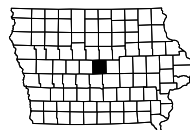


STORY COUNTY

BRIDGE REPLACEMENT  
BRFN-030-5(271)--38-85

LETTING DATE  
10/15/24



No.	DESCRIPTION
<b>A Sheets</b>	<b>Title Sheets</b>
A.1	Title Sheet
A.2	Location Map Sheet
<b>B Sheets</b>	<b>Typical Cross Sections and Details</b>
B.1-B.9	Typical Cross Sections and Details
<b>D Sheets</b>	<b>Mainline Plan and Profile Sheets</b>
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2-D.6	US 30 Plan & Profile
<b>F Sheets</b>	<b>Detour or Temporary Pavement Sheets</b>
* F.1 - 3	Detour Plan and Profile Sheets
<b>G Sheets</b>	<b>Survey Sheets</b>
G.1	Reference Ties and Bench Marks
G.2	Control Point Vicinity Map
G.3	Horizontal Control Tab. & Super for all Alignments
G.4	Superelevation Data
<b>H Sheets</b>	<b>Right-of-Way Sheets</b>
* H.1-H.5	US 30
* HE.1	Dayton Ave.
<b>J Sheets</b>	<b>Traffic Control and Staging Sheets</b>
* J.1	Staging Notes
* J.2	Traffic Control & Staging Legend & Symbol Info. Sheet
* J.3 - 57	Staging and Traffic Control Sheets
<b>K Sheets</b>	<b>Interchange Sheets</b>
* K.1 - 13	Ramp Plan and Profile Sheets
<b>T Sheets</b>	<b>Earthwork Quantity Sheets</b>
T.1 - 18	Earthwork Quantity Sheets
<b>V Sheets</b>	<b>Bridge and Culvert Situation Plans</b>
* V.1-V.9	Bridge and Culvert Situation Plans
<b>W Sheets</b>	<b>Mainline Cross Sections</b>
W.1	Cross Section Legend and Information Sheet
W.2 - 104	Mainline Cross Sections
<b>X Sheets</b>	<b>Side Road Cross Sections</b>
X.1 - 47	Side Road Cross Sections
<b>Y Sheets</b>	<b>Ramp Cross Sections</b>
Y.1 - 103	Ramp Cross Sections
	* Color Plan Sheets



PLANS OF PROPOSED IMPROVEMENT ON THE  
**PRIMARY ROAD SYSTEM**  
**STORY COUNTY**  
**BRIDGE REPLACEMENT**  
US 30 OVER SOUTH SKUNK RIVER  
1.2 Miles W. of I-35

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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



MILEAGE SUMMARY			105-1 09-27-94
Div.	Location	Lin. Ft.	Miles
	Sta. 1258+50 to Sta. 1333+50	7,500.00	1.420

101-4 04-30-02			
DESIGN DATA RURAL			
2019	AADT	32,000	V.P.D.
2045	AADT	37,040	V.P.D.
20	DHV	3,730	V.P.H.
	TRUCKS	7 %	
Total Design ESALs _____			

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

PRELIMINARY PLANS

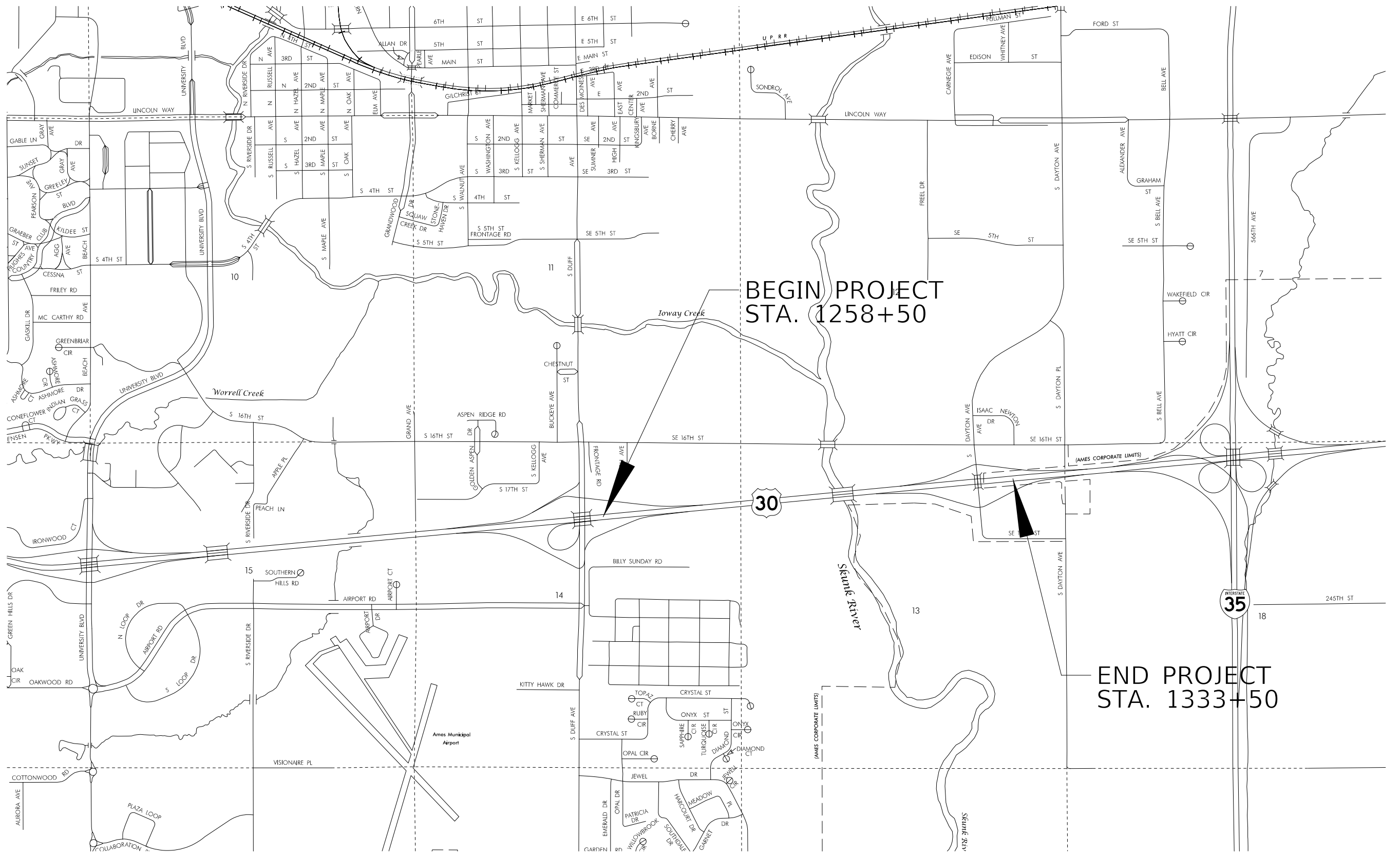
Subject to change by final design.

D5 PLAN - Date: 09/16/2022

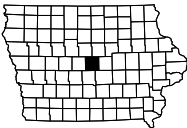
REVISIONS

TOTAL  
384

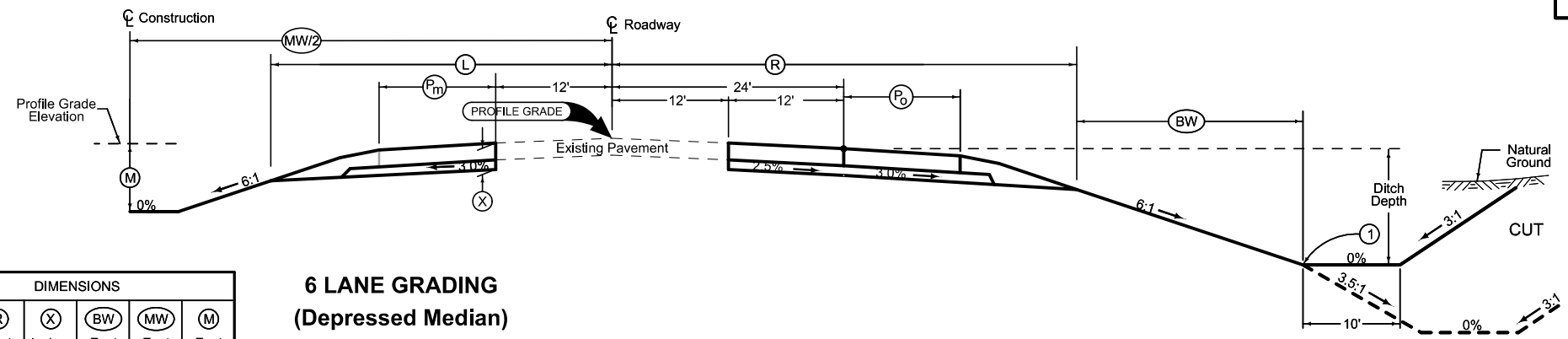
PROJECT IDENTIFICATION NUMBER
19-85-030-020
PROJECT NUMBER
BRFN-030-5(271)--38-85
R.O.W. PROJECT NUMBER
NHSN-030-5(272)--2R-85



NOT TO SCALE



FILE NO.	ENGLISH	DESIGN TEAM WHKS & CO.	STORY COUNTY	PROJECT NUMBER BRFN-030-5(271)--38-85	SHEET NUMBER A.2
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**6 LANE GRADING  
(Depressed Median)**

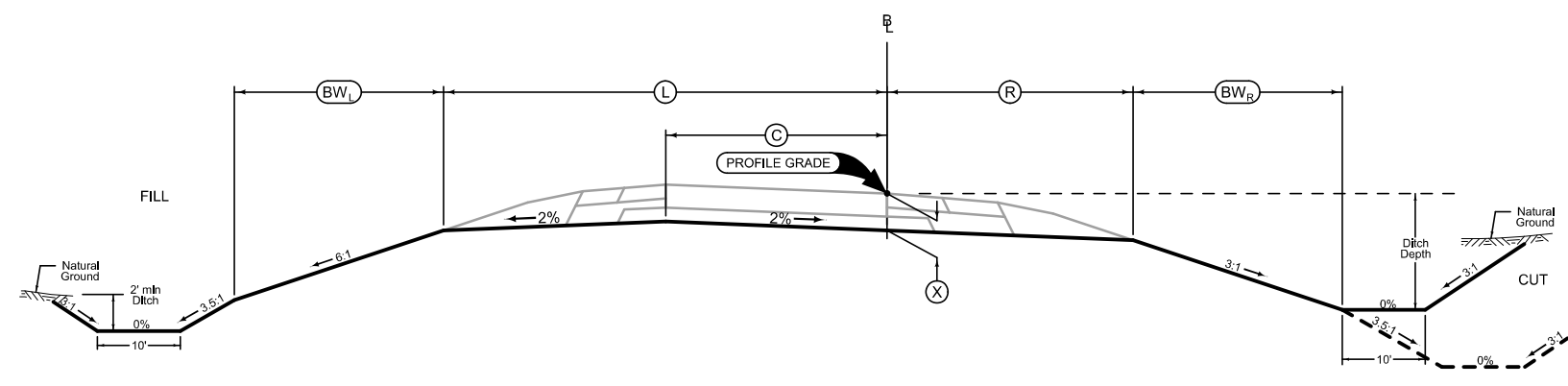
Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.

