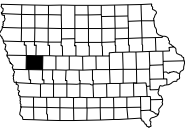


INDEX OF SHEETS	
No.	DESCRIPTION
A Sheets	Title Sheets
* A.1	Title Sheet
A.2	Location Map Sheet
B Sheets	Typical Cross Sections and Details
B.1 - B.5	Typical Cross Sections and Details
D Sheets	Mainline Plan and Profile Sheets
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2 - D.25	US 30 Plan and Profile Sheets
G Sheets	Survey Sheets
G.1 - G.3	Reference Ties and Bench Marks
G.4 - G.7	Horizontal Control Tabulations
J Sheets	Traffic Control and Staging Sheets
J.1 - J.5	Traffic Control Plan, Staging Notes and Tabulations
* J.6	Traffic Control & Staging Legend & Symbol Info. Sheet
* J.7 - J.26	Staging and Traffic Control Sheets
* J.27 - J.28	Detour Sheets
V Sheets	Bridge Situation Plans
* V.1 - V.5	Bridge Situation Plans
VW Sheets	Culvert Situation Plans
* VW.1	ML030 Culverts
W Sheets	Mainline Cross Sections
* W.1	Cross Sections Legend and Information Sheet
* W.2 - W.27	US 30 Cross Sections
	 * Color Plan Sheets

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



DESIGN DATA URBAN				
2027	AADT	9,300	V.P.D.	
2047	AADT	10,200	V.P.D.	
2047	DHV	1,050	V.P.H.	
TRUCKS		16	%	
Total				
Design ESALs		--		



PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM CRAWFORD COUNTY

BRIDGE REPLACEMENT

US 30 EB/WB BRIDGES OVER UPRR
Approx. 0.4 mi E of the W Junction of US 59

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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



REVISIONS

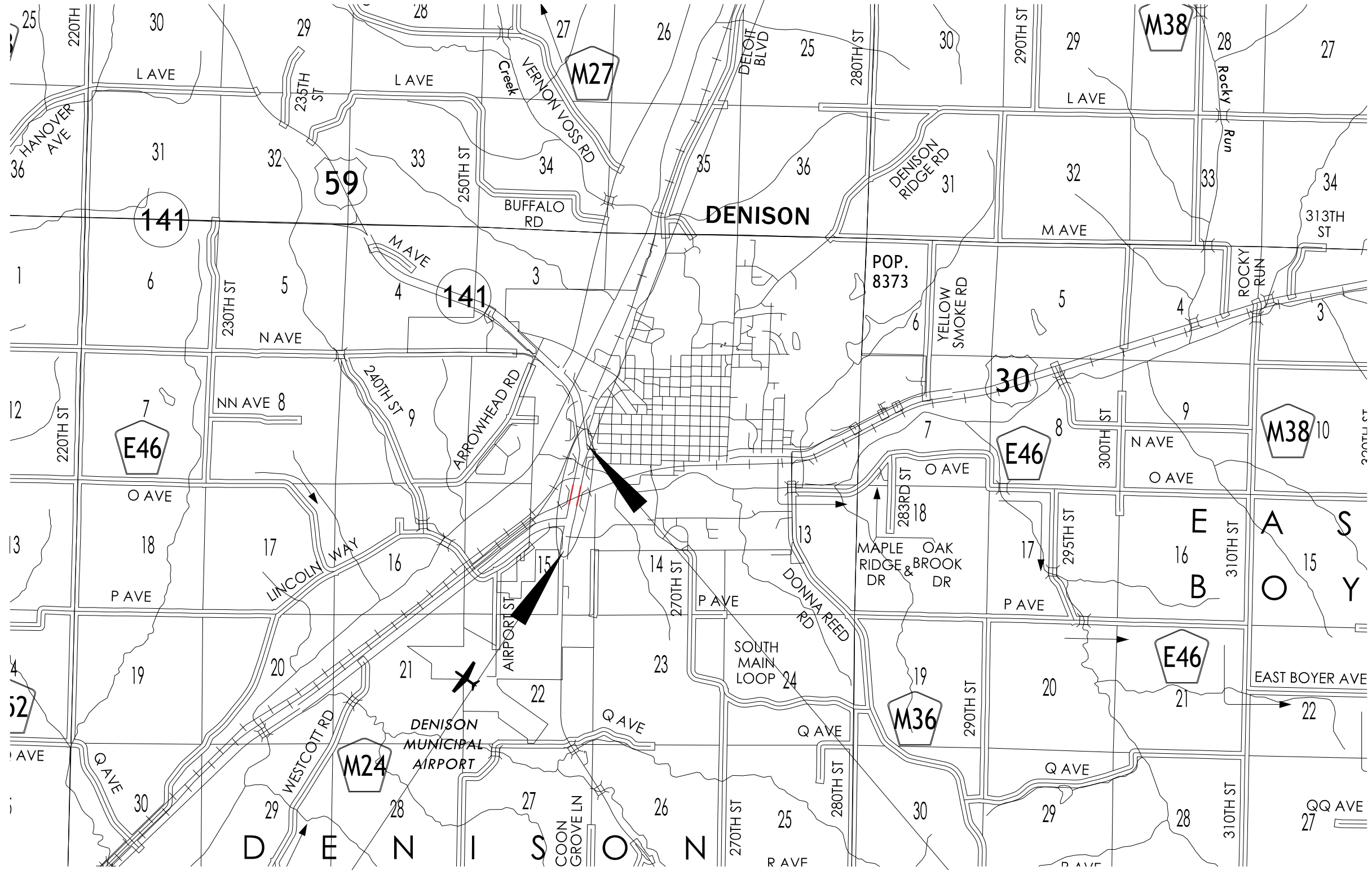
TOTAL	
100	
PROJECT IDENTIFICATION NUMBER	
22-24-030-010	
PROJECT NUMBER	
BRF-030-2(180)--38-24	
R.O.W. PROJECT NUMBER	
NHSN-030-2(181)--2R-24	

PRELIMINARY PLANS

Subject to change by final design.

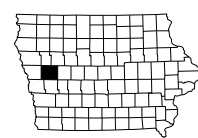
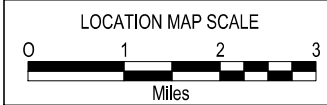
D5 REV - Date: 12/5/2025

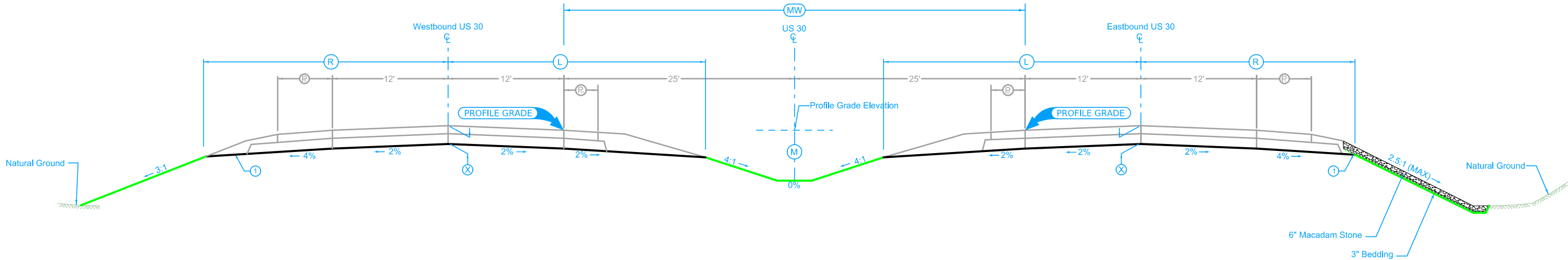
FHWA Numbers: 21330 (E.B.) & 21340 (W.B.)
Maint. Numbers: 2454.2R030 (E.B.) & 2454.2L030 (W.B.)
TWIN 432' x 40' CWPG BRIDGE



US 59 STA. 528+75.00
BEGIN CONSTRUCTION

US 59 STA. 566+50.00
END CONSTRUCTION





4 Lane Grading

Section view is in the direction of stationing facing north.

LOCATION			DIMENSIONS				
ROAD IDENTIFICATION	STATION TO STATION		(X)	(L)	(R)	(M)	(MW)
			Inches	Feet	Feet	Feet	Feet
US 30 EB	540+20.00	540+76.99	22	27	34	4.2 - 3.9	50
US 30 EB	546+74.88	548+25.00	22	27	34	2.9 - 4	50
US 30 WB	546+19.96	548+25.00	22	27	34	3 - 4	50

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

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

US HIGHWAY 30 / 59
GRADING

Full Depth PCC Shoulder

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

Direction of Travel	BEGIN STATION	END STATION	(P) Feet
WB	546+19.96	546+44.33	13-15.7
WB	546+44.33	546+64.33	15.7
WB	546+64.33	548+25.00	10

Full Depth PCC Shoulder

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

Direction of Travel	BEGIN STATION	END STATION	(P) Feet
WB	546+19.69	546+35.76	7.6
WB	546+35.76	546+83.53	7.6-9.5
WB	546+83.53	547+03.53	9.5
WB	547+03.53	548+25.00	6

Full Depth PCC Shoulder

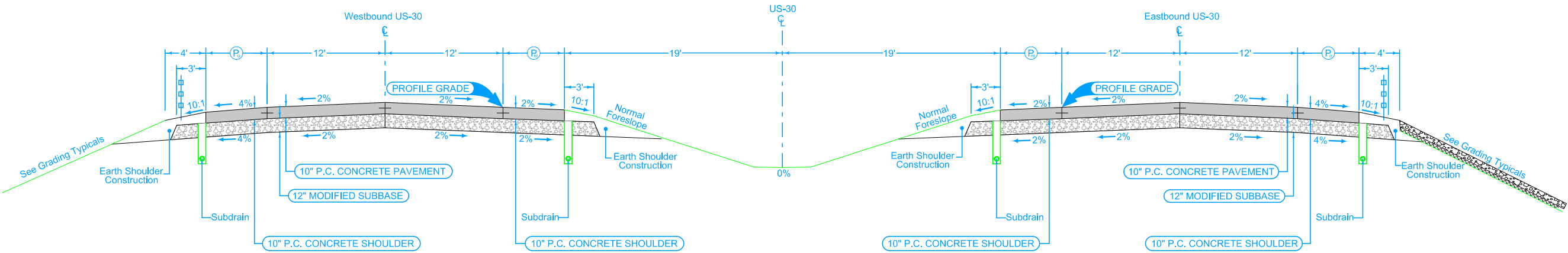
Shoulder Jointing:
Longitudinal joint: BT-2 or L-2
Transverse joints: CD at 17' spacing

Direction of Travel	BEGIN STATION	END STATION	(P) Feet
EB	540+20.00	540+60.85	9.2-7.6
EB	540+60.85	540+76.99	7.6
EB	546+74.88	548+25.00	6

Full Depth PCC Shoulder

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

Direction of Travel	BEGIN STATION	END STATION	(P) Feet
EB	540+20.00	540+32.10	10
EB	540+32.10	540+52.10	15.7
EB	540+52.10	540+76.99	15.7-13
EB	546+74.88	548+25.00	10



Section shown in the direction of stationing facing north.

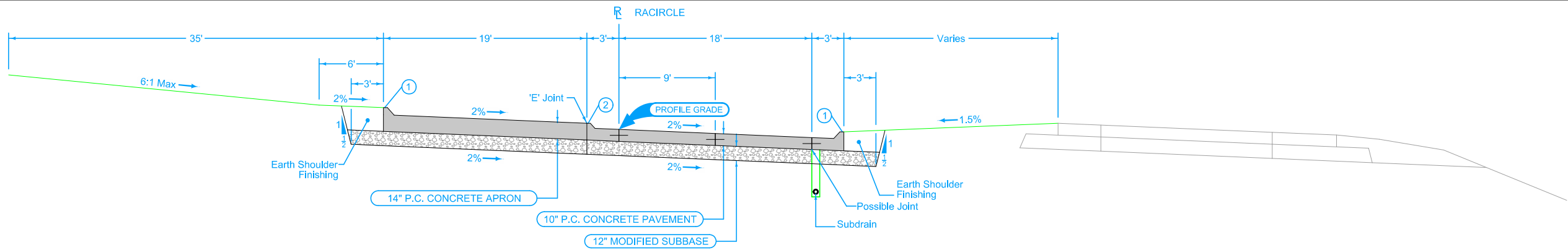
Mainline Jointing:
Longitudinal joint: L-2
Transverse joints: CD at 17' spacing

Direction of Travel	BEGIN STATION	END STATION
WB	546+19.69	548+25.00

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

Direction of Travel	BEGIN STATION	END STATION
EB	540+20.00	540+76.99
EB	546+74.88	548+25.00

US HIGHWAY 30 / 59
PAVING



- ① 6" Standard Curb
- ② 4" Sloped Curb

Note: See 'L' Sheets for Jointing Layout

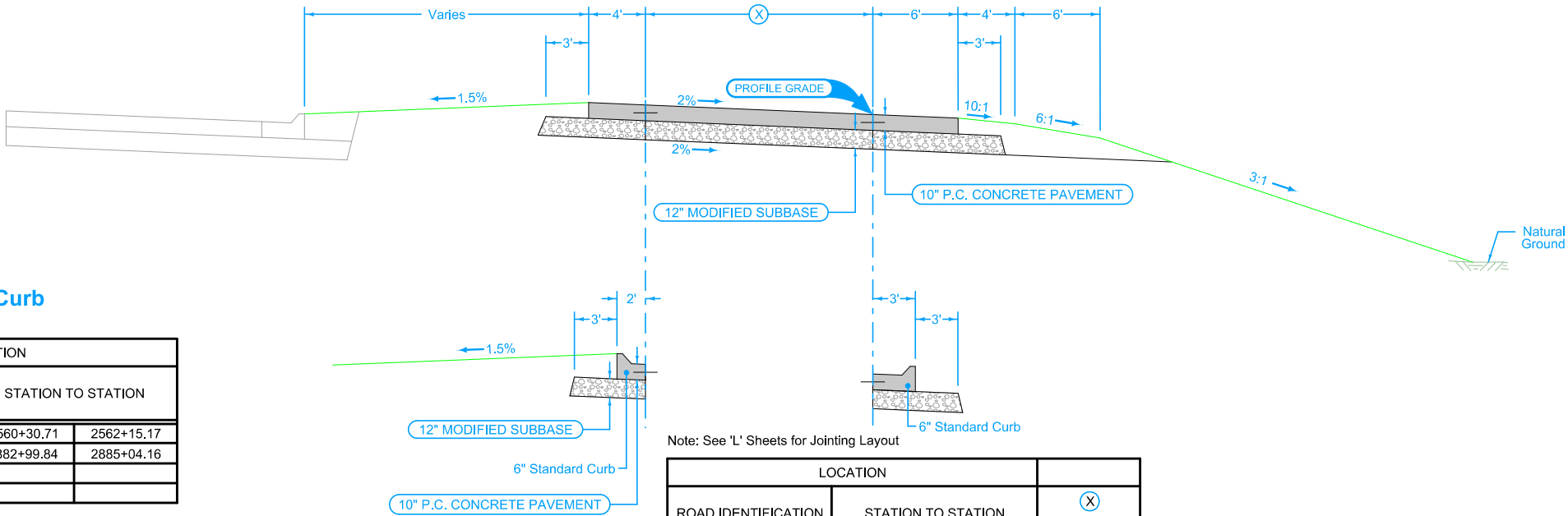
Mainline Jointing:
Transverse joints: CD refer to L sheets for spacing
Longitudinal joint: L-2

LOCATION		
ROAD IDENTIFICATION	STATION TO STATION	
US 30 / 59 RA SOUTH	100+00.00	103+58.14
US 30 / 59 RA NORTH	200+00.00	203+58.14

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

See Tab 112-9 for shoulder quantities.

Roundabout



PCC Curb

LOCATION		
ROAD IDENTIFICATION	STATION TO STATION	
GEO_RA_NORTH_3	2560+30.71	2562+15.17
GEO_RA_NORTH_6	2882+99.84	2885+04.16

Note: See 'L' Sheets for Jointing Layout

LOCATION			
ROAD IDENTIFICATION	STATION TO STATION		ⓧ Feet
GEO_RA_SOUTH_2	1847+92.34	1848+72.41	13 - 16
GEO_RA_SOUTH_2	1848+72.41	1850+67.59	16
GEO_RA_SOUTH_2	1850+67.59	1850+89.37	16 - 15.7
GEO_RA_SOUTH_5	1531+34.63	1534+35.50	12
GEO_RA_SOUTH_8	1849+33.69	1853+26.28	16
GEO_RA_NORTH_3	2560+30.71	2562+15.17	16
GEO_RA_NORTH_6	2883+19.93	2885+04.16	16
GEO_RA_NORTH_9	2561+48.03	2564+19.34	16

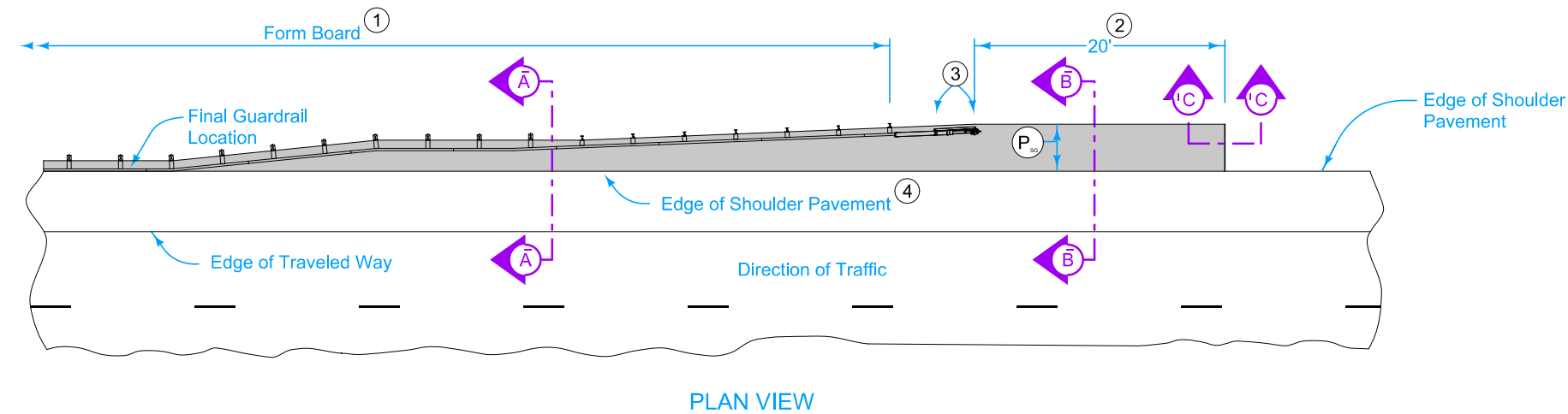
PCC Curb

LOCATION		
ROAD IDENTIFICATION	STATION TO STATION	
GEO_RA_NORTH_3	2559+36.32	2563+68.43

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

See Tab 112-9 for shoulder quantities.

Roundabout
Bypass Lane



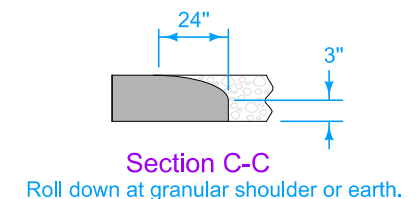
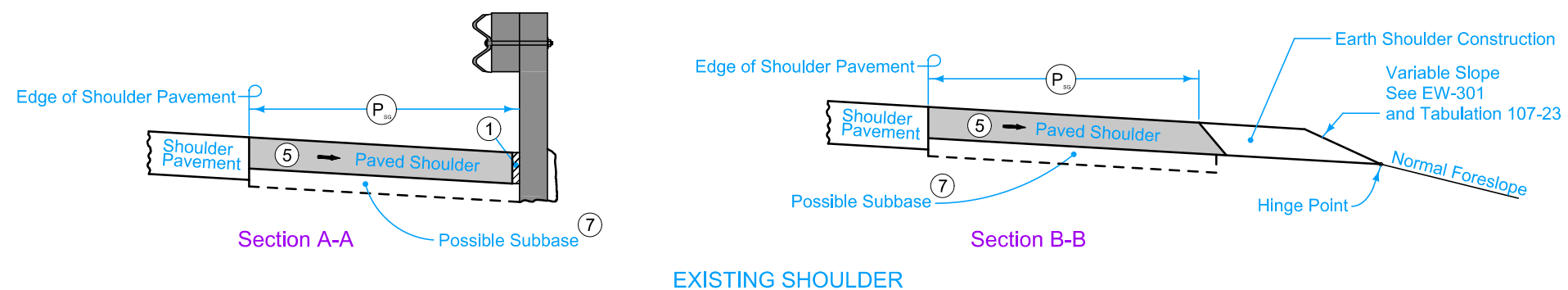
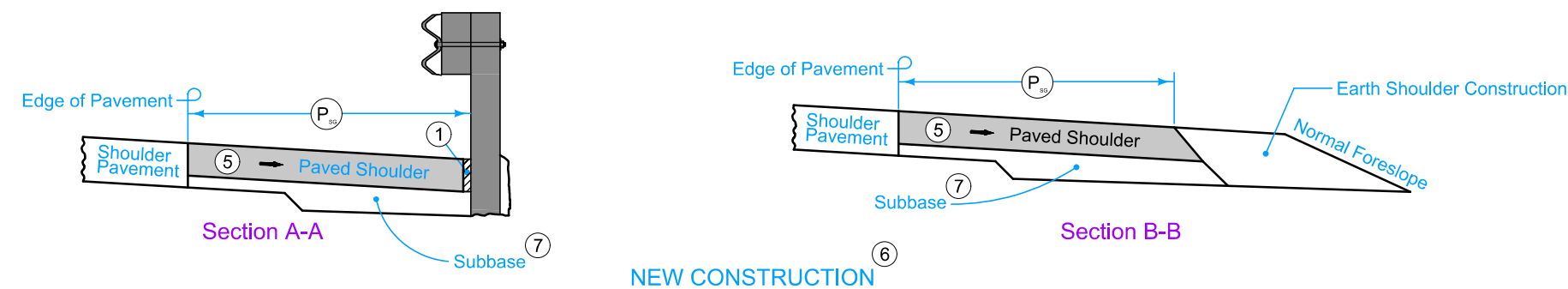
9" HMA Paved Shoulder at guardrail. 8" PCC may be substituted with the following jointing layout:

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.

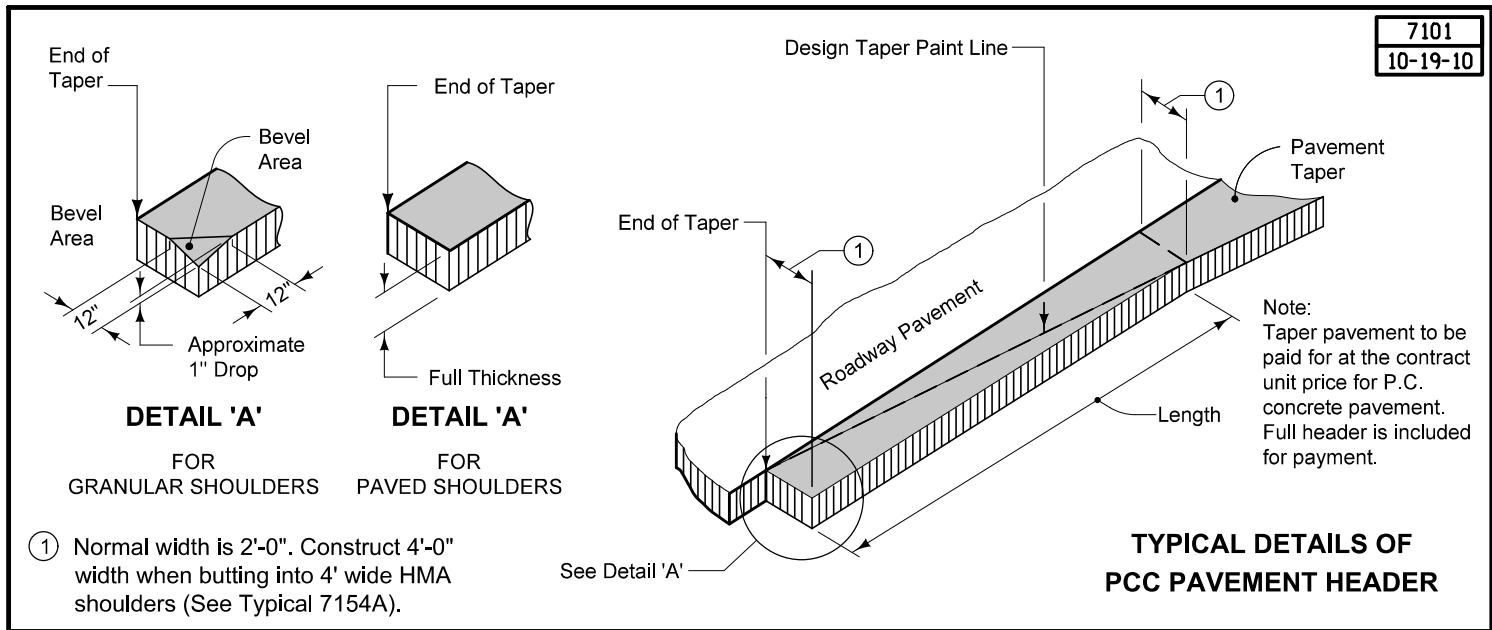
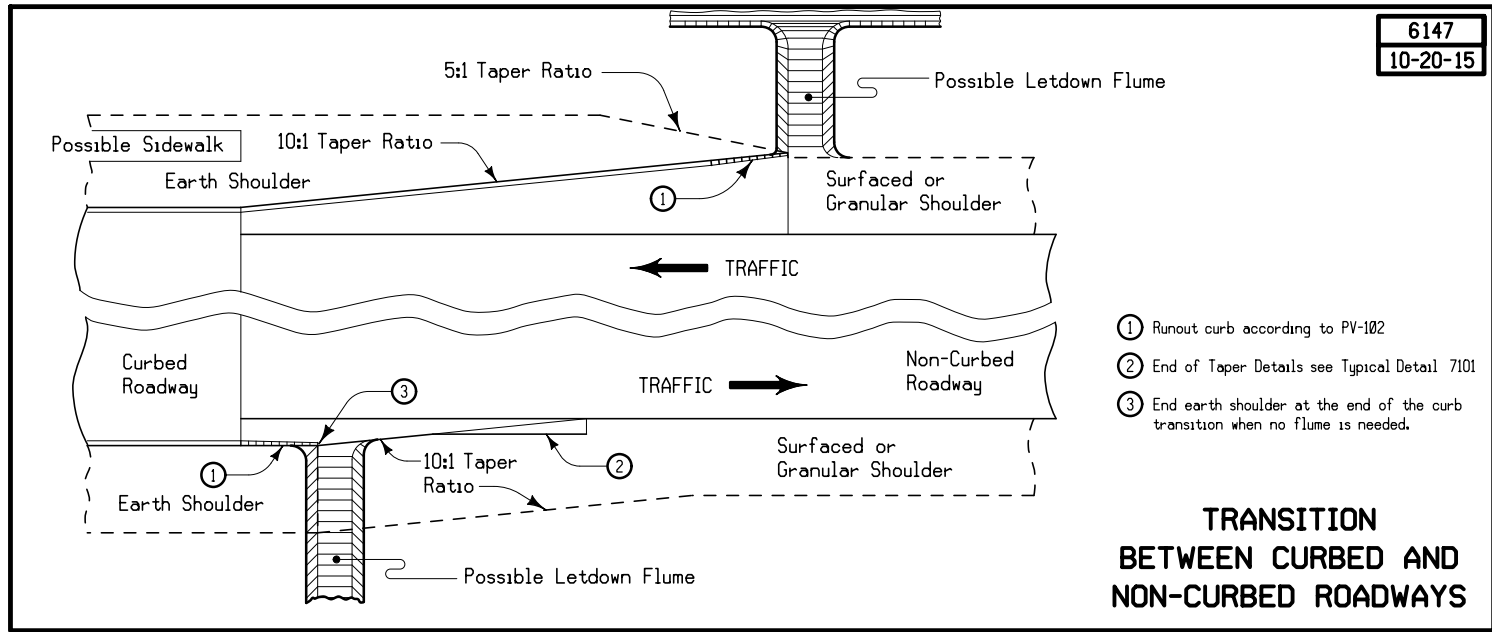
Compaction of HMA is required to face of guardrail post. Hand compaction will be allowed under guardrail. Removal and reinstallation of guardrail will be allowed with no additional payment.

Refer to Tabulation 112-9 for shoulder quantities.

- ① PCC option only: 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. 'B' (per PV-101) joint for HMA 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.
- ⑦ Refer to other details in the plan.



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



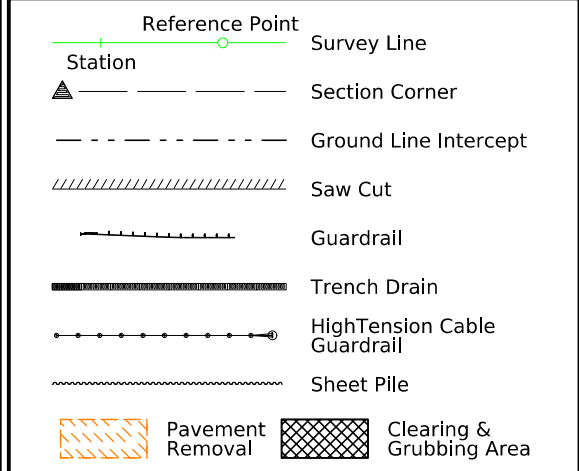
	Interstate Highway Symbol
	U.S. Highway Symbol
	Iowa Highway Symbol
	County Road Highway Symbol
	Evergreen Tree
	Deciduous Tree
	Fruit Tree
	Shrub (Bushes)
	Timber
	Hedge
	Stump
	Swamp
	Rock Outcrop
	Broken Concrete
	Revetment (Rip Rap)
	Cemetery
	Grave
	Cave
	Sink Hole
	Board Fence
	Chain Link or Security 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
	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
	Sign
	Traffic Signal Control Box
	Rail Road Signal Control Box
	Telephone Switch Box
	Electric Box

- G -
Black Hills Energy Distribution
Brad Fleming
(402) 221-2714
brad.fleming@blackhillscorp.com
- E1 -
Denison Municipal Utilities
(Electric/Sanitary/Water)
- W -
Justin Gibbons
(712) 263-3046
jgibbons@dmuonline.com
- FO -
Iowa Communications Network
(Fiber/Telephone)
Dave Augspurger
(515) 725-4604
icnoutsideplantiowaonecall@iowa.gov
- FO2 -
Mediacom Communications Corporation
(Cable/Fiber)
Tim Adreon
(515) 233-4646
tadreon@mediacomcc.com
- FO3 -
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Uranan Thao
(515) 573-1268
frontierlocatemapsia@ftr.com
- FO5 -
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Sadie Hull
(918) 547-0147
sadie.hull@lumen.com
- FO5 -
Western Iowa Networks
(Telephone)
Mike Ludwig
(712) 673-2311
mludwig@westianet.com

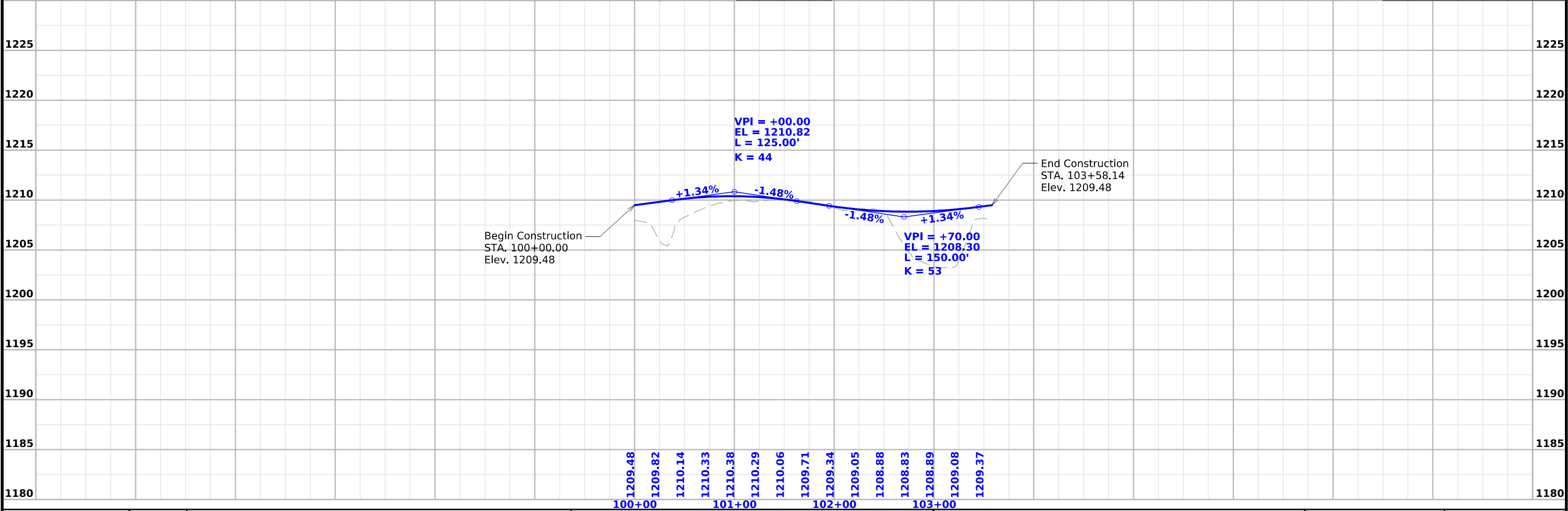
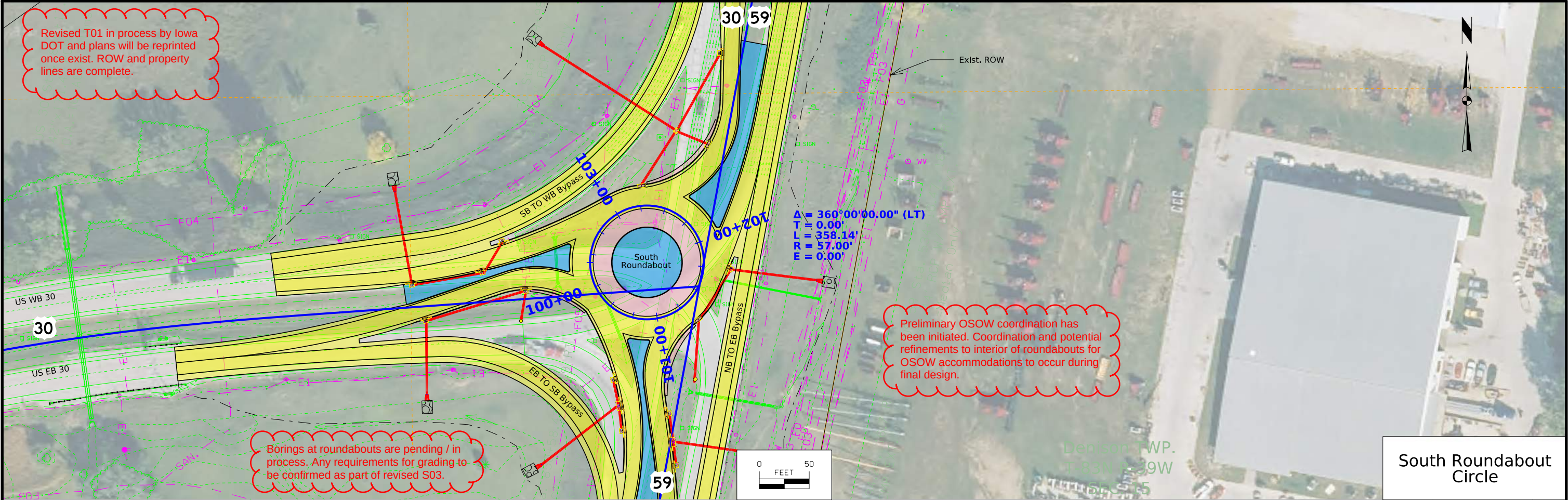
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Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)	Existing Utilities
SHADING		Design Color No.
Pink, Dark	(13)	Temporary Pavement Shading
Yellow	(4)	Proposed Pavement Shading
Orange	(6)	Proposed Granular Shading
Orange	(70)	Proposed Shoulder Granular Shading
Yellow	(68)	Proposed Shoulder Paved Full Depth Shading
Yellow	(132)	Proposed Shoulder Paved Partial Depth Shading
Gray, Dark	(112)	Proposed Grade and Pave Shading "In conjunction with a paving project"
Brown, Light	(236)	Grading Shading
Orange, Light	(134)	Proposed Granular Entrance Shading
Yellow	(220)	Proposed Paved Entrance Shading
Tan	(8)	Proposed Sidewalk Shading
Blue, Light	(230)	Proposed Paved Median
Pink	(11)	Proposed Truck Apron
Green, Light	(225)	Existing Pavement Shading
Red	(3)	Proposed Structure Shading
Red	(3)	Delineates Restricted Areas
Gray	(64)	Retention, Class E

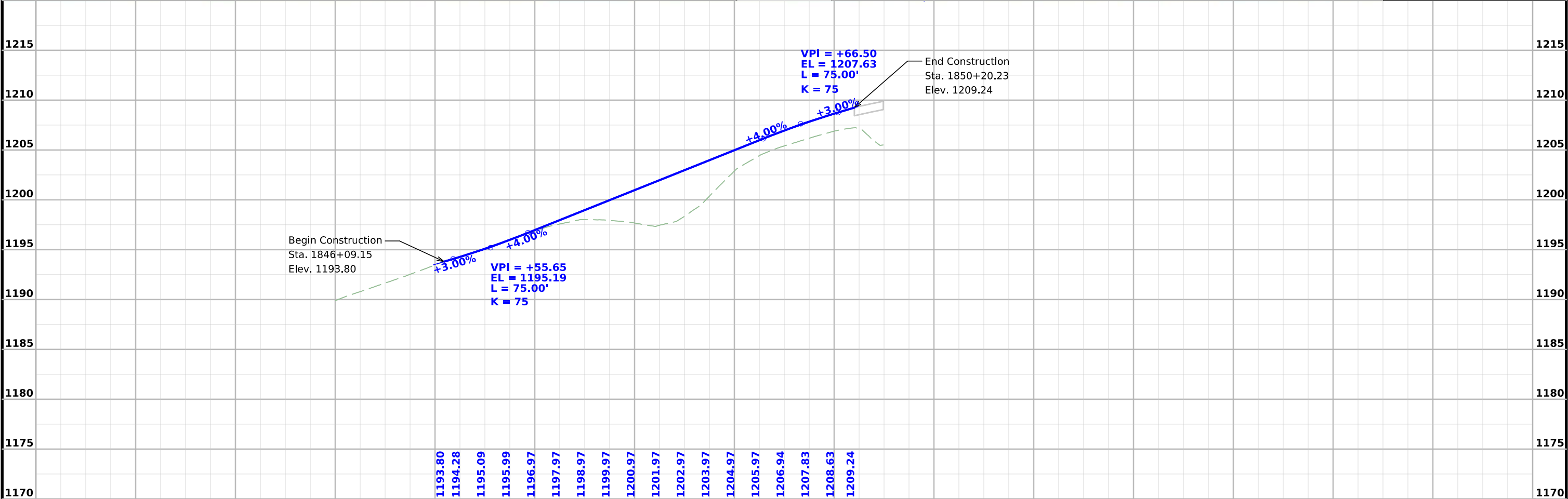
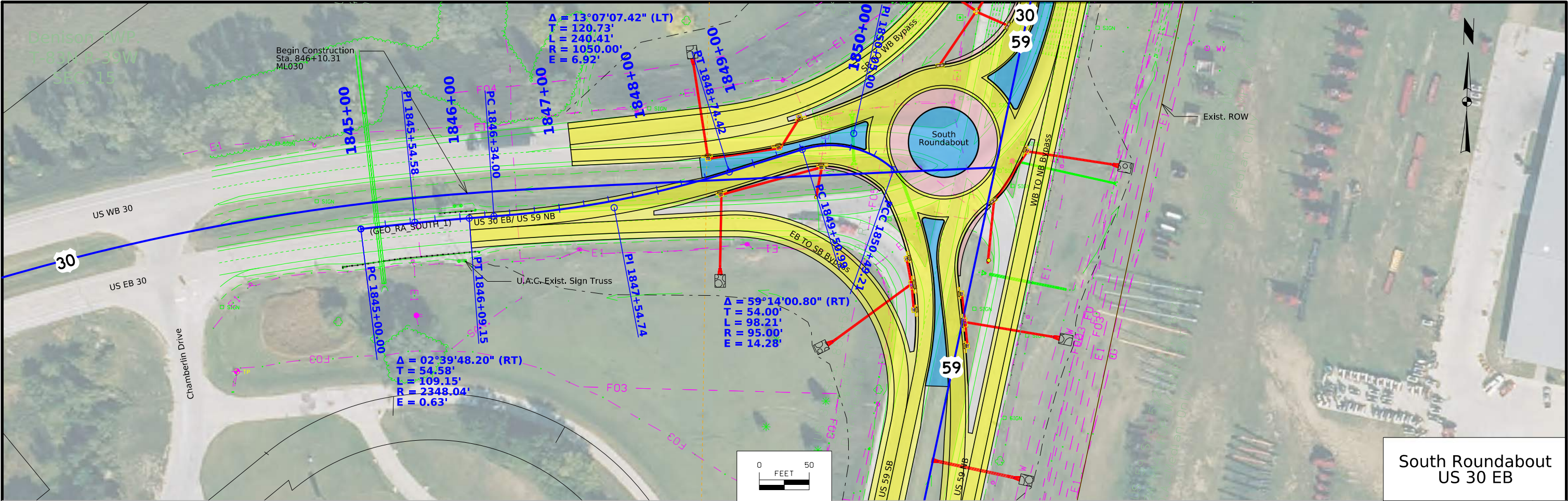
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Magenta	(5)		Existing Utilities
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Black	(0)		Proposed Ditch Grades, Median
Rust	(14)		Proposed Ditch Grades, Right



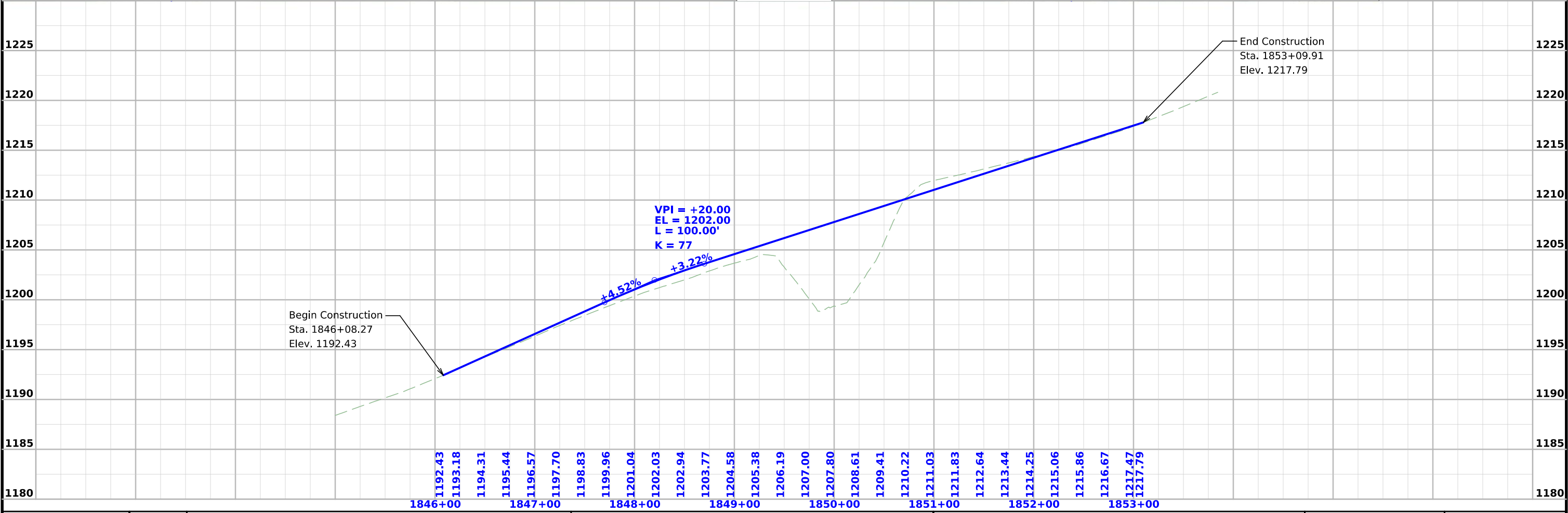
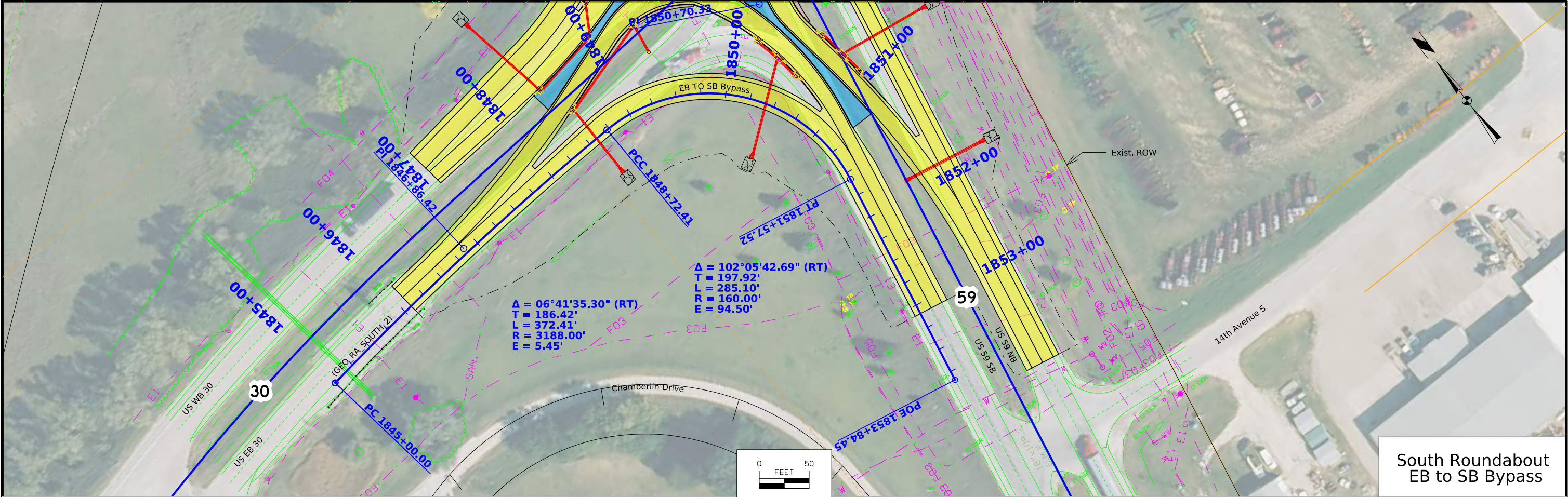
- Proposed Right-of-Way
- Existing Right of Way
- Existing and Proposed Right-of-Way
- Easement and Existing Right-of-Way
- Easement (Temporary)
- Easement
- Access Control
- Property Line

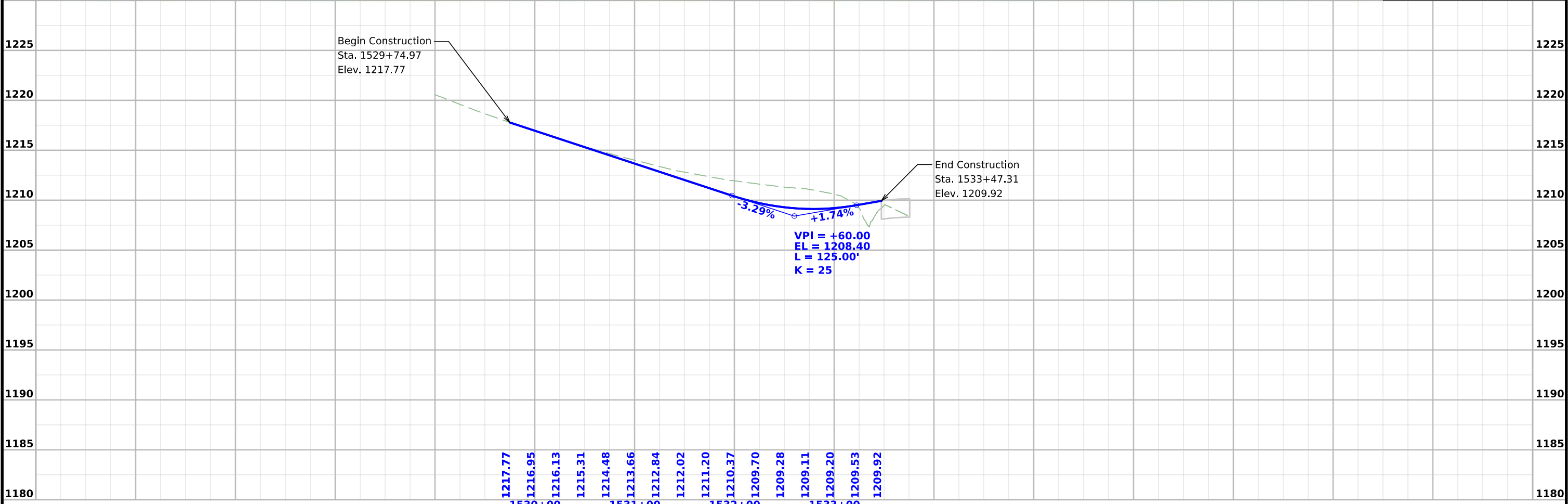
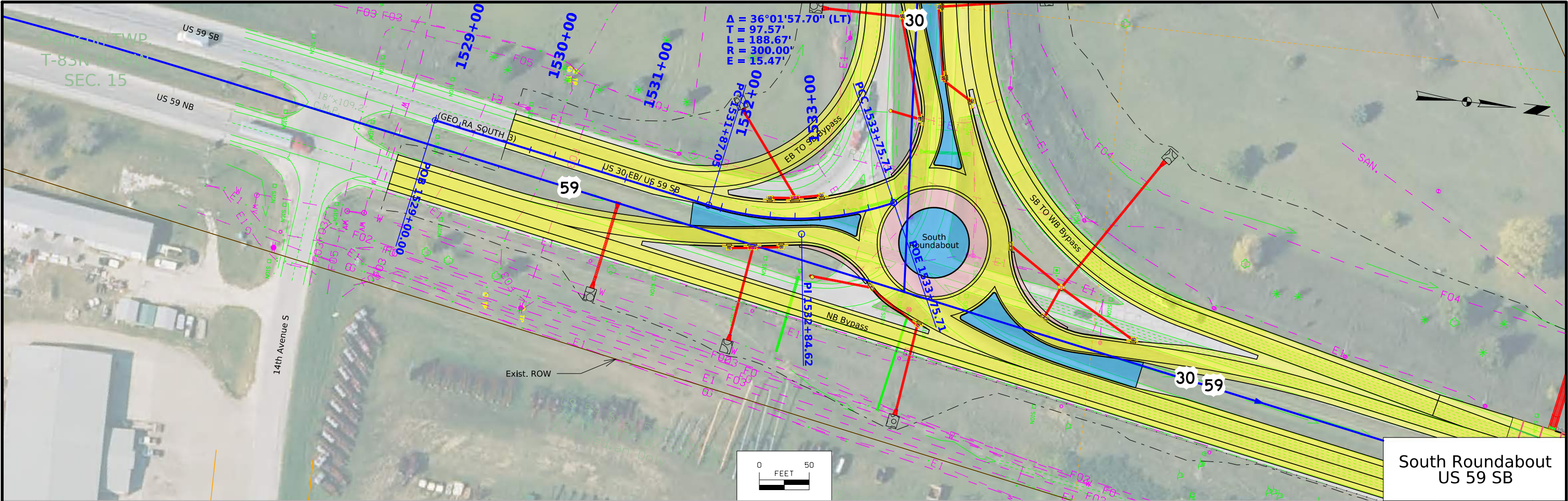
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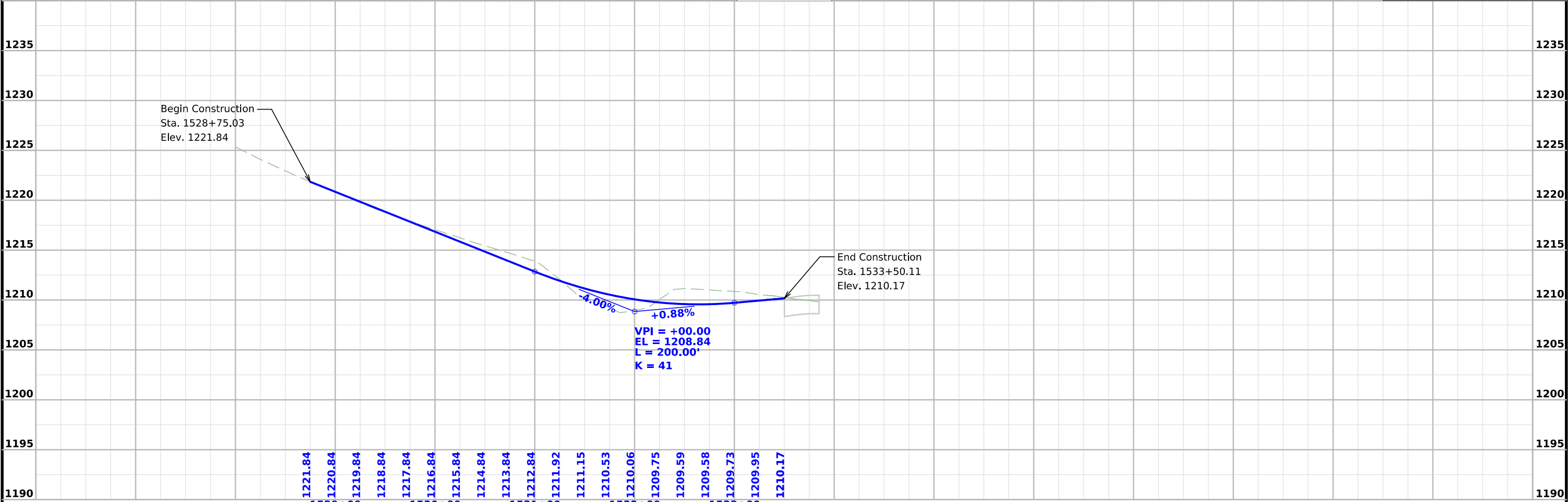
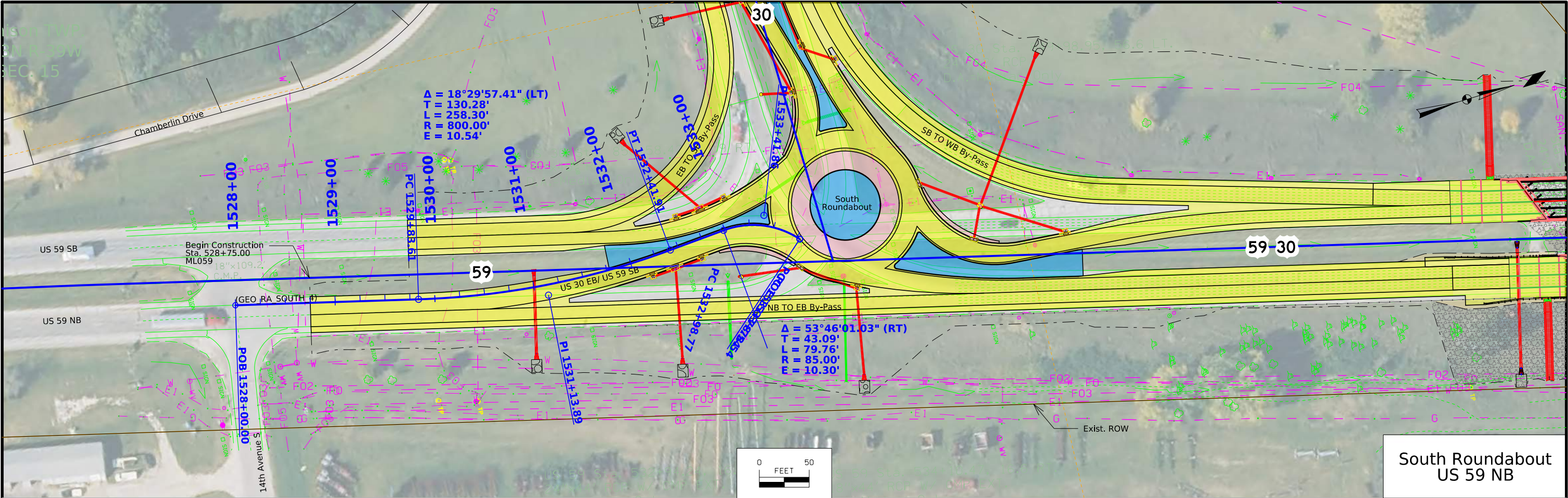


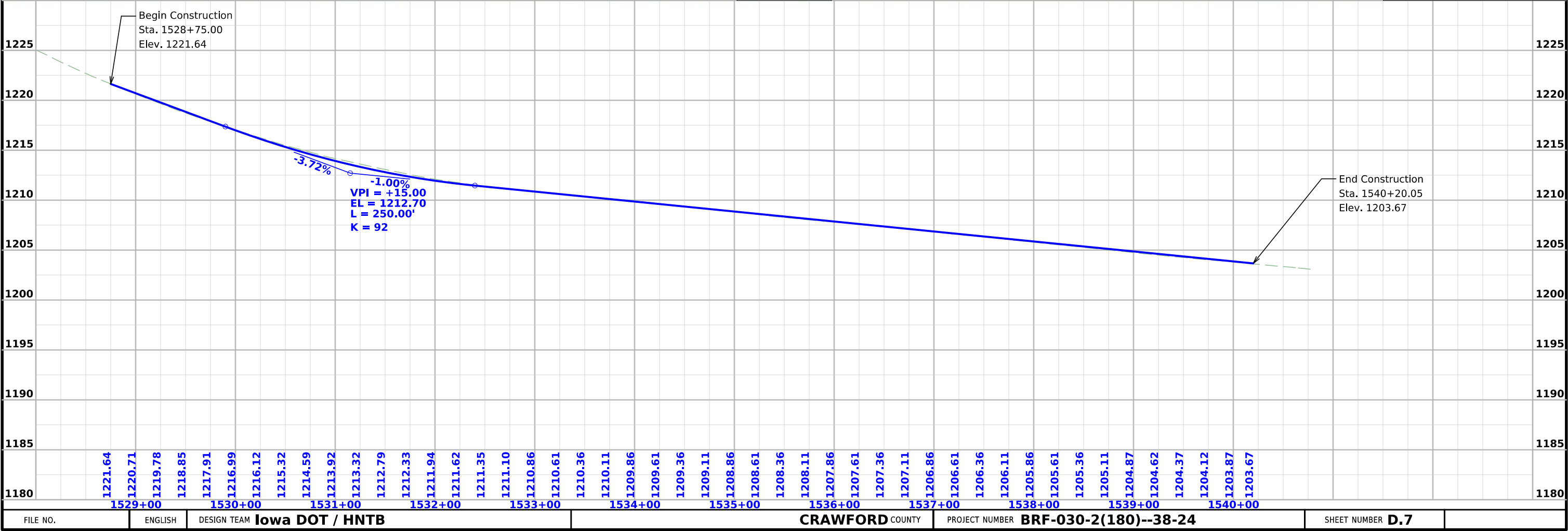
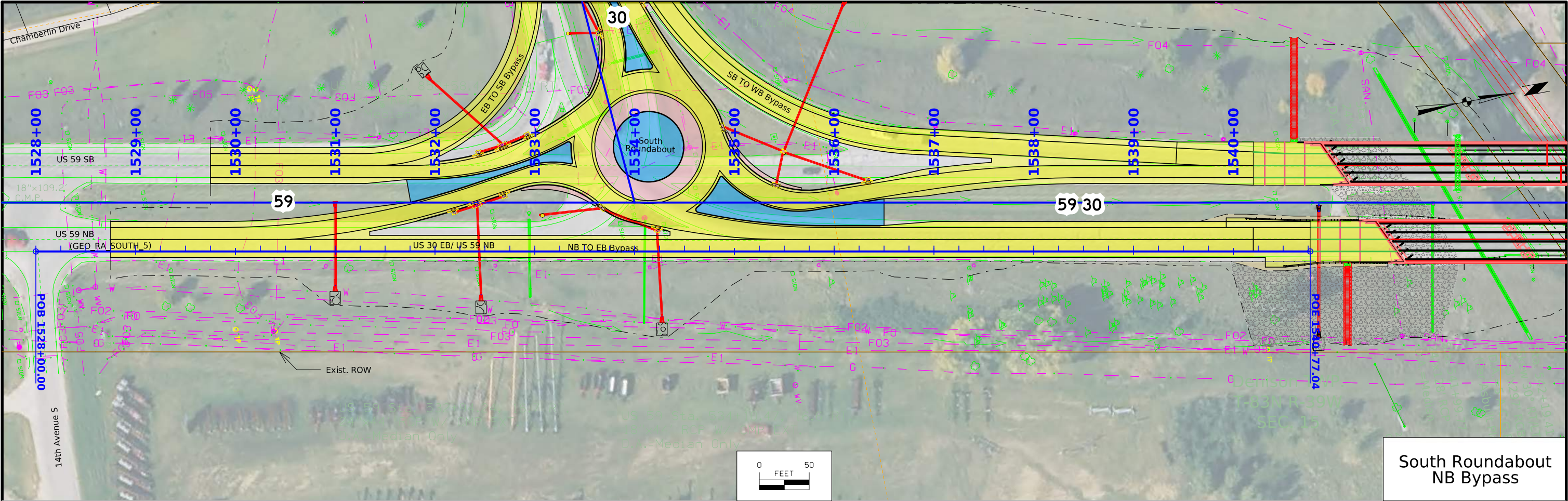


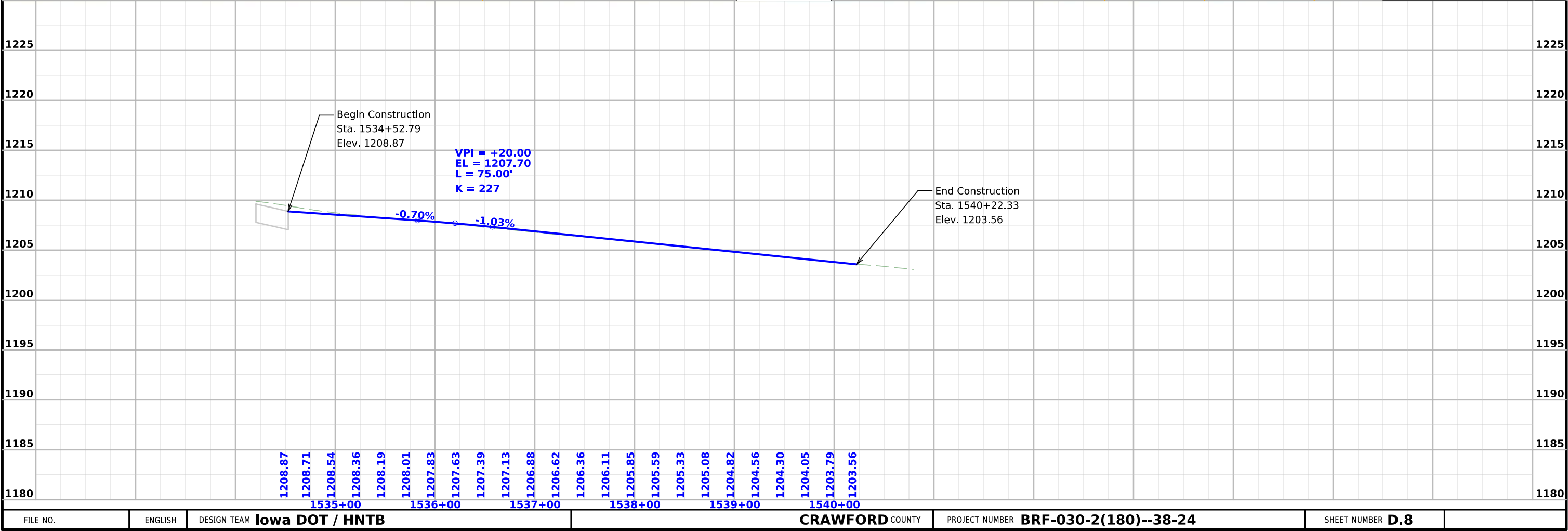
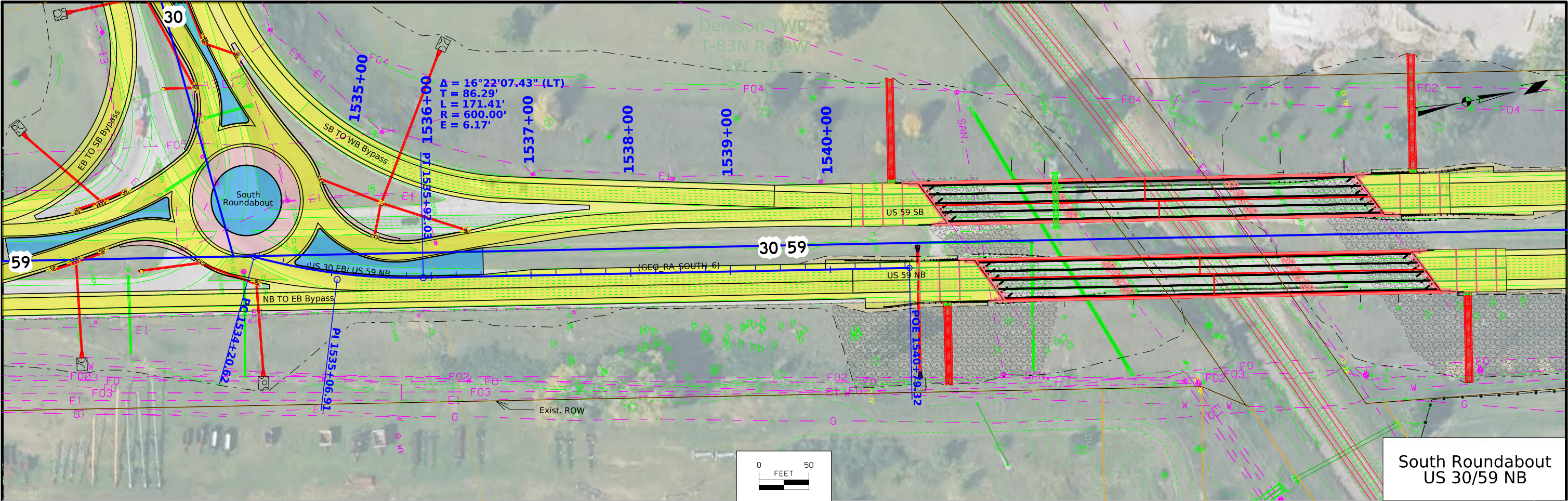
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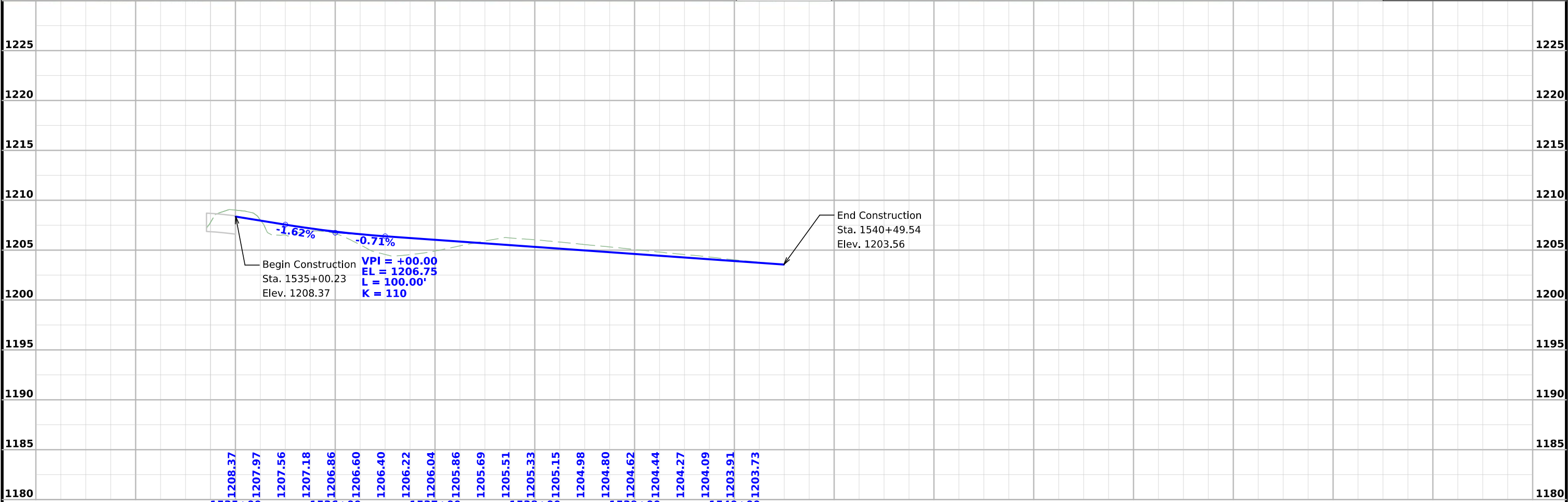
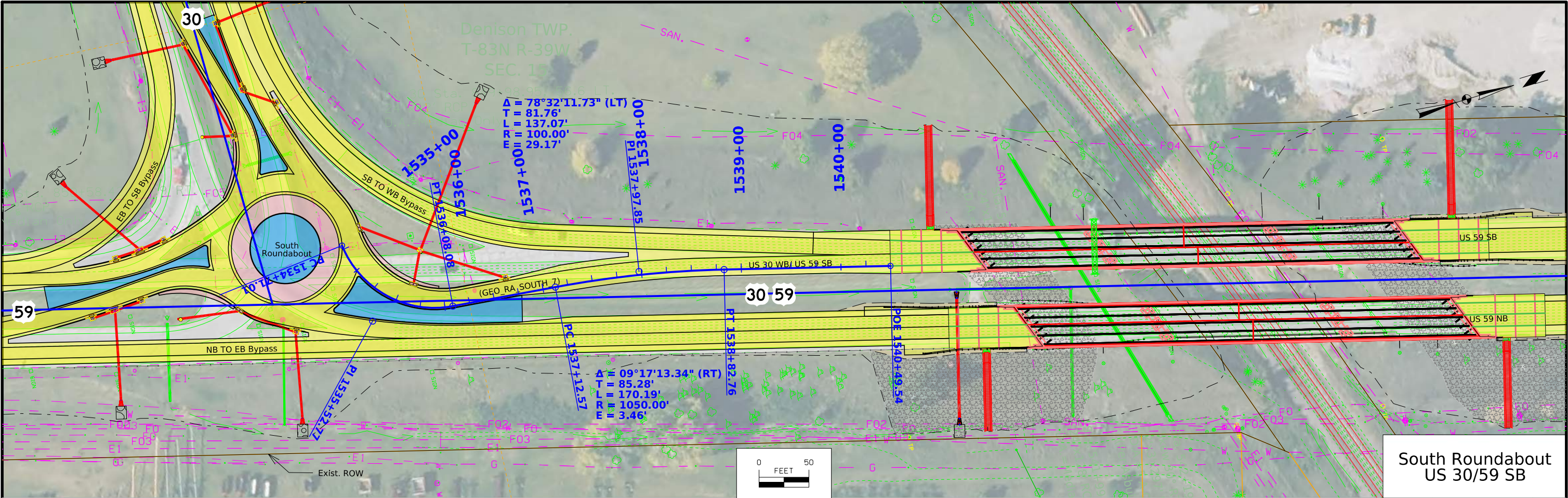


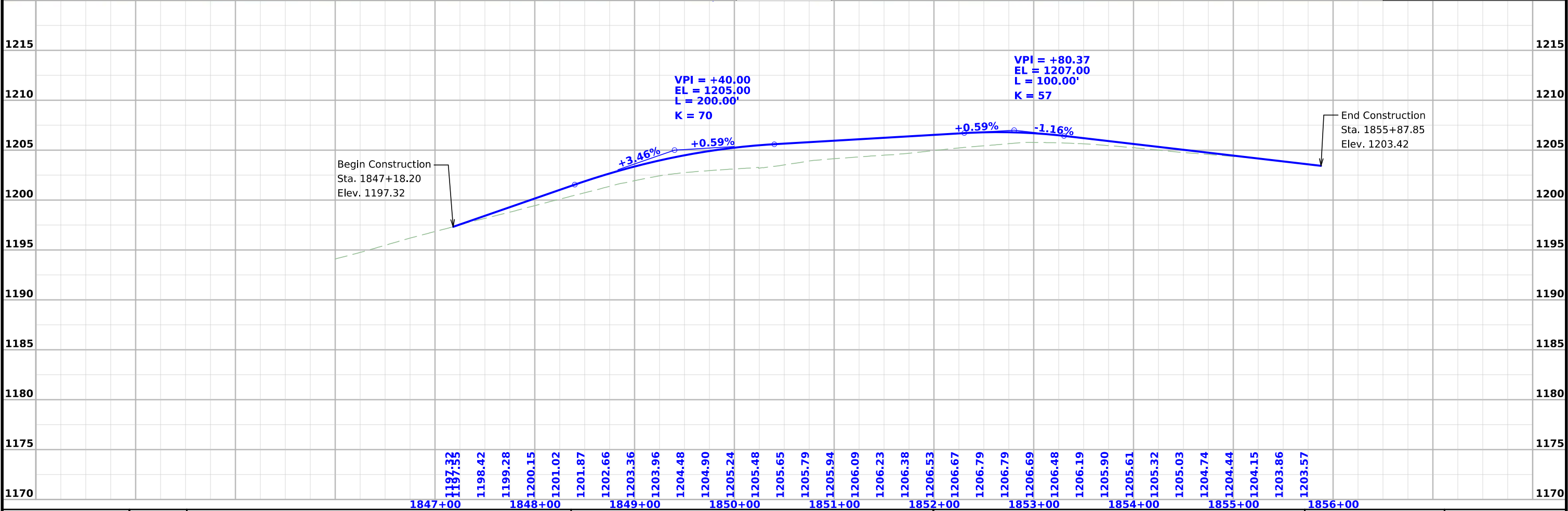
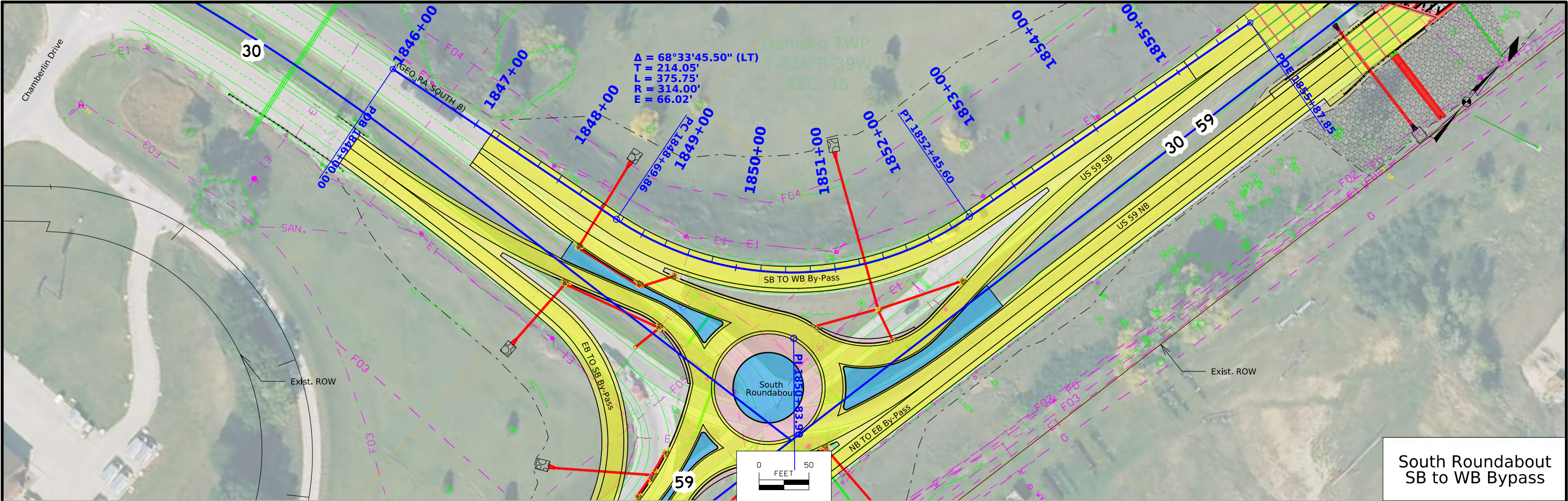


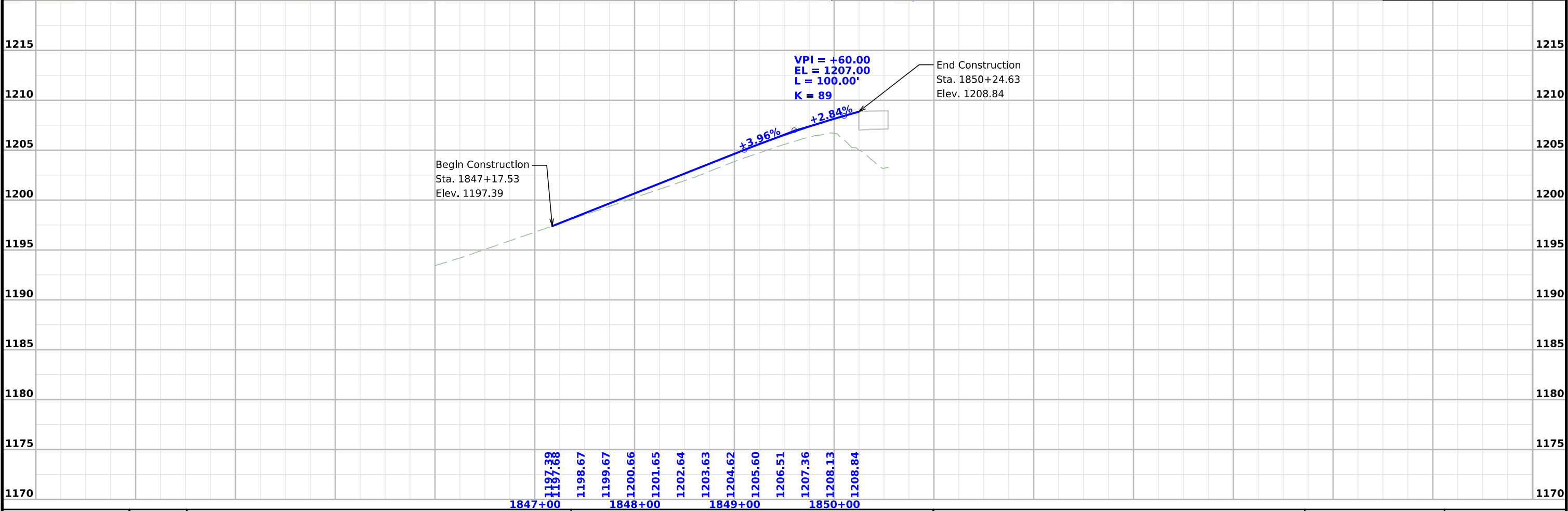
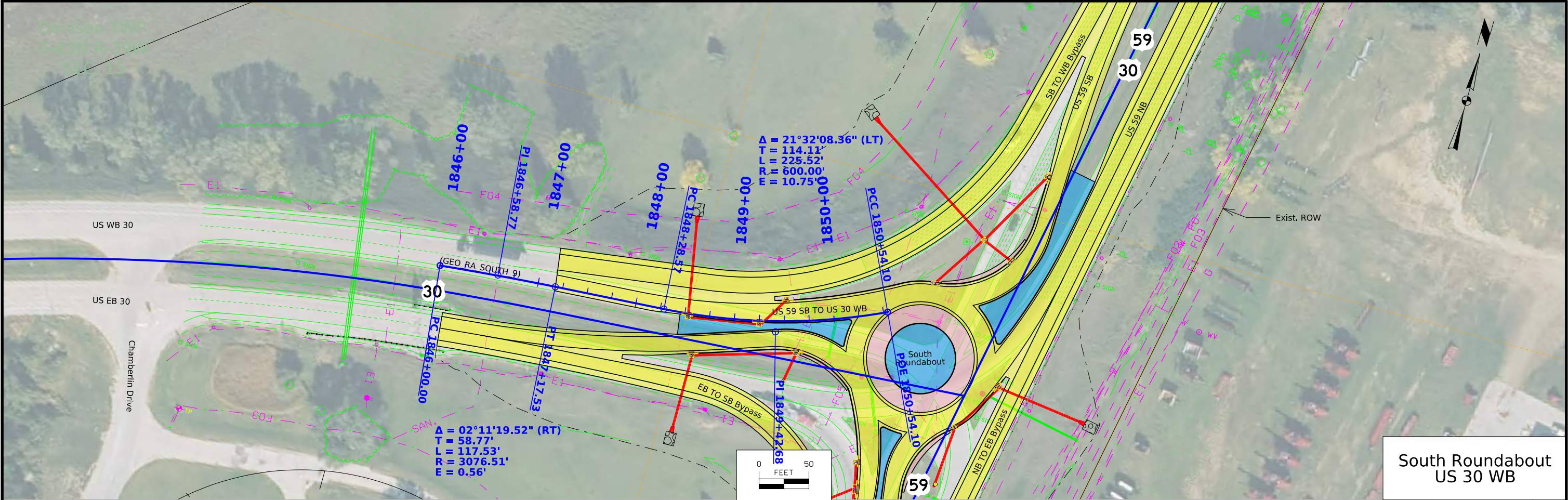


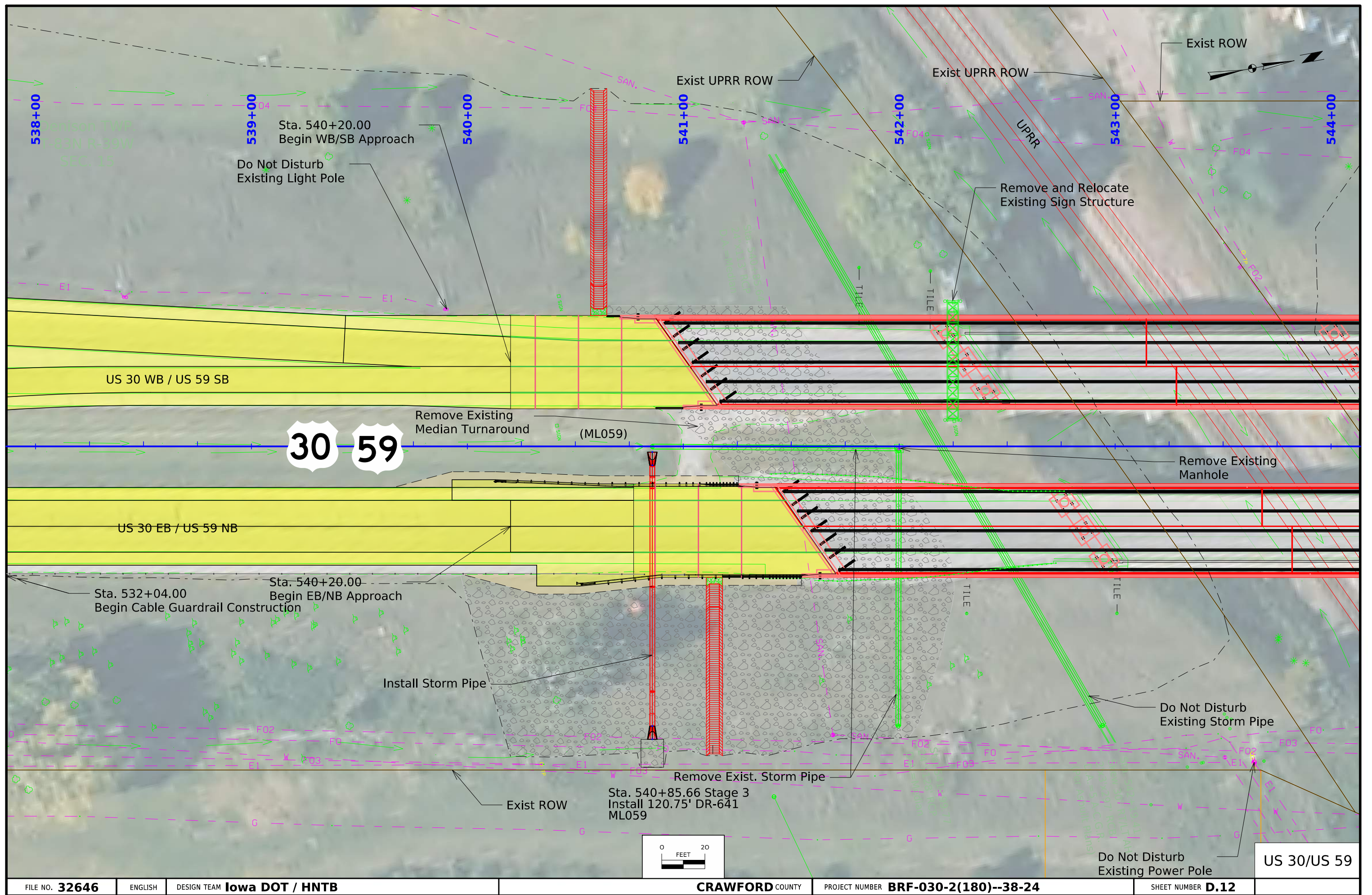


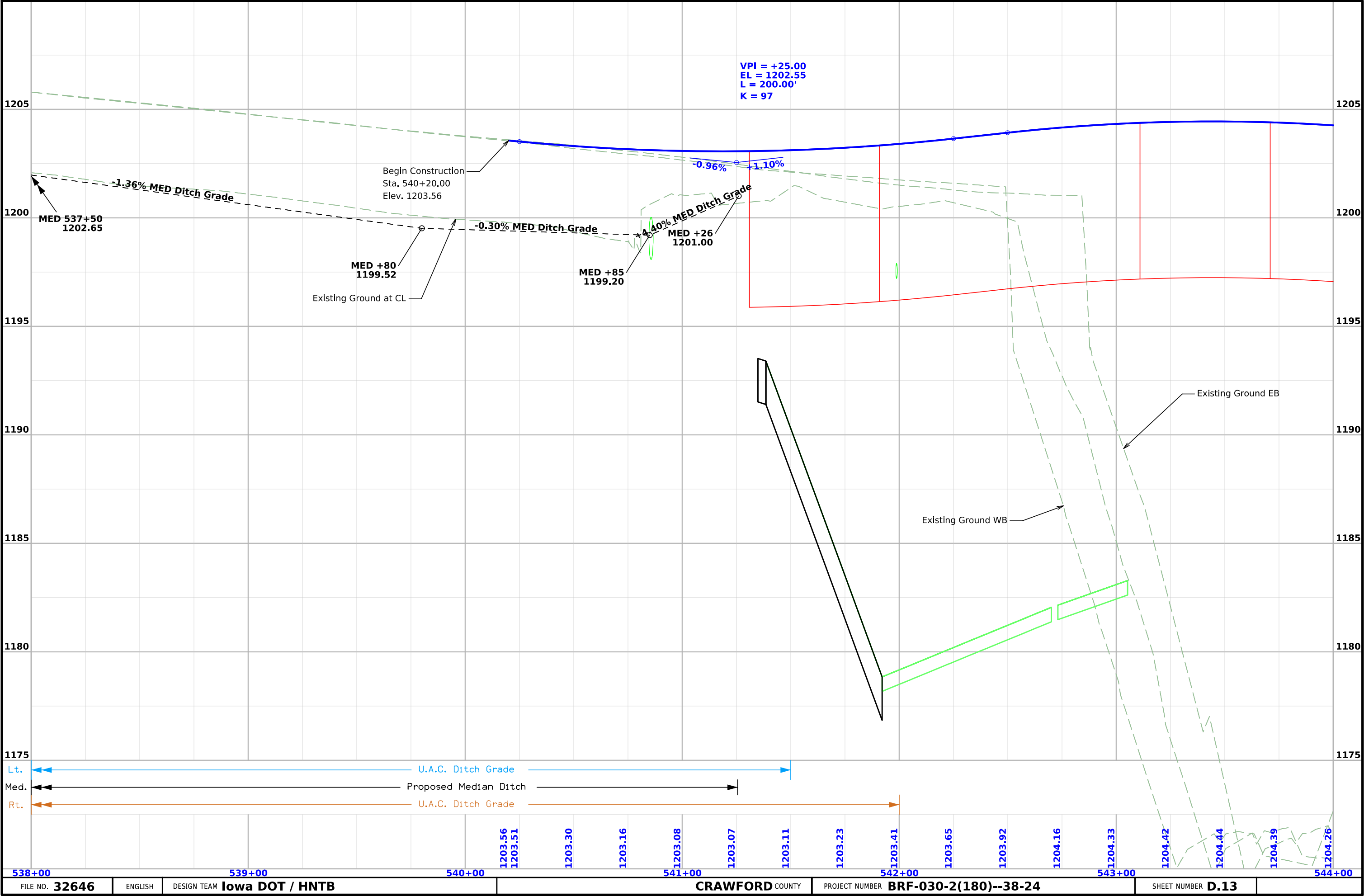


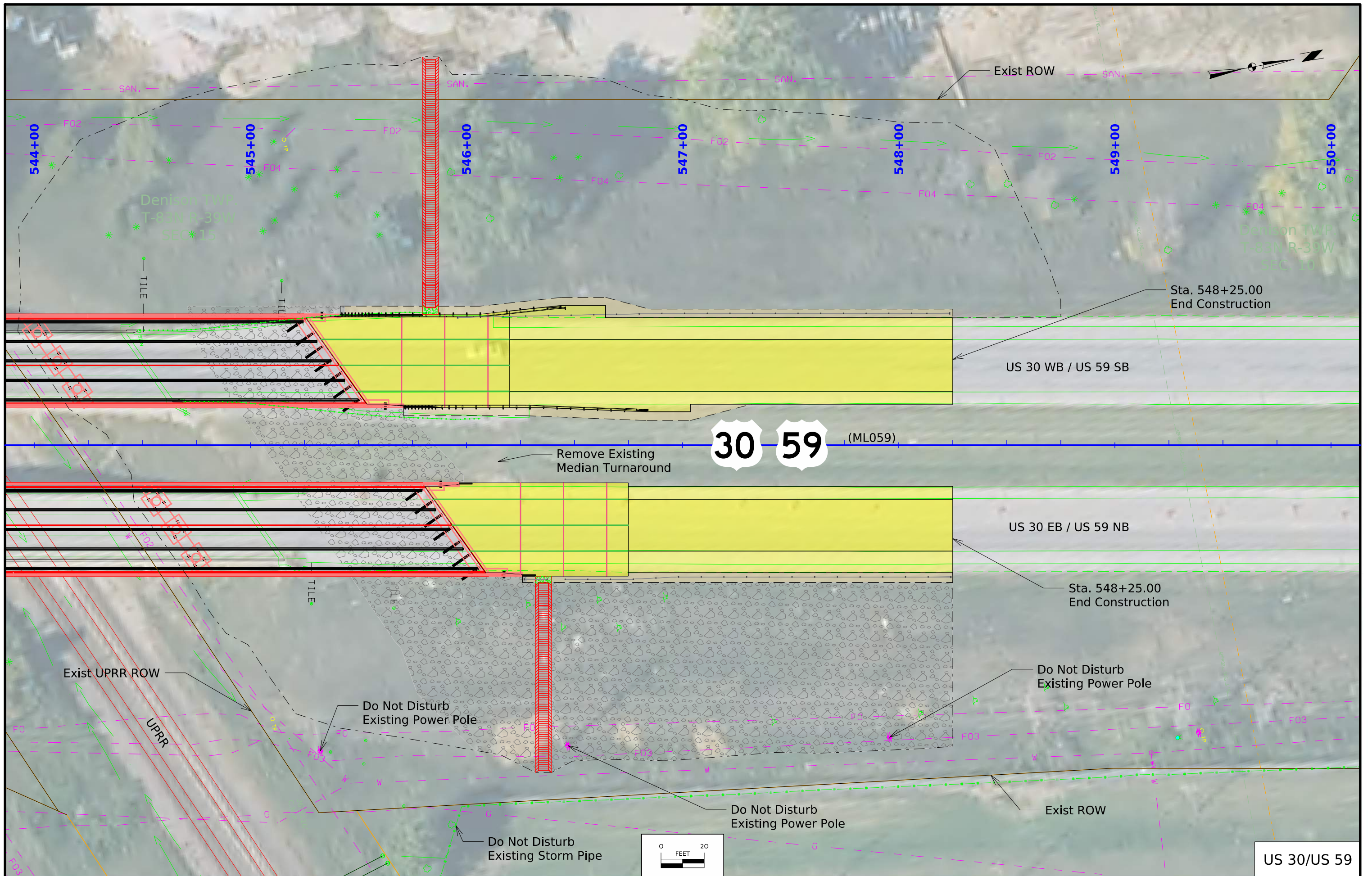


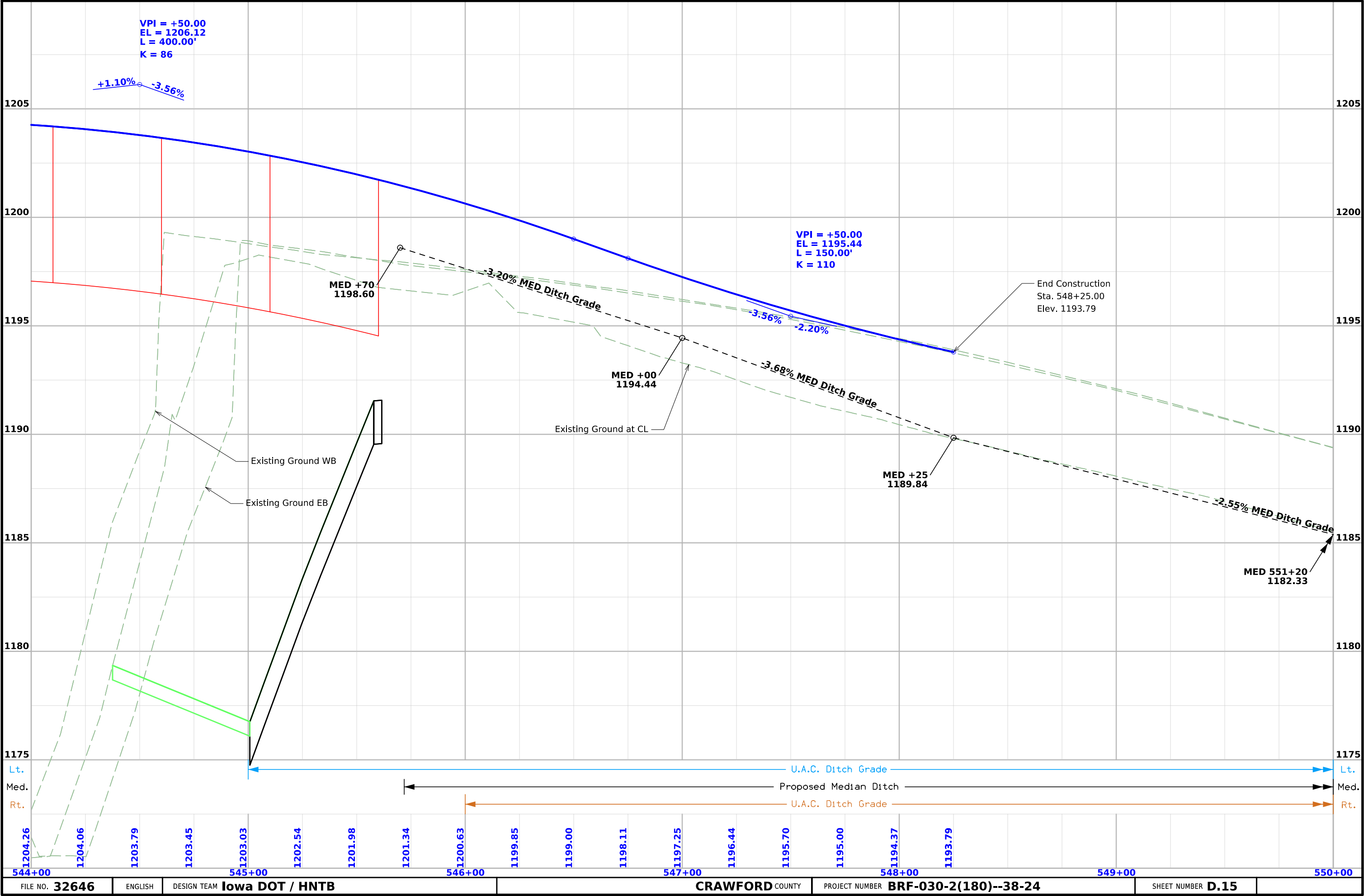


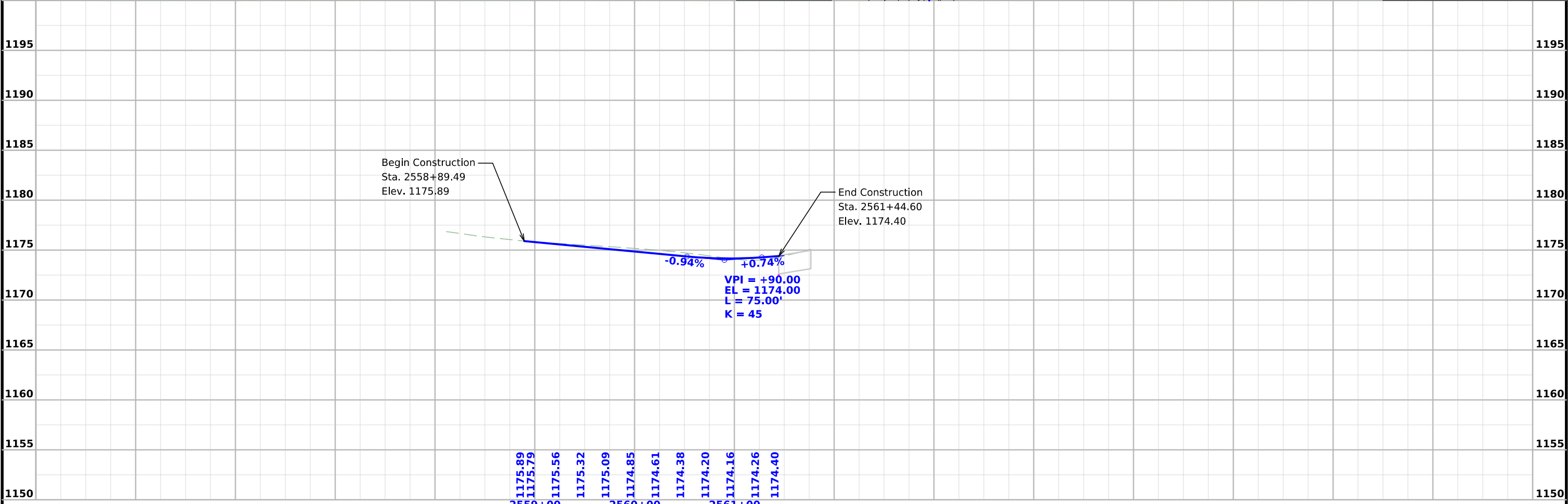
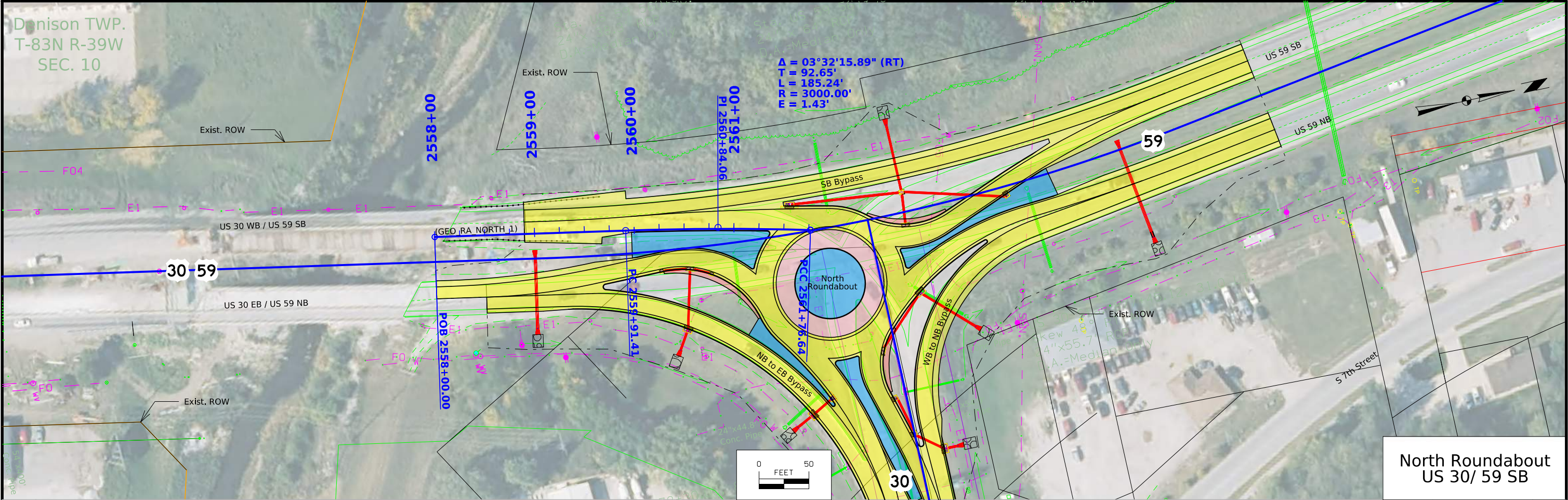


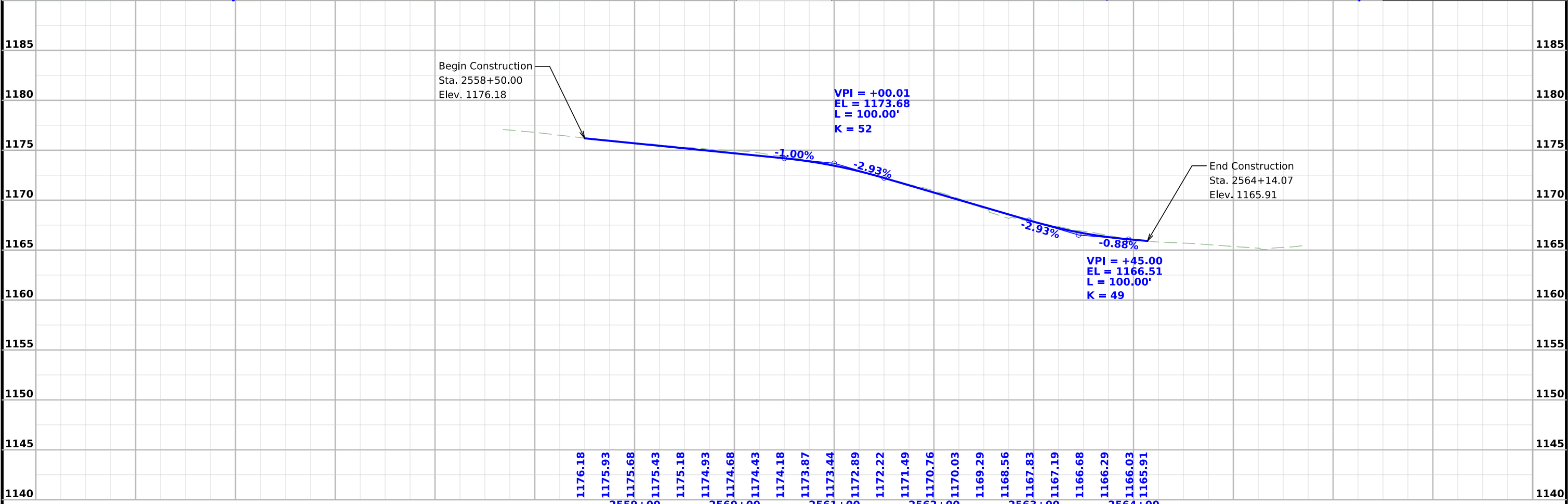
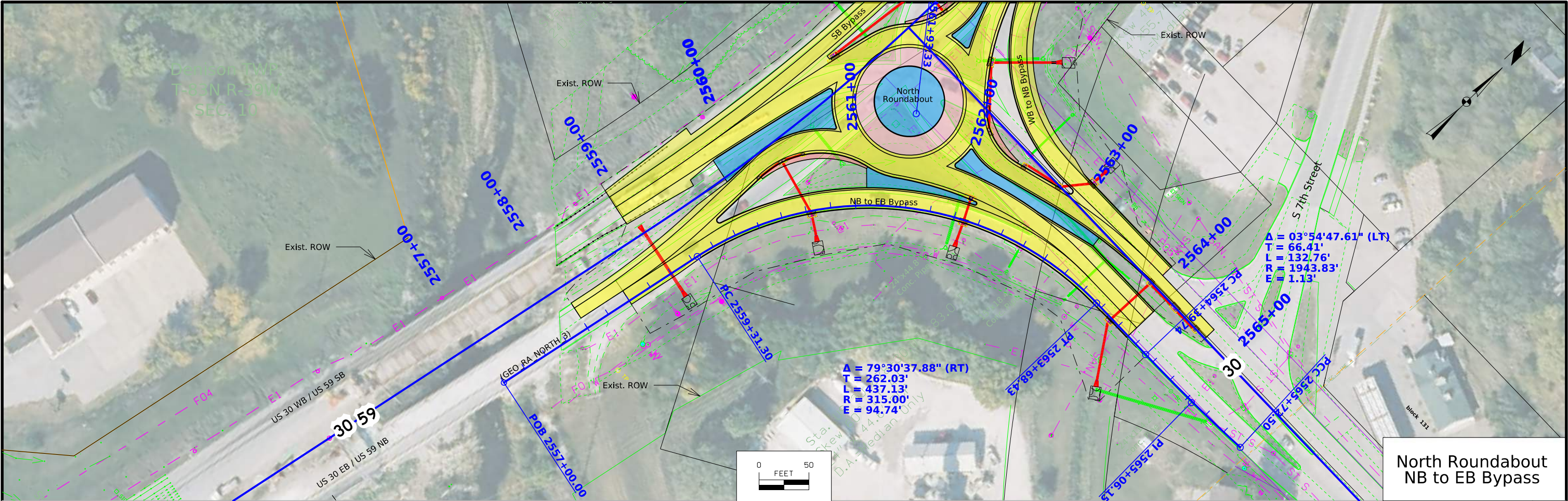


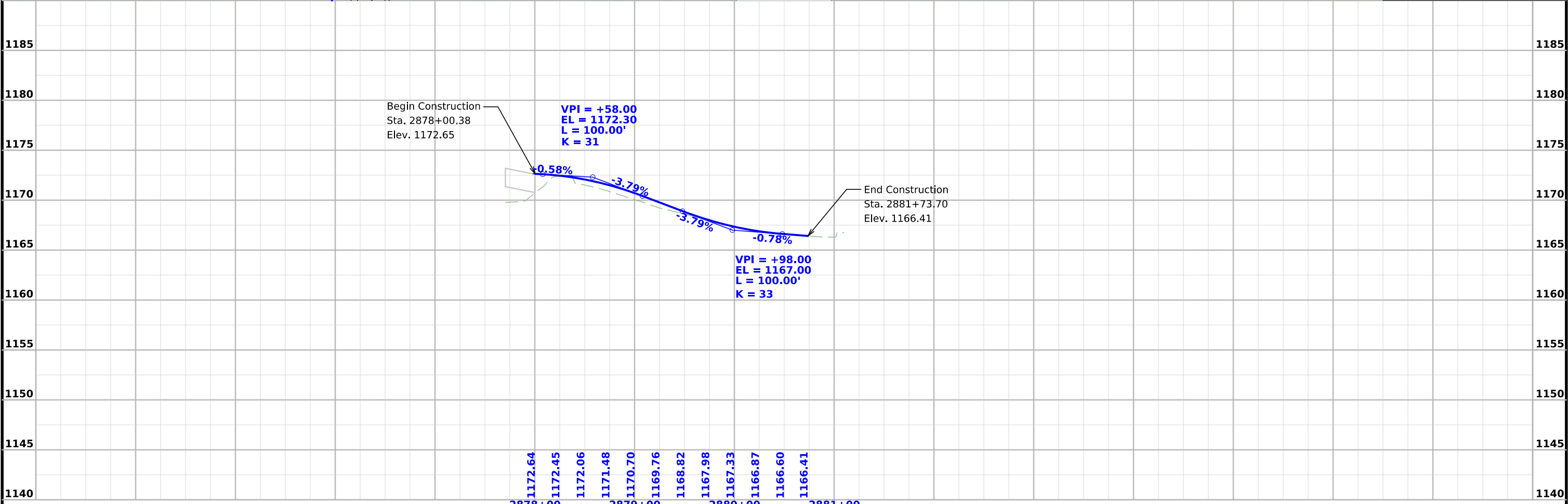
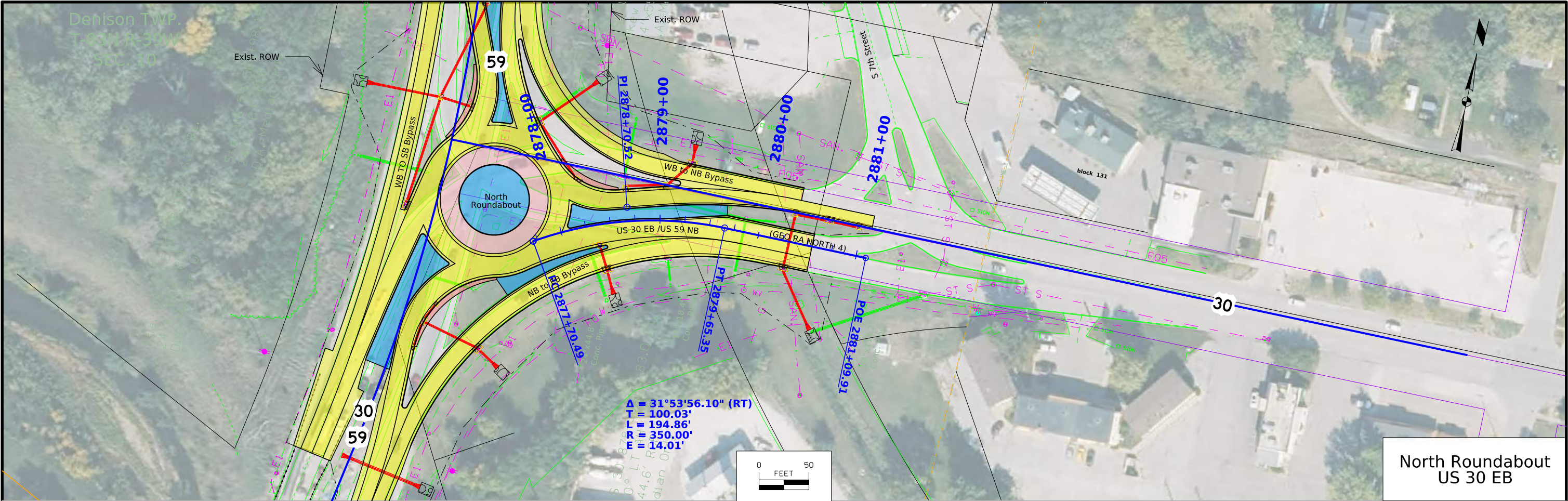


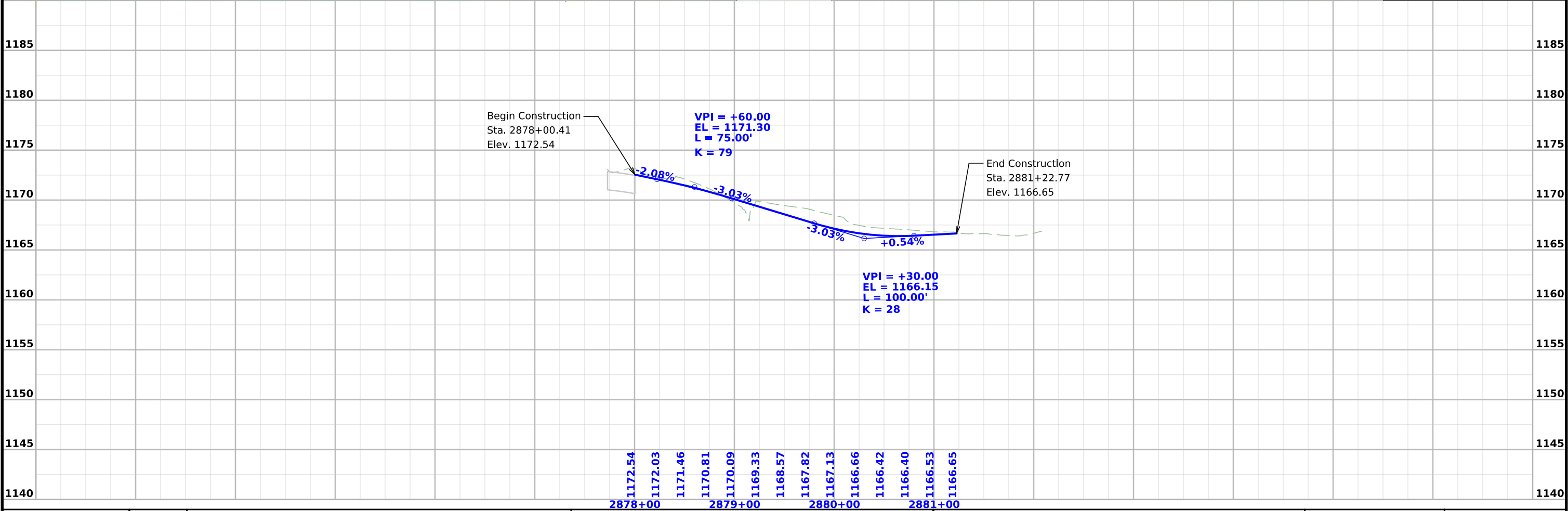
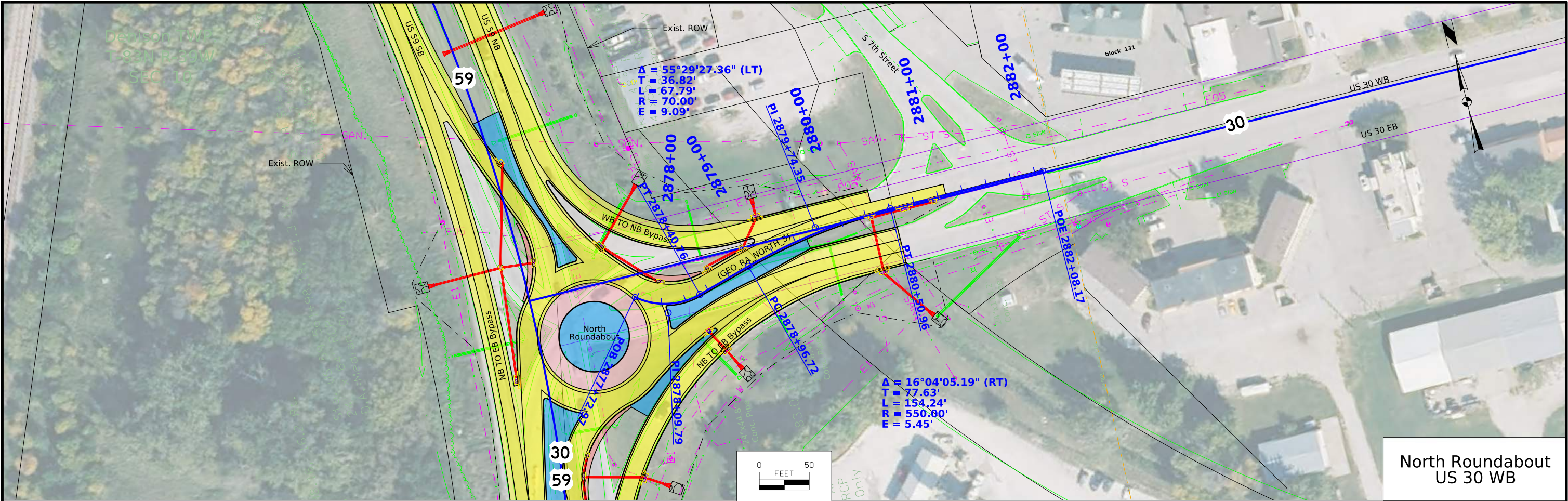


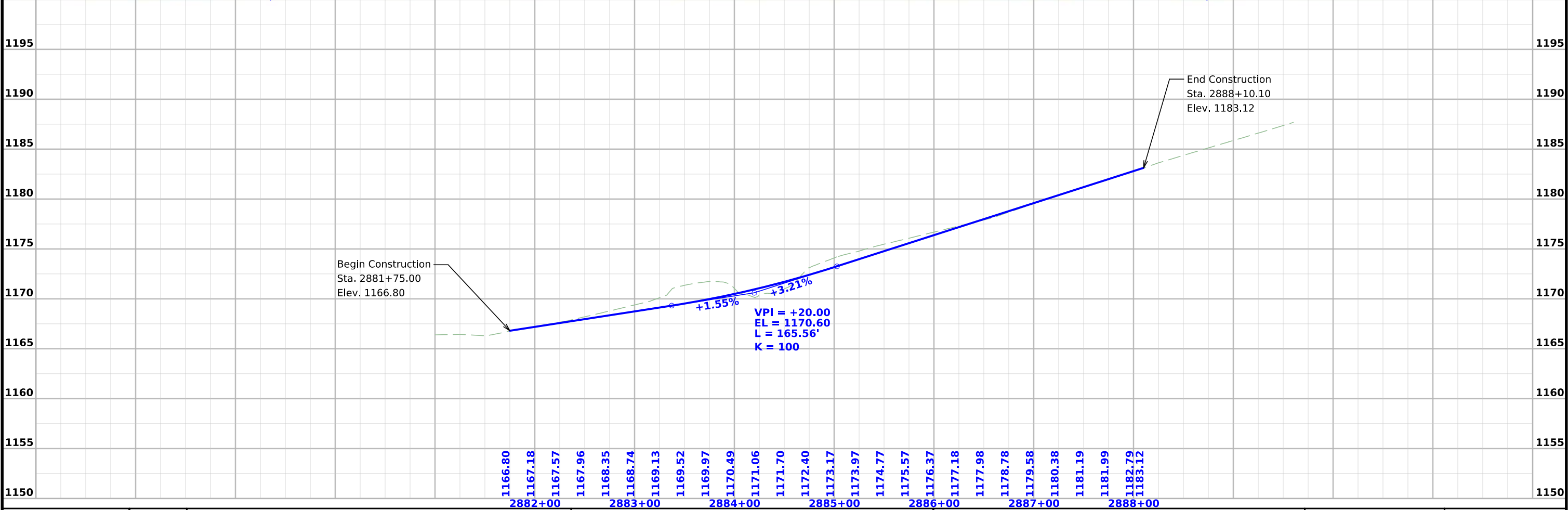
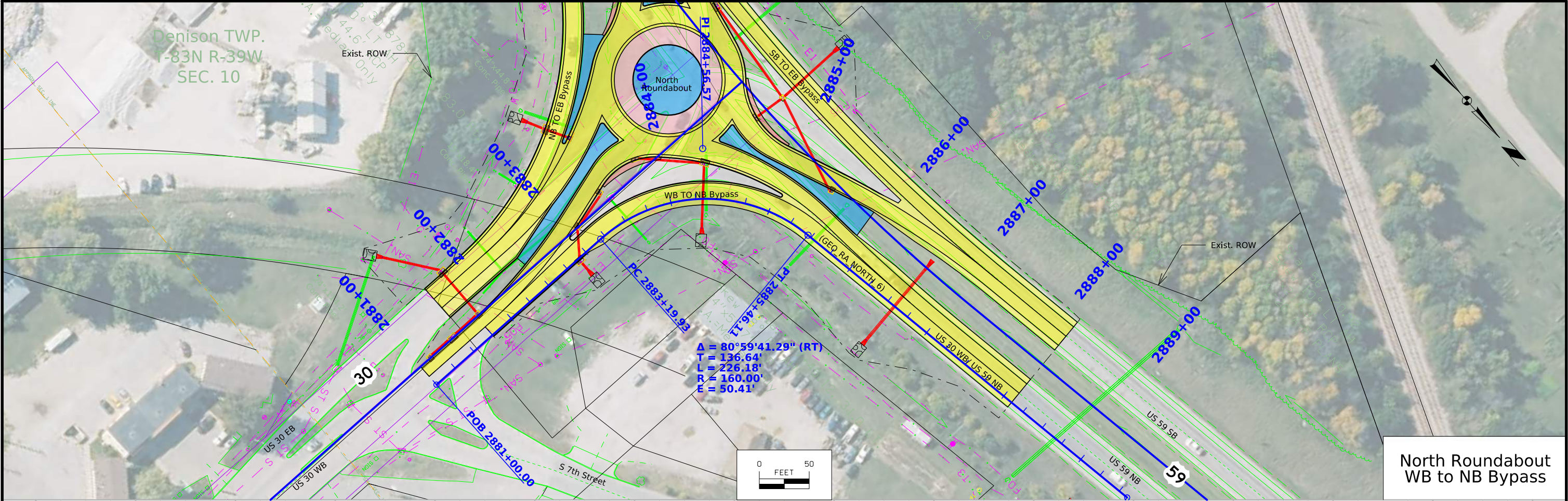


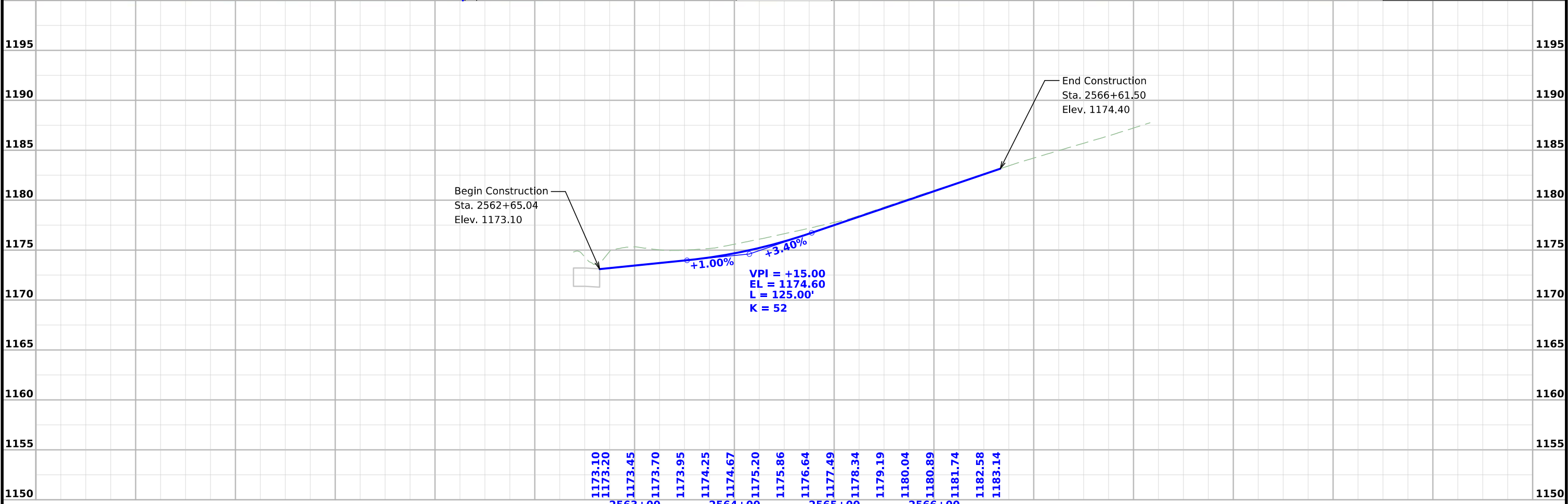
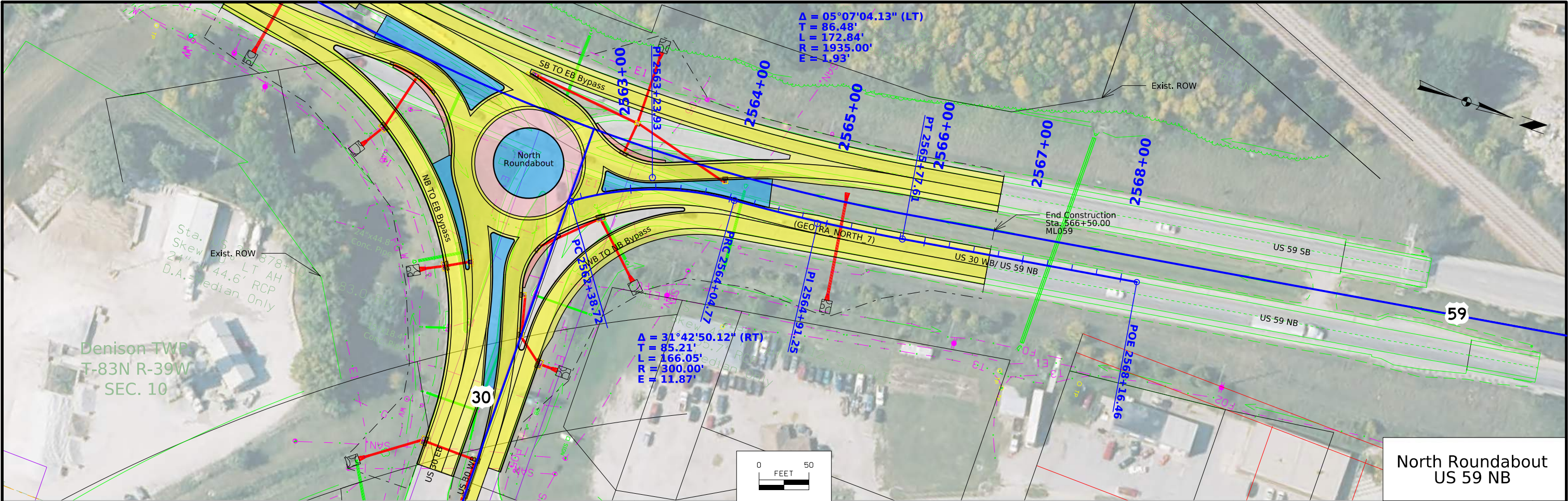


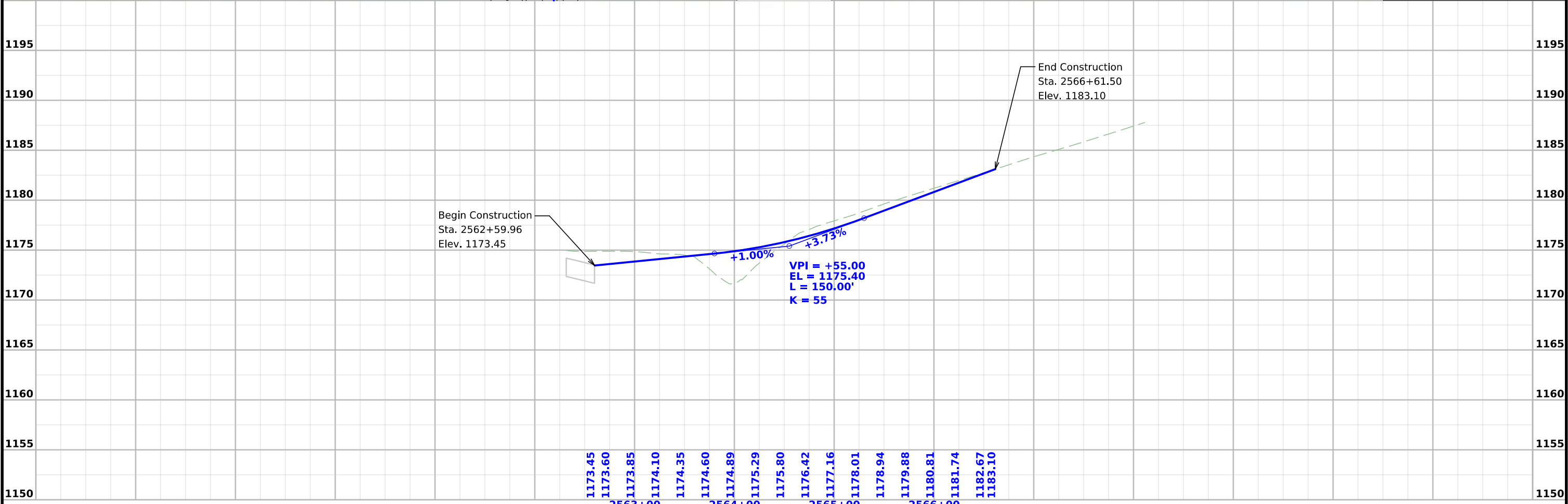
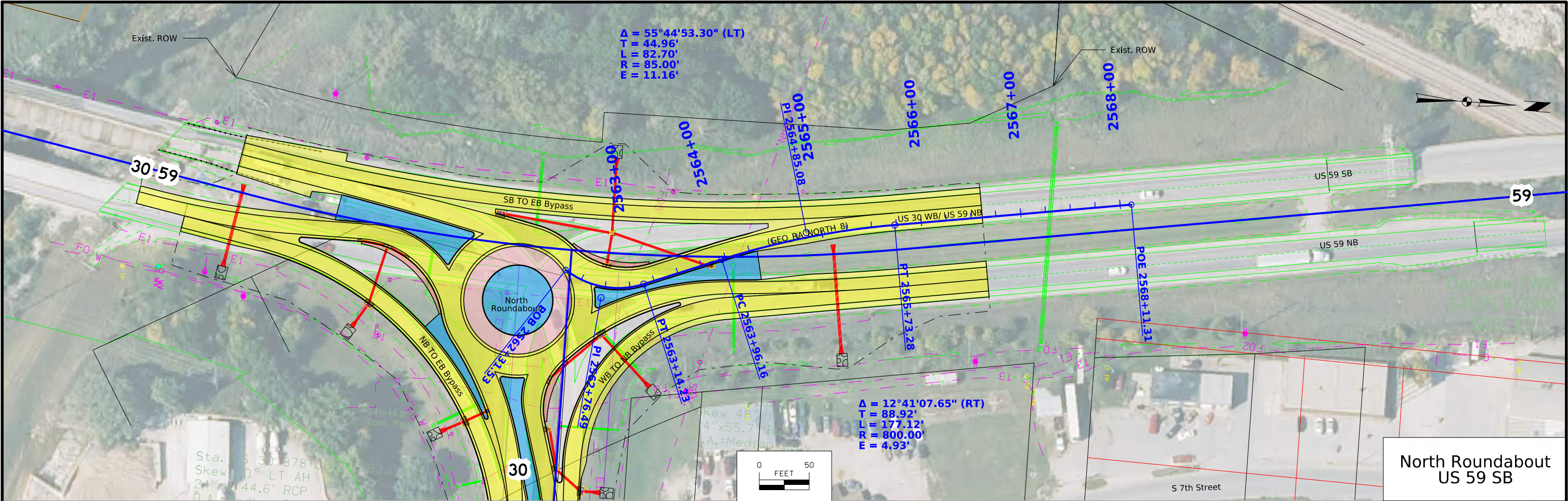


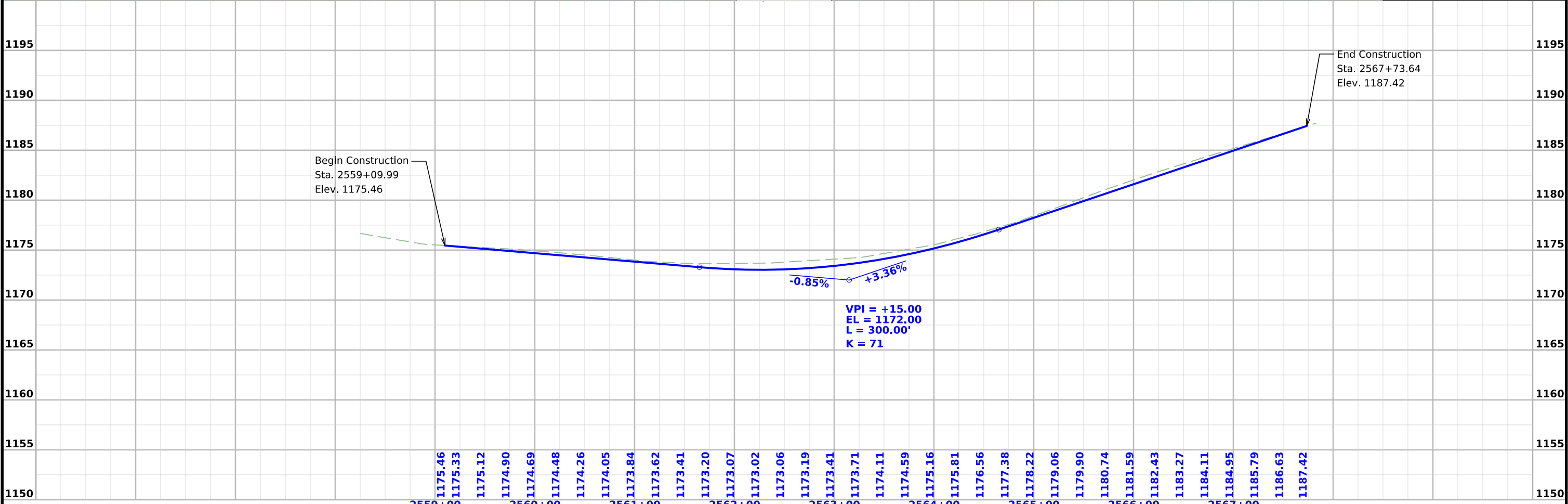
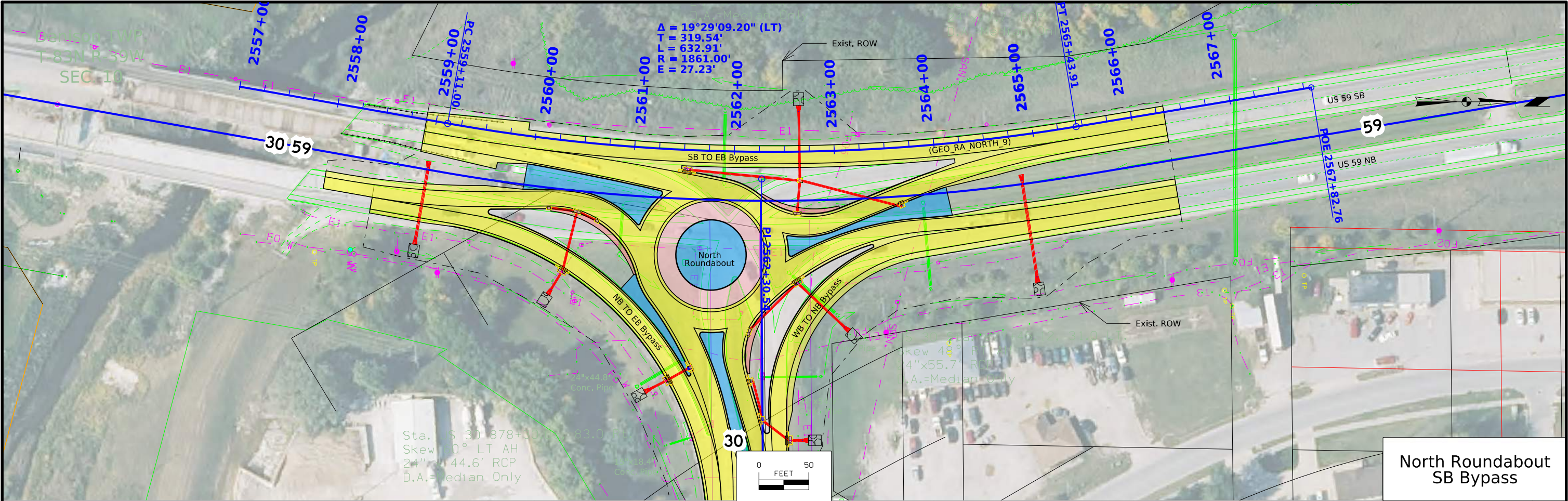












Survey Information

SURVEY INDEX

County: Crawford
PIN: 22-24-030-010
Project Number: BRF-030-2(180)--38-24
Location: UP RR 0.4 mile E of W Jct US 59 in Denison (EB/WB)
Type of Work: 2001-Bridge-Unspecified
Project Directory: 2403001022

PROJECT DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 ADJUSTMENT)
COORDINATE SYSTEM: IOWA REGIONAL COORDINATE SYSTEM ZONE 06
(U.S. SURVEY FOOT)
VERTICAL DATUM: NAVD88
GEOID MODEL: 2018u2

Alignment Information

The horizontal alignment for this survey is a retrace of As-built Plans No. F-FG 1059(3). Survey stationing was equated to the plan POT at Sta. 527+20.23 and carried back and ahead with/without equation throughout the survey.

Survey stationing relates to as built plan stationing as follows:

POT Sta. 527+20.23 As-built Plans Project No. F-FG 1059(3)
Survey POT Sta. 527+20.23

POT Sta. 555+00.00 As-built Plans Project No. F-FG 1059(3)
Survey POT Sta. 555+00.00

Survey Personnel

Wes Shimp – Lead Land Surveyor, PLS
Lee Budde – Geospatial Specialist
Katerina Wyatt – Geospatial Technician
Matt Svec – Survey Party Chief
Nate Theis-Barnett – Survey Party Chief
Alexis Avila – Assistant Survey Party Chief

Date(s) of Survey

Begin Date 02/07/2024
End Date 06/30/2024

General Information

This survey is for US 59 Bridge Replacement over the UP railroad in Denison, Iowa. The corridor starts near the intersection of US 59 and Boyer Valley Road and runs southerly to the intersection of US 30. This project is a Full Field DTM survey.

Utility Information

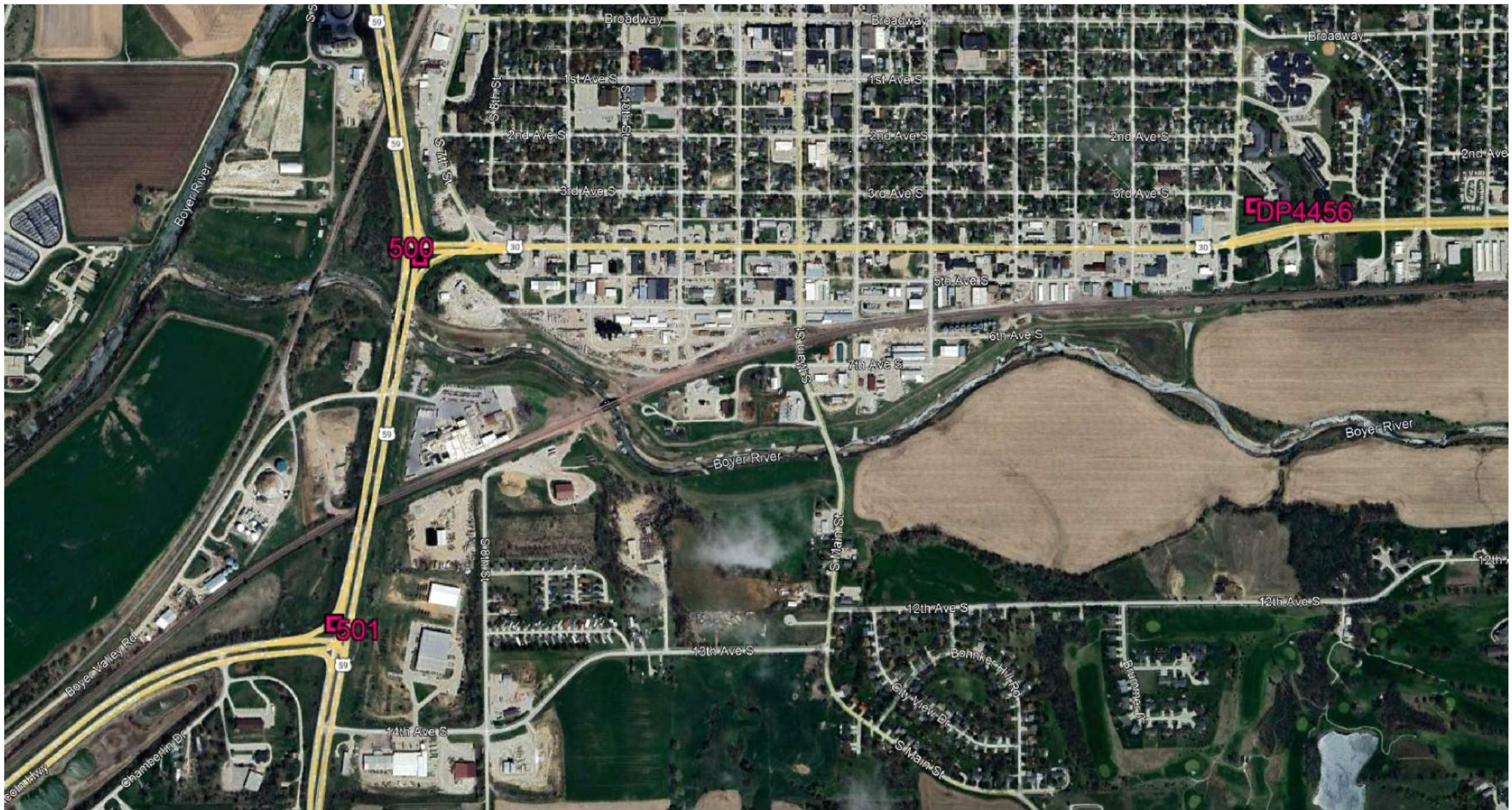
For logging data and other utility details see Utility Survey and Ownership Report in the Utility folder of the PrelimSurvey project directory.

Project Control

Nearby Iowa Real Time Network reference stations were utilized to obtain horizontal and vertical control on primary project control points. Two FENO monuments were set using the following method. Three five-minute observations were taken with a minimum two-hour time span between and used in a weighted average to obtain final coordinate values. A three-minute verification shot was taken on existing point DP4456. For additional details of the control survey, contact the Preliminary Survey department.

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 06 (U.S. Survey Foot)

VERT. DATUM: NAVD88 - Geoid Model: 2018u2

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 06 (U.S. Survey Foot)
VERT. DATUM: NAVD88
Geoid Model: 2018u2

POINT NAME	NORTHING	EASTING	ELEVATION	DESCRIPTION
500	7242312.08	16600081.63	1173.54	Set FENO Monument in median near the northern intersection of Highway 30 and Highway 59
501	7239745.53	16599491.90	1205.60	Set FENO Monument in median near the southern intersection of Highway 30 and Highway 59
DP4456	7242707.04	16605947.61	1183.75	Found existing flange encased rod as described in the NGS Data Sheet

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
ML059	Point_ML059_1	508+10.36	7237023.488	16599332.75															
	Spiral ML059_1				517+95.63	7238008.74	16599326.19												
	Curve ML059_1							519+95.63	7238208.733	16599326.6	519+28.97	7238142.075	16599325.3				519+95.63	7238208.733	16599326.6
	Spiral ML059_2				525+20.75	7238731.392	16599372.85				522+58.61	7238471.654	16599331.74	525+20.75	7238731.392	16599372.85			
	Curve ML059_2							559+11.57	7242065.81	16599988.67	525+87.42	7238797.241	16599383.28				527+20.74	7238928.345	16599407.56
	Spiral ML059_3				579+90.26	7244123.72	16599773.43				562+39.53	7242388.294	16600048.35	565+61.15	7242712.213	16599997.03			
	Curve ML059_3							582+40.26	7244369.682	16599728.95	581+56.96	7244288.371	16599747.35				582+40.26	7244369.682	16599728.95
	Spiral ML059_4				592+97.97	7245286.375	16599228.83				587+83.06	7244899.093	16599609.14	592+97.97	7245286.375	16599228.83			
	Point ML059_2	599+84.89	7245747.956	16598720.22							593+81.34	7245345.857	16599170.41				595+47.97	7245456.906	16599046.08
ML030_WEST	Spiral ML030_WEST_1				831+74.20	7238988.206	16597708.68				833+07.55	7239072.582	16597811.94				833+74.20	7239112.481	16597865.36
	Curve ML030_WEST_1							833+74.20	7239112.481	16597865.36	839+90.50	7239481.261	16598359.15	845+78.32	7239552.664	16598971.3			
	Spiral ML030_WEST_2				845+78.32	7239552.664	16598971.3				846+45.00	7239560.389	16599037.53				847+78.32	7239570.046	16599170.53
	Point ML030_WEST_1	851+40.03	7239596.242	16599531.28															
ML030_EAST	Point ML030_EAST_1	876+69.75	7242387.94	16600020.53															
	Point ML030_EAST_2	887+09.25	7242387.873	16601060.03															
RA_SOUTH	Curve RA_SOUTH_1							100+00.00	7239620.229	16599421.82				101+79.07	7239620.229	16599535.82			
	Curve RA_SOUTH_2							101+79.07	7239620.229	16599535.82				103+58.14	7239620.229	16599421.82			
RA_SOUTH_1	Curve RA_SOUTH_1_1							1845+00.00	7239517.609	16598897.4	1845+54.58	7239525.755	16598951.37	1846+09.15	7239531.384	16599005.67			
	Curve RA_SOUTH_1_2							1846+34.00	7239533.947	16599030.39	1847+54.74	7239545.785	16599150.54	1848+74.42	7239584.584	16599264.87			
	Curve RA_SOUTH_1_3							1849+50.99	7239609.193	16599337.39	1850+05.00	7239626.548	16599388.53	1850+49.21	7239591.483	16599429.6			
RA_SOUTH_2	Curve RA_SOUTH_2_1																		

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
	Curve RA_NORTH_1_1							2559+91.41	7242148.867	16599978.63	2560+84.06	7242239.966	16599995.5	2561+76.64	7242329.849	16600017.96			
RA_NORTH_2	Point RA_NORTH_2_1	2557+00.00	7241853.226	16599974.72															
	Curve RA_NORTH_2_1							2558+14.74	7241966.047	16599995.61	2558+88.19	7242038.27	16600008.99	2559+61.23	7242111.721	16600008.99			
	Curve RA_NORTH_2_2							2560+35.98	7242186.469	16600009	2561+06.29	7242256.781	16600009	2561+58.54	7242280.569	16600075.16			
RA_NORTH_3	Point RA_NORTH_3_1	2557+00.00	7241848.855	16599998.32															
	Curve RA_NORTH_3_1							2559+31.30	7242076.286	16600040.44	2561+93.33	7242333.935	16600088.16	2563+68.43	7242333.919	16600350.19			
	Curve RA_NORTH_3_2							2564+39.74	7242333.914	16600421.5	2565+06.15	7242333.91	16600487.91	2565+72.50	7242338.438	16600554.16			
RA_NORTH_4	Curve RA_NORTH_4_1							2877+70.49	7242305.077	16600121.27	2878+70.52	7242357.928	16600206.2	2879+65.35	7242357.922	16600306.22			
	Point RA_NORTH_4_1	2881+09.91	7242357.912	16600450.78															
RA_NORTH_5	Curve RA_NORTH_5_1							2877+72.97	7242366.152	16600123.75	2878+09.79	7242342.767	16600152.19	2878+40.77	7242352.956	16600187.58			
	Curve RA_NORTH_5_2							2878+96.72	7242368.439	16600241.34	2879+74.35	7242389.921	16600315.94	2880+50.96	7242389.916	16600393.57			
	Point RA_NORTH_5_1	2882+08.17	7242389.906	16600550.78															
RA_NORTH_6	Point RA_NORTH_6_1	2881+00.00	7242411.912	16600450.78															
	Curve RA_NORTH_6_1							2883+19.93	7242411.926	16600230.85	2884+56.57	7242411.935	16600094.21	2885+46.11	7242546.893	16600072.83			
	Point RA_NORTH_6_2	2889+60.10	7242955.786	16600008.06															
RA_NORTH_7	Curve RA_NORTH_7_1							2562+38.72	7242390.126	16600096.49	2563+23.93	7242459.416	16600046.88	2564+04.77	7242544.434	16600041.11			
	Curve RA_NORTH_7_2							2564+04.77	7242544.434	16600041.11	2564+91.25	7242630.712	16600035.26	2565+77.61	7242716.125	16600021.73			
	Point RA_NORTH_7_1	2568+16.46	7242952.031	16599984.35															
RA_NORTH_8	Curve RA_NORTH_8_1							2562+31.53	7242383.506	16600040.7	2562+76.49	7242420.749	16600065.87	2563+14.23	7242462.523	16600049.26			
	Curve RA_NORTH_8_2							2563+96.16	7242538.649	16600018.99	2564+85.08	7242621.279	16599986.13	2565+73.28	7242709.109	16599972.21			
	Point RA_NORTH_8_1	2568+11.31	7242944.208	16599934.97															
RA_NORTH_9	Point RA_NORTH_9_1	2557+00.00	7241866.703	16599901.96															
	Curve RA_NORTH_9_1							2559+11.00	7242074.732	16599940.49	2562+30.54	7242388.94	16599998.63	2565+43.91	7242704.546	16599948.64			
	Point RA_NORTH_9_2	2567+82.76	7242940.453	16599911.27															

SPIRAL OR CIRCULAR CURVE DATA									
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[illegible]

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
RA_NORTH_8	Curve RA_NORTH_8_1										55.748	44.956	82.704	85.000	11.156	
	Curve RA_NORTH_8_2										12.685	88.925	177.122	800.000	4.927	
RA_NORTH_9	Curve RA_NORTH_9_1										19.486	319.542	632.913	1861.000	27.234	

108_23A 8/15/22	
TRAFFIC CONTROL PLAN	
US 30/59: Roundabouts will be substantially constructed in Stage 1, with traffic maintained in accordance with the J Sheets. A local and global detour will be required for select movements during Stage 1 for roundabout construction. During bridge construction, roundabouts constructed in Stage 1 will be utilized to maintain traffic at all times in accordance with J Sheets. Traffic will be head to head in Stages 2 and 3, with final roundabout connections constructed in Stage 3B. Sideroads: Boyer Valley Road west of the US 30/59 intersection will remain open to local traffic at all times in accordance with J Sheets. Traffic will be right in / right out on Stages 2 and 3A. The entrance on the east of the US 30/59 and Boyer Valley Road intersection will remain open during construction. Traffic will be right in / right out during Stages 2 and 3A. Portable DMS shall be deployed two weeks prior to the start of construction. Refer to Tab. 108-26A for Staging Notes. For additional information, refer to Part 6 of the Manual on Uniform Traffic Control Devices, Iowa DOT Standard Road Plan TC Series and the current Standard Specifications.	

108_26A 8/15/22				
STAGING NOTES				
Prior to Stage 1: Traffic: Maintain traffic on US 30/59 at all times in accordance with J Sheets. Close the inside lane on US 30/59 in accordance with Standard Road Plan TC-418 to construct temporary pavement as shown in J Sheets, for crossing traffic during south roundabout construction in Stage 1. Construction: Construct temporary pavement in accordance with J Sheets. Stage 1A: Traffic: Maintain traffic at north and south junctions of US 30/59 as shown in J Sheets to construct roundabouts. Maintain movements as shown in J Sheets and implement global and local detours as shown on Sheet J.27 and J.28. EB to NB US 30/59 will be required to use the global detour on Sheet J.27. At the north roundabout, all movements except NB US 30/59 to EB US 30 and SB US 30/59 Thru will be required to use the local detour on Sheet J.28. Construction: Construct center of each roundabout and legs as shown in J Sheets. Stage 1B: Traffic: Maintain traffic at north and south junctions of US 30/59 as shown in J Sheets to construct roundabouts. Maintain movements as shown in J Sheets and implement global detour as shown on Sheet J.27 for NB US 59 to WB US 30, for construction at the south roundabout. All movements will be open to traffic at the north roundabout using roundabout construction completed in Stage 1A. Construction: Construct legs and bypass lanes of south roundabout as shown in J Sheets. Stage 2: Traffic: Shift westbound traffic to the eastbound lanes using roundabouts constructed in Stage 1. Maintain head to head traffic on the existing eastbound bridge in accordance with the J Sheets. Maintain right-in/right-out access to Boyer Valley Road and the entrance on the east side of Boyer Valley Road and US 30/59 intersection at all times. Construction: Remove existing westbound bridge and bridge approach. Construct new westbound bridge and bridge approach. Remove and replace the existing guardrail on the north side of the westbound bridge. Construct new westbound pavement and shoulders. Construct new high tension cable guardrail on the outside north end of the westbound bridge. Construct revetment at both abutments of the westbound bridge and slope protection on the side slopes. Stage 3A: Traffic: Shift eastbound traffic to the westbound lanes using roundabouts constructed in Stage 1. Maintain head to head traffic on the new westbound bridge in accordance with the J Sheets. Maintain access to the entrance on the east side of Boyer Valley Road and US 30 intersection at all times. Construction: Remove existing eastbound bridge and bridge approach. Construct new eastbound bridge and bridge approach. Remove and replace the existing guardrail on the south side of the eastbound bridge. Construct new eastbound pavement and shoulders. Construct new high tension cable guardrail on the outside eastbound shoulder on both sides of the bridge. Construct revetment at both abutments of the eastbound bridge and slope protection on the side slopes. Stage 3B: Traffic: Maintain traffic on US 30/59 at all times. Construction: Construct remaining roundabout legs and curb as shown in J Sheets.				
FILE NO.	32646	ENGLISH	DESIGN TEAM	HNTB
CRAWFORD COUNTY		PROJECT NUMBER		BRF-030-2(180)--38-24
SHEET NUMBER			J.3	

12/5/2025 4:28:15 PM

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108_26A
8/15/22

STAGING NOTES

Final:

Traffic: Open all roads to all traffic

Set up pavement marking operations utilizing Standard Road Plan TC-433.

Set up rumble strip operations in accordance with Standard Road Plan TC-432.

Construction:

Complete final pavement marking and mill rumble strips.

111_01 10/14/22 COORDINATED OPERATIONS Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.	
Project	Type of Work
BRF-030-2(174)--38-24	

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

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

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

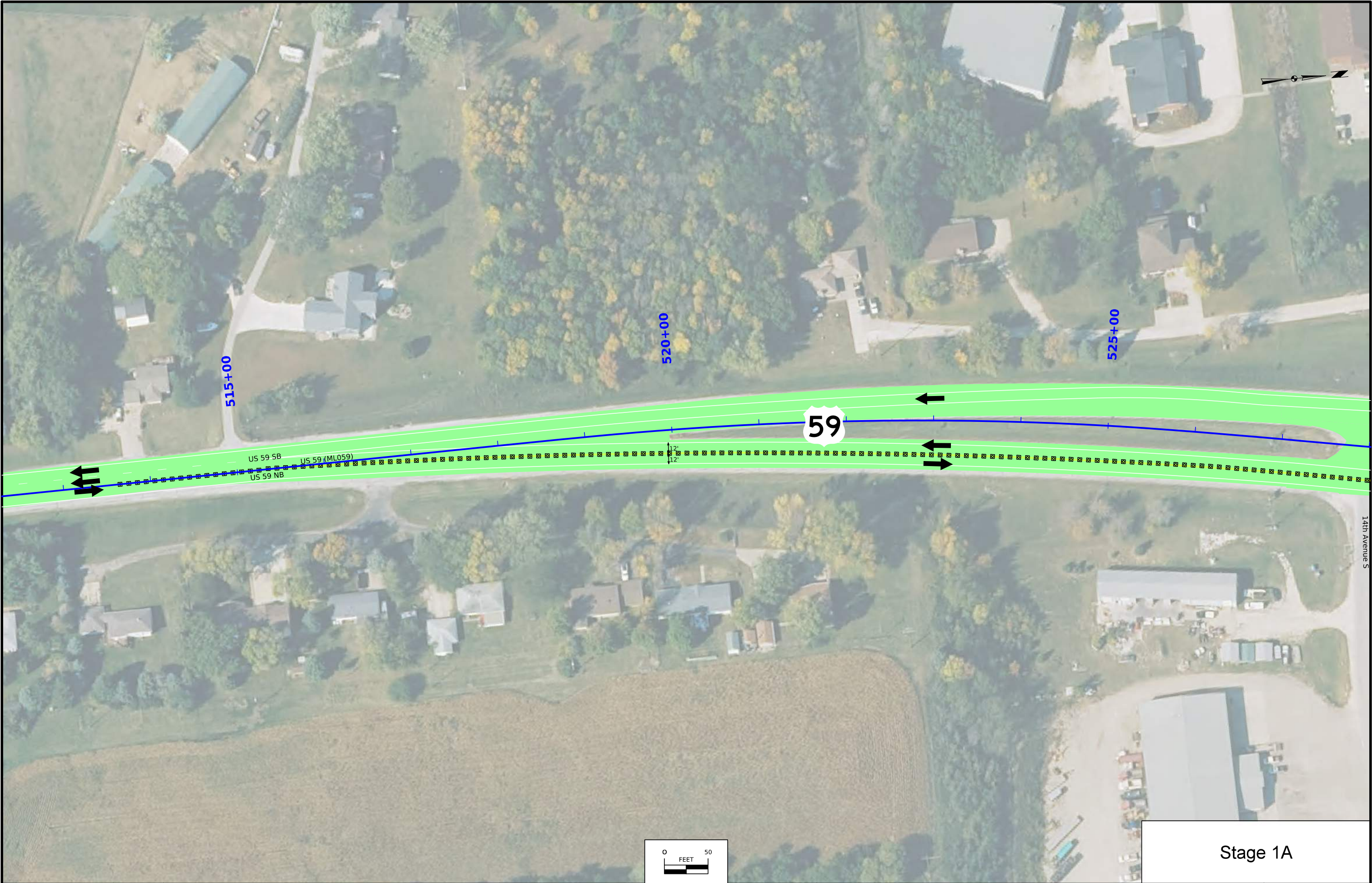
SHADING	Design Color No.	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(80)	Proposed Granular Surface Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Lavender	(9)	Temporary Pavement Shading
Brown, Light	(236)	Proposed Grading Limits Shading
Pink, Dark	(13)	Proposed MSE or CIP Wall Shading
Red	(3)	Proposed Bridge Shading and Sign Trusses
Black w/Gray, Light Fill	(0,48)	Previously Constructed Structure

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

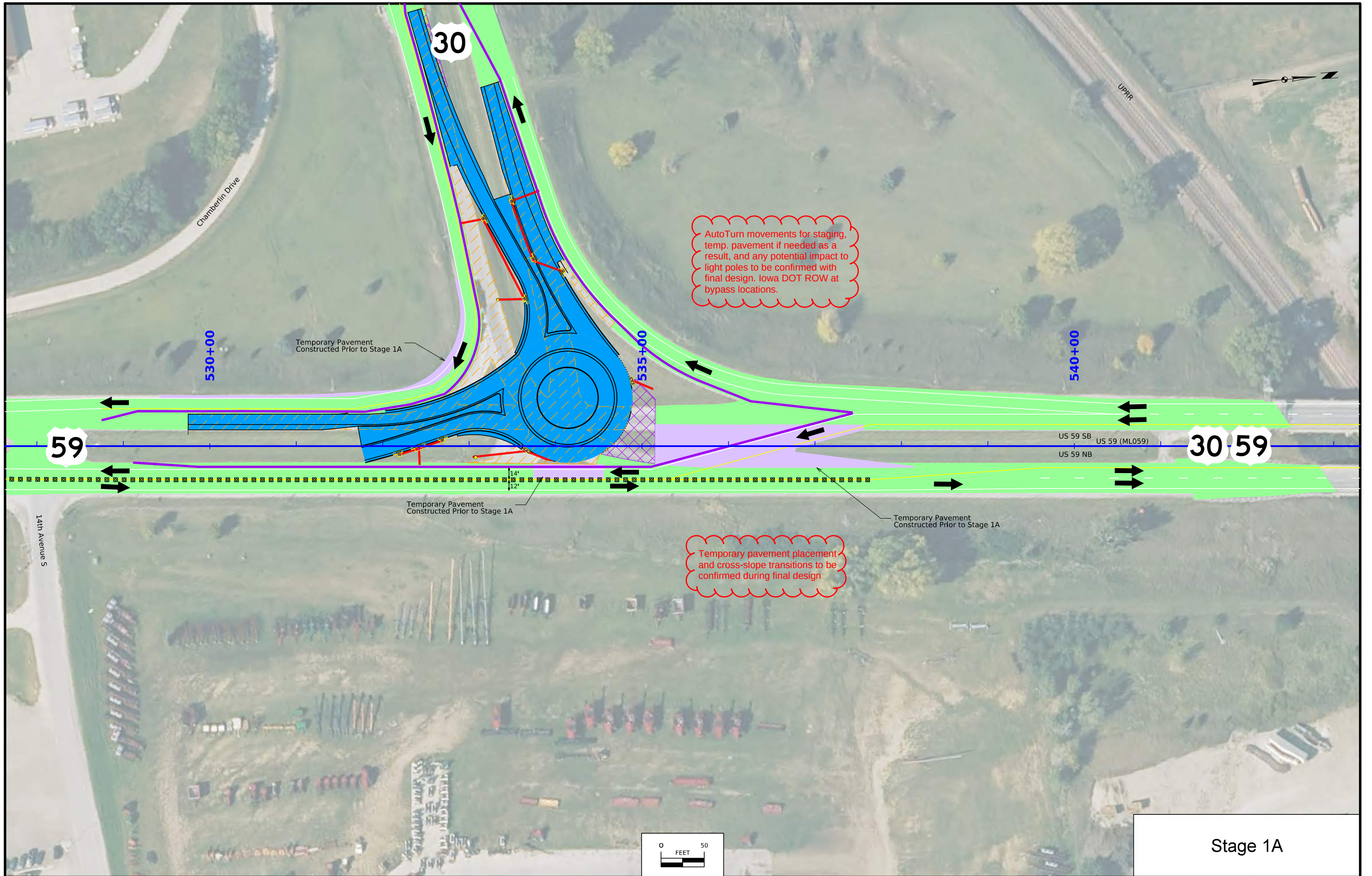
NOTE: Device spacing according to Standard Road Plans unless specifically dimensioned.

TRAFFIC CONTROL
AND
STAGING
LEGEND AND SYMBOL
INFORMATION SHEET

(COVERS SHEET SERIES J)



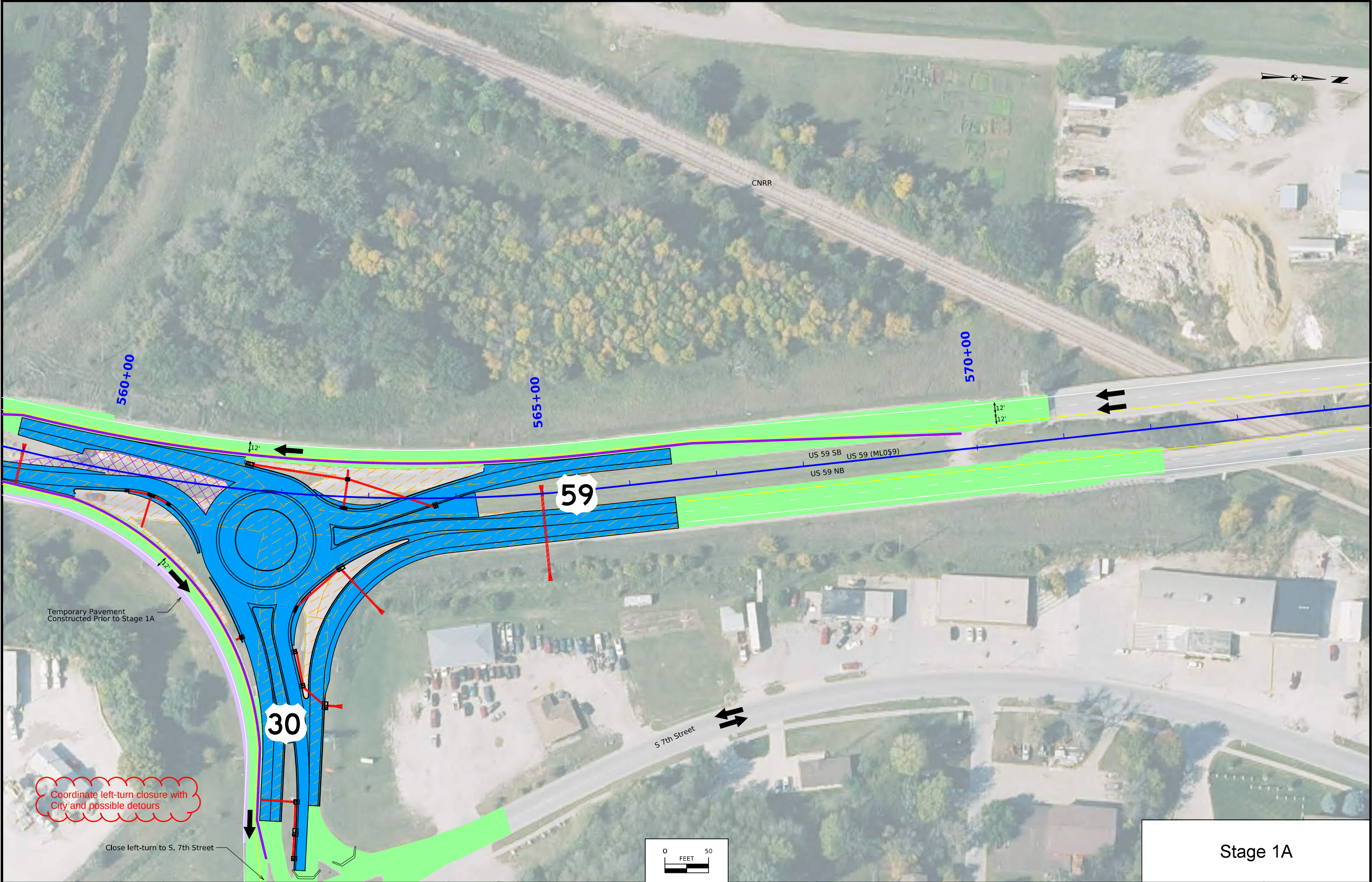
Stage 1A



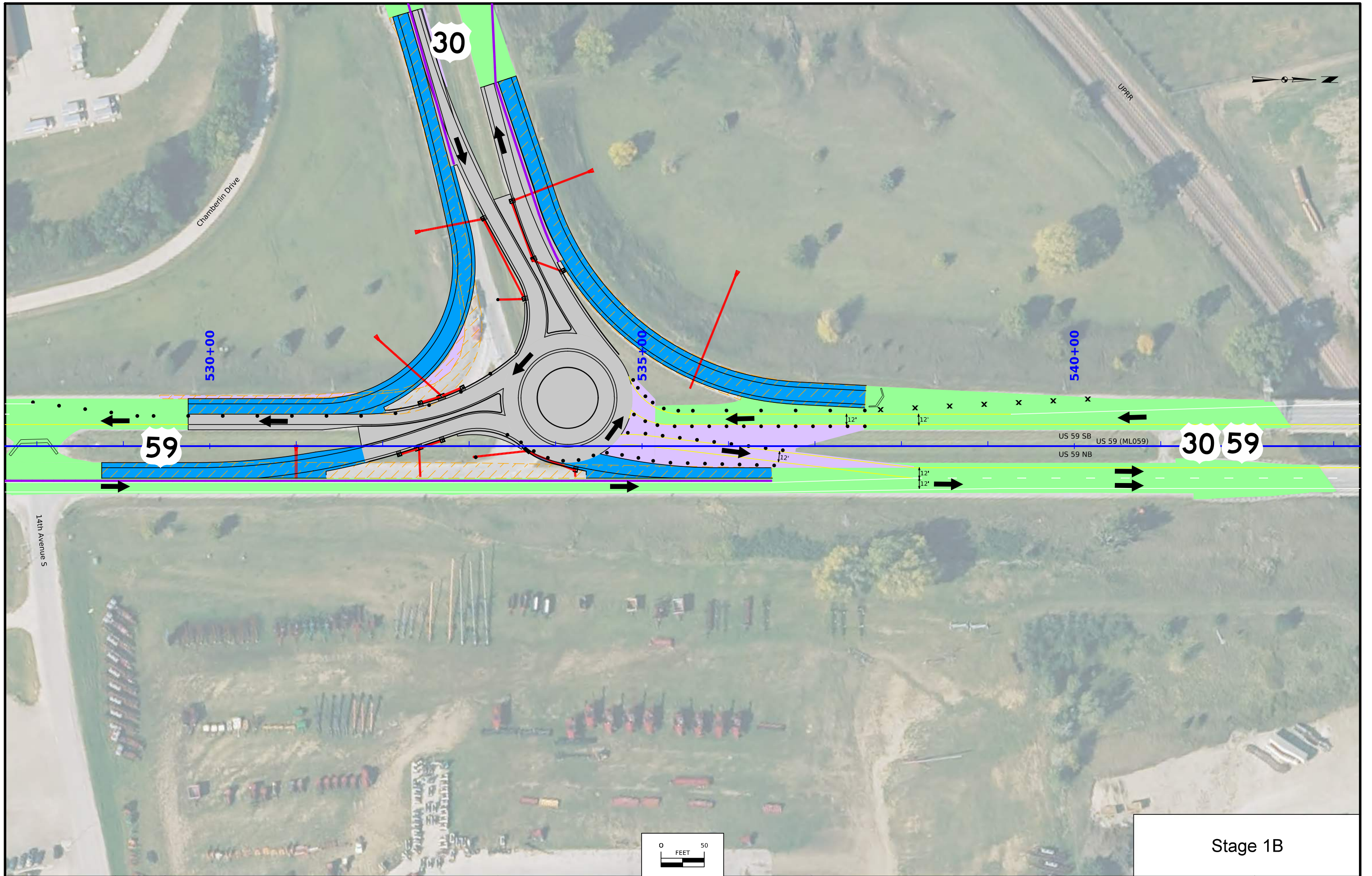
Stage 1A



FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT / HNTB	CRAWFORD COUNTY	PROJECT NUMBER BRF-030-2(180)--38-24	SHEET NUMBER J.9
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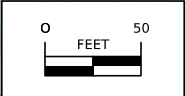
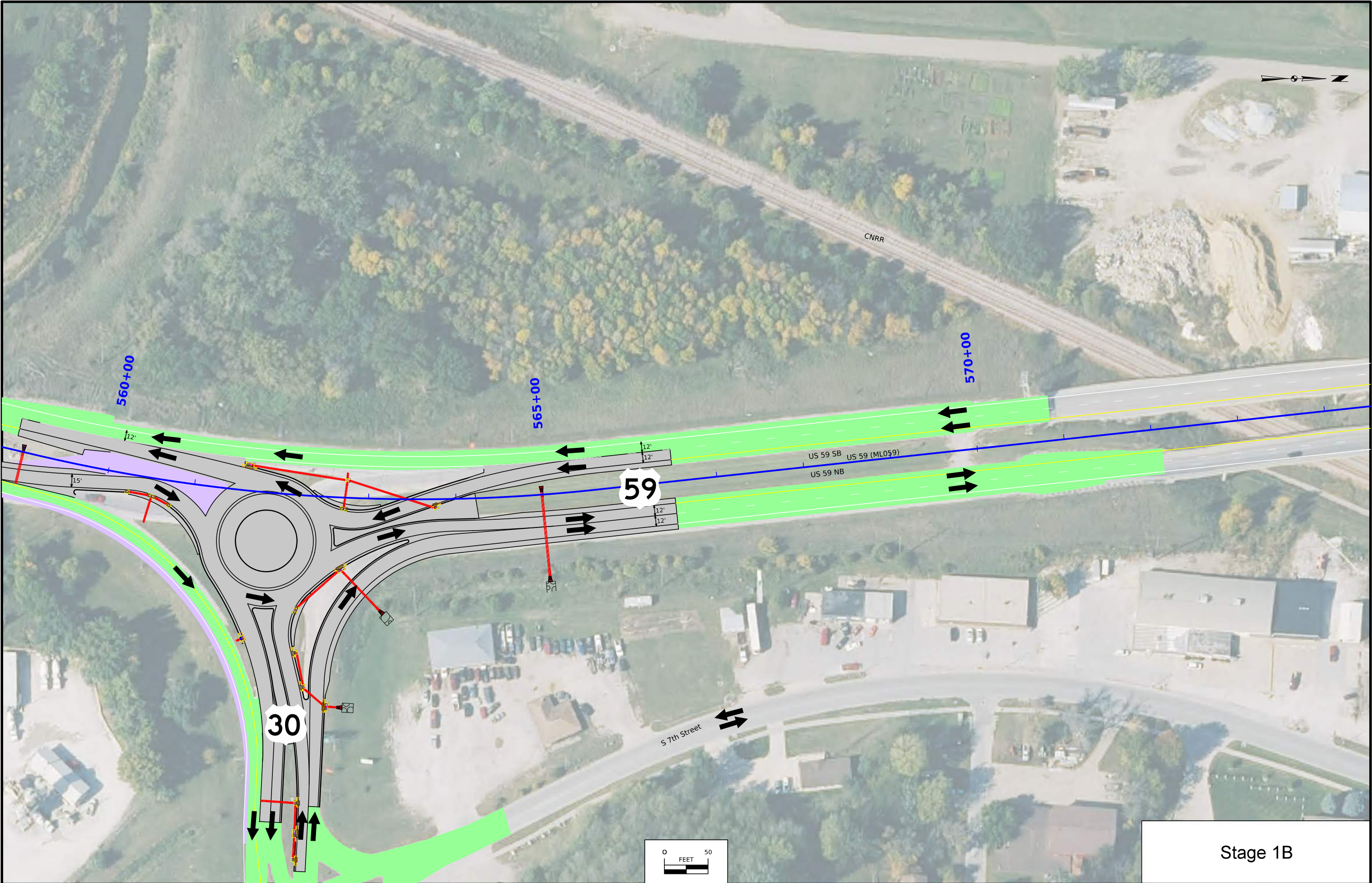




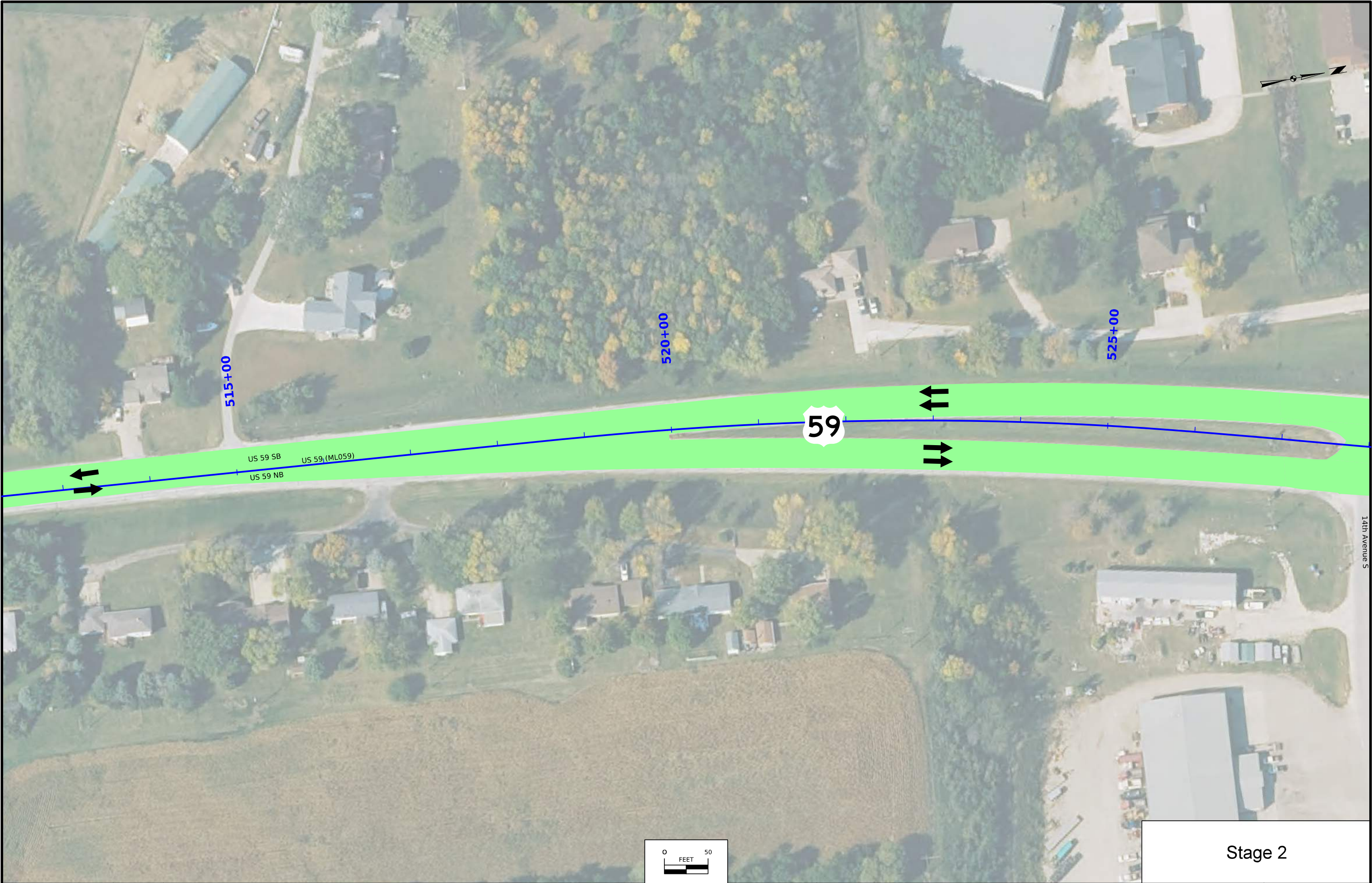
Stage 1B

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT / HNTB	CRAWFORD COUNTY	PROJECT NUMBER BRF-030-2(180)--38-24	SHEET NUMBER J.12
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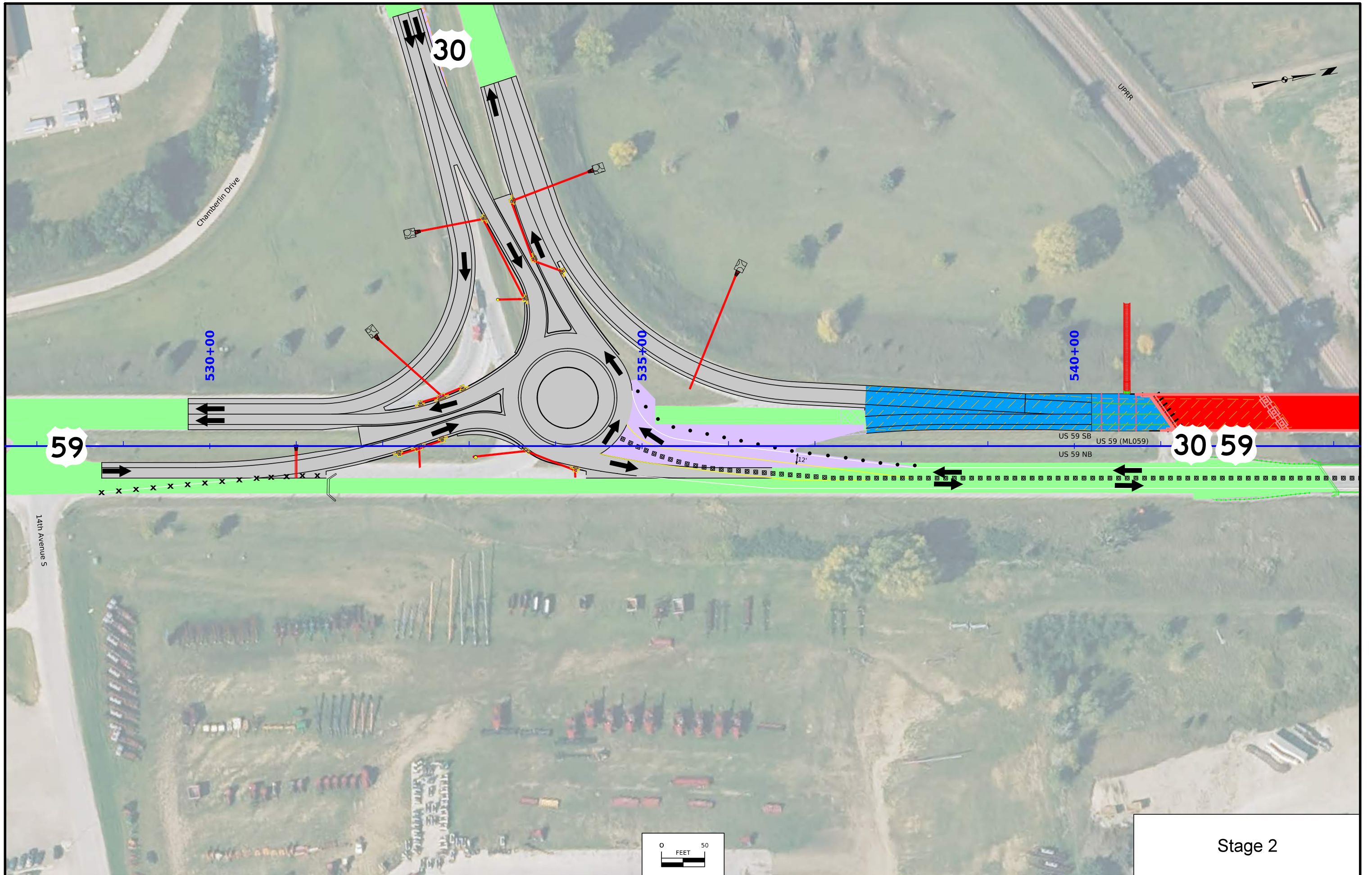




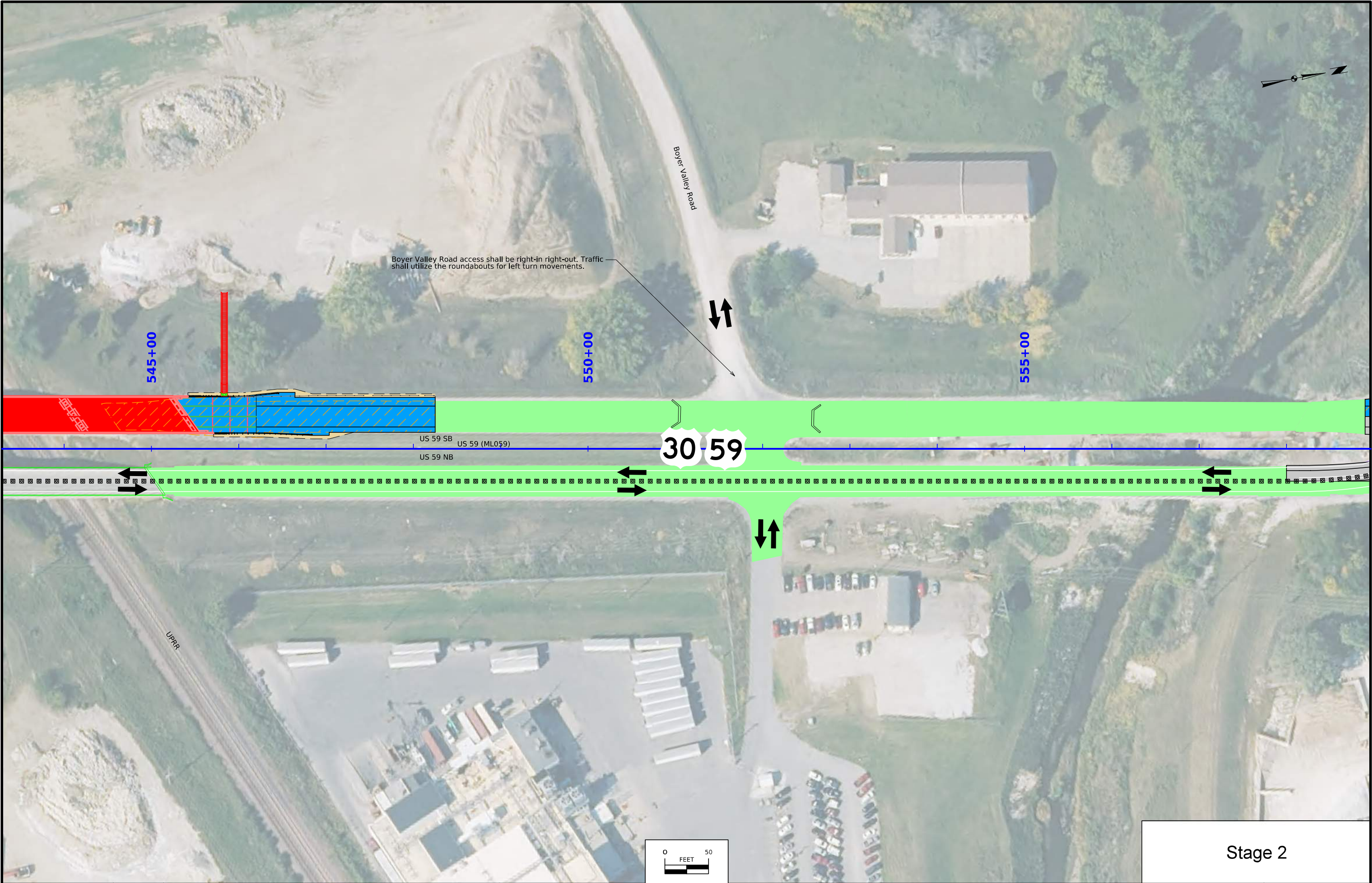
Stage 1B

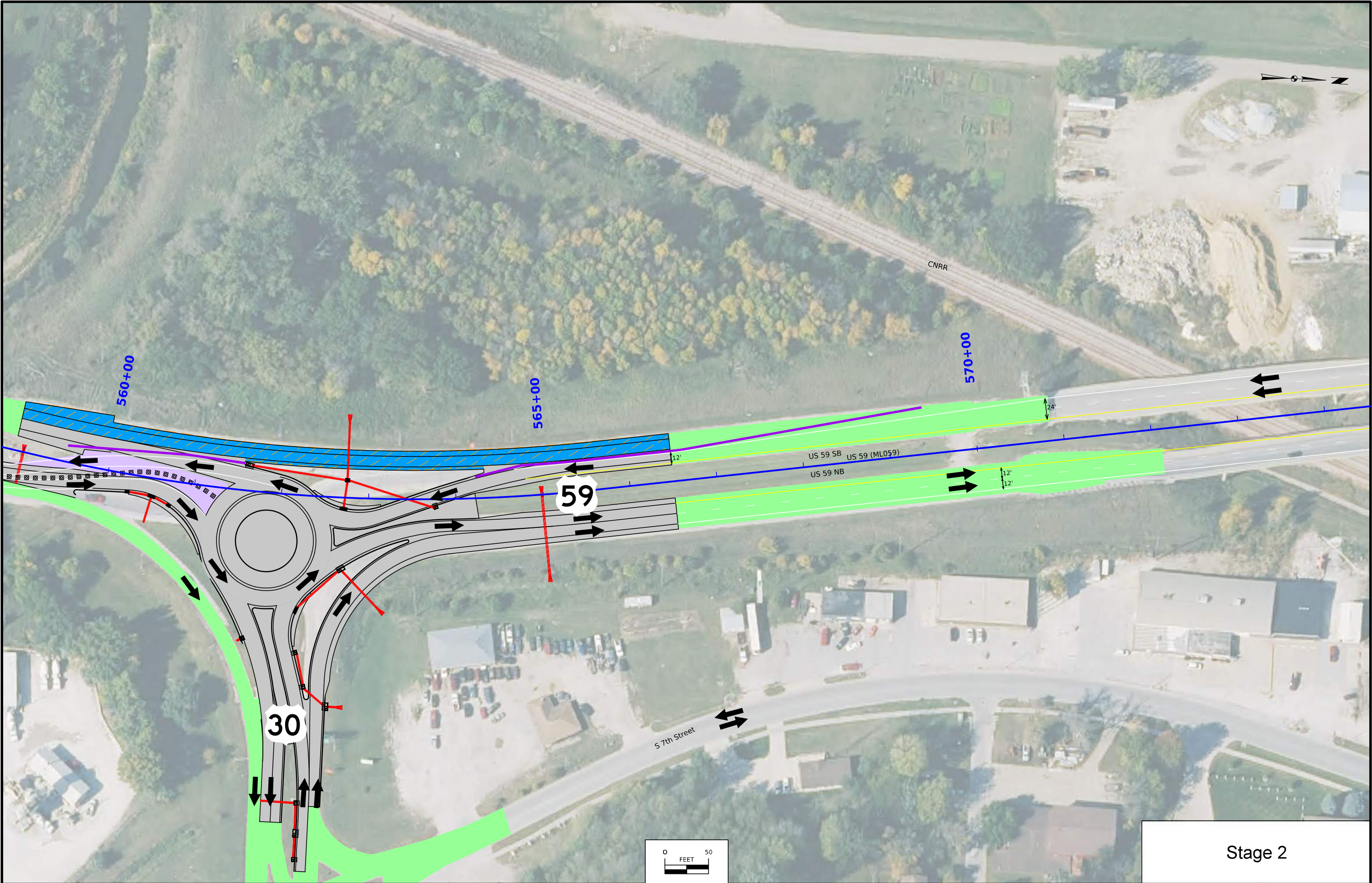


FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT / HNTB	CRAWFORD COUNTY	PROJECT NUMBER BRF-030-2(180)--38-24	SHEET NUMBER J.15
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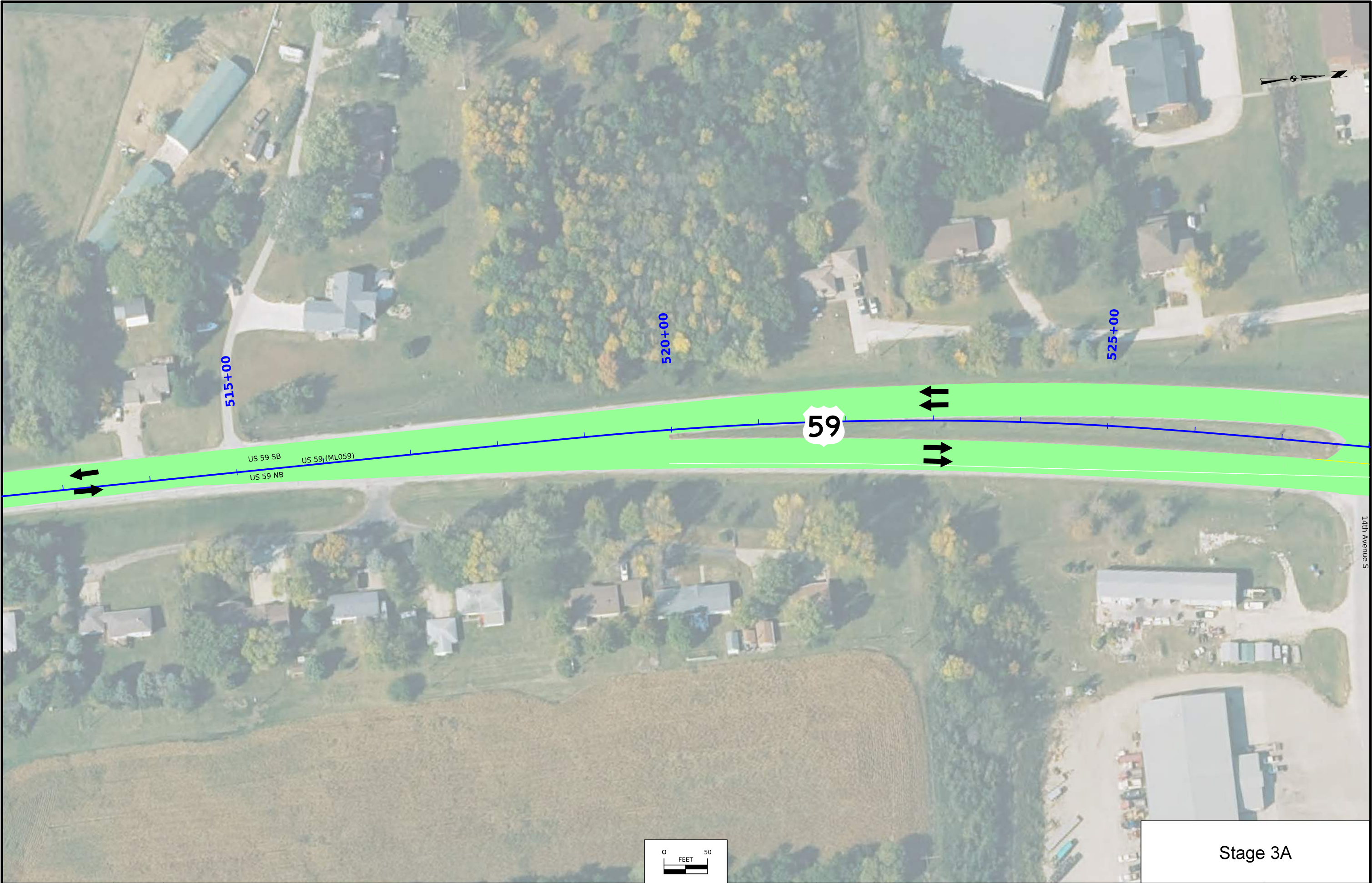


Stage 2

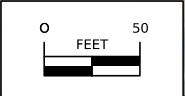




Stage 2

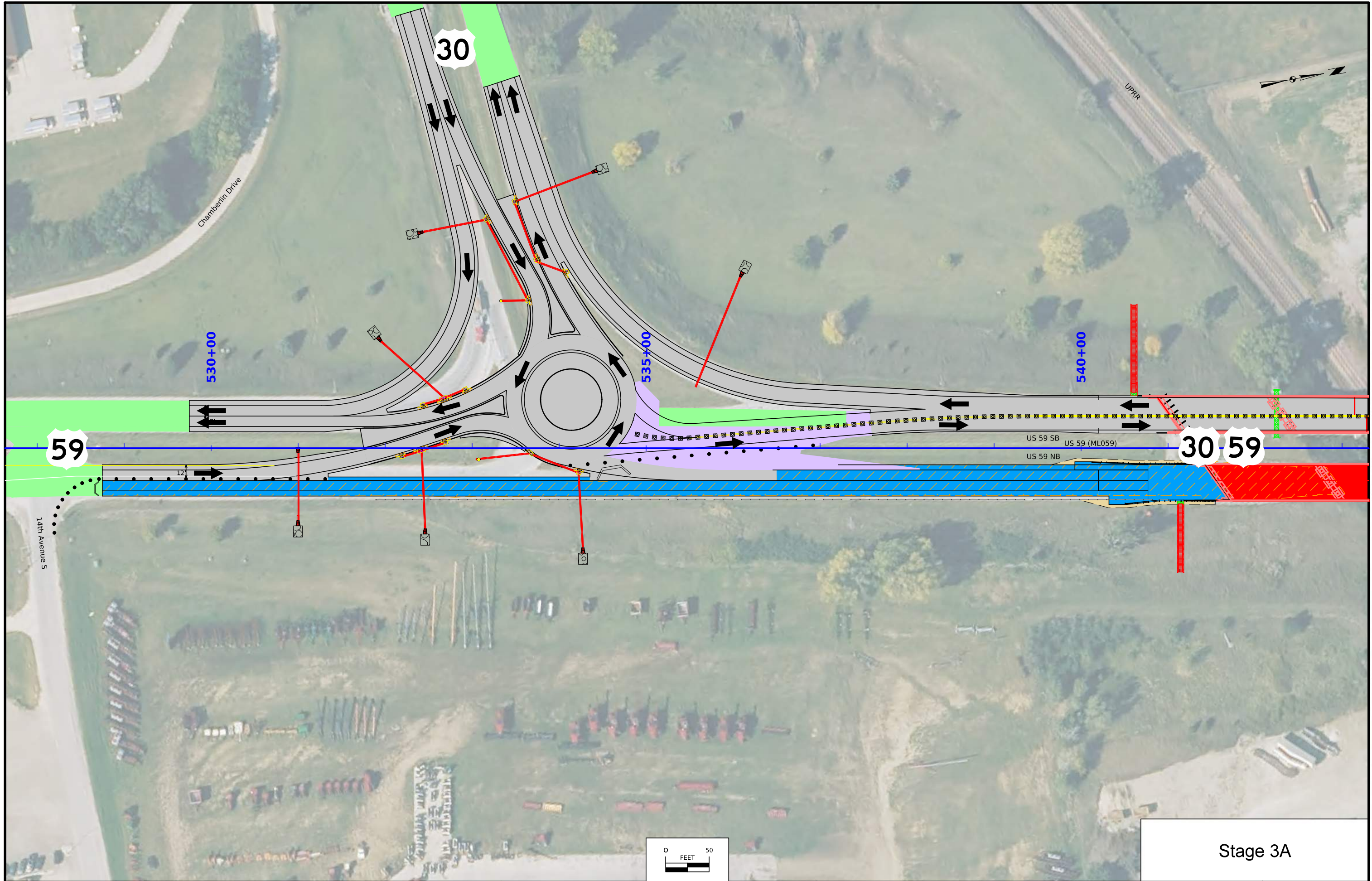


14th Avenue S

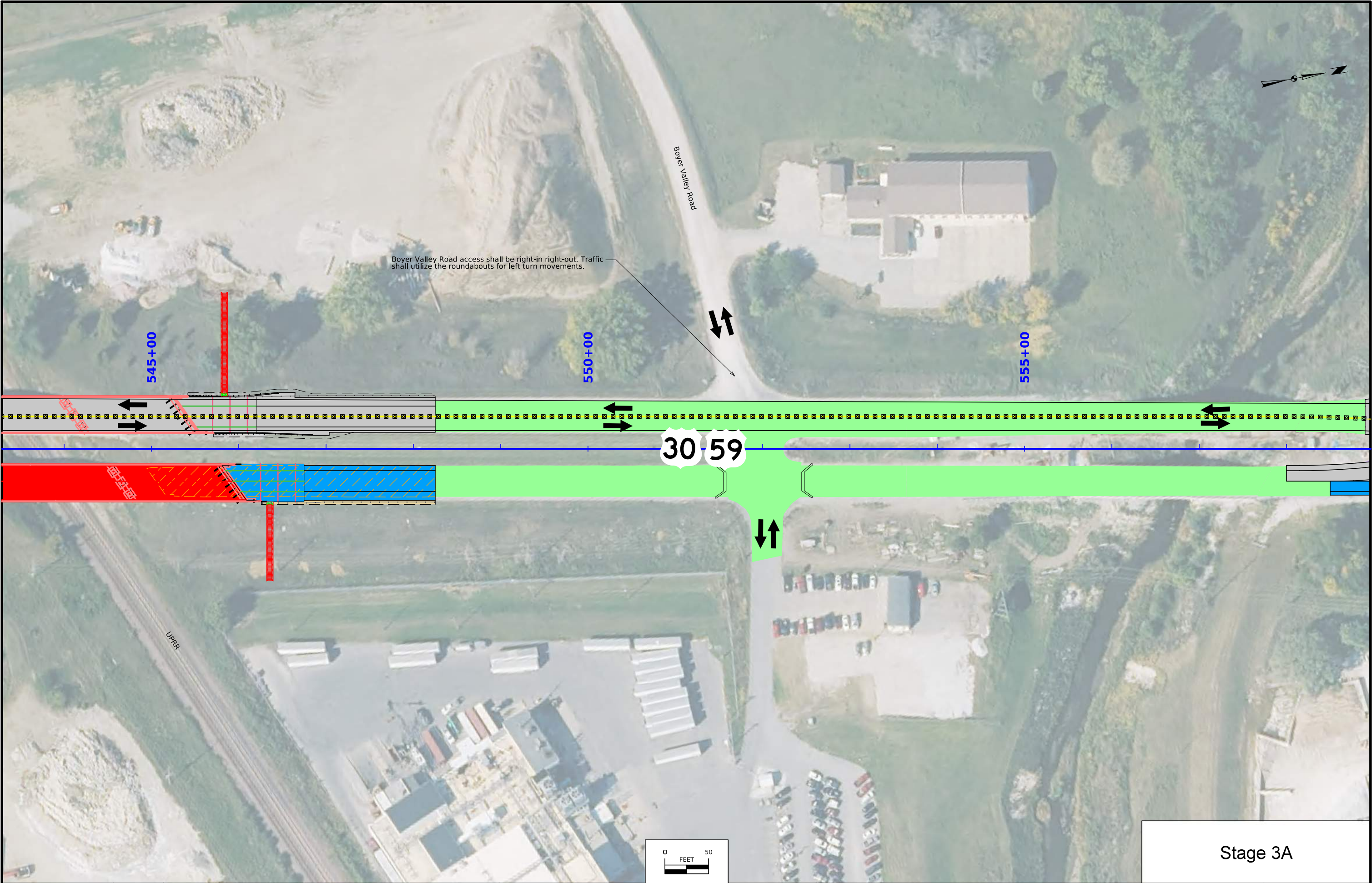


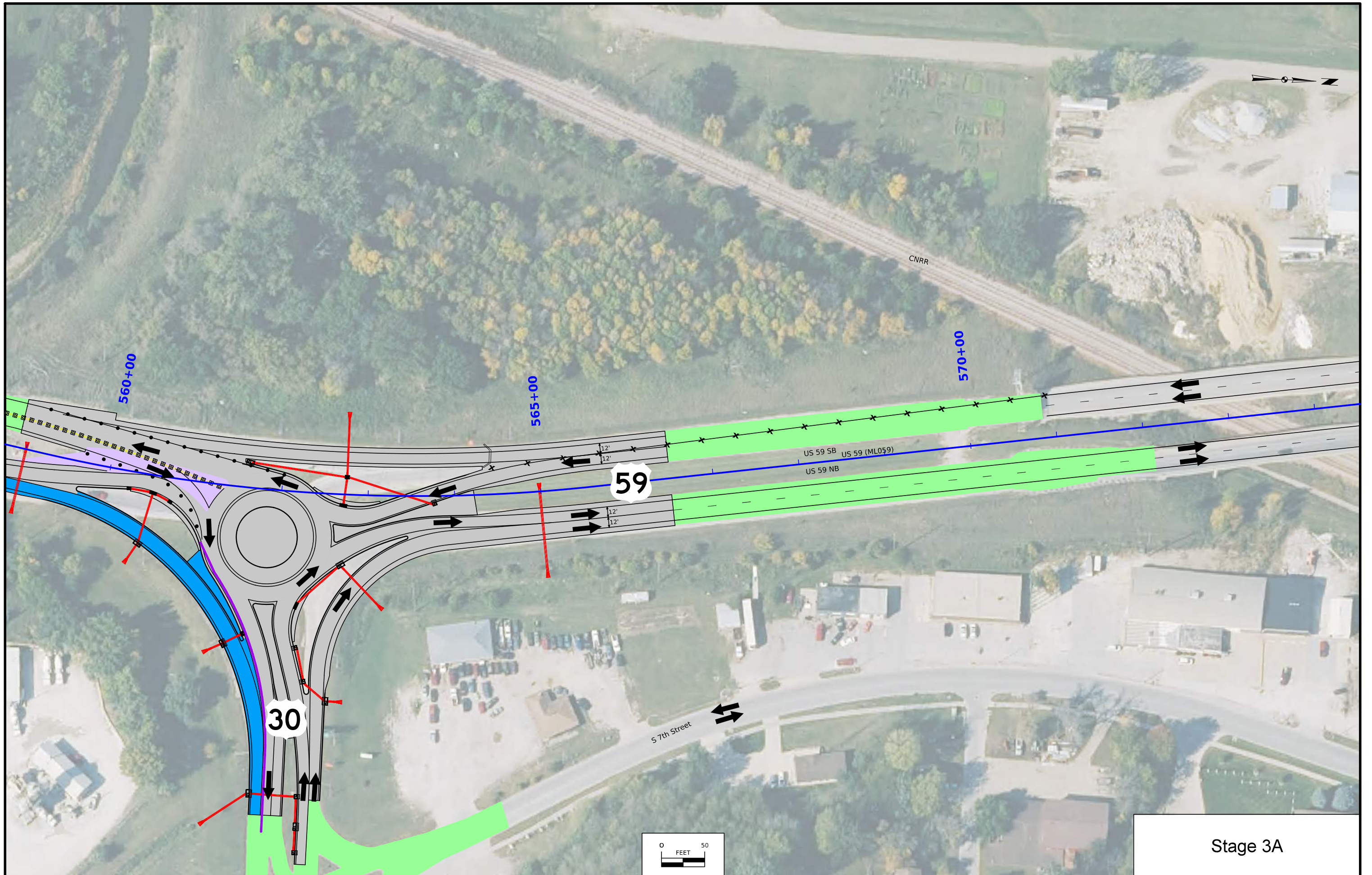
Stage 3A

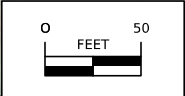
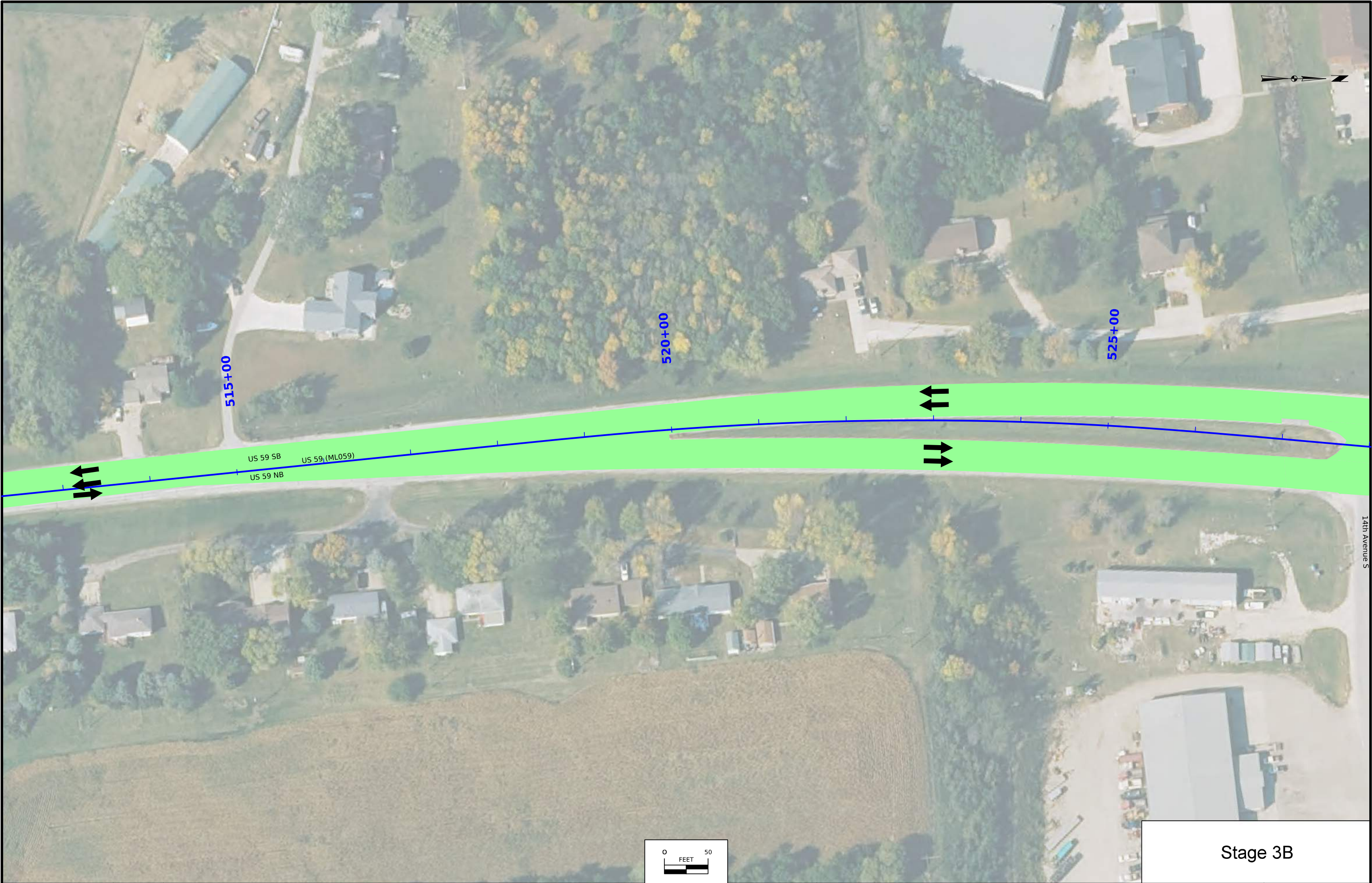
FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT / HNTB	CRAWFORD COUNTY	PROJECT NUMBER BRF-030-2(180)--38-24	SHEET NUMBER J.19
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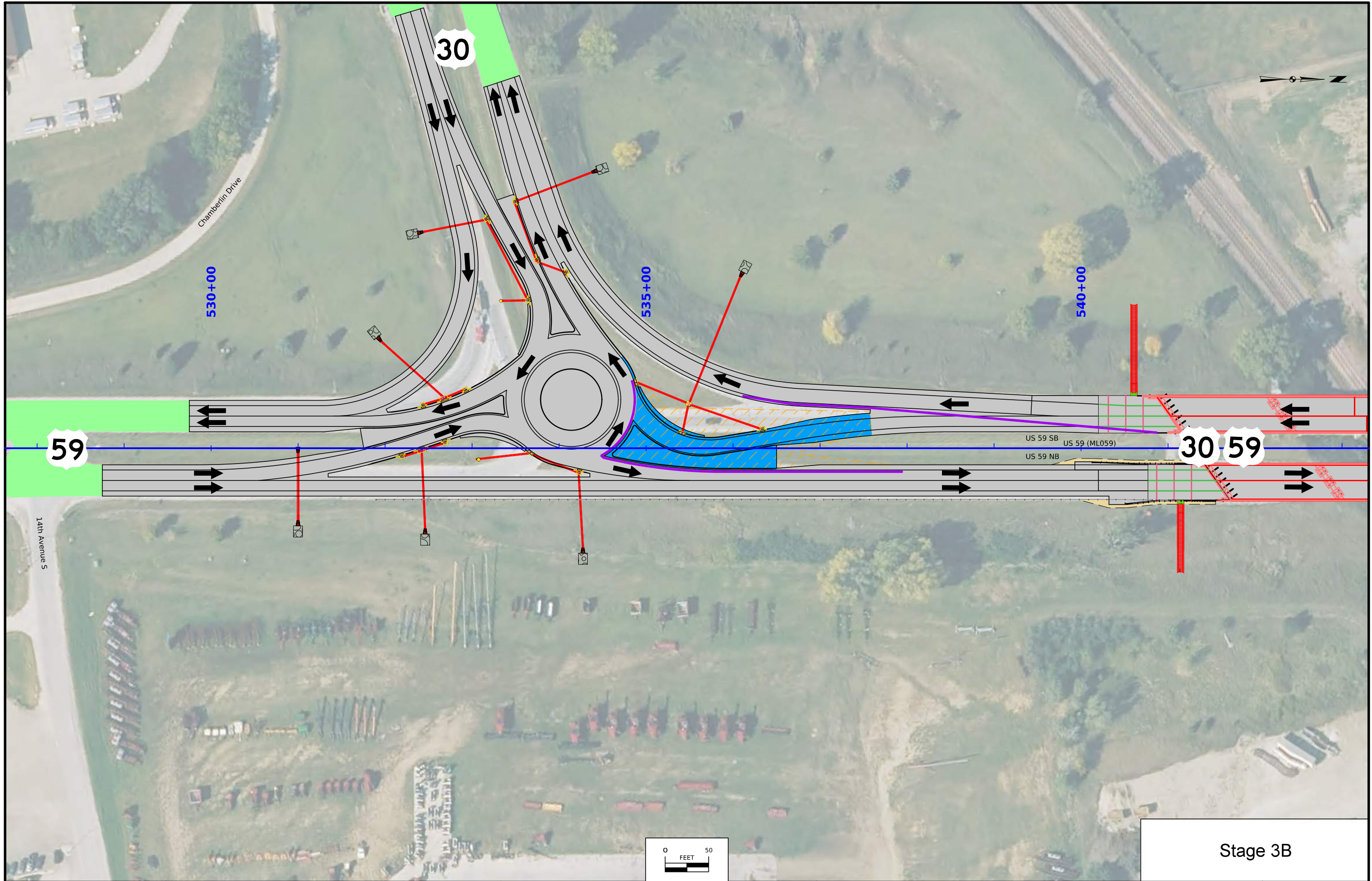
Stage 3A

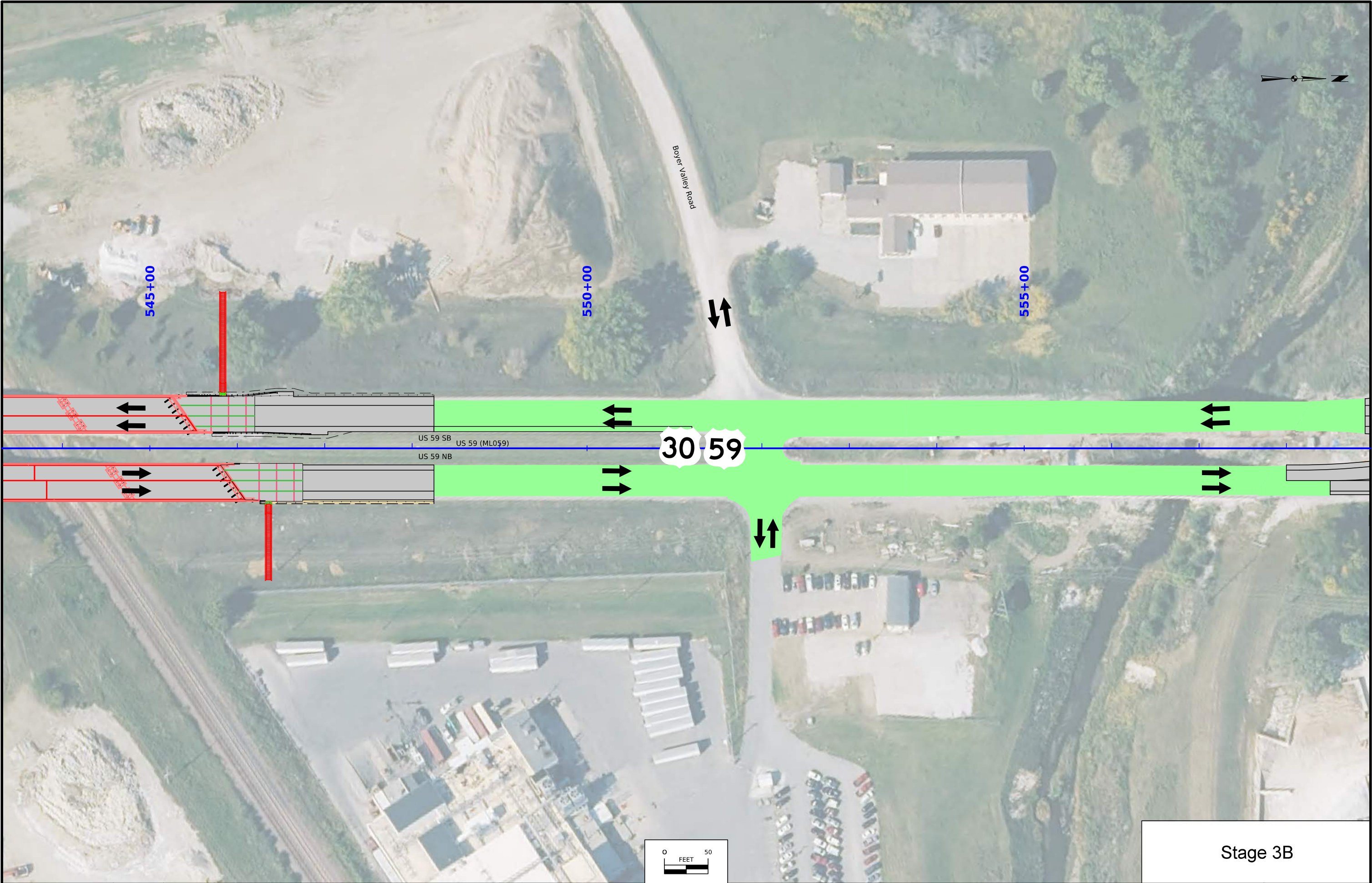


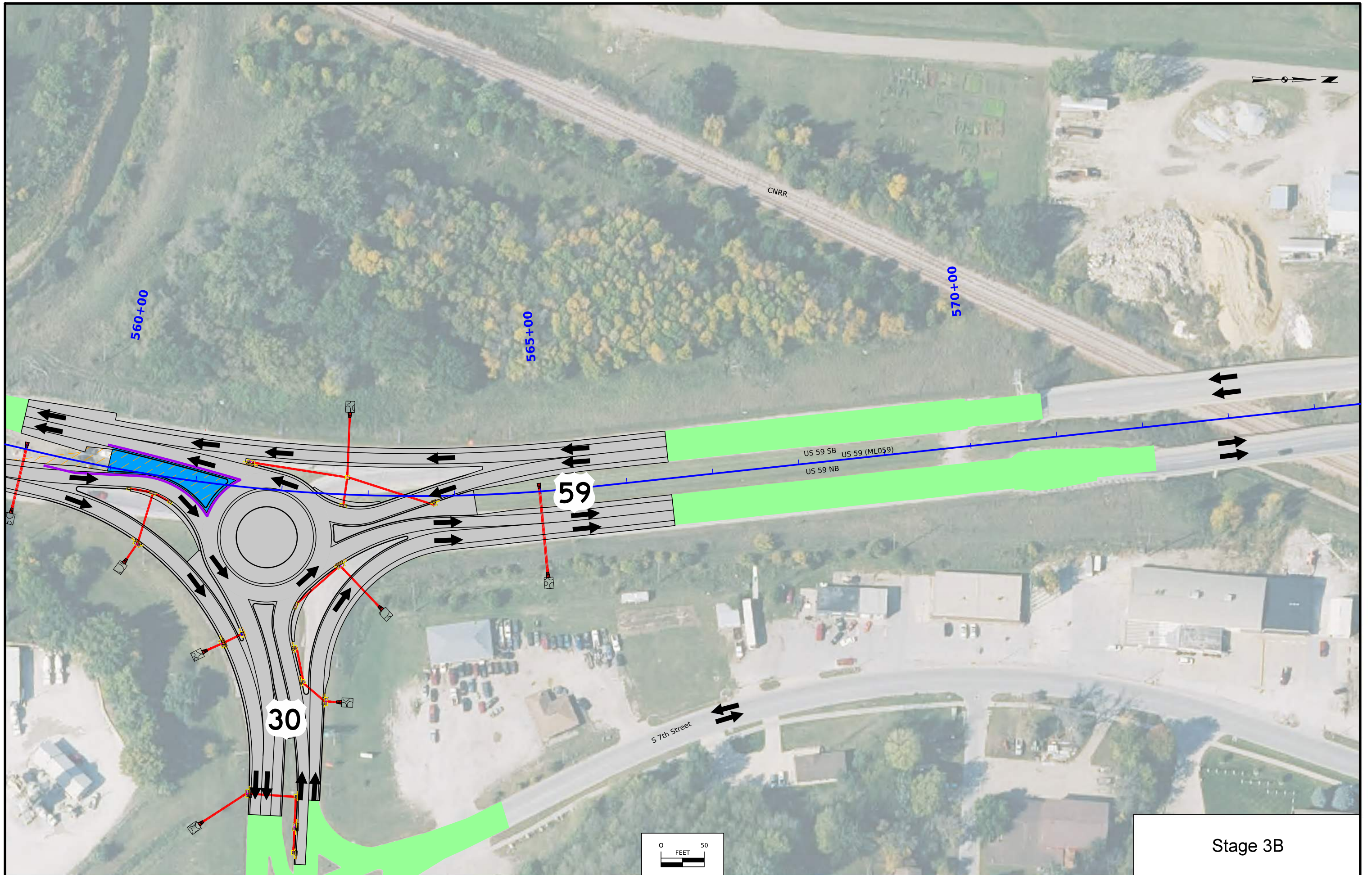




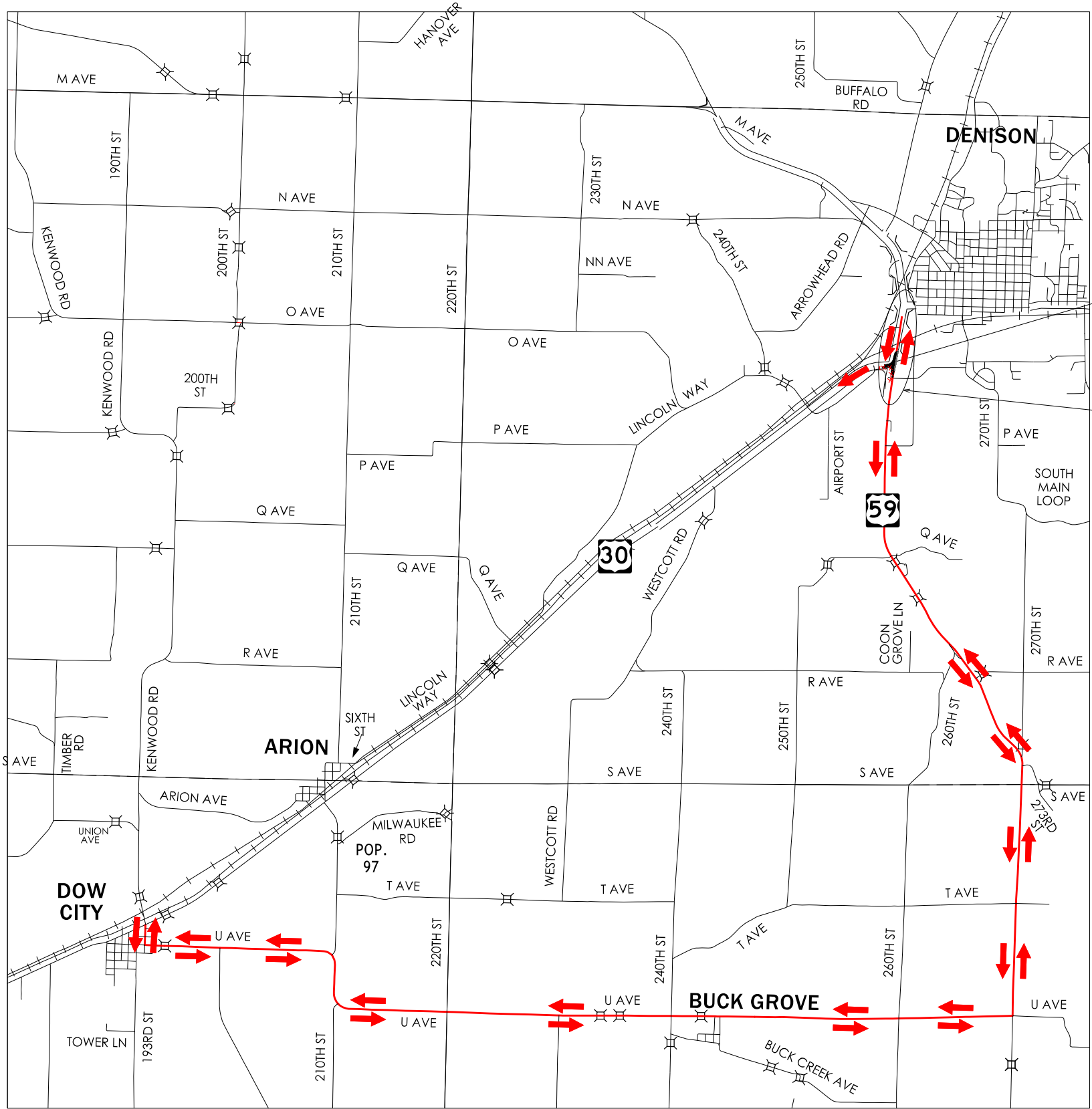
Stage 3B







Stage 3B



- NOTES:
- 1. Contractor to supply, install, maintain, and remove all detour signing installed on Iowa DOT routes as well as City and country routes, for the duration of the project.
 - 2. All sign locations are approximate and may be adjusted to fit field conditions.
 - 3. For road closure details, see Standard Road Plan TC-252 and Standard Specification 2528.



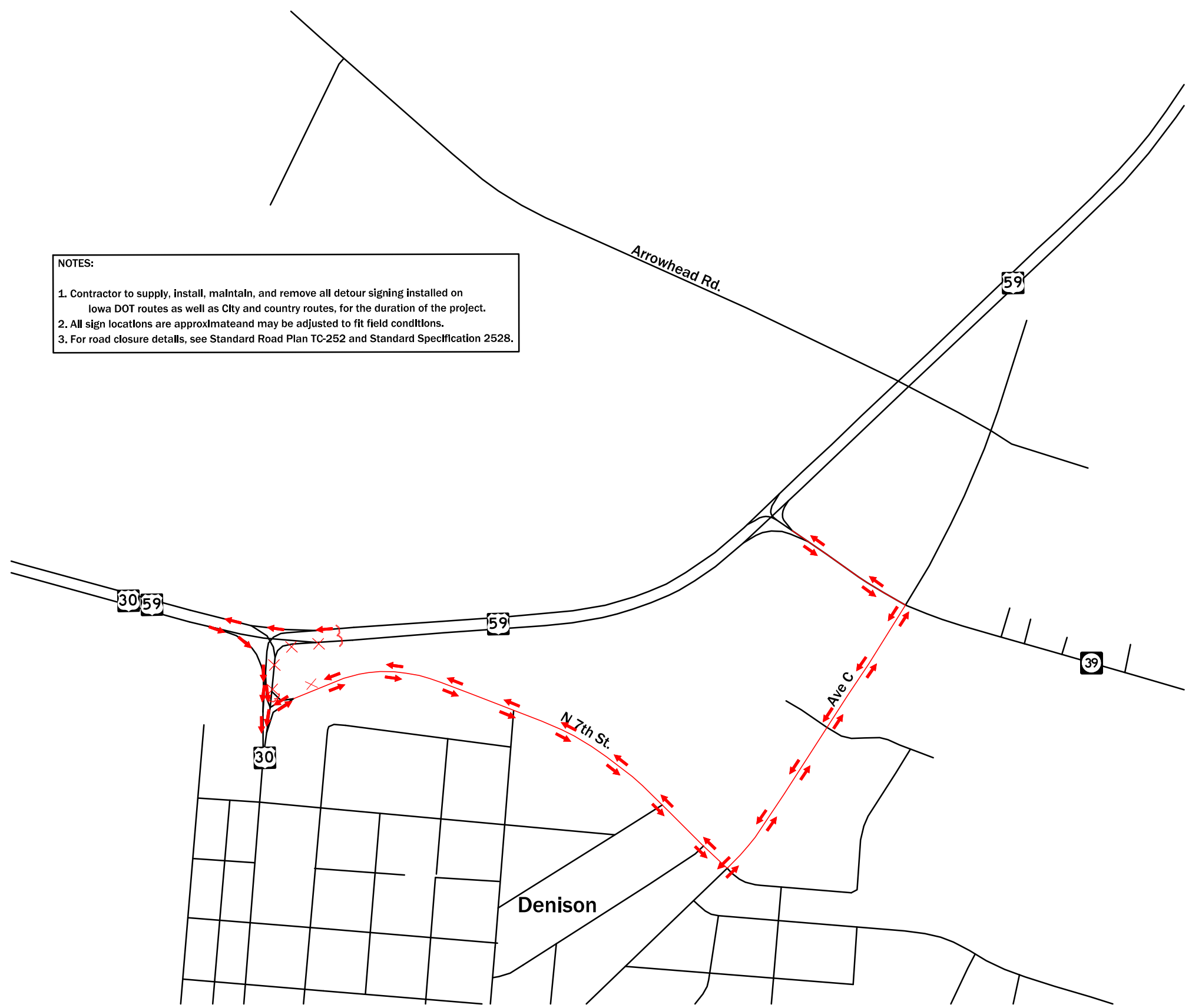
Note: Install detour signage prior to construction of N. Junction Roundabout.

DETOUR MAP
NTS

DETOUR ROUTE
STAGES 1A and 1B
SOUTH ROUNDABOUT



- NOTES:
- 1. Contractor to supply, install, maintain, and remove all detour signing installed on Iowa DOT routes as well as City and country routes, for the duration of the project.
 - 2. All sign locations are approximate and may be adjusted to fit field conditions.
 - 3. For road closure details, see Standard Road Plan TC-252 and Standard Specification 2528.

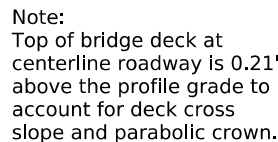


Note: Install detour signage prior to construction of N. Junction Roundabout.

DETOUR MAP
NTS

DETOUR ROUTE
STAGE 1A and 1B
NORTH ROUNDABOUT

- ① Minimum vertical clearance = 24.30'
- ② Grading Surface
- ③ Frame Pier
- ④ Macadam Stone Slope protection (Embedded)
- ⑤ Class A Crushed Stone (Embedded)
- ⑥ Frame Pier or Drilled Shaft (See design notes)



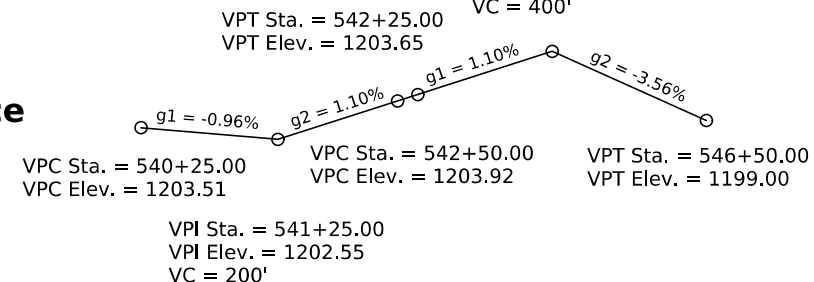
Traffic Estimate

US-30	
2027 AADT	9,300 V.P.D.
2047 AADT	10,200 V.P.D.
2047 DHV	1,050 V.P.H.
TRUCKS	16 %
Total	
Design ESALs	--

VPI Sta. = 544+50.00
VPI Elev. = 1206.12
VC = 400'

1. TSS TL-5 Bridge Railing Proposed (3'-8" Barrier Height)
2. Frame Type Pier Proposed assumed 4'-0" column width, pier type may change in final design and will require a review of heavy construction requirements.
3. Substantial shoring is required to build the buried pile cap. During final design, consider replacing piles, pile cap and columns with drilled shafts installed from EL 1190 ±. Final grading below Pier No. 1 and the south approach would occur after traffic is shifted to the new WB bridge, thereby minimizing the need for shoring. If drilled shafts are used, they shall be designed and constructed with a permanent casing to protect the track against cave-in, subsidence and/or displacement of the surrounding ground. The casing shall be designed for live loads due to the Railroad surcharge in addition to all other applicable loads.
4. Wing extensions are 11'-0".
5. Note possible pile conflicts at Pier 2. Review need for pre-drilling of proposed pile.
6. This design is for the replacement of the existing 210'-0" x 30'-0" continuous steel I-beam bridge, Crawford Design No. 660, FHWA No. 021340, Maint. No. 2454.2L030.
7. Bridge Deck Drainage shall be collected and discharged outside of the UPRR ROW. Deck drainage discharge shall drain away from the UPRR ROW. The proposed bridge structure will not change the quantity and characteristics of the flow in the railroad ditches and drainage structures.
8. The final designer shall coordinate with final sign truss designer on relocated location and bridge accommodations as needed.
9. The existing bridge shall be removed by cut and pick, beginning with the middle span and working outward. Rubblization is not preferred but a variance may be requested by the Contractor to UPRR. Falsework plans will need to be reviewed by UPRR in advance of bridge demolition. Any jack and bore will need to be reviewed for vibrations zones.

Overhead Station = 544+03.28, Offset 20.92' Lt.
Overhead Elevation = 1204.16
Depth of Superstructure = 7.2 ft.
Deck Thickness = 8.5 in.
Estimated Haunch = 2 in.
Beam Depth = 6.325 ft.
Underpass Station = 10+02.02, 33.45' Rt.
Top of Rail Elevation = 1172.66
Minimum Vertical Clearance = 24.03'



Proposed Profile Grade US-30 WB

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

E - Electric Line
G - Gas Line
SAN. - Sanitary Sewer
T - Telephone Line
W - Water Line
FO - Fiber Optic Line
GHP - Gas High Pressure
ST S - Storm Sewer
TV - TV
● = Power Poles

WB US-30 over UPRR
T-83N R-39W
Section 15
Denison Township
Crawford County
FHWA No. 021341
Latitude 42.007644°
Longitude -95.366600°



PRELIMINARY

Design For 35°11' Skew (R.A.)

**432'-0" x 40'-0" Continuous
Welded Plate Girder Bridge**

126'-0" End Spans 180'-0" Interior Span

Situation Plan

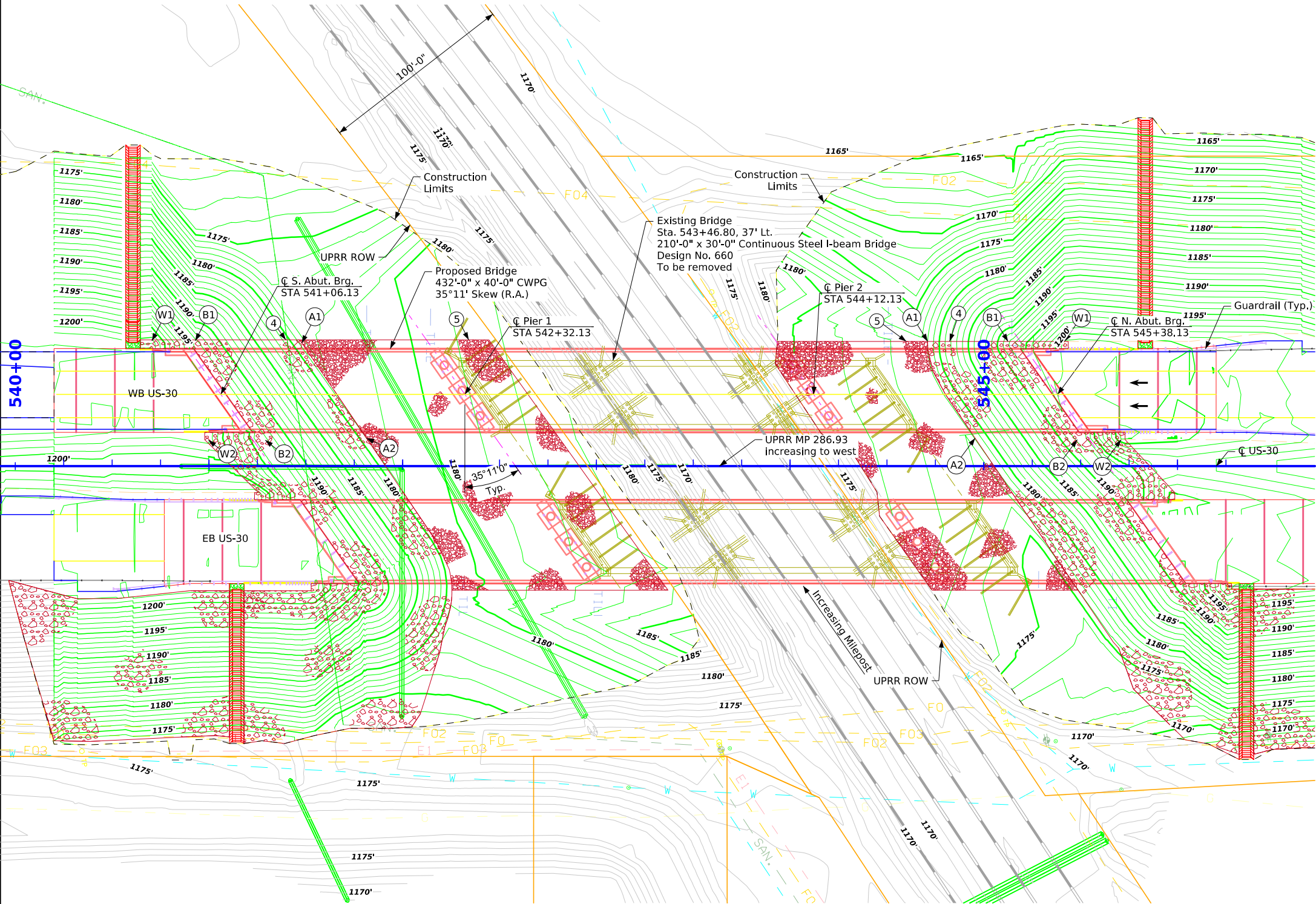
STA. 543+22.13 (US 30 WB) Turn-in Date: Jul. 2025

Crawford County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0229 Design Sheet No. 1 of 5 FHWA No. 021341

Control Point: N 7239745.53, E 16599491.90; Set FENO Monument in median near the southern intersection of Highway 30 and Highway 59. Elev. 1205.60



Site Plan

- ④ Macadam Stone Slope Protection (Embedded)
- ⑤ Class A Crushed Stone (Embedded)

Berm Slope Location Table						
Points	South Abutment			North Abutment		
	Station	Offset	Elev.	Station	Offset	Elev.
A1	541+50.91	63.58' Lt.	1177.78	544+69.02	63.58' Lt.	1177.32
A2	541+82.77	14.42' Lt.	1178.61	544+91.40	14.42' Lt.	1176.98
B1	540+93.81	63.58' Lt.	1193.37	545+12.97	63.58' Lt.	1192.33
B2	541+28.47	14.42' Lt.	1193.37	545+47.63	14.42' Lt.	1192.33
W1	540+70.56	63.58' Lt.	1202.63	545+41.62	63.58' Lt.	1201.42
W2	540+99.82	14.42' Lt.	1202.70	545+70.93	14.42' Lt.	1200.93

Berm slope elevations reflect the grading surface.



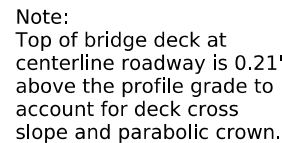
- Design Notes
- TSS TL-5 Bridge Railing Proposed (3'-8" Barrier Height)
 - Frame Type Pier Proposed assumed 4'-0" column width, pier type may change in final design and will require a review of heavy construction requirements.
 - Substantial shoring is required to build the buried pile cap. During final design, consider replacing piles, pile cap and columns with drilled shafts installed from EL 1190 ±. Final grading below Pier No. 1 and the south approach would occur after traffic is shifted to the new WB bridge, thereby minimizing the need for shoring. If drilled shafts are used, they shall be designed and constructed with a permanent casing to protect the track against cave-in, subsidence and/or displacement of the surrounding ground. The casing shall be desinged for live loads due to the Railroad surcharge in addition to all other applicable loads.

PRELIMINARY

Design For 35°11' Skew (R.A.)
432'-0" x 40'-0" Continuous Welded Plate Girder Bridge
126'-0" End Spans 180'-0" Interior Span
Situation Plan-Site
STA. 543+22.13 (US 30 WB) Turn-in Date: Jul. 2025
Crawford County
IOWA DEPARTMENT OF TRANSPORTATION
Design No. 0229 Design Sheet No. 2 of 5 FHWA No. 021341



- ① Minimum vertical clearance = 23.58'
- ② Grading Surface
- ③ Frame Pier
- ④ Macadam Stone Slope protection (Embedded)
- ⑤ Class A Crushed Stone (Embedded)



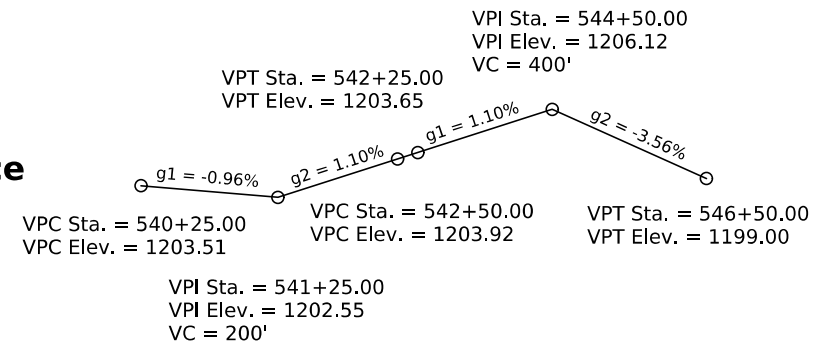
Traffic Estimate

US-30	
2027 AADT	9,300 V.P.D.
2047 AADT	10,200 V.P.D.
2047 DHV	1,050 V.P.H.
TRUCKS	16 %
Total	
Design ESALs	--

1. TSS TL-5 Bridge Railing Proposed (3'-8" Barrier Height)
2. Frame Type Pier Proposed assumed 4'-0" column width, pier type may change in final design and will require a review of heavy construction requirements. If drilled shafts are used, drilled shafts within the influence of track surcharge shall be designed and constructed with a permanent casing to protect the track against cave-in, subsidence and/or displacement of the surrounding ground. The casing shall be designed for live loads due to railroad surcharge in addition to all other applicable loads.
3. Wing extensions are 11'-0".
4. Note possible pile conflicts at Pier 2. Review need for pre-drilling of proposed pile.

5. This design is for the replacement of the existing 210'-0" x 30'-0" continuous steel I-beam bridge, Crawford Design No. 660, FHWA No. 021330, Maint. No. 2454.2L030.
6. Bridge Deck Drainage shall be collected and discharged outside of the UPRR ROW. Deck drainage discharge shall drain away from the UPRR ROW. The proposed bridge structure will not change the quantity and characteristics of the flow in the railroad ditches and drainage structures.
7. The final designer shall coordinate with final sign truss designer on relocated location and bridge accommodations as needed.
8. The existing bridge shall be removed by cut and pick, beginning with the middle span and working outward. Rubblization is not preferred but a variance may be requested by the Contractor to UPRR. Falsework plans will need to be reviewed by UPRR in advance of bridge demolition. Any jack and bore will need to be reviewed for vibrations zones.

Overhead Station = 544+56.67, Offset 57.08' Rt.
Overhead Elevation = 1203.54
Depth of Superstructure = 7.2 ft.
Deck Thickness = 8.5 in.
Estimated Haunch = 2 in.
Beam Depth = 6.325 ft.
Underpass Station = 9+08.08, 32.82' Rt.
Top of Rail Elevation = 1172.76
Minimum Vertical Clearance = 23.58'



Proposed Profile Grade US-30 WB

Utilities Note:

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

General Utility Symbols:

E - Electric Line
G - Gas Line
SAN. - Sanitary Sewer
T - Telephone Line
W - Water Line

FO - Fiber Optic Line
GHP - Gas High Pressure
ST S - Storm Sewer
TV - TV
● - Power Poles

Location

EB US-30 over UPRR
T-83N R-39W
Section 15
Denison Township
Crawford County
FHWA No. 021331
Latitude 42.007027°
Longitude -95.366470°



PRELIMINARY

Design For 35°11' Skew (R.A.)

432'-0" x 40'-0" Continuous Welded Plate Girder Bridge

126'-0" End Spans 180'-0" Interior Span

Situation Plan

STA. 543+74.30 (US 30 EB) Turn-in Date: Jul. 2025

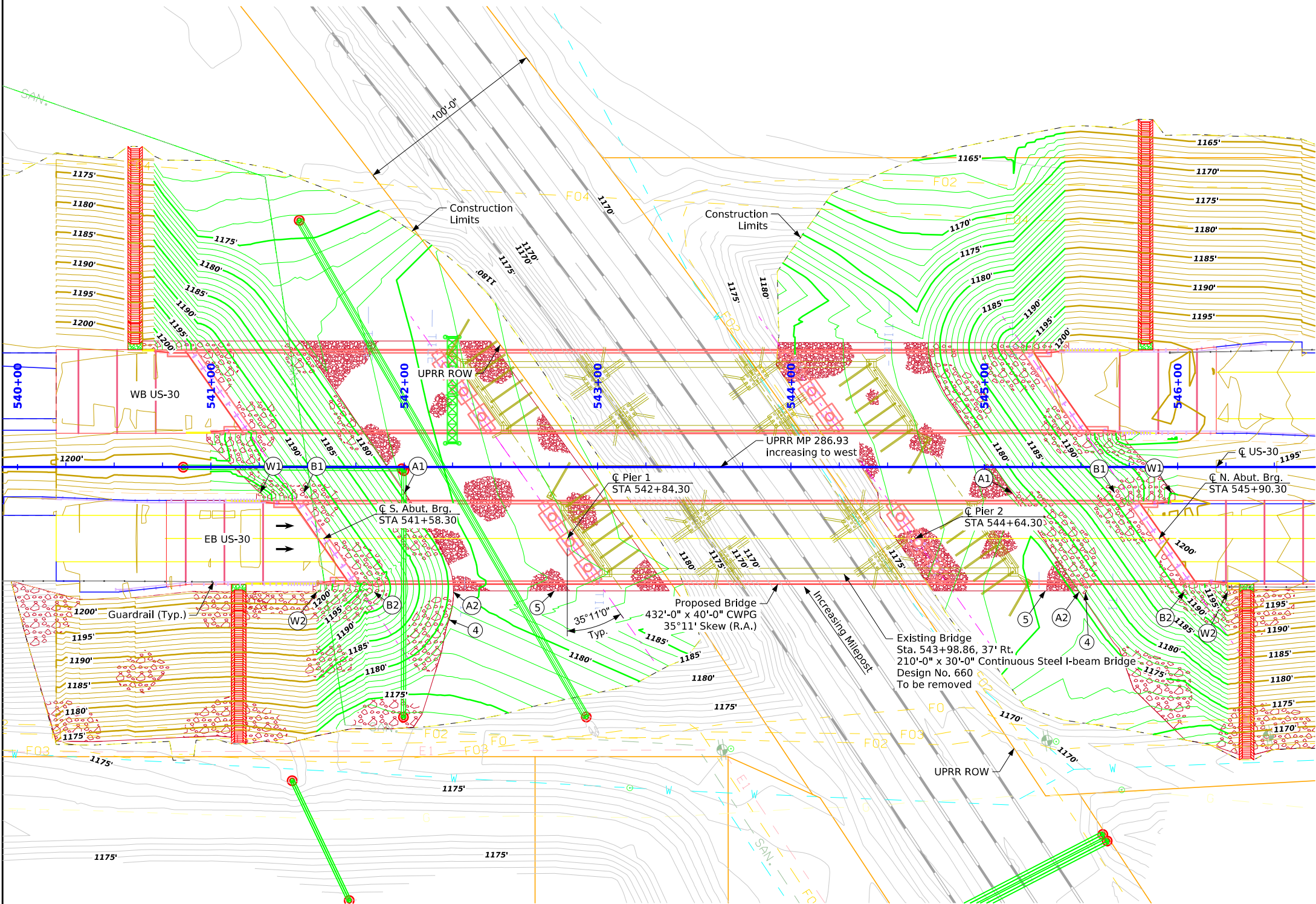
Crawford County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0129 Design Sheet No. 3 of 5 FHWA No. 021331

Situation Plan

Control Point: N 7239745.53, E 16599491.90; Set FENO Monument in median near the southern intersection of Highway 30 and Highway 59. Elev. 1205.60



Site Plan

- ④ Macadam Stone Slope Protection (Embedded)
- ⑤ Class A Crushed Stone (Embedded)

Berm Slope Location Table						
Points	South Abutment			North Abutment		
	Station	Offset	Elev.	Station	Offset	Elev.
A1	542+01.47	14.42' Rt.	1179.07	545+10.10	14.42' Rt.	1176.43
A2	542+24.44	63.58' Rt.	1179.44	545+41.98	63.58' Rt.	1174.23
B1	541+48.80	14.42' Rt.	1193.45	545+67.96	14.42' Rt.	1190.78
B2	541+83.46	63.58' Rt.	1193.45	546+02.62	63.58' Rt.	1190.78
W1	541+25.55	14.42' Rt.	1202.68	545+96.61	14.42' Rt.	1200.26
W2	541+54.81	63.58' Rt.	1202.57	546+25.86	63.58' Rt.	1199.28

Berm slope elevations reflect the grading surface.



- Design Notes
- TSS TL-5 Bridge Railing Proposed (3'-8" Barrier Height)
 - Frame Type Pier Proposed assumed 4'-0" column width, pier type may change in final design and will require a review of heavy construction requirements. If drilled shafts are used, drilled shafts within the influence of track surcharge shall be designed and constructed with a permanent casing to protect the track against cave-in, subsidence and/or displacement of the surrounding ground. The casing shall be designed for live loads due to railroad surcharge in addition to all other applicable loads.

PRELIMINARY

Design For 35°11' Skew (R.A.)

432'-0" x 40'-0" Continuous Welded Plate Girder Bridge

126'-0" End Spans180'-0" Interior Span

Situation Plan-Site

STA. 543+74.30 (US 30 EB)Turn-in Date: Jul. 2025

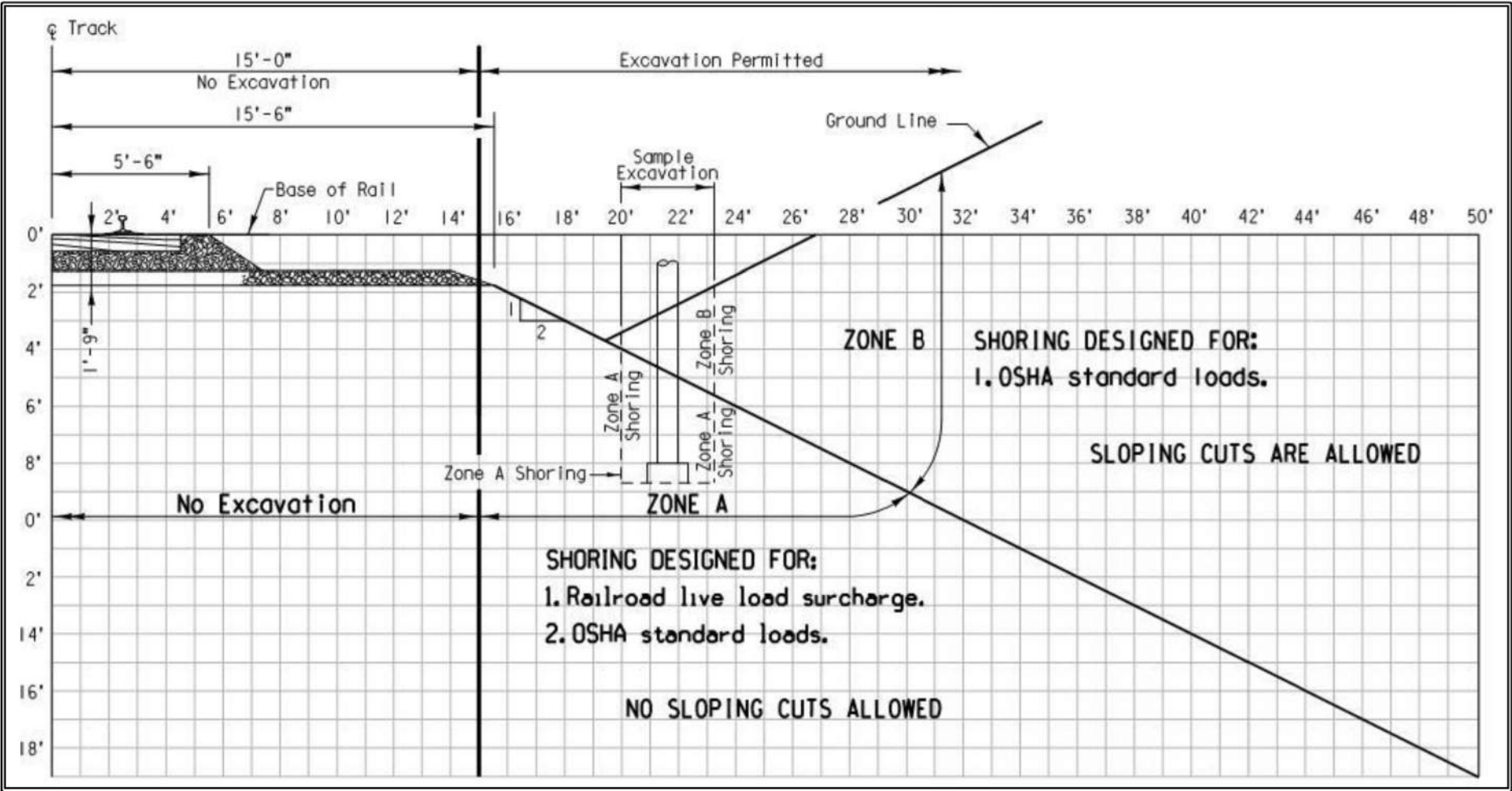
Crawford County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0129Design Sheet No. 4 of 5FHWA No. 021331



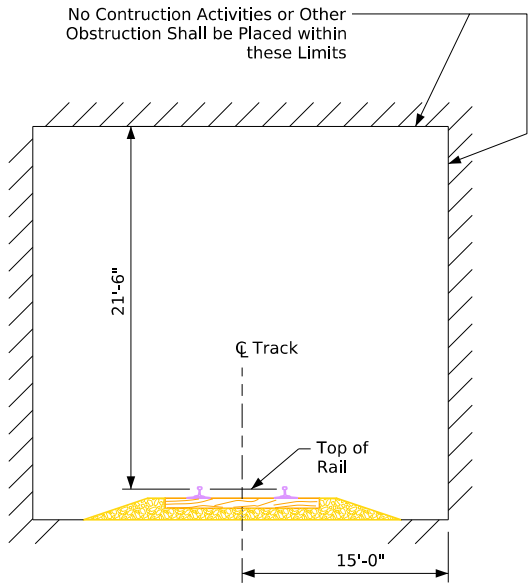
Revised 07-2019: For UPRR, Changed Horizontal Distance of Minimum Construction Clearance Envelope to 15'-0" (Was 12'-0").
Revised 03-2022: Updated "General Excavation Zones" Detail and "General Shoring Notes" to Follow the "UPRR & BNSF Guidelines for Temporary Shoring, 2021".
Issued 12-2008.
MiscellaneousBridges.dgn - 1067 - This Sheet Re-Issued 11-2023. Sheet Format Update.



General Excavation Zones
Source: UPRR Guideline for Temporary Shoring, 2021

Railroad General Notes:
Railroad review and approval of shoring, erection, demolition, and falsework is required. Allow a minimum of four weeks for the review and approval of each submittal.
The proposed grade separation project shall not increase the quantity and/or characteristics of the flow in the railroad's ditches and/or drainage structures.
The elevation of the existing top-of-rail profile shall be verified before beginning construction. All discrepancies shall be brought to the attention of the railroad prior to construction.
The Contractor must submit a proposed method of erosion and sediment control and have the method approved by the railroad.
All shoring systems that impact the railroad's operations and/or supports the railroad's embankment shall be designed and constructed per current railroad guidelines for temporary shoring.
All demolitions within the railroad's right-of-way and/or demolition that may impact the railroad's tracks or operations shall be in compliance with the railroad's demolition guidelines.
Erection over the railroad's right-of-way shall be designed to cause no interruption to the railroad's operation, enabling the track(s) to remain open to traffic per the railroad's requirements.
All construction phasing that may impact the railroad operations shall be designed to cause no interruption to the railroad's operation, enabling the track(s) to remain open to traffic per the railroad's requirements.
False-work clearances shall comply with minimum construction clearances.
All permanent clearances shall be verified before project closing.
For railroad coordination please refer to the railroad coordination requirements as part of special provisions.

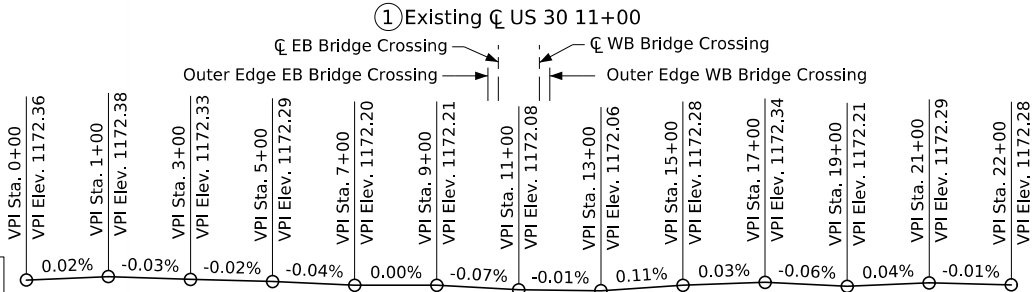
General Shoring Notes:
All dimensions are measured perpendicular to track. Prior to commencing any work, the Contractor shall submit for approval by the Railroad detailed plans indicating the nature and extent of the track protection shoring proposed. The Contractor shall install the temporary shoring system per the approved plans. Design of the temporary shoring system to comply with UPRR Guidelines for Temporary Shoring.
For excavations which encroach into Zone A or B, shoring plans shall be accompanied by design calculations. Plans and calculations must be signed and stamped by a Professional Engineer registered in the State of Iowa.



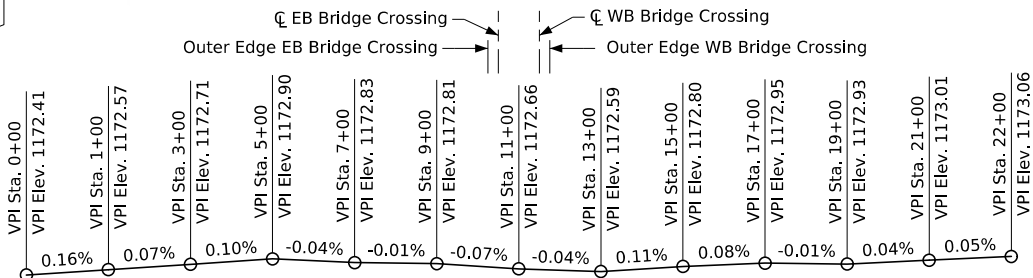
Minimum Construction Clearance Envelope
(Normal to Railroad)

Top of Rail Elevations
(Stations Increase with Milepost Increase)

Main Line			
Alignment: Left Rail		Alignment: Right Rail	
Station	Elevation	Station	Elevation
0+00	1172.36	0+00	1172.41
1+00	1172.38	1+00	1172.57
2+00	1172.38	2+00	1172.62
3+00	1172.33	3+00	1172.71
4+00	1172.33	4+00	1172.87
5+00	1172.29	5+00	1172.90
6+00	1172.21	6+00	1172.82
7+00	1172.20	7+00	1172.83
8+00	1172.20	8+00	1172.85
9+00	1172.21	9+00	1172.81
10+00	1172.15	10+00	1172.79
① 11+00	1172.08	① 11+00	1172.66
12+00	1172.05	12+00	1172.58
13+00	1172.06	13+00	1172.59
14+00	1172.16	14+00	1172.80
15+00	1172.28	15+00	1172.80
16+00	1172.35	16+00	1172.98
17+00	1172.34	17+00	1172.95
18+00	1172.32	18+00	1172.86
19+00	1172.21	19+00	1172.93
20+00	1172.24	20+00	1172.93
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22+00	1172.28	22+00	1173.06

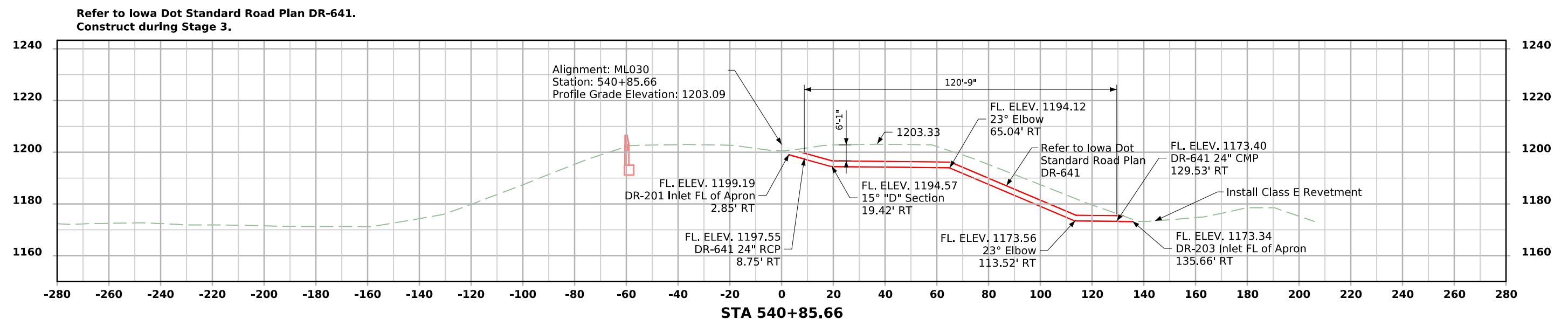


Left Rail Profile



Right Rail Profile

UPRR General Notes & Shoring Details



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		

NOTES:

Text

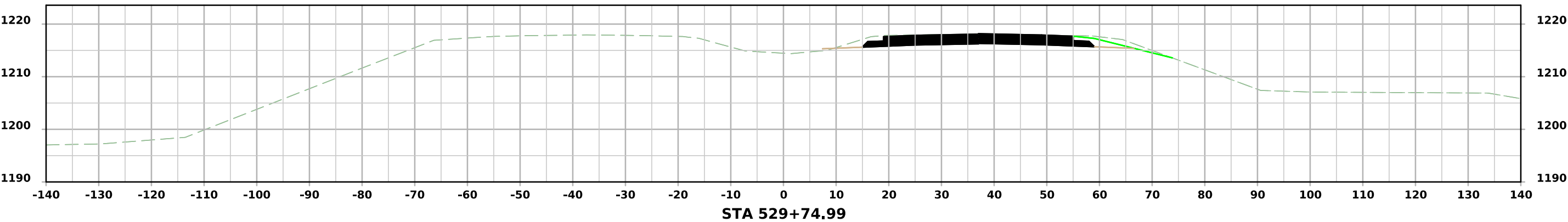
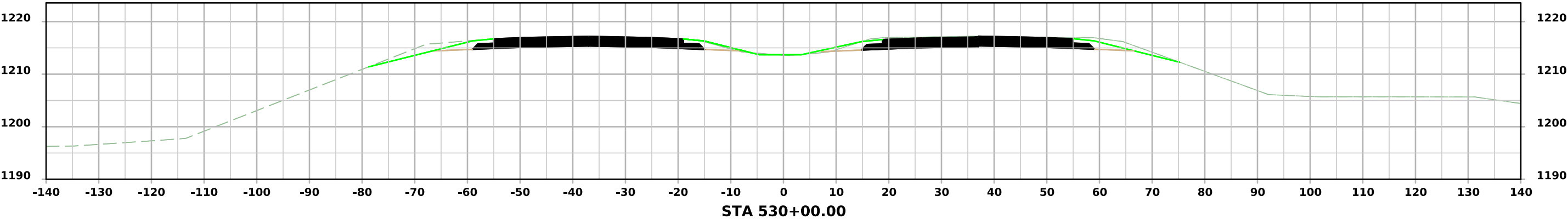
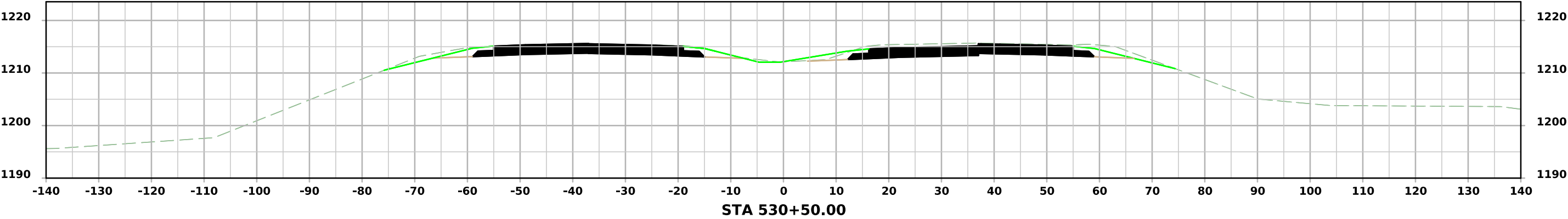
NOTES:

Text

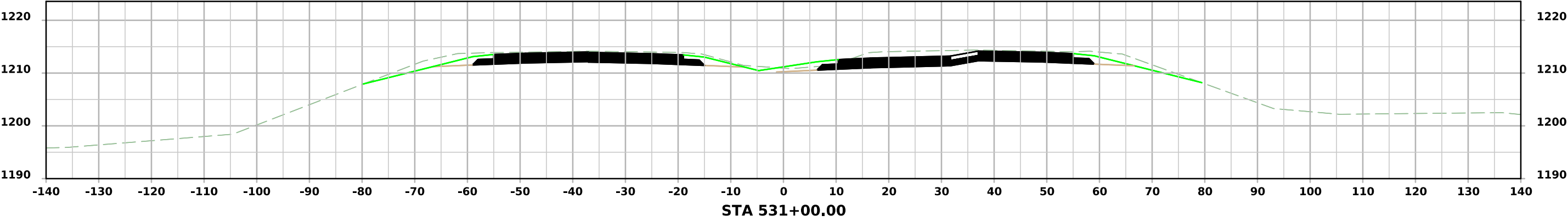
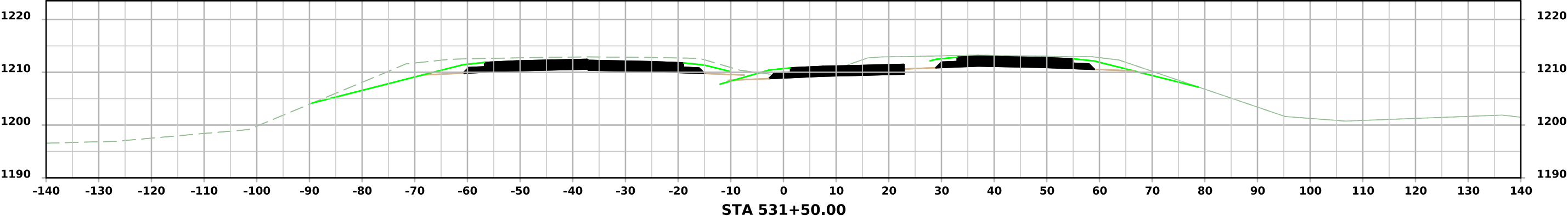
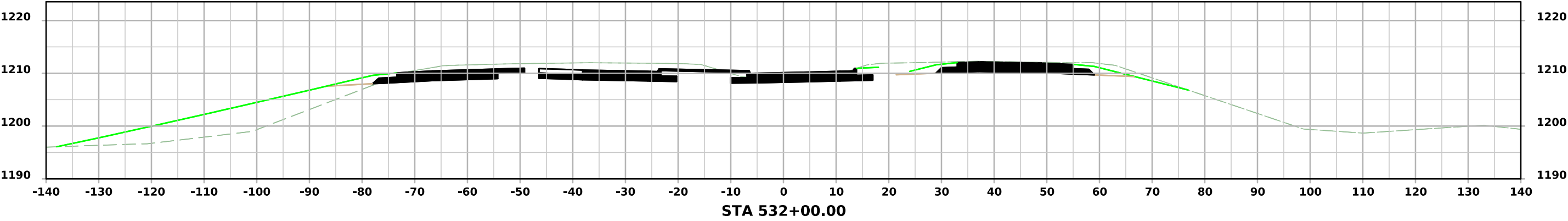
CROSS SECTIONS
LEGEND AND INFORMATION SHEET
(COVERS SHEET SERIES W)

Revised T01 in process by Iowa DOT and XS will be reprinted with all exist. ROW labels once complete.

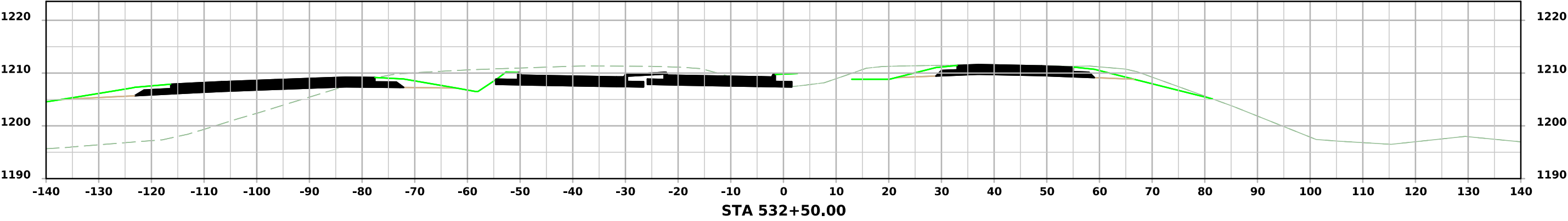
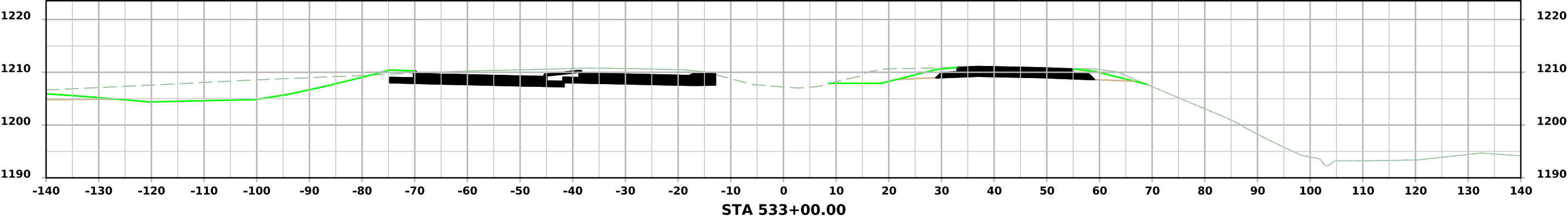
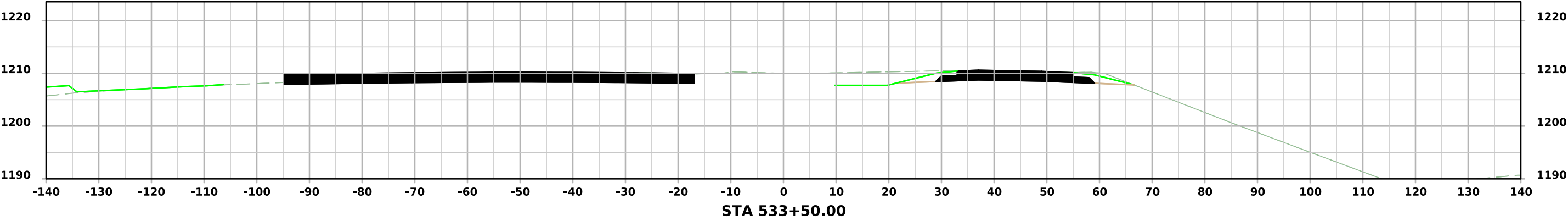
Revised D05 focused on exterior to identify potential impact to ROW. Interior modeling for roundabouts will occur during final design.



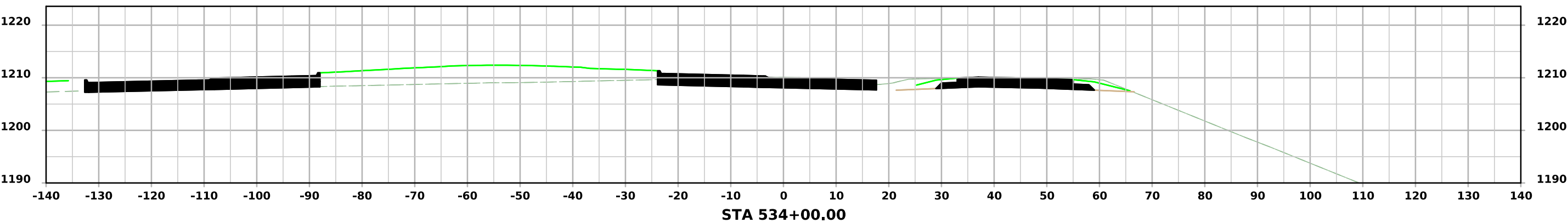
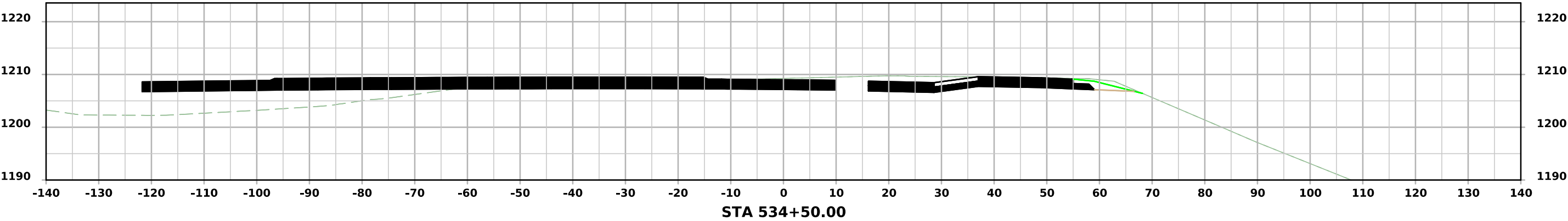
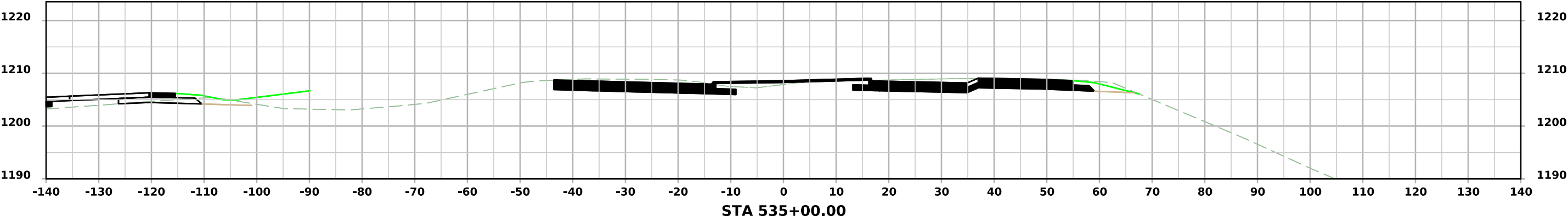
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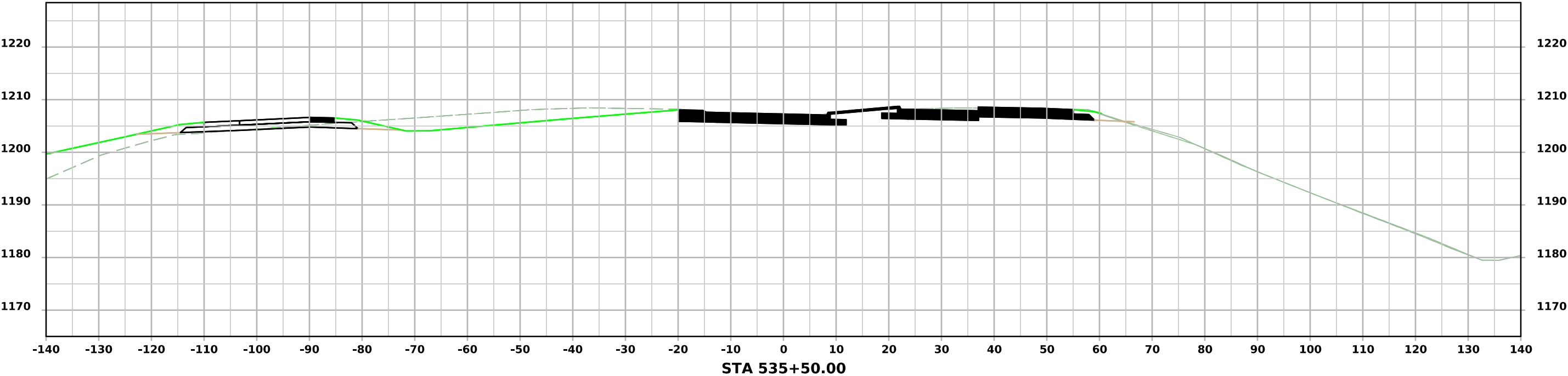
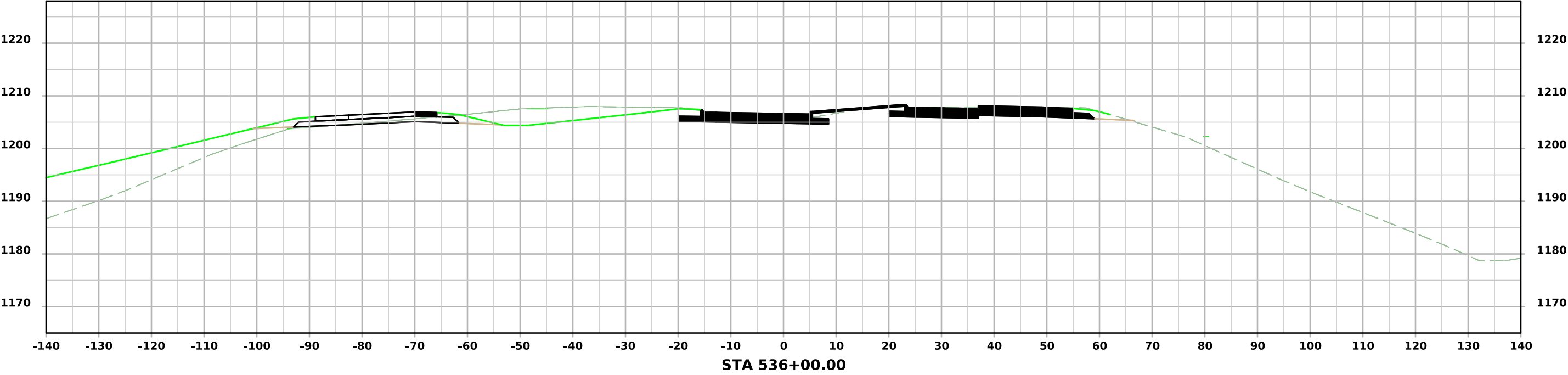
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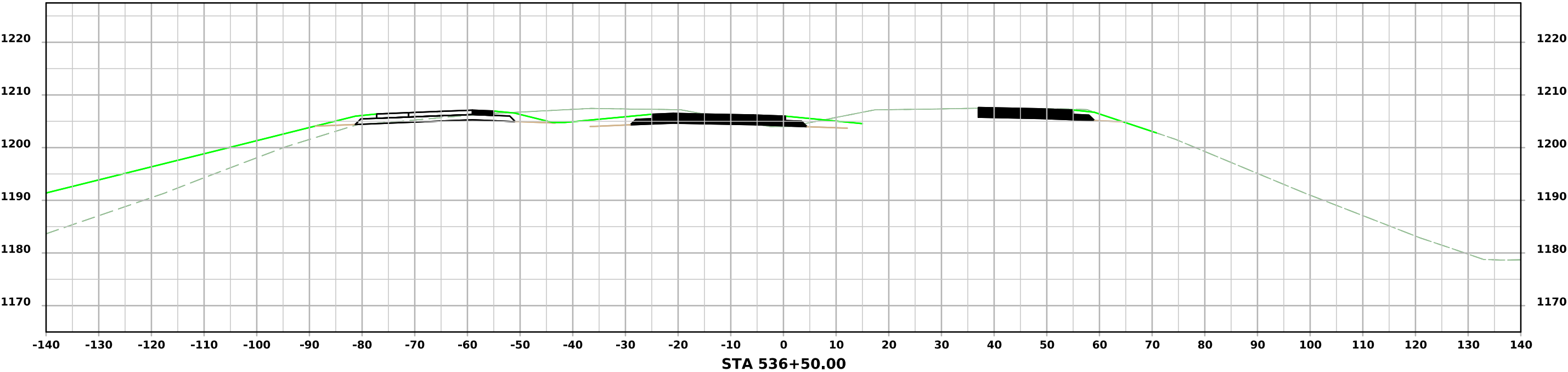
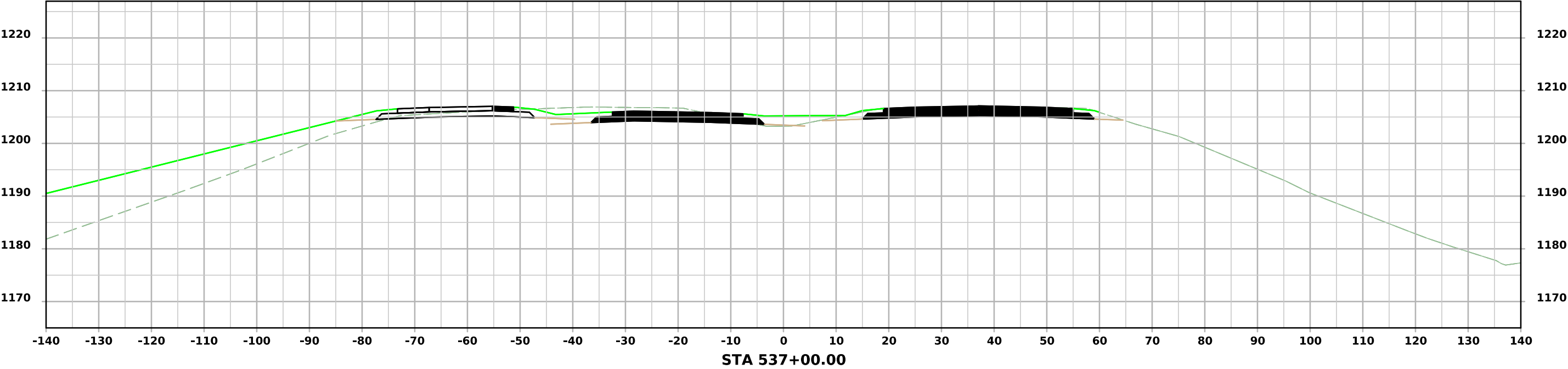


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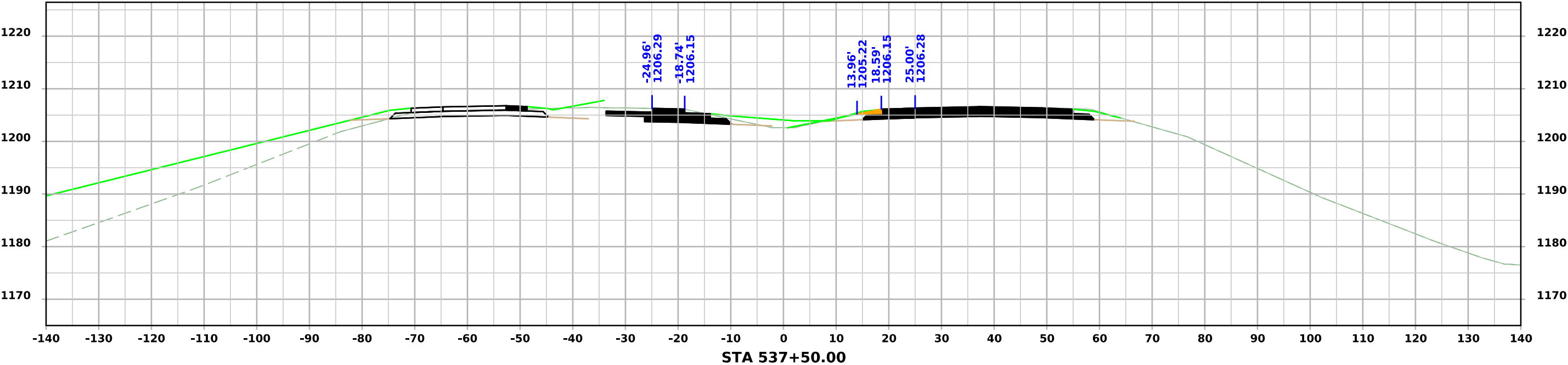
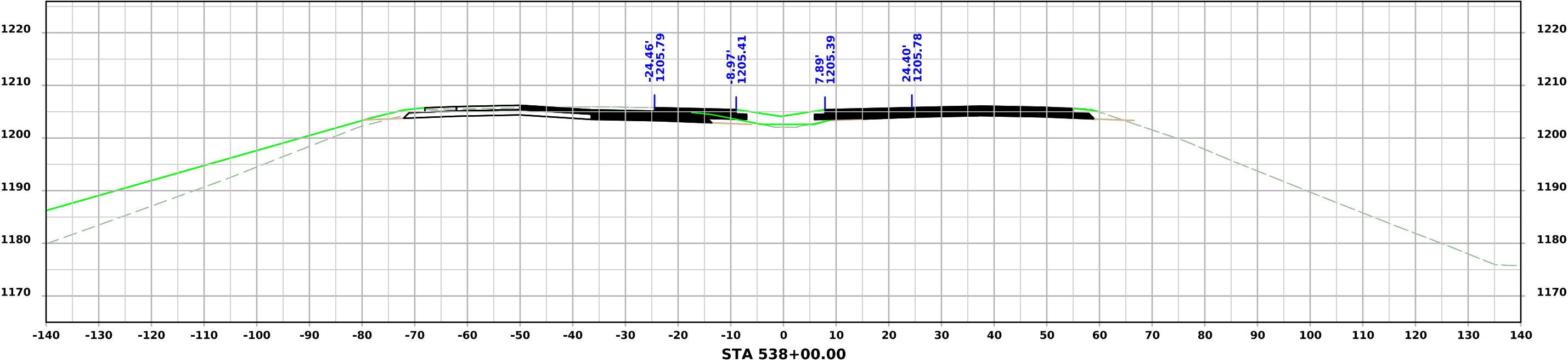


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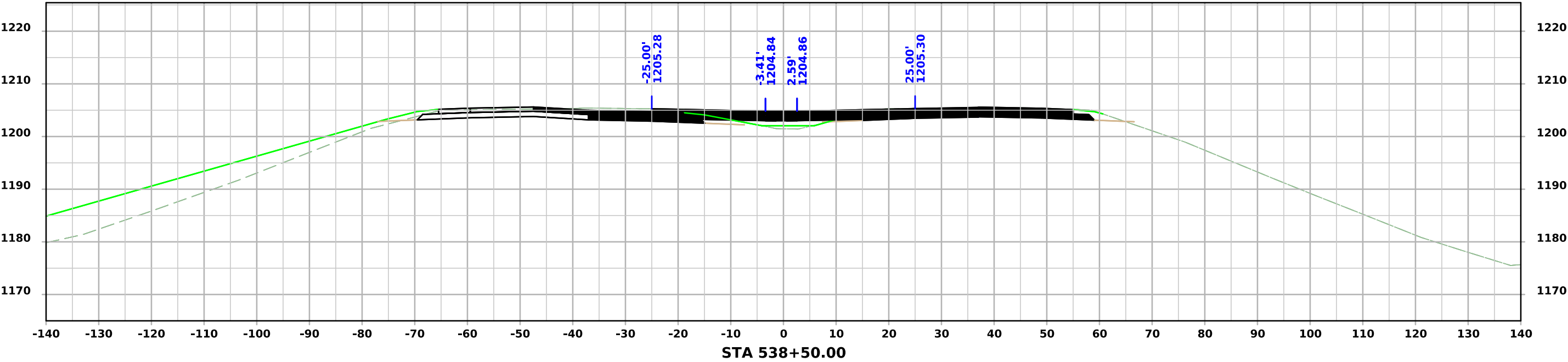
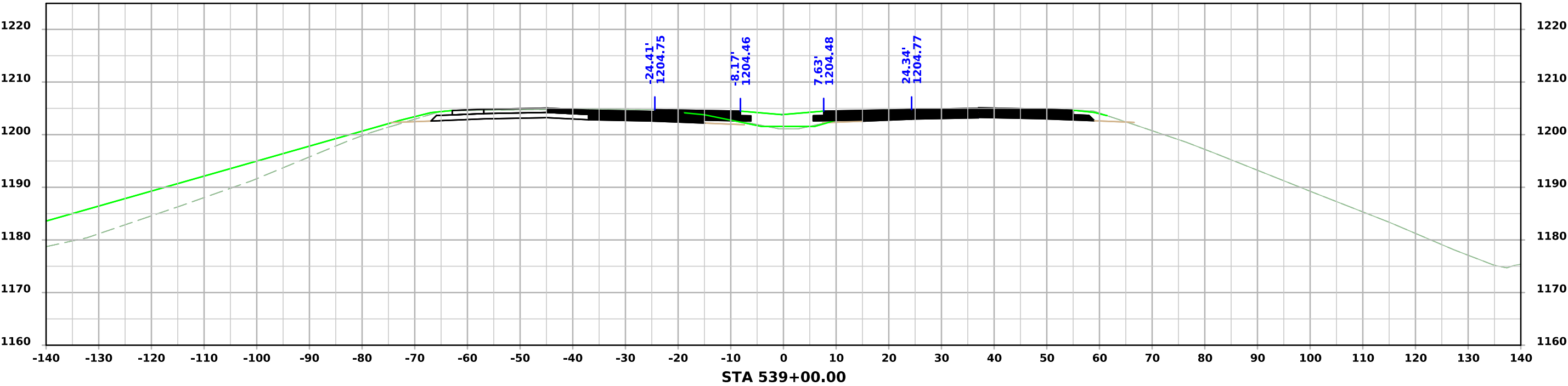




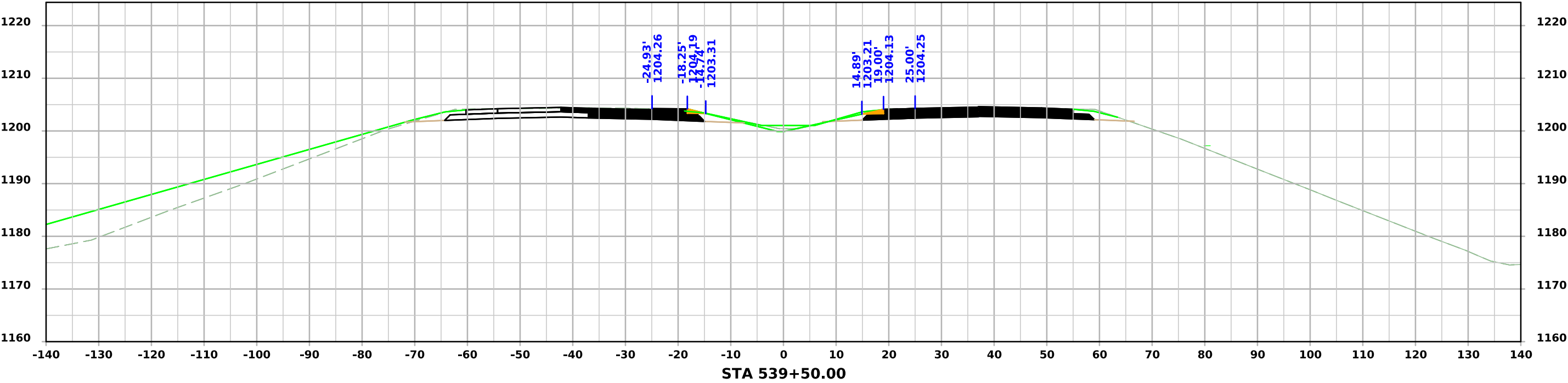
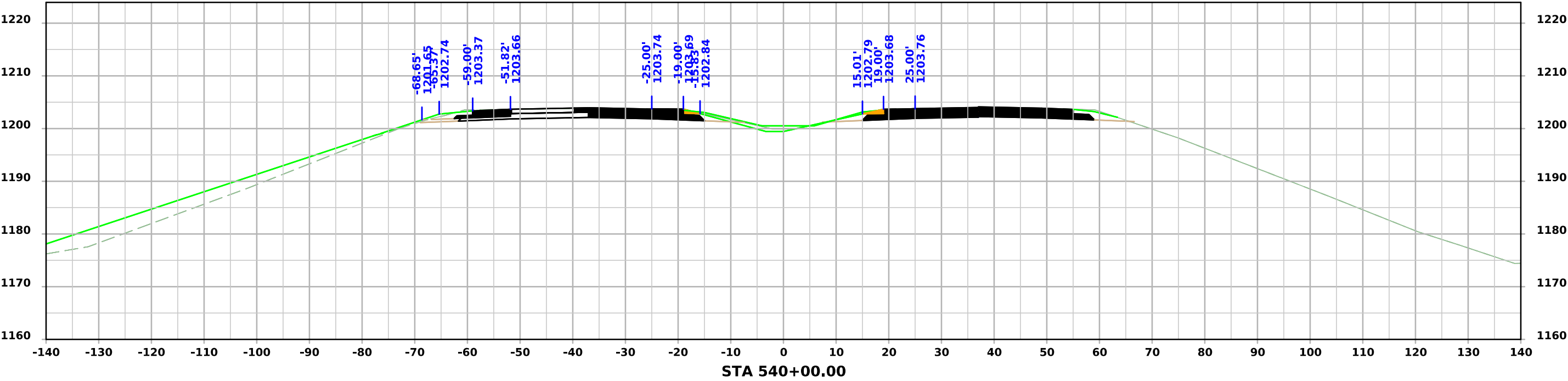
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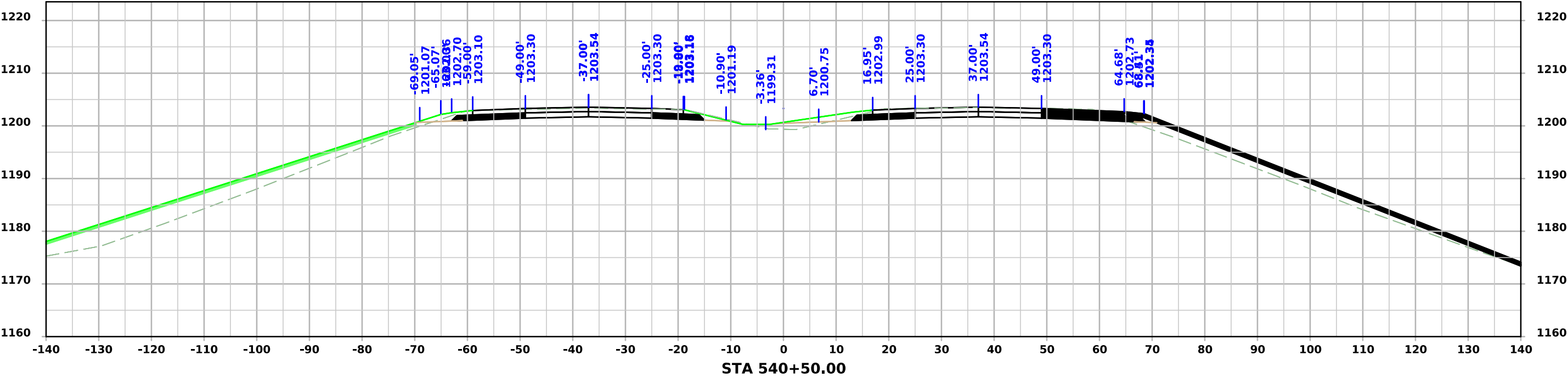
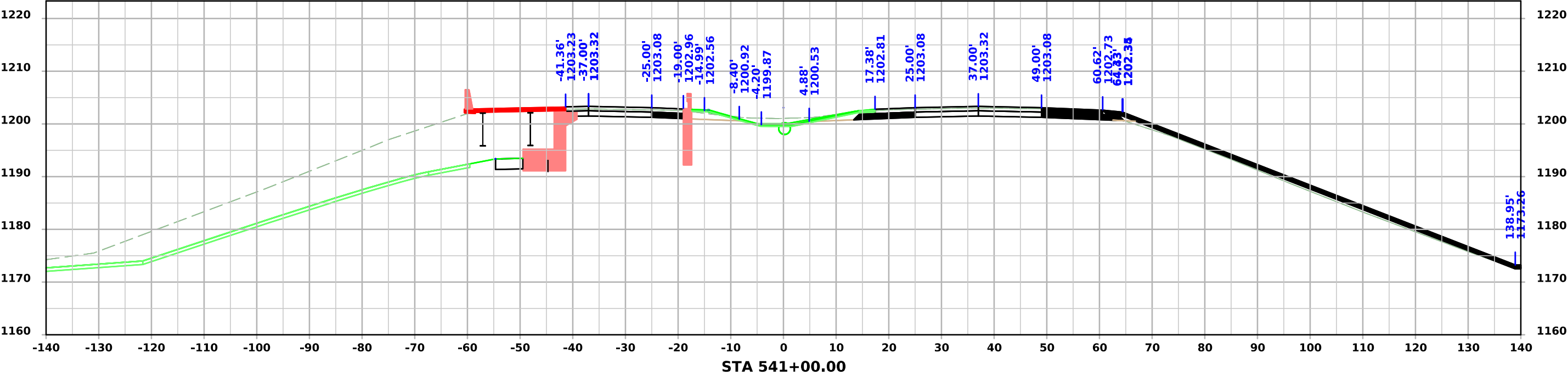
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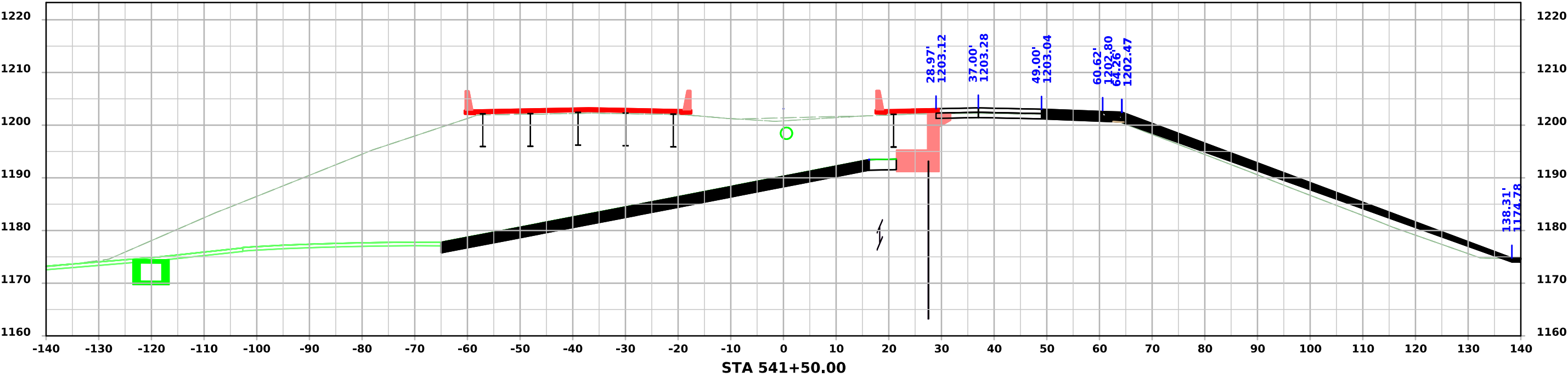
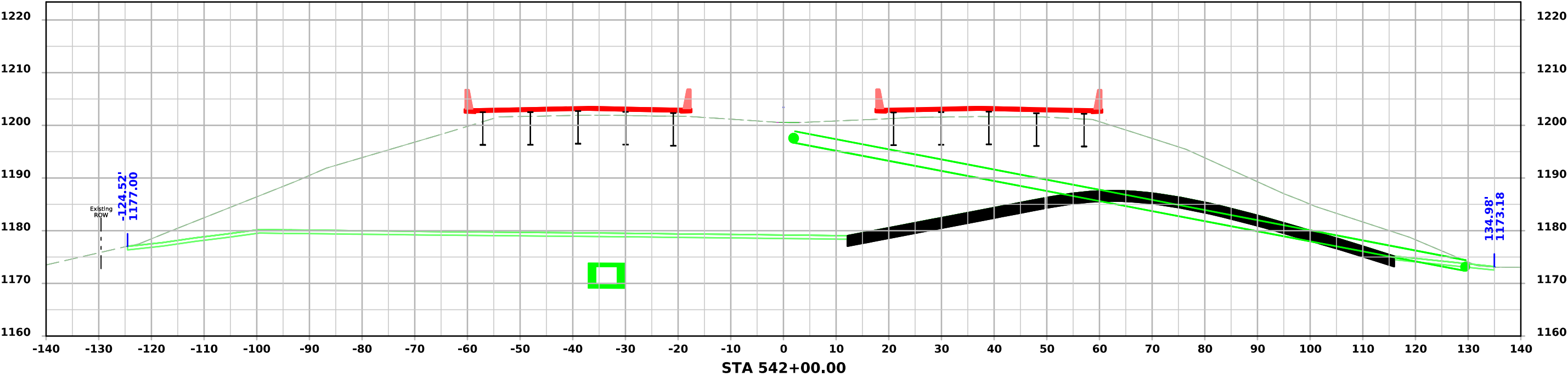


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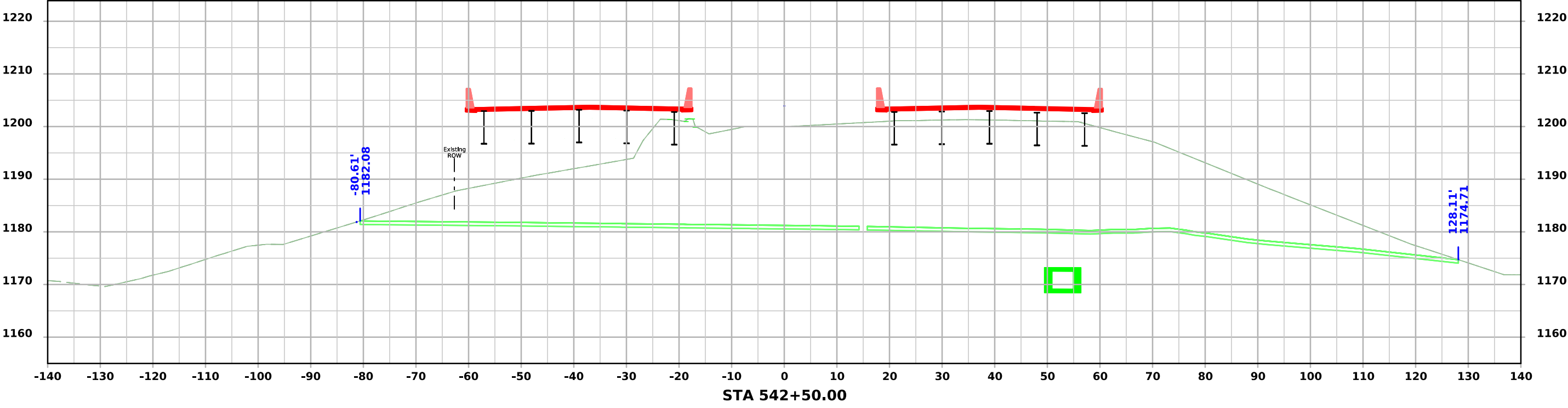
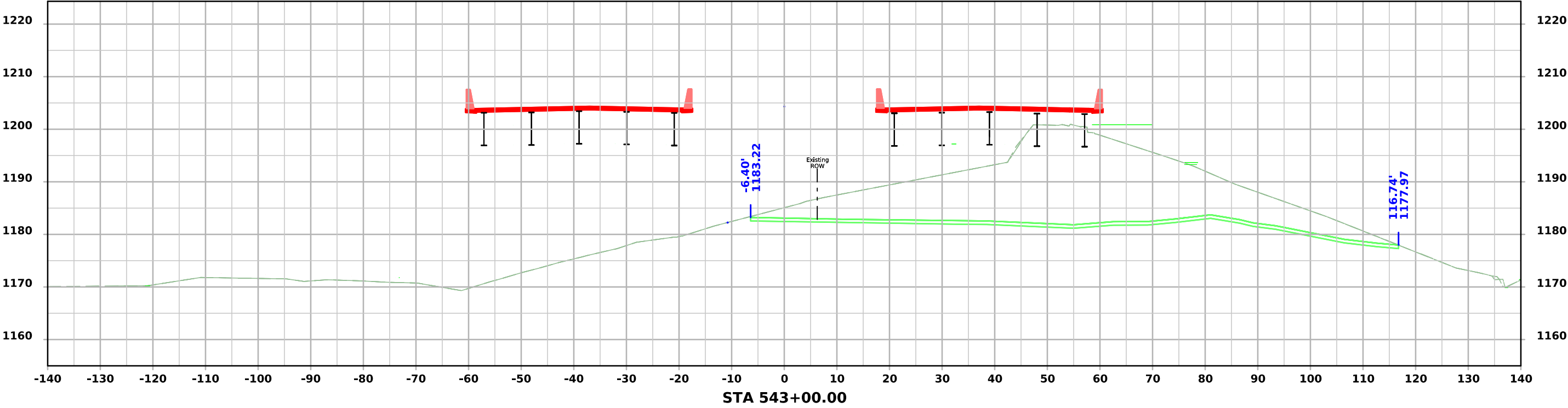


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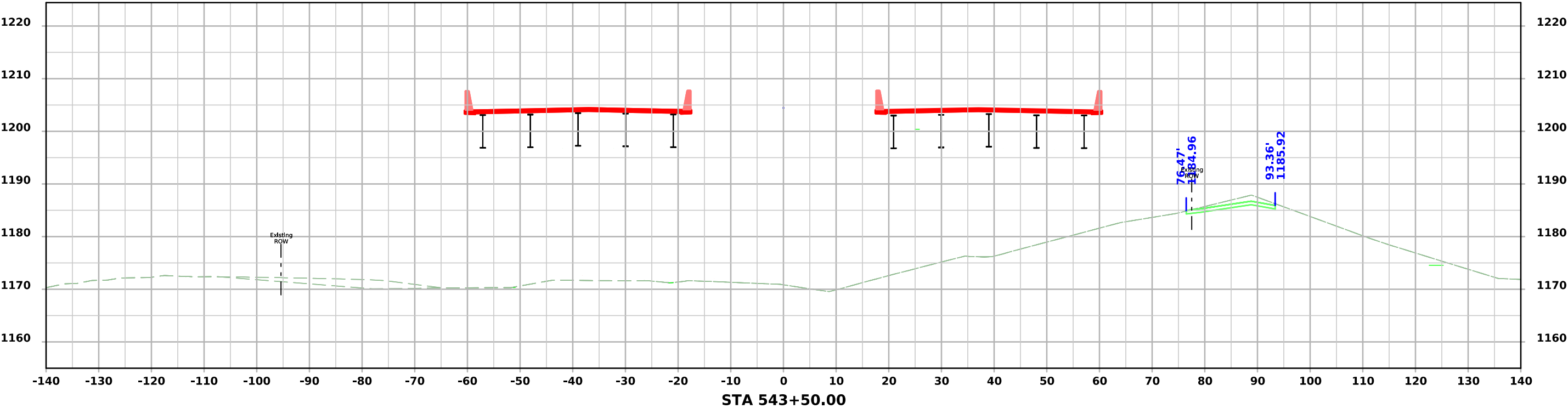
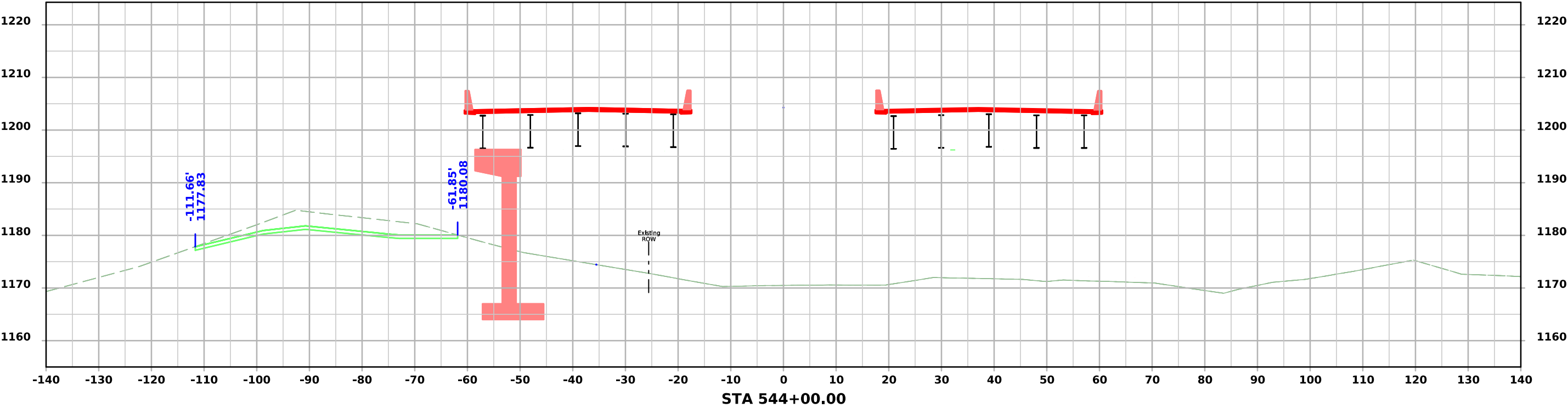




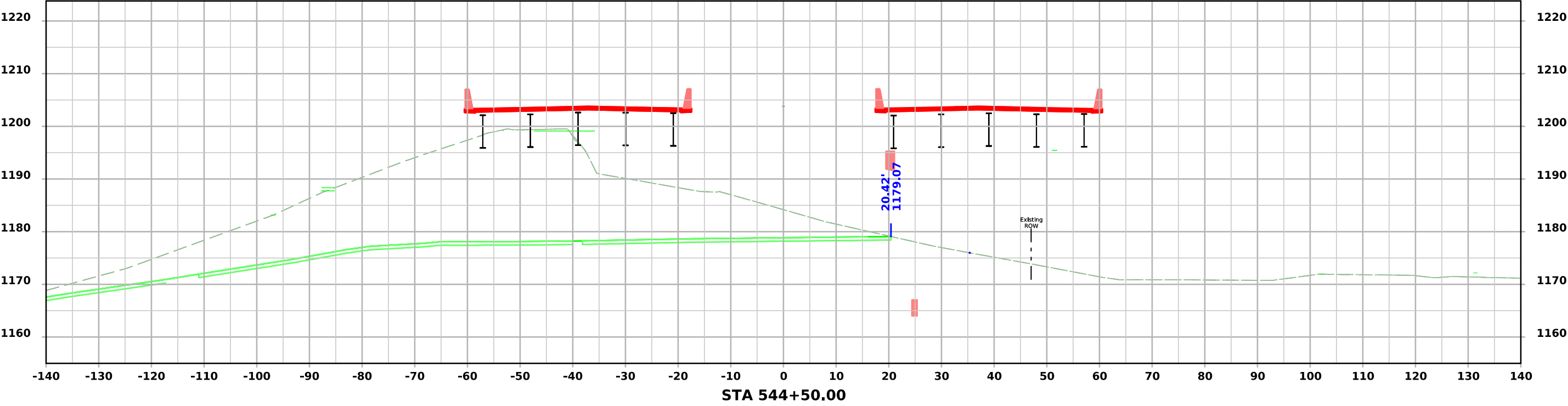
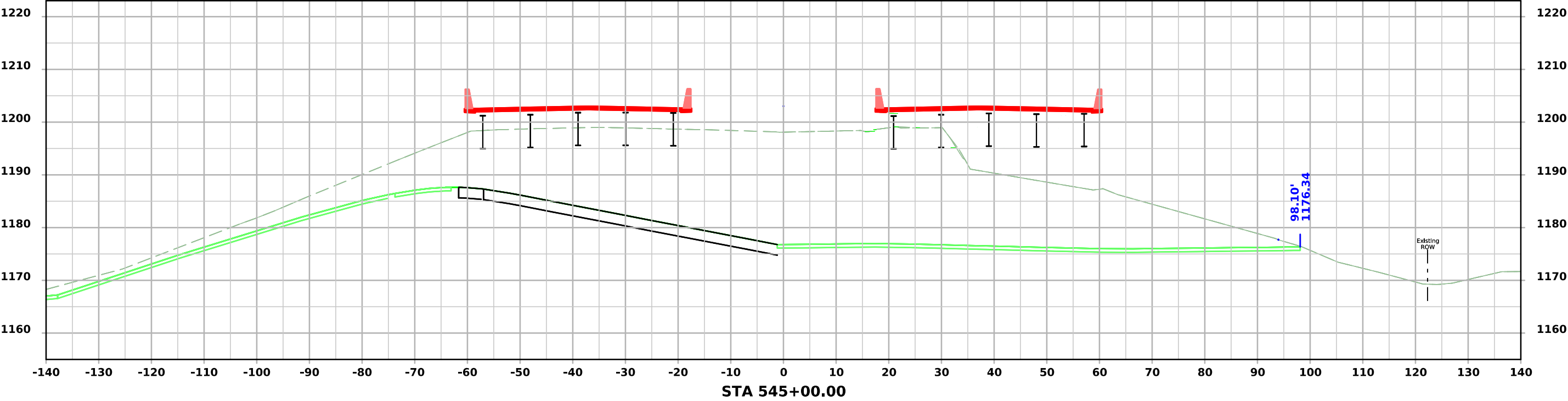
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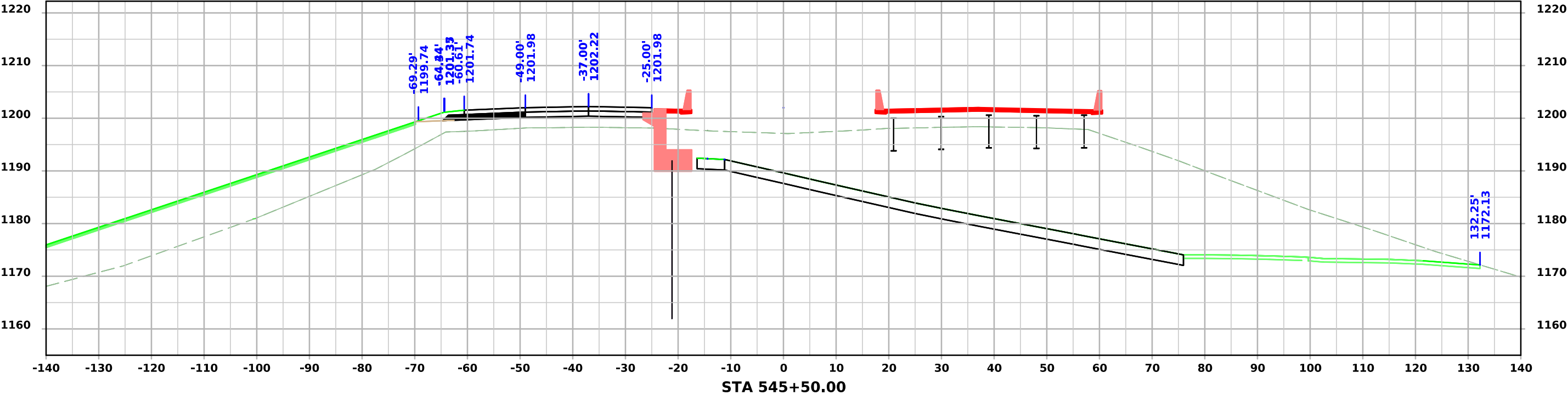
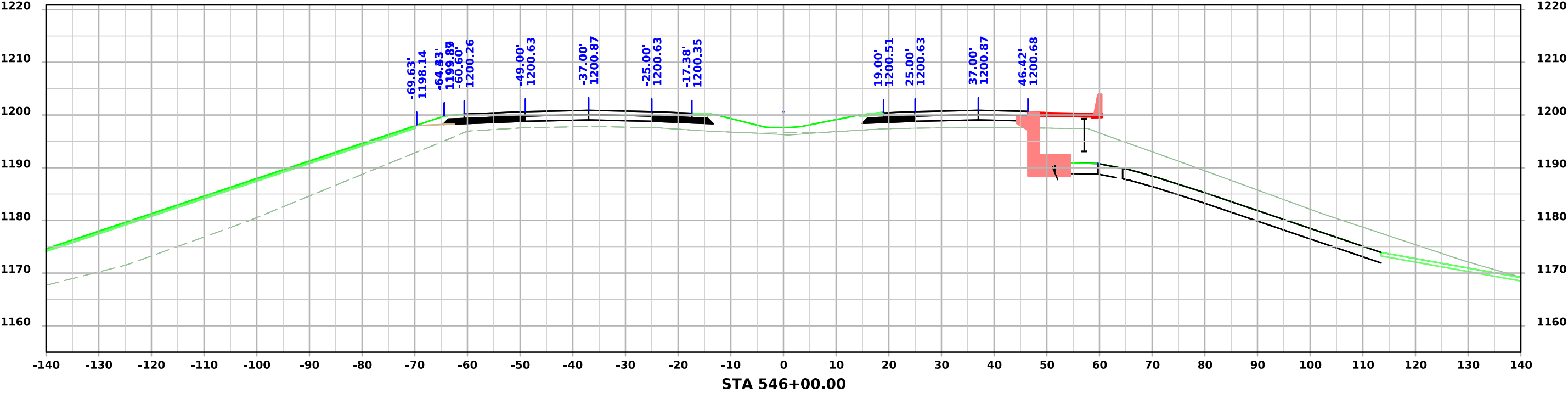
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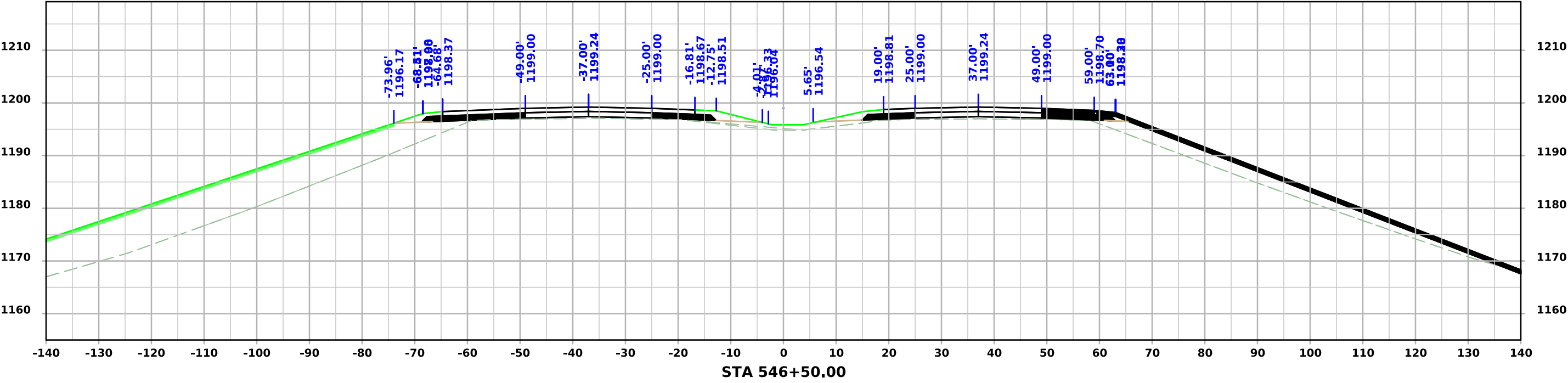
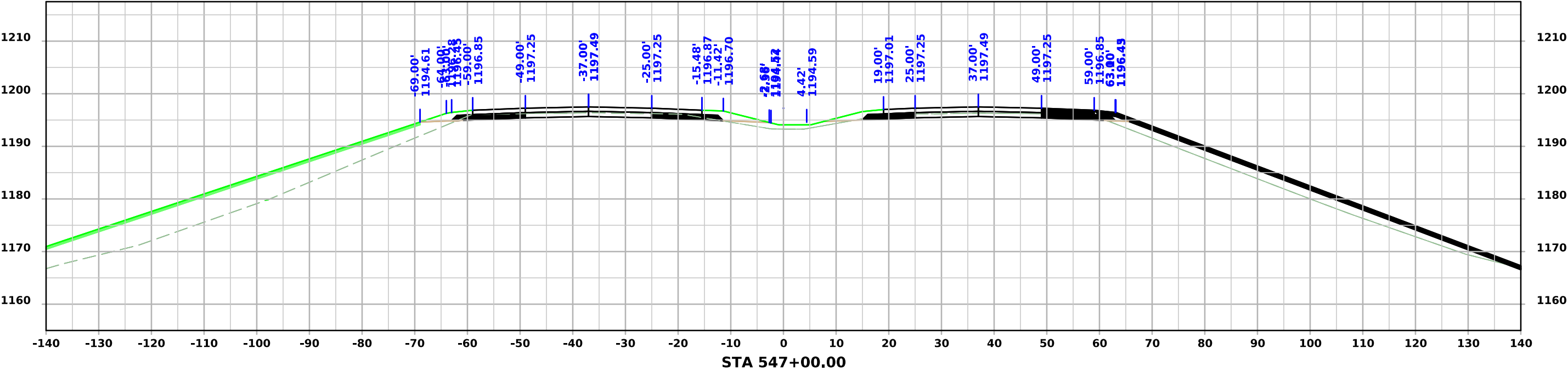
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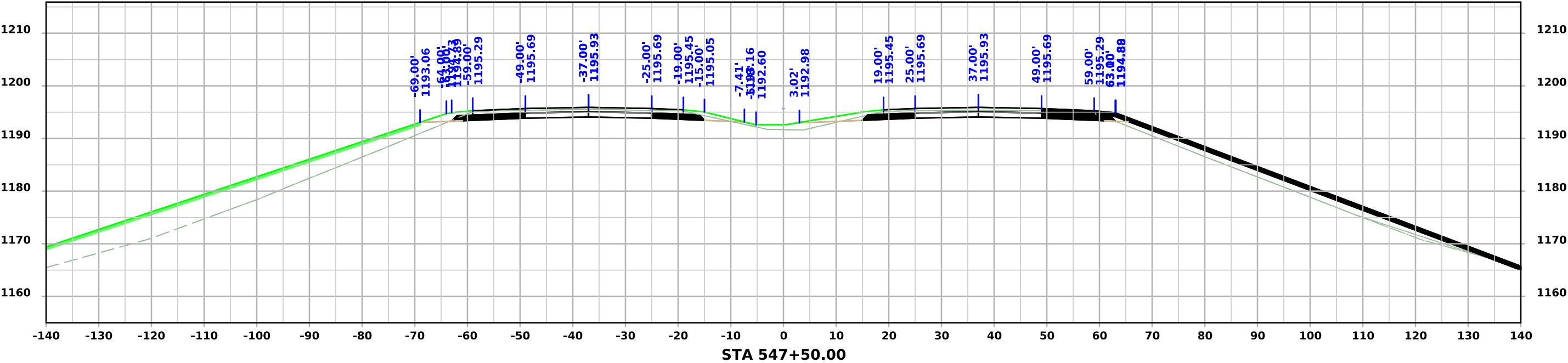
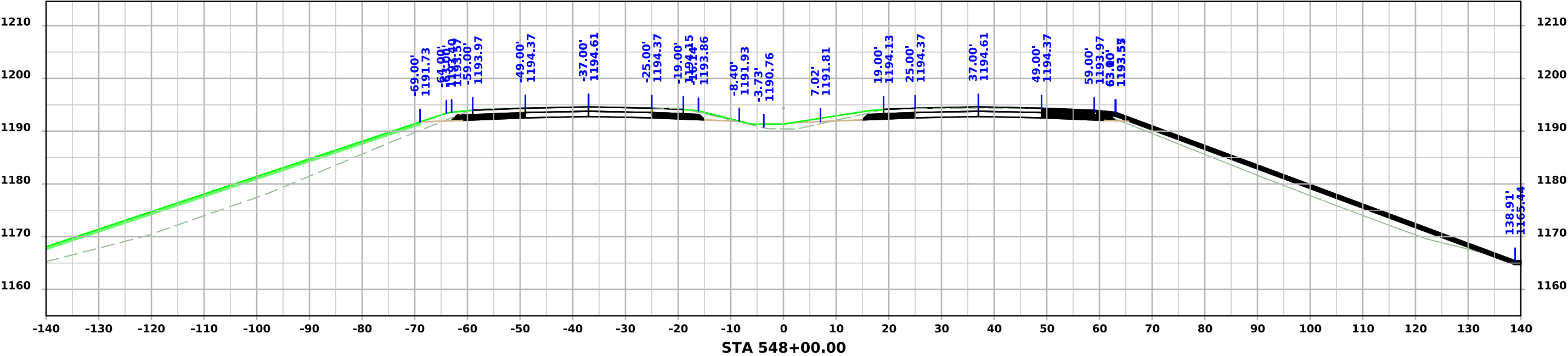


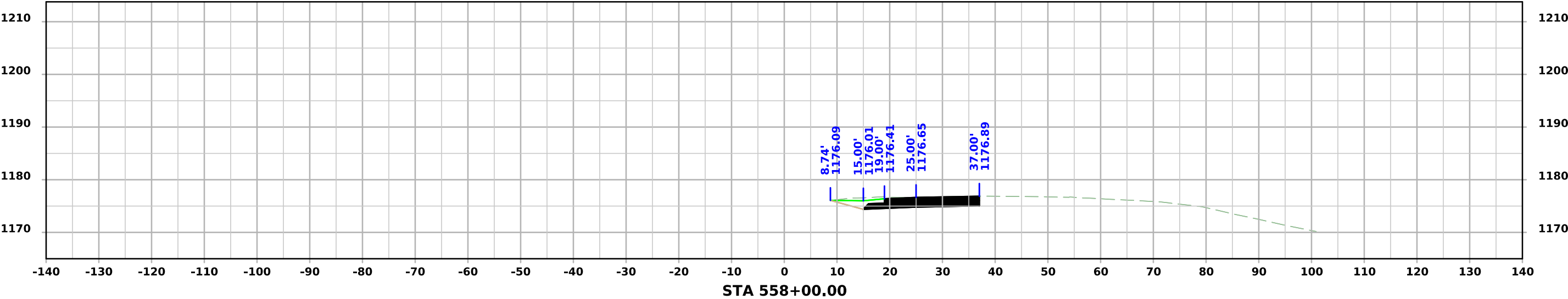
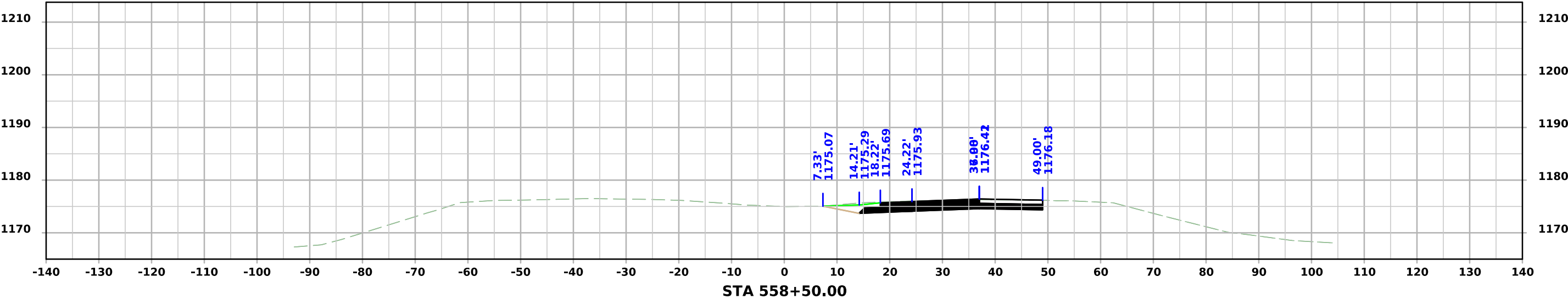
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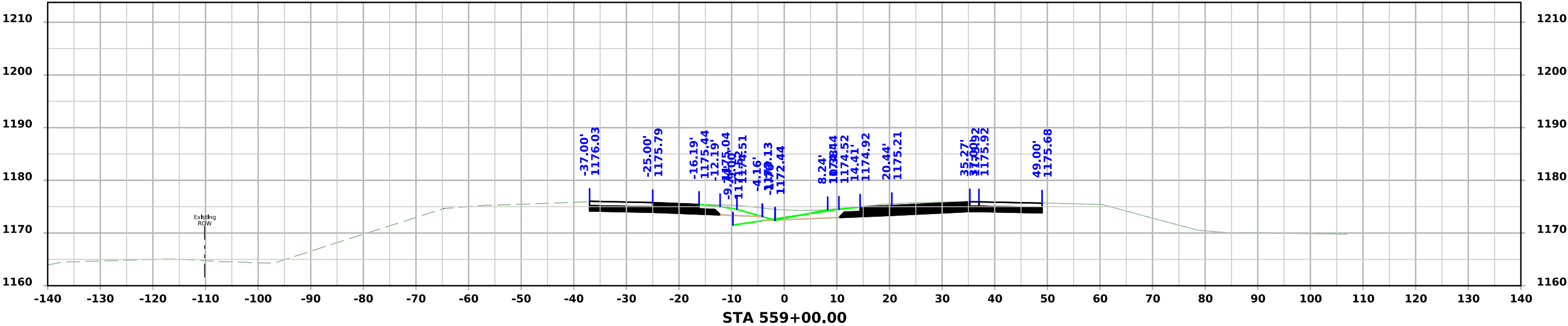
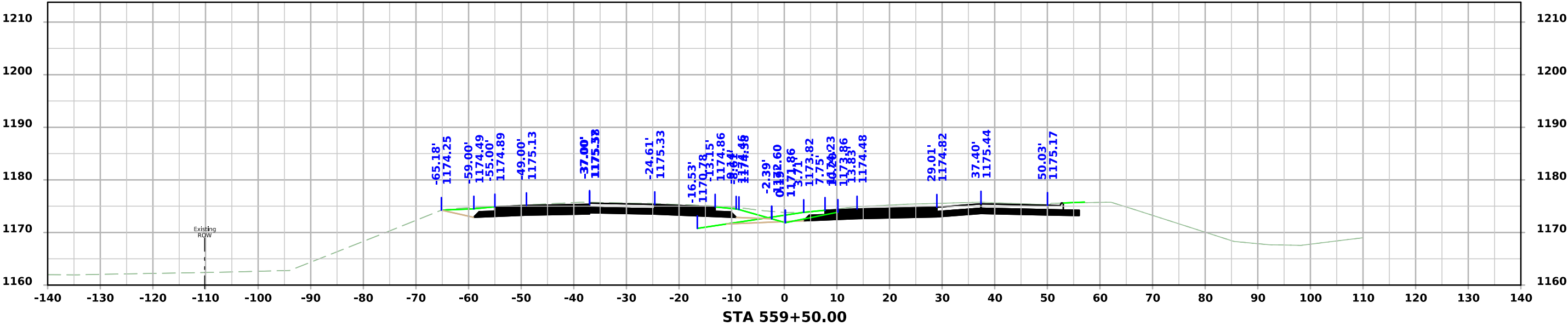
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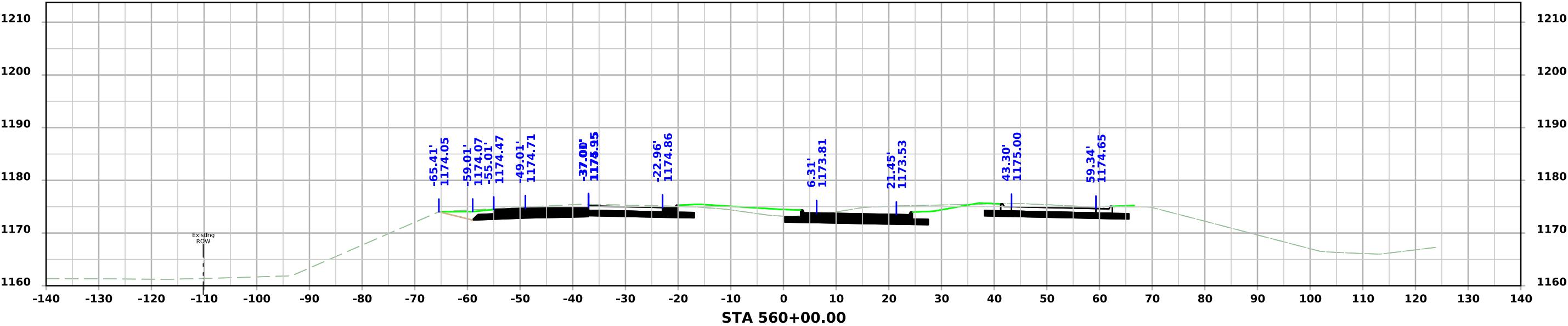
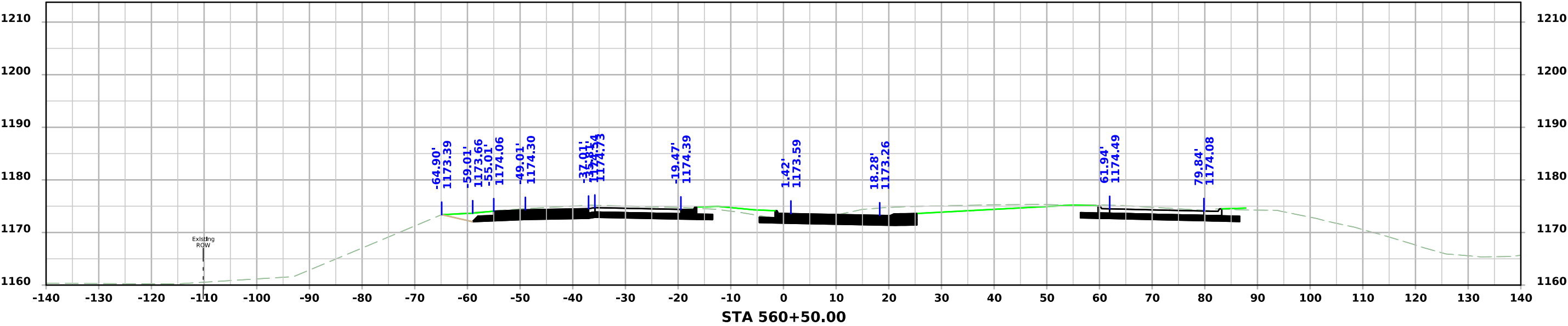




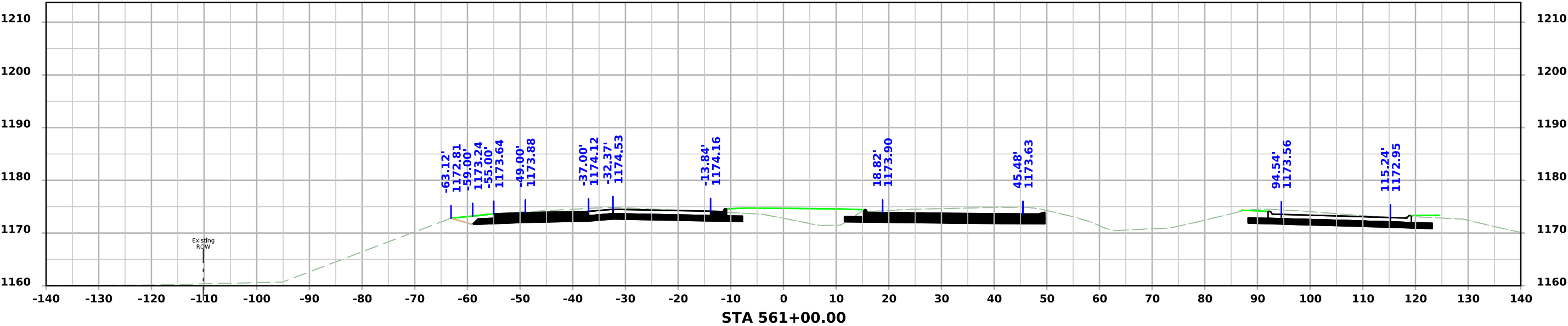
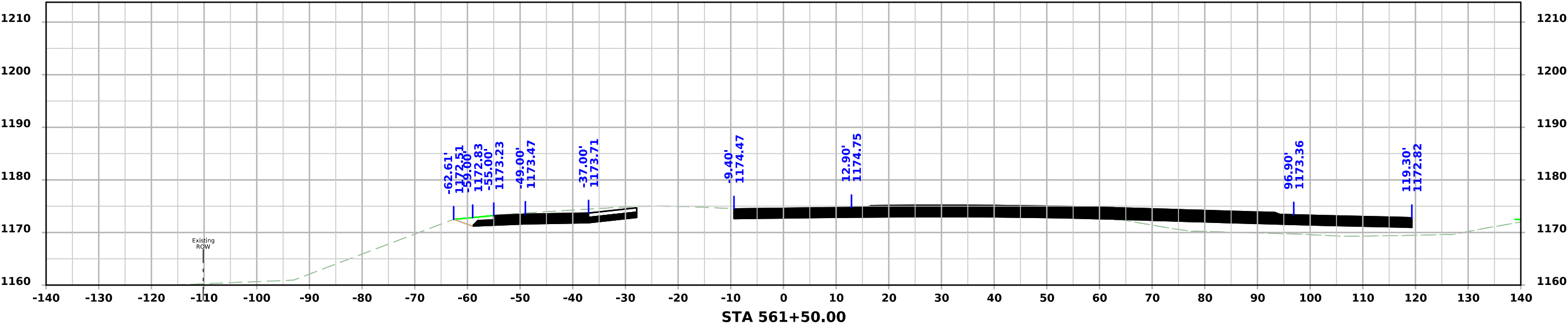


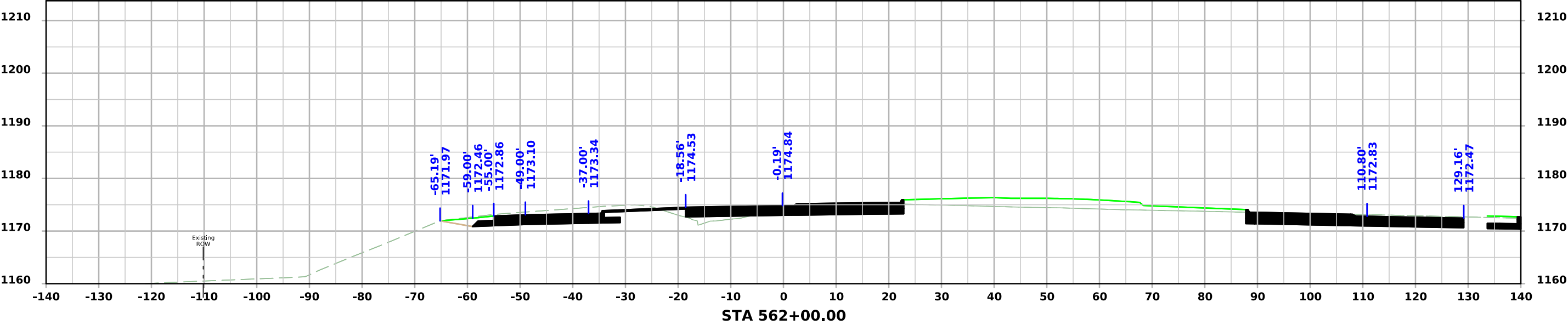
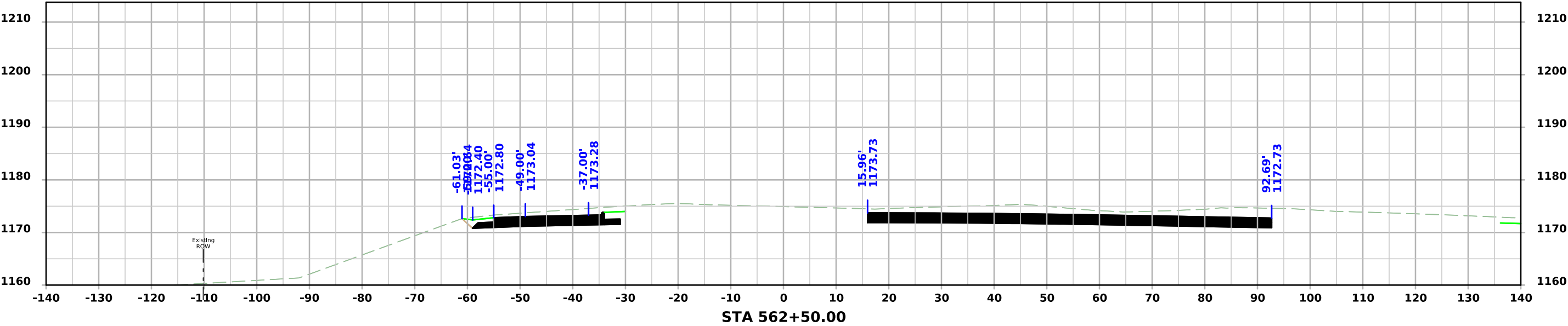
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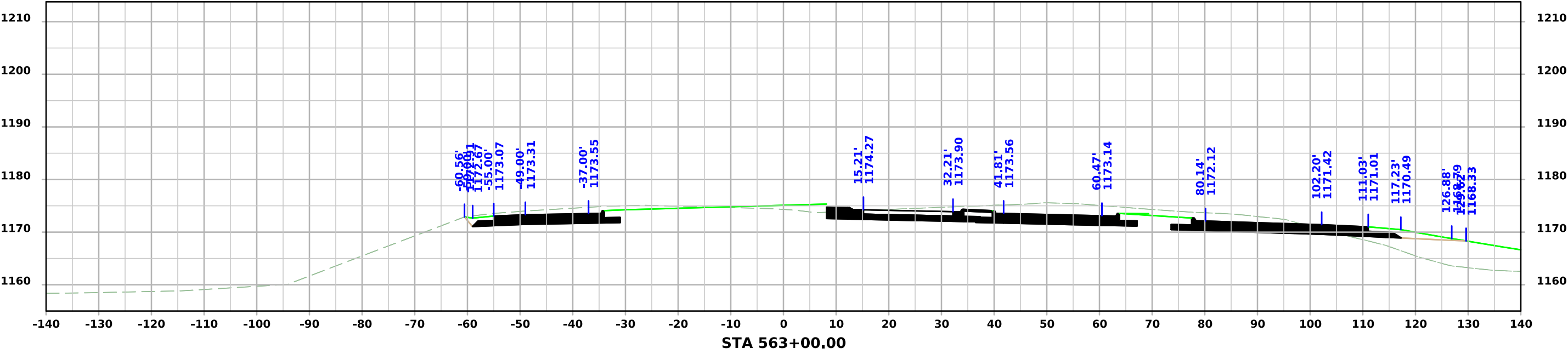
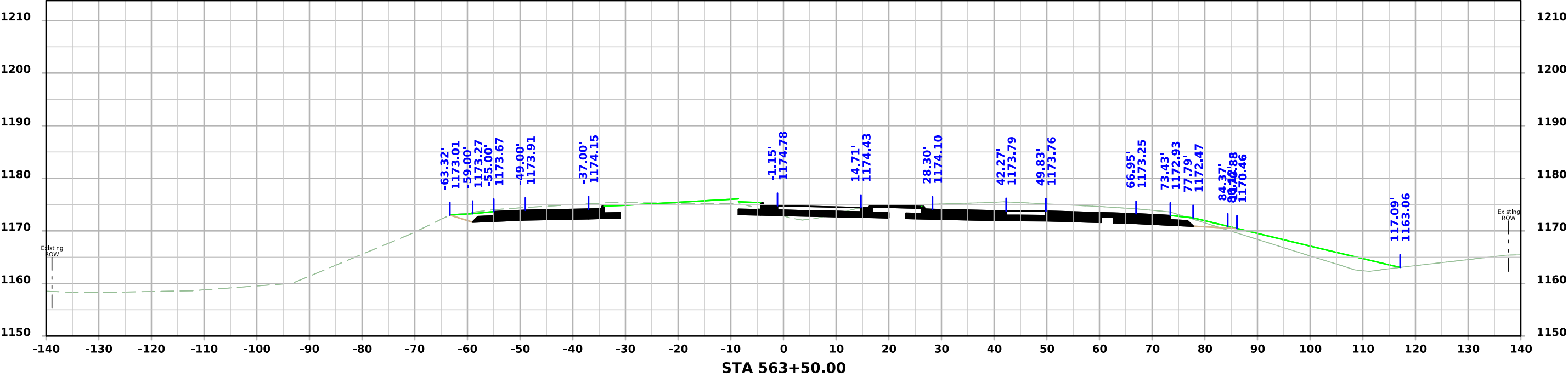




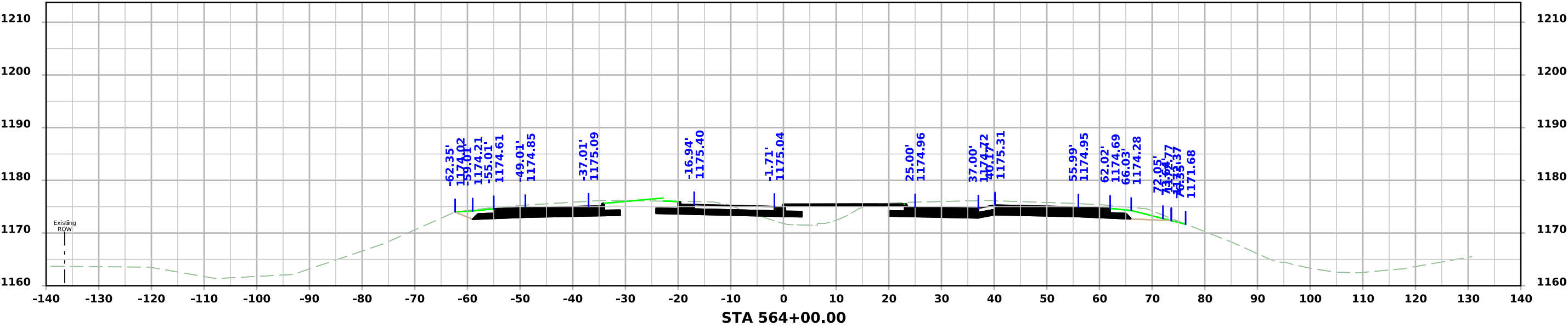
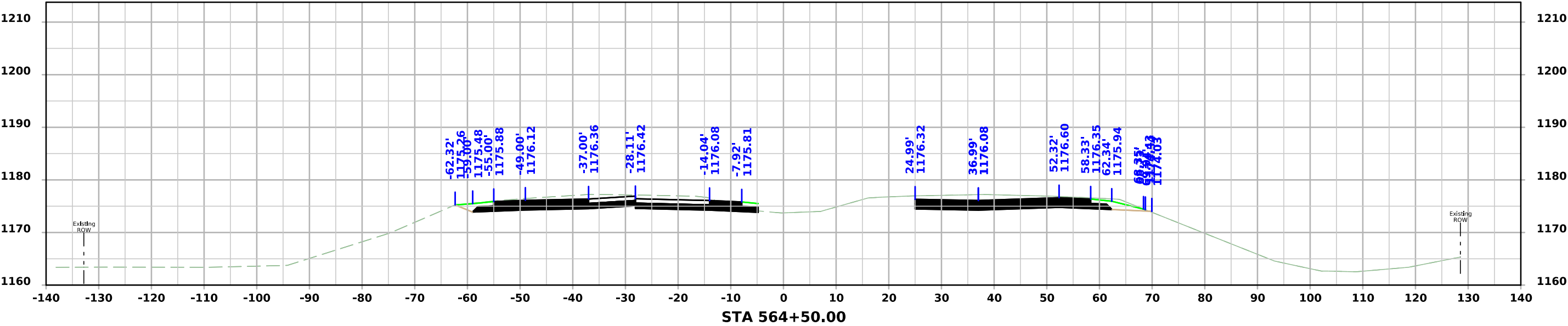
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