNIFORM TRANS.

CONSTANT 3.0% SLOPE

CONSTANT 2.5% SLOPE

CONSTANT 2.0% SLOPE

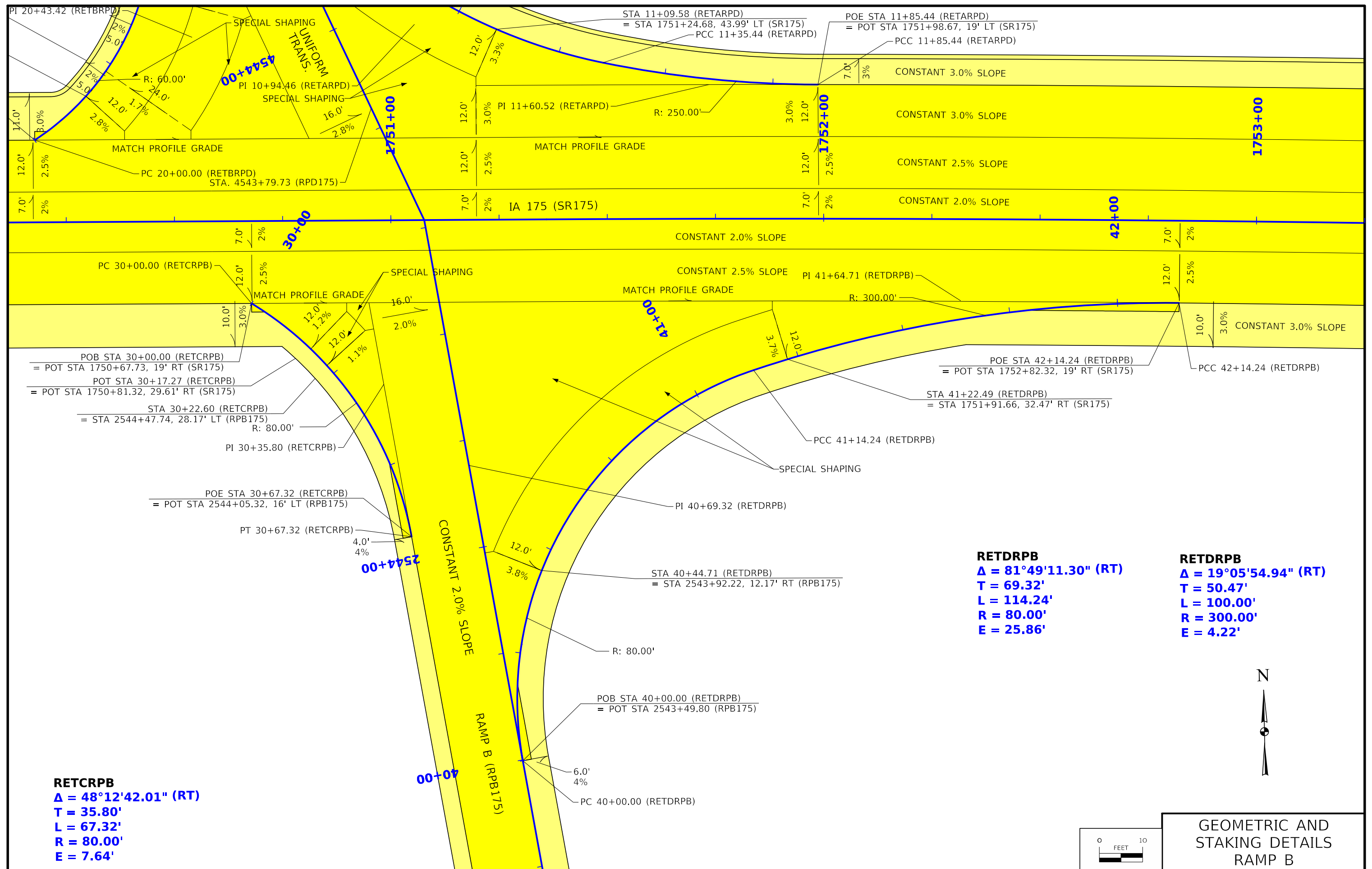
CONSTANT 2.0% SLOPE

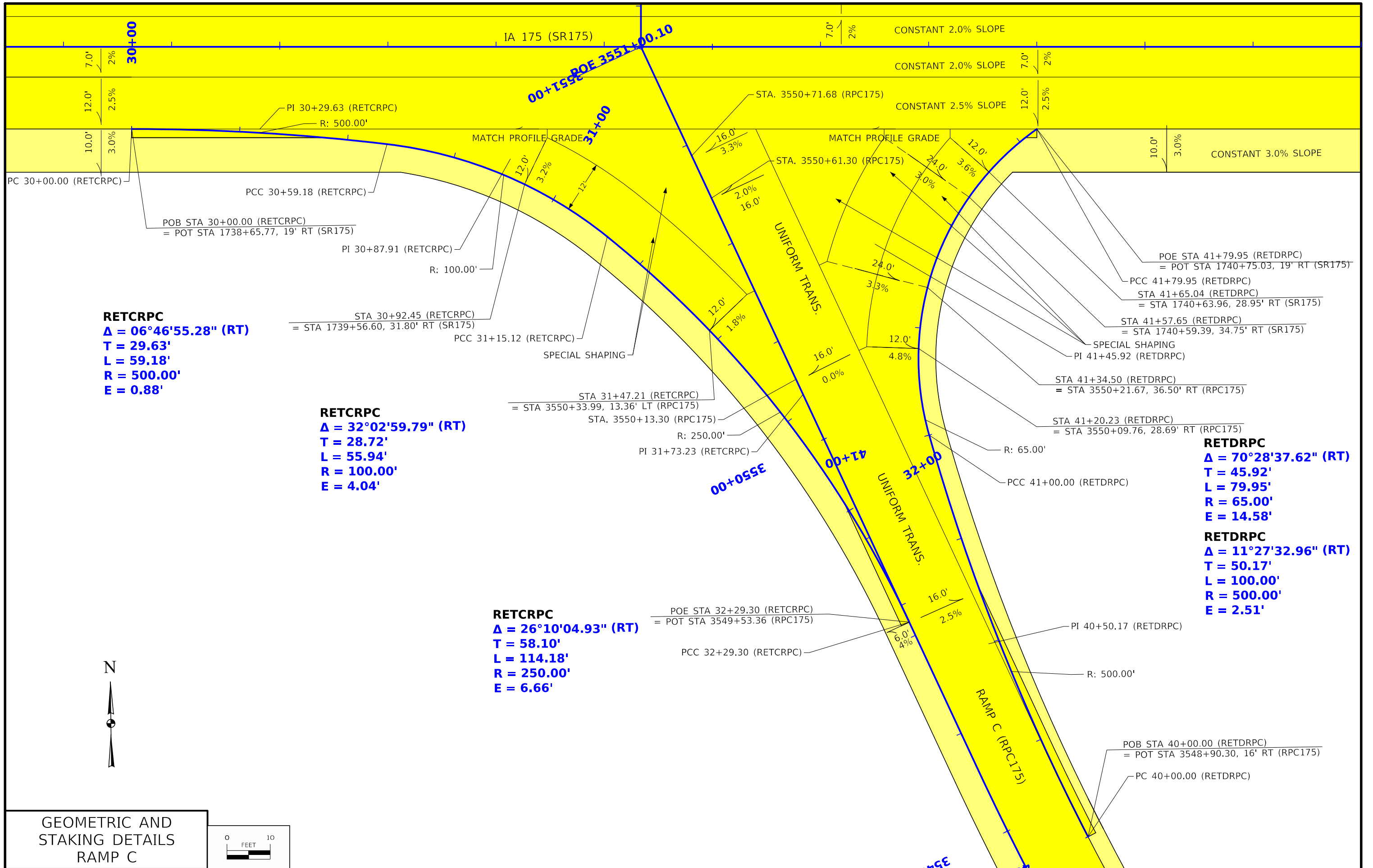
CONSTANT 2.5% SLOPE

FILE NO.	ENGLISH	DESIGN TEAM	Iowa DOT / HR Green	MONONA COUNTY	PROJECT NUMBER	STP-175-1(95)--2C-67
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SHEET NUMBER **L.76**

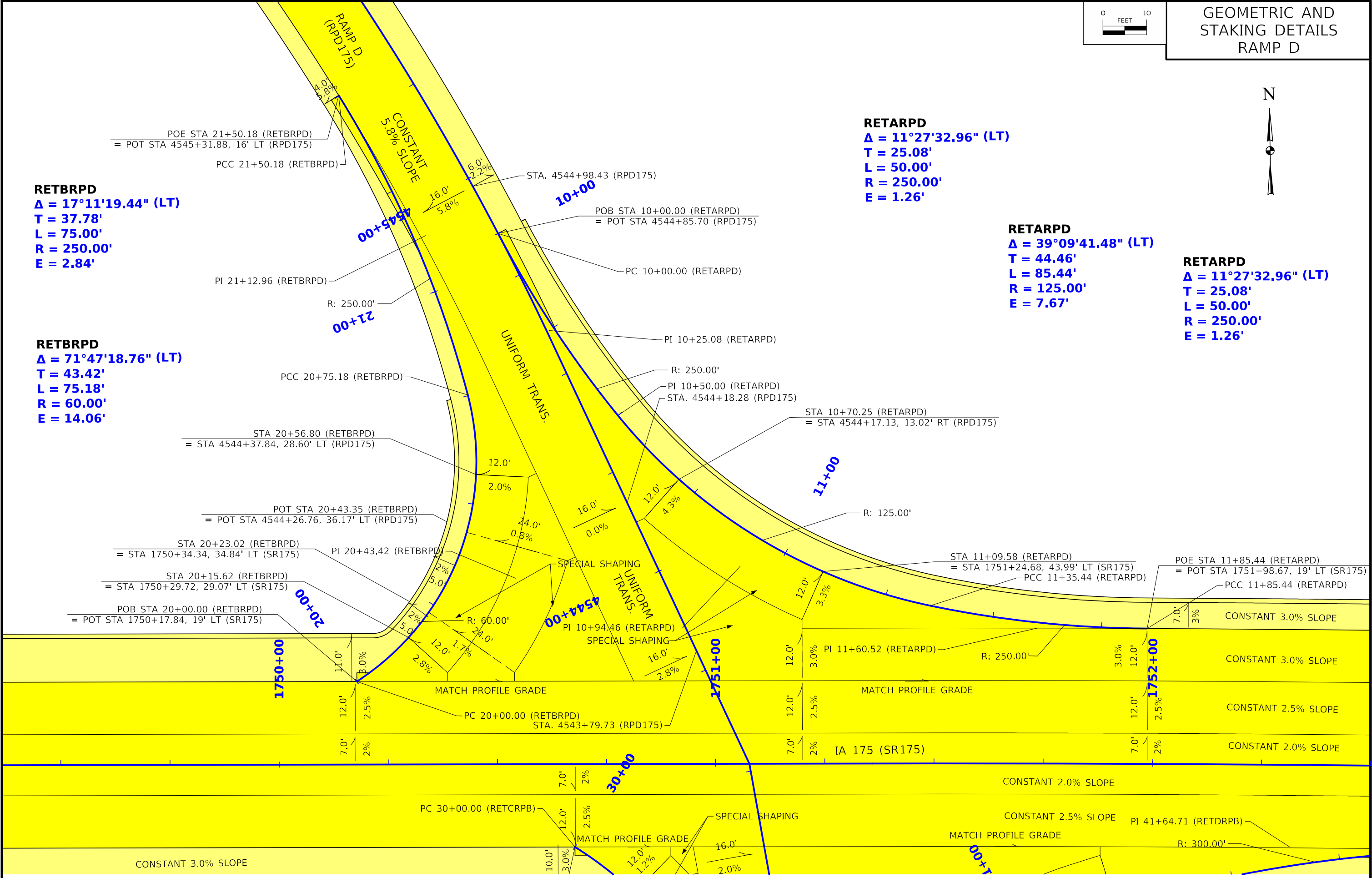








GEOMETRIC AND  
STAKING DETAILS  
RAMP D



**RETBKPD**  
**Δ = 17°11'19.44" (LT)**  
**T = 37.78'**  
**L = 75.00'**  
**R = 250.00'**  
**E = 2.84'**

**RETBKPD**  
**Δ = 71°47'18.76" (LT)**  
**T = 43.42'**  
**L = 75.18'**  
**R = 60.00'**  
**E = 14.06'**

**RETBKPD**  
**Δ = 11°27'32.96" (LT)**  
**T = 25.08'**  
**L = 50.00'**  
**R = 250.00'**  
**E = 1.26'**

**RETBKPD**  
**Δ = 39°09'41.48" (LT)**  
**T = 44.46'**  
**L = 85.44'**  
**R = 125.00'**  
**E = 7.67'**

**RETBKPD**  
**Δ = 11°27'32.96" (LT)**  
**T = 25.08'**  
**L = 50.00'**  
**R = 250.00'**  
**E = 1.26'**









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 end of the Design Length to account for estimated length to center of structures.

DAVIDVERBOCKEL@IOWAID

SURVEY SYMBOLS

	Interstate Highway Symbol		Cistern
	U.S. Highway Symbol		L.P. Gas Tank (No Footing)
	Iowa Highway Symbol		Underground Storage Tank
	County Road Highway Symbol		Latrine
	Evergreen Tree		Satellite TV Dish
	Deciduous Tree		Water Hook Up
	Fruit Tree		Radio Tower
	Shrub (Bushes)		Tower Anchor
	Timber		Guardrail (Beam or Cable)
	Hedge		Guard Post (one or two)
	Stump		Guard Post (over two)
	Swamp		Filler Pipe
	Rock Outcrop		Gas Valve
	Broken Concrete		Water Valve
	Revetment (Rip Rap)		Speed Limit Sign
	Cemetery		Mile Marker Post
	Grave		
	Cave		
	Sink Hole		
	Board Fence		
	Chain Link or Security Fence		
	Wire Fence		
	Terrace		
	Earth Dam or Dike (Existing)		
	Tile Outlet		
	Edge of Water		
	Existing Drainage		
	Right of Way Rail or Lot Corner		
	Concrete Monument		
	Well		
	Windmill		
	Beehive Intake		
	Existing Intake		
	Existing Utility Access (Manhole)		
	Fire Hydrant		
	Water Hydrant (Rural)		
	Septic Tank		
	SIGN Sign		
	TCB Traffic Signal Control Box		
	RRB Rail Road Signal Control Box		
	TSB Telephone Switch Box		
	EB Electric Box		

UTILITY LEGEND

	Midwest Fiber Networks Contact Name: Cory Schmuki Contact Phone: (414) 349-2764 Contact Email: cschmuki@midwestfibernetworks.com
	Long Lines Ltd. Contact Name: Tom Connors Contact Phone: (712) 333-5526 Contact Email: tom.connors@longlines.biz
	City Of Onawa Contact Name: John Casady Contact Phone: (712) 420-0941 Contact Email: jcasady@onawa.com
	Long Lines Ltd. Contact Name: Tom Connors Contact Phone: (712) 333-5526 Contact Email: tom.connors@longlines.biz
	Lumen Centurylink Contact Name: Steve Parker Contact Phone: (507) 358-1978 Contact Email: Steve.Parker4@lumen.com
	Long Lines Ltd. Contact Name: Tom Connors Contact Phone: (712) 333-5526 Contact Email: tom.connors@longlines.biz
	Western Iowa Power Cooperative Contact Name: Jeremy Kreger Contact Phone: (712) 420-1126 Contact Email: jeremy.kreger@wipco.com
	Iowa Department Of Transportation Contact Name: Jason Dale Contact Phone: (515) 239-1995 Contact Email: Jason.Dale@iowadot.us
	Black Hills Energy Contact Name: Brad Fleming Contact Phone: (402) 660-0812 Contact Email: brad.fleming@blackhillscorp.com
	City Of Onawa Contact Name: John Casady Contact Phone: (712) 420-0941 Contact Email: jcasady@onawa.com

PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)	Existing Utilities
Blue, Light	(230)	Proposed Storm Sewer Pipe
Blue	(1)	Proposed Storm Sewer Structure
Blue	(1)	Proposed Storm Sewer Pipe Apron
SHADING	Design Color No.	
Lavender	(9)	Temporary Pavement Shading
Yellow	(4)	Proposed Pavement Shading
Orange	(6)	Proposed Granular Shading
Orange	(70)	Proposed Shoulder Granular Shading
Yellow	(68)	Proposed Shoulder Paved Full Depth Shading
Yellow	(132)	Proposed Shoulder Paved Partial Depth Shading
Brown, Light	(112)	Proposed Roadway Grading Shading
Brown, Light	(236)	Proposed Grading Shading
Brown	(238)	Previously Constructed Grading Shading
Orange, Light	(134)	Proposed Granular Entrance Shading
Yellow	(220)	Proposed Paved Entrance Shading
Tan	(8)	Proposed Sidewalk Shading
Blue, Light	(230)	Proposed Sidewalk Landing Shading
Pink	(11)	Proposed Sidewalk Ramp Shading
Green, Light	(225)	Existing Pavement Shading
Red	(131)	Proposed Structure Shading (50% Transparency)
Gray, Light	(48)	Bridge Approach Shading
Red	(3)	Delineates Restricted Areas

PROFILE VIEW COLOR LEGEND OF STORM SEWER SHEETS

LINEWORK	Design Color No.	
Green	(112)	Existing Ground Line Profile and Existing Utilities Information
Black	(0)	Proposed Pipes
Blue, Light	(230)	Proposed Structures

PLAN VIEW LINE STYLE LEGEND OF STORM SEWER SHEETS

	Plug and Abandon Existing Pipe or Structure
	Removal of Existing Pipe or Structure
	Previously Constructed Pipe or Structure
	Direction of Pipe Flow

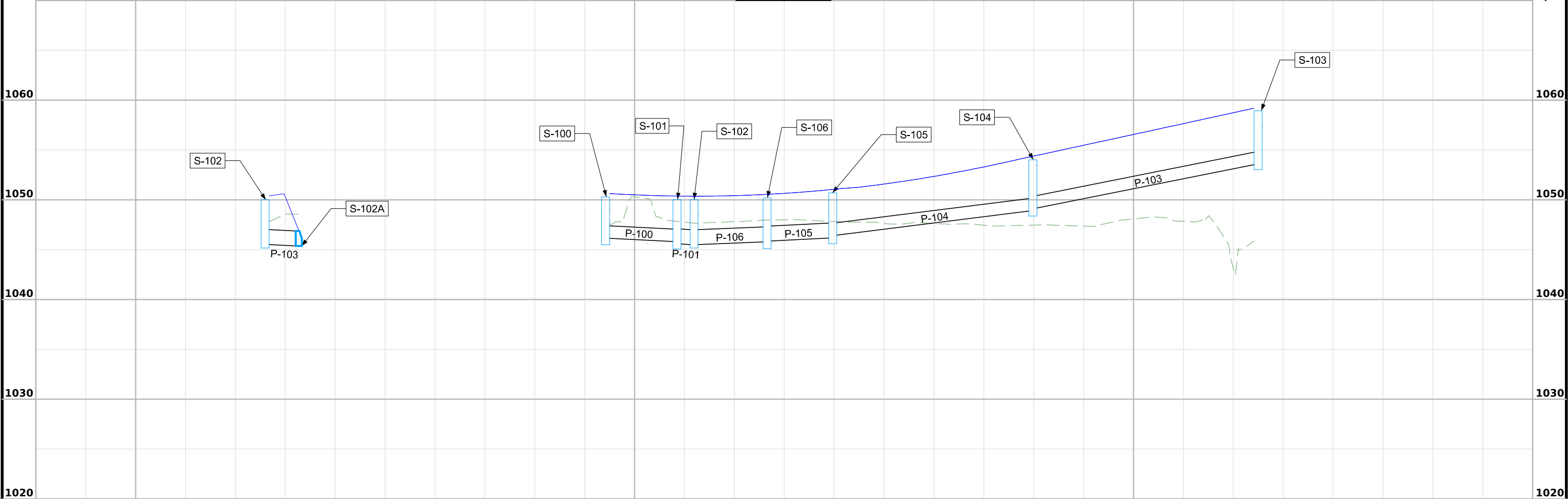
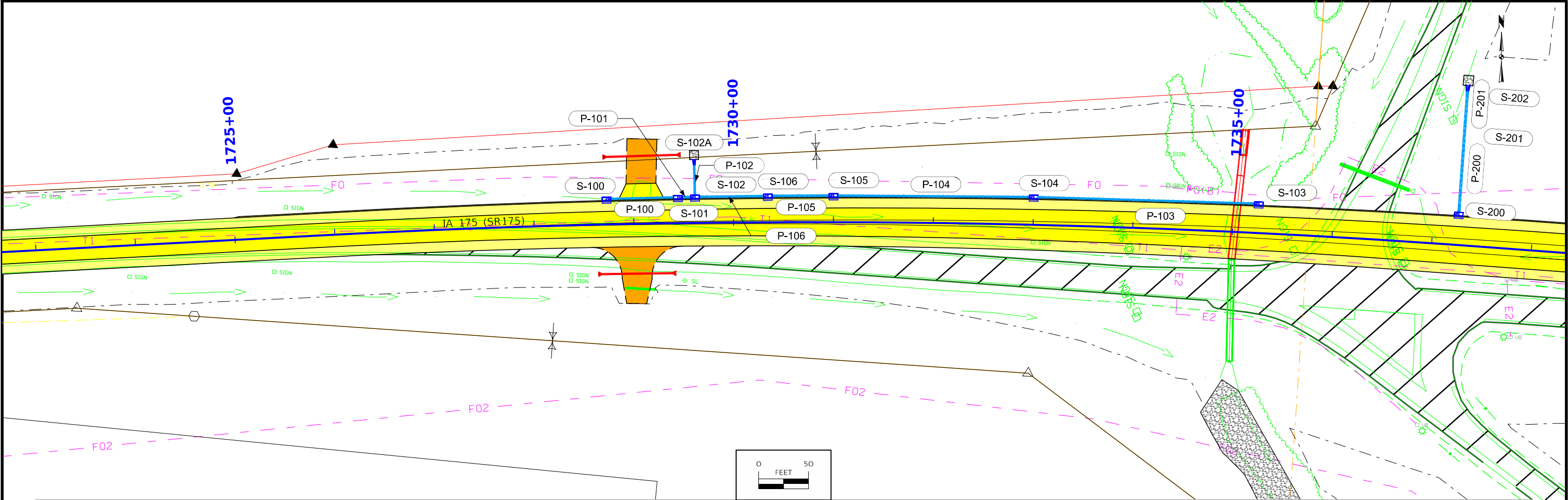
PROFILE VIEW LINE STYLE LEGEND OF STORM SEWER SHEETS

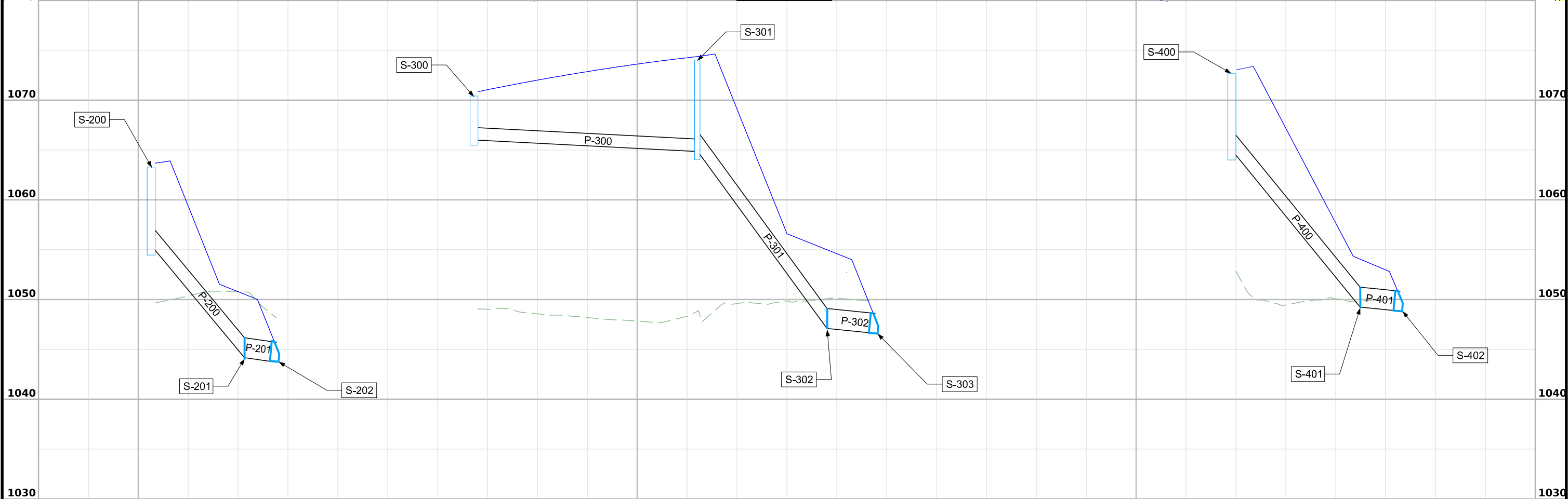
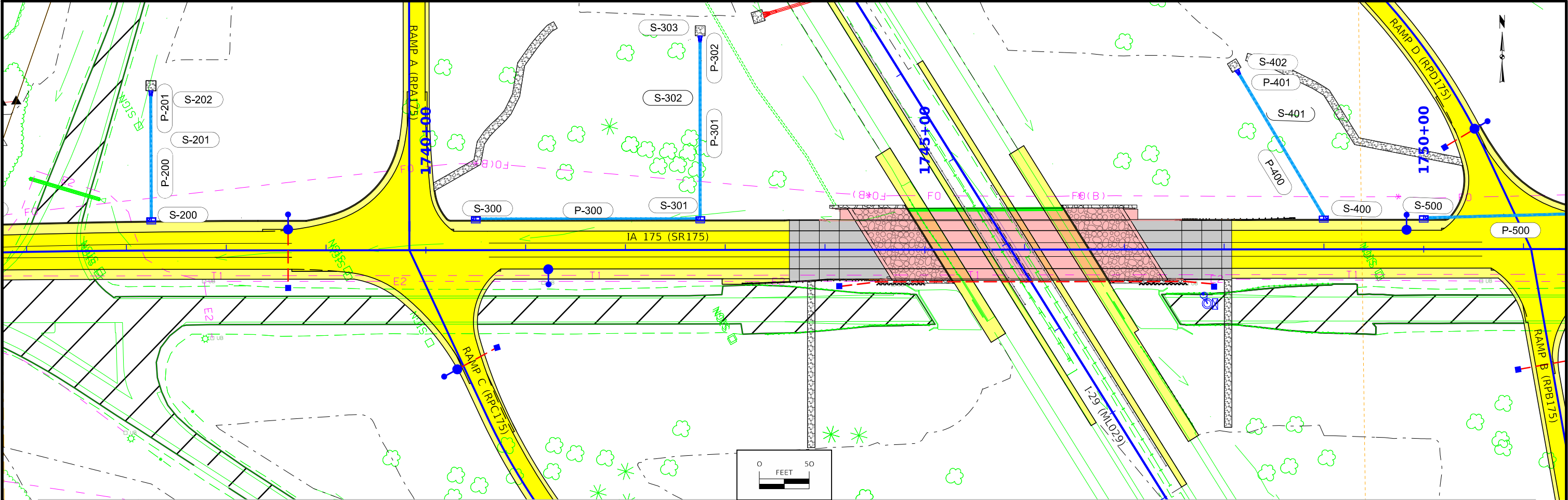
	Existing Ground
	Proposed Ground
	Previously Constructed Pipe or Structure
	Proposed Pipe or Structure

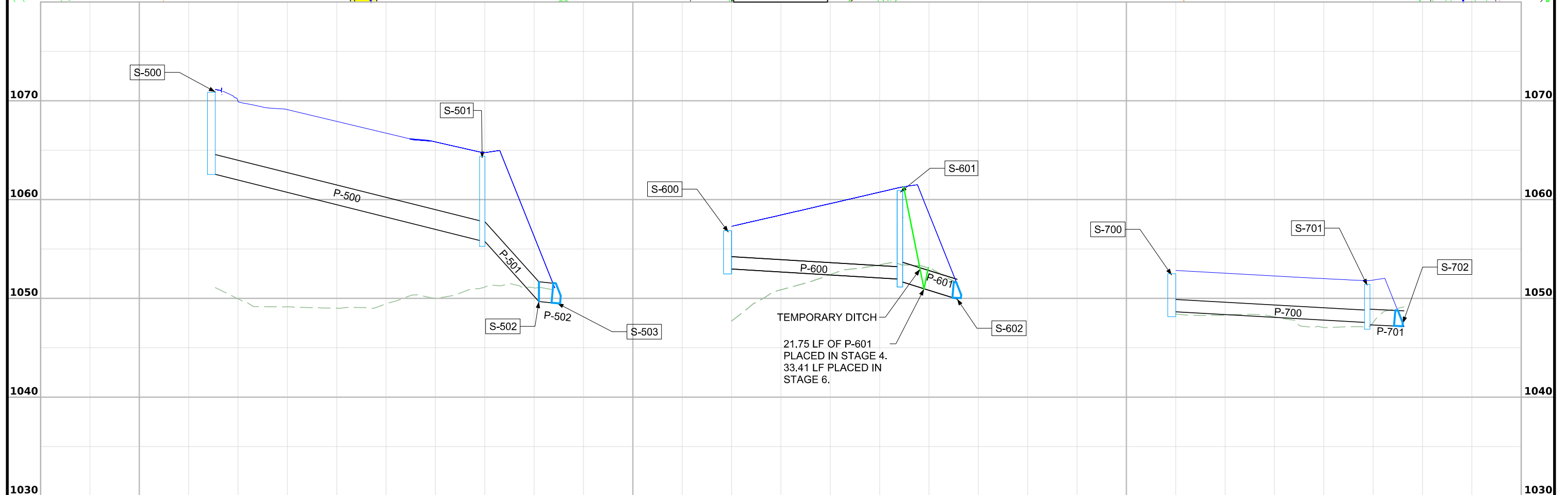
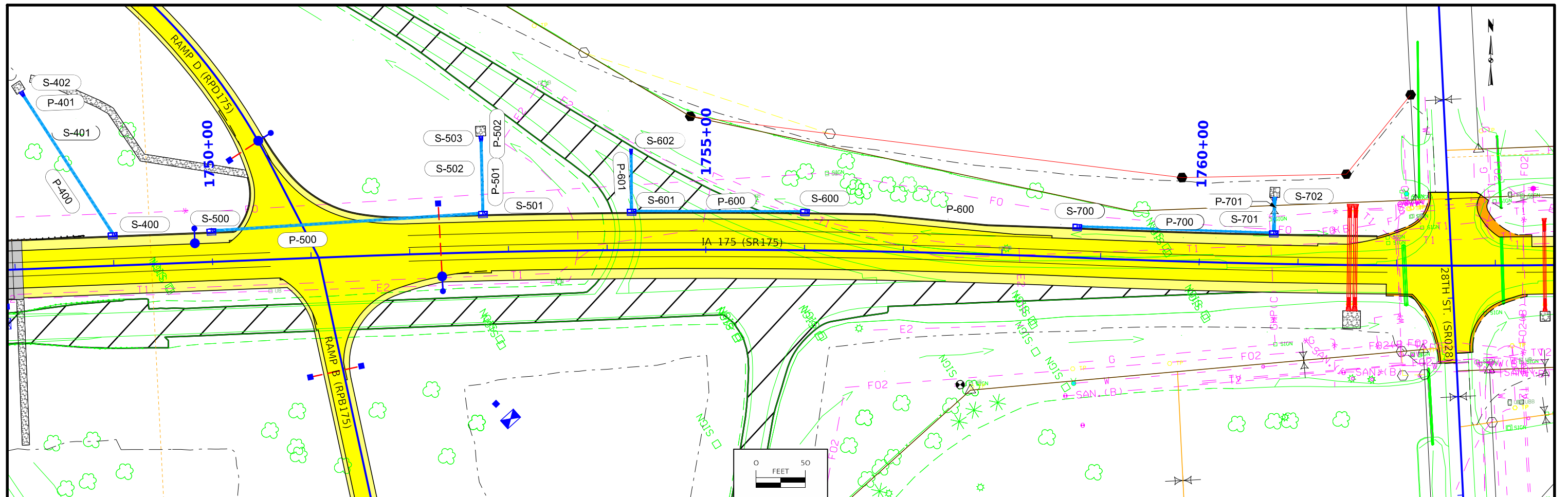
STORM SEWER  
LEGEND AND SYMBOL  
INFORMATION SHEET

(COVERS SHEET SERIES M)














**Refer to Sheet D.1 for Survey Symbols and Utility Legend**
















## Index of Soil Sheets

Q.1	Soils Legend and Symbol Information Sheet
Q.2 - Q.4	Mainline Interstate 29
Q.5 - Q.14	Highway 175
Q.15 - Q.16	Ramp A
Q.17 - Q.19	Ramp B
Q.20 - Q.22	Ramp C
Q.23 - Q.24	Ramp D
Q.25	Soil Boring Data Sheet
Q.26	Site Plan of Wick Drains and IFIs Zones

### PLAN VIEW COLOR LEGEND OF SOILS SHEETS

LINEWORK		Design Color No.	
Green	(2)		Existing Topographic Features and Labels
Blue	(1)		Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
SHADING		Design Color No.	
Lavender	(9)		Wick Drain Zone
Brown, Light	(237)		Core-Out
			IFI Zone

### PROFILE VIEW COLOR LEGEND OF SOILS SHEETS

LINEWORK	Design Color No.	
Blue	(1)	 Proposed Alignment, Stationing, and Alignment Annotation
Green	(10)	 Existing Ground Line Profile
Green, Med	(2)	 Topsoil
Green, Med	(2)	 Slope Dressing Only
Orange	(6)	 Loam
Aqua (Cyan)	(7)	 Class 10
Brown, Med	(4)	 Sand
Red	(3)	 Unsuitable A
Pink, Dark	(13)	 Unsuitable B
Pink	(11)	 Unsuitable C
Red	(3)	 Shale
Red	(3)	 Waste
Gray, Light	(48)	 Broken and Weathered Rock
Gray, Med	(80)	 Rock
Gray, V.Dark	(128)	 Boulders

## PATTERN AND SYMBOL LEGEND OF SOILS SHEETS

	Drill		Dig/Core		CPT
	Water		Treatment		Sandstone
	Dry		Sand Blanket		Unsuitable A
	Sample		Soil Remediation Area		Unsuitable B
	Plugged		Select Soil		Unsuitable C
	Moisture		Select Sand		Sandy Soil
	Shelby		Slope Dressing Only		Boulders
	Blow Count		Broken and Weathered Rock		Shale
	Dens. Core		Rock		

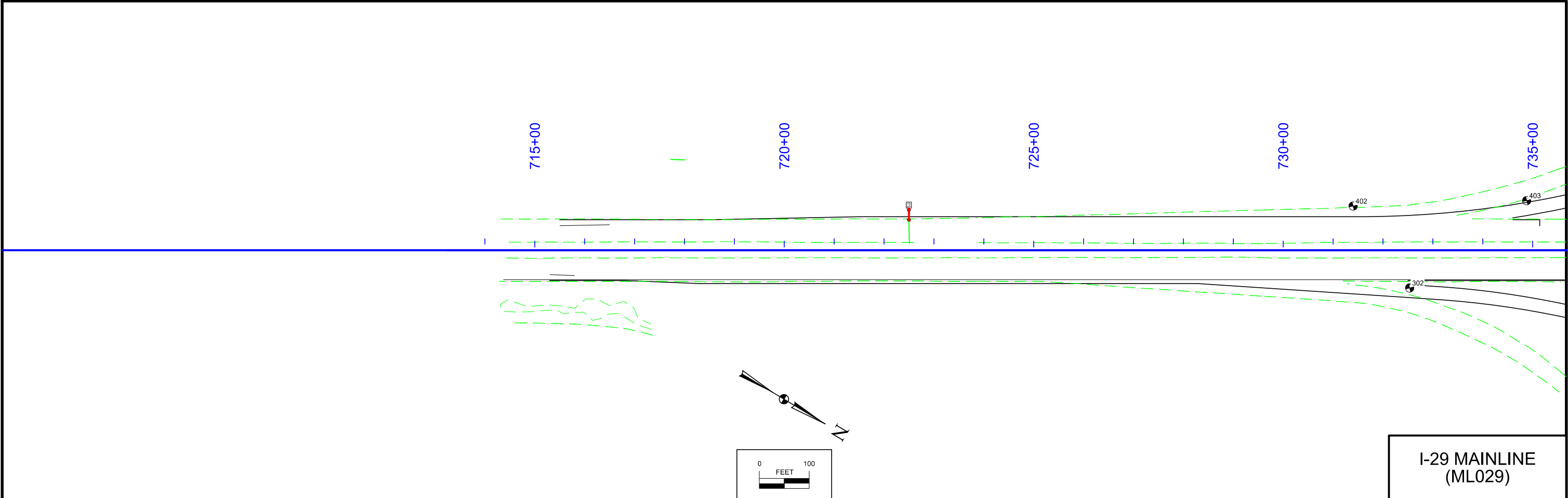
Magenta	(5)		Existing Utilities
Blue, Light	(230)		Proposed Ditch Grades, Left
Black	(0)		Proposed Ditch Grades, Median
Rust	(14)		Proposed Ditch Grades, Right

	Reference Point
	Station
	Survey Line
	Section Corner
	Ground Line Intercept
	Saw Cut
	Guardrail
	Trench Drain
	HighTension Cable Guardrail

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

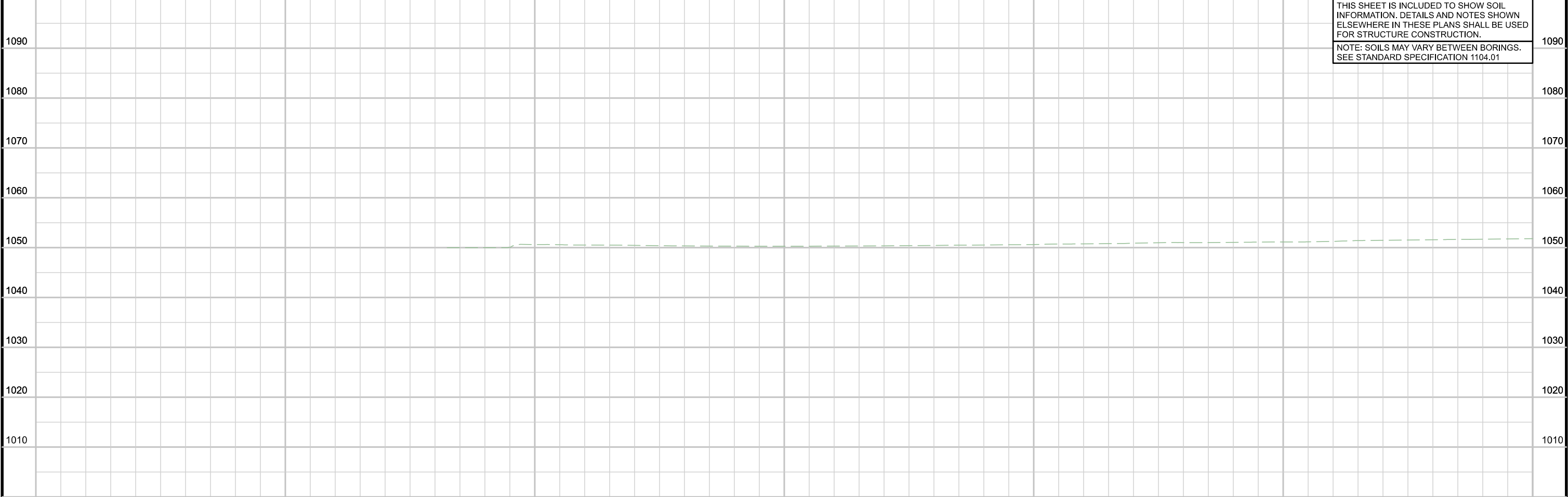
NOTE: Sounding and test boring data shown in the plans were accumulated for designing and estimating purposes. Their appearance on the plans does not constitute a guarantee that conditions other than those indicated will be encountered. Details and notes shown elsewhere shall be used for roadway and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

# SOILS LEGEND AND SYMBOL INFORMATION SHEET (COVERS SHEET SERIES Q)

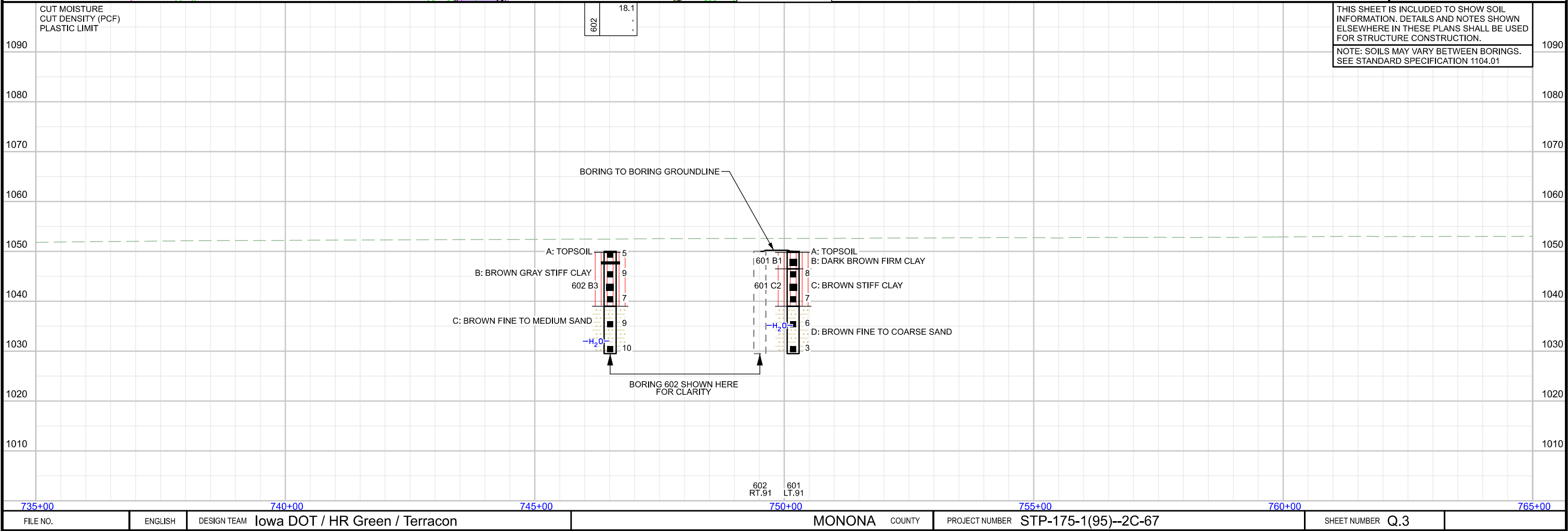
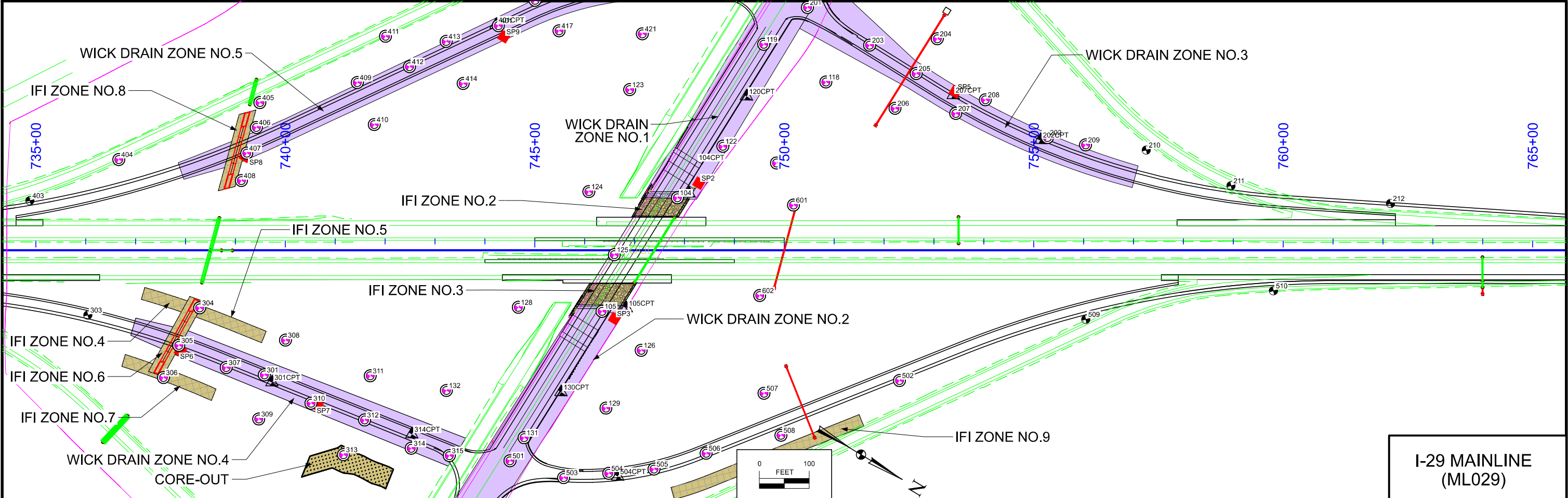


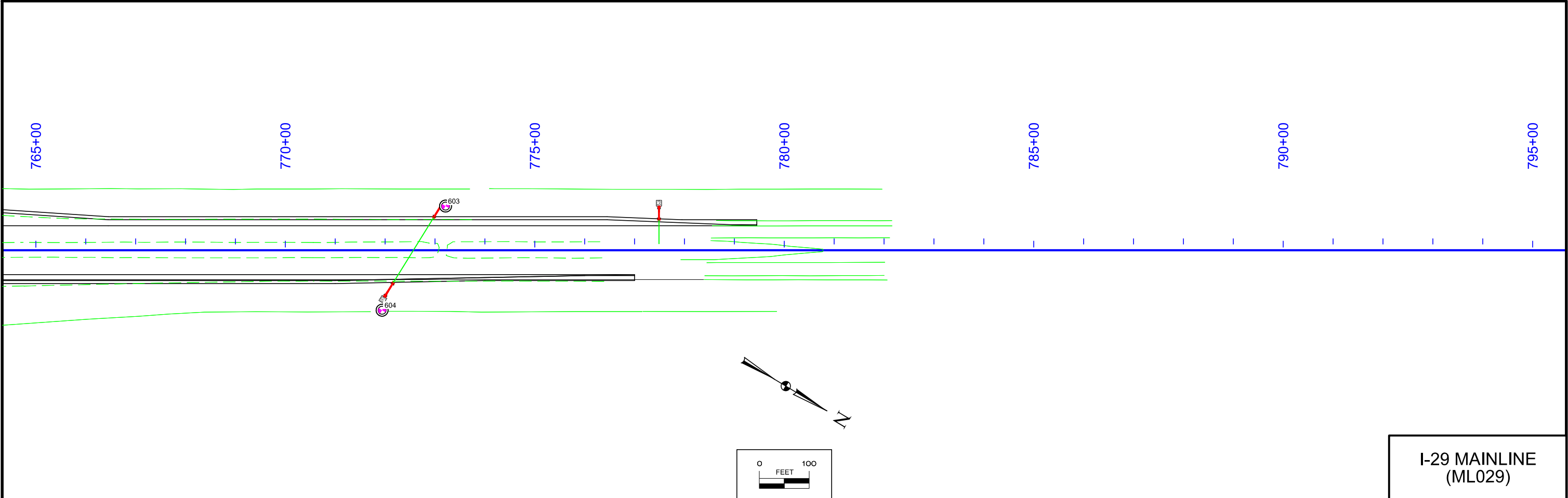
I-29 MAINLINE  
(ML029)

THIS SHEET IS INCLUDED TO SHOW SOIL  
INFORMATION. DETAILS AND NOTES SHOWN  
ELSEWHERE IN THESE PLANS SHALL BE USED  
FOR STRUCTURE CONSTRUCTION.  
NOTE: SOILS MAY VARY BETWEEN BORINGS.  
SEE STANDARD SPECIFICATION 1104.01



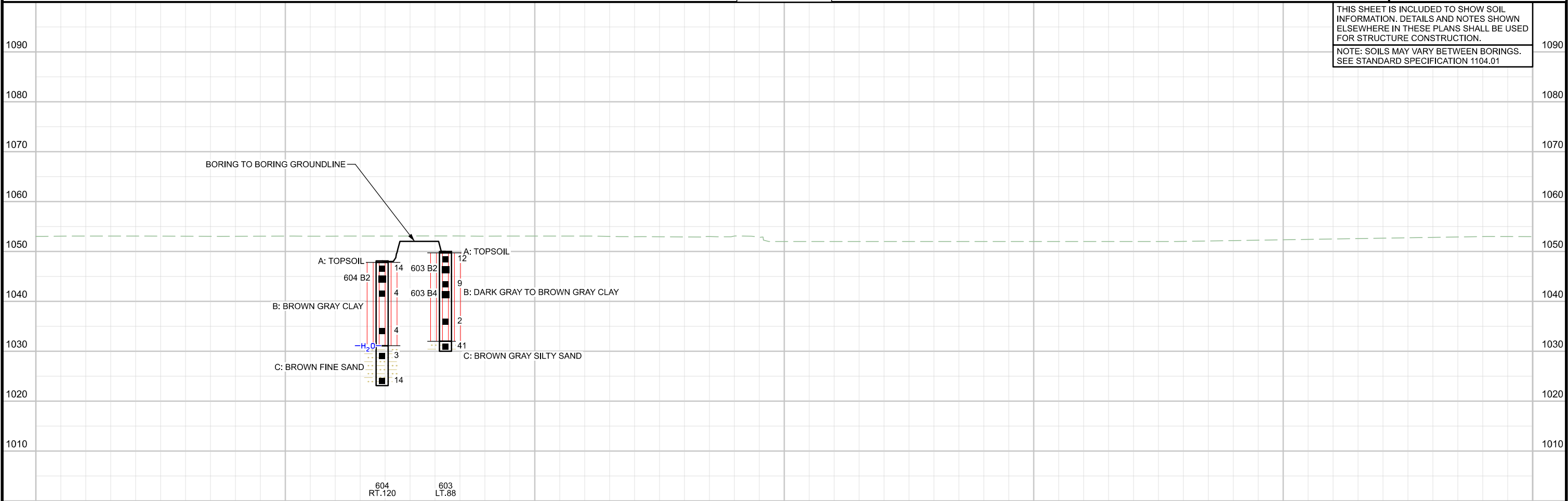


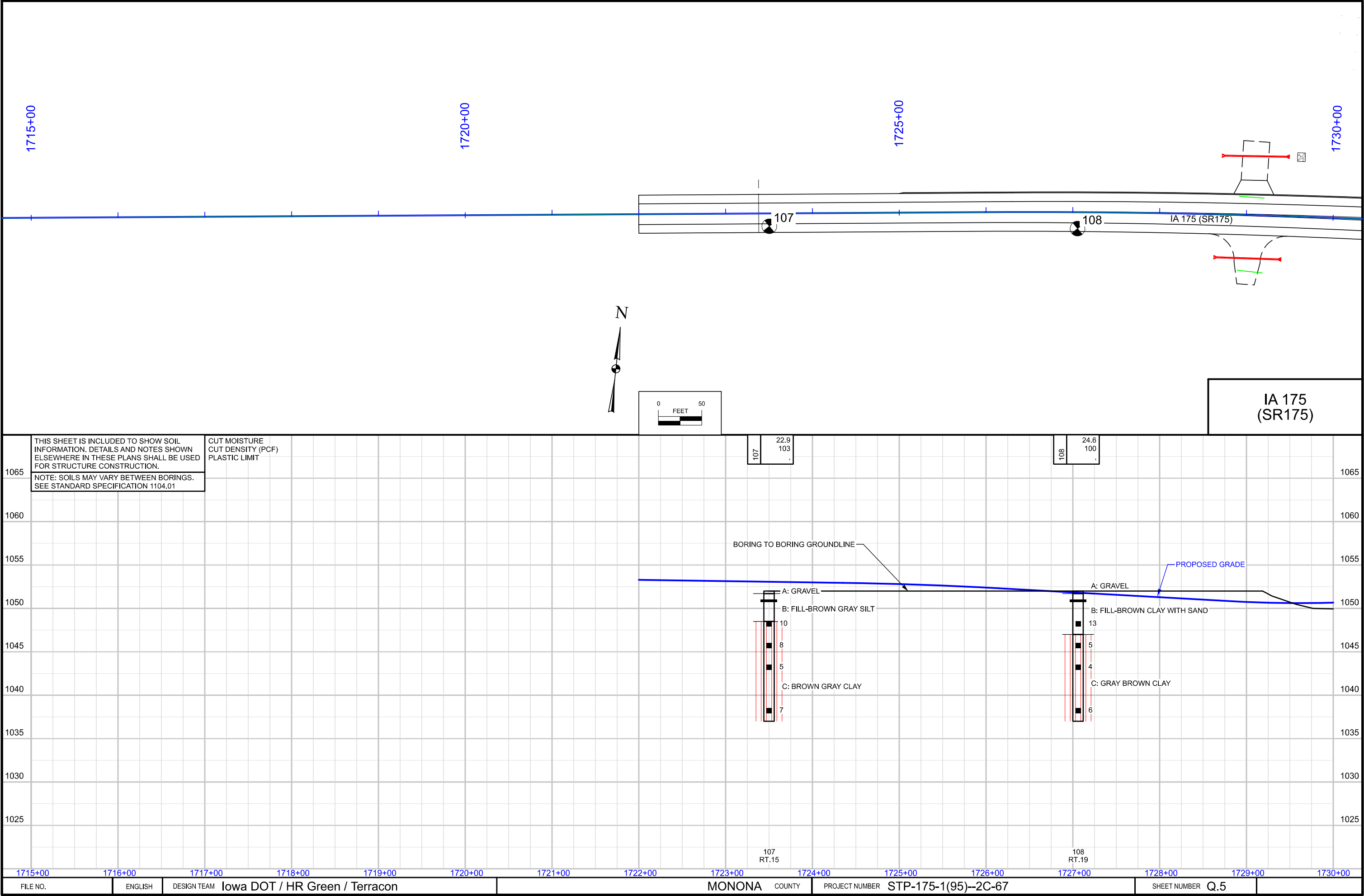




I-29 MAINLINE  
(ML029)

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NOTE: SOILS MAY VARY BETWEEN BORINGS. SEE STANDARD SPECIFICATION 1104.01

CUT MOISTURE  
CUT DENSITY (PCF)  
PLASTIC LIMIT

107 22.9  
103

108 24.6  
100

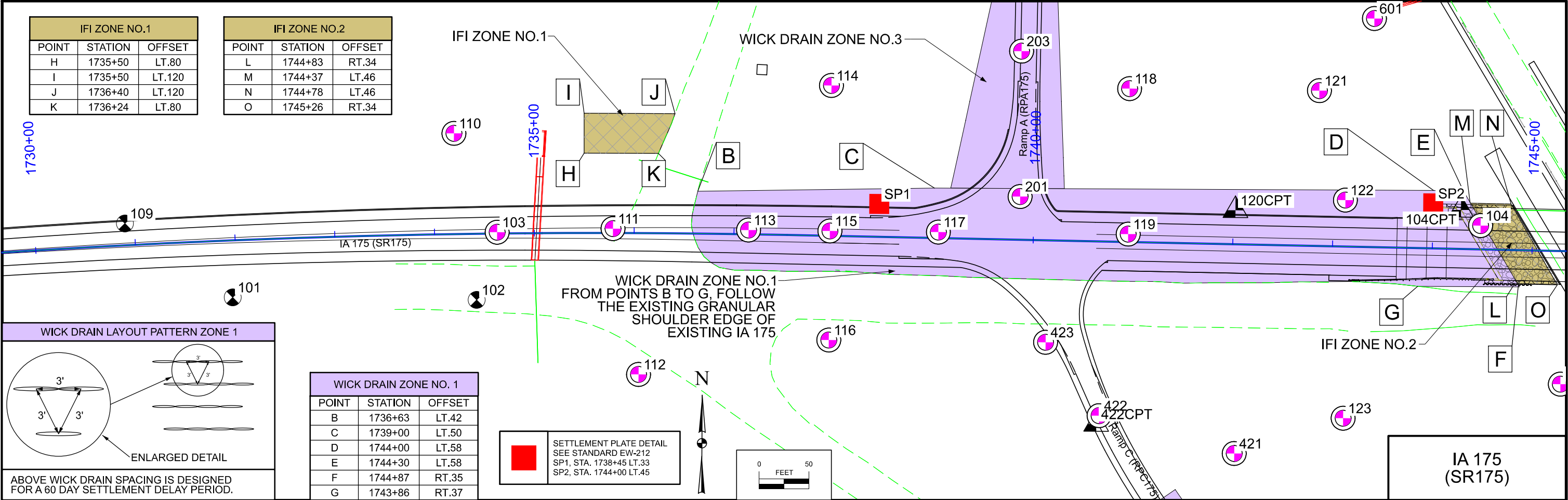
BORING TO BORING GROUNDLINE

PROPOSED GRADE

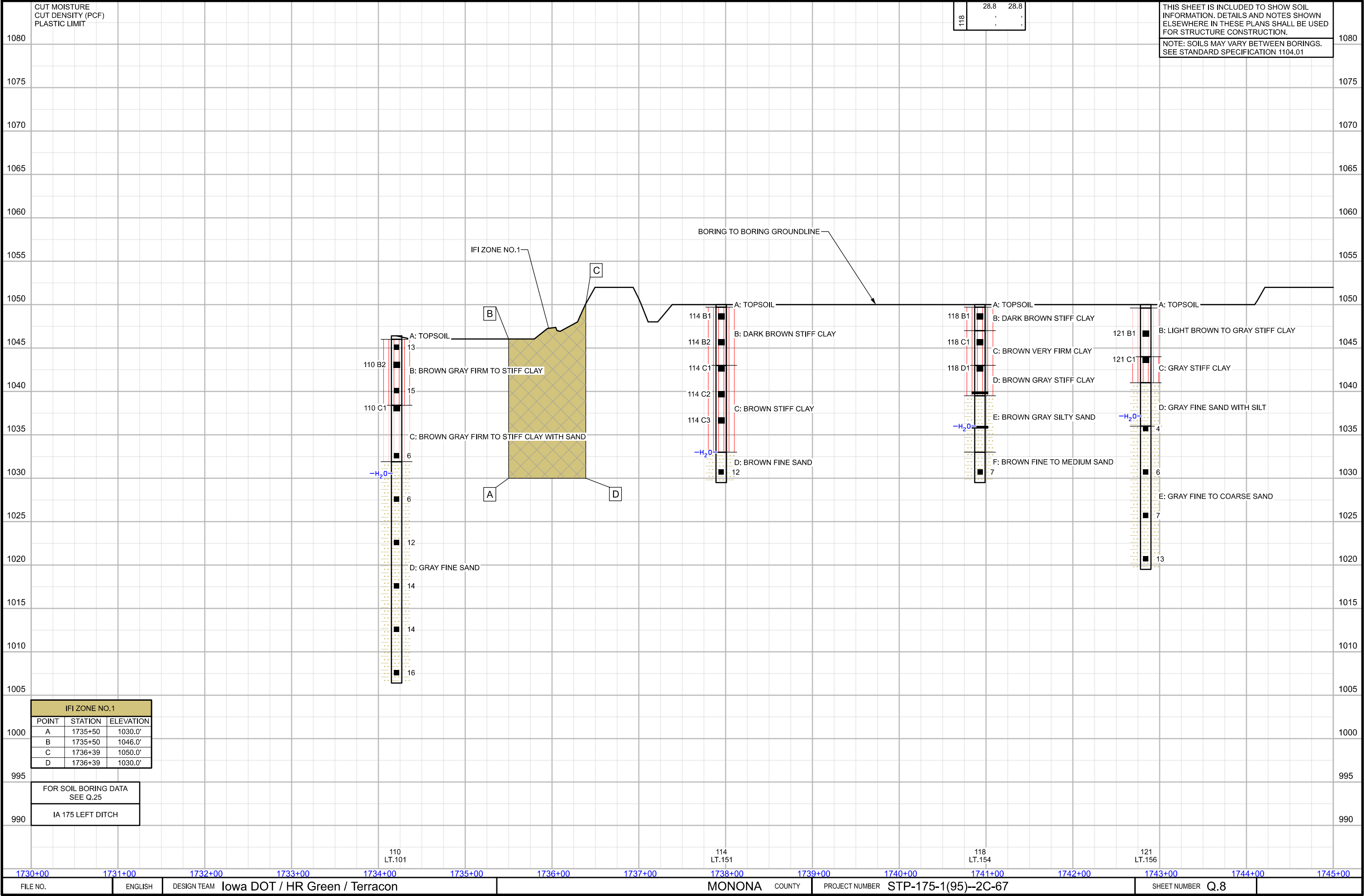
A: GRAVEL  
B: FILL-BROWN GRAY SILT  
C: BROWN GRAY CLAY

A: GRAVEL  
B: FILL-BROWN CLAY WITH SAND  
C: GRAY BROWN CLAY

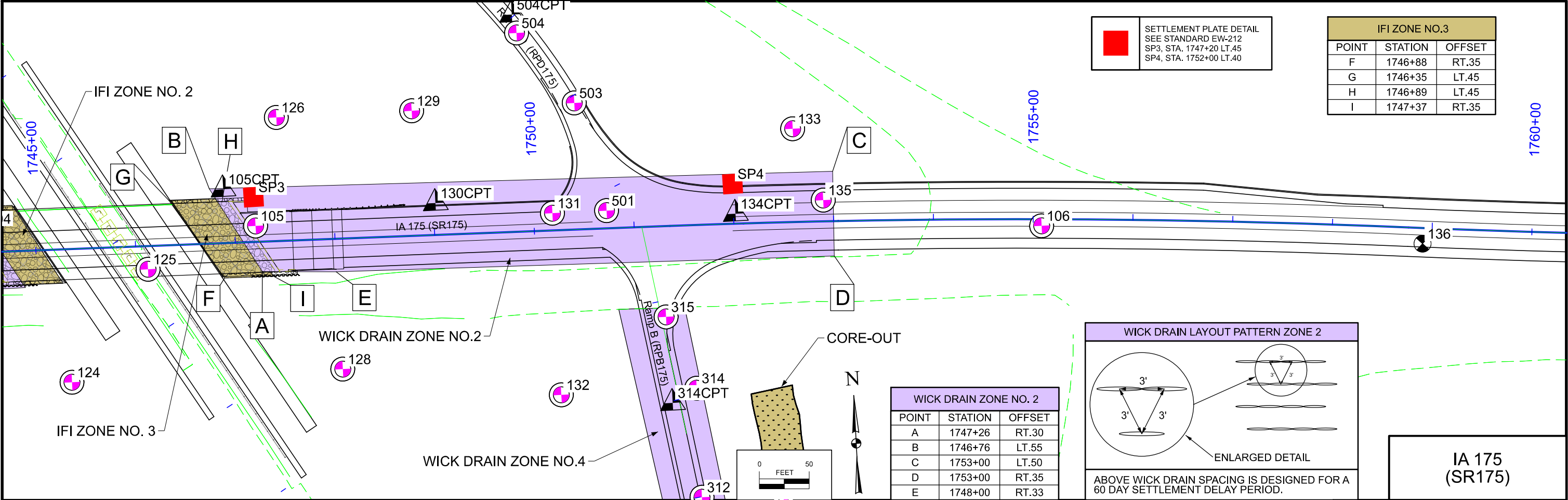






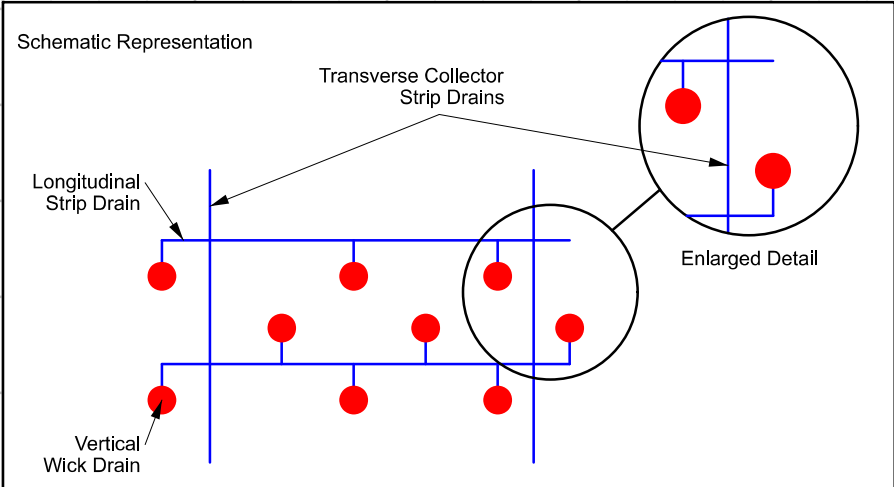






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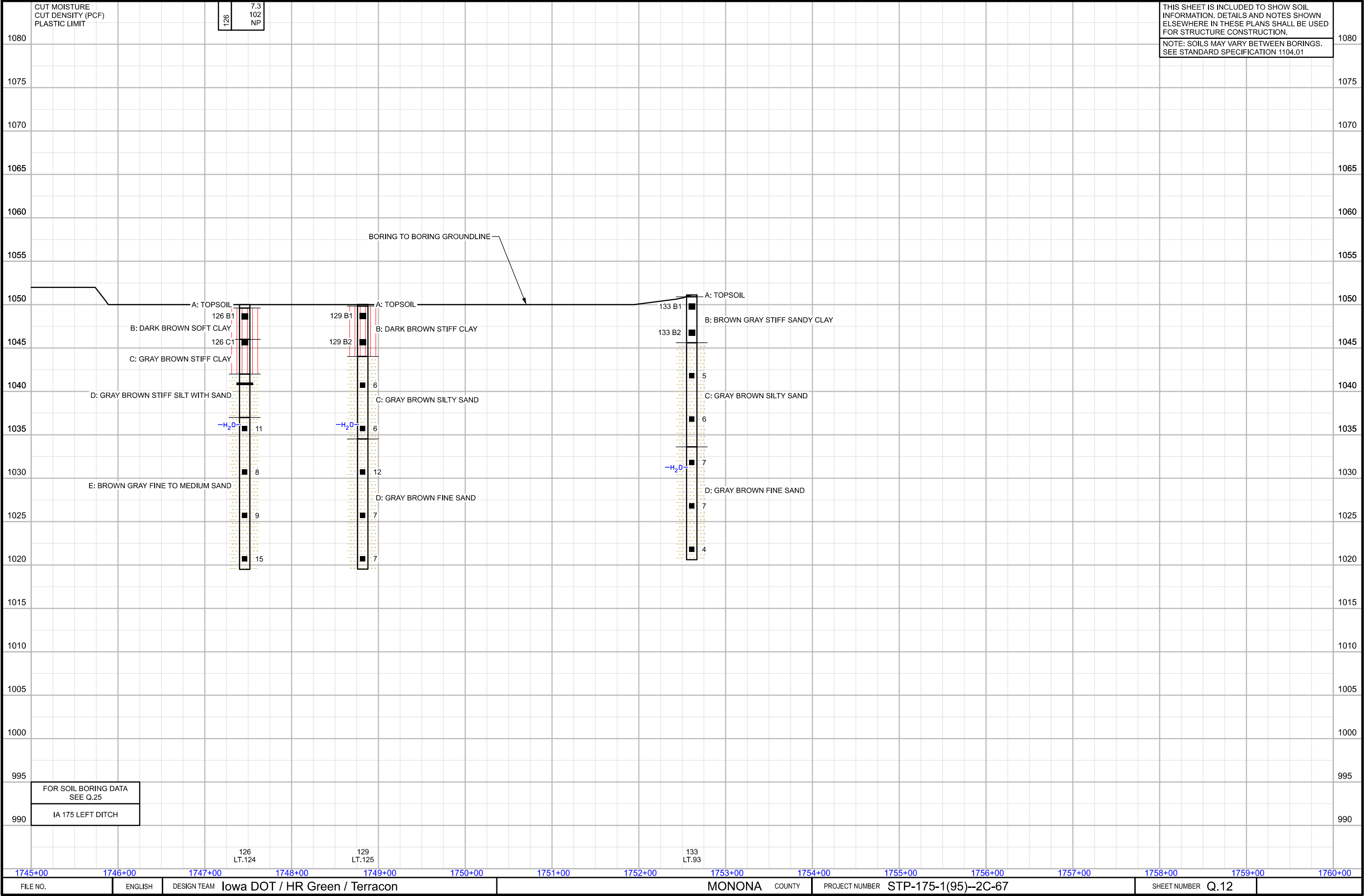
The horizontal strip drain shall conform to the following specifications:		
Property	Value	Test Method
Compressive Strength	10,000 psf	ASTM D 1621
Thickness	1.0 inches	ASTM D 1777
Material Type	HDPE, formed dimple core	
Grab Tensile Strength	90 lbs	ASTM D 4632
Grab Elongation	50%	ASTM D 4632
Puncture Strength	55 lbs	ASTM D 4833
Mullen Burst Strength	185 psi	ASTM D 3786
Permittivity	150 gpm/sf	ASTM D 4491
AOS, U.S. Std. Sieve	70	ASTM D 4751
UV Resistance @500 hrs.	85%	ASTM D 4355
Fungus Resistance	No Growth	ASTM D 1612
In Plane Flow, Q&518 psf Hydraulic Gradient = 1	170 gpm/ft width	ASTM D 4716

notes for prefabricated vertical (wick) drains:

- wick drain zones shall be installed in a triangular pattern within the limits and at the spacing shown in the plans in accordance with iowa dot standard specification 2112 (wick drain zones).
- the sand blanket discussed in standard specification 2112 shall be omitted except as may be needed for a working platform and as approved by the engineer.
- prefabricated horizontal (strip) drains shall be used to collect wicked water from the vertical drains. see the schematic representation on Q.10 for horizontal (strip) drain specifications. normal strip drain width shall be 6 inches or wider and installed on the ground surface longitudinally in rows adjacent to the vertical wick drains. Overlap the vertical wick drain zone extensions and secure them to the horizontal strip drains.
- transverse collector drains consisting of two horizontal (strip) drains placed side-by-side shall be used to collect water from the longitudinal strip drains at approximately 50-ft intervals and then extend beyond the limits of the planned fill area in order to convey water away from the proposed embankment.
- build the embankment over the drainage system, placing initial soil lifts by methods recommended by the drain manufacturer to prevent damage to drains.

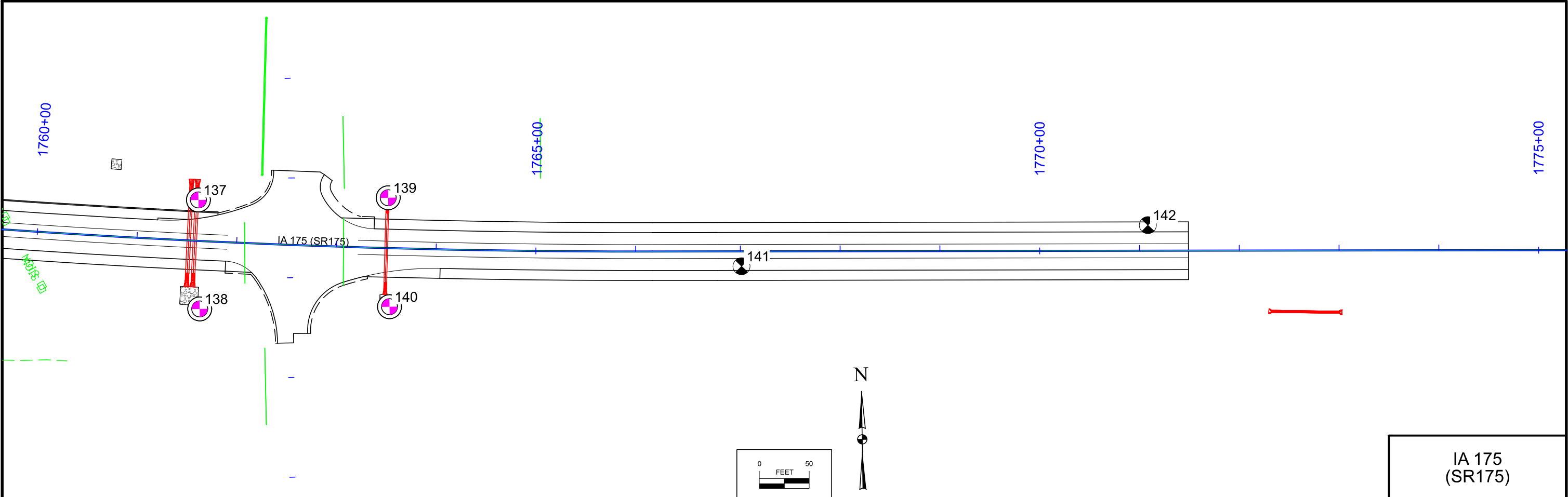




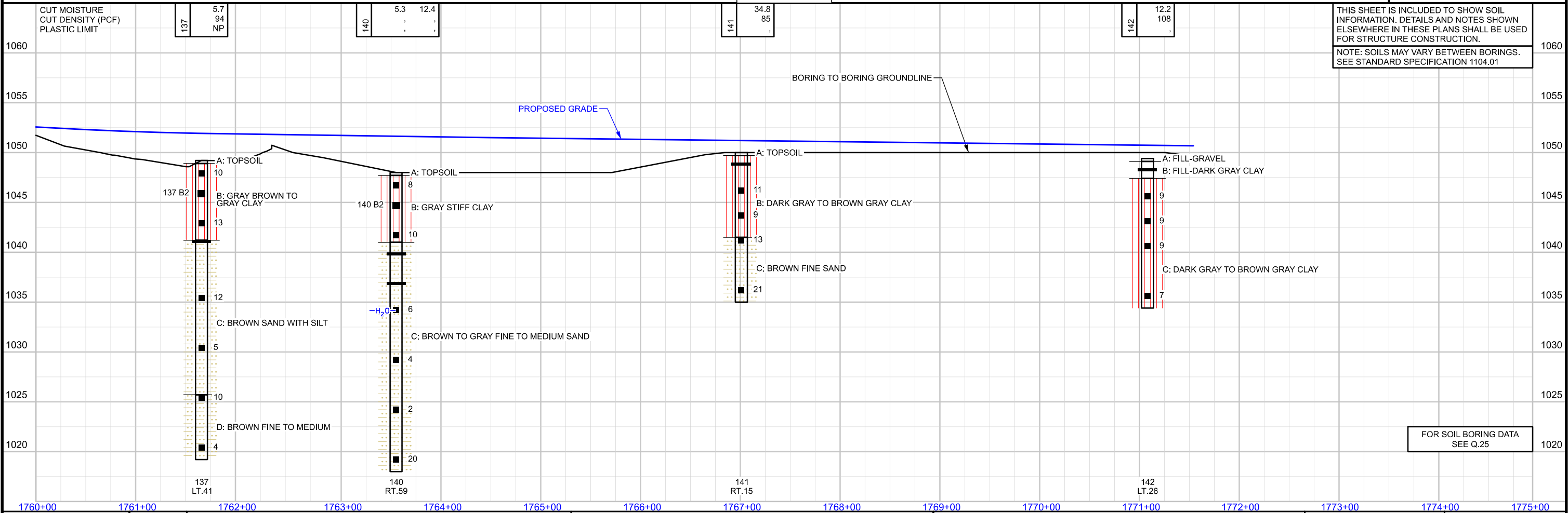








IA 175  
(SR175)



THIS SHEET IS INCLUDED TO SHOW SOIL INFORMATION. DETAILS AND NOTES SHOWN ELSEWHERE IN THESE PLANS SHALL BE USED FOR STRUCTURE CONSTRUCTION.  
NOTE: SOILS MAY VARY BETWEEN BORINGS. SEE STANDARD SPECIFICATION 1104.01

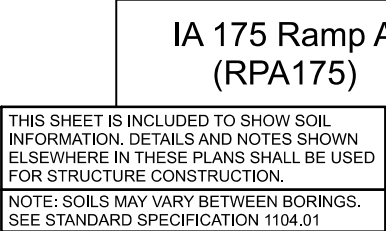
FOR SOIL BORING DATA  
SEE Q.25

**WICK DRAIN LAYOUT PATTERN ZONE 3**

The diagram illustrates the wick drain layout for Zone 3. It features a large circle on the left representing the overall layout, with an arrow pointing to a smaller circle on the right labeled "ENLARGED DETAIL". The enlarged detail shows a triangular arrangement of three wick drains, each labeled "4'", with lines indicating the spacing between them. Below the enlarged detail, there are three horizontal lines representing the wick drains.

ABOVE WICK DRAIN SPACING IS DESIGNED FOR A 60 DAY SETTLEMENT DELAY PERIOD.

WICK DRAIN ZONE NO. 3		
POINT	STATION	OFFSET
A	1549+68	RT.47
B	1549+66	LT.67
C	1552+00	LT.21
D	1557+00	RT.15
E	1557+00	RT.30
F	1552+00	RT.35

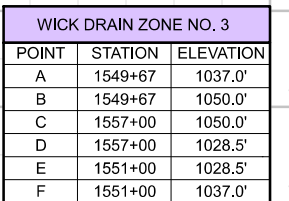


A schematic diagram of a drainage system. It features a network of blue lines representing drains. Two vertical lines are labeled 'Vertical Wick Drain' with arrows pointing to them. A horizontal line is labeled 'Longitudinal Strip Drain' with an arrow pointing to it. Several red circles represent 'Transverse Collector Strip Drains', with arrows pointing from the label to them. Two circular 'Enlarged Detail' views are shown, each containing a red circle and a blue line, with arrows pointing from the main diagram to them.

**notes for prefabricated vertical (wick) drains:**

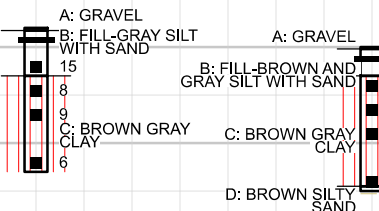
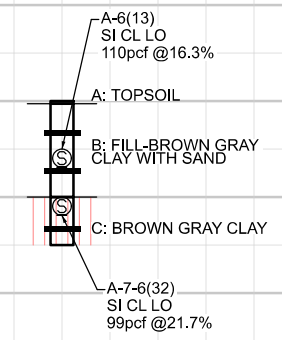
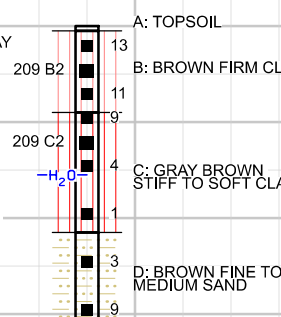
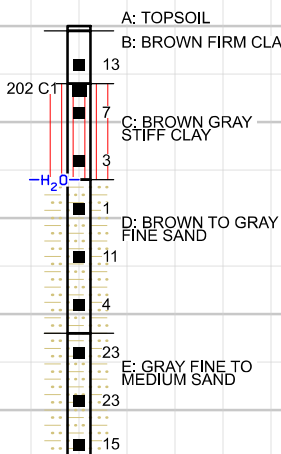
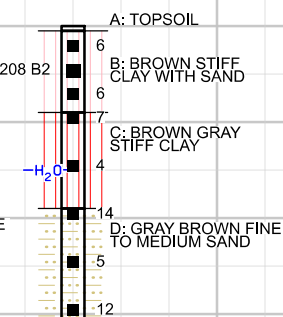
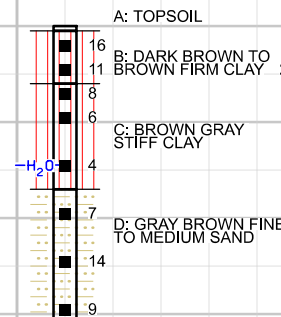
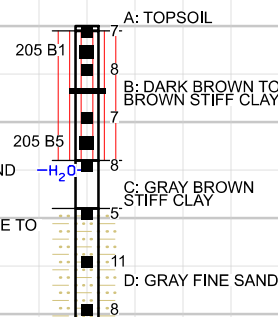
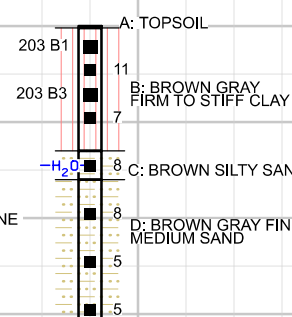
1. wick drain zones shall be installed in a triangular pattern within the limits and at the spacing shown in the plans in accordance with iowa dot standard specification 2112 (wick drain zones).
2. the sand blanket discussed in standard specification 2112 shall be omitted except as may be needed for a working platform and as approved by the engineer.
3. prefabricated horizontal (strip) drains shall be used to collect wicked water from the vertical drains. see the schematic representation on Q.15 for horizontal (strip) drain specifications. normal strip drain width shall be 6 inches or wider and installed on the ground surface longitudinally in rows adjacent to the vertical wick drains. Overlap the vertical wick drain zone extensions and secure them to the horizontal strip drains.
4. transverse collector drains consisting of two horizontal (strip) drains placed side-by-side shall be used to collect water from the longitudinal strip drains at approximately 50-ft intervals and then extend beyond the limits of the planned fill area in order to convey water away from the proposed embankment.
5. build the embankment over the drainage system, placing initial soil lifts by methods recommended by the drain manufacturer to prevent damage to drains.

NOTE: SOILS MAY VARY BETWEEN BORINGS.  
SEE STANDARD SPECIFICATION 1104.01



WICK DRAIN ZONE NO. 3		
POINT	STATION	ELEVATION
A	1549+67	1037.0'
B	1549+67	1050.0'
C	1557+00	1050.0'
D	1557+00	1028.5'
E	1551+00	1028.5'
F	1551+00	1037.0'

CUT MOISTURE	
CUT DENSITY (PCF)	
PLASTIC LIMIT	



RAMP A MAINLINE

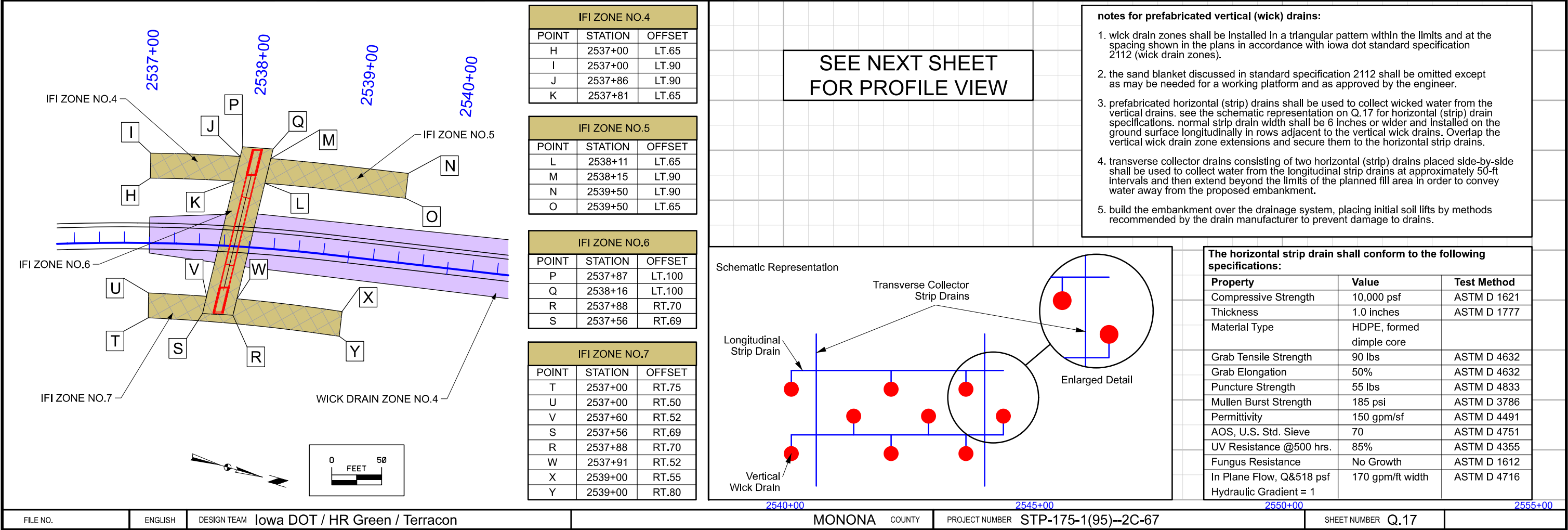
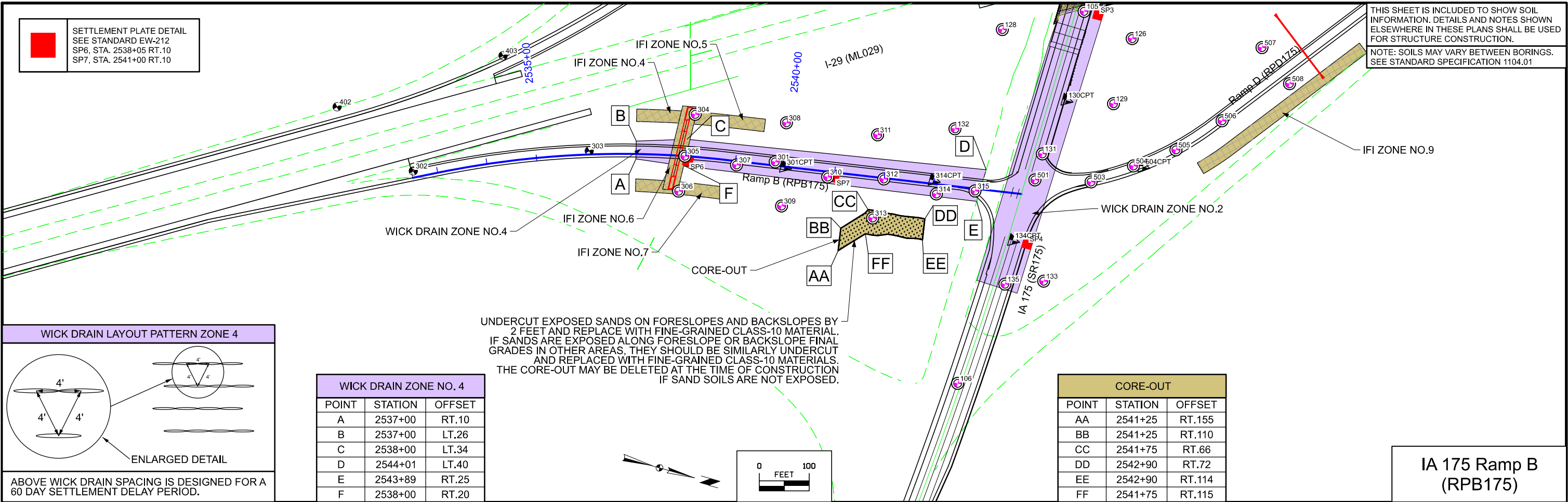
Iowa DOT / HR Green / Terracon

COUNTY

PROJECT NUMBER:

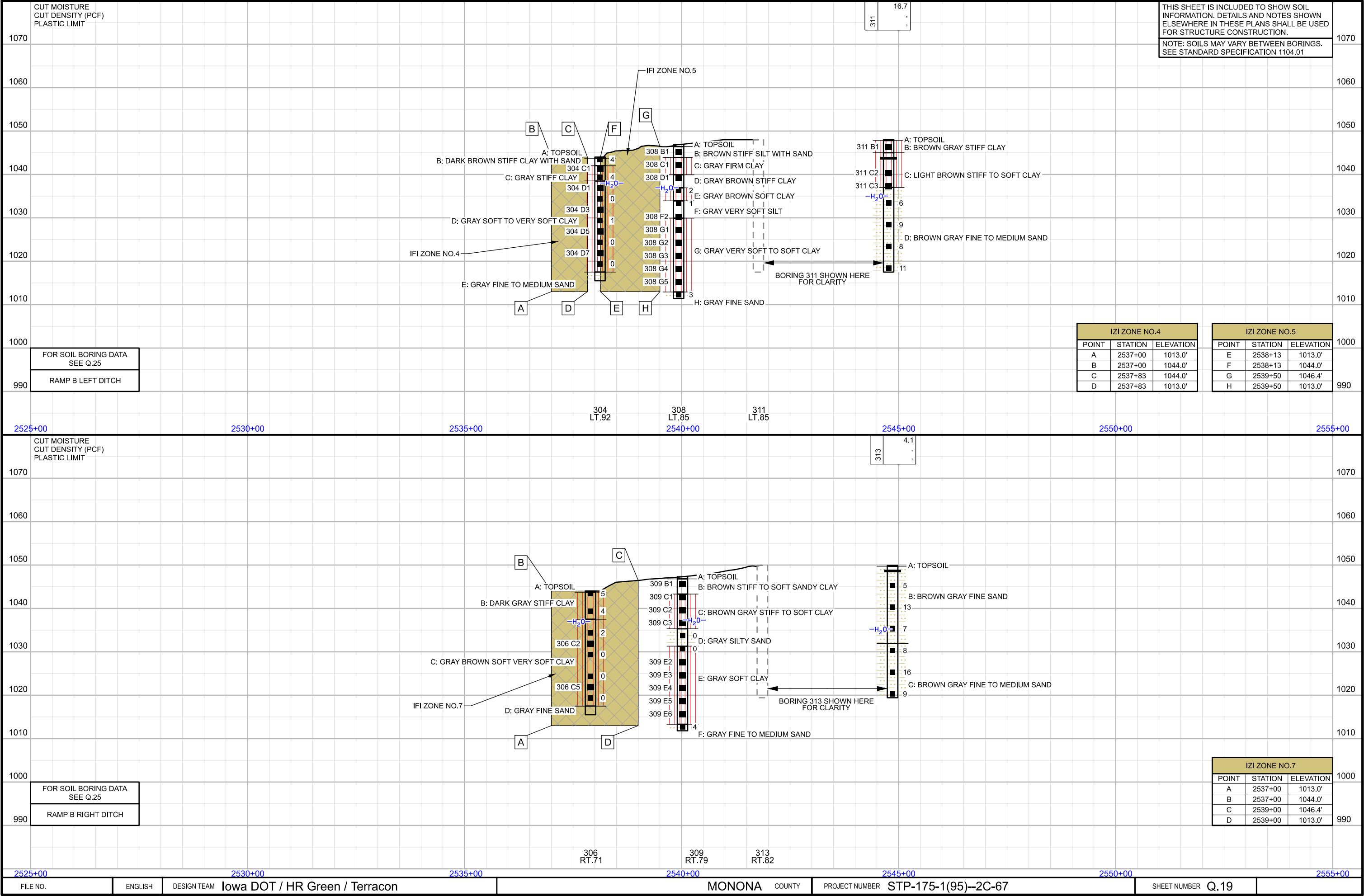
STP-175-1(95)--2C-67

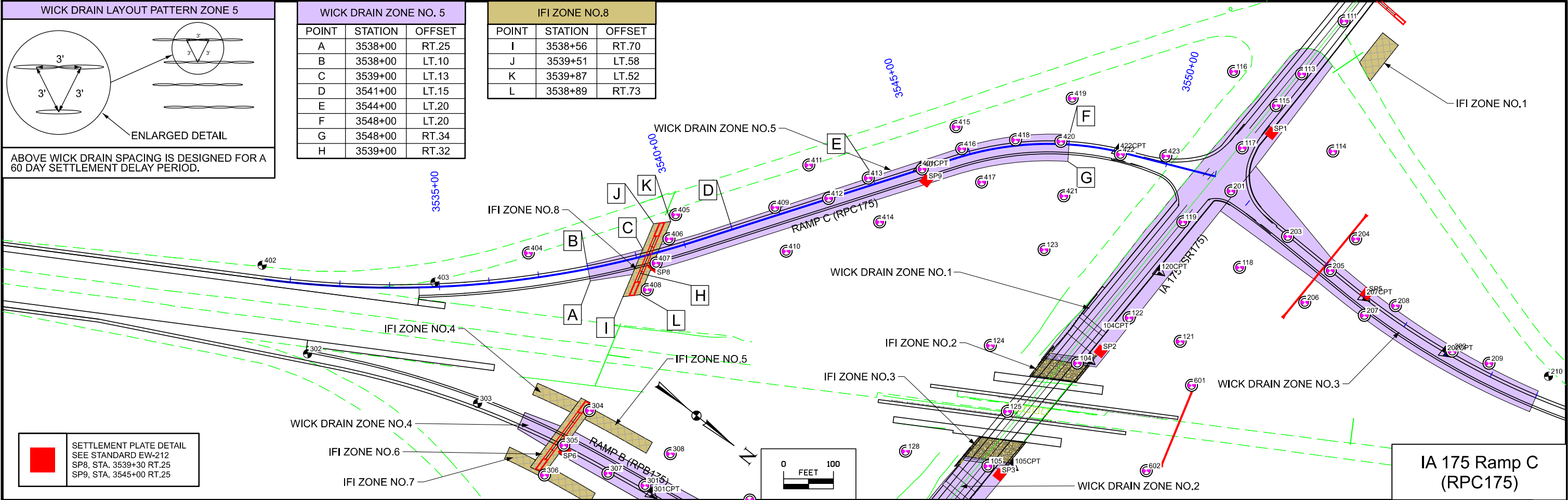
SHEET NUMBER Q.16







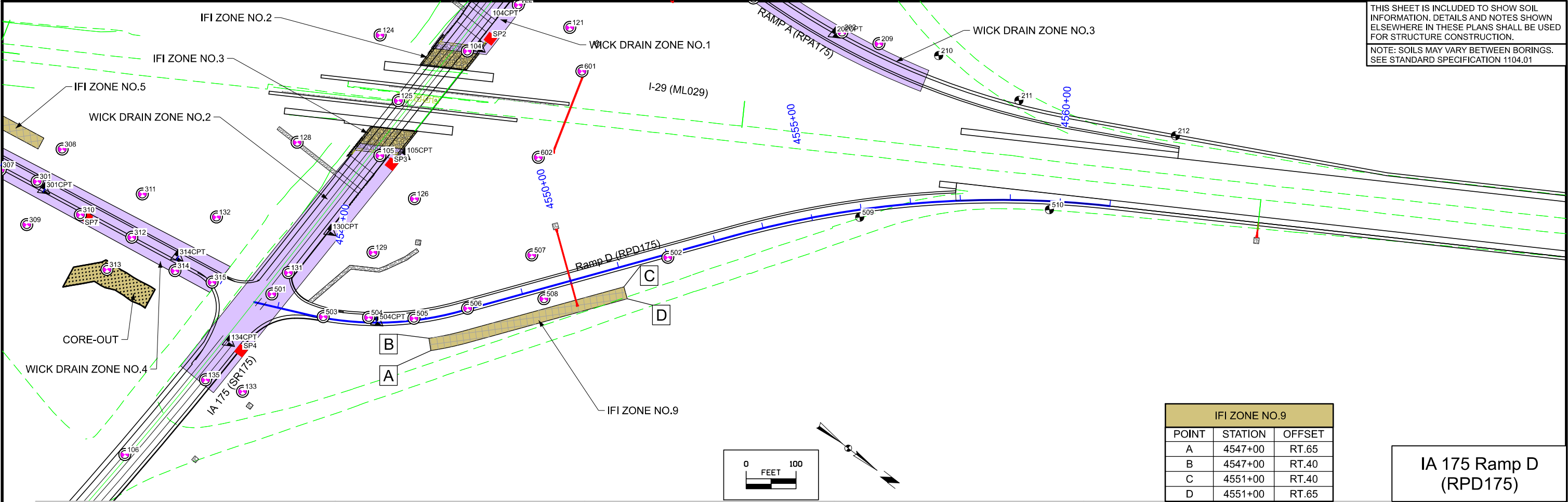








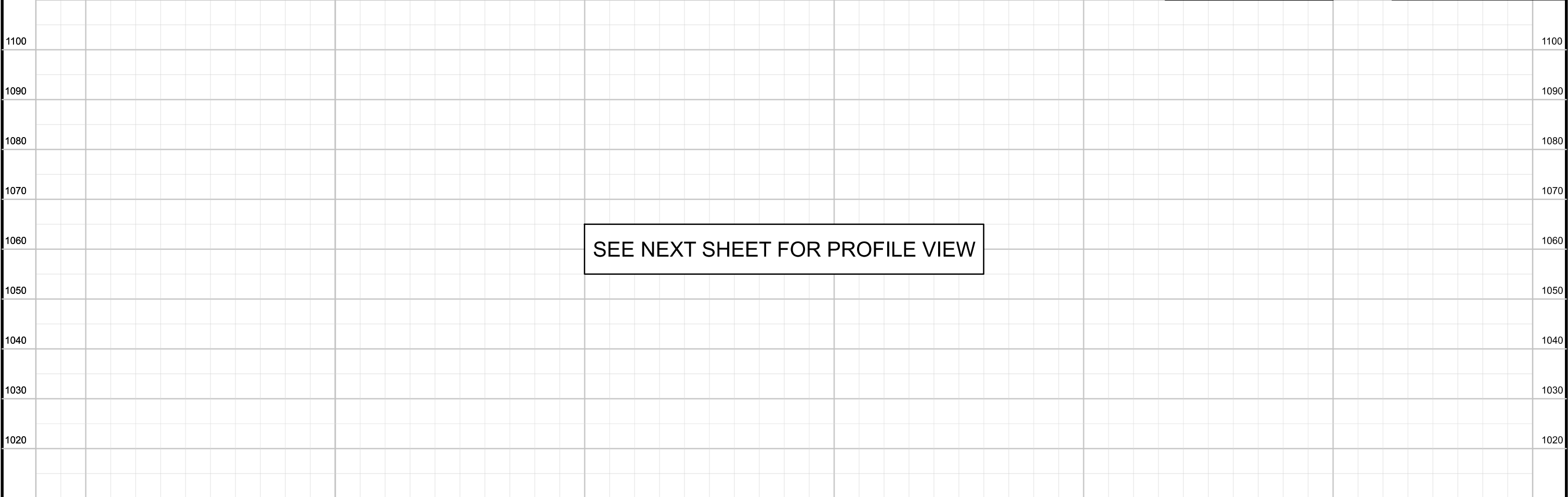


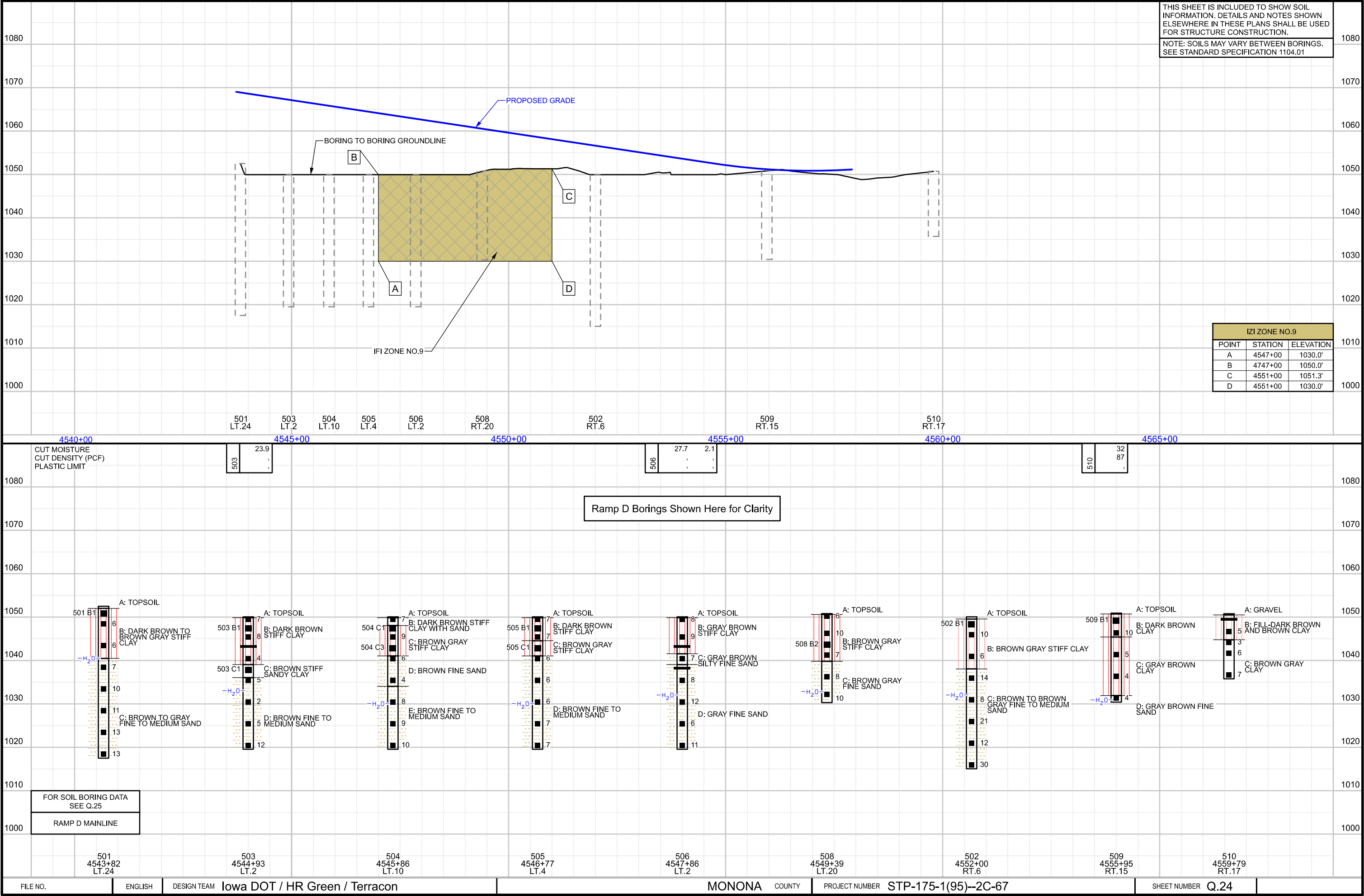


THIS SHEET IS INCLUDED TO SHOW SOIL INFORMATION. DETAILS AND NOTES SHOWN ELSEWHERE IN THESE PLANS SHALL BE USED FOR STRUCTURE CONSTRUCTION.  
NOTE: SOILS MAY VARY BETWEEN BORINGS. SEE STANDARD SPECIFICATION 1104.01

IFI ZONE NO.9		
POINT	STATION	OFFSET
A	4547+00	RT.65
B	4547+00	RT.40
C	4551+00	RT.40
D	4551+00	RT.65

IA 175 Ramp D  
(RPD175)

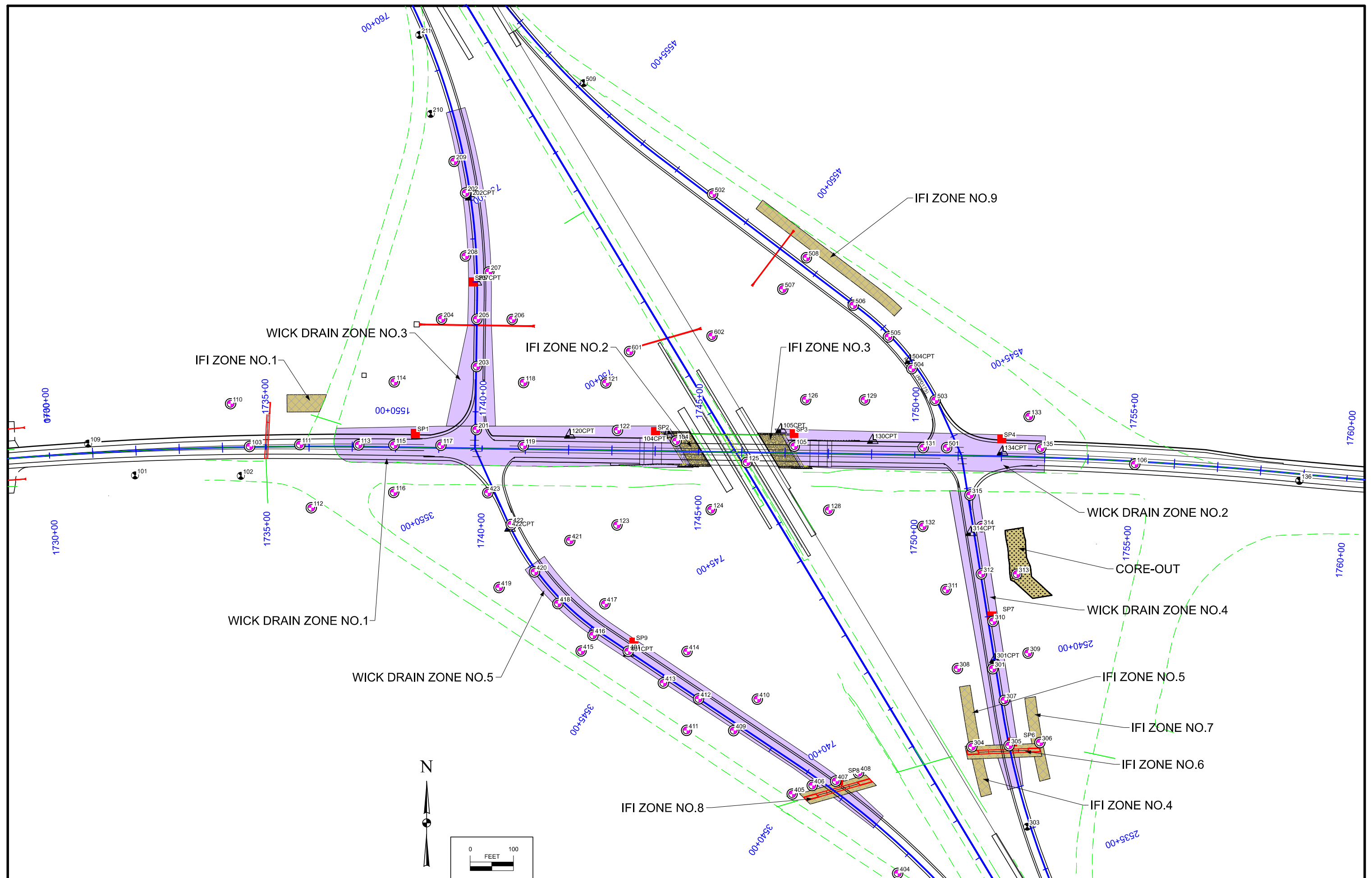




## SHELBY TUBE CORE DATA

[illegible][illegible][illegible][illegible][illegible]

FILE NO.	ENGLISH	DESIGN TEAM	Iowa DOT / HR Green / Terracon	MONONA	COUNTY	PROJECT NUMBER	STP-175-1(95)--2C-67	SHEET NUMBER	Q.25
11:50:55 AM	10/6/2025	kekausalik	pw:\projectwise_dot_int.lan:PWMMain\Documents\Projects\6717502021\Soils\Terracon\SHT\SHT_6717502021_Q1.dgn						



<div>110_12 1/13/23</div> <div>POLLUTION PREVENTION PLAN</div> <div><p>This project is regulated by the requirements of the Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) General Permit No. 2 OR an Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) individual storm water permit. The Contractor shall carry out the terms and conditions of this permit and the Pollution Prevention Plan (PPP).</p><p>This Base PPP includes information on Roles and Responsibilities, Project Site Description, Controls, Maintenance Procedures, Inspection Requirements, Non-Storm Water Controls, Potential Sources of Off Right-of-Way Pollution, and Definitions. This plan references other documents rather than repeating the information contained in the documents. A copy of this Base Pollution Prevention Plan, amended as needed during construction, will be readily available for review.</p><p>All contractors shall conduct their operations in a manner that controls pollutants, minimizes erosion, and prevents sediments from entering waters of the state and leaving the highway right-of-way. The Contractor shall be responsible for compliance and implementation of the PPP for their entire contract. This responsibility shall be further shared with subcontractors whose work is a source of potential pollution as defined in this PPP.</p><p>I. ROLES AND RESPONSIBILITES</p><p>A. Designer:</p><ol style="list-style-type: none"><li>Prepares Base PPP included in the project plan.</li><li>Prepares Notice of Intent (NOI) submitted to Iowa DNR.</li><li>Is signature authority on the Base PPP. If consultant designed, signature from Contracting Authority is also required.</li></ol><p>B. Contractor:</p><ol style="list-style-type: none"><li>Signs a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP. All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.</li><li>Designates a Water Pollution Control Manager (WPCM), who has the duties and responsibilities as defined in Section 2602 of the Standard Specifications.</li><li>Submits an Erosion Control Implementation Plan (ECIP) and ECIP updates according to Section 2602 of the Standard Specifications.</li><li>Installs and maintains appropriate controls. This work may be subcontracted as documented through Subcontractor Request Forms (Form 830231).</li><li>Supervises and implements good housekeeping practices according to Paragraph III, C, 2.</li><li>Conducts joint required inspections of the site with inspection staff. When Contractor is not mobilized on site, Contractor may delegate this responsibility to a trained or certified subcontractor. Contracting Authority also may waive joint inspection requirement during winter shutdown. In both circumstances, WPCM (or trained or certified delegate from the Contractor) is still responsible to review and sign inspection reports.</li><li>Complies with training and certification requirements of Section 2602 of the Standard Specifications.</li><li>Submits amended PPP site map according to Section 2602 of the Standard Specifications.</li></ol><p>C. Subcontractors:</p><ol style="list-style-type: none"><li>Sign a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP if: responsible for sediment or erosion controls; involved in land disturbing activities; or perorming work that is a source of potential pollution as defined in this PPP. Subcontracted work items are identified in Subcontractor Request Forms (Form 830231). All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.</li><li>Implement good housekeeping practices according to Paragraph III, C, 2.</li></ol><p>D. RCE/Project Engineer:</p><ol style="list-style-type: none"><li>Is Project Storm Water Manager.</li><li>On projects where DOT is the Contracting Authority, is current with erosion control training or certification.</li><li>Takes actions necessary to ensure compliance with storm water requirements including, where appropriate, issuing stop work orders, and directing additional inspections at construction project sites that are experiencing problems with achieving permit compliance.</li><li>Orders the taking of measures to cease, correct, prevent, or minimize the consequences of non-compliance with the storm water requirements of the Applicable Permit.</li><li>Supervises all work necessary to meet storm water requirements at the Project, including work performed by contractors and subcontractors.</li><li>Requires employees, contractors, and subcontractors to take appropriate responsive action to comply with storm water requirements, including requiring any such person to cease or correct a violation of storm water requirements, and to order or recommend such other actions as necessary to meet storm water requirements.</li><li>Is familiar with the Project PPP and storm water site map.</li><li>On projects where DOT is Contracting Authority, is responsible for periodically monitoring inspection reports to determine whether deficiencies identified in inspection reports were adequately and timely addressed, and if not, has the authority and responsibility to direct immediate actions to correct the deficiencies.</li><li>Is the point of contact for the Project for regulatory officials, Inspector, contractors, and subcontractors regarding storm water requirements.</li><li>Is signature authority on Notice of Discontinuation.</li><li>Maintains an up-to-date record of contractors, subcontractors, and subcontracted work items through Subcontractor Request Forms (Form 830231).</li><li>Makes information to determine permit compliance available to the DNR upon their request.</li></ol></div>				<div>110_12 1/13/23</div> <div>POLLUTION PREVENTION PLAN</div> <div><p>E. Inspector:</p><ol style="list-style-type: none"><li>Updates PPP through fieldbook entries and storm water site inspection reports if there is a change in design, construction, operation, or maintenance which has a significant effect on the discharge of pollutants from the project.</li><li>Makes information to determine permit compliance available to the DNR upon their request.</li><li>Conducts joint required inspections of the site with the contractor/subcontractor.</li><li>Completes an inspection report after each inspection.</li><li>Is signature authority on storm water inspection reports.</li></ol><p>II. PROJECT SITE DESCRIPTION</p><p>A. This Pollution Prevention Plan (PPP) is for the construction of the I-29 / IA 175 interchange near Onawa, in Monona County.</p><p>B. This PPP covers approximately 95.6 acres with an estimated 75.8 acres being disturbed. The portion of the PPP covered by this contract has 75.8 acres disturbed.</p><p>C. The PPP is located in an area of (14) soil association (Albaton - Luton - Onawa). The estimated weighted average runoff coefficient number for this PPP after completion will be 0.38.</p><p>D. Storm Water Site Map is located in the R sheets. Proposed slopes are shown in cross sections, details, or standard road plans. Supplemental information is located in the Tabulations in the C or RC sheets.</p><p>E. The base storm water site map is amended by contract modifications and progress payments (fieldbook entries) of completed erosion control work. Also, due to project phasing, erosion and sediment controls shown on project plans may not be installed until needed, based on site conditions. For example, silt fence ditch checks will typically not be installed until the ditch has been installed. Installed locations may also be modified from tabulation locations by field staff. Installed locations will be documented by fieldbook entries and amended PPP site map.</p><p>F. Runoff from this work will flow into roadside ditches into an unnamed channel of the McCandless Cleghorn Ditch and to the main channel of the McCandless Cleghorn Ditch.</p><p>III. CONTROLS</p><p>A. The Contractor’s ECIP specified in Article 2602.03 of the Standard Specifications for accomplishment of storm water controls should clearly describe the intended sequence of major activities, and for each activity define the control measure and the timing during the construction process that the measure will be implemented.</p><p>B. Preserve vegetation in areas not needed for construction.</p><p>C. Sections 2601 and 2602 of the Standard Specifications define requirements to implement erosion and sediment control measures. Actual quantities used and installed locations may vary from the Base PPP and amendment of the plan will be documented via fieldbook entries, amended PPP site map, or by contract modification. Additional erosion and sediment control items may be required as determined by the inspector and/or contractor during storm water site inspections. If the work involved is not applicable to any contract items, the work will be paid for according to Article 1109.03 paragraph B of the Standard Specifications.</p><p>1. EROSION AND SEDIMENT CONTROLS</p><p>a. Stabilization Practices</p><ol style="list-style-type: none"><li>Site plans will ensure that existing vegetation or natural buffers are preserved where attainable and disturbed portions of the site will be stabilized.</li><li>Initialize stabilization of disturbed areas immediately after clearing, grading, excavating, or other earth disturbing activities have:<ol style="list-style-type: none"><li>Permanently ceased on any portion of the site, or</li><li>Temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days.</li></ol></li><li>Staged permanent and/or temporary stabilizing seeding and mulching shall be completed as the disturbed areas are completed. Incomplete areas shall be stabilized according to paragraph III, C, 1, a, 2, b above.</li><li>Permanent and Temporary Stabilization practices to be used for this project are located in the storm water site map, Estimated Project Quantities and Reference Notes located in the C sheets. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation (105-4) in the C sheets.</li><li>Preservation of existing vegetation within right-of-way or easements will act as vegetative buffer strips.</li><li>Preservation of topsoil: Bid items to be used for this project are located in the Estimated Project Quantities and Reference Notes located in the R sheets. Additional information may be found in the Tabulations in the C or T Tabulation sheets, or is referenced in Section 2105 of the Standard Specifications.</li></ol><p>b. Structural Practices</p><ol style="list-style-type: none"><li>Structural practices will be implemented to divert flows from exposed soils and detain or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Additionally, structural practices may include: silt basins that provide 3600 cubic feet of storage per acre drained or equivalent sediment controls, outlet structures that withdraw water from surface when discharging basins, and controls to direct storm water to vegetated areas.</li><li>Structural practices to be used for this project are located in the storm water site map, Estimated Project Quantities and Reference Notes located in the C sheets, as well as all other item specific Tabulations. Typical drawings detailing construction of the devices to be used on this project can be</li></ol></div>					
FILE NO.	32285	ENGLISH	DESIGN TEAM	Iowa DOT / HR Green, Inc.	MONONA COUNTY	PROJECT NUMBER	STP-175-1(95)--2C-67	SHEET NUMBER	RC.1

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<div>110_12 1/13/23</div> <div>POLLUTION PREVENTION PLAN</div>				<div>110_12 1/13/23</div> <div>POLLUTION PREVENTION PLAN</div>									
<p>found on the B or R sheets or are referenced in the Standard Road Plans Tabulation (105-4) located in the C or R sheets.</p> <p>c. Storm Water Management</p> <p>Measures shall be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. This may include velocity dissipation devices at discharge locations and along length of outfall channel as necessary to provide a non-erosion velocity flow from structure to water course. If included with this project, these items are located in the storm water site map and Estimated Project Quantities and Reference Notes located in the C sheets, as well as all other item specific Tabulations.</p> <p>Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation. The installation of these devices may be subject to Section 404 of the Clean Water Act.</p> <p>2. OTHER CONTROLS</p> <p>Contractor disposal of unused construction materials and construction material wastes shall comply with applicable state and local waste disposal, sanitary sewer, or septic system regulations. In the event of a conflict with other governmental laws, rules and regulations, the more restrictive laws, rules or regulations shall apply.</p> <p>a. Vehicle Entrances and Exits - Construct and maintain entrances and exits to prevent tracking of sediments onto roadways.</p> <p>b. Material Delivery, Storage and Use - Implement practices to prevent discharge of construction materials during delivery, storage, and use.</p> <p>c. Stockpile Management - Install controls to reduce or eliminate pollution of storm water from stockpiles of soil and paving.</p> <p>d. Waste Disposal - Do not discharge any materials, including building materials, into waters of the state, except as authorized by a Section 404 permit.</p> <p>e. Spill Prevention and Control - Implement chemical spill and leak prevention and response procedures to contain and clean up spills and prevent material discharges to the storm drain system and waters of the state.</p> <p>f. Concrete Residuals and Washout Wastes - Waste shall not be discharged to a surface water and is not allowed to adversely affect a water of the state. Designate temporary concrete washout facilities for rinsing out concrete trucks. Provide directions to truck drivers where designated washout facilities are located. Designated washout areas should be located at least 50 feet away from storm drains, streams or other water bodies. Care should be taken to ensure these facilities do not overflow during storm events.</p> <p>g. Concrete Grooving/Grinding Slurry - Do not discharge slurry to a waterbody or storm drain. Slurry may be applied on foreslopes or removed from the project.</p> <p>h. Vehicle and Equipment Storage and Maintenance Areas - Perform on site fueling and maintenance in accordance with all environment laws such as proper storage of onsite fuels and proper disposal of used engine oil or other fluids on site. Employ washing practices that prevent contamination of surface and ground water from wash water. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge.</p> <p>i. Litter Management - Ensure employees properly dispose of litter. Minimize exposure of trash if exposure to precipitation or storm water would result in a discharge of pollutants.</p> <p>j. Dewatering - Properly treat water to remove suspended sediment before it re-enters a waterbody or discharges off-site. Measures are also to be taken to prevent scour erosion at dewatering discharge point.</p> <p>3. APPROVED STATE OR LOCAL PLANS</p> <p>During the course of this construction, it is possible that situations will arise where unknown materials will be encountered. When such situations are encountered, they will be handled according to all federal, state, and local regulations in effect at the time.</p> <p>IV. MAINTENANCE PROCEDURES</p> <p>The Contractor is required to maintain all temporary erosion and sediment control measures in proper working order, including cleaning, repairing, or replacing them throughout the contract period. This shall begin when the features have lost 50% of their capacity.</p> <p>V. INSPECTION REQUIREMENTS</p> <p>A. Inspections shall be made jointly by the Contractor and the Contracting Authority's inspector at least once every seven calendar days. Storm water site inspections will include:</p> <p>1. Date of the inspection.</p> <p>2. Summary of the scope of the inspection.</p> <p>3. Name and qualifications of the personnel making the inspection.</p> <p>5. Review of erosion and sediment control measures within disturbed areas for the effectiveness in preventing impacts to receiving waters.</p> <p>6. Major observations related to the implementation of the PPP.</p> <p>7. Identification of corrective actions required to maintain or modify erosion and sediment control measures.</p> <p>B. Include storm water site inspection reports in the Amended PPP. Incorporate any additional erosion and sediment control measures determined as a result of the inspection. Immediately begin corrective actions on all deficiencies found within 3 calendar days of the inspection and complete within 7 calendar days following the inspection. If it is determined that making the corrections less than 72 hours after the inspection is impracticable, it should be documented why it is impracticable and indicate an estimated date by which the corrections will be made.</p>				<p>VI. NON-STORM WATER DISCHARGES</p> <p>This includes subsurface drains (i.e. longitudinal and standard subdrains) and slope drains. The velocity of the discharge from these features may be controlled by the use of headwalls or blocks, Class A stone, erosion stone or other appropriate materials. This also includes uncontaminated groundwater from dewatering operations, which will be controlled as discussed in Section III of the PPP.</p> <p>VII. POTENTIAL SOURCES OF OFF RIGHT-OF-WAY (ROW) POLLUTION</p> <p>Silts, sediment, and other forms of pollution may be transported onto highway right-of-way (ROW) as a result of a storm event. Potential sources of pollution located outside highway ROW are beyond the control of this PPP. Pollution within highway ROW will be conveyed and controlled per this PPP.</p> <p>VIII. DEFINITIONS</p> <p>A. Base PPP - Initial Pollution Prevention Plan.</p> <p>B. Amended PPP - Base PPP amended during construction. May include Plan Revisions or Contract Modifications for new items, storm water site inspection reports, fieldbook entries made by the inspector, amended PPP site map by the Contractor, ECIP, NOI, co-permittee certifications, and Subcontractor Request Forms. Items amending the PPP are stored electronically and are readily available upon request.</p> <p>C. Fieldbook Entries - This contains the inspector's daily diary and bid item postings.</p> <p>D. Controls - Methods, practices, or measures to minimize or prevent erosion, control sedimentation, control storm water, or minimize contaminants from other types of waste or materials. Also called Best Management Practices (BMPs).</p> <p>E. Signature Authority - Representative authorized to sign various storm water documents.</p> <p>-----</p> <p>CERTIFICATION STATEMENT</p> <p>I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</p> <div><div><div></div><div>Signature</div></div><div><div>Jason Lastovica</div><div>Printed or Typed Name</div></div><div><div></div><div>Signature</div></div><div><div></div><div>Printed or Typed Name</div></div></div>									
FILE NO. 32285		ENGLISH	DESIGN TEAM	Iowa DOT / HR Green, Inc.		MONONA COUNTY		PROJECT NUMBER	STP-175-1(95)--2C-67		SHEET NUMBER	RC.2	
<div>10/6/2025 11:11:40 AM</div> <div>DBEN.GOMEZ@IOWAID</div>													

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STORMWATER DRAINAGE BASIN

Refer to EC Standards and 570s Details.

Line No.	Basin No.	Station From	Station To	Direction of Traffic	Side	Discharge Station	Discharge Side	Total Disturbed Area (ACRES)	Disturbed Area with Storage Provided (ACRES)	Disturbed Area without Storage Provided (ACRES)	Best Management Practice	Total Storage Volume Provided (CF)	Total Storage Volume Required (CF)	Storage Volume Met	Remarks
1.0	1	715+50.00	734+51.00	SB	Left	715+42.00	Left	2.8	2.8		Silt Basin (EW-403)	24043.75	10080.0	Yes	
2.0	2	715+30.00	724+10.33	NB	Right	715+22.36	Right	1.1	1.1		Silt Basin (EW-403)	9697.50	3960.0	Yes	
3.0	3	724+10.33	765+09.64			735+91.71	Right	54.6	54.6		Silt Basin (EW-403)	228428.40	196560.0	Yes	
4.0	4	754+67.24	779+45.00			777+18.32	Right	5.6	5.6		Silt Basin (EW-403)	58835.00	20160.0	Yes	
5.0	5	1755+10.34	1762+52.63	2-Lane		1762+36.55	Right	2.8	2.8		Silt Basin (EW-403)	10901.50	10080.0	Yes	
6.0	6	1762+56.15	1771+49.11	EB	Right	1771+62.95	Right	2.4	2.4		Silt Basin (EW-403)	10769.80	8640.0	Yes	
7.0	7	1762+52.63	1771+49.11	WB	Left	1771+62.95	Left	1.3	1.3		Silt Basin (EW-403)	11997.00	4680.0	Yes	

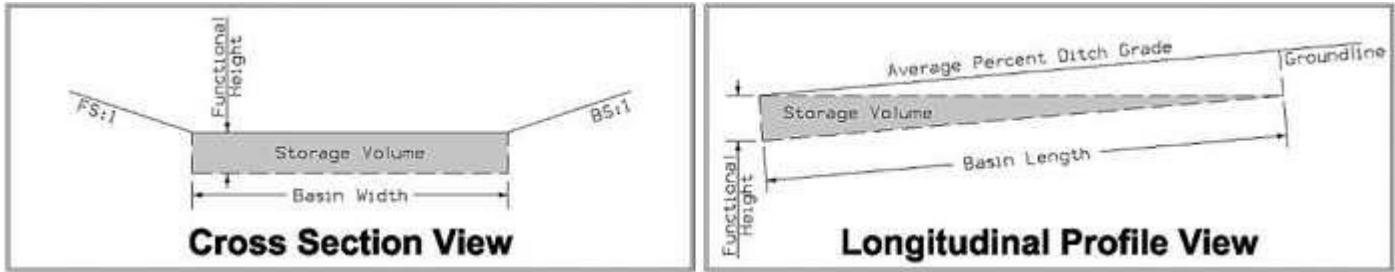








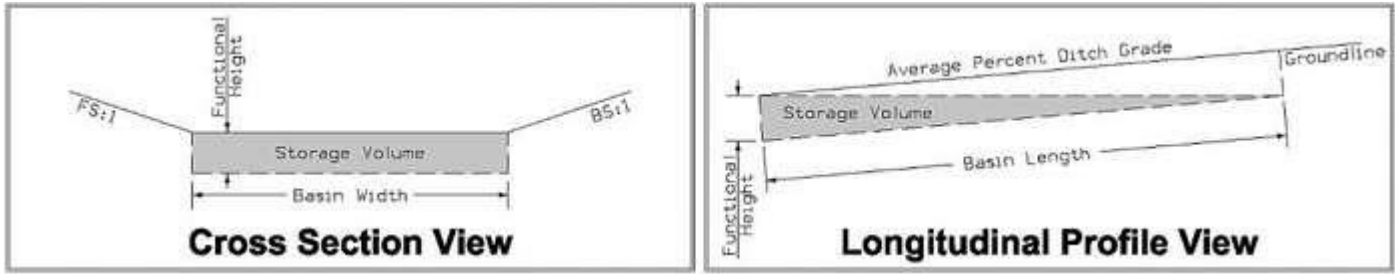
SILT BASINS  
Possible Standard: EW-403



\* The functional height used in the volume equation is 95% of effective height. Effective height is 3 feet as shown in EW-403.  
\* Volume equation:  $(0.5 * \text{Length} * (\text{Width} * \text{Height} + \text{Width} * (\text{Height} - \text{Length} * \text{Avg} \% \text{Slope})))$

Line No.	Basin No.	Station	Side	Installation (Each)	Removal (Each)	Basin Width (FT)	Basin Length (FT)	Height (FT)	Avg. % Slope	Volume (CF)	Remarks
1.0	1	722+15.46	Left	1.0	1.0	10.0	50.0	2.85	0.1	1416.25	
				1	1	1416.25					
Basin No. 1:											
Number of records:1											
2.0	3	2537+19.74	Right	1.0	1.0	10.0	50.0	2.85	1.1	1293.75	
3.0	3	2538+28.81	Right	1.0	1.0	10.0	50.0	2.85	1.1	1292.50	
4.0	3	2538+56.34	Left	1.0	1.0	10.0	50.0	2.85	1.4	1248.75	
5.0	3	3538+20.39	Right	1.0	1.0	10.0	50.0	2.85	18.7	712.50	
6.0	3	3539+12.63	Left	1.0	1.0	10.0	50.0	2.85	1.0	1305.00	
7.0	3	3539+31.17	Right	1.0	1.0	10.0	50.0	2.85	0.5	1357.50	
8.0	3	3540+24.40	Left	1.0	1.0	10.0	50.0	2.85	0.5	1360.00	
9.0	3	1551+58.12	Left	1.0	1.0	10.0	50.0	2.85	0.2	1400.00	
10.0	3	1551+66.55	Right	1.0	1.0	10.0	50.0	2.85	0.2	1400.00	
11.0	3	1552+40.65	Right	1.0	1.0	10.0	50.0	2.85	0.2	1400.00	
12.0	3	4549+57.91	Right	1.0	1.0	10.0	50.0	2.85	0.2	1405.00	
13.0	3	4549+60.20	Left	1.0	1.0	10.0	50.0	2.85	0.4	1371.25	
14.0	3	4550+40.57	Left	1.0	1.0	10.0	50.0	2.85	0.4	1376.25	
15.0	3	4550+41.09	Right	1.0	1.0	10.0	50.0	2.85	0.2	1406.25	
16.0	3	1728+34.00	Right	1.0	1.0	10.0	50.0	2.85	0.6	1356.25	
17.0	3	1728+39.62	Left	1.0	1.0	10.0	50.0	2.85	0.5	1358.75	
18.0	3	1729+80.51	Right	1.0	1.0	10.0	50.0	2.85	0.6	1356.25	
19.0	3	1729+99.65	Left	1.0	1.0	10.0	50.0	2.85	0.5	1358.75	
20.0	3	1734+51.31	Left	1.0	1.0	10.0	50.0	2.85	0.5	1358.75	
21.0	3	1734+68.81	Right	1.0	1.0	10.0	50.0	2.85	2.7	1090.00	
22.0	3	1735+63.81	Left	1.0	1.0	10.0	50.0	2.85	0.5	1358.75	
23.0	3	1735+85.34	Right	1.0	1.0	10.0	50.0	2.85	2.3	1135.00	
24.0	3	1736+94.62	Left	1.0	1.0	10.0	50.0	2.85	0.5	1362.50	
25.0	3	1742+39.87	Left	1.0	1.0	10.0	50.0	2.85	0.2	1400.00	
26.0	3	1747+66.63	Left	1.0	1.0	10.0	50.0	2.85	0.5	1362.50	
27.0	3	1752+33.85	Left	1.0	1.0	10.0	50.0	2.85	0.3	1390.00	
28.0	3	749+40.37	Right	1.0	1.0	10.0	50.0	2.85	0.3	1331.25	
29.0	3	750+13.56	Right	1.0	1.0	10.0	50.0	2.85	1.6	1425.00	
				28	28	36972.5					
Basin No. 3:											
Number of records:28											
30.0	4	764+34.80	Right	1.0	1.0	10.0	50.0	2.85	0.1	1415.00	
31.0	4	772+31.54	Right	1.0	1.0	10.0	50.0	2.85	0.1	1423.75	
32.0	4	772+80.28	Left	1.0	1.0	10.0	50.0	2.85	0.3	1386.25	
33.0	4	773+58.01	Left	1.0	1.0	10.0	50.0	2.85	0.3	1388.75	
34.0	4	777+14.84	Left	1.0	1.0	10.0	50.0	2.85	0.3	1388.75	
				5	5	7002.5					
Basin No. 4:											

SILT BASINS  
Possible Standard: EW-403



\* The functional height used in the volume equation is 95% of effective height. Effective height is 3 feet as shown in EW-403.  
\* Volume equation:  $(0.5 * \text{Length} * (\text{Width} * \text{Height} + \text{Width} * (\text{Height} - \text{Length} * \text{Avg} \% \text{Slope})))$

Line No.	Basin No.	Station	Side	Installation (Each)	Removal (Each)	Basin Width (FT)	Basin Length (FT)	Height (FT)	Avg. % Slope	Volume (CF)	Remarks
Number of records:5											
35.0	5	1761+89.29	Right	1.0	1.0	10.0	50.0	2.85	0.1	1412.50	
36.0	5	1761+16.13	Left	1.0	1.0	10.0	50.0	2.85	0.8	1322.50	
37.0	5	1761+77.20	Left	1.0	1.0	10.0	50.0	2.85	0.8	1325.00	
				3	3	4060					
Basin No. 5:											
Number of records:3											
38.0	6	1763+92.89	Right	1.0	1.0	10.0	50.0	2.85	0.1	1411.25	
				1	1	1411.25					
Basin No. 6:											
Number of records: 1											
Total:				38	38	50862.5					

Installation Bid Qty = 2 X Tab. Qty = 76 EACH  
Removal Bid Qty = Tab. Qty = 38 EACH

100_17 8/15/22 <div>TABULATION OF SILT FENCES</div> <div>Refer to EC-201</div>						100_17 8/15/22 <div>TABULATION OF SILT FENCES</div> <div>Refer to EC-201</div>					
Line No.	Station From	Station To	Side	Length (FT)	Remarks	Line No.	Station From	Station To	Side	Length (FT)	Remarks
1.0	715+53.28	717+71.36	Left	220.00	Basin 1	56.0	1712+76.55	1714+45.33	Right	170.00	Basin 3
2.0	717+53.27	719+71.39	Left	20.00	Basin 1	57.0	1714+27.16	1716+45.33	Right	220.00	Basin 3
3.0	719+55.16	721+70.22	Left	220.00	Basin 1	58.0	1716+27.16	1718+45.33	Right	220.00	Basin 3
4.0	721+54.66	722+41.38	Left	90.00	Basin 1	59.0	1718+27.16	1719+75.03	Right	150.00	Basin 3
5.0	722+52.90	724+71.01	Left	220.00	Basin 1	60.0	1721+29.35	1722+45.32	Right	140.00	Basin 3
6.0	724+52.91	726+71.03	Left	220.00	Basin 1	61.0	1722+27.16	1724+45.32	Right	220.00	Basin 3
7.0	726+52.92	728+69.79	Left	220.00	Basin 1	62.0	1724+28.07	1726+45.47	Right	220.00	Basin 3
8.0	728+52.90	730+71.04	Left	220.00	Basin 1	63.0	1726+27.26	1728+46.06	Right	220.00	Basin 3
9.0	730+52.95	732+71.04	Left	220.00	Basin 1	64.0	1729+54.61	1730+93.58	Right	140.00	Basin 3
10.0	732+53.51	734+69.05	Left	220.00	Basin 1	65.0	1730+74.97	1732+94.29	Right	220.00	Basin 3
11.0	715+30.00	717+47.43	Right	220.00	Basin 2	66.0	1732+75.81	1734+94.72	Right	220.00	Basin 3
12.0	717+39.74	719+57.21	Right	220.00	Basin 2	67.0	1735+19.83	1737+37.58	Right	220.00	Basin 3
13.0	719+49.62	721+67.52	Median	220.00	Basin 2	68.0	1737+20.39	1739+36.48	Right	220.00	Basin 3
14.0	721+49.62	723+67.70	Right	220.00	Basin 2	69.0	1735+12.55	1737+33.96	Right	220.00	Basin 3
15.0	723+67.67	725+86.05	Right	220.00	Basin 3	70.0	1737+15.78	1739+34.24	Right	220.00	Basin 3
16.0	725+67.61	727+84.72	Right	220.00	Basin 3	71.0	1741+57.81	1743+75.73	Right	220.00	Basin 3
17.0	727+72.60	729+85.67	Right	220.00	Basin 3	72.0	1743+91.84	1744+50.47	Right	60.00	Basin 3
18.0	729+67.45	731+85.48	Right	220.00	Basin 3	73.0	1742+22.64	1743+80.81	Right	160.00	Basin 3
19.0	731+66.96	733+84.71	Right	220.00	Basin 3	74.0	1743+92.89	1745+01.53	Right	110.00	Basin 3
20.0	2533+69.03	2535+89.44	Right	220.00	Basin 3	75.0	1748+08.49	1748+65.72	Right	60.00	Basin 3
21.0	2535+97.18	2537+60.23	Right	190.00	Basin 3	76.0	1748+45.64	1750+62.57	Right	220.00	Basin 3
22.0	2536+58.08	2537+49.33	Right	170.00	Basin 3	77.0	1748+16.02	1750+33.74	Right	220.00	Basin 3
23.0	2537+09.98	2537+84.62	Right	170.00	Basin 3	78.0	1752+38.12	1754+57.35	Right	220.00	Basin 3
24.0	2537+88.75	2539+29.51	Right	160.00	Basin 3	79.0	1754+39.14	1756+58.21	Right	220.00	Basin 3
25.0	2539+12.92	2541+27.03	Right	220.00	Basin 3	80.0	1752+25.72	1754+45.47	Right	220.00	Basin 3
26.0	2541+11.78	2543+29.39	Right	220.00	Basin 3	81.0	1754+26.83	1756+46.27	Right	220.00	Basin 3
27.0	2537+99.01	2539+99.91	Right	220.00	Basin 3	82.0	1722+01.65	1724+19.70	Left	220.00	Basin 3
28.0	2539+91.65	2541+77.40	Right	210.00	Basin 3	83.0	1724+03.98	1725+68.05	Left	170.00	Basin 3
29.0	2541+60.27	2543+27.91	Right	170.00	Basin 3	84.0	1725+50.00	1727+67.19	Left	220.00	Basin 3
30.0	2537+98.51	2540+12.51	Left	220.00	Basin 3	85.0	1727+49.11	1728+87.34	Left	140.00	Basin 3
31.0	2539+95.24	2542+08.50	Left	220.00	Basin 3	86.0	1729+66.55	1731+83.52	Left	220.00	Basin 3
32.0	2541+94.82	2543+55.70	Left	170.00	Basin 3	87.0	1731+65.14	1733+81.41	Left	220.00	Basin 3
33.0	2538+05.74	2540+24.97	Left	220.00	Basin 3	88.0	1733+62.46	1734+90.41	Left	130.00	Basin 3
34.0	3535+52.53	3537+67.24	Right	220.00	Basin 3	89.0	1735+10.04	1737+15.76	Left	210.00	Basin 3
35.0	3537+49.25	3538+89.88	Right	140.00	Basin 3	90.0	1737+29.24	1738+56.38	Left	130.00	Basin 3
36.0	3539+02.63	3541+18.42	Right	220.00	Basin 3	91.0	1735+18.00	1737+19.67	Left	220.00	Basin 3
37.0	3541+00.18	3543+13.62	Right	220.00	Basin 3	92.0	1737+27.50	1738+06.09	Left	80.00	Basin 3
38.0	3543+00.42	3545+16.76	Right	220.00	Basin 3	93.0	1740+54.15	1742+71.83	Left	220.00	Basin 3
39.0	3545+00.00	3546+98.11	Right	190.00	Basin 3	94.0	1742+77.36	1743+86.09	Left	110.00	Basin 3
40.0	3546+98.11	3548+79.75	Right	170.00	Basin 3	95.0	1740+51.29	1742+68.98	Left	220.00	Basin 3
41.0	3534+92.17	3537+10.98	Left	220.00	Basin 3	96.0	1742+77.63	1743+86.15	Left	110.00	Basin 3
42.0	3536+93.95	3539+13.44	Left	220.00	Basin 3	97.0	1741+30.39	1743+39.15	Left	210.00	Basin 3
43.0	3538+96.04	3539+43.75	Left	50.00	Basin 3	98.0	1746+98.34	1748+66.32	Left	170.00	Basin 3
44.0	3539+48.13	3541+66.97	Left	220.00	Basin 3	99.0	1748+75.28	1749+64.53	Left	70.00	Basin 3
45.0	3541+48.95	3543+67.14	Left	220.00	Basin 3	100.0	1746+95.49	1748+33.89	Left	140.00	Basin 3
46.0	3543+49.19	3545+67.08	Left	220.00	Basin 3	101.0	1748+56.84	1749+46.09	Left	90.00	Basin 3
47.0	3545+49.91	3547+56.24	Left	220.00	Basin 3	102.0	1746+03.37	1748+12.13	Left	220.00	Basin 3
48.0	3547+40.01	3549+44.35	Left	220.00	Basin 3	103.0	1751+80.57	1752+96.36	Left	120.00	Basin 3
49.0	3535+82.69	3538+05.42	Left	220.00	Basin 3	104.0	1752+79.13	1754+93.74	Left	220.00	Basin 3
50.0	3537+87.41	3539+84.46	Left	190.00	Basin 3	105.0	4544+84.96	4546+85.01	Right	220.00	Basin 3
51.0	3540+55.35	3542+73.22	Left	220.00	Basin 3	106.0	4546+68.47	4547+77.79	Right	110.00	Basin 3
52.0	3542+55.05	3544+54.06	Left	200.00	Basin 3	107.0	4547+61.20	4549+68.82	Right	210.00	Basin 3
53.0	3544+49.50	3546+32.51	Left	200.00	Basin 3	108.0	4549+50.77	4550+18.41	Right	70.00	Basin 3
54.0	3546+16.80	3548+08.37	Left	220.00	Basin 3	109.0	4550+02.43	4551+38.66	Right	140.00	Basin 3
55.0	3548+08.37	3548+51.20	Left	50.00	Basin 3	110.0	4551+24.87	4553+33.47	Right	210.00	Basin 3

TABULATION OF SILT FENCES						100_17 8/15/22
Refer to EC-201						
111.0	4553+15.21	4555+36.60	Right	220.00	Basin 3	
112.0	4546+80.81	4547+92.80	Left	110.00	Basin 3	
113.0	4547+75.68	4549+93.35	Left	220.00	Basin 3	
114.0	4549+93.35	4552+11.67	Left	220.00	Basin 3	
115.0	4551+93.29	4554+10.39	Left	220.00	Basin 3	
116.0	4553+92.49	4556+07.18	Left	220.00	Basin 3	
117.0	4547+12.41	4549+38.23	Left	220.00	Basin 3	
118.0	4549+20.98	4551+17.92	Left	200.00	Basin 3	
119.0	1550+98.12	1551+95.49	Right	100.00	Basin 3	
120.0	1552+13.11	1554+23.74	Right	220.00	Basin 3	
121.0	1554+06.13	1556+16.35	Right	220.00	Basin 3	
122.0	1555+98.67	1558+10.26	Right	220.00	Basin 3	
123.0	1550+71.97	1552+91.28	Left	220.00	Basin 3	
124.0	1552+72.59	1554+96.51	Left	220.00	Basin 3	
125.0	1554+78.22	1557+00.99	Left	220.00	Basin 3	
126.0	1550+75.82	1551+94.01	Left	120.00	Basin 3	
127.0	1552+06.87	1552+76.16	Left	70.00	Basin 3	
128.0	1552+55.89	1554+90.46	Left	220.00	Basin 3	
129.0	1554+70.18	1556+97.77	Left	220.00	Basin 3	
130.0	1556+78.25	1559+01.64	Left	220.00	Basin 3	
131.0	1558+83.19	1561+03.52	Left	220.00	Basin 3	
132.0	1550+47.57	1551+04.38	Left	110.00	Basin 3	
133.0	1550+97.99	1551+11.66	Left	160.00	Basin 3	
134.0	1551+01.51	1552+38.94	Left	140.00	Basin 3	
135.0	1552+21.40	1554+58.65	Left	220.00	Basin 3	
136.0	1554+39.85	1556+73.83	Left	220.00	Basin 3	
137.0	760+86.57	763+04.65	Left	220.00	Basin 3	
138.0	762+86.10	765+04.41	Left	220.00	Basin 3	
139.0	765+04.41	767+21.42	Left	220.00	Basin 4	
140.0	767+04.21	769+21.87	Left	220.00	Basin 4	
141.0	769+04.20	771+21.86	Left	220.00	Basin 4	
142.0	771+04.19	773+21.86	Left	220.00	Basin 4	
143.0	773+18.12	775+36.43	Left	220.00	Basin 4	
144.0	775+17.50	777+35.86	Left	220.00	Basin 4	
145.0	777+53.23	779+41.62	Left	190.00	Basin 4	
146.0	755+47.58	757+57.84	Right	220.00	Basin 4	
147.0	757+42.52	759+57.60	Right	220.00	Basin 4	
148.0	759+40.90	761+58.49	Right	220.00	Basin 4	
149.0	761+41.25	763+59.49	Right	220.00	Basin 4	
150.0	763+41.25	765+61.64	Right	220.00	Basin 4	
151.0	765+43.82	767+62.06	Right	220.00	Basin 4	
152.0	767+44.28	769+62.52	Right	220.00	Basin 4	
153.0	769+44.69	771+62.94	Right	220.00	Basin 4	
154.0	771+45.11	773+63.35	Right	220.00	Basin 4	
155.0	773+45.53	775+63.70	Right	220.00	Basin 4	
156.0	775+45.56	776+83.73	Right	140.00	Basin 4	
157.0	1756+46.52	1758+64.94	Right	220.00	Basin 5	
158.0	1758+49.49	1760+64.03	Right	220.00	Basin 5	
159.0	1760+46.38	1761+45.91	Right	100.00	Basin 5	
160.0	1754+78.13	1756+93.13	Left	220.00	Basin 5	
161.0	1756+74.08	1758+68.71	Left	200.00	Basin 5	
162.0	1758+52.09	1760+68.42	Left	220.00	Basin 5	
163.0	1760+51.46	1761+44.95	Left	100.00	Basin 5	
164.0	1763+65.26	1765+52.45	Right	190.00	Basin 6	
165.0	1765+34.43	1767+47.16	Right	220.00	Basin 6	

TABULATION OF SILT FENCES						100_17 8/15/22
Refer to EC-201						
Line No.	Station From	Station To	Side	Length (FT)	Remarks	
166.0	1767+29.17	1769+47.15	Right	220.00	Basin 6	
167.0	1769+29.39	1771+47.45	Right	220.00	Basin 6	
168.0	1771+29.39	1772+34.90	Right	220.00	Basin 6	
169.0	1772+84.72	1775+01.87	Right	220.00	Basin 6	
170.0	1774+98.98	1776+89.88	Right	210.00	Basin 6	
171.0	1763+53.98	1765+72.77	Left	220.00	Basin 7	
172.0	1765+54.81	1767+68.35	Left	220.00	Basin 7	
173.0	1767+50.17	1769+68.15	Left	220.00	Basin 7	
174.0	1769+50.17	1771+48.00	Left	200.00	Basin 7	
Total:				33570		

Silt Fence Bid Qty = 1.25 X Tab. Qty = 41963 LF  
Maint. Of Silt Fence Bid Qty = 10% Tab. Qty = 3357 LF  
Removal Of Silt Fence Bid Qty = 50% Tab. Qty = 16785 LF

<div>100_36 8/15/22</div> <div>OPEN-THROAT CURB INTAKE SEDIMENT FILTER</div> <div>Possible Standard: EC-602</div>						
Line No.	Station	Side	Installation (LF)	Maintenance (Each)	Removal (Each)	Remarks
1.0	1728+72.98	Left	10.0	1	1.0	
2.0	1729+44.53	Left	10.0	1	1.0	
3.0	1729+61.56	Left	10.0	1	1.0	
4.0	1730+34.30	Left	10.0	1	1.0	
5.0	1730+99.89	Left	10.0	1	1.0	
6.0	1732+99.58	Left	10.0	1	1.0	
7.0	1735+24.97	Left	10.0	1	1.0	
8.0	1737+24.84	Left	10.0	1	1.0	
9.0	1740+50.02	Left	10.0	1	1.0	
10.0	1742+75.12	Left	10.0	1	1.0	
11.0	1748+99.81	Left	10.0	1	1.0	
12.0	1750+00.11	Left	10.0	1	1.0	
13.0	1752+75.03	Left	10.0	1	1.0	
14.0	1755+99.81	Left	10.0	1	1.0	
15.0	1758+24.93	Left	10.0	1	1.0	
16.0	1760+74.85	Left	10.0	1	1.0	
Total:			160	16	16	

Bid Qty = Tab. Qty = 160 LF  
Maint. Bid Qty = Tab. Qty = 16 EACH  
Removal Bid Qty = Tab. Qty = 16 EACH



<div>ROLLED EROSION CONTROL</div> <div>Refer to EC-101, EC-103 and EC-104.</div>											100_22 8/15/22
Line No.	Road Identification	Station From	Station To	Side	Length (FT)	Width (FT)	TRM Type (EC-104)	TRM Quantity (Squares)	Slope Protection (EC-103) (Squares)	Special Ditch Control (EC-101) (Squares)	Remarks
1.0	Ramp C	3542+97.91	3549+18.18	Left	825.0	22.5			131.7		Width Varies: 11.5' - 22'
2.0	Ramp C	3540+40.04	3551+00.10	Left	1390.0	38.0			261.6		Width Varies: 6.8' - 38'
3.0	Ramp A	3542+96.60	3551+00.00	Left	825.0	15.5				126.1	
Total:									393.3	126.1	

ROCK EROSION CONTROL

Refer to EC-301 and Detail 570-8

100\_23  
8/15/22

Line No.	Road Identification	Station From	Station To	Side	Length (FT)	Width (FT)	Rock Erosion Control Type	Engineering Fabric (SY)	Class E Revetment (TON)	Erosion Stone (TON)	Remarks
1.0	ML028	722+44.54	722+55.04	Left	10.50	12.0	Type 4 - Rock Splash Basin	25.8	13.230		
2.0	ML029	750+17.41	750+31.71	Right	11.50	12.0	Type 4 - Rock Splash Basin	27.6	14.490		
3.0	ML029	763+94.39	764+04.89	Right	10.50	12.0	Type 4 - Rock Splash Basin	25.8	13.230		
4.0	ML029	771+87.53	772+03.70	Right	11.50	12.0	Type 4 - Rock Splash Basin	27.6	14.490		
5.0	ML029	777+43.65	777+54.15	Left	10.50	12.0	Type 4 - Rock Splash Basin	25.8	13.230		
6.0	Ramp A	1551+94.00	1552+06.00	Left	12.00	12.0	Type 4 - Rock Splash Basin	28.4	15.120		
7.0	Ramp D	4549+94.49	4550+05.49	Left	11.00	12.0	Type 4 - Rock Splash Basin	26.7	13.860		
8.0	SR175	1729+56.66	1729+65.60	Left	9.00	9.0	Type 4 - Rock Splash Basin	18.8	8.505		
9.0	SR175	1737+20.21	1737+30.00	Left	10.00	10.0	Type 4 - Rock Splash Basin	21.8	10.500		
10.0	SR175	1742+70.11	1742+80.11	Left	10.00	10.0	Type 4 - Rock Splash Basin	21.8	10.500		
11.0	SR175	1748+08.55	1748+17.16	Left	10.00	10.0	Type 4 - Rock Splash Basin	21.8	10.500		
12.0	SR175	1752+69.91	1752+79.78	Left	10.00	10.0	Type 4 - Rock Splash Basin	21.8	10.500		
13.0	SR175	1754+20.06	1754+29.94	Left	10.00	10.0	Type 4 - Rock Splash Basin	21.8	10.500		
14.0	SR175	1760+70.08	1760+80.15	Left	10.00	10.0	Type 4 - Rock Splash Basin	21.8	10.500		
15.0	SR175	1761+46.00	1761+64.00	Right	18.00	18.0	Type 4 - Rock Splash Basin	53.8	34.020		
16.0	SR175	1763+45.00	1763+55.00	Right	10.00	10.0	Type 4 - Rock Splash Basin	21.8	10.500		
17.0	Ramp A	1549+15.61	1551+44.12	Right	27.00	7.5	Type 5 - Rock Slope	278.7	168.604		
18.0	Ramp D	4544+55.85	4547+09.40	Left	252.80	7.5	Type 3 - Rock Slope	328.1	199.045		
19.0	ML029	737+16.35	738+09.57	Right	93.50	9.5	Type 2 - Rock Ditch	146.3	93.266		
20.0	CH029	503+60.00	506+25.00		274.00	42.0	Type 2 - Rock Ditch	1474.1	1122.240		Width Varies: 37.5' - 46.4'
21.0	CH029	514+50.00	517+50.00		314.00	42.2	Type 2 - Rock Ditch	1837.4	1487.967		Width varies: 36.1' - 51.3'
Total:								4477.5	3284.797		

Engineering Fabric Bid Qty = 1.3 X Tab. Qty = 5820.8 SY  
Class E Revetment Bid Qty = 1.3 X Tab. Qty = 4270.236 TON

<div>100_19 10/15/24</div> <div>PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE</div> <div>Possible Standards: EC-204</div>							
Line No.	Station From	Station To	Side	Sediment Control Device Type	Diameter Size	Length (LF)	Remarks
1.0	722+49.82		Right	Perimeter and Slope	12 inch	30.00	Inlet Protection
2.0	738+68.03		Left	Perimeter and Slope	12 inch	40.00	Inlet Protection
3.0	749+79.65		Right	Perimeter and Slope	12 inch	30.00	Inlet Protection
4.0	773+14.52		Left	Perimeter and Slope	12 inch	30.00	Inlet Protection
5.0	1551+99.98		Right	Perimeter and Slope	12 inch	30.00	Inlet Protection
6.0	4550+00.00		Right	Perimeter and Slope	12 inch	30.00	Inlet Protection
7.0	1728+66.19		Right	Perimeter and Slope	12 inch	30.00	Inlet Protection
8.0	1728+73.17		Left	Perimeter and Slope	12 inch	30.00	Inlet Protection
9.0	1728+73.15		Left	Perimeter and Slope	12 inch	40.00	Inlet Protection
10.0	1729+44.54		Left	Perimeter and Slope	12 inch	40.00	Inlet Protection
11.0	1729+61.55		Left	Perimeter and Slope	12 inch	40.00	Inlet Protection
12.0	1730+34.34		Left	Perimeter and Slope	12 inch	40.00	Inlet Protection
13.0	1730+99.92		Left	Perimeter and Slope	12 inch	40.00	Inlet Protection
14.0	1732+99.69		Left	Perimeter and Slope	12 inch	40.00	Inlet Protection
15.0	1735+08.48		Left	Perimeter and Slope	12 inch	60.00	Inlet Protection
16.0	1735+24.97		Left	Perimeter and Slope	12 inch	40.00	Inlet Protection
17.0	1737+24.92		Left	Perimeter and Slope	12 inch	40.00	Inlet Protection
18.0	1740+50.04		Left	Perimeter and Slope	12 inch	40.00	Inlet Protection
19.0	1742+75.01		Left	Perimeter and Slope	12 inch	40.00	Inlet Protection
20.0	1748+99.94		Left	Perimeter and Slope	12 inch	40.00	Inlet Protection
21.0	1749+99.91		Left	Perimeter and Slope	12 inch	40.00	Inlet Protection
22.0	1752+75.08		Left	Perimeter and Slope	12 inch	40.00	Inlet Protection
23.0	1755+99.94		Left	Perimeter and Slope	12 inch	40.00	Inlet Protection
24.0	1758+25.00		Left	Perimeter and Slope	12 inch	40.00	Inlet Protection
25.0	1760+74.96		Left	Perimeter and Slope	12 inch	40.00	Inlet Protection
26.0	1761+51.26		Left	Perimeter and Slope	12 inch	30.00	Inlet Protection
27.0	1761+58.17		Left	Perimeter and Slope	12 inch	30.00	Inlet Protection
28.0	1763+50.01		Left	Perimeter and Slope	12 inch	30.00	Inlet Protection
29.0	3543+01.10	3544+29.69	Left	Perimeter and Slope	12 inch	130.00	Graded Channel LT
30.0	3544+12.28	3544+99.41	Left	Perimeter and Slope	12 inch	90.00	Graded Channel LT
31.0	3544+90.88	3546+68.94	Left	Perimeter and Slope	12 inch	220.00	Graded Channel LT
32.0	3546+55.34	3547+99.48	Left	Perimeter and Slope	12 inch	220.00	Graded Channel LT
33.0	3547+86.57	3549+09.52	Left	Perimeter and Slope	12 inch	220.00	Graded Channel LT
34.0	3540+47.19	3540+83.98	Left	Perimeter and Slope	12 inch	70.00	Graded Channel RT
35.0	3540+79.33	3542+32.68	Left	Perimeter and Slope	12 inch	190.00	Graded Channel RT
36.0	3542+13.97	3544+31.92	Left	Perimeter and Slope	12 inch	220.00	Graded Channel RT
37.0	3544+13.21	3545+01.66	Left	Perimeter and Slope	12 inch	90.00	Graded Channel RT
38.0	3544+83.86	3546+66.94	Left	Perimeter and Slope	12 inch	220.00	Graded Channel RT
39.0	3546+54.37	3548+02.17	Left	Perimeter and Slope	12 inch	220.00	Graded Channel RT
40.0	3547+92.68	3549+15.33	Left	Perimeter and Slope	12 inch	220.00	Graded Channel RT
41.0	3549+08.49	3550+22.02	Left	Perimeter and Slope	12 inch	150.00	Graded Channel RT
42.0	3550+22.02	3551+00.10	Left	Perimeter and Slope	12 inch	110.00	Graded Channel RT
Total:						3410	

Subtotals:  
Perimeter and Slope 12-inch Dia = 3410.0 LF  
Perimeter and Slope 20-inch Dia = 0.0 LF  
Ditch Check 12-inch Dia = 0.0 LF  
Ditch Check 20-inch Dia = 0.0 LF  
Contractor/Engineer to use at their discretion for Perimeter/Slope Sediment Control Devices:  
Perimeter and Slope 12-inch Dia = 1000.0 LF  
Perimeter and Slope 20-inch Dia = 1000.0 LF  
Ditch Check 12-inch Dia = 1000.0 LF  
Ditch Check 20-inch Dia = 1000.0 LF  
Installation Totals:  
Perimeter and Slope 12-inch Dia = 4410.0 LF  
Perimeter and Slope 20-inch Dia = 1000.0 LF  
Ditch Check 12-inch Dia = 1000.0 LF

100\_19  
10/15/24

PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE

Possible Standards: EC-204

Line No.	Station From	Station To	Side	Sediment Control Device Type	Diameter Size	Length (LF)	Remarks
----------	--------------	------------	------	---------------------------------	------------------	----------------	---------

Ditch Check 20-inch Dia = 1000.0 LF  
Removal Totals  
Perimeter and Slope 12-inch Dia = 4410.0 LF  
Perimeter and Slope 20-inch Dia = 1000.0 LF  
Ditch Check 12-inch Dia = 1000.0 LF  
Ditch Check 20-inch Dia = 1000.0 LF

100\_33  
6/23/25

TEMPORARY SEDIMENT CONTROL BASIN





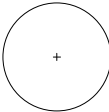
Possible Standard: EC-601




\* The functional height used in the volume equation is 95% of effective height. Effective height is 2.5 feet as shown in EC-601.









\* Volume equation:  $[(1/4 * (FS * H^2)) + (1/2 * DW * H) + (1/4 * (BS * H^2))] * (H / Avg \% Slope)$








Line No.	Basin No.	Station	Side	Installation (Each)	Maintenance (Each)	Removal (Each)	Foreslope (FS:1)	Backslope (BS:1)	Ditch Width (FT)	Avgerage % Slope	Volume * (CF)	Remarks
1.0	3	736+43.82	Right	1.0	3	1.0	3.0	3.0	12.0	0.1	53938.48	
											53938.48	
Basin No. 3:												
Number of records: 1												
Total:											53938.48	










LINE STYLE LEGEND OF LANDSCAPE SHEETS	
LINESTYLE	Design Element
-----	Living Snow Fence Single Row
- - - - -	Living Snow Fence Double Row
_____	Mechanical Edge


















CELL LEGEND OF LANDSCAPE SHEETS		
CELL	Design Element	Plant Diameter
	Clearing	
	Proposed Shrub	6 FT
	Proposed Understory Tree	12 FT
	Proposed Conifer Tree	18 FT
	Proposed Overstory Tree	30 FT

PATTERN LEGEND OF LANDSCAPE SHEETS	
	Brush Clearing
	Spray Area
	Clearing & Grubbing

LINE STYLE LEGEND OF EROSION CONTROL SHEETS	
LINESTYLE	Design Element
	Silt Fence
	Perimeter and Slope Sediment Control Device (9")
	Perimeter and Slope Sediment Control Device (12")
	Perimeter and Slope Sediment Control Device (20")
	Open-Throat Curb Intake Sediment Filter
	Concentrated Flow
	Rock Check and Rock Check Dam
	Sheet Flow

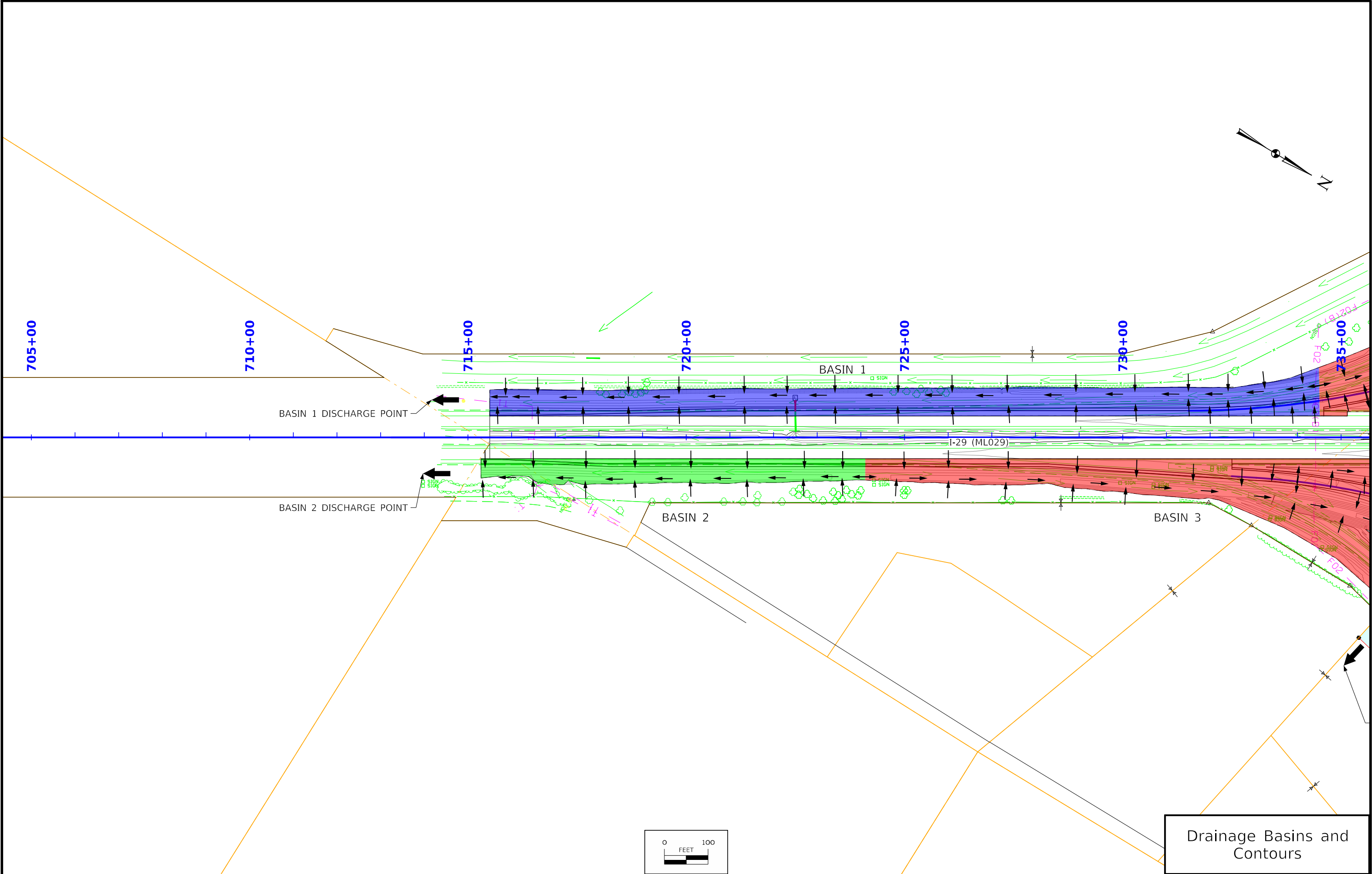
CELL LEGEND OF EROSION CONTROL SHEETS	
CELL	Design Element
	Temporary Sediment Control basin
	Erosion Control for Circular Intake or Manhole Well
	Erosion Control for Rectangular Intake or Manhole Well
	Grate Intake Sediment Filter Bag
	Silt Basin
	Silt Fence Tail
	Stormwater Drainage Basin Discharge Point

PLAN VIEW COLOR LEGEND OF EROSION CONTROL 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	
Black	(0)		Permanent Erosion Control Features	
Blaze Orange	(222)		Temporary Erosion Control Features	
SHADING	Design Color No.		Transparency	
Citron	(234)		Mulching, All Types	50%
Light Brown	(238)		Special Ditch Control, Wood Excelsior Mat	0%
Grass Green	(233)		8FT Mow Strip	50%
Red	(3)		Delineates Restricted Areas	0%

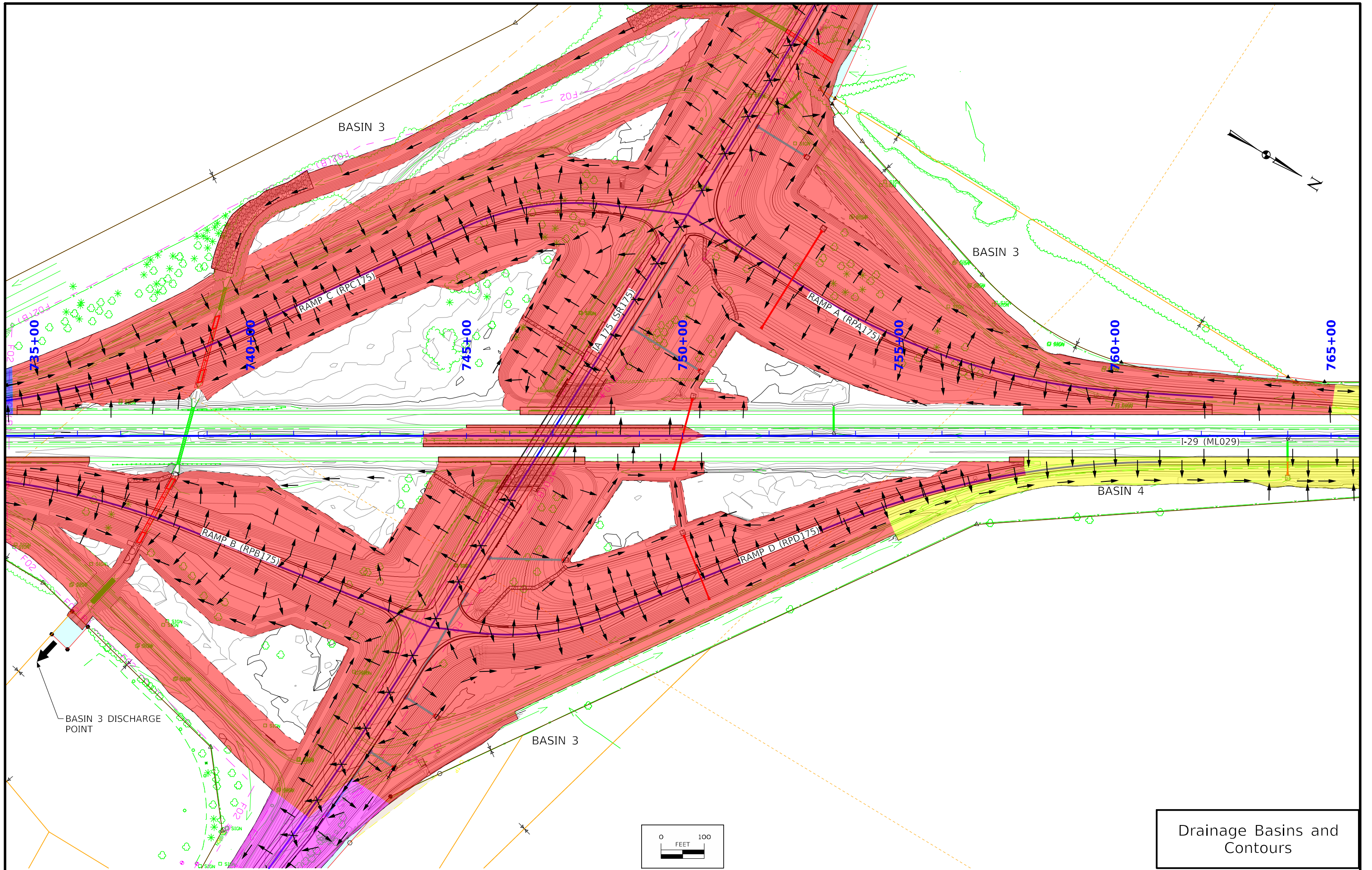
PATTERN LEGEND OF EROSION CONTROL SHEETS	
	Seeding and Fertilizing
	Seeding and Fertilizing (Rural)
	Seeding and Fertilizing (Urban)
	Native Grass Seeding
	Salt Tolerant Seeding
	Wetland Grass Seeding
	Wildflower Seeding
	Sodding
	Turf Reinforcement Mat Type 1
	Turf Reinforcement Mat Type 2
	Turf Reinforcement Mat Type 3
	Turf Reinforcement Mat Type 4
	Slope Protection, Wood Excelsior Mat
	Transition Mat
	Rock Features, Permanent
	Rock Features, Temporary
	Special Ditch Control, Wood Excelsior Mat

EROSION CONTROL  
LEGEND AND SYMBOL  
INFORMATION SHEET

(COVERS SHEET SERIES R)

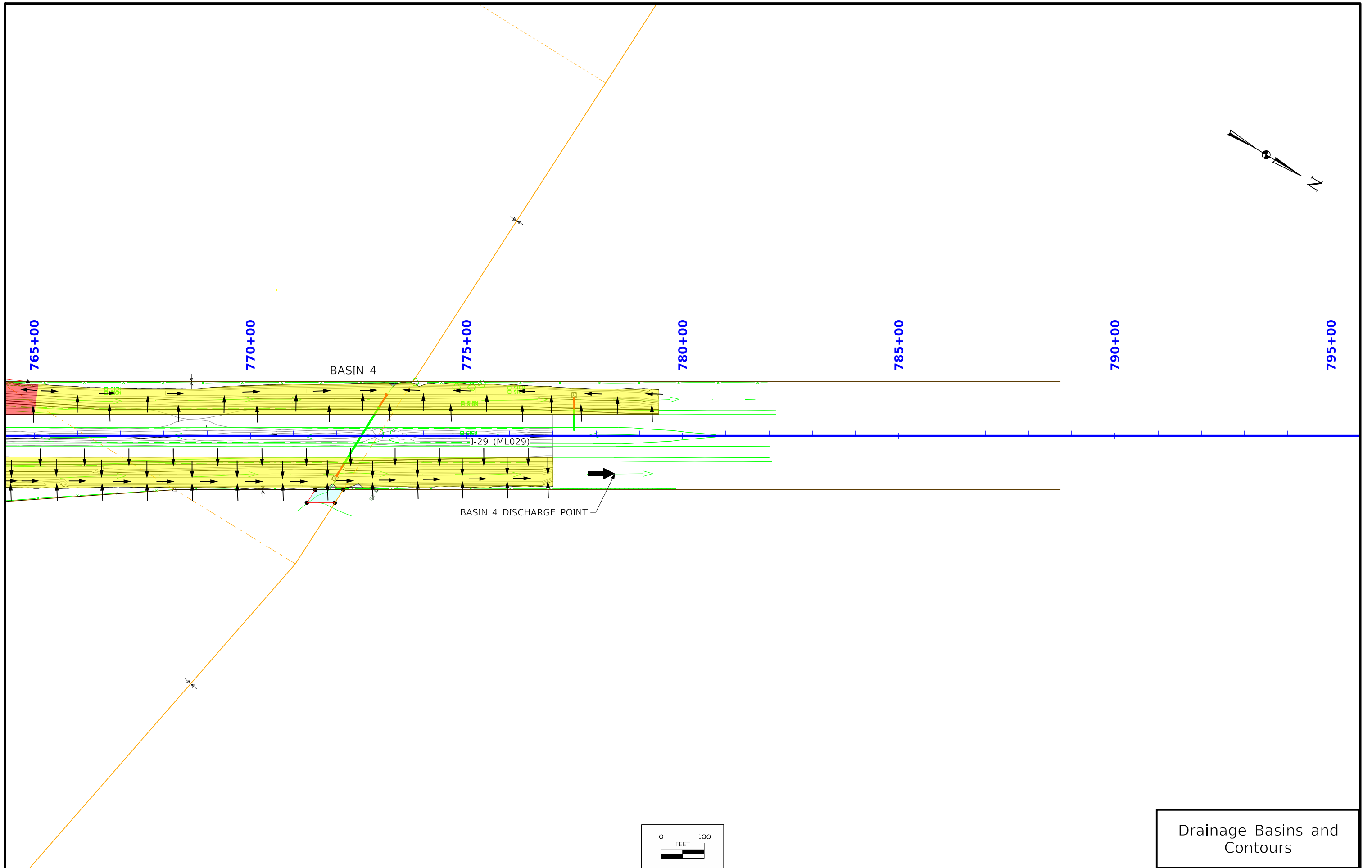




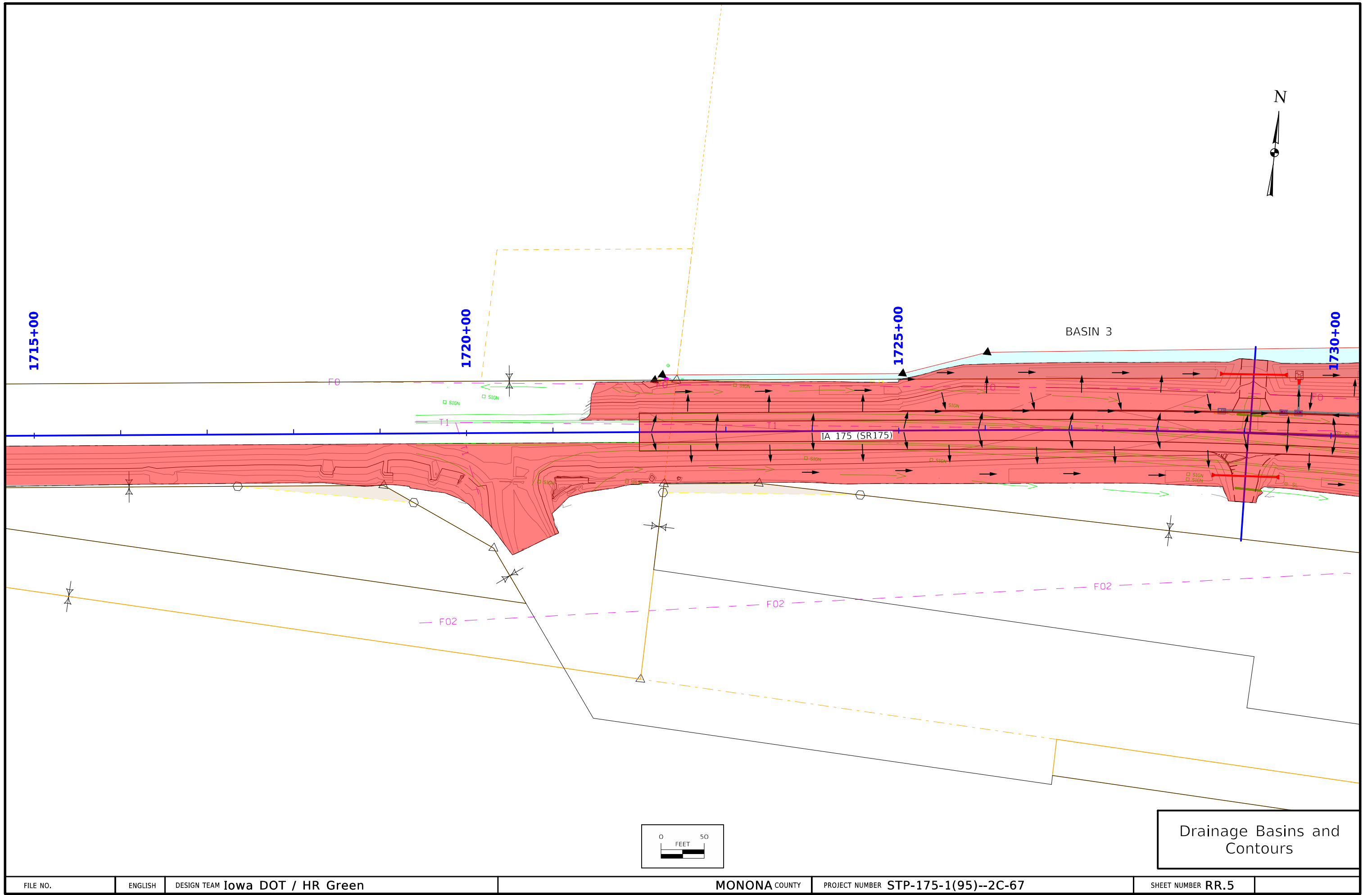


Drainage Basins and  
Contours



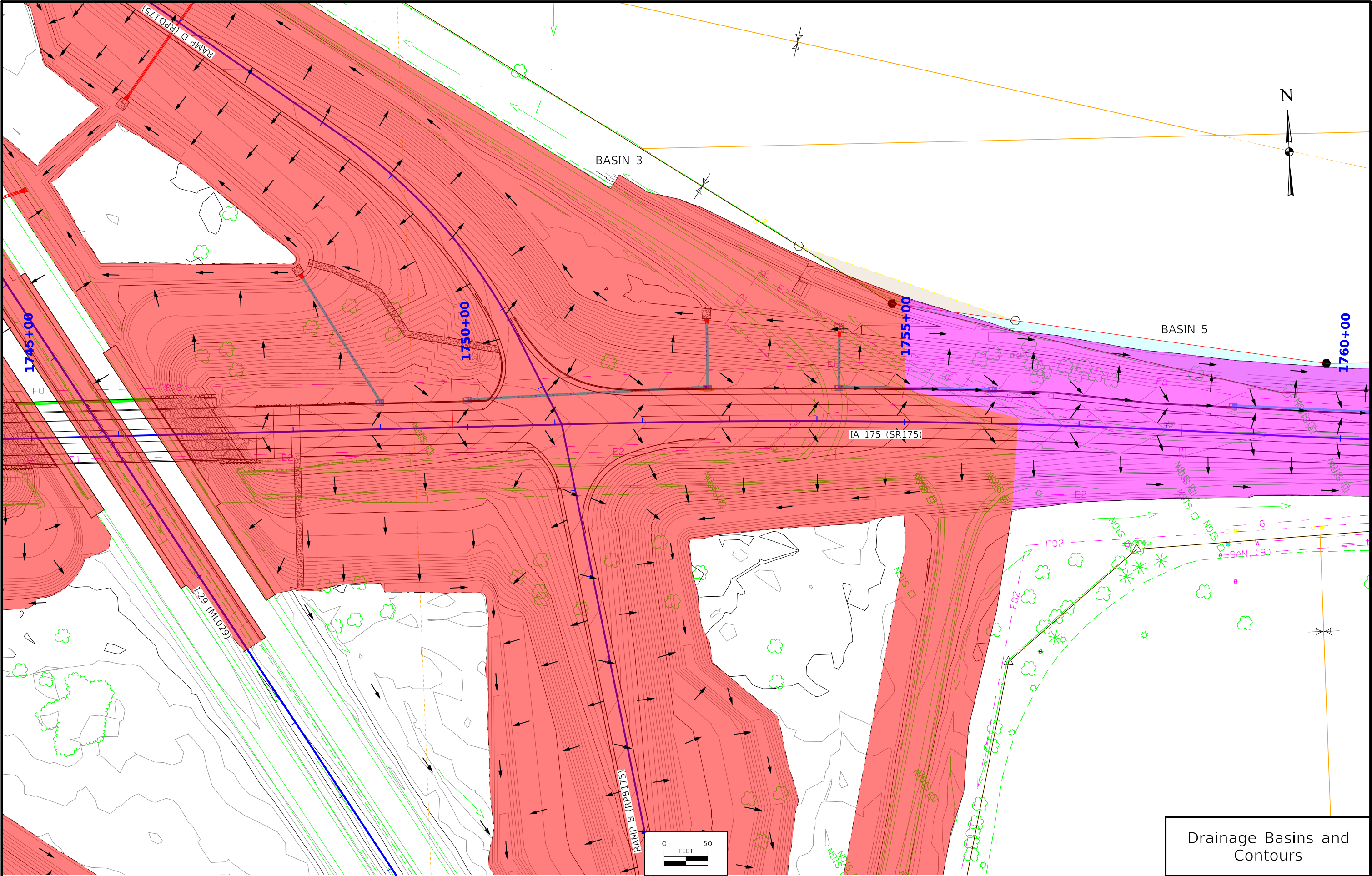


Drainage Basins and  
Contours

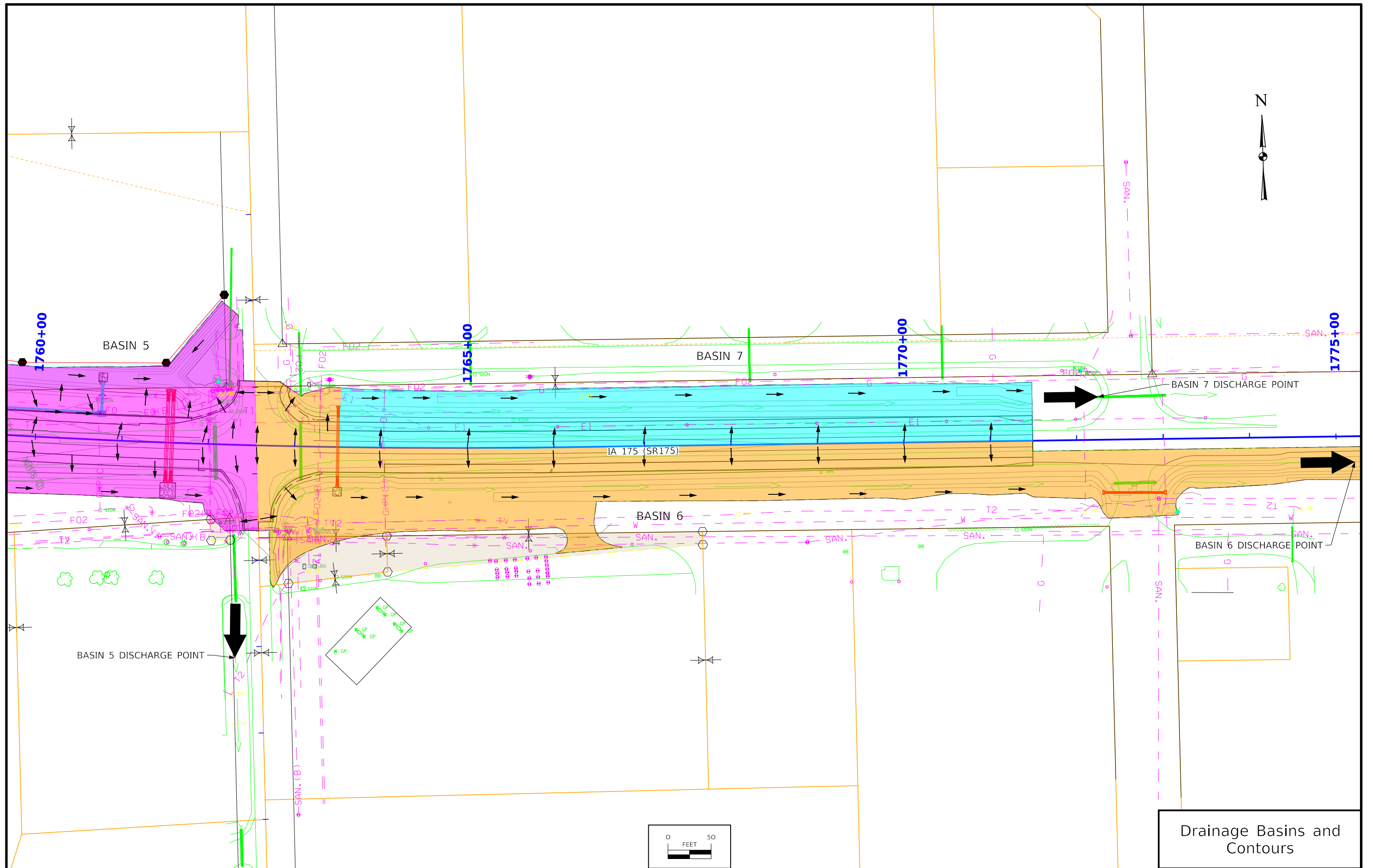


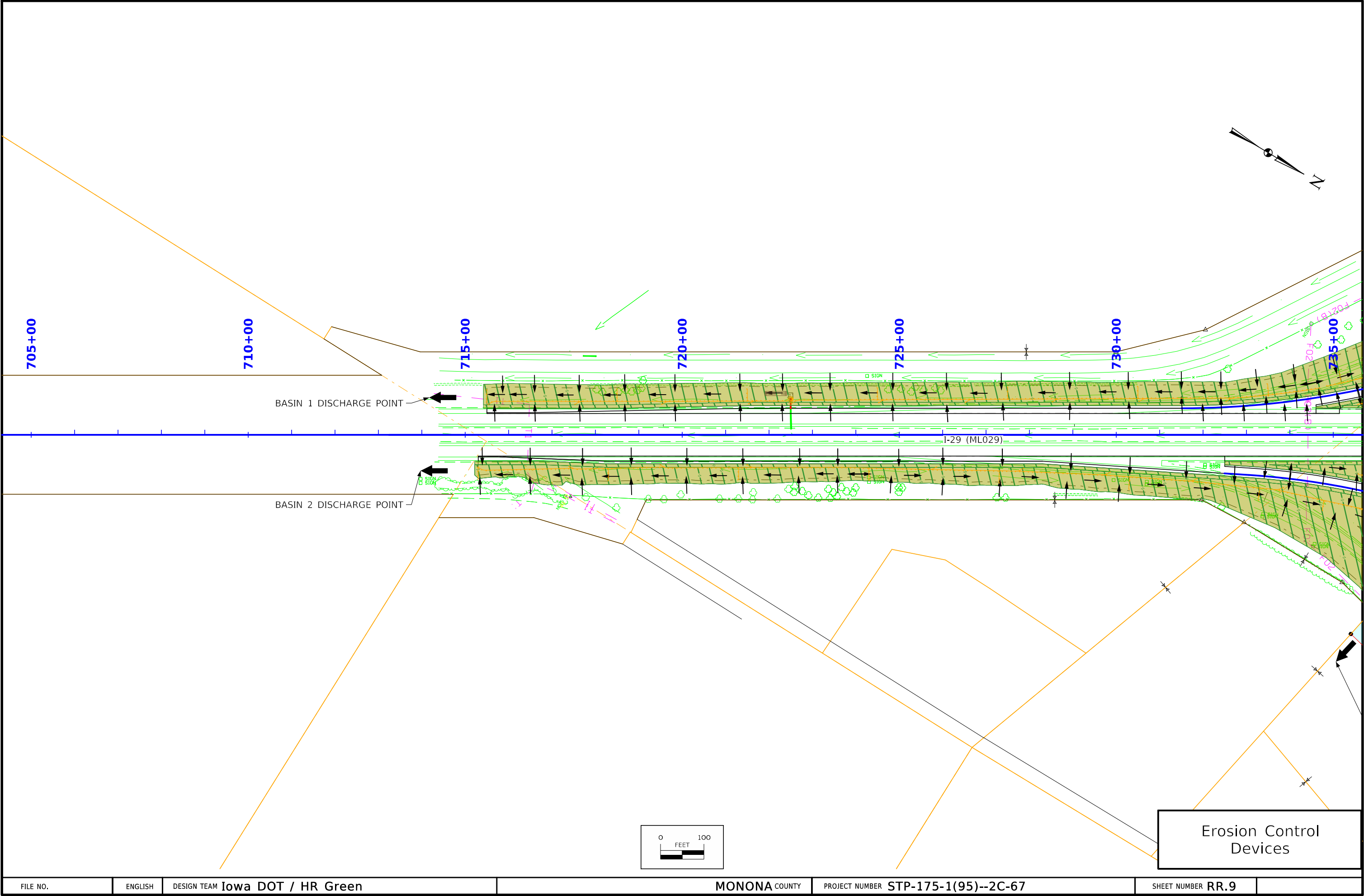




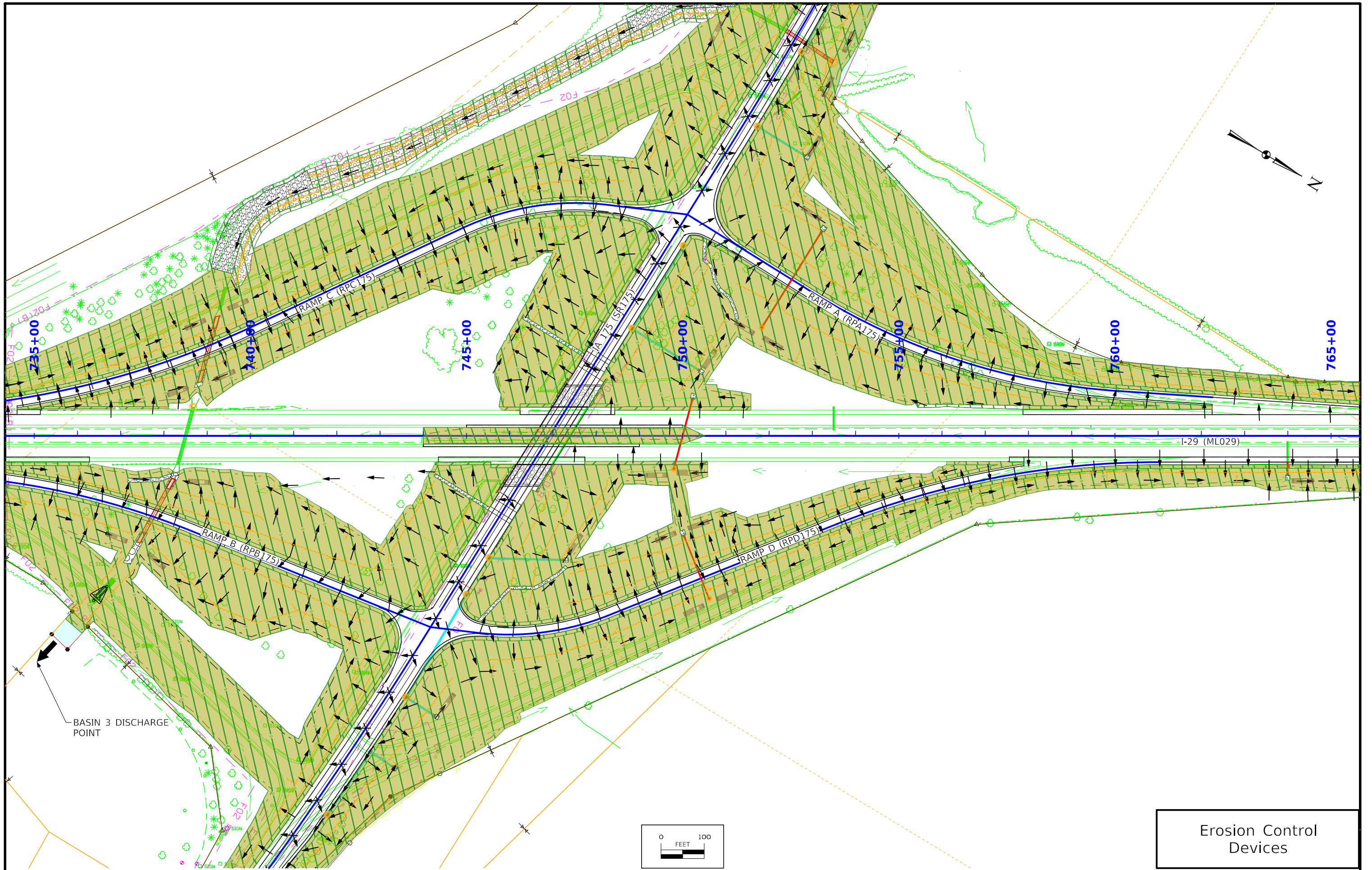


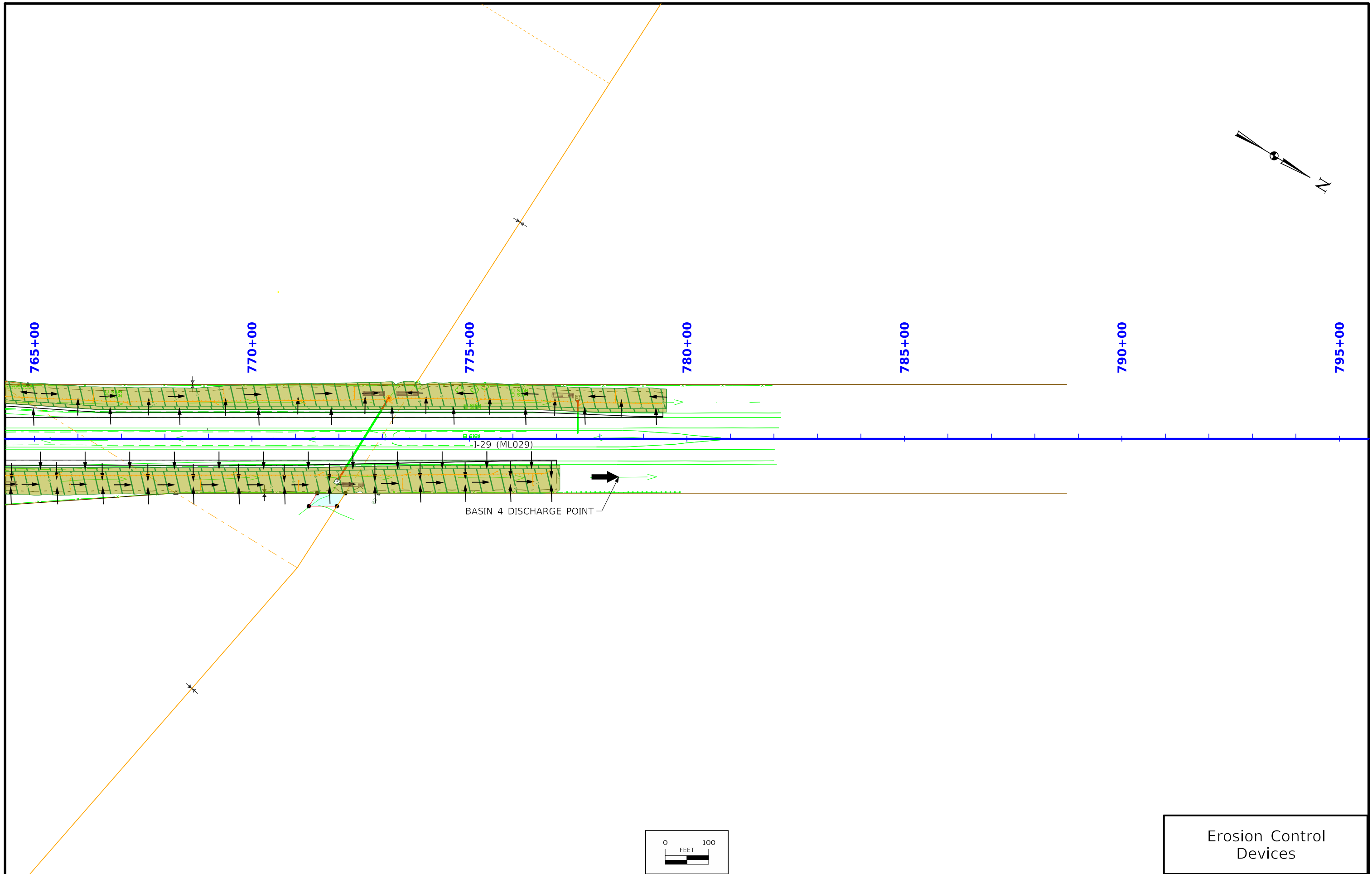
Drainage Basins and  
Contours





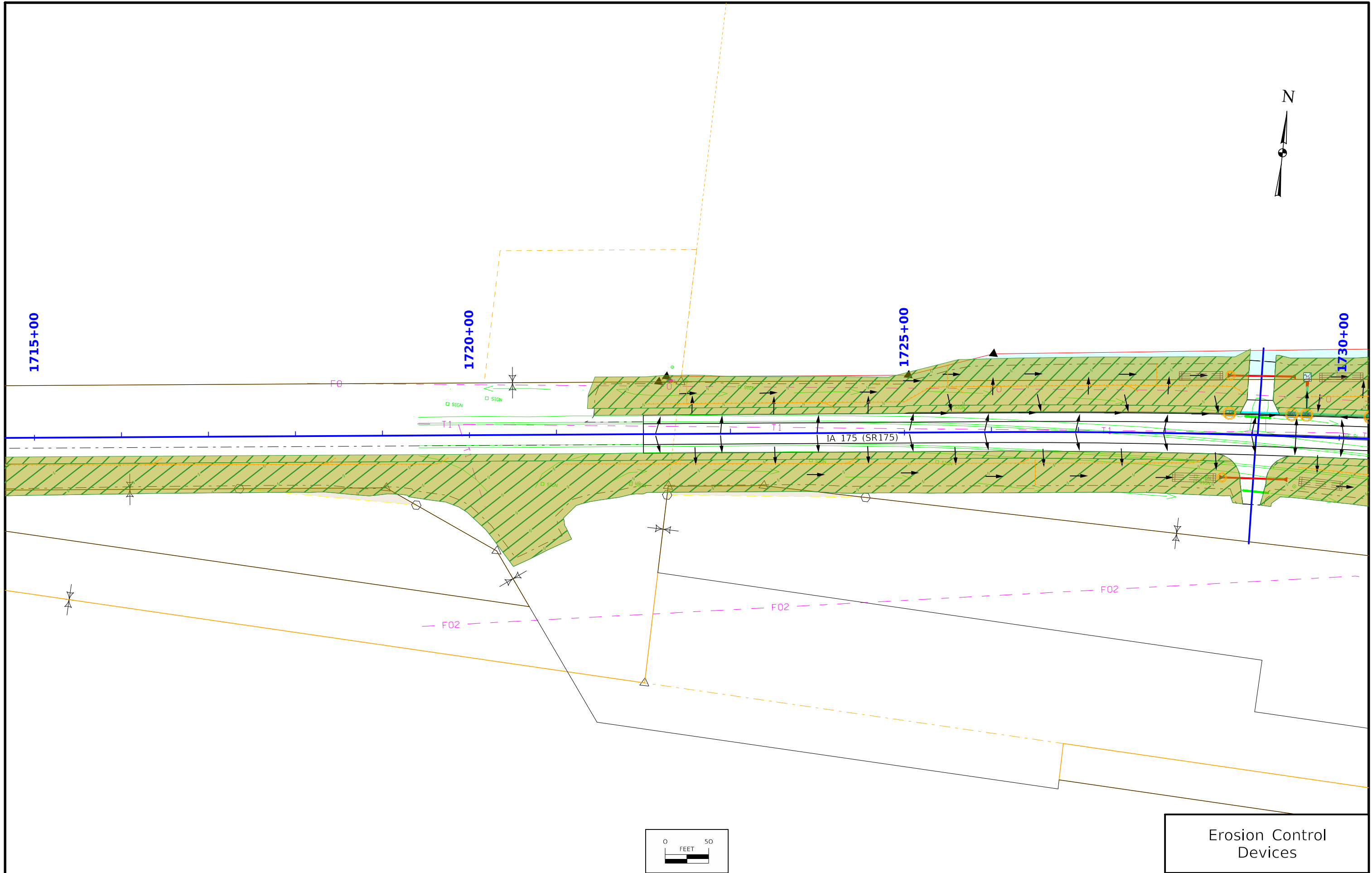


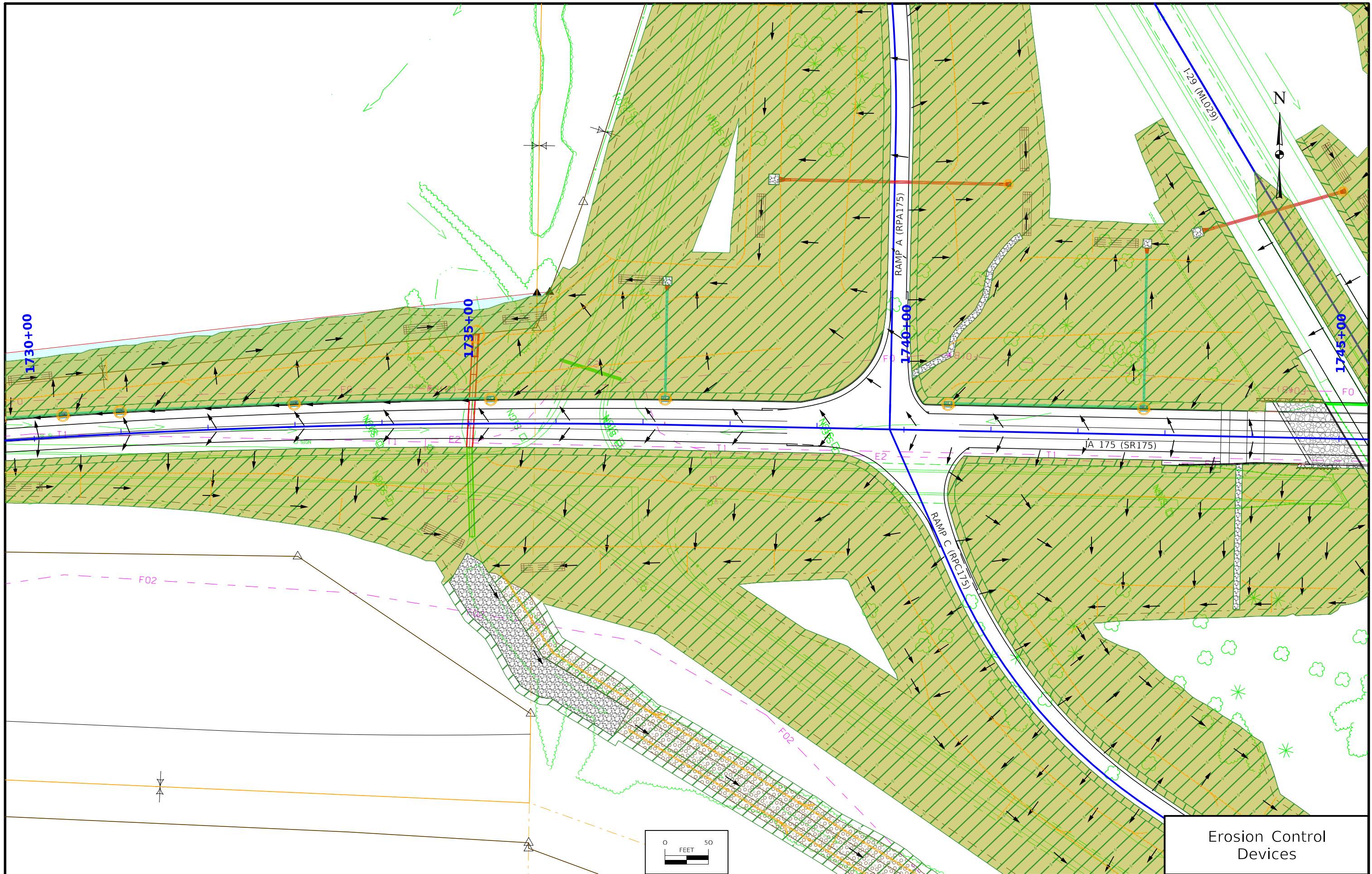




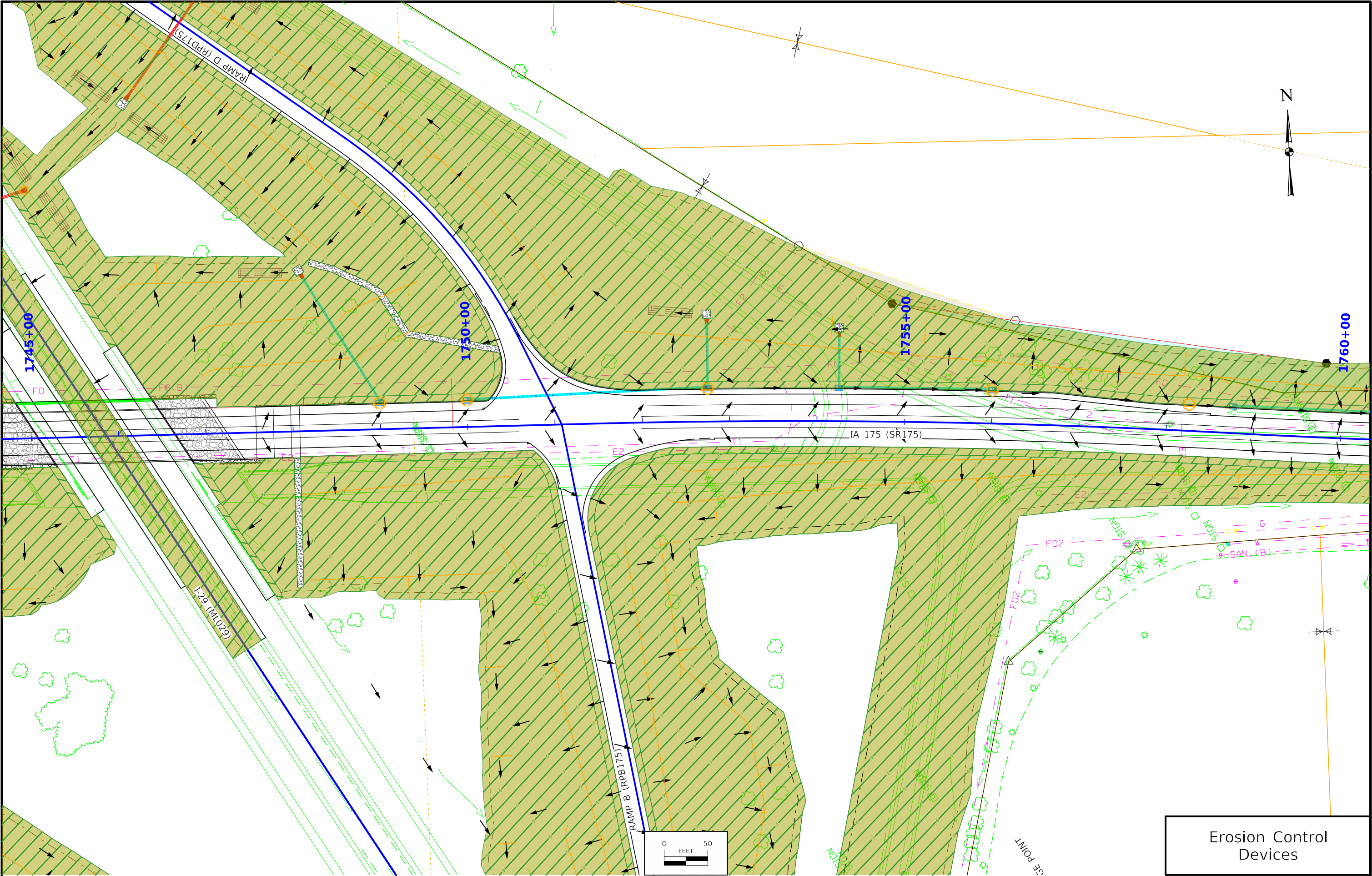
Erosion Control  
Devices

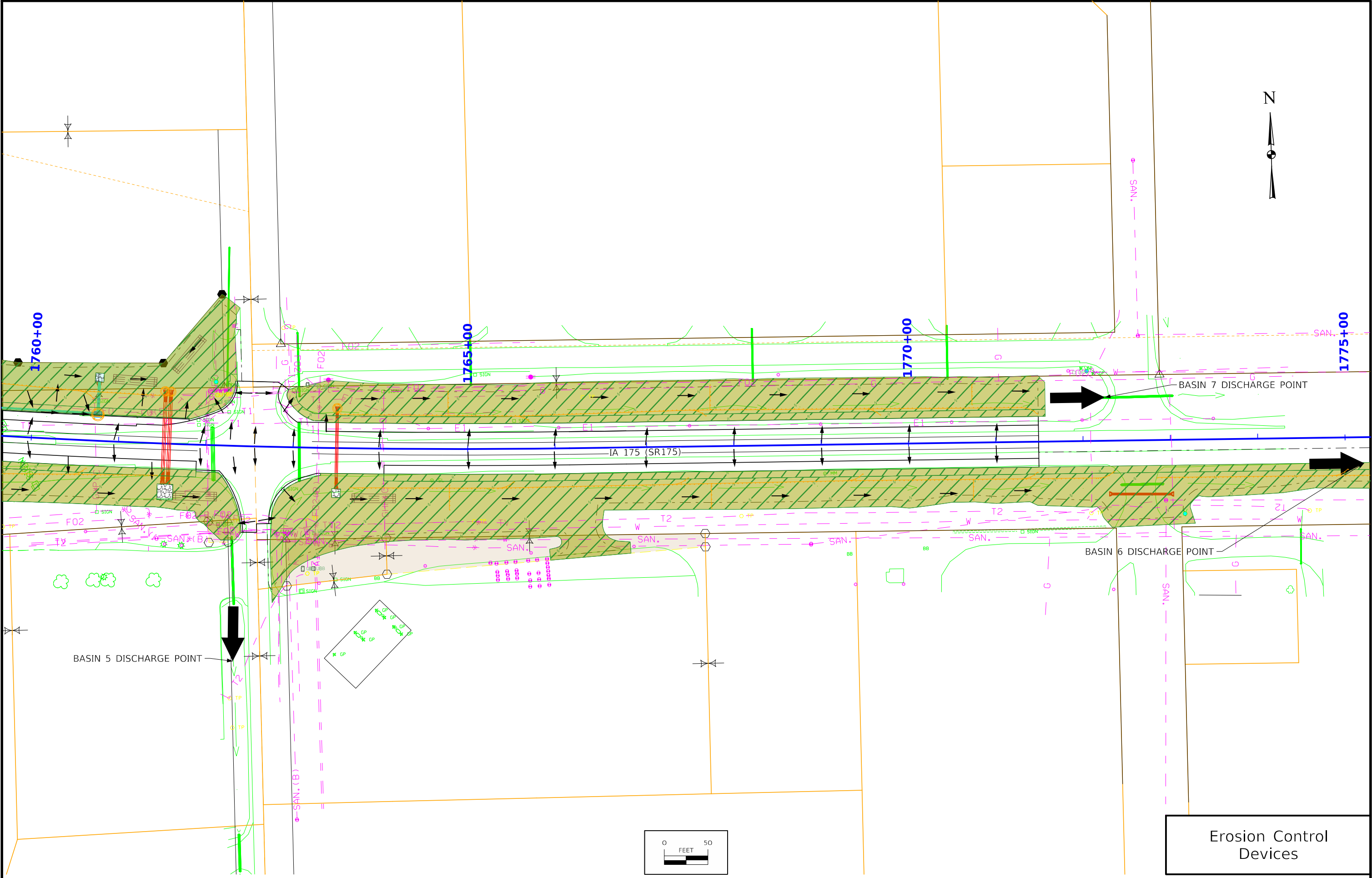
















2538+50

304  
ELEV. 1044.0'

305  
ELEV. 1044.0'

306  
ELEV. 1044.0'

2537+50

℄ Proposed Ramp B

℄ Proposed Culvert

℄ Temp Ramp B

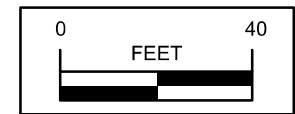
REFER TO THE STP-175-1(95)-2C-67 Q-SHEETS  
FOR IFI ELEMENT STAKING INFORMATION AND DETAILS

0 40  
FEET

NOTE: SOILS MAY VARY BETWEEN BORINGS.  
SEE STANDARD SPECIFICATION 1104.01

I-29 / IA 175 Ramp B  
over Ditch  
T-83N R-45W  
Section 6  
Franklin Township  
Monona County  
Asset ID No. 900630  
Latitude 42.025275°  
Longitude -96.130265°

REFER TO THE STP-175-1(95)-2C-67 Q-SHEETS  
FOR IFI ELEMENT STAKING INFORMATION AND DETAILS



Design For 10° Skew (L.A.)

Single 8'-0" x 8'-0" x 115'-0"

Cast-In-Place Concrete Box Culvert

Soil Profile Sheet

STA. 2537+85.00 (Ramp B)

Monona County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0326      Design Sheet No. 1 of 1      ASSET 900630

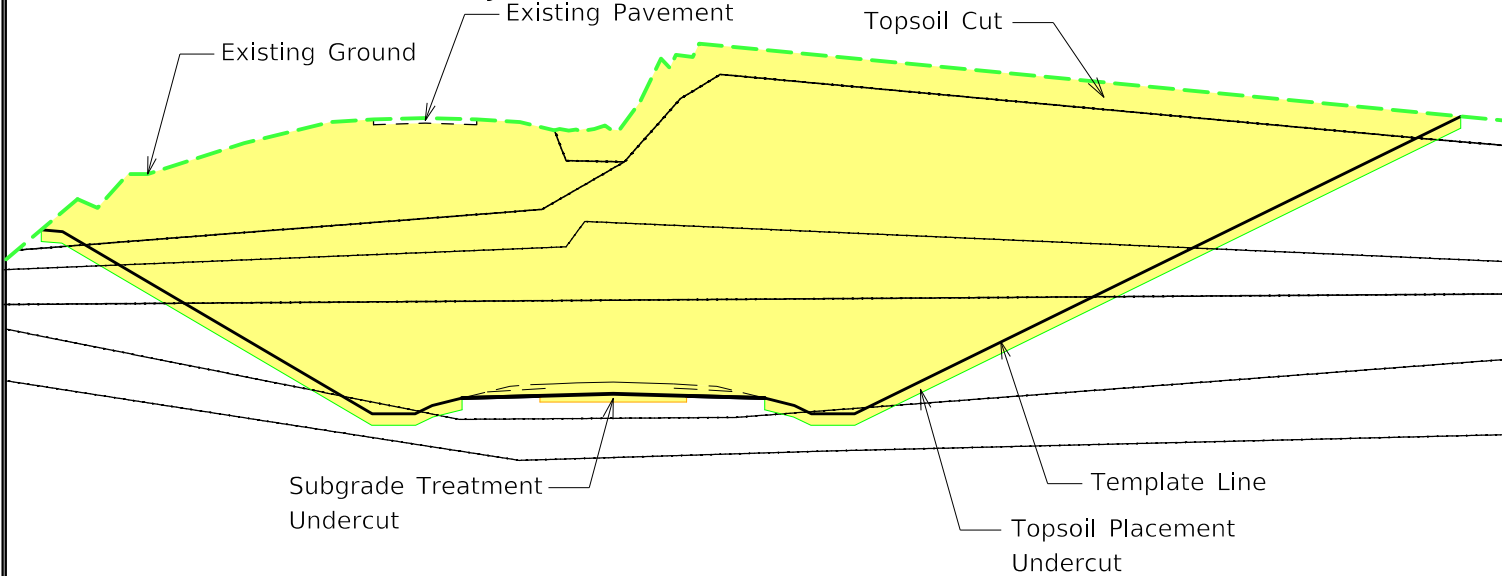


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CUT SIDE Total Cut Unadjusted

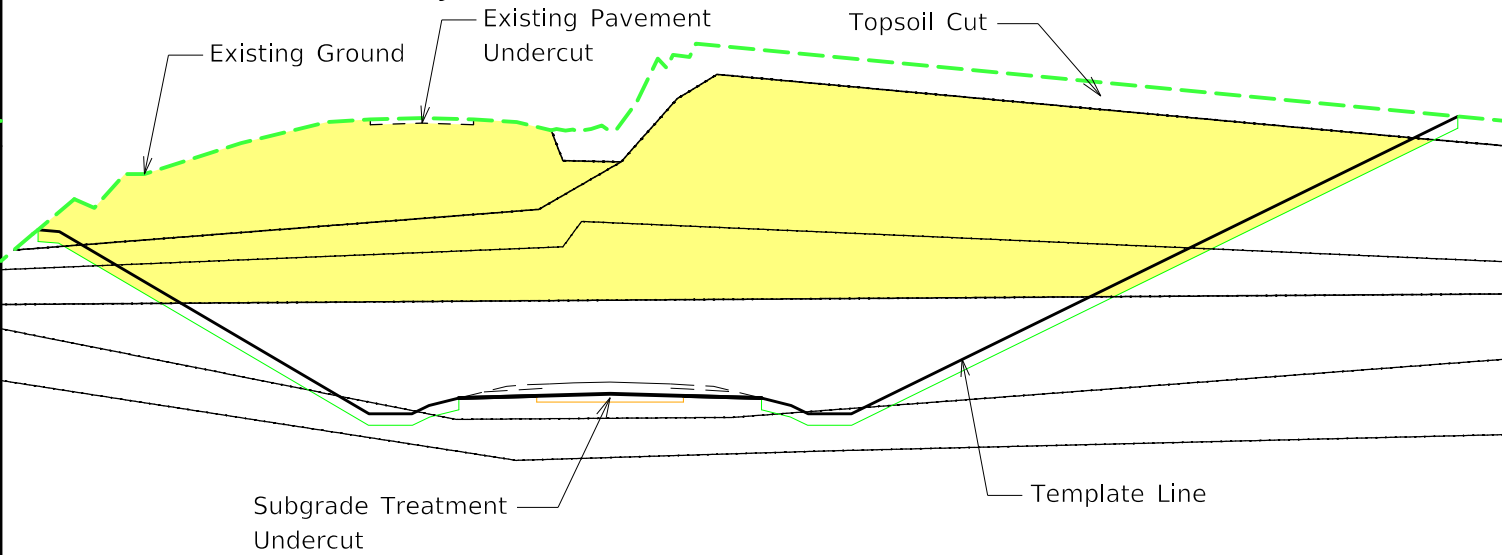
RURAL



Notes:

- 1. "Total Cut Unadjusted" Column includes all cut values in the Station Range based on Typical, Topsoil and Subgrade Treatment needs.
- 2. "Total Cut Unadjusted" does not include and Existing Pavement values inside or outside the cut template as shown on cross sections.
- 3. Tabulated Plowing and Shaping operations are included in the "Total Cut Unadjusted" values.

CUT SIDE Total Cut Adjusted

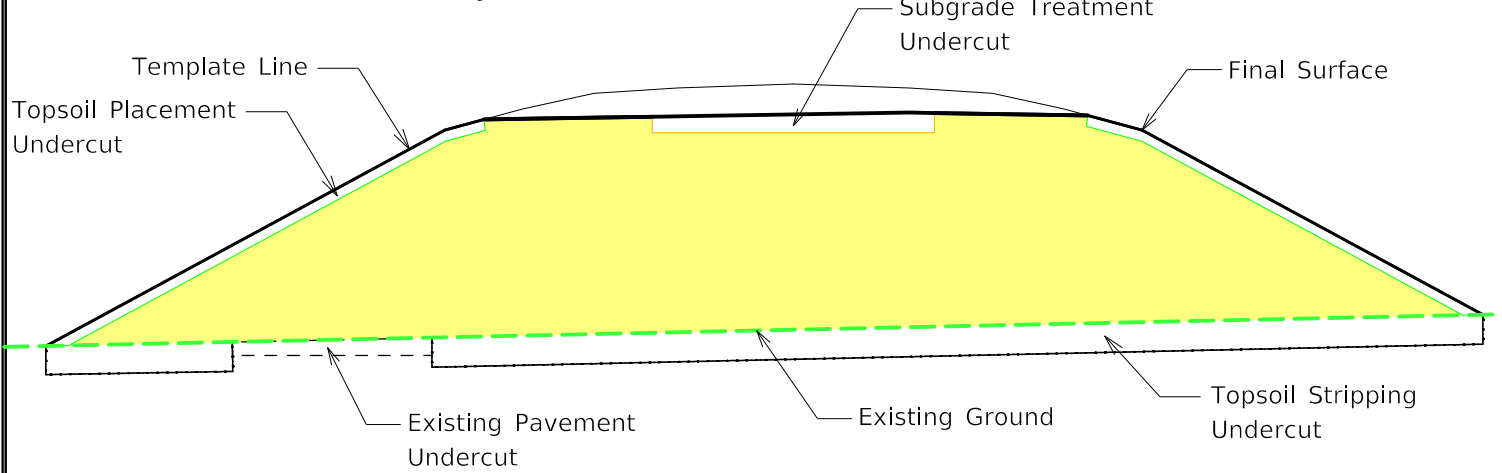


Notes:

- 1. "Total Cut Adjusted" Column includes all cut values usable as Class 10 material.
- 2. "Total Cut Adjusted" does not include and Existing Pavement , Existing Topsoil, or material to be wasted.

FILL SIDE Total Fill Unadjusted

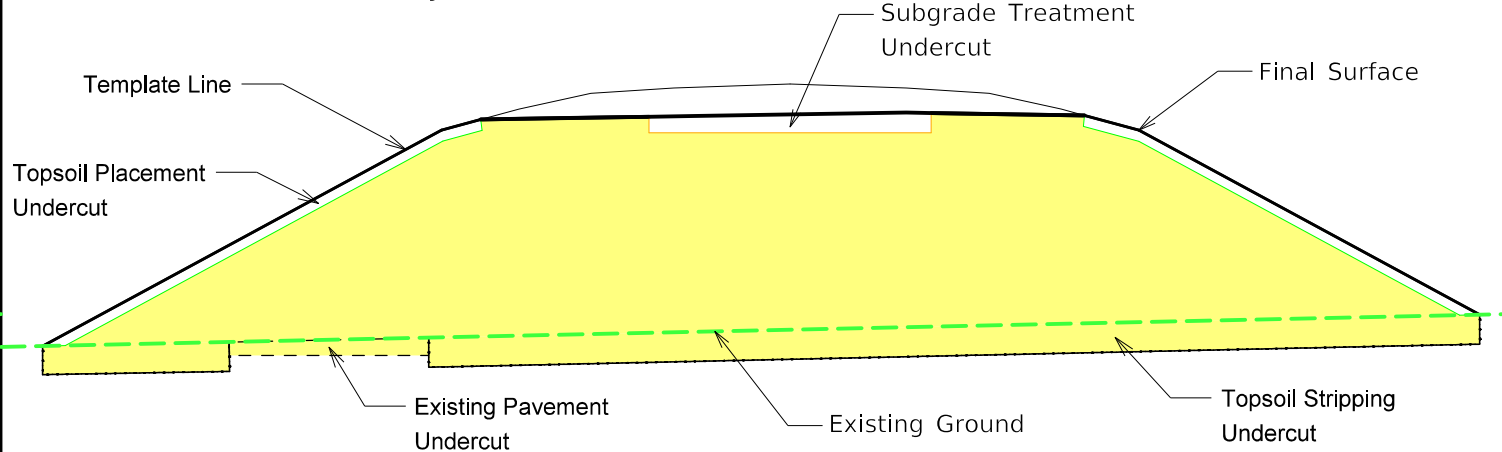
RURAL



Notes:

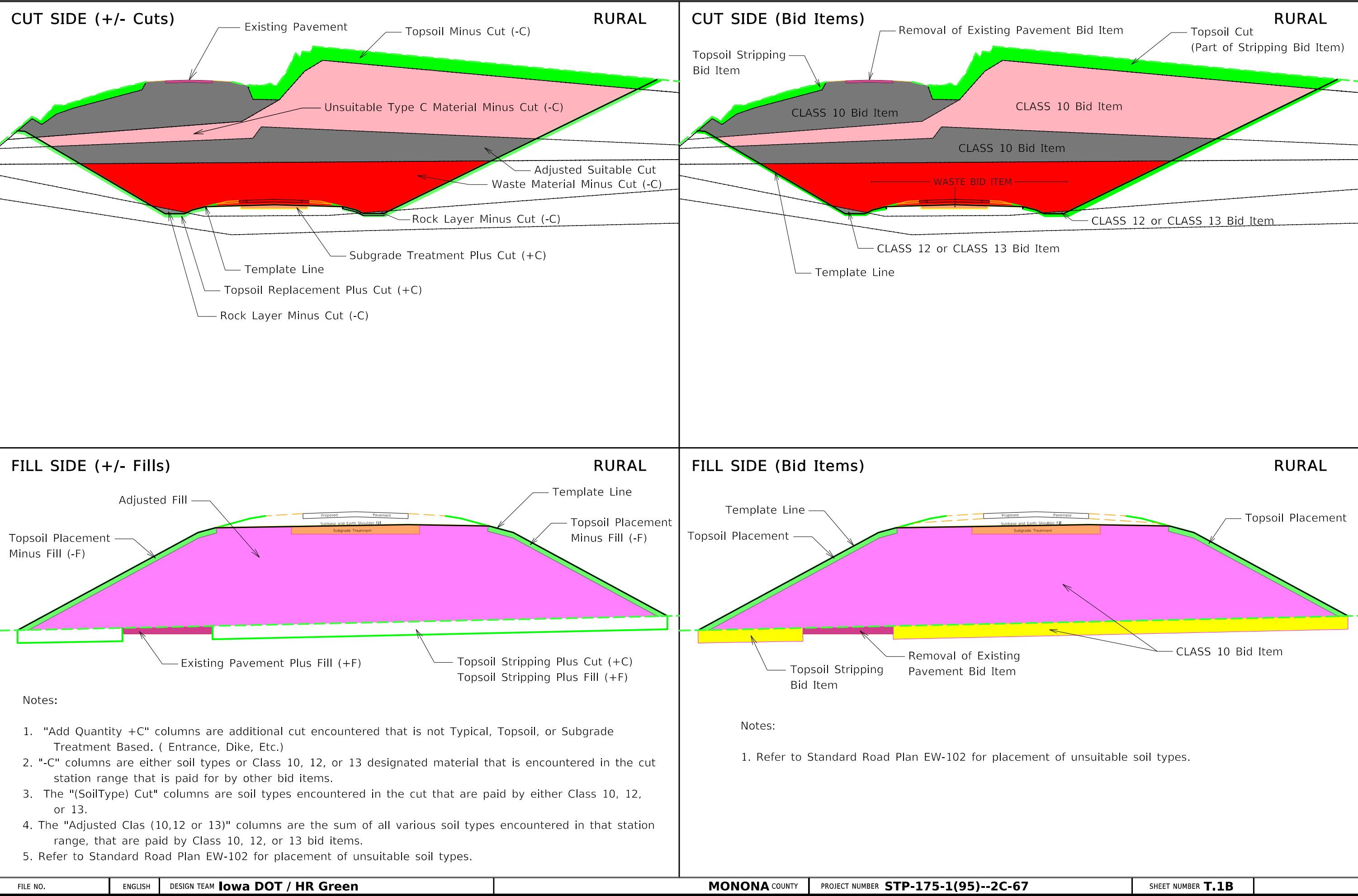
- 1. "Total Fill Unadjusted" Column includes all Class 10, 12, and 13 fill. This excludes the topsoil, subgrade treatment, subbase, new pavement, and shoulder fill needs in that station range.
- 2. "Total Fill Unadjusted" Column does not include adjustments for additional fill from cuts such as existing pavement removed, plowing and shaping operations, entrances, dikes, or topsoil stripping.

FILL SIDE Total Fill Adjusted



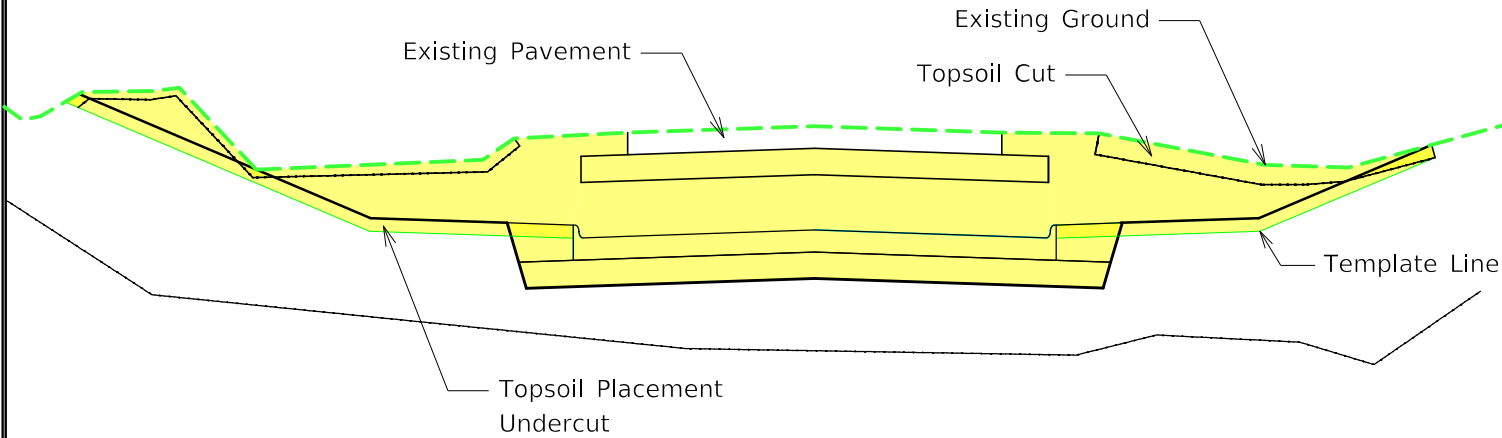
Notes:

- 1. "Total Fill Adjusted" Column includes all Class 10, 12, and 13 fill and adjustments for additional fill from cuts such as existing pavement, plowing and shaping operations, entrances, dikes, and topsoil stripping.
- 2. The available area to place unsuitable materials in the T Sheet tabulation does not include the undercut values from the topsoil stripping, existing pavement, or plowing and shaping



CUT SIDE Total Cut Unadjusted

URBAN

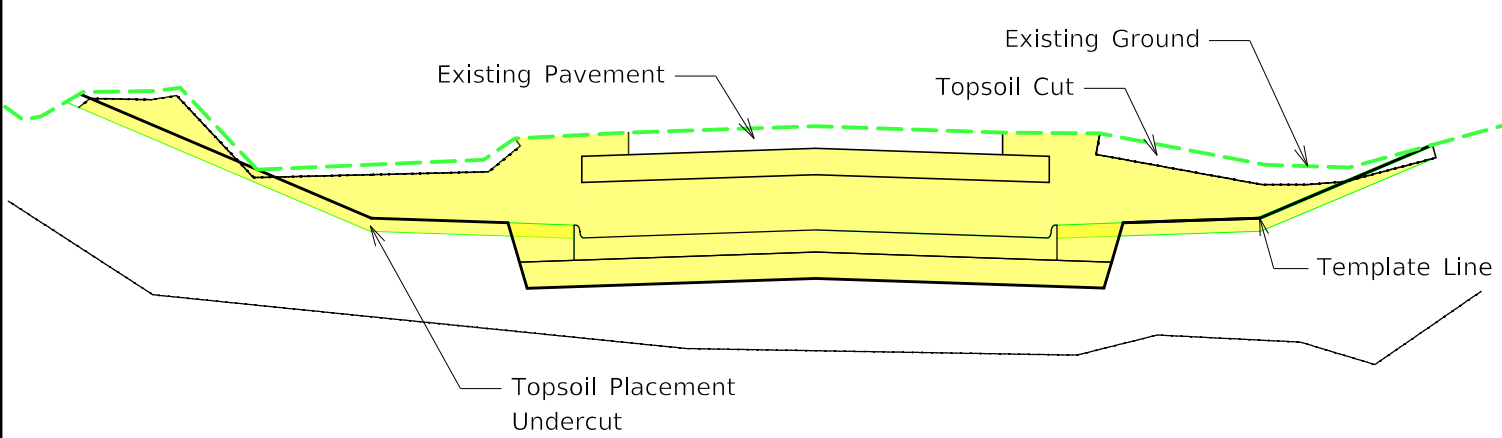


Notes:

- 1. "Total Cut Unadjusted" Column includes all cut values in the Station Range based on Typical, Topsoil and Subgrade Treatment needs.
- 2. "Total Cut Unadjusted" does not include and Existing Pavement values inside or outside the cut template as shown on cross sections.
- 3. Tabulated Plowing and Shaping operations are included in the "Total Cut Unadjusted" values.

CUT SIDE Total Cut Adjusted

URBAN

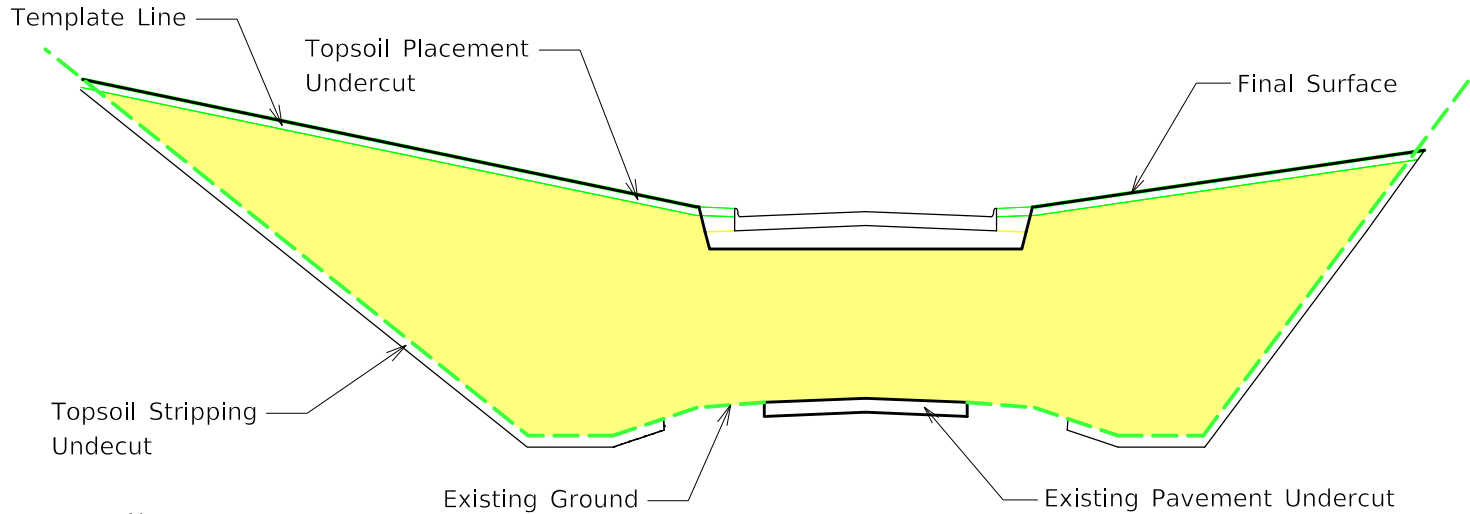


Notes:

- 1. "Total Cut Adjusted" Column includes all cut values usable as Class 10 material.
- 2. "Total Cut Adjusted" does not include and Existing Pavement , Existing Topsoil, or material to be wasted.

FILL SIDE Total Fill Unadjusted

URBAN

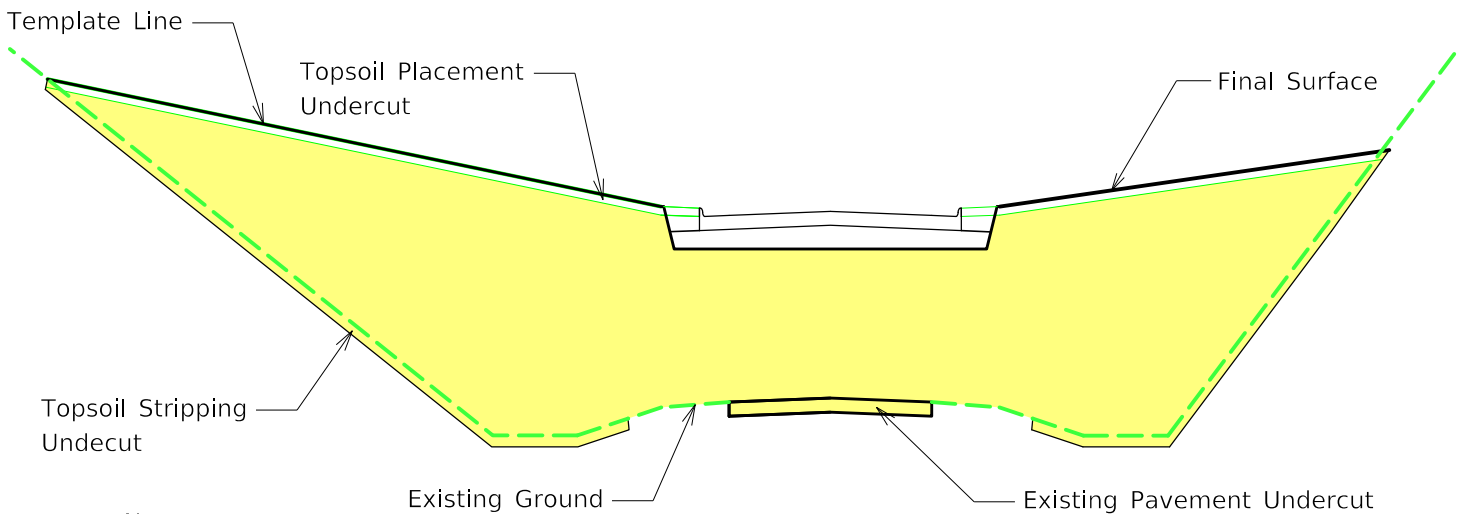


Notes:

- 1. "Total Fill Unadjusted" Column includes all Class 10, 12, and 13 fill. This excludes the topsoil, subgrade treatment, subbase, new pavement, and shoulder fill needs in that station range.
- 2. "Total Fill Unadjusted" Column does not include adjustments for additional fill from cuts such as existing pavement removed, plowing and shaping operations, entrances, dikes, or topsoil stripping.

FILL SIDE Total Fill Adjusted

URBAN

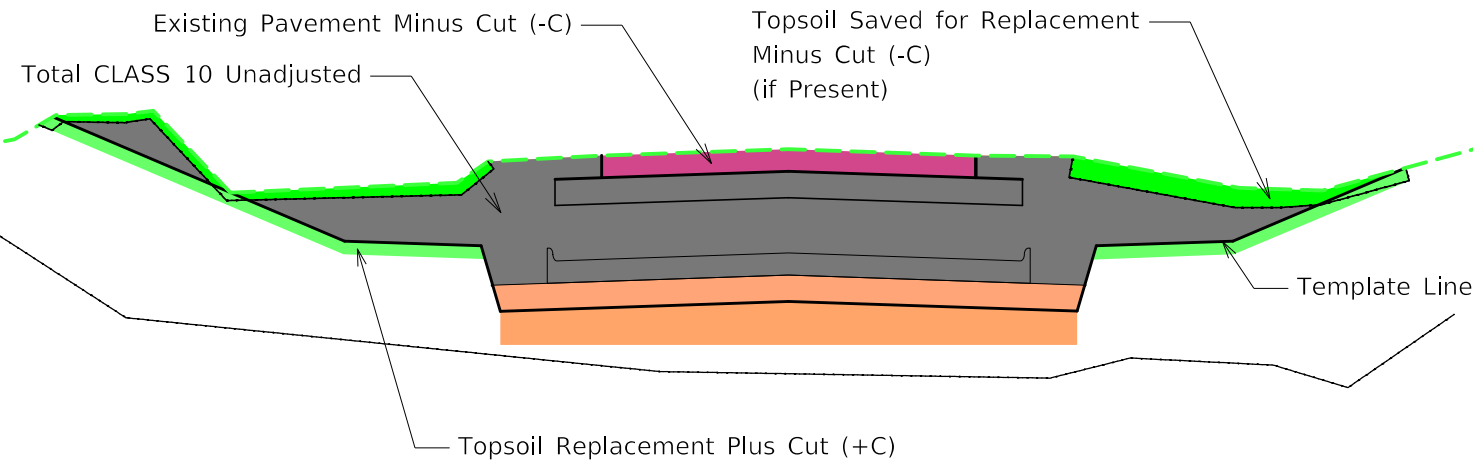


Notes:

- 1. "Total Fill Adjusted" Column includes all Class 10, 12, and 13 fill and adjustments for additional fill from cuts such as existing pavement, plowing and shaping operations, entrances, dikes, and topsoil stripping.
- 2. The available area to place unsuitable materials in the T Sheet tabulation does not include the undercut values from the topsoil stripping, existing pavement, or plowing and shaping.

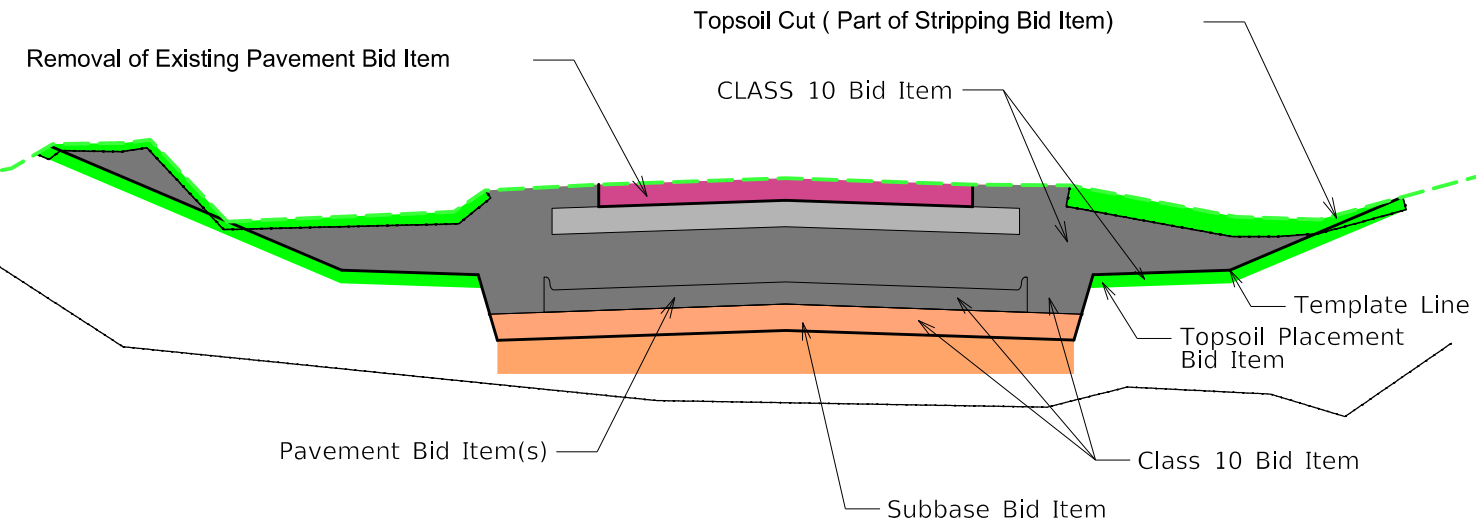
CUT SIDE (+/- Cuts)

URBAN



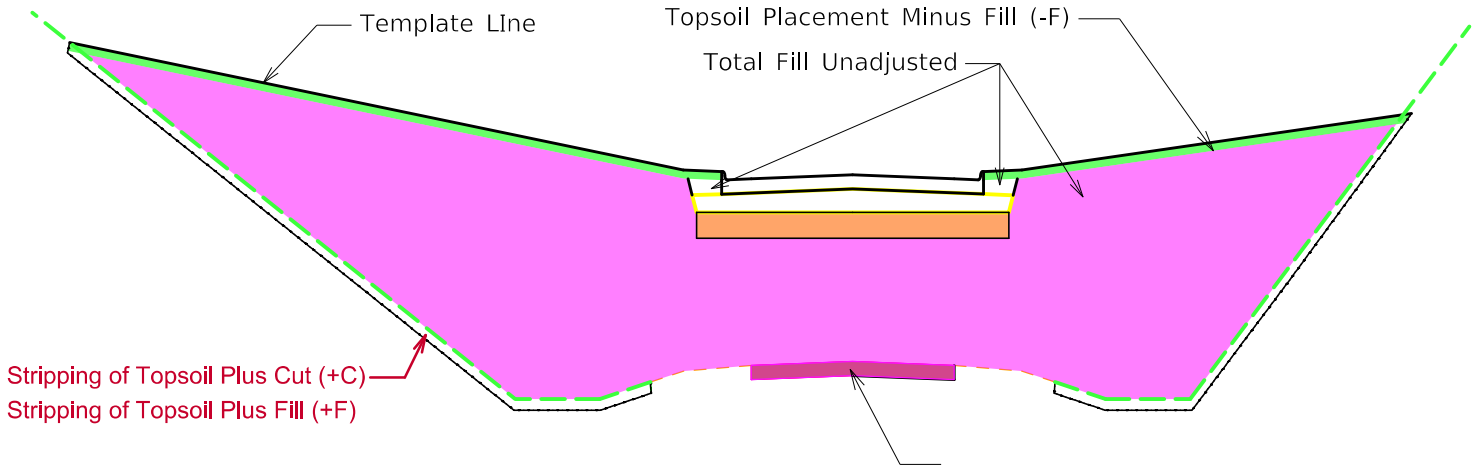
CUT SIDE (Bid Items)

URBAN



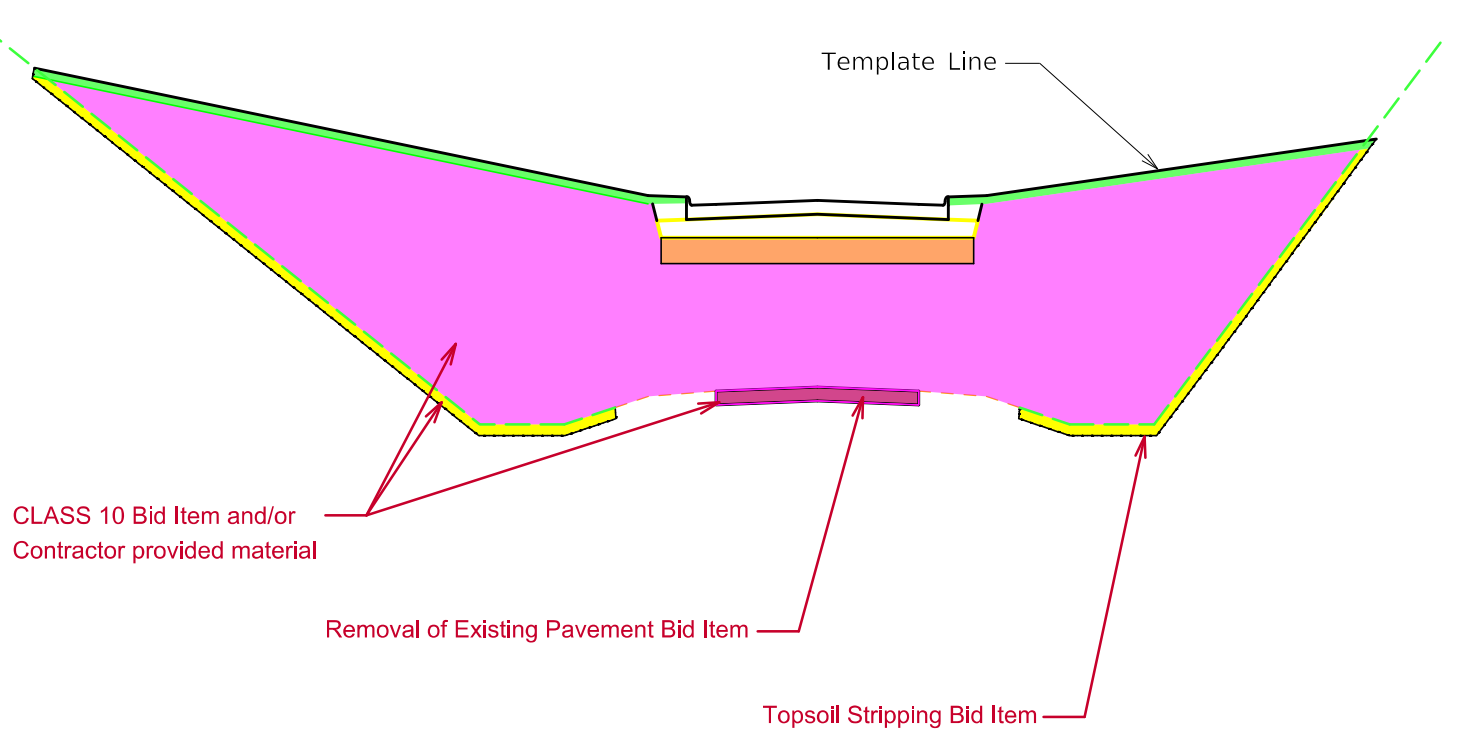
FILL SIDE (+/- Fills)

URBAN



FILL SIDE (Bid Items)

URBAN



Notes:

1. "Manually Calculated Cut Adjustments +C" columns are additional cut encountered that is not Typical, Topsoil, or Subgrade Treatment Based. ( Entrance, Dike, Etc.)
2. "-C" columns are either soil types or Class 10, 12, or 13 designated material that is encountered in the cut station range that is paid for by other bid items.
3. The "(SoilType) Cut" columns are soil types encountered in the cut that are paid by either Class 10, 12 or 13.
4. The "Adjusted Clas (10,12 or 13)" columns are the sum of all various soil types encountered in that station range, that are paid by Class 10, 12, or 13 bid items.



Refer to Standard Road Plans EW-101 and EW-102.

## TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28  
04-21-15

[illegible]





TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut						Fill				Checks (EW-102)		Topsoil				[17]	[18]	[19]	[20]	[21]	[22]
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]						
	Total Cut Unadjusted Volume	Topsoil Cut Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink						
STG1-SR175-1																						
1712+74.54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
1712+75.00	23	0	2	0	21	0	0	0	0	0	0	0	0	0	0	0						
1713+00.00	21	0	2	0	20	0	0	0	0	0	0	0	0	0	0	0						
1713+25.00	19	0	2	0	17	0	0	0	0	0	0	0	0	0	0	0						
1713+50.00	16	0	2	0	14	0	0	0	0	0	0	0	0	0	0	0						
1713+75.00	15	0	2	0	13	0	0	0	0	0	0	0	0	0	0	0						
1714+00.00	14	0	2	0	12	0	0	0	0	0	0	0	0	0	0	0						
1714+25.00	13	0	2	0	11	0	0	0	0	0	0	0	0	0	0	0						
1714+50.00	13	0	2	0	12	0	0	0	0	0	0	0	0	0	0	0						
1714+75.00	14	0	2	0	12	0	0	0	0	0	0	0	0	0	0	0						
1715+00.00	14	1	2	0	12	0	0	0	0	0	0	0	1	0	0	0	1					
1715+25.00	15	1	2	0	12	0	0	0	0	0	0	0	1	0	0	0	1					
1715+50.00	15	2	2	0	12	0	0	0	0	0	0	0	2	0	0	0	2					
1715+75.00	16	3	2	0	11	0	2	2	3	-3	0	0	3	0	0	0	3					
1716+00.00	17	4	2	0	11	0	5	5	6	-6	0	0	4	0	0	0	4					
1716+25.00	18	5	2	0	12	0	8	8	10	-10	0	0	5	0	0	0	5					
1716+50.00	20	6	2	0	12	0	12	12	16	-16	0	0	6	0	0	0	6					
1716+75.00	22	7	2	0	13	0	17	17	22	-22	0	0	7	0	0	0	7					
1717+00.00	23	8	2	0	14	0	22	22	28	-28	0	0	8	0	0	0	8					
1717+25.00	24	8	2	0	14	0	27	27	36	-36	0	0	8	0	0	0	8					
1717+50.00	25	9	2	0	14	0	33	33	43	-43	0	0	9	0	0	0	9					
1717+75.00	25	10	2	0	14	0	41	41	53	-53	0	0	10	0	0	0	10					
1718+00.00	27	11	2	0	14	0	45	45	59	-59	0	0	11	0	0	0	11					
1718+25.00	28	11	2	0	16	0	45	45	59	-59	0	0	11	0	0	0	11					
1718+50.00	29	11	2	0	16	0	49	49	64	-64	0	0	11	0	0	0	12					
1718+75.00	33	12	2	0	20	0	45	45	58	-58	0	0	12	0	0	0	12					
1719+00.00	39	12	2	0	26	0	36	36	47	-47	0	0	12	0	0	0	12					
1719+25.00	34	12	2	0	20	0	45	45	59	-59	0	0	12	0	0	0	12					
1719+50.00	25	12	2	0	11	0	38	38	49	-49	0	0	12	0	0	0	12					
1719+75.00	29	11	2	0	16	0	11	11	15	-15	0	0	11	0	0	0	11					
1720+00.00	43	11	2	0	30	0	1	1	2	-2	0	0	11	0	0	0	11					
1720+25.00	42	10	2	0	31	0	0	0	1	-1	0	0	10	0	0	0	10					
1720+50.00	18	5	2	0	12	0	0	0	0	0	0	0	5	0	0	0	5					
1720+75.00	24	11	2	0	11	0	46	46	59	-59	0	0	11	0	0	0	11					
1721+00.00	40	18	2	0	21	0	80	80	104	-104	0	0	18	0	0	0	18					
1721+25.00	40	18	2	0	21	0	64	64	84	-84	0	0	18	0	0	0	18					
1721+50.00	48	23	2	0	23	0	55	55	72	-72	0	0	23	0	0	0	23					
1721+75.00	36	19	2	0	16	0	41	41	53	-53	0	0	19	0	0	0	19					
1722+00.00	38	13	2	0	23	0	28	28	37	-37	0	0	13	0	0	0	13					
1722+25.00	53	14	2	0	37	0	25	25	32	-32	0	0	14	0	0	0	14					
1722+50.00	52	14	2	0	36	0	25	25	33	-33	0	0	14	0	0	0	14					
1722+75.00	46	14	2	0	31	0	26	26	33	-33	0	0	14	0	0	0	14					
1723+00.00	43	13	2	0	28	0	25	25	32	-32	0	0	13	0	0	0	13					
1723+25.00	39	13	2	0	24	0	25	25	32	-32	0	0	13	0	0	0	13					
1723+50.00	36	13	2	0	21	0	28	28	36	-36	0	0	13	0	0	0	13					
1723+75.00	35	12	2	0	21	0	31	31	41	-41	0	0	12	0	0	0	13					
1724+00.00	34	12	2	0	20	0	32	32	42	-42	0	0	12	0	0	0	12					
1724+25.00	34	12	2	0	20	0	33	33	42	-42	0	0	12	0	0	0	12					
1724+50.00	32	12	2	0	18	0	32	32	42	-42	0	0	12	0	0	0	12					
1724+75.00	32	12	2	0	18	0	31	31	41	-41	0	0	12	0	0	0	12					
1725+00.00	33	12	2	0	20	0	31	31	41	-41	0	0	12	0	0	0	12					
1725+25.00	33	12	2	0	20	0	30	30	39	-39	0	0	12	0	0	0	12					
1725+50.00	33	11	2	0	20	0	28	28	36	-36	0	0	11	0	0	0	11					
1725+75.00	33	11	2	0	20	0	25	25	33	-33	0	0	11	0	0	0	11					
1726+00.00	32	10	2	0	20	0	24	24	31	-31	0	0	10	0	0	0	11					
1726+25.00	32	10	2	0	20	0	23	23	30	-30	0	0	10	0	0	0	10					
1726+50.00	31	10	2	0	20	0	21	21	27	-27	0	0	10	0	0	0	10					
1726+75.00	31	9	2	0	20	0	18	18	24	-24	0	0	9	0	0	0	9					
1727+00.00	31	9	2	0	21	0	16	16	21	-21	0	0	9	0	0	0	9					
1727+25.00	31	8	2	0	21	0	13	13	18	-18	0	0	8	0	0	0	8					
1727+50.00	30	8	2	0	20	0	12	12	15	-15	0	0	8	0	0	0	8					
1727+75.00	29	7	2	0	20	0	11	11	14	-14	0	0	7	0	0	0	7					
1728+00.00	29	7	2	0	21	0	10	10	13	-13	0	0	7	0	0	0	7					
1728+25.00	30	7	2	0	21	0	8	8	11	-11	0	0	7	0	0	0	7					
1728+50.00	79	19	2	0	59	0	29	29	38	-38	0	0	19	16	23	-5						
1728+75.00	122	26	2	0	95	0	44	44	57	-57	0	0	26	20	29	-3						
1729+00.00	100	26	2	0	73	0	48	48	63	-63	0	0	26	8	11	15						
1729+25.00																						
Subtotals:	2,132	625	111	0	1,396	0	1,502	1,502	1,955	-1,955	0	0	625	45	63	565						

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut						Fill				Checks (EW-102)		Topsoil									
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted Volume	Topsoil Cut Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink						
1729+25.00	113	30	2	0	81	0	53	53	69	-69	0	0	30	20	28	2						
1729+50.00	142	30	2	0	110	0	48	48	63	-63	0	0	30	33	47	-16						
1729+75.00	143	31	2	0	111	0	52	52	67	-67	0	0	31	34	47	-17						
1730+00.00	142	31	2	0	109	0	54	54	71	-71	0	0	31	34	48	-17						
1730+25.00	142	32	2	0	109	0	58	58	75	-75	0	0	32	35	50	-18						
1730+50.00	150	33	2	0	115	0	75	75	97	-97	0	0	33	37	52	-19						
1730+75.00	156	34	2	0	120	0	99	99	129	-129	0	0	34	39	54	-20						
1731+00.00	156	34	2	0	120	0	116	116	151	-151	0	0	34	39	55	-21						
1731+25.00	156	35	2	0	119	0	133	133	173	-173	0	0	35	41	57	-22						
1731+50.00	158	36	2	0	120	0	153	153	199	-199	0	0	36	42	59	-23						
1731+75.00	156	37	2	0	118	0	176	176	229	-229	0	0	37	43	61	-23						
1732+00.00	157	38	2	0	117	0	225	225	292	-292	0	0	38	45	62	-24						
1732+25.00	163	39	2	0	122	0	287	287	373	-373	0	0	39	46	65	-26						
1732+50.00	166	40	2	0	124	0	339	339	441	-441	0	0	40	48	67	-27						
1732+75.00	168	41	2	0	125	0	392	392	510	-510	0	0	41	49	69	-28						
1733+00.00	168	43	2	0	123	0	448	448	582	-582	0	0	43	51	71	-29						
1733+25.00	166	44	2	0	120	0	511	511	664	-664	0	0	44	52	74	-30						
1733+50.00	167	45	1	0	121	0	554	554	720	-720	0	0	45	54	75	-30						
1733+75.00	170	46	0	0	124	0	582	582	757	-757	0	0	46	55	78	-31						
1734+00.00	179	48	0	0	131	0	623	623	811	-811	0	0	48	58	81	-33						
1734+25.00	164	48	0	0	116	0	708	708	921	-921	0	0	48	58	82	-33						
1734+50.00	139	51	0	0	88	0	814	814	1,058	-1,058	0	0	51	58	81	-30						
1734+75.00	105	52	0	0	53	0	1,093	1,093	1,421	-1,421	0	0	52	57	80	-28						
1735+00.00	65	49	0	0	16	0	1,203	1,203	1,564	-1,564	0	0	49	57	80	-31						
1735+25.00	67	39	0	0	27	0	700	700	910	-910	0	0	39	36	50	-11						
1735+50.00	79	20	0	0	59	0	161	161	210	-210	0	0	20	16	23	-4						
1735+75.00	119	8	0	0	111	0	0	0	0	0	0	0	8	22	31	-23						
1736+00.00	164	8	0	0	156	0	0	0	0	0	0	0	8	27	38	-30						
1736+25.00	85	3	0	0	82	0	0	0	0	0	0	0	3	14	19	-16						
1736+50.00	17	8	0	0	10	0	89	89	115	-115	0	0	8	0	0	8						
1736+75.00	76	27	0	0	49	0	530	530	689	-689	0	0	27	0	0	27						
1737+00.00	155	45	0	0	110	0	1,042	1,042	1,355	-1,355	0	0	45	47	66	-21						
1737+25.00	267	52	0	0	215	0	1,195	1,195	1,554	-1,554	0	0	52	96	134	-82						
1737+50.00	354	53	0	0	301	0	1,210	1,210	1,573	-1,573	0	0	53	97	136	-84						
1737+75.00	42	11	0	0	31	0	216	216	281	-281	0	0	11	11	15	-4						
1737+80.00	30	29	0	0	1	0	752	752	977	-977	0	0	29	10	15	14						
1738+00.00	21	19	0	0	1	0	971	971	1,262	-1,262	0	0	19	17	24	-5						
1738+25.00	9	9	0	0	0	0	364	364	473	-473	0	0	9	4	6	3						
1738+36.41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
1738+36.42	7	7	0	0	0	0	331	331	431	-431	0	0	7	0	0	7						
1738+50.00	12	12	0	0	0	0	623	623	810	-810	0	0	12	0	0	12						
1738+75.00	12	12	0	0	0	0	641	641	833	-833	0	0	12	0	0	12						
1739+00.00	12	12	0	0	0	0	654	654	850	-850	0	0	12	0	0	12						
1739+25.00	13	12	0	0	0	0	662	662	860	-860	0	0	12	0	0	12						
1739+50.00	14	13	0	0	1	0	673	673	874	-874	0	0	13	0	0	13						
1739+75.00	15	13	0	0	2	0	686	686	892	-892	0	0	13	0	0	13						
1740+00.00	17	13	0	0	4	0	698	698	907	-907	0	0	13	0	0	13						
1740+25.00	11	8	0	0	3	0	423	423	550	-550	0	0	8	0	0	8						
1740+39.99	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0						
1740+40.00	10	8	0	0	2	0	502	502	653	-653	0	0	8	7	10	-2						
1740+50.00	26	20	0	0	6	0	1,268	1,268	1,649	-1,649	0	0	20	17	24	-4						
1740+75.00	30	20	0	0	10	0	1,284	1,284	1,669	-1,669	0	0	20	17	24	-4						
1741+00.00	33	20	0	0	13	0	1,298	1,298	1,688	-1,688	0	0	20	17	24	-4						
1741+25.00	34	20	0	0	14	0	1,294	1,294	1,682	-1,682	0	0	20	17	24	-4						
1741+50.00	36	20	0	0	16	0	1,261	1,261	1,640	-1,640	0	0	20	17	24	-4						
1741+75.00	9	5	0	0	4	0	293	293	381	-381	0	0	5	4	6	-1						
1741+80.90	0	0	0	0	0	0	6	6	8	-8	0	0	0	0	0	0						
1741+80.98	136	49	0	0	88	0	1,887	1,887	2,454	-2,454	0	0	49	95	134	-85						
1742+00.00	173	64	0	0	109	0	2,474	2,474	3,216	-3,216	0	0	64	125	175	-111						
1742+25.00	169	63	0	0	106	0	2,480	2,480	3,224	-3,224	0	0	63	124	174	-111						
1742+50.00	157	63	0	0	94	0	2,487	2,487	3,233	-3,233	0	0	63	124	174	-111						
1742+75.00	145	62	0	0	83	0	2,489	2,489	3,236	-3,236	0	0	62	124	173	-111						
1743+00.00	156	63	0	0	94	0	2,485	2,485	3,230	-3,230	0	0	63	126	176	-113						
1743+25.00	119	55	0	0	65	0	2,165	2,165	2,815	-2,815	0	0	55	110	154	-100						
1743+47.00	10	7	0	0	3	0	293	293	381	-381	0	0	7	14	19	-13						
1743+50.00	59	53	0	0	6	0	2,458	2,458	3,196	-3,196	0	0	53	103	145	-92						
1743+75.00	48	47	0	0	0	0	2,400	2,400	3,120	-3,120	0	0	47	91	127	-80						
1744+00.00	40	40	0	0	0	0	2,002	2,002	2,602	-2,602	0	0	40	83	116	-76						
Subtotals:	6,579	2,061	28	0	4,490	0	52,244	52,244	67,920	-67,920	0	0	2,061	2,700	3,784	-1,725						



Refer to Standard Road Plans EW-101 and EW-102.

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04-21-15

## TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut						Fill				Checks (EW-102)		Topsoil									
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted  Volume	Topsoil Cut  Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted  Volume	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink						
STG1-SR175-2																						
1745+61.00	13	6	0	0	7	0	0	0	0	0	0	0	6	2	3	4						
1745+75.00	17	6	0	0	11	0	0	0	0	0	0	0	6	3	5	2						
1745+84.42	35	13	0	0	23	0	0	0	0	0	0	0	13	6	9	4						
1746+00.00	73	26	0	0	47	0	106	106	138	-138	0	0	26	37	51	-26						
1746+25.00	85	35	0	0	50	0	378	378	491	-491	0	0	35	80	112	-77						
1746+50.00	86	43	0	0	43	0	875	875	1,138	-1,138	0	0	43	109	153	-110						
1746+75.00	85	47	0	0	38	0	1,495	1,495	1,944	-1,944	0	0	47	122	172	-125						
1747+00.00	85	47	0	0	38	0	1,973	1,973	2,565	-2,565	0	0	47	117	164	-117						
1747+25.00	86	47	0	0	39	0	2,216	2,216	2,881	-2,881	0	0	47	105	146	-99						
1747+50.00	84	47	0	0	37	0	2,266	2,266	2,946	-2,946	0	0	47	98	138	-91						
1747+75.00	52	38	0	0	14	0	1,346	1,346	1,750	-1,750	0	0	38	43	60	-22						
1747+95.00	0	0	0	0	0	0	5	5	6	-6	0	0	0	0	0	0						
1747+95.10	3	3	0	0	0	0	234	234	304	-304	0	0	3	3	5	-2						
1748+00.00	17	17	0	0	0	0	1,183	1,183	1,538	-1,538	0	0	17	17	24	-8						
1748+25.00	17	17	0	0	0	0	1,109	1,109	1,442	-1,442	0	0	17	17	24	-8						
1748+50.00	16	16	0	0	0	0	986	986	1,282	-1,282	0	0	16	17	24	-8						
1748+75.00	16	16	0	0	0	0	913	913	1,188	-1,188	0	0	16	17	24	-8						
1749+00.00	16	16	0	0	0	0	913	913	1,187	-1,187	0	0	16	17	24	-8						
1749+25.00	16	16	0	0	0	0	924	924	1,202	-1,202	0	0	16	17	24	-8						
1749+50.00	16	16	0	0	0	0	915	915	1,189	-1,189	0	0	16	17	24	-8						
1749+75.00	17	17	0	0	0	0	914	914	1,188	-1,188	0	0	17	17	24	-8						
1750+00.00	7	7	0	0	0	0	321	321	418	-418	0	0	7	5	7	-1						
1750+10.00	0	0	0	0	0																	

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut						Fill				Checks (EW-102)		Topsoil									
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted Volume	Topsoil Cut Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink						
STG1-SR175-3																						
1756+87.55	28	2	0	0	26	0	0	0	0	0	0	0	2	0	0	2						
1757+00.00	53	4	0	0	49	0	0	0	0	0	0	0	4	0	0	4						
1757+25.00	52	3	0	0	48	0	0	0	0	0	0	0	3	0	0	4						
1757+50.00	53	3	0	0	49	0	0	0	0	0	0	0	3	0	0	4						
1757+75.00	53	4	0	0	50	0	0	0	0	0	0	0	4	0	0	4						
1758+00.00	49	4	0	0	45	0	0	0	0	0	0	0	4	0	0	4						
1758+25.00	45	4	0	0	40	0	0	0	0	0	0	0	4	0	0	4						
1758+50.00	40	4	0	0	36	0	0	0	0	0	0	0	4	0	0	5						
1758+75.00	34	4	0	0	29	0	0	0	0	0	0	0	4	0	0	5						
1759+00.00	24	3	0	0	21	0	0	0	1	-1	0	0	3	0	0	3						
1759+25.00	18	2	0	0	17	0	1	1	1	-1	0	0	2	0	0	2						
1759+50.00	18	2	0	0	16	0	3	3	3	-3	0	0	2	0	0	2						
1759+75.00	18	3	0	0	15	0	5	5	7	-7	0	0	3	0	0	3						
1760+00.00	24	4	0	0	20	0	5	5	6	-6	0	0	4	0	0	4						
1760+25.00	40	5	0	0	35	0	5	5	6	-6	0	0	5	0	0	5						
1760+50.00	53	6	0	0	46	0	7	7	10	-10	0	0	6	0	0	6						
1760+75.00	55	7	0	0	48	0	12	12	15	-15	0	0	7	0	0	7						
1761+00.00	57	8	1	0	48	0	18	18	24	-24	0	0	8	0	0	8						
1761+25.00	59	8	2	0	49	0	24	24	32	-32	0	0	8	0	0	8						
1761+50.00	60	8	3	0	48	0	27	27	35	-35	0	0	8	0	0	8						
1761+75.00	55	8	3	0	44	0	26	26	34	-34	0	0	8	0	0	8						
1762+00.00	49	8	1	0	40	0	30	30	39	-39	0	0	8	0	0	8						
1762+25.00	25	4	0	0	20	0	18	18	23	-23	0	0	4	0	0	5						
1762+50.00	26	0	0	0	26	0	0	0	0	0	0	0	0	0	0	0						
1762+75.00	44	6	0	0	38	0	16	16	21	-21	0	0	6	0	0	6						
1763+00.00	38	10	0	0	28	0	29	29	38	-38	0	0	10	0	0	10						
1763+25.00	40	9	0	0	31	0	25	25	32	-32	0	0	9	0	0	9						
1763+50.00	40	9	0	0	31	0	23	23	30	-30	0	0	9	0	0	9						
1763+75.00	41	9	0	0	32	0	23	23	30	-30	0	0	9	0	0	9						
1764+00.00	43	9	0	0	34	0	23	23	30	-30	0	0	9	0	0	9						
1764+25.00	43	9	0	0	34	0	23	23	30	-30	0	0	9	0	0	9						
1764+50.00	43	9	0	0	34	0	24	24	32	-32	0	0	9	0	0	9						
1764+75.00	44	10	0	0	34	0	26	26	34	-34	0	0	10	0	0	10						
1765+00.00	44	10	0	0	34	0	27	27	36	-36	0	0	10	0	0	10						
1765+25.00	45	10	0	0	35	0	28	28	37	-37	0	0	10	0	0	10						
1765+50.00	45	10	0	0	34	0	27	27	36	-36	0	0	10	0	0	10						
1765+75.00	45	10	0	0	35	0	24	24	31	-31	0	0	10	0	0	10						
1766+00.00	47	9	0	0	38	0	18	18	24	-24	0	0	9	0	0	9						
1766+25.00	54	10	0	0	43	0	24	24	31	-31	0	0	10	0	0	10						
1766+50.00	41	9	0	0	32	0	25	25	33	-33	0	0	9	0	0	9						
1766+75.00	40	9	0	0	31	0	26	26	34	-34	0	0	9	0	0	9						
1767+00.00	41	9	0	0	32	0	25	25	33	-33	0	0	9	0	0	9						
1767+25.00	40	9	0	0	31	0	25	25	32	-32	0	0	9	0	0	9						
1767+50.00	36	9	0	0	26	0	24	24	32	-32	0	0	9	0	0	9						
1767+75.00	33	9	0	0	24	0	24	24	31	-31	0	0	9	0	0	9						
1768+00.00	34	9	0	0	25	0	23	23	30	-30	0	0	9	0	0	9						
1768+25.00	34	9	0	0	26	0	23	23	30	-30	0	0	9	0	0	9						
1768+50.00	34	9	0	0	26	0	22	22	29	-29	0	0	9	0	0	9						
1768+75.00	35	9	0	0	26	0	23	23	30	-30	0	0	9	0	0	9						
1769+00.00	35	9	0	0	26	0	24	24	31	-31	0	0	9	0	0	9						
1769+25.00	35	9	0	0	26	0	25	25	32	-32	0	0	9	0	0	9						
1769+50.00	35	10	0	0	25	0	26	26	34	-34	0	0	10	0	0	10						
1769+75.00	35	10	0	0	25	0	27	27	35	-35	0	0	10	0	0	10						
1770+00.00	35	10	0	0	25	0	27	27	36	-36	0	0	10	0	0	10						
1770+25.00	35	10	0	0	26	0	29	29	38	-38	0	0	10	0	0	10						
1770+50.00	35	10	0	0	25	0	32	32	42	-42	0	0	10	0	0	10						
1770+75.00	35	10	0	0	25	0	34	34	44	-44	0	0	10	0	0	10						
1771+00.00	35	10	0	0	25	0	33	33	44	-44	0	0	10	0	0	10						
1771+25.00	35	10	0	0	25	0	34	34	45	-45	0	0	10	0	0	10						
1771+50.00	35	10	0	0	25	0	37	37	48	-48	0	0	10	0	0	10						
1771+75.00	35	10	0	0	25	0	39	39	51	-51	0	0	10	0	0	10						
1772+00.00	35	11	0	0	24	0	39	39	51	-51	0	0	11	0	0	11						
1772+25.00	34	13	0	0	21	0	23	23	29	-29	0	0	13	0	0	13						
1772+50.00	17	7	0	0	10	0	4	4	5	-5	0	0	7	0	0	7						
1772+75.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
1773+00.00	10	4	0	0	5	0	11	11	15	-15	0	0	4	0	0	4						
1773+25.00	26	8	0	0	18	0	26	26	33	-33	0	0	8	0	0	8						
1773+50.00	31	8	0	0	24	0	36	36	47	-47	0	0	8	0	0	8						
Subtotals:	2,538	496	10	0	2,031	0	1,267	1,267	1,651	-1,651	0	0	496	0	0	499						

Refer to Standard Road Plans EW-101 and EW-102.

107-28  
04-21-15

## TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

[illegible]

Refer to Standard Road Plans EW-101 and EW-102.

107-28  
04-21-15

## TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut						Fill				Checks (EW-102)		Topsoil									
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted Volume	Topsoil Cut Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink						
STG1-RPA175																						
1549+34.61	28	28	0	0	0	0	1,760	1,760	2,288	-2,288	0	0	28	11	15	13						
1549+50.00	25	25	0	0	0	0	1,608	1,608	2,091	-2,091	0	0	25	26	37	-12						
1549+63.50	0	0	0	0	0	0	21	21	28	-28	0	0	0	1	1	-1						
1549+63.61	45	45	0	0	0	0	3,012	3,012	3,916	-3,916	0	0	45	96	134	-89						
1549+75.00	99	99	0	0	0	0	5,382	5,382	6,997	-6,997	0	0	99	222	310	-212						
1550+00.00	122	99	0	0	23	0	3,789	3,789	4,925	-4,925	0	0	99	228	320	-221						
1550+25.00	177	99	0	0	78	0	2,734	2,734	3,554	-3,554	0	0	99	227	318	-220						
1550+50.00	491	99	0	0	392	0	2,239	2,239	2,911	-2,911	0	0	99	225	316	-217						
1550+75.00	667	99	0	0	568	0	1,949	1,949	2,534	-2,534	0	0	99	227	319	-220						
1551+00.00	545	93	0	0	452	0	1,695	1,695	2,203	-2,203	0	0	93	238	333	-240						
1551+25.00	547	87	0	0	460	0	1,507	1,507	1,959	-1,959	0	0	87	248	347	-260						
1551+50.00	521	84	0	0	437	0	1,477	1,477	1,920	-1,920	0	0	84	239	334	-251						
1551+75.00	469	80	0	0	389	0	1,472	1,472	1,914	-1,914	0	0	80	231	323	-243						
1552+00.00	448	79	0	0	368	0	1,441	1,441	1,873	-1,873	0	0	79	232	325	-245						
1552+25.00	420	78	0	0	342	0	1,405	1,405	1,827	-1,827	0	0	78	229	320	-242						
1552+50.00	392	78	0	0	315	0	1,371	1,371	1,783	-1,783	0	0	78	225	315	-237						
1552+75.00	377	90	0	0	287	0	1,346	1,346	1,750	-1,750	0	0	90	222	310	-221						
1553+00.00	361	101	0	0	260	0	1,315	1,315	1,710	-1,710	0	0	101	215	301	-200						
1553+25.00	343	99	0	0	244	0	1,264	1,264	1,643	-1,643	0	0	99	206	288	-189						
1553+50.00	337	97	0	0	240	0	1,211	1,211	1,575	-1,575	0	0	97	195	273	-176						
1553+75.00	330	95	0	0	235	0	1,148	1,148	1,493	-1,493	0	0	95	183	256	-161						
1554																						



Refer to Standard Road Plans EW-101 and EW-102.

## TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28  
04-21-15

Station	Cut						Fill				Checks (EW-102)		Topsoil									
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted Volume	Topsoil Cut Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink						
STG1-RPB175																						
2535+65.00	37	5	0	0	32	0	2	2	3	-3	0	0	5	0	0	5						
2535+75.00	264	28	0	3	233	3	37	37	49	-45	0	0	28	19	26	2						
2536+00.00	357	36	0	3	317	3	76	76	99	-95	0	0	36	39	54	-18						
2536+25.00	342	38	0	0	305	0	99	99	129	-129	0	0	38	40	56	-19						
2536+50.00	319	38	0	0	281	0	121	121	158	-158	0	0	38	41	57	-19						
2536+75.00	280	43	0	0	236	0	208	208	270	-270	0	0	43	41	58	-14						
2537+00.00	234	51	0	0	183	0	377	377	491	-491	0	0	51	42	58	-8						
2537+25.00	301	106	0	0	196	0	1,459	1,459	1,897	-1,897	0	0	106	80	112	-6						
2537+75.00	117	55	0	0	62	0	1,125	1,125	1,462	-1,462	0	0	55	43	60	-5						
2538+00.00	219	65	0	0	154	0	1,249	1,249	1,624	-1,624	0	0	65	51	71	-6						
2538+25.00	341	77	0	0	265	0	1,220	1,220	1,586	-1,586	0	0	77	58	81	-4						
2538+50.00	407	83	0	0	324	0	1,163	1,163	1,512	-1,512	0	0	83	65	91	-8						
2538+75.00	418	88	0	0	330	0	1,104	1,104	1,435	-1,435	0	0	88	71	100	-12						
2539+00.00	434	94	0	0	340	0	1,062	1,062	1,380	-1,380	0	0	94	116	162	-69						
2539+25.00	422	99	0	0	324	0	1,036	1,036	1,347	-1,347	0	0	99	162	227	-128						
2539+50.00	385	103	0	0	282	0	1,089	1,089	1,416	-1,416	0	0	103	171	240	-136						
2539+75.00	380	109	0	0	271	0	1,204	1,204	1,565	-1,565	0	0	109	182	255	-146						
2540+00.00	365	110	0	0	255	0	1,250	1,250	1,625	-1,625	0	0	110	185	259	-148						
2540+25.00	347	107	0	0	240	0	1,227	1,227	1,595	-1,595	0	0	107	179	250	-143						
2540+50.00	353	106	0	0	247	0	1,215	1,215	1,579	-1,579	0	0	106	175	245	-140						
2540+75.00	361	105	0	0	256	0	1,231	1,231	1,601	-1,601	0	0	105	173	242	-138						

Refer to Standard Road Plans EW-101 and EW-102.

107-28  
04-21-15

## TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut						Fill				Checks (EW-102)		Topsoil									
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted  Volume	Topsoil Cut  Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted  Volume	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink						
STG1-RPC175																						
3537+88.00	28	10	0	0	19	0	51	51	67	-67	0	0	10	8	11	-1						
3538+00.00	129	38	0	0	92	0	216	216	281	-281	0	0	38	35	48	-11						
3538+25.00	138	38	0	0	100	0	229	229	298	-298	0	0	38	35	49	-11						
3538+50.00	122	42	0	0	80	0	297	297	387	-387	0	0	42	42	58	-17						
3538+75.00	166	45	0	0	121	0	434	434	564	-564	0	0	45	48	67	-22						
3539+00.00	217	43	0	0	174	0	497	497	646	-646	0	0	43	43	61	-18						
3539+25.00	188	43	0	0	145	0	459	459	597	-597	0	0	43	40	56	-13						
3539+50.00	154	43	0	0	111	0	415	415	540	-540	0	0	43	37	53	-10						
3539+75.00	135	42	0	0	93	0	423	423	549	-549	0	0	42	36	50	-8						
3540+00.00	116	42	0	0	74	0	489	489	636	-636	0	0	42	34	48	-7						
3540+25.00	101	41	0	0	60	0	548	548	712	-712	0	0	41	33	47	-6						
3540+50.00	94	41	0	0	53	0	577	577	751	-751	0	0	41	33	46	-5						
3540+75.00	92	40	0	0	52	0	586	586	762	-762	0	0	40	32	45	-5						
3541+00.00	88	40	0	0	48	0	571	571	743	-743	0	0	40	32	45	-5						
3541+25.00	84	40	0	0	44	0	549	549	714	-714	0	0	40	32	44	-4						
3541+50.00	81	40	0	0	40	0	545	545	709	-709	0	0	40	31	44	-3						
3541+75.00	78	41	0	0	37	0	565	565	734	-734	0	0	41	31	43	-3						
3542+00.00	76	41	0	0	35	0	584	584	759	-759	0	0	41	31	43	-2						
3542+25.00	72	41	0	0	31	0	617	617	802	-802	0	0	41	31	43	-2						
3542+50.00	67	42	0	0	26	0	673	673	875	-875	0	0	42	31	43	-1						
3542+75.00	67	42	0	0	25	0	720	720	936	-936	0	0	42	31	43	-1						
3543+00.00	67	43	0	0	25	0	748	748	973	-973	0	0	43	31	44	-1						
3543+25.00	66	43	0	0	22	0	771															

Refer to Standard Road Plans EW-101 and EW-102.

## TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28  
04-21-15

Station	Cut						Fill				Checks (EW-102)		Topsoil									
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted Volume	Topsoil Cut Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink						
STG1-RPD175																						
4543+51.30	19	19	0	0	0	0	1,279	1,279	1,663	-1,663	0	0	19	16	22	-3						
4543+75.00	35	35	0	0	0	0	2,293	2,293	2,981	-2,981	0	0	35	43	61	-26						
4544+00.00	47	45	0	0	1	0	2,691	2,691	3,498	-3,498	0	0	45	69	97	-51						
4544+25.00	59	50	0	0	9	0	1,829	1,829	2,377	-2,377	0	0	50	96	135	-84						
4544+50.00	69	53	0	0	16	0	2,078	2,078	2,701	-2,701	0	0	53	115	161	-108						
4544+75.00	73	59	0	0	15	0	3,312	3,312	4,306	-4,306	0	0	59	129	180	-121						
4545+00.00	79	66	0	0	13	0	3,496	3,496	4,545	-4,545	0	0	66	142	199	-133						
4545+25.00	81	72	0	0	9	0	3,610	3,610	4,693	-4,693	0	0	72	156	218	-146						
4545+50.00	80	77	0	0	3	0	3,701	3,701	4,811	-4,811	0	0	77	148	207	-130						
4545+75.00	78	78	0	0	0	0	3,370	3,370	4,381	-4,381	0	0	78	131	183	-105						
4546+00.00	75	75	0	0	0	0	2,668	2,668	3,468	-3,468	0	0	75	141	197	-122						
4546+25.00	70	70	0	0	0	0	2,061	2,061	2,679	-2,679	0	0	70	135	190	-120						
4546+50.00	65	65	0	0	0	0	1,655	1,655	2,152	-2,152	0	0	65	112	157	-93						
4546+75.00	69	61	0	0	7	0	1,364	1,364	1,773	-1,773	0	0	61	102	143	-81						
4547+00.00	80	41	0	0	38	0	1,167	1,167	1,517	-1,517	0	0	41	88	123	-82						
4547+25.00	87	37	0	0	51	0	1,118	1,118	1,454	-1,454	0	0	37	74	104	-67						
4547+50.00	96	51	0	0	45	0	1,112	1,112	1,446	-1,446	0	0	51	69	97	-47						
4547+75.00	99	50	0	0	49	0	1,077	1,077	1,400	-1,400	0	0	50	69	96	-46						
4548+00.00	101	50	0	0	52	0	1,039	1,039	1,351	-1,351	0	0	50	67	94	-45						
4548+25.00	105	49	0	0	56	0	986	986	1,282	-1,282	0	0	49	66	92	-43						
4548+50.00	106	48	0	0	58	0	932	932	1,212	-1,212	0	0	48	65	9							

Refer to Standard Road Plans EW-101 and EW-102.

## TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28  
04-21-15

Station	Cut						Fill				Checks (EW-102)		Topsoil									
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted  Volume	Topsoil Cut  Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted  Volume	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink						
STG1-CH029-1																						
503+75.53	125	13	0	0	112	0	0	0	0	0	0	0	13	20	28	-14						
504+00.00	211	17	0	0	194	0	0	0	0	0	0	0	17	32	45	-28						
504+25.00	219	18	0	0	201	0	0	0	0	0	0	0	18	35	49	-31						
504+50.00	197	17	0	0	180	0	0	0	0	0	0	0	17	34	47	-31						
504+75.00	200	17	0	0	183	0	0	0	0	0	0	0	17	34	47	-31						
505+00.00	214	17	0	0	197	0	0	0	0	0	0	0	17	35	48	-31						
505+25.00	211	17	0	0	194	0	0	0	0	0	0	0	17	33	47	-30						
505+50.00	204	16	0	0	188	0	0	0	0	0	0	0	16	31	44	-28						
505+75.00	202	16	0	0	186	0	0	0	0	0	0	0	16	31	44	-28						
506+00.00	197	15	0	0	182	0	0	0	0	0	0	0	15	30	42	-27						
506+25.00	180	14	0	0	166	0	0	0	0	0	0	0	14	28	39	-25						
506+50.00	174	14	0	0	161	0	0	0	0	0	0	0	14	27	38	-25						
506+75.00	185	14	0	0	170	0	0	0	0	0	0	0	14	28	40	-26						
507+00.00	186	14	0	0	172	0	0	0	0	0	0	0	14	29	40	-26						
507+25.00	186	14	0	0	171	0	0	0	0	0	0	0	14	29	40	-26						
507+50.00	187	14	0	0	173	0	0	0	0	0	0	0	14	29	41	-26						
507+75.00	185	15	0	0	170	0	0	0	0	0	0	0	15	29	41	-26						
508+00.00	178	14	0	0	163	0	0	0	0	0	0	0	14	29	40	-26						
508+25.00	173	14	0	0	159	0	0	0	0	0	0	0	14	29	40	-26						
508+50.00	172	14	0	0	158	0	0	0	0	0	0	0	14	28	40	-26						
508+75.00	168	14	0	0	154	0	0	0	0	0	0	0	14	28	39	-25						
509+00.00	173	14	0	0	158	0	0	0	0	0	0	0	14	29	40	-26						
509+25.00	174	15	0	0	159	0	0	0	0	0	0	0	15	30	42	-27						
509+50.00	159	15	0	0	144	0	0															

FILE NO.	ENGLISH	DESIGN TEAM <b>Iowa DOT\HR Green</b>	<b>Monona</b> COUNTY	PROJECT NUMBER <b>STP-175-1(95)--2C-67</b>	SHEET NUMBER <b>T.15</b>	
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Refer to Standard Road Plans EW-101 and EW-102.

## TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28  
04-21-15

Station	Cut						Fill				Checks (EW-102)		Topsoil									
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted Volume	Topsoil Cut Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink						
STG2-ML029-1																						
715+50.00	253	28	16	0	209	0	15	15	20	-20	0	0	28	32	45	-17						
716+00.00	236	29	16	0	190	0	12	12	16	-16	0	0	29	33	46	-17						
716+50.00	234	29	16	0	189	0	12	12	15	-15	0	0	29	32	44	-15						
717+00.00	225	29	16	0	180	0	12	12	16	-16	0	0	29	30	42	-14						
717+50.00	219	28	16	0	174	0	10	10	13	-13	0	0	28	29	41	-12						
718+00.00	222	29	16	0	178	0	10	10	13	-13	0	0	29	29	40	-12						
718+50.00	226	29	16	0	181	0	9	9	12	-12	0	0	29	29	41	-11						
719+00.00	232	29	16	0	186	0	7	7	9	-9	0	0	29	28	40	-10						
719+50.00	235	30	16	0	189	0	6	6	7	-7	0	0	30	28	39	-10						
720+00.00	243	30	17	0	197	0	4	4	5	-5	0	0	30	27	38	-8						
720+50.00	259	30	17	0	212	0	2	2	3	-3	0	0	30	27	38	-8						
721+00.00	260	31	17	0	213	0	1	1	2	-2	0	0	31	27	37	-7						
721+50.00	245	30	17	0	198	0	2	2	3	-3	0	0	30	25	36	-6						
722+00.00	234	30	17	0	187	0	16	16	22	-22	0	0	30	25	35	-5						
722+50.00	240	30	18	0	192	0	18	18	24	-24	0	0	30	25	35	-5						
723+00.00	247	30	19	0	198	0	11	11	14	-14	0	0	30	26	36	-6						
723+50.00	248	29	20	0	198	0	17	17	22	-22	0	0	29	26	37	-8						
724+00.00	254	29	22	0	203	0	20	20	26	-26	0	0	29	27	37	-9						
724+50.00	264	28	23	0	213	0	18	18	23	-23	0	0	28	27	37	-9						
725+00.00	265	28	25	0	212	0	16	16	21	-21	0	0	28	27	38	-10						
725+50.00	264	27	27	0	210	0	13	13	18	-18	0	0	27	27	37	-10						
726+00.00	266	26	29	0	211	0	8	8	10	-10	0	0	26	24	34	-8						
726+50.00	262	25	31	0	205	0	7	7</														







Refer to Standard Road Plans EW-101 and EW-102.

## TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28  
04-21-15

Station	Cut						Fill				Checks (EW-102)		Topsoil									
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted Volume	Topsoil Cut Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink						
STG2-ML029-4																						
763+87.72	40	5	8	0	27	0	9	9	12	-12	0	0	5	6	8	-3						
764+00.00	183	21	32	0	131	0	37	37	48	-48	0	0	21	50	70	-49						
764+50.00	196	23	30	0	143	0	22	22	29	-29	0	0	23	56	78	-55						
765+00.00	207	24	29	0	155	0	31	31	40	-40	0	0	24	57	80	-57						
765+50.00	217	24	27	0	166	0	38	38	49	-49	0	0	24	44	62	-38						
766+00.00	215	24	26	0	166	0	42	42	54	-54	0	0	24	34	47	-24						
766+50.00	212	24	24	0	164	0	45	45	58	-58	0	0	24	34	48	-25						
767+00.00	217	24	23	0	171	0	45	45	59	-59	0	0	24	34	48	-24						
767+50.00	224	25	21	0	178	0	41	41	54	-54	0	0	25	35	49	-24						
768+00.00	224	26	20	0	179	0	35	35	46	-46	0	0	26	36	51	-25						
769+00.00	222	26	18	0	177	0	32	32	42	-42	0	0	26	36	51	-25						
769+50.00	227	26	17	0	184	0	32	32	42	-42	0	0	26	36	51	-24						
770+00.00	239	27	16	0	197	0	36	36	46	-46	0	0	27	37	51	-24						
770+50.00	238	28	16	0	195	0	39	39	51	-51	0	0	28	38	53	-25						
771+00.00	241	28	16	0	197	0	42	42	55	-55	0	0	28	38	53	-26						
771+50.00	244	27	16	0	201	0	46	46	59	-59	0	0	27	38	53	-26						
772+00.00	219	27	16	0	176	0	47	47	61	-61	0	0	27	38	53	-26						
772+50.00	182	25	16	0	142	0	48	48	62	-62	0	0	25	33	46	-22						
773+00.00	197	24	16	0	158	0	47	47	62	-62	0	0	24	33	46	-22						
773+50.00	234	26	16	0	192	0	43	43	56	-56	0	0	26	39	55	-29						
774+00.00	253	27	16	0	211	0	35	35	45	-45	0	0	27	42	59	-33						
774+50.00	244	27	16	0	202	0	26	26	34	-34	0	0	27	43	60	-34						
775+00.00	232	26	16	0	190	0	24	24	31	-31	0	0	26	42	60	-33						
775+50.00	244	27	16	0	201	0	30	30	39	-39	0	0	27	45	63	-36						
776+00.00	230	26	16	0	189	0	37	37	48	-48	0	0	26	43	60	-34						
776+50.00	223	26	15	0	181	0	36	36	46	-46	0	0	26	41	57	-31						
777+00.00	186	24	15	0	147	0	16	16	21	-21	0	0	24	34	48	-24						
STG2-ML029-4 Totals:	5,791	665	507	0	4,619	0	959	959	1,248	-1,248	0	0	665	1,042	1,460	-797						





Refer to Standard Road Plans EW-101 and EW-102.

## TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28  
04-21-15

Station	Cut						Fill				Checks (EW-102)		Topsoil									
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted Volume	Topsoil Cut Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink						
STG3-ML029-1																						
727+25.00	61	0	14	0	47	0	0	0	0	0	0	0	0	0	0	0						
727+50.00	123	0	28	0	95	0	0	0	0	0	0	0	0	0	0	0						
728+00.00	123	0	28	0	95	0	0	0	0	0	0	0	0	0	0	0						
728+50.00	124	0	28	0	96	0	0	0	0	0	0	0	0	0	0	0						
729+00.00	123	0	28	0	96	0	0	0	0	0	0	0	0	0	0	0						
729+50.00	120	0	28	0	92	0	0	0	0	0	0	0	0	0	0	0						
730+00.00	118	0	28	0	90	0	0	0	0	0	0	0	0	0	0	0						
730+50.00	117	0	28	0	90	0	0	0	0	0	0	0	0	0	0	0						
731+00.00	118	0	28	0	90	0	0	0	0	0	0	0	0	0	0	0						
731+50.00	125	0	28	0	96	0	0	0	0	0	0	0	0	0	0	0						
732+00.00	138	0	30	0	108	0	0	0	0	0	0	0	0	0	0	0						
732+50.00	160	0	28	0	132	0	0	0	0	0	0	0	0	0	0	0						
733+00.00	173	0	20	0	152	0	0	0	0	0	0	0	0	0	0	0						
733+50.00	176	6	14	0	156	0	0	0	0	0	0	0	6	0	0	6						
734+00.00	184	15	12	0	158	0	0	0	0	0	0	0	15	0	0	15						
734+50.00	158	21	12	0	124	0	3	3	4	-4	0	0	21	0	0	21						
735+00.00	90	26	6	0	58	0	24	24	31	-31	0	0	26	0	0	26						
735+50.00	44	31	0	0	13	0	75	75	98	-98	0	0	31	3	4	27						
736+00.00	43	36	0	0	7	0	134	134	174	-174	0	0	36	12	16	19						
736+50.00	52	34	0	0	18	0	215	215	280	-280	0	0	34	24	34	1						
737+00.00	104	46	0	0	58	0	329	329	428	-428	0	0	46	39	55	-9						
737+75.00	80	31	0	0	50	0	213	213	277	-277	0	0	31	26	36	-6						
737+95.00	68	17	0	0	50	0	95	95	124	-124	0	0	17	23	33	-16						
738+08.00	24	3	0	0	20	0	2	2	2	-2	0	0	3	9	13	-9						
STG3-ML029-1 Totals:	2,646	267	389	0	1,992	0	1,091	1,091	1,419	-1,419	0	0	267	136	191	76						

FILE NO.	ENGLISH	DESIGN TEAM	Iowa DOT\HR Green	Monona	COUNTY	PROJECT NUMBER	STP-175-1(95)--2C-67	SHEET NUMBER	T.24
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Refer to Standard Road Plans EW-101 and EW-102.

107-28  
04-21-15

## TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut						Fill				Checks (EW-102)		Topsoil									
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted Volume	Topsoil Cut Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink						
STG3-SR175-1																						
1722+00.00	102	8	27	0	67	0	5	5	6	-6	0	0	8	8	12	-4						
1722+25.00	121	11	27	0	83	0	0	0	1	-1	0	0	11	17	23	-12						
1722+50.00	126	12	27	0	87	0	0	0	0	0	0	0	12	16	23	-12						
1722+75.00	125	11	27	0	86	0	0	0	0	0	0	0	11	16	22	-11						
1723+00.00	124	11	27	0	86	0	0	0	0	0	0	0	11	16	22	-11						
1723+25.00	120	11	27	0	82	0	0	0	0	0	0	0	11	15	21	-11						
1723+50.00	119	11	27	0	81	0	0	0	0	0	0	0	11	15	21	-10						
1723+75.00	122	11	27	0	84	0	0	0	0	0	0	0	11	15	21	-10						
1724+00.00	119	11	27	0	81	0	0	0	0	0	0	0	11	15	21	-10						
1724+25.00	118	11	27	0	81	0	0	0	0	0	0	0	11	15	21	-10						
1724+50.00	117	11	26	0	80	0	0	0	0	0	0	0	11	15	21	-10						
1724+75.00	97	10	22	0	65	0	0	0	1	-1	0	0	10	14	20	-10						
1725+00.00	90	12	18	0	60	0	0	0	1	-1	0	0	10	10	14	-4						
1725+25.00	103	14	18	0	72	0	12	12	16	-16	0	0	12	14	20	-9						
1725+50.00	106	16	17	0	73	0	39	39	51	-51	0	0	14	25	35	-21						
1725+75.00	110	16	16	0	78	0	62	62	80	-80	0	0	16	29	40	-25						
1726+00.00	120	16	16	0	78	0	70	70	91	-91	0	0	16	30	42	-26						
1726+25.00	124	17	15	0	88	0	69	69	89	-89	0	0	17	31	43	-26						
1726+50.00	128	17	14	0	93	0	68	68	88	-88	0	0	17	31	43	-27						
1726+75.00	128	17	13	0	98	0	67	67	87	-87	0	0	17	31	44	-27						
1727+00.00	132	17	12	0	103	0	66	66	85	-85	0	0	17	31	44	-27						
1727+25.00	135	17	11	0	107	0	64	64	83	-83	0	0	17	31	44	-27						
1727+50.00	137	17	11	0	110	0	61	61	79	-79	0	0	17	32	44	-27						
1727+75.00	140	17	10	0	113	0	56	56	73	-73	0	0	17	32	44	-27						
1728+00.00	135	17	8	0	109	0	53	53	68	-68	0	0	17	32	45	-27						
1728+25.00	137	17	7	0	112	0	49	49	64	-64	0	0	17	32	45	-28						
1728+50.00	146	17	6	0	122	0	47	47	61	-61	0	0	17	32	46	-28						
1728+64.47	82	5	3	0	74	0	16	16	21	-21	0	0	5	19	27	-22						
STG3-SR175-1 Totals:	3,236	361	500	0	2,376	0	805	805	1,047	-1,047	0	0	361	604	847	-487						

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut						Fill				Checks (EW-102)		Topsoil									
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted Volume	Topsoil Cut Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink						
STG3-SR175-2																						
1751+79.61	14	4	0	0	10	0	0	0	1	-1	0	0	4	0	0	4						
1752+00.00	16	6	0	0	9	0	5	5	6	-6	0	0	6	0	0	6						
1752+25.00	16	9	0	0	7	0	14	14	18	-18	0	0	9	0	0	9						
1752+50.00	21	11	0	0	10	0	21	21	27	-27	0	0	11	0	0	11						
1752+75.00	28	12	0	0	16	0	28	28	37	-37	0	0	12	0	0	12						
1753+00.00	35	13	0	0	22	0	36	36	47	-47	0	0	13	0	0	13						
1753+25.00	43	14	0	0	29	0	41	41	53	-53	0	0	14	0	0	14						
1753+50.00	50	15	0	0	35	0	42	42	55	-55	0	0	15	0	0	15						
1753+75.00	49	16	0	0	33	0	48	48	63	-63	0	0	16	0	0	16						
1754+00.00	54	18	0	0	36	0	56	56	72	-72	0	0	18	0	0	18						
1754+25.00	62	19	0	0	43	0	59	59	76	-76	0	0	19	0	0	19						
1754+50.00	61	20	0	0	40	0	63	63	82	-82	0	0	20	0	0	21						
1754+75.00	58	22	0	0	36	0	69	69	89	-89	0	0	22	0	0	22						
1755+00.00	57	23	0	0	34	0	81	81	105	-105	0	0	23	0	0	23						
1755+25.00	54	24	0	0	30	0	113	113	147	-147	0	0	24	0	0	24						
1755+50.00	86	25	22	0	39	0	161	161	209	-209	0	0	25	0	0	25						
1755+75.00	84	25	26	0	33	0	350	350	455	-455	0	0	25	0	0	25						
1756+00.00	44	25	8	0	11	0	512	512	666	-666	0	0	25	0	0	26						
1756+25.00	41	25	7	0	8	0	484	484	629	-629	0	0	25	0	0	26						
1756+50.00	41	25	7	0	8	0	412	412	535	-535	0	0	25	0	0	25						
1756+75.00	39	24	7	0	8	0	354	354	460	-460	0	0	24	0	0	24						
1757+00.00	38	23	7	0	8	0	316	316	411	-411	0	0	23	0	0	23						
1757+25.00	41	22	6	0	13	0	267	267	347	-347	0	0	22	0	0	22						
1757+50.00	45	21	6	0	18	0	232	232	301	-301	0	0	21	0	0	21						
1757+75.00	48	19	5	0	24	0	197	197	256	-256	0	0	19	0	0	20						
1758+00.00	55	18	5	0	32	0	162	162	211	-211	0	0	18	0	0	18						
1758+25.00	60	22	4	0	34	0	159	159	207	-207	0	0	22	16	22	0						
1758+50.00	58	26	5	0	28	0	167	167	218	-218	0	0	26	31	43	-18						
1758+75.00	54	25	5	0	24	0	157	157	204	-204	0	0	25	30	43	-18						
1759+00.00	50	25	5	0	20	0	143	143	186	-186	0	0	25	30	42	-17						
1759+25.00	49	24	5	0	19	0	132	132	172	-172	0	0	24	30	41	-17						
1759+50.00	51	24	6	0	22	0	128	128	166	-166	0	0	24	29	41	-17						
1759+75.00	55	23	12	0	20	0	132	132	172	-172	0	0	23	29	41	-18						
1760+00.00	65	23	18	0	25	0	134	134	174	-174	0	0	23	29	41	-18						
1760+25.00	81	23	18	0	40	0	125	125	162	-162	0	0	23	30	42	-19						
1760+50.00	95	24	18	0	53	0	112	112	146	-146	0	0	24	31	43	-20						
1760+75.00	108	23	19	0	65	0	101	101	131	-131	0	0	23	31	44	-21						
1761+00.00	90	23	19	0	48	0	48	48	62	-62	0	0	23	16	22	1						
1761+25.00	70	23	22	0	25	0	0	0	1	-1	0	0	23	0	0	23						
1761+50.00	77	28	23	0	26	0	0	0	0	0	0	0	28	0	0	28						
1761+75.00	86	37	22	0	27	0	0	0	0	0	0	0	37	0	0	37						
1762+00.00	102	33	43	0	26	0	0	0	0	0	0	0	33	0	0	34						
1762+25.00	130	13	65	0	52	0	0	0	0	0	0	0	13	0	0	13						
1762+50.00	120	0	67	0	53	0	0	0	0	0	0	0	0	0	0	0						
1762+75.00	78	6	47	0	24	0	0	0	0	0	0	0	6	0	0	6						
1763+00.00	63	12	26	0	25	0	0	0	0	0	0	0	12	0	0	13						
1763+25.00	85	14	26	0	44	0	11	11	14	-14	0	0	14	8	11	4						
1763+50.00	101	15	27	0	59	0	22	22	29	-29	0	0	15	15	21	-6						
1763+75.00	94	15	26	0	53	0	24	24	32	-32	0	0	15	14	20	-5						
1764+00.00	91	15	26	0	50	0	24	24	31	-31	0	0	15	14	19	-5						
1764+25.00	89	15	25	0	49	0	23	23	30	-30	0	0	15	14	19	-5						
1764+50.00	88	14	25	0	48	0	23	23	30	-30	0	0	14	13	19	-5						
1764+75.00	88	14	24	0	50	0	21	21	28	-28	0	0	14	13	19	-5						
1765+00.00	87	14	24	0	49	0	20	20	26	-26	0	0	14	13	19	-5						
1765+25.00	84	14	23	0	46	0	21	21	27	-27	0	0	14	13	19	-5						
1765+50.00	82	14	23	0	45	0	20	20	27	-27	0	0	14	14	19	-5						
1765+75.00	83	14	22	0	47	0	19	19	25	-25	0	0	14	14	20	-6						
1766+00.00	104	16	26	0	62	0	22	22	28	-28	0	0	16	18	25	-9						
1766+25.00	90	14	21	0	55	0	18	18	23	-23	0	0	14	15	21	-7						
1766+50.00	91	14	21	0	56	0	18	18	24	-24	0	0	14	15	21	-7						
1766+75.00	90	14	20	0	56	0	18	18	24	-24	0	0	14	15	21	-8						
1767+00.00	90	14	20	0	57	0	18	18	23	-23	0	0	14	15	21	-8						
1767+25.00	91	14	19	0	58	0	17	17	22	-22	0	0	14	15	21	-7						
1767+50.00	92	14	19	0	60	0	15	15	20	-20	0	0	14	15	21	-8						
1767+75.00	94	14	19	0	62	0	14	14	18	-18	0	0	14	15	21	-8						
1768+00.00	95	14	19	0	62	0	14	14	18	-18	0	0	14	15	21	-8						
1768+25.00	103	14	21	0	68	0	15	15	20	-20	0	0	14	15	21	-7						
1768+50.00																						
Subtotals:	4,635	1,217	1,030	0	2,389	0	6,055	6,055	7,875	-7,875	0	0	1,217	629	883	334						

Refer to Standard Road Plans EW-101 and EW-102.

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## TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

[illegible]

Refer to Standard Road Plans EW-101 and EW-102.

## TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

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[illegible]



Refer to Standard Road Plans EW-101 and EW-102.

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## TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut						Fill				Checks (EW-102)		Topsoil									
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted Volume	Topsoil Cut Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink						
STG5-SR175-1																						
1738+33.00	10	0	10	0	0	0	47	47	61	-61	0	0	0	0	0	0						
1738+50.00	74	13	6	0	56	0	257	257	334	-334	0	0	13	38	53	-40						
1738+75.00	125	25	0	0	100	0	396	396	514	-514	0	0	25	76	106	-81						
1739+00.00	106	25	0	0	81	0	441	441	573	-573	0	0	25	76	106	-81						
1739+25.00	107	27	0	0	80	0	521	521	677	-677	0	0	27	76	107	-80						
1739+50.00	161	37	0	0	124	0	651	651	847	-847	0	0	37	87	122	-85						
1739+75.00	209	51	0	0	158	0	921	921	1,198	-1,198	0	0	51	102	142	-91						
1740+00.00	166	38	0	0	127	0	1,242	1,242	1,615	-1,615	0	0	38	91	128	-89						
1740+25.00	91	16	0	0	75	0	1,256	1,256	1,633	-1,633	0	0	16	56	78	-62						
1740+50.00	46	13	1	0	32	0	894	894	1,162	-1,162	0	0	13	33	46	-33						
1740+75.00	24	15	1	0	9	0	608	608	790	-790	0	0	15	53	74	-60						
1741+00.00	24	18	0	0	5	0	570	570	741	-741	0	0	18	88	123	-105						
1741+25.00	53	23	0	0	30	0	646	646	840	-840	0	0	23	107	150	-127						
1741+50.00	118	33	3	0	82	0	691	691	899	-899	0	0	33	121	170	-137						
1741+75.00	223	42	7	0	174	0	575	575	747	-747	0	0	42	122	171	-129						
1742+00.00	264	41	8	0	214	0	471	471	613	-613	0	0	41	109	153	-112						
1742+25.00	243	39	9	0	195	0	433	433	563	-563	0	0	39	101	142	-103						
1742+50.00	254	38	10	0	206	0	398	398	517	-517	0	0	38	100	140	-102						
1742+75.00	261	38	10	0	214	0	372	372	483	-483	0	0	38	97	136	-98						
1743+00.00	278	37	14	0	228	0	360	360	468	-468	0	0	37	94	132	-95						
1743+25.00	307	37	18	0	253	0	341	341	444	-444	0	0	37	94	131	-95						
1743+50.00	321	36	19	0	267	0	311	311	404	-404	0	0	36	93	130	-94						
1743+75.00	330	36	19	0	275	0	317	317	412	-412	0	0	36	92	129	-93						
1744+00.00	330	36	18	0	275	0	360	360	469	-469	0	0	36	92	129	-92						
1744+25.00	322	36	18	0	267	0	351	351	456	-456	0	0	36	106	148	-112						
1744+50.00	374	36	22	0	315	0	293	293	381	-381	0	0	36	127	179	-142						
1744+75.00	555	36	15	0	504	0	267	267	347	-347	0	0	36	127	177	-142						
1745+00.00	540	33	3	0	504	0	241	241	314	-314	0	0	33	102	143	-110						
1745+25.00	292	26	0	0	266	0	123	123	160	-160	0	0	26	63	89	-63						
1745+50.00	122	16	0	0	105	0	15	15	20	-20	0	0	16	20	29	-12						
1745+75.00	15	3	0	0	12	0	0	0	0	0	0	0	3	0	0	3						
1745+88.00																						
STG5-SR175-1 Totals:	6,344	902	210	0	5,233	0	14,369	14,369	18,681	-18,681	0	0	902	2,544	3,563	-2,663						

Refer to Standard Road Plans EW-101 and EW-102.

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## TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut						Fill				Checks (EW-102)		Topsoil									
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted Volume	Topsoil Cut Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink						
STG5-SR175-2																						
1746+81.00	31	0	0	0	31	0	0	0	0	0	0	0	0	3	4	-4						
1747+00.00	126	1	0	0	125	0	9	9	12	-12	0	0	1	26	37	-35						
1747+25.00	218	9	5	0	204	0	67	67	88	-88	0	0	9	55	77	-68						
1747+50.00	289	21	16	0	251	0	153	153	199	-199	0	0	21	72	101	-80						
1747+75.00	299	30	22	0	247	0	208	208	271	-271	0	0	30	86	120	-90						
1748+00.00	305	33	22	0	250	0	203	203	264	-264	0	0	33	92	129	-96						
1748+25.00	340	31	23	0	285	0	186	186	242	-242	0	0	31	91	127	-96						
1748+50.00	360	30	25	0	305	0	198	198	258	-258	0	0	30	89	124	-95						
1748+75.00	360	31	26	0	303	0	215	215	280	-280	0	0	31	88	124	-93						
1749+00.00	348	32	26	0	291	0	237	237	308	-308	0	0	32	96	134	-102						
1749+25.00	311	32	25	0	254	0	276	276	359	-359	0	0	32	52	73	-41						
1749+50.00	288	32	21	0	235	0	291	291	378	-378	0	0	32	45	63	-31						
1749+75.00	287	33	18	0	236	0	291	291	378	-378	0	0	33	90	126	-93						
1750+00.00	277	38	17	0	221	0	315	315	410	-410	0	0	38	101	141	-103						
1750+25.00	195	39	16	0	141	0	494	494	642	-642	0	0	39	110	154	-116						
1750+50.00	76	19	12	0	44	0	465	465	604	-604	0	0	19	102	142	-123						
1750+75.00	24	2	5	0	17	0	261	261	339	-339	0	0	2	47	66	-64						
1751+00.00	26	0	11	0	15	0	137	137	178	-178	0	0	0	0	0	0						
1751+25.00	33	1	22	0	10	0	17	17	22	-22	0	0	1	0	0	1						
1751+50.00	30	5	22	0	3	0	14	14	19	-19	0	0	5	0	0	5						
1751+75.00	37	12	22	0	3	0	14	14	19	-19	0	0	12	0	0	12						
1752+00.00	42	17	22	0	3	0	14	14	19	-19	0	0	17	0	0	17						
1752+25.00	45	20	22	0	3	0	14	14	19	-19	0	0	20	0	0	20						
1752+50.00	44	18	22	0	3	0	14	14	19	-19	0	0	18	0	0	19						
1752+75.00	133	15	17	11	90	11	90	90	117	-106	0	0	15	0	0	15						
1753+00.00	128	7	17	11	93	11	86	86	112	-101	0	0	7	0	0	7						
1753+25.00	4	0	3	0	1	0	1	1	1	-1	0	0	0	0	0	0						
1753+29.00																						
STG5-SR175-2 Totals:	4,655	510	456	23	3,668	23	4,273	4,273	5,556	-5,533	0	0	510	1,245	1,743	-1,235						



Refer to Standard Road Plans EW-101 and EW-102.

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## TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut						Fill				Checks (EW-102)		Topsoil									
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted Volume	Topsoil Cut Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink						
STG6-ML029-1																						
715+30.00	52	3	5	0	44	0	1	1	2	-2	0	0	3	4	6	-3						
715+50.00	122	17	13	0	93	0	7	7	0	-0	0	0	17	8	11	6						
716+00.00	128	19	13	0	97	0	6	6	0	-0	0	0	19	12	16	2						
716+50.00	177	25	13	0	140	0	4	4	5	-5	0	0	25	22	31	-6						
717+00.00	221	27	12	0	182	0	2	2	3	-3	0	0	27	23	33	-6						
717+50.00	220	26	12	0	181	0	1	1	1	-1	0	0	26	21	29	-3						
718+00.00	204	27	13	0	164	0	1	1	2	-2	0	0	27	20	28	-2						
718+50.00	190	26	13	0	151	0	1	1	2	-2	0	0	26	19	27	-1						
719+00.00	179	25	13	0	142	0	0	0	1	-1	0	0	25	18	26	-1						
719+50.00	202	25	14	0	163	0	0	0	1	-1	0	0	25	18	26	-1						
720+00.00	233	26	15	0	192	0	1	1	1	-1	0	0	26	20	28	-3						
720+50.00	240	27	15	0	198	0	1	1	2	-2	0	0	27	22	31	-4						
721+00.00	230	26	15	0	188	0	2	2	3	-3	0	0	26	21	29	-3						
721+50.00	237	26	16	0	195	0	2	2	2	-2	0	0	26	20	28	-3						
722+00.00	250	25	18	0	207	0	1	1	1	-1	0	0	25	20	28	-3						
722+50.00	239	24	20	0	195	0	0	0	0	0	0	0	24	18	26	-2						
723+00.00	237	23	23	0	191	0	1	1	1	-1	0	0	23	18	25	-2						
723+50.00	232	22	25	0	185	0	1	1	2	-2	0	0	22	16	23	0						
724+00.00	231	22	27	0	182	0	2	2	3	-3	0	0	22	15	21	1						
724+50.00	250	23	29	0	199	0	3	3	4	-4	0	0	23	16	23	0						
725+00.00	274	24	34	0	216	0	4	4	6	-6	0	0	24	18	26	-2						
725+50.00	294	24	42	0	228	0	5	5	7	-7	0	0	24	21	29	-5						
726+00.00	328	23	49	0	256	0	4	4	5	-5	0	0	23	24	33	-11						
726+50.00	363	21	57	0	285	0	1	1	1	-1	0	0	21	27	37	-16						
727+00.00	386	20	64	0	302	0	0	0	0	0	0	0	20	29	41	-21						
727+50.00	404	17	70	0	317	0	0	0	0	0	0	0	17	29	40	-23						
728+00.00	426	16	75	0	335	0	0	0	0	0	0	0	16	29	41	-25						
728+50.00	620	17	80	0	523	0	0	0	0	0	0	0	17	43	60	-43						
729+00.00	680	18	85	0	577	0	0	0	0	0	0	0	18	55	77	-59						
729+50.00	558	19	91	0	449	0	0	0	0	0	0	0	19	55	77	-58						
730+00.00	570	19	96	0	455	0	0	0	0	0	0	0	19	57	81	-61						
730+50.00	586	20	101	0	464	0	0	0	0	0	0	0	20	61	85	-65						
731+00.00	584	23	93	0	468	0	0	0	0	0	0	0	23	62	87	-64						
731+50.00	610	26	82	0	502	0	0	0	0	0	0	0	26	58	81	-56						
732+00.00	693	30	78	0	585	0	0	0	0	0	0	0	30	51	71	-41						
732+50.00	458	17	54	0	387	0	0	0	0	0	0	0	17	32	45	-27						
733+00.00	185	0	37	0	148	0	0	0	0	0	0	0	0	15	21	-21						
733+50.00	222	1	41	0	180	0	0	0	0	0	0	0	1	16	22	-21						
734+00.00	266	3	43	0	219	0	0	0	0	0	0	0	3	18	25	-22						
734+50.00	14	0	2	0	11	0	0	0	0	0	0	0	0	1	1	-1						
STG6-ML029-1																						
Totals:	12,596	801	1,598	0	10,197	0	53	53	70	-70	0	0	801	1,051	1,473	-674						



Refer to Standard Road Plans EW-101 and EW-102.

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## TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut						Fill				Checks (EW-102)		Topsoil									
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted Volume	Topsoil Cut Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink						
STG6-ML029-3																						
757+90.00	32	0	9	0	23	0	0	0	0	0	0	0	0	3	4	-4						
758+00.00	236	0	40	0	195	0	0	0	0	0	0	0	0	22	31	-31						
758+50.00	188	0	36	0	151	0	0	0	0	0	0	0	0	19	26	-26						
759+00.00	178	0	33	17	127	17	0	0	0	0	0	0	0	20	28	-28						
759+50.00	178	0	31	19	127	19	0	0	0	0	0	0	0	23	33	-33						
760+00.00	189	0	30	2	157	2	0	0	0	0	0	0	0	27	38	-38						
760+50.00	195	0	29	0	165	0	0	0	0	0	0	0	0	28	39	-39						
761+00.00	183	0	29	0	153	0	0	0	0	0	0	0	0	25	36	-36						
761+50.00	175	0	29	0	146	0	0	0	0	0	0	0	0	24	34	-34						
762+00.00	137	8	26	0	103	0	0	0	0	0	0	0	8	12	17	-9						
762+25.82	225	15	35	0	176	0	2	2	2	-2	0	0	15	18	26	-11						
762+50.00	554	29	69	0	456	0	8	8	11	-11	0	0	29	42	58	-29						
763+00.00	536	28	65	0	443	0	7	7	9	-9	0	0	28	44	62	-34						
763+50.00	513	27	61	0	424	0	6	6	8	-8	0	0	27	50	70	-43						
764+00.00	467	26	56	0	385	0	6	6	8	-8	0	0	26	38	54	-28						
764+50.00	423	25	50	0	348	0	6	6	8	-8	0	0	25	35	49	-24						
765+00.00	376	24	45	0	307	0	10	10	13	-13	0	0	24	33	46	-22						
765+50.00	330	24	38	0	268	0	15	15	20	-20	0	0	24	30	42	-18						
766+00.00	299	23	33	0	242	0	18	18	24	-24	0	0	23	26	36	-14						
766+50.00	272	22	31	0	219	0	25	25	32	-32	0	0	22	24	34	-12						
767+00.00	247	22	29	0	196	0	31	31	41	-41	0	0	22	23	33	-11						
767+50.00	241	22	27	0	193	0	26	26	33	-33	0	0	22	23	32	-10						
768+00.00	239	22	25	0	192	0	17	17	22	-22	0	0	22	22	31	-9						
768+50.00	244	22	23	0	198	0	15	15	20	-20	0	0	22	23	32	-10						
769+00.00	260	23	21	0	215	0	20	20	26	-26	0	0	23	26	37	-14						
769+50.00	274	24	19	0	230	0	29	29	37	-37	0	0	24	30	42	-17						
770+00.00	287	25	17	0	244	0	35	35	45	-45	0	0	25	32	45	-20						
770+50.00	294	26	16	0	252	0	37	37	48	-48	0	0	26	34	48	-22						
771+00.00	305	26	16	0	263	0	39	39	51	-51	0	0	26	34	48	-22						
771+50.00	325	27	16	0	283	0	36	36	47	-47	0	0	27	35	49	-22						
772+00.00	76	6	4	0	66	0	8	8	10	-10	0	0	6	8	12	-6						
772+11.86	220	21	11	0	189	0	28	28	36	-36	0	0	21	28	39	-18						
772+50.00	275	28	13	0	234	0	49	49	63	-63	0	0	28	38	53	-25						
773+00.00	281	28	13	0	239	0	48	48	63	-63	0	0	28	39	55	-27						
773+50.00	278	28	13	0	237	0	35	35	45	-45	0	0	28	36	50	-23						
774+00.00	288	27	13	0	248	0	28	28	36	-36	0	0	27	34	48	-21						
774+50.00	297	28	13	0	256	0	23	23	30	-30	0	0	28	36	51	-23						
775+00.00	280	28	13	0	239	0	21	21	27	-27	0	0	28	36	50	-22						
775+50.00	248	27	13	0	208	0	26	26	34	-34	0	0	27	34	47	-20						
776+00.00	211	26	13	0	171	0	39	39	50	-50	0	0	26	31	44	-18						
776+50.00	191	25	13	0	153	0	41	41	53	-53	0	0	25	30	42	-17						
777+00.00	183	24	13	0	146	0	35	35	45	-45	0	0	24	29	41	-17						
777+50.00	181	23	13	0	145	0	31	31	41	-41	0	0	23	29	41	-18						
778+00.00	174	22	13	0	139	0	29	29	38	-38	0	0	22	29	41	-18						
778+50.00	166	23	13	0	131	0	31	31	40	-40	0	0	23	30	43	-20						
779+00.00	125	20	11	0	94	0	16	16	21	-21	0	0	20	14	20	0						
779+45.00																						
STG6-ML029-3 Totals:	11,873	876	1,183	39	9,776	39	874	874	1,138	-1,100	0	0	876	1,306	1,831	-957						
						</																

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut						Fill				Checks (EW-102)		Topsoil									
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted Volume	Topsoil Cut Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink						
STG6-SR175-1																						
1712+75.00	38	0	0	0	38	0	6	6	7	-7	0	0	0	30	42	-42						
1713+00.00	33	0	0	0	33	0	5	5	7	-7	0	0	0	30	42	-42						
1713+25.00	27	0	0	0	27	0	5	5	7	-7	0	0	0	30	43	-43						
1713+50.00	16	0	0	0	16	0	5	5	7	-7	0	0	0	31	43	-43						
1713+75.00	13	0	0	0	12	0	5	5	7	-7	0	0	0	31	43	-43						
1714+00.00	15	0	0	0	15	0	5	5	7	-7	0	0	0	31	43	-43						
1714+25.00	10	0	0	0	10	0	5	5	7	-7	0	0	0	31	43	-43						
1714+50.00	7	0	0	0	7	0	4	4	6	-6	0	0	0	31	44	-44						
1714+75.00	9	0	1	0	8	0	4	4	5	-5	0	0	0	31	43	-43						
1715+00.00	10	0	1	0	9	0	3	3	4	-4	0	0	0	31	43	-43						
1715+25.00	8	0	1	0	7	0	4	4	5	-5	0	0	0	31	43	-43						
1715+50.00	9	0	2	0	7	0	4	4	5	-5	0	0	0	31	43	-43						
1715+75.00	13	0	3	0	10	0	4	4	5	-5	0	0	0	30	43	-43						
1716+00.00	15	0	4	0	11	0	3	3	5	-5	0	0	0	19	27	-27						
1716+25.00	17	0	5	0	12	0	3	3	4	-4	0	0	0	9	13	-13						
1716+50.00	23	0	6	0	16	0	3	3	4	-4	0	0	0	11	16	-16						
1716+75.00	29	0	8	0	22	0	3	3	4	-4	0	0	0	13	19	-19						
1717+00.00	37	0	9	0	28	0	3	3	4	-4	0	0	0	15	22	-22						
1717+25.00	46	0	10	0	36	0	3	3	4	-4	0	0	0	18	25	-25						
1717+50.00	56	0	12	0	45	0	3	3	4	-4	0	0	0	20	28	-28						
1717+75.00	67	0	13	0	54	0	3	3	4	-4	0	0	0	22	31	-31						
1718+00.00	69	0	14	0	55	0	3	3	4	-4	0	0	0	23	32	-32						
1718+25.00	62	0	15	0	47	0	4	4	5	-5	0	0	0	23	32	-32						
1718+50.00	62	0	16	0	46	0	4	4	5	-5	0	0	0	24	33	-33						
1718+75.00	70	0	17	0	53	0	4	4	5	-5	0	0	0	25	35	-35						
1719+00.00	52	0	18	0	34	0	3	3	5	-5	0	0	0	15	21	-21						
1719+25.00	63	0	19	0	44	0	3	3	4	-4	0	0	0	18	25	-25						
1719+50.00	99	0	20	0	79	0	3	3	4	-4	0	0	0	31	43	-43						
1719+75.00	107	0	21	0	86	0	3	3	4	-4	0	0	0	32	44	-44						
1720+00.00	115	0	19	0	96	0	6	6	8	-8	0	0	0	34	47	-47						
1720+25.00	71	0	9	0	62	0	7	7	10	-10	0	0	0	26	36	-36						
1720+50.00	21	0	9	0	12	0	13	13	16	-16	0	0	0	8	12	-12						
1720+75.00	41	0	23	0	18	0	22	22	29	-29	0	0	0	16	22	-22						
1721+00.00	59	0	26	0	33	0	15	15	19	-19	0	0	0	24	33	-33						
1721+25.00	62	0	22	0	40	0	4	4	5	-5	0	0	0	16	23	-23						
1721+50.00	67	0	20	0	47	0	3	3	4	-4	0	0	0	17	24	-24						
1721+75.00	65	0	18	0	47	0	3	3	4	-4	0	0	0	15	21	-21						
1722+00.00	74	0	18	0	55	0	2	2	2	-2	0	0	0	13	18	-18						
1722+25.00	81	0	19	0	62	0	1	1	1	-1	0	0	0	13	19	-19						
1722+50.00	82	0	19	0	63	0	1	1	1	-1	0	0	0	13	19	-19						
1722+75.00	79	0	19	0	60	0	1	1	1	-1	0	0	0	13	19	-19						
1723+00.00	76	0	19	0	57	0	1	1	1	-1	0	0	0	13	18	-18						
1723+25.00	73	0	19	0	54	0	1	1	2	-2	0	0	0	13	18	-18						
1723+50.00	73	0	19	0	54	0	1	1	2	-2	0	0	0	13	18	-18						
1723+75.00	75	0	19	0	56	0	1	1	2	-2	0	0	0	13	19	-19						
1724+00.00	77	0	19	0	58	0	1	1	2	-2	0	0	0	14	19	-19						
1724+25.00	79	0	19	0	60	0	1	1	2	-2	0	0	0	14	20	-20						
1724+50.00	79	0	19	0	60	0	1	1	2	-2	0	0	0	15	21	-21						
1724+75.00	91	0	24	0	68	0	1	1	1	-1	0	0	0	15	21	-21						
1725+00.00	105	0	29	0	76	0	0	0	0	0	0	0	0	15	21	-21						
1725+25.00	107	0	29	0	79	0	0	0	0	0	0	0	0	15	21	-21						
1725+50.00	110	0	29	0	82	0	0	0	0	0	0	0	0	15	21	-21						
1725+75.00	114	0	29	0	85	0	0	0	0	0	0	0	0	15	21	-21						
1726+00.00	118	0	29	0	89	0	0	0	0	0	0	0	0	15	21	-21						
1726+25.00	123	0	29	0	95	0	0	0	0	0	0	0	0	15	21	-21						
1726+50.00	128	0	29	0	99	0	0	0	0	0	0	0	0	15	21	-21						
1726+75.00	134	0	29	0	105	0	0	0	0	0	0	0	0	15	21	-21						
1727+00.00	140	0	29	0	112	0	0	0	0	0	0	0	0	15	21	-21						
1727+25.00	149	0	29	0	120	0	0	0	0	0	0	0	0	16	22	-22						
1727+50.00	157	0	29	0	128	0	0	0	0	0	0	0	0	16	22	-22						
1727+75.00	163	0	29	0	134	0	0	0	0	0	0	0	0	16	23	-23						
1728+00.00	166	0	29	0	137	0	0	0	0	0	0	0	0	15	22	-22						
1728+25.00	168	0	29	0	139	0	0	0	0	0	0	0	0	14	20	-20						
1728+50.00	146	0	29	0	116	0	0	0	0	0	0	0	0	16	23	-23						
1728+75.00	111	0	30	0	81	0	0	0	0	0	0	0	0	9	13	-13						
1729+00.00	115	0	30	0	86	0	0	0	0	0	0	0	0	8	11	-11						
1729+25.00	166	0	30	0	136	0	0	0	0	0	0	0	0	15	22	-22						
1729+50.00																						
Subtotals:	4,946	0	1,119	0	3,827	0	199	199	261	-261	0	0	0	1,295	1,816	-1,816						

Refer to Standard Road Plans EW-101 and EW-102.

## TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28  
04-21-15

Station	Cut						Fill				Checks (EW-102)		Topsoil									
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted Volume	Topsoil Cut Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink						
1729+50.00	206	1	30	0	175	0	0	0	0	0	0	0	1	16	22	-22						
1729+75.00	214	1	30	0	183	0	0	0	0	0	0	0	1	17	24	-22						
1730+00.00	221	2	29	0	191	0	0	0	0	0	0	0	2	18	25	-23						
1730+25.00	225	2	28	0	195	0	0	0	0	0	0	0	2	19	27	-25						
1730+50.00	233	2	27	0	203	0	0	0	0	0	0	0	2	20	28	-26						
1730+75.00	244	3	26	0	215	0	0	0	0	0	0	0	3	22	30	-27						
1731+00.00	247	3	25	0	218	0	0	0	0	0	0	0	3	23	32	-29						
1731+25.00	251	4	25	0	223	0	0	0	0	0	0	0	4	25	34	-31						
1731+50.00	255	5	24	0	226	0	0	0	0	0	0	0	5	26	37	-32						
1731+75.00	253	5	23	0	225	0	0	0	0	0	0	0	5	28	40	-34						
1732+00.00	249	6	23	0	220	0	0	0	0	0	0	0	6	30	43	-37						
1732+25.00	243	7	22	0	213	0	1	1	1	-1	0	0	7	33	46	-39						
1732+50.00	235	8	22	0	205	0	3	3	4	-4	0	0	8	36	50	-42						
1732+75.00	226	10	21	0	196	0	7	7	10	-10	0	0	10	38	54	-44						
1733+00.00	221	11	19	0	192	0	16	16	20	-20	0	0	11	41	58	-47						
1733+25.00	221	12	18	0	191	0	25	25	33	-33	0	0	12	44	62	-50						
1733+50.00	253	14	17	0	223	0	35	35	46	-46	0	0	14	48	67	-54						
1733+75.00	311	16	15	0	280	0	47	47	61	-61	0	0	16	53	74	-58						
1734+00.00	360	18	13	0	328	0	61	61	79	-79	0	0	18	58	81	-63						
1734+25.00	388	21	6	0	361	0	90	90	118	-118	0	0	21	69	96	-76						
1734+50.00	401	21	4	0	376	0	130	130	169	-169	0	0	21	69	96	-75						
1734+75.00	350	21	6	0	323	0	163	163	212	-212	0	0	21	60	83	-63						
1735+00.00	320	23	2	0	295	0	220	220	286	-286	0	0	23	69	97	-74						
1735+25.00	355	26	0	0	328	0	309	309	402	-402	0	0	26	86	120	-94						
1735+50.00	345	29	0	0	317	0	367	367	478	-478	0	0	29	92	128	-100						
1735+75.00	300	29	0	0	271	0	379	379	493	-493	0	0	29	91	128	-99						
1736+00.00	256	26	0	0	230	0	380	380	494	-494	0	0	26	89	125	-99						
1736+25.00	245	23	4	0	217	0	381	381	496	-496	0	0	23	88	123	-100						
1736+50.00	251	20	15	0	216	0	386	386	502	-502	0	0	20	87	122	-101						
1736+75.00	256	17	28	0	211	0	391	391	508	-508	0	0	17	86	121	-104						
1737+00.00	253	14	40	0	199	0	396	396	515	-515	0	0	14	86	120	-107						
1737+25.00	248	22	38	0	189	0	393	393	511	-511	0	0	22	85	119	-98						
1737+50.00	230	37	27	0	165	0	394	394	513	-513	0	0	37	84	118	-81						
1737+75.00	206	44	25	0	137	0	392	392	509	-509	0	0	44	82	115	-70						
1738+00.00	202	45	24	0	132	0	375	375	488	-488	0	0	45	80	112	-67						
1738+25.00	205	45	24	0	136	0	259	259	337	-337	0	0	45	79	110	-65						
1738+50.00	84	20	15	0	49	0	48	48	62	-62	0	0	20	25	35	-15						
1738+65.78																						
STG6-SR175-1																						
Totals:	14,510	613	1,816	0	12,083	0	5,848	5,848	7,607	-7,607	0	0	613	3,294	4,617	-4,007						
																					</	

Refer to Standard Road Plans EW-101 and EW-102.

107-28  
04-21-15

## TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut						Fill				Checks (EW-102)		Topsoil									
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted Volume	Topsoil Cut Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink						
STG6-SR175-2																						
1751+75.00	6	6	0	0	0	0	0	0	0	0	0	0	6	0	0	6						
1752+00.00	10	10	0	0	0	0	0	0	0	0	0	0	10	0	0	10						
1752+25.00	12	12	0	0	0	0	0	0	0	0	0	0	12	0	0	12						
1752+50.00	16	9	7	0	0	0	0	0	0	0	0	0	9	0	0	9						
1752+75.00	209	8	22	32	147	32	63	63	82	-50	0	0	8	54	76	-69						
1753+00.00	408	16	37	58	297	58	256	256	333	-275	0	0	16	108	151	-135						
1753+25.00	405	20	55	45	285	45	403	403	524	-479	0	0	20	104	146	-126						
1753+50.00	369	16	56	34	264	34	418	418	543	-510	0	0	16	100	141	-125						
1753+75.00	323	13	35	24	251	24	400	400	520	-497	0	0	13	97	136	-123						
1754+00.00	284	13	24	14	233	14	371	371	482	-468	0	0	13	92	129	-117						
1754+25.00	260	12	24	5	219	5	354	354	461	-456	0	0	12	89	125	-113						
1754+50.00	246	11	23	0	211	0	354	354	461	-461	0	0	11	88	123	-112						
1754+75.00	243	10	23	0	210	0	349	349	454	-454	0	0	10	85	119	-109						
1755+00.00	263	9	25	0	228	0	321	321	417	-417	0	0	9	83	116	-107						
1755+25.00	306	5	42	0	259	0	267	267	347	-347	0	0	5	81	114	-109						
1755+50.00	324	0	54	0	270	0	207	207	269	-269	0	0	0	78	110	-110						
1755+75.00	307	1	47	0	259	0	161	161	209	-209	0	0	1	76	107	-106						
1756+00.00	278	4	34	0	241	0	124	124	162	-162	0	0	4	75	105	-101						
1756+25.00	243	7	23	0	214	0	94	94	123	-123	0	0	7	72	101	-93						
1756+50.00	209	9	19	0	182	0	75	75	98	-98	0	0	9	68	96	-87						
1756+75.00	177	7	15	0	156	0	68	68	89	-89	0	0	7	65	91	-84						
1757+00.00	160	5	12	0	144	0	66	66	86	-86	0	0	5	62	87	-82						
1757+25.00	161	5	16	0	141	0	64	64	83	-83	0	0	5	60	84	-79						
1757+50.00	170	5	21	0	144	0	60	60	78	-78	0	0	5	58	81	-76						
1757+75.00	177	6	25	0	147	0	58	58	75	-75	0	0	6	54	76	-70						
1758+00.00	176	6	26	0	144	0	57	57	74	-74	0	0	6	50	71	-64						
1758+25.00	151	3	26	0	122	0	28	28	37	-37	0	0	3	33	46	-42						
1758+50.00	127	0	26	0	100	0	0	0	0	0	0	0	0	15	22	-22						
1758+75.00	124	0	27	0	97	0	0	0	0	0	0	0	0	15	21	-21						
1759+00.00	123	0	27	0	96	0	0	0	0	0	0	0	0	15	21	-21						
1759+25.00	123	0	27	0	95	0	0	0	0	0	0	0	0	15	21	-21						
1759+50.00	121	0	27	0	95	0	0	0	0	0	0	0	0	14	20	-20						
1759+75.00	123	0	26	0	97	0	0	0	0	0	0	0	0	14	19	-19						
1760+00.00	126	0	25	0	101	0	0	0	0	0	0	0	0	13	19	-19						
1760+25.00	129	0	25	0	104	0	0	0	0	0	0	0	0	13	18	-18						
1760+50.00	132	0	25	0	107	0	0	0	0	0	0	0	0	13	18	-18						
1760+75.00	135	0	25	0	111	0	0	0	0	0	0	0	0	13	18	-18						
1761+00.00	139	0	25	0	114	0	0	0	0	0	0	0	0	13	18	-18						
1761+25.00	143	0	25	0	117	0	0	0	0	0	0	0	0	13	18	-18						
1761+50.00	143	0	25	0	117	0	0	0	0	0	0	0	0	13	18	-18						
1761+75.00	143	1	26	0	116	0	0	0	0	0	0	0	1	14	20	-19						
1761+88.73	77	1	10	0	66	0	0	0	0	0	0	0	1	8	11	-11						
STG6-SR175-2 Totals:	7,661	229	1,036	212	6,186	212	4,619	4,619	6,006	-5,794	0	0	229	1,922	2,692	-2,465						
								</														

Refer to Standard Road Plans EW-101 and EW-102.

107-28  
04-21-15

## TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut						Fill				Checks (EW-102)		Topsoil									
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted Volume	Topsoil Cut Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink						
STG6-SR175-3																						
1762+73.20	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0						
1762+75.00	16	6	0	0	11	0	18	18	24	-24	0	0	6	0	0	6						
1763+00.00	12	11	0	0	1	0	29	29	38	-38	0	0	11	0	0	11						
1763+25.00	10	9	0	0	1	0	24	24	31	-31	0	0	9	0	0	9						
1763+50.00	9	9	0	0	0	0	27	27	35	-35	0	0	9	0	0	9						
1763+75.00	9	9	0	0	0	0	27	27	36	-36	0	0	9	0	0	9						
1764+00.00	60	10	15	0	35	0	27	27	35	-35	0	0	10	0	0	10						
1764+25.00	110	10	29	0	70	0	26	26	34	-34	0	0	10	0	0	10						
1764+50.00	102	10	29	0	63	0	25	25	33	-33	0	0	10	0	0	10						
1764+75.00	100	10	30	0	60	0	25	25	33	-33	0	0	10	0	0	10						
1765+00.00	103	11	30	0	63	-33	25	25	33	-33	0	0	11	0	0	11						
1765+25.00	101	11	30	0	60	0	29	29	37	-37	0	0	11	0	0	11						
1765+50.00	91	11	30	0	50	0	34	34	45	-45	0	0	11	0	0	12						
1765+75.00	69	11	29	0	28	0	39	39	50	-50	0	0	11	0	0	11						
1766+00.00	81	18	35	0	28	0	50	50	66	-66	0	0	18	0	0	18						
1766+25.00	91	12	30	0	49	0	22	22	29	-29	0	0	12	0	0	12						
1766+50.00	98	3	30	0	64	0	0	0	0	0	0	0	3	0	0	3						
1766+75.00	95	2	30	0	64	0	0	0	0	0	0	0	2	0	0	2						
1767+00.00	95	2	30	0	63	0	0	0	0	0	0	0	2	0	0	2						
1767+25.00	94	2	30	0	63	0	0	0	0	0	0	0	2	0	0	2						
1767+50.00	94	2	30	0	62	0	0	0	0	0	0	0	2	0	0	2						
1767+75.00	95	2	30	0	63	0	0	0	0	0	0	0	2	0	0	2						
1768+00.00	96	2	30	0	64	0	0	0	0	0	0	0	2	0	0	2						
1768+25.00	87	2	26	0	59	0	0	0	0	0	0	0	2	0	0	2						
1768+50.00	76	2	22	0	52	0	0	0	0	0	0	0	2	0	0	2						
1768+75.00	75	2	22	0	51	0	0	0	0	0	0	0	2	0	0	2						
1769+00.00	74	2	22	0	50	0	0	0	0	0	0	0	2	0	0	2						
1769+25.00	73	2	22	0	50	0	0	0	0	0	0	0	2	0	0	2						
1769+50.00	73	1	22	0	50	0	0	0	0	0	0	0	1	0	0	2						
1769+75.00	67	2	22	0	44	0	1	1	1	-1	0	0	2	0	0	2						
1770+00.00	67	2	22	0	44	0	1	1	1	-1	0	0	2	6	8	-7						
1770+25.00	72	1	22	0	50	0	0	0	0	0	0	0	1	11	16	-15						
1770+50.00	72	0	22	0	51	0	0	0	0	0	0	0	0	10	14	-14						
1770+75.00	73	0	22	0	51	0	0	0	0	0	0	0	0	11	15	-15						
1771+00.00	73	0	22	0	52	0	0	0	0	0	0	0	0	11	15	-15						
1771+25.00	63	0	16	0	46	0	2	2	2	-2	0	0	0	18	26	-25						
1771+50.00	53	0	11	0	41	0	3	3	4	-4	0	0	0	26	37	-37						
1771+75.00	53	0	11	0	42	0	3	3	4	-4	0	0	0	27	38	-38						
1772+00.00	49	0	12	0	38	0	4	4	5	-5	0	0	0	26	37	-37						
1772+25.00	13	0	4	0	10	0	1	1	2	-2	0	0	0	7	10	-10						
1772+39.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
1772+50.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
1772+75.00	0	0	0	0	0	0	5	5	6	-6	0	0	0	0	0	0						
1772+89.94	3	0	2	0	2	0	6	6	7	-7	0	0	0	8	12	-12						
1773+00.00	52	0	12	0	40	0	8	8	11	-11	0	0	0	37	51	-51						
1773+25.00	92	0	17	0	75	0	3	3	4	-4	0	0	0	31	43	-43						
1773+50.00	94	0	16	0	78	0	3	3	4	-4	0	0	0	31	43	-43						
1773+75.00	66	0	15	0	51	0	3	3	4	-4	0	0	0	20	28	-28						
1774+00.00	55	0	13	0	42	0	3	3	4	-4	0	0	0	19	26	-26						
1774+25.00	64	0	11	0	53	0	3	3	4	-4	0	0	0	27	39	-39						
1774+50.00	44	0	9	0	34	0	3	3	4	-4	0	0	0	18	25	-25						
1774+75.00	31	0	8	0	23	0	3	3	4	-4	0	0	0	20	28	-28						
1775+00.00	25	0	6	0	19	0	3	3	4	-4	0	0	0	29	40	-40						
1775+25.00	16	0	4	0	12	0	3	3	4	-4	0	0	0	26	37	-37						
1775+50.00	12	0	3	0	10	0	4	4	5	-5	0	0	0	27	37	-37						
1775+75.00	10	0	1	0	9	0	5	5	6	-6	0	0	0	27	38	-38						
1776+00.00	8	0	1	0	7	0	6	6	9	-9	0	0	0	27	38	-38						
1776+25.00	6	0	0	0	6	0	9	9	11	-11	0	0	0	28	39	-39						
1776+50.00	6	0	0	0	6	0	10	10	13	-13	0	0	0	28	39	-39						
1776+75.00	2	0	0	0	2	0	3	3	5	-5	0	0	0	9	12	-12						
1776+82.86																						
STG6-SR175-3 Totals:	3,332	190	930	0	2,212	0	526	526	686	-686	0	0	190	565	792	-600						

FILE NO.	ENGLISH	DESIGN TEAM	Iowa DOT\HR Green	Monona	COUNTY	PROJECT NUMBER	STP-175-1(95) -- 2C-67	SHEET NUMBER	T.39
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Refer to Standard Road Plans EW-101 and EW-102.

## TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28  
04-21-15

Station	Cut						Fill				Checks (EW-102)		Topsoil									
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted Volume	Topsoil Cut Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink						
STG6-RPA175																						
1550+93.00	2	2	0	0	0	0	0	0	0	0	0	0	2	0	0	2						
1551+00.00	27	15	12	0	0	0	0	0	0	0	0	15	0	0	15							
1551+25.00	46	23	22	0	0	0	0	0	0	0	0	23	0	0	23							
1551+50.00	46	24	21	0	0	0	0	0	0	0	0	24	0	0	25							
1551+75.00	47	26	21	0	0	0	0	0	0	0	0	26	0	0	26							
1552+00.00	48	27	21	0	0	0	0	0	0	0	0	27	0	0	27							
1552+25.00	48	27	21	0	0	0	0	0	0	0	0	27	0	0	27							
1552+50.00	48	27	21	0	0	0	0	0	0	0	0	27	0	0	27							
1552+75.00	48	27	21	0	0	0	0	0	0	0	0	27	0	0	27							
1553+00.00	48	27	21	0	0	0	0	0	0	0	0	27	0	0	27							
1553+25.00	48	27	21	0	0	0	0	0	0	0	0	27	0	0	27							
1553+50.00	48	27	21	0	0	0	0	0	0	0	0	27	0	0	27							
1553+75.00	48	27	21	0	0	0	0	0	0	0	0	27	0	0	27							
1554+00.00	48	26	21	0	0	0	0	0	0	0	0	26	0	0	26							
1554+25.00	46	25	22	0	0	0	0	0	0	0	0	25	0	0	25							
1554+50.00	46	24	22	0	0	0	0	0	0	0	0	24	0	0	24							
1554+75.00	45	23	22	0	0	0	0	0	0	0	0	23	0	0	23							
1555+00.00	136	35	22	0	79	0	40	40	52	-52	0	35	38	53	-17							
1555+25.00	237	47	22	0	167	0	76	76	99	-99	0	47	75	105	-59							
1555+50.00	251	44	22	0	185	0	63	63	82	-82	0	44	74	104	-60							
1555+75.00	265	40	22	0	202	0	55	55	72	-72	0	40	71	99	-59							
1556+00.00	272	36	22	0	213	0	56	56	73	-73	0	36	68	95	-58							
1556+25.00	272	33	22	0	217	0	51	51	67	-67	0	33	64	90	-57							
1556+50.00	278	29	22	0	227	0	47	47	61	-61	0	29	60	84	-55							
1556+75.00	284	26	21	0	236	0	44	44	58	-58	0	26	56	79	-53							
1557+00.00	271	22	21	0	228	0	35	35	46	-46	0	22	50	71	-49							
1557+25.00	257	18	21	0	217	0	20	20	26	-26	0	18	45	63	-45							
1557+50.00	253	26	21	0	206	0	138	138	180	-180	0	26	42	58	-33							
1557+75.00	235	32	21	0	181	0	255	255	332	-332	0	32	38	53	-21							
1558+00.00	204	28	21	0	155	0	230	230	299	-299	0	28	37	52	-24							
1558+25.00	170	23	21	0	126	0	197	197	256	-256	0	23	33	46	-23							
1558+50.00	134	20	17	0	96	0	160	160	207	-207	0	20	27	37	-17							
1558+75.00	111	21	11	0	79	0	130	130	169	-169	0	21	26	37	-16							
1559+00.00	105	21	5	0	79	0	111	111	145	-145	0	21	26	37	-16							
1559+25.00	100	20	1	0	79	0	95	95	124	-124	0	20	25	35	-15							
1559+50.00	101	20	0	0	81	0	79	79	103	-103	0	20	24	34	-14							
1559+75.00	113	21	0	0	93	0	64	64	84	-84	0	21	24	34	-13							
1560+00.00	129	20	0	0	108	0	54	54	70	-70	0	20	24	34	-14							
1560+25.00	134	17	6	0	111	0	49	49	64	-64	0	17	24	33	-17							
1560+50.00	131	14	12	0	105	0	43	43	56	-56	0	14	23	32	-19							
1560+75.00	135	14	12	0	108	0	36	36	47	-47	0	14	23	32	-17							
1561+00.00	142	15	12	0	115	0	31	31	41	-41	0	15	22	31	-17							
1561+25.00	147	15	12	0	120	0	28	28	37	-37	0	15	22	31	-16							
1561+50.00	141	15	11	0	115	0	25	25	33	-33	0	15	21	30	-15							
1561+75.00	134	15	11	0	108	0	22	22	29	-29	0	15	21	29	-14							
1562+00.00	140	15	11	0	114	0	21	21	28	-28	0	15	21	29	-14							
1562+25.00	142	15	11	0	116	0	22	22	29	-29	0	15	21	29	-14							
1562+26.06	6	1	0	0	5	0	1	1	1	-1	0	0	1	1	1	-1						
STG6-RPA175 Totals:	6,118	1,096	750	0	4,273	0	2,281	2,281	2,966	-2,966	0	0	1,096	1,125	1,576	-481						

Refer to Standard Road Plans EW-101 and EW-102.

## TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28  
4-21-15

[illegible]

FILE NO.	ENGLISH	DESIGN TEAM <b>Iowa DOT\HR Green</b>	<b>Monona</b> COUNTY	PROJECT NUMBER <b>STP-175-1(95)--2C-67</b>	SHEET NUMBER <b>T.41</b>	
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TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut						Fill				Checks (EW-102)		Topsoil									
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted Volume	Topsoil Cut Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink						
STG6-RPC175																						
3534+58.92	94	2	13	0	79	0	0	0	0	0	0	0	2	9	12	-10						
3534+75.00	154	5	20	0	129	0	0	0	1	-1	0	0	5	15	20	-15						
3535+00.00	162	8	20	0	135	0	0	0	1	-1	0	0	8	16	23	-15						
3535+25.00	170	10	19	0	141	0	0	0	1	-1	0	0	10	18	25	-15						
3535+50.00	179	12	19	0	148	0	0	0	1	-1	0	0	12	20	28	-15						
3535+75.00	187	13	19	0	155	0	2	2	3	-3	0	0	13	22	30	-17						
3536+00.00	196	14	19	0	163	0	2	2	3	-3	0	0	14	24	33	-19						
3536+25.00	206	15	19	0	171	0	6	6	7	-7	0	0	15	26	36	-21						
3536+50.00	213	16	20	0	177	0	12	12	16	-16	0	0	16	27	38	-22						
3536+75.00	217	20	20	0	177	0	18	18	24	-24	0	0	20	29	40	-21						
3537+00.00	223	23	21	0	180	0	18	18	24	-24	0	0	23	30	42	-20						
3537+25.00	232	22	20	0	190	0	14	14	19	-19	0	0	22	32	45	-23						
3537+50.00	239	21	20	0	197	0	11	11	14	-14	0	0	21	33	47	-25						
3537+75.00	239	20	20	0	198	0	4	4	5	-5	0	0	20	35	49	-28						
3538+00.00	243	20	20	0	203	0	0	0	0	0	0	0	20	36	50	-31						
3538+25.00	249	21	20	0	208	0	0	0	0	0	0	0	21	37	52	-32						
3538+50.00	249	21	20	0	208	0	0	0	0	0	0	0	21	39	54	-33						
3538+75.00	255	21	20	0	213	0	0	0	1	-1	0	0	21	40	56	-35						
3539+00.00	259	22	20	0	217	0	1	1	2	-2	0	0	22	41	58	-36						
3539+25.00	256	21	20	0	214	0	9	9	12	-12	0	0	21	43	60	-39						
3539+50.00	149	20	20	0	109	0	21	21	28	-28	0	0	20	31	44	-24						
3539+75.00	97	15	20	0	62	0	19	19	25	-25	0	0	15	24	33	-19						
3540+00.00	185	10	20	0	154	0	12	12	15	-15	0	0	10	32	45	-35						
3540+25.00	236	10	20	0	206	0	11	11	15	-15	0	0	10	40	55	-46						
3540+50.00	255	13	20	0	222	0	10	10	14	-14	0	0	13	44	62	-49						
3540+75.00	262	21	20	0	221	0	10	10	13	-13	0	0	21	45	63	-43						
3541+00.00	264	25	20	0	219	0	10	10	14	-14	0	0	25	45	63	-38						
3541+25.00	255	25	20	0	210	0	11	11	14	-14	0	0	25	45	62	-38						
3541+50.00	240	24	20	0	196	0	11	11	15	-15	0	0	24	44	62	-37						
3541+75.00	225	24	20	0	180	0	11	11	15	-15	0	0	24	44	61	-37						
3542+00.00	213	24	20	0	168	0	12	12	15	-15	0	0	24	43	61	-37						
3542+25.00	205	24	20	0	161	0	12	12	16	-16	0	0	24	43	61	-37						
3542+50.00	201	24	20	0	157	0	13	13	17	-17	0	0	24	43	60	-37						
3542+75.00	198	24	20	0	154	0	14	14	19	-19	0	0	24	43	61	-37						
3543+00.00	193	23	20	0	150	0	16	16	20	-20	0	0	23	43	61	-38						
3543+25.00	191	23	20	0	148	0	17	17	22	-22	0	0	23	43	61	-38						
3543+50.00	190	23	20	0	147	0	19	19	25	-25	0	0	23	44	61	-38						
3543+75.00	187	23	20	0	144	0	22	22	28	-28	0	0	23	44	61	-38						
3544+00.00	184	23	20	0	141	0	25	25	32	-32	0	0	23	44	62	-38						
3544+25.00	183	23	20	0	140	0	29	29	38	-38	0	0	23	44	62	-39						
3544+50.00	207	22	20	0	164	0	45	45	58	-58	0	0	22	48	68	-46						
3544+75.00	237	21	20	0	196	0	64	64	83	-83	0	0	21	55	77	-56						
3545+00.00	241	20	20	0	200	0	68	68	88	-88	0	0	20	57	80	-60						
3545+25.00	236	19	20	0	196	0	66	66	86	-86	0	0	19	57	80	-61						
3545+50.00	233	19	20	0	194	0	67	67	87	-87	0	0	19	58	81	-62						
3545+75.00	232	19	20	0	192	0	69	69	90	-90	0	0	19	58	82	-63						
3546+00.00	230	19	20	0	190	0	73	73	95	-95	0	0	19	60	84	-65						
3546+25.00	231	20	20	0	191	0	80	80	104	-104	0	0	20	62	86	-67						
3546+50.00	231	20	21	0	190	0	90	90	117	-117	0	0	20	63	89	-69						
3546+75.00	228	20	21	0	187	0	70	70	91	-91	0	0	20	66	92	-72						
3547+00.00	221	21	21	0	179	0	43	43	56	-56	0	0	21	68	95	-74						
3547+25.00	205	23	21	0	160	0	45	45	59	-59	0	0	23	69	96	-73						
3547+50.00	185	27	21	0	137	0	44	44	58	-58	0	0	27	70	98	-71						
3547+75.00	160	30	22	0	108	0	34	34	44	-44	0	0	30	71	99	-69						
3548+00.00	137	34	22	0	82	0	24	24	32	-32	0	0	34	63	88	-55						
3548+25.00	140	28	22	0	89	0	13	13	16	-16	0	0	28	52	74	-45						
3548+50.00	95	21	23	0	52	0	3	3	3	-3	0	0	21	25	36	-15						
3548+75.00	33	14	18	0	0	0	0	0	0	0	0	0	14	0	0	14						
3549+00.00	14	8	7	0	0	0	0	0	0	0	0	0	8	0	0	8						
3549+25.00	2	2	0	0	0	0	0	0	0	0	0	0	2	0	0	3						
3549+43.00																						
STG6-RPC175																						
Totals:	11,834	1,156	1,178	0	9,501	0	1,304	1,304	1,698	-1,698	0	0	1,156	2,400	3,363	-2,210						

Refer to Standard Road Plans EW-101 and EW-102.

107-28  
04-21-15

## TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut						Fill				Checks (EW-102)		Topsoil									
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted Volume	Topsoil Cut Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink						
STG6-RPD175																						
4544+60.00	16	14	2	0	0	0	0	0	0	0	0	0	14	0	0	15						
4544+75.00	37	24	12	0	0	0	0	0	0	0	0	0	24	0	0	24						
4545+00.00	42	21	21	0	0	0	0	0	0	0	0	0	21	0	0	21						
4545+25.00	40	18	23	0	0	0	0	0	0	0	0	0	18	0	0	18						
4545+50.00	36	14	22	0	0	0	0	0	0	0	0	0	14	0	0	14						
4545+75.00	33	11	21	0	0	0	0	0	0	0	0	0	11	0	0	12						
4546+00.00	30	9	21	0	0	0	0	0	0	0	0	0	9	0	0	9						
4546+25.00	109	9	21	0	79	0	1	1	2	-2	0	0	9	19	27	-18						
4546+50.00	129	9	20	0	99	0	1	1	2	-2	0	0	9	40	57	-47						
4546+75.00	76	6	20	0	49	0	0	0	0	0	0	0	6	43	61	-54						
4547+00.00	89	4	20	0	65	0	0	0	0	0	0	0	4	44	62	-58						
4547+25.00	97	2	20	0	75	0	0	0	0	0	0	0	2	43	61	-59						
4547+50.00	98	1	20	0	78	0	0	0	0	0	0	0	1	42	59	-58						
4547+75.00	99	1	20	0	79	0	0	0	0	0	0	0	1	41	57	-57						
4548+00.00	101	0	20	0	81	0	0	0	0	0	0	0	0	40	56	-56						
4548+25.00	103	0	20	0	83	0	0	0	0	0	0	0	0	39	55	-55						
4548+50.00	107	0	20	0	87	0	0	0	0	0	0	0	0	39	54	-54						
4548+75.00	110	0	20	0	90	0	0	0	0	0	0	0	0	38	54	-54						
4549+00.00	108	0	20	0	88	0	0	0	0	0	0	0	0	38	53	-53						
4549+25.00	108	0	20	0	88	0	0	0	0	0	0	0	0	37	52	-52						
4549+50.00	111	0	20	0	91	0	0	0	0	0	0	0	0	36	51	-51						
4549+75.00	112	0	20	0	92	0	0	0	0	0	0	0	0	36	50	-50						
4550+00.00	111	0	20	0	91	0	0	0	0	0	0	0	0	35	49	-49						
4550+25.00	110	0	20	0	90	0	0	0	0	0	0	0	0	34	47	-47						
4550+50.00	111	0	20	0	91	0	0	0	0	0	0	0	0	33	46	-46						
4550+75.00	110	0	20	0	90	0	0	0	0	0	0	0	0	32	45	-45						
4551+00.00	107	0	20	0	87	0	0	0	0	0	0	0	0	31	43	-43						
4551+25.00	106	0	20	0	86	0	0	0	0	0	0	0	0	30	42	-42						
4551+50.00	107	0	20	0	87	0	0	0	0	0	0	0	0	29	41	-41						
4551+75.00	106	0	20	0	86	0	0	0	0	0	0	0	0	28	39	-39						
4552+00.00	101	0	20	0	81	0	0	0	0	0	0	0	0	27	38	-38						
4552+25.00	97	0	20	0	77	0	0	0	0	0	0	0	0	26	37	-37						
4552+50.00	93	0	20	0	73	0	0	0	0	0	0	0	0	25	35	-35						
4552+75.00	90	0	20	0	70	0	0	0	0	0	0	0	0	24	34	-34						
4553+00.00	88	0	20	0	68	0	0	0	0	0	0	0	0	23	33	-33						
4553+25.00	85	0	20	0	65	0	0	0	0	0	0	0	0	22	31	-31						
4553+50.00	83	0	20	0	63	0	0	0	0	0	0	0	0	21	29	-29						
4553+75.00	81	0	20	0	61	0	0	0	0	0	0	0	0	19	26	-26						
4554+00.00	75	0	20	0	55	0	0	0	0	0	0	0	0	17	24	-24						
4554+25.00	71	0	20	0	51	0	0	0	0	0	0	0	0	16	23	-23						
4554+50.00	80	1	20	0	60	0	0	0	0	0	0	0	1	15	20	-20						
4554+75.00	89	1	20	0	68	0	1	1	1	-1	0	0	1	13	18	-17						
4555+00.00	95	1	20	0	74	0	1	1	1	-1	0	0	1	13	18	-17						
4555+25.00	112	0	20	3	89	3	1	1	1	3	0	0	0	14	20	-20						
4555+50.00	133	0	20	20	93	20	0	0	1	19	0	0	0	17	24	-24						
4555+75.00	144	0	21	41	83	41	0	0	0	40	0	0	0	18	25	-25						
4556+00.00	145	0	23	36	86	36	0	0	0	36	0	0	0	17	24	-24						
4556+25.00	141	0	25	12	105	12	0	0	0	12	0	0	0	16	22	-22						
4556+50.00	131	0	26	0	106	0	1	1	1	-1	0	0	0	15	21	-21						
4556+75.00	118	0	25	0	93	0	2	2	3	-3	0	0	0	14	20	-20						
4557+00.00	108	0	24	0	85	0	2	2	2	-2	0	0	0	13	18	-18						
4557+25.00	103	0	22	0	81	0	2	2	2	-2	0	0	0	12	18	-18						
4557+50.00	99	0	21	0	78	0	2	2	2	-2	0	0	0	12	17	-17						
4557+75.00	74	0	13	0	61	0	1	1	1	-1	0	0	0	12	17	-17						
4557+91.09																						
STG6-RPD175																						
Totals:	5,094	148	1,082	113	3,753	113	16	16	23	90	0	0	148	1,249	1,751	-1,603						
																	</					

FILE NO.	ENGLISH	DESIGN TEAM	Iowa DOT\HR Green	Monona	COUNTY	PROJECT NUMBER	STP-175-1(95) - -2C-67	SHEET NUMBER	T.43
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Refer to Standard Road Plans EW-101 and EW-102.

107-28  
04-21-15

## TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

[illegible]

Refer to Standard Road Plans EW-101 and EW-102.

107-28  
04-21-15

## TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut						Fill				Checks (EW-102)		Topsoil									
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted Volume	Topsoil Cut Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink						
STG7-RPA175																						
1551+48.44	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0						
1551+50.00	11	0	1	0	10	0	0	0	0	0	0	0	0	0	0	0						
1551+75.00	12	0	1	0	10	0	0	0	0	0	0	0	0	0	0	0						
1552+00.00	14	0	2	0	12	0	0	0	0	0	0	0	0	0	0	0						
1552+25.00	19	0	3	0	16	0	0	0	0	0	0	0	0	0	0	0						
1552+50.00	25	0	5	0	20	0	0	0	0	0	0	0	0	0	0	0						
1552+75.00	32	0	7	0	26	0	0	0	0	0	0	0	0	1	1	-1						
1553+00.00	34	0	8	0	26	0	0	0	0	0	0	0	0	3	4	-4						
1553+25.00	36	0	9	0	27	0	0	0	0	0	0	0	0	6	8	-8						
1553+50.00	48	0	11	0	38	0	0	0	0	0	0	0	0	11	15	-15						
1553+75.00	65	0	12	0	53	0	0	0	0	0	0	0	0	16	23	-23						
1554+00.00	81	0	13	0	67	0	0	0	0	0	0	0	0	19	27	-27						
1554+25.00	94	0	15	0	79	0	0	0	0	0	0	0	0	20	28	-28						
1554+50.00	124	6	15	0	103	0	34	34	45	-45	0	0	6	42	60	-53						
1554+75.00	149	12	15	0	121	0	61	61	80	-80	0	0	12	64	90	-77						
1555+00.00	141	12	15	0	114	0	54	54	70	-70	0	0	12	62	87	-75						
1555+25.00	123	12	15	0	96	0	49	49	64	-64	0	0	12	61	85	-73						
1555+50.00	89	11	13	0	65	0	60	60	78	-78	0	0	11	30	42	-31						
1555+75.00	68	11	11	0	46	0	63	63	82	-82	0	0	11	26	36	-25						
1556+00.00	63	9	10	0	44	0	47	47	61	-61	0	0	9	48	67	-58						
1556+25.00	49	8	9	0	32	0	44	44	57	-57	0	0	8	42	59	-52						
1556+50.00	39	6	8	0	25	0	45	45	59	-59	0	0	6	38	53	-47						
1556+75.00	35	5	7	0	23	0	28	28	37	-37	0	0	5	34	47	-43						
1557+00.00	33	4	7	0	21	0	26	26	34	-34	0	0	4	30	42	-38						
1557+25.00	31	2	8	0	21	0	61	61	80	-80	0	0	2	26	37	-34						
1557+50.00	30	1	8	0	20	0	80	80	104	-104	0	0	1	23	32	-31						
1557+75.00	29	0	9	0	20	0	77	77	100	-100	0	0	0	20	28	-28						
1558+00.00	27	0	11	0	16	0	72	72	93	-93	0	0	0	18	25	-25						
1558+25.00	24	0	13	0	12	0	63	63	82	-82	0	0	0	17	24	-24						
1558+50.00	22	0	13	0	9	0	54	54	70	-70	0	0	0	15	22	-22						
1558+75.00	19	0	11	0	9	0	50	50	65	-65	0	0	0	13	19	-19						
1559+00.00	16	0	8	0	8	0	46	46	60	-60	0	0	0	11	16	-16						
1559+25.00	12	0	5	0	7	0	36	36	46	-46	0	0	0	9	13	-13						
1559+50.00	8	0	3	0	5	0	18	18	23	-23	0	0	0	6	9	-9						
1559+75.00	16	0	1	0	15	0	4	4	6	-6	0	0	0	2	3	-3						
1560+00.00	23	0	0	0	23	0	1	1	2	-2	0	0	0	0	0	0						
1560+25.00	22	0	0	0	22	0	0	0	1	-1	0	0	0	0	0	0						
1560+50.00	24	0	0	0	24	0	0	0	0	0	0	0	0	0	0	0						
1560+75.00	27	0	3	0	23	0	0	0	0	0	0	0	0	0	0	0						
1561+00.00	27	0	7	0	21	0	0	0	0	0	0	0	0	0	0	0						
1561+25.00	25	0	7	0	18	0	0	0	0	0	0	0	0	0	0	0						
1561+50.00	22	0	7	0	16	0	0	0	0	0	0	0	0	0	0	0						
1561+75.00	21	0	7	0	14	0	0	0	0	0	0	0	0	0	0	0						
1562+00.00	18	0	7	0	12	0	0	0	0	0	0	0	0	0	0	0						
1562+25.00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
1562+26.06																						
STG7-RPA175 Totals:	1,830	99	340	0	1,392	0	1,075	1,075	1,398	-1,398	0	0	99	712	999	-901						
													</									



Refer to Standard Road Plans EW-101 and EW-102.

107-28  
04-21-15

## TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut						Fill				Checks (EW-102)		Topsoil									
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted Volume	Topsoil Cut Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink						
STG7-RPB175																						
2532+49.07	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0						
2532+50.00	20	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0						
2532+75.00	22	0	0	0	22	0	0	0	0	0	0	0	0	0	0	0						
2533+00.00	23	0	0	0	23	0	0	0	0	0	0	0	0	0	0	0						
2533+25.00	25	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0						
2533+50.00	28	0	0	0	28	0	0	0	0	0	0	0	0	0	0	0						
2533+75.00	32	0	1	0	31	0	0	0	0	0	0	0	0	0	0	0						
2534+00.00	30	0	2	0	28	0	0	0	0	0	0	0	0	0	0	0						
2534+25.00	26	0	3	0	23	0	1	1	-1	0	0	0	0	0	0	0						
2534+50.00	22	0	5	0	17	0	4	4	-6	0	0	0	0	5	7	-7						
2534+75.00	20	0	7	0	14	0	12	12	-15	0	0	0	0	11	16	-16						
2535+00.00	27	0	9	0	18	0	16	16	-21	0	0	0	0	14	20	-20						
2535+25.00	37	0	12	0	25	0	18	18	-24	0	0	0	0	17	25	-25						
2535+50.00	44	0	14	0	30	0	18	18	-24	0	0	0	0	20	28	-28						
2535+75.00	52	0	14	0	37	0	9	9	-12	0	0	0	0	21	30	-30						
2536+00.00	60	0	14	0	46	0	3	3	-4	0	0	0	0	22	31	-31						
2536+25.00	66	0	14	0	52	0	7	7	-9	0	0	0	0	23	32	-32						
2536+50.00	74	0	15	0	60	0	12	12	-16	0	0	0	0	23	32	-32						
2536+75.00	85	0	15	0	70	0	10	10	-14	0	0	0	0	24	33	-33						
2537+00.00	119	0	15	0	104	0	7	7	-9	0	0	0	0	27	38	-37						
2537+25.00	176	2	15	0	158	0	7	7	-9	0	0	0	2	33	46	-44						
2537+50.00	228	5	15	0	208	0	4	4	-6	0	0	0	5	40	56	-51						
2537+75.00	203	6	15	0	181	0	3	3	-4	0	0	0	6	38	53	-47						
2538+00.00	220	3	15	0	202	0	4	4	-5	0	0	0	3	46	64	-61						
25																						



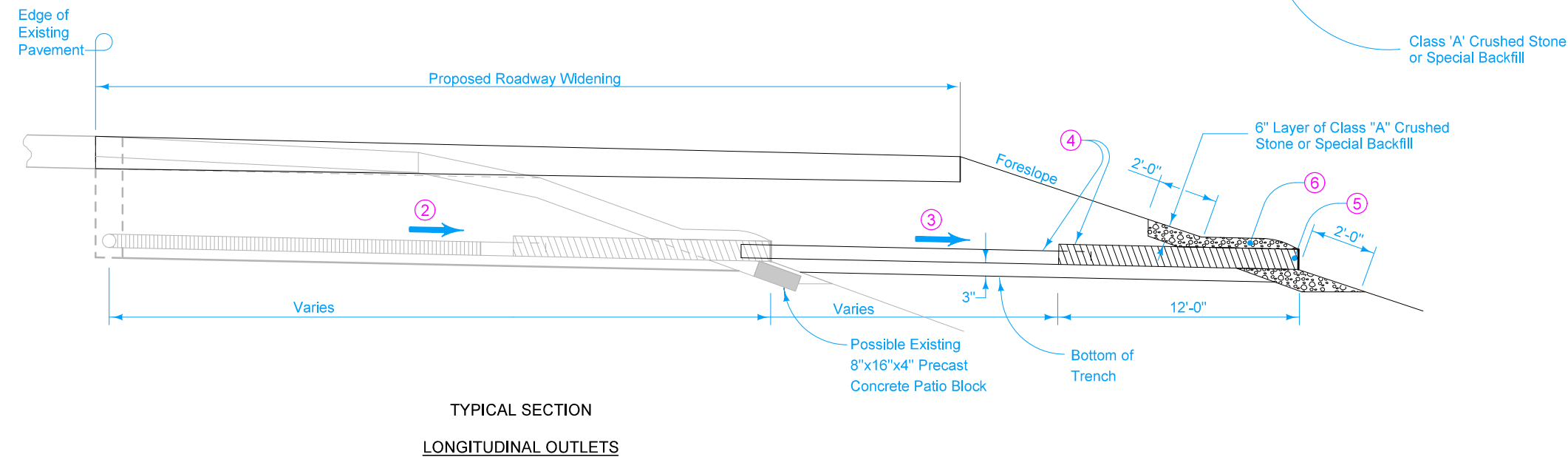
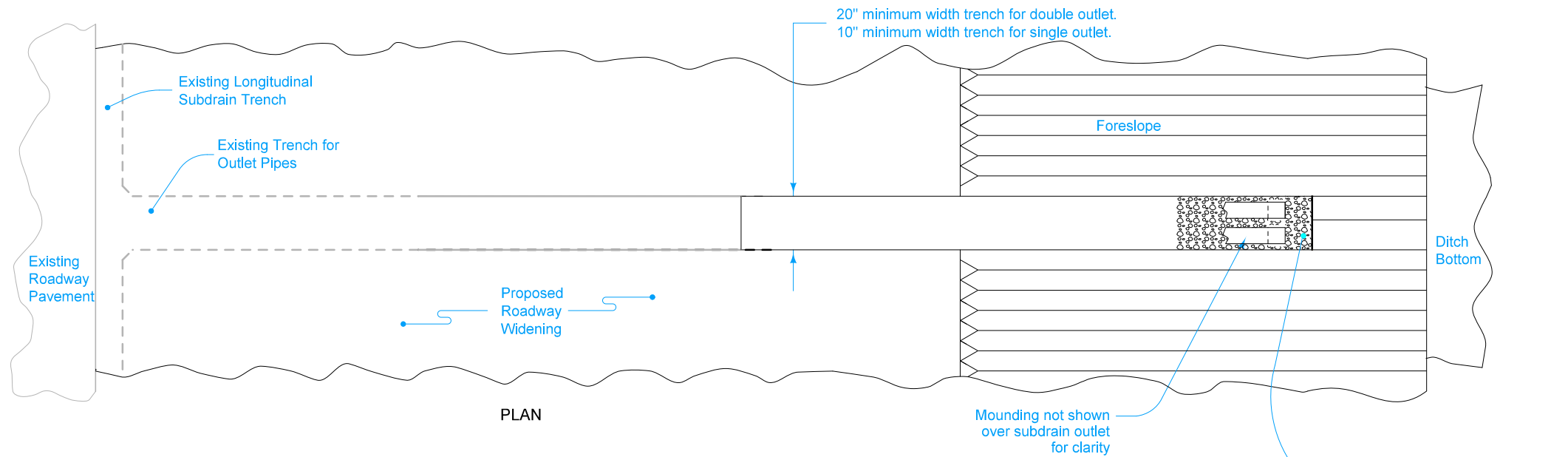
Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28  
04-21-15

Station	Cut						Fill				Checks (EW-102)		Topsoil									
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted Volume	Topsoil Cut Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink						
Summary:																						
STG1-ML029-1	1,650	295	0	0	1,356	0	98	98	128	-128	0	0	295	0	0	296						
STG1-ML029-2	2,092	347	141	0	1,605	0	40	40	52	-52	0	0	347	605	848	-503						
STG1-ML029-3	1,045	156	0	0	889	0	168	168	219	-219	0	0	156	0	0	157						
STG1-SR175-1	8,771	2,746	139	0	5,888	0	55,678	55,678	72,388	-72,388	0	0	2,746	2,876	4,030	-1,284						
STG1-SR175-2	1,329	762	0	0	568	0	27,311	27,311	35,507	-35,507	0	0	762	1,050	1,471	-710						
STG1-SR175-3	2,753	543	11	0	2,200	0	1,441	1,441	1,877	-1,877	0	0	543	0	0	547						
STG1-RPA175	7,999	2,254	0	1	5,745	1	48,003	48,003	62,406	-62,406	0	0	2,254	4,478	6,271	-4,018						
STG1-RPB175	9,184	2,338	0	577	6,270	577	32,777	32,777	42,611	-42,035	0	0	2,338	2,935	4,110	-1,774						
STG1-RPC175	4,295	2,124	0	0	2,171	0	37,134	37,134	48,277	-48,277	0	0	2,124	1,547	2,168	-46						
STG1-RPD175	4,265	2,016	0	0	2,249	0	51,672	51,672	67,175	-67,175	0	0	2,016	3,027	4,240	-2,226						
STG1-CH029-1	9,620	856	0	0	8,764	0	0	0	0	0	0	0	856	1,703	2,387	-1,535						
STG1-CH029-2	338	31	0	0	308	0	0	0	0	0	0	0	31	76	106	-75						
STG1-CH029-3	238	28	0	0	211	0	0	0	0	0	0	0	28	55	77	-50						
STG2-ML029-1	5,735	676	459	0	4,601	0	253	253	330	-330	0	0	676	636	892	-217						
STG2-ML029-2	703	66	94	0	544	0	127	127	165	-165	0	0	66	0	0	66						
STG2-ML029-3	402	60	71	0	271	0	241	241	314	-314	0	0	60	0	0	61						
STG2-ML029-4	5,791	665	507	0	4,619	0	959	959	1,248	-1,248	0	0	665	1,042	1,460	-797						
STG2-SR175-1	526	0	0	0	526	0	56	56	73	-73	0	0	0	0	0	0						
STG2-SR175-2	89	0	0	0	89	0	90	90	117	-117	0	0	0	0	0	0						
STG3-ML029-1	2,646	267	389	0	1,992	0	1,091	1,091	1,419	-1,419	0	0	267	136	191	76						
STG3-ML029-2	2,440	171	462	28	1,781	28	142	142	185	-157	0	0	171	44	61	111						
STG3-SR175-1	3,236	361	500	0	2,376	0	805	805	1,047	-1,047	0	0	361	604	847	-487						
STG3-SR175-2	5,889	1,379	1,310	0	3,200	0	6,257	6,257	8,138	-8,138	0	0	1,379	802	1,125	255						
STG4-SR175-1	1,995	82	184	0	1,730	0	5,126	5,126	6,664	-6,664	0	0	82	622	871	-790						
STG4-SR175-2	428	69	112	0	248	0	5,747	5,747	7,471	-7,471	0	0	69	0	0	69						
STG5-SR175-1	6,344	902	210	0	5,233	0	14,369	14,369	18,681	-18,681	0	0	902	2,544	3,563	-2,663						
STG5-SR175-2	4,655	510	456	23	3,668	23	4,273	4,273	5,556	-5,533	0	0	510	1,245	1,743	-1,235						
STG6-ML029-1	12,596	801	1,598	0	10,197	0	53	53	70	-70	0	0	801	1,051	1,473	-674						
STG6-ML029-2	1,406	35	133	0	1,238	0	98	98	128	-128	0	0	35	183	257	-222						
STG6-ML029-3	11,873	876	1,183	39	9,776	39	874	874	1,138	-1,100	0	0	876	1,306	1,831	-957						
STG6-SR175-1	14,510	613	1,816	0	12,083	0	5,848	5,848	7,607	-7,607	0	0	613	3,294	4,617	-4,007						
STG6-SR175-2	7,661	229	1,036	212	6,186	212	4,619	4,619	6,006	-5,794	0	0	229	1,922	2,692	-2,465						
STG6-SR175-3	3,332	190	930	0	2,212	0	526	526	686	-686	0	0	190	565	792	-600						
STG6-RPA175	6,118	1,096	750	0	4,273	0	2,281	2,281	2,966	-2,966	0	0	1,096	1,125	1,576	-481						
* STG6-RPB175	3,937	458	290	11	3,179	11	177	177	230	-220	0	0	458	372	521	-64						
STG6-RPC175	11,834	1,156	1,178	0	9,501	0	1,304	1,304	1,698	-1,698	0	0	1,156	2,400	3,363	-2,210						
STG6-RPD175	5,094	148	1,082	113	3,753	113	16	16	23	90	0	0	148	1,249	1,751	-1,603						
STG6-CH029-1	1,356	23	81	0	1,253	0	1	1	1	-1	0	0	23	135	190	-168						
STG6-CH029-2	1,503	77	67	0	1,361	0	1	1	1	-1	0	0	77	163	228	-152						
STG7-SR175	494	8	289	0	198	0	0	0	0	0	0	0	8	0	0	9						
STG7-RPA175	1,830	99	340	0	1,392	0	1,075	1,075	1,398	-1,398	0	0	99	712	999	-901						
STG7-RPB175	2,940	18	297	1	2,627	1	216	216	282	-282	0	0	18	633	886	-870						
STG8-SR175	247	0	46	0	202	0	6	6	8	-8	0	0	0	63	88	-88						
Project Totals:	181,189	25,531	16,161	1,005	138,533	1,005	310,953	310,953	404,290	-403,290	0	0	26,141	41,200	57,725	-32,225						
	Embankment-in-Place, Contractor Furnished: [10] / 1.3																					
	Total 310,223																					
	Excavation, Class 10, Roadway and Borrow: [6]						(All Stages are in Embankment Need)															
	Total 1,005																					
	Excavation, Class 10, Waste: [5] - Cl. 13 Channel Ex.																					
	Total 126,636																					
	Excavation, Class 13, Channel [5] for CH029 only																					
	Total 11,897																					
	Topsoil, Furnish and Spread [16] / 1.4						(All Stages are in Topsoil Need)															
	Total 23,018																					
	Topsoil, Strip, Salvage and Spread [13]																					
	Total 26,141																					

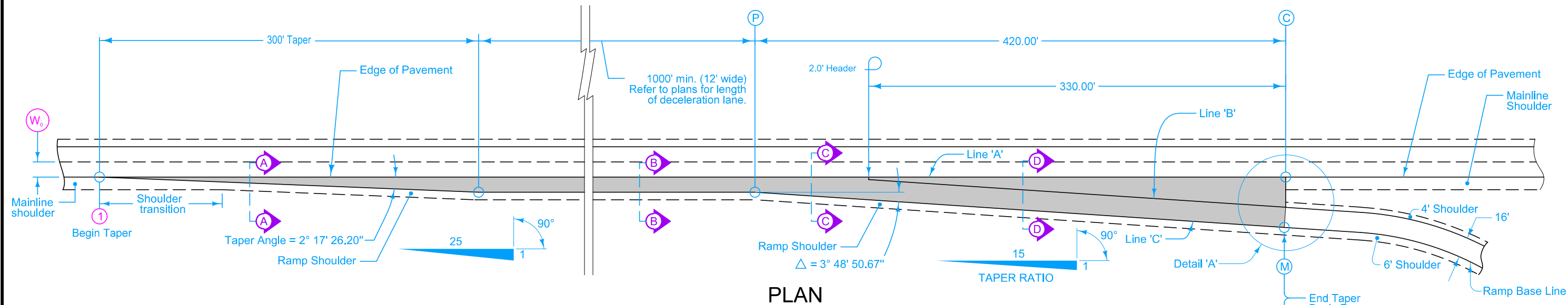
\* An additional 610 CY of Topsoil Stripping Undercut is included in the Project Totals to account for stripping along existing Ramp B Roadway Obliteration.



- ① Perforated Subdrain (Polyethylene Corrugated Tubing).
- ② Direction of flow.
- ③ 6 inch minimum drop in elevation between longitudinal subdrain and outlet. 12 inch minimum drop for projects using recycled PCC subbase.
- ④ Corrugated metal pipe outlet 2 inches larger than subdrain pipe or corrugated double-walled PE or PVC pipe of the same diameter as the subdrain pipe with an appropriate coupler. If metal pipe is used, the pipes should be coupled in one of the following ways: (1) Use an inside fit reducer coupler (insert coupler a minimum of 12 inches into CMP); or (2) Insert 1 inch of the 4 inch subdrain into the 6 inch metal outlet pipe, then fully seal the entire opening with grout.
- ⑤ Corrugated metal pipe outlet 2 inches larger than existing subdrain pipe, or corrugated double-walled PE or PVC pipe of the same diameter as the existing subdrain pipe.
- ⑥ Place class 'A' crushed stone or Special Backfill over outlet and carefully compact to avoid damaging outlet pipe.

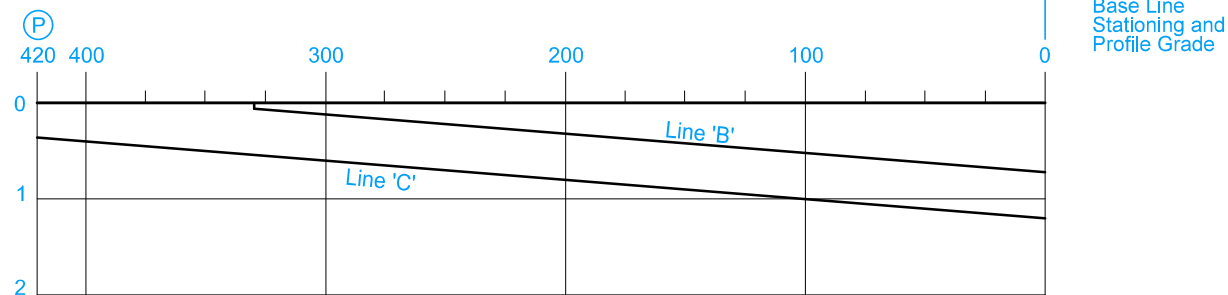
Contract Item:  
Subdrain Outlet, 500-10

MODIFIED ROAD DESIGN DETAIL	REVISION	
	NEW	10-17-17
500-10		
SHEET 1 of 1		
Modified: Extension of existing subdrain outlet		
OUTLETS FOR EXISTING LONGITUDINAL SUBDRAINS		



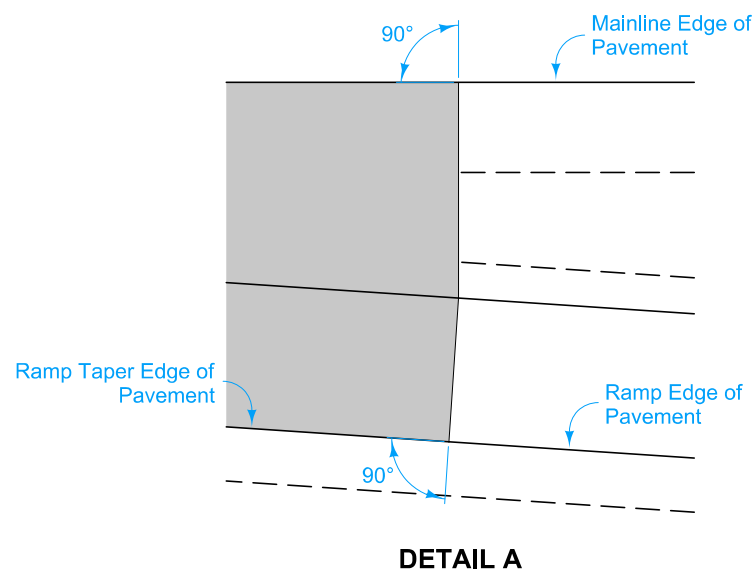
PLAN

TABLE OF OFFSETS AND DROPS FOR 16' RAMP TAPER																			
DISTANCE (Ft.)	420	400	375	350	330	325	300	275	250	225	200	175	150	125	100	75	50	25	0
OFFSET (Ft.)	12.00	13.33	15.00	16.67	18.00	18.33	20.00	21.67	23.33	25.00	26.67	28.33	30.00	31.67	33.33	35.00	36.67	38.33	40.00
DROP (Ft.)	0.36	0.40	0.45	0.50	0.54	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00	1.05	1.10	1.16	1.20

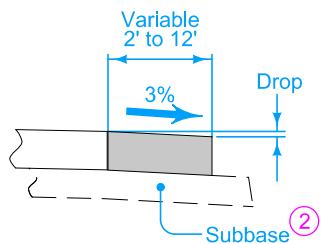


Note: The algebraic difference between the profile grade for ramp base line at (M) and realtive profile grade of mainline at (C) is 0.20%

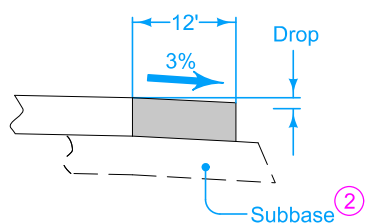
PROFILE



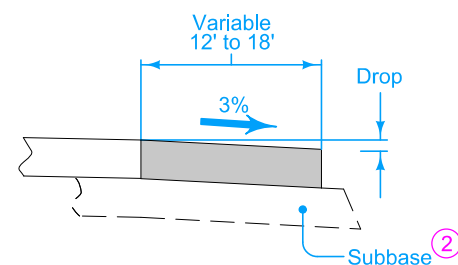
DETAIL A



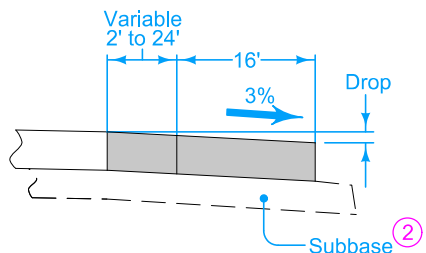
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

TABLE OF SHOULDER TRANSITION LENGTHS WITH 6' SHOULDER ON RAMP			
$W_0$	Shoulder Width beyond Edge of Mainline Pavement		
	8'	10'	12'
12'	NA	100'	150'

NOTE:  $W_0$  is the width of the outside lane to the Edge of Pavement.

- Construct ramp exit pavement the same thickness as mainline pavement.
- For joint detail, see PV-101.
- For header construction detail at the end of taper, see Typical 7101 or Typical 7102.
  - Construct subbase for ramp exit pavement the same thickness as mainline subbase.

**MODIFIED**

**ROAD DESIGN DETAIL**

MODIFICATIONS: Removed page 2. See L sheets for jointing.

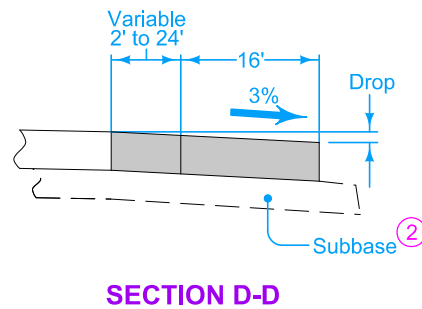
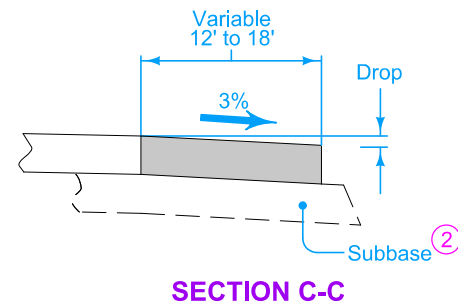
REVISION	
3	10-21-25
<b>533-01</b>	
SHEET 1 of 1	

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



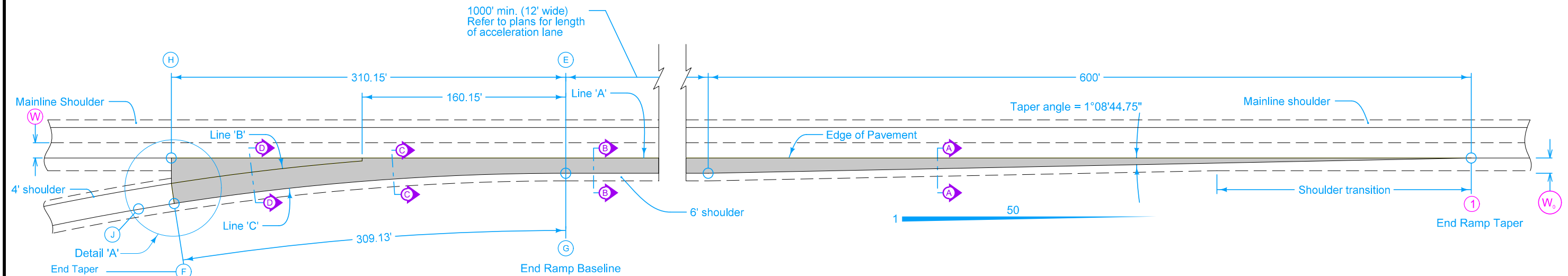
Diagram illustrating the transition from a mainline edge to a ramp edge, showing the Mainline Edge of Pavement, Ramp Taper Edge of Pavement, and Ramp Edge of Pavement. The diagram includes 90° angles indicating the transition points.

**DETAIL A**

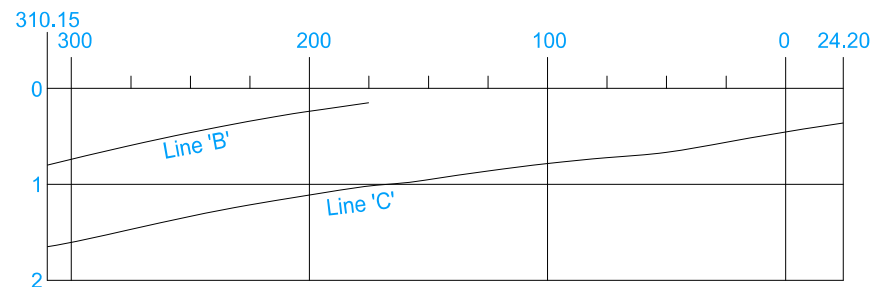


NOTE:  $W_0$  is the width of the outside lane to the Edge of Pavement.

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

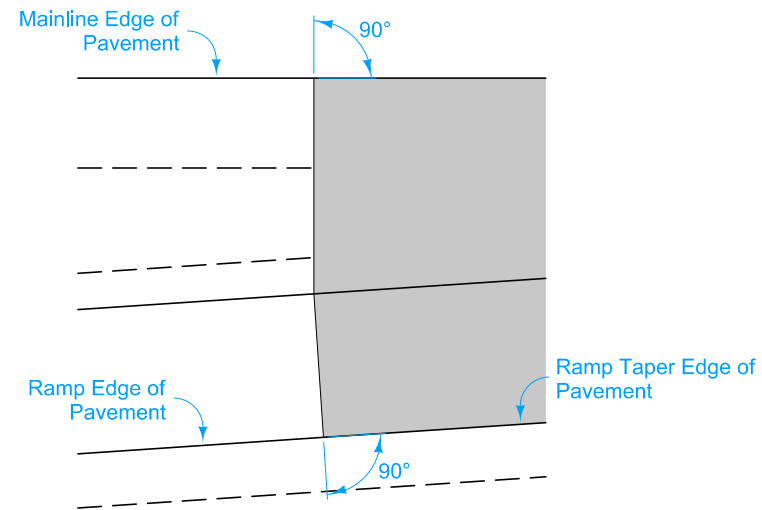


Pt. 'G' to Pt. 'J'
$\Delta = 8^{\circ} 51' 20.88''$
$T = 164.23'$
$L = 327.73'$
$E = 6.73'$
$R = 2000.00'$



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

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



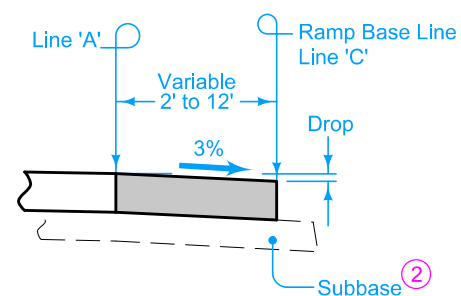
DETAIL A

Construct ramp exit pavement the same thickness as mainline pavement.

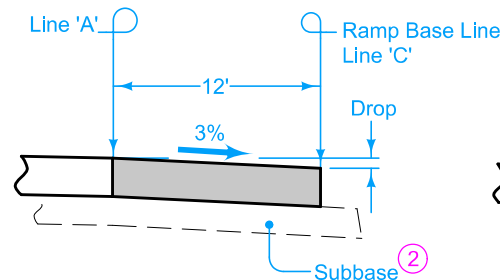
For joint detail, see PV-101.

- For header construction detail at the end of taper, see Typical 7101 or Typical 7102.
- Construct subbase for ramp exit pavement the same thickness as mainline subbase.

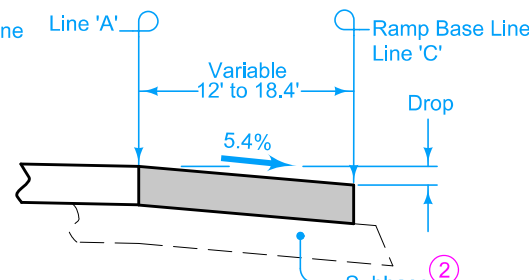
TABLE OF OFFSETS AND DROPS FOR 16' RAMP TAPER																			
DISTANCE FROM POINT (E) ALONG LINE 'A' (Ft.)		310.15	300	275	250	225	204	200	175	160.15	150	125	100	75	50	25	0	24.2	
From Line 'A' To Line 'B'	OFFSET (Ft.)	20.00	18.44	14.85	11.56	8.60	6.35	5.95	3.61	2.41									
	SLOPE (%)	← Constant 4.0% Slope →								4.11	4.0	5.40							
	DROP (Ft.)	0.80	0.74	0.59	0.46	0.34	0.25	0.24	0.15	0.13									
From Line 'B' To Line 'C'	OFFSET (Ft.)	← Constant 16' Offset →																	
	SLOPE (%)	← Constant 5.4% Slope →																	
	DROP (Ft.)	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86									
From Line 'A' To Line 'C'	OFFSET (Ft.)										17.62	15.91	14.50	13.41	12.62	12.16	12.00	12.00	
	SLOPE (%)										5.40	5.40	5.40	5.40	5.40	4.59	3.78	3.00	
	DROP (Ft.)	1.65	1.61	1.47	1.33	1.21	1.13	1.11	1.01	0.99	0.95	0.86	0.78	0.72	0.68	0.56	0.45	0.36	
DISTANCE FROM POINT (G) ALONG LINE 'C' (Ft.)		309.13	298.73	273.67	248.66	223.68	202.73	198.74	173.83	159.04	150.14	125.08	100.04	75.02	50.01	25.00	0.00		



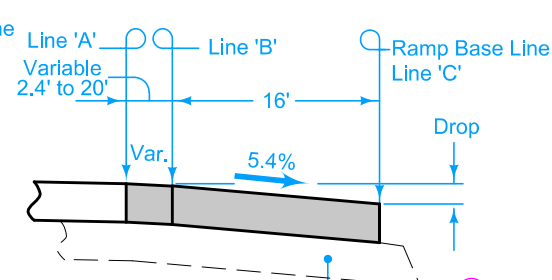
SECTION A-A



SECTION B-B

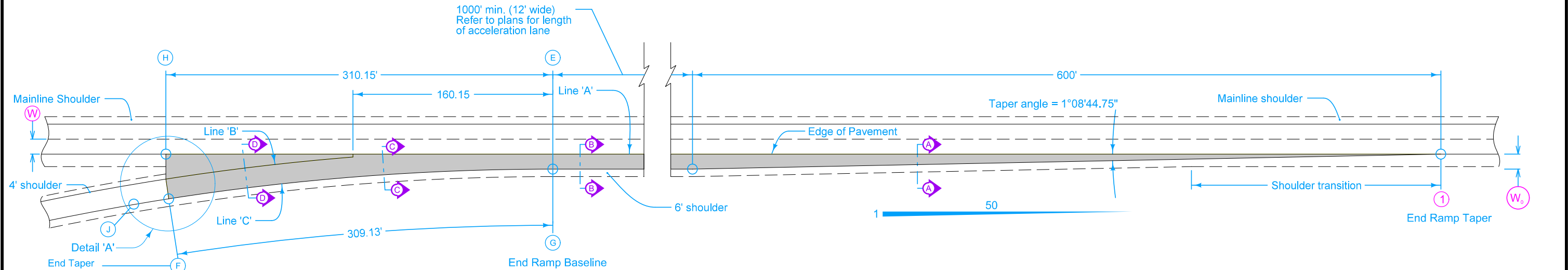


SECTION C-C

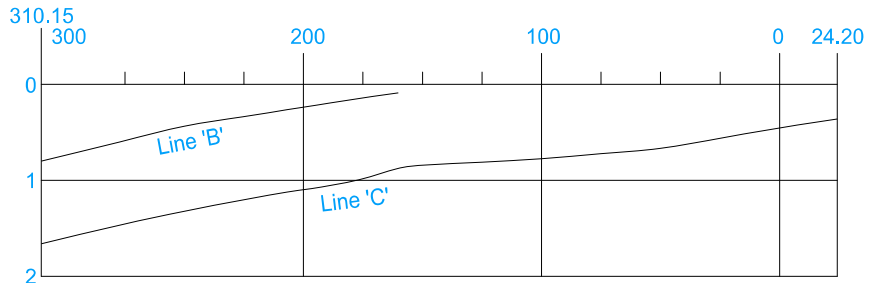


SECTION D-D

<b>MODIFIED</b> <b>ROAD DESIGN DETAIL</b>	REVISION			
	4	10-21-25		
	<b>533-02</b>			
MODIFICATIONS: Removed page 2. See L sheets for jointing.				
<b>PARALLEL ACCELERATION TAPER</b> <b>FOR 16' RAMP C</b> <b>(60 MPH DESIGN SPEED)</b>				



Pt. 'G' to Pt. 'J'
$\Delta = 8^\circ 51' 20.88''$
$T = 164.23'$
$L = 327.73'$
$E = 6.73'$
$R = 2000.00'$



NOTE: The algebraic difference between ramp profile grade at point (F) and relative profile grade of mainline at point (H) is 0.59%

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

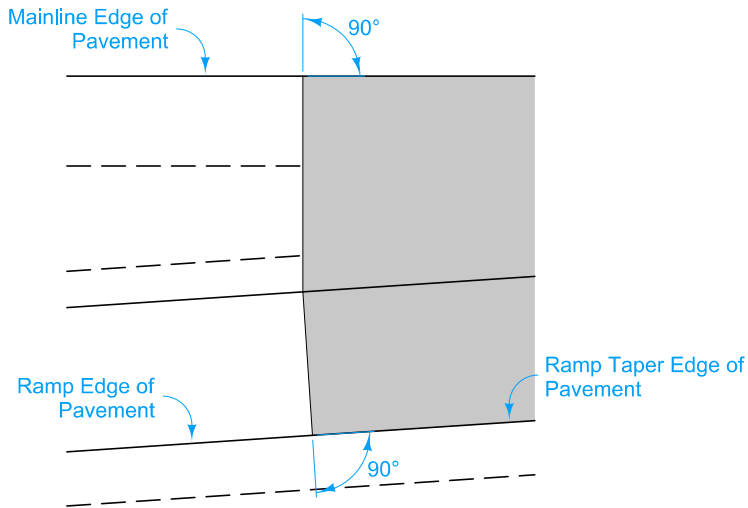


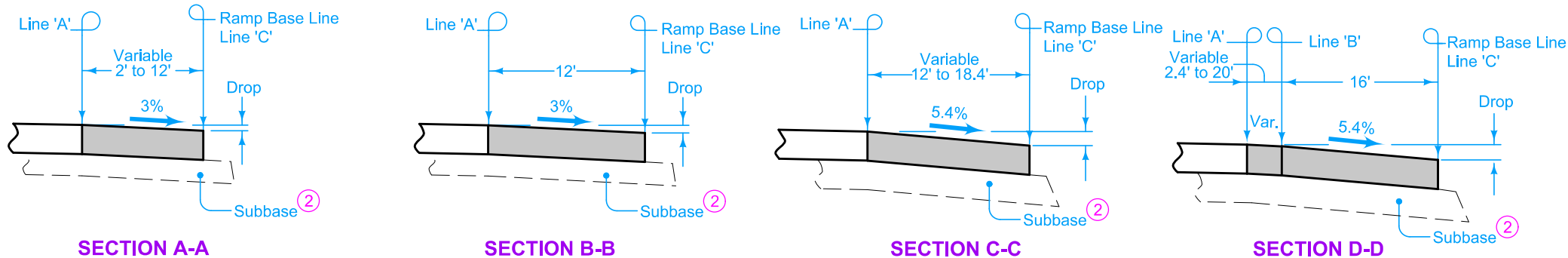
TABLE OF OFFSETS AND DROPS FOR 16' RAMP TAPER																		
DISTANCE FROM POINT (E) ALONG LINE 'A' (Ft.)		310.15	300	275	250	225	204	200	175	160.15	120	110	100	75	50	25	0	24.2
From Line 'A' To Line 'B'	OFFSET (Ft.)	20.00	18.45	14.85	11.56	8.60	6.35	5.95	3.62	2.30								
	SLOPE (%)	4.00	4.00	3.96	3.63	3.95	3.94	4.03	3.87	3.91								
	DROP (Ft.)	0.80	0.74	0.59	0.42	0.34	0.25	0.24	0.14	0.09								
From Line 'B' To Line 'C'	OFFSET (Ft.)	←———— Constant 16' Offset —————→																
	SLOPE (%)	←———— Constant 5.4% Slope —————→																
	DROP (Ft.)	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86								
From Line 'A' To Line 'C'	OFFSET (Ft.)										15.60	15.03	14.50	13.41	12.63	12.16	12.00	12.00
	SLOPE (%)										5.38	5.38	5.38	5.37	5.38	4.61	3.75	3.00
	DROP (Ft.)	1.66	1.6	1.45	1.32	1.20	1.11	1.10	1.00	0.86	0.84	0.81	0.78	0.72	0.68	0.56	0.45	0.36
DISTANCE FROM POINT (G) ALONG LINE 'C' (Ft.)		309.13	298.73	273.67	248.66	223.68	202.73	198.74	173.83	159.04	150.14	125.08	100.04	75.02	50.01	25.00	0.00	

Construct ramp exit pavement the same thickness as mainline pavement.

For joint detail, see PV-101.

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

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



MODIFIED

ROAD DESIGN DETAIL

MODIFICATIONS: Removed page 2. See L sheets for jointing.

REVISION

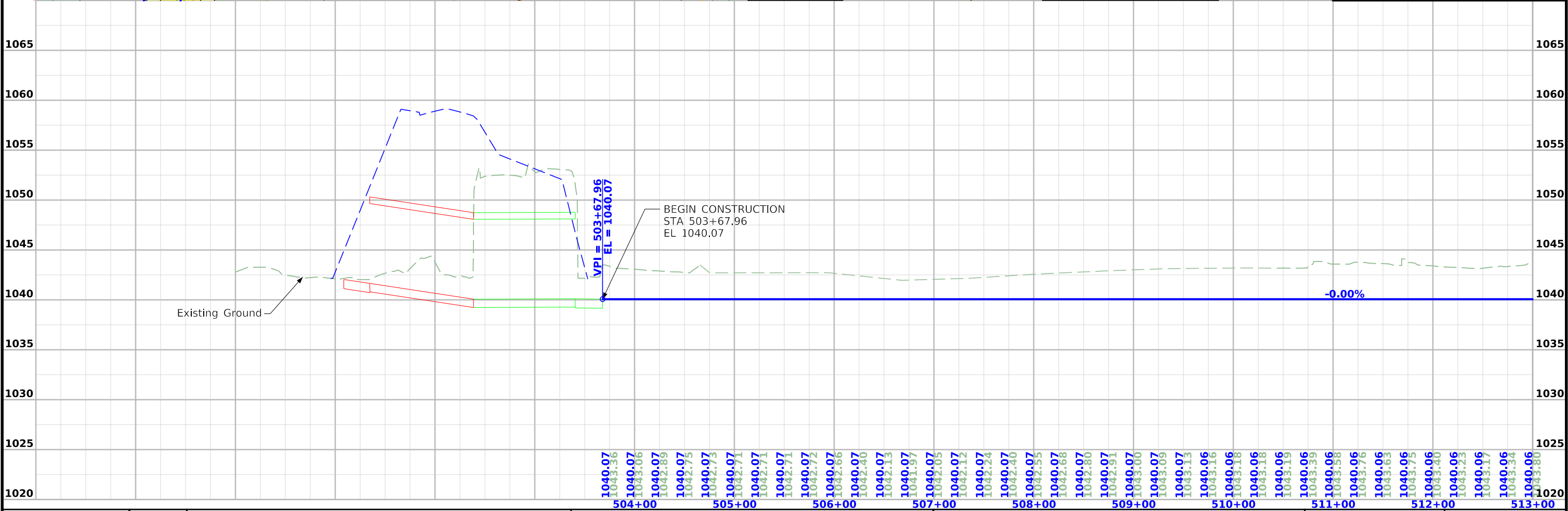
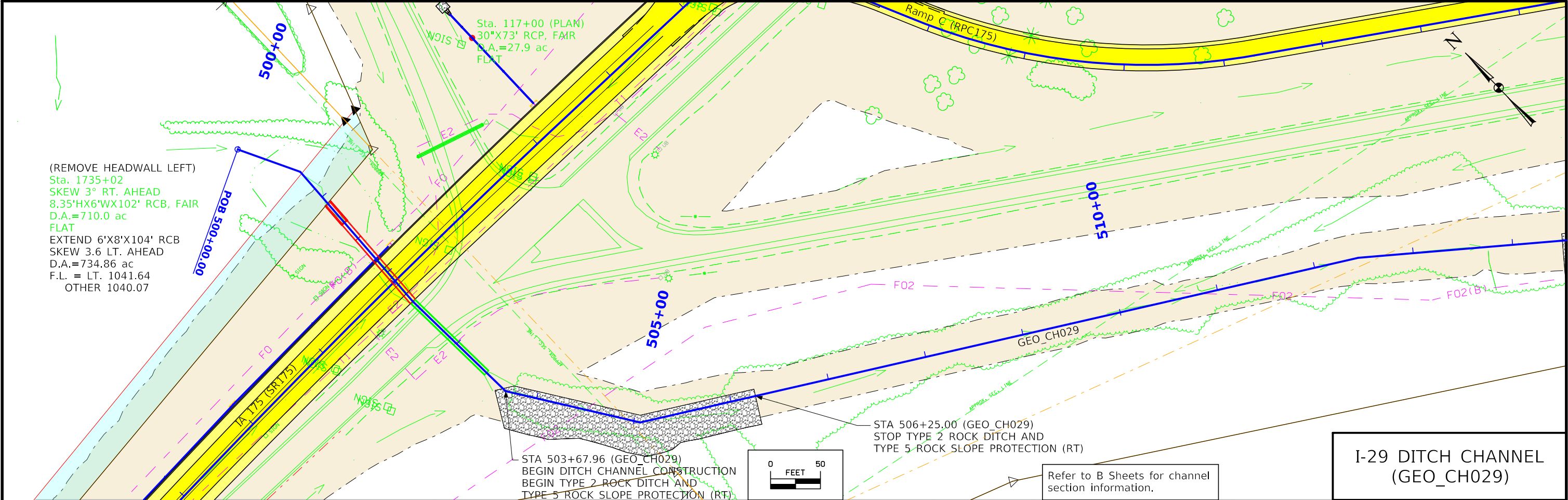
304-20-21

533-02

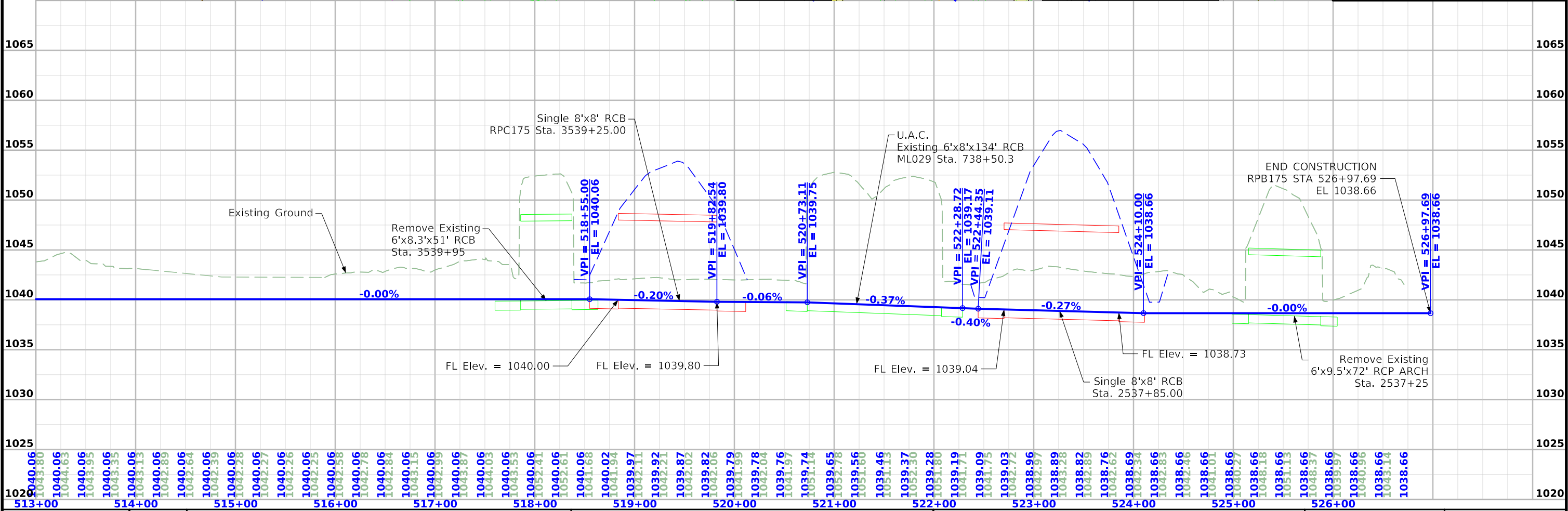
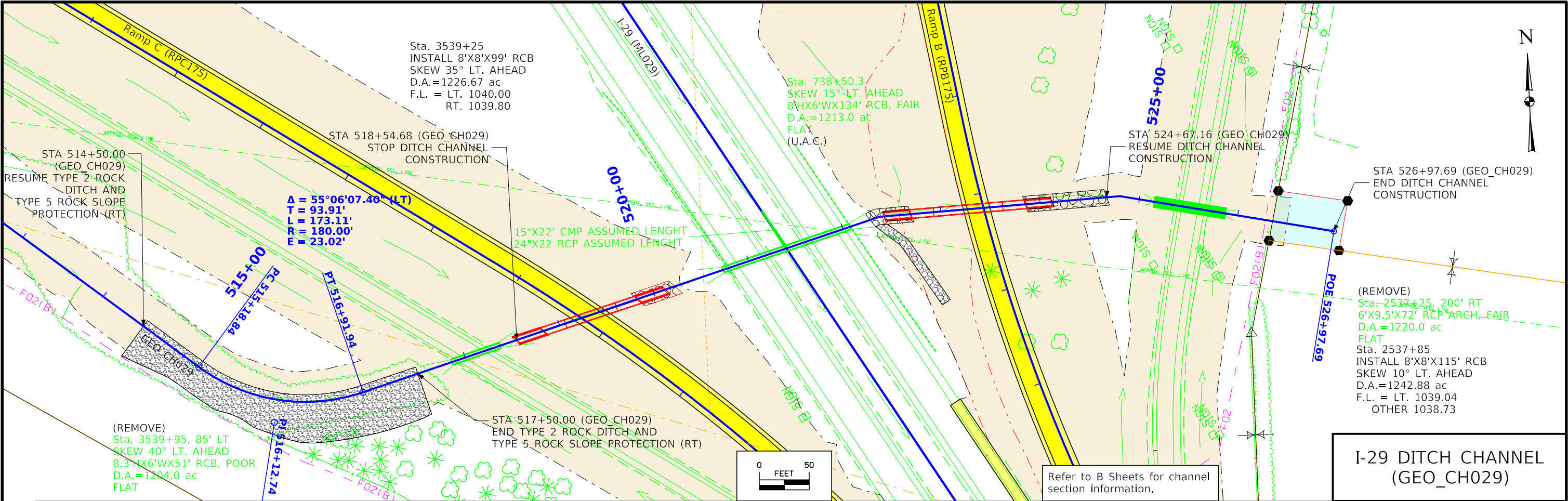
SHEET 1 of 1

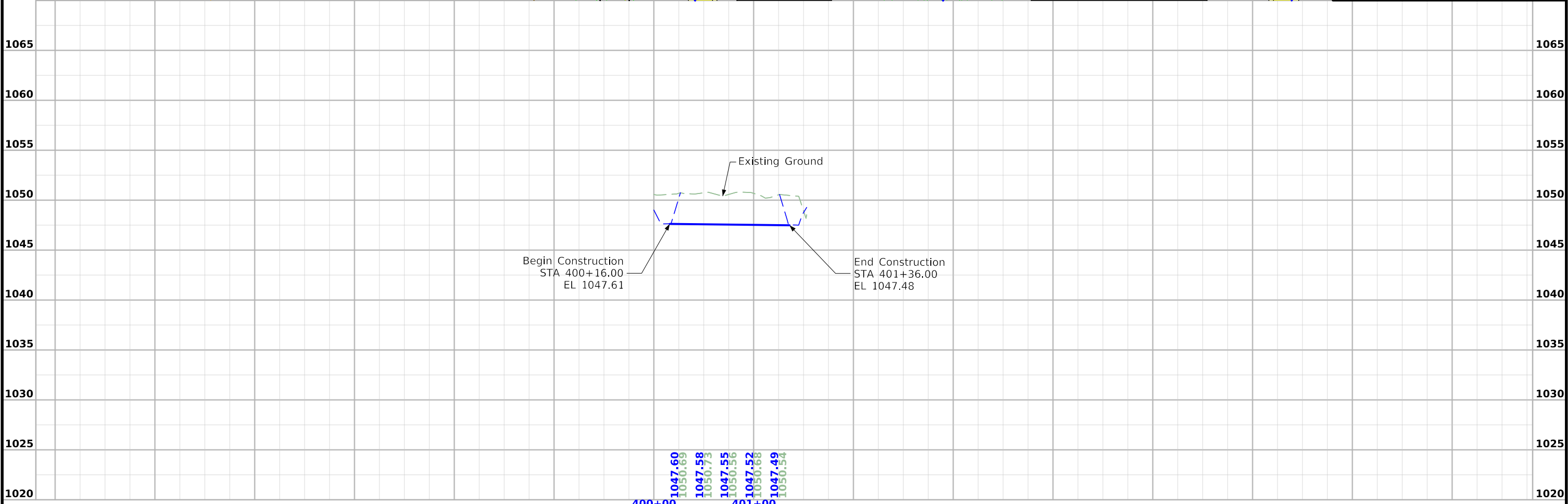
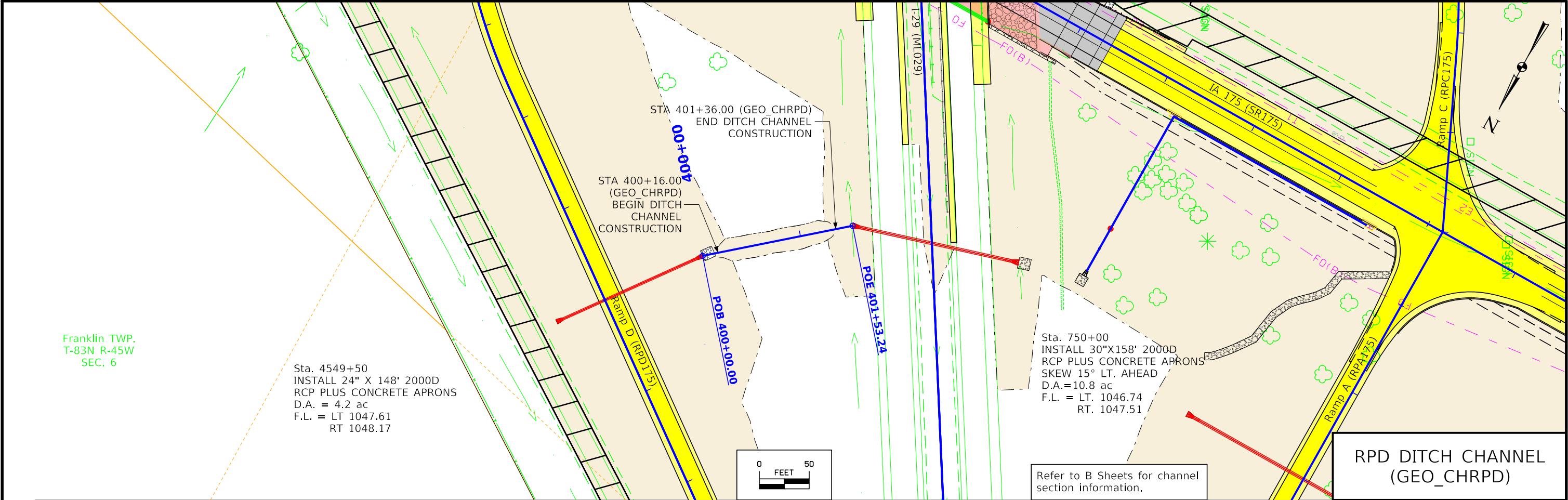
PARALLEL ACCELERATION TAPER  
FOR 16' RAMP D  
(60 MPH DESIGN SPEED)

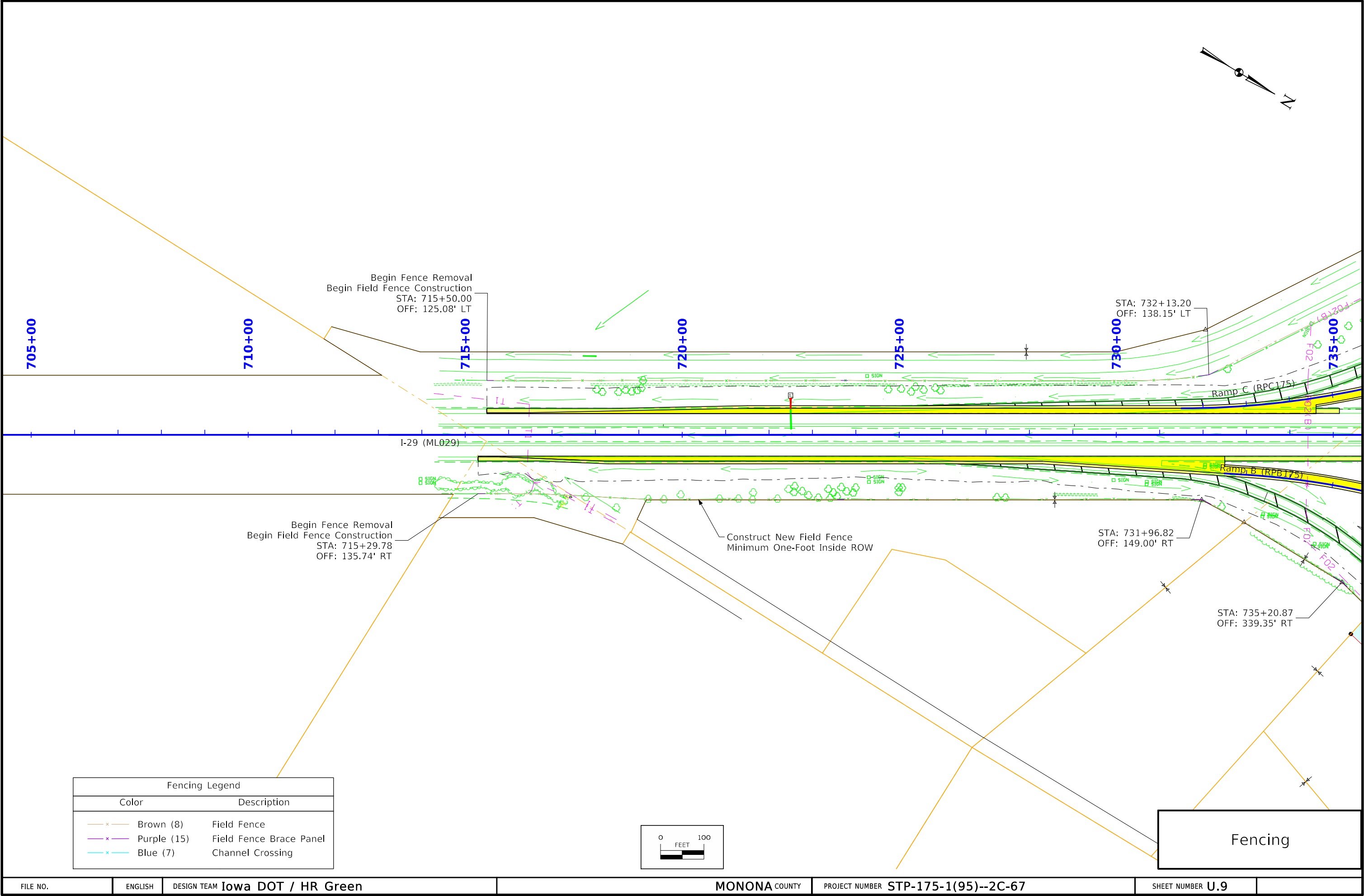




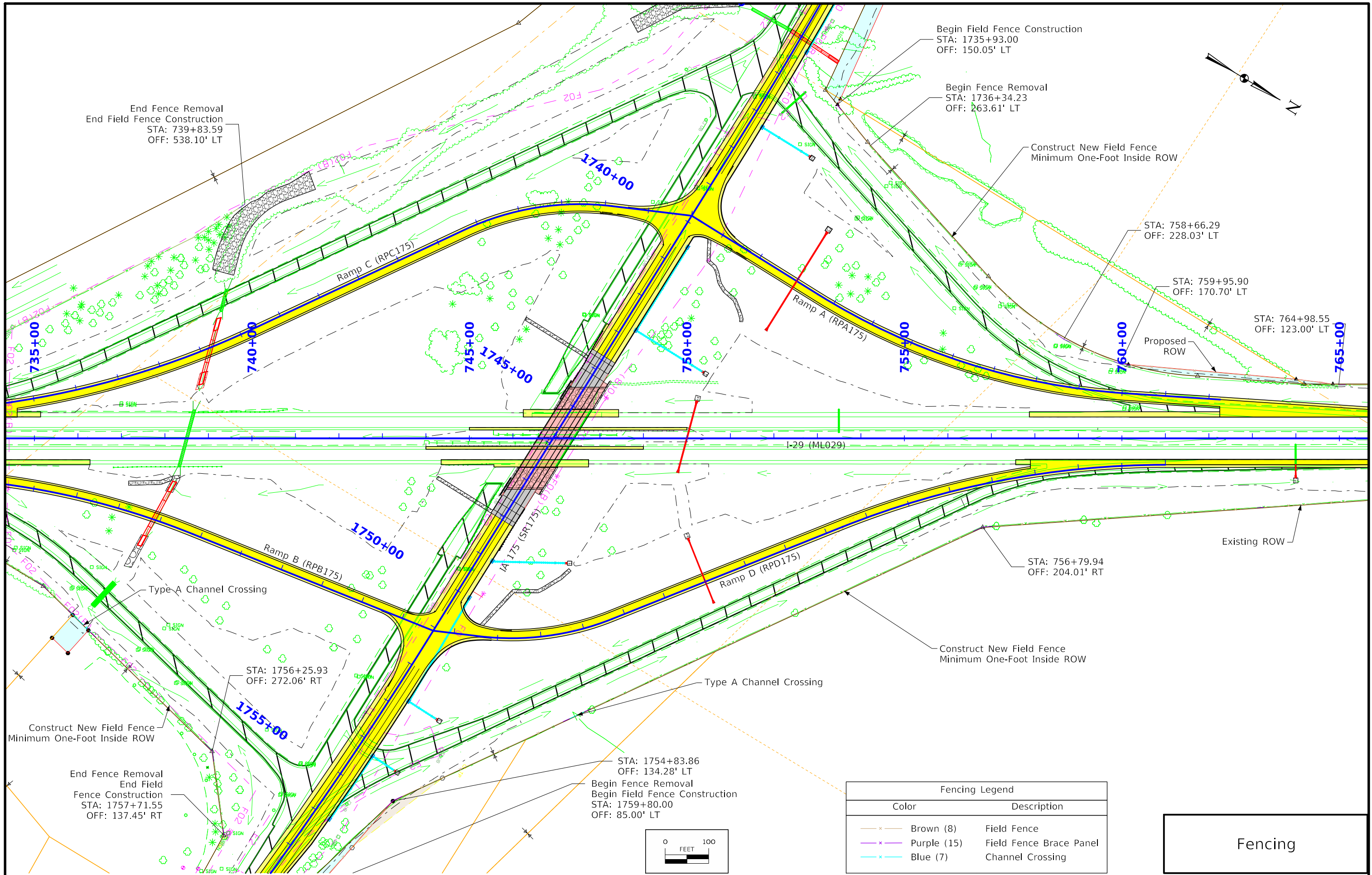
FILE NO.	ENGLISH	DESIGN TEAM	Iowa DOT / HR Green	MONONA COUNTY	PROJECT NUMBER	STP-175-1(95)--2C-67	SHEET NUMBER	U.6
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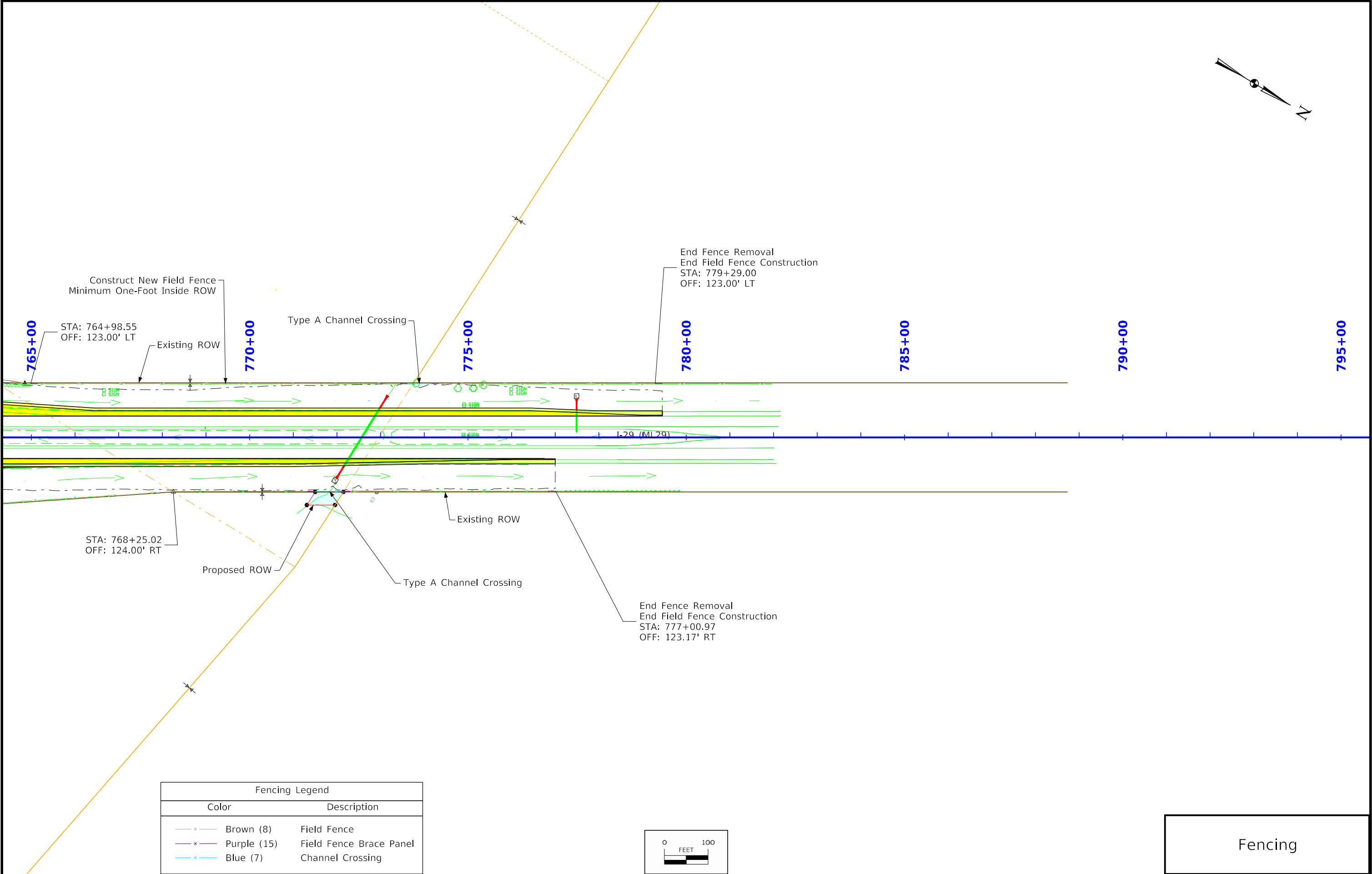






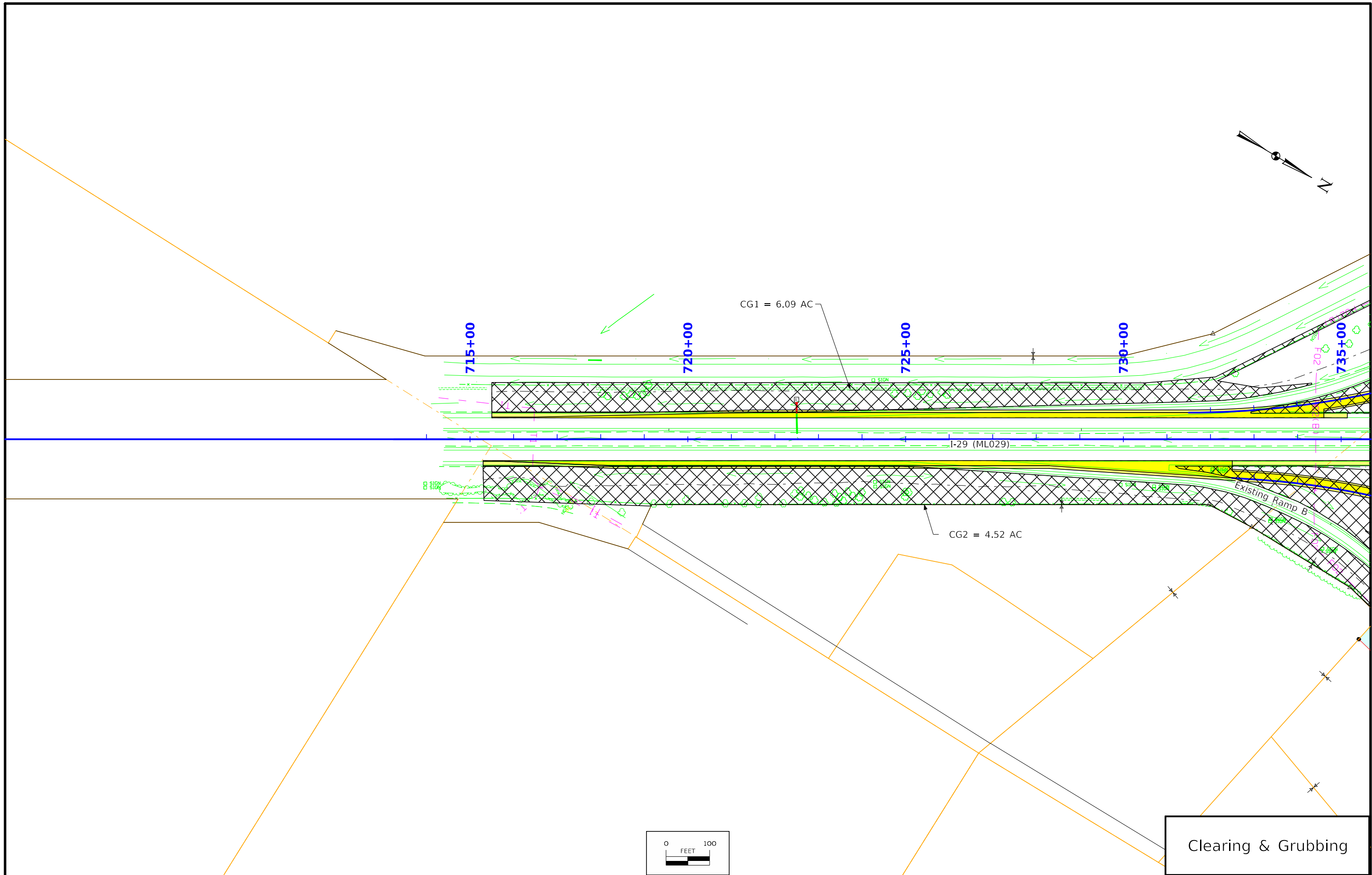
Fencing Legend		
Color	Description	
Brown (8)	Field Fence	
Purple (15)	Field Fence Brace Panel	
Blue (7)	Channel Crossing	

Fencing

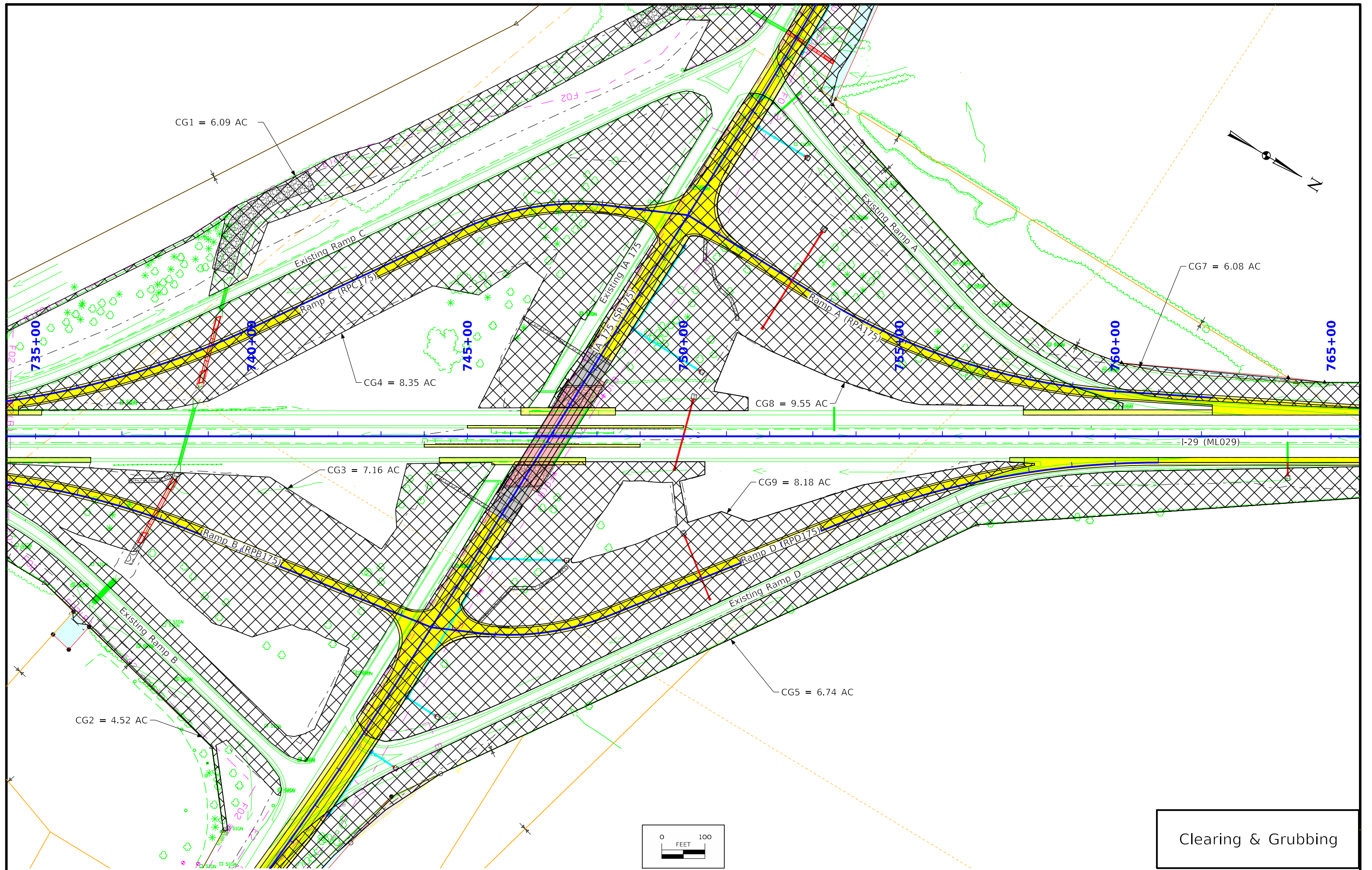


Fencing Legend		
Color		Description
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<span style="color: purple;">— x —</span>	Purple (15)	Field Fence Brace Panel
<span style="color: cyan;">— x —</span>	Blue (7)	Channel Crossing

Fencing

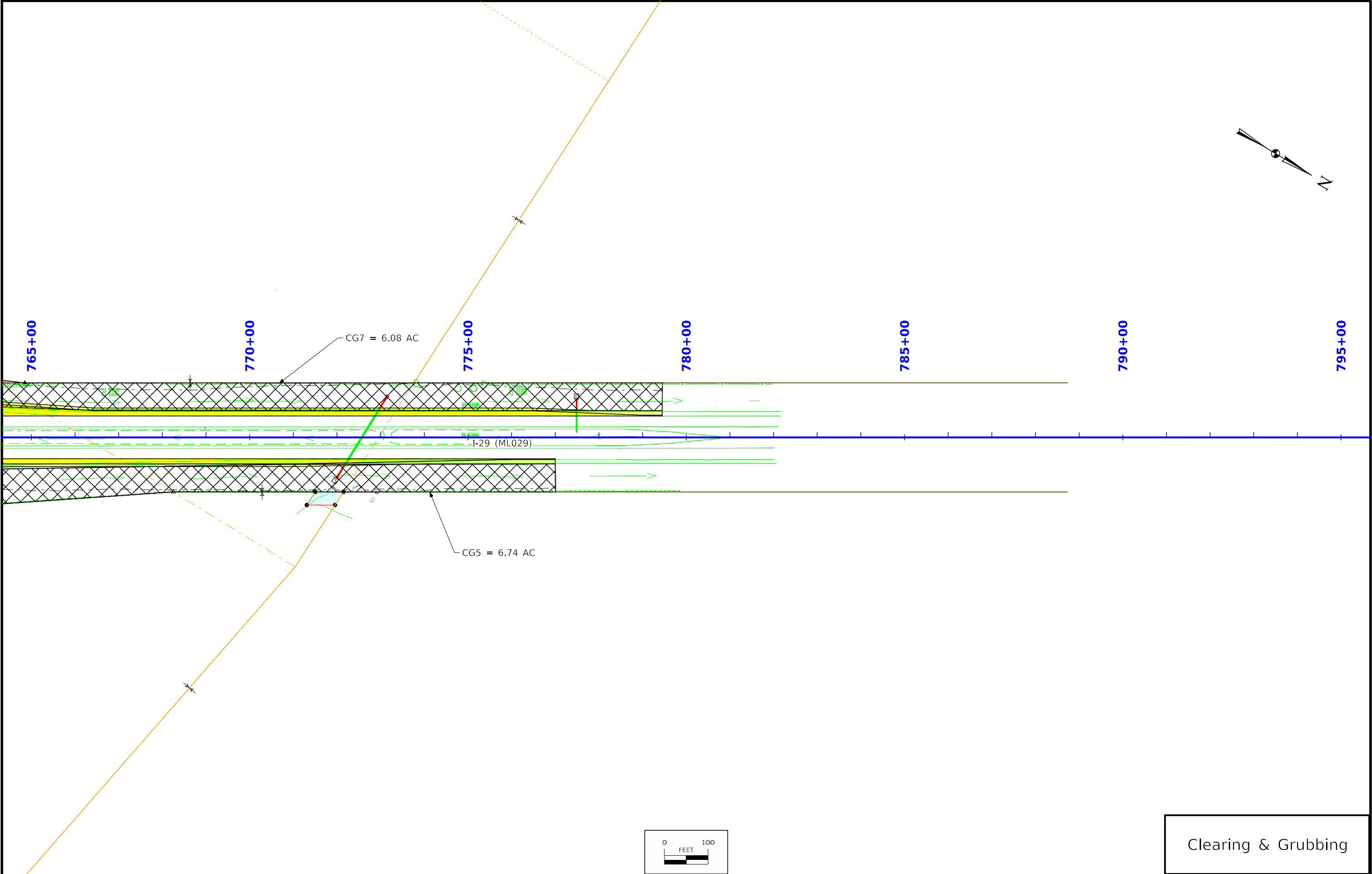




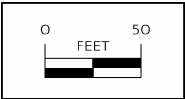
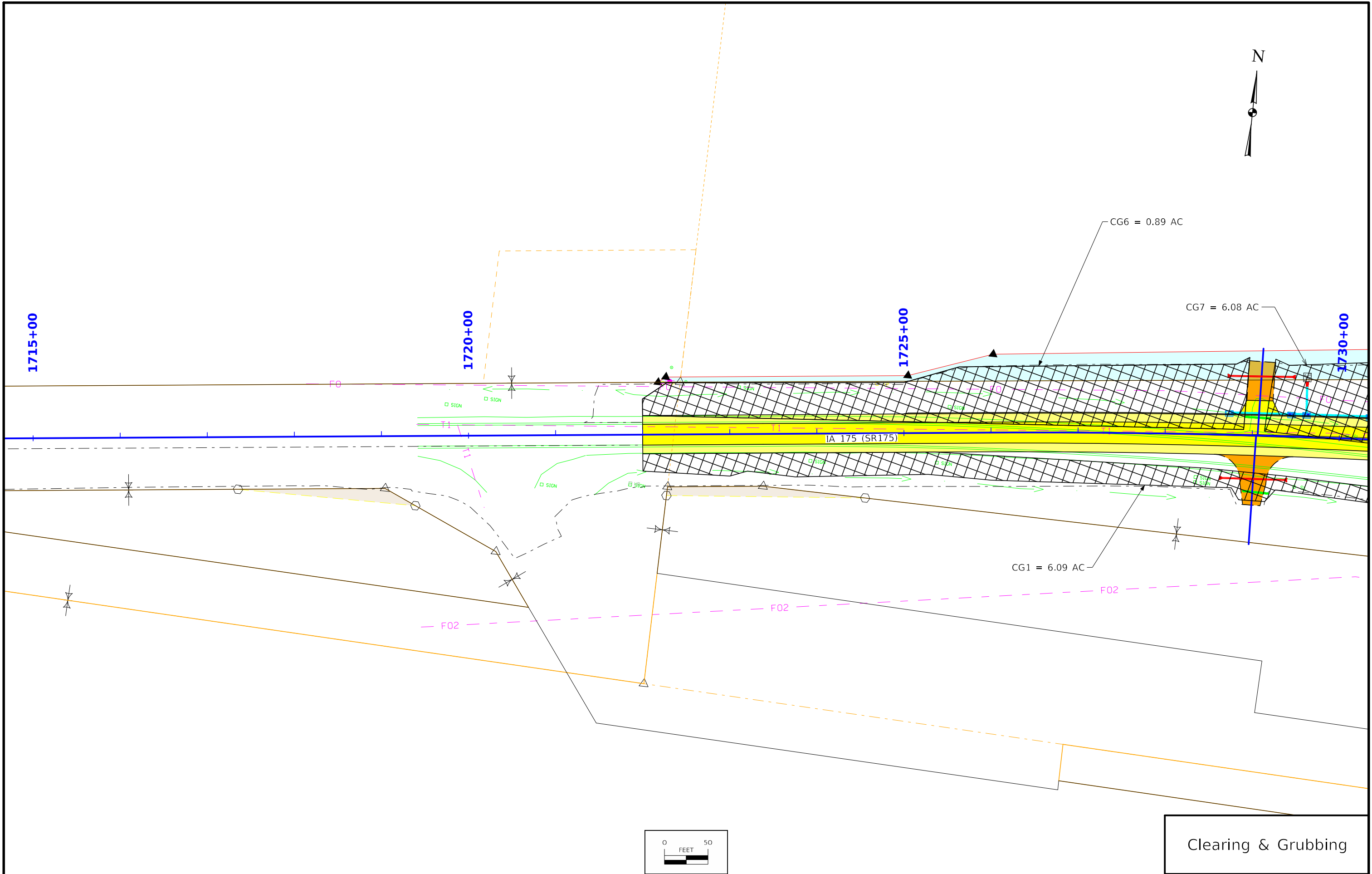


Clearing & Grubbing





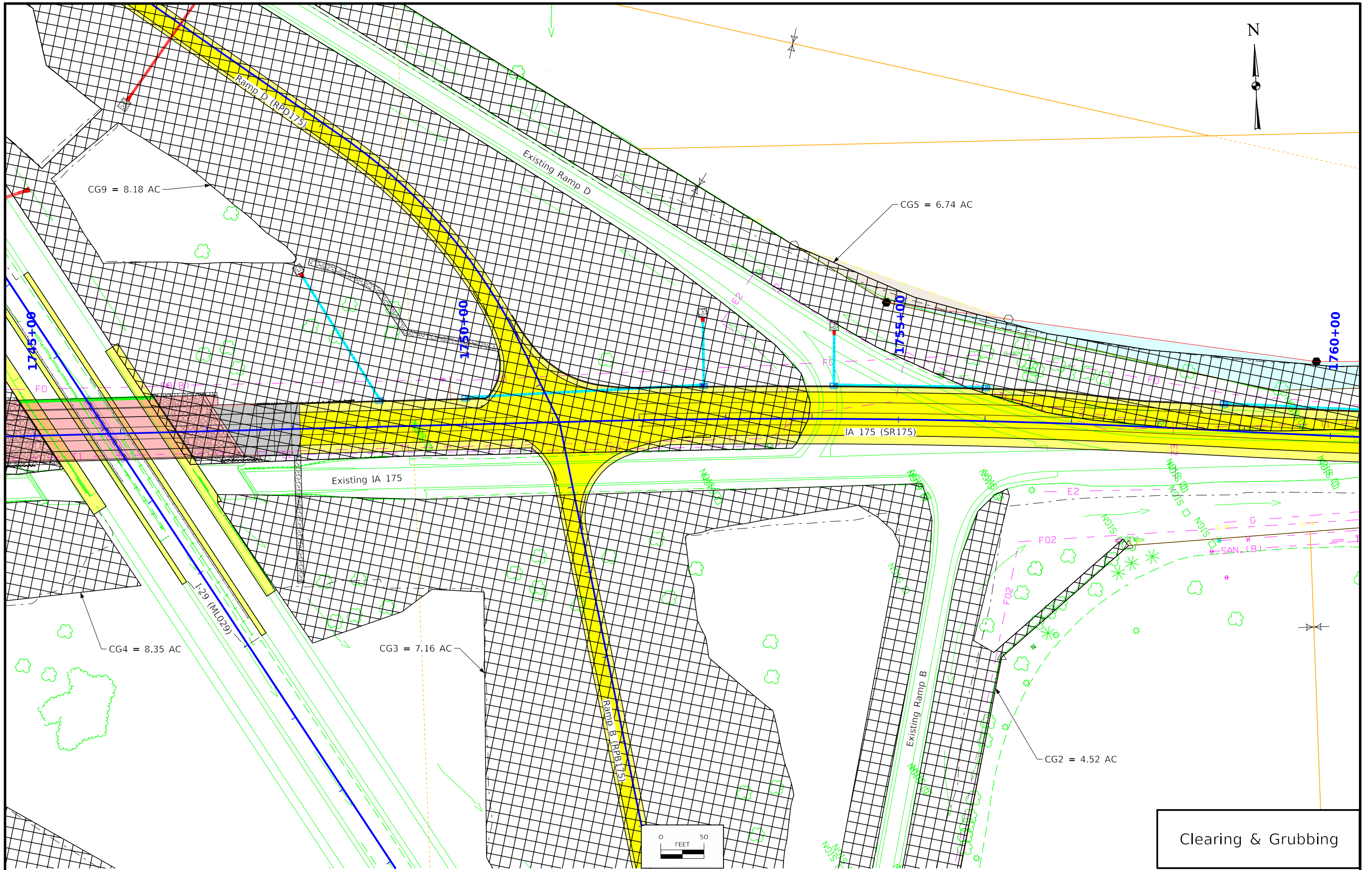
Clearing & Grubbing



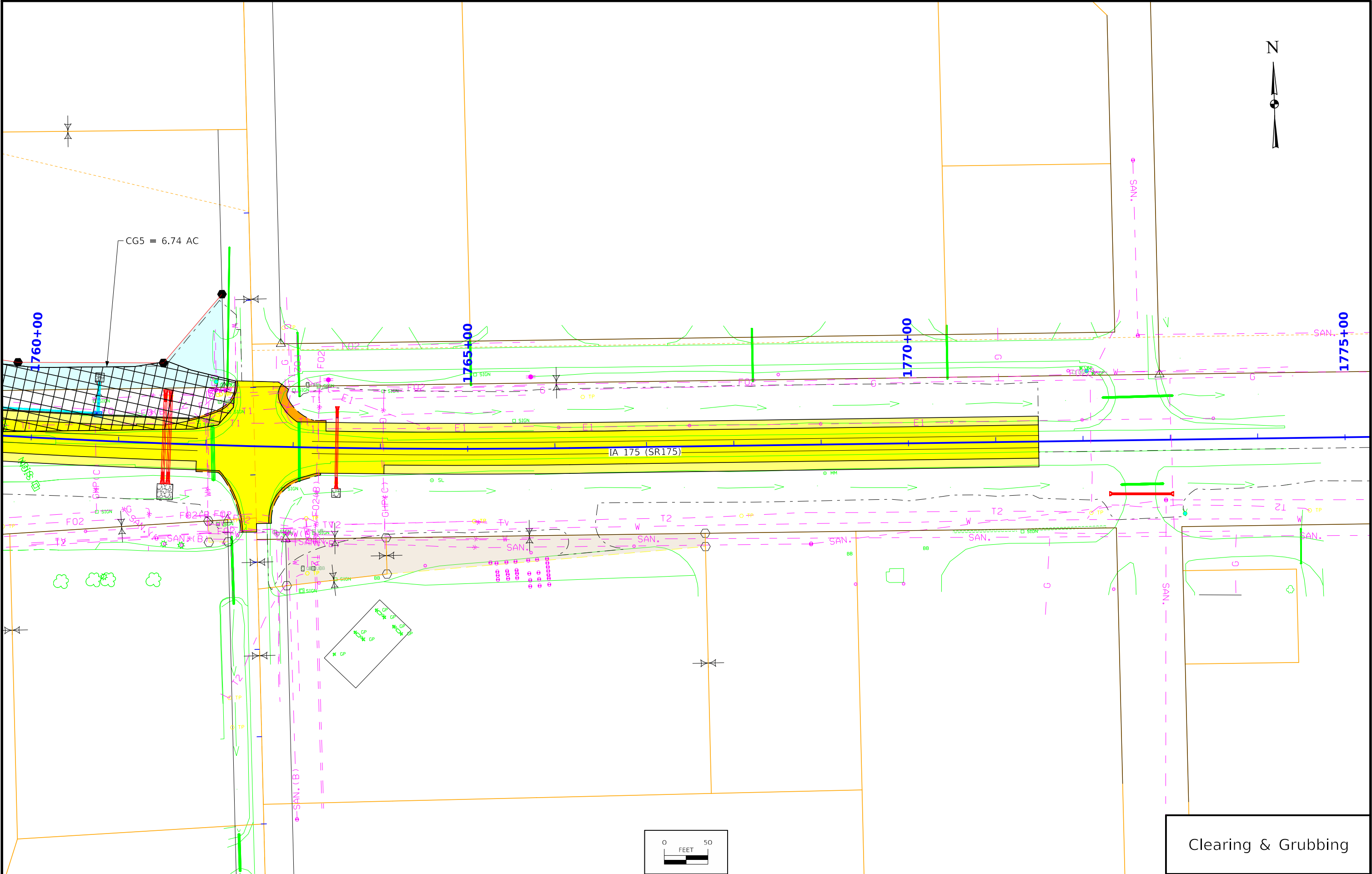
Clearing & Grubbing







Clearing & Grubbing



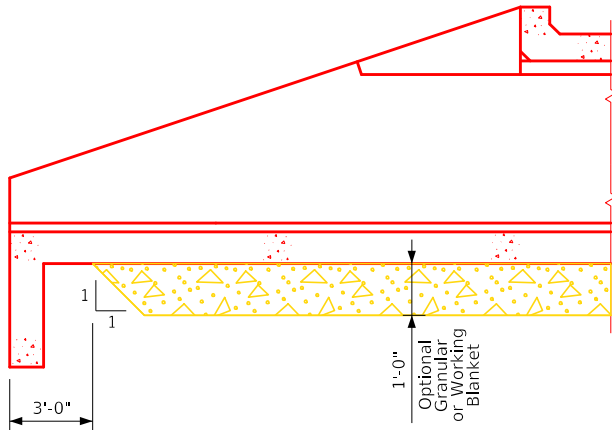
Estimated Culvert Quantities - Design No. 226 (C.I.P. Alt.)					
Item No.	Item Code	Item	Unit	Total	As Built Quantity
1	2401-6750001	Removals, As Per Plan	LS	1.00	
2	2402-2720000	Excavation, Class 20	CY	273	
3	2402-3825025	Granular Material for Blanket	CY	51.7	
4	2403-0100020	Structural Concrete (RCB Culvert)	CY	116.1	
5	2404-7775000	Reinforcing Steel	LB	15,060	
6	2501-8400172	Temporary Shoring	LS	1.00	
7	2526-8285000	Construction Survey	LS	1.00	
8	2533-4980005	Mobilization	LS	1.00	

Item No.	Estimated Reference Information
1	Includes all work for removal and off-site disposal of existing Single 6'x8' RCB headwall. Removal of scheduled items shall be in accordance with Section 2401 of the Standard Specifications. Any damage to material not to be removed shall be the responsibility of the Contractor and repaired at no extra cost to the State.
2	Includes excavation necessary to place 1'-0" granular material for blanket. Includes filling and compacting low areas around proposed culvert.
3	Includes all costs to install a 1'-0" thick blanket of granular material in accordance with Section 4118, Gradation No. 3 of the Standard Specifications. Includes 51.7 CY for a working blanket. The working blanket may be deleted if determined to be unnecessary at the time of construction.
4	Includes all resilient joint filler.
6	Includes all costs for designing, furnishing, and installing all temporary shoring necessary for construction and for removal of shoring as necessary. See the Temporary Shoring general notes for more information.

Summary of Reinforcing Steel		
Location	Quantity	Total
Parallel Wing Headwall 0° Skew	1 at 3,004	3,004
28'-0" Barrel Extension	1 at 3,309	3,309
32'-0" Barrel Section	2 at 3,650	7,300
12'-0" Barrel End Section	1 at 1,369	1,369
5r1 x 3'-6" Dowel Bar Sets	3 at 26	78
	Total (LB)	15,060

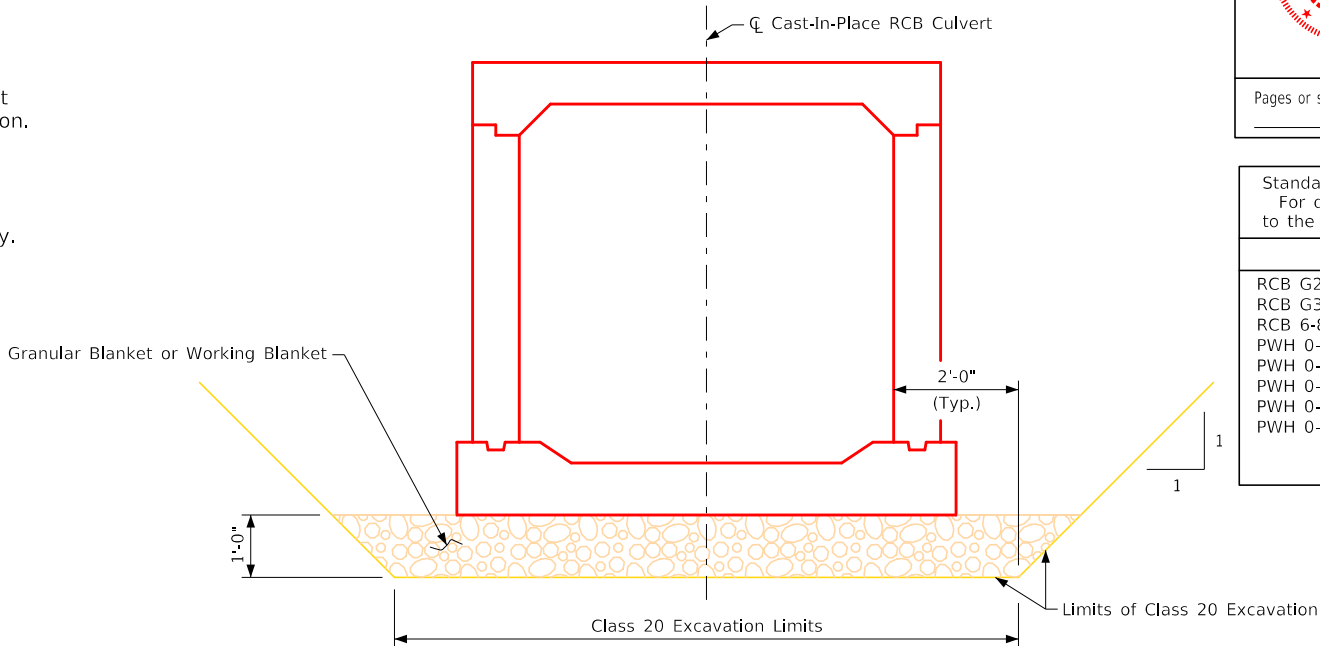
Concrete Placement Quantities				
Location	Slab	Floor	Walls	Total
Parallel Wing Headwall 0° Skew	* 1 at 1.2	1 at 9.6	1 at 8.8	19.6
28'-0" Barrel Extension	1 at 6.1	1 at 8.0	1 at 11.9	26.0
32'-0" Barrel Section	2 at 7.0	2 at 9.1	2 at 13.6	59.4
12'-0" Barrel End Section	1 at 2.6	1 at 3.4	1 at 5.1	11.1
Total (CY)	23.9	39.2	53.0	116.1

\* Includes parapet and top of wingwall



### Class 20 Excavation Limits at Headwall

(Longitudinal View)



### Working Blanket Details

Granular material for blanket shall terminate 3'-0" short of the curtain wall.

### Working Drawing and Calculation Submittals

Working drawings and calculations shall be submitted for the following items shown in the table below. (Note additional working drawings and calculations may be required in accordance with Article 1105.03 of the Standard Specifications.)

Submittal requirements for working drawings and calculations shall be in accordance with 1105.03 of the Standard Specifications for Highway and Bridge Construction of the Iowa Department of Transportation. The absence of a certification requirement for a submittal does not relieve the Contractor of the responsibility to attain certification.

Calculation submittals in this table which are associated with working drawing submittals shall be submitted on the same day. Review time for calculation submittals shall be of the same duration as and run concurrently with review time for associated working drawings. The calculation submittals listed in the table are not meant to be an exhaustive list and do not relieve the contractor from providing additional calculation submittals if requested by the Engineer.

No.	Working Drawing Description	Working Drawing File Name Convention For Submittal	Certified by Iowa P.E. (Yes/No)
1	Temporary Shoring	(95)_Monona_Design226_Tempshoring.pdf	Yes
No.	Calculation Description	Calculation File Name Convention For Submittal	Certified by Iowa P.E. (Yes/No)
2	Temporary Shoring Calculations	(95)_Monona_Design226_TempShoringCalcs.pdf	Yes

### Structural Design



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

Signature Sean E. Connor Date 10/2/2025

Printed or Typed Name  
My license renewal date is December 31, 2026

Pages or sheets covered by this seal: V.1 Thru V.22

### 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.

Signature Jason A. Lastovica Date 10/2/2025

Printed or Typed Name  
My license renewal date is December 31, 2026

Pages or sheets covered by this seal: V.3, V.7, V.11, V.15, V.19, V.22

Standards:  
For details and notes not shown refer to the following Iowa D.O.T. - Highway Standards: LRFD Culvert

Standard	Issued	Revised
RCB G2-20	07-20	
RCB G3-20	07-20	
RCB 6-8-20	07-20	
PWH 0-1-20	07-20	
PWH 0-2-20	07-20	
PWH 0-3-20	07-20	
PWH 0-4-20	07-20	
PWH 0-10-20	07-20	

Note:  
Pollution Prevention Plan shown elsewhere in these plans.

### Traffic Control Plan

The roadway will be open to thru traffic for the duration of the project. Refer to the traffic control plans shown elsewhere in these plans.

Roadway quantities, including culvert backfill shown elsewhere in these plans.

Design For 3°36'46" Skew (L.A.)  
Single 6'-0" x 8'-0" C.I.P  
Concrete Box Culvert Extension

### Estimated Quantities

STA. 1735+02.05 (IA 175) Turn-In Date: October 2025

Monona County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 226 Design Sheet No. 1 of 4 Asset No. 900625



General Notes:

It is the intent of this design to extend the existing Single 6'x8'x102' reinforced concrete box culvert with a Single 6'x8' Cast-In-Place reinforced concrete box skewed 3°36'46" at Station 1735+02.05. Design No. 0226, Asset ID No. 900625.

The bid item for "Removals as Per Plan" includes all costs associated with removing the existing Single 6'x8' concrete box culvert headwall as detailed in the plans. Removals shall be in accordance with Section 2401 of the Standard Specifications. Electronic copies of original design plans are not available.

Faint lines on plans indicate existing structure.  
Utility companies and municipalities whose facilities are shown on the plans or known to be within the construction limits shall be notified by the Contractor of the construction starting date.

The R.C.B. culvert extension sections are designed for HL-93 live load and earth fills of 10 feet. This design is based on Load and Resistance Factor Design, according to the 2017 AASHTO LRFD Bridge Design Specifications.

Vertical earth pressure, EV=0.120 kcf.  
Horizontal earth pressure, EHmax = 0.060 kcf max, EHmin = 0.030 kcf.  
The Contractor may submit alternate frost trough dimensions for approval. Any additional costs due to change in the frost trough dimensions is to be paid for by the Contractor.

Floor of barrel is to be finished smooth. Sides of footing are to be formed to ensure correct line and grade.

The permissible construction joint at the top of the walls may be lowered at the Contractor's option with Engineer's approval.

The vertical bars in the walls may be spliced above the footing at the Contractor's option as follows:

Bar Size Number	4	5	6	7	8	9
Minimum Splice Length	20"	24"	29"	34"	38"	47"

This splice, if used will be at the Contractor's expense.  
Metal bar chairs spaced at not over 3'-0" C-C In either direction are to be used to support all slab and floor steel as outlined in the Standard Specifications.

The reinforcement supplied for this structure shall be Grade 60. Reinforcing bar clearances will be as follows:

- Edge clearances: 2" except  
Top of floor 2¼" to near transverse reinforcing bar  
Bottom of floor 3½" to near transverse reinforcing bar  
End clearances:  
Vertical top 2"  
Vertical bottom 3" or 3½" if overall height of the culvert is not to a full inch  
Transverse 2"

All reinforcing bars and bars noted as dowels supplied for this structure shall be deformed reinforcement unless otherwise noted or shown.

Class 20 excavation material unsuitable for backfilling shall be disposed of in a manner that will leave the site in a neat condition.

The price bid for "Removals as Per Plan" shall include the cost for removals of portions of the existing culvert, and the setting of the dowel reinforcing bars into existing concrete.

All dimensions and details shown on these plans pertinent to new construction in relation to existing portions of the structure shall be verified in the field by the Contractor before starting construction.

The removal of the existing culvert shall be at the front face of the existing parapet. Removals shall be on a vertical plane parallel with the front face of the existing parapet, and to the width of the floor of the proposed extension. The walls shall be cut normal to the barrel walls and as shown on the "Part Removal Plan". The removal line shall be initiated with a 2½"± deep saw cut on the top and both sides of each wall, and across the top of the floor. This saw cut should cut thru any existing longitudinal reinforcing thereby facilitating a neat non-spalled break line. If existing top of parapets will be within 6" of proposed subgrade elevation, the parapets shall be removed down to an elevation 1"± above the top of the existing slab. Any existing parapet vertical bars exposed during parapet removal shall be cut off flush with the parapet removal line and painted with two coats of zinc rich paint.

All removals shall be carefully accomplished and any concrete damaged by the Contractor that is not to be removed shall be repaired by the Contractor at no extra cost to the state. Removals shall be in accordance with Section 2401 of the Standard Specifications.

The proposed culvert extension shall abut against the front face of the existing parapet. 5z1 x 2'-6" dowel reinforcing bars with a 10" minimum embedment into existing concrete shall be set around the entire periphery of the existing culvert. 5z1 dowel reinforcing bars shall be centered in the existing slab, walls and floor. 5z1 dowel reinforcing bars shall be at 1'-0" maximum spacing C-C of dowels. 5z1 dowel reinforcing bars shall be set with polymer grout in accordance with Article 2301.03, e, of the Standard Specifications, and current Supplemental Specifications of the Iowa D.O.T. Highway Division.

The roadway will be open to traffic during construction.  
Keyway dimensions shown on the plans are based on nominal dimensions unless stated otherwise. In addition, the bevel used on the keyway shall be limited to a maximum of 10 degrees from vertical.

These culvert plans label all reinforcing steel with English notation (5a1 is ⅝ inch diameter bar). English reinforcing steel received in the field may display the following "Bar Designation". The "Bar Designation" is the stamped impression on the reinforcing bars, and is equivalent to the bar diameter in millimeters.

English Size	3	4	5	6	7	8	9	10	11
Bar Designation	10	13	16	19	22	25	29	32	36

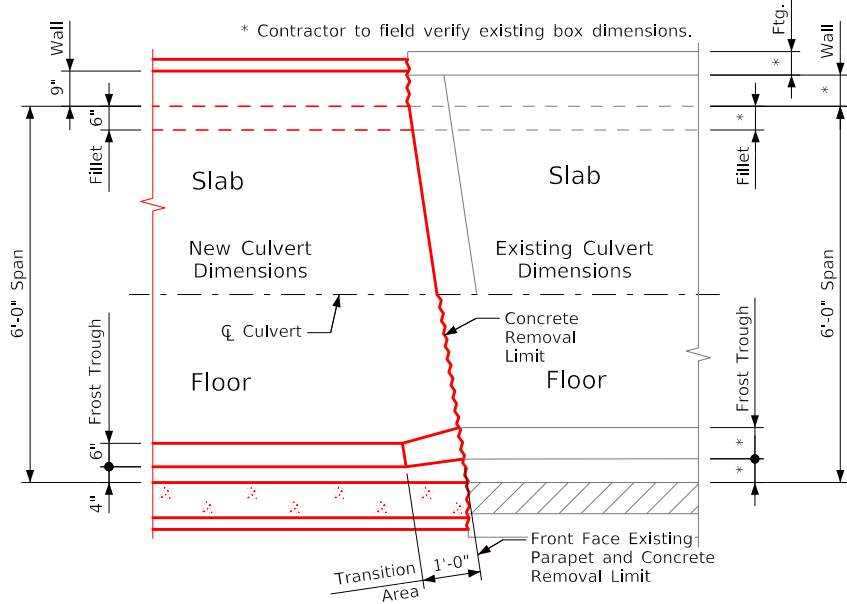
Traffic will be maintained at all times in accordance with the traffic control plans. See Roadway Sheets elsewhere in this plan set for more information.

Traffic control adjacent to the culvert will be the responsibility of the Contractor constructing the culvert and is to coordinate construction of the culvert with the Contractor doing the grading.

Any dimensional transition required between existing structure and the extension shall be made in the first 1'-0" of new work.

When de-watering presents a problem for placing the curtain walls as detailed, alternate methods such as steel sheet pile and precast concrete walls may be approved but at no additional cost. The Contractor is to submit to the Engineer for approval complete drawings of the proposed curtain wall alternate before beginning construction.

Excess Class 20 excavation suitable for backfilling shall be stockpiled at the construction site, as directed by the Engineer.



Concrete Transition Details

(Plan View)

Temporary Shoring Notes:

Temporary shoring (sheet pile or other) shall be required as necessary to construct the box culvert extension and prevent the earth under the traffic lane from sloughing in during construction.

The Contractor shall submit a temporary shoring plan for review. The temporary shoring plan shall be designed and certified by a professional engineer licensed in the State of Iowa. When determining slope stability to support structures such as bridges, culverts and retaining walls, a global stability analysis shall be included in the design of the temporary shoring in accordance with Chapter 200F-1 in the Design Manual of the Iowa DOT, Design Bureau. The Contractor shall not proceed with installation of the temporary shoring without notice to proceed from the Engineer.

- The temporary shoring submittal shall include:
- Design calculations (Including a global stability analysis)
  - Soil properties
  - Shoring material properties
  - Shoring plan layout (showing locations of traffic)
  - Shoring Details

Temporary shoring shall be paid for as a lump sum including all costs for designing, furnishing, installing and removal. All material used for shoring shall remain the property of the Contractor. Shoring is to be removed only after backfilling has been completed. In addition to the requirements noted above, Article 1107.07 of the Standard Specifications still applies.

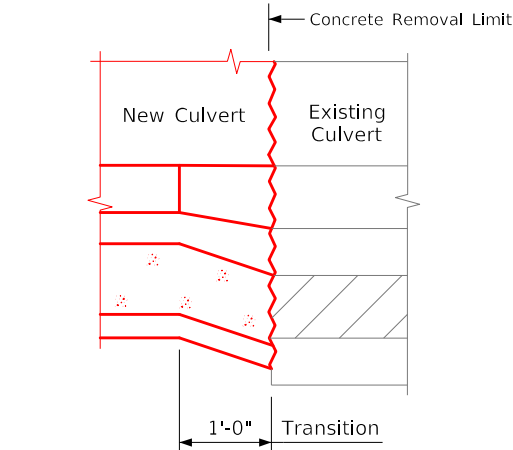
Specifications:

Design:  
AASHTO LRFD Bridge Design Specifications, 8th Ed., Series of 2017.

Construction:  
Iowa Department of Transportation Standard Specifications for Highway and Bridge Construction, current series, plus applicable General Supplemental Specifications, Developmental Specifications, Supplemental Specifications and Special Provisions

Design Stresses:

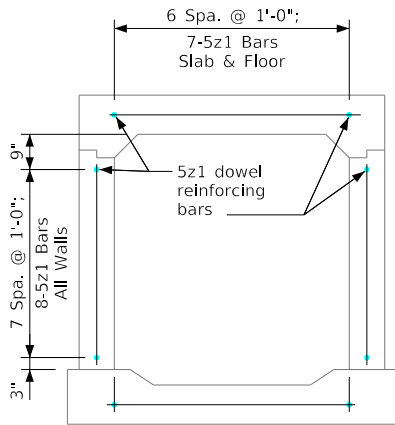
Design stresses for the following materials are in accordance with the AASHTO LRFD Bridge Design Specifications, 8th Ed., Series of 2017:  
Reinforcing steel in accordance with AASHTO LRFD Section 5, Grade 60.  
Concrete in accordance with AASHTO LRFD Section 5, f'c = 4.0 ksi.



New barrel concrete thicknesses shall be maintained minimally when transitioning to meet existing barrel interior surfaces. Outside concrete surfaces do not have to be transitioned to match existing surfaces.

Concrete Transition Details

(Wall Transition Shown - Typical for Slab)



Section Near Extension

(Showing spacing of 5z1 dowel reinforcing bars - 30 bars)



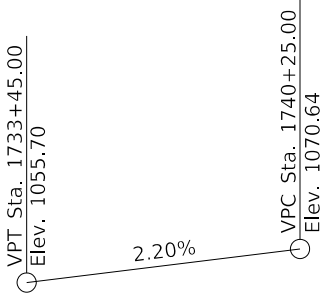
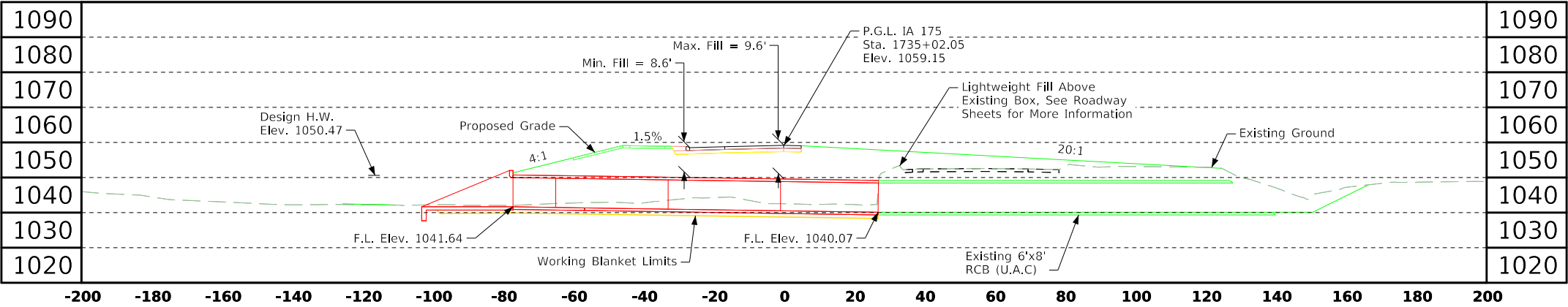
Design History At This Site	
Des. No.	Type of Work
Unknown	Original Design, 6'x8'x102' RCB
226	RCB Ext. 6'x8'x110'-8"

Note: Refer to the Bridge Design Manual, Section 7 for culvert extension details for transition information.

Design For 3°36'46" Skew (L.A.)  
Single 6'-0" x 8'-0" C.I.P  
Concrete Box Culvert Extension

General Notes

STA. 1735+02.05 (IA 175) Turn-in Date: October 2025  
Monona County  
IOWA DEPARTMENT OF TRANSPORTATION  
Design No. 226 Design Sheet No. 2 of 4 Asset No. 900625



Proposed Profile  
Grade IA 175

Location

IA 175 over Ditch  
T-83N R-45W  
Section 1  
Franklin Township  
Monona County  
Asset ID No. 900625  
Maint. No. 6705.3B175  
Latitude 42.027323°  
Longitude -96.136702°

Curve Data  
(IA 175)

PI Sta. 1731+76.60  
 $\Delta = 7^\circ 14' 52.80''$  (RT)  
T = 578.21  
L = 1154.88  
E = 18.29  
R = 9130.00'  
PC Sta. 1725+98.39  
PT Sta. 1737+53.27

Hydraulic Data

Drainage Area = 734.9 Acres  
Design Discharge = 213.27 CFS  
HW Elev. = 1050.47  
Exit Velocity = 4.26 FPS  
Stream Slope = 4.74 Ft./Mi.

IA 175 Traffic Est.

2023 AADT	3,700	V.P.D.
2046 AADT	4,600	V.P.D.
2046 DHV	480	V.P.H.
Trucks	16	%

Total  
Design ESALs -

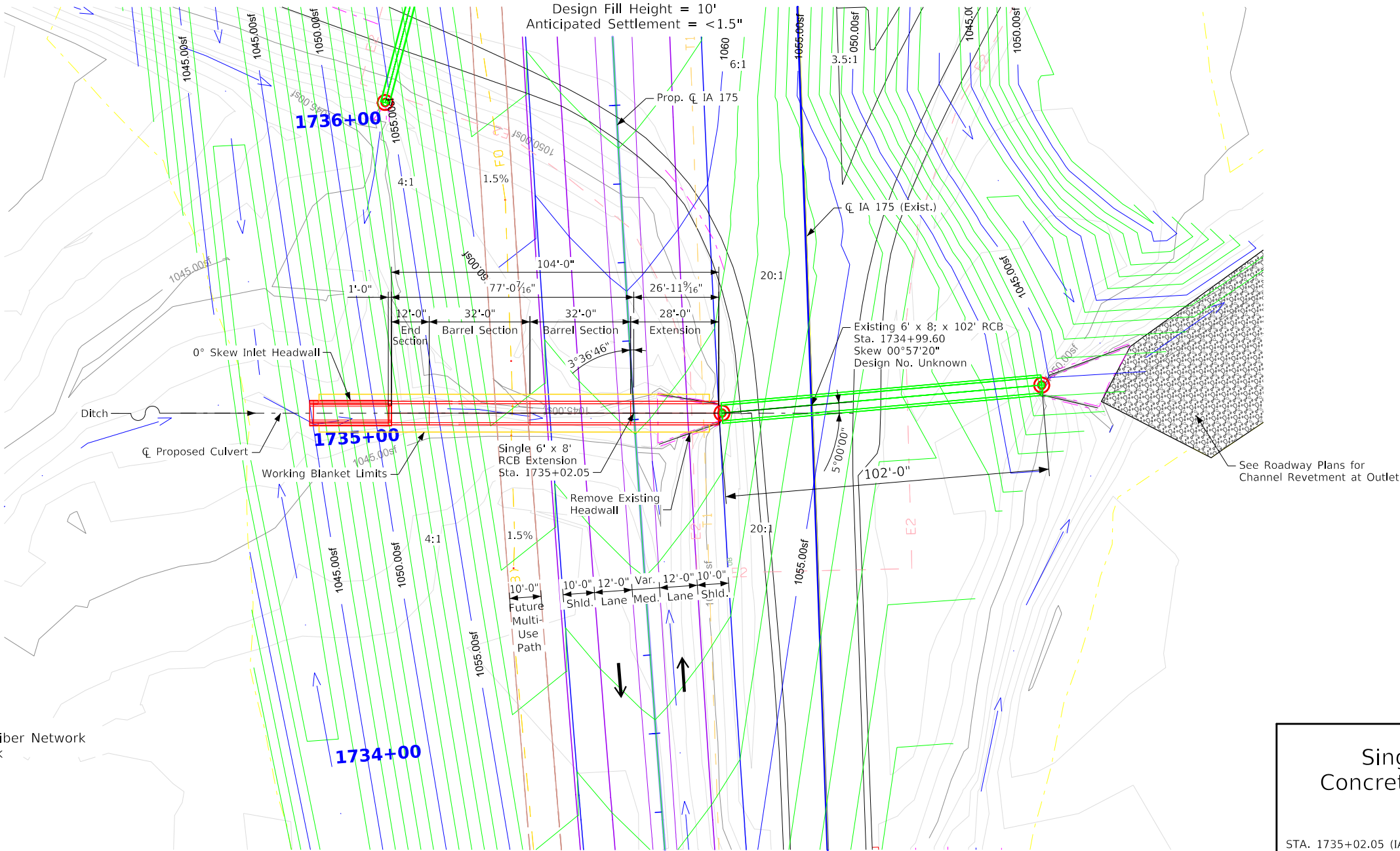
Utilities Note:

Utilities shown on this sheet  
are for information only. See  
Road Design sheets for utility  
information.

General Utility  
Symbols:

FO - Fiber Optic Line - Midwest Fiber Network  
T1 - Telephone Line - CenturyLink  
E2 - Electric Line - Iowa DOT

Longitudinal Section Along Culvert - Sta. 1735+02.05



Situation Plan

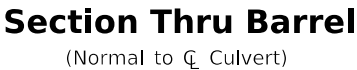
Design For 3°36'46" Skew (L.A.)  
Single 6'-0" x 8'-0" C.I.P  
Concrete Box Culvert Extension

Situation Plan

STA. 1735+02.05 (IA 175) Turn-In Date: October 2025  
Monona County  
IOWA DEPARTMENT OF TRANSPORTATION  
Design No. 226 Design Sheet No. 3 of 4 Asset No. 900625



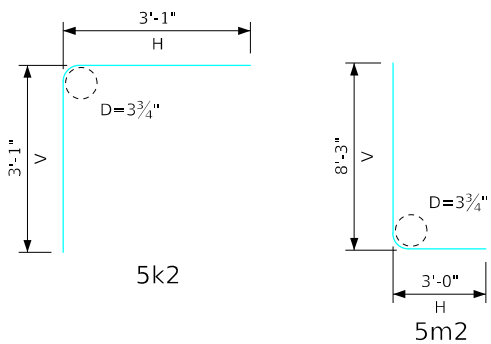




The existing wingwalls may be removed as necessary to facilitate new R.C.B. construction. The Contractor's scheme for maintaining stability of portions of wingwalls not removed shall be approved by the Engineer before new R.C.B. construction begins. (Typical both headwalls)



## Bent Bar Details



Note: All Dimensions are out to out. D = Pin Diameter.

Design For 3°36'46" Skew (L.A.)  
Single 6'-0" x 8'-0" C.I.P  
Concrete Box Culvert Extension

## Culvert Extension Details

STA. 1735+02.05 (IA 175)

Turn-in Date: October 2025

Monona County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 226

Design Sheet No. 4 of 4

Asset No. 90062.

Estimated Culvert Quantities - Design No. 226 (Precast Alt.)					
Item No.	Item Code	Item	Unit	Total	As Built Quantity
1	2401-6750001	Removals, As Per Plan	LS	1.00	
2	2402-2720000	Excavation, Class 20	CY	324	
3	2402-3825025	Granular Material for Blanket	CY	52.6	
4	2403-0100020	Structural Concrete (RCB Culvert)	CY	6.5	
5	2404-7775000	Reinforcing Steel	LB	956	
6	2415-2110608	Precast Concrete Box Culvert, 6 FT. x 8 FT.	LF	109	
7	2415-2200608	Precast Concrete Box Culvert Straight End Section, 6 FT. x 8 FT.	Each	1	
8	2501-8400172	Temporary Shoring	LS	1.00	
9	2526-8285000	Construction Survey	LS	1.00	
10	2533-4980005	Mobilization	LS	1.00	

Item No.	Estimated Reference Information
1	Includes all work for removal and off-site disposal of existing Single 6'x8' RCB headwall. Removal of scheduled items shall be in accordance with Section 2401 of the Standard Specifications. Any damage to material not to be removed shall be the responsibility of the Contractor and repaired at no extra cost to the State.
2	Includes excavation necessary to place 6" bedding and 1'-0" granular material for blanket. Includes filling and compacting low areas around proposed culvert.
3	Includes all costs to install a 1'-0" thick blanket of granular material in accordance with Section 4118, Gradation No. 3 of the Standard Specifications. Includes 52.6 CY for a working blanket. The working blanket may be deleted if determined to be unnecessary at the time of construction.
4	Includes all resilient joint filler.
6	Includes materials and labor associated with providing and installing the culvert ties, lifting hole plugs, engineering fabric, granular leveling material, joint material, and grout as required. A minimum of 6 inches of Granular Leveling Material shall be used as bedding for the precast box culvert. The bedding shall be shaped to a flat base using a template.
7	Includes materials and labor associated with providing and installing the culvert ties, lifting hole plugs, engineering fabric, granular leveling material, joint material, and grout as required. Includes a 0 Degree Skew precast end section, precast lintel beam, and precast curtain wall. A minimum of 6 inches of Granular Leveling Material shall be used as bedding for the precast box culvert.The bedding shall be shaped to a flat base using a template.
8	Includes all costs for designing, furnishing, and installing all temporary necessary for construction and removal of shoring as necessary. See the Temporary Shoring general notes for more information.

### Temporary Shoring Notes:

Temporary shoring (sheet pile or other) shall be required as necessary to construct the box culvert extension and prevent the earth under the traffic lane from sloughing in during construction.

The Contractor shall submit a temporary shoring plan for review. The temporary shoring plan shall be designed and certified by a professional engineer licensed in the State of Iowa. When determining slope stability to support structures such as bridges, culverts and retaining walls, a global stability analysis shall be included in the design of the temporary shoring in accordance with Chapter 200F-1 in the Design Manual of the Iowa DOT, Design Bureau. The Contractor shall not proceed with installation of the temporary shoring without notice to proceed from the Engineer.

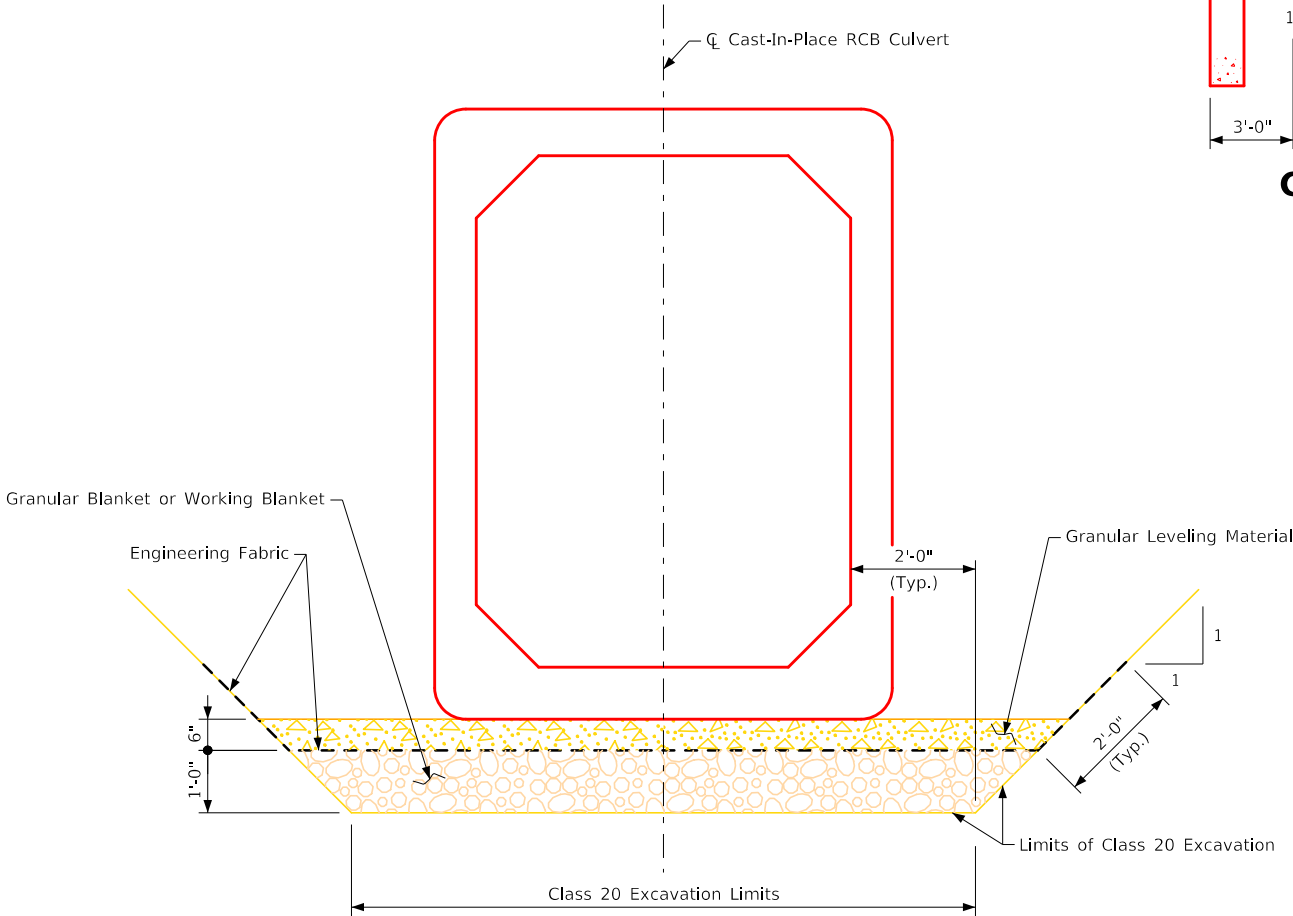
The temporary shoring submittal shall include;

- Design calculations (Including a global stability analysis)
- Soil properties
- Shoring material properties
- Shoring plan layout (showing locations of traffic)
- Shoring Details

Temporary shoring shall be paid for as a lump sum including all costs for designing, furnishing, installing and removal. All material used for shoring shall remain the property of the Contractor. Shoring is to be removed only after backfilling has been completed. In addition to the requirements noted above, Article 1107.07 of the Standard Specifications still applies.

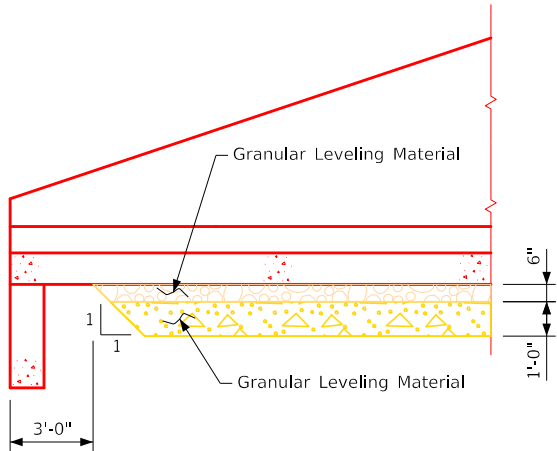


Note:  
Pollution Prevention Plan shown elsewhere  
in these plans.



### Granular Leveling Material Details

Granular leveling material and granular material for blanket shall terminate 3'-0" short of the curtain wall.



**Class 20 Excavation Limits at Headwall**  
(Longitudinal View)

### Traffic Control Plan

The roadway **will** be open to thru traffic for the duration of the project. Refer to the traffic control plans shown elsewhere in these plans.

Roadway quantities, including culvert backfill shown elsewhere in these plans.

Standards: For details and notes not shown refer to the following Iowa D.O.T. - Highway Standards: LRFD Culvert		
Standard	Issued	Revised
PRCB G1-20	12-20	
PRCB G2-20	12-20	01-23
PRCB 6-20	12-20	
PES 1-20-T1	12-20	
PES 2-20-T1	12-20	01-23
PES 9-20-T3	12-20	
PES 11-20	12-20	

Design For 3°36'46" Skew (L.A.)

Single 6'-0" x 8'-0" Precast Concrete Box Culvert Extension

Estimated Quantities

STA. 1735+02.05 (IA 175) Turn-In Date: October 2025

Monona County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 226 Design Sheet No. 1 of 4 Asset No. 900625

General Notes:

It is the intent of this design to extend the existing Single 6'x8'x102' with a 6'x8' precast reinforced concrete box culvert skewed 3°36'46" at Station 1735+02.05. Design No. 0226, Asset ID No. 900625.

The bid item for "Removals as Per Plan" includes all costs associated with removing the existing Single 6'x8' concrete box culvert headwall as detailed in the plans. Removals shall be in accordance with Section 2401 of the Standard Specifications. Electronic copies of original design plans are not available.

Faint lines on plans indicate existing structure.  
Utility companies and municipalities whose facilities are shown on the plans or known to be within the construction limits shall be notified by the Contractor of the construction starting date.

The precast R.C.B. Culvert sections are designed for HL-93 live load and earth fills of 10 feet.

The precast R.C.B. barrel and end sections shall conform to Iowa D.O.T. Single Precast R.C.B. Culvert Standards. At the Contractor's option, precast barrel sections may conform to ASTM C1577.

Excess Class 20 Excavation material suitable for backfilling shall be stockpiled at the construction site, as directed by the Engineer.

Class 20 Excavation material unsuitable for backfilling shall be disposed of in a manner that will leave the site in a neat condition.

The bid item "Removals as Per Plan" shall include all costs for removals of portions of the existing culvert, and the setting of the dowel bars into existing concrete. Removals shall be in accordance with Section 2401 of the Standard Specifications.

All removals shall be carefully accomplished and any concrete damaged by the Contractor that is not to be removed shall be repaired by the Contractor at no extra cost to the State.

The length in linear feet of precast reinforced concrete box culvert will be based on the plan quantity. For the number of linear feet given on the plan, the Contractor will be paid the contract unit price per linear foot. The payment shall be full compensation for furnishing all material, labor and equipment necessary to complete the work except for bid items "Precast Concrete Box Culvert Straight End Section", "Class 20 Excavation", "Reinforcing Steel", and "Structural Concrete".

For each precast concrete box culvert straight end section installed the Contractor will be paid the contract price per each. The payment shall be full compensation for furnishing all material (including lintel beams and curtain walls), labor and equipment necessary to complete the work except for bid items "Precast Concrete Box Culvert", "Class 20 Excavation", "Reinforcing Steel", and "Structural Concrete".

The curtain wall and the Type 3 lintel beam or Type 1 parapet shall be precast.

The Contractor shall furnish and install culvert ties for all precast joints. The main section joints will have one tie on each side of the barrel and the last barrel section will be attached to the end sections with two ties per side. The end section joints will have two ties per side.

Culvert ties shall be included in the cost for precast concrete box culvert. Tie rods will be 1 inch diameter steel and shall meet requirements of ASTM A709 Grade 36 or equal.

Culvert tie assemblies shall be galvanized after fabrication.  
The limits for excavation for the precast concrete box culvert shall be as shown on the "Granular Leveling Material Detail".

A minimum of 6 inches of Granular Leveling Material shall be used as bedding for the precast box culvert. The bedding shall be shaped to a flat base using a template. All costs including material and labor associated with providing and installing the Granular Leveling Material shall be included in the bid items "Precast Concrete Box Culvert" and "Precast Box Culvert Straight End Section".

The Granular Leveling Material shall meet the requirements of Section 4117 of the Standard Specifications.

The precast box culvert and extension shall be built to the dimensions and specifications shown in these plans.

The Contractor shall submit details (i.e. Shop Drawings) of the proposed precast concrete box sections for this project. The details shall include the following information as found on Standard Sheet 1089P:

- A. A Situation Plan drawing showing the back to back parapet dimension for the line of the culvert sections.
- B. Dimension the number of precast sections and section lengths.
- C. A detail of the precast barrel sections showing a cross section view of the section, steel locations, dimensions, etc.
- D. A detail of the precast concrete culvert end section showing a cross section view of the sections, steel locations, dimensions, etc. similar to the end section details shown in the Iowa D.O.T. Standards.

The Contractor shall provide all information shown on Standard Sheet 1089P.

The Contractor shall allow 30 working days for the Engineer's Shop Drawing review.

The culvert shall be backfilled with flowable mortar. For flowable mortar details and other road work see road sheets in the tied roadway plans.

All dimensions and details shown on these plans pertinent to new construction shall be verified in the field by the Contractor before starting construction.

Removal of the existing C.I.P. culvert shall be as shown in these plans. The walls shall be cut normal to the barrel walls. The removal line shall be initiated with a 2"± deep saw cut on the top and both sides of each wall, and across the top of the floor. This saw cut should cut thru any existing longitudinal reinforcing thereby facilitating a neat non-spalled break line.

The proposed culvert shall be placed 1'-2" away from the concrete removal line shown in these plans.

5z1 x 1'-10" dowel reinforcing bars with a 10 inches minimum embedment into existing concrete shall be set around the entire periphery of the existing culvert. The 5z1 x 1'-10" dowel reinforcing bars shall be centered in the existing slab, walls and floor. The 6w2 and 6w3 dowel reinforcing bars shall be set along the top slab and down the sides with a 6 inches minimum embedment of the existing culvert. All dowels shall be at 1'-0" maximum spacing C-C of dowels. Dowels shall be set with polymer grout in accordance with Article 2301.03, E, of the Standard Specifications, and current Supplemental Specifications of the Iowa D.O.T. Highway Division.

The roadway will be open to traffic during construction.

Traffic control adjacent to the culvert will be the responsibility of the Contractor constructing the culvert and is to coordinate construction of the culvert with the Contractor doing the grading.

All reinforcing bars and bars noted as dowels supplied for this structure shall be deformed reinforcement unless otherwise noted or shown.

When de-watering presents a problem for placing the curtain walls as detailed, alternate methods such as steel sheet pile and precast concrete walls may be approved but at no additional cost. See Standard Sheet PES 11-20 for details.

Since precast concrete box culvert end sections have the foreslope located at the bottom of the parapet instead of the top (as in the case of cast in place R.C.B. culverts) the main barrel section has been lengthened.

Installation Notes:

Precast concrete box culvert sections shall be laid with the groove end of each section up-grade, and the sections shall be tightly joined. Concrete ties to be used only to hold box sections together, not for pulling sections tight. Joint openings between sections should be as tight as practicable and limited to a maximum of ¾ inch openings. The joint on the bottom of the culvert shall be sealed with a flexible water tight 1 inch butyl rope gasket as per Materials I.M. 491.09.

Butyl rope gasket shall be installed in accordance with the recommendations of the Manufacturer and shall extend vertically 6 inches above the bottom fillet. All joints shall be trimmed clean on the inside after sealing.

Burr threads of Concrete Box Ties without damaging galvanizing to prevent nut rotation after tightening is complete.

The Contractor shall place a 2'-0" wide piece of engineering fabric around the top and sides of each precast joint. The fabric shall be centered with 1'-0" on each side of the joint, the fabric shall be attached to the walls and top of each section to prevent the fabric from slipping off the joint during backfilling operations. Attachment methods shall be approved by the Engineer.

The Granular Leveling Material shall be installed in accordance with Article 2402.03, H, 4, of the Standard Specifications. If larger granular material is installed below the Granular Leveling Material, the Contractor shall place engineering fabric below the Granular Leveling Material to separate the layers. The fabric shall be oversized by a minimum of 1 foot on all edges to contain the granular leveling material.

All costs including material and labor associated with providing and installing the engineering fabric as described above for the joints and underlayment of the Granular Leveling Material shall be included in the bid items "Precast Concrete Box Culvert" and "Precast Box Culvert Straight End Section". The engineering fabric shall be in accordance with Article 4196.01, B, 3, of the Standard Specifications.

During backfilling the compaction adjacent to the bottom corner radii or chamfer shall be accomplished with a mechanical hand compactor.

The Contractor shall furnish and install lifting hole plugs for each section. Lifting holes shall be plugged with a precast concrete plug or plastic plug approved by the Engineer, sealed and covered with a 2'-0" x 2'-0" piece of engineering fabric centered over the hole and attached to the section to prevent the fabric from slipping.

Specifications:

Design:  
AASHTO LRFD Bridge Design Specifications, 8th Ed., Series of 2017.

Construction:  
Iowa Department of Transportation Standard Specifications for Highway and Bridge Construction, current series, plus applicable General Supplemental Specifications, Developmental Specifications, Supplemental Specifications and Special Provisions

Design Stresses:

Design stresses for the following materials are in accordance with the AASHTO LRFD Bridge Design Specifications, 8th Ed., Series of 2017:  
Reinforcing steel in accordance with AASHTO LRFD Section 5, Grade 60. Welded wire reinforcement in accordance with AASHTO LRFD Section 5. Concrete in accordance with AASHTO LRFD Section 5, f'c for barrel sections as noted on Culvert Barrel Detail Standards, for End Section Design f'c = 5.0 ksi.

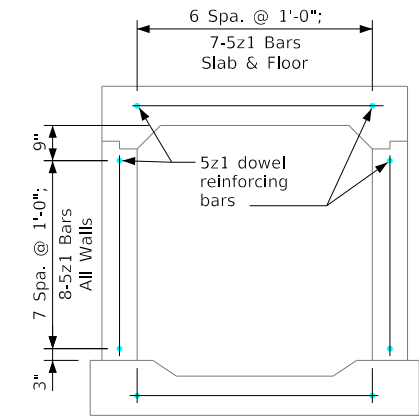
Working Drawing and Calculation Submittals

Working drawings and calculations shall be submitted for the following items shown in the table below. (Note additional working drawings and calculations may be required in accordance with Article 1105.03 of the Standard Specifications.)

Submittal requirements for working drawings and calculations shall be in accordance with 1105.03 of the Standard Specifications for Highway and Bridge Construction of the Iowa Department of Transportation. The absence of a certification requirement for a submittal does not relieve the Contractor of the responsibility to attain certification.

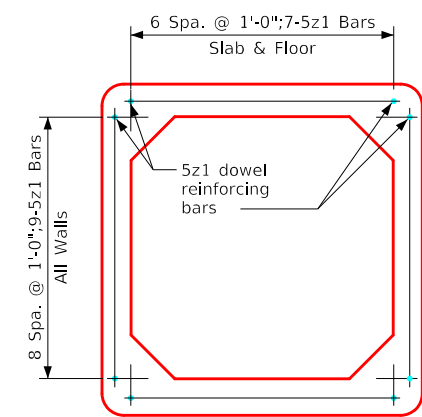
Calculation submittals in this table which are associated with working drawing submittals shall be submitted on the same day. Review time for calculation submittals shall be of the same duration as and run concurrently with review time for associated working drawings. The calculation submittals listed in the table are not meant to be an exhaustive list and do not relieve the Contractor from providing additional calculation submittals if requested by the Engineer.

No.	Working Drawing Description	Working Drawing File Name Convention For Submittal	Certified by Iowa P.E. (Yes/No)
1	Precast Culvert Shop Drawing (1089P)	(95)_Monona_0226_PrecastRCBShop.pdf	No
2	Temporary Shoring	(95)_Monona_0226_TempShoring.pdf	Yes
No.	Calculation Description	Calculation File Name Convention For Submittal	Certified by Iowa P.E. (Yes/No)
3	Temporary Shoring Calculations	(95)_Monona_0226_TempShoringCalcs.pdf	Yes



Section Near Existing C.I.P. RCB

(Showing spacing of 5z1 dowel reinforcing bars - 30 bars)



Section Near Proposed Precast RCB

Design History At This Site	
Des. No.	Type of Work
Unknown	Original Design, 6'x8'x102' RCB
226	RCB Ext. 6'x8'x110'-8"

Design For 3°36'46" Skew (L.A.)

Single 6'-0" x 8'-0" Precast Concrete Box Culvert Extension

General Notes

STA. 1735+02.05 (IA 175) Turn-in Date: October 2025

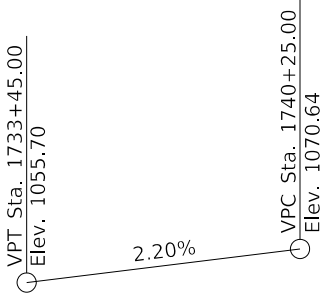
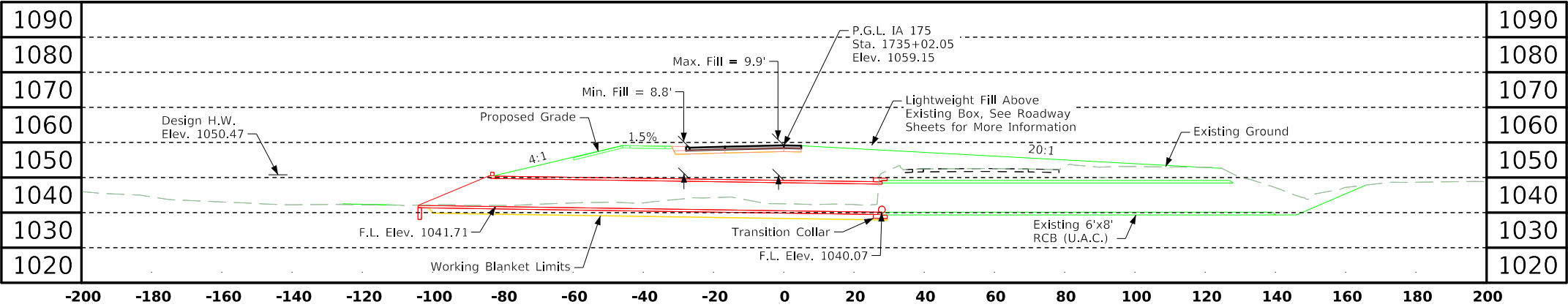
Monona County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 226 Design Sheet No. 2 of 4 Asset No. 900625







Proposed Profile  
Grade IA 175

Location

IA 175 over Ditch  
T-83N R-45W  
Section 1  
Franklin Township  
Monona County  
Asset ID No. 900625  
Maint. No. 6705.3B175  
Latitude 42.027323°  
Longitude -96.136702°

Curve Data  
(IA 175)

PI Sta. 1731+76.60  
 $\Delta = 7^\circ 14' 52.80''$  (RT)  
T = 578.21  
L = 1154.88  
E = 18.29  
R = 9130.00'  
PC Sta. 1725+98.39  
PT Sta. 1737+53.27

Hydraulic Data

Drainage Area = 734.9 Acres  
Design Discharge = 213.27 CFS  
HW Elev. = 1050.47  
Exit Velocity = 4.26 FPS  
Stream Slope = 4.74 Ft./Mi.

IA 175 Traffic Est.

2023 AADT	3,700	V.P.D.
2046 AADT	4,600	V.P.D.
2046 DHV	480	V.P.H.
Trucks	16	%

Total  
Design ESALs -

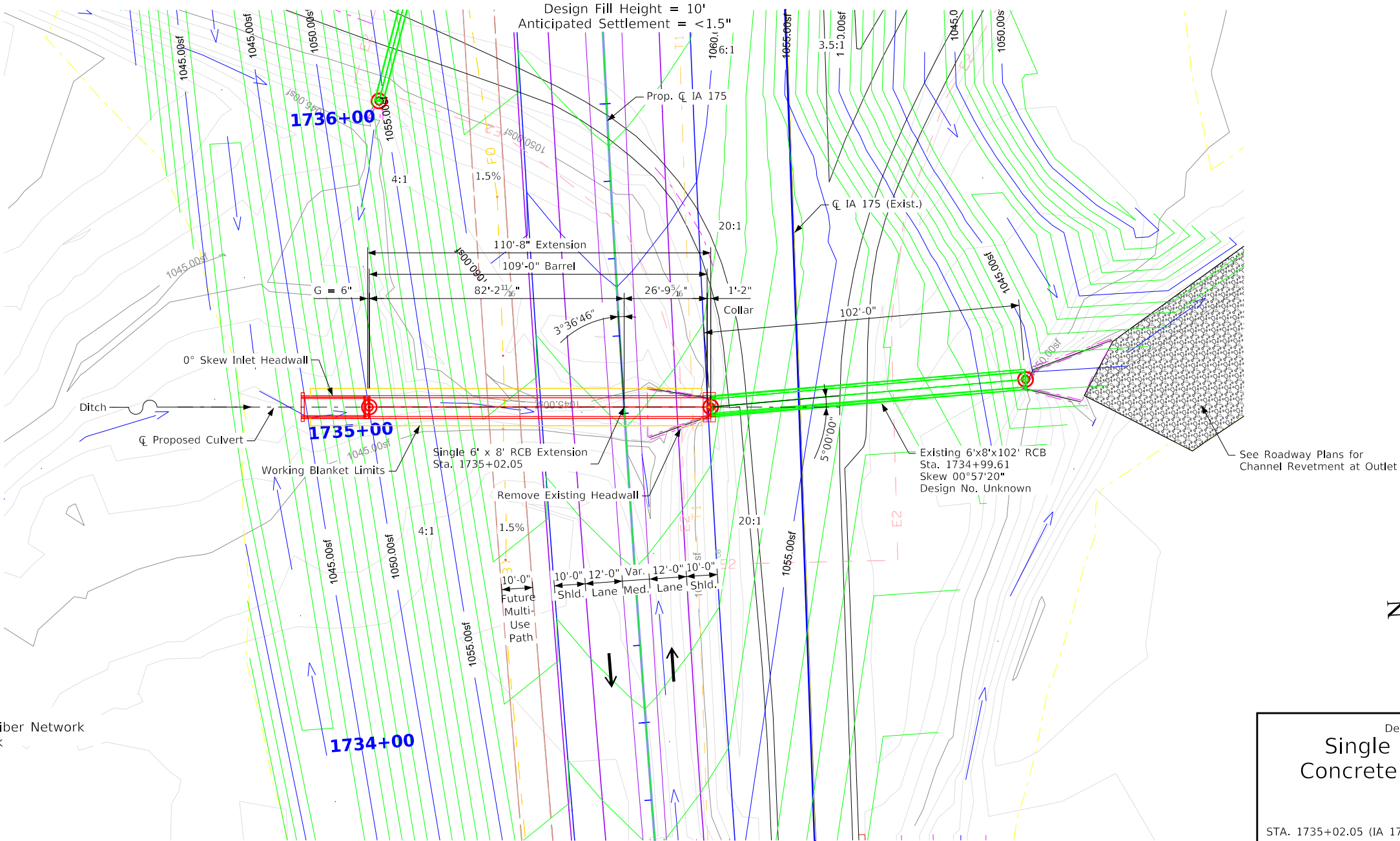
Utilities Note:

Utilities shown on this sheet  
are for information only. See  
Road Design sheets for utility  
information.

General Utility  
Symbols:

FO - Fiber Optic Line - Midwest Fiber Network  
T1 - Telephone Line - CenturyLink  
E2 - Electric Line - Iowa DOT

Longitudinal Section Along Culvert - Sta. 1735+02.05



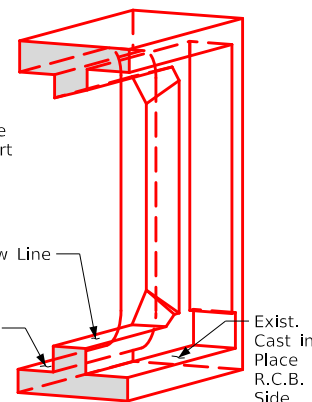
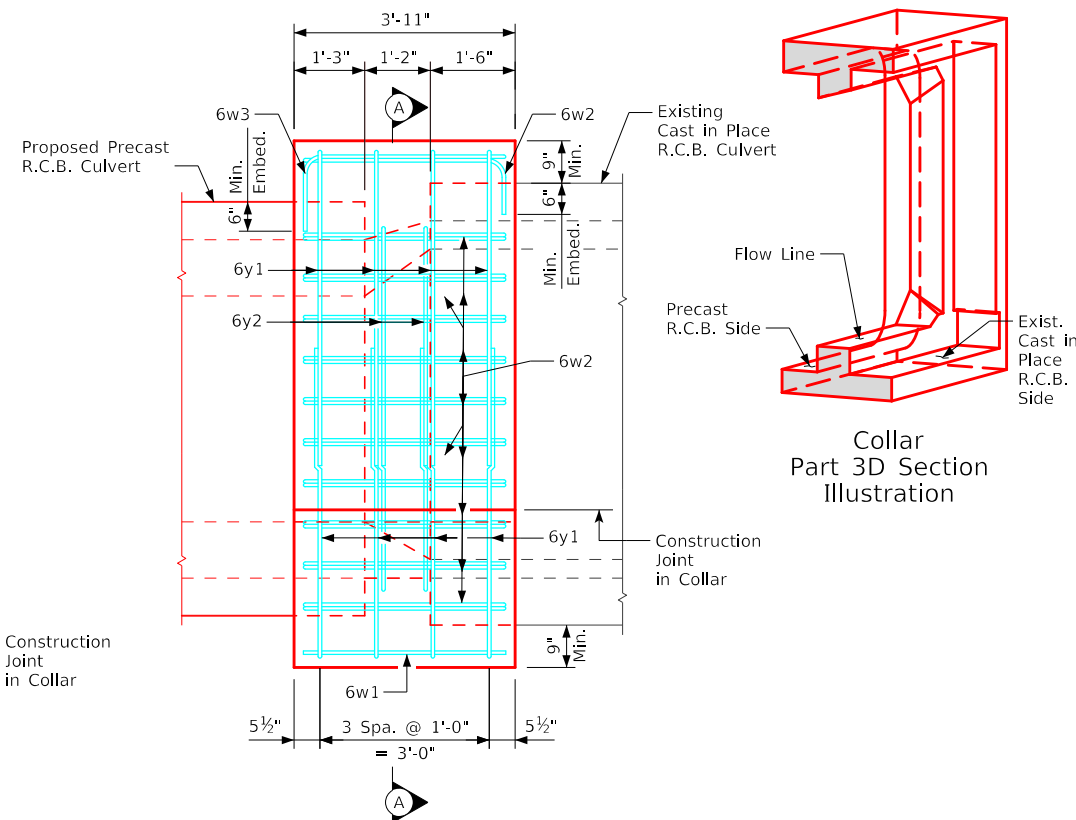
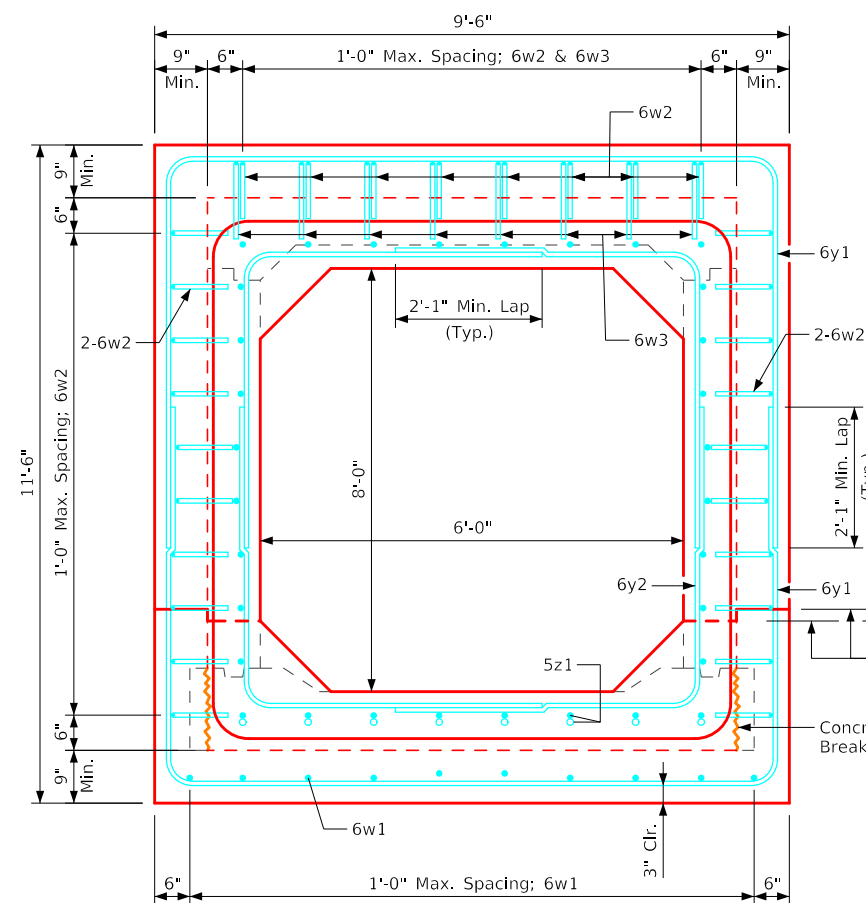
Situation Plan







Design For 3°36'46" Skew (L.A.)  
Single 6'-0" x 8'-0" Precast  
Concrete Box Culvert Extension

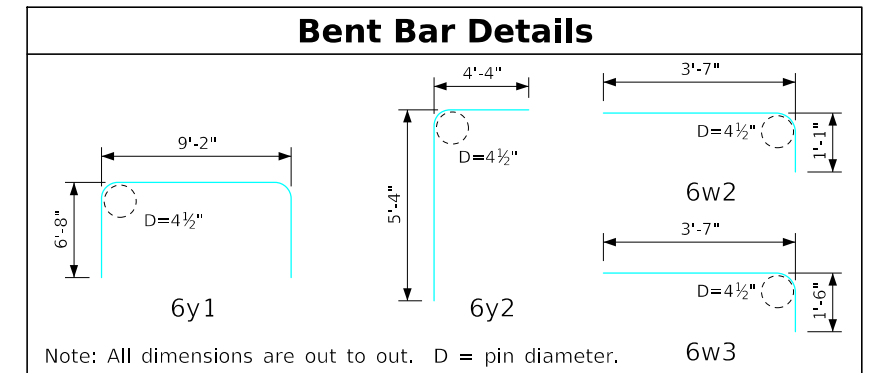
Situation Plan

STA. 1735+02.05 (IA 175) Turn-In Date: October 2025  
Monona County  
IOWA DEPARTMENT OF TRANSPORTATION  
Design No. 226 Design Sheet No. 3 of 4 Asset No. 900625





Reinforcing Bar List - One Collar					
Bar	Location	Shape	No.	Length	Weight
6w1	Longitudinal, Bottom		10	3'-7"	54
6w2	Longitudinal, Sides, Dowel		48	4'-8"	336
6w3	Longitudinal, Top, Dowel		8	5'-1"	61
6y1	Vertical & Horizontal, Outside Face		8	22'-6"	270
6y2	Vertical & Horizontal, Inside Face		8	9'-8"	116
5z1	Longitudinal, Dowel		62	1'-10"	119
Reinforcing Steel - Non-Coated - Total (Lbs.)					956



Note:  
The 5z1, 6w2 & 6w3 bars shall be set as dowels in drilled holes. Holes for 5z1 bars are to be 10 inches deep. Holes for 6w2 bars & 6w3 are to be 6 inches deep. The dowels shall be installed in accordance with the Manufacturer's recommendations using a polymer grout system in accordance with Article 2301.03, E, of the Standard Specifications. All bar lengths are to be 2 inches clear from concrete edge to outside of bar, except as noted.

- ① Barrel reinforcing extended by the Manufacturer may replace dowel bars in proposed precast section. Threaded inserts and threaded bars may also be used as an alternate in the precast section.
- ② End of precast section shall be flat but roughened. Omit the tongue and groove joint for this connection.

Concrete Placement Summary		
Location		Total
Collar	1 @ 6.5 CY	6.5
	Total (CY)	6.5

### Concrete Mix for Joint Floor:

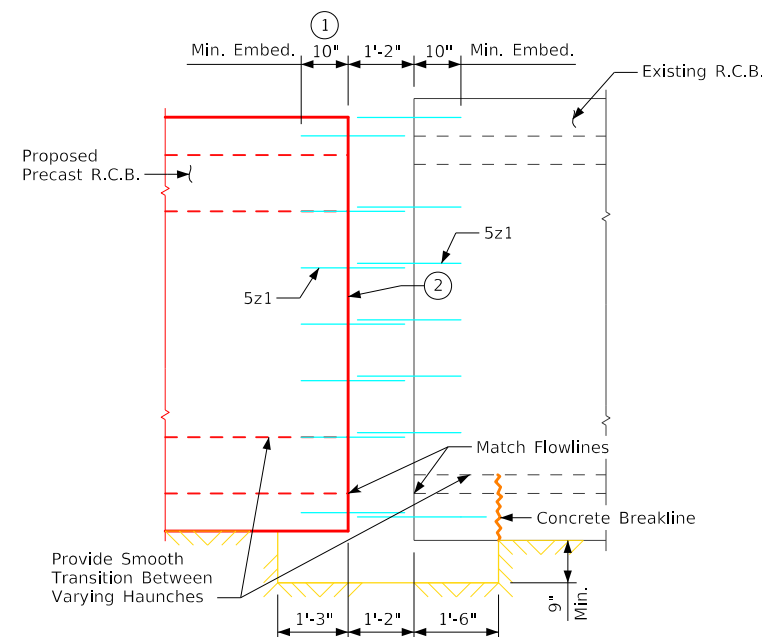
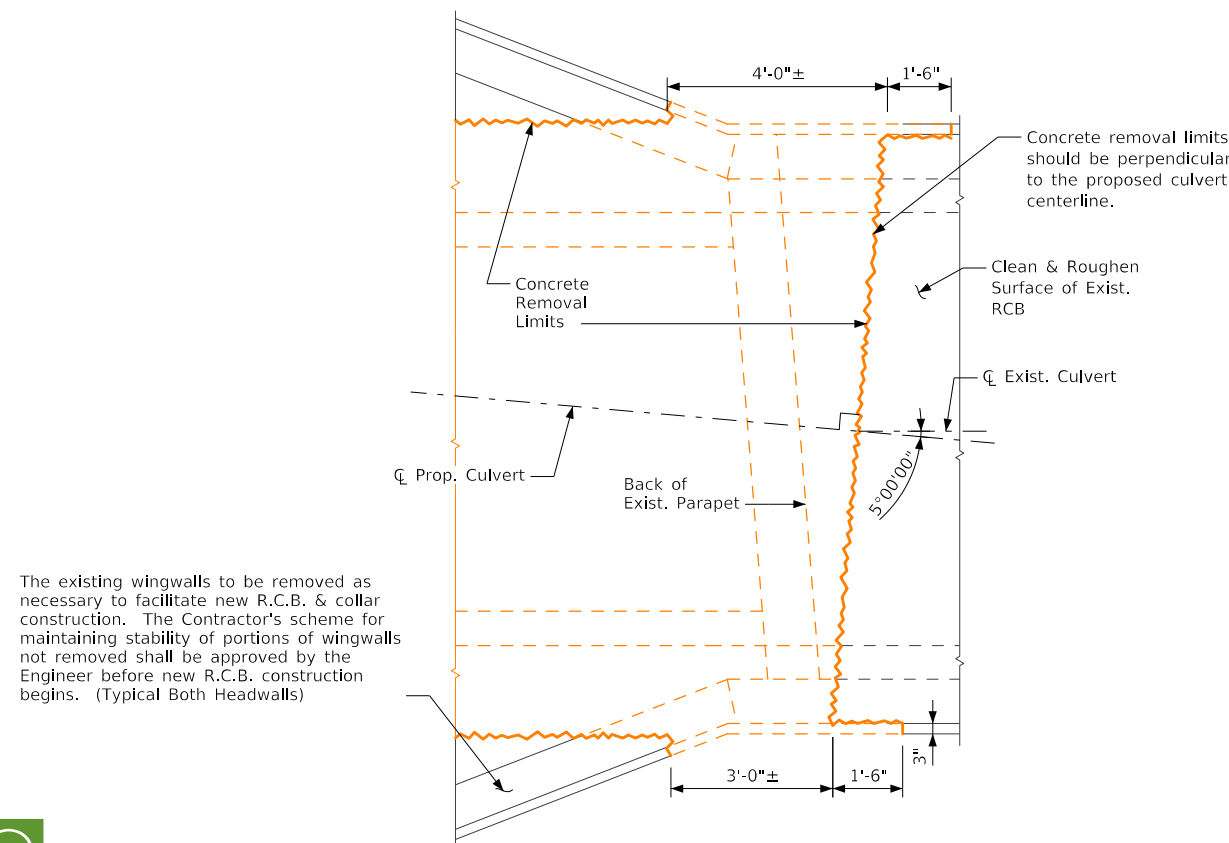
To insure consolidation of concrete under box culverts, the following concrete mix shall be used in the floor between the existing culvert and the new precast box culvert.

Coarse aggregate shall be in accordance with Article 4112 of the Standard Specifications.

Maximum fly ash replacement shall not exceed 20% by weight (mass) of the cement.

Mix design shall include a mid range water reducer listed in Materials I.M. 403, Appendix C, or a high range water reducer listed in Materials I.M. 403, Appendix D.

Mix design shall include enough water to produce a readily flowable mixture without exceeding the specified water to cement ratio for Class D concrete. Slump shall not exceed 8 inches.



Note:  
The 5z1 dowels shall be set around the entire periphery of the existing and proposed culvert barrels. Dowels shall be centered in the slab, walls and floor. Dowels shall be at 1'-0" maximum spacing C-C of dowels.

Design For 3°36'46" Skew (L.A.)  
Single 6'-0" x 8'-0" Precast  
Concrete Box Culvert Extension

## Culvert Extension Details

STA. 1735+02.05 (IA 175)

Turn-in Date: October 2025

Monona County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 226

Design Sheet No. 4 of 4

Asset No. 900625

Estimated Culvert Quantities - Design No. 326 (C.I.P. Alt.)					
Item No.	Item Code	Item	Unit	Total	As Built Quantity
1	2104-2710020	Excavation, Class 10, Channel	CY	146.2	
2	2402-2720000	Excavation, Class 20	CY	564	
3	2402-3825025	Granular Material For Blanket	CY	78.4	
4	2403-0100020	Structural Concrete (RCB Culvert)	CY	164.2	
5	2404-7775000	Reinforcing Steel	LB	23,360	
6	2507-3250005	Engineering Fabric	SY	289.0	
7	2507-6800032	Revetment, Class C	Ton	186.6	
8	2507-6800061	Revetment, Class E	Ton	47.3	
9	2526-8285000	Construction Survey	LS	1.00	
10	2533-4980005	Mobilization	LS	1.00	

Item No.	Estimated Reference Information
2	Includes excavation necessary to place 1'-0" granular material for blanket. Includes filling and compacting low areas around proposed culvert.
3	Includes all costs to install a 1'-0" thick blanket of granular material in accordance with Section 4118, Gradation No. 3 of the Standard Specifications. Includes 78.4 CY for a working blanket. The working blanket may be deleted if determined to be unnecessary at the time of construction.
4	Includes all resilient joint filler.
6	Engineering fabric shall be material as specified for embankment erosion control in accordance with Article 4196.01,B,3 of the Standard Specifications. Installed below Class C and E revetment.
7	Estimated at 1.6 Ton/Cu Yd.
8	Estimated at 1.6 Ton/Cu Yd.

Summary of Reinforcing Steel		
Location	Quantity	Total
Headwall 15° Skew	2 at 3,386	6,772
29'-0" Barrel Section	2 at 4,150	8,300
35'-0" Barrel Section	1 at 5,008	5,008
11'-0" Barrel End Section	2 at 1,574	3,148
5r1 x 3'-6" Dowel Bar Sets	4 at 33	132
	Total (LB)	23,360

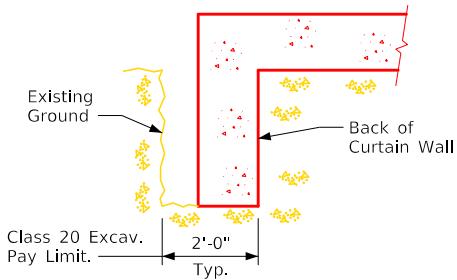
Concrete Placement Quantities				
Location	Slab	Floor	Walls	Total
Headwall 15° Skew	* 2 at 1.4	2 at 12.1	2 at 9.1	45.2
29'-0" Barrel Section	2 at 7.7	2 at 10.0	2 at 12.3	60.0
35'-0" Barrel Section	1 at 9.3	1 at 12.1	1 at 14.8	36.2
11'-0" Barrel End Section	2 at 2.9	2 at 3.8	2 at 4.7	22.8
Total (CY)	33.3	63.9	67.0	164.2

\* Includes parapet and top of wingwall

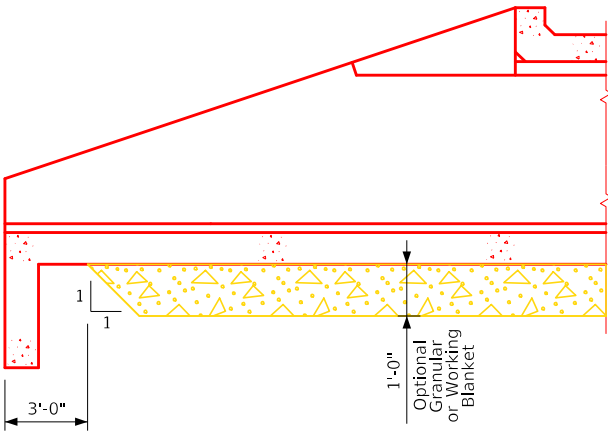


FILE NO. 32285	ENGLISH	DESIGN TEAM HR Green, Inc.	Monona COUNTY	PROJECT NUMBER STP-175-1(95)--2C-67	SHEET NUMBER V.9
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5:38:38 PM 9/22/2025 zgerst pw:\\projectwise.dot.int.lan:PWMMain\\Documents\\Projects\\6717502021\\Bridge\\(095)\_ RCB Culvert New - Single Box\\SHT\_67175095\_HRG\_0326\_900630\_CIP\_Z06.dgn



Curtain Wall  
Class 20 Excavation



Class 20 Excavation  
Limits at Headwall  
(Longitudinal View)

Standards:  
For details and notes not shown refer  
to the following Iowa D.O.T. - Highway Standards:

Standard	Issued	Revised
RCB G2-20	07-20	
RCB G3-20	07-20	
RCB 8-8-20	07-20	
PWH 15-1-20	07-20	
PWH 15-2-20	07-20	
PWH 15-3-20	07-20	
PWH 15-4-20	07-20	
PWH 15-9-20	07-20	

Note:  
Pollution Prevention Plan shown elsewhere in  
these plans.

### Traffic Control Plan

The roadway will be open to thru traffic for  
the duration of the project. Refer to the  
traffic control plans shown elsewhere in  
these plans.

Roadway quantities, including culvert backfill  
shown elsewhere in these plans.

Design For 10° Skew (L.A.)  
Single 8'-0" x 8'-0" x 115'-0"  
Cast-In-Place Concrete Box Culvert

### Estimated Quantities

STA. 2537+85.00 (Ramp B) Turn-In Date: October 2025

Monona County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 326 Design Sheet No. 1 of 4 Asset No. 900630

General Notes:

It is the intent of this design to install a 8’ x 8’ x 115’ Reinforced Box Culvert skewed 10° (LA) at Sta. 2537+85.00.

The RCB Culvert sections are designed for HL-93 live load and earth fills of 9 feet.

Utility companies and municipalities whose facilities are shown on the plans or known to be within the construction limits shall be notified by the Contractor of the construction starting date.

Excess Class 20 Excavation material suitable for backfilling shall be stockpiled at the construction site, as directed by the Engineer.

Class 20 excavation material unsuitable for backfilling shall be disposed of in a manner that will leave the site in a neat condition in accordance with the Standard Specifications (IDOT SS 2402.03, G)

When de-watering presents a problem for placing the curtain walls as detailed, alternate methods such as steel sheet pile and precast concrete walls may be approved but at no additional cost. The Culvert Contractor is to submit to the Engineer for approval complete drawings of the proposed curtain wall alternate before beginning construction.

See Culvert Standard Sheet “RCB G2-20” for additional notes.

The bid item for “Excavation, Class 10 Channel” includes all costs associated with excavation necessary to embed the Class E Revetment at the inlet and the Class C Revetment at the outlet of the culvert. Any channel excavation beyond the inlet or outlet ends of the culvert is included in the roadway quantities elsewhere in these plans.

The Class 20 Excavation quantity assumes that, at the start of culvert construction, the existing groundline shown on the situation plan for this design has remained undisturbed and no roadway fill has been placed.

The Contractor may submit alternate frost through dimensions for approval. Any additional costs due to change in the frost through dimensions is to be paid for by the contractor.

All reinforcing bars and bars notes as dowels supplied for this structure shall be deformed reinforcement unless otherwise shown.

Specifications:

Design:  
AASHTO LRFD Bridge Design Specifications, 8th Ed., Series of 2017.

Construction:  
Iowa Department of Transportation Standard Specifications for Highway and Bridge Construction, current series, plus applicable General Supplemental Specifications, Developmental Specifications, Supplemental Specifications and Special Provisions

Design Stresses:

Design stresses for the following materials are in accordance with the AASHTO LRFD Bridge Design Specifications, 8th Ed., Series of 2017:  
Reinforcing steel in accordance with AASHTO LRFD Section 5, Grade 60.  
Concrete in accordance with AASHTO LRFD Section 5, f’c = 4.0 ksi.

Design History At This Site	
Des. No.	Type of Work
326	Original Design, 8'x8'x115' RCB

Design For 10° Skew (L.A.)  
Single 8'-0" x 8'-0" x 115'-0"  
Cast-In-Place Concrete Box Culvert

General Notes

STA. 2537+85.00 (Ramp B) Turn-In Date: October 2025

Monona County

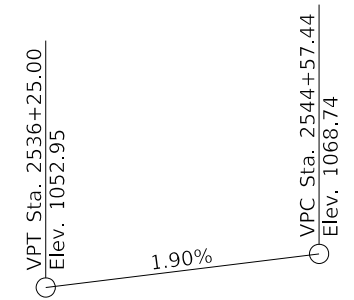
IOWA DEPARTMENT OF TRANSPORTATION

Design No. 326 Design Sheet No. 2 of 4 Asset No. 900630



FILE NO. 32285	ENGLISH	DESIGN TEAM HR Green, Inc.	Monona COUNTY	PROJECT NUMBER STP-175-1(95)--2C-67	SHEET NUMBER V.10
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Plan Notes:  
Flow Line of the culvert has been set 13" below  
streambed.  
See Soil Q Sheets for information on ground  
improvements below the culvert.

I-29 / IA 175 Ramp B  
over Ditch  
T-83N R-45W  
Section 6  
Franklin Township  
Monona County  
Asset ID No. 900630  
Maint. No. 6712.1B029  
Latitude 42.025275°  
Longitude -96.130265°

I-29 / IA 175 Ramp B  
PI Sta. 2535+95.66 (RT)  
 $\Delta = 18^{\circ}02'31.67''$   
T = 289.76  
L = 574.70  
E = 22.92  
R = 1820.00'  
PC Sta. 2533+05.90  
PT Sta. 2538+80.60

Drainage Area = 1242.9 Acres  
Design Discharge = 314.47 CFS  
HW Elev. = 1046.73  
Exit Velocity = 10.82 FPS  
Stream Slope = 4.74 Ft./Mi.

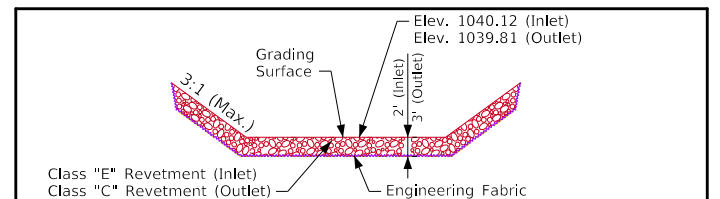
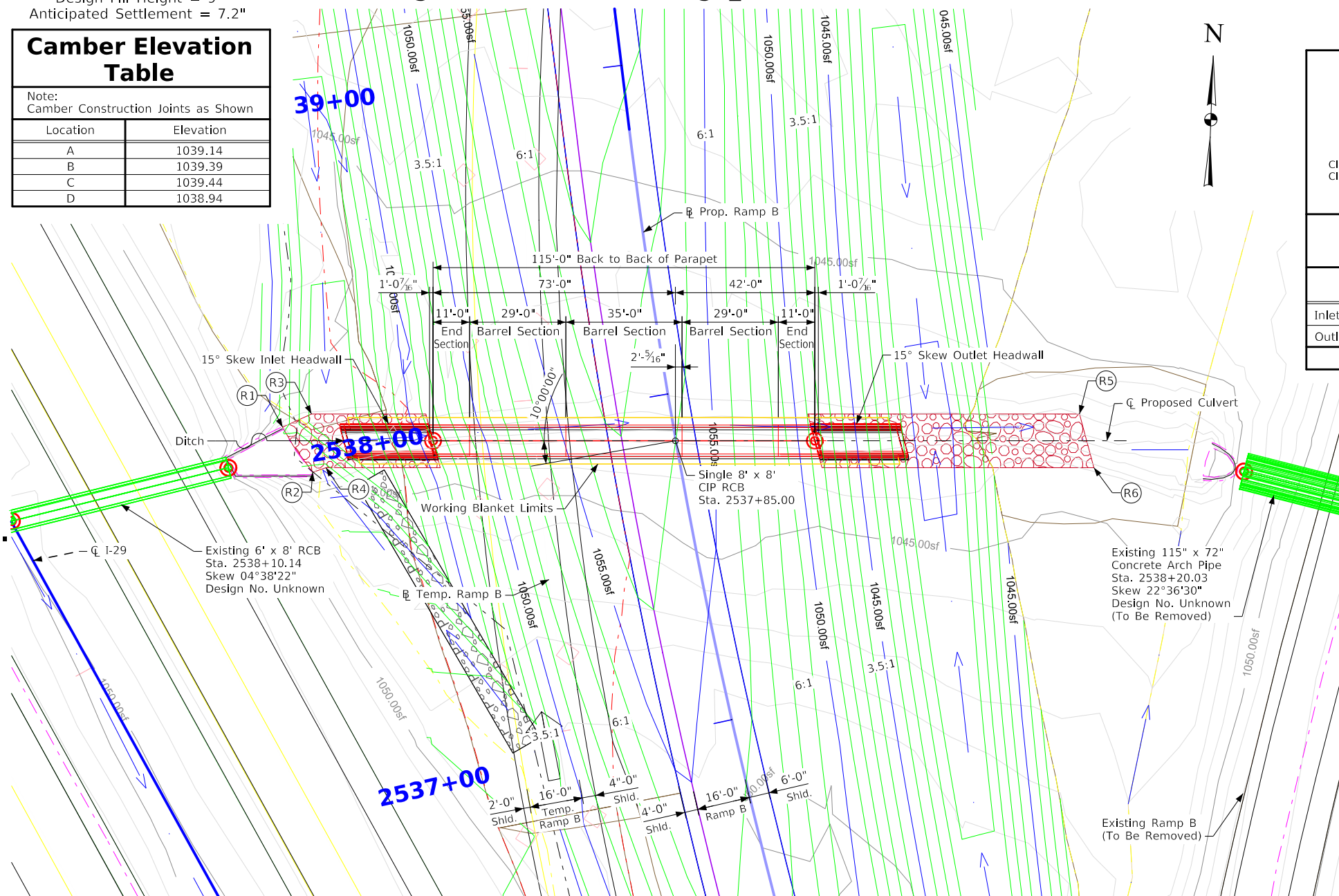
2022 AADT	<u>1,030</u>	V.P.D.
2046 AADT	<u>          </u>	V.P.D.
2046 DHV	<u>          </u>	V.P.H.
Trucks	<u>14</u>	%
Total Design ESALs	-	

Utilities shown on this sheet are for information only, see road design Sheets for utility information.

None identified



Camber Elevation Table	
Note: Camber Construction Joints as Shown	
Location	Elevation
A	1039.14
B	1039.39
C	1039.44
D	1038.94



### Estimated Revetment Quantities

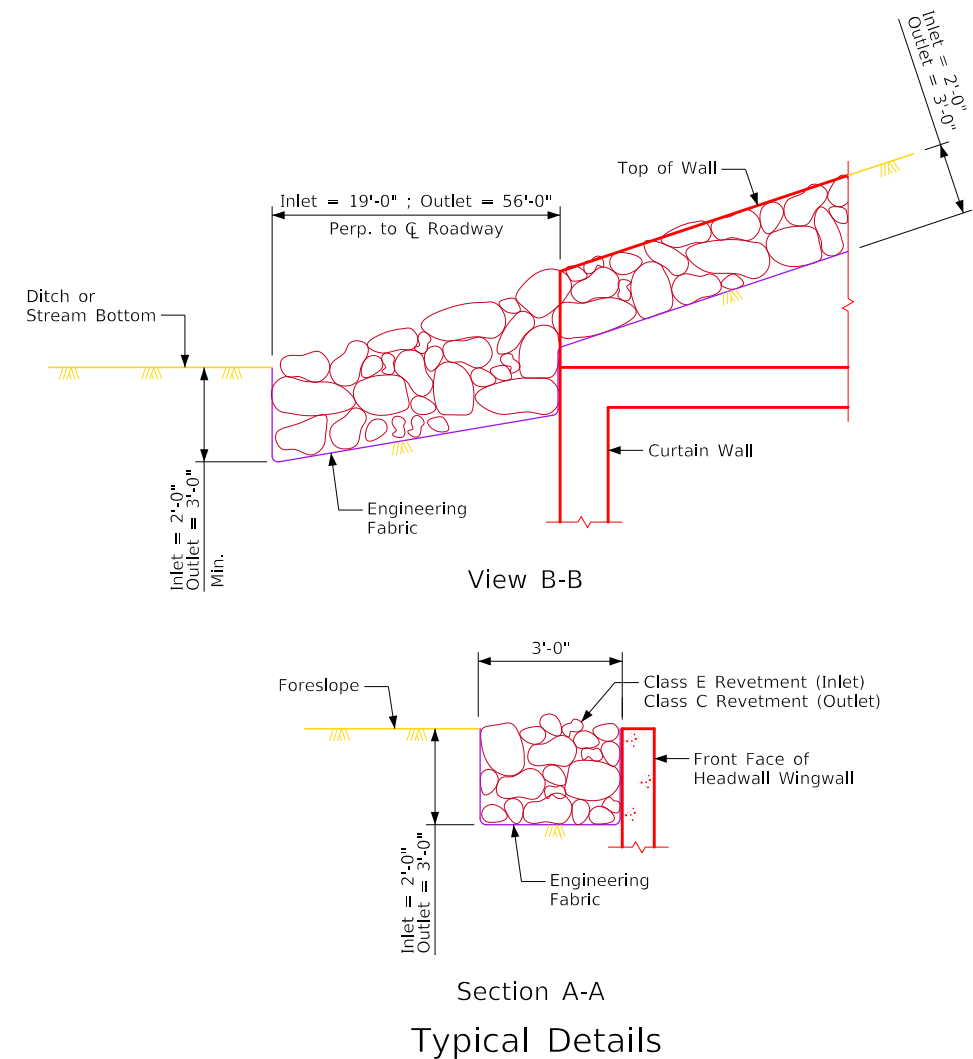
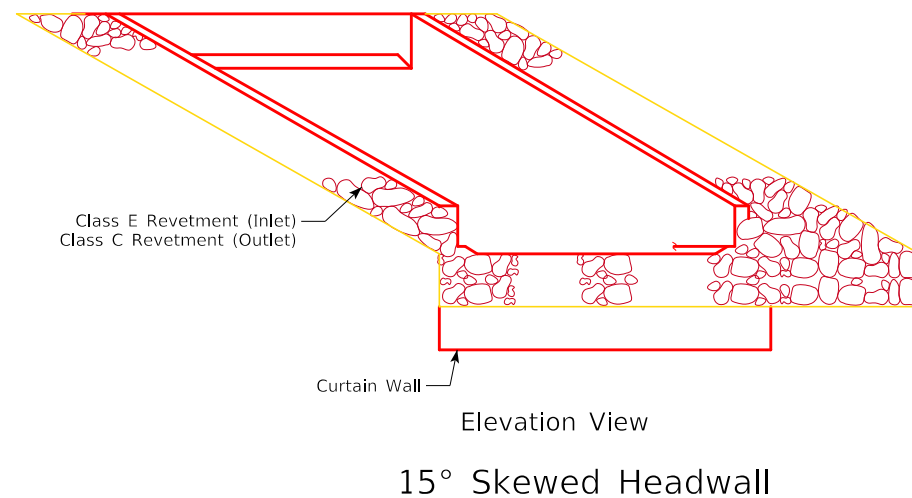
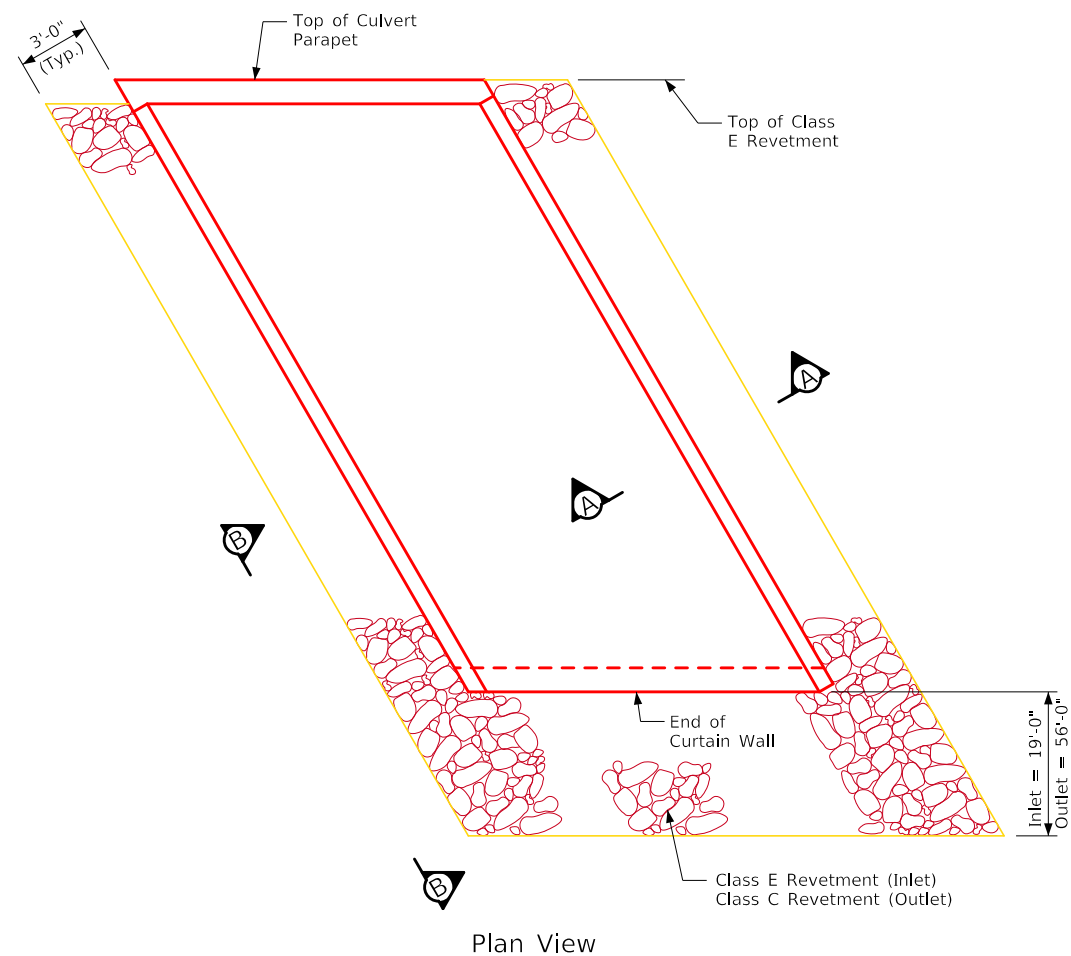
Location	Revetment CL. "C" (Ton)	Revetment CL. "E" (Ton)	Engineering Fabric (SY)	Excavation CL. 10 (CY)
Inlet	-	47.3	84.7	29.6
Outlet	186.6	-	204.3	116.6
Totals	186.6	47.3	289.0	146.2

Excavation quantity calculated from grading surface. Excavation quantity is for embedded revetment core out only, and does not include excavation to the grading surface. Excavation quantity to the grading surface is determined by Road Design and included in the Road Plans.

(R1)	2538+08.14, 115.96' LT., Revetment Limits, Elev. 1040.75
(R2)	2537+94.05, 109.24' LT., Revetment Limits, Elev. 1040.75
(R3)	2538+09.83, 105.50' LT., Revetment Limits, Elev. 1040.31
(R4)	2537+95.48, 104.34' LT., Revetment Limits, Elev. 1040.31
(R5)	2537+70.88, 121.25' RT., Revetment Limits, Elev. 1040.47
(R6)	2537+52.99, 122.50' RT., Revetment Limits, Elev. 1040.47

Design For 10° Skew (L.A.)  
Single 8'-0" x 8'-0" x 115'-0"  
Cast-In-Place Concrete Box Culvert

STA. 2537+85.00 (Ramp B) Turn-in Date: October 2025  
**Monona County**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 Design No. 326 Design Sheet No. 3 of 4 Asset No. 900630



### Construction Notes:

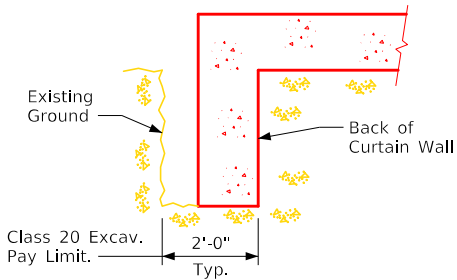
Class E and C Revetment shall be used and placed according to Article 2507.03 of the Standard Specifications. The engineering fabric shall meet the material requirements in accordance with Article 4196.01,B,3 of the Standard Specifications.

Design For 10° Skew (L.A.)  
**Single 8'-0" x 8'-0" x 115'-0"**  
**Cast-In-Place Concrete Box Culvert**  
**Revetment Protection Details**  
 STA. 2537+85.00 (Ramp B) Turn-In Date: October 2025  
**Monona County**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 Design No. 326 Design Sheet No. 4 of 4 Asset No. 900630

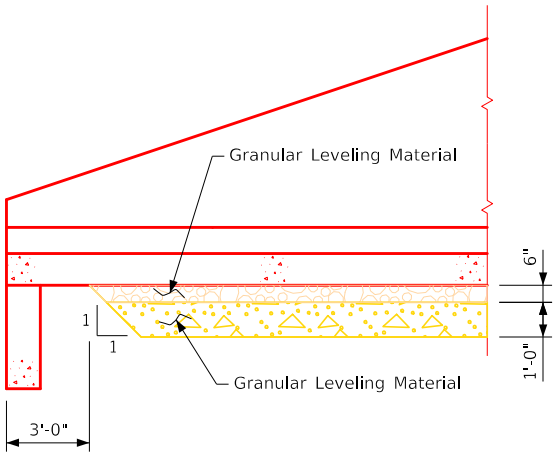


Estimated Culvert Quantities - Design No. 326 (Precast Alt.)					
Item No.	Item Code	Item	Unit	Total	As Built Quantity
1	2104-2710020	Excavation, Class 10, Channel	CY	158.2	
2	2402-2720000	Excavation, Class 20	CY	617	
3	2402-3825025	Granular Material For Blanket	CY	75.5	
4	2415-2110808	Precast Concrete Box Culvert, 8 FT. x 8 FT.	LF	117	
5	2415-2200808	Precast Concrete Box Culvert Straight End Section, 8 FT. x 8 FT.	Each	2	
6	2507-3250005	Engineering Fabric	SY	309.5	
7	2507-6800032	Revetment, Class C	Ton	193.9	
8	2507-6800061	Revetment, Class E	Ton	59.2	
9	2526-8285000	Construction Survey	LS	1.00	
10	2533-4980005	Mobilization	LS	1.00	

Item No.	Estimated Reference Information
2	Includes excavation necessary to place 6" bedding and 1'-0" granular material for blanket. Includes filling and compacting low areas around proposed culvert.
3	Includes all costs to install a 1'-0" thick blanket of granular material in accordance with Section 4118, Gradation No. 3 of the Standard Specifications. Includes 75.5 CY for a working blanket. The working blanket may be deleted if determined to be unnecessary at the time of construction.
4	Includes material and labor associated with providing and installing the culvert ties, lifting hole plugs, engineering fabric, granular leveling material, joint material, and grout as required. A minimum of 6 inches of Granular Leveling Material shall be used as bedding for the precast box culvert. The bedding shall be shaped to a flat base using a template.
5	Includes material and labor associated with providing and installing the culvert ties, lifting hole plugs, engineering fabric, granular leveling material, joint material, and grout as required. Includes 15 skew 2 precast end sections, 2 precast lintel beams, and 2 precast curtain walls. A minimum of 6 inches of Granular Leveling Material shall be used as bedding for the precast box culvert. The bedding shall be shaped to a flat base using a template.
6	Engineering fabric shall be material as specified for embankment erosion control in accordance with Article 4196.01,B,3 of the Standard Specifications. Installed below Class C and Class E revetment.
7	Estimated at 1.6 Ton/Cu Yd.
8	Estimated at 1.6 Ton/Cu Yd.

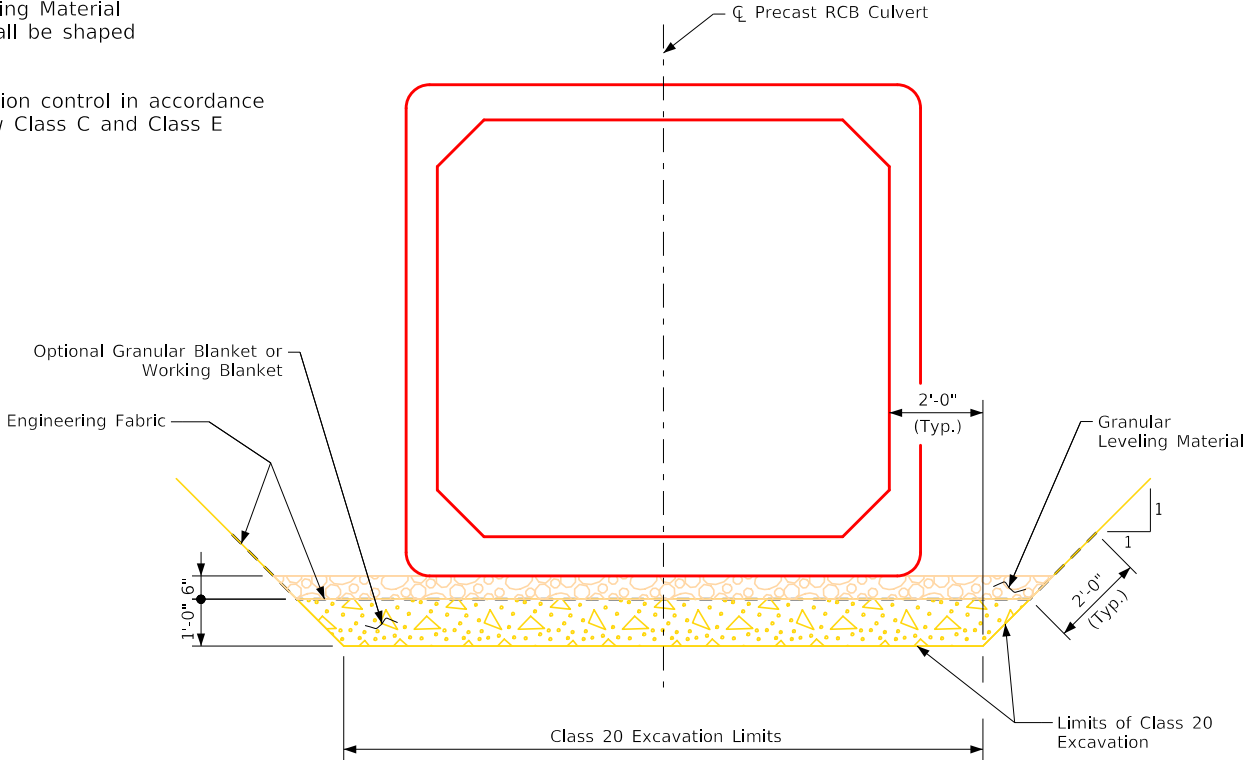


Curtain Wall  
Class 20 Excavation



Class 20 Excavation  
Limits at Headwall  
(Longitudinal View)

Standards: For details and notes not shown refer to the following Iowa D.O.T. - Highway Standards:		
Standard	Issued	Revised
PRCB G1-20	12-20	
PRCB G2-20	12-20	01-23
PRCB 8-20	12-20	
PES 5-20-T3	12-20	10-21
PES 6-20-T3	12-20	01-23
PES 9-20-T3	12-20	
PES 11-20	12-20	



Granular Leveling Material Details  
Granular leveling material and granular material for blanket shall terminate 3'-0" short of the curtain wall.

Note:  
Pollution Prevention Plan shown elsewhere in these plans.

**Traffic Control Plan**  
The roadway will be open to thru traffic for the duration of the project. Refer to the traffic control plans shown elsewhere in these plans.

Roadway quantities, including culvert backfill shown elsewhere in these plans.

Design For 10° Skew (L.A.)

Single 8'-0" x 8'-0" x 120'-4<sup>3</sup>/<sub>8</sub>"  
Precast Concrete Box Culvert

Estimated Quantities

STA. 2537+85.00 (Ramp B) Turn-In Date: October 2025

Monona County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 326 Design Sheet No. 1 of 4 Asset No. 900630





General Notes:

It is the intent of this design to construct a 8' x 8' x 120'-4<sup>3</sup>/<sub>8</sub>" precast reinforced concrete box culvert skewed 10°(L.A.) ahead at stations 2537+85.00. Electronic copies of the original plans are not available.

Utility companies and municipalities whose facilities are shown on the plans or known to be within the construction limits shall be notified by the Contractor of the construction starting date.

The precast R.C.B. Culvert sections are designed for HL-93 live load and earth fill of 9 feet.

The precast R.C.B. barrel and end sections shall conform to Iowa D.O.T. Single Precast R.C.B. Culvert Standards. At the Contractor's option, precast barrel sections may conform to ASTM C1577.

Excess Class 20 Excavation material suitable for backfilling shall be stockpiled at the construction site, as directed by the Engineer.

Class 20 Excavation material unsuitable for backfilling shall be disposed of in a manner that will leave the site in a neat condition.

When de-watering presents a problem for placing the curtain walls as detailed, alternate methods such as steel sheet pile may be approved but at no additional cost. See Standard Sheet PES 11-20 for details.

The length in linear feet of precast reinforced concrete box culvert will be based on the plan quantity. For the number of linear feet given on the plan, the Contractor will be paid the contract unit price per linear foot. The payment shall be full compensation for furnishing all material, labor and equipment necessary to complete the work except for bid items "Precast Concrete Box Culvert Straight End Section, 8 FT. x 8 FT.", "Excavation, Class 10, Channel", "Excavation, Class 20", "Granular Material For Blanket", "Revetment, Class C", "Revetment, Class E", "Engineering Fabric", "Construction Survey", and "Mobilization".

For each precast concrete box culvert straight end section installed the Contractor will be paid the contract price per each. The payment shall be full compensation for furnishing all material (including lintel beams and curtain walls), labor and equipment necessary to complete the work except for bid items "Precast Concrete Box Culvert, 8 FT. x 8 FT.", "Excavation, Class 10, Channel", "Excavation, Class 20", "Granular Material For Blanket", "Revetment, Class C", "Revetment, Class E", "Engineering Fabric", "Construction Survey", and "Mobilization".

The curtain wall and the Type 3 lintel beam or Type 1 parapet shall be precast.

The Contractor shall furnish and install culvert ties for all joints. The main section joints will have one tie on each side of the barrel and the last barrel section will be attached to the end sections with two ties per side. The end section joints will have two ties per side.

Culvert ties shall be included in the cost for precast concrete box culvert. Tie rods will be 1 inch diameter steel and shall meet requirements of ASTM A709 Grade 36 or equal. See Standard Sheet PRCB G2-20 for details.

Culvert tie assemblies shall be galvanized after fabrication.

The limits for excavation for the precast concrete box culvert shall be as shown on the "Granular Leveling Material Detail".

A minimum of 6 inches of granular leveling material shall be used as bedding for the precast box culvert. The bedding shall be shaped to a flat base using a template. All costs including material and labor associated with providing and installing the granular leveling material shall be included in the bid items "Precast Concrete Box Culvert" and "Precast Box Culvert Straight End Section".

The precast box culvert shall be built to the dimensions and specifications shown in these plans.

The Contractor shall submit details (i.e. Shop Drawings) of the proposed precast concrete box sections for this project. The details shall include the following information as found on Standard Sheet 1089P:

- A. A Situation Plan drawing showing the back to back parapet dimension for the line of the culvert sections.
- B. Dimension the number of precast sections and section lengths.
- C. A detail of the precast barrel sections showing a cross section view of the section, steel locations, dimensions, etc.
- D. A detail of the precast concrete culvert end section showing a cross section view of the sections, steel locations, dimensions, etc. similar to the end section details shown in the Iowa D.O.T. Standards.

The Contractor shall provide all information shown on Standard Sheet 1089P. The Contractor shall allow 30 working days for the Engineer's Shop Drawing review.

Since precast concrete box culvert end sections have the foreslope located at the bottom of the parapet instead of the top (as in the case of cast in place RCB culverts) the main barrel section has been lengthened.

All reinforcing bars and bars noted as dowels supplied for this structure shall be deformed reinforcement unless otherwise noted or shown.

The class 20 excavation quantity is based on the assumption that at the start of culvert construction, the existing groundline shown on the "Situation Plan" on Design Sheet 3 has remained undisturbed. The class 20 excavation quantity is measured from the existing groundline down to the limit shown in the "Special Backfill Granular Bedding/Working Blanket Detail" on Design Sheet 1.

This structure is being constructed on a relocation and the road will not be open to traffic until after completion of construction. See traffic control plan note.

Installation Notes:

Precast concrete box culvert sections shall be laid with the groove end of each section up-grade, and the sections shall be tightly joined. Concrete ties to be used only to hold box sections together, not for pulling sections tight. Joint openings between sections should be as tight as practicable and limited to a maximum of ¾ inch openings. The joint on the bottom of the culvert shall be sealed with a flexible water tight 1 inch butyl rope gasket as per Materials I.M. 491.09.

Butyl rope gasket shall be installed in accordance with the recommendations of the Manufacturer and shall extend vertically 6 inches above the bottom fillet. All joints shall be trimmed clean on the inside after sealing.

The Contractor shall place a 2 foot wide piece of engineering fabric around the top and sides of each precast joint. The fabric shall be centered with 1 foot on each side of the joint, the fabric shall be attached to the walls and top of each section to prevent the fabric from slipping off the joint during backfilling operations. Attachment methods shall be approved by the Engineer.

The granular leveling material shall be installed in accordance with Article 2402.03, H, 4, of the Standard Specifications. If the plans call for larger granular material to be installed below the granular leveling material, the Contractor shall place engineering fabric below the granular leveling material to separate the layers. The fabric shall be oversized by a minimum of 1 foot on all edges to contain the granular leveling material.

All costs including material and labor associated with providing and installing the engineering fabric as described above for the joints and underlayment of the granular leveling material shall be included in the bid items "Precast Concrete Box Culvert" and "Precast Box Culvert Straight End Section". The engineering fabric shall be in accordance with Article 4196.01, B, 3, of the Standard Specifications.

Class C or E revetment will be placed around both precast concrete box culvert end sections, as shown in these plans.

During backfilling the compaction adjacent to the bottom corner radii or chamfer shall be accomplished with a mechanical hand compactor.

The Contractor shall furnish and install lifting hole plugs for each section. Lifting holes shall be plugged with a precast concrete plug or plastic plug approved by the Engineer, sealed and covered with a 2'-0" x 2'-0" piece of engineering fabric centered over the hole and attached to the section to prevent the fabric from slipping.

Specifications:

Design:  
AASHTO LRFD Bridge Design Specifications, 8th Ed., Series of 2017.

Construction:  
Iowa Department of Transportation Standard Specifications for Highway and Bridge Construction, current series, plus applicable General Supplemental Specifications, Developmental Specifications, Supplemental Specifications and Special Provisions

Design Stresses:

Design stresses for the following materials are in accordance with the AASHTO LRFD Bridge Design Specifications, 8th Ed., Series of 2017:  
Reinforcing steel in accordance with AASHTO LRFD Section 5, Grade 60.  
Concrete in accordance with AASHTO LRFD Section 5, f'c for barrel sections as noted on Culvert Barrel Detail Standards, for End Section Design f'c = 5.0 ksi.

Working Drawing and Calculation Submittals

Working drawings and calculations shall be submitted for the following items shown in the table below. (Note additional working drawings and calculations may be required in accordance with Article 1105.03 of the Standard Specifications.)

Submittal requirements for working drawings and calculations shall be in accordance with 1105.03 of the Standard Specifications for Highway and Bridge Construction of the Iowa Department of Transportation. The absence of a certification requirement for a submittal does not relieve the Contractor of the responsibility to attain certification.

Calculation submittals in this table which are associated with working drawing submittals shall be submitted on the same day. Review time for calculation submittals shall be of the same duration as and run concurrently with review time for associated working drawings. The calculation submittals listed in the table are not meant to be an exhaustive list and do not relieve the Contractor from providing additional calculation submittals if requested by the Engineer.

No.	Working Drawing Description	Working Drawing File Name Convention For Submittal	Certified by Iowa P.E. (Yes/No)
1	Precast Culvert Shop Drawings (1089P)	(095)_Monona_0326_PrecastRCBShop.pdf	No
No.	Calculation Description	Calculation File Name Convention For Submittal	Certified by Iowa P.E. (Yes/No)

Design History At This Site

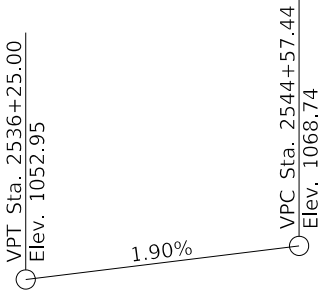
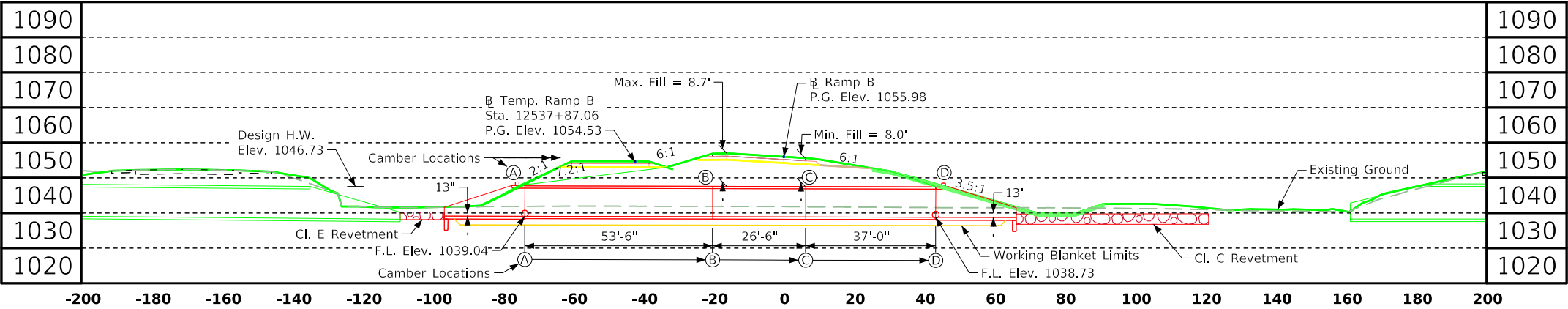
Des. No.	Type of Work
326	Original Design, 8'x8'x120'-4 <sup>3</sup> / <sub>8</sub> " RCB

Design For 10° Skew (L.A.)  
Single 8'-0" x 8'-0" x 120'-4<sup>3</sup>/<sub>8</sub>"  
Precast Concrete Box Culvert

General Notes

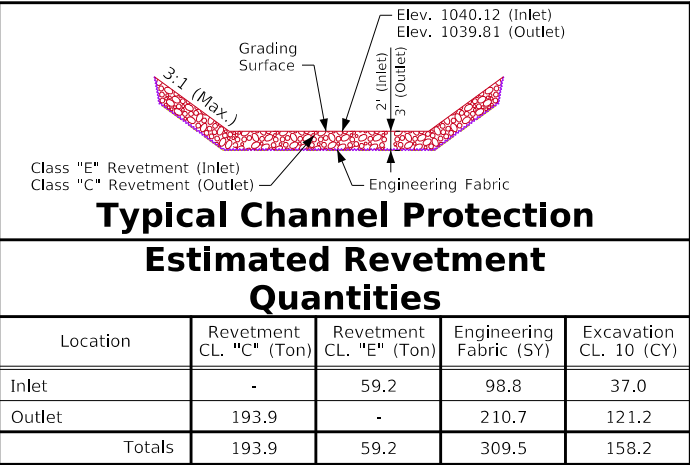
STA. 2537+85.00 (Ramp B) Turn-in Date: October 2025  
Monona County  
IOWA DEPARTMENT OF TRANSPORTATION  
Design No. 326 Design Sheet No. 2 of 4 Asset No. 900630





Proposed Profile  
Grade Ramp B

Plan Notes:  
Flow Line of the culvert has been set 13" below  
streambed.  
See Soil Q Sheets for information on ground  
improvements below the culvert.



Excavation quantity calculated from grading surface. Excavation quantity is for embedded revetment core out only, and does not include excavation to the grading surface. Excavation quantity to the grading surface is determined by Road Design and included in the Road Plans.

- Revetment Layout:
- (R1) 2538+08.14, 115.96' LT., Revetment Limits, Elev. 1040.75
  - (R2) 2537+94.05, 109.24' LT., Revetment Limits, Elev. 1040.75
  - (R3) 2538+09.83, 105.50' LT., Revetment Limits, Elev. 1040.31
  - (R4) 2537+95.48, 104.34' LT., Revetment Limits, Elev. 1040.31
  - (R5) 2537+71.33, 118.97' RT., Revetment Limits, Elev. 1040.47
  - (R6) 2537+53.46, 120.23' RT., Revetment Limits, Elev. 1040.47

Design For 10° Skew (L.A.)  
Single 8'-0" x 8'-0" x 120'-4<sup>3</sup>/<sub>8</sub>"  
Precast Concrete Box Culvert

Situation Plan

STA. 2537+85.00 (Ramp B) Turn-In Date: October 2025  
Monona County  
IOWA DEPARTMENT OF TRANSPORTATION  
Design No. 326 Design Sheet No. 3 of 4 Asset No. 900630

### Location

I-29 / IA 175 Ramp B  
over Ditch  
T-83N R-45W  
Section 6  
Franklin Township  
Monona County  
Asset ID No. 900630  
Maint. No. 6712.1B029  
Latitude 42.025275°  
Longitude -96.130265°

### Curve Data

I-29 / IA 175 Ramp B  
PI Sta. 2535+95.66 (RT)  
Δ = 18°02'31.67"  
T = 289.76  
L = 574.70  
E = 22.92  
R = 1820.00'  
PC Sta. 2533+05.90  
PT Sta. 2538+80.60

### Hydraulic Data

Drainage Area = 1242.9 Acres  
Design Discharge = 314.47 CFS  
HW Elev. = 1046.73  
Exit Velocity = 10.82 FPS  
Stream Slope = 4.74 Ft./Mi.

### Ramp B Traffic Est.

2022 AADT	1,030	V.P.D.
2046 AADT		V.P.D.
2046 DHV		V.P.H.
Trucks	14	%
Total Design ESALs	-	

### Utilities Note:

Utilities shown on this sheet  
are for information only, see  
road design Sheets for utility  
information.

### General Utility Symbols:

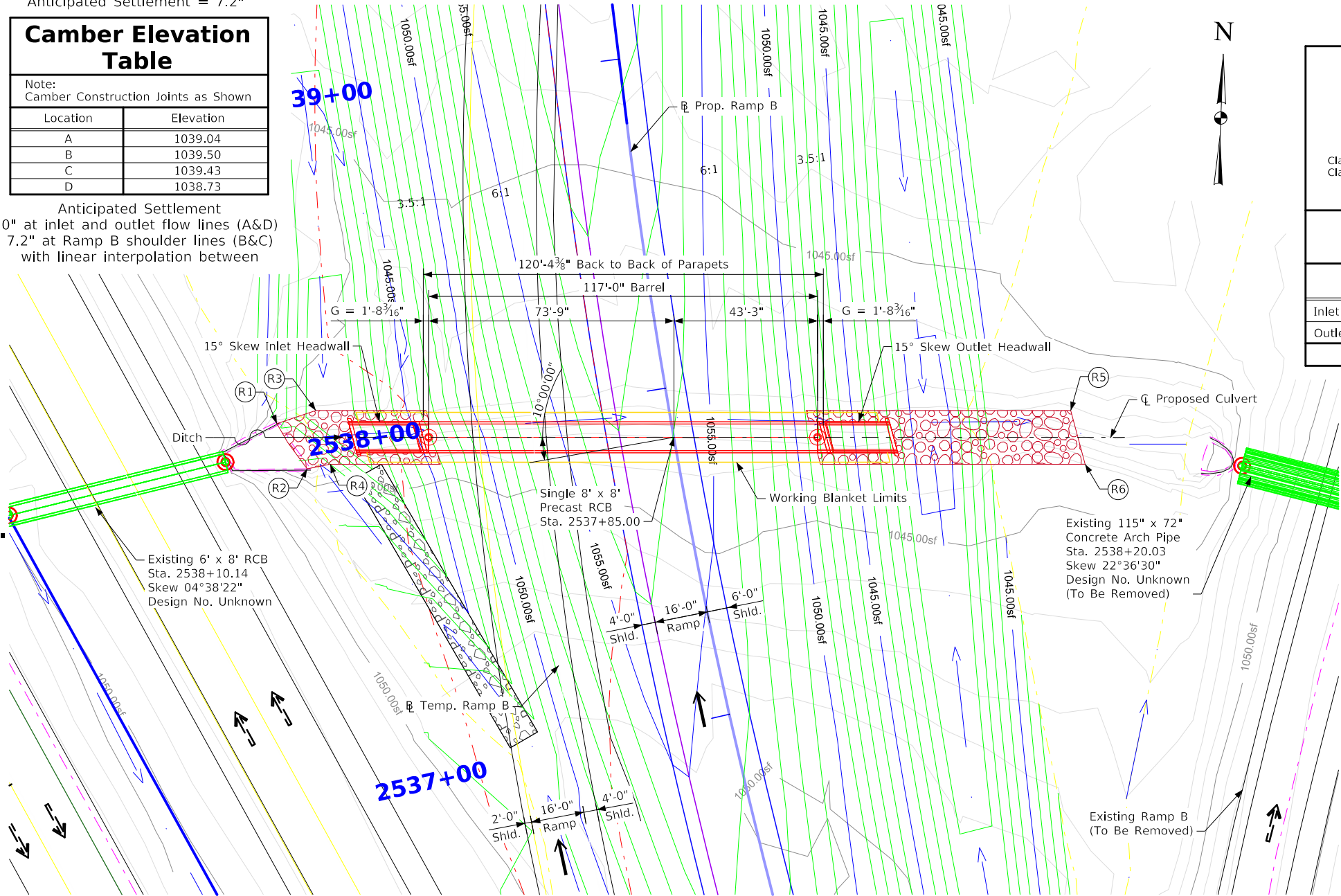
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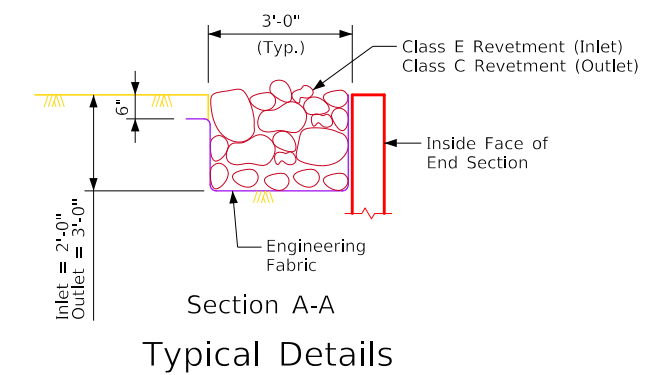
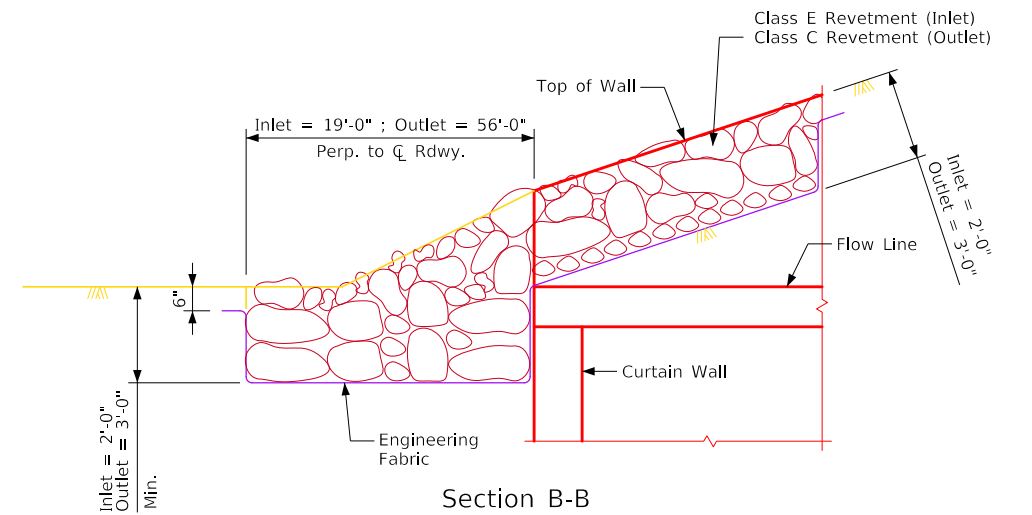
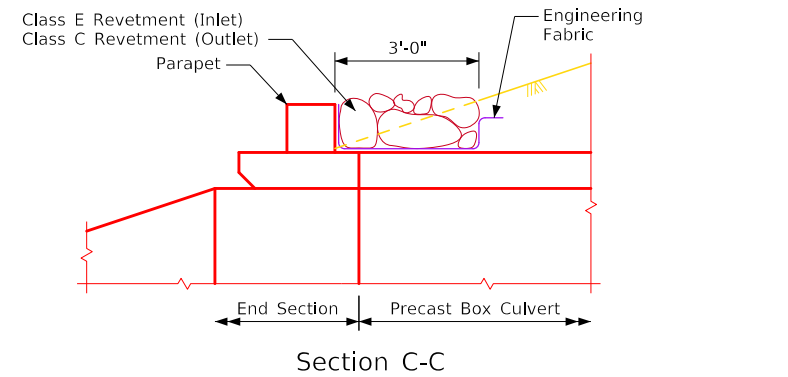
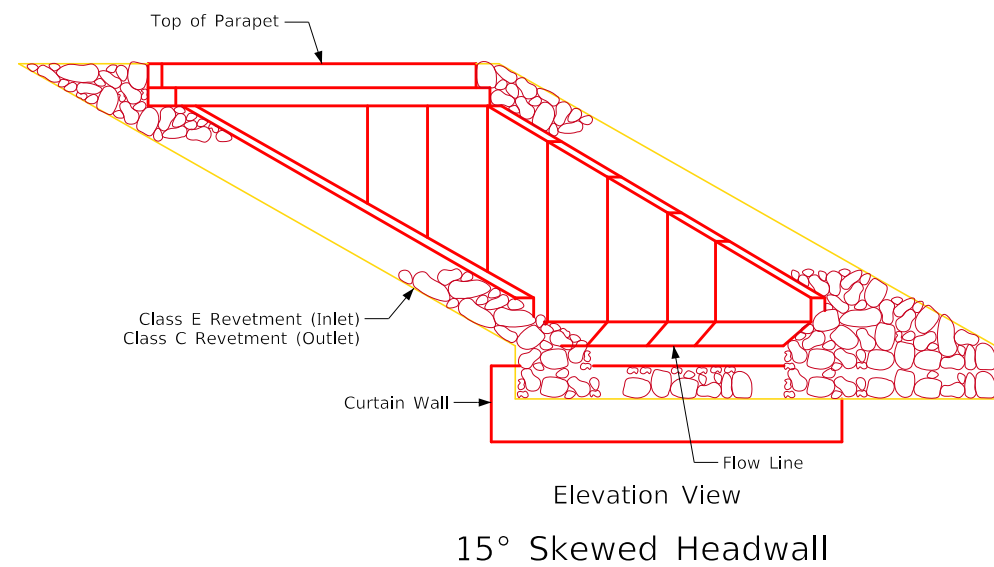
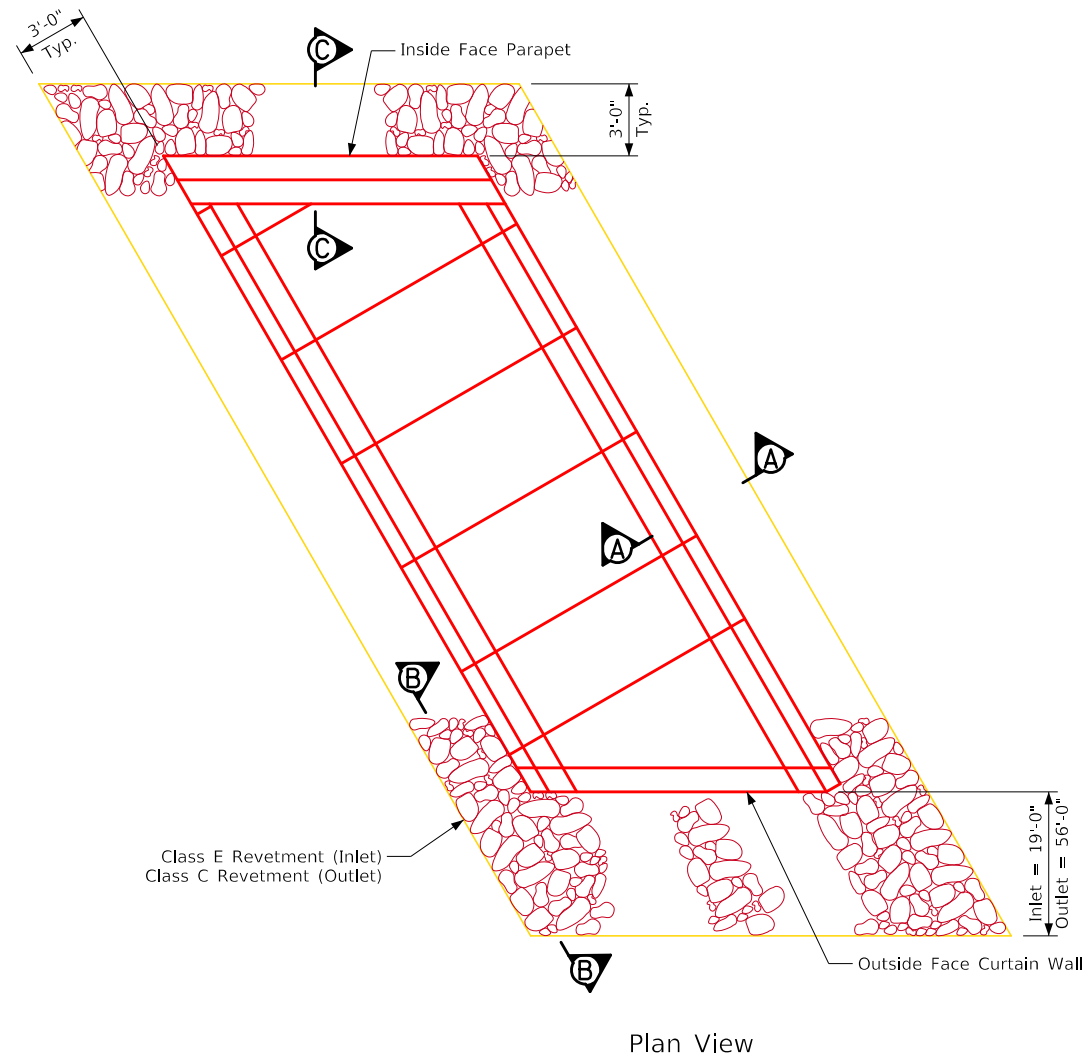
Design Fill Height = 9'  
Anticipated Settlement = 7.2"

Camber Elevation Table	
Note: Camber Construction Joints as Shown	
Location	Elevation
A	1039.04
B	1039.50
C	1039.43
D	1038.73

Anticipated Settlement  
0" at inlet and outlet flow lines (A&D)  
7.2" at Ramp B shoulder lines (B&C)  
with linear interpolation between



Situation Plan



### Construction Notes:

Class E and C revetment should be used and placed according to Article 2507.03 of the Standard Specifications.

The engineering fabric shall meet the material requirements in accordance with Article 4196.01, B, 3, of the Standard Specifications.

Design For 10° Skew (L.A.)  
Single 8'-0" x 8'-0" x 120'-4<sup>3</sup>/<sub>8</sub>"  
Precast Concrete Box Culvert

Revetment Protection Details

STA. 2537+85.00 (Ramp B) Turn-In Date: October 2025

Monona County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 326 Design Sheet No. 4 of 4 Asset No. 900630





Estimated Culvert Quantities - Design No. 426 (C.I.P. Alt.)					
Item No.	Item Code	Item	Unit	Total	As Built Quantity
1	2402-2720000	Excavation, Class 20	CY	506	
2	2402-3825025	Granular Material For Blanket	CY	73.7	
3	2403-0100020	Structural Concrete (RCB Culvert)	CY	152.9	
4	2404-7775000	Reinforcing Steel	LB	22,950	
5	2526-8285000	Construction Survey	LS	1.00	
6	2533-4980005	Mobilization	LS	1.00	

Item No.	Estimated Reference Information
1	Includes excavation necessary to place 1'-0" granular material for blanket. Includes filling and compacting low areas around proposed culvert.
2	Includes all costs to install a 1'-0" thick blanket of granular material in accordance with Section 4118, Gradation No. 3 of the Standard Specifications. Includes 73.7 CY for a working blanket. The working blanket may be deleted if determined to be unnecessary at the time of construction.
3	Includes all resilient joint filler.

Summary of Reinforcing Steel		
Location	Quantity	Total
Headwall 30° Skew	2 at 3,879	7,758
38'-0" Barrel Section	2 at 5,793	11,586
10'-0" Barrel End Section	1 at 1,525	1,525
13'-0" Barrel End Section	1 at 1,982	1,982
5r1 x 3'-6" Dowel Bar Sets	3 at 33	99
	Total (LB)	22,950

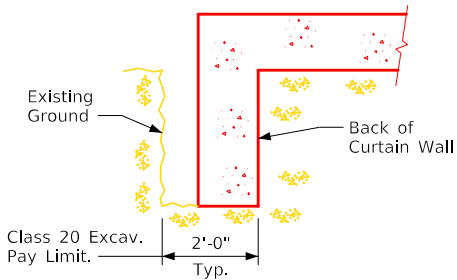
Concrete Placement Quantities				
Location	Slab	Floor	Walls	Total
Headwall 30° Skew	* 2 at 1.5	2 at 13.5	2 at 10.2	50.4
38'-0" Barrel Section	2 at 10.1	2 at 13.1	2 at 16.1	78.6
10'-0" Barrel End Section	1 at 2.7	1 at 3.5	1 at 4.2	10.4
13'-0" Barrel End Section	1 at 3.5	1 at 4.5	1 at 5.5	13.5
Total (CY)	29.4	61.2	62.3	152.9

\* Includes parapet and top of wingwall

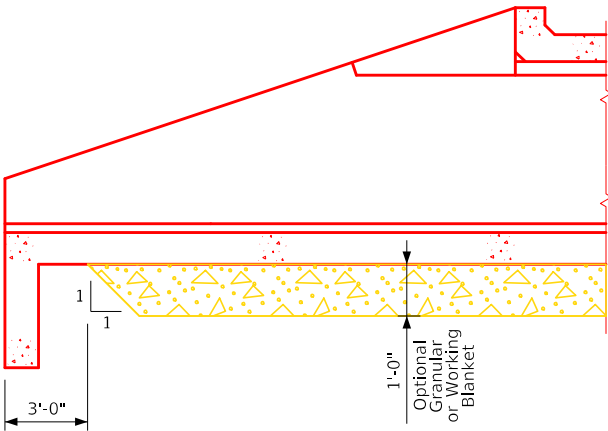


FILE NO. 32285	ENGLISH	DESIGN TEAM HR Green, Inc.	Monona COUNTY	PROJECT NUMBER STP-175-1(95)--2C-67	SHEET NUMBER V.17
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6:30:18 PM 9/22/2025 zgerst pw:\\projectwise.dot.int.lan:PWMMain\Documents\Projects\6717502021\Bridge\095)\_ RCB Culvert New - Single Box\SHT\_67175095\_HRG\_0426\_900635\_CIP\_Z06.dgn



Curtain Wall  
Class 20 Excavation



Class 20 Excavation  
Limits at Headwall  
(Longitudinal View)

Standards:  
For details and notes not shown refer to the following Iowa D.O.T. - Highway Standards:

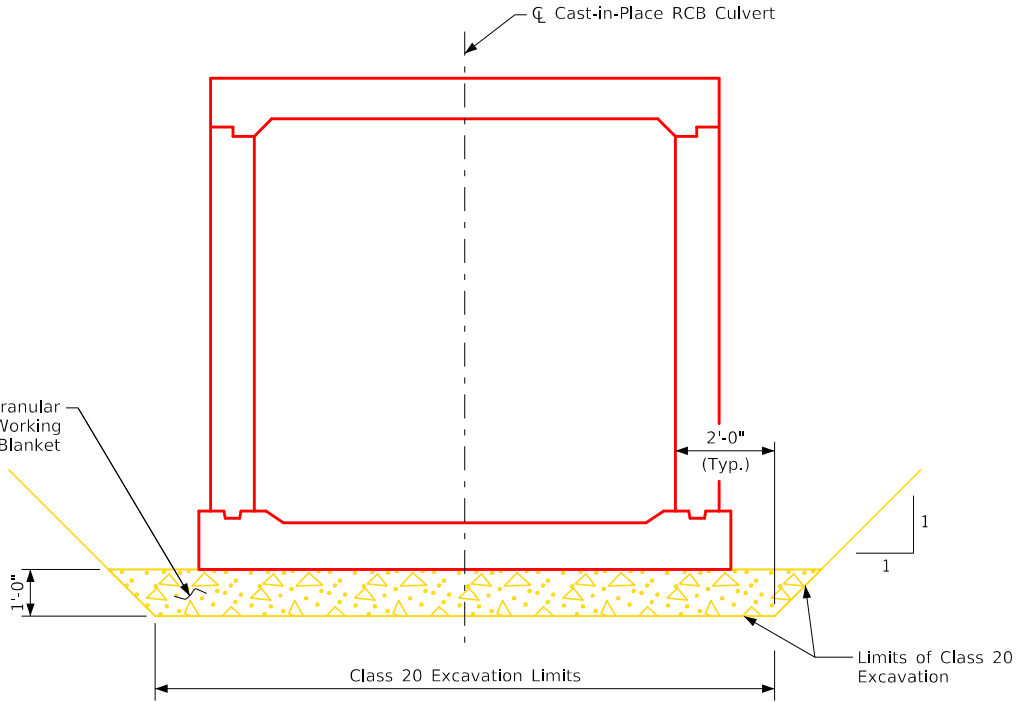
Standard	Issued	Revised
RCB G2-20	07-20	
RCB G3-20	07-20	
RCB 8-8-20	07-20	
PWH 30-1-20	07-20	
PWH 30-2-20	07-20	
PWH 30-3-20	07-20	
PWH 30-4-20	07-20	
PWH 30-9-20	07-20	

Note:  
Pollution Prevention Plan shown elsewhere in these plans.

Traffic Control Plan

The roadway will be open to thru traffic for the duration of the project. Refer to the traffic control plans shown elsewhere in these plans.

Roadway quantities, including culvert backfill shown elsewhere in these plans.



Working Blanket Details

Granular material for blanket shall terminate 3'-0" short of the curtain wall.

Design For 37°30'00" Skew (L.A.)  
Single 8'-0" x 8'-0" x 99'-0"  
Cast-In-Place Concrete Box Culvert

Estimated Quantities

STA. 3539+25.00 (Ramp C) Turn-In Date: October 2025

Monona County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 426 Design Sheet No. 1 of 3 Asset No. 900635



General Notes:

It is the intent of this design to install a 8’ x 8’ x 99’ Reinforced Box Culvert skewed 37°30'00" (LA) at Sta. 3539+25.00.

The RCB Culvert sections are designed for HL-93 live load and earth fills of 3 feet.

Utility companies and municipalities whose facilities are shown on the plans or known to be within the construction limits shall be notified by the Contractor of the construction starting date.

Excess Class 20 Excavation material suitable for backfilling shall be stockpiled at the construction site, as directed by the Engineer.

Class 20 excavation material unsuitable for backfilling shall be disposed of in a manner that will leave the site in a neat condition in accordance with the Standard Specifications (IDOT SS 2402.03, G)

When de-watering presents a problem for placing the curtain walls as detailed, alternate methods such as steel sheet pile and precast concrete walls may be approved but at no additional cost. The Culvert Contractor is to submit to the Engineer for approval complete drawings of the proposed curtain wall alternate before beginning construction.

See Culvert Standard Sheet “RCB G2-20” for additional notes.

The Class 20 Excavation quantity assumes that, at the start of culvert construction, the existing groundline shown on the situation plan for this design has remained undisturbed and no roadway fill has been placed.

The contractor may submit alternate frost trough dimensions for approval. Any additional costs due to change in the frost trough dimensions is to be paid for by the contractor.

All reinforcing bars and bars noted as dowels supplied for this structure shall be deformed reinforcement unless otherwise shown.

Specifications:

Design:  
AASHTO LRFD Bridge Design Specifications, 8th Ed., Series of 2017.

Construction:  
Iowa Department of Transportation Standard Specifications for Highway and Bridge Construction, current series, plus applicable General Supplemental Specifications, Developmental Specifications, Supplemental Specifications and Special Provisions

Design Stresses:

Design stresses for the following materials are in accordance with the AASHTO LRFD Bridge Design Specifications, 8th Ed., Series of 2017:  
Reinforcing steel in accordance with AASHTO LRFD Section 5, Grade 60.  
Concrete in accordance with AASHTO LRFD Section 5, f’c = 4.0 ksi.

Design History At This Site

Des. No.	Type of Work
426	Original Design, 8'x8'x99' RCB



Design For 37°30'00" Skew (L.A.)  
Single 8'-0" x 8'-0" x 99'-0"  
Cast-In-Place Concrete Box Culvert

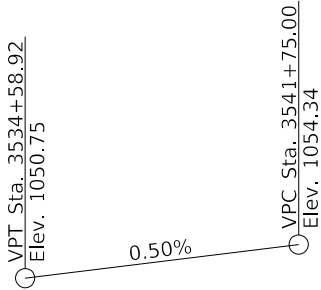
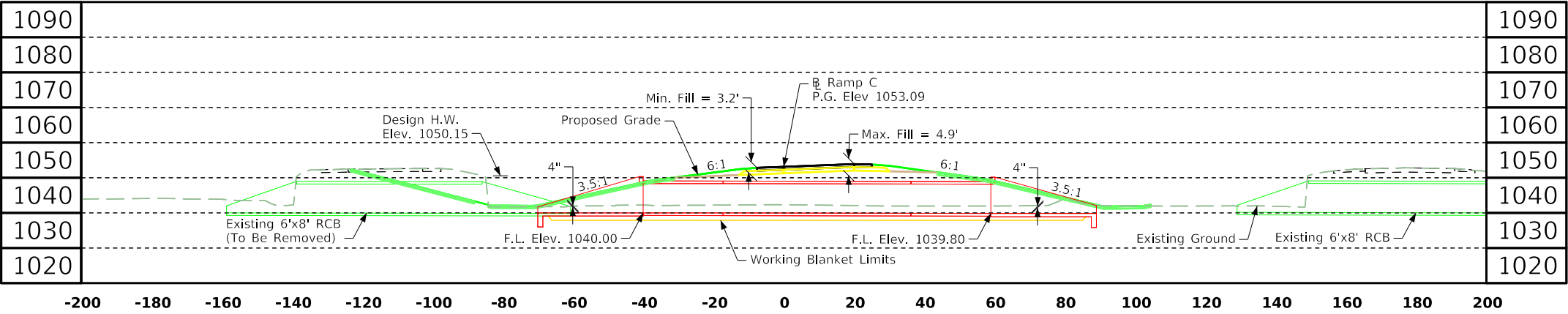
General Notes

STA. 3539+25.00 (Ramp C) Turn-In Date: October 2025

Monona County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 426 Design Sheet No. 2 of 3 Asset No. 900635



**Proposed Profile  
Grade Ramp C**

Plan Notes:  
Flow Line of the culvert has been set 4" below  
streambed.  
See Soil Q Sheets for information on ground  
improvements below the culvert.

**Location**

I-29 / IA 175 Ramp C  
over Ditch  
T-83N R-45W  
Section 7  
Franklin Township  
Monona County  
Asset ID No. 900635  
Maint. No. 6712.1B029  
Latitude 42.025065°  
Longitude -96.131753°

**Curve Data**

I-29 / IA 175 Ramp C  
PI Sta. 3535+95.02 (LT)  
 $\Delta = 25^{\circ}05'20.40''$   
T = 445.02  
L = 875.77  
E = 48.91  
R = 2000.00'  
PC Sta. 3531+50.00  
PT Sta. 3540+25.77

**Hydraulic Data**

Drainage Area = 1226.7 Acres  
Design Discharge = 311.44 CFS  
HW Elev. = 1050.15  
Exit Velocity = 5.08 FPS  
Stream Slope = 4.74 Ft./Mi.

**Ramp C Traffic Est.**

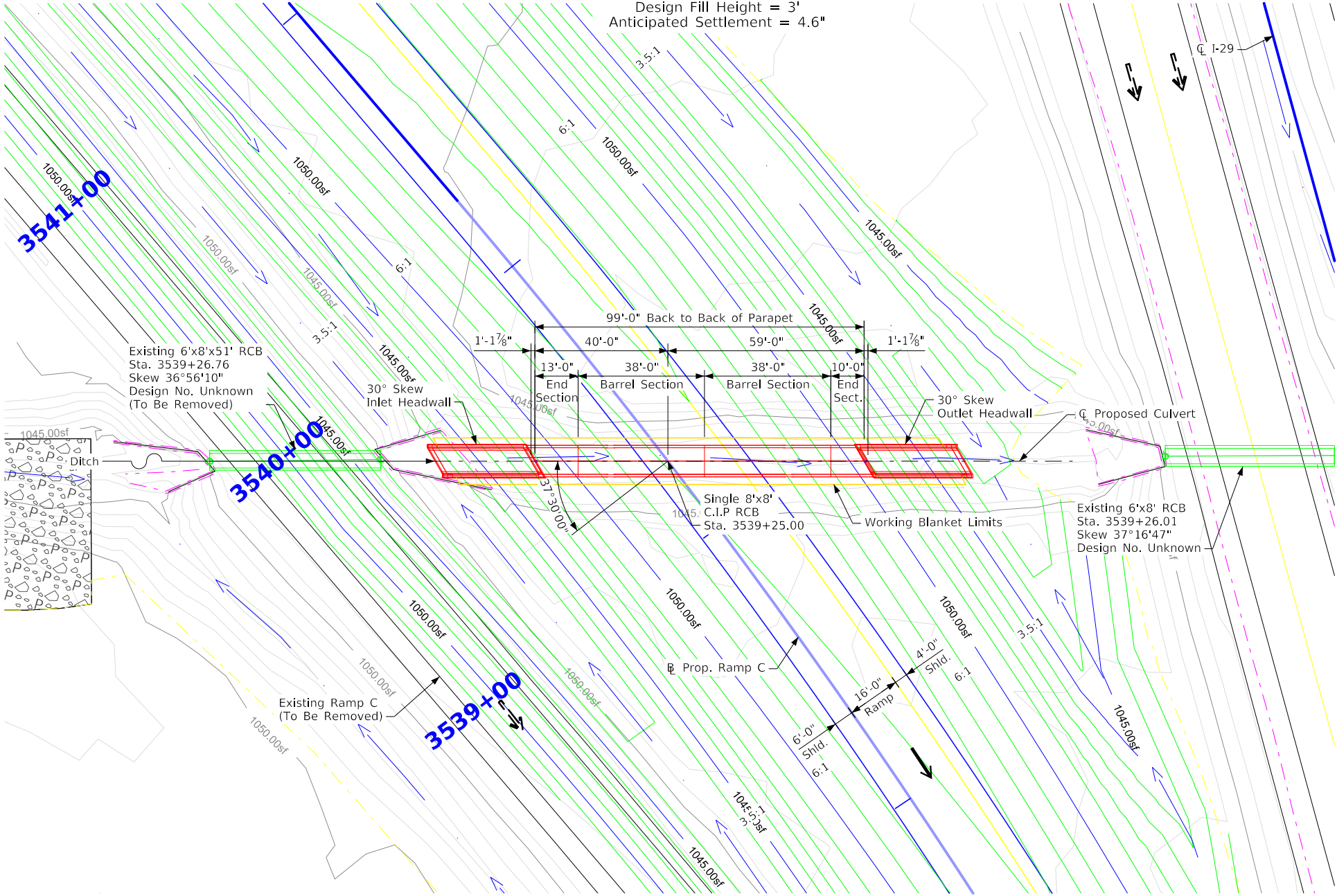
2022 AADT	950	V.P.D.
2046 AADT		V.P.D.
2046 DHV		V.P.H.
Trucks	13	%
Total Design ESALs	-	

**Utilities Note:**

See road design Sheets for  
utility information.

**General Utility  
Symbols:**

None identified



**Situation Plan**

Design For 37°30'00" Skew (L.A.)  
**Single 8'-0" x 8'-0" x 99'-0"**  
**Cast-In-Place Concrete Box Culvert**

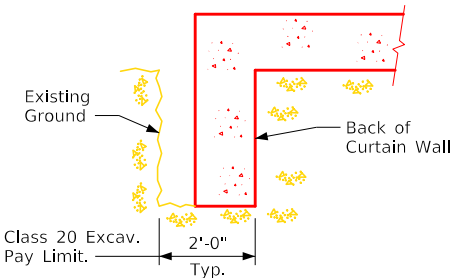
**Situation Plan**

STA. 3539+25.00 (Ramp C) Turn-In Date: October 2025  
**Monona County**  
IOWA DEPARTMENT OF TRANSPORTATION  
Design No. 426 Design Sheet No. 3 of 3 Asset No. 900635

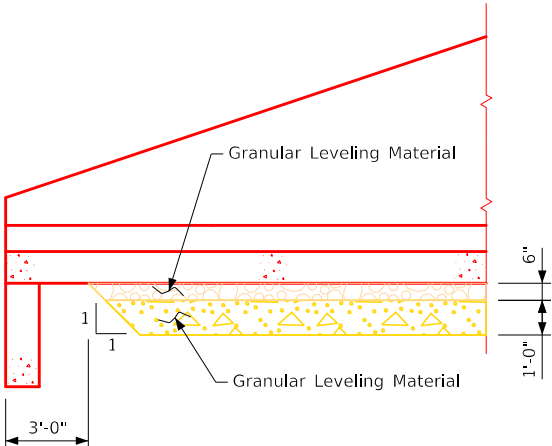


Estimated Culvert Quantities - Design No. 426 (Precast Alt.)					
Item No.	Item Code	Item	Unit	Total	As Built Quantity
1	2402-2720000	Excavation, Class 20	CY	532	
2	2402-3825025	Granular Material For Blanket	CY	67.3	
3	2415-2110808	Precast Concrete Box Culvert, 8 FT. x 8 FT.	LF	93.0	
4	2415-2200808	Precast Concrete Box Culvert Straight End Section, 8 FT. x 8 FT.	Each	2	
5	2526-8285000	Construction Survey	LS	1.00	
6	2533-4980005	Mobilization	LS	1.00	

Item No.	Estimated Reference Information
1	Includes excavation necessary to place 6" bedding and 1'-0" granular material for blanket. Includes filling and compacting low areas around proposed culvert.
2	Includes all costs to install a 1'-0" thick blanket of granular material in accordance with Section 4118, Gradation No. 3 of the Standard Specifications. Includes 67.3 CY for a working blanket. The working blanket may be deleted if determined to be unnecessary at the time of construction.
3	Includes material and labor associated with providing and installing the culvert ties, lifting hole plugs, engineering fabric, granular leveling material, joint material, and grout as required. A minimum of 6 inches of Granular Leveling Material shall be used as bedding for the precast box culvert. The bedding shall be shaped to a flat base using a template.
4	Includes material and labor associated with providing and installing the culvert ties, lifting hole plugs, engineering fabric, granular leveling material, joint material, and grout as required. Includes 30 skew 2 precast end sections, 2 precast lintel beams, and 2 precast curtain walls. A minimum of 6 inches of Granular Leveling Material shall be used as bedding for the precast box culvert. The bedding shall be shaped to a flat base using a template.

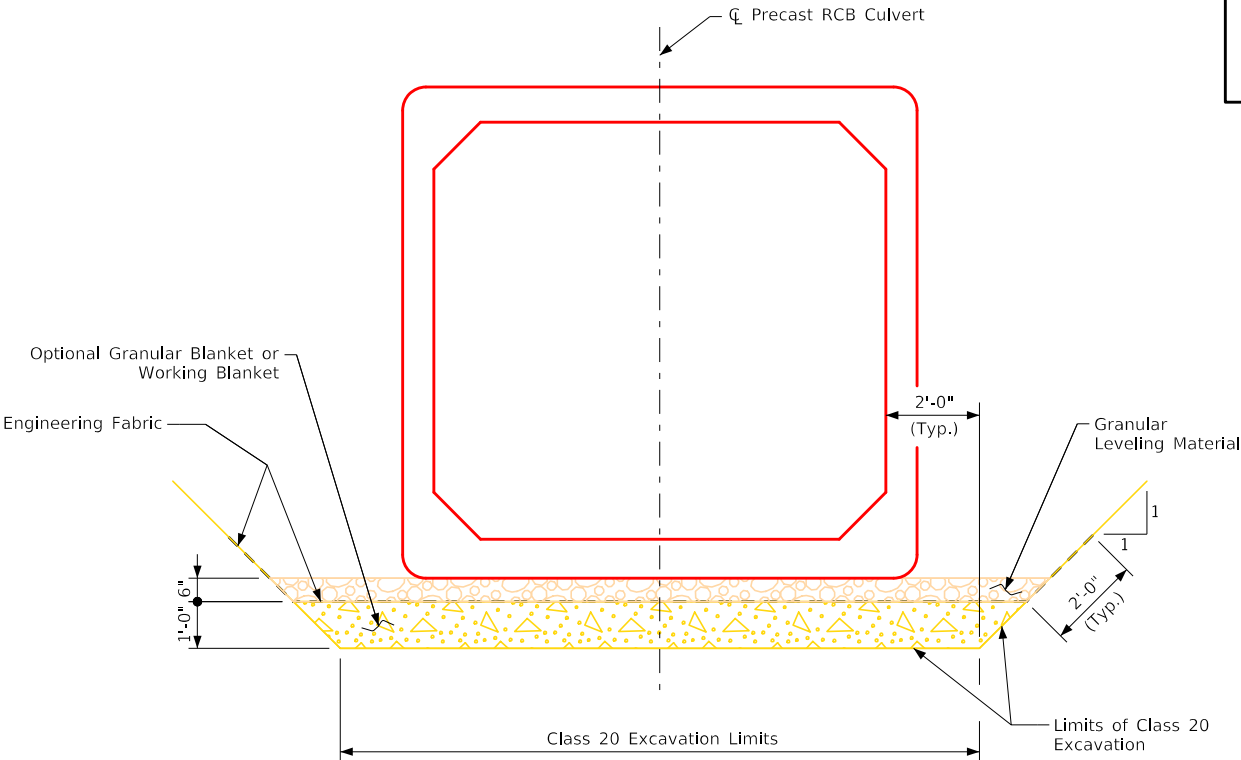


Curtain Wall  
Class 20 Excavation



Class 20 Excavation  
Limits at Headwall  
(Longitudinal View)

Standards: For details and notes not shown refer to the following Iowa D.O.T. - Highway Standards:		
Standard	Issued	Revised
PRCB G1-20	12-20	
PRCB G2-20	12-20	01-23
PRCB 8-20	12-20	
PES 5-20-T3	12-20	10-21
PES 6-20-T3	12-20	01-23
PES 9-20-T3	12-20	
PES 11-20	12-20	



Granular Leveling Material Details

Granular leveling material and granular material for blanket shall terminate 3'-0" short of the curtain wall.

Note:  
Pollution Prevention Plan shown elsewhere in these plans.

Traffic Control Plan

The roadway will be open to thru traffic for the duration of the project. Refer to the traffic control plans shown elsewhere in these plans.

Roadway quantities, including culvert backfill shown elsewhere in these plans.



Design For 37°30'00" Skew (L.A.)

Single 8'-0" x 8'-0" x 98'-9<sup>1</sup>/<sub>4</sub>"  
Precast Concrete Box Culvert

Estimated Quantities

STA. 3539+25.00 (Ramp C) Turn-In Date: October 2025

Monona County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 426 Design Sheet No. 1 of 3 Asset No. 900635



General Notes:

It is the intent of this design to construct a 8' x 8' x 98'-9¼" precast reinforced concrete box culvert skewed 37°30'00" (L.A.) ahead at stations 3539+25.00.

Electronic copies of the original plans are not available.

Utility companies and municipalities whose facilities are shown on the plans or known to be within the construction limits shall be notified by the Contractor of the construction starting date.

The precast R.C.B. Culvert sections are designed for HL-93 live load and earth fill of 3 feet.

The precast R.C.B. barrel and end sections shall conform to Iowa D.O.T. Single Precast R.C.B. Culvert Standards. At the Contractor's option, precast barrel sections may conform to ASTM C1577.

Excess Class 20 Excavation material suitable for backfilling shall be stockpiled at the construction site, as directed by the Engineer.

Class 20 Excavation material unsuitable for backfilling shall be disposed of in a manner that will leave the site in a neat condition.

When de-watering presents a problem for placing the curtain walls as detailed, alternate methods such as steel sheet pile may be approved but at no additional cost. See Standard Sheet PES 11-20 for details.

The length in linear feet of precast reinforced concrete box culvert will be based on the plan quantity. For the number of linear feet given on the plan, the Contractor will be paid the contract unit price per linear foot. The payment shall be full compensation for furnishing all material, labor and equipment necessary to complete the work except for bid items "Precast Concrete Box Culvert Straight End Section, 8 FT. x 8 FT.", "Excavation, Class 20", "Granular Material For Blanket", "Construction Survey", and "Mobilization".

For each precast concrete box culvert straight end section installed the Contractor will be paid the contract price per each. The payment shall be full compensation for furnishing all material (including lintel beams and curtain walls), labor and equipment necessary to complete the work except for bid items "Precast Concrete Box Culvert, 8 FT. x 8 FT.", "Excavation, Class 20", "Granular Material For Blanket", "Construction Survey", and "Mobilization".

The curtain wall and the Type 3 lintel beam or Type 1 parapet shall be precast.

The Contractor shall furnish and install culvert ties for all joints. The main section joints will have one tie on each side of the barrel and the last barrel section will be attached to the end sections with two ties per side. The end section joints will have two ties per side.

Culvert ties shall be included in the cost for precast concrete box culvert. Tie rods will be 1 inch diameter steel and shall meet requirements of ASTM A709 Grade 36 or equal. See Standard Sheet PRCB G2-20 for details.

Culvert tie assemblies shall be galvanized after fabrication.

The limits for excavation for the precast concrete box culvert shall be as shown on the "Granular Leveling Material Detail".

A minimum of 6 inches of granular leveling material shall be used as bedding for the precast box culvert. The bedding shall be shaped to a flat base using a template. All costs including material and labor associated with providing and installing the granular leveling material shall be included in the bid items "Precast Concrete Box Culvert" and "Precast Box Culvert Straight End Section".

The precast box culvert shall be built to the dimensions and specifications shown in these plans.

The Contractor shall submit details (i.e. Shop Drawings) of the proposed precast concrete box sections for this project. The details shall include the following information as found on Standard Sheet 1089P:

- A. A Situation Plan drawing showing the back to back parapet dimension for the line of the culvert sections.
- B. Dimension the number of precast sections and section lengths.
- C. A detail of the precast barrel sections showing a cross section view of the section, steel locations, dimensions, etc.
- D. A detail of the precast concrete culvert end section showing a cross section view of the sections, steel locations, dimensions, etc. similar to the end section details shown in the Iowa D.O.T. Standards.

The Contractor shall provide all information shown on Standard Sheet 1089P.

The Contractor shall allow 30 working days for the Engineer's Shop Drawing review.

Since precast concrete box culvert end sections have the foreslope located at the bottom of the parapet instead of the top (as in the case of cast in place RCB culverts) the main barrel section has been lengthened.

All reinforcing bars and bars noted as dowels supplied for this structure shall be deformed reinforcement unless otherwise noted or shown.

The class 20 excavation quantity is based on the assumption that at the start of culvert construction, the existing groundline shown on the "Situation Plan" on Design Sheet 3 has remained undisturbed. The class 20 excavation quantity is measured from the existing groundline down to the limit shown in the "Special Backfill Granular Bedding/Working Blanket Detail" on Design Sheet 1.

This structure is being constructed on a relocation and the road will not be open to traffic until until after completion of construction. See traffic control plan note.

Installation Notes:

Precast concrete box culvert sections shall be laid with the groove end of each section up-grade, and the sections shall be tightly joined. Concrete ties to be used only to hold box sections together, not for pulling sections tight. Joint openings between sections should be as tight as practicable and limited to a maximum of ¾ inch openings. The joint on the bottom of the culvert shall be sealed with a flexible water tight 1 inch butyl rope gasket as per Materials I.M. 491.09.

Butyl rope gasket shall be installed in accordance with the recommendations of the Manufacturer and shall extend vertically 6 inches above the bottom fillet. All joints shall be trimmed clean on the inside after sealing.

The Contractor shall place a 2 foot wide piece of engineering fabric around the top and sides of each precast joint. The fabric shall be centered with 1 foot on each side of the joint, the fabric shall be attached to the walls and top of each section to prevent the fabric from slipping off the joint during backfilling operations. Attachment methods shall be approved by the Engineer.

The granular leveling material shall be installed in accordance with Article 2402.03, H, 4, of the Standard Specifications. If the plans call for larger granular material to be installed below the granular leveling material, the Contractor shall place engineering fabric below the granular leveling material to separate the layers. The fabric shall be oversized by a minimum of 1 foot on all edges to contain the granular leveling material.

All costs including material and labor associated with providing and installing the engineering fabric as described above for the joints and underlayment of the granular leveling material shall be included in the bid items "Precast Concrete Box Culvert" and "Precast Box Culvert Straight End Section". The engineering fabric shall be in accordance with Article 4196.01, B, 3, of the Standard Specifications.

During backfilling the compaction adjacent to the bottom corner radii or chamfer shall be accomplished with a mechanical hand compactor.

The Contractor shall furnish and install lifting hole plugs for each section. Lifting holes shall be plugged with a precast concrete plug or plastic plug approved by the Engineer, sealed and covered with a 2'-0" x 2'-0" piece of engineering fabric centered over the hole and attached to the section to prevent the fabric from slipping.

Specifications:

Design:  
AASHTO LRFD Bridge Design Specifications, 8th Ed., Series of 2017.

Construction:  
Iowa Department of Transportation Standard Specifications for Highway and Bridge Construction, current series, plus applicable General Supplemental Specifications, Developmental Specifications, Supplemental Specifications and Special Provisions

Design Stresses:

Design stresses for the following materials are in accordance with the AASHTO LRFD Bridge Design Specifications, 8th Ed., Series of 2017:  
Reinforcing steel in accordance with AASHTO LRFD Section 5, Grade 60.  
Concrete in accordance with AASHTO LRFD Section 5, f'c for barrel sections as noted on Culvert Barrel Detail Standards, for End Section Design f'c = 5.0 ksi.

Working Drawing and Calculation Submittals

Working drawings and calculations shall be submitted for the following items shown in the table below. (Note additional working drawings and calculations may be required in accordance with Article 1105.03 of the Standard Specifications.)

Submittal requirements for working drawings and calculations shall be in accordance with 1105.03 of the Standard Specifications for Highway and Bridge Construction of the Iowa Department of Transportation. The absence of a certification requirement for a submittal does not relieve the Contractor of the responsibility to attain certification.

Calculation submittals in this table which are associated with working drawing submittals shall be submitted on the same day. Review time for calculation submittals shall be of the same duration as and run concurrently with review time for associated working drawings. The calculation submittals listed in the table are not meant to be an exhaustive list and do not relieve the Contractor from providing additional calculation submittals if requested by the Engineer.

No.	Working Drawing Description	Working Drawing File Name Convention For Submittal	Certified by Iowa P.E. (Yes/No)
1	Precast Culvert Shop Drawings (1089P)	(095)_Monona_0426_PrecastRCBShop.pdf	No
No.	Calculation Description	Calculation File Name Convention For Submittal	Certified by Iowa P.E. (Yes/No)

Design History At This Site

Des. No.	Type of Work
426	Original Design, 8'x8'x98'-9¼" RCB

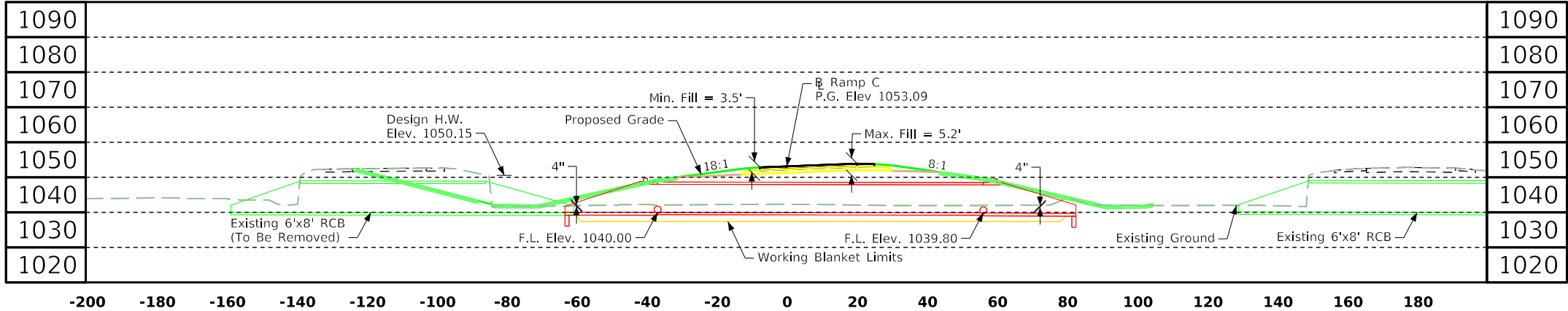
Design For 37°30'00" Skew (L.A.)  
Single 8'-0" x 8'-0" x 98'-9¼"  
Precast Concrete Box Culvert

General Notes

STA. 3539+25.00 (Ramp C) Turn-in Date: October 2025  
Monona County  
IOWA DEPARTMENT OF TRANSPORTATION  
Design No. 426 Design Sheet No. 2 of 3 Asset No. 900635



Control Point: CP-1 - N=7246812.81 E=16392085.34, Elev. 1047.76, CP FD 1/2" Rebar 20" Deep, 1080' South of IA 175 in the I-29 Median



VPT Sta. 3534+58.92  
Elev. 1050.75

0.50%

VPC Sta. 3541+75.00  
Elev. 1054.34

## Proposed Profile Grade Ramp C

Plan Notes:  
Flow Line of the culvert has been set 4" below  
streambed.  
See Soil Q Sheets for information on ground  
improvements below the culvert.

## Location

I-29 / IA 175 Ramp C  
over Ditch  
T-83N R-45W  
Section 7  
Franklin Township  
Monona County  
Asset ID No. 900635  
Maint. No. 6712.1B029  
Latitude 42.025065°  
Longitude -96.131753°

## Curve Data

I-29 / IA 175 Ramp C  
 PI Sta. 3535+95.02 (LT)  
 $\Delta = 25^{\circ}05'20.40''$   
 T = 445.02  
 L = 875.77  
 E = 48.91  
 R = 2000.00'  
 PC Sta. 3531+50.00  
 PT Sta. 3540+25.77

## Hydraulic Data

Drainage Area = 1226.7 Acres  
Design Discharge = 311.44 CFS  
HW Elev. = 1050.15  
Exit Velocity = 5.08 FPS  
Stream Slope = 4.74 Ft./Mi.

## Ramp C Traffic Est.

2022 AADT	<u>950</u>	V.P.D.
2046 AADT	<u>          </u>	V.P.D.
2046 DHV	<u>          </u>	V.P.H.
Trucks	<u>13</u>	%

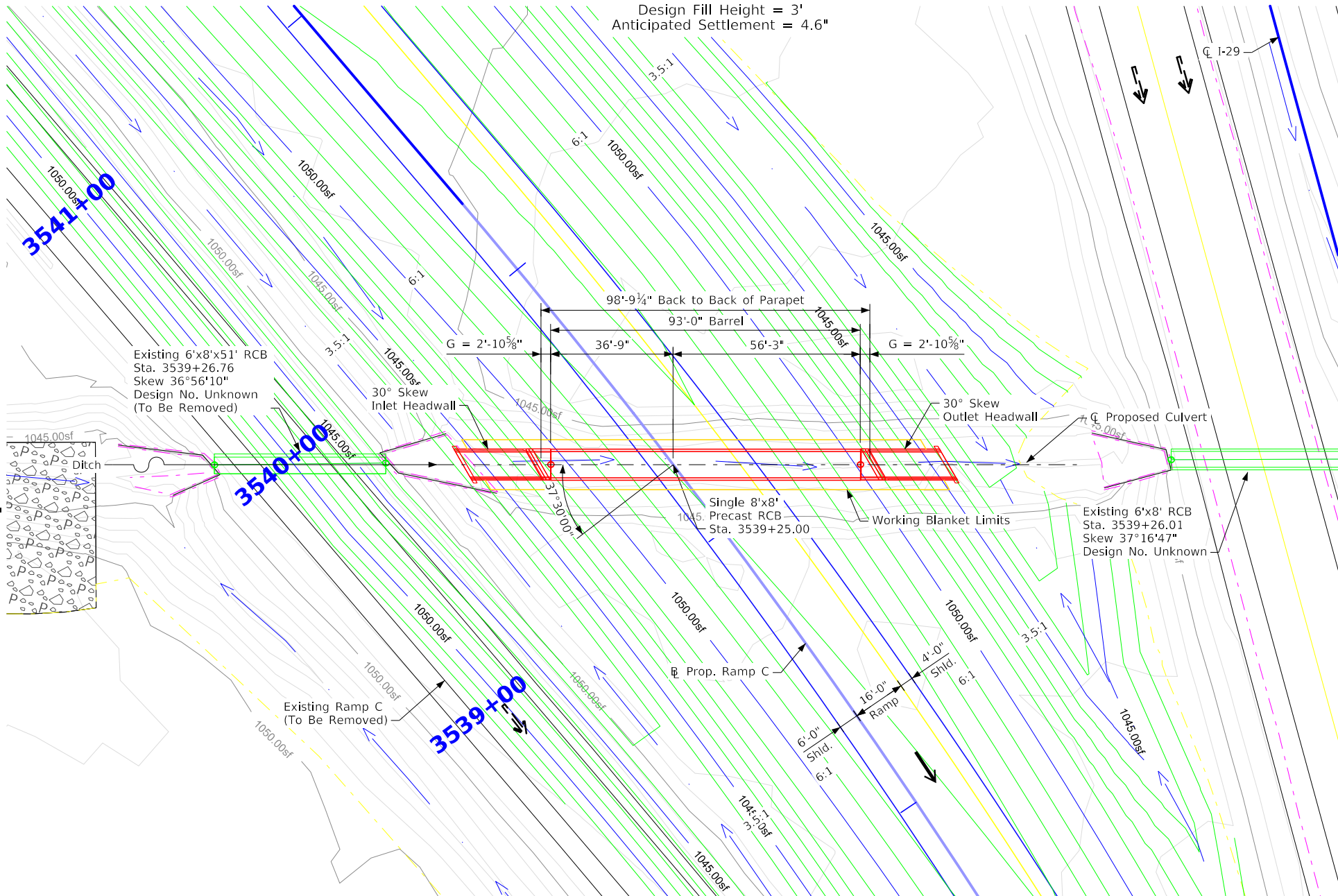
Total  
Design ESALs

## Utilities Note:

See road design Sheets for utility information.

## General Utility Symbols:

None identified



## Situation Plan

Design For 37°30'00" Skew (L.A.)  
Single 8'-0" x 8'-0" x 98'-9 $\frac{1}{4}$ "  
Precast Concrete Box Culvert

## Situation Plan

STA. 3539+25.00 (Ramp C) Turn-in Date: October 2025

Monona County

IOWA DEPARTMENT OF TRANSPORTATION

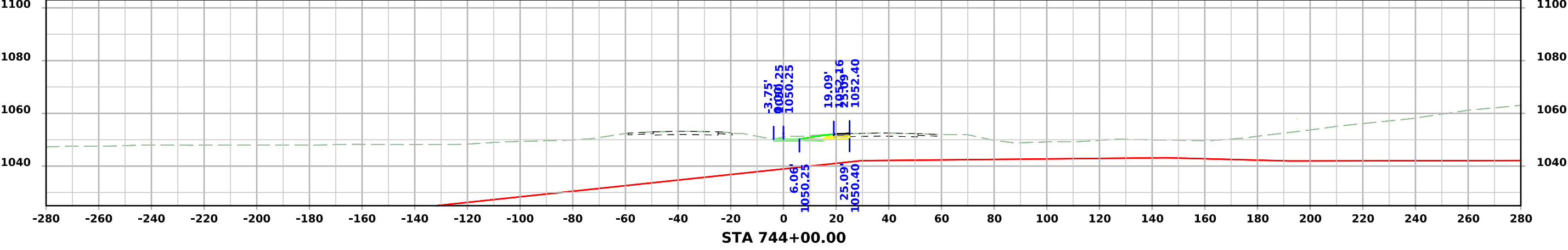
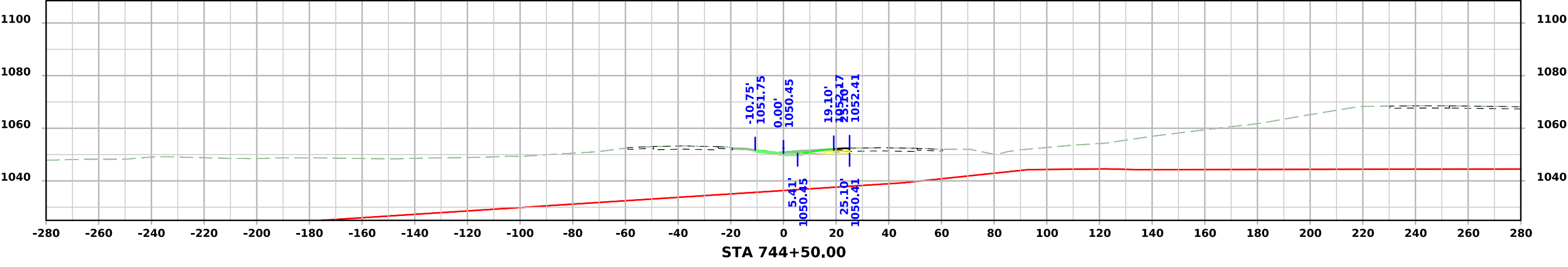
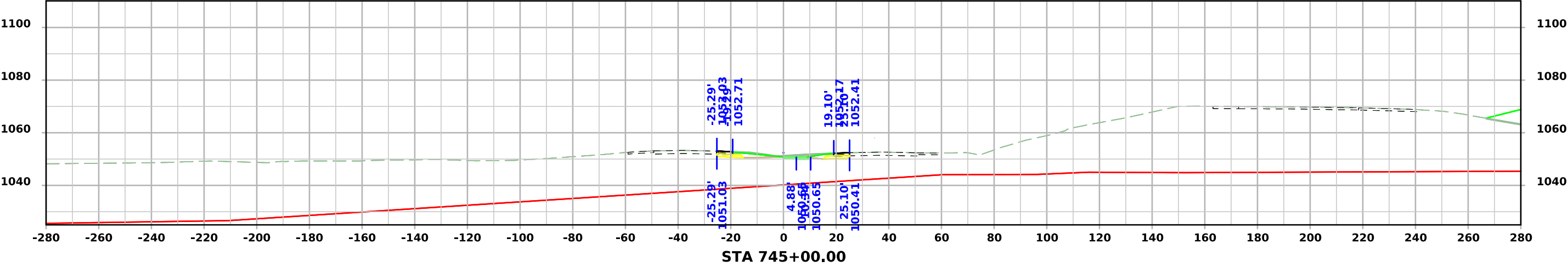
Design No. 426      Design Sheet No. 3 of 3      Asset No. 900635



CROSS SECTION VIEW COLOR LEGEND			
Design Color No.	Feature	Design Color No.	Feature
Aggregate		Structural	
(64)	Choke Stone	(112)	Noise Wall
(42)	Engineering Fabric	(112)	Noise Wall Footing
(8)	Flooded Backfill	(112)	Retaining Wall Back
(92)	Macadam Stone	(112)	Retaining Wall Back Excavate
(20)	Modified	(112)	Retaining Wall Face
(12)	Plowing Shaping	(112)	Retaining Wall Front Excavate
(14)	Porous Backfill	(112)	Retaining Wall Front Footing
(8)	Revetment Class A	(112)	Retaining Wall MSE Gutter
(6)	Revetment Class B	(112)	Retaining Wall Reinforced Earth
(62)	Revetment Class C	Grading	
(188)	Revetment Class D	(8)	Behind Curb Cut
(28)	Revetment Class E	(6)	Granular
(12)	Shoulder Special Backfill	(13)	Granular Back Fill
(12)	Special Backfill	(48)	Rock Undercut
(20)	Subbase	(8)	Shoulder Earth Fill
(20)	Subbase Lower	(2)	Side Slopes
(20)	Subbase Upper	(226)	Side Slopes Dressing
(118)	Subgrade Treatment	Substrata	
Asphalt		(128)	Boulder Substrata
(207)	HMA Base Course	(48)	Broken Weathered Substrata
(207)	HMA Interim Course	(3)	Core Out Substrata
(207)	HMA Surface Course	(203)	Existing Pavement Substrata
Concrete		(6)	Loam Substrata
(0)	Barrier Concrete	(80)	Rock Substrata
(0)	Barrier Concrete Footing	(4)	Select Sand Substrata
(0)	Curb Gutter	(3)	Shale Substrata
(48)	Flowable Mortar	(10)	Topsoil Substrata
(0)	Median Concrete	Unsuitable / Waste	
(0)	PCC Pavement	(3)	Unsuitable Type A
(0)	Sidewalk	(13)	Unsuitable Type B
Shoulder		(11)	Unsuitable Type C
(209)	Shoulder HMA	(3)	Waste
(0)	Shoulder PCC		
(6)	Shoulder Granular		
Existing			
(0)	Existing Pavement		

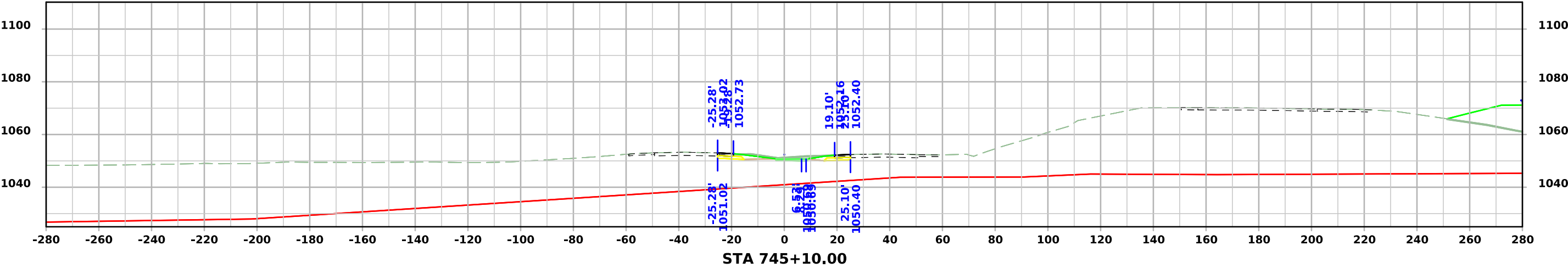
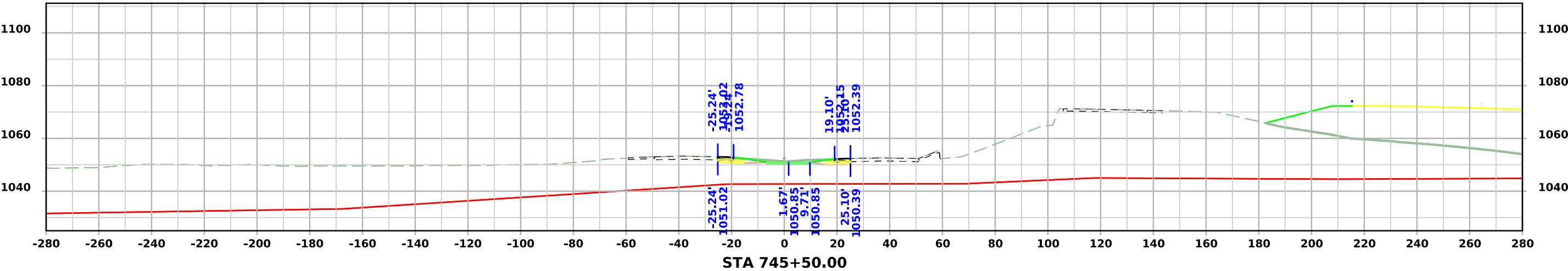
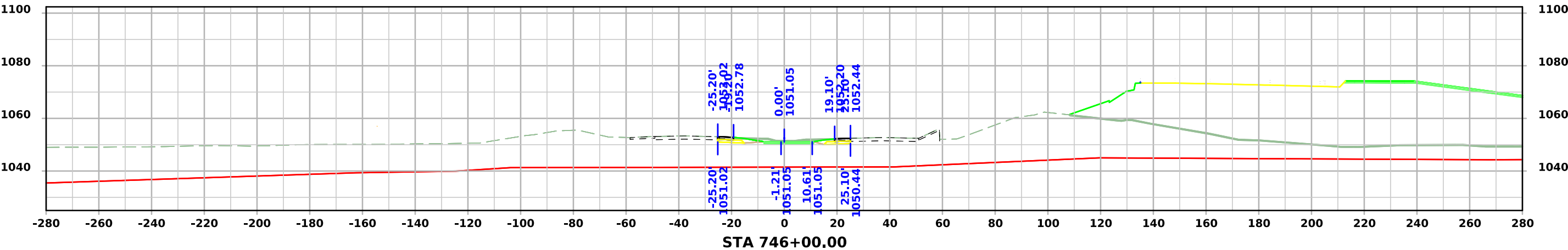
CROSS SECTIONS  
LEGEND AND INFORMATION SHEET  
(COVERS SHEET SERIES W, X, Y, & Z)

I-29 - Stage 1

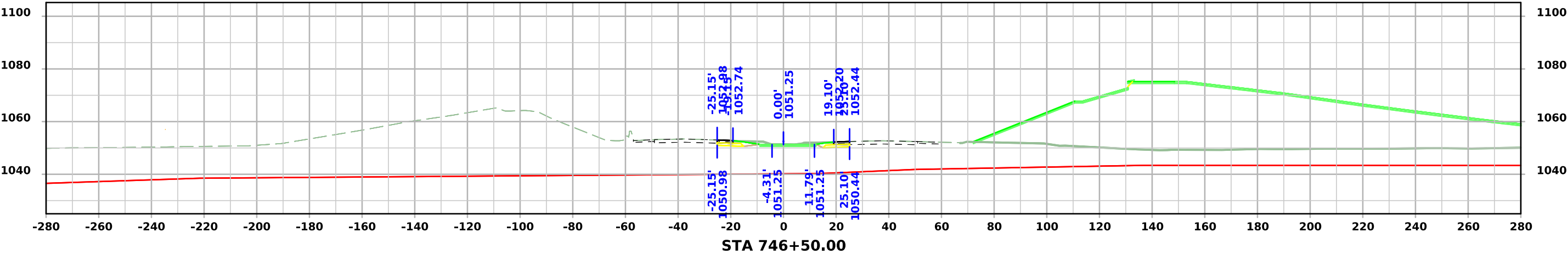
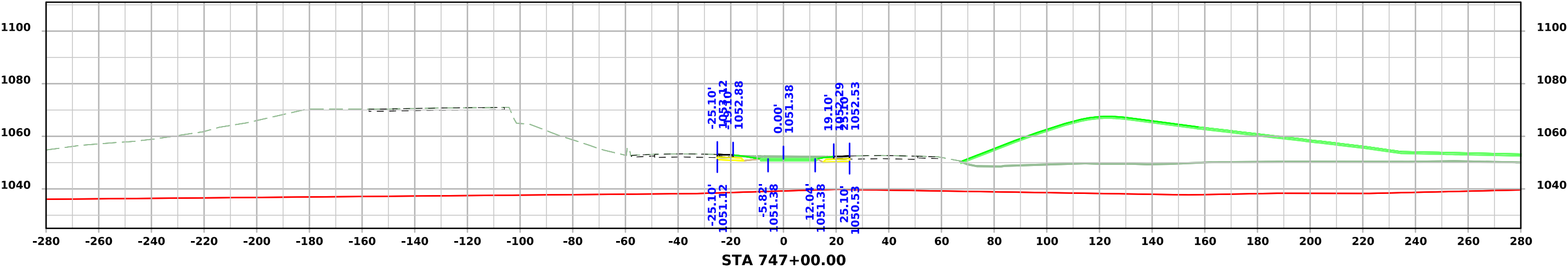
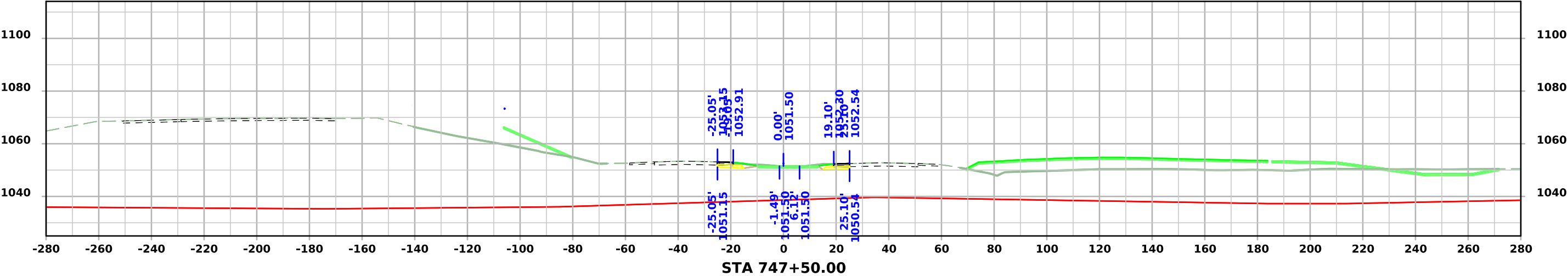




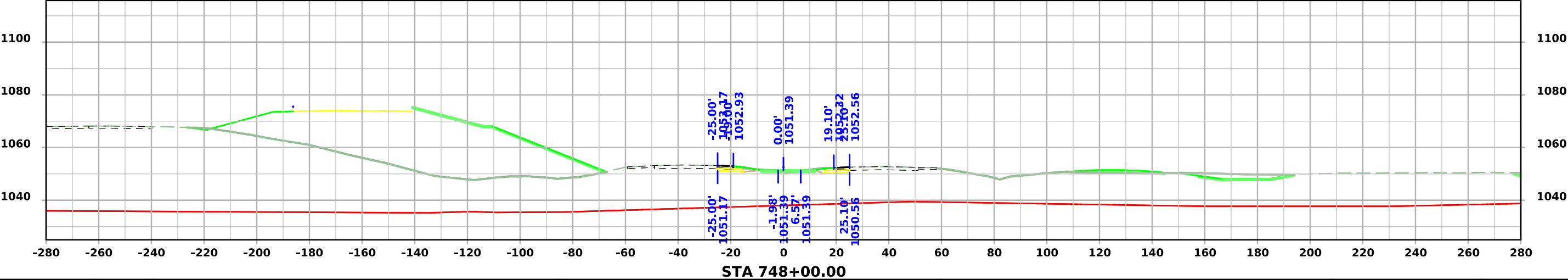
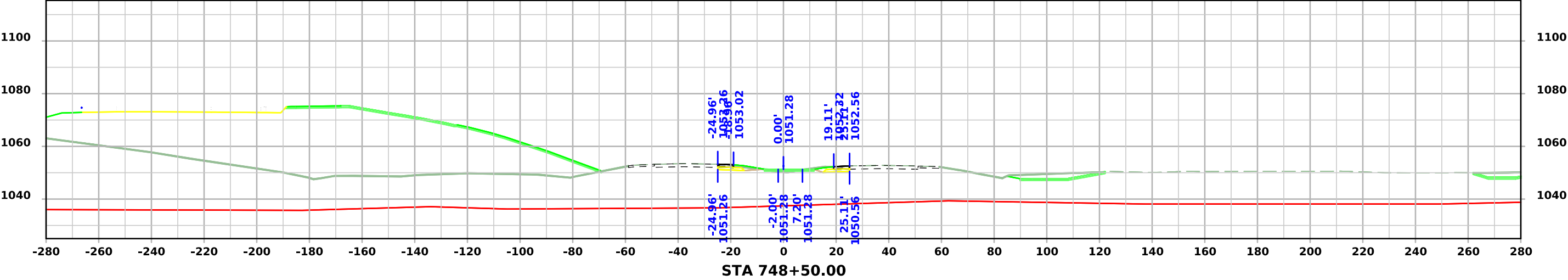
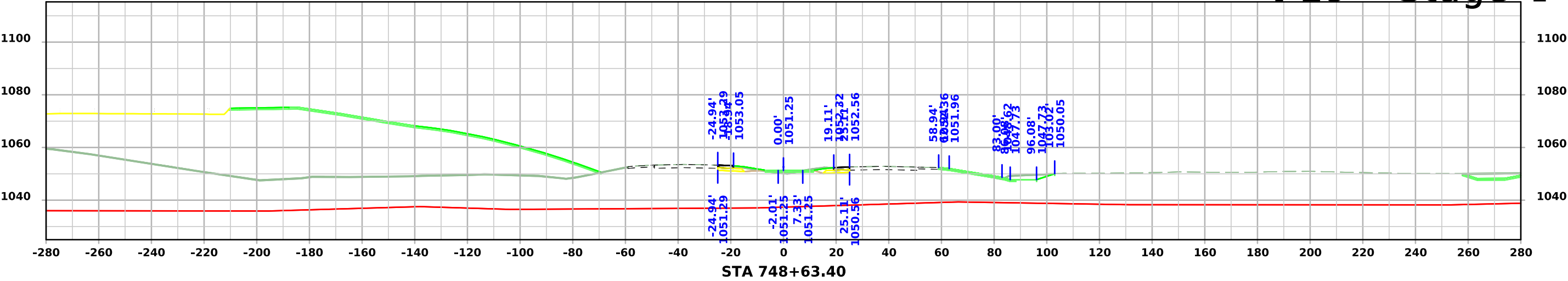
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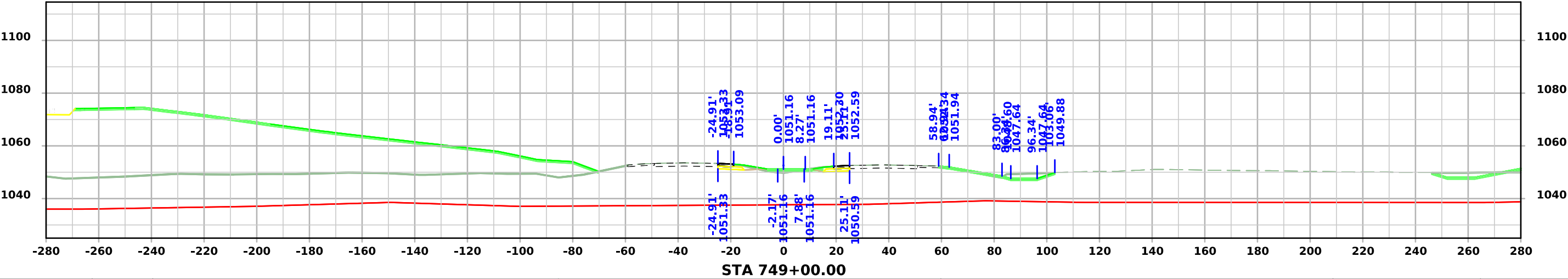
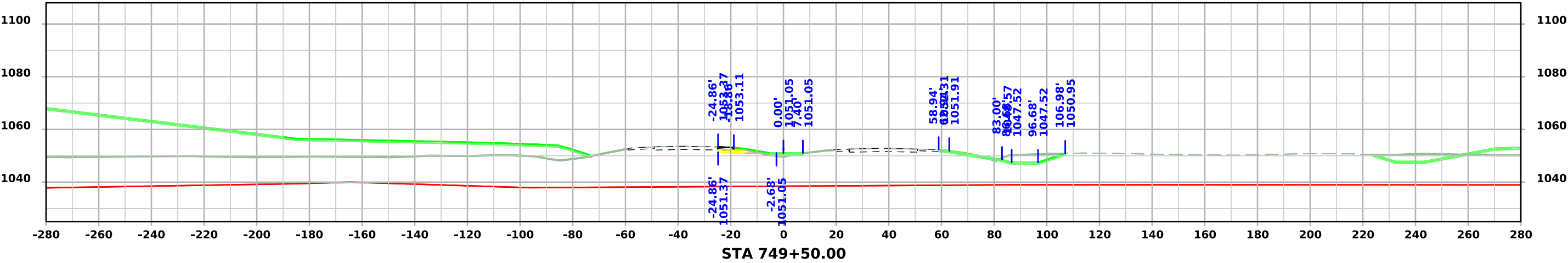
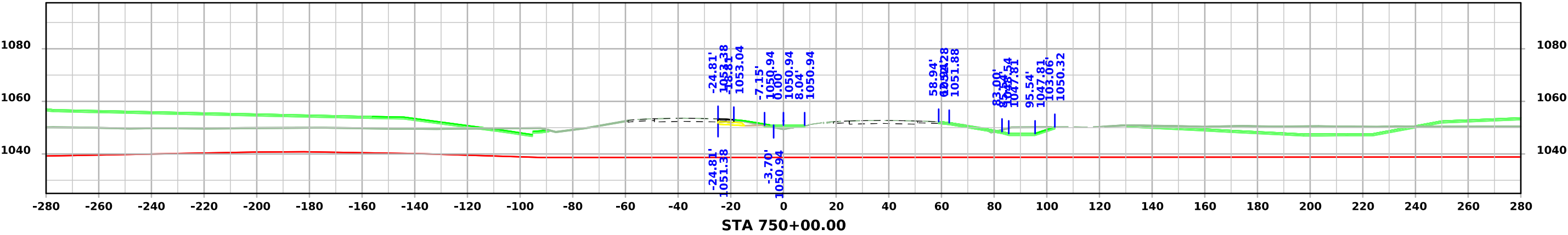
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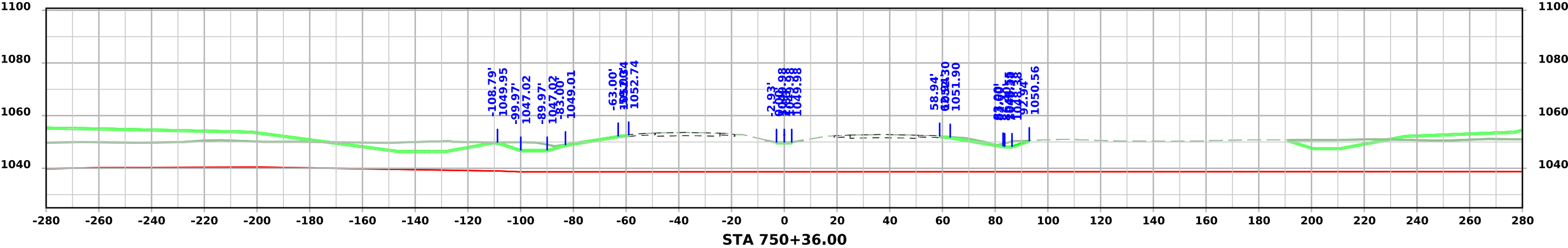
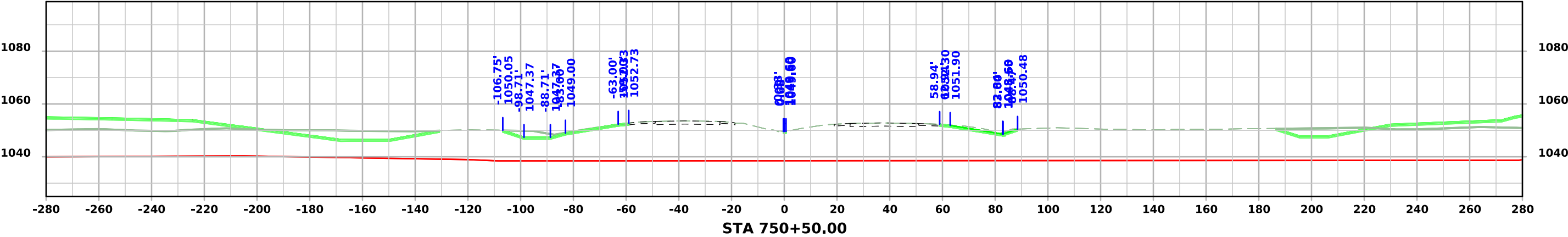
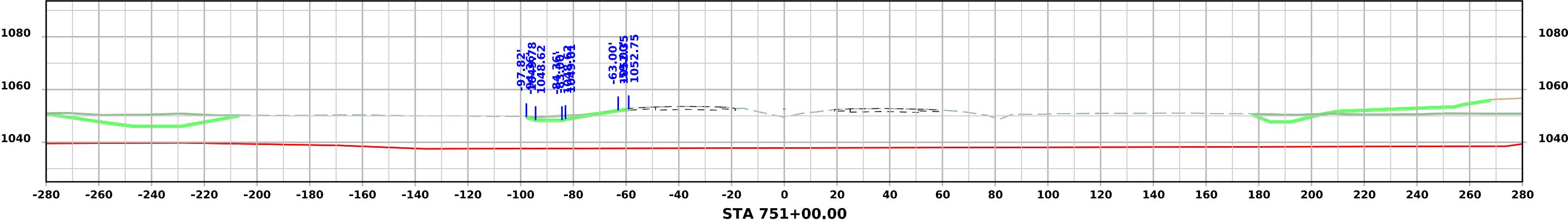
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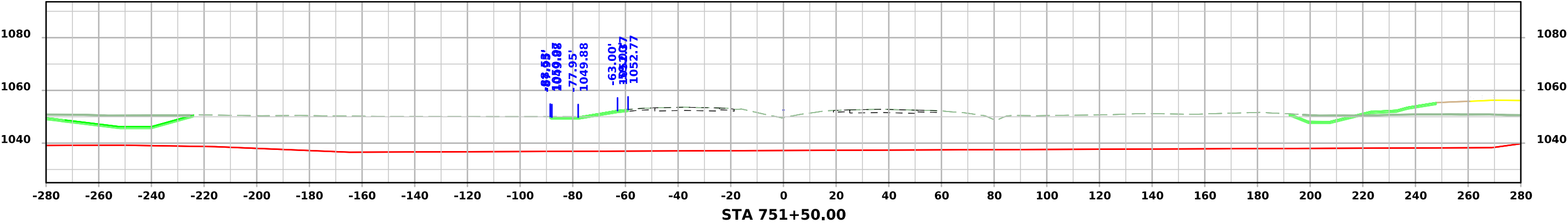
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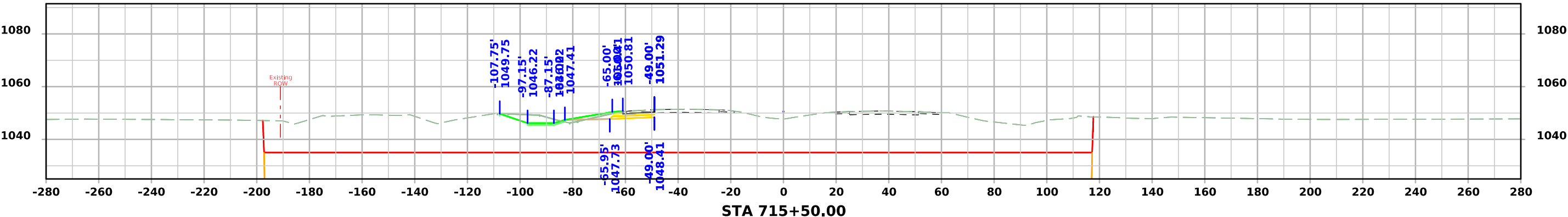
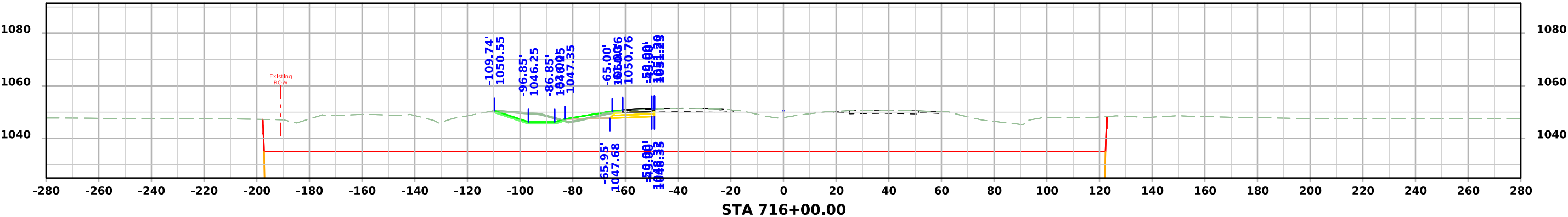
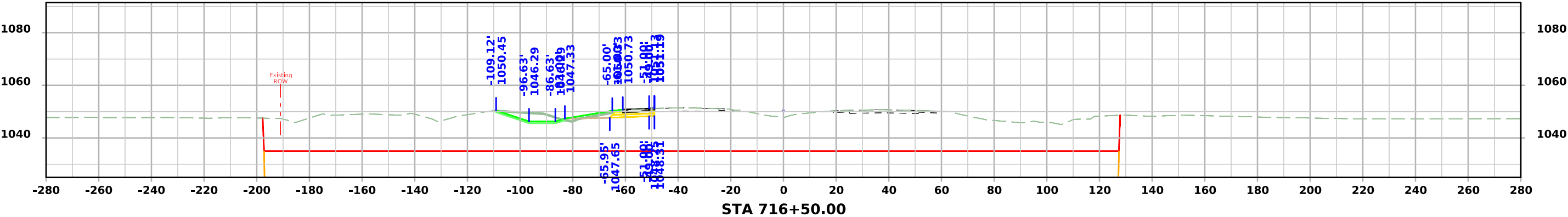
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I-29 - Stage 1

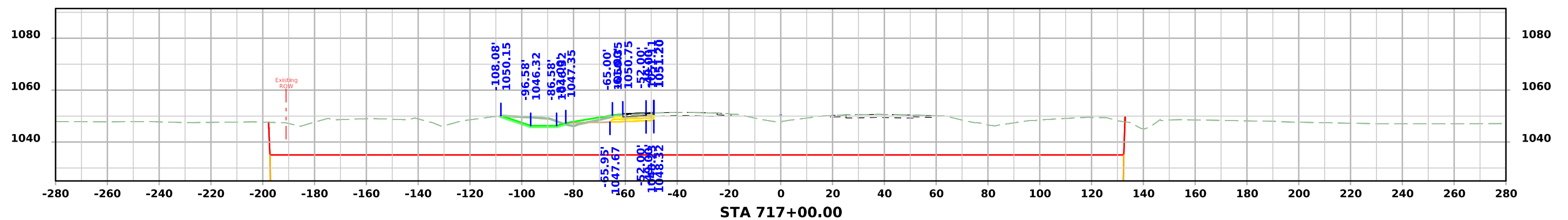
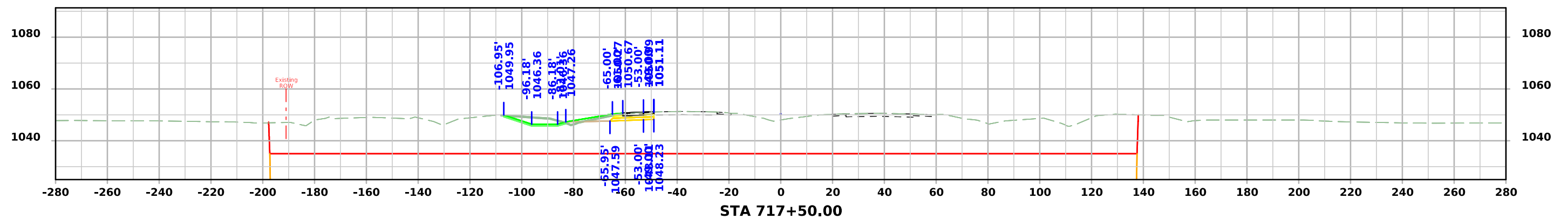
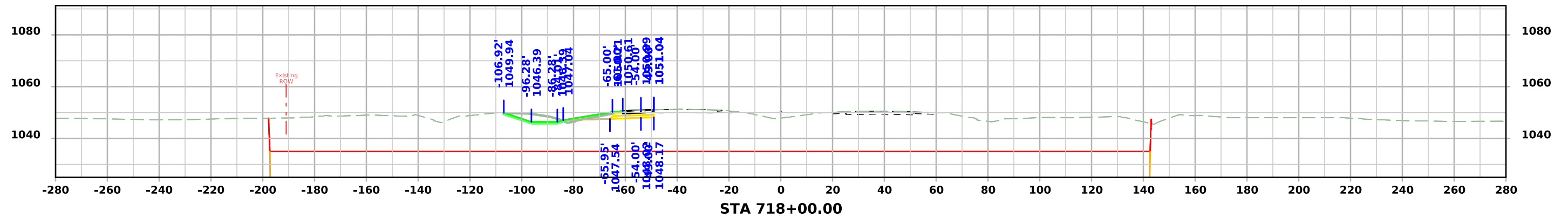


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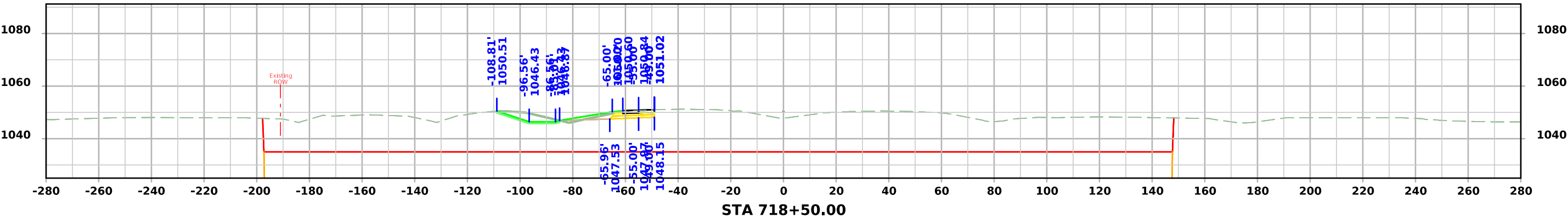
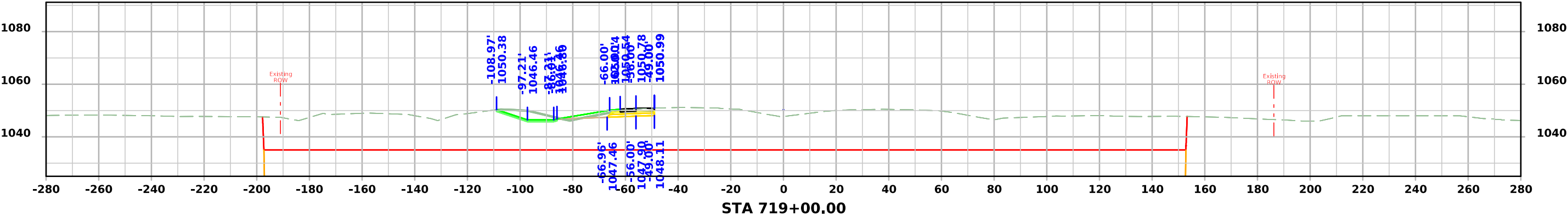
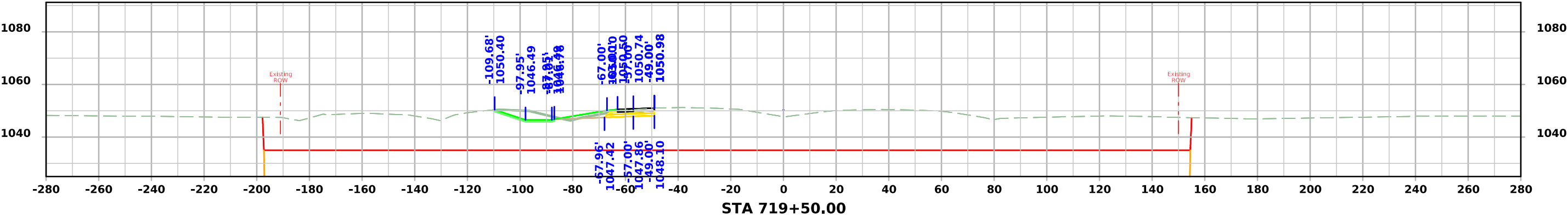




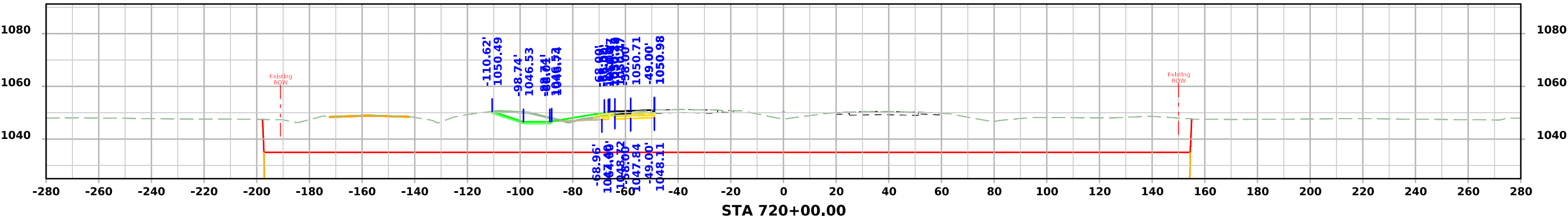
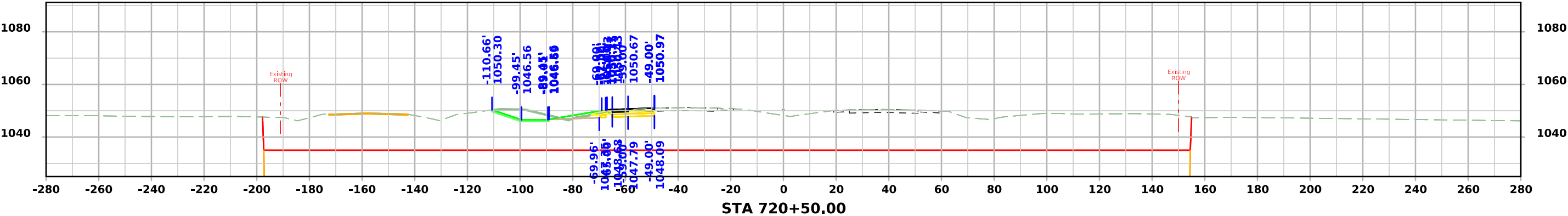
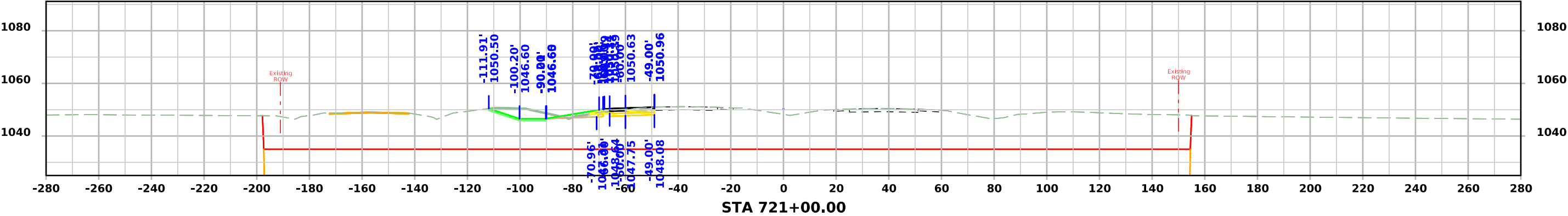
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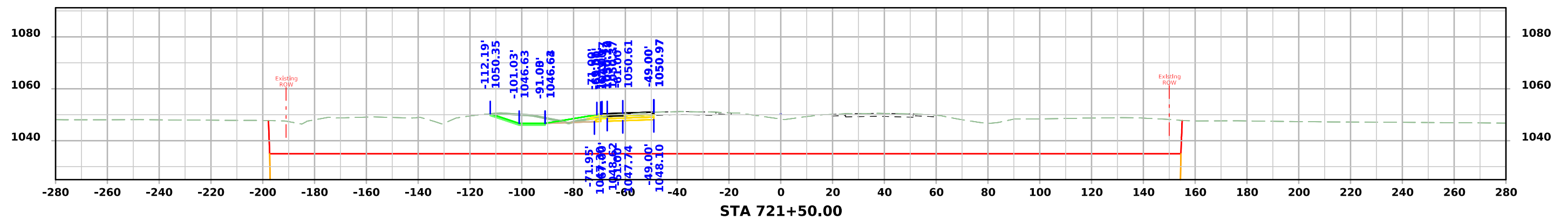
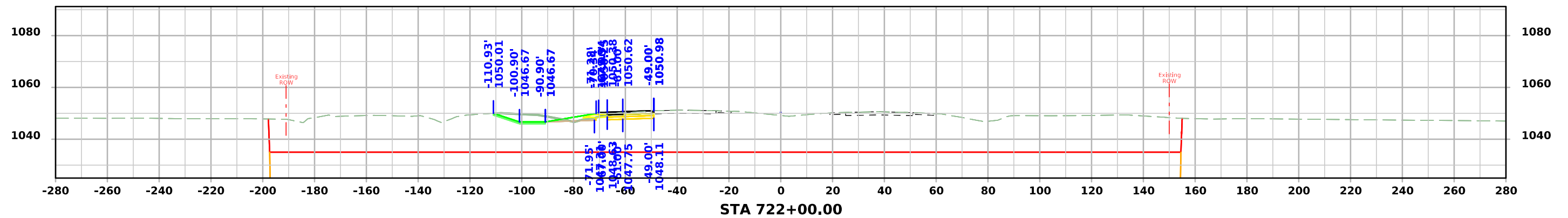
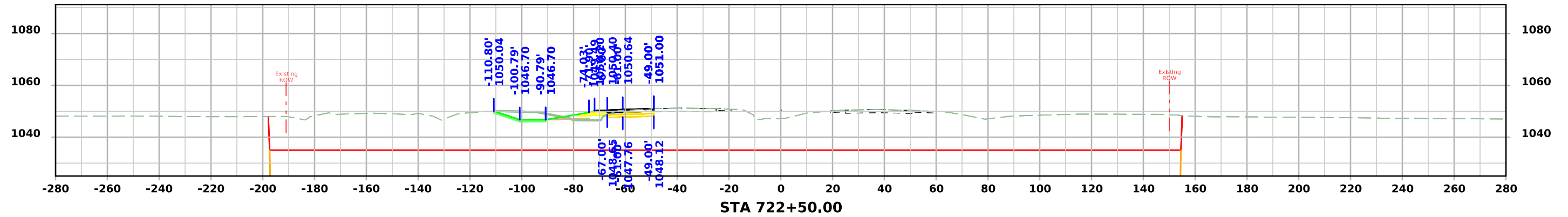
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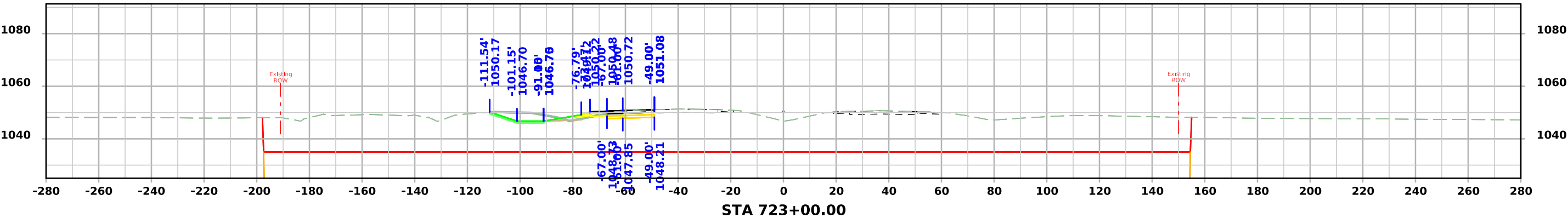
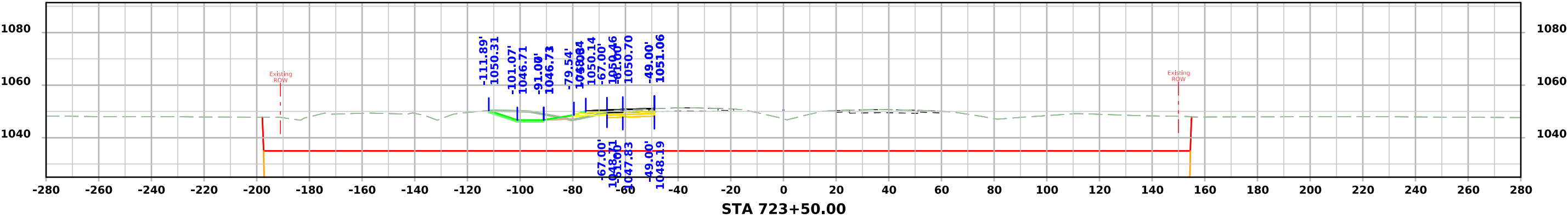
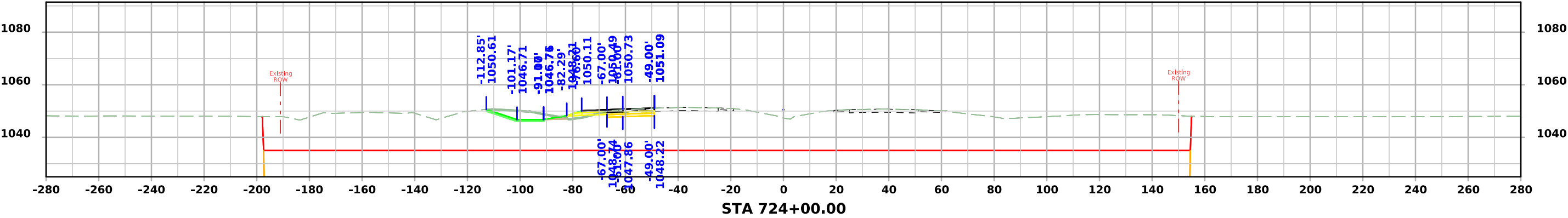
I-29 - Stage 2



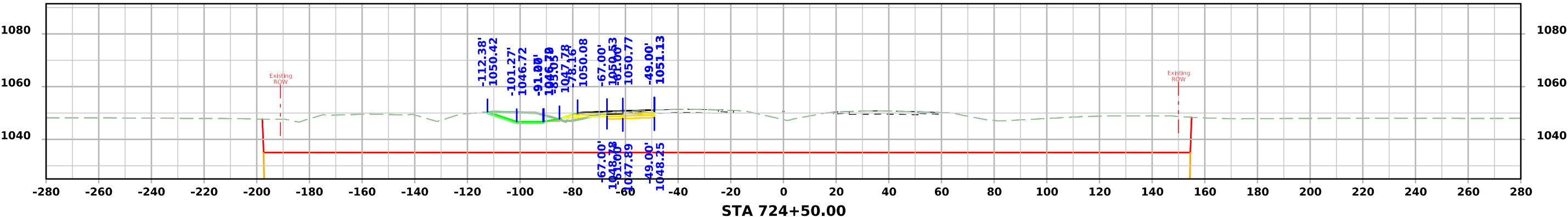
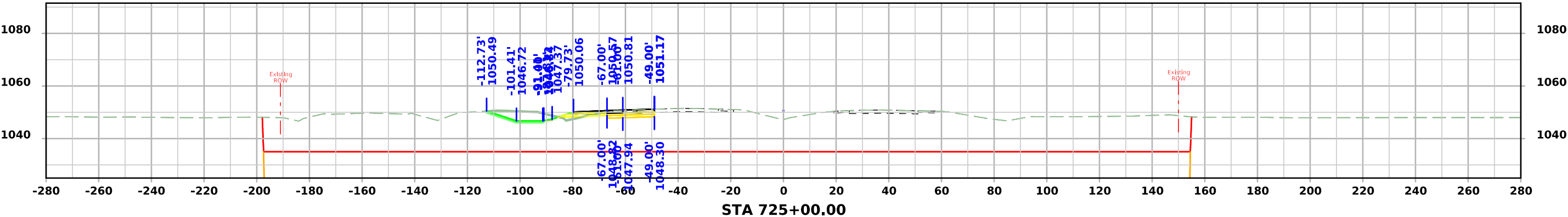
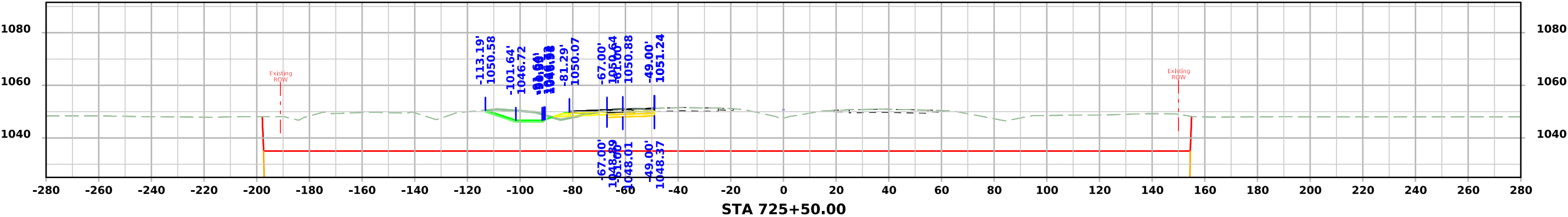
## I-29 - Stage 2



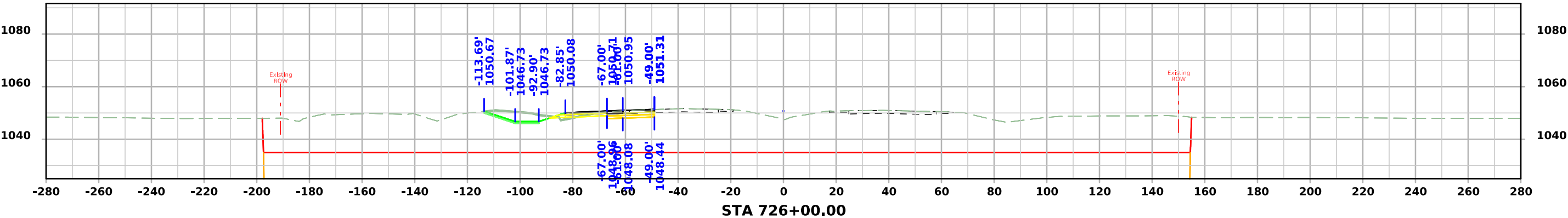
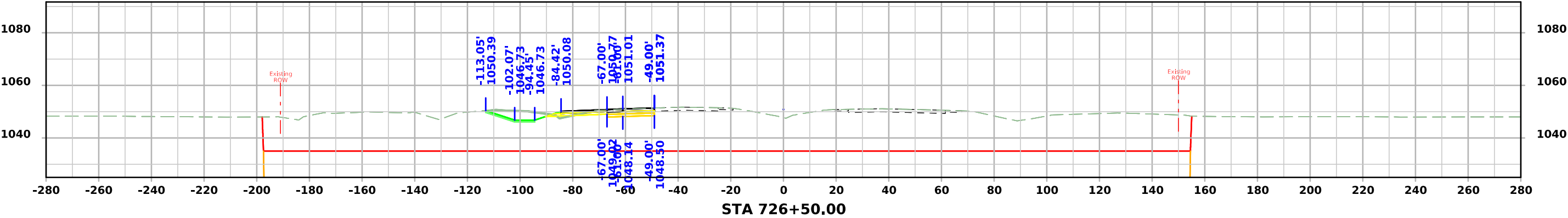
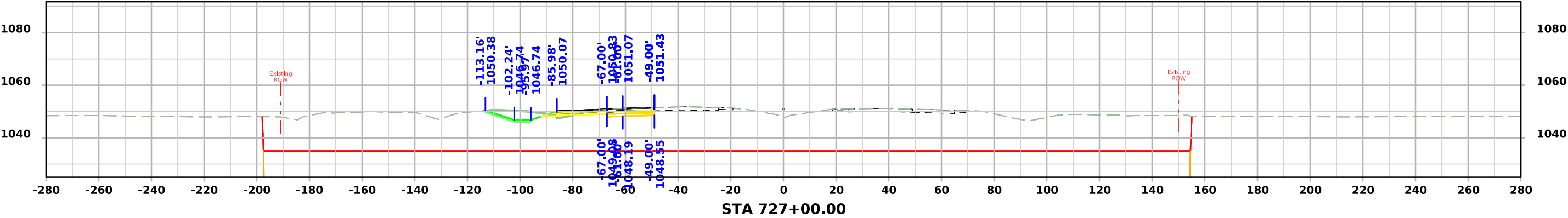
I-29 - Stage 2



I-29 - Stage 2

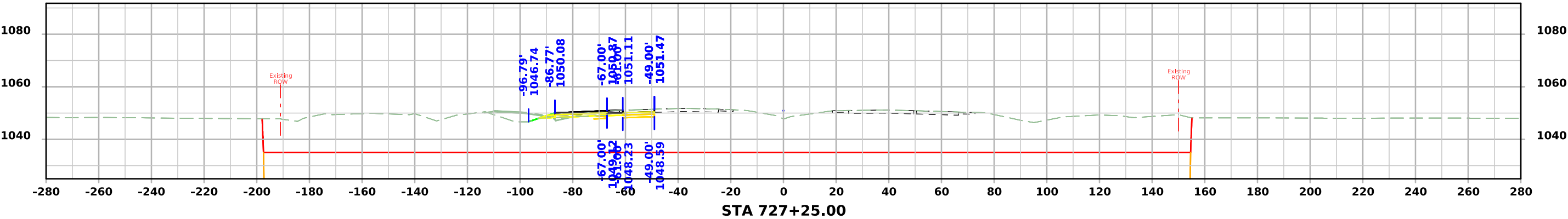
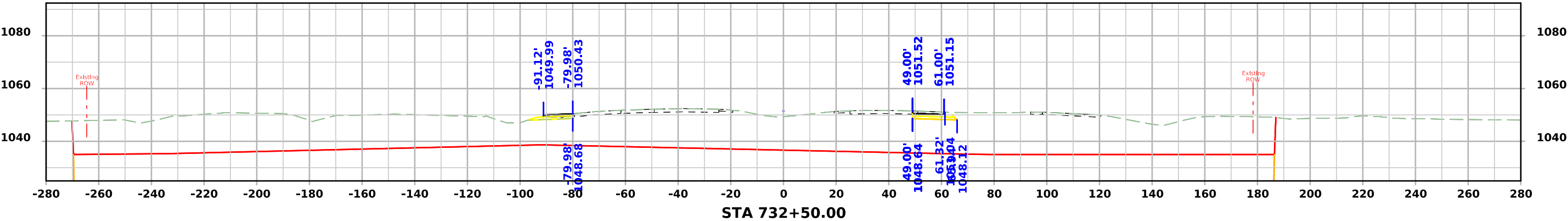
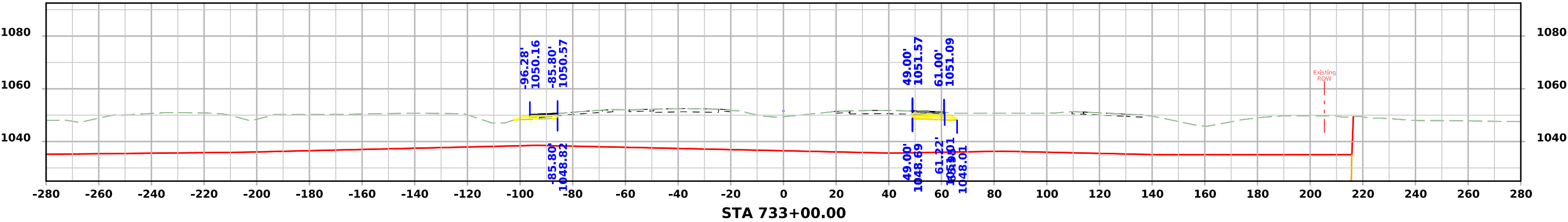


I-29 - Stage 2

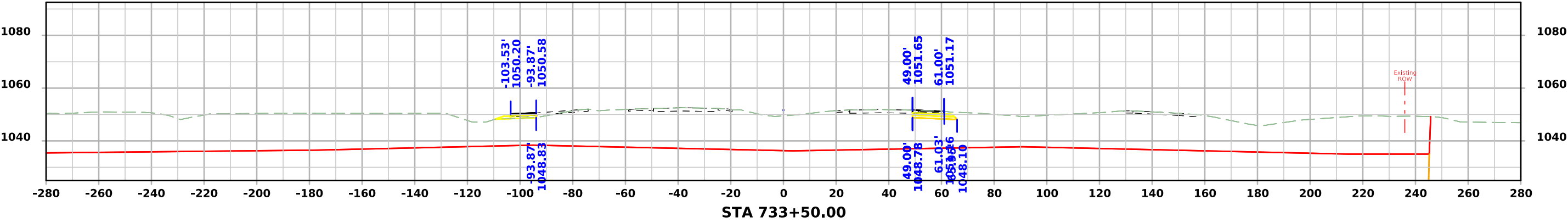
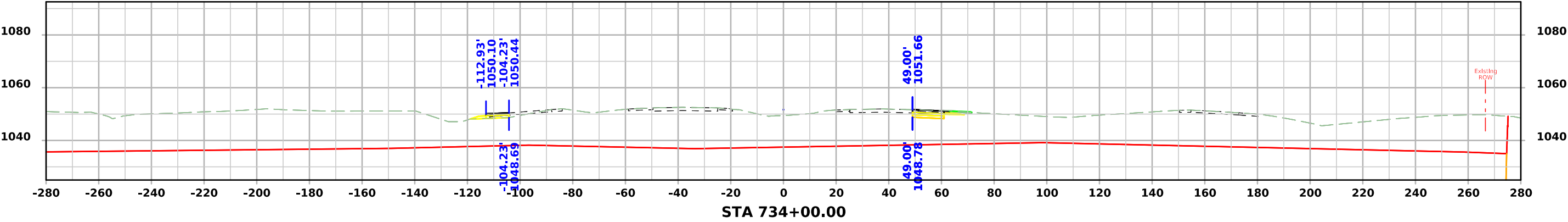
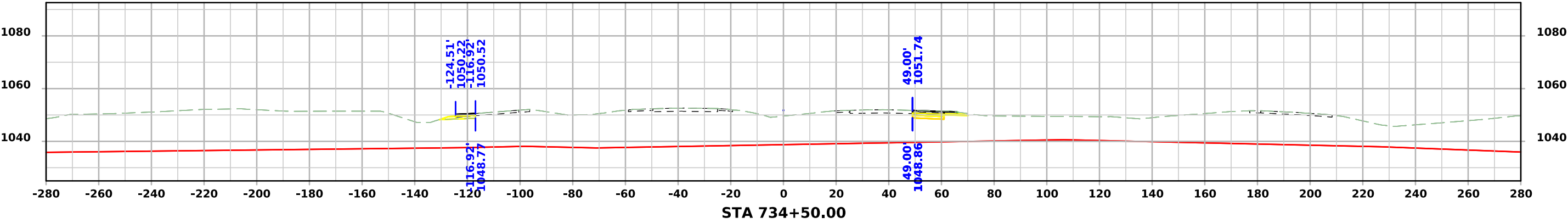




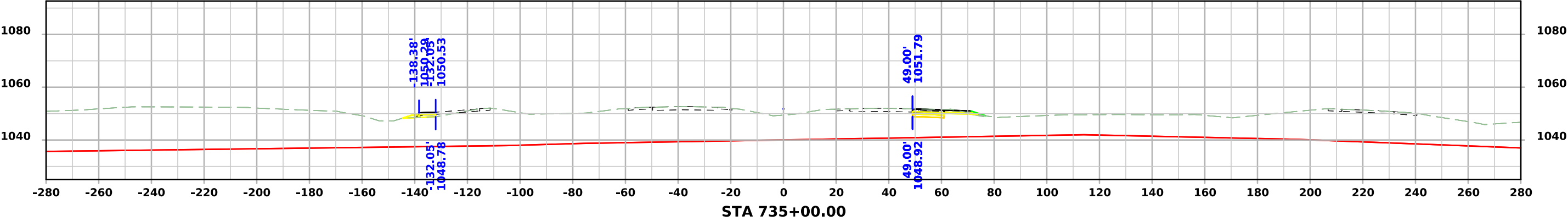
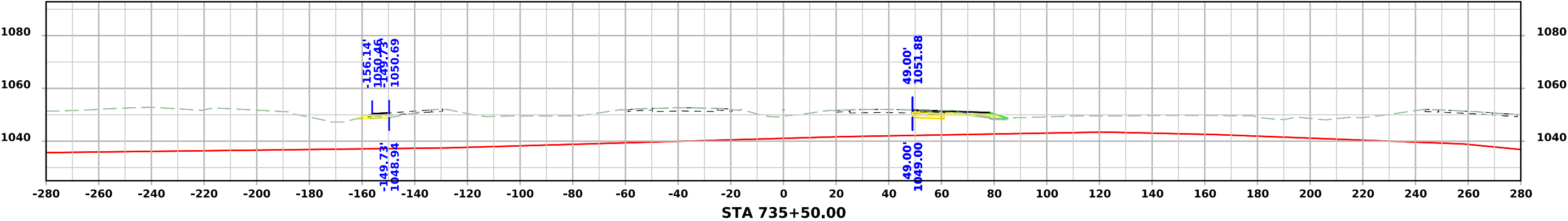
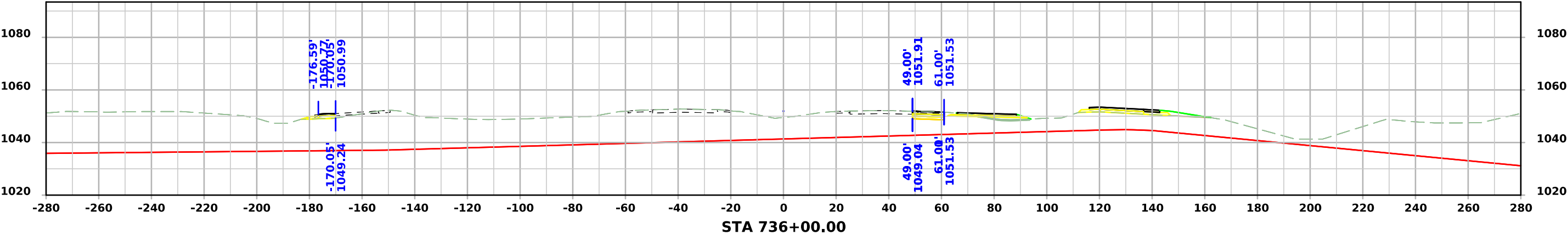
I-29 - Stage 2



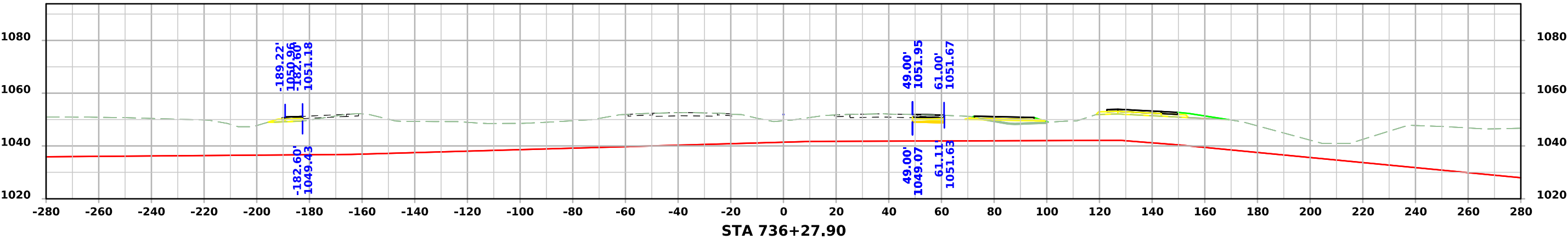
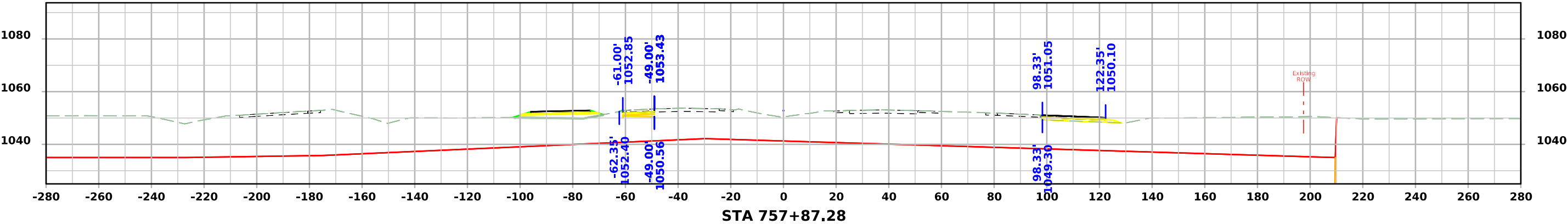
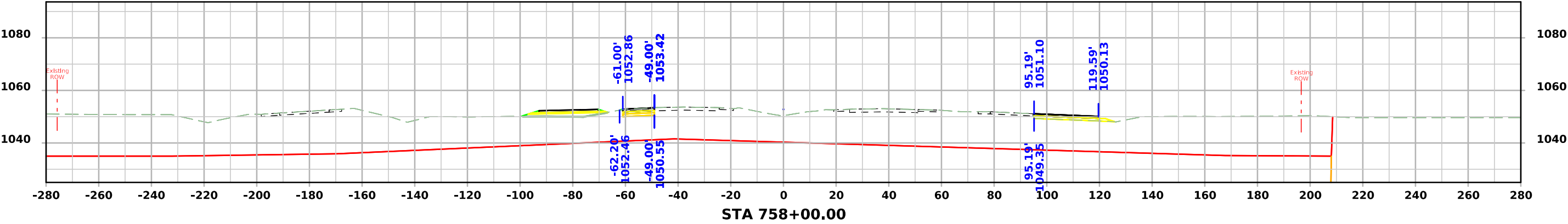
I-29 - Stage 2



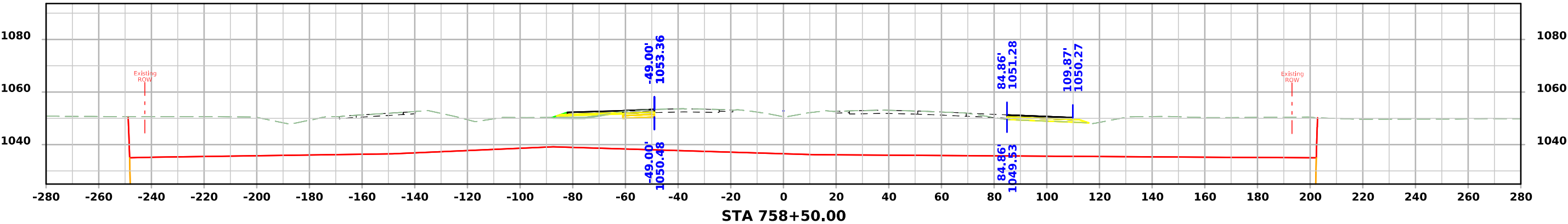
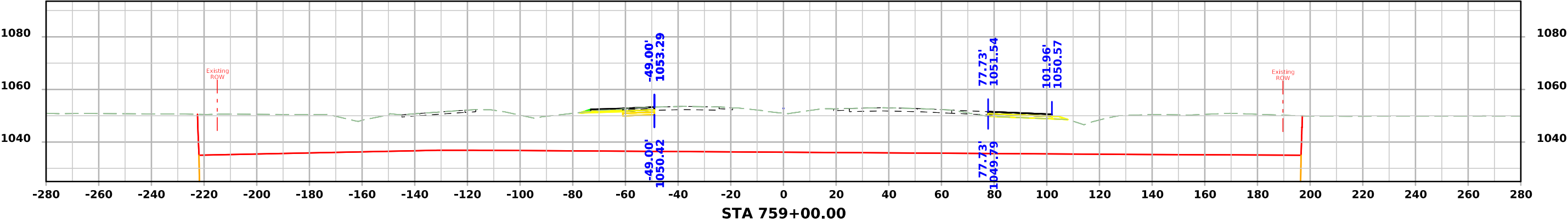
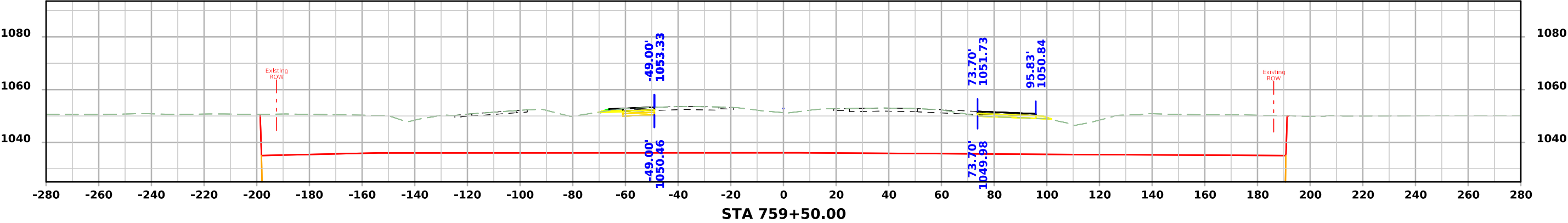
I-29 - Stage 2



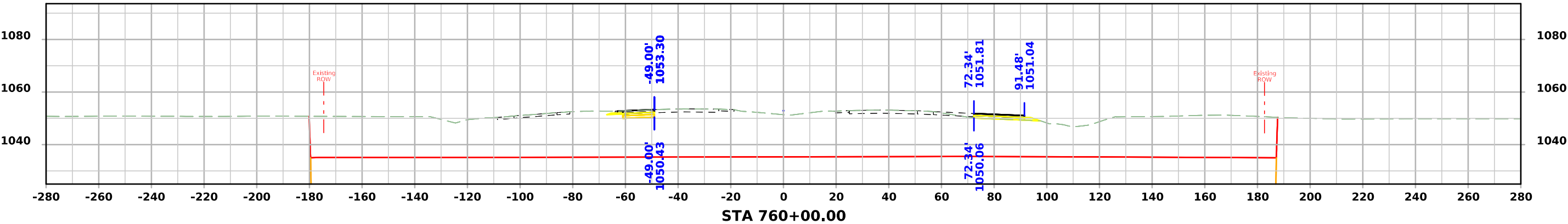
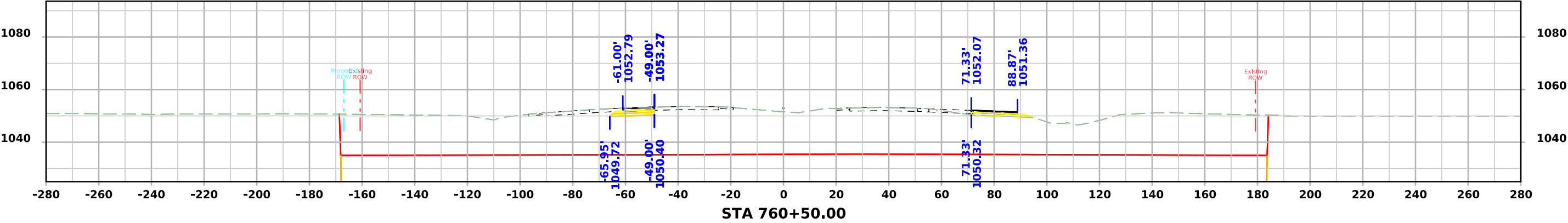
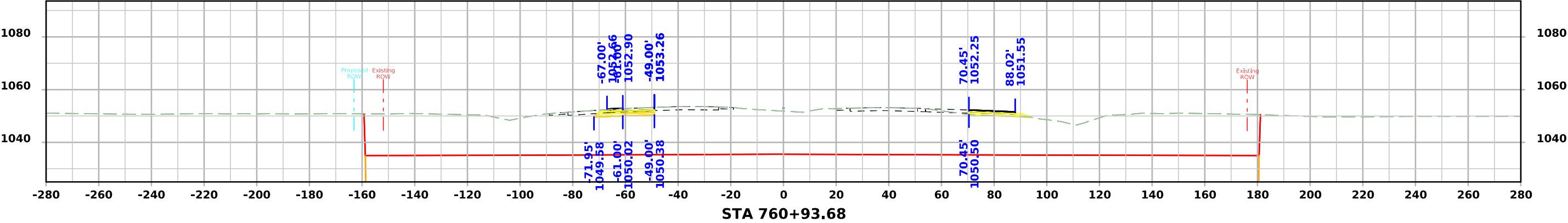
I-29 - Stage 2



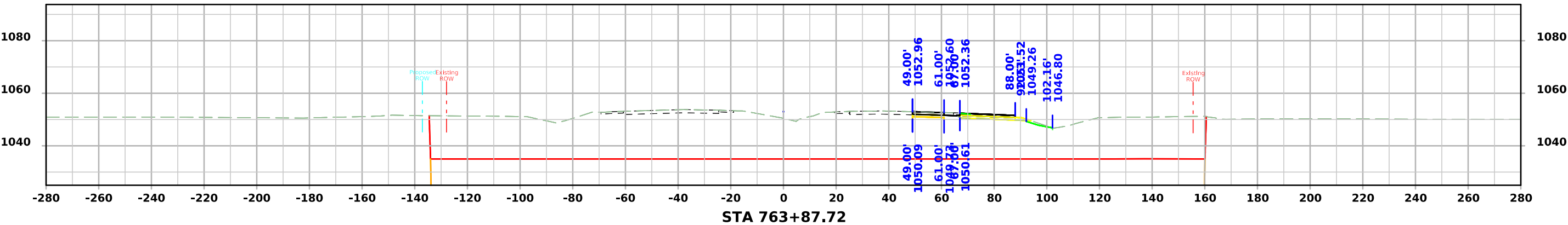
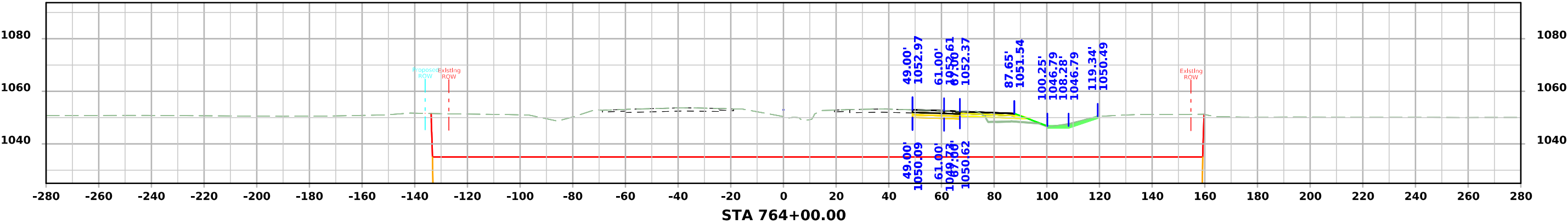
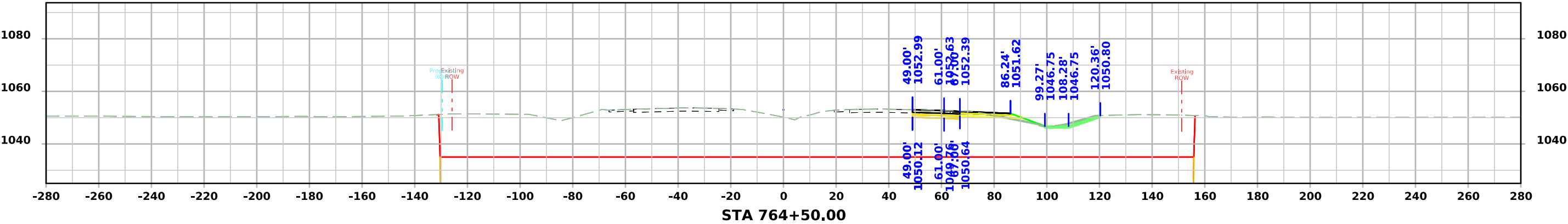
I-29 - Stage 2



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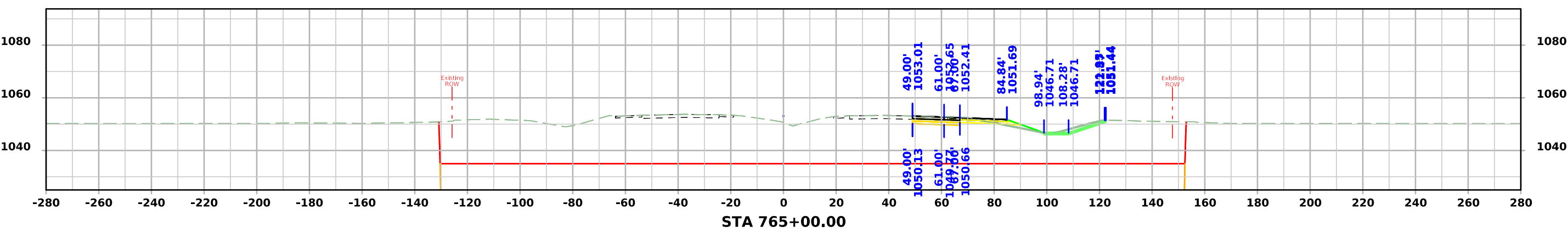
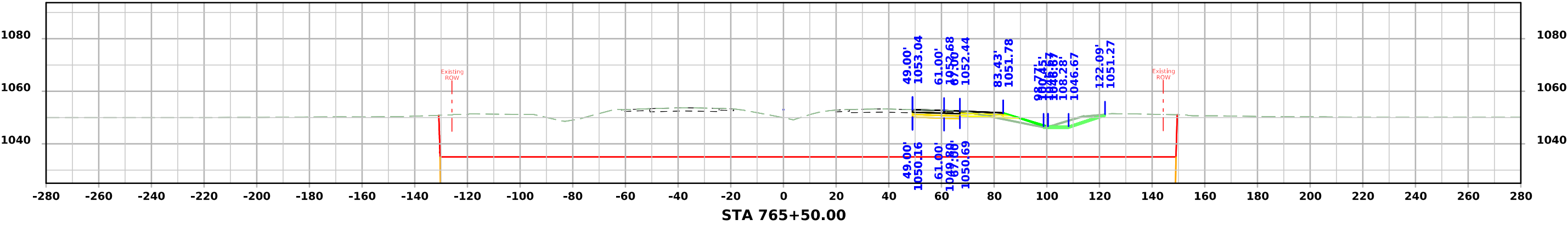
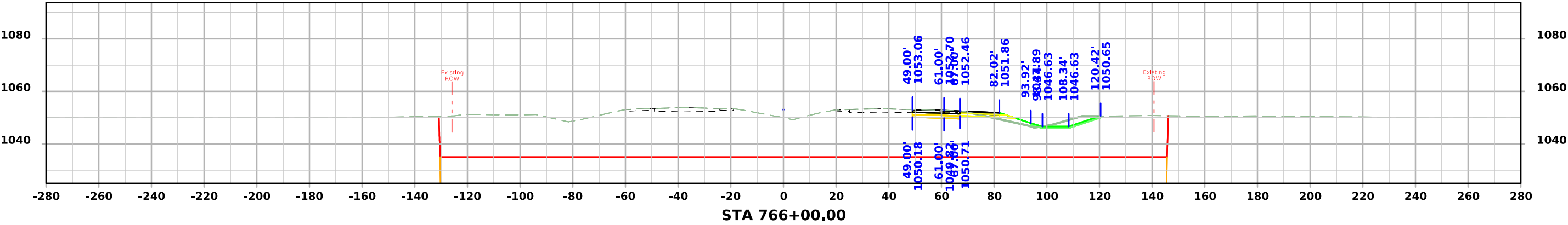


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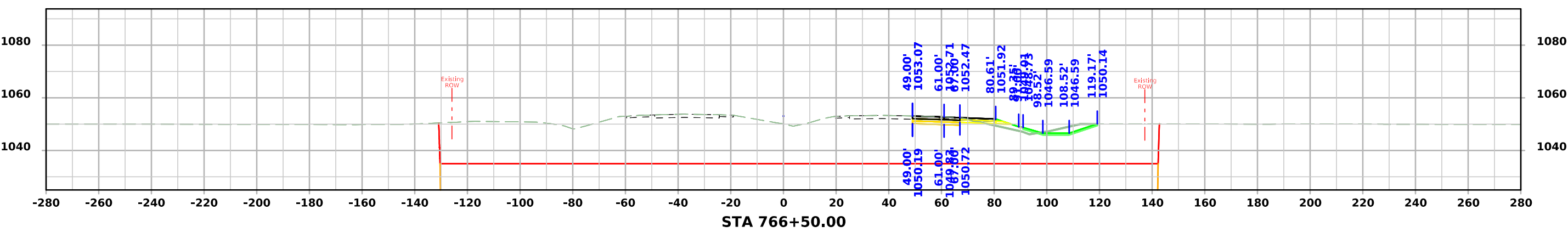
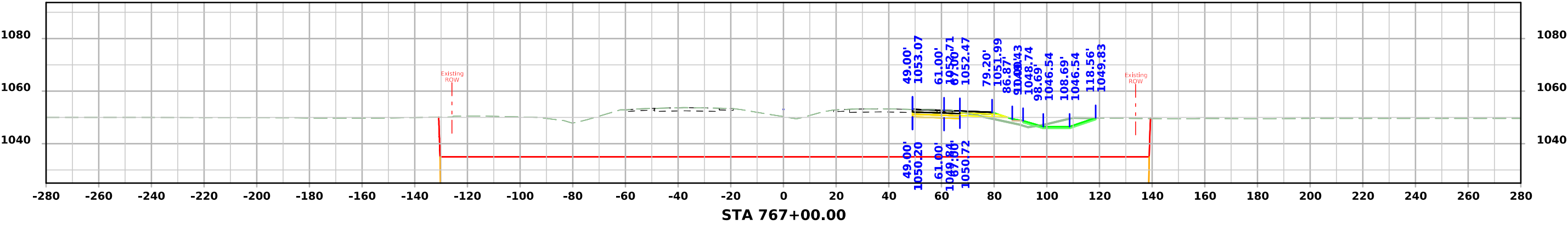
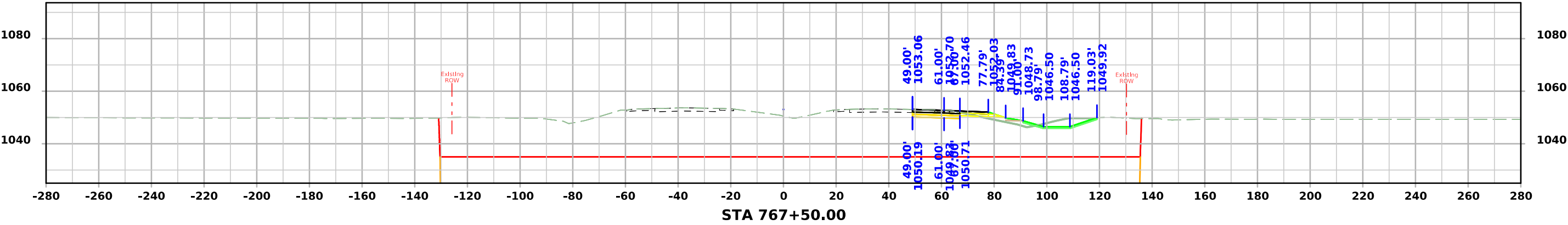




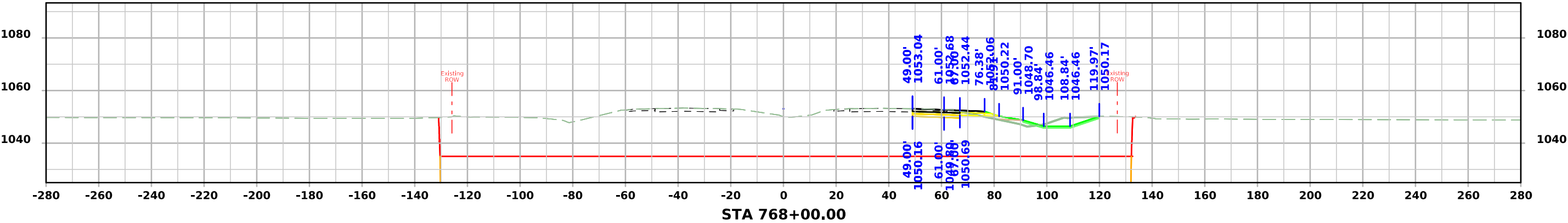
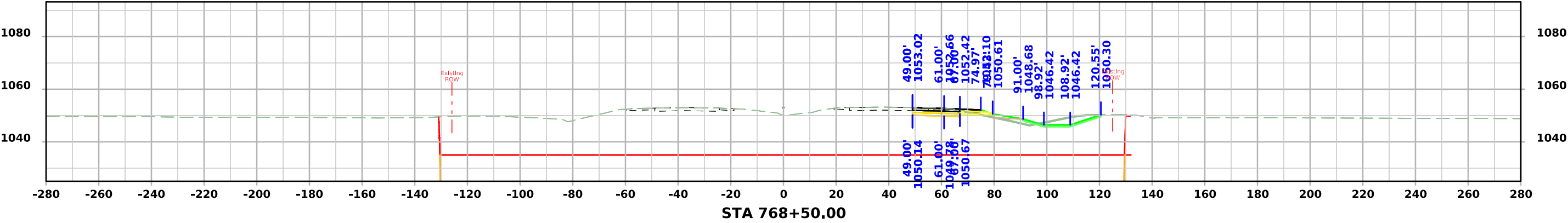
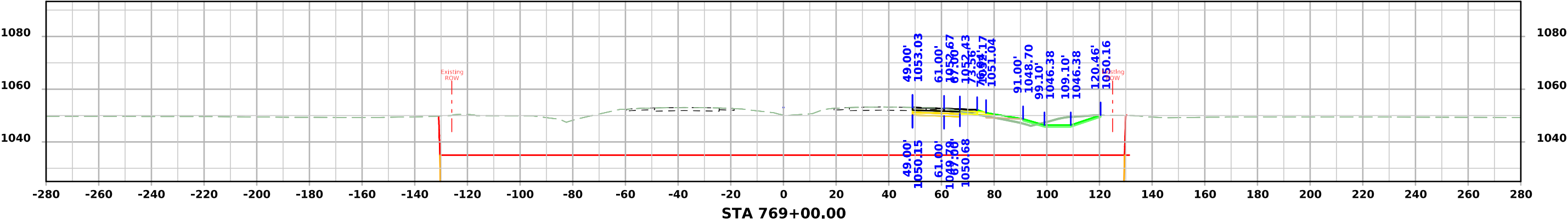
I-29 - Stage 2



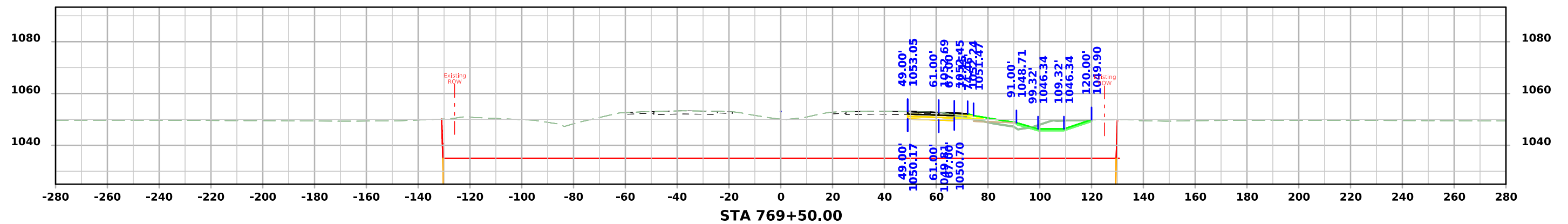
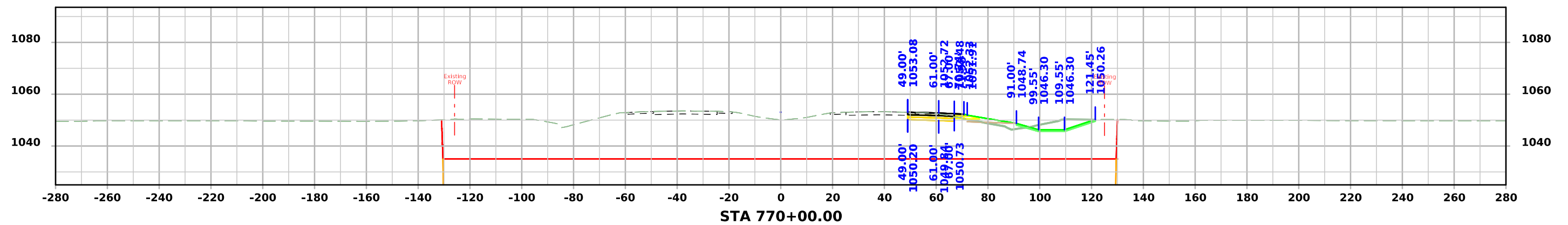
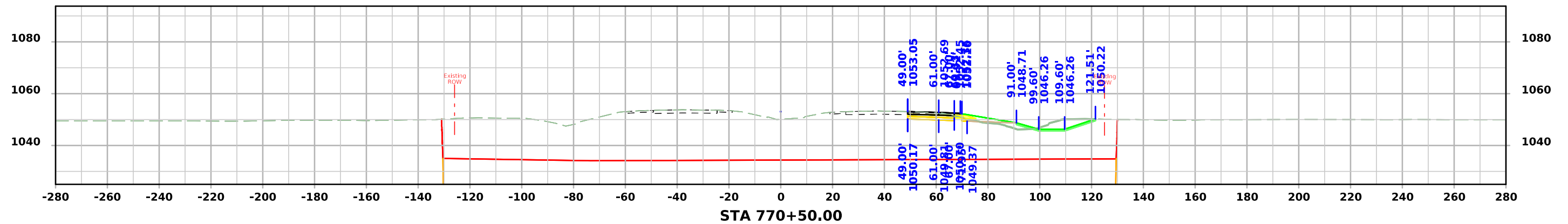
I-29 - Stage 2



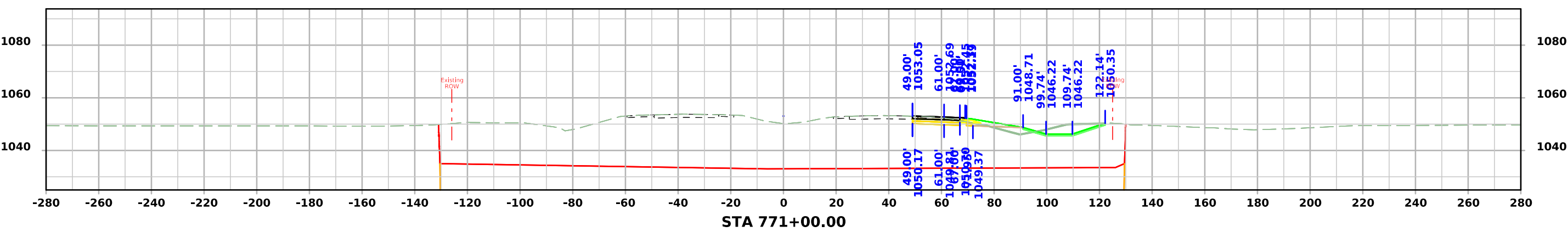
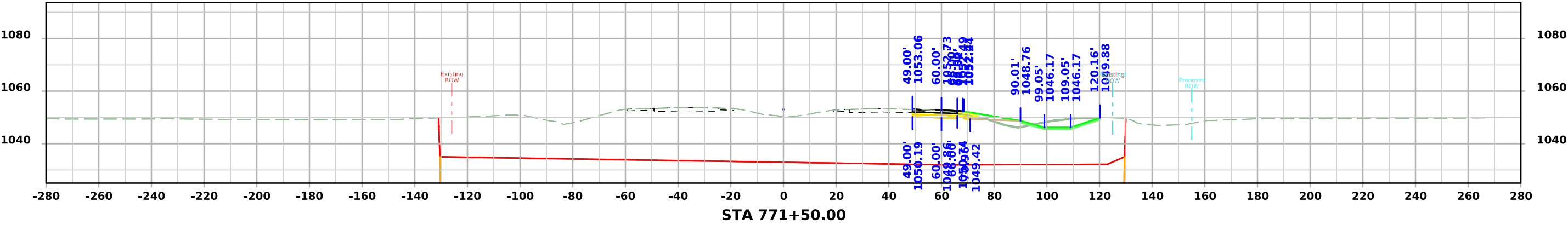
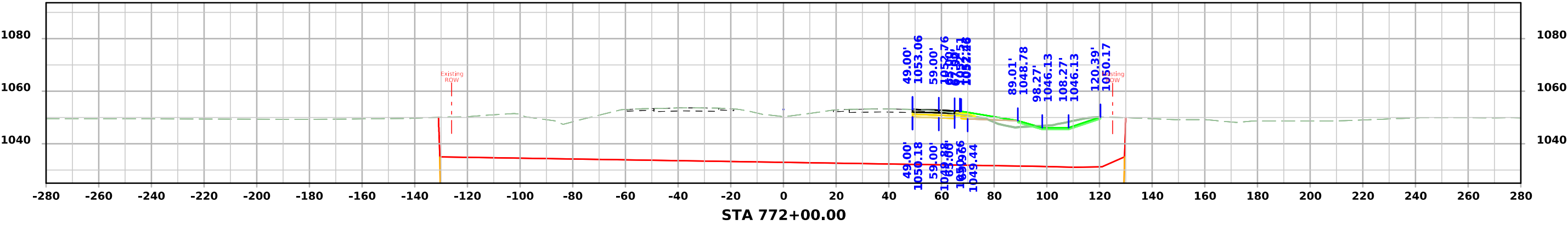
I-29 - Stage 2



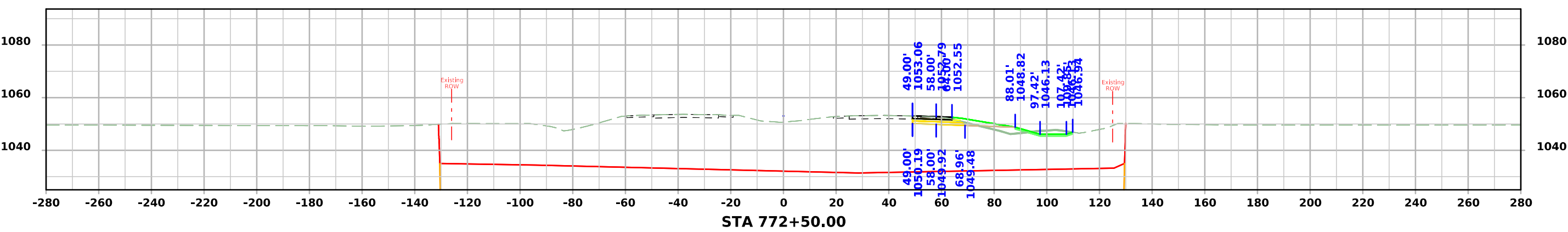
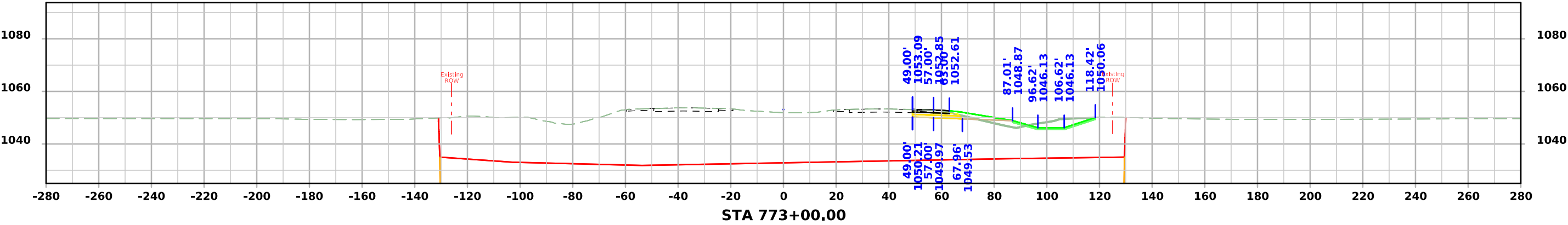
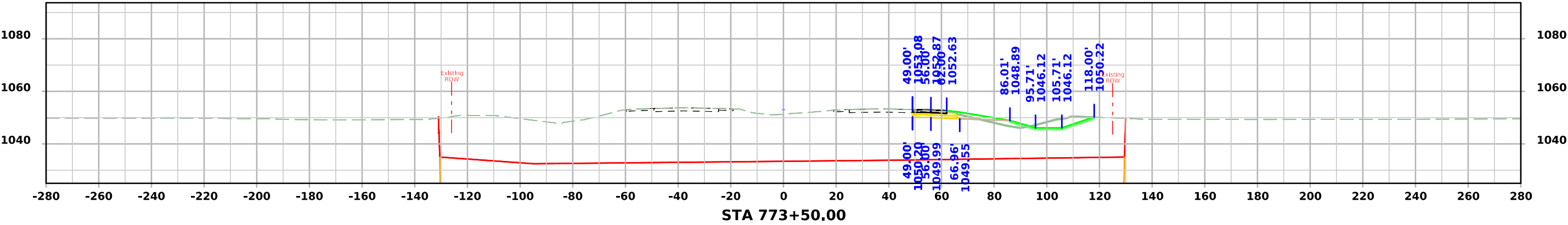
## I-29 - Stage 2



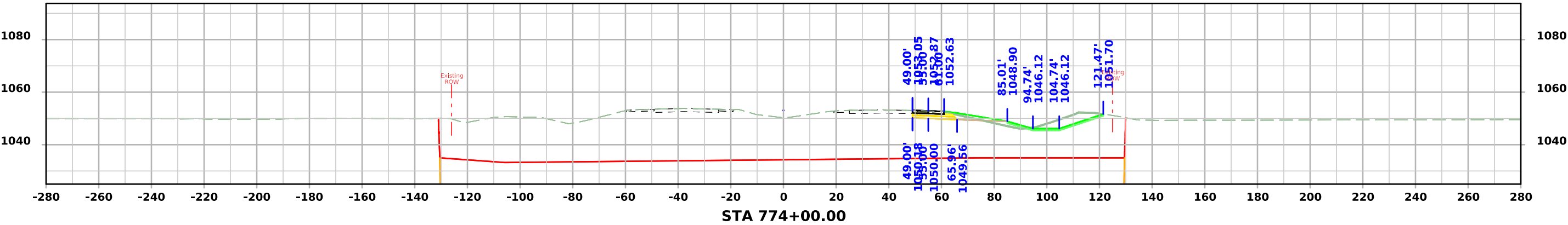
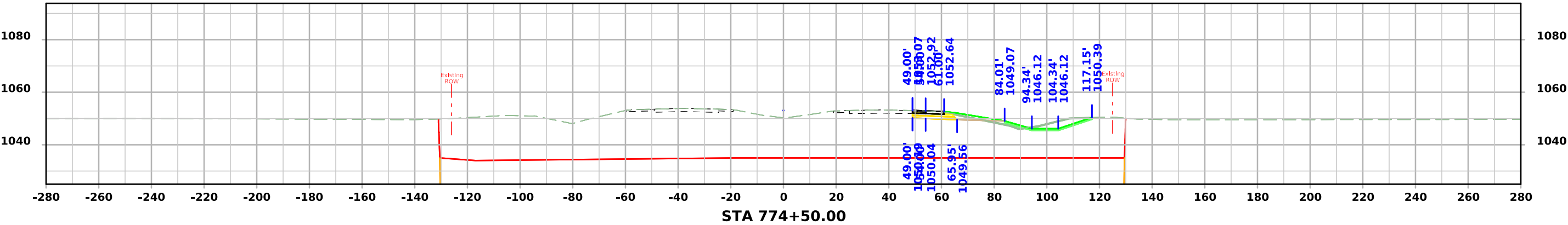
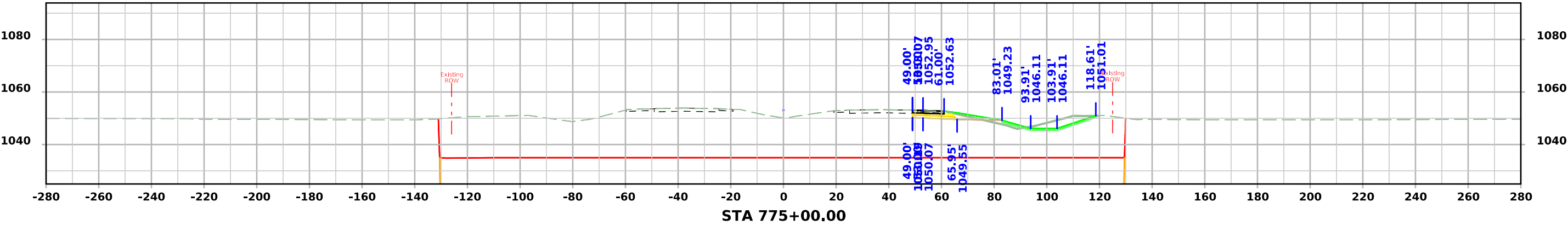
I-29 - Stage 2



I-29 - Stage 2

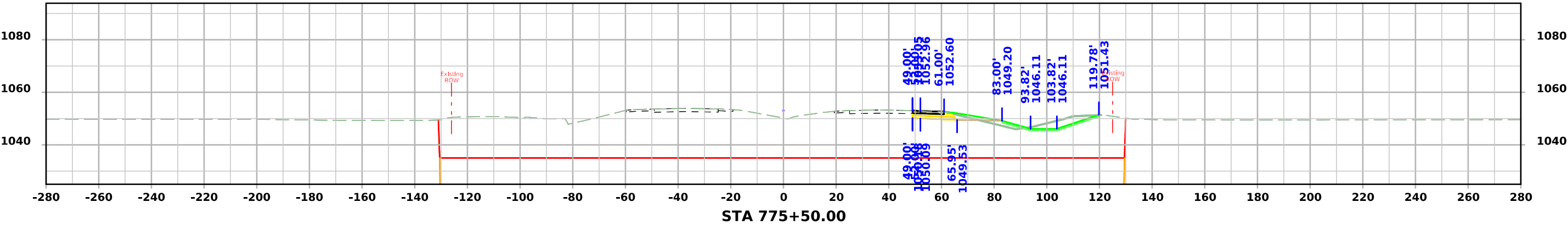
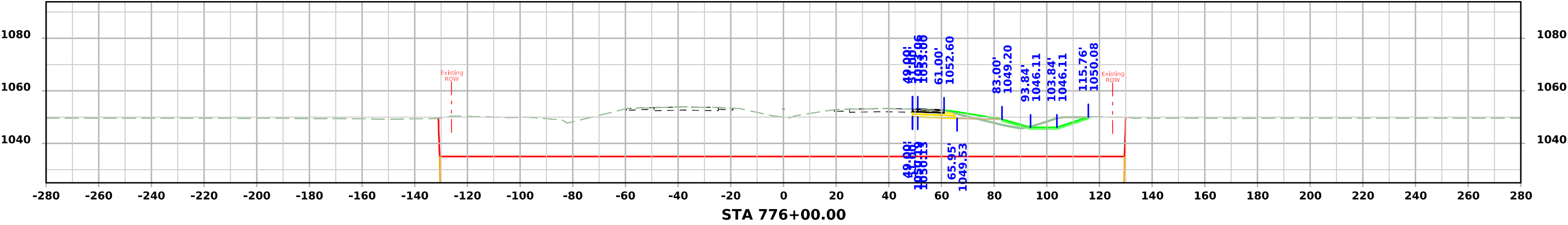
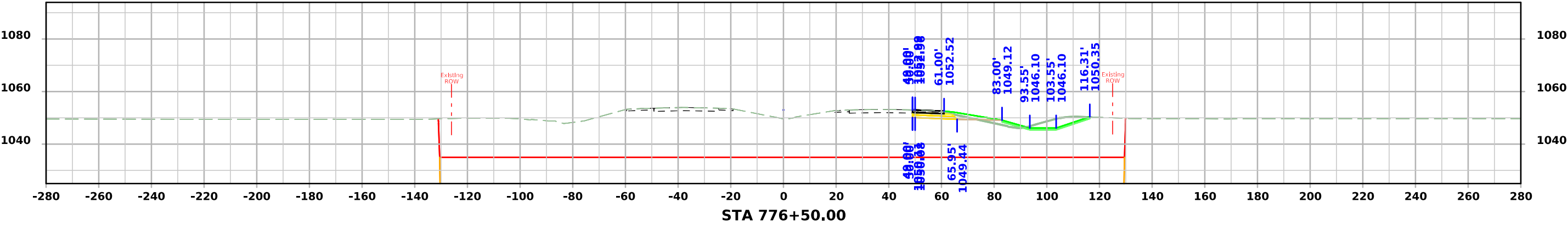


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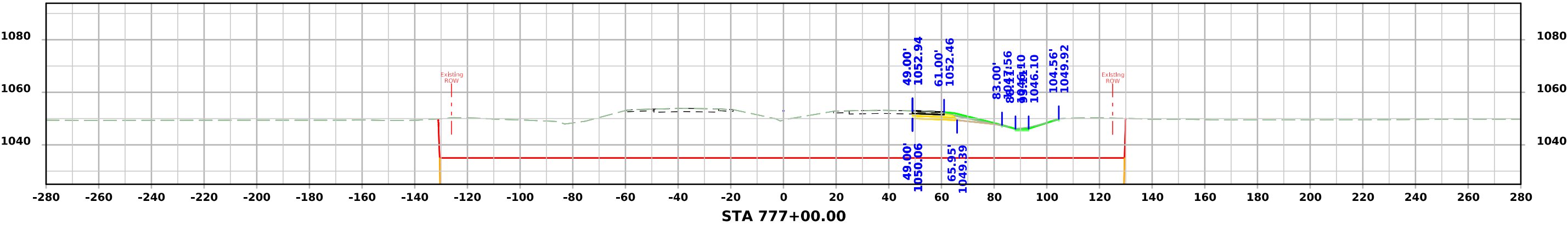




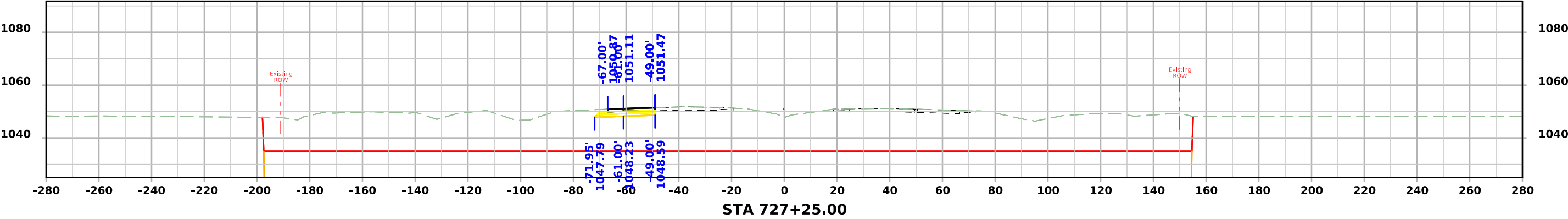
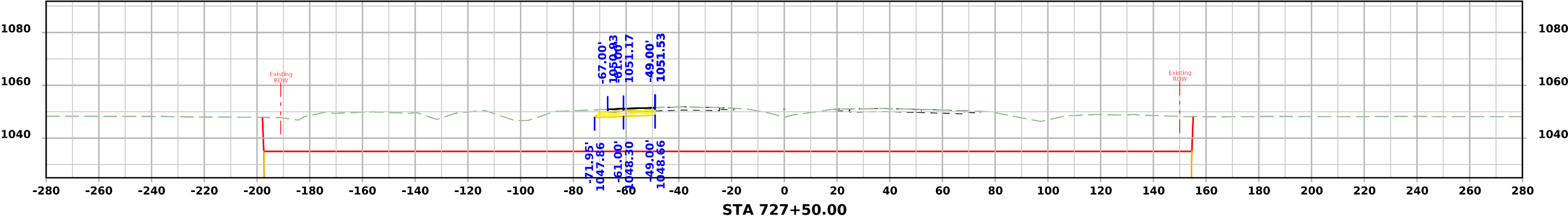
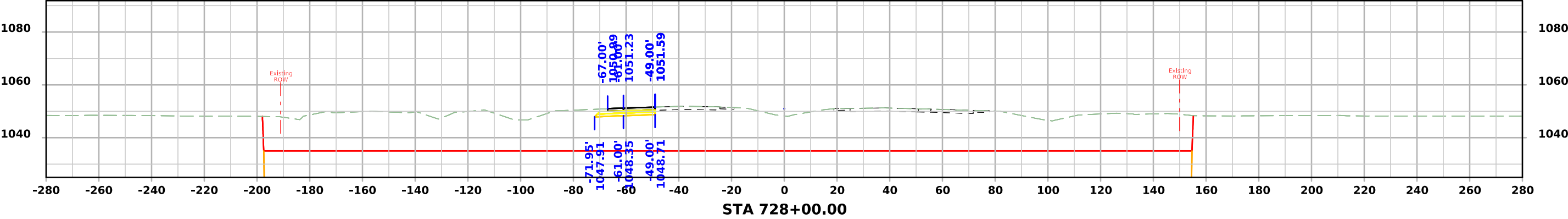
I-29 - Stage 2



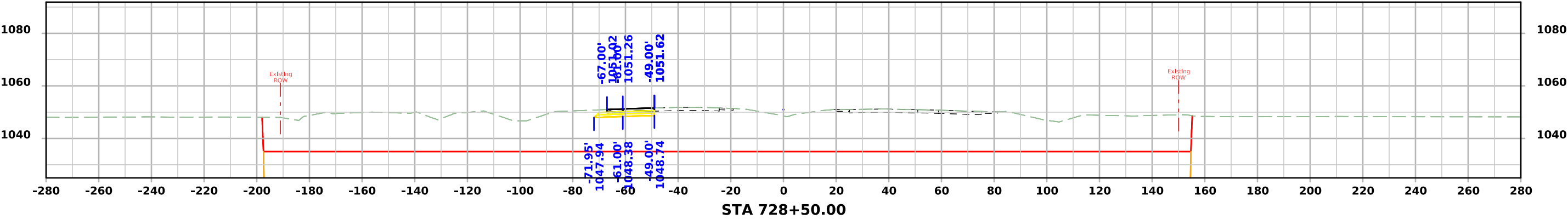
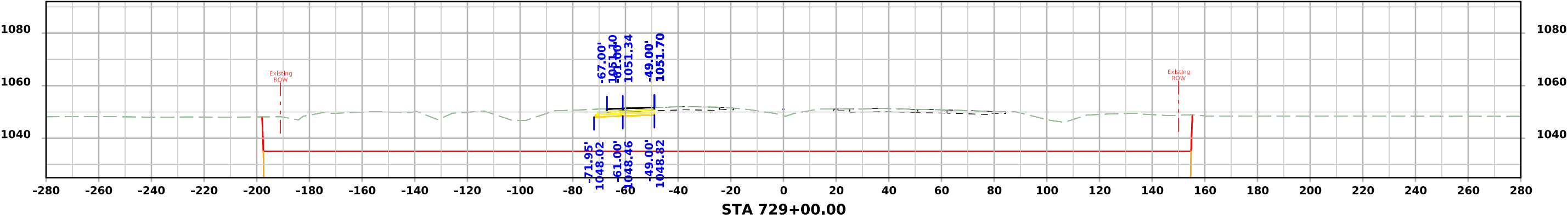
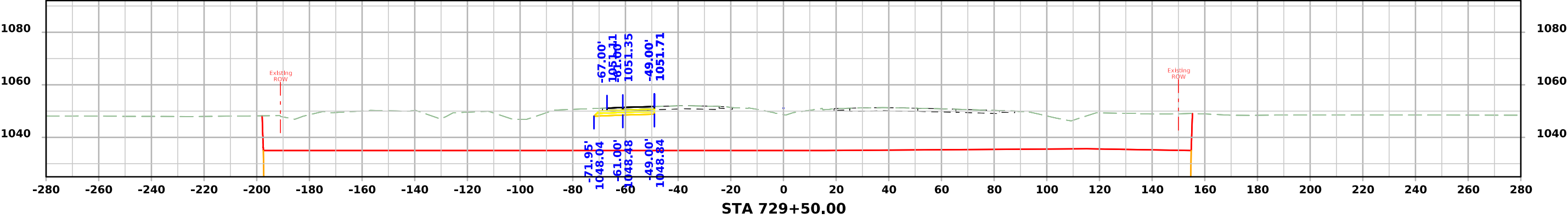
I-29 - Stage 2



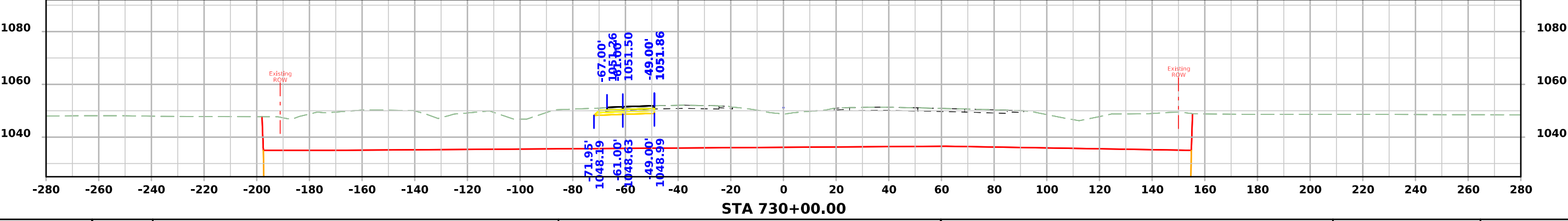
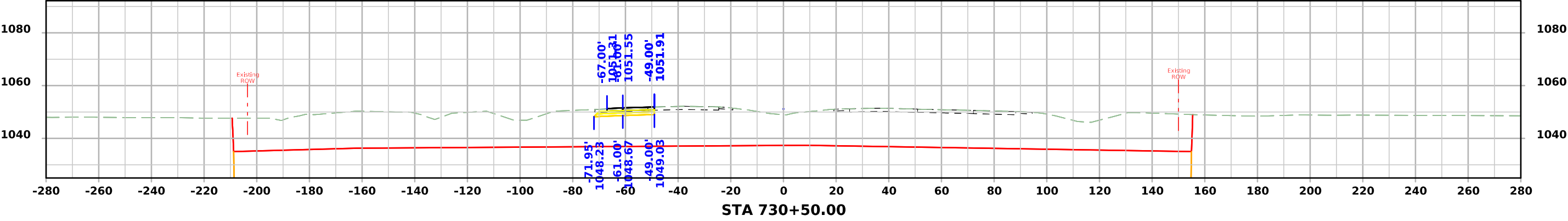
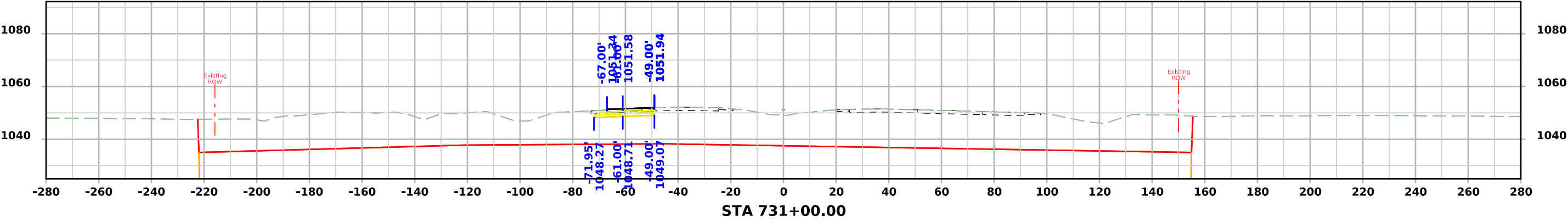
I-29 - Stage 3



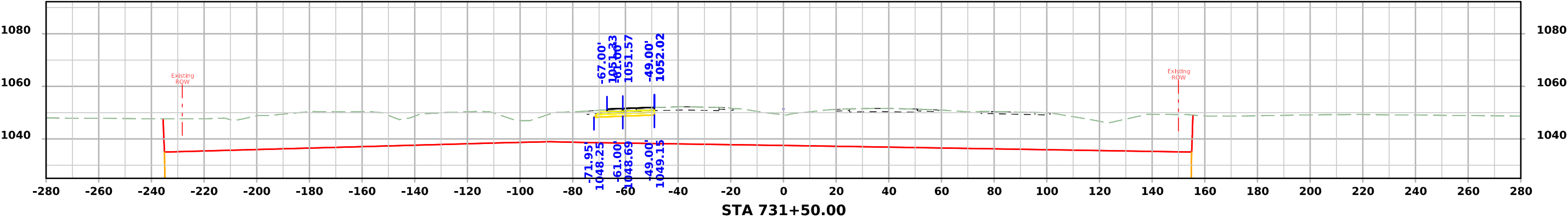
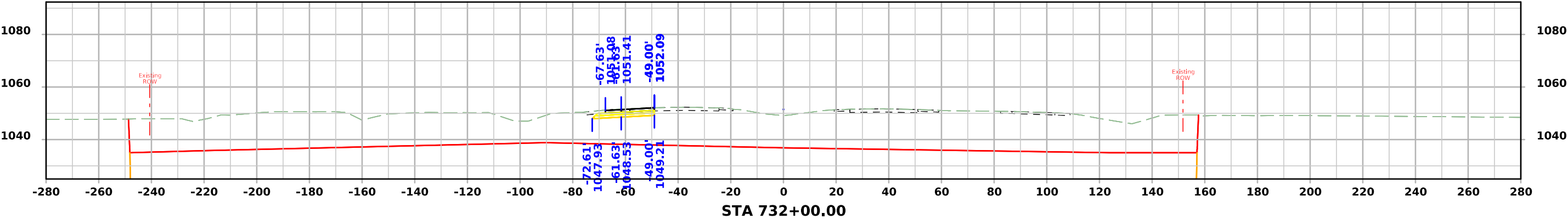
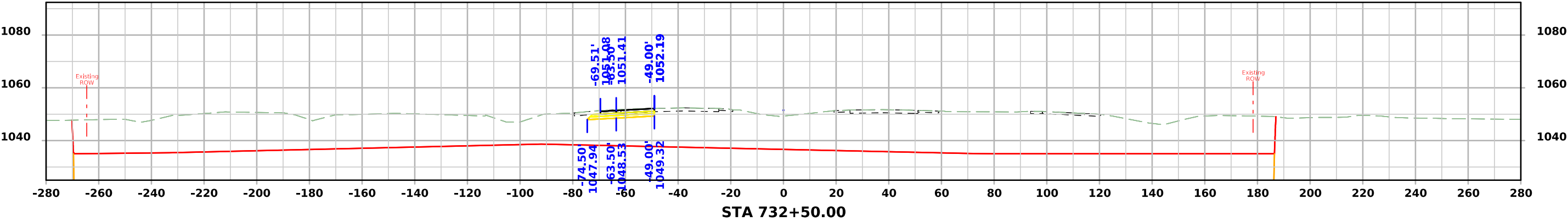
I-29 - Stage 3



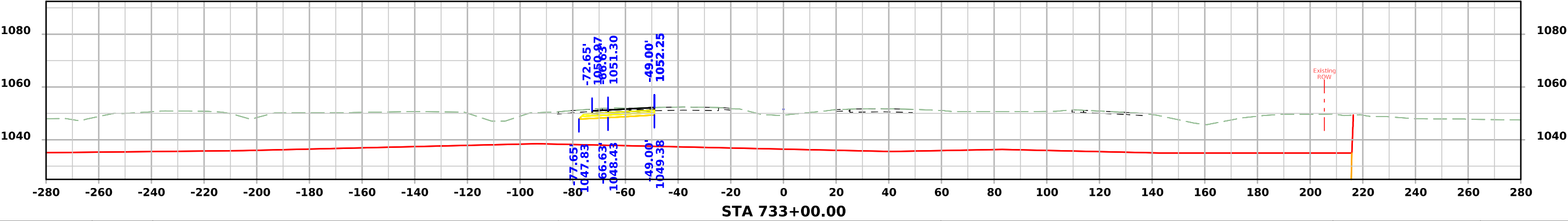
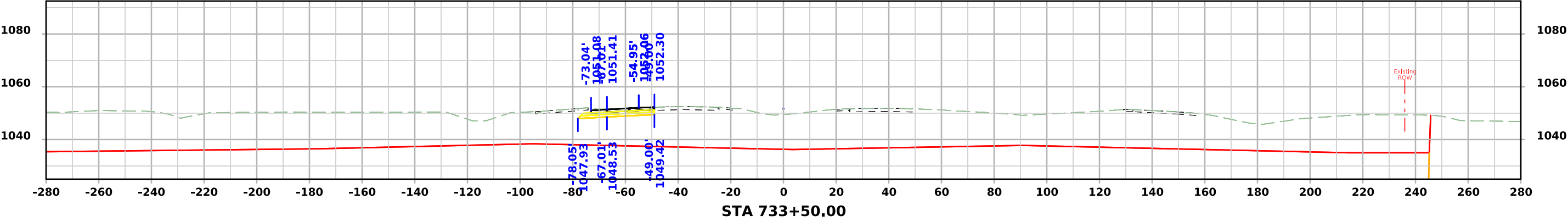
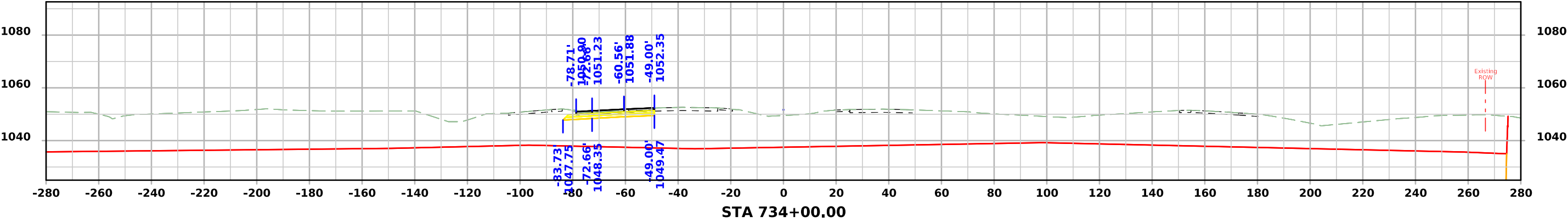
I-29 - Stage 3



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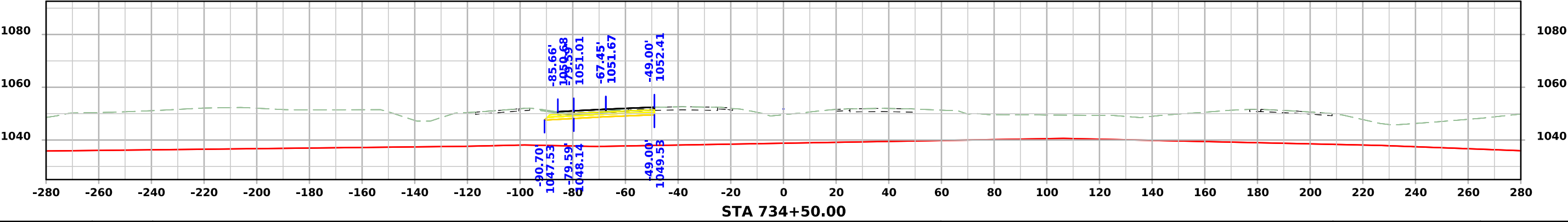
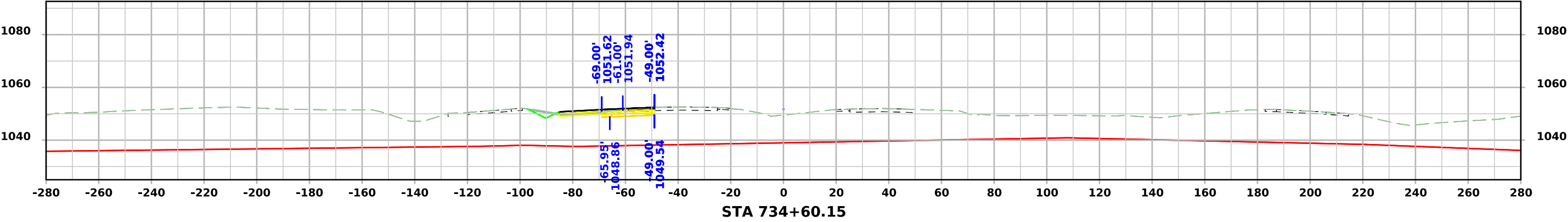
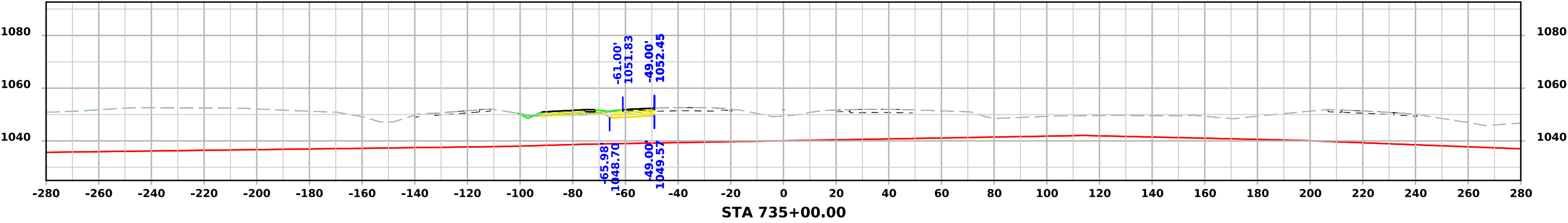


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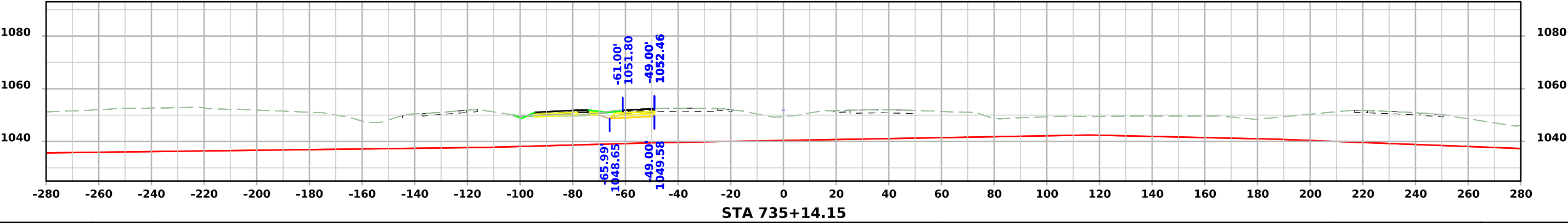
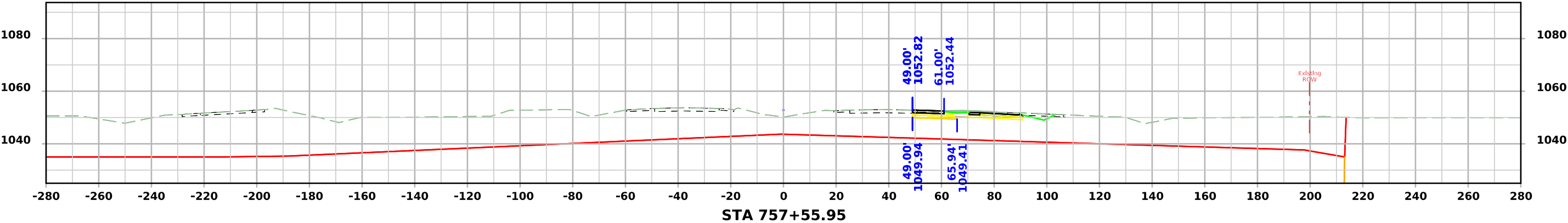
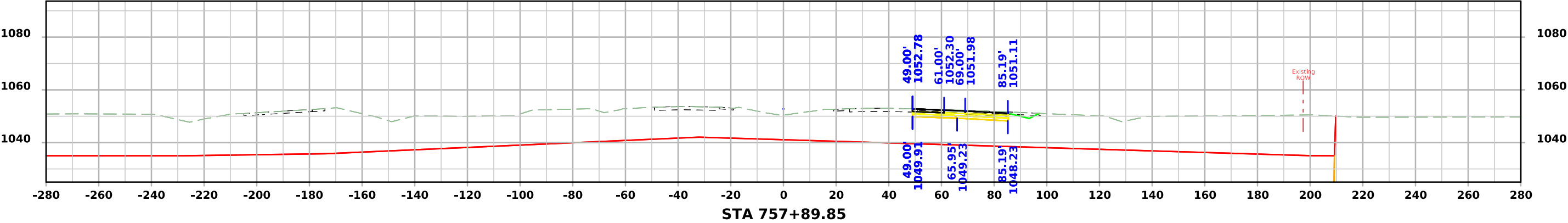




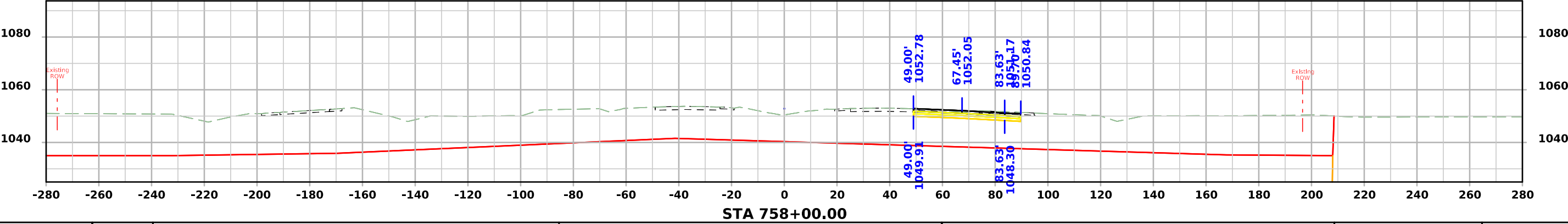
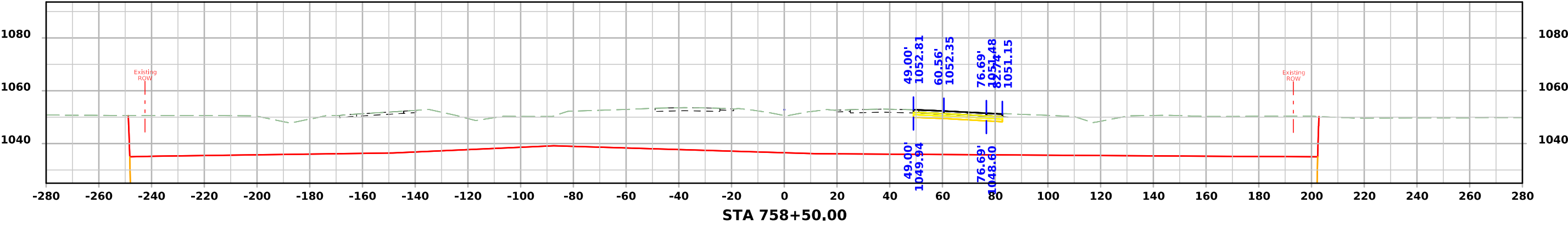
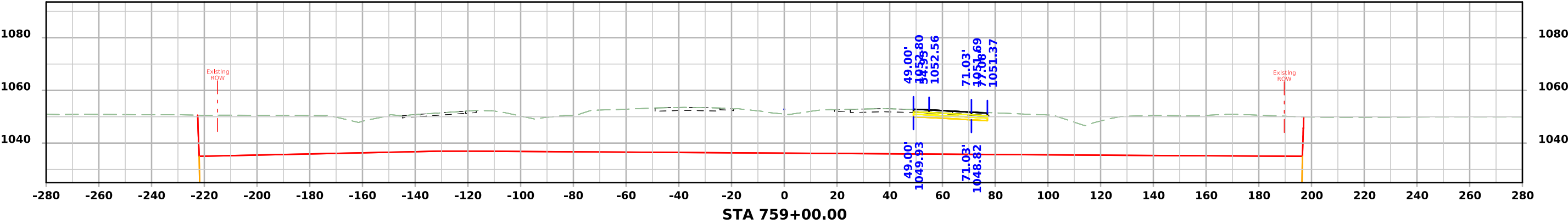
I-29 - Stage 3



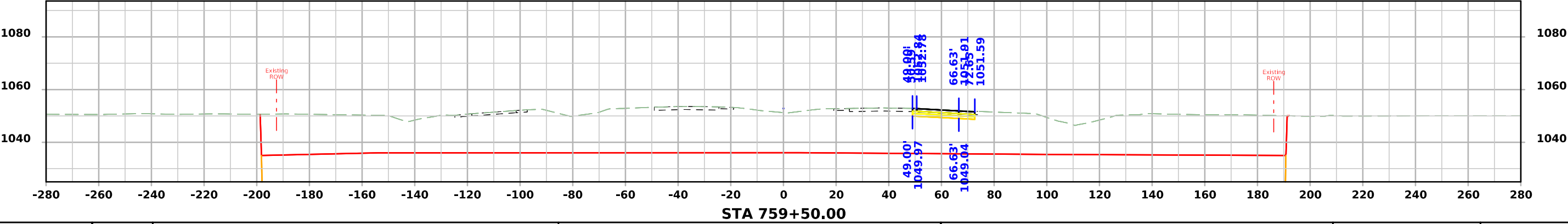
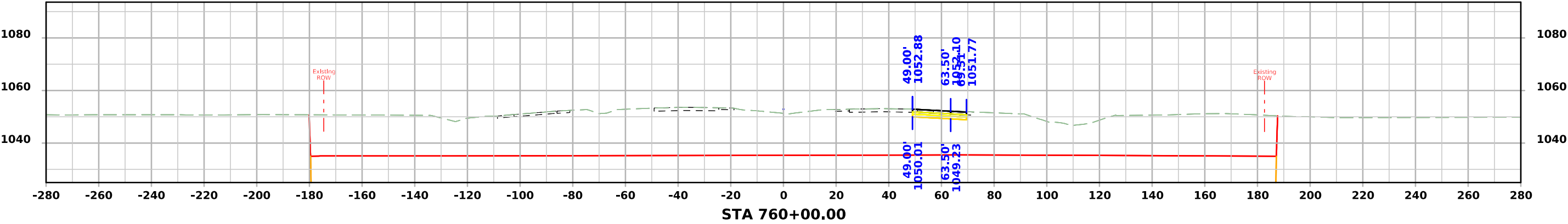
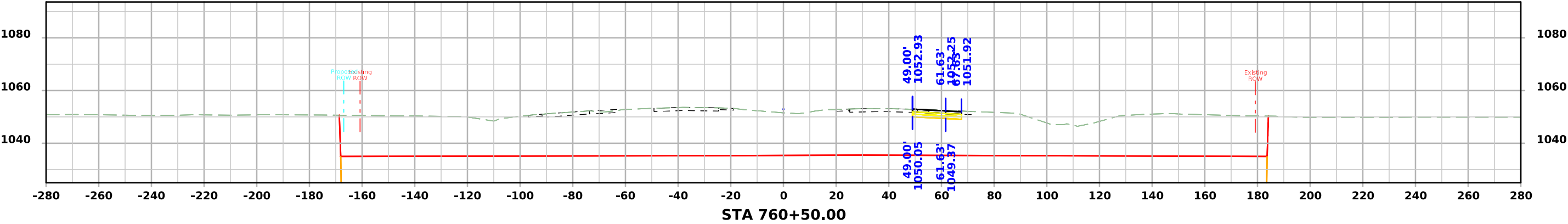
I-29 - Stage 3



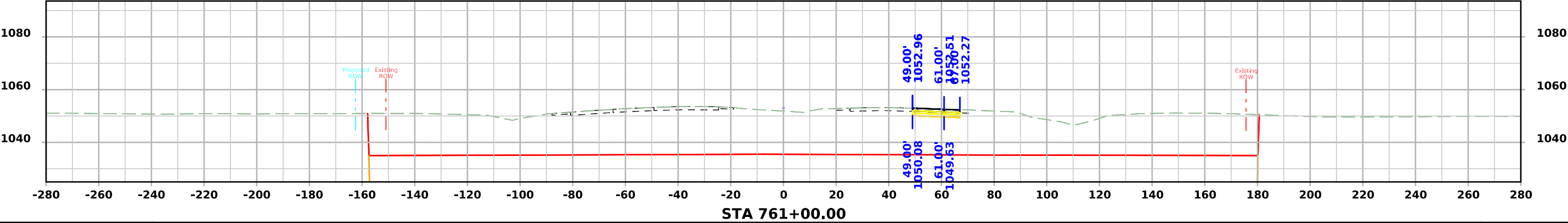
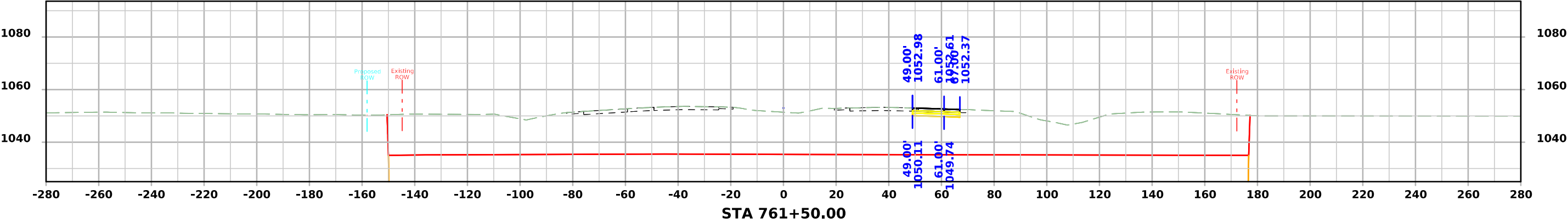
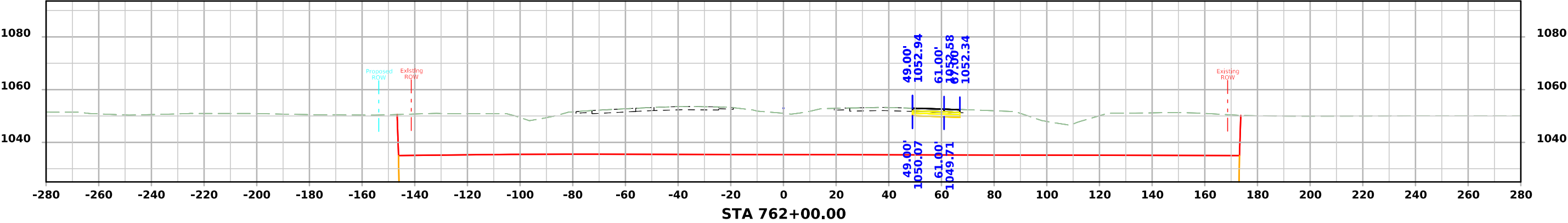
I-29 - Stage 3



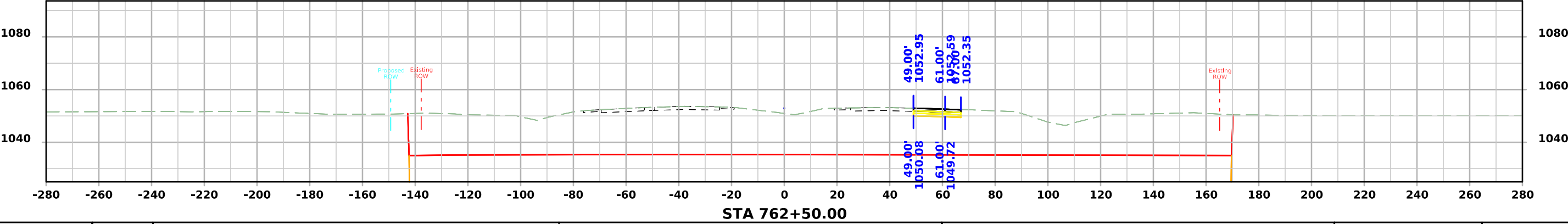
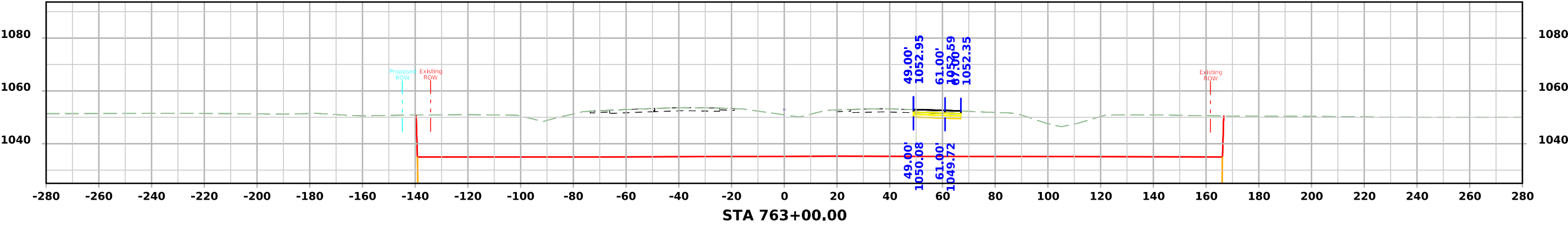
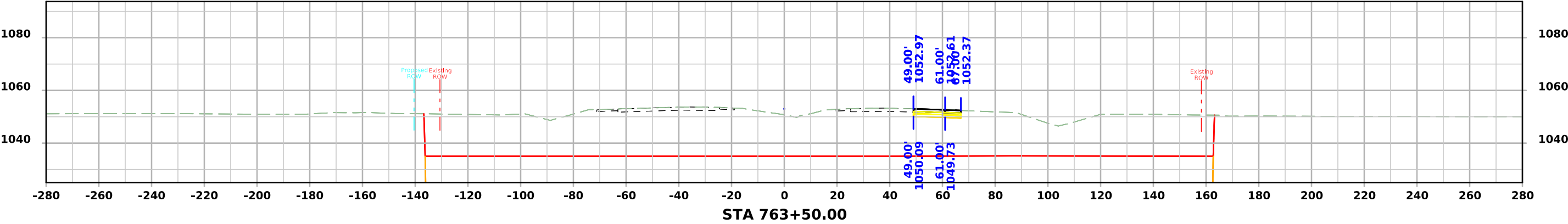
I-29 - Stage 3



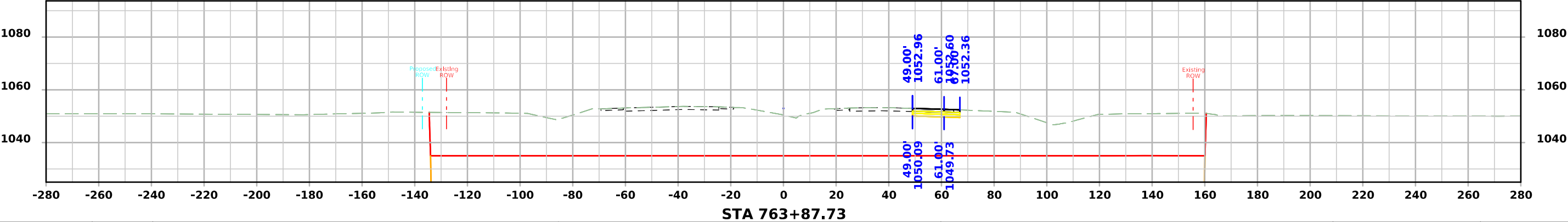
I-29 - Stage 3



I-29 - Stage 3

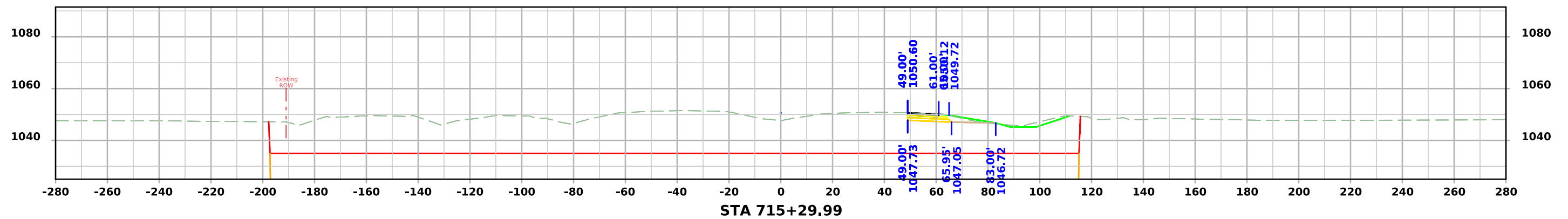
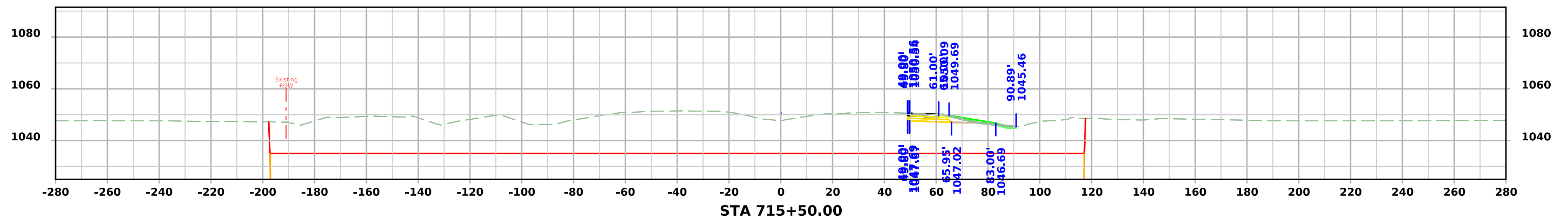
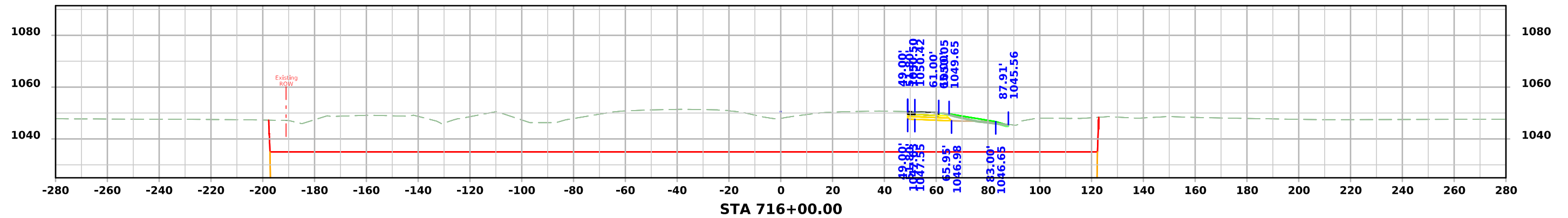


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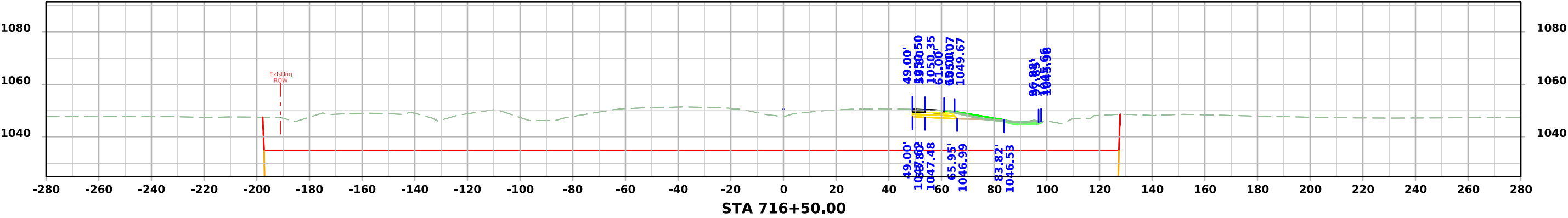
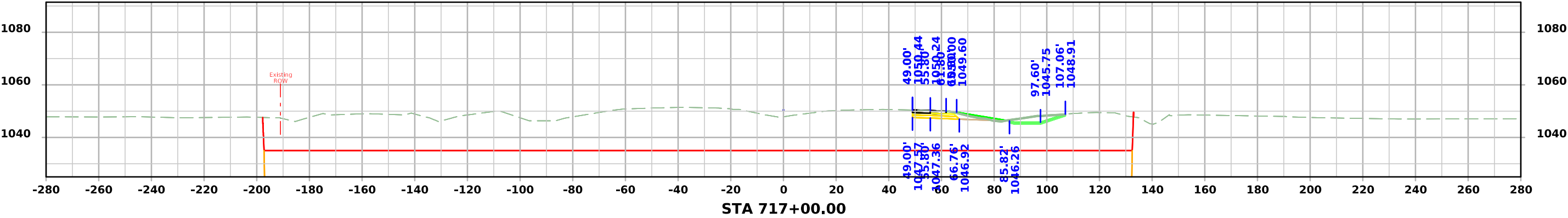
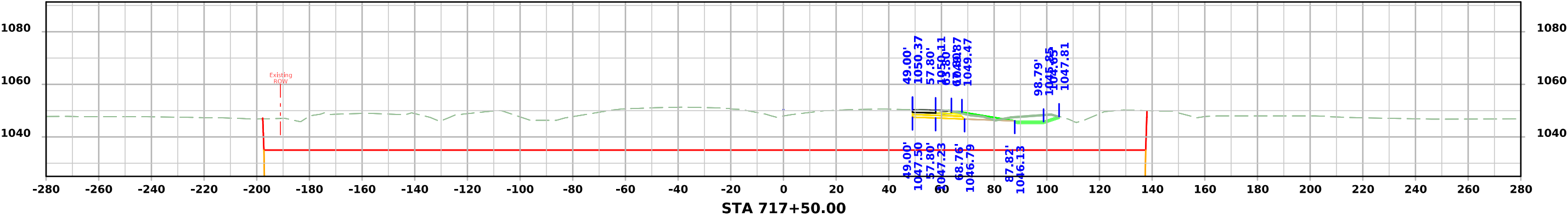




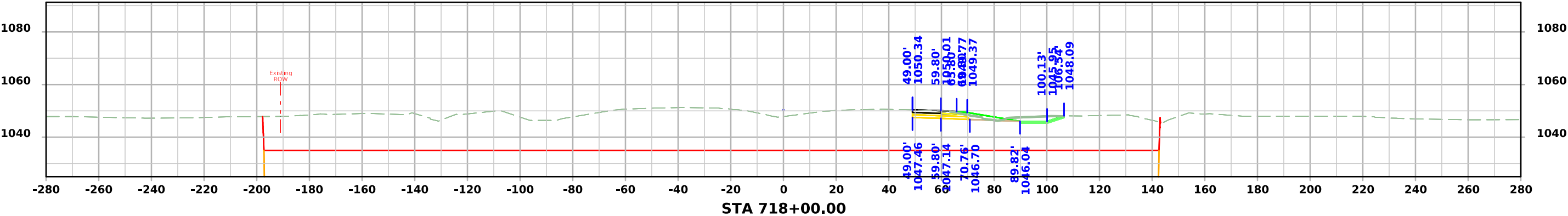
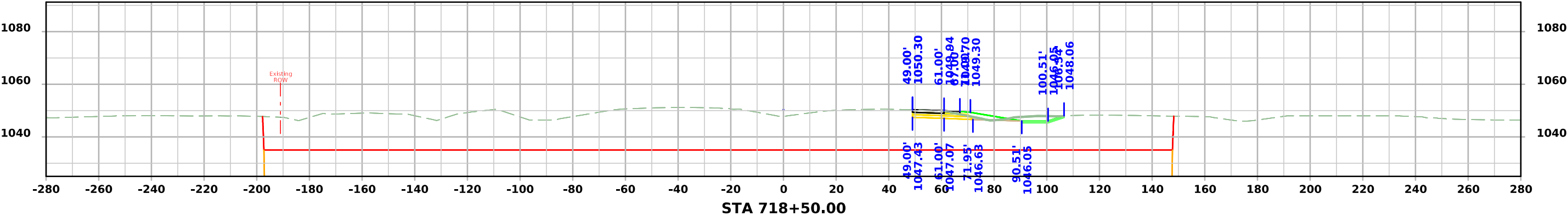
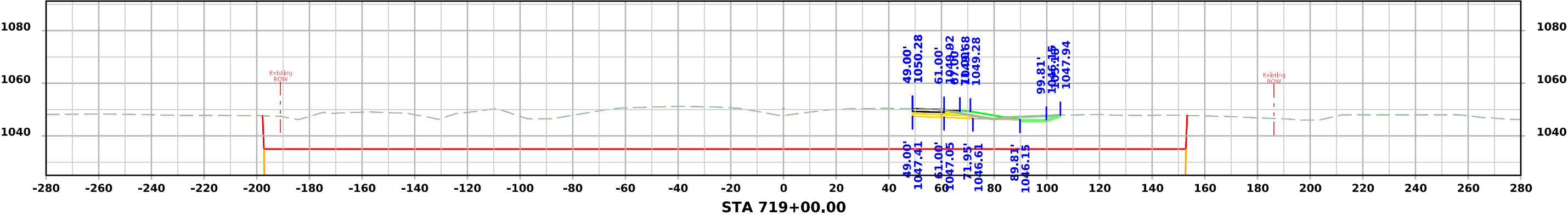
## I-29 - Stage 6



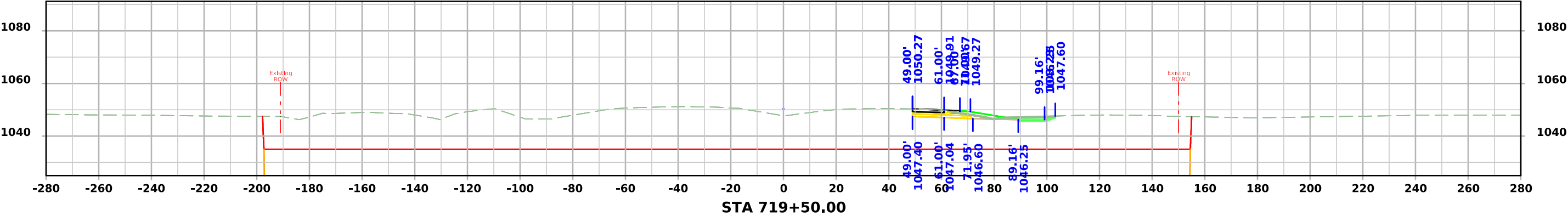
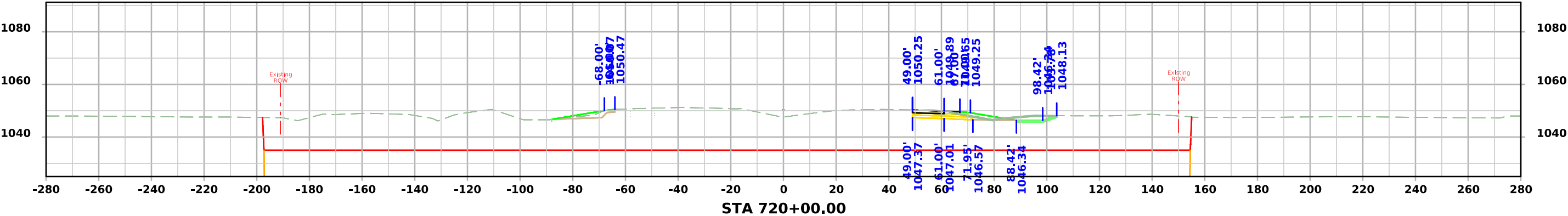
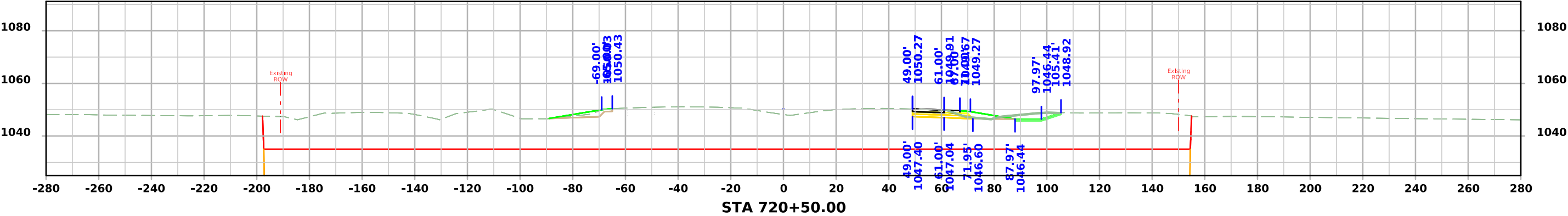
I-29 - Stage 6



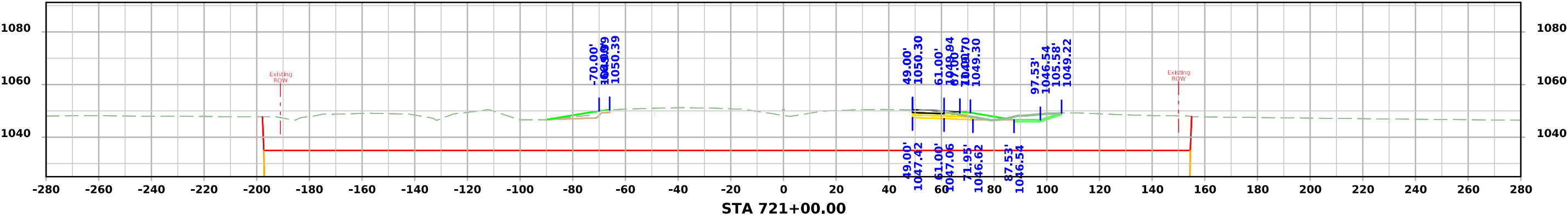
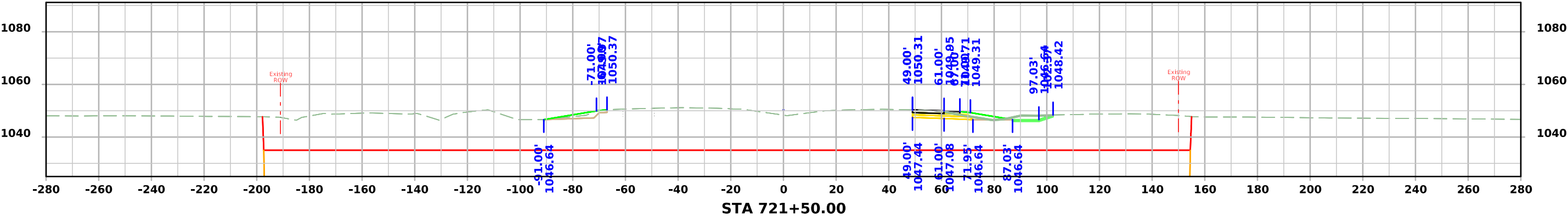
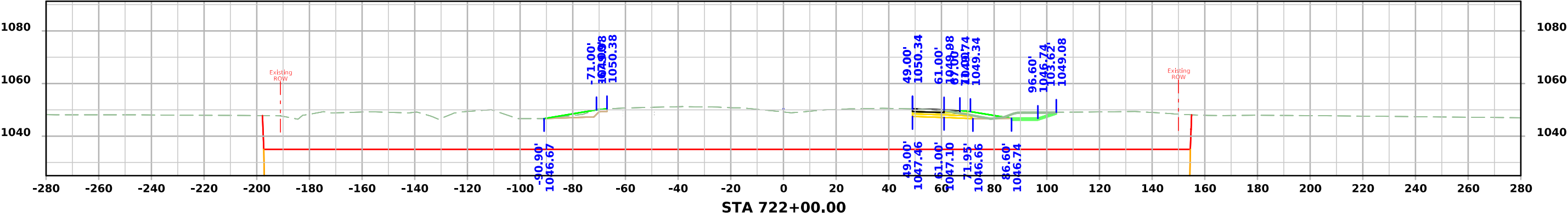
I-29 - Stage 6



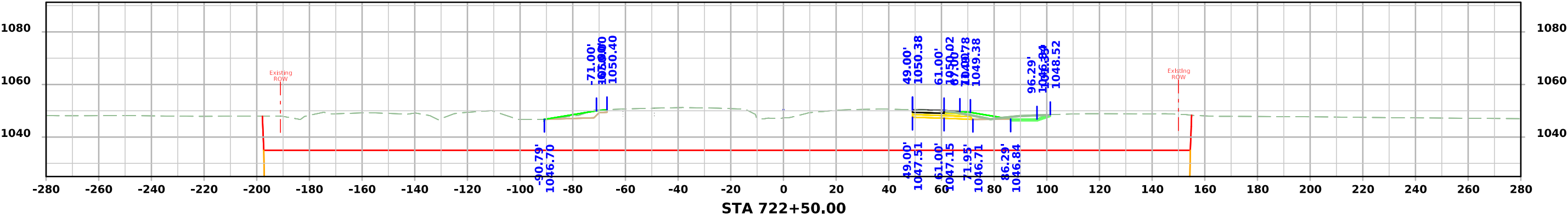
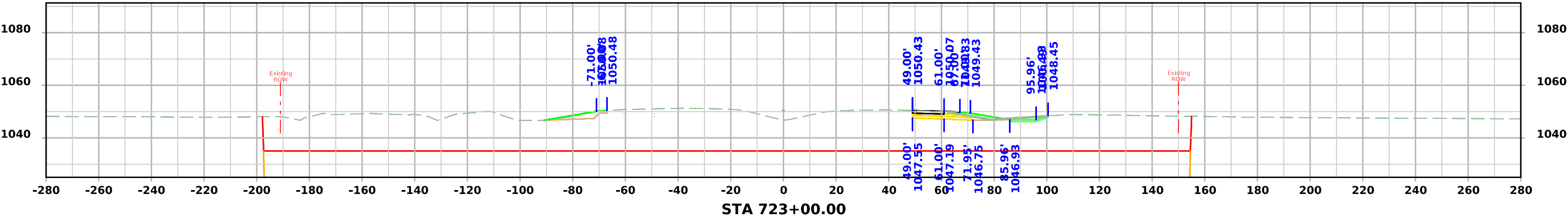
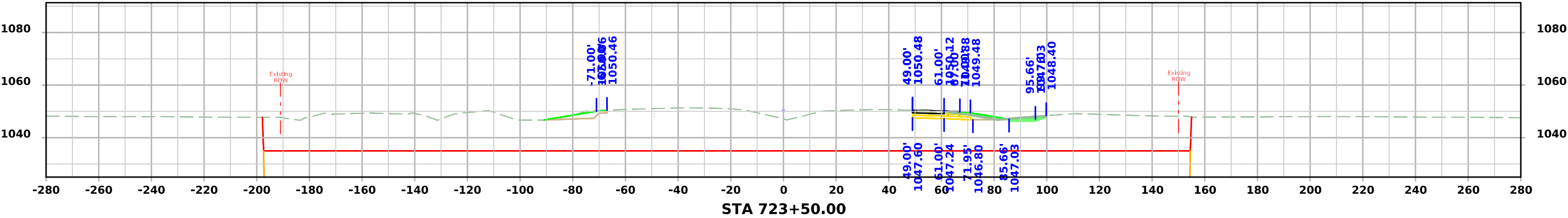
I-29 - Stage 6



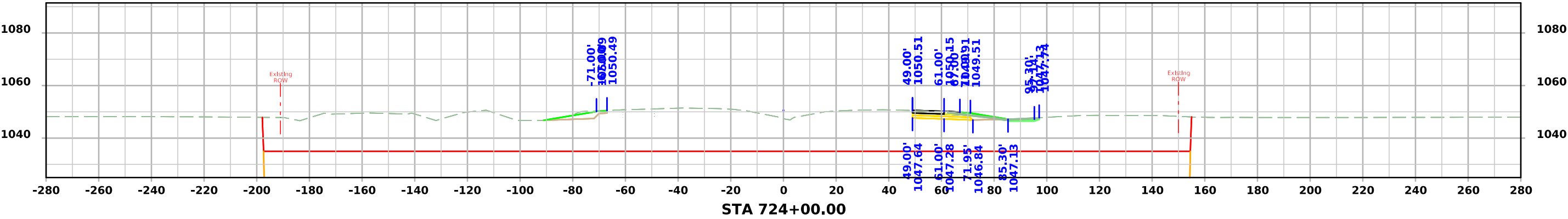
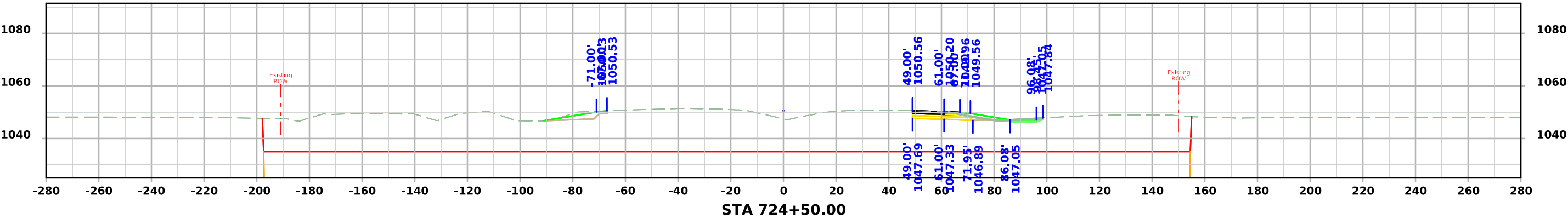
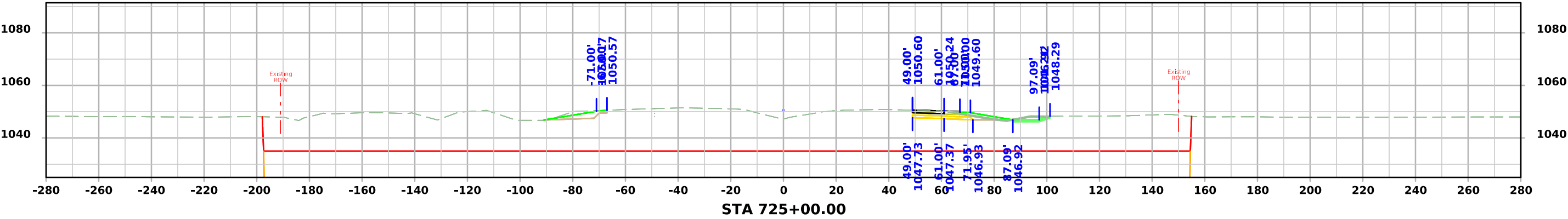
I-29 - Stage 6



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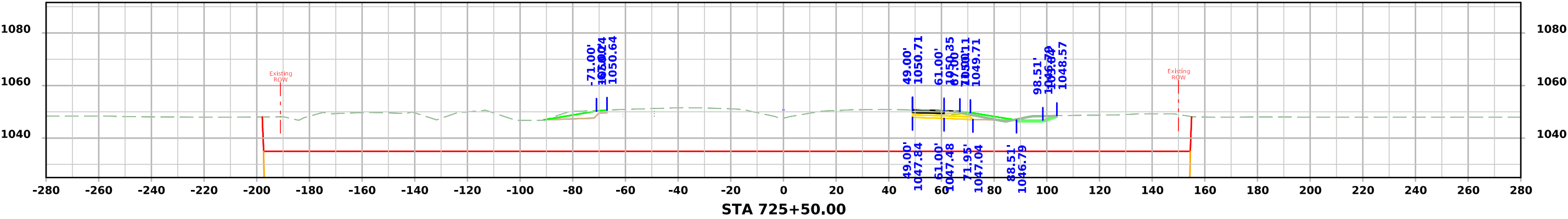
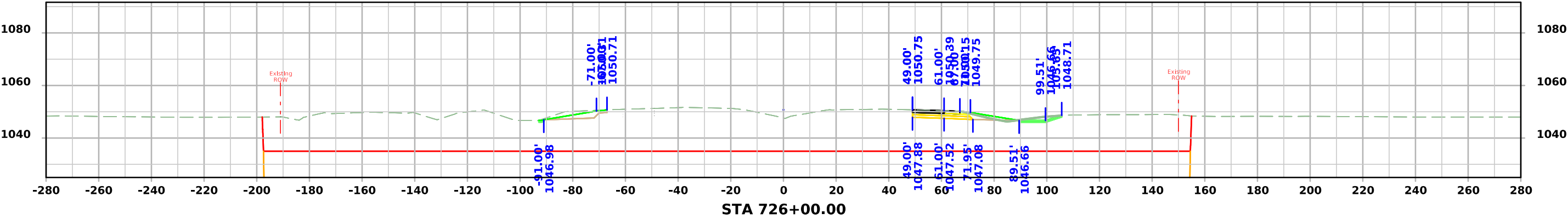
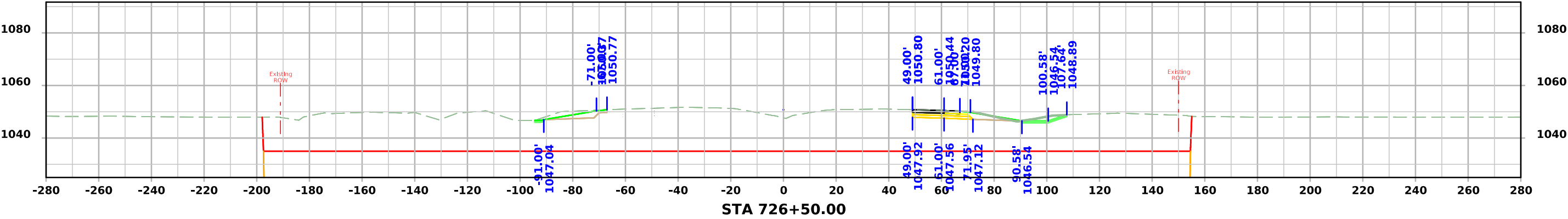


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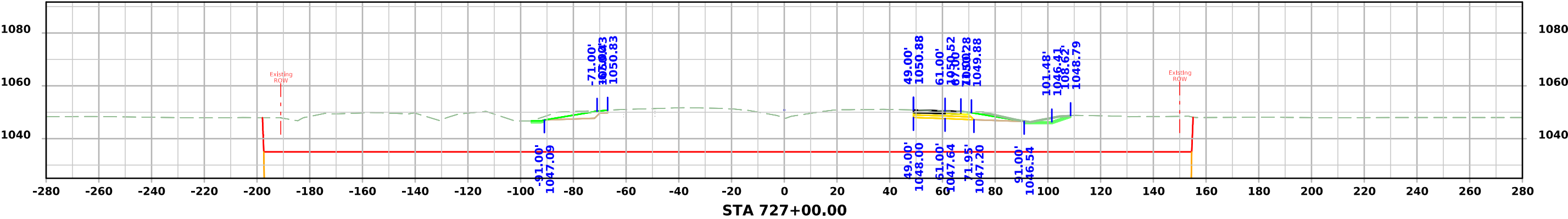
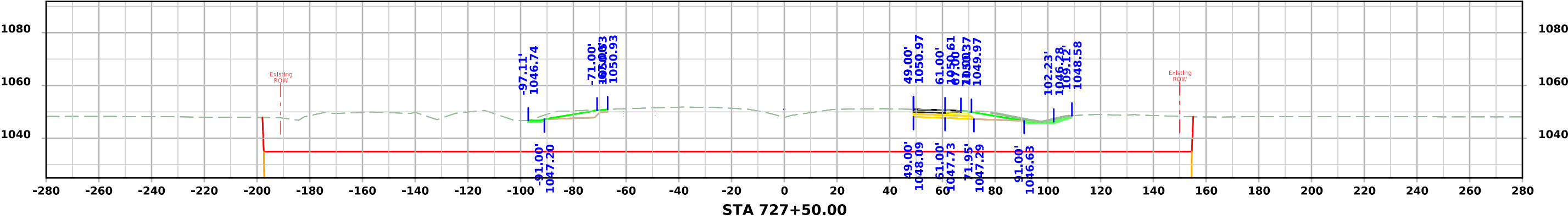
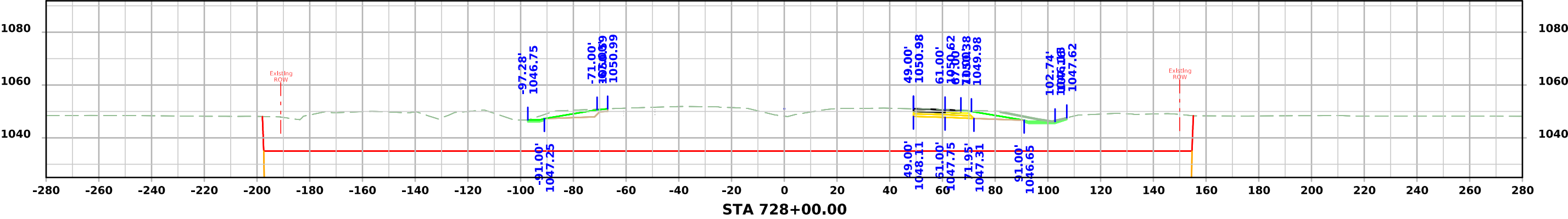




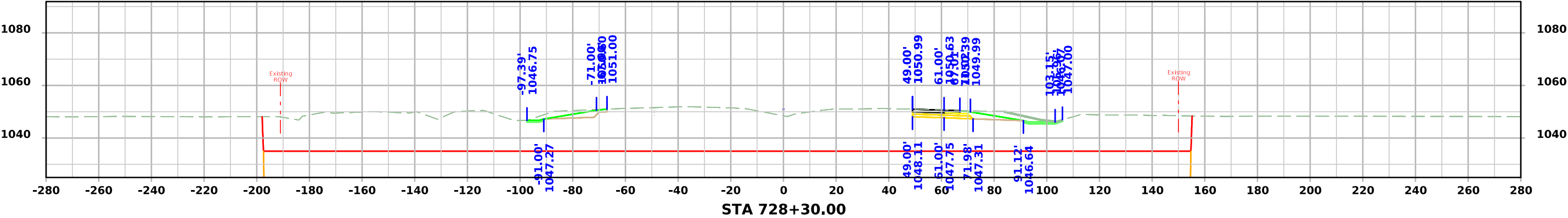
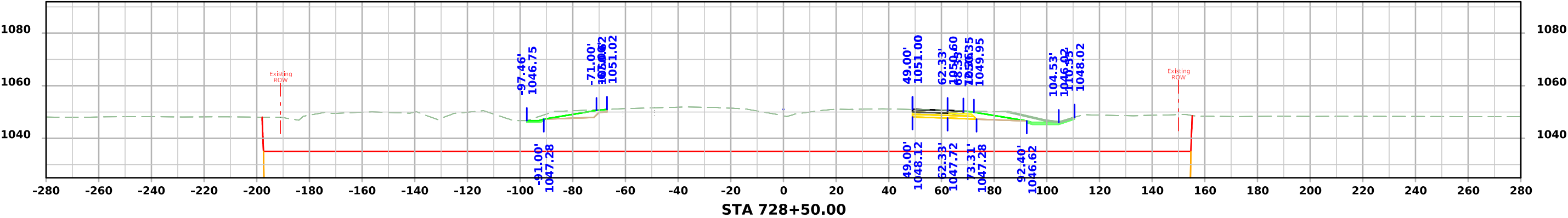
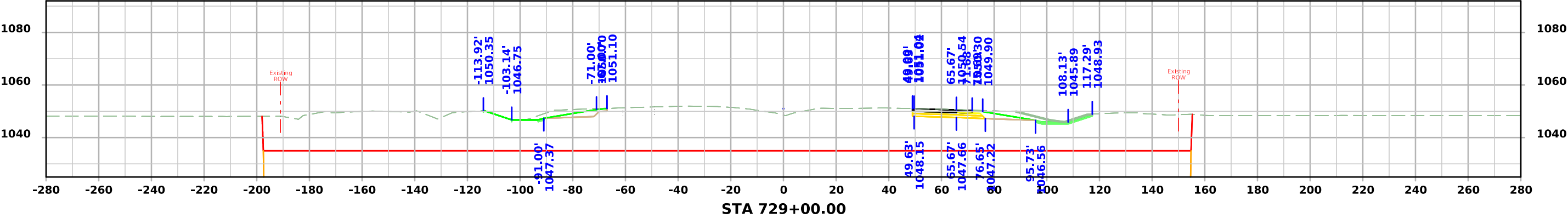
I-29 - Stage 6



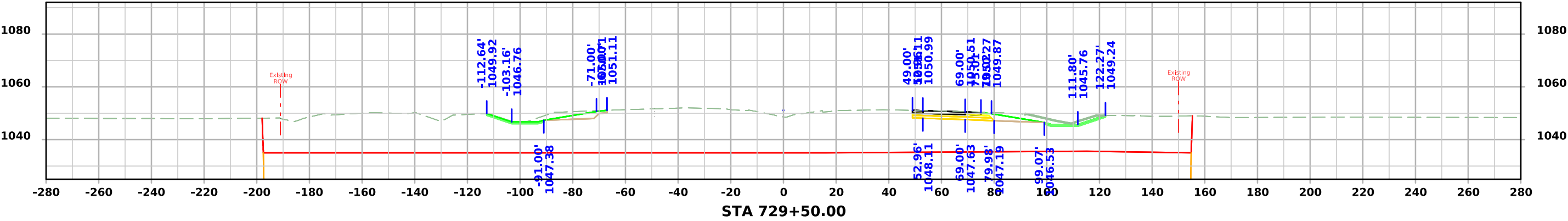
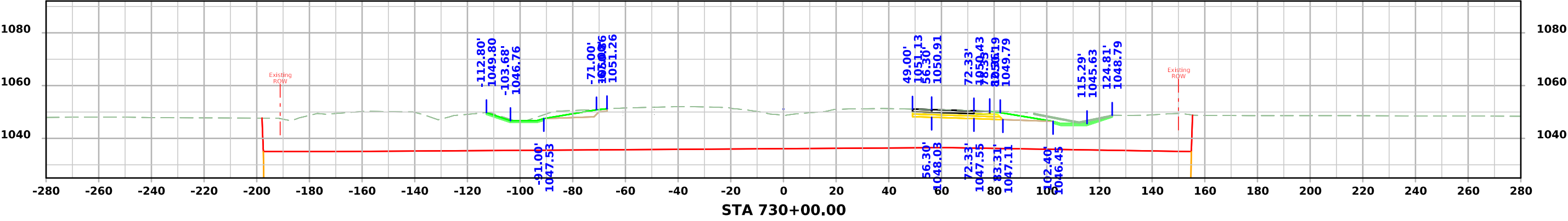
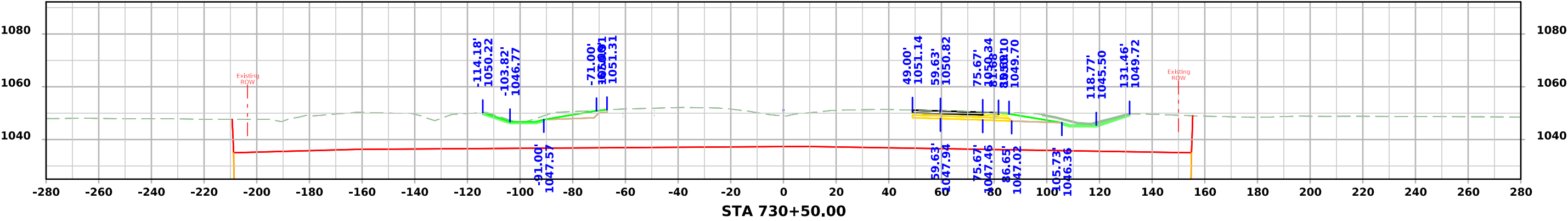
I-29 - Stage 6



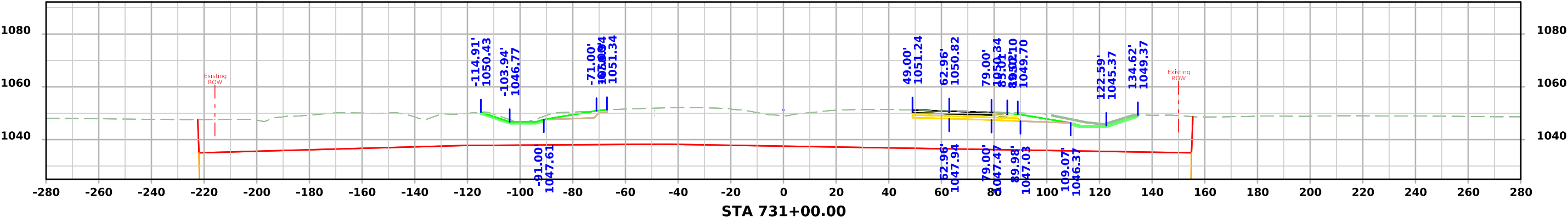
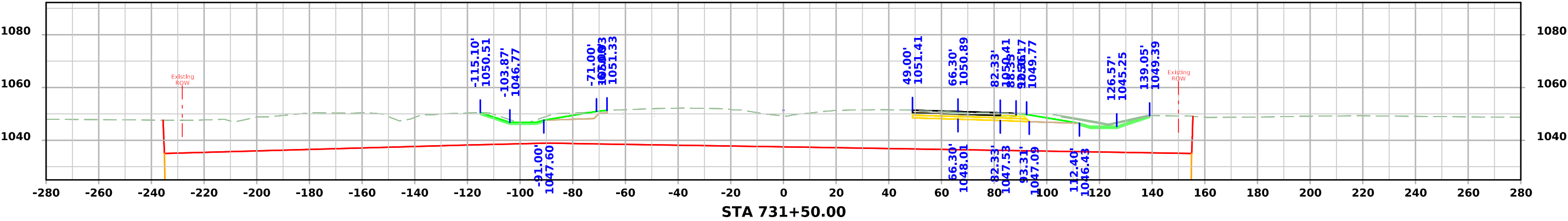
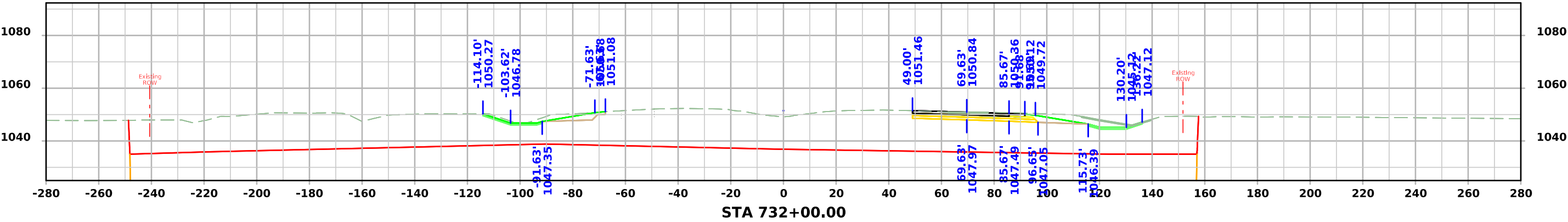
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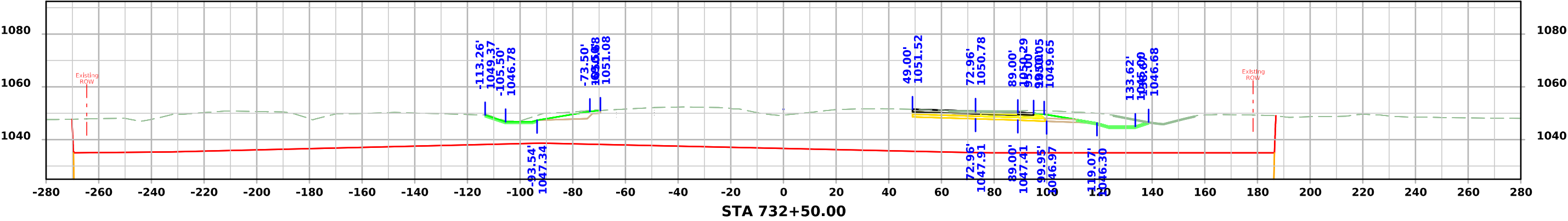
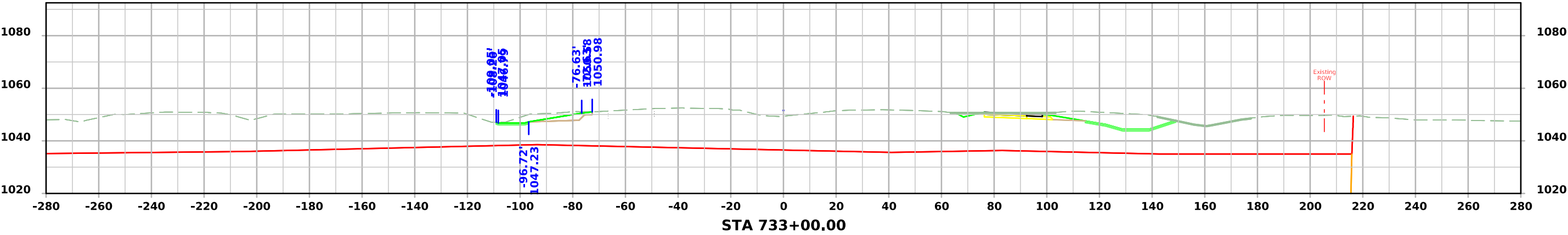
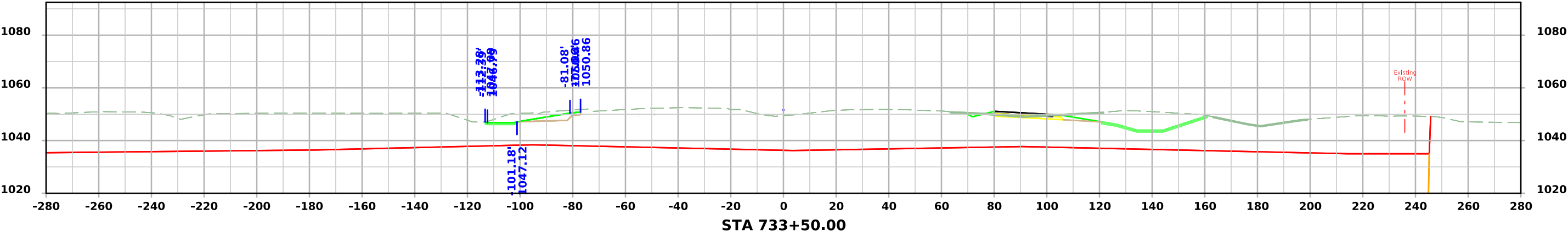
I-29 - Stage 6



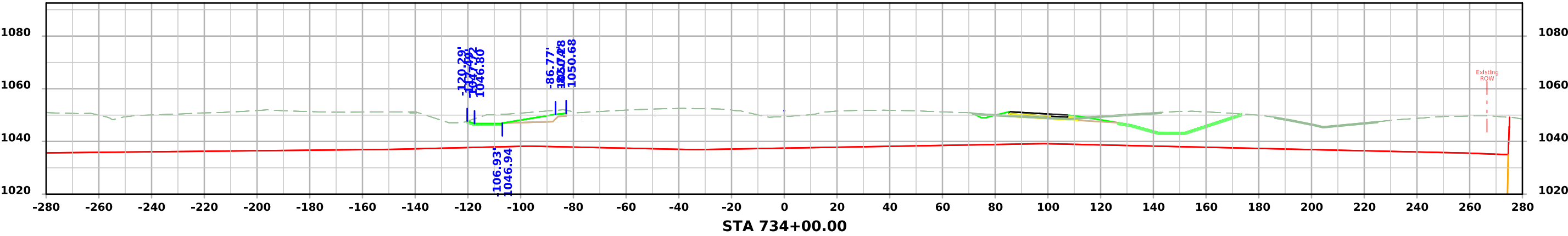
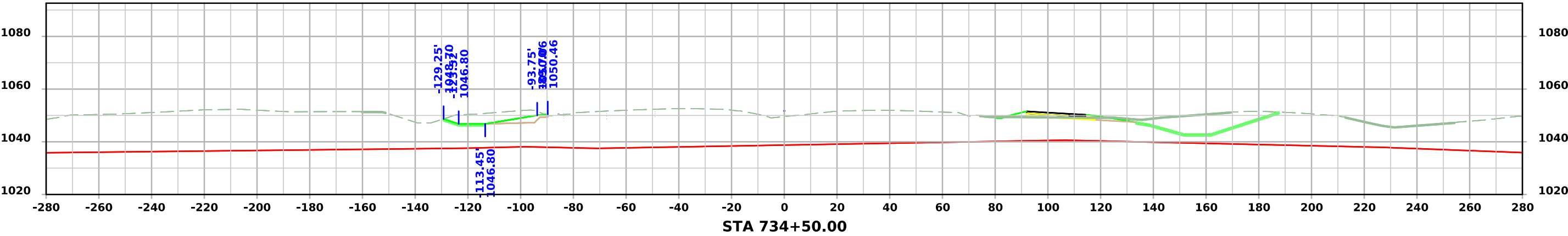
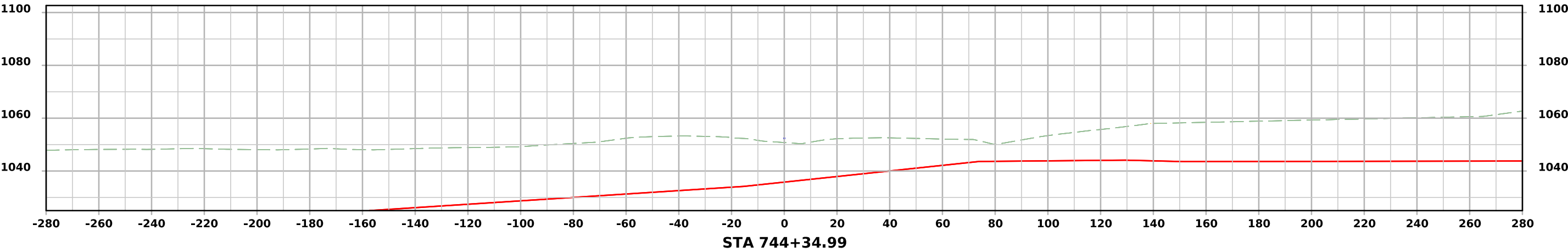
I-29 - Stage 6



I-29 - Stage 6

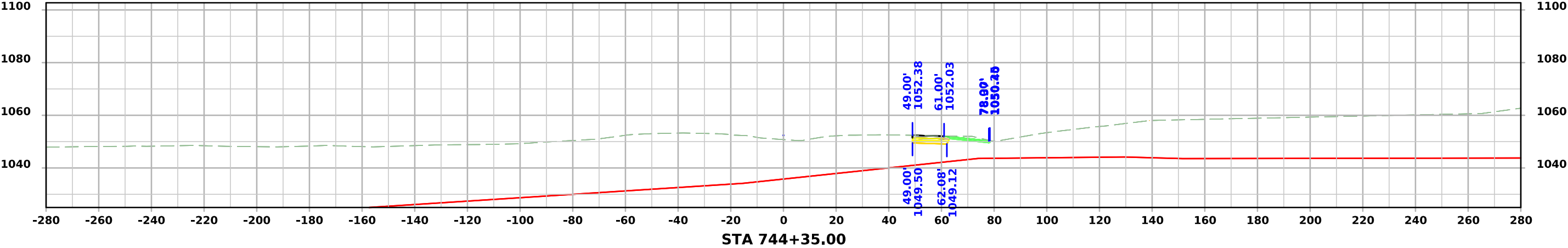
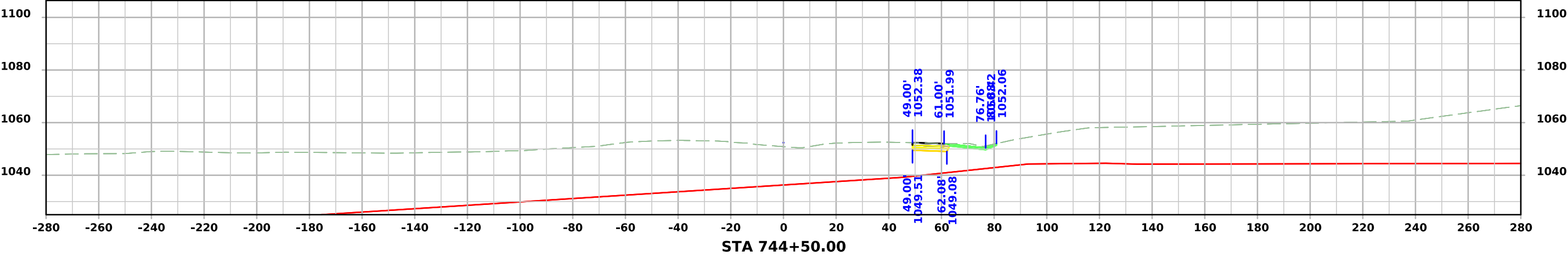
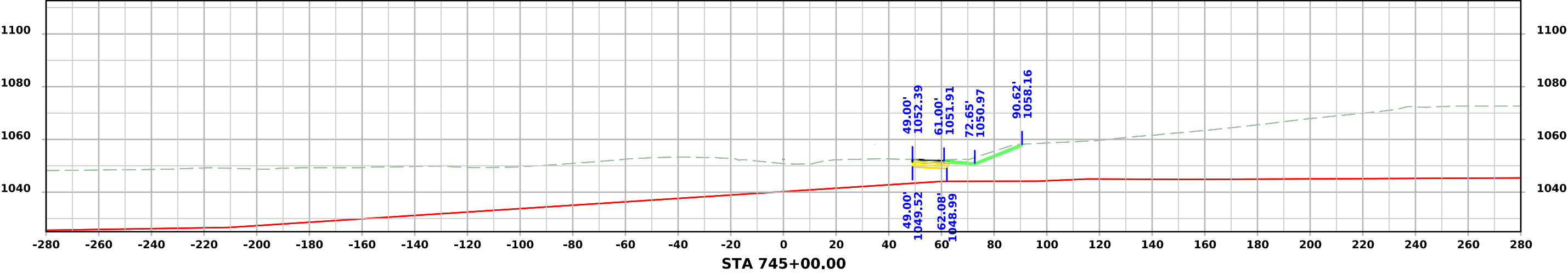


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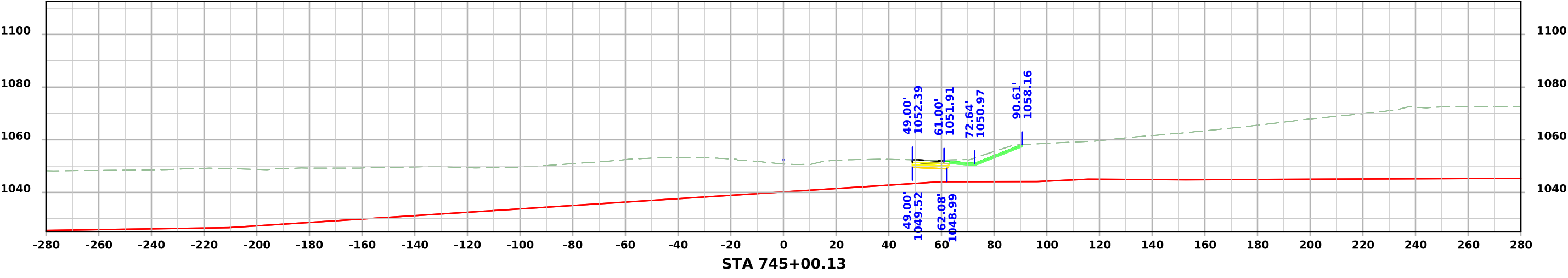
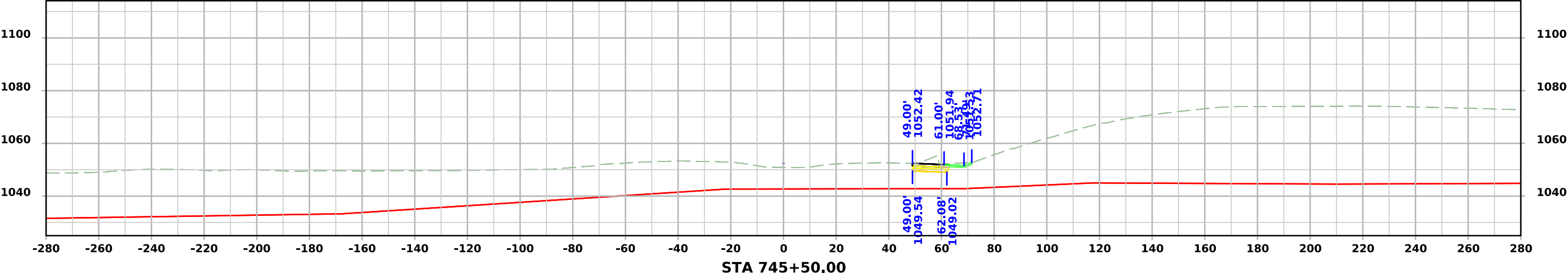
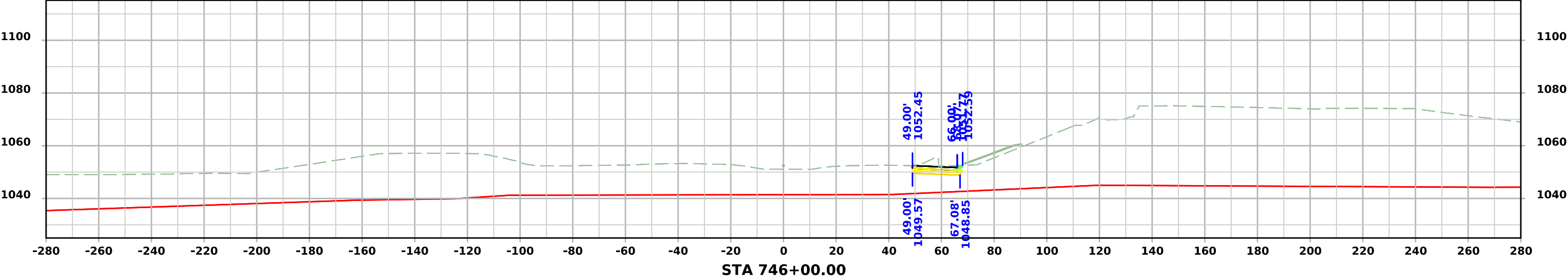




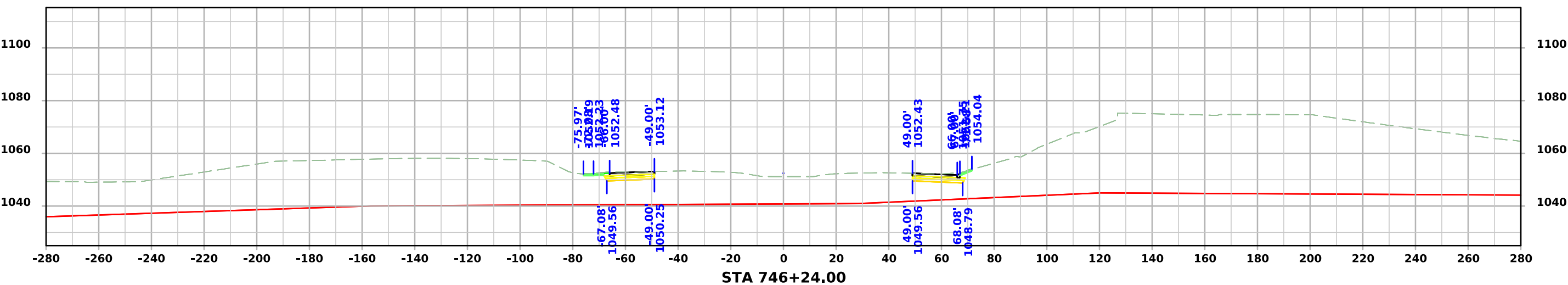
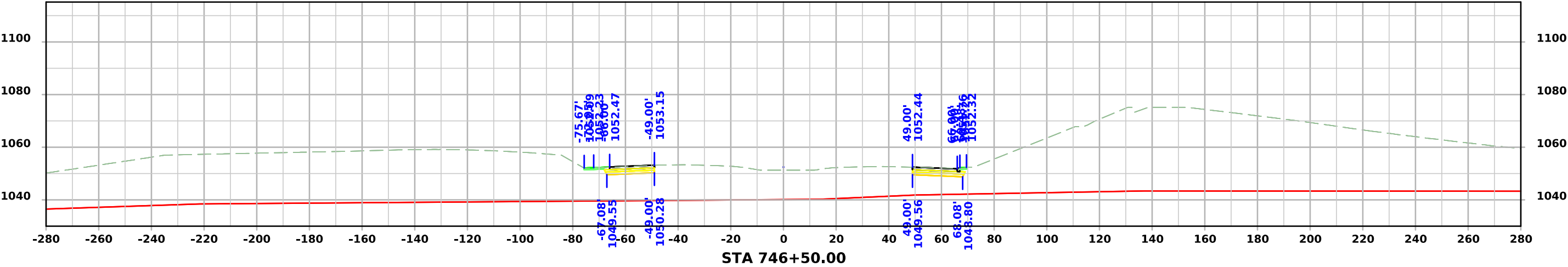
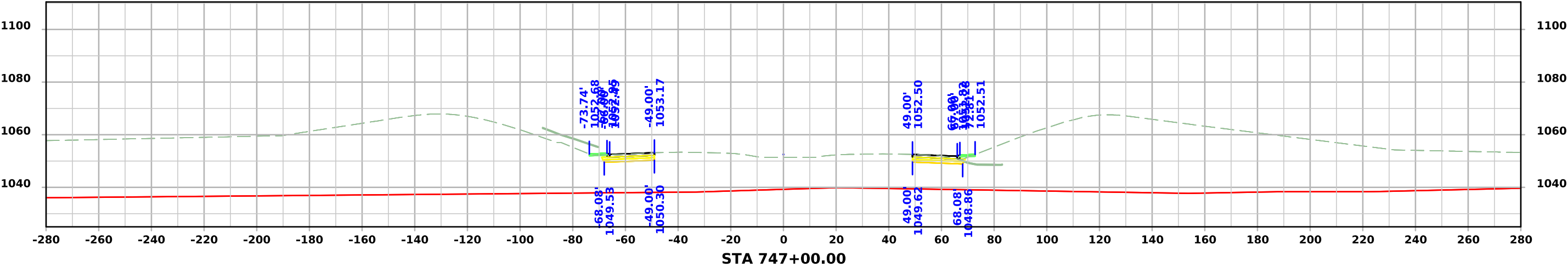
I-29 - Stage 6



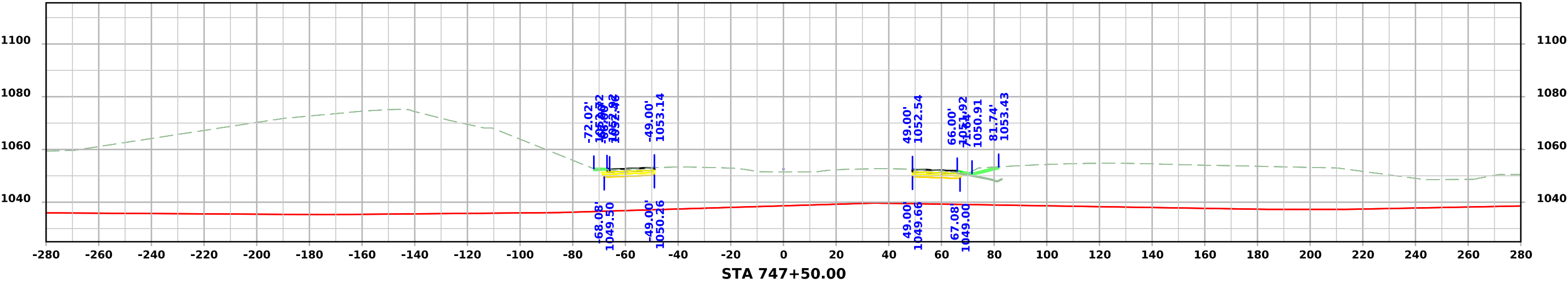
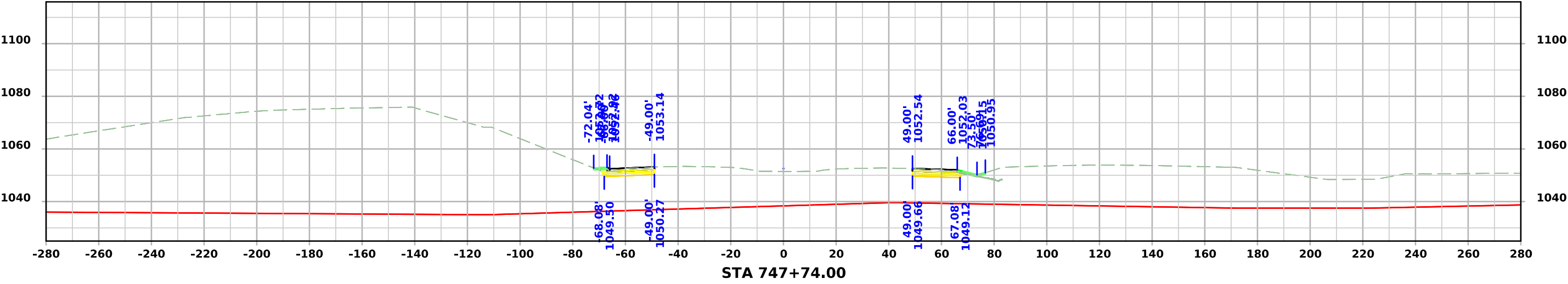
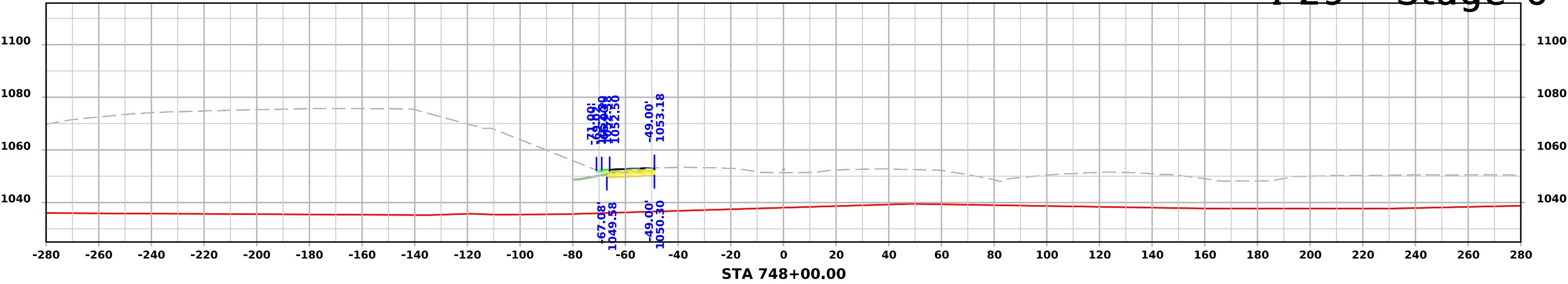
I-29 - Stage 6



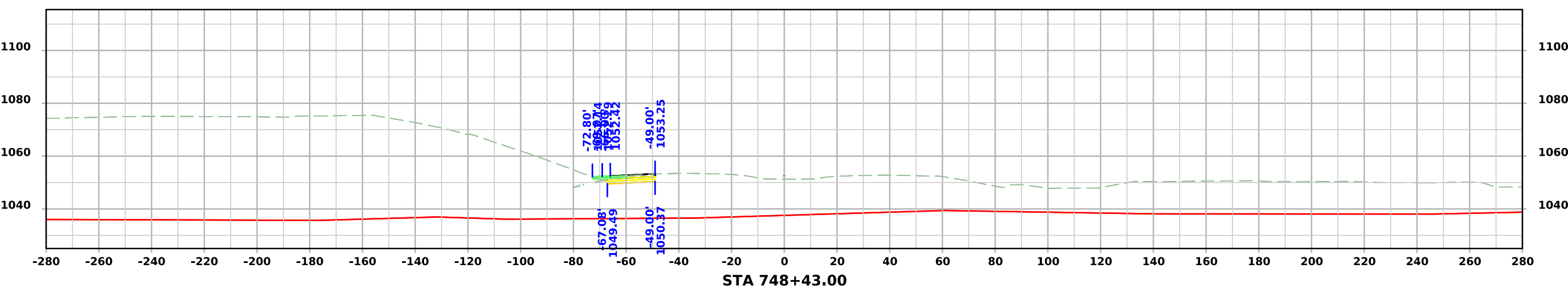
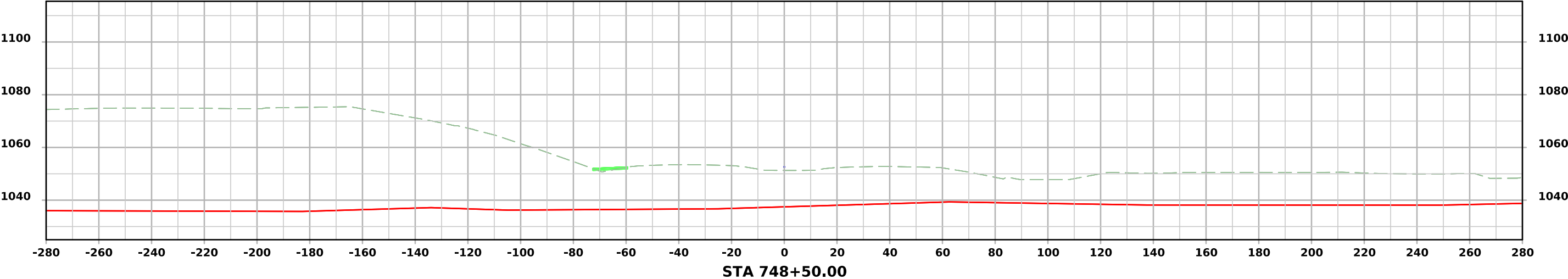
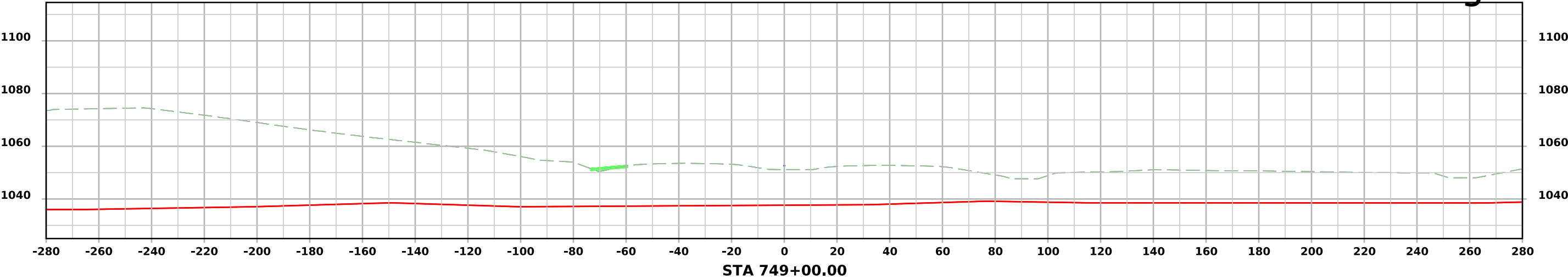
I-29 - Stage 6



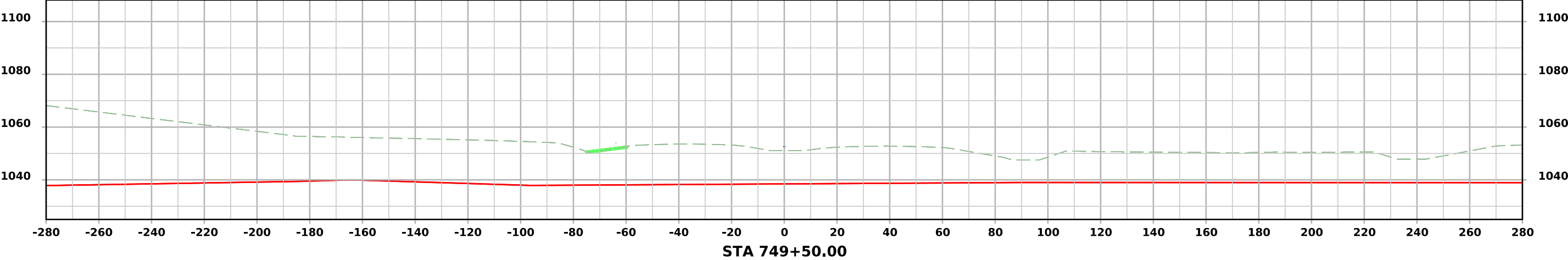
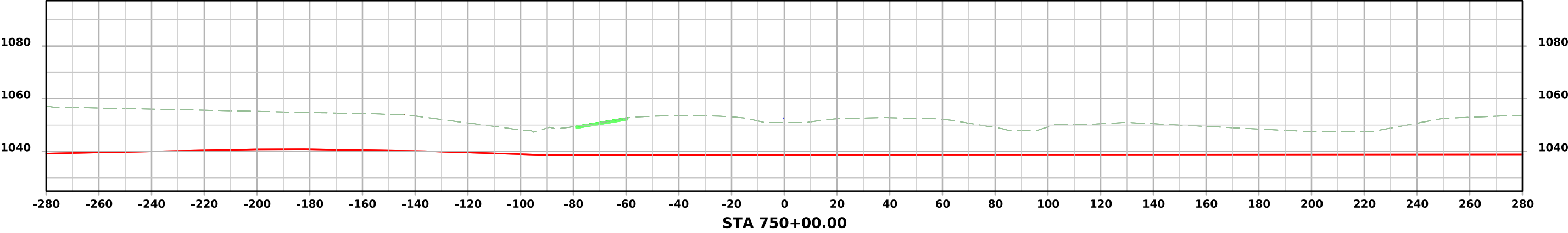
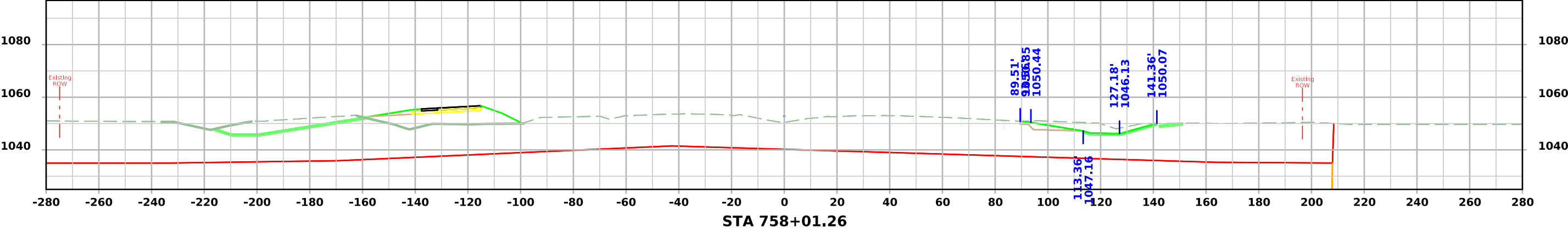
I-29 - Stage 6



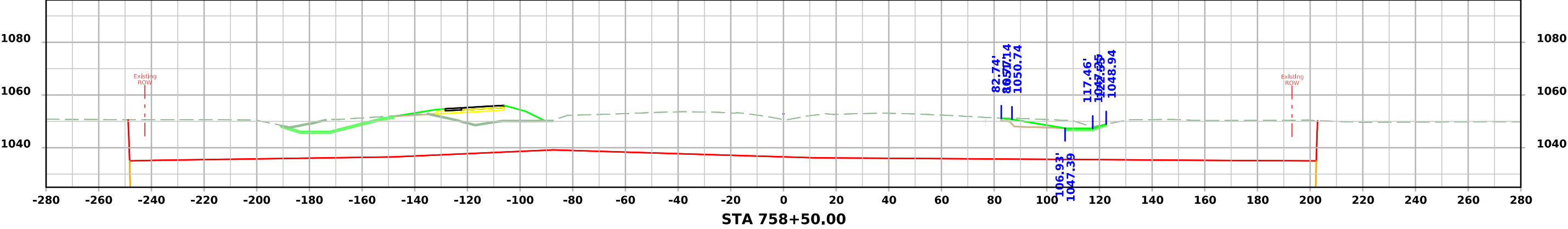
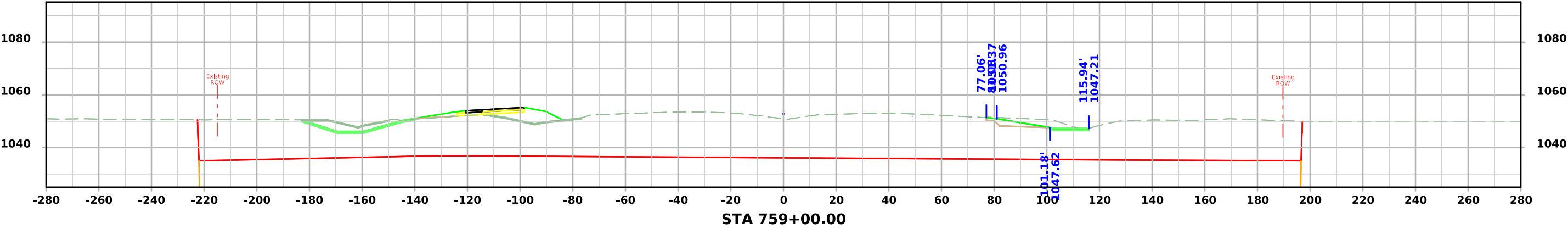
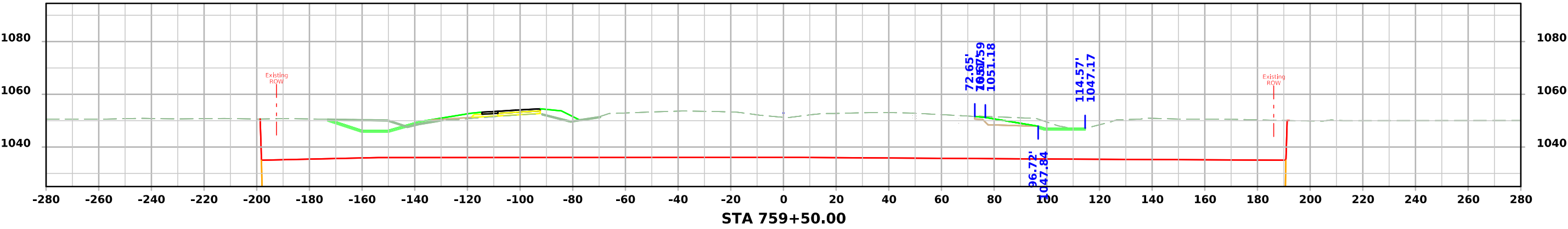
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# I-29 - Stage 6

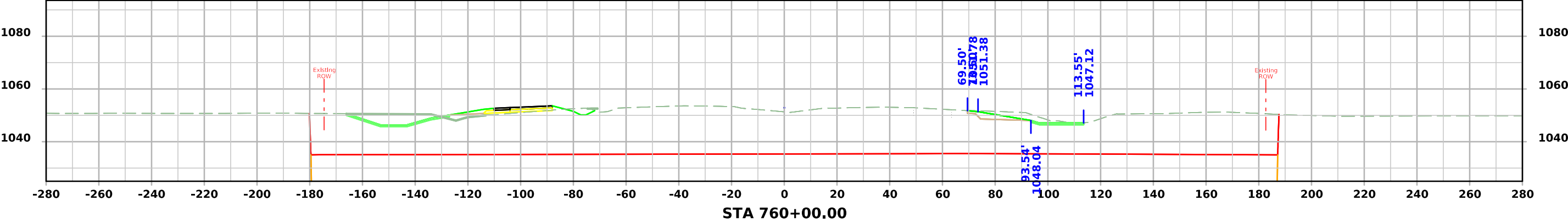
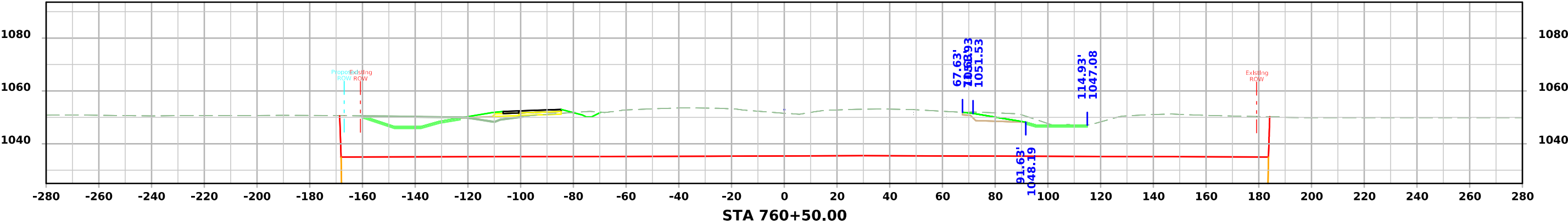
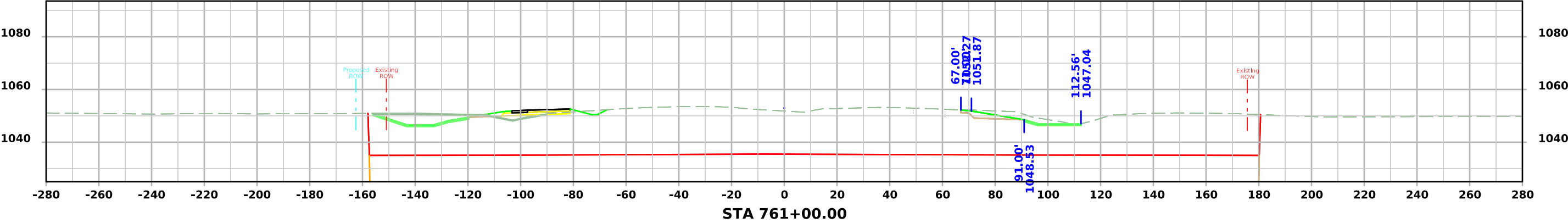


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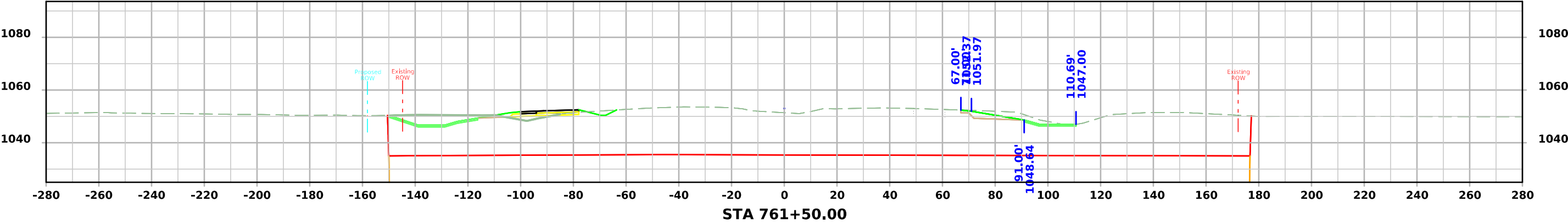
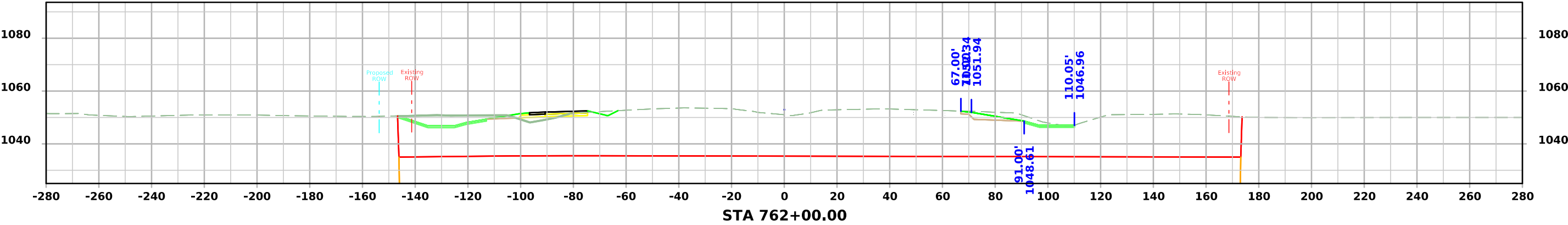
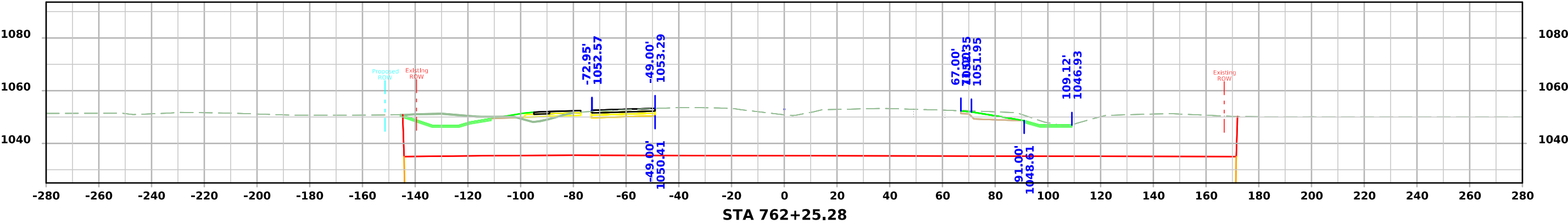




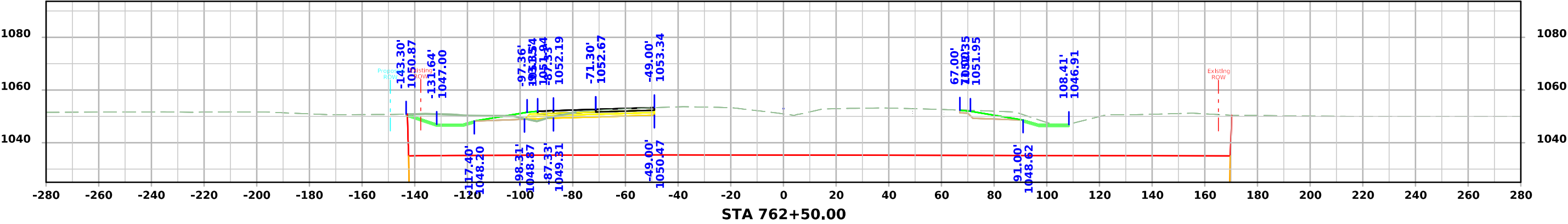
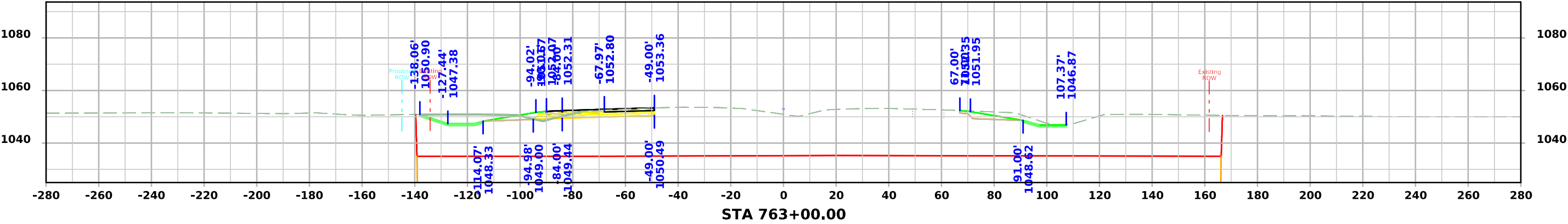
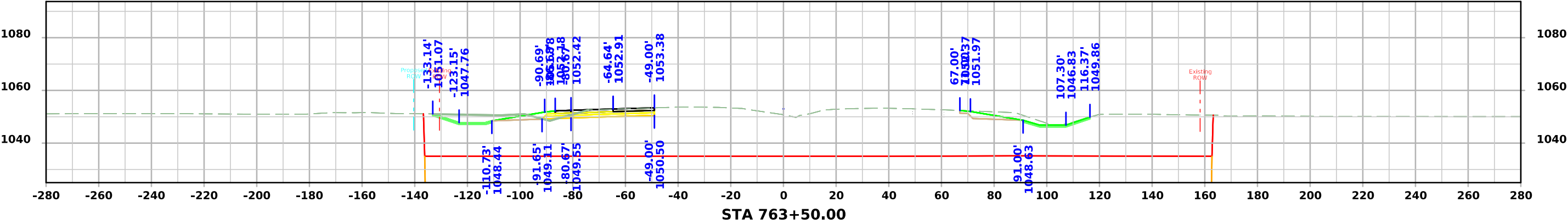
I-29 - Stage 6



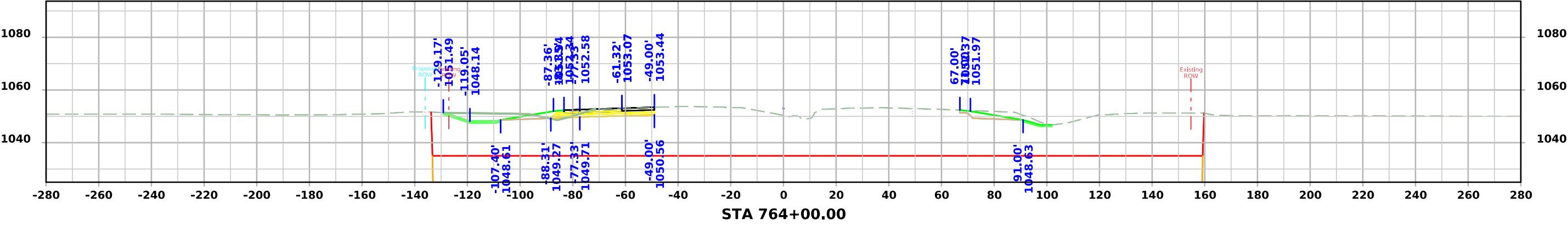
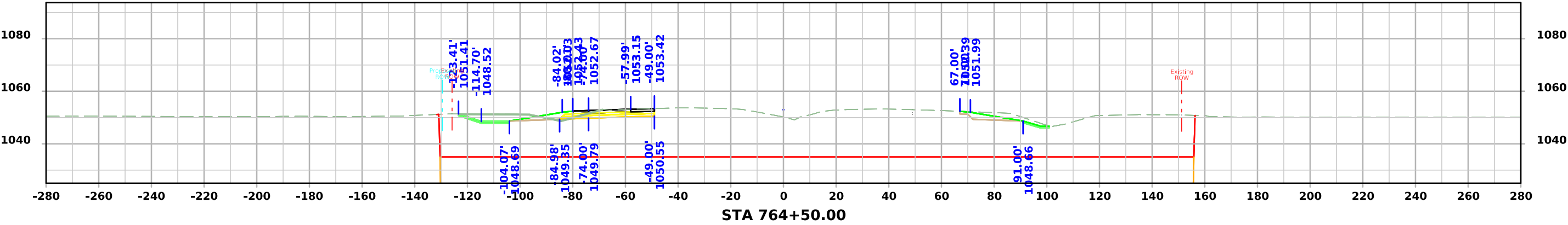
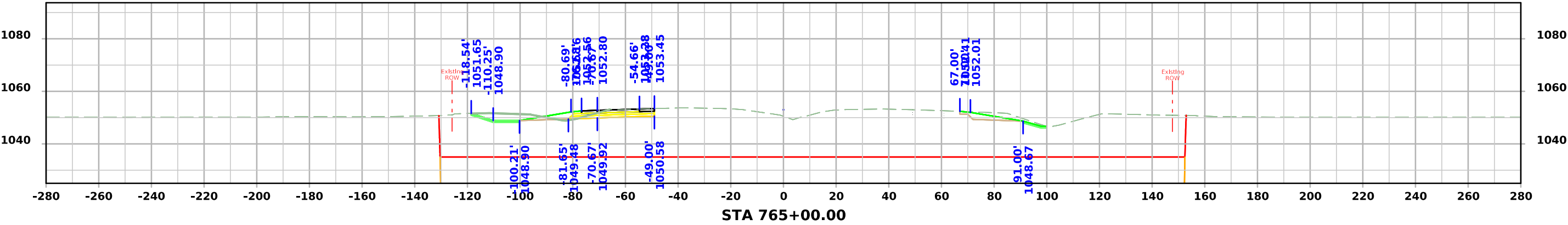
# I-29 - Stage 6



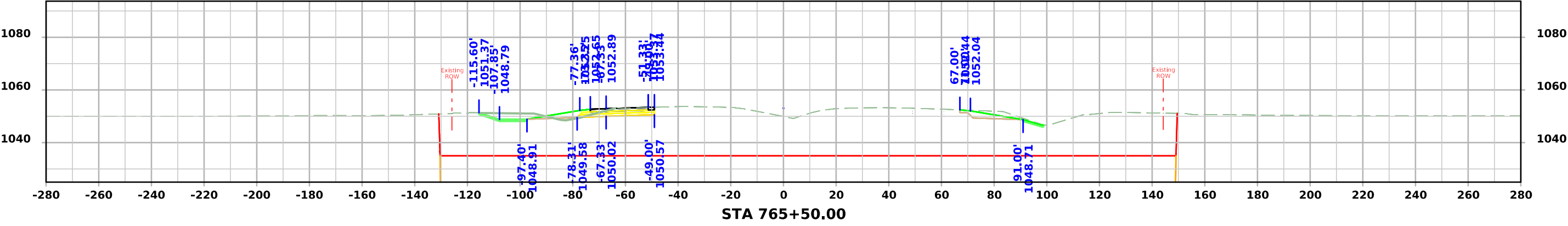
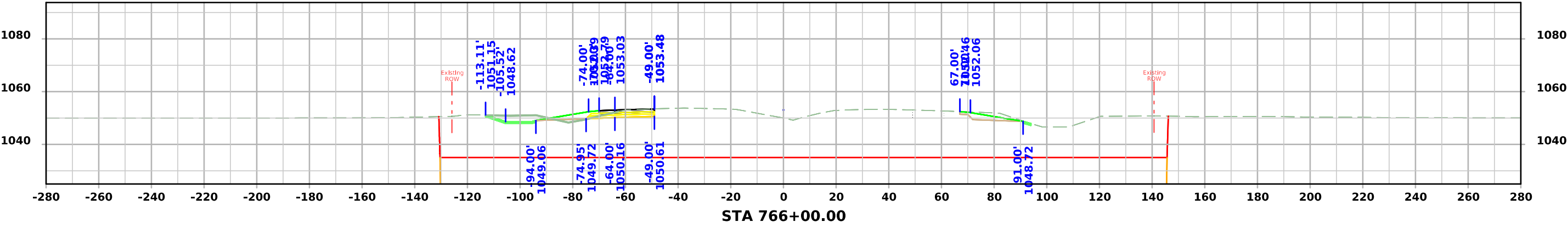
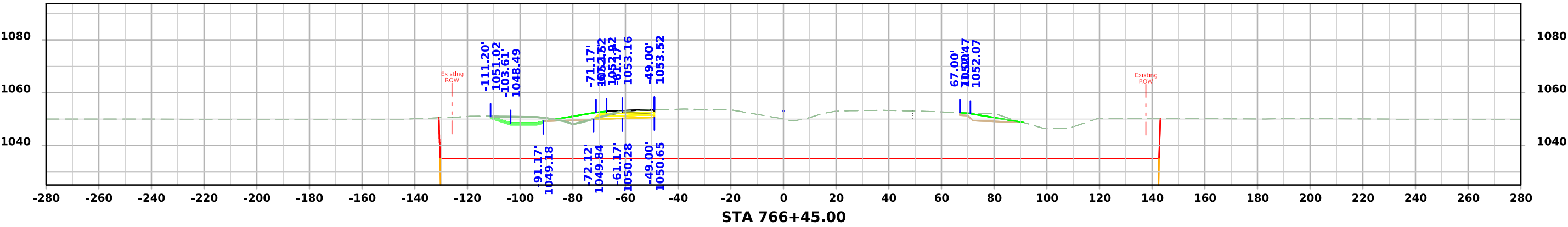
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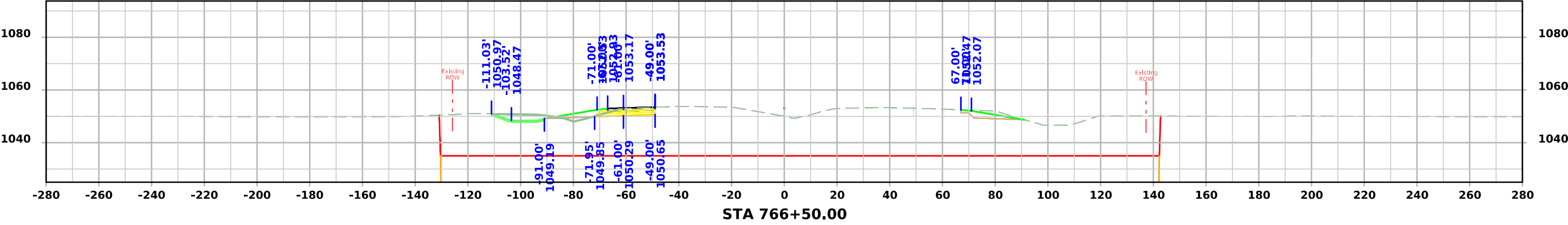
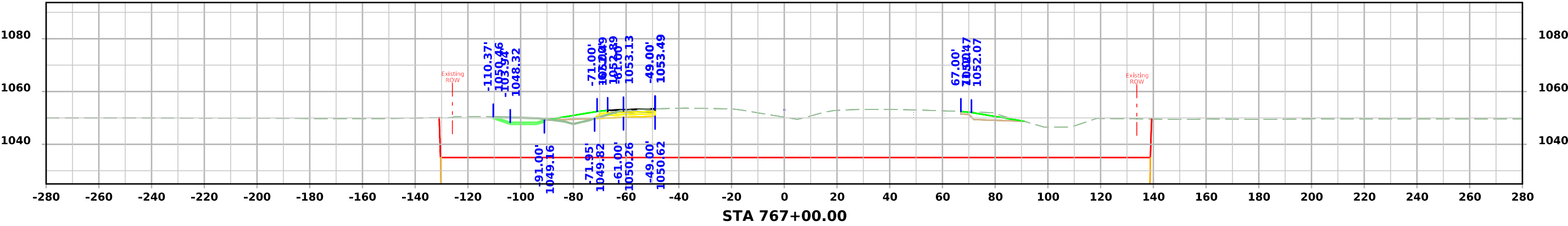
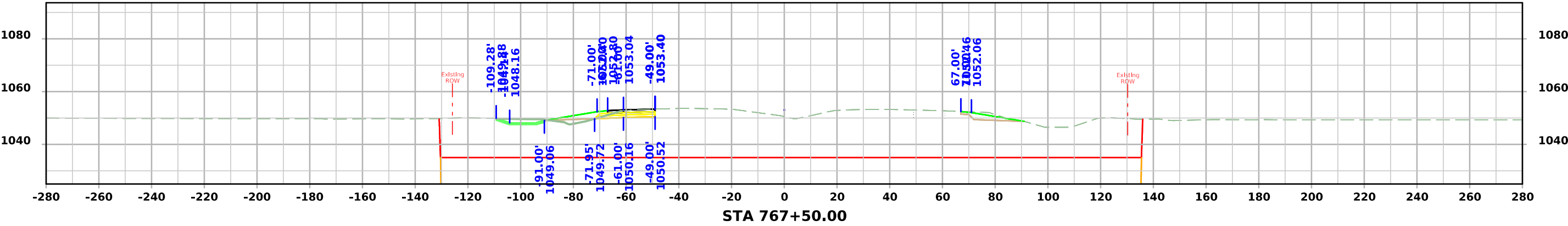
I-29 - Stage 6



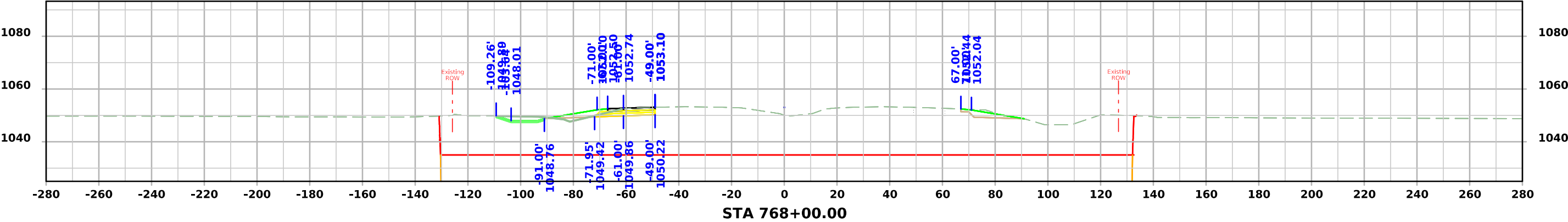
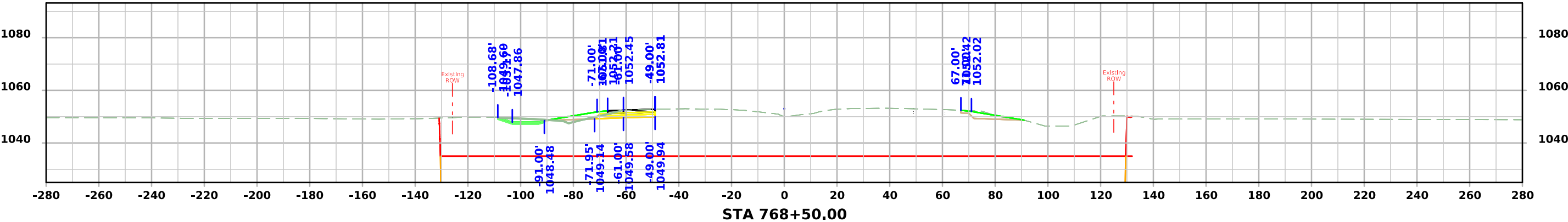
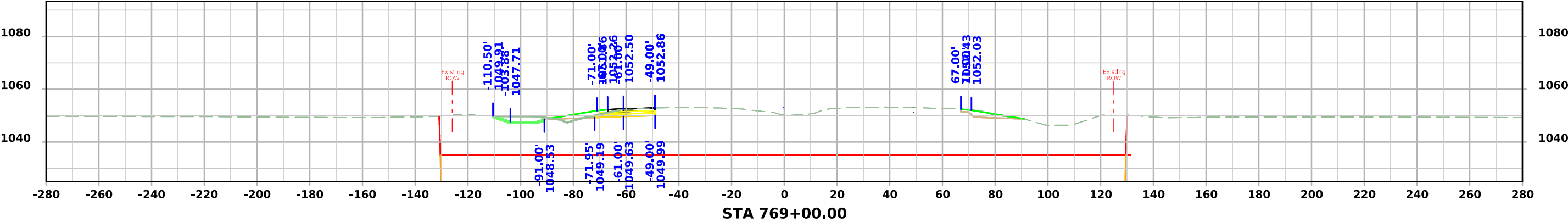
I-29 - Stage 6



I-29 - Stage 6

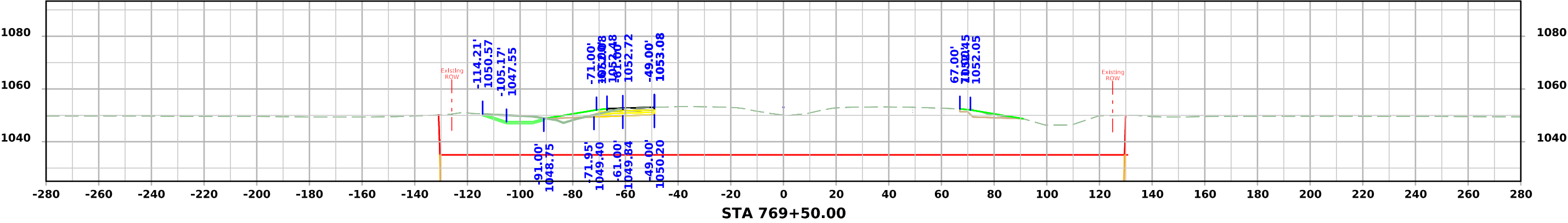
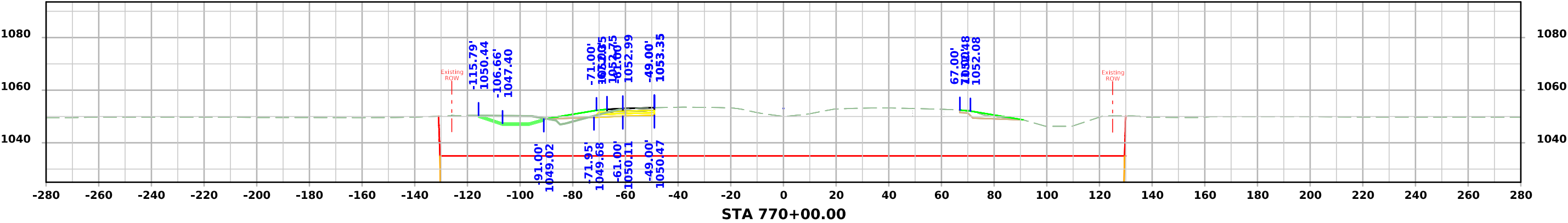
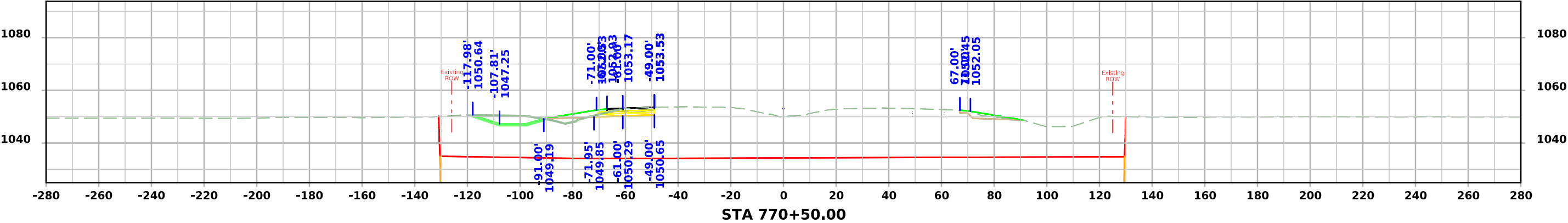


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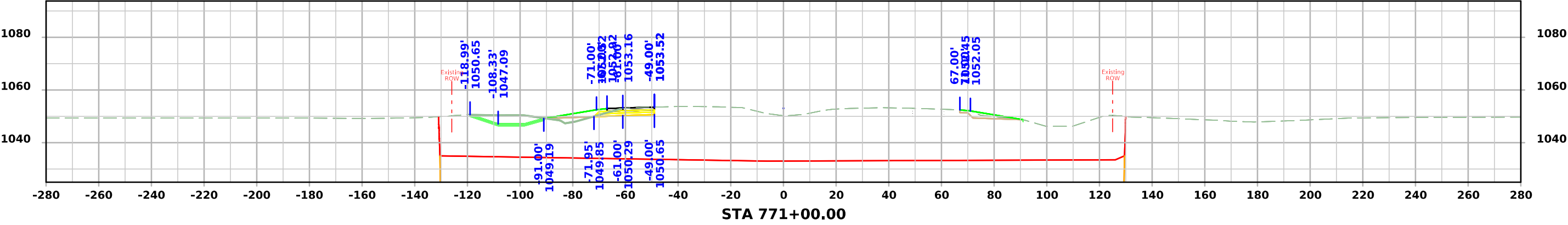
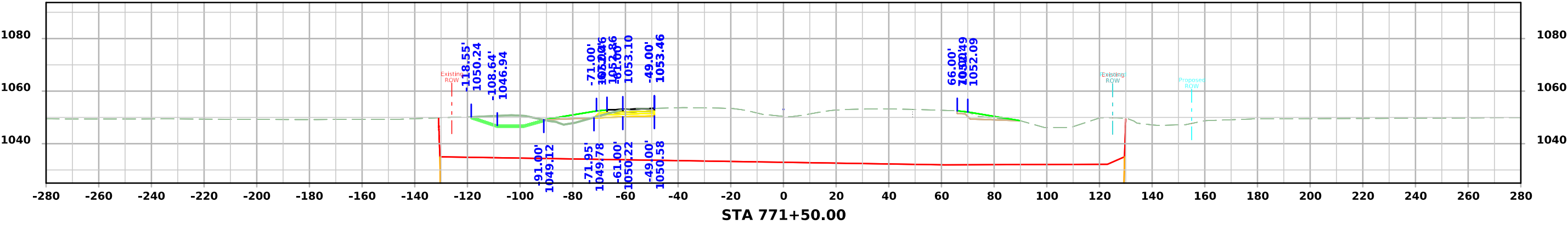
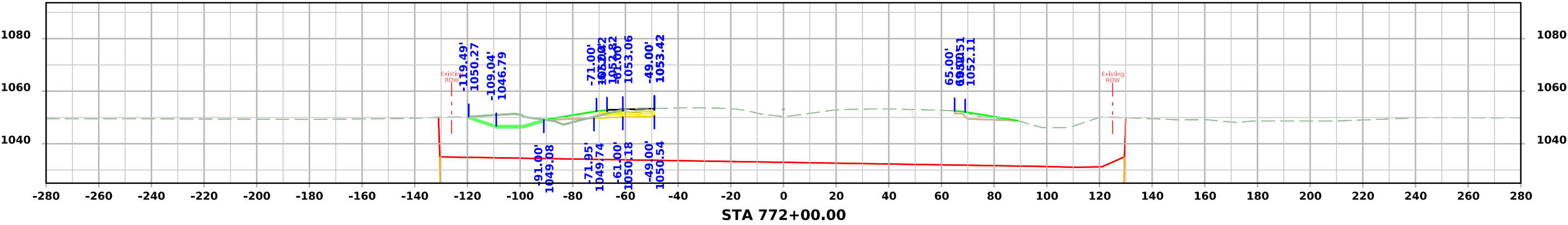




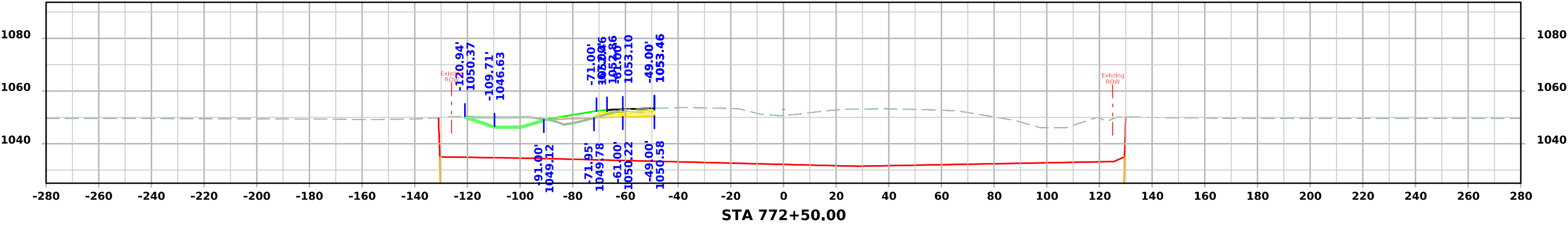
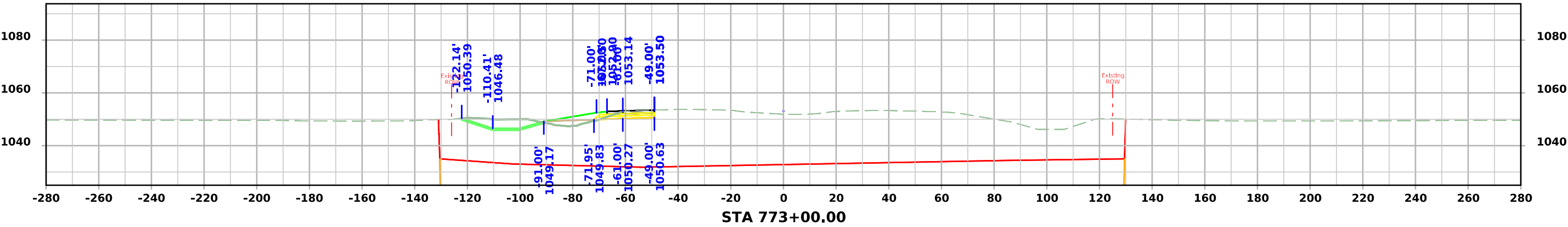
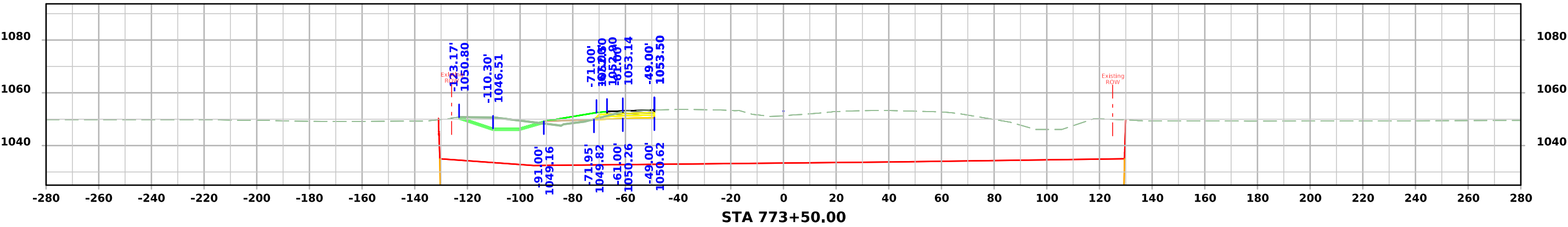
I-29 - Stage 6



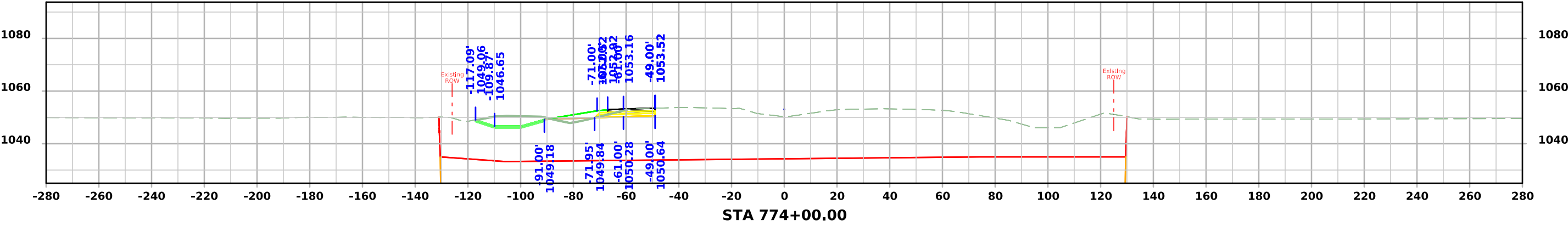
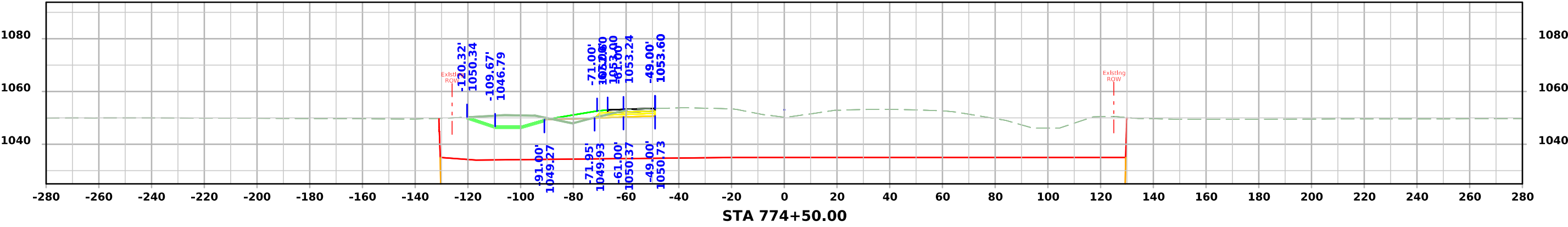
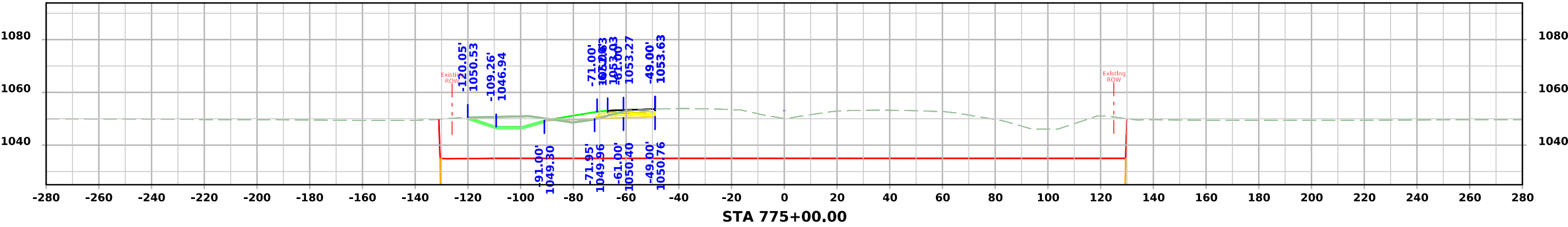
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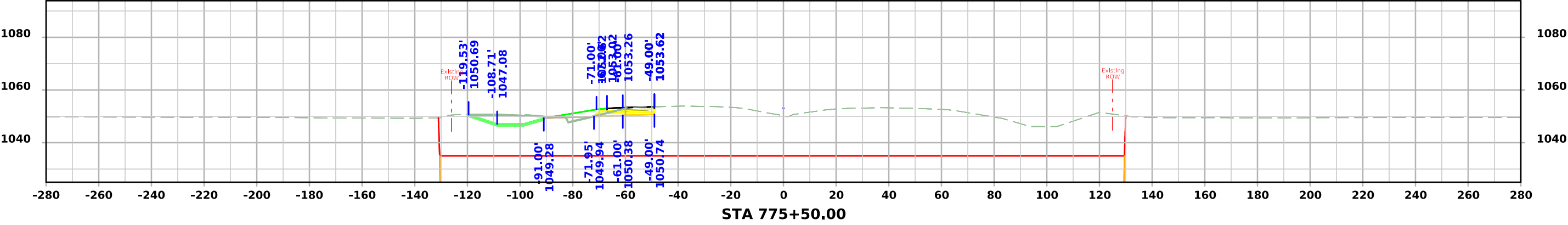
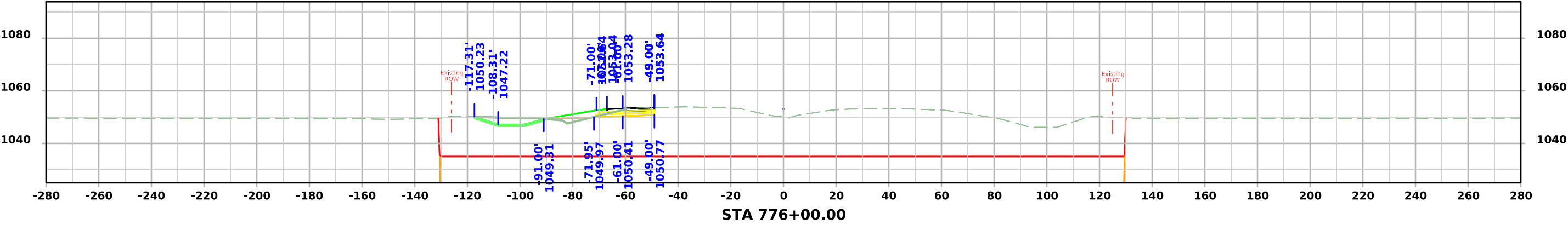
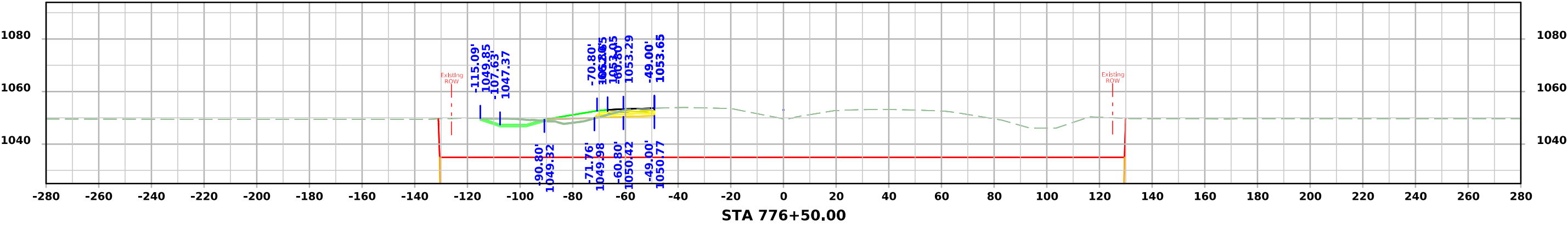
I-29 - Stage 6



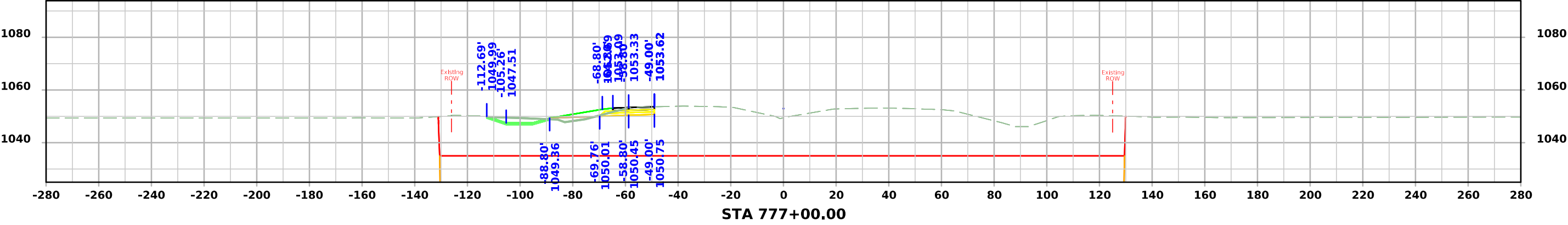
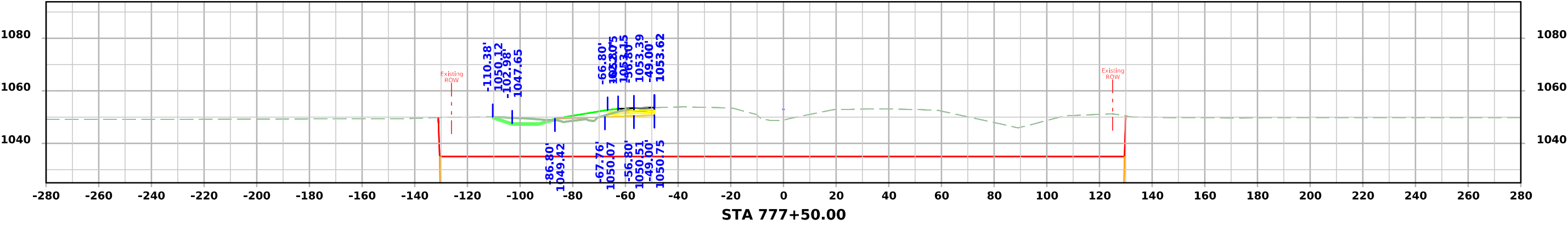
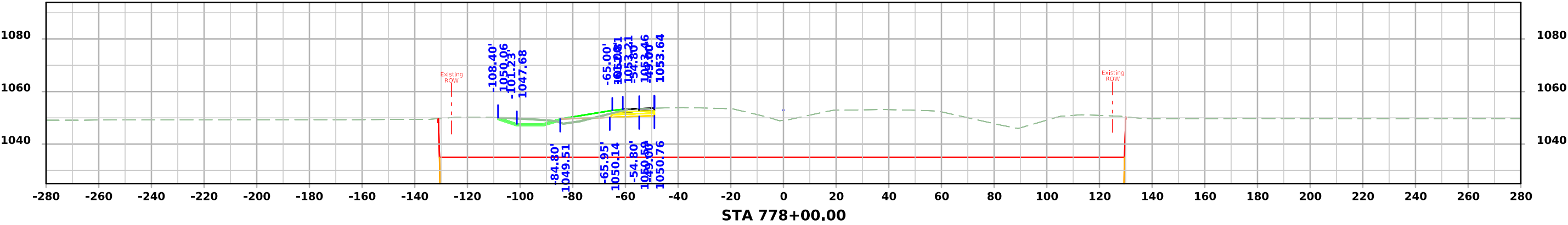
I-29 - Stage 6



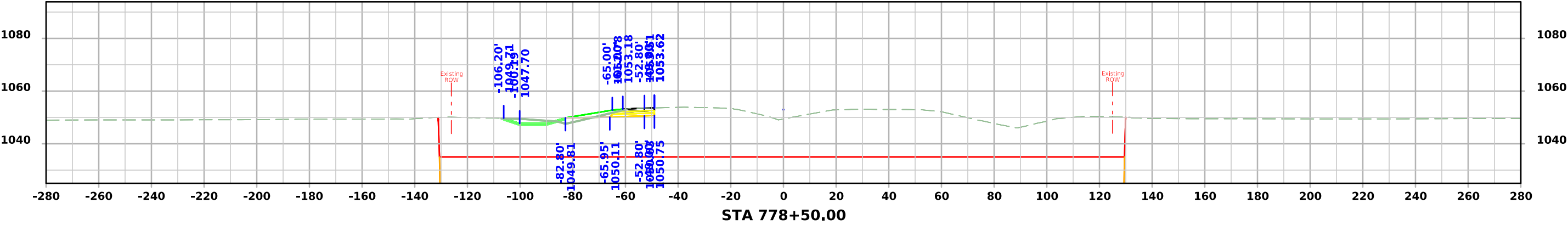
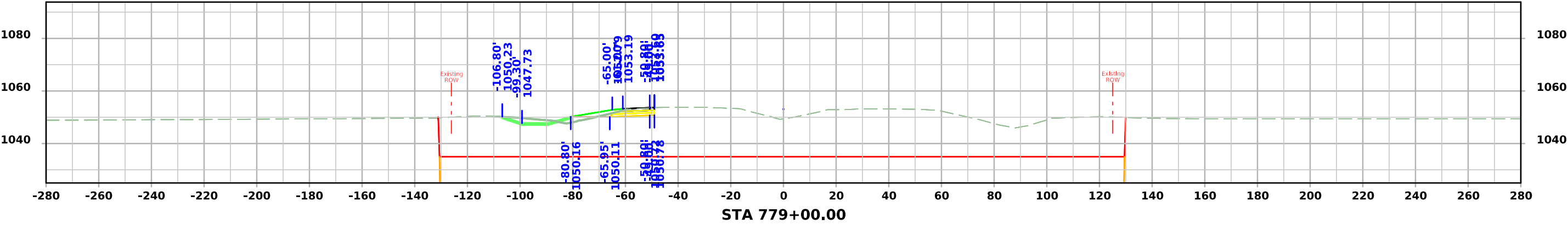
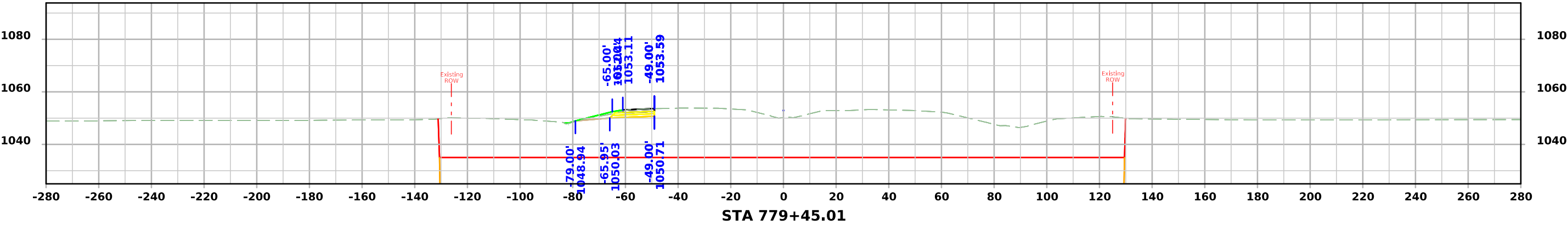
I-29 - Stage 6



I-29 - Stage 6

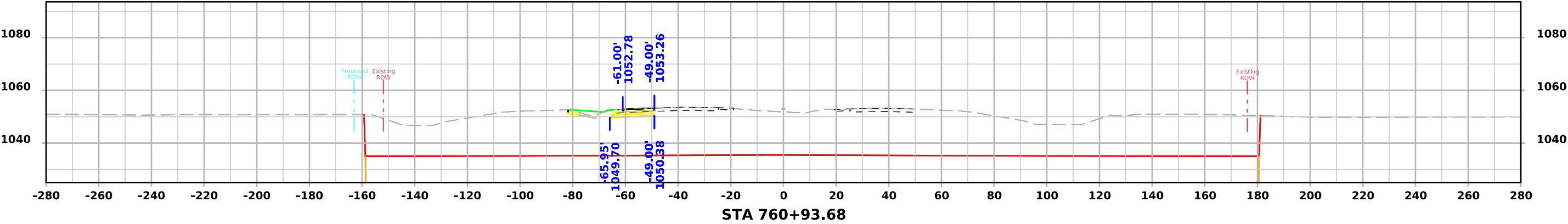
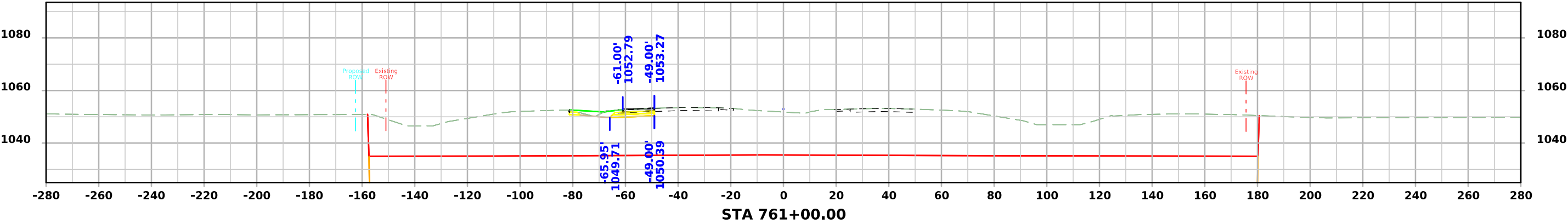
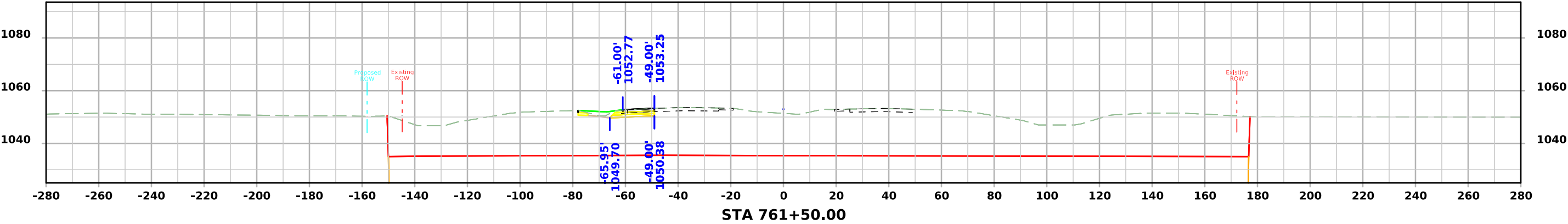


I-29 - Stage 6

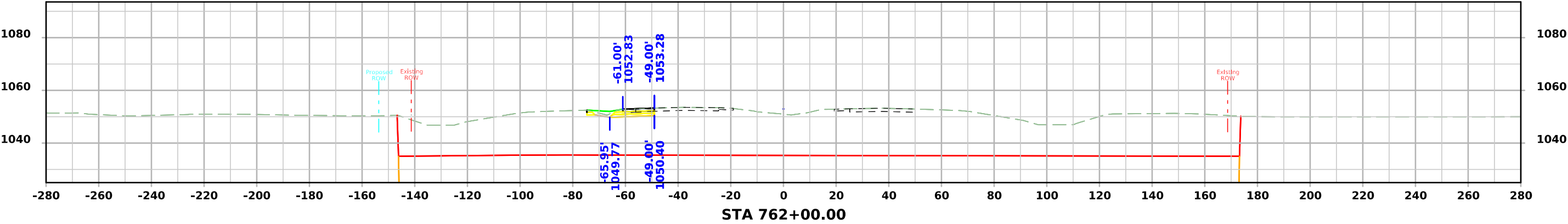
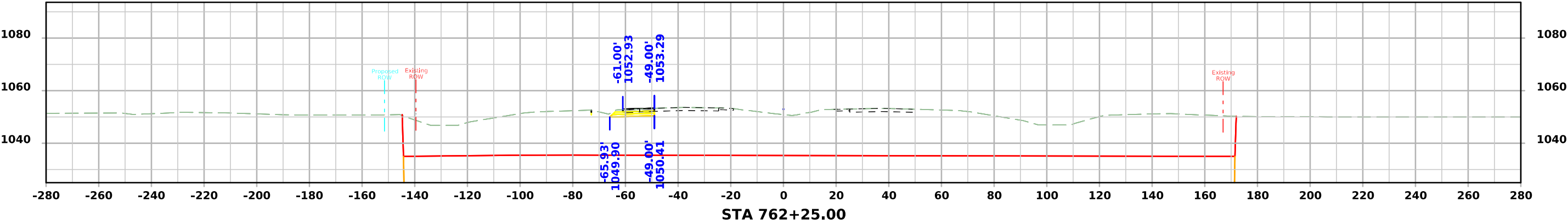




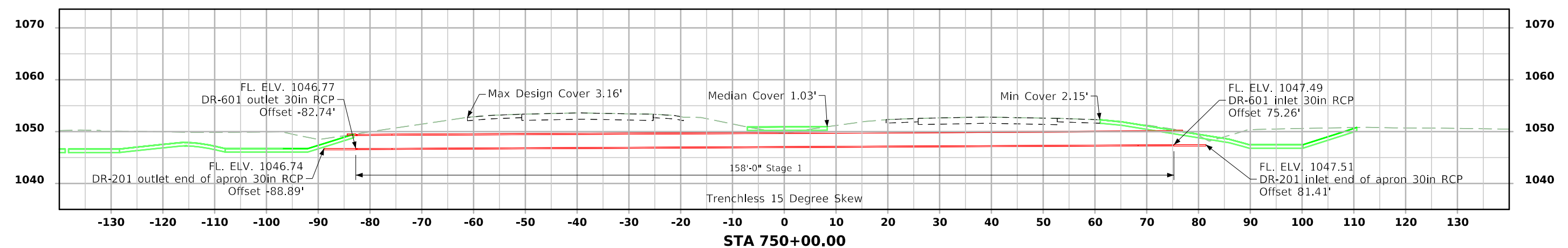
# I-29 - Stage 7



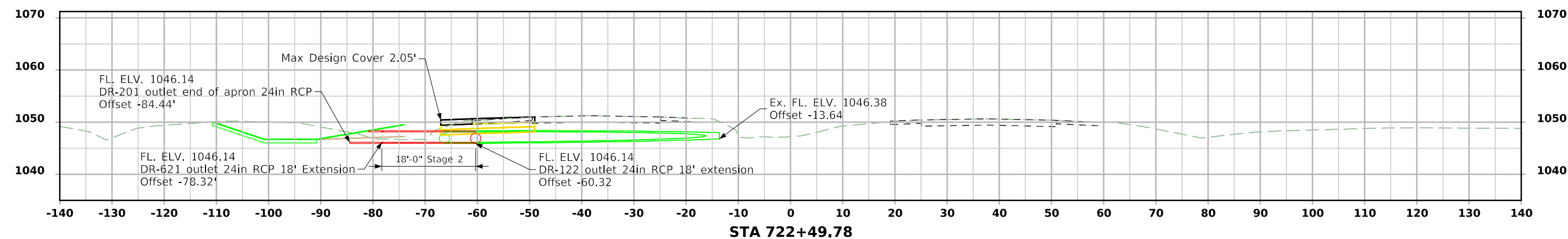
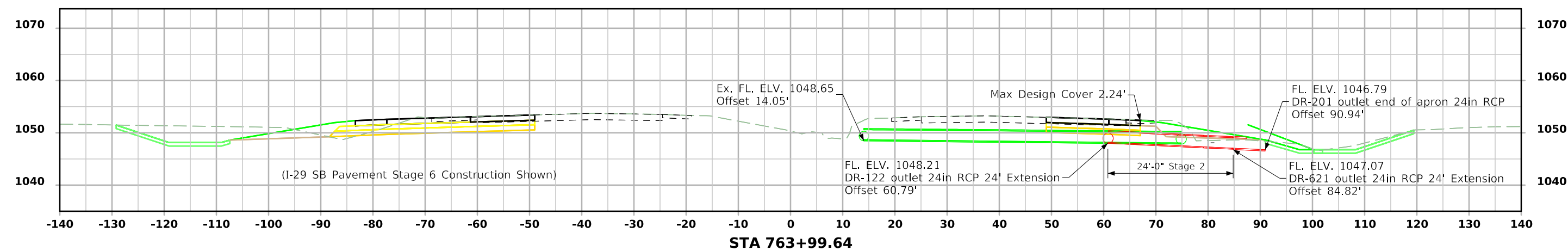
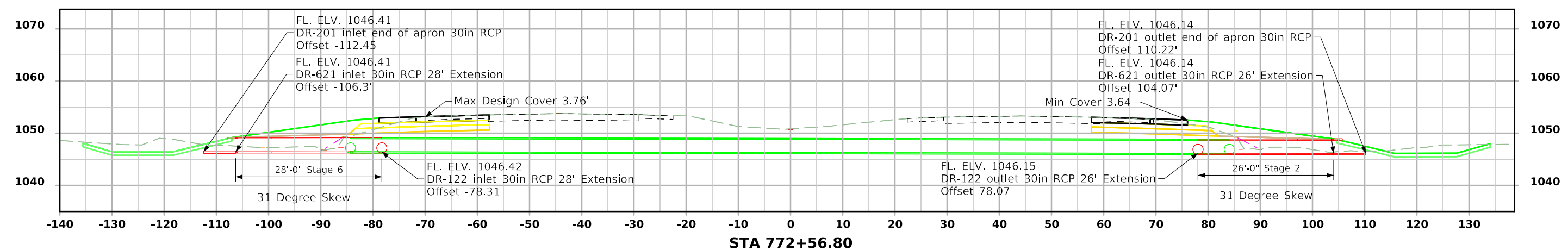
I-29 - Stage 7



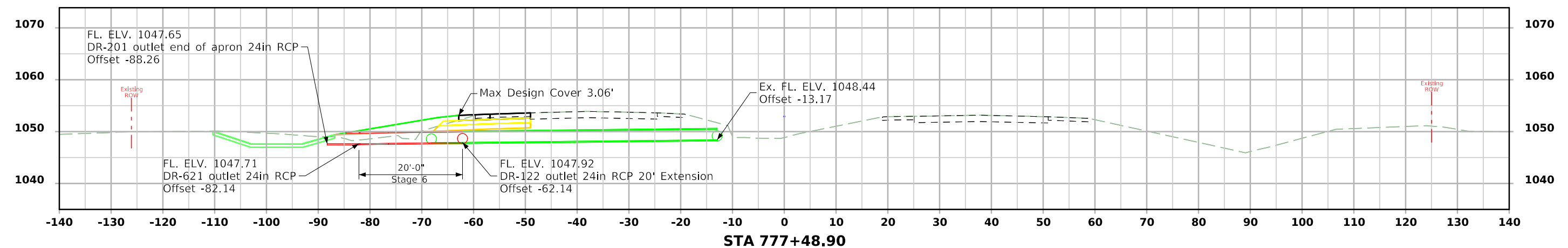
# I-29 Culverts



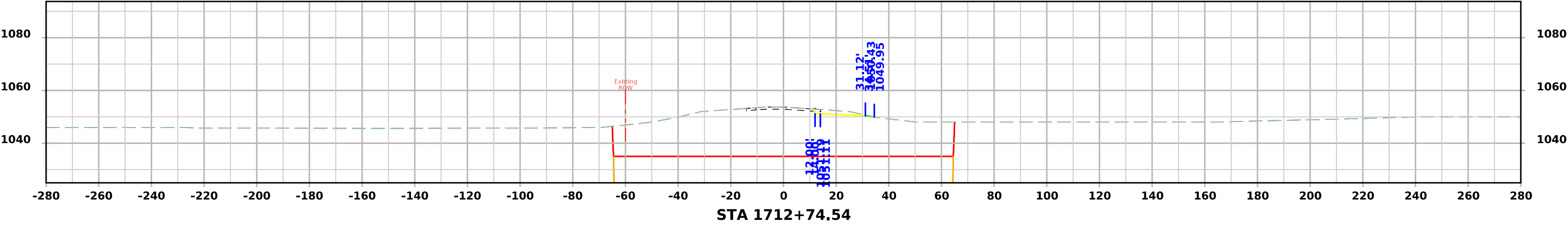
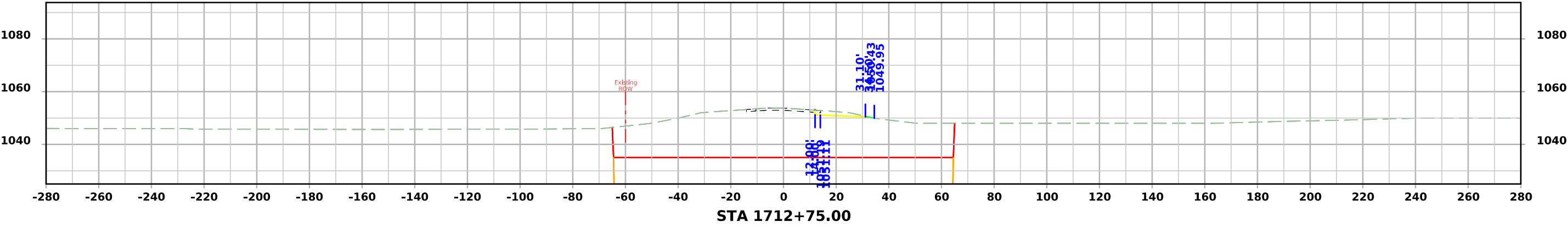
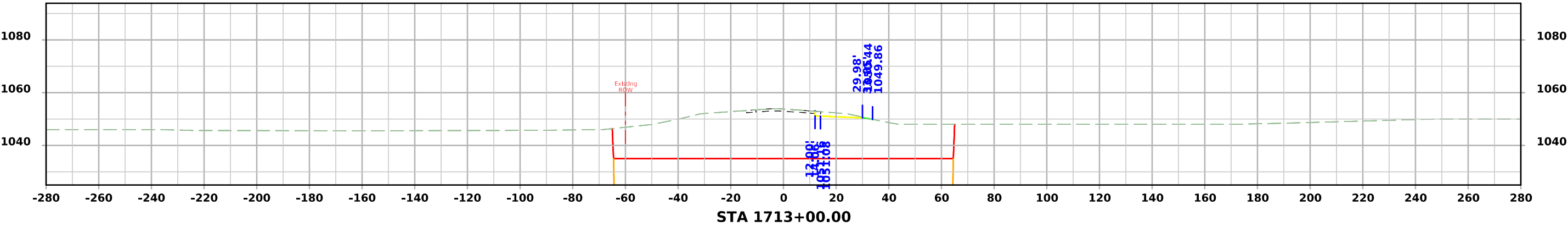
# I-29 Culverts



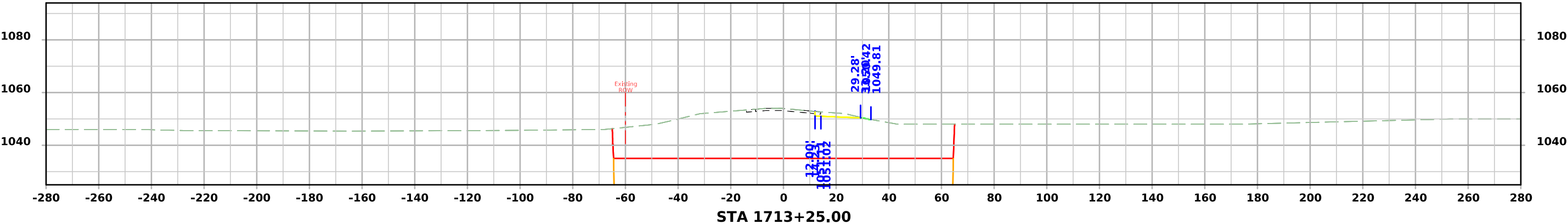
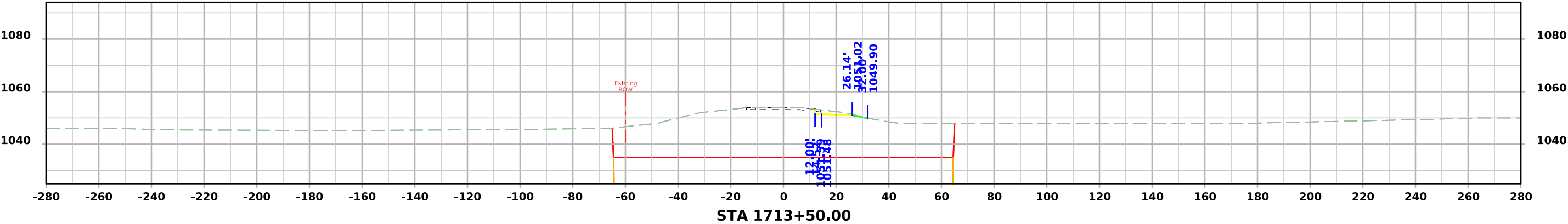
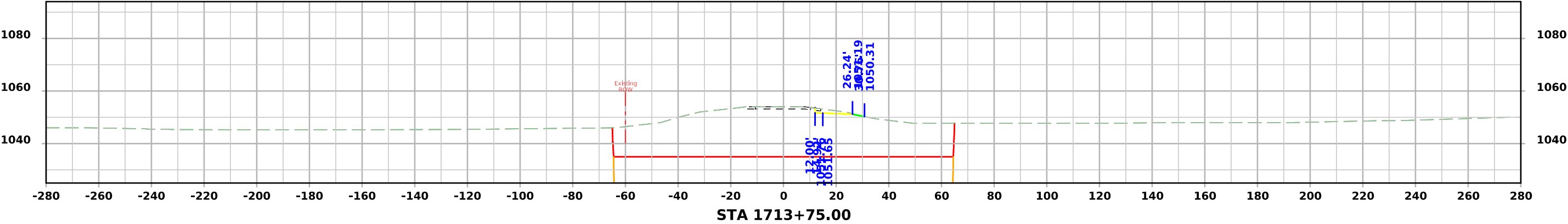
# I-29 Culverts



IA 175 - Stage 1

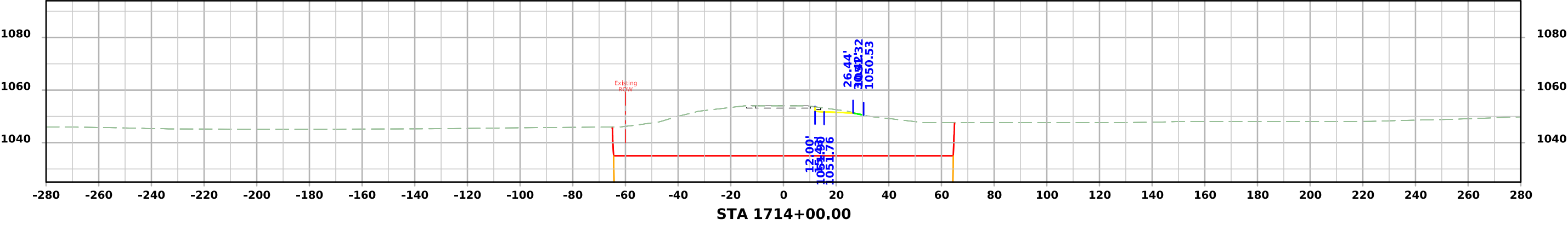
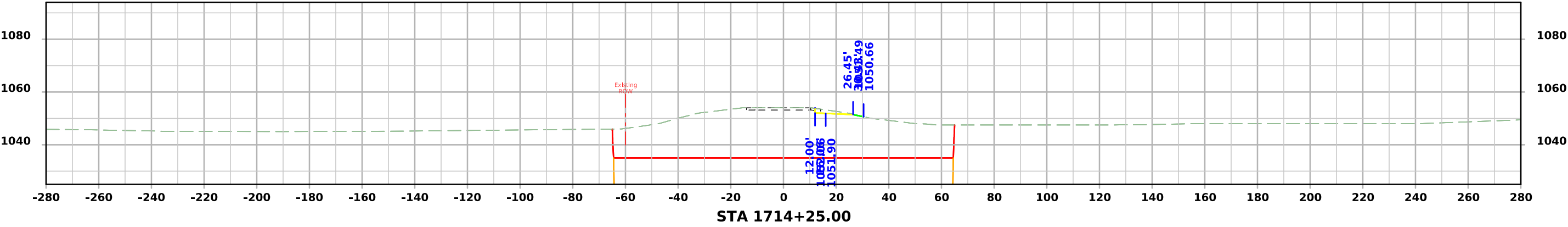
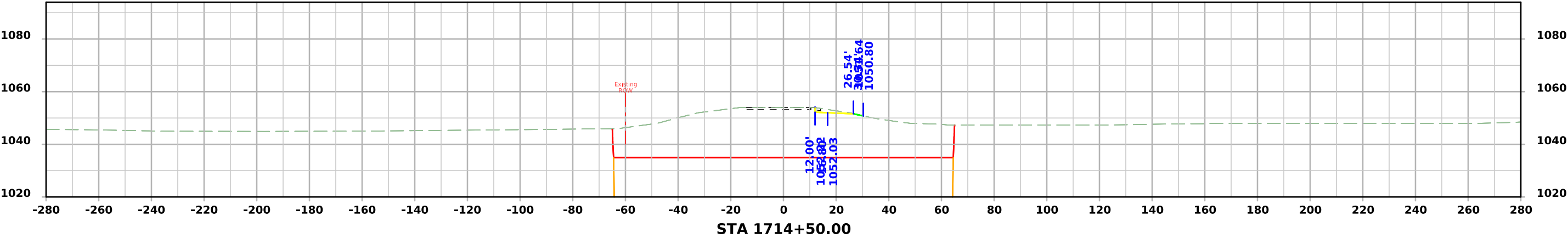


IA 175 - Stage 1

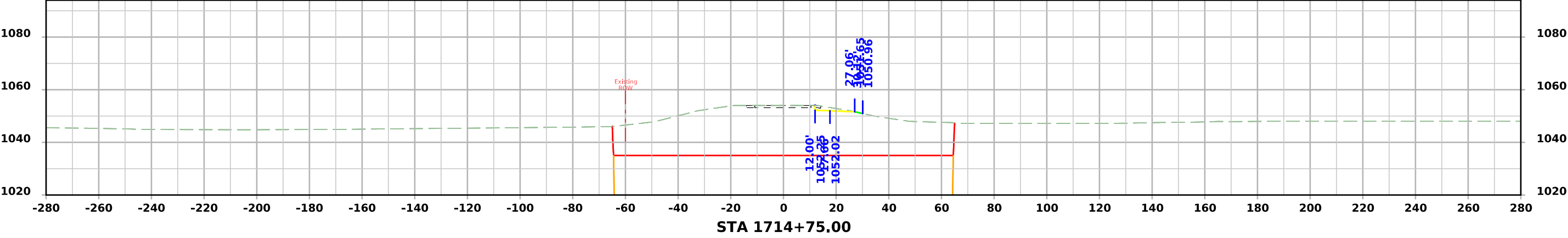
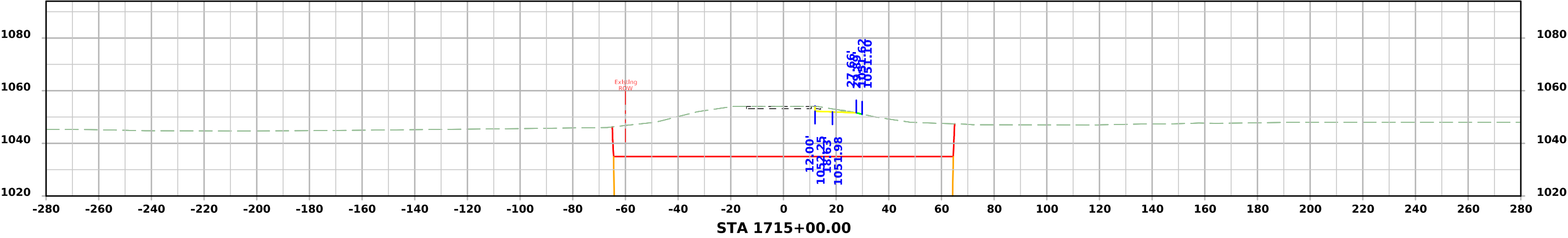
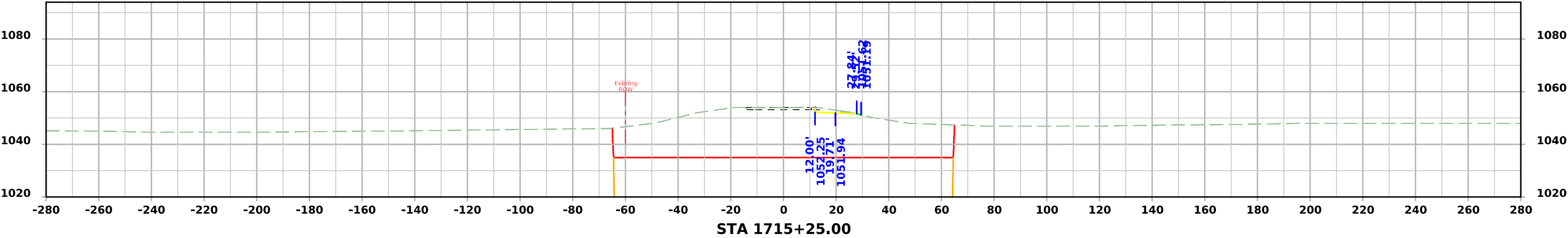




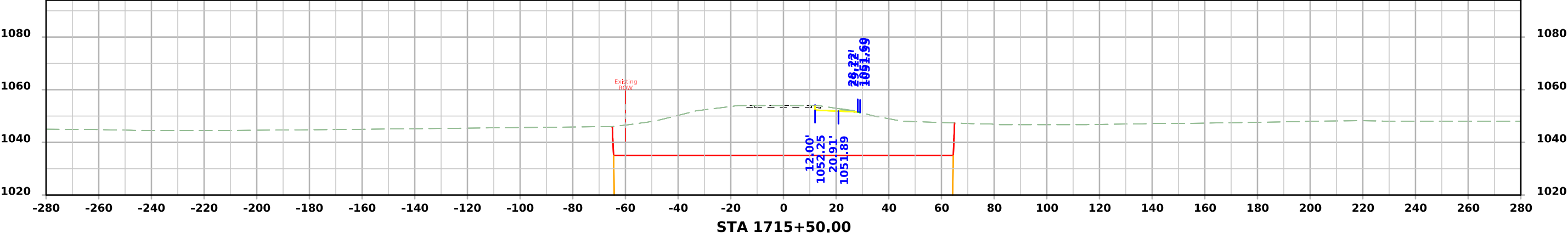
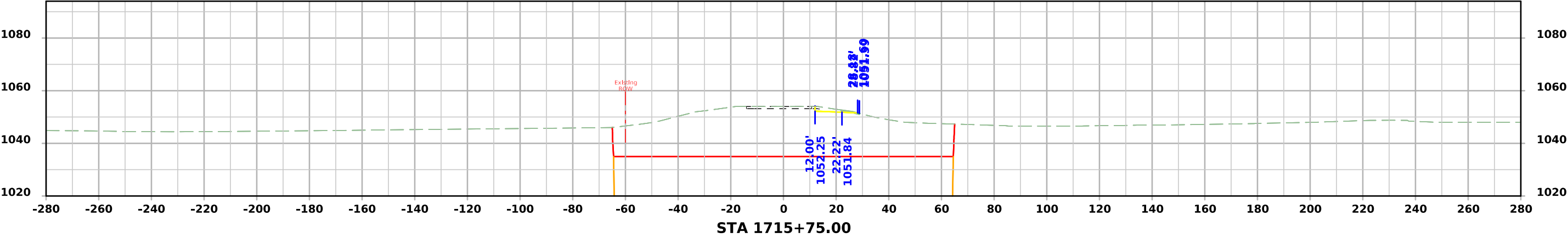
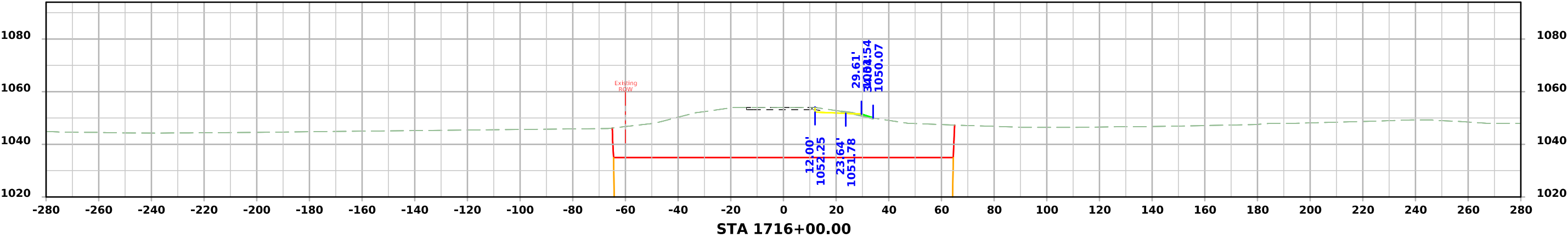
IA 175 - Stage 1



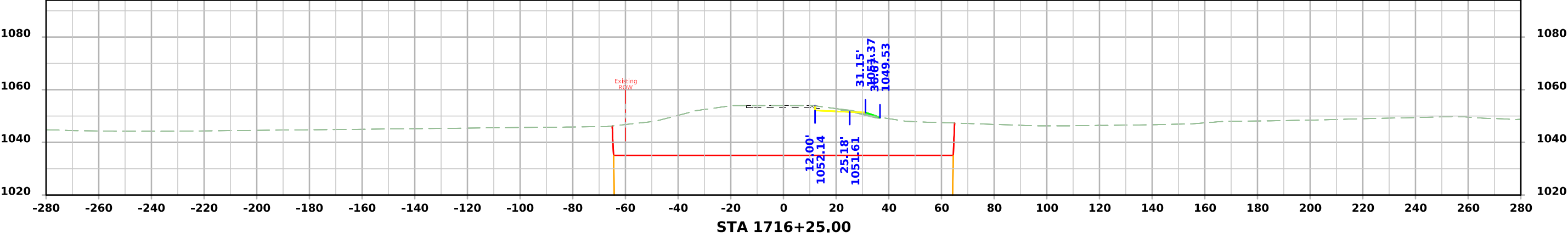
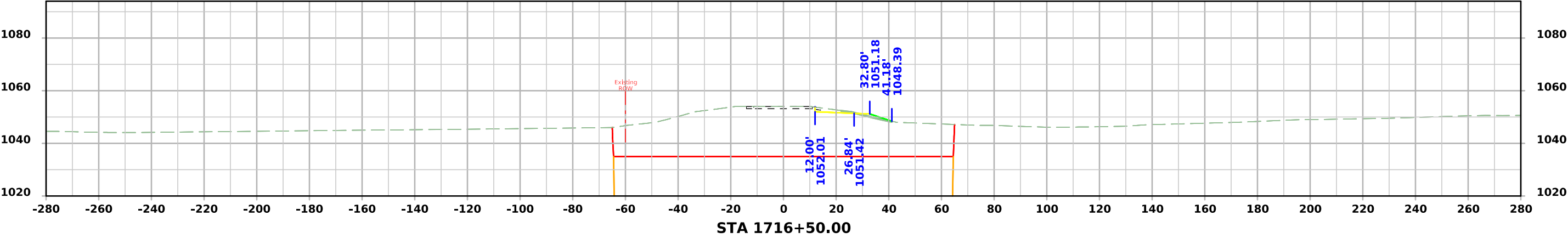
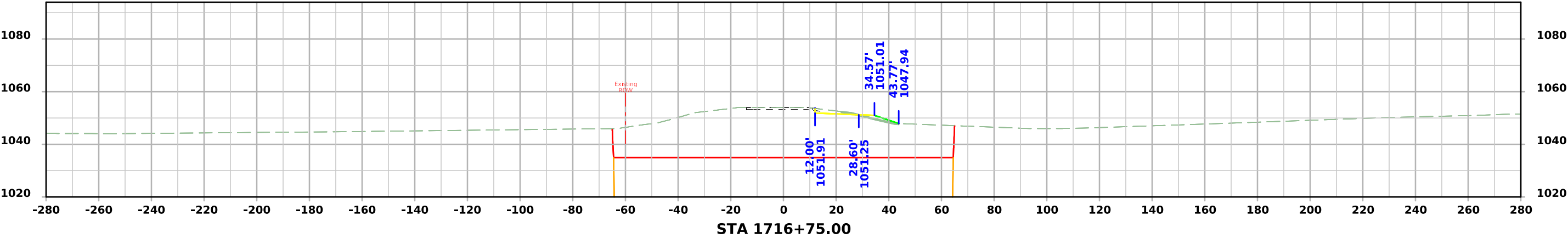
IA 175 - Stage 1



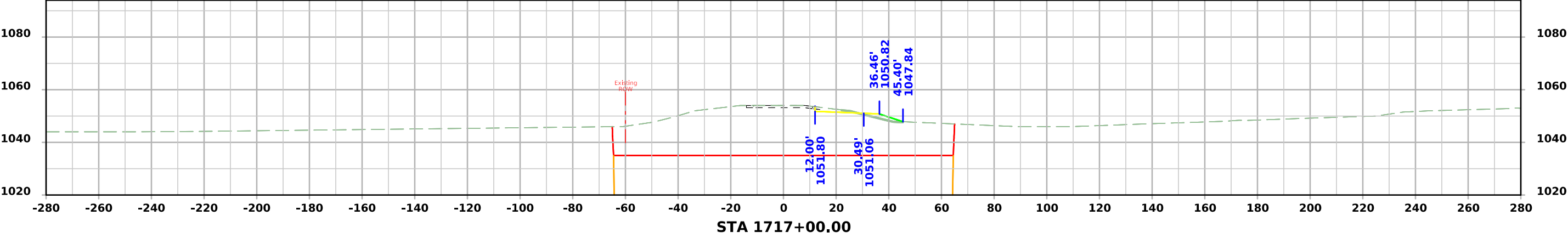
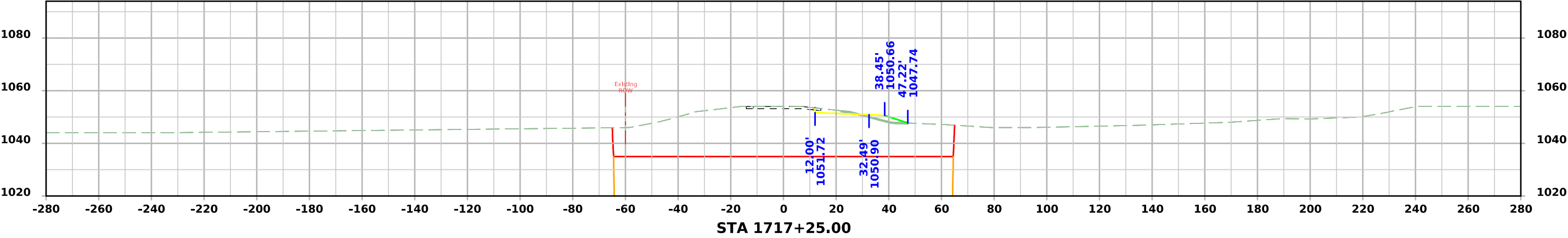
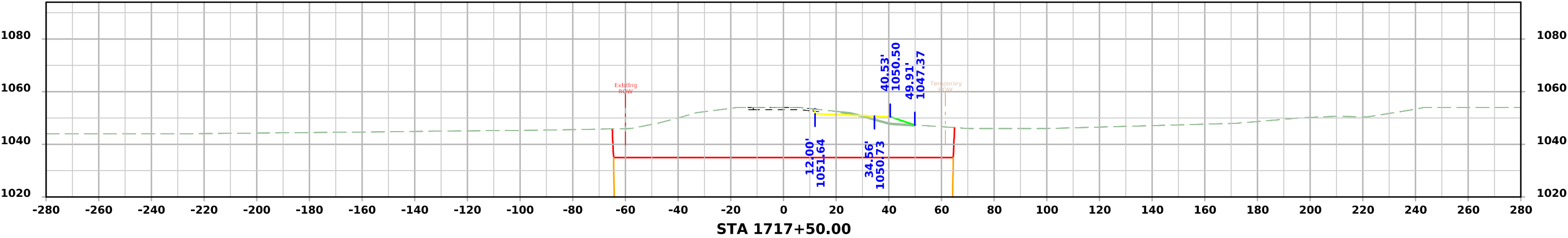
IA 175 - Stage 1



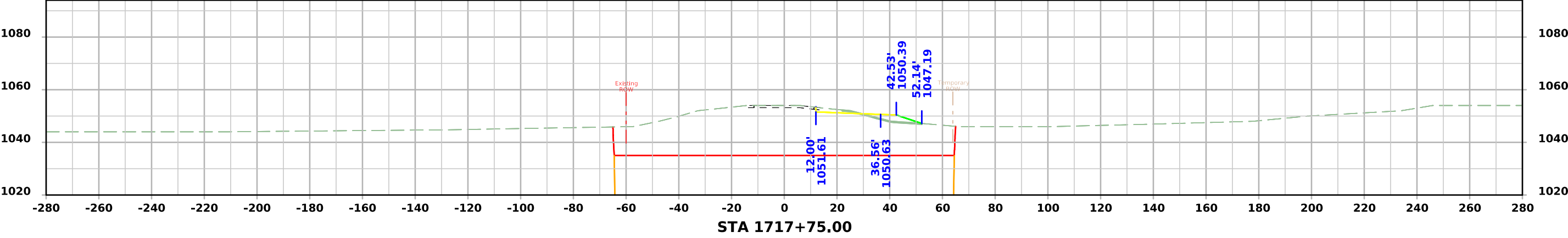
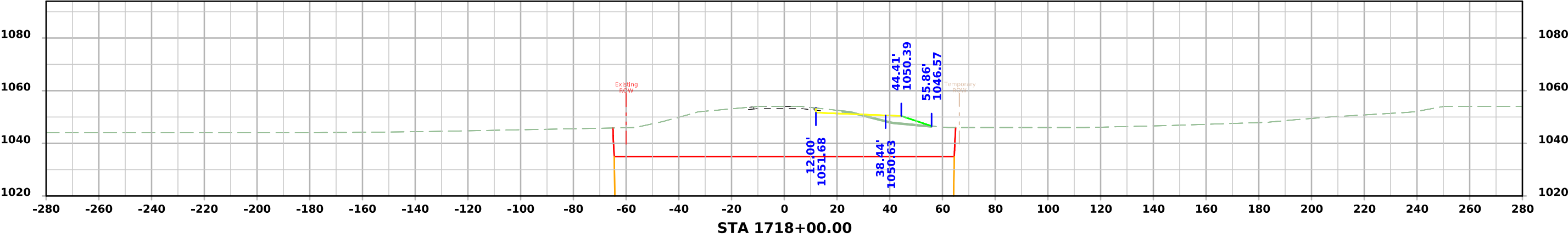
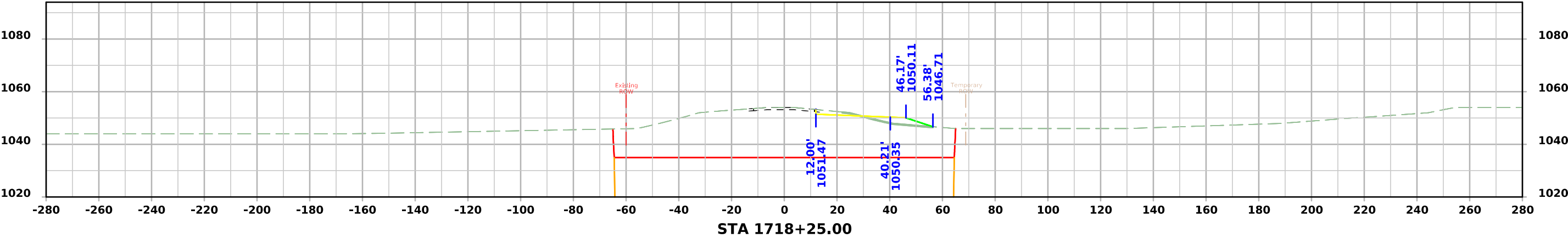
IA 175 - Stage 1



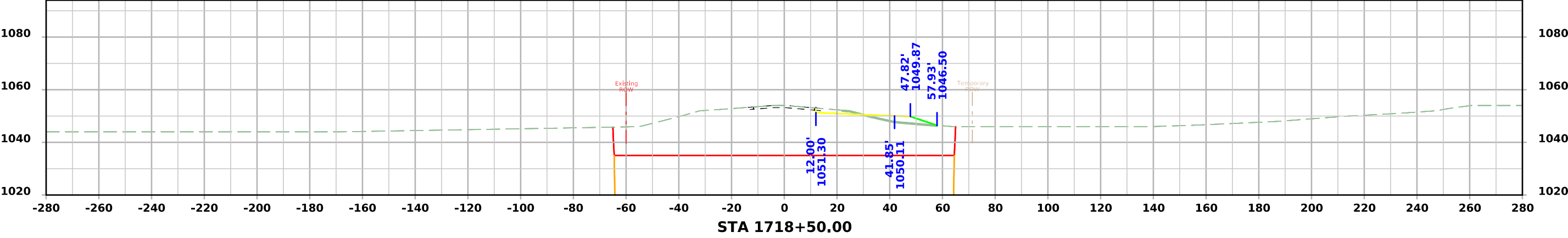
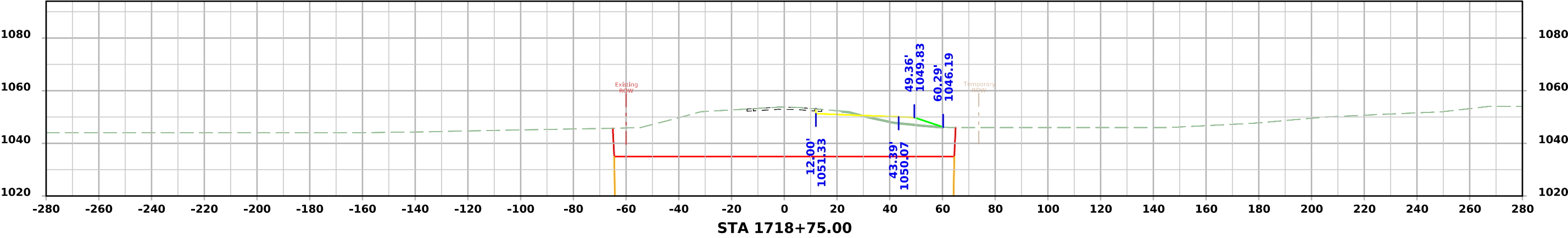
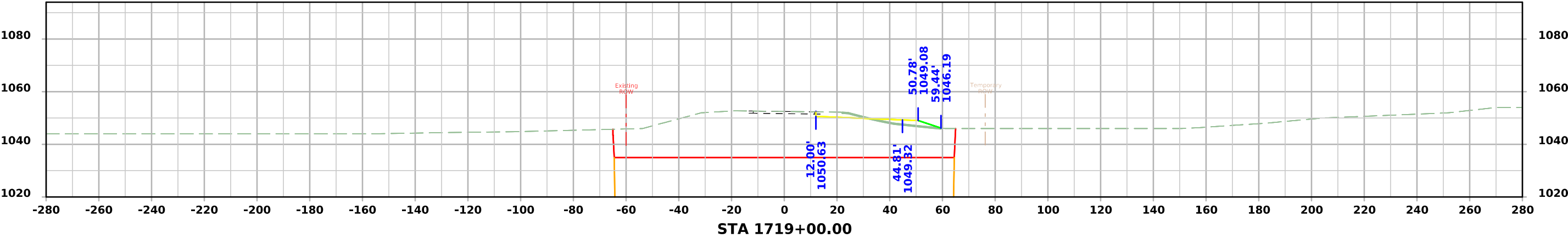
IA 175 - Stage 1



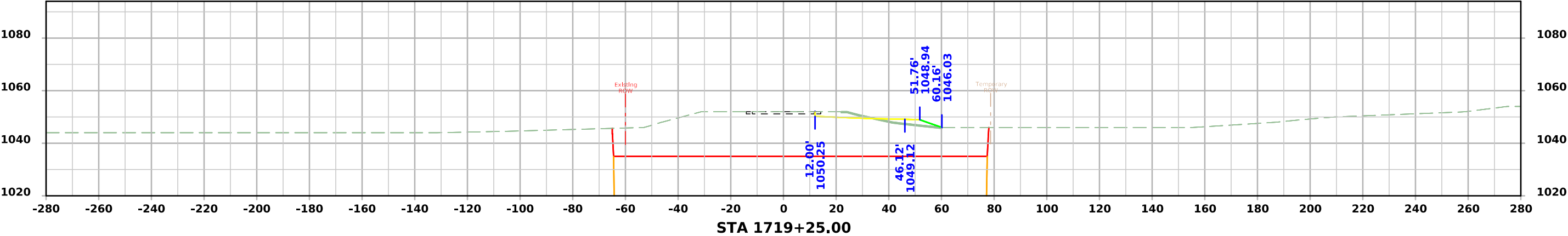
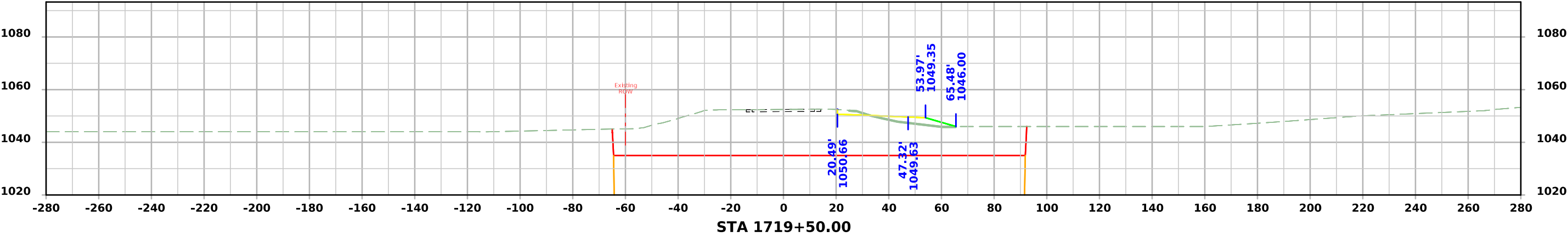
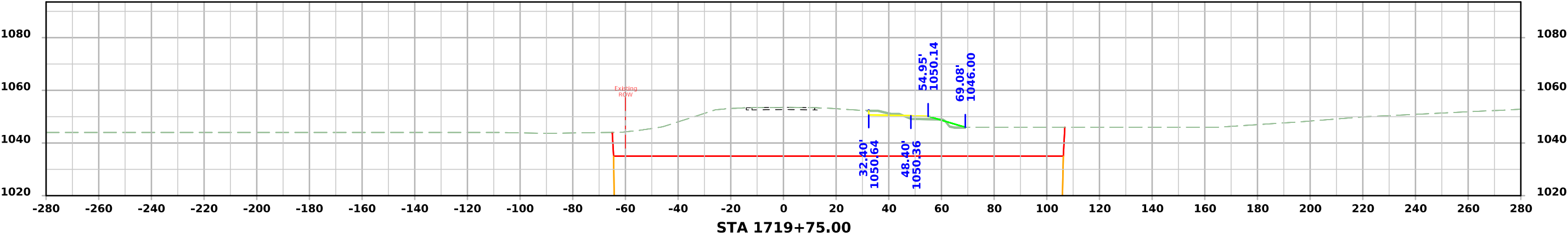
IA 175 - Stage 1



IA 175 - Stage 1

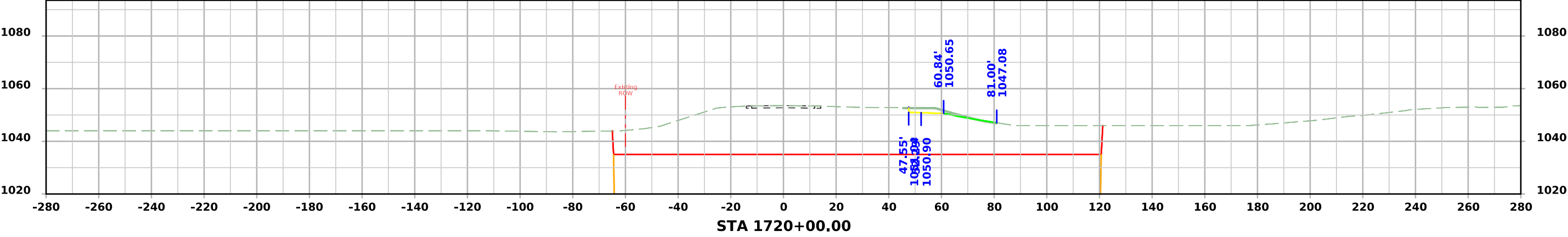
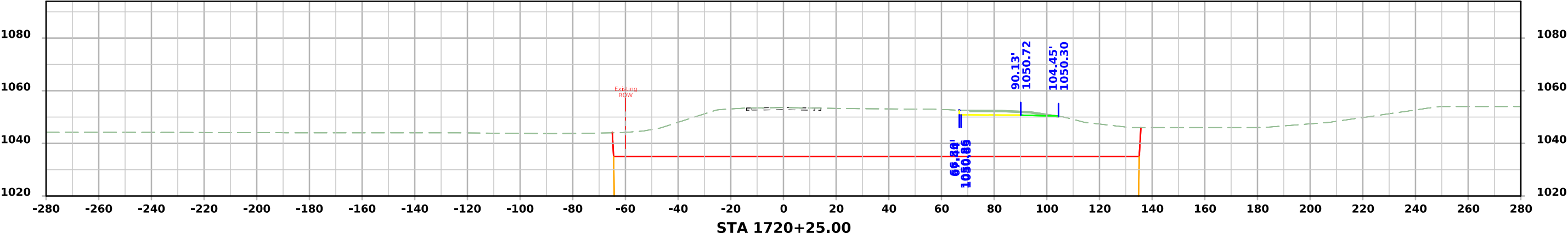
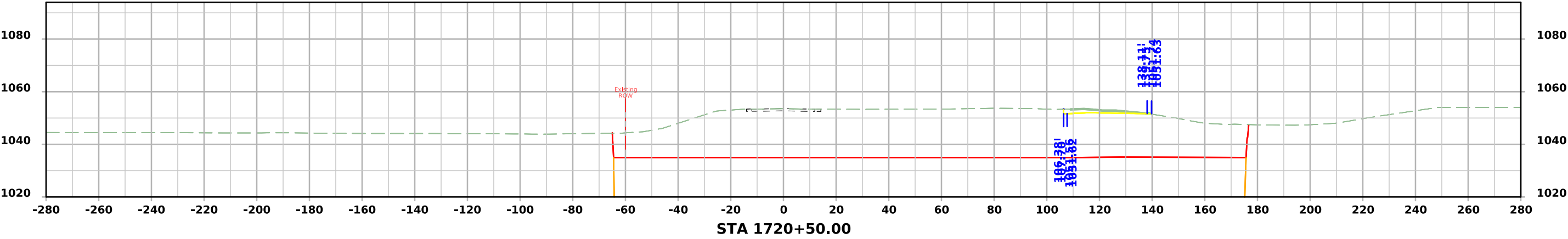


IA 175 - Stage 1

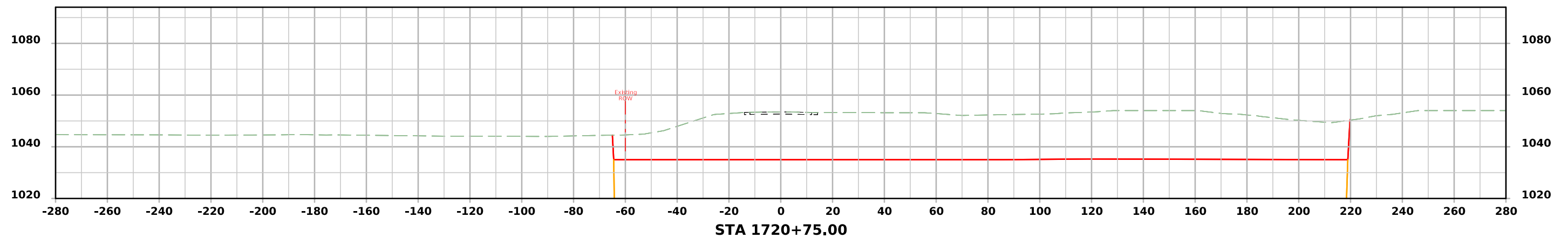
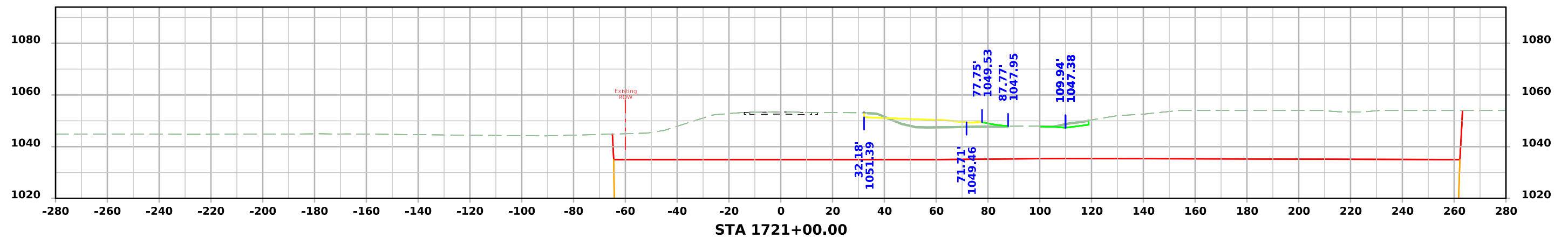
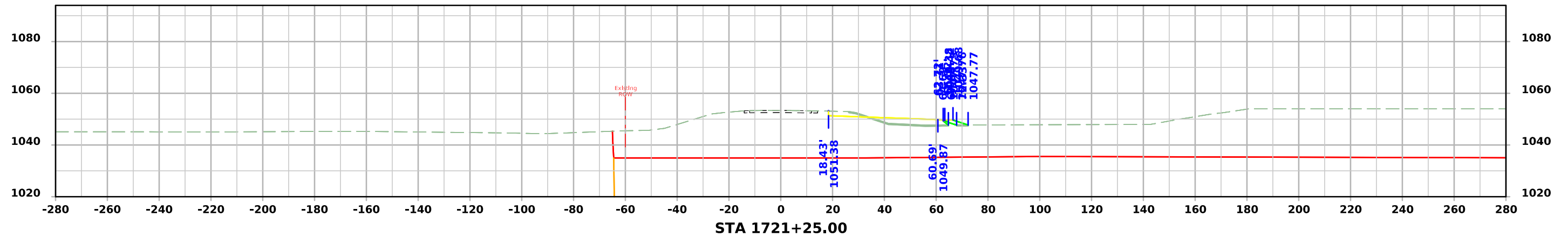




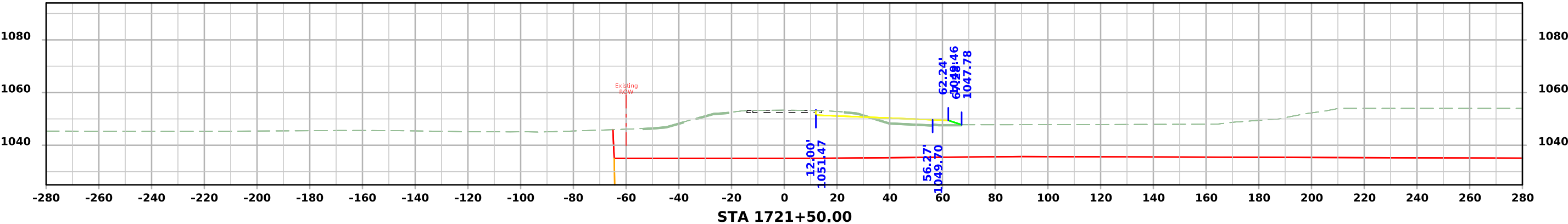
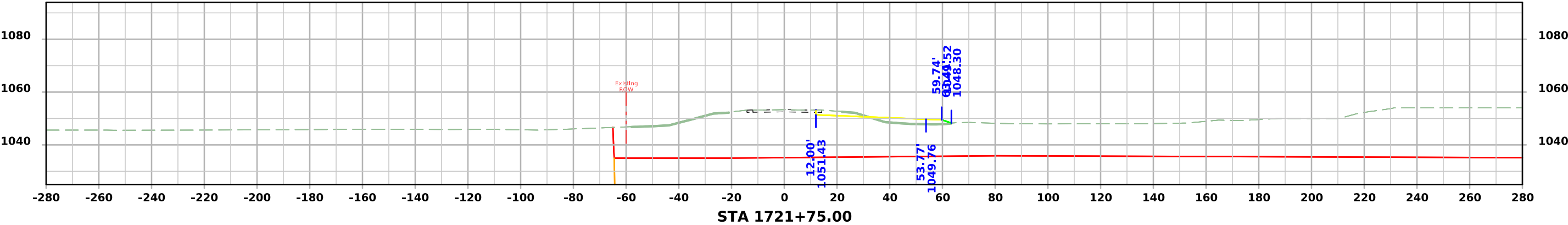
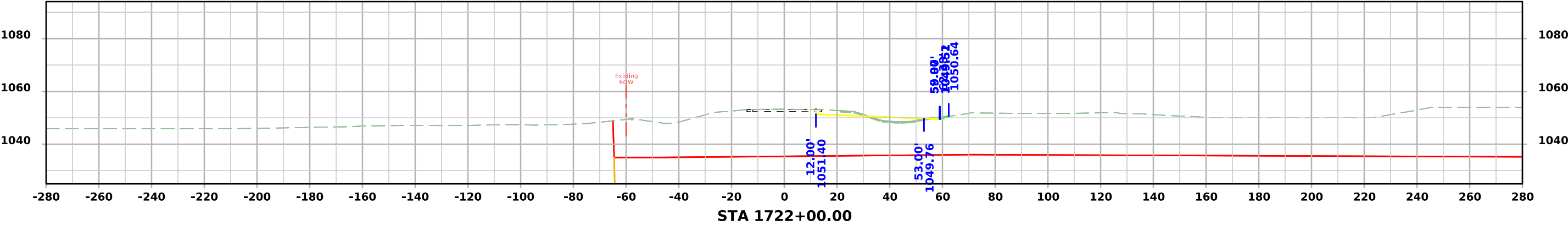
IA 175 - Stage 1



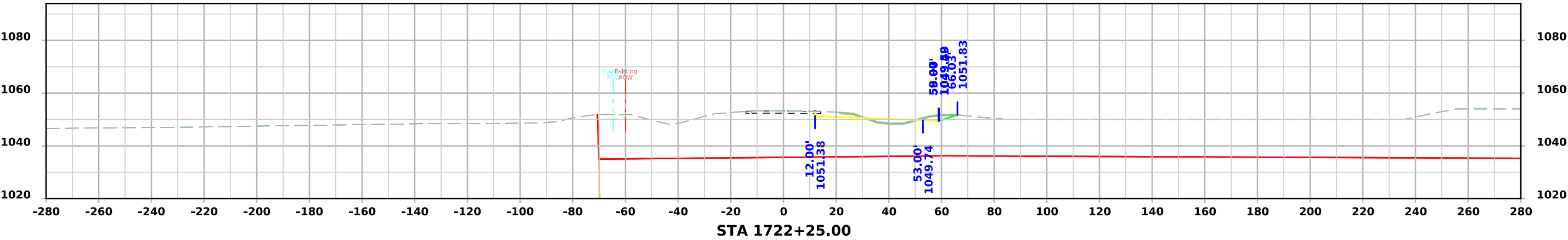
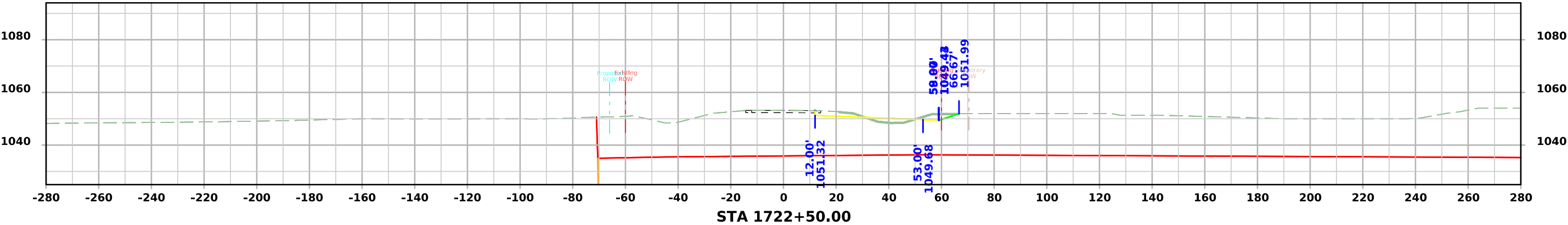
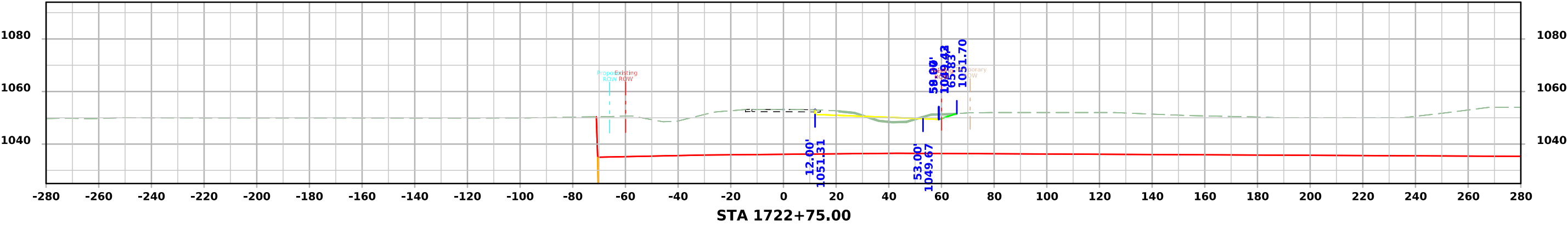
# IA 175 - Stage 1



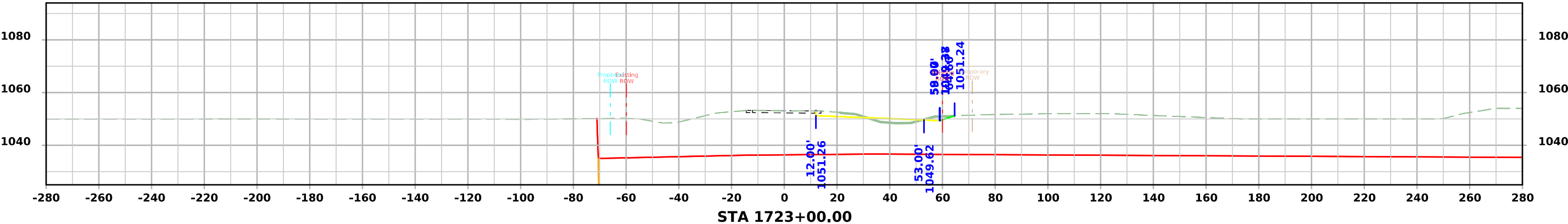
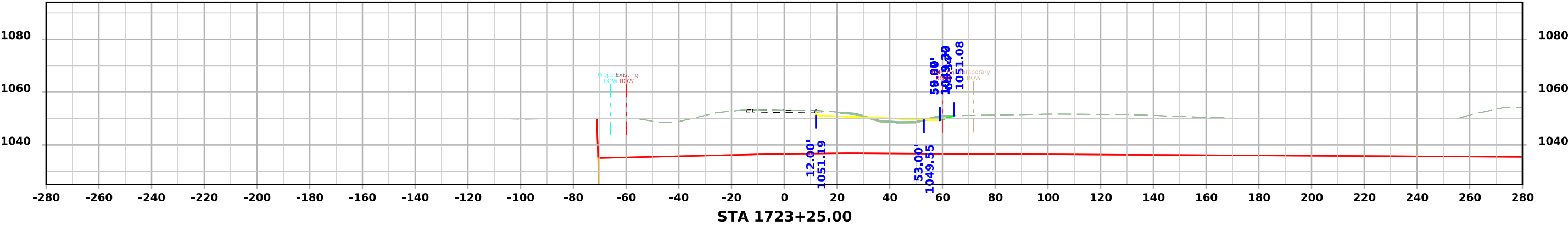
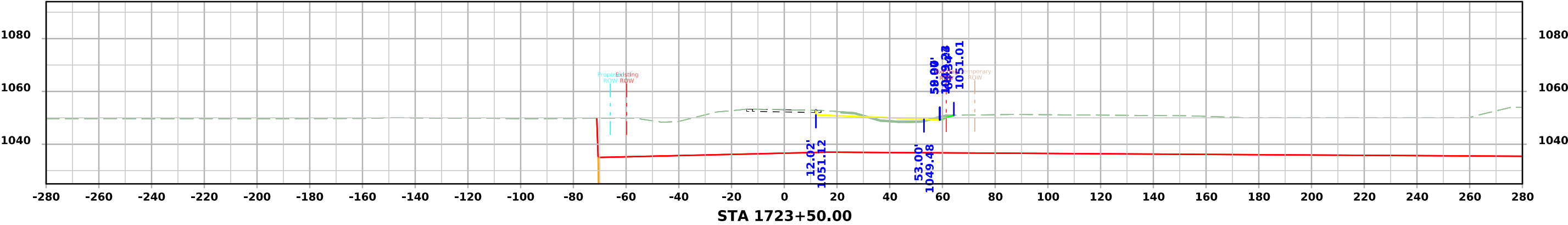
IA 175 - Stage 1



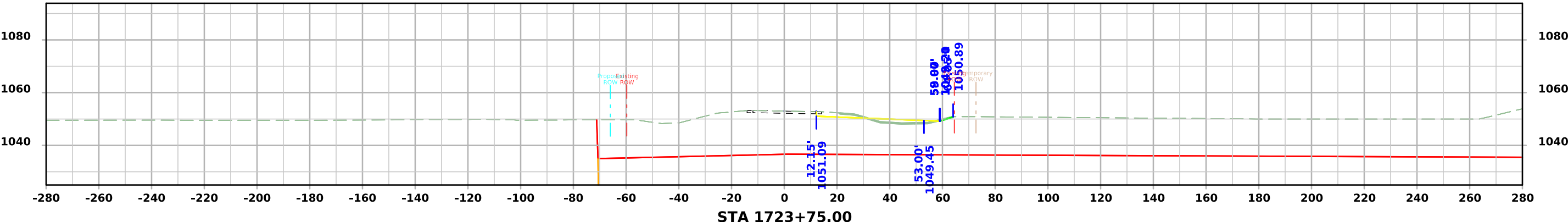
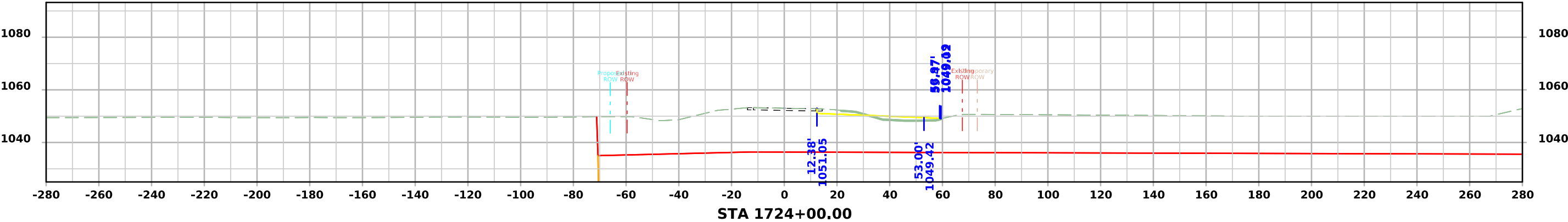
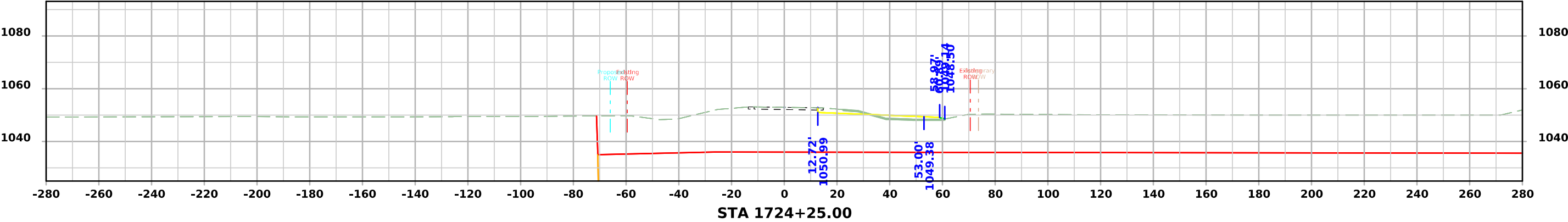
IA 175 - Stage 1



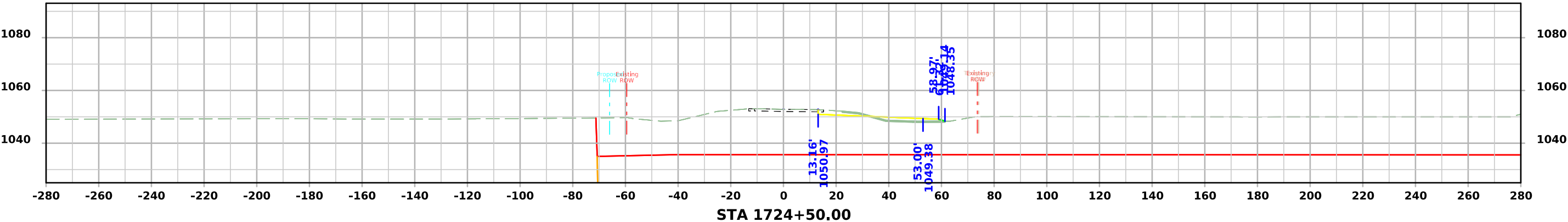
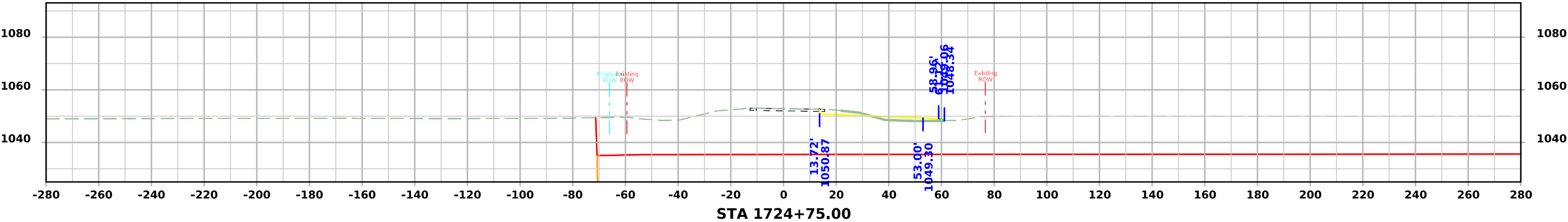
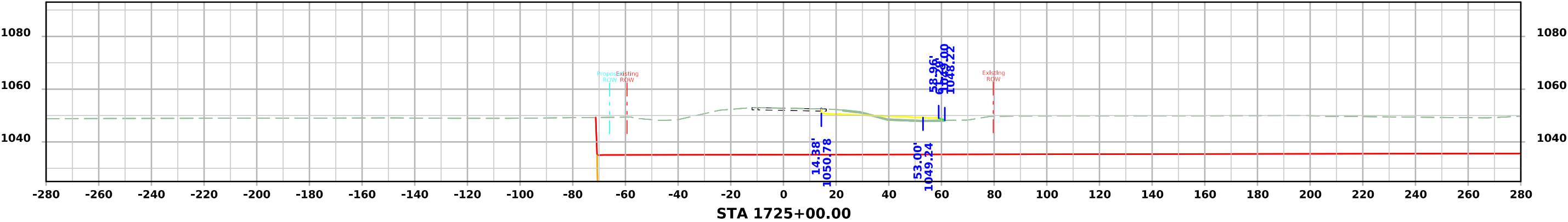
IA 175 - Stage 1



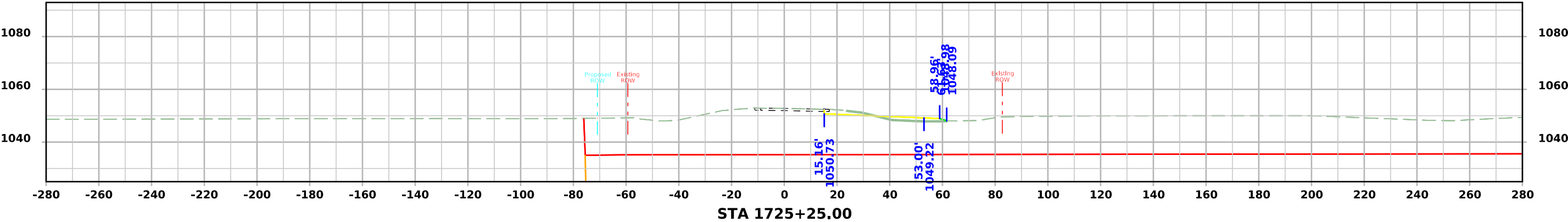
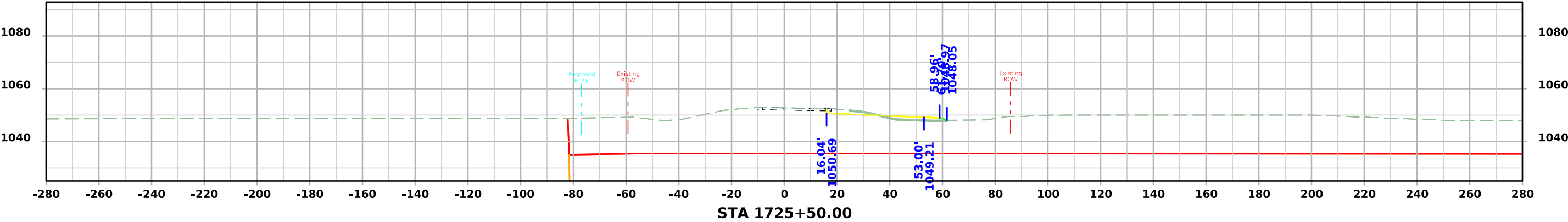
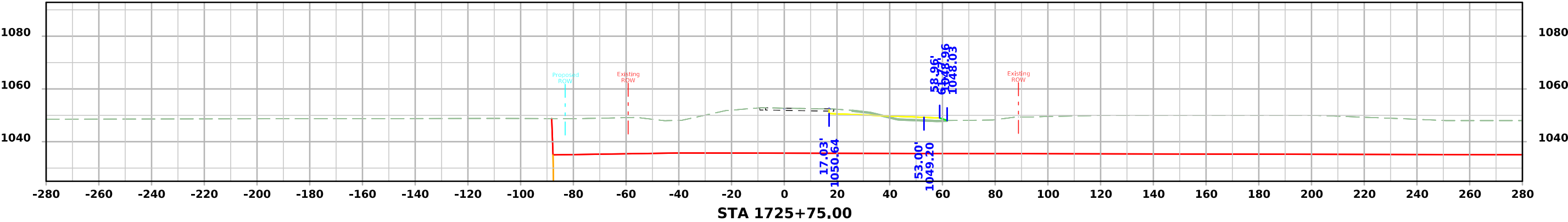
IA 175 - Stage 1



IA 175 - Stage 1

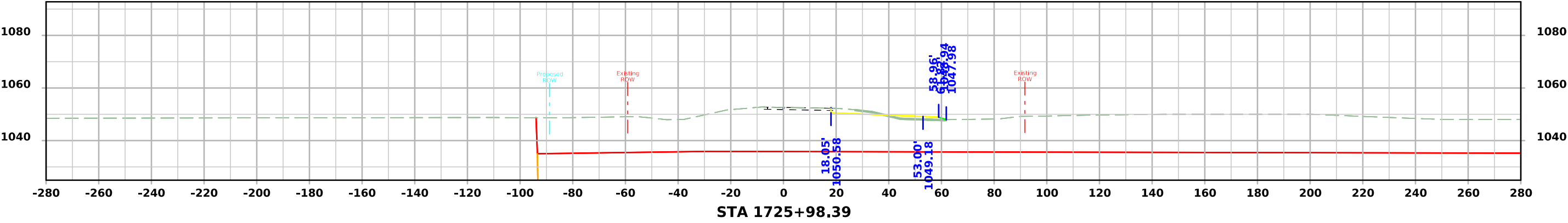
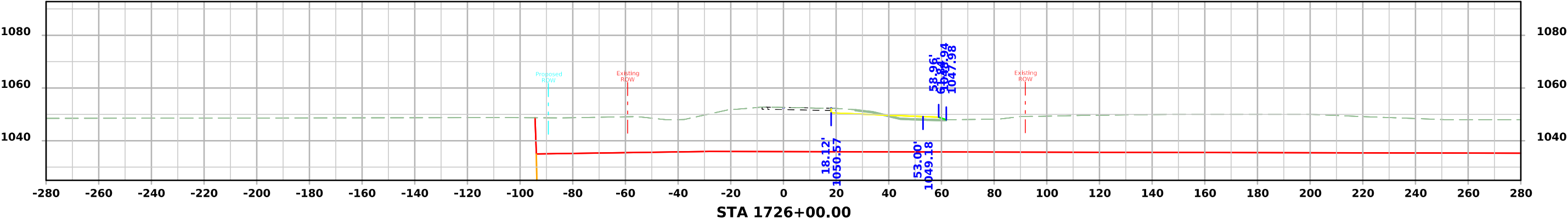
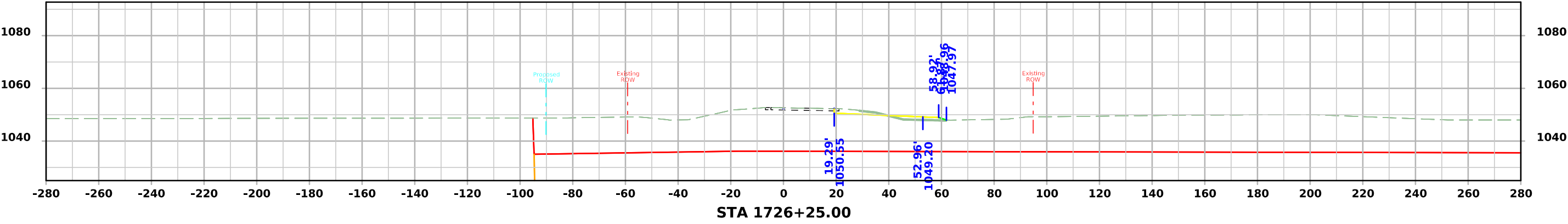


IA 175 - Stage 1

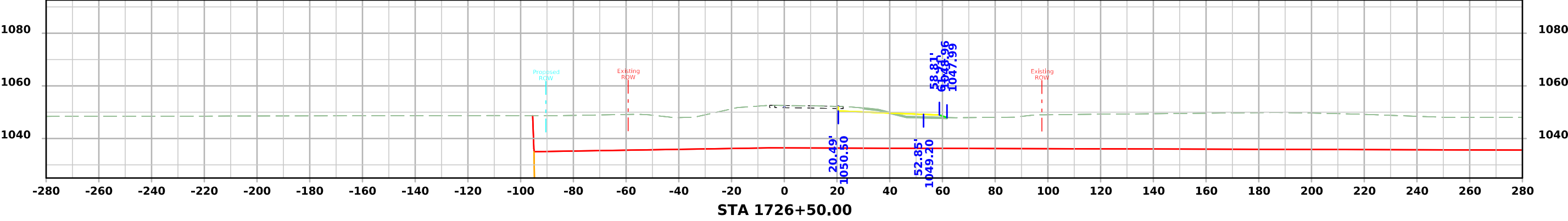
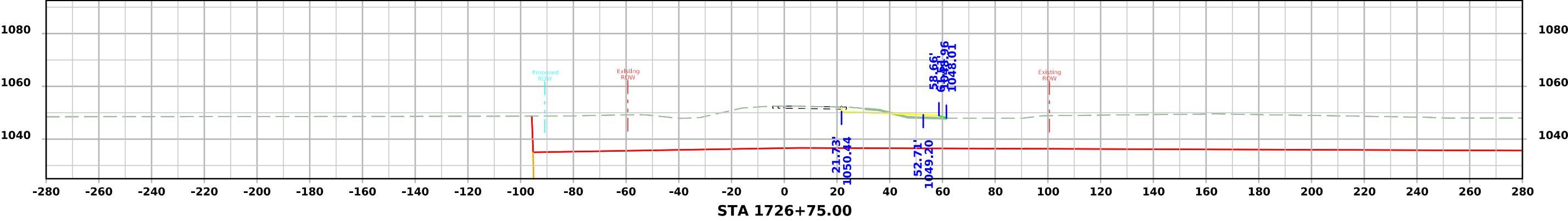
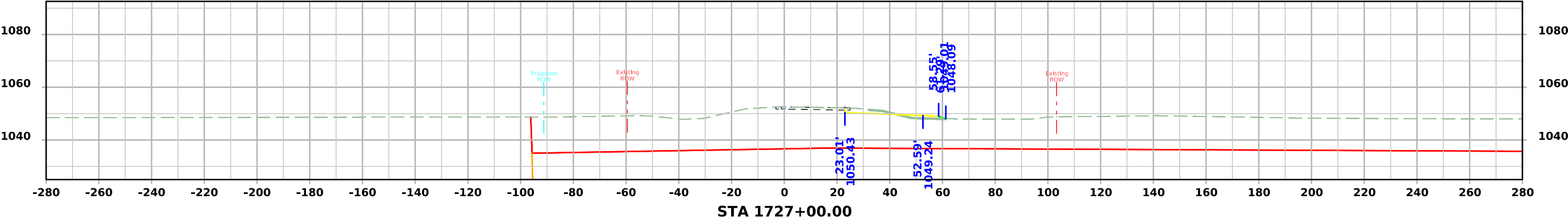




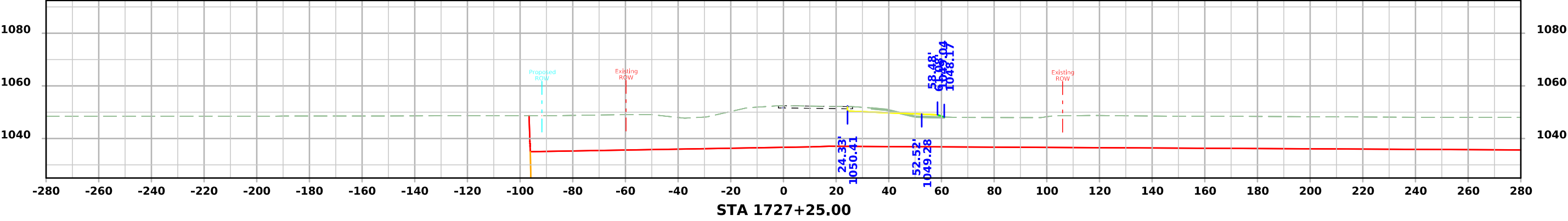
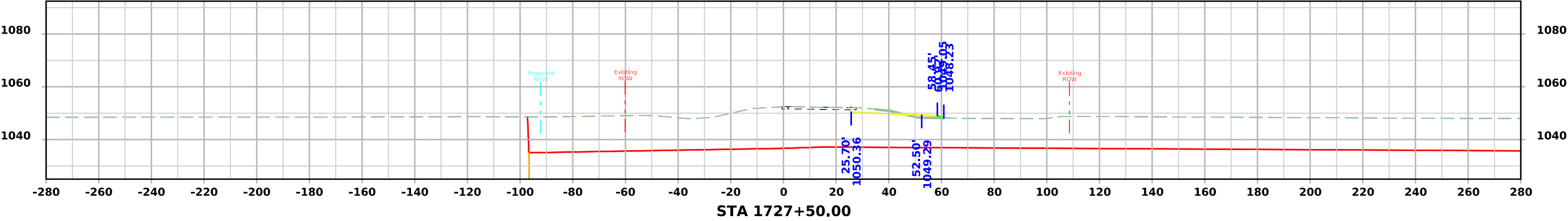
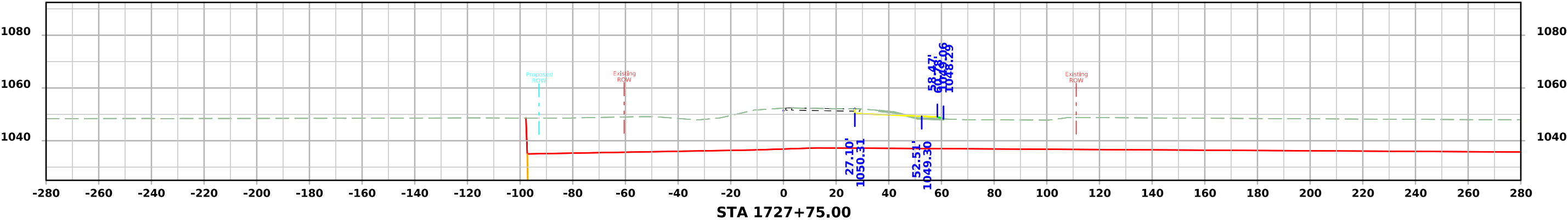
IA 175 - Stage 1



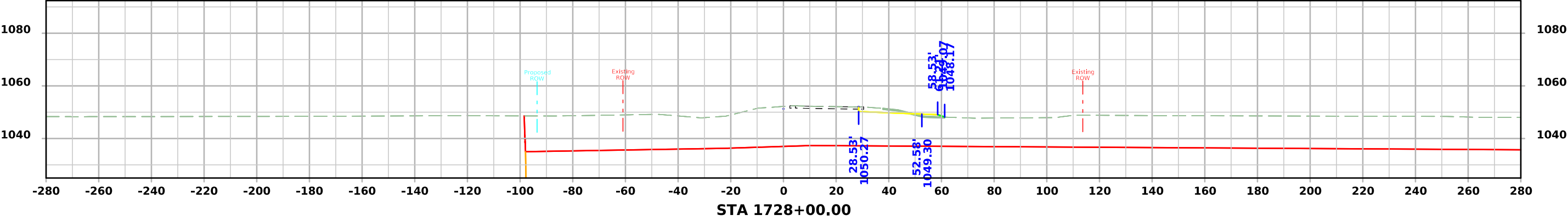
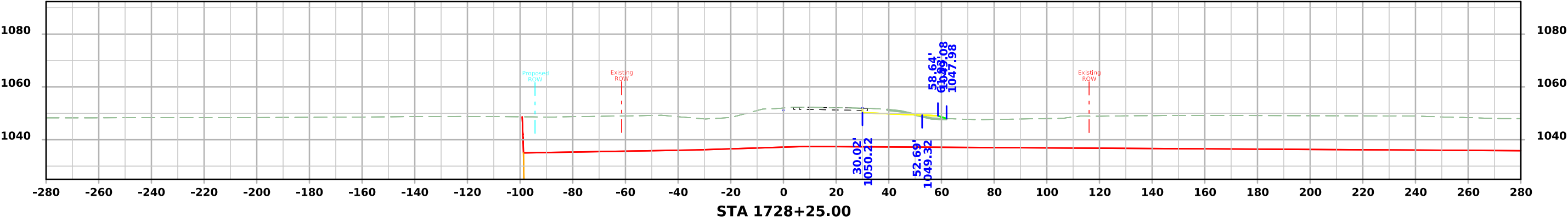
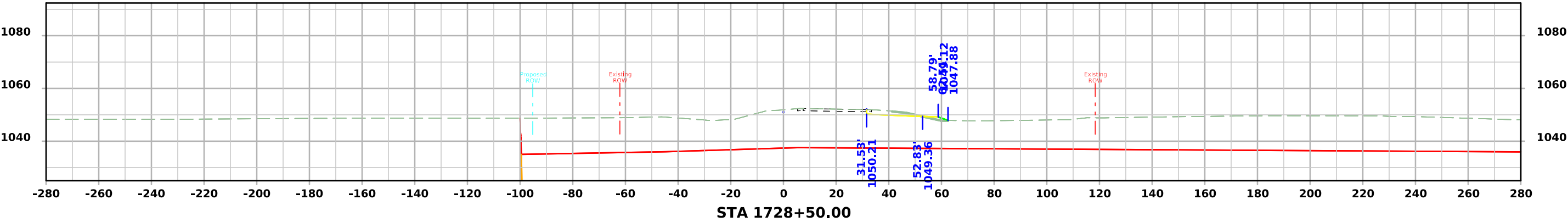
IA 175 - Stage 1



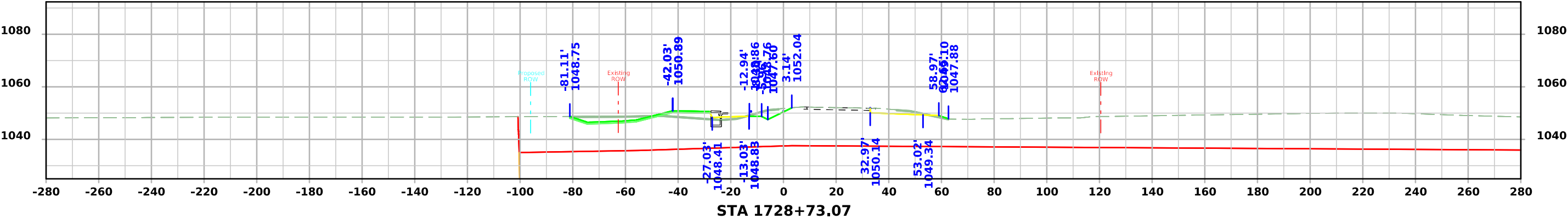
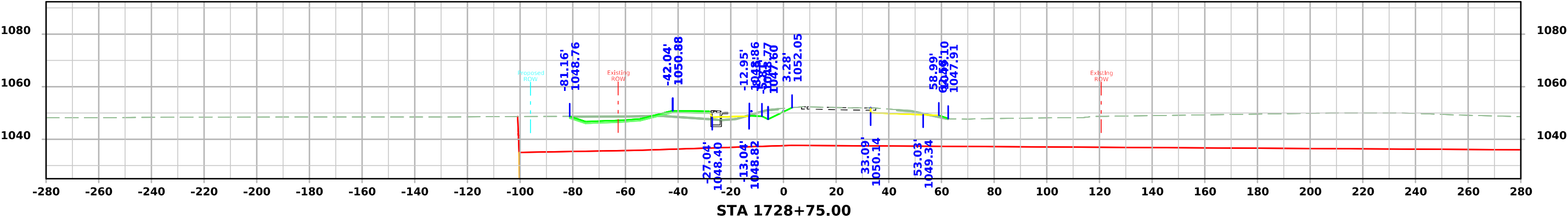
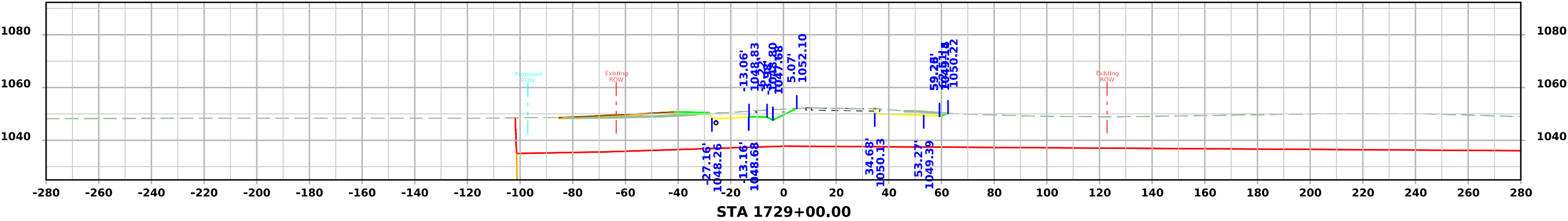
IA 175 - Stage 1



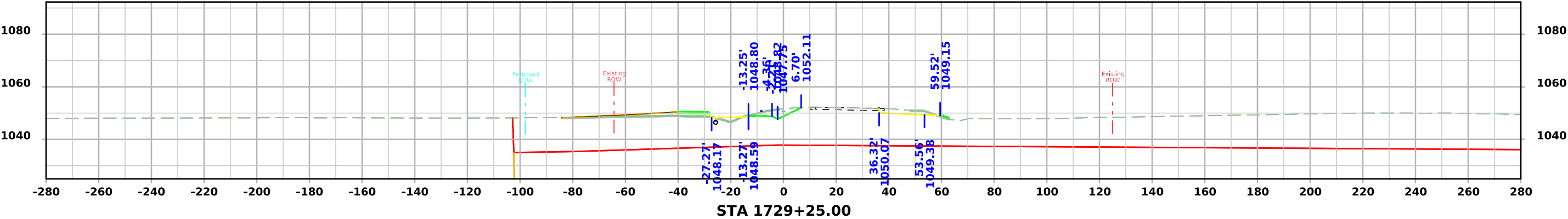
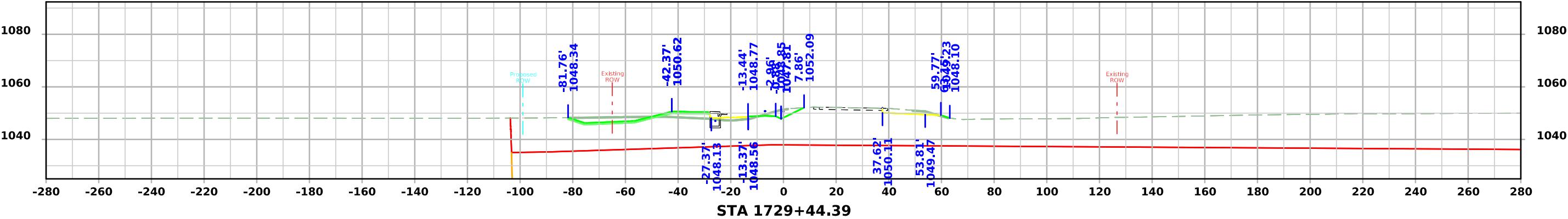
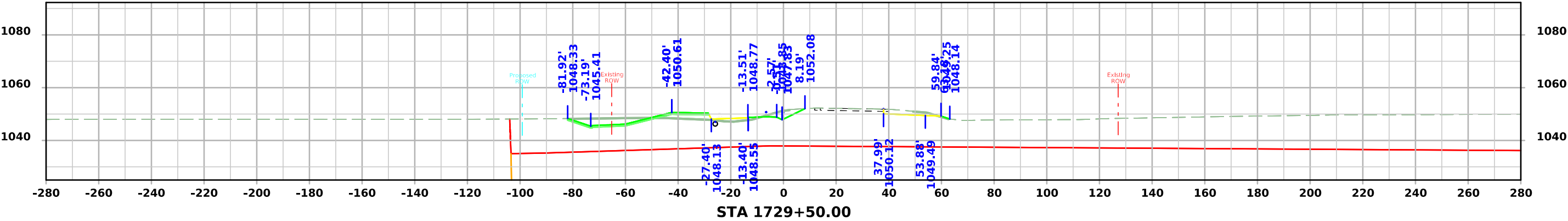
IA 175 - Stage 1



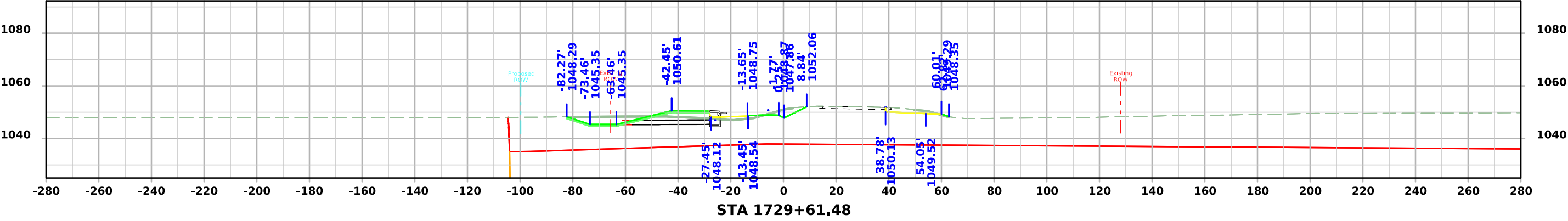
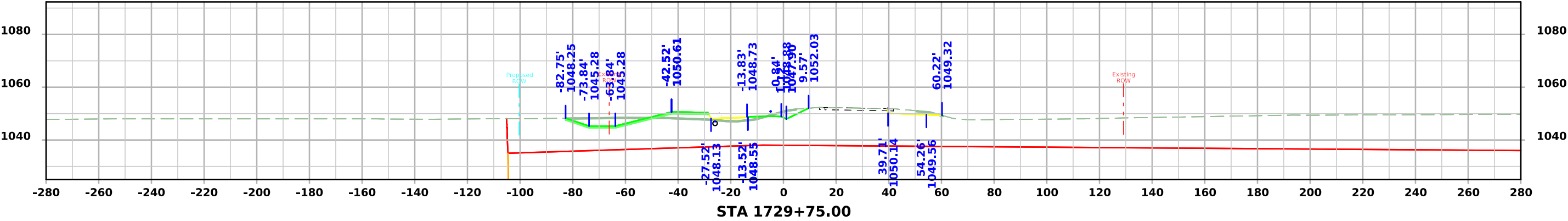
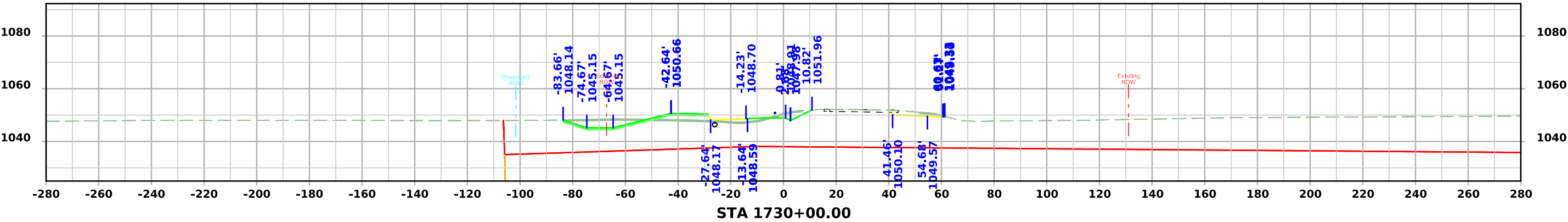
IA 175 - Stage 1



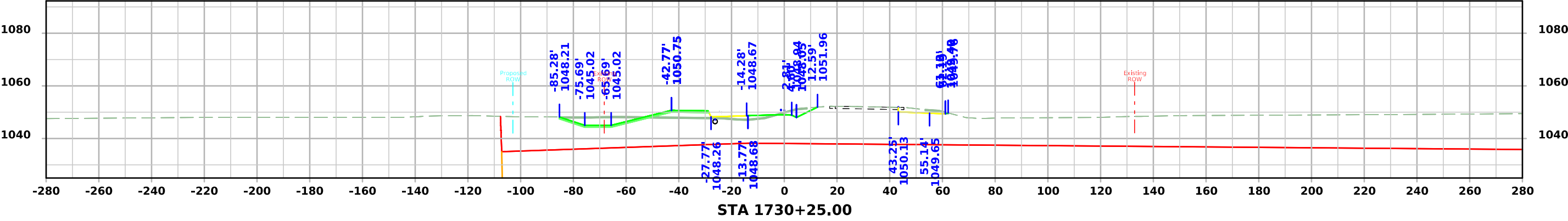
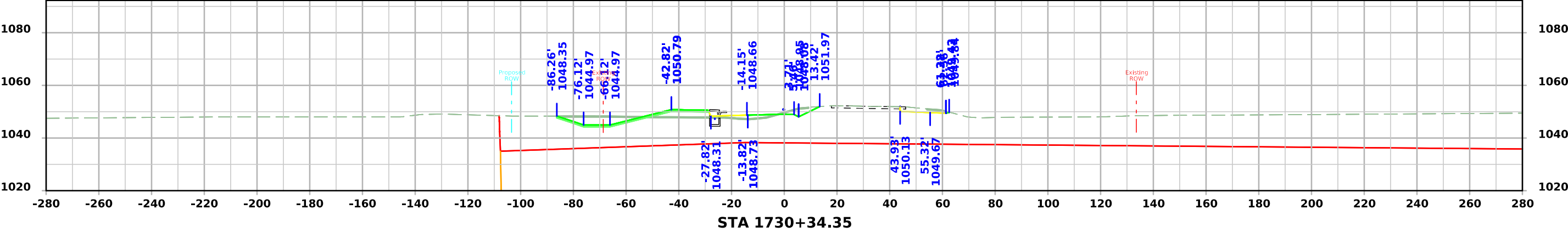
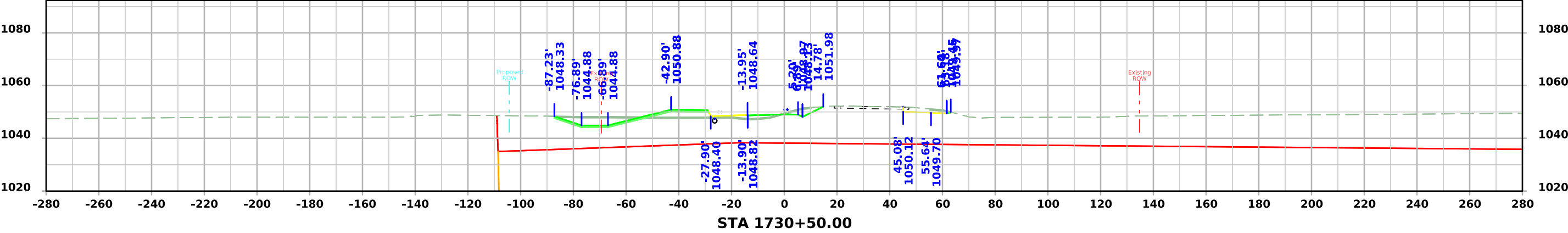
IA 175 - Stage 1



IA 175 - Stage 1

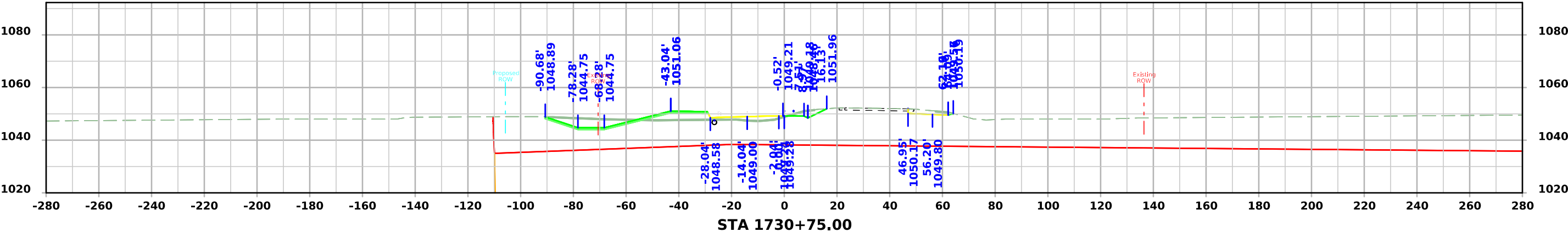
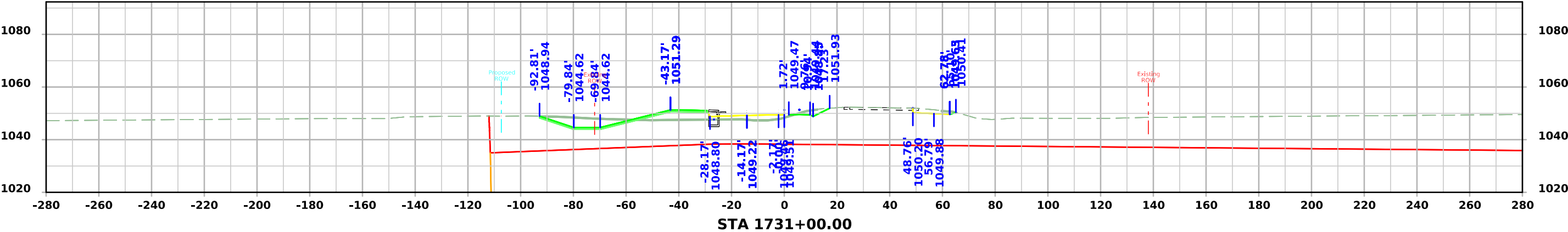
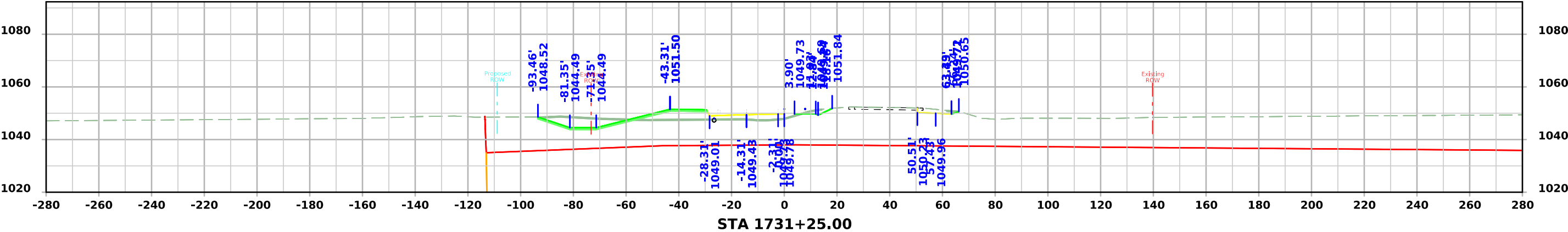


IA 175 - Stage 1

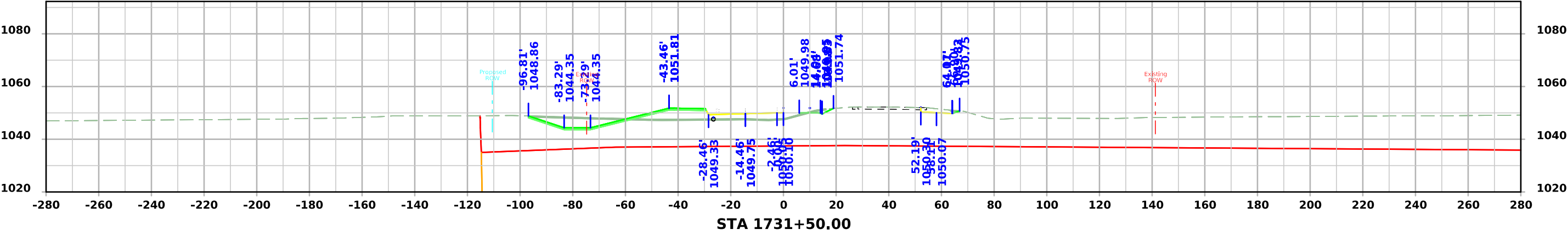
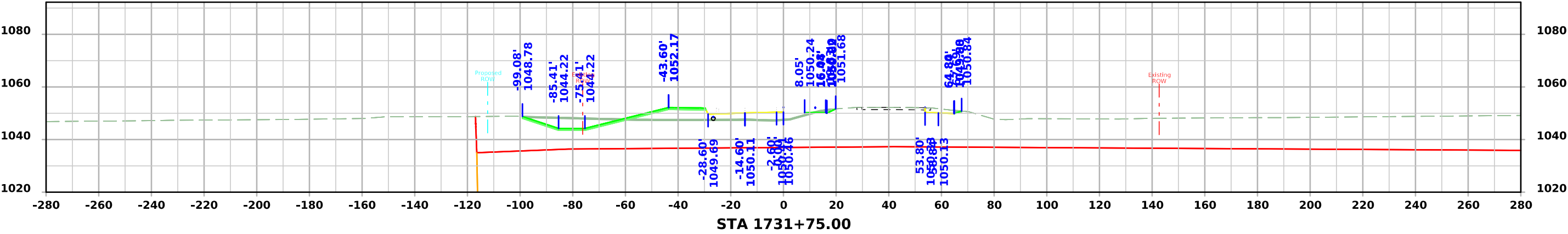
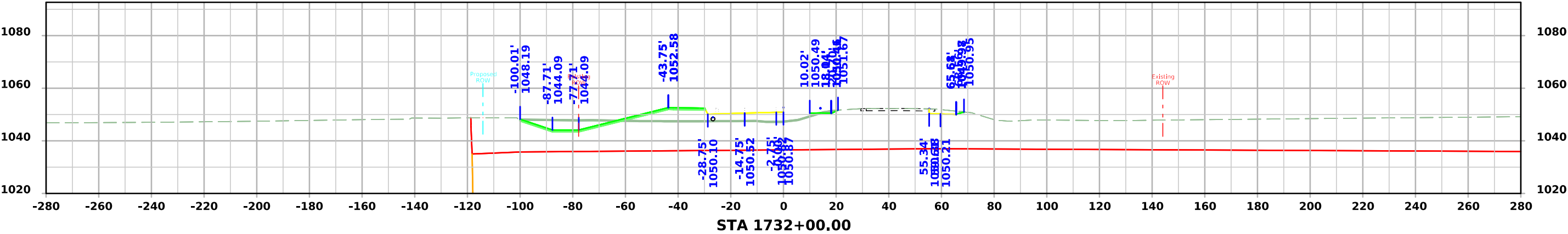




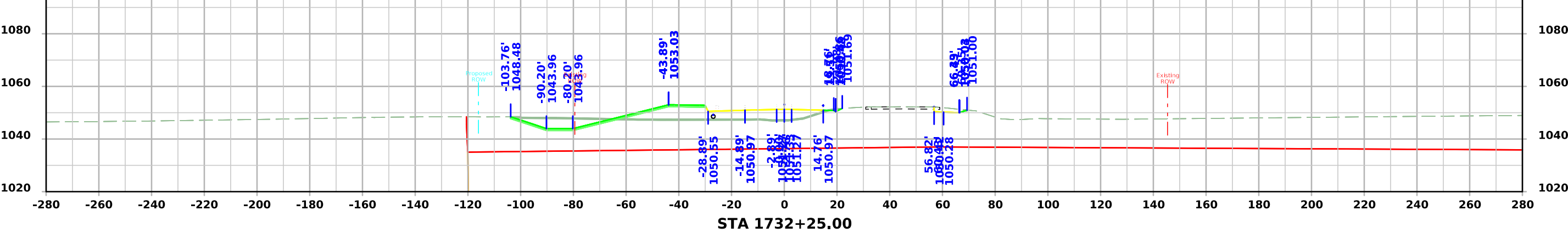
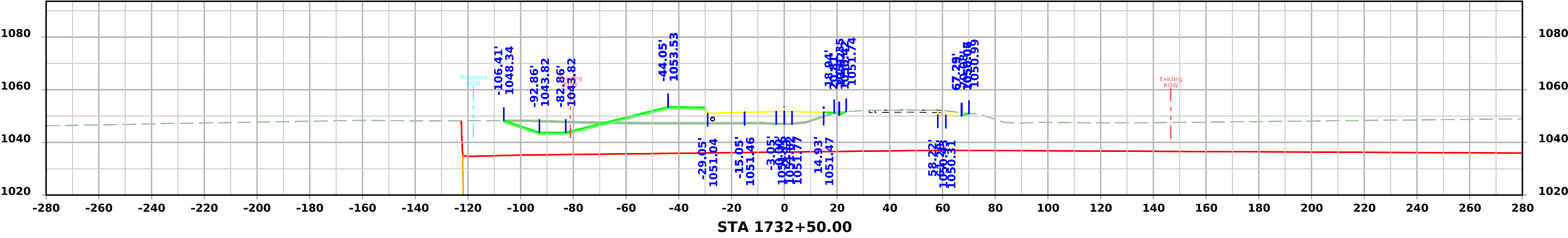
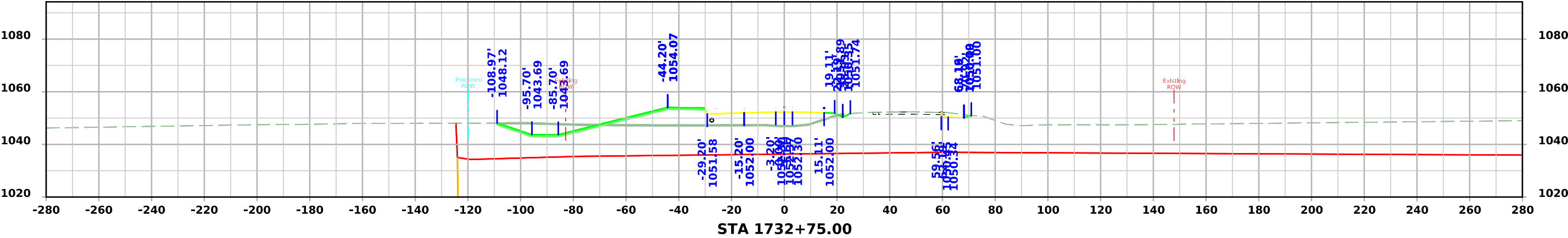
IA 175 - Stage 1



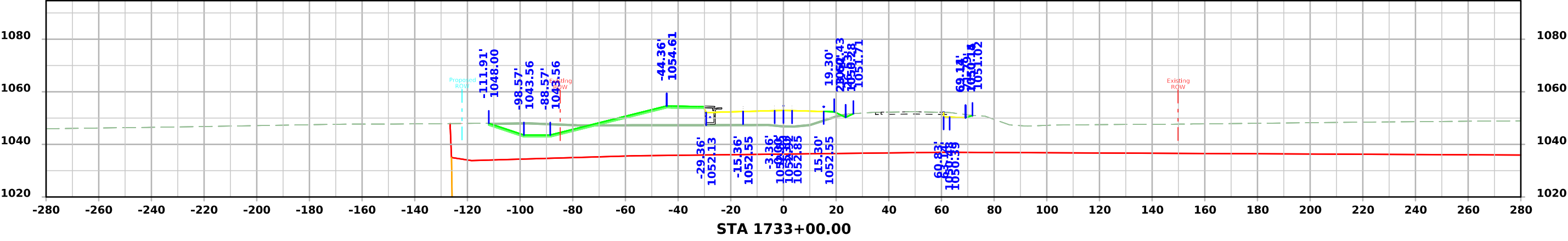
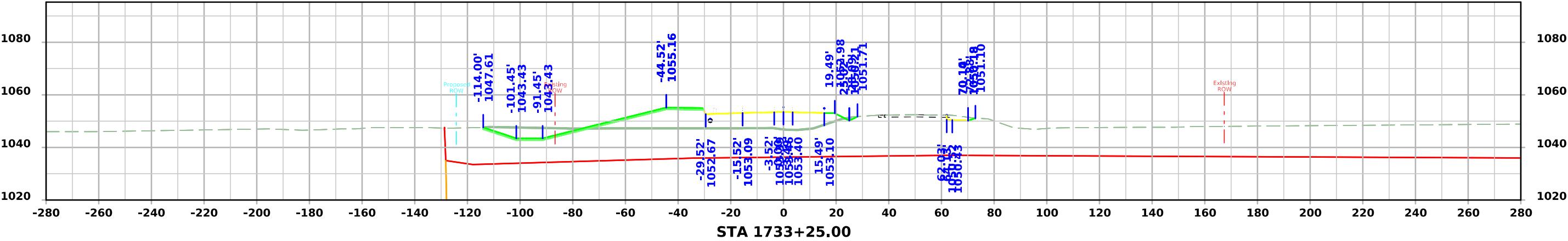
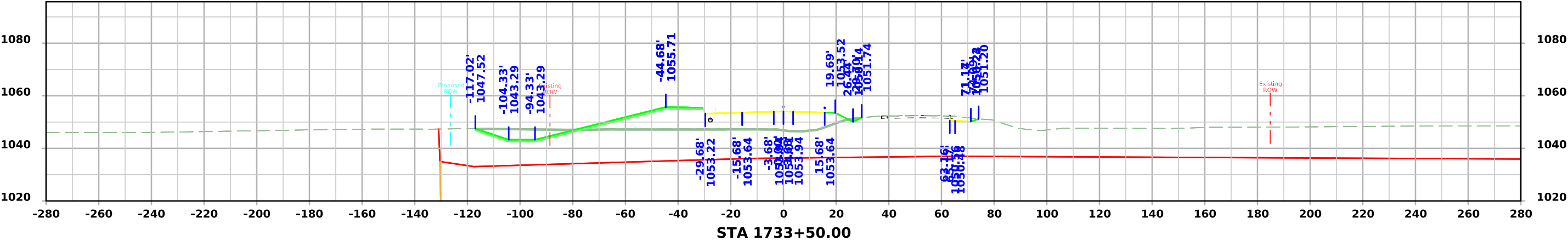
IA 175 - Stage 1



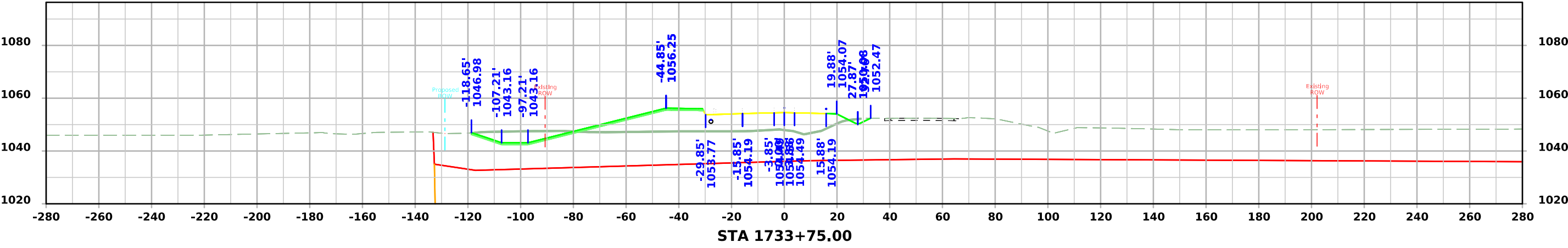
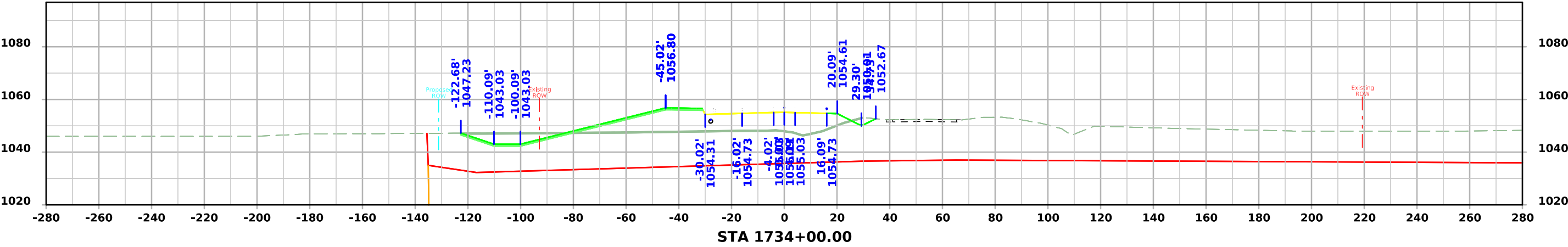
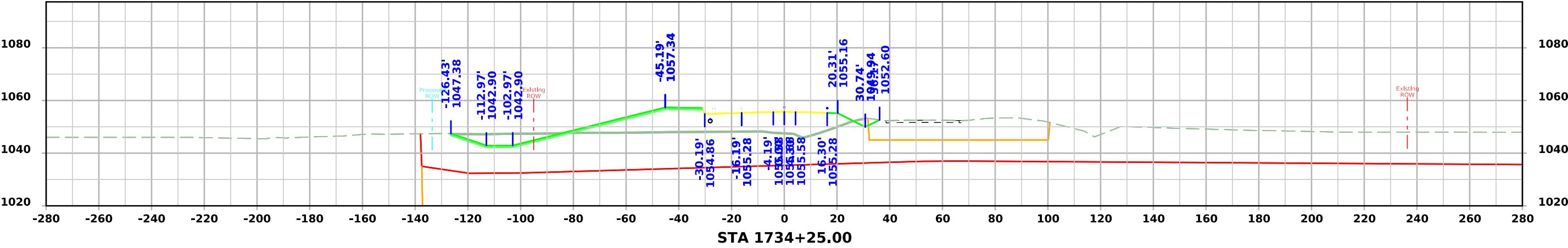
IA 175 - Stage 1



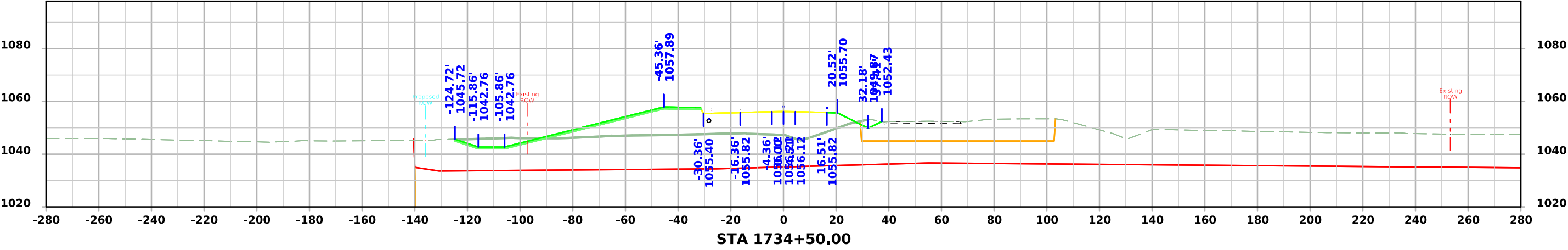
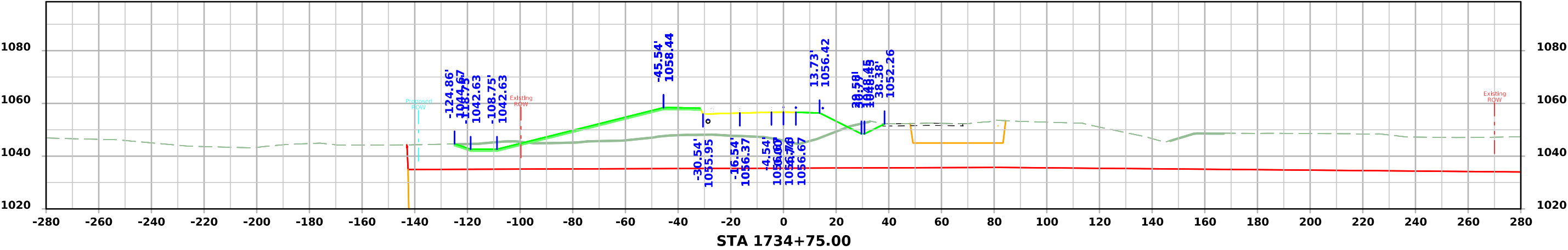
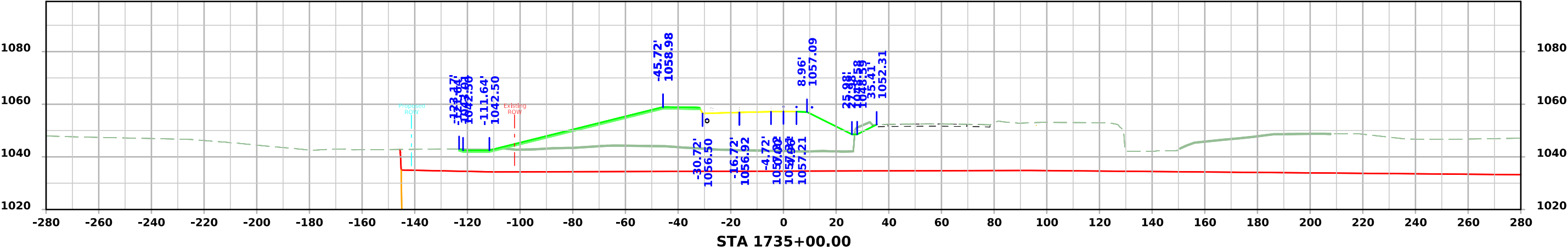
IA 175 - Stage 1



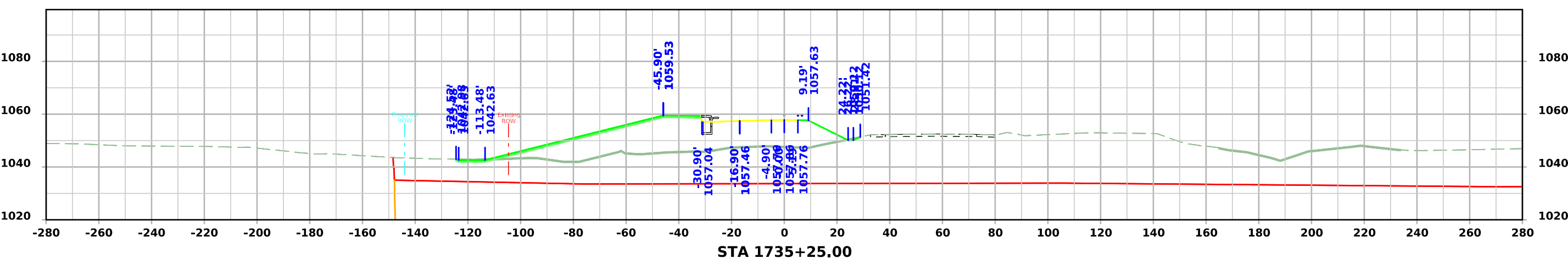
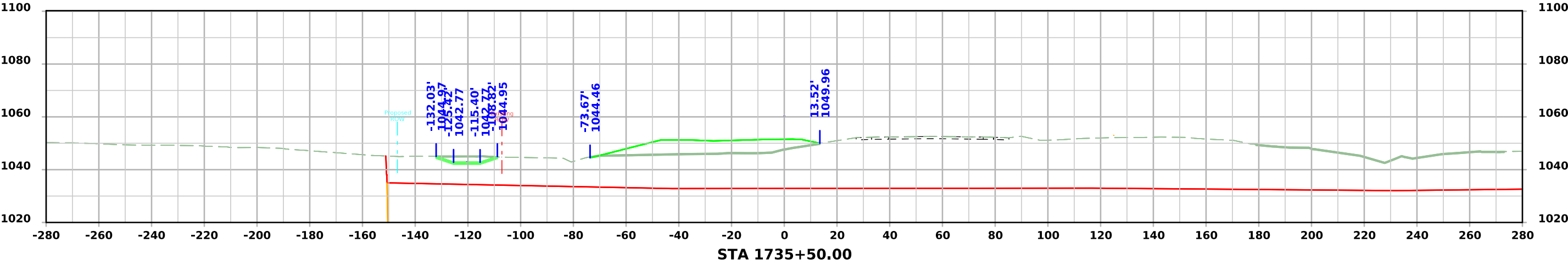
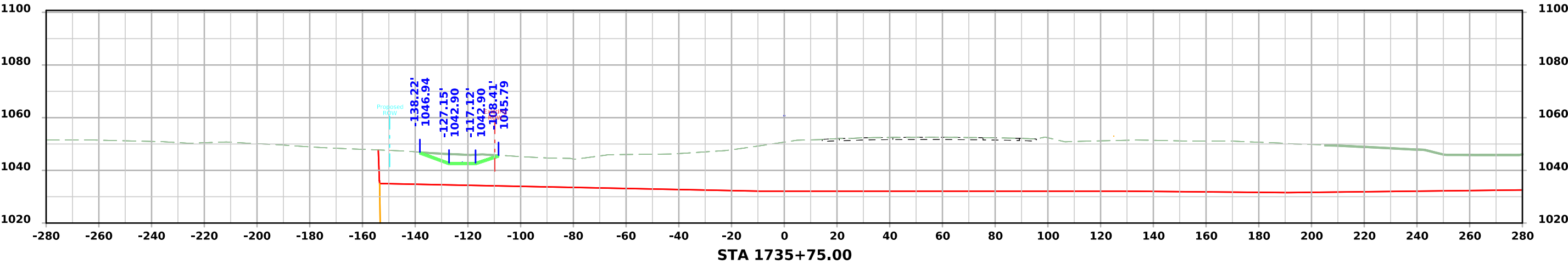
IA 175 - Stage 1



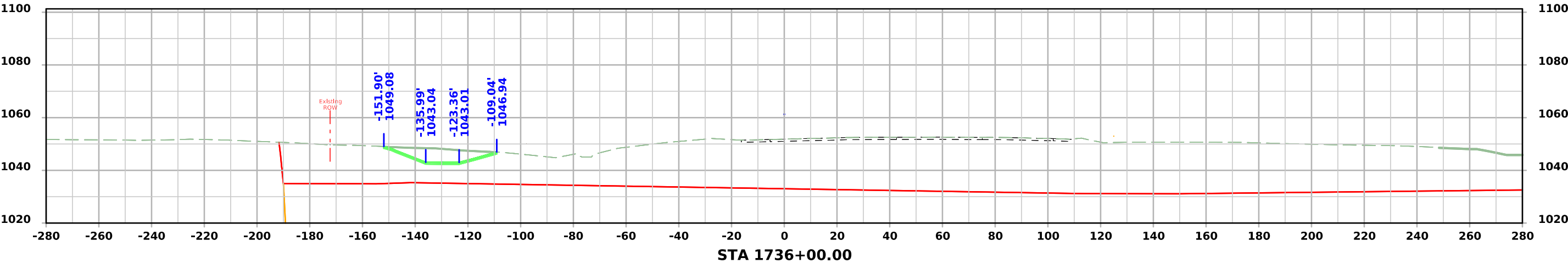
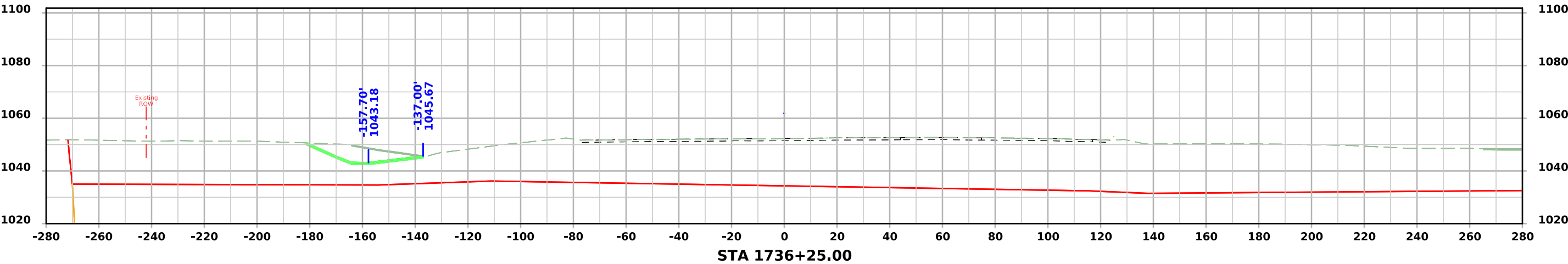
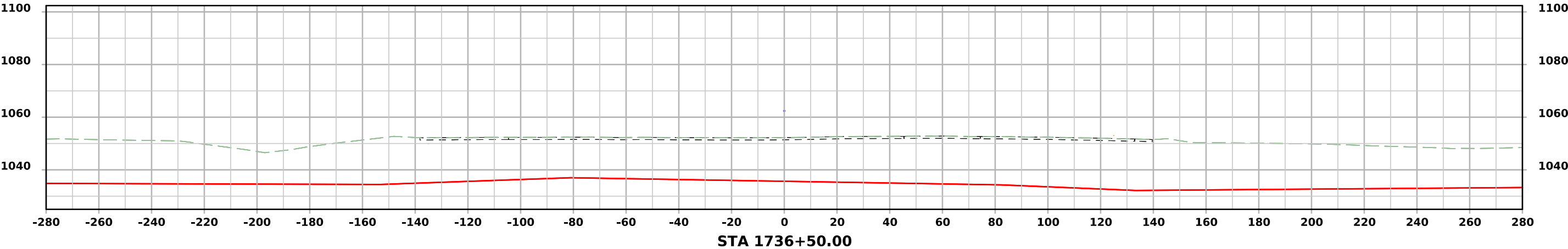
IA 175 - Stage 1



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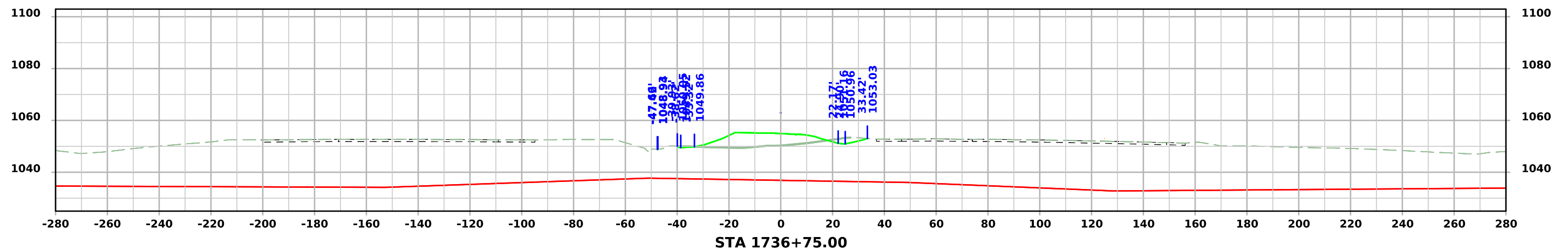
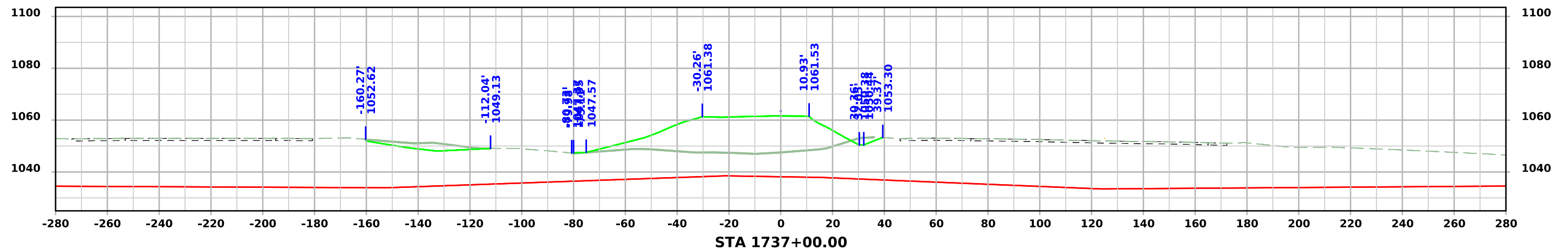
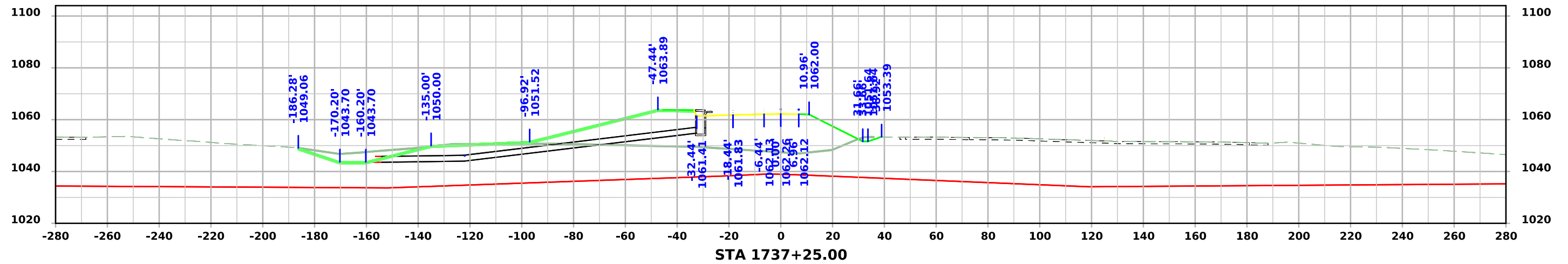


# IA 175 - Stage 1

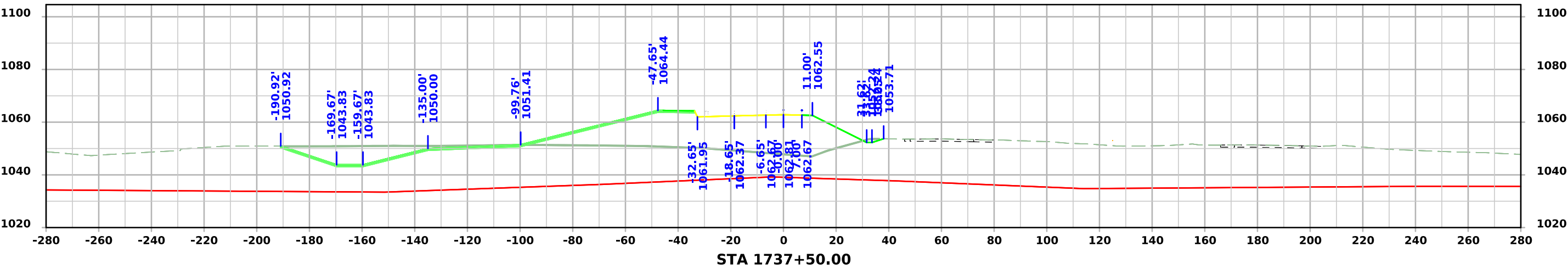
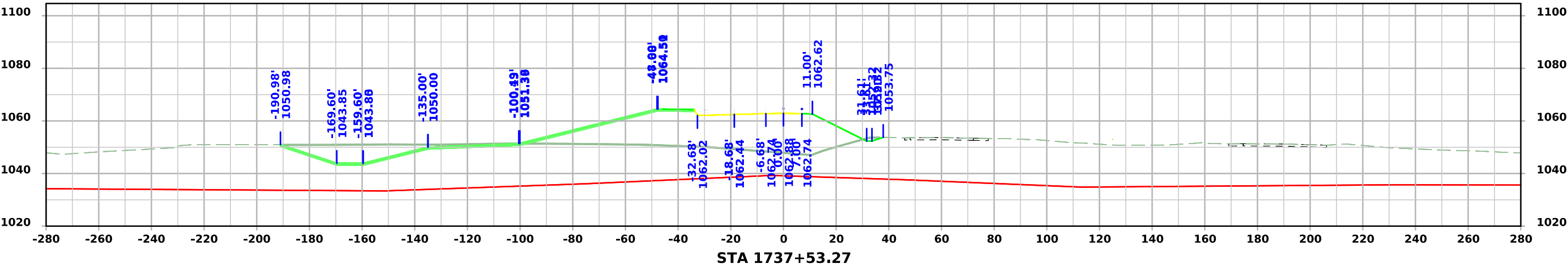
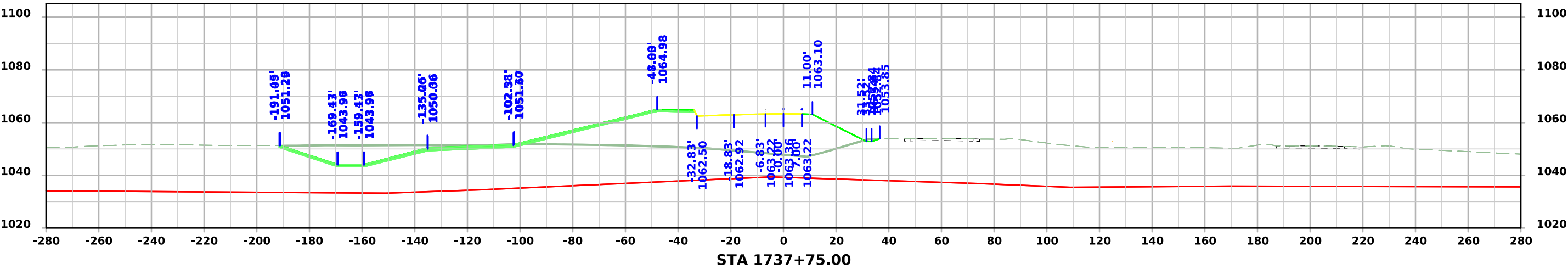




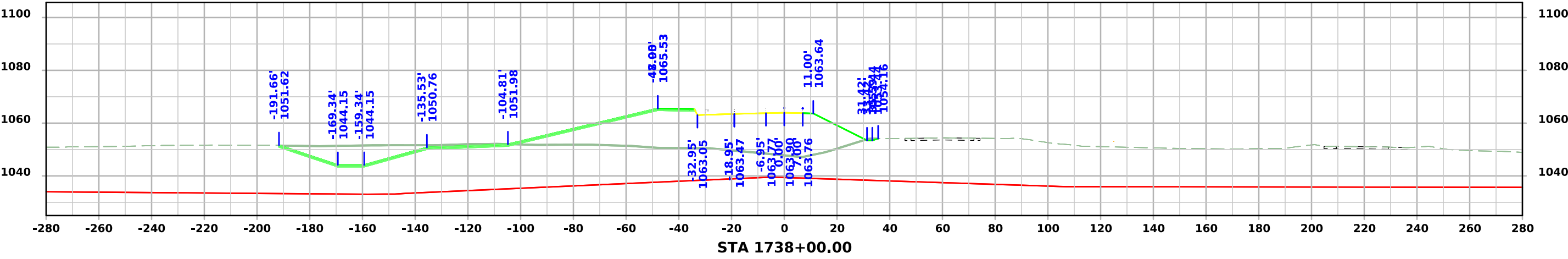
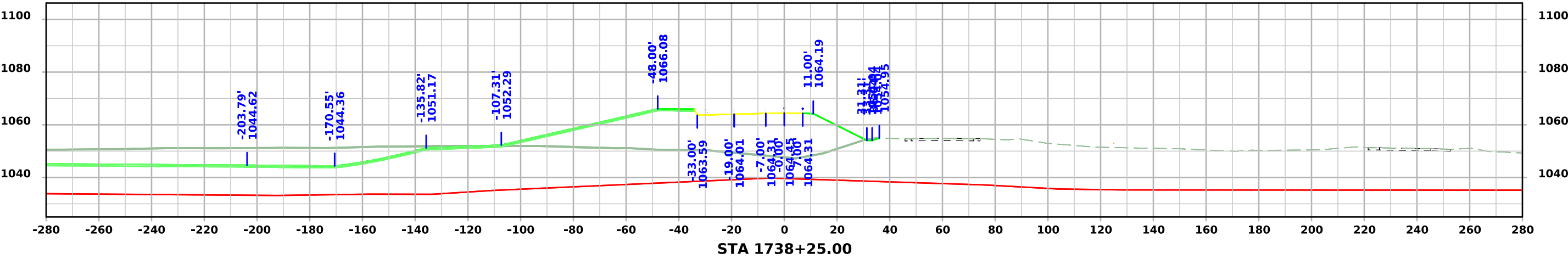
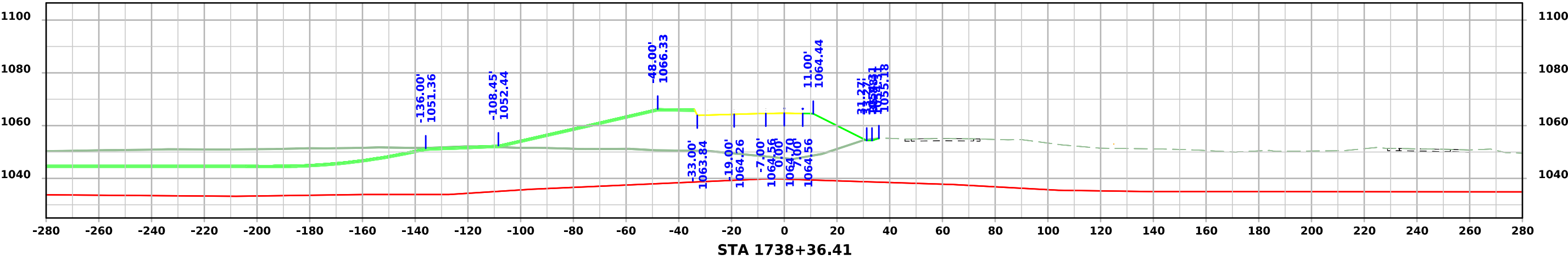
# IA 175 - Stage 1



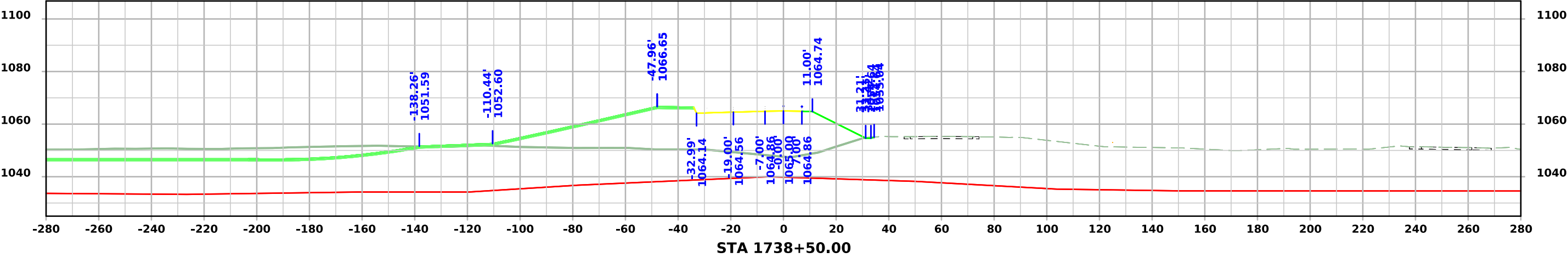
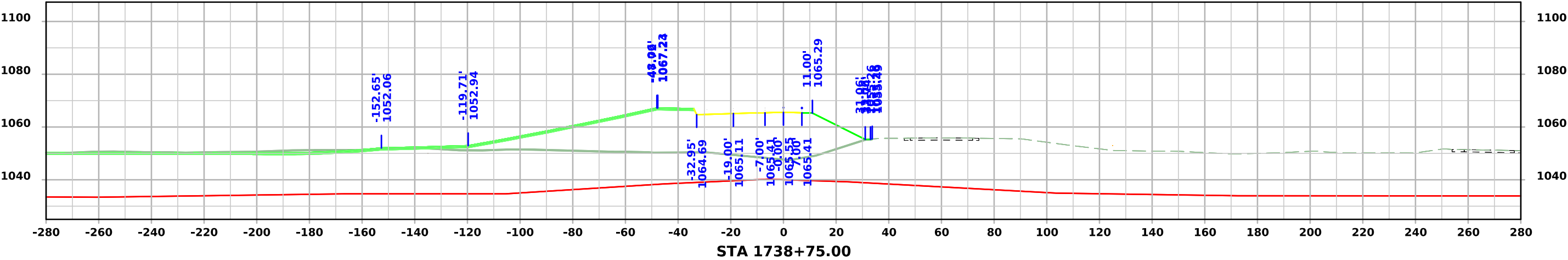
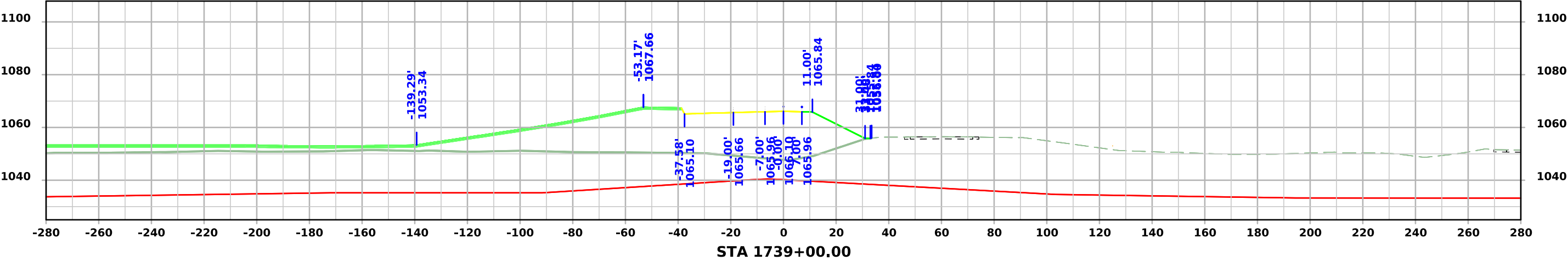
IA 175 - Stage 1



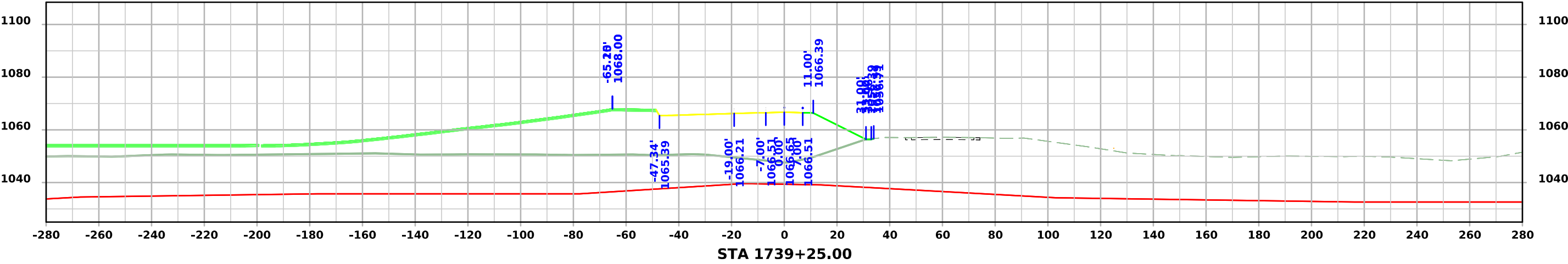
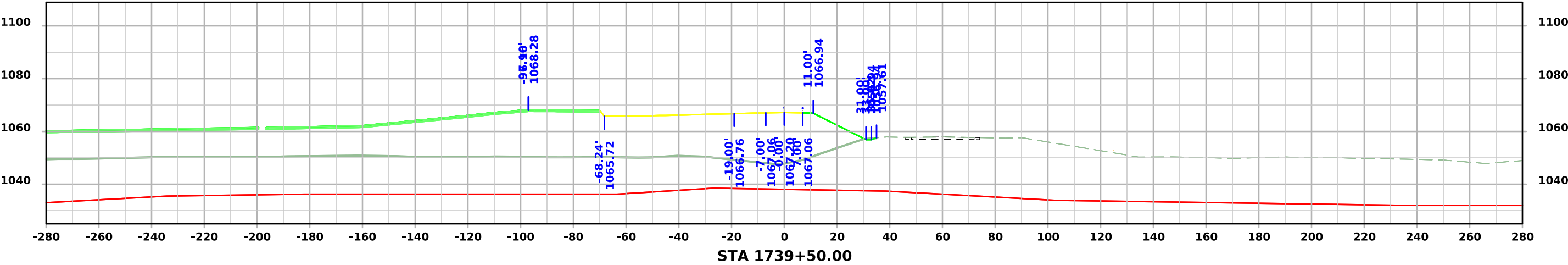
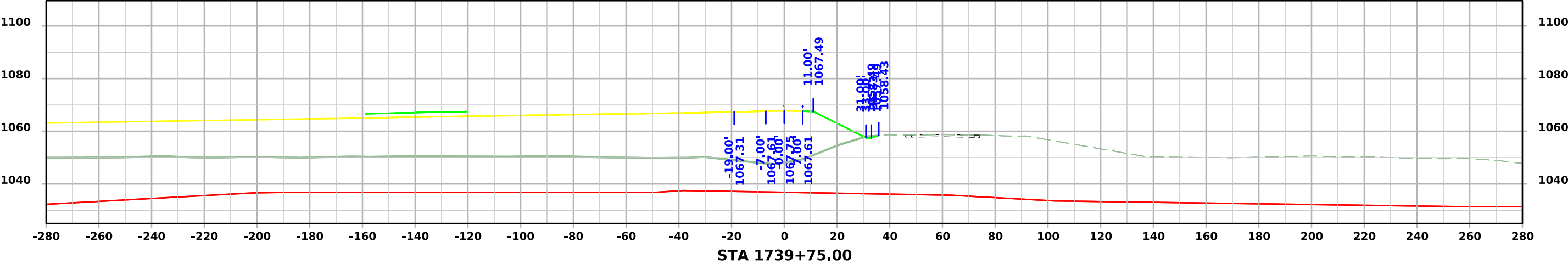
IA 175 - Stage 1



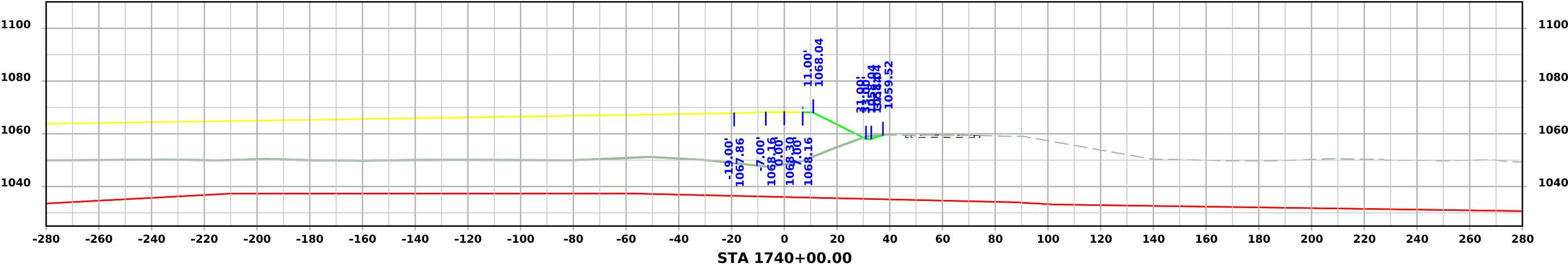
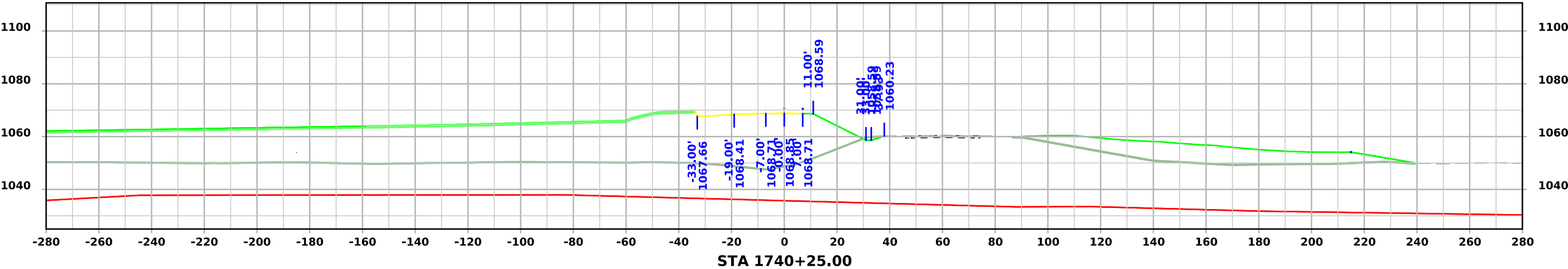
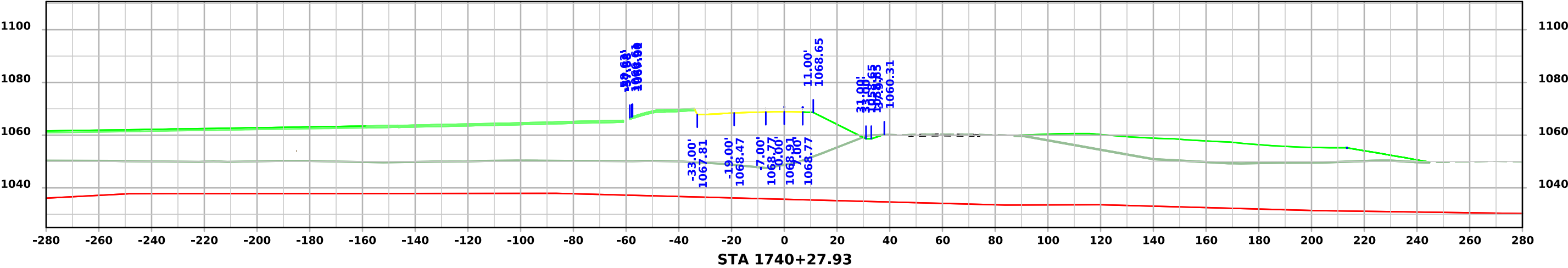
IA 175 - Stage 1



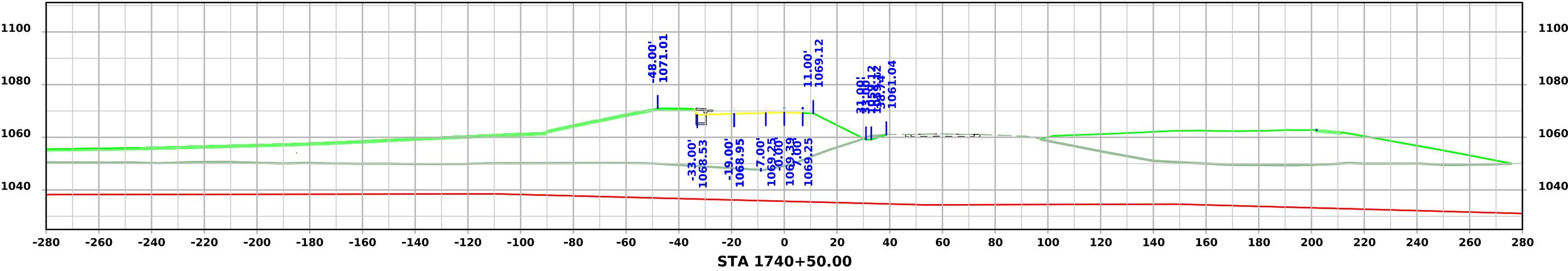
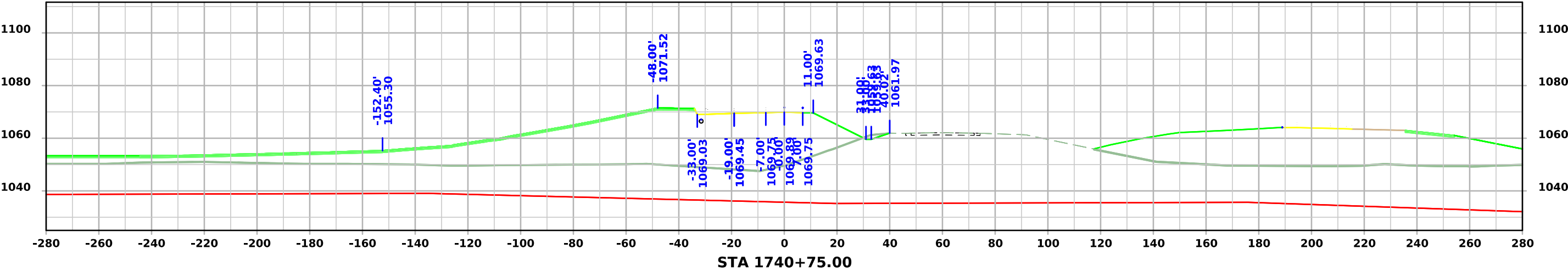
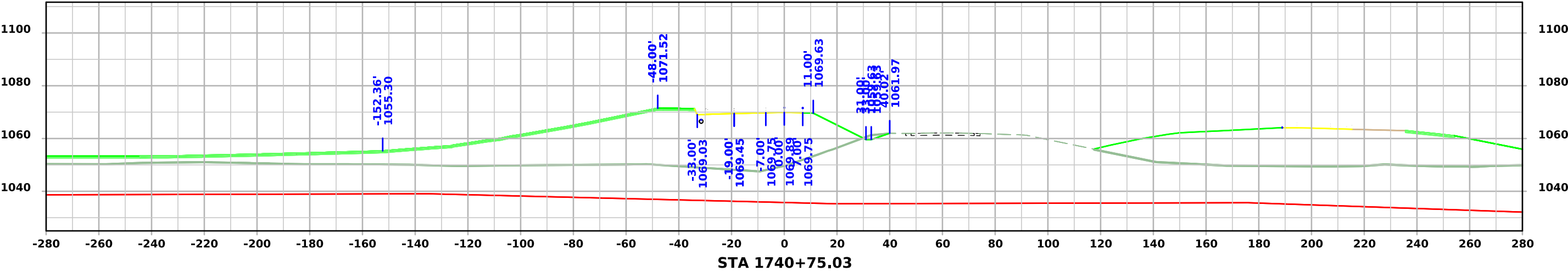
IA 175 - Stage 1



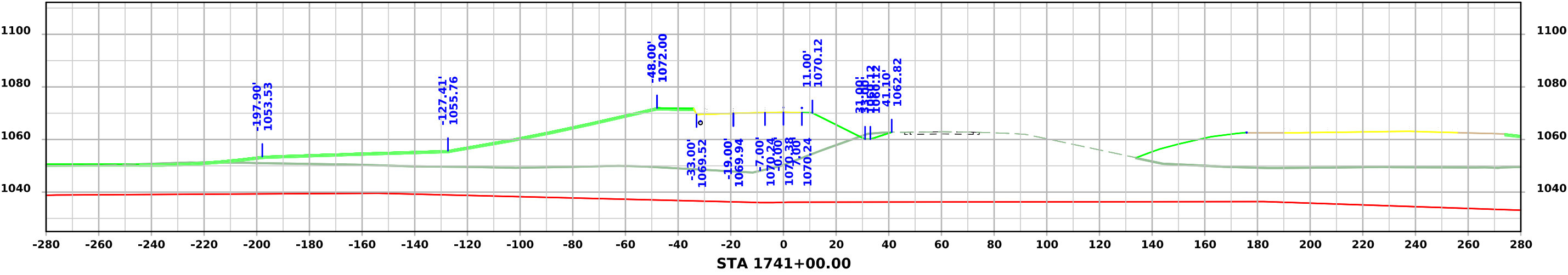
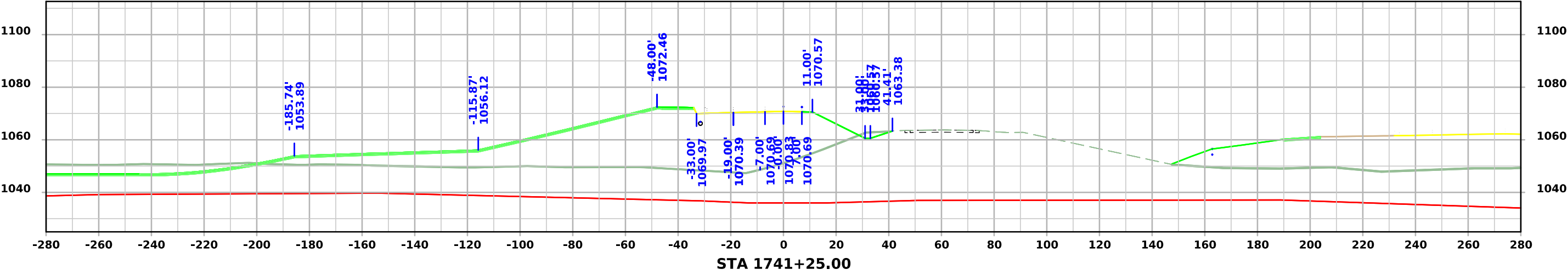
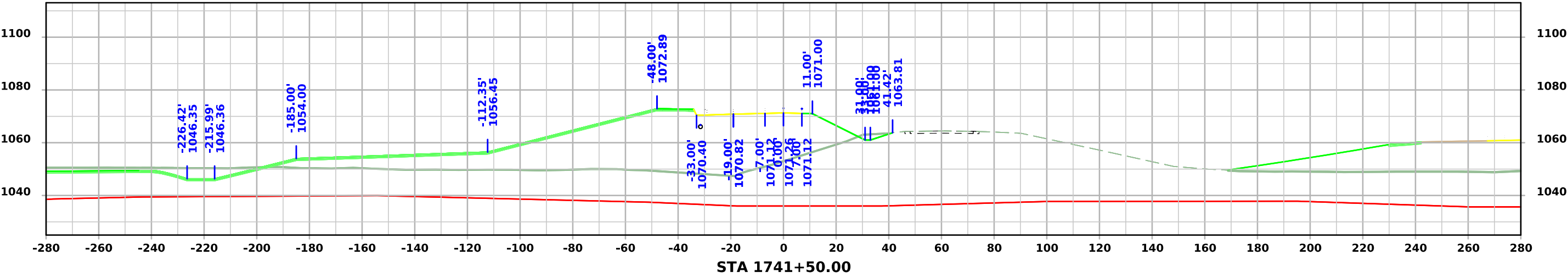
# IA 175 - Stage 1



IA 175 - Stage 1

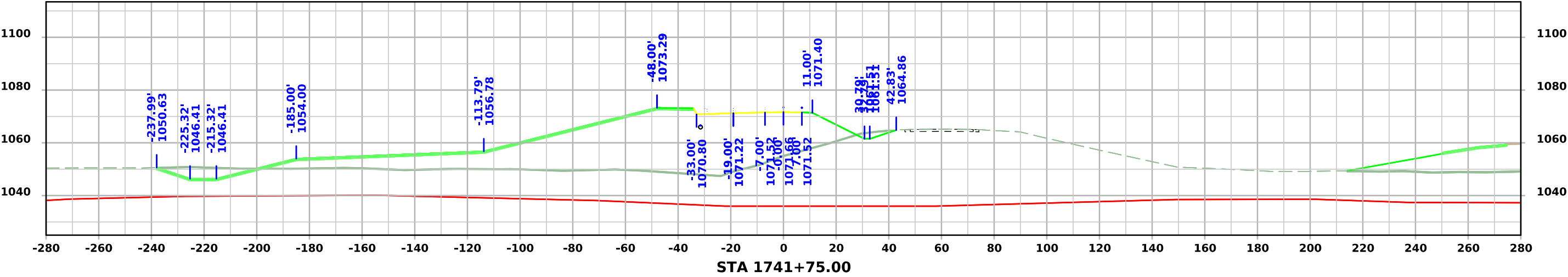
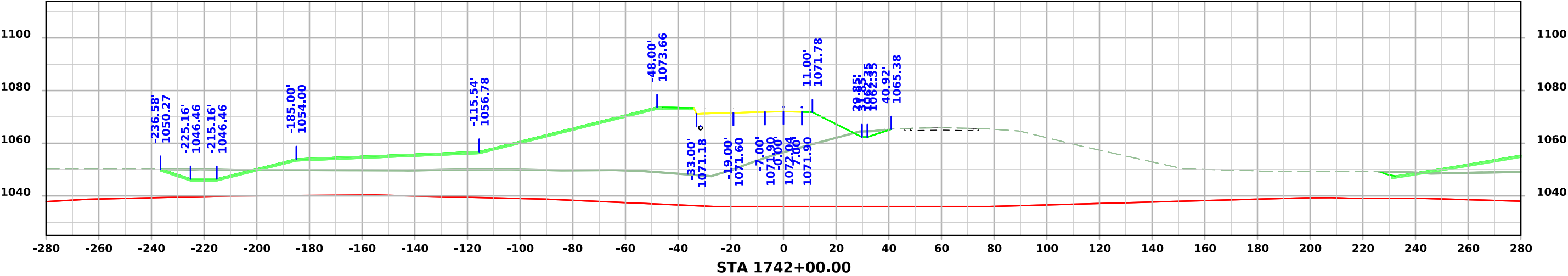
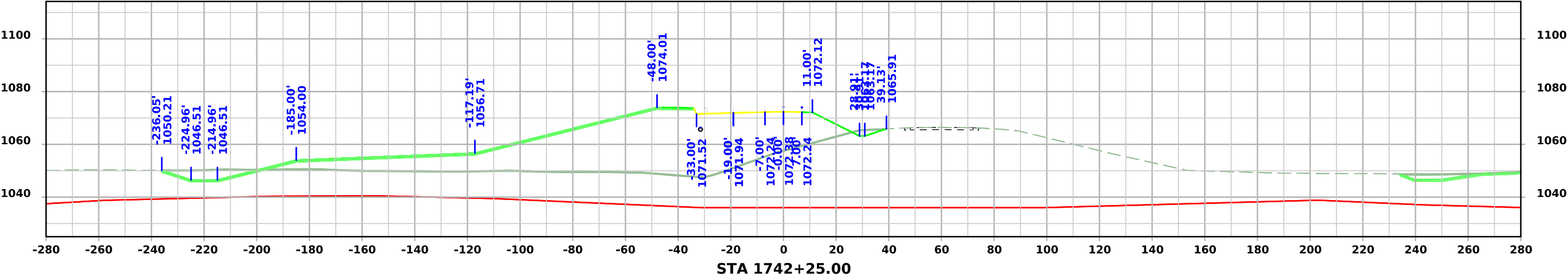


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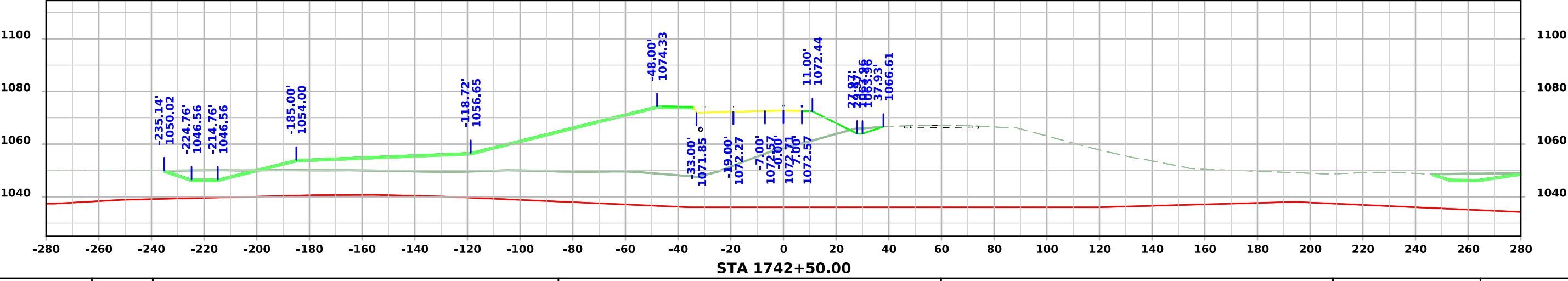
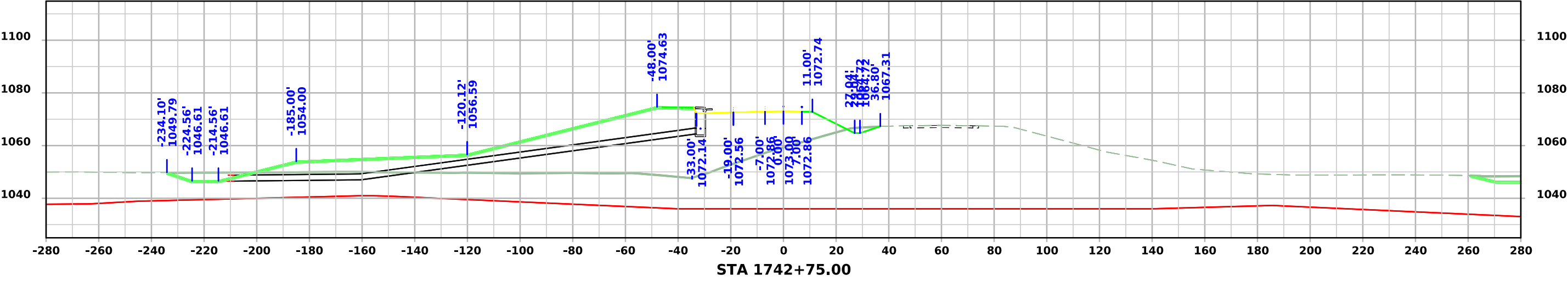
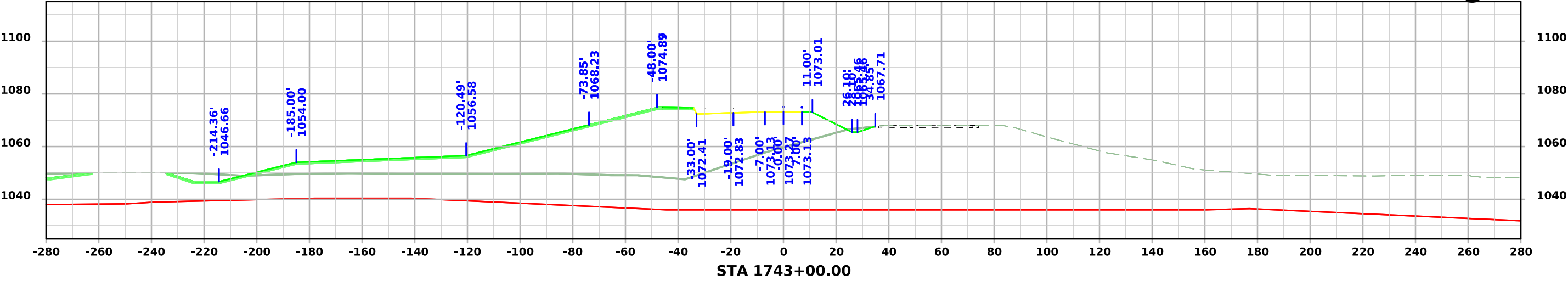




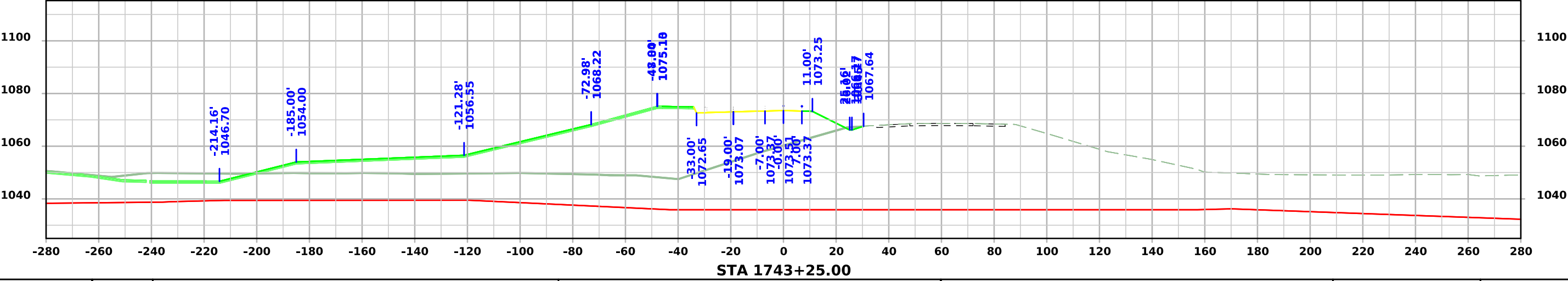
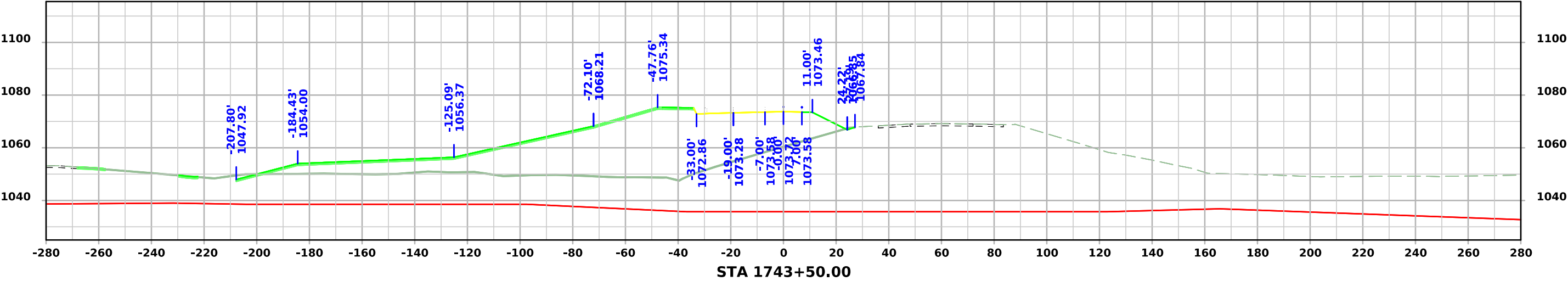
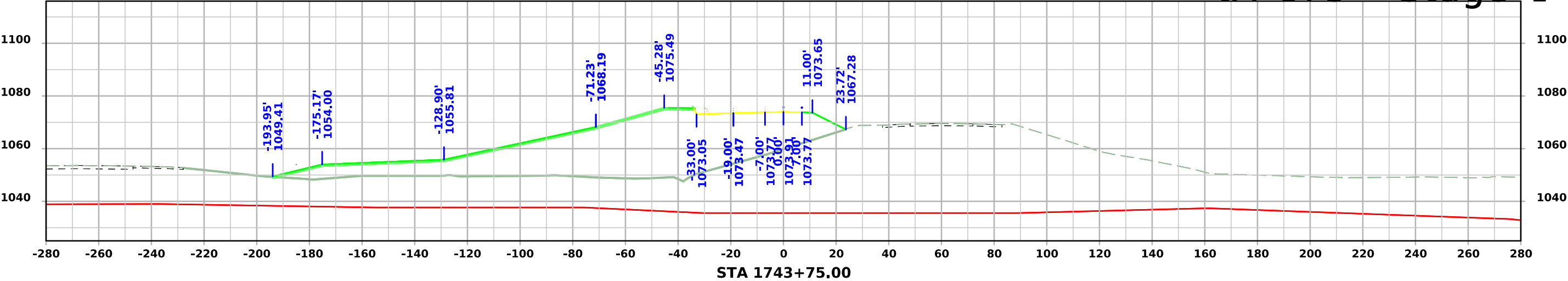
IA 175 - Stage 1



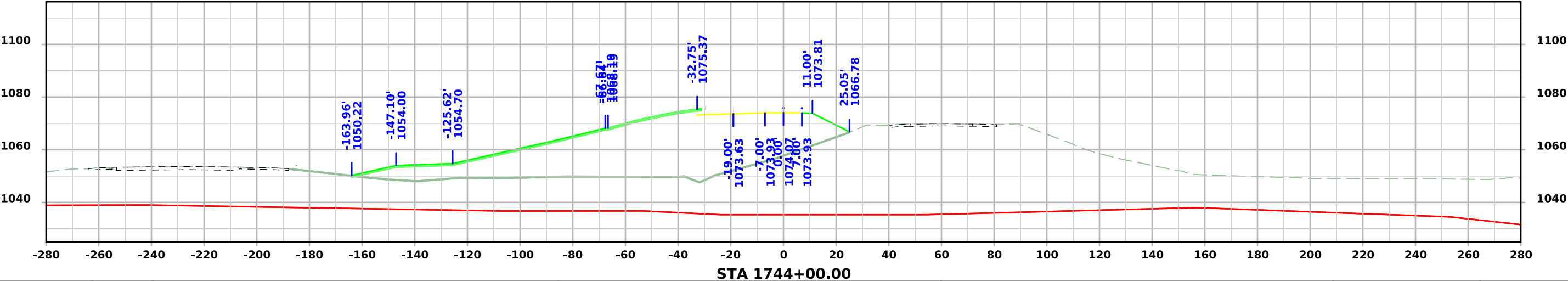
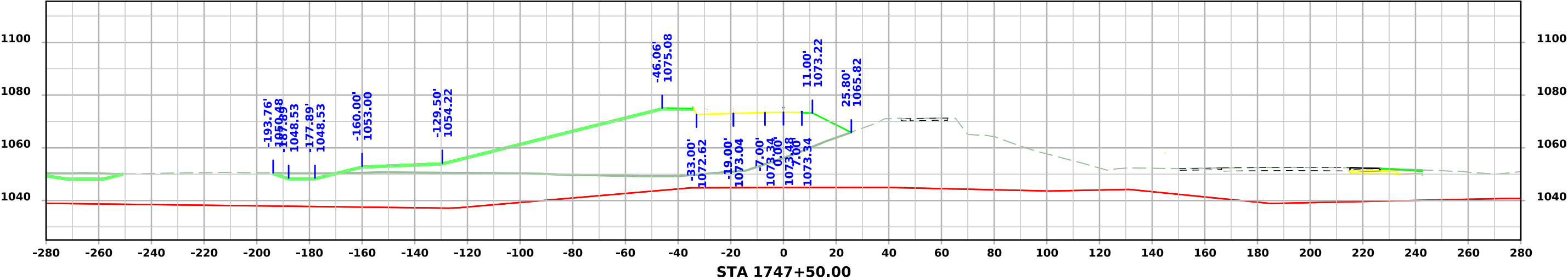
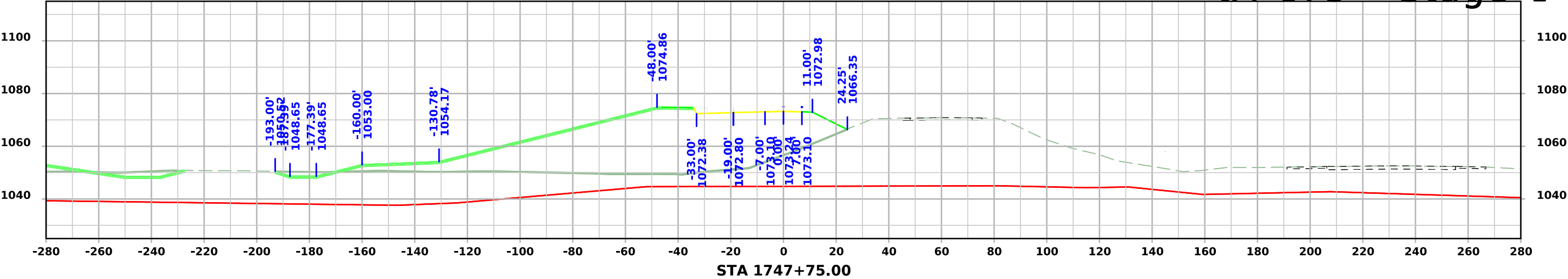
IA 175 - Stage 1



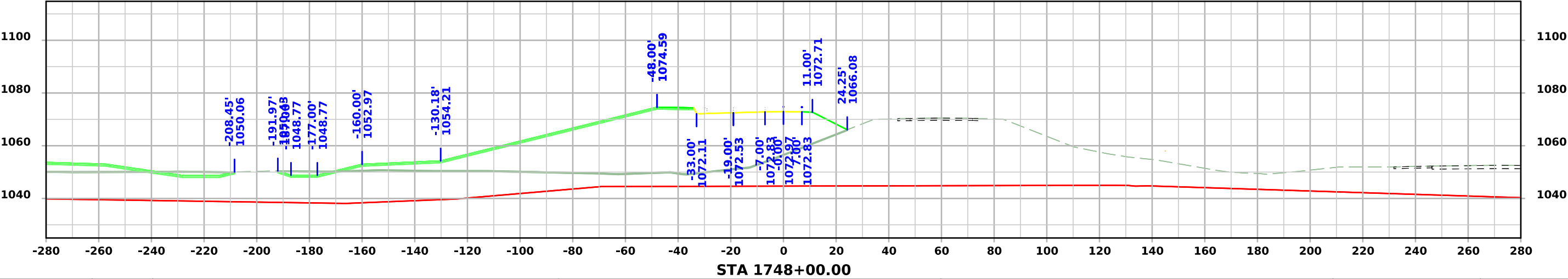
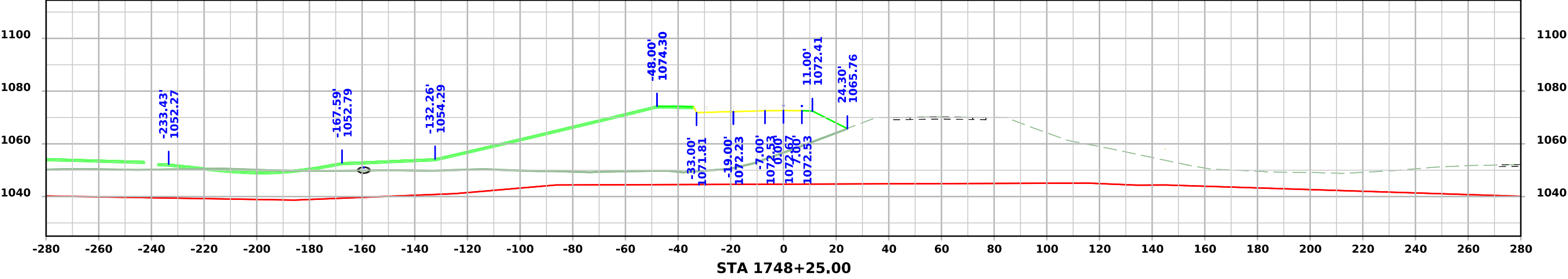
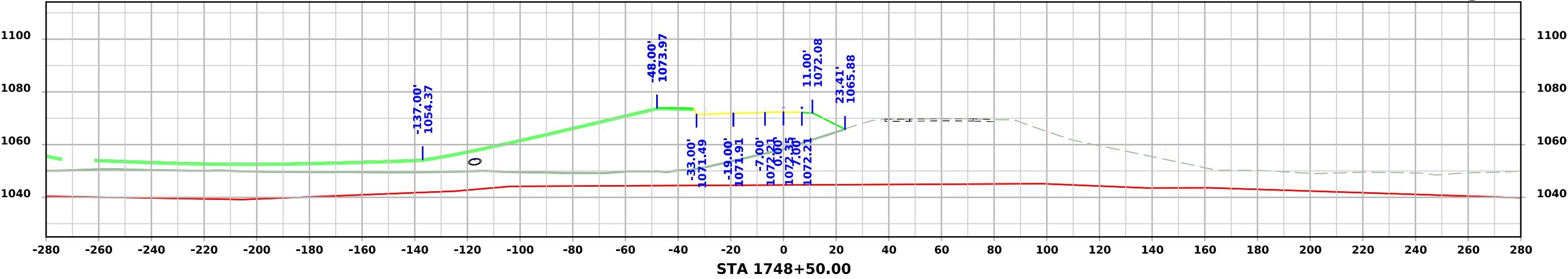
IA 175 - Stage 1



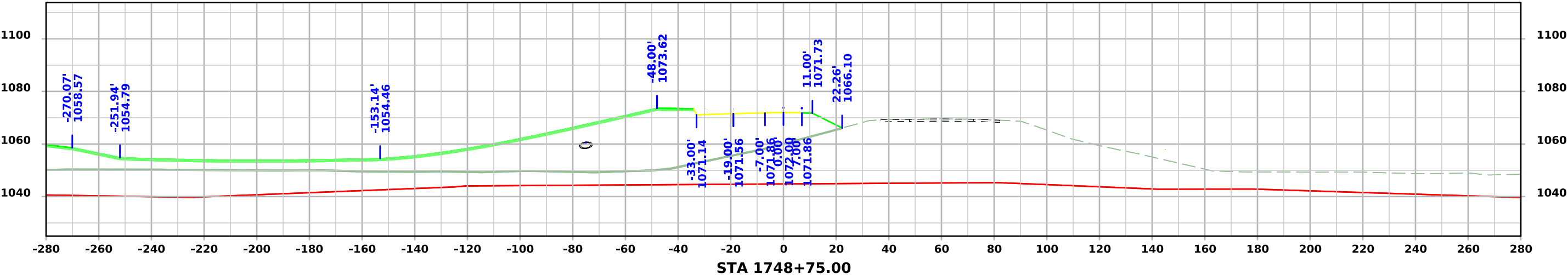
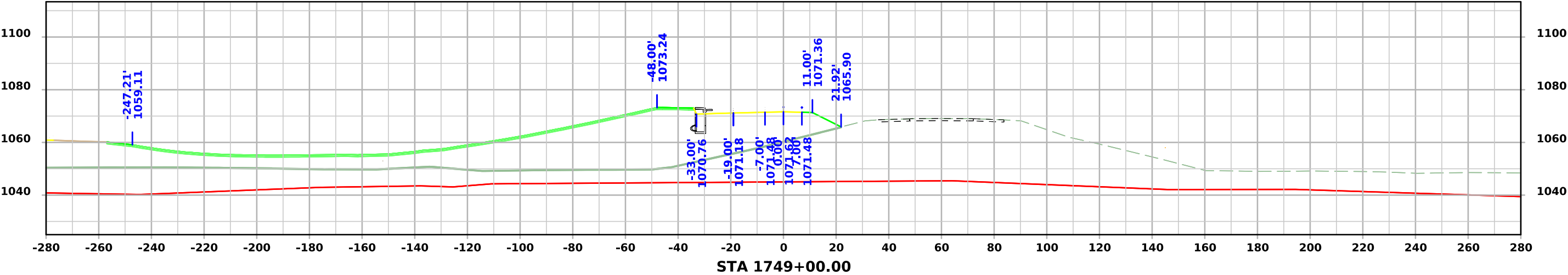
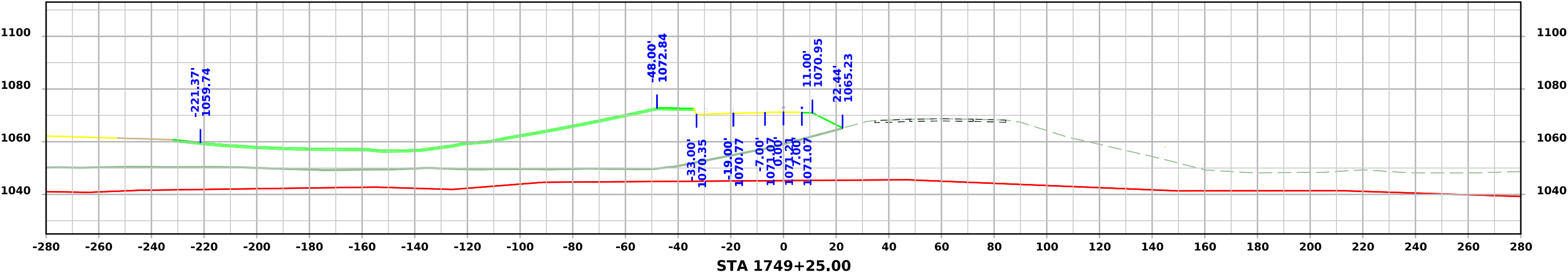
IA 175 - Stage 1



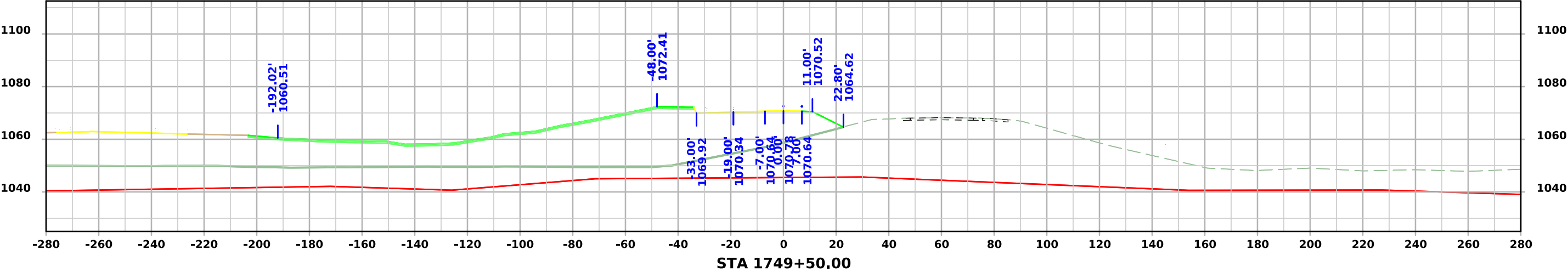
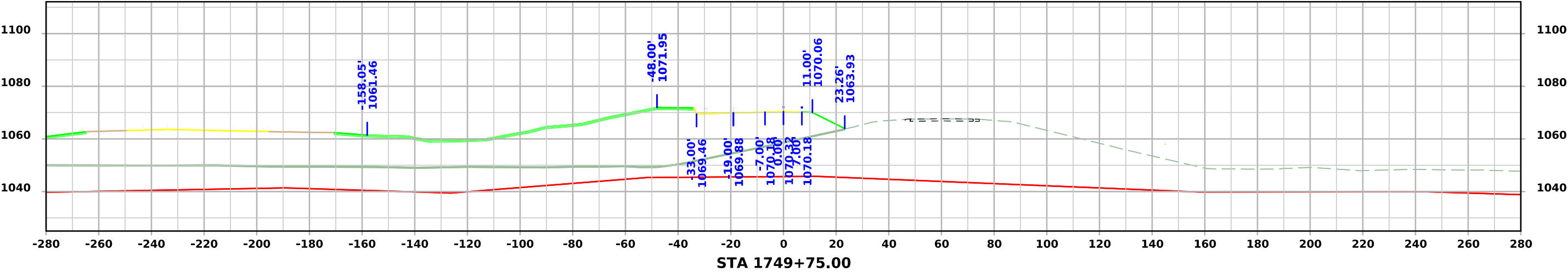
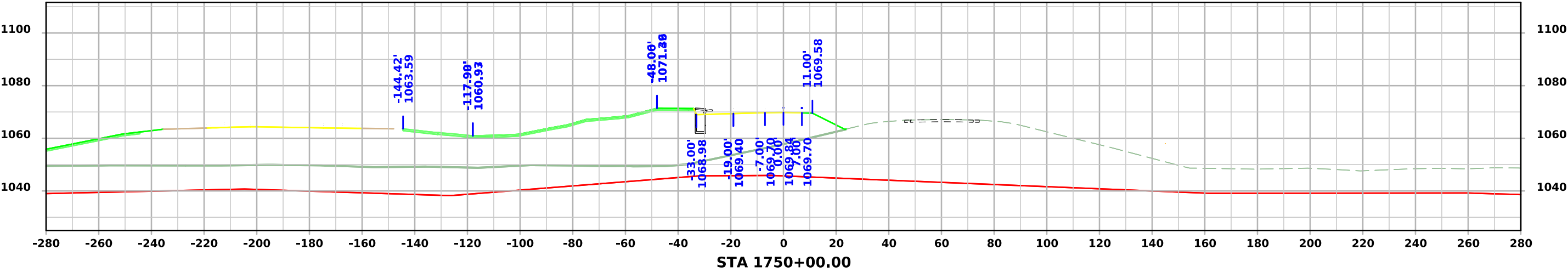
IA 175 - Stage 1



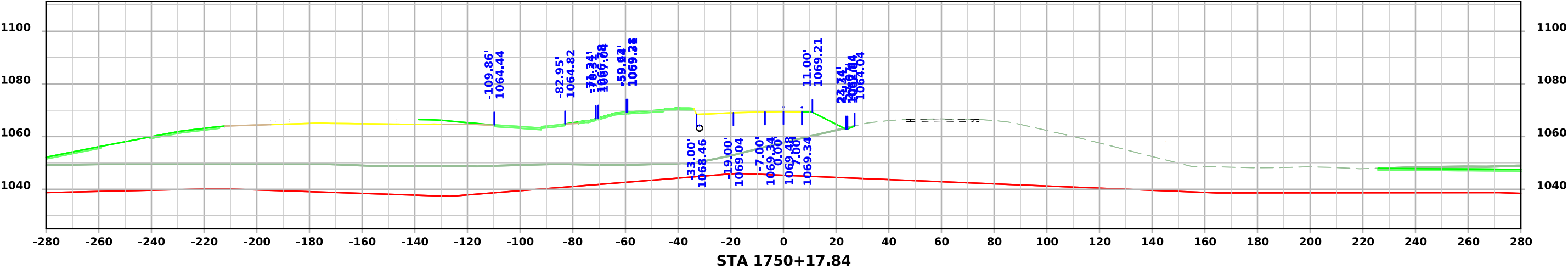
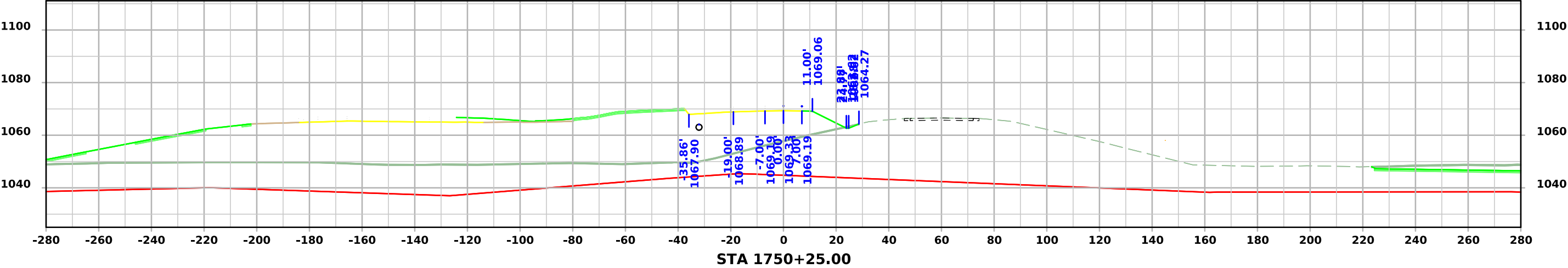
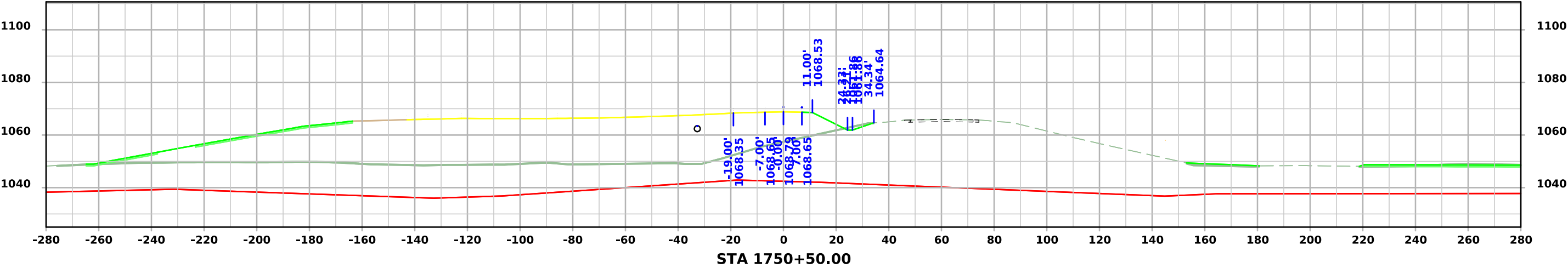
IA 175 - Stage 1



IA 175 - Stage 1

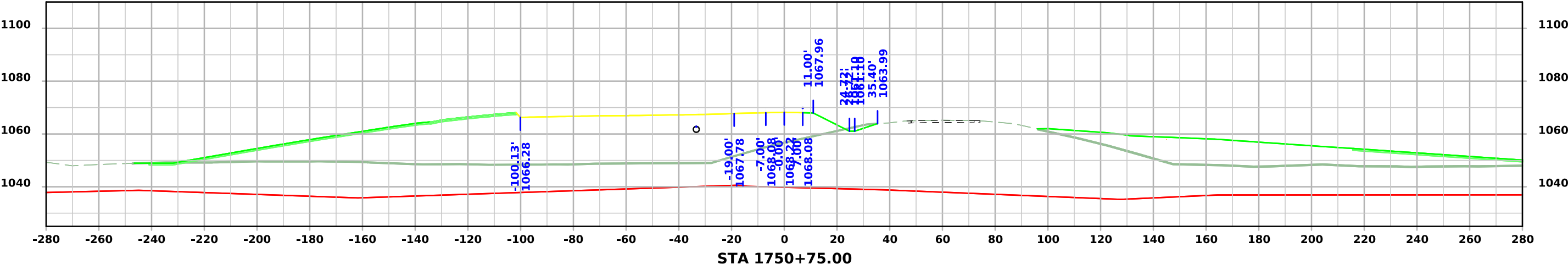
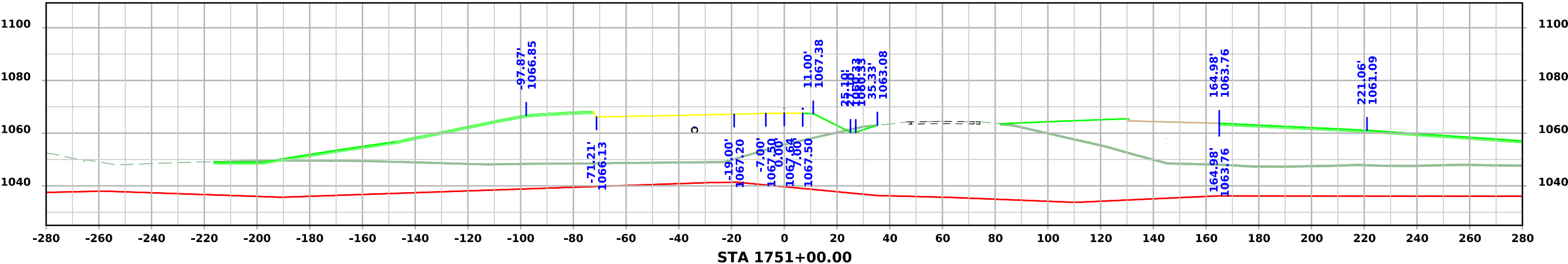
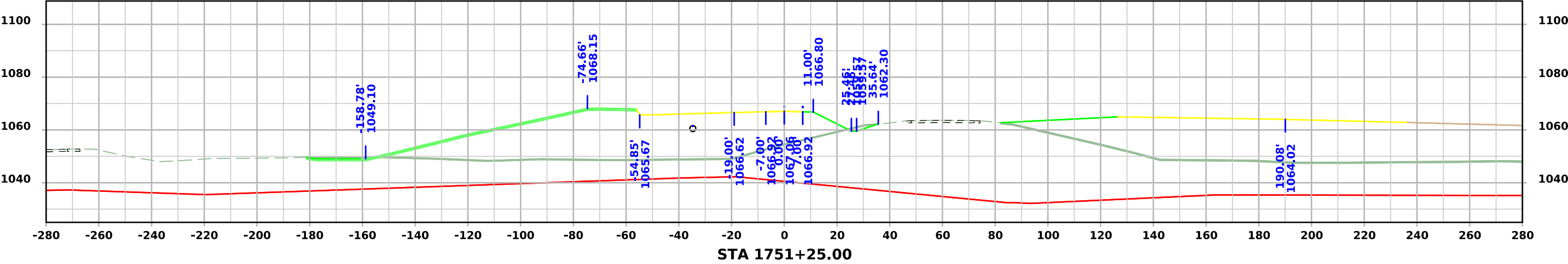


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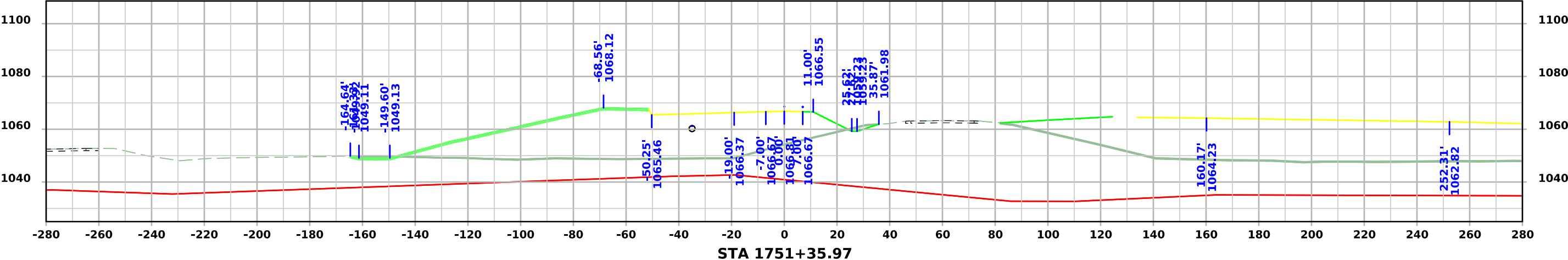
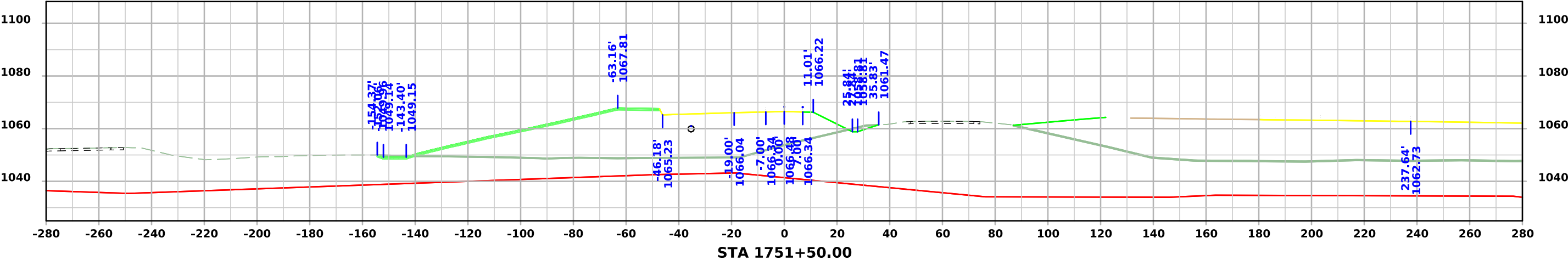
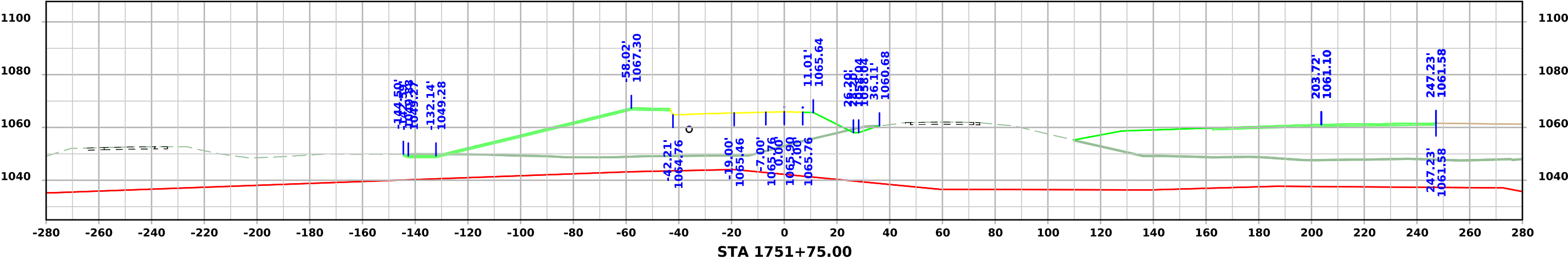




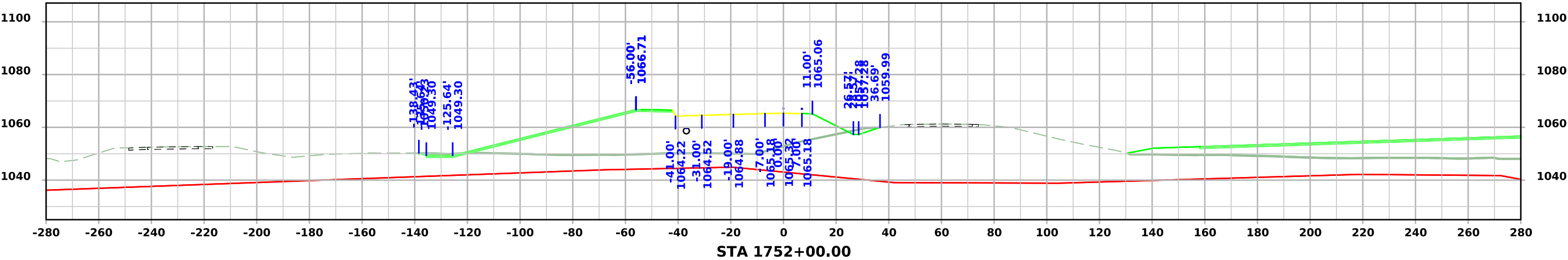
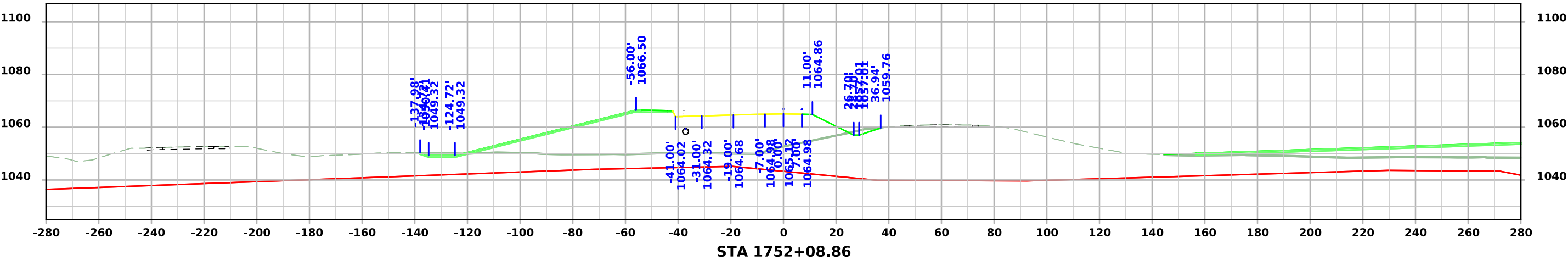
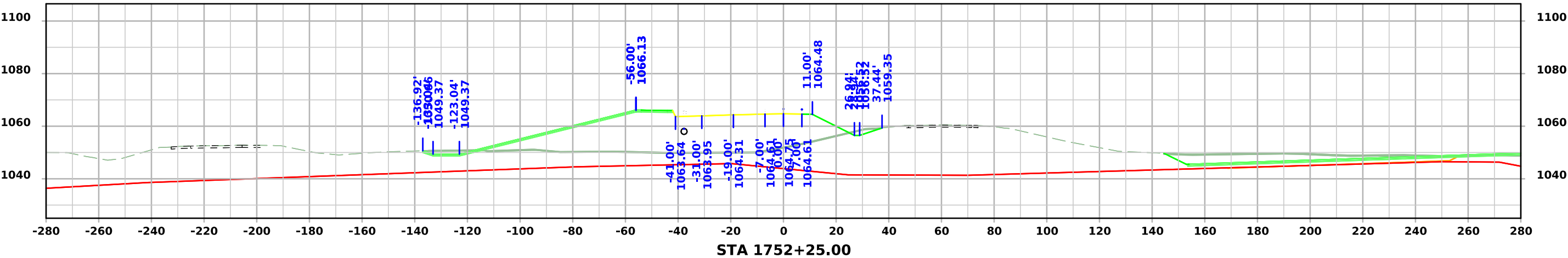
# IA 175 - Stage 1



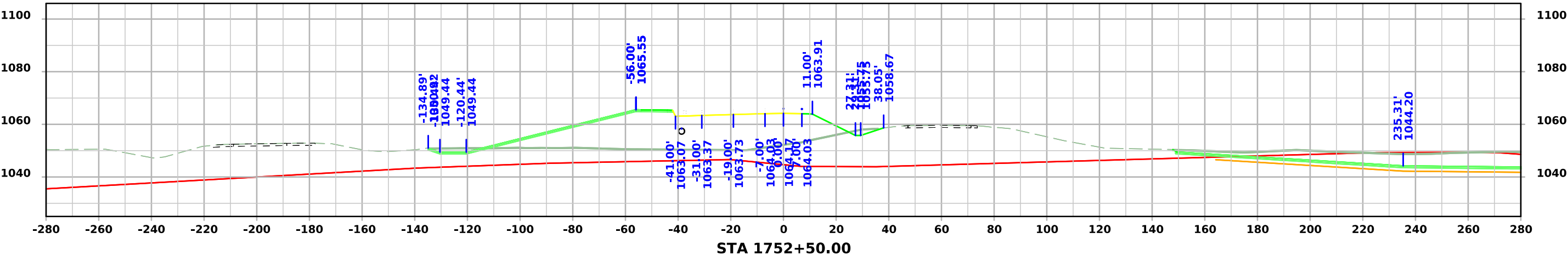
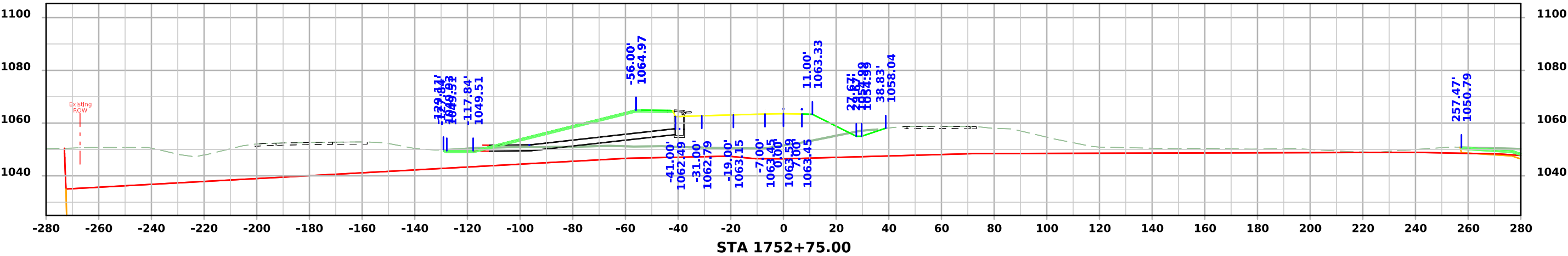
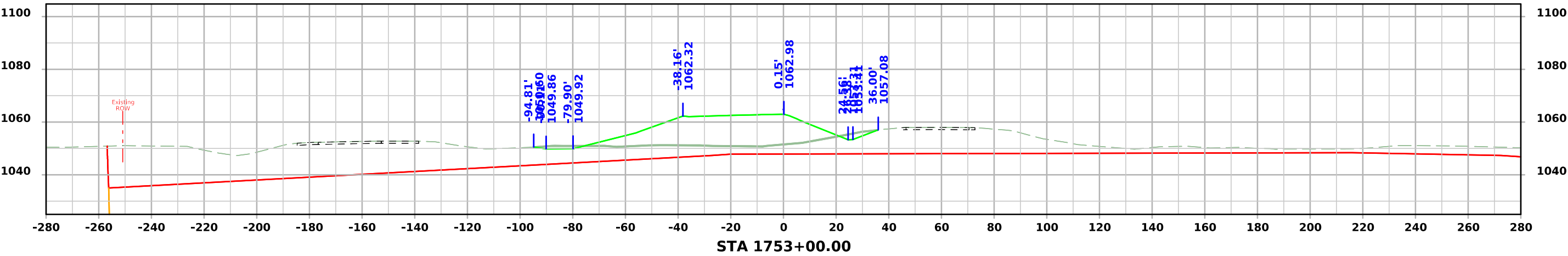
IA 175 - Stage 1



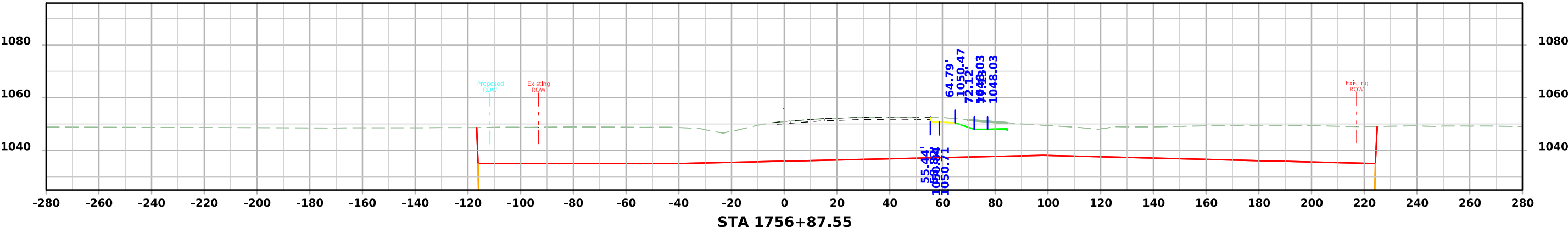
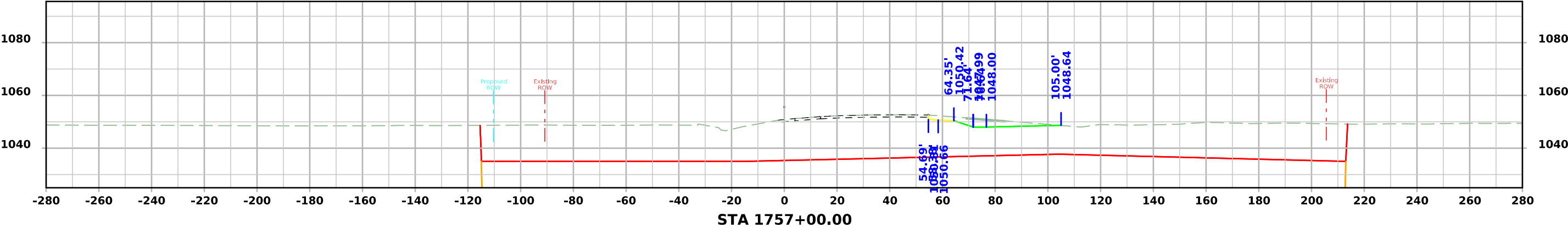
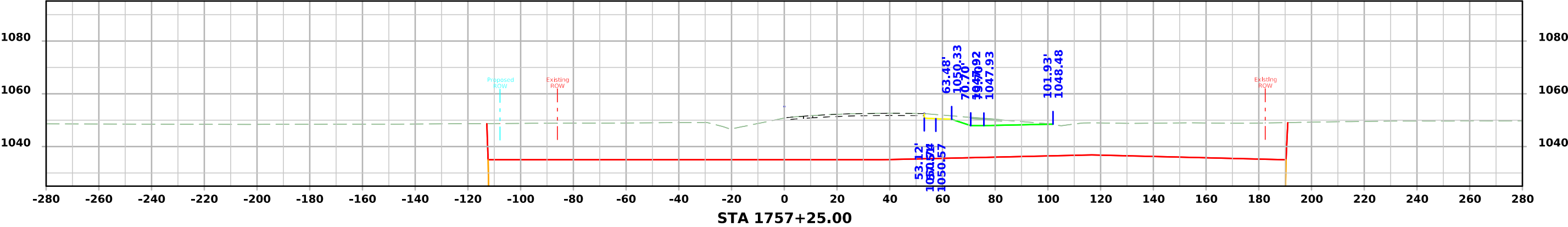
IA 175 - Stage 1



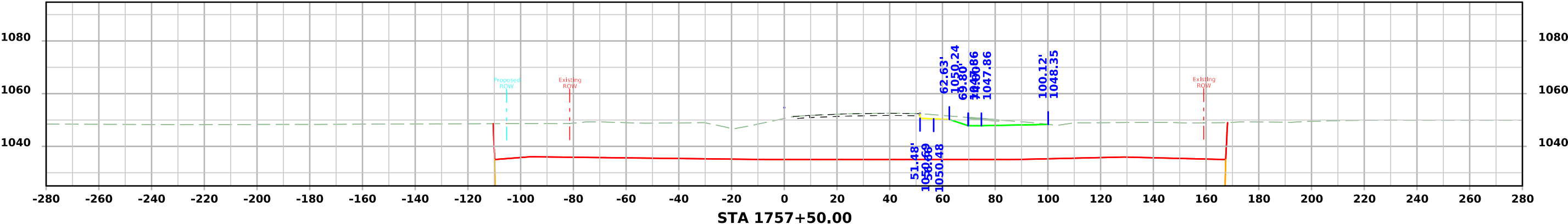
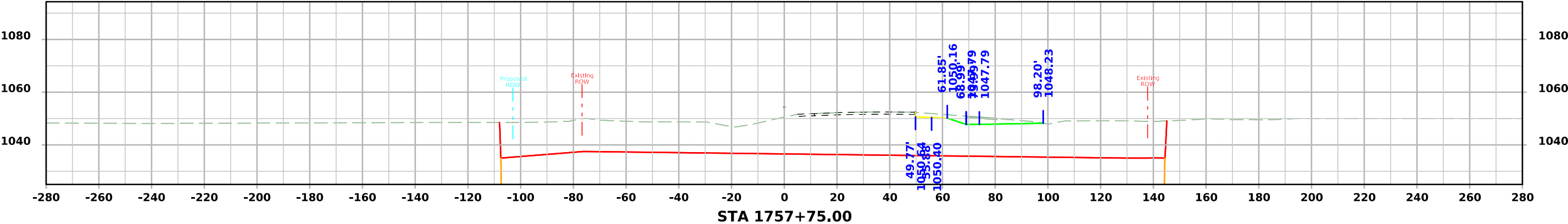
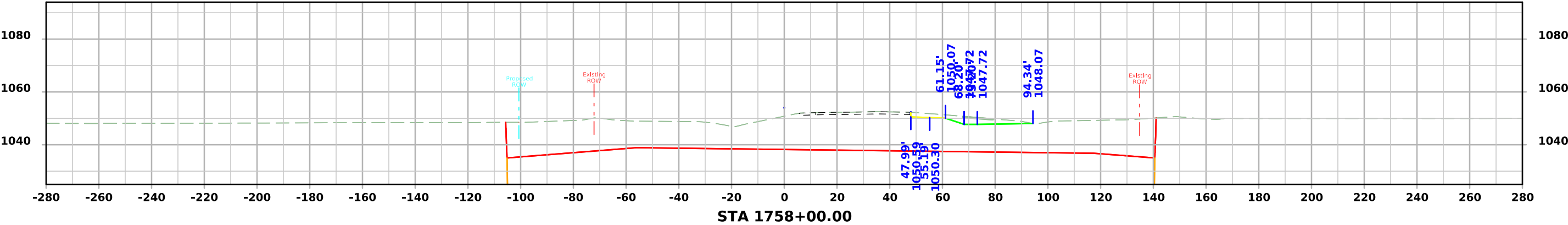
IA 175 - Stage 1



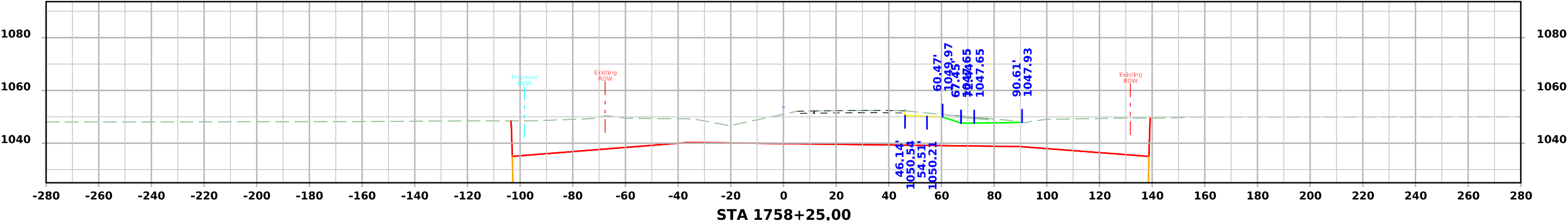
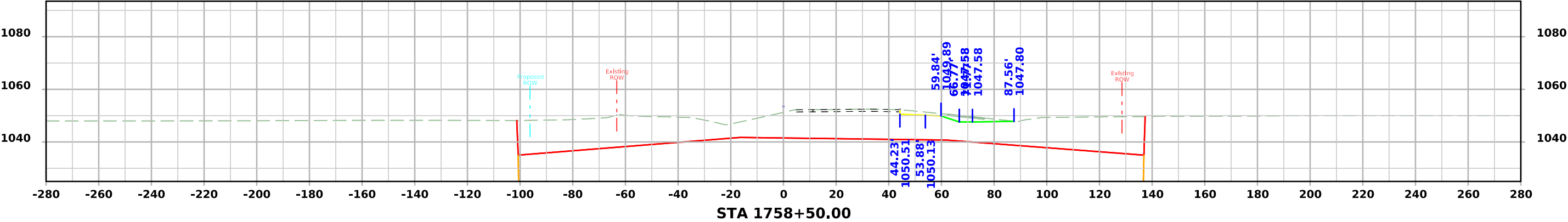
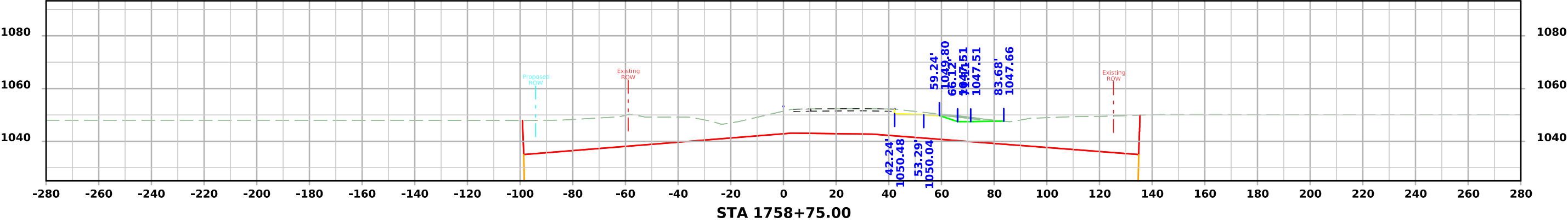
IA 175 - Stage 1



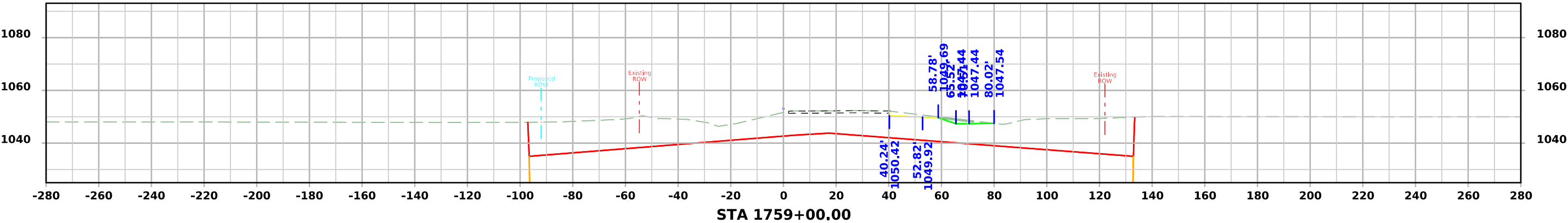
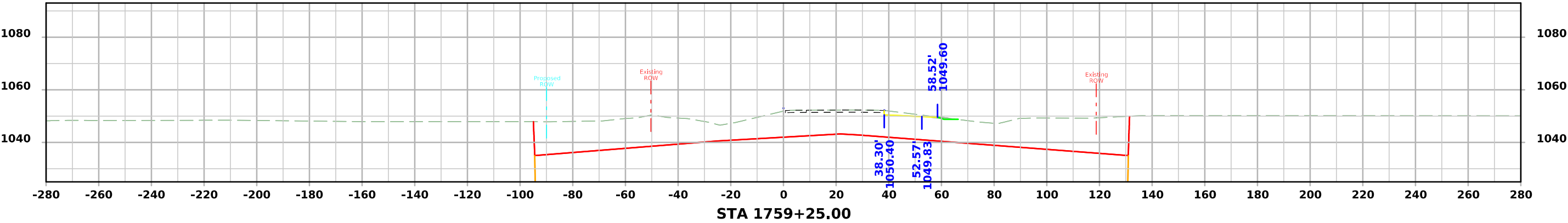
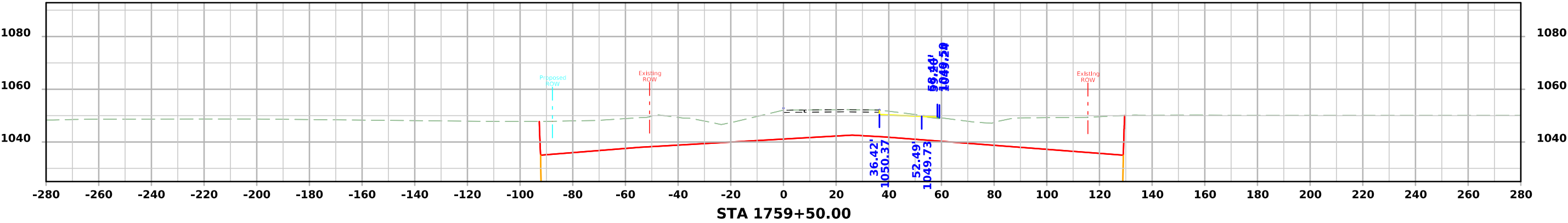
IA 175 - Stage 1



IA 175 - Stage 1

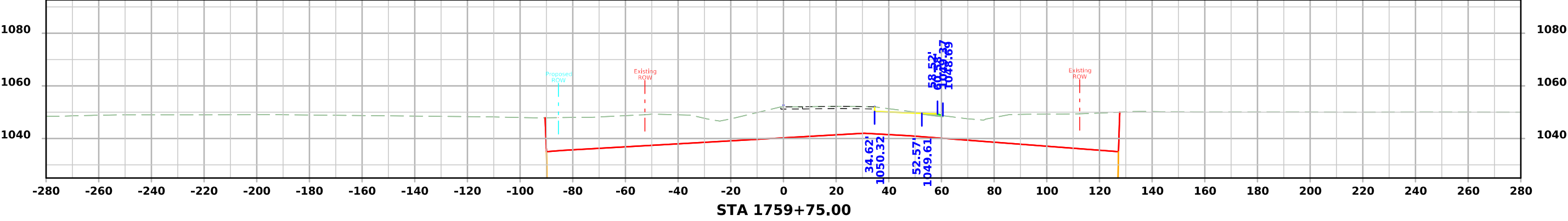
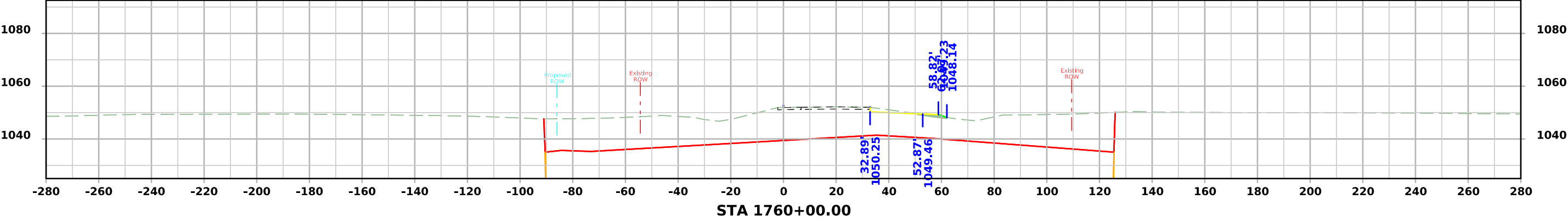
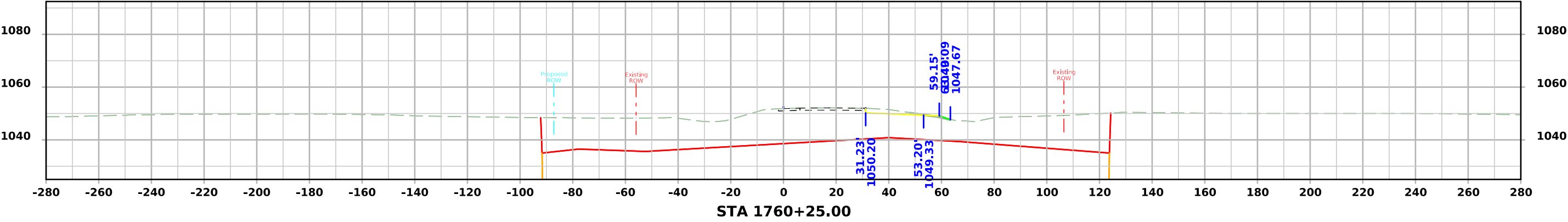


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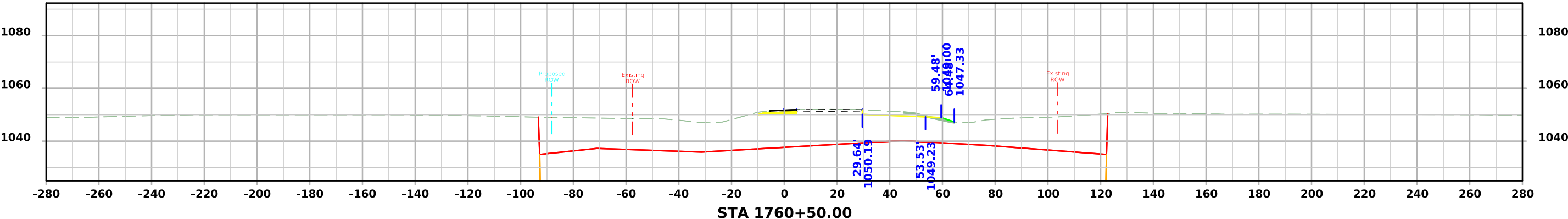
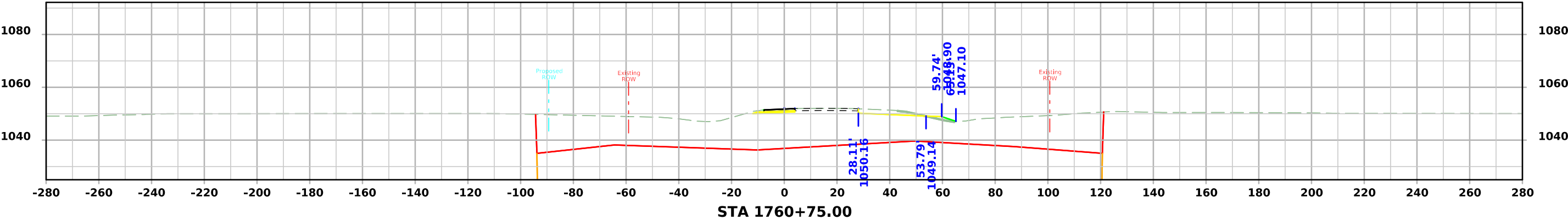
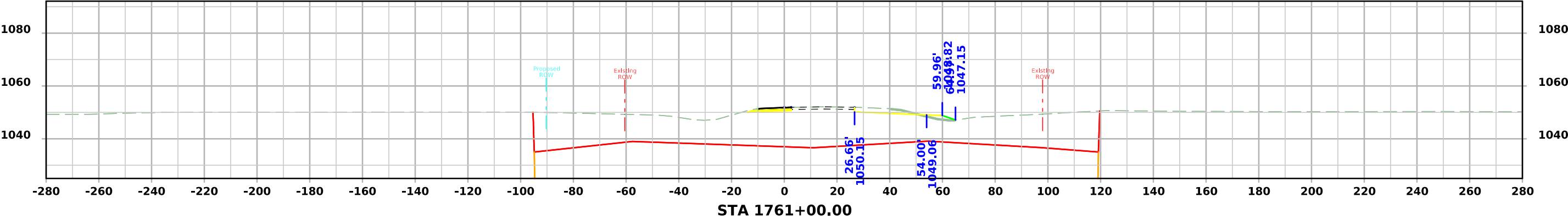




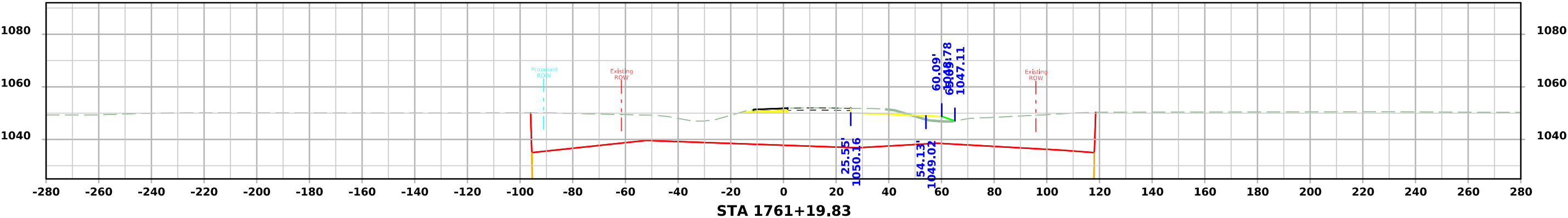
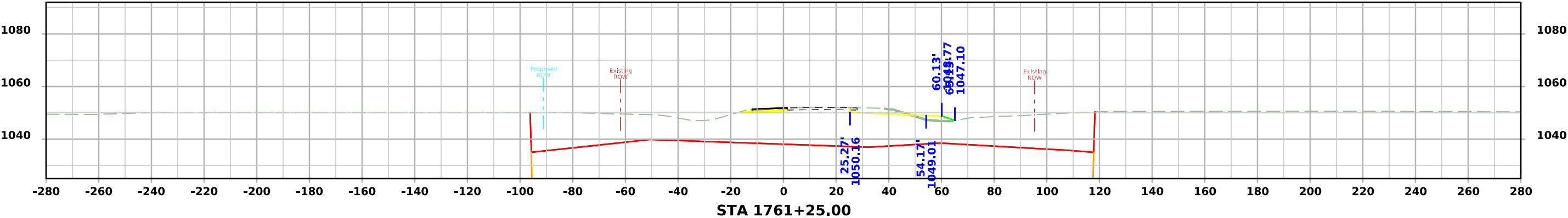
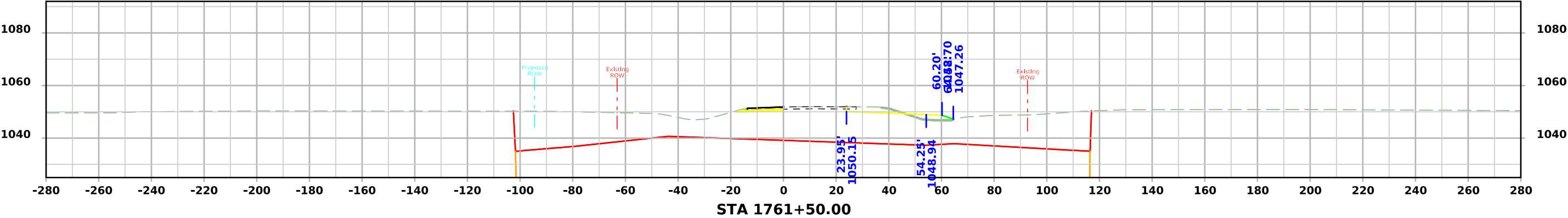
IA 175 - Stage 1



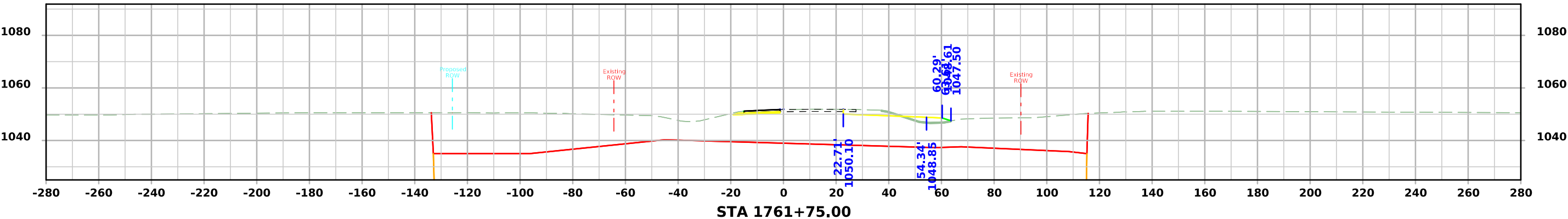
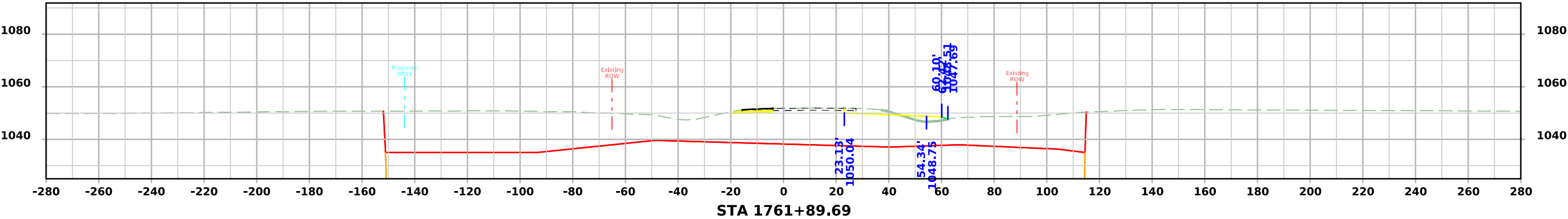
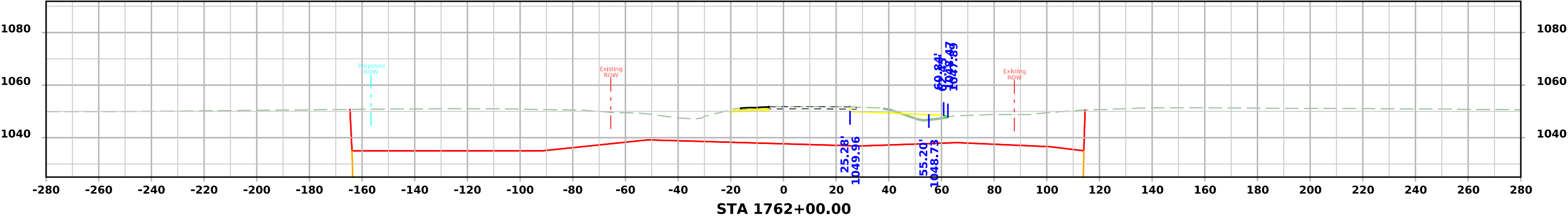
IA 175 - Stage 1



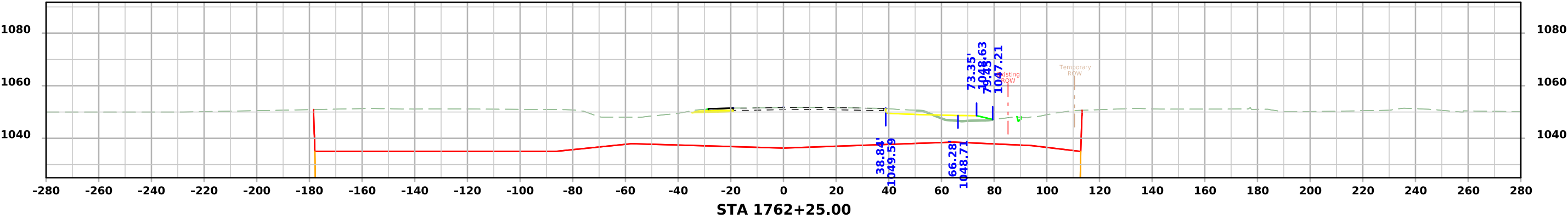
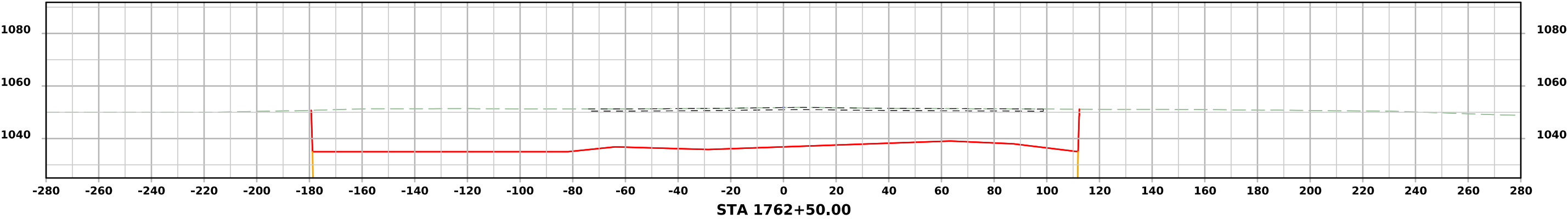
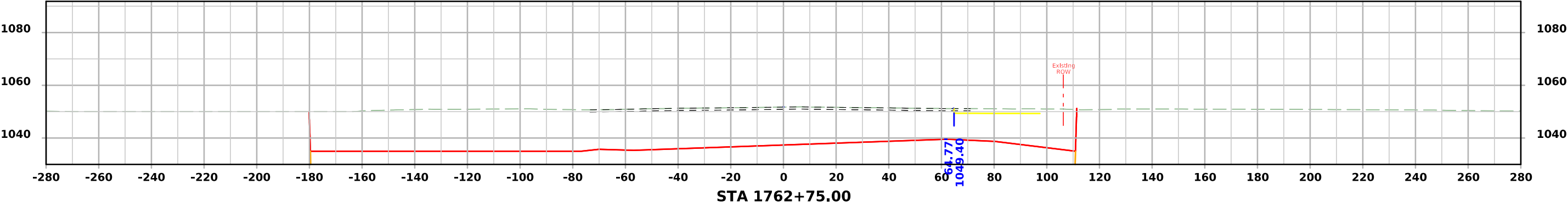
IA 175 - Stage 1



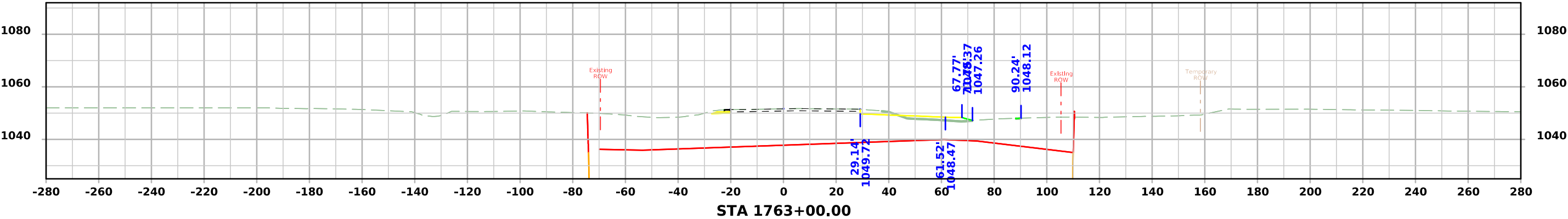
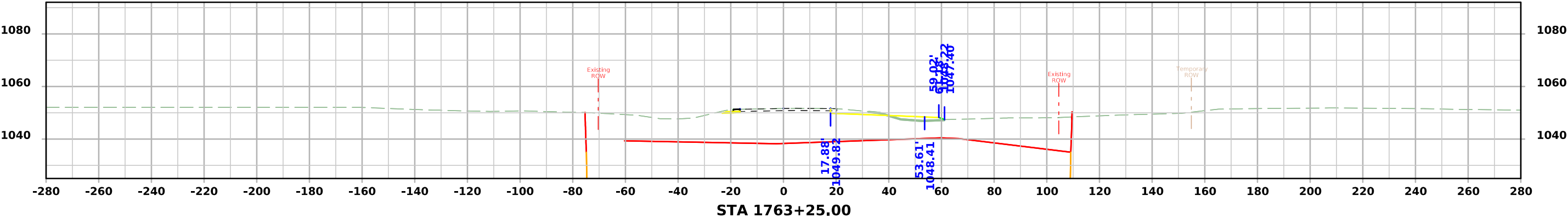
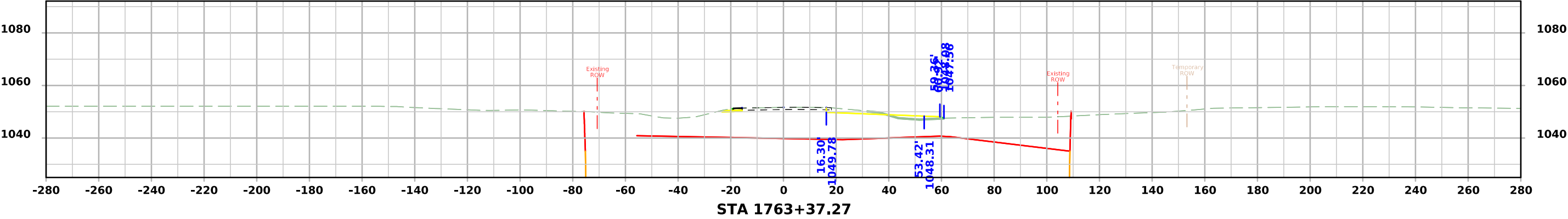
IA 175 - Stage 1



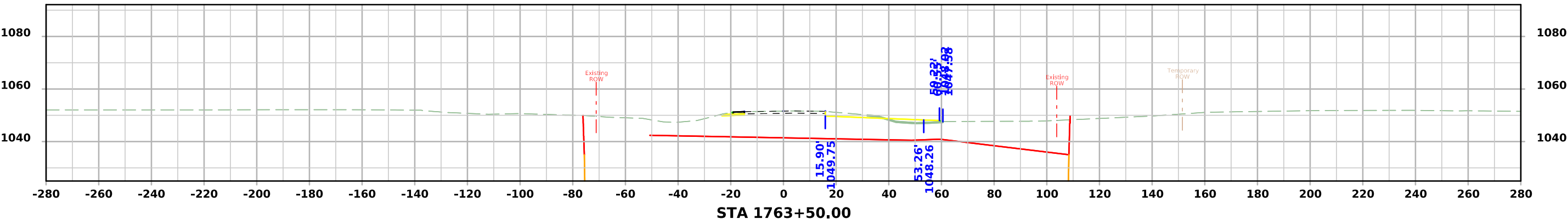
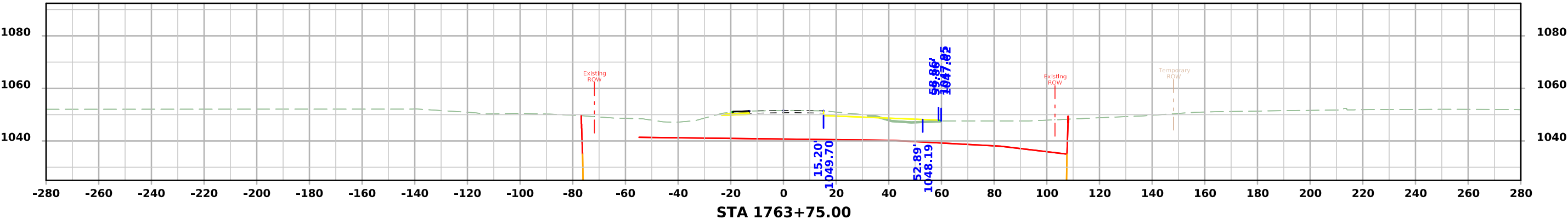
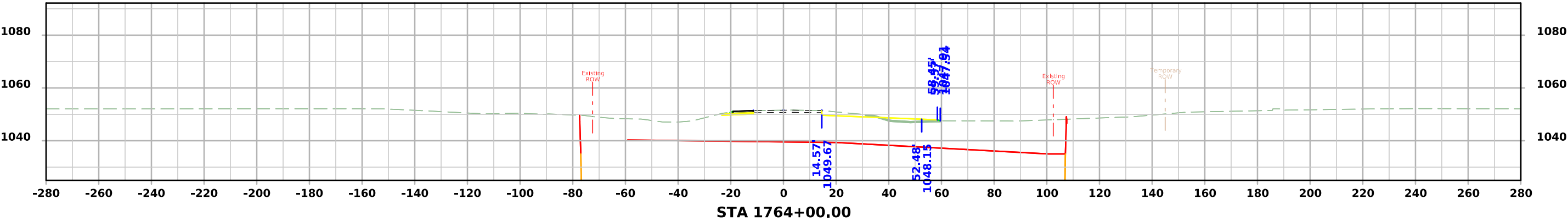
IA 175 - Stage 1



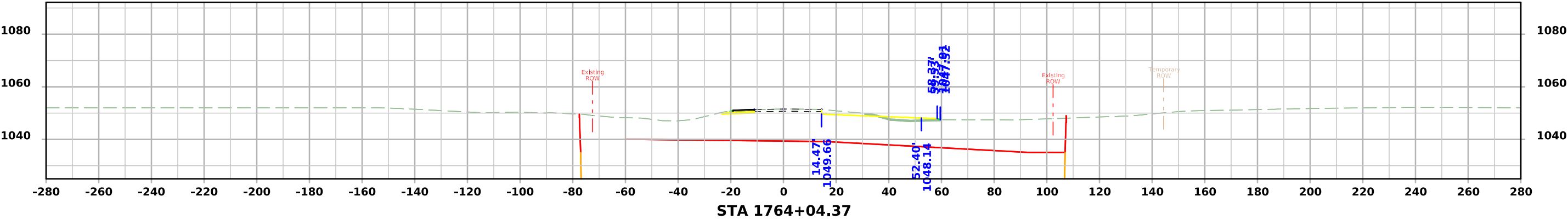
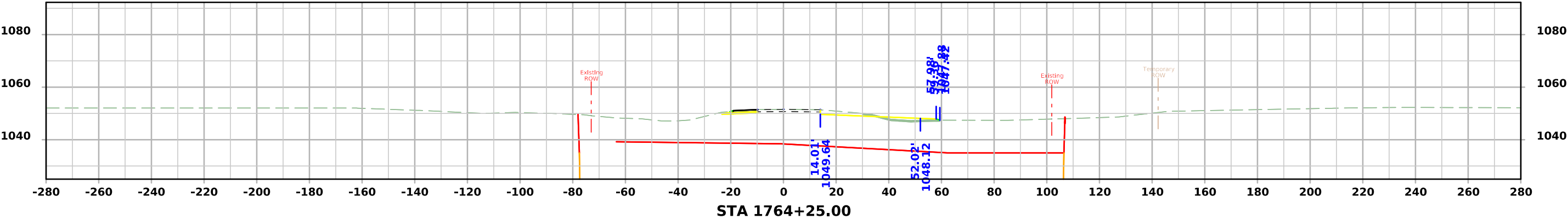
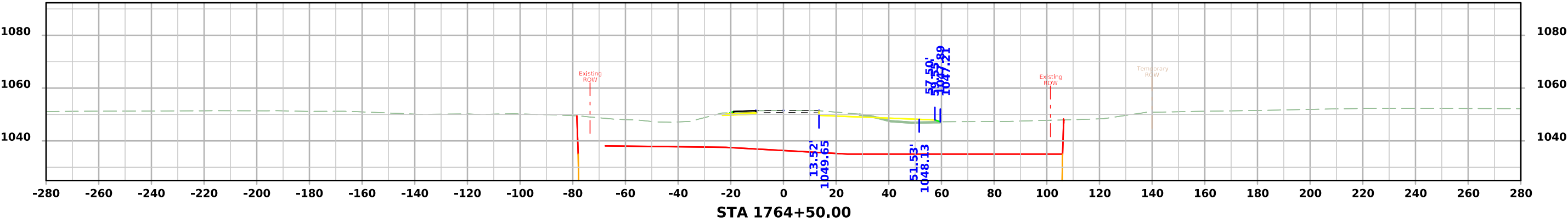
IA 175 - Stage 1



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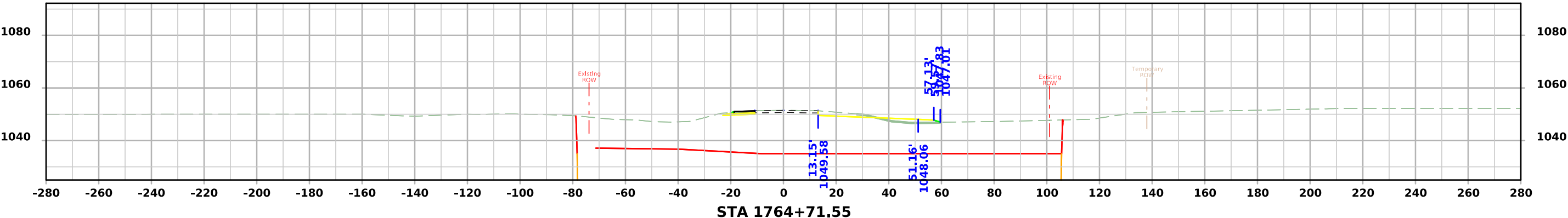
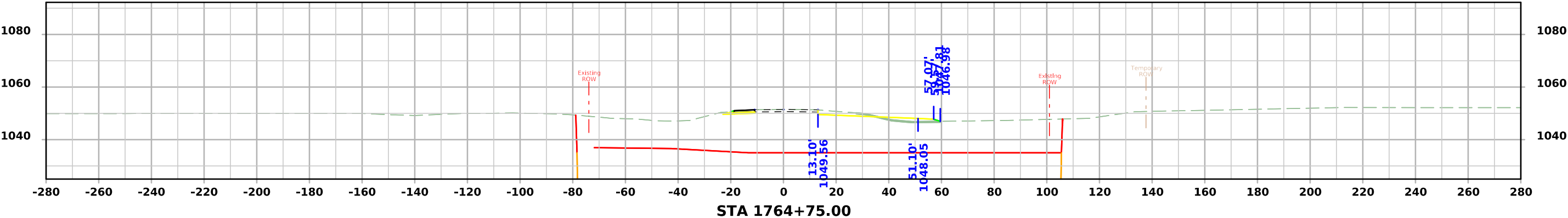
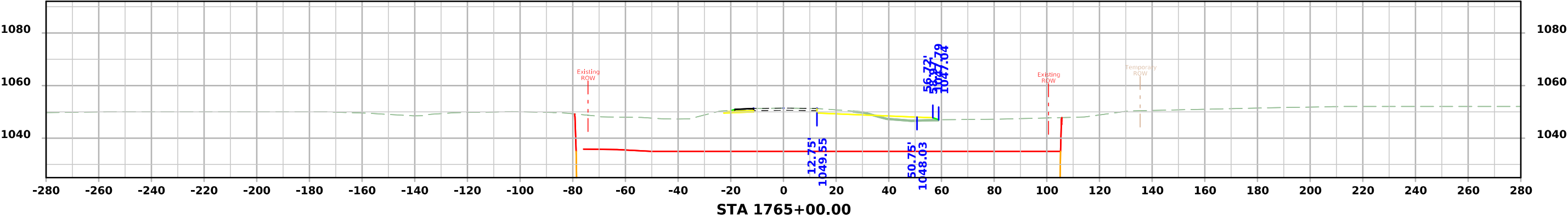


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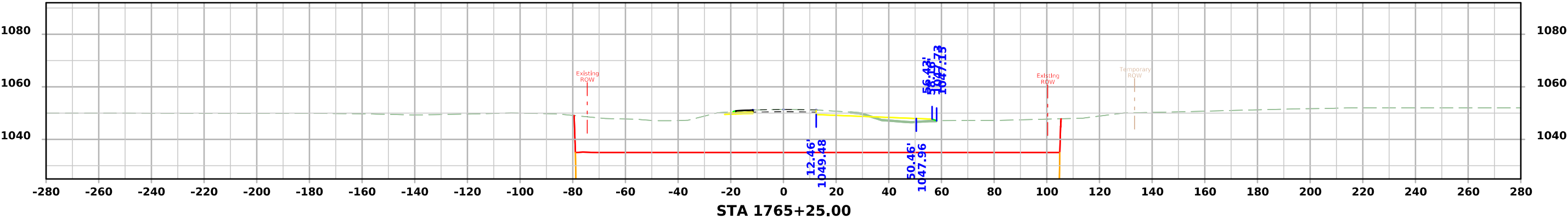
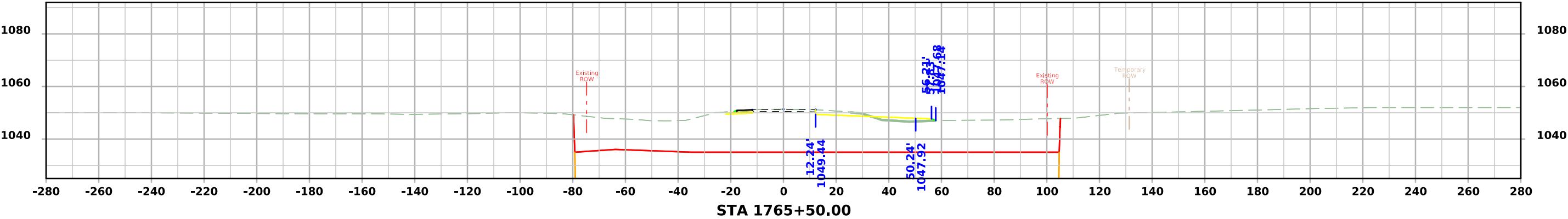
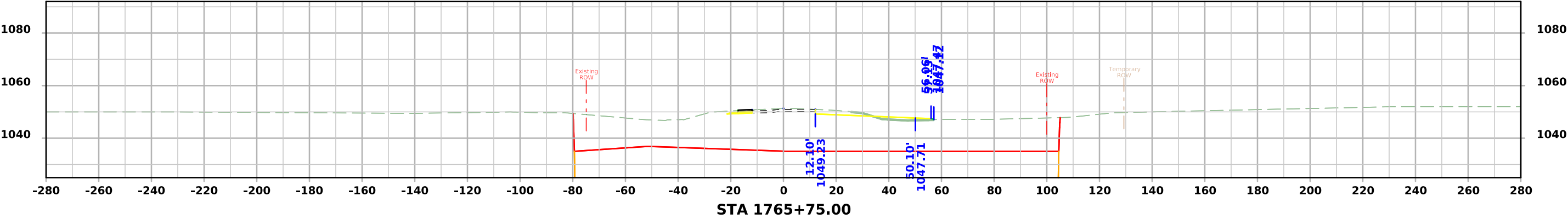




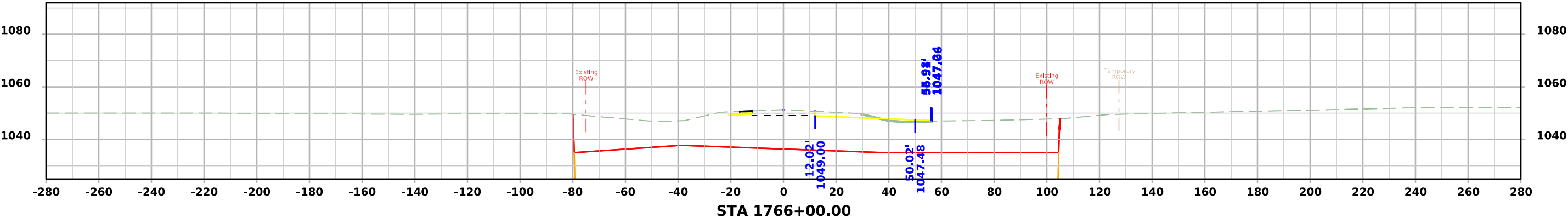
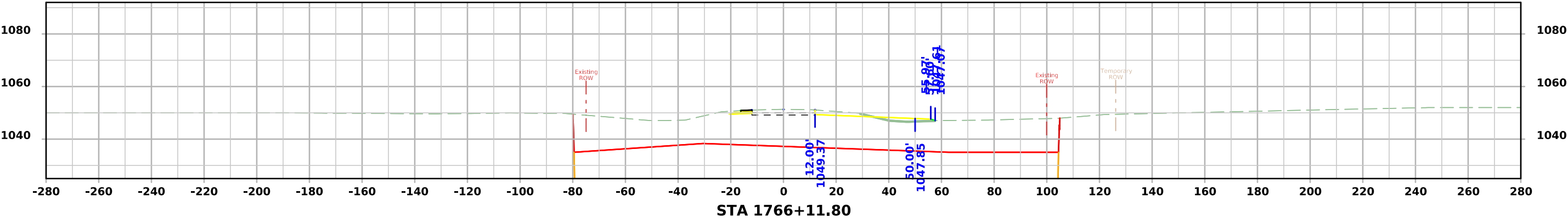
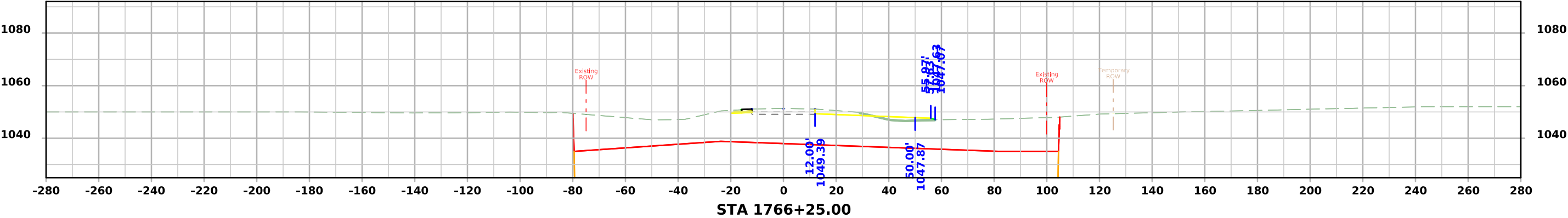
IA 175 - Stage 1



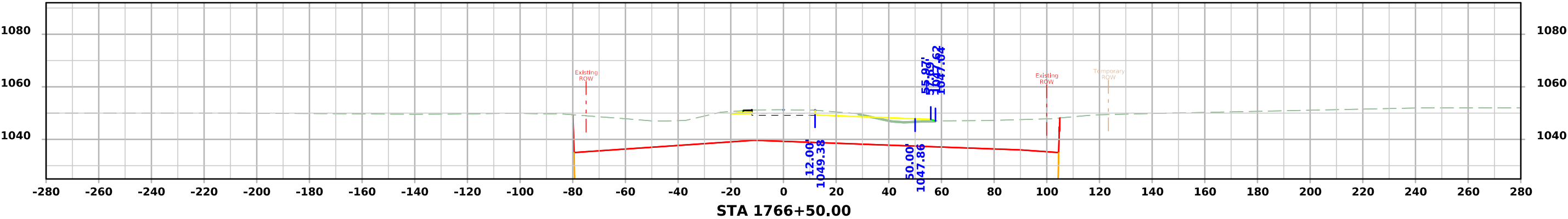
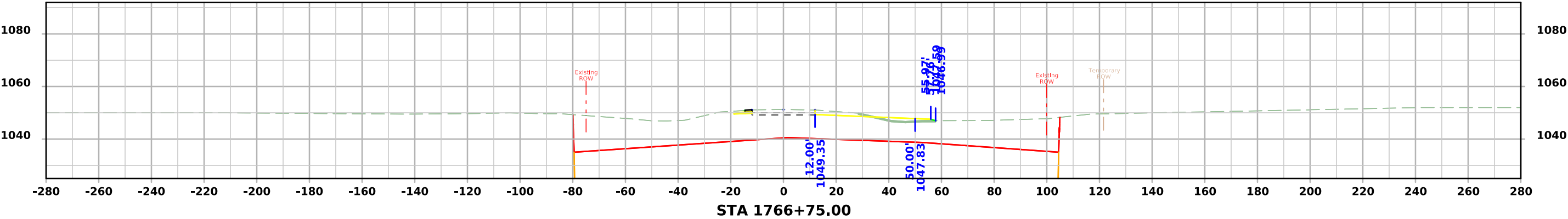
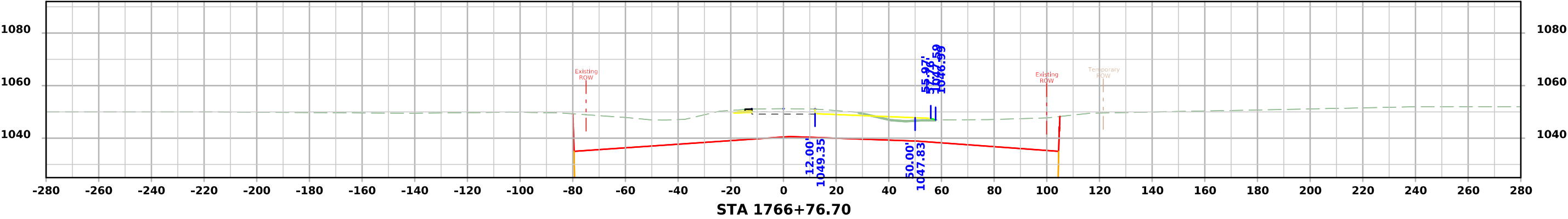
IA 175 - Stage 1



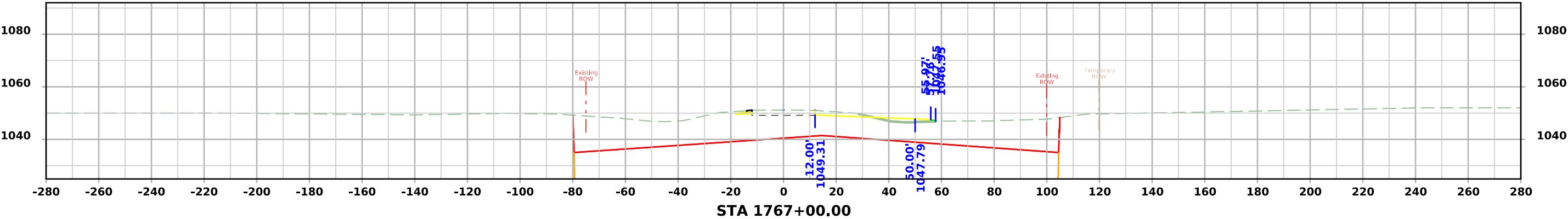
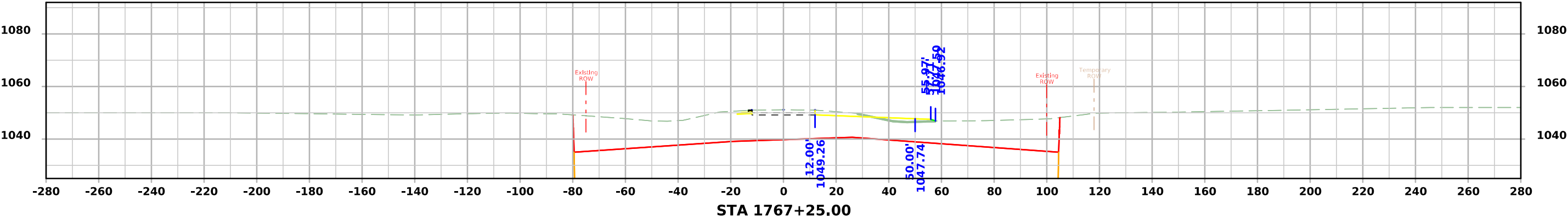
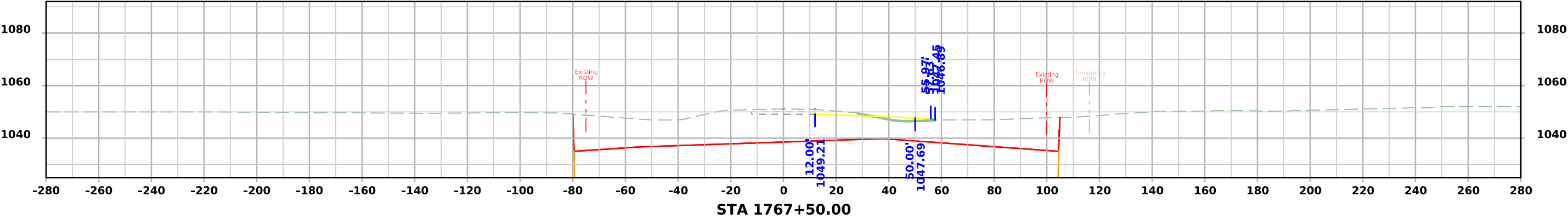
IA 175 - Stage 1



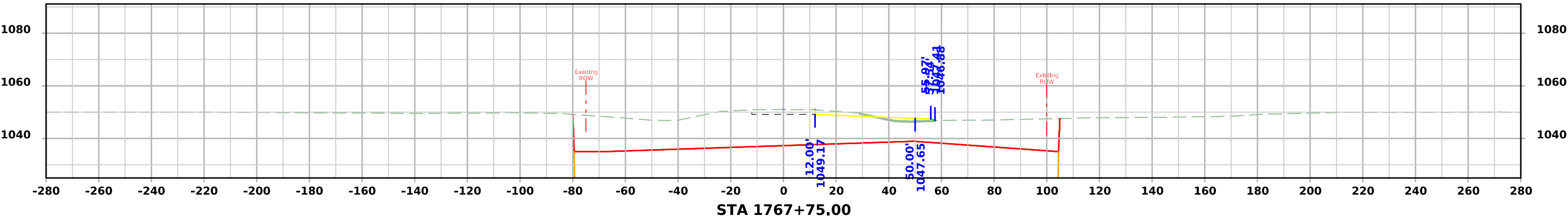
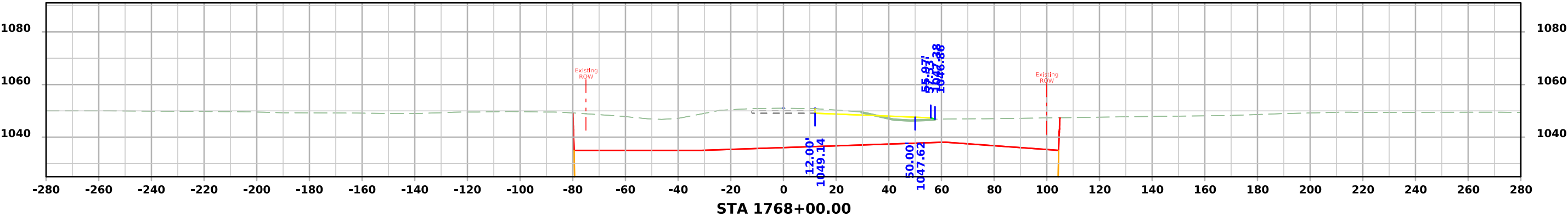
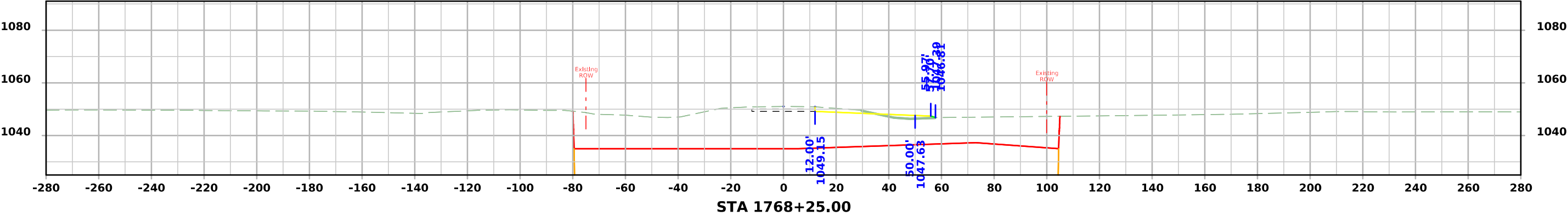
IA 175 - Stage 1



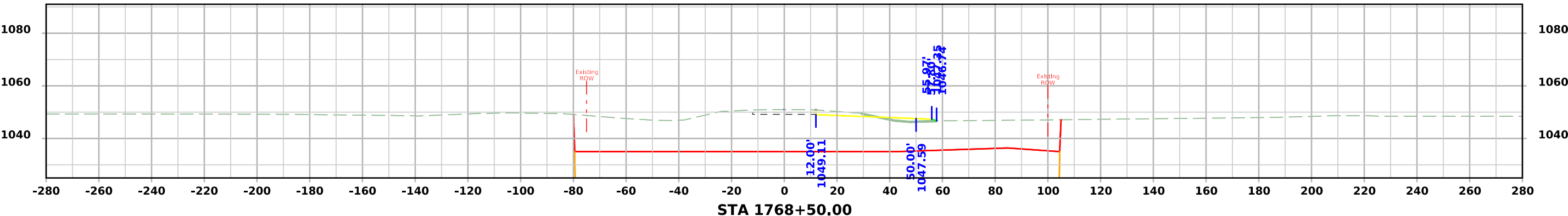
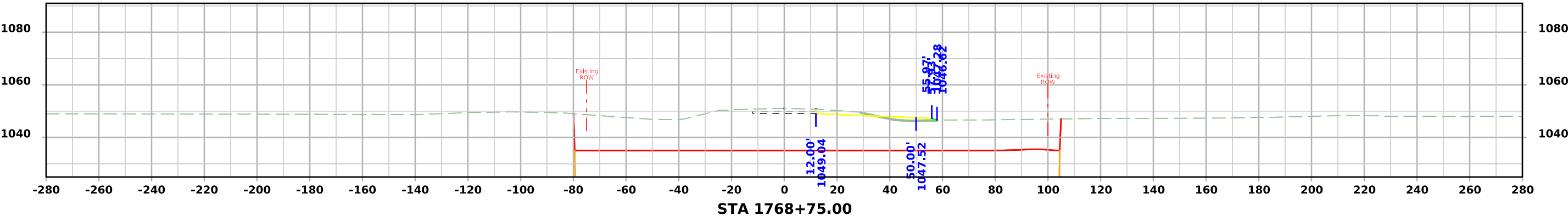
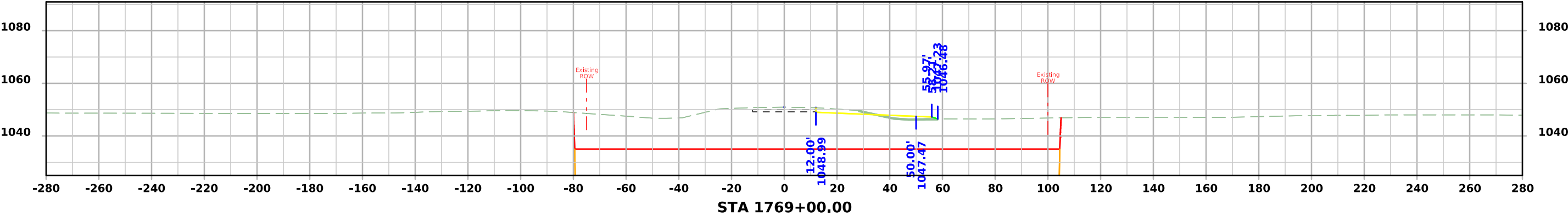
IA 175 - Stage 1



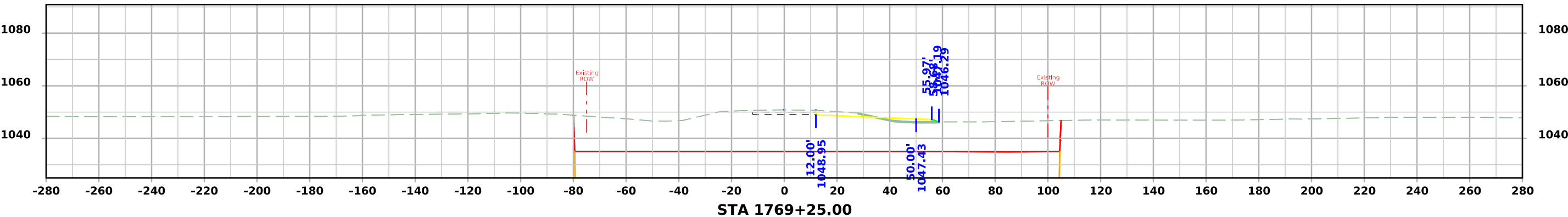
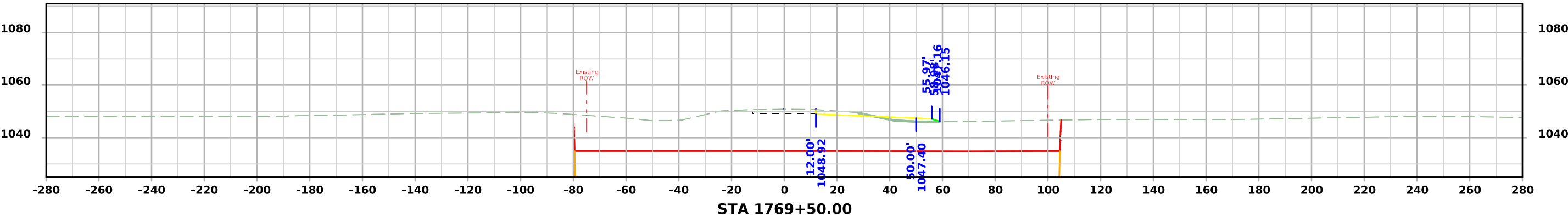
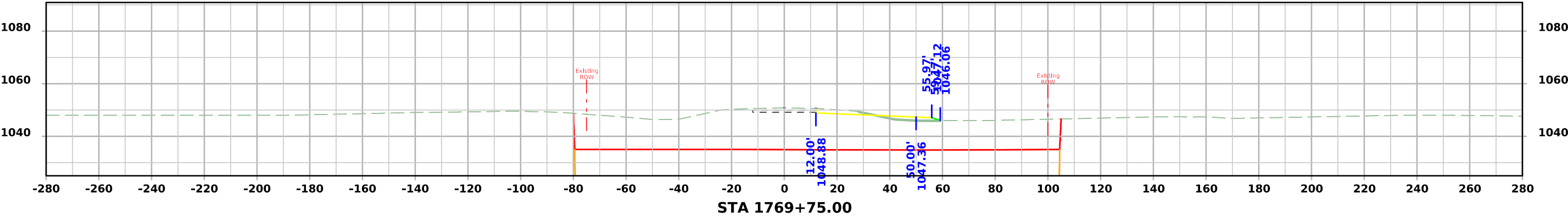
IA 175 - Stage 1



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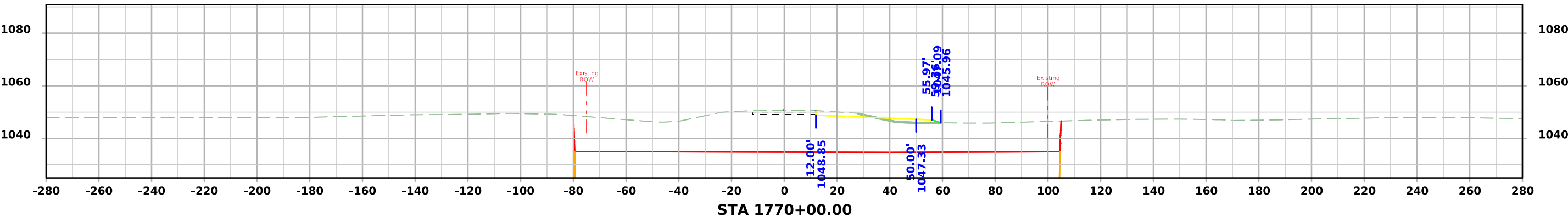
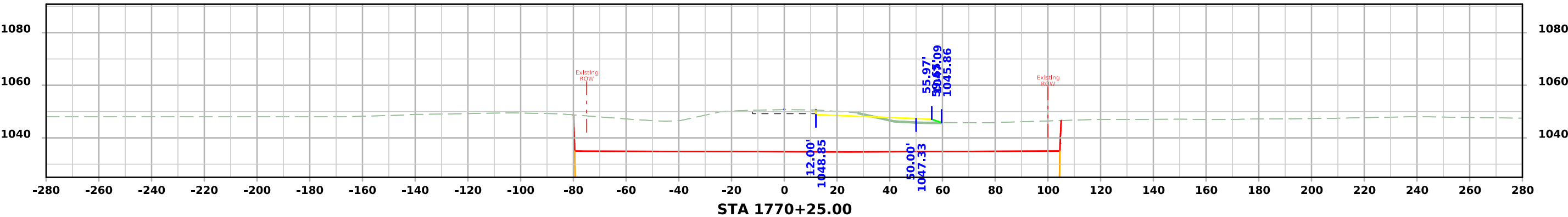
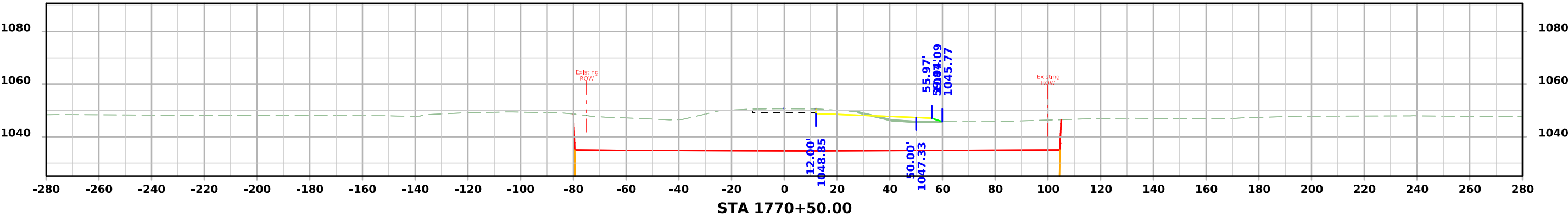


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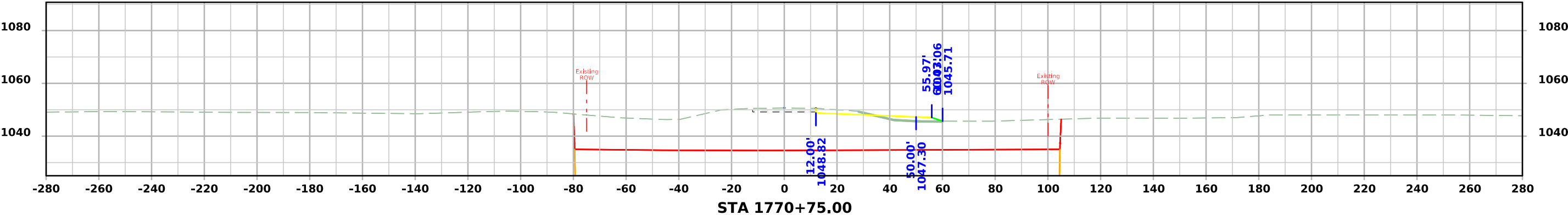
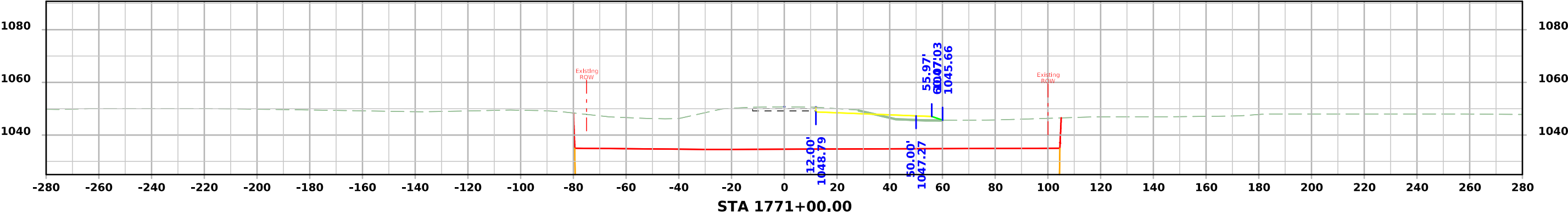
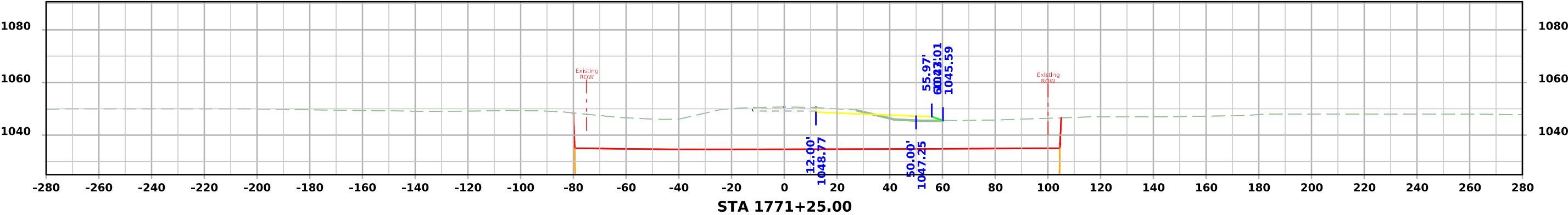




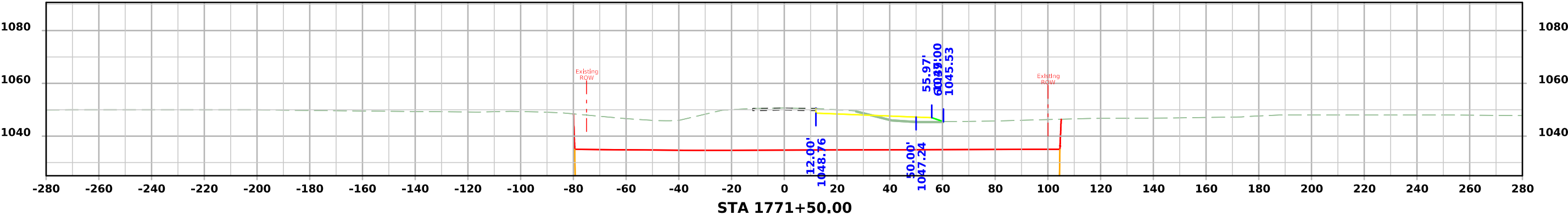
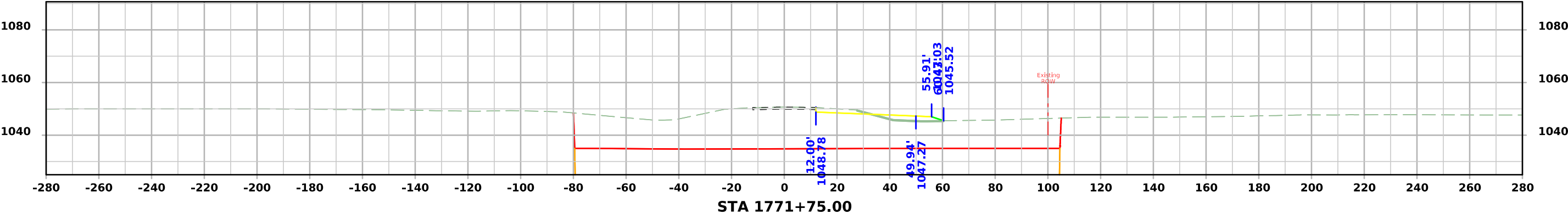
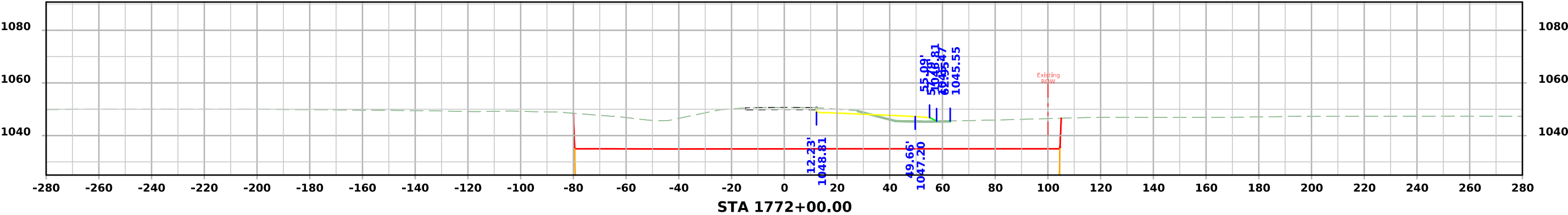
IA 175 - Stage 1



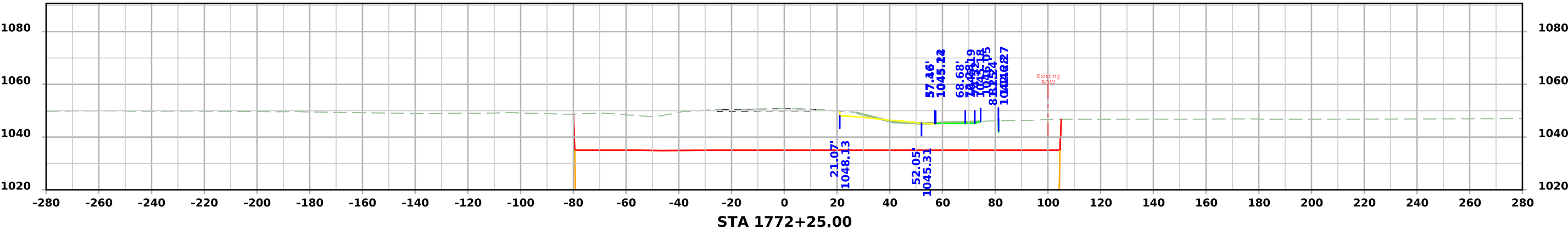
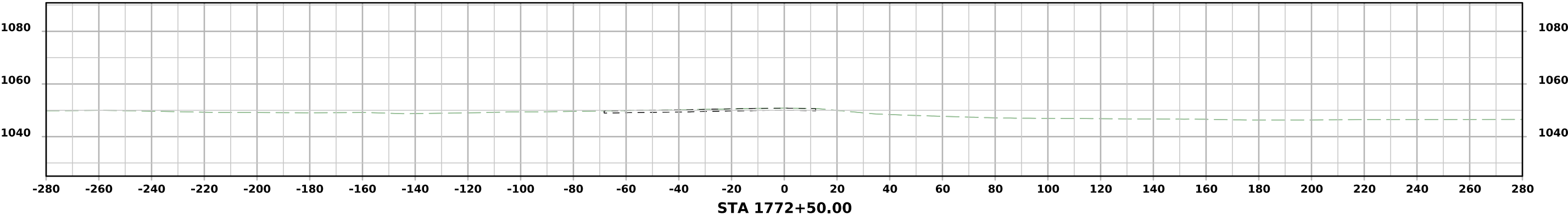
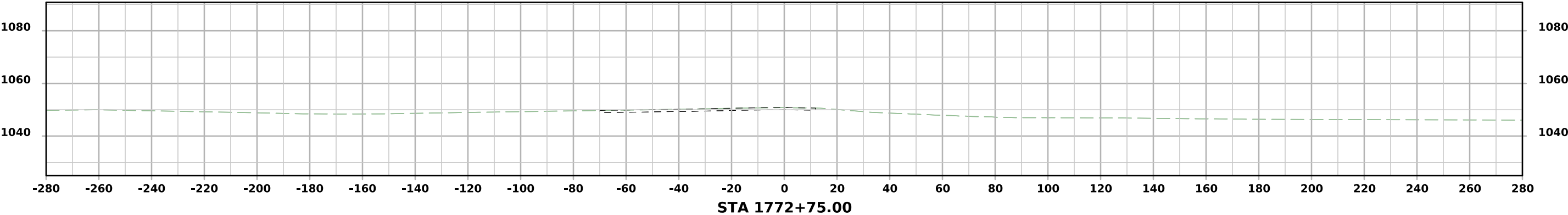
IA 175 - Stage 1



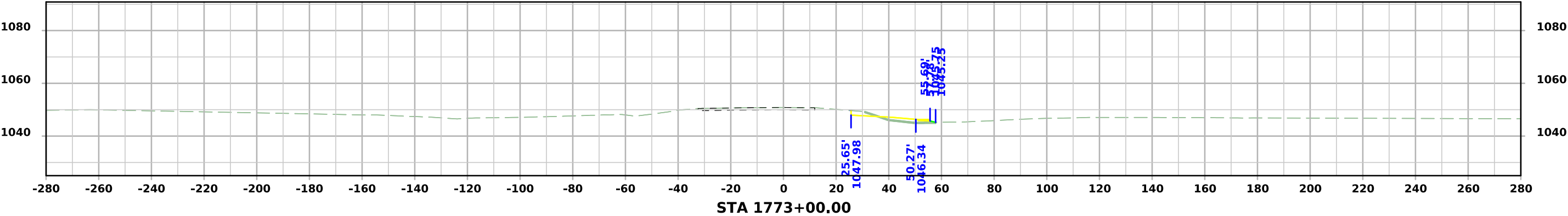
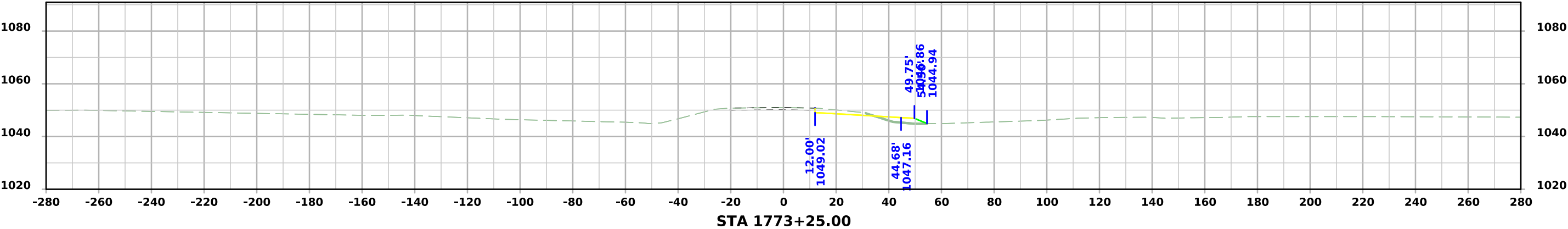
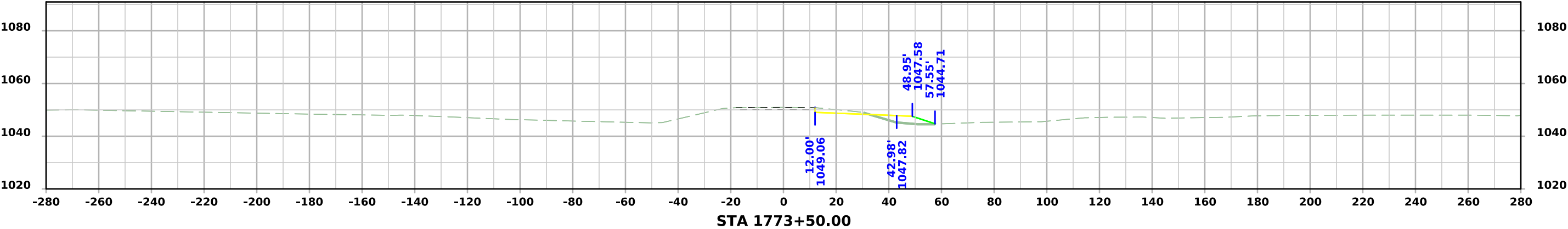
IA 175 - Stage 1



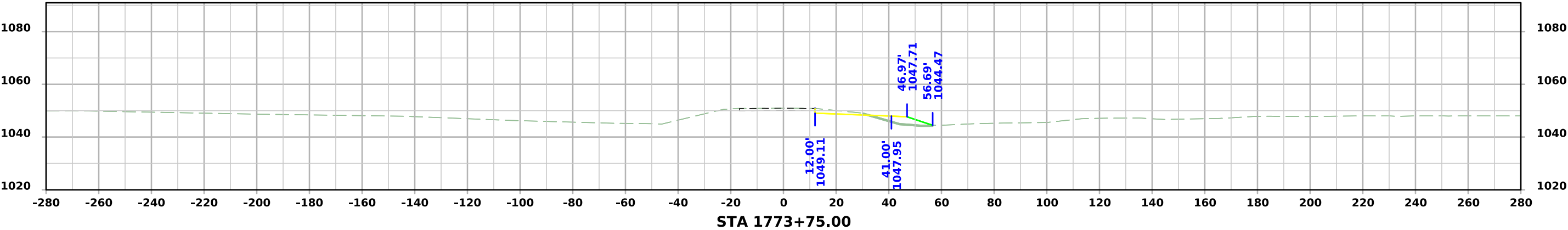
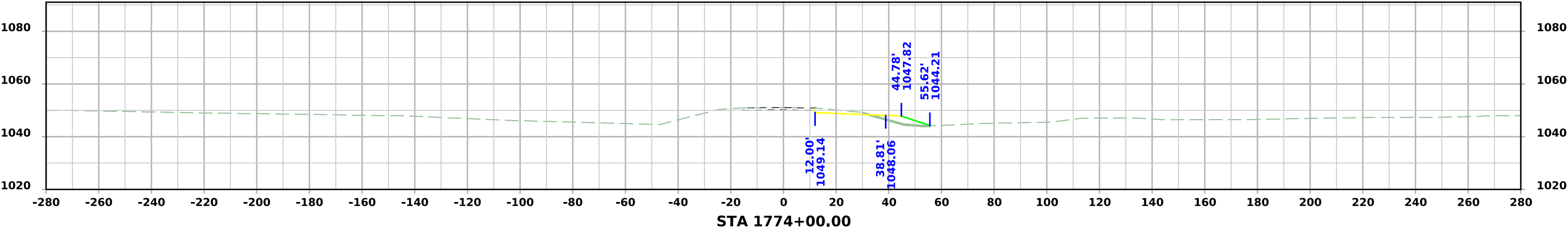
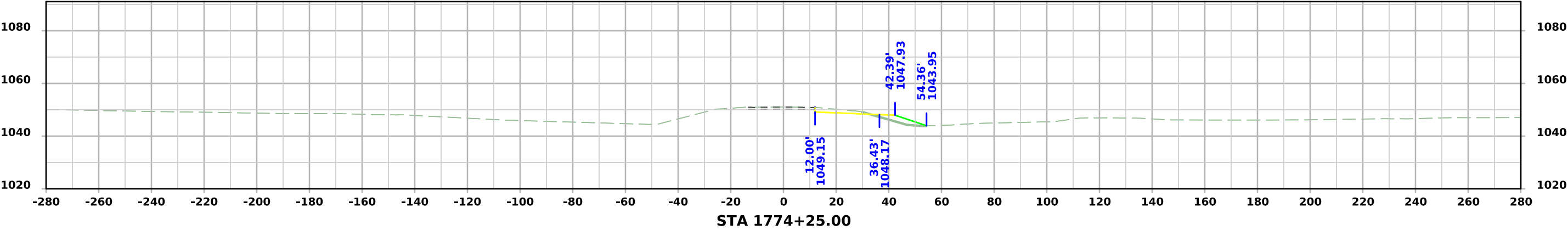
IA 175 - Stage 1



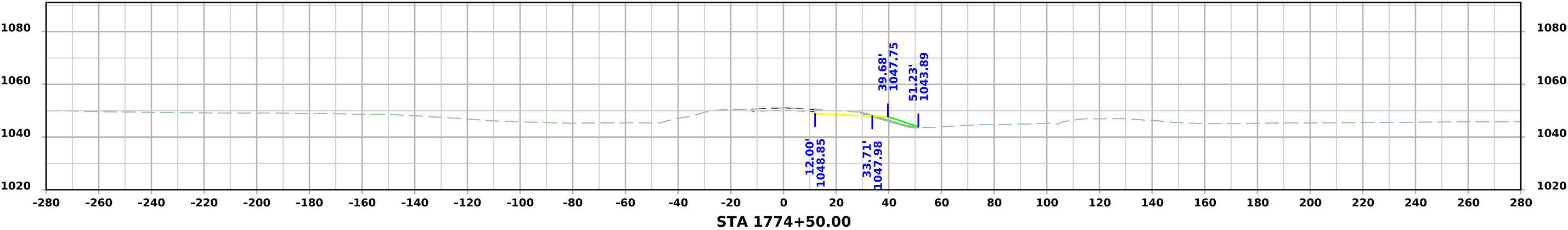
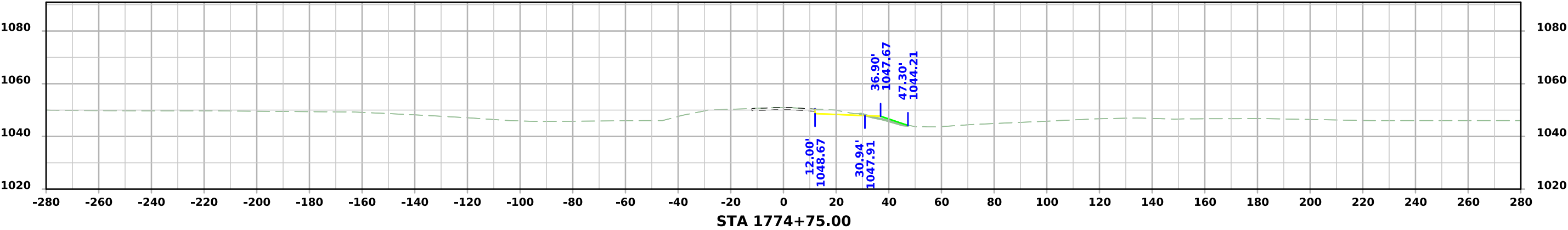
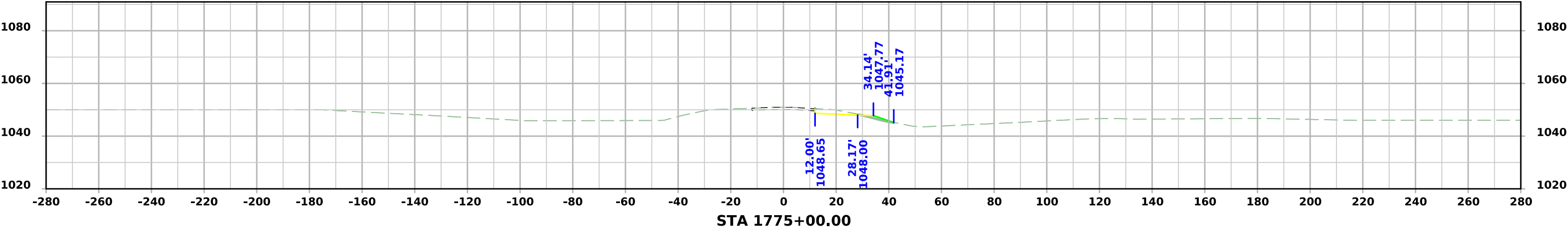
IA 175 - Stage 1



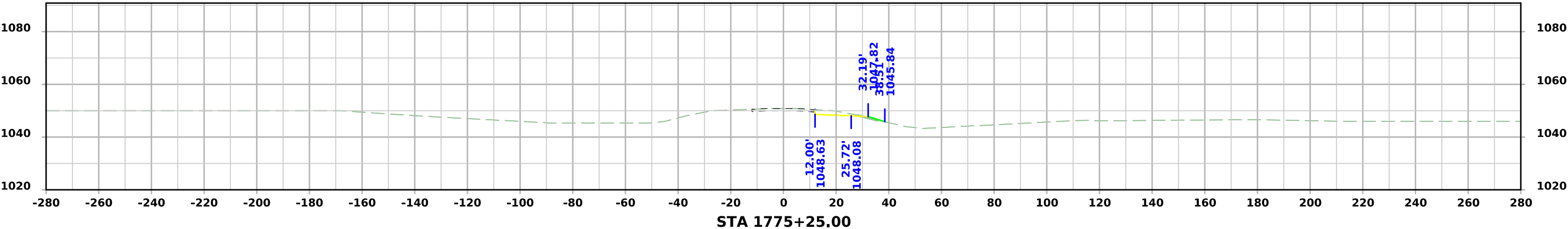
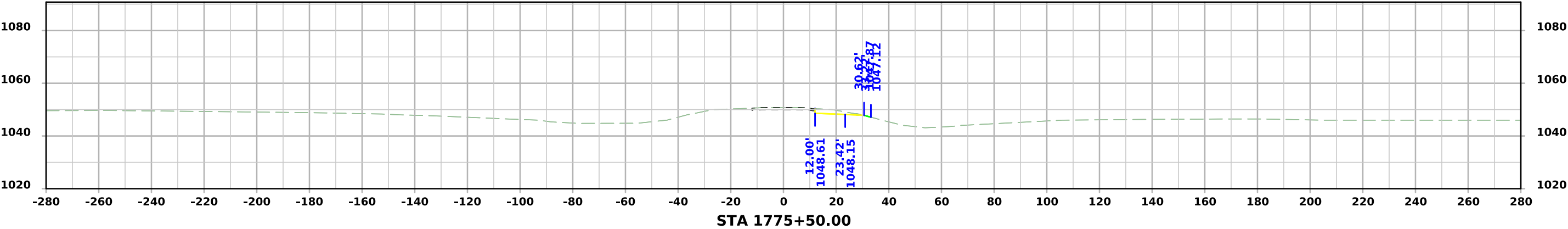
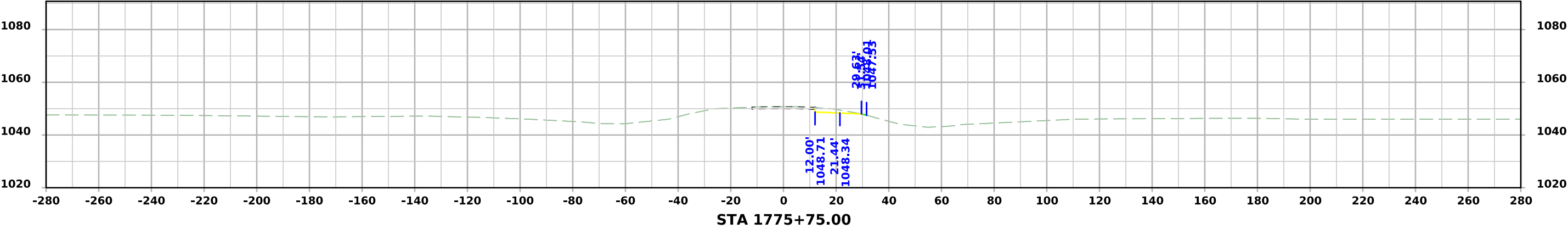
IA 175 - Stage 1



IA 175 - Stage 1

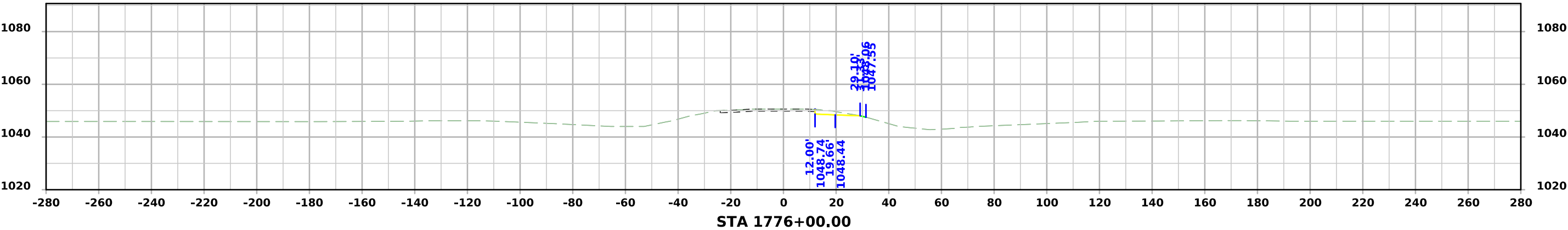
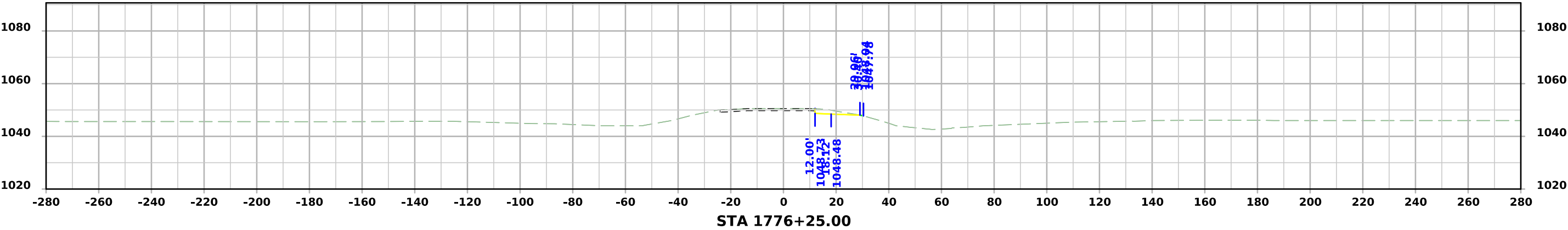
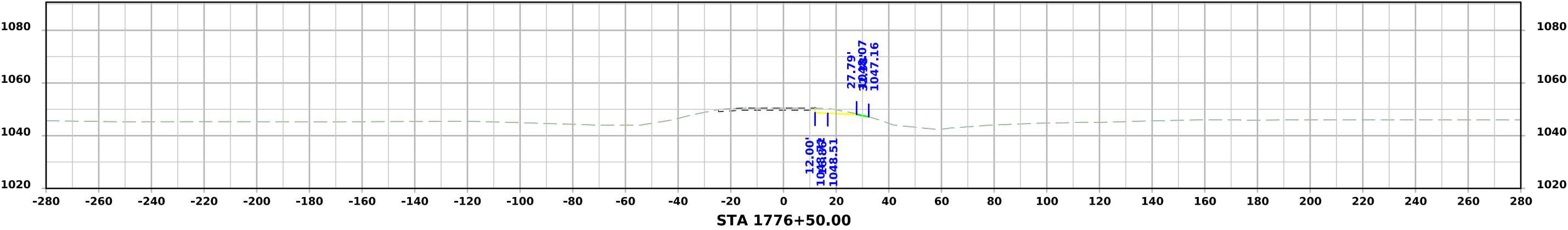


IA 175 - Stage 1

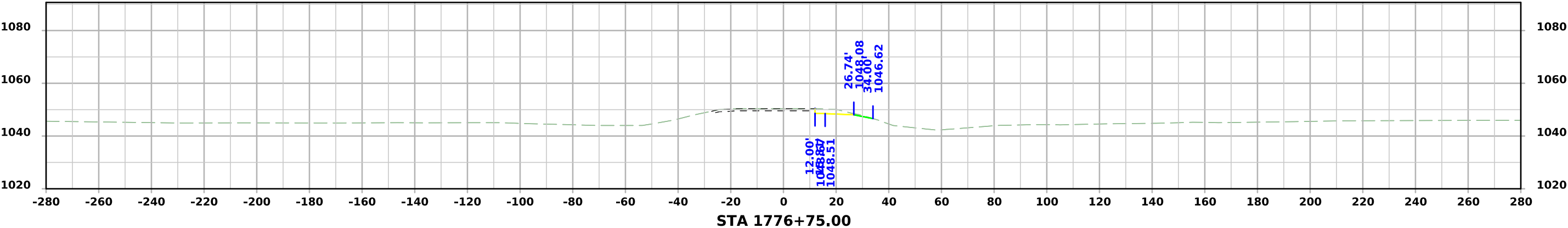
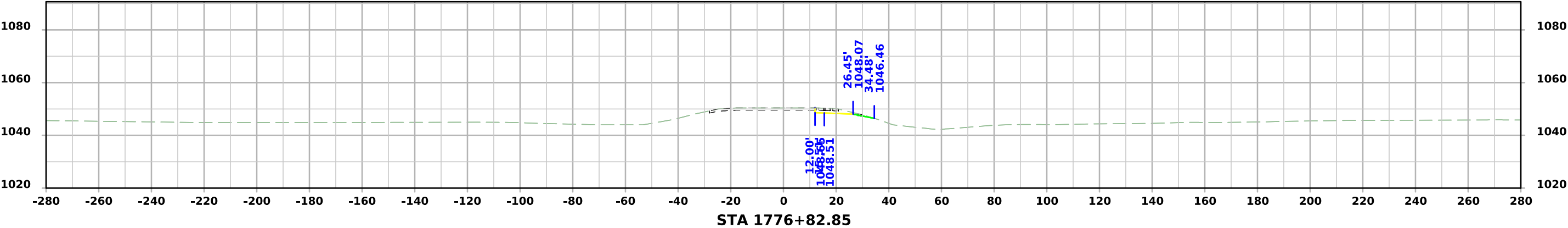




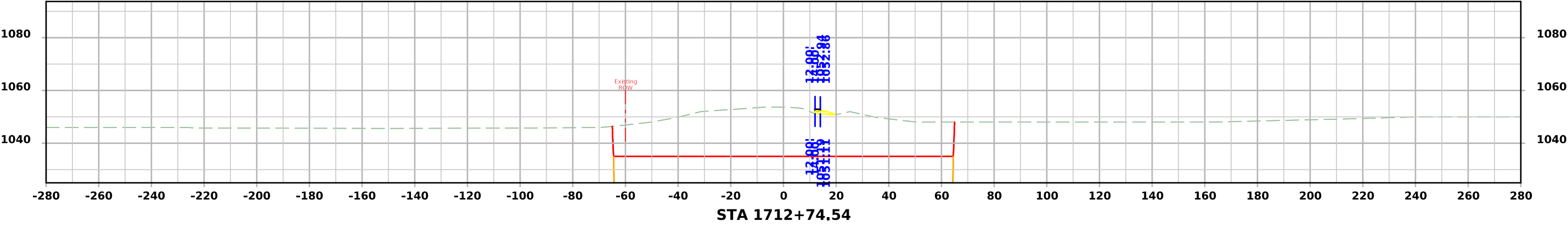
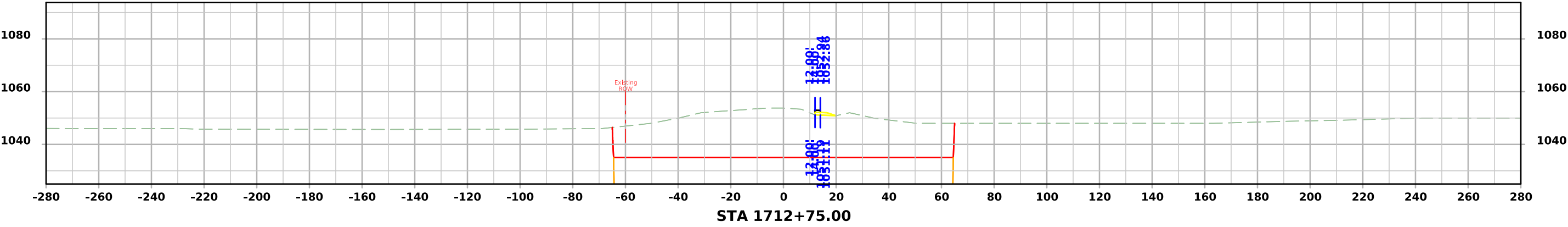
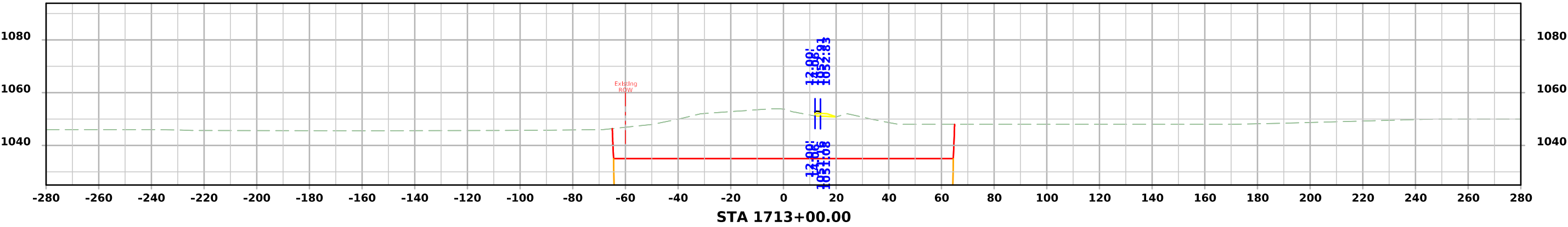
IA 175 - Stage 1



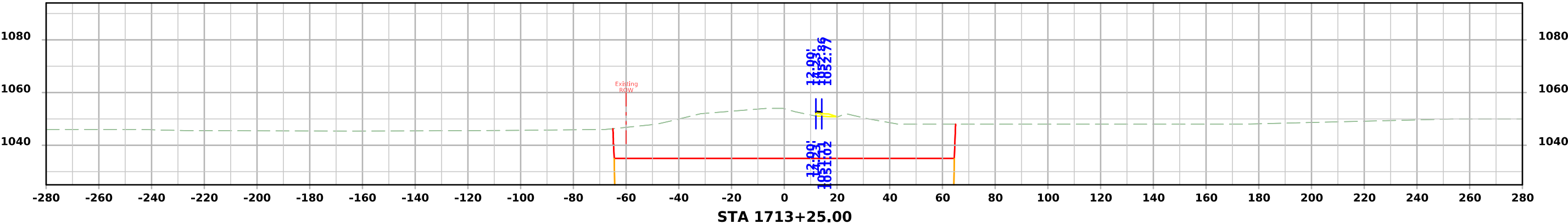
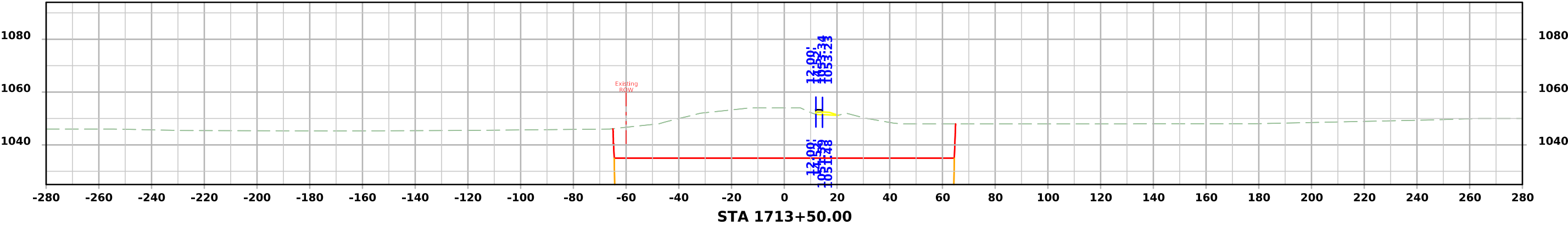
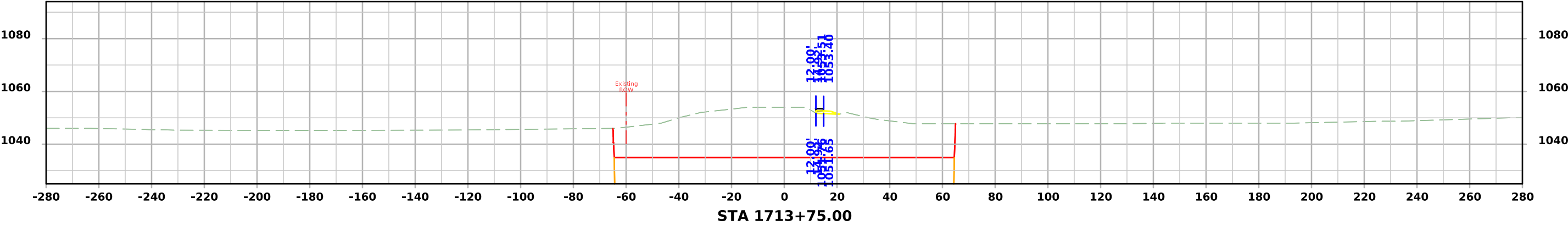
IA 175 - Stage 1



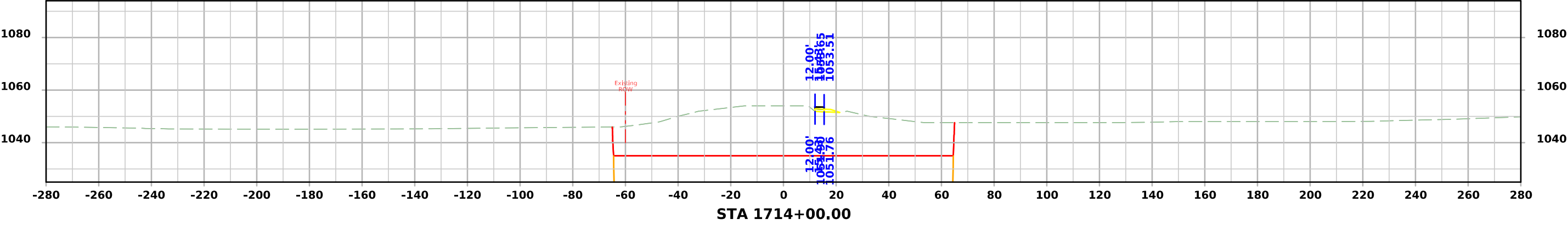
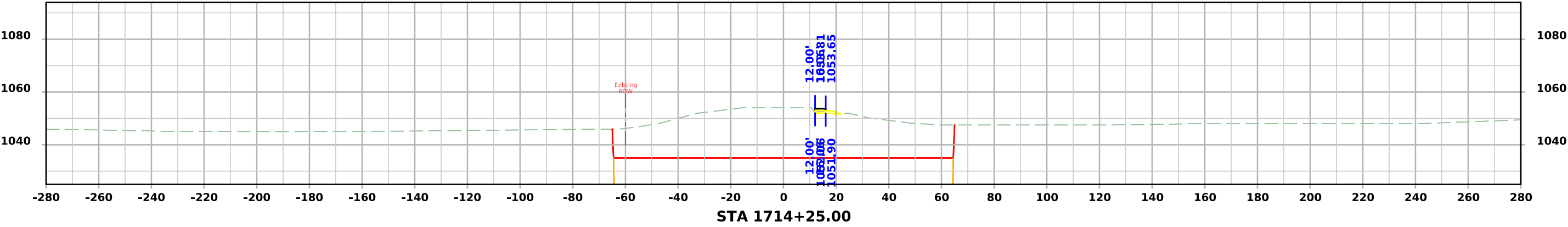
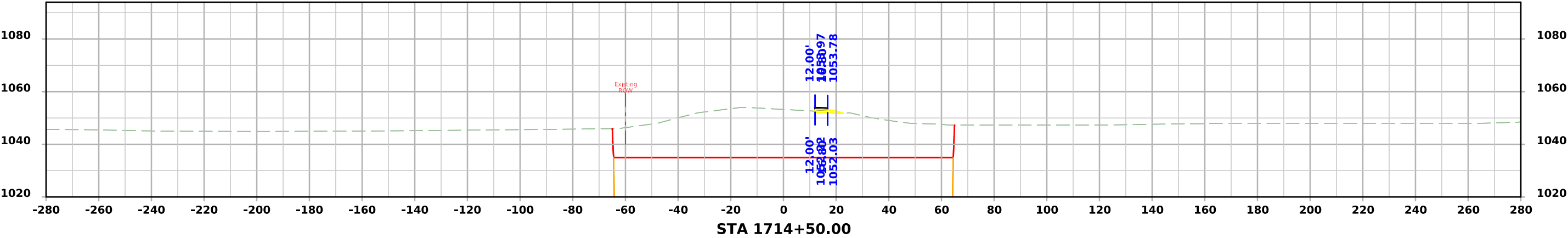
IA 175 - Stage 2



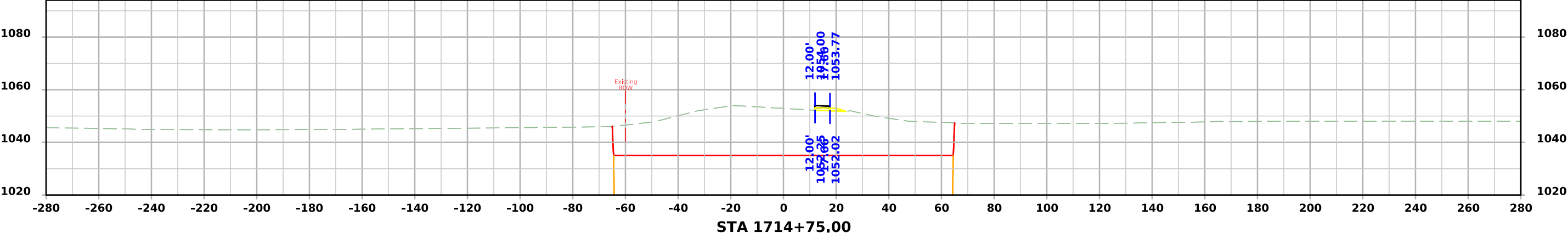
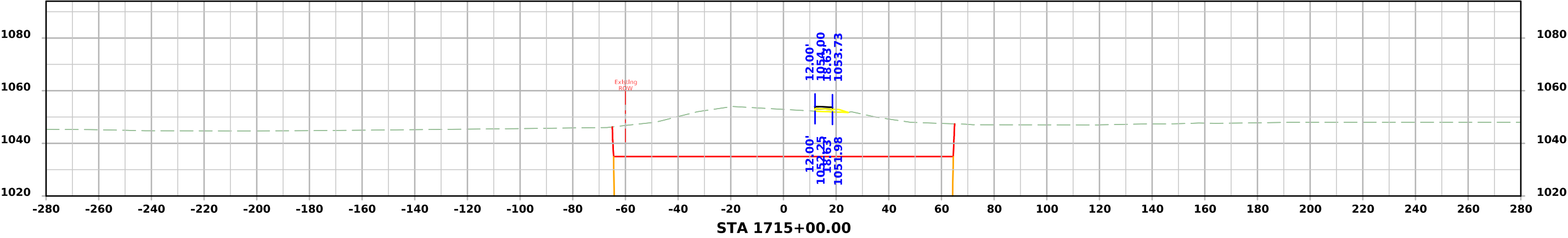
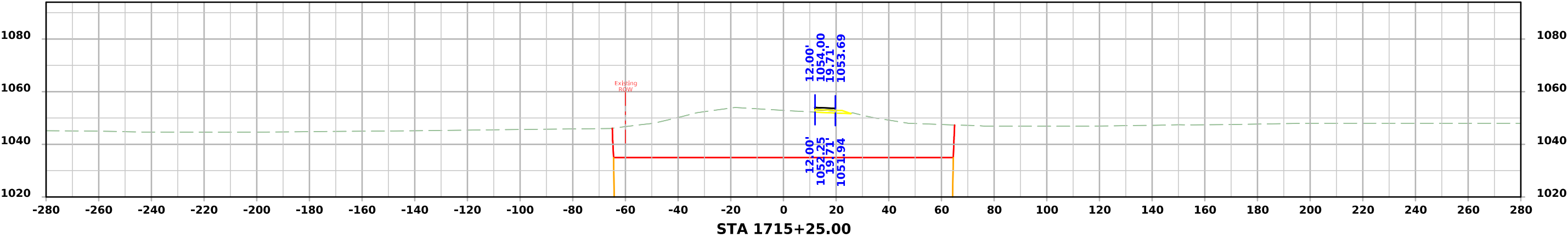
IA 175 - Stage 2



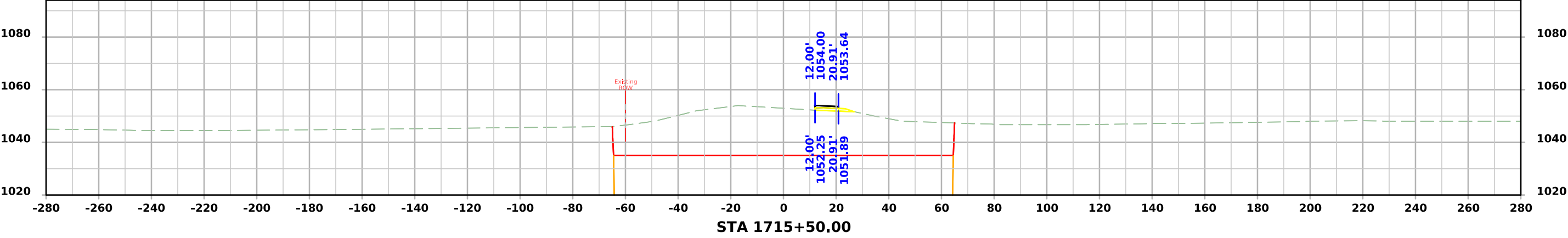
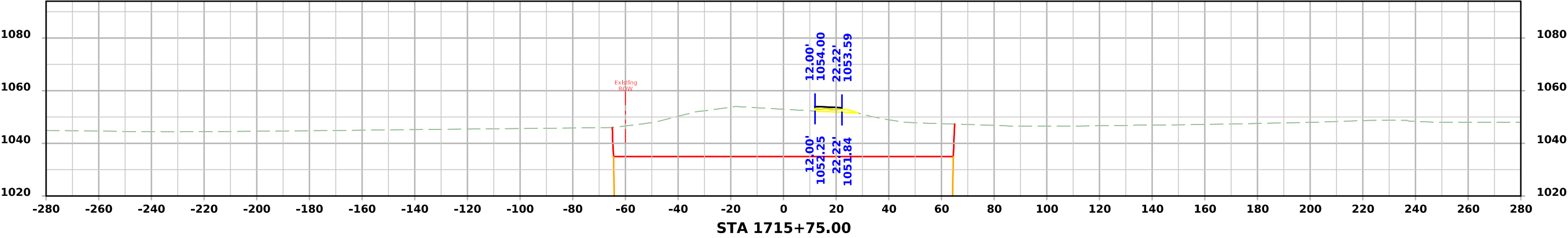
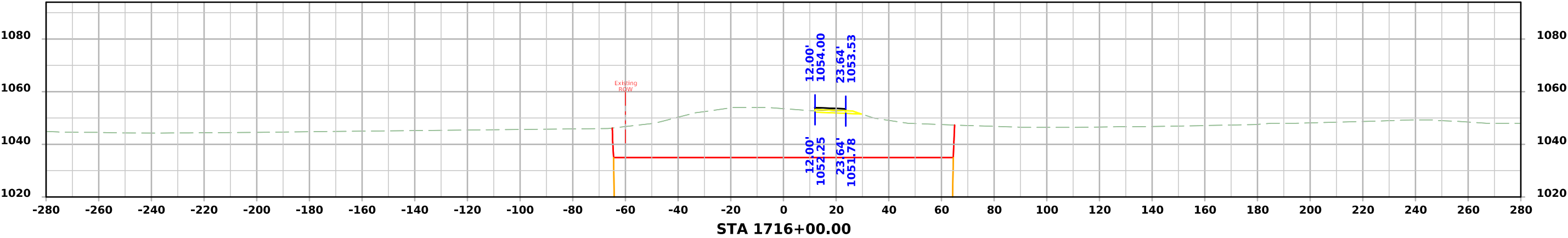
IA 175 - Stage 2



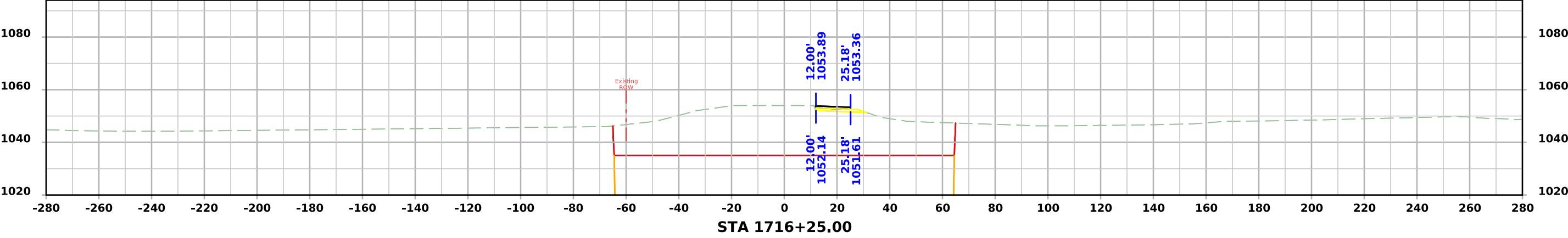
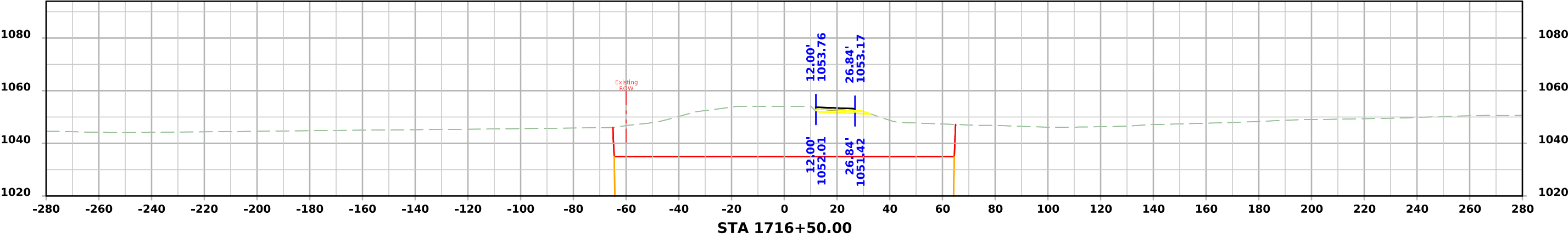
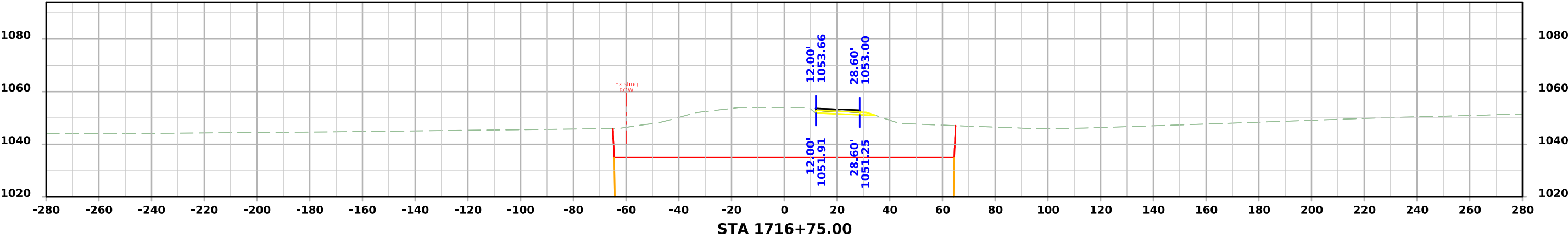
IA 175 - Stage 2



IA 175 - Stage 2

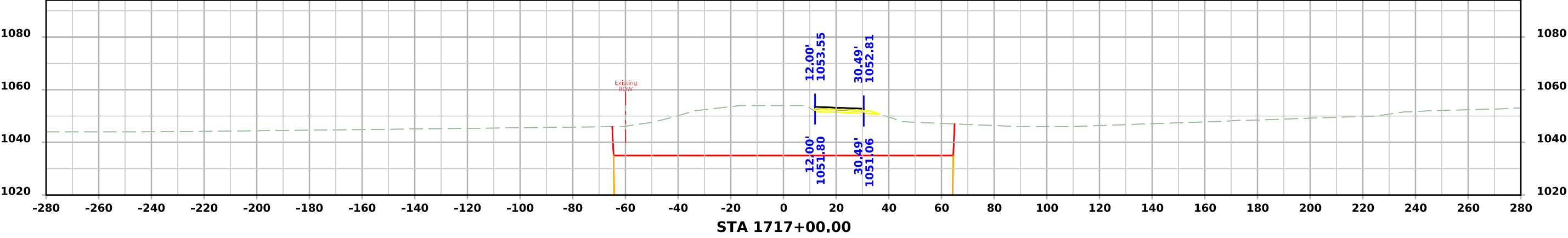
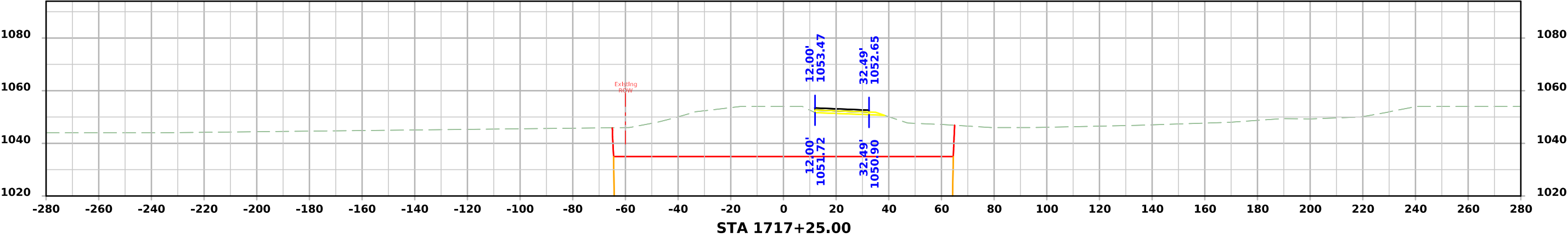
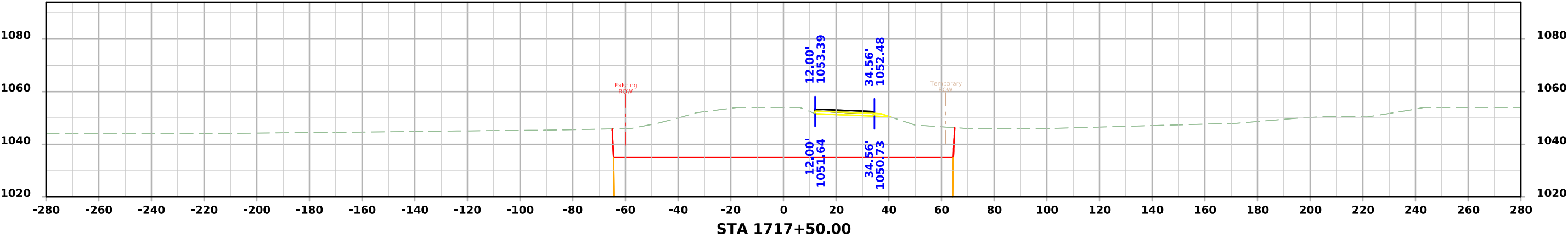


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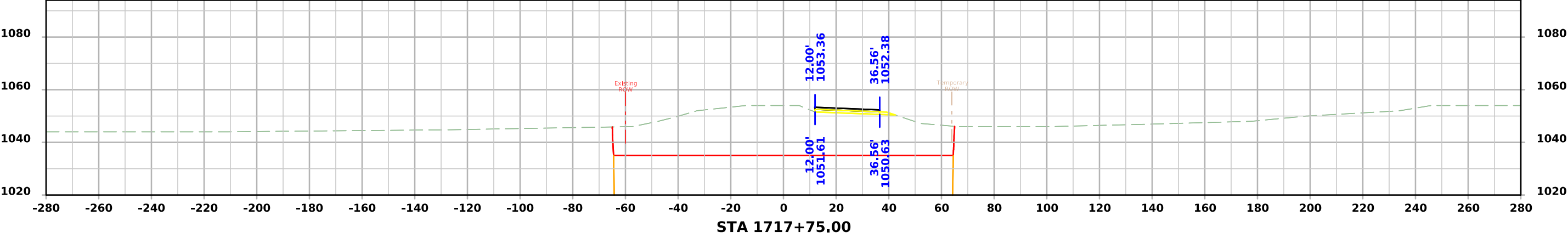
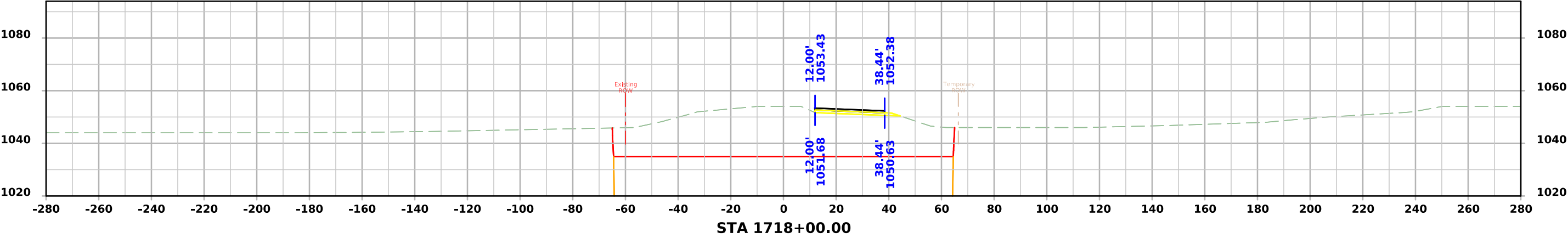
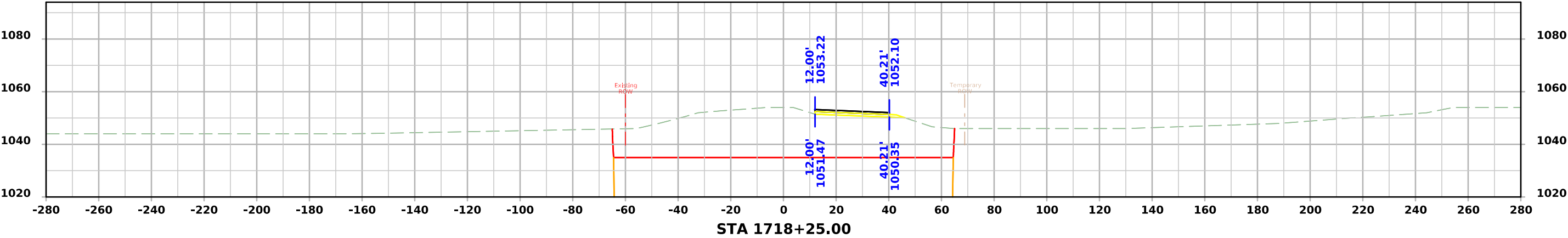




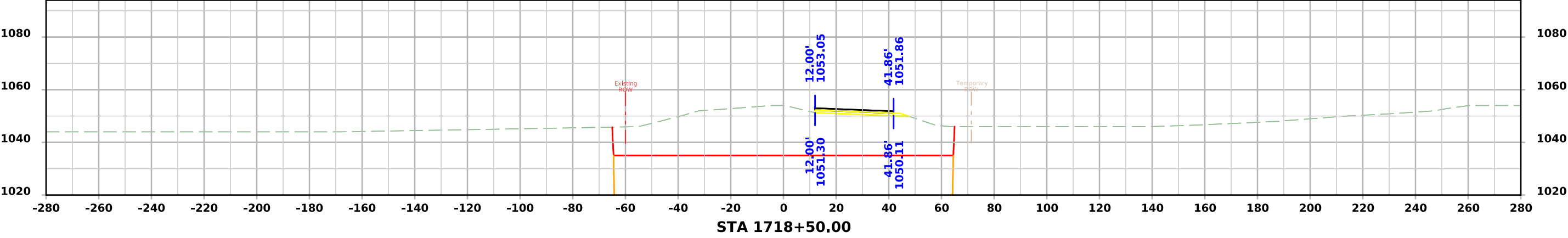
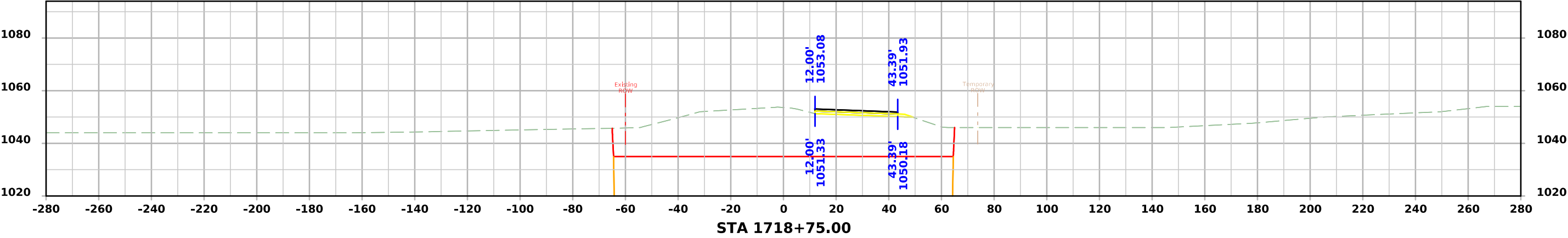
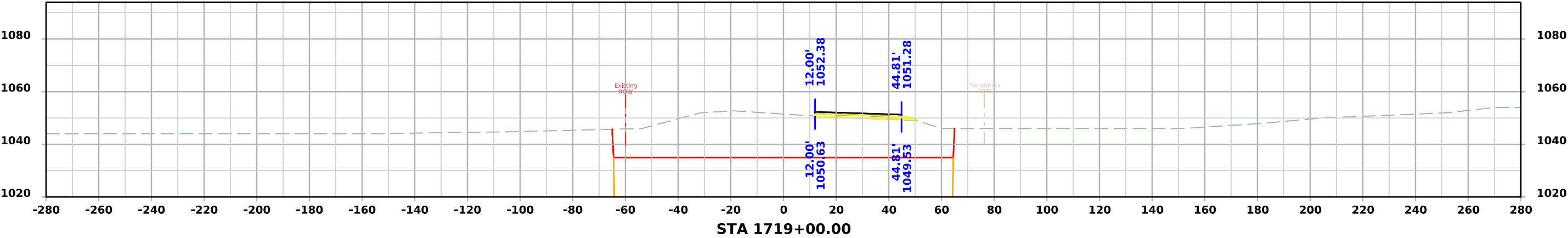
IA 175 - Stage 2



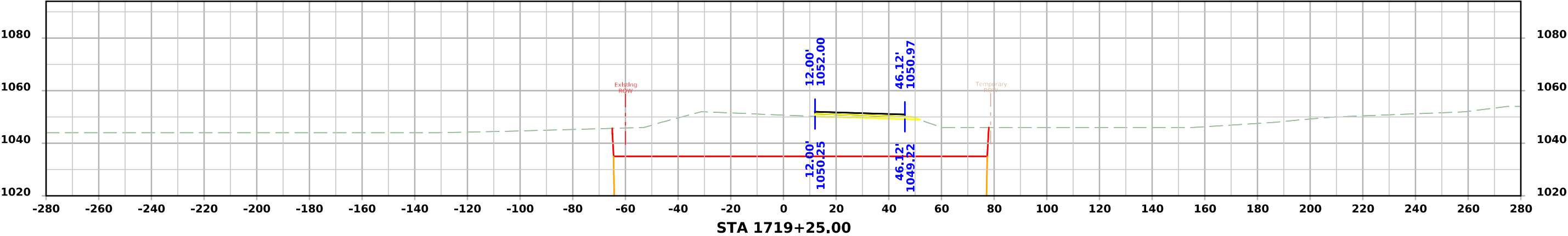
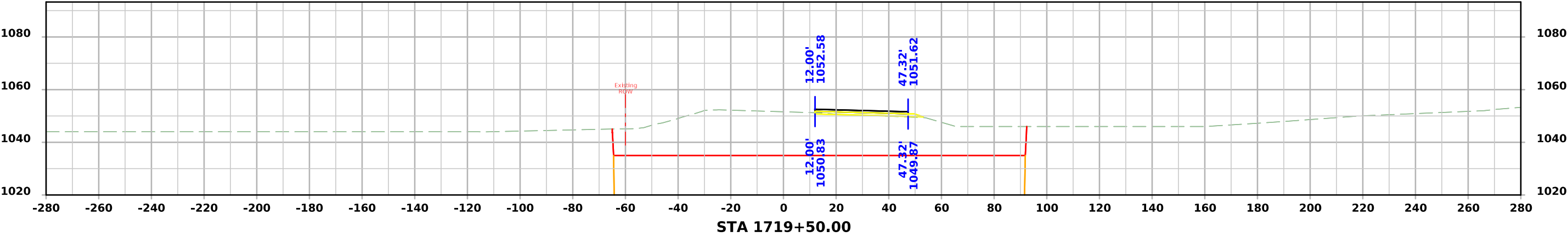
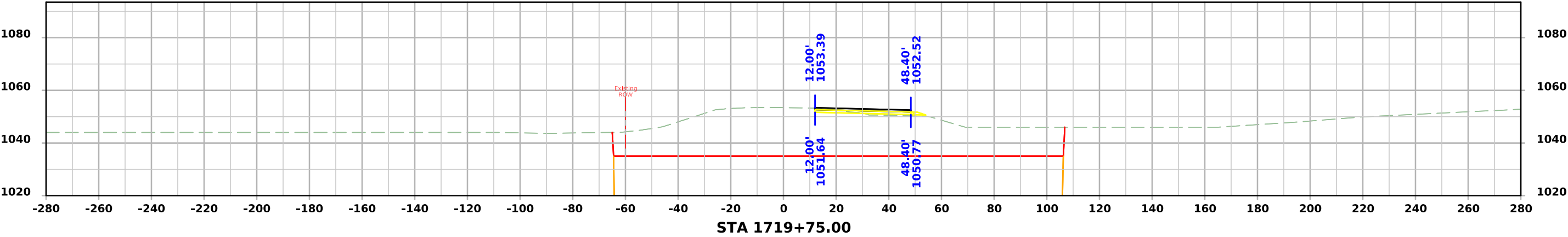
IA 175 - Stage 2



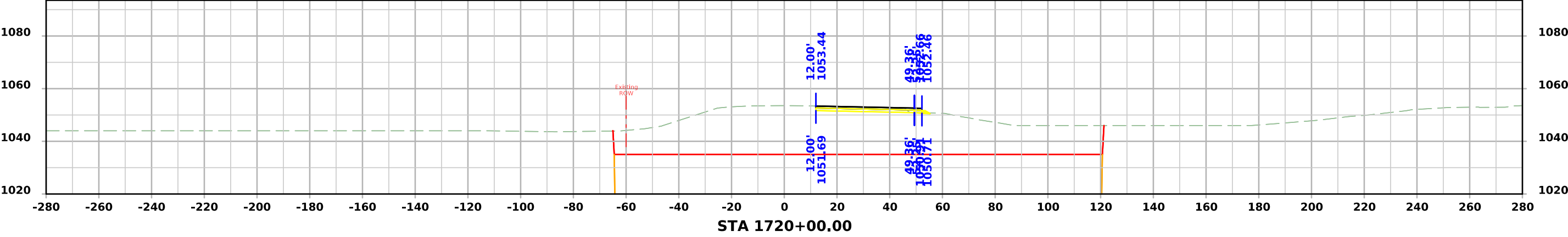
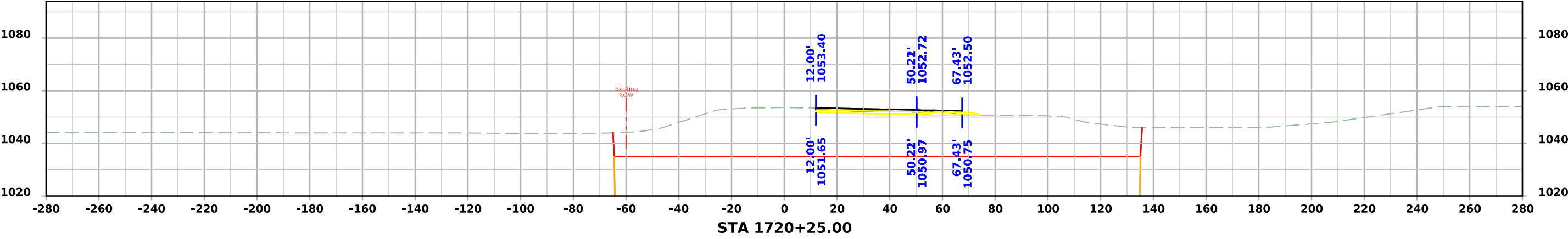
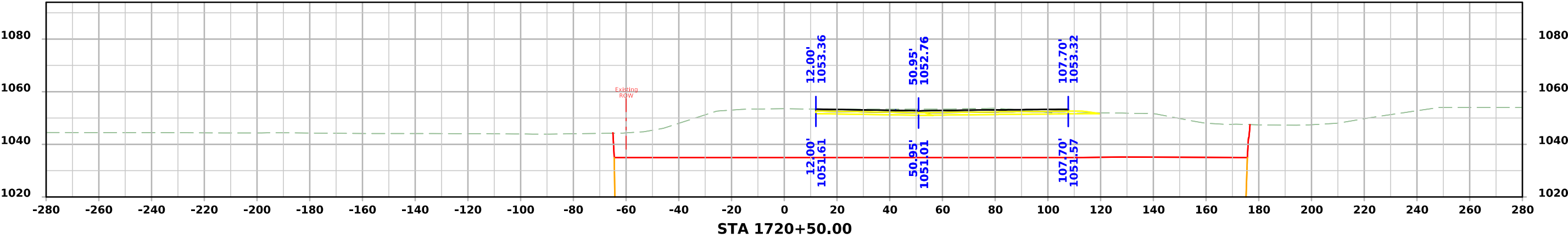
IA 175 - Stage 2



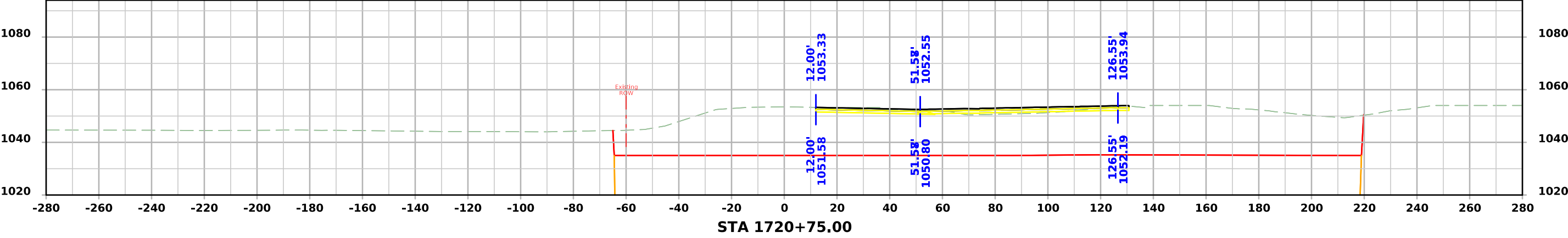
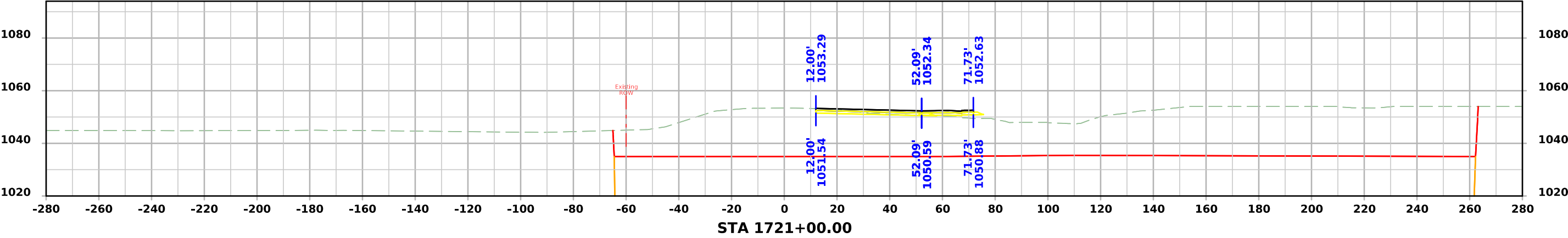
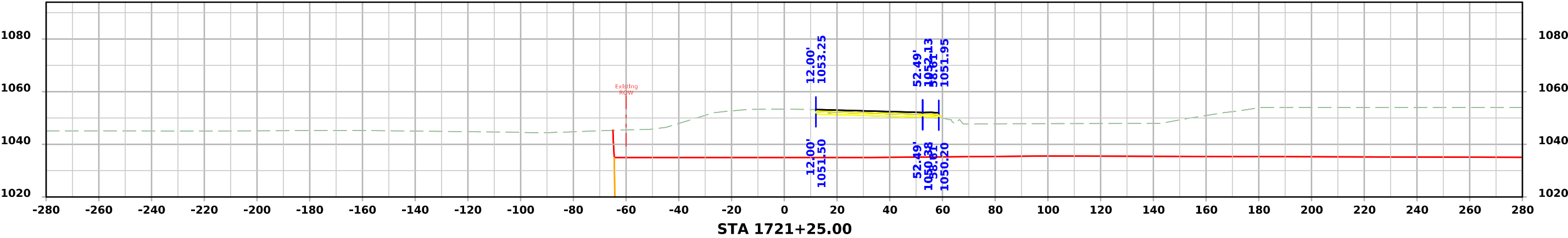
IA 175 - Stage 2



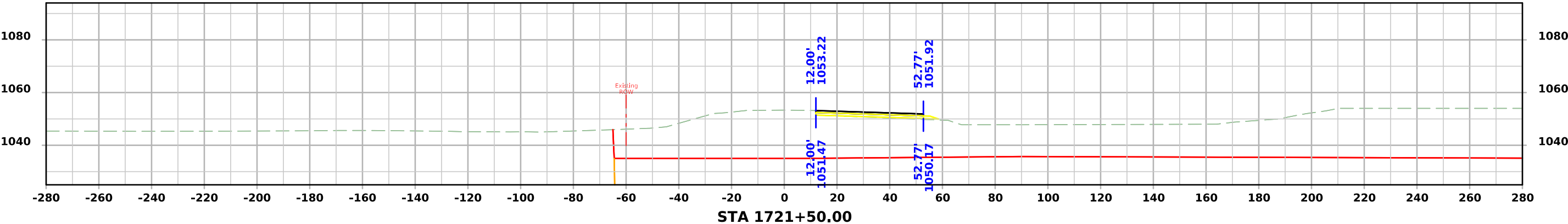
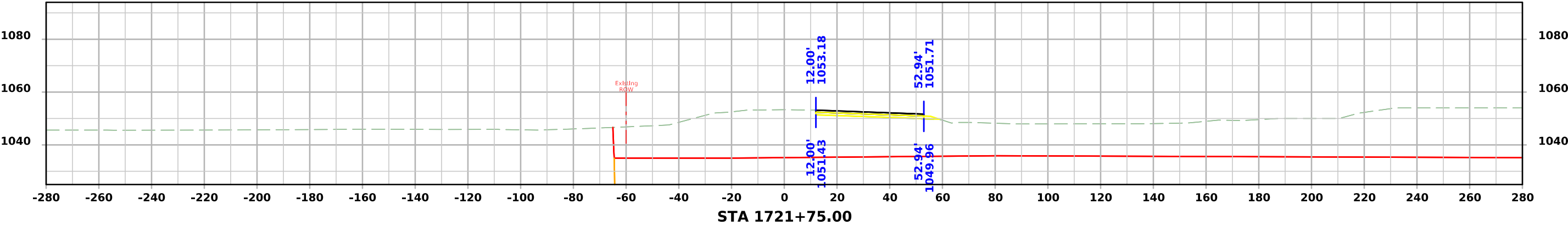
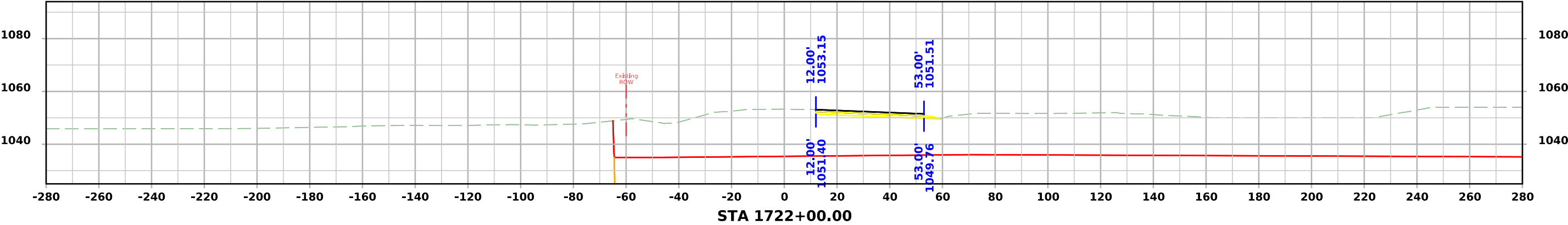
IA 175 - Stage 2



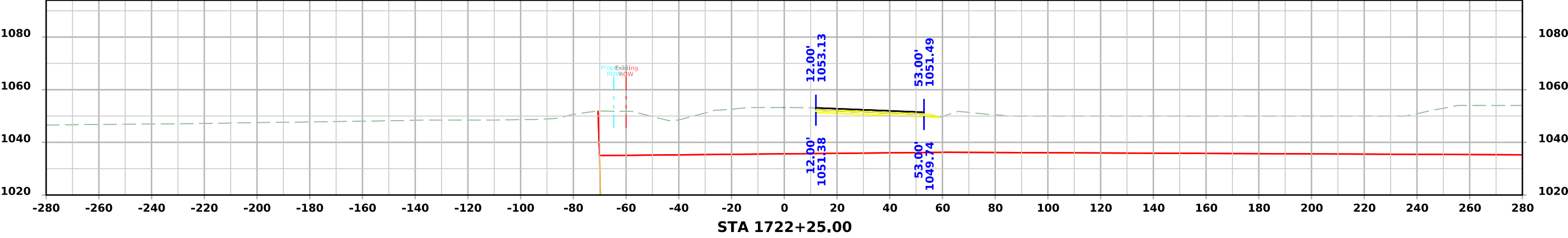
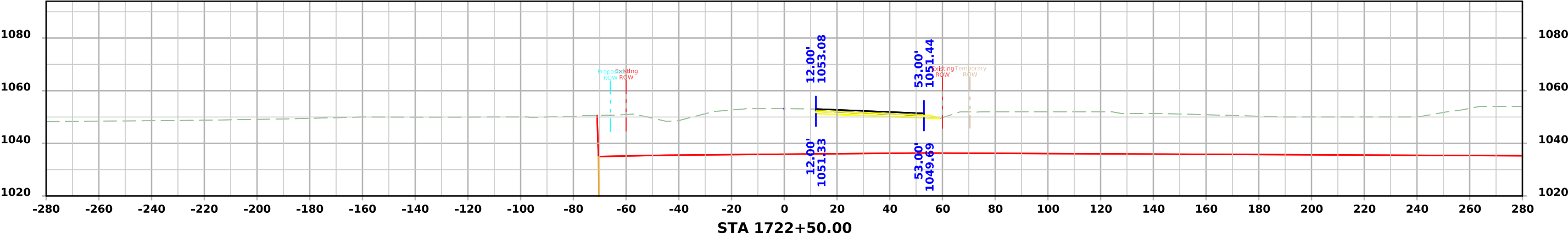
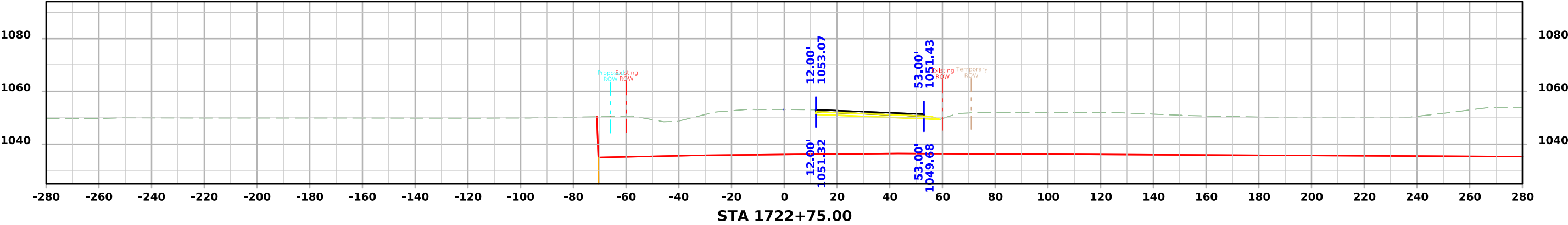
IA 175 - Stage 2



IA 175 - Stage 2

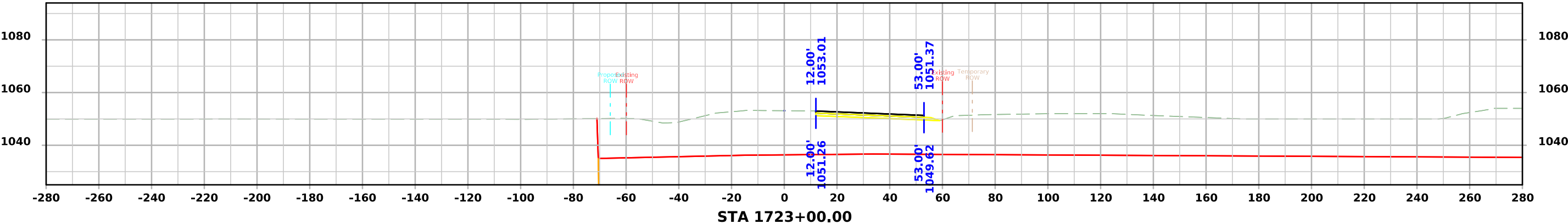
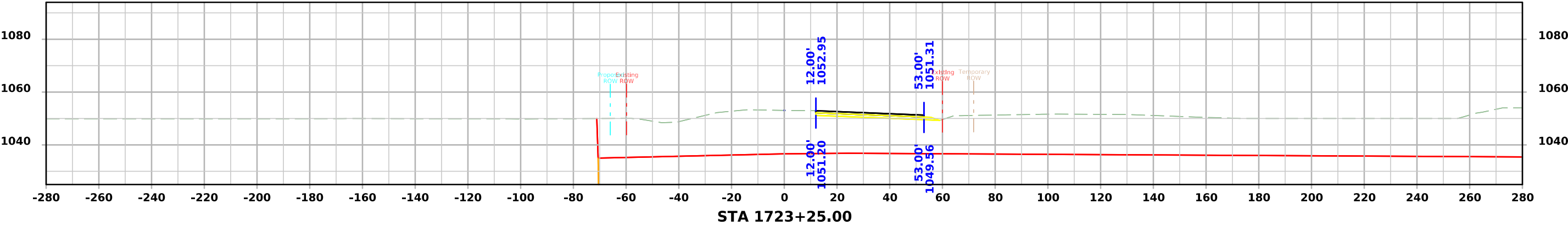
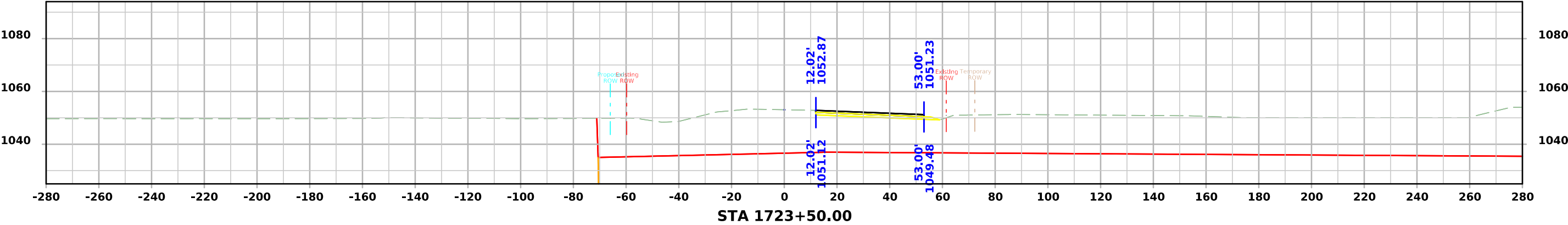


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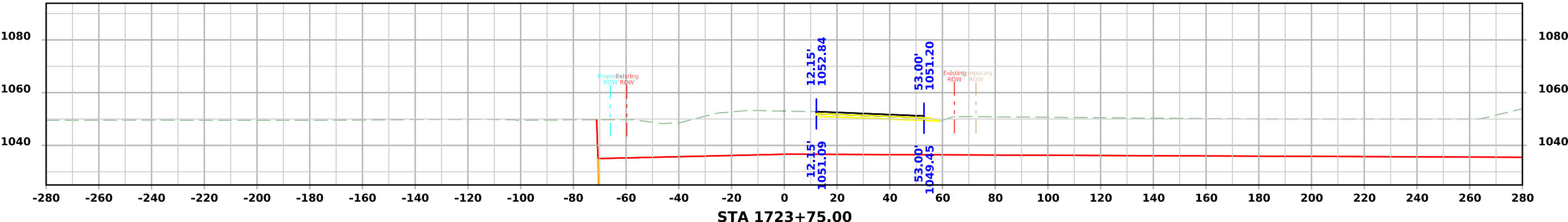
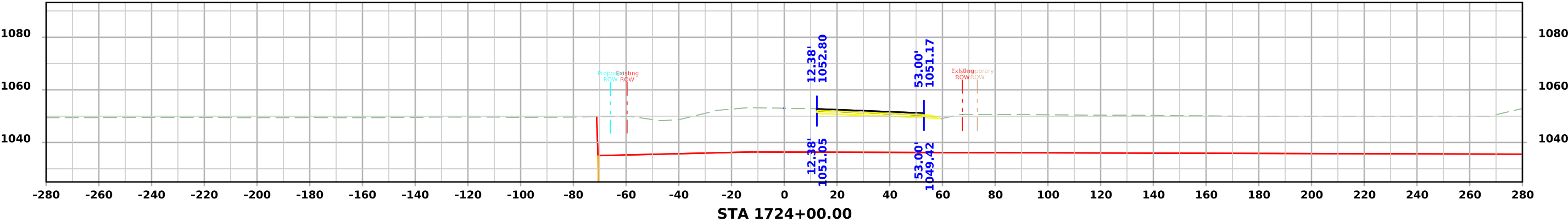
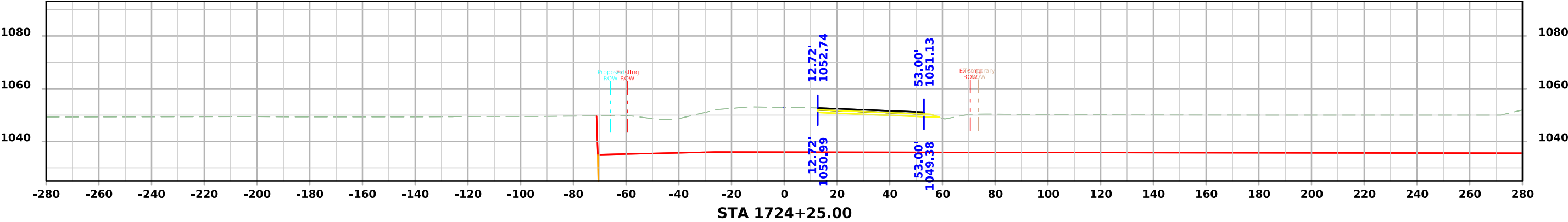




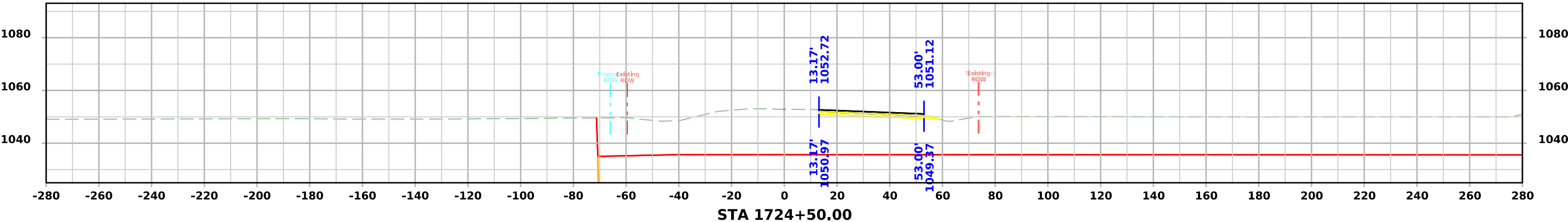
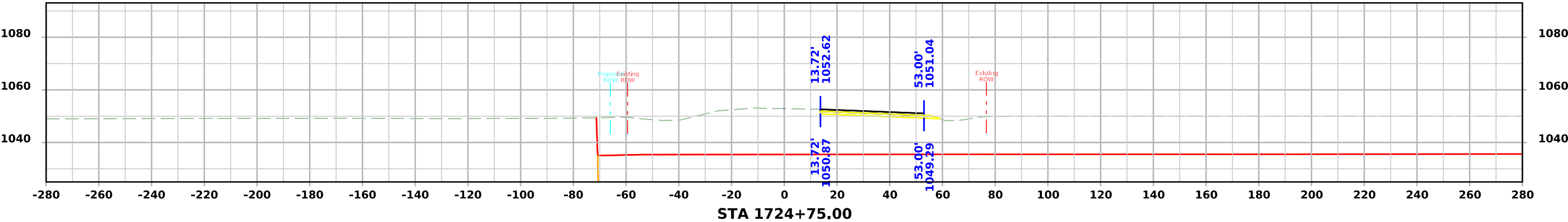
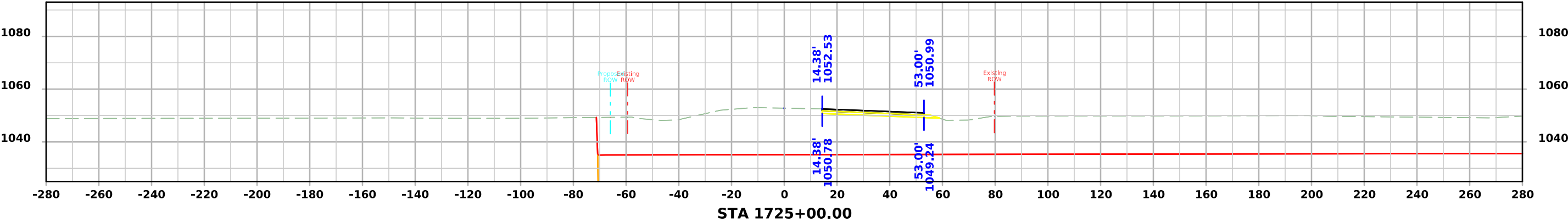
IA 175 - Stage 2



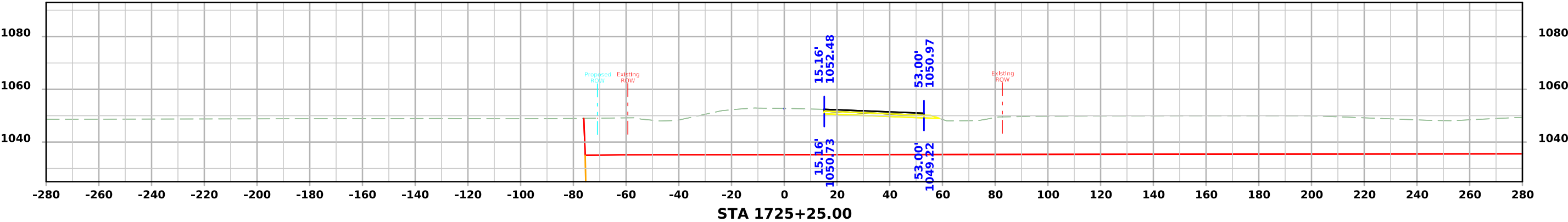
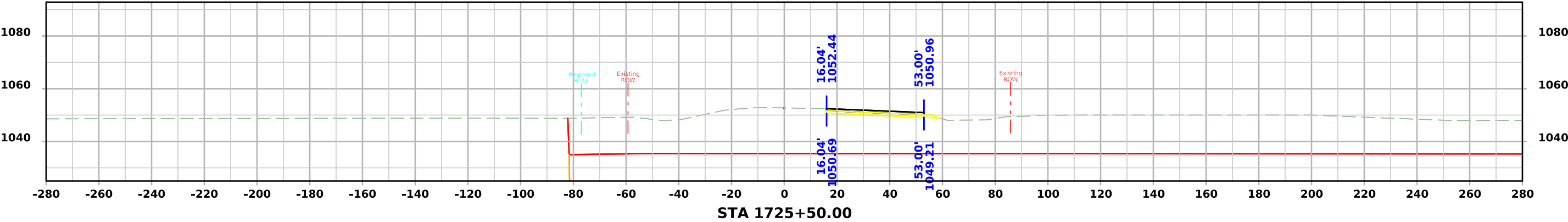
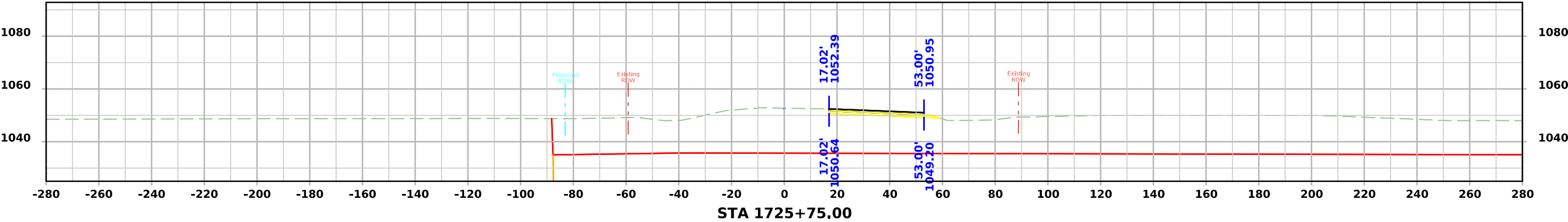
IA 175 - Stage 2



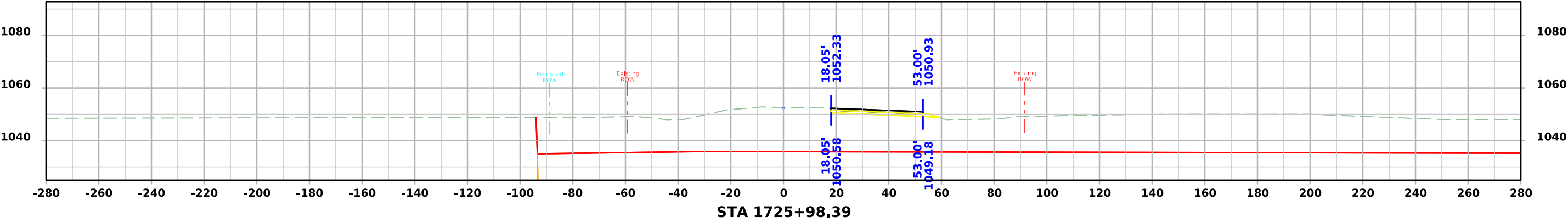
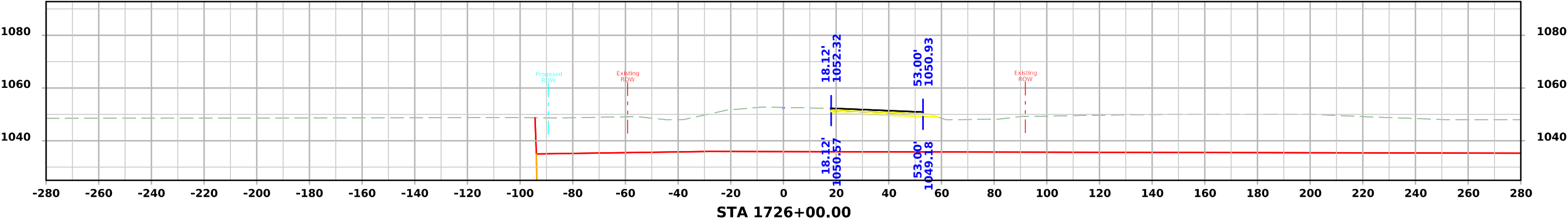
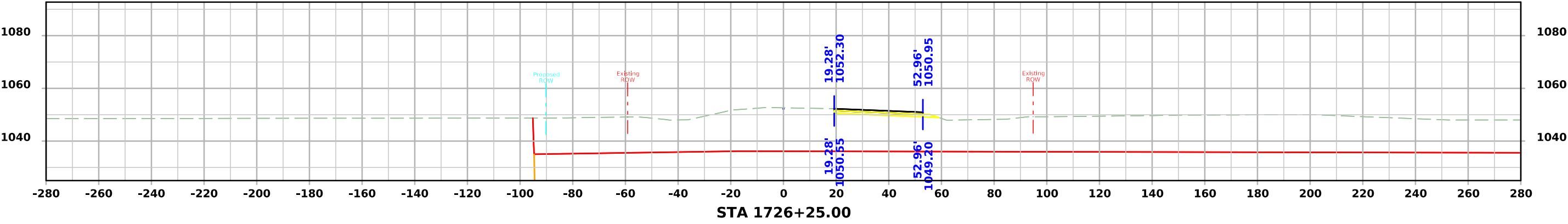
IA 175 - Stage 2



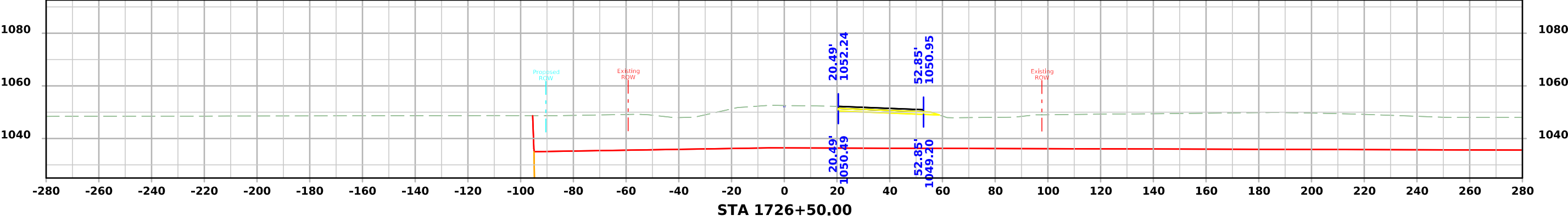
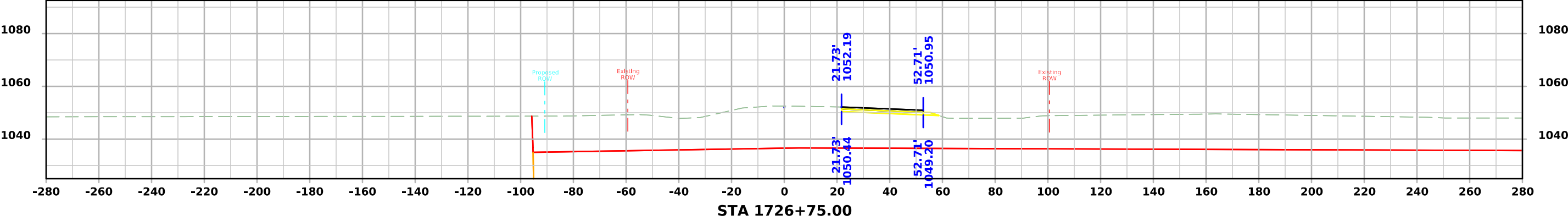
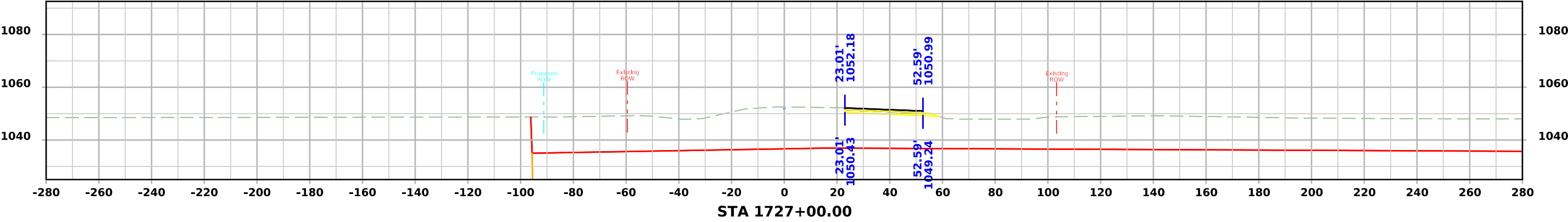
IA 175 - Stage 2



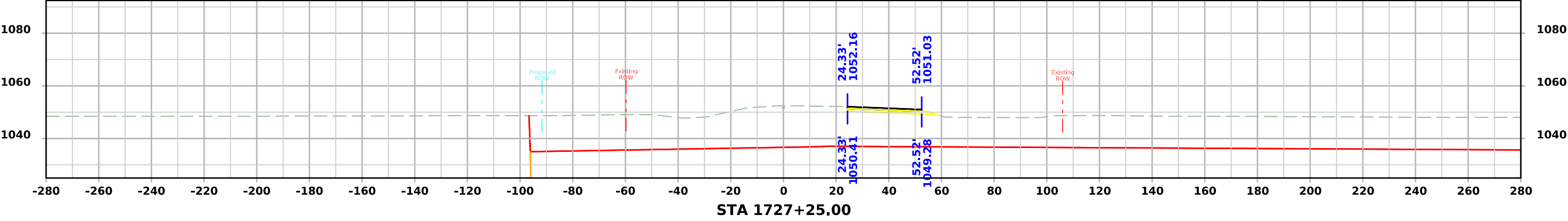
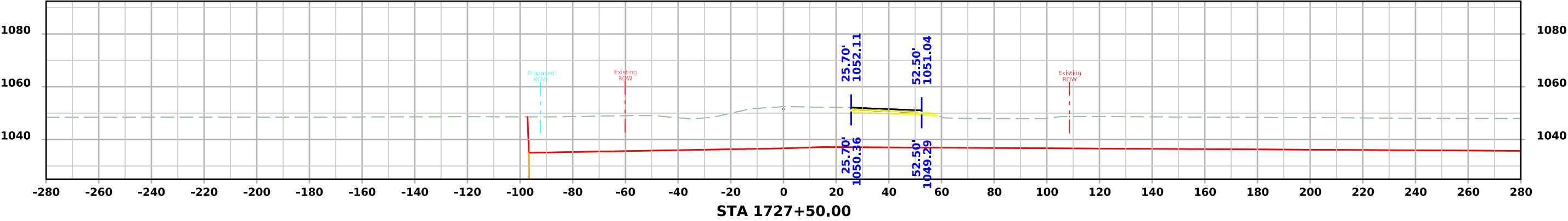
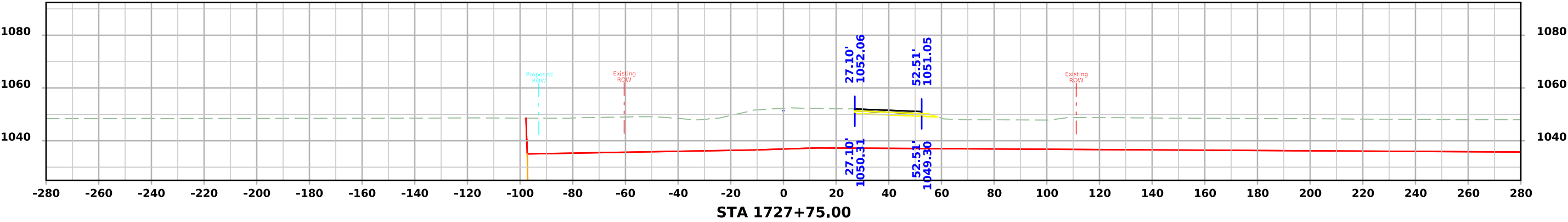
IA 175 - Stage 2



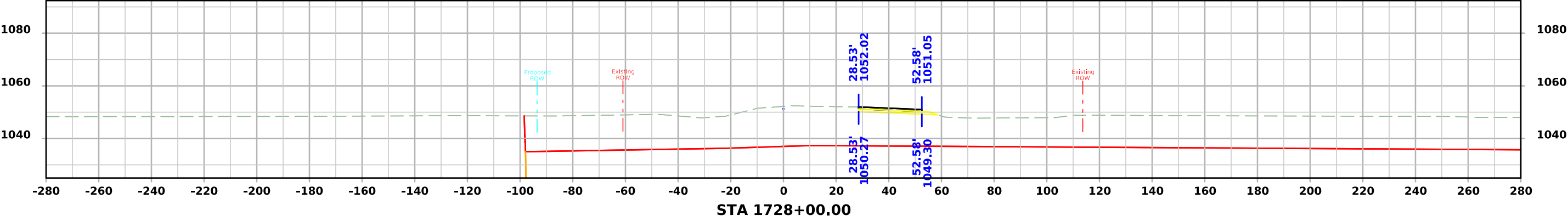
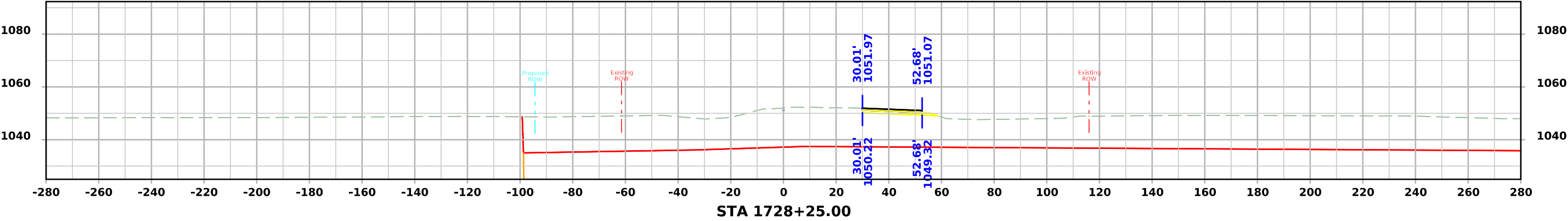
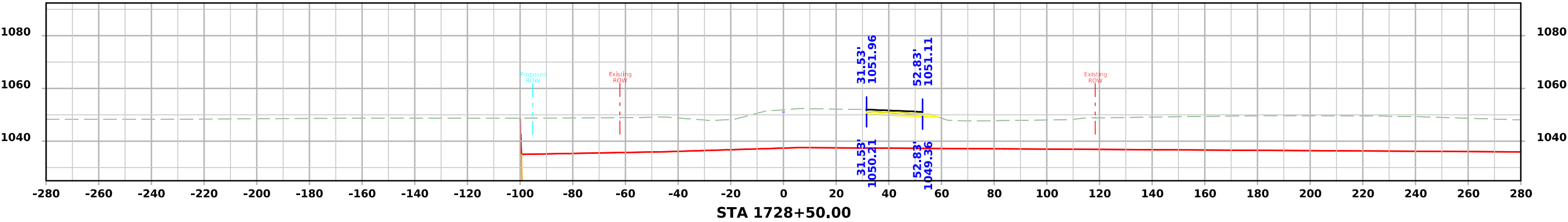
IA 175 - Stage 2



IA 175 - Stage 2

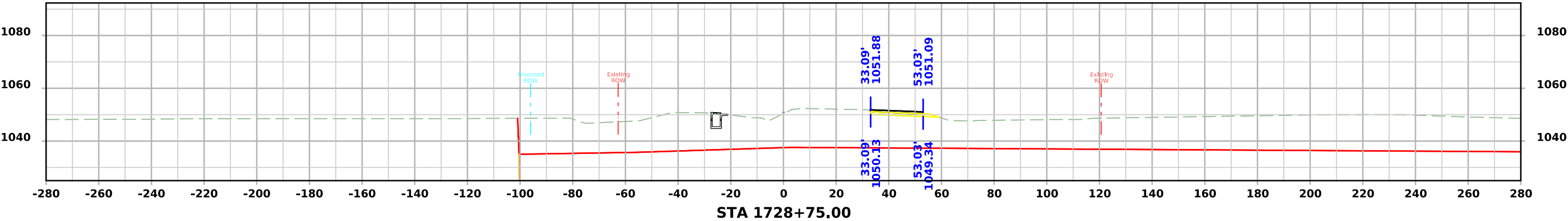
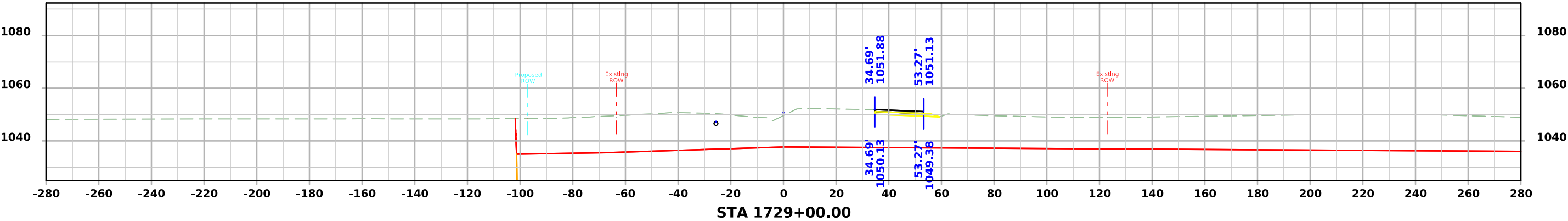
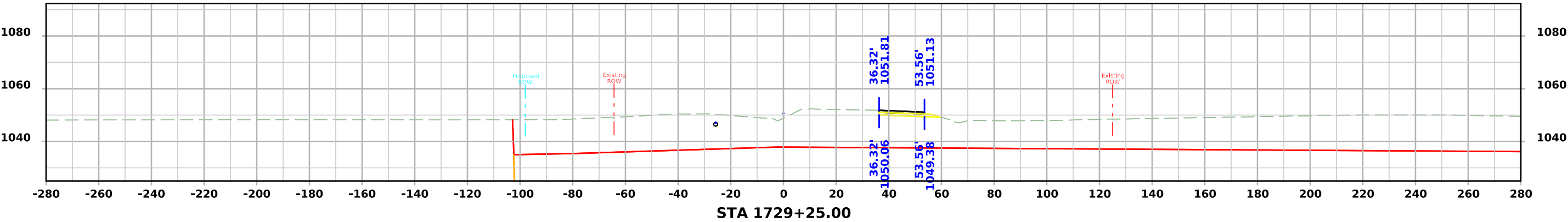


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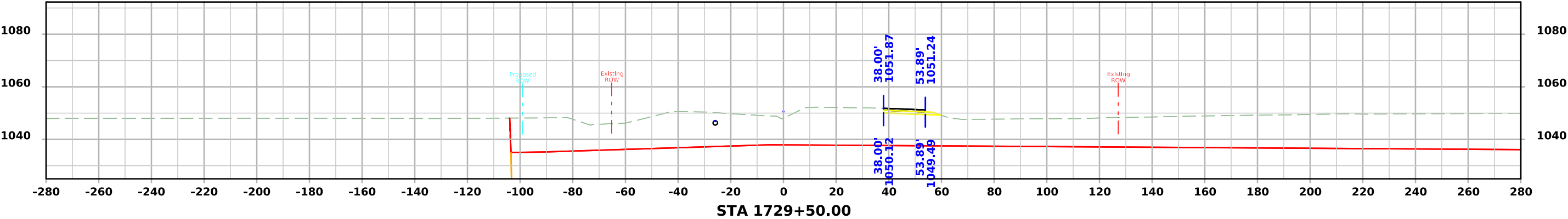
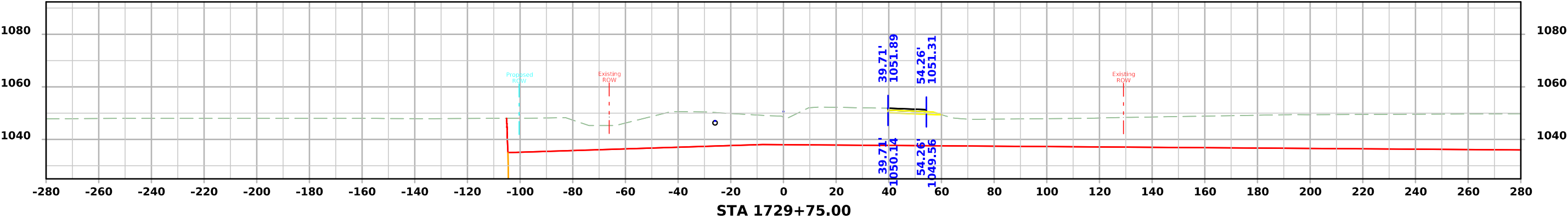
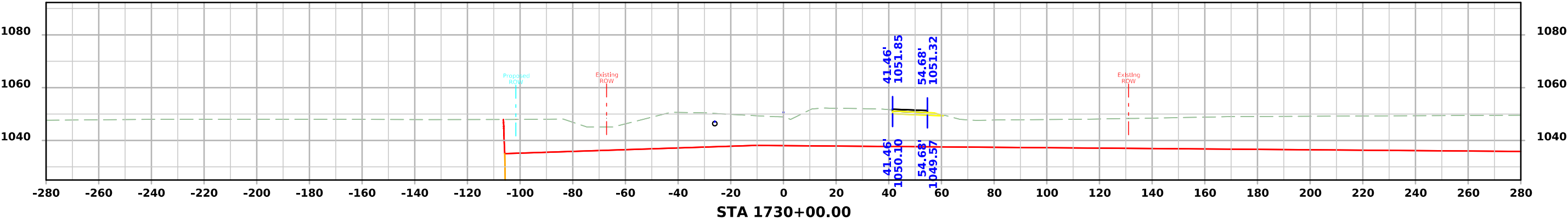




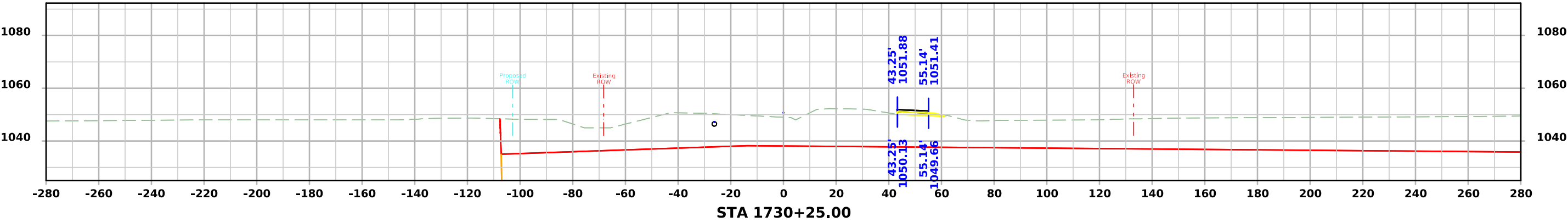
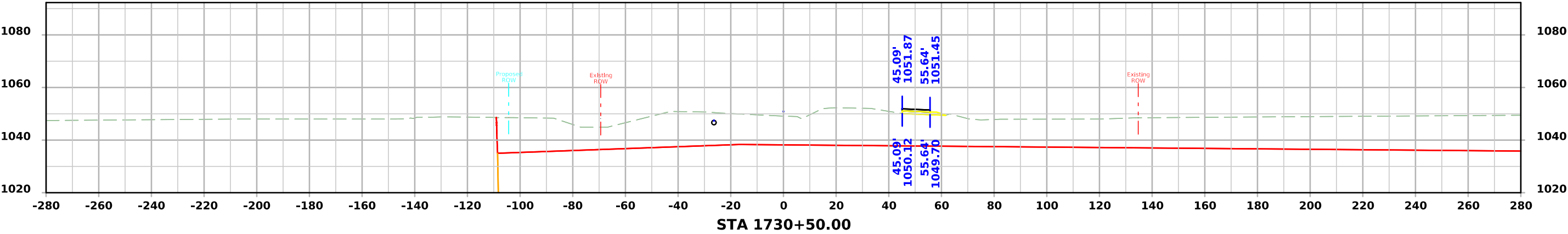
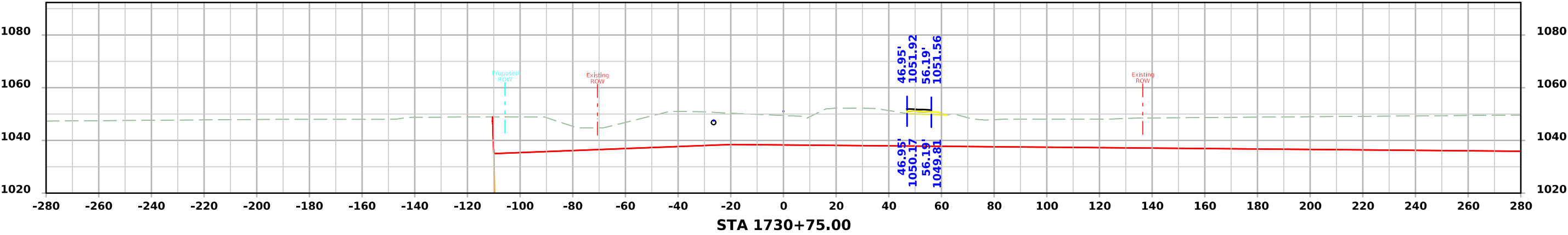
IA 175 - Stage 2



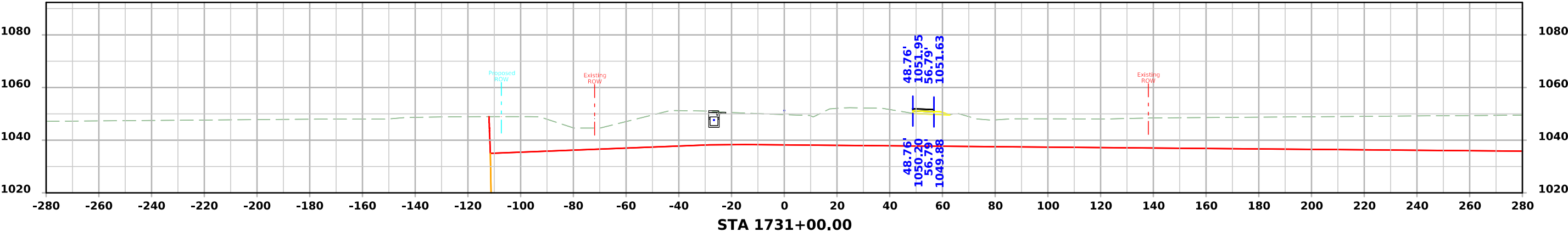
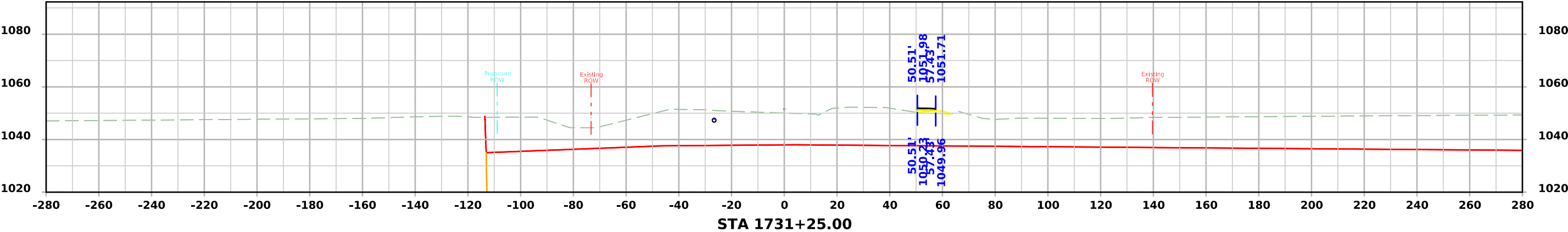
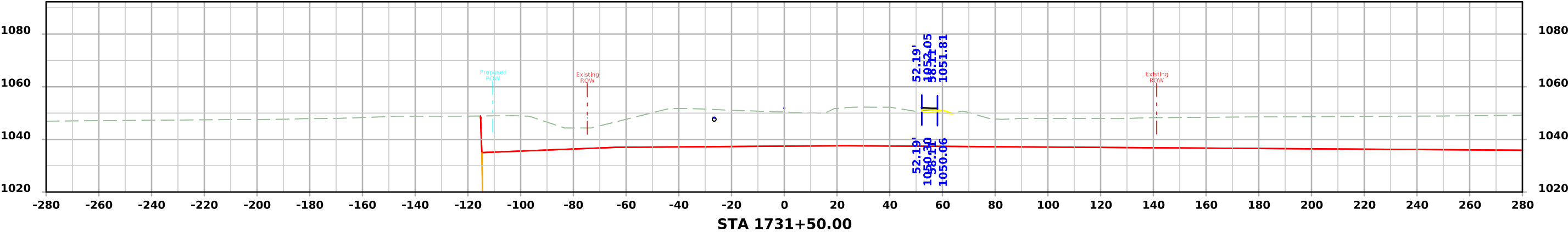
IA 175 - Stage 2



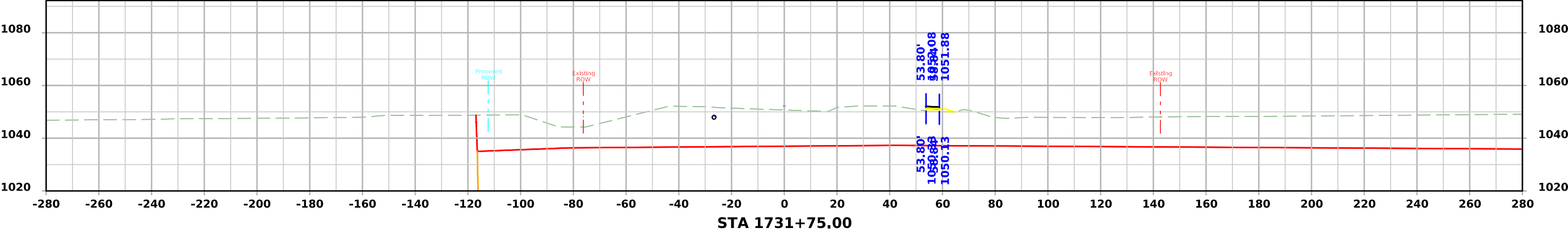
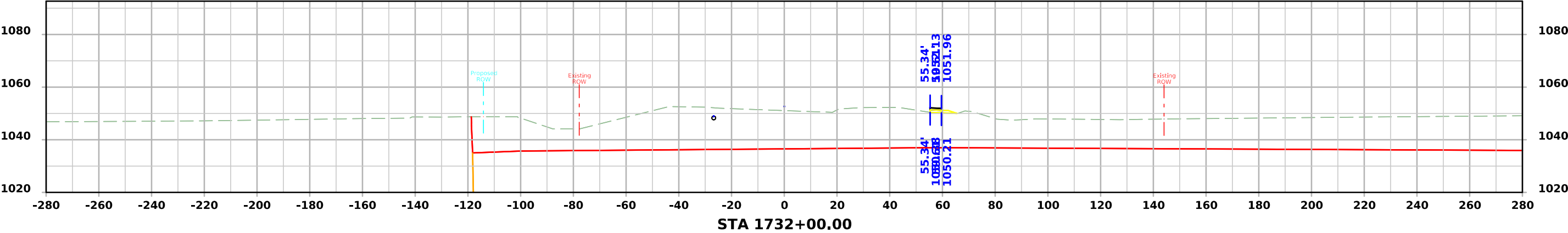
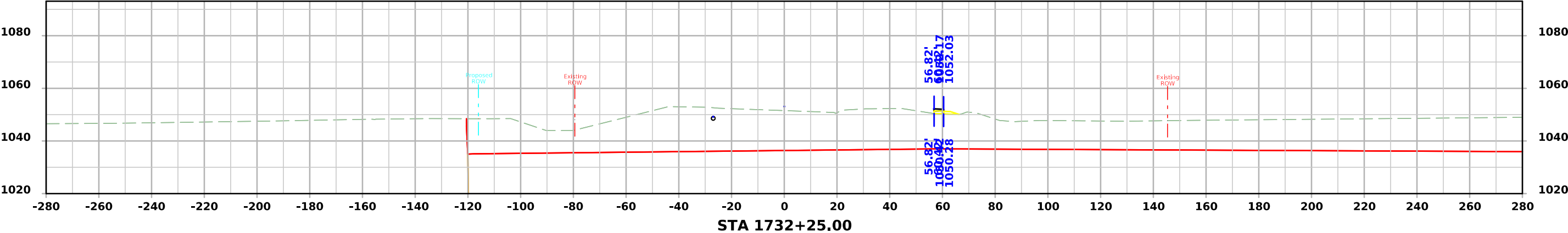
IA 175 - Stage 2



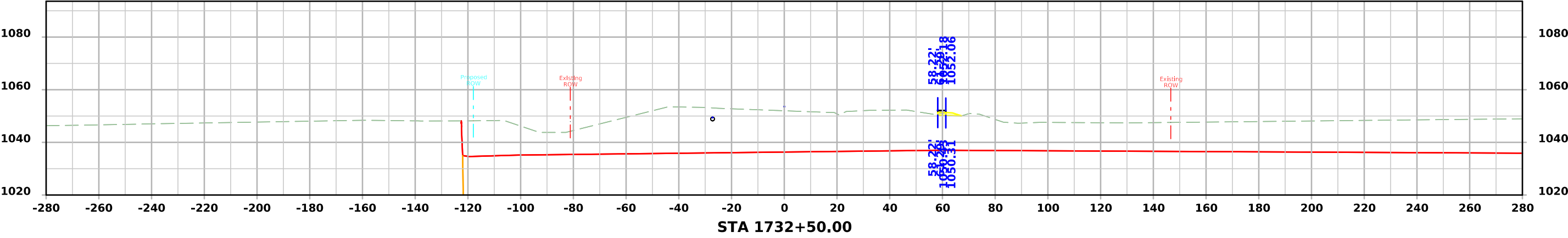
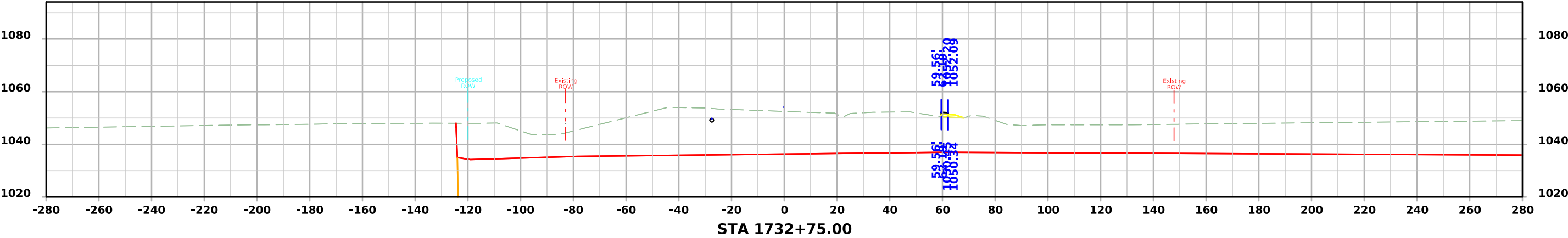
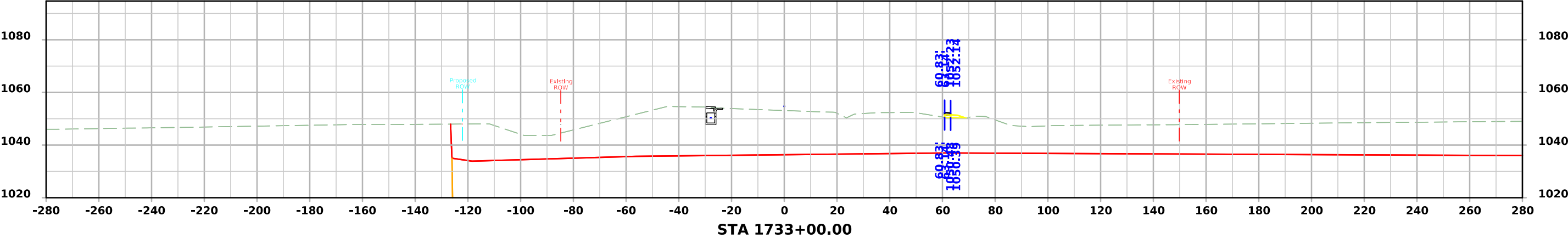
IA 175 - Stage 2



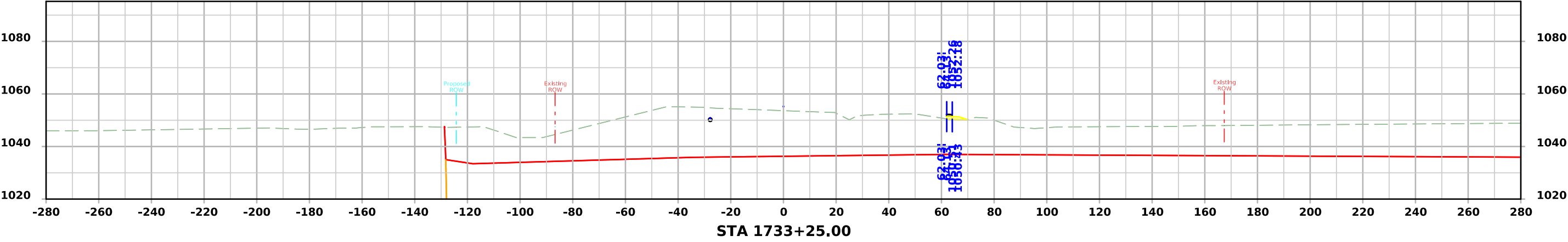
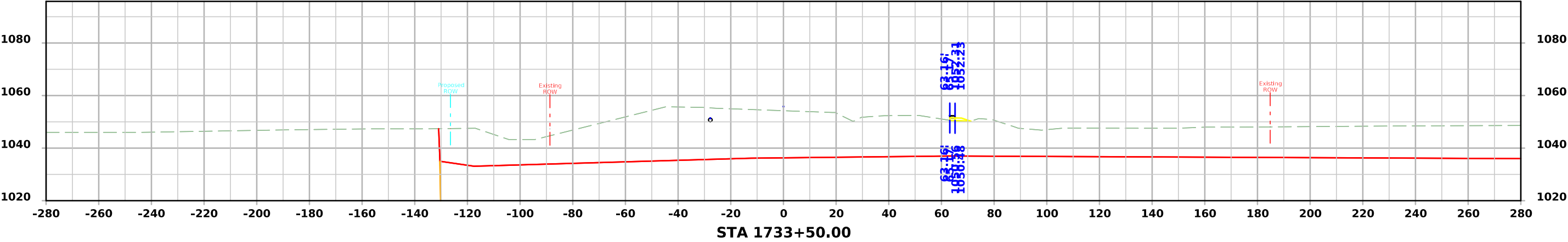
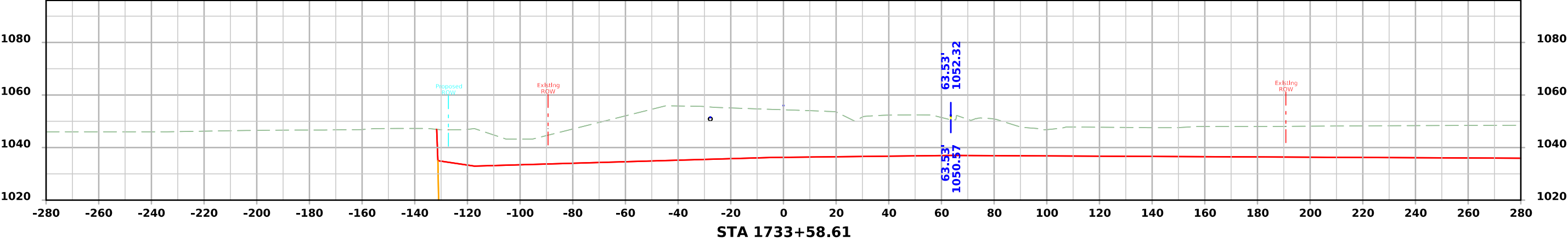
IA 175 - Stage 2



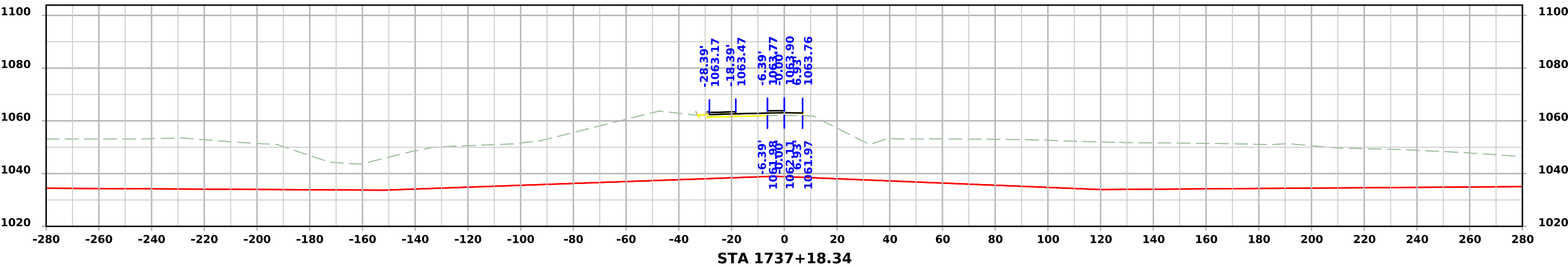
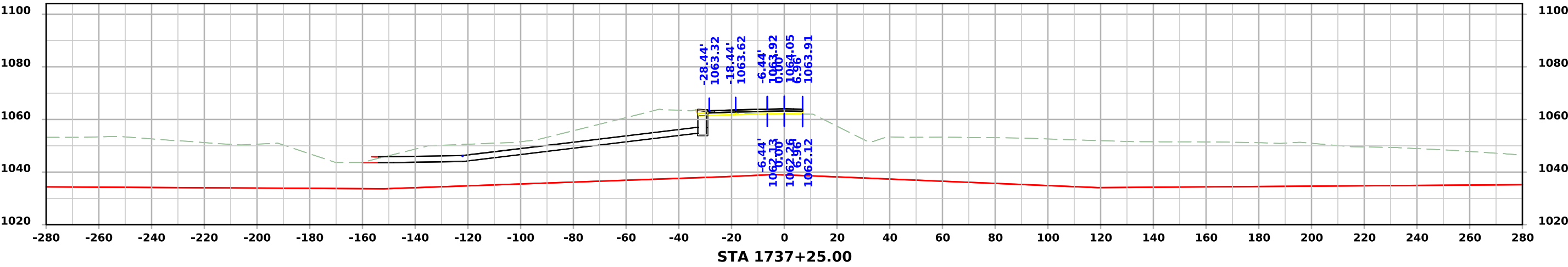
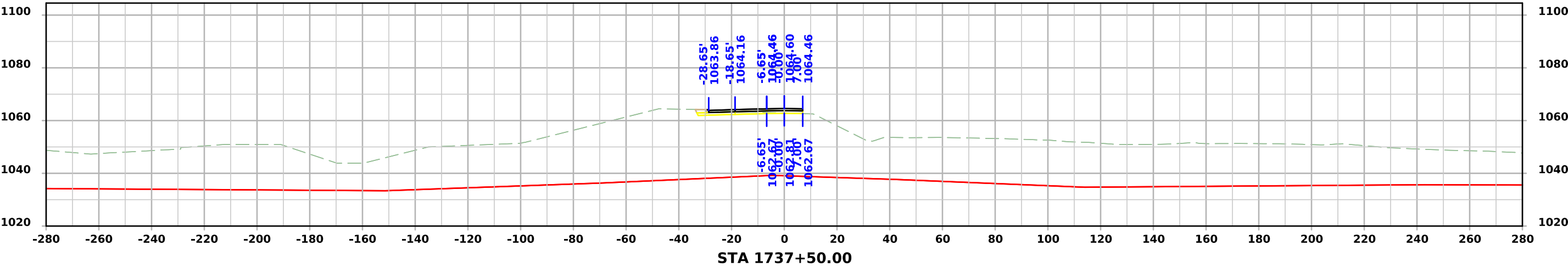
IA 175 - Stage 2



IA 175 - Stage 2

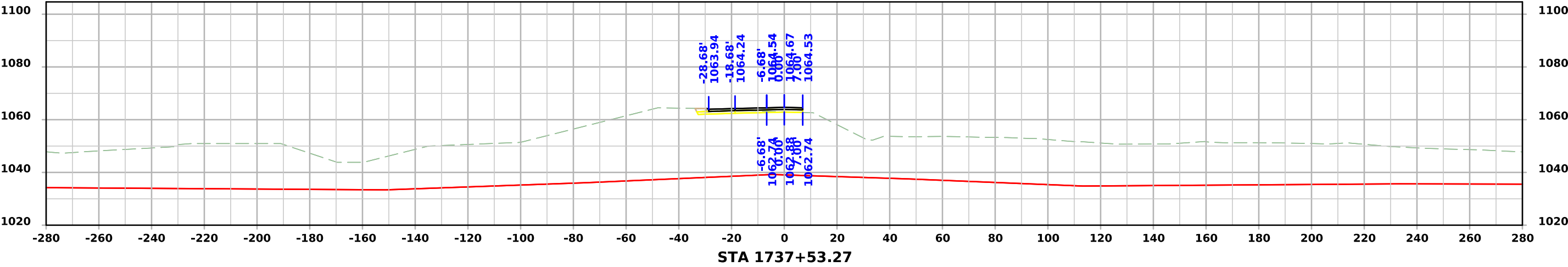
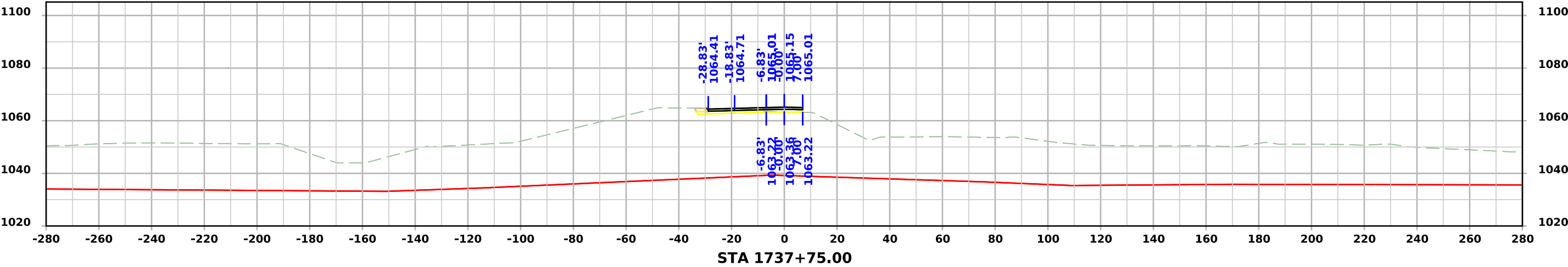
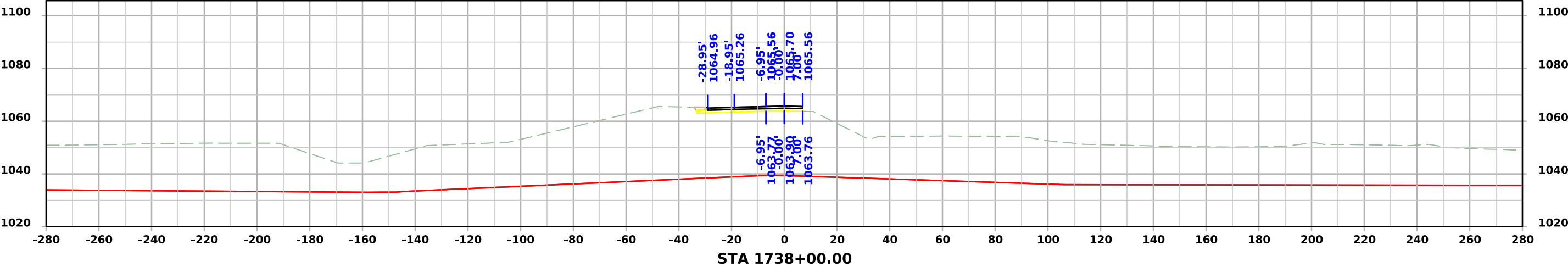


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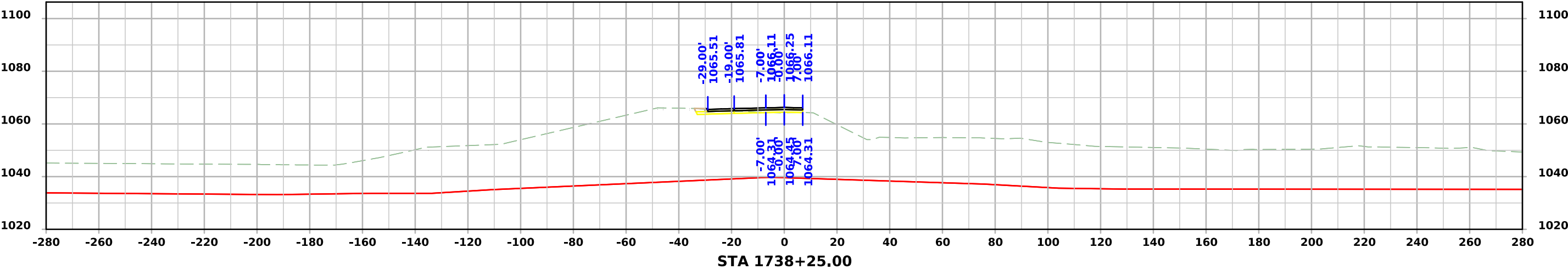
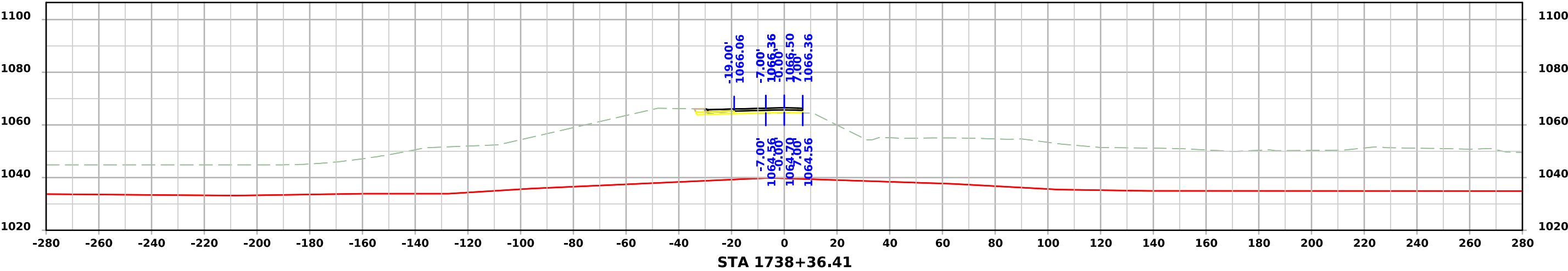
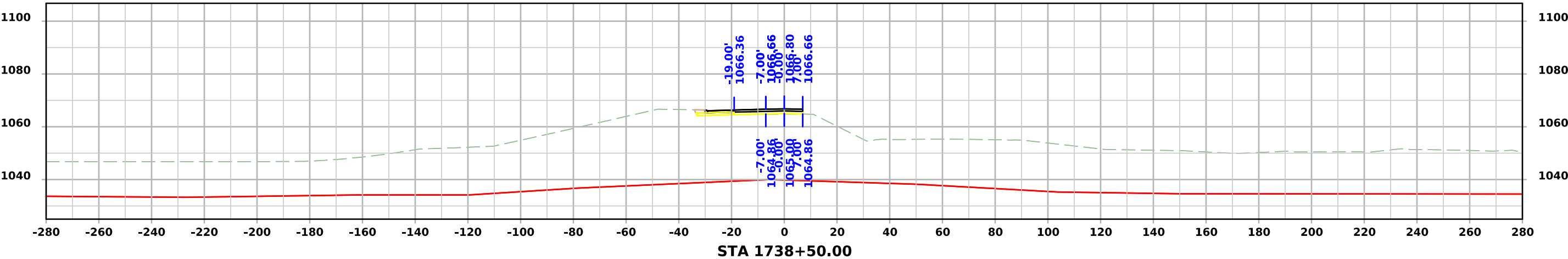




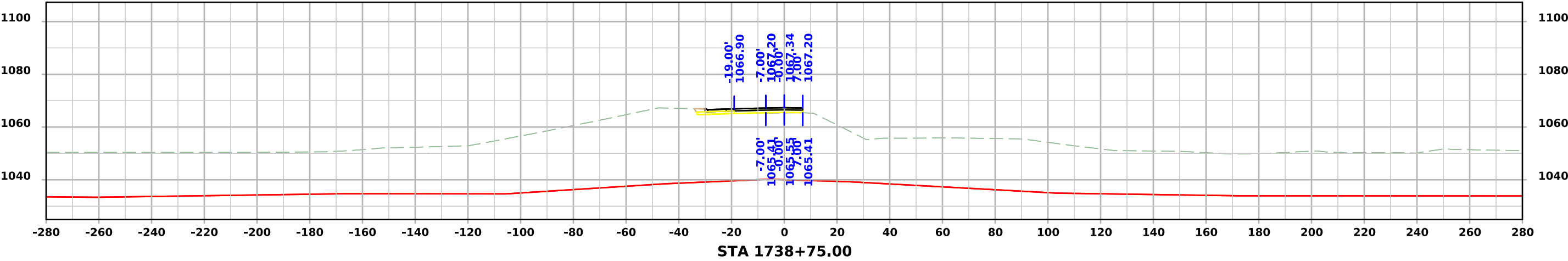
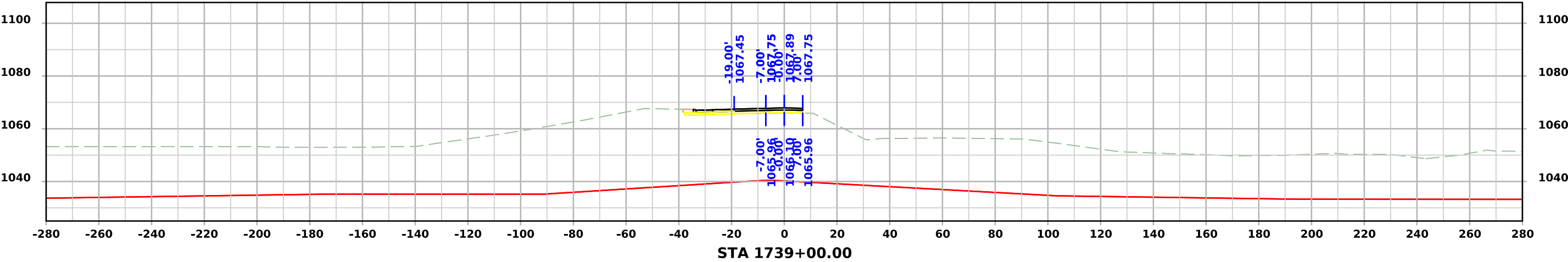
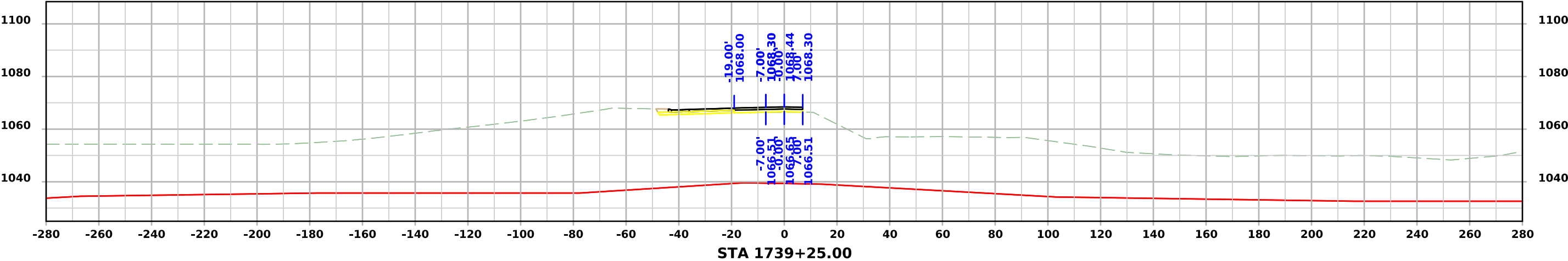
IA 175 - Stage 2



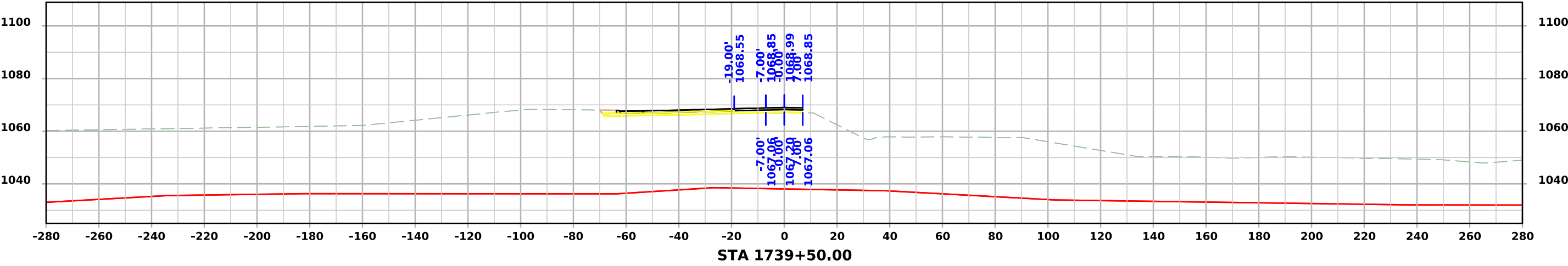
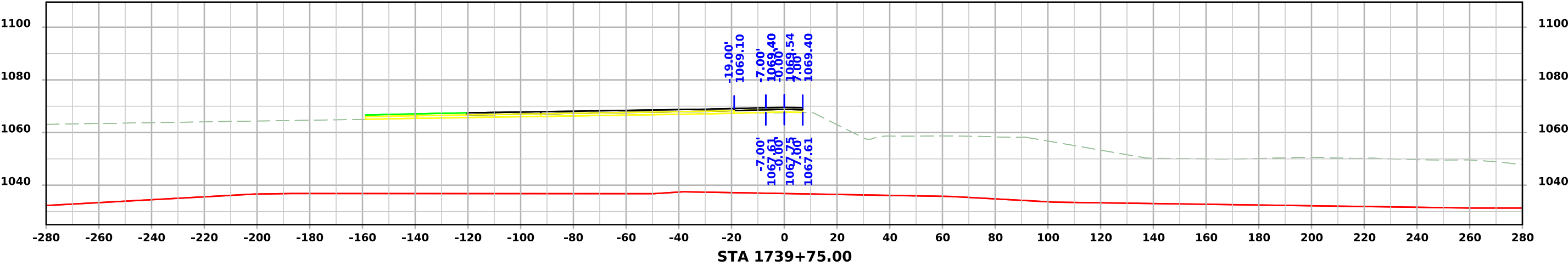
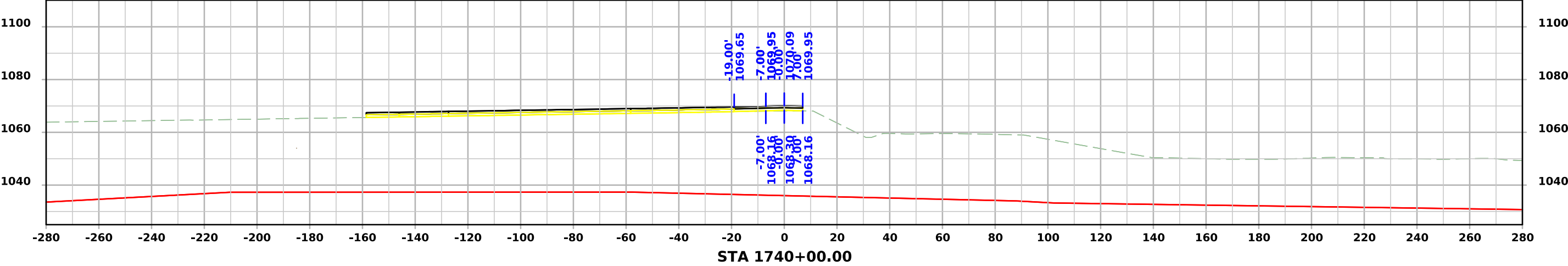
IA 175 - Stage 2



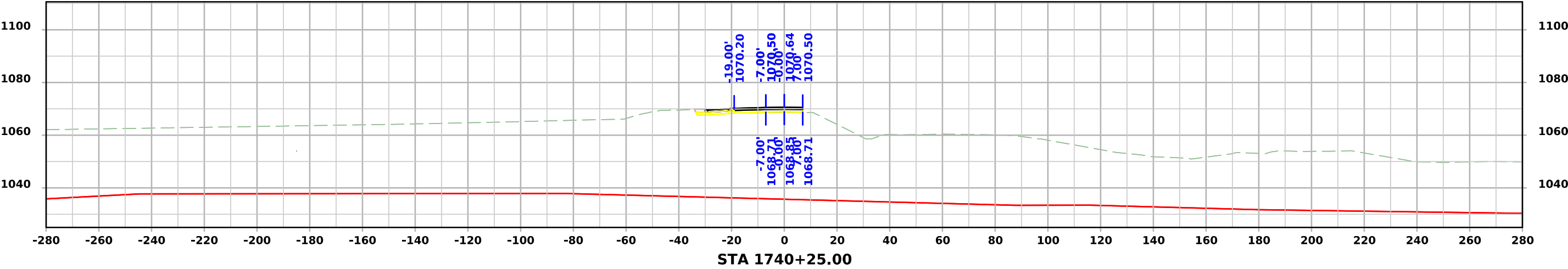
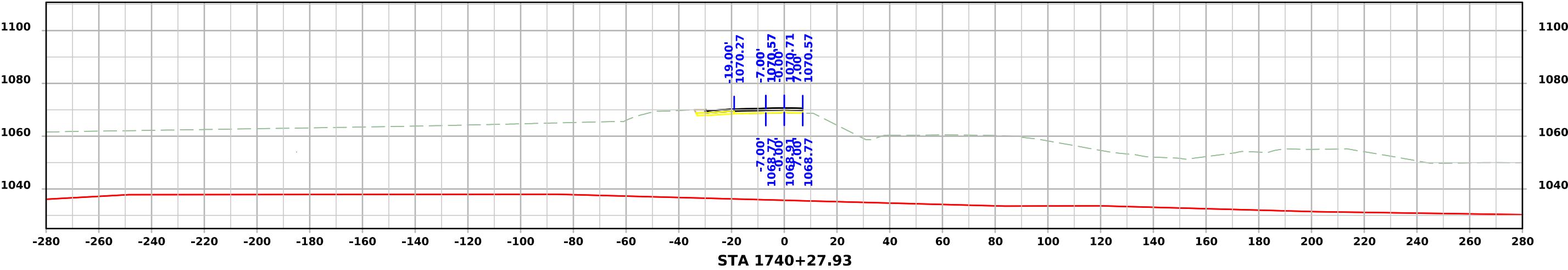
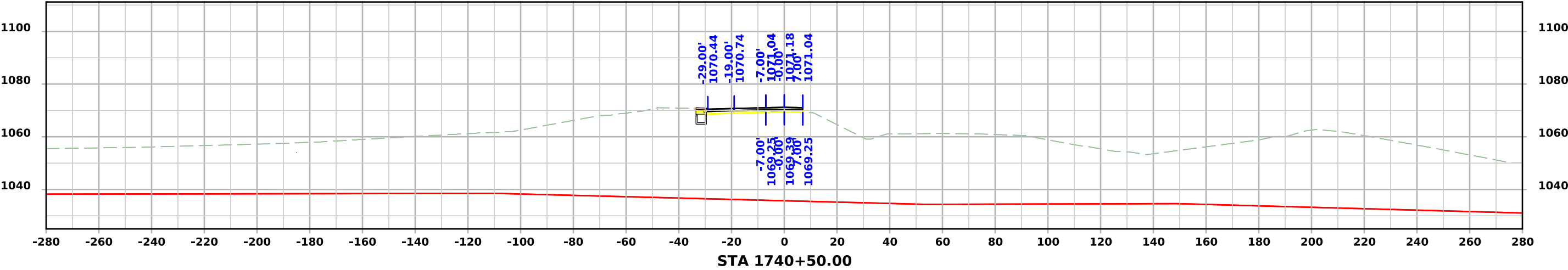
IA 175 - Stage 2



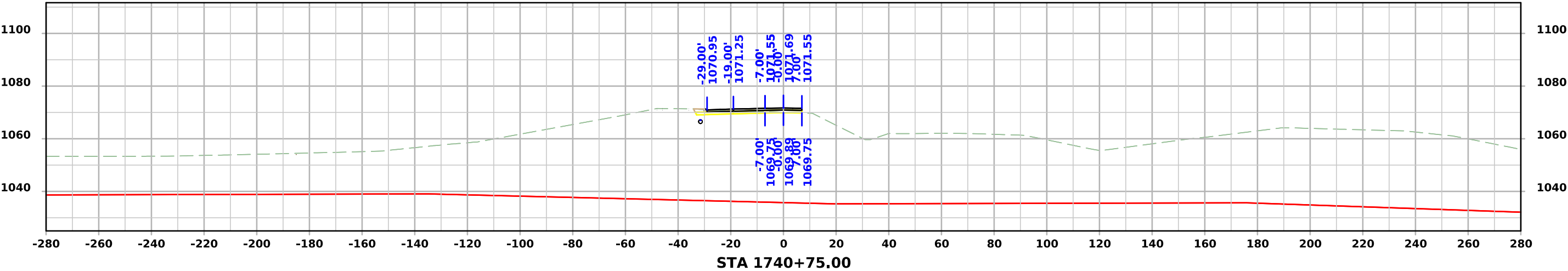
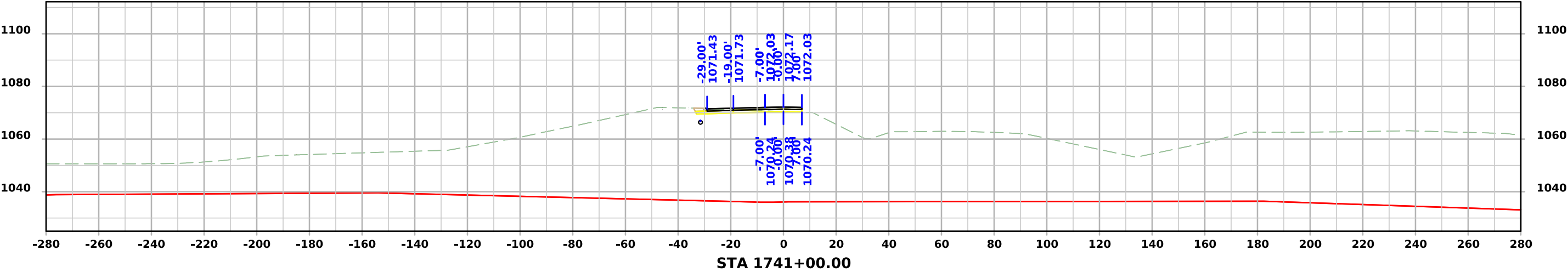
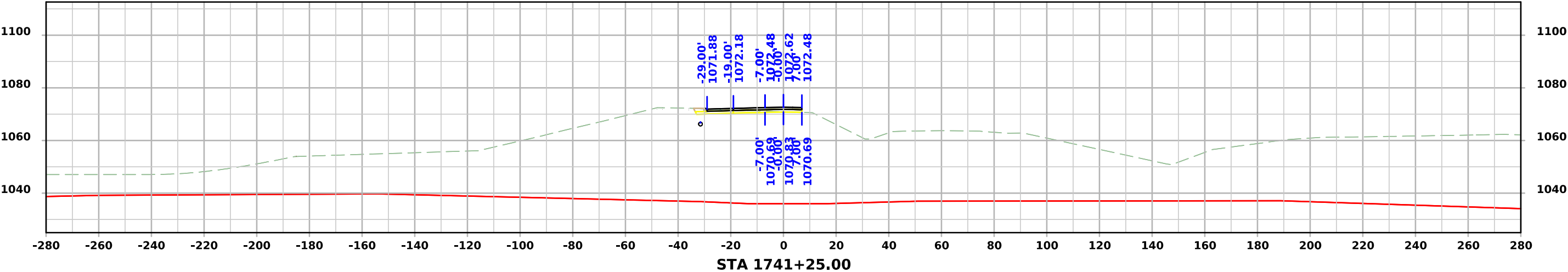
# IA 175 - Stage 2



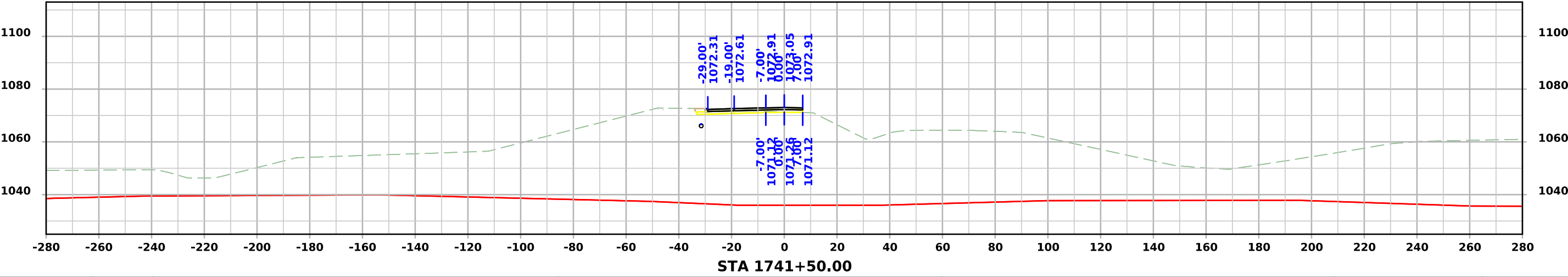
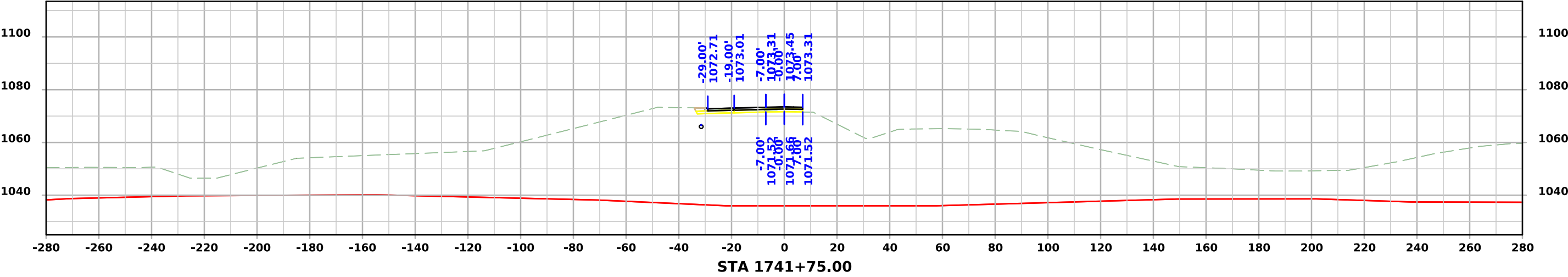
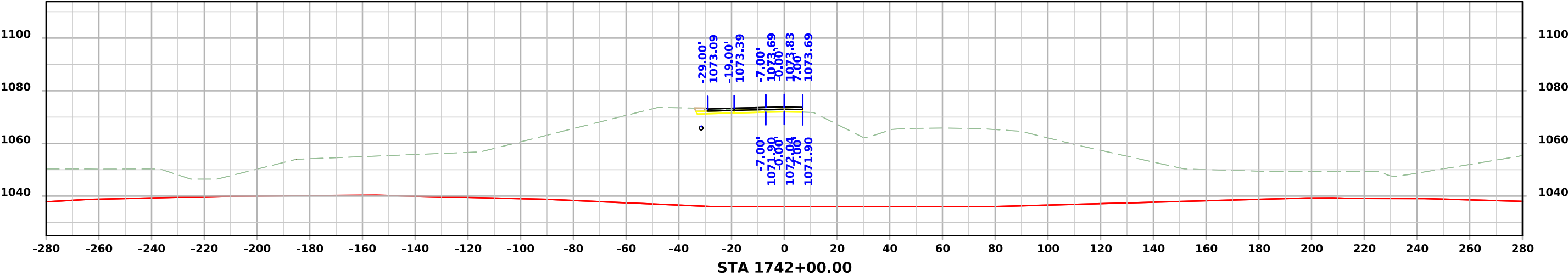
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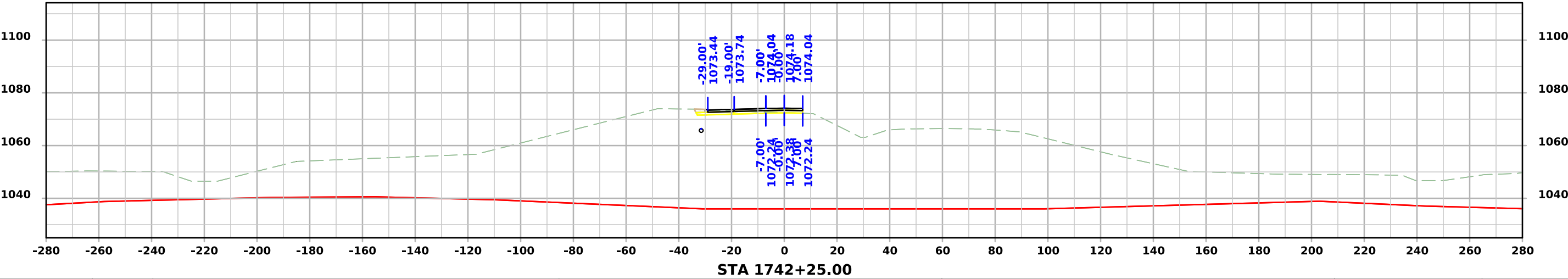
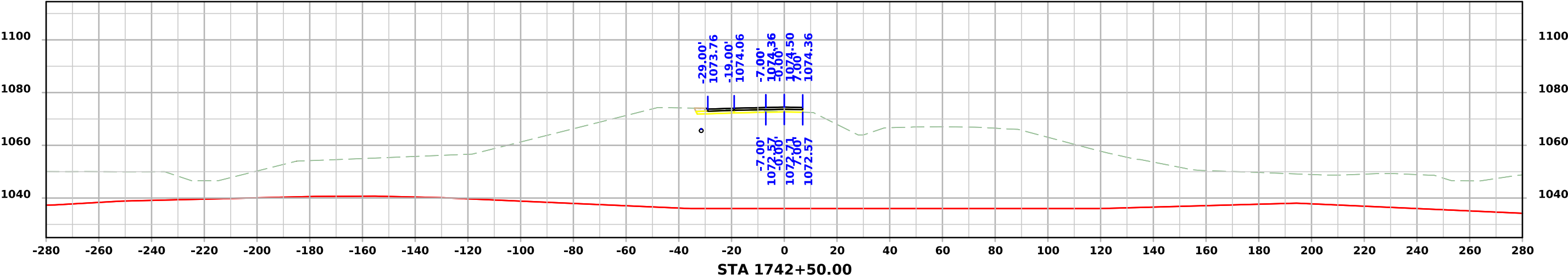
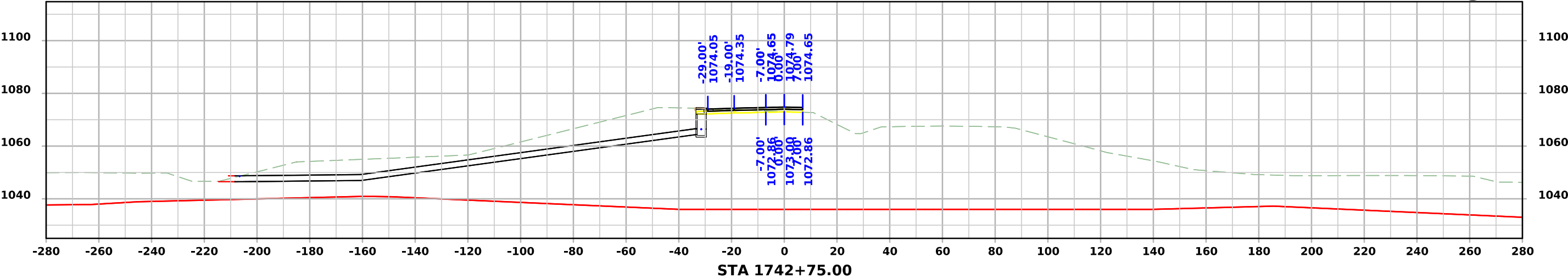
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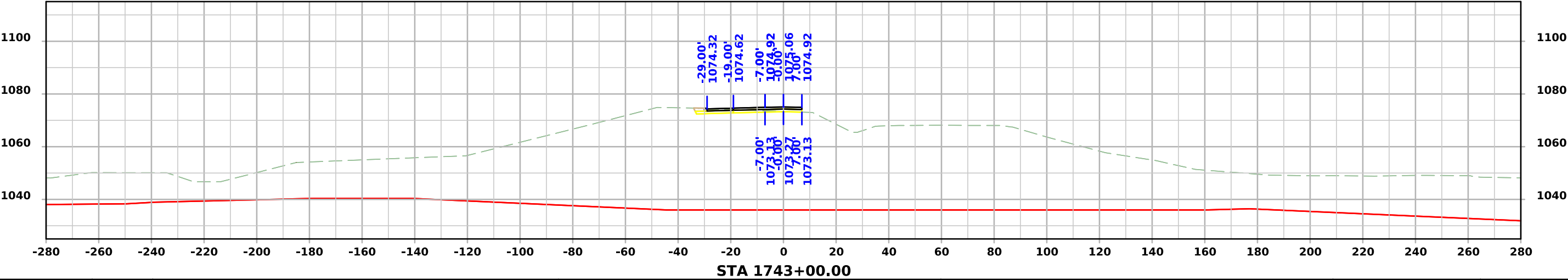
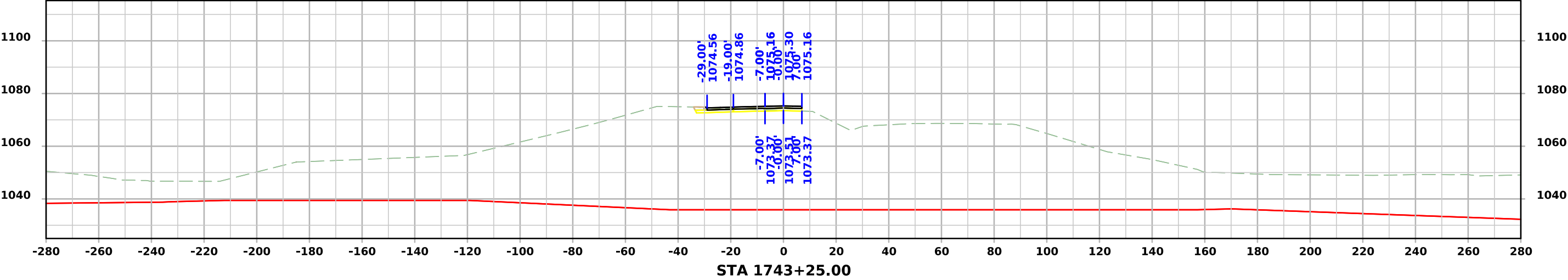
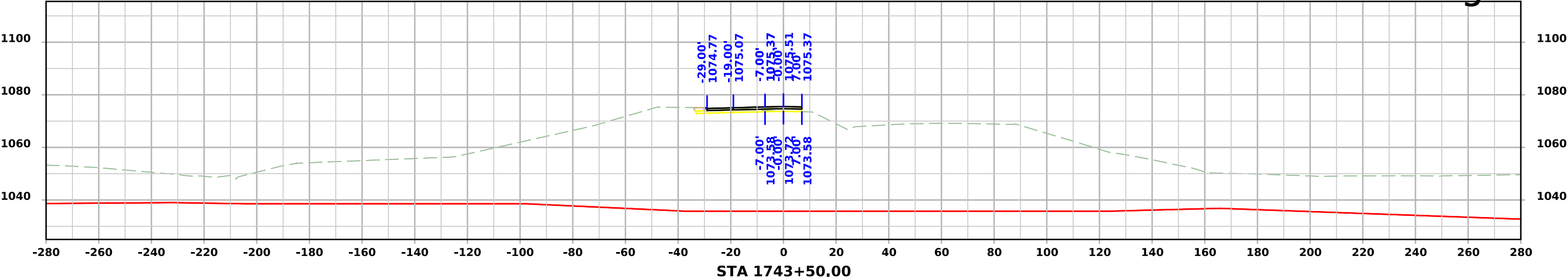


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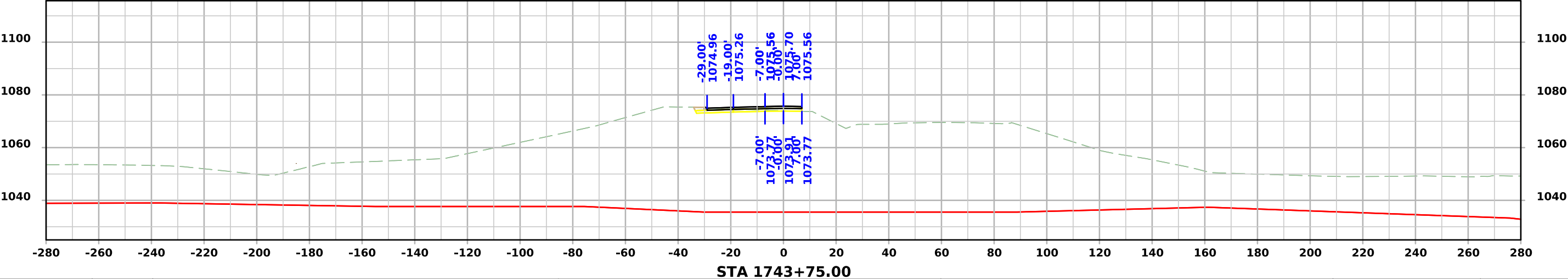
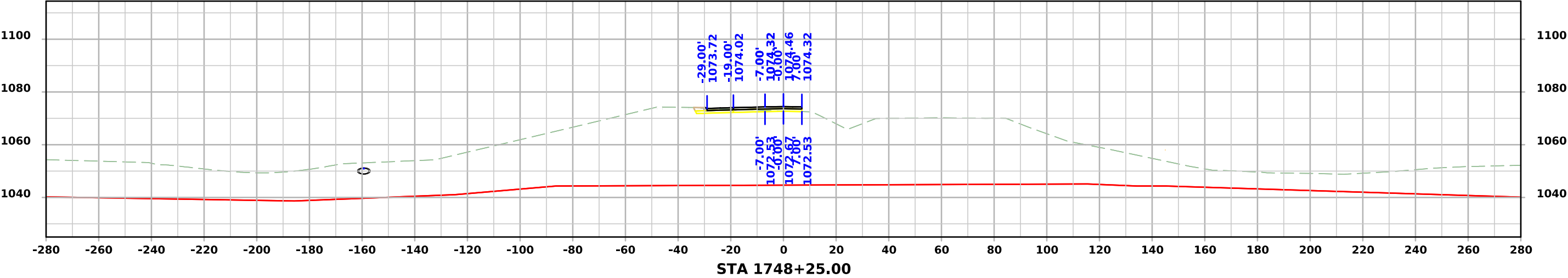
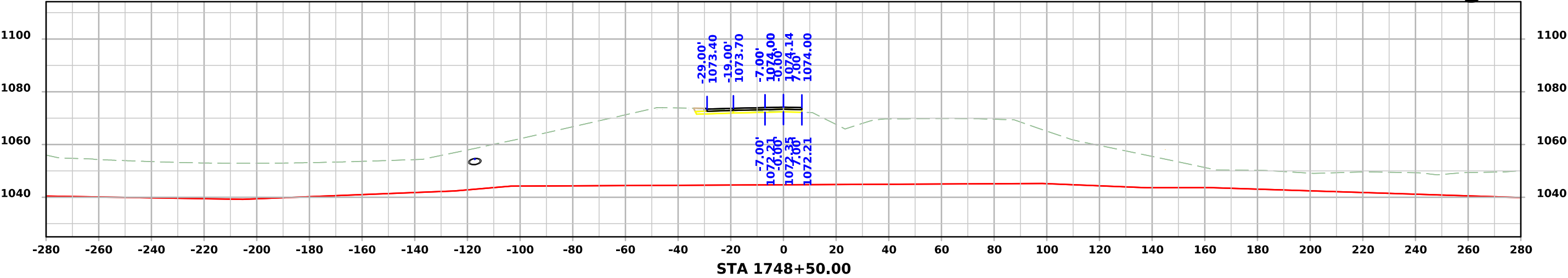




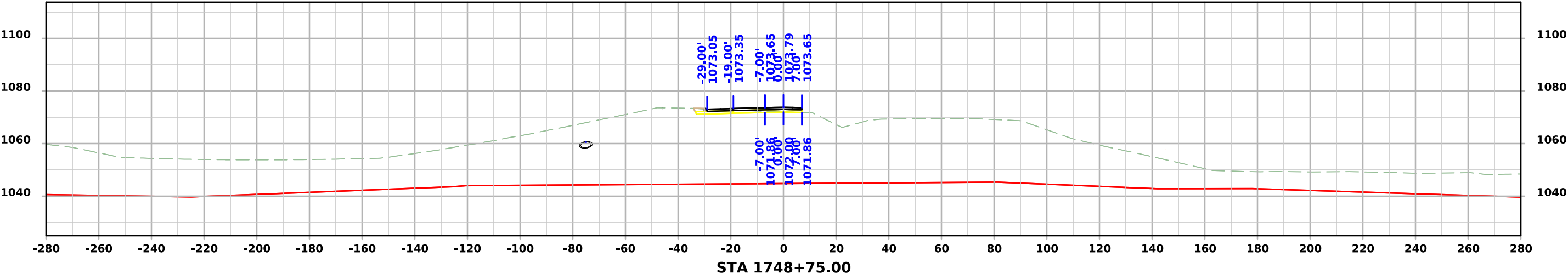
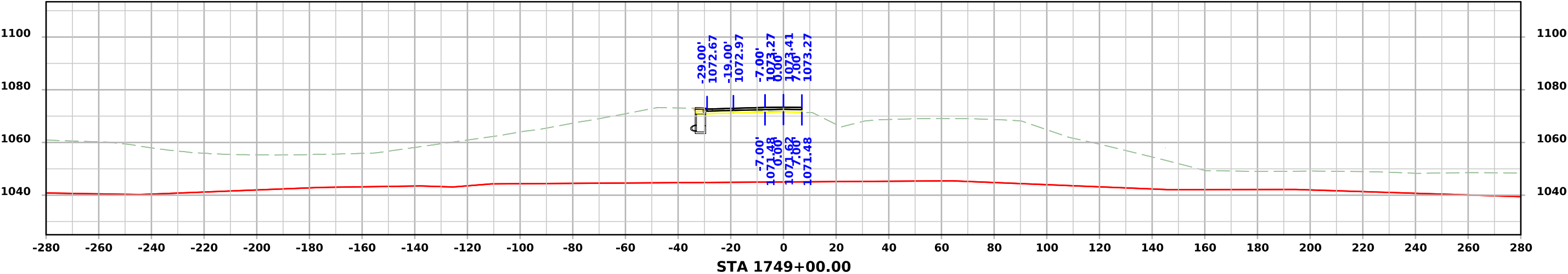
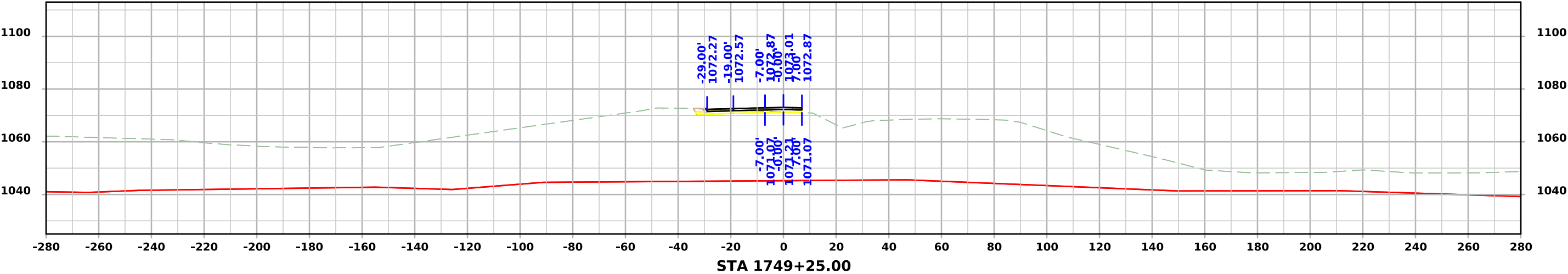
IA 175 - Stage 2



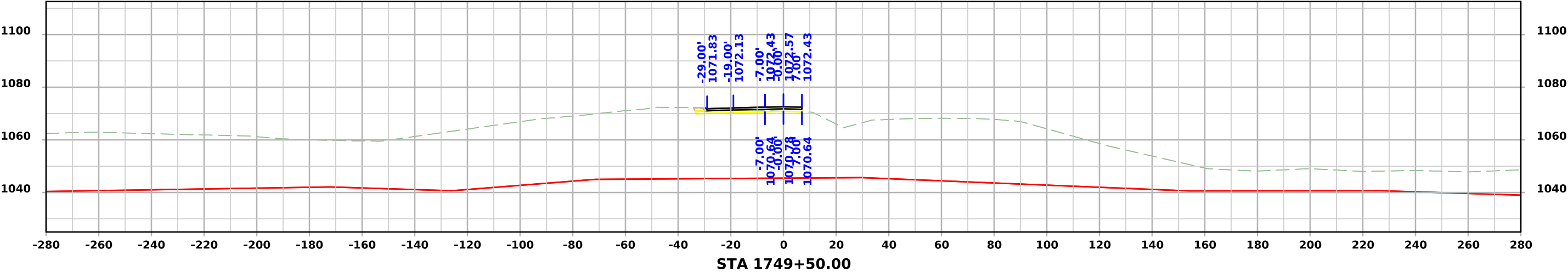
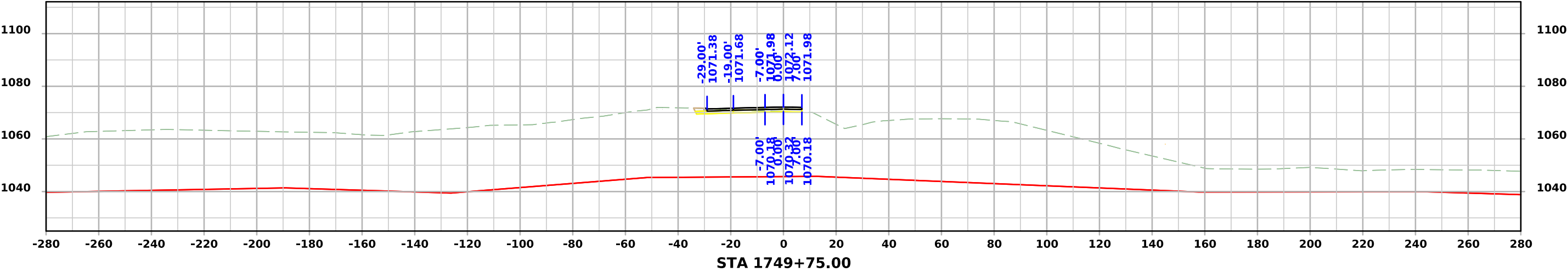
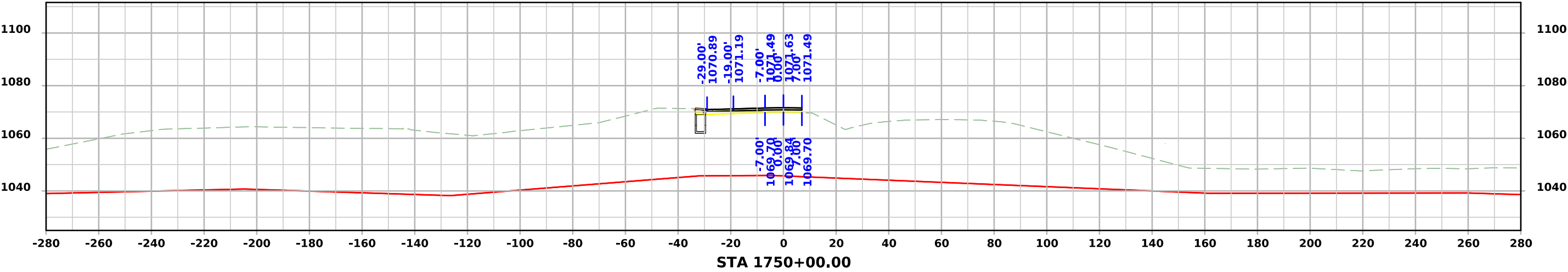
IA 175 - Stage 2



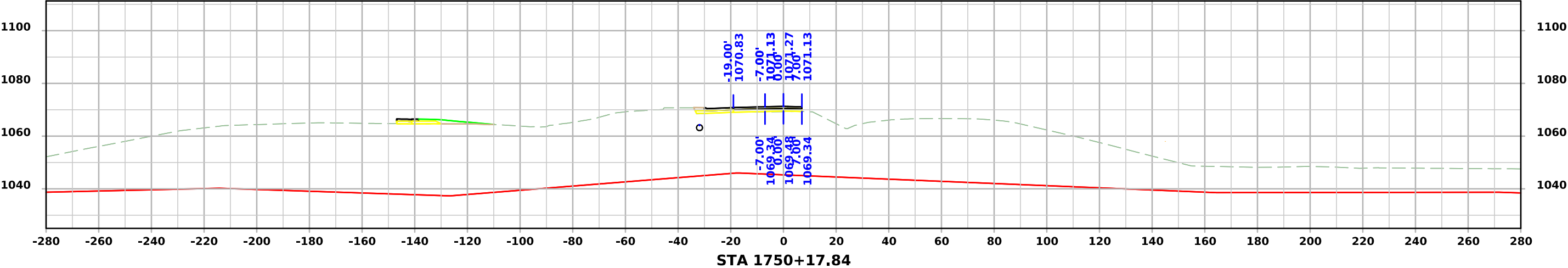
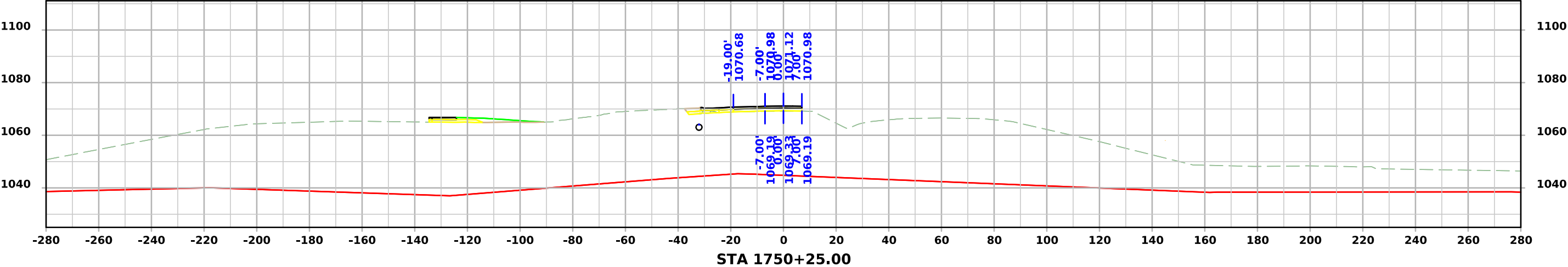
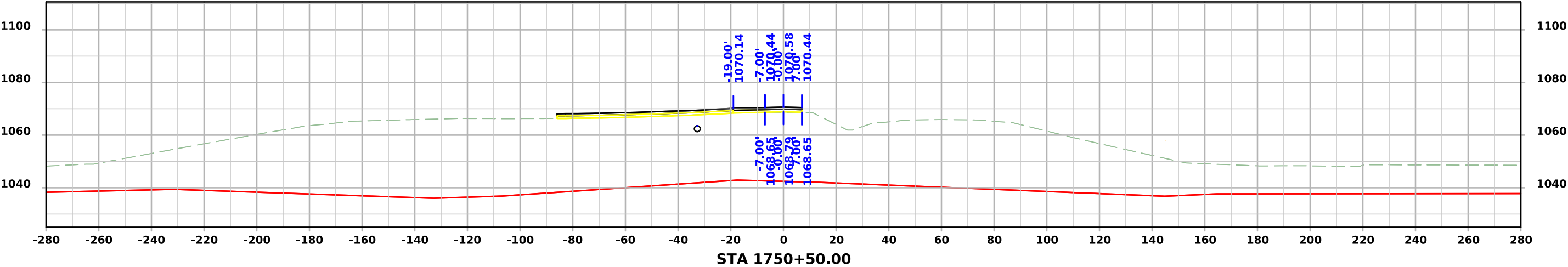
IA 175 - Stage 2



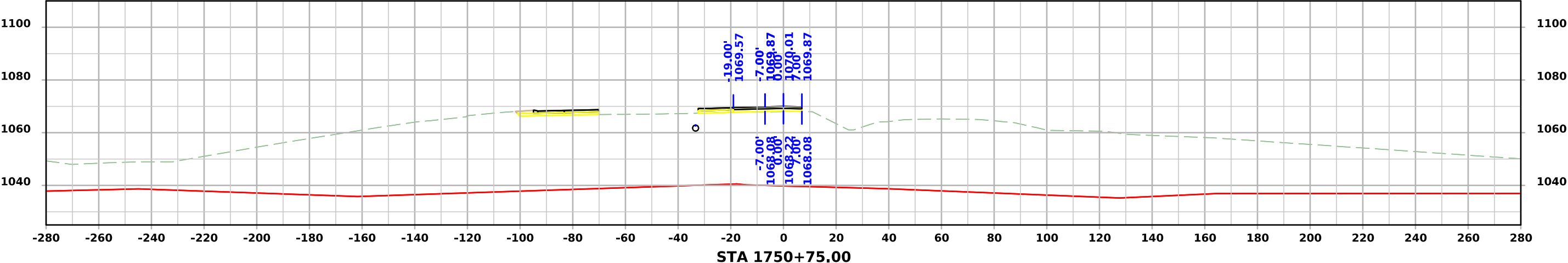
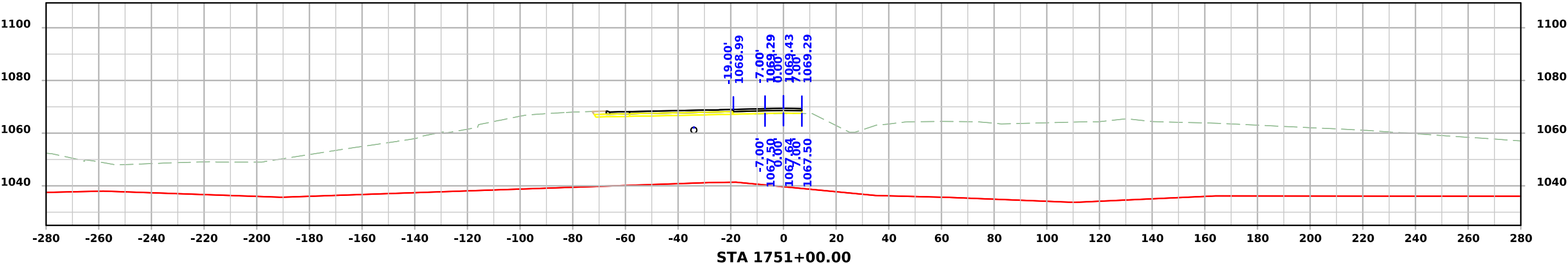
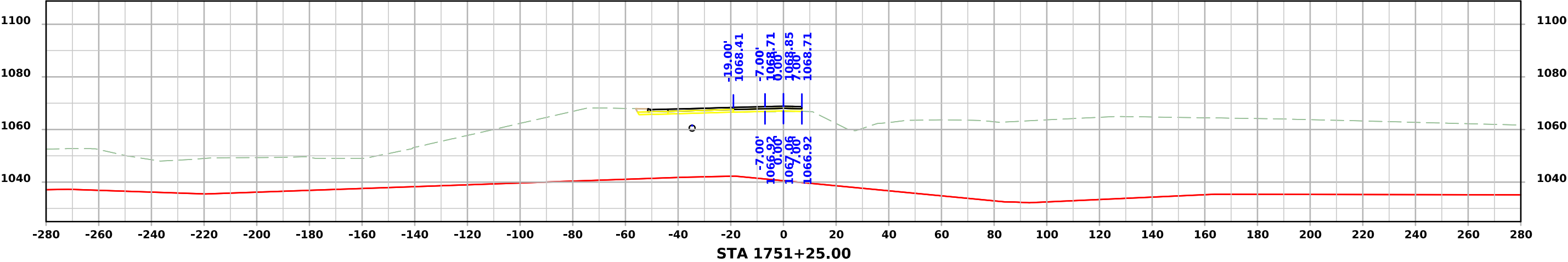
IA 175 - Stage 2



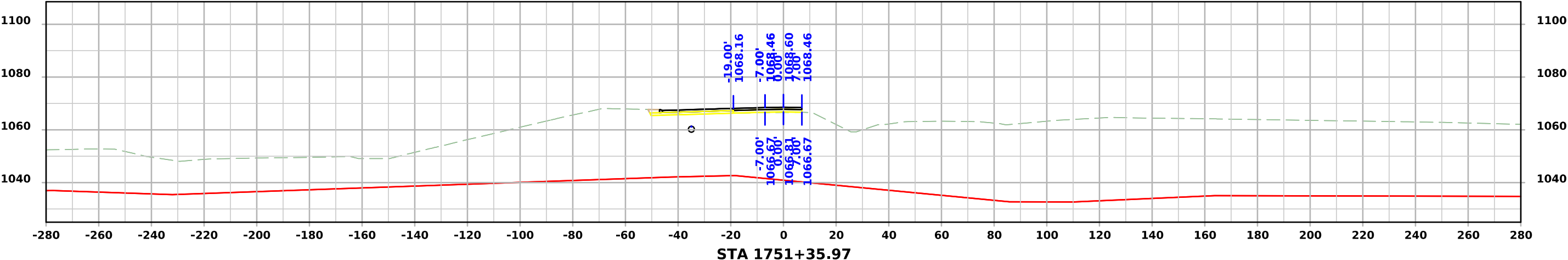
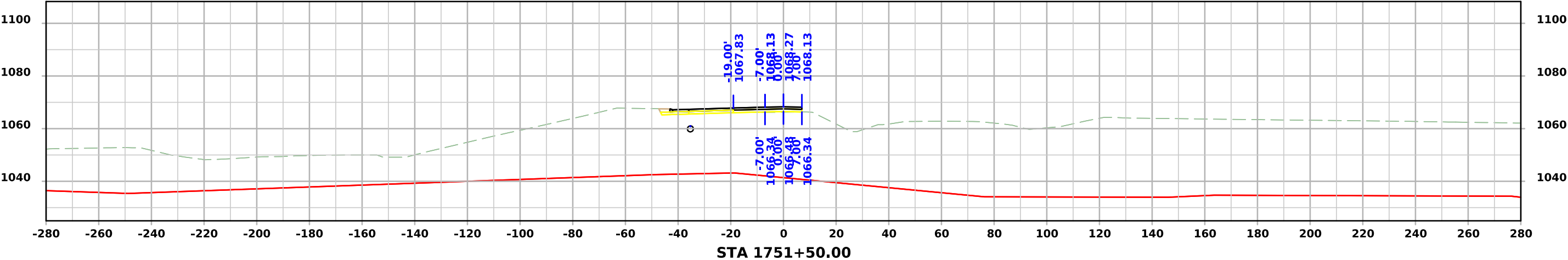
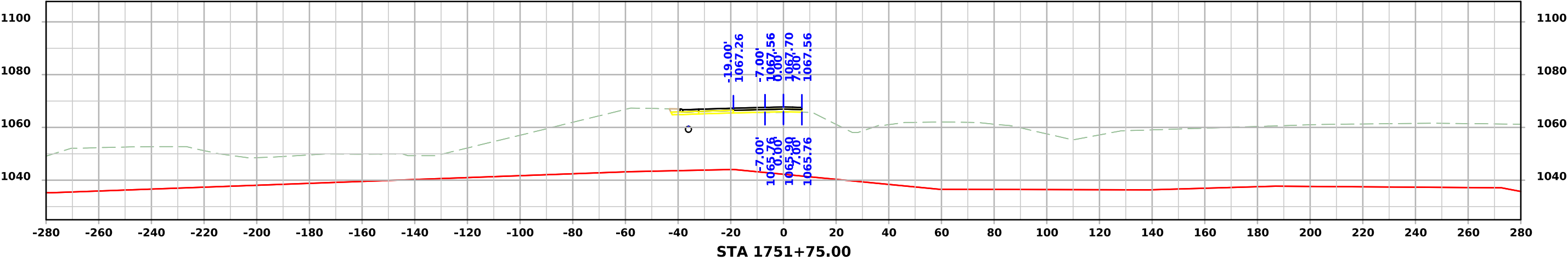
IA 175 - Stage 2



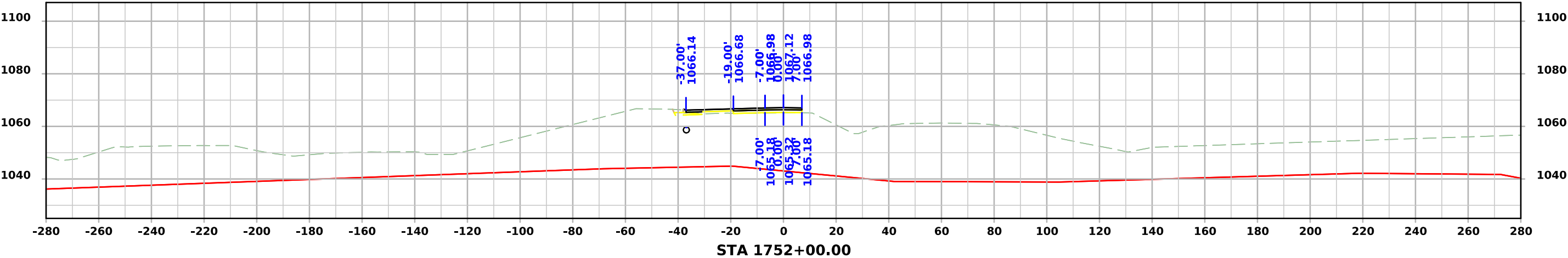
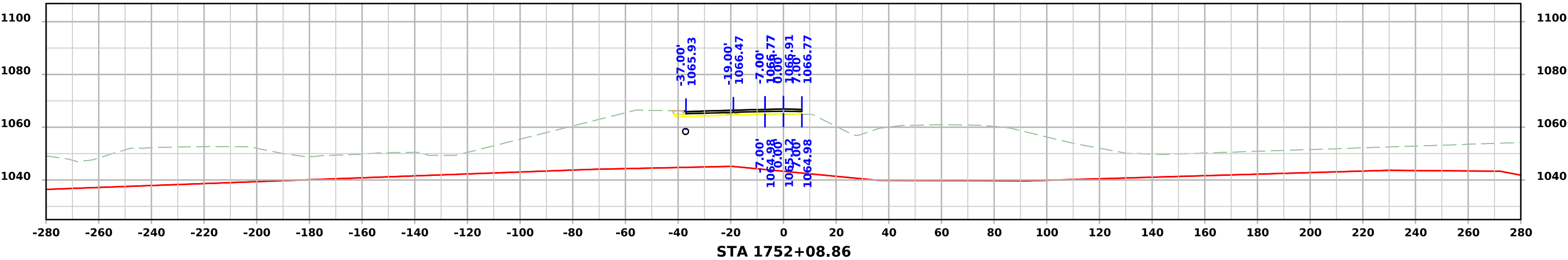
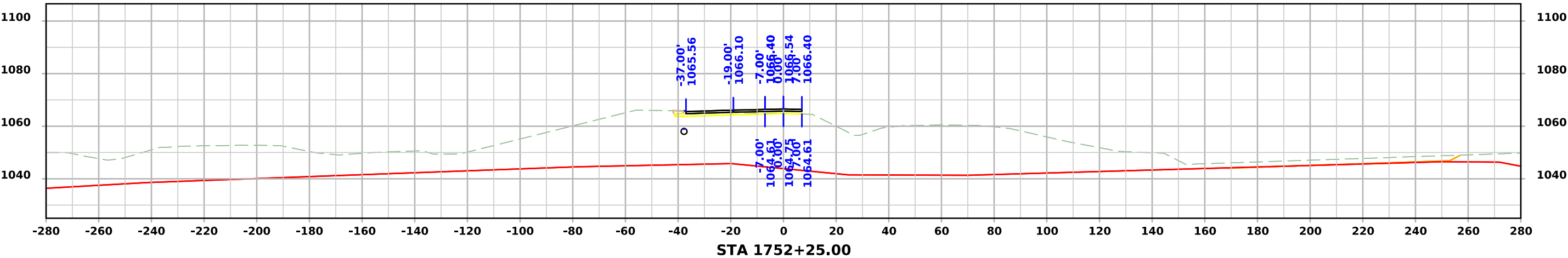
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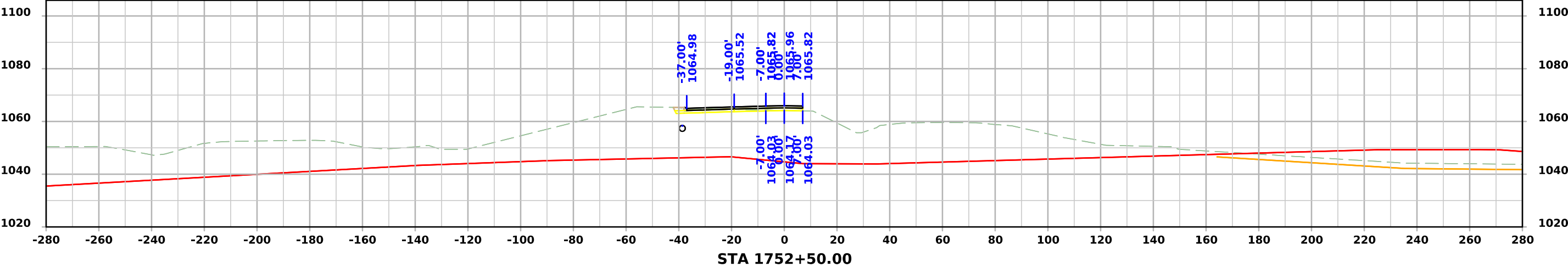
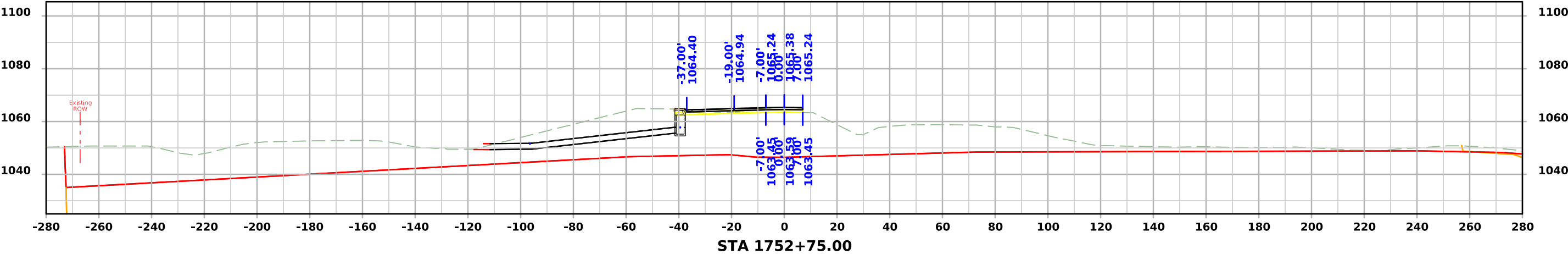
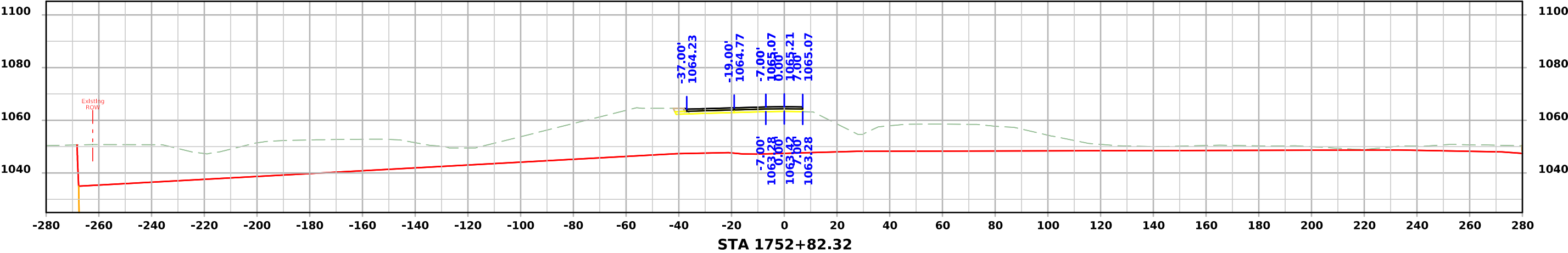


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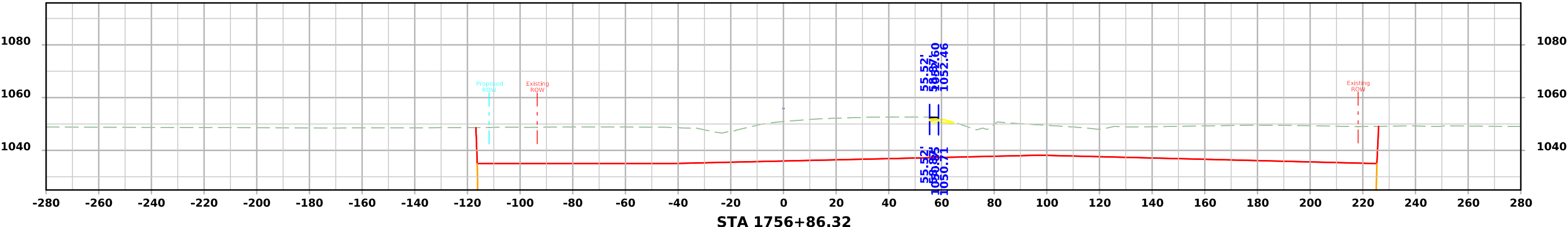
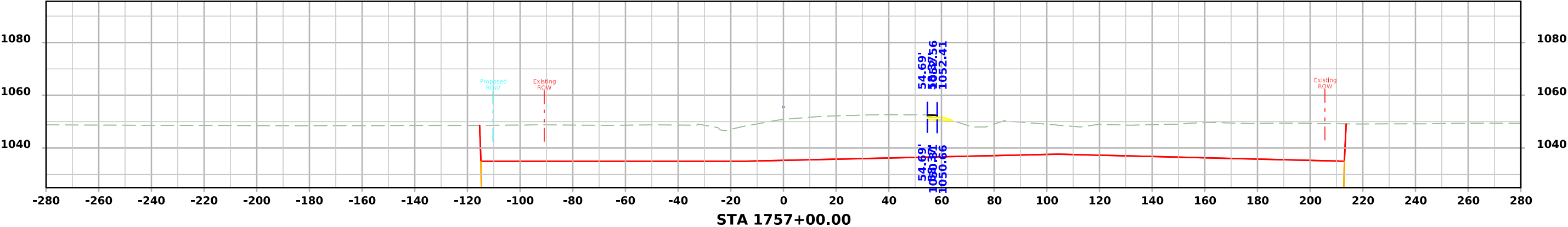
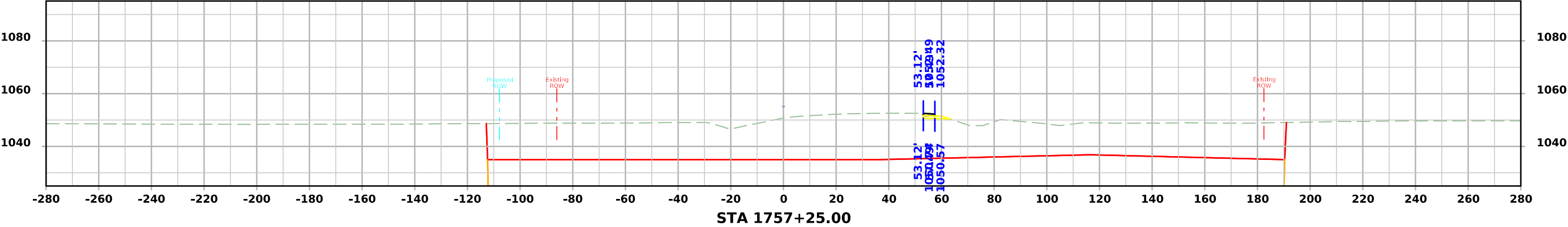




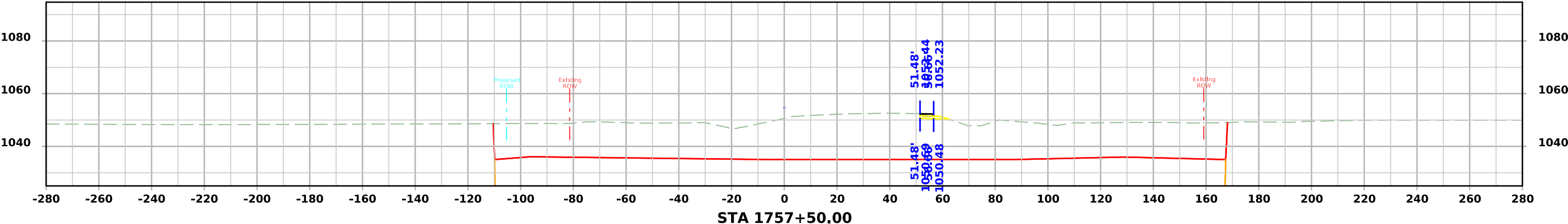
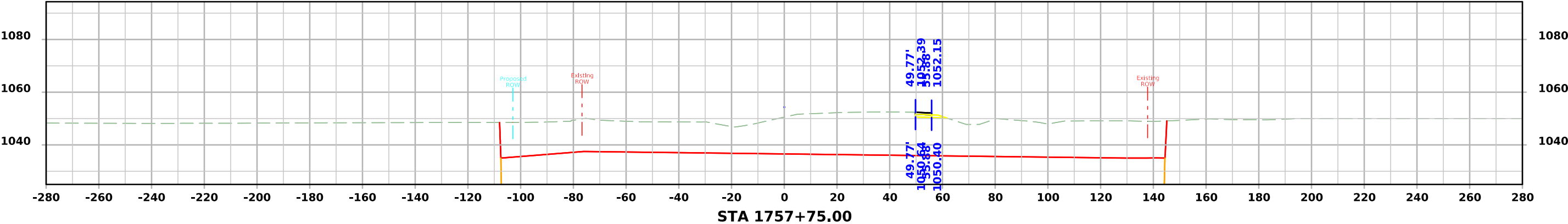
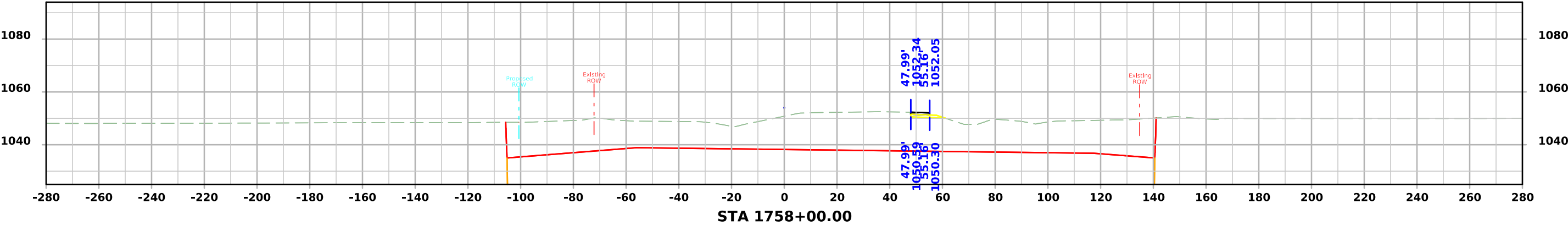
IA 175 - Stage 2



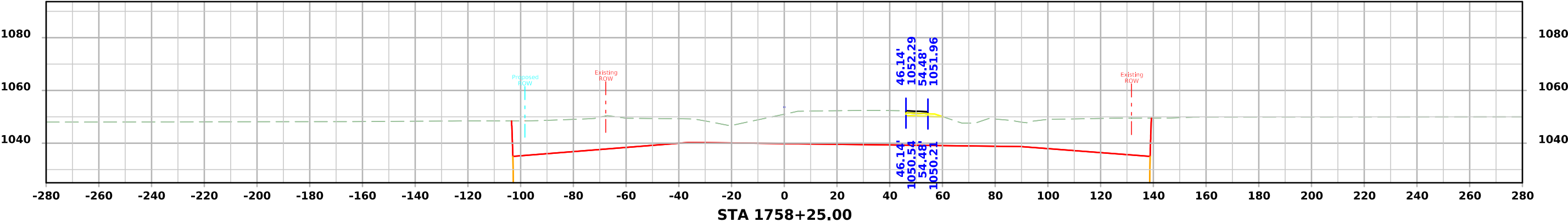
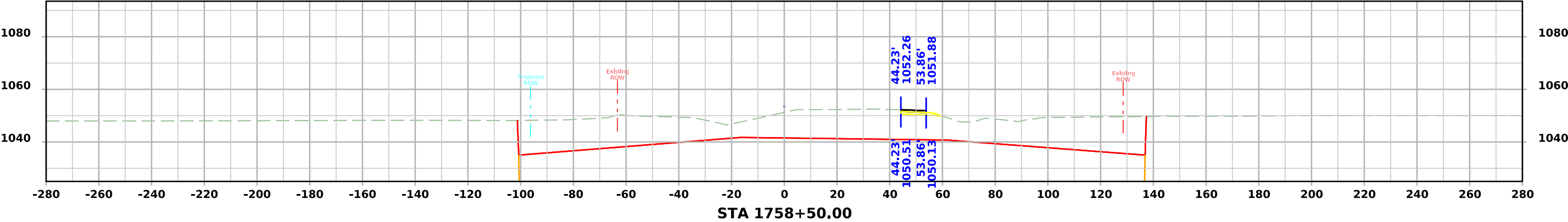
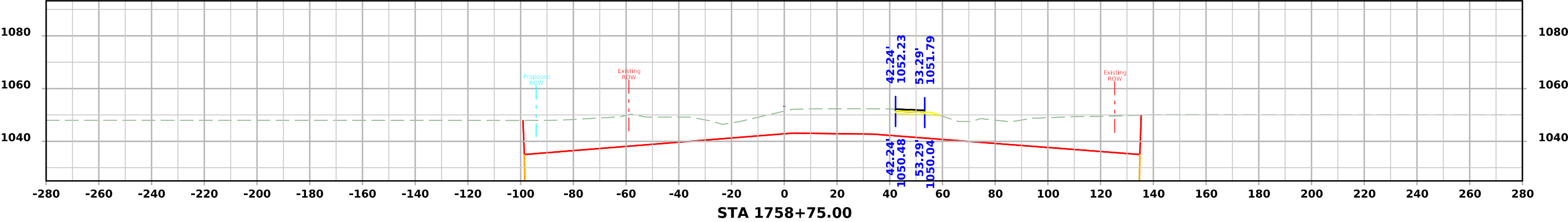
IA 175 - Stage 2



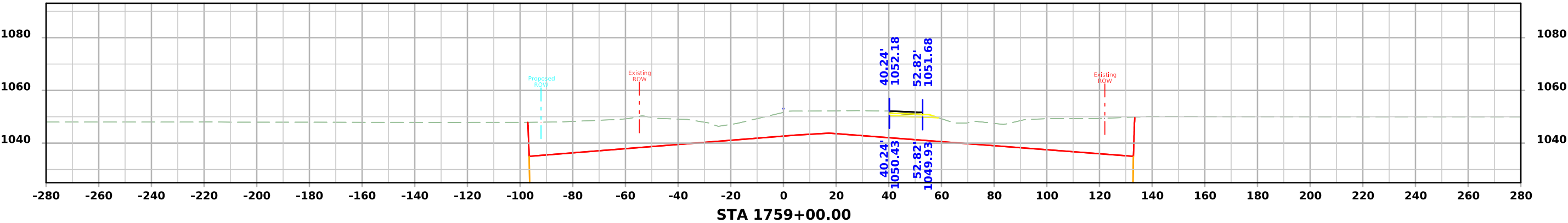
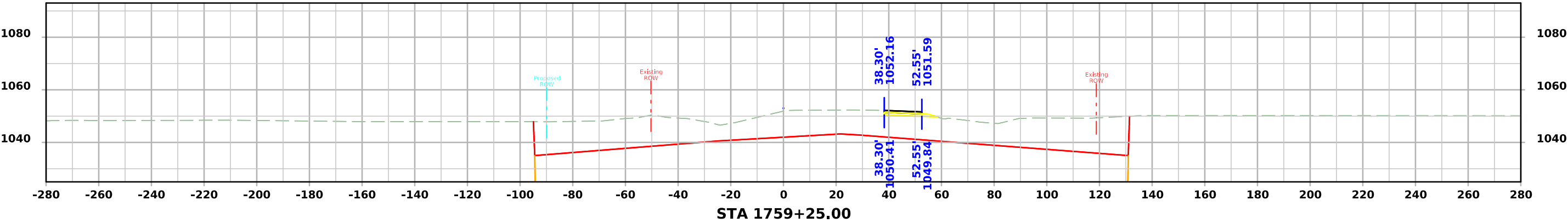
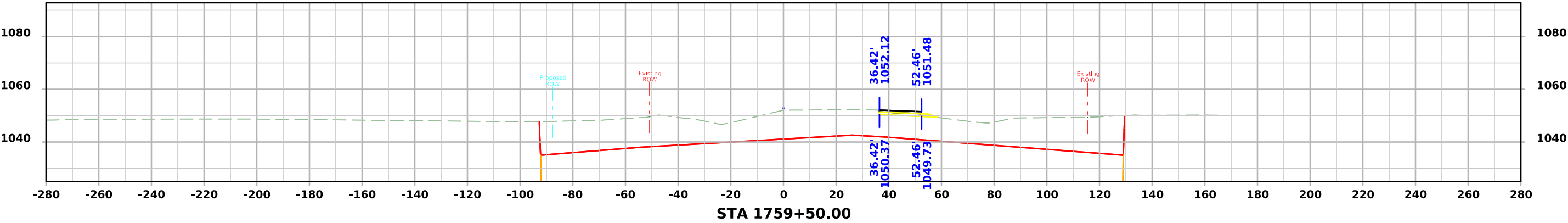
IA 175 - Stage 2



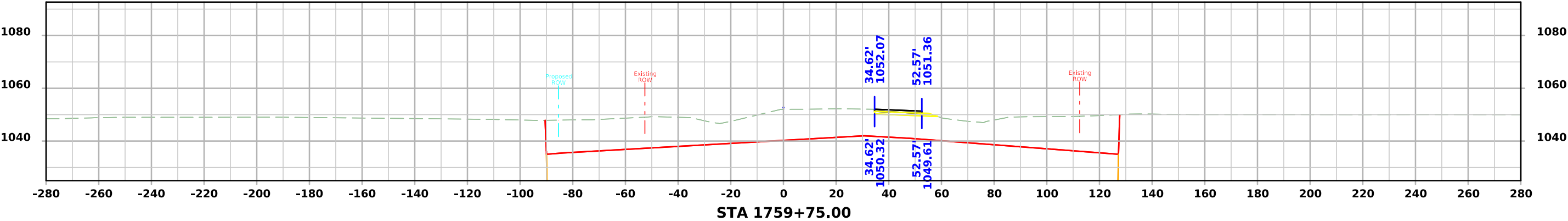
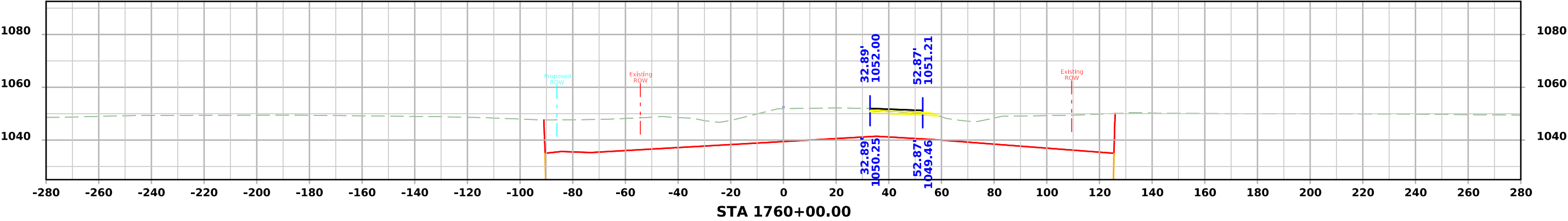
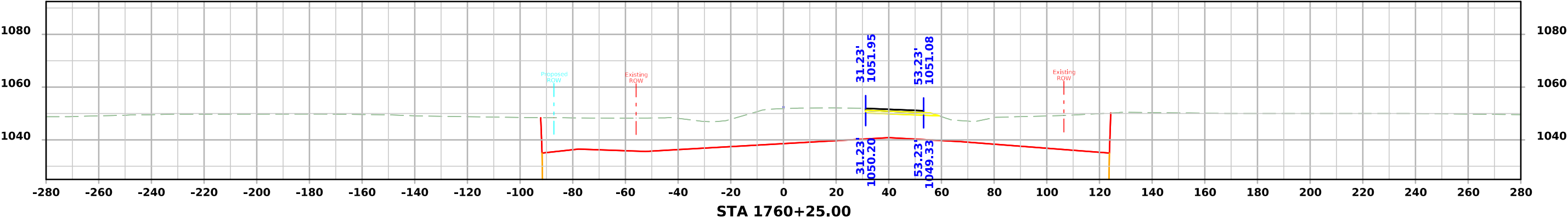
IA 175 - Stage 2



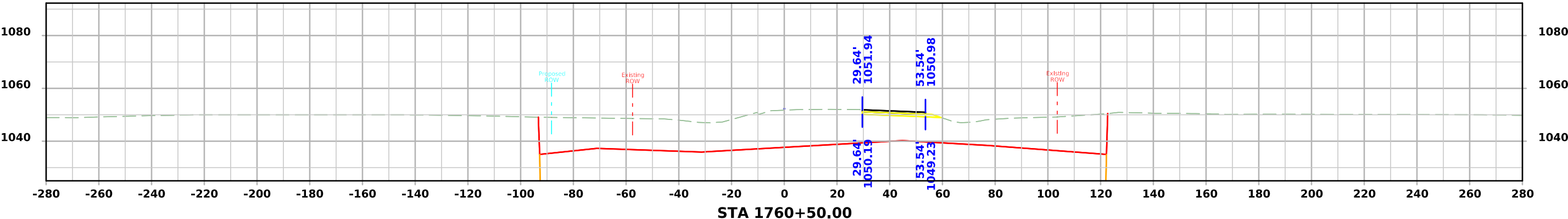
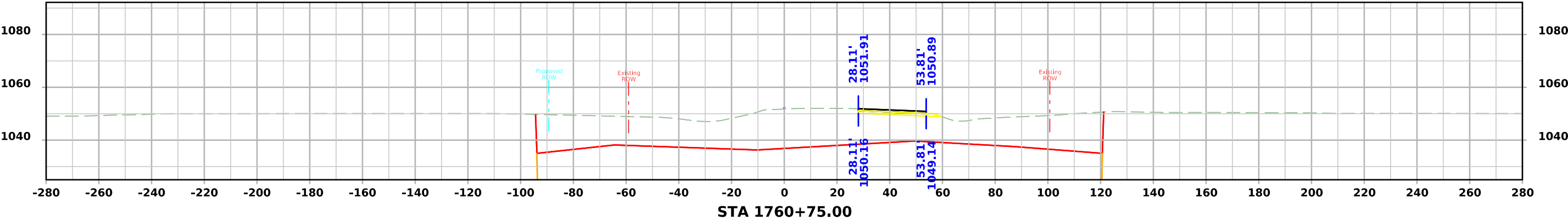
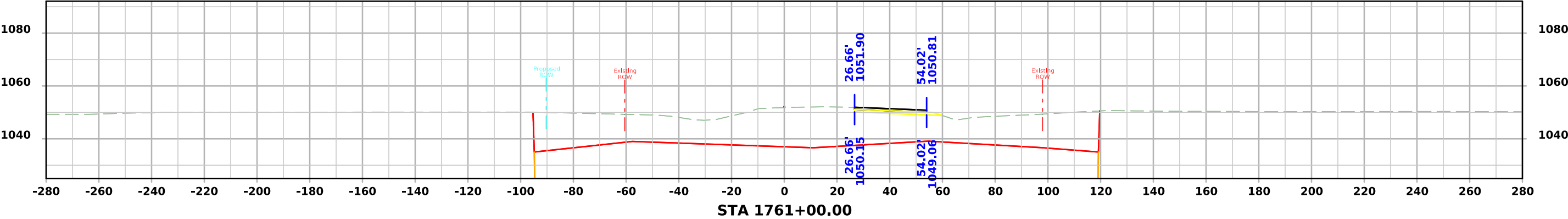
IA 175 - Stage 2



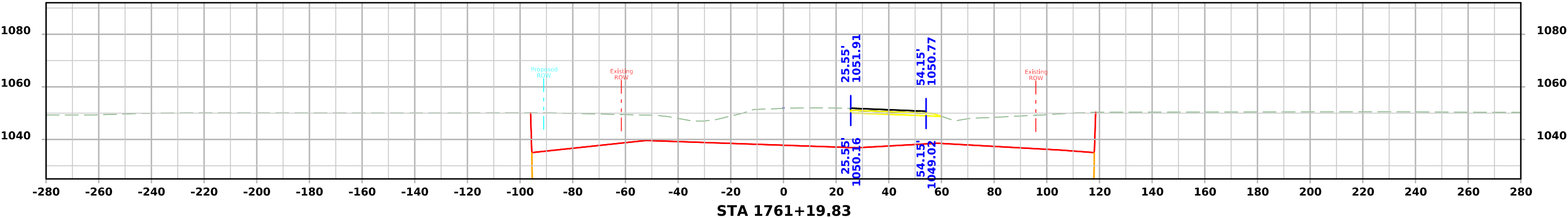
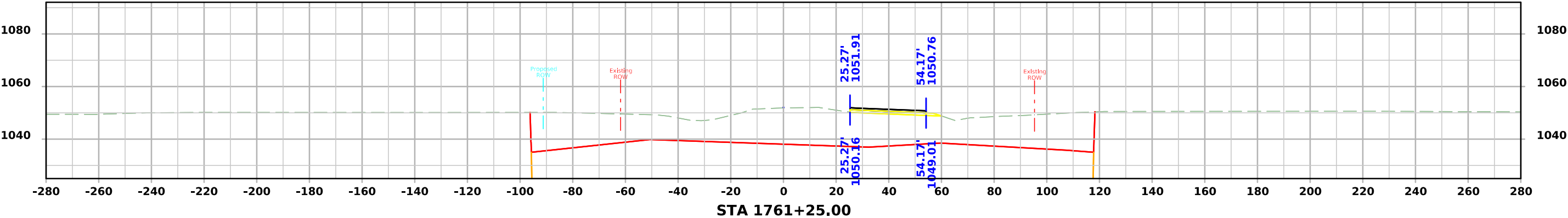
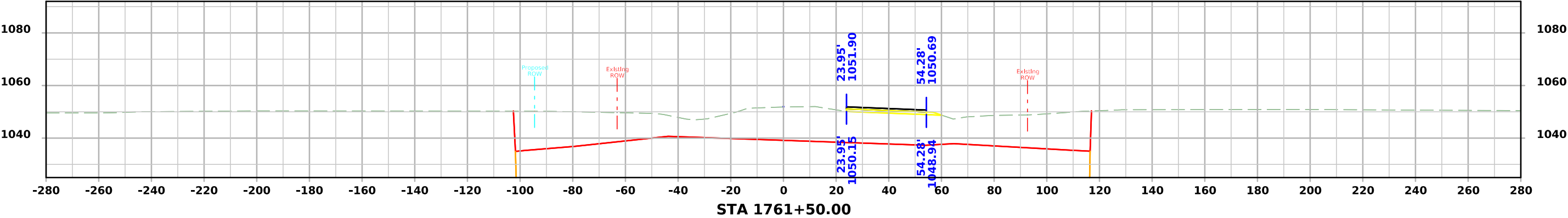
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IA 175 - Stage 2

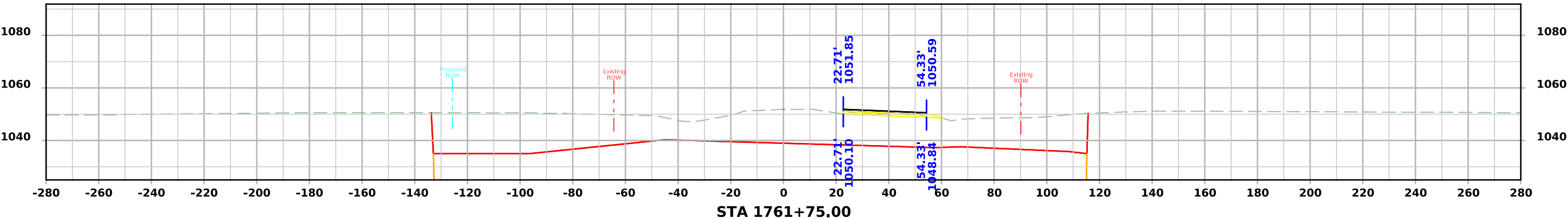
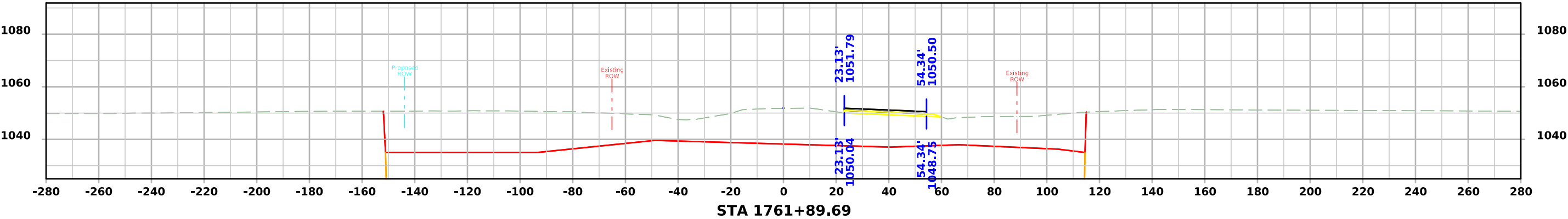
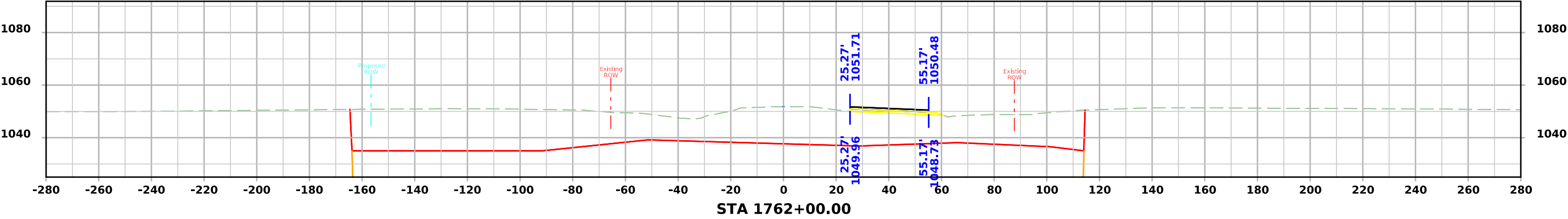


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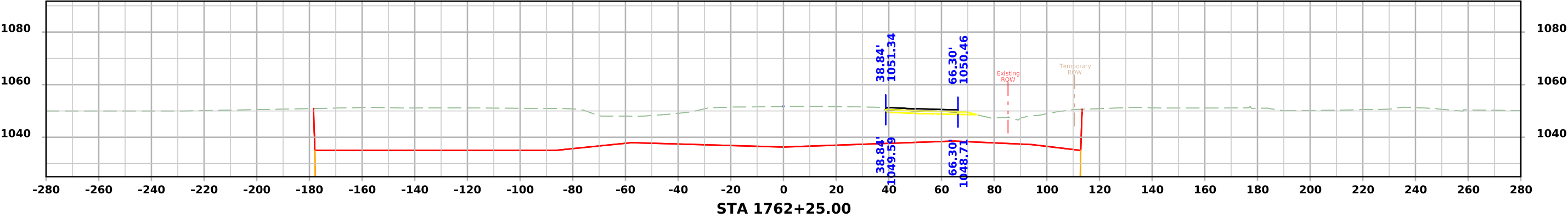
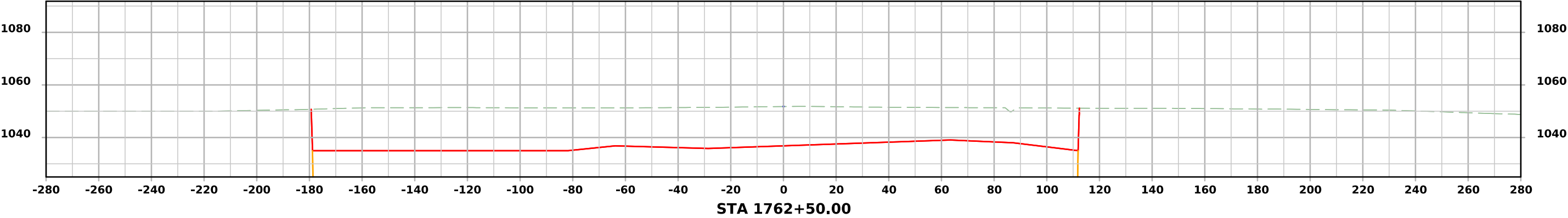
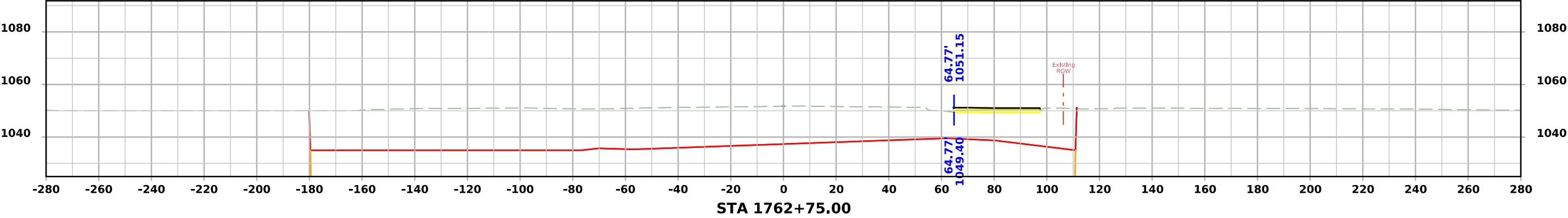




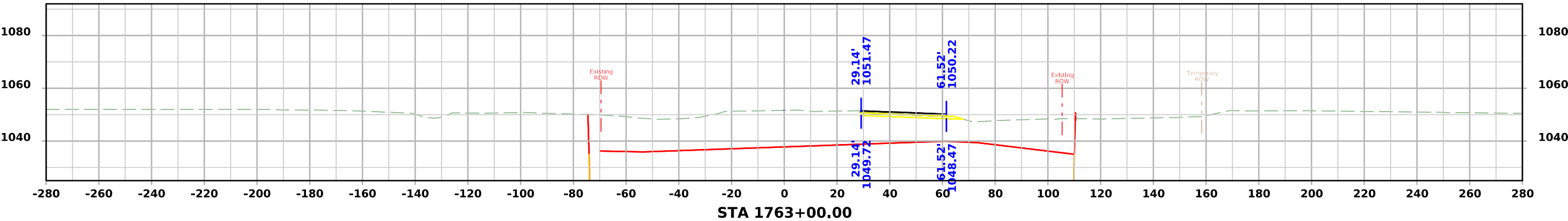
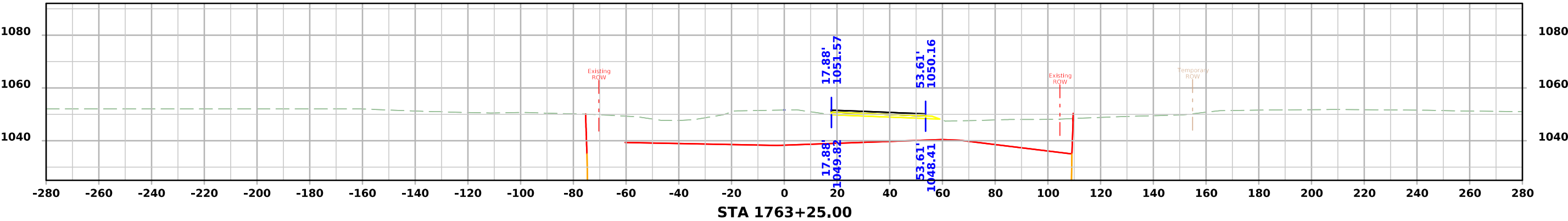
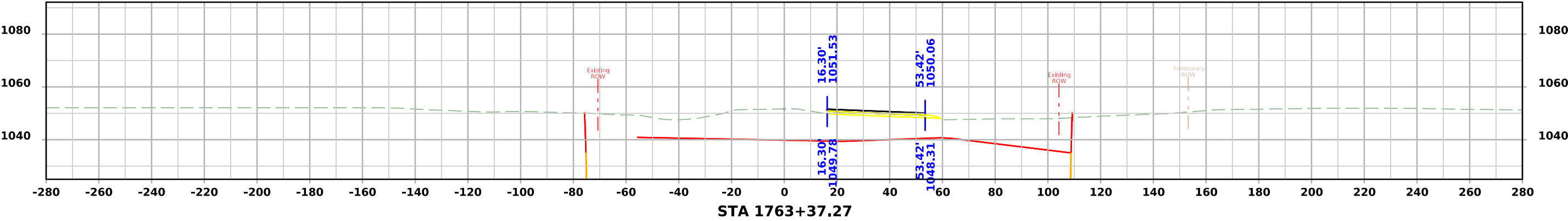
IA 175 - Stage 2



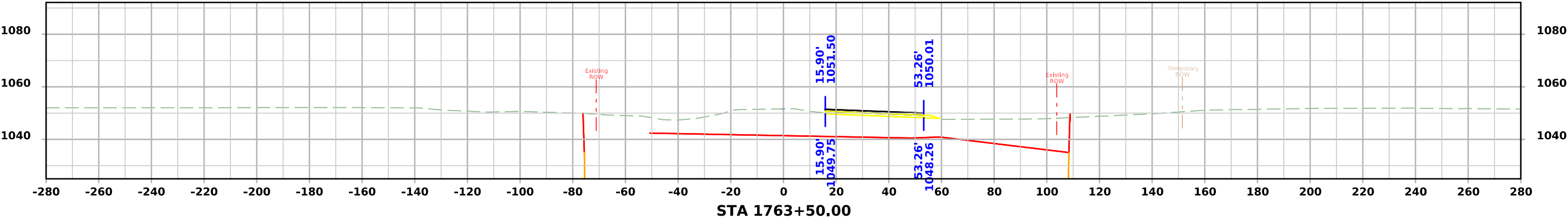
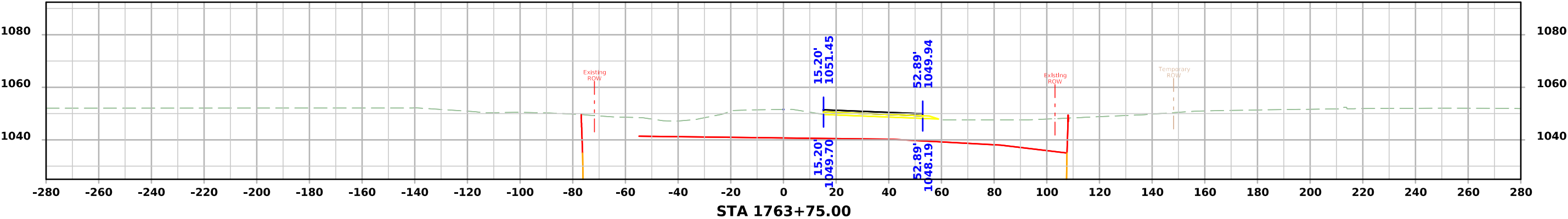
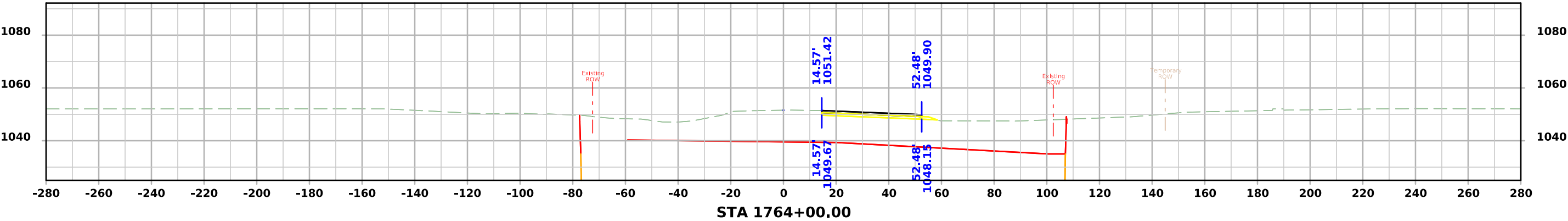
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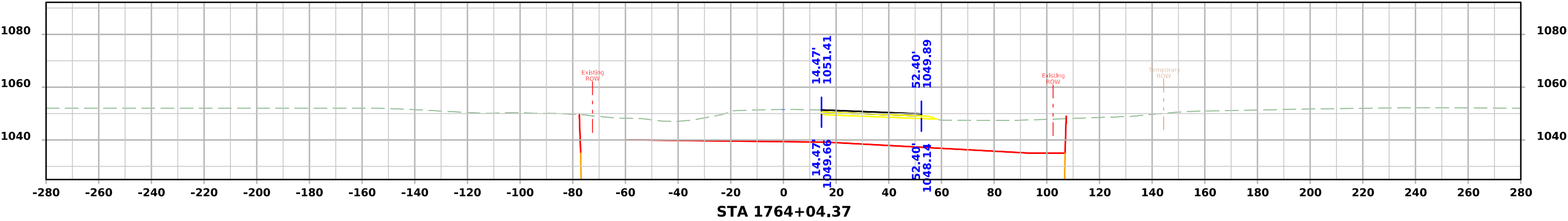
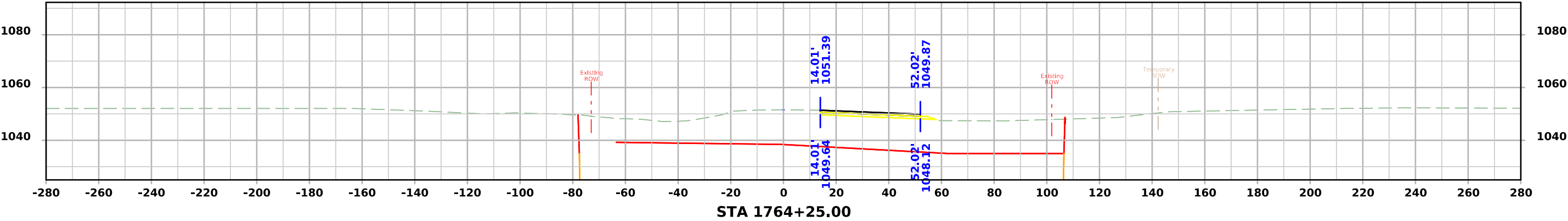
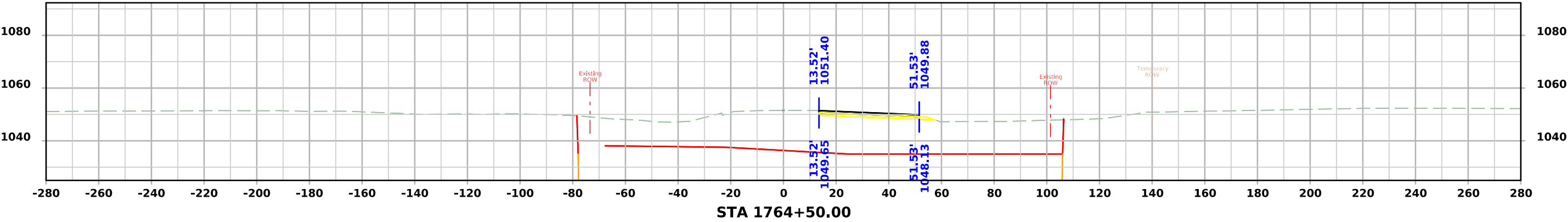
IA 175 - Stage 2



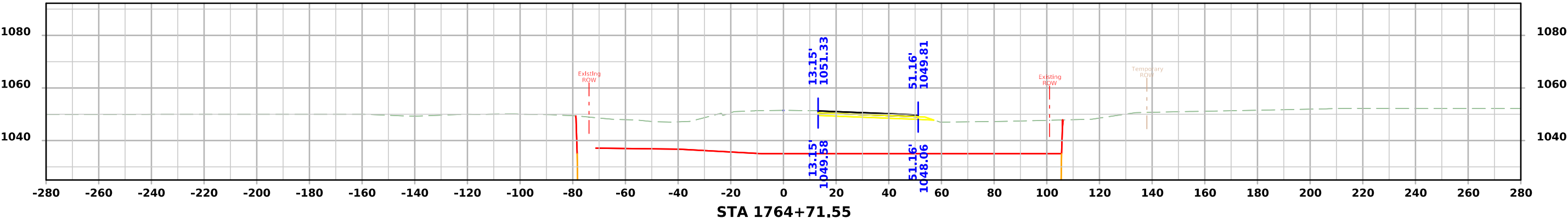
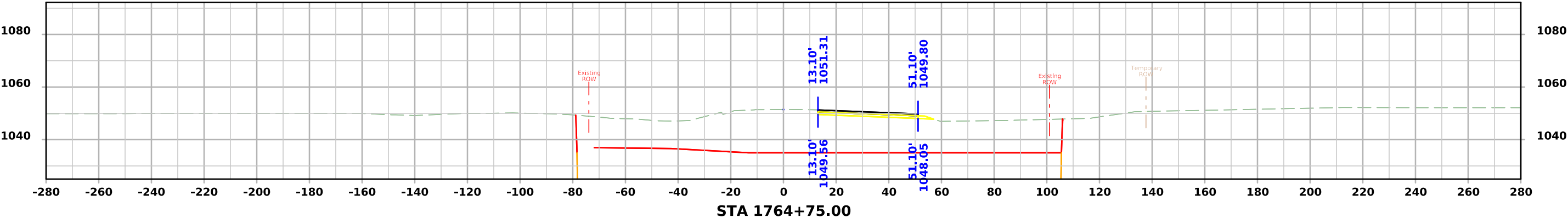
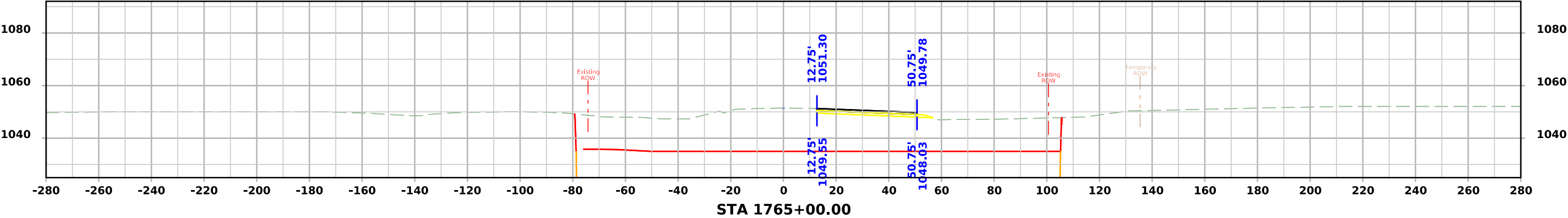
IA 175 - Stage 2



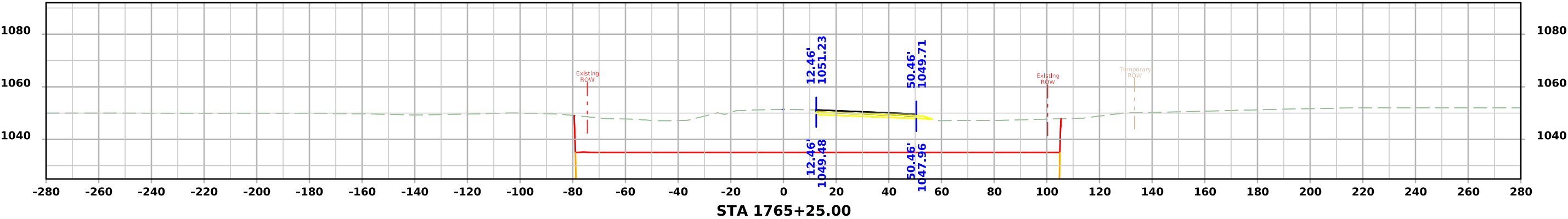
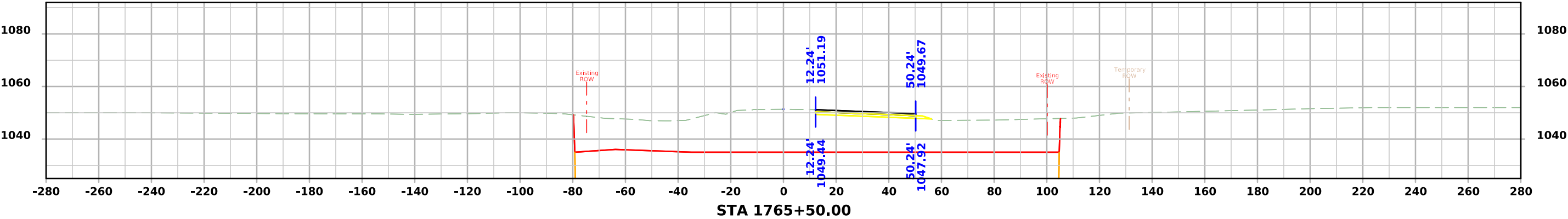
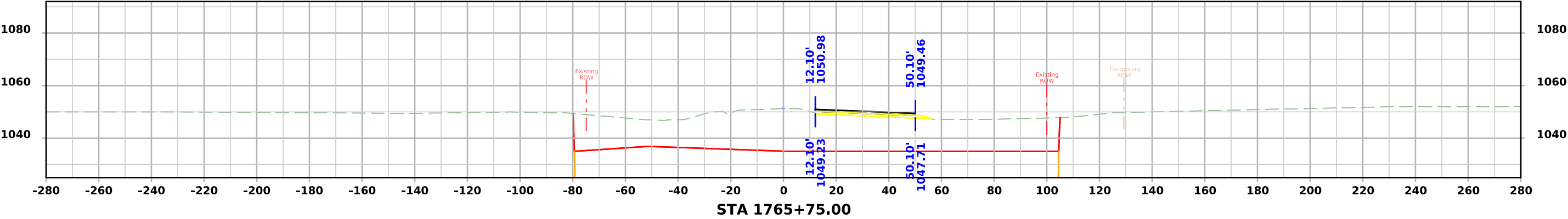
IA 175 - Stage 2



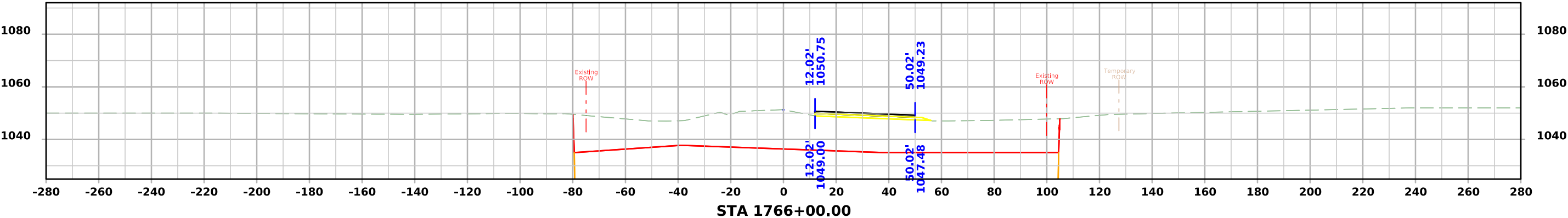
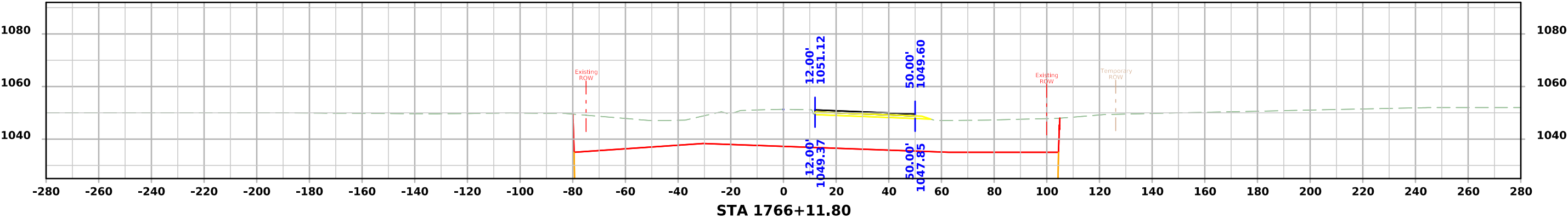
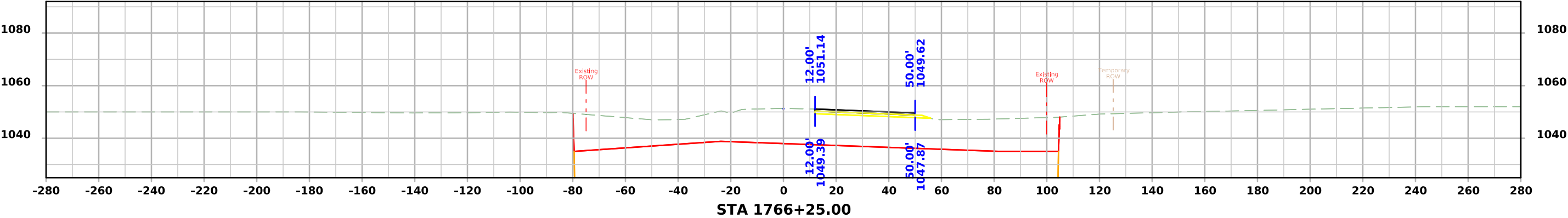
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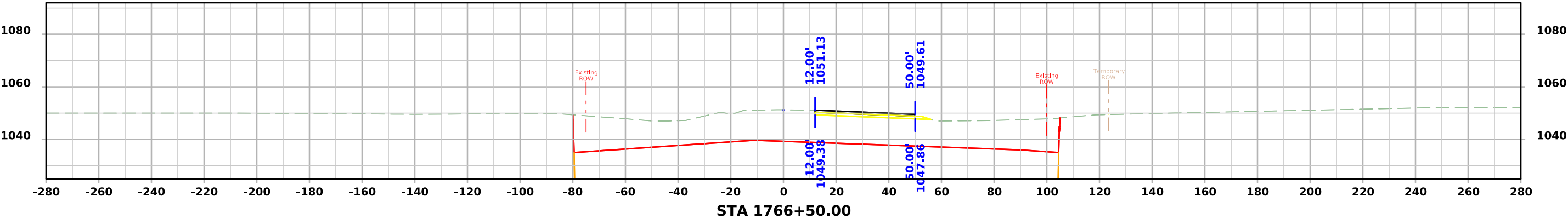
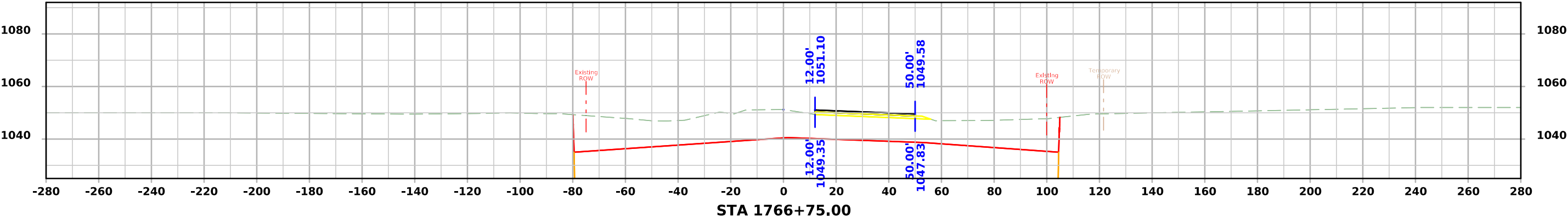
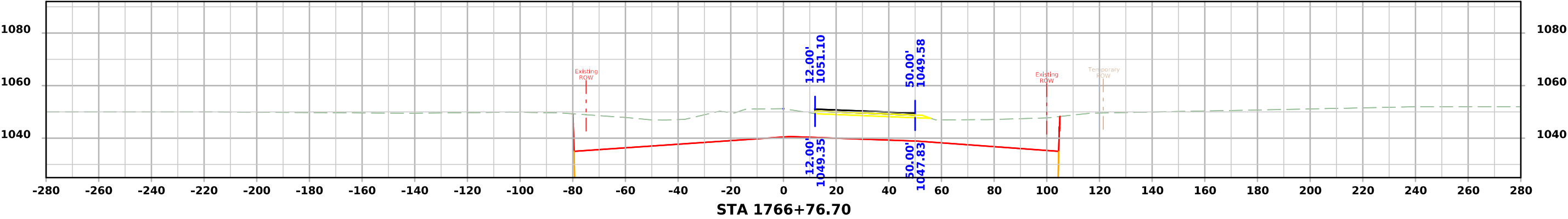


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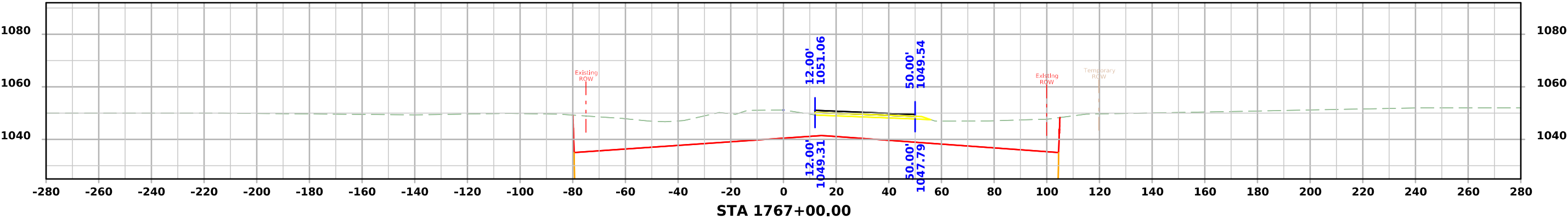
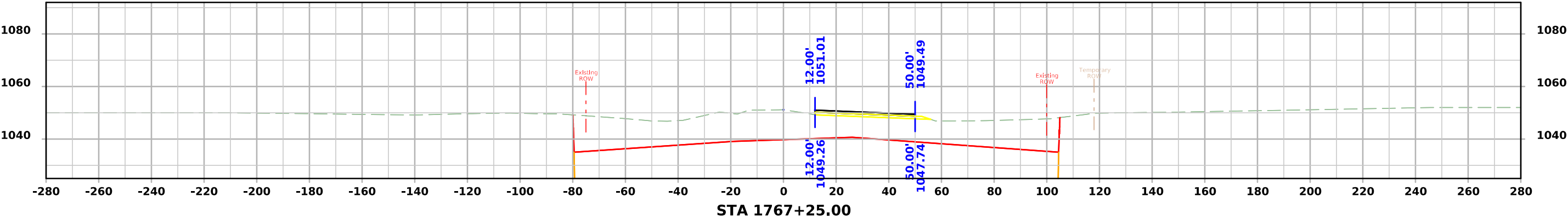
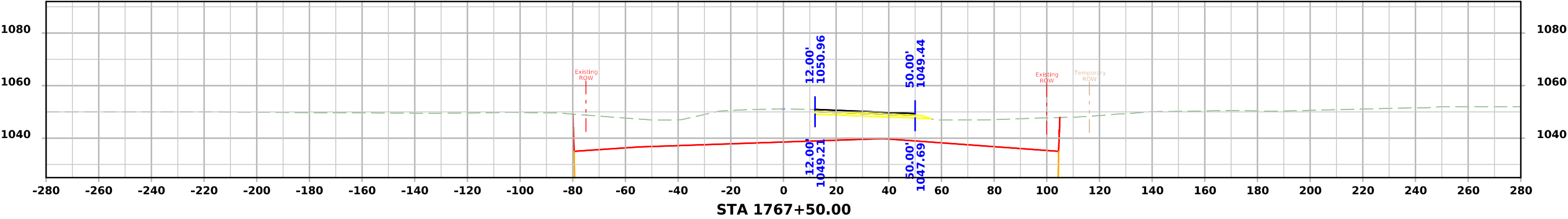




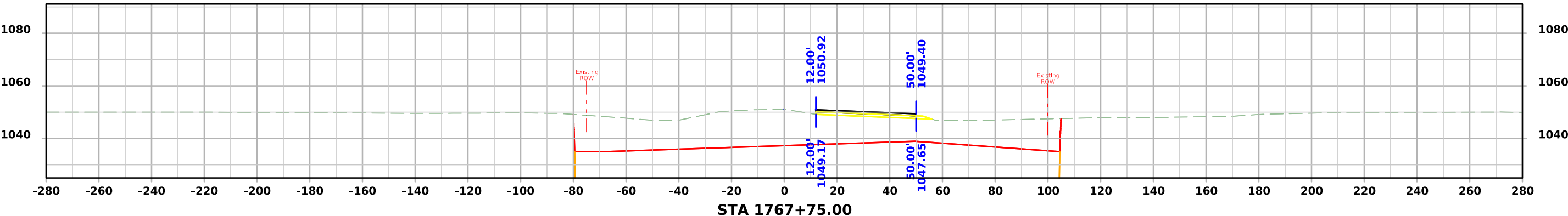
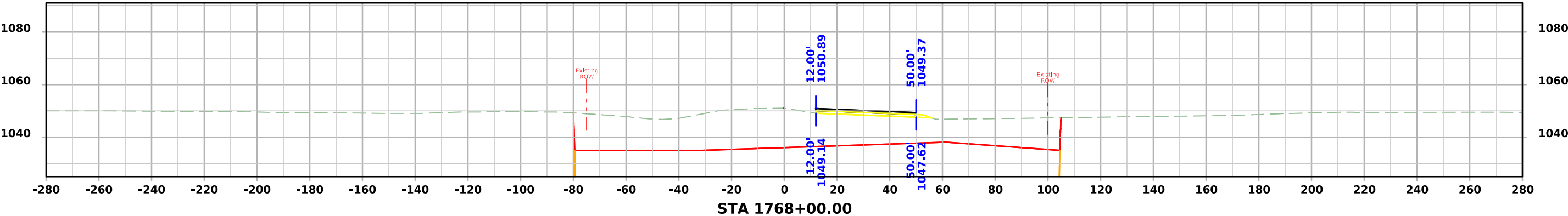
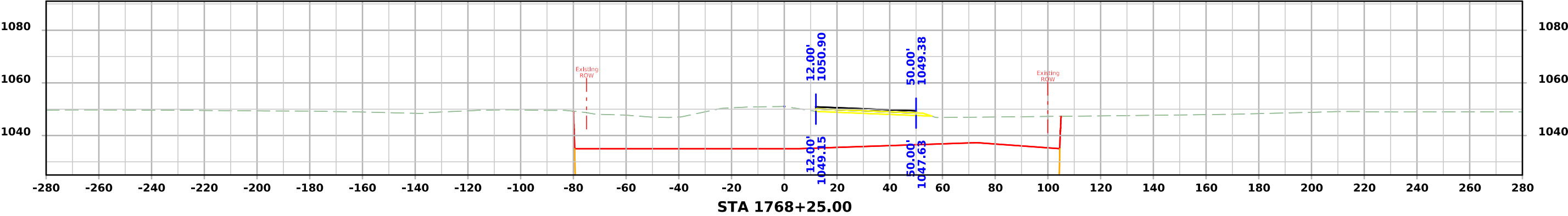
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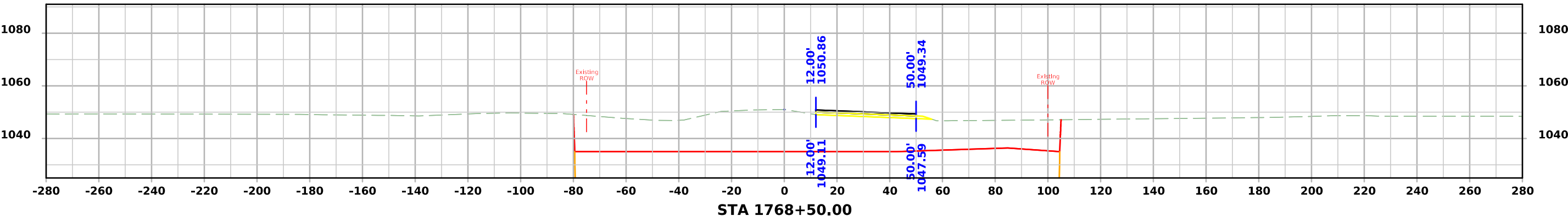
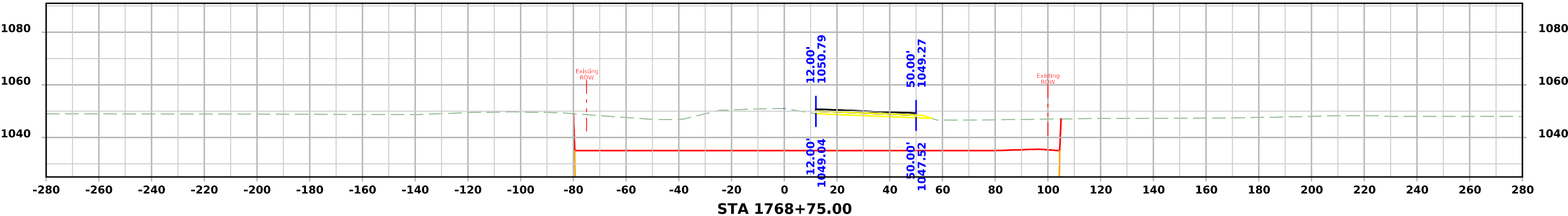
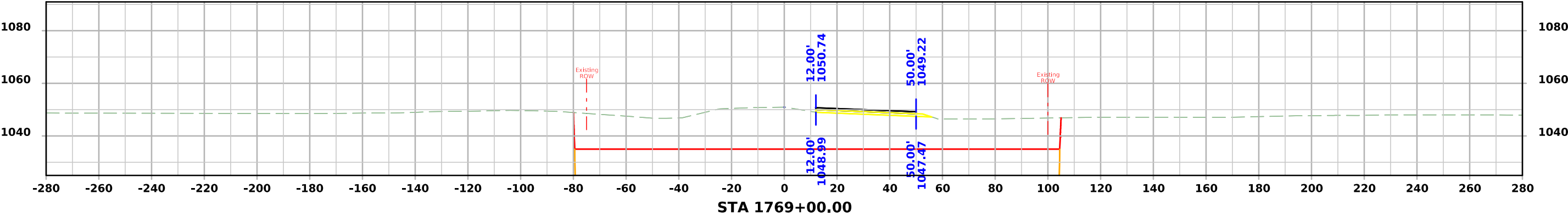
IA 175 - Stage 2



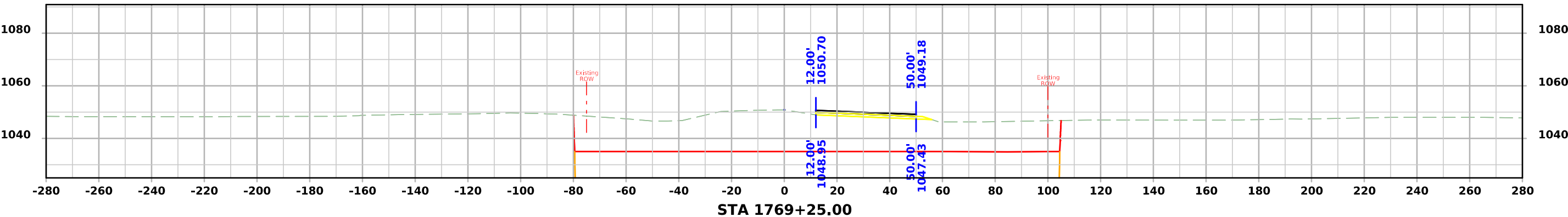
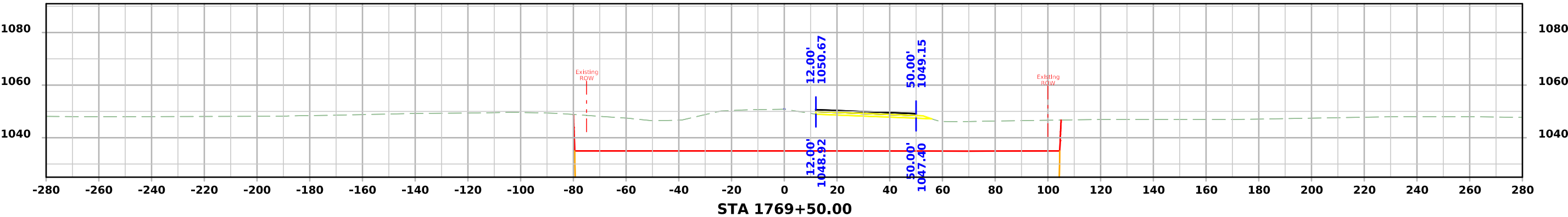
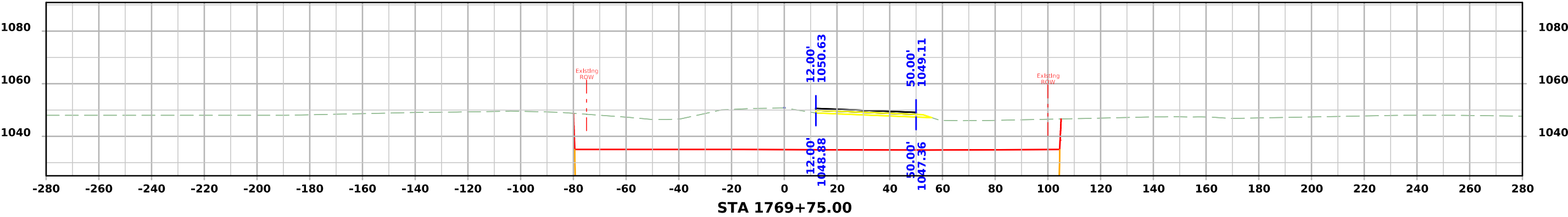
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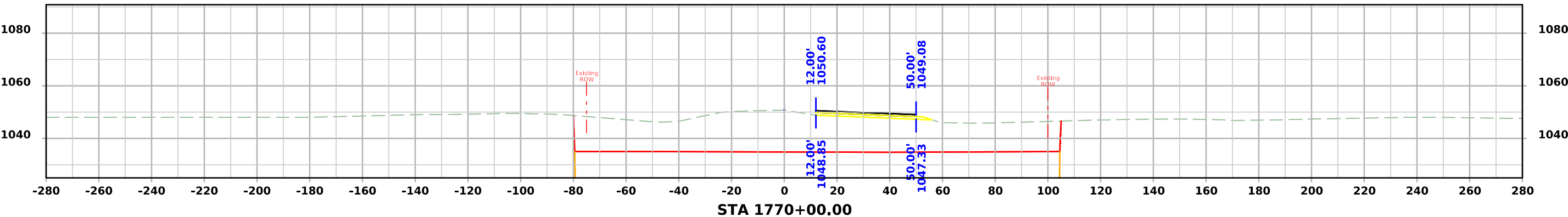
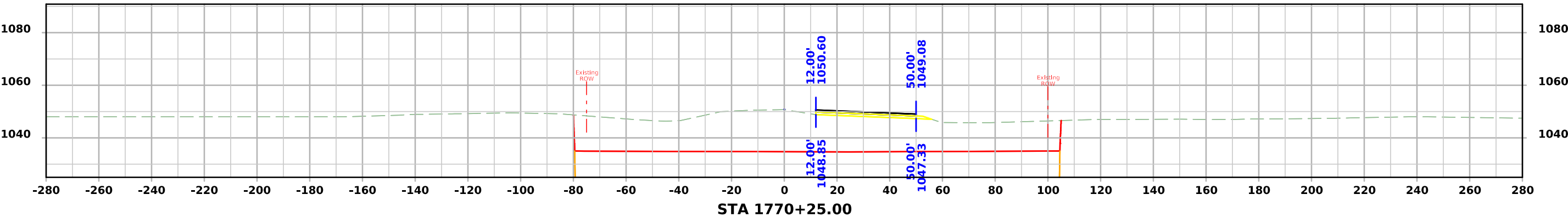
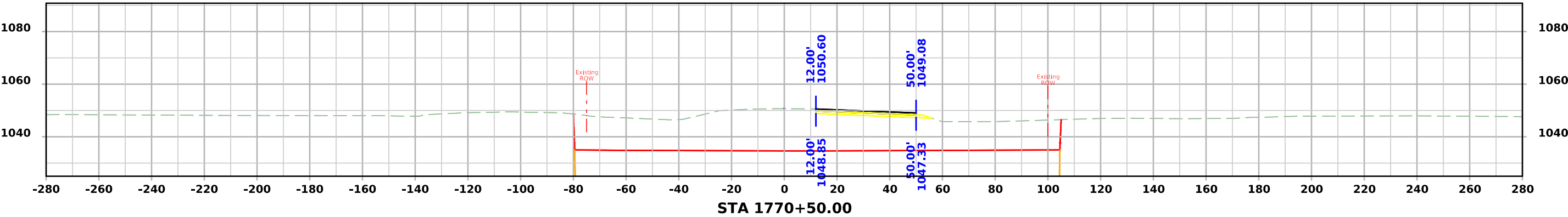
IA 175 - Stage 2



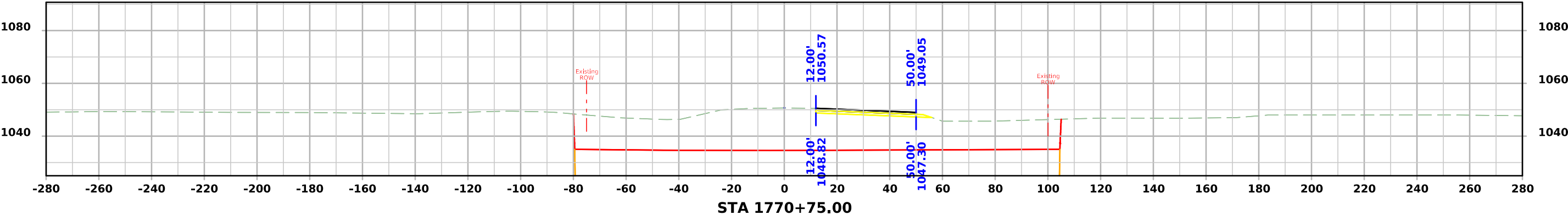
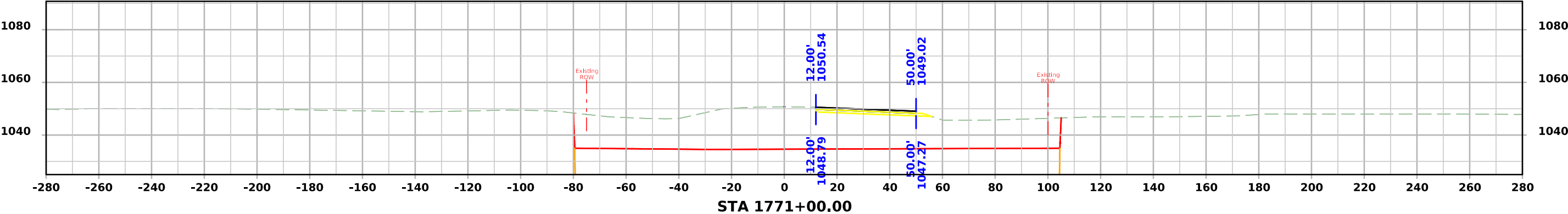
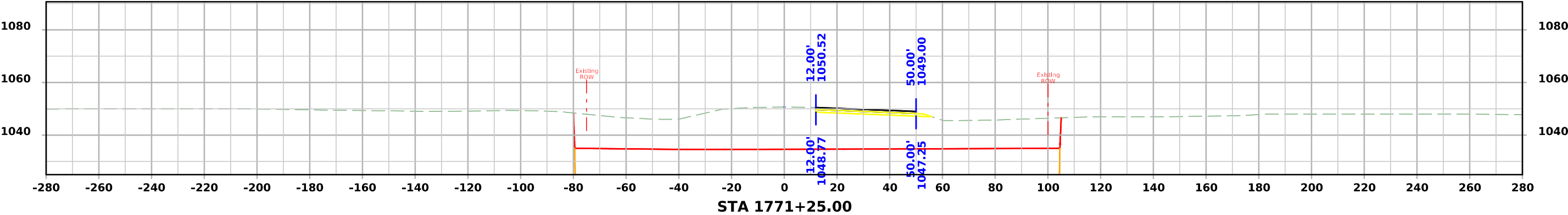
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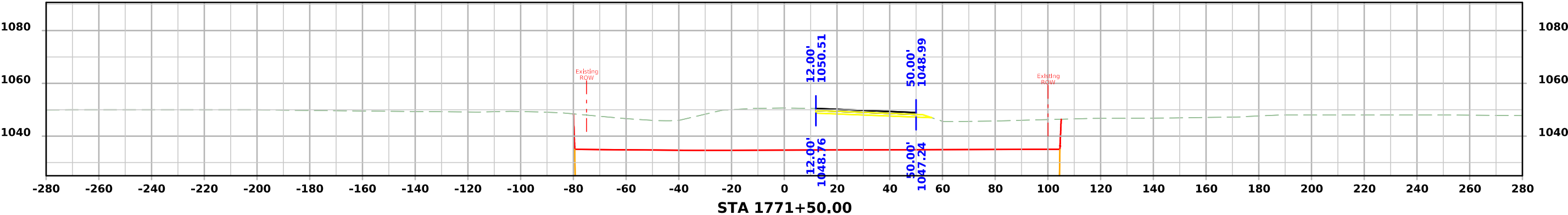
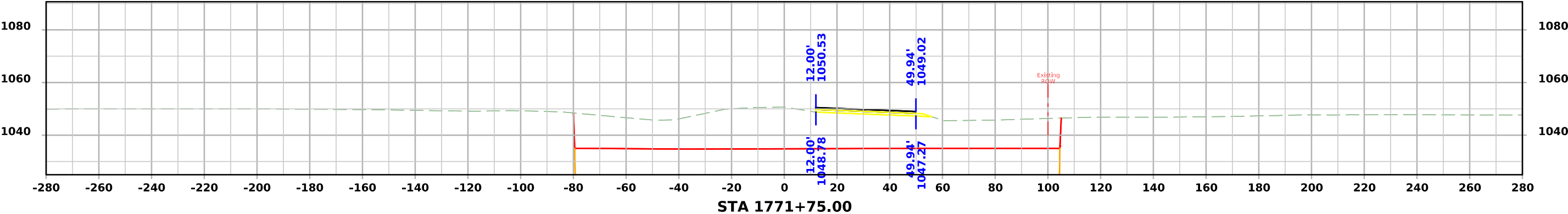
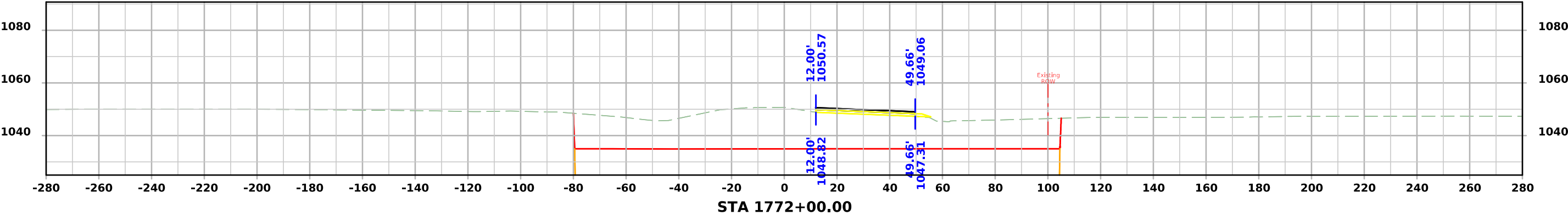
IA 175 - Stage 2



IA 175 - Stage 2

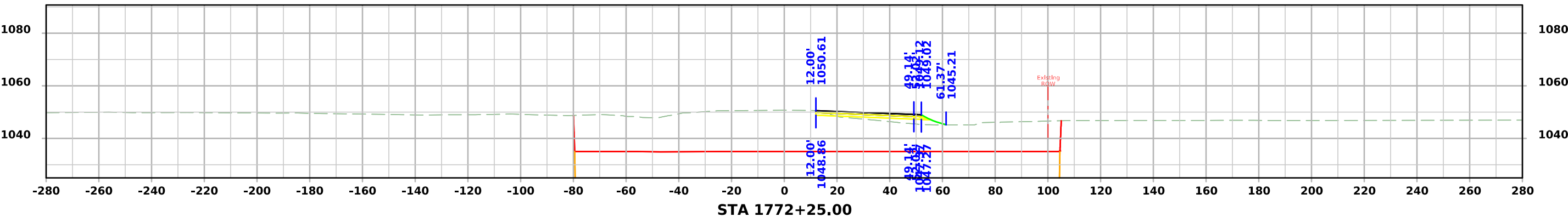
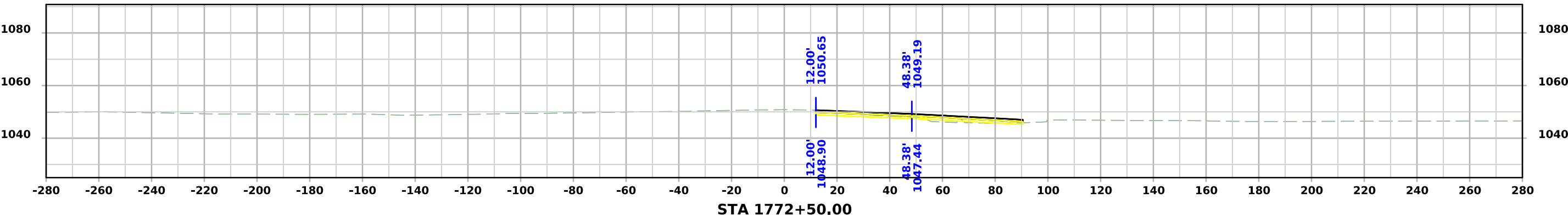
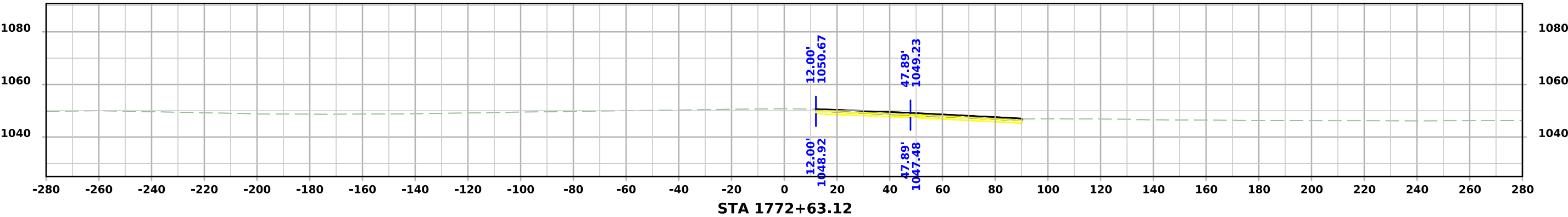


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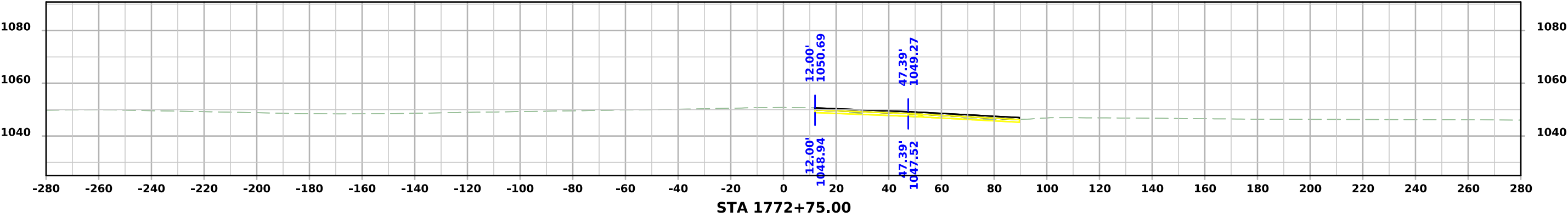
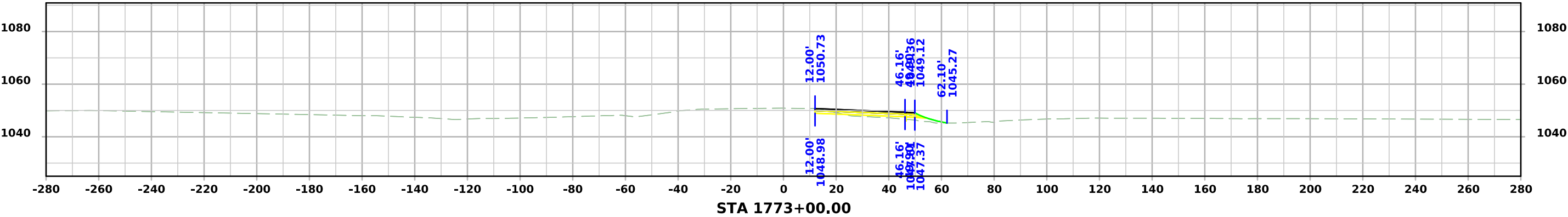
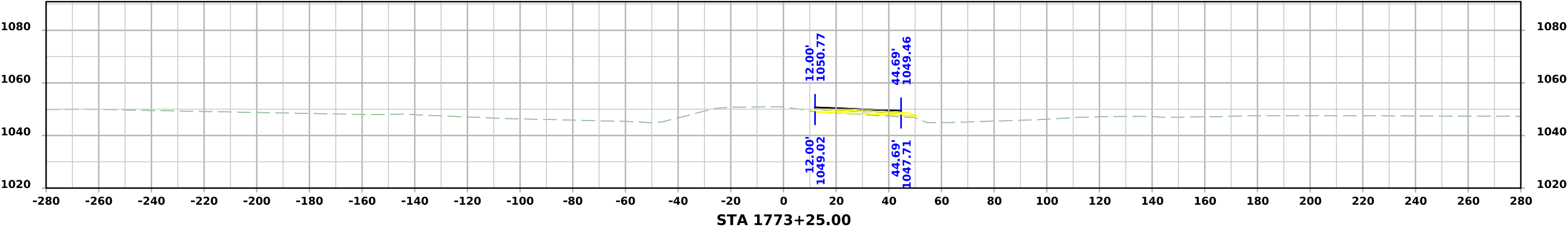




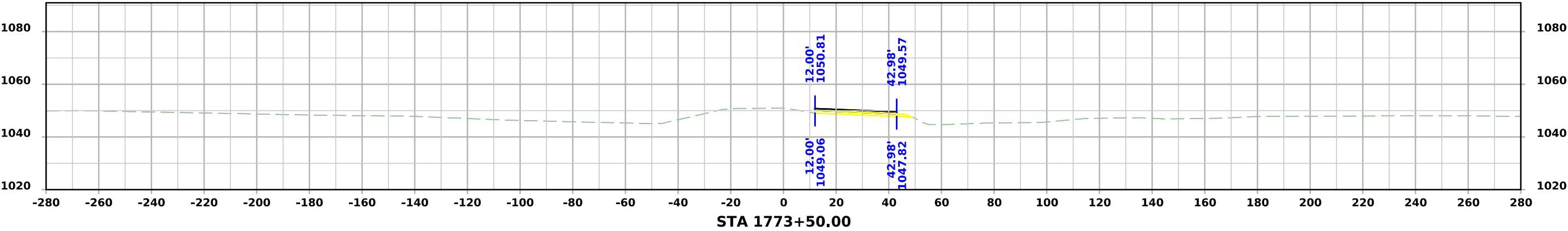
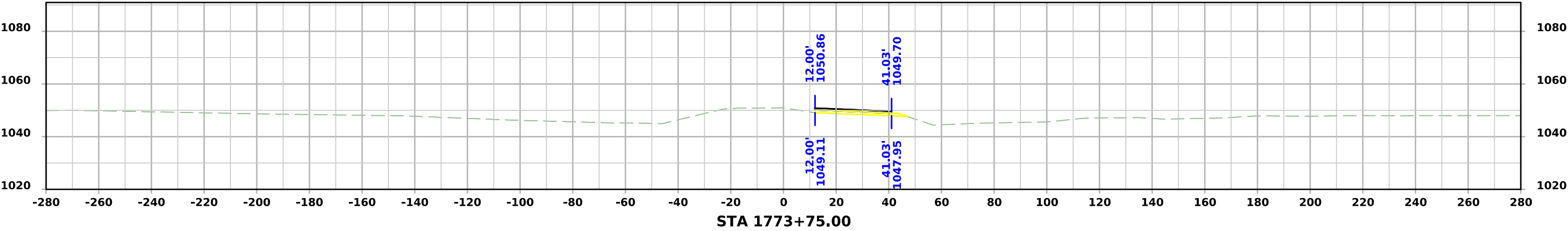
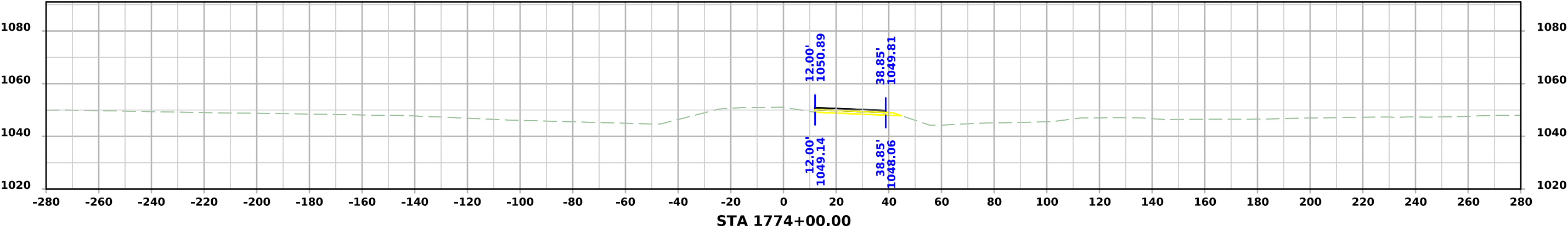
IA 175 - Stage 2



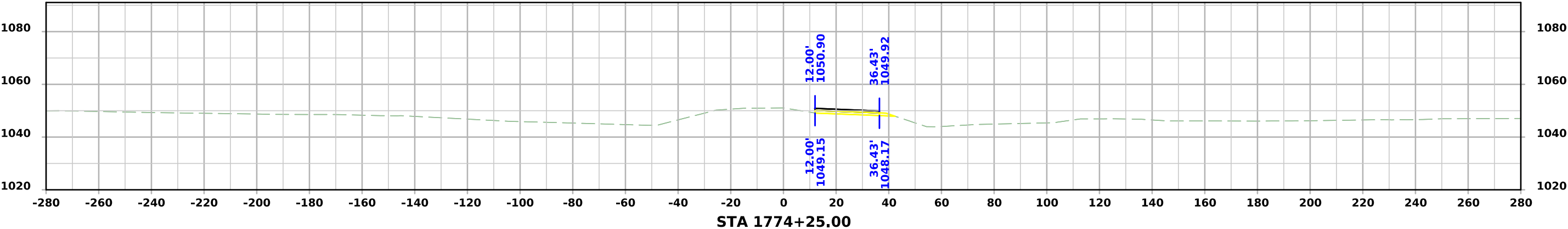
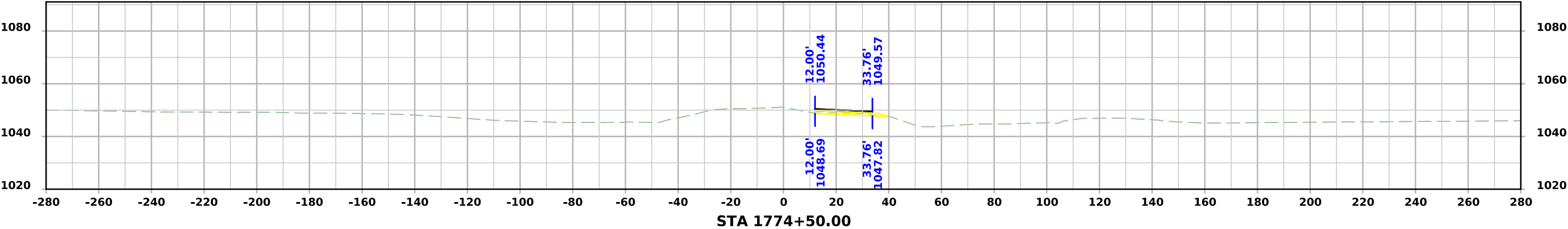
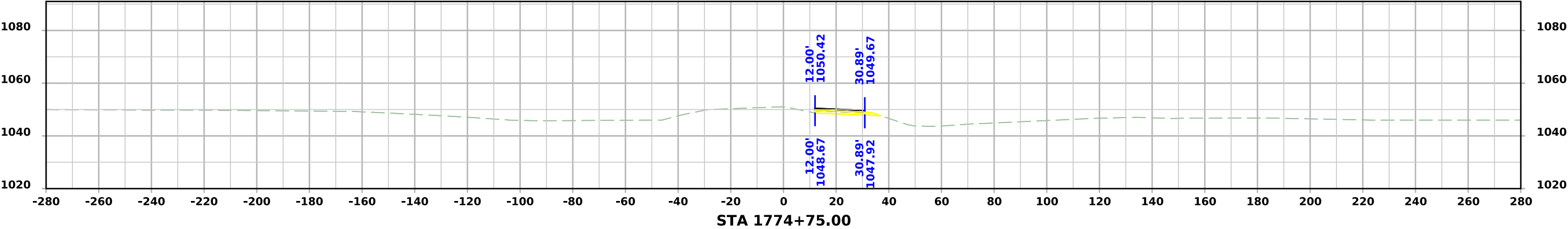
IA 175 - Stage 2



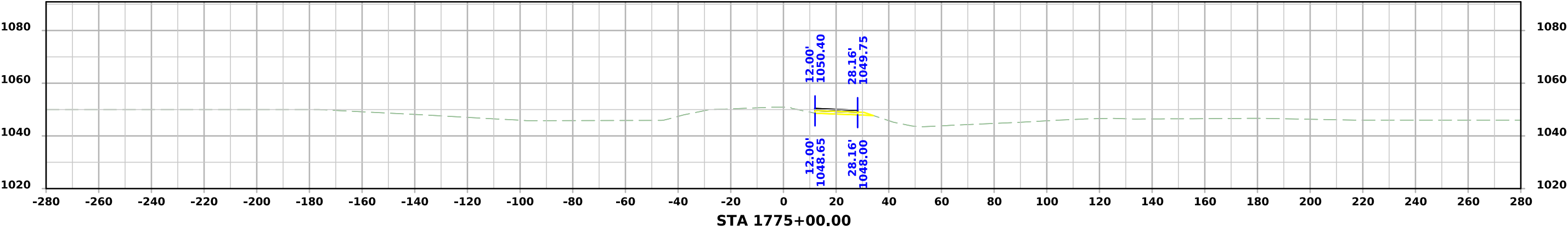
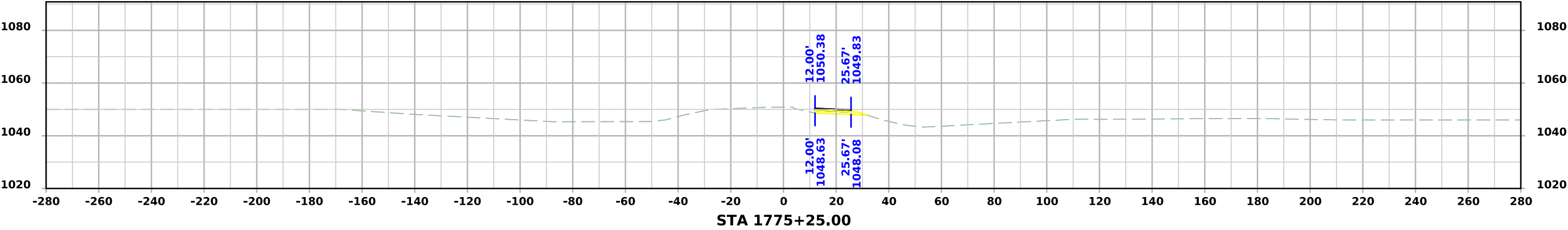
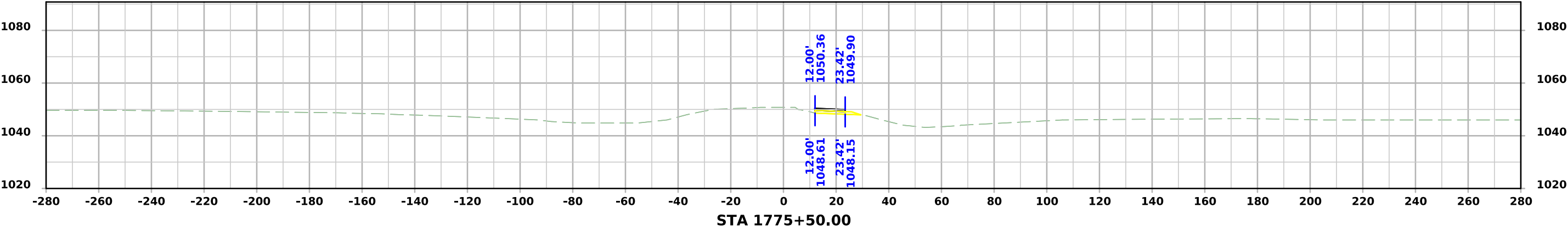
IA 175 - Stage 2



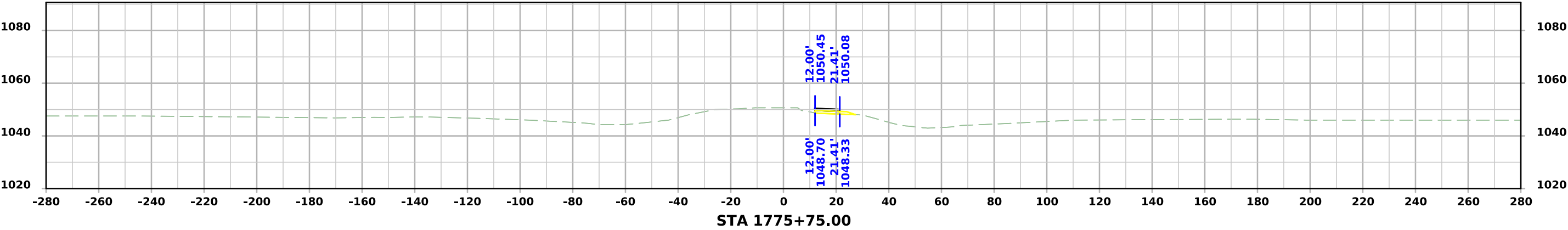
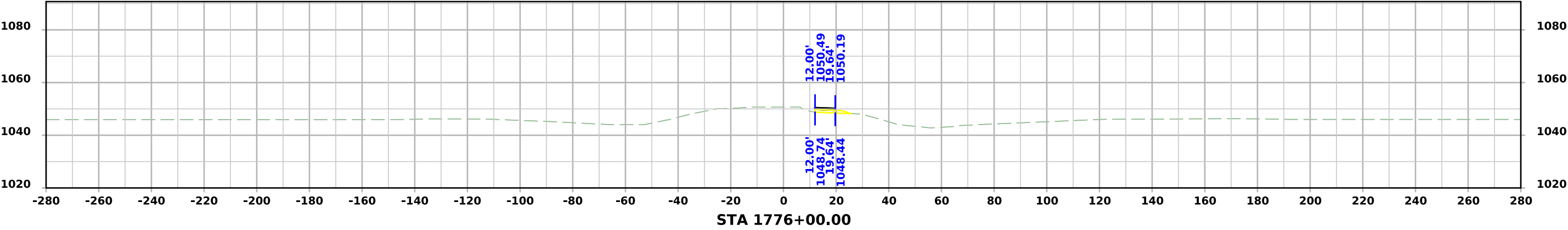
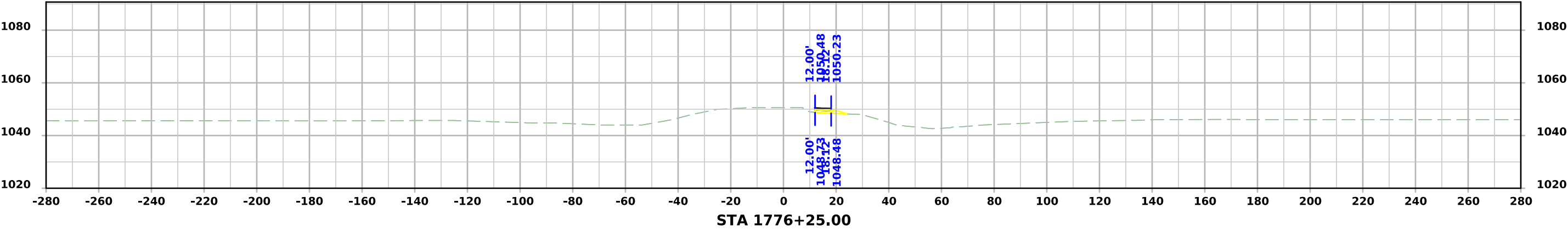
IA 175 - Stage 2



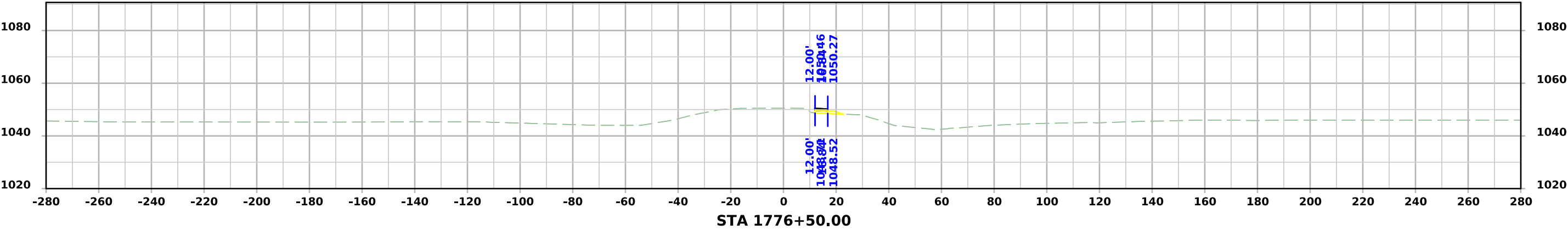
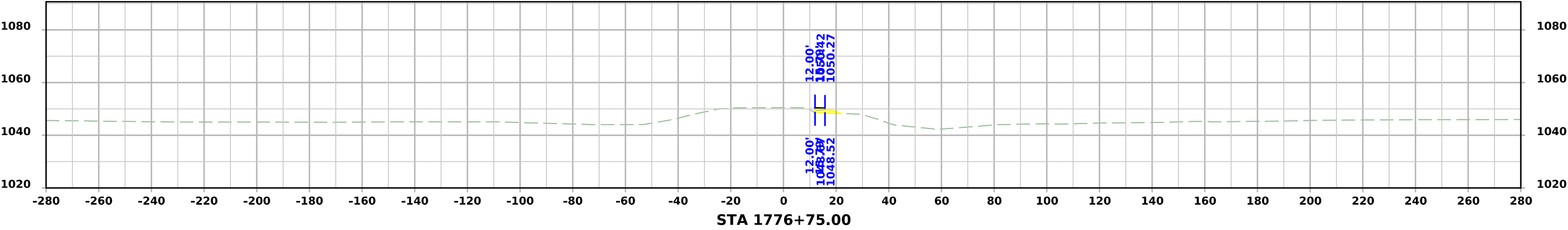
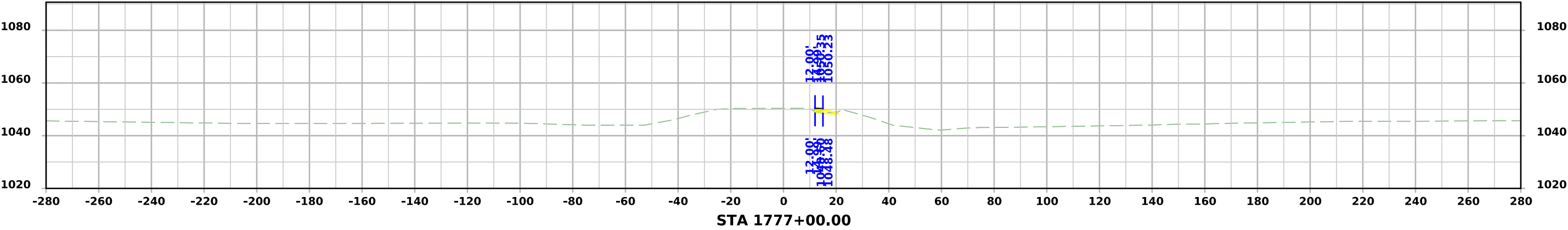
IA 175 - Stage 2



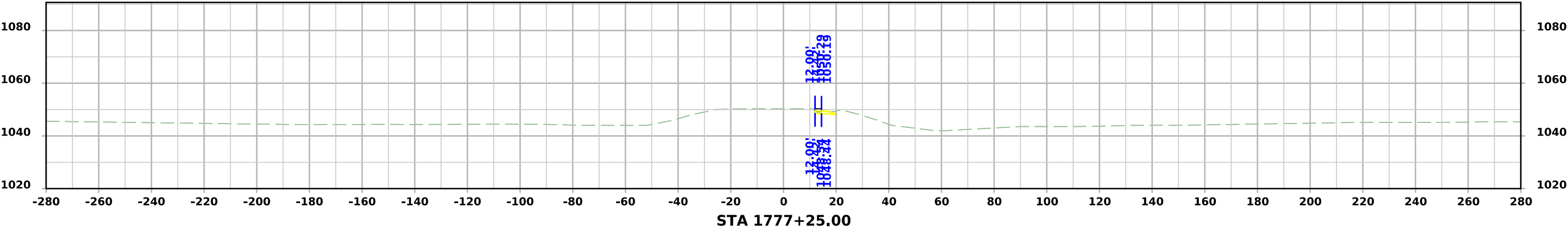
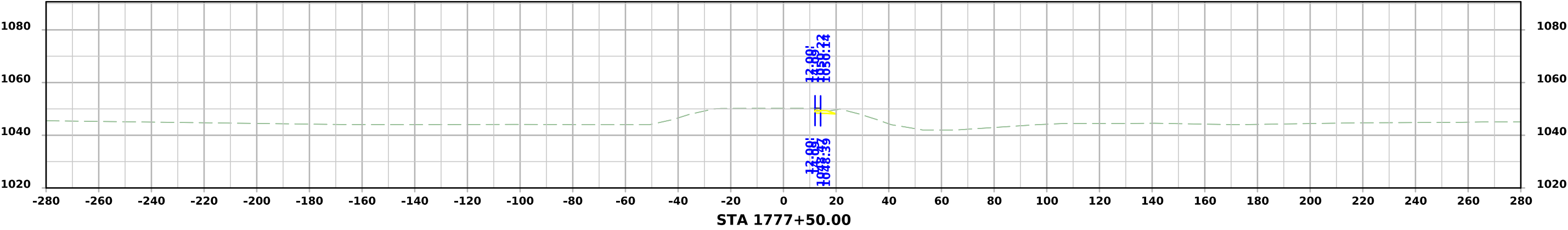
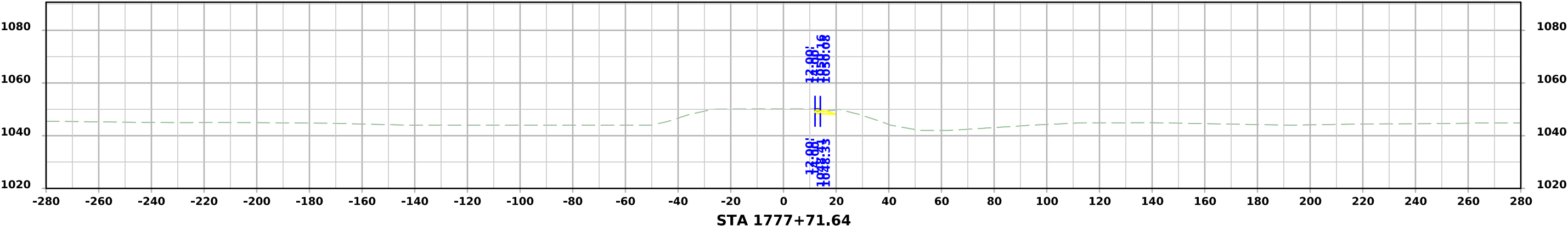
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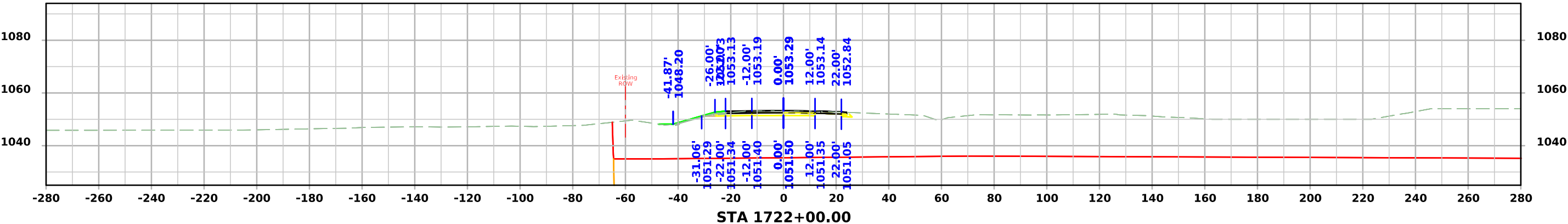
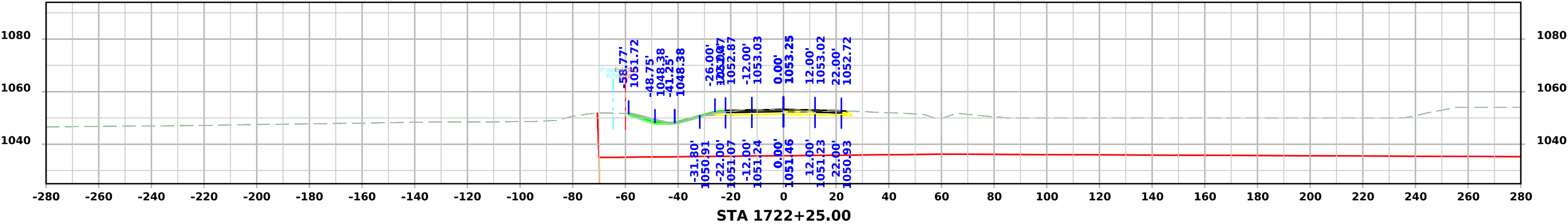
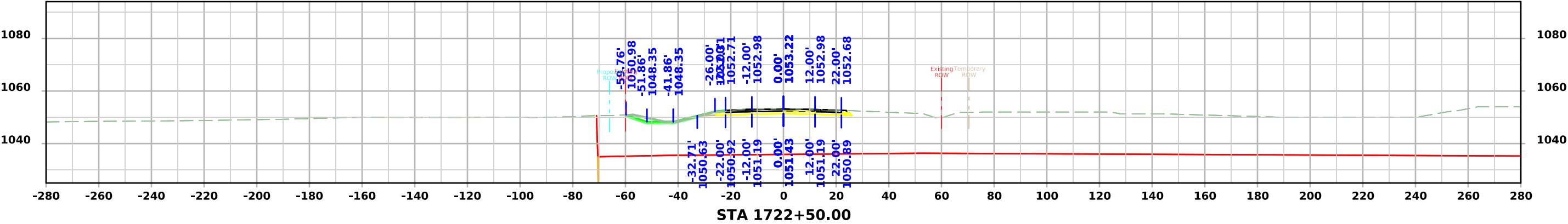


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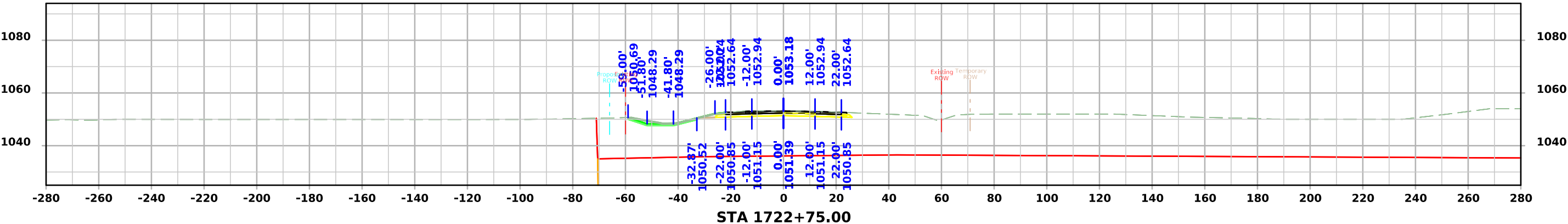
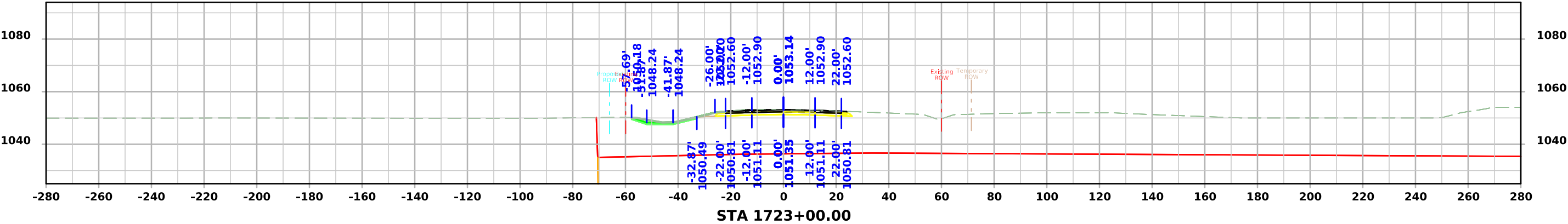
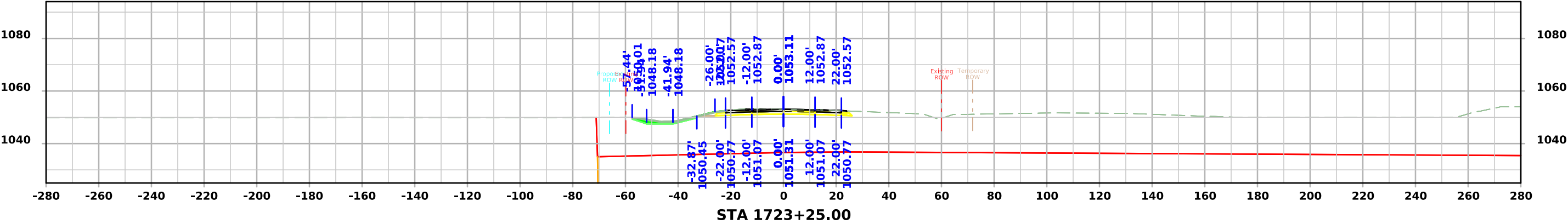




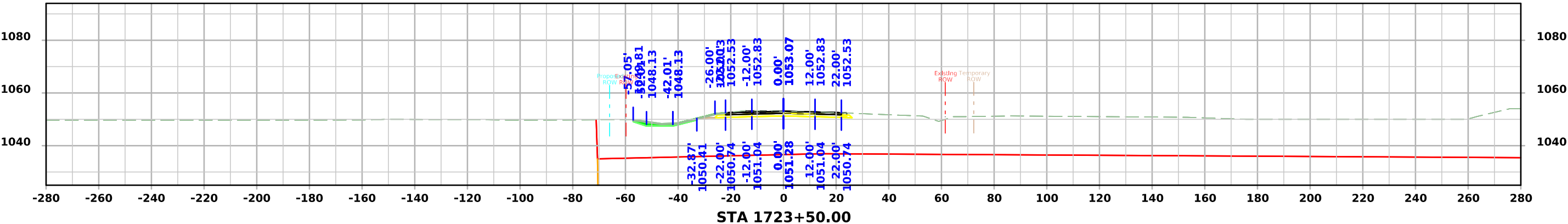
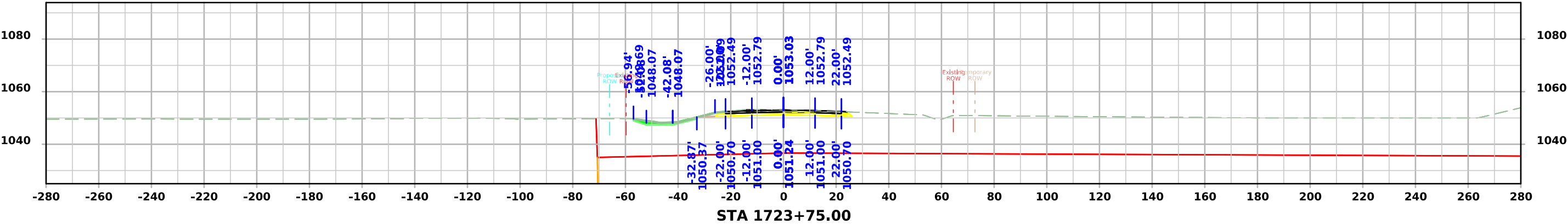
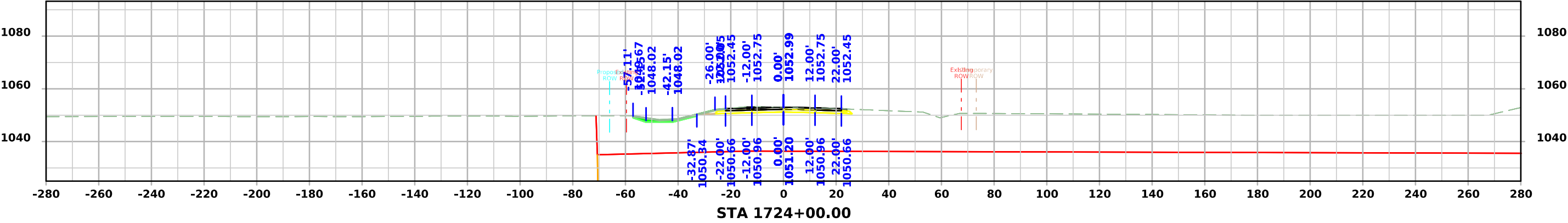
IA 175 - Stage 3



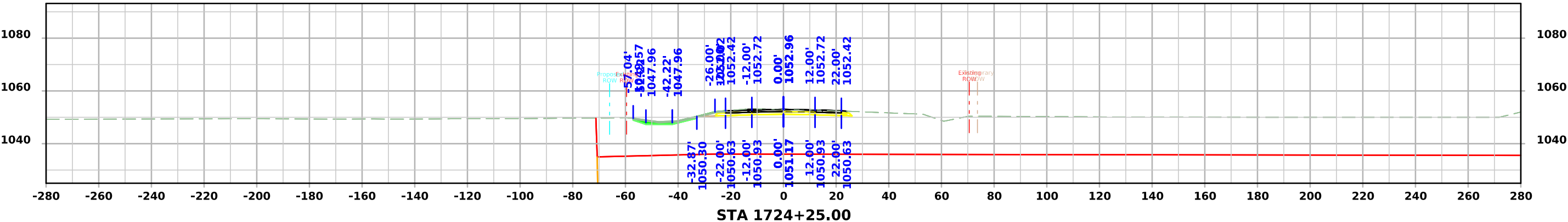
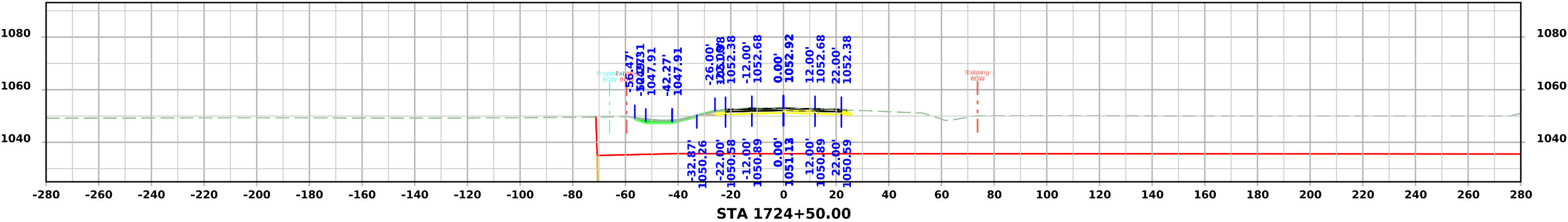
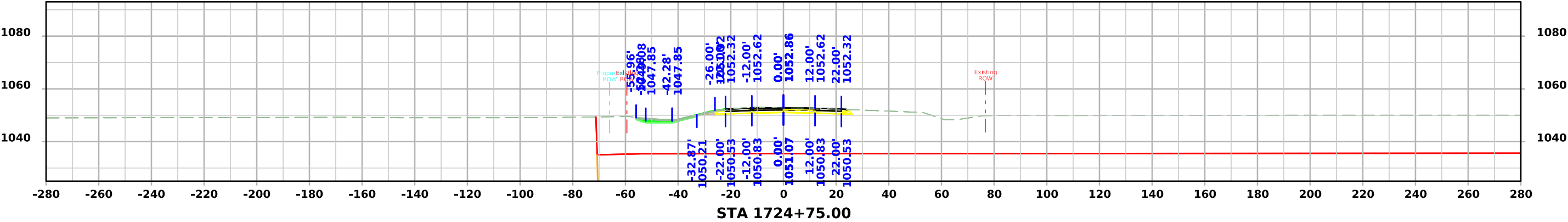
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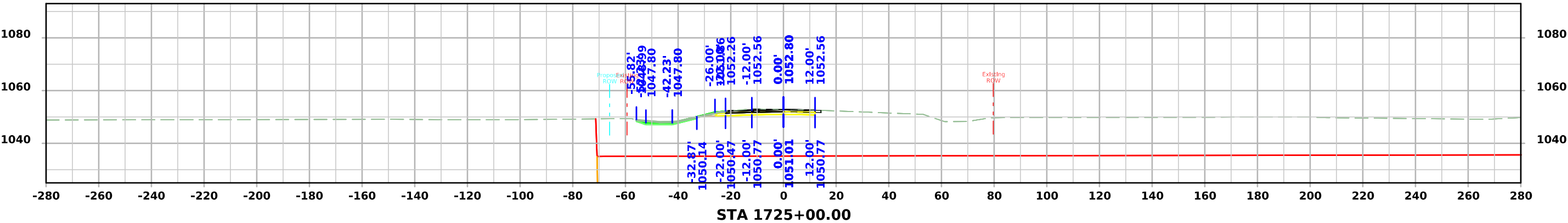
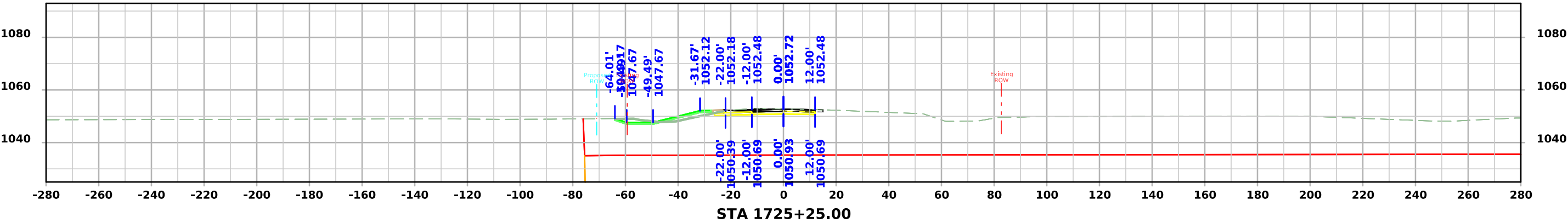
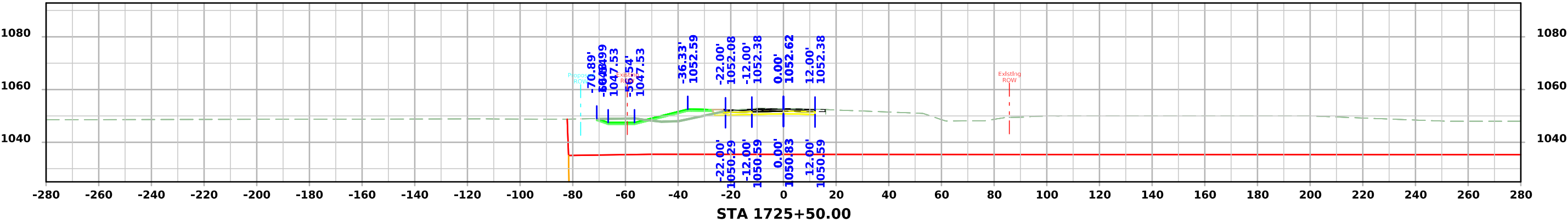
IA 175 - Stage 3



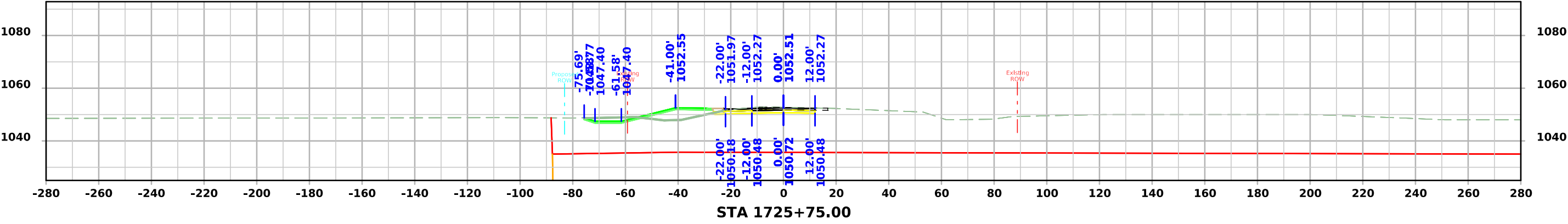
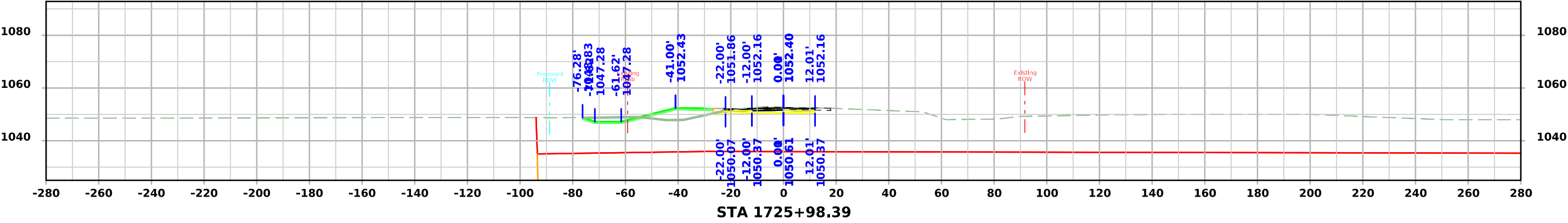
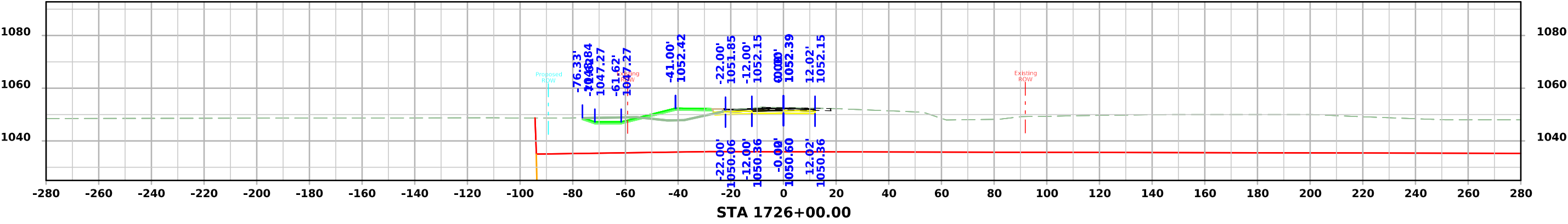
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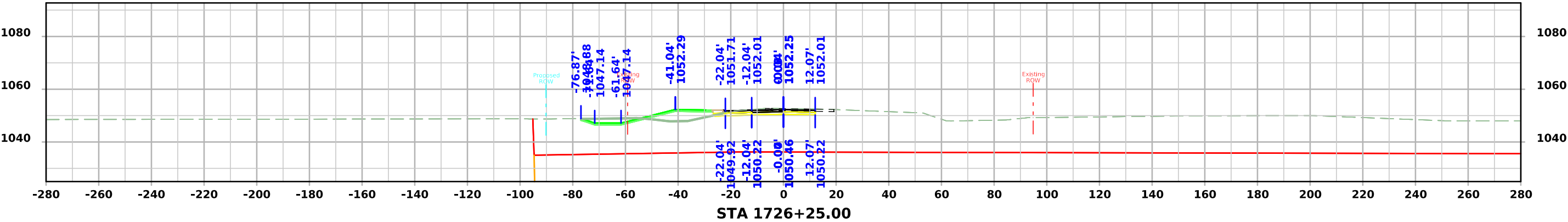
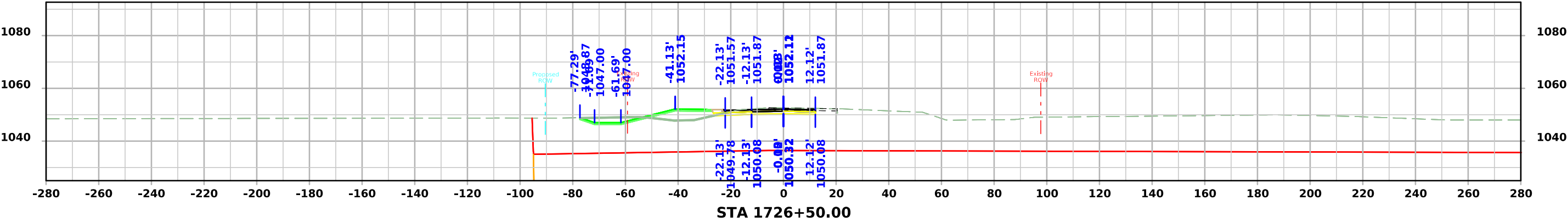
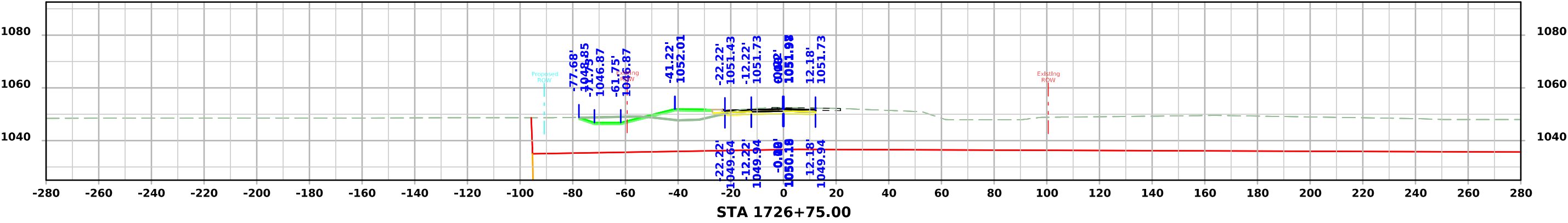
IA 175 - Stage 3



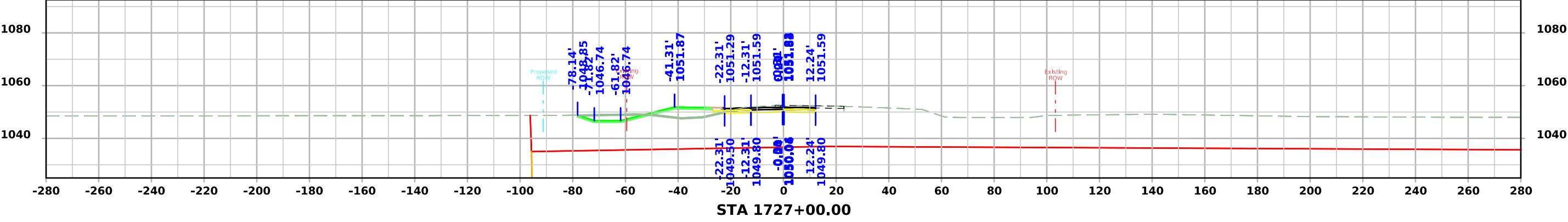
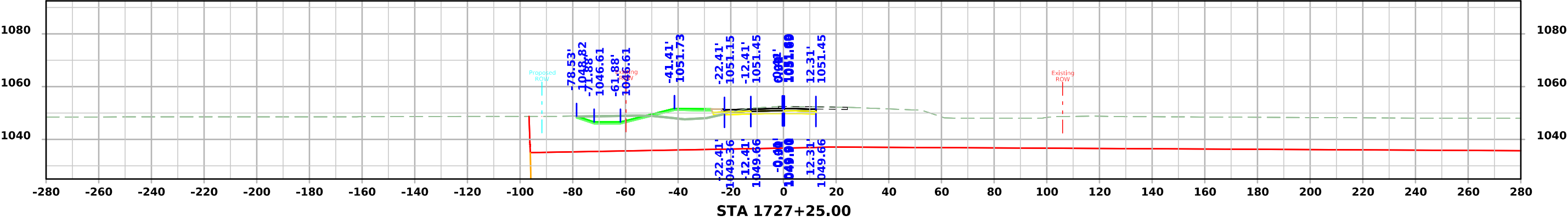
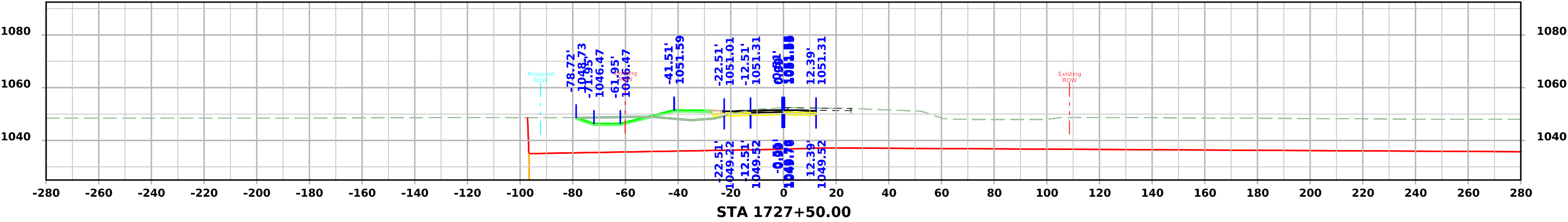
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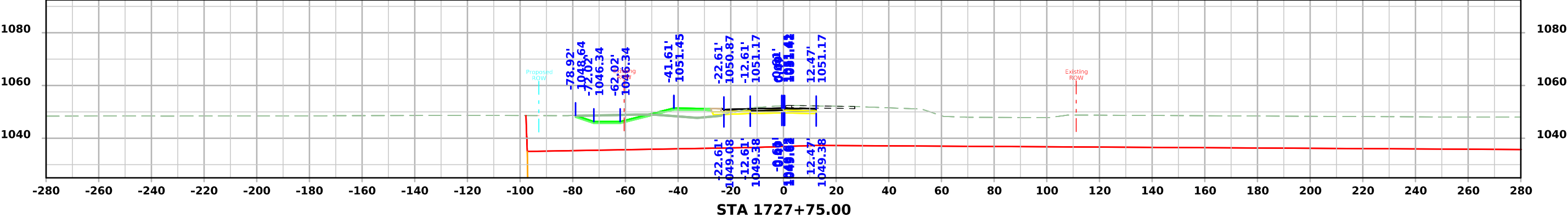
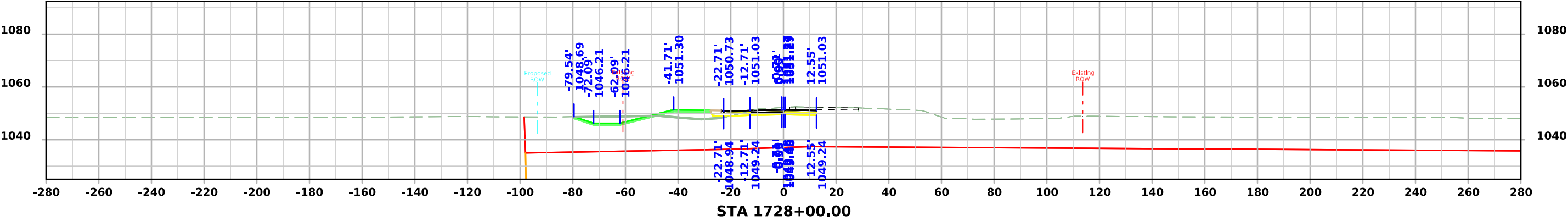
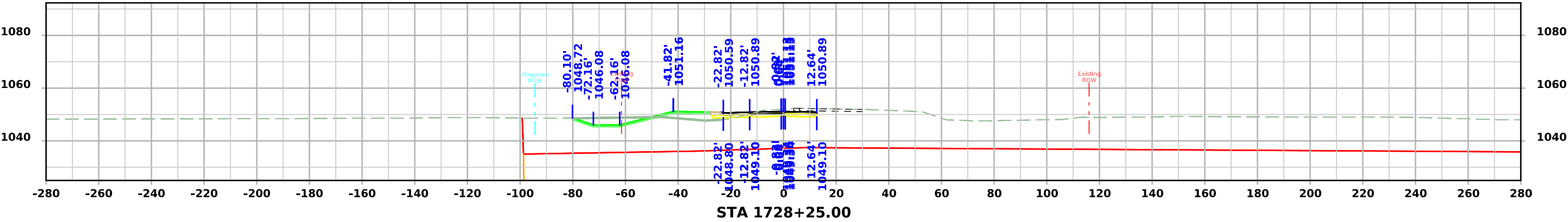


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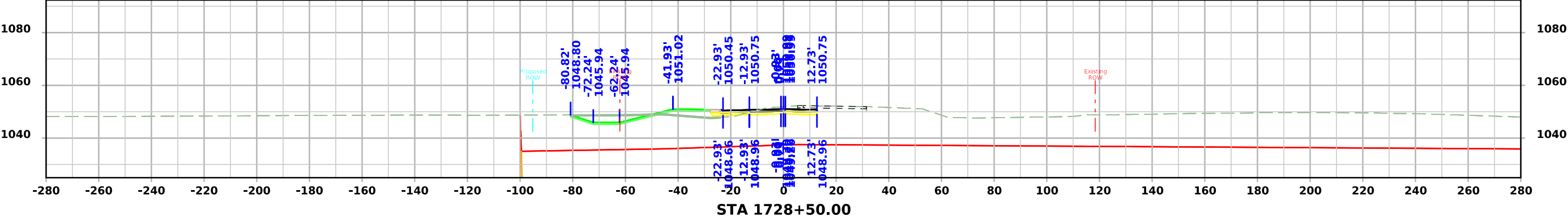
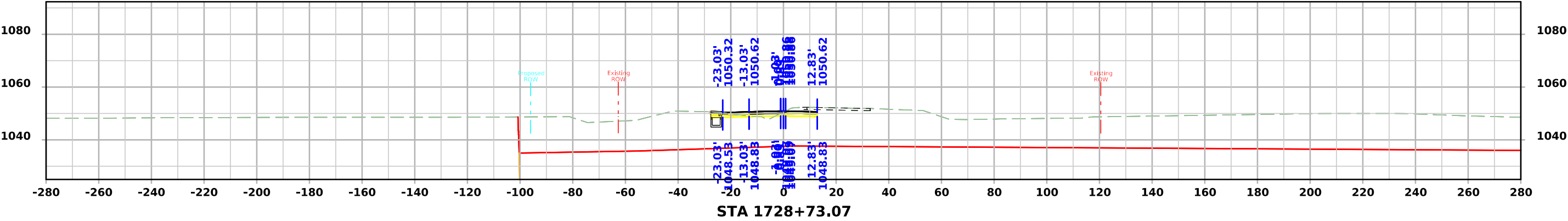
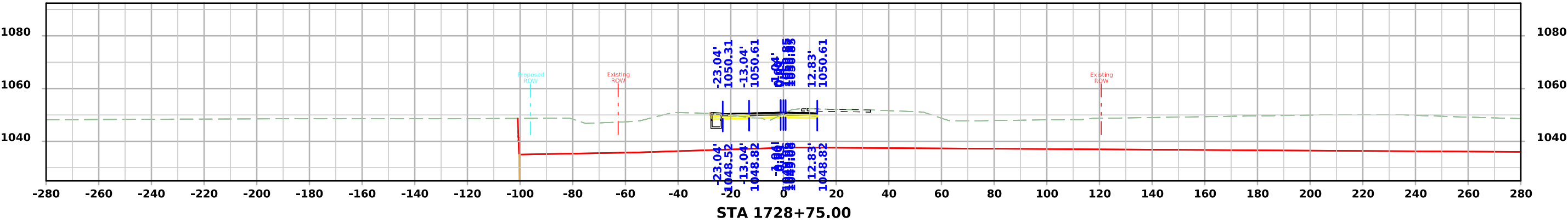




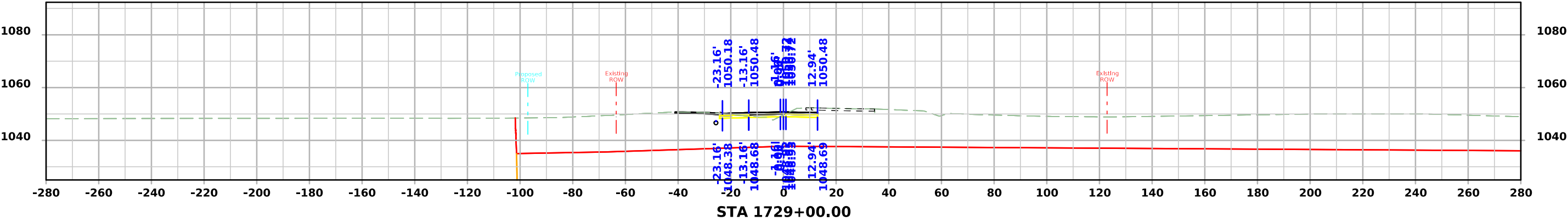
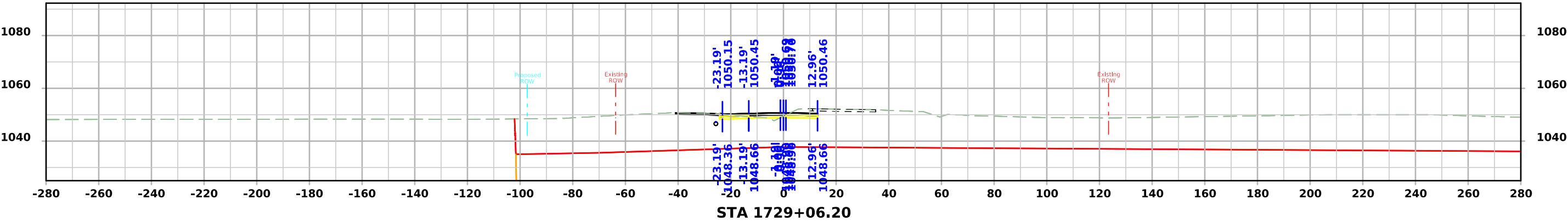
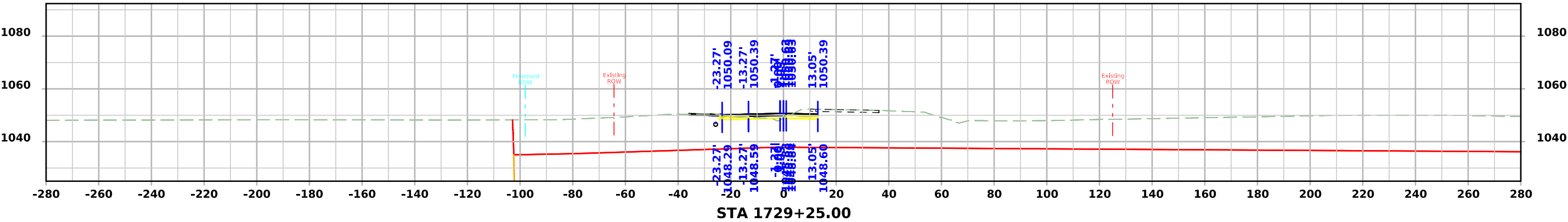
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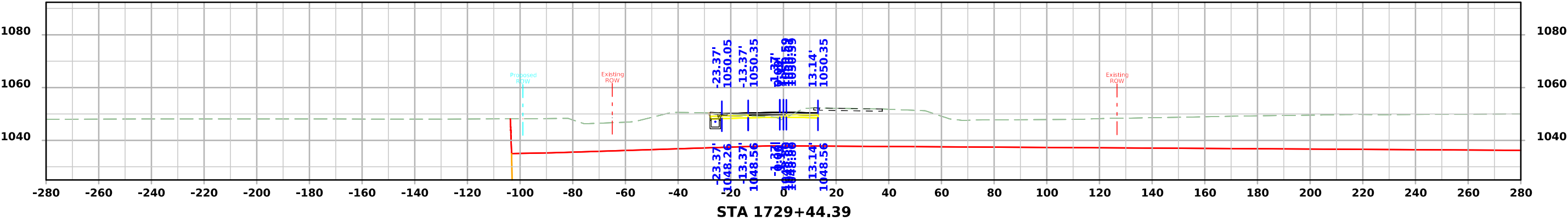
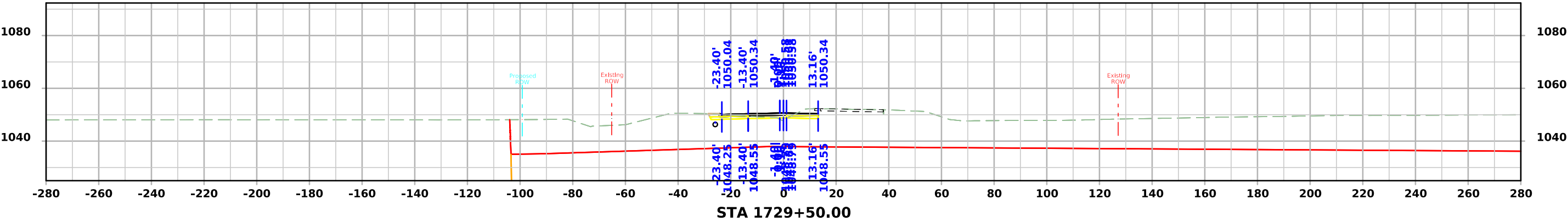
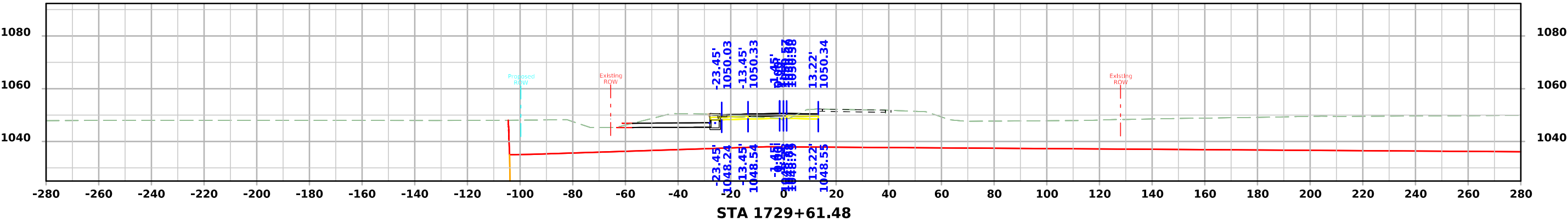
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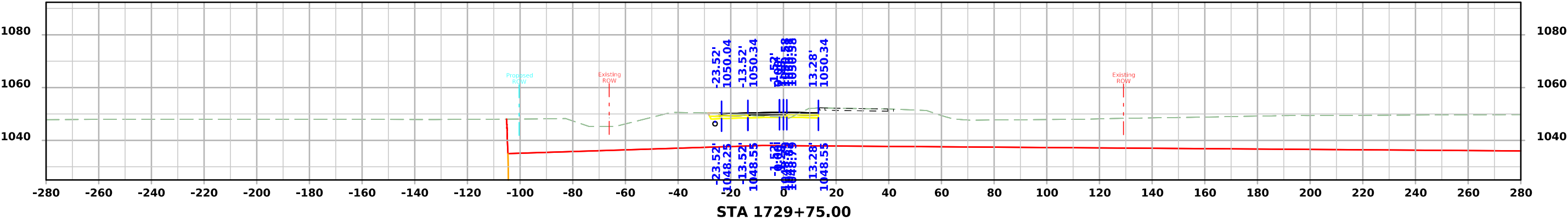
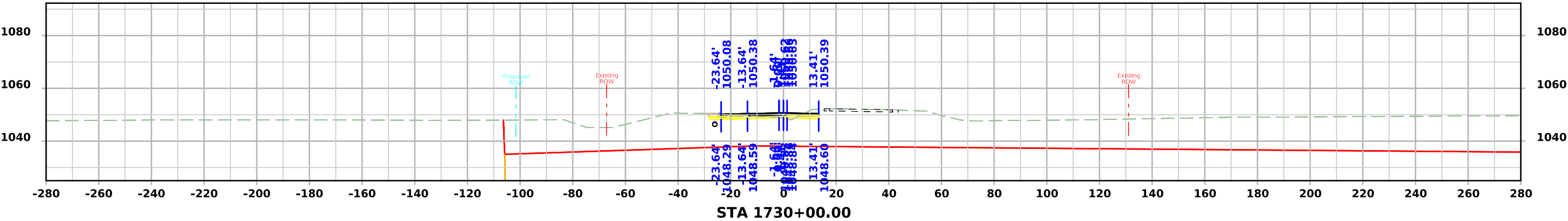
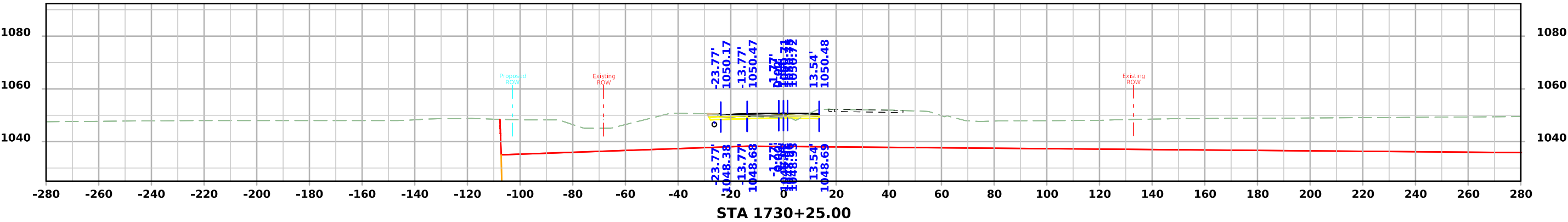
IA 175 - Stage 3



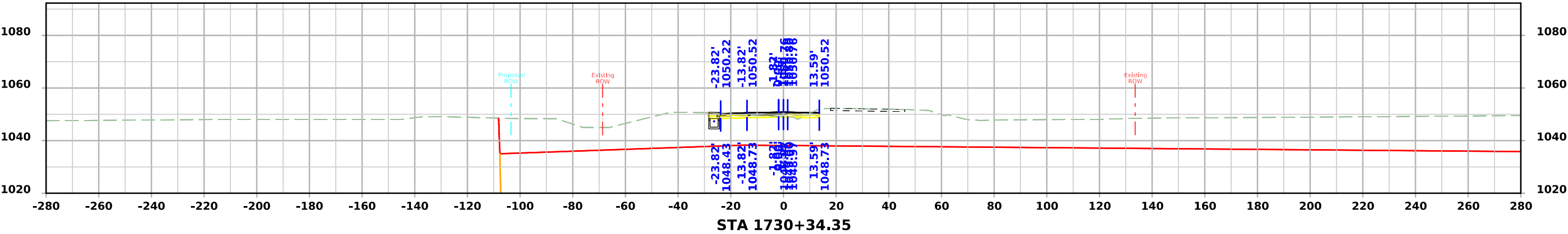
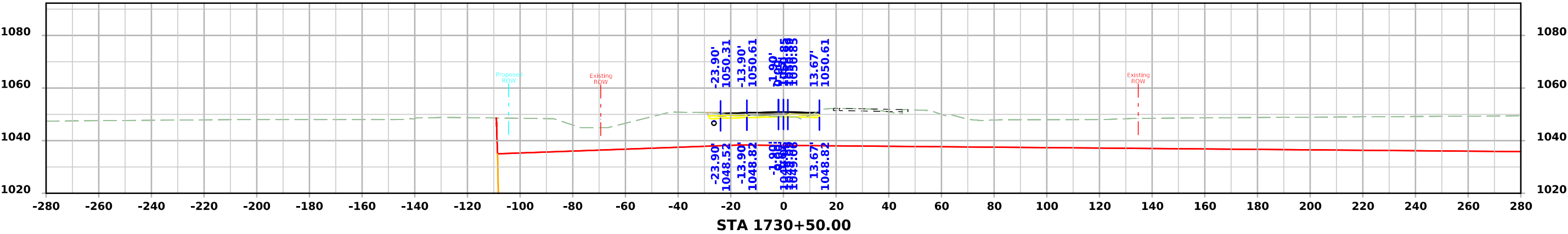
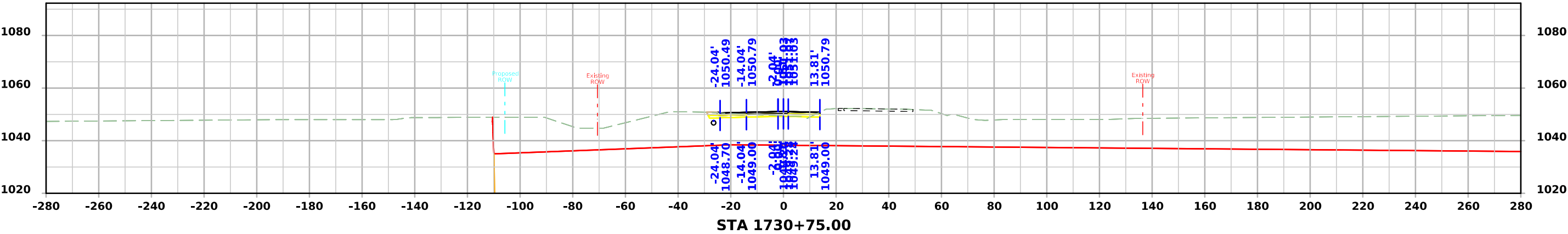
IA 175 - Stage 3



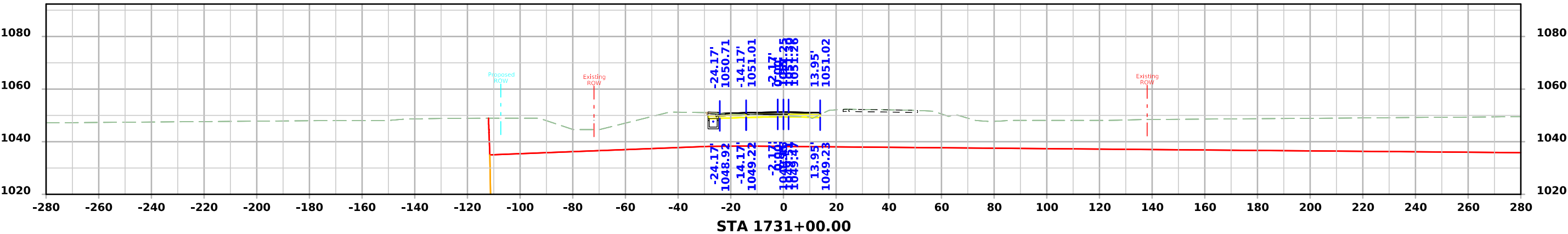
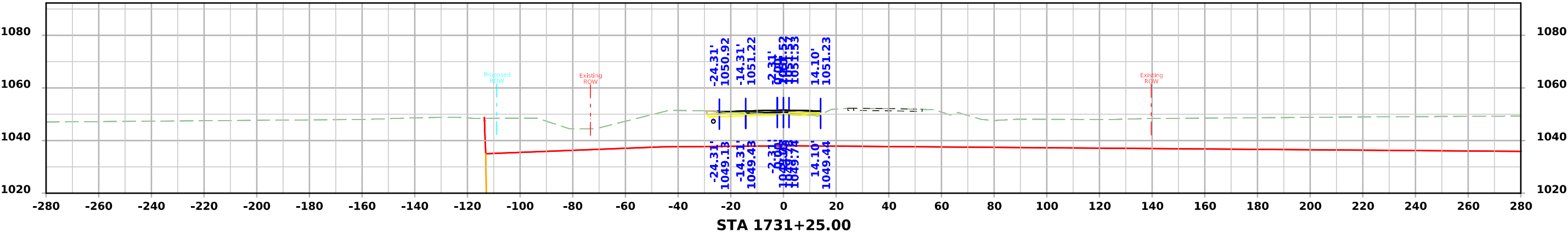
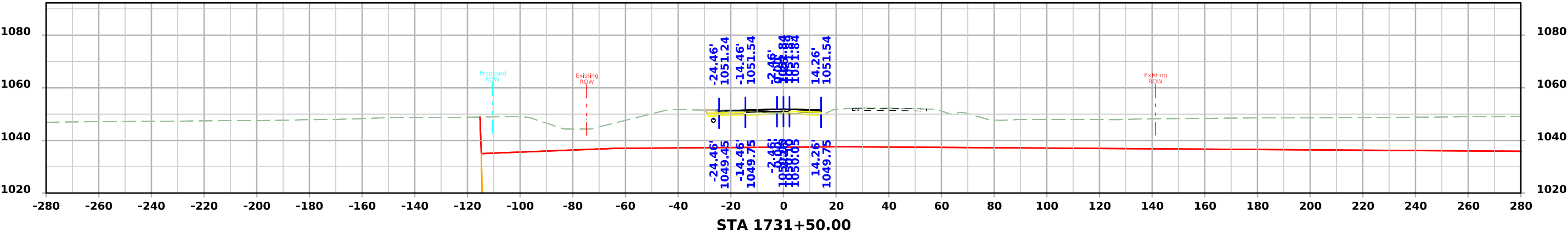
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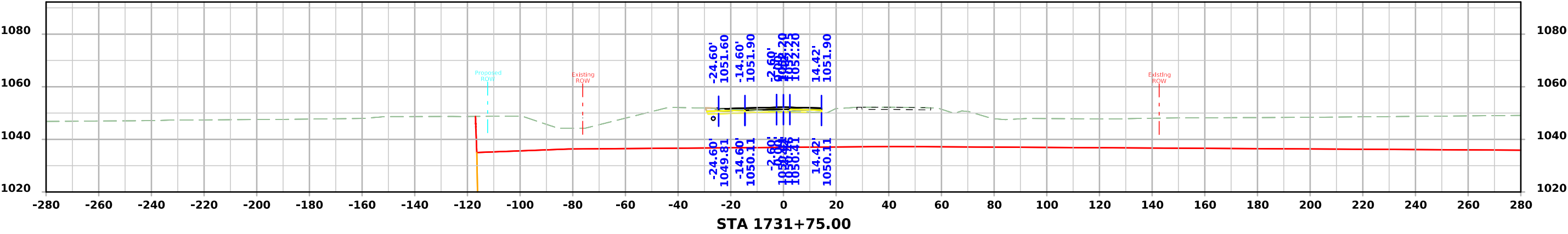
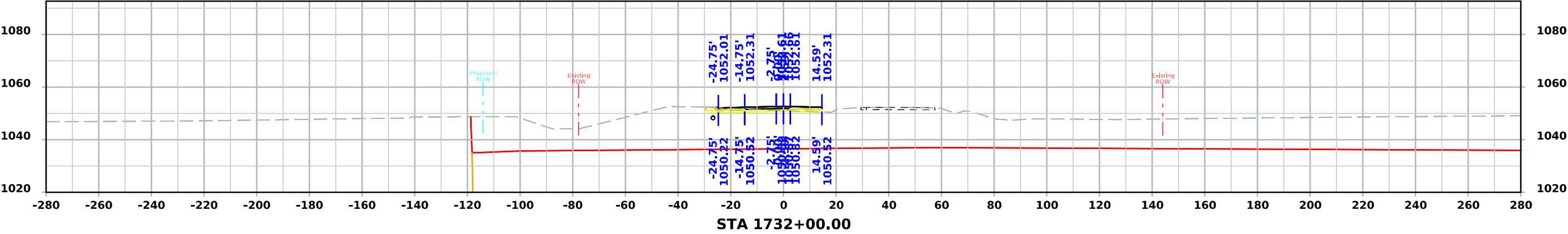
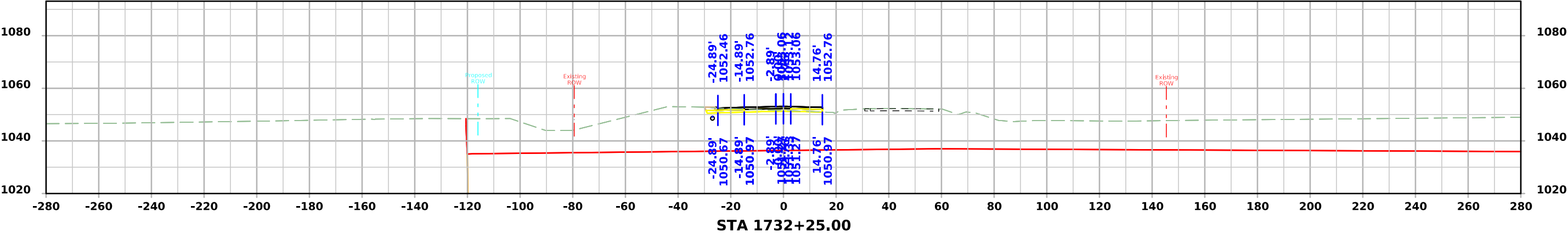
IA 175 - Stage 3



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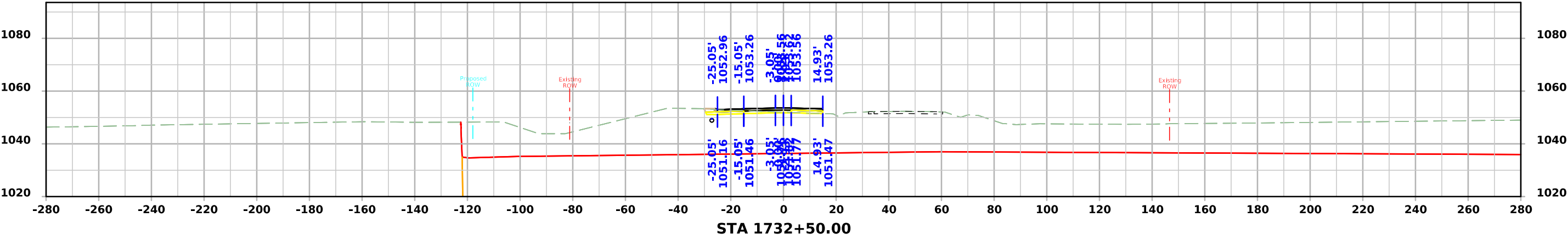
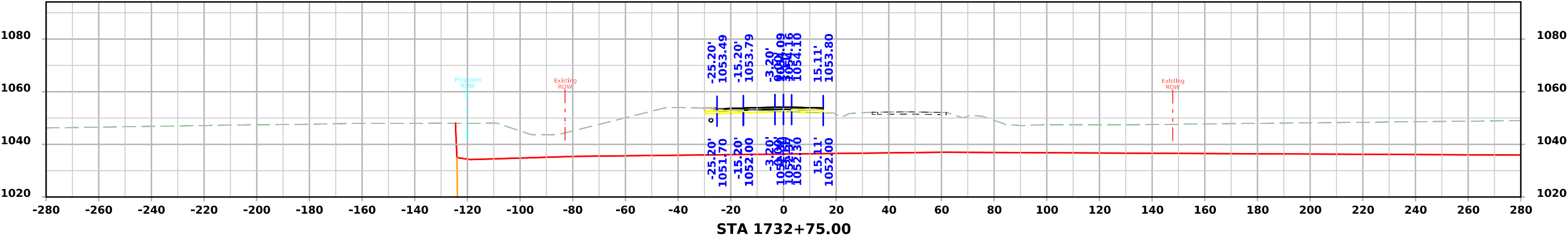
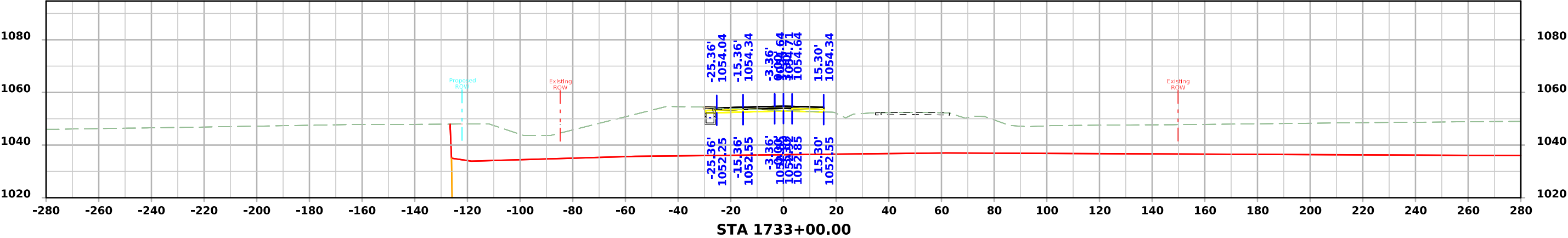


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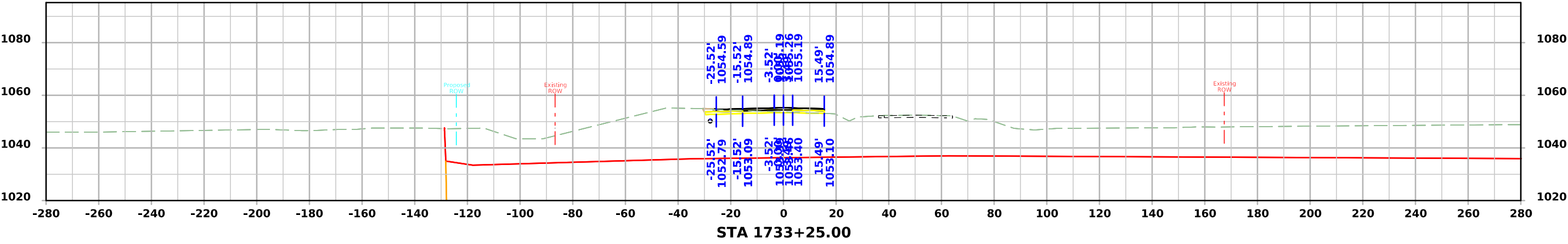
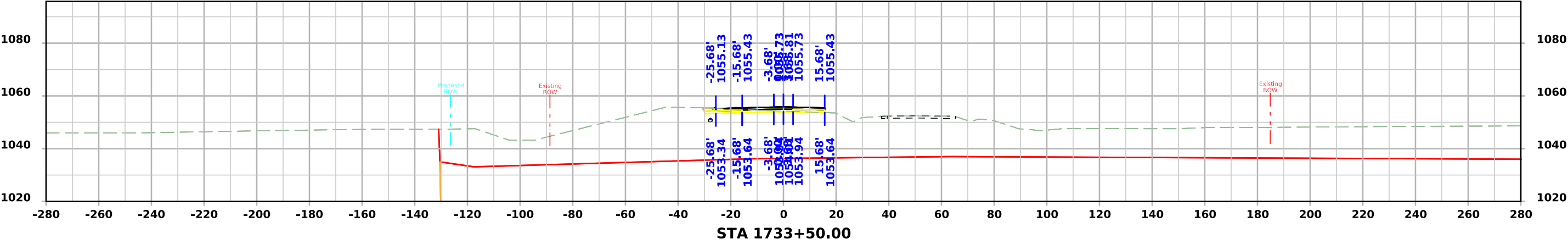
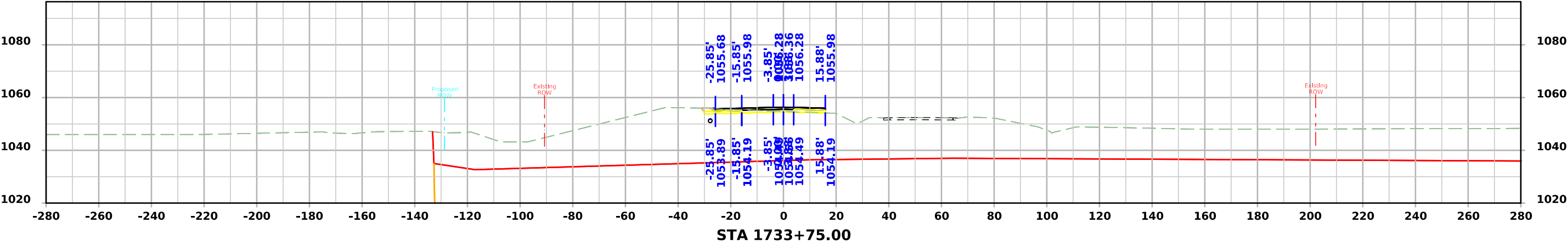




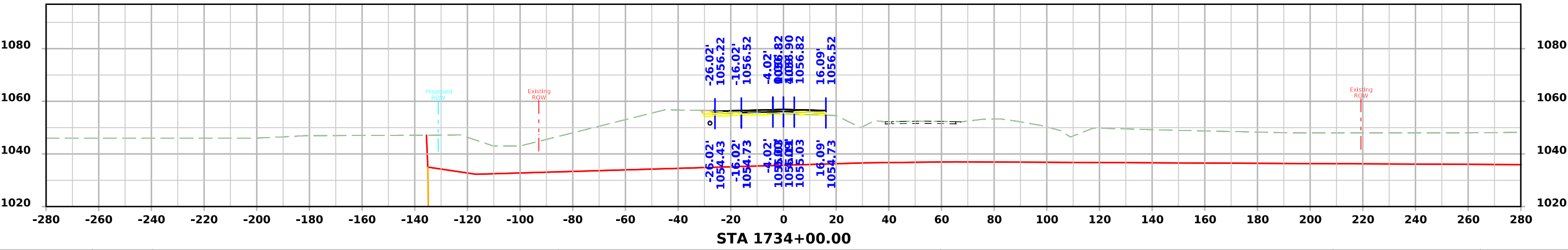
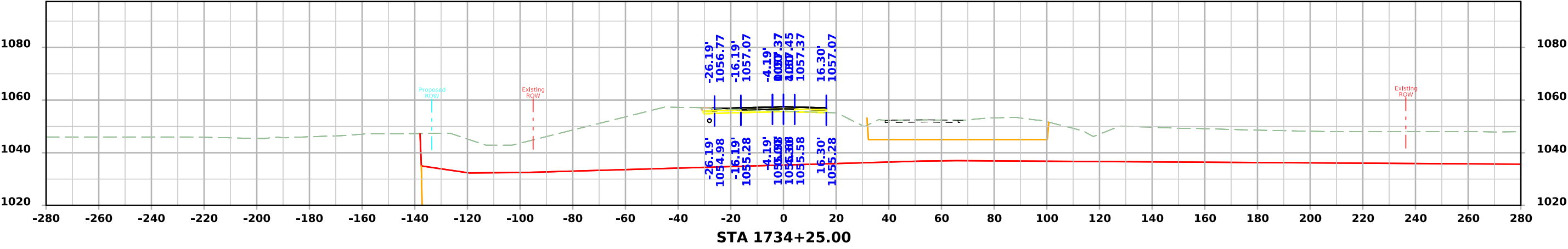
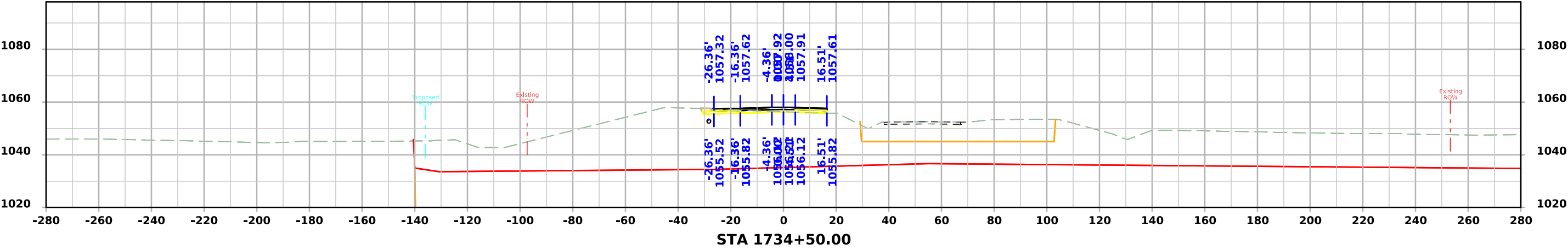
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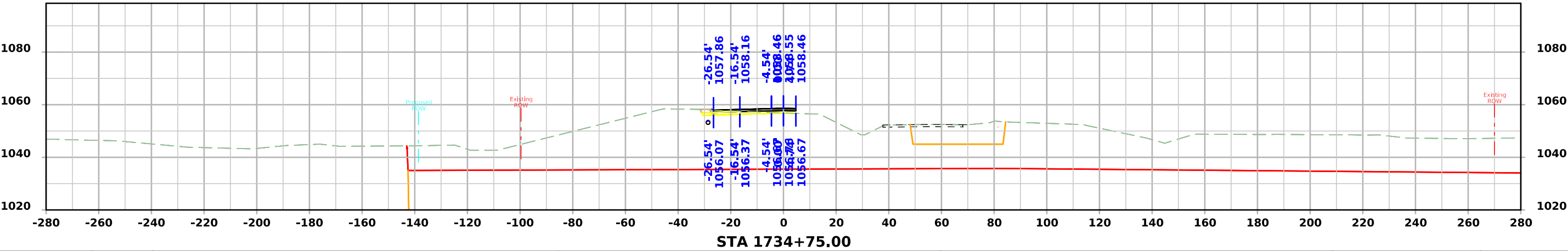
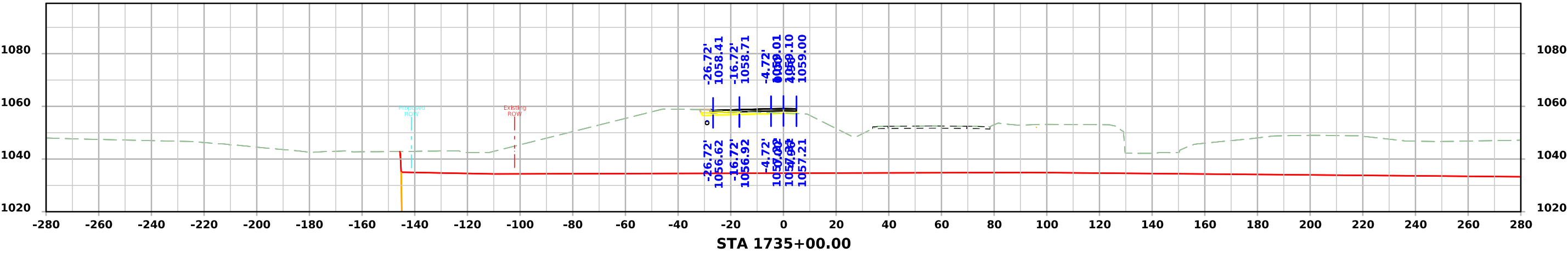
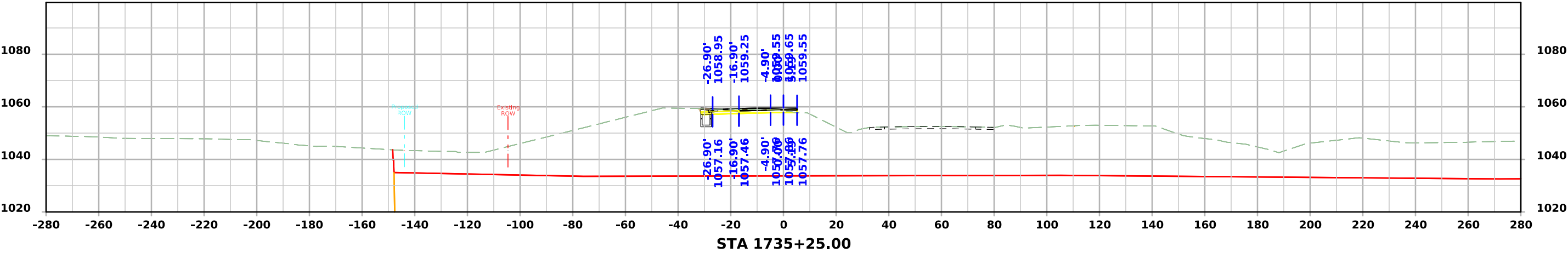
IA 175 - Stage 3



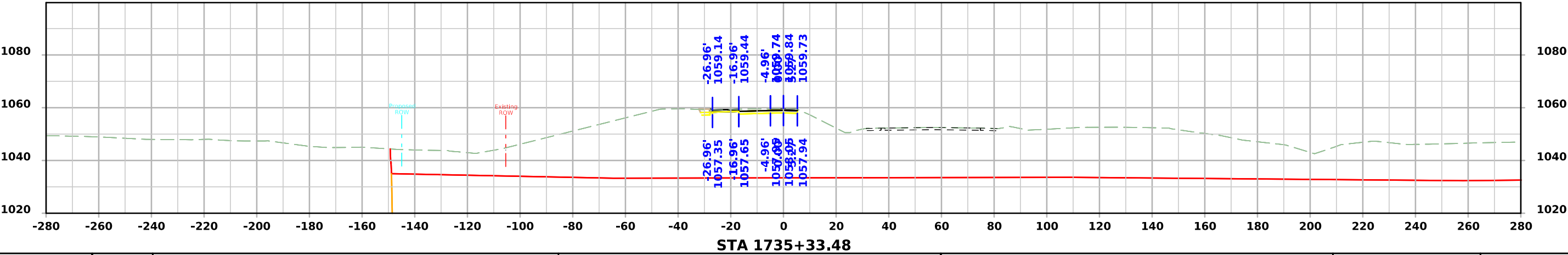
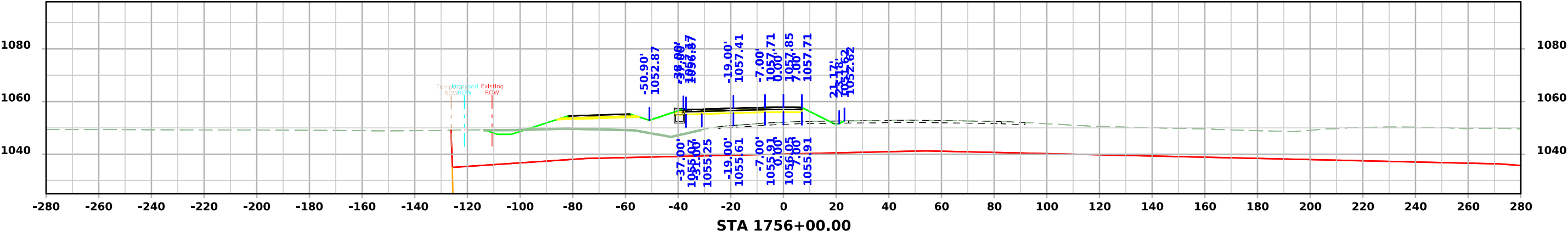
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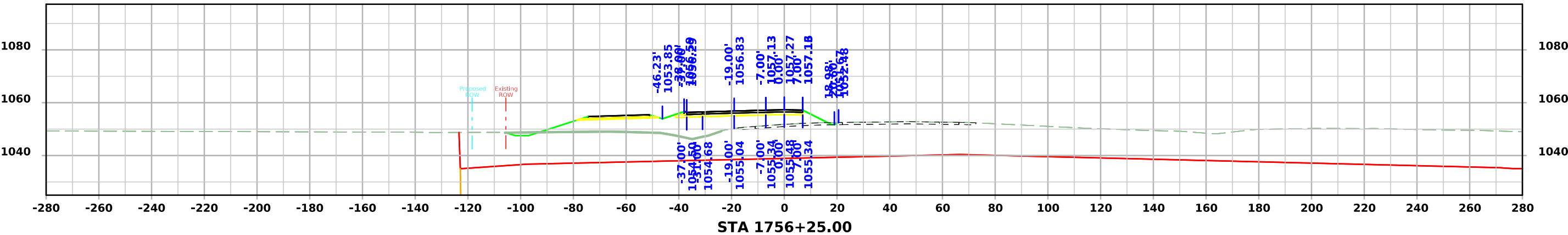
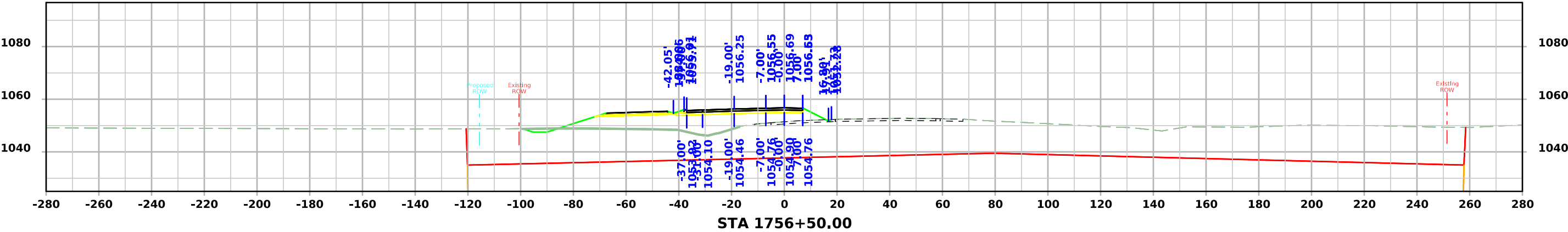
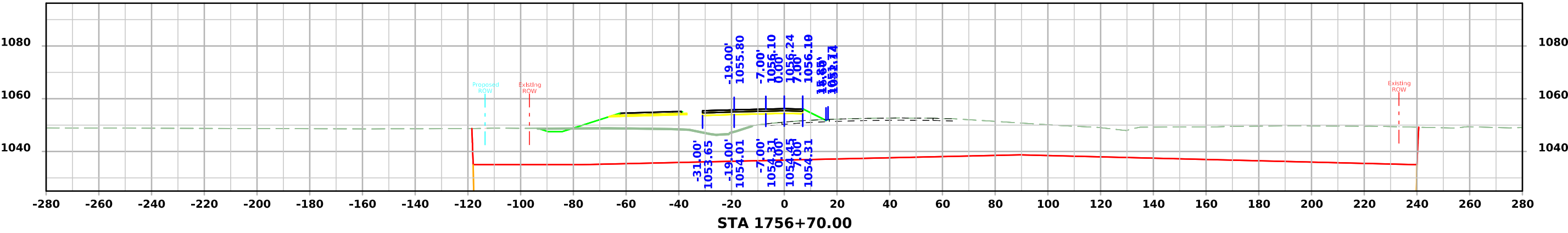
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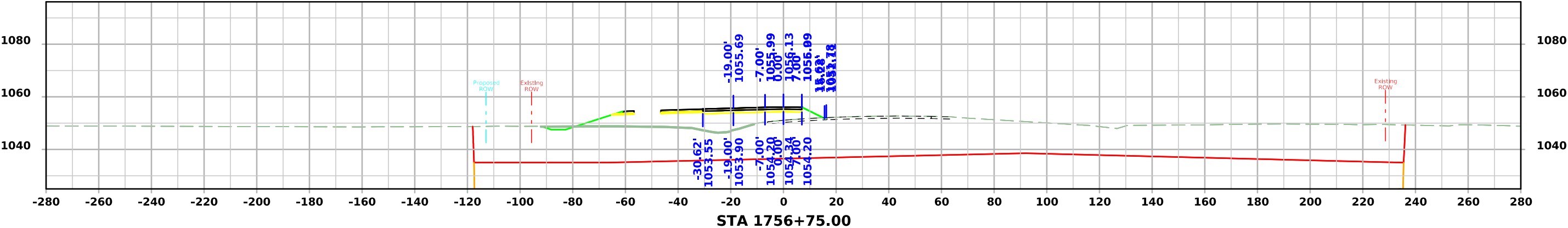
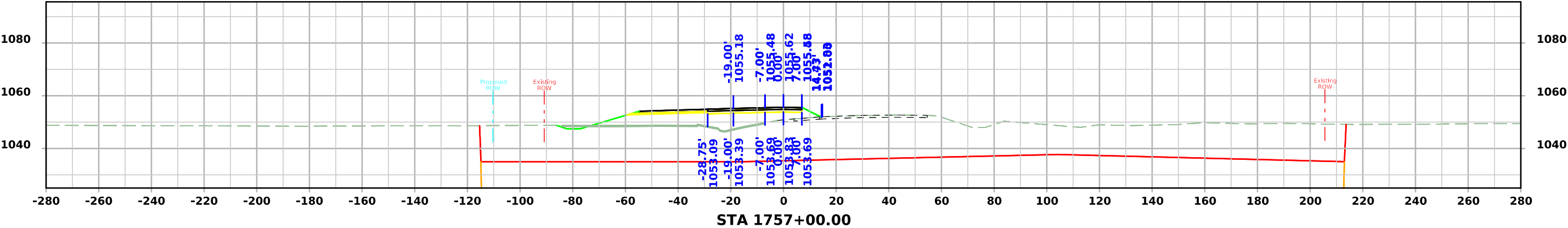
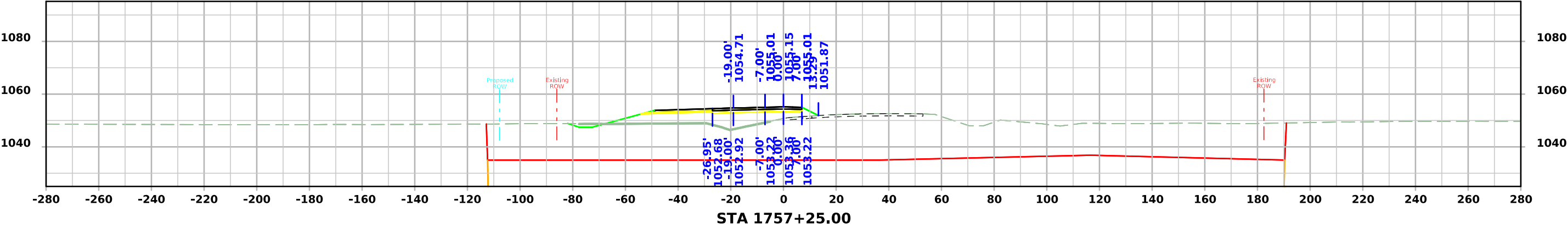
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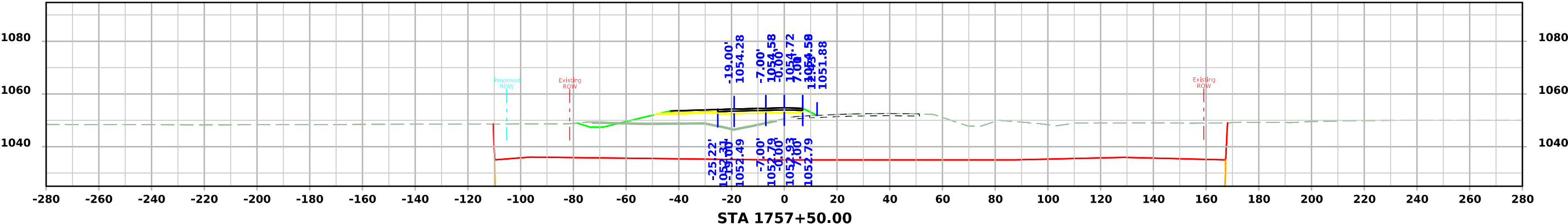
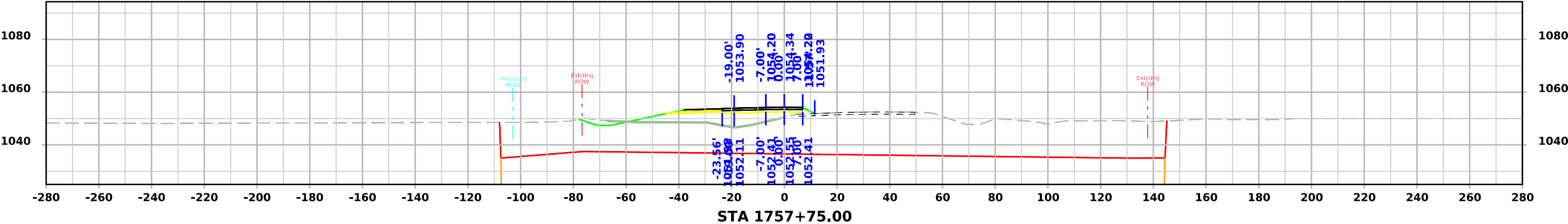
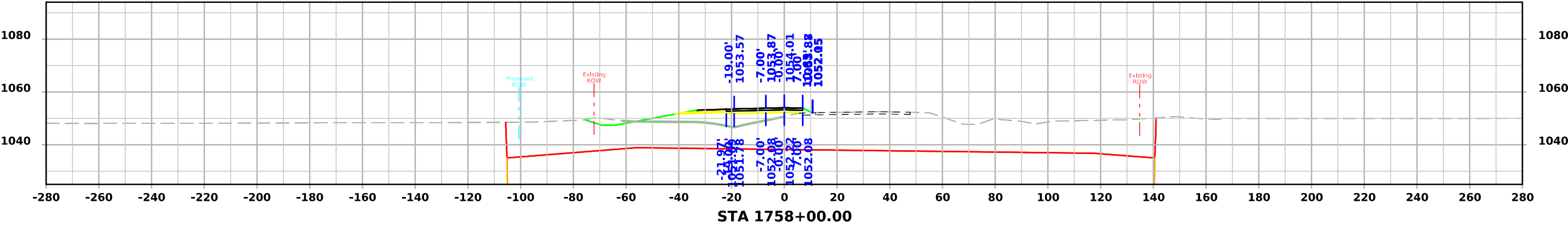
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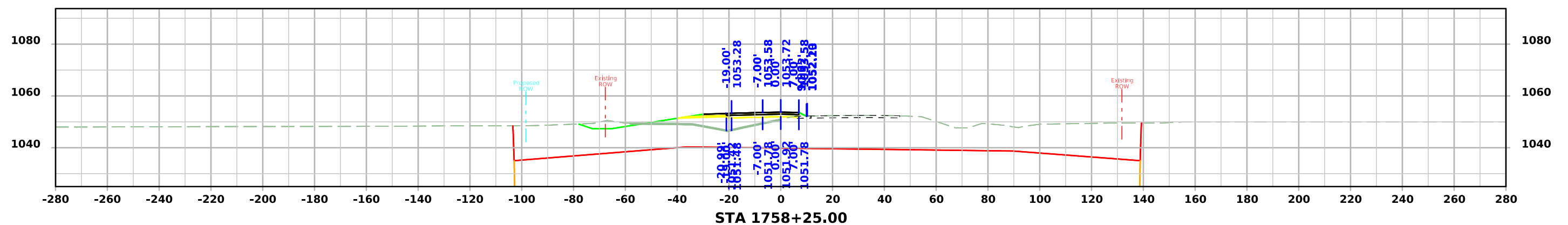
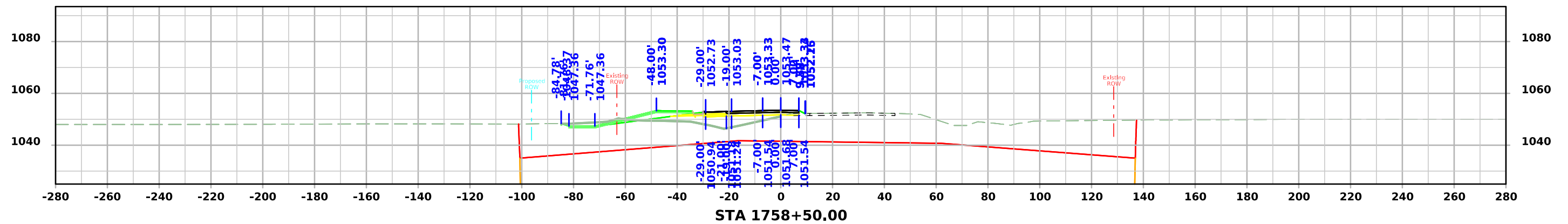
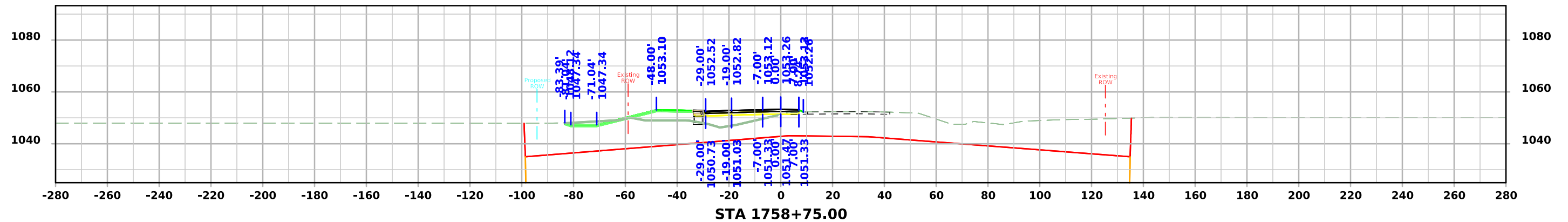


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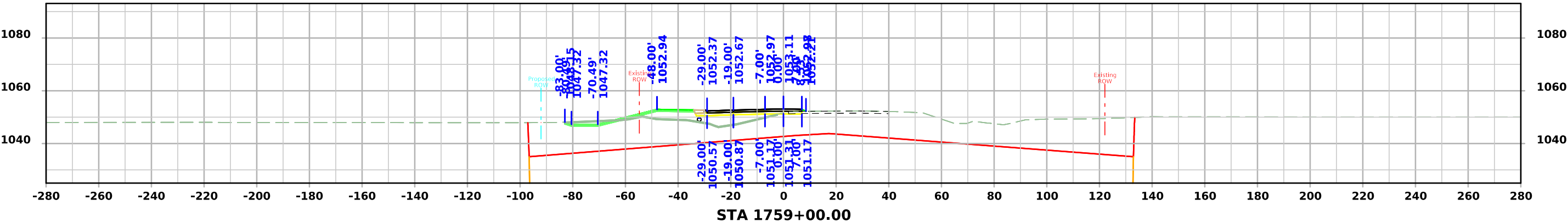
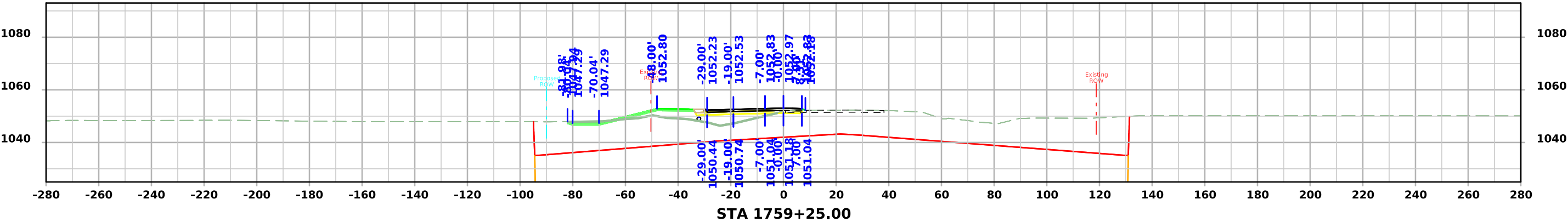
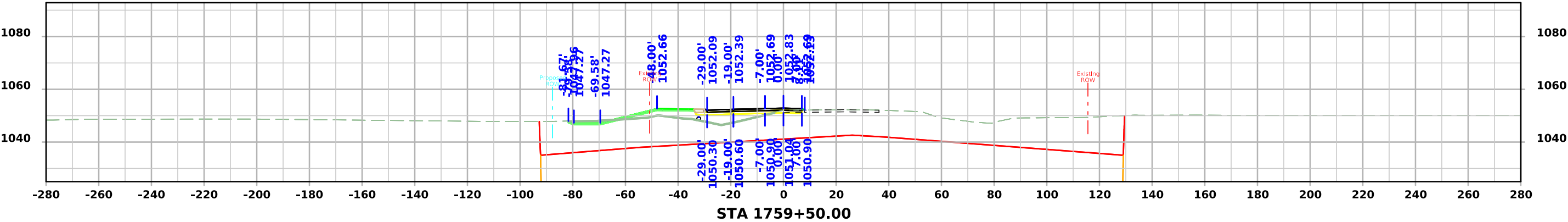




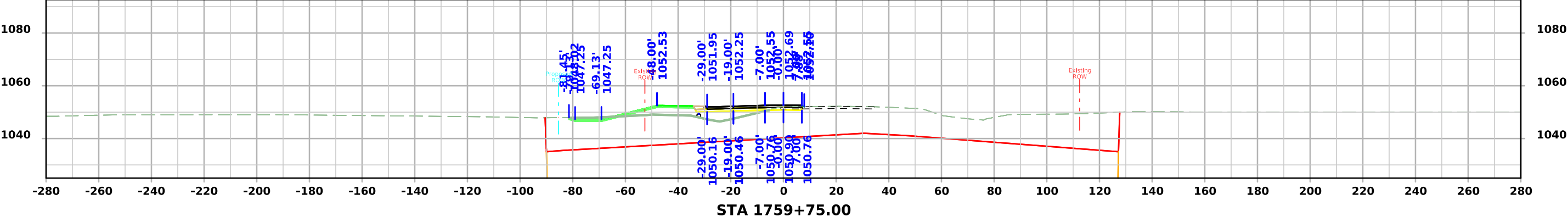
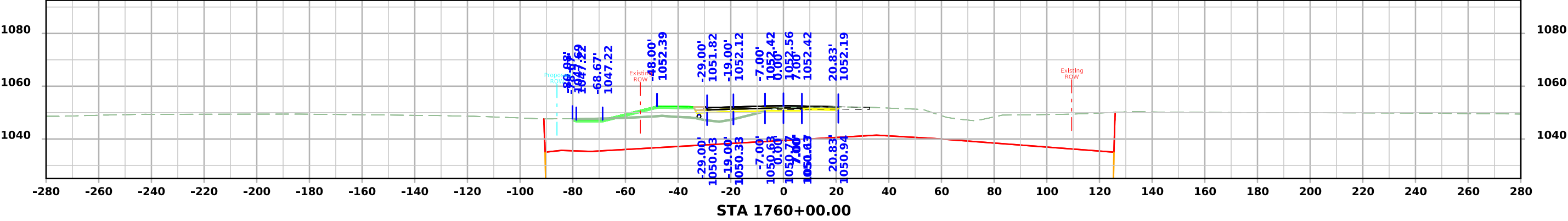
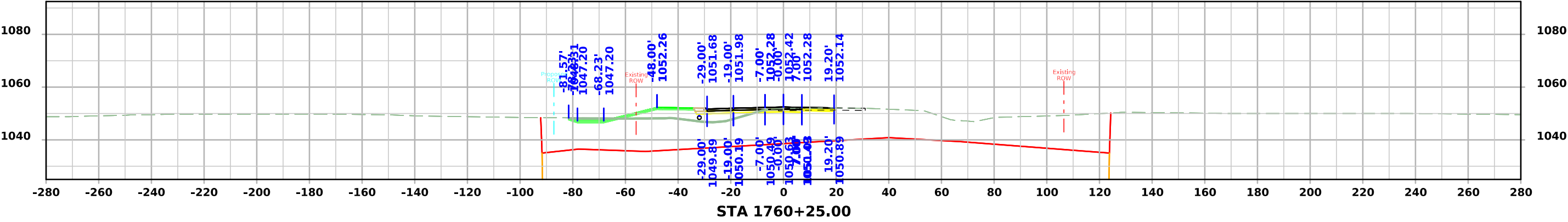
## IA 175 - Stage 3



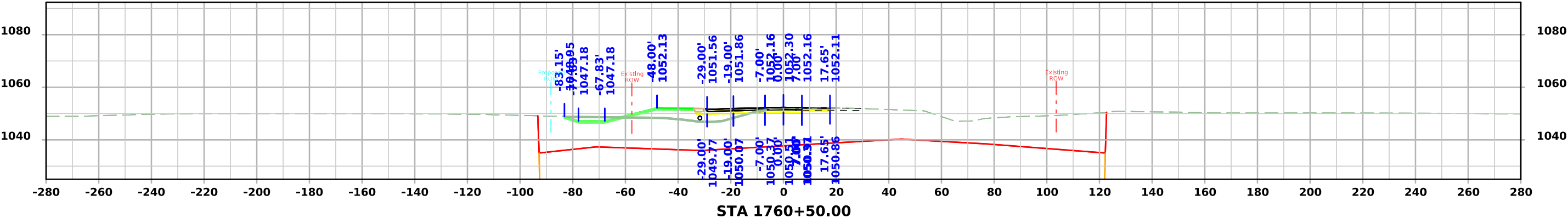
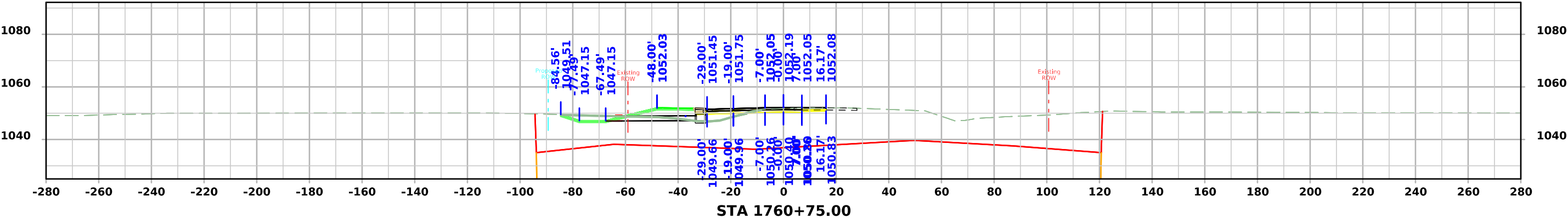
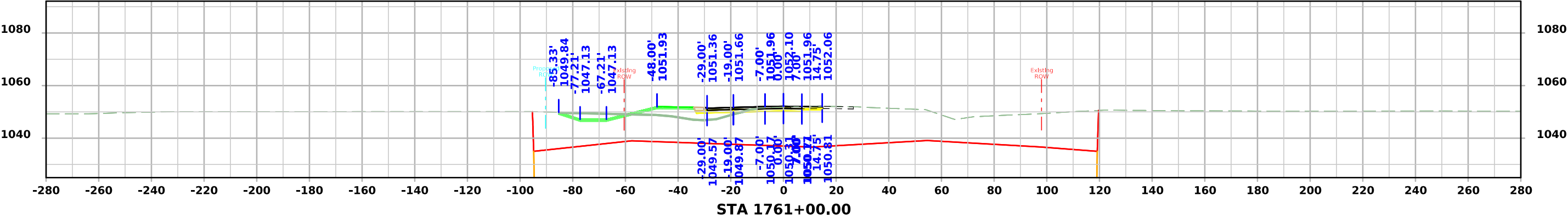
IA 175 - Stage 3



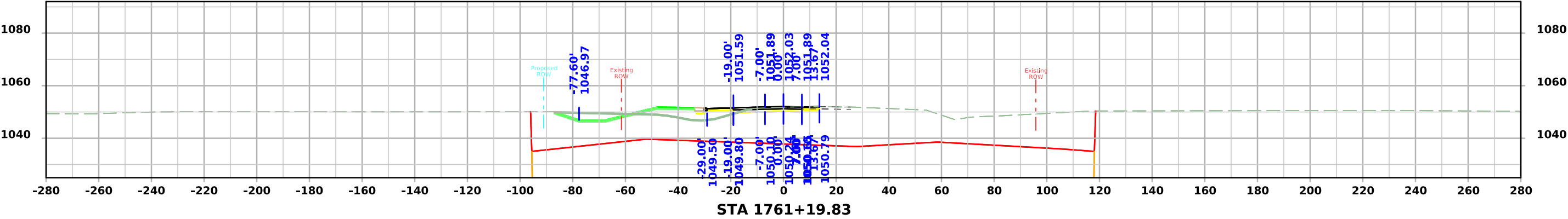
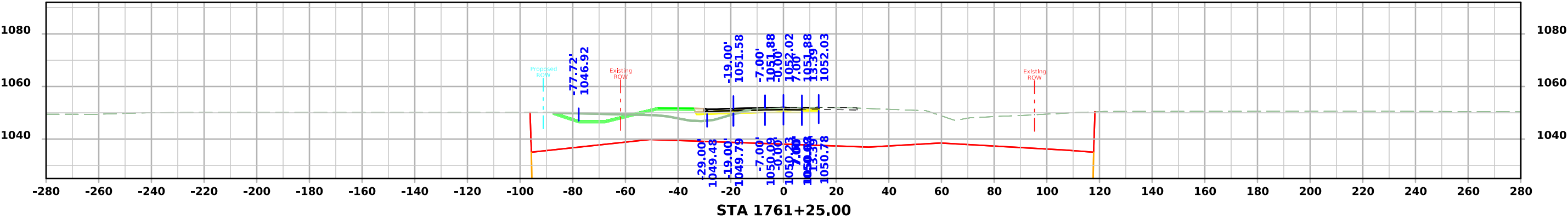
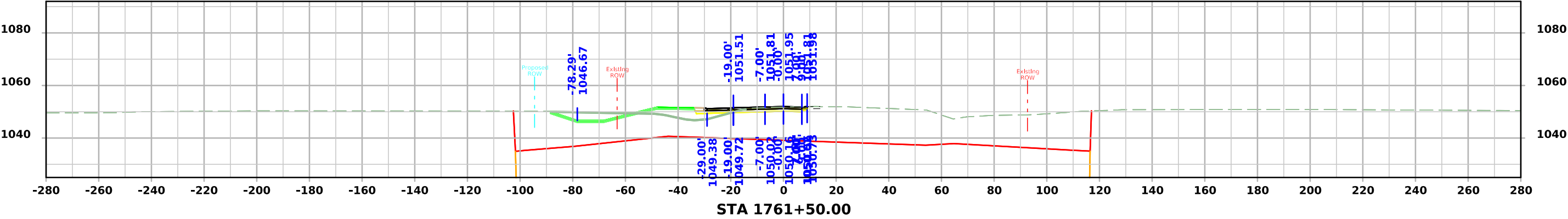
IA 175 - Stage 3



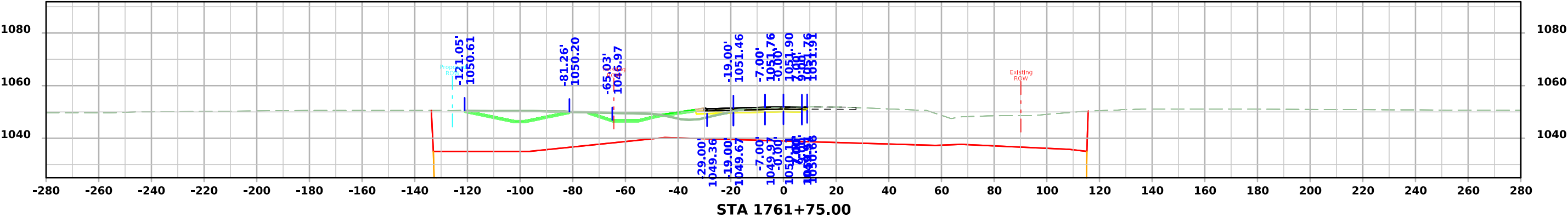
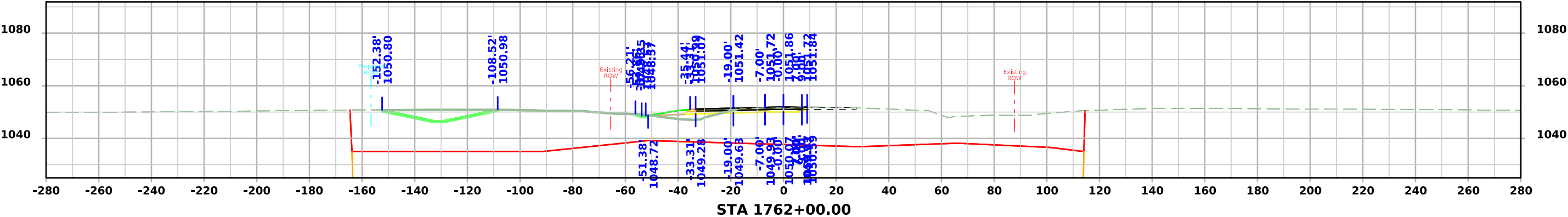
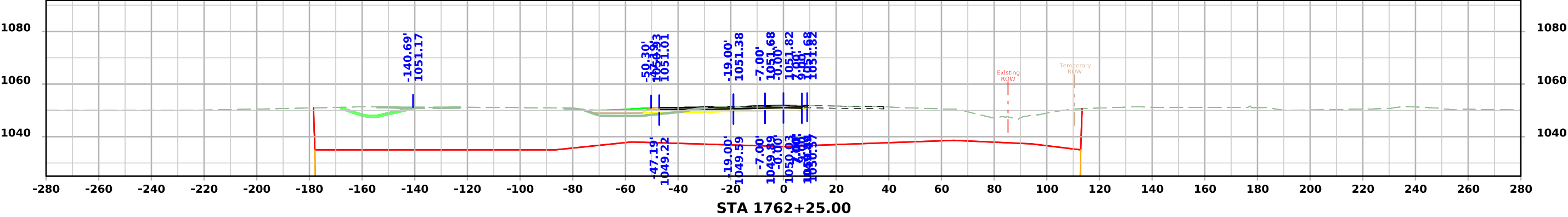
IA 175 - Stage 3



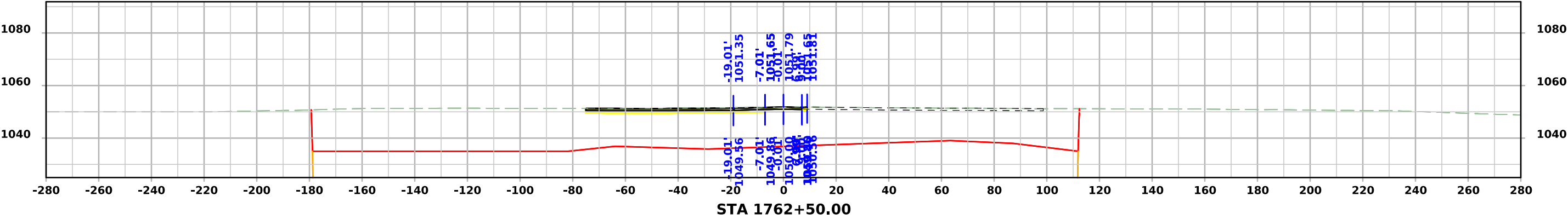
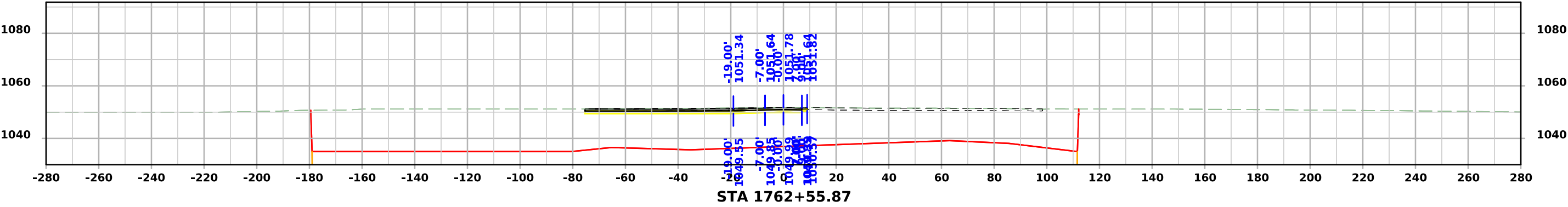
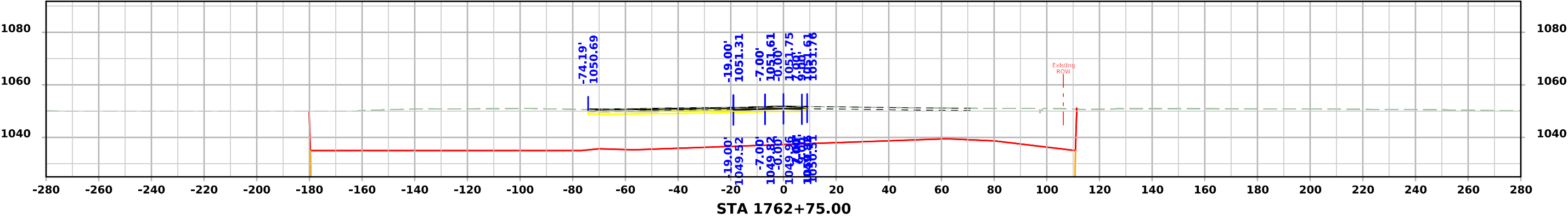
IA 175 - Stage 3



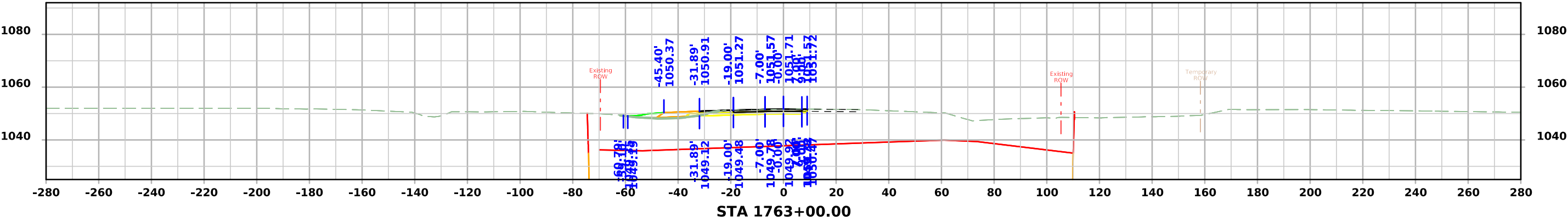
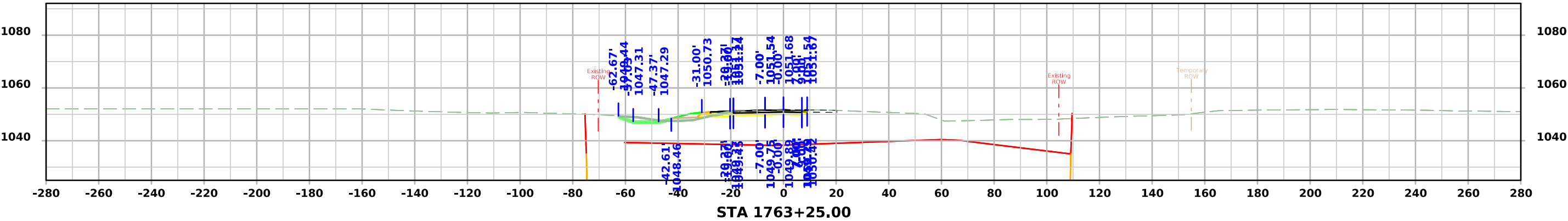
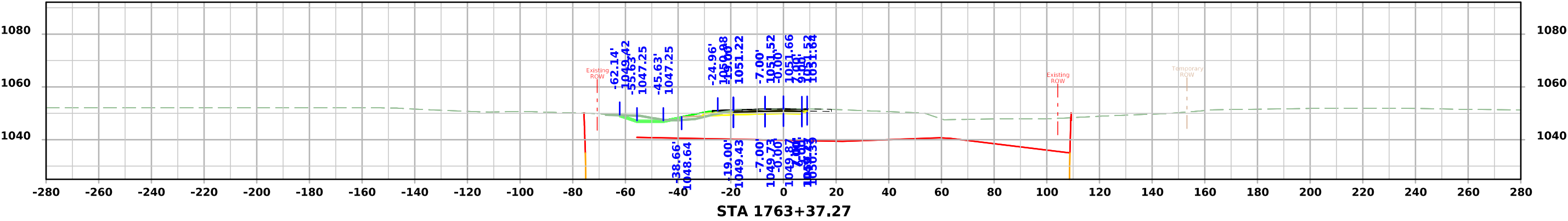
IA 175 - Stage 3



IA 175 - Stage 3

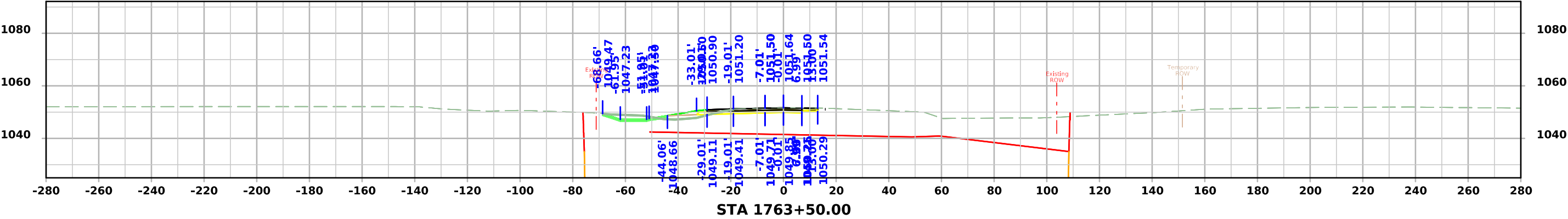
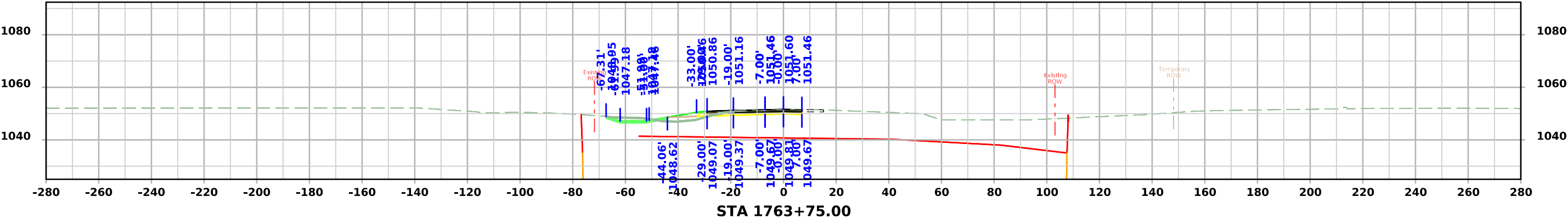
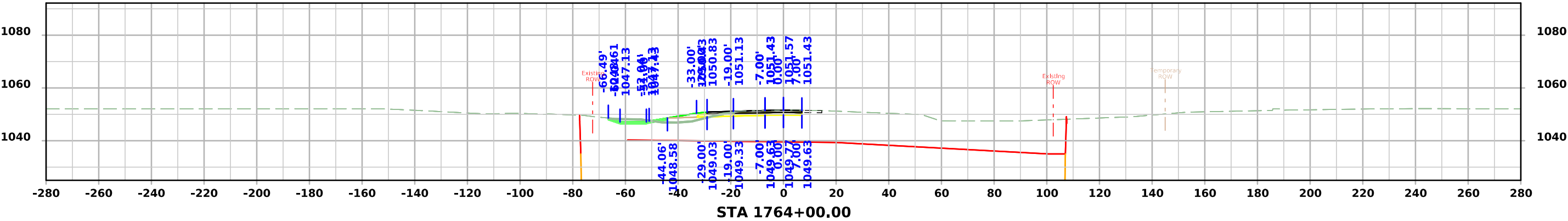


IA 175 - Stage 3

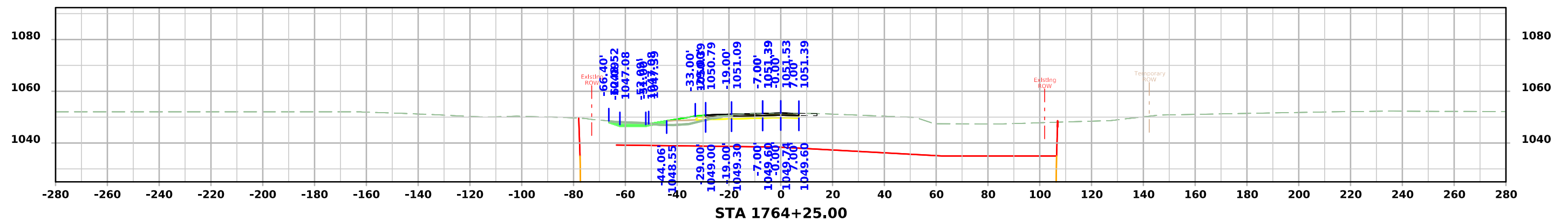
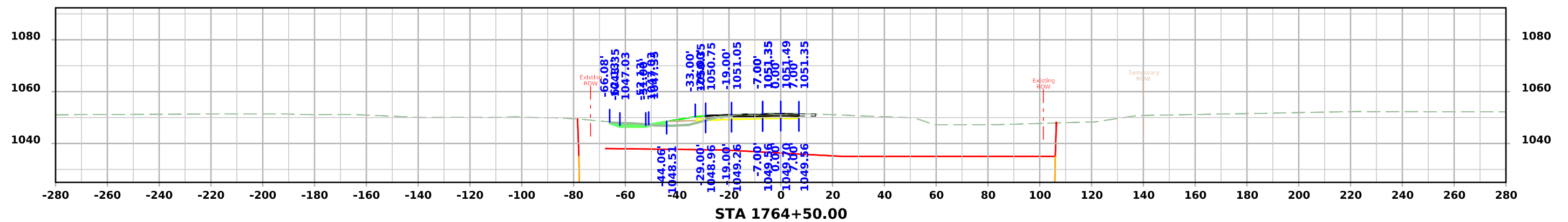
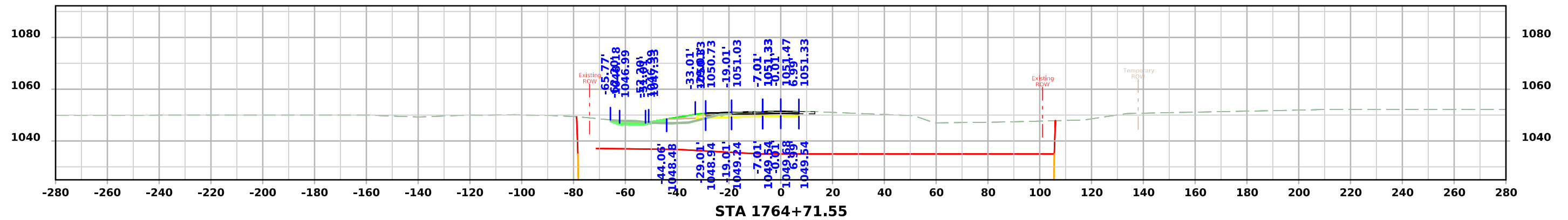




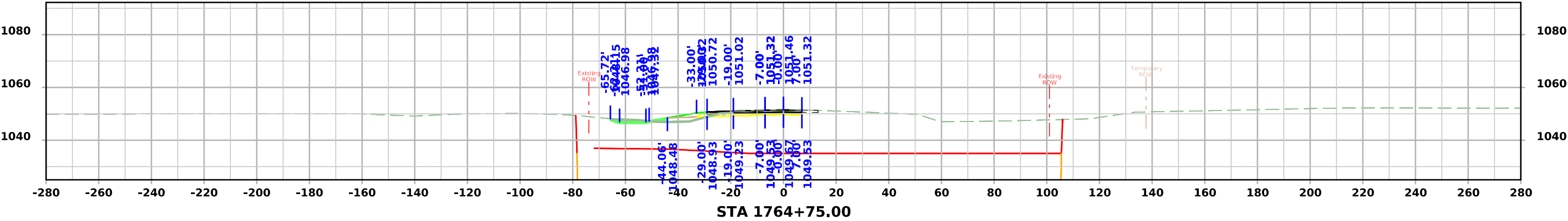
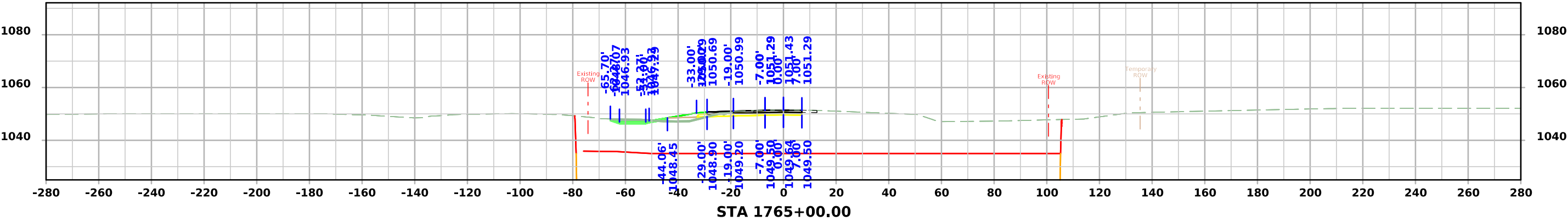
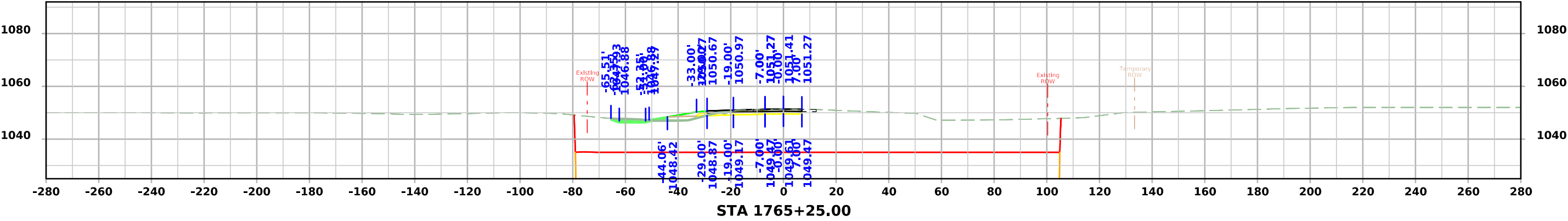
IA 175 - Stage 3



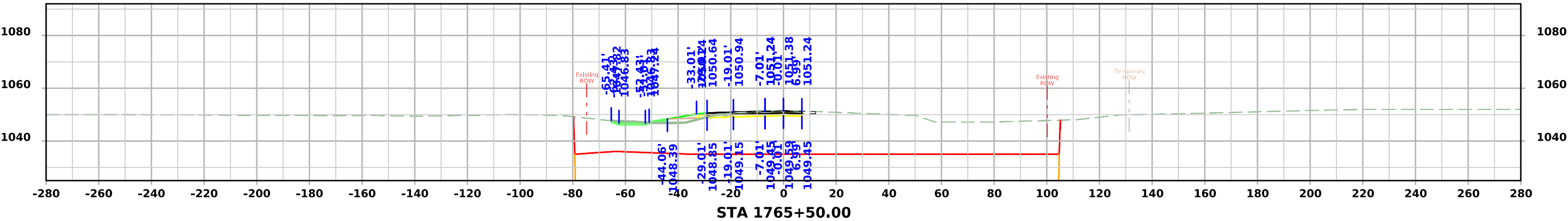
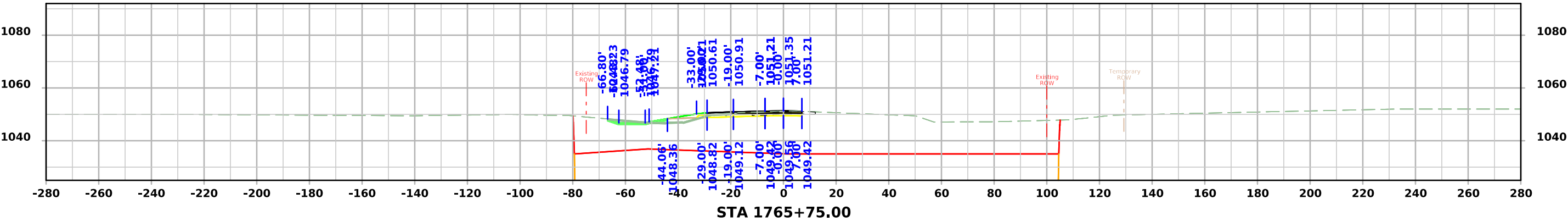
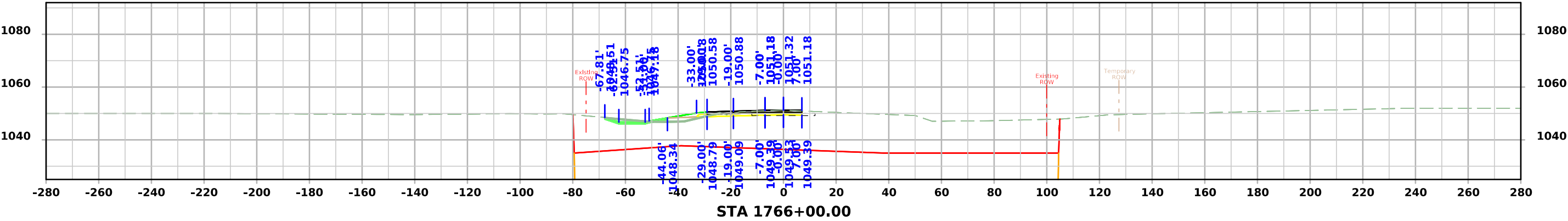
## IA 175 - Stage 3



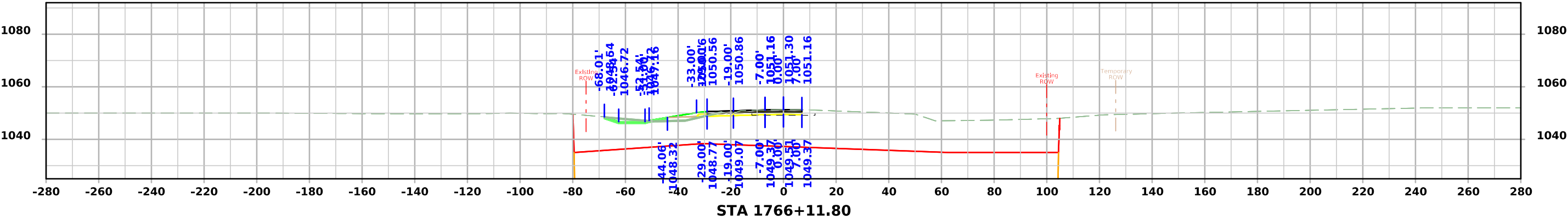
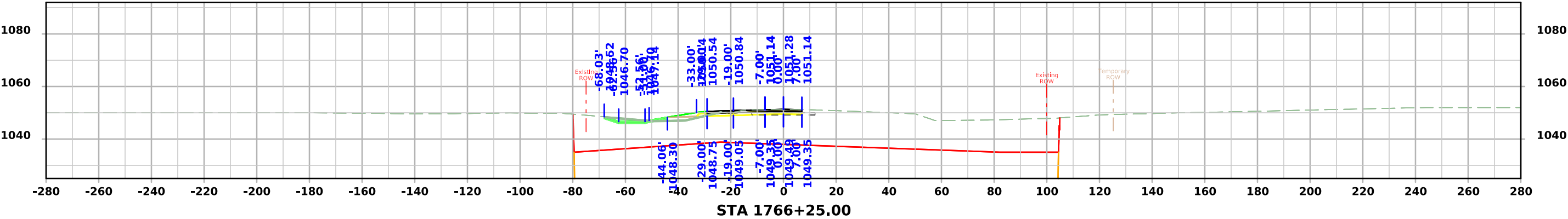
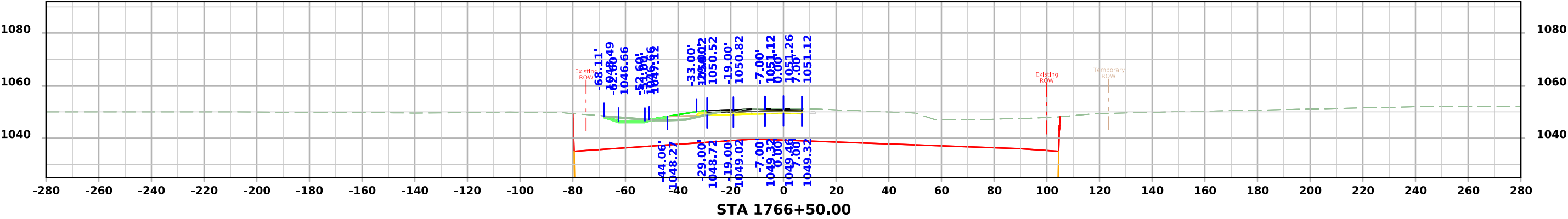
IA 175 - Stage 3



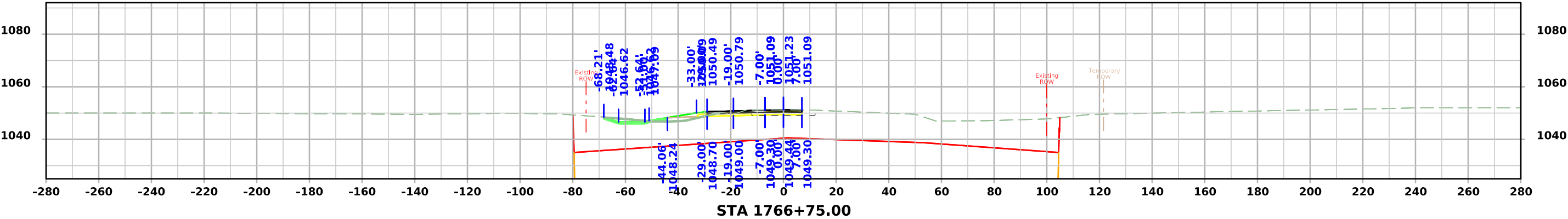
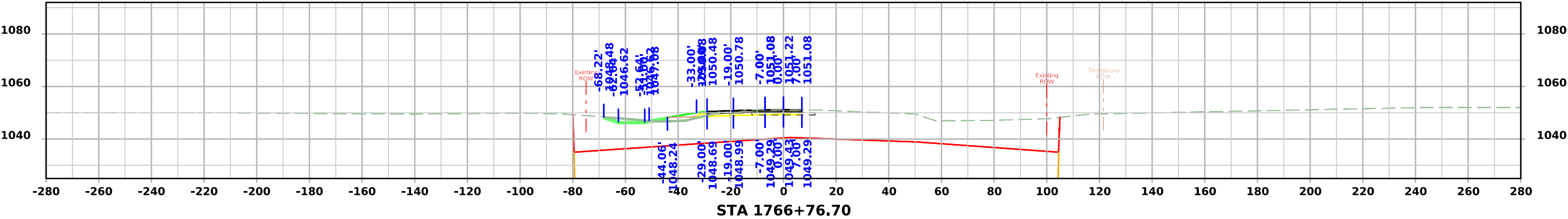
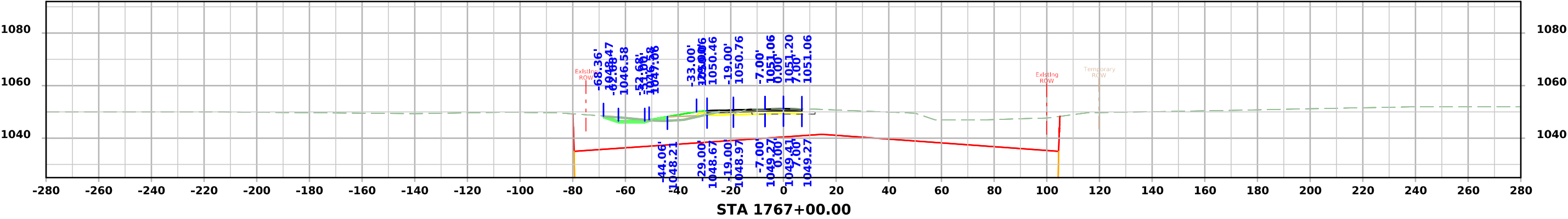
IA 175 - Stage 3



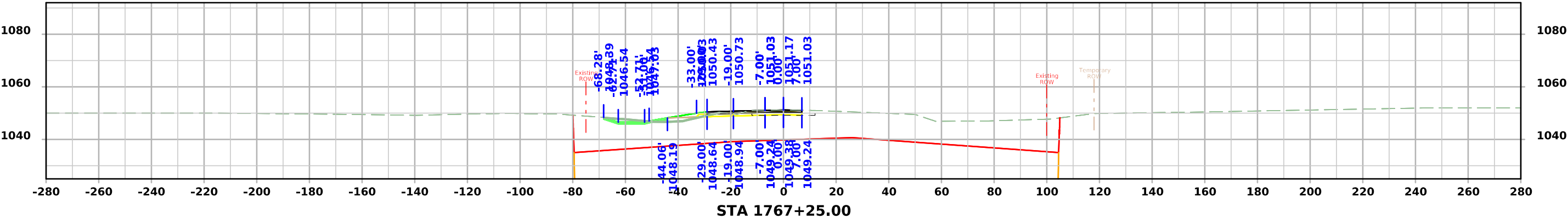
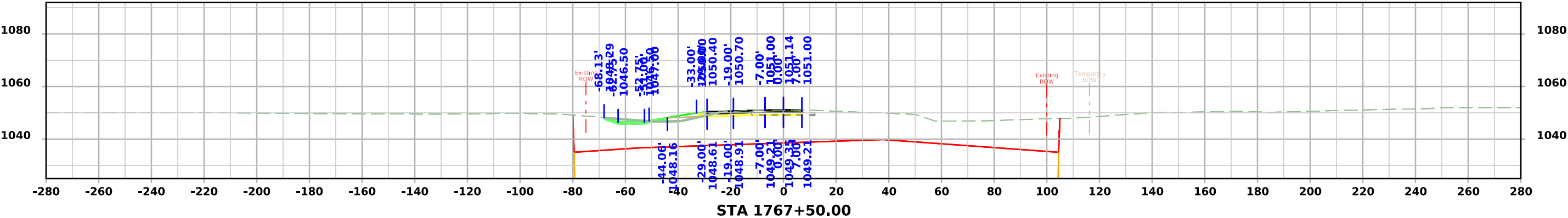
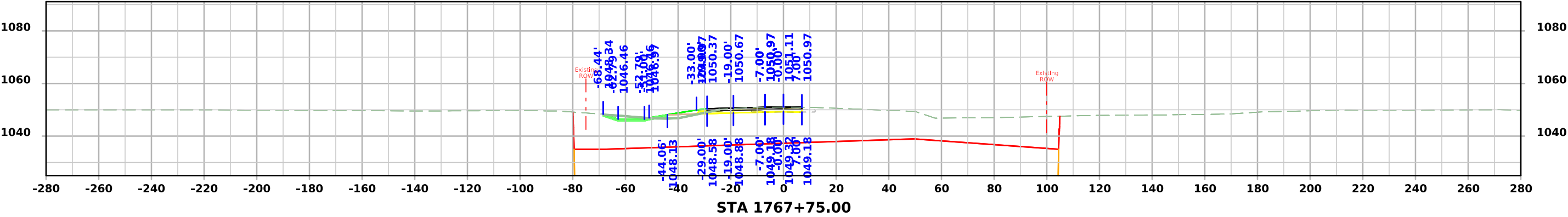
IA 175 - Stage 3



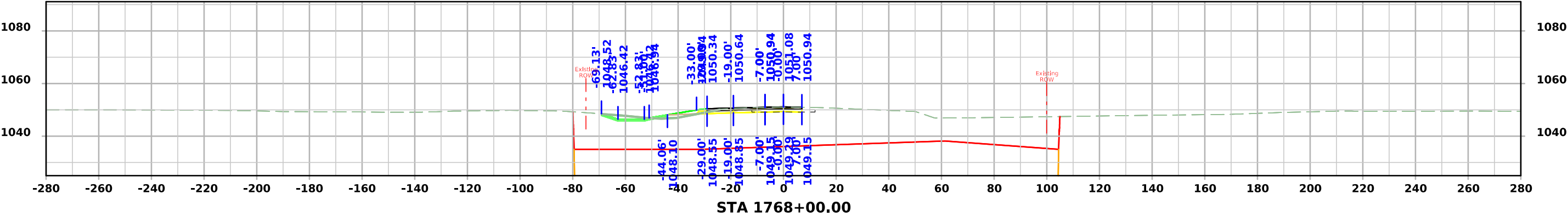
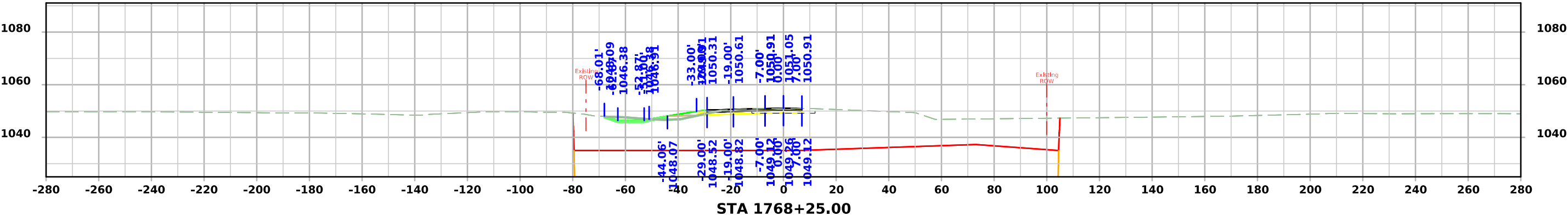
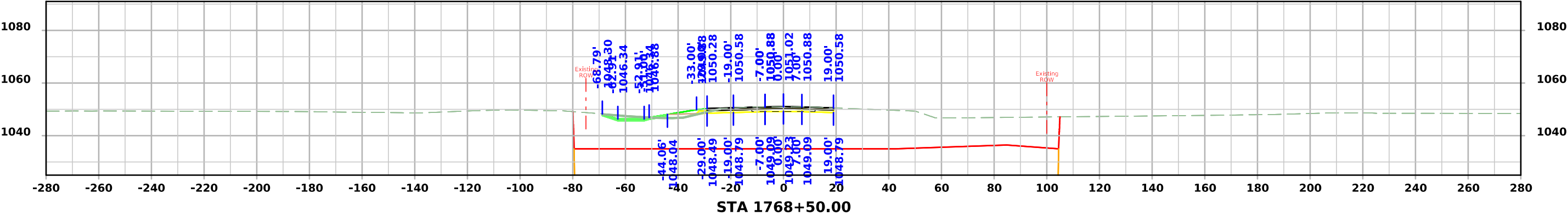
IA 175 - Stage 3



IA 175 - Stage 3

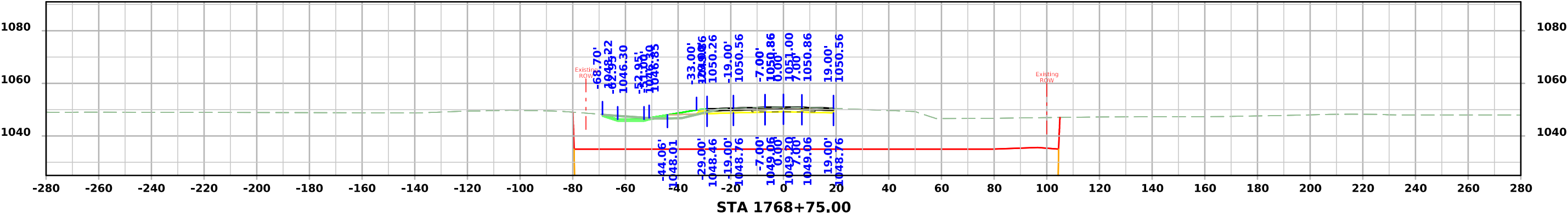
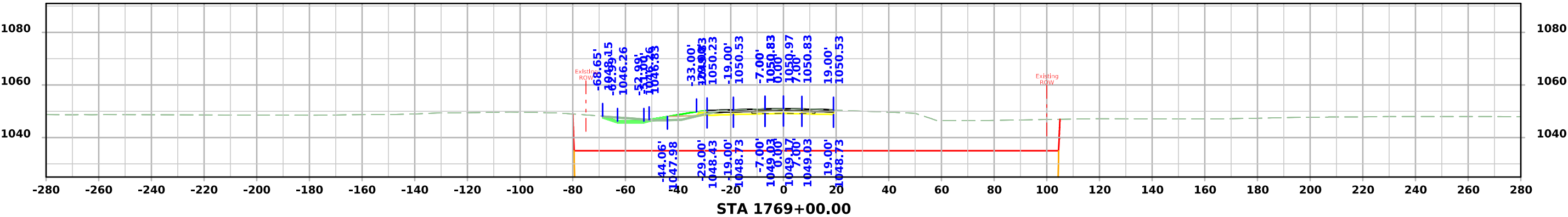
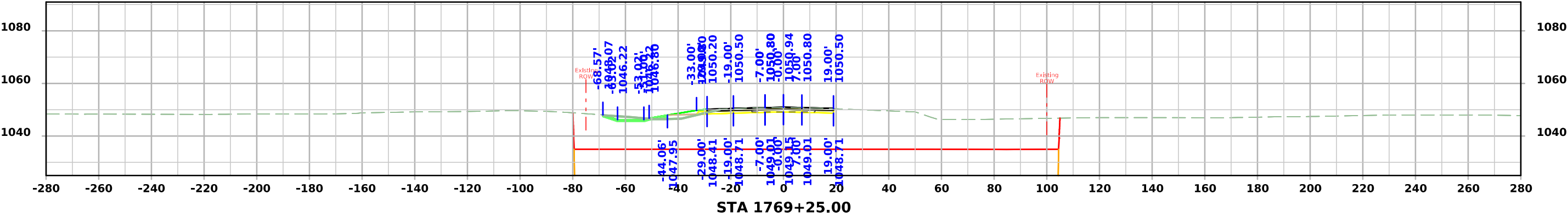


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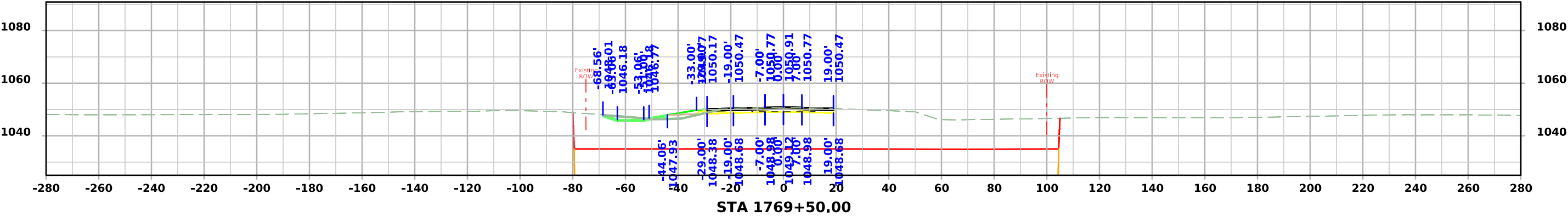
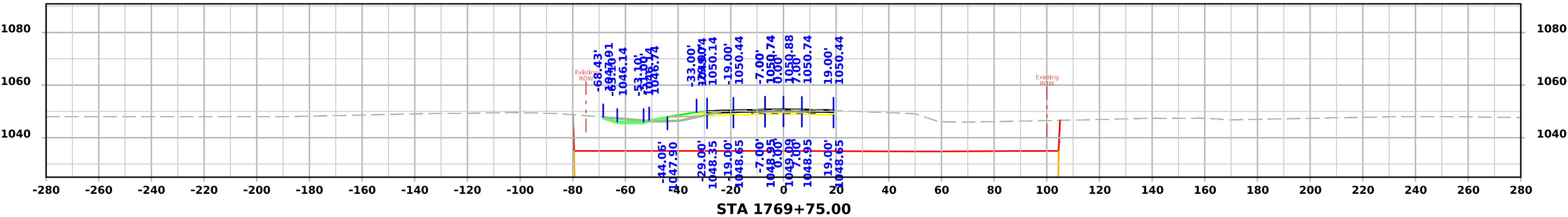
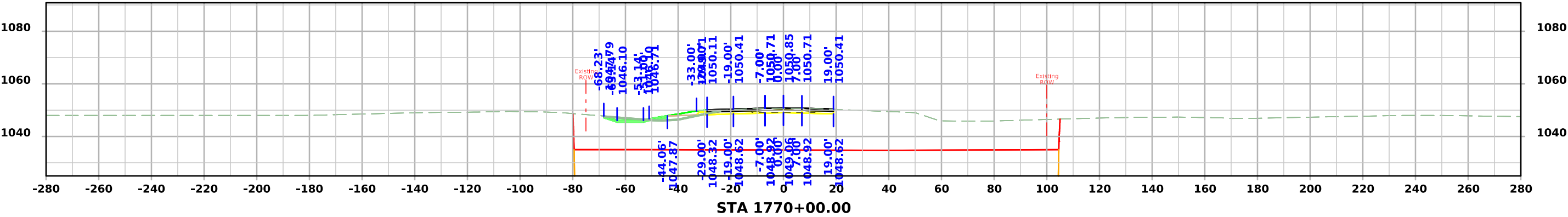




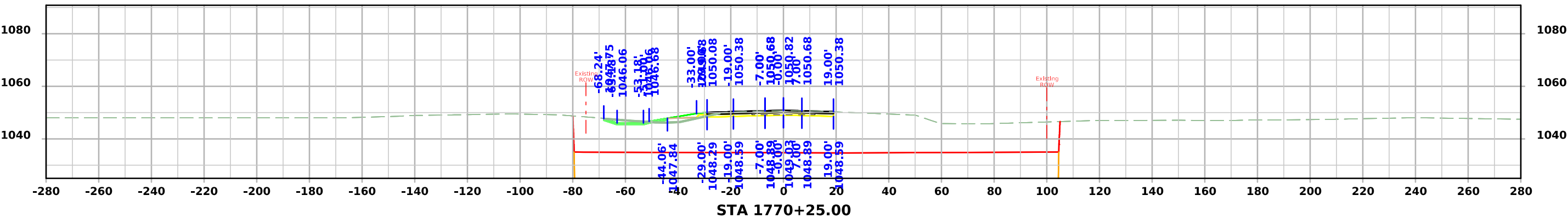
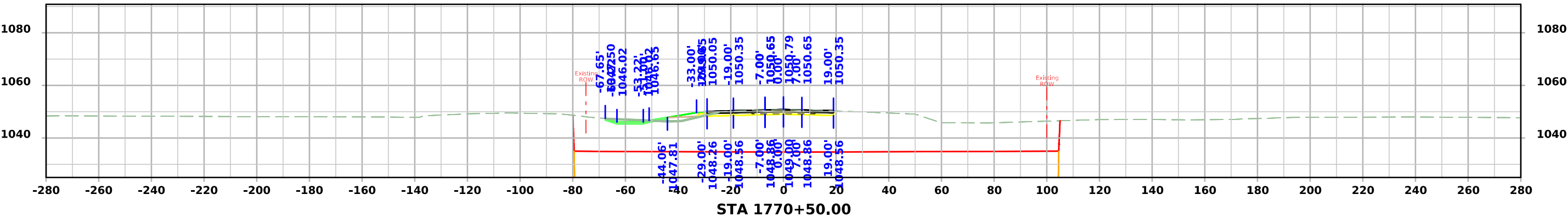
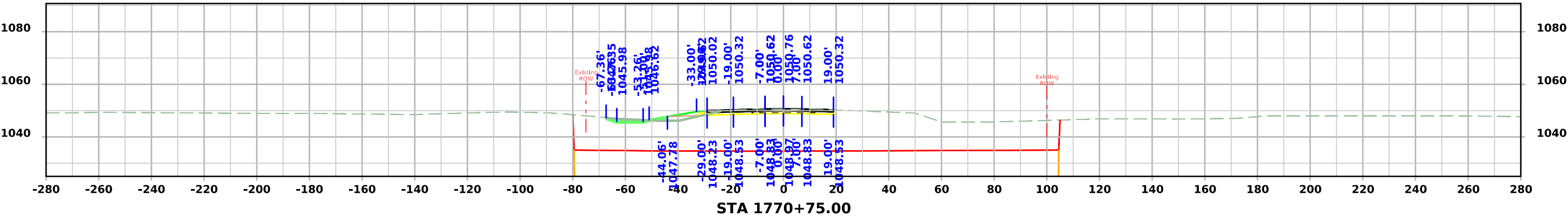
IA 175 - Stage 3



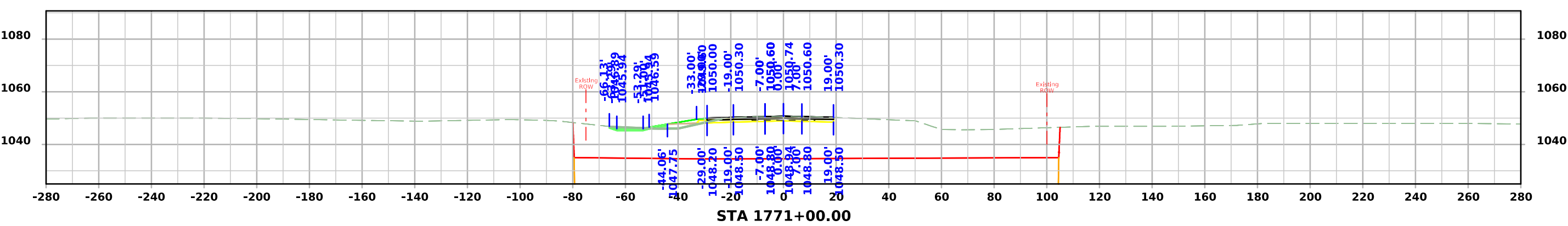
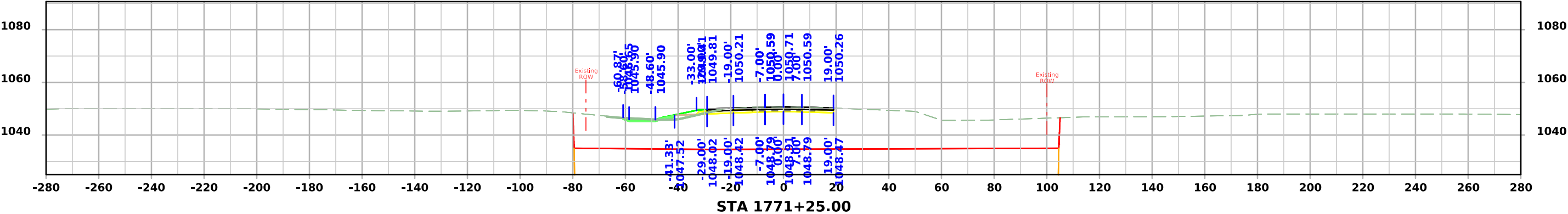
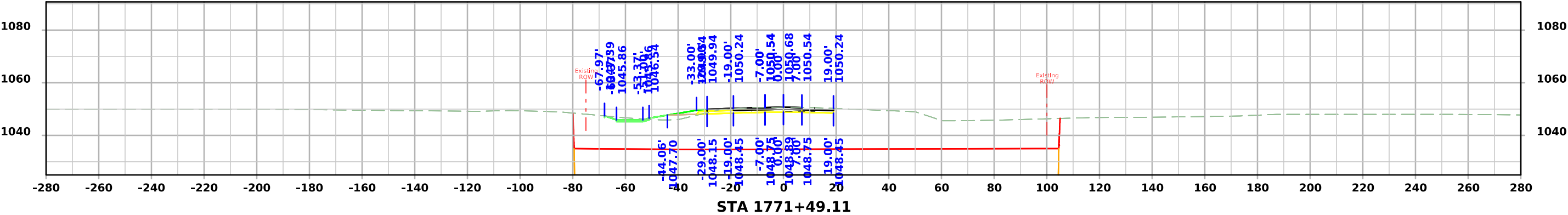
IA 175 - Stage 3



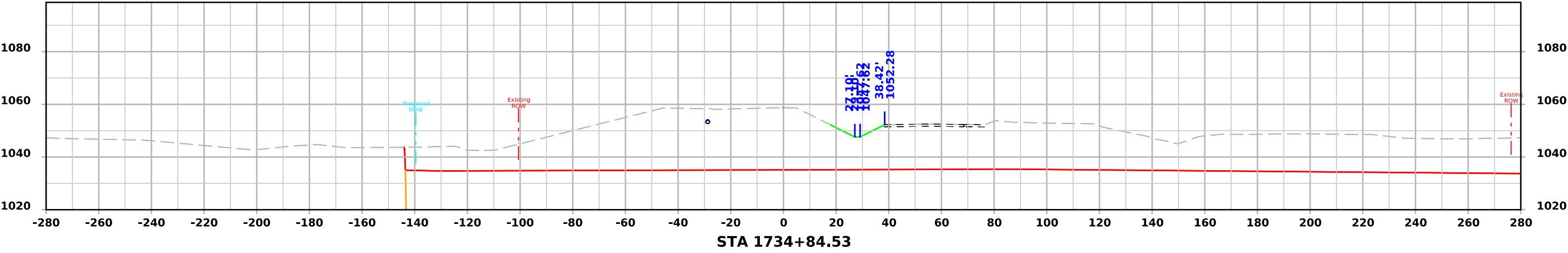
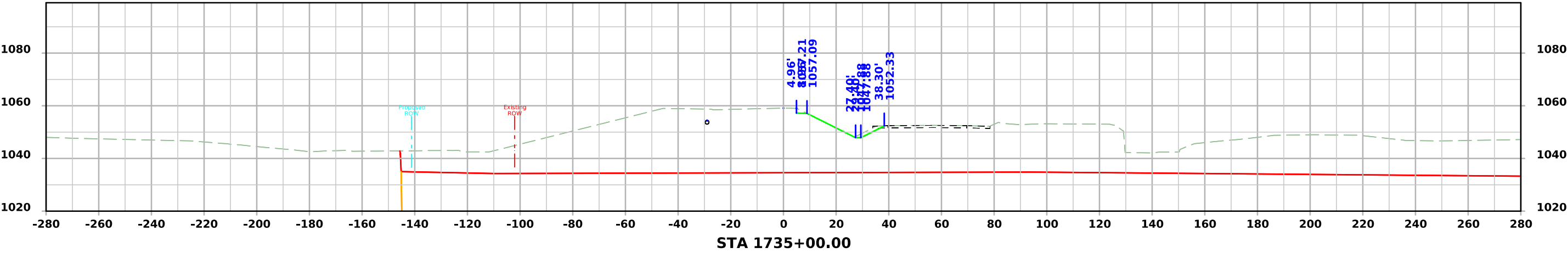
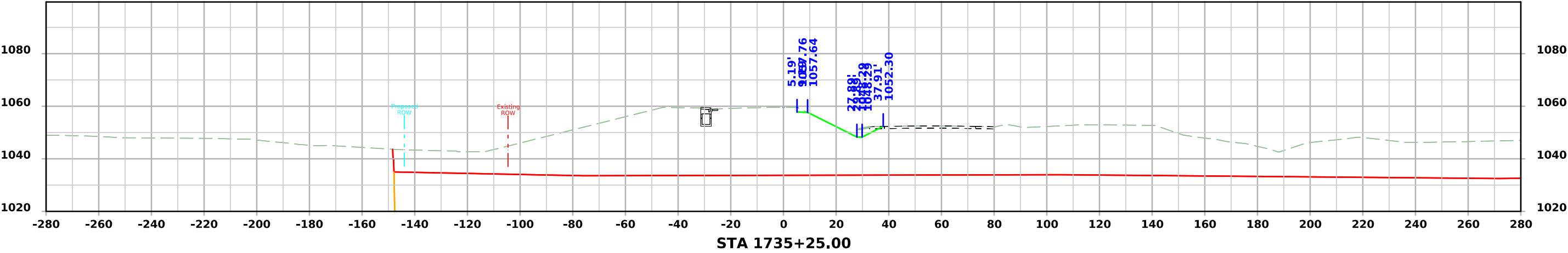
IA 175 - Stage 3



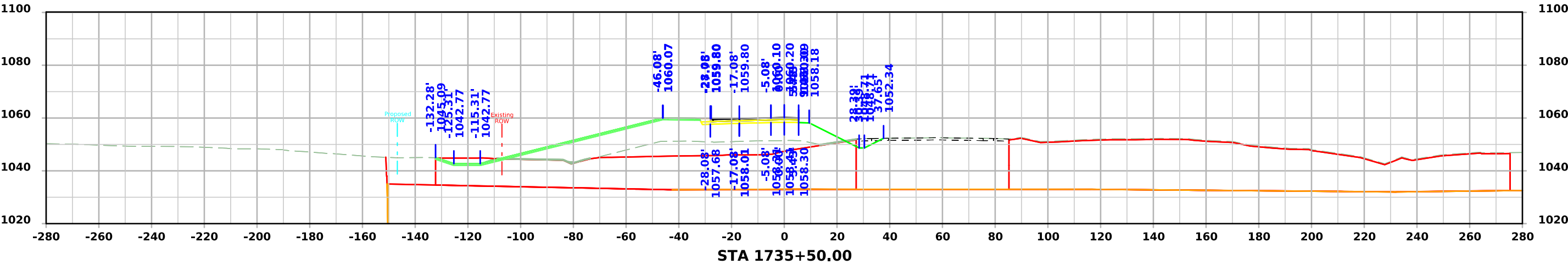
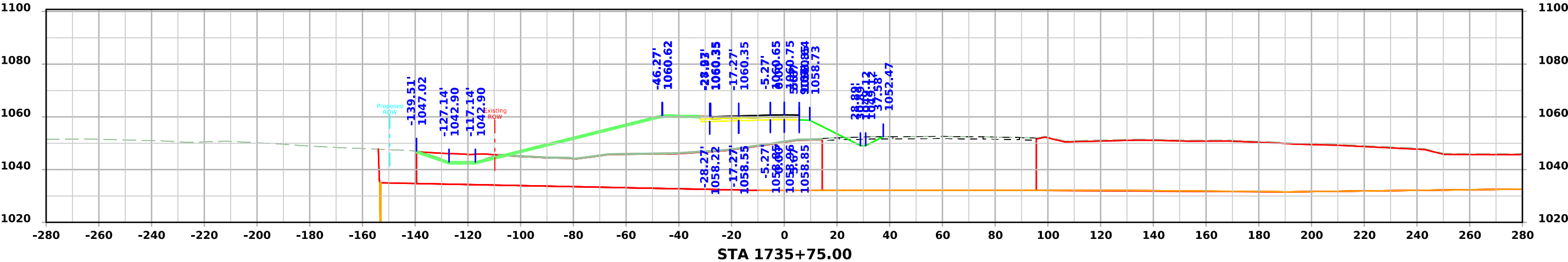
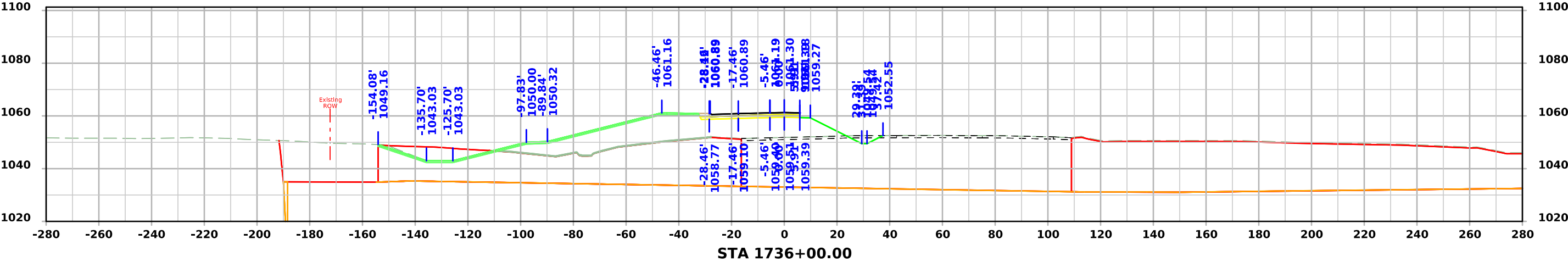
IA 175 - Stage 3



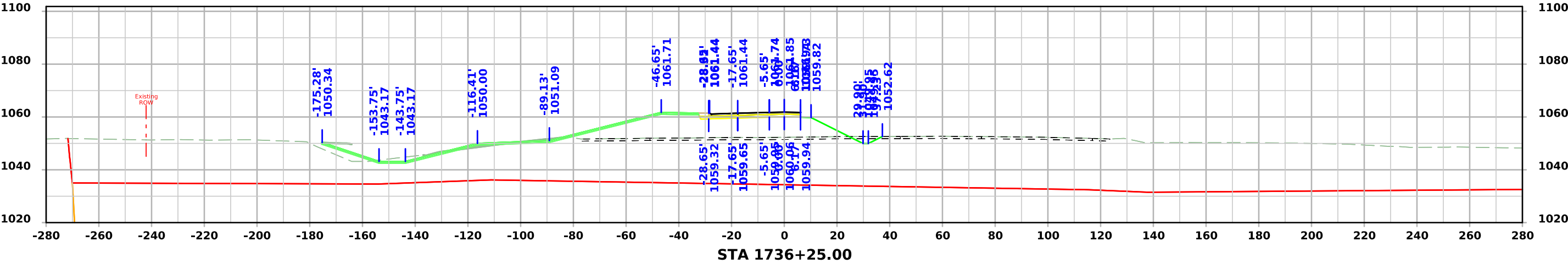
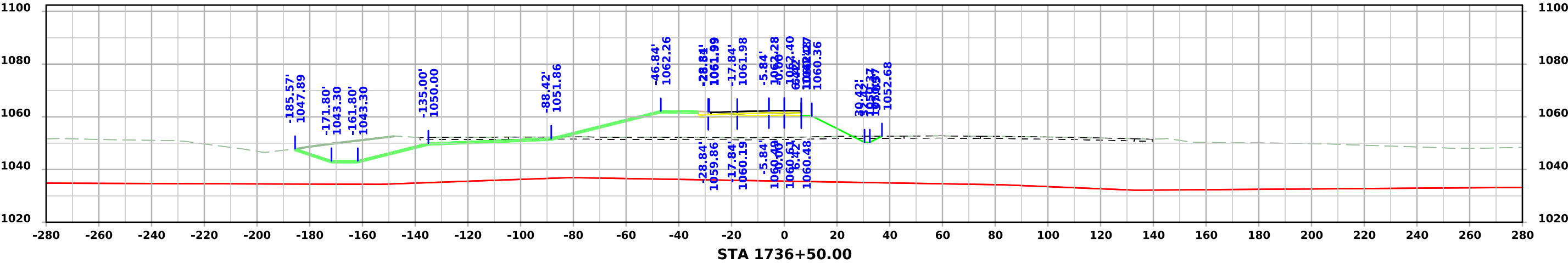
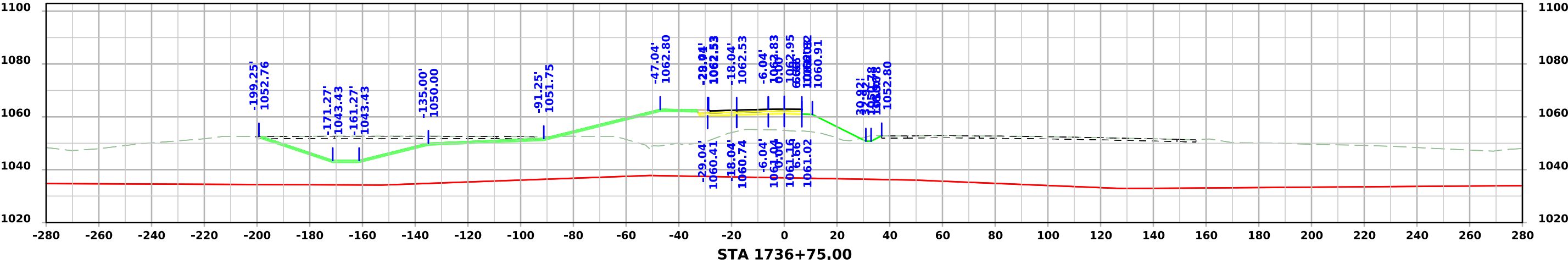
IA 175 - Stage 4



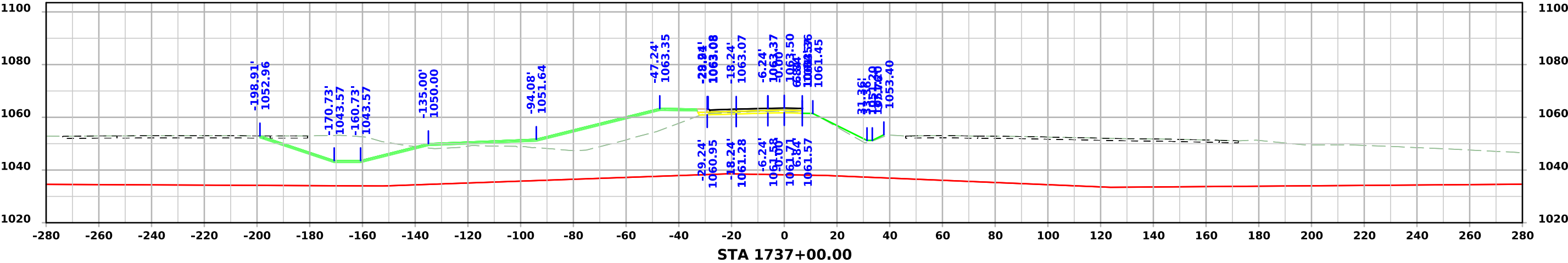
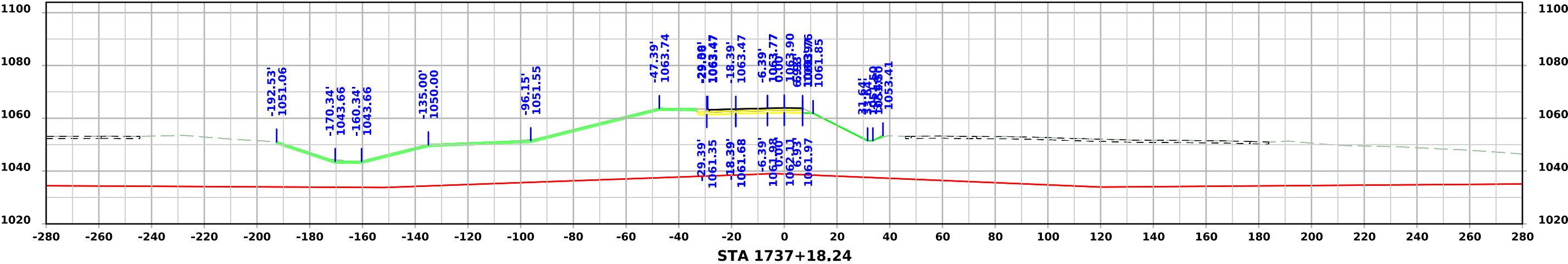
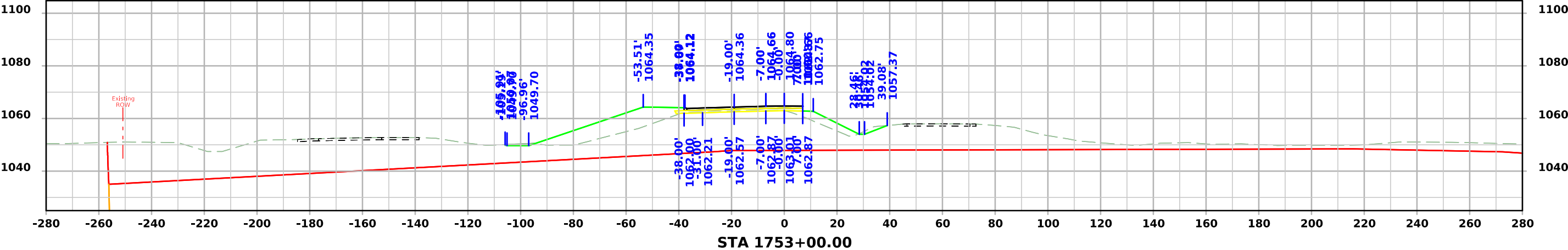
IA 175 - Stage 4



IA 175 - Stage 4

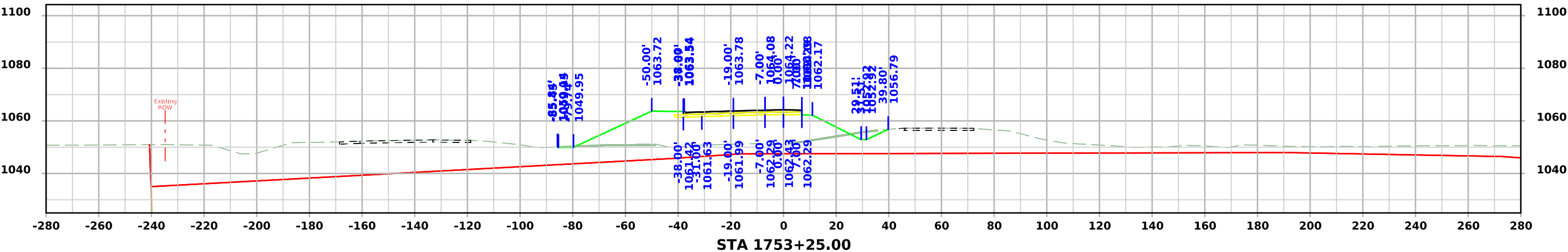
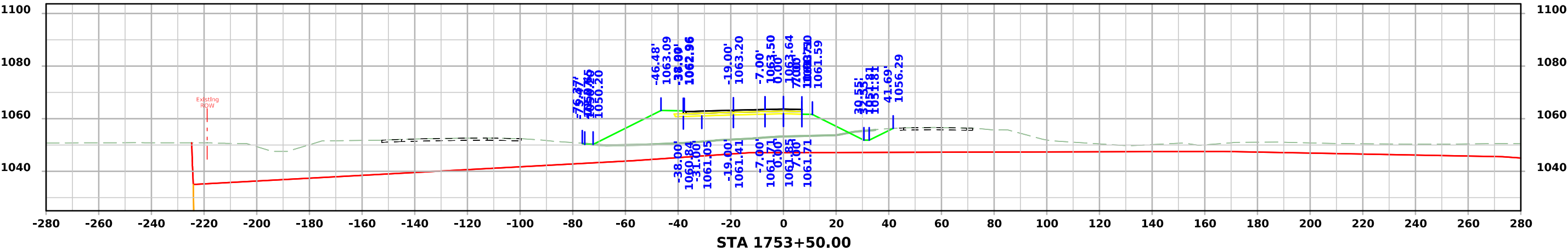
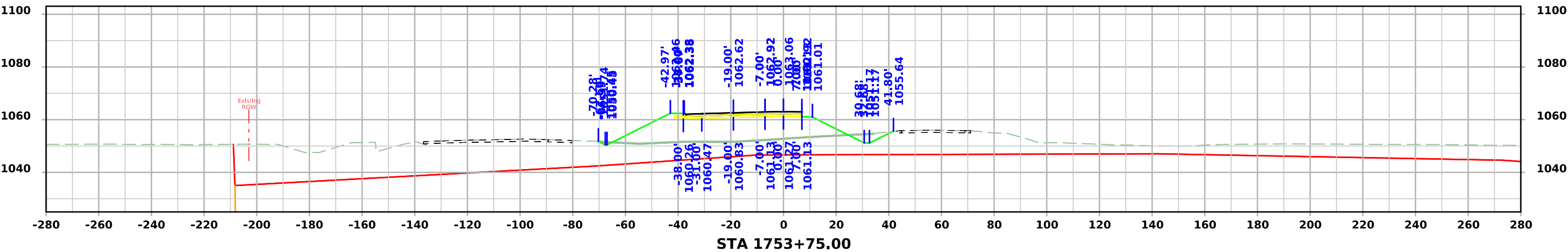


IA 175 - Stage 4

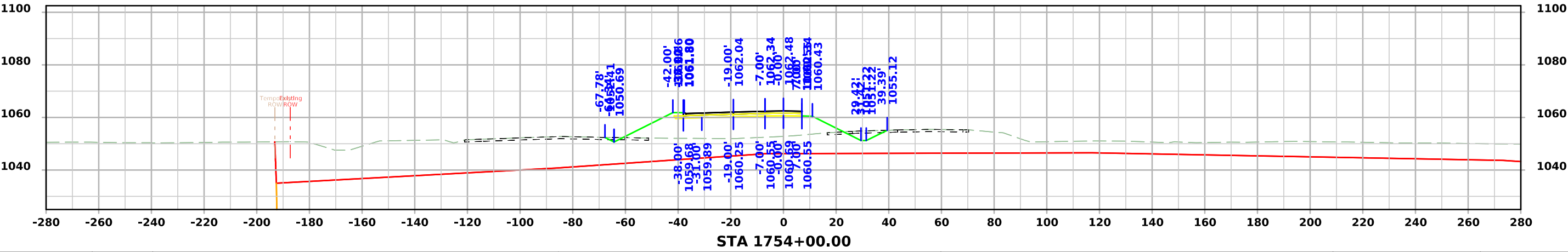
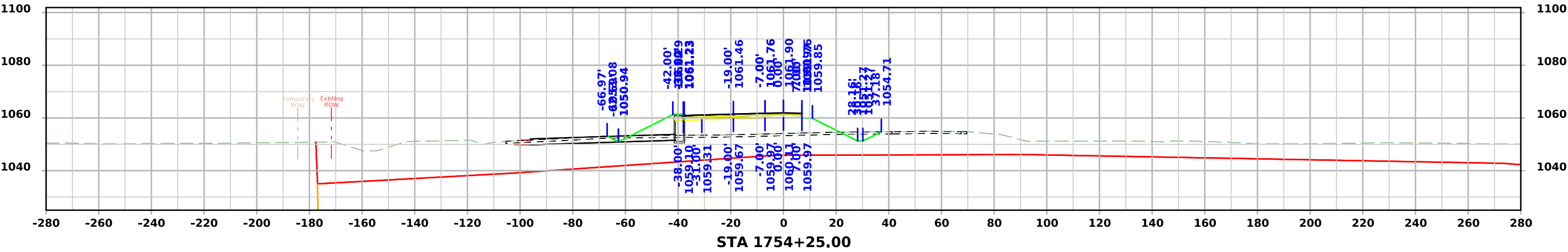
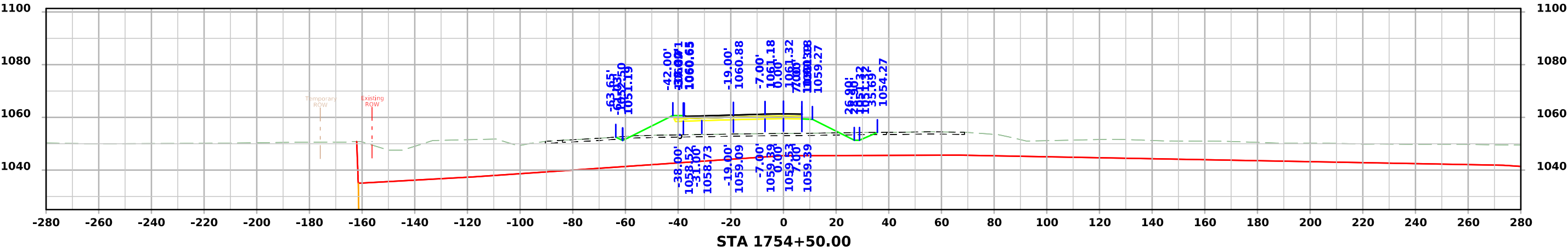




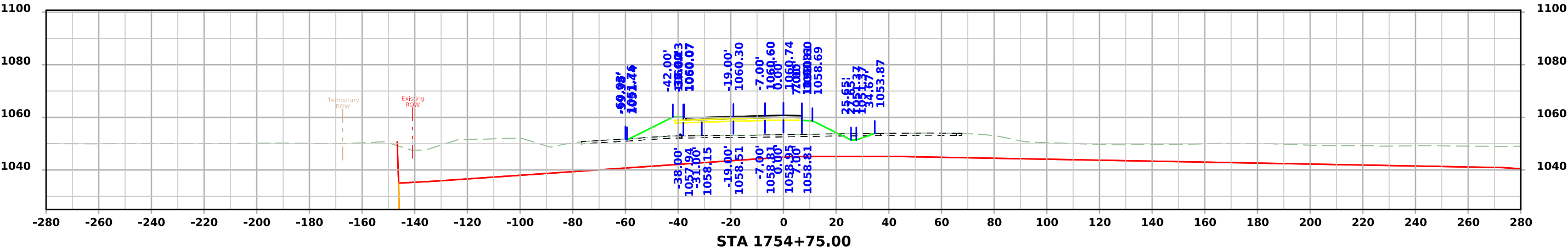
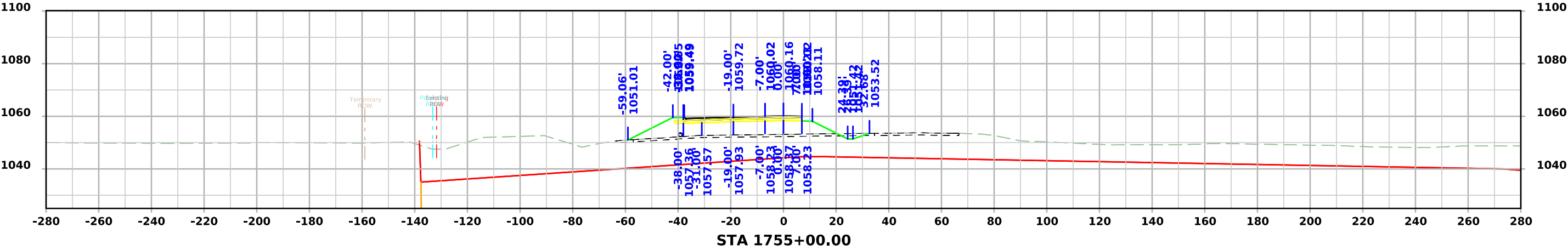
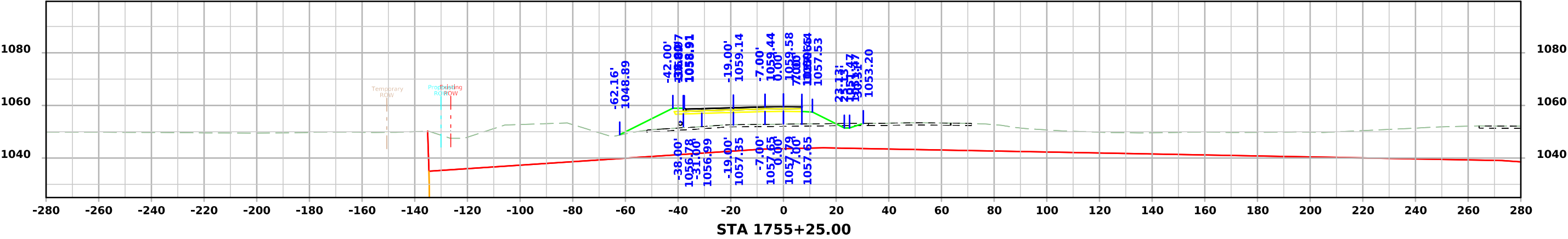
IA 175 - Stage 4



IA 175 - Stage 4

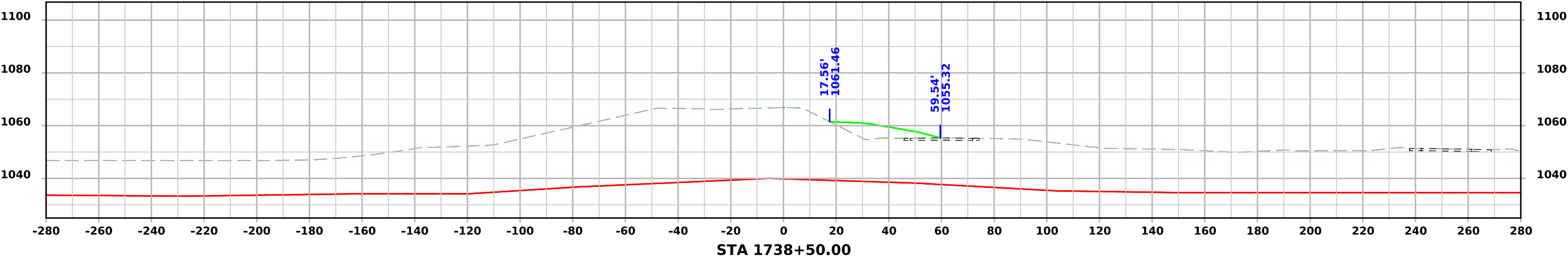
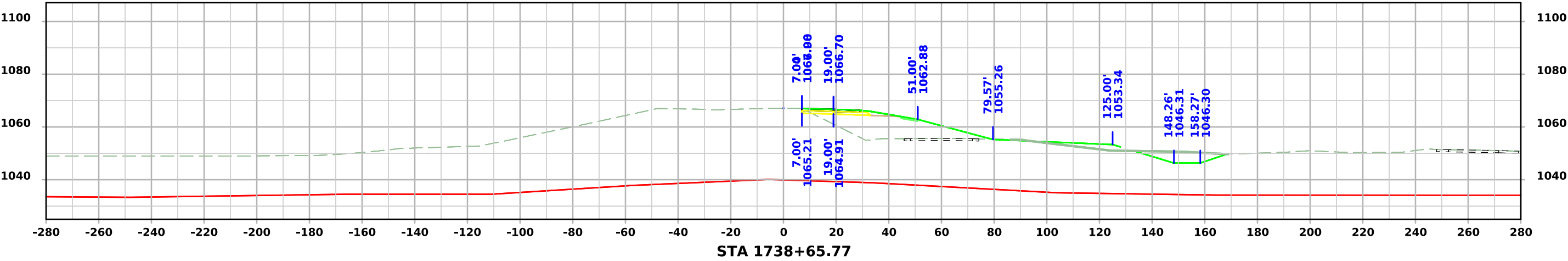
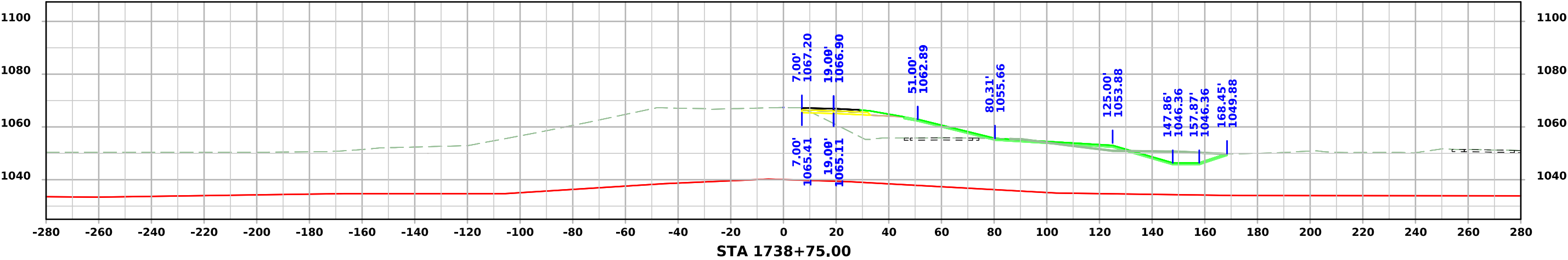


IA 175 - Stage 4

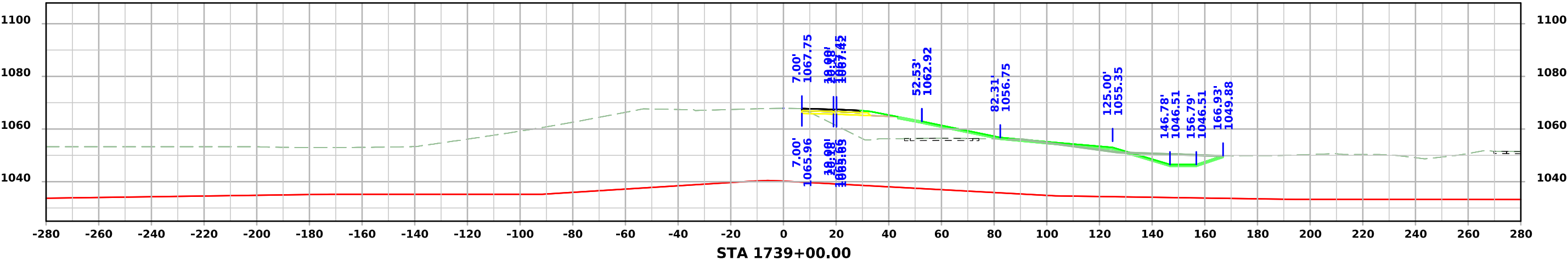
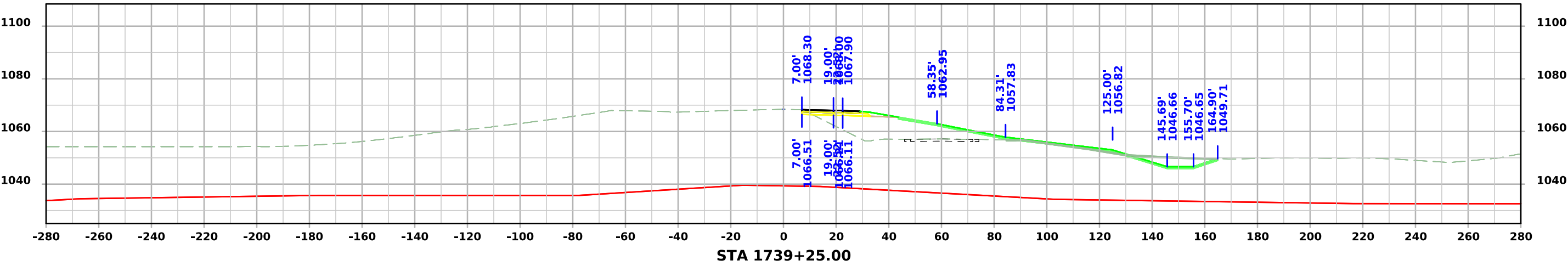
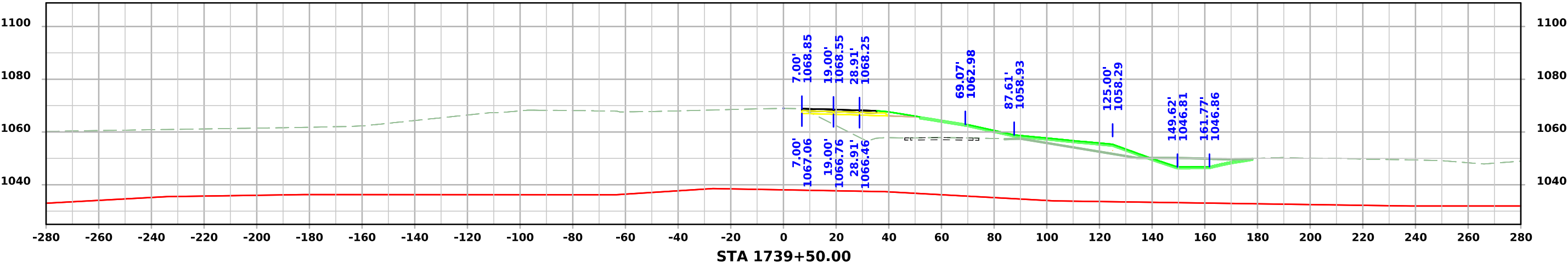




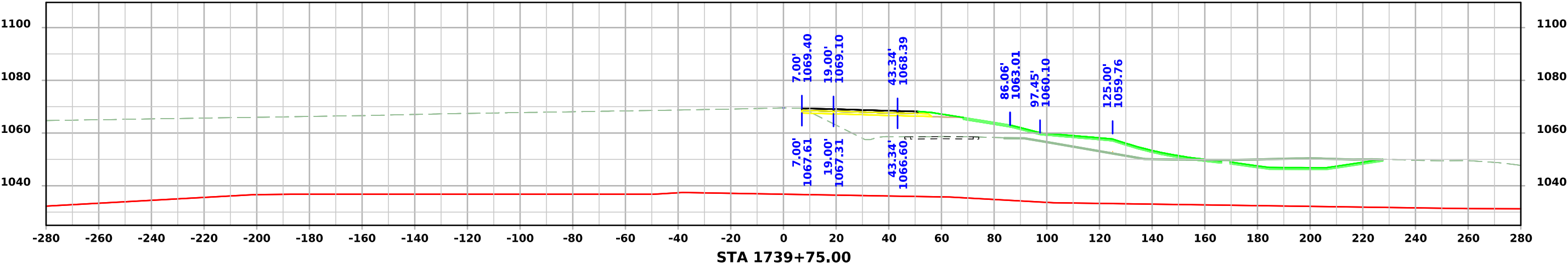
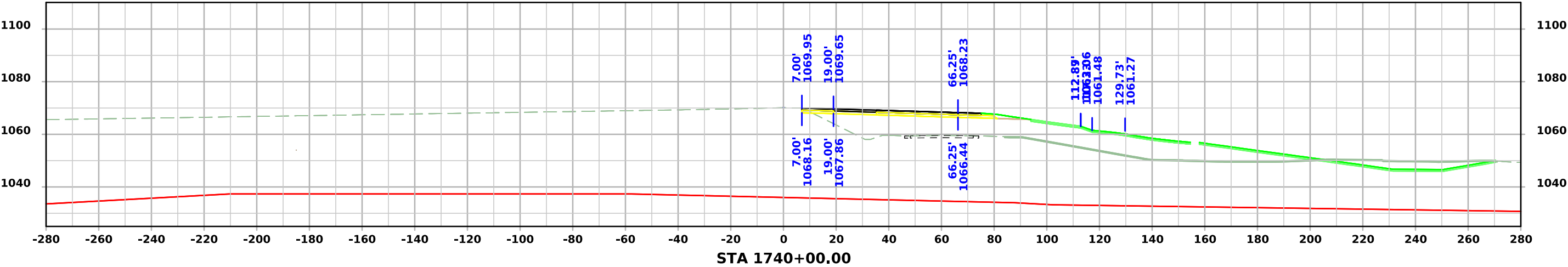
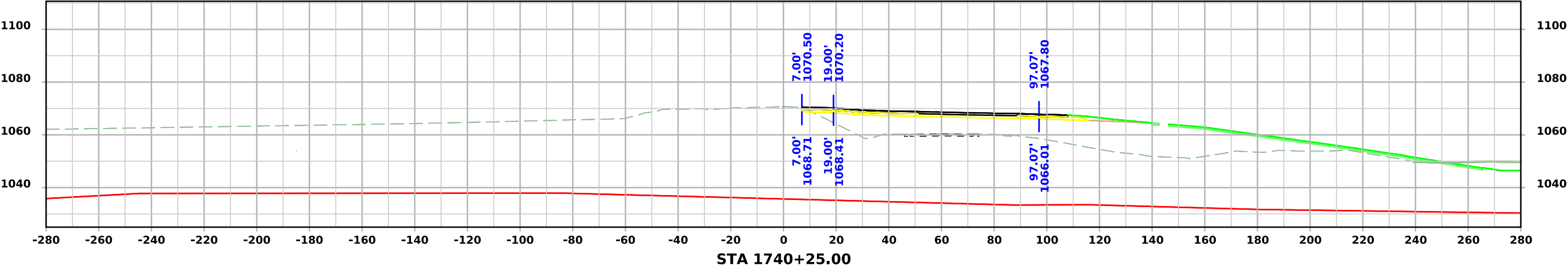
# IA 175 - Stage 5



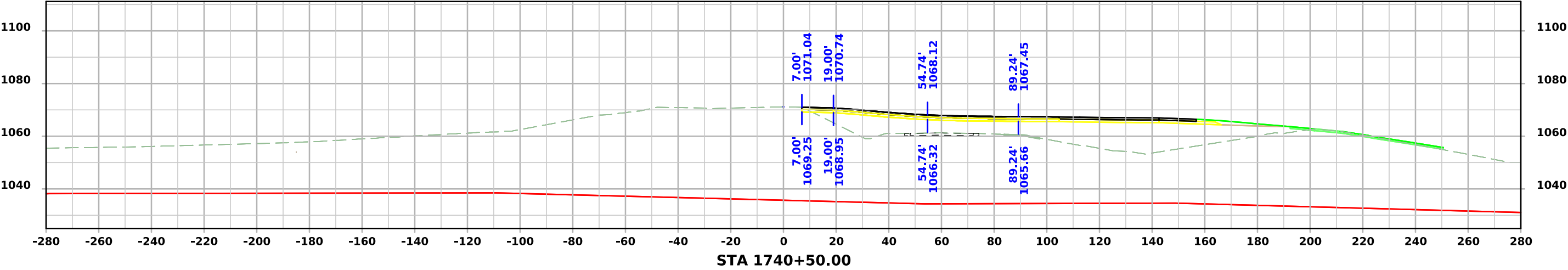
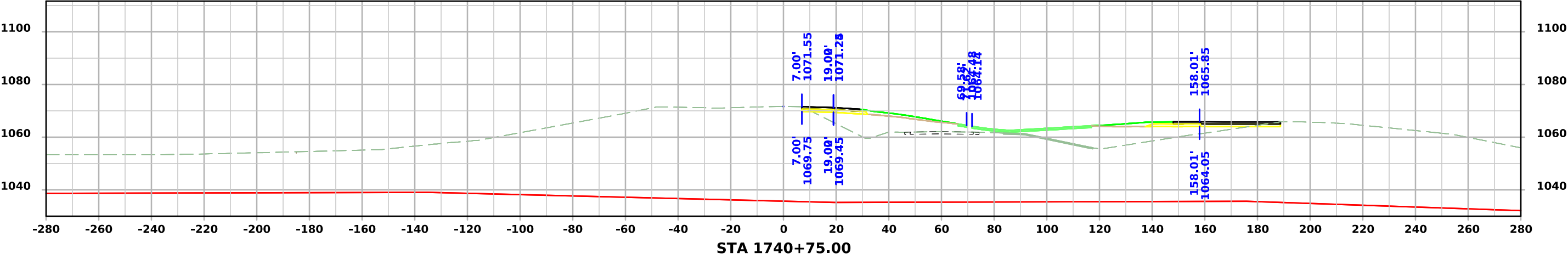
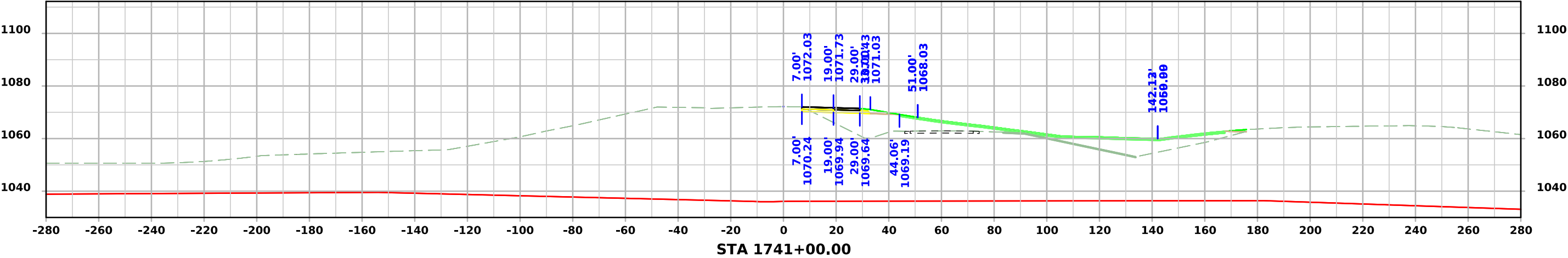
IA 175 - Stage 5



IA 175 - Stage 5

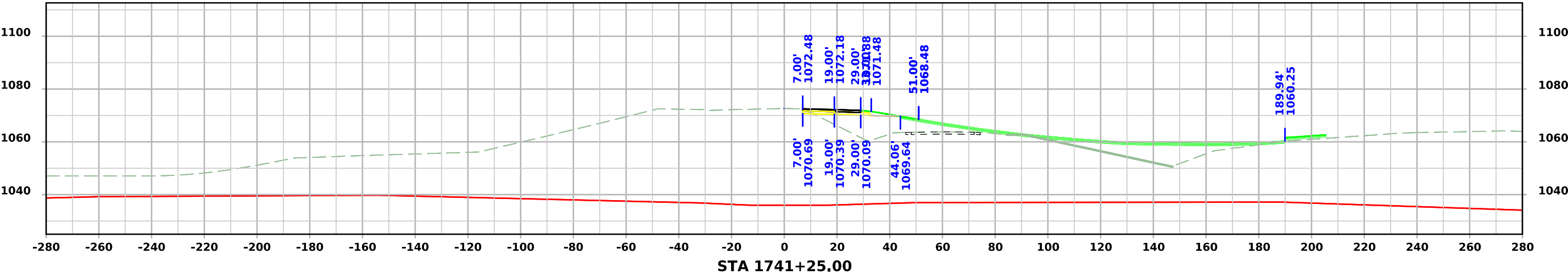
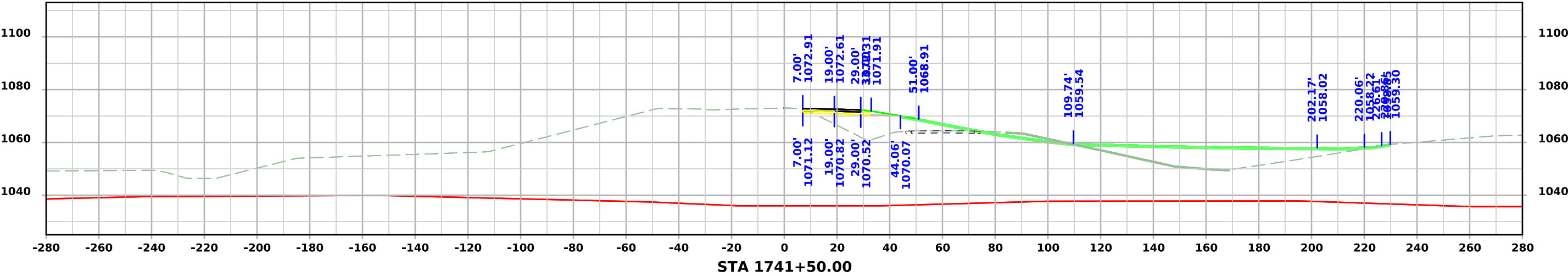
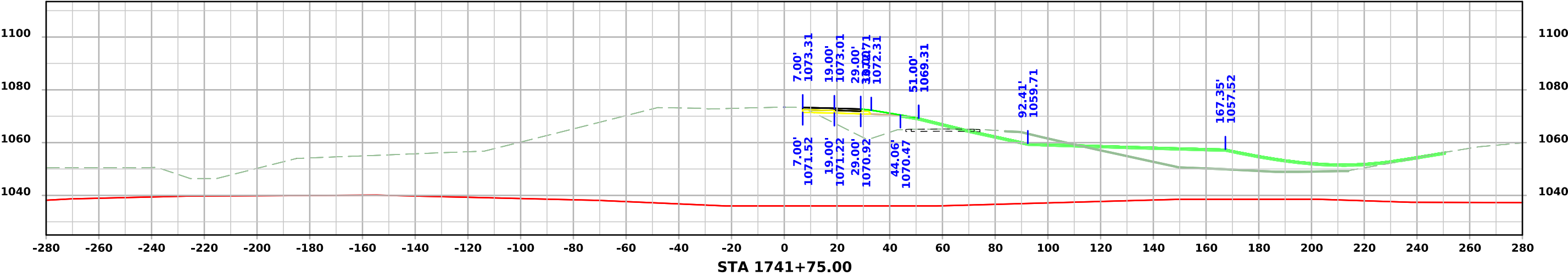


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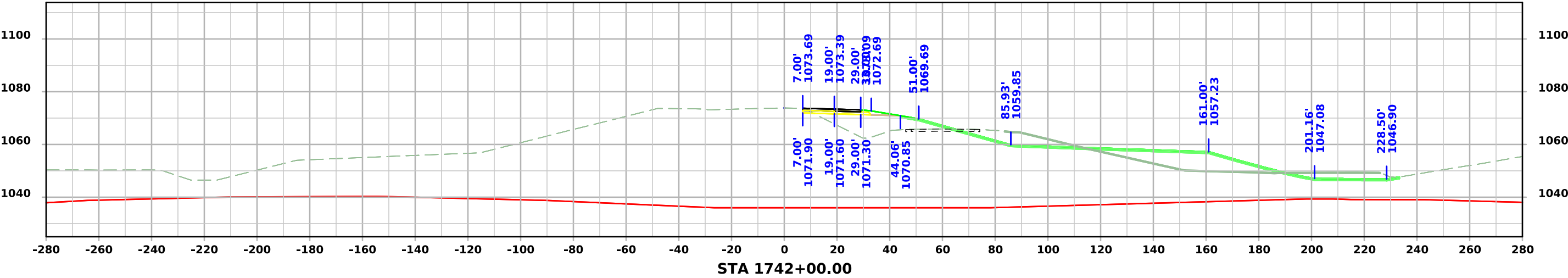
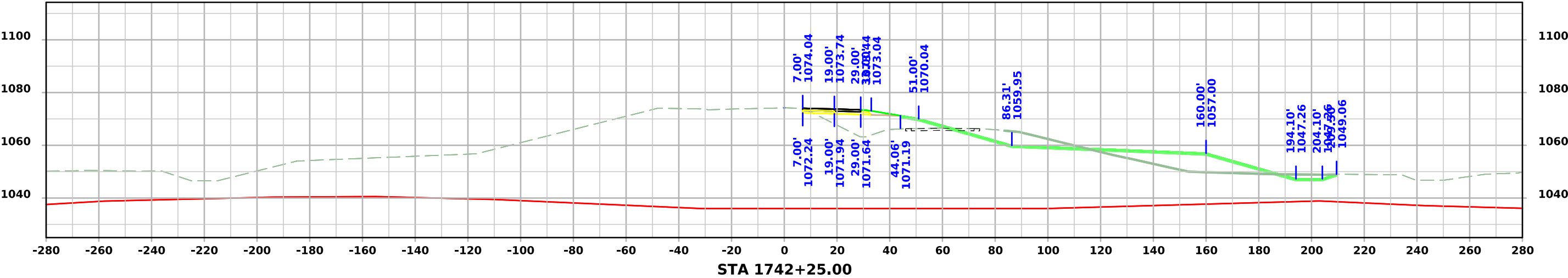
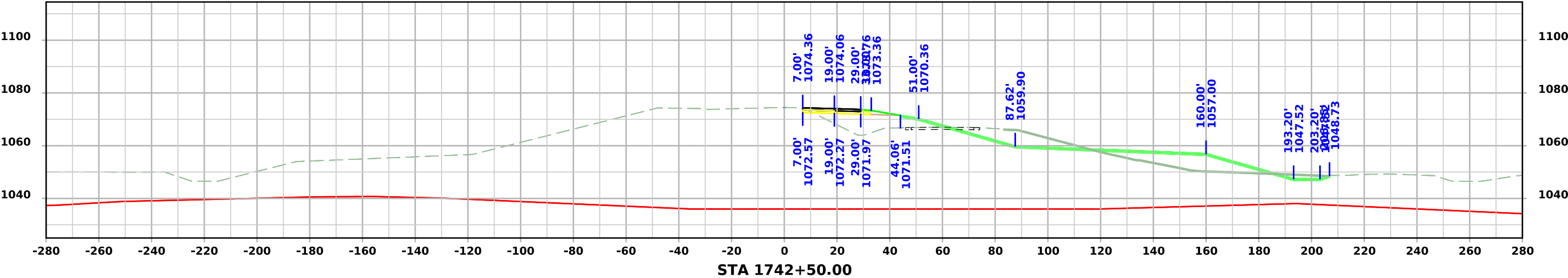




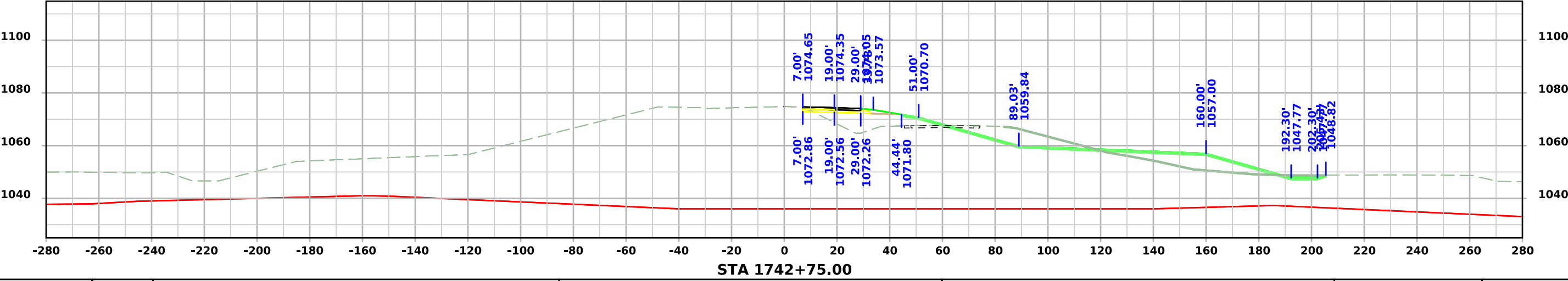
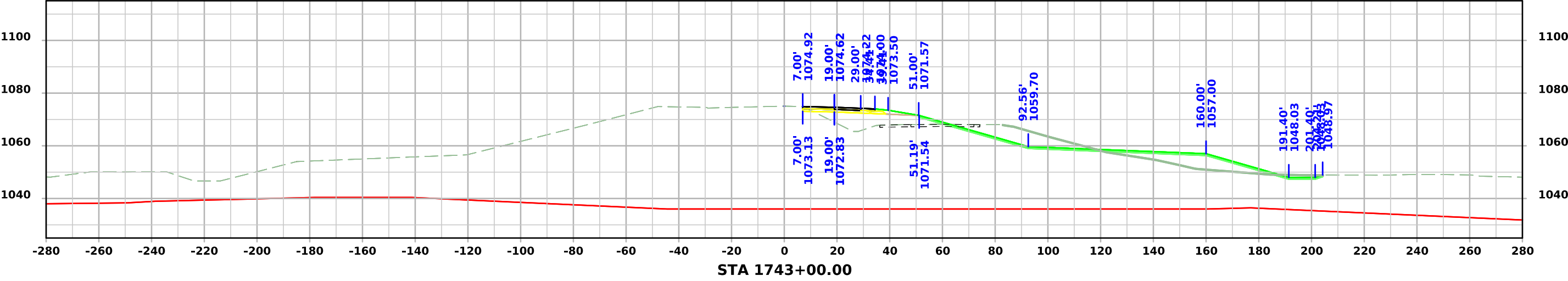
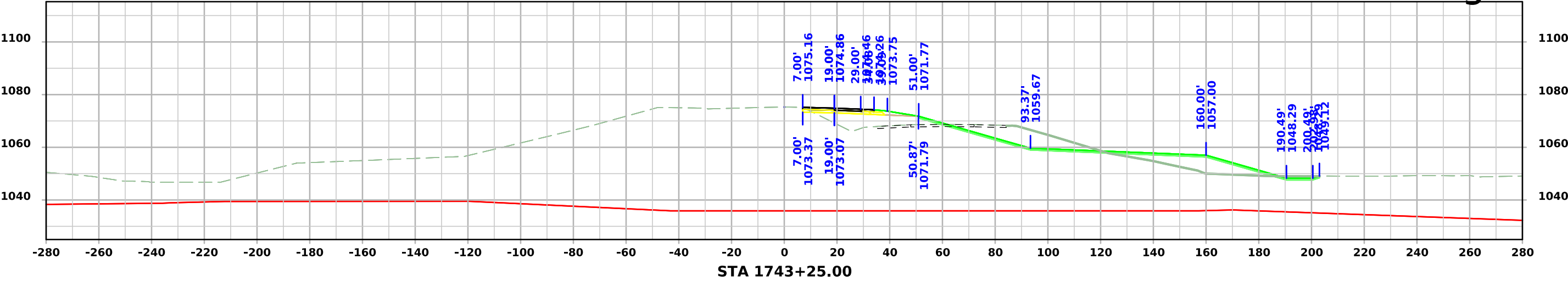
IA 175 - Stage 5



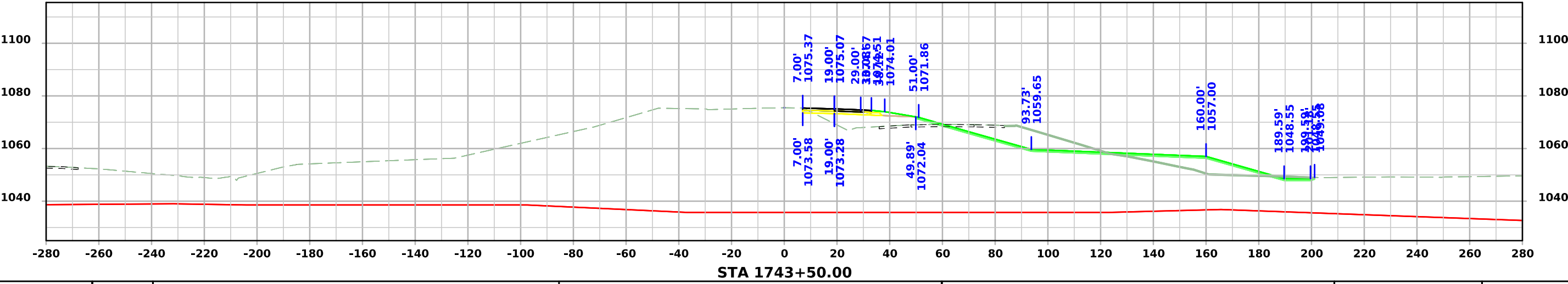
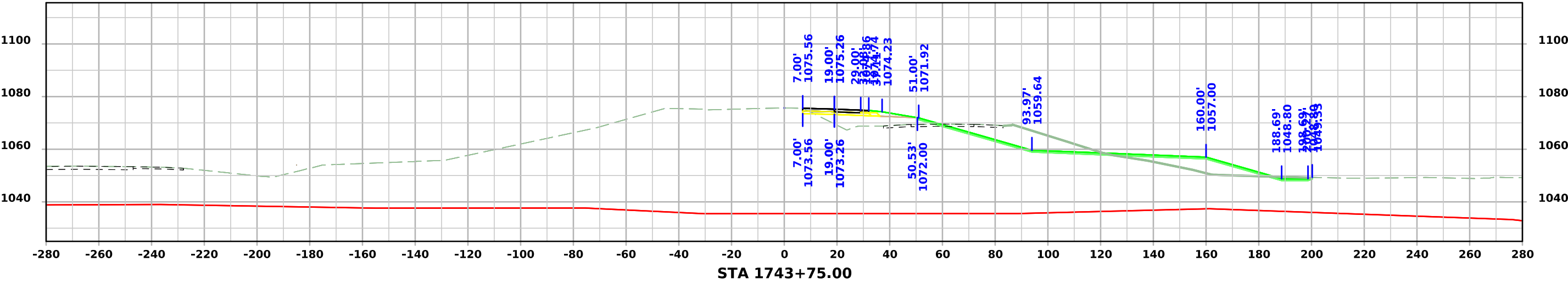
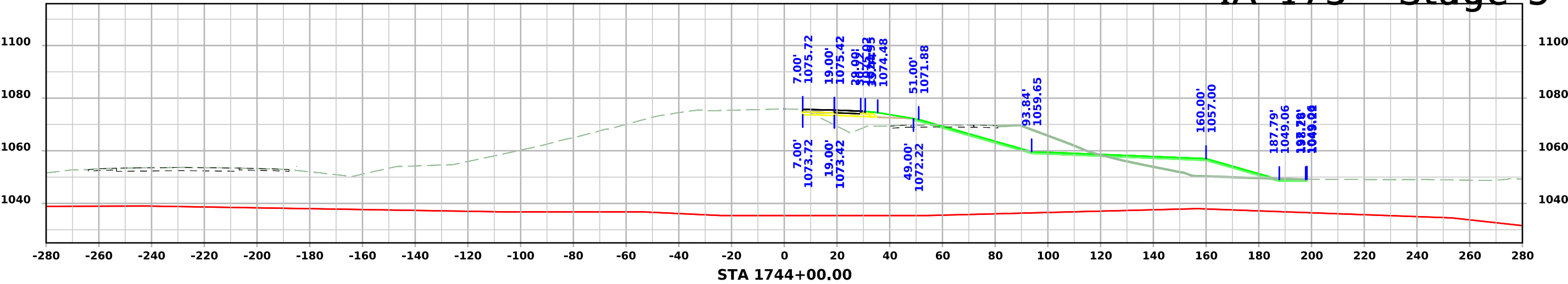
IA 175 - Stage 5



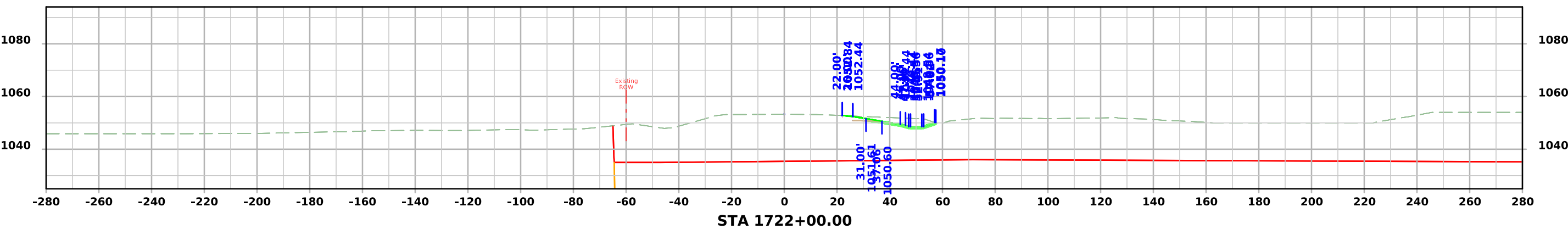
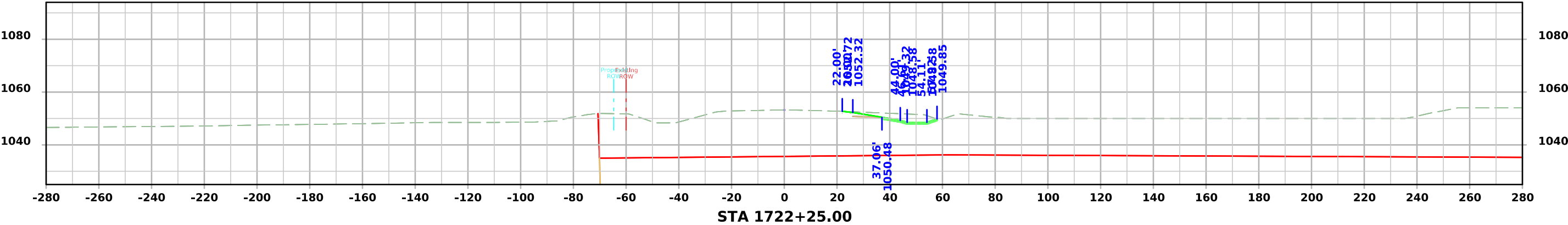
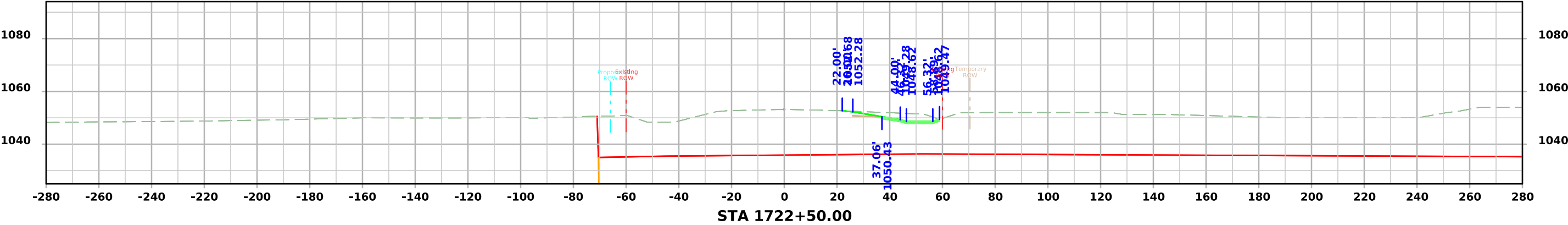
IA 175 - Stage 5



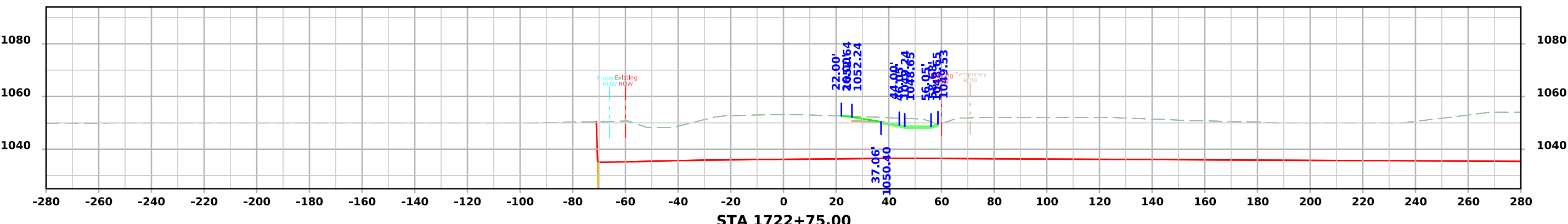
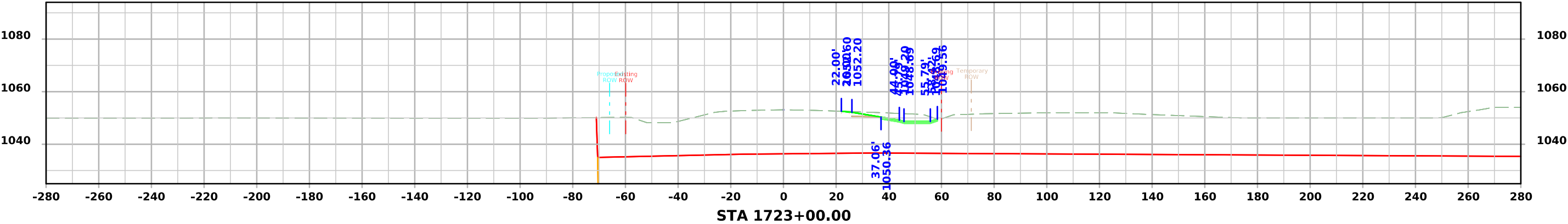
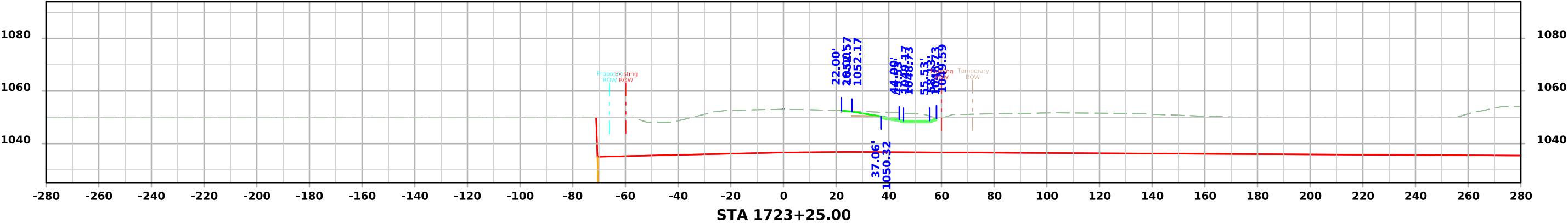
IA 175 - Stage 5



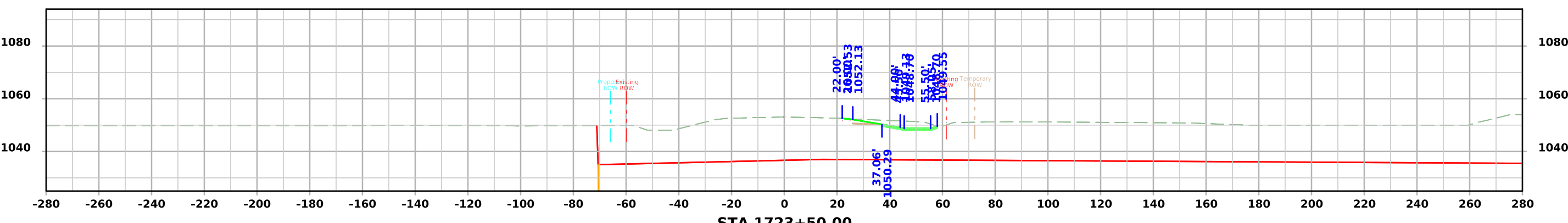
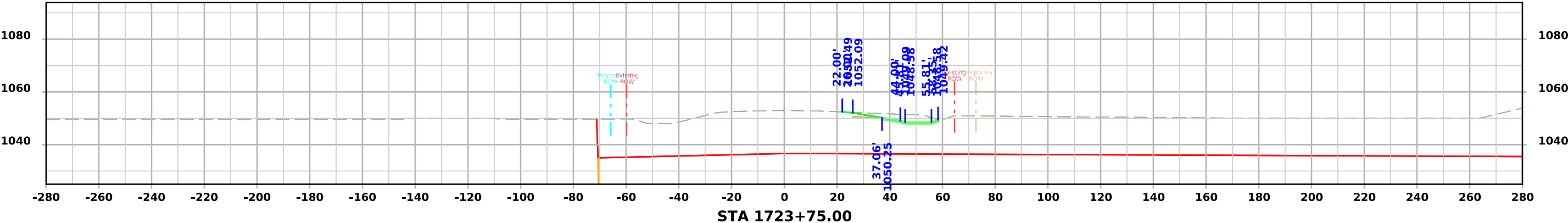
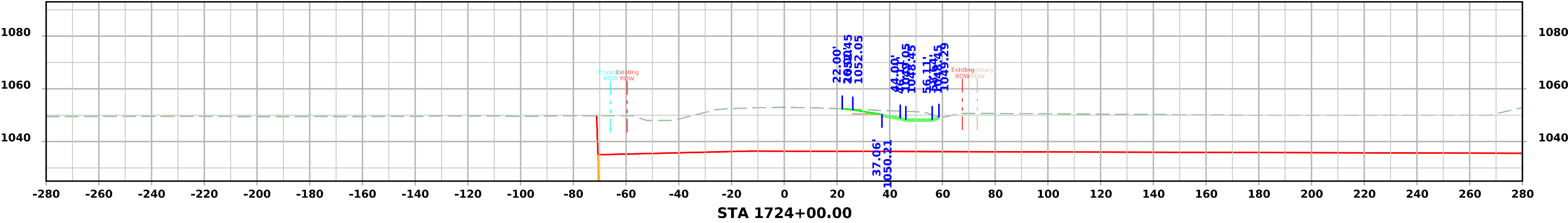
IA 175 - Stage 6



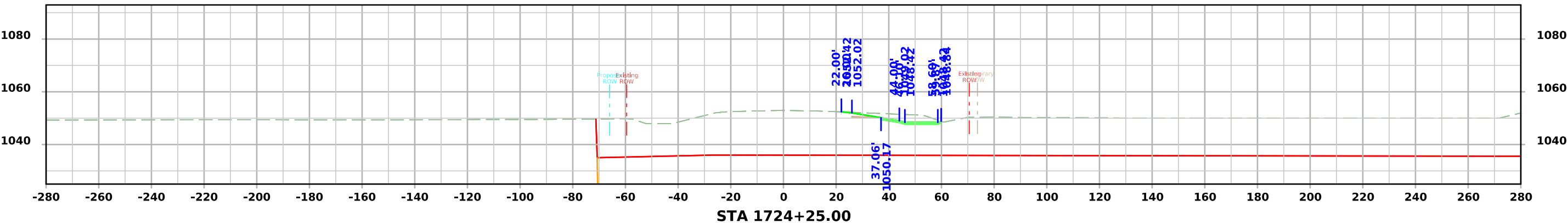
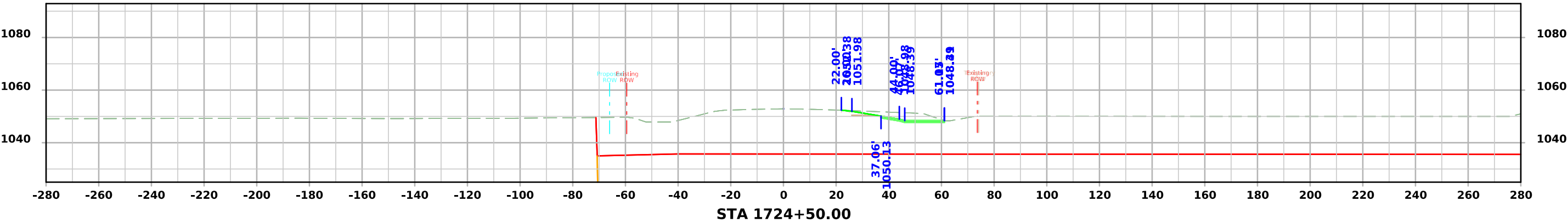
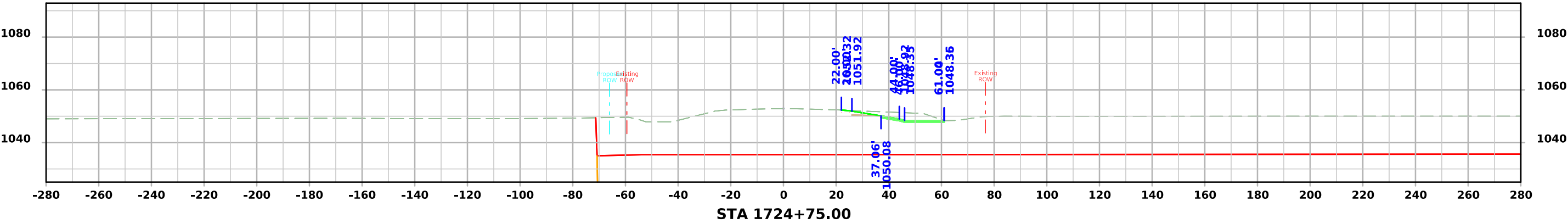
IA 175 - Stage 6



IA 175 - Stage 6

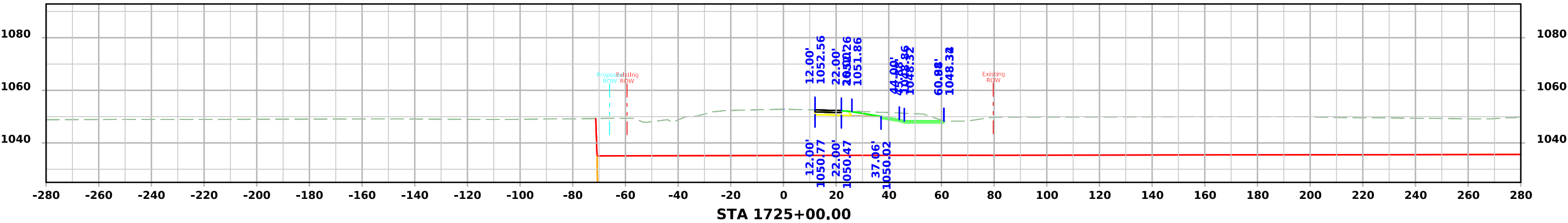
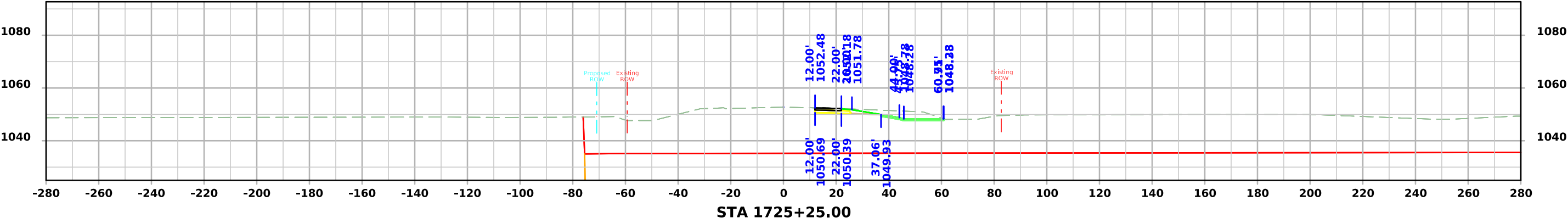
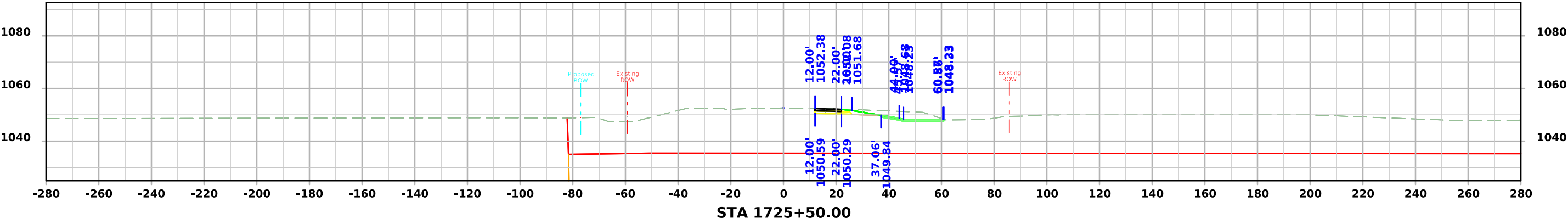


IA 175 - Stage 6

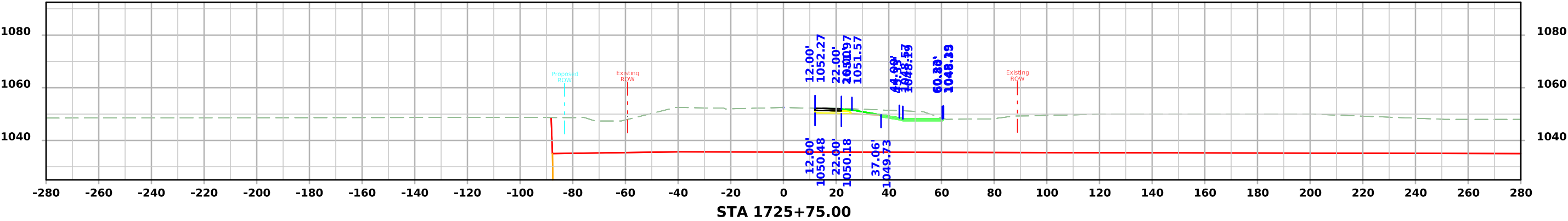
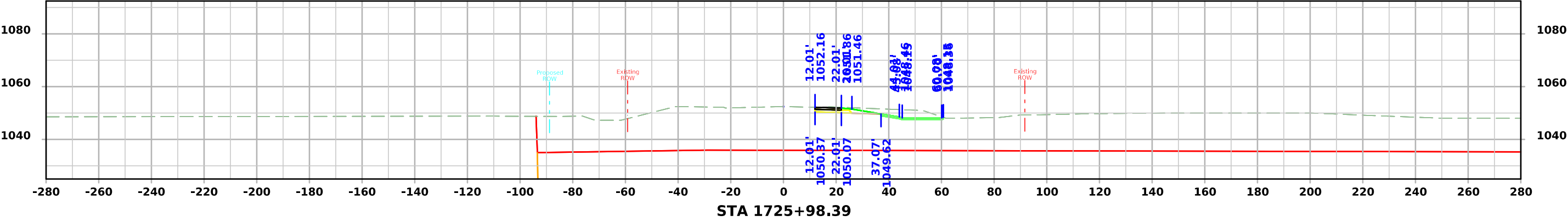
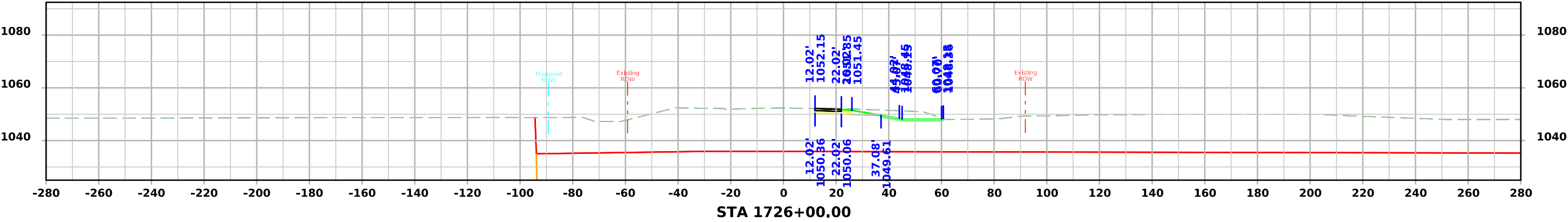




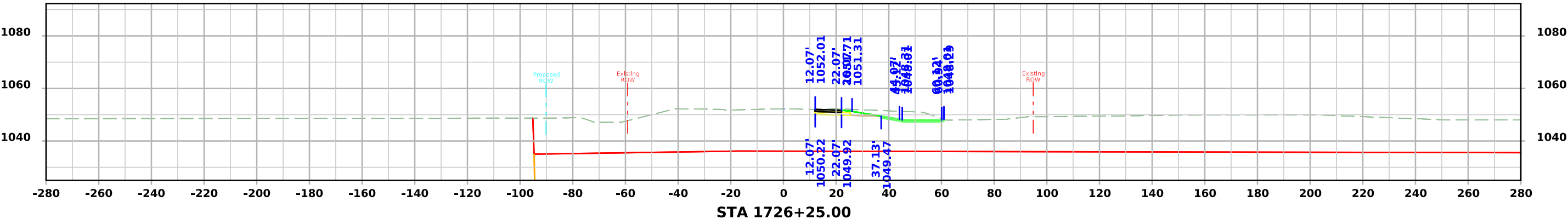
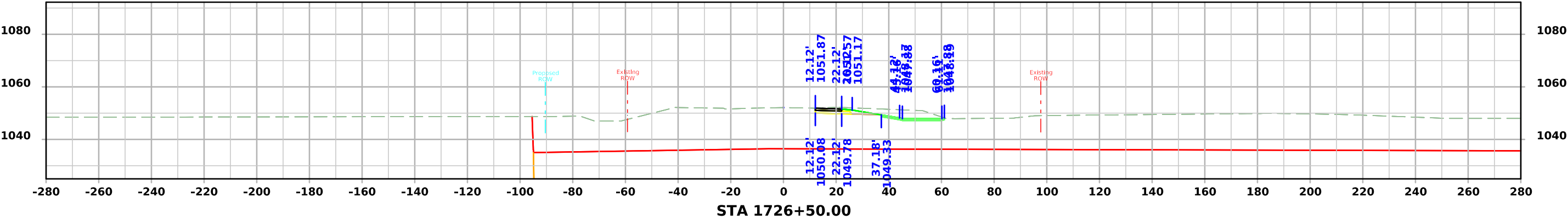
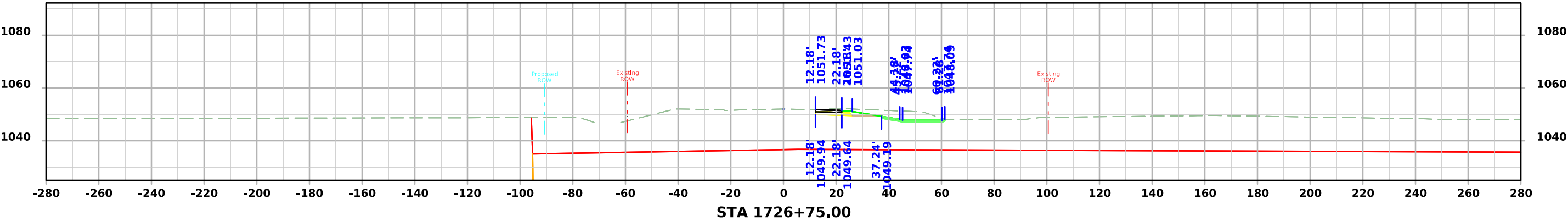
IA 175 - Stage 6



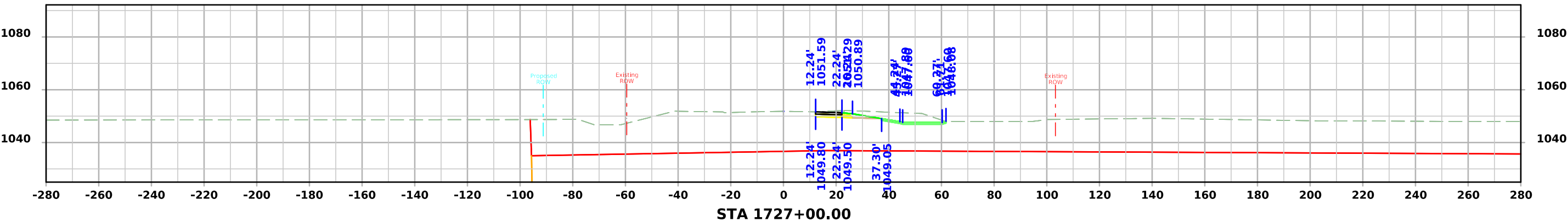
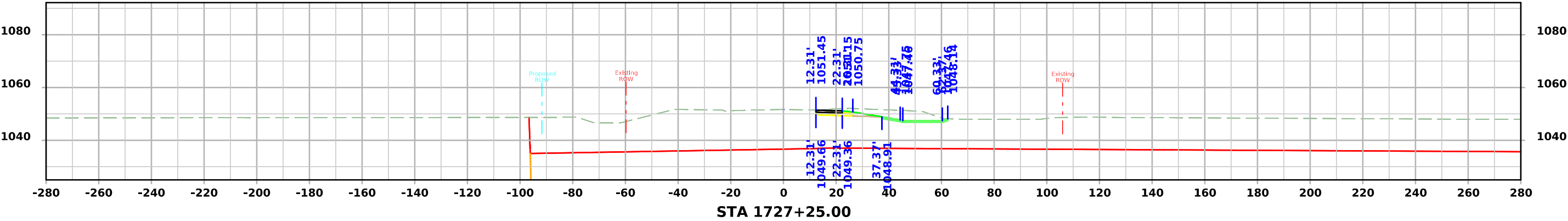
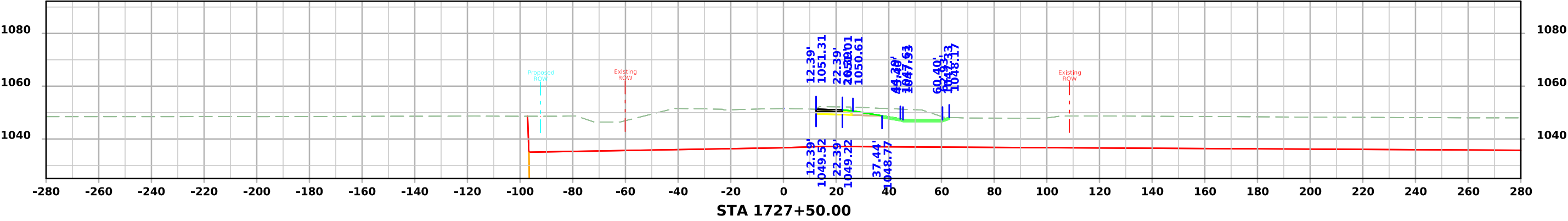
IA 175 - Stage 6



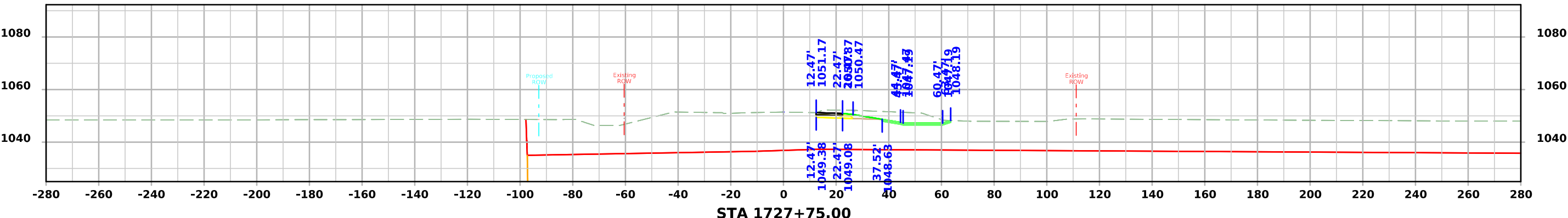
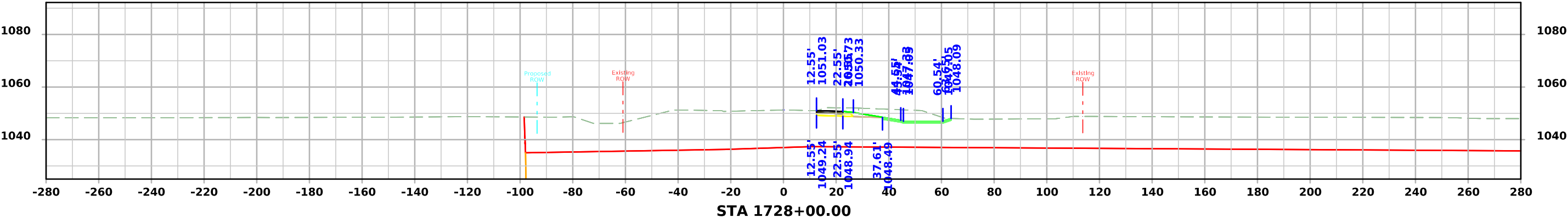
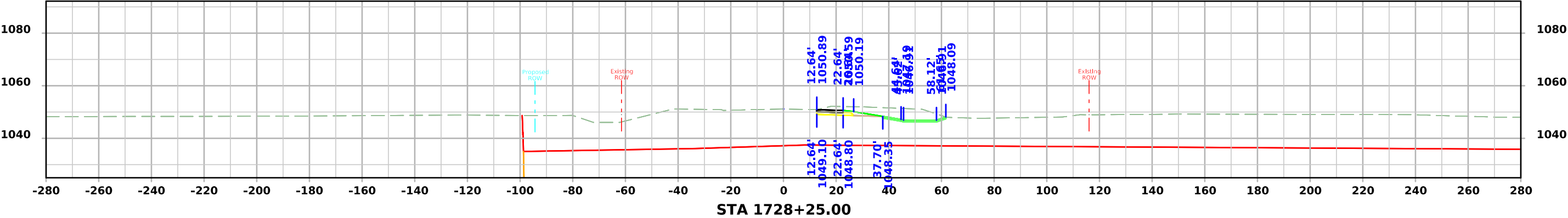
IA 175 - Stage 6



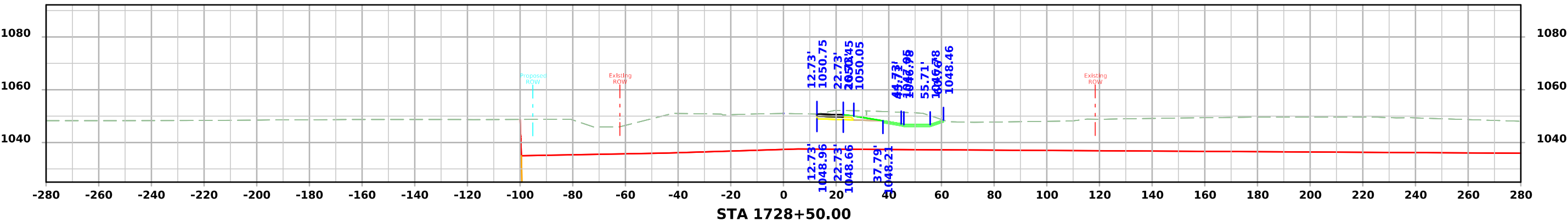
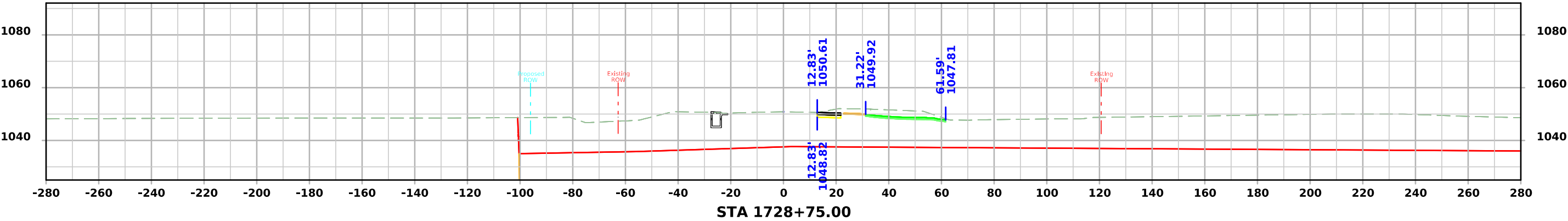
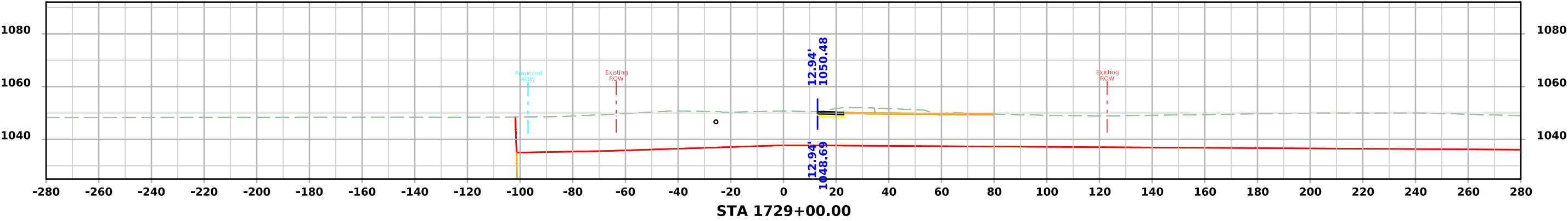
IA 175 - Stage 6



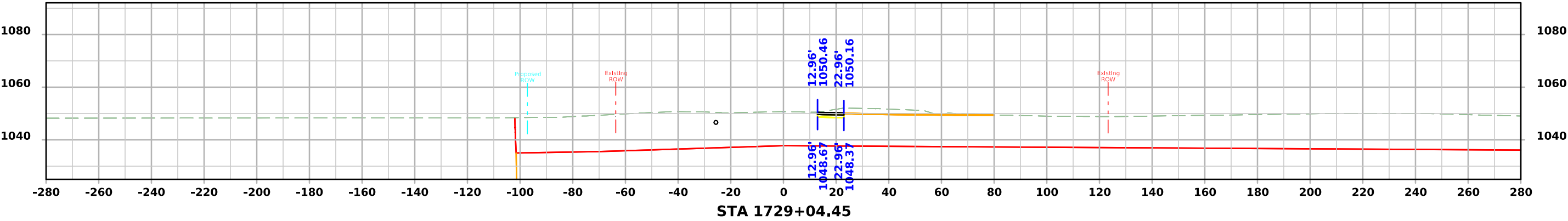
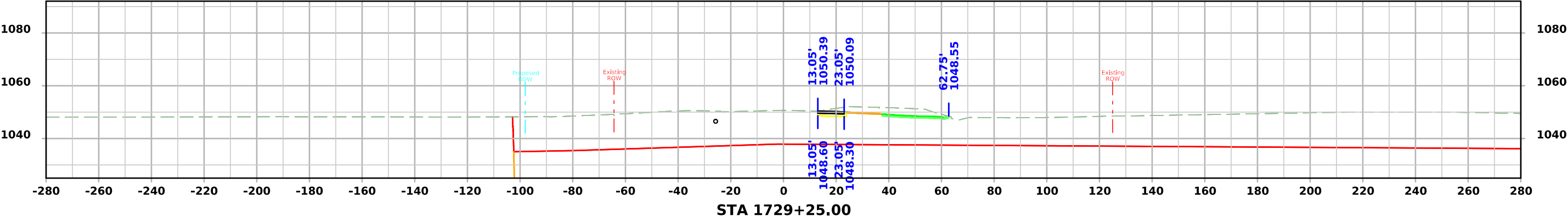
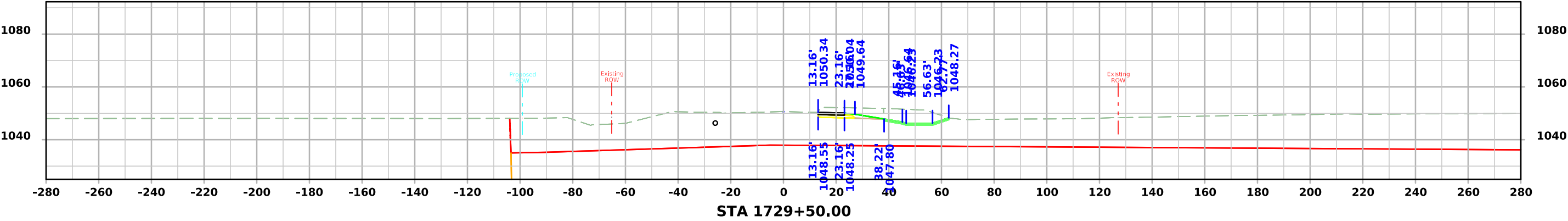
IA 175 - Stage 6



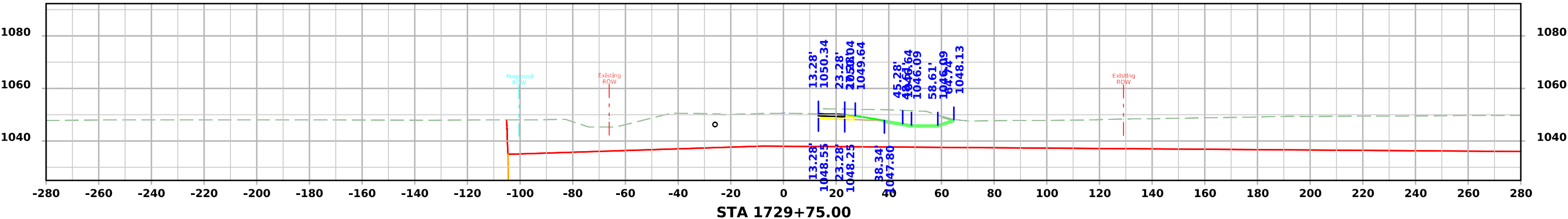
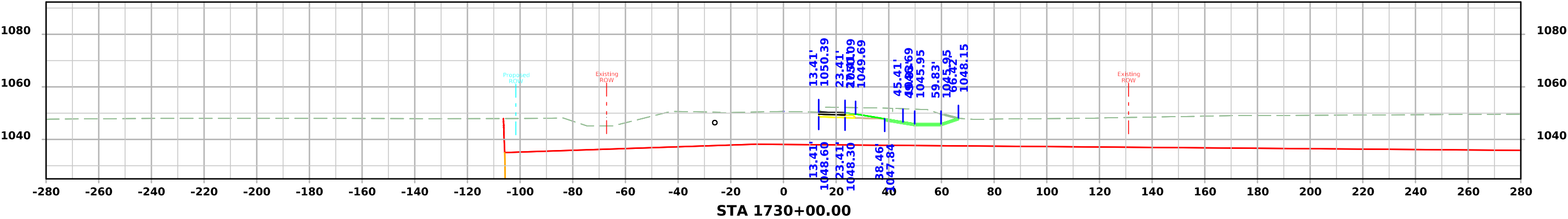
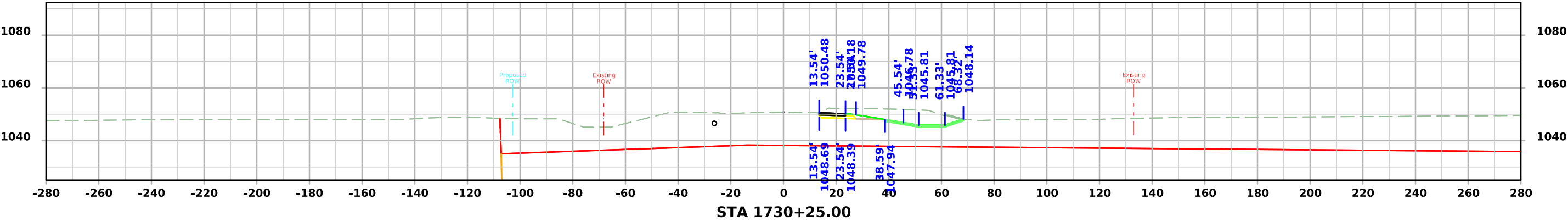
IA 175 - Stage 6



IA 175 - Stage 6

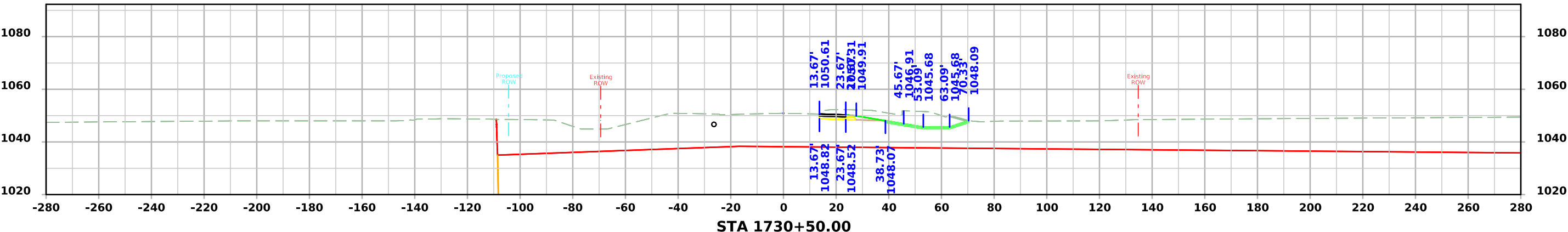
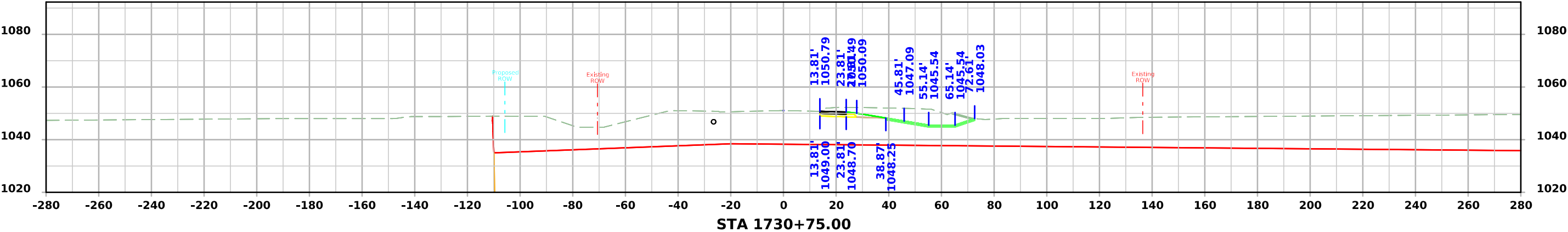
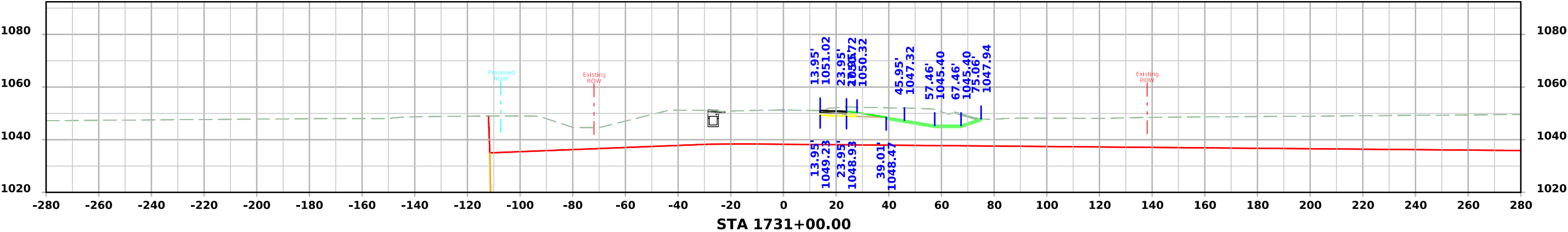


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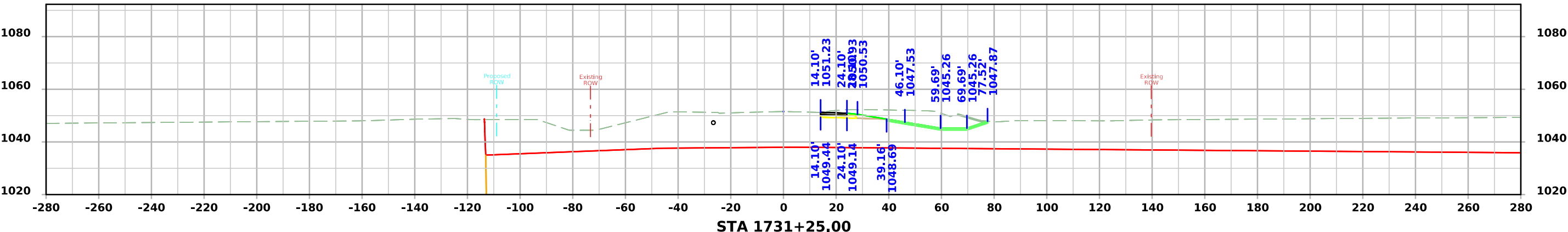
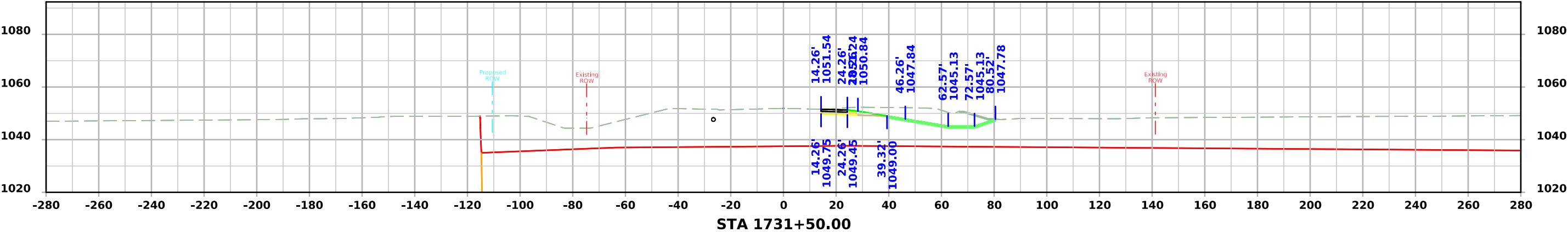
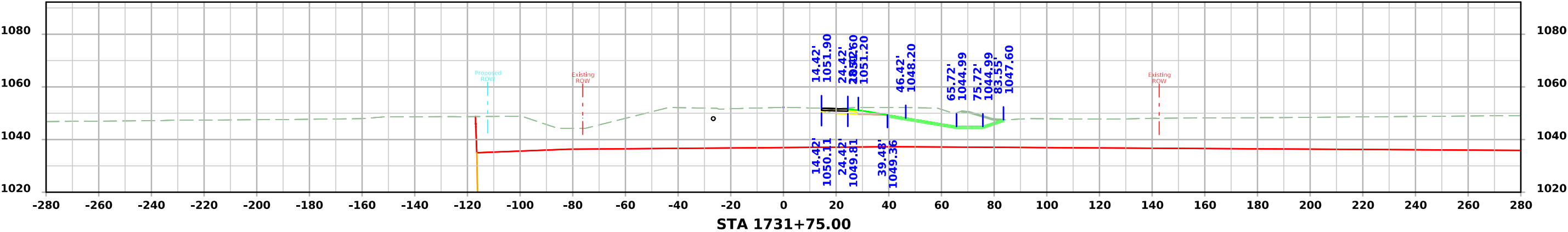




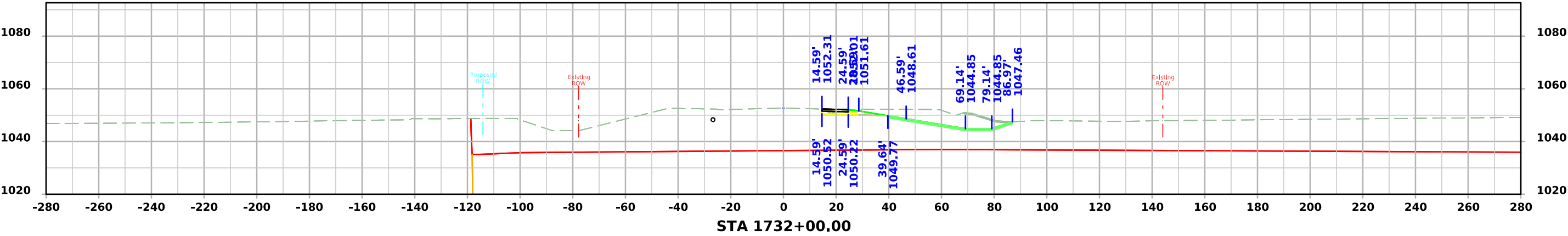
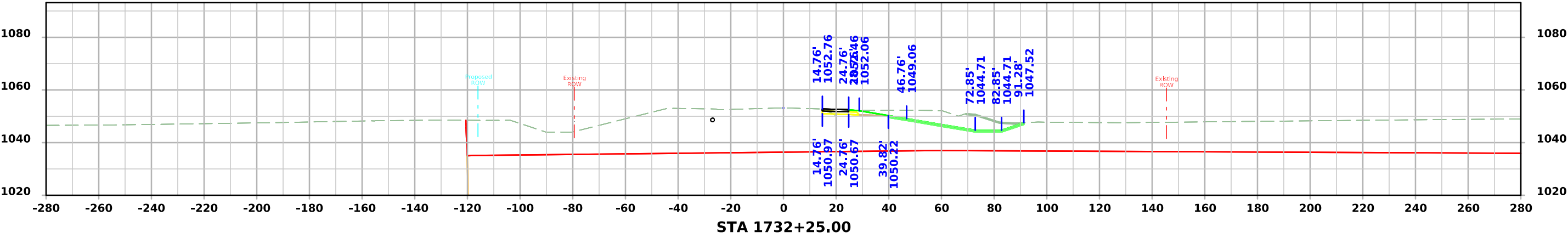
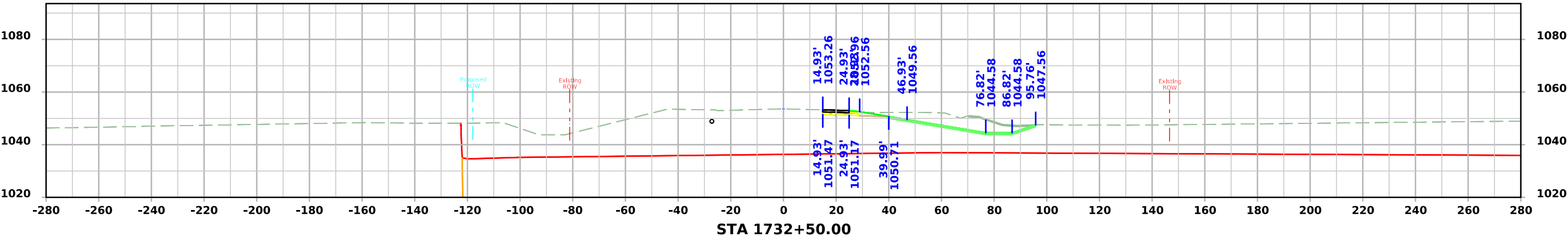
IA 175 - Stage 6



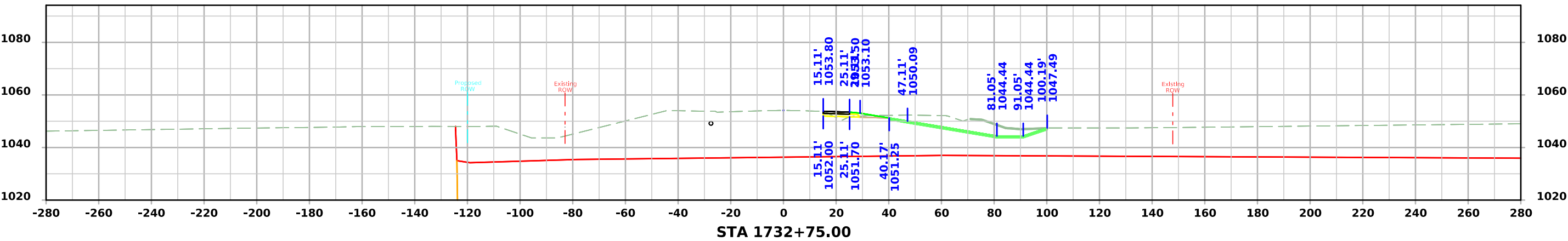
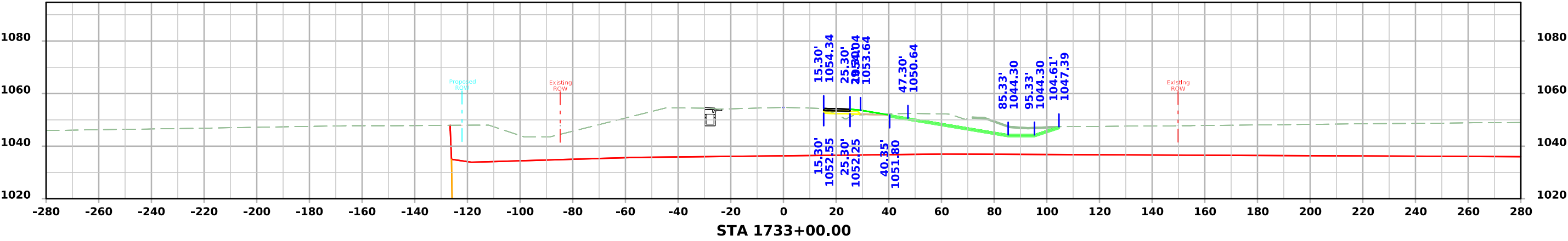
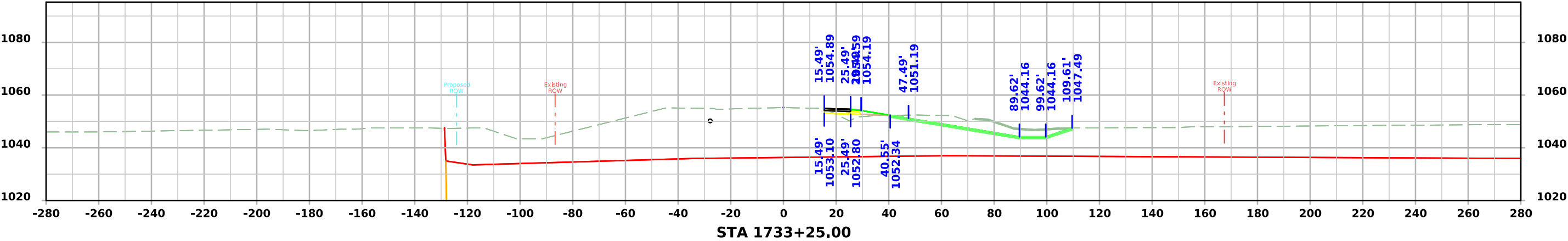
IA 175 - Stage 6



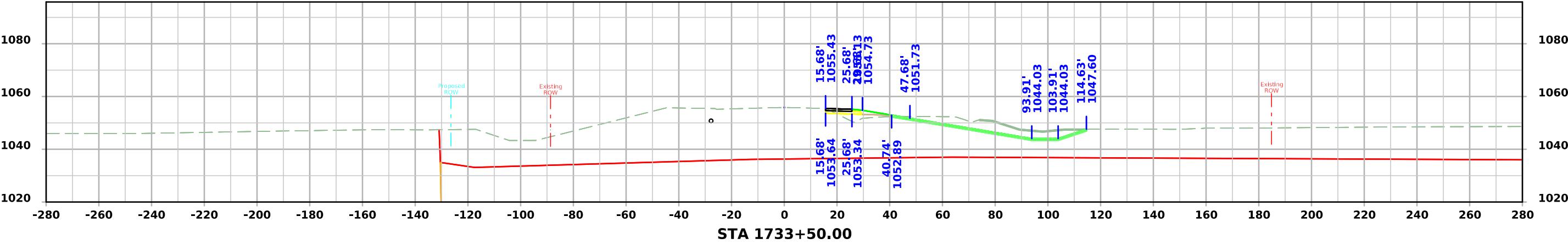
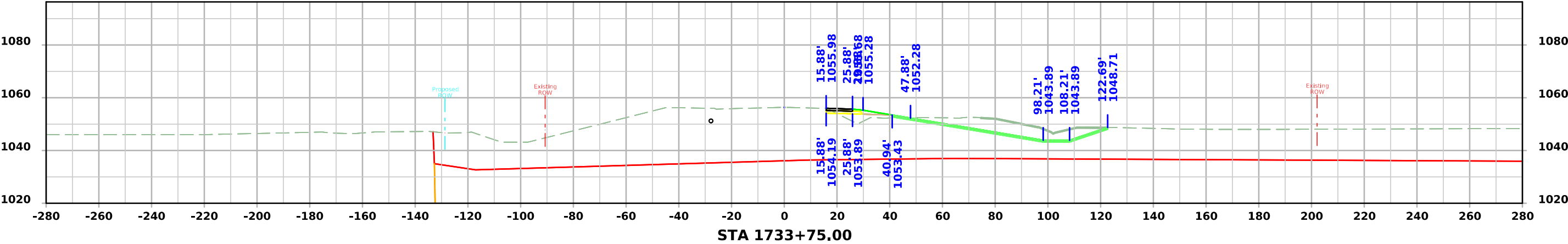
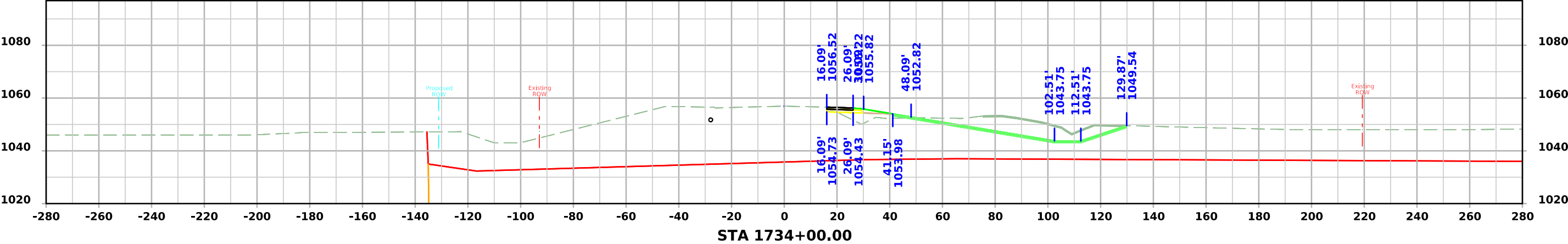
IA 175 - Stage 6



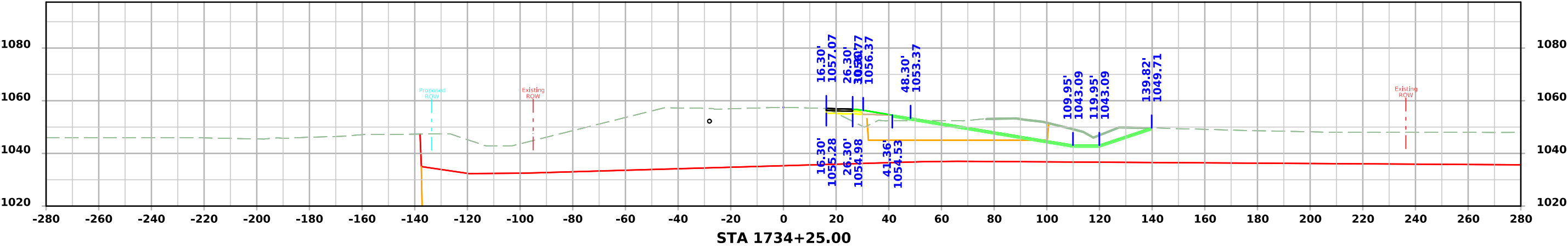
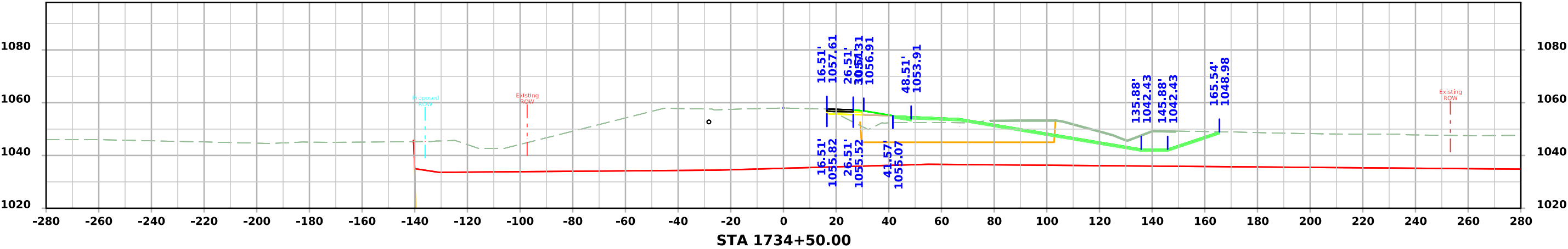
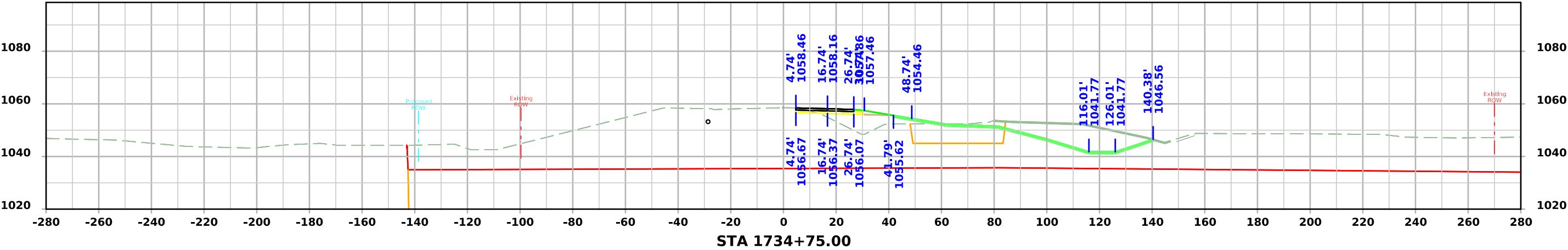
IA 175 - Stage 6



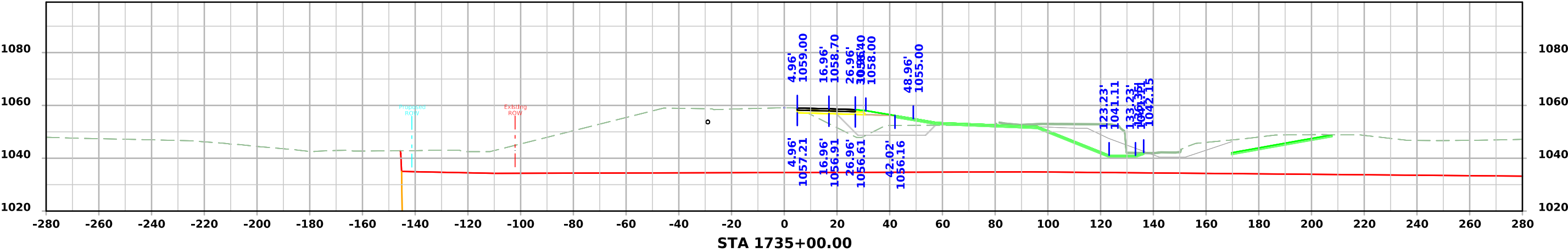
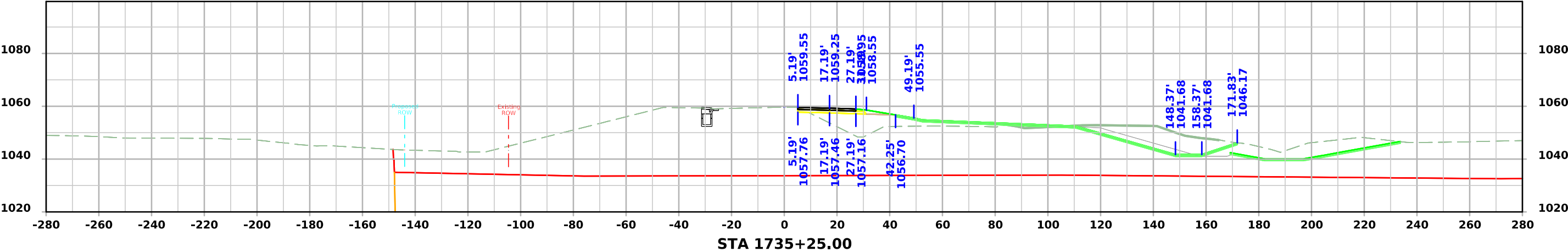
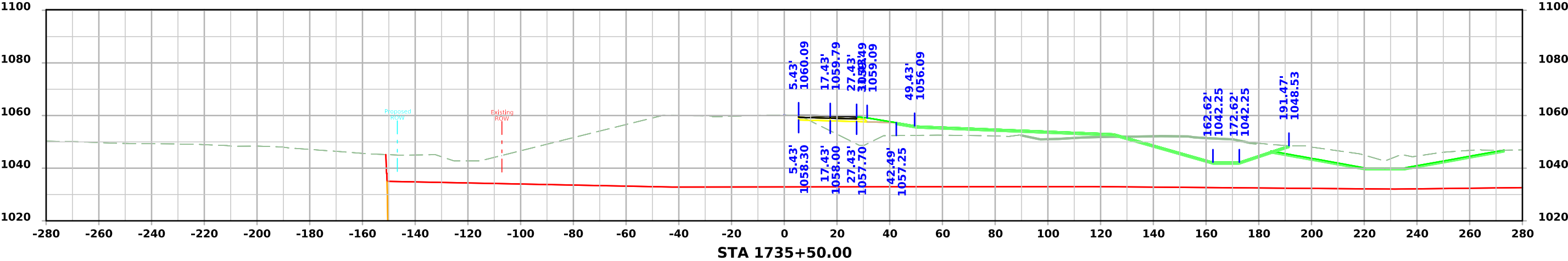
IA 175 - Stage 6



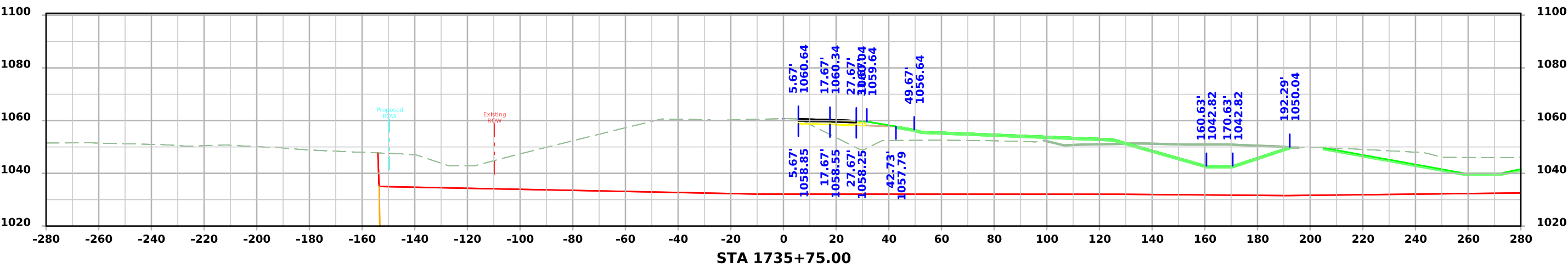
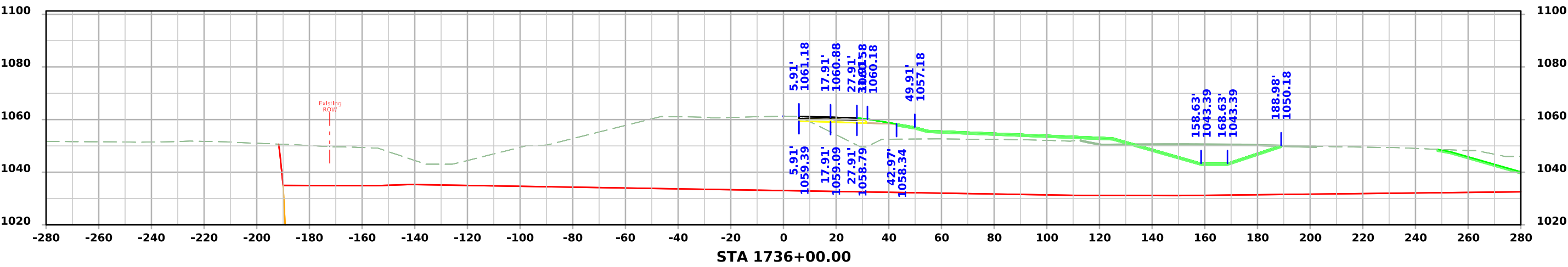
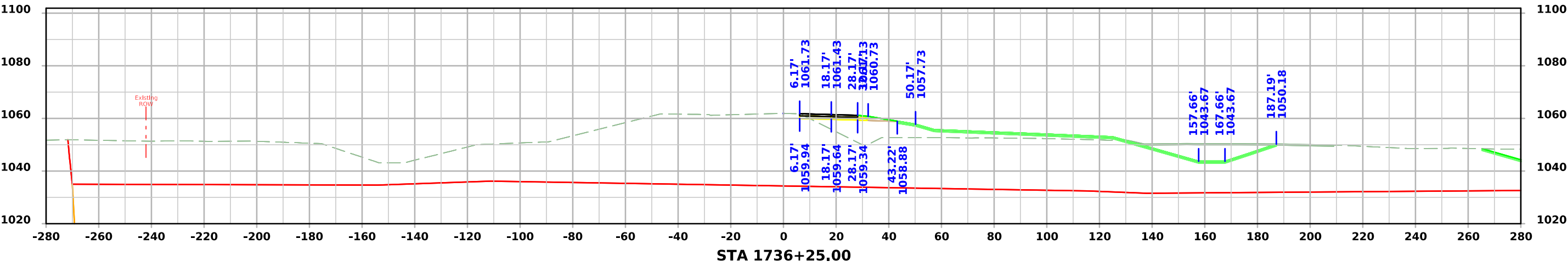
IA 175 - Stage 6



IA 175 - Stage 6

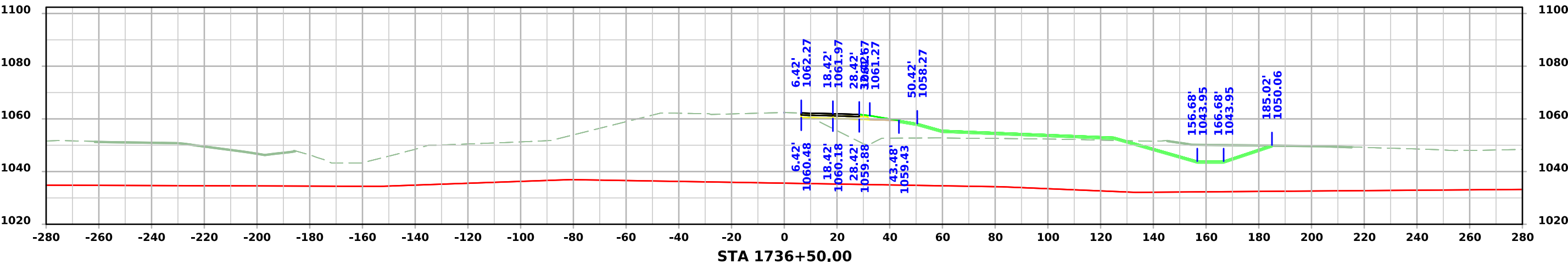
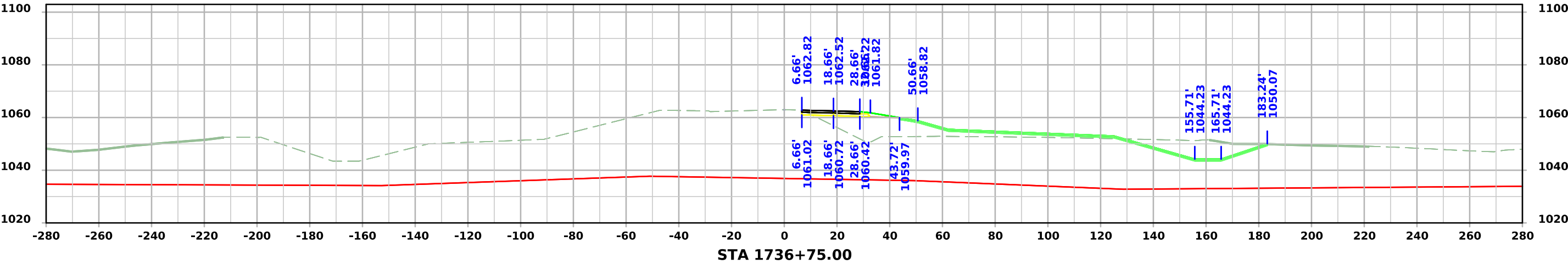
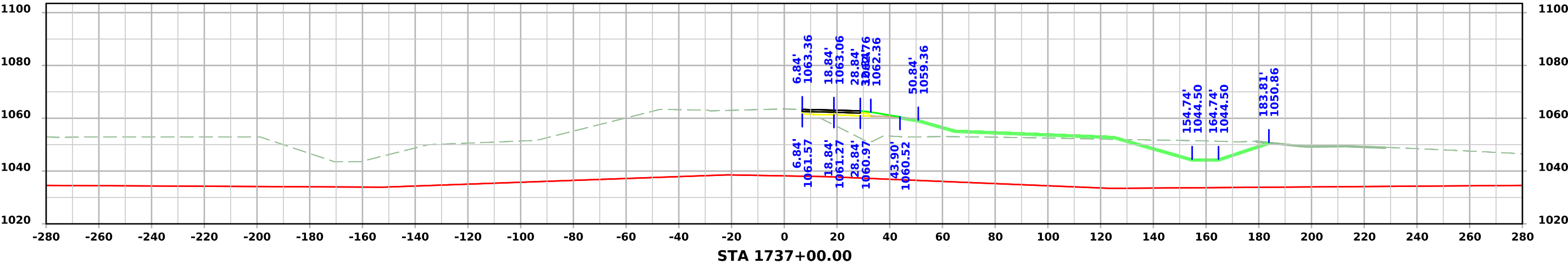


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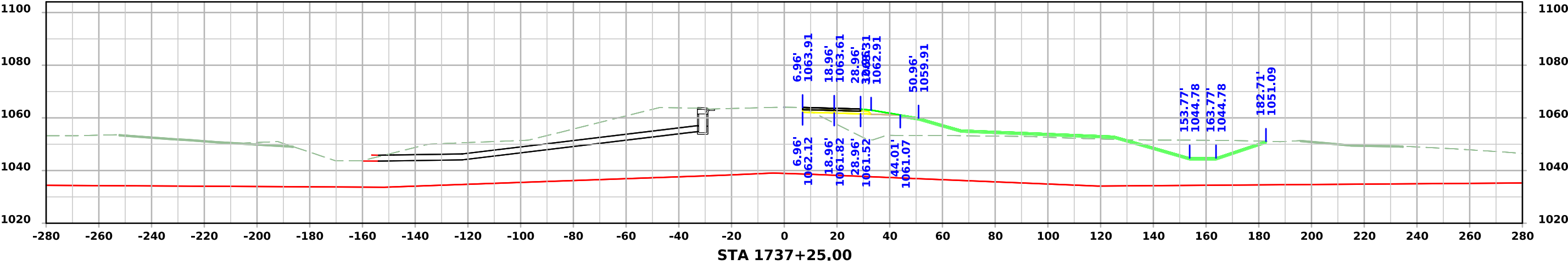
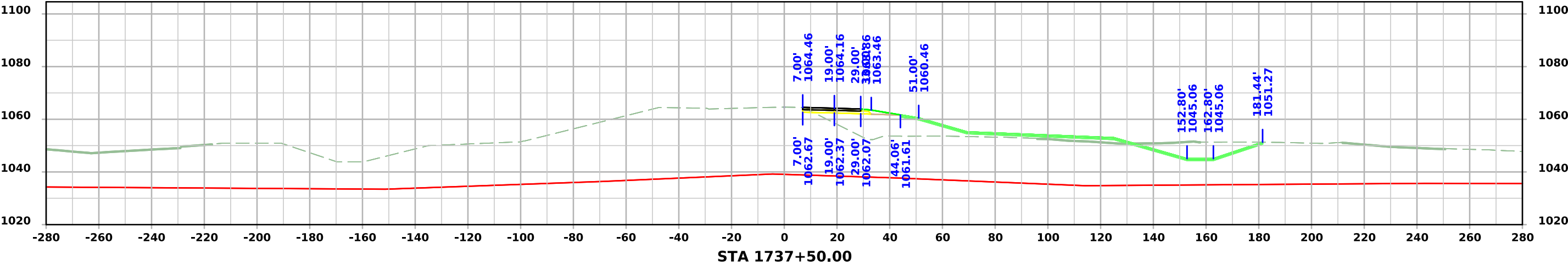
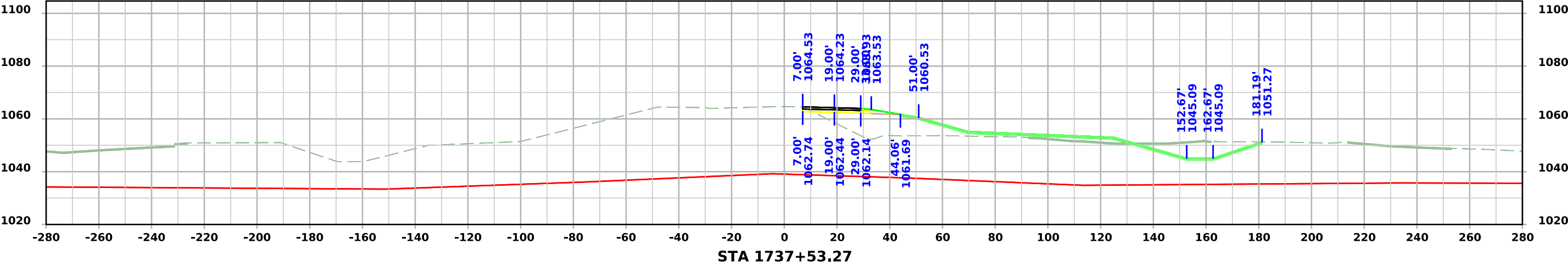




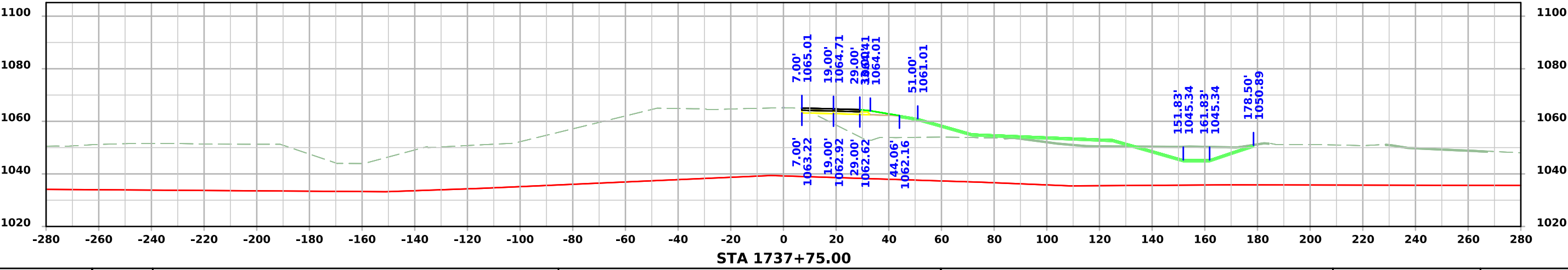
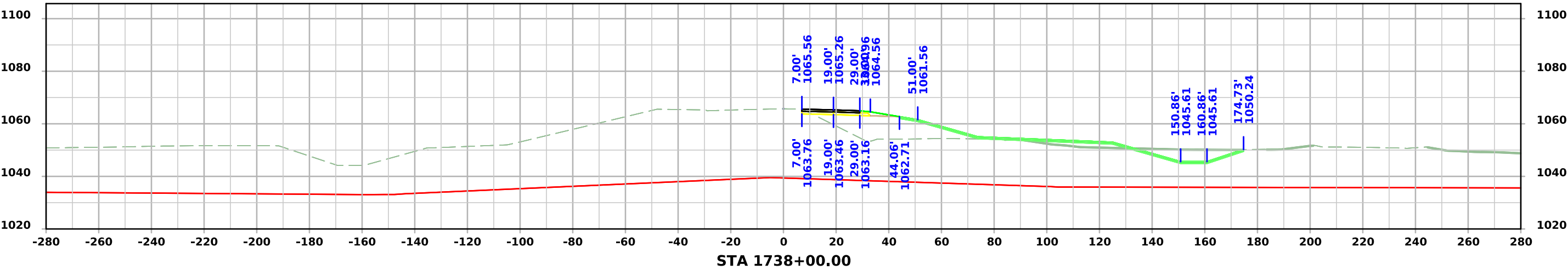
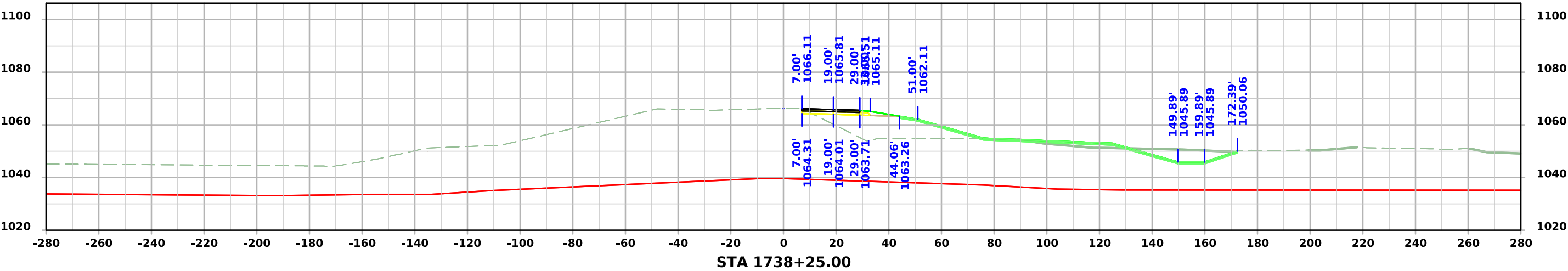
IA 175 - Stage 6



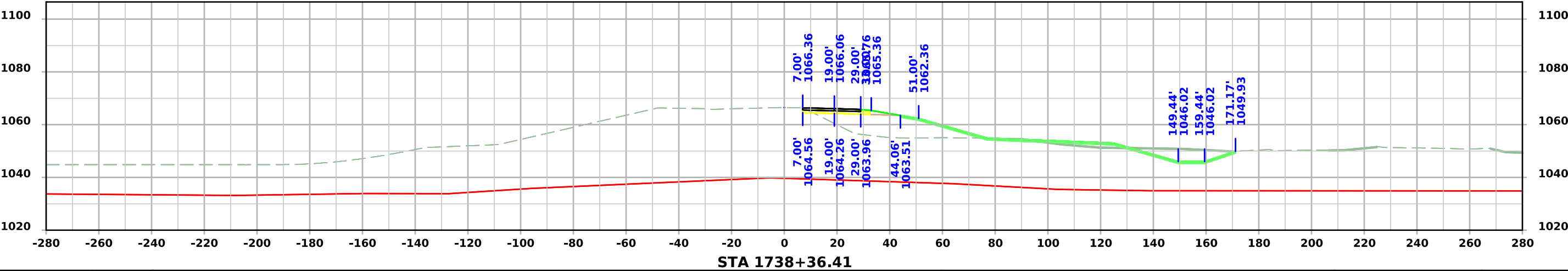
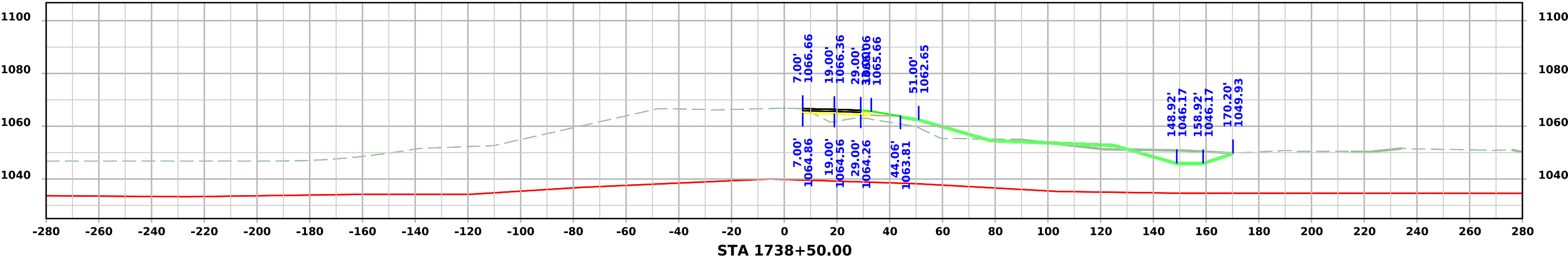
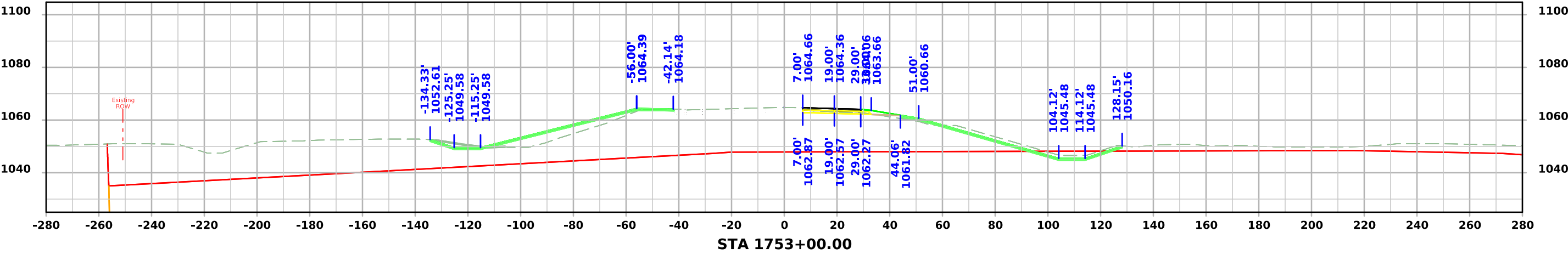
IA 175 - Stage 6



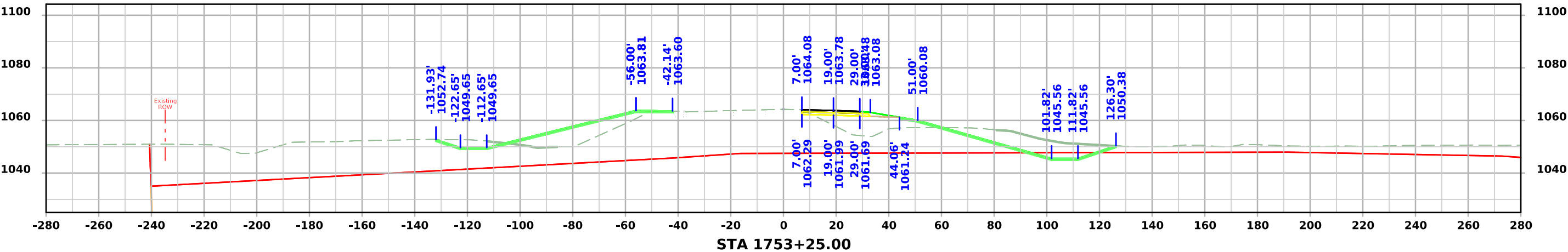
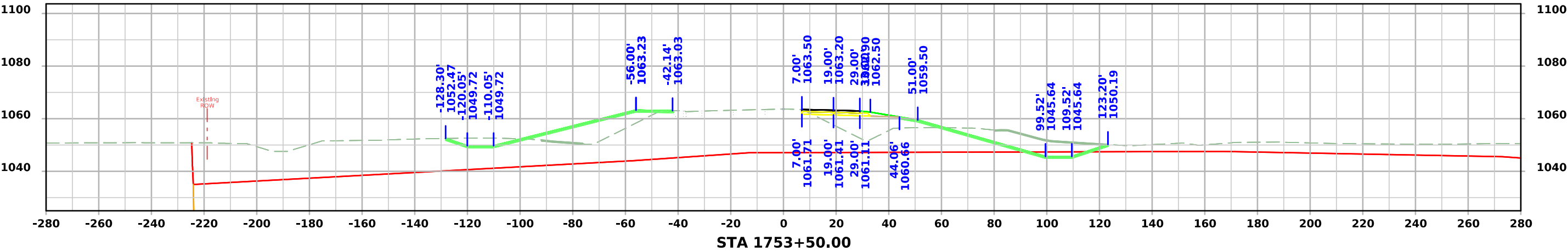
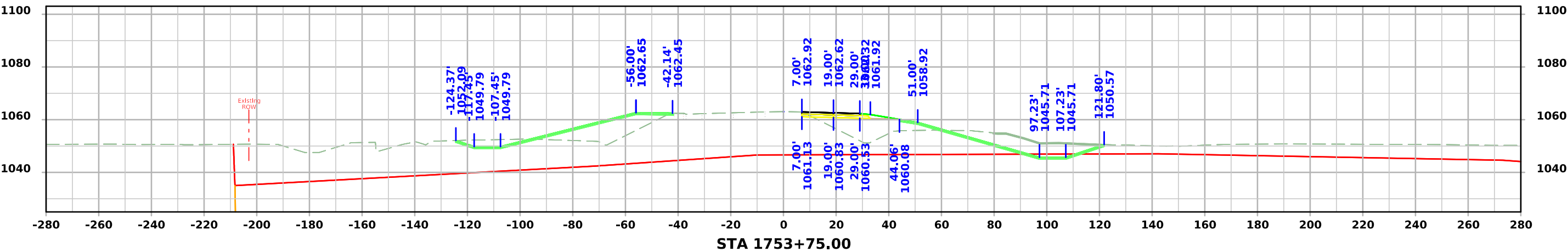
IA 175 - Stage 6



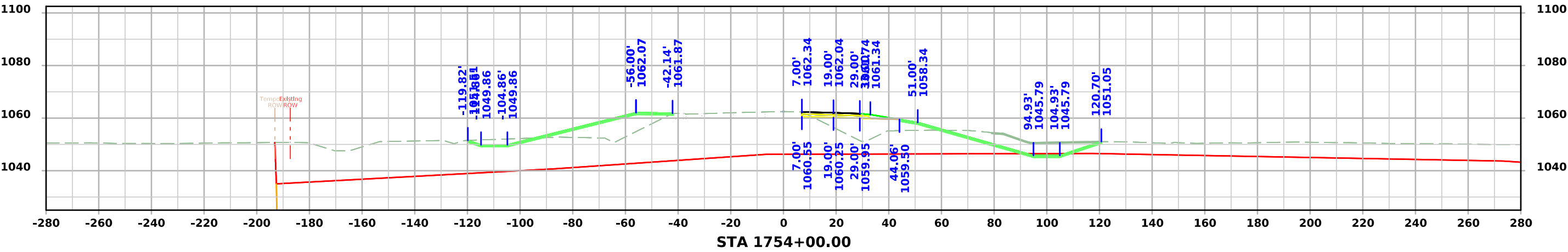
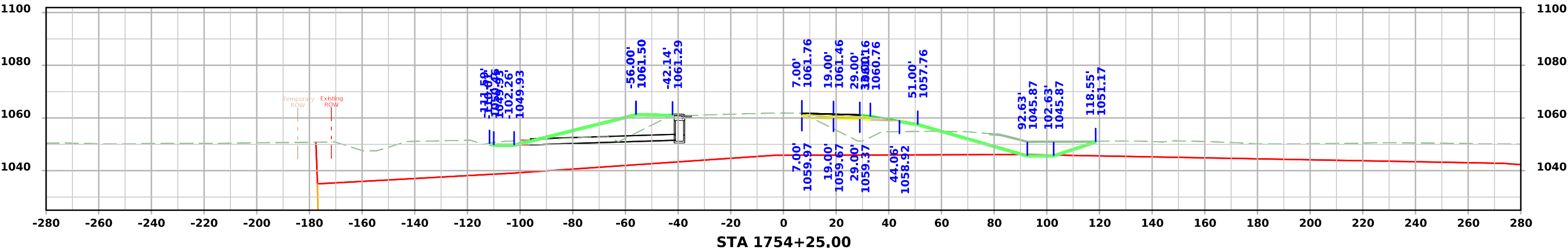
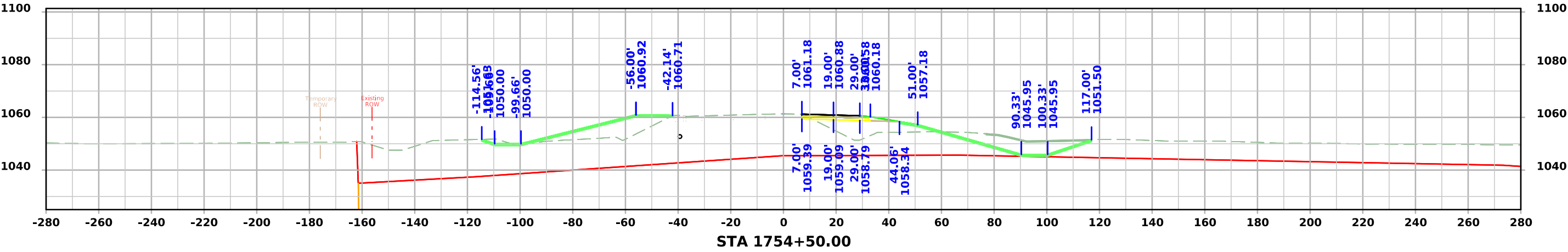
IA 175 - Stage 6



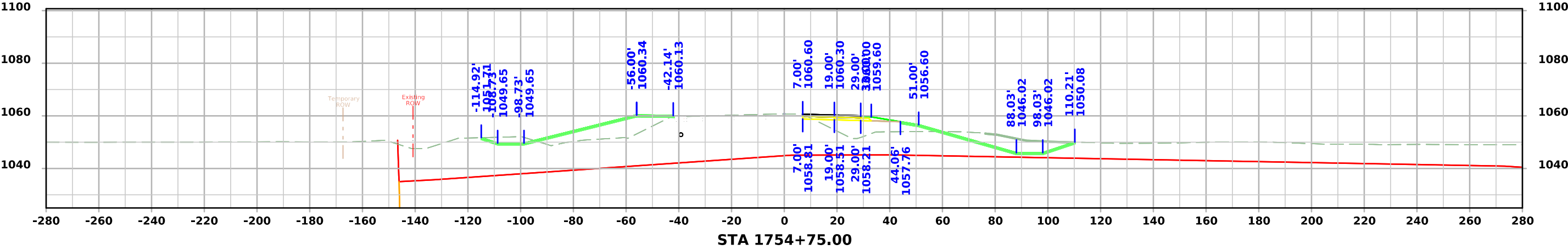
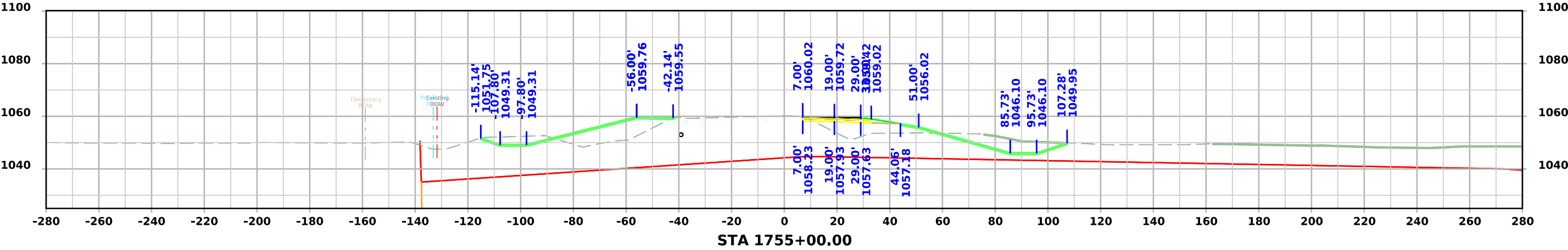
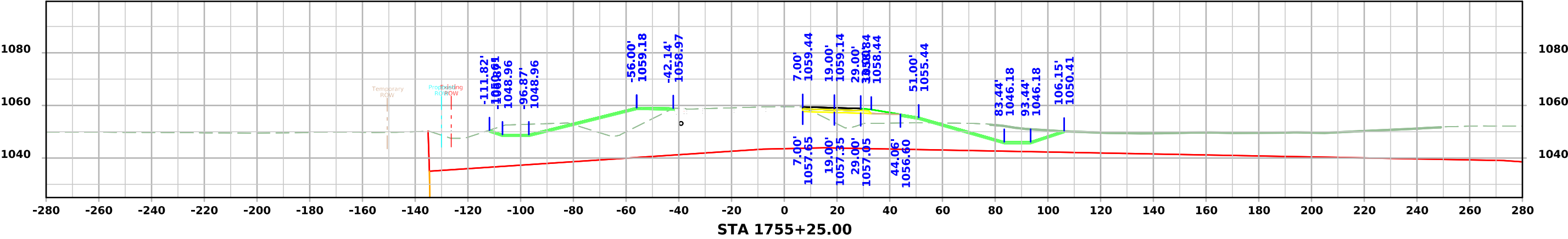
IA 175 - Stage 6



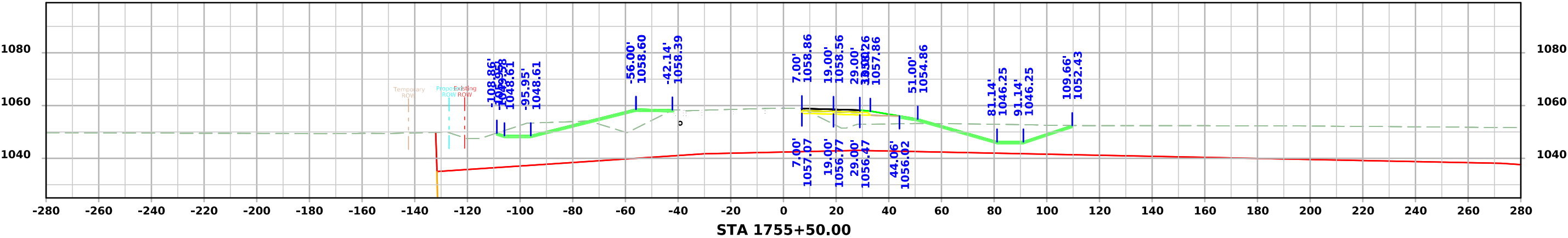
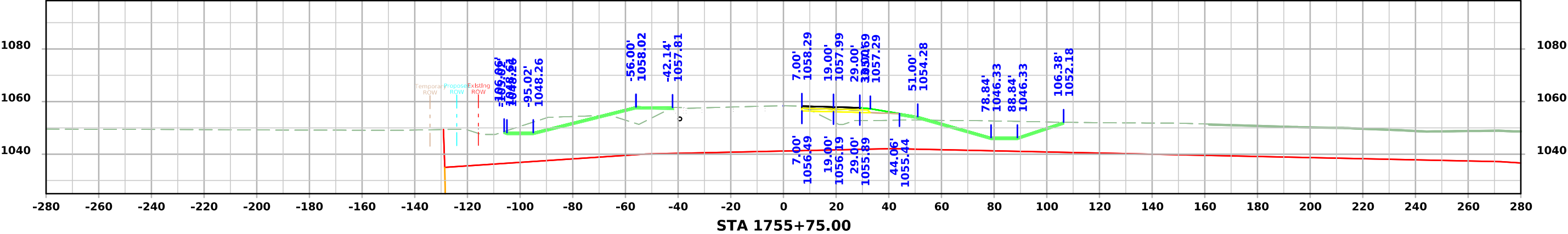
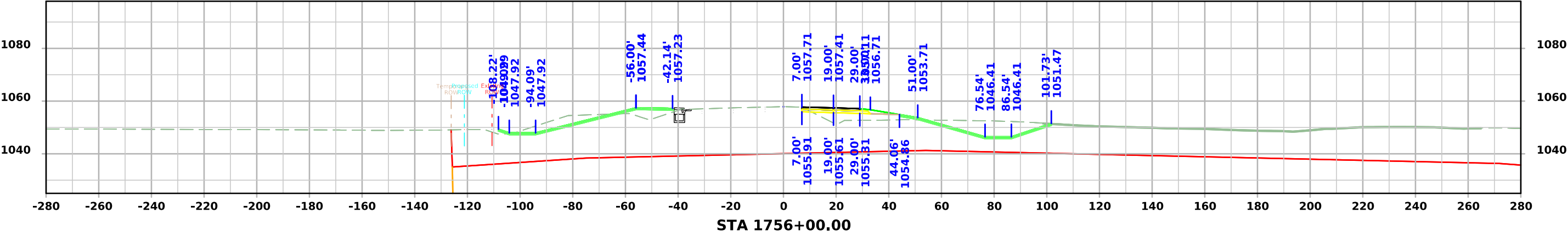
IA 175 - Stage 6



IA 175 - Stage 6

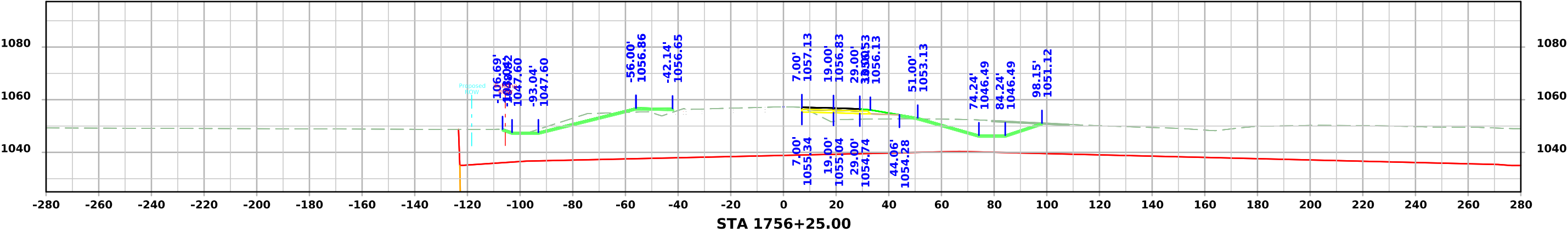
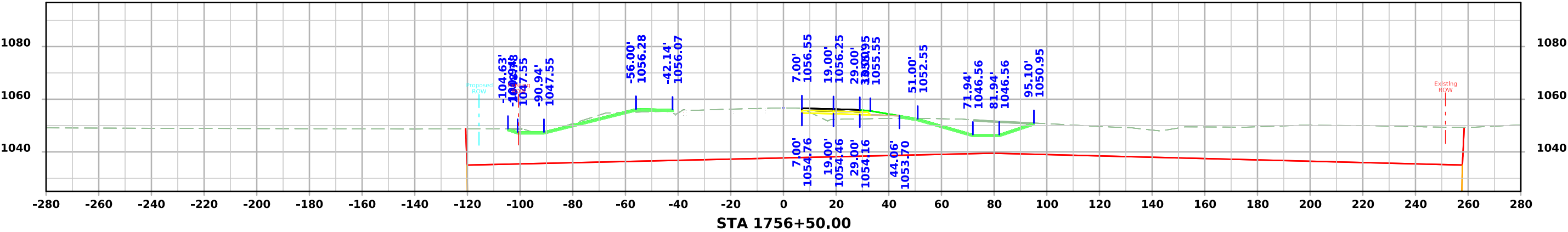
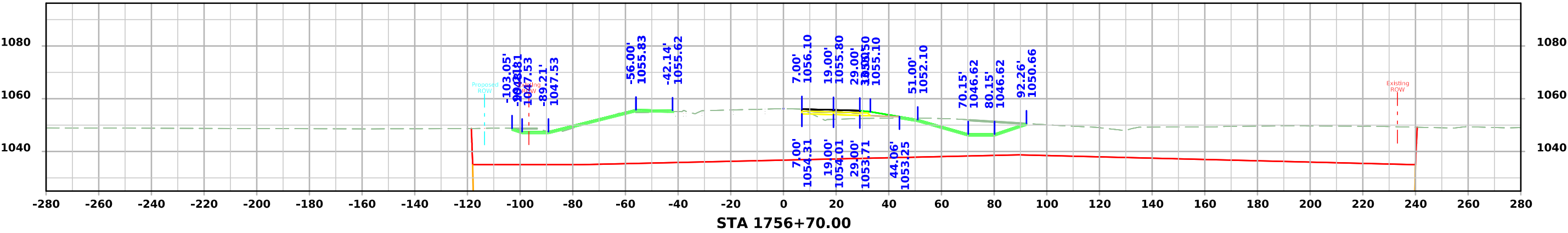


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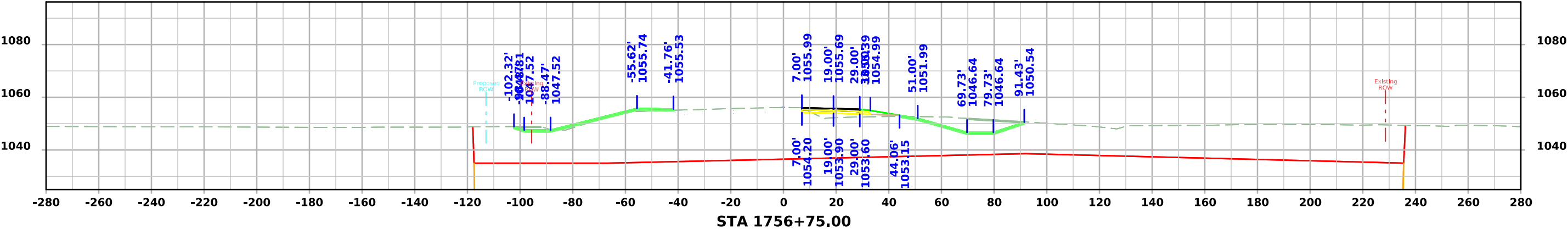
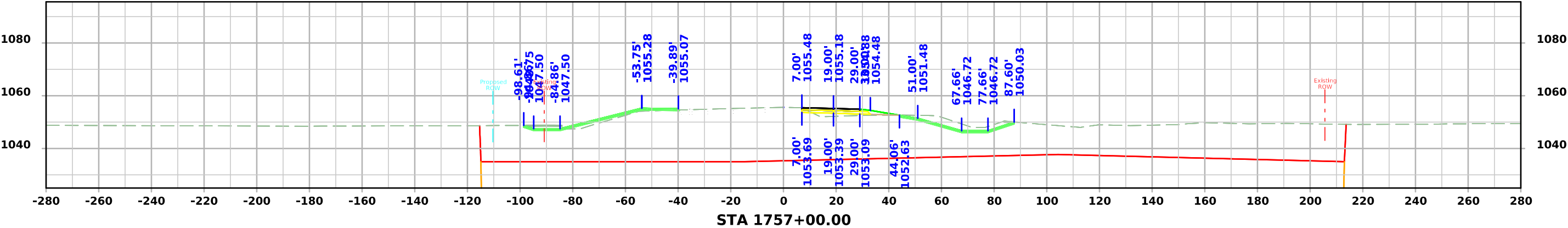
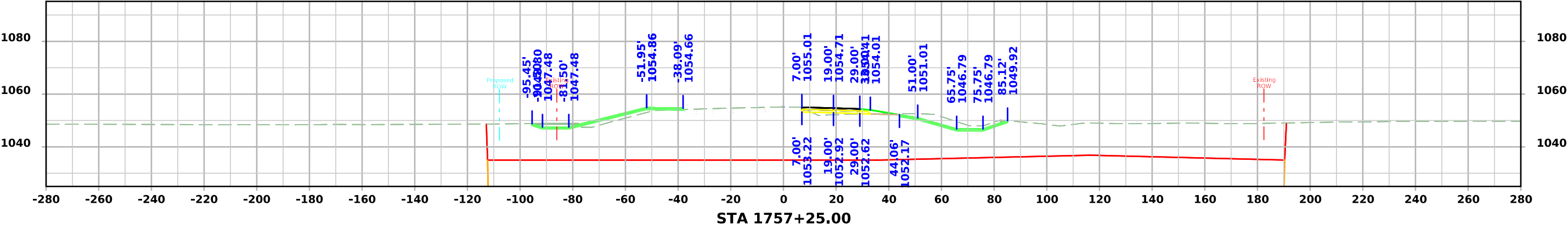




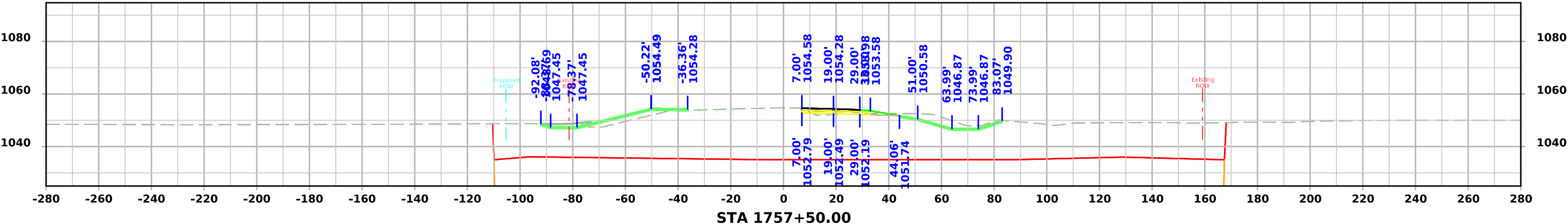
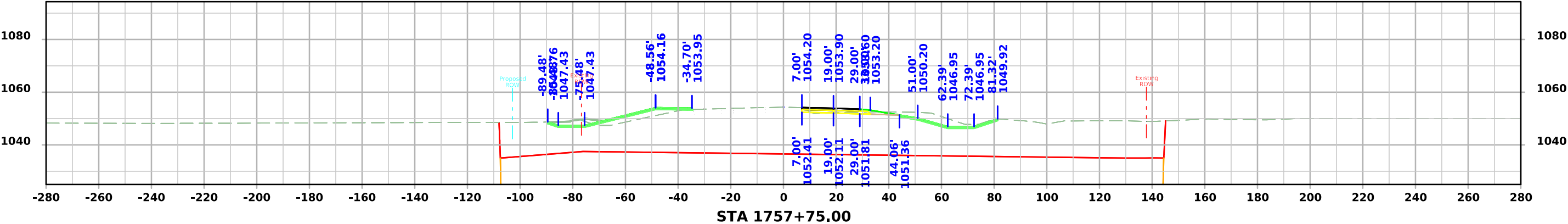
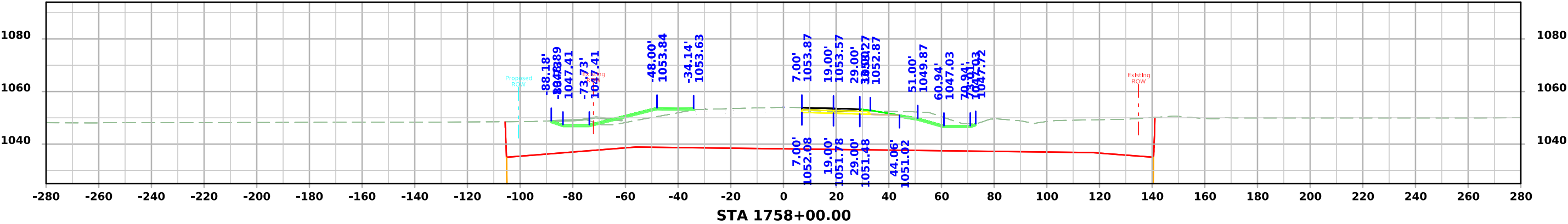
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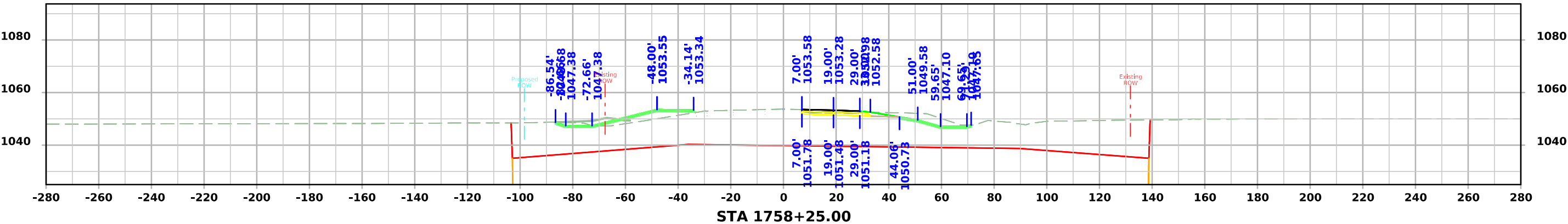
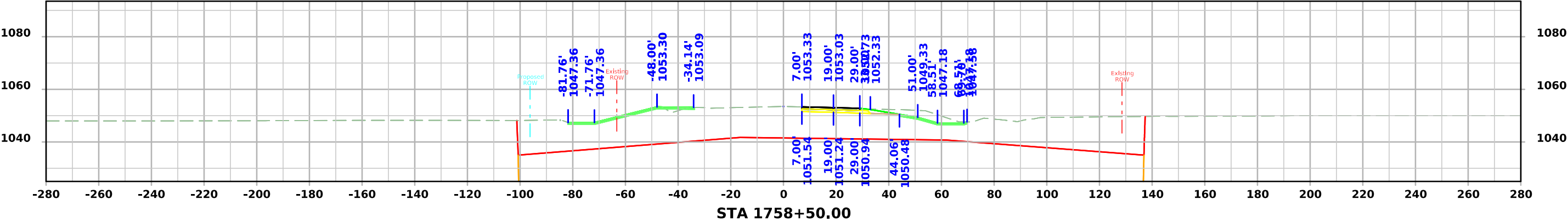
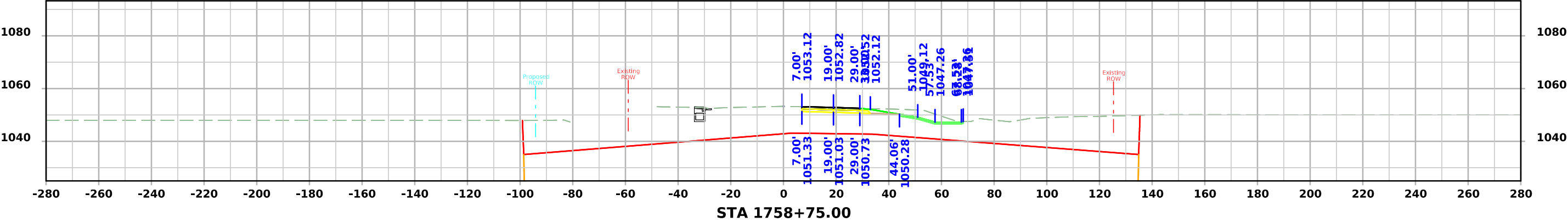
IA 175 - Stage 6



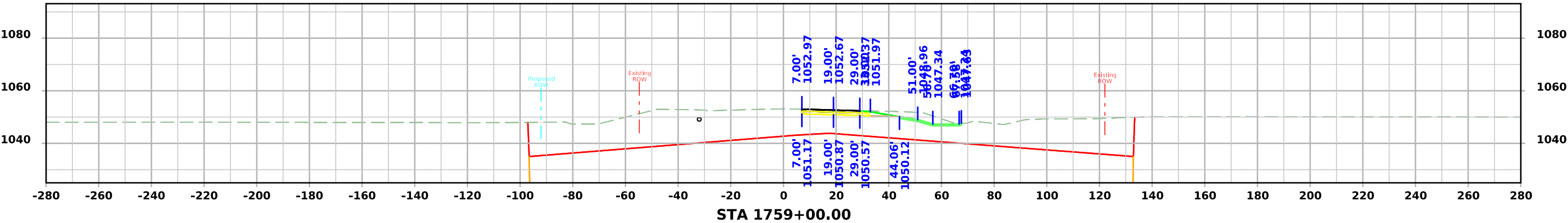
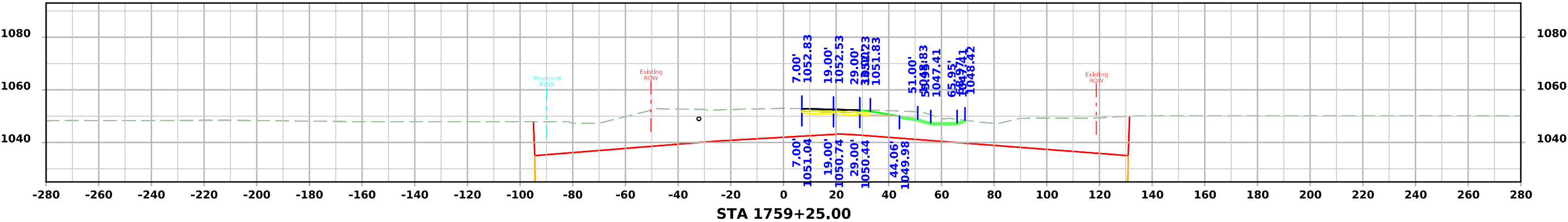
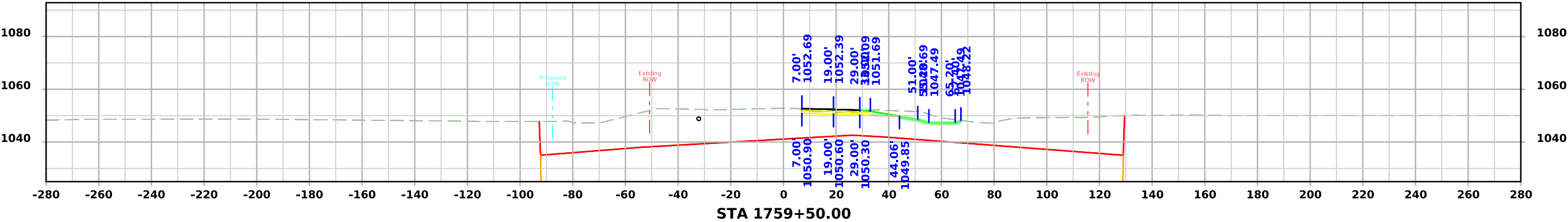
IA 175 - Stage 6



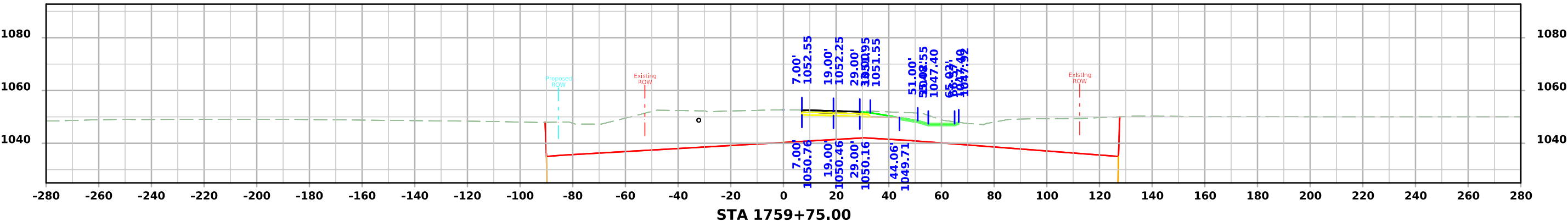
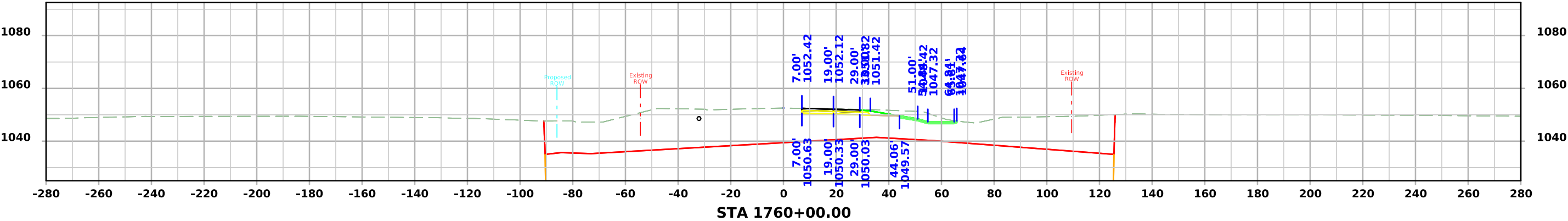
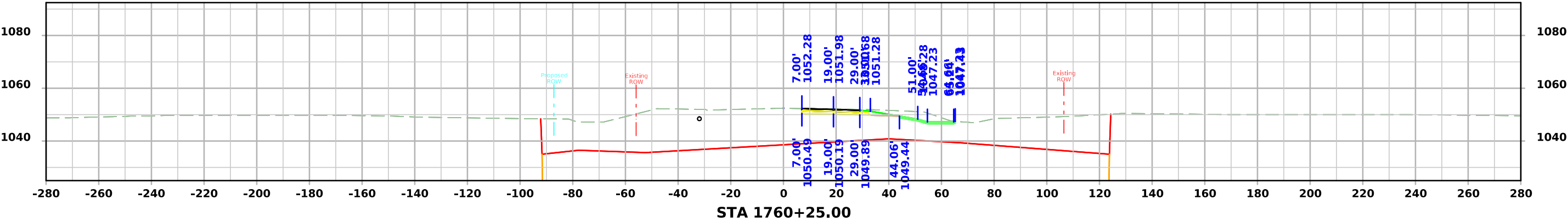
IA 175 - Stage 6



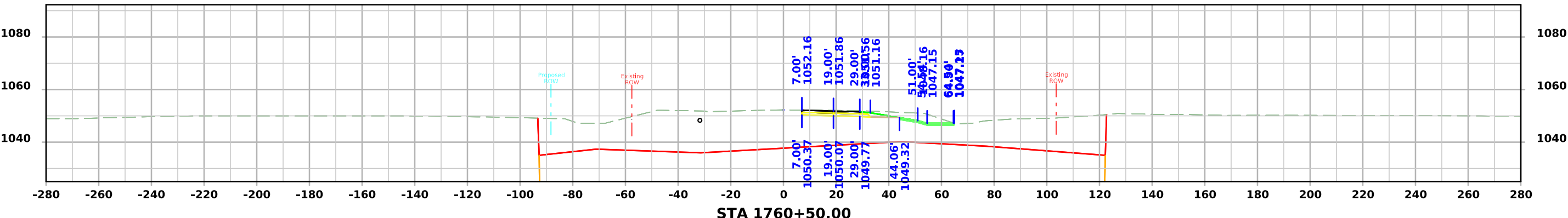
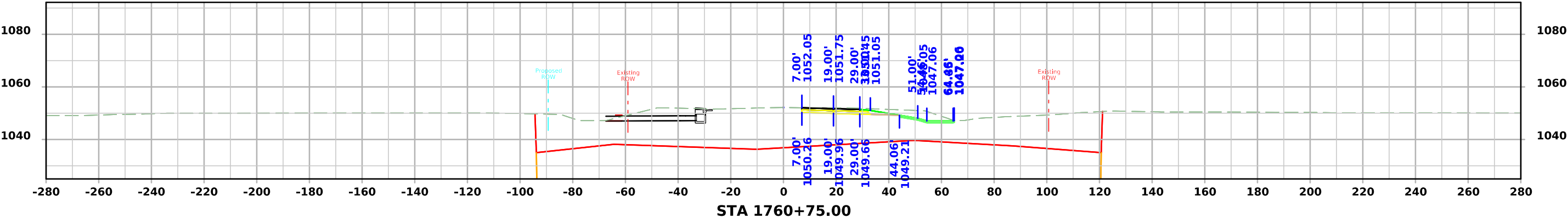
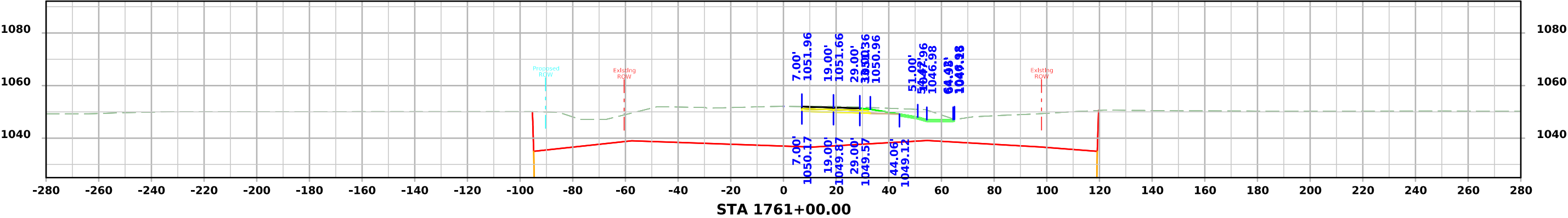
IA 175 - Stage 6



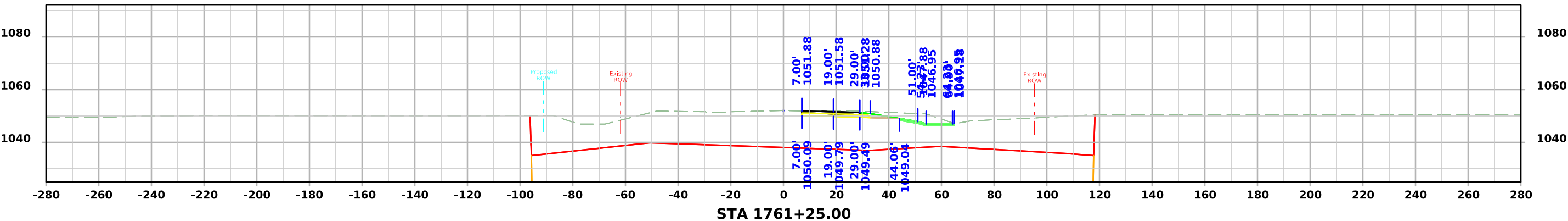
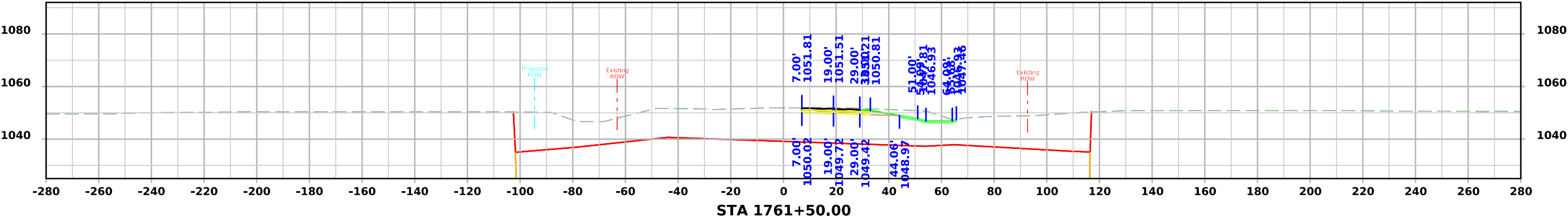
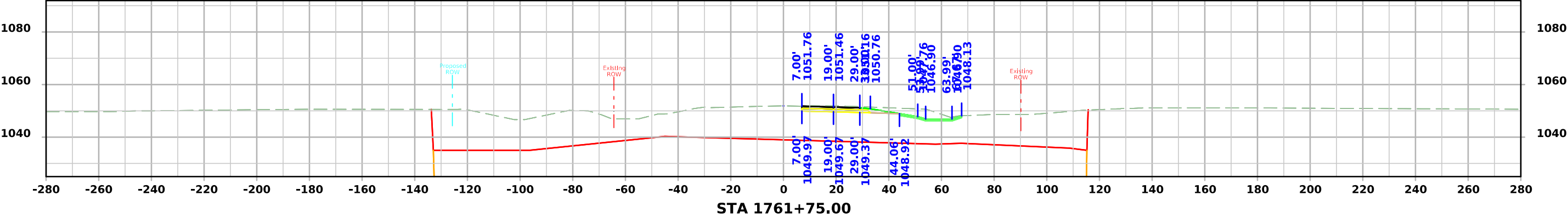
IA 175 - Stage 6



IA 175 - Stage 6

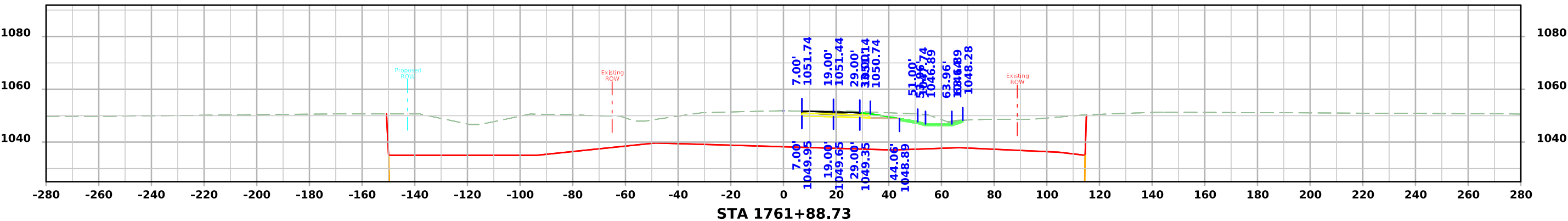
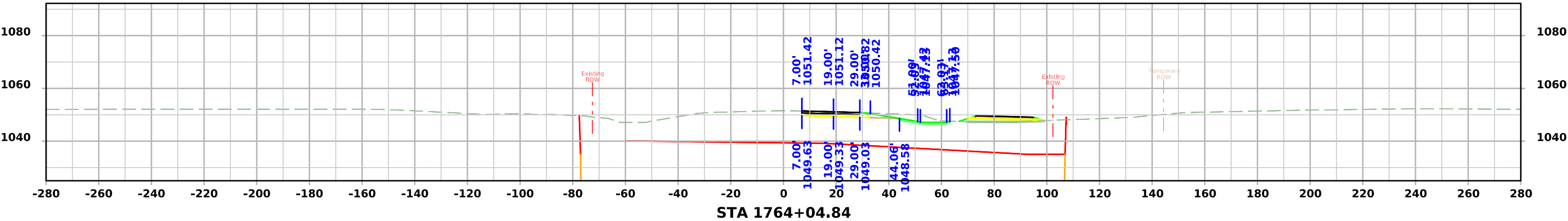
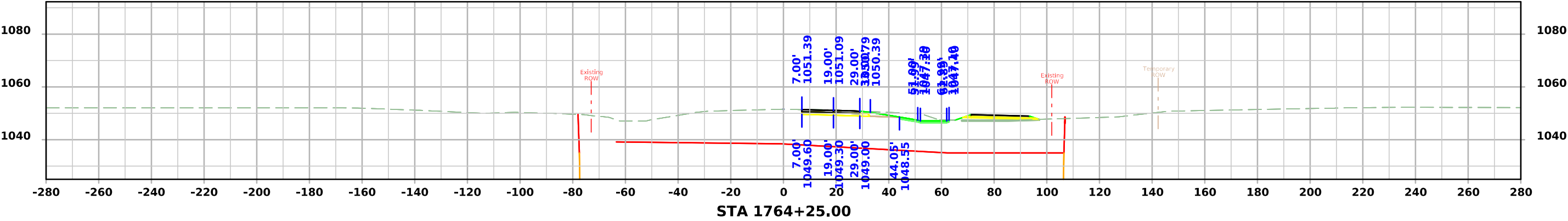


IA 175 - Stage 6

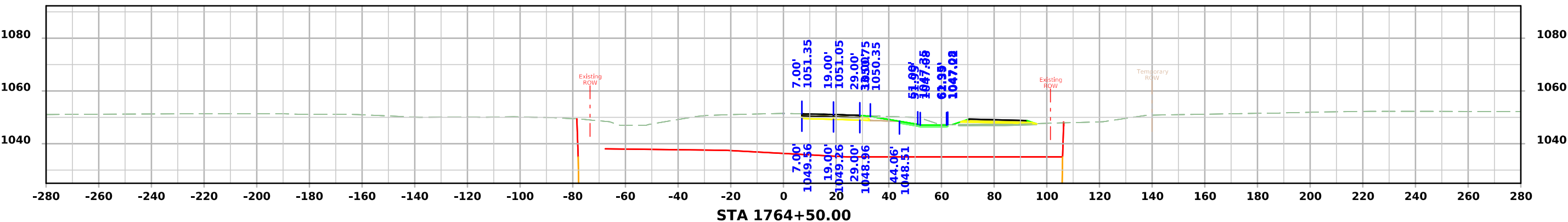
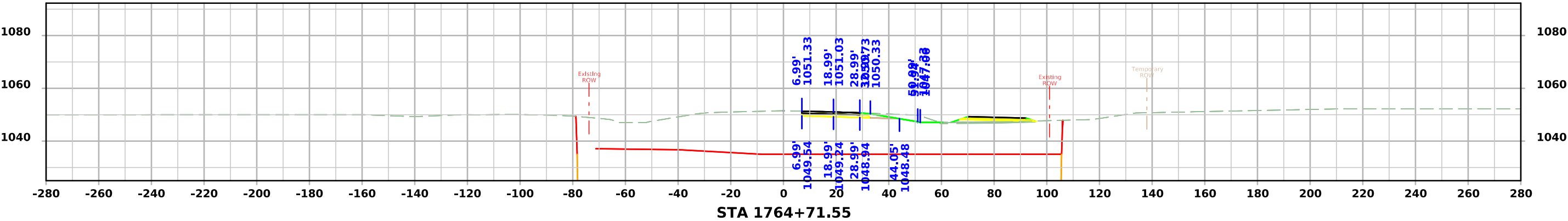
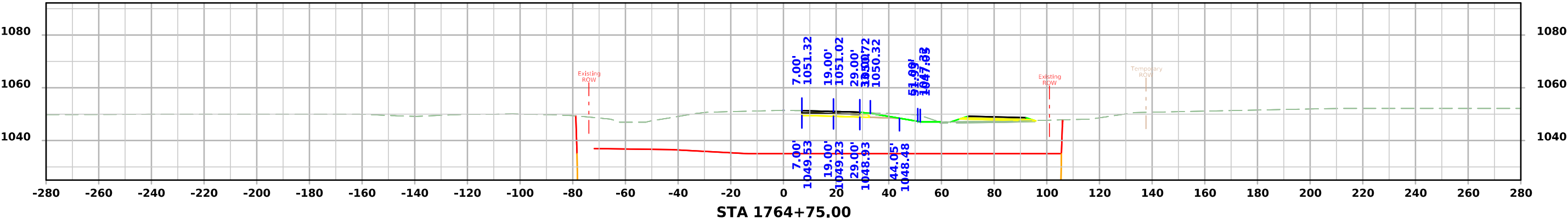




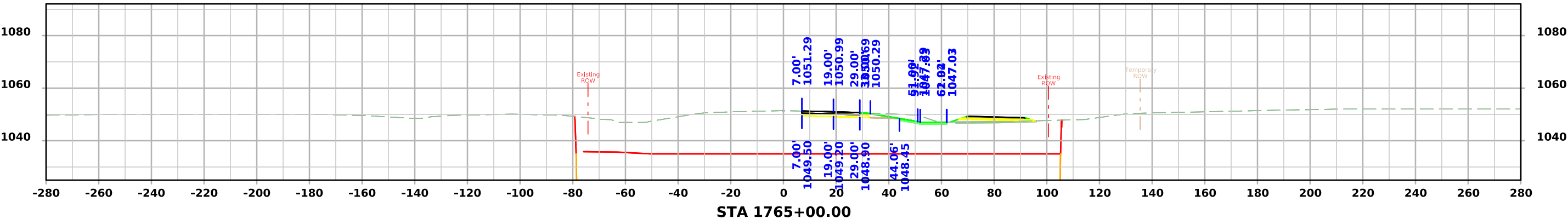
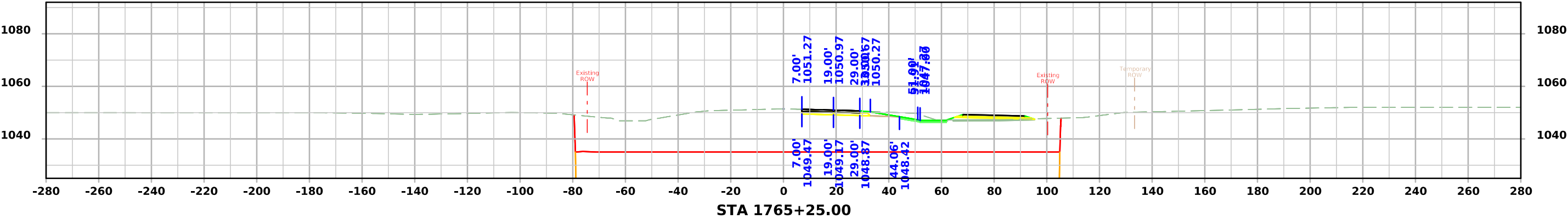
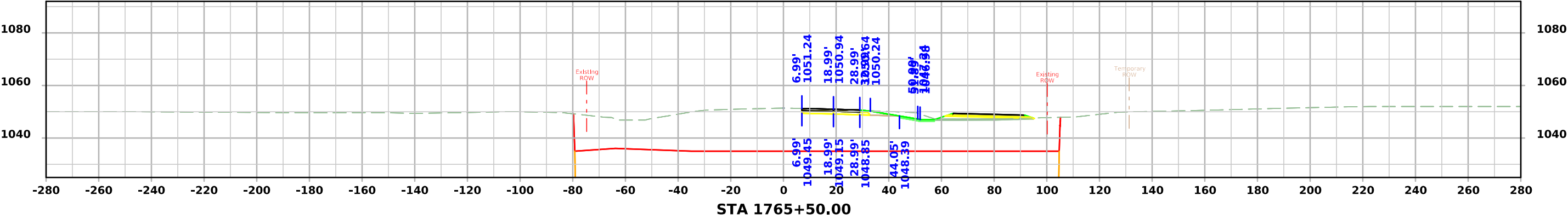
IA 175 - Stage 6



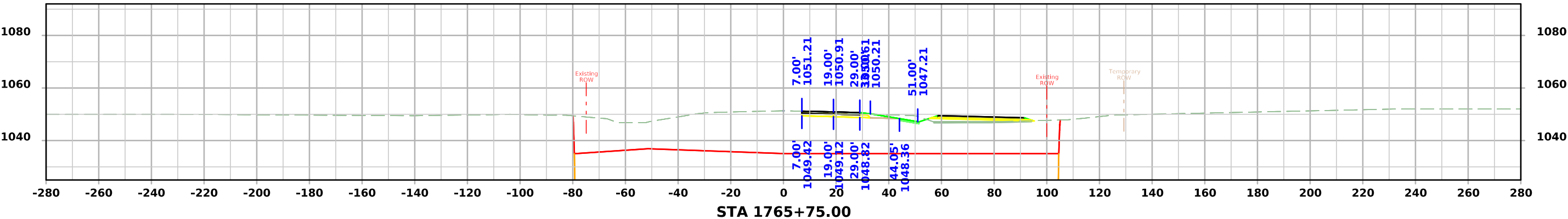
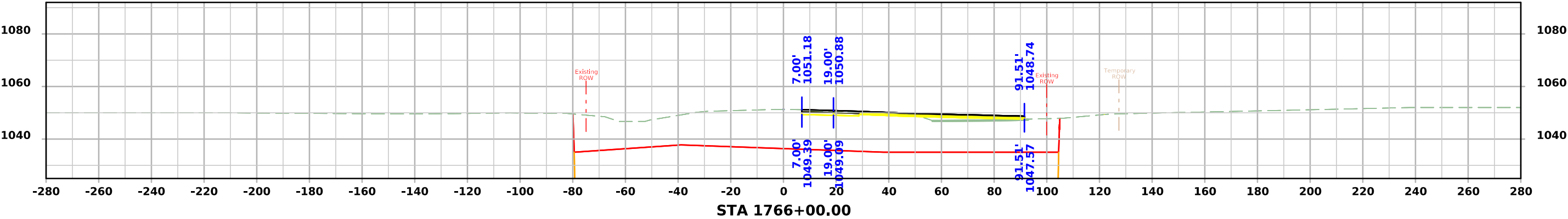
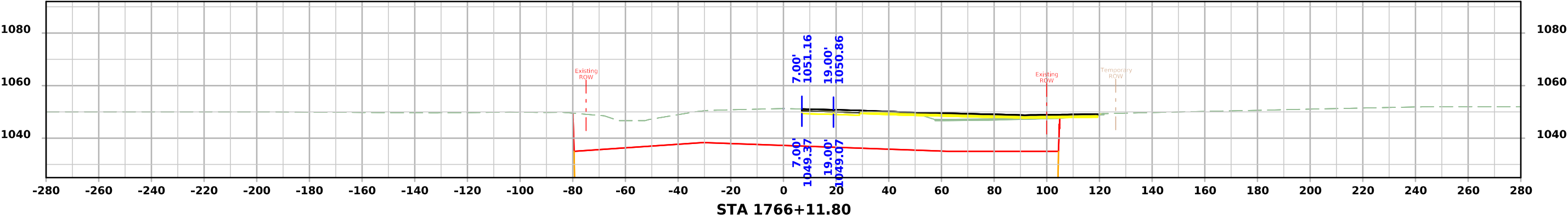
IA 175 - Stage 6



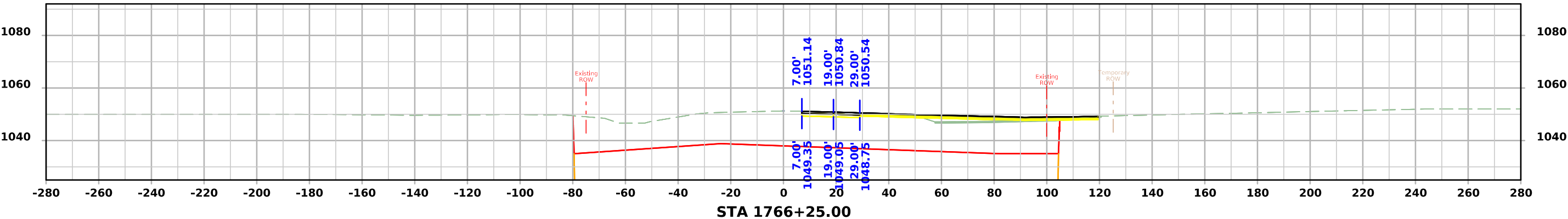
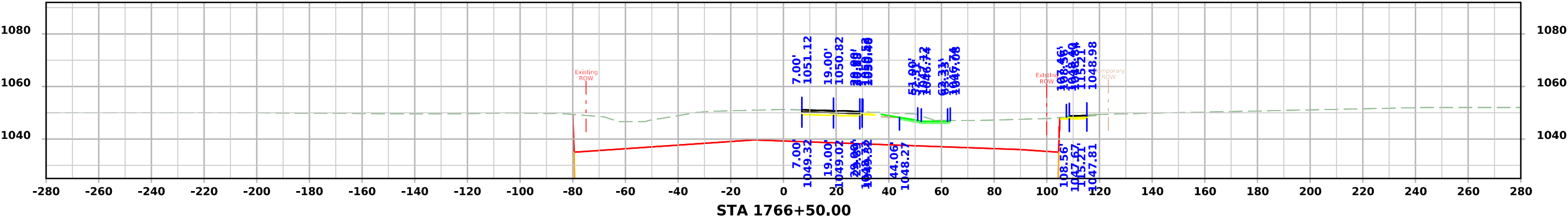
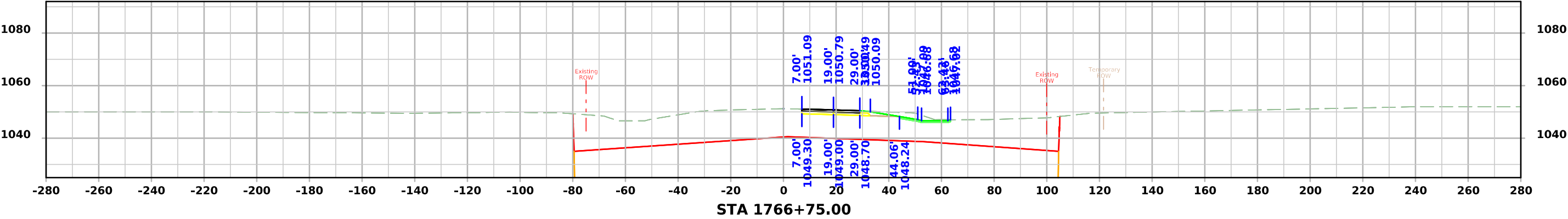
IA 175 - Stage 6



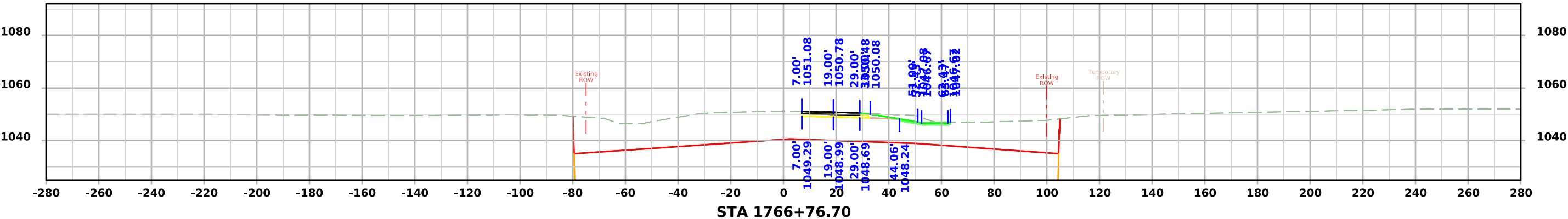
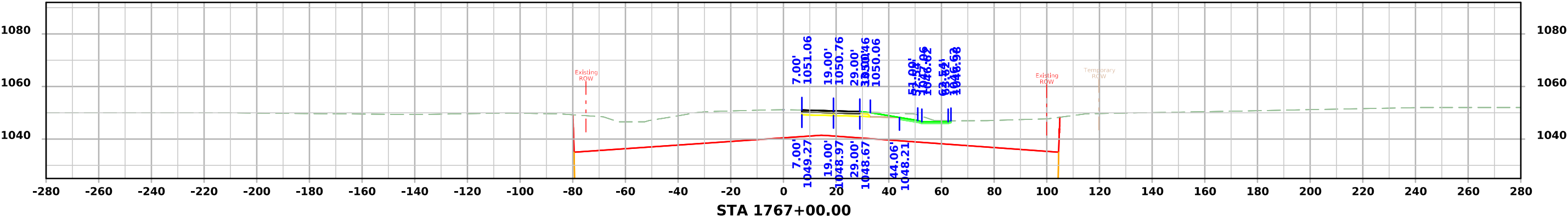
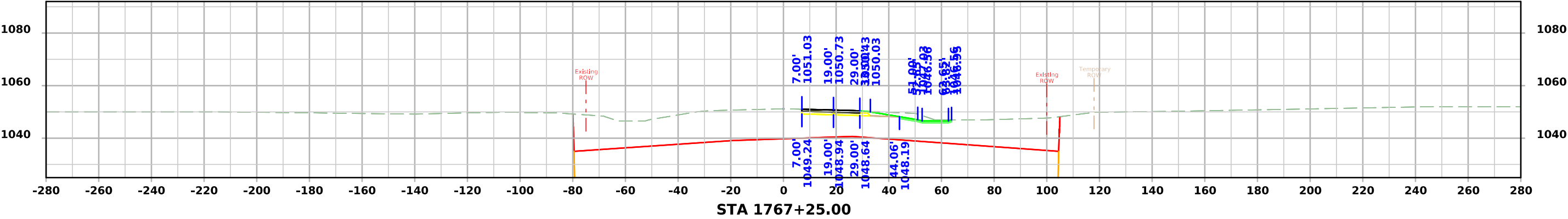
IA 175 - Stage 6



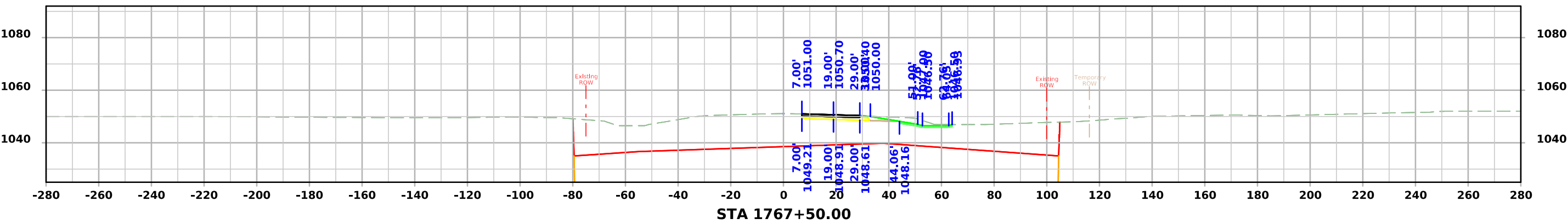
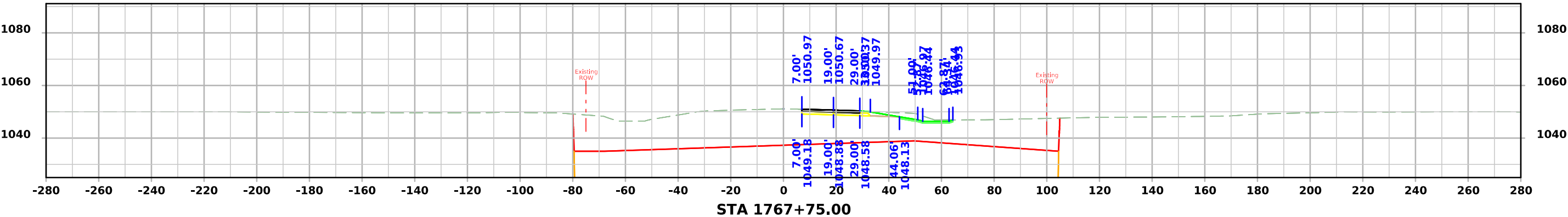
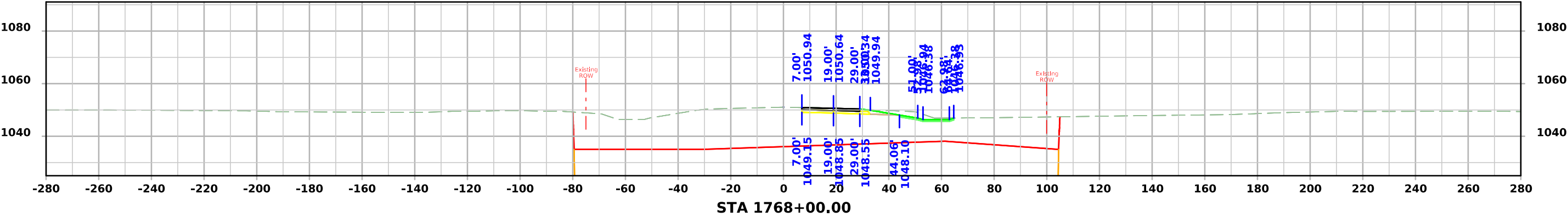
IA 175 - Stage 6



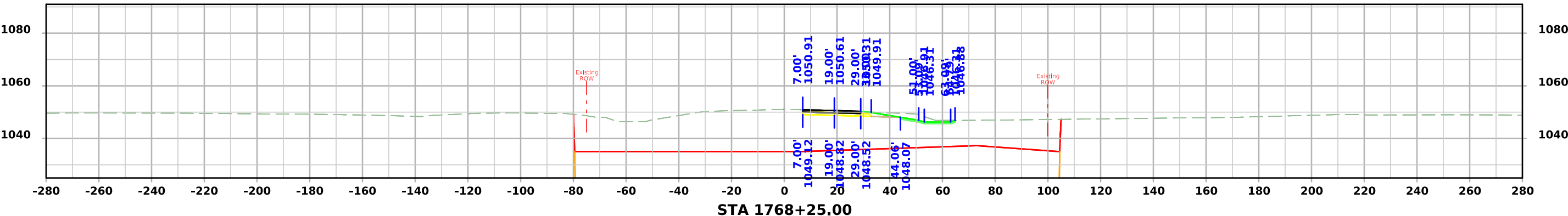
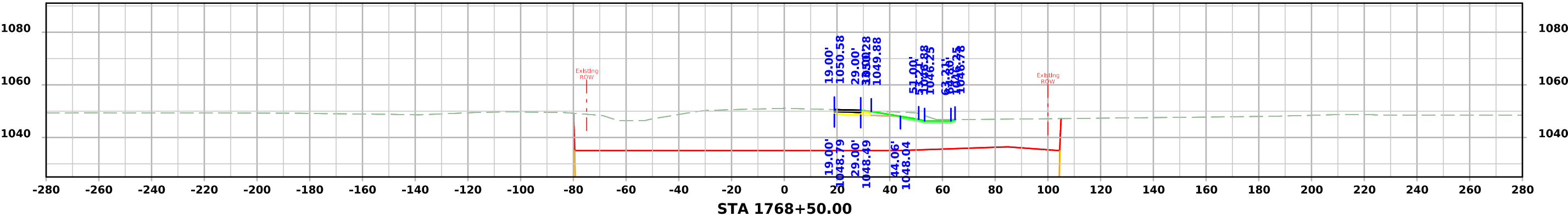
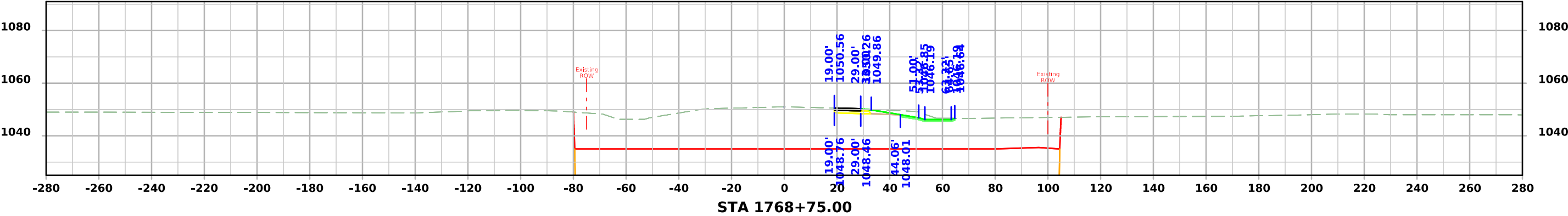
IA 175 - Stage 6



IA 175 - Stage 6

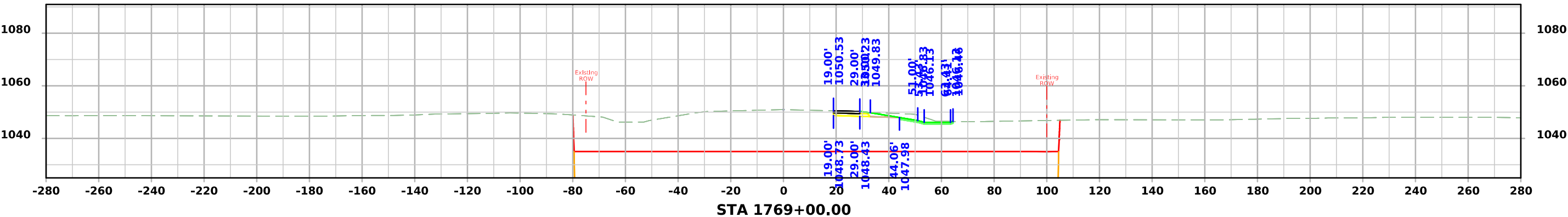
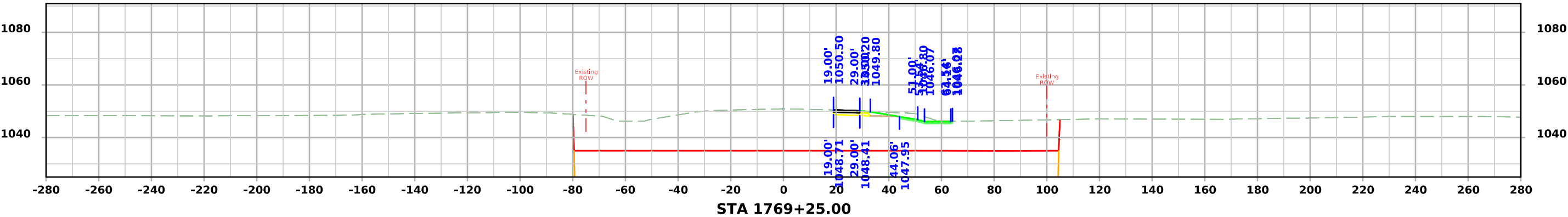
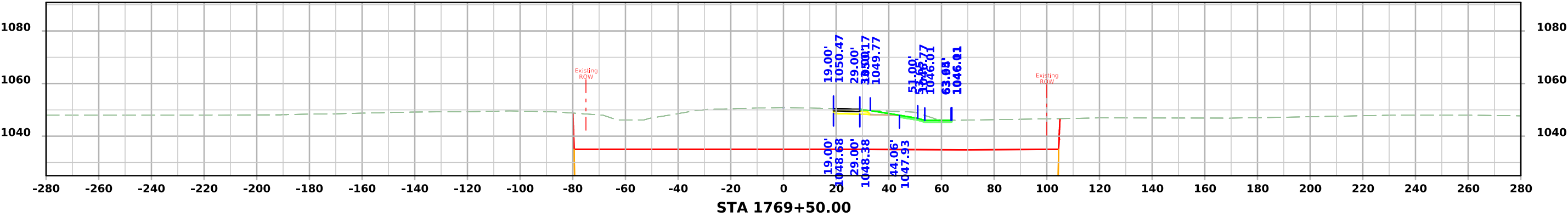


IA 175 - Stage 6

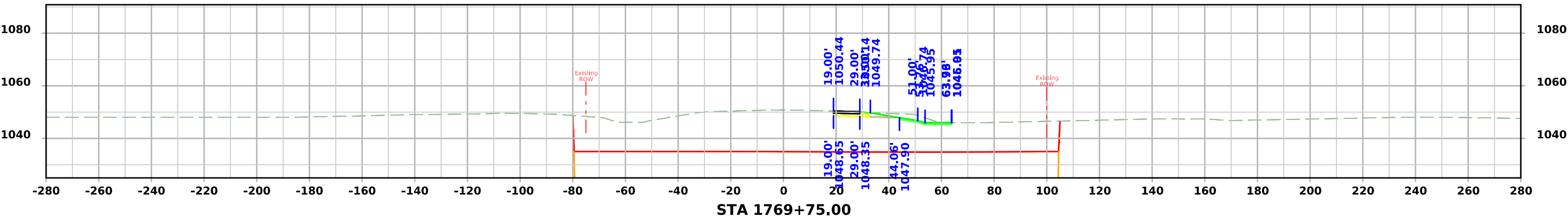
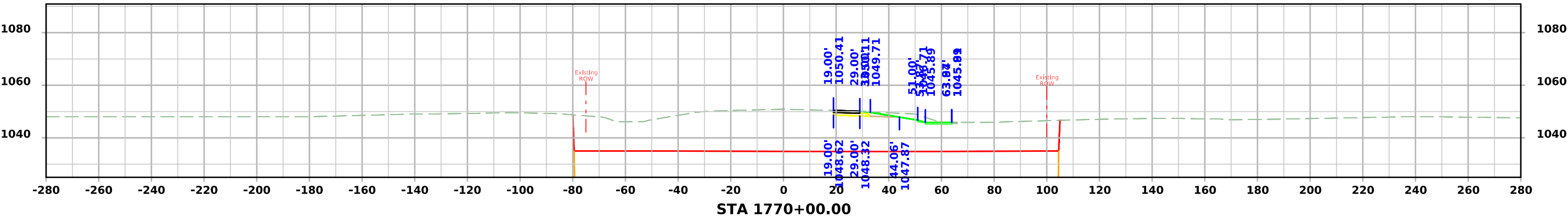
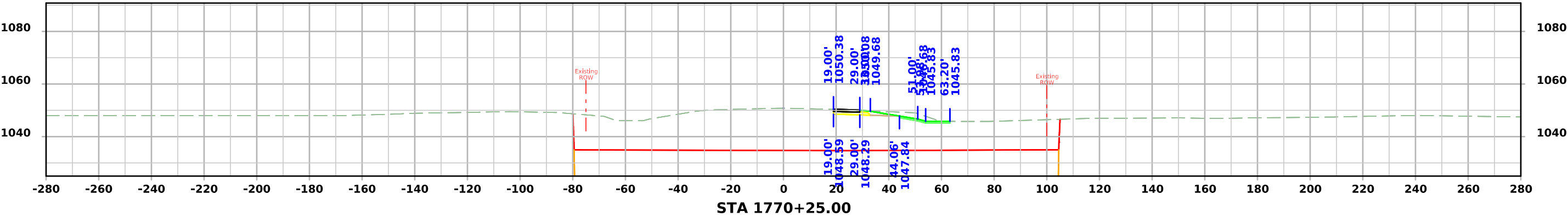




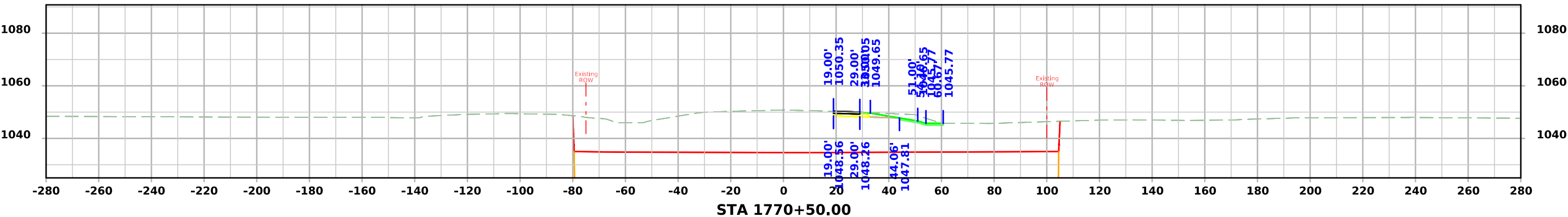
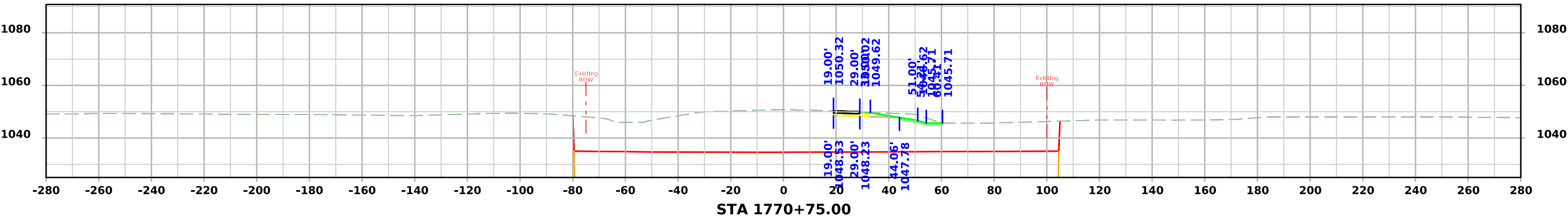
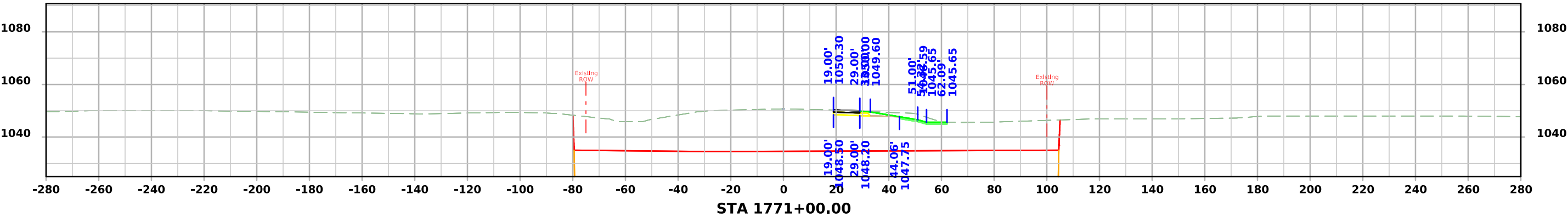
IA 175 - Stage 6



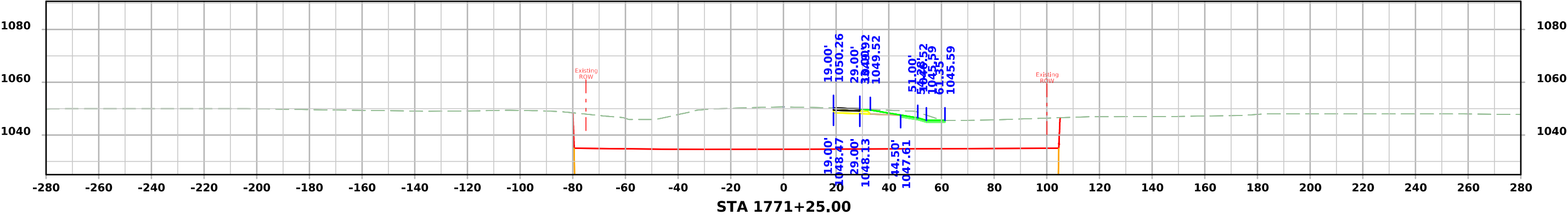
IA 175 - Stage 6



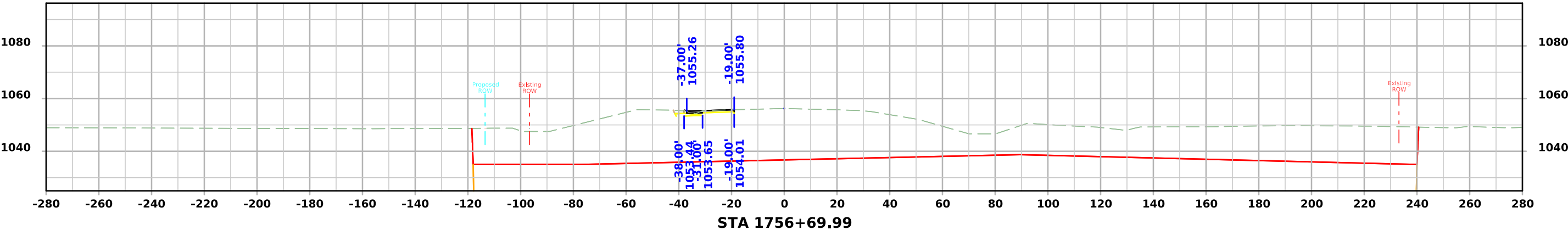
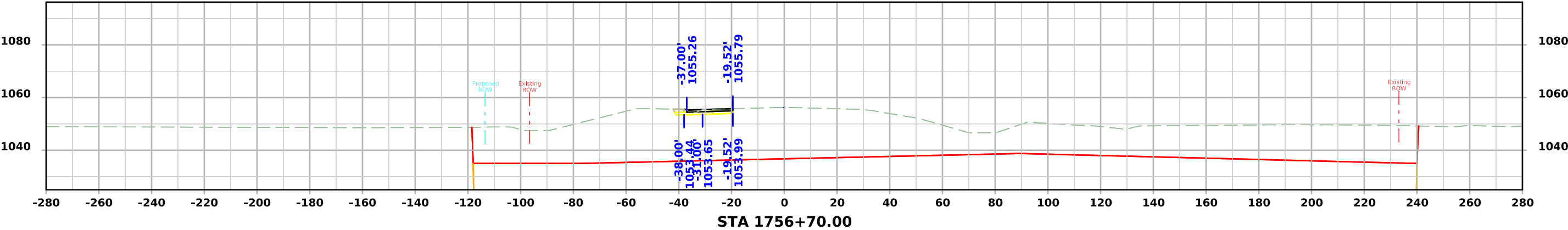
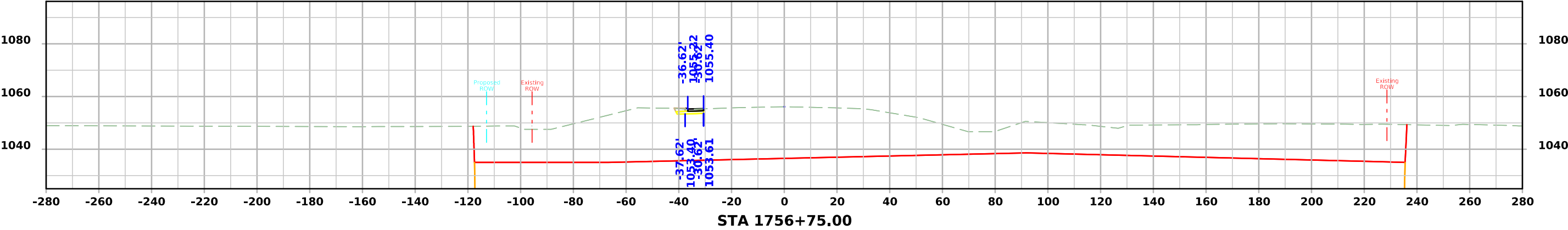
IA 175 - Stage 6



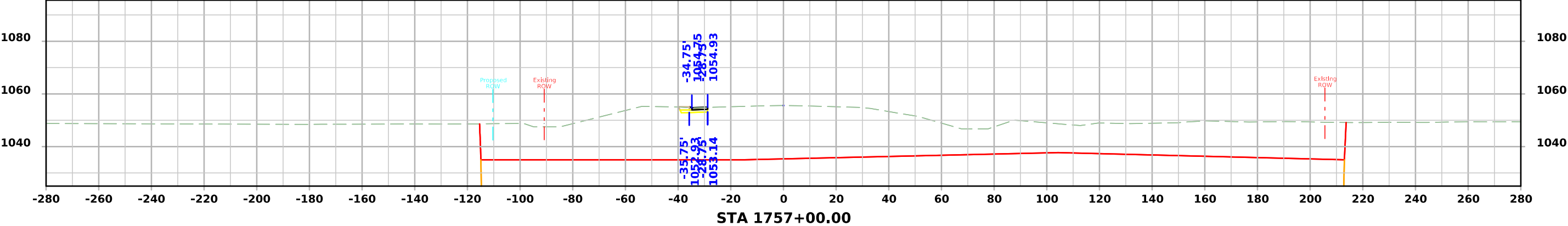
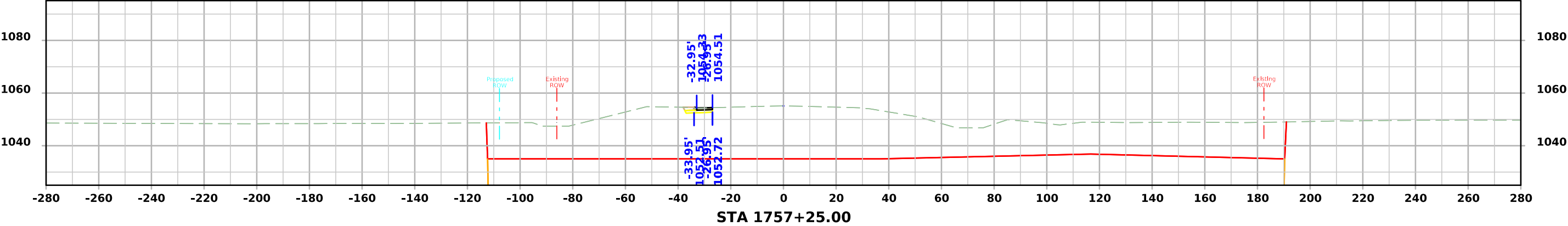
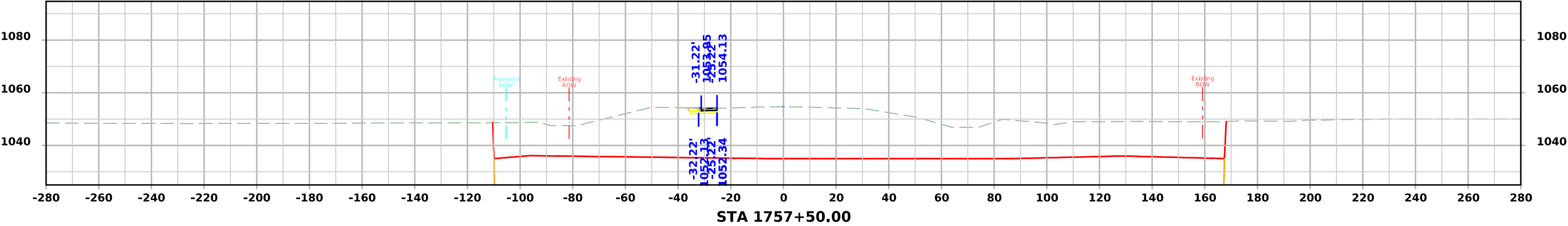
IA 175 - Stage 6



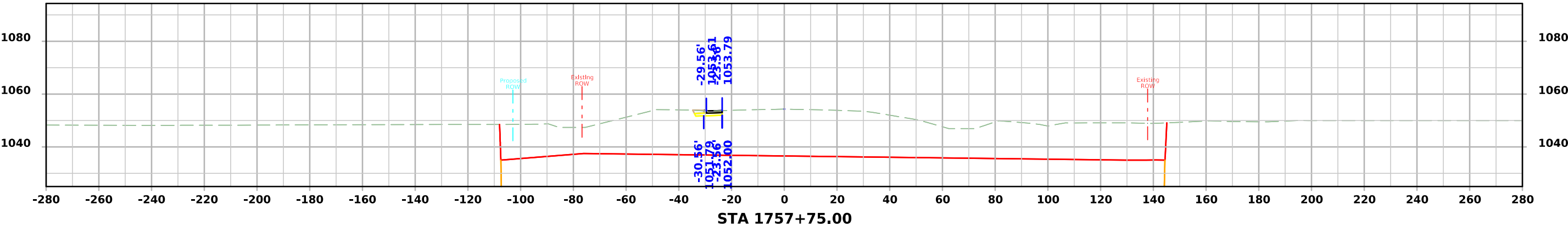
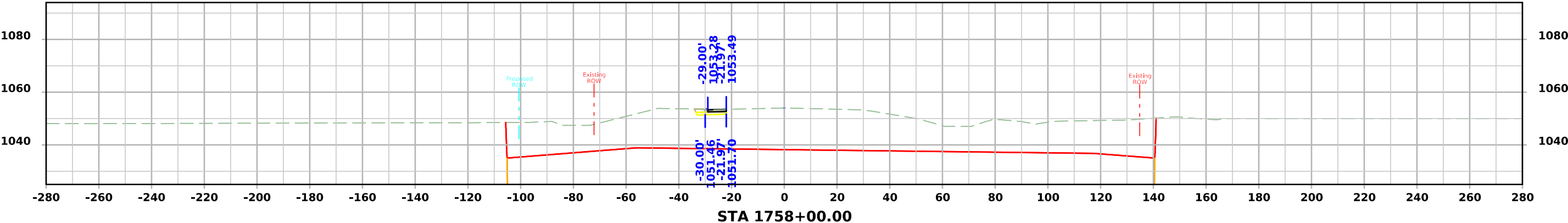
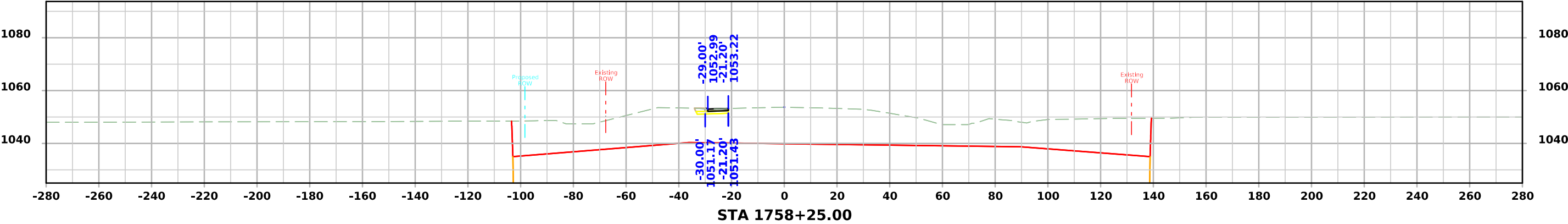
IA 175 - Stage 7



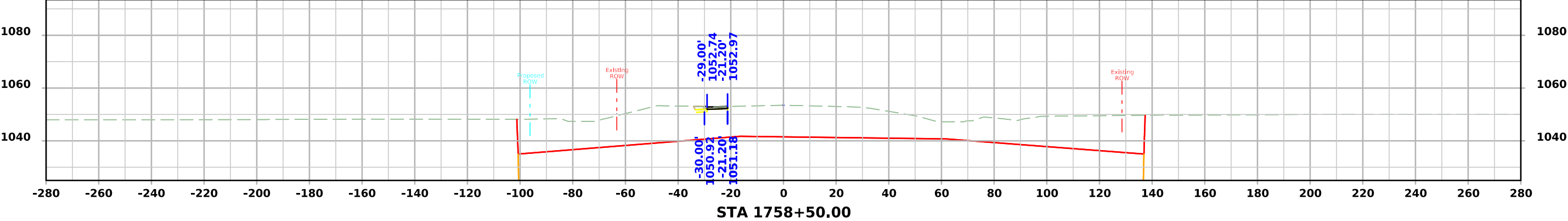
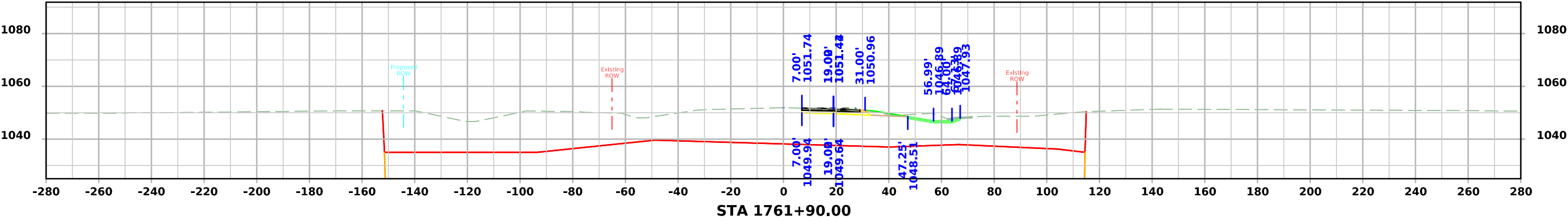
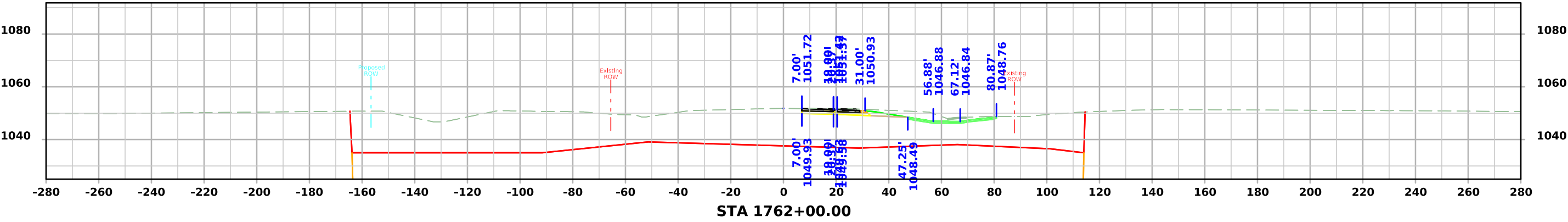
IA 175 - Stage 7



IA 175 - Stage 7

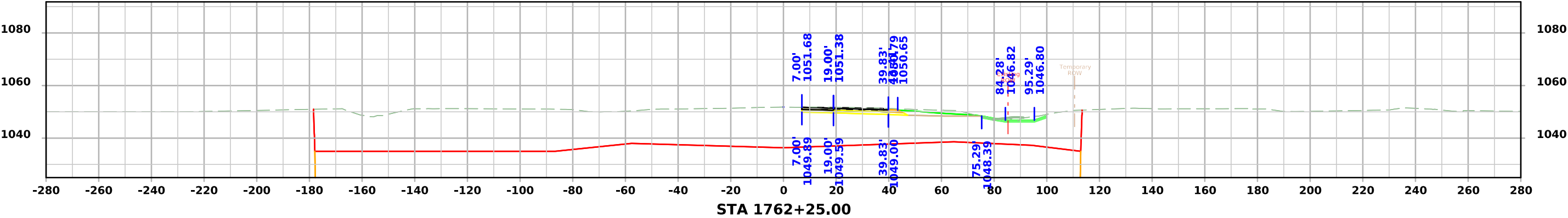
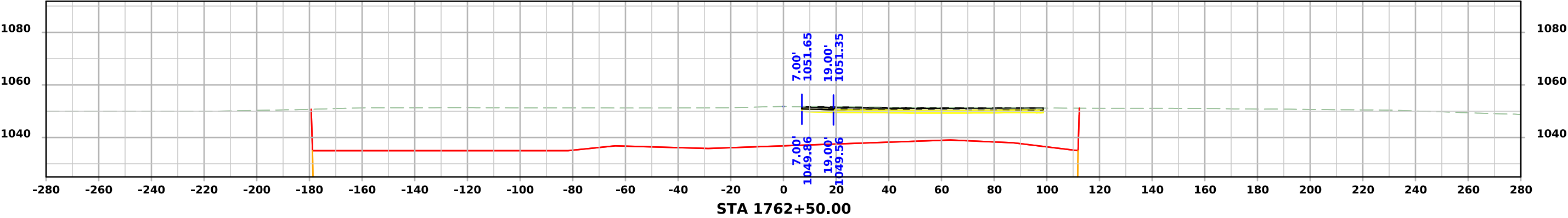
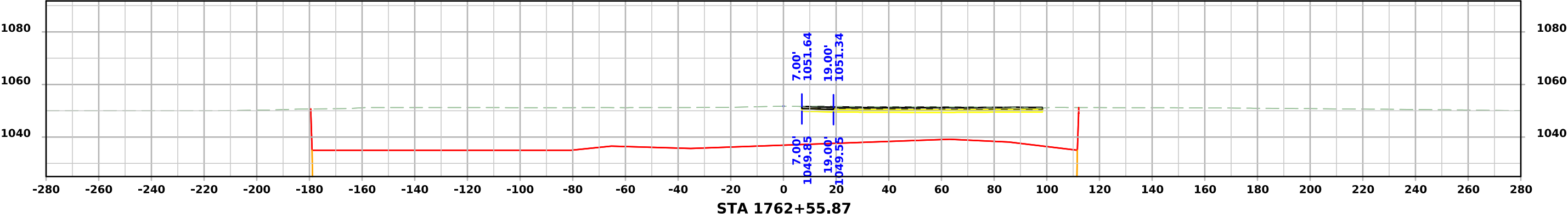


IA 175 - Stage 7

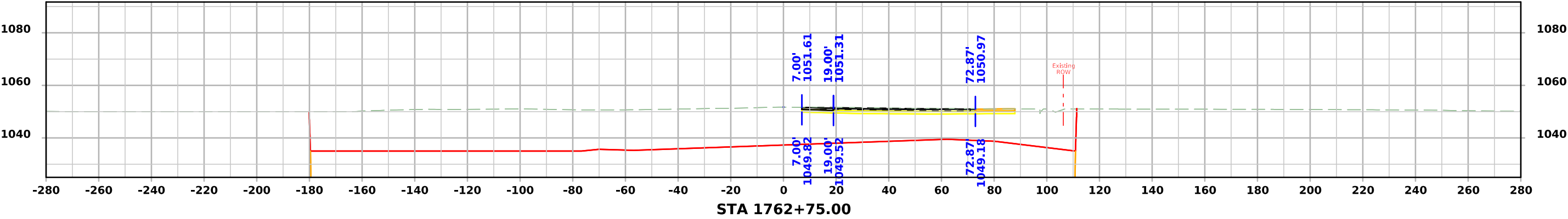
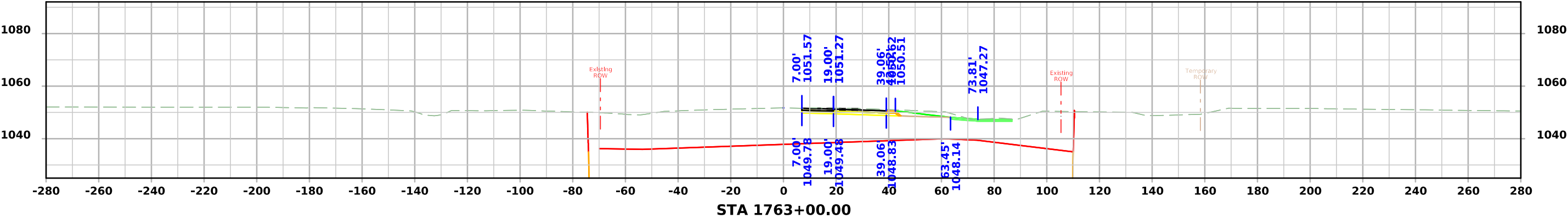
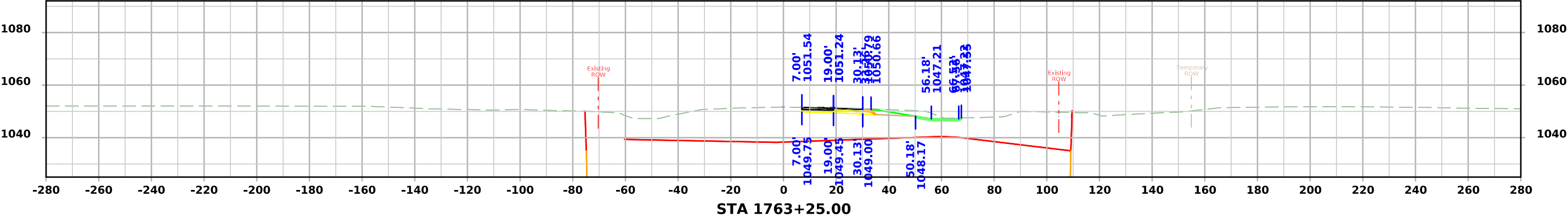




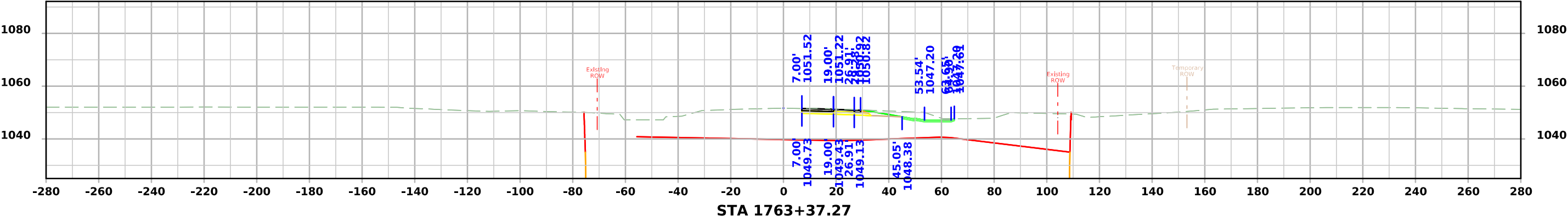
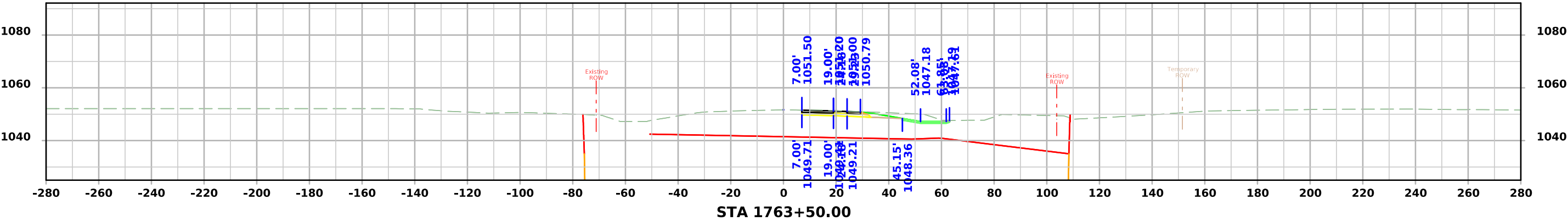
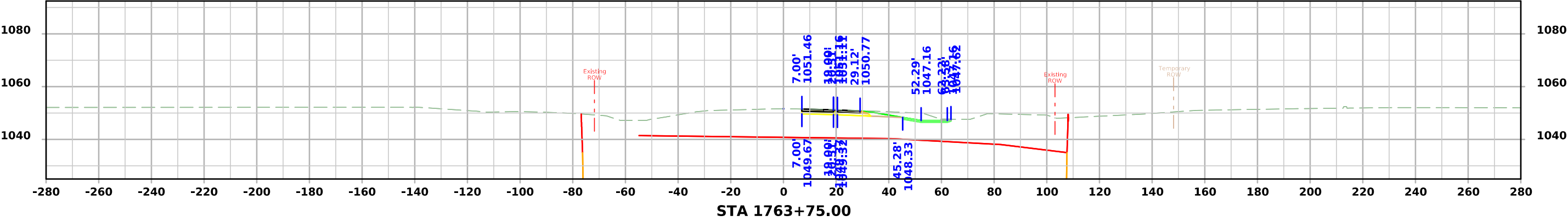
IA 175 - Stage 7



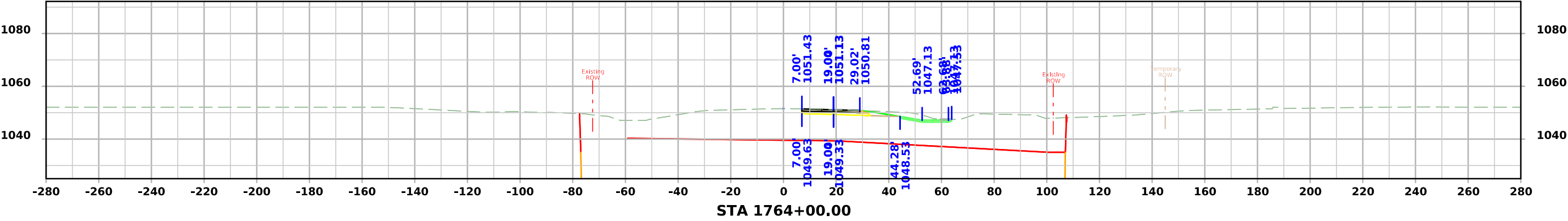
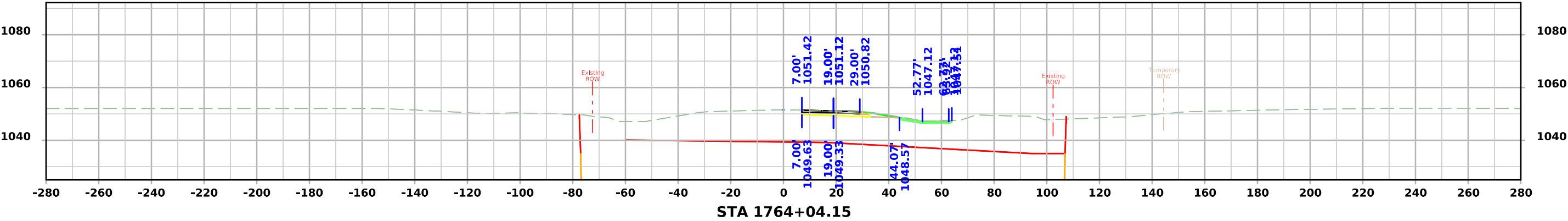
IA 175 - Stage 7



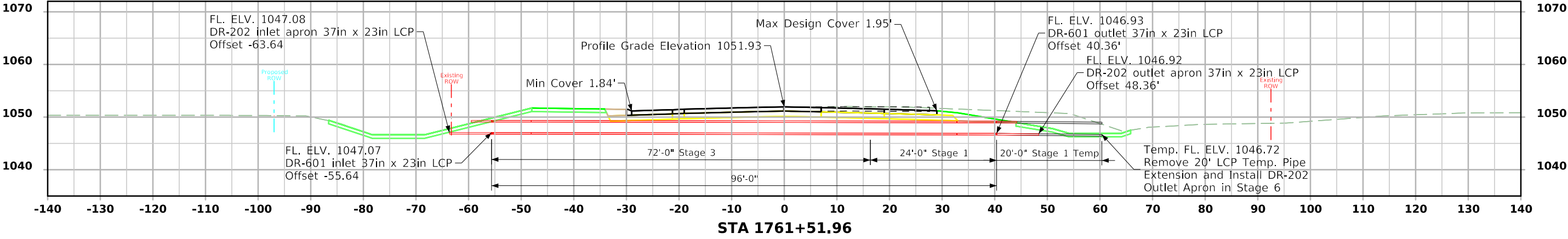
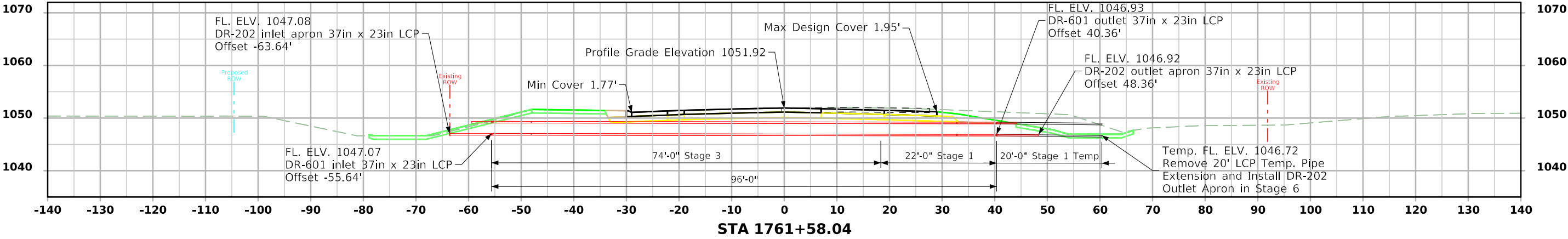
IA 175 - Stage 7



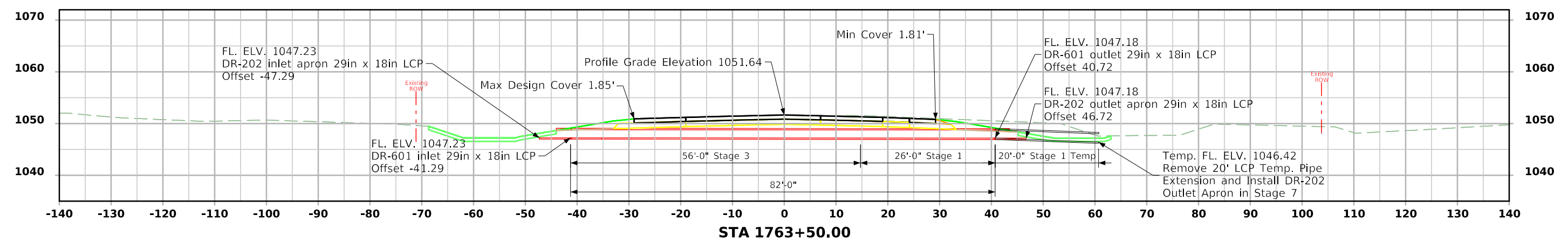
IA 175 - Stage 7



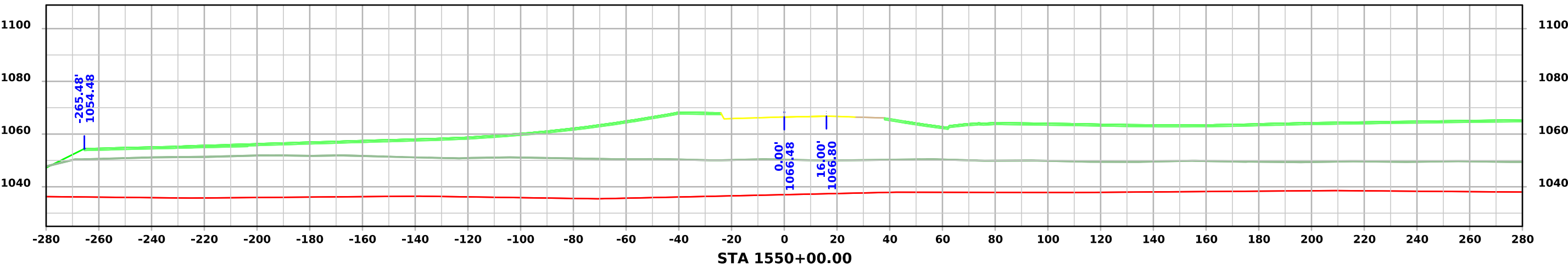
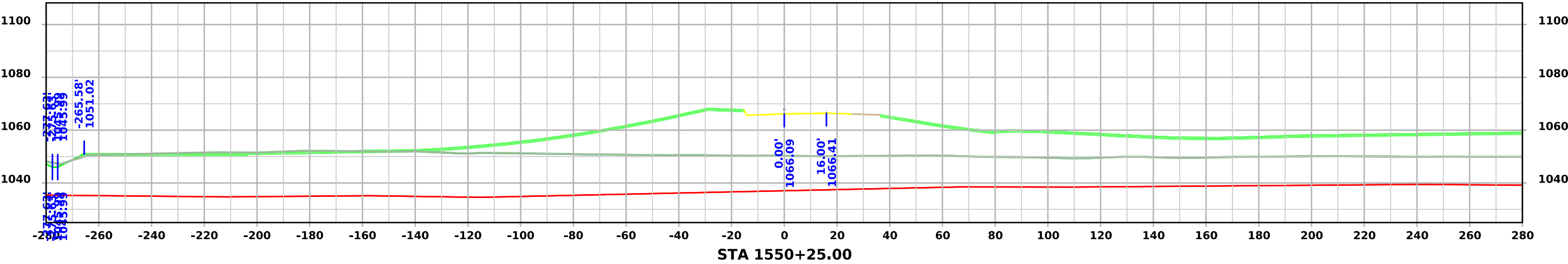
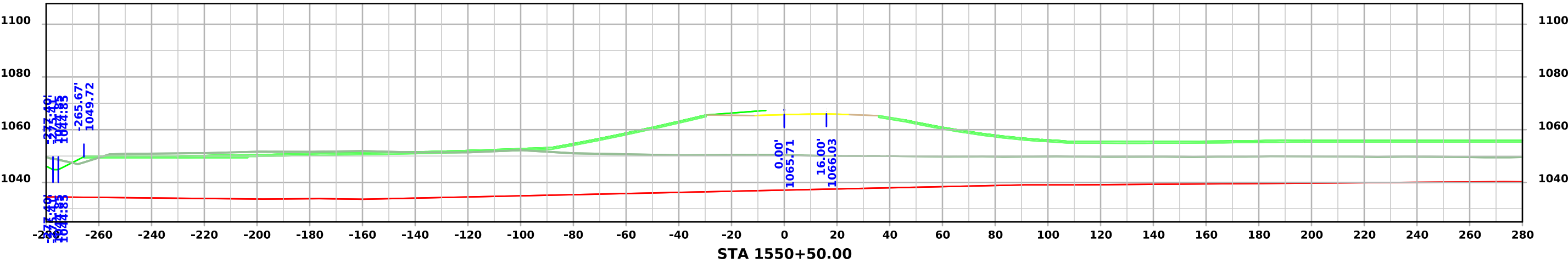
IA 175 Culverts



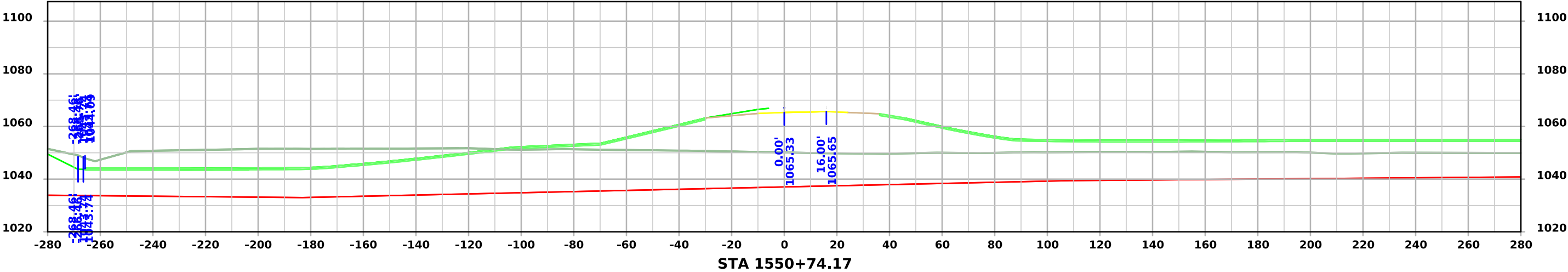
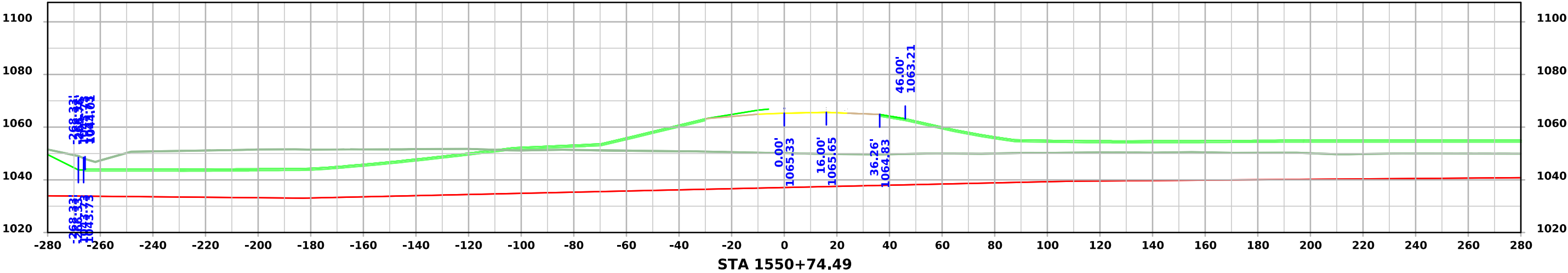
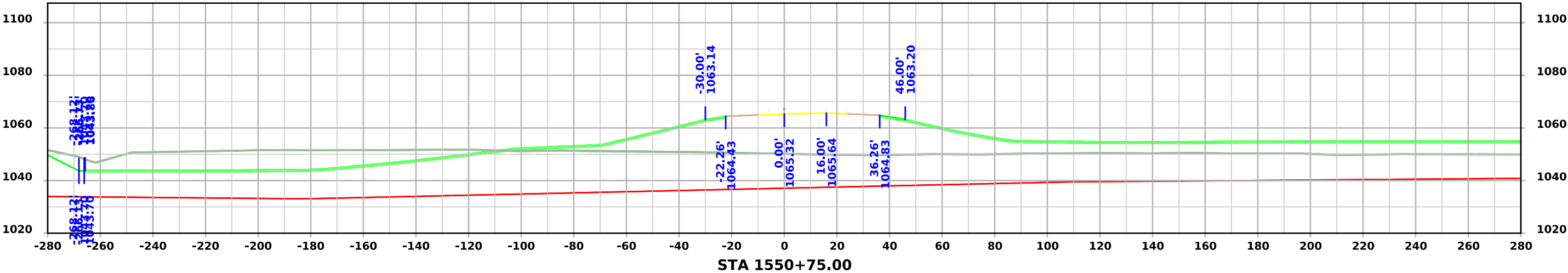
# IA 175 Culverts



# Ramp A - Stage 1

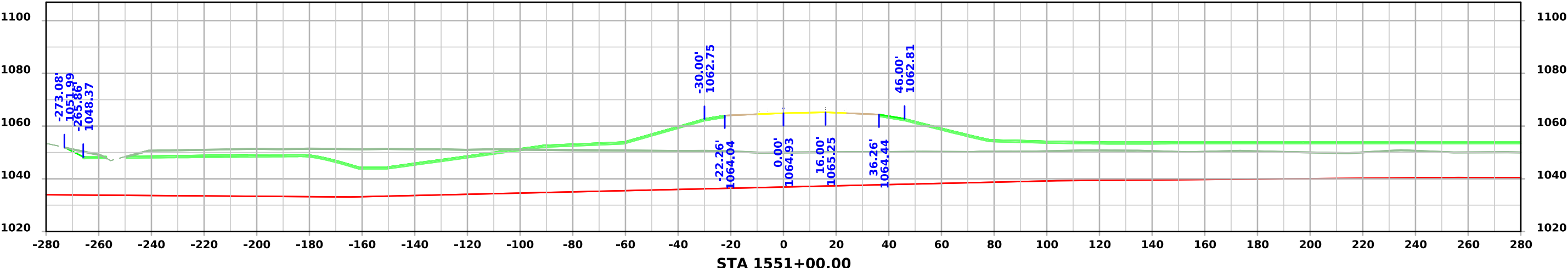
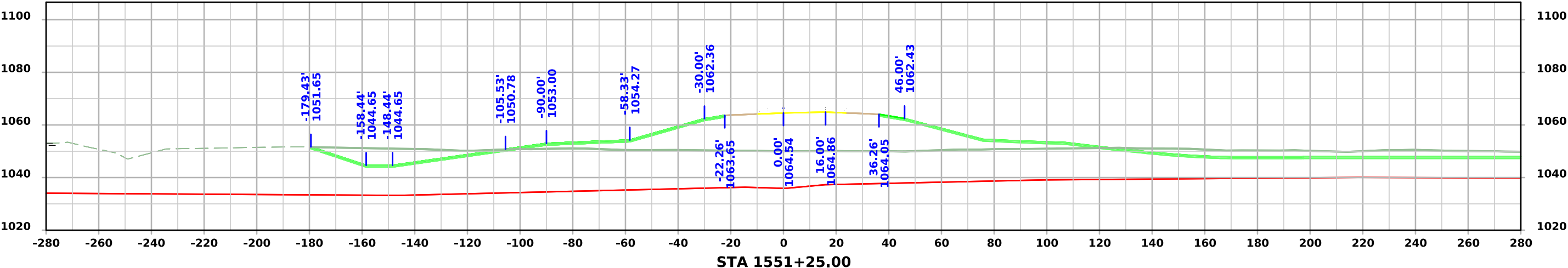
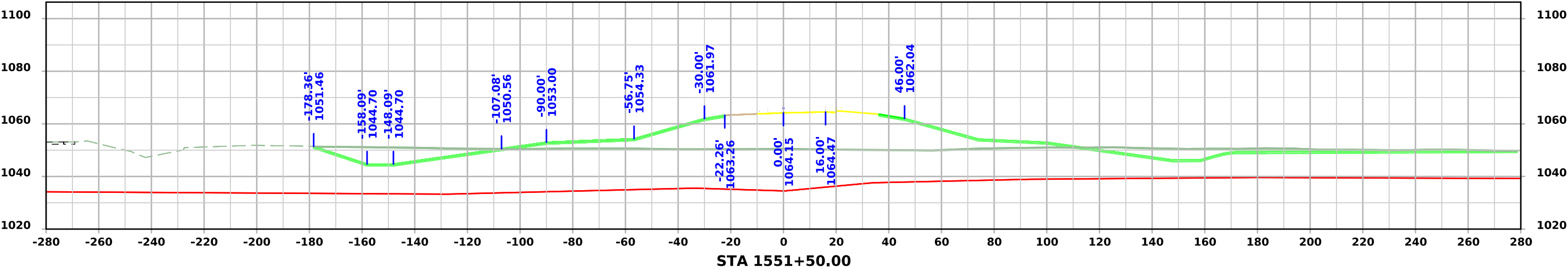


Ramp A - Stage 1

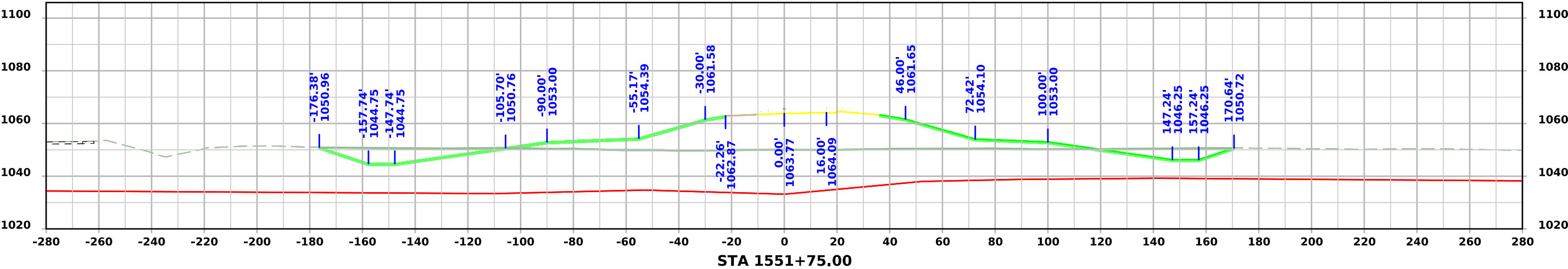
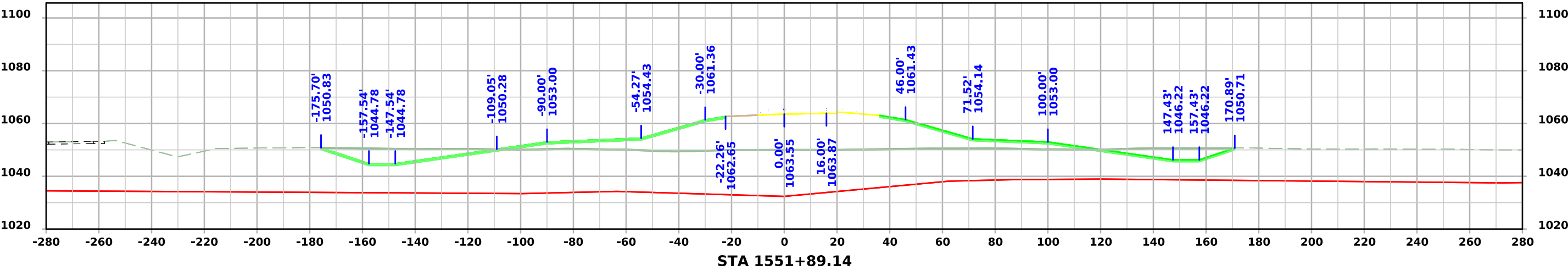
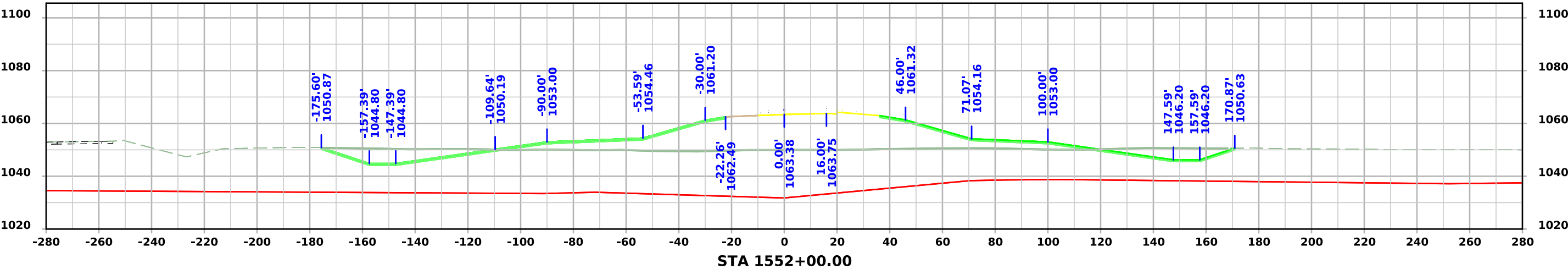




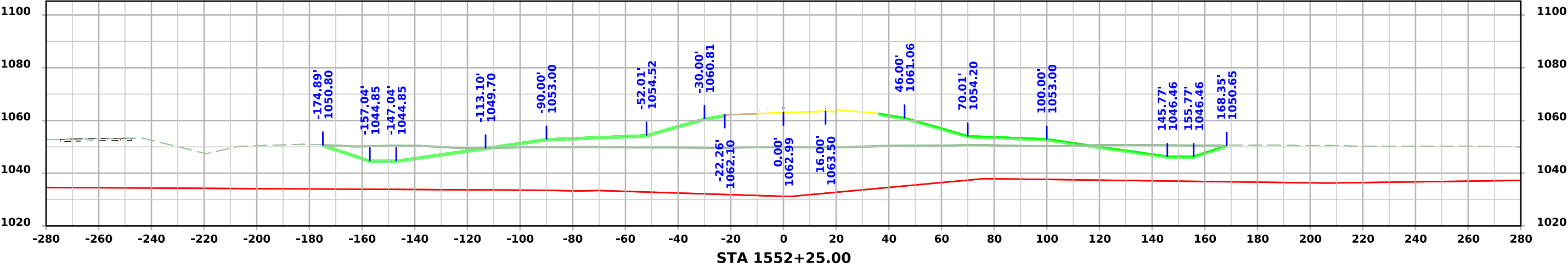
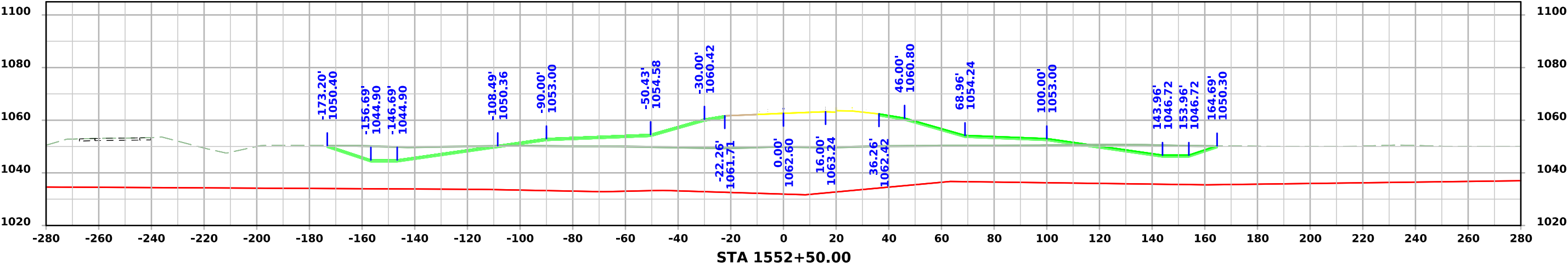
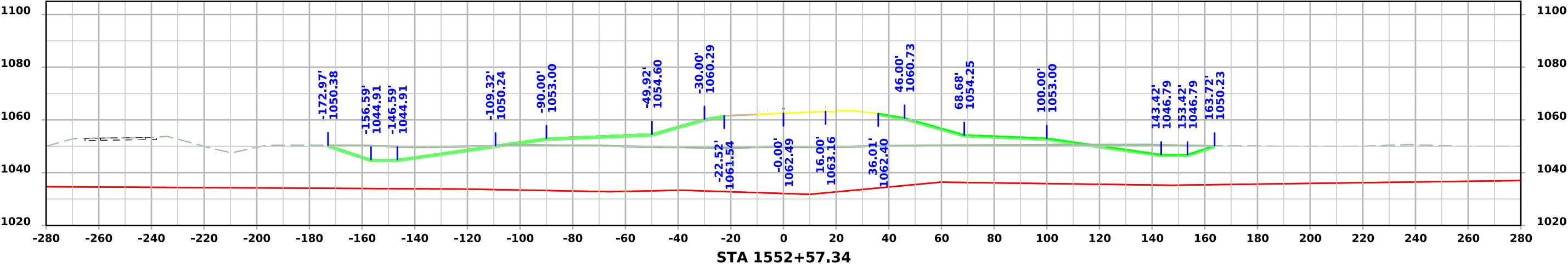
Ramp A - Stage 1



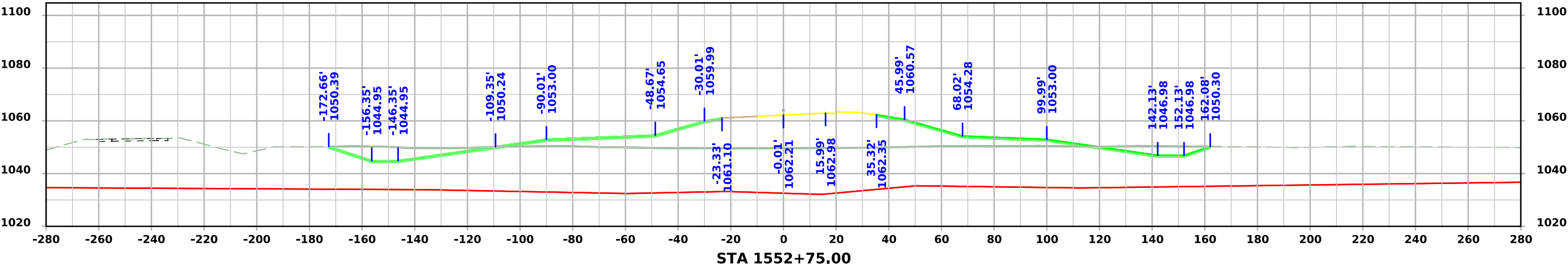
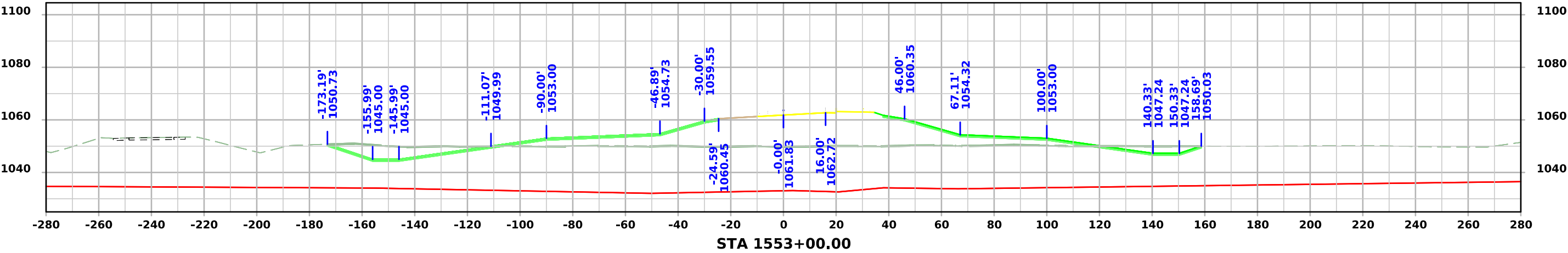
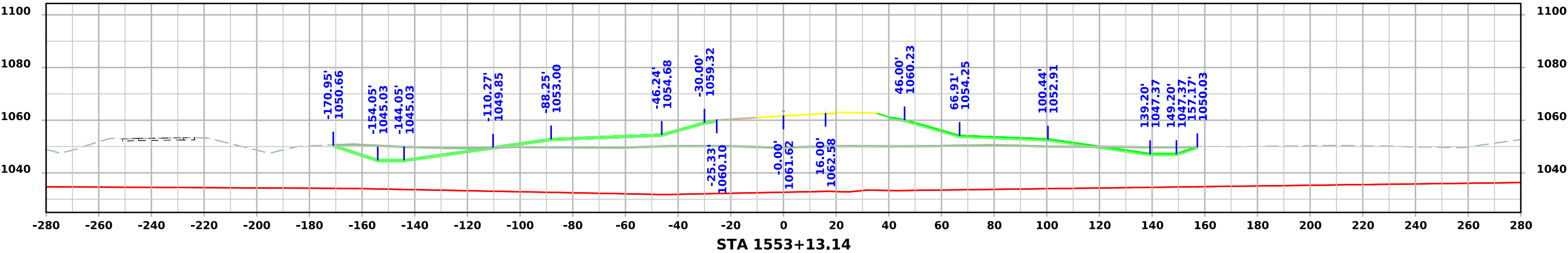
# Ramp A - Stage 1



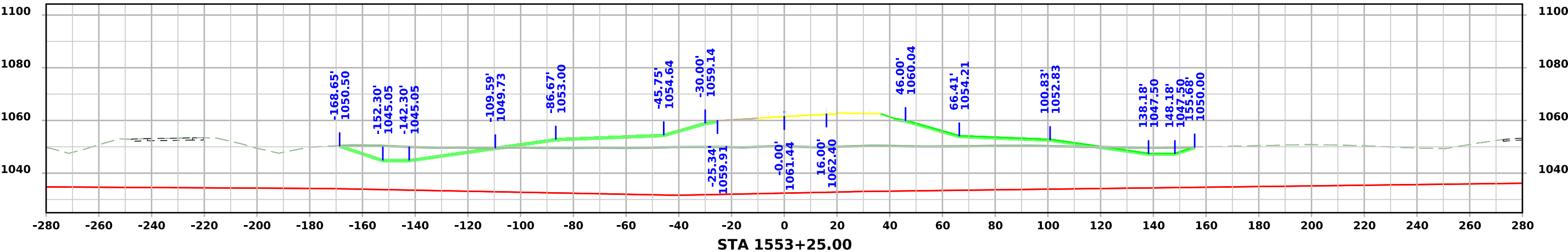
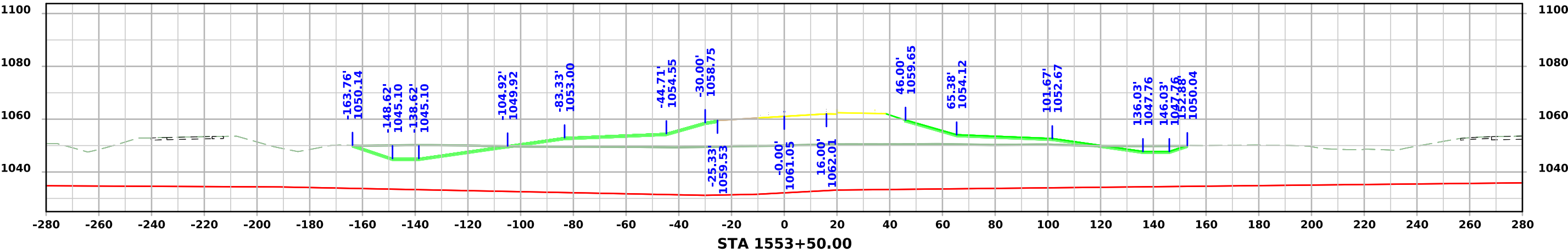
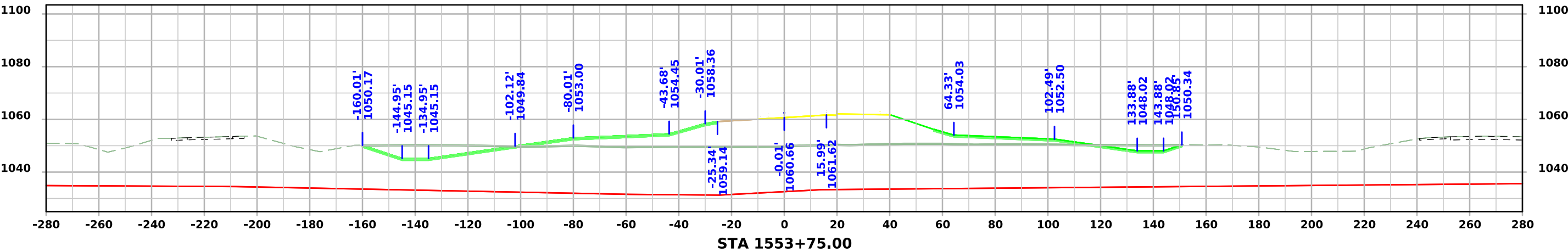
# Ramp A - Stage 1



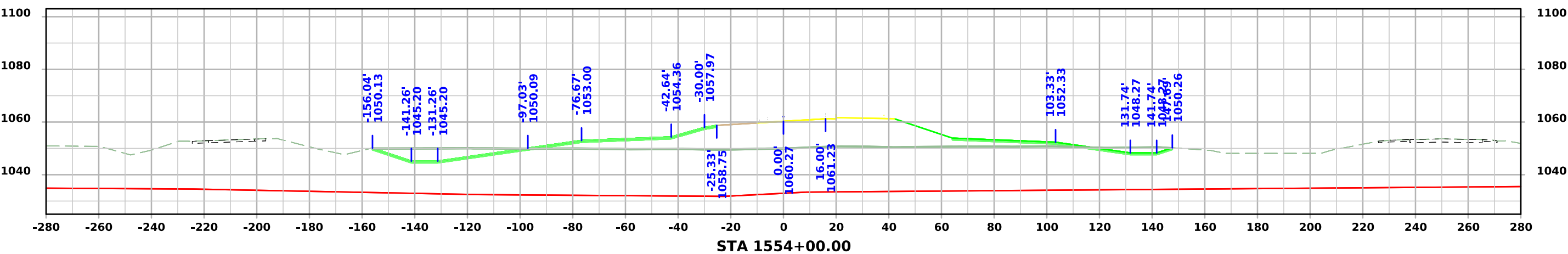
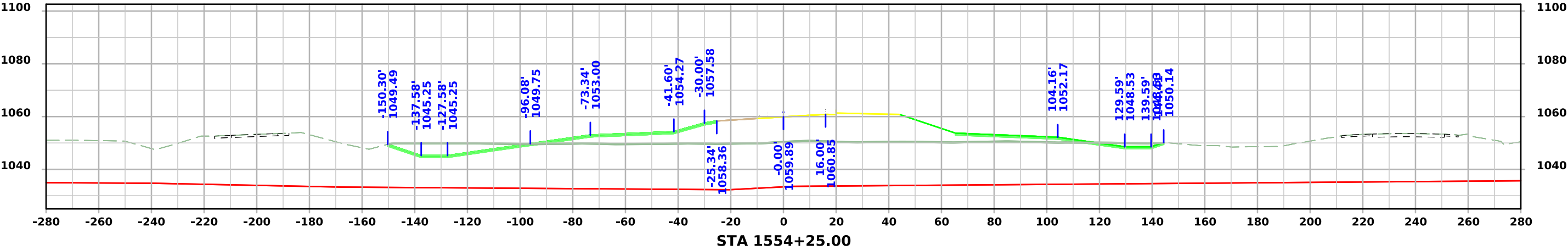
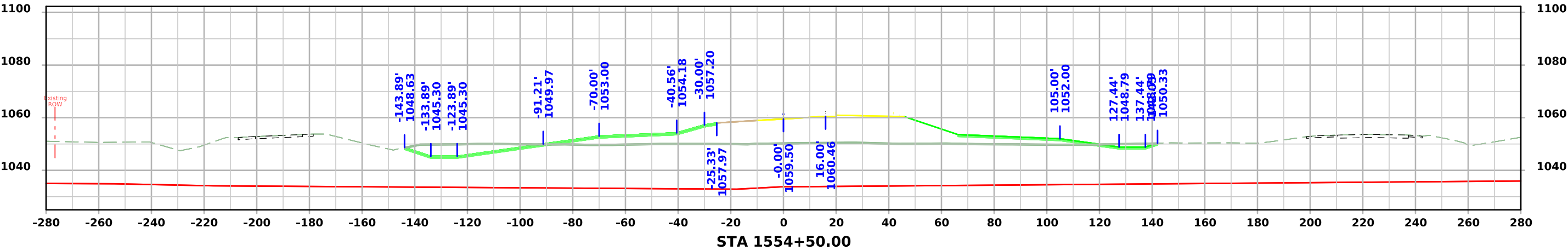
# Ramp A - Stage 1



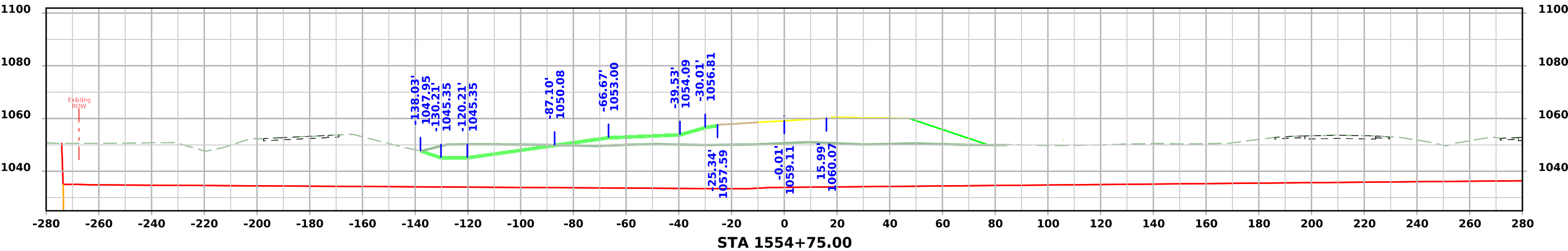
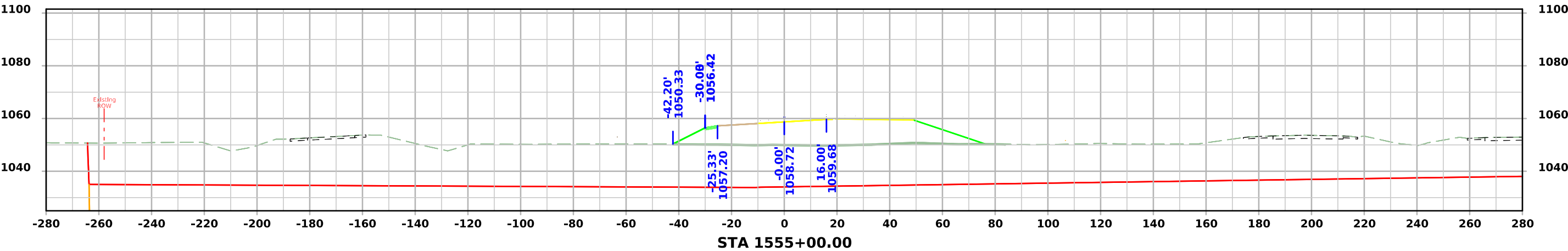
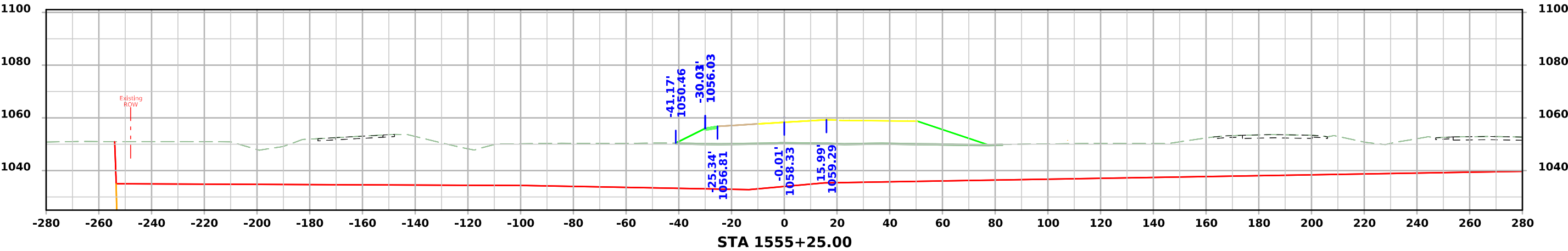
# Ramp A - Stage 1



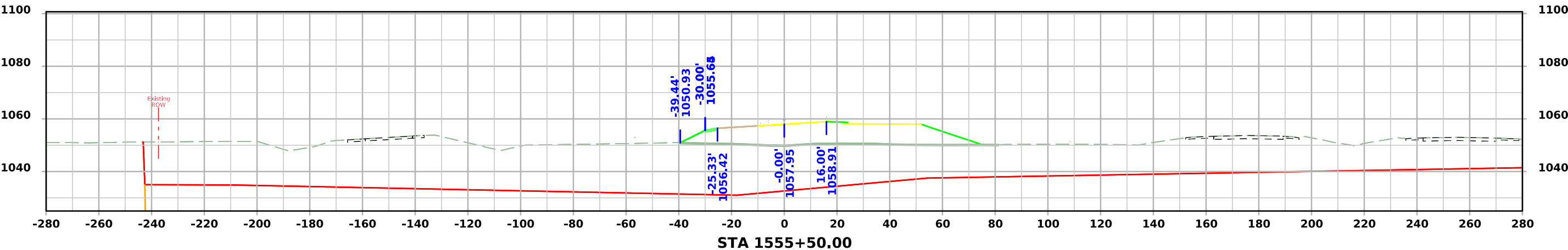
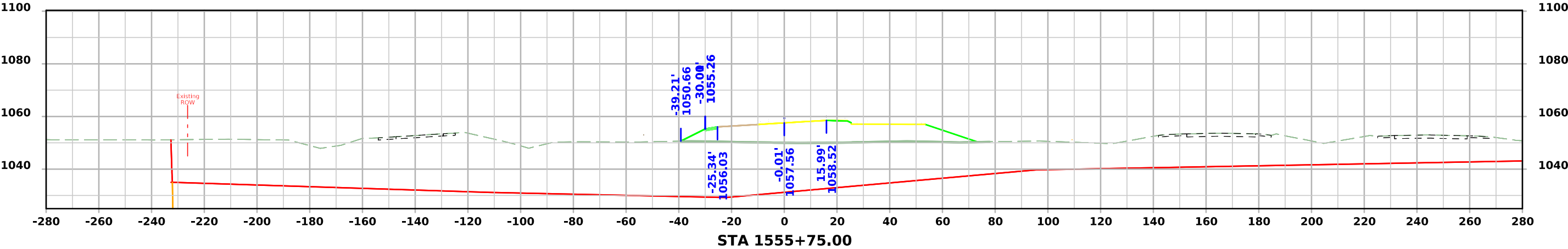
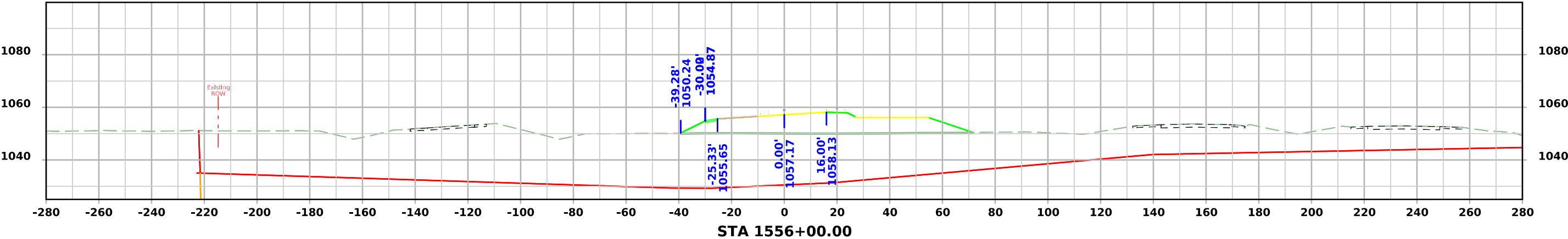
# Ramp A - Stage 1



# Ramp A - Stage 1

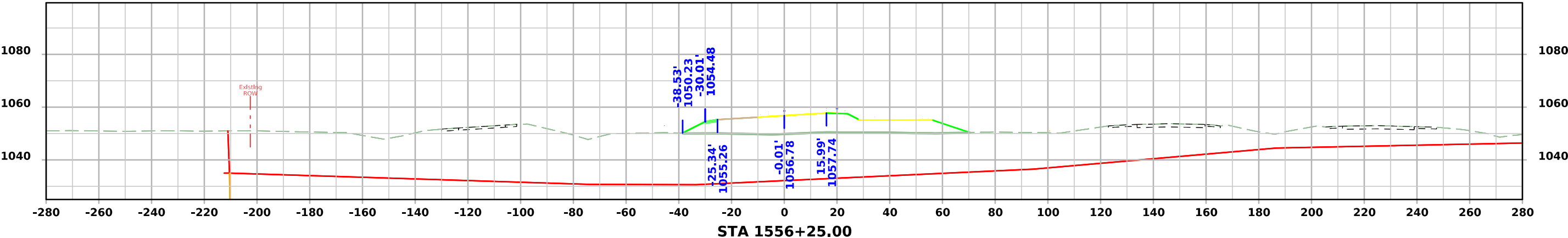
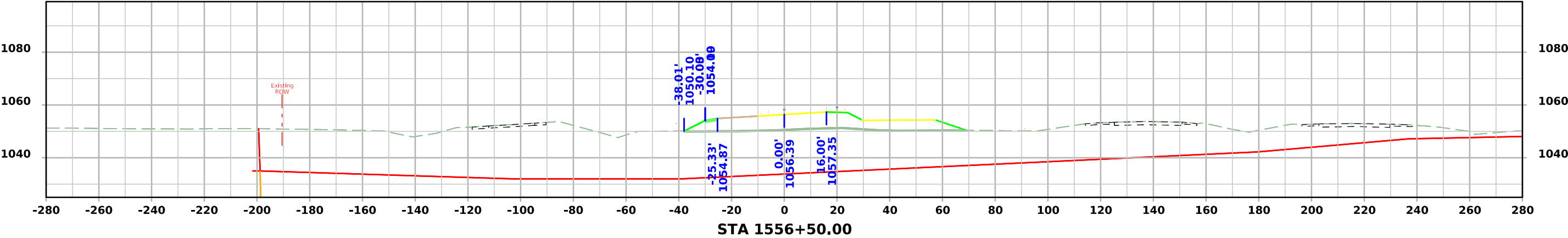
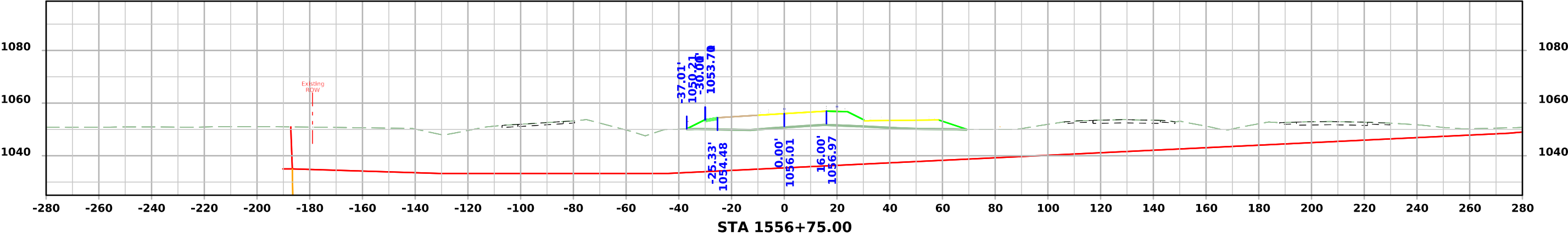


# Ramp A - Stage 1

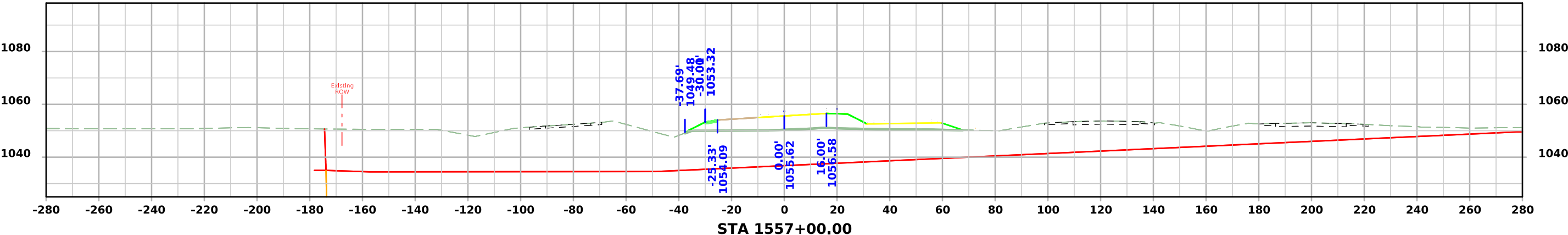
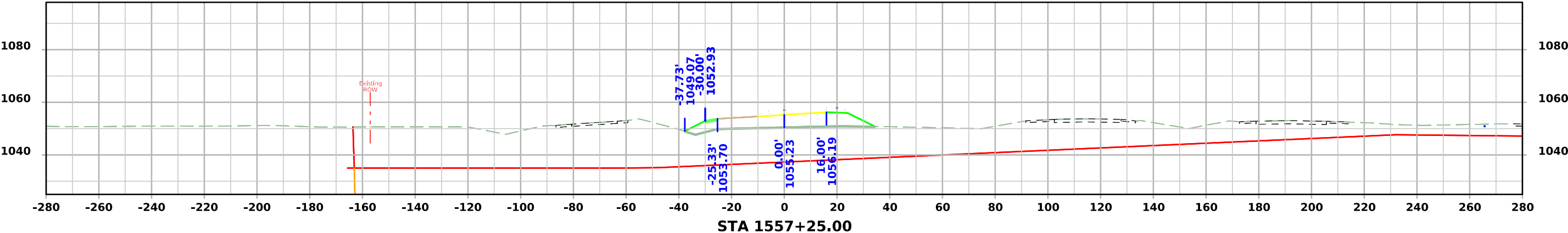
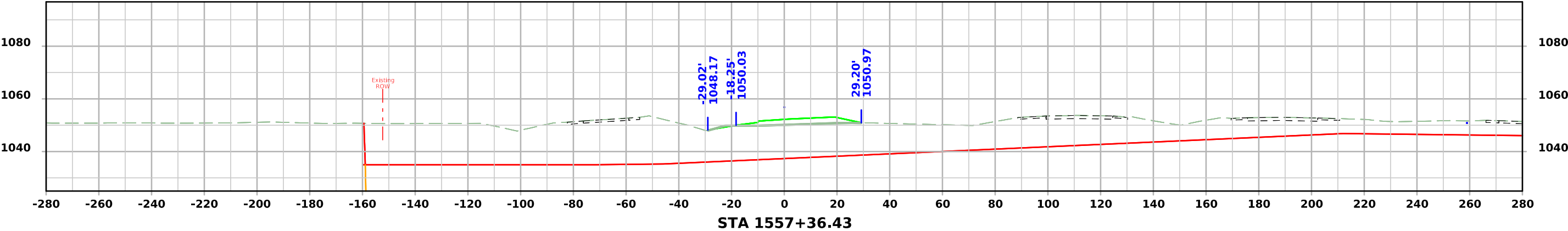




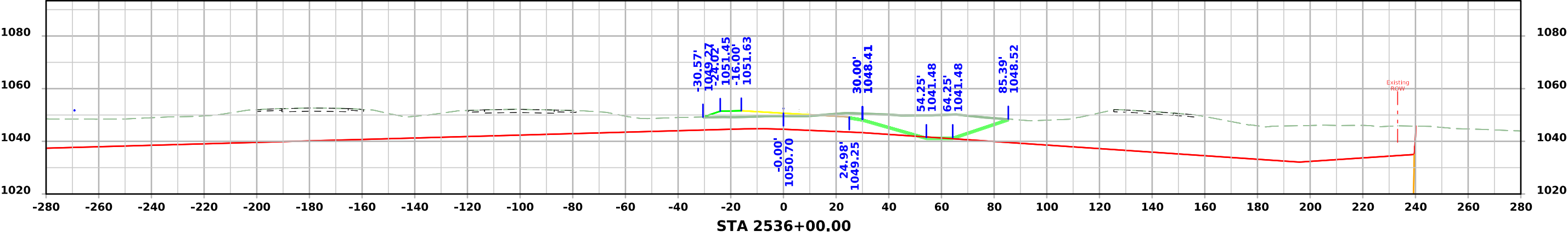
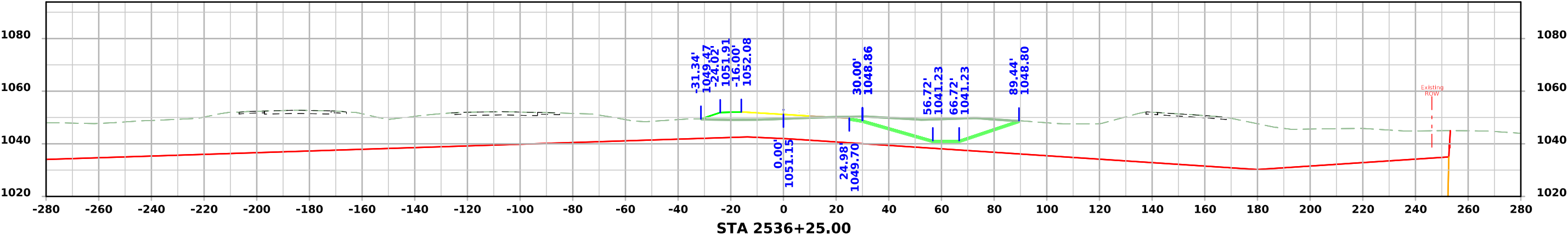
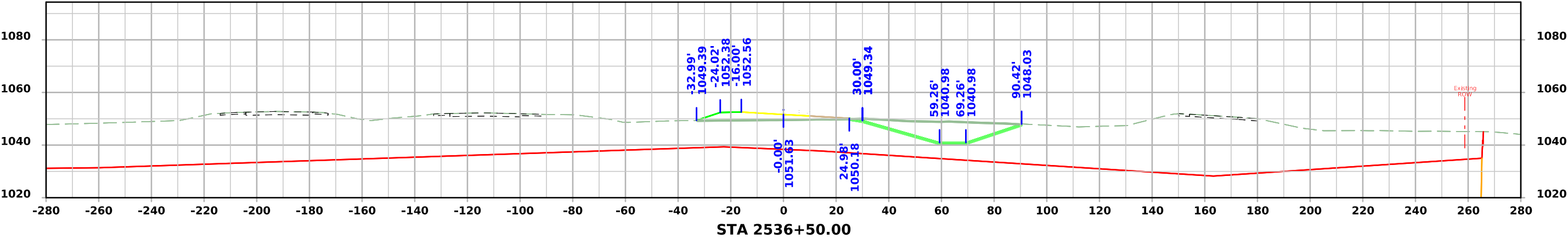
# Ramp A - Stage 1



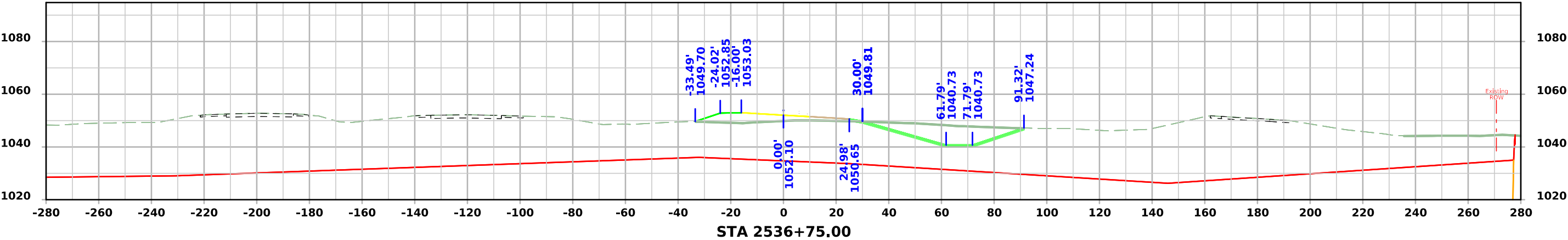
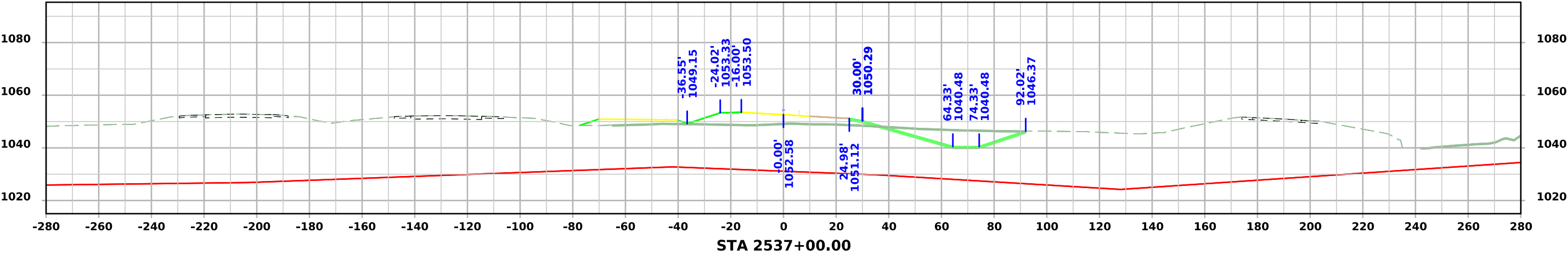
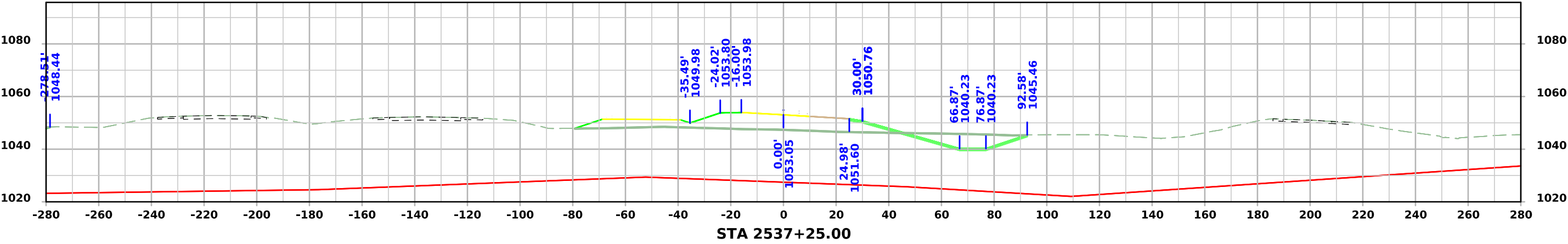
Ramp A - Stage 1



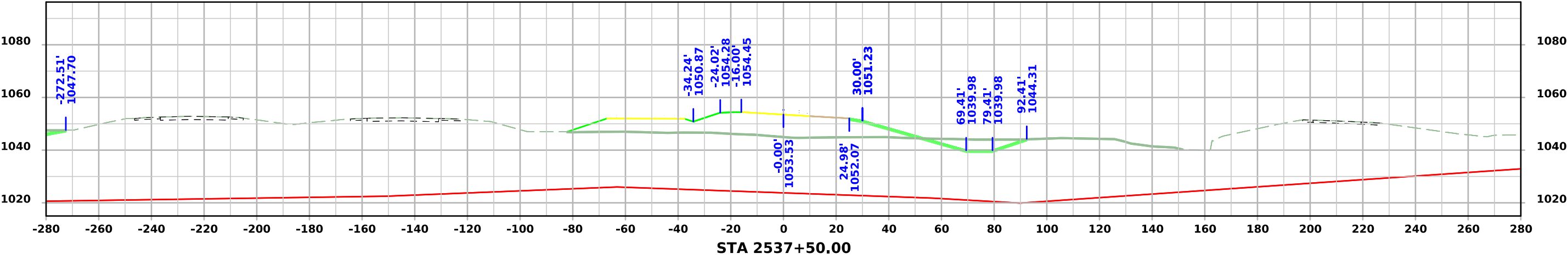
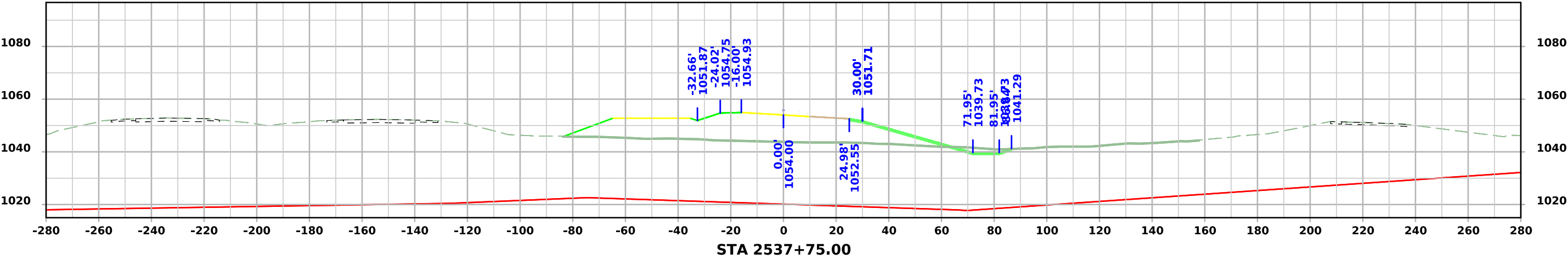
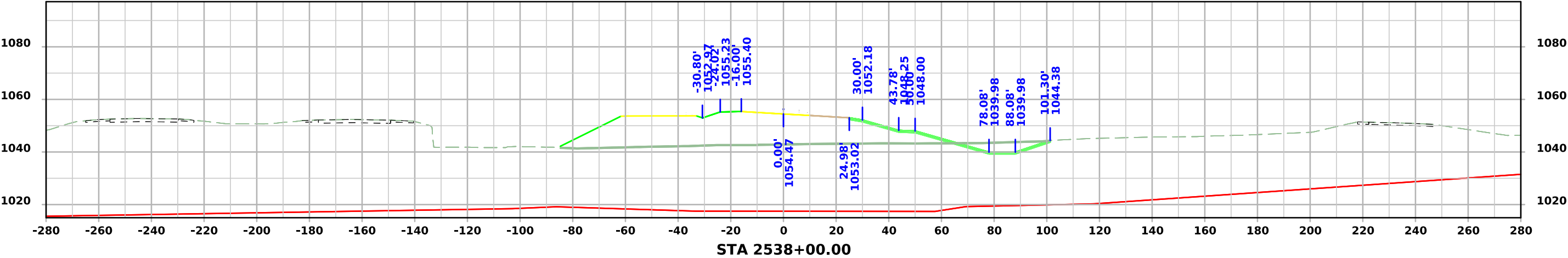
# Ramp B - Stage 1



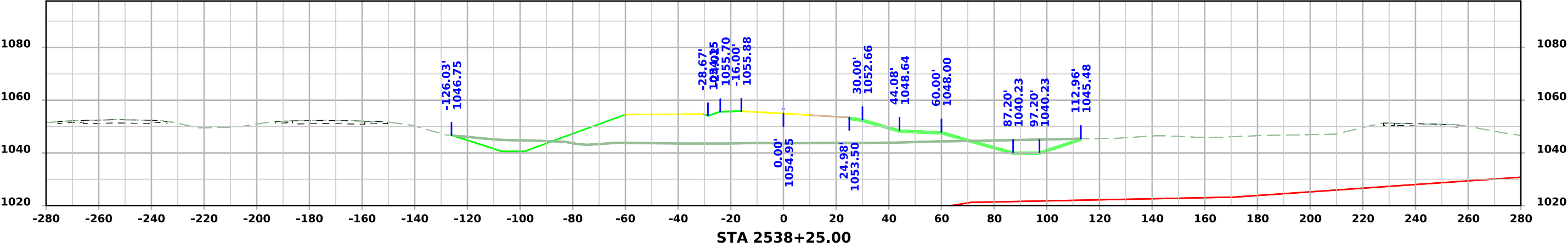
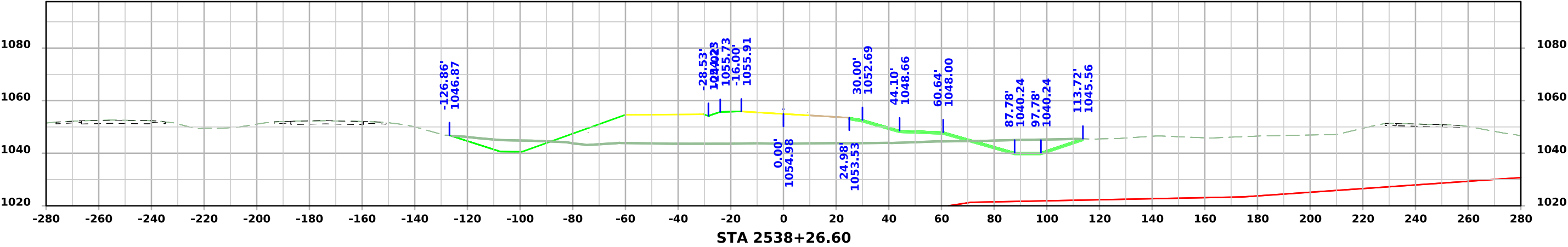
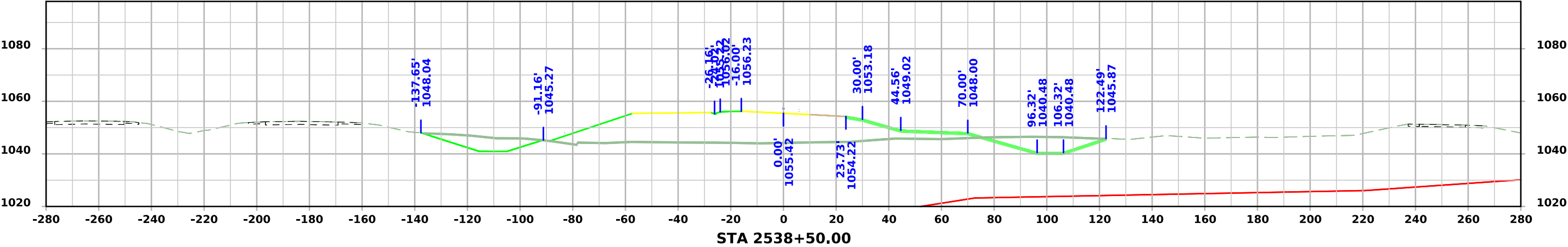
# Ramp B - Stage 1



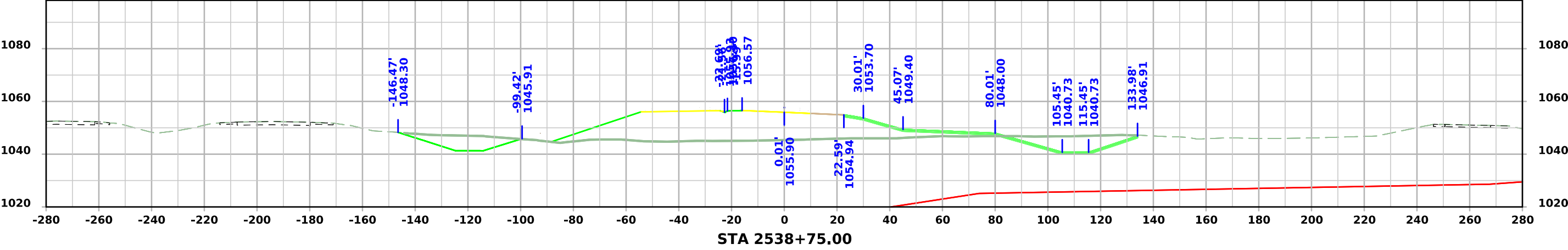
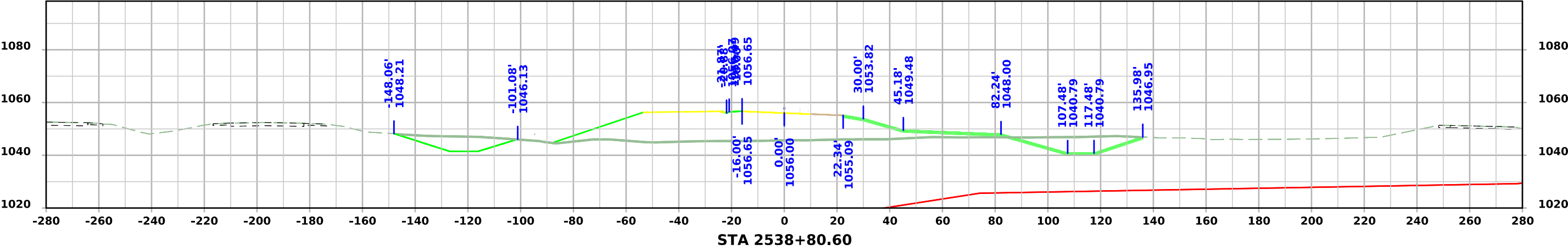
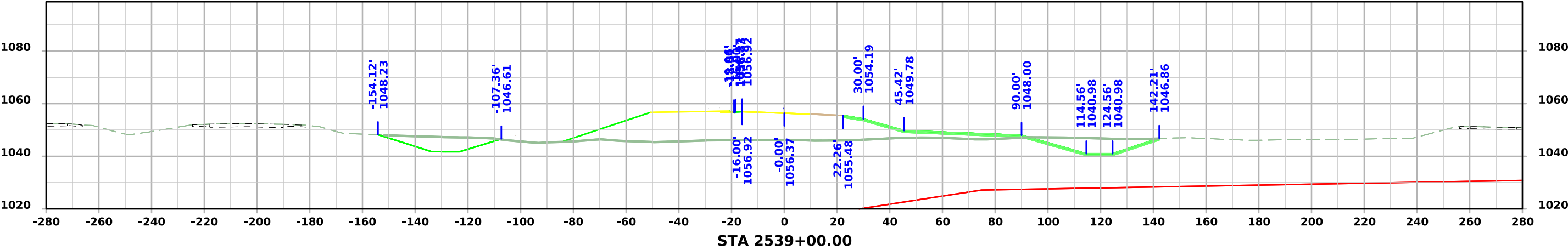
Ramp B - Stage 1



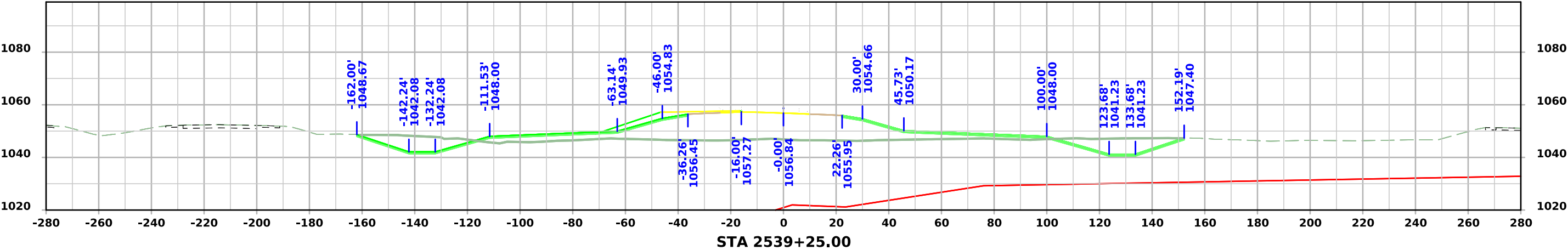
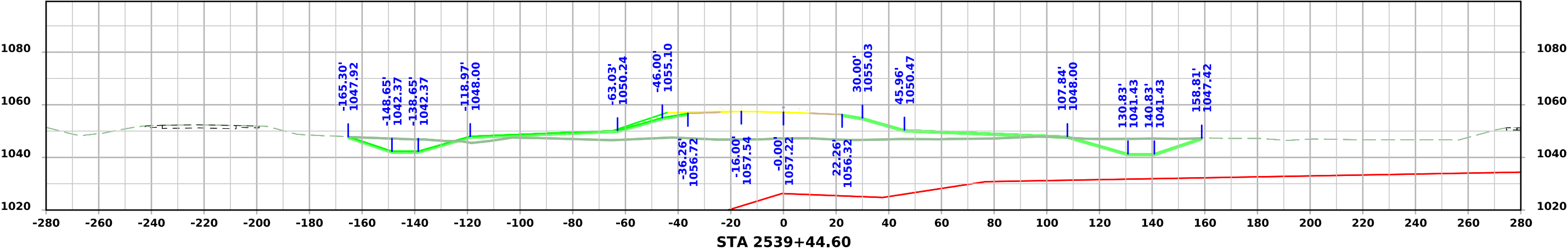
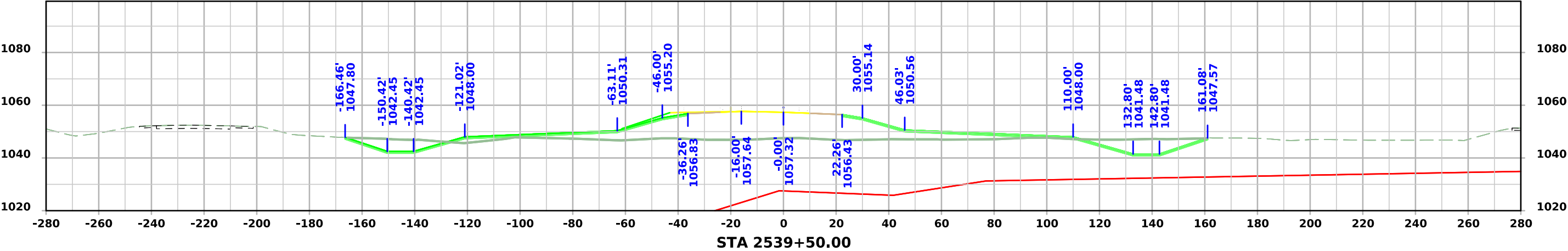
Ramp B - Stage 1



# Ramp B - Stage 1

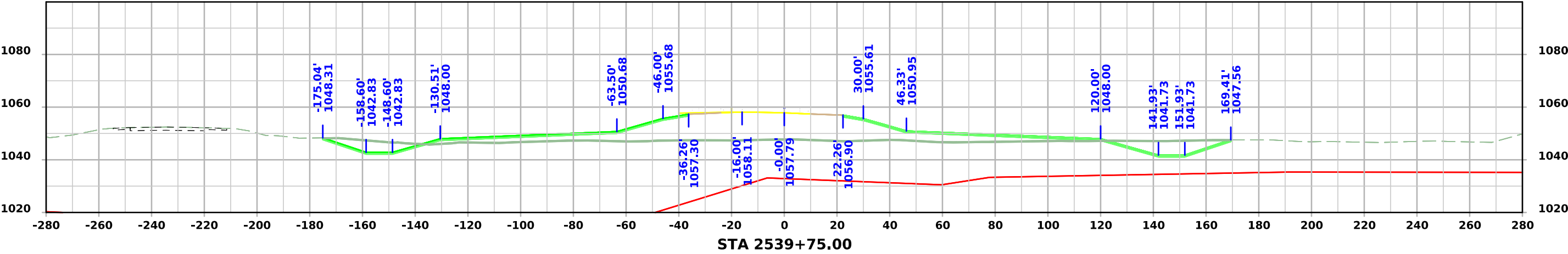
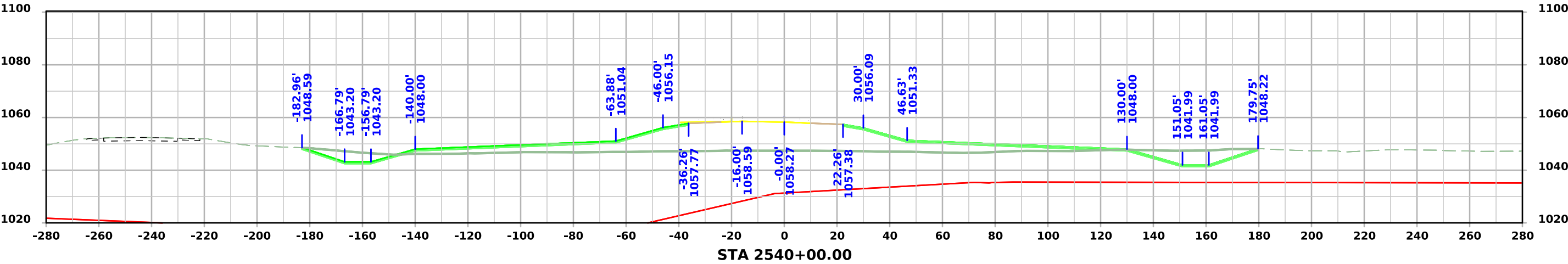
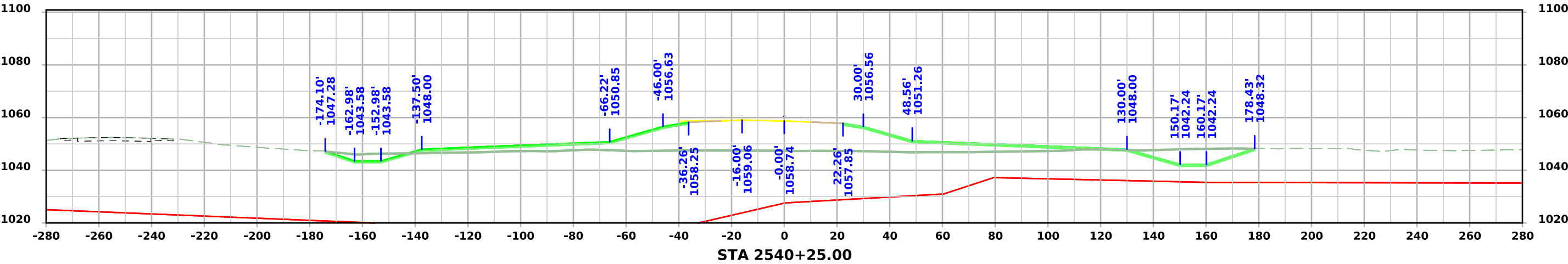


# Ramp B - Stage 1

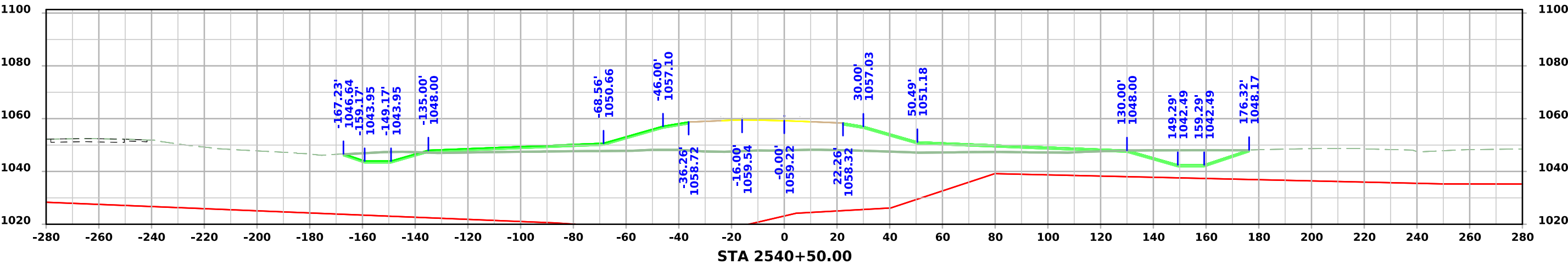
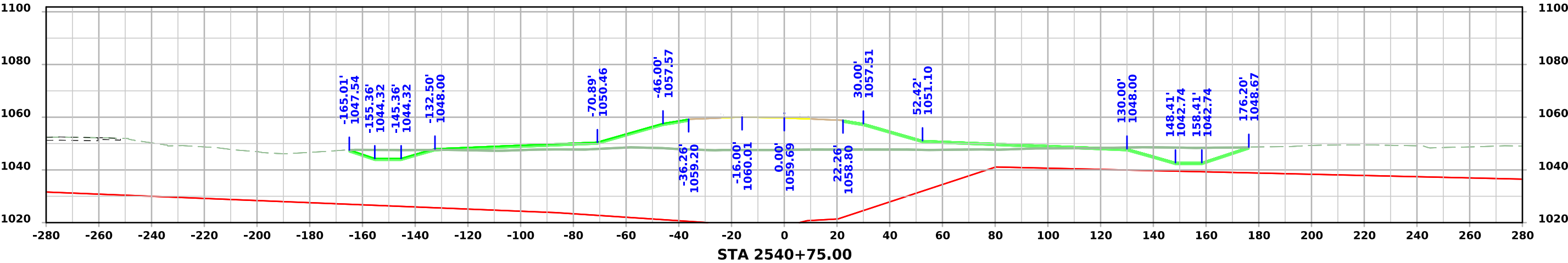
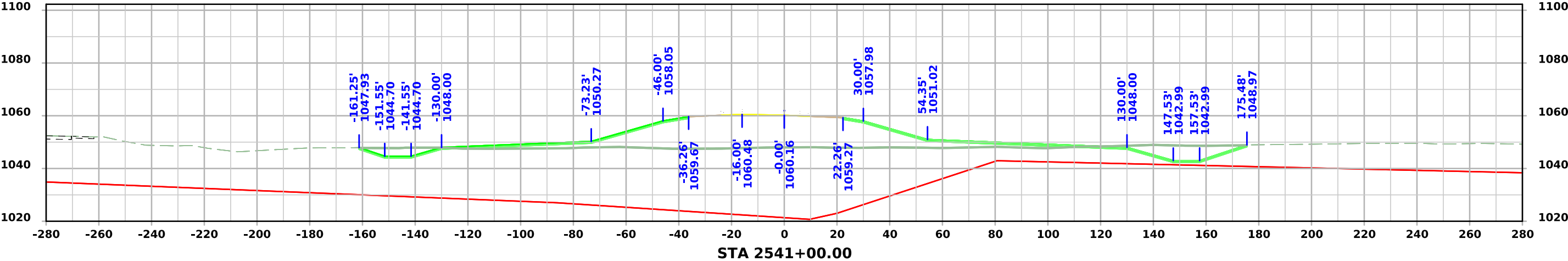




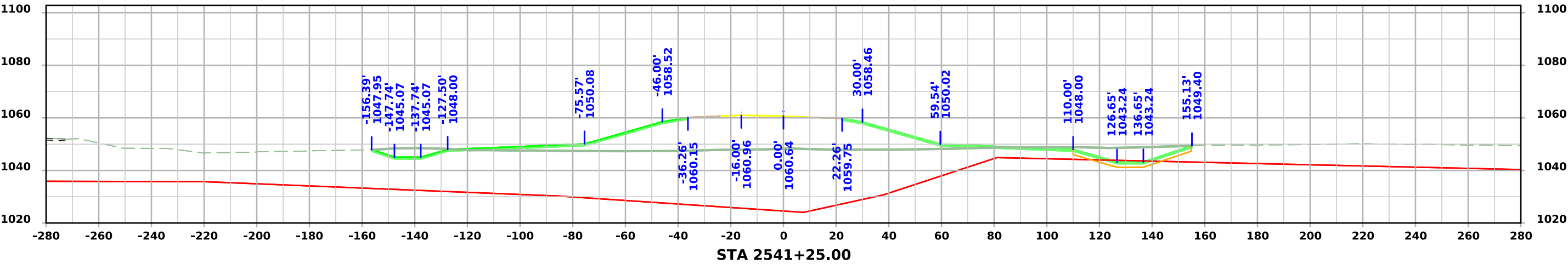
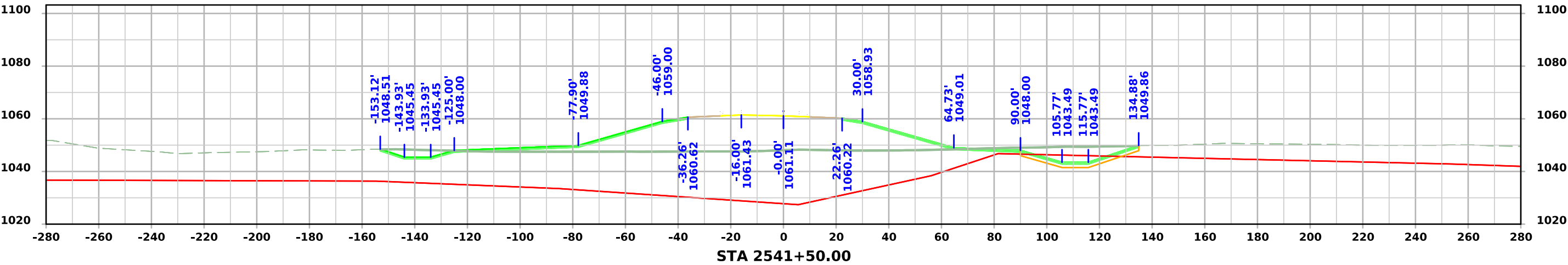
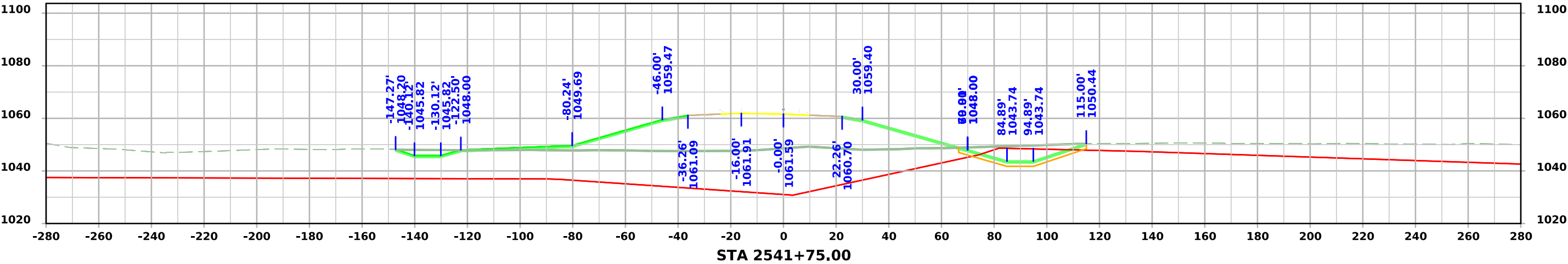
# Ramp B - Stage 1



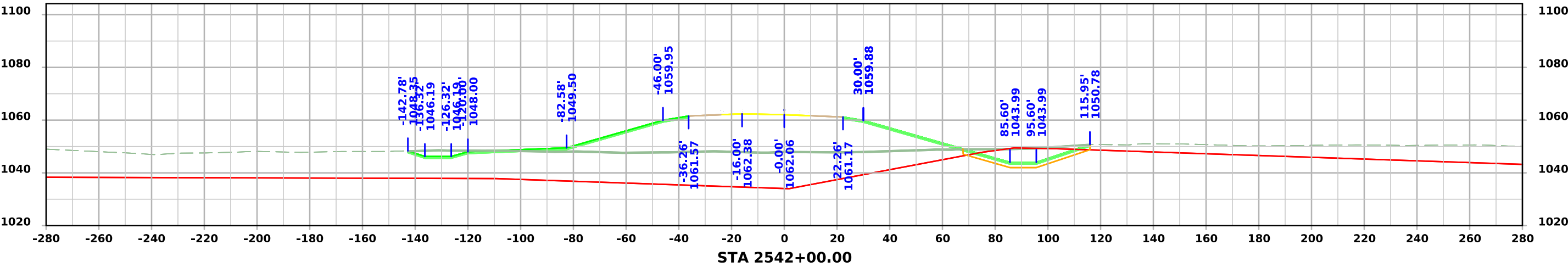
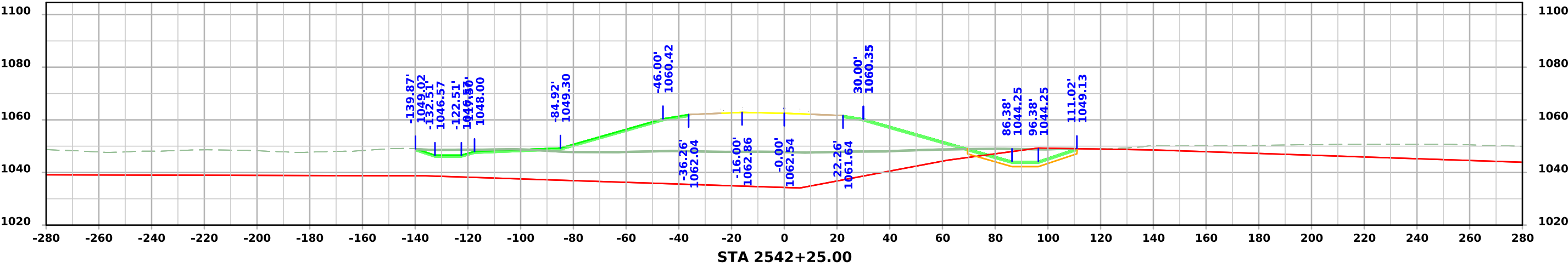
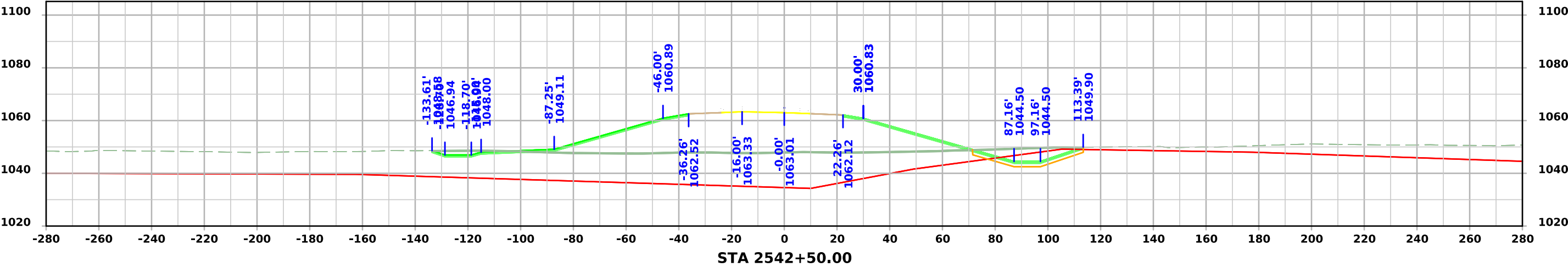
# Ramp B - Stage 1



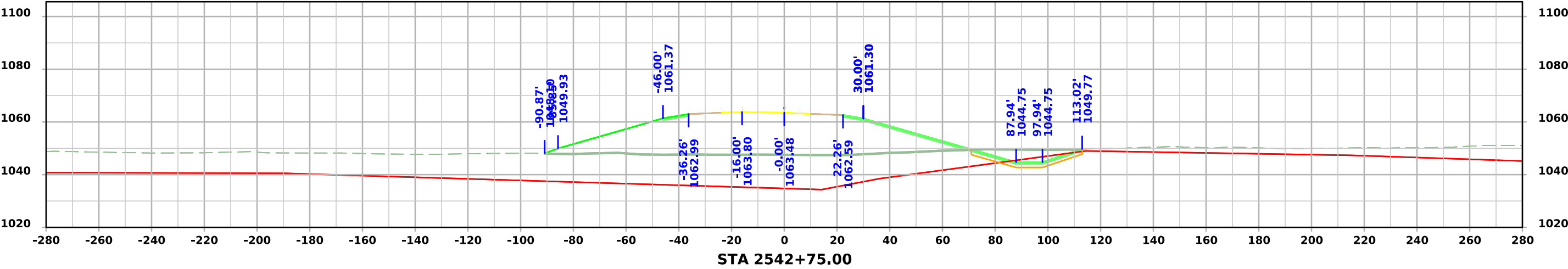
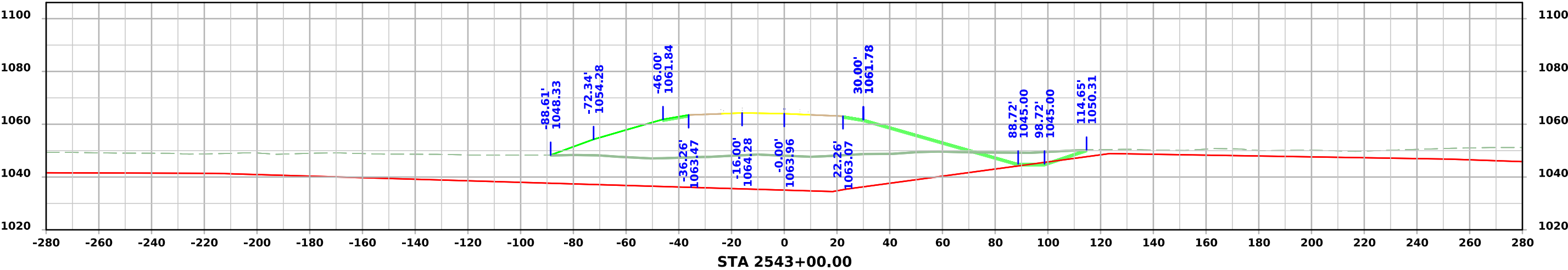
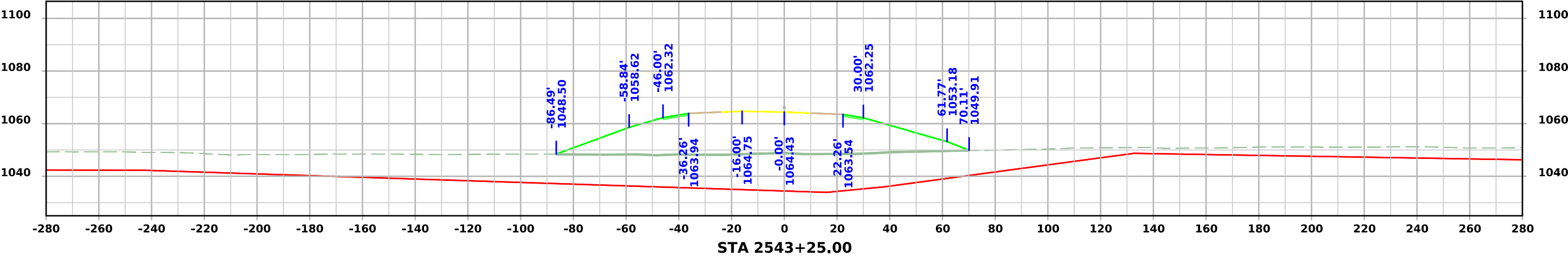
Ramp B - Stage 1



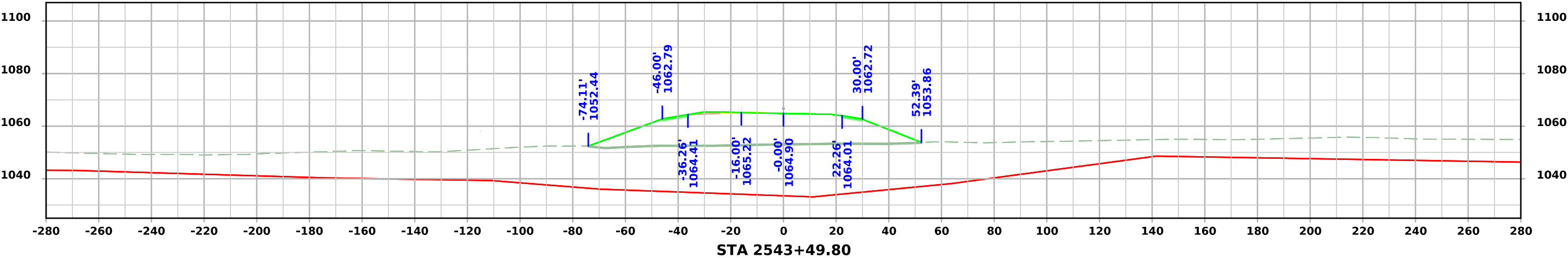
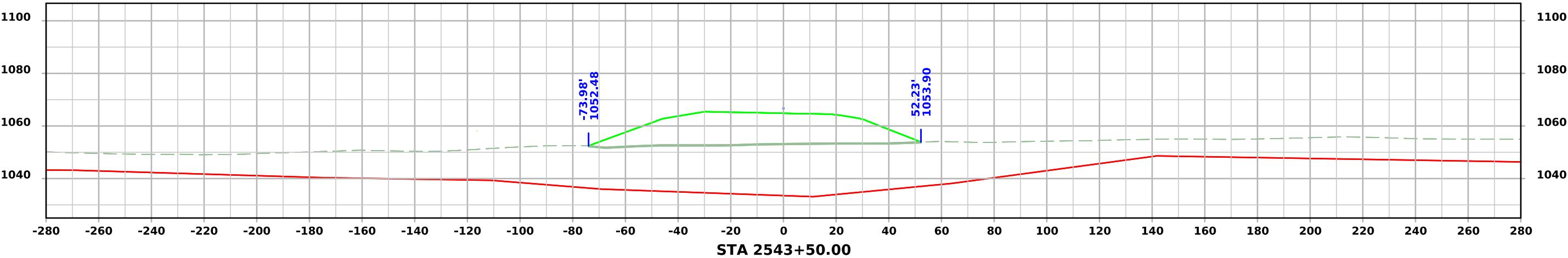
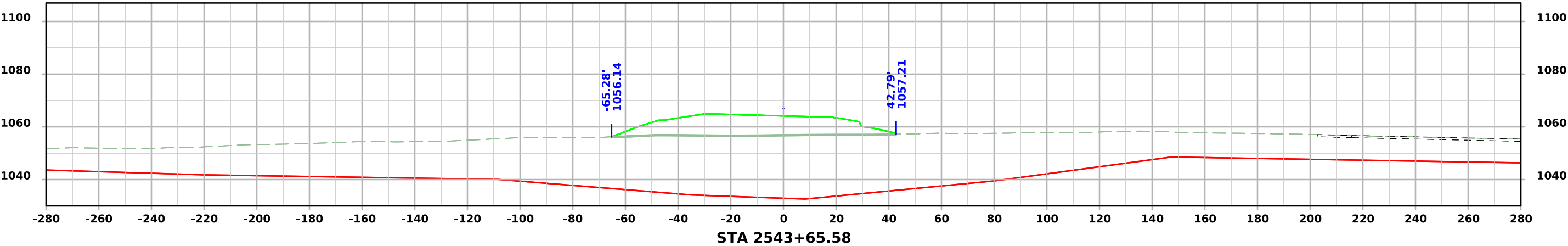
Ramp B - Stage 1



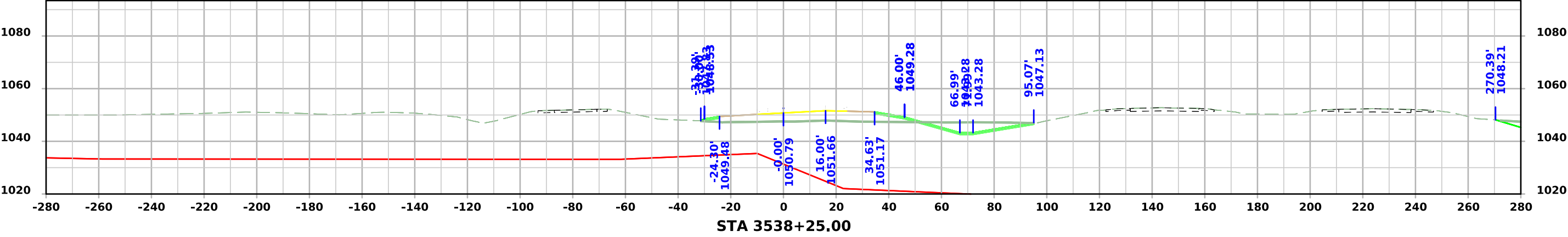
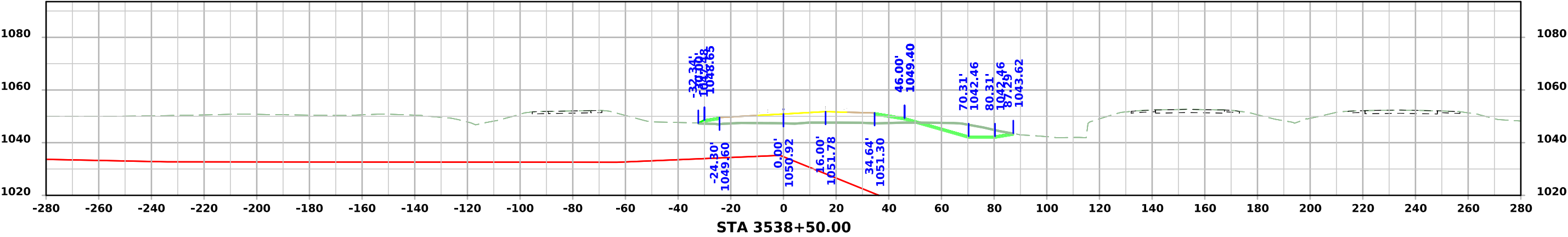
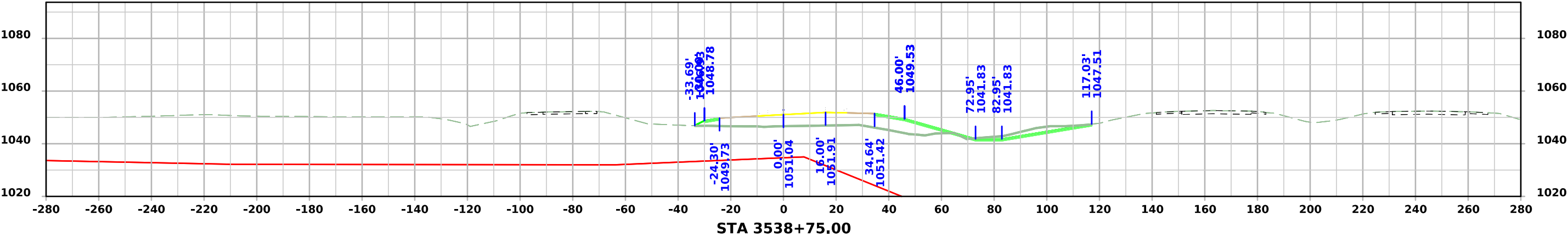
Ramp B - Stage 1



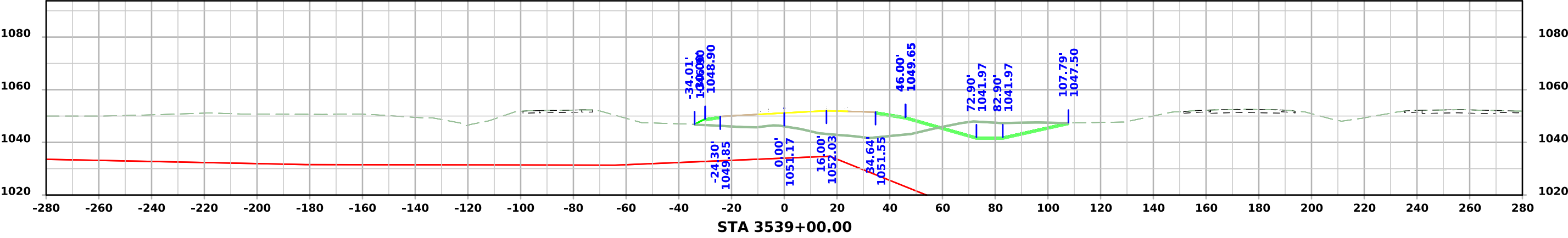
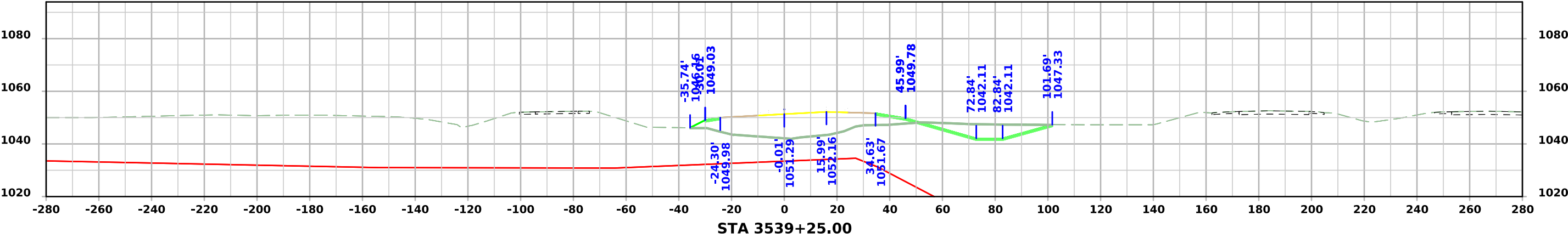
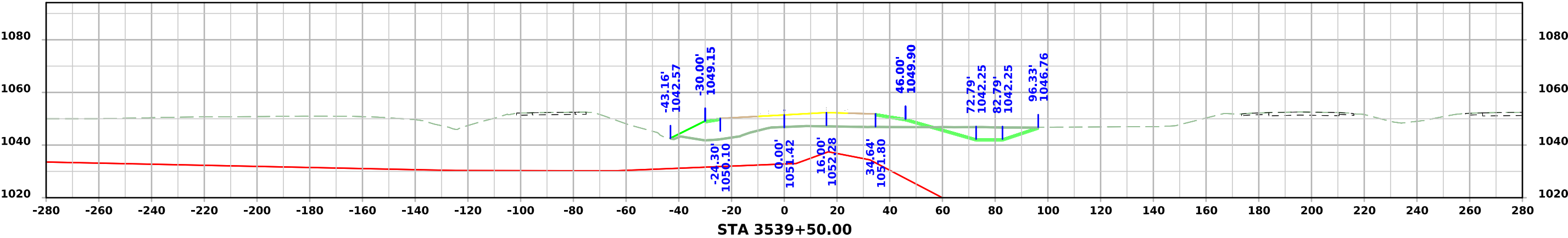
Ramp B - Stage 1



Ramp C - Stage 1

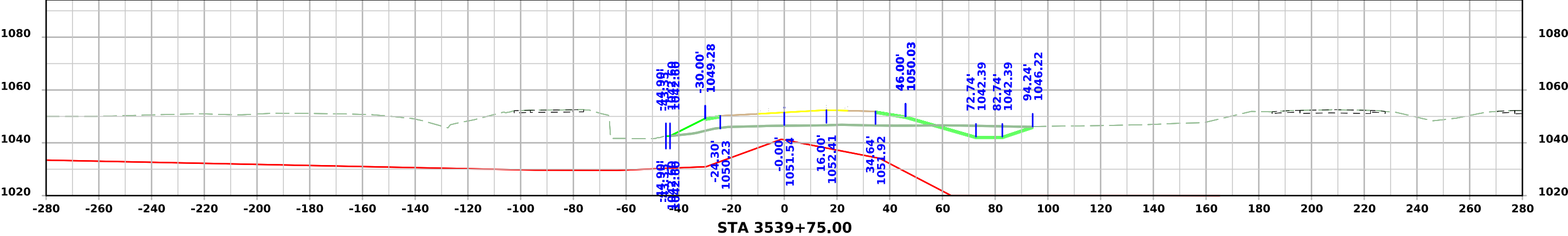
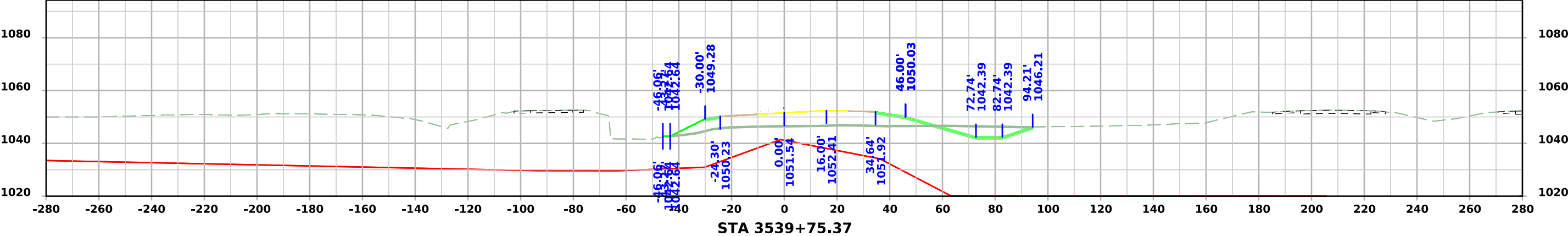
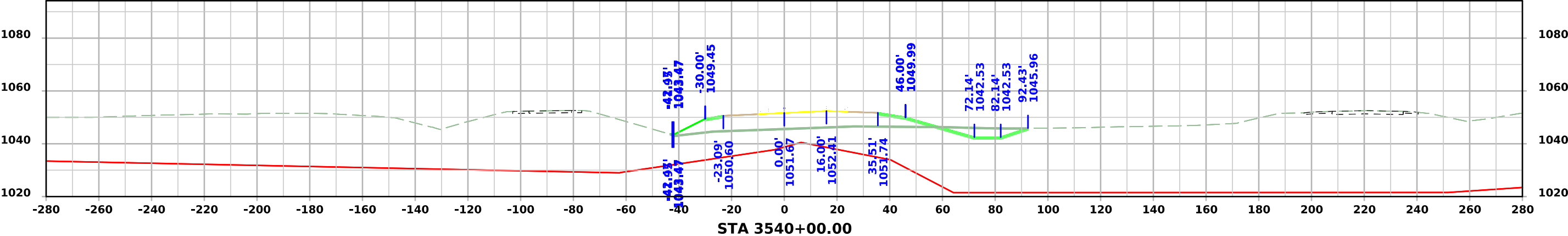


Ramp C - Stage 1

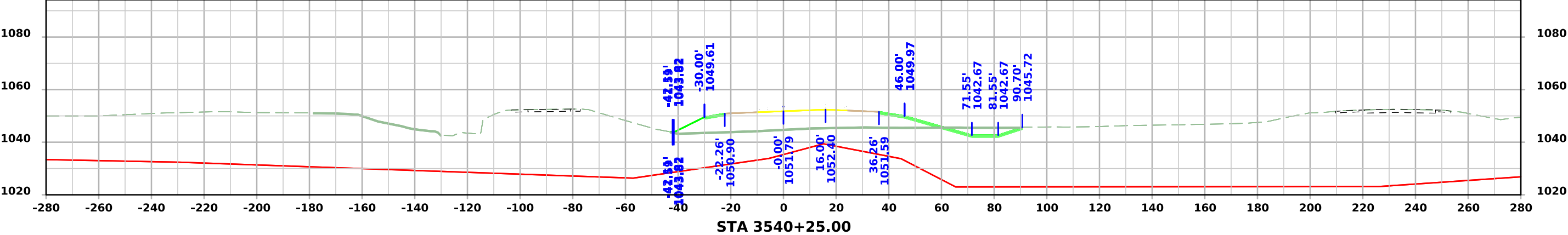
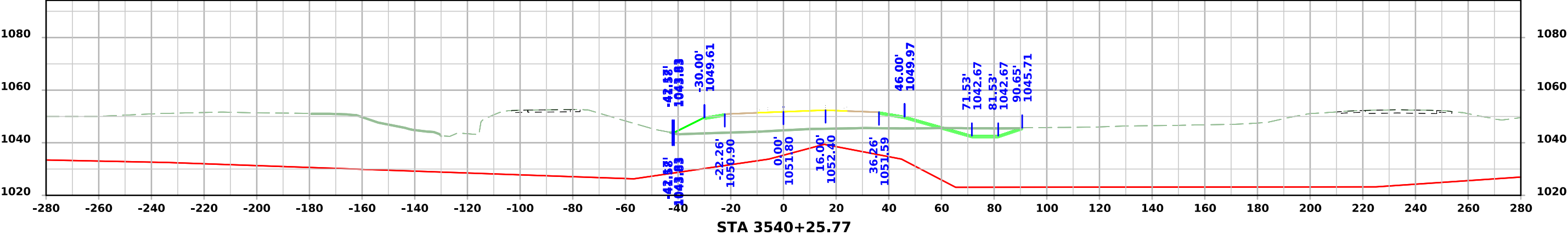
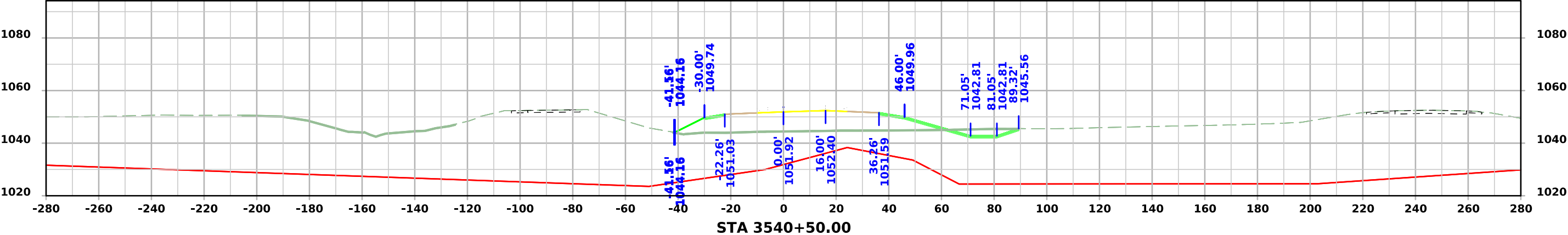




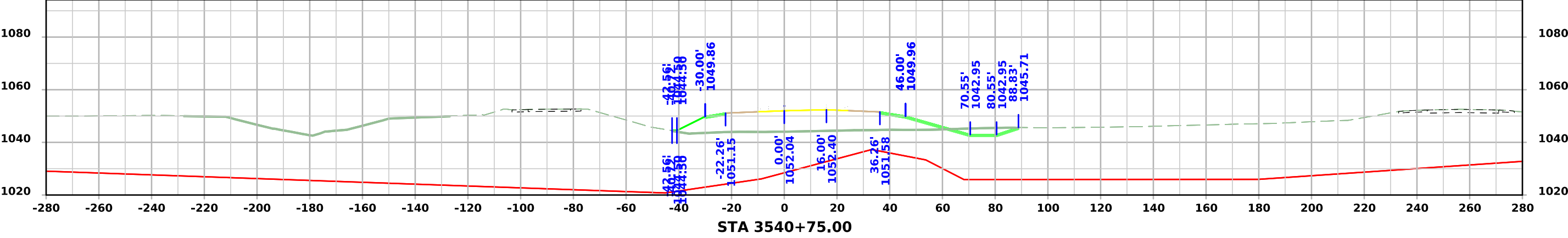
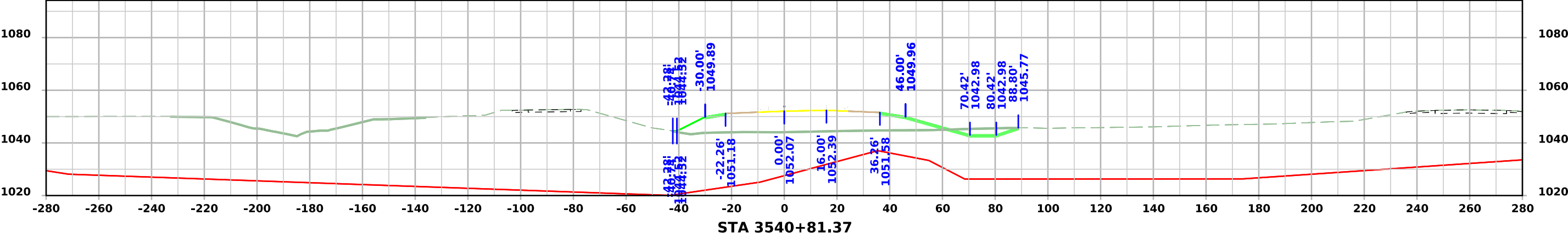
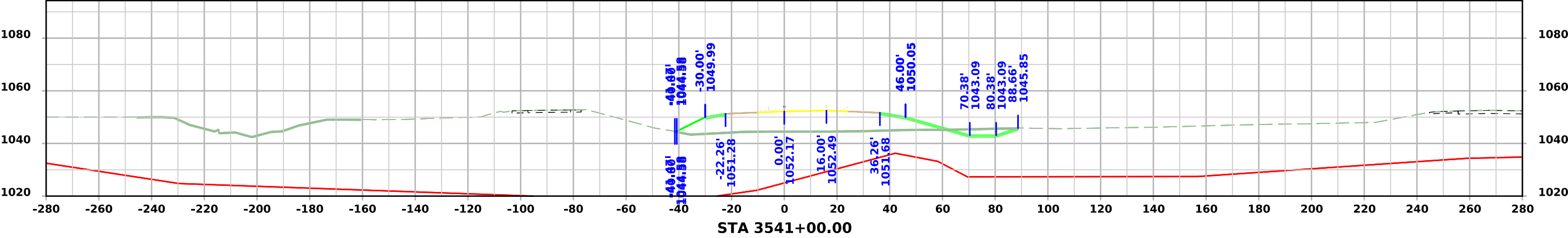
# Ramp C - Stage 1



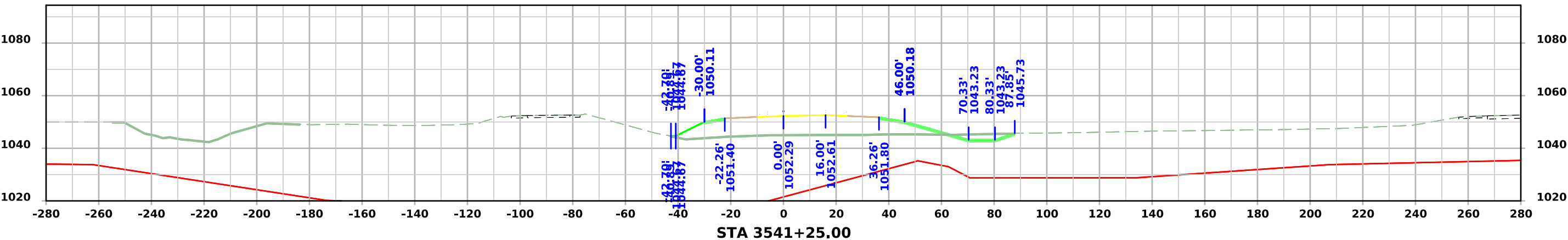
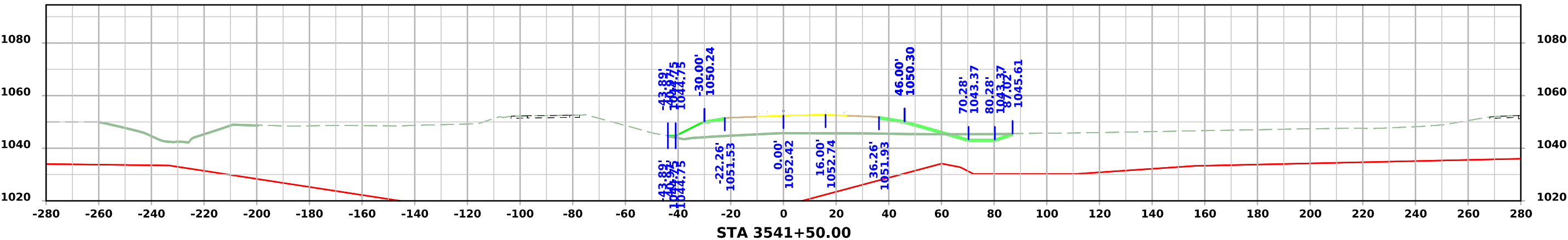
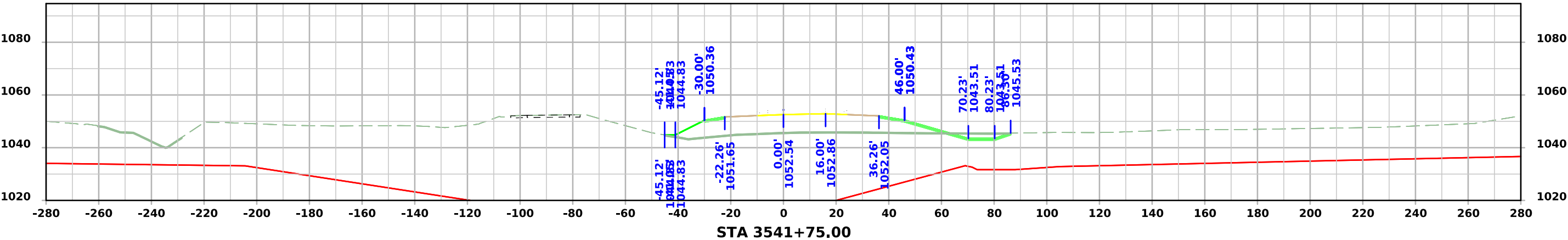
# Ramp C - Stage 1



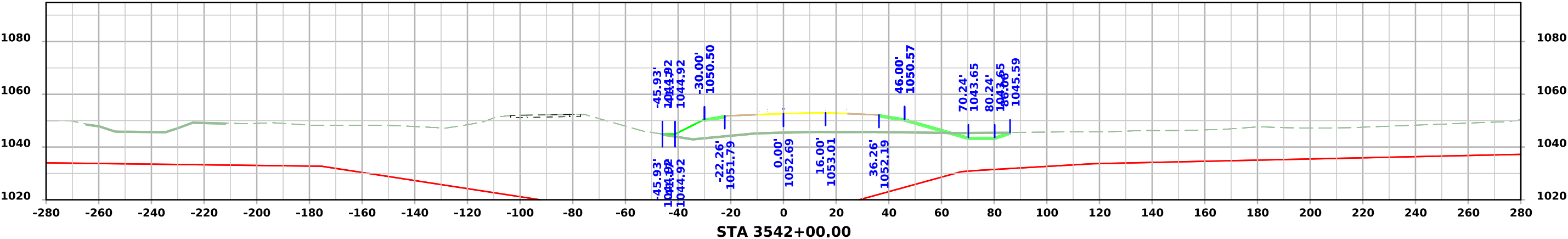
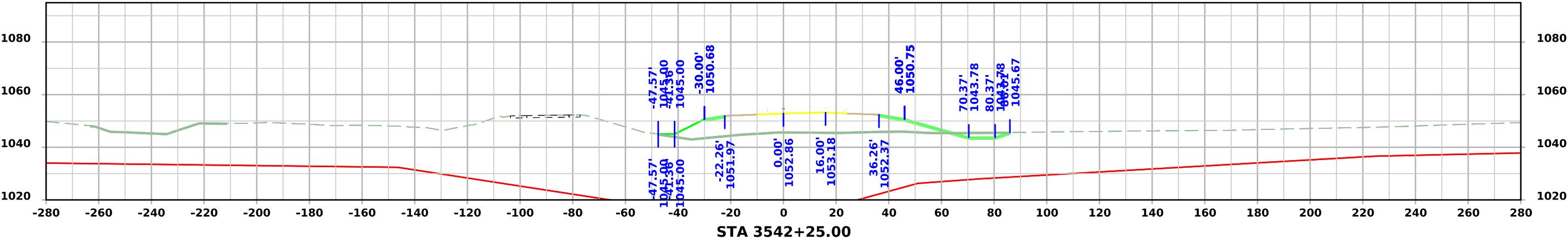
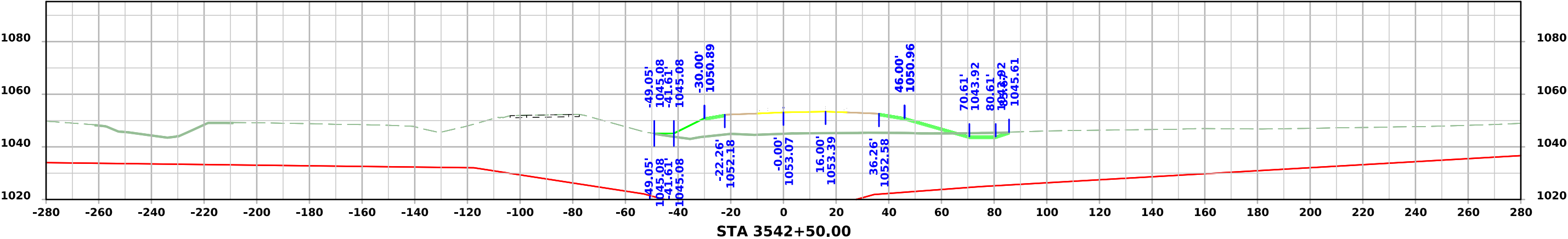
Ramp C - Stage 1



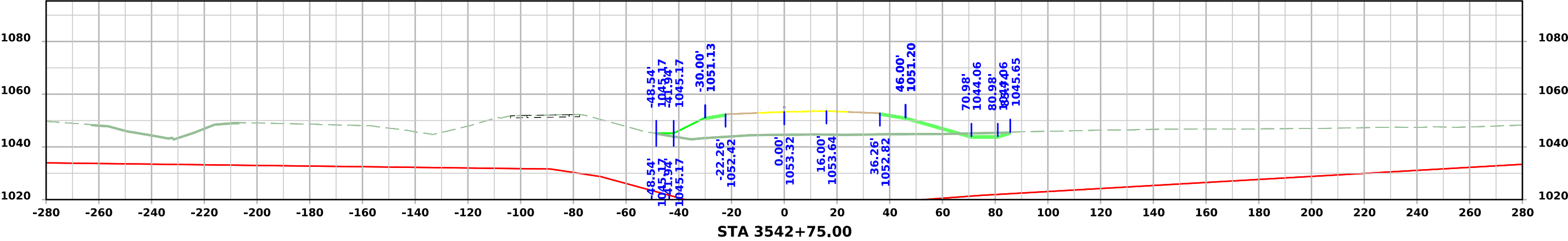
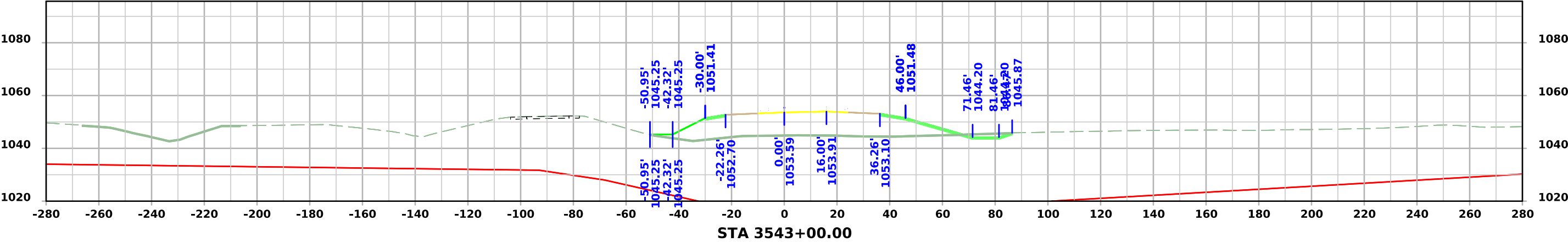
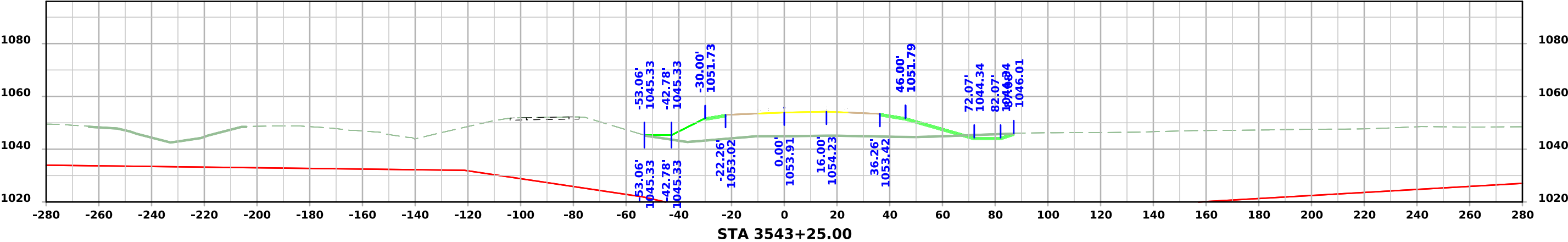
Ramp C - Stage 1



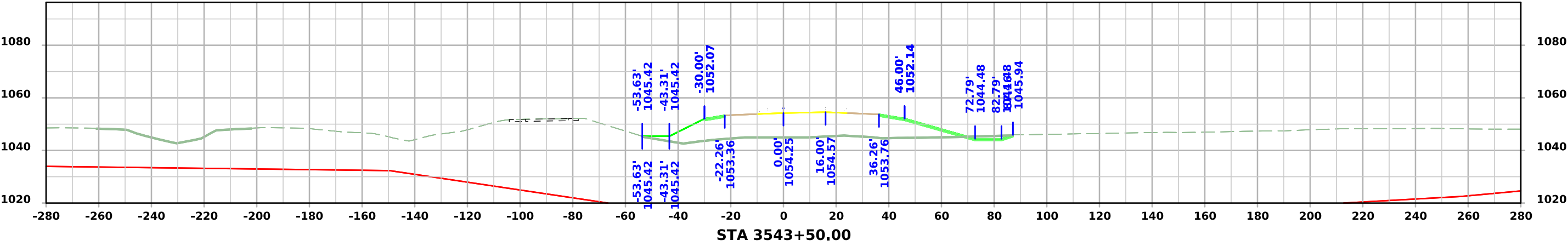
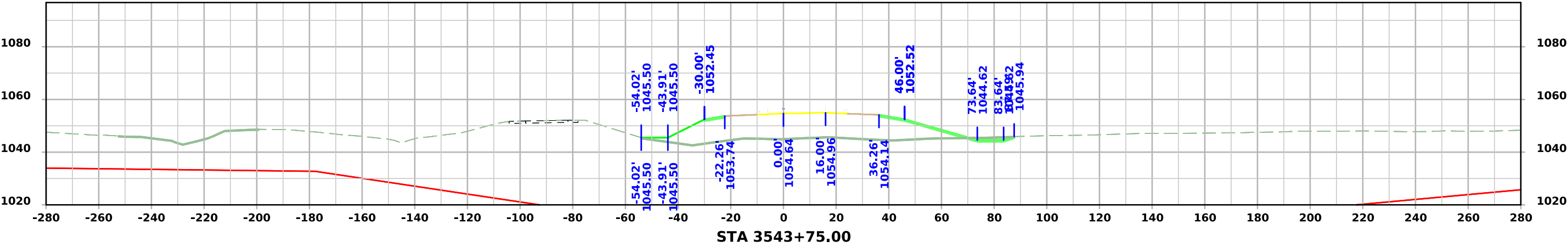
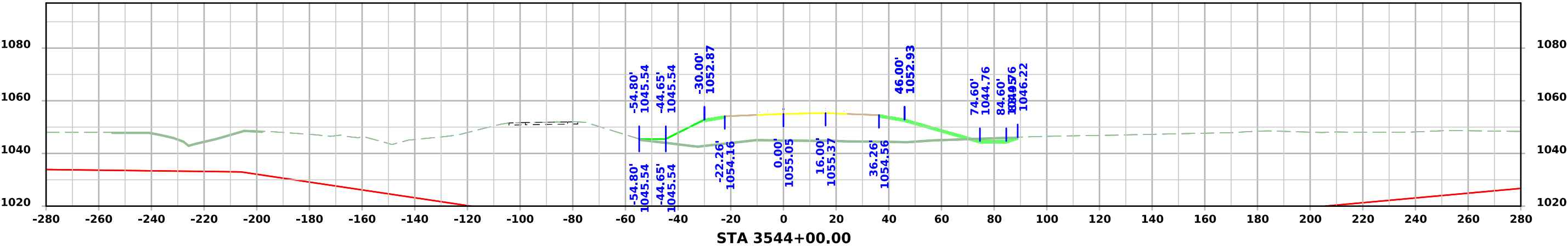
# Ramp C - Stage 1



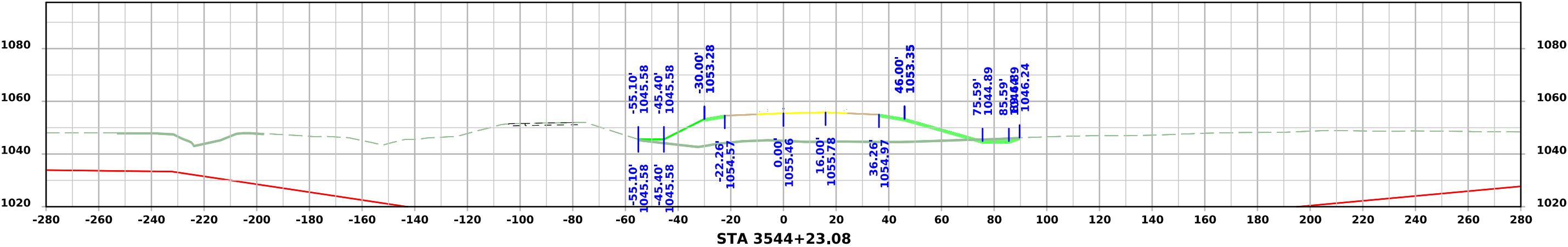
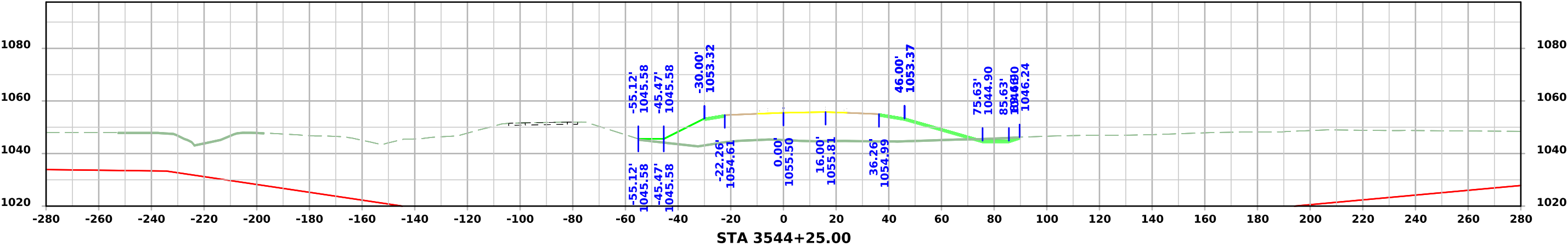
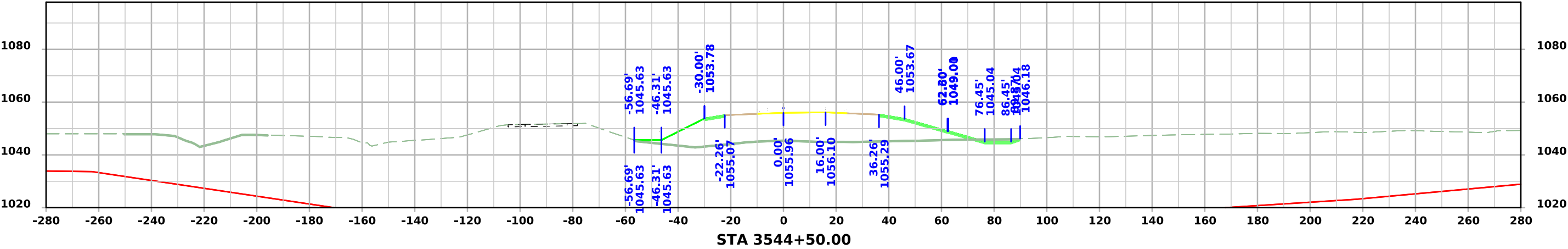
Ramp C - Stage 1



Ramp C - Stage 1

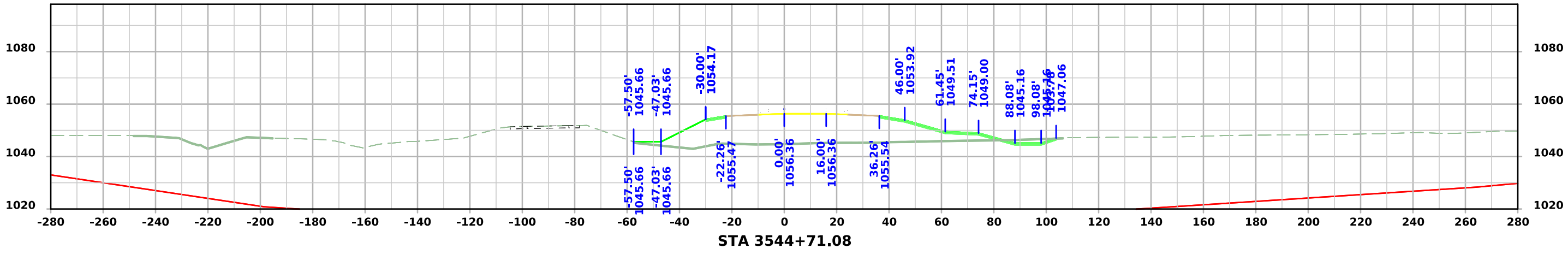
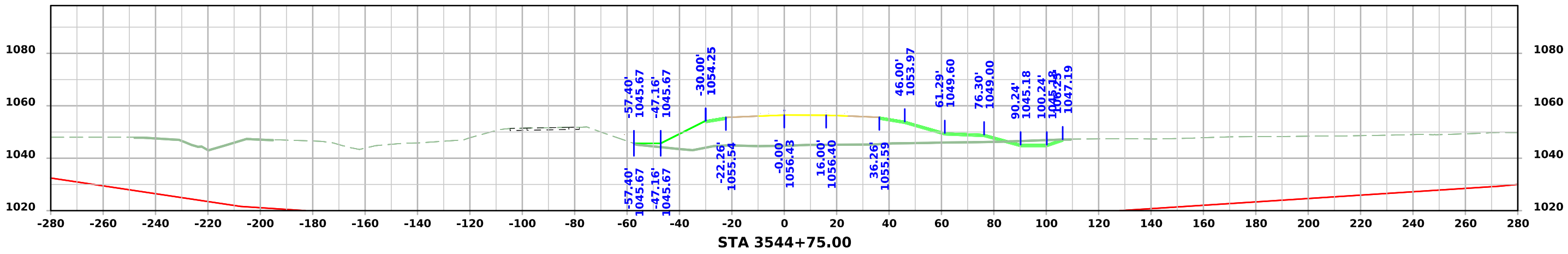
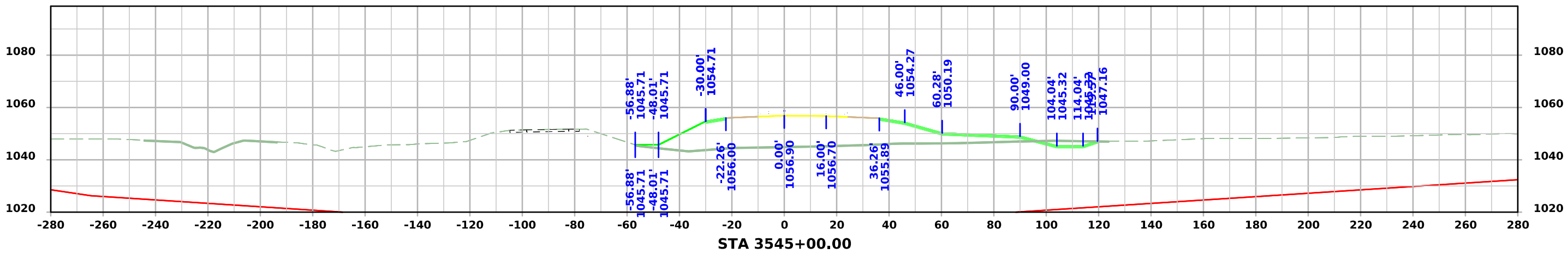


# Ramp C - Stage 1

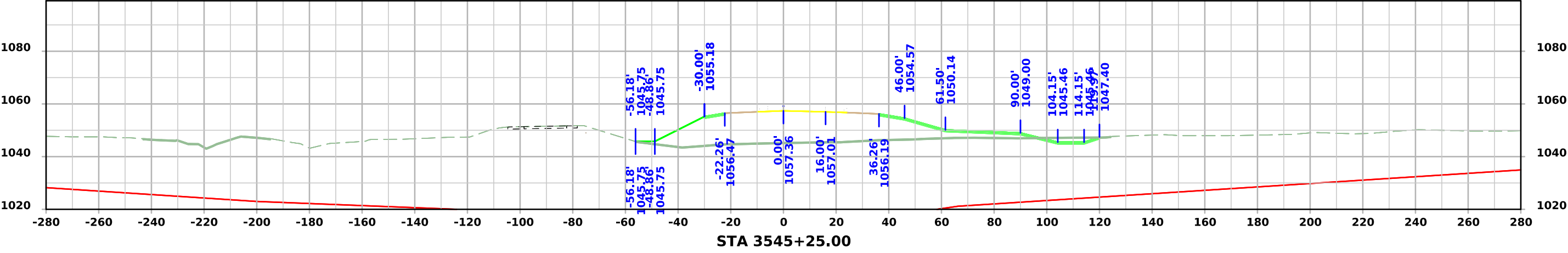
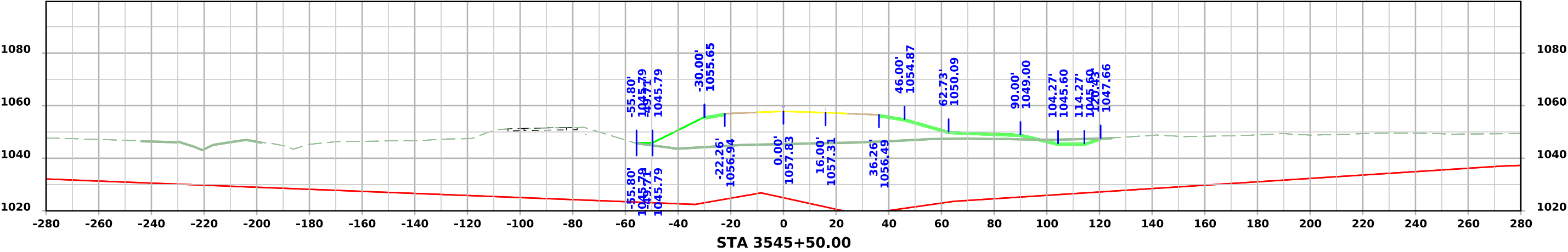
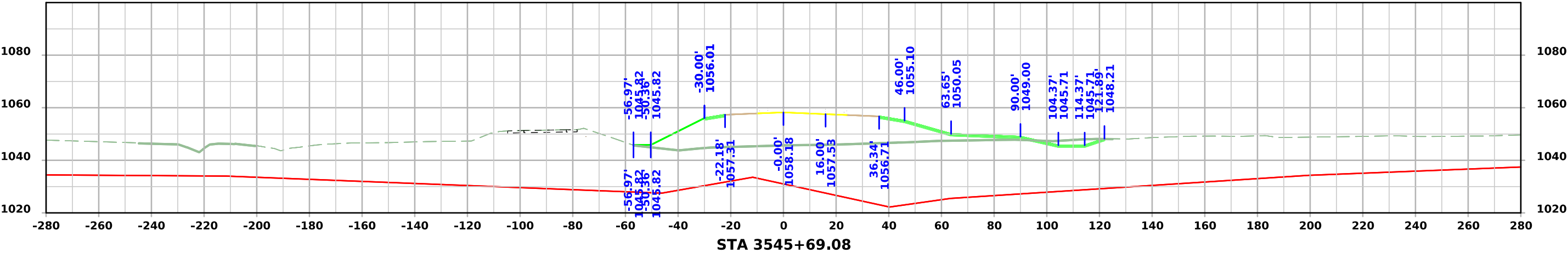




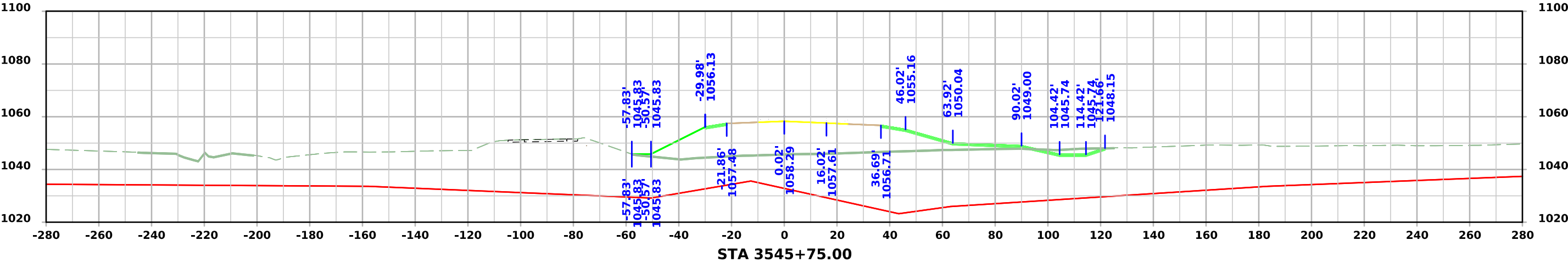
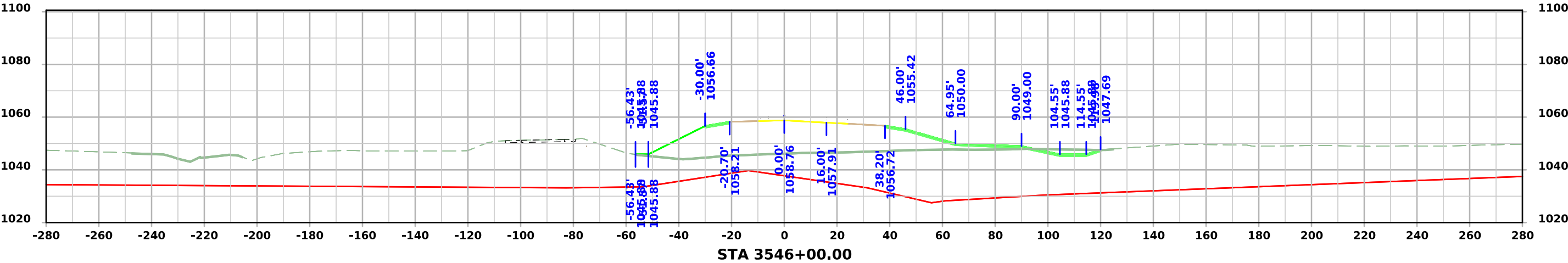
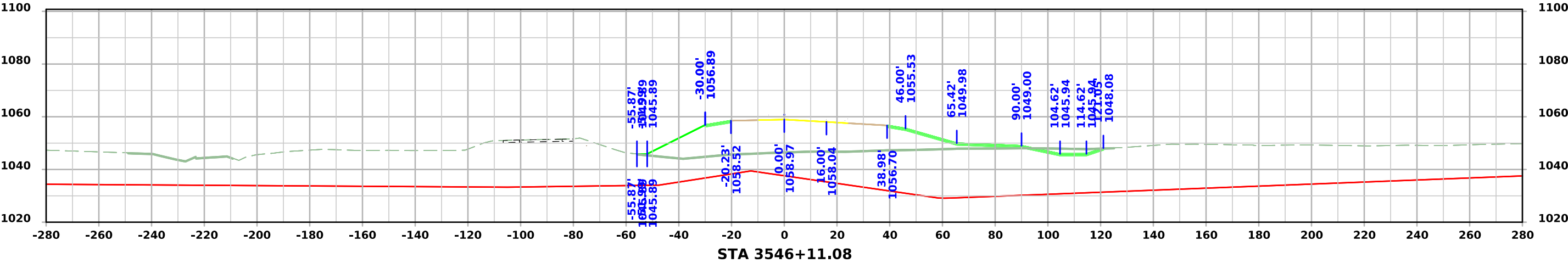
# Ramp C - Stage 1



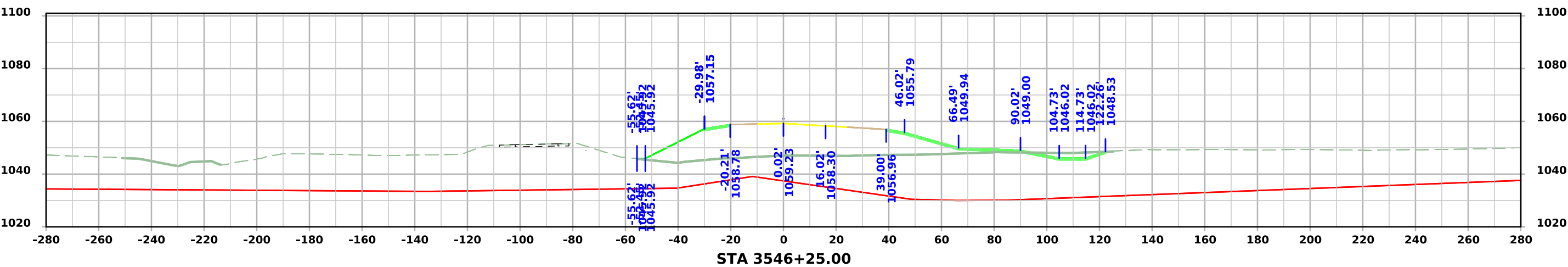
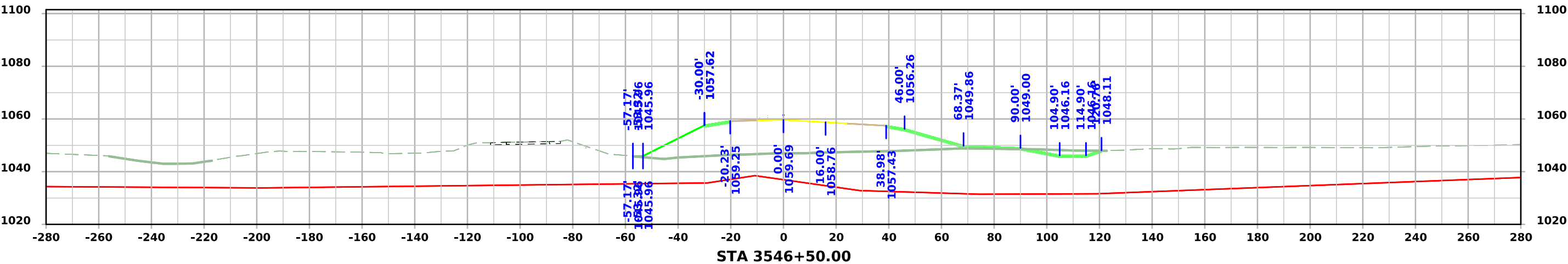
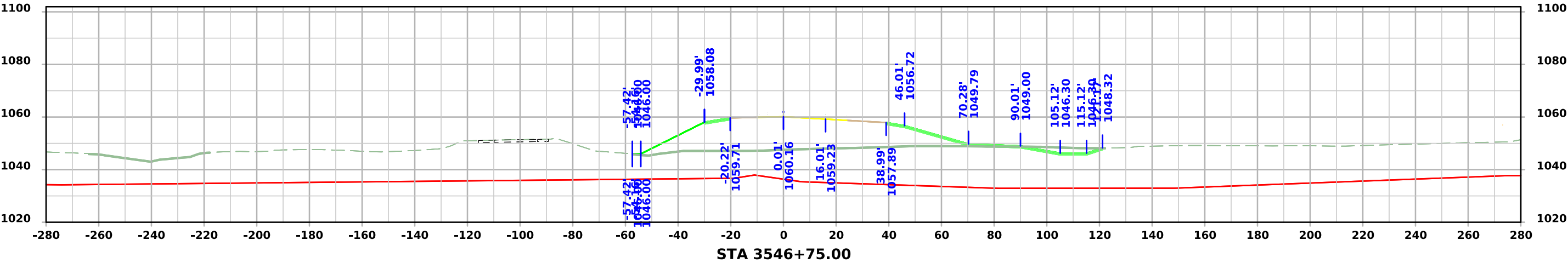
Ramp C - Stage 1



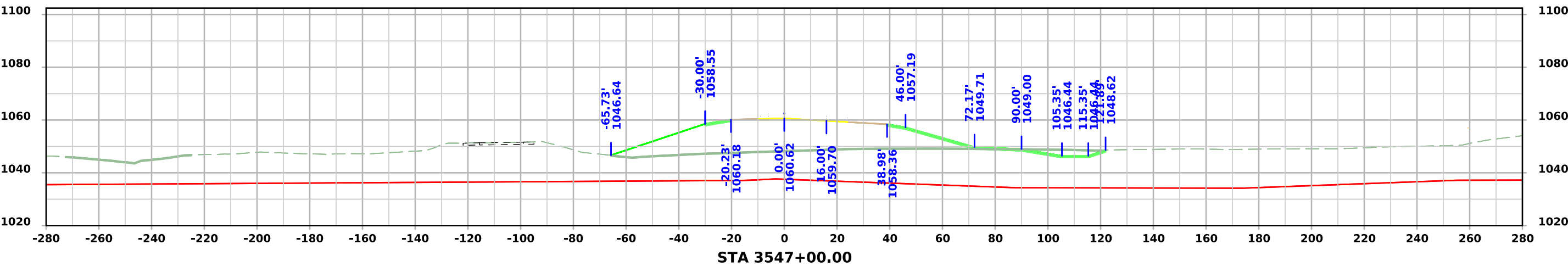
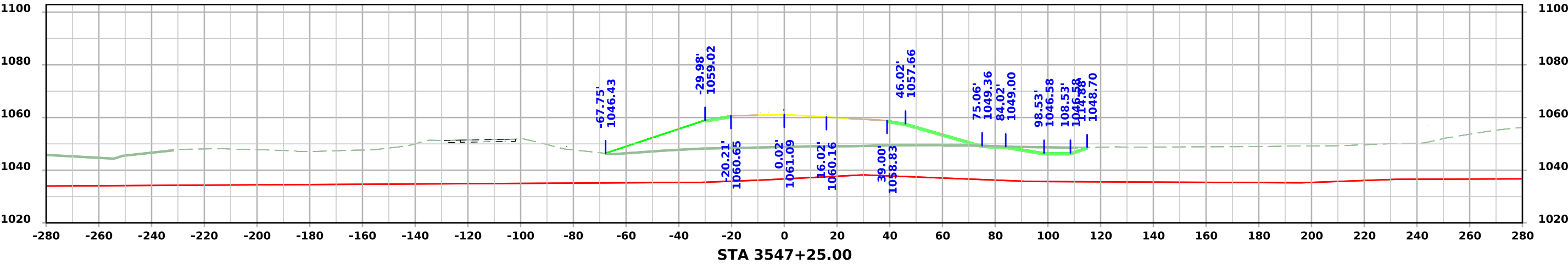
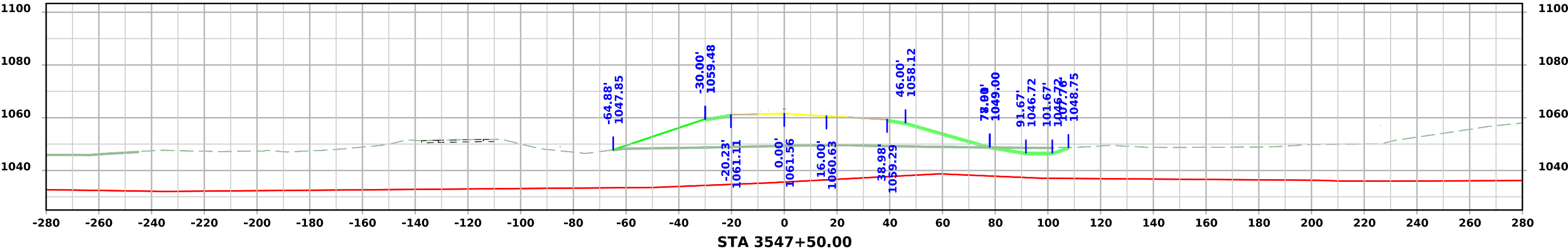
# Ramp C - Stage 1



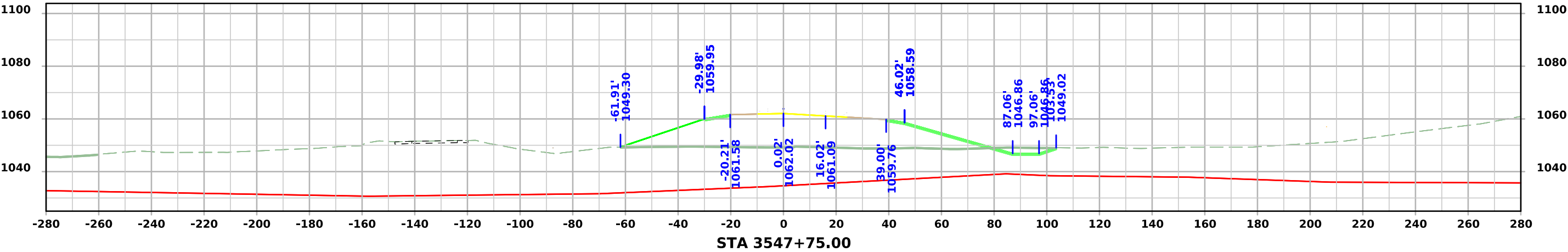
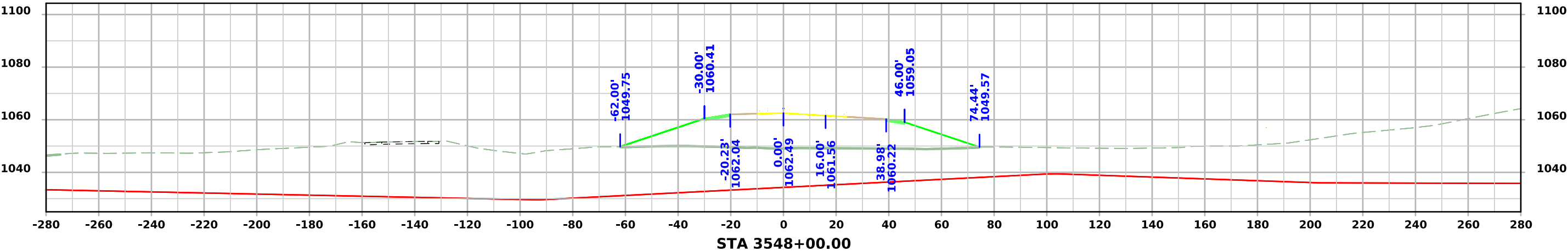
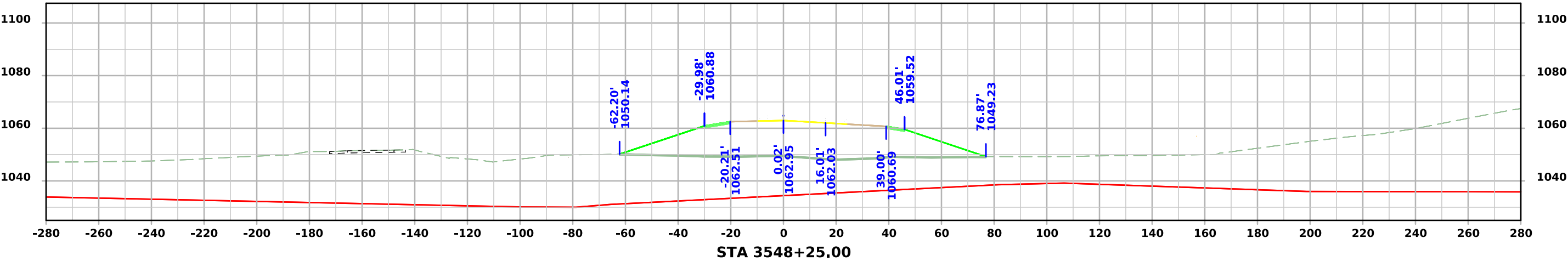
# Ramp C - Stage 1



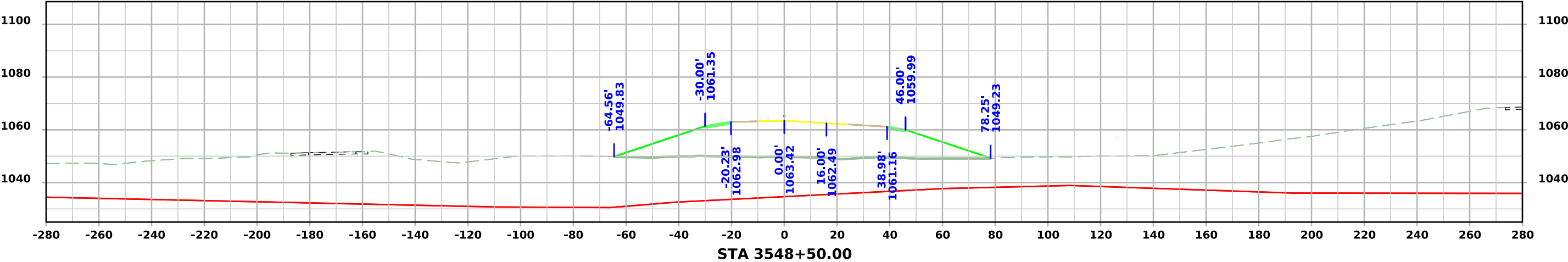
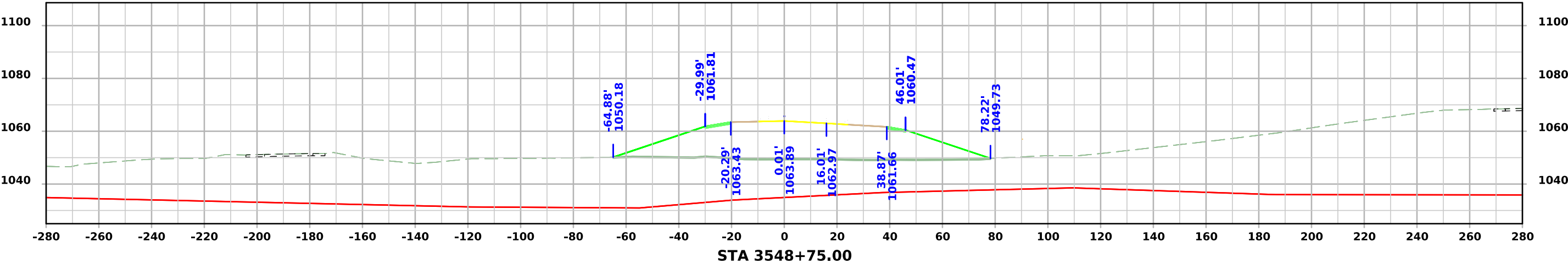
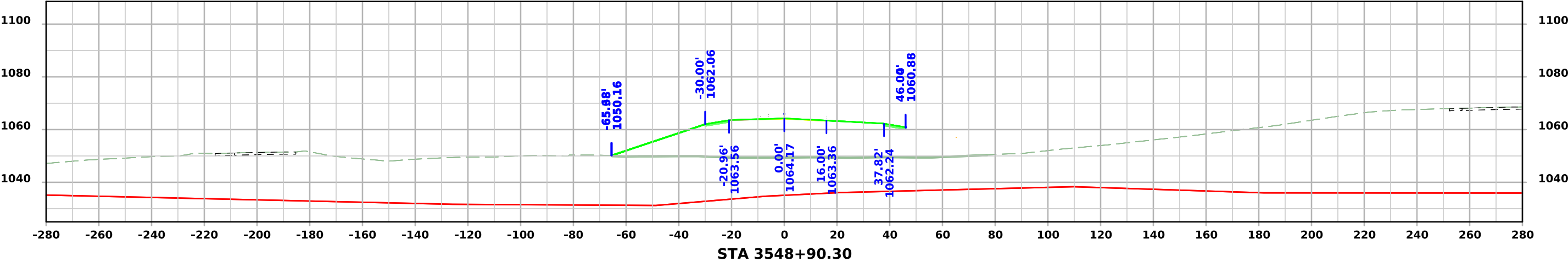
# Ramp C - Stage 1



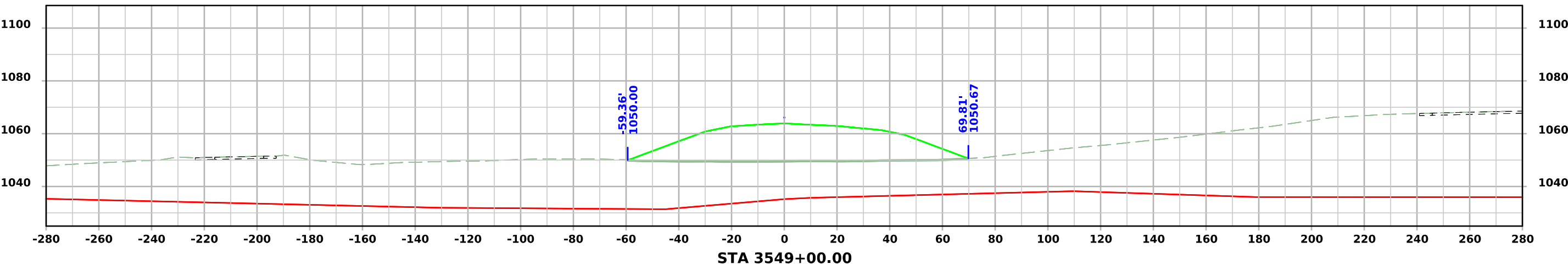
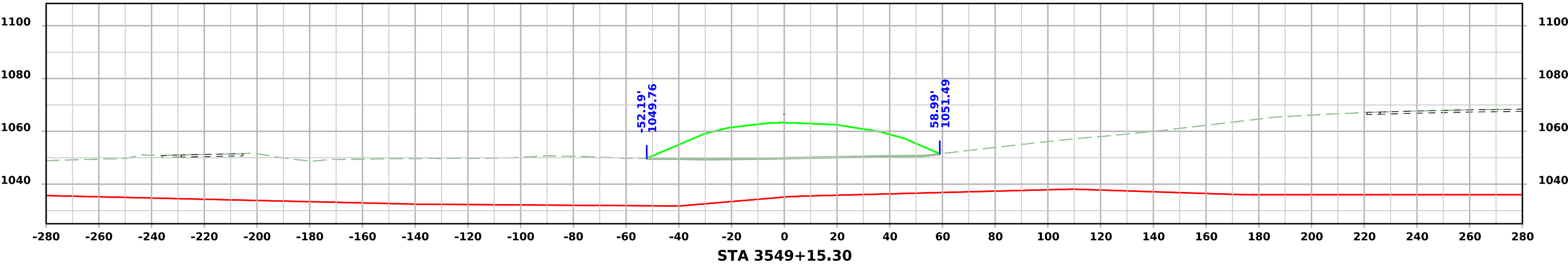
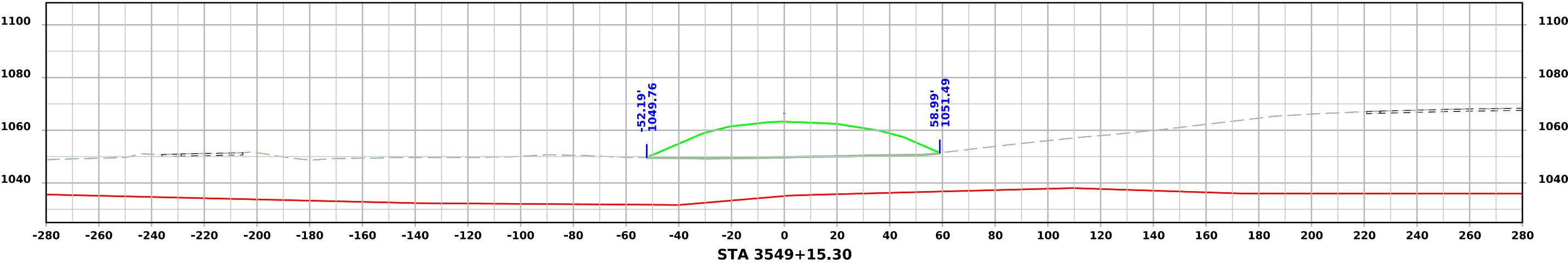
# Ramp C - Stage 1



# Ramp C - Stage 1

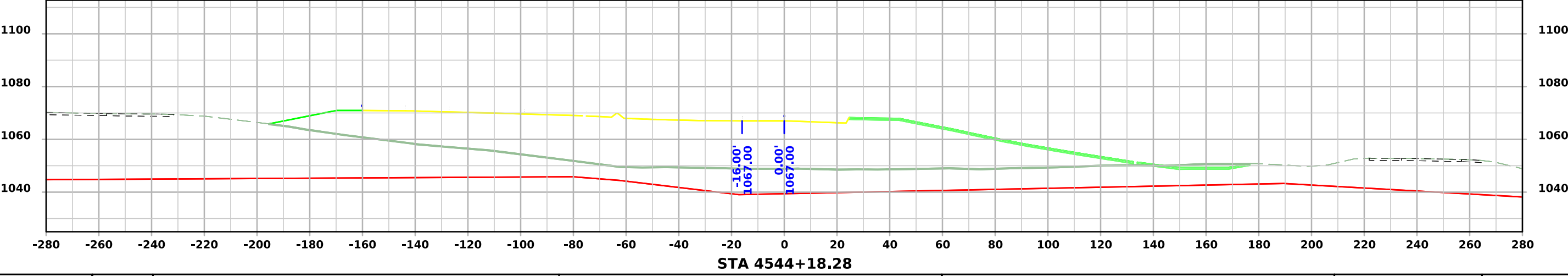
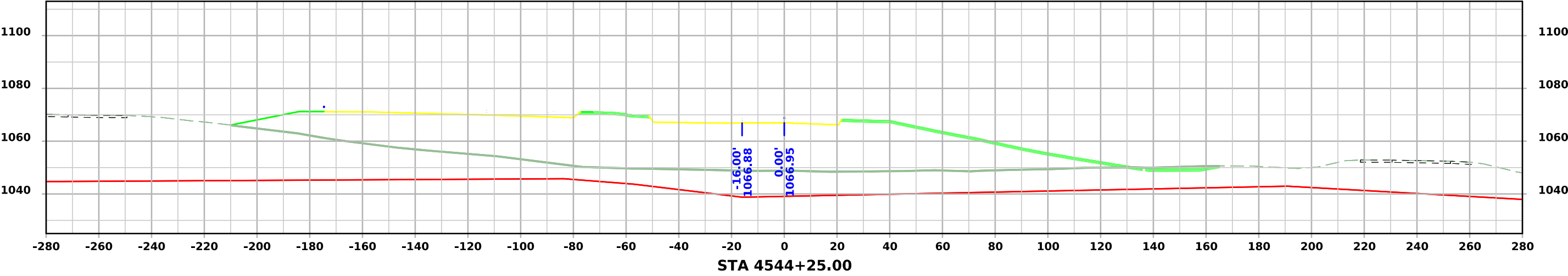
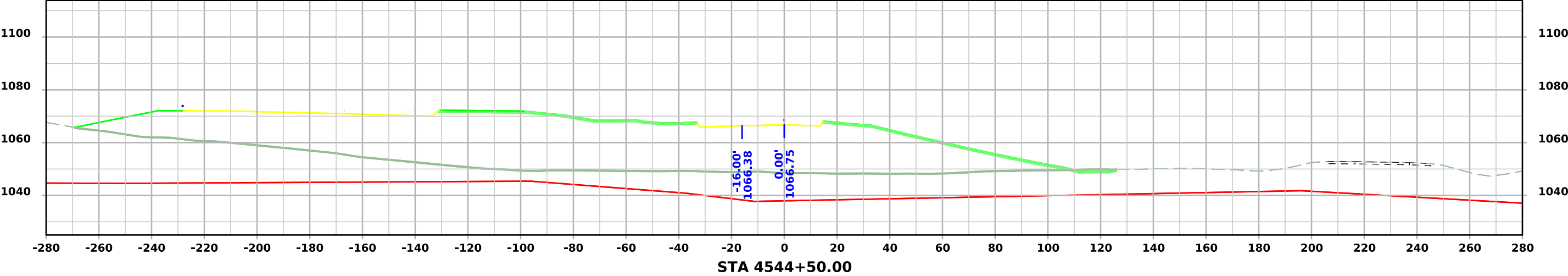


# Ramp C - Stage 1

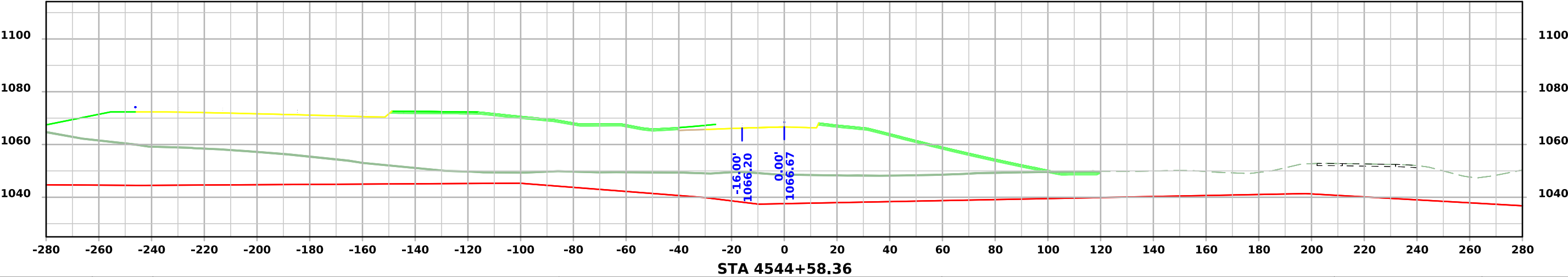
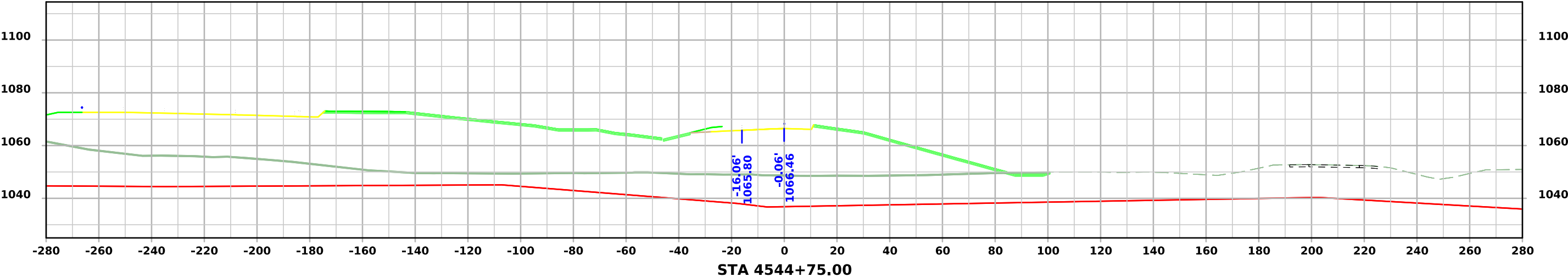
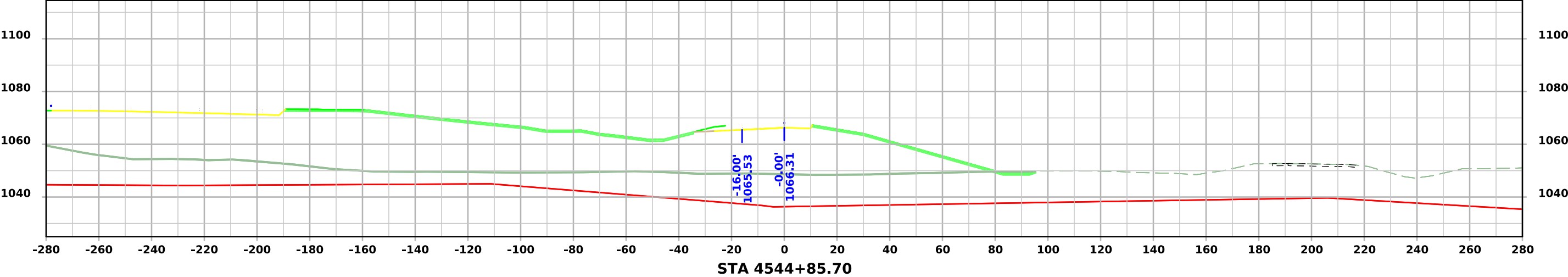




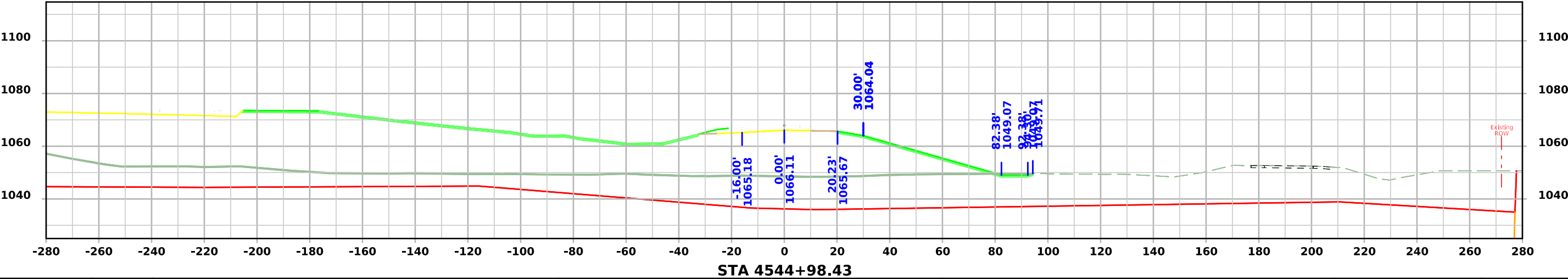
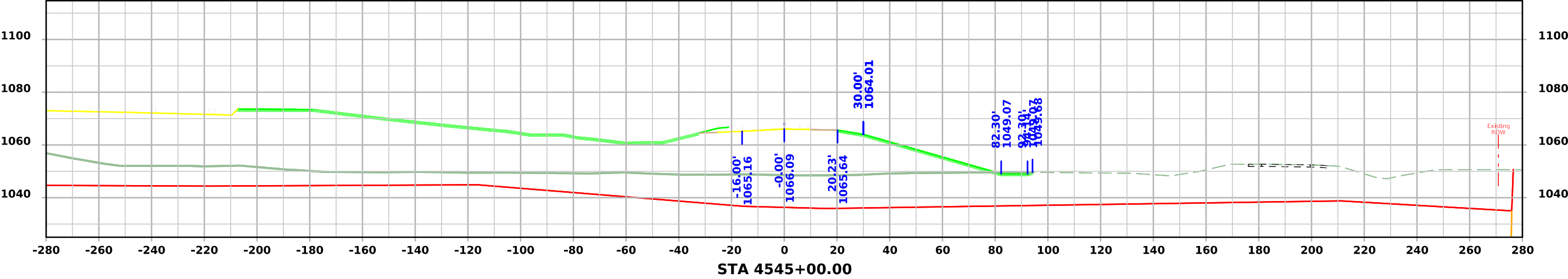
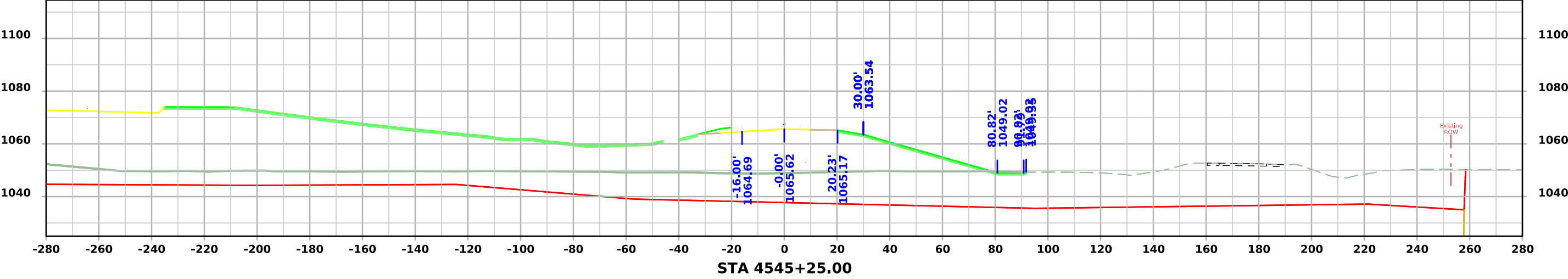
# Ramp D - Stage 1



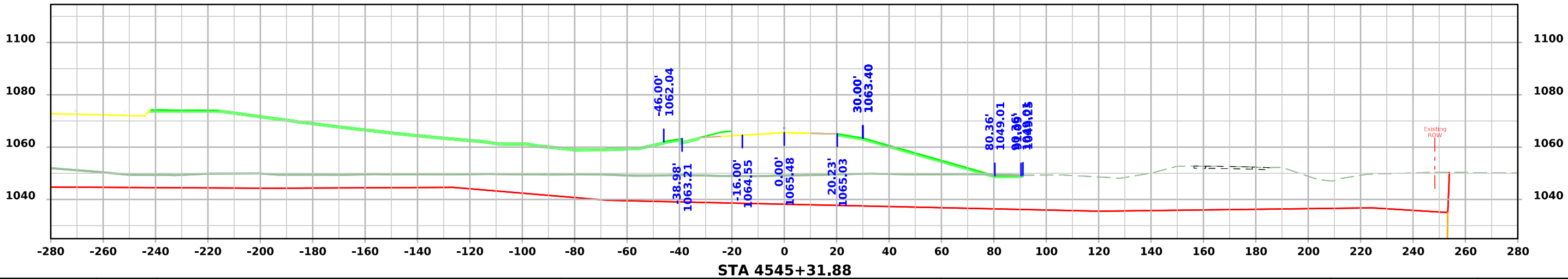
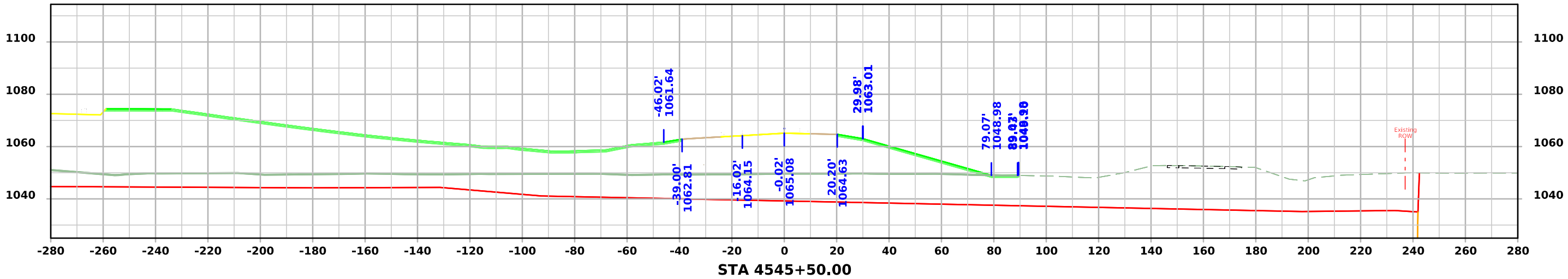
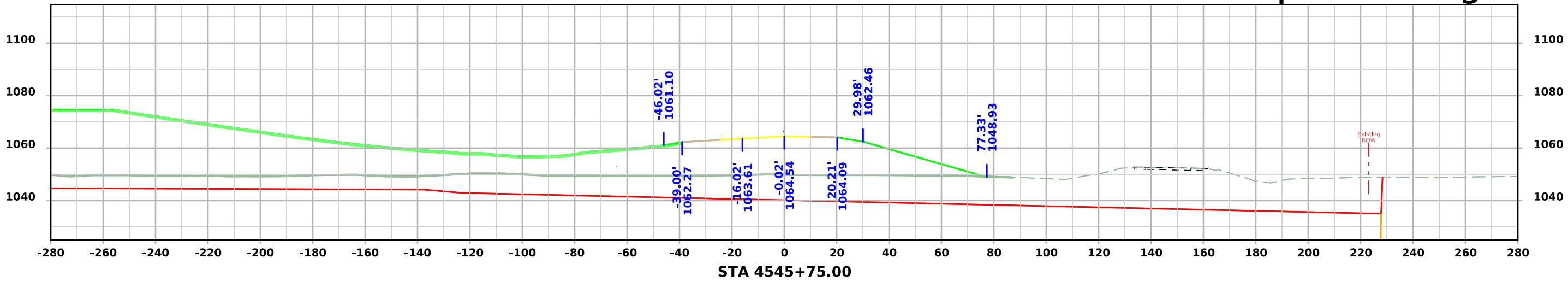
# Ramp D - Stage 1



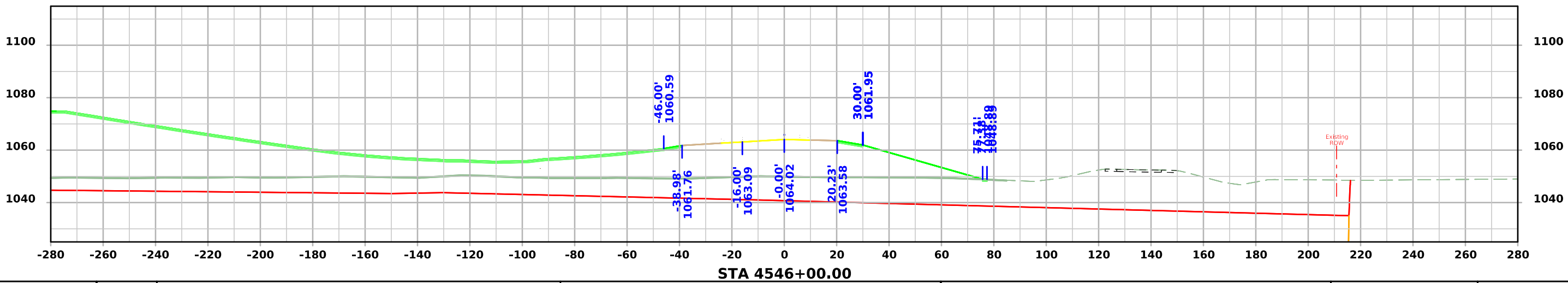
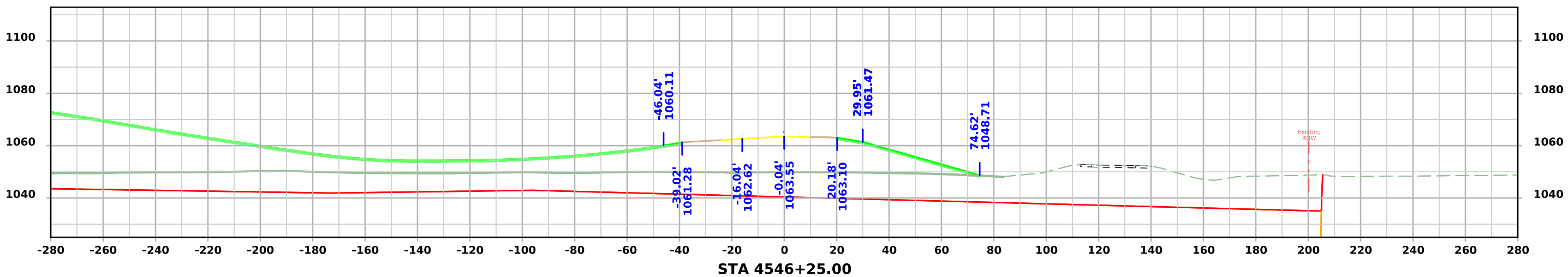
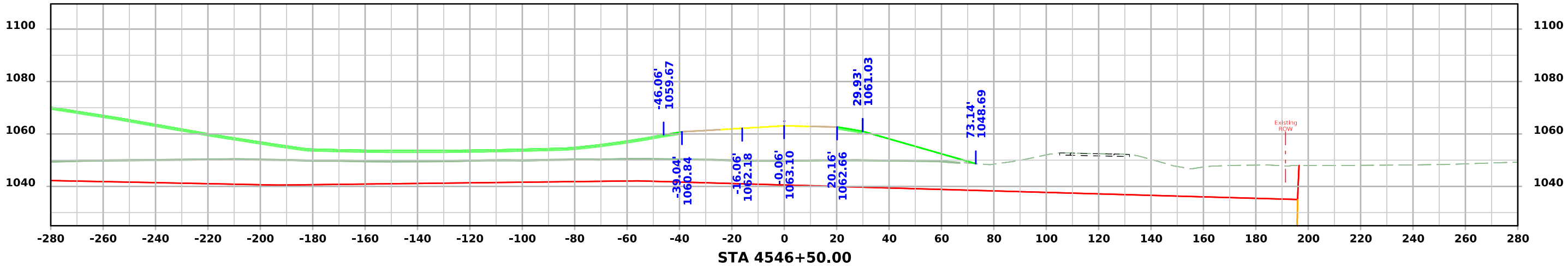
# Ramp D - Stage 1



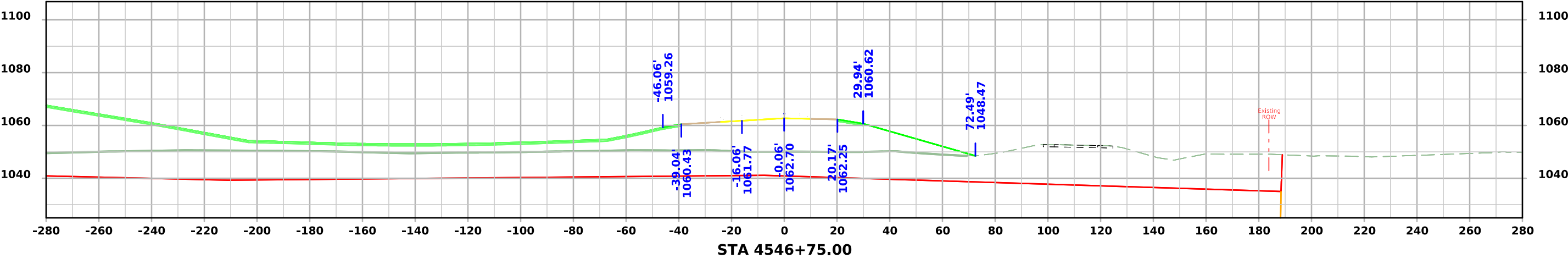
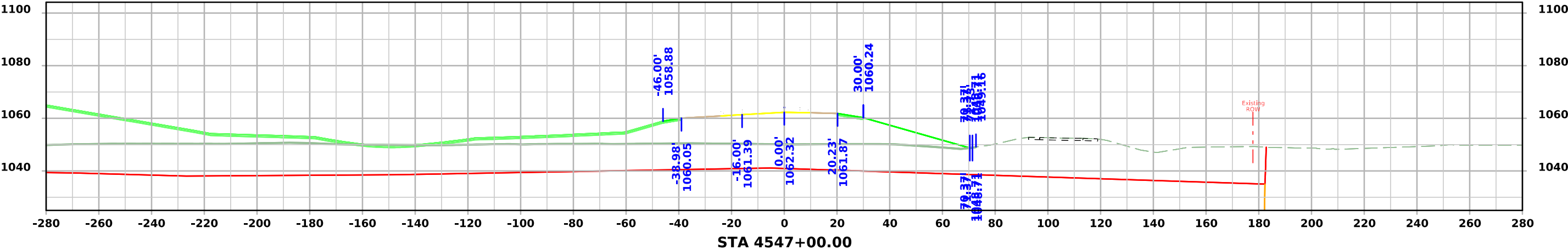
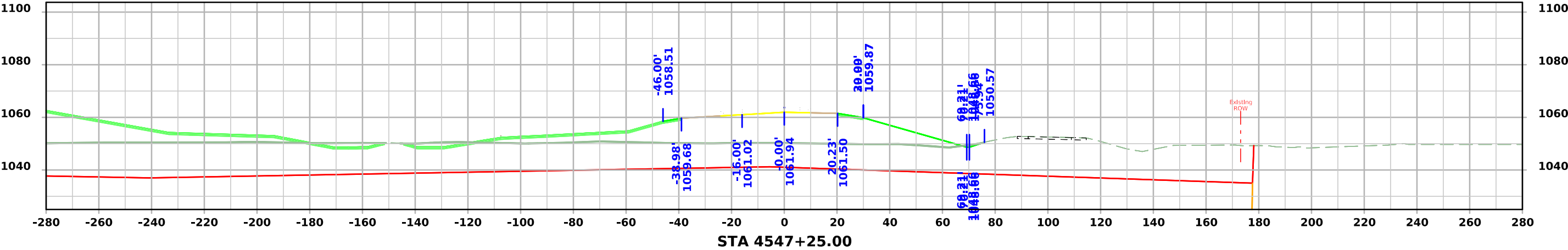
Ramp D - Stage 1



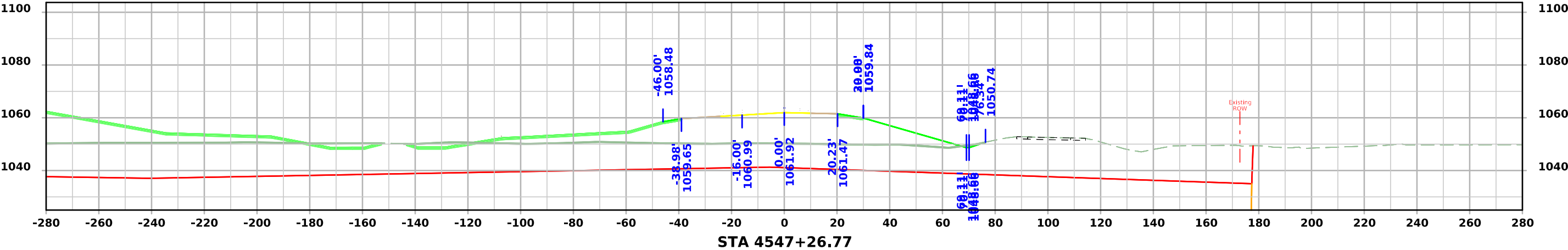
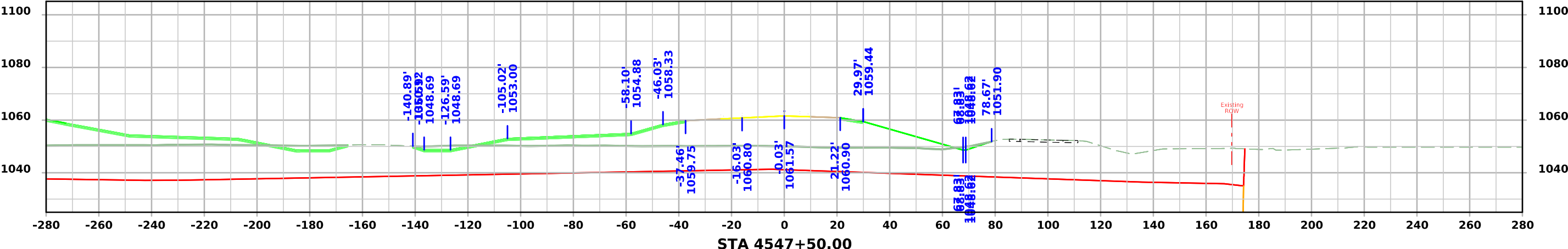
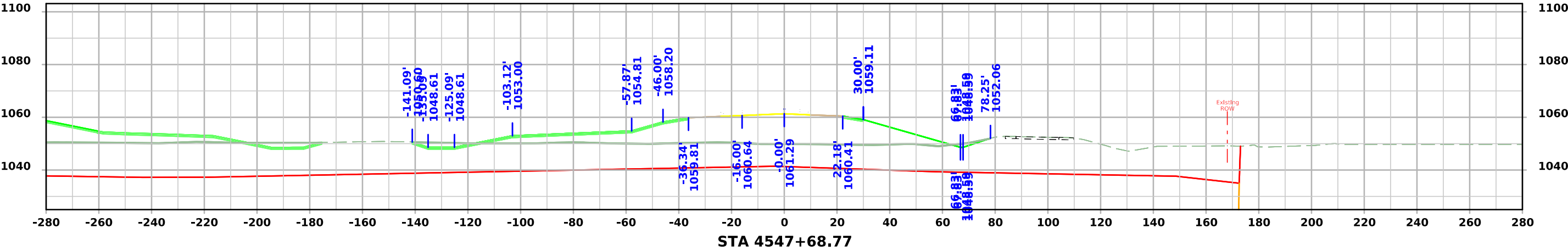
# Ramp D - Stage 1



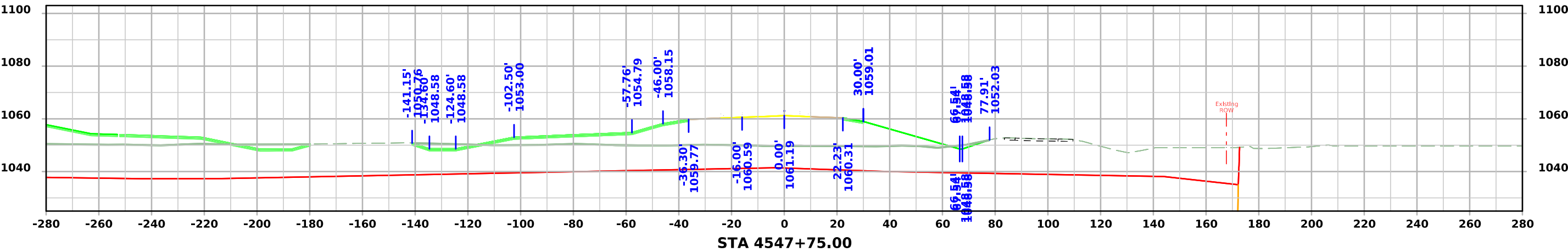
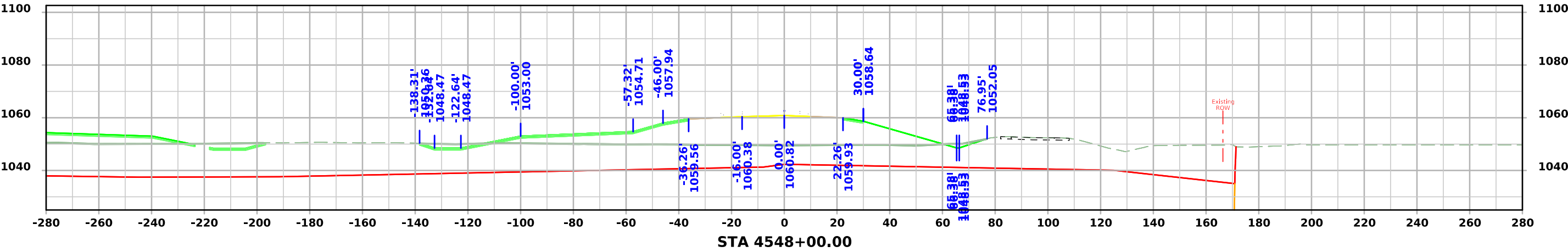
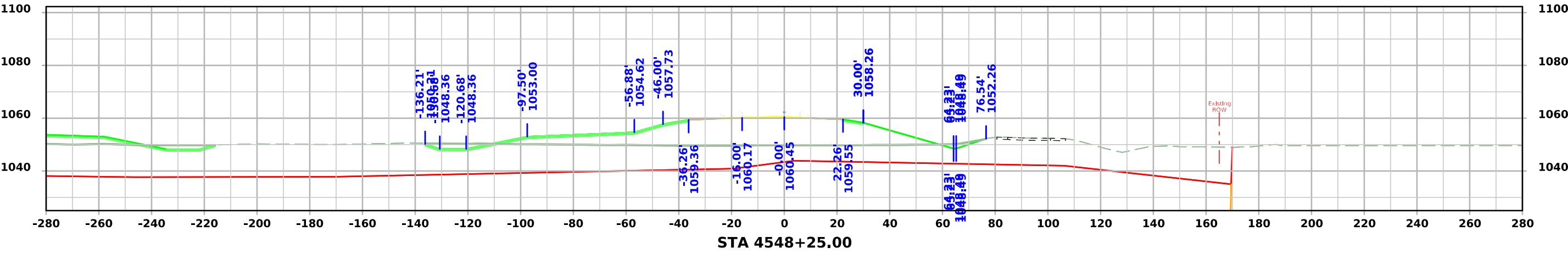
# Ramp D - Stage 1



Ramp D - Stage 1

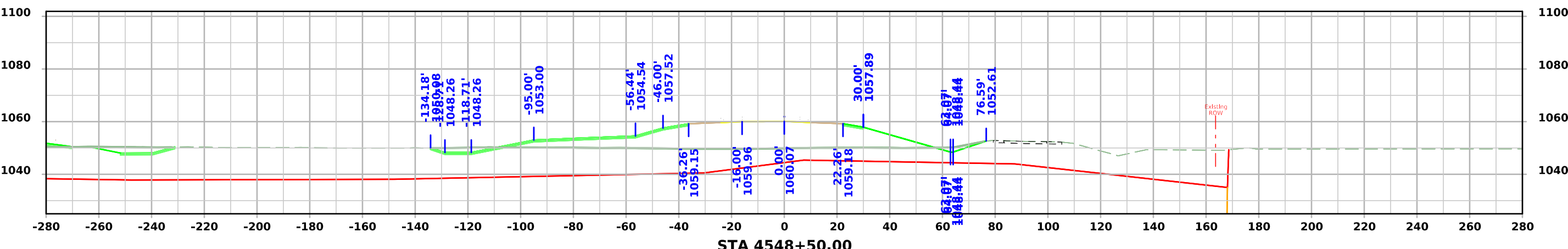
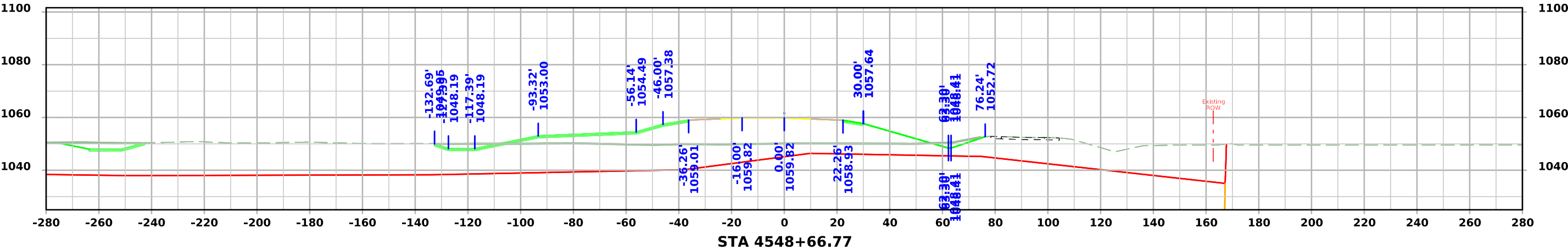
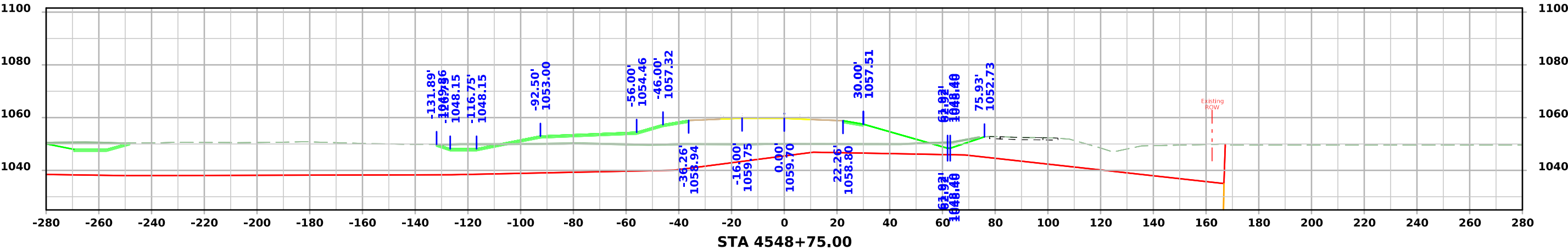


# Ramp D - Stage 1

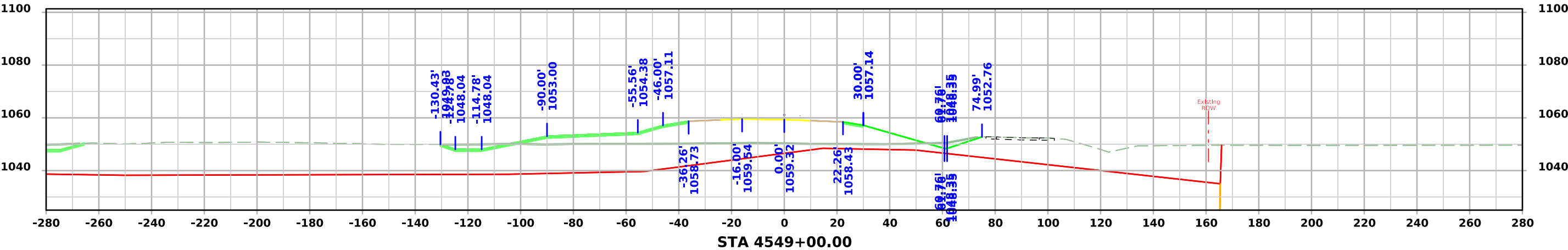
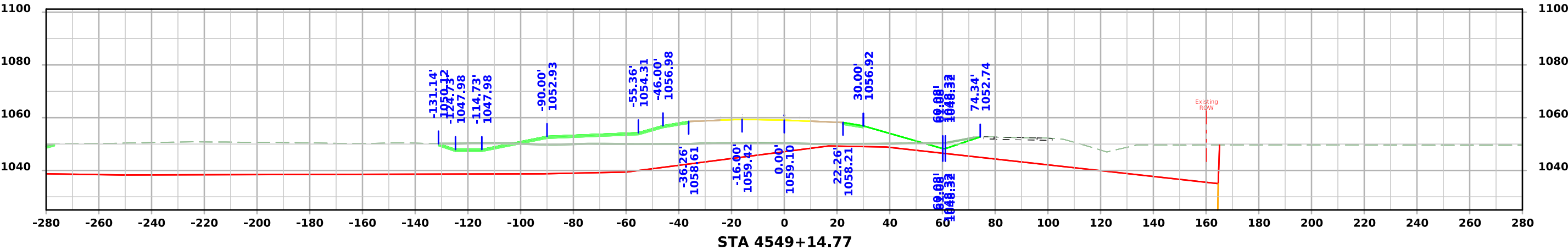
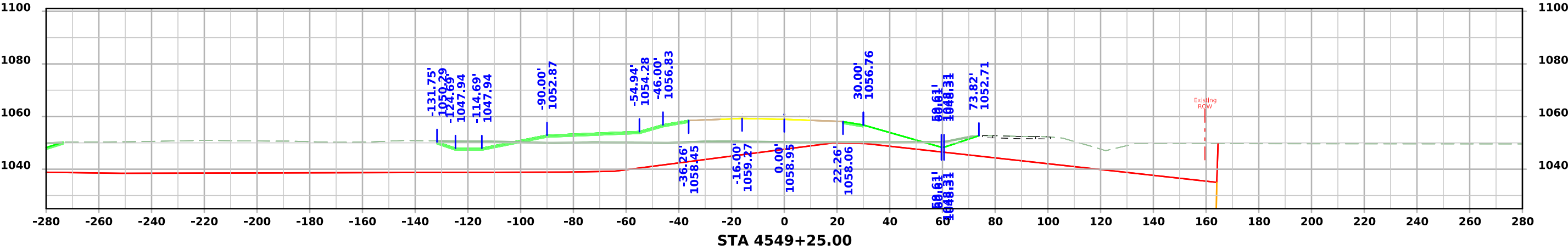




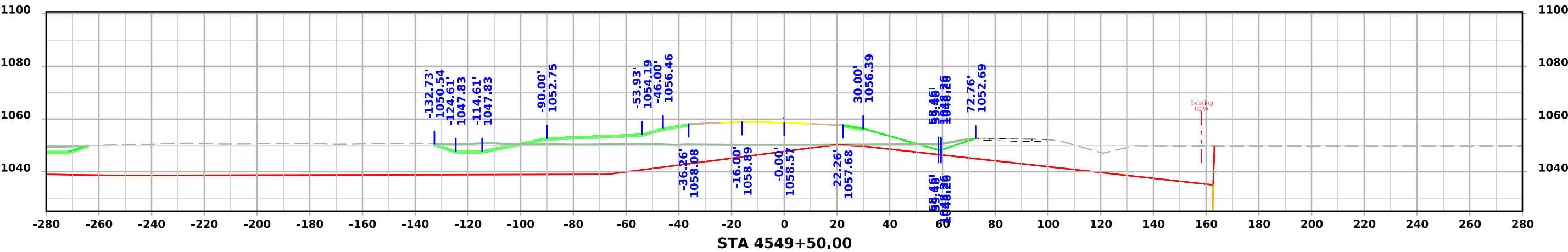
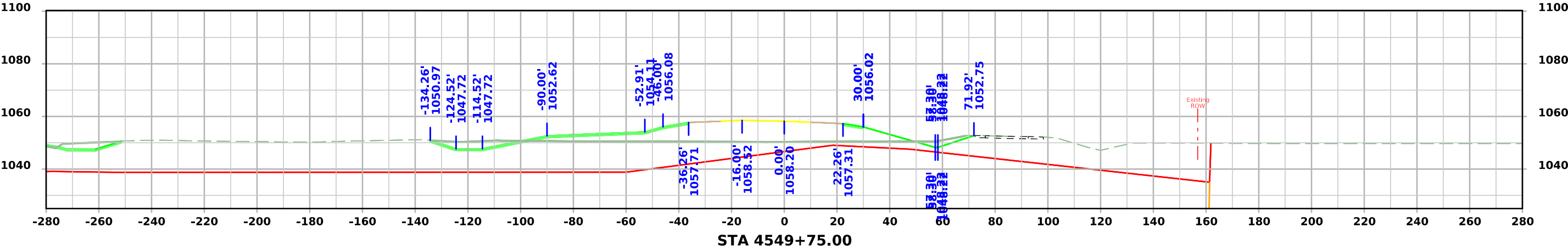
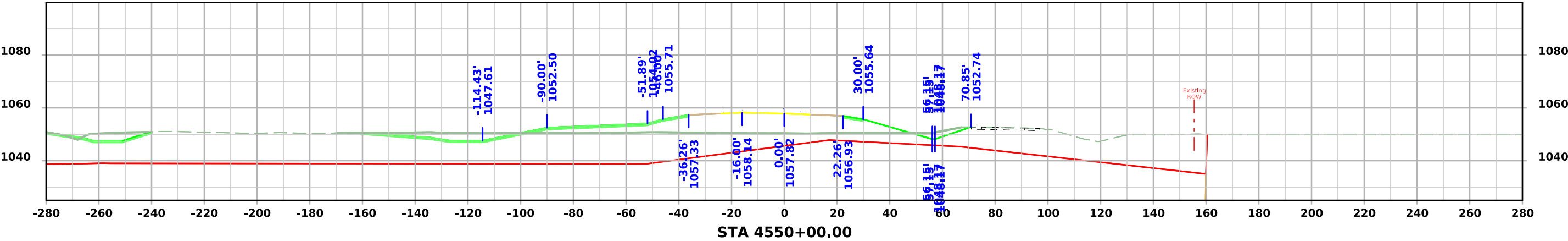
Ramp D - Stage 1



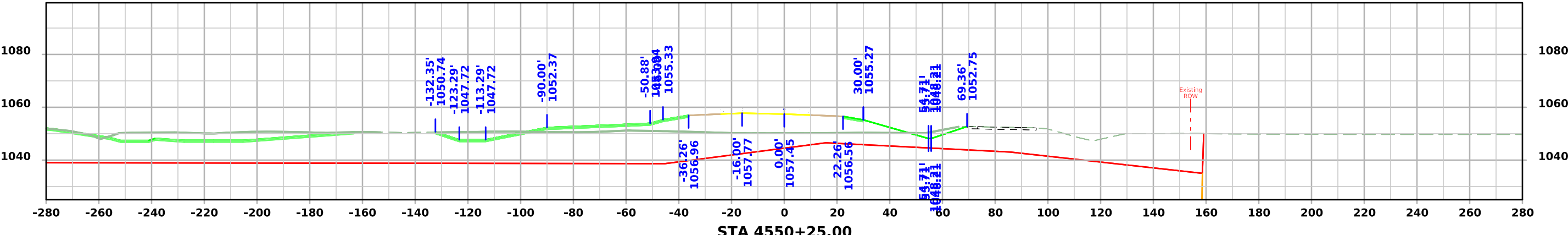
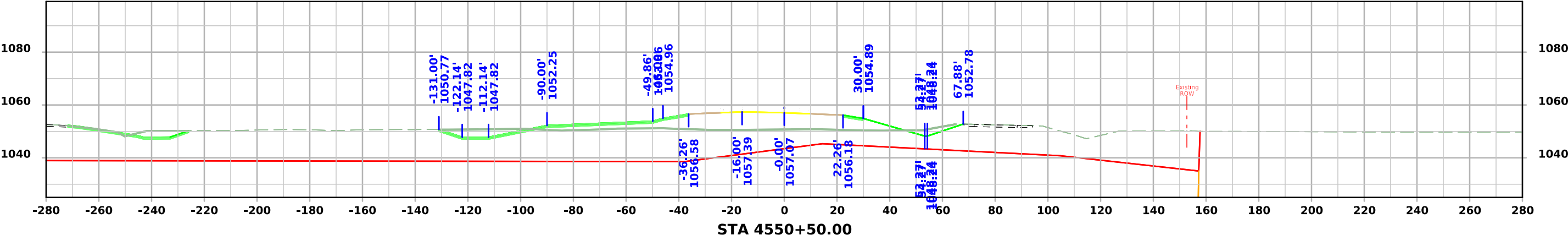
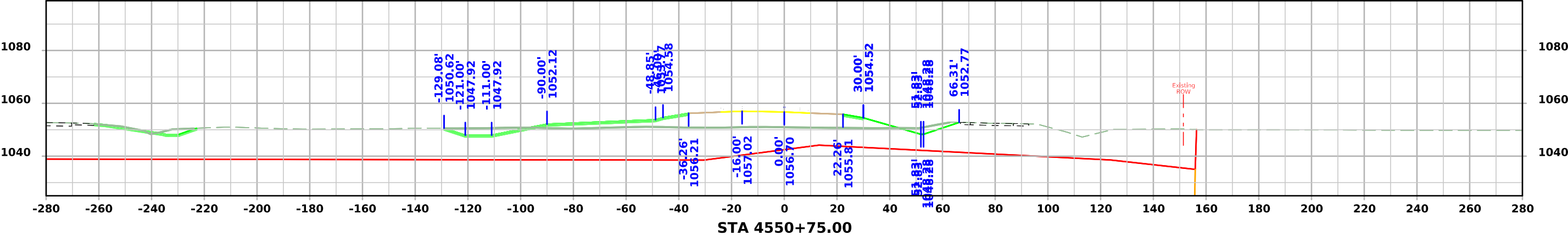
Ramp D - Stage 1



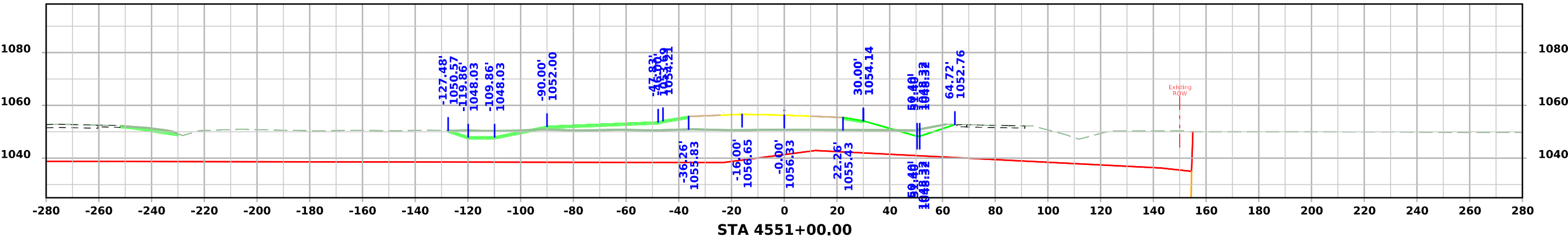
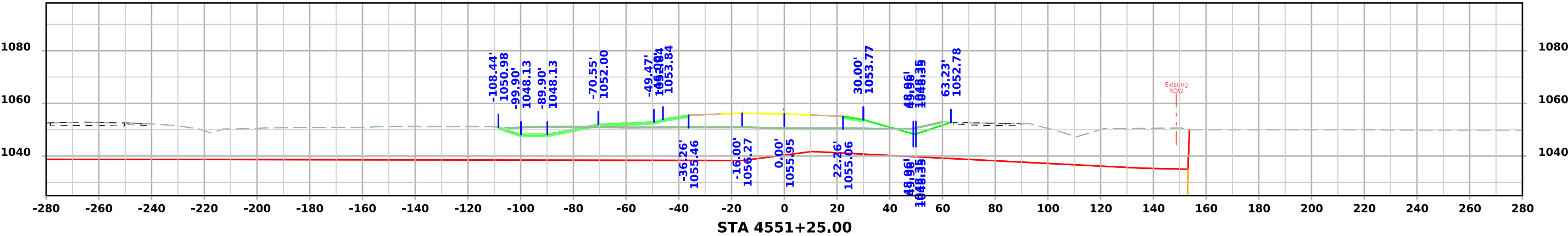
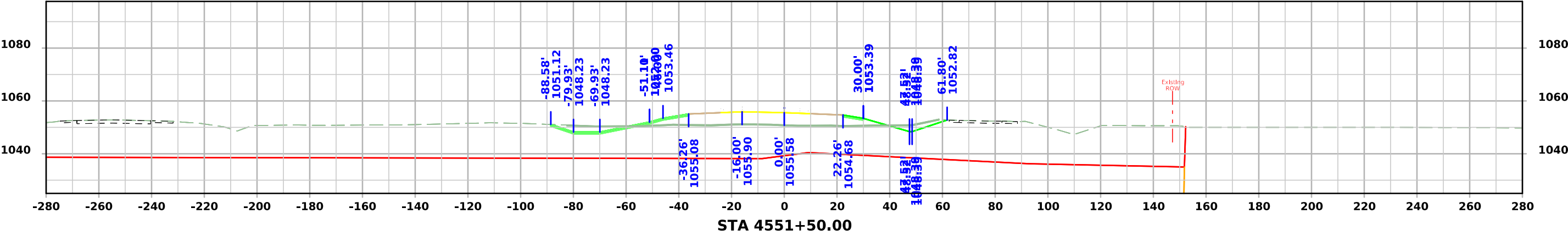
Ramp D - Stage 1



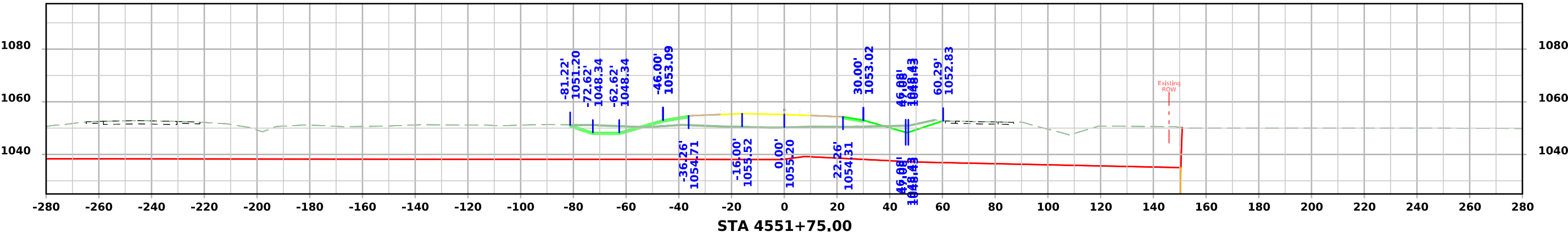
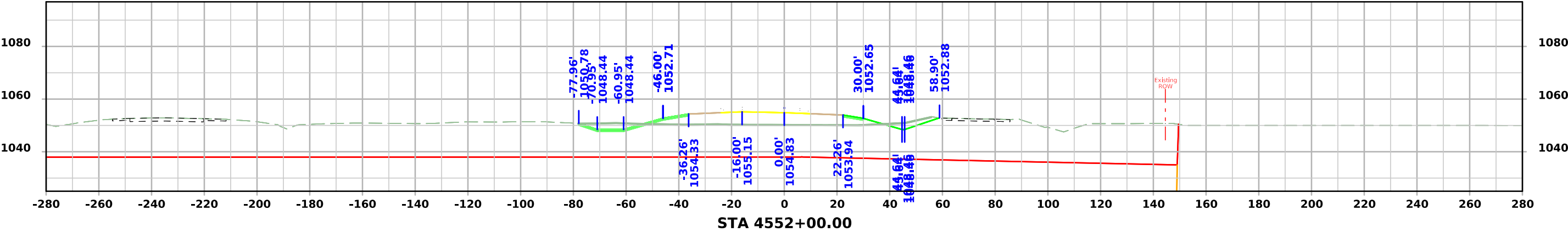
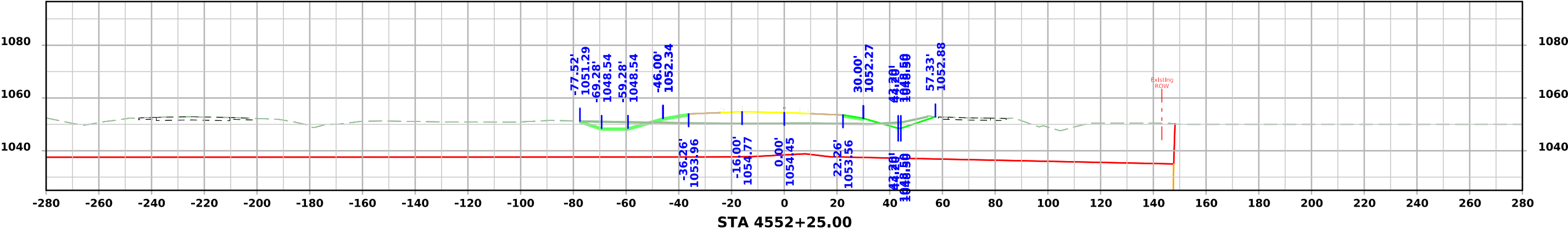
Ramp D - Stage 1



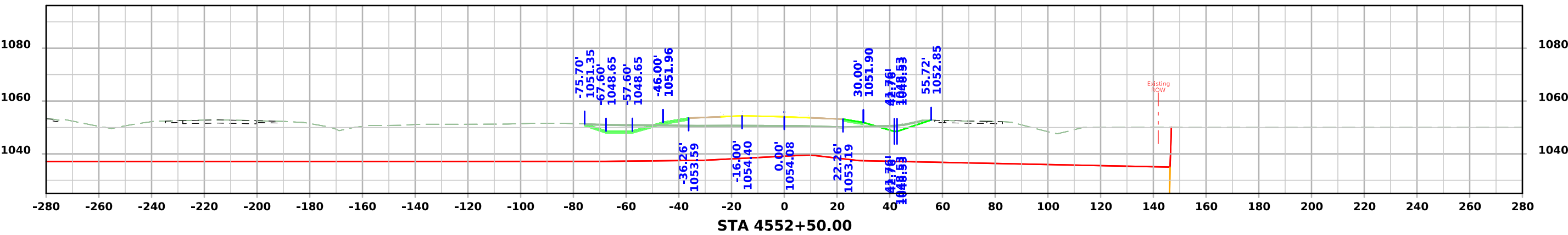
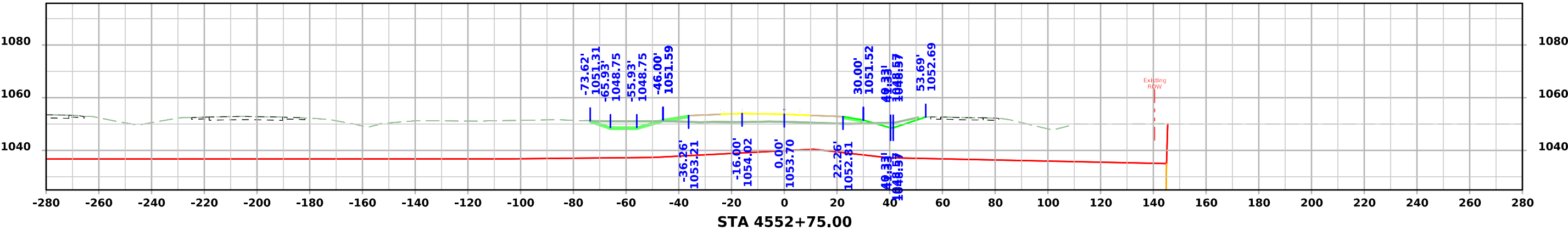
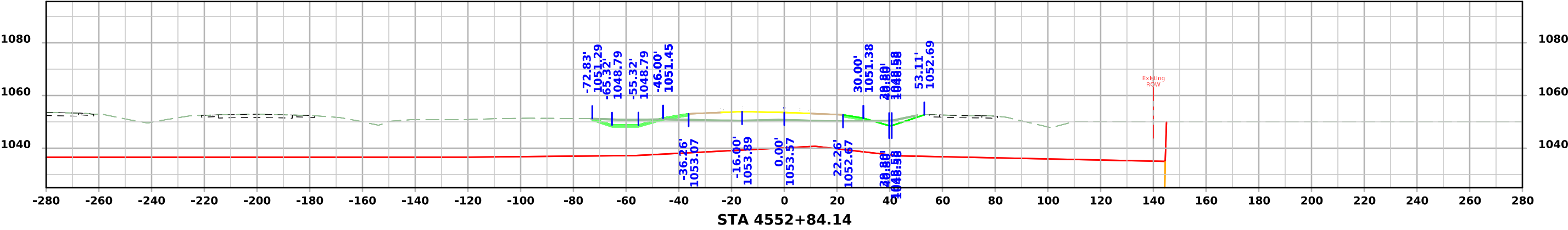
Ramp D - Stage 1



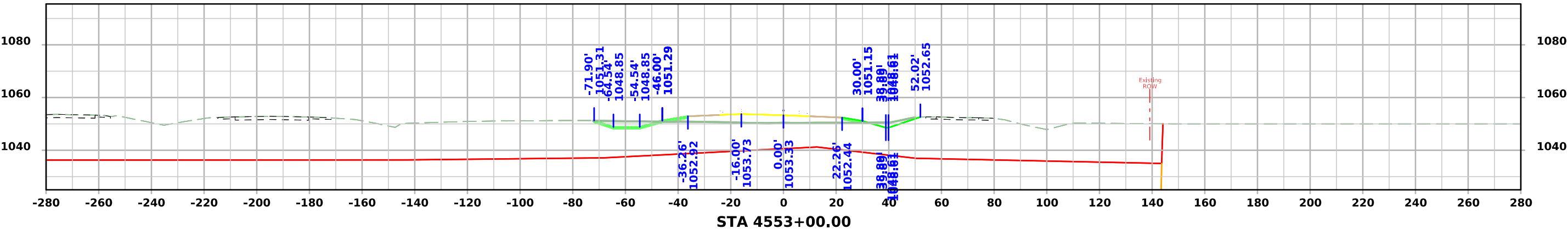
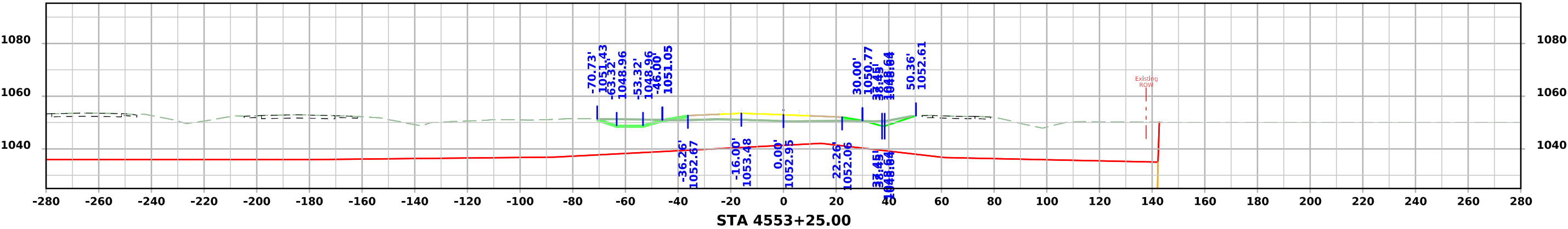
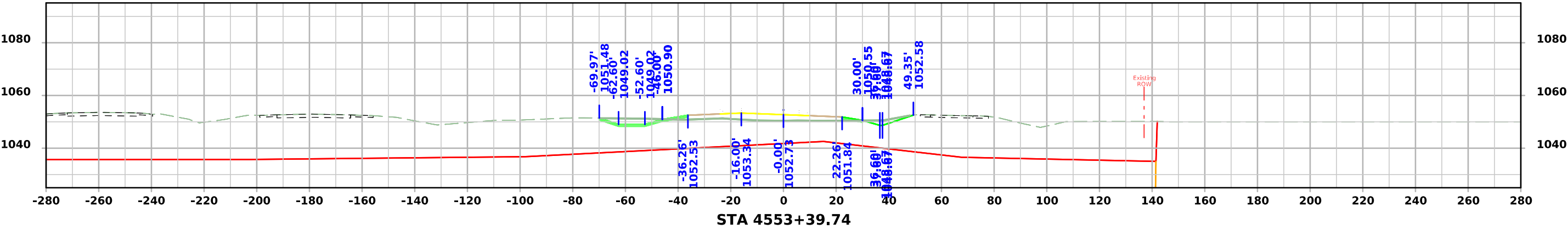
Ramp D - Stage 1



# Ramp D - Stage 1

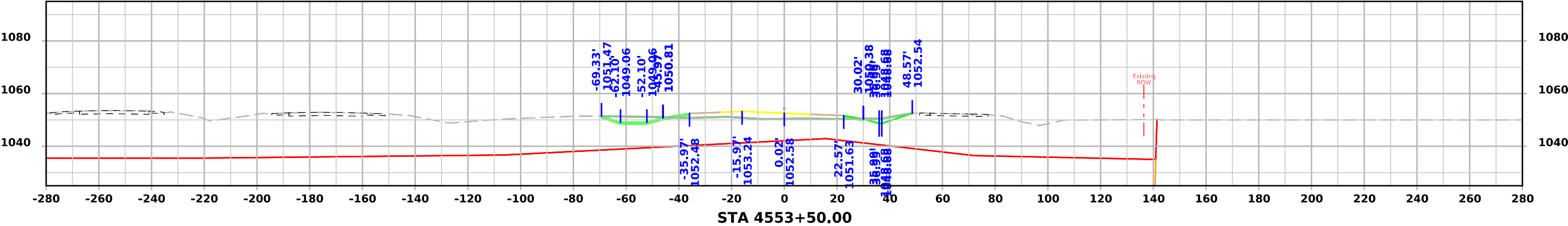
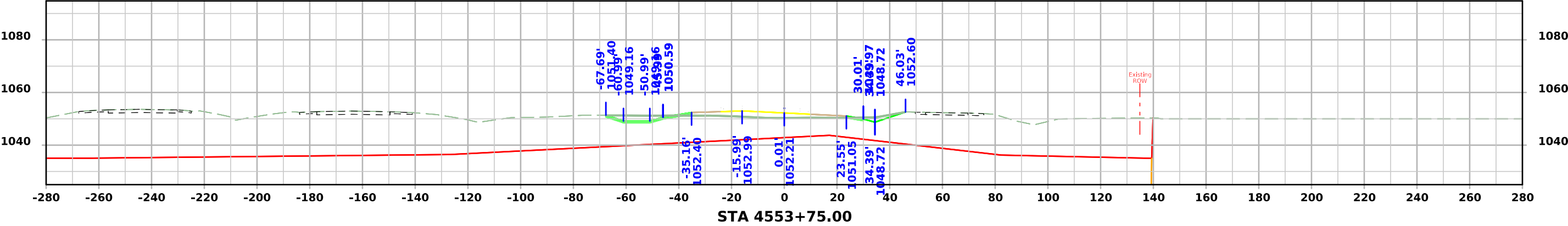
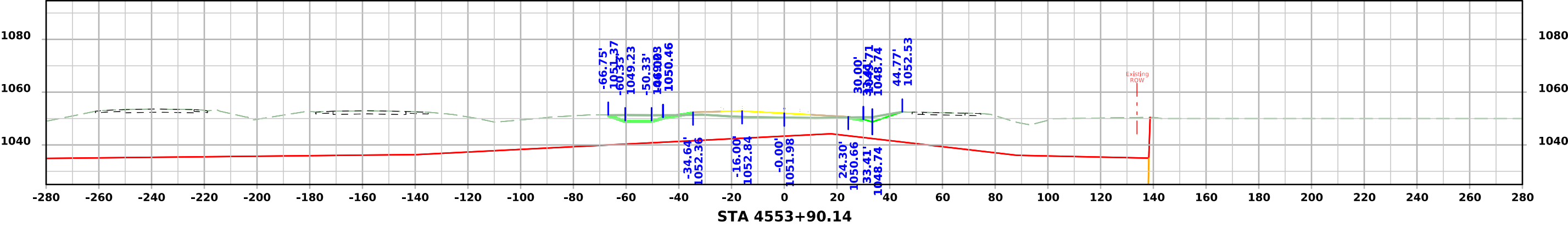


# Ramp D - Stage 1

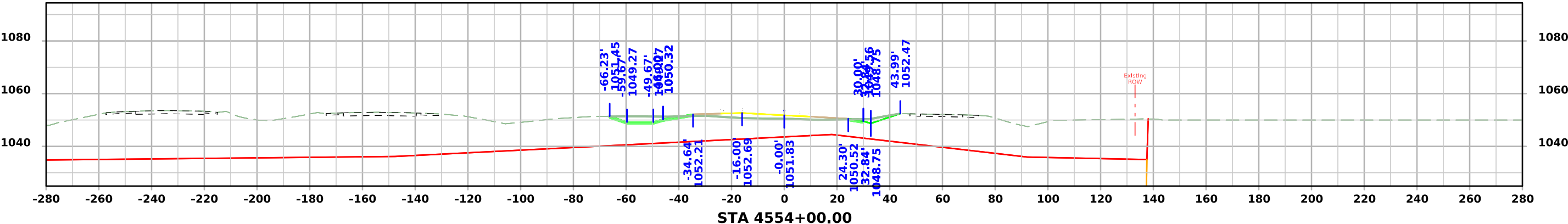
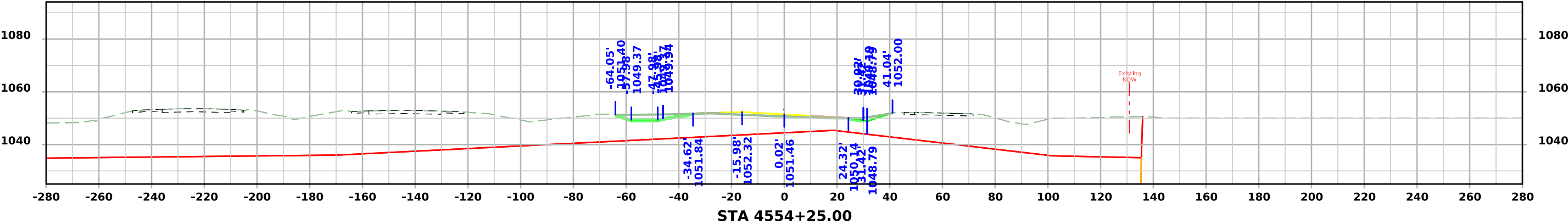
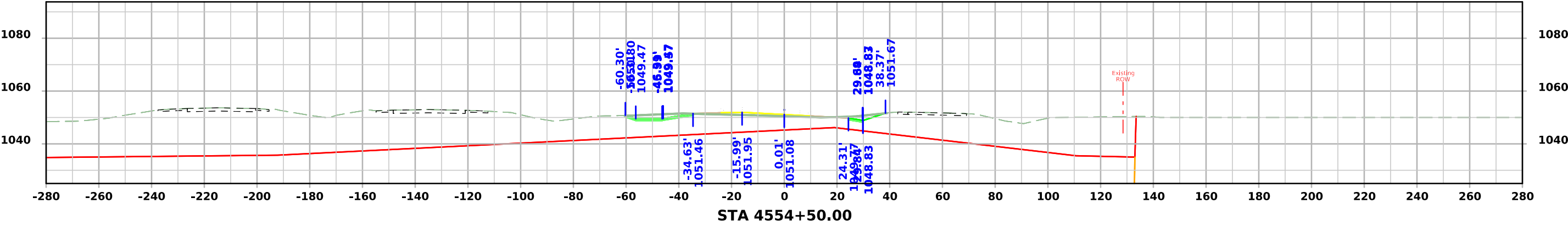




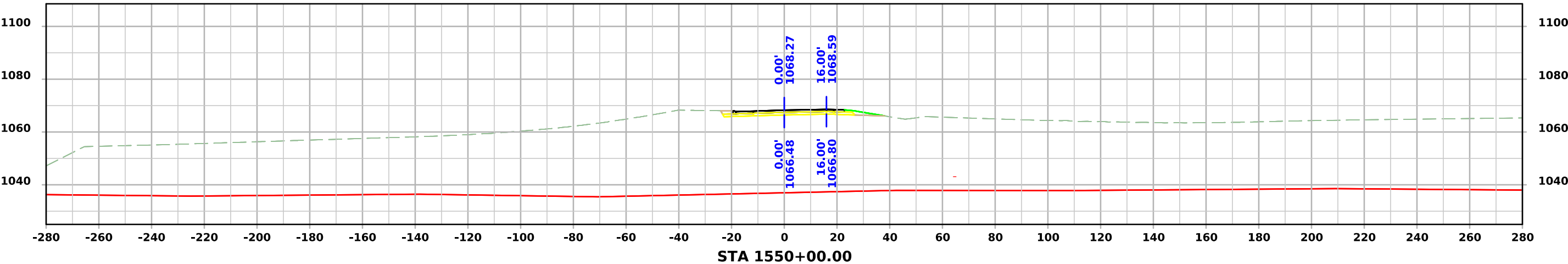
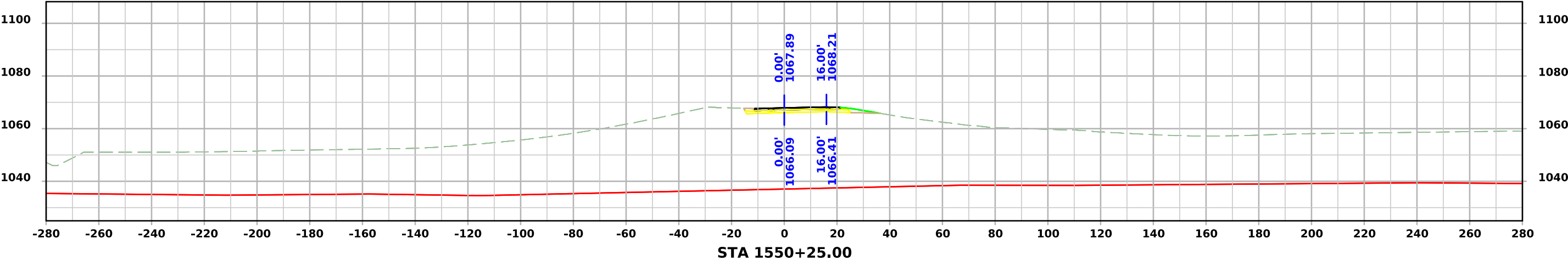
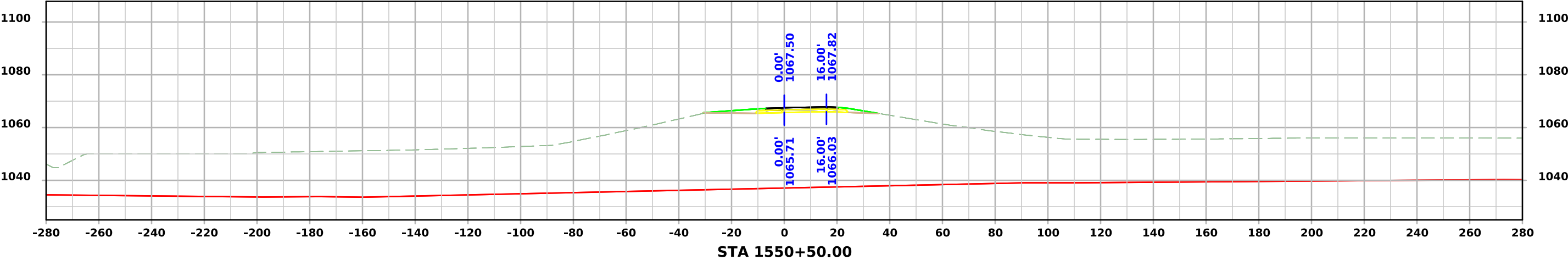
# Ramp D - Stage 1



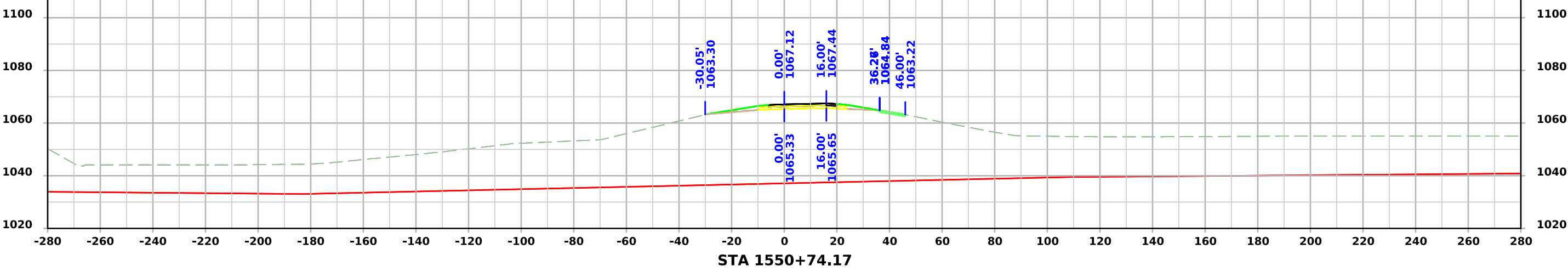
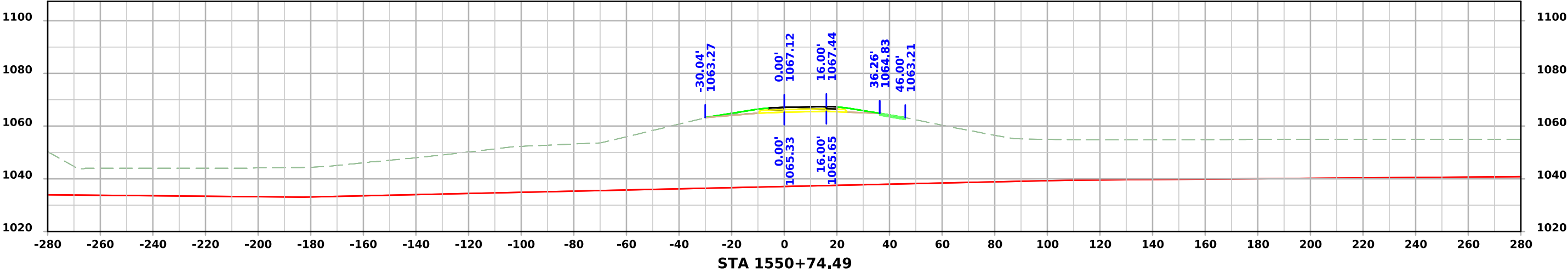
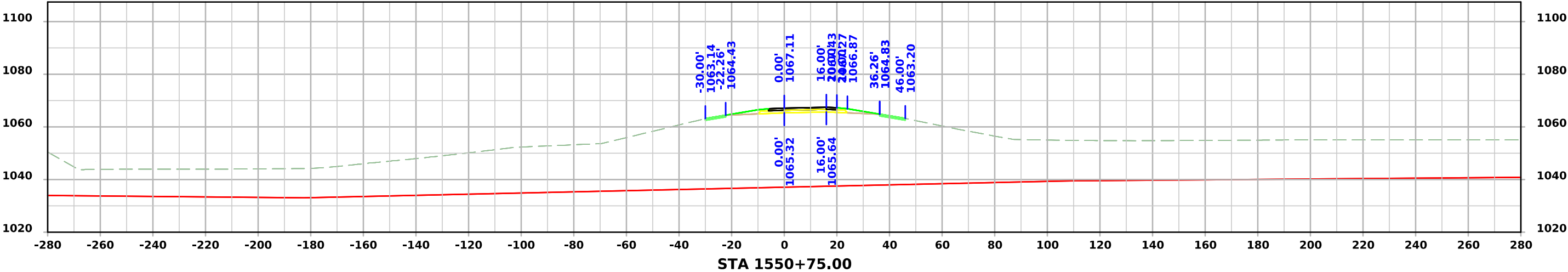
# Ramp D - Stage 1



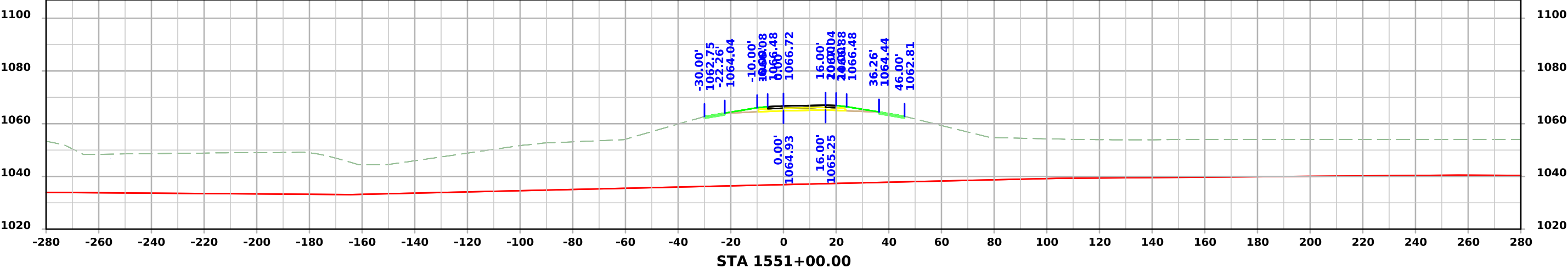
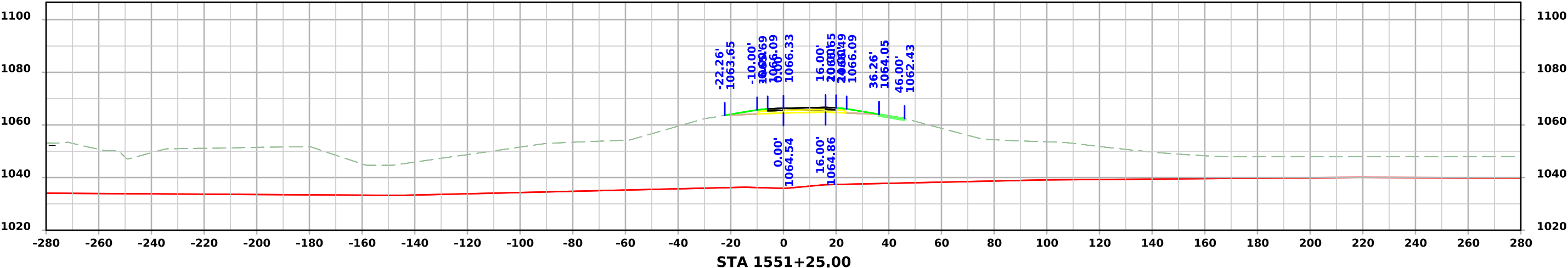
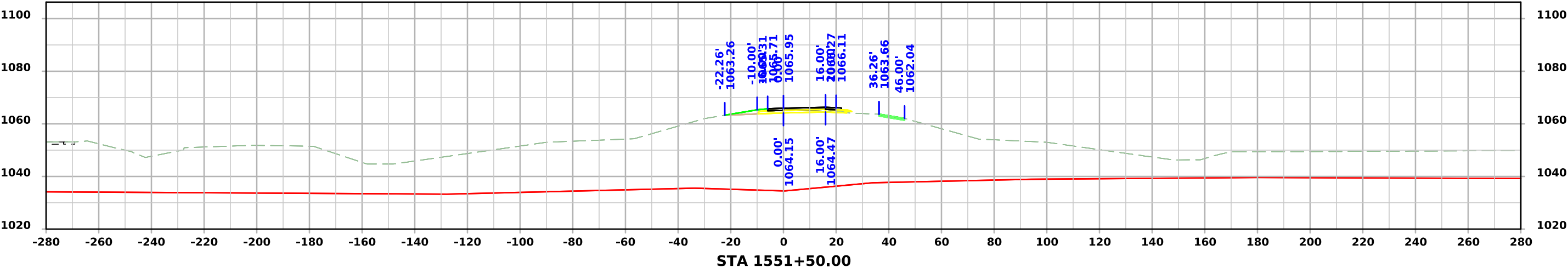
Ramp A - Stage 2



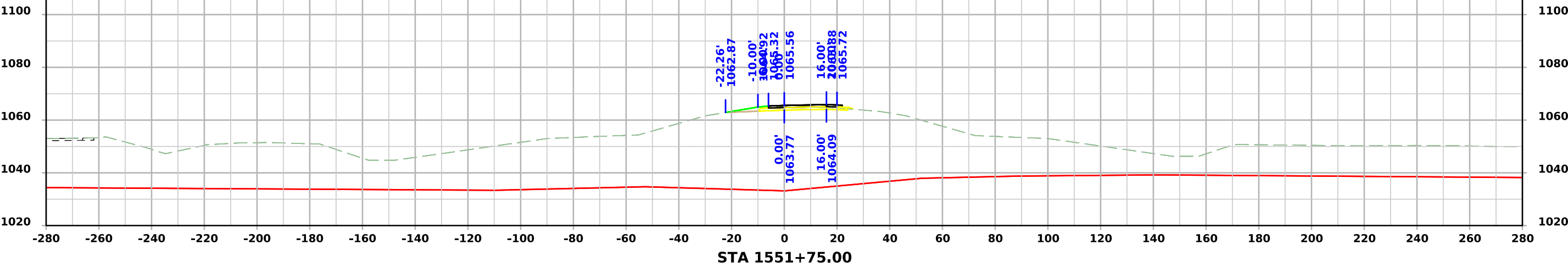
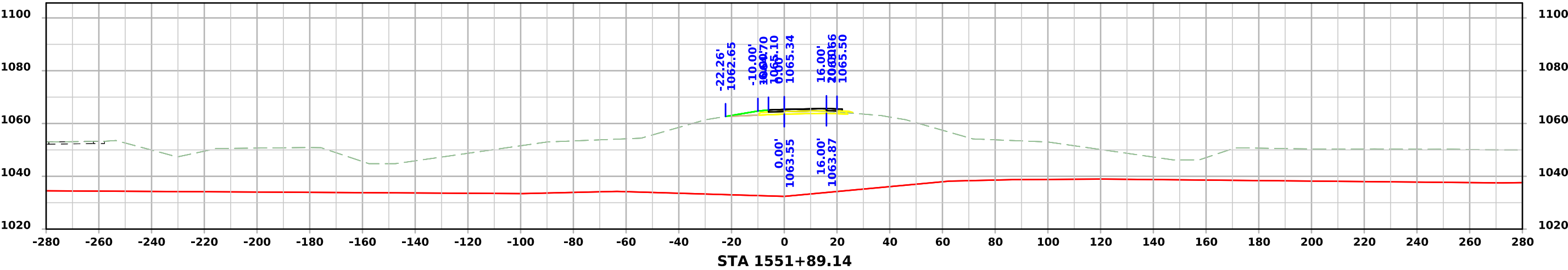
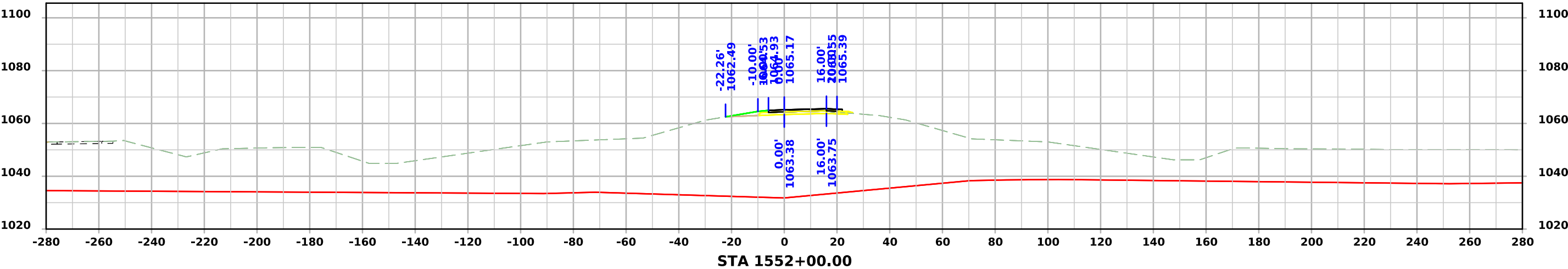
# Ramp A - Stage 2



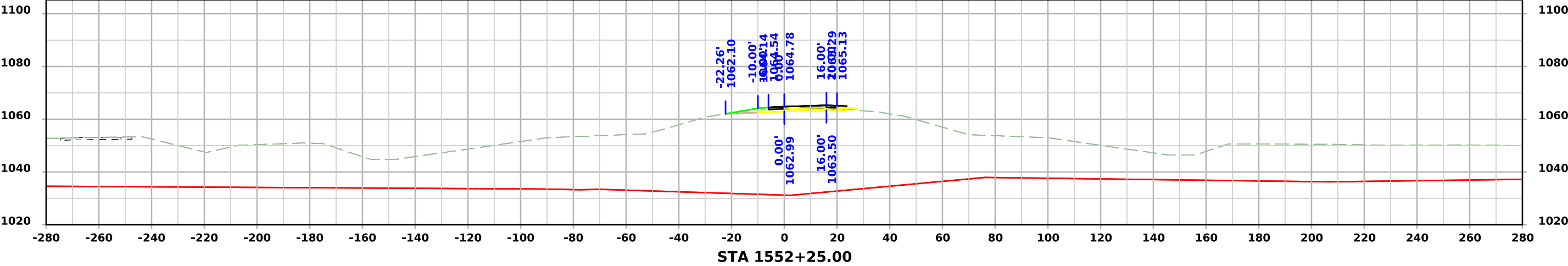
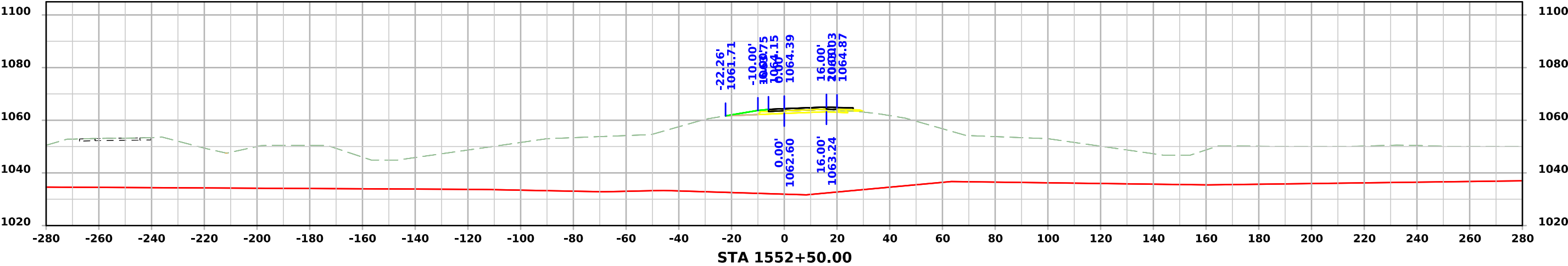
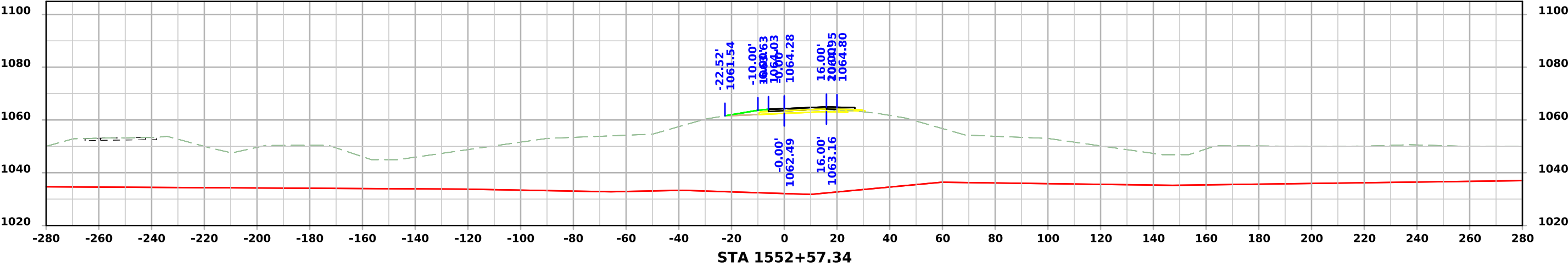
Ramp A - Stage 2



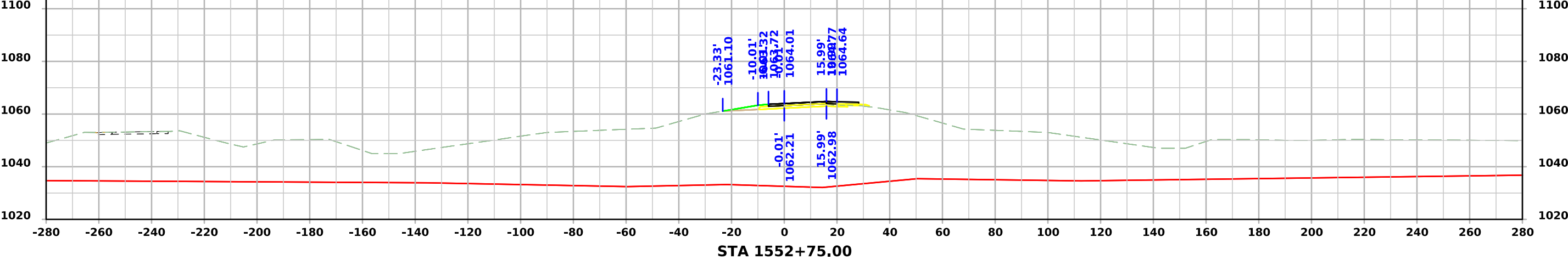
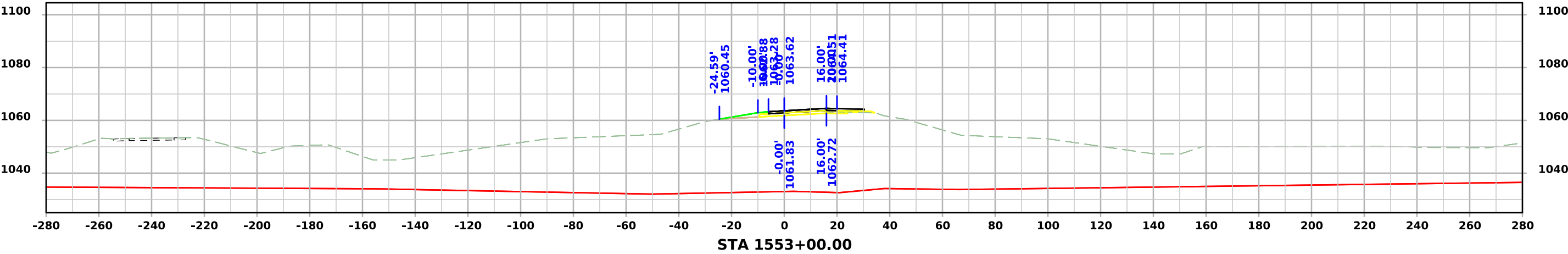
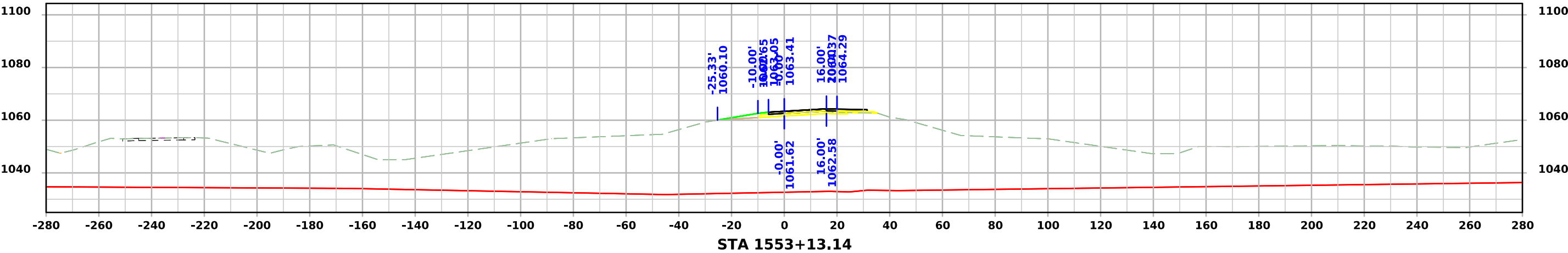
Ramp A - Stage 2



Ramp A - Stage 2

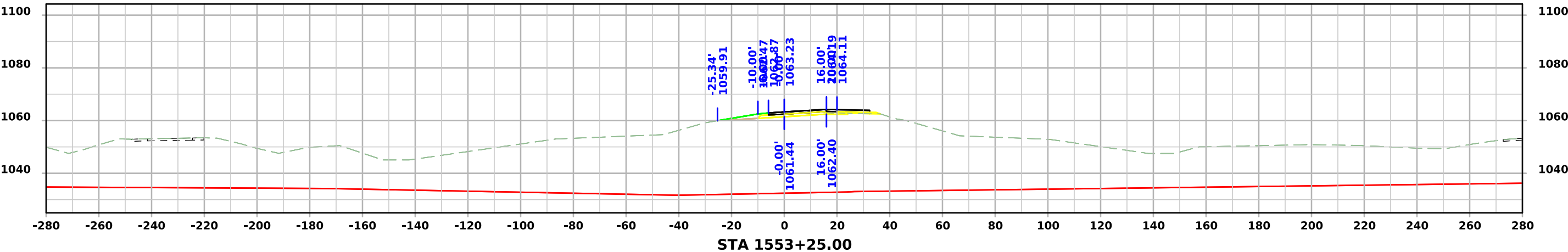
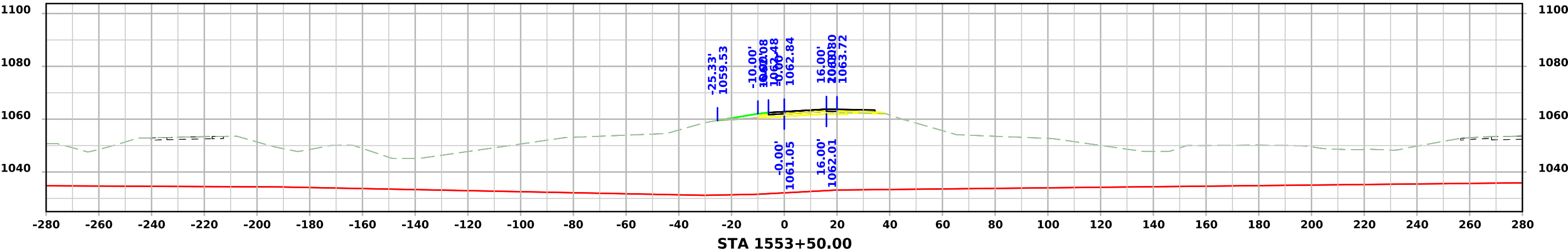
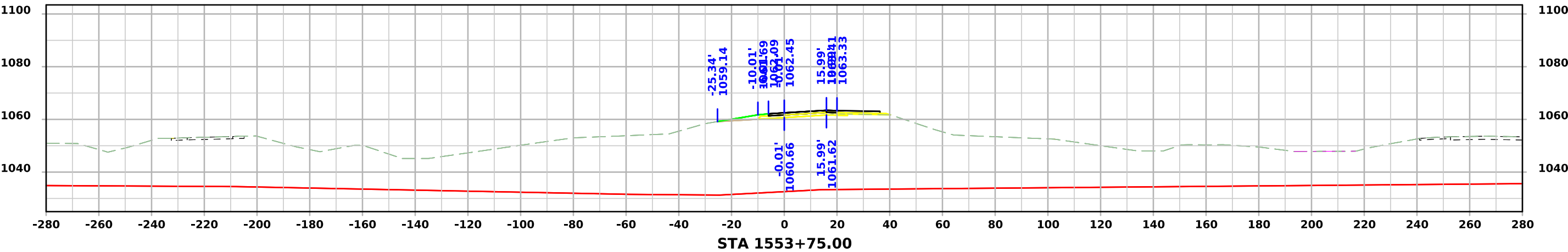


# Ramp A - Stage 2

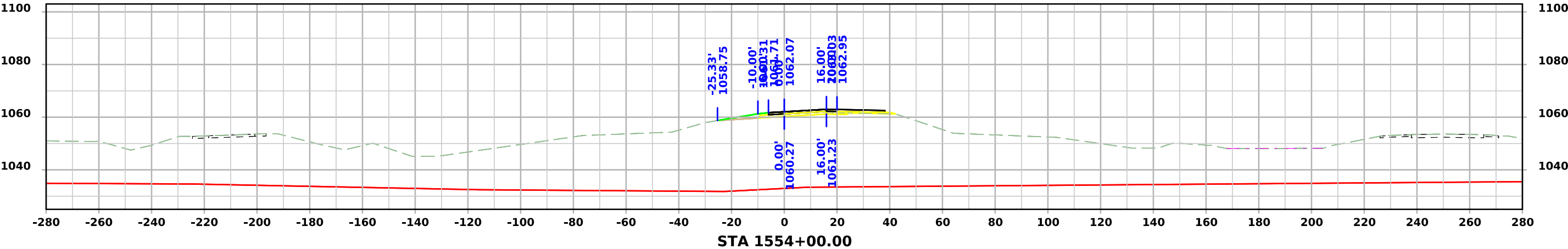
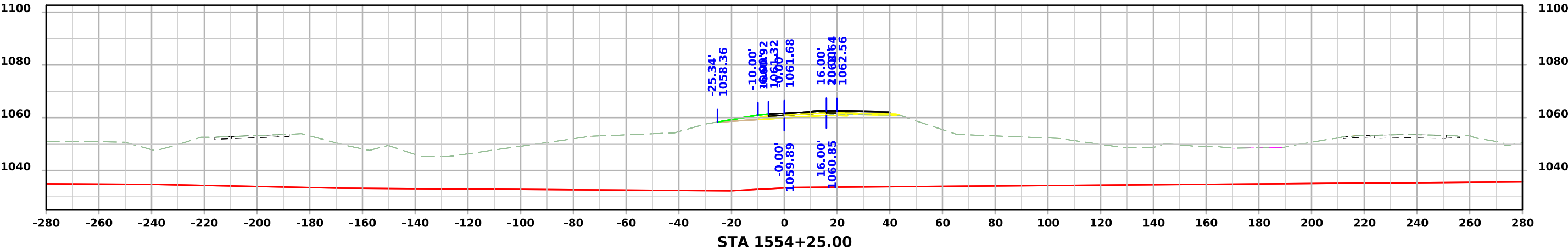
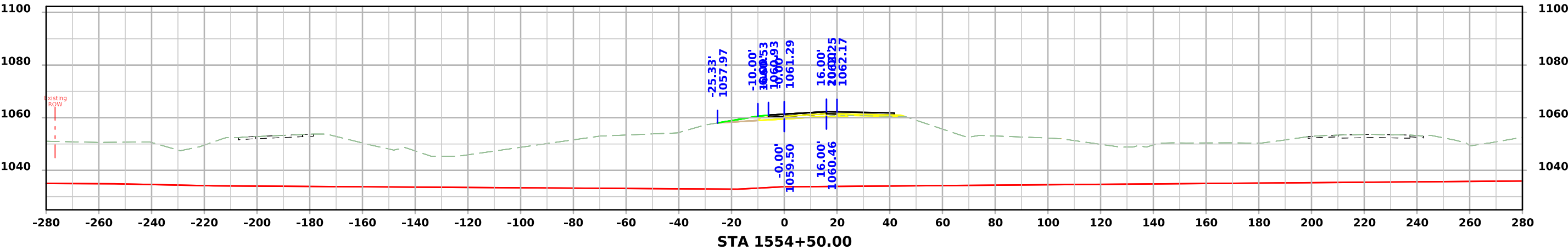




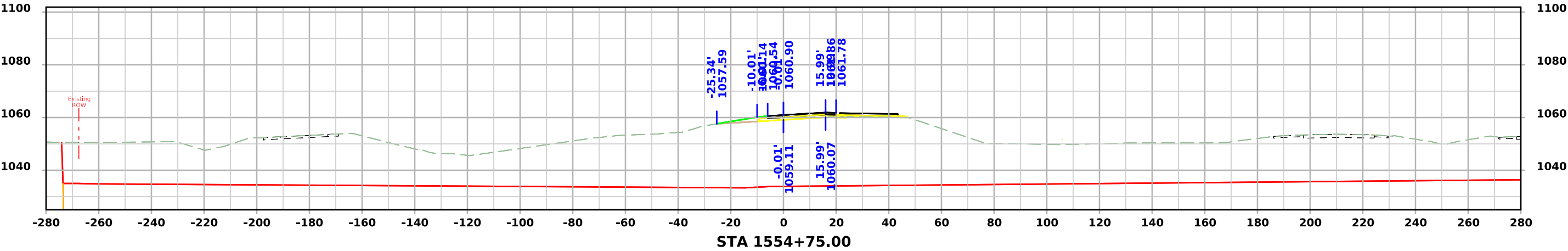
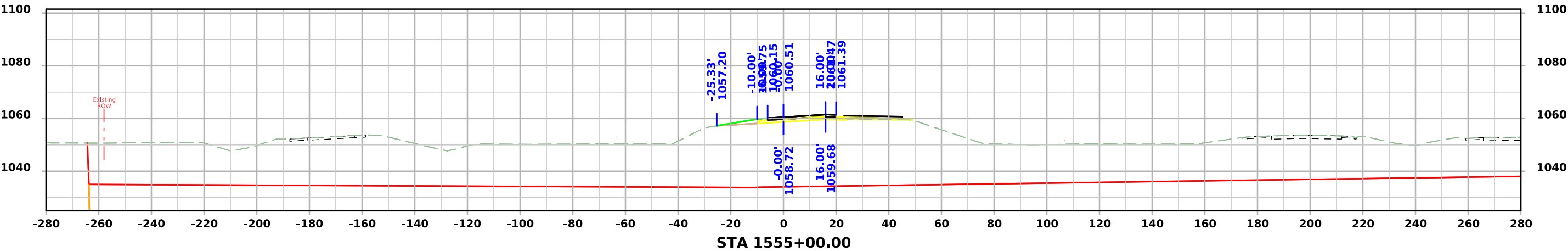
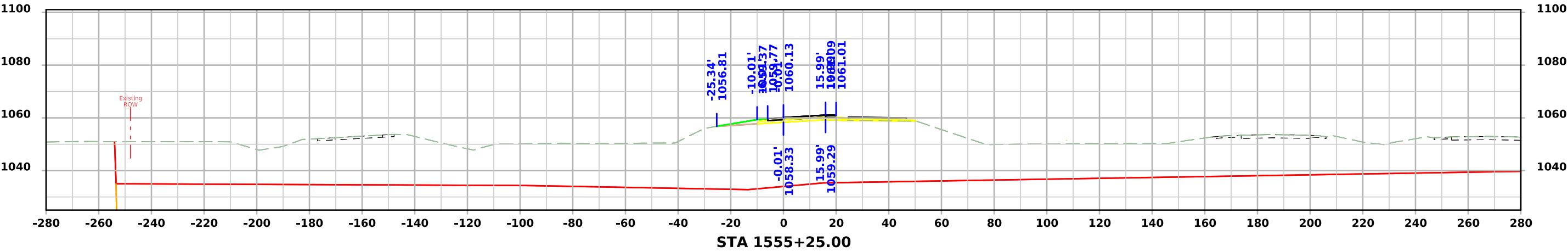
# Ramp A - Stage 2



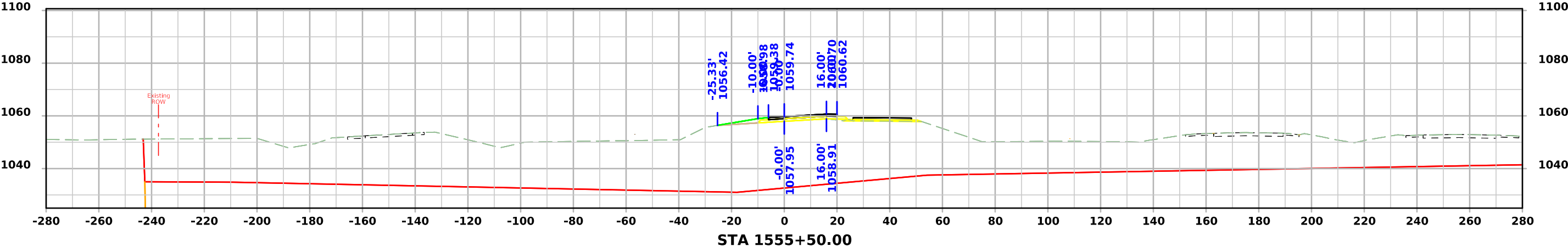
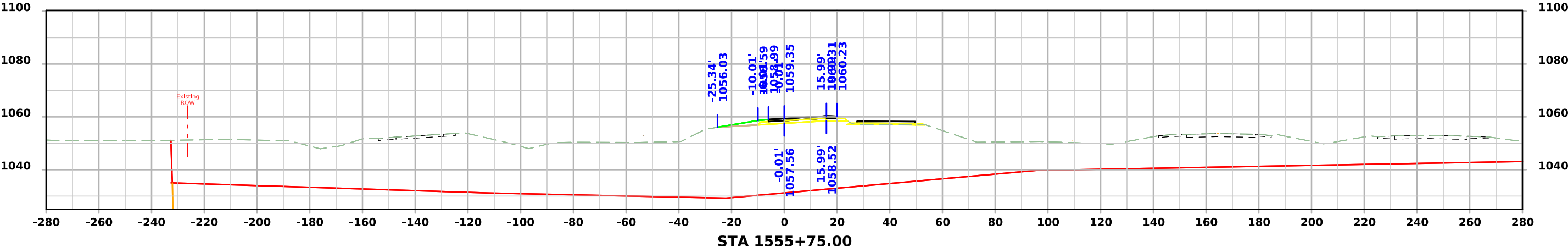
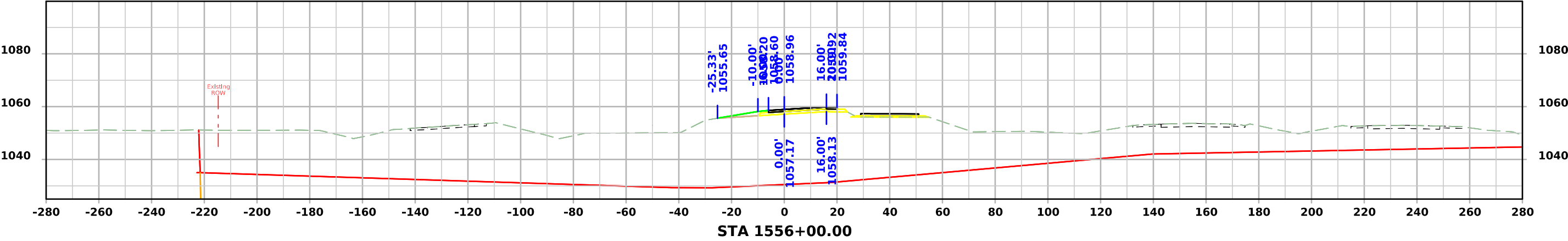
# Ramp A - Stage 2



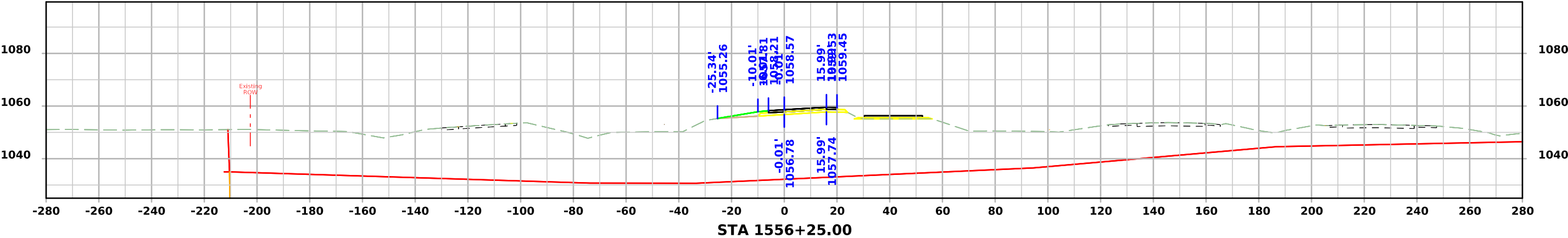
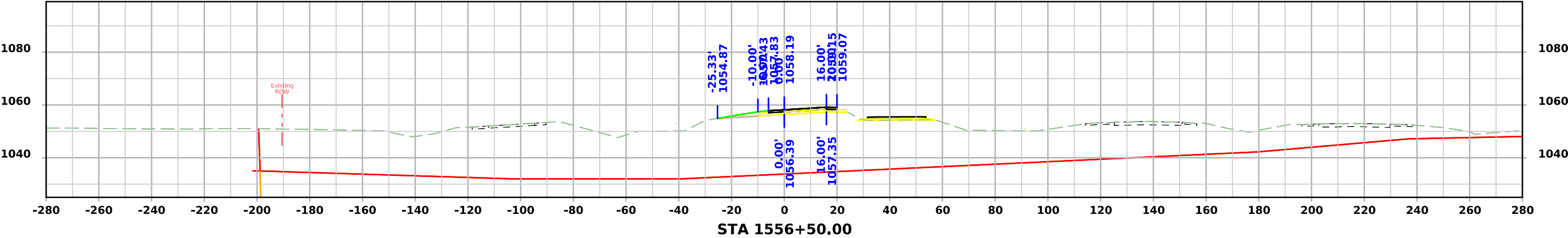
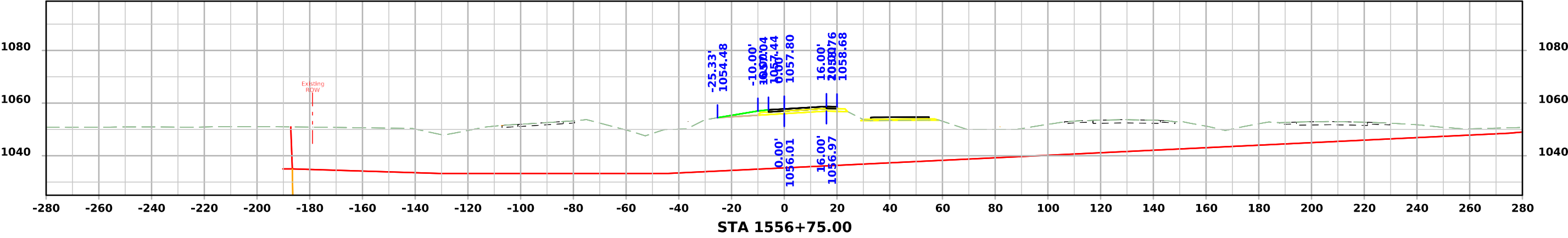
Ramp A - Stage 2



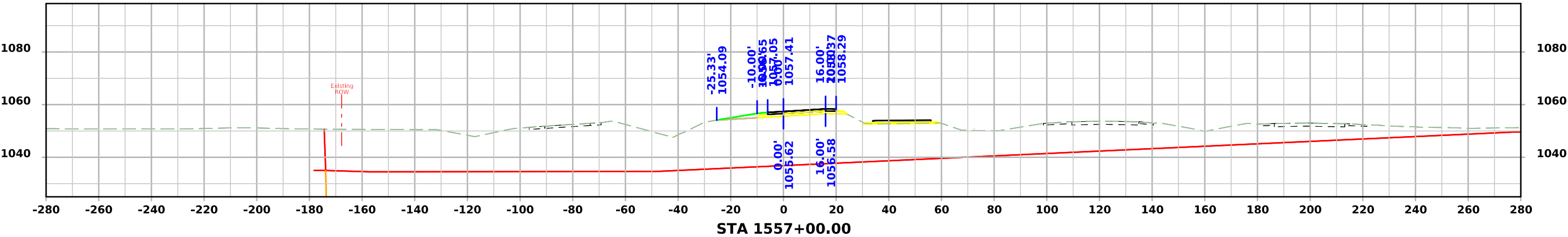
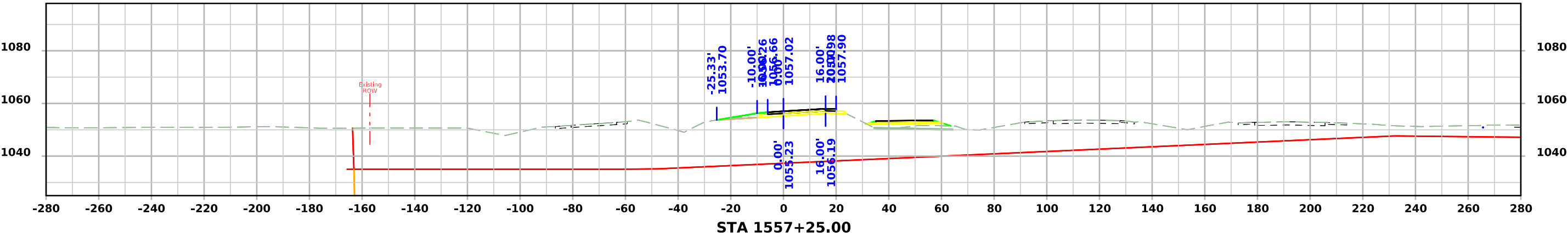
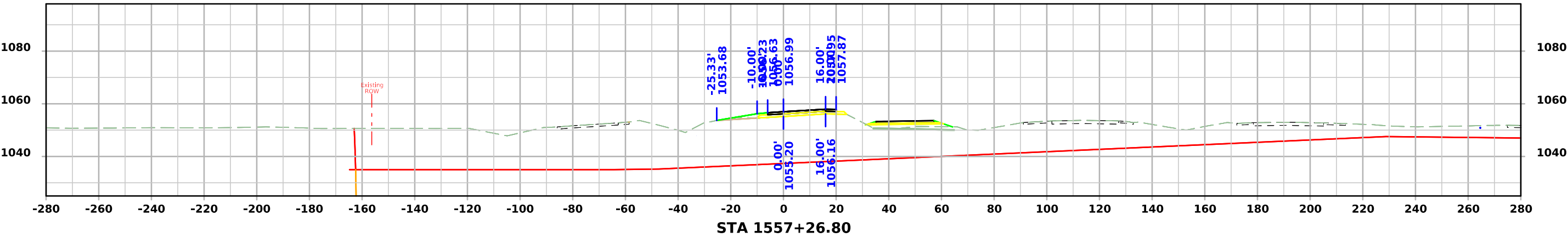
# Ramp A - Stage 2



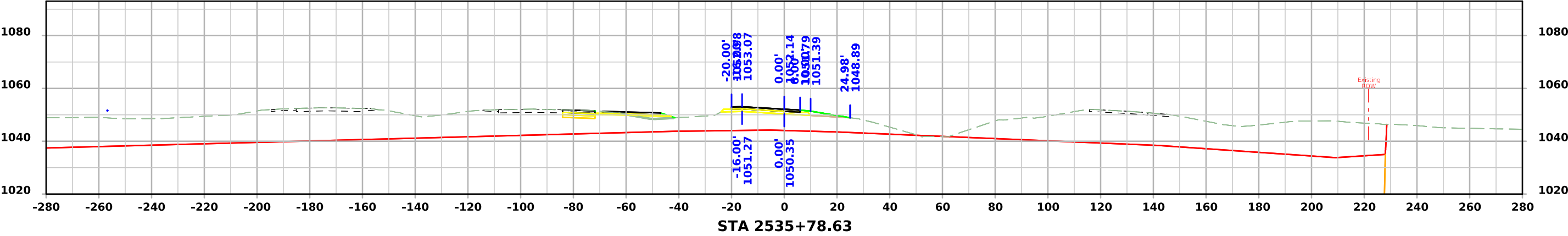
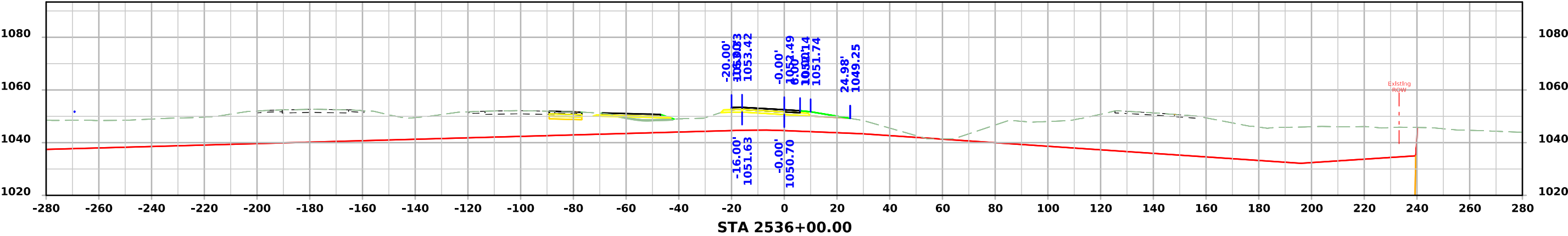
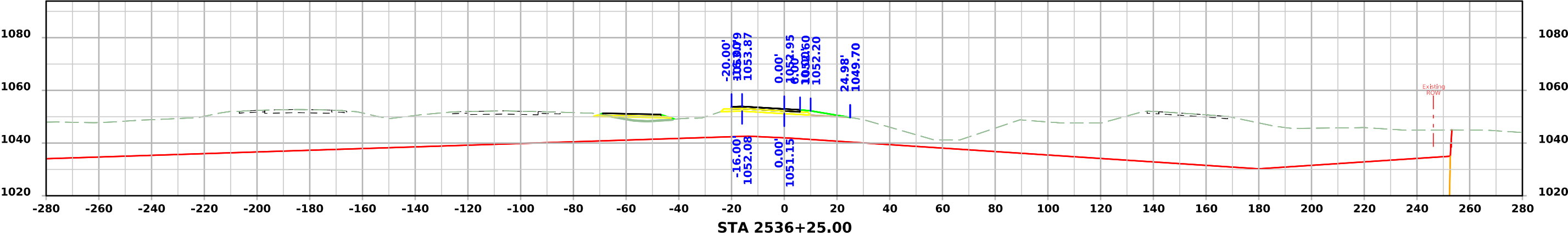
# Ramp A - Stage 2



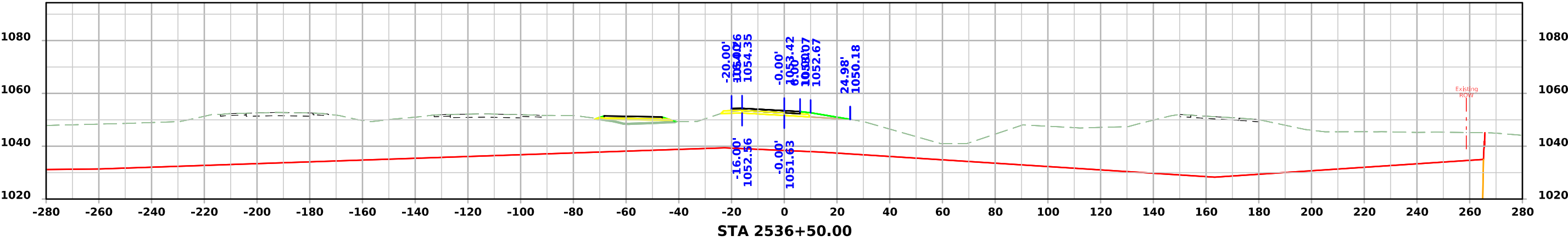
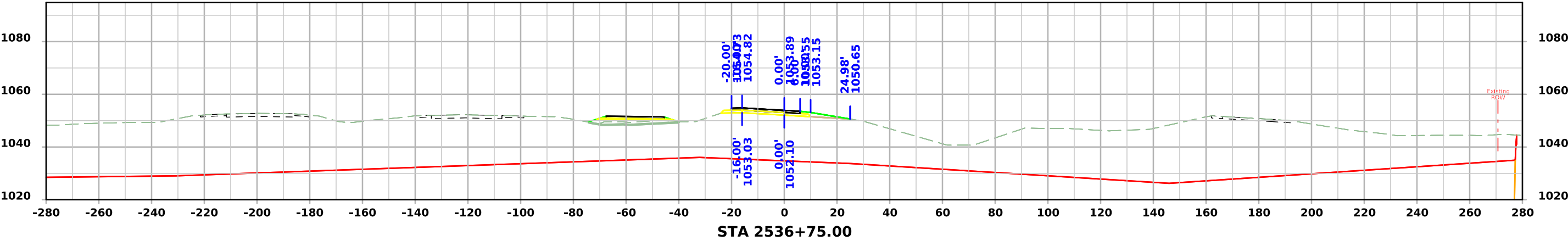
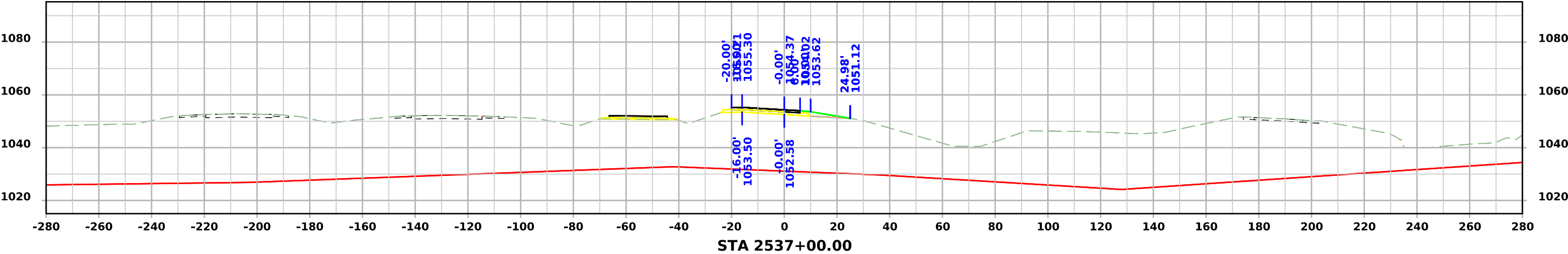
# Ramp A - Stage 2



Ramp B - Stage 2

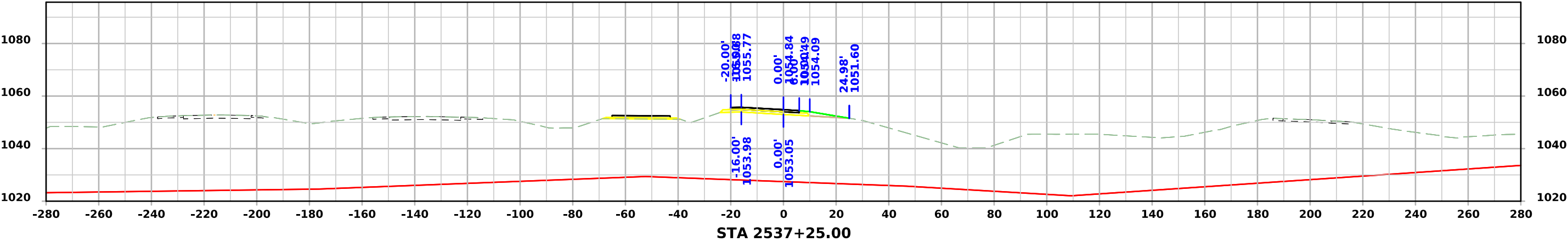
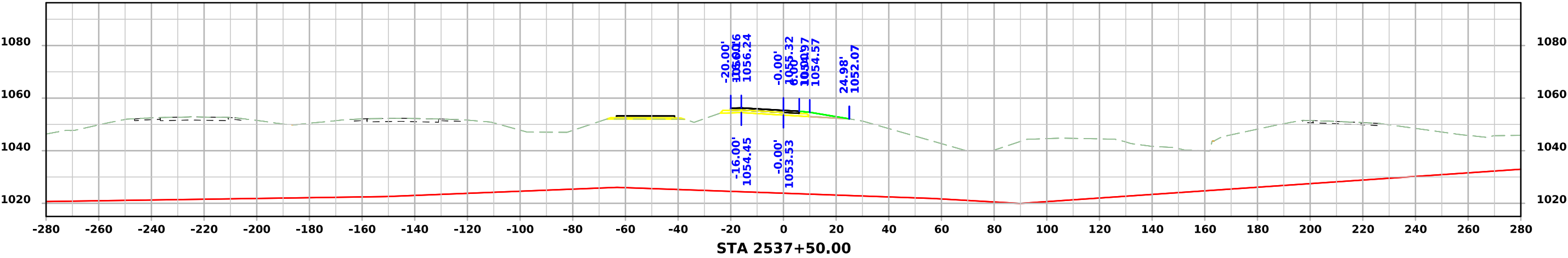
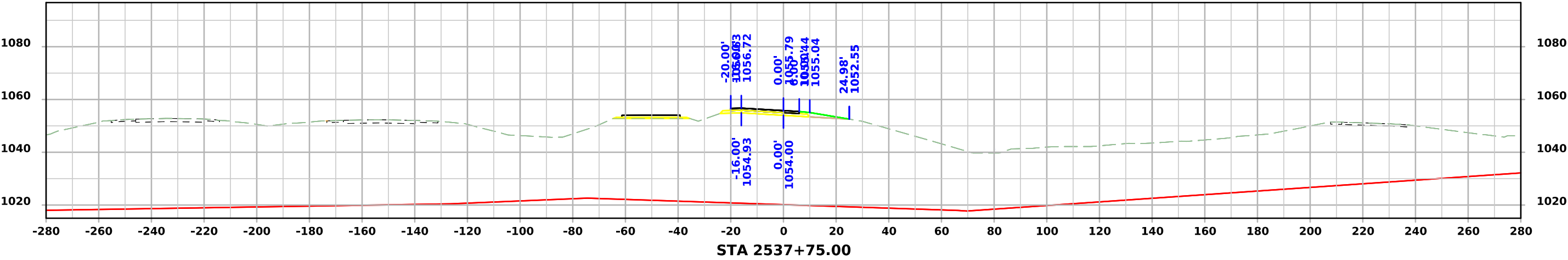


# Ramp B - Stage 2

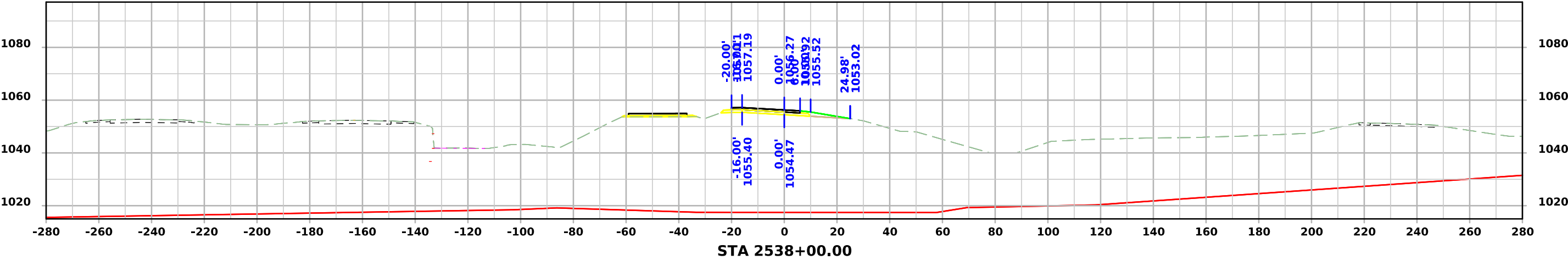
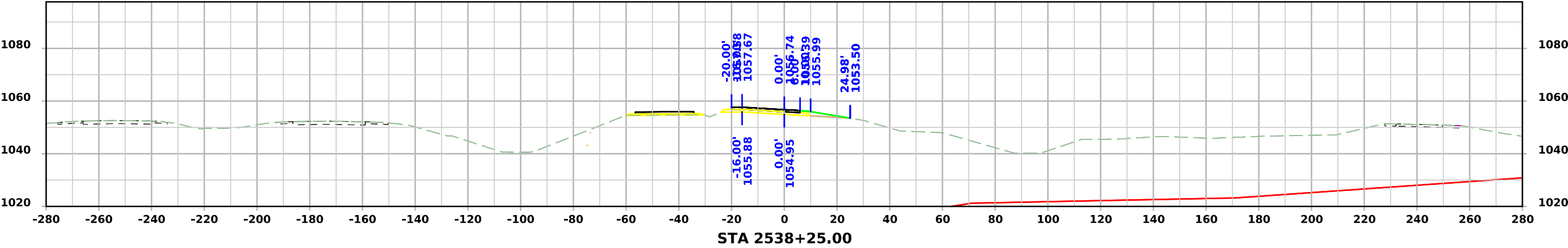
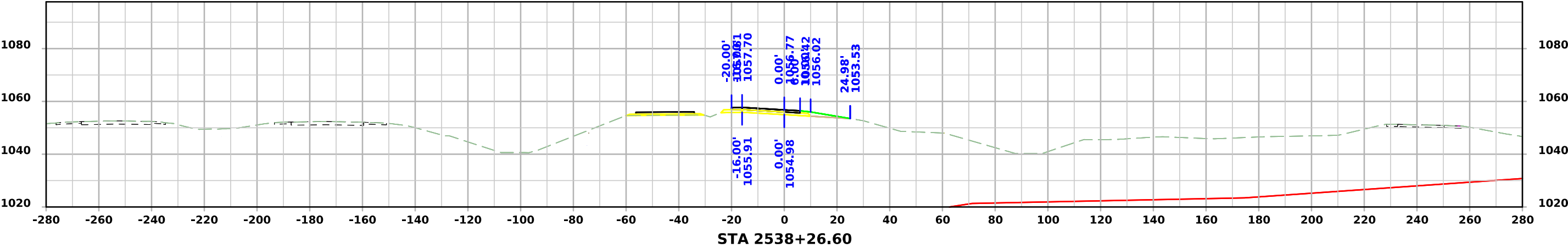




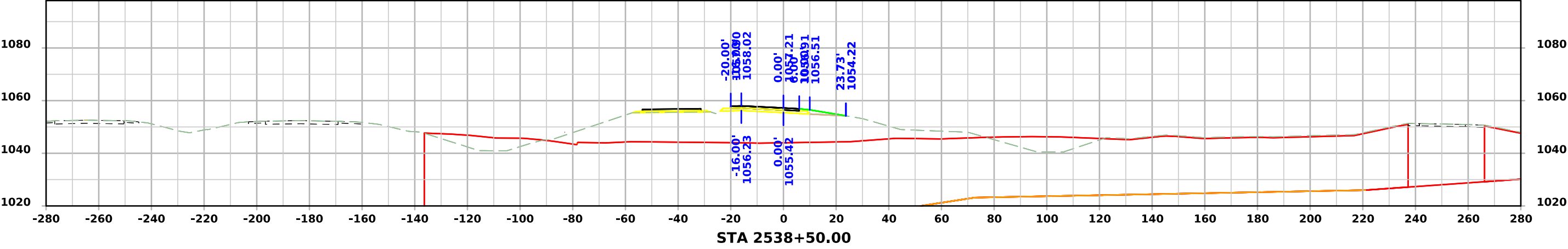
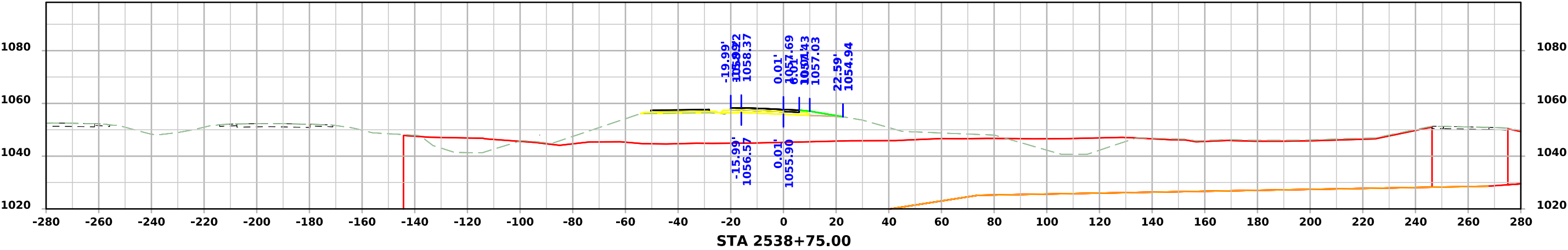
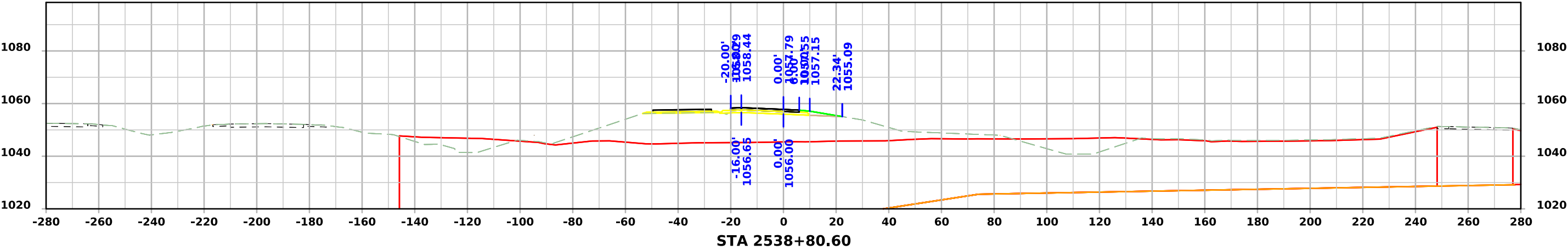
Ramp B - Stage 2



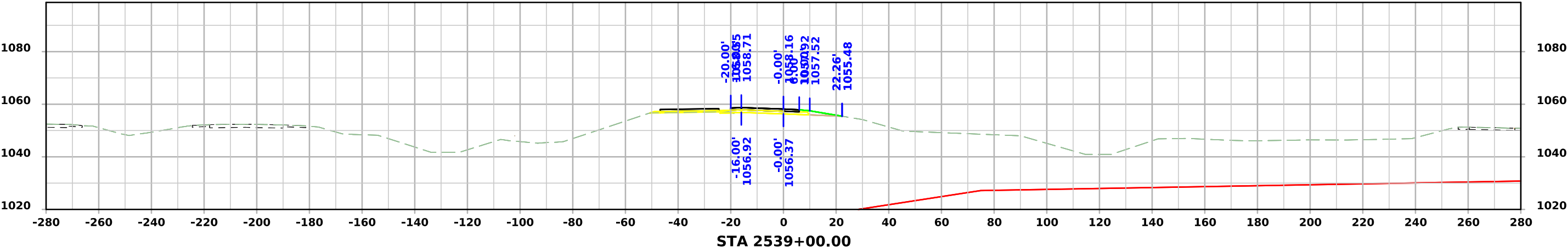
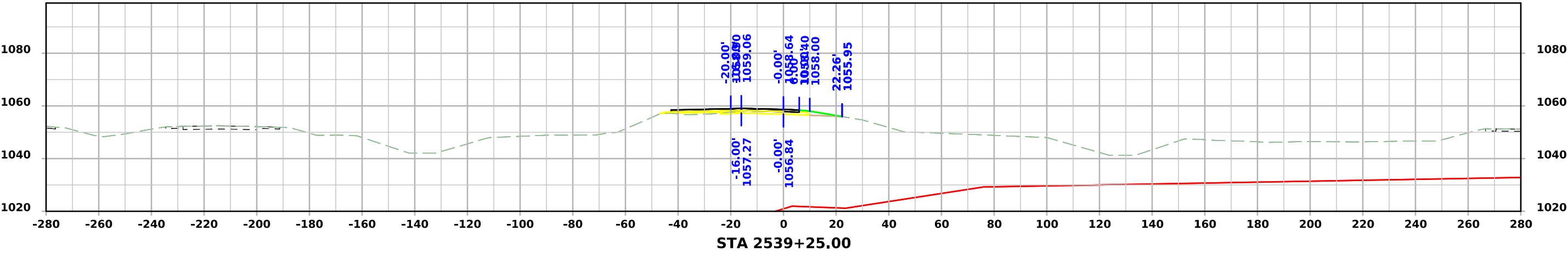
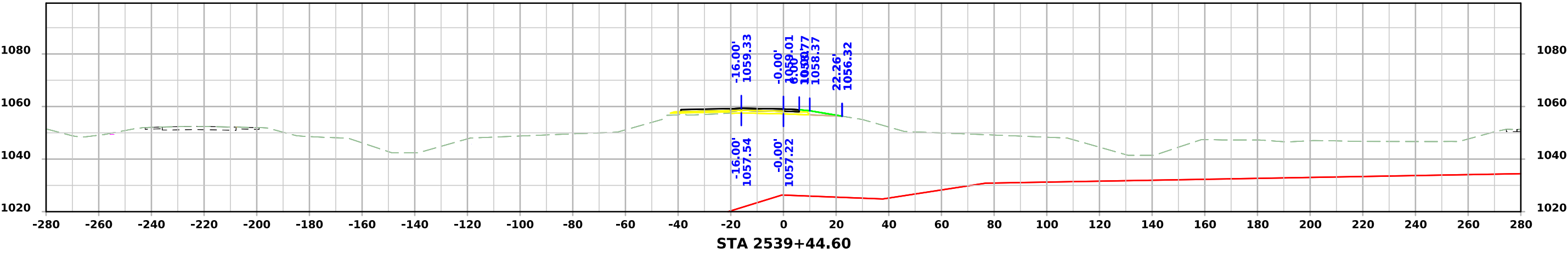
Ramp B - Stage 2



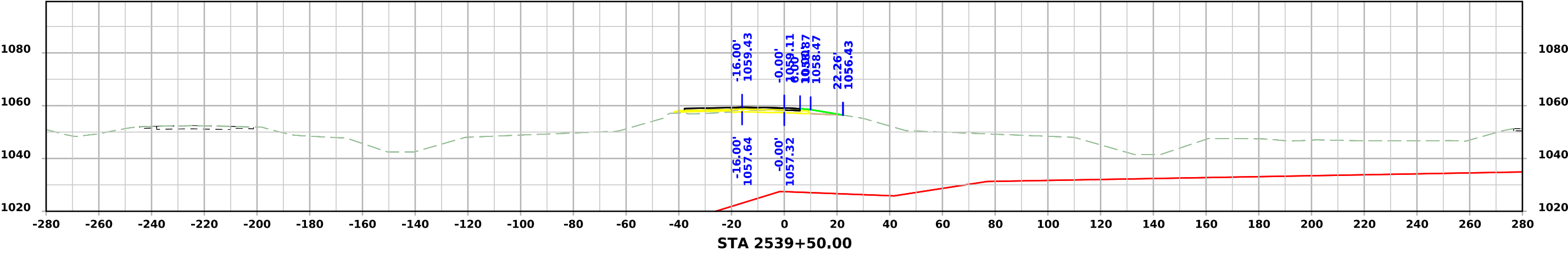
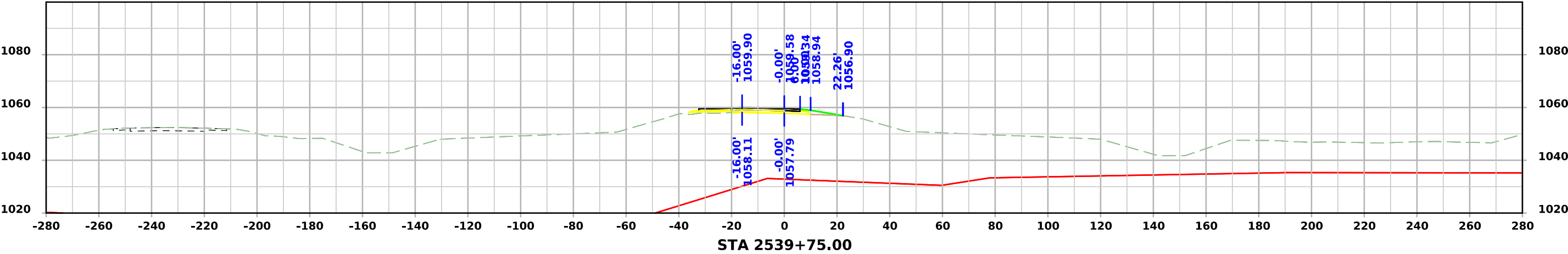
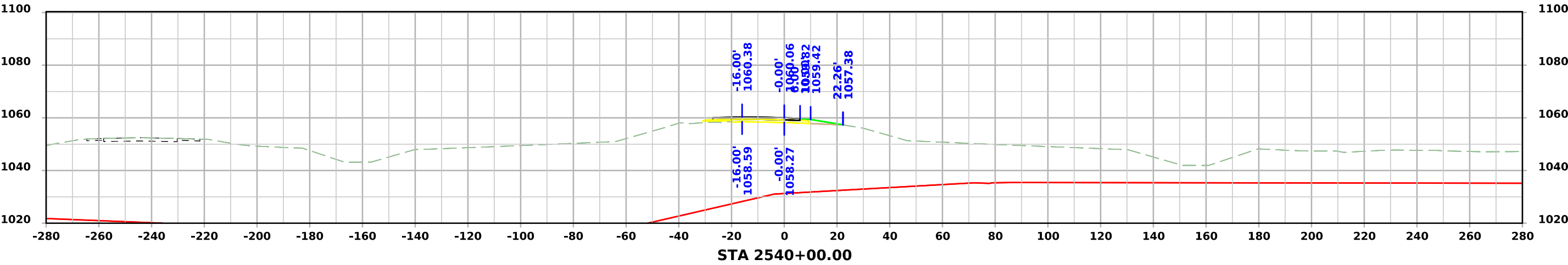
# Ramp B - Stage 2



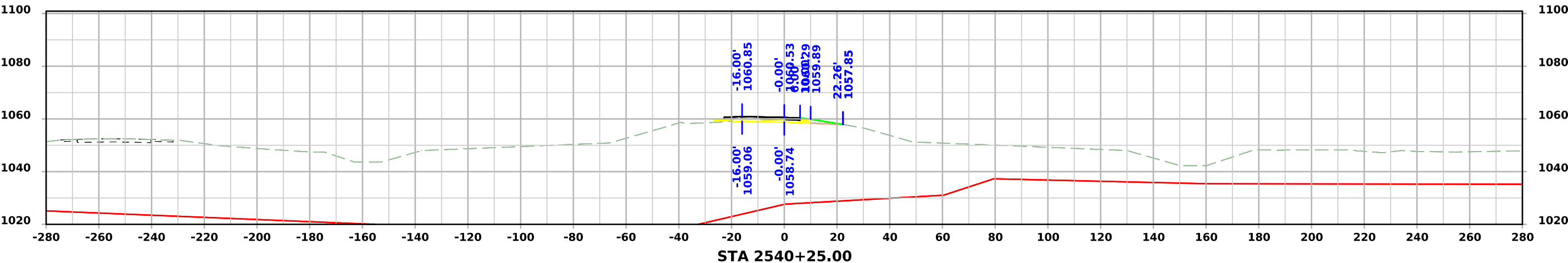
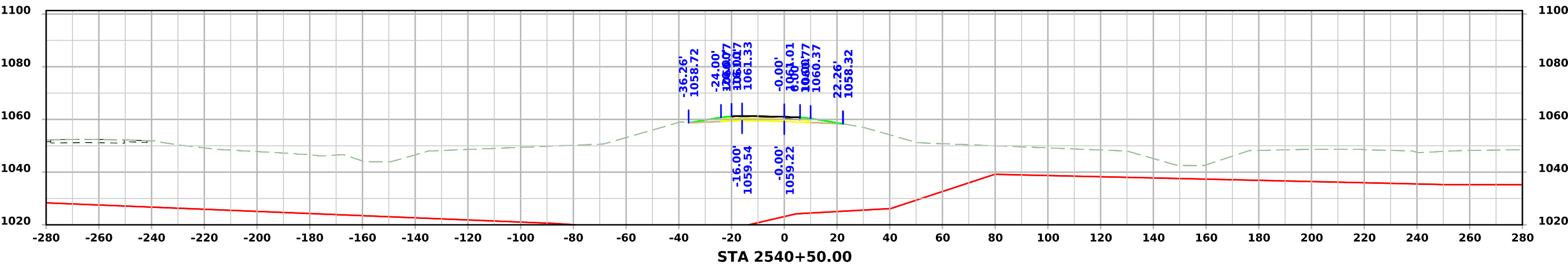
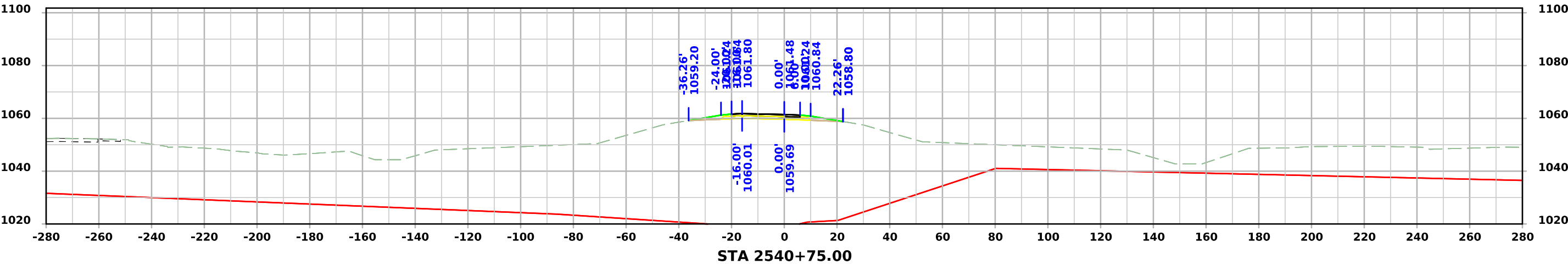
Ramp B - Stage 2



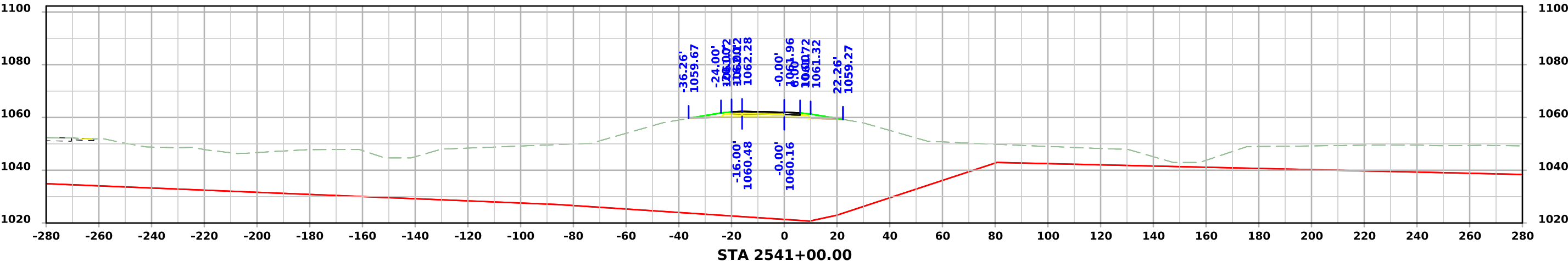
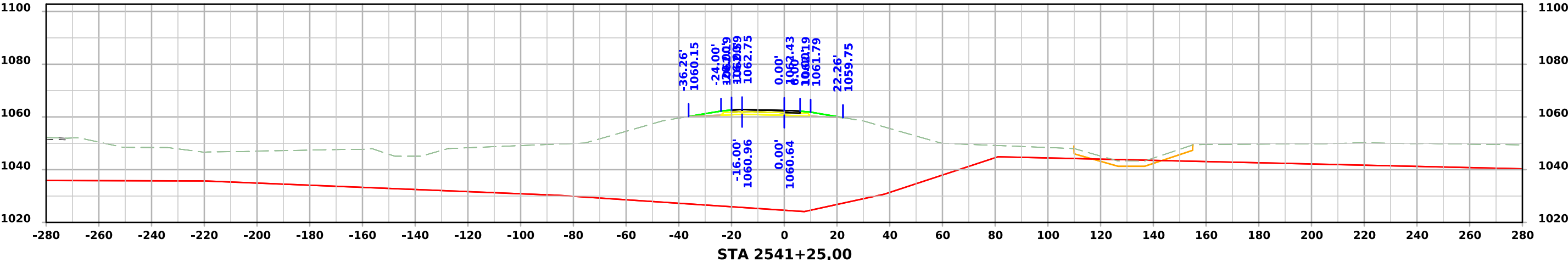
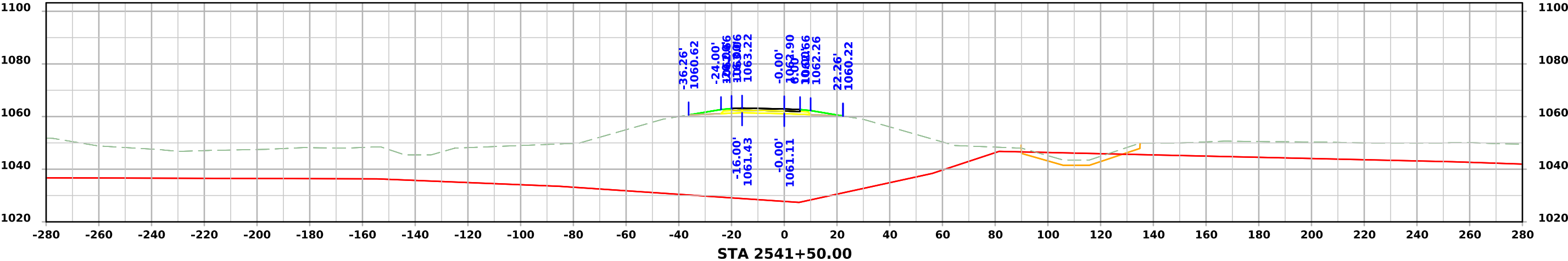
# Ramp B - Stage 2



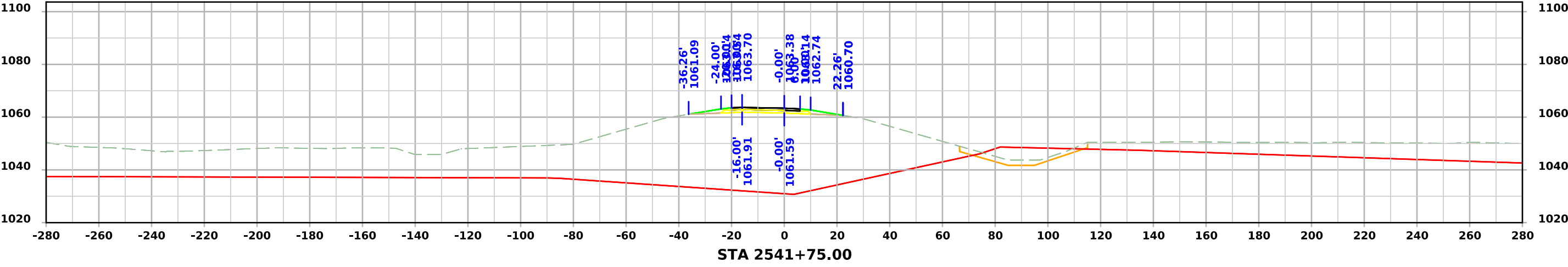
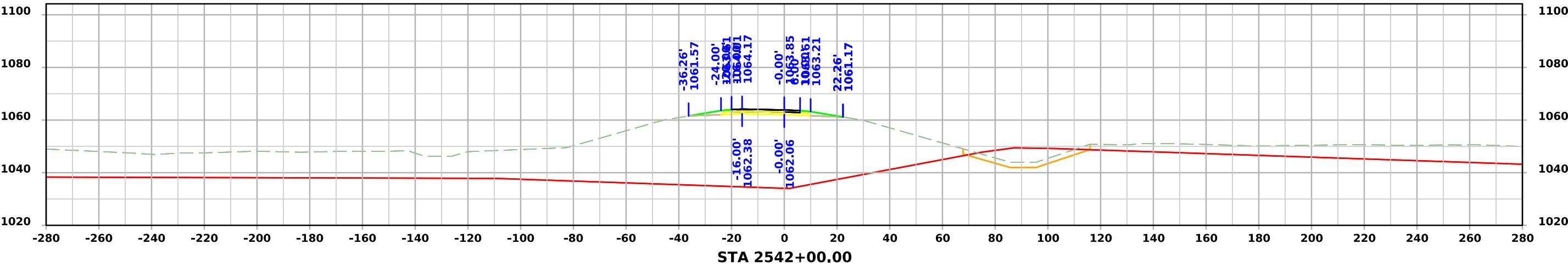
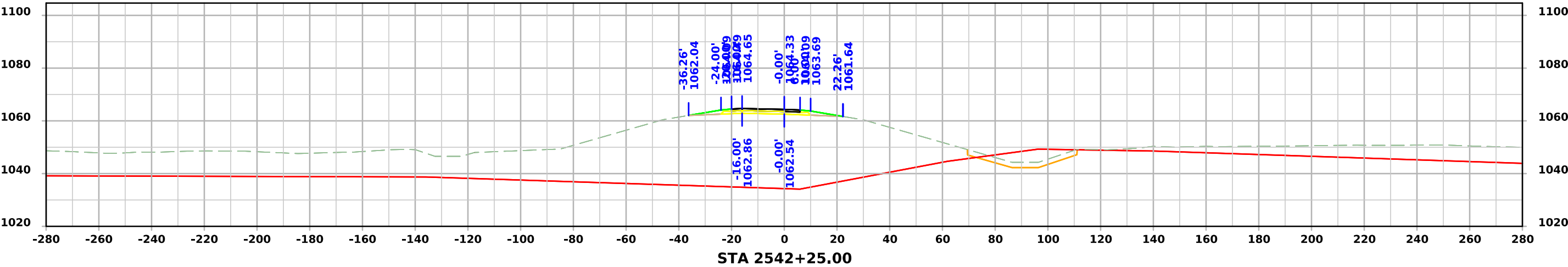
Ramp B - Stage 2



Ramp B - Stage 2

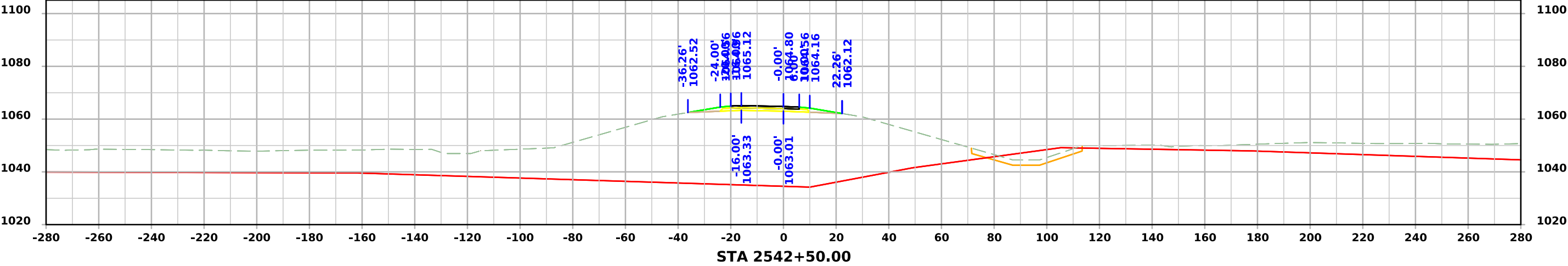
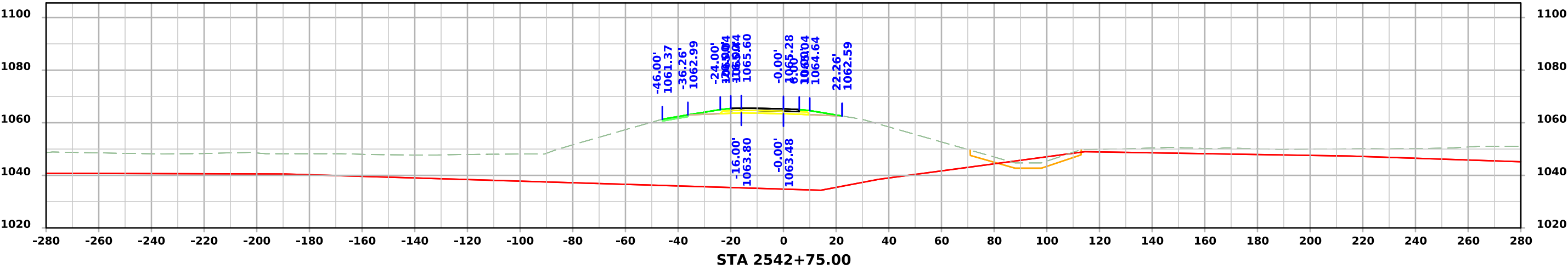
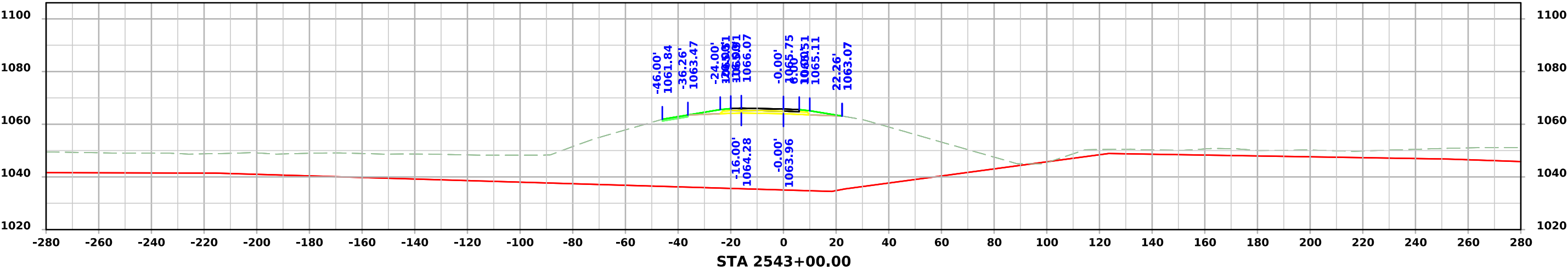


Ramp B - Stage 2

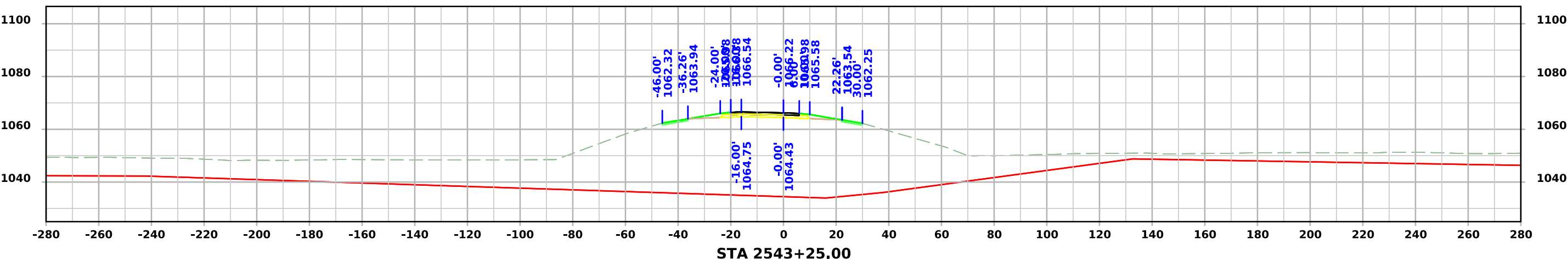
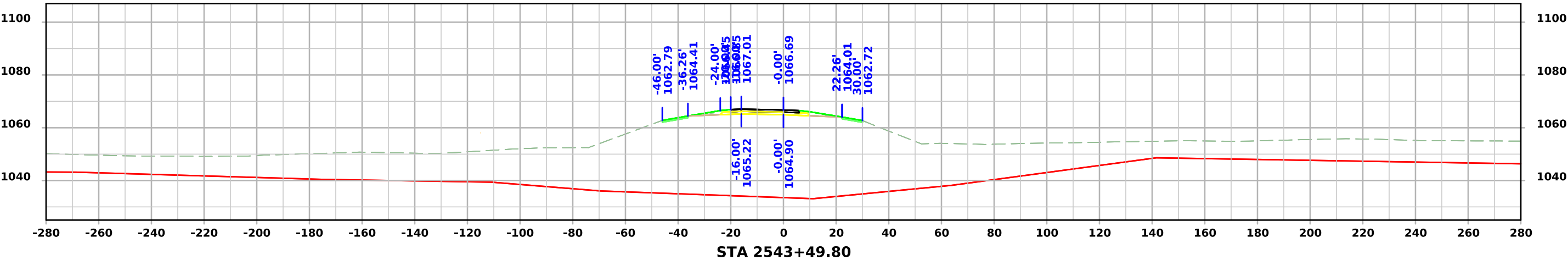
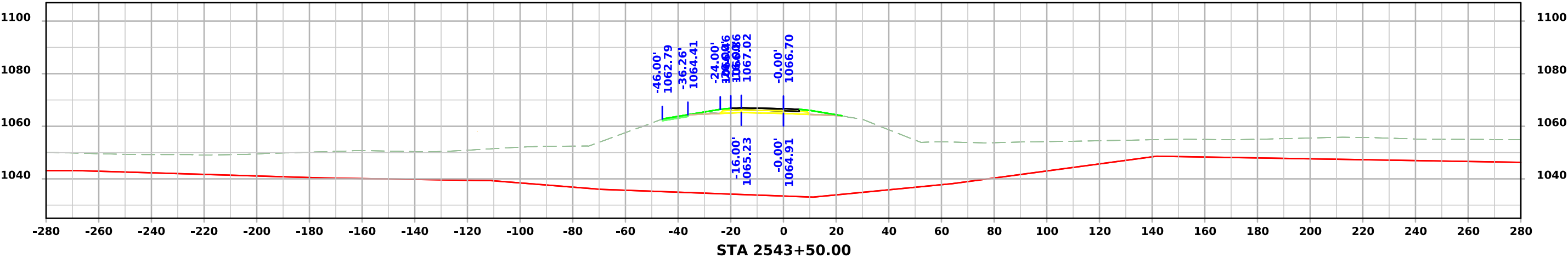




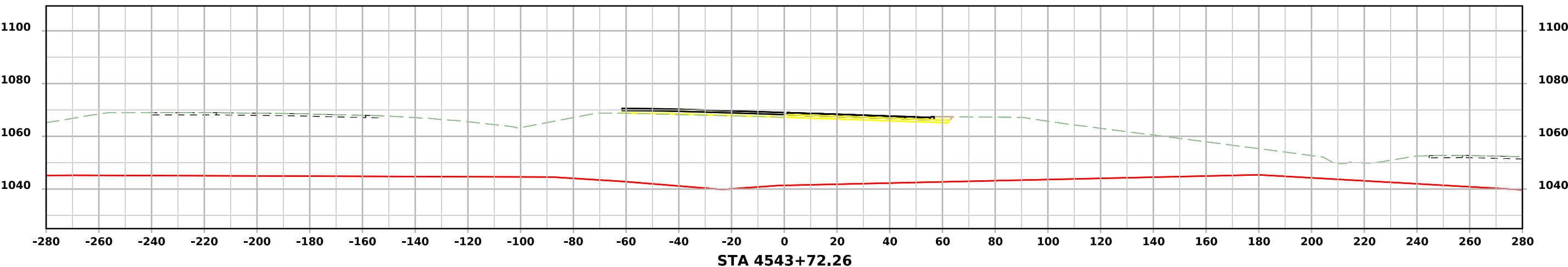
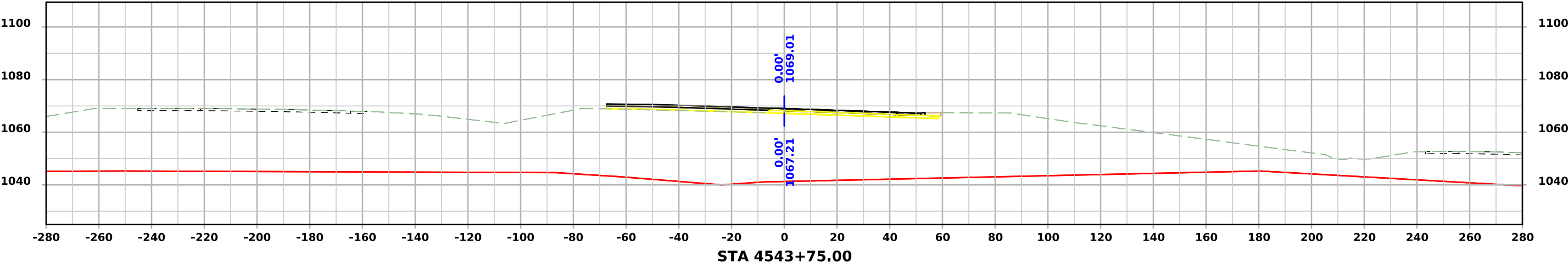
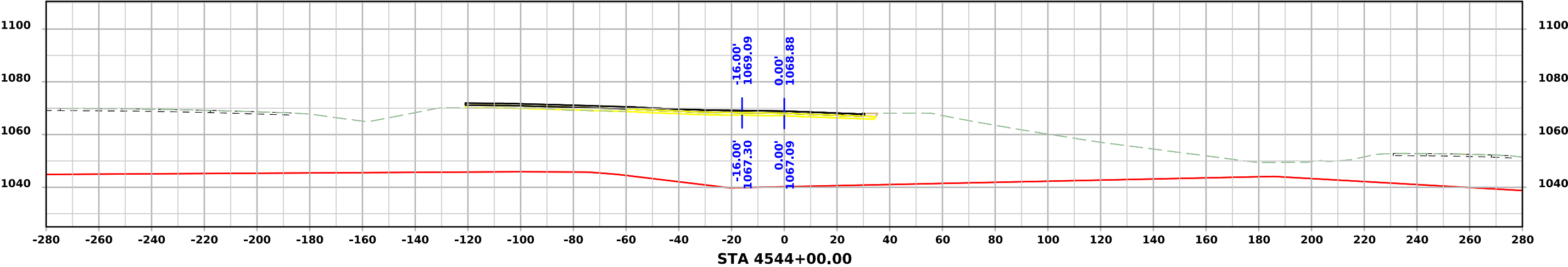
Ramp B - Stage 2



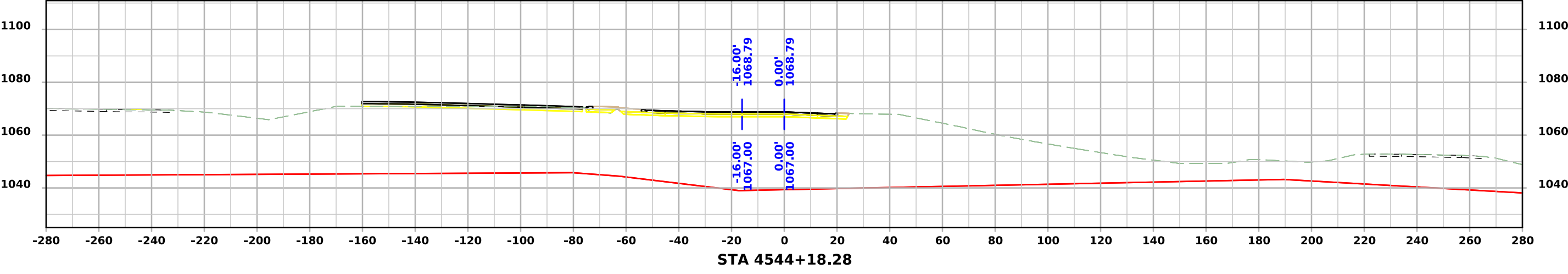
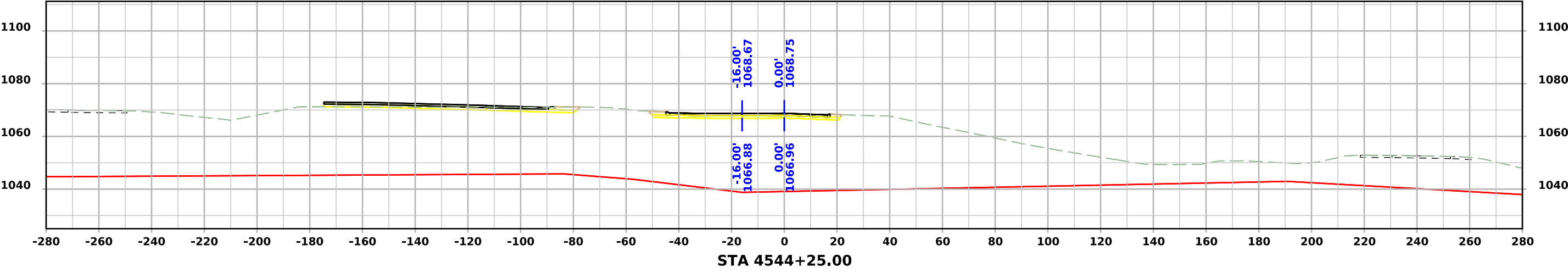
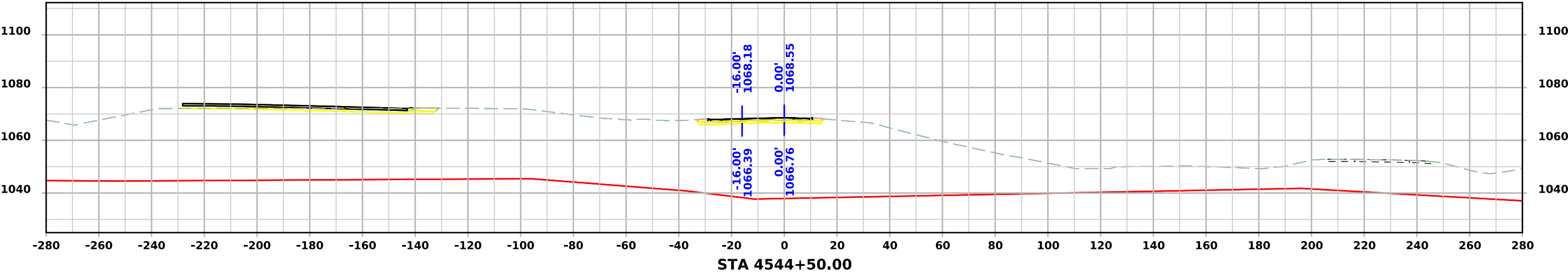
Ramp B - Stage 2



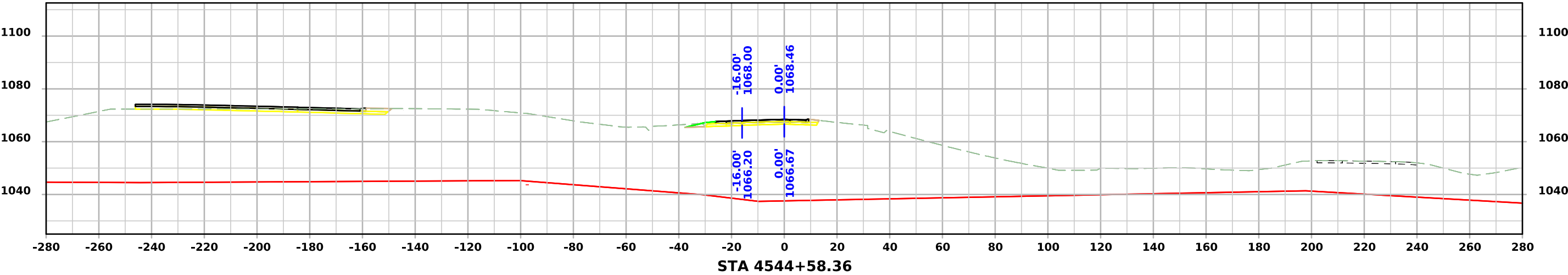
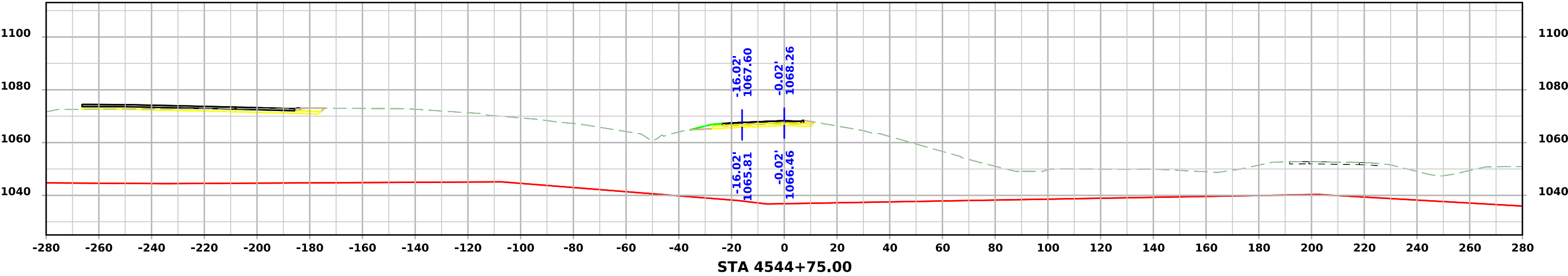
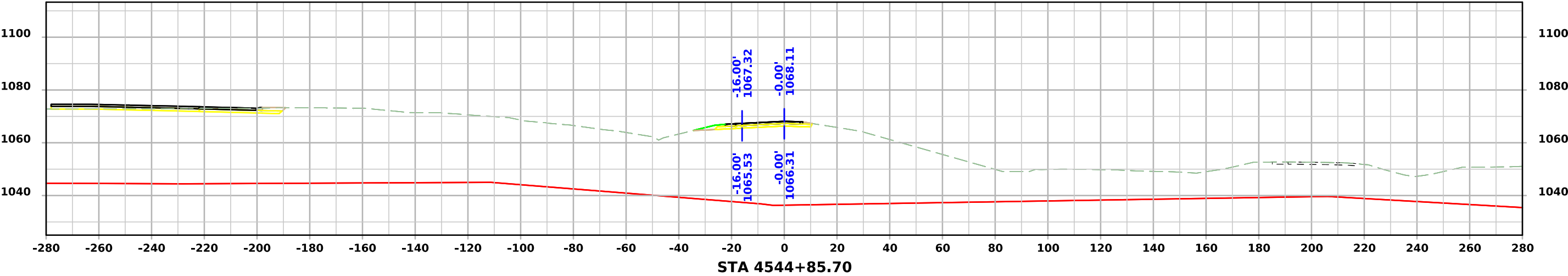
# Ramp D - Stage 2



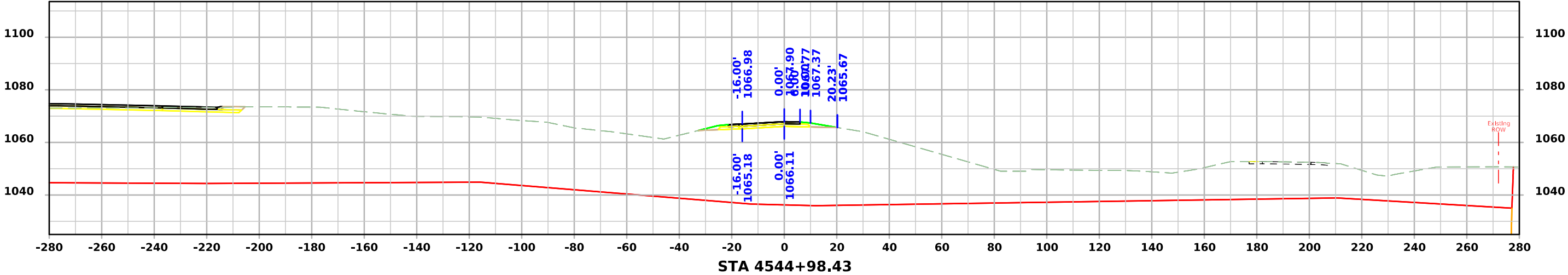
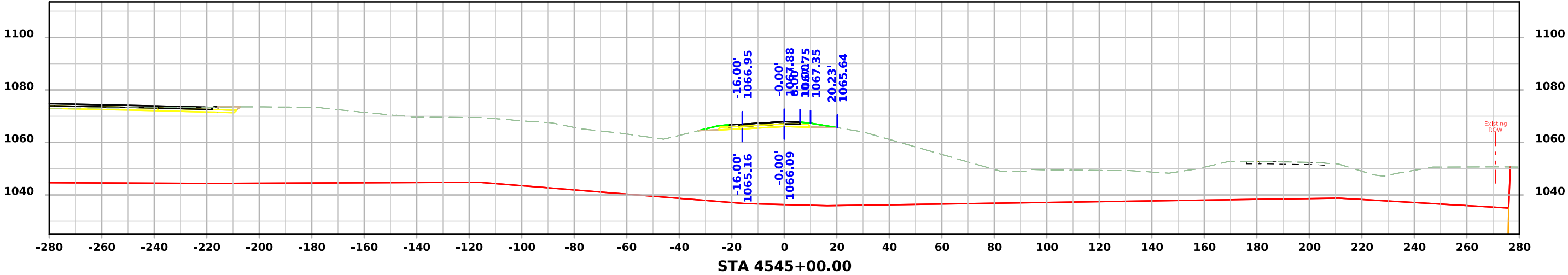
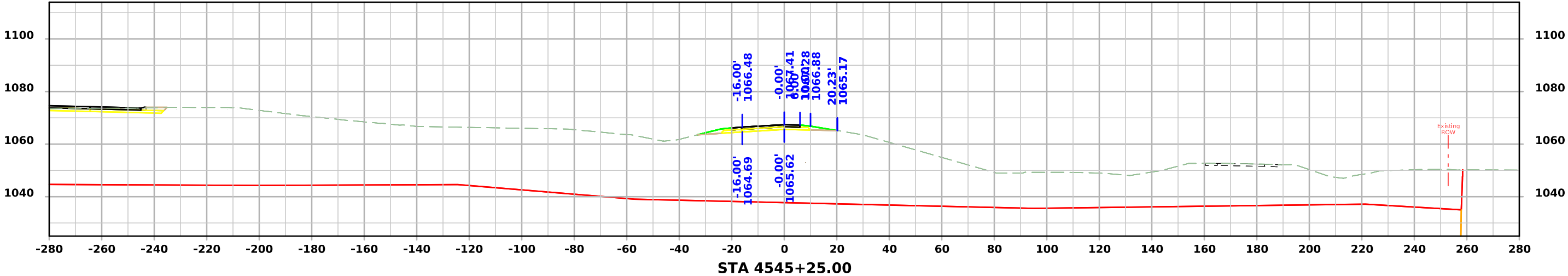
# Ramp D - Stage 2



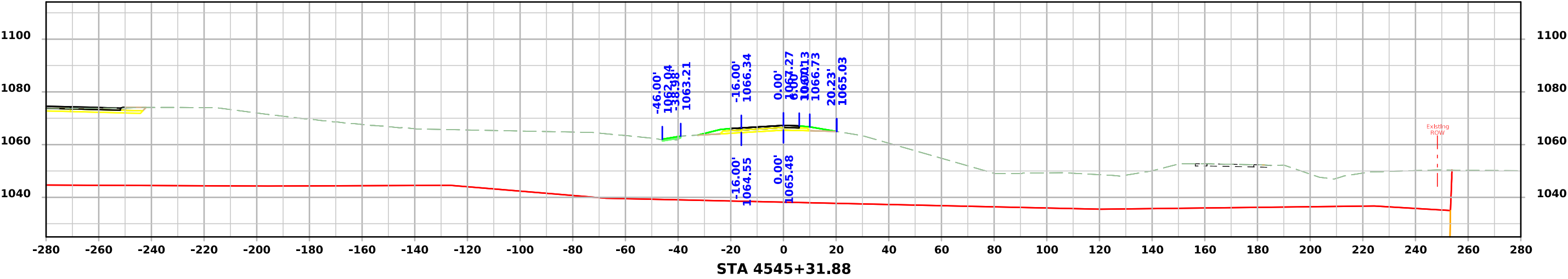
# Ramp D - Stage 2



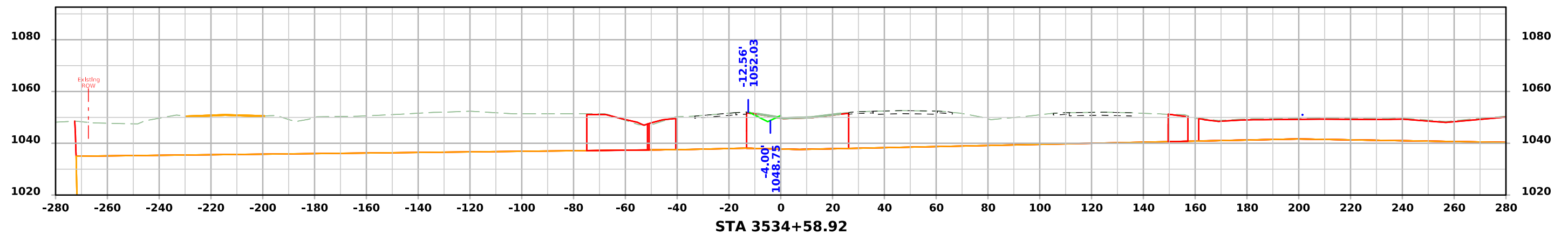
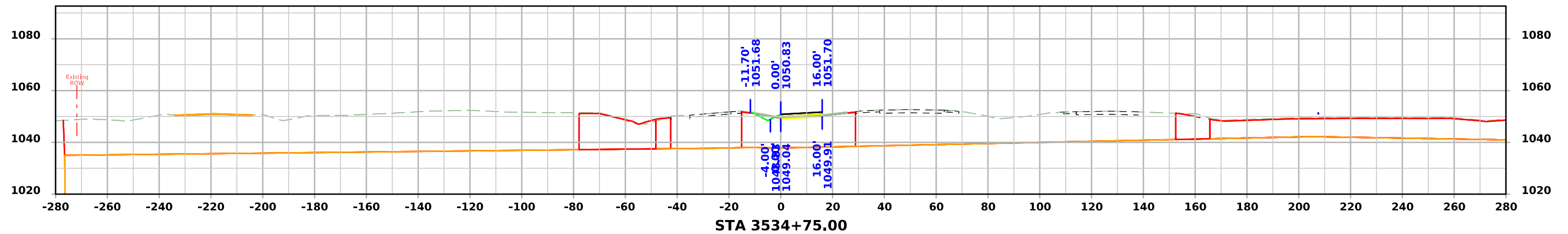
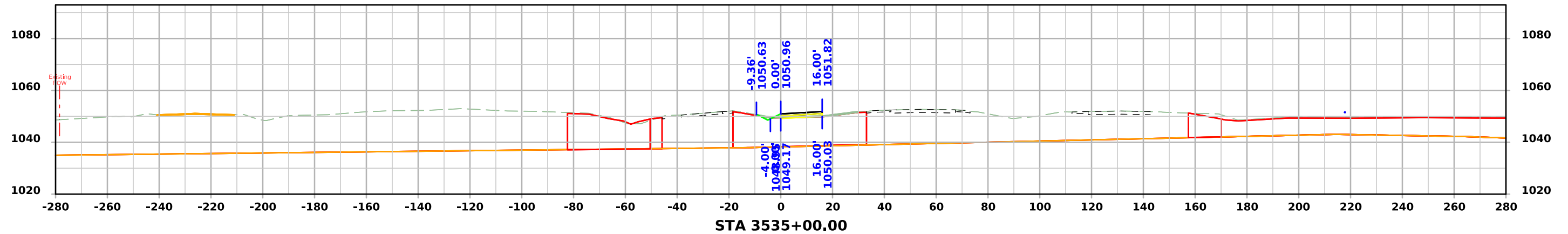
Ramp D - Stage 2



# Ramp D - Stage 2

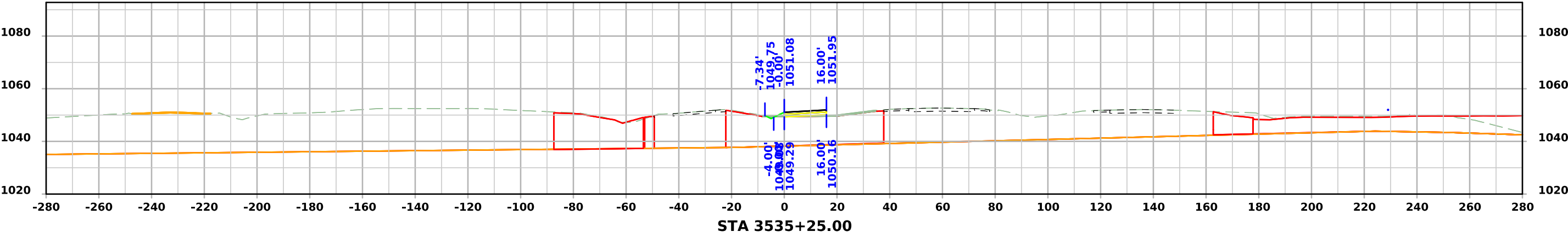
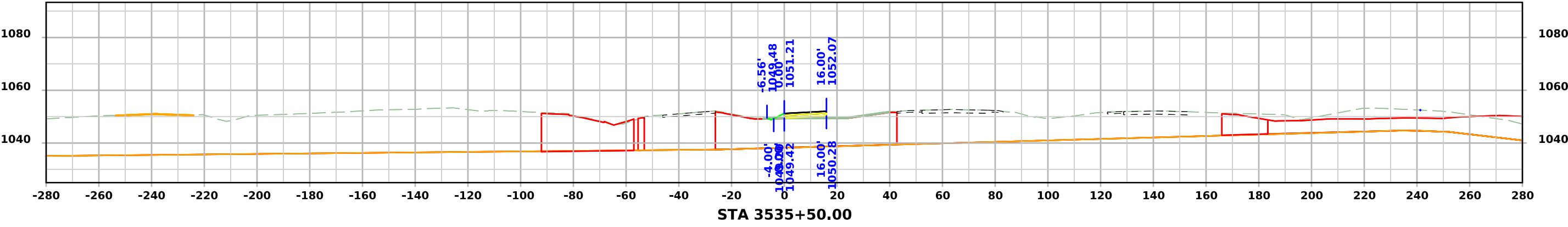
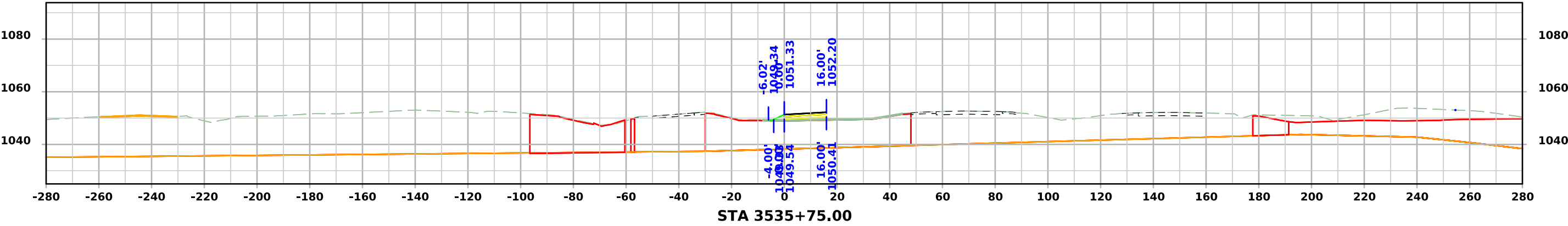


## Ramp C - Stage 3

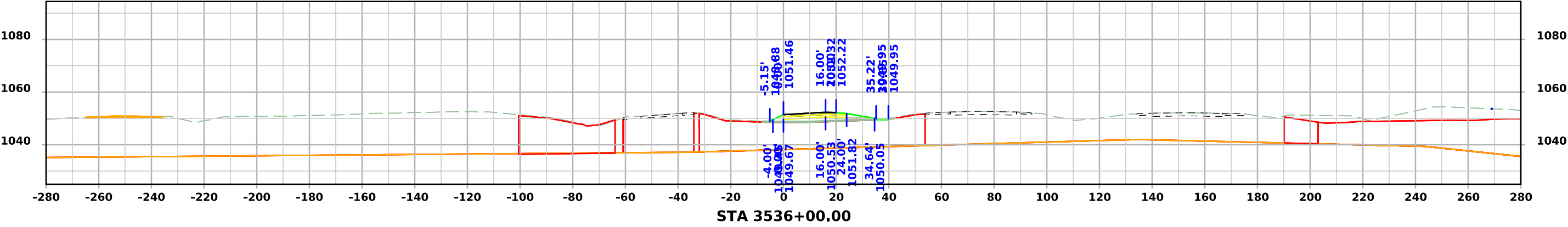
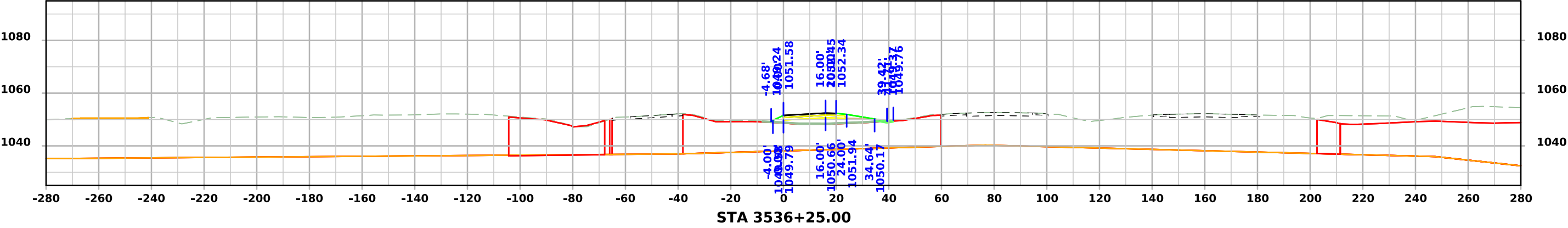
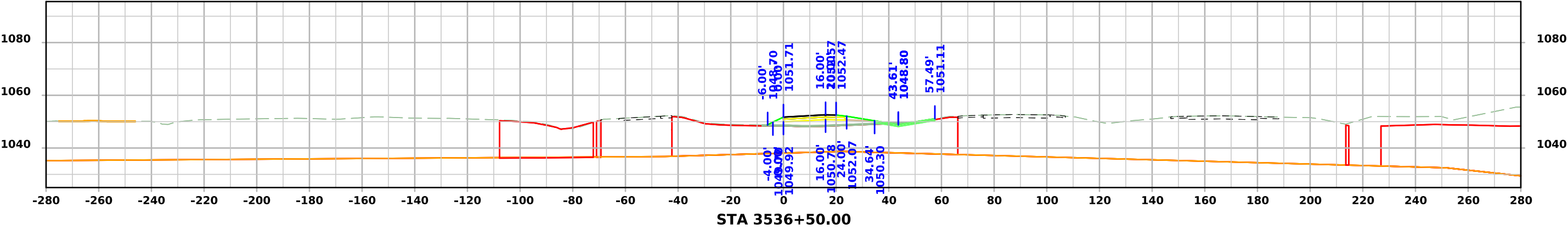




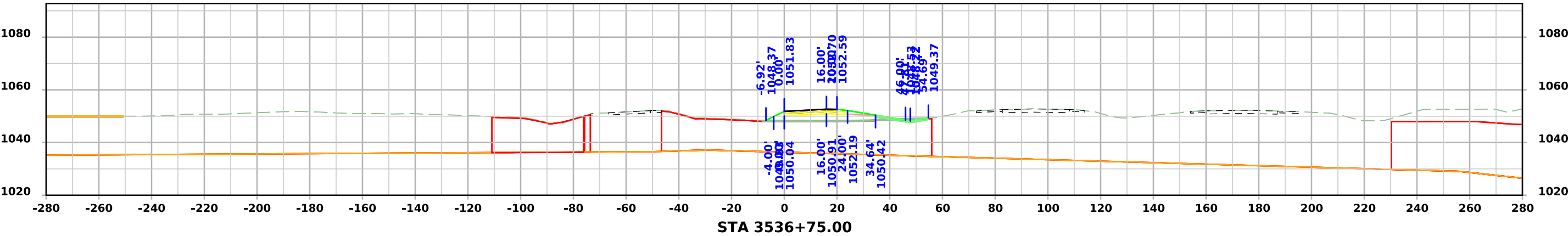
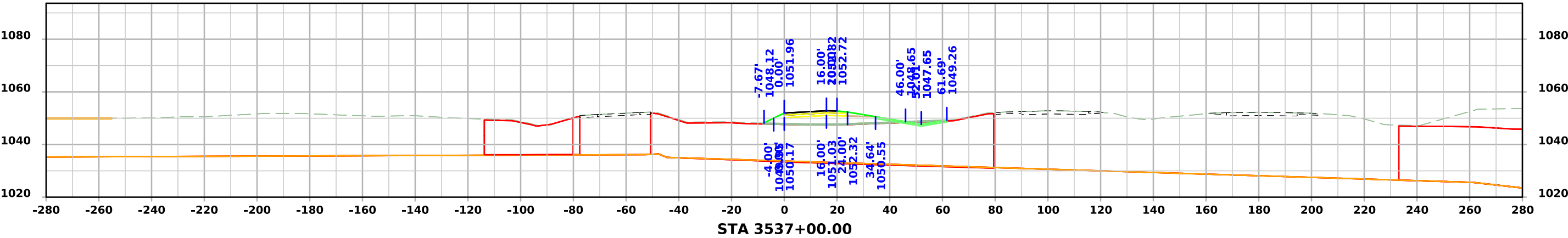
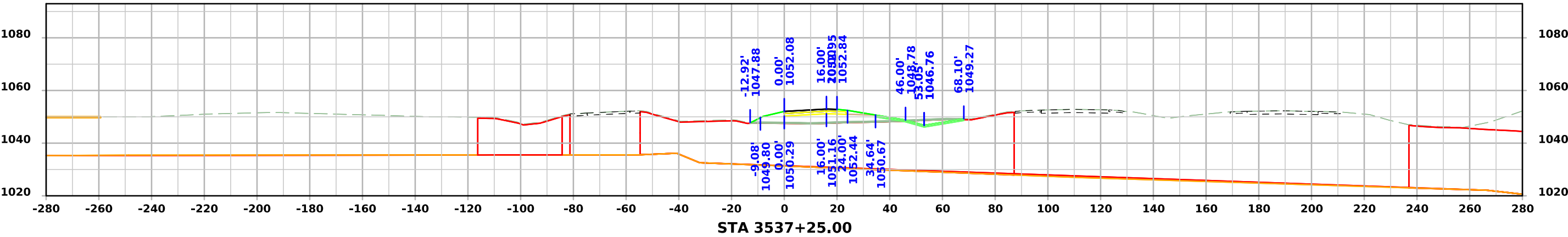
# Ramp C - Stage 3



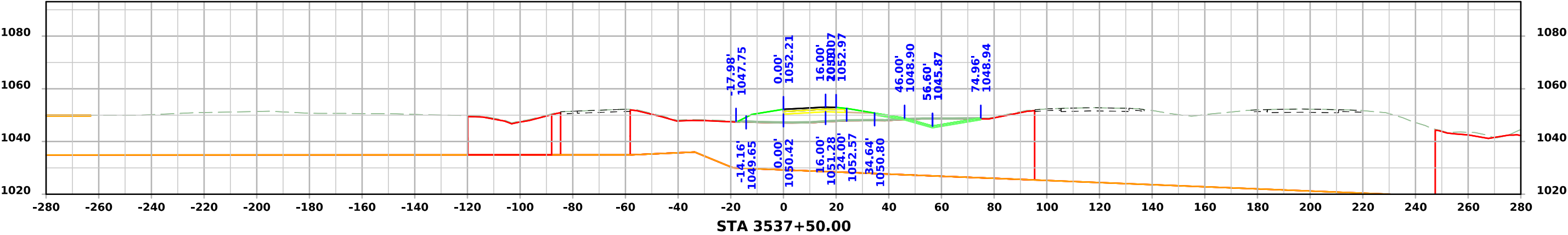
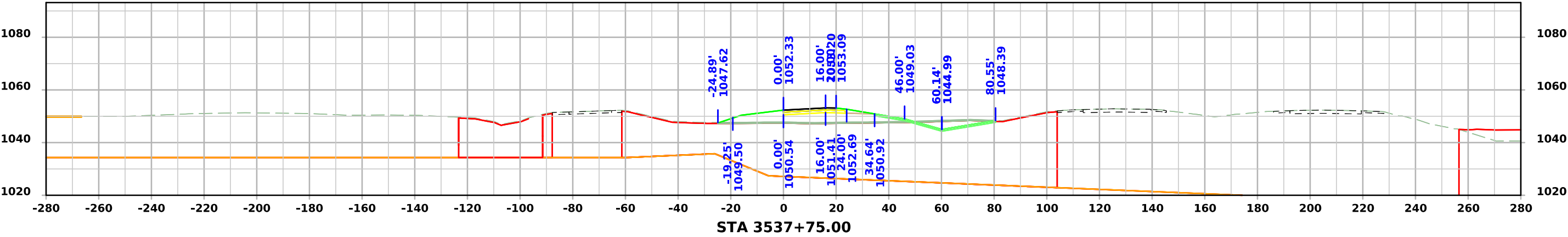
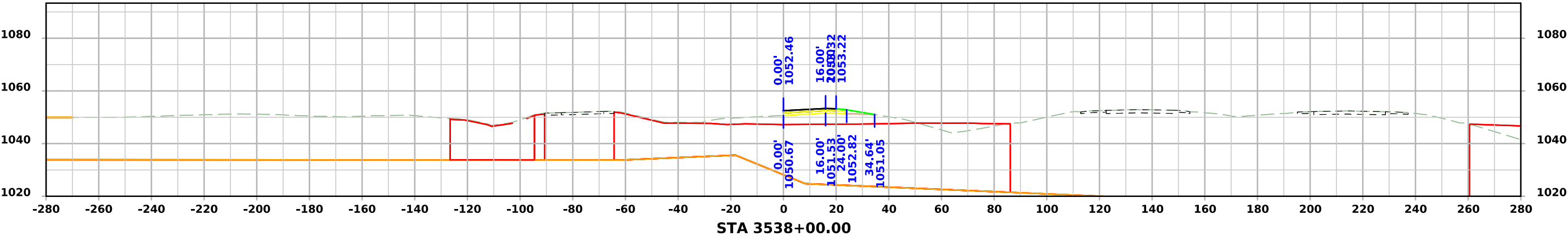
Ramp C - Stage 3



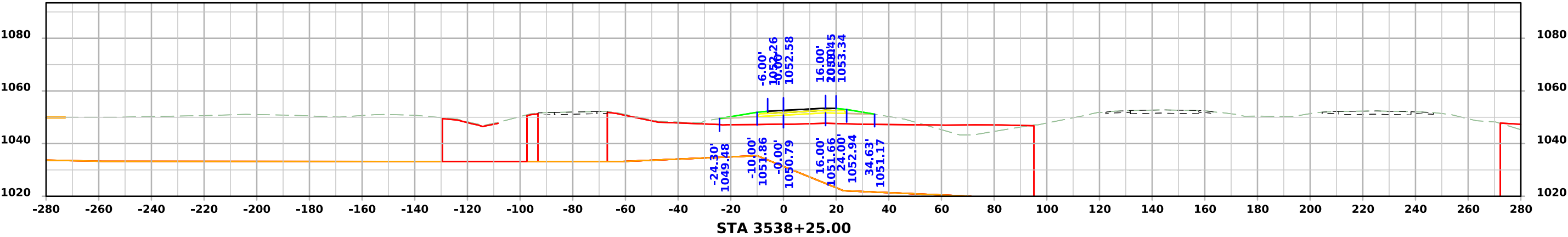
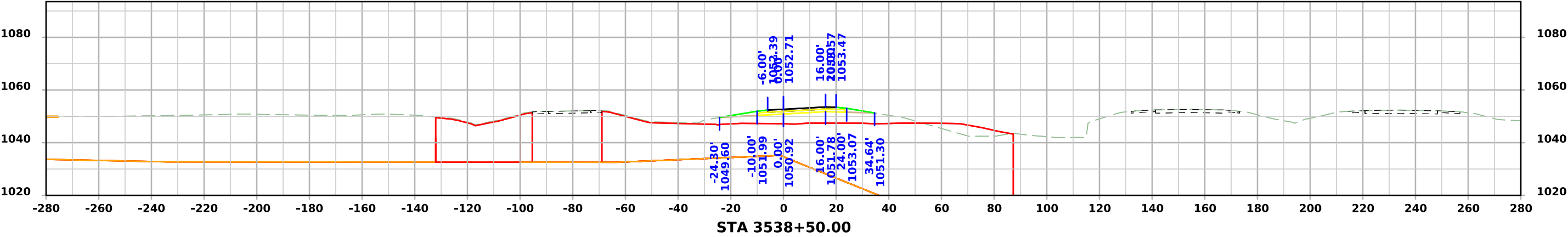
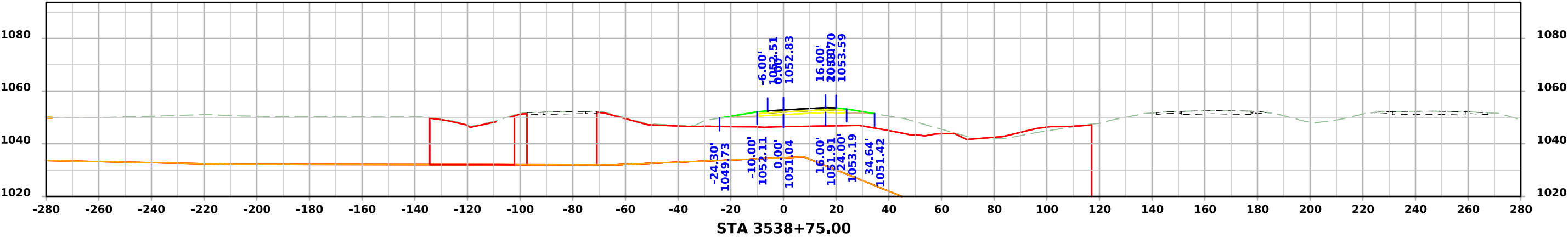
Ramp C - Stage 3



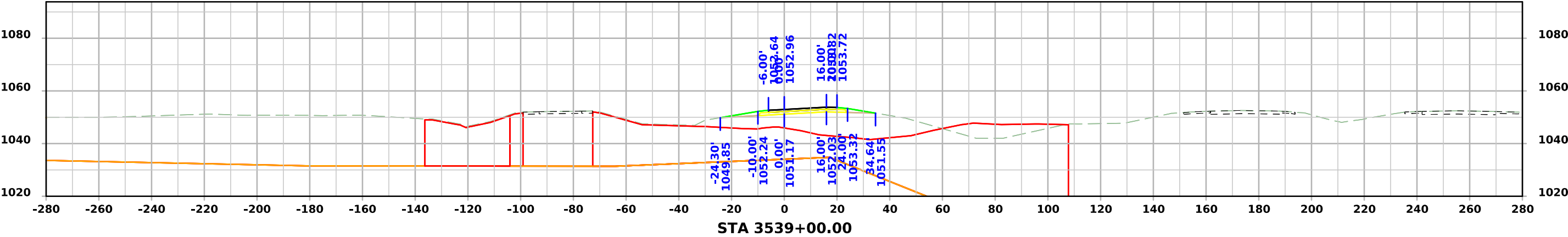
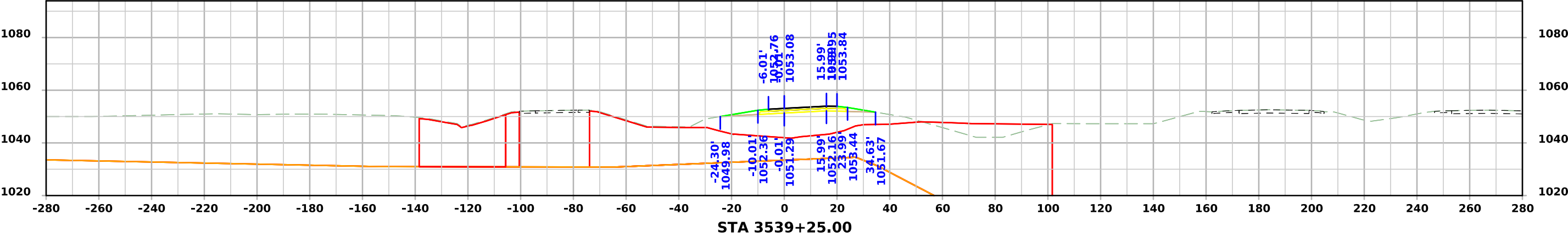
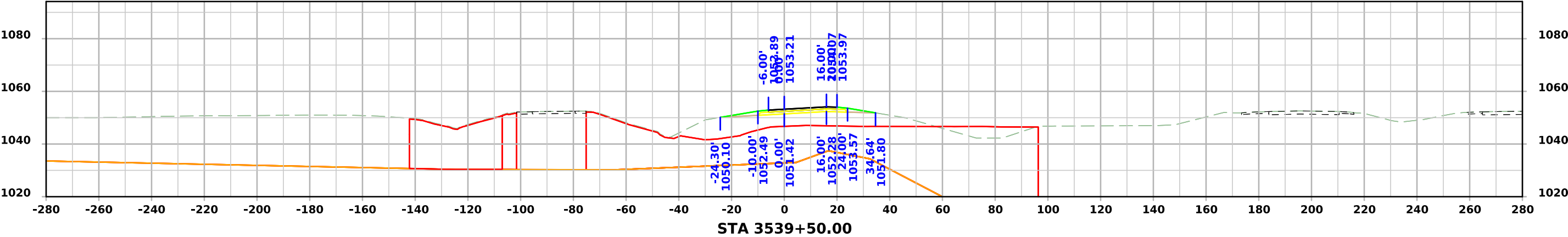
# Ramp C - Stage 3



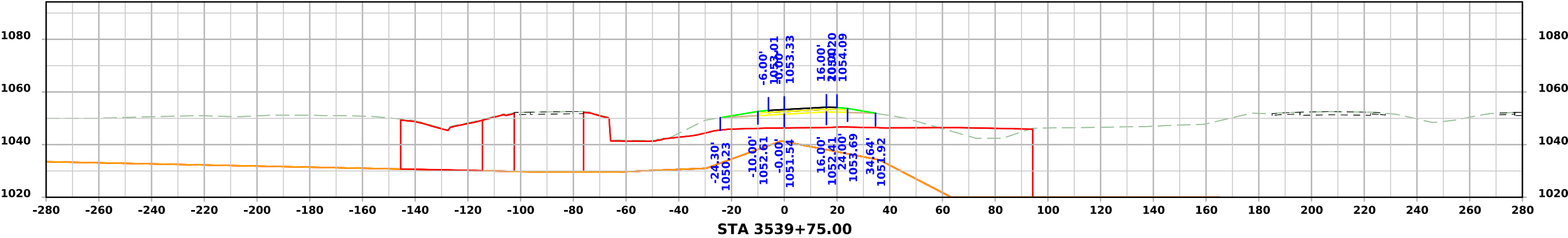
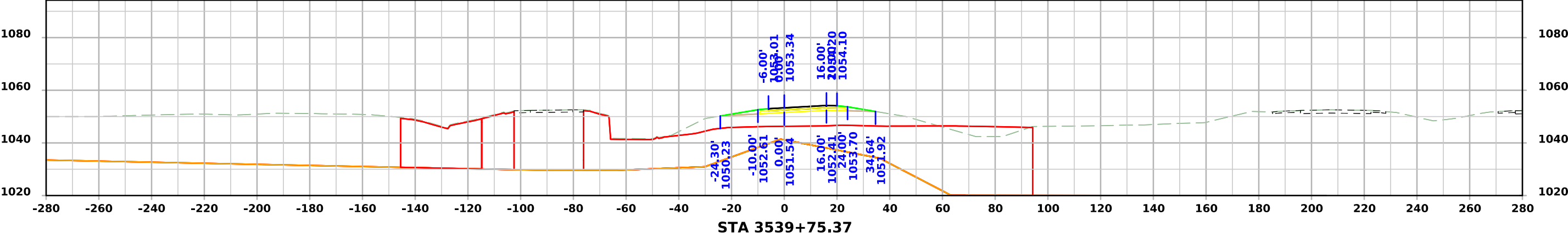
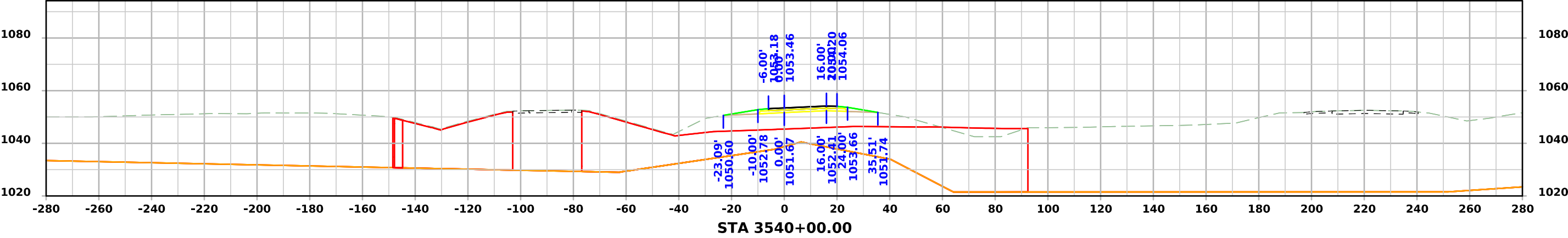
Ramp C - Stage 3



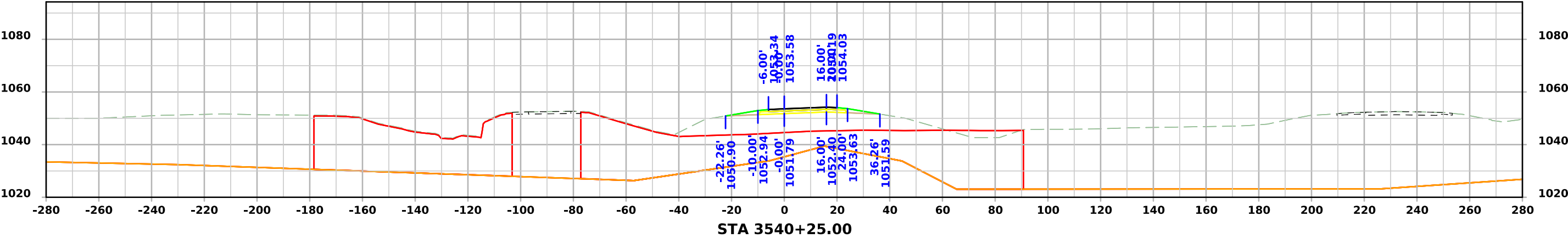
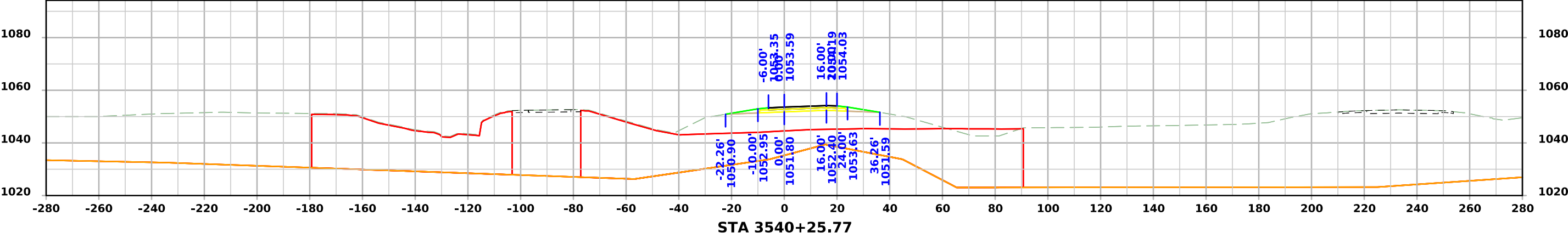
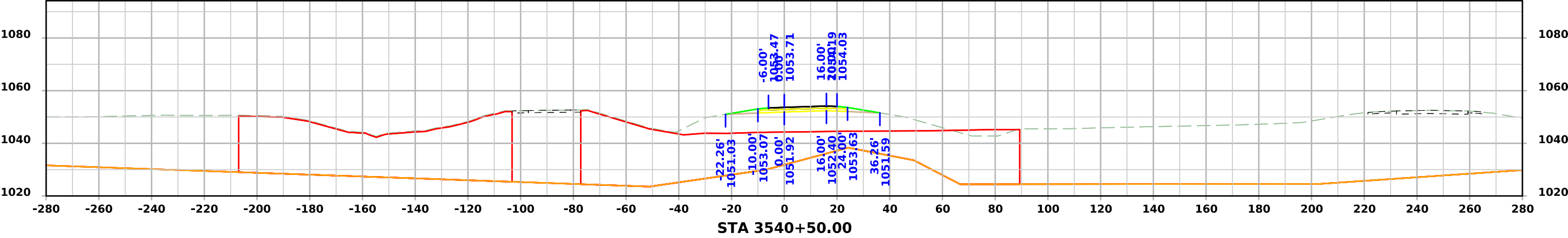
# Ramp C - Stage 3



# Ramp C - Stage 3

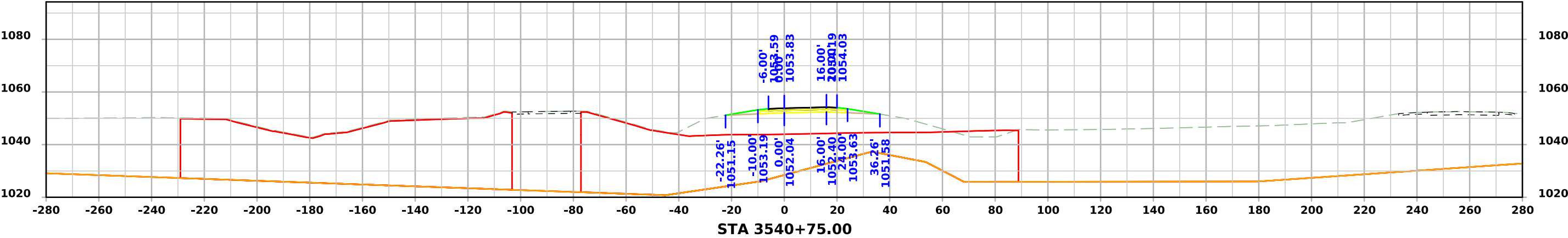
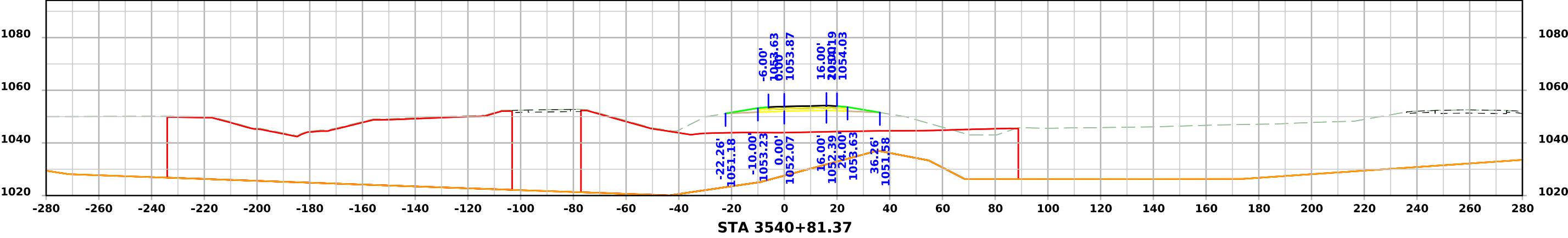
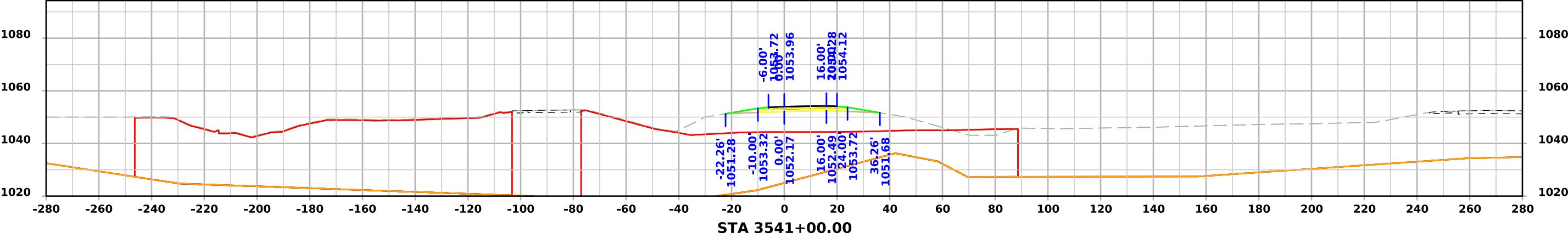


# Ramp C - Stage 3

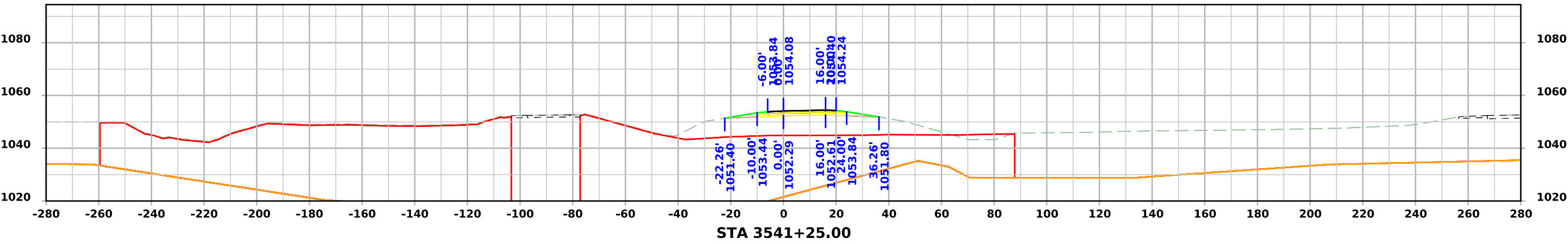
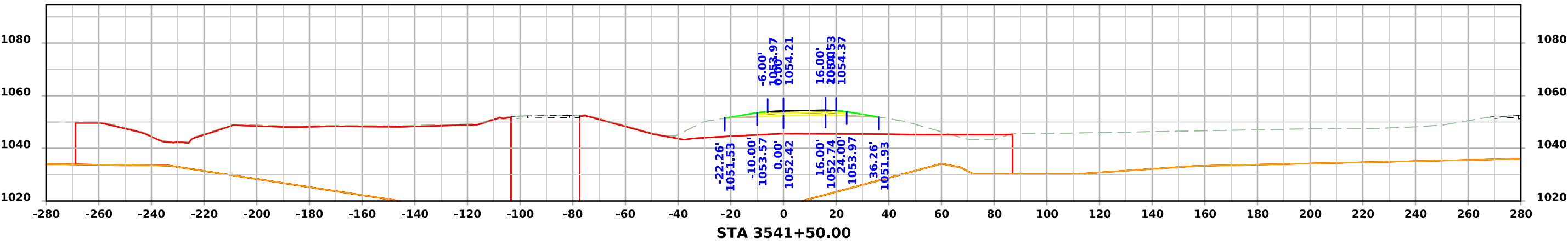
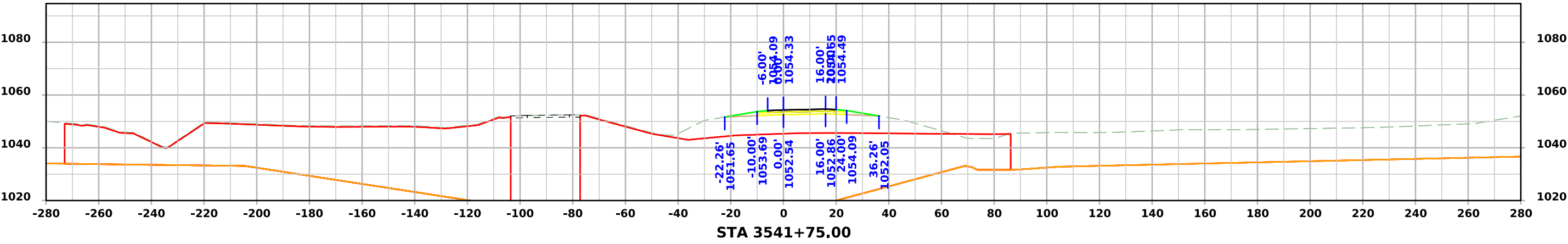




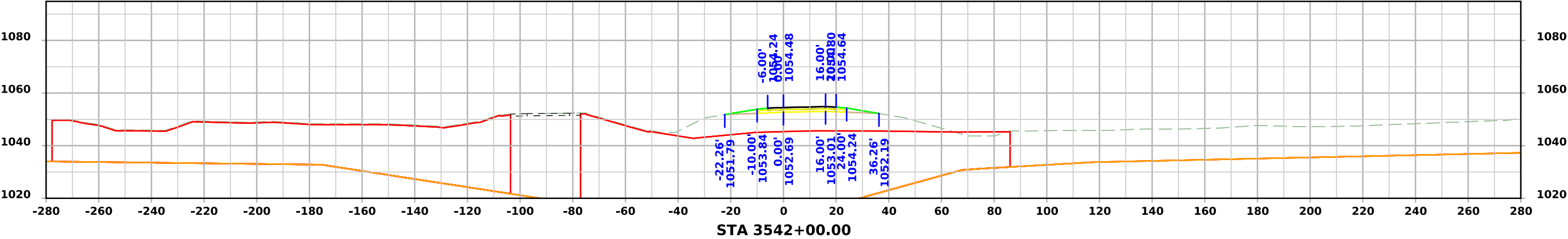
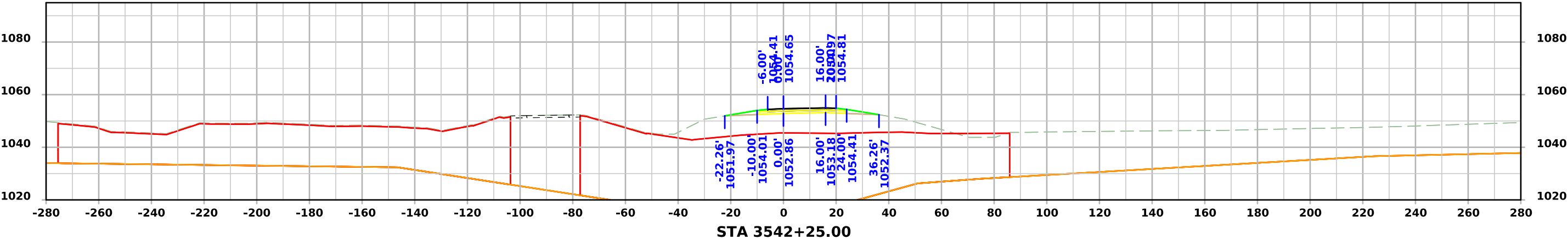
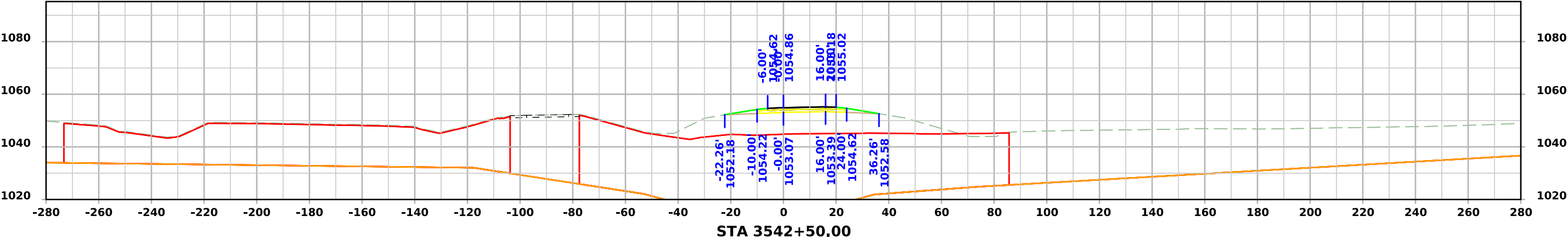
# Ramp C - Stage 3



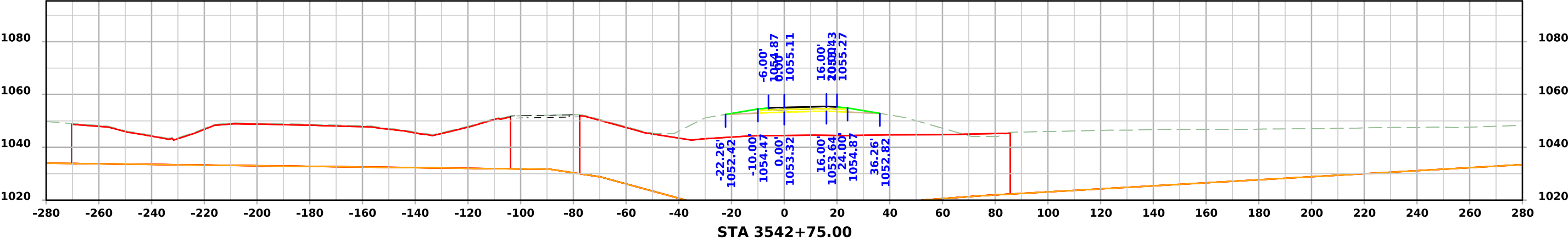
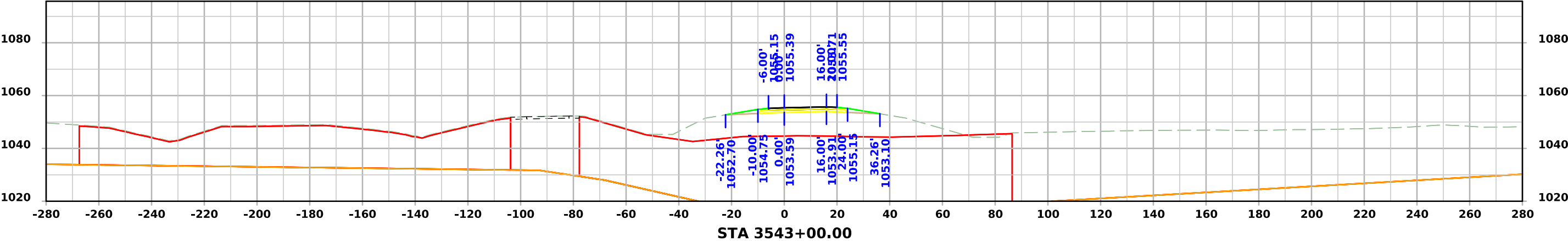
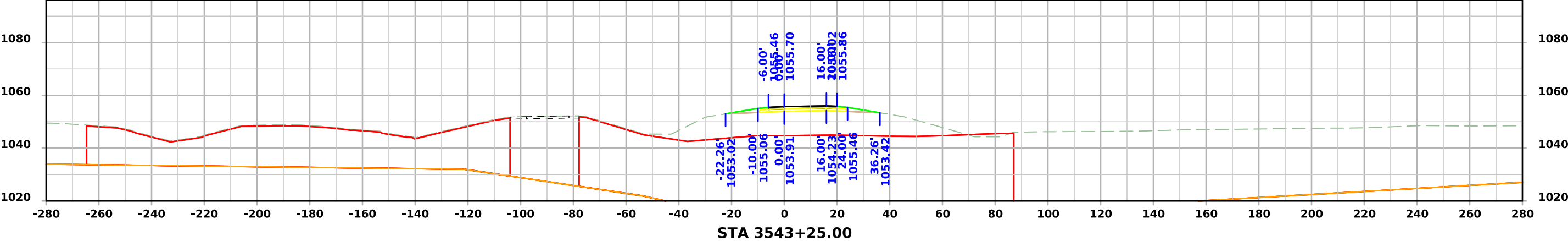
# Ramp C - Stage 3



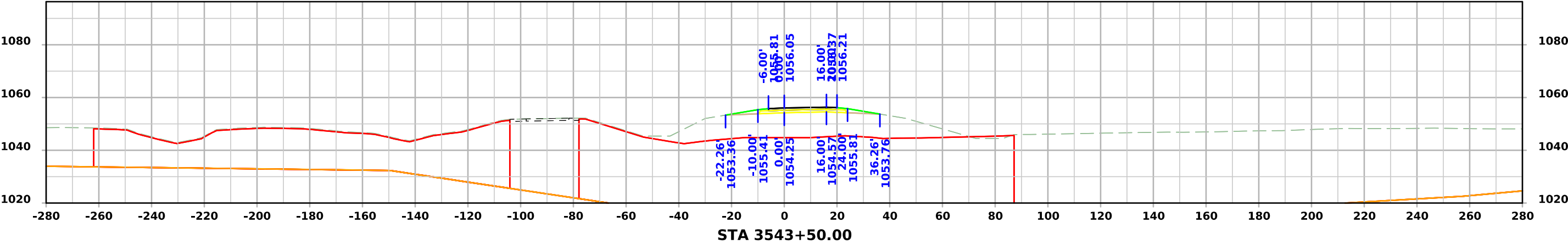
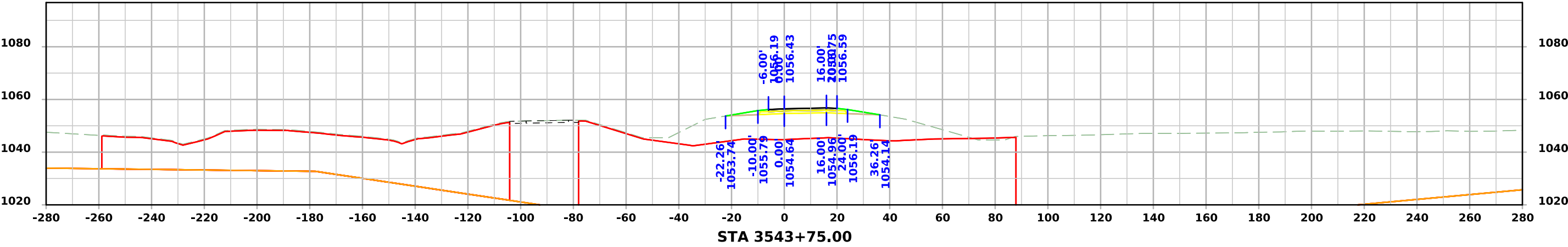
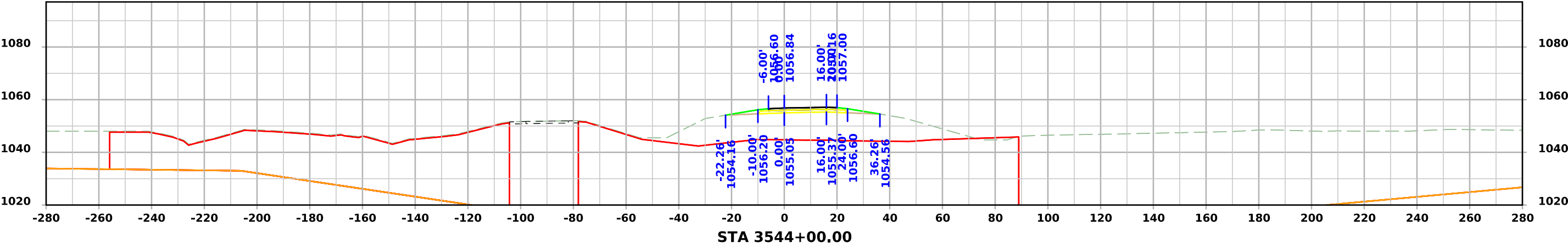
# Ramp C - Stage 3



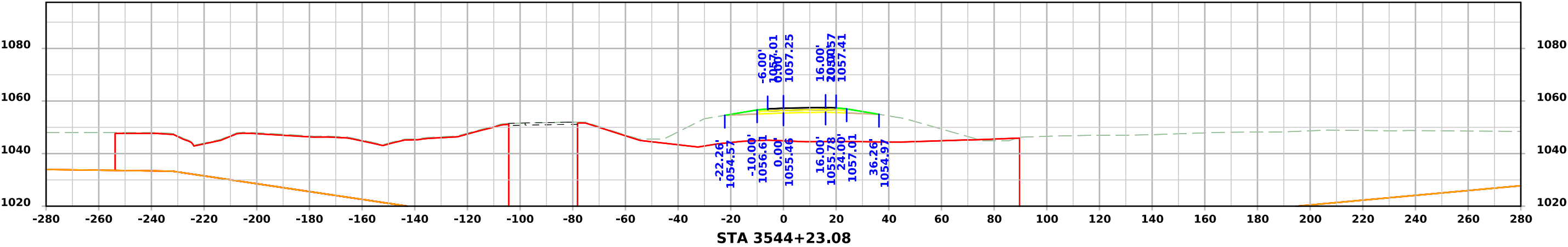
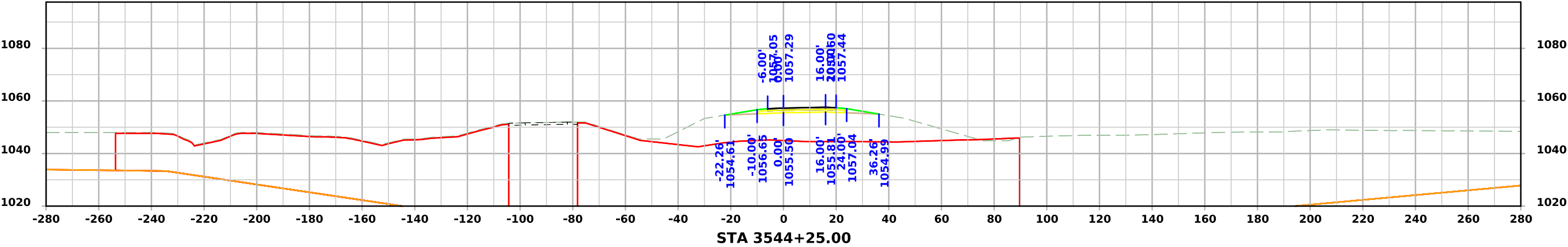
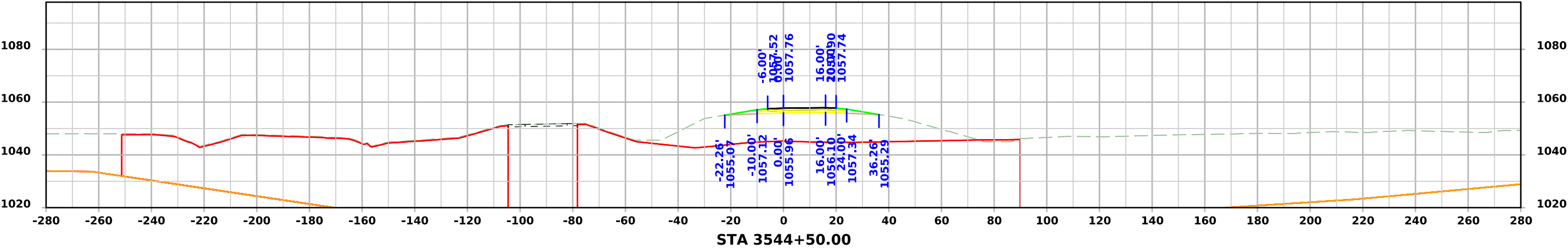
# Ramp C - Stage 3



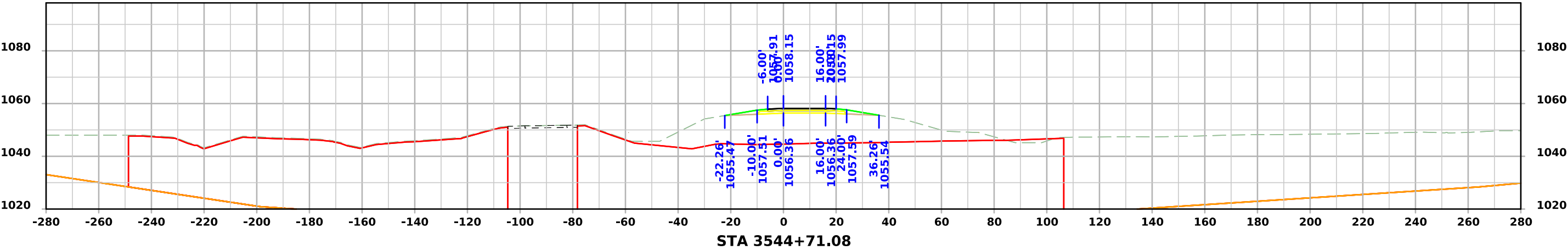
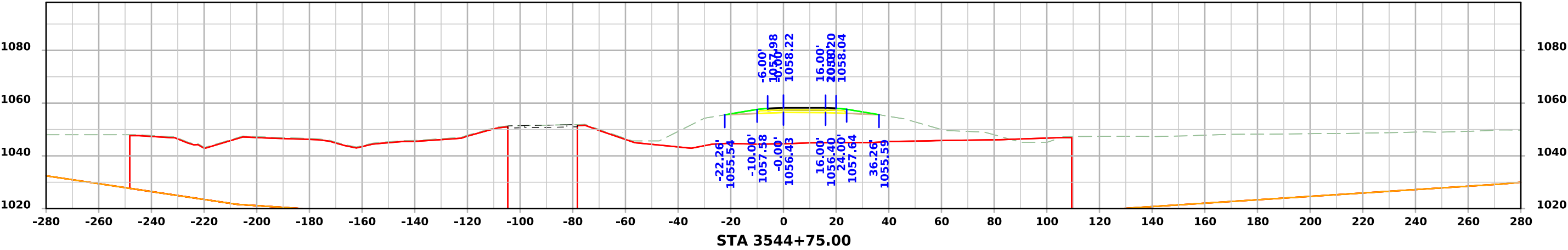
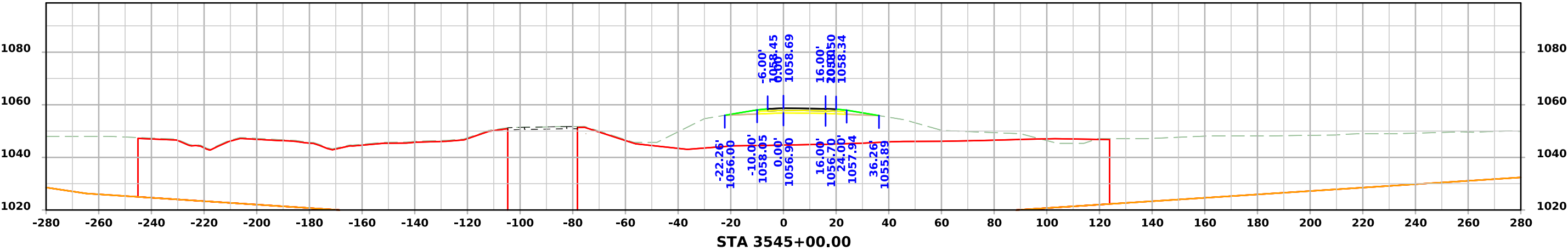
# Ramp C - Stage 3



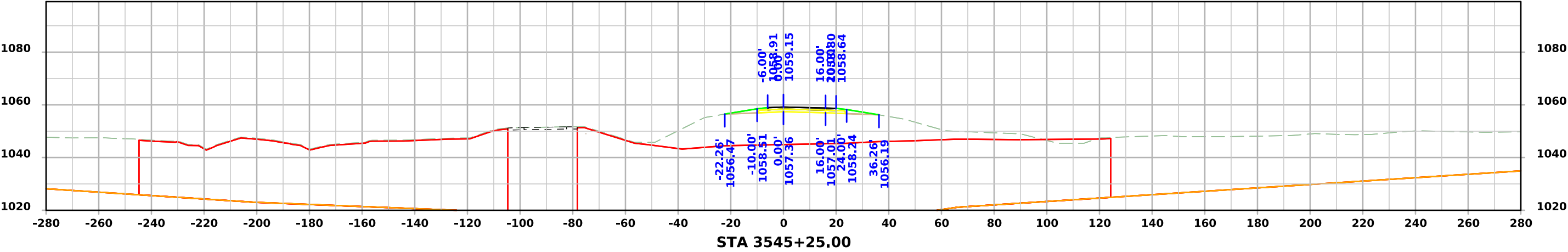
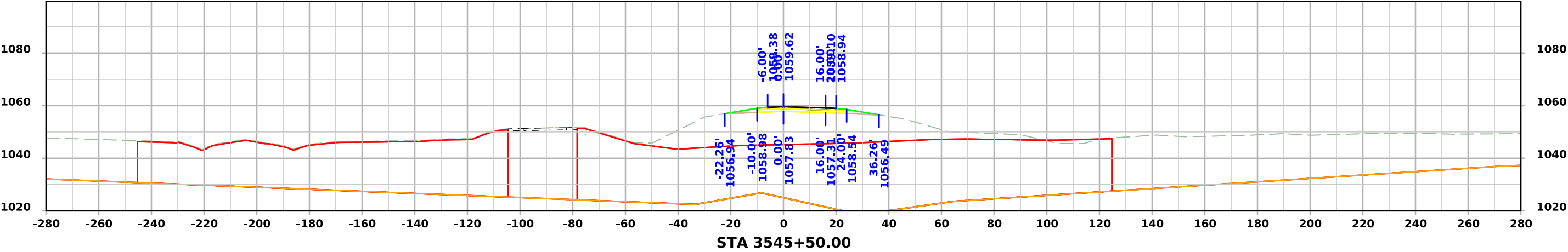
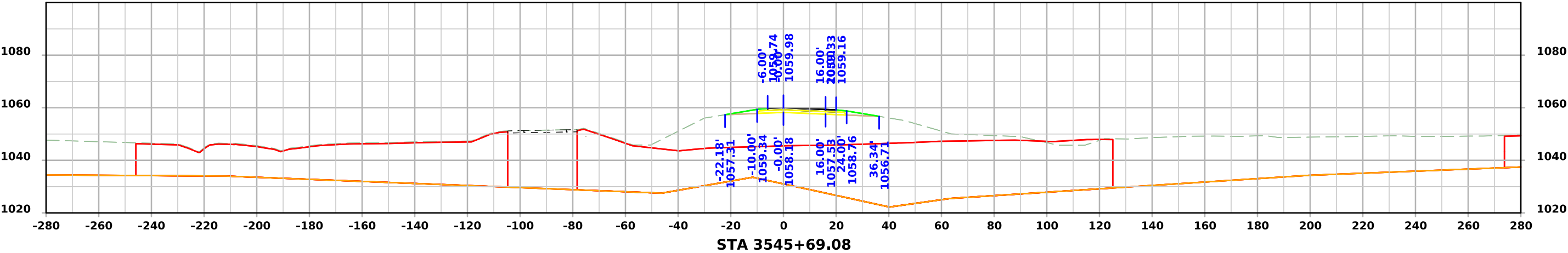
# Ramp C - Stage 3



# Ramp C - Stage 3

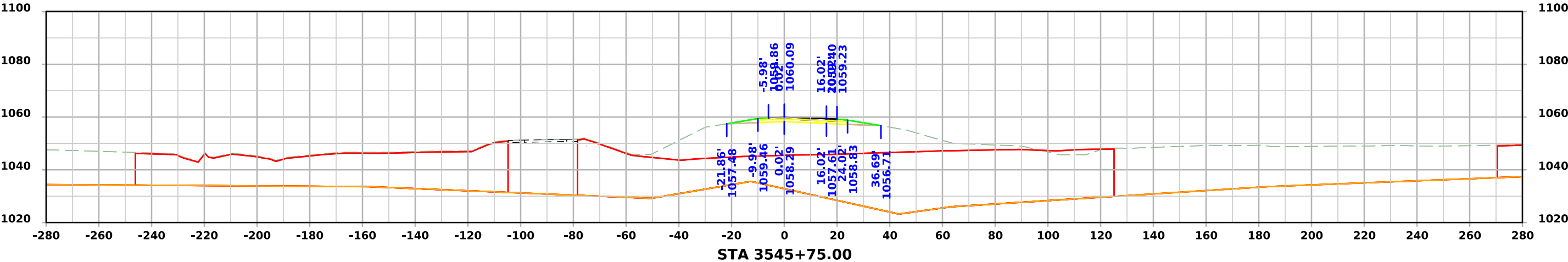
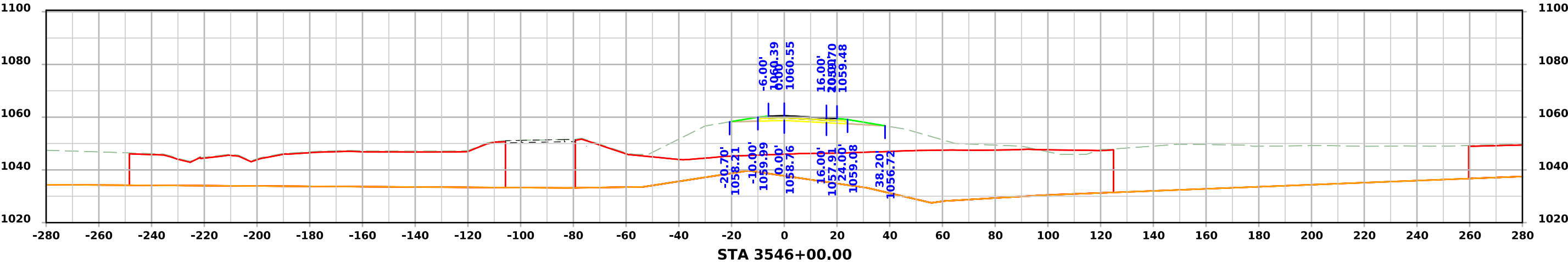
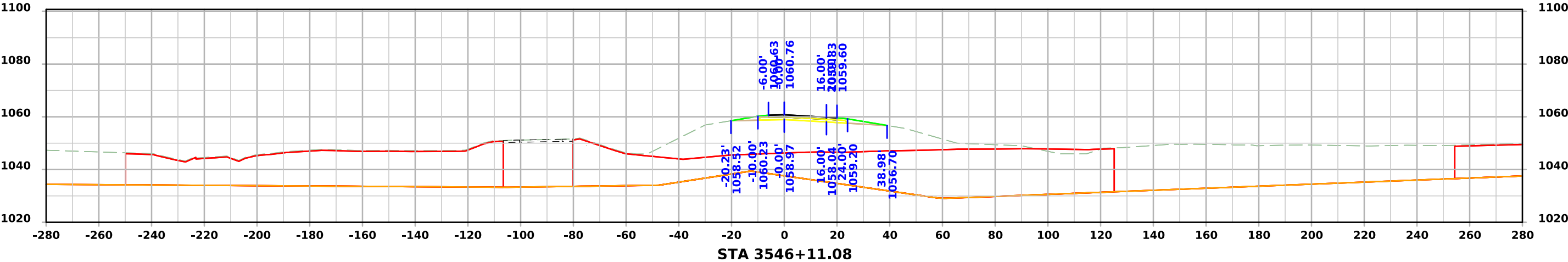


# Ramp C - Stage 3

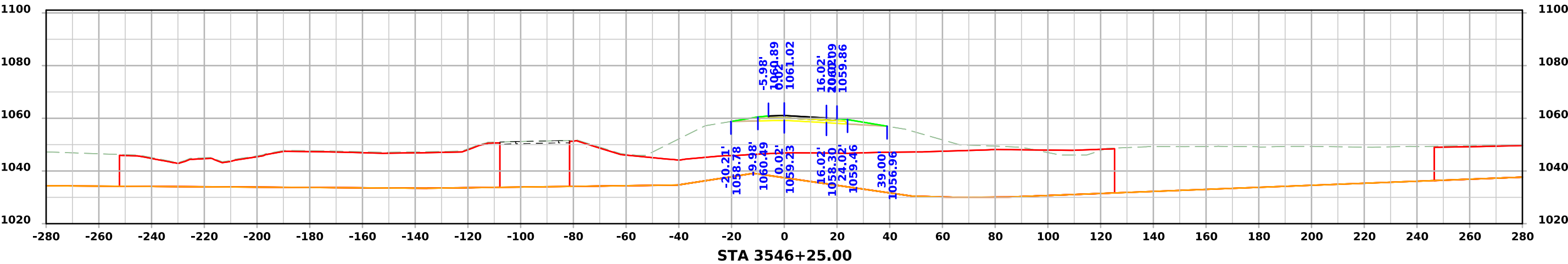
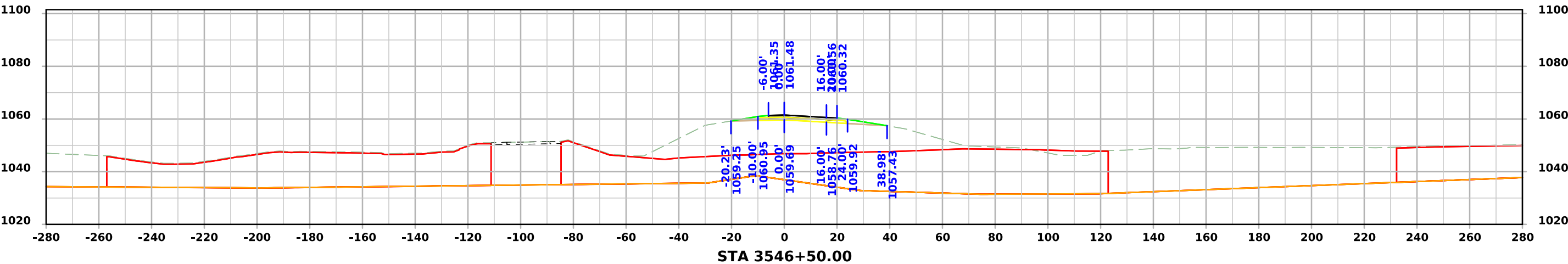
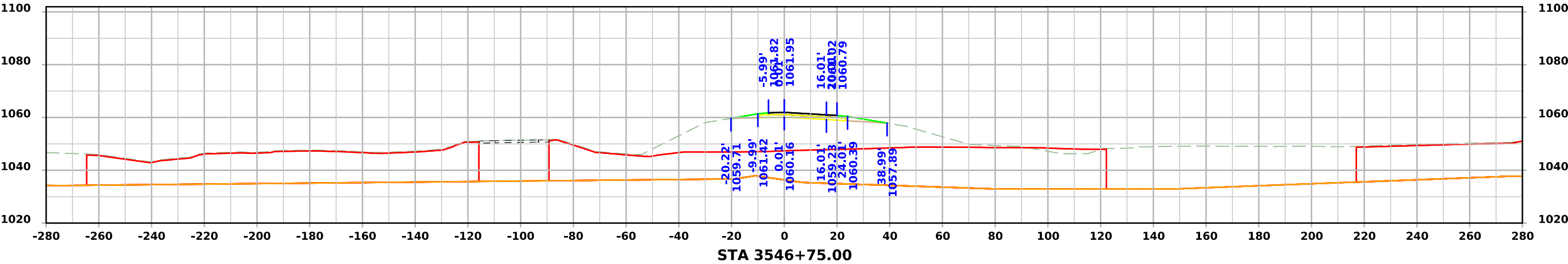




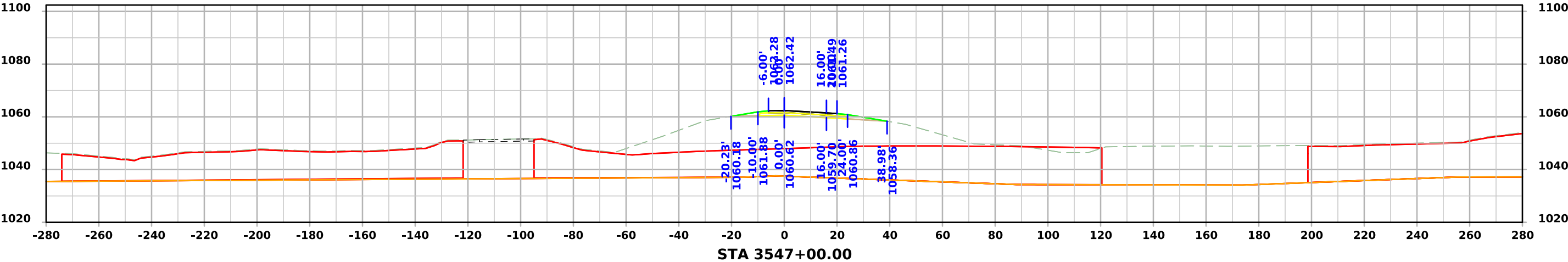
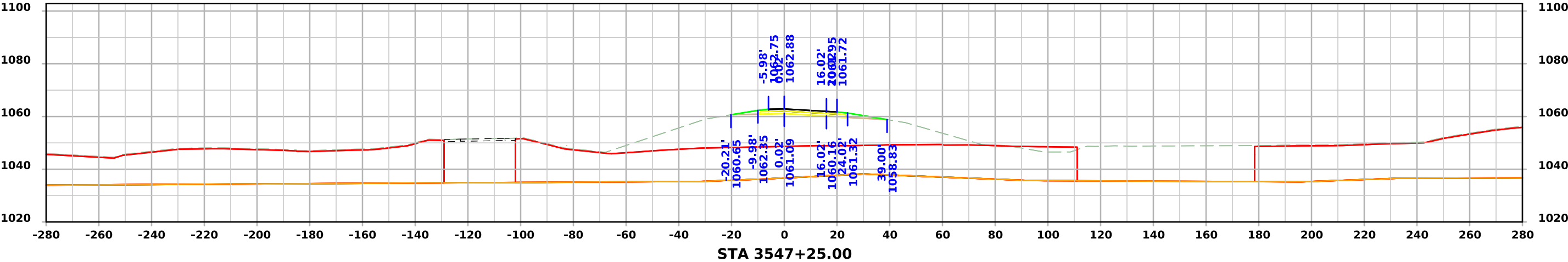
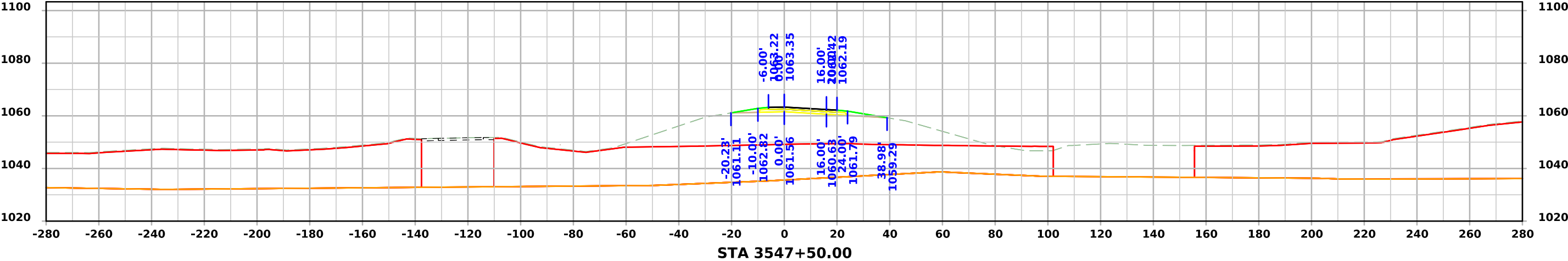
# Ramp C - Stage 3



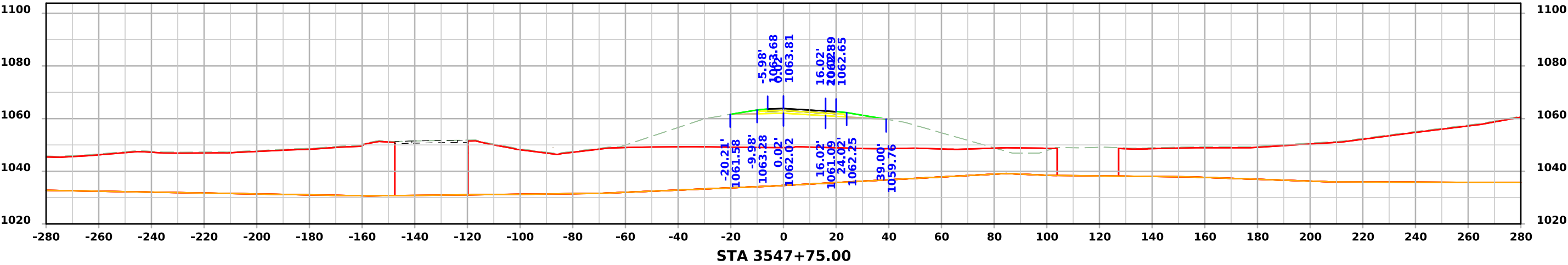
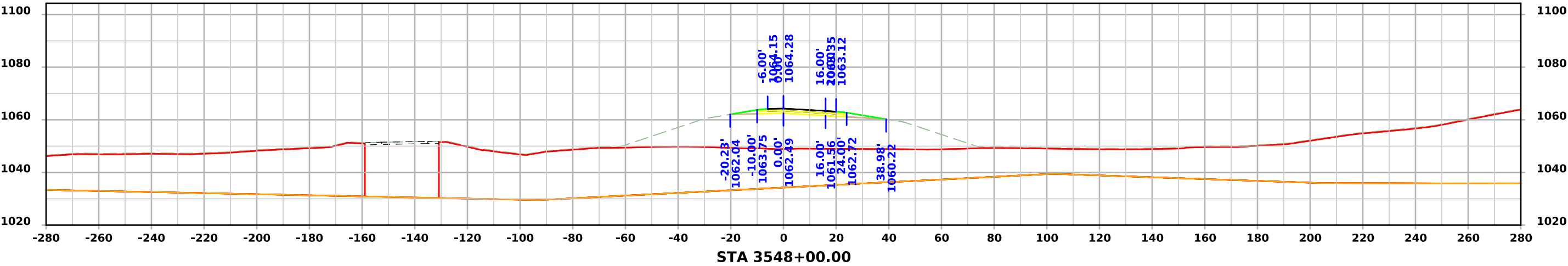
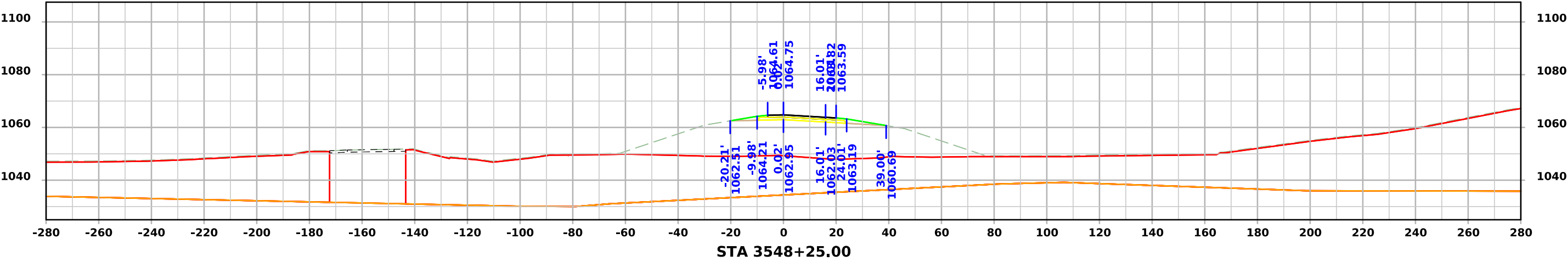
Ramp C - Stage 3



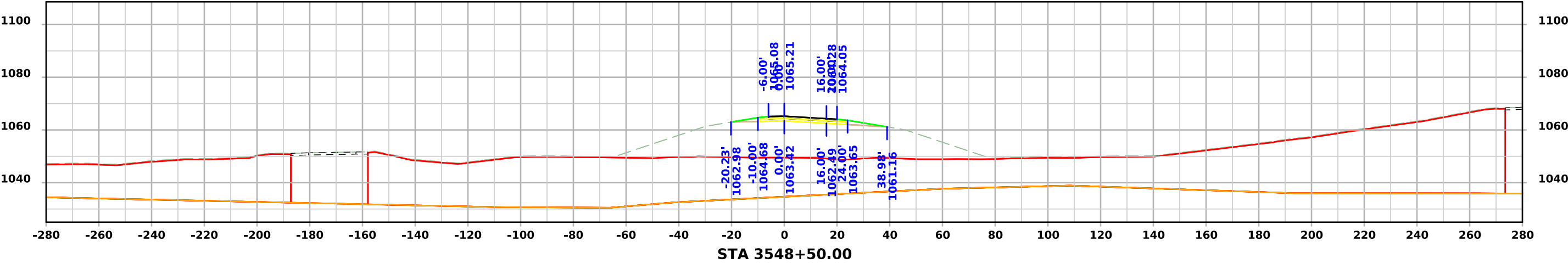
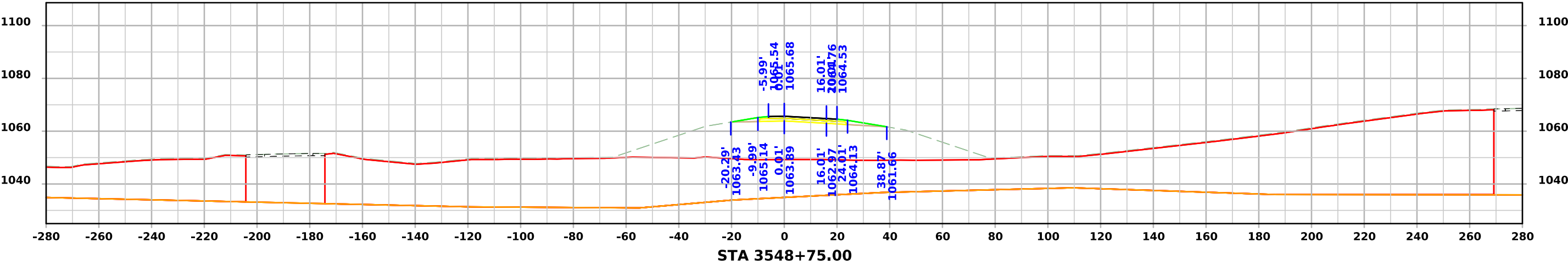
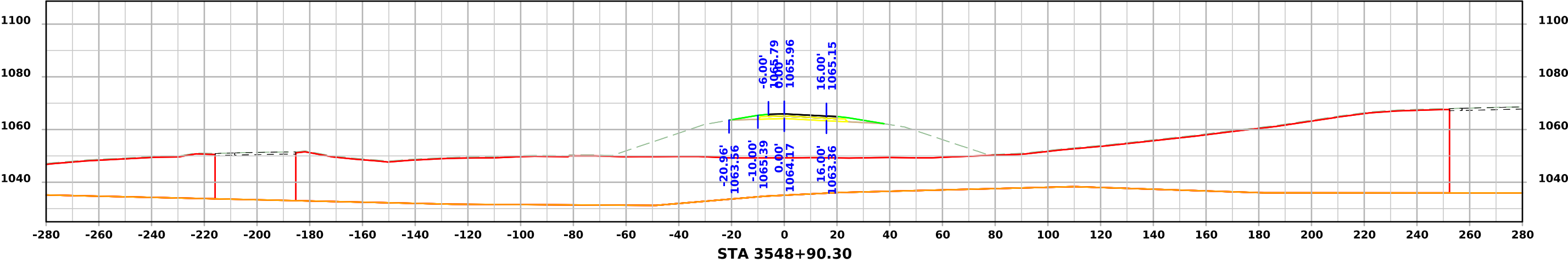
# Ramp C - Stage 3



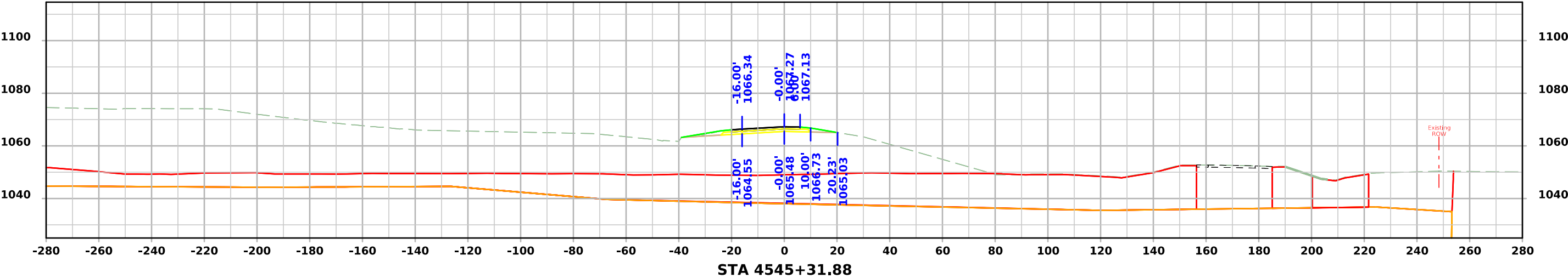
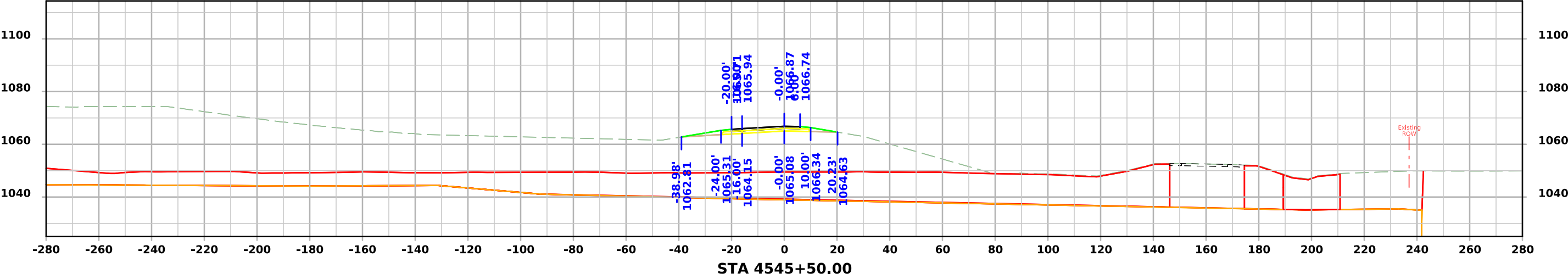
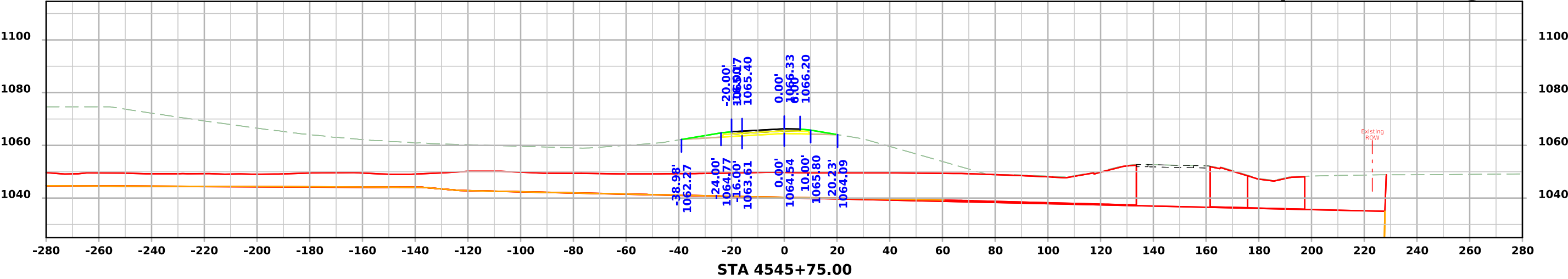
# Ramp C - Stage 3



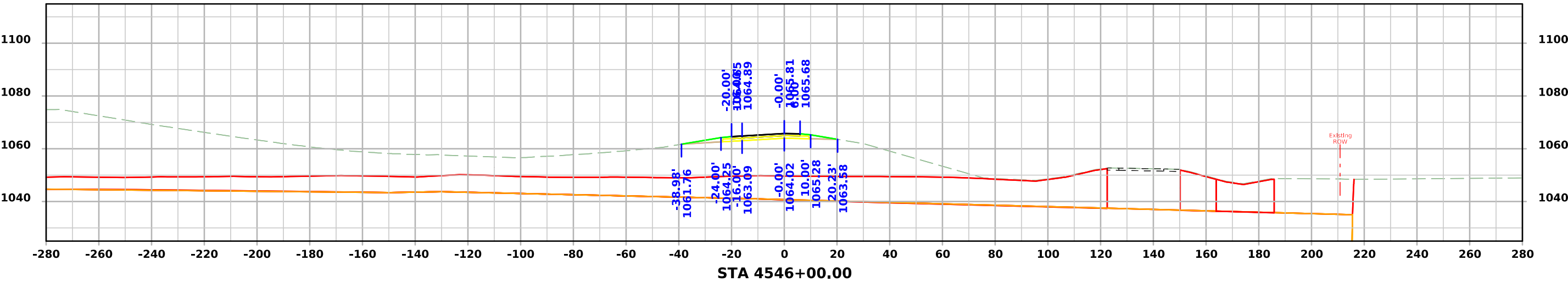
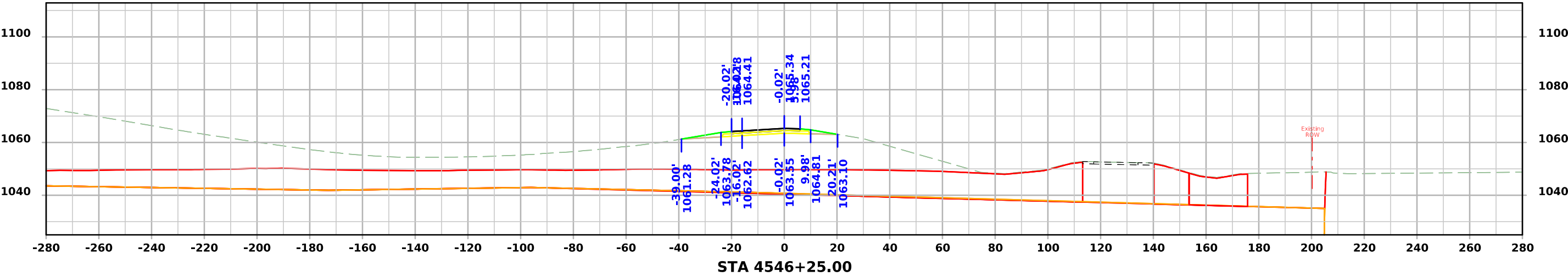
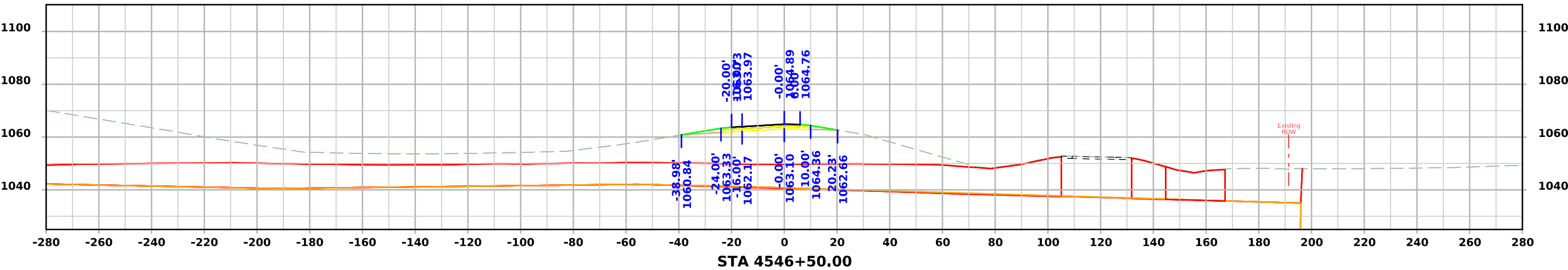
# Ramp C - Stage 3



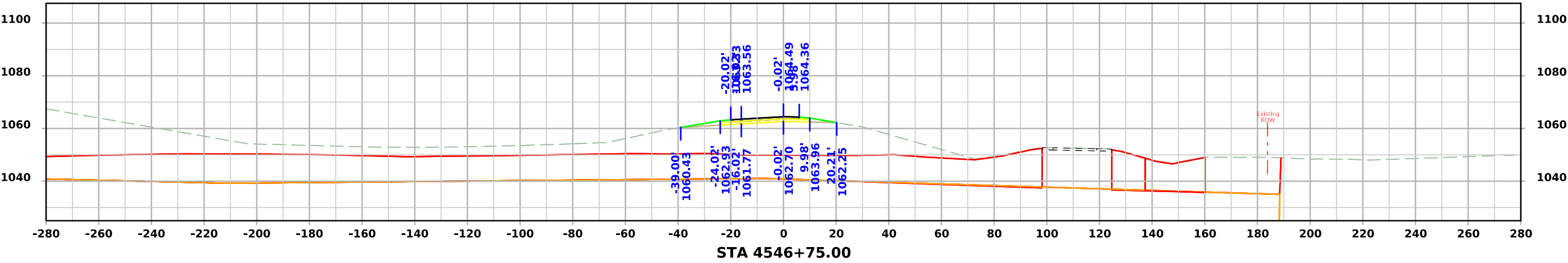
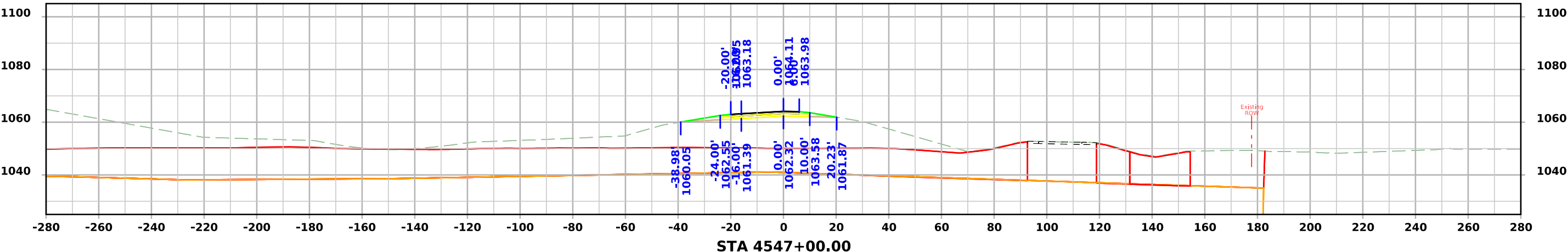
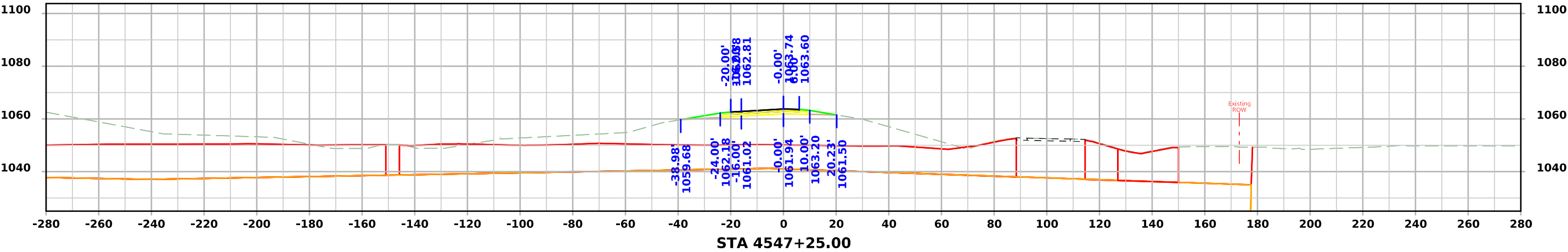
Ramp D - Stage 3



Ramp D - Stage 3

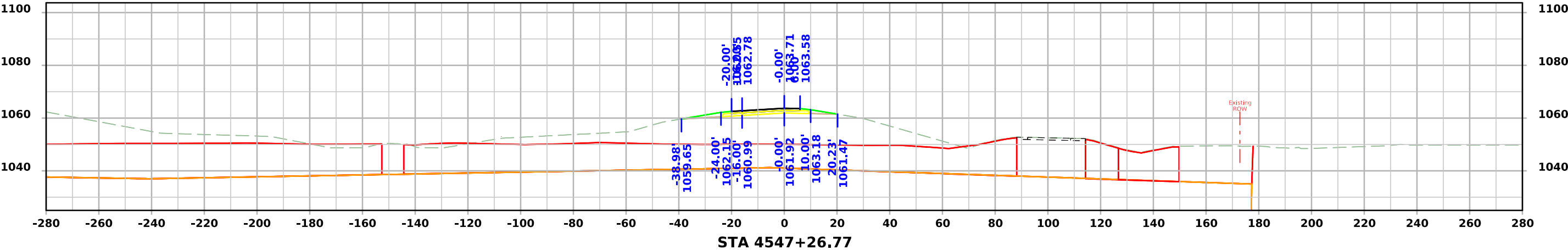
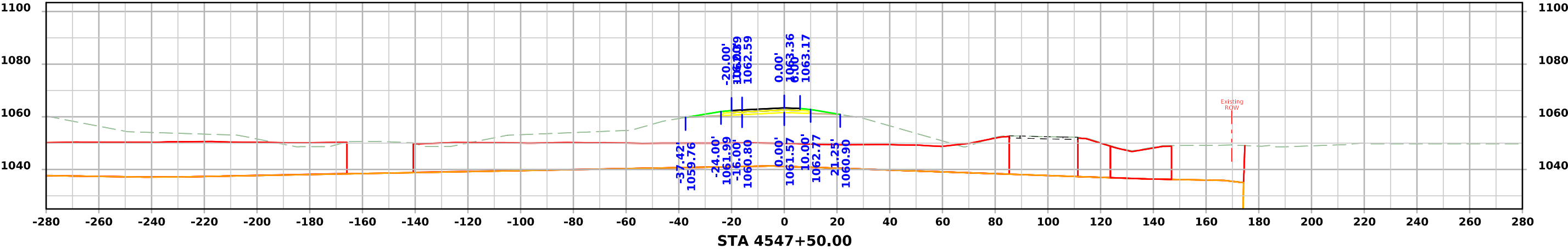
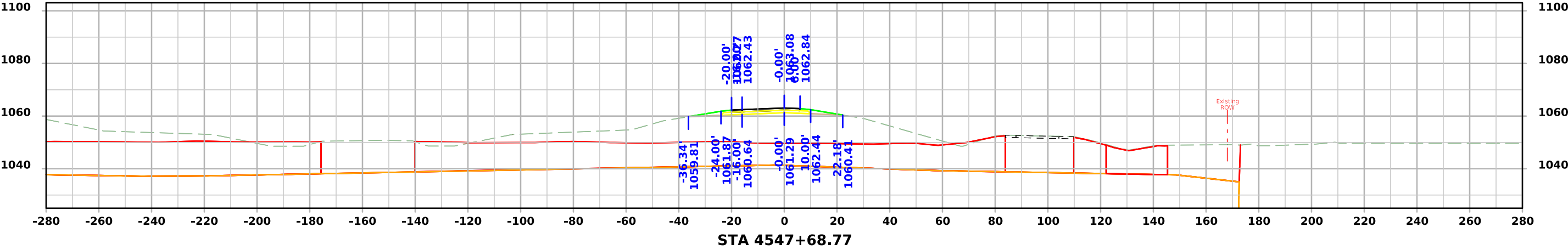


# Ramp D - Stage 3

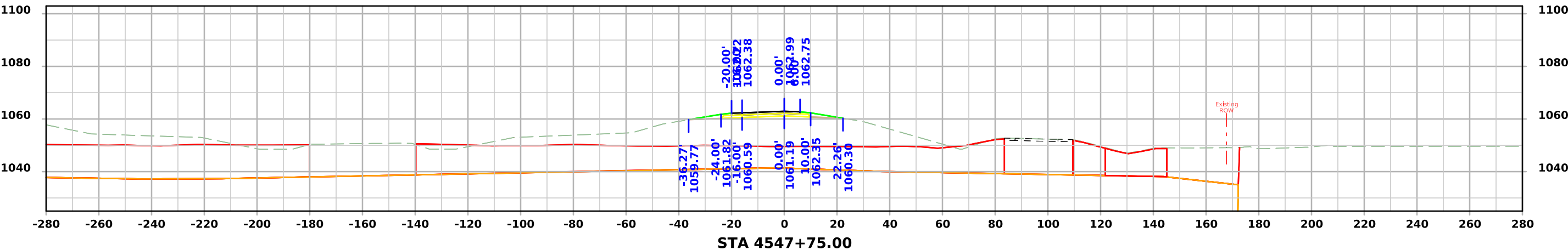
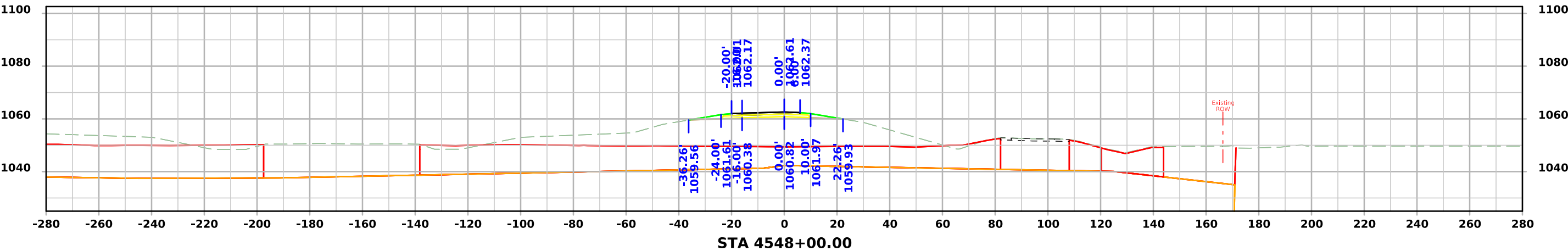
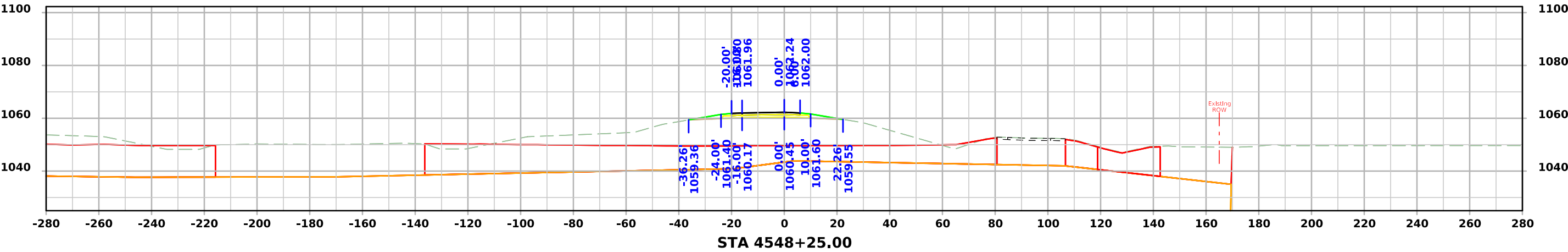




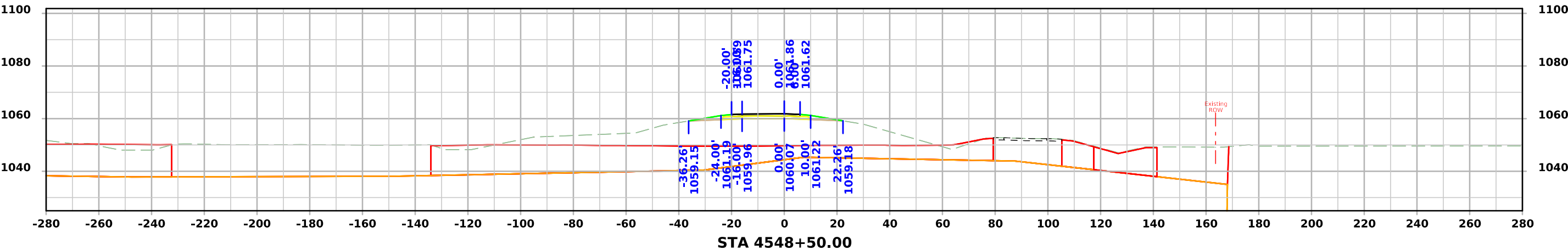
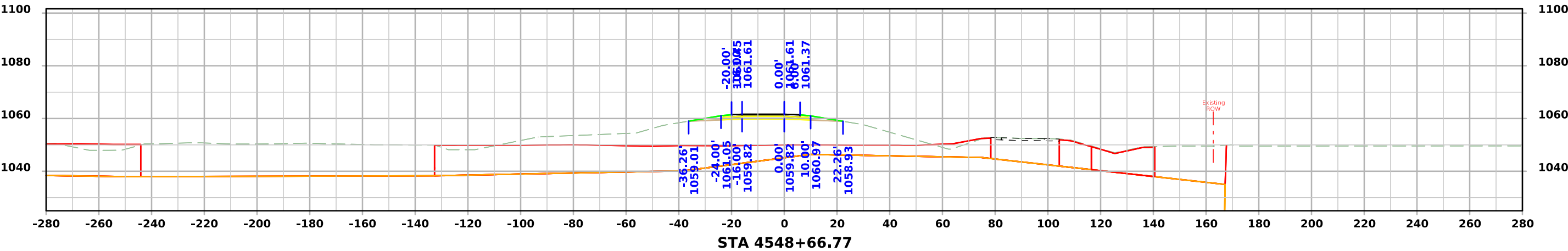
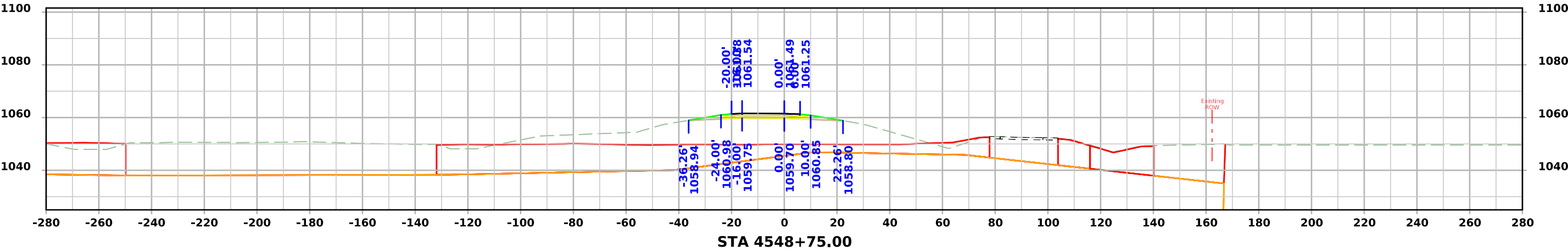
# Ramp D - Stage 3



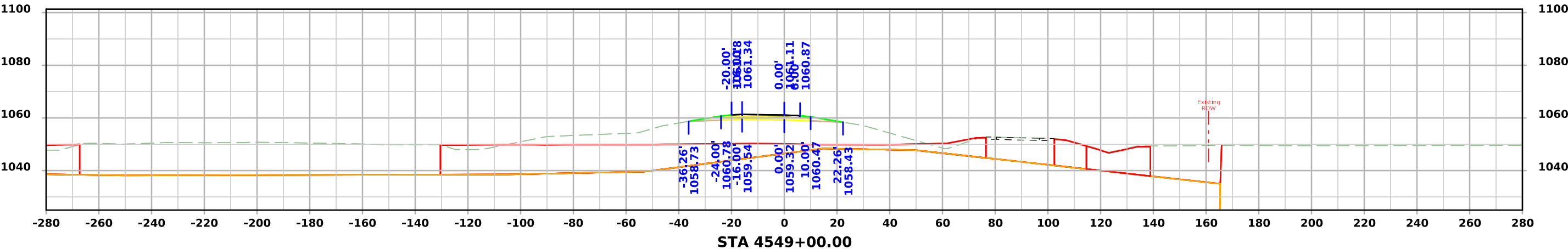
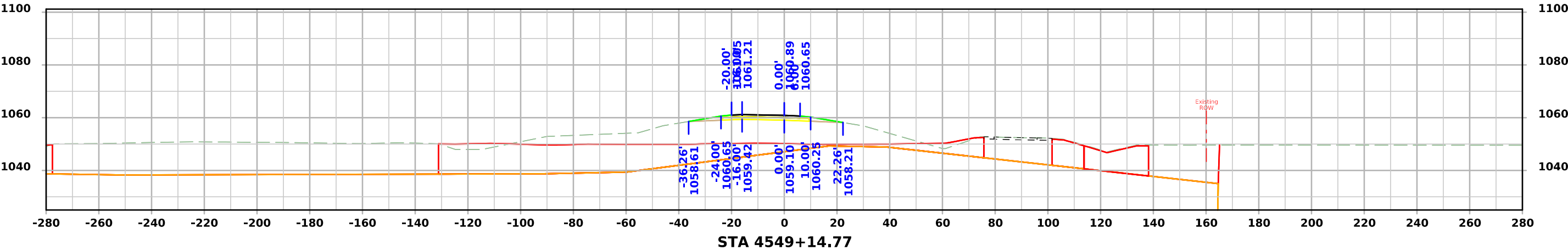
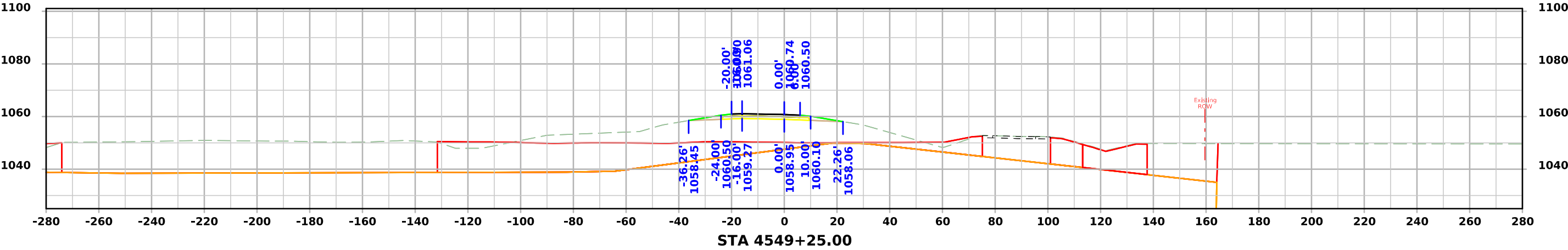
# Ramp D - Stage 3



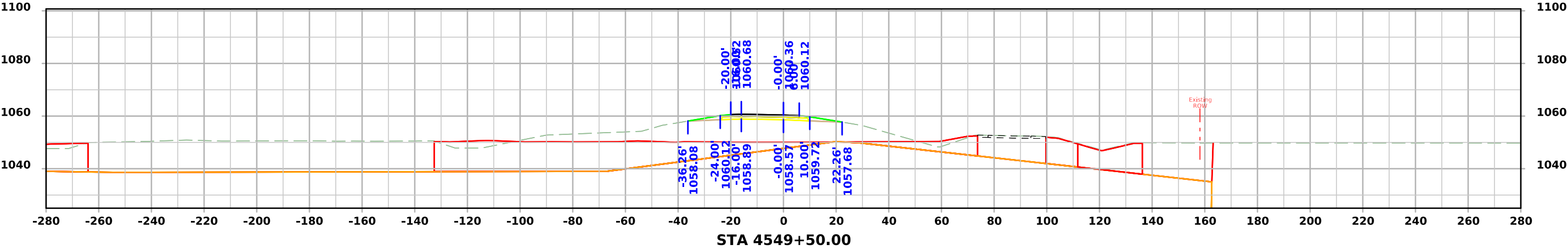
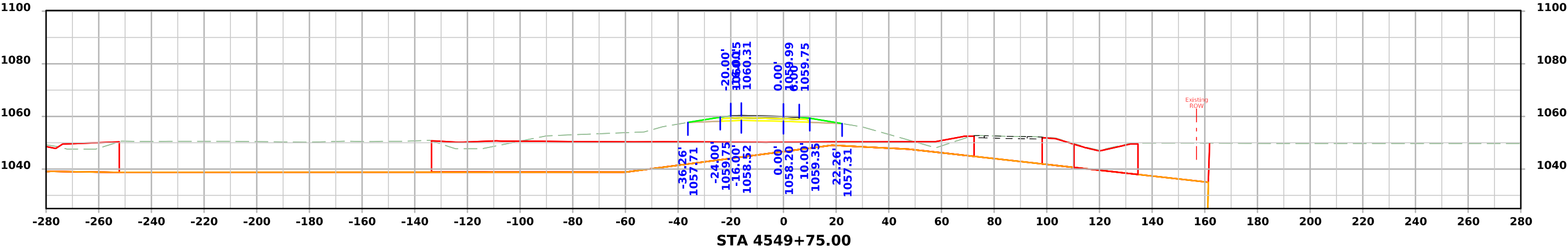
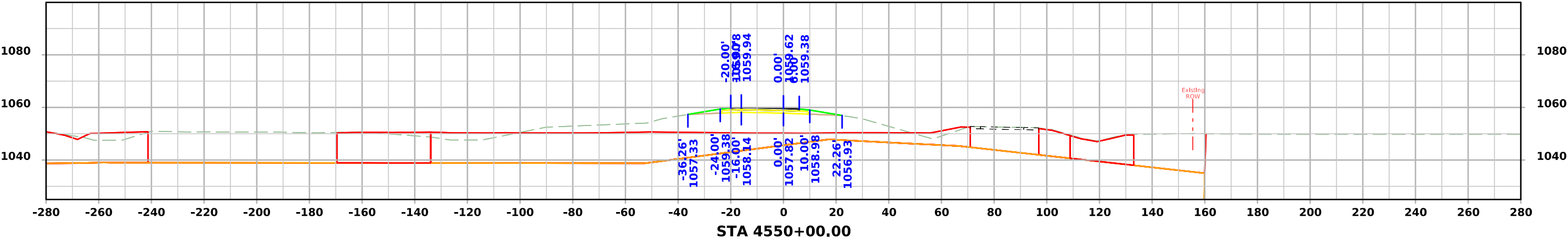
Ramp D - Stage 3



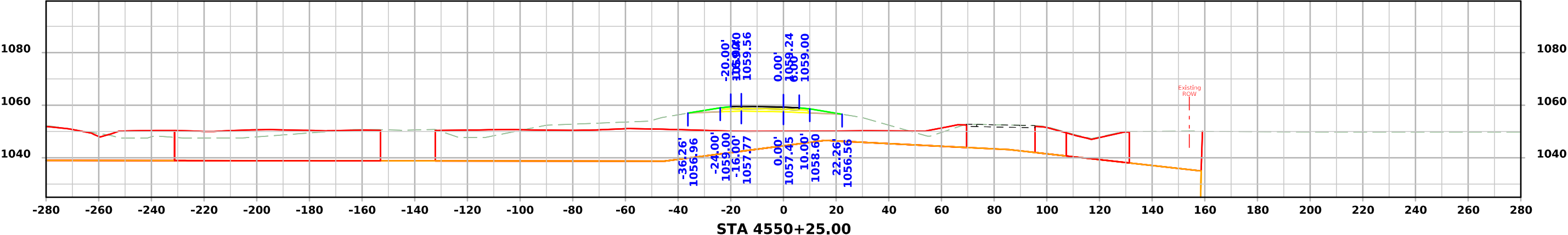
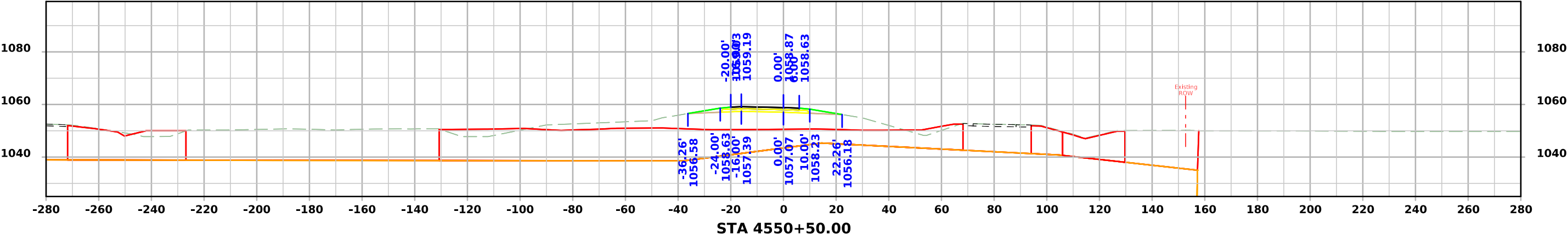
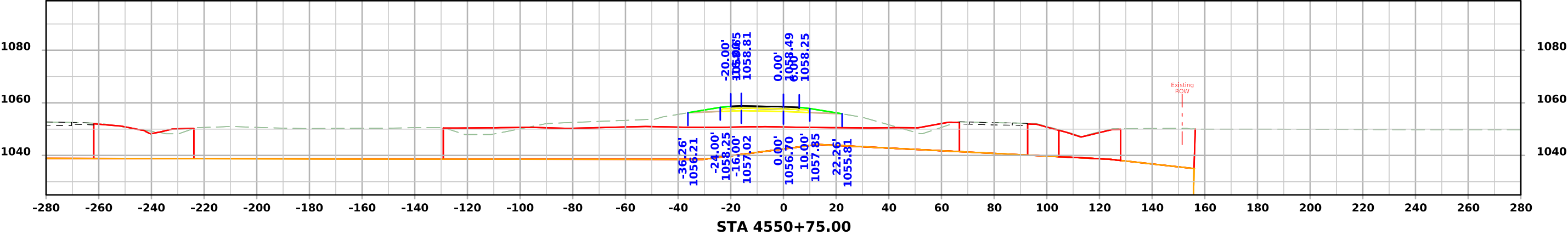
# Ramp D - Stage 3



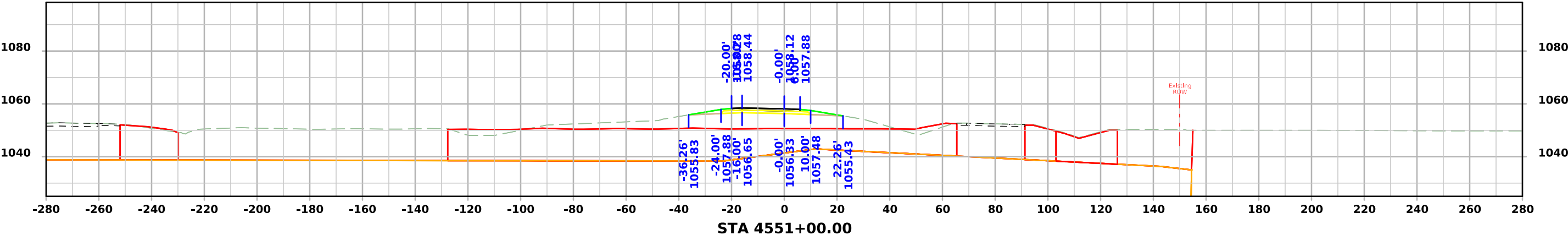
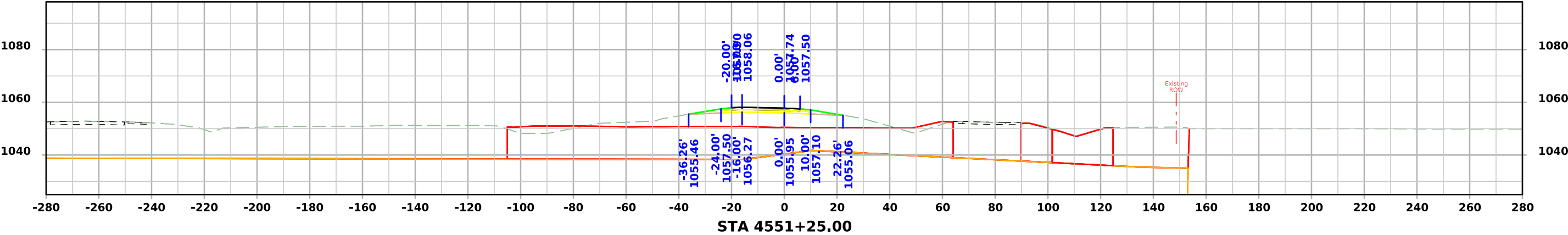
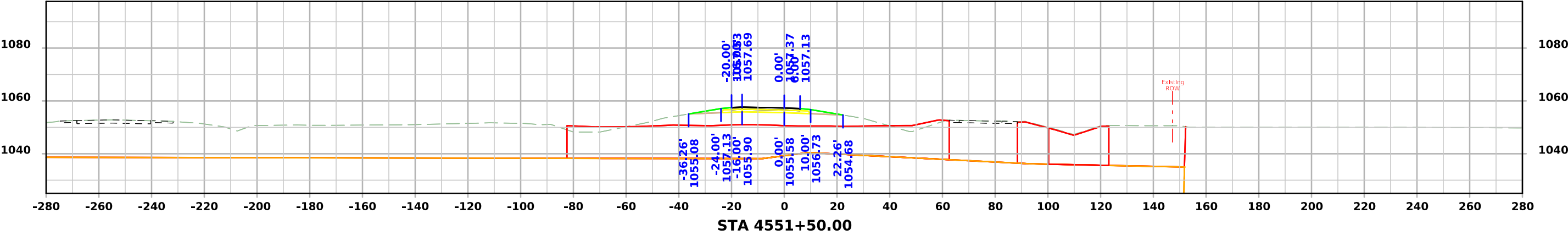
Ramp D - Stage 3



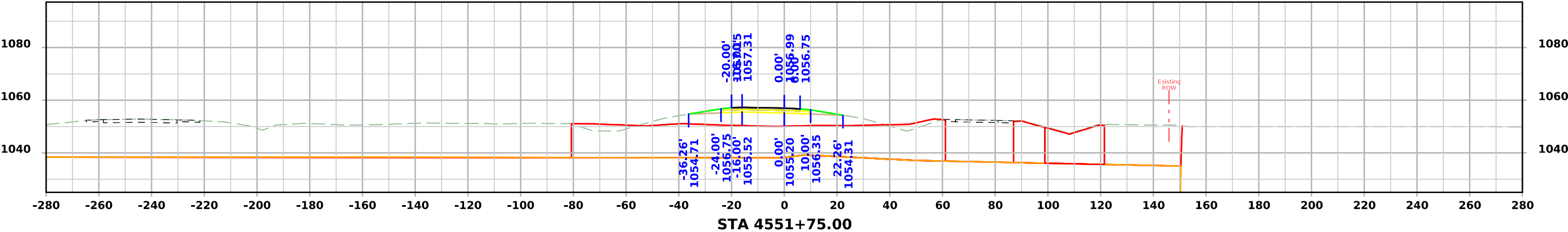
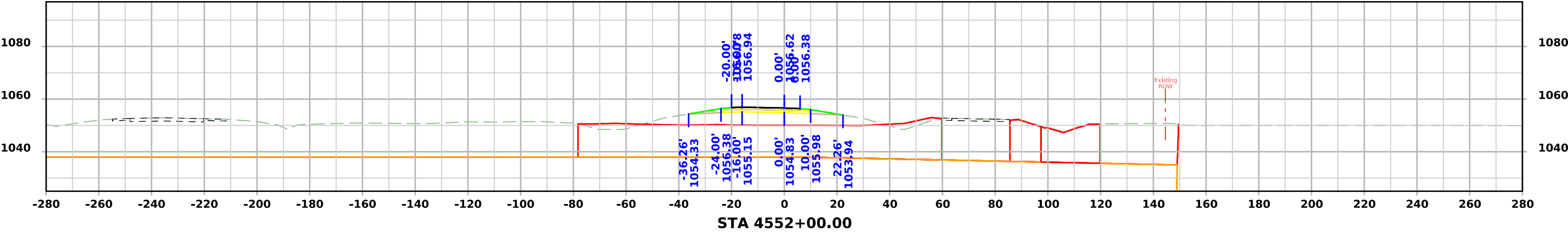
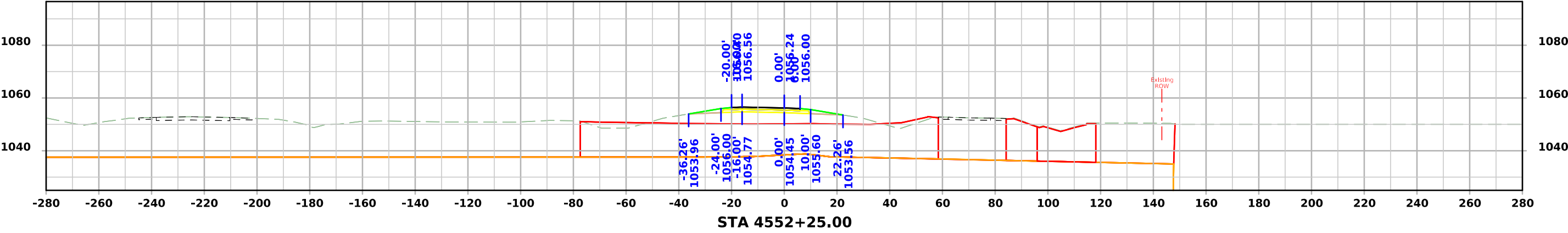
Ramp D - Stage 3



Ramp D - Stage 3

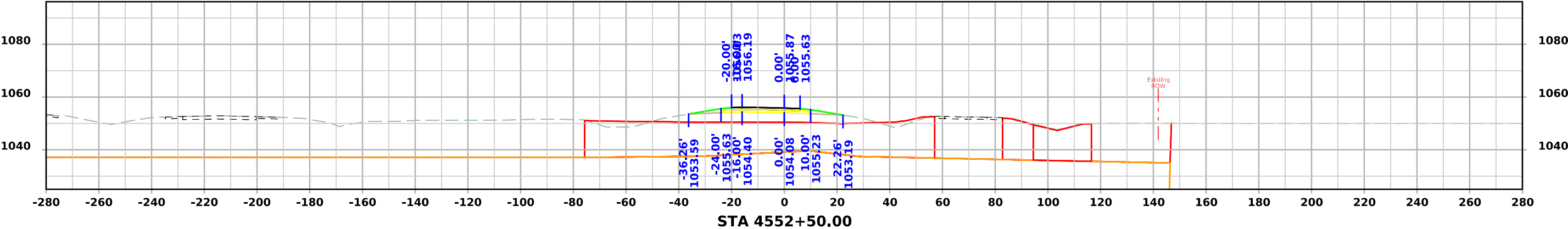
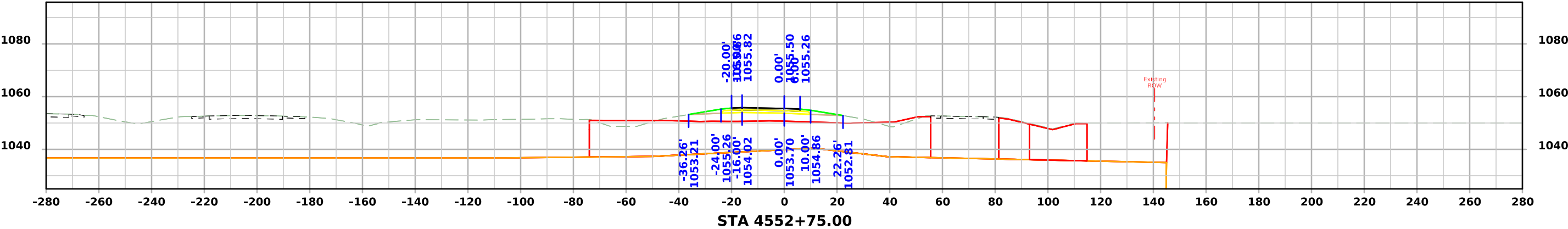
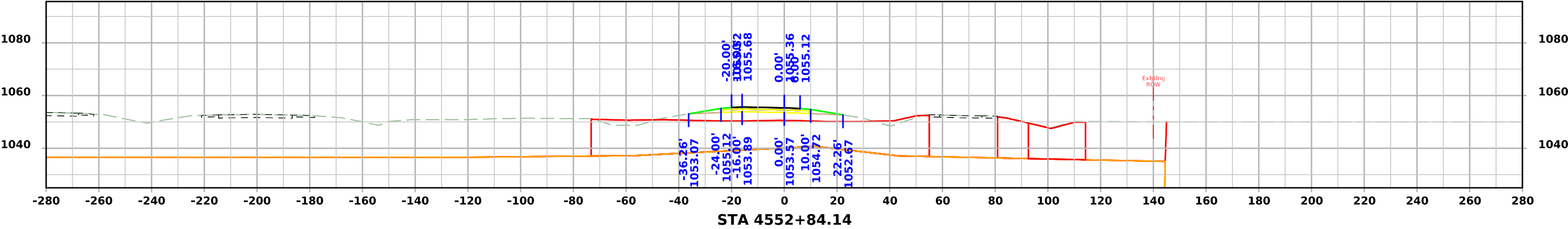


# Ramp D - Stage 3

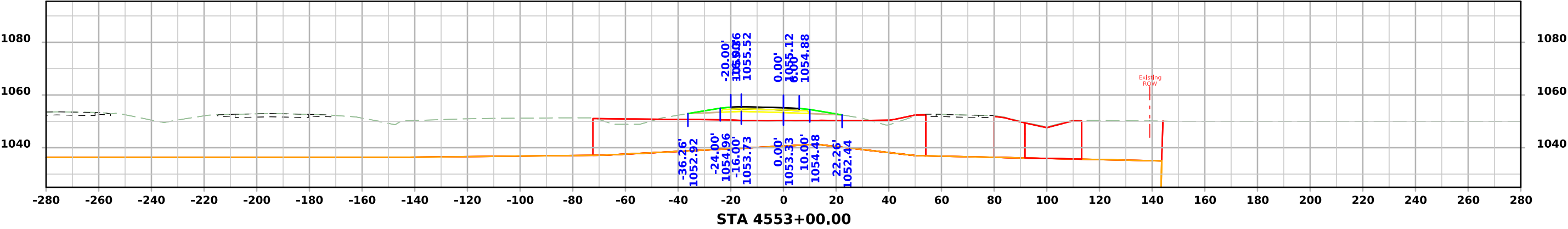
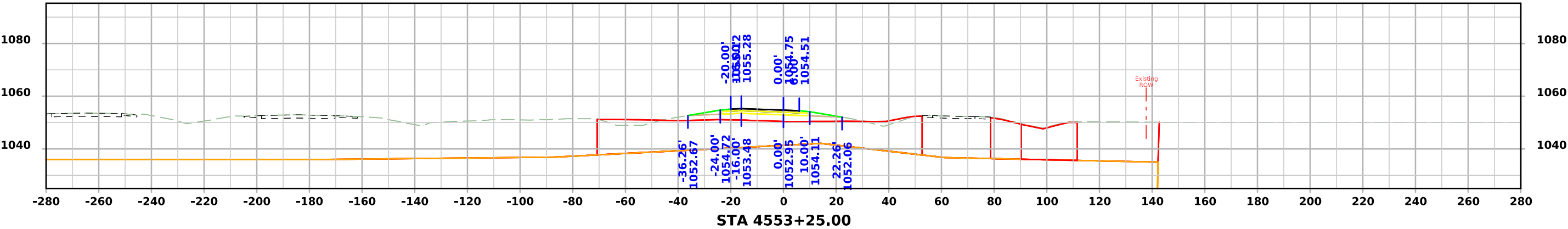
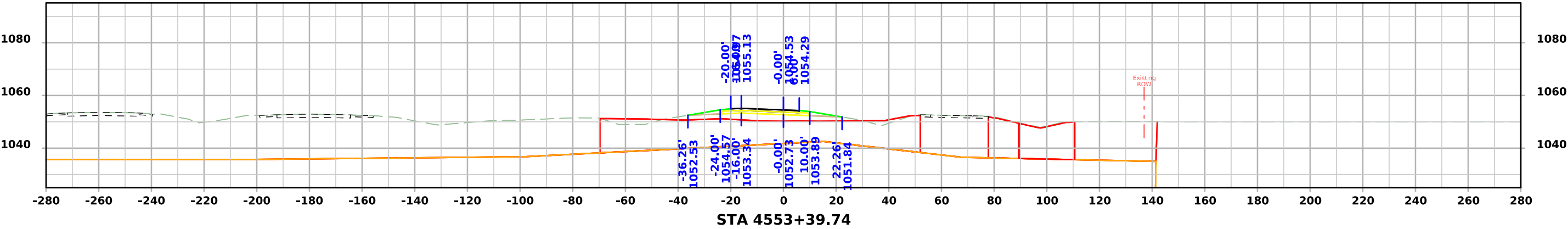




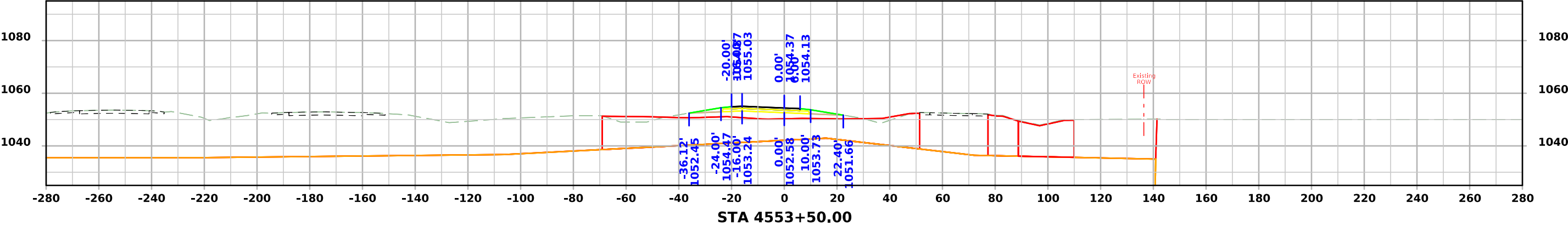
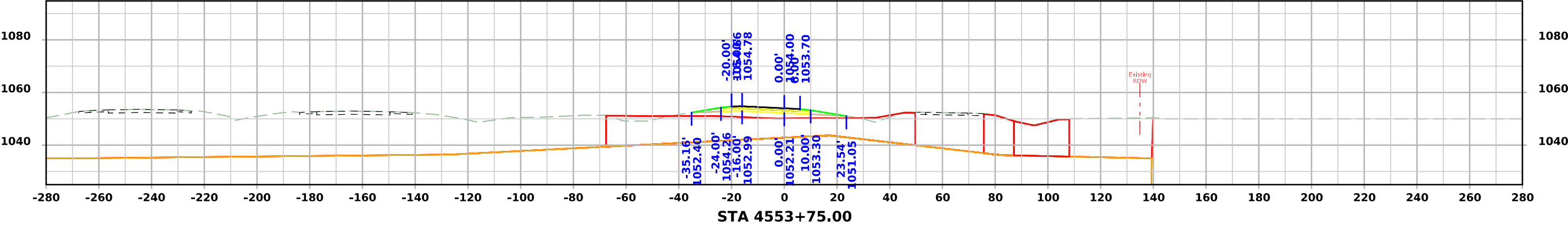
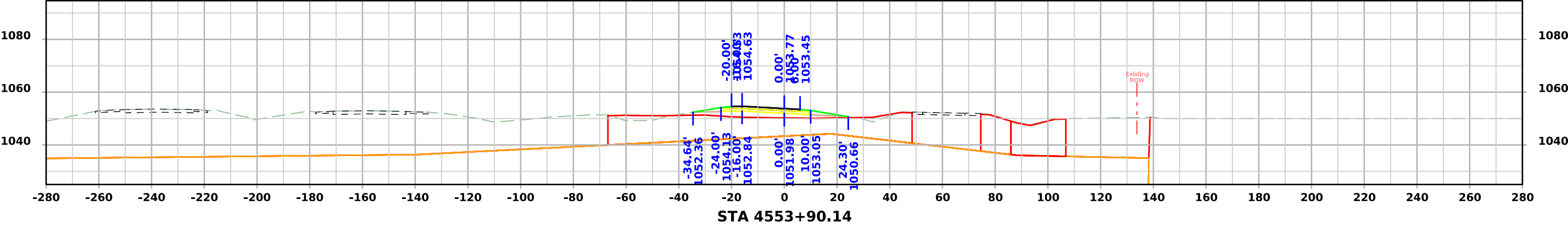
Ramp D - Stage 3



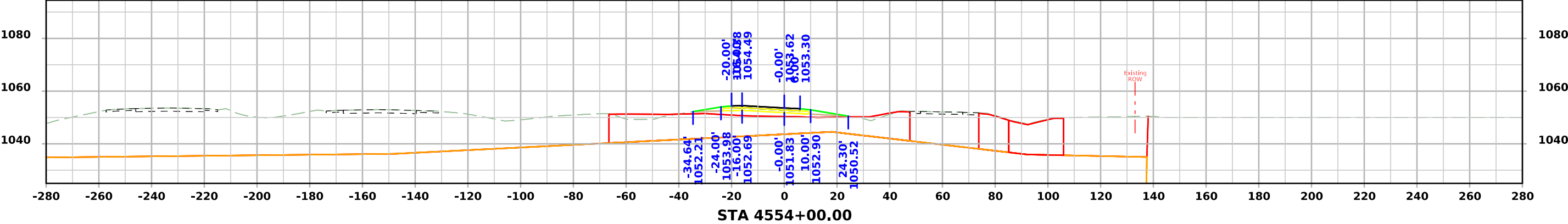
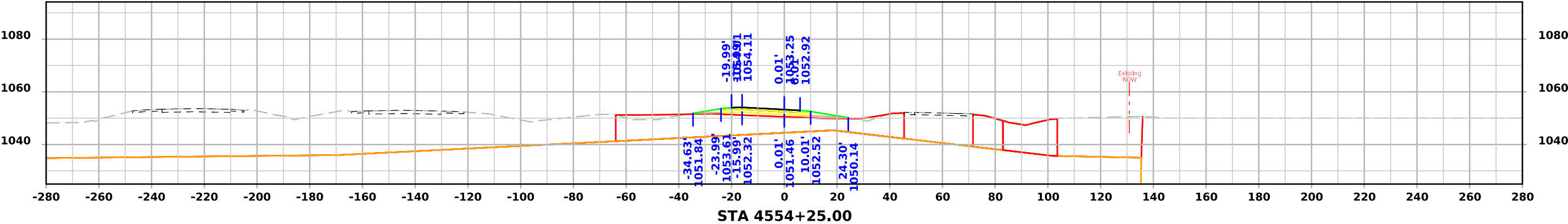
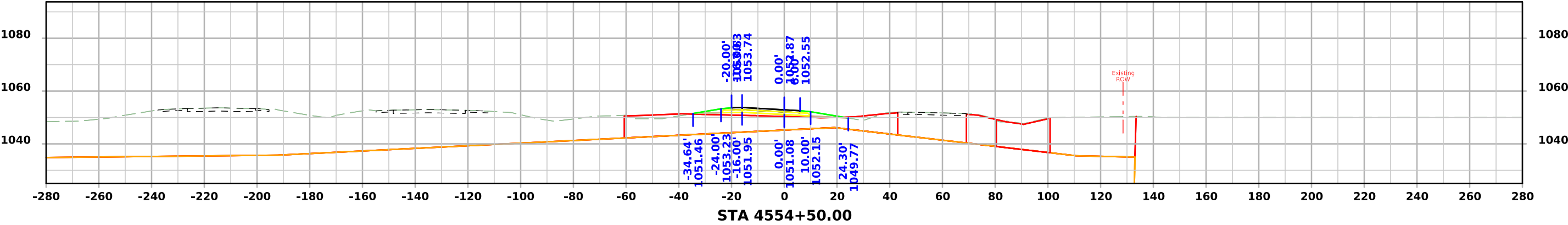
Ramp D - Stage 3



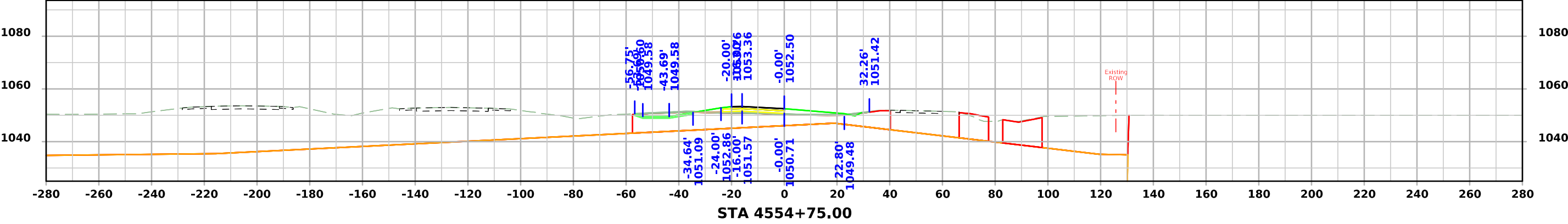
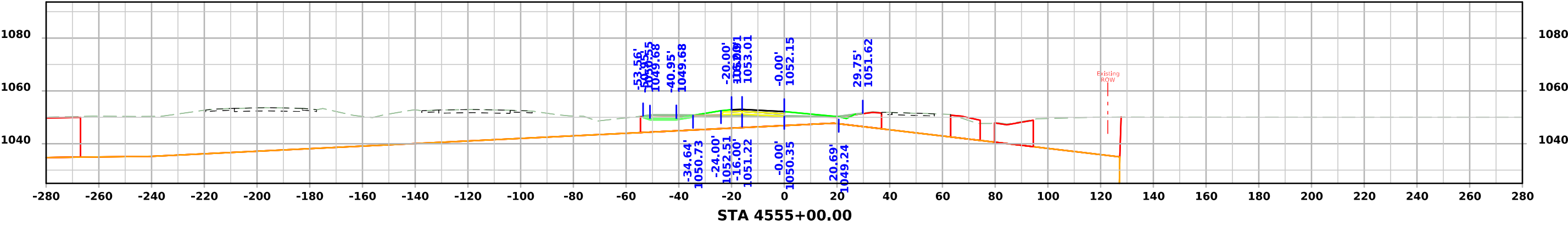
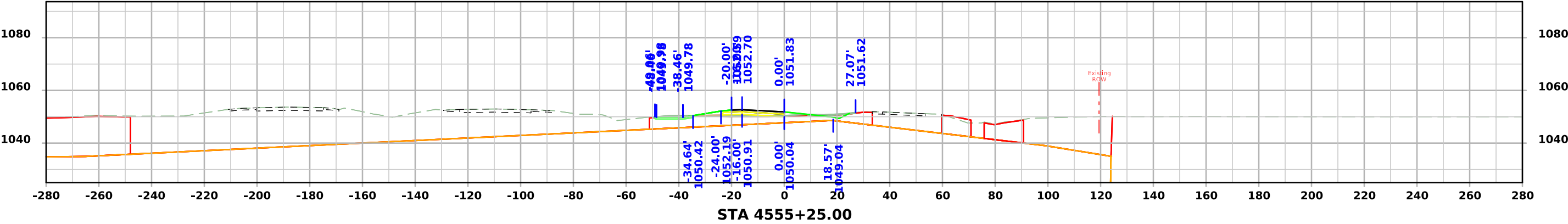
Ramp D - Stage 3



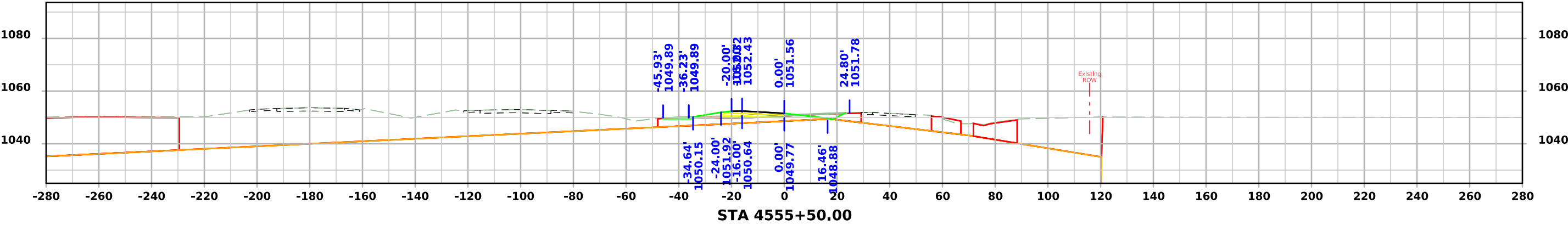
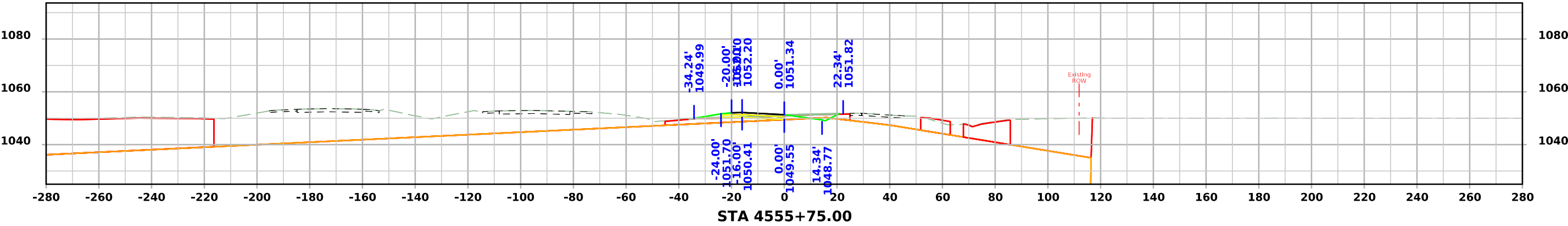
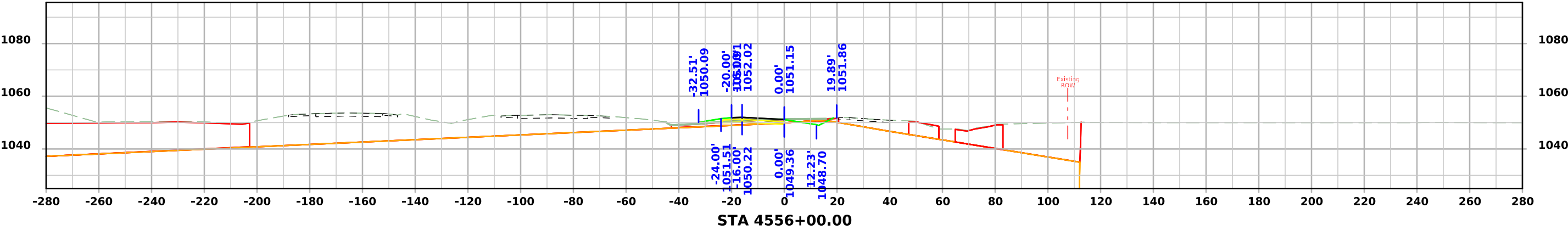
Ramp D - Stage 3



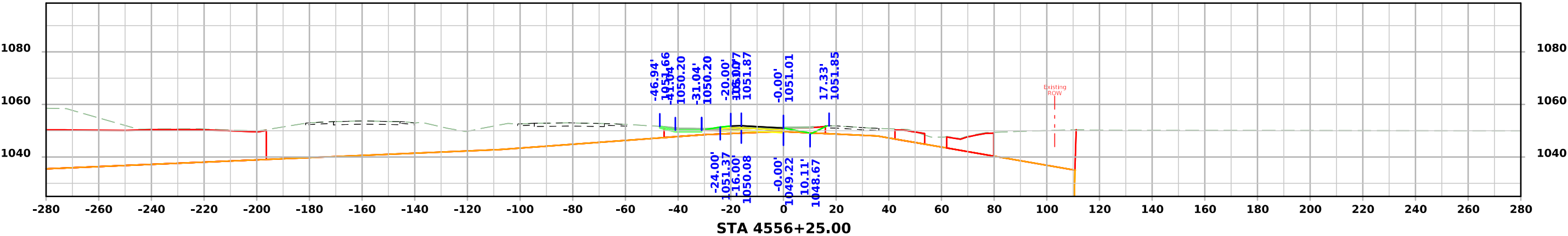
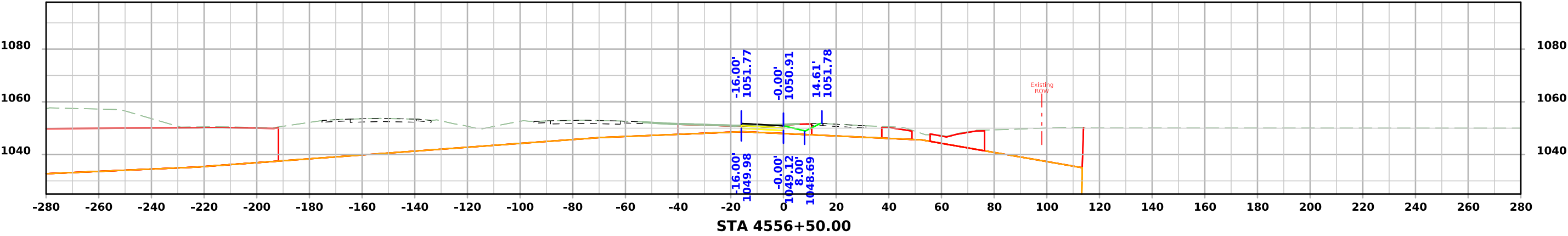
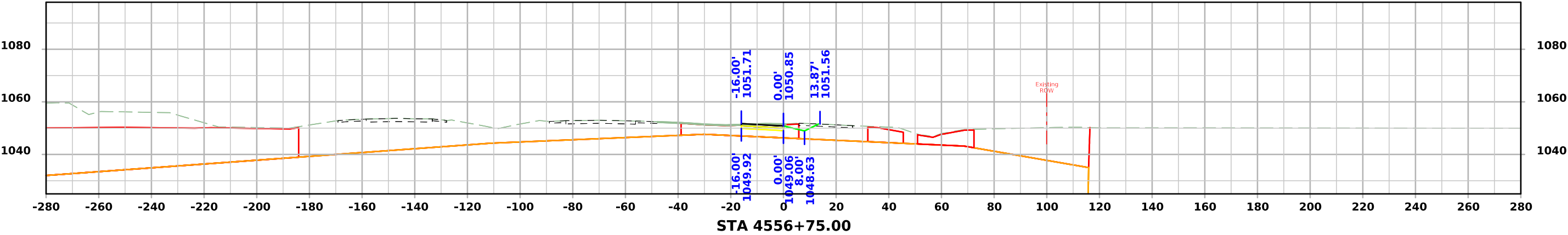
Ramp D - Stage 3



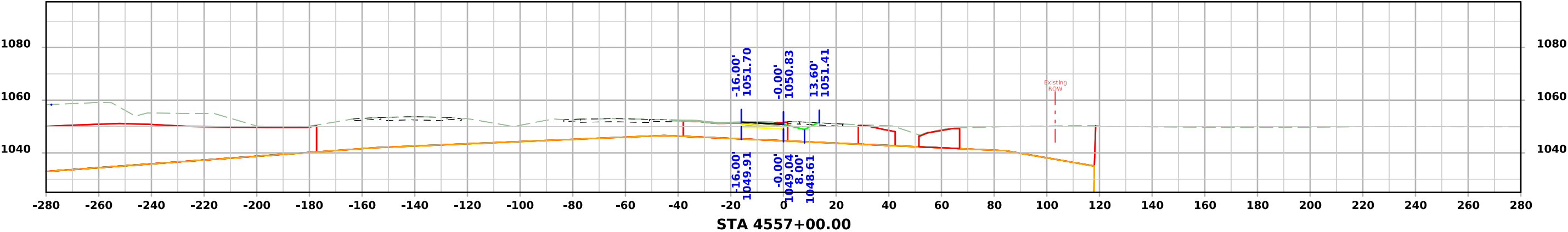
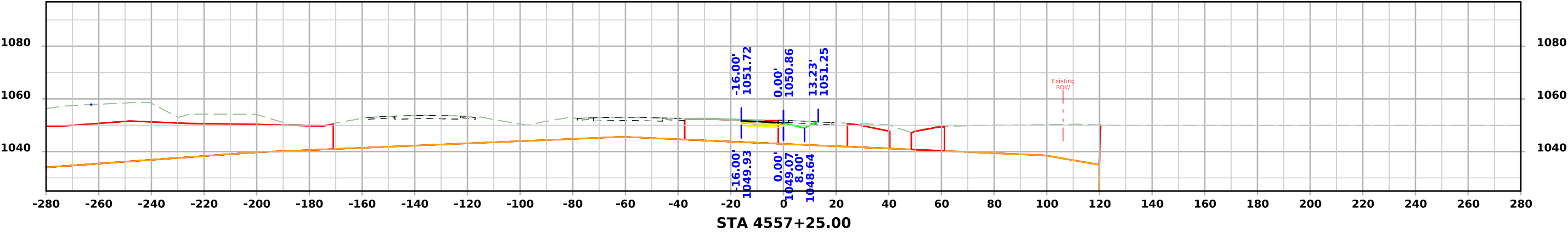
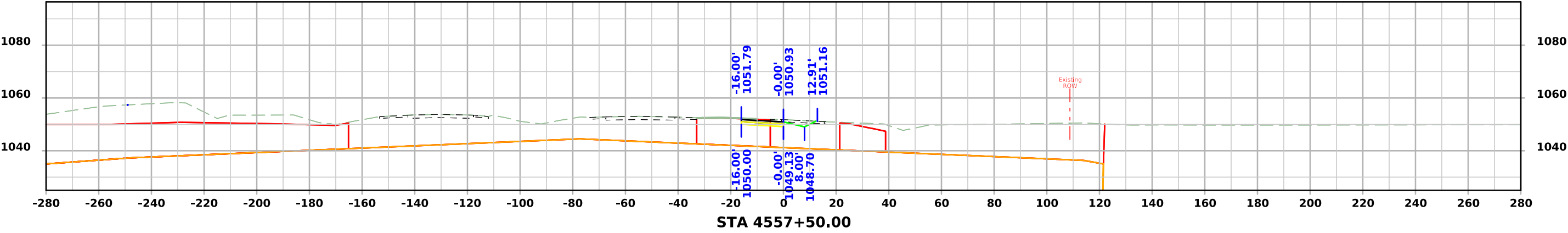
Ramp D - Stage 3



Ramp D - Stage 3

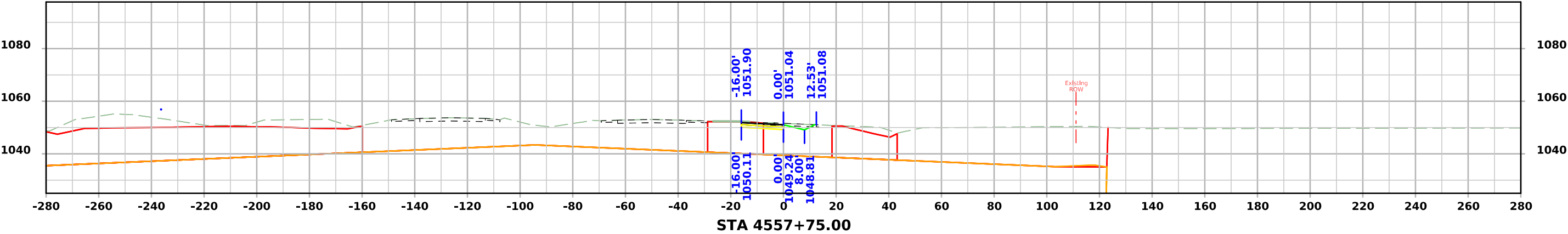
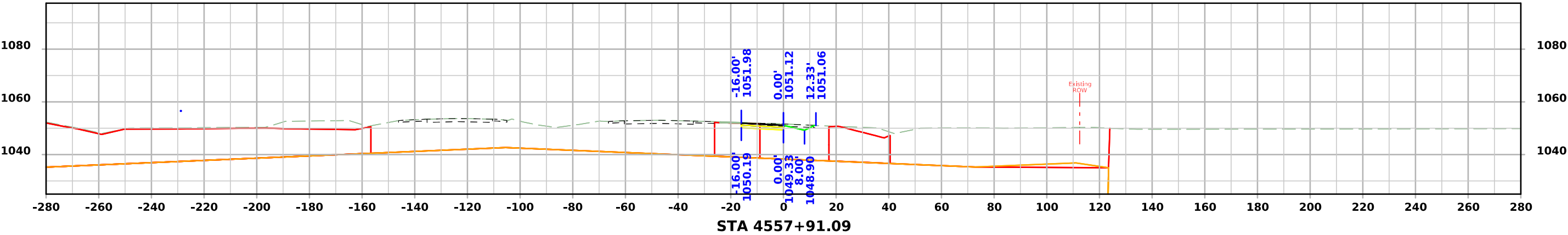


Ramp D - Stage 3

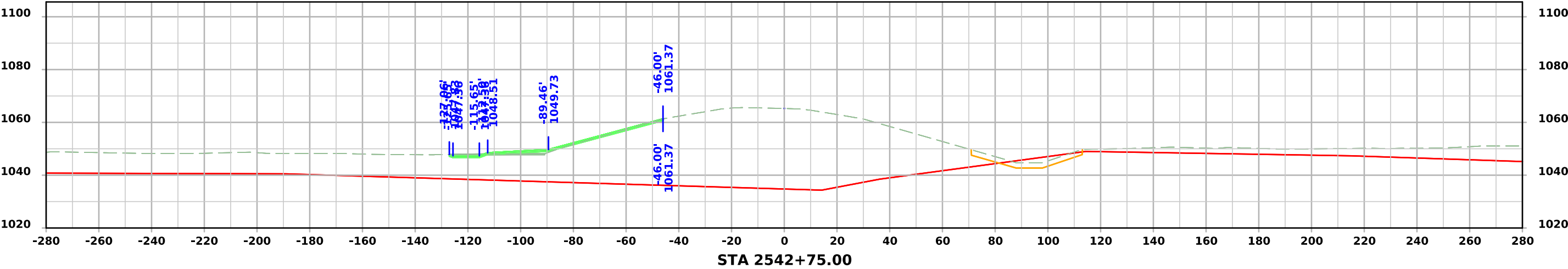
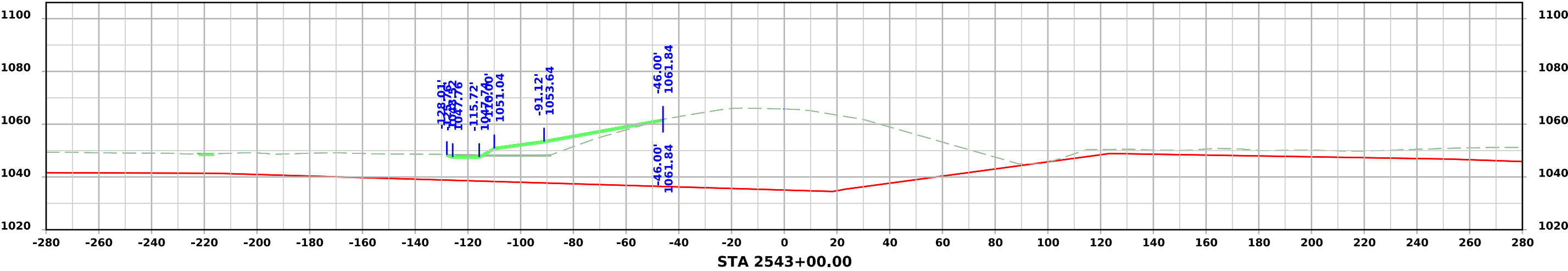
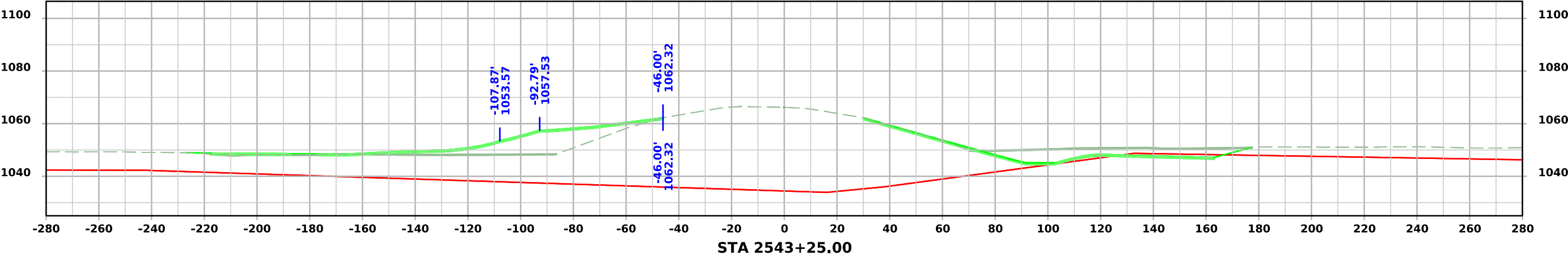




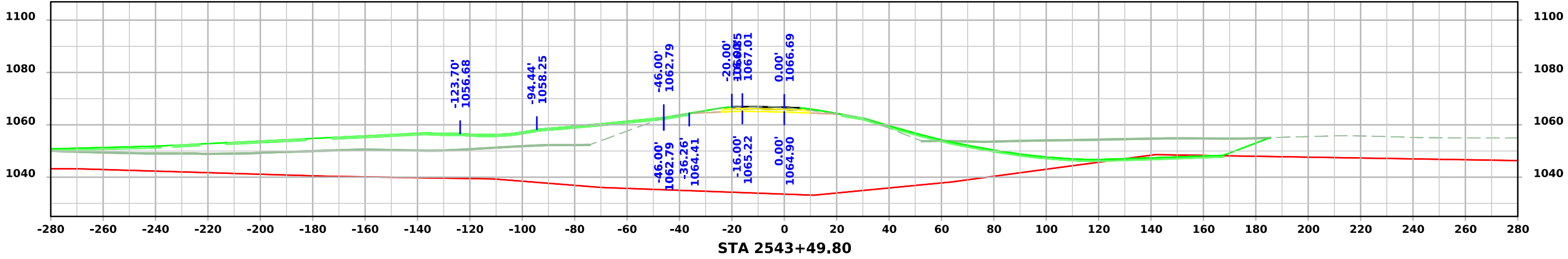
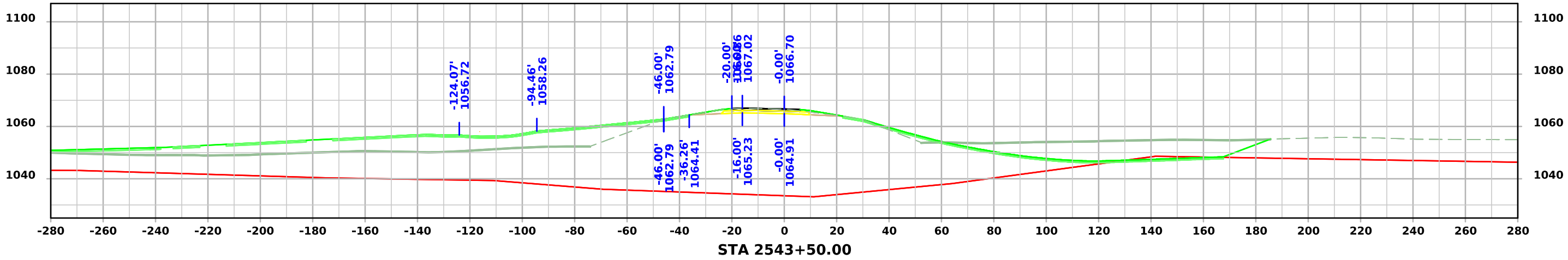
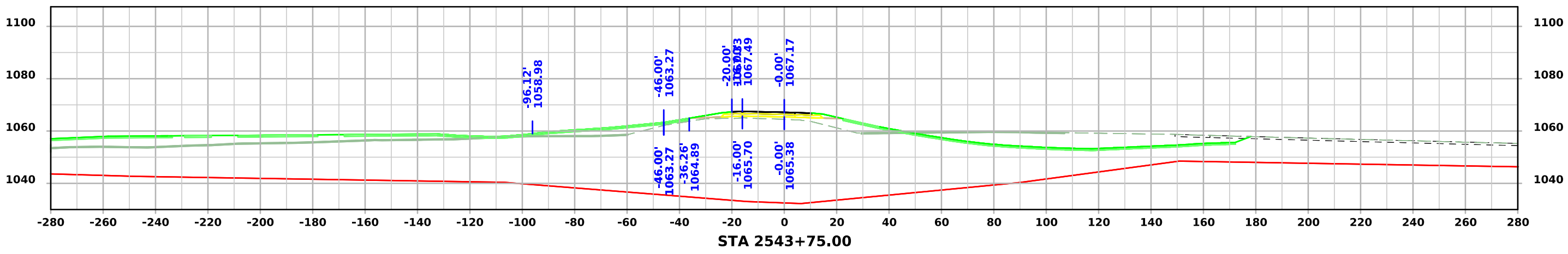
Ramp D - Stage 3



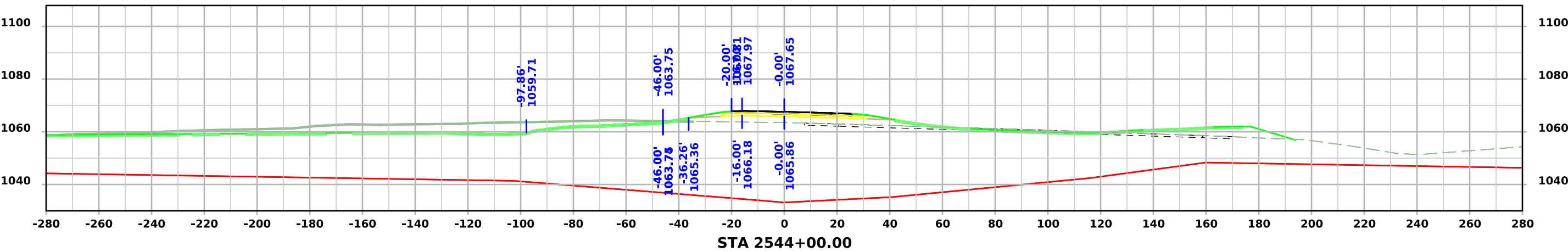
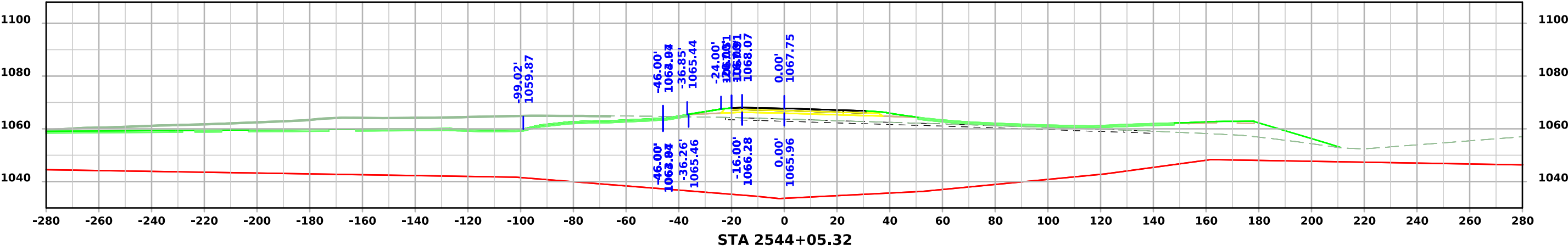
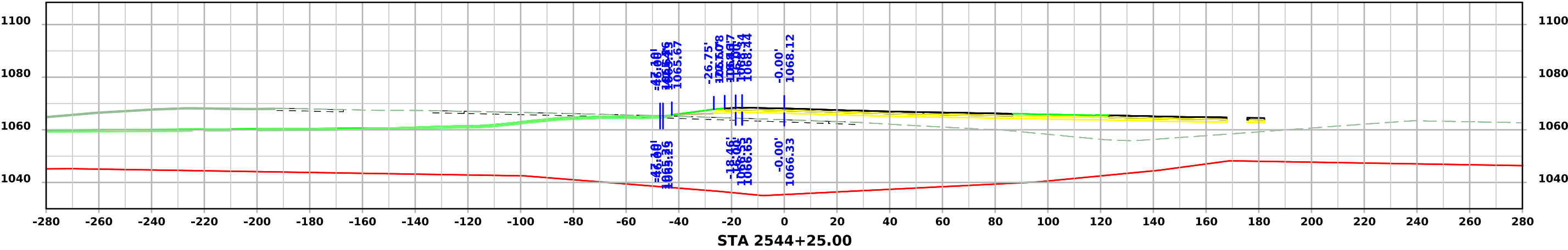
# Ramp B - Stage 5



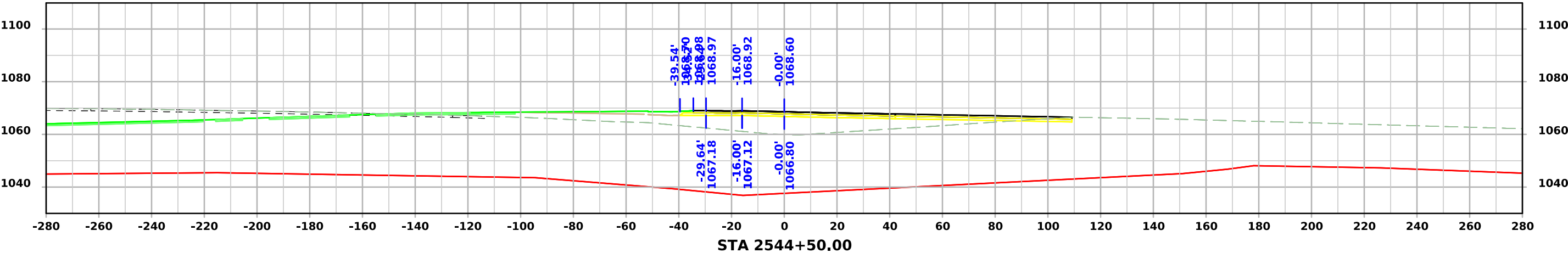
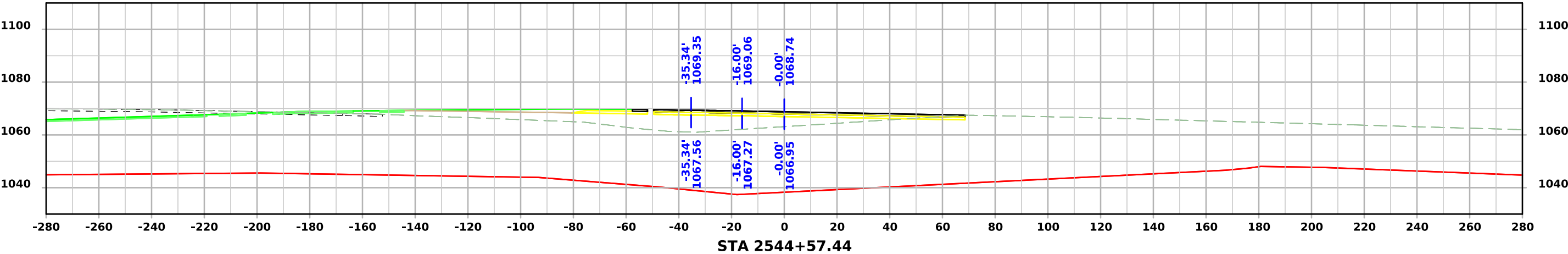
# Ramp B - Stage 5



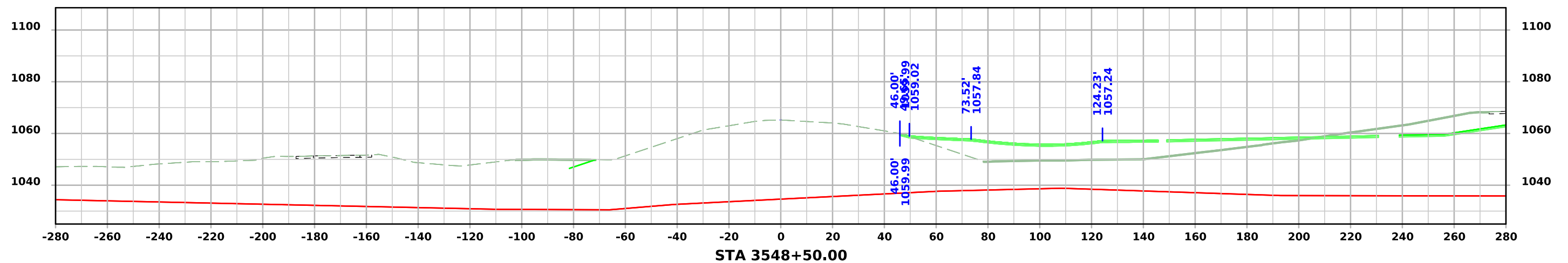
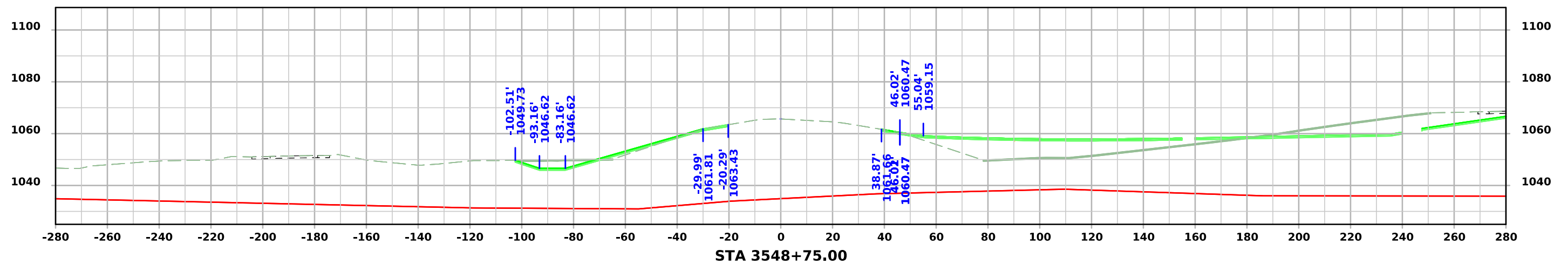
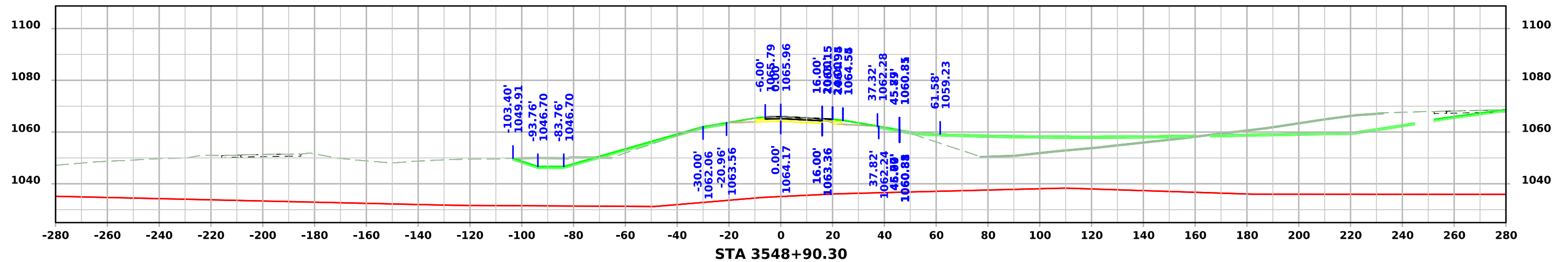
Ramp B - Stage 5



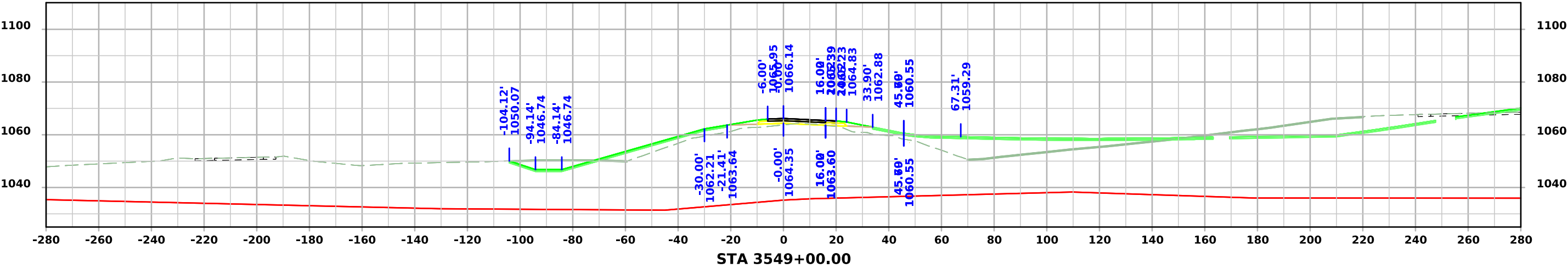
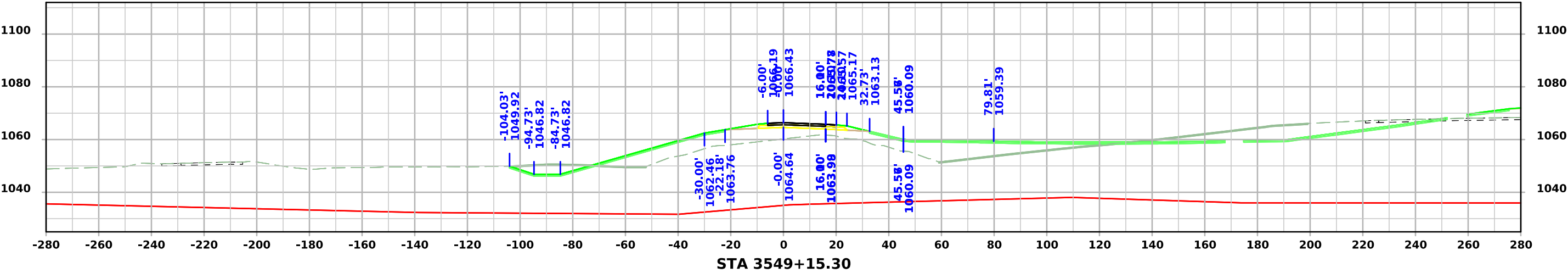
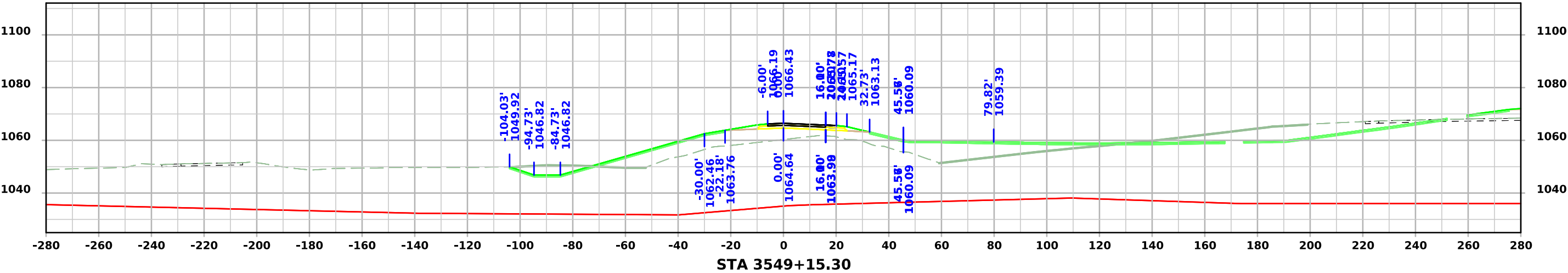
# Ramp B - Stage 5



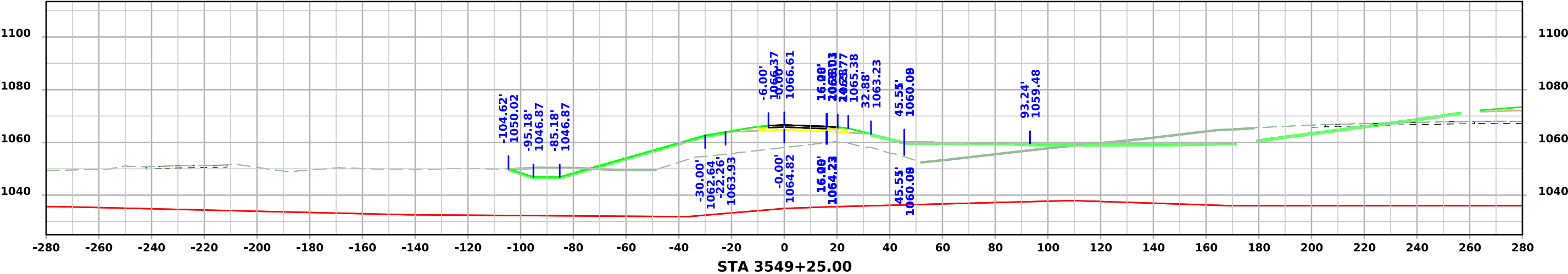
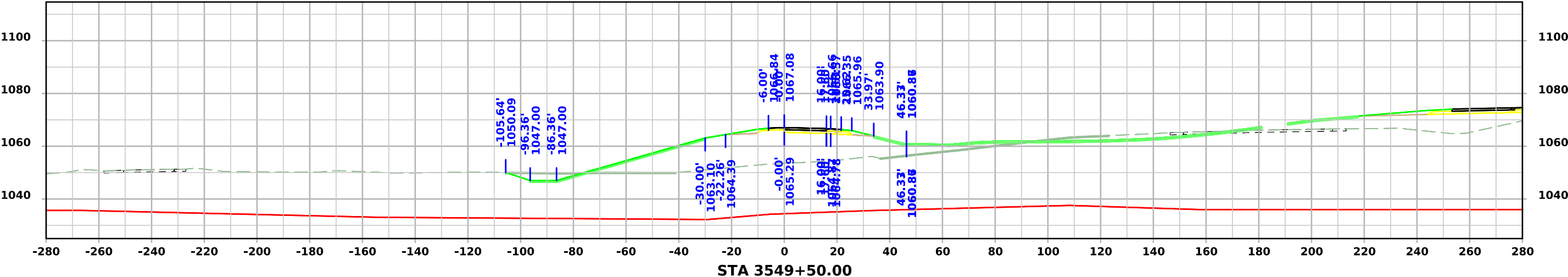
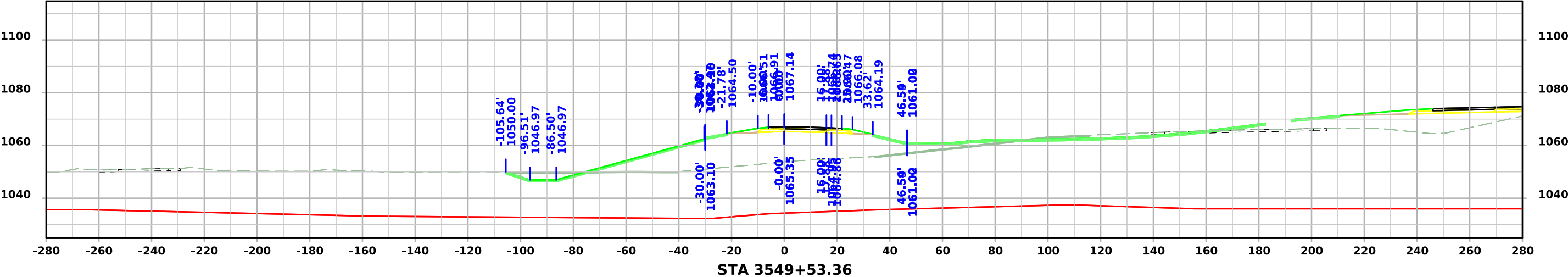
## Ramp C - Stage 5



Ramp C - Stage 5

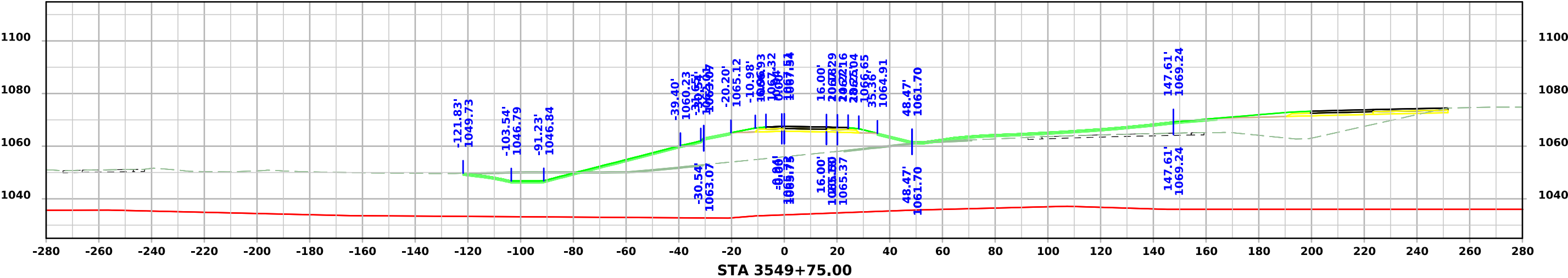
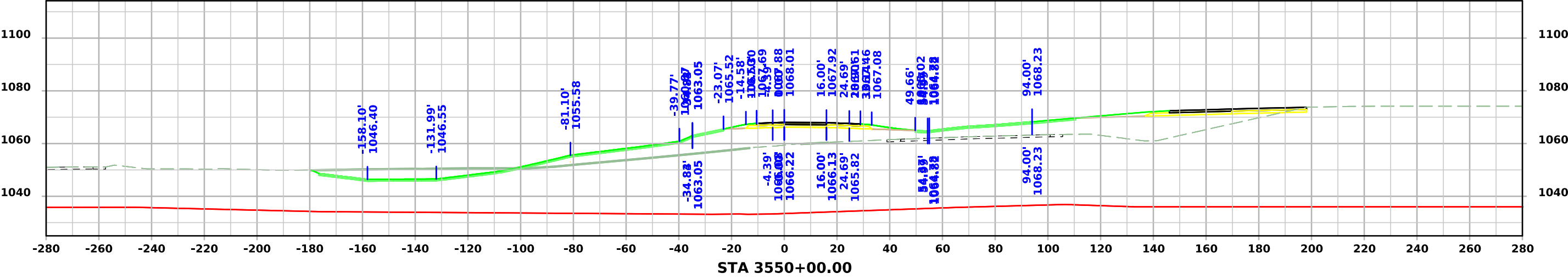
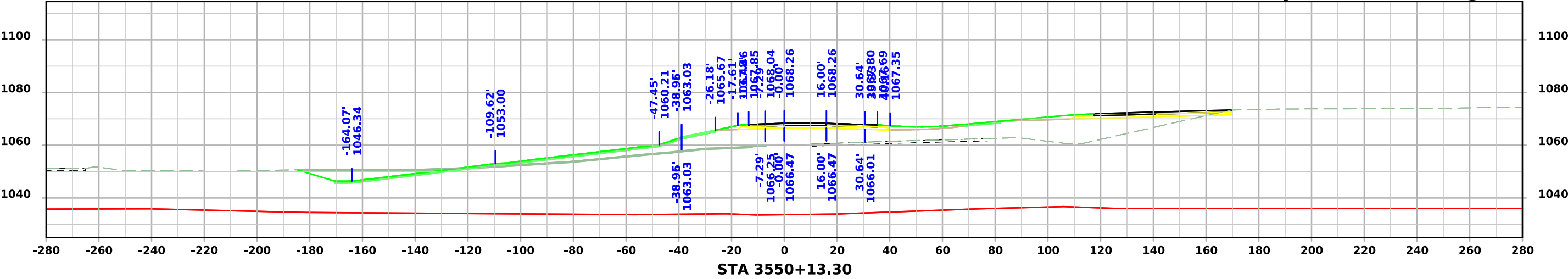


Ramp C - Stage 5

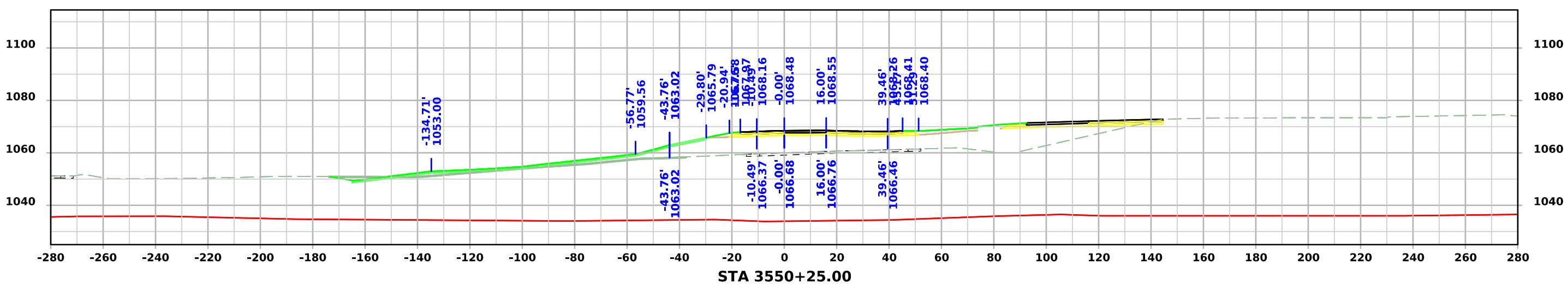
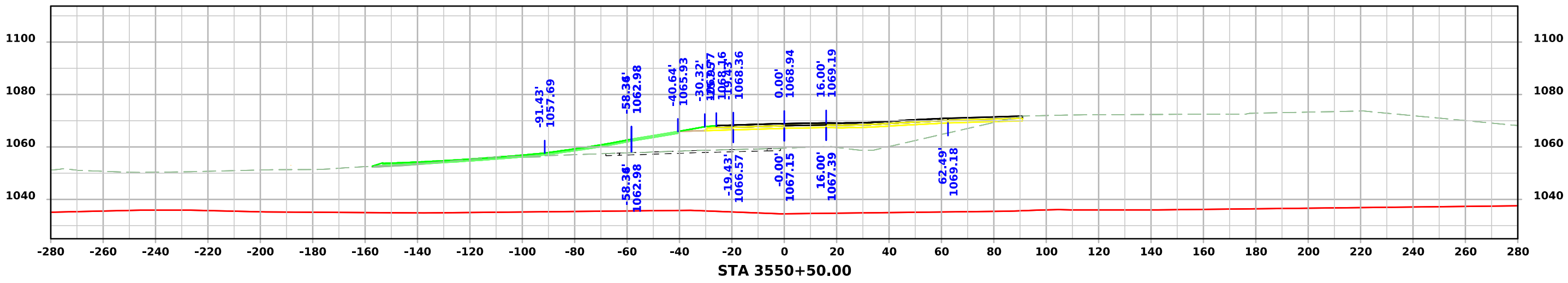
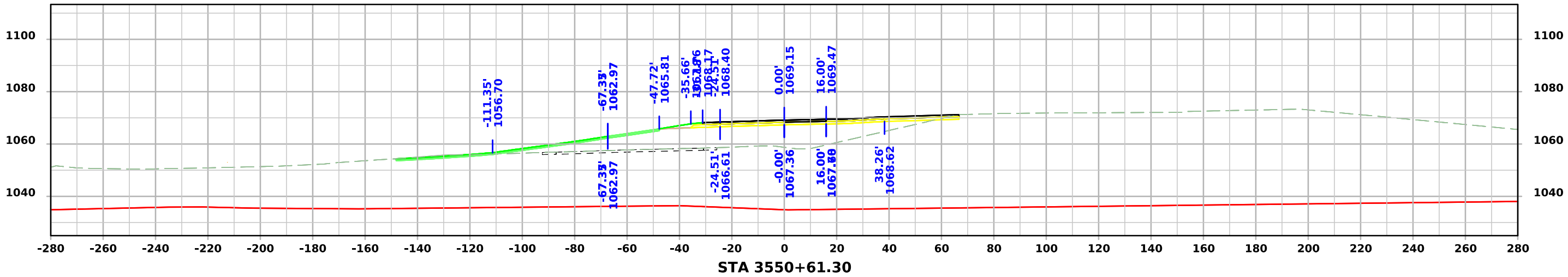




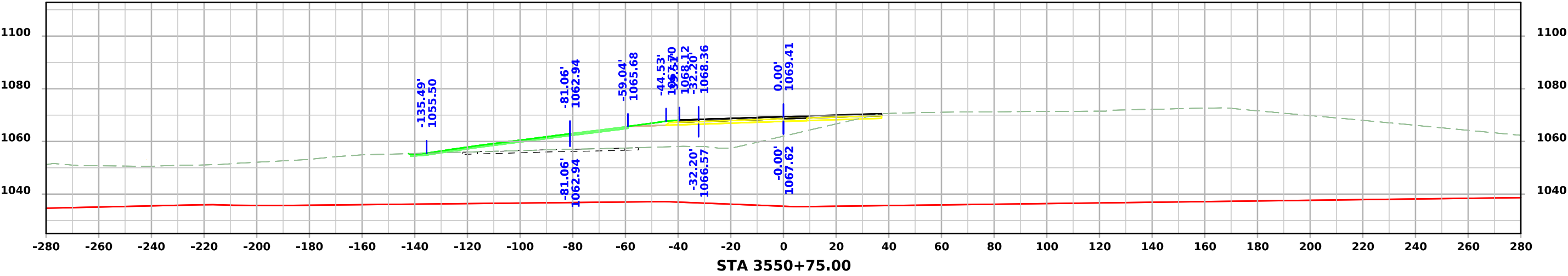
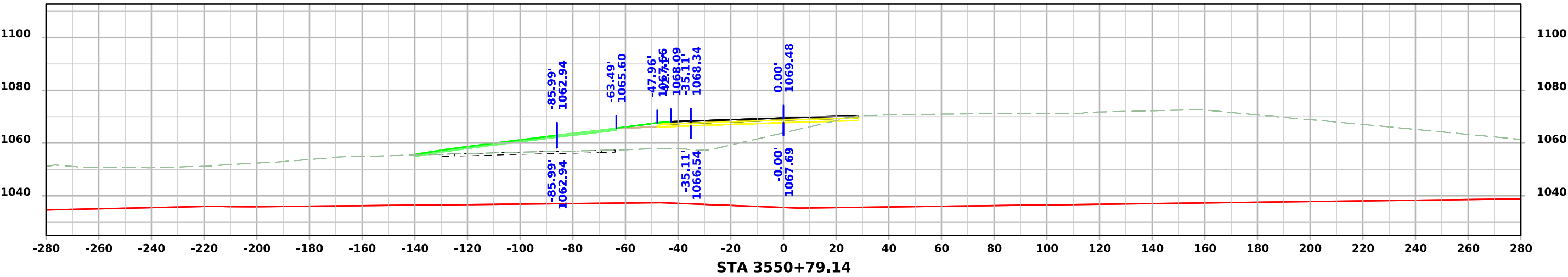
Ramp C - Stage 5



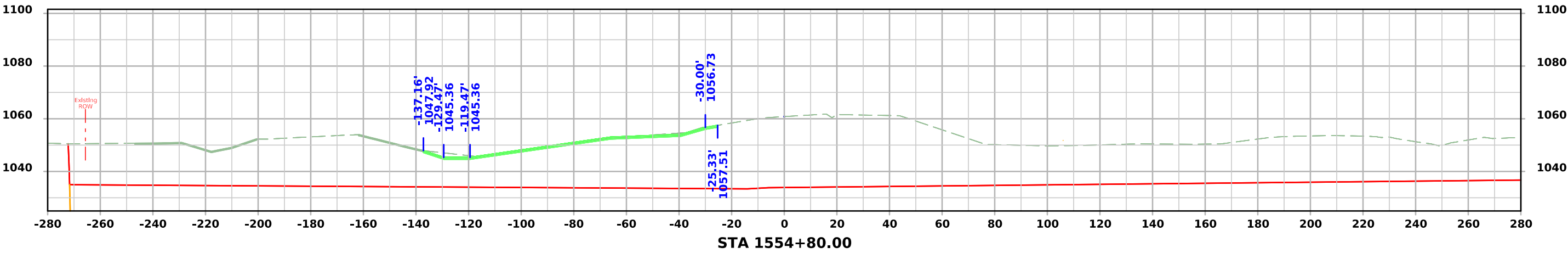
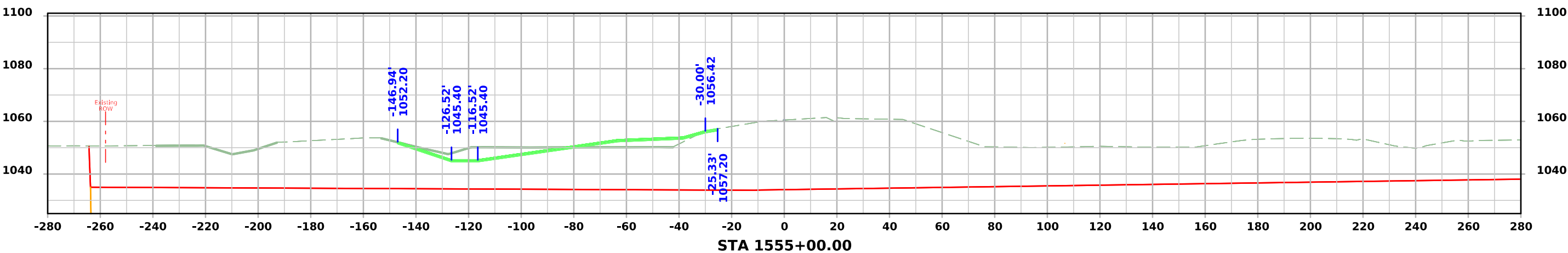
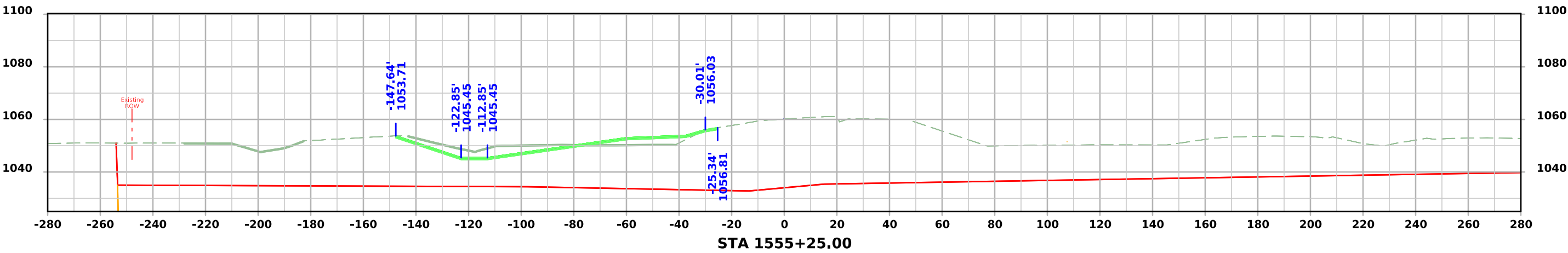
Ramp C - Stage 5



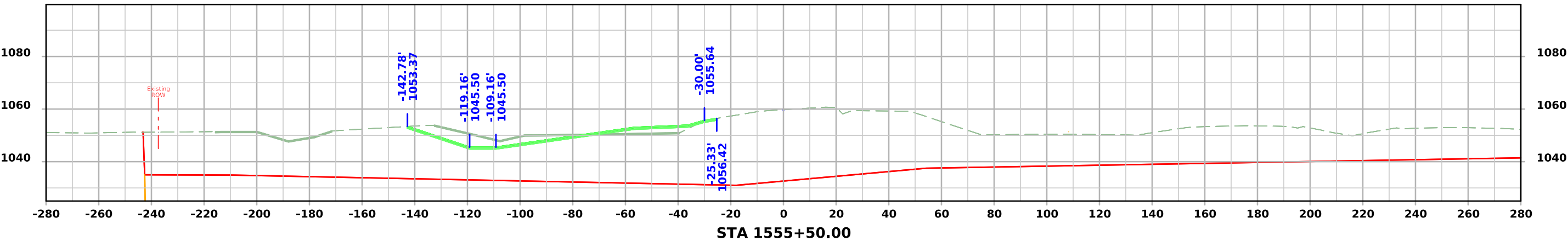
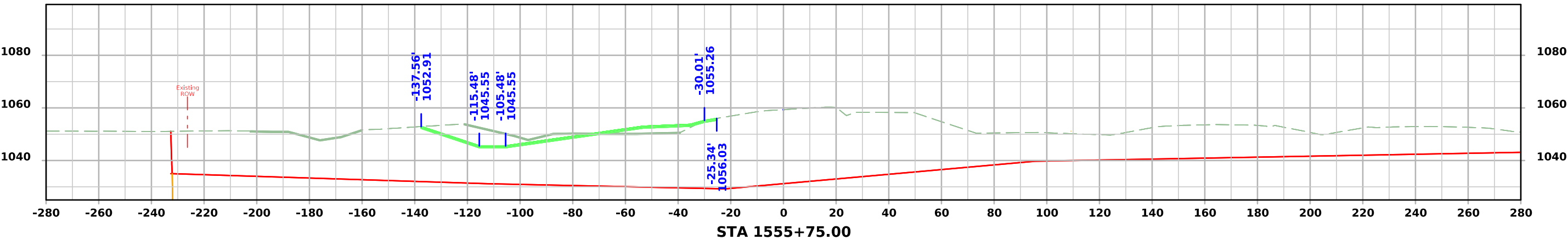
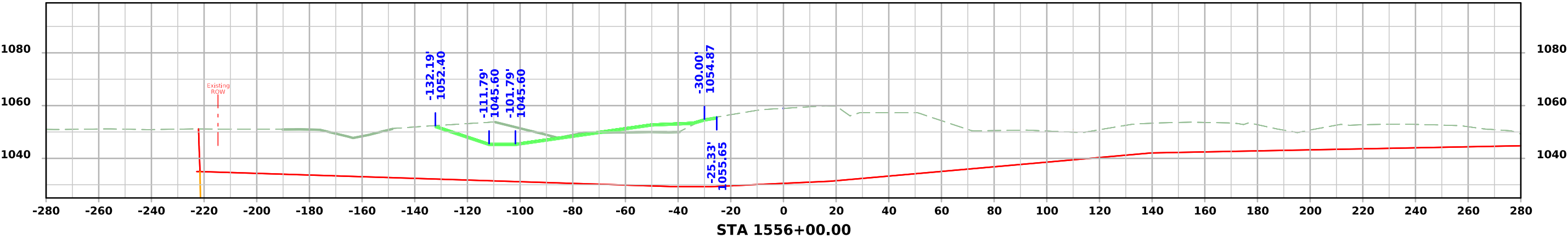
# Ramp C - Stage 5



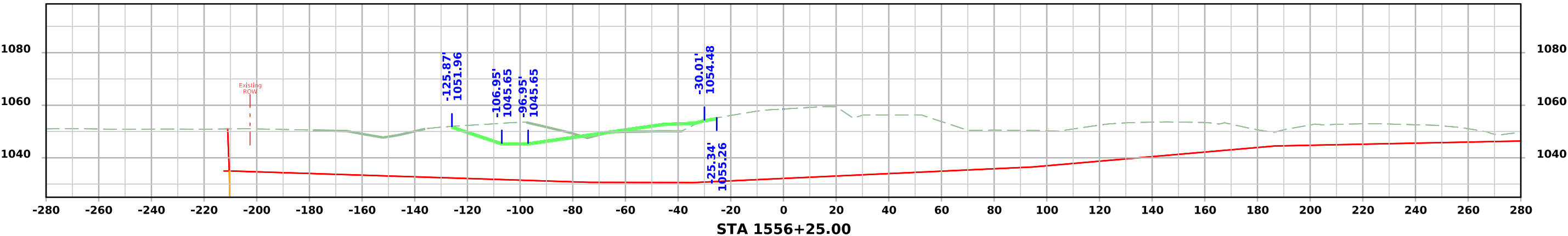
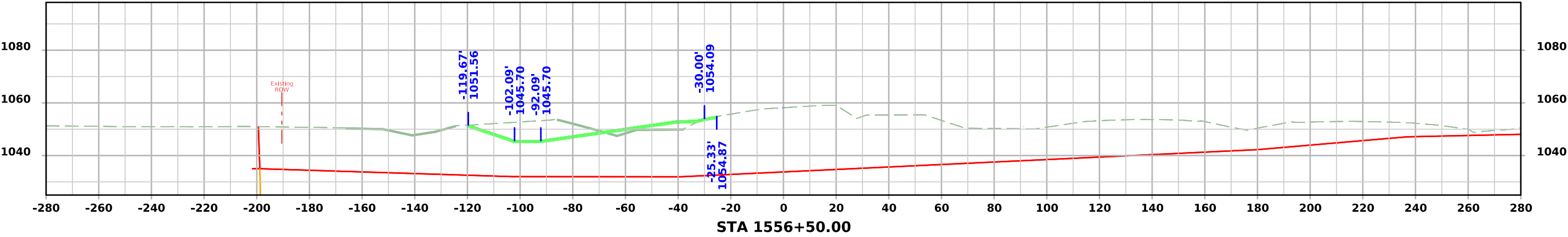
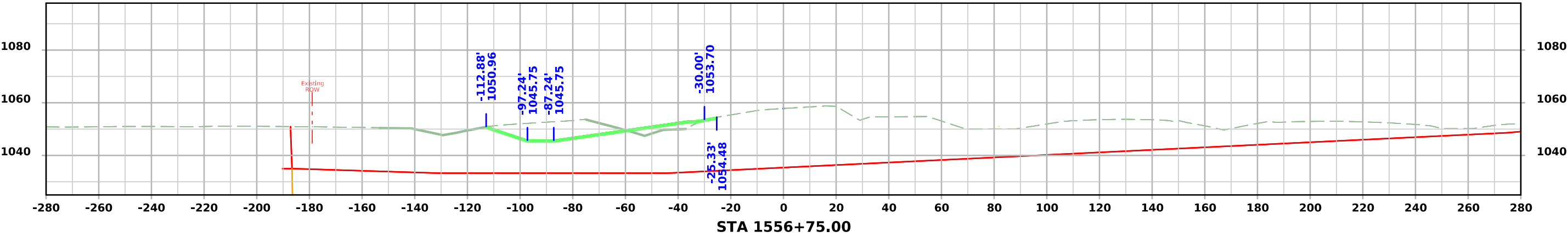
# Ramp A - Stage 6



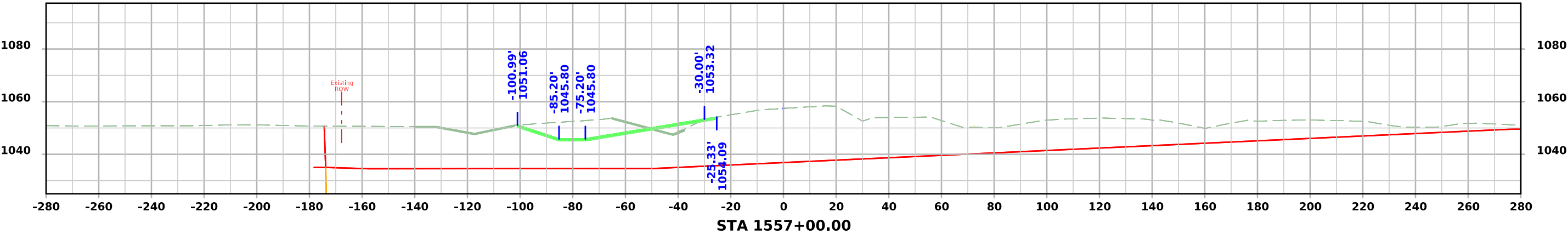
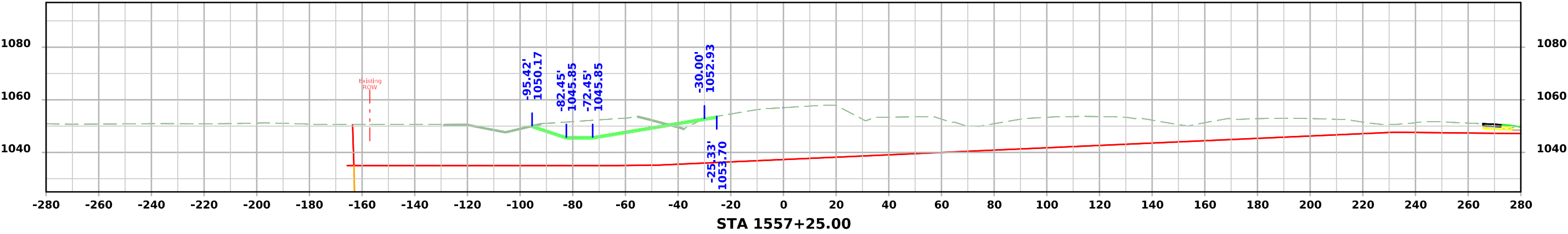
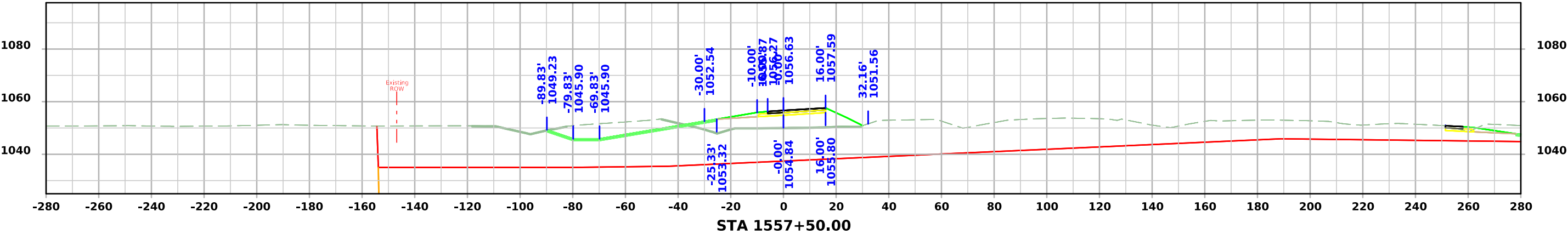
# Ramp A - Stage 6



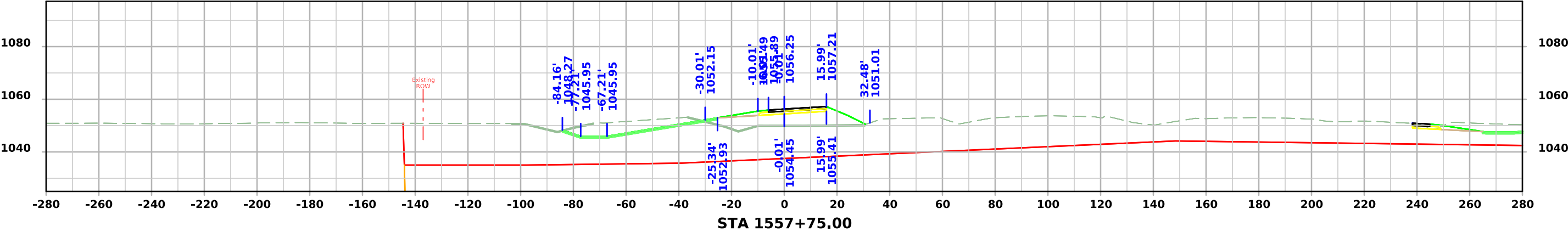
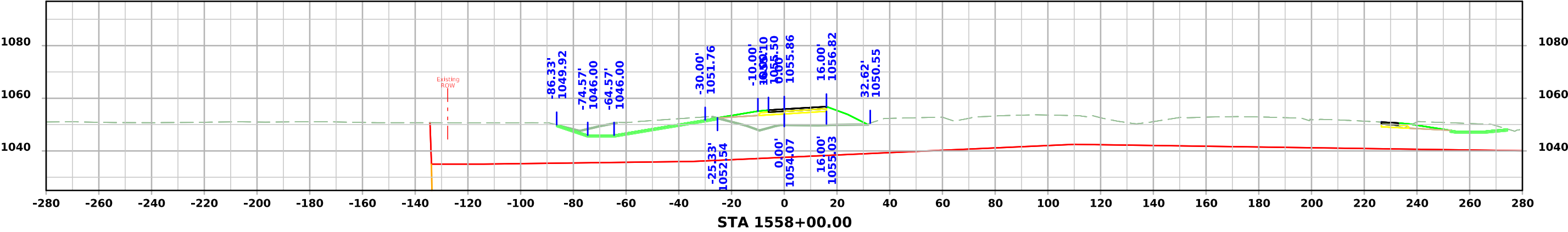
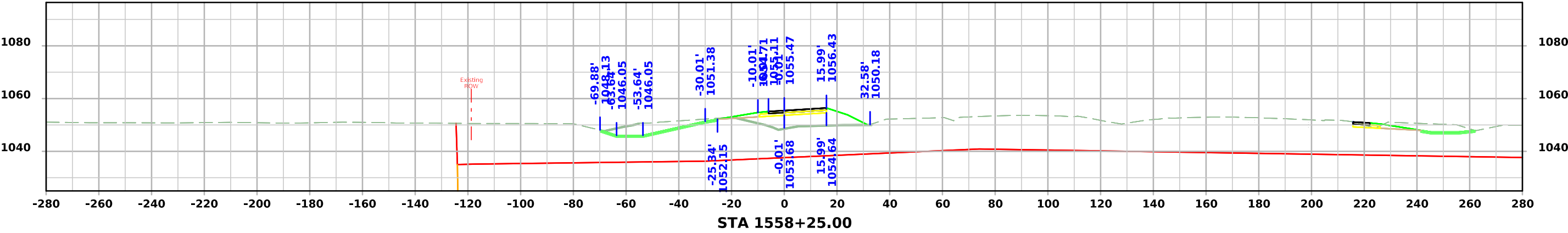
# Ramp A - Stage 6



Ramp A - Stage 6

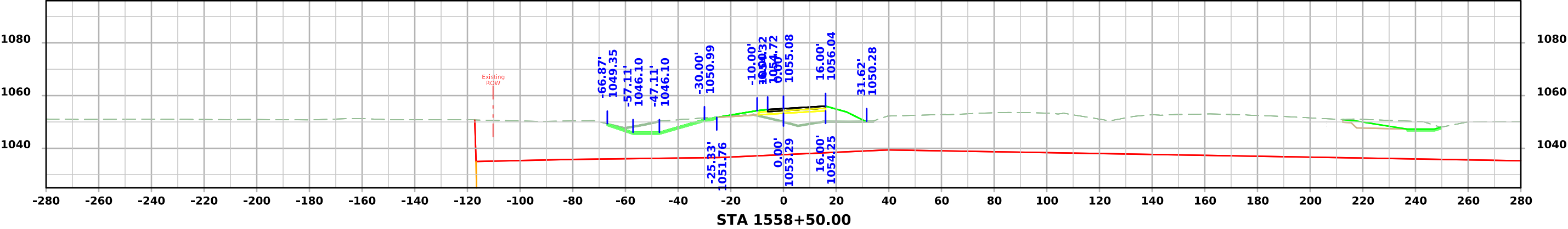
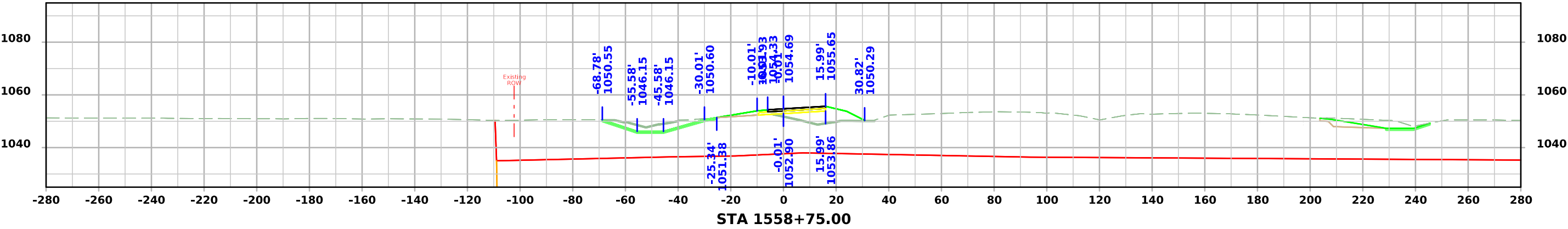
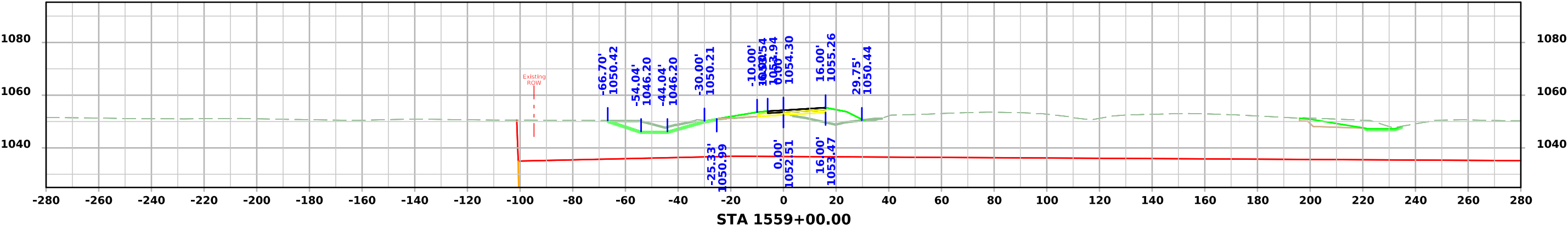


# Ramp A - Stage 6

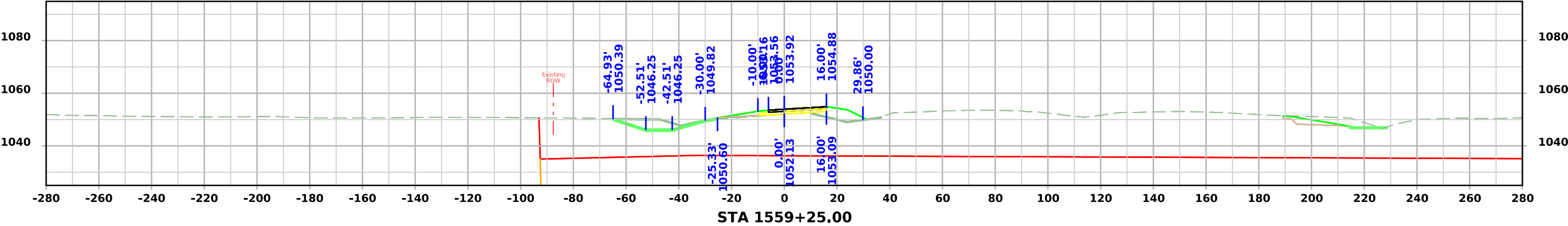
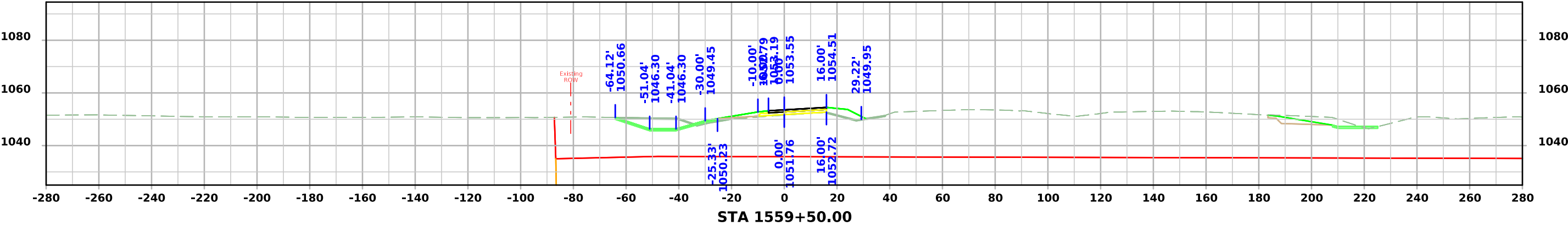
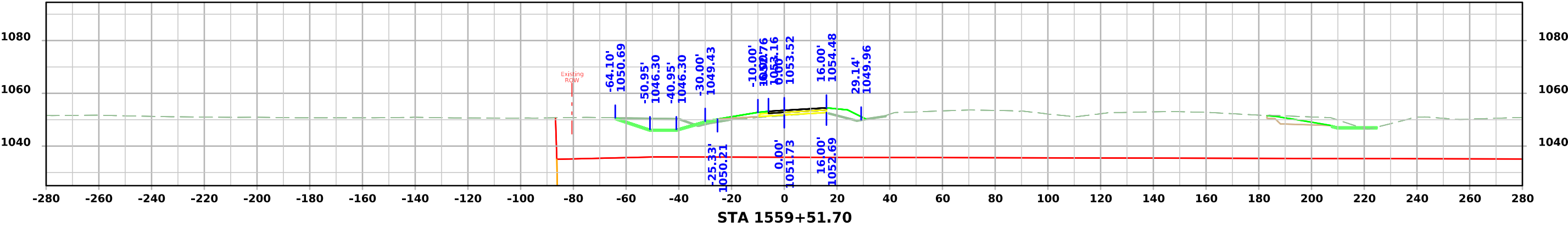




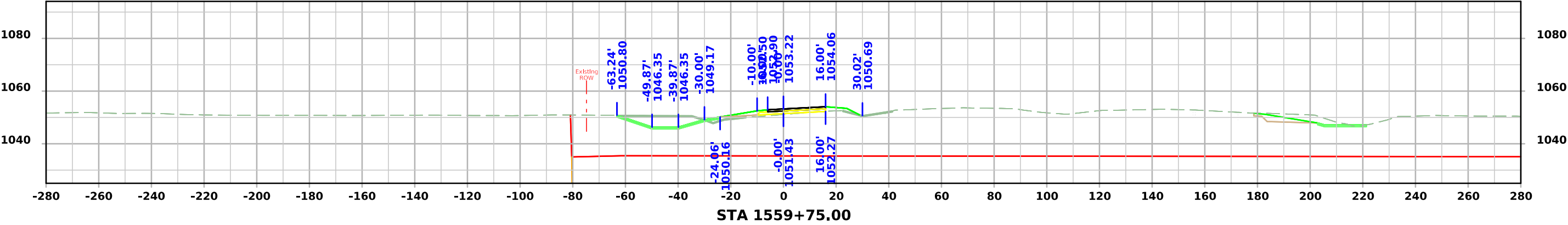
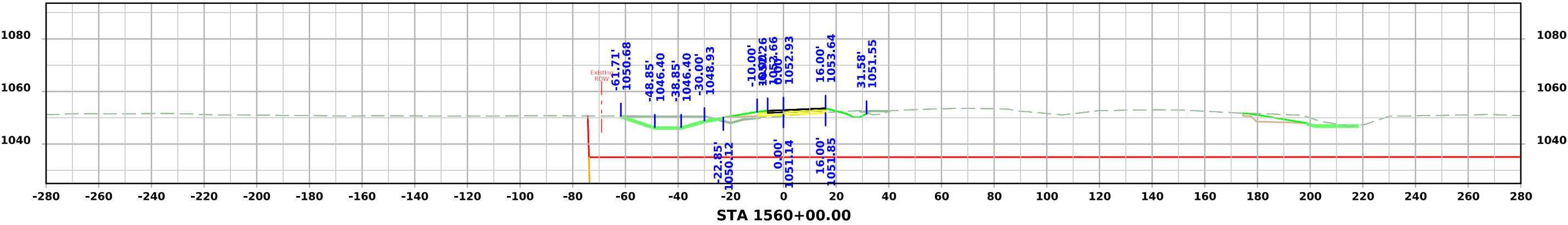
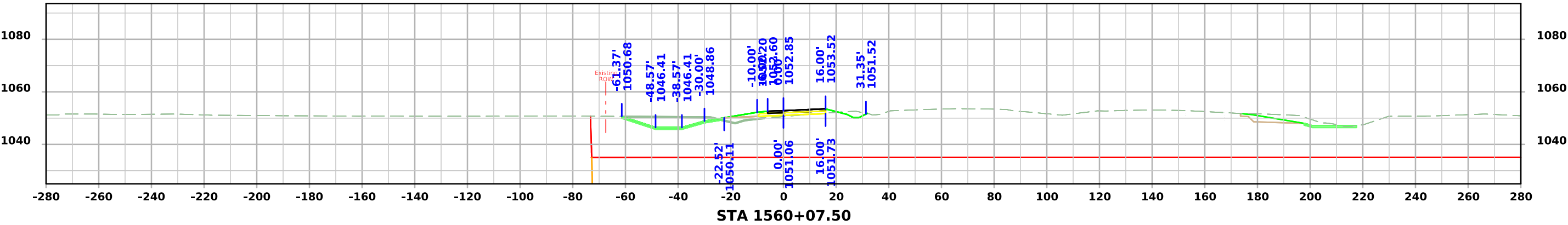
# Ramp A - Stage 6



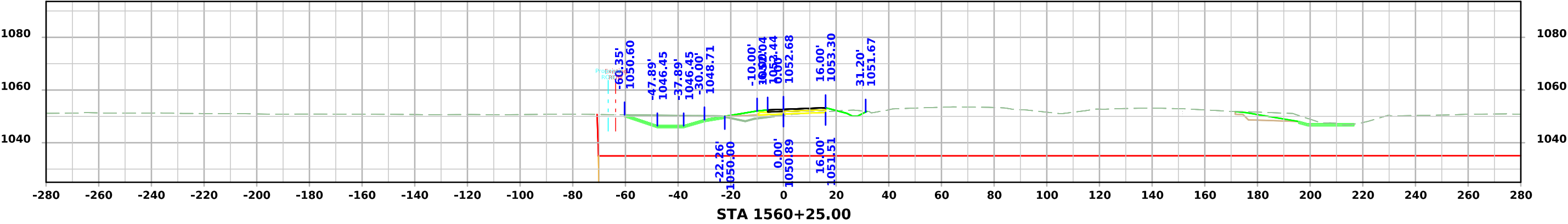
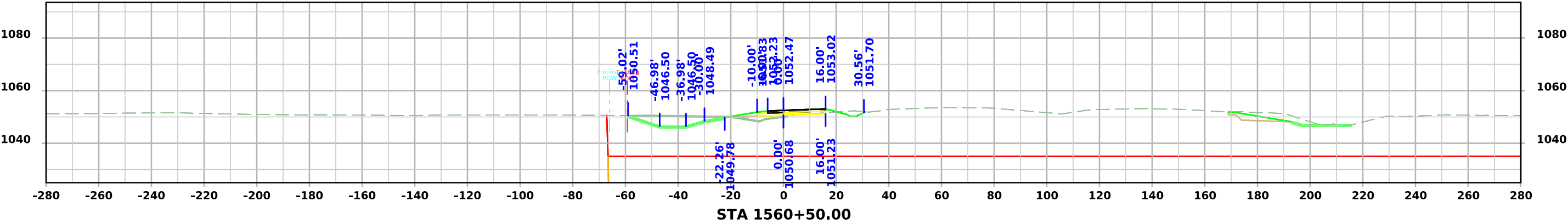
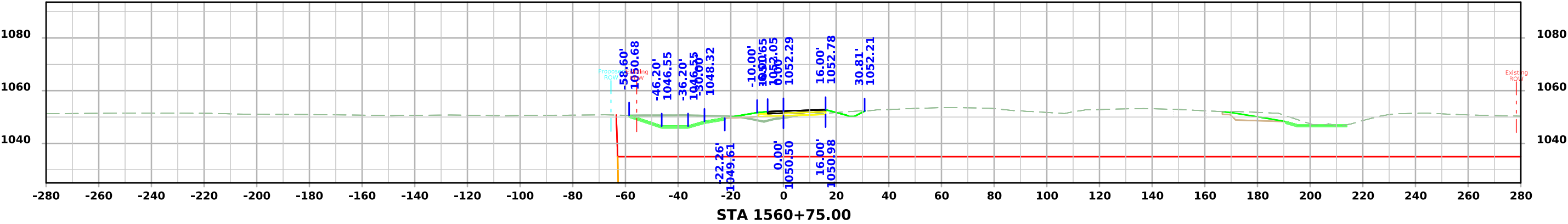
Ramp A - Stage 6



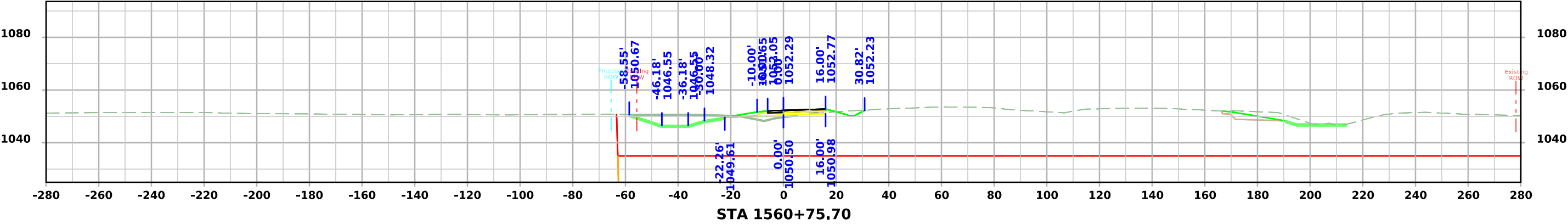
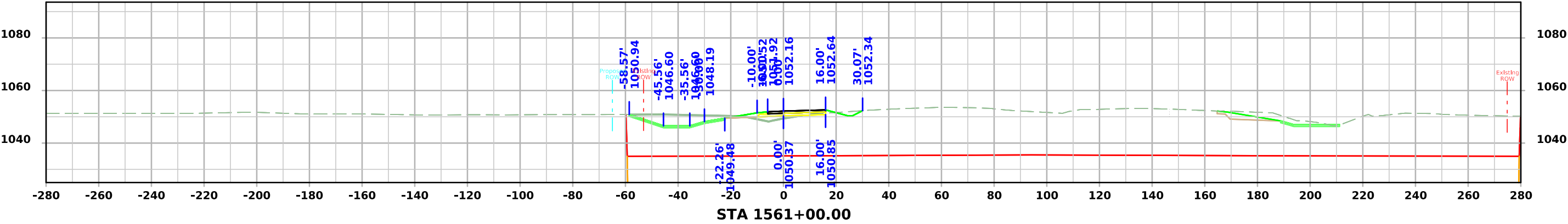
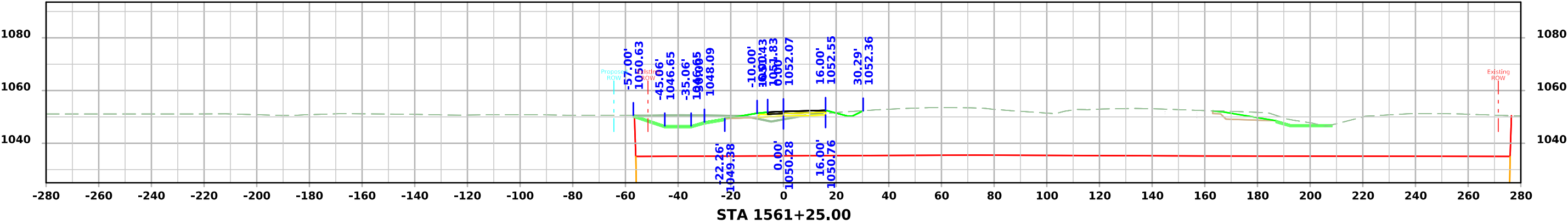
Ramp A - Stage 6



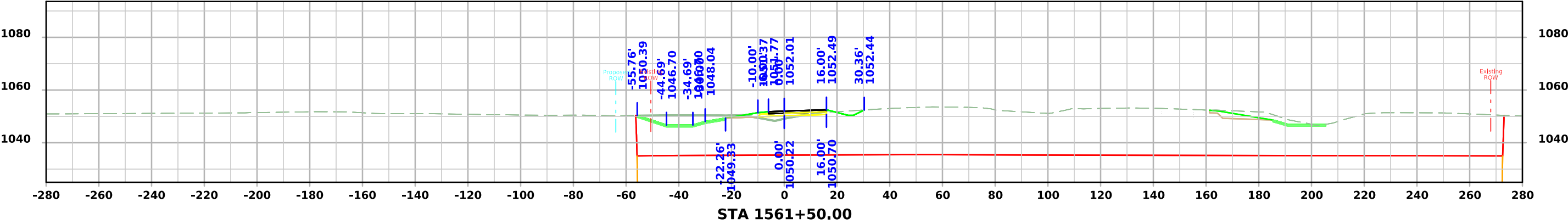
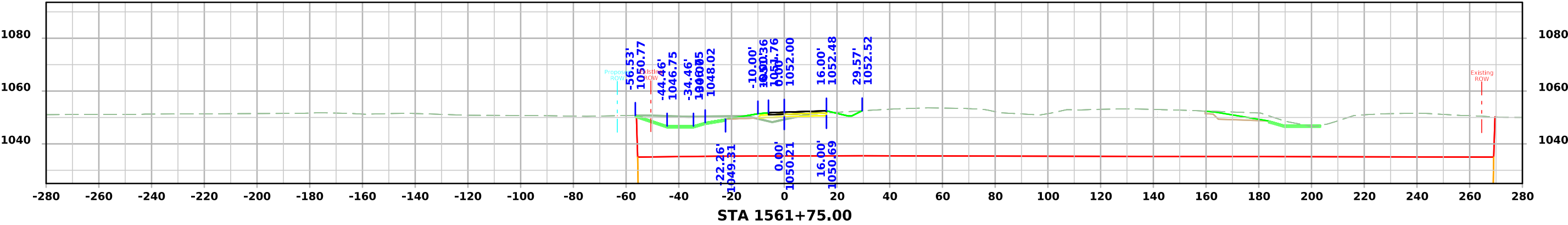
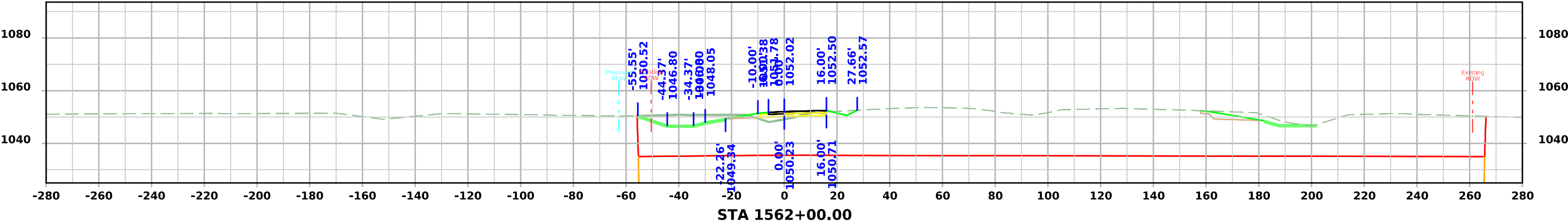
Ramp A - Stage 6



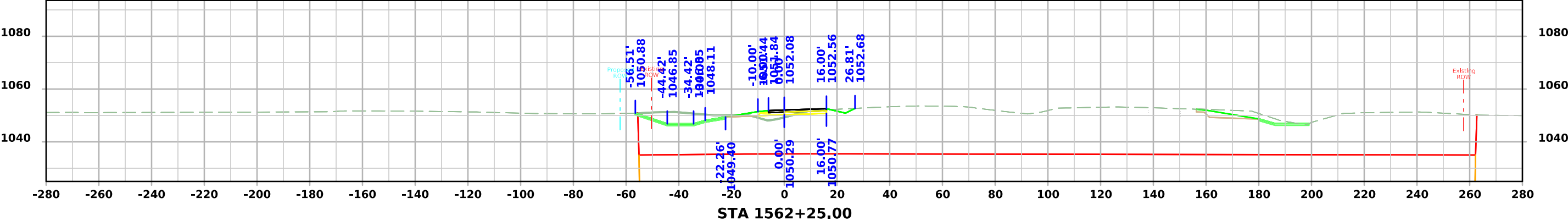
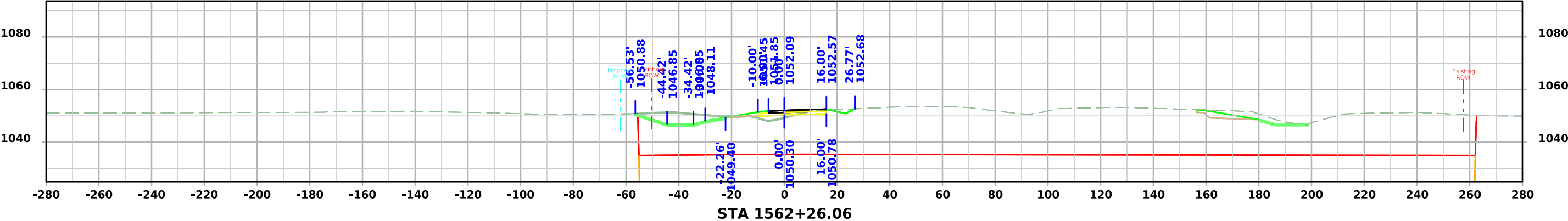
# Ramp A - Stage 6



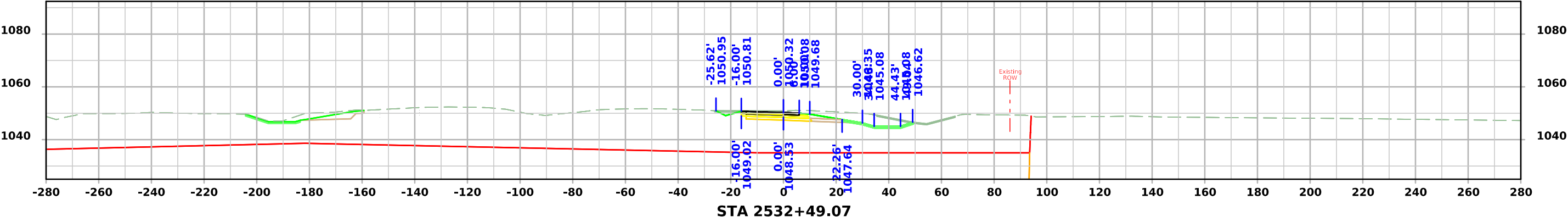
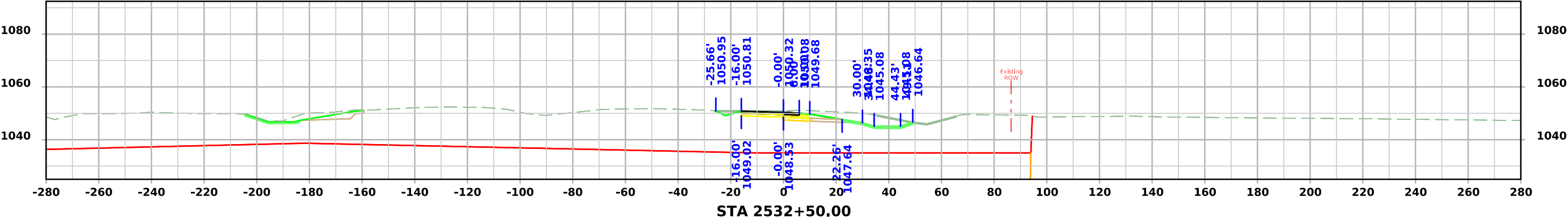
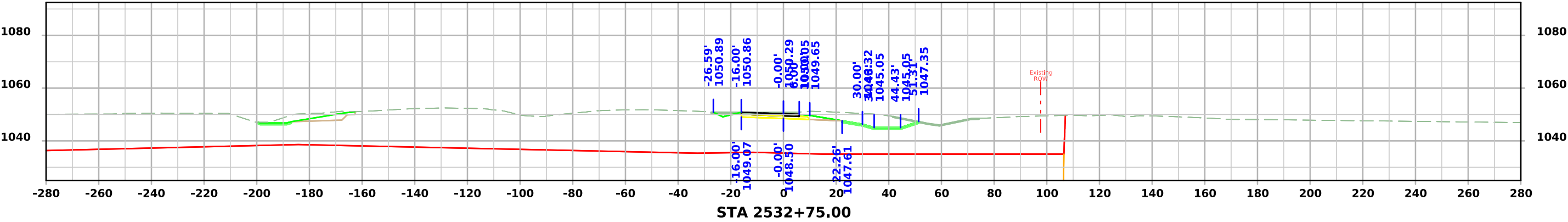
Ramp A - Stage 6



# Ramp A - Stage 6

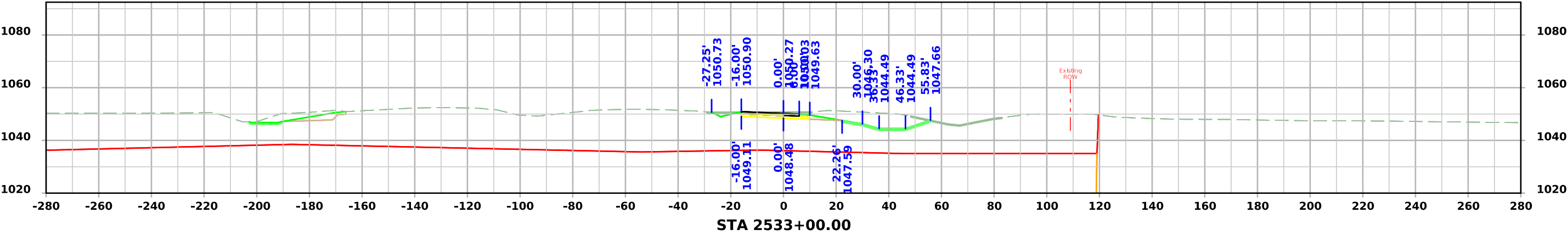
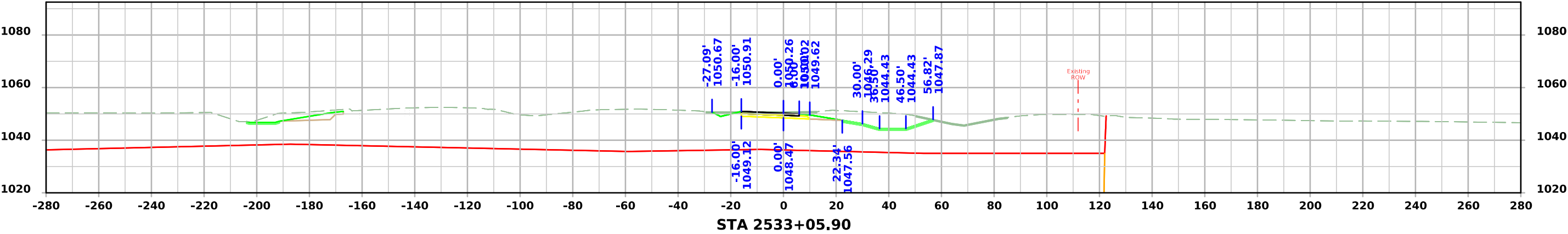
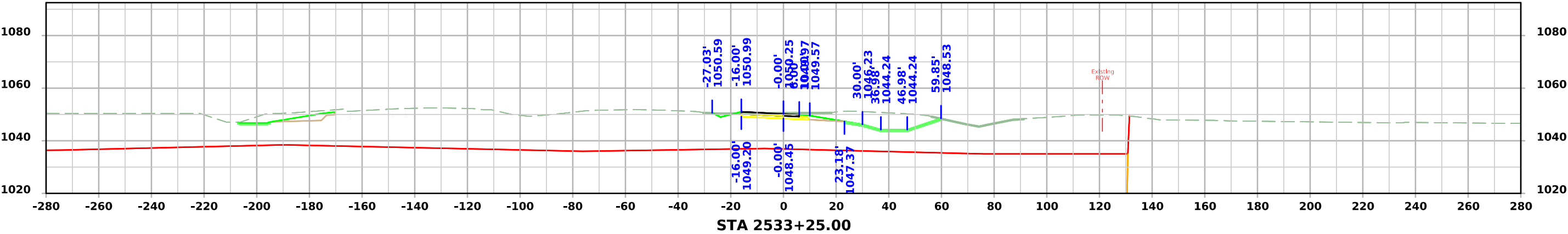


# Ramp B - Stage 6

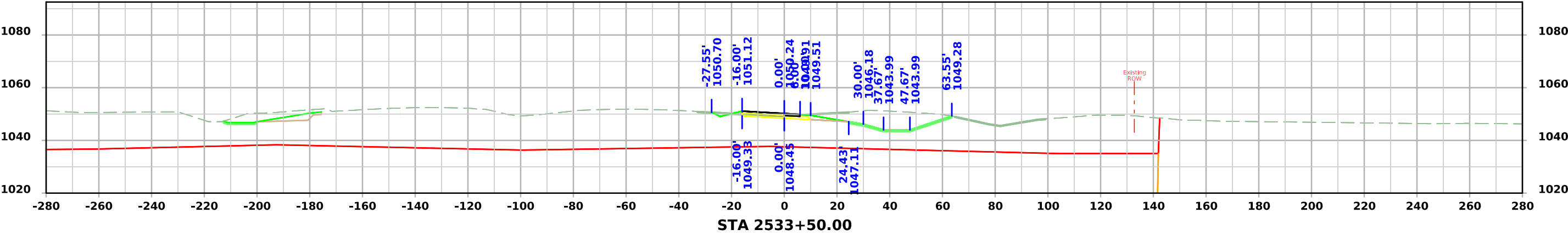
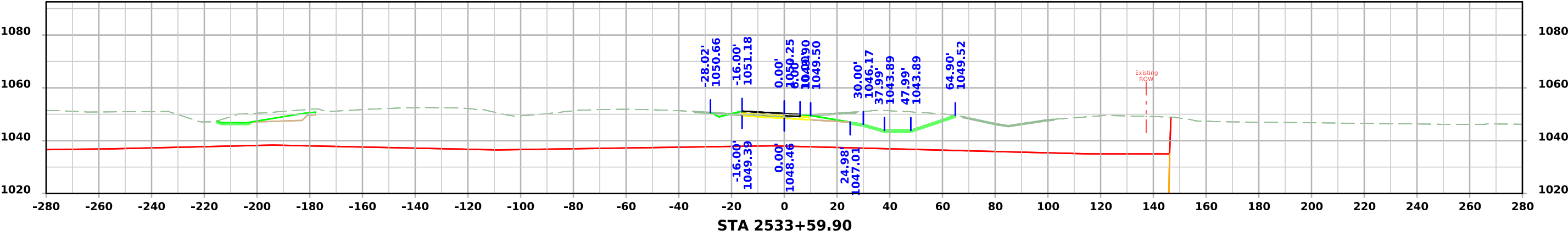
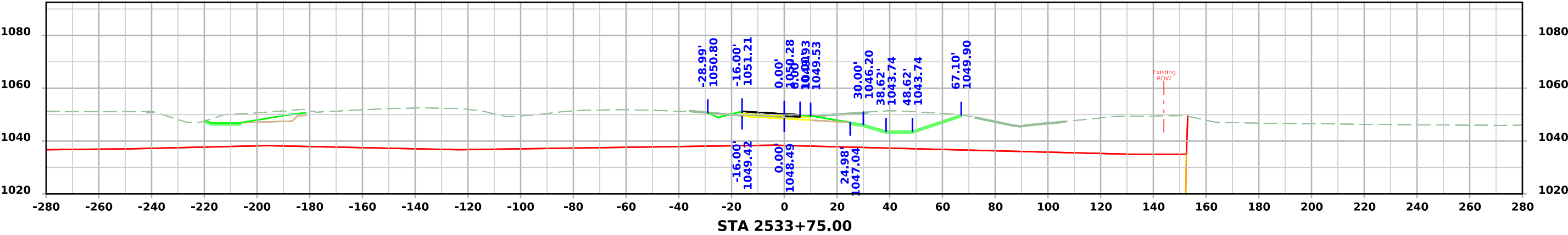




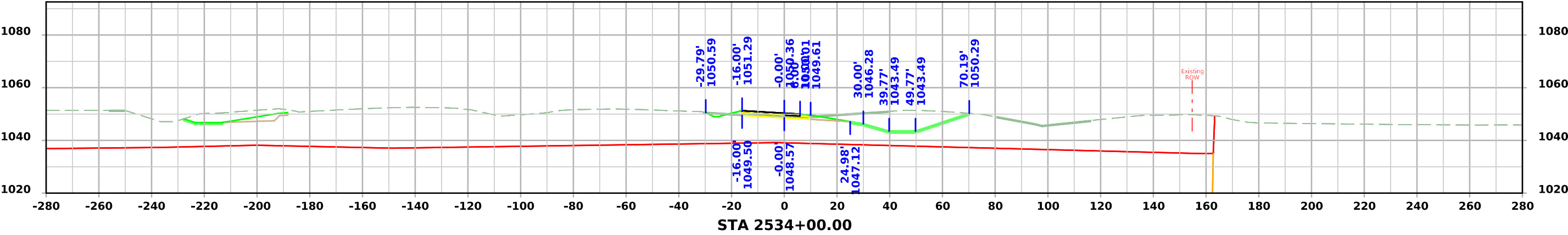
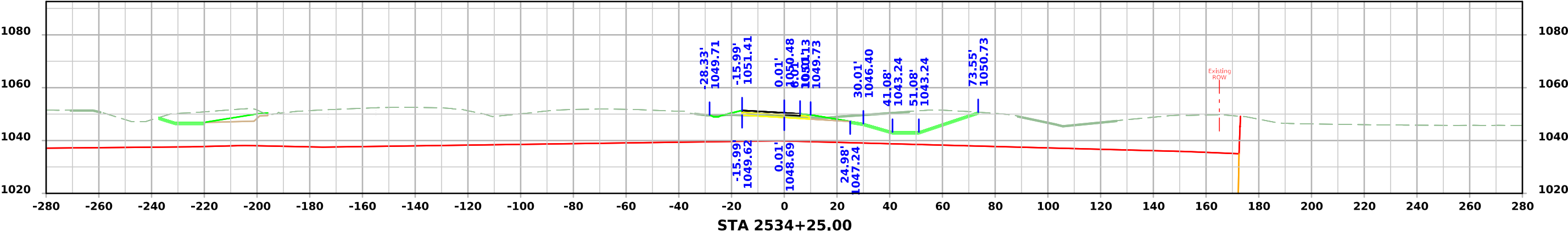
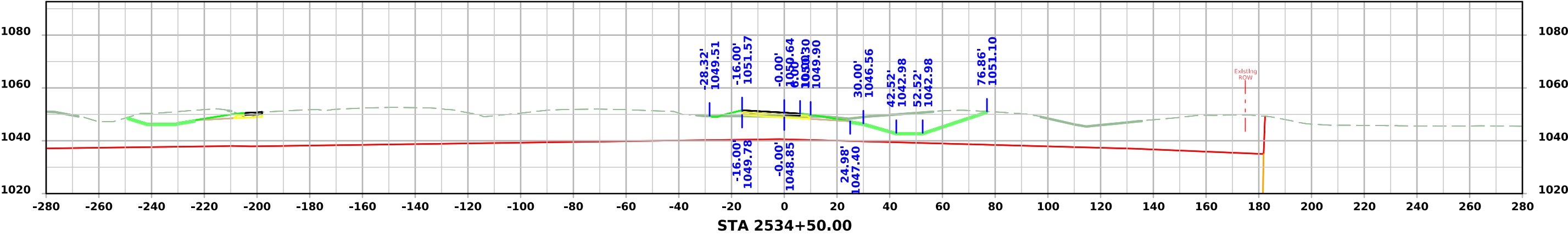
Ramp B - Stage 6



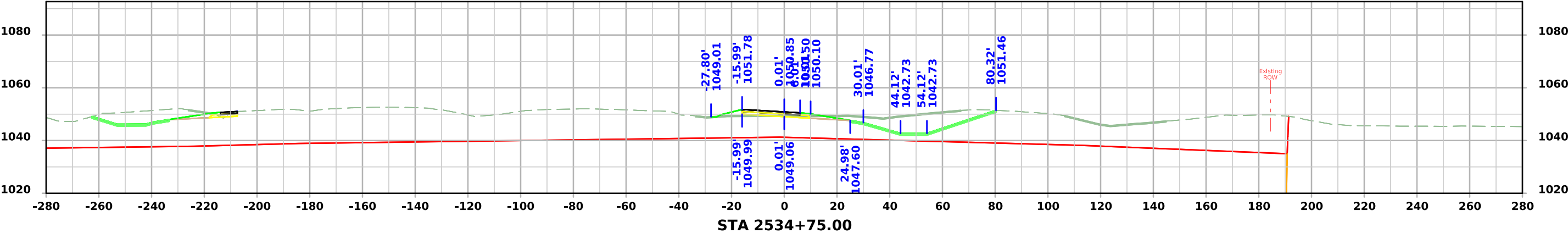
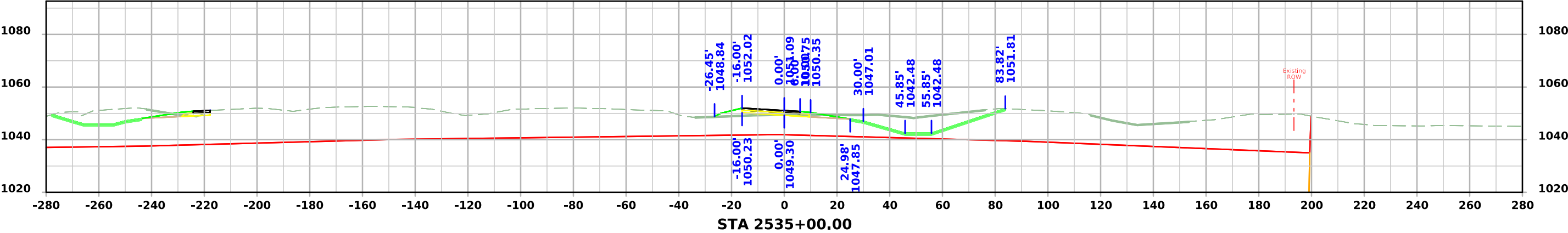
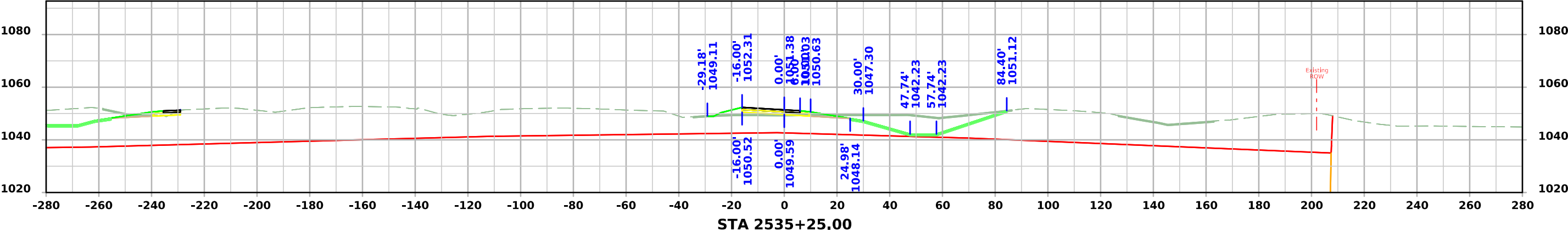
Ramp B - Stage 6



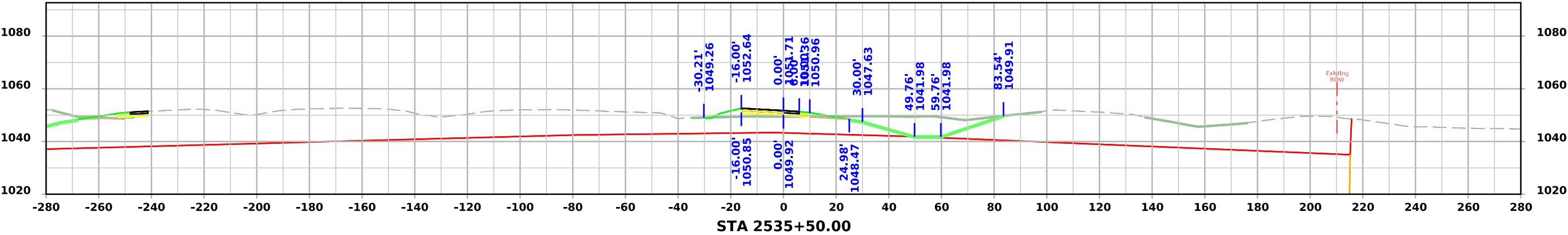
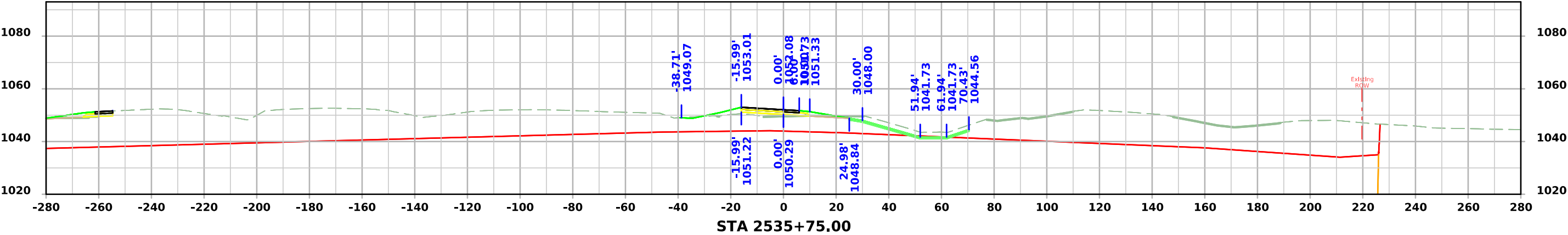
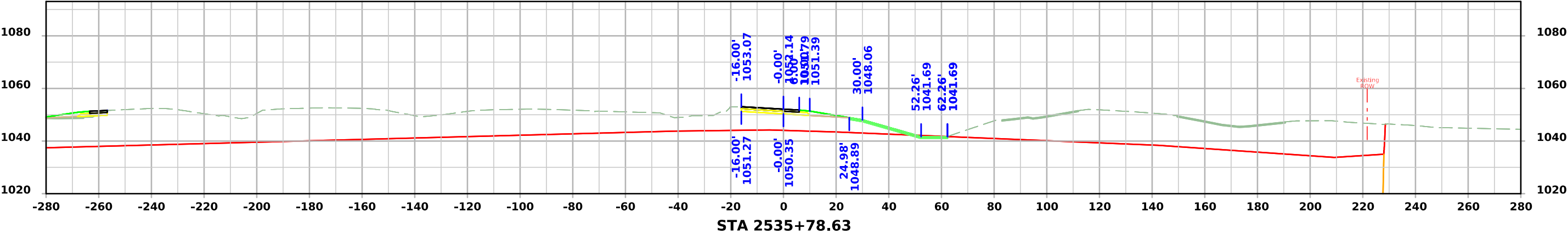
Ramp B - Stage 6



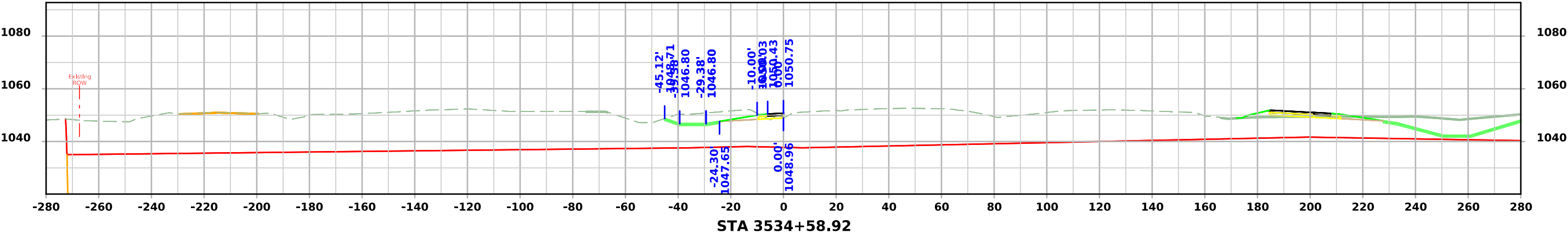
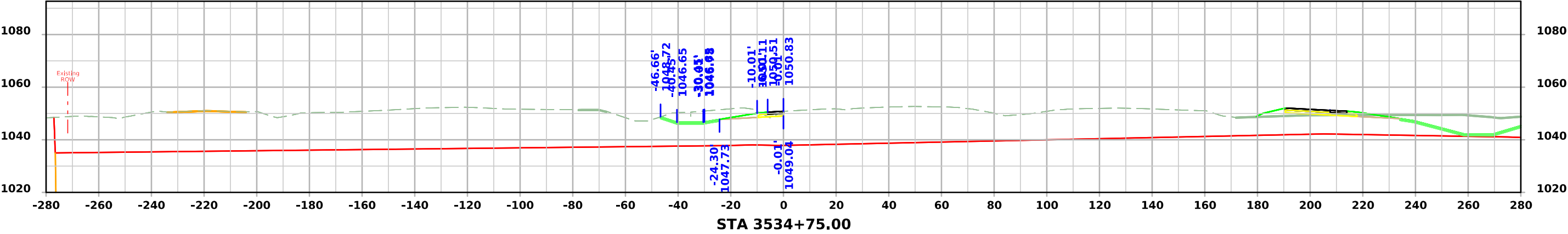
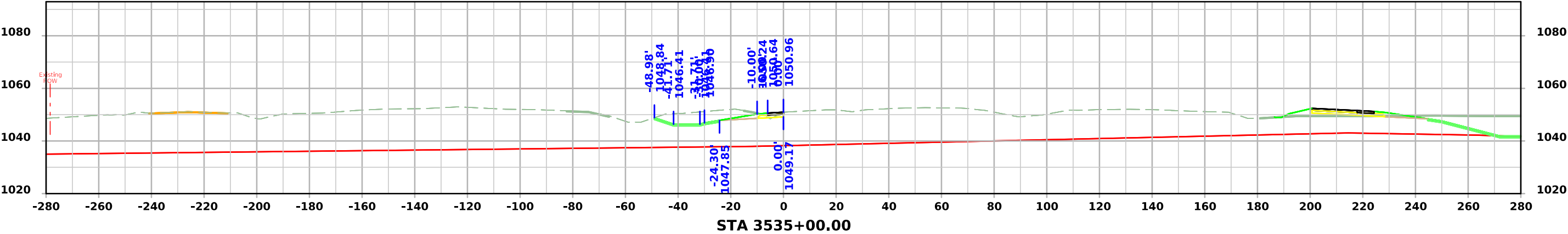
Ramp B - Stage 6



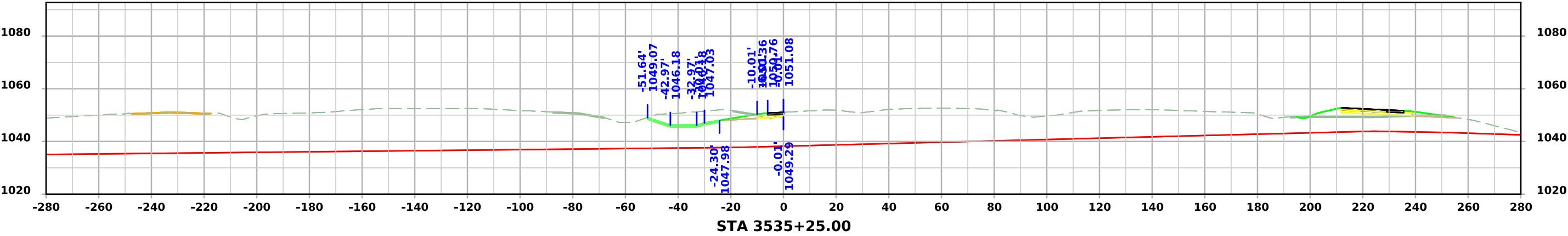
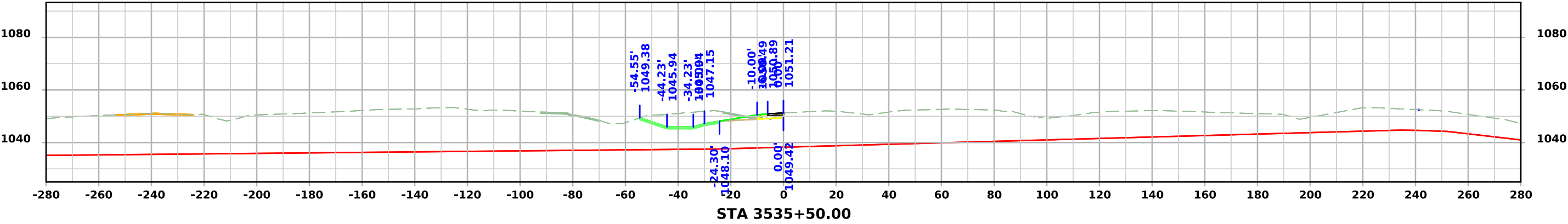
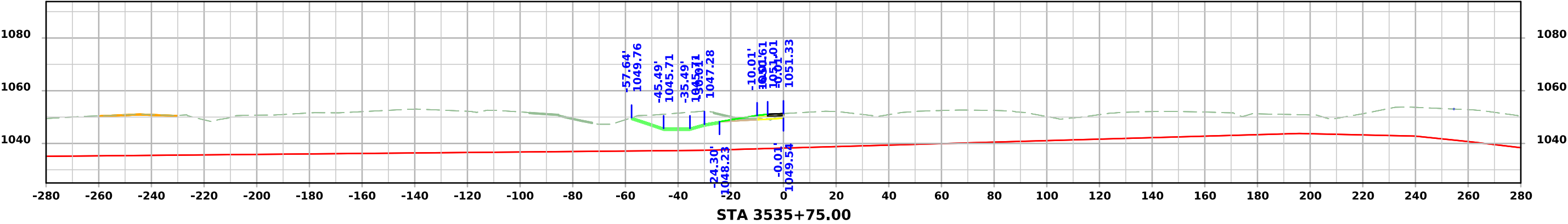
Ramp B - Stage 6



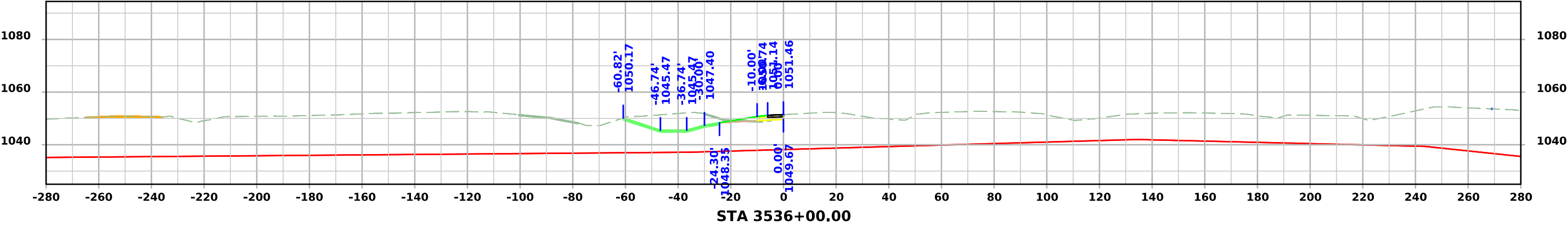
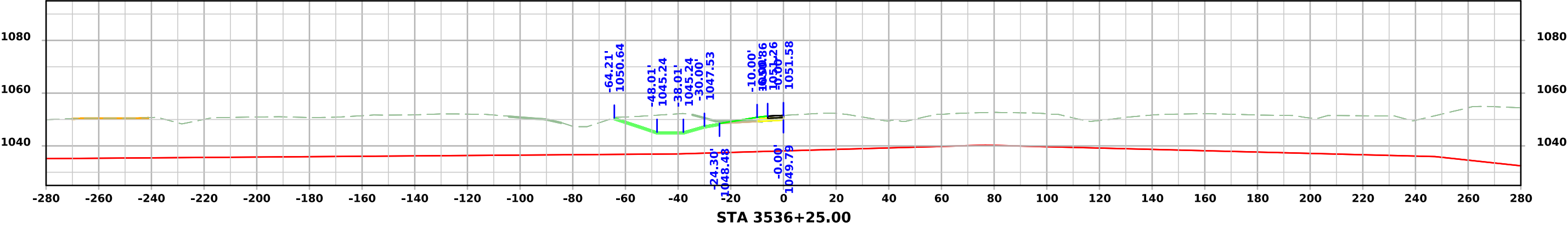
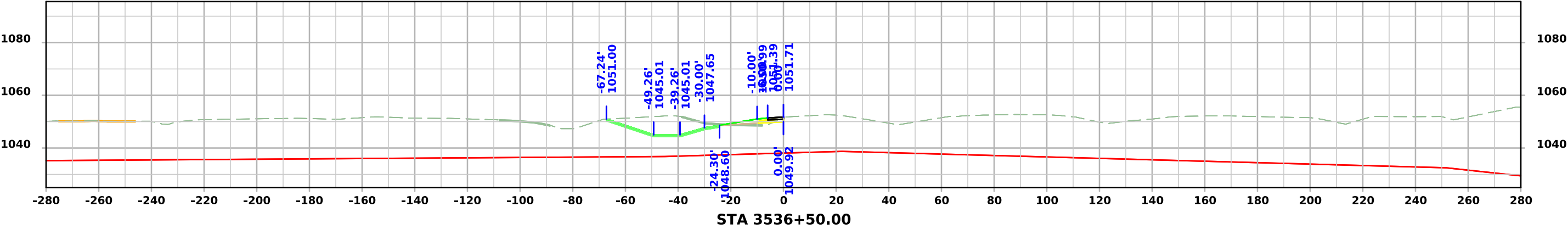
Ramp C -Stage 6



Ramp C -Stage 6

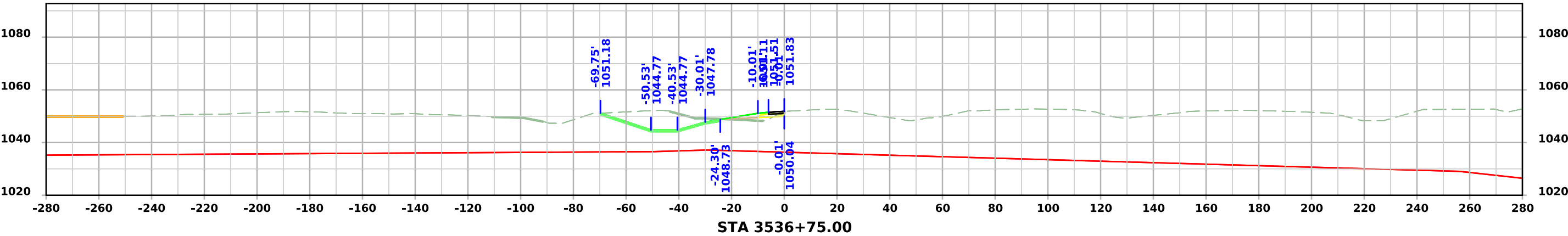
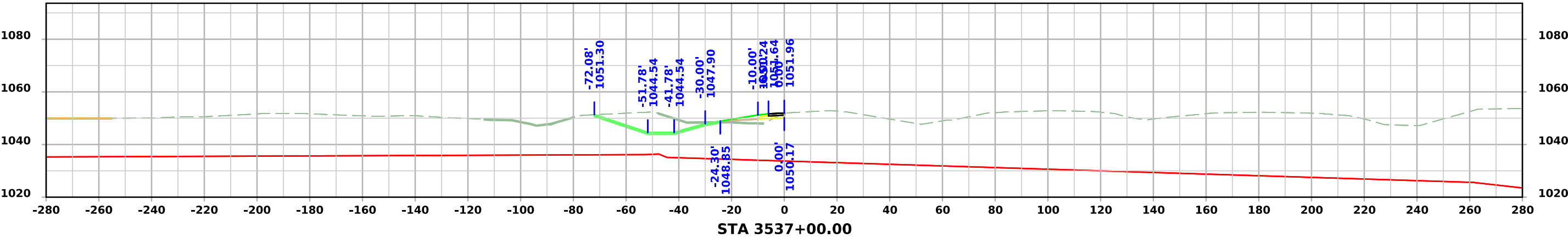
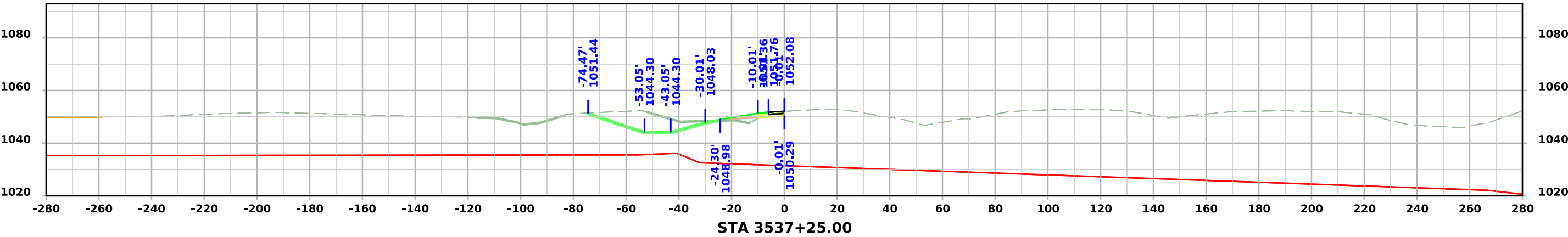


Ramp C -Stage 6

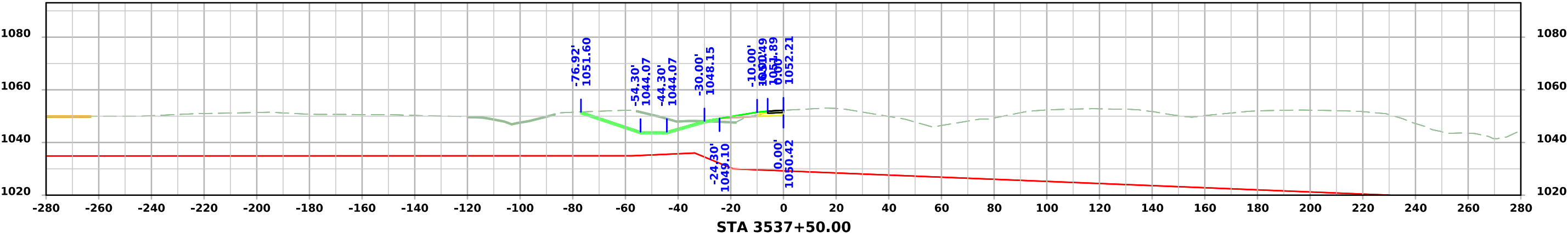
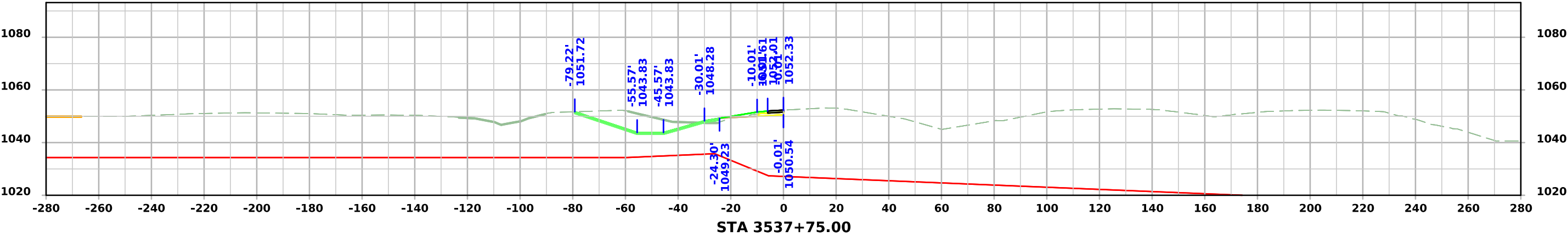
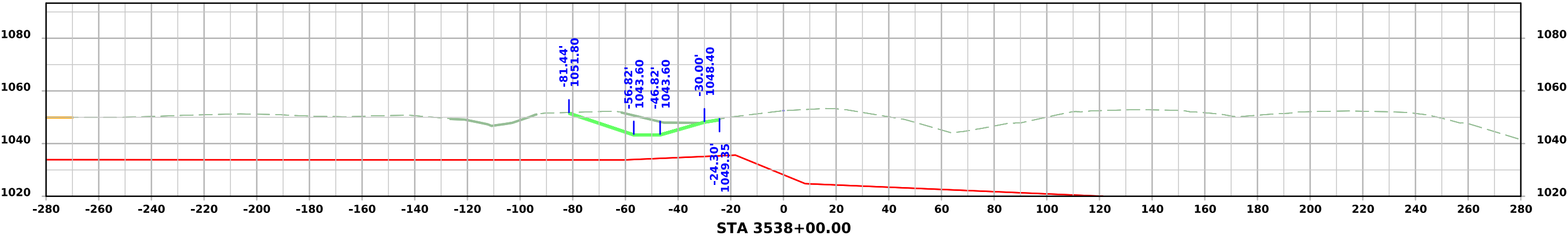




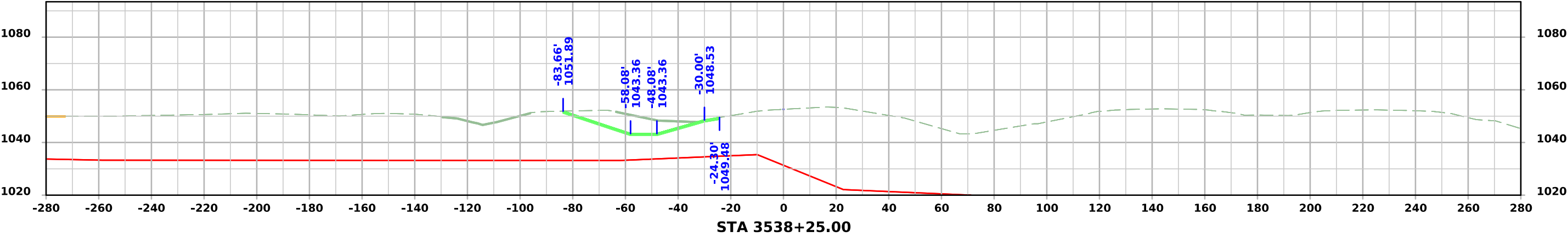
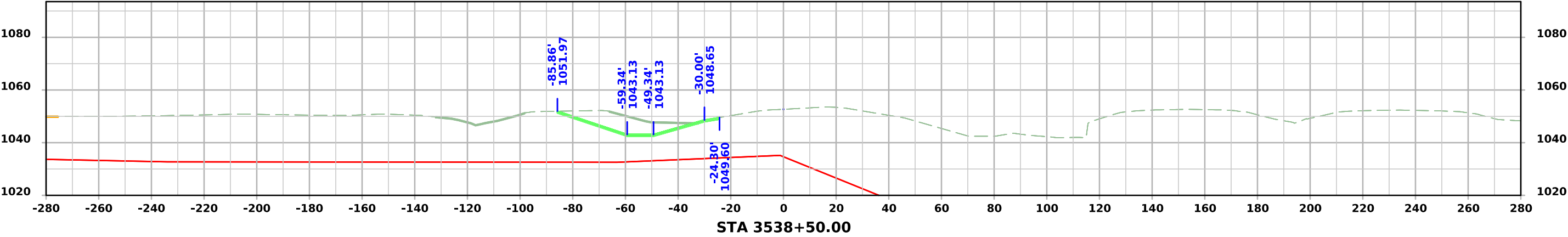
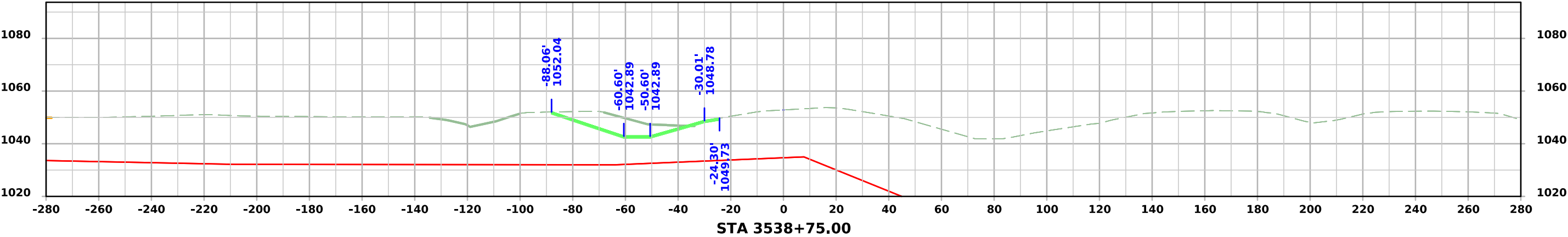
Ramp C -Stage 6



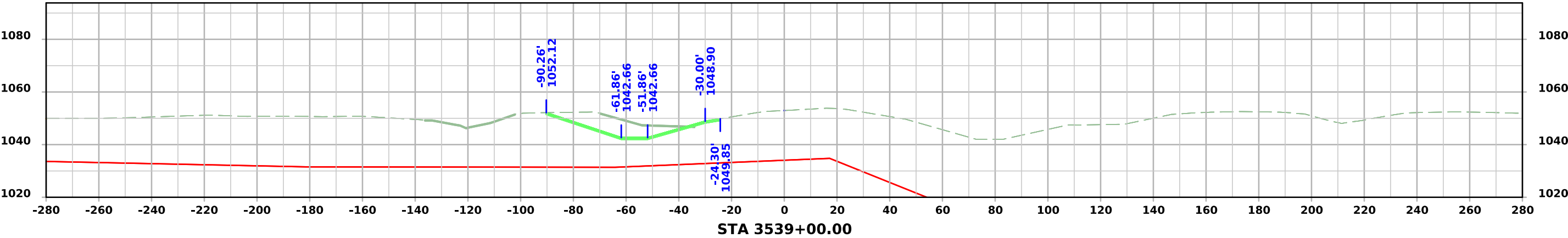
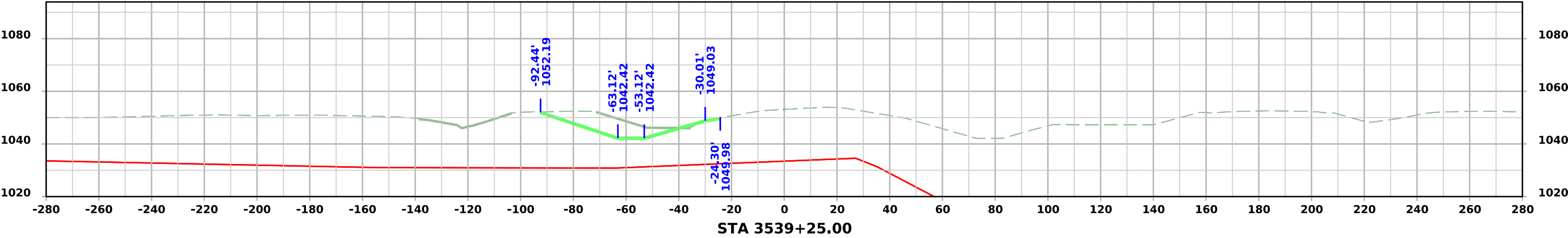
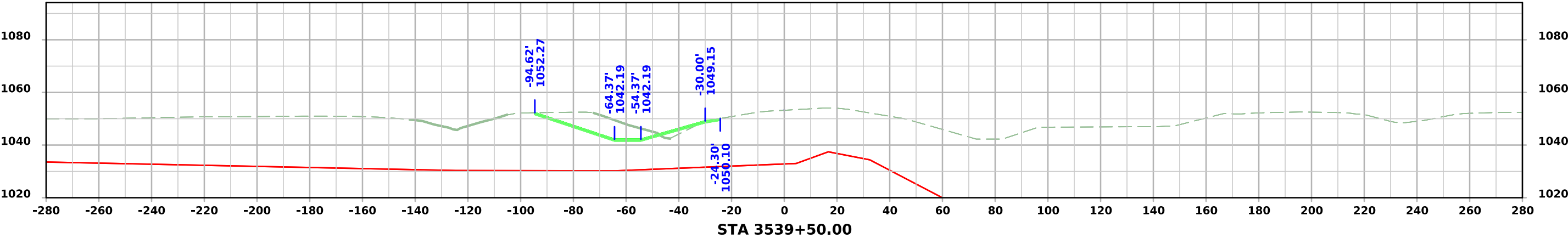
Ramp C -Stage 6



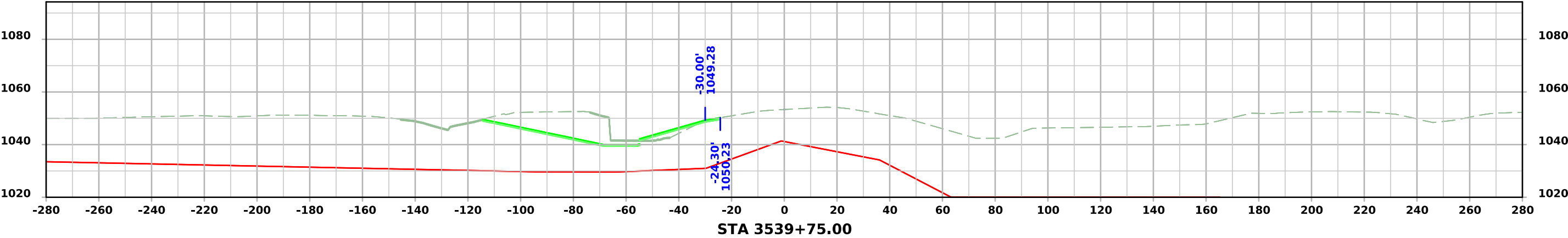
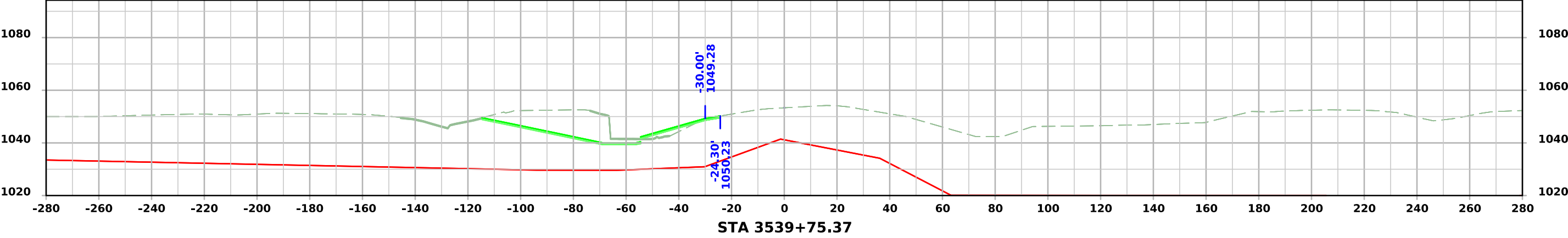
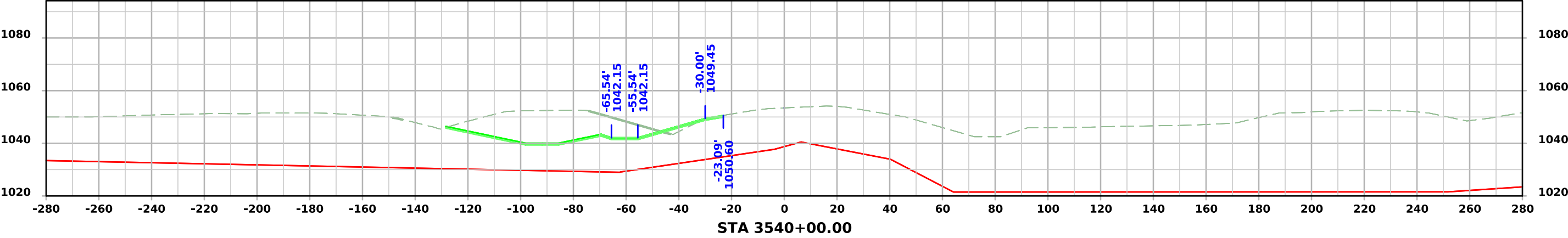
Ramp C -Stage 6



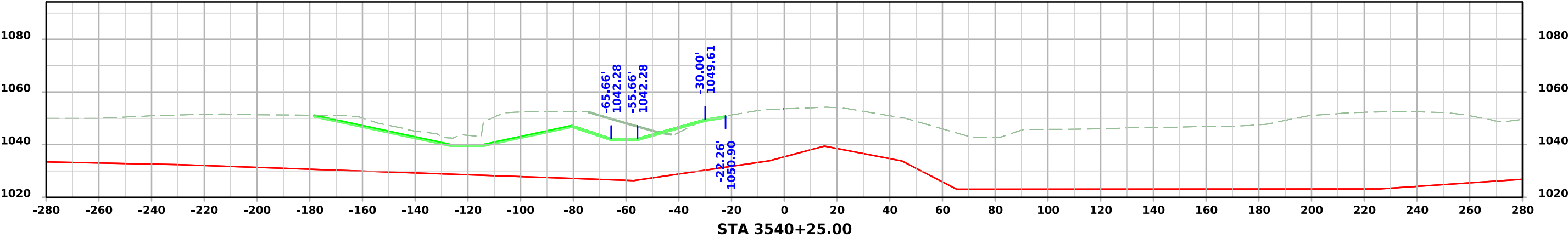
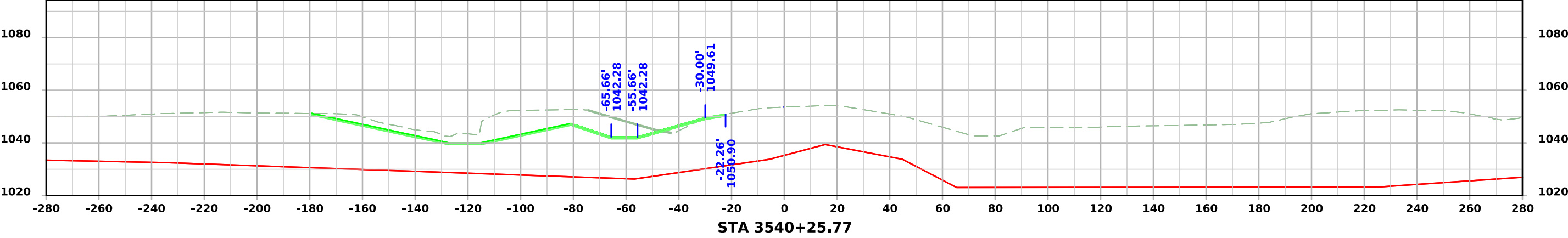
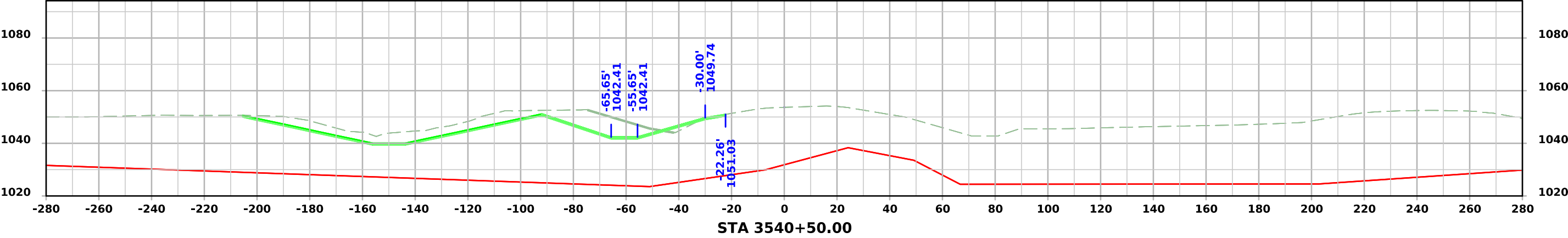
# Ramp C -Stage 6



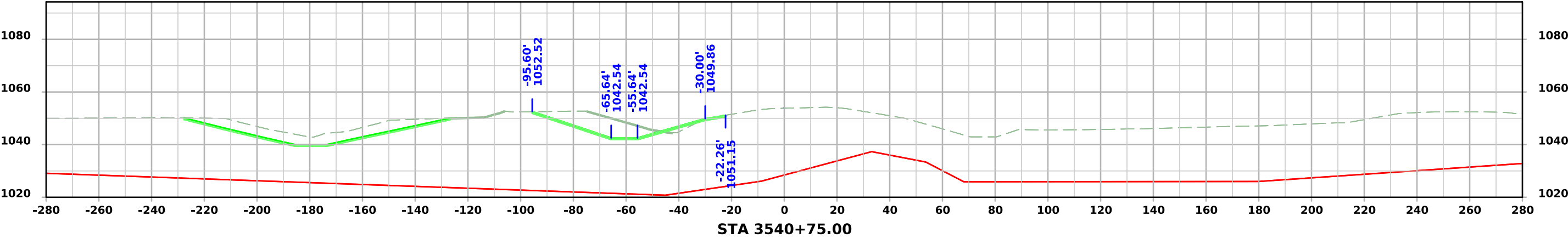
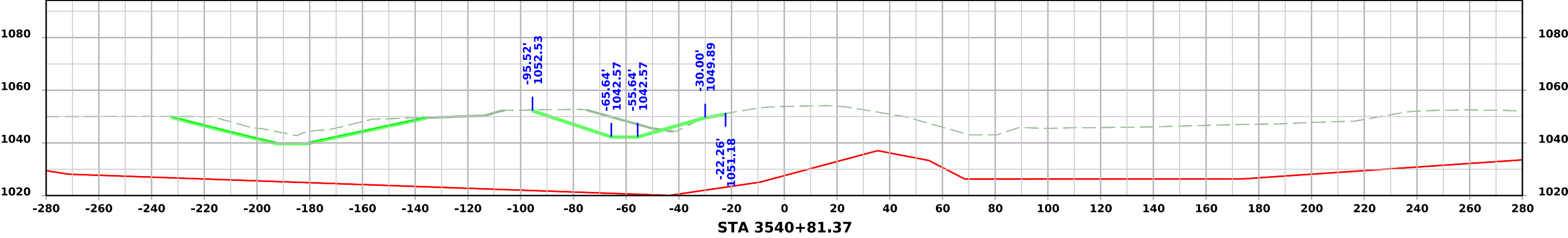
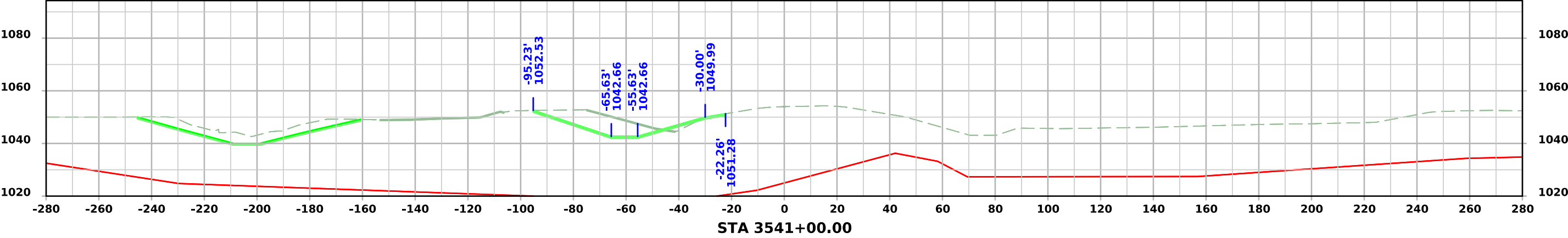
Ramp C -Stage 6



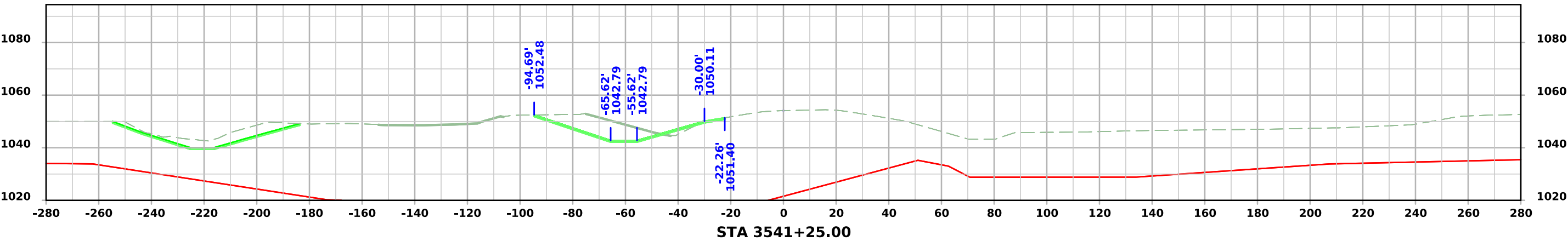
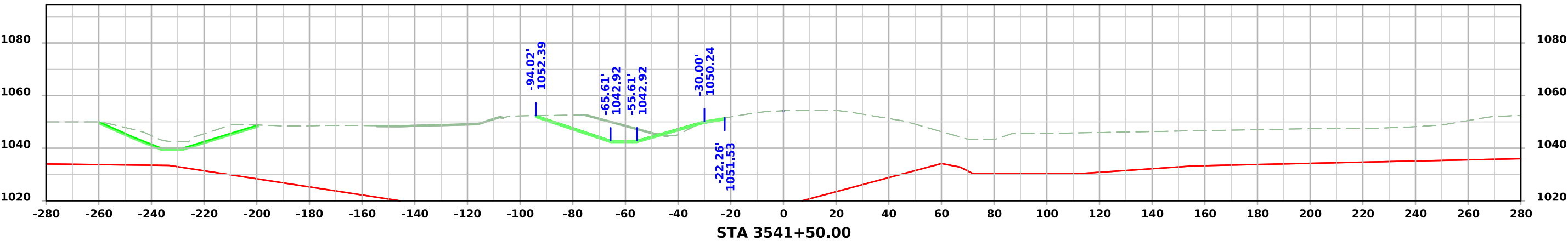
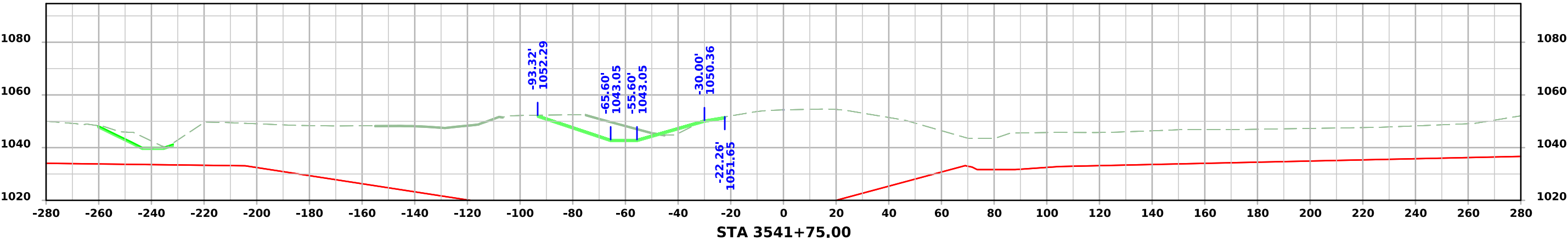
# Ramp C -Stage 6



Ramp C -Stage 6

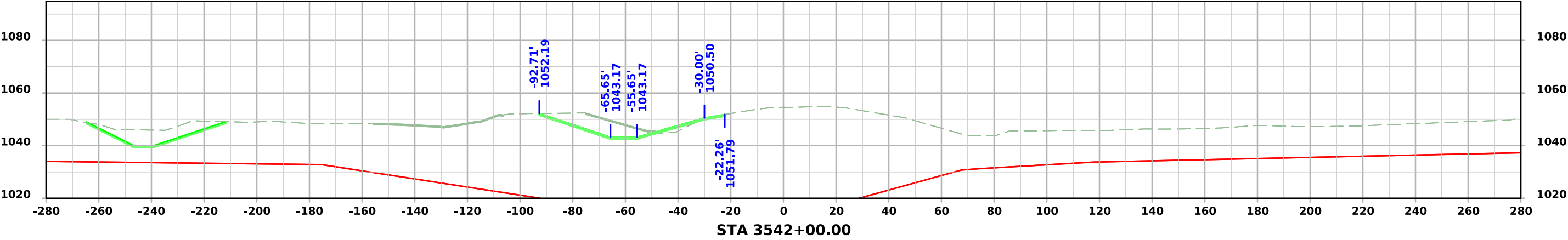
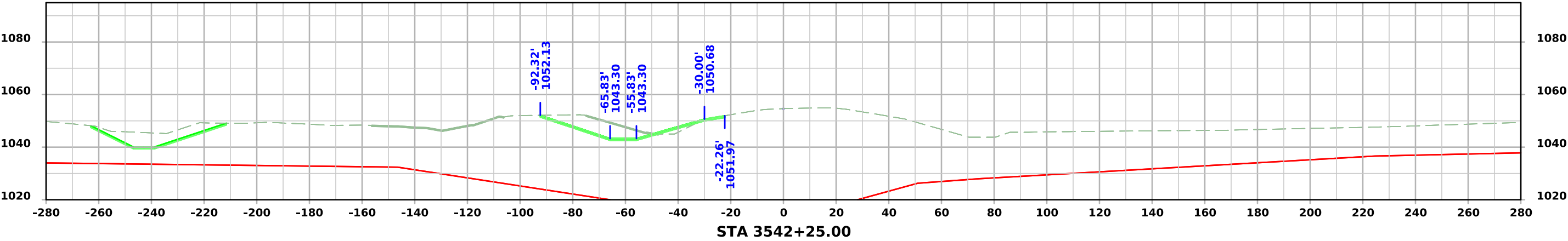
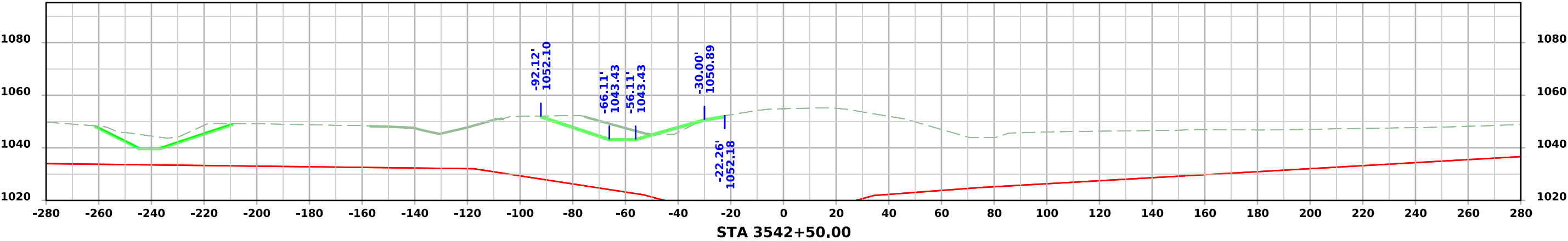


# Ramp C -Stage 6

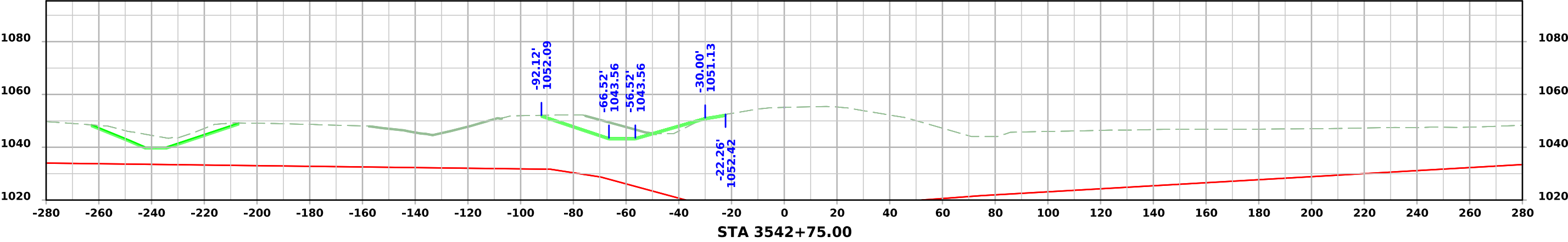
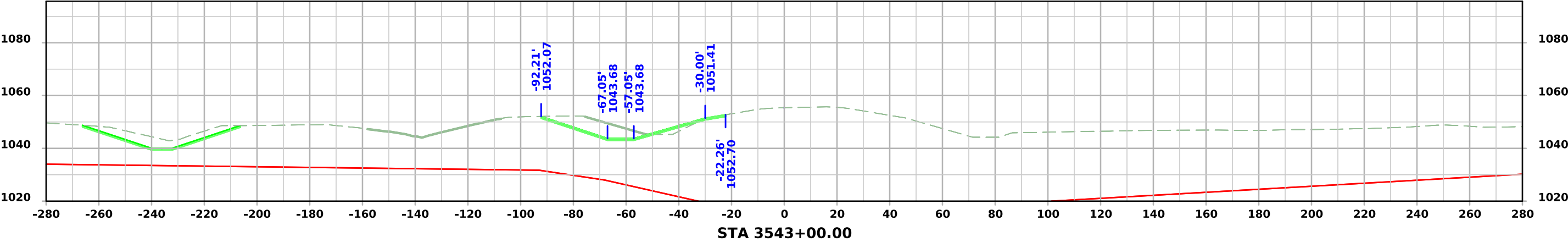
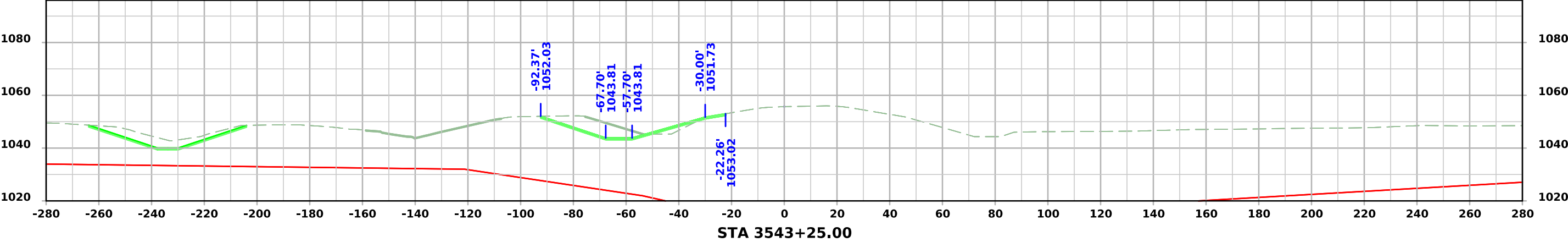




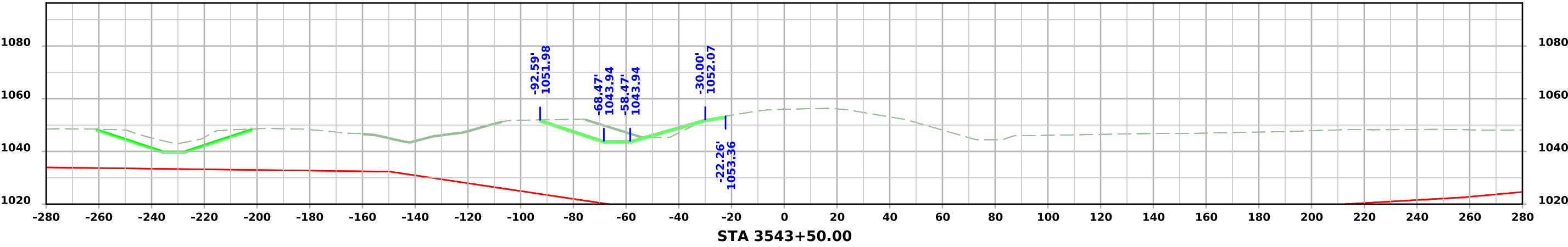
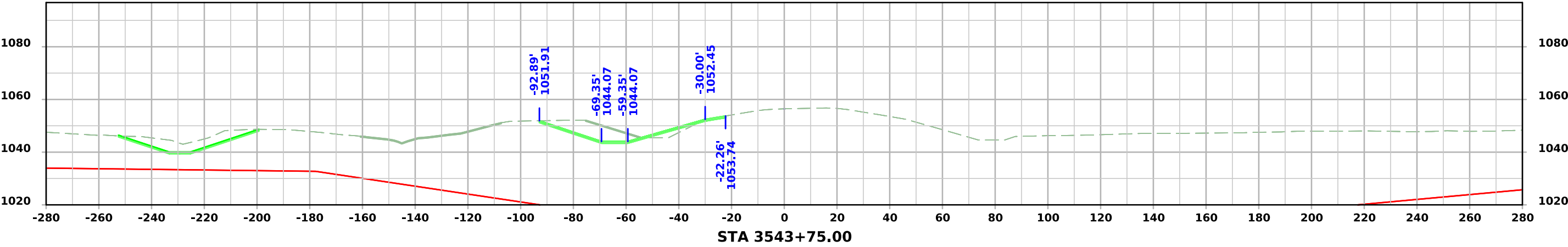
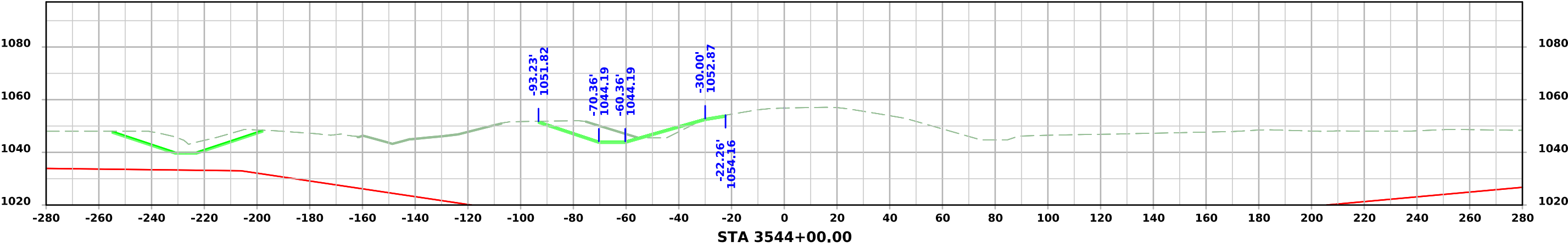
Ramp C -Stage 6



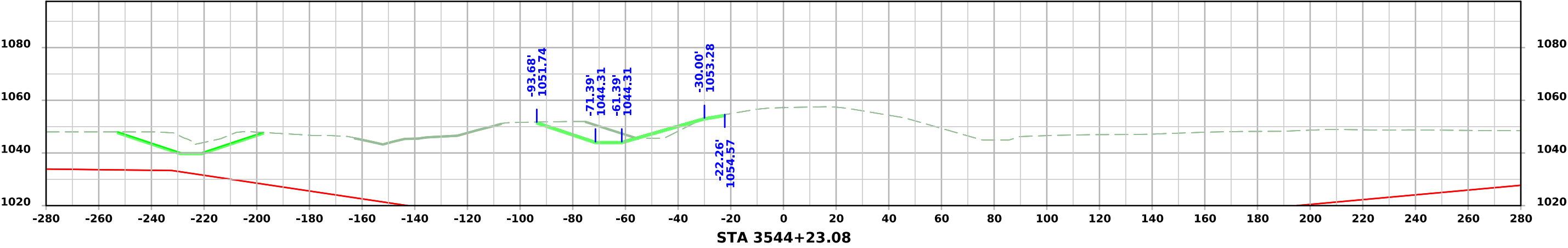
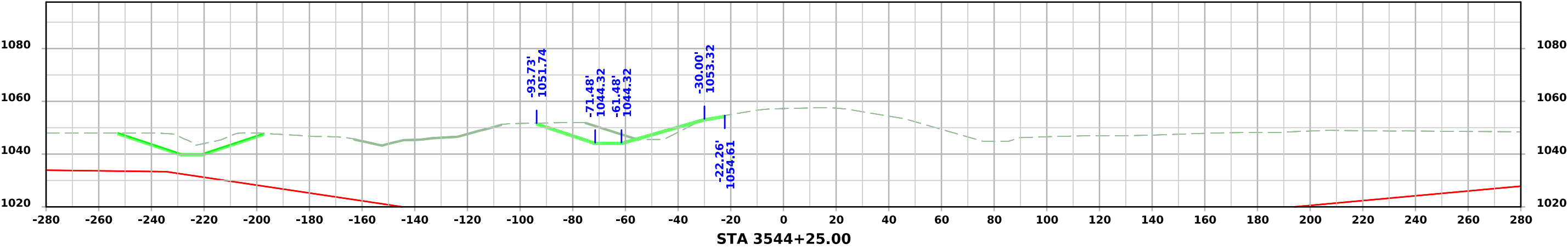
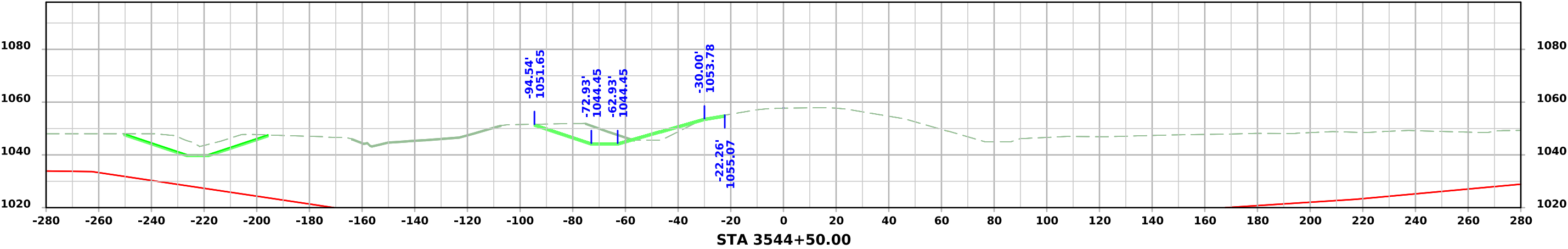
Ramp C -Stage 6



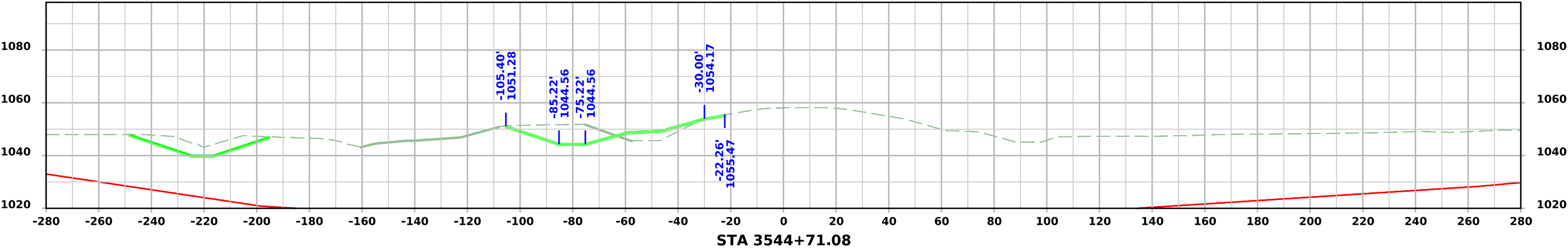
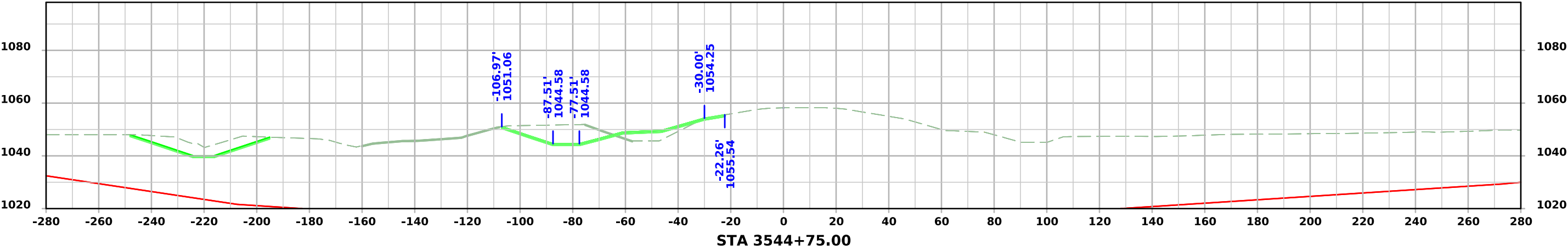
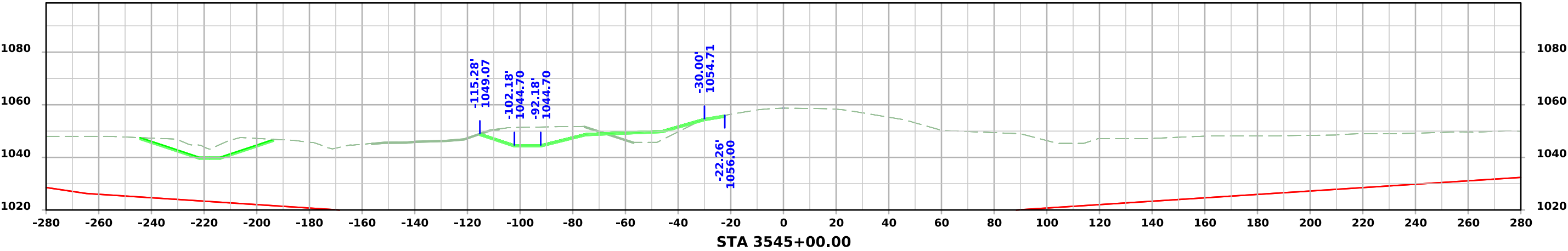
# Ramp C -Stage 6



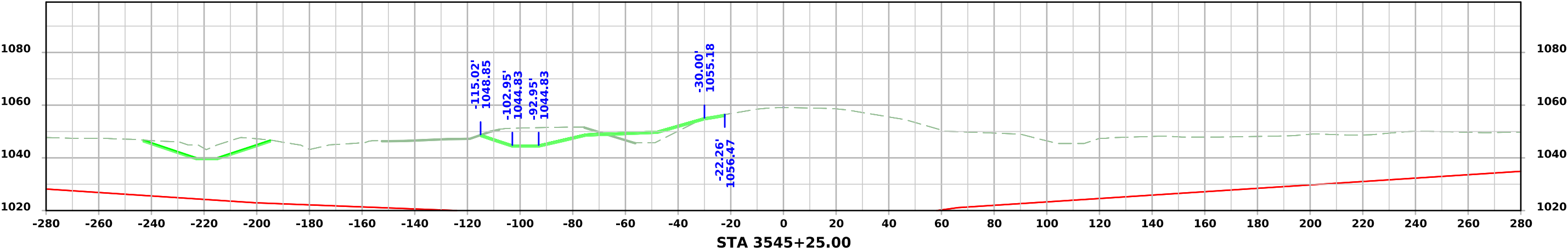
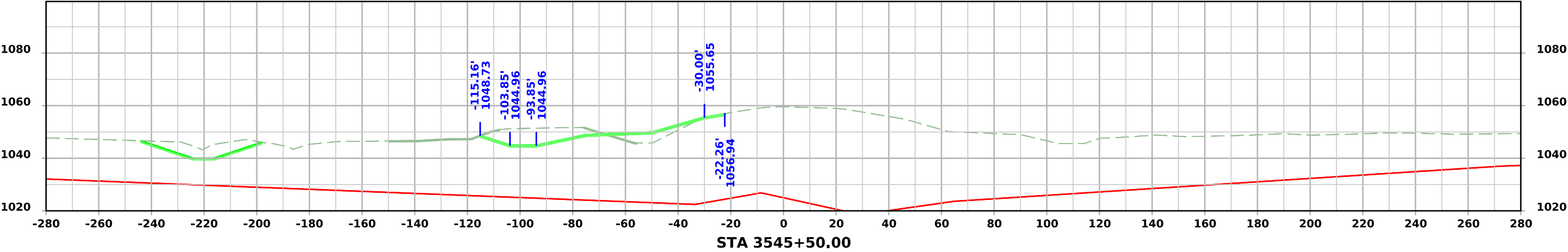
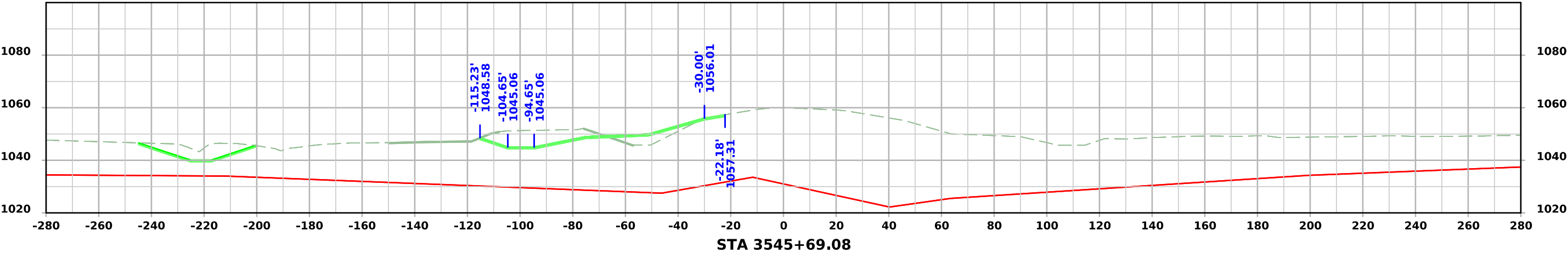
Ramp C -Stage 6



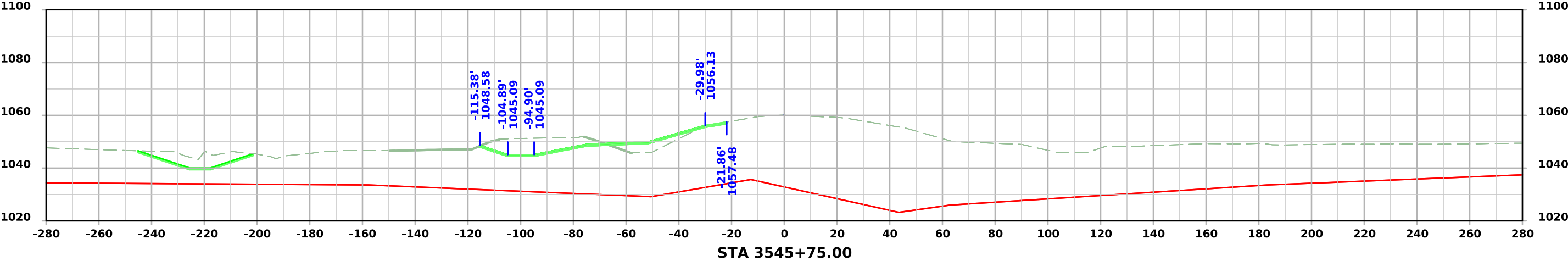
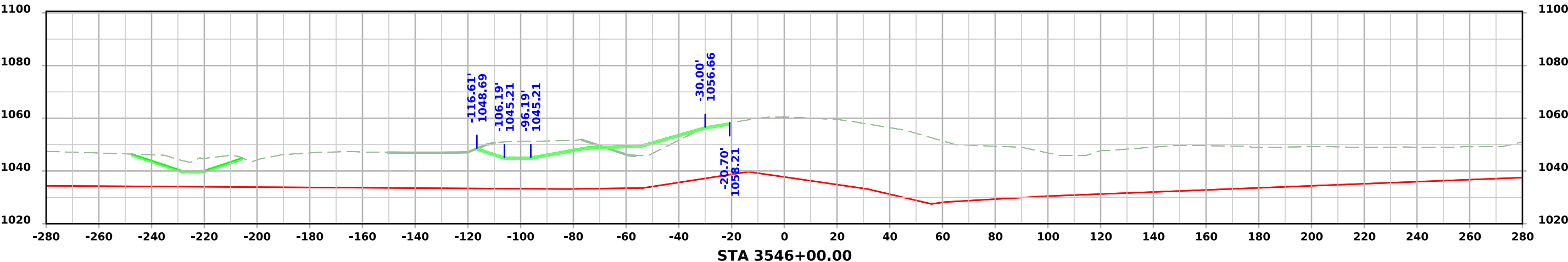
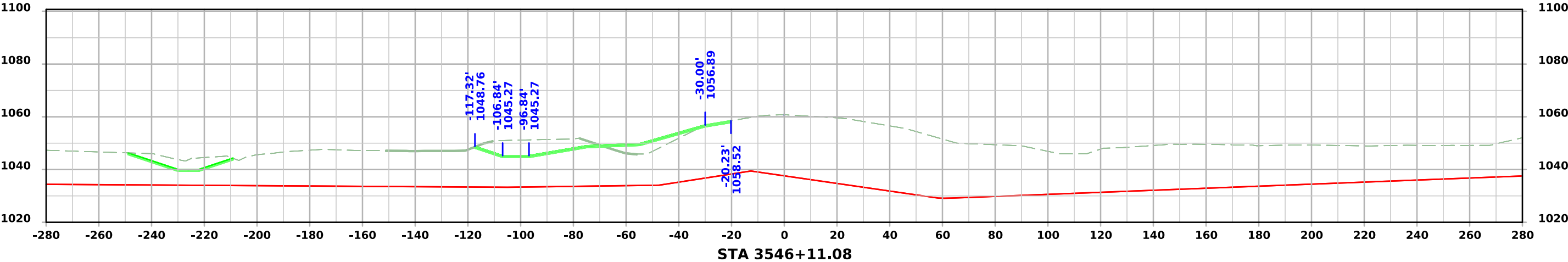
Ramp C -Stage 6



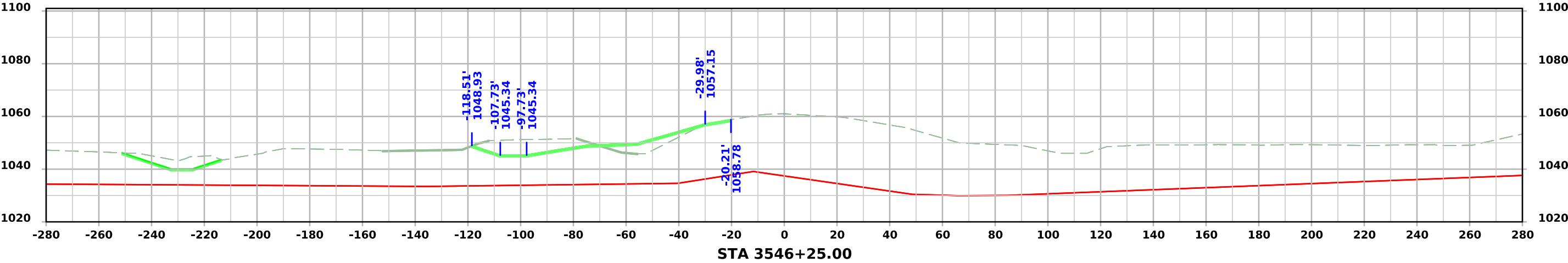
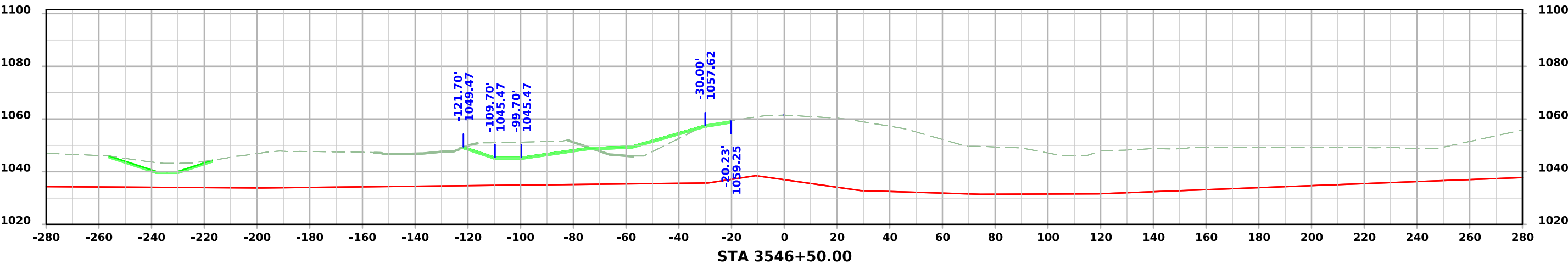
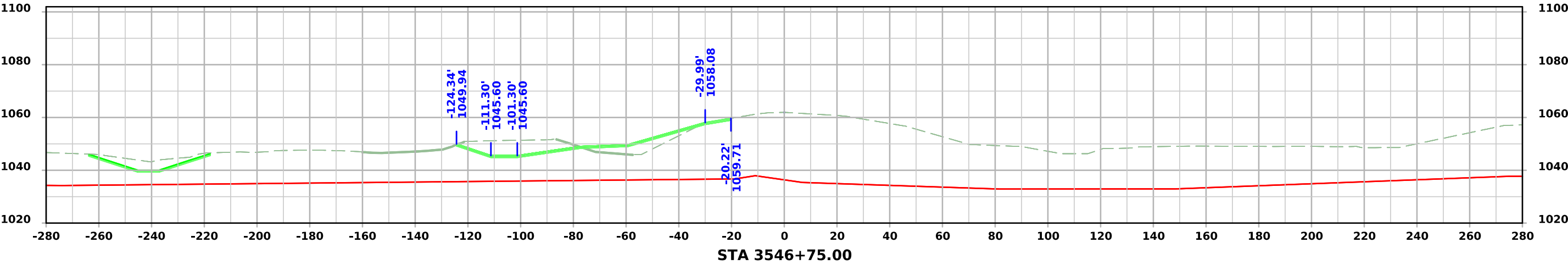
Ramp C -Stage 6



# Ramp C -Stage 6

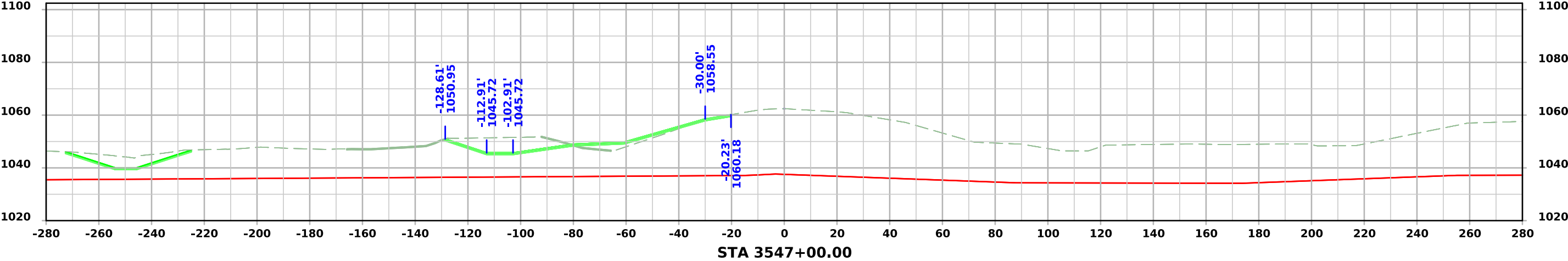
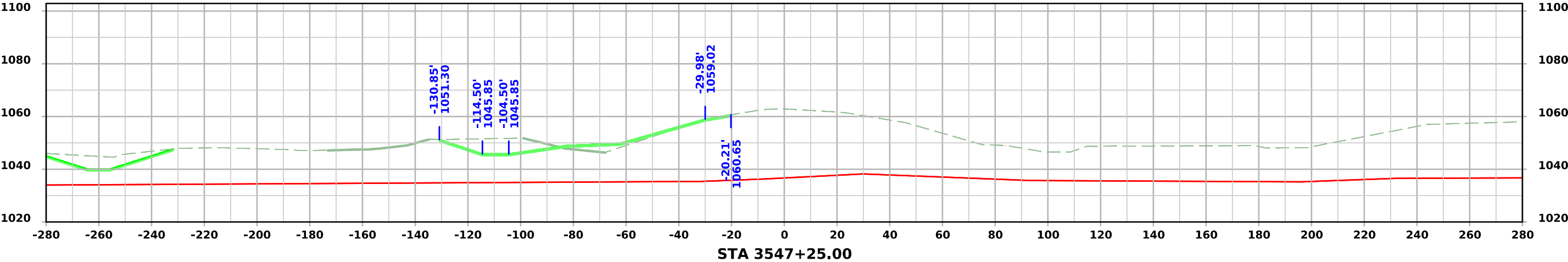
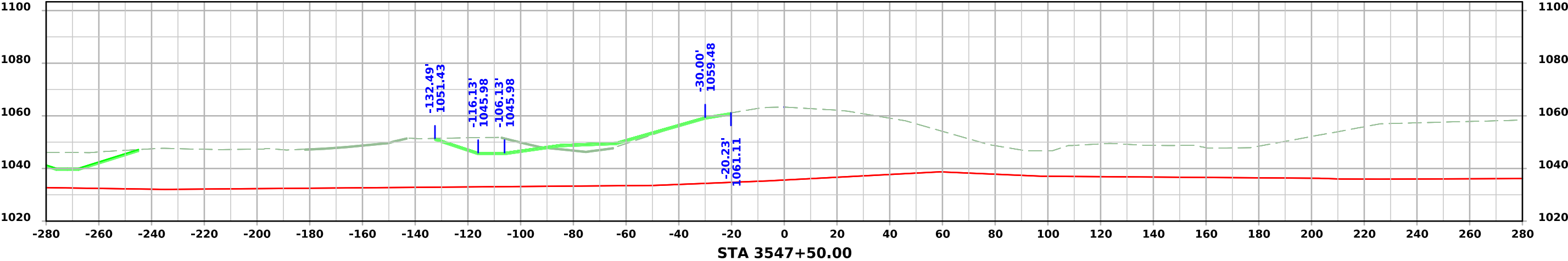


# Ramp C -Stage 6

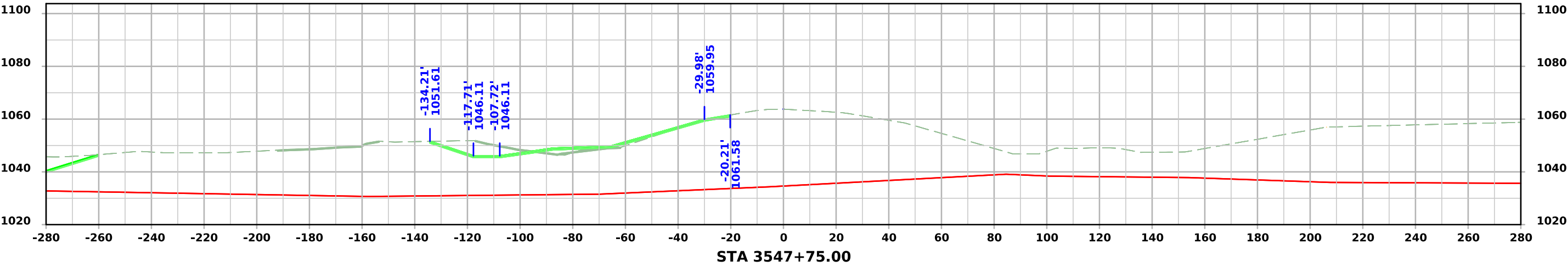
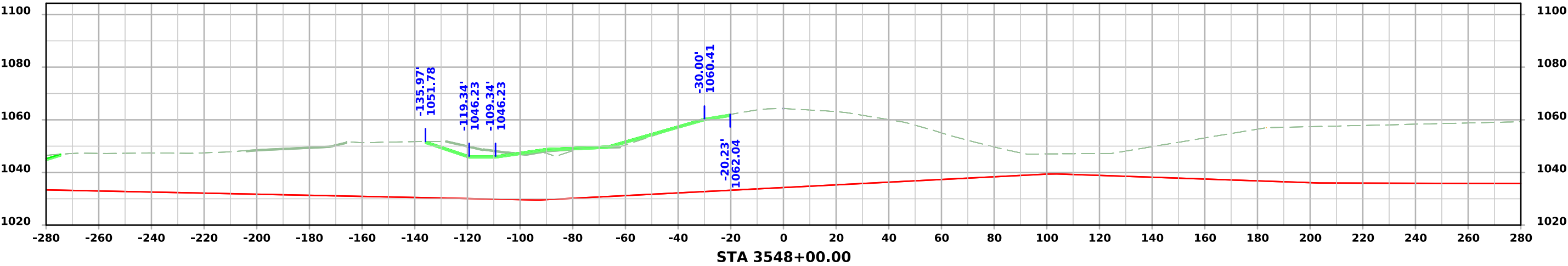
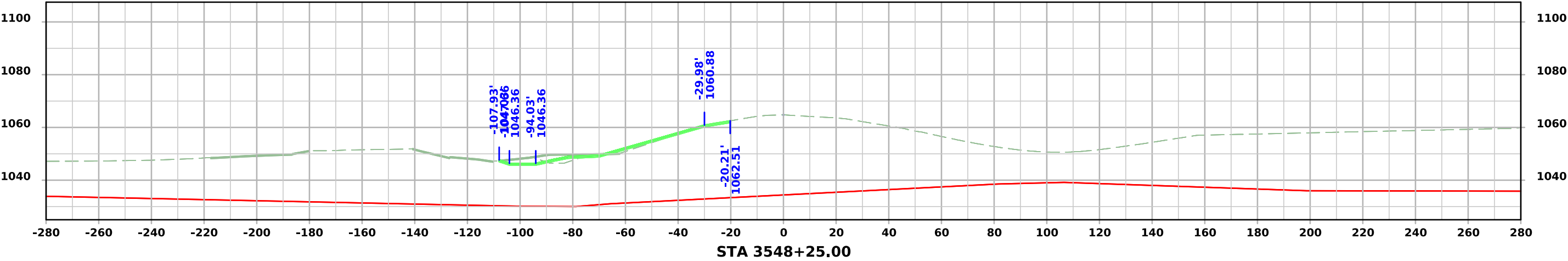




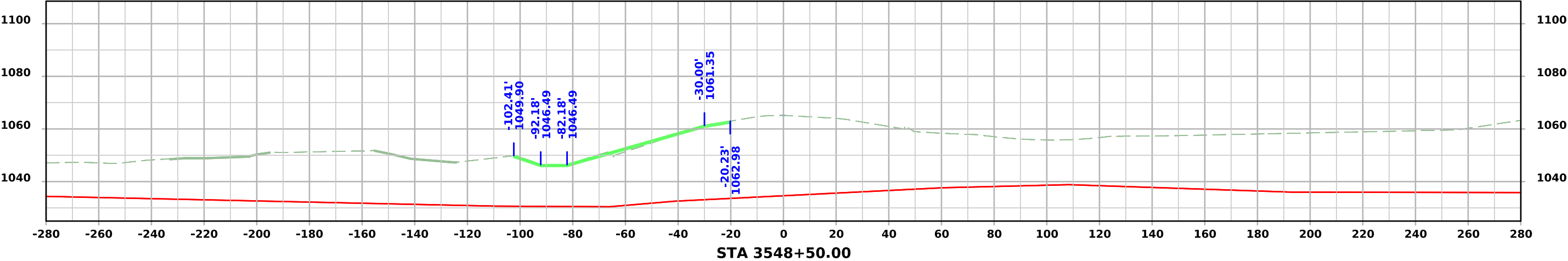
Ramp C -Stage 6



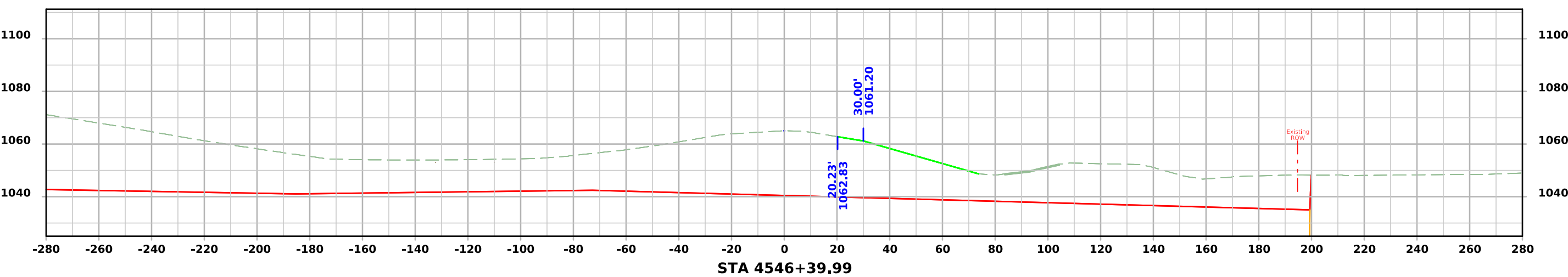
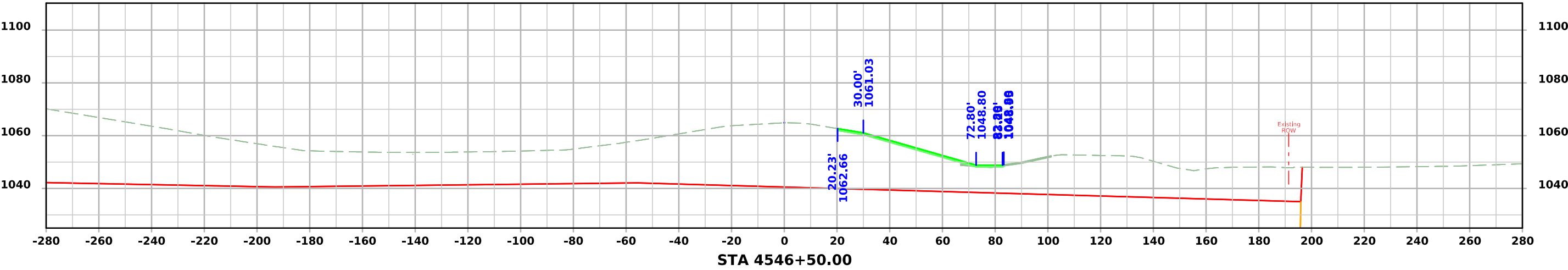
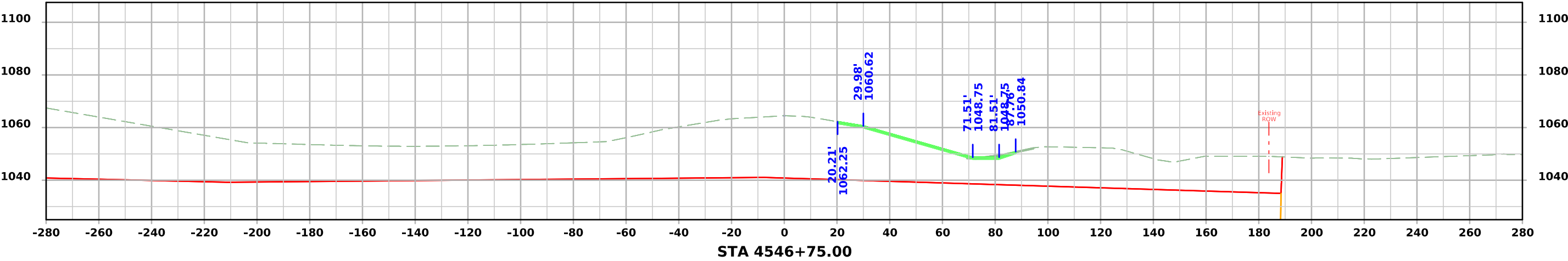
Ramp C -Stage 6



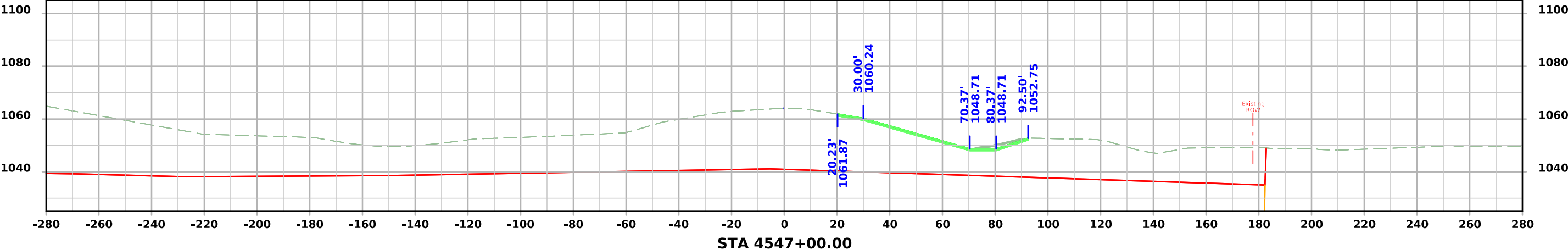
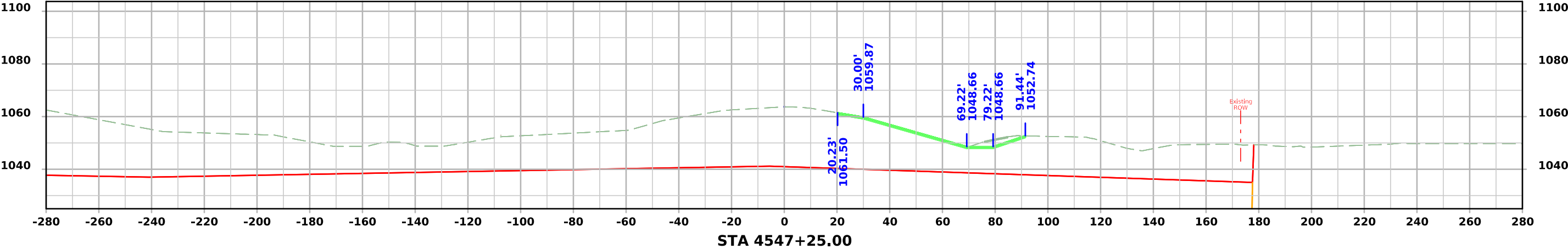
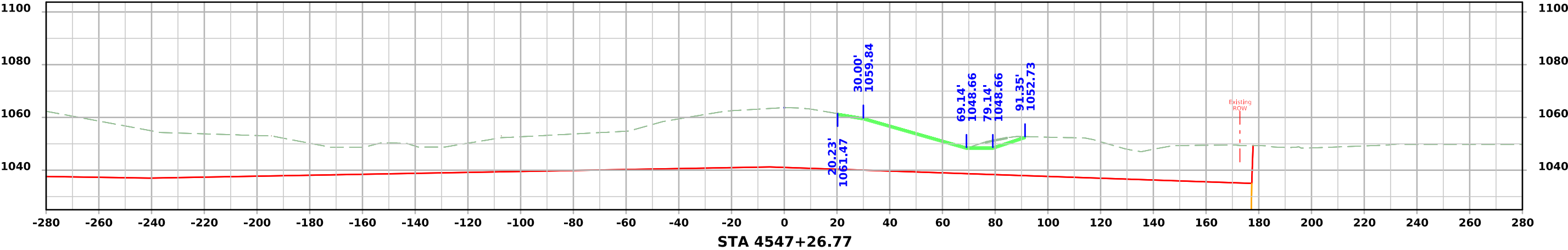
# Ramp C -Stage 6



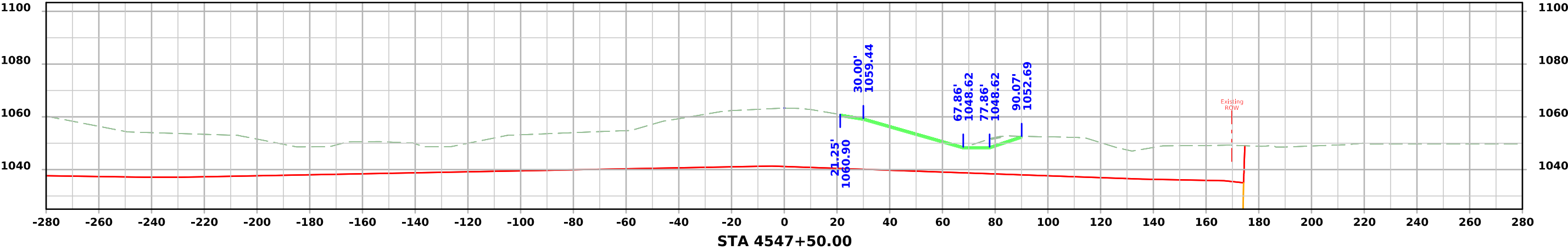
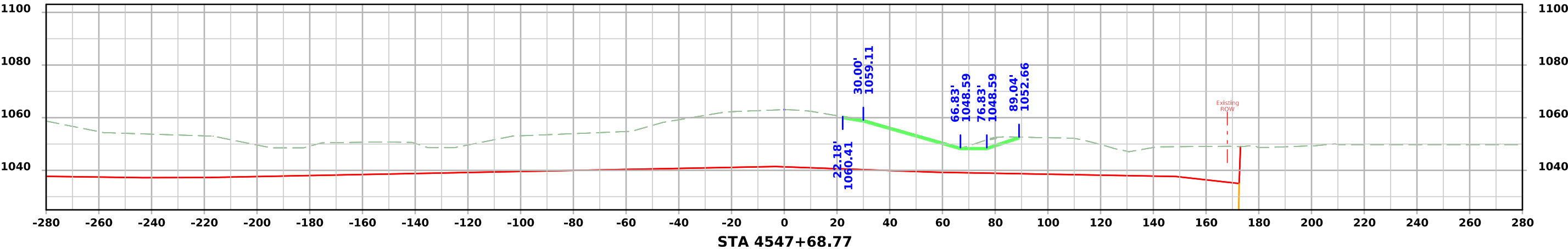
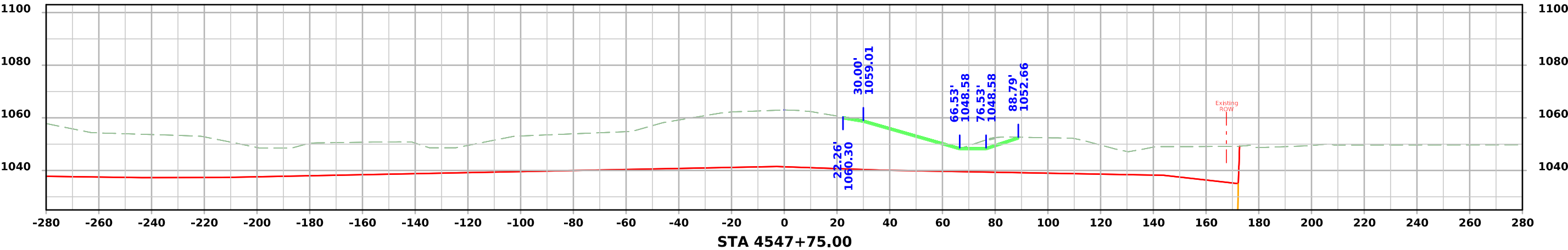
# Ramp D - Stage 6



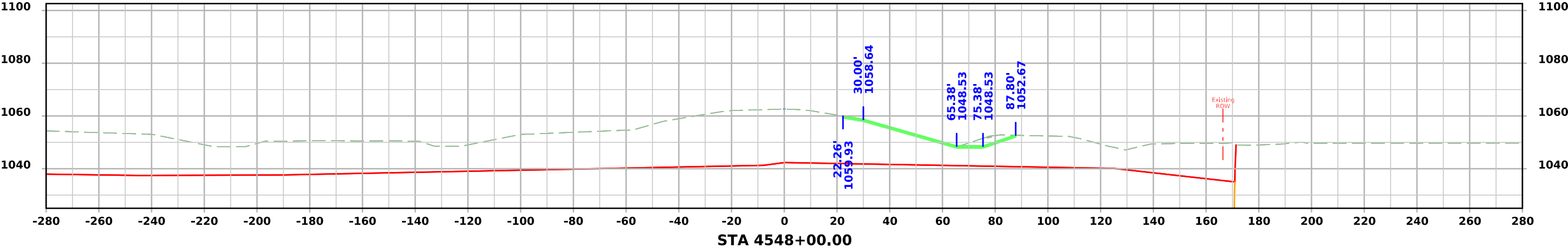
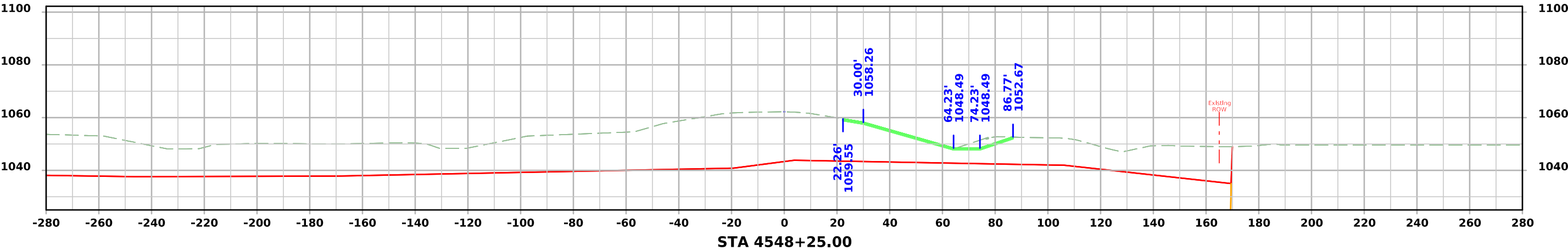
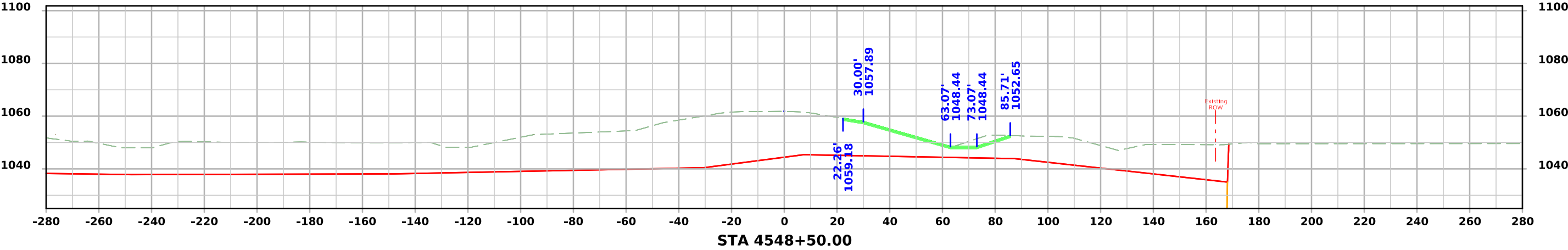
# Ramp D - Stage 6



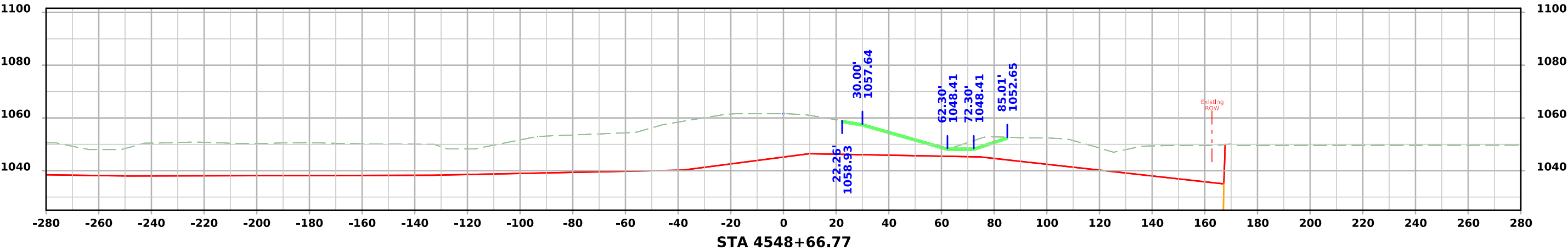
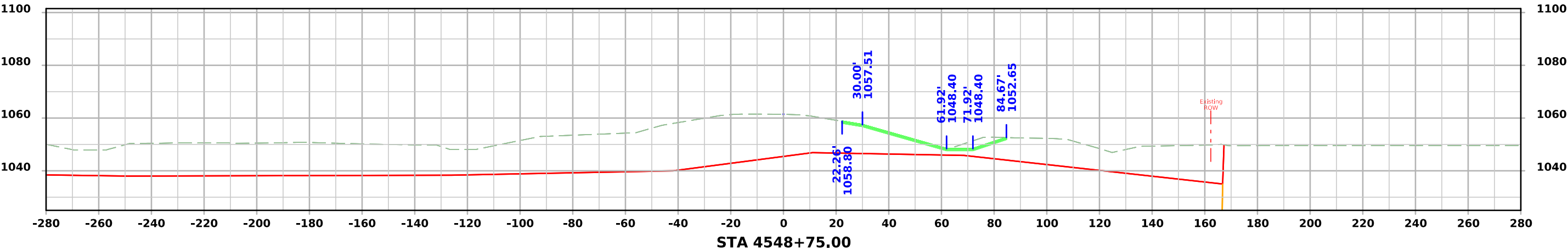
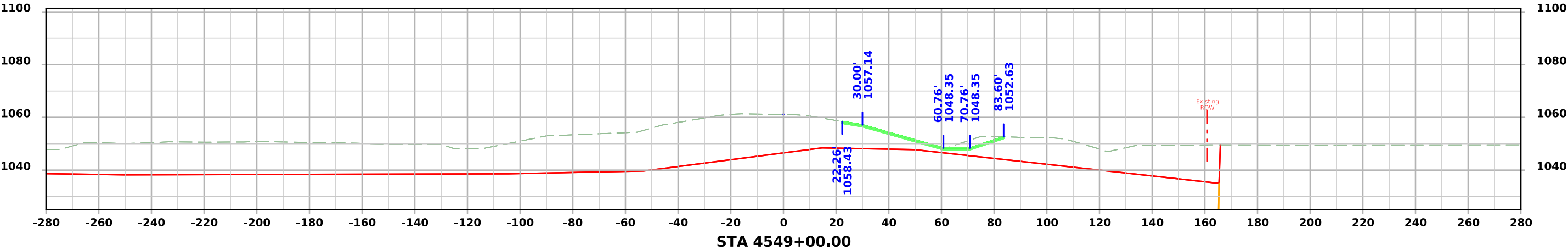
# Ramp D - Stage 6



Ramp D - Stage 6

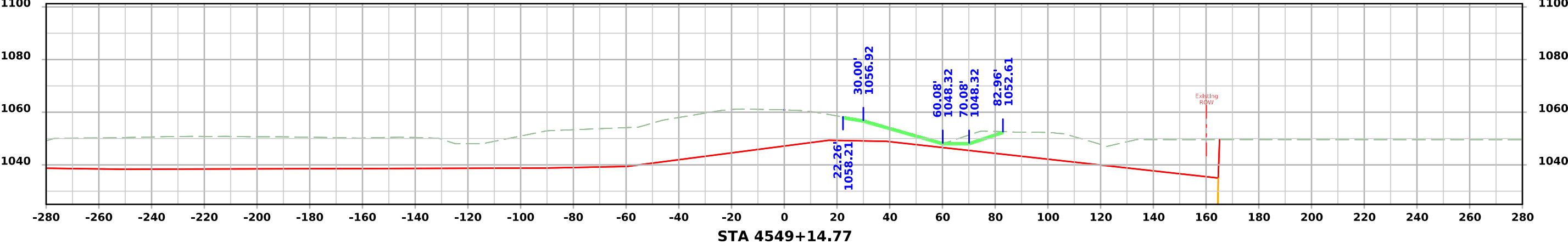
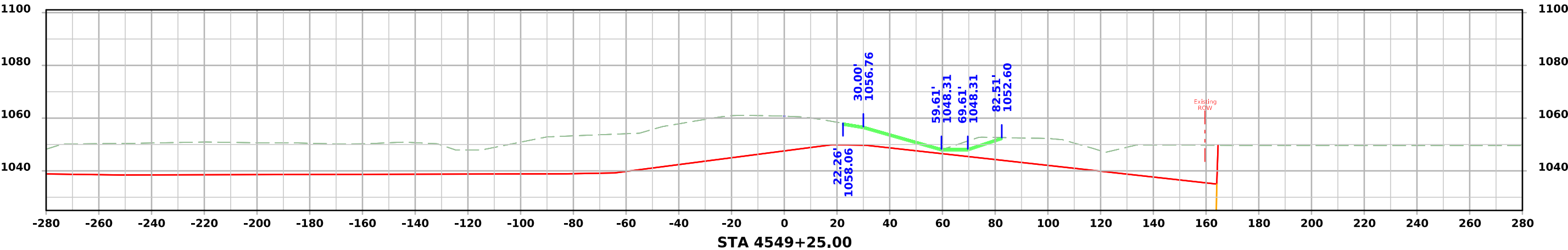
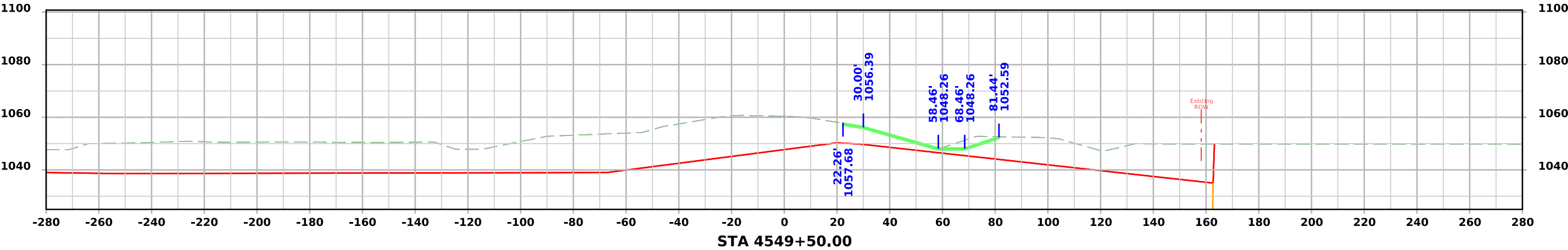


Ramp D - Stage 6

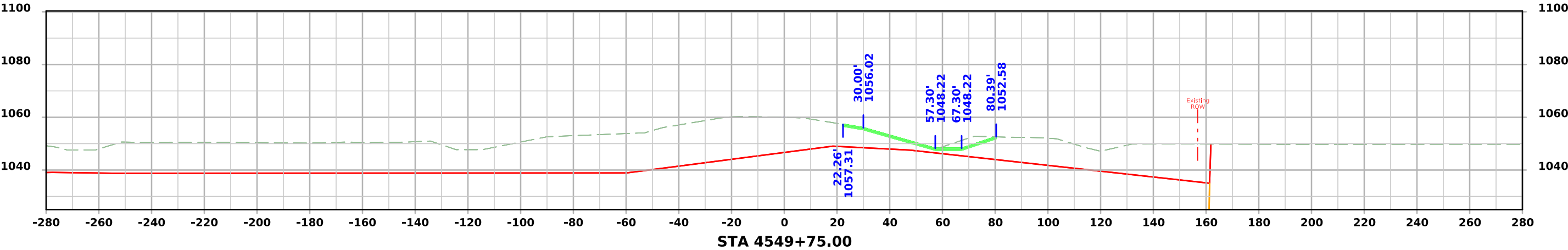
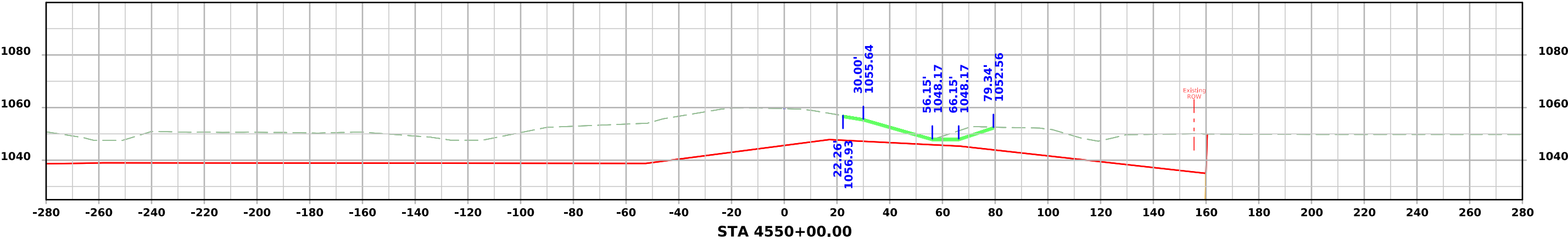
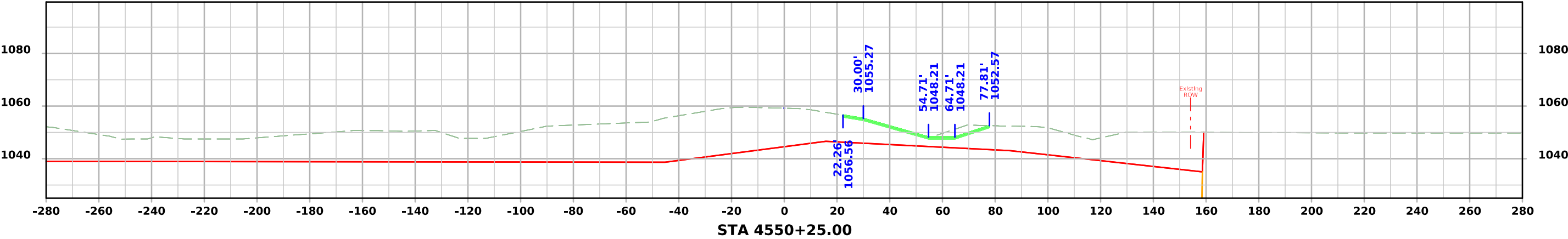




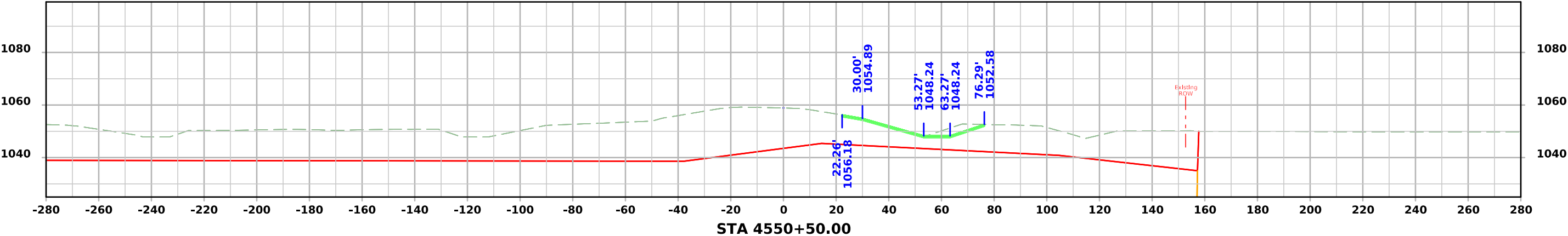
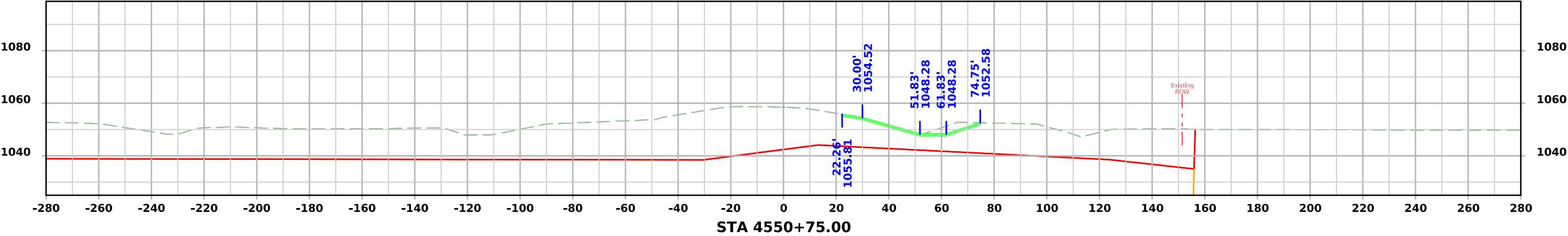
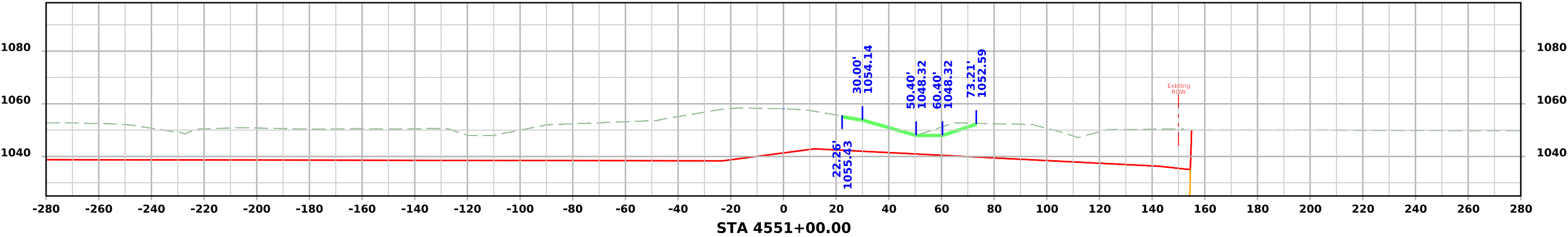
Ramp D - Stage 6



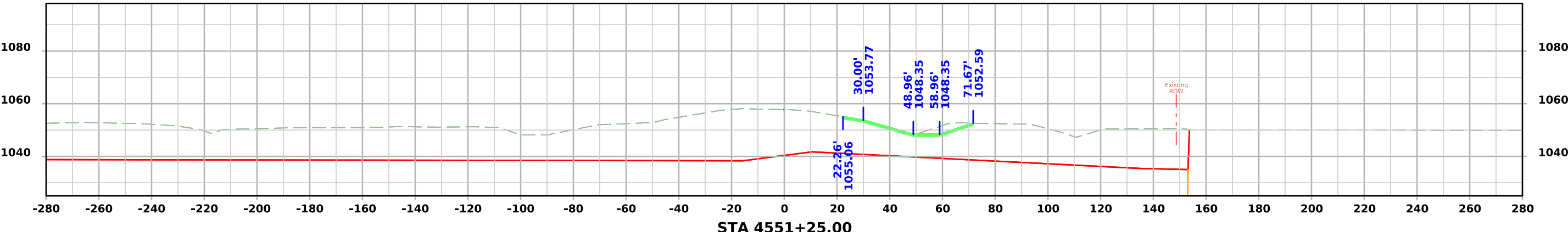
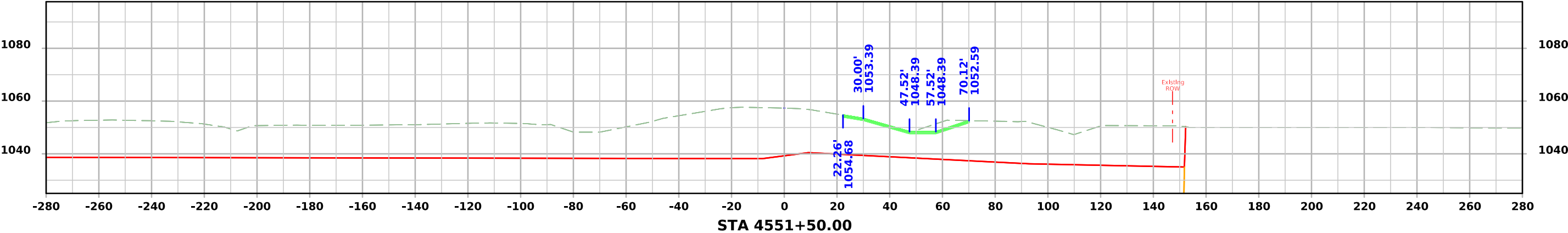
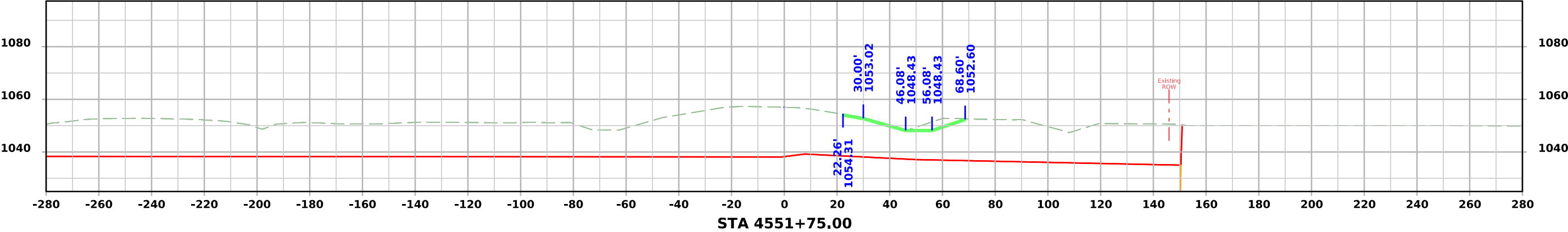
Ramp D - Stage 6



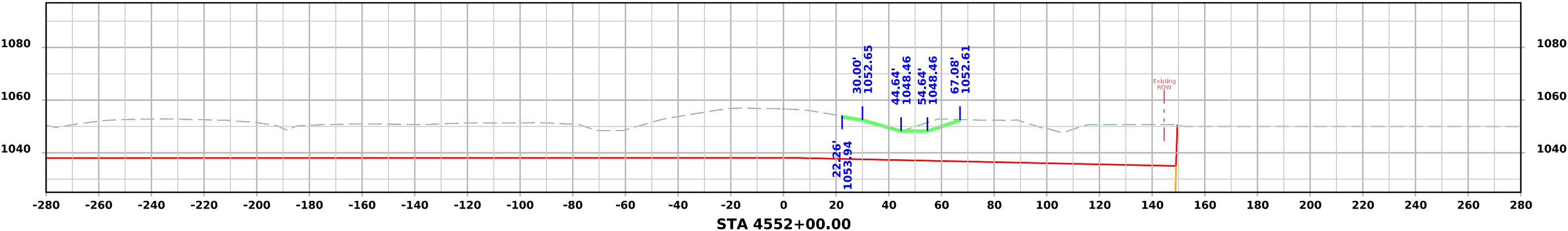
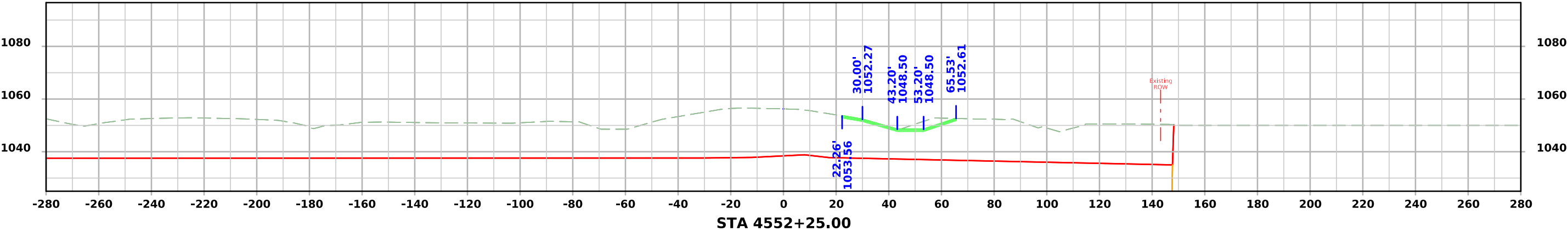
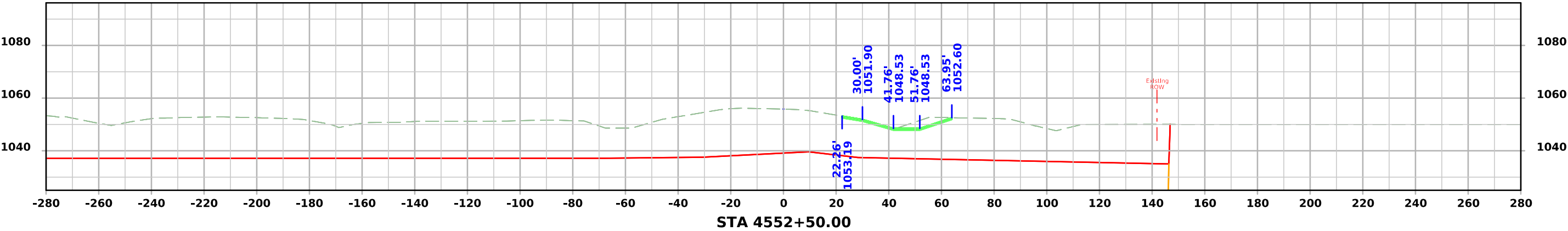
Ramp D - Stage 6



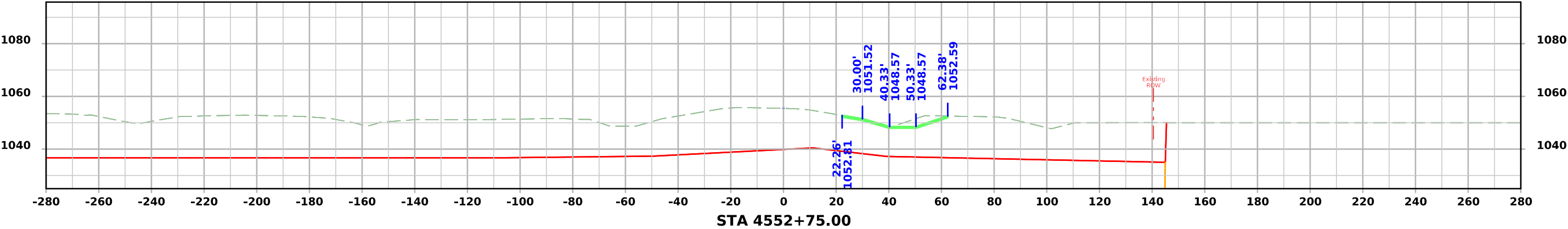
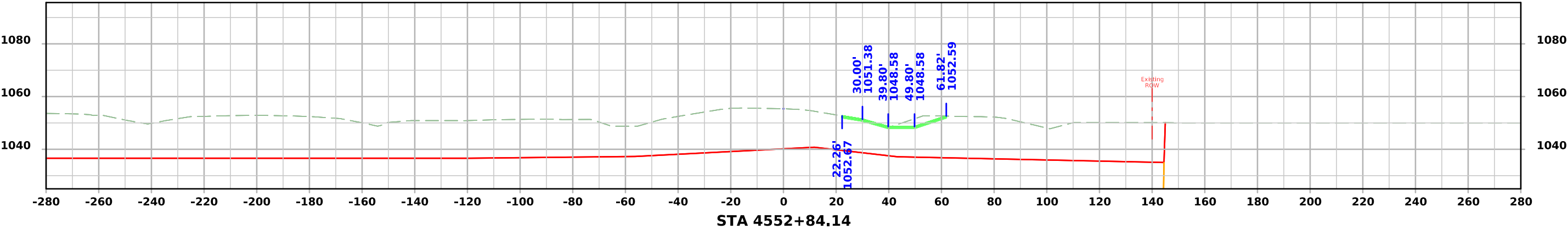
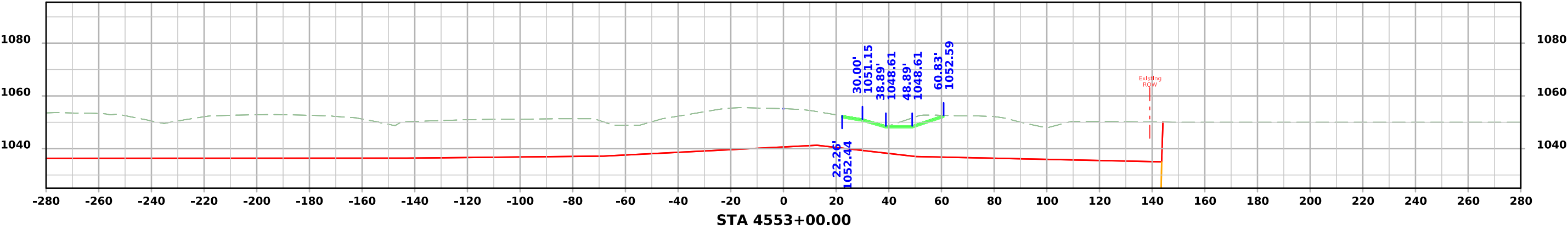
Ramp D - Stage 6



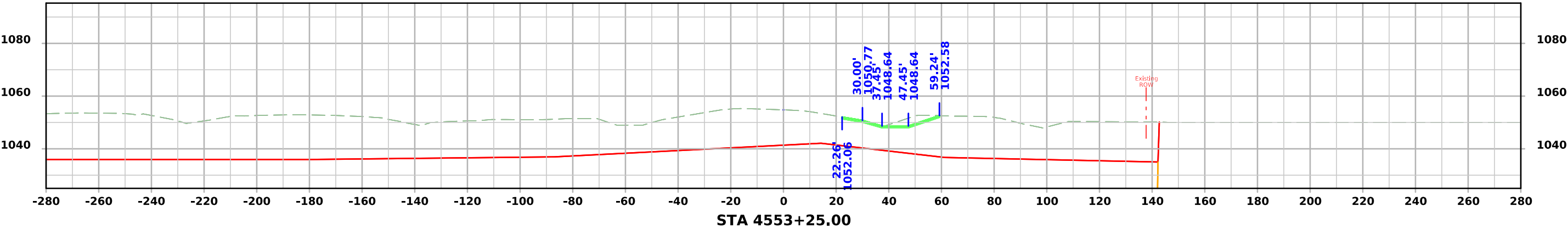
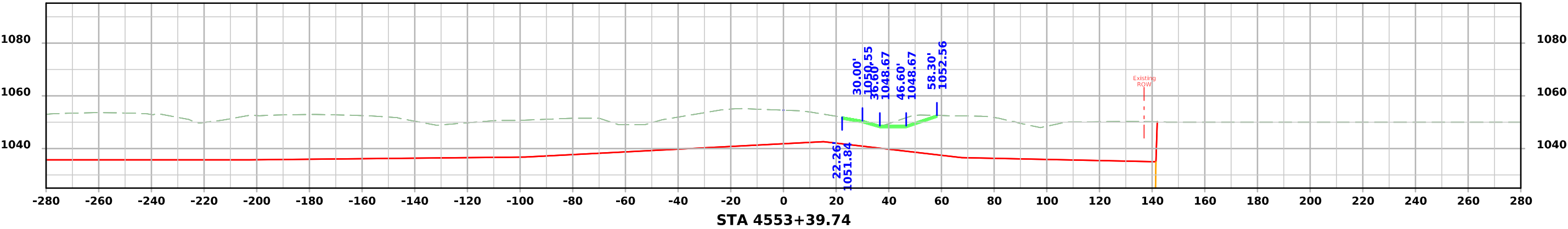
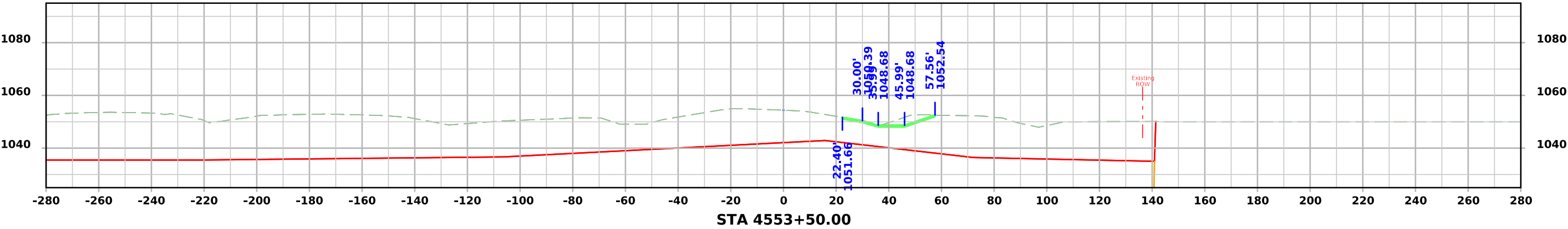
Ramp D - Stage 6



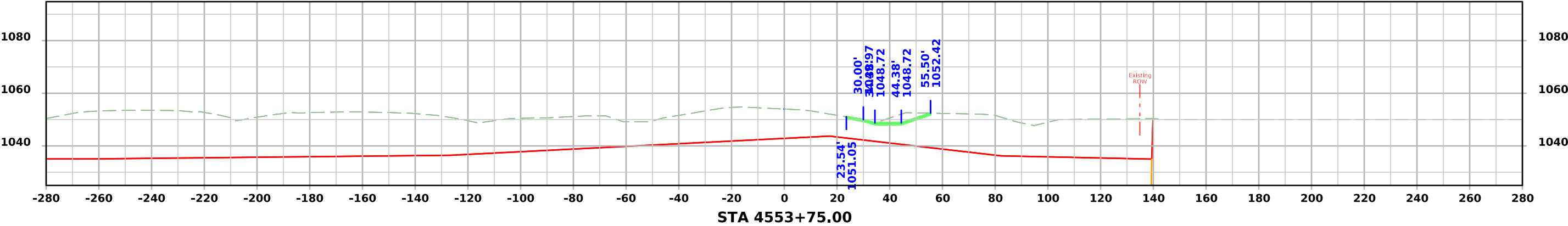
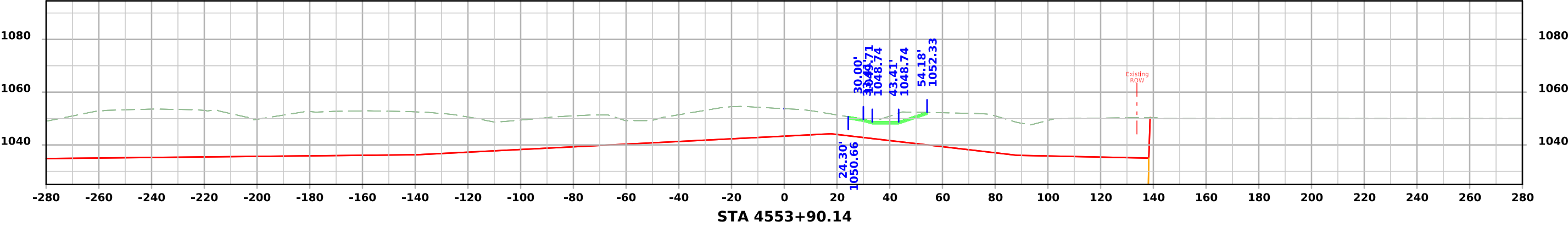
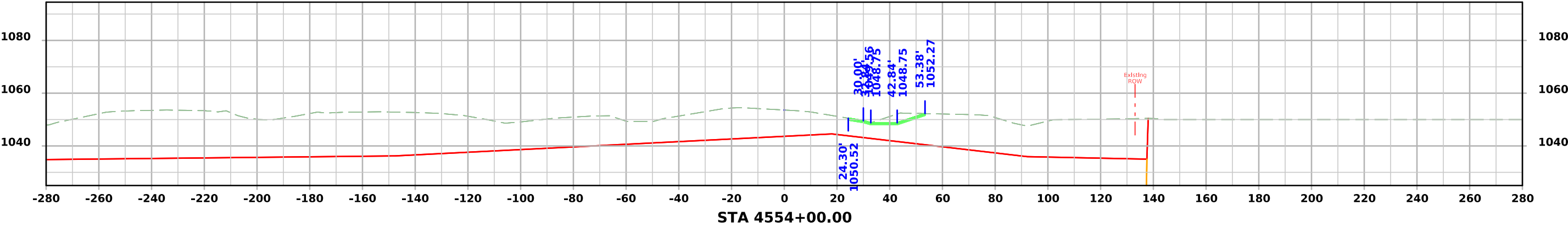
Ramp D - Stage 6



Ramp D - Stage 6

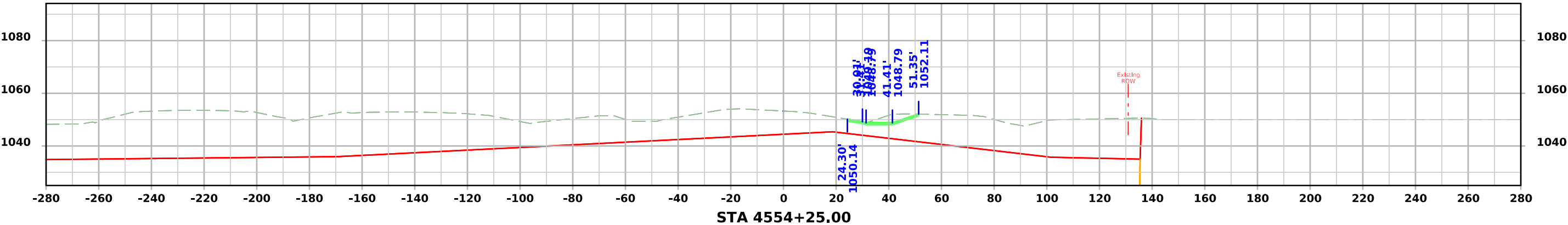
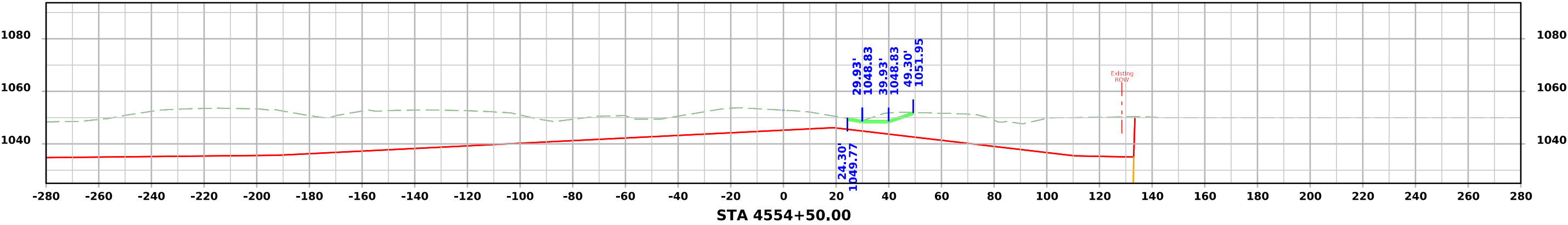
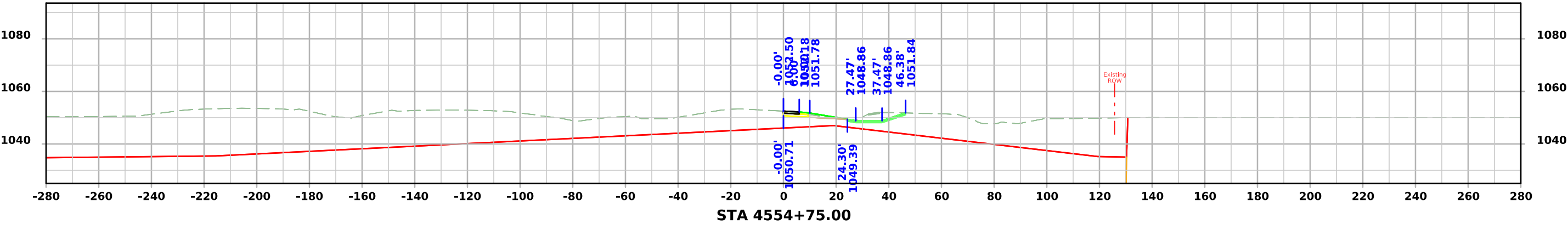


Ramp D - Stage 6

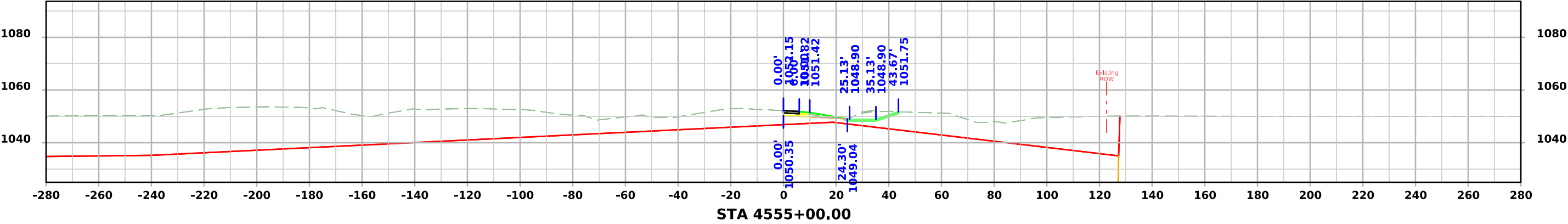
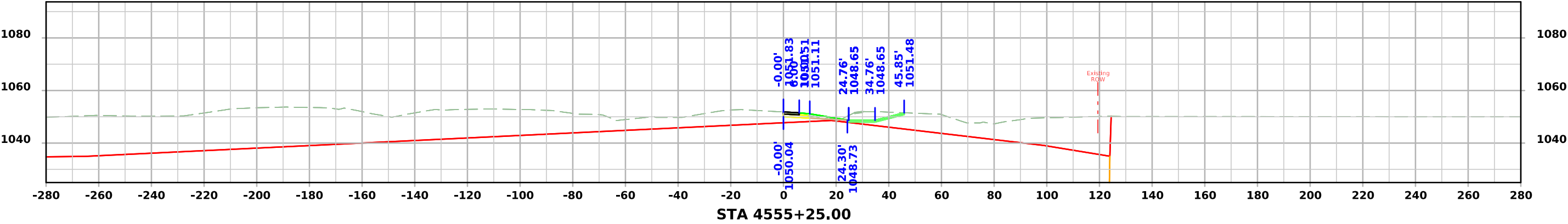
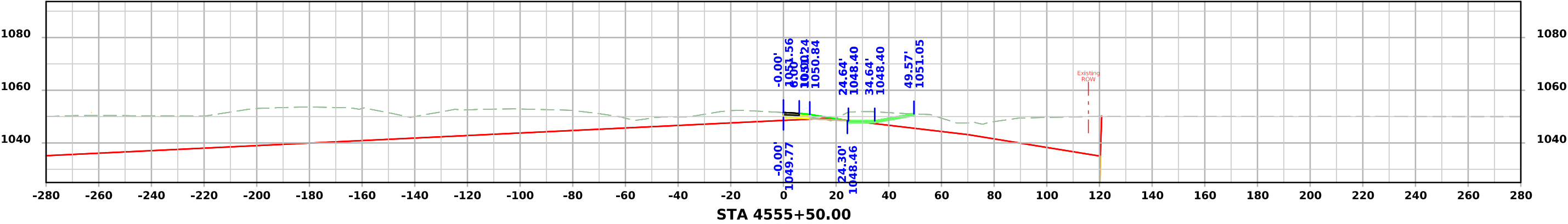




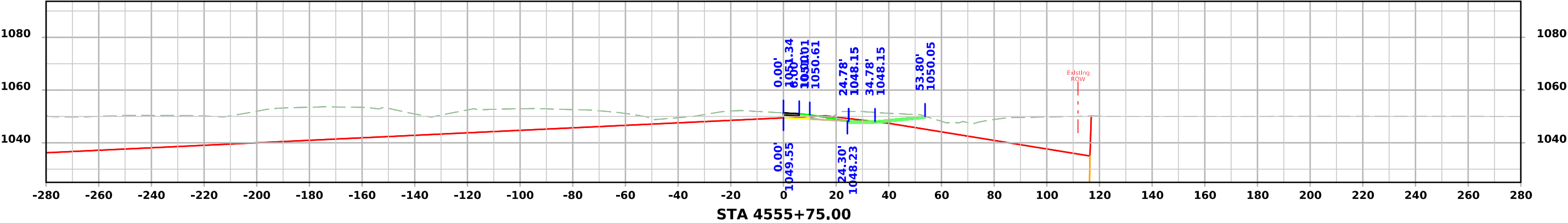
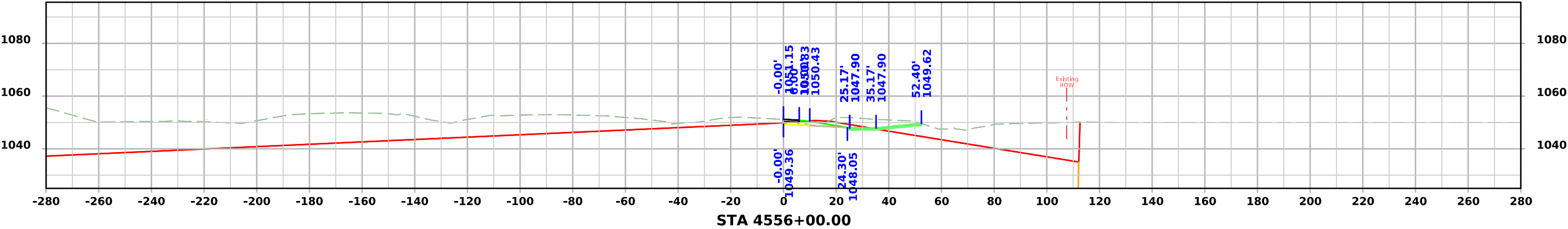
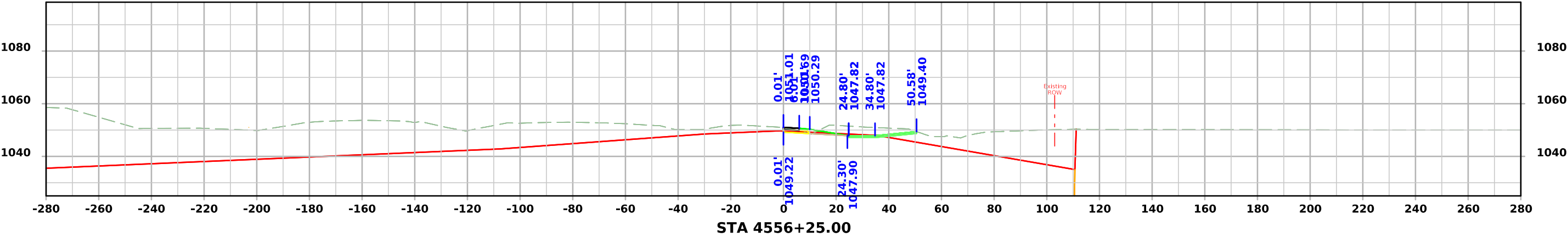
Ramp D - Stage 6



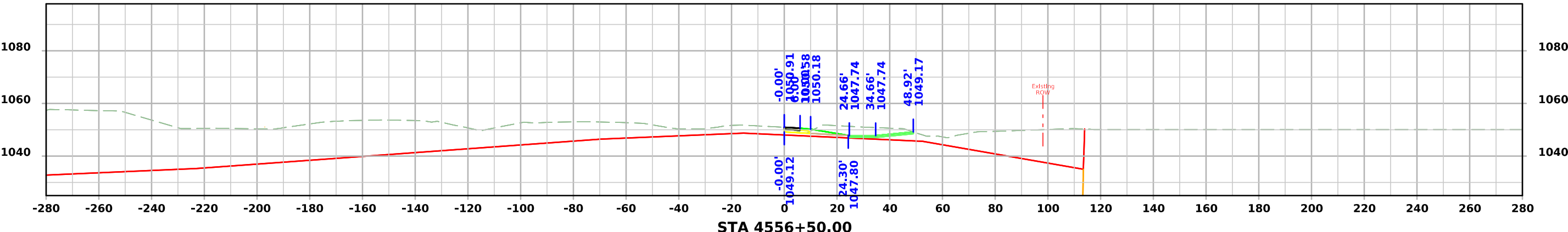
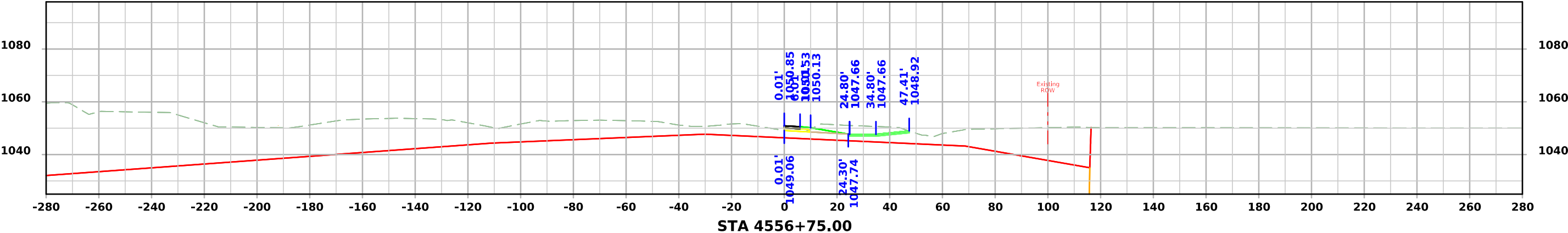
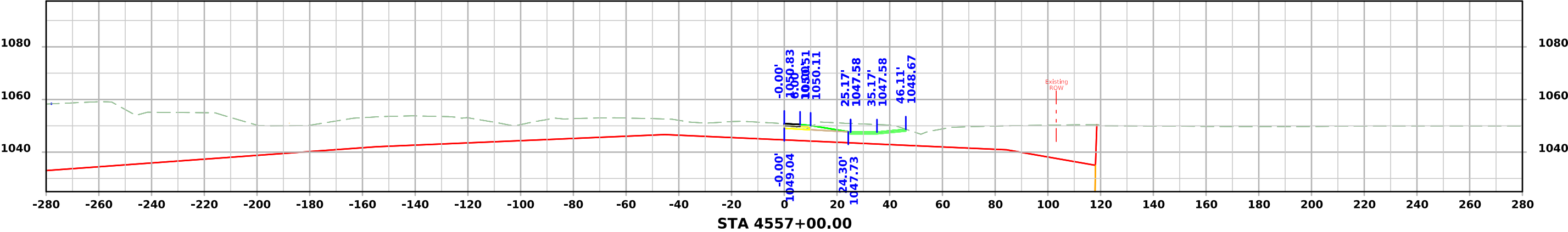
Ramp D - Stage 6



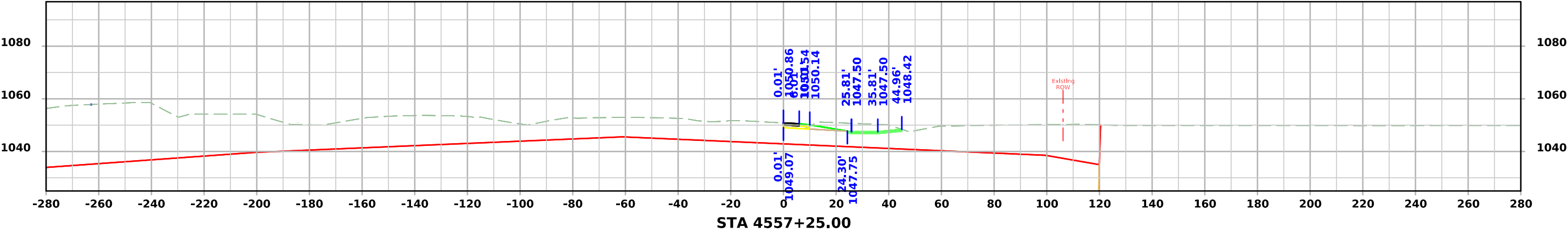
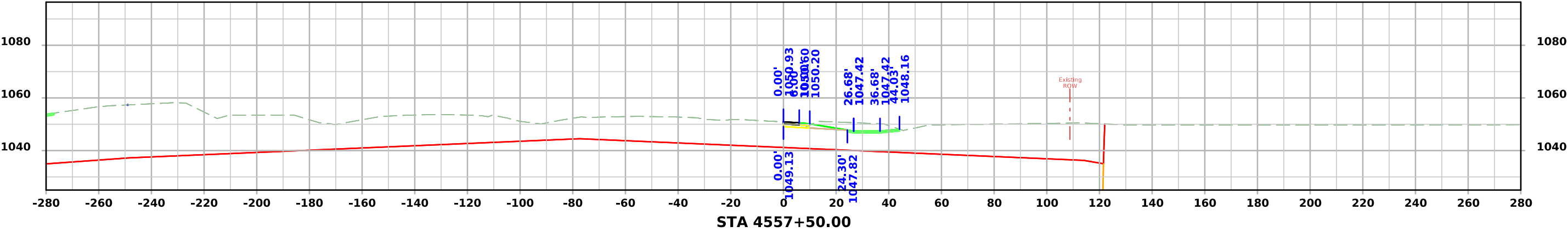
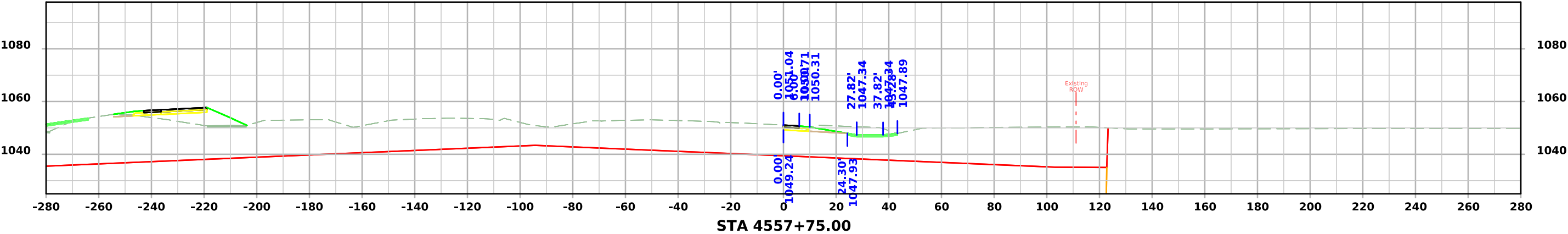
Ramp D - Stage 6



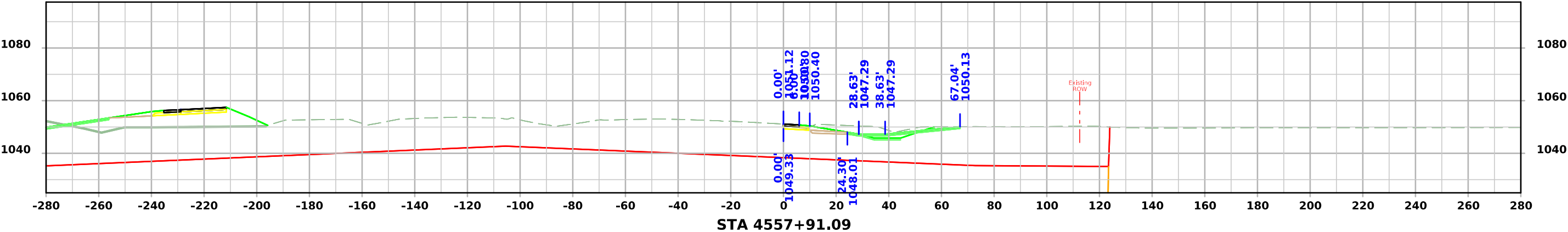
Ramp D - Stage 6



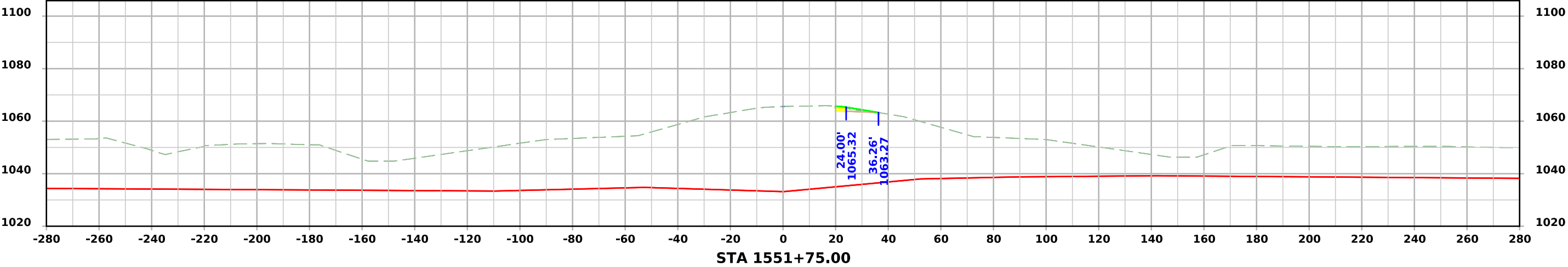
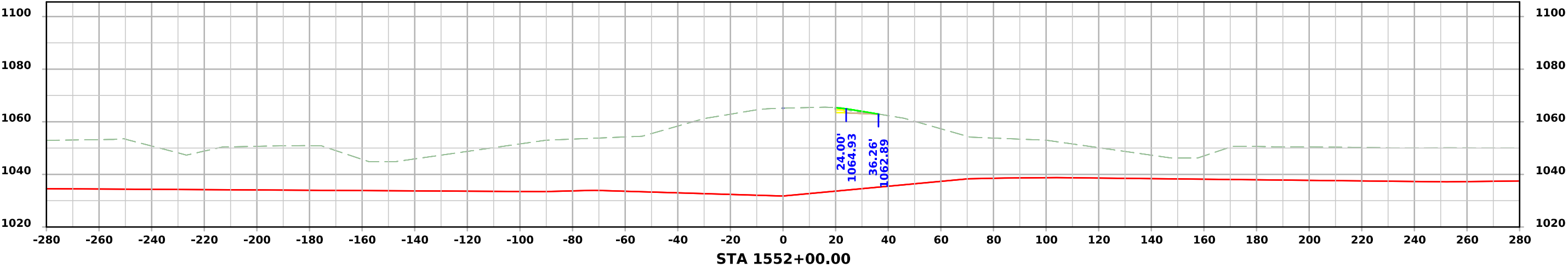
Ramp D - Stage 6



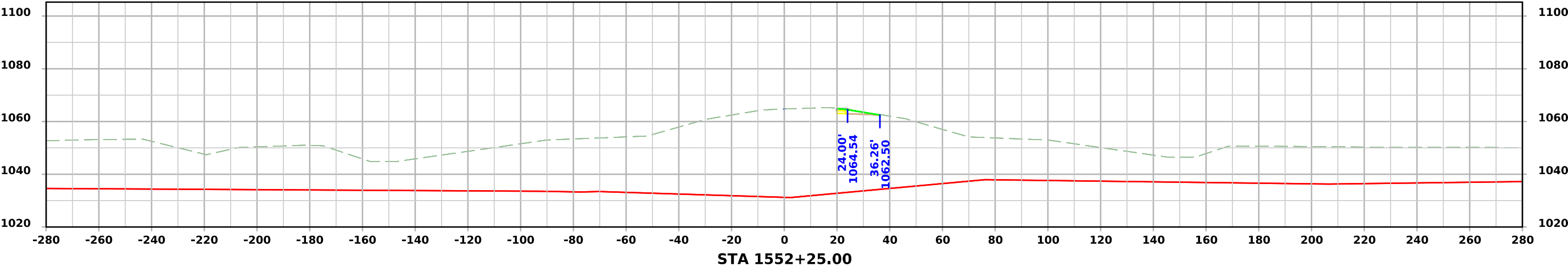
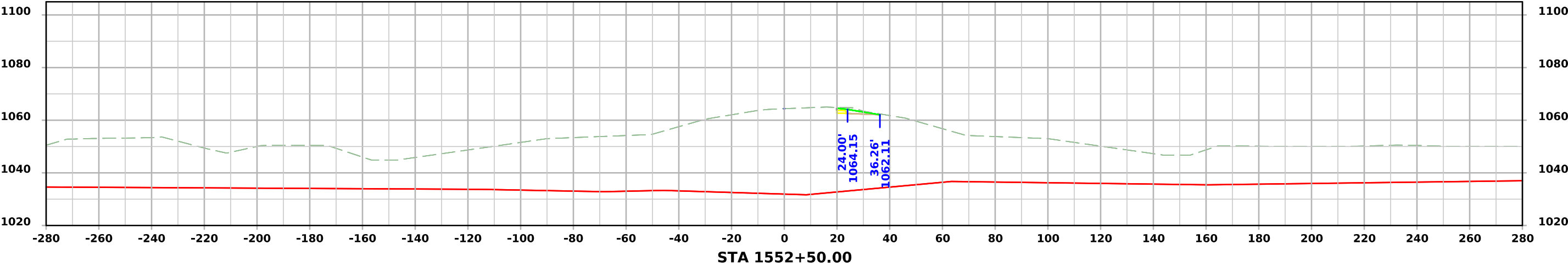
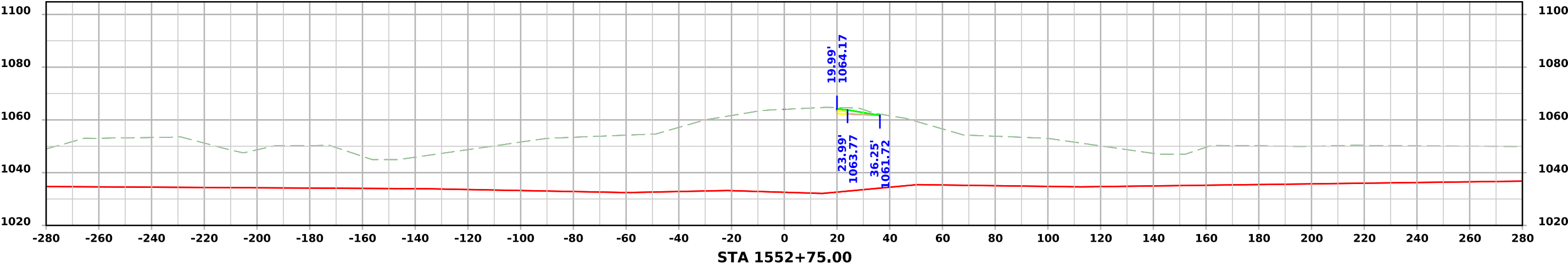
Ramp D - Stage 6



# Ramp A - Stage 7

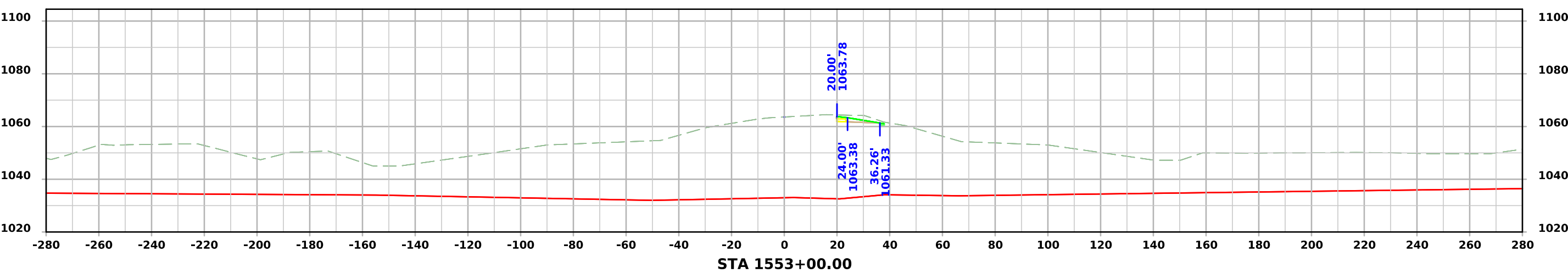
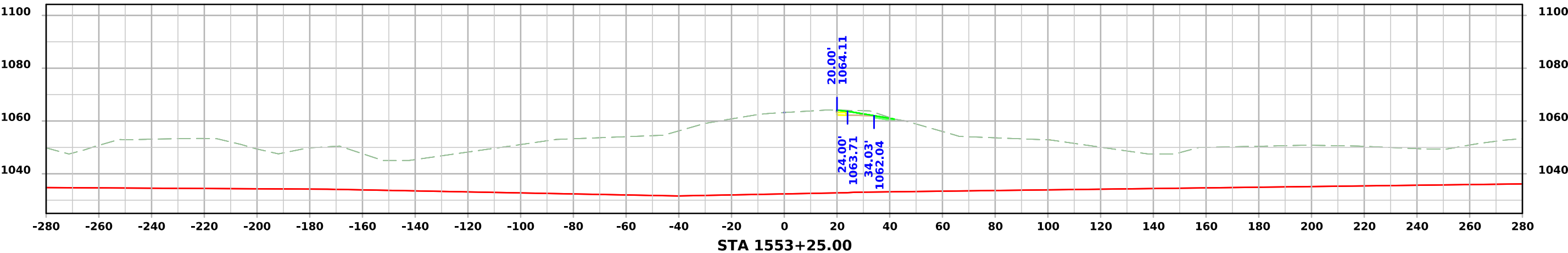
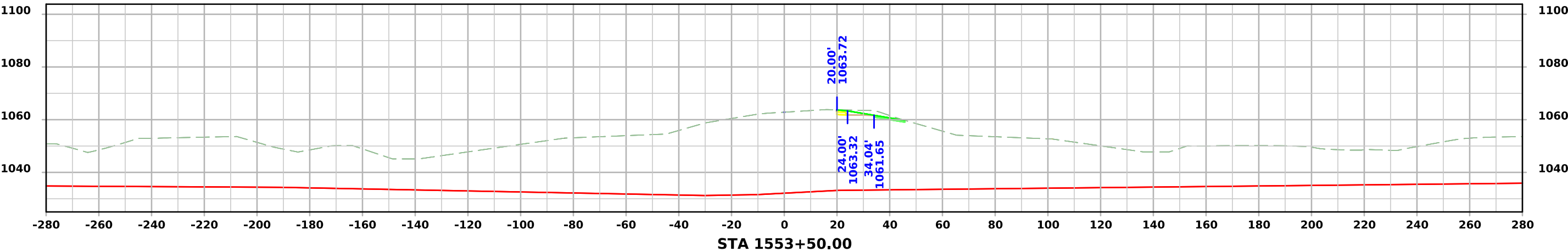


# Ramp A - Stage 7

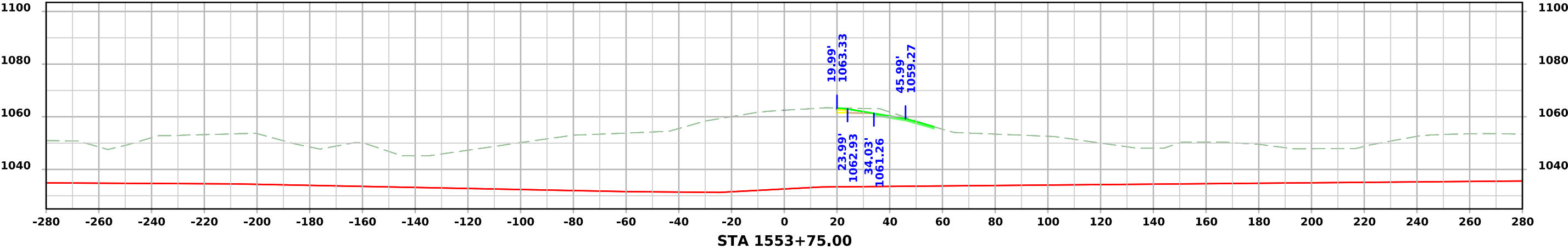
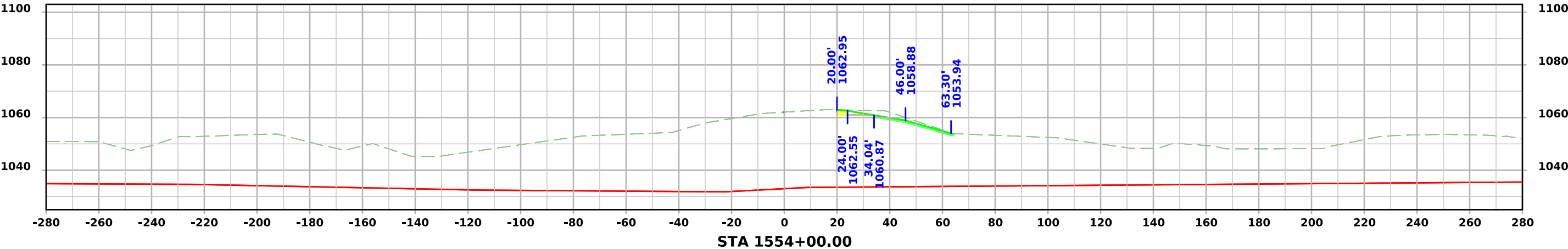
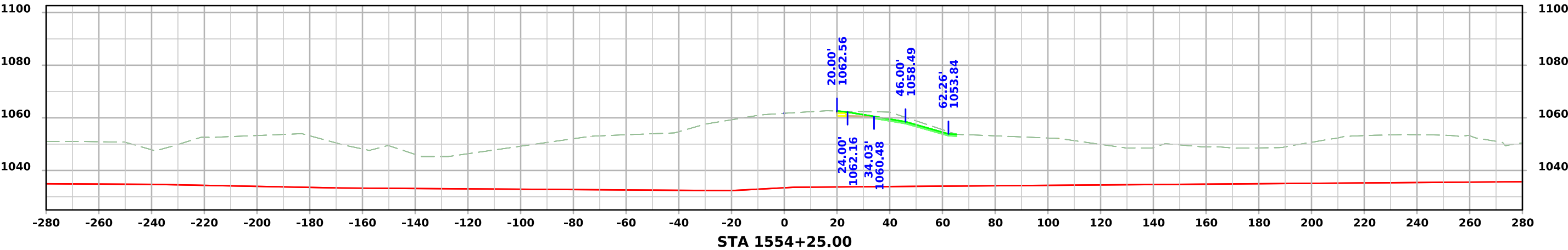




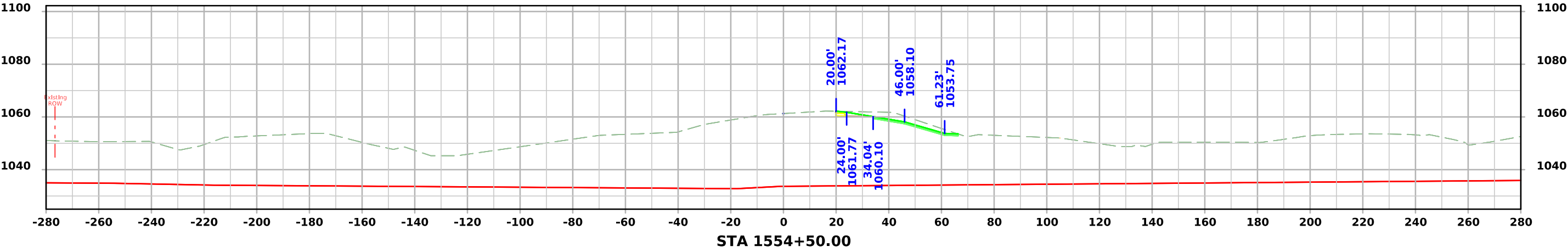
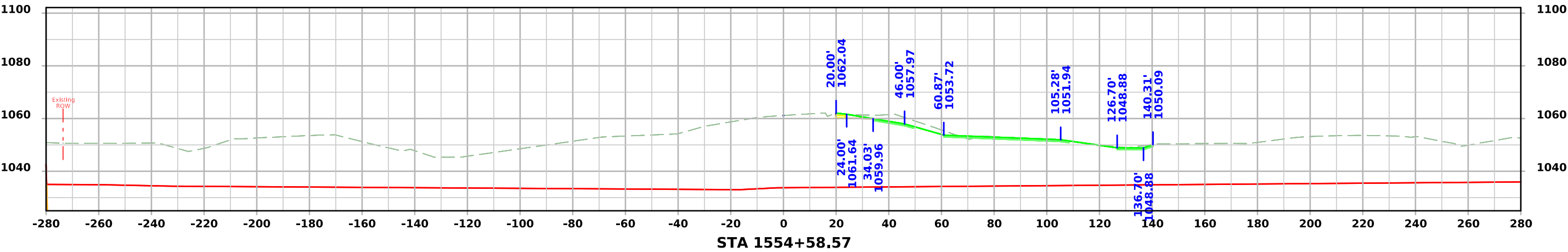
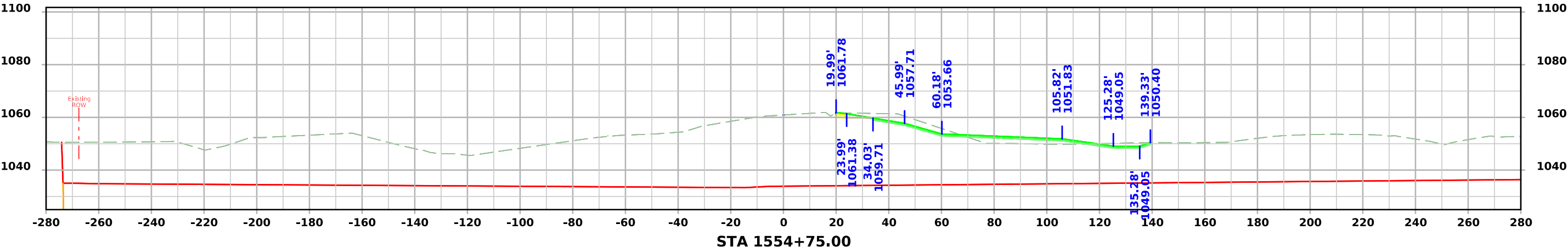
Ramp A - Stage 7



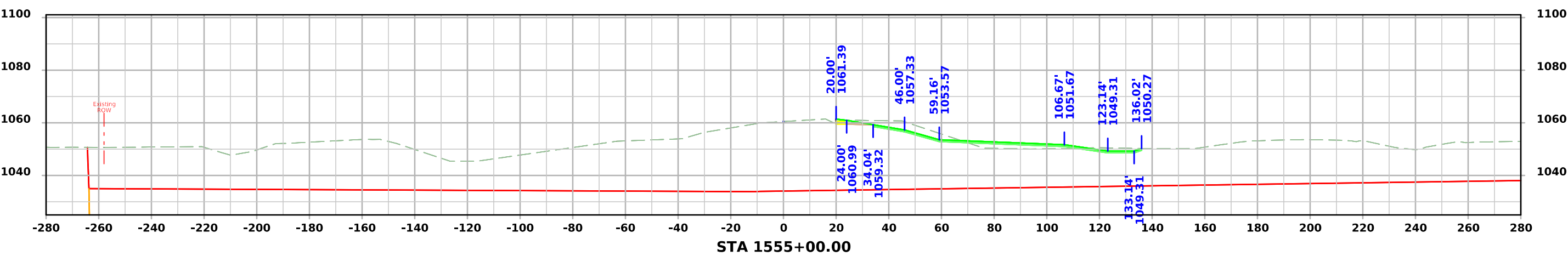
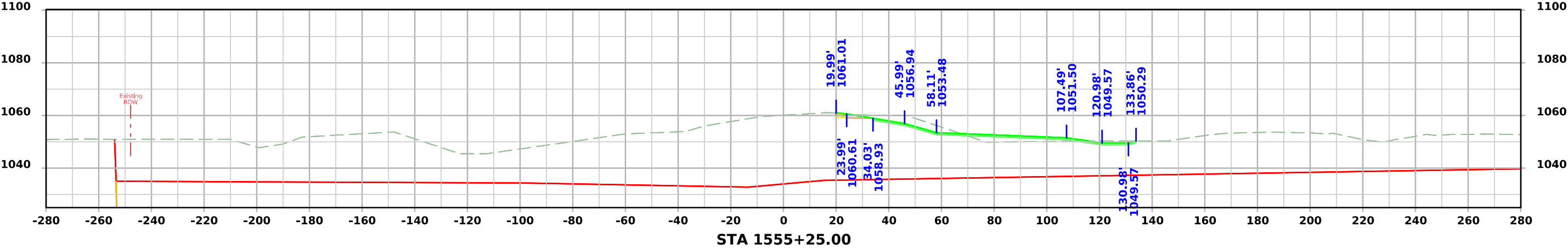
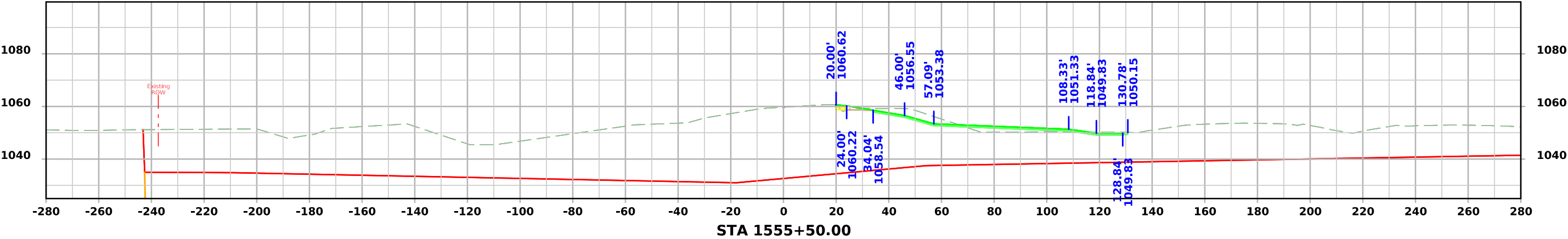
# Ramp A - Stage 7



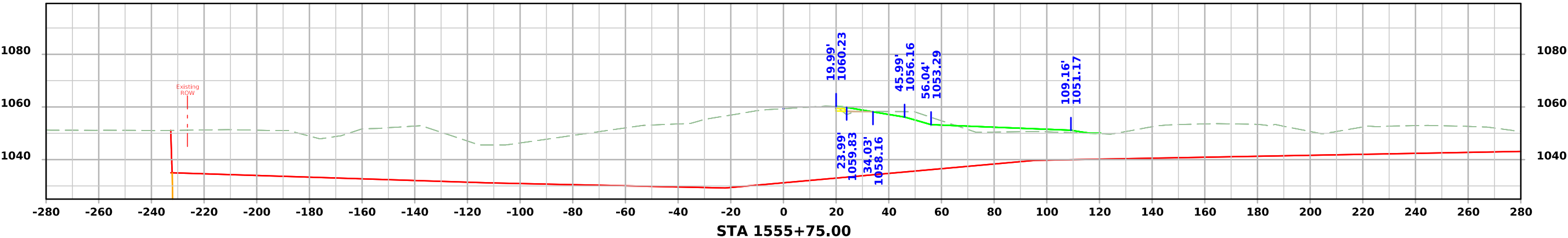
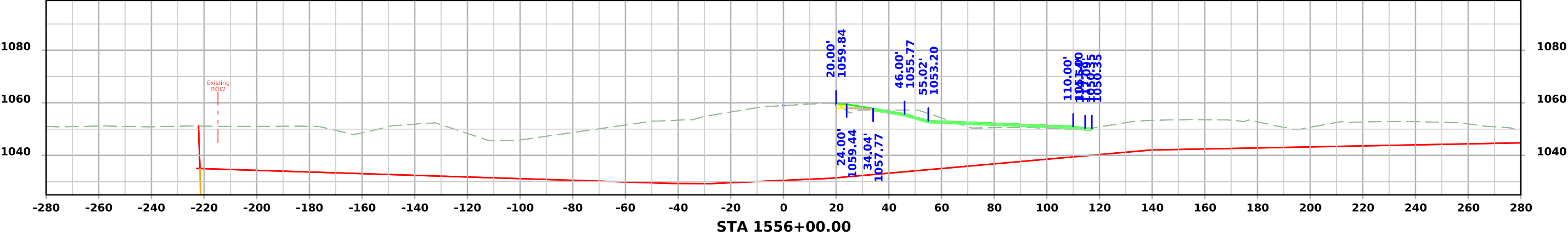
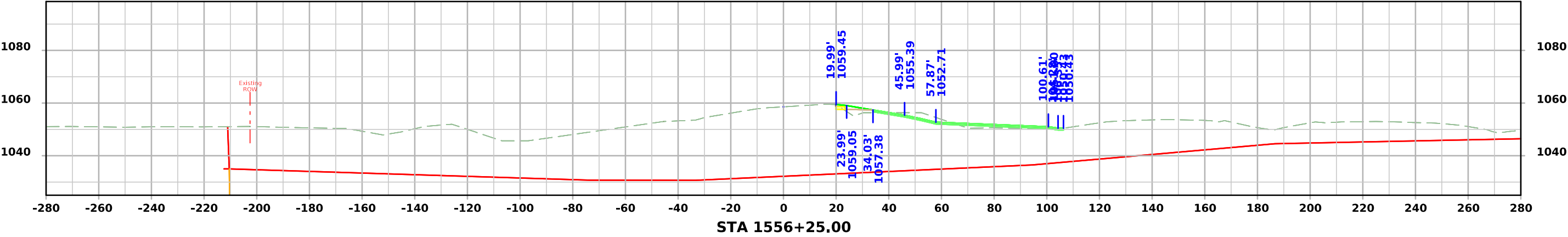
# Ramp A - Stage 7



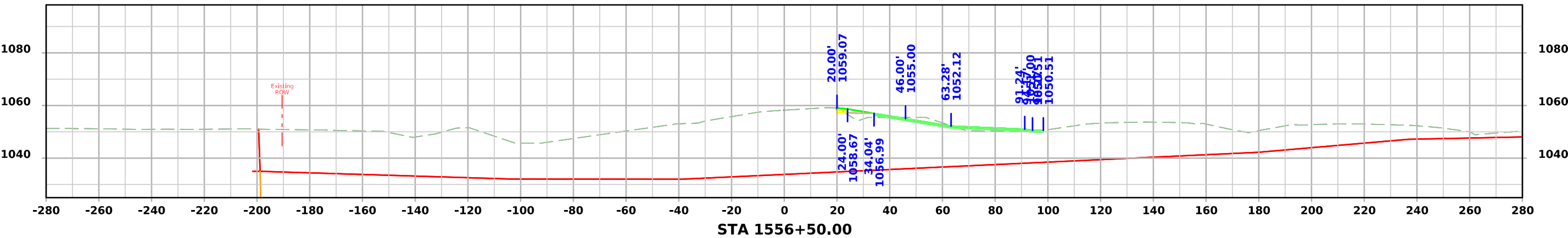
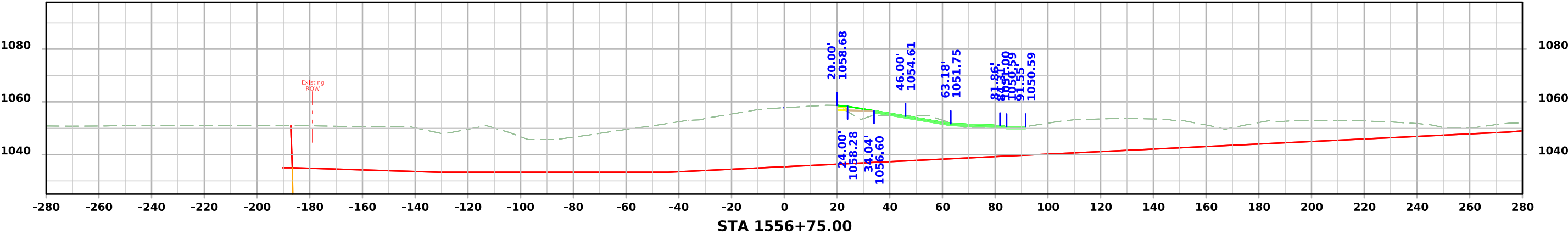
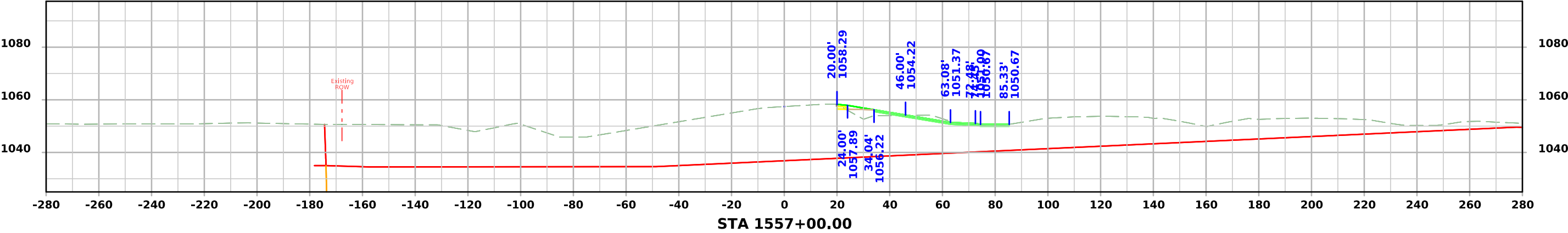
# Ramp A - Stage 7



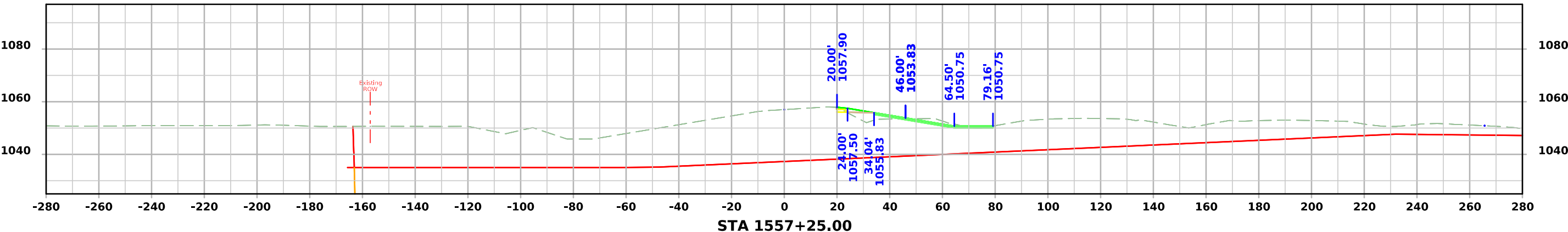
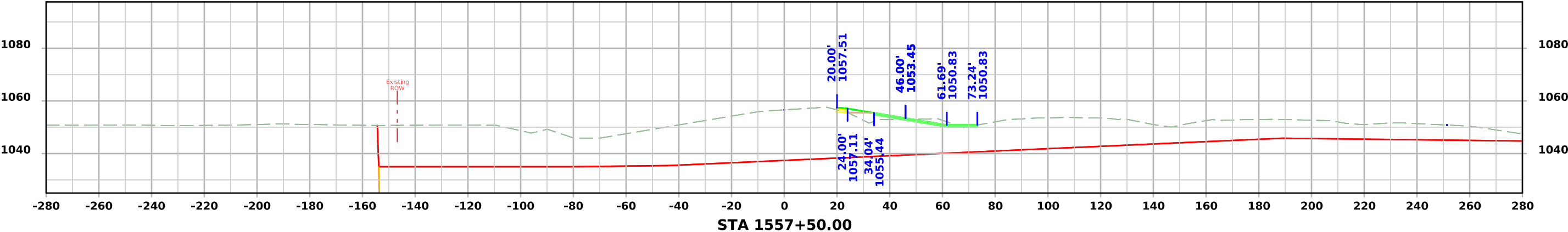
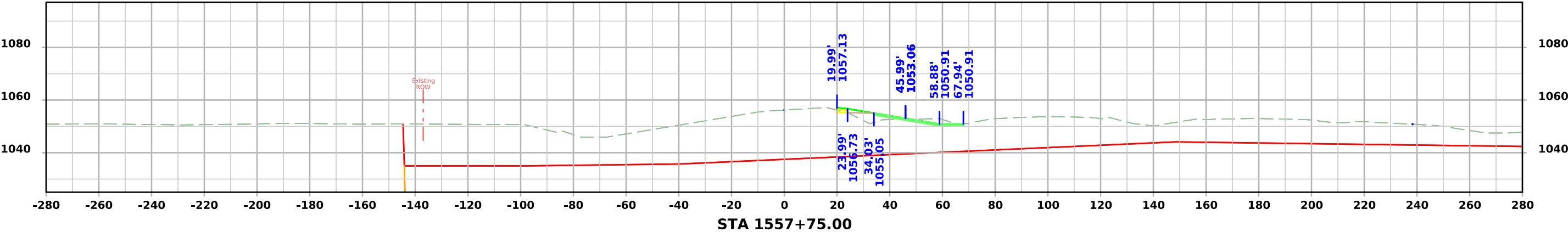
# Ramp A - Stage 7



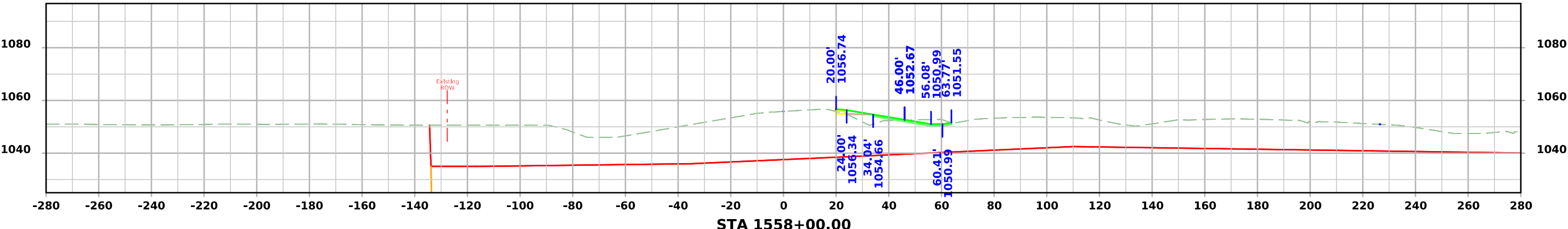
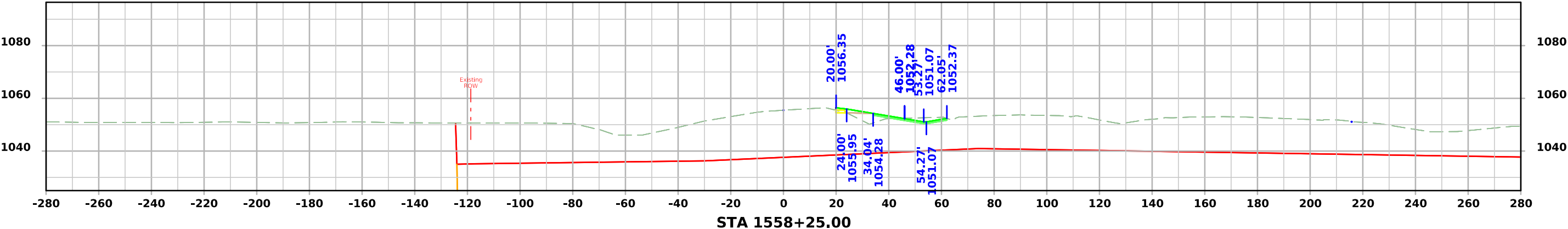
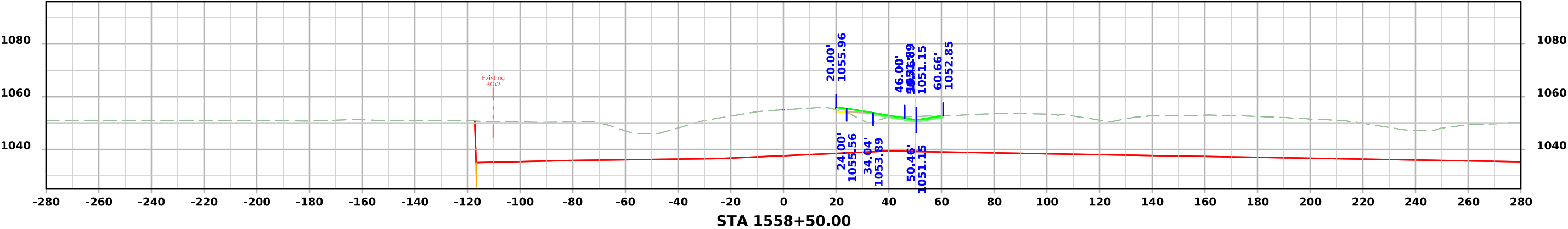
# Ramp A - Stage 7



# Ramp A - Stage 7

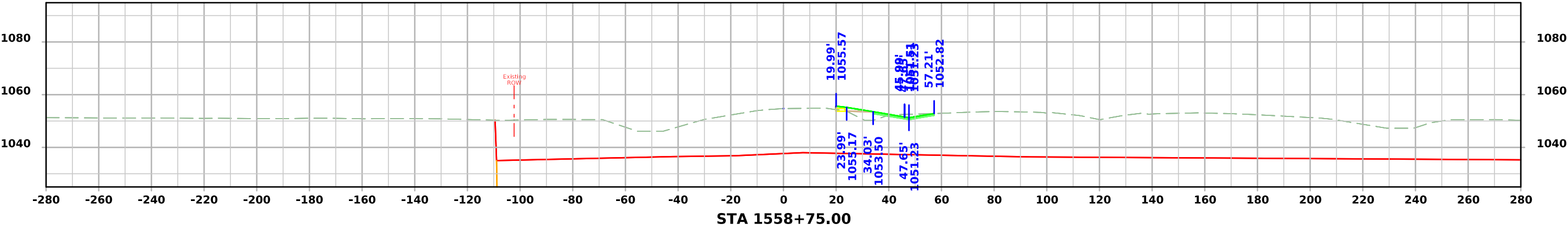
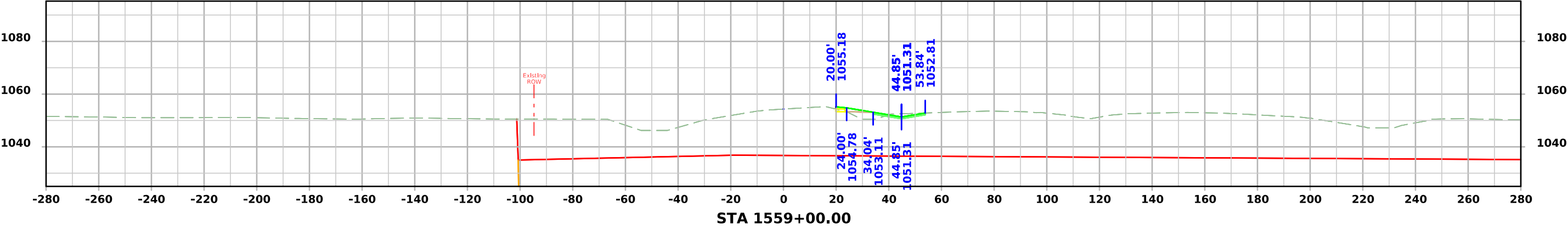
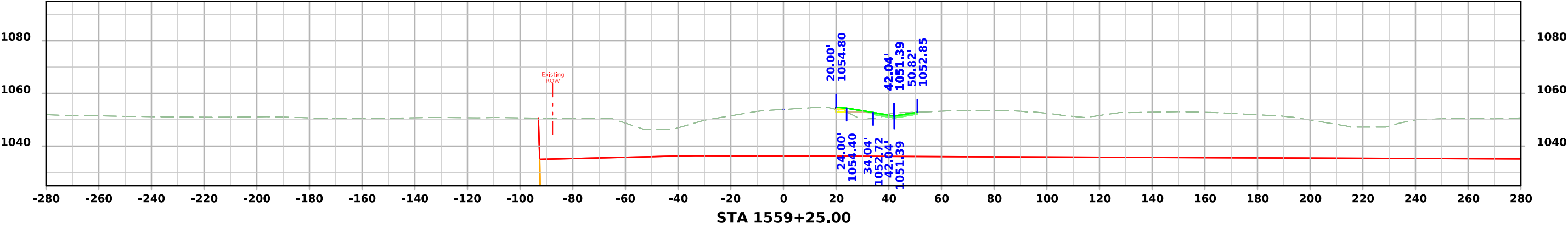


# Ramp A - Stage 7

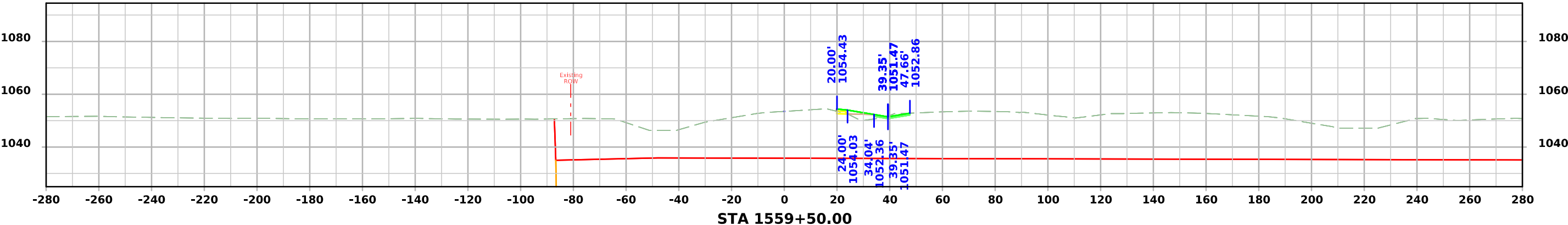
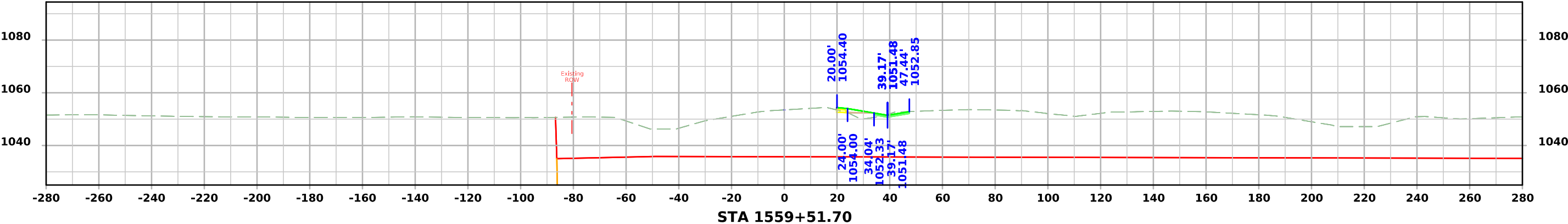
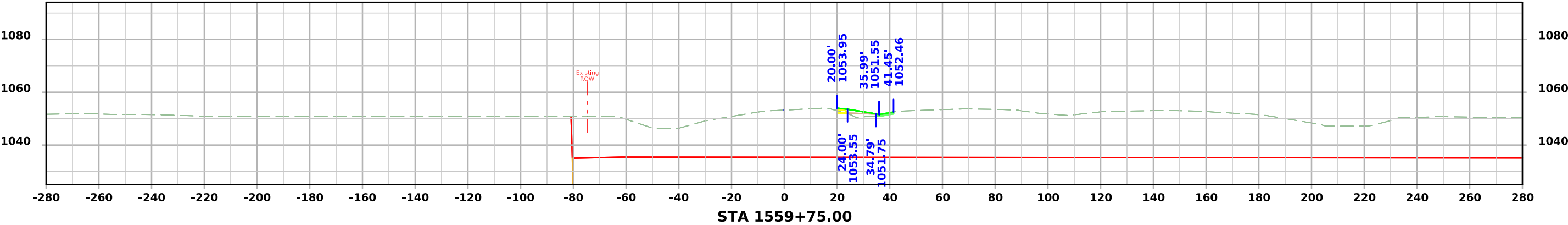




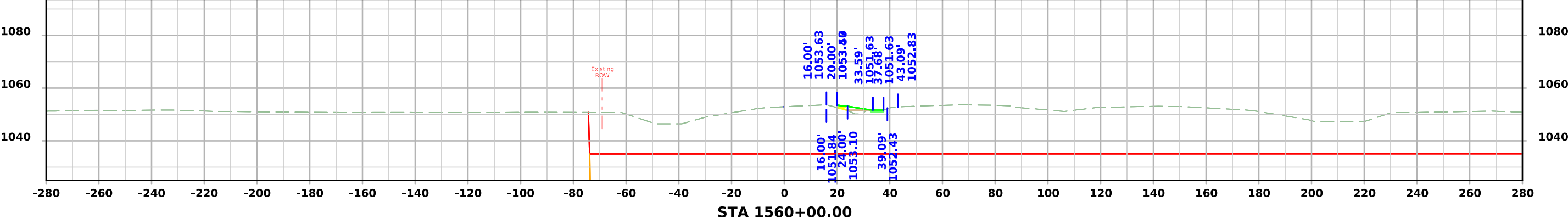
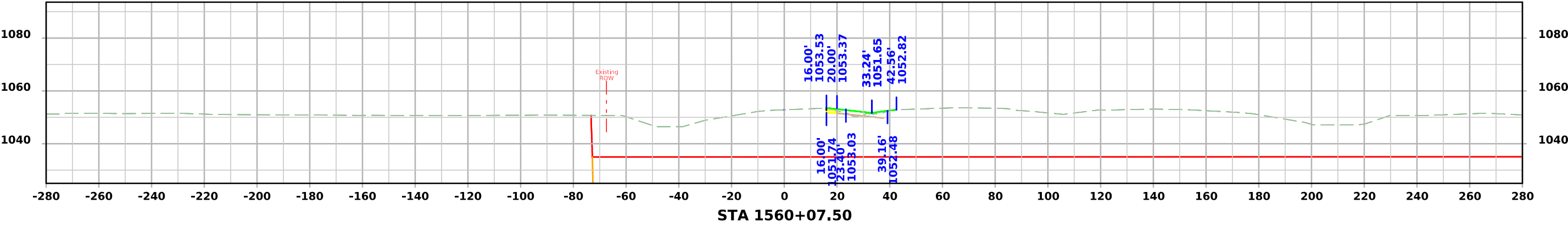
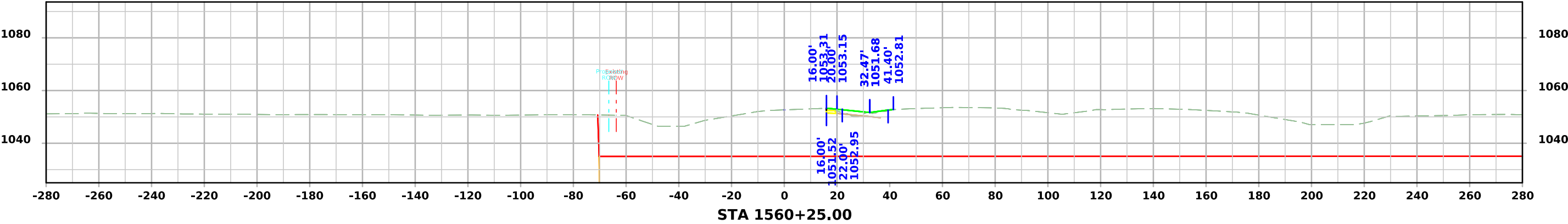
Ramp A - Stage 7



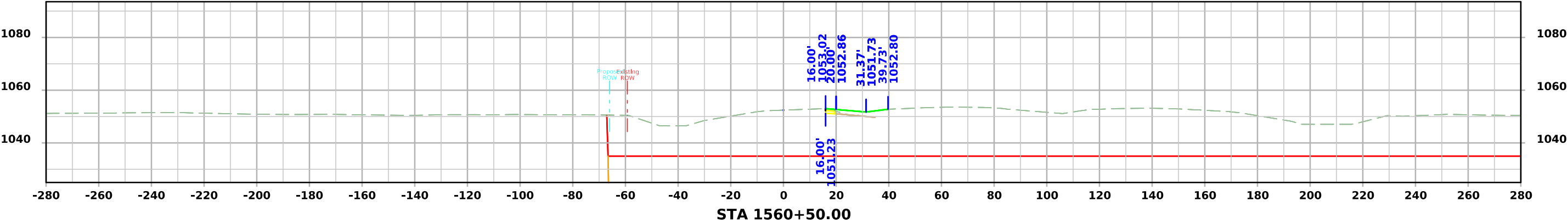
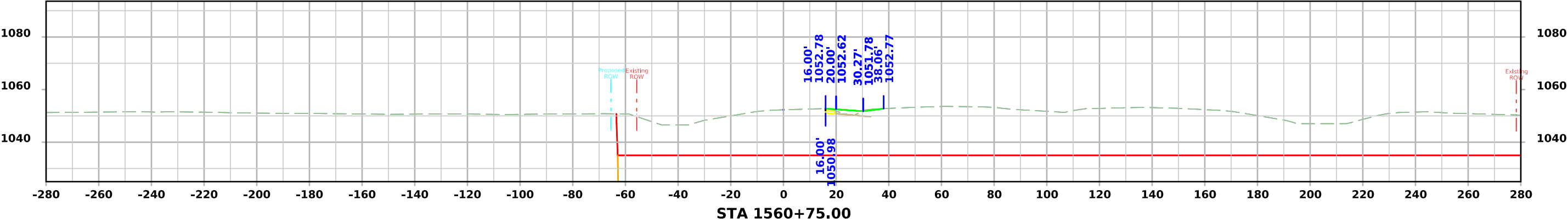
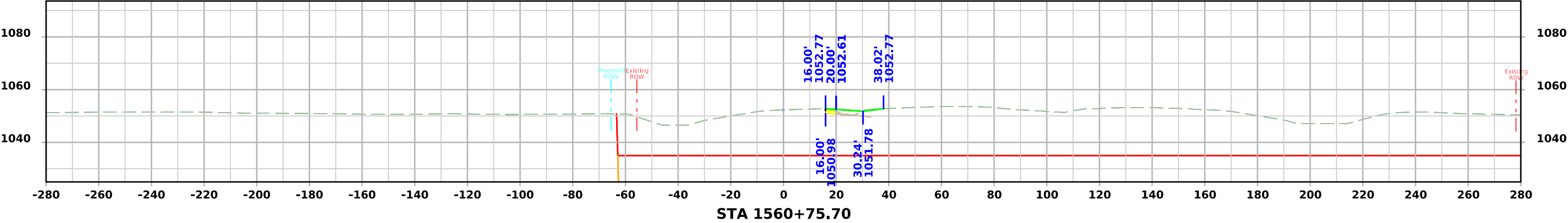
Ramp A - Stage 7



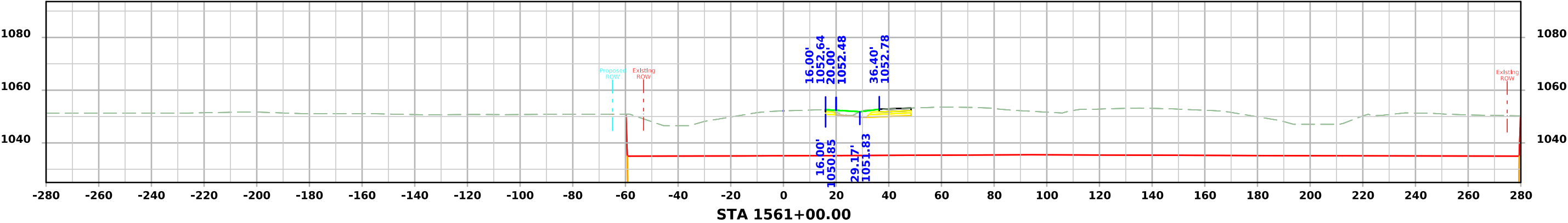
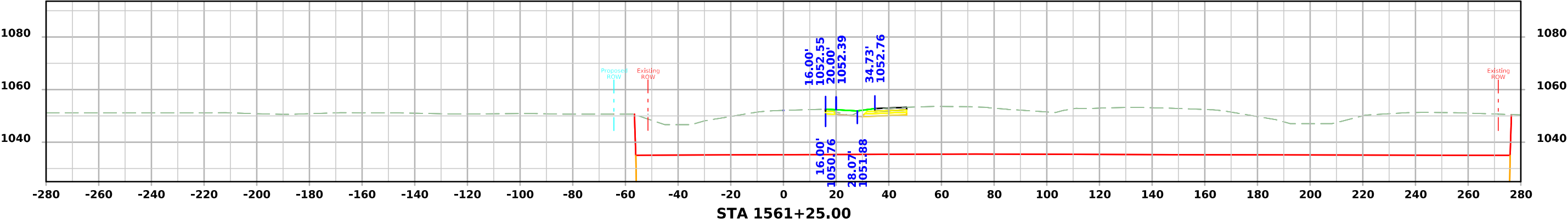
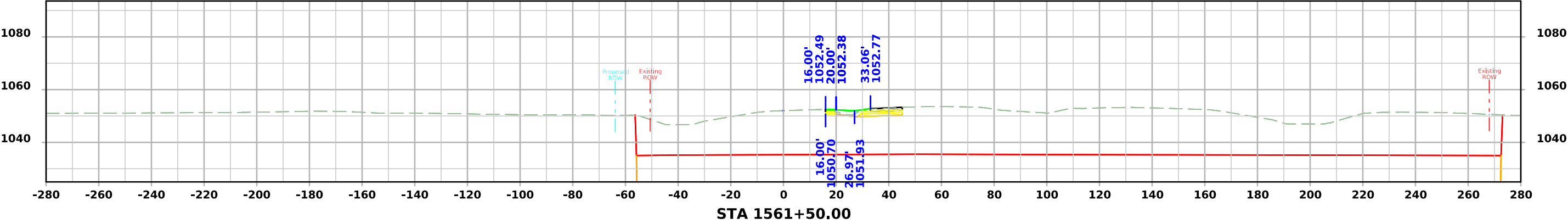
Ramp A - Stage 7



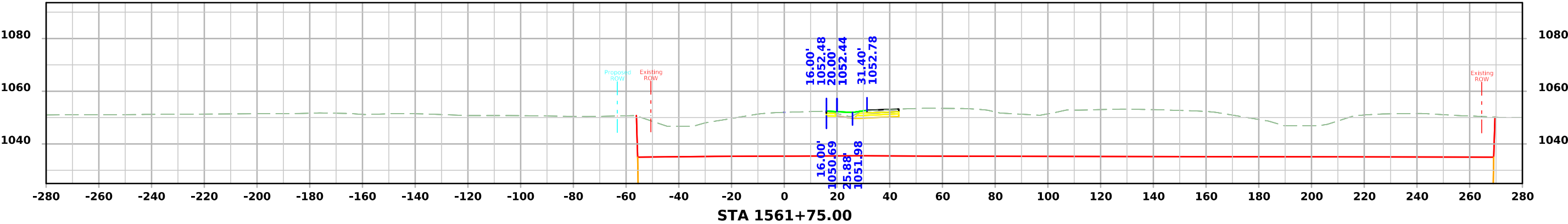
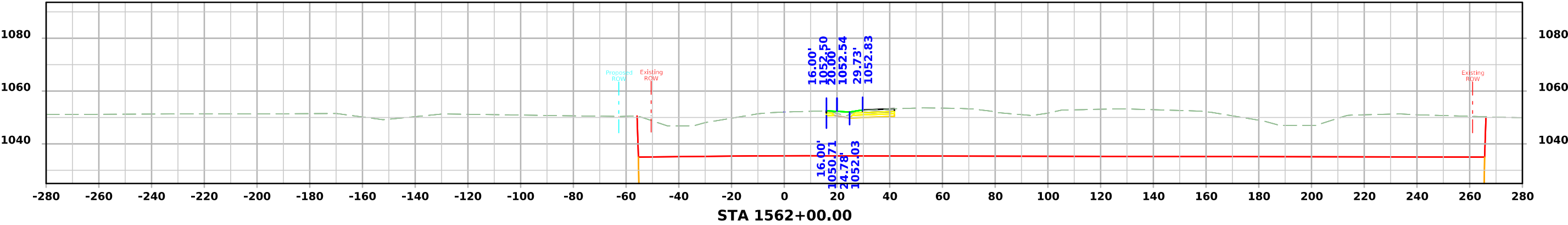
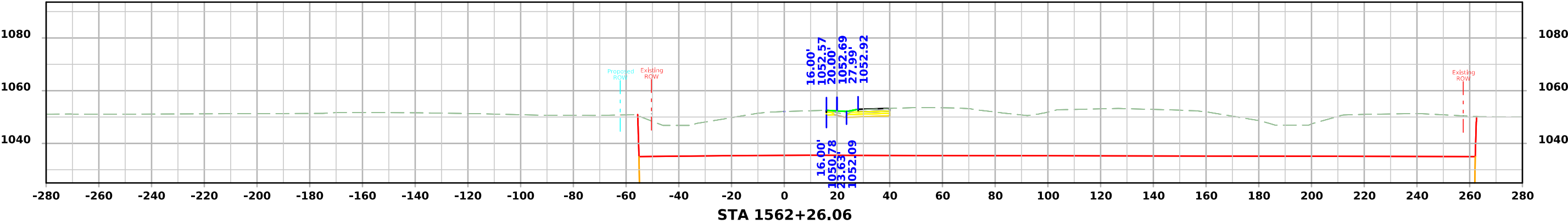
Ramp A - Stage 7



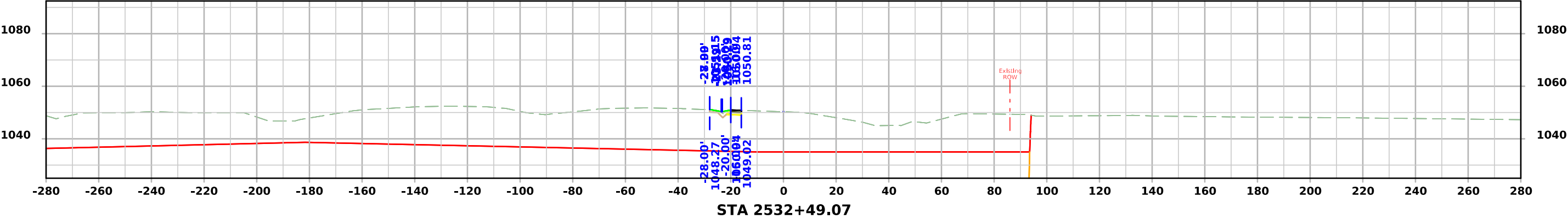
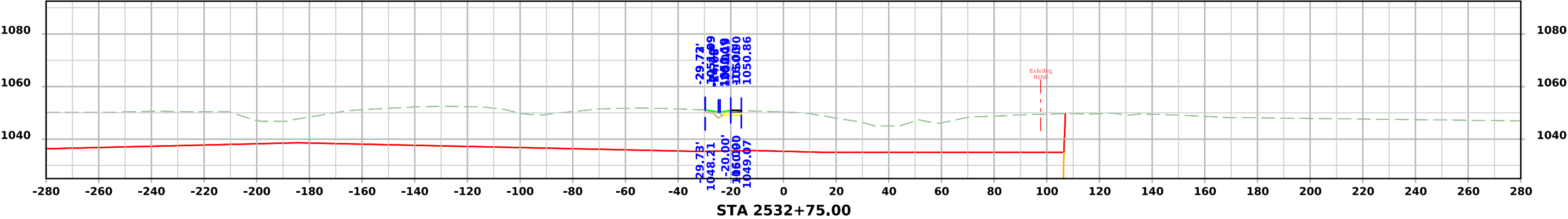
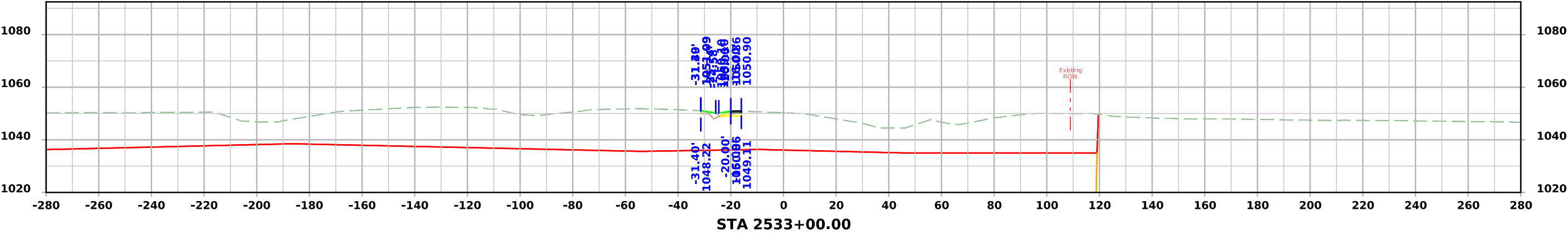
Ramp A - Stage 7



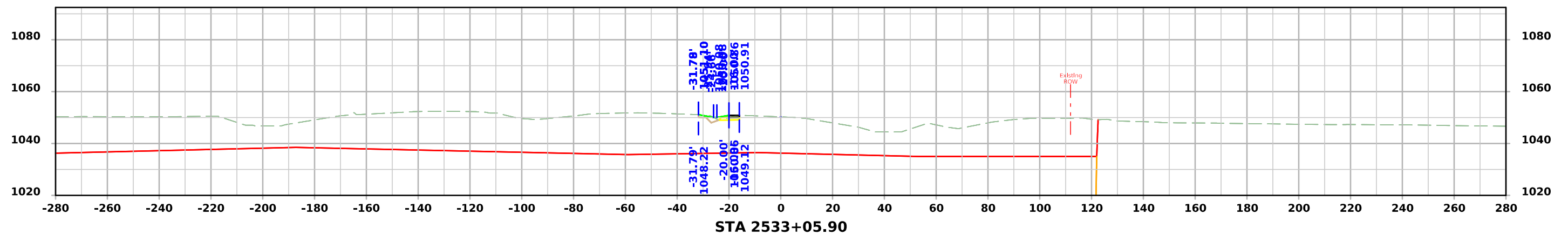
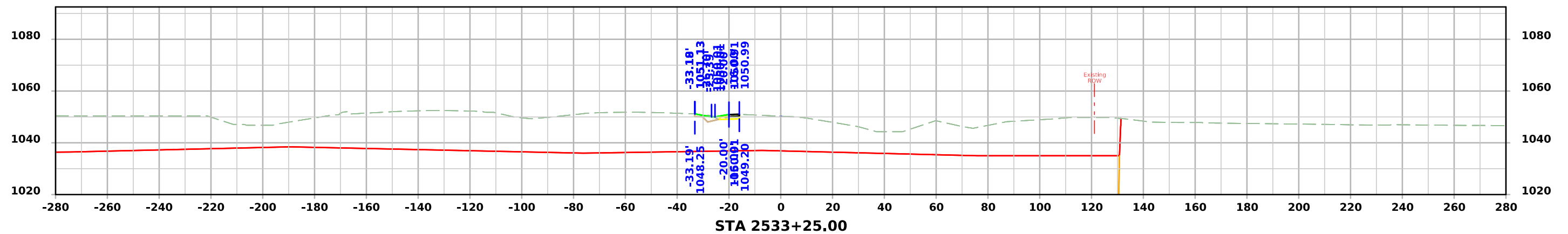
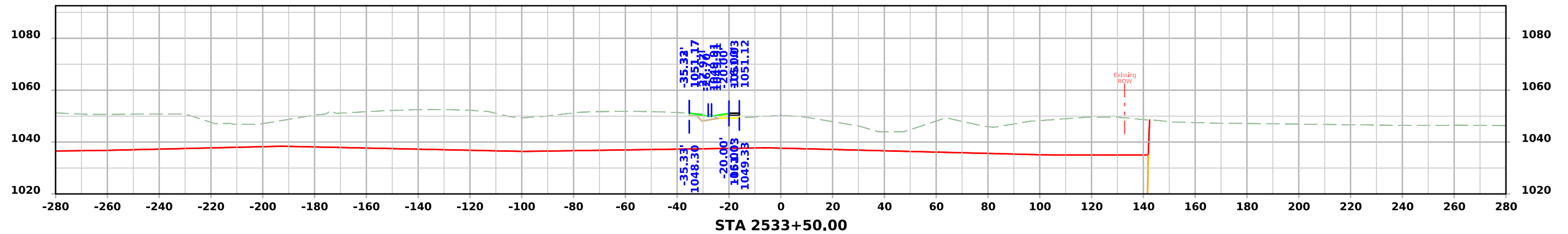
# Ramp A - Stage 7



Ramp B - Stage 7

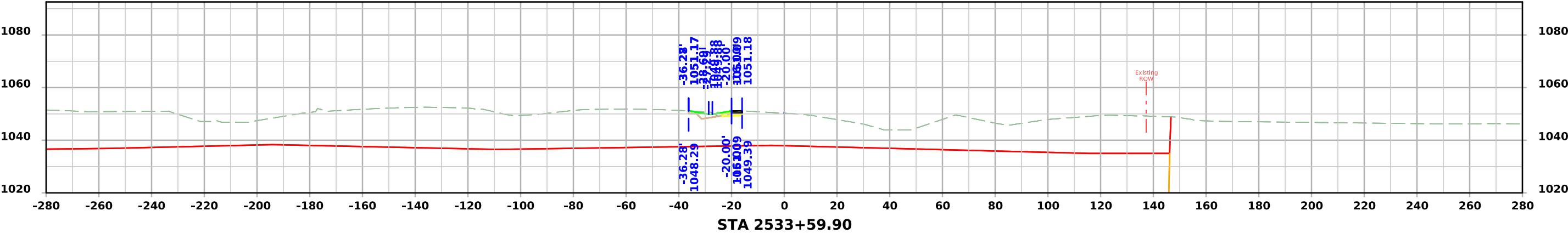
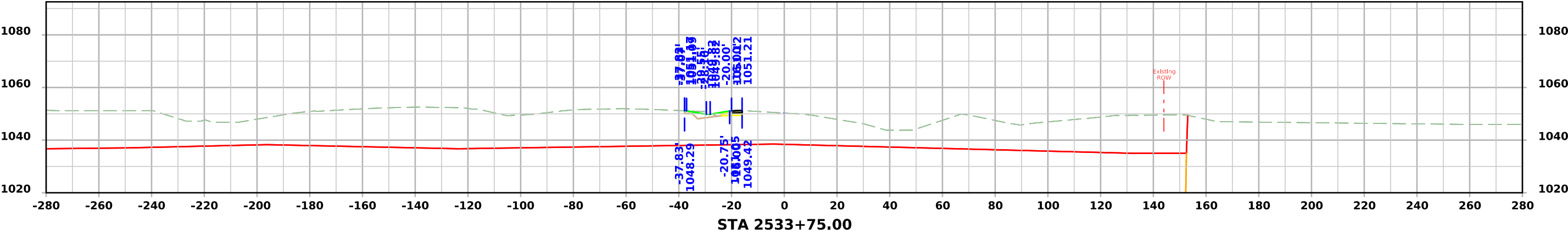
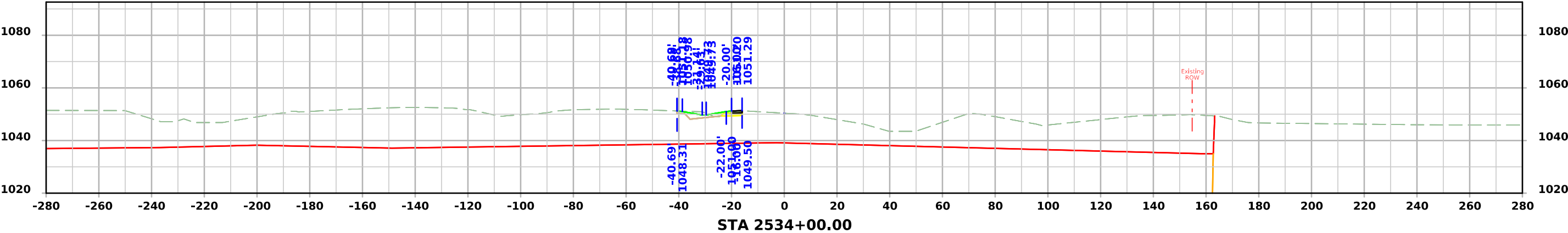


## Ramp B - Stage 7

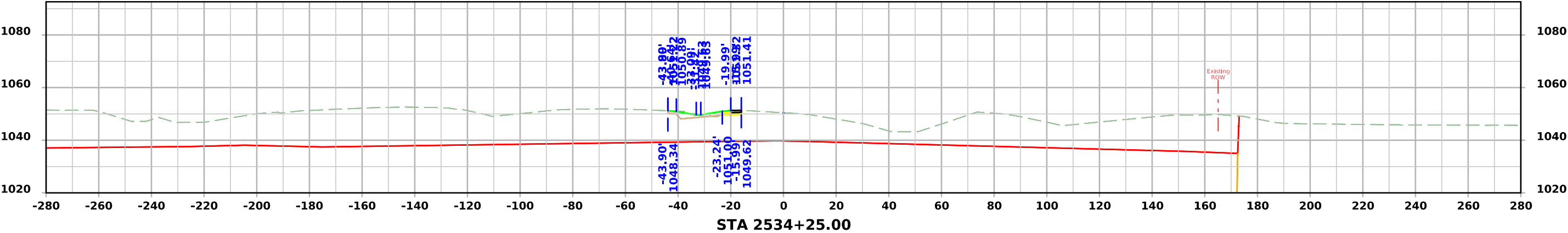
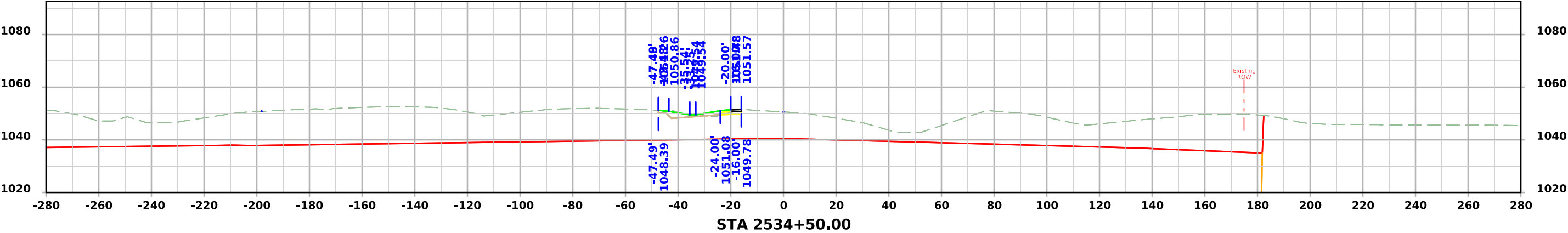
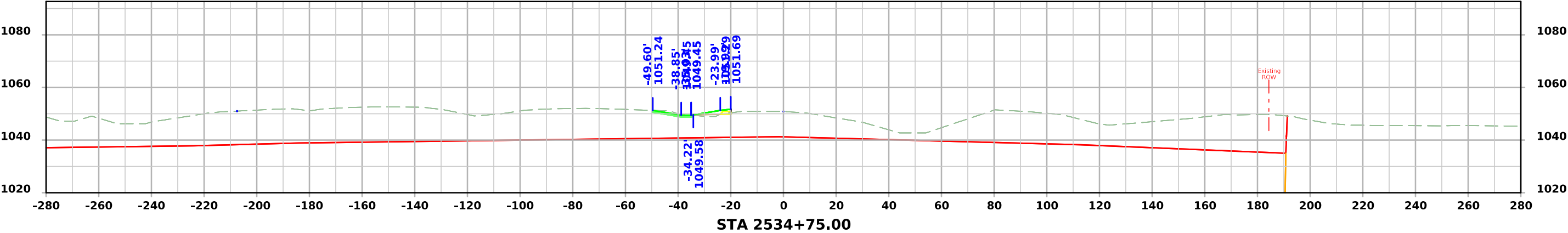




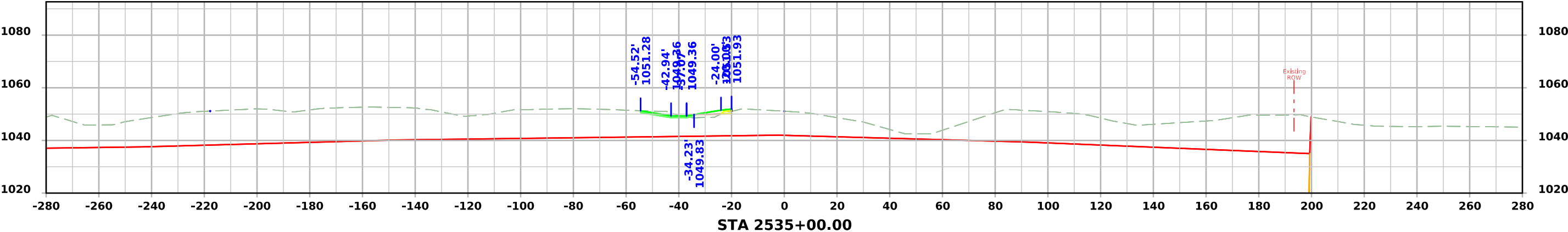
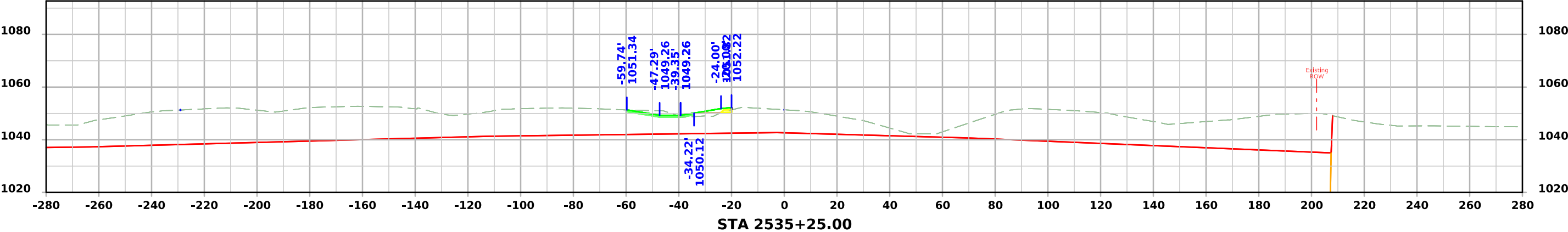
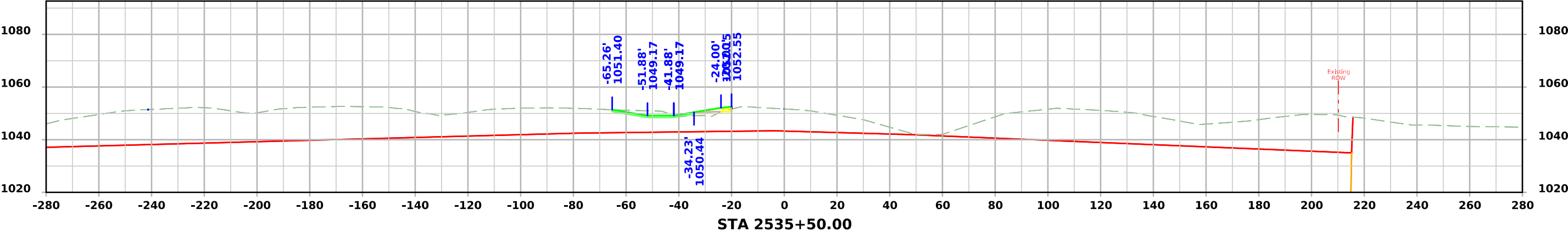
Ramp B - Stage 7



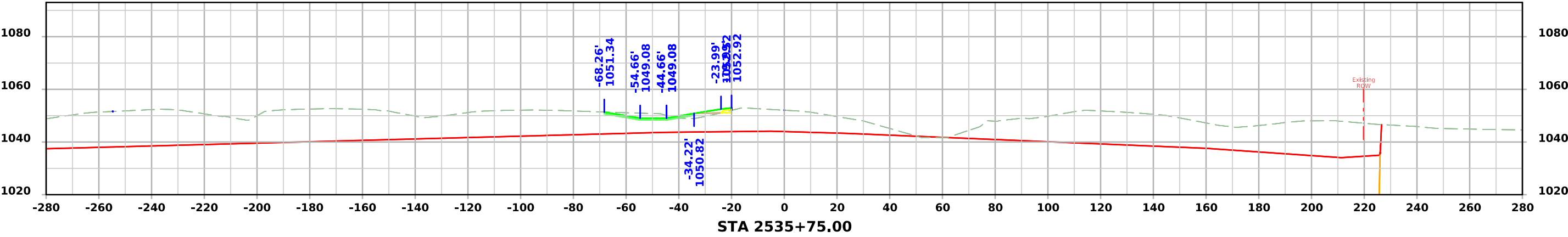
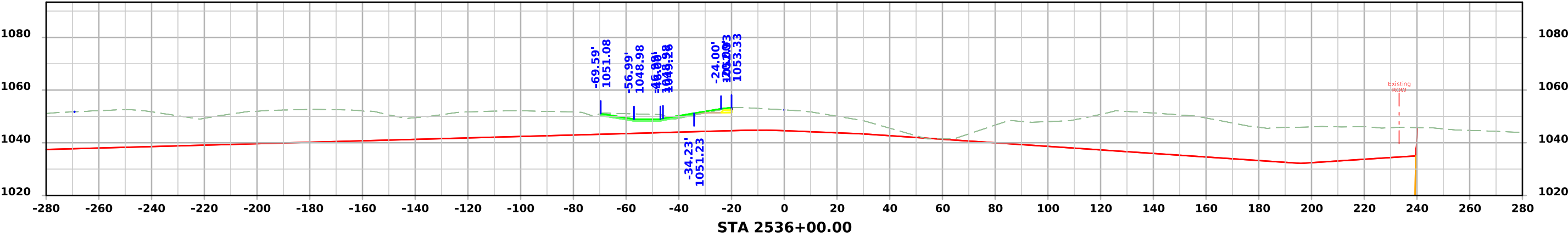
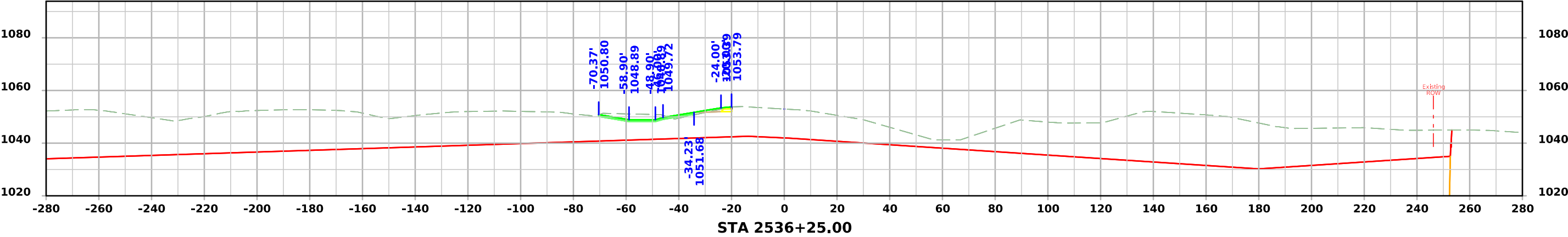
Ramp B - Stage 7



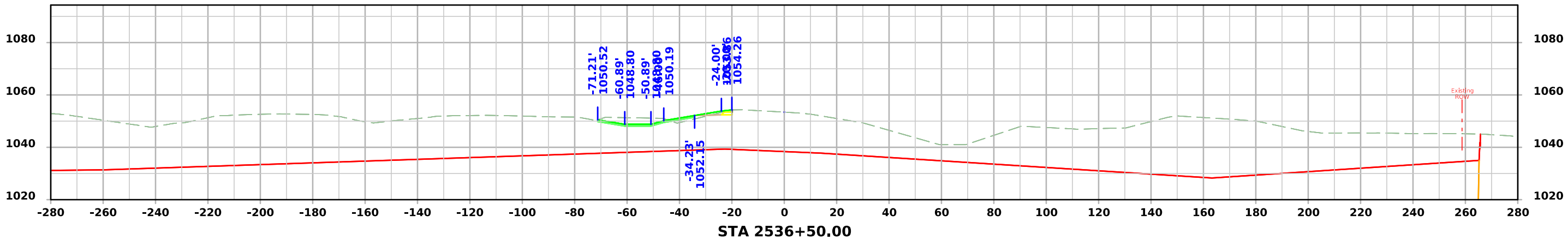
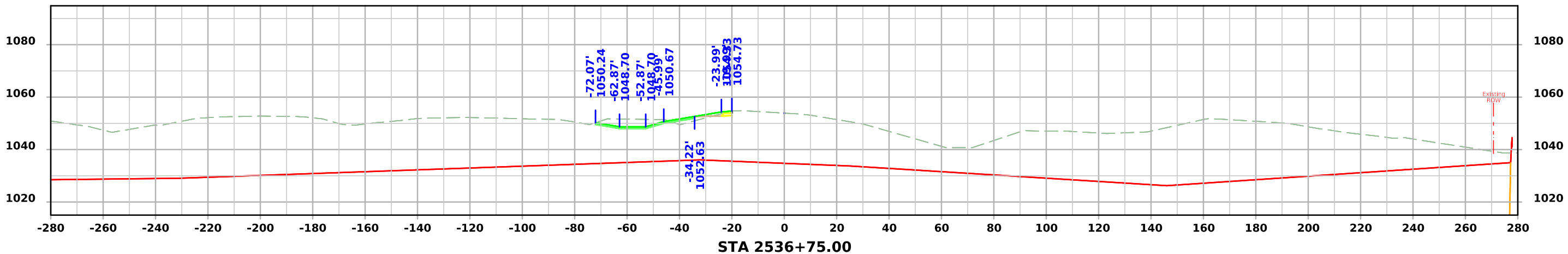
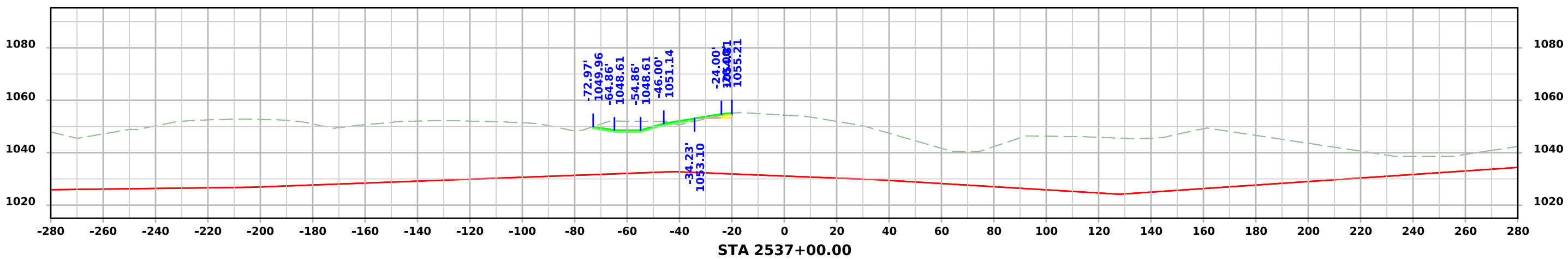
Ramp B - Stage 7



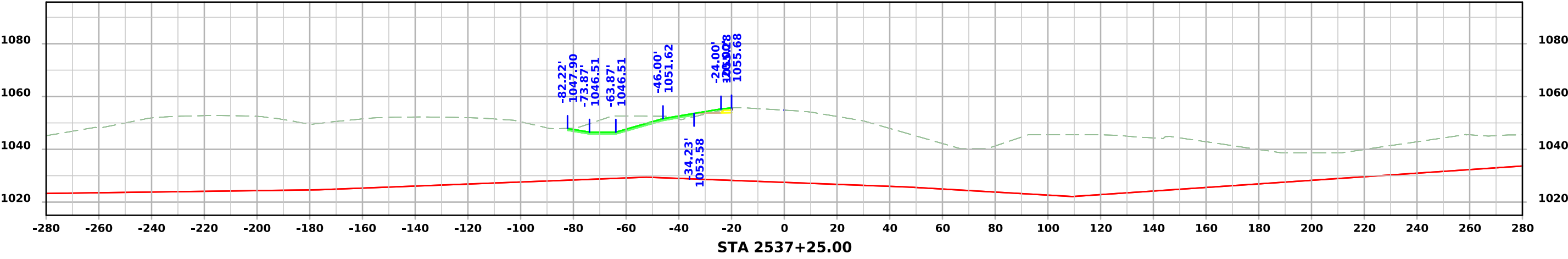
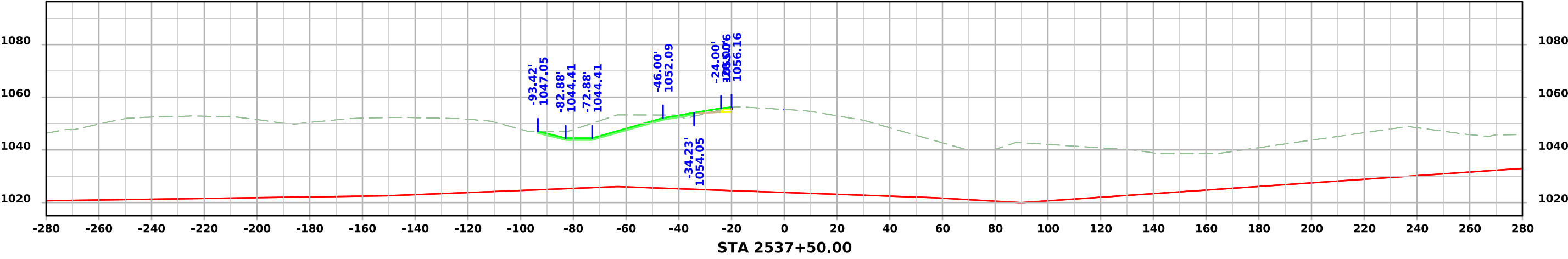
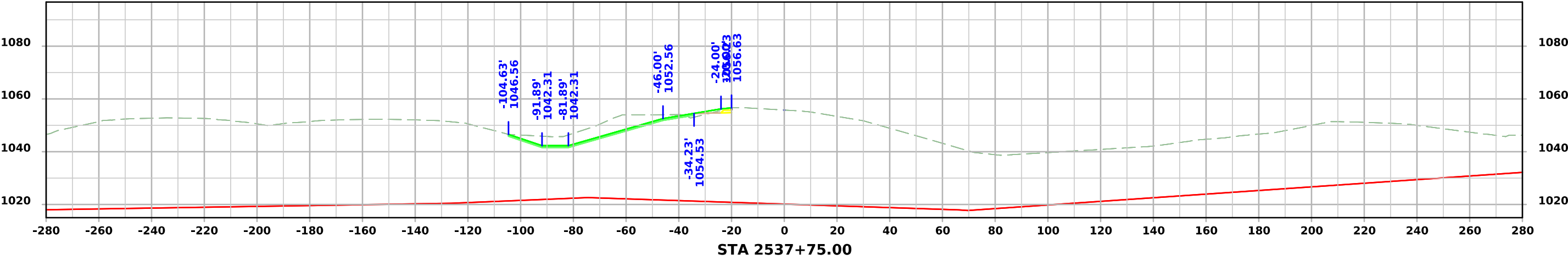
Ramp B - Stage 7



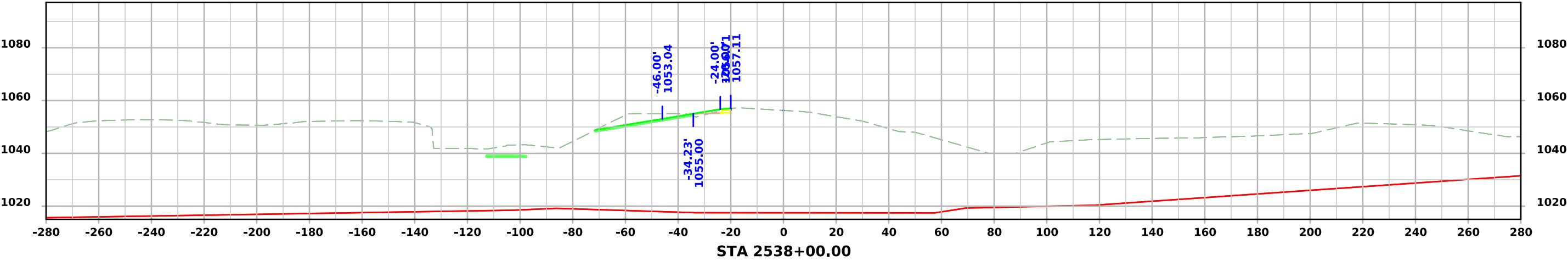
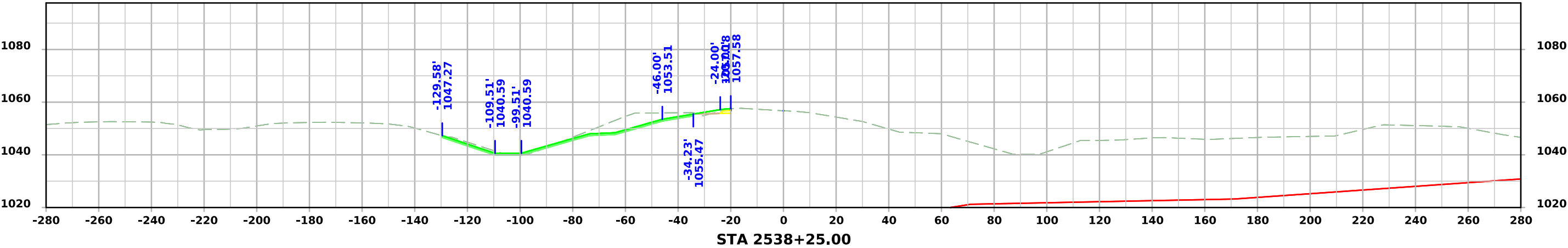
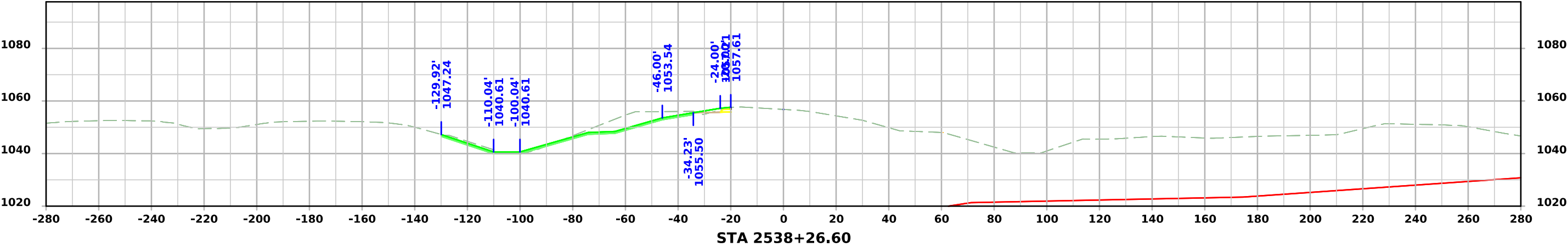
# Ramp B - Stage 7



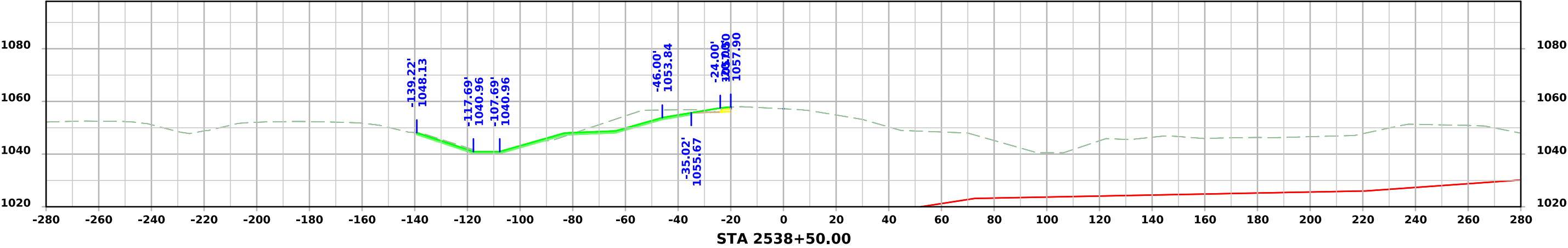
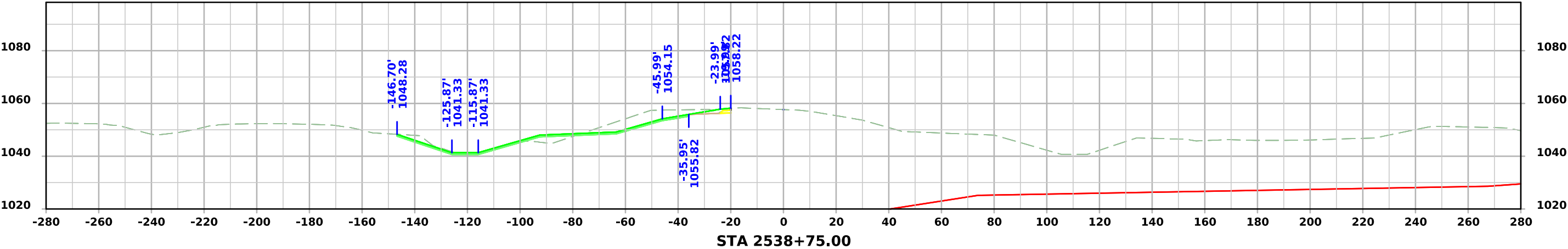
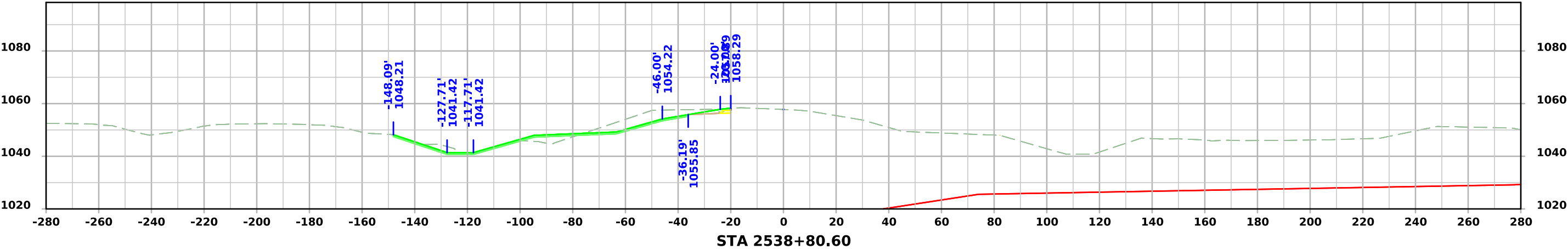
# Ramp B - Stage 7



Ramp B - Stage 7

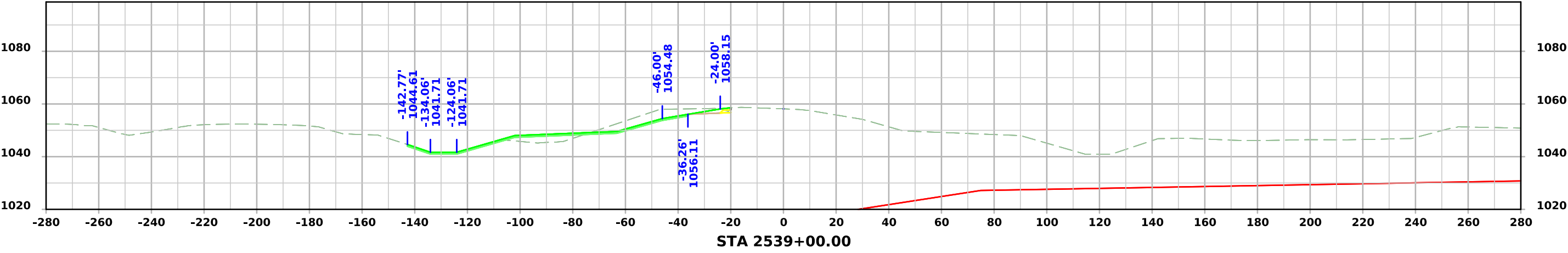
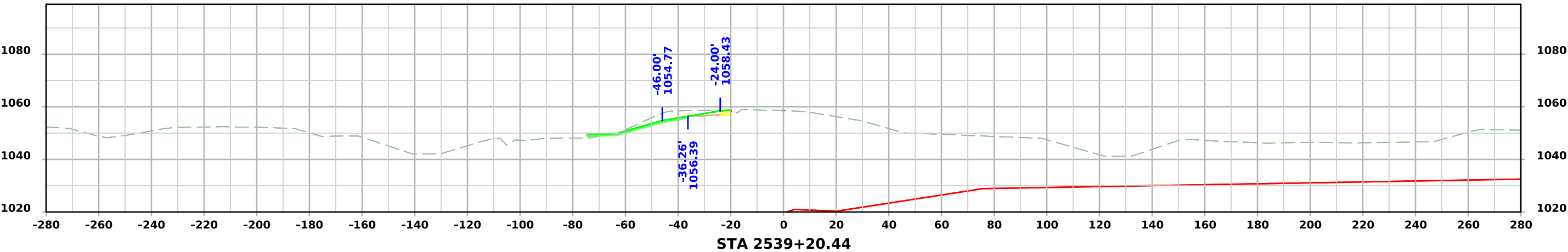
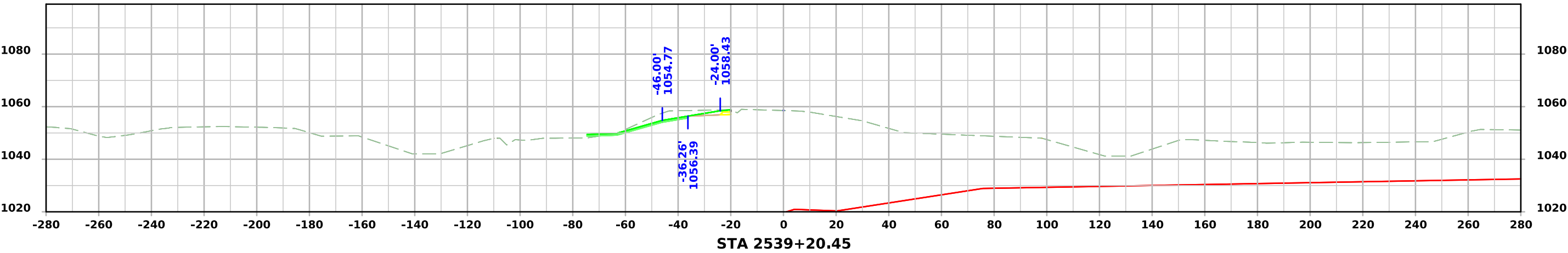


# Ramp B - Stage 7

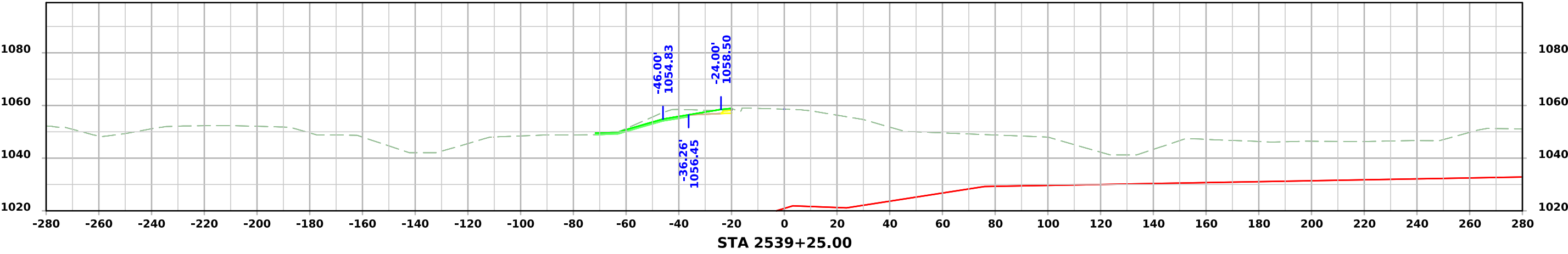
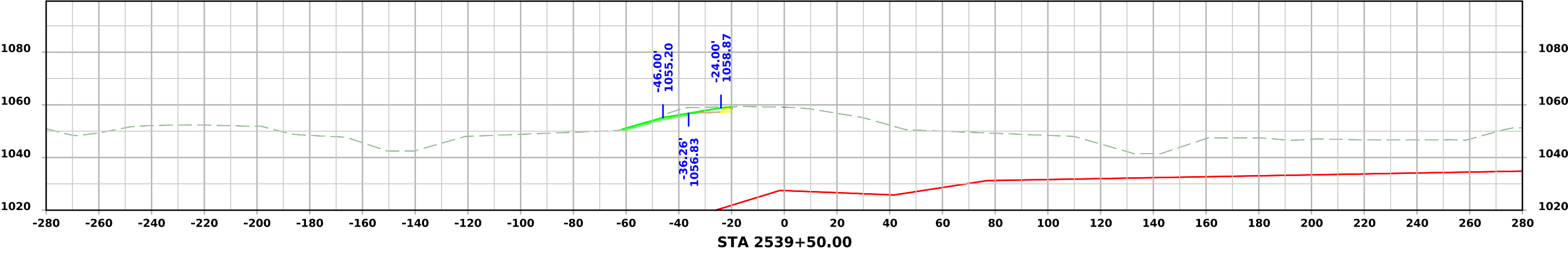
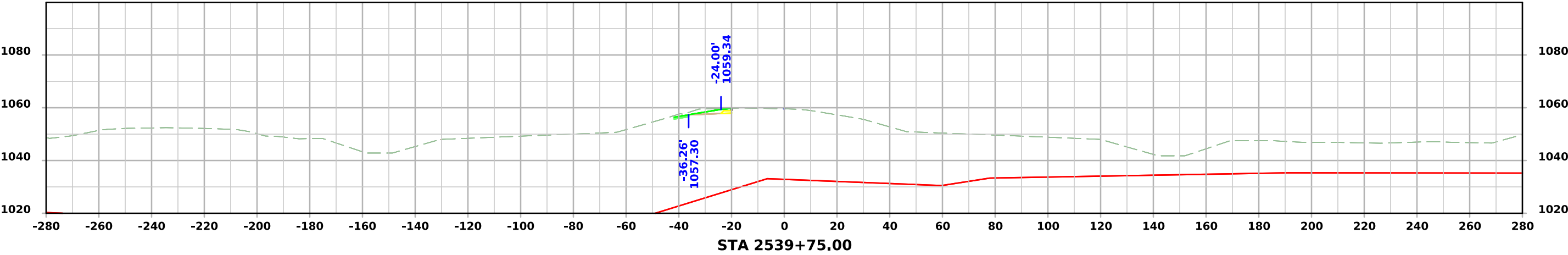




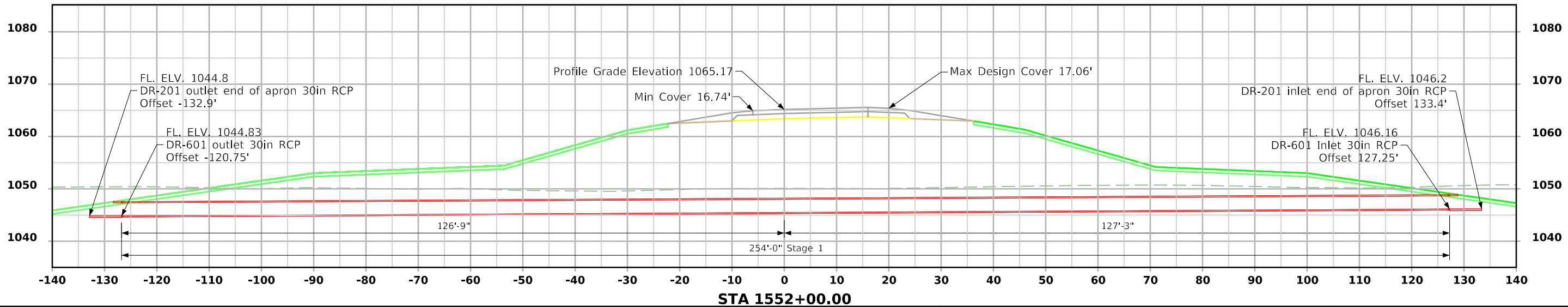
# Ramp B - Stage 7



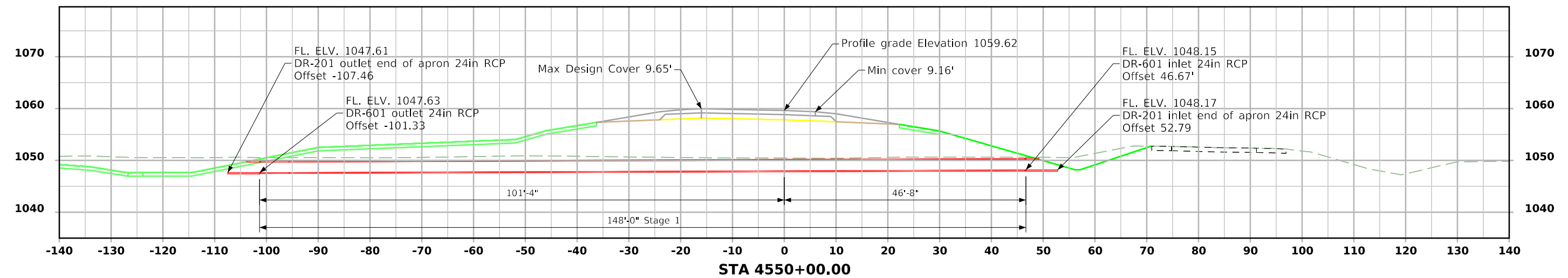
# Ramp B - Stage 7



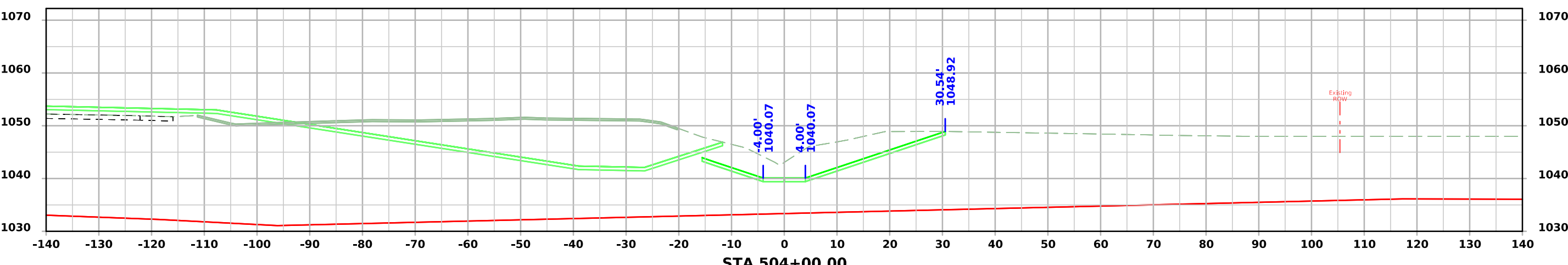
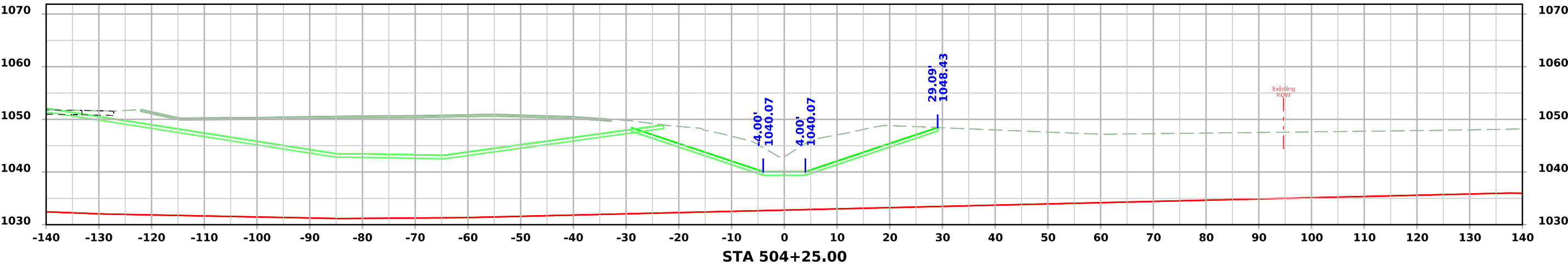
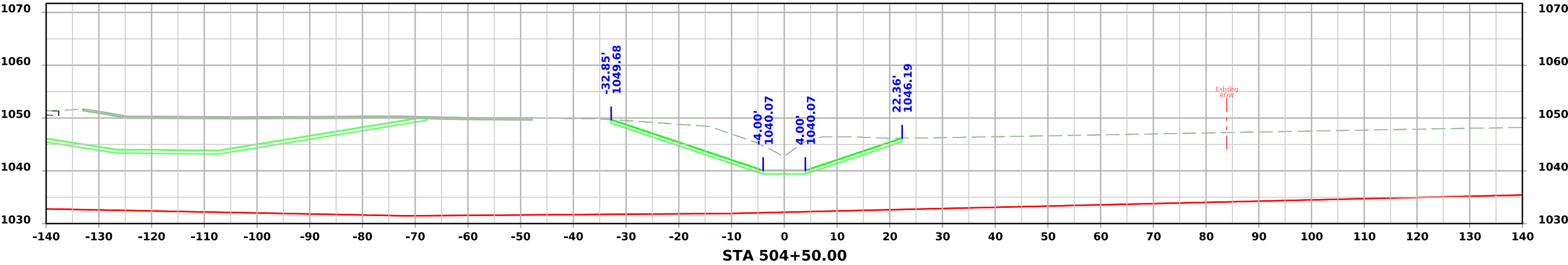
# Ramp A Culverts



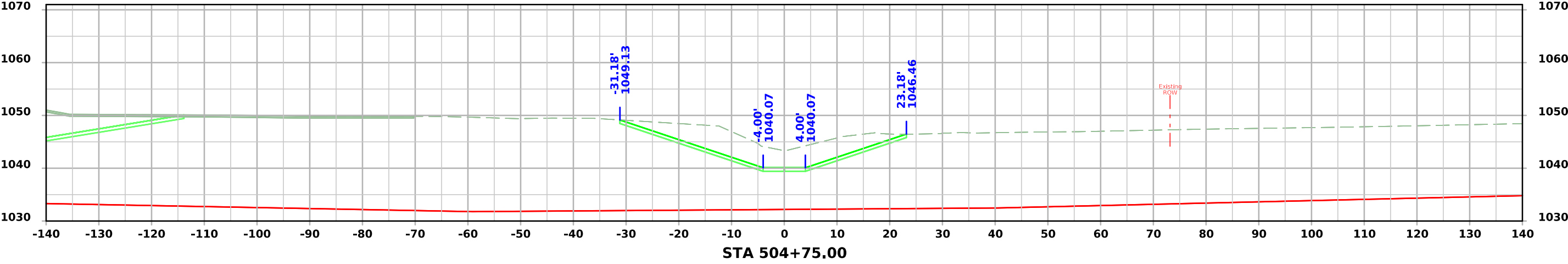
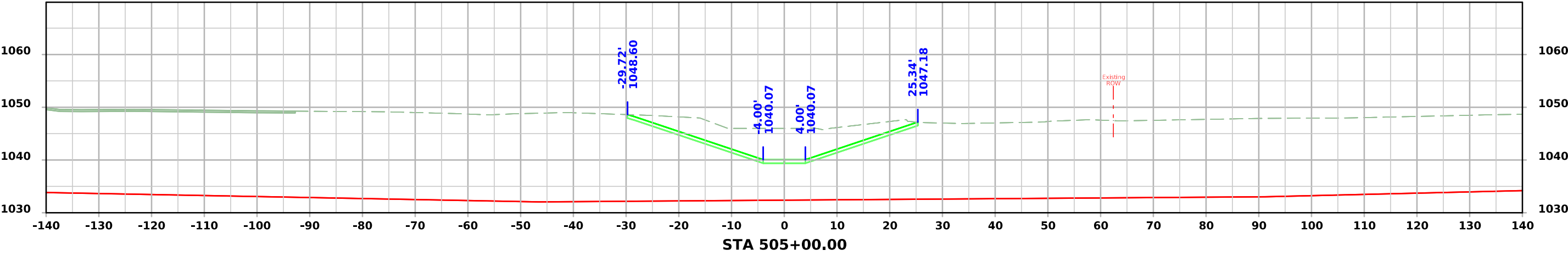
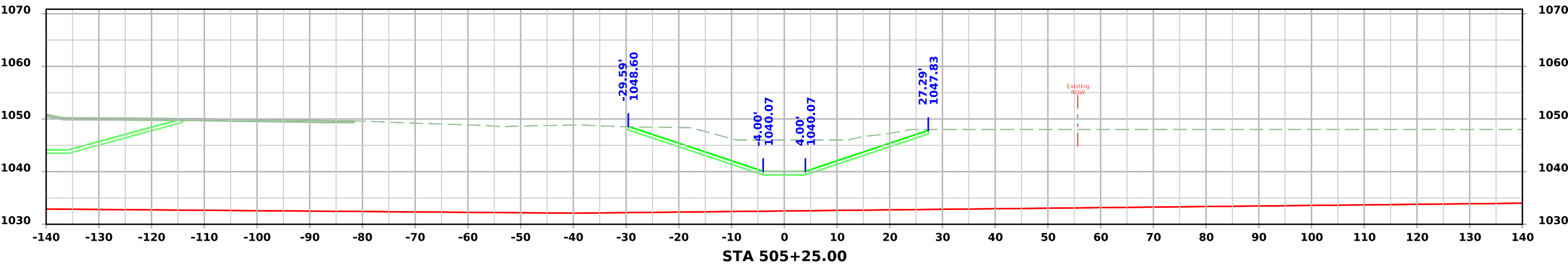
# Ramp D Culverts



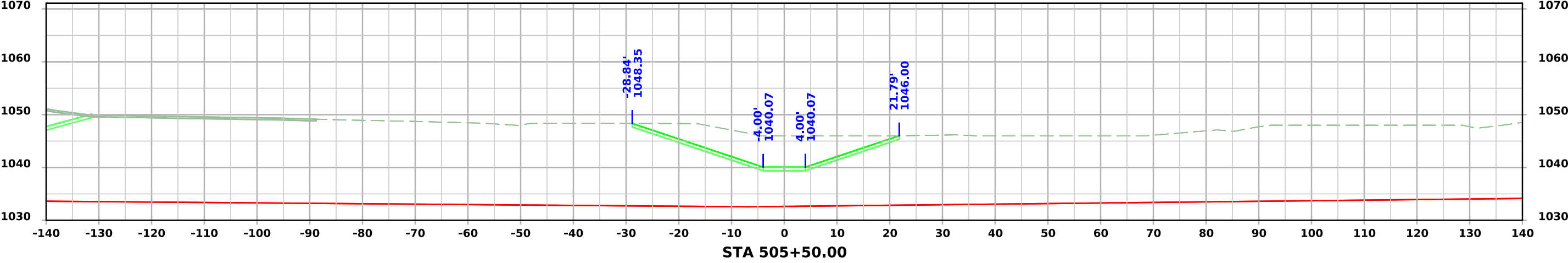
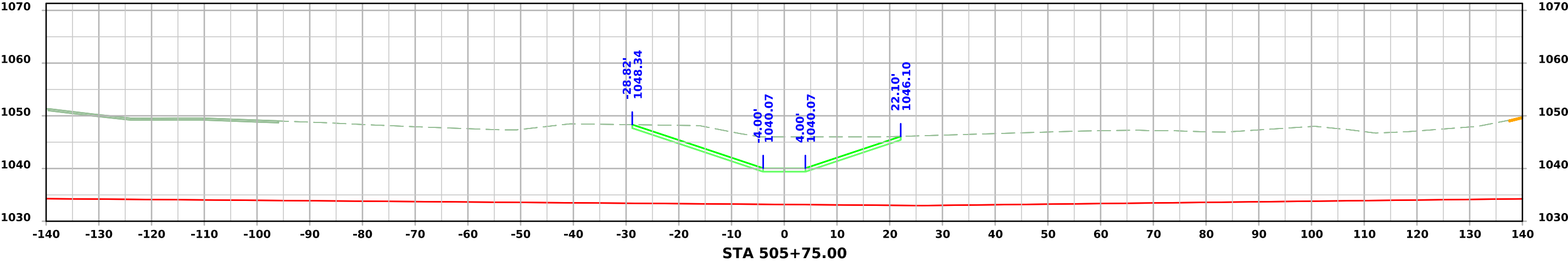
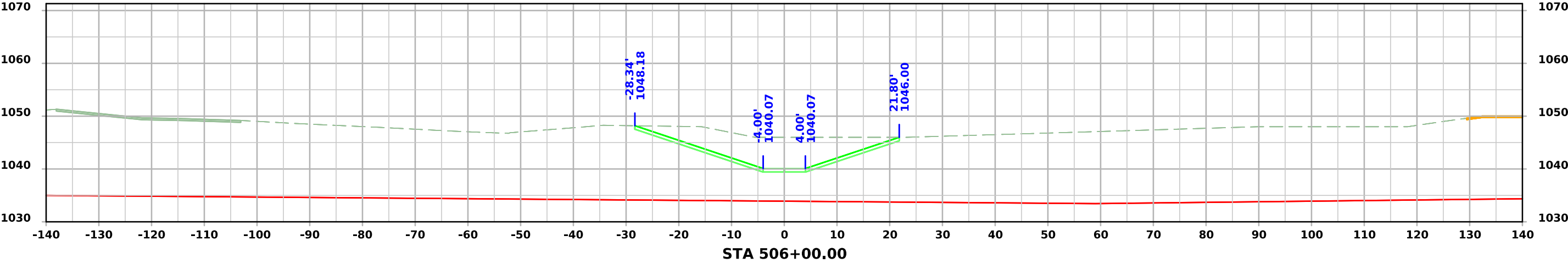
# I-29 Ditch Channel



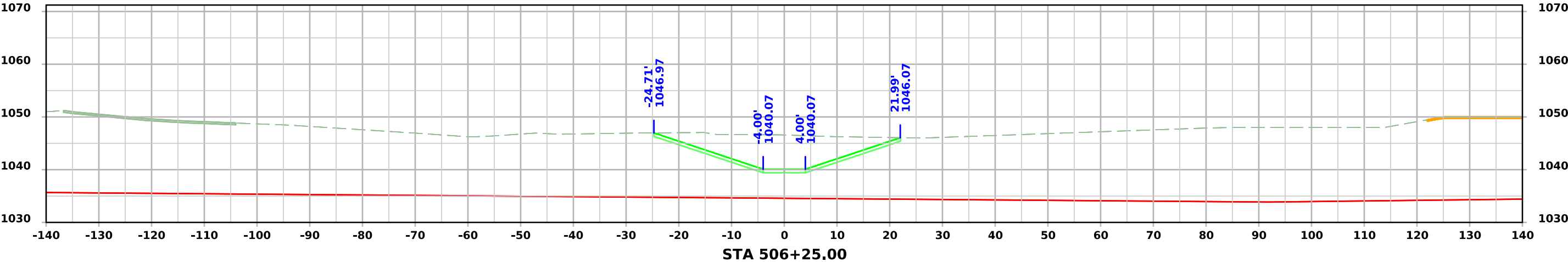
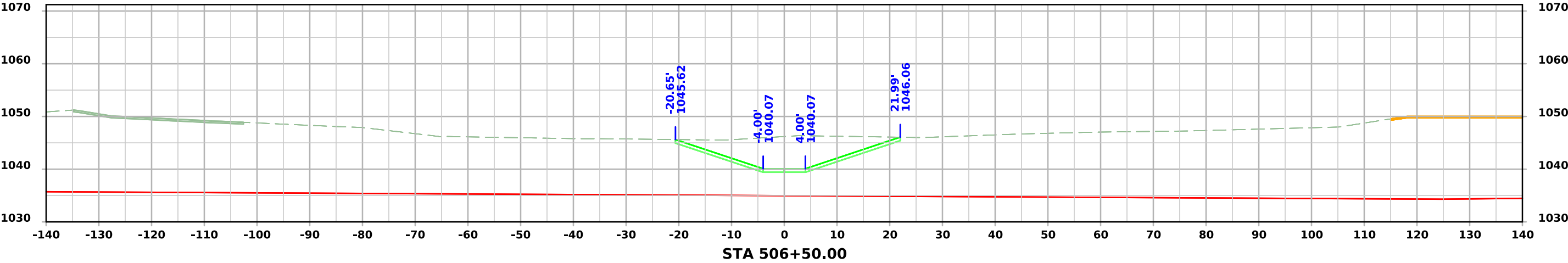
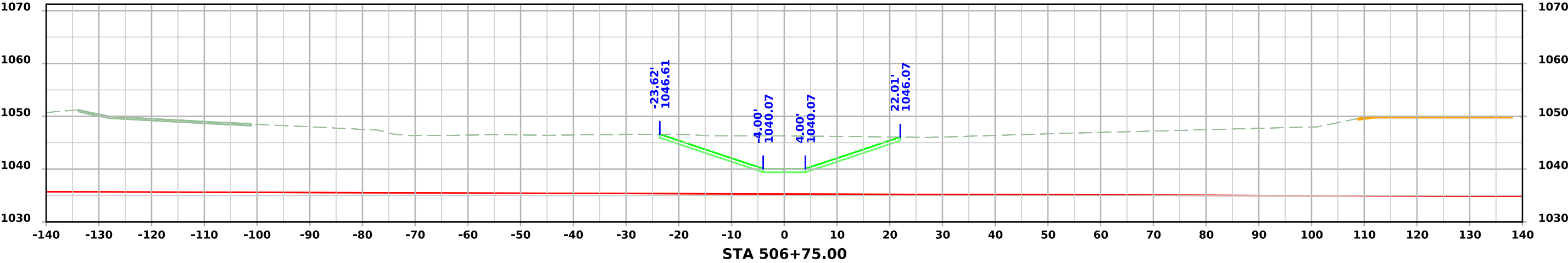
# I-29 Ditch Channel



# I-29 Ditch Channel

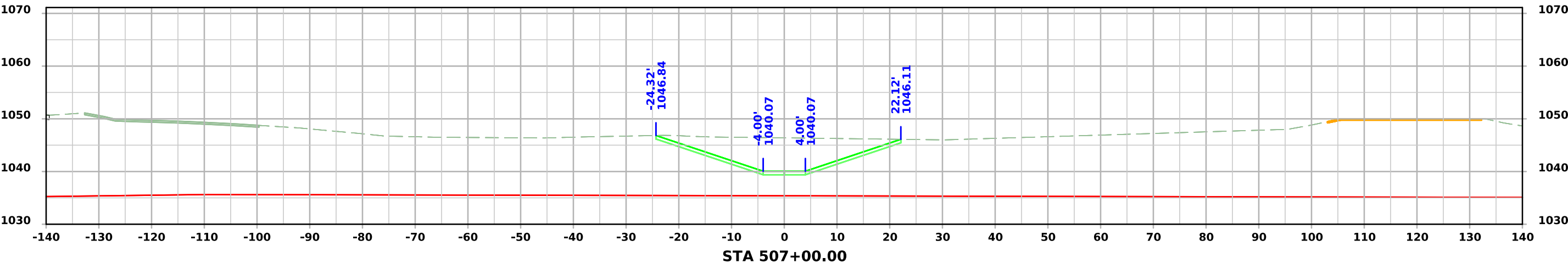
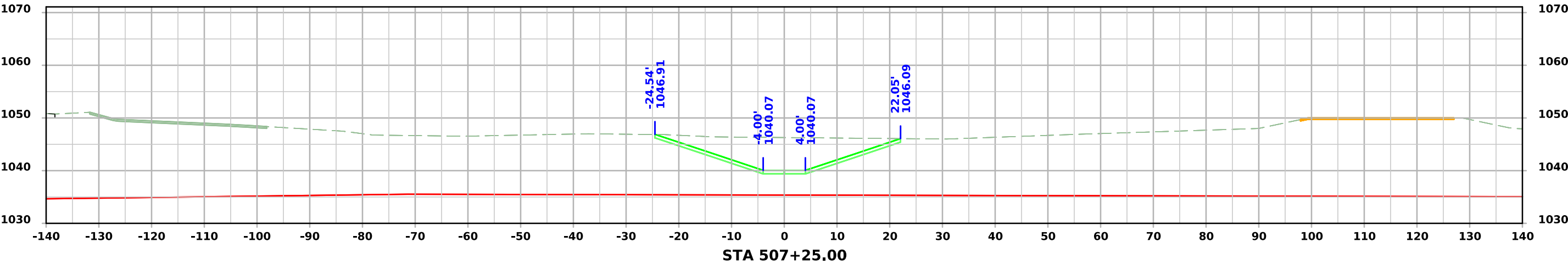
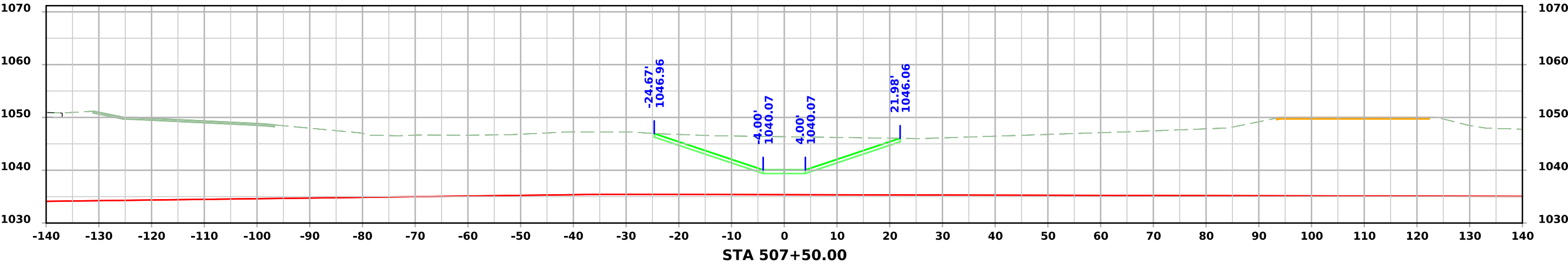


# I-29 Ditch Channel

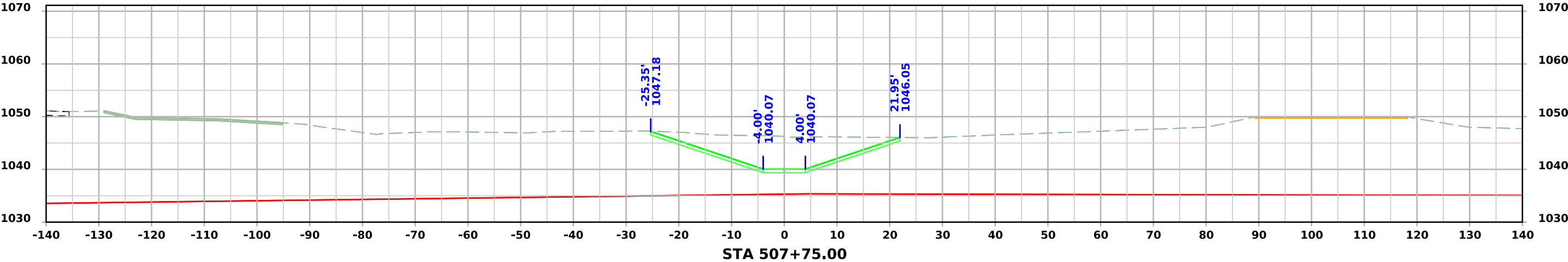
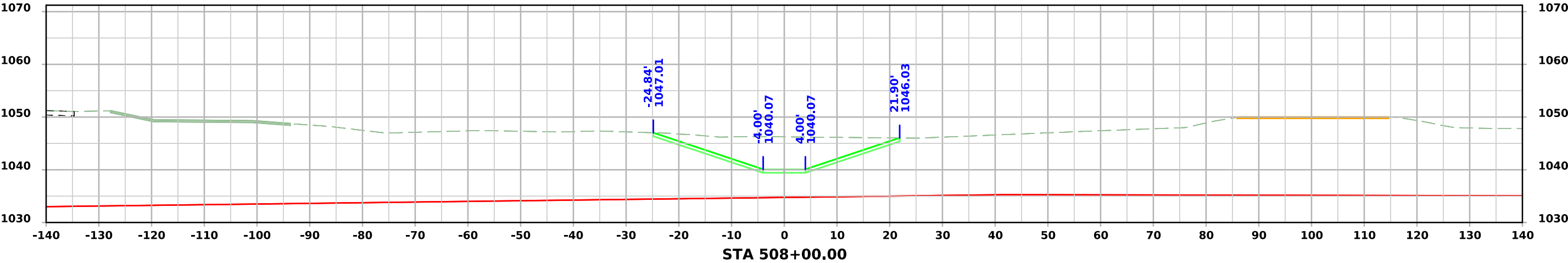
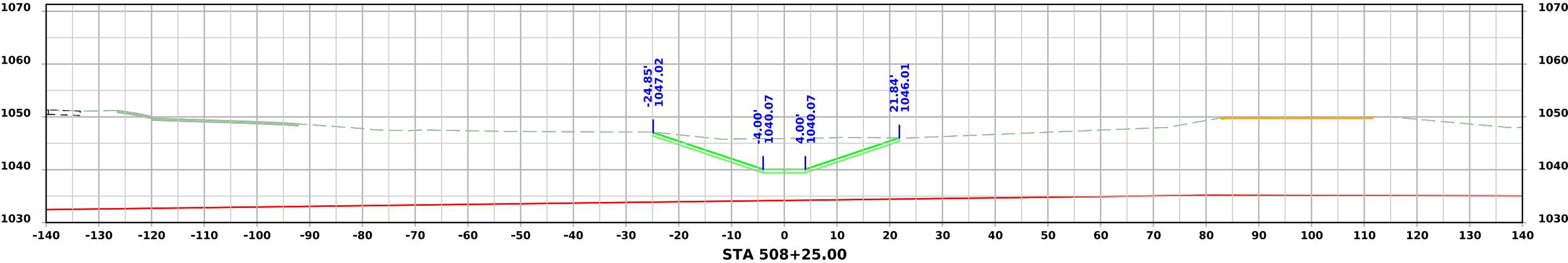




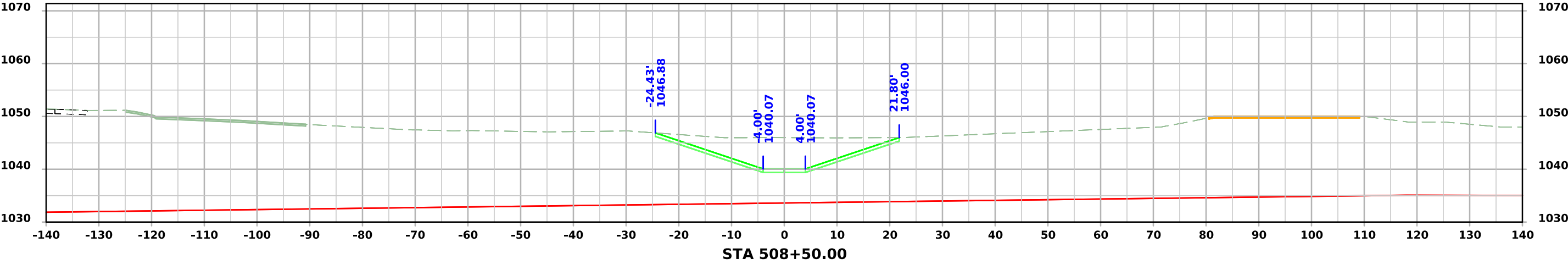
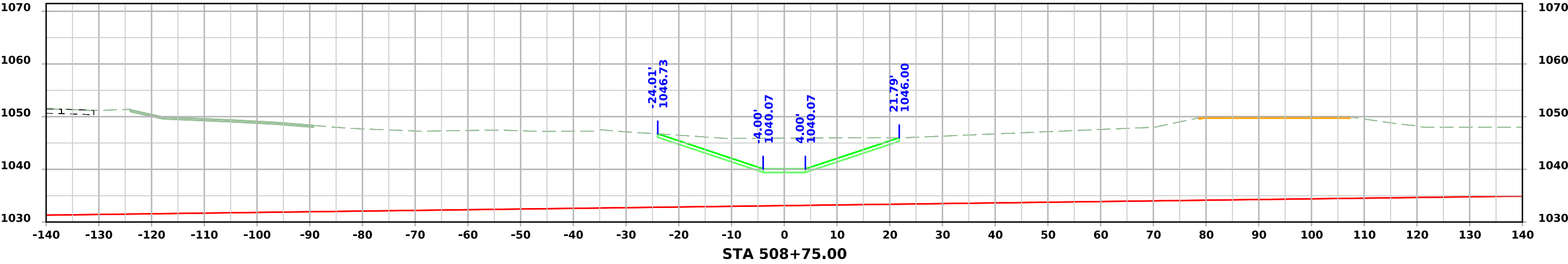
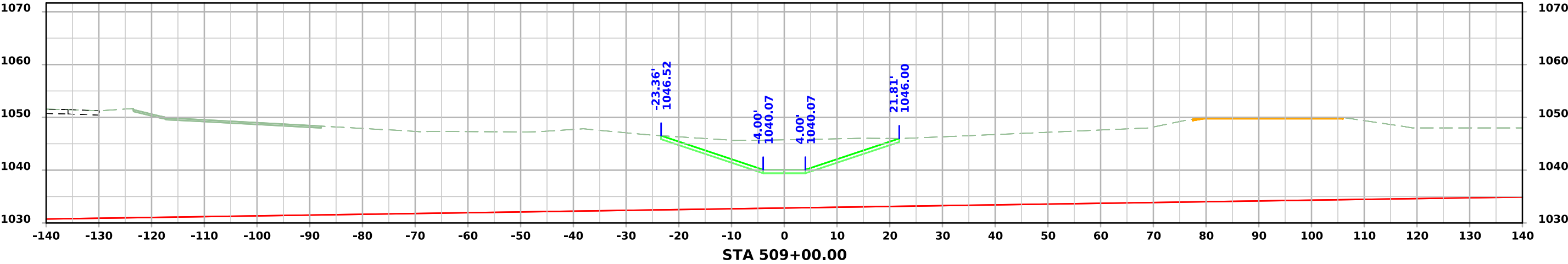
# I-29 Ditch Channel



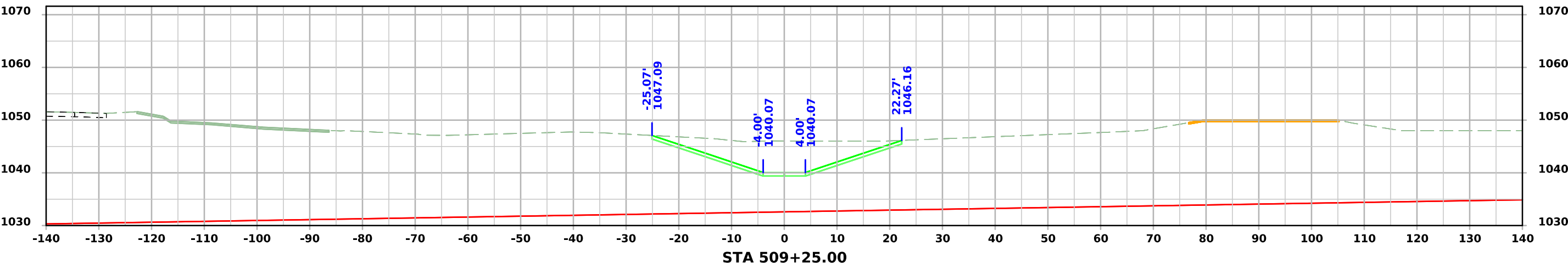
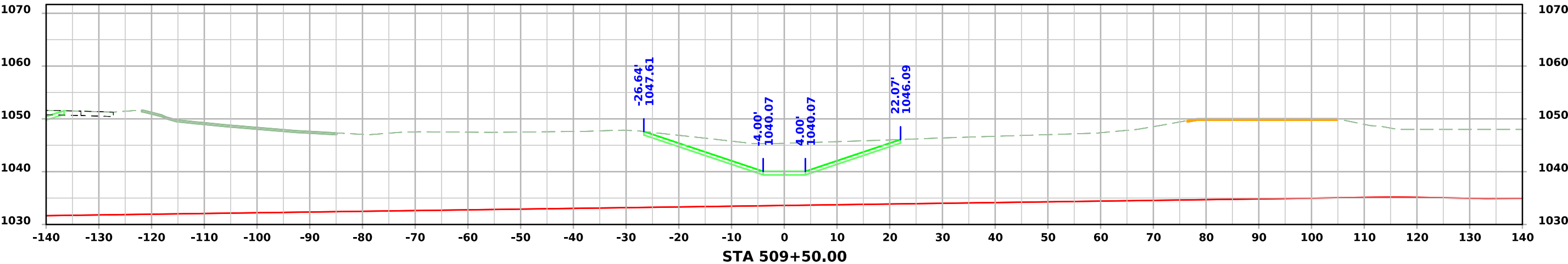
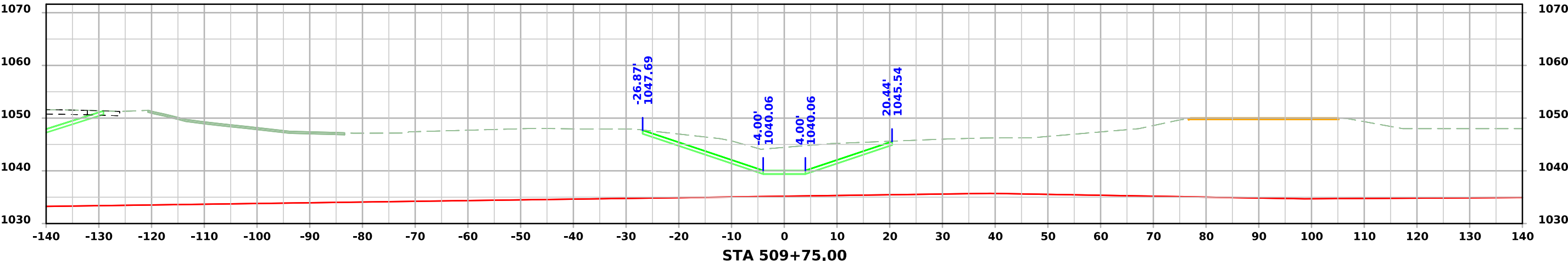
# I-29 Ditch Channel



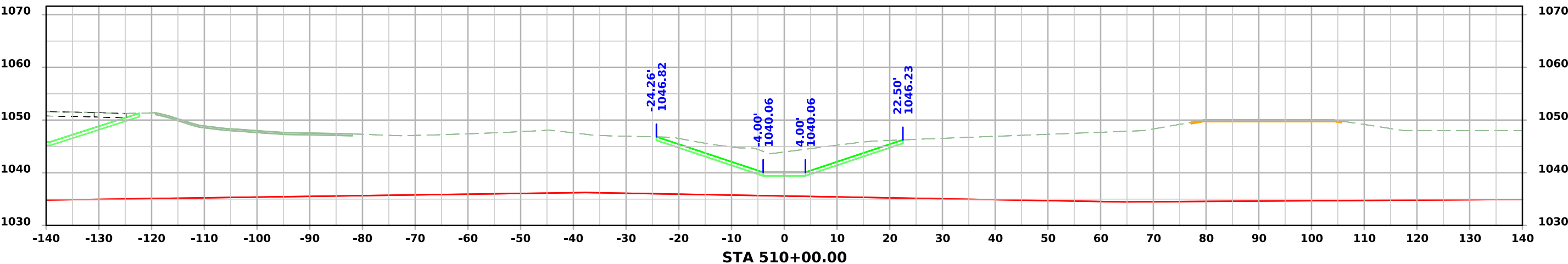
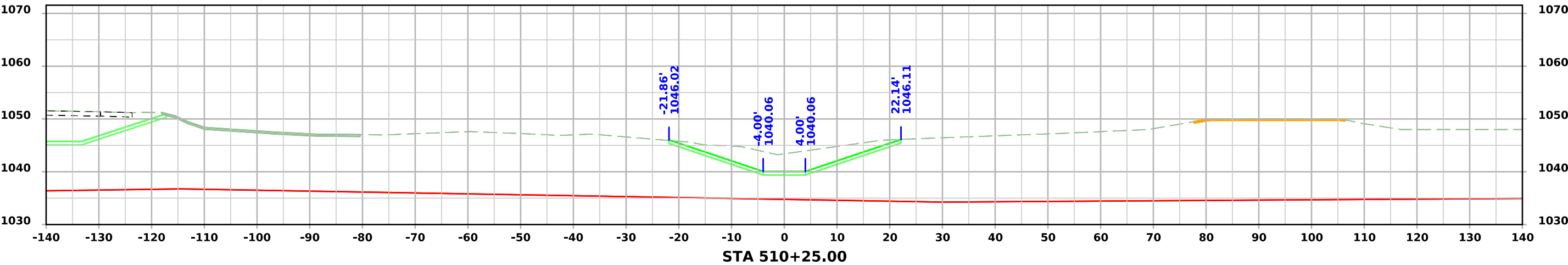
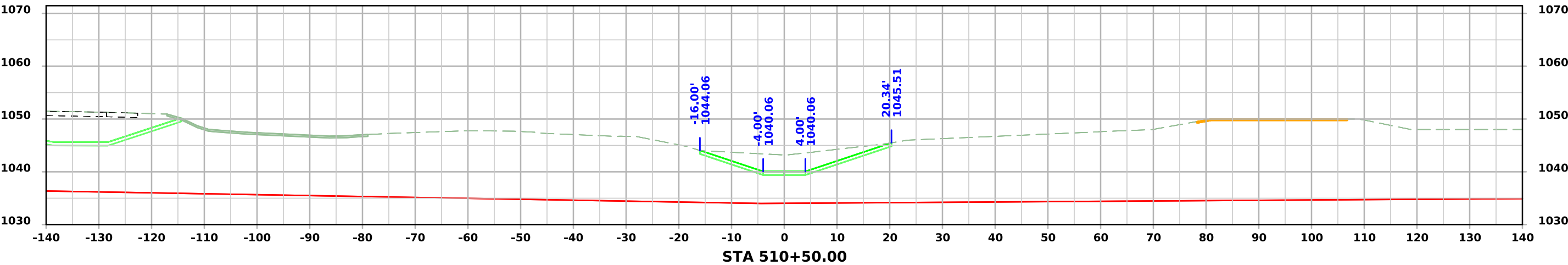
# I-29 Ditch Channel



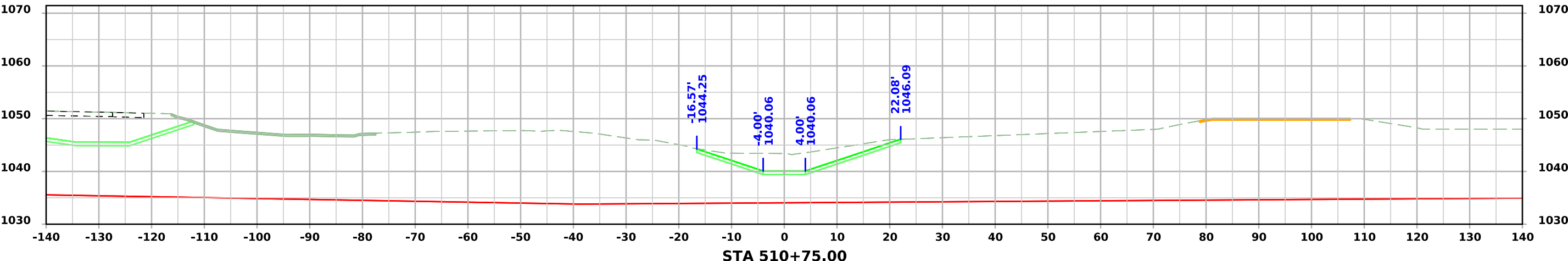
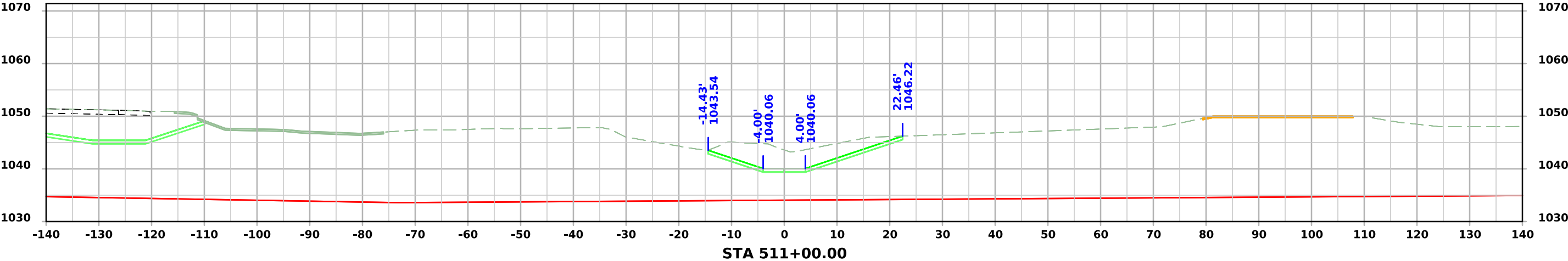
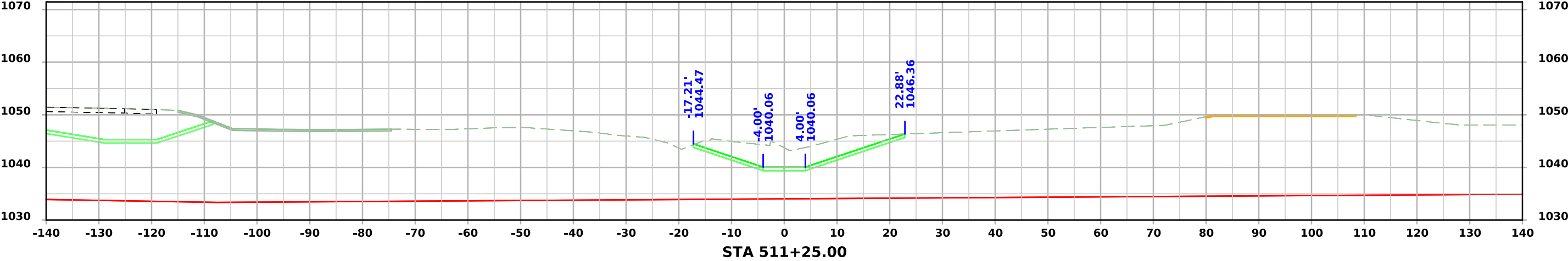
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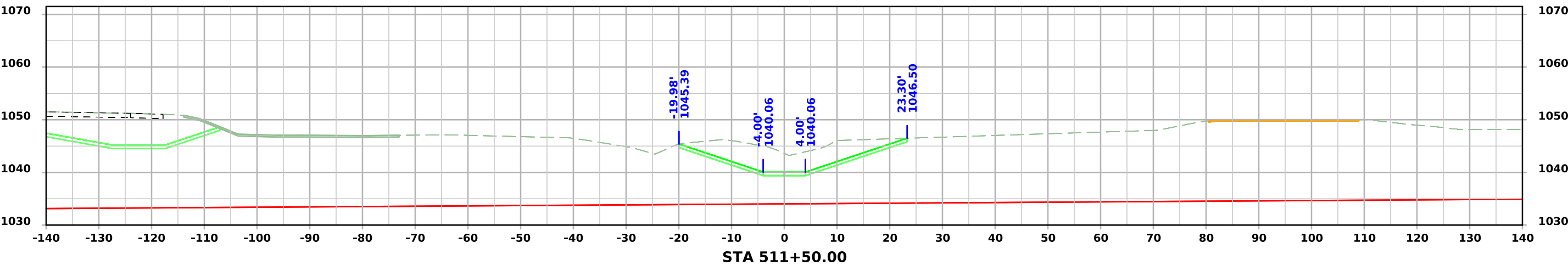
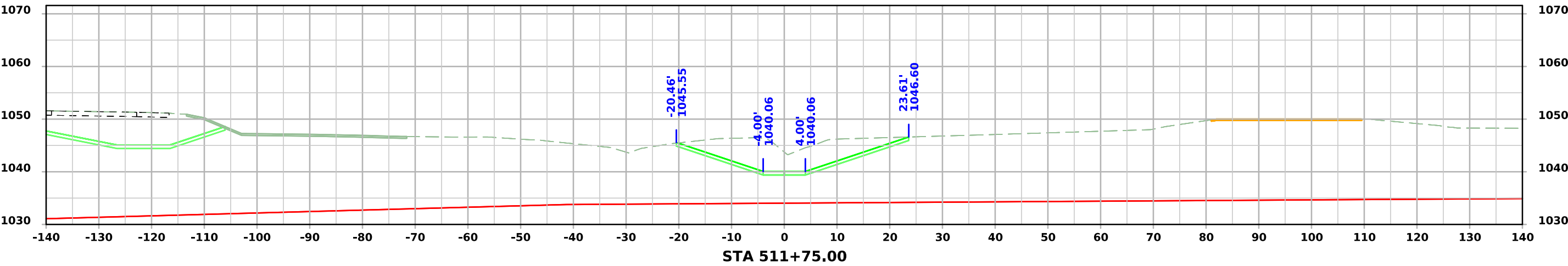
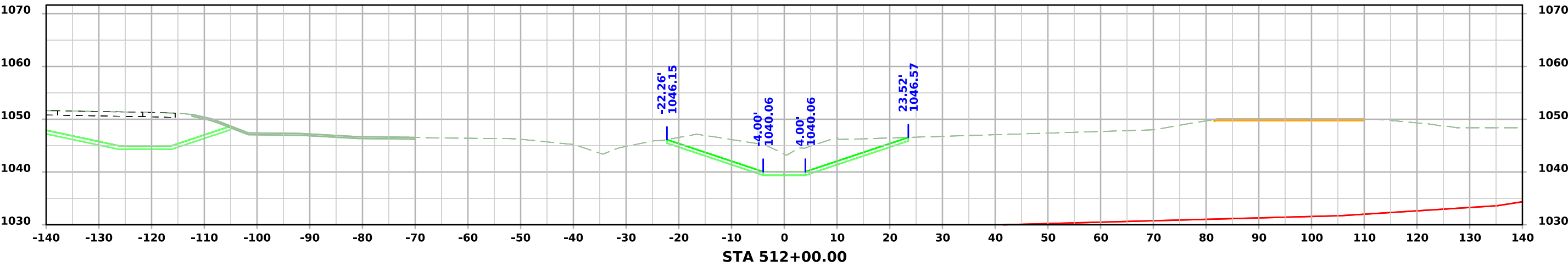
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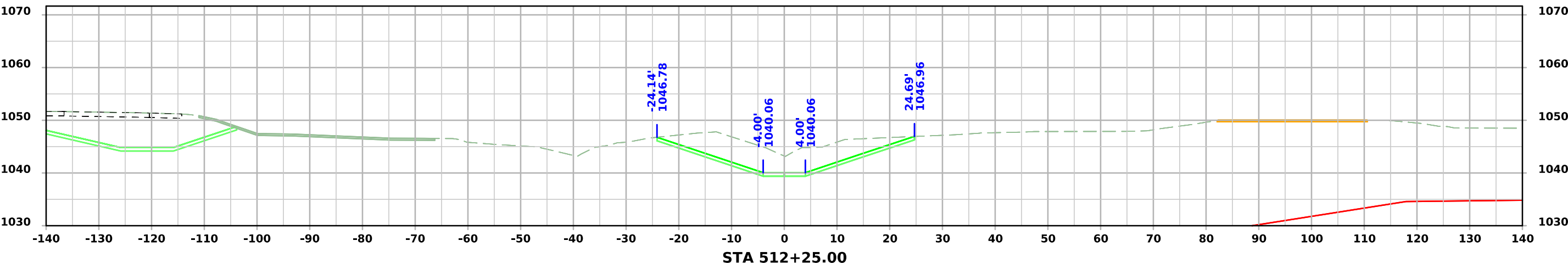
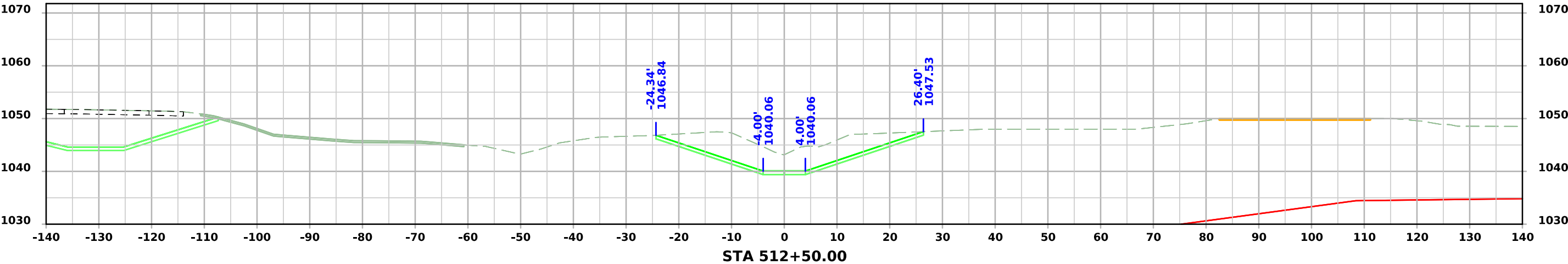
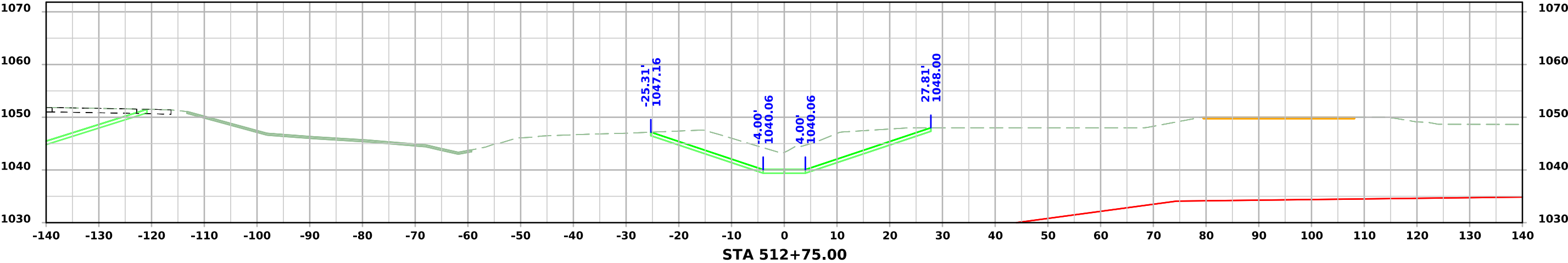
# I-29 Ditch Channel



# I-29 Ditch Channel

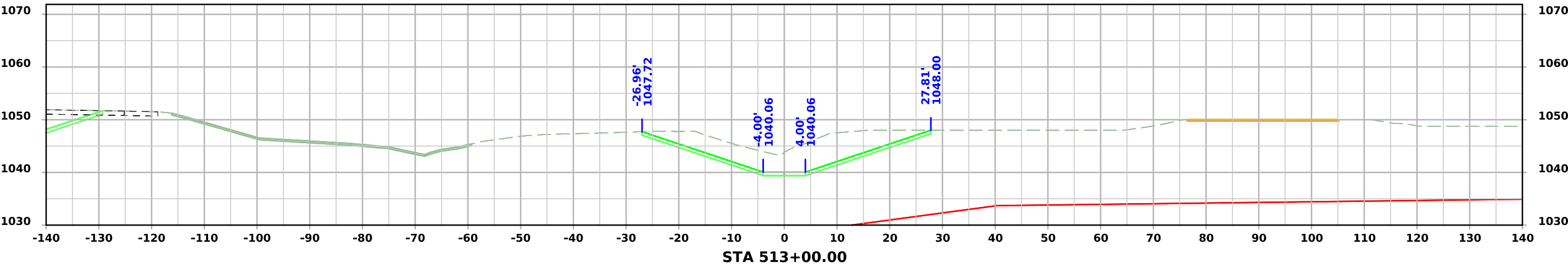
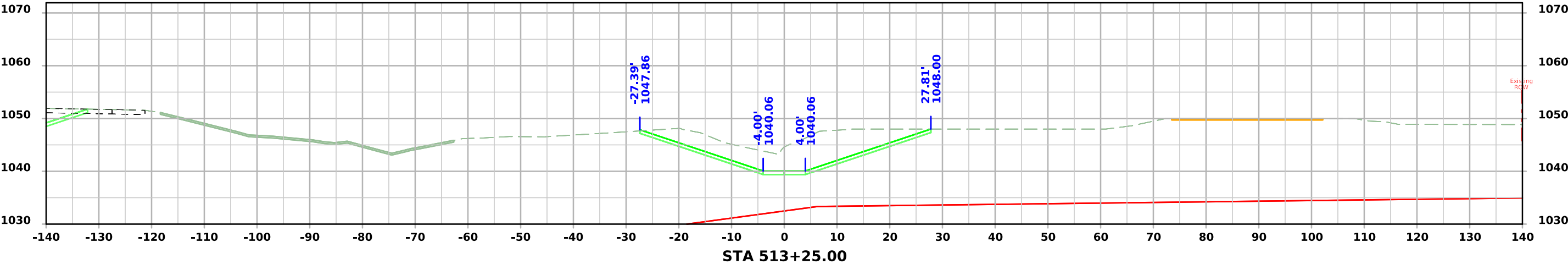
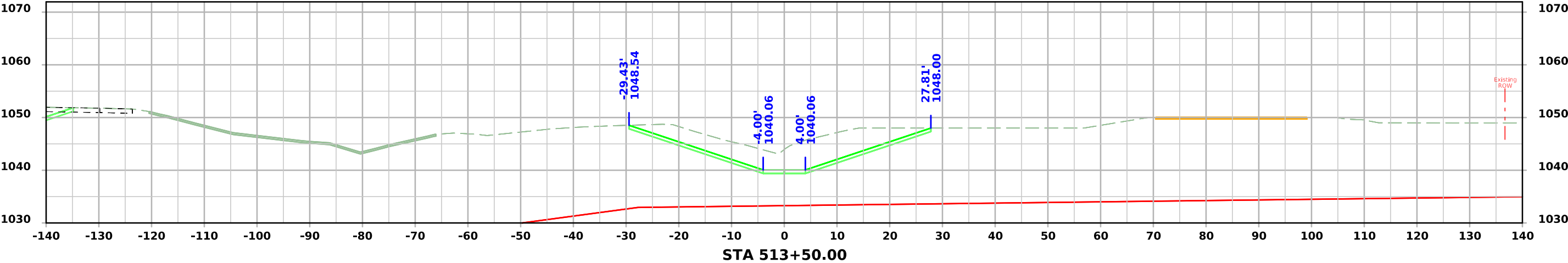


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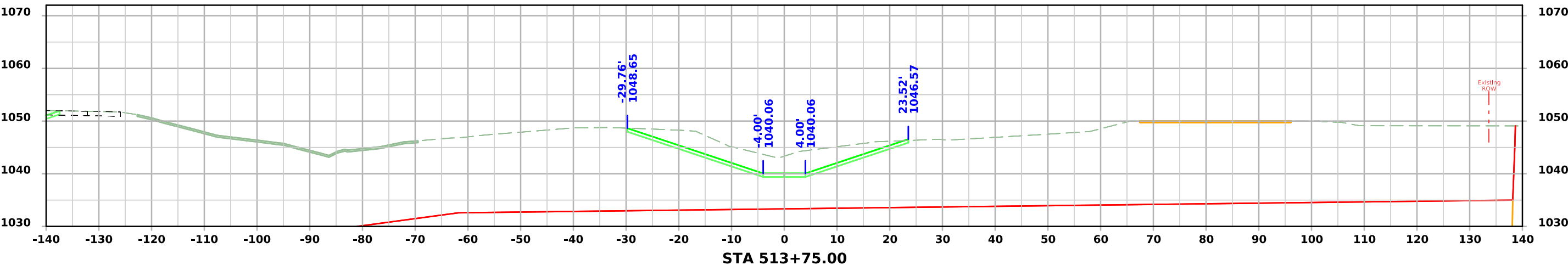
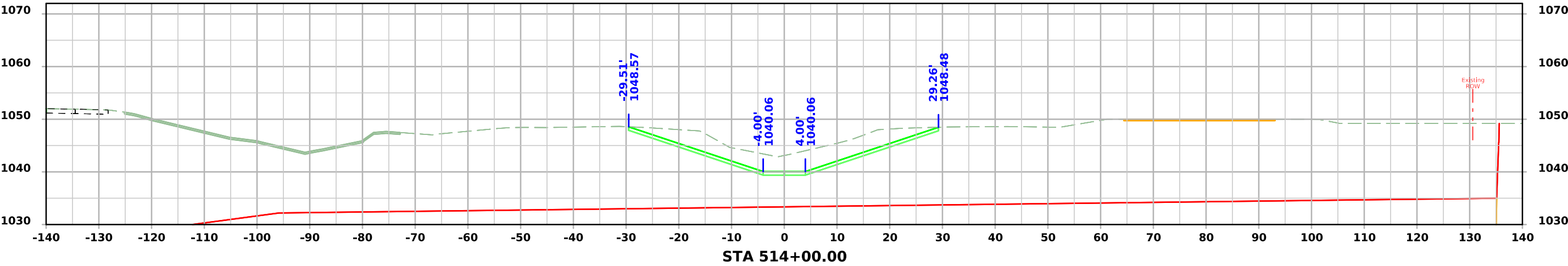
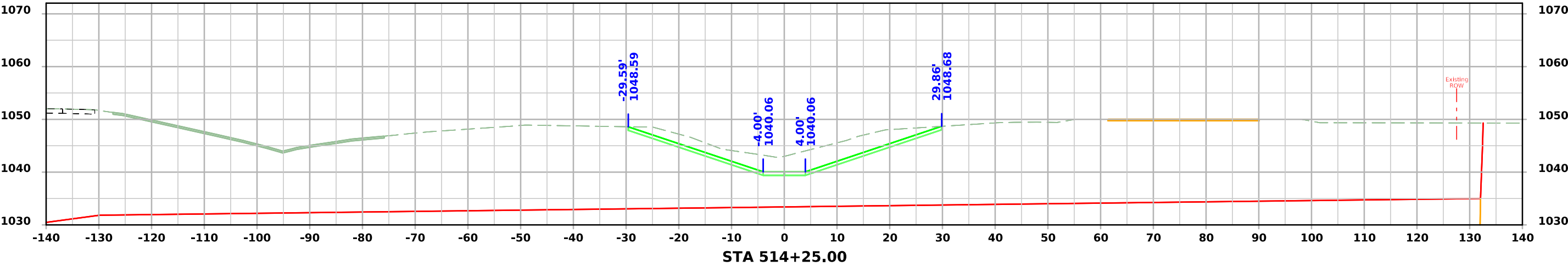




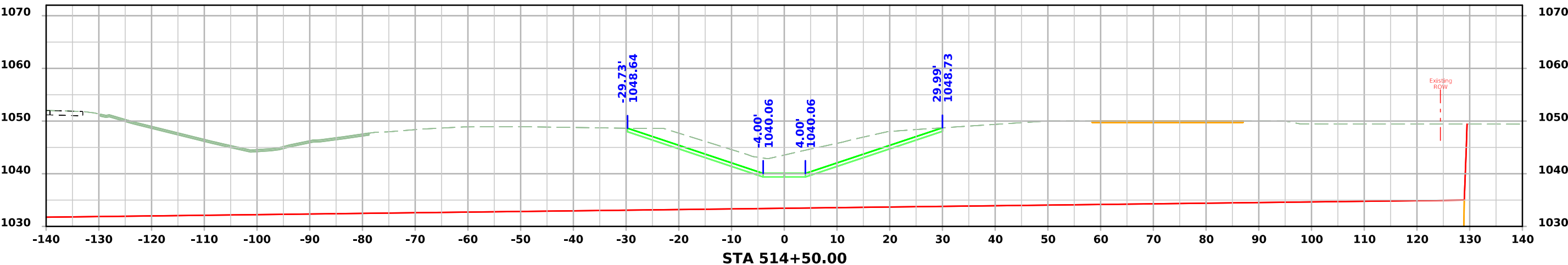
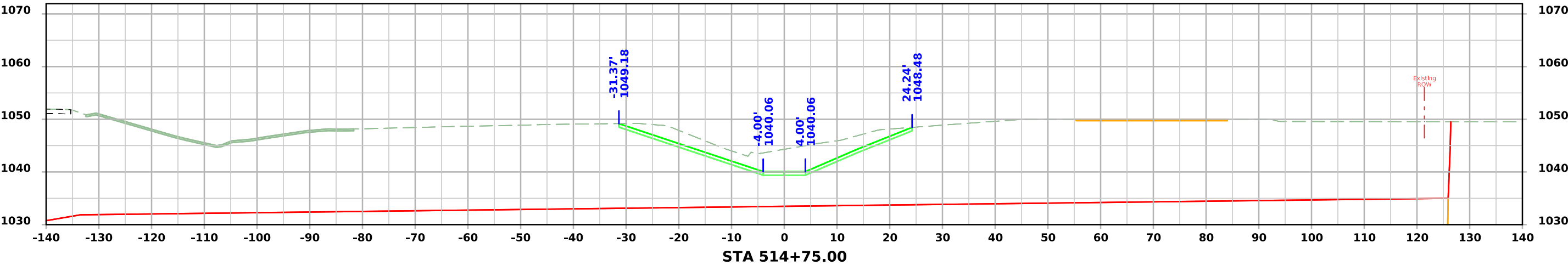
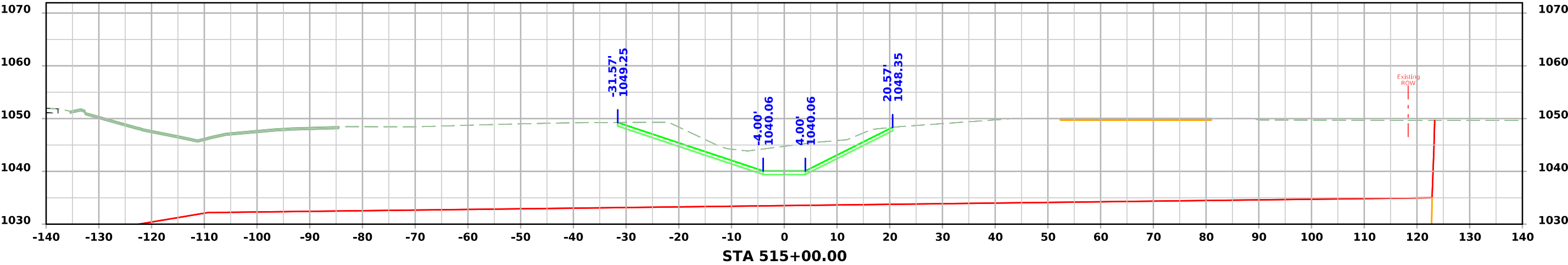
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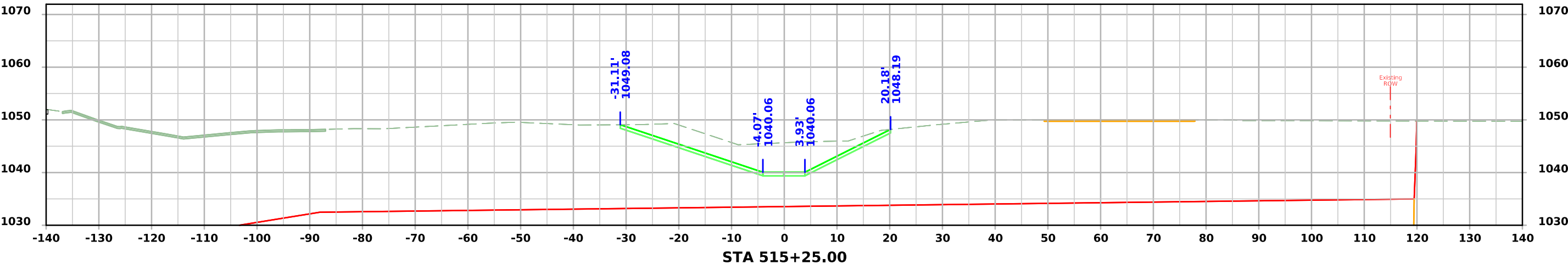
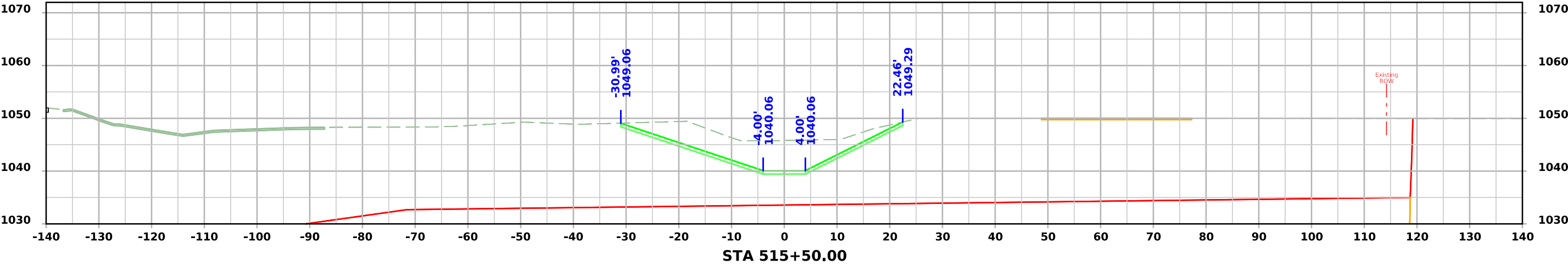
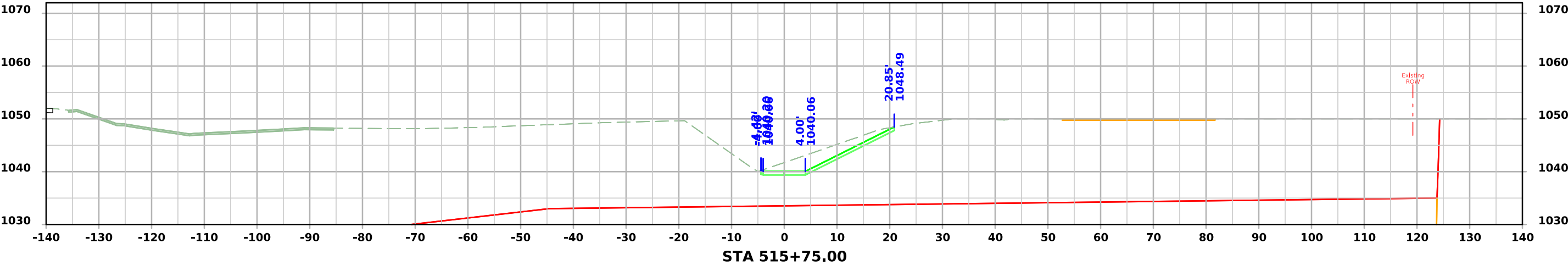
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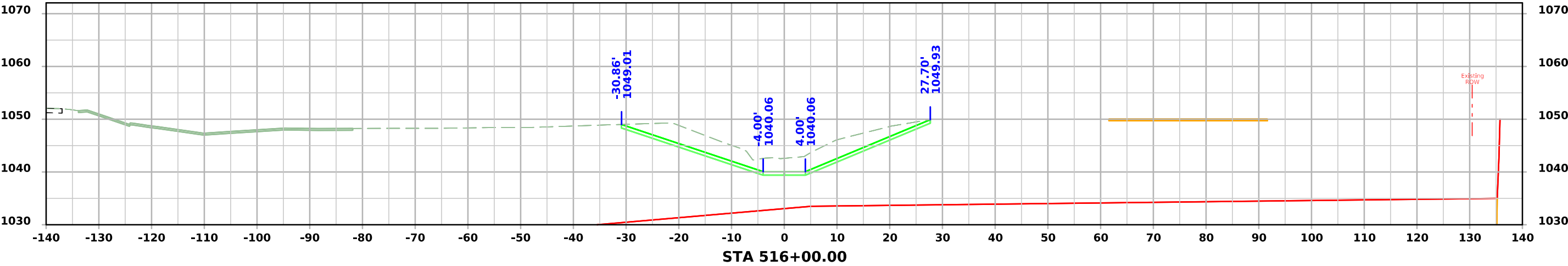
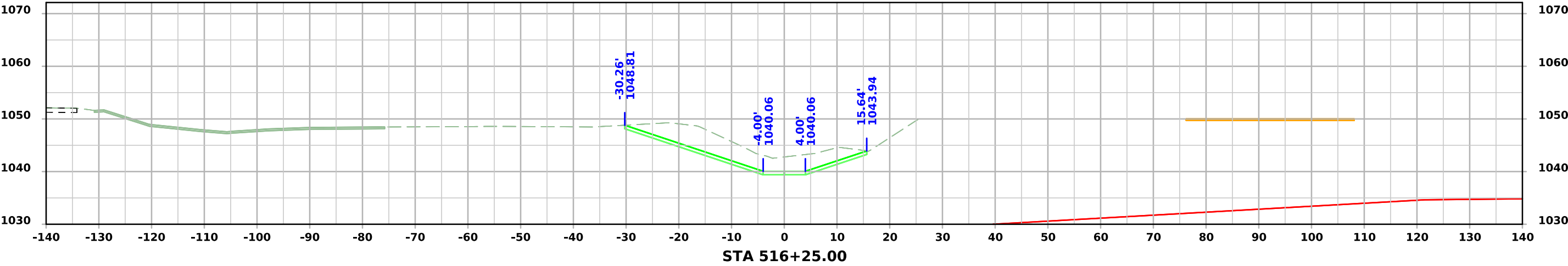
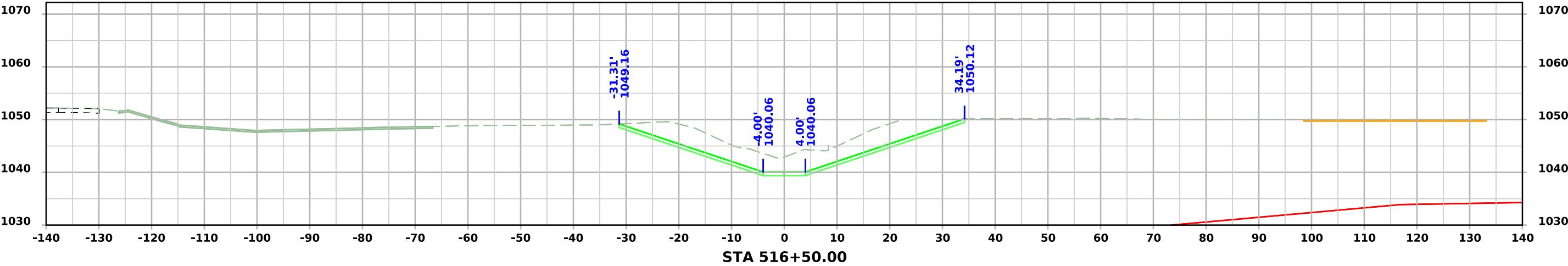
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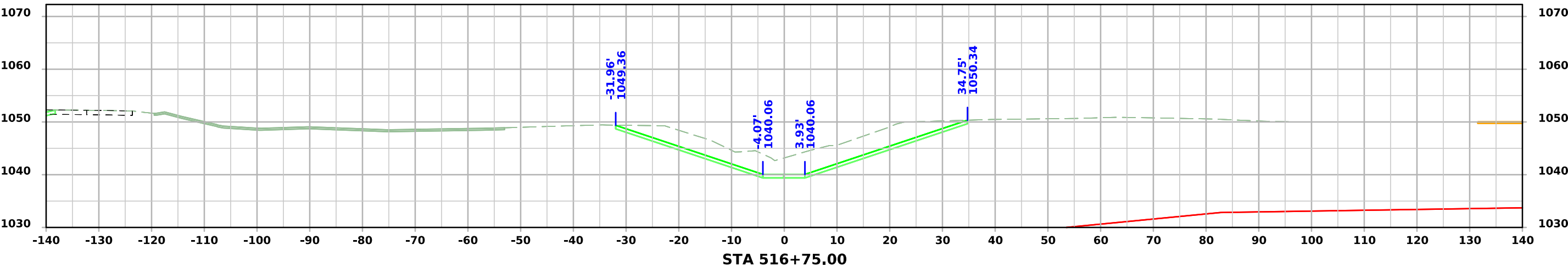
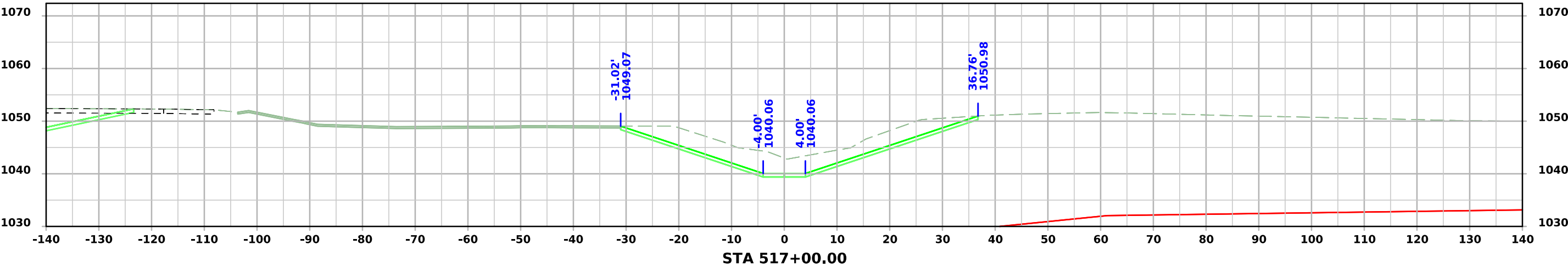
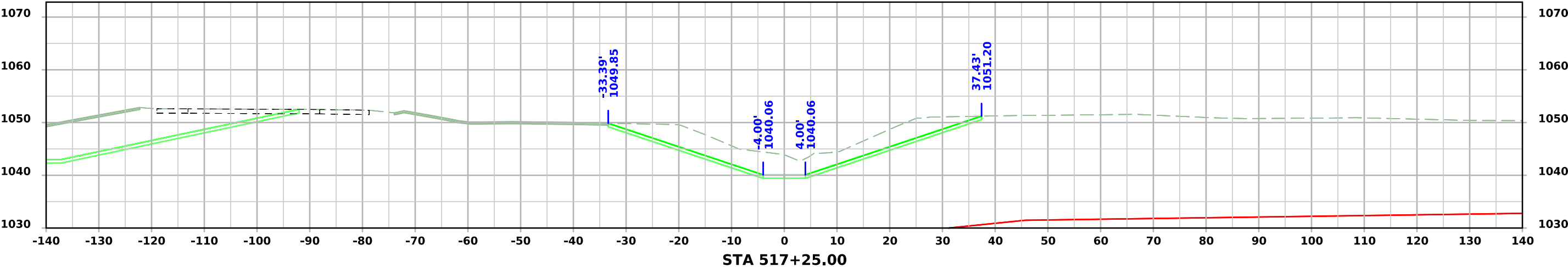
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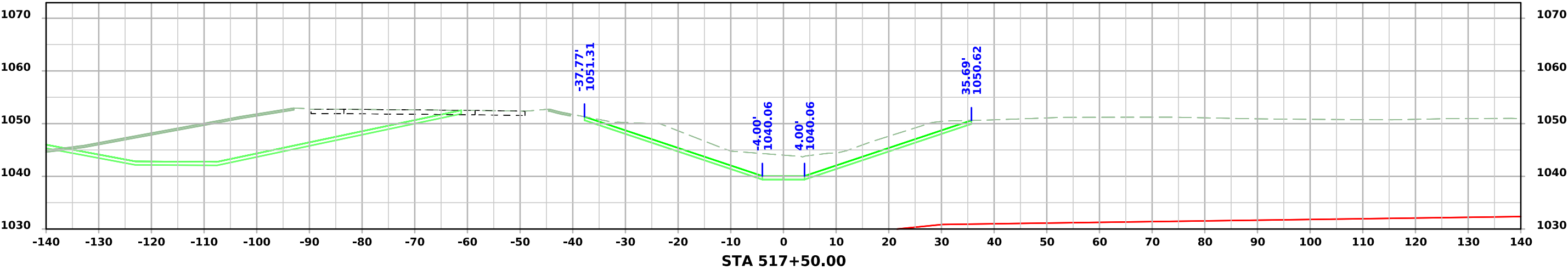
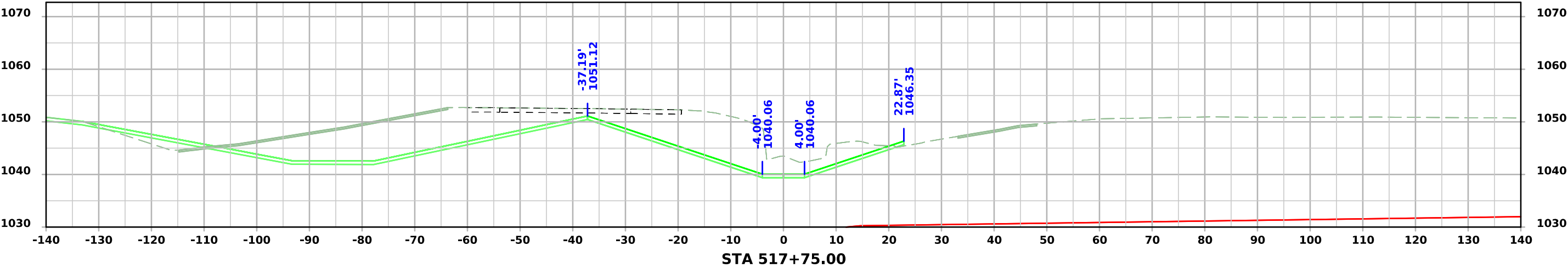
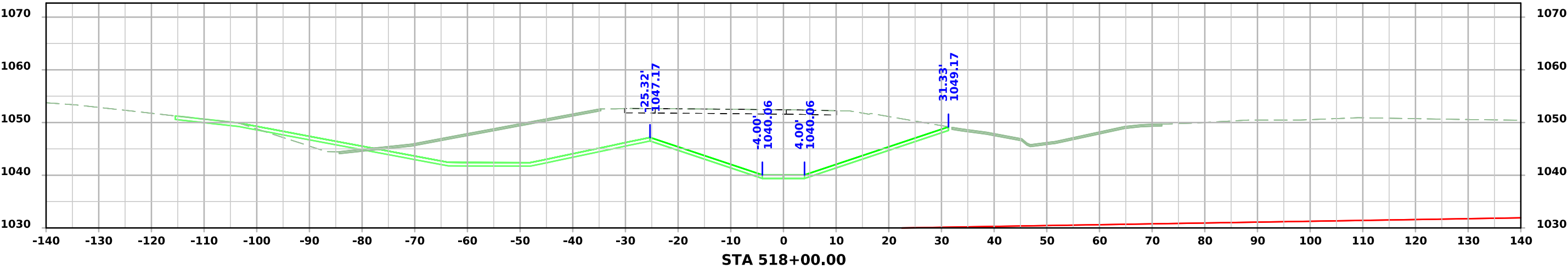
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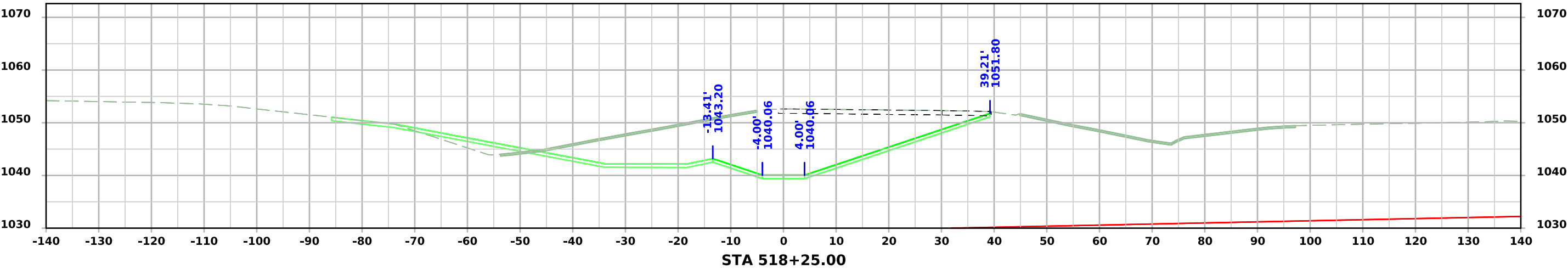
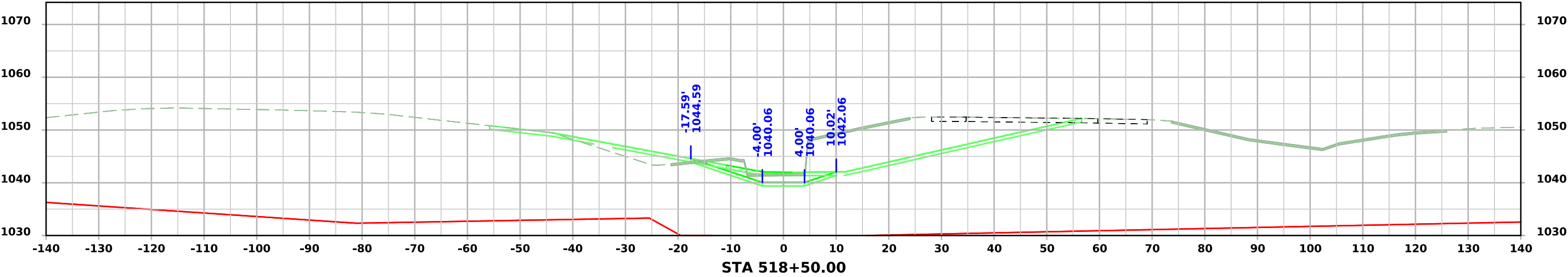
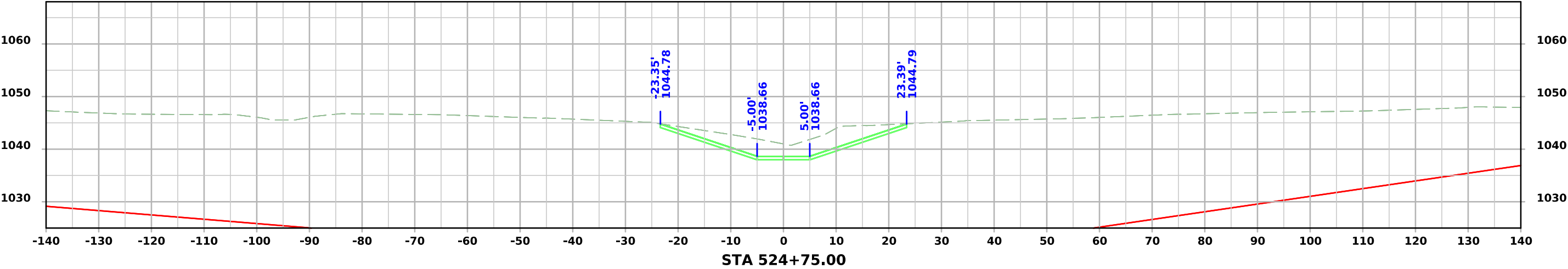
# I-29 Ditch Channel



# I-29 Ditch Channel

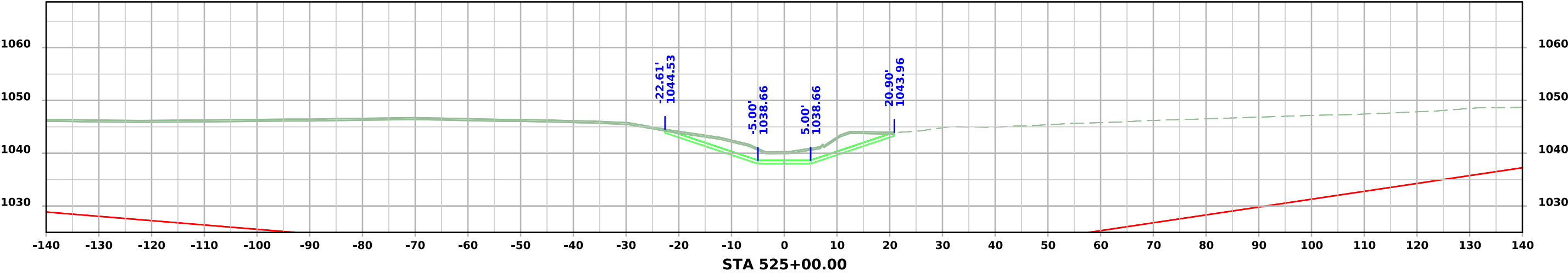
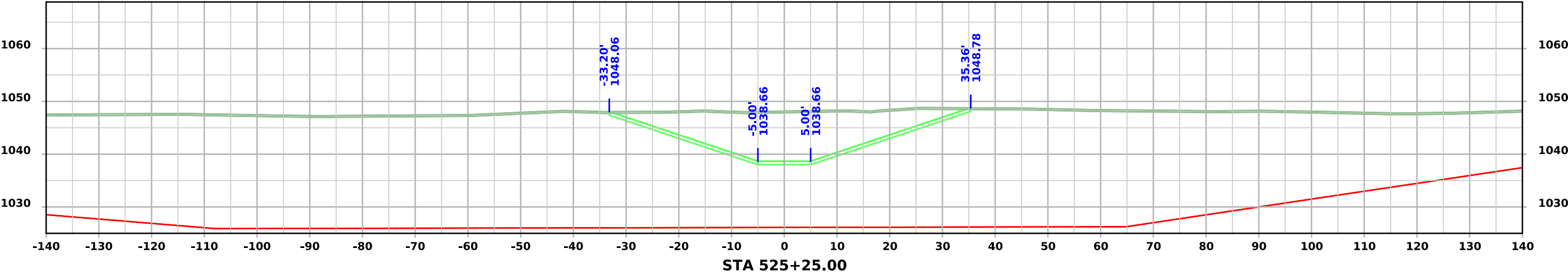
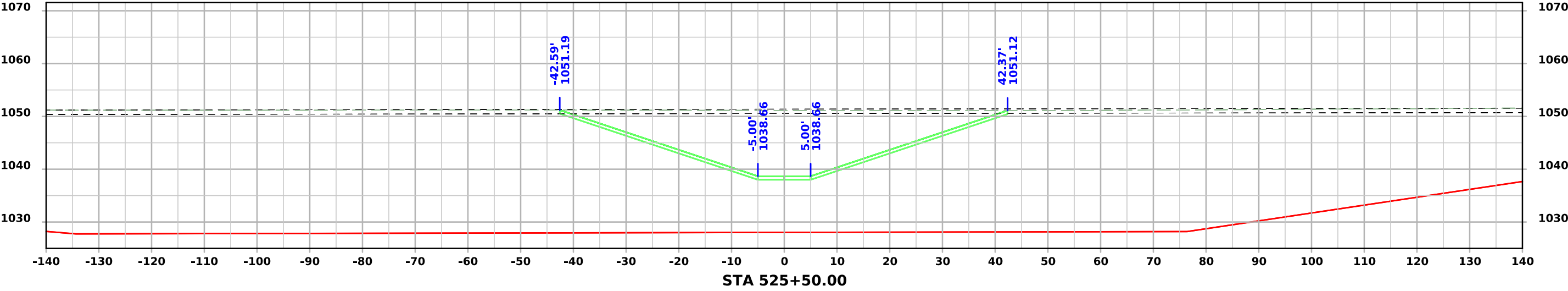


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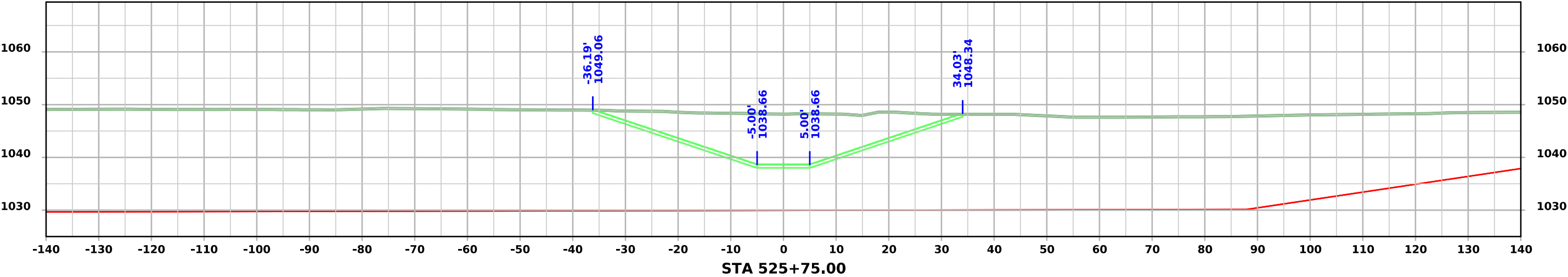
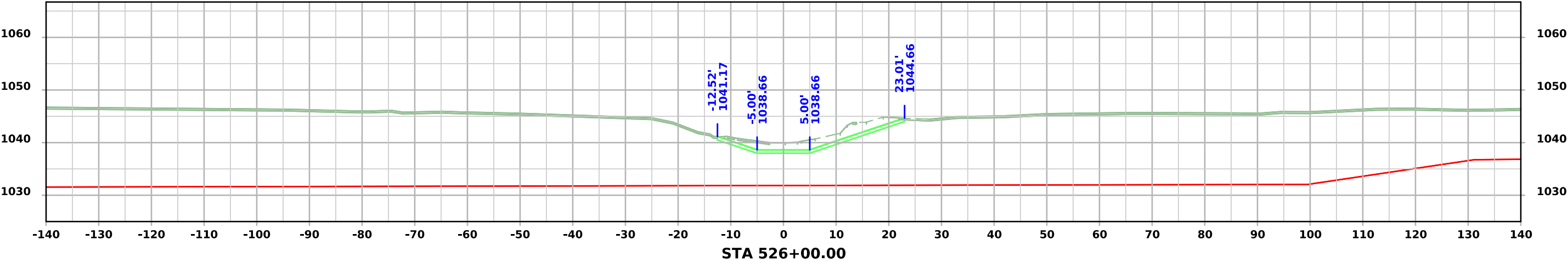
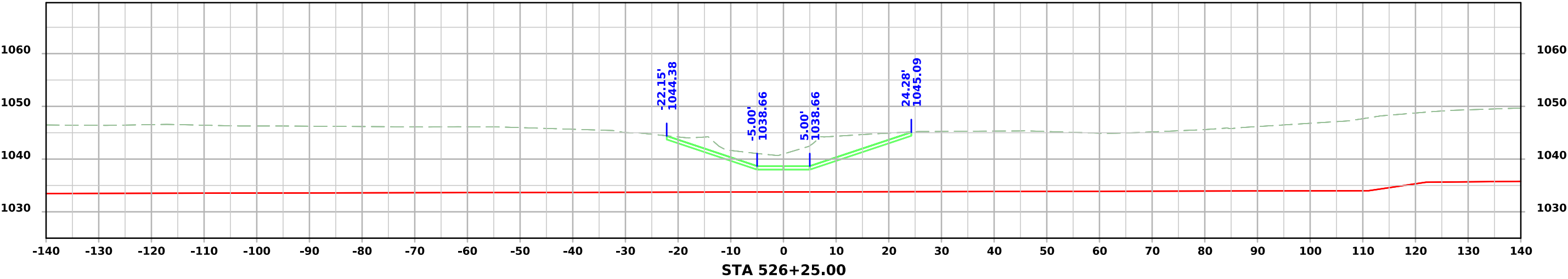




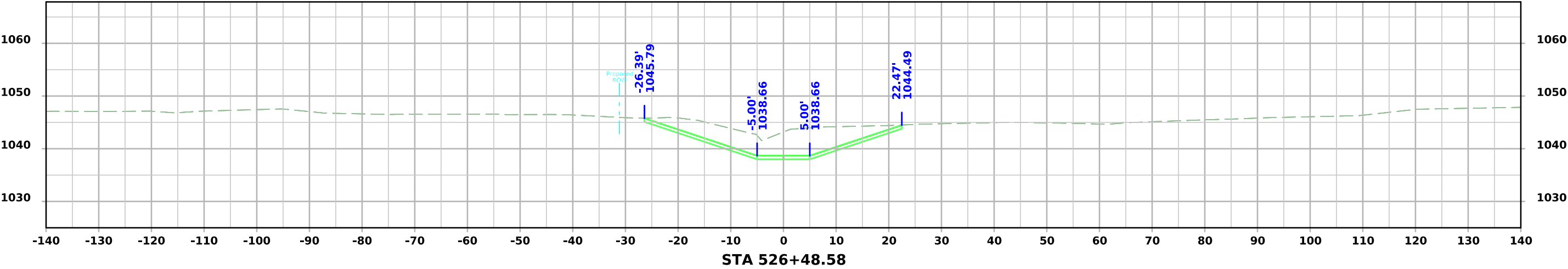
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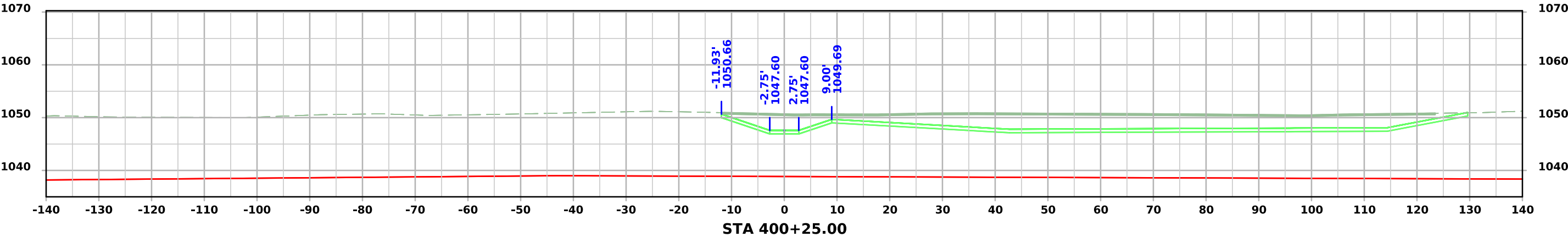
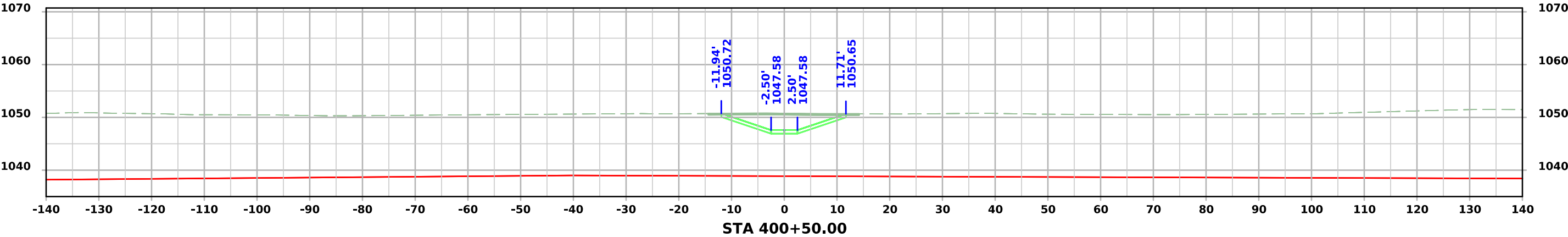
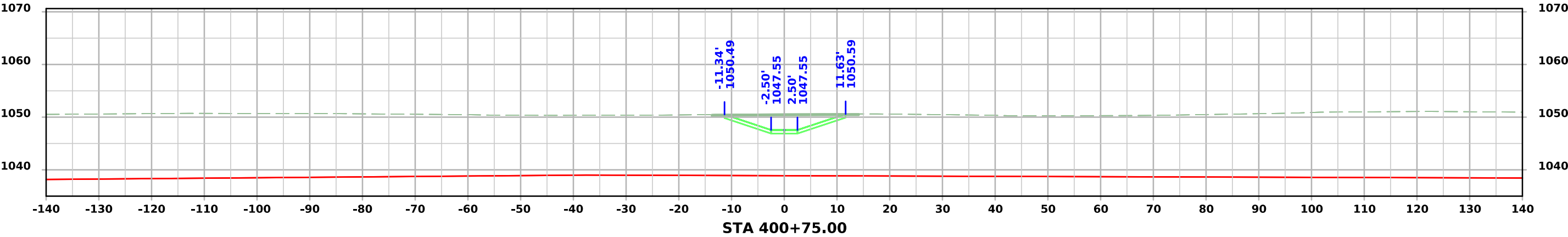
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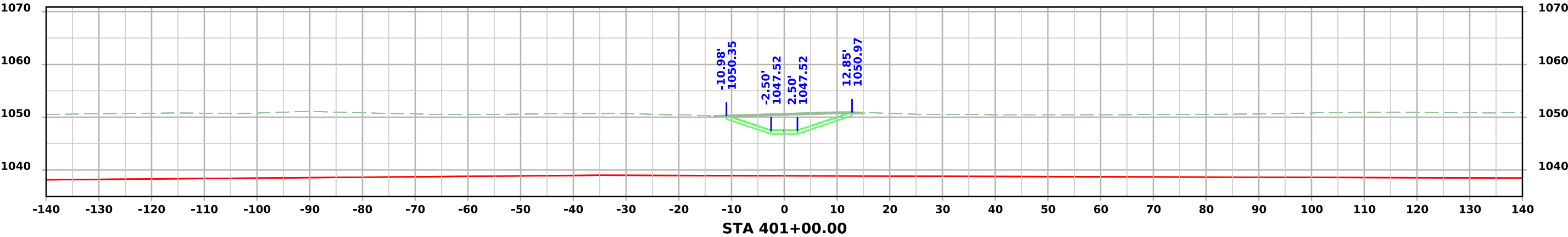
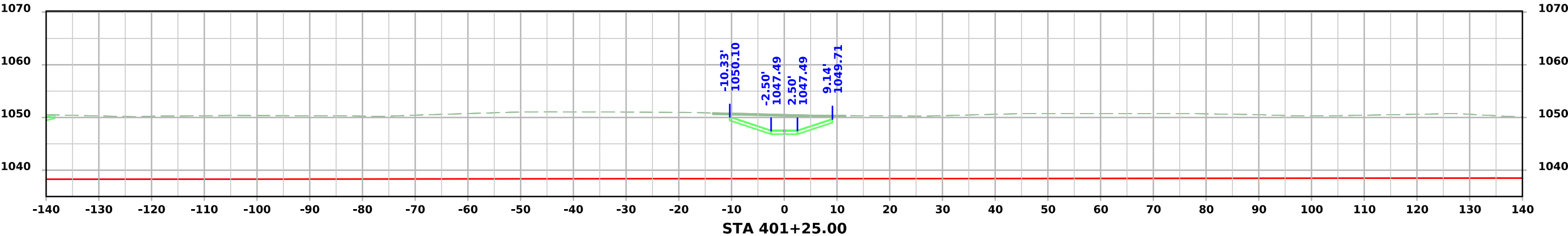
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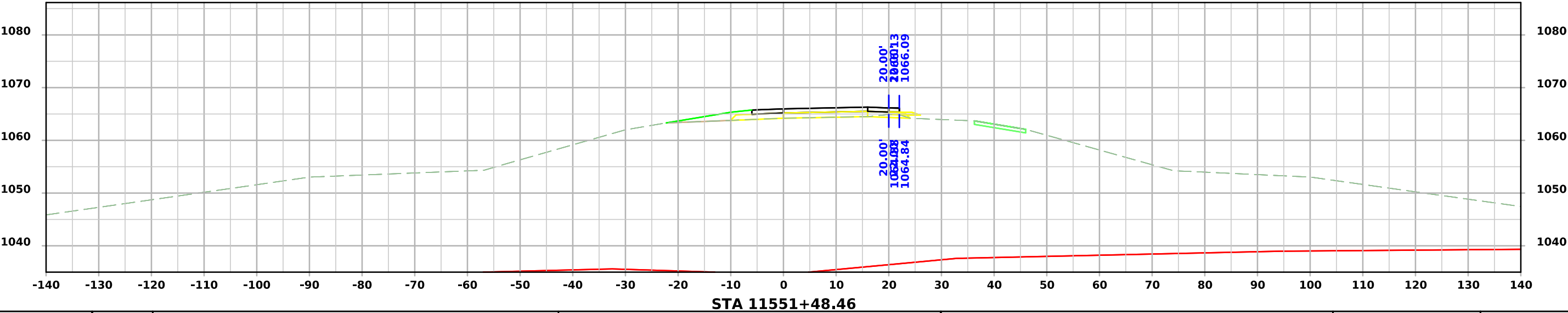
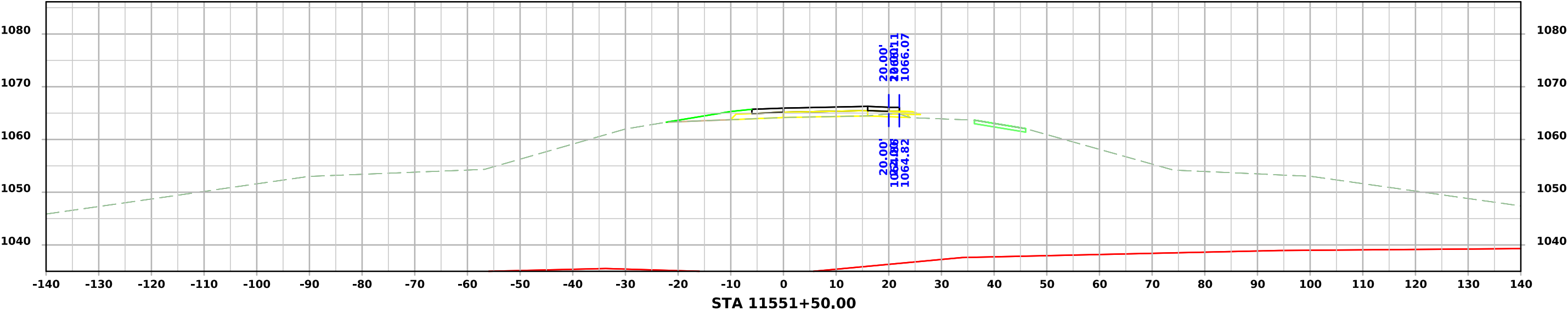
# Ramp D Ditch Channel



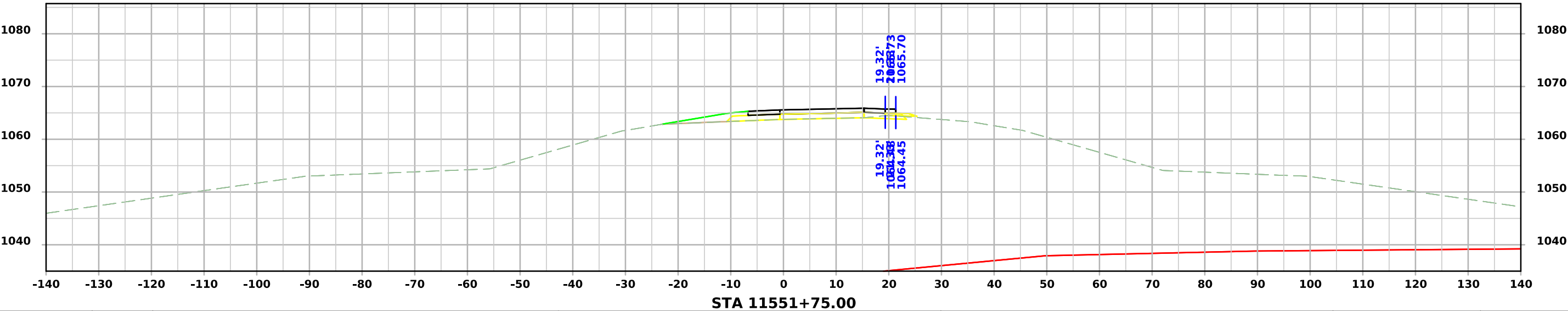
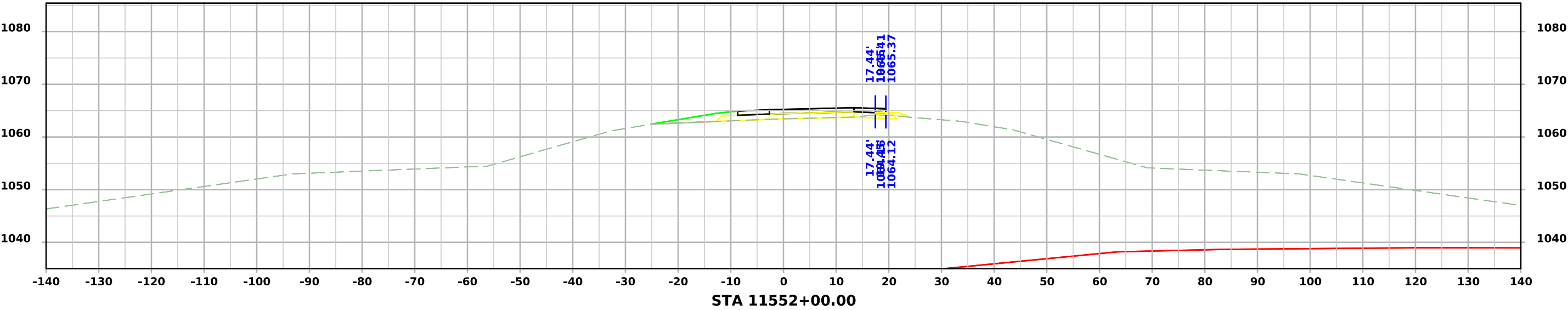
# Ramp D Ditch Channel



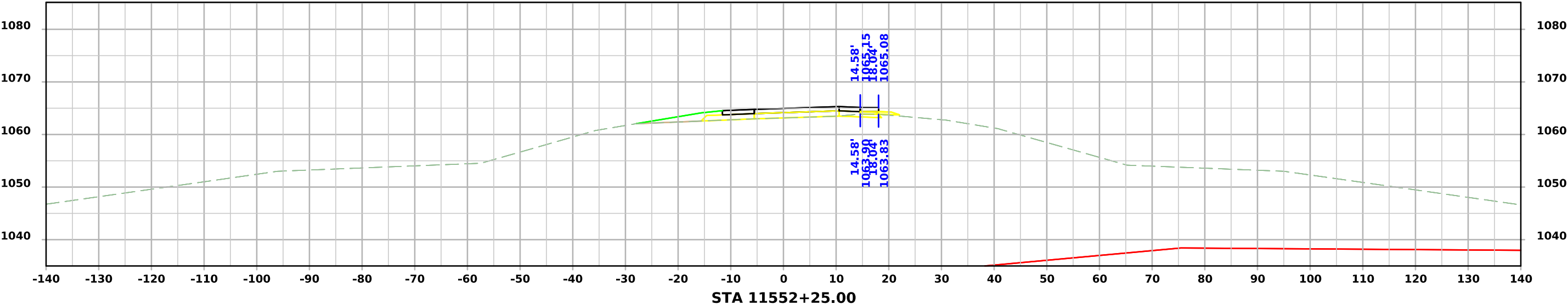
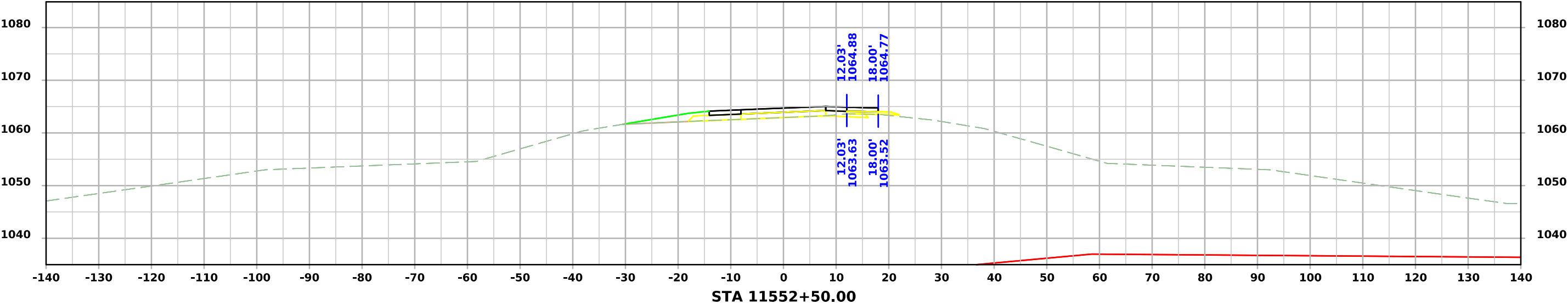
# Detour Ramp A - Stage 2



# Detour Ramp A - Stage 2

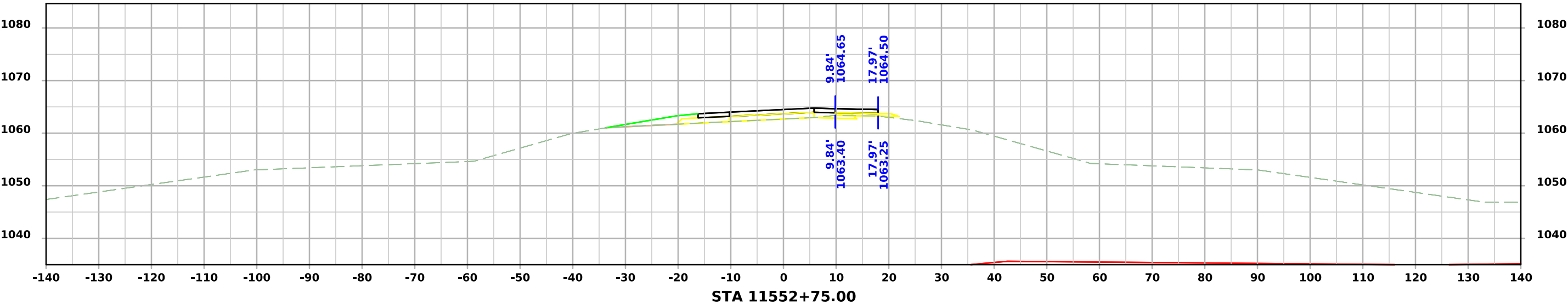
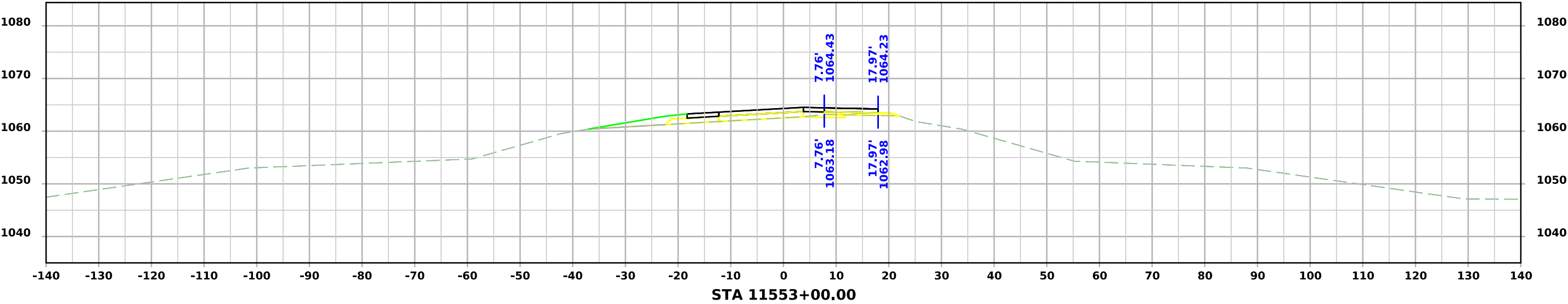


# Detour Ramp A - Stage 2

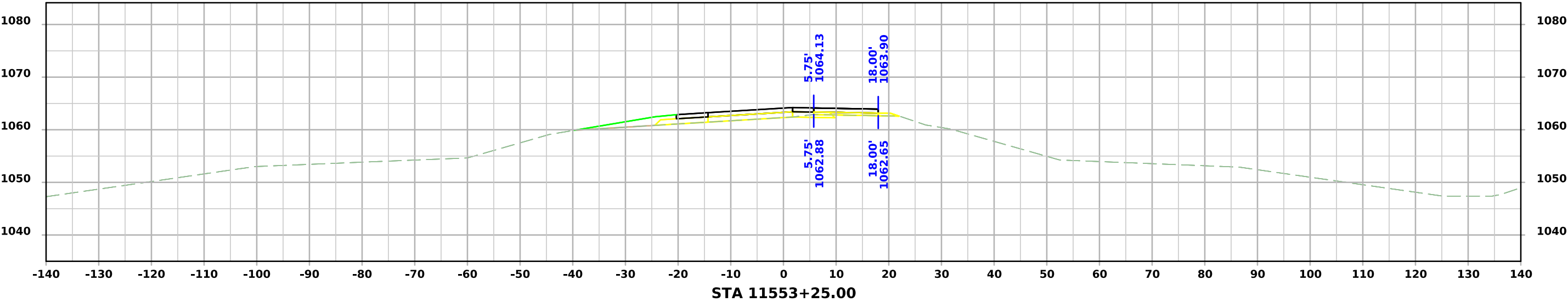
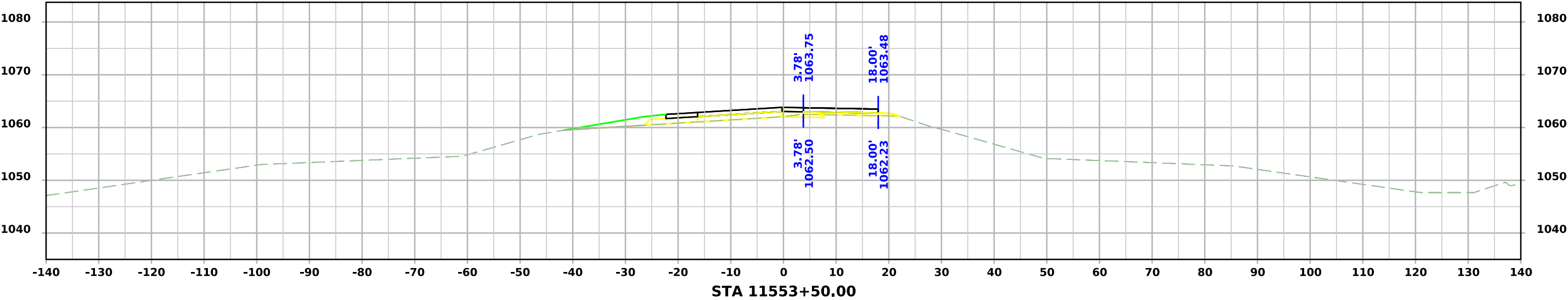




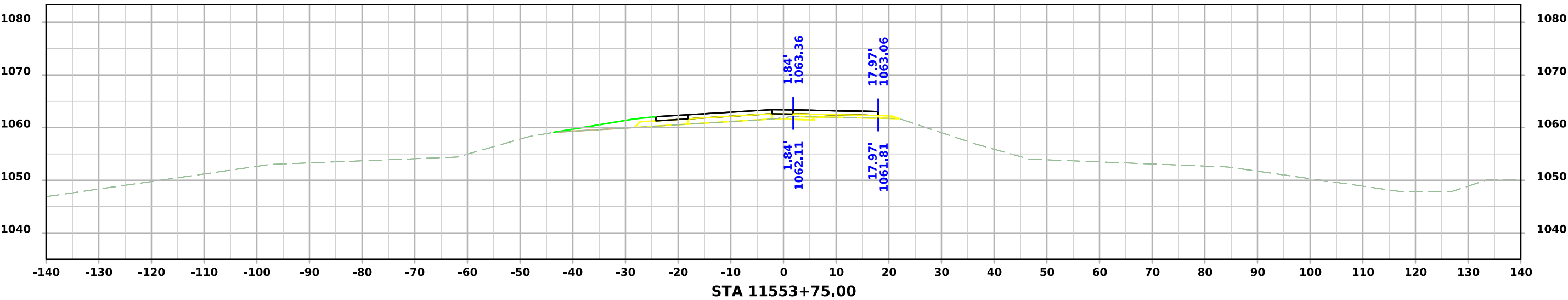
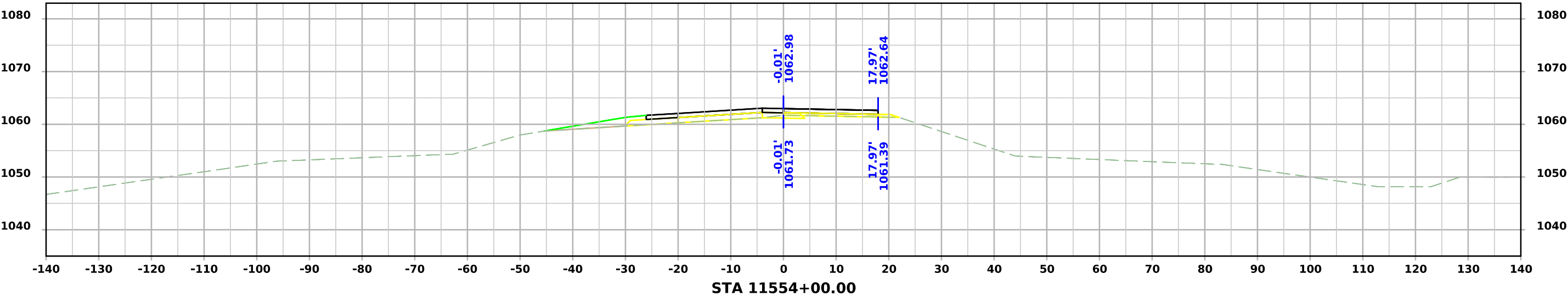
# Detour Ramp A - Stage 2



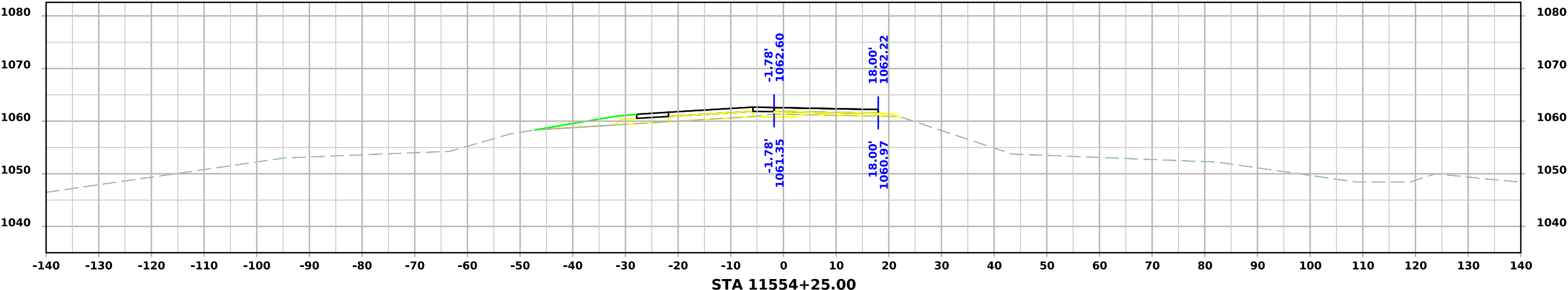
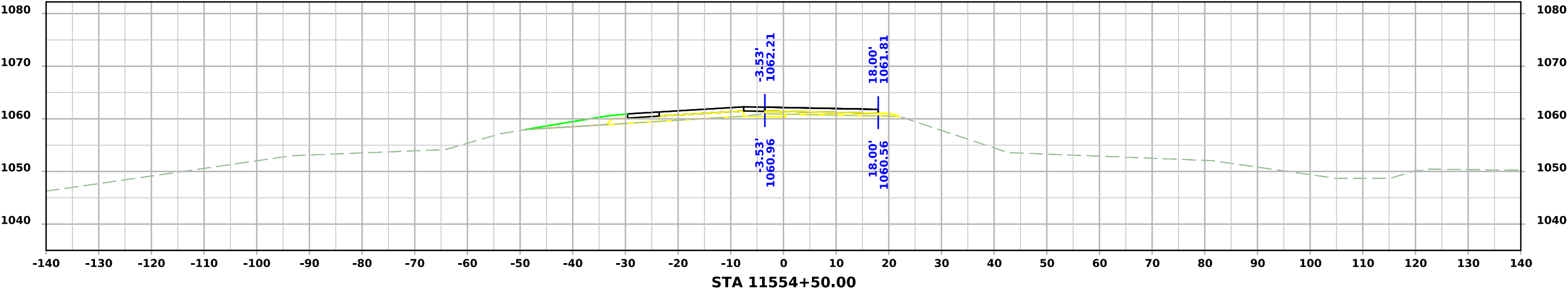
# Detour Ramp A - Stage 2



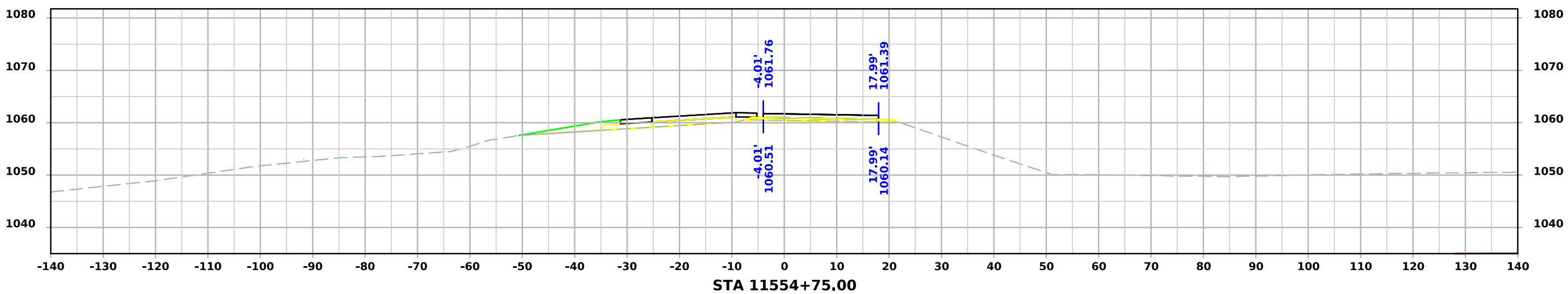
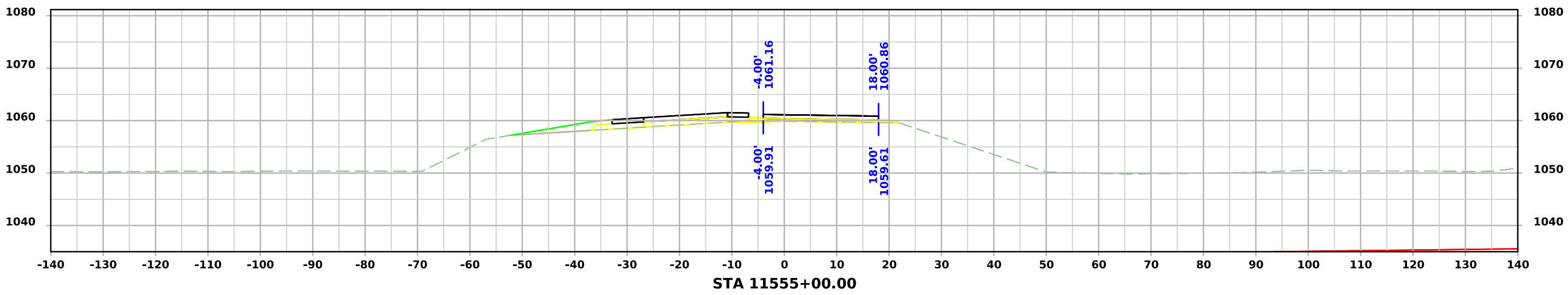
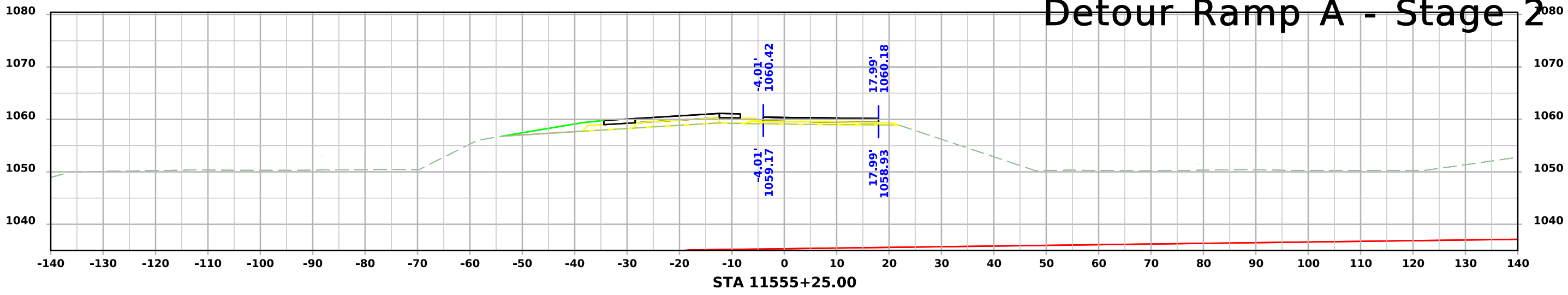
# Detour Ramp A - Stage 2



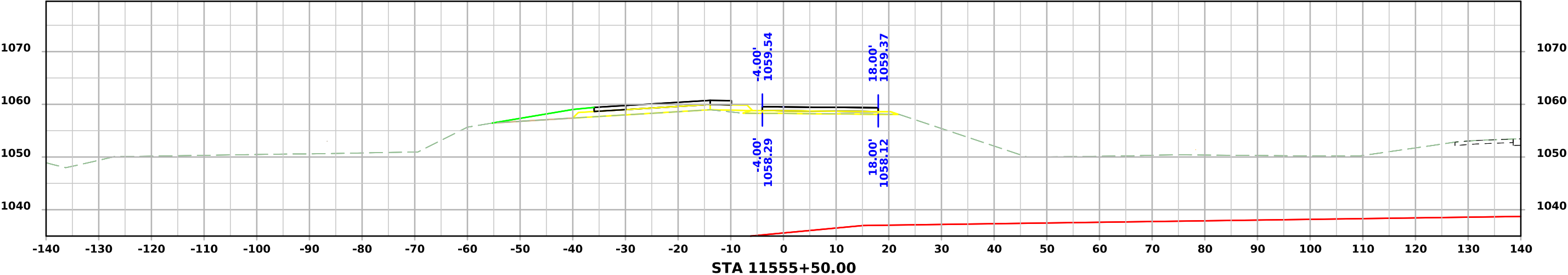
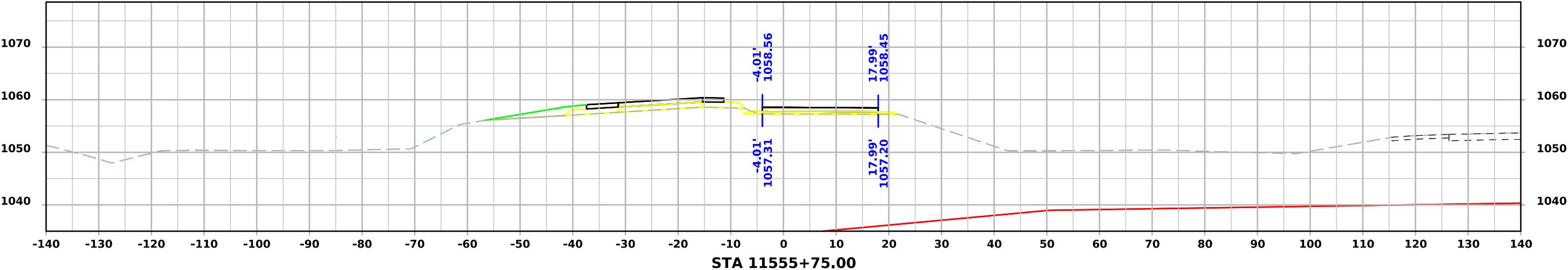
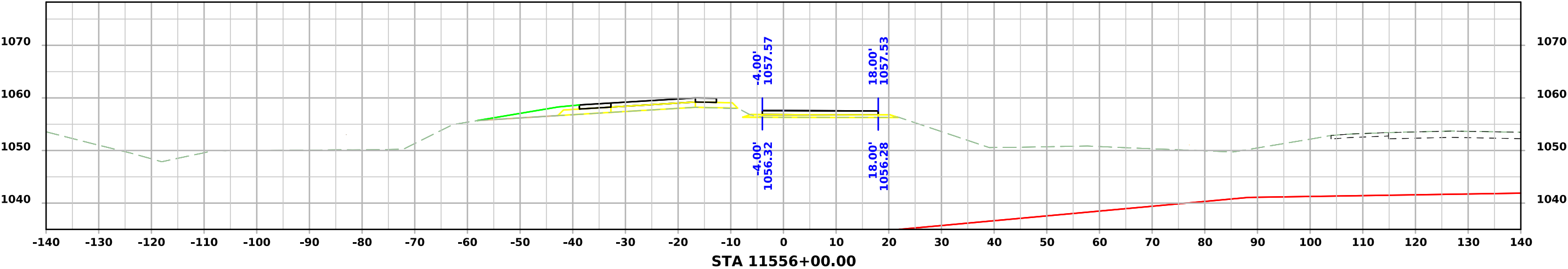
# Detour Ramp A - Stage 2



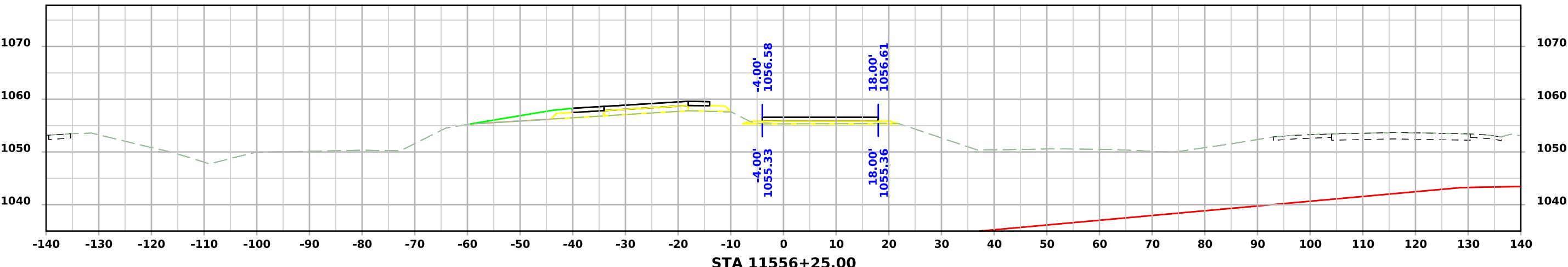
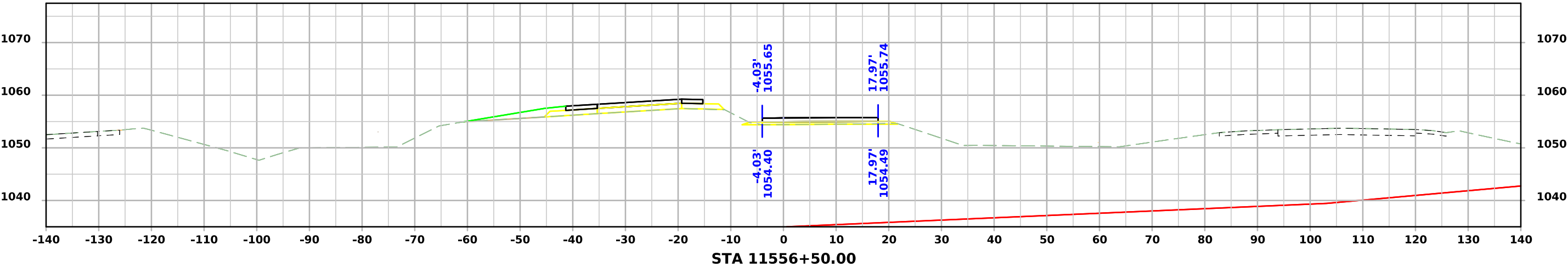
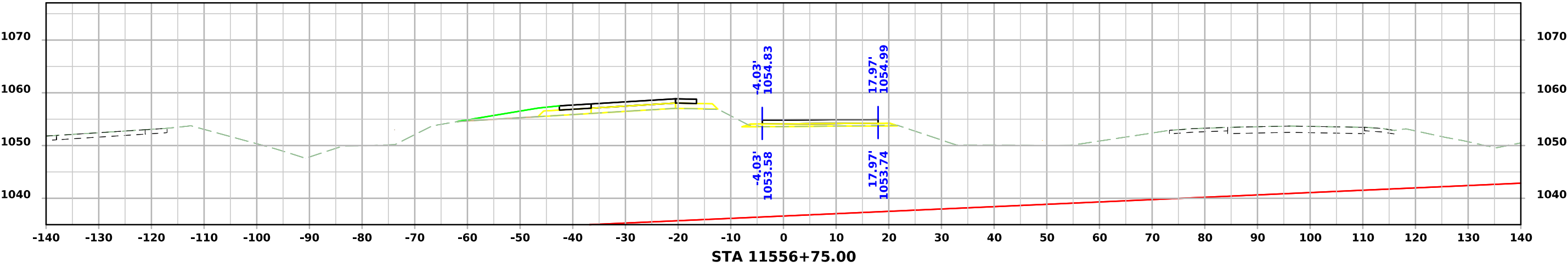
# Detour Ramp A - Stage 2



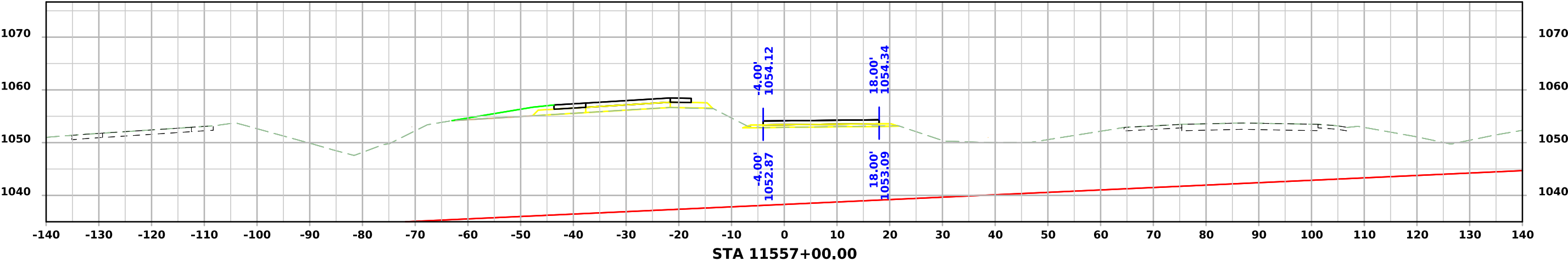
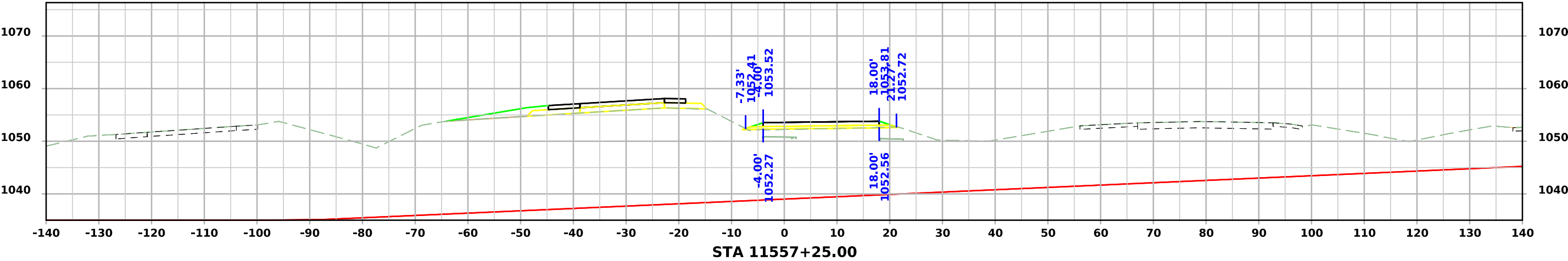
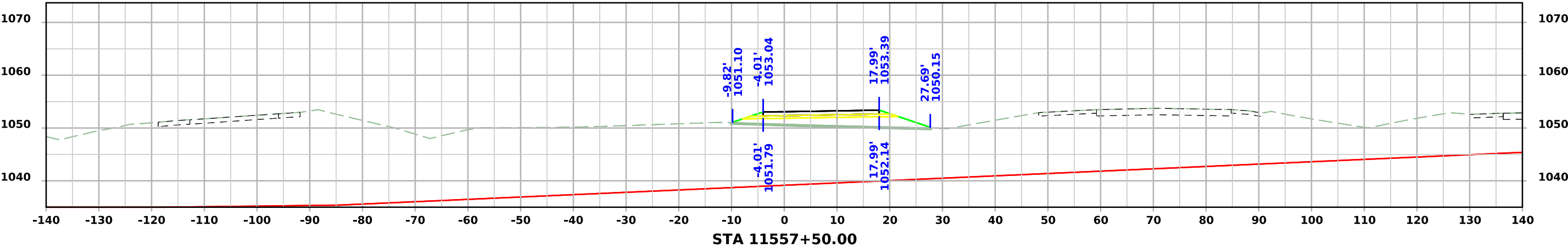
# Detour Ramp A - Stage 2



# Detour Ramp A - Stage 2

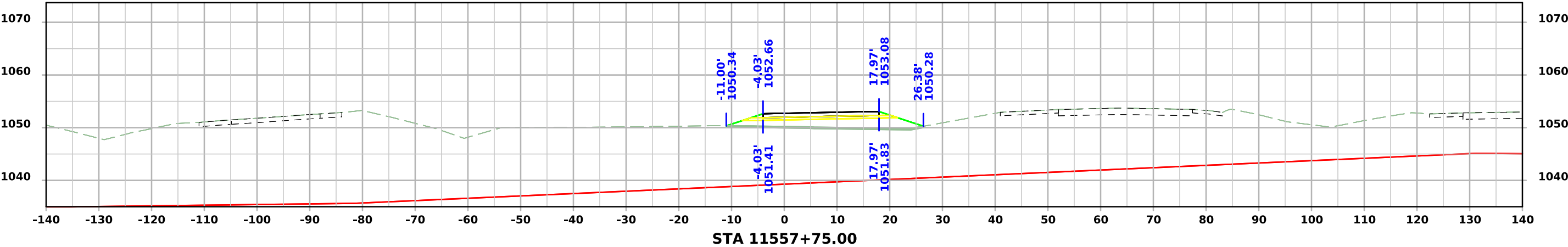
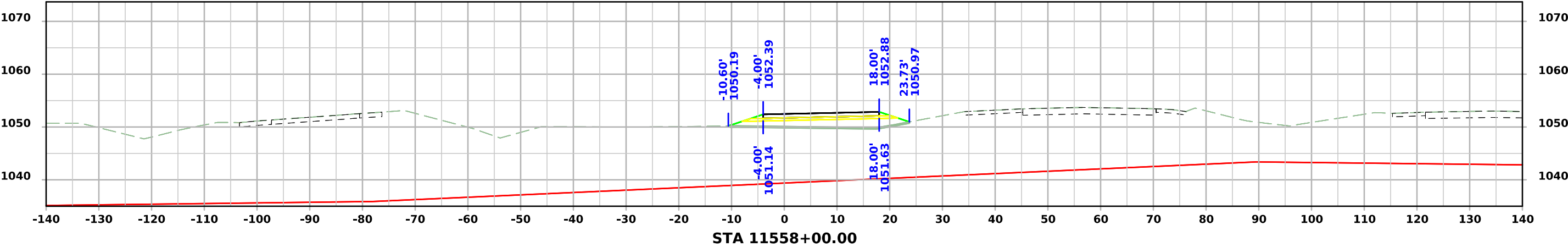
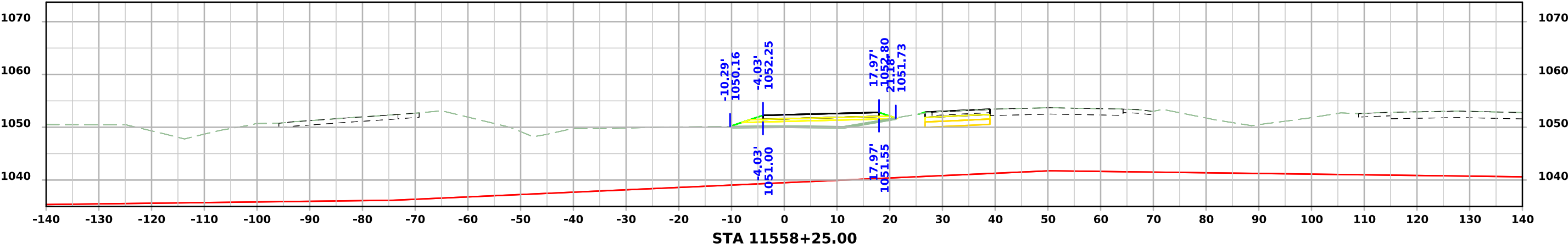


# Detour Ramp A - Stage 2

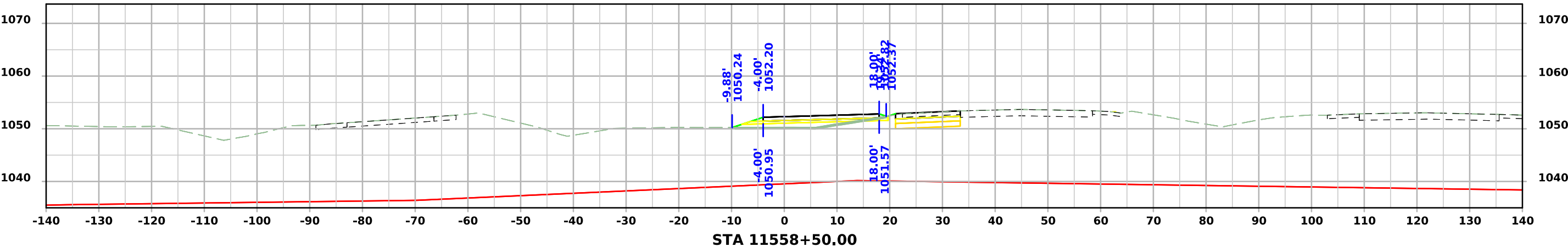
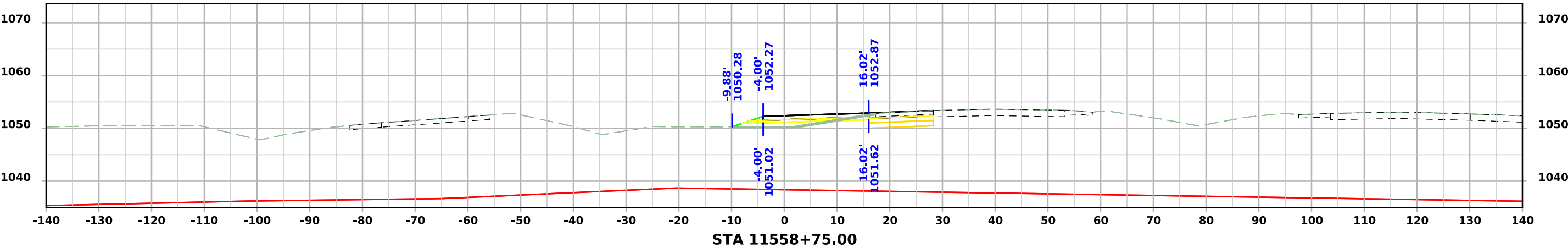
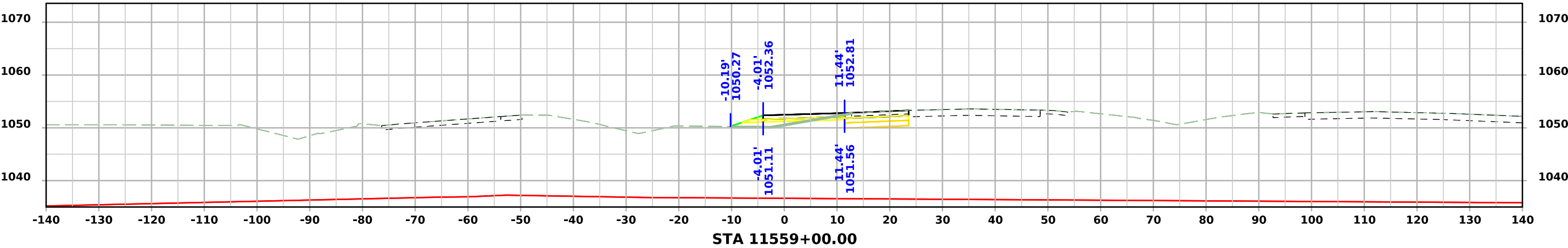




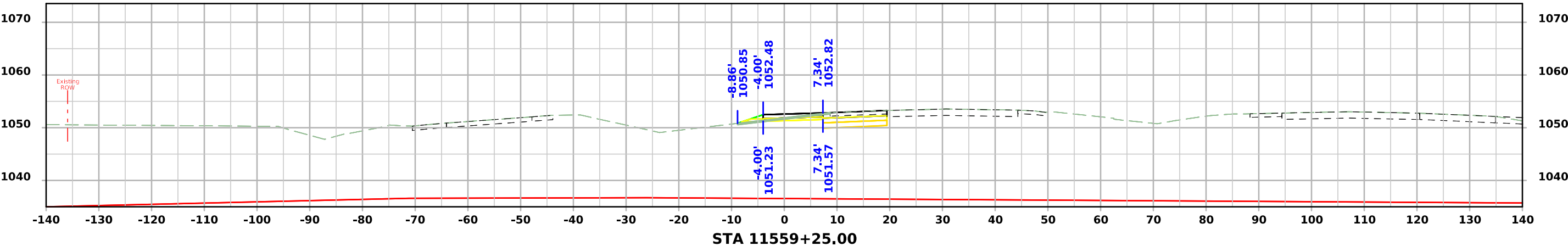
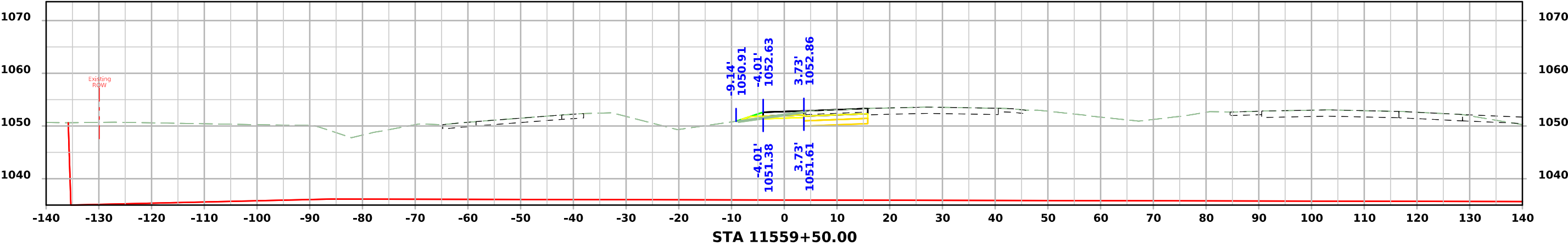
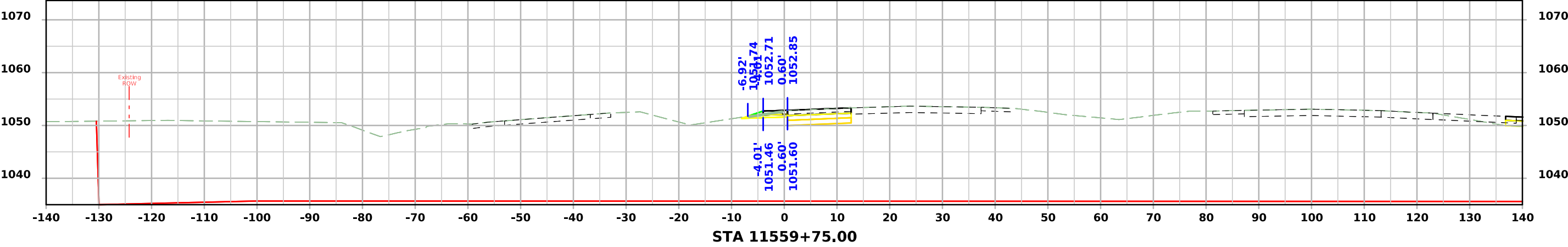
# Detour Ramp A - Stage 2



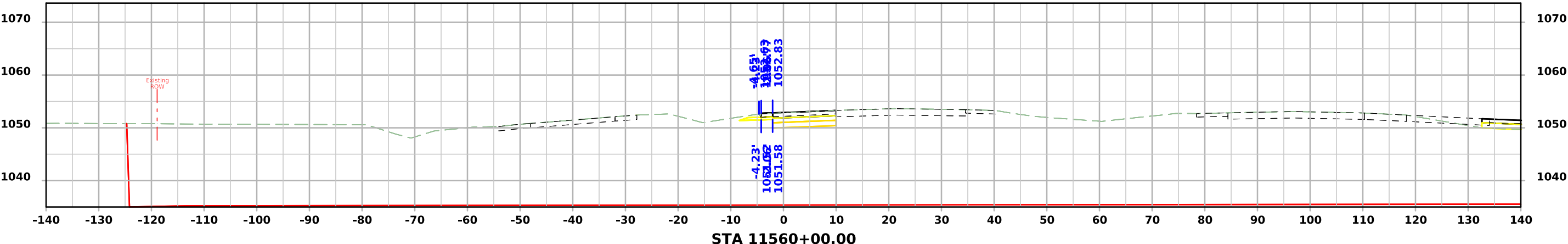
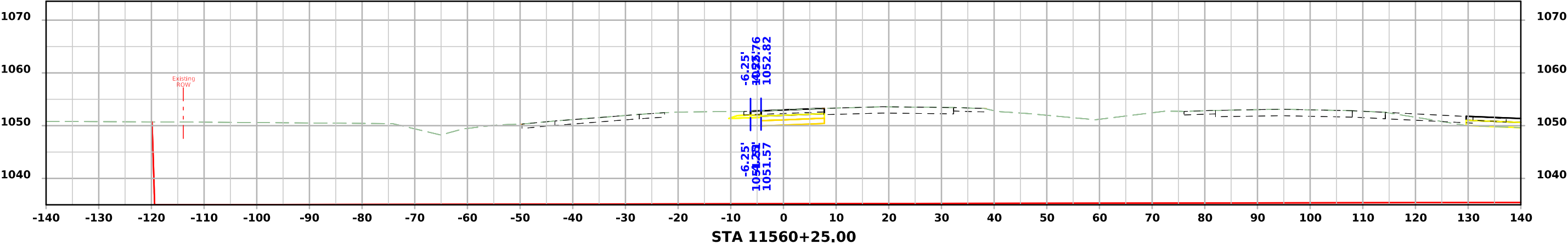
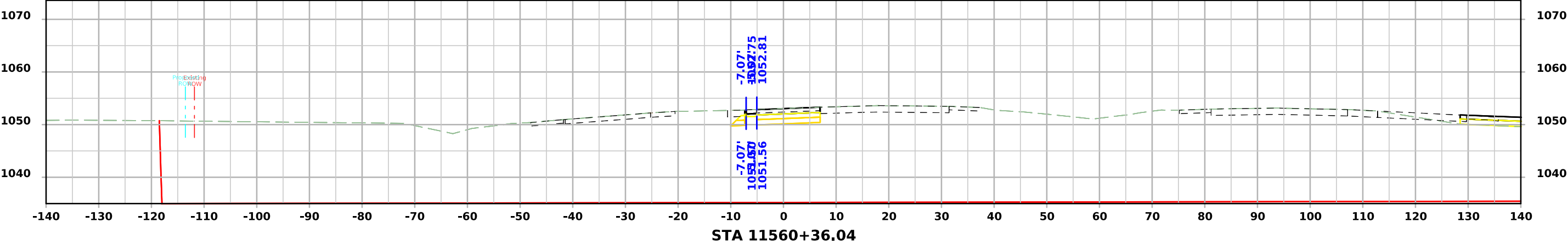
# Detour Ramp A - Stage 2



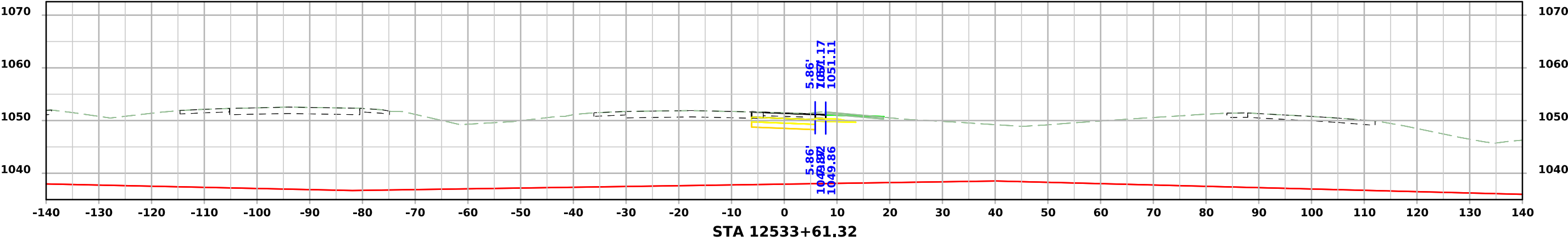
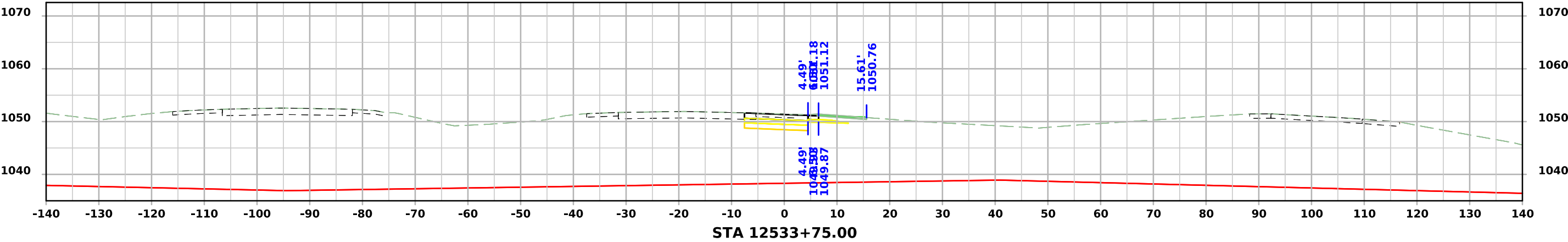
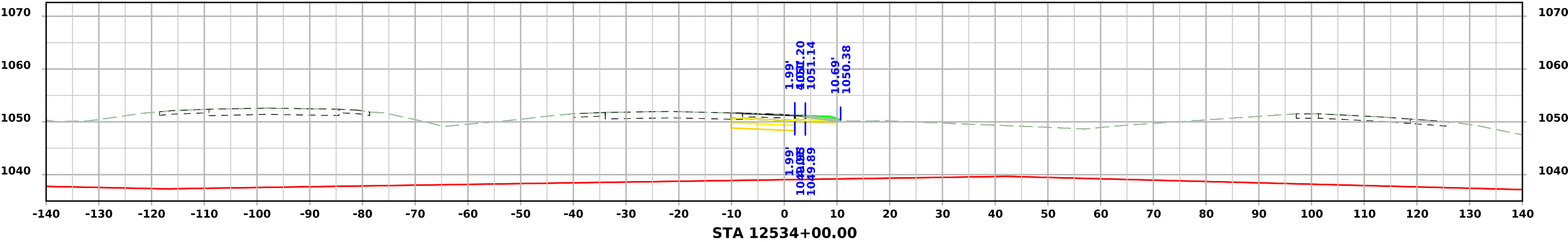
# Detour Ramp A - Stage 2



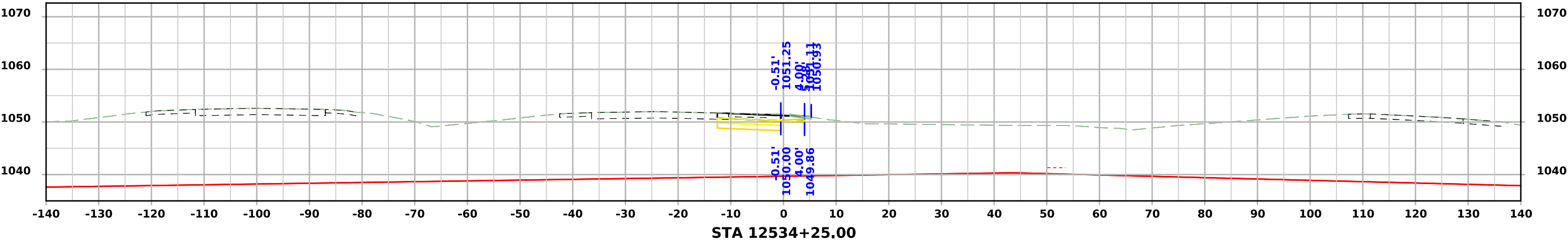
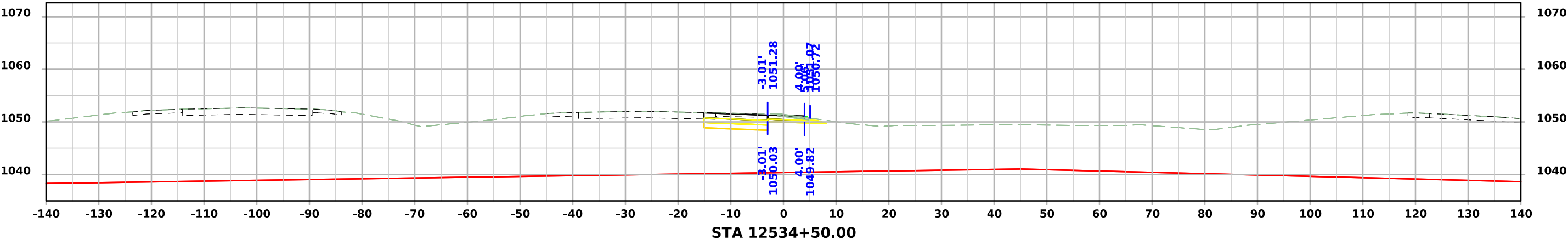
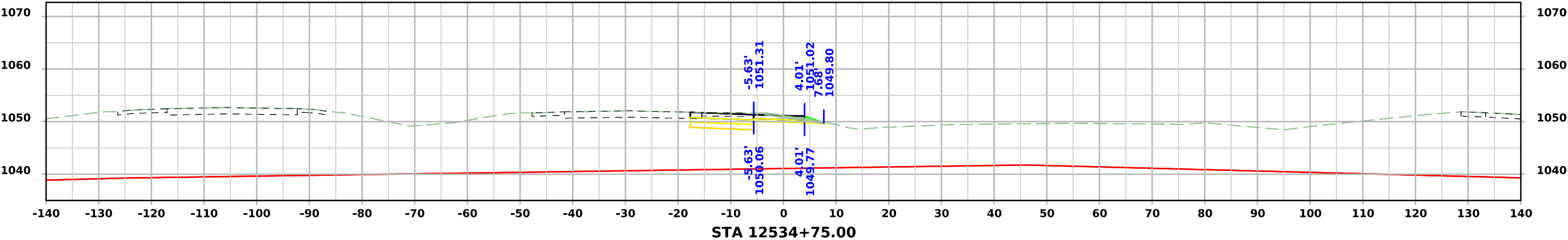
# Detour Ramp A - Stage 2



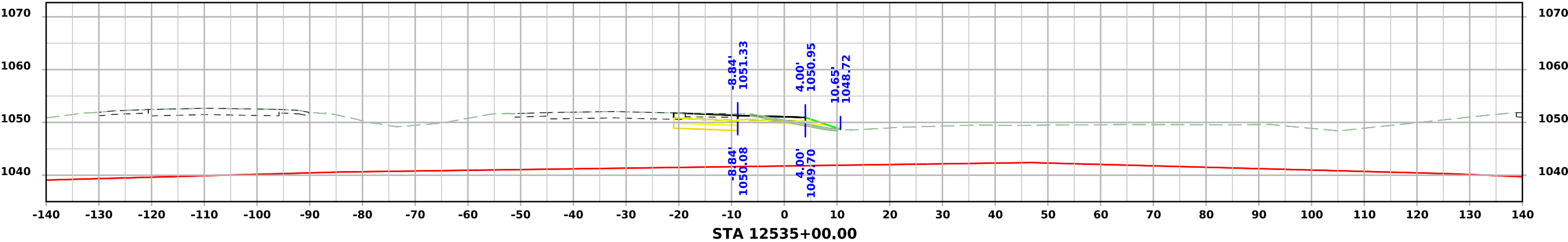
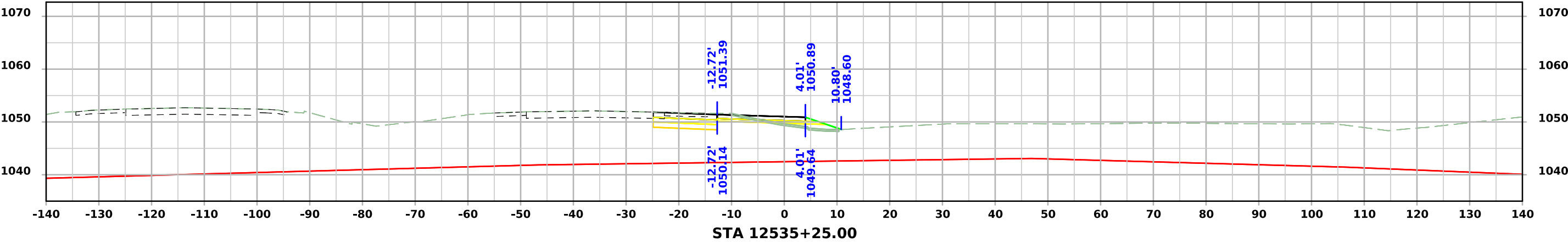
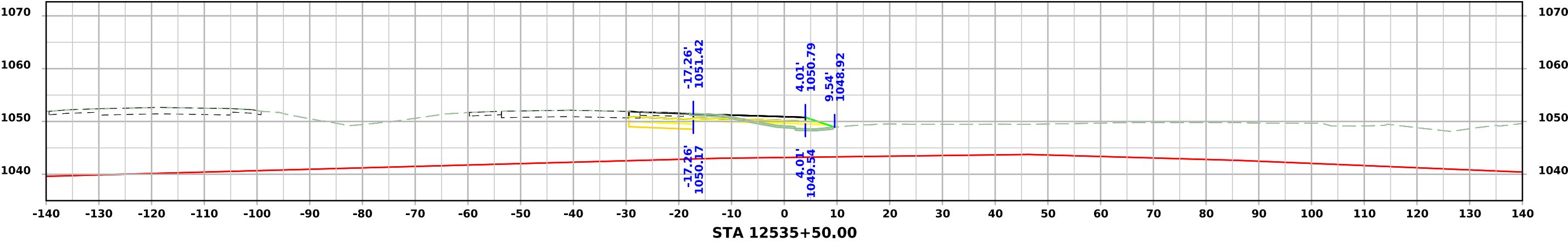
# Detour Ramp B - Stage 2



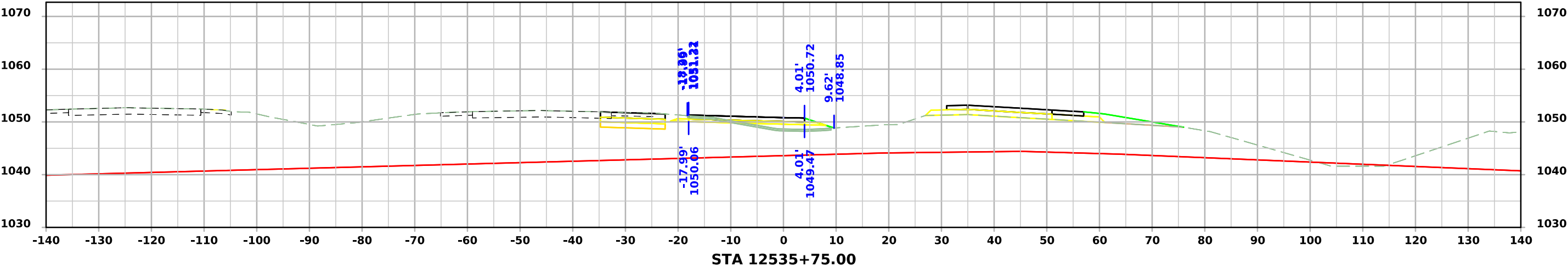
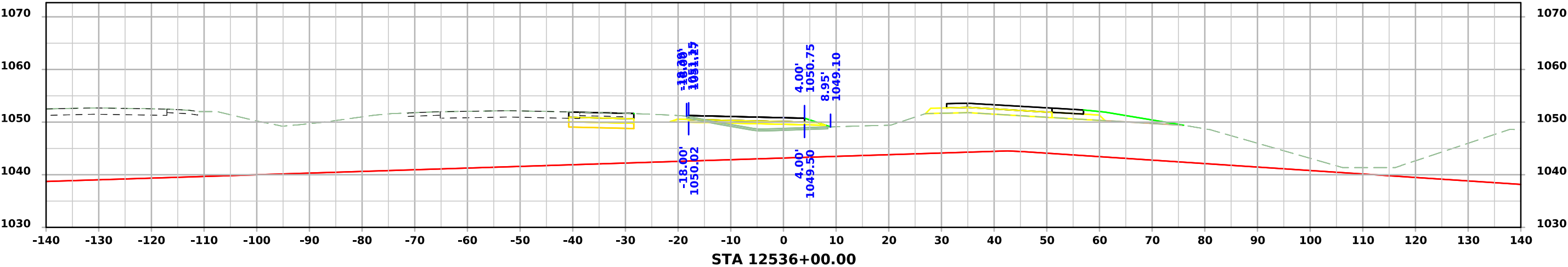
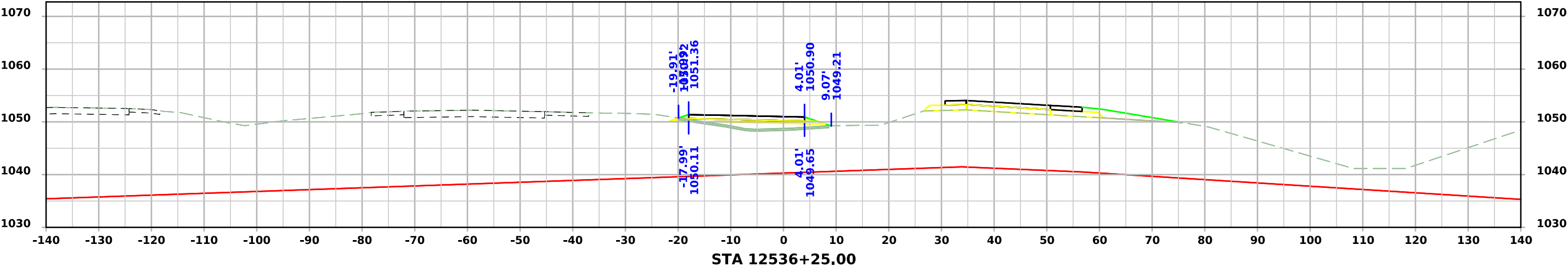
# Detour Ramp B - Stage 2



# Detour Ramp B - Stage 2

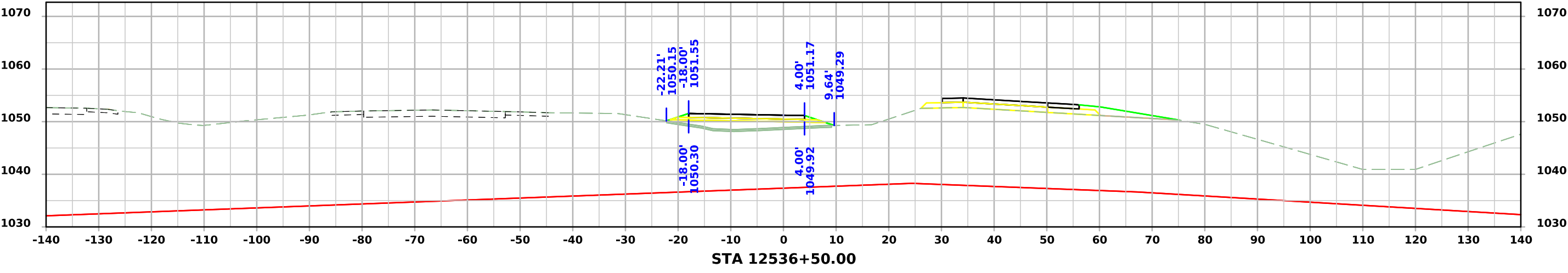
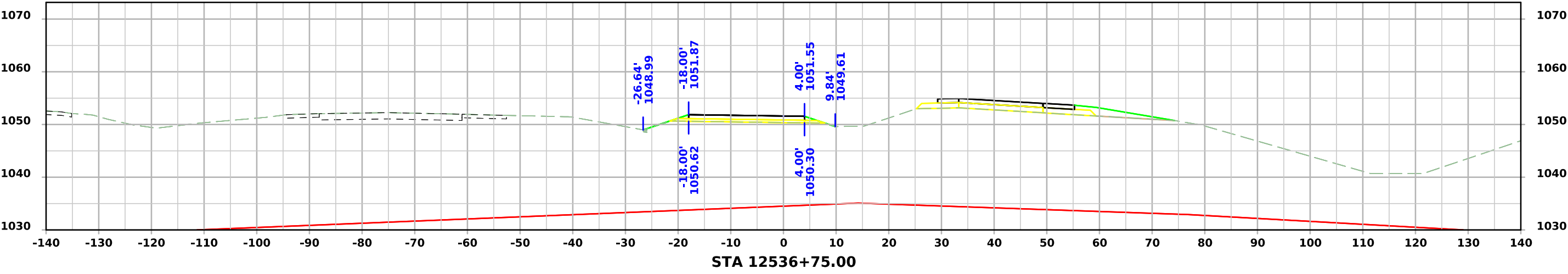
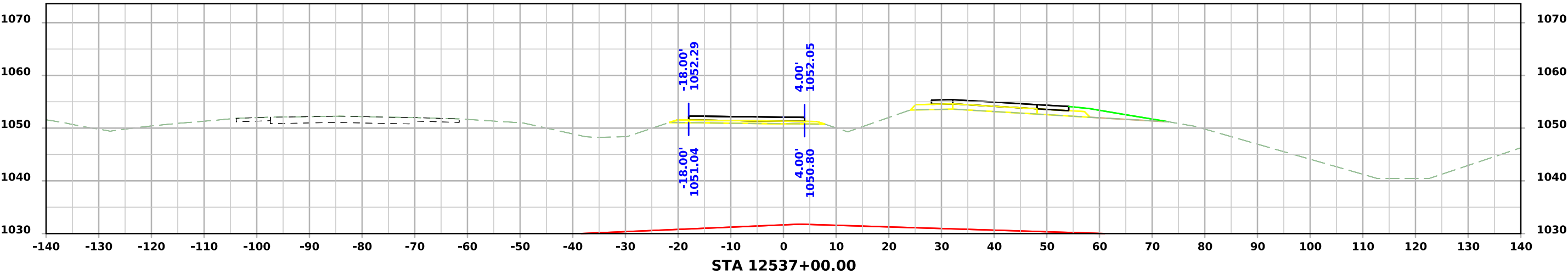


# Detour Ramp B - Stage 2

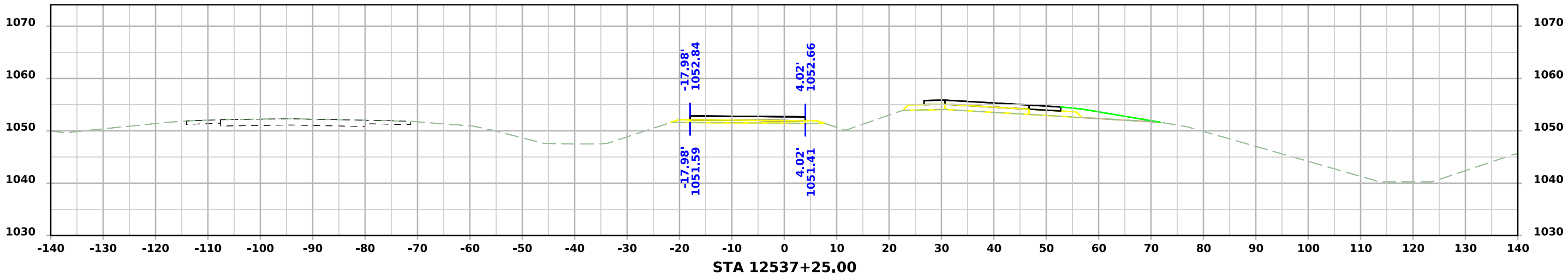
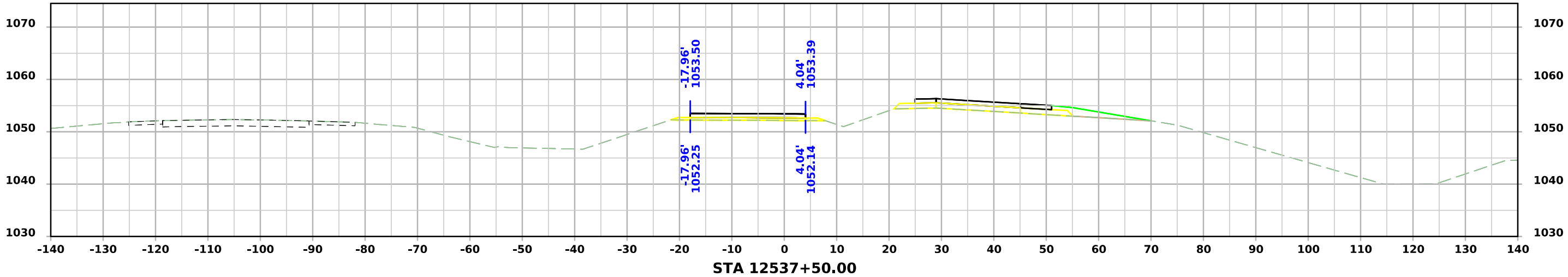
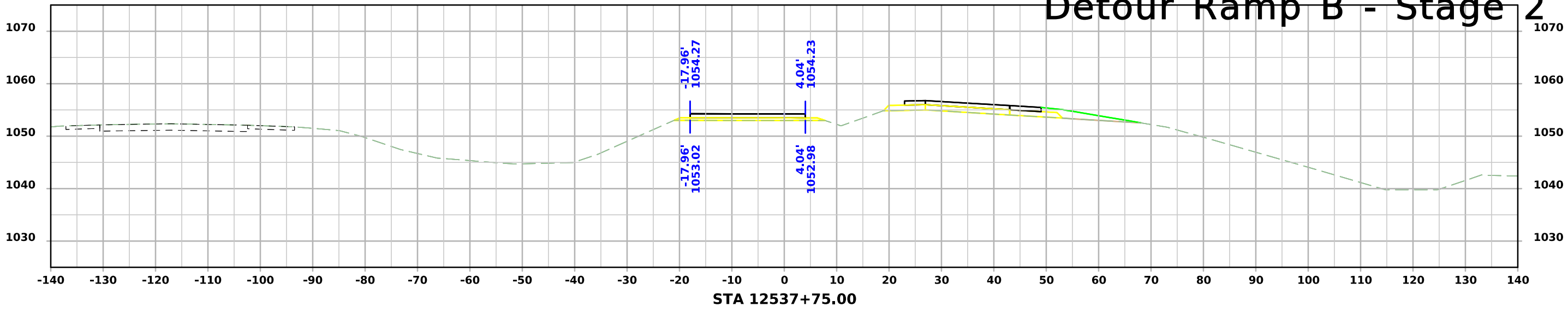




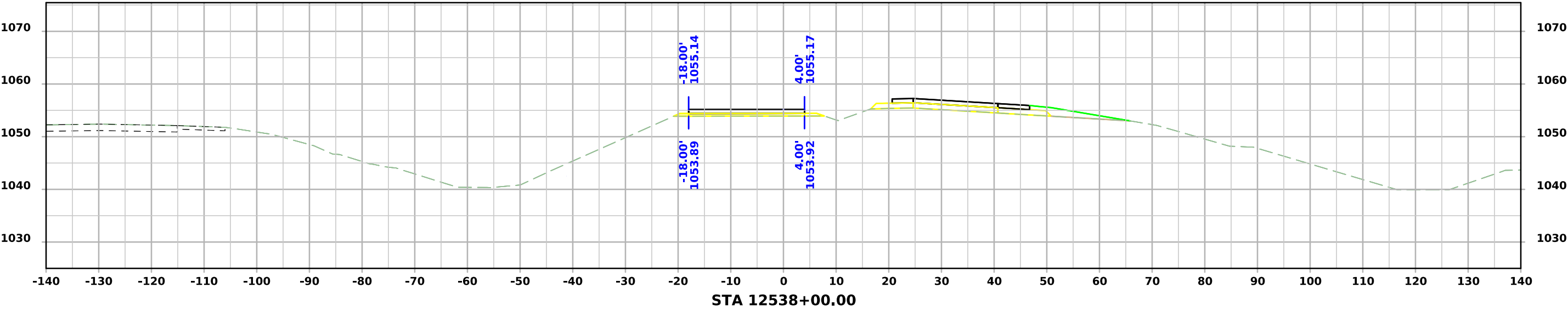
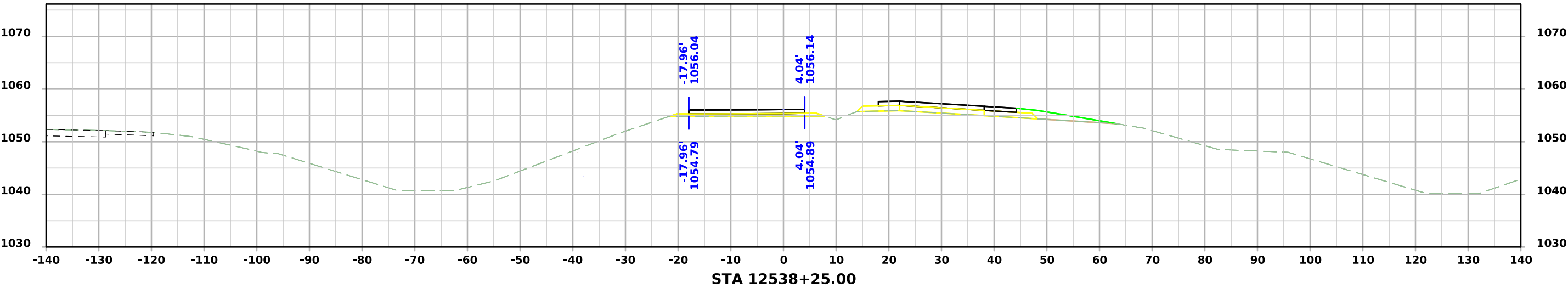
# Detour Ramp B - Stage 2



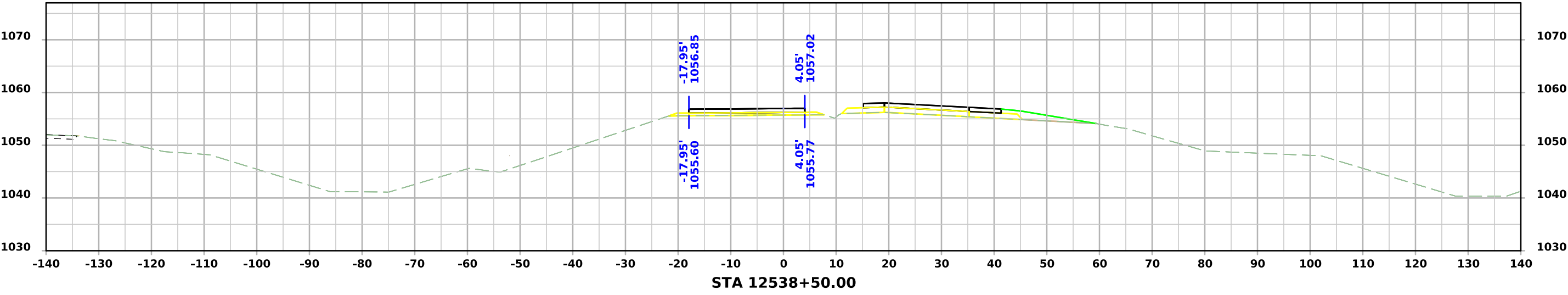
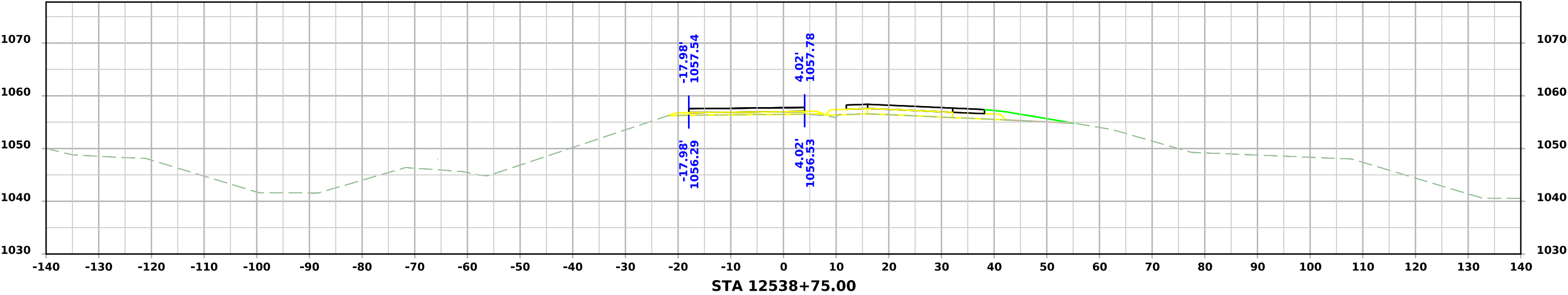
# Detour Ramp B - Stage 2



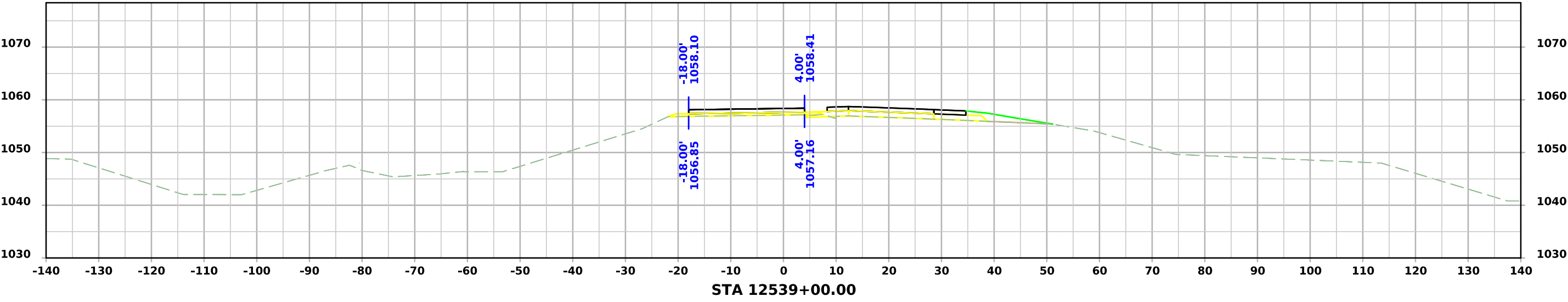
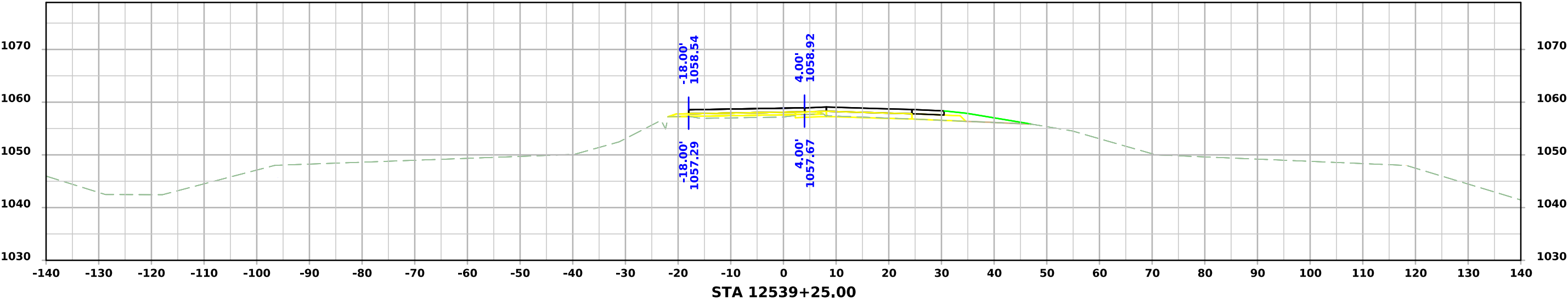
# Detour Ramp B - Stage 2



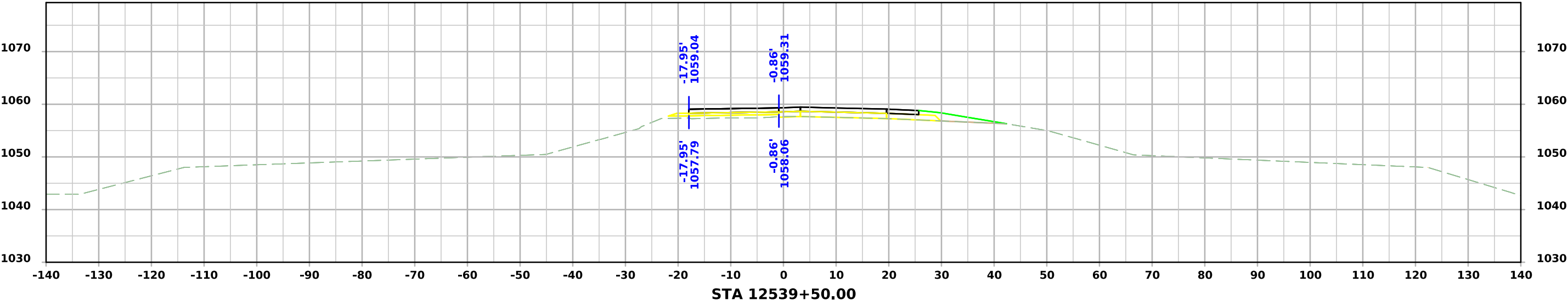
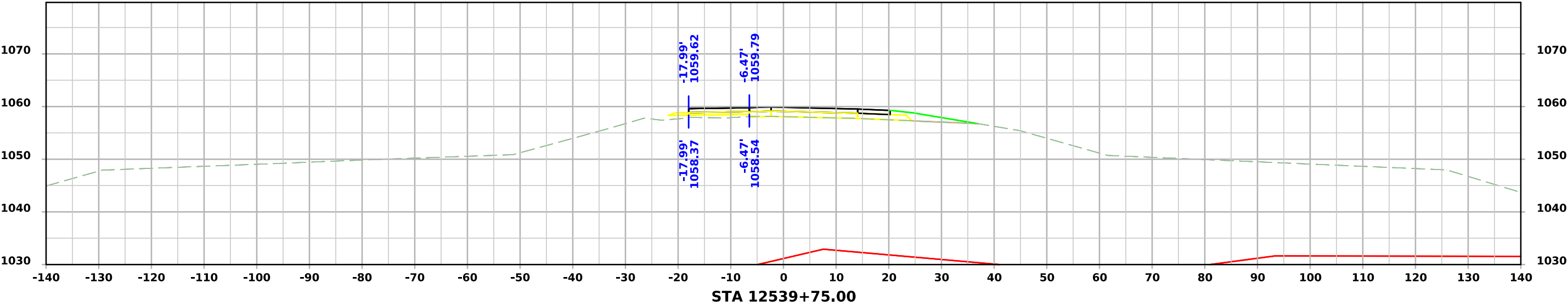
# Detour Ramp B - Stage 2



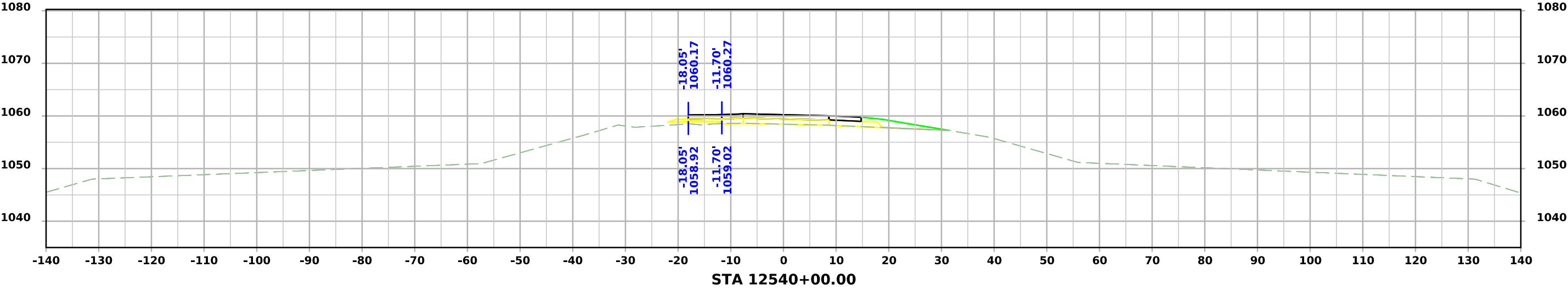
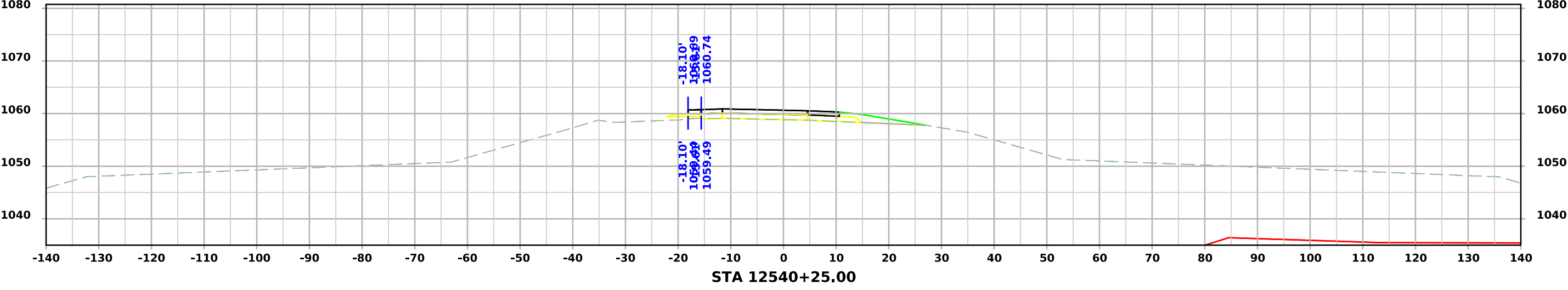
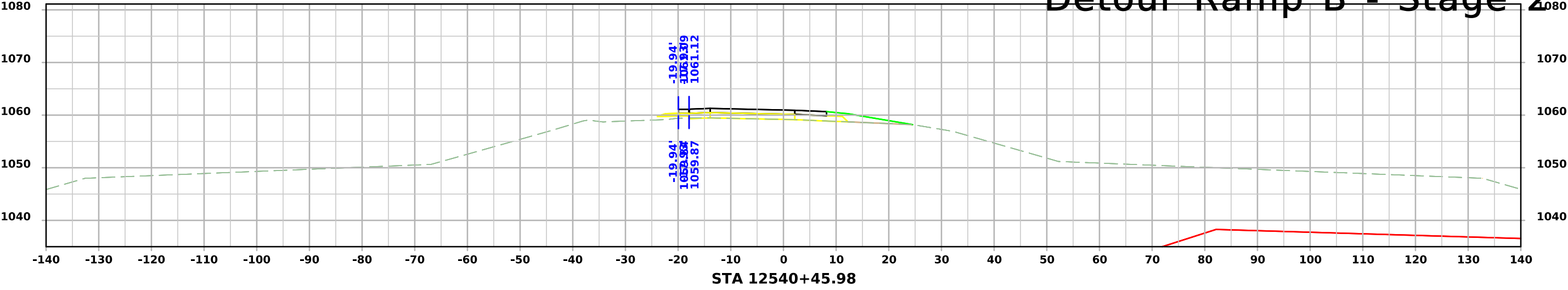
# Detour Ramp B - Stage 2



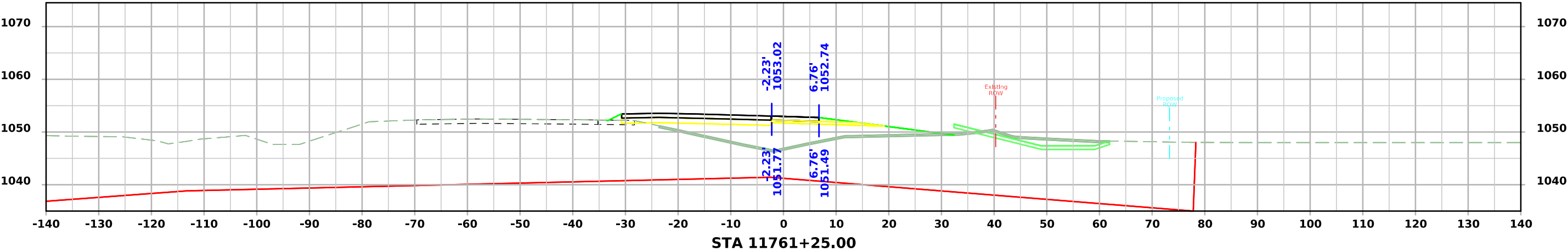
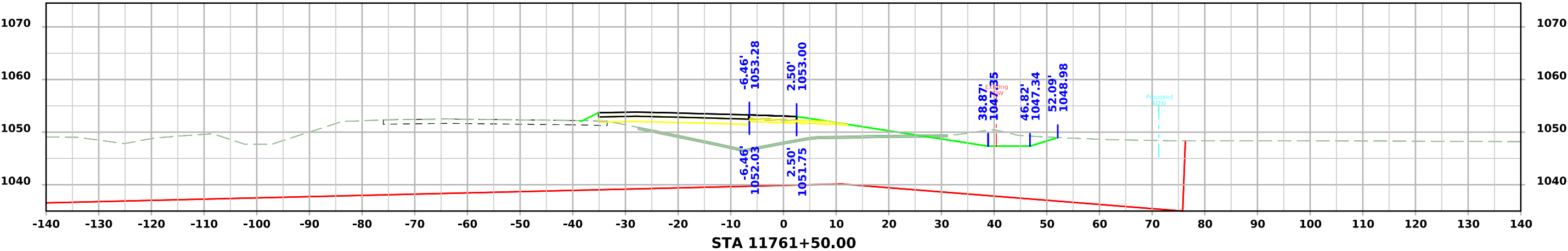
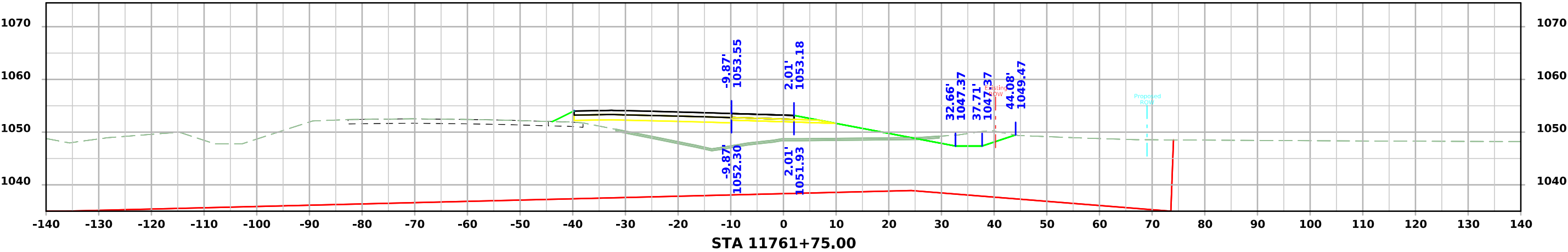
# Detour Ramp B - Stage 2



# Detour Ramp B - Stage 2

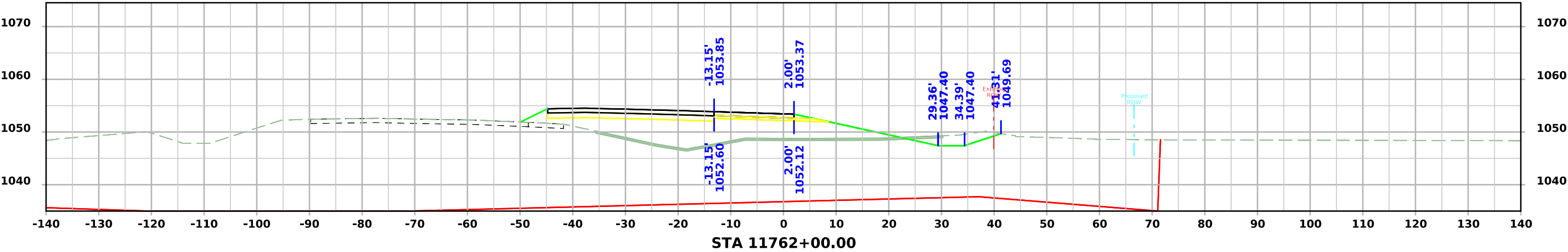
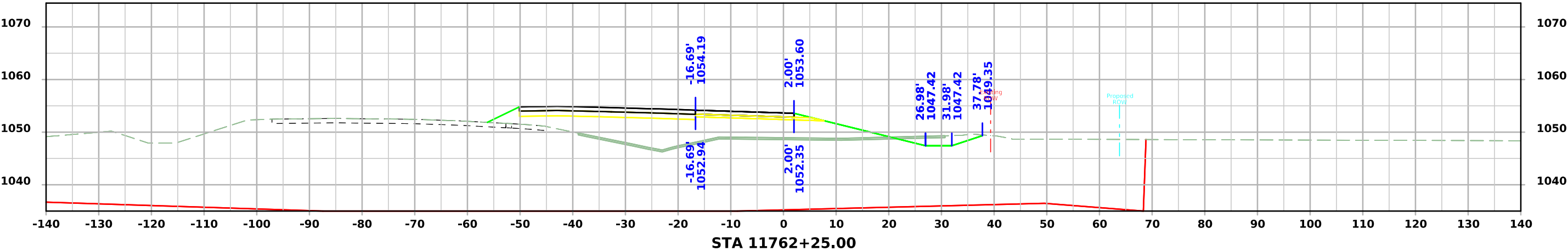
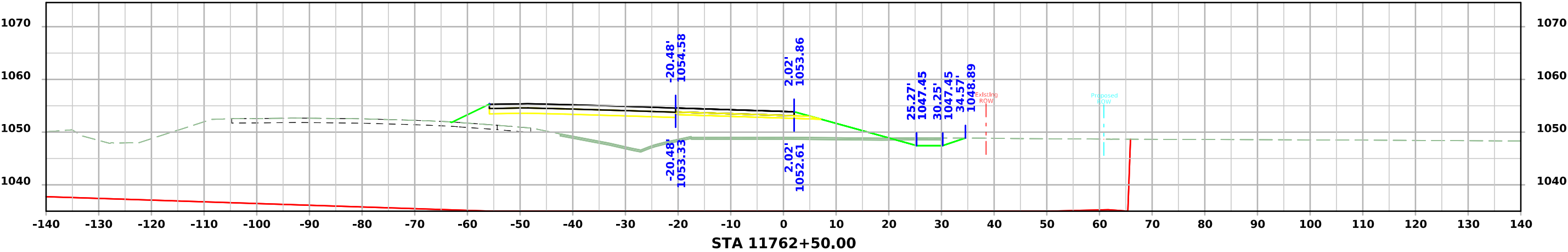


# Detour Ramp D - Stage 3

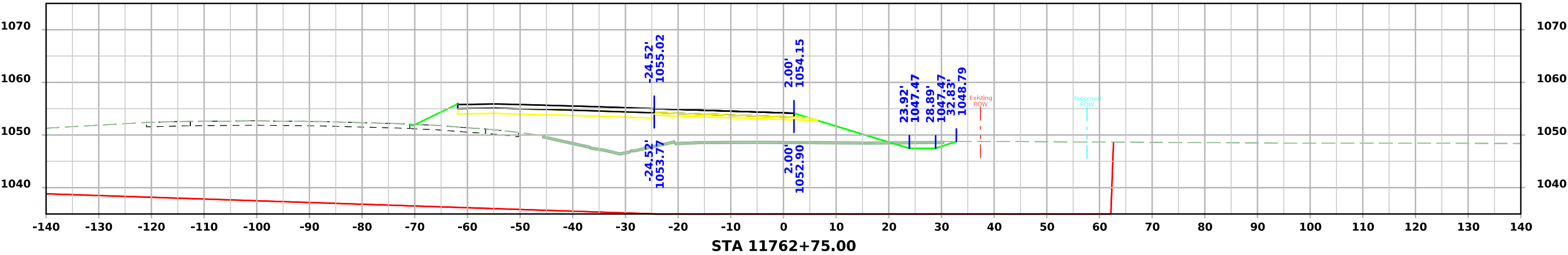
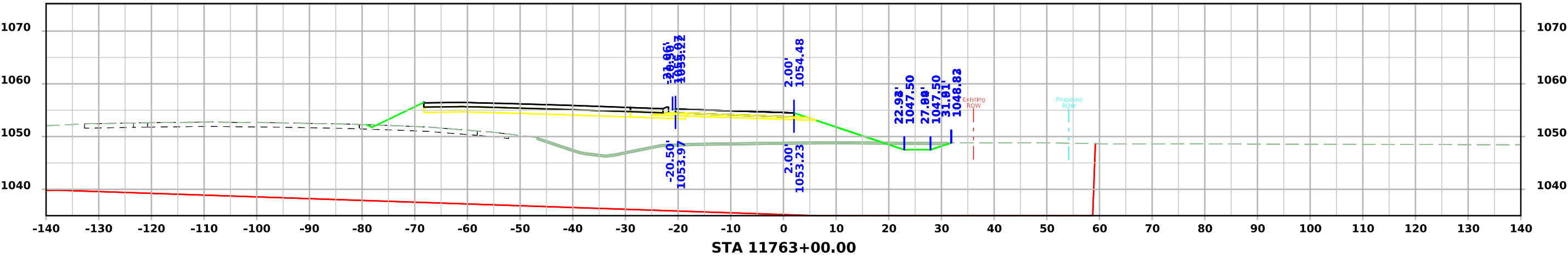
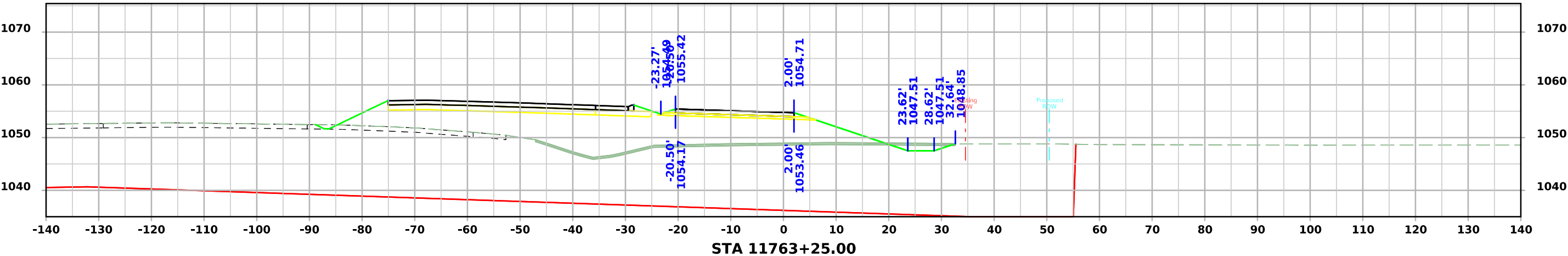




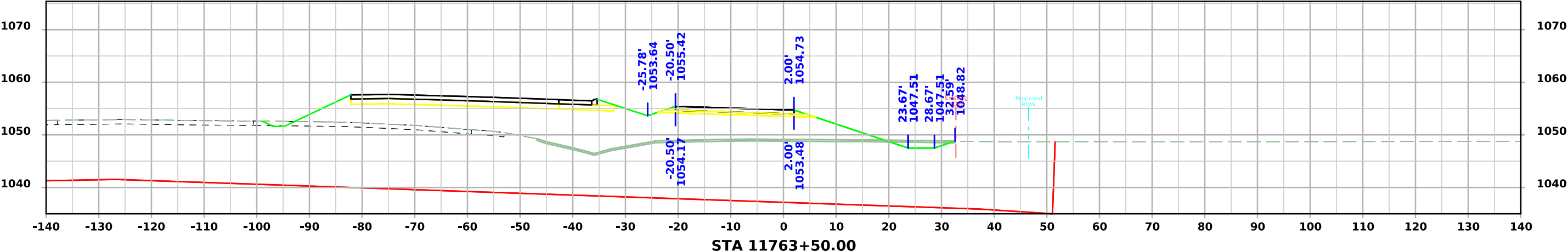
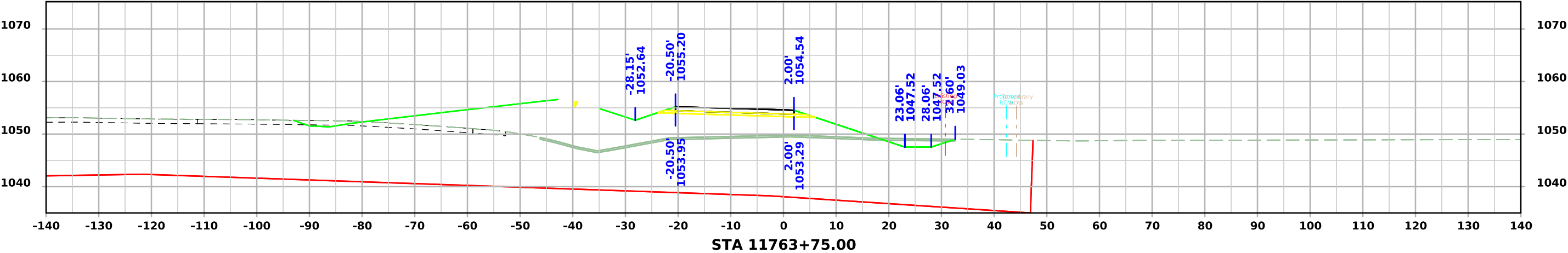
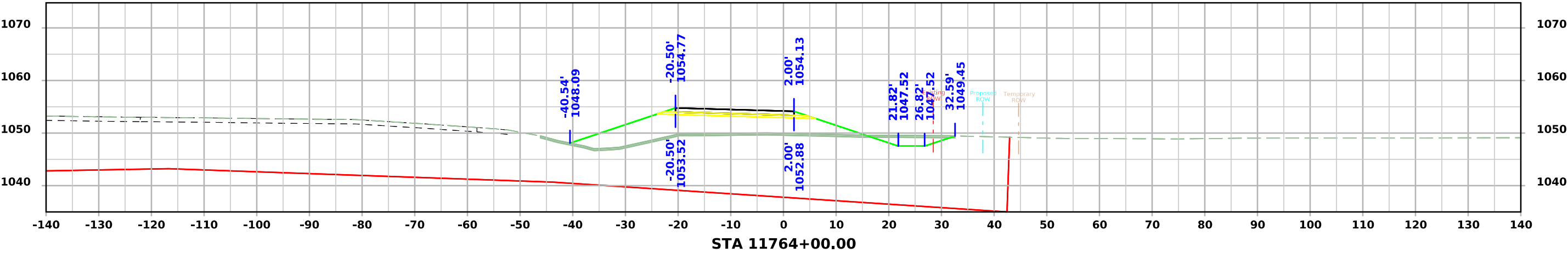
# Detour Ramp D - Stage 3



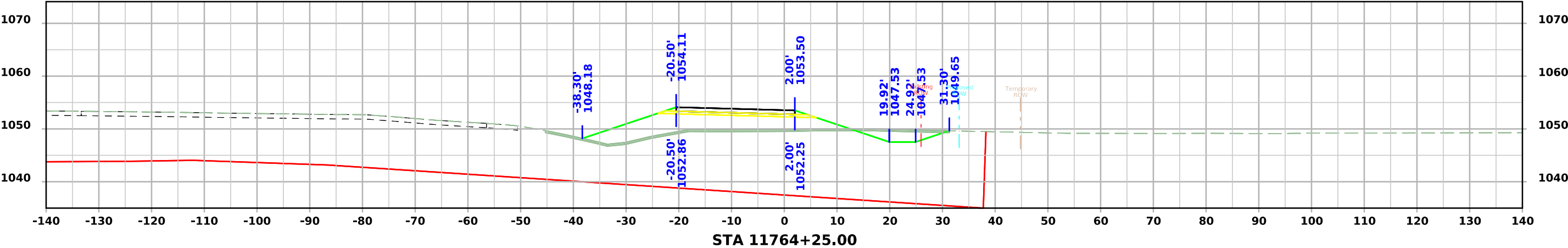
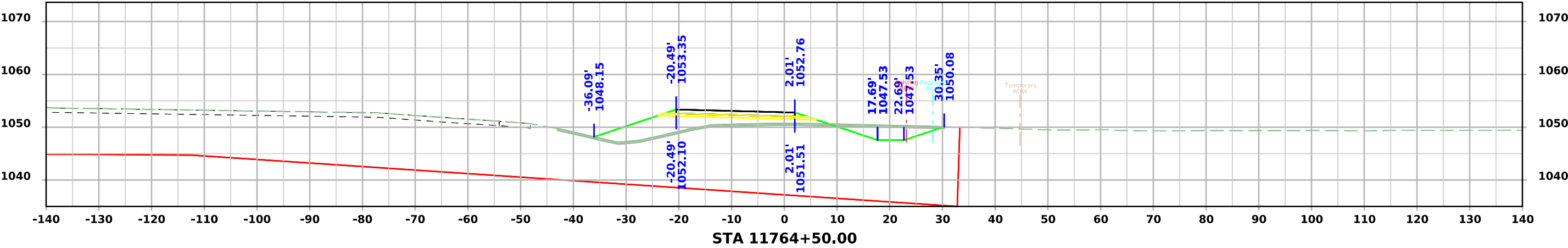
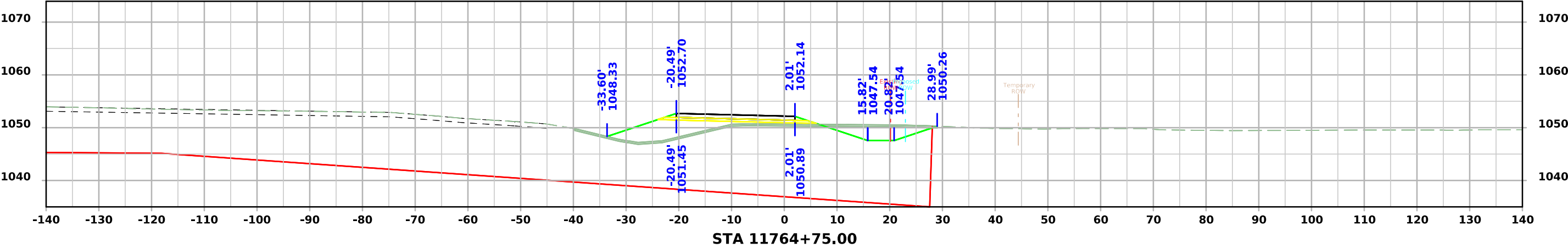
# Detour Ramp D - Stage 3



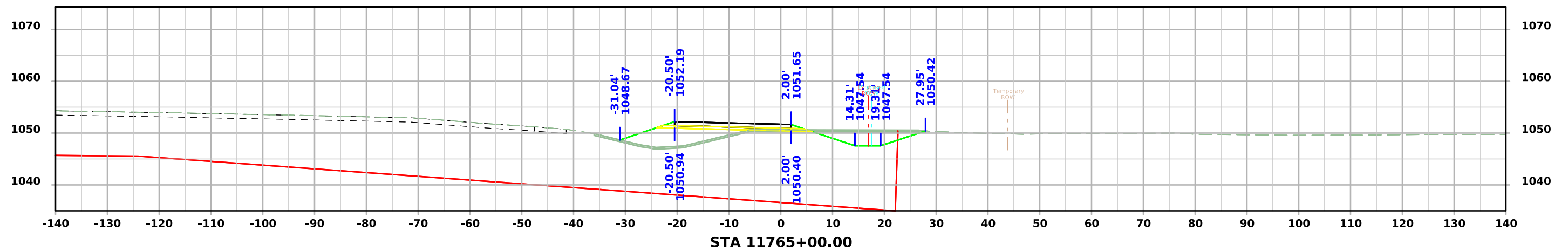
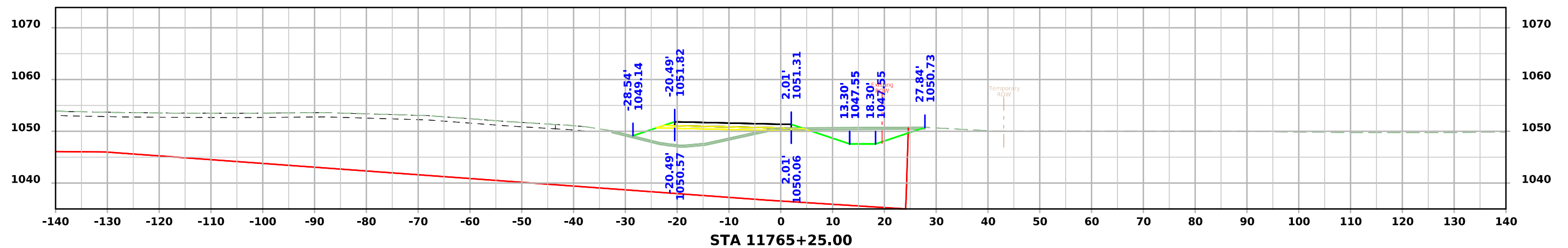
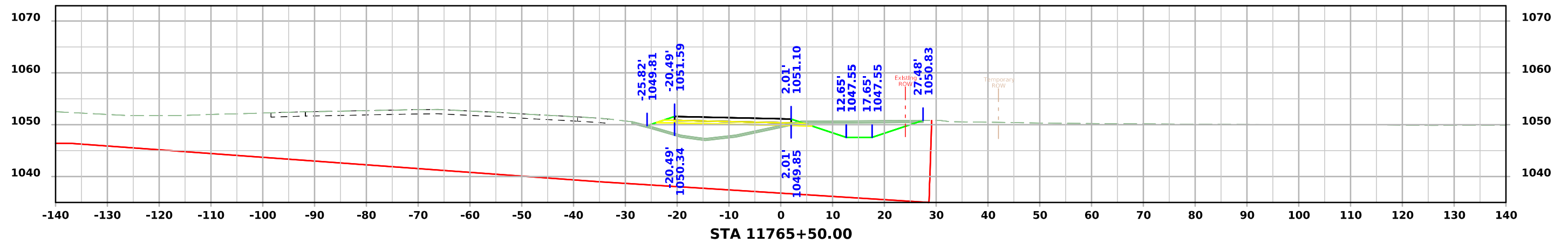
# Detour Ramp D - Stage 3



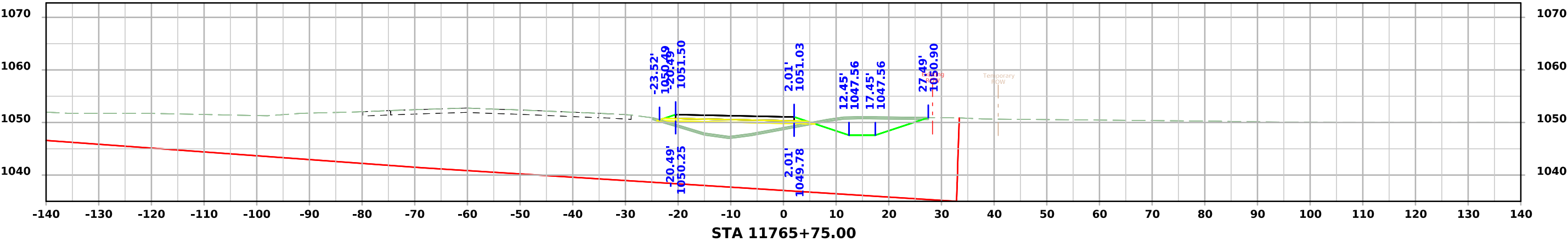
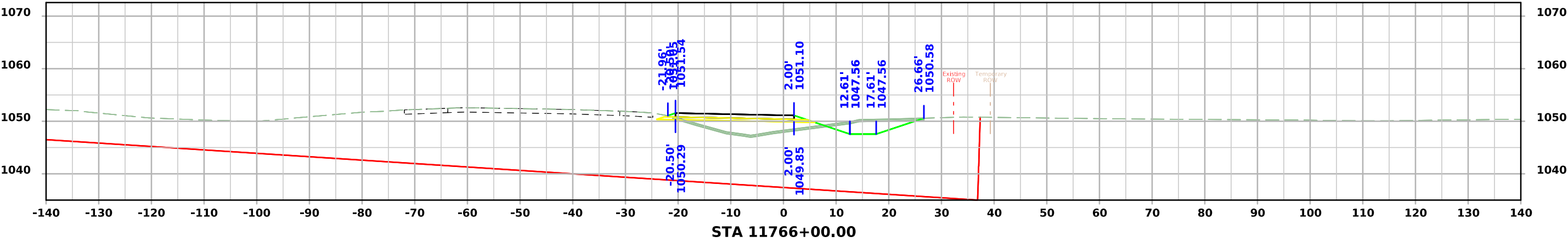
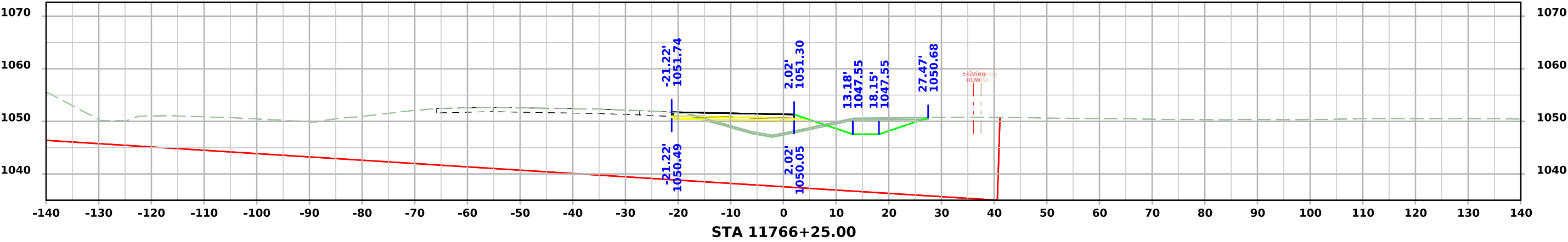
# Detour Ramp D - Stage 3



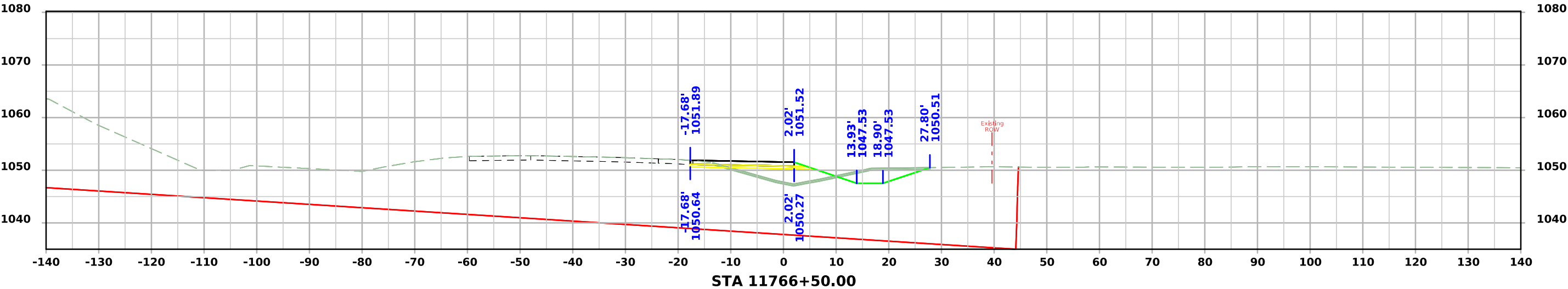
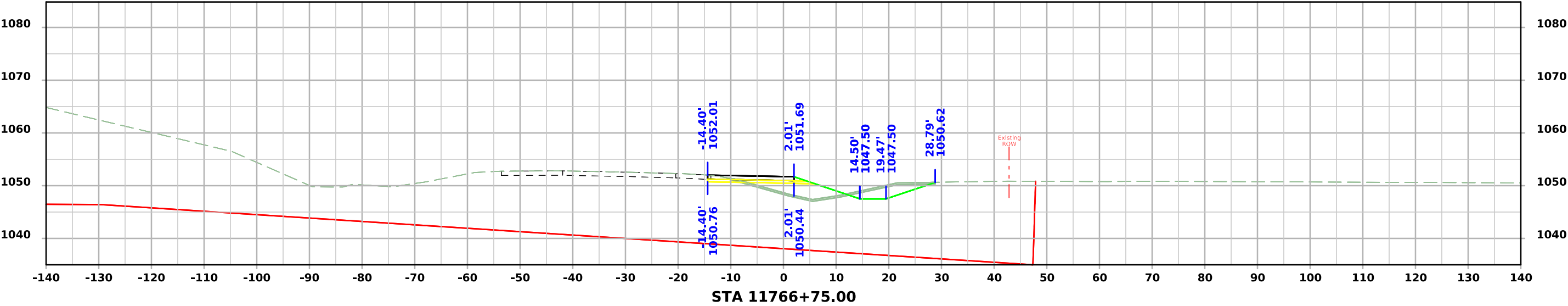
# Detour Ramp D - Stage 3



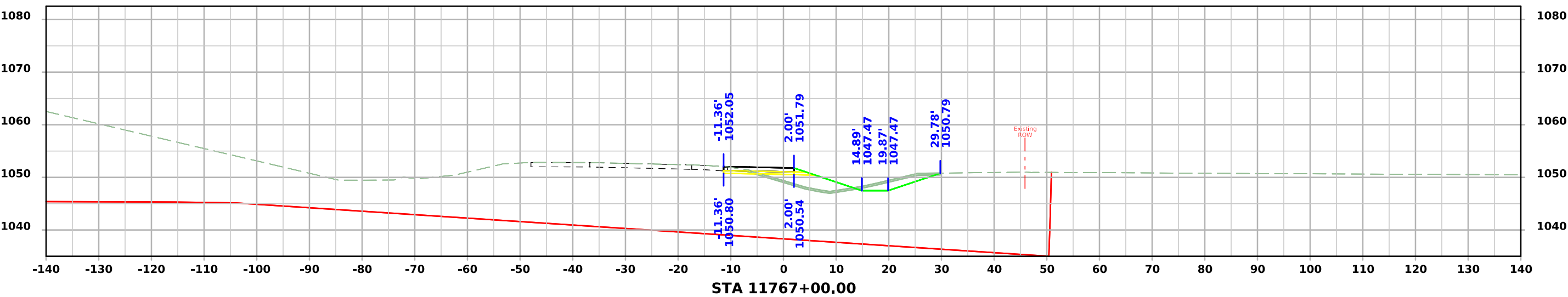
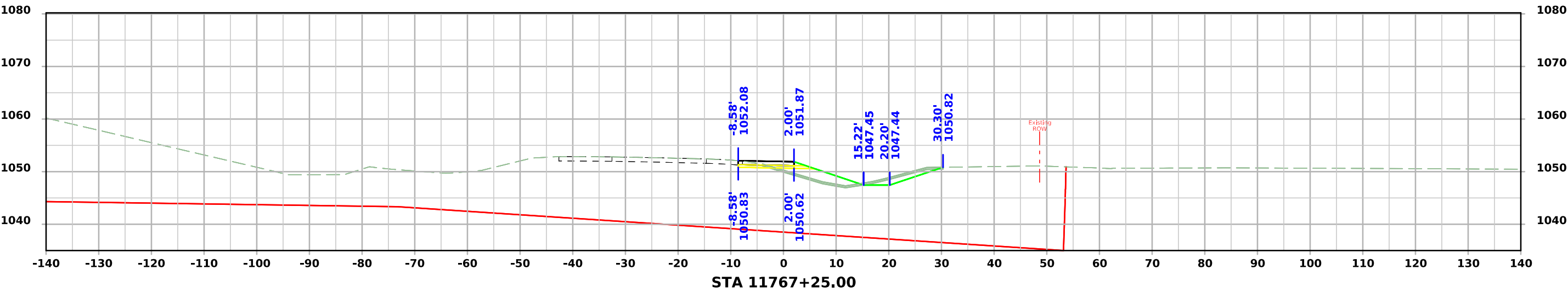
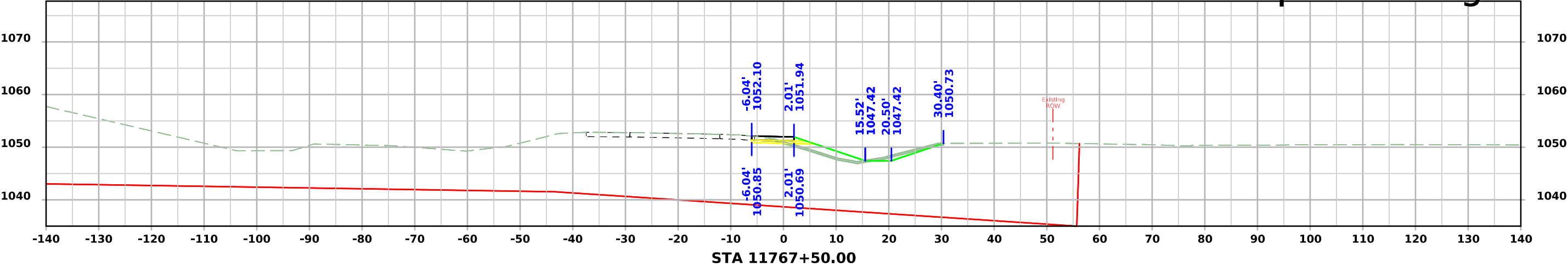
# Detour Ramp D - Stage 3



# Detour Ramp D - Stage 3

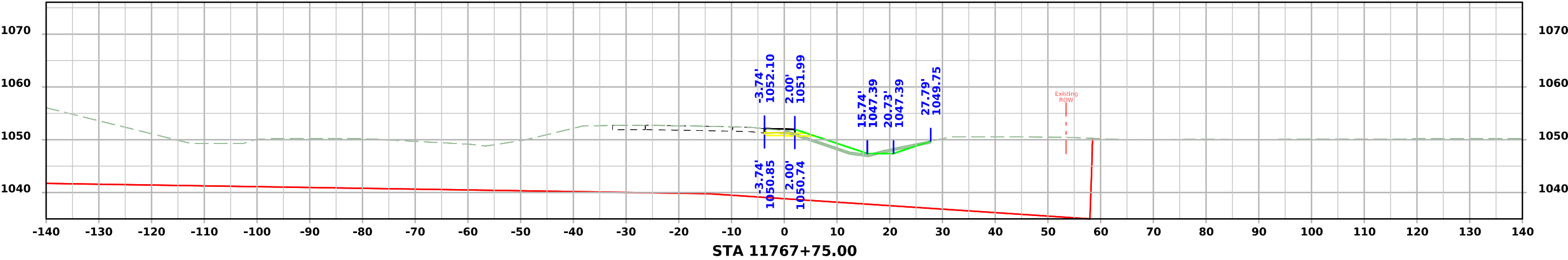
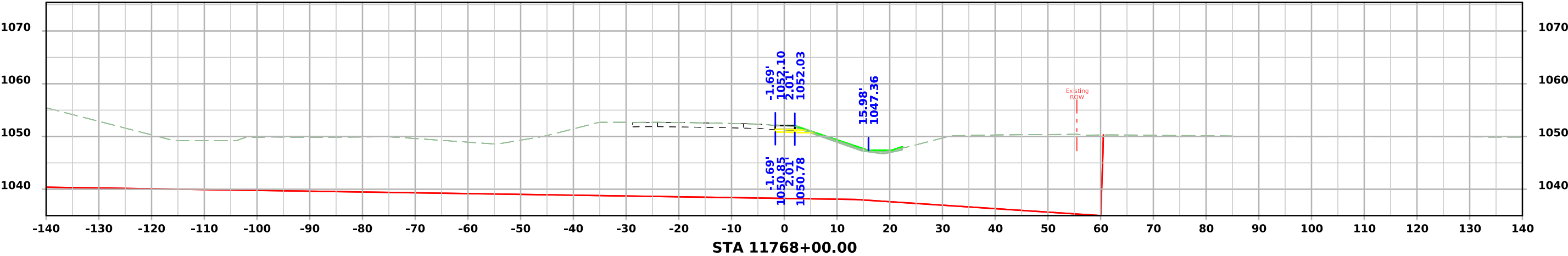
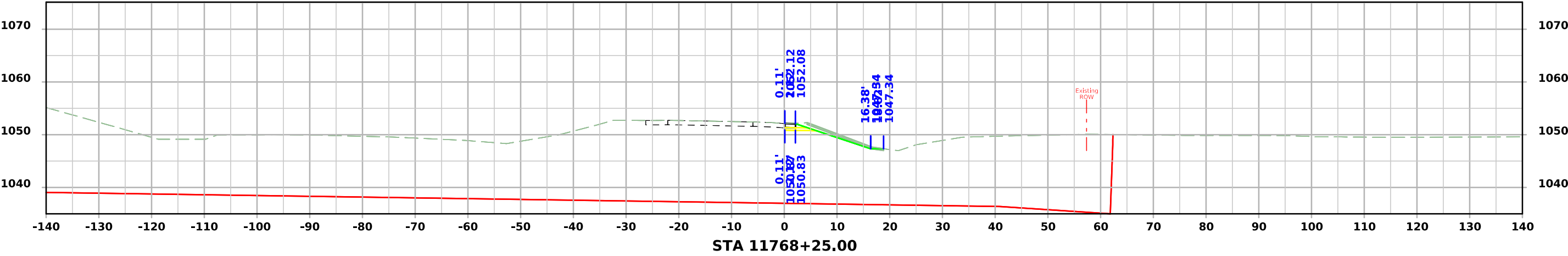


# Detour Ramp D - Stage 3

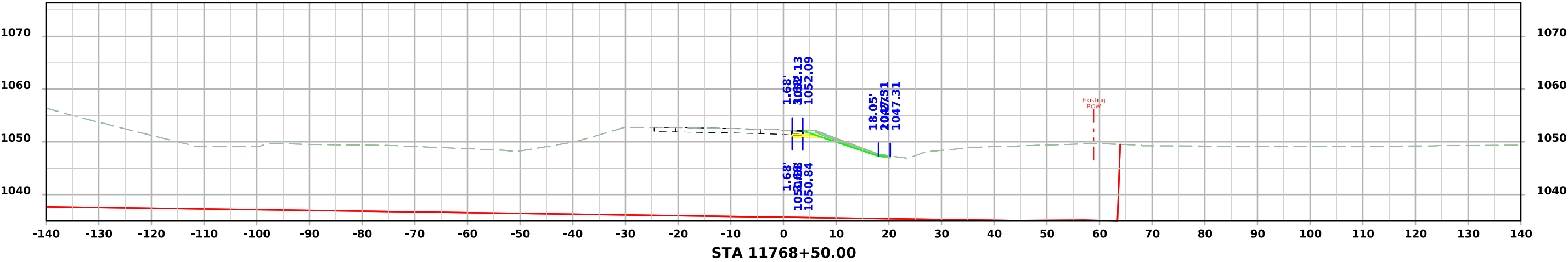
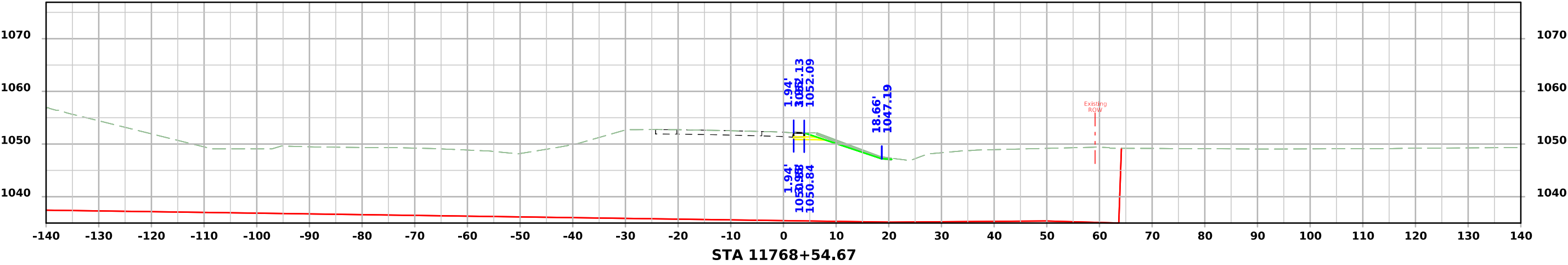




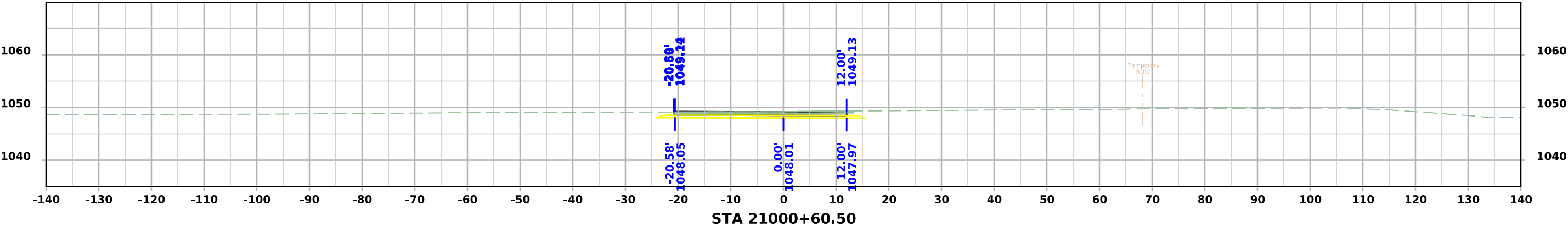
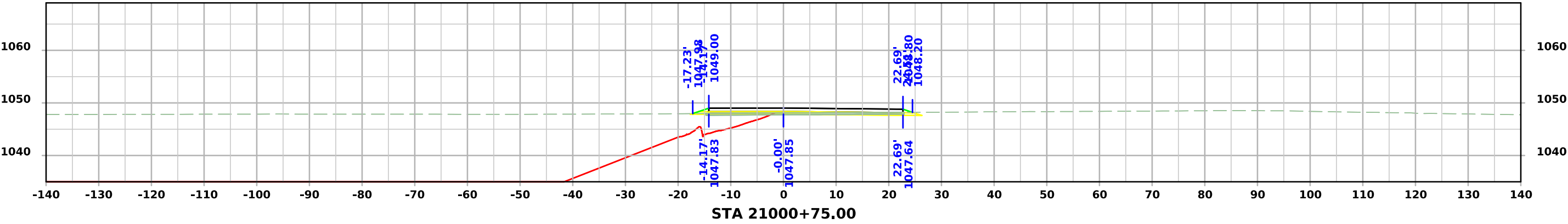
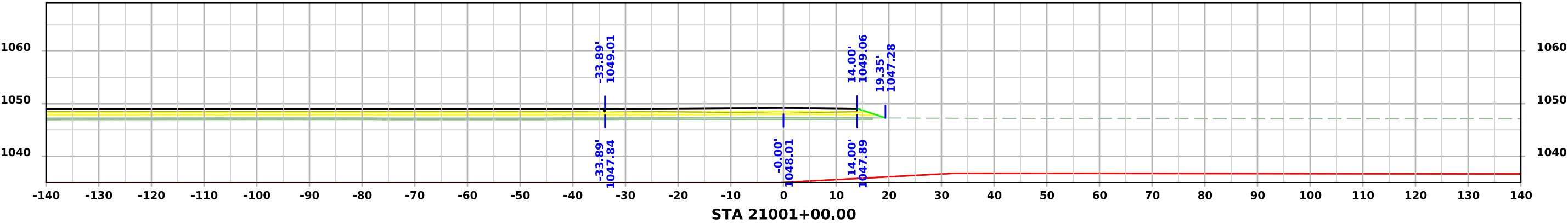
# Detour Ramp D - Stage 3



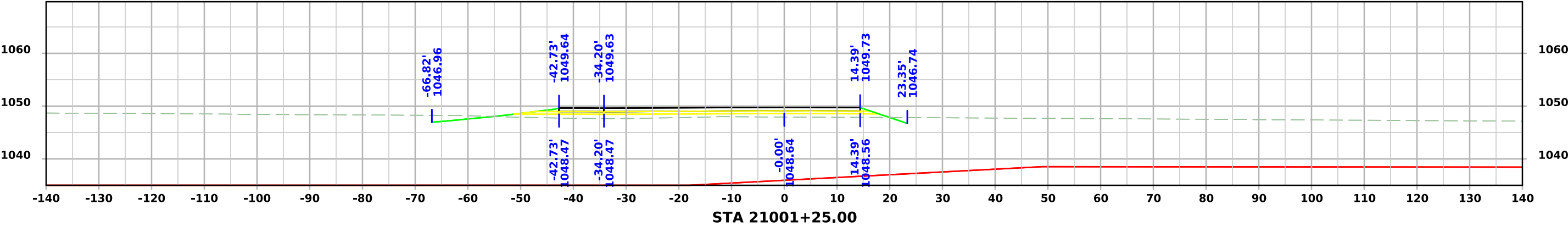
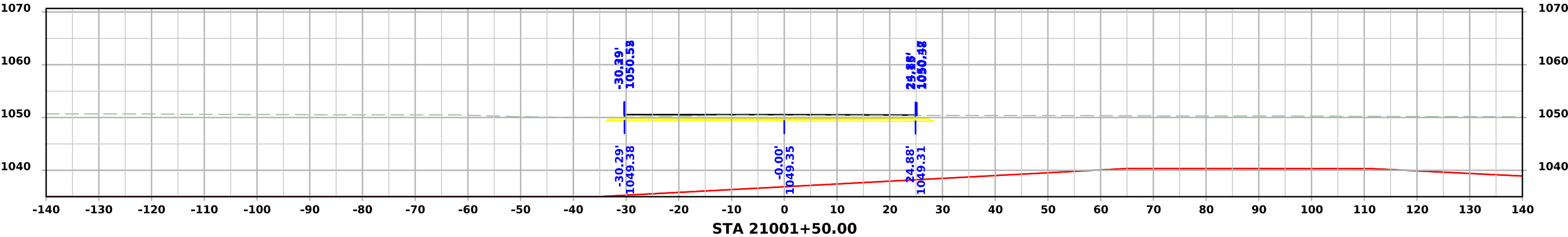
# Detour Ramp D - Stage 3



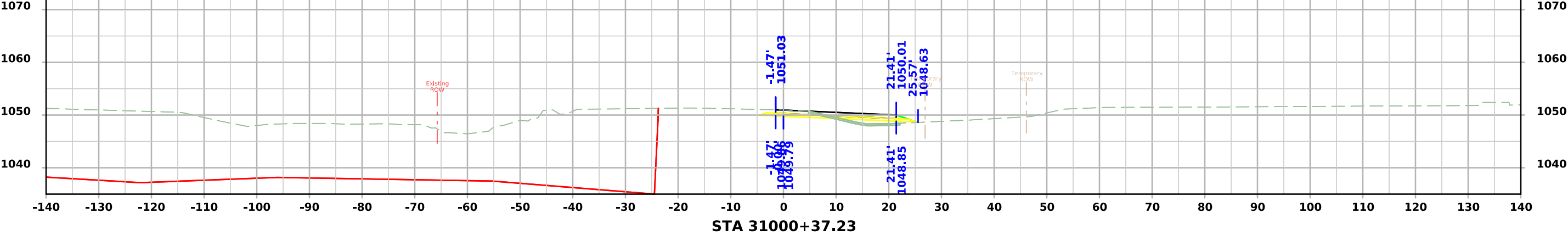
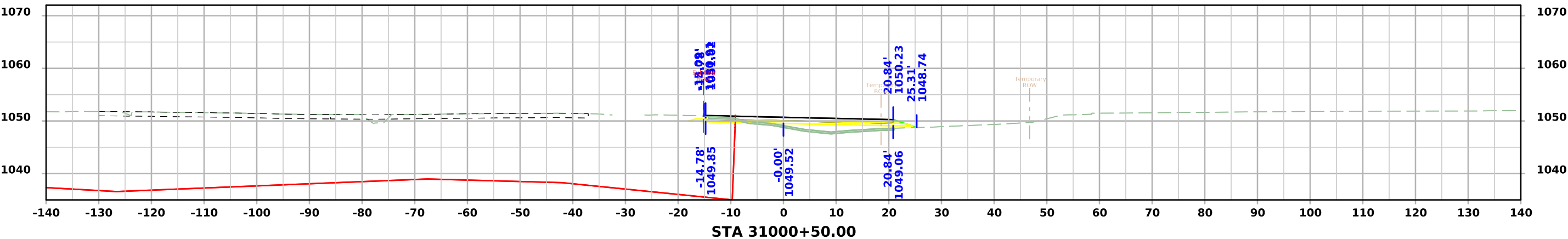
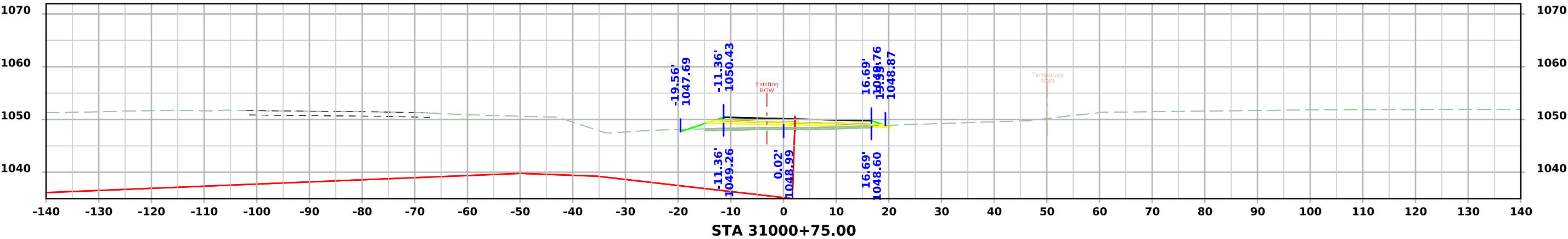
# Detour 28th St - Stage 6



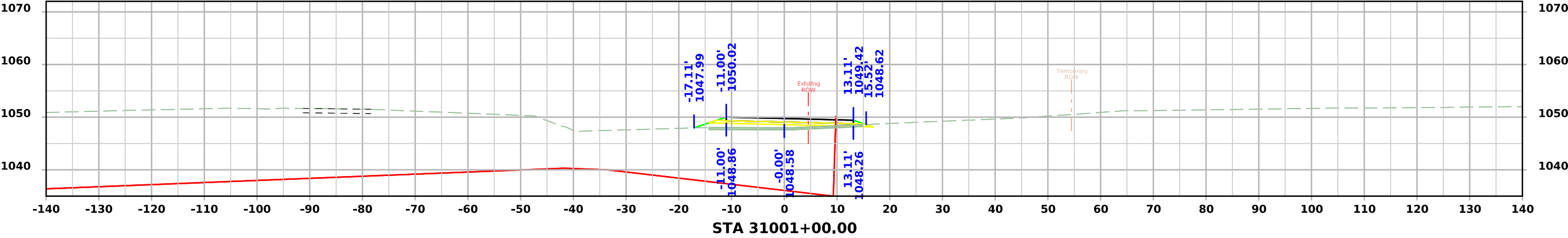
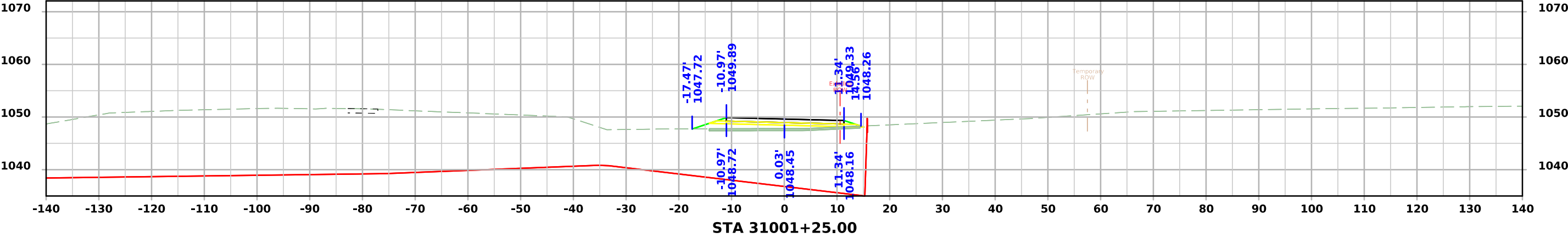
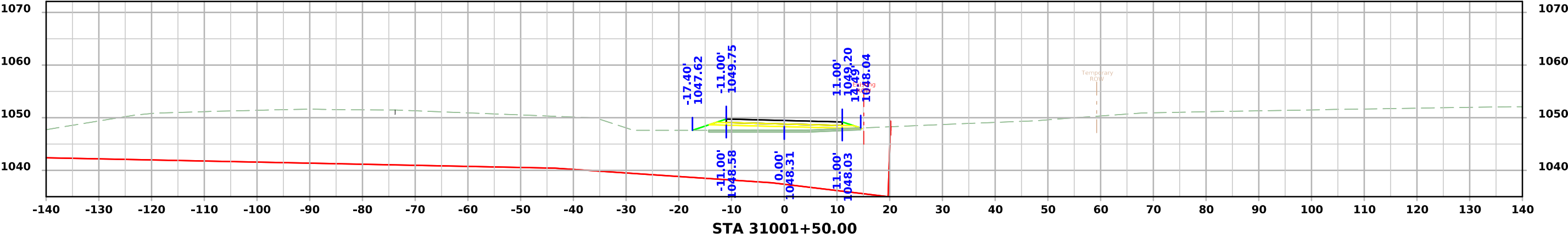
# Detour 28th St - Stage 6



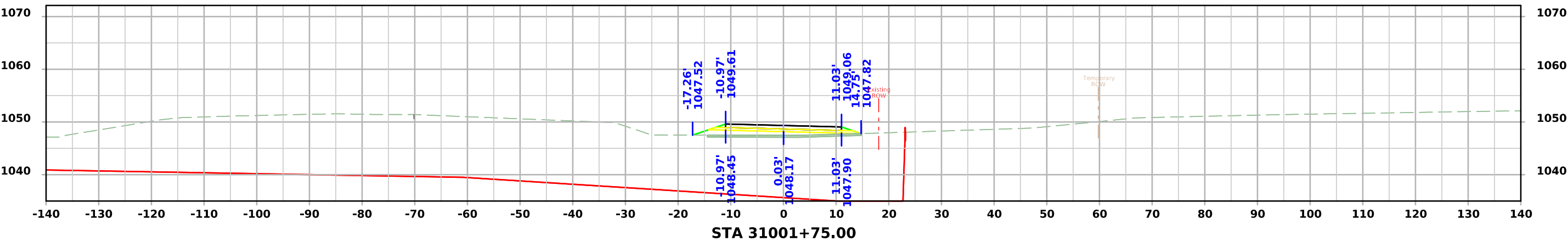
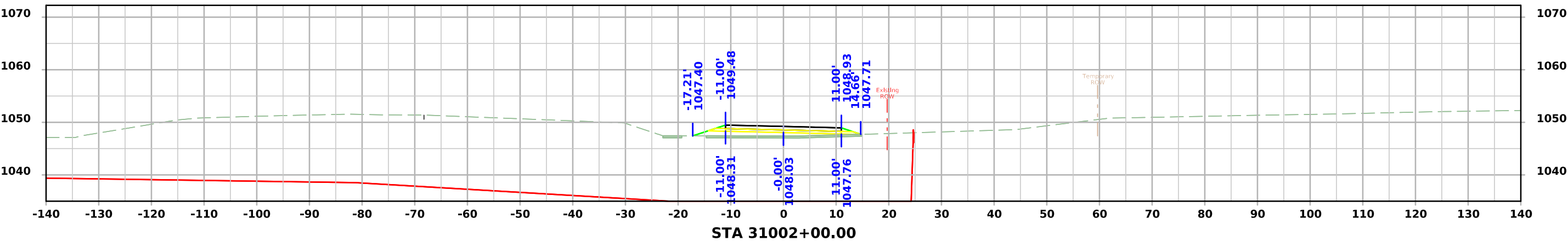
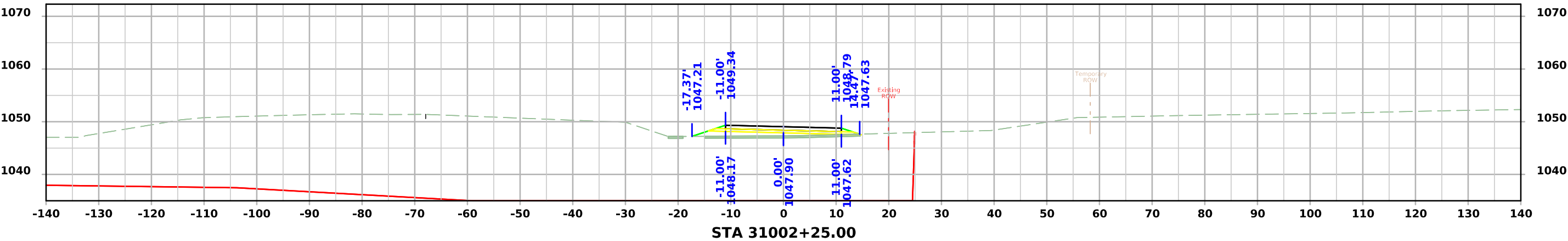
# Detour 28th St Frontage - Stage 6



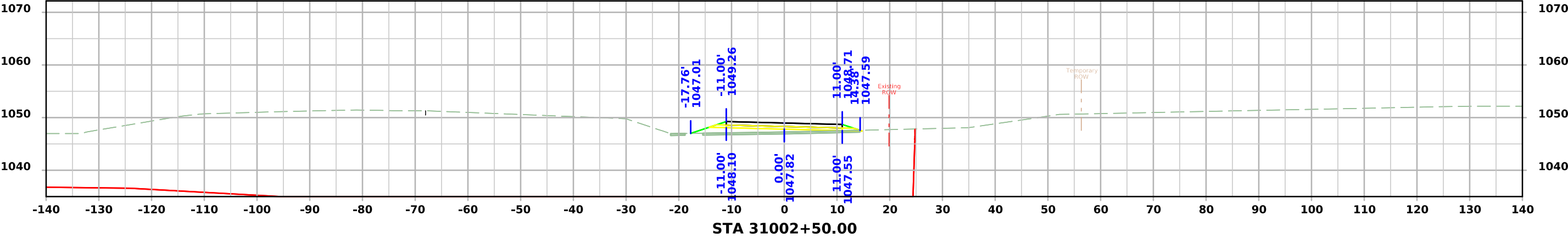
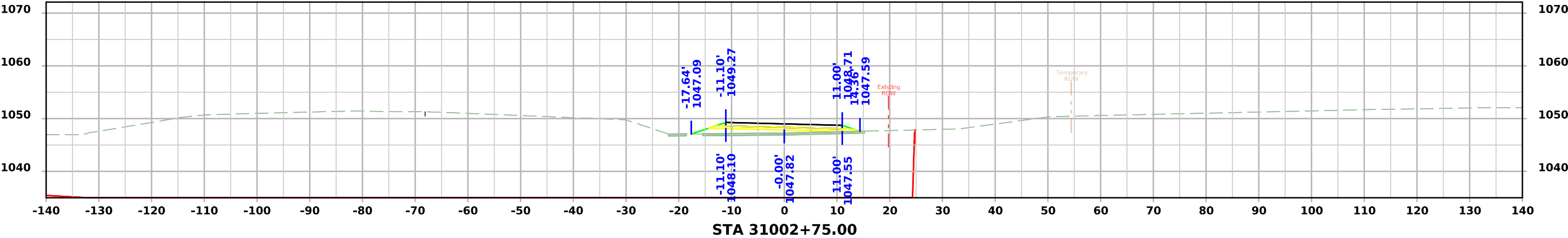
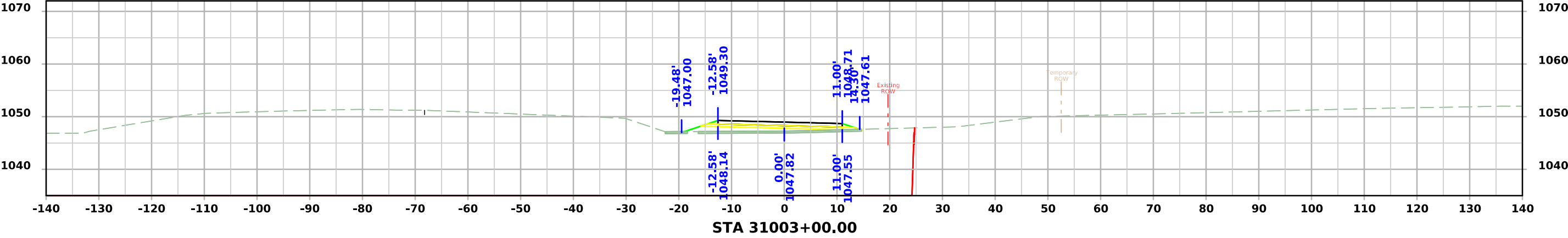
# Detour 28th St Frontage - Stage 6



# Detour 28th St Frontage - Stage 6



# Detour 28th St Frontage - Stage 6





# Detour 28th St Frontage - Stage 6