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

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

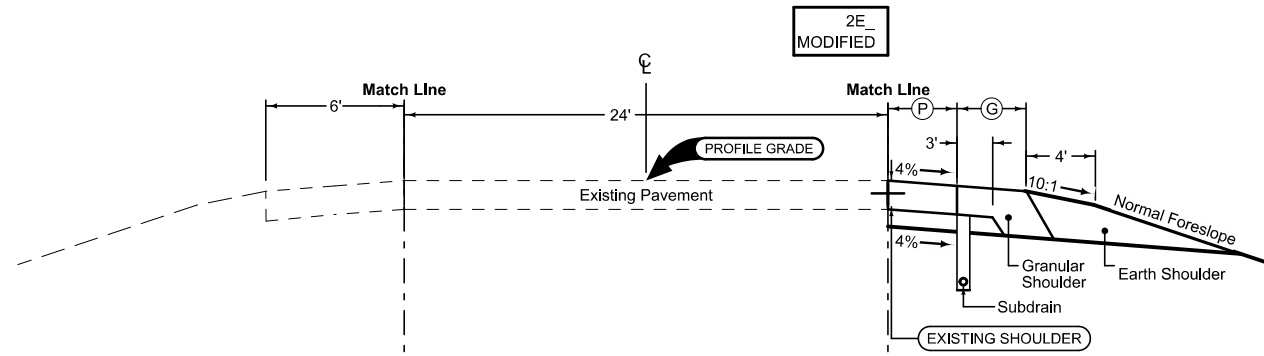
LOCATION		DIMENSIONS						
ROAD IDENTIFICATION	STATION TO STATION	L Feet	R Feet	X Inches	BW Feet	MW Feet	M Feet	
US 30 EASTBOUND	1260+00 - 1333+50	18	30	22	--	74	--	
US 30 WESTBOUND	1279+00.53 - 1303+03.21	18	30	22	--	74	--	

LOCATION				DIMENSIONS					
INTERCHANGE	RAMP	STATION TO STATION		(L) Feet	(R) Feet	(C) Feet	(X) Inches	(BW <sub>L</sub> ) Feet	(BW <sub>R</sub> ) Feet
EB US30 TO DAYTON	A	2505+83.43	2517+32.12	--	25	12	22	--	16.5
DAYTON TO WB US30	B	3503+05.59	3519+66.87	--	25	12	22	--	16.5
NB DUFF TO EB US30	D	4265+00	4280+23.93	--	25	12	22	--	16.5
WB US30 TO DUFF	E	5269+01.05	5278+99.2	--	25	12	22	--	16.5



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.

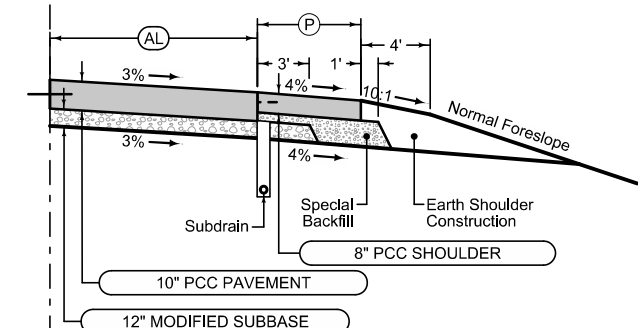
RAMP GRADING



**Combination Shoulder**

Shoulder Jointing:  
Longitudinal joint: B

		2_C_ MODIFIED	
STATION TO STATION		(P) Feet	(G) Feet
1260+00	1333+50	4	6



**Auxiliary Lane Paved Shoulder Alternates**

PCC Shoulder Jointing:  
Longitudinal joint: BT-1 or BT-5  
Transverse joints: C at 17' spacing  
HMA Shoulder Jointing:  
Longitudinal joint: B

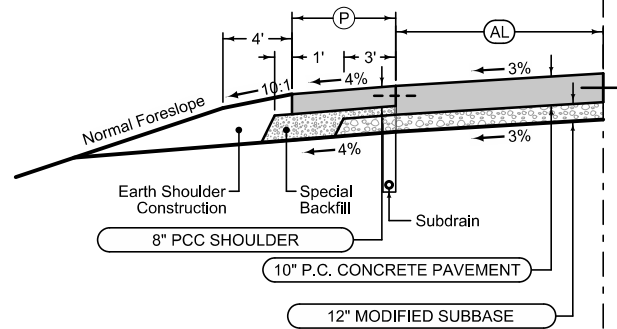
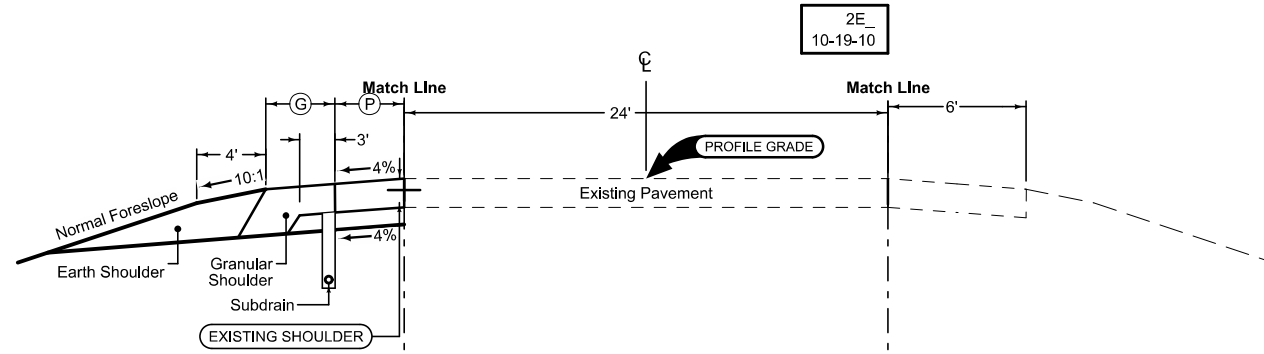
Longitudinal joint: L or KT  
Transverse joint: Match Mainline

		2_AuxLane_PCC_ 10-18-16		2_AL_Shldr_ALT_ 04-21-20	
STATION TO STATION		(AL) Feet	(P) Feet		
1260+00	1333+50	12	6		

**Combination Shoulder**

Shoulder Jointing:  
Longitudinal joint: B

		2_C_ MODIFIED	
STATION TO STATION		(P) Feet	(G) Feet
1279+00.53	1303+03.21	4	6



**Auxiliary Lane Paved Shoulder Alternates**

**Auxiliary Lane**  
Longitudinal joint: L or KT  
Transverse joint: Match Mainline

**PCC Shoulder Jointing:**  
Longitudinal joint: BT-1 or BT-5  
Transverse joints: C at 17' spacing

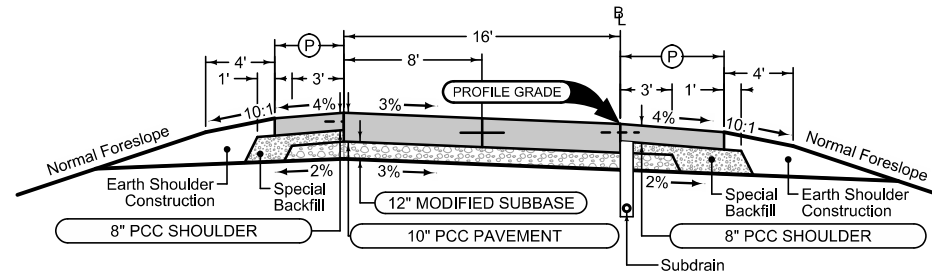
**HMA Shoulder Jointing:**  
Longitudinal joint: B

		2_AuxLane_PCC_ 10-18-16		2_AL_Shldr_ALT_ 04-21-20	
STATION TO STATION		(AL) Feet	(P) Feet		
1279+00.53	1303+03.21	12	6		

**Paved Shoulder Alternates**

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

1R_P_ALT_10-16-18		
BEGIN STATION	END STATION	(P) Feet
2505+82.93	2517+31.62	6



Section shown in the direction of traffic.

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

1RP_MODIFIED	
BEGIN STATION	END STATION
2505+82.93	2517+31.62

**Paved Shoulder Alternates**

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

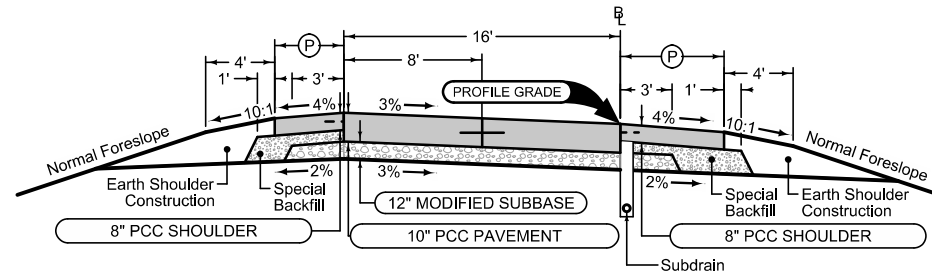
1R_P_ALT_10-16-18		
BEGIN STATION	END STATION	(P) Feet
2505+82.93	2517+31.62	6

RAMP A EASTBOUND US 30 EXIT TO DAYTON AVE.

**Paved Shoulder Alternates**

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

1R_P_ALT_10-16-18		
BEGIN STATION	END STATION	(P) Feet
3503+04.89	3519+66.17	6



Section shown in the direction of traffic.

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

1RP_10-17-17	
BEGIN STATION	END STATION
3503+04.89	3519+66.17

**Paved Shoulder Alternates**

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

1R_P_ALT_10-16-18		
BEGIN STATION	END STATION	(P) Feet
3503+04.89	3519+66.17	6

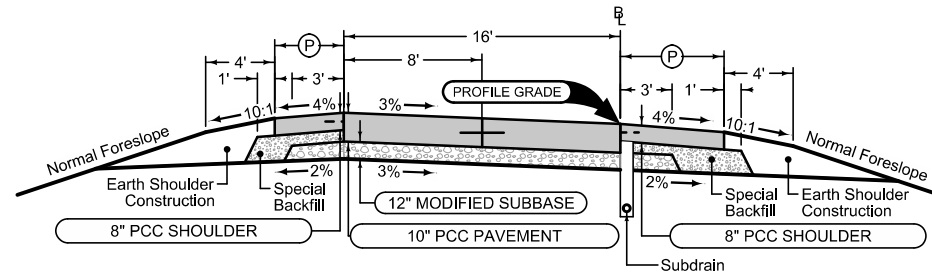
RAMP B DAYTON AVE. ENTRANCE TO US 30 WESTBOUND



**Paved Shoulder Alternates**

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

1R_P_ALT_10-16-18		
BEGIN STATION	END STATION	(P) Feet
4265+00	4280+23.93	6



Section shown in the direction of traffic.

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

1RP_10-17-17	
BEGIN STATION	END STATION
4265+00	4280+23.93

**Paved Shoulder Alternates**

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

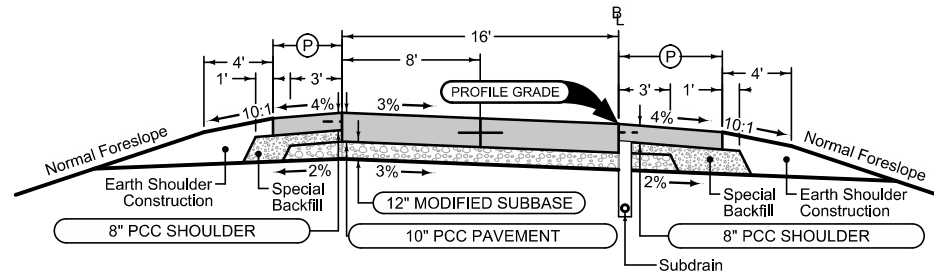
1R_P_ALT_10-16-18		
BEGIN STATION	END STATION	(P) Feet
4265+00	4280+23.93	6

RAMP D NORTHBOUND DUFF AVE. ENTRANCE TO US 30 EASTBOUND

**Paved Shoulder Alternates**

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

1R_P_ALT_ 10-16-18		
BEGIN STATION	END STATION	(P) Feet
5269+00	5278+98.15	6



Section shown in the direction of traffic.

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

1RP_ 10-17-17	
BEGIN STATION	END STATION
5269+00	5278+98.15

**Paved Shoulder Alternates**

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

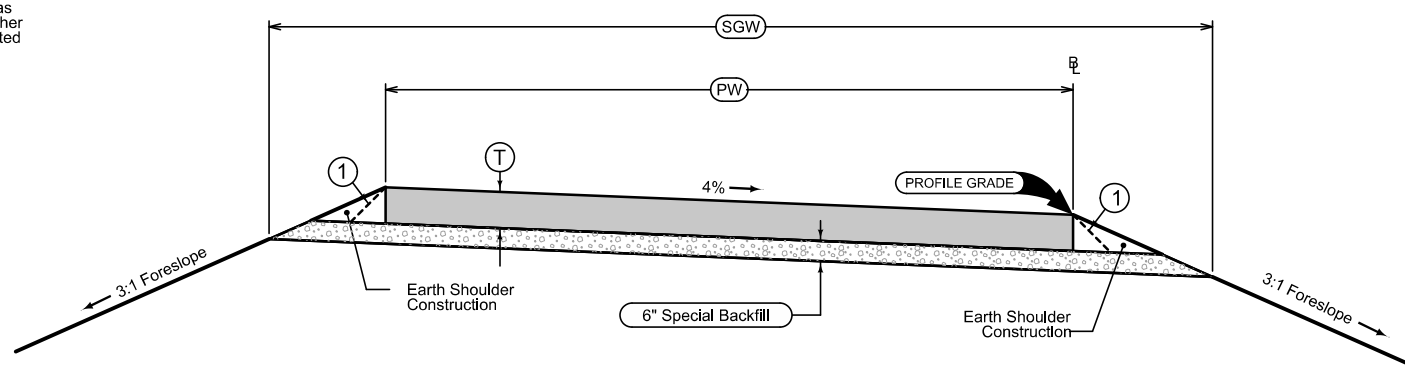
1R_P_ALT_ 10-16-18		
BEGIN STATION	END STATION	(P) Feet
5269+00	5278+98.15	6

RAMP E WESTBOUND US 30 EXIT TO DUFF AVE.

LOCATION			DIMENSIONS						6" Special Backfill Tons/Station	Earth Shoulder Construction Station
ROAD IDENTIFICATION	STATION TO STATION		HMA			PCC				
			PW Feet	T Inches	SGW Feet	PW Feet	T Inches	SGW Feet		
EB US 30	1287+58.50	1316+08.72	28	9	XXXX	28	8	XXXX	XXXX	XXXX
WB US 30	???	???	30	9	XXXX	30	8	XXXX	XXXX	XXXX

Quantity calculations based on vertical pavement edges.  
Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.

① Possible HMA 1:1 slope



**DETOUR PAVING**

D\_Detour  
10-21-14

**DESIGNER INFO**

### 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
- 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

### UTILITY LEGEND

- Iowa DOT (Electrical positions)  
Jason Dale  
800 Lincoln Way  
Ames, IA 50010  
515-239-1995  
DOT-IOC-Traffic@iowadot.us
- Iowa Communications Network (Fiber Optics)  
Shannon Marlow  
400 East 14th Street  
Des Moines, IA 50319  
800-572-3940  
icnoutsideplantiowaonecall@iowa.gov
- CenturyLink/Lumen (Fiber Optics)  
Sadie Hull  
100 CenturyLink Dr.  
Monroe, LA 71203  
918-547-0147  
sadie.hull@lumen.com
- City of Ames (Utility main)  
Ben McConville  
515 Clark Ave.  
Ames, IA 50010  
515-239-5162  
bmccconville@city.ames.ia.us
- City of Ames (Utility main)  
James Thompson  
515 Clark Ave.  
Ames, IA 50010  
515-239-5162  
james.thompson@city.ames.ia.us
- City of Ames (Electric)  
Mark Carran  
502 Carroll  
Ames, IA 50010  
515-239-5189  
mcarran@city.ames.ia.us
- City of Ames (Traffic)  
Brad Becker  
2207 Edison St.  
Ames, IA 50010  
515-231-3042  
bbecker@city.ames.ia.us

### PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK		Design Color No.	
Green	(2)		Existing Topographic Features and Labels
Blue	(1)		Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)		Existing Utilities
SHADING		Design Color No.	
Lavender	(9)		Temporary Pavement Shading
Gray, Light	(48)		Proposed Pavement Shading
Gray, Medium	(80)		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 Sidewalk Landing Shading
Pink	(11)		Proposed Sidewalk Ramp Shading
Green, Light	(225)		Existing Pavement Shading
Red	(3)		Proposed Structure Shading

### PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

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

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

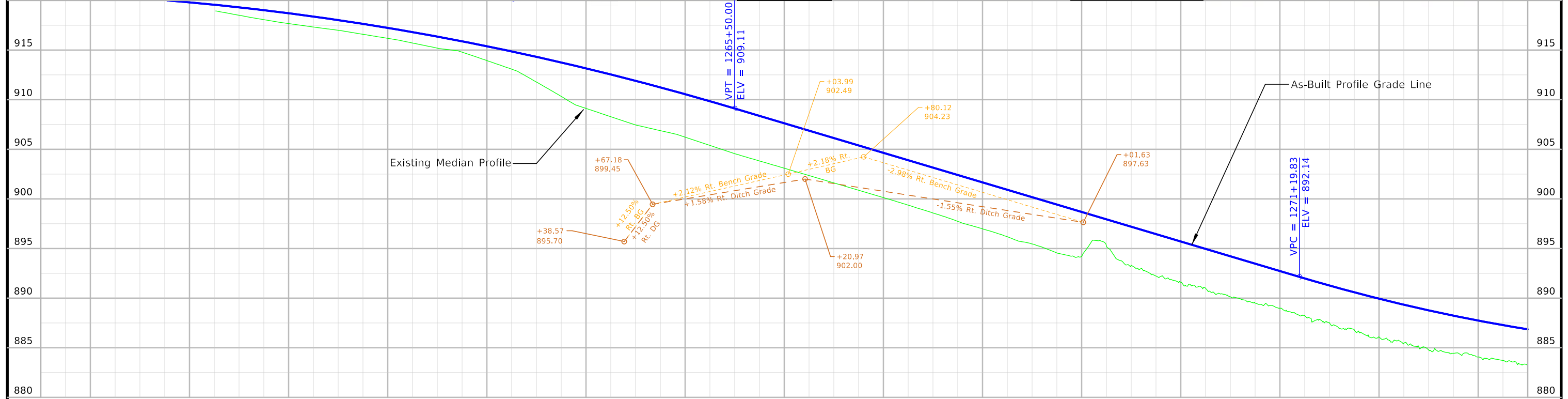
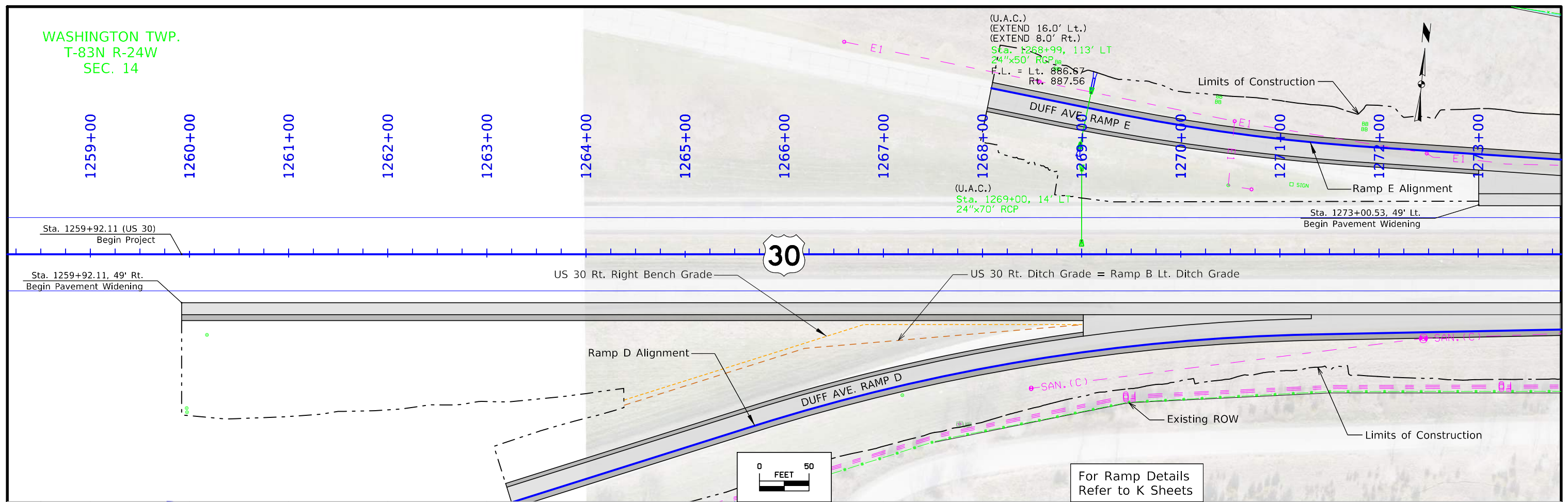
### RIGHT-OF-WAY LEGEND

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

## PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

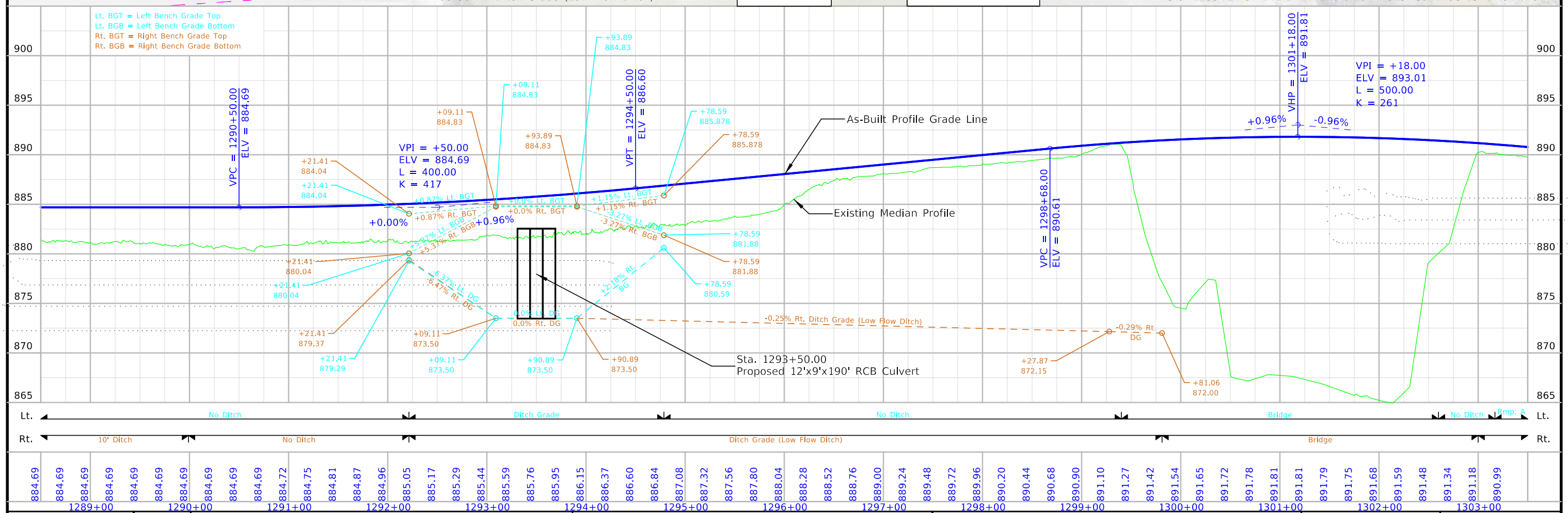
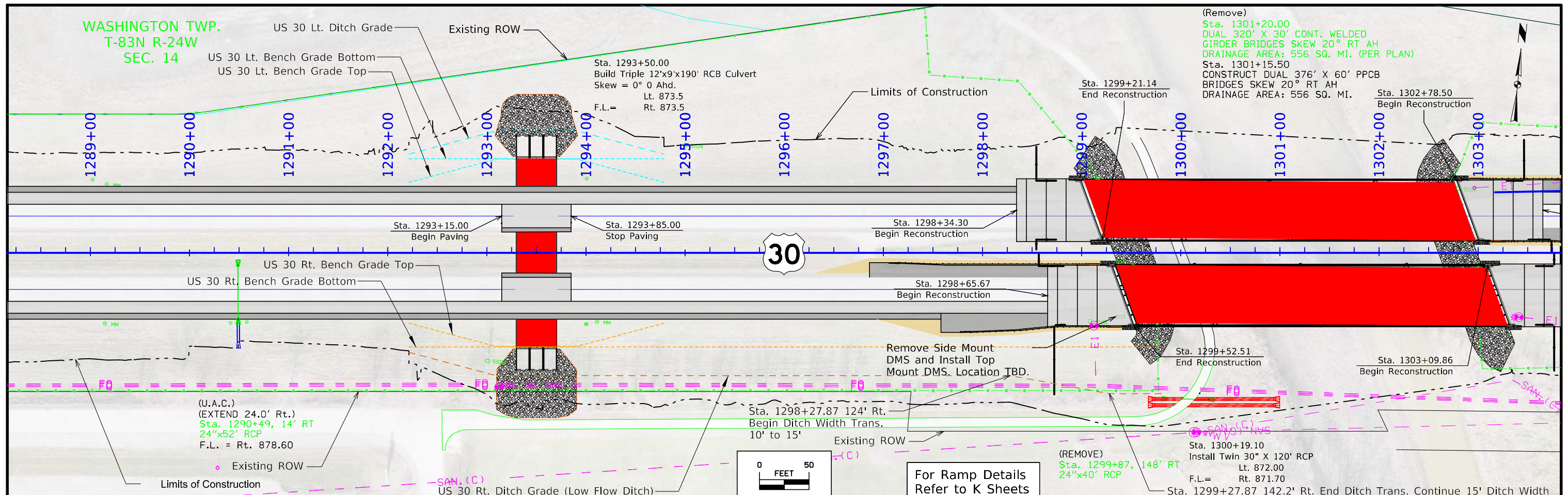
(COVERS SHEET SERIES D, E, F, & K)

WASHINGTON TWP.  
T-83N R-24W  
SEC. 14



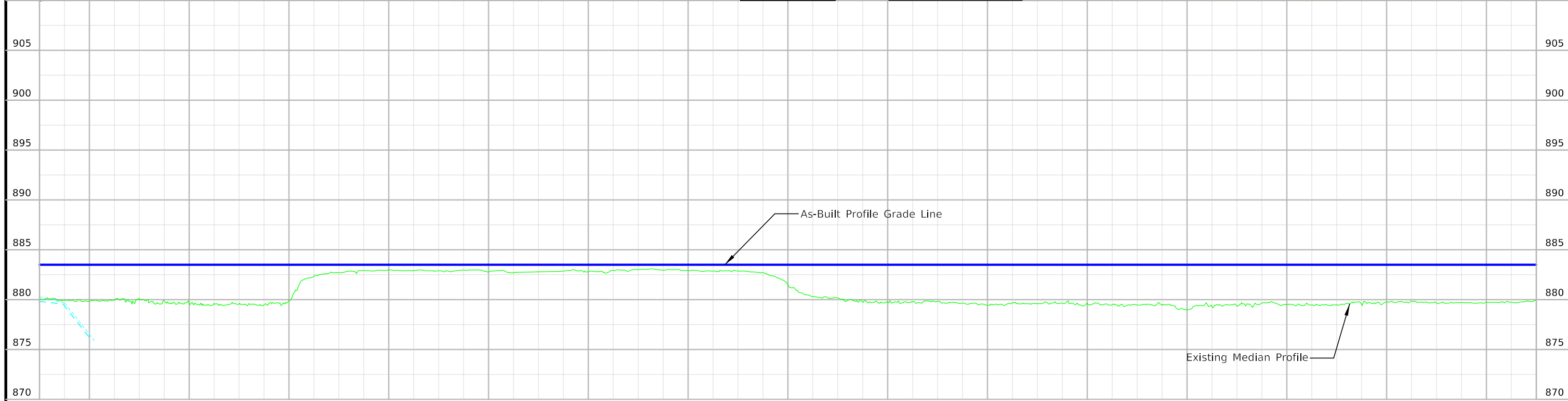
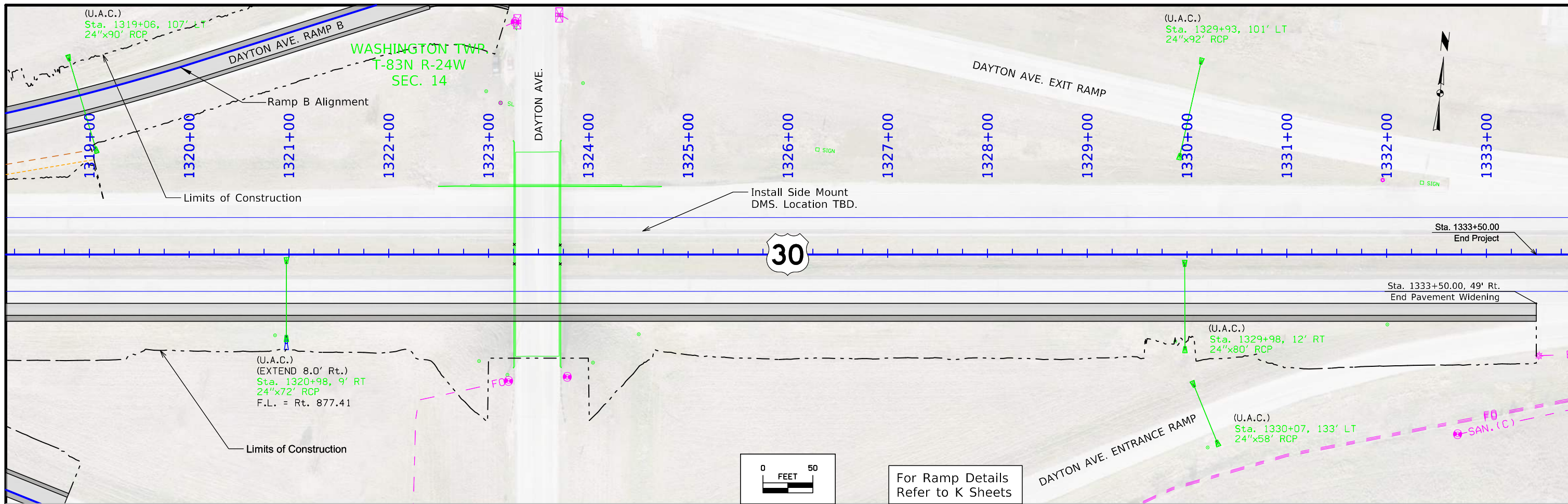
Lt.	Use As Constructed																														Lt.																												
Rt.	Use As Constructed										No Ditch										Ditch Grade										Rt.																												
920.75	920.65	920.53	920.38	920.21	920.02	919.80	919.56	919.30	919.01	918.70	918.37	918.01	917.63	917.23	916.80	916.35	915.88	915.38	914.86	914.31	913.74	913.15	912.53	911.90	911.23	910.55	909.84	909.11	908.36	907.62	906.87	906.13	905.38	904.64	903.89	903.15	902.41	901.66	900.92	900.17	899.43	898.68	897.94	897.19	896.45	895.70	894.96	894.22	893.47	892.73	891.98	891.26	890.58	889.94	889.33	888.76	888.23	887.73	887.28
	1259+00		1260+00		1261+00		1262+00		1263+00		1264+00		1265+00		1266+00		1267+00		1268+00		1269+00		1270+00		1271+00		1272+00		1273+00																														











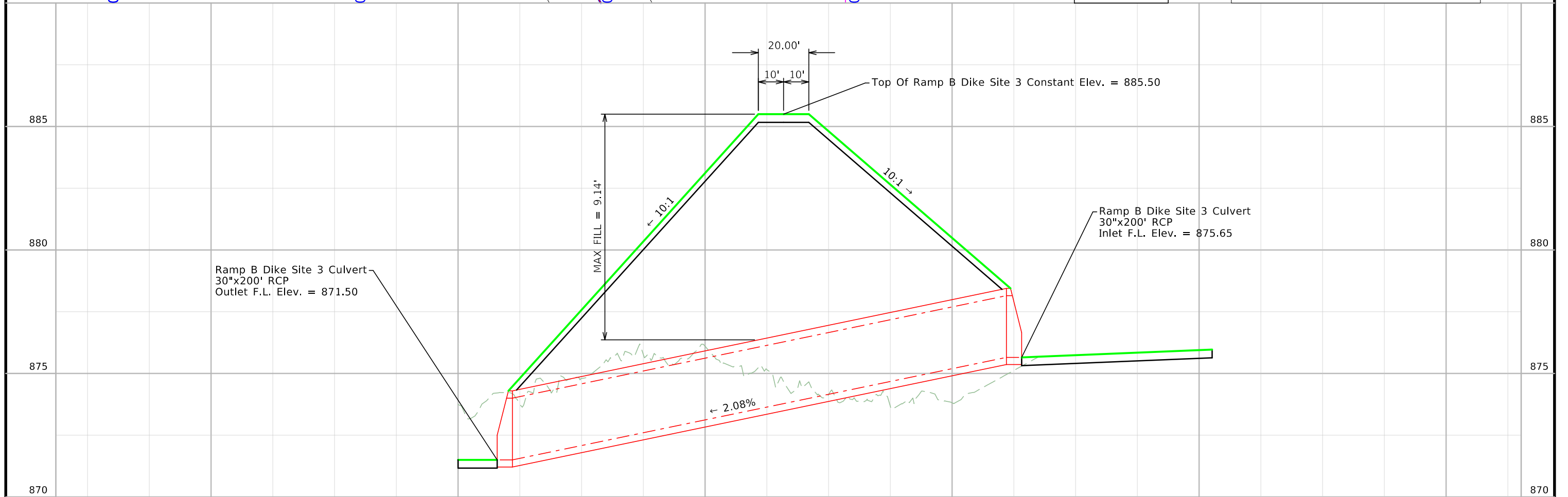
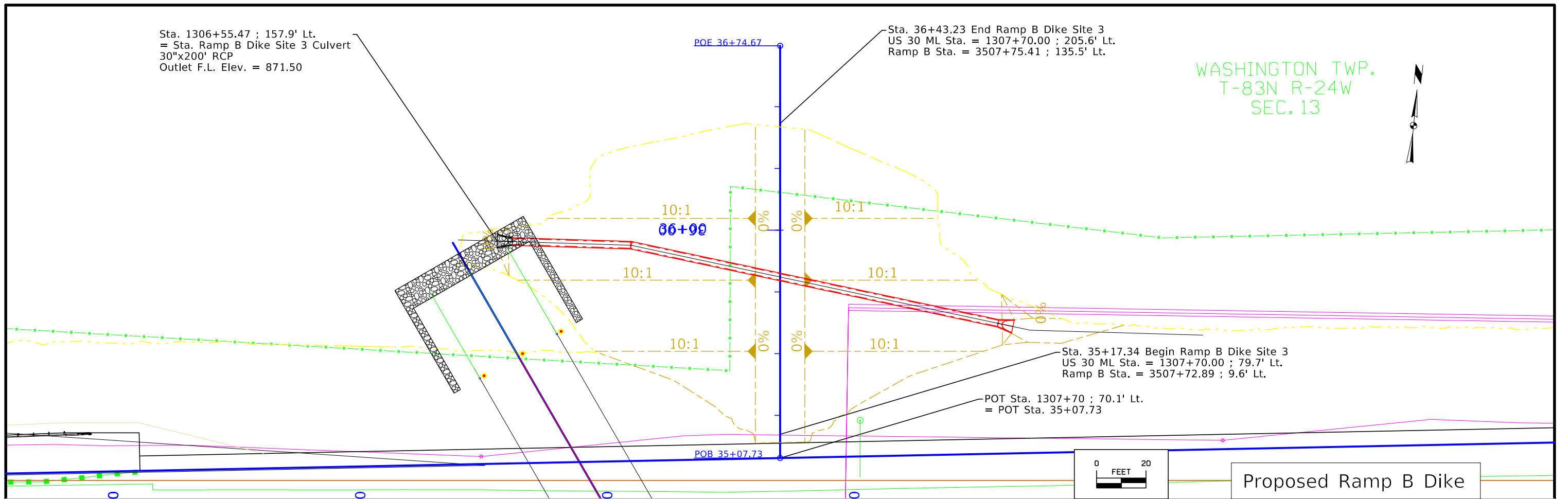
Station	Profile
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1320+00	883.50
1321+00	883.50
1322+00	883.50
1323+00	883.50
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1325+00	883.50
1326+00	883.50
1327+00	883.50
1328+00	883.50
1329+00	883.50
1330+00	883.50
1331+00	883.50
1332+00	883.50
1333+00	883.50

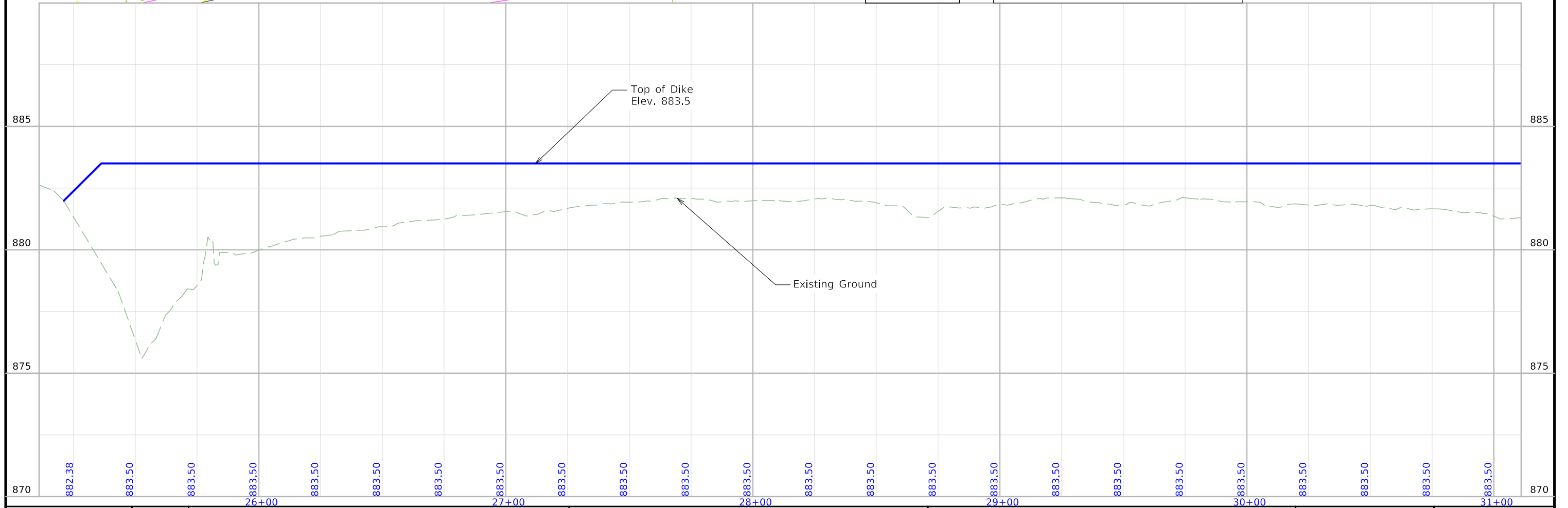
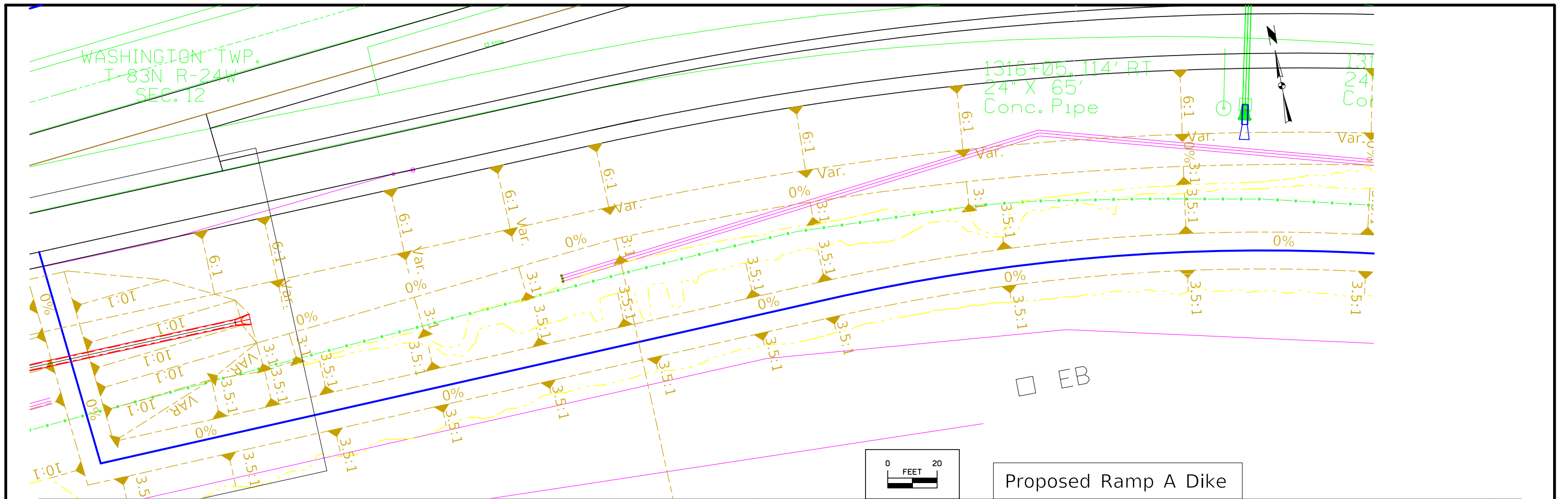
FILE NO. ENGLISH DESIGN TEAM **WHKS & CO.** STORY COUNTY PROJECT NUMBER **BRFN-030-5(271)--38-85** SHEET NUMBER **D.6**

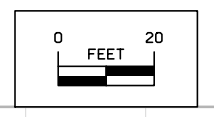
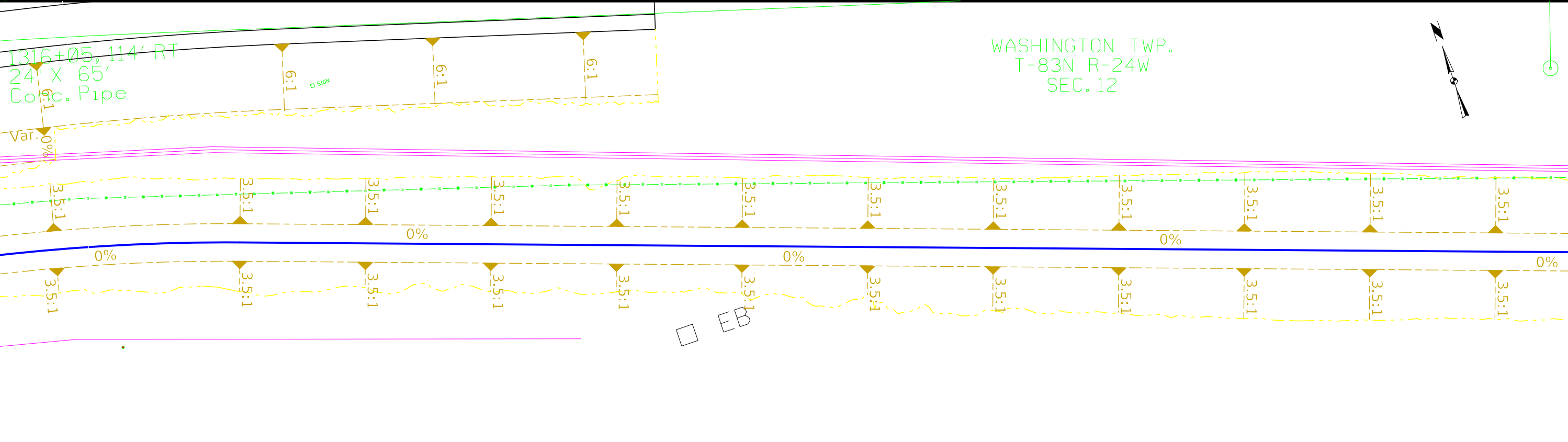
Sta. 1306+55.47 ; 157.9' Lt.  
 = Sta. Ramp B Dike Site 3 Culvert  
 30"x200' RCP  
 Outlet F.L. Elev. = 871.50

Sta. 36+43.23 End Ramp B Dike Site 3  
 US 30 ML Sta. = 1307+70.00 ; 205.6' Lt.  
 Ramp B Sta. = 3507+75.41 ; 135.5' Lt.

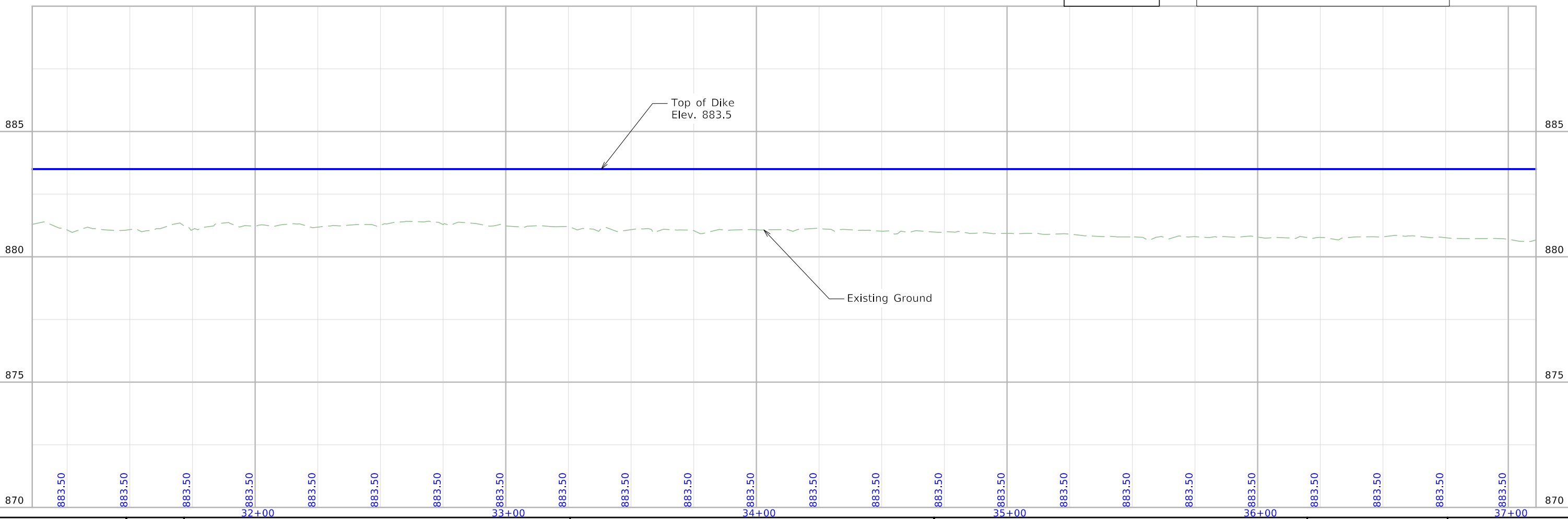
WASHINGTON TWP.  
 T-83N R-24W  
 SEC. 13





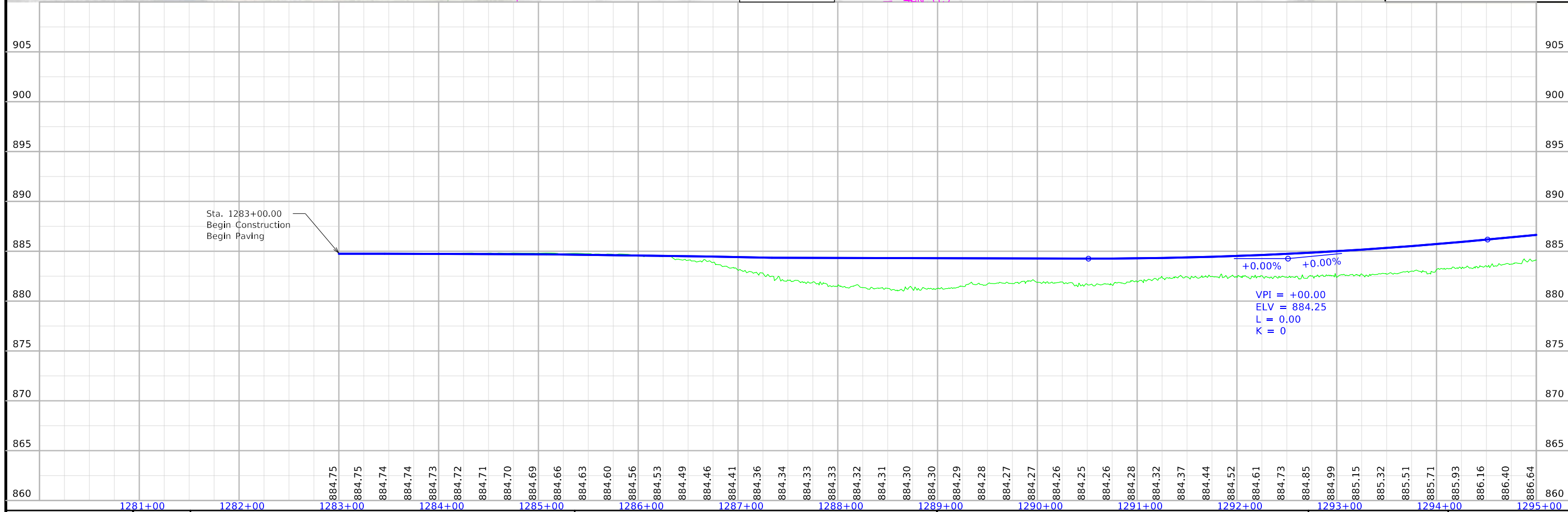
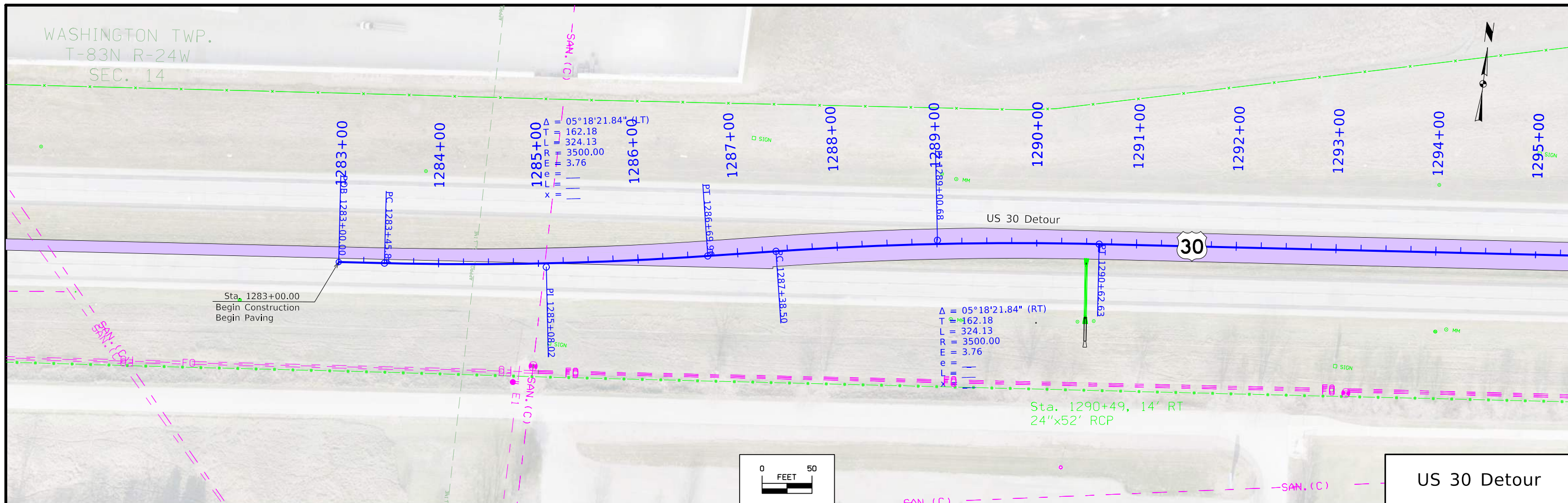


Proposed Ramp A Dike

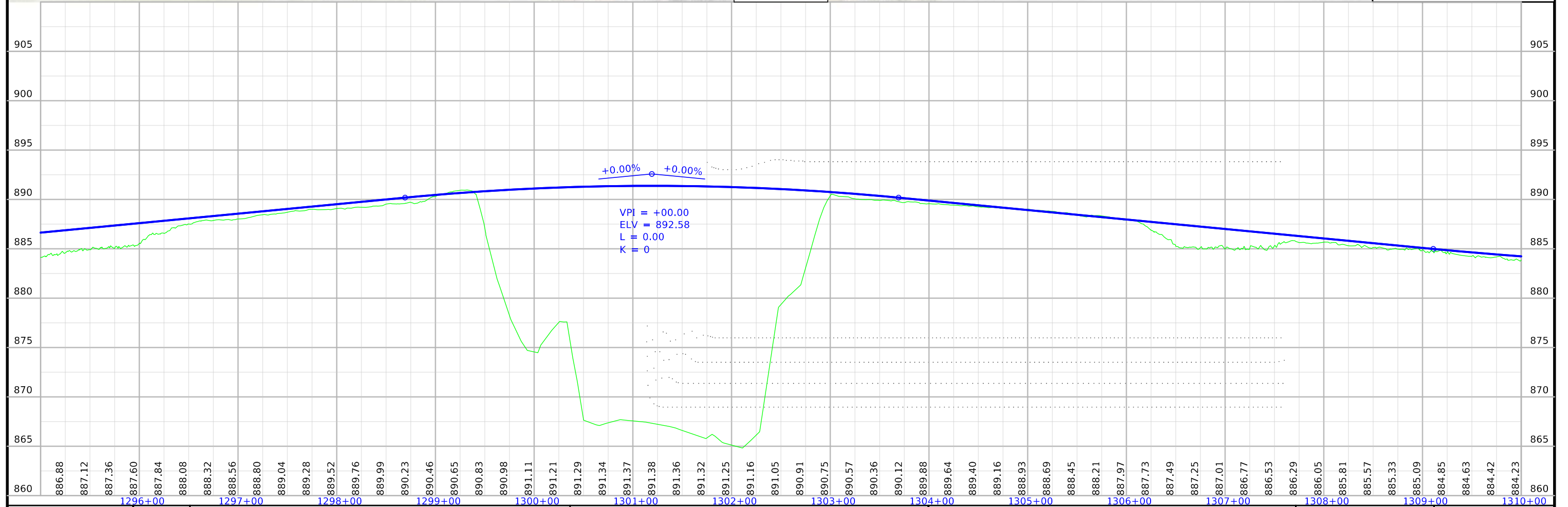
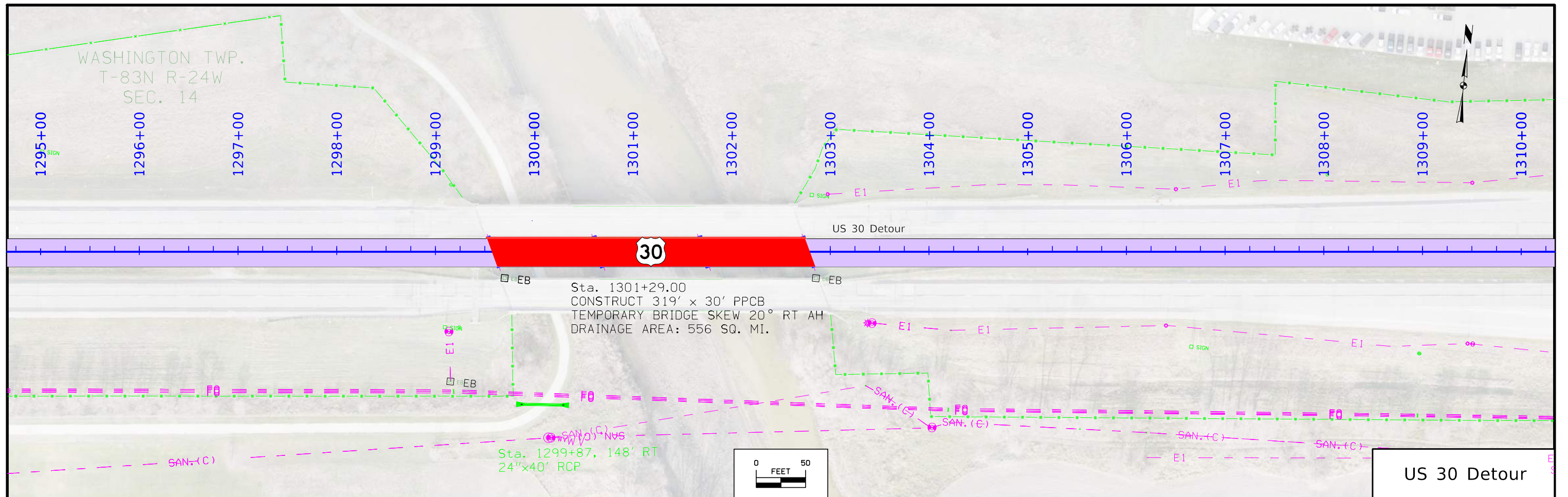


FILE NO.	ENGLISH	DESIGN TEAM WHKS & CO.	STORY COUNTY	PROJECT NUMBER BRFN-030-5(271)--38-85	SHEET NUMBER ED.3
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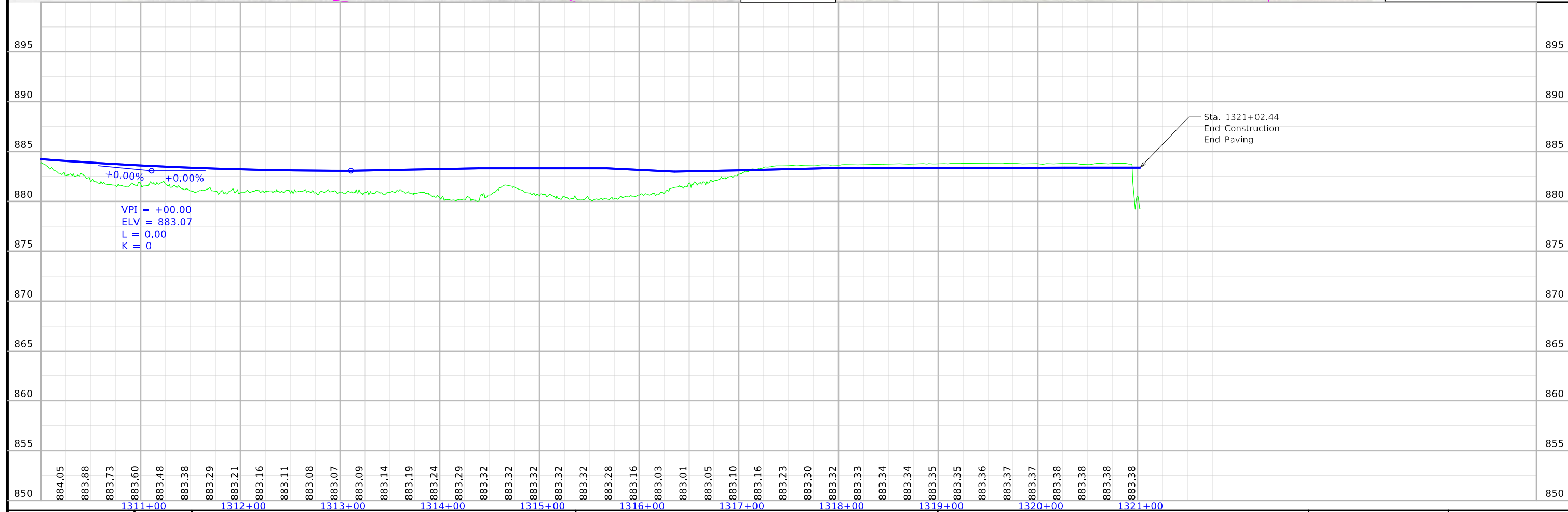
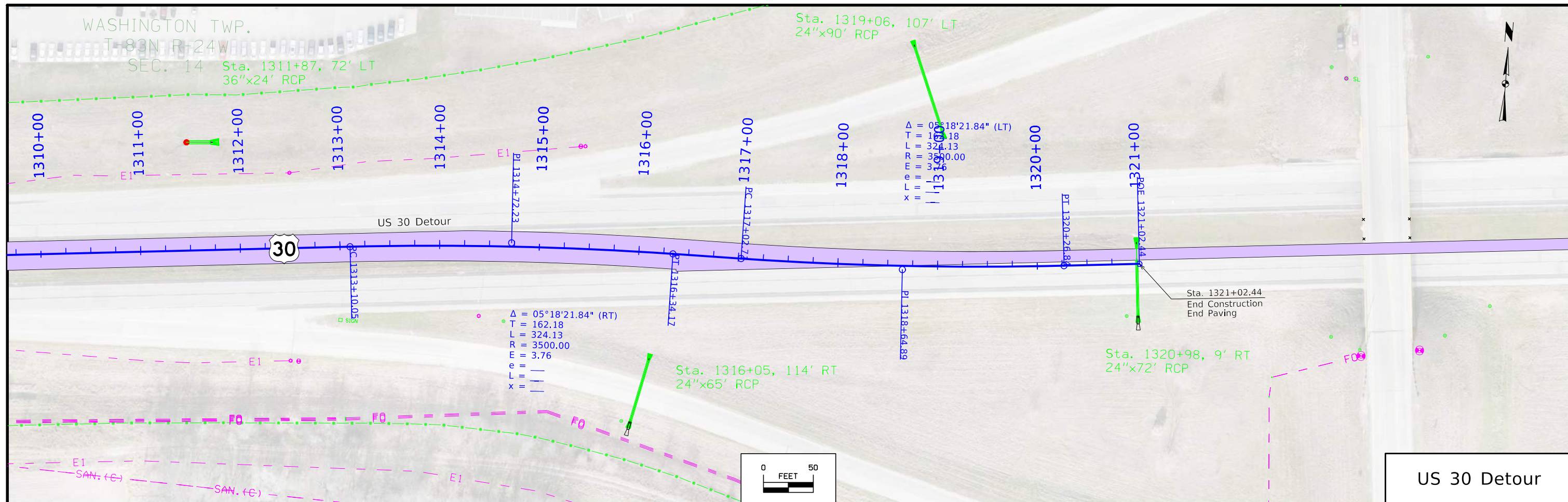
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FILE NO.	ENGLISH	DESIGN TEAM WHKS & CO.	STORY COUNTY	PROJECT NUMBER BRFN-030-5(271)--38-85	SHEET NUMBER F.1
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FILE NO.	ENGLISH	DESIGN TEAM WHKS & CO.	STORY COUNTY	PROJECT NUMBER BRFN-030-5(271)--38-85	SHEET NUMBER F.2
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FILE NO.	ENGLISH	DESIGN TEAM WHKS & CO.	STORY COUNTY	PROJECT NUMBER BRFN-030-5(271)--38-85	SHEET NUMBER F.3
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## Survey Information

### SURVEY INDEX

**County: Story**  
**PIN: 19-85-030-020**  
**Project Number: BRFN-030-5(271)--38-35**  
**Location: HWY-30 over South Skunk River, 1.2 Miles West of I-35**  
**Type of Work: Bridge - Replacement**  
**Project Directory: 8503002019**

### Survey Personnel

Jeremy Leemon     Survey Project Manager  
Chris Ries         Assistant Survey Project Manager  
CJ Beckman        Instrument  
Jacob Powers      Instrument  
Jamie Winchester   Instrument

### Date(s) of Survey

Begin Date            11/5/2021  
End Date              09/17/2021

### General Information

This project is a full DTM survey utilizing both conventional survey and Whirrx drone photogrammetry. Measurement units for this survey are US survey feet. Project datum and control was established using previously established control. Starting Along HWY 30, approximately 0.16 miles East of HWY 69 and ending 0.5 miles West of I-35, 1.3 miles by 450 feet wide.

### Project Control

The project coordinate system for this survey is IaRCS Zone 8(U.S. Survey Feet). This survey control is relative to NGS control. We observed 5 control points surrounding the project, observing each control twice for 180 epochs and averaging the measurements. SC304,SVS097,SVS099, SVS100, and SVS101 were then calibrated from CP100. Additional control points were placed throughout the project using GNSS Base-Rover setup relative to CP100.

**PROJECT DATUM: NAD83(2011) EPOCH 2010.00**  
**VERTICAL DATUM: NAVD88 – GEOID MODEL 18**  
**COORDINATE SYSTEM: IOWA REGIONAL COORDINATE SYSTEM ZONE 8**

### Alignments Information

Alignment SURMLA030

A hinge nail was found at P.I. Sta. 1166+14.70 Project FN-30-5(15)—21-85 and A ½” re-rod was found at P.I. Sta. 1410+14.2 Project F-1065(9) a straight line between P.I.’s was held for the centerline. Stationing was established at the intersection of Dayton Road with US 30, Sta. 1323+48.75 and carried back and forward through the project.

Station Equations are as follows:

P.I. Sta. 1166+14.70 (Project FN-30-5(15)—21-85) Found Hinge Nail  
= Sta. 1164+88.28 This Survey

Sta. 1285+09.30 (Project FU-1065(16) Found 5/8” re-rod (WHKS alignment control Sta. 1285+08.62) 0.217’ Lt. of Sta. 1285+08.62 This survey

Sta. 1323+48.75 (Project HES-30-5(57)—2H-85) Found “X” in Bridge (WHKS alignment Control Sta. 1323+48.75) 0.285’ Left of Sta. 1323+48.75 This survey

P.I. Sta. 1410+14.2 (Project F-1065(9) Found ½” re-rod  
= Sta. 1410+09.48 This 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.



## CONTROL POINT VICINITY MAP

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



HORIZ. DATUM: NAD83(2011) EPOCH 2010.00 - Ia. RCS Zone 8

VERT. DATUM: NAVD88 - Geoid Model 18

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) EPOCH 2010.00  
 1a. Regional Coordinate System Zone 8

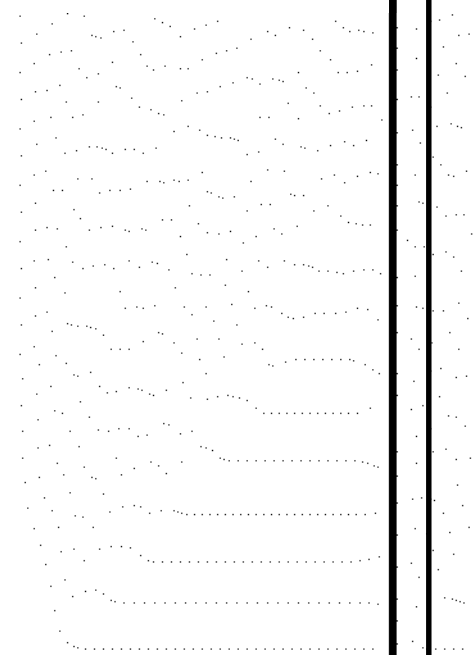
VERT. DATUM: NAVD88  
 Geoid Model 18  
 Project Control Marks are Bench Marks

Point Name	Northing	Easting	Elevation	Feature Definition-Description
99	7639502.580	18529349.922	915.103	CP FD NGS MON in Median of US 30, 330' East of NB CL of S Duff Ave
100	7639937.050	18534748.551	878.893	CP FD NGS MON 48' South of US 30 EB CL, 670' West of CL of Dayton Ave
101	7640510.058	18540657.200	912.711	CP FD NGS MON 42' South of US 30 EB CL, 1065' East of NB CL of Interstate 35

**SUPERELEVATION DATA**

See PV-300 Series

Road Identification	Circular Curve or Spiral Curve Name	Radius FT	Superelevation Data			Standard Road Plan	Section A-A	Section B-B	Section C-C	Section D-D	Section E-E	Section F-F	Case A	Case B	Case C	Case S	Case T	Case U	Remarks
			e	L	x														
			%	FT	FT														
Ramp A		1330	6.0	186	93	PV-303	2512+96.88 2517+88.39		2513+34.08 2517+51.19	2513+89.88 2516+95.39					2513+27.88 2517+57.39	2513+27.88 2517+57.39			
Ramp B		2500	5.0	155	93	PV-303	3520+19.83		3520+04.33	3519+57.83					3519+88.83	3519+88.83			
Ramp D		2000	5.4	168	93.3	PV-303	4265+33.02		4265+57.32	4266+07.72					4265+64.16	4265+64.16			
Ramp E		2000	5.4	168	93.3	PV-303	5268+94.04 5272+13.71		5269+18.34 5271+89.41	5269+68.74 5271+39.01					5269+25.19 5271+82.56	5269+25.19 5271+82.56			



**STAGING NOTES**

Year 1  
 Stage 1 Traffic  
 -Close the median side lane of WB US Highway 30, per Standard Road Plan TC-418.  
 -Ramps are to remain open as normal

Stage 1 Construction  
 -Construct temporary median pavement and start constructing temporary bridge  
 -Construct RCB's under the median, sheet piling will be required to be left in place after Year 1 work is finished

Stage 2 Traffic  
 -Close the median side lane of EB & WB US Highway 30, per Standard Road Plan TC-418.  
 -Ramps are to remain open as normal

Stage 2 Construction  
 -Construct temporary median pavement tie-ins to EB US Highway 30, continue temporary bridge construction  
 -Construct RCB's under the median, sheet piling or shoring will be required to be left in place after Year 1 work is finished

Stage 3 Traffic  
 -Place TBR on the outside shoulder of EB & WB US Highway 30  
 -Ramps are to remain open as normal

Stage 3 Construction  
 -Construct EB & WB auxiliary lane embankments and all embankments for ramp reconstruction

Stage 4 Traffic  
 -No traffic control required

Stage 4 Construction  
 -Construct Dikes, Low Flow Ditch from easterly RCB, miscellaneous culverts

The temporary bridge can be built across Stages 1-3. Stage 4 can be completed at any time, without impacts to normal traffic operations.  
 All ramps will be open to normal traffic unless closed for auxiliary lane grading activities.

Year 2  
 Stage 1 Traffic  
 -Maintain 2 WB lanes on existing WB bridge and pavement.  
 -Lane Shift 2 lanes of EB traffic at Duff Ave. interchange to the north to provide space to work.  
 -Lane Shift 2 lanes of EB traffic to temporary median pavement and temporary bridge  
 -Close Duff Ave. EB loop entrance ramp and EB slip entrance ramp. Detour traffic to SE 16th Street, then Dayton Ave.  
 -Close Dayton Ave. Exit Ramp. Detour traffic to Duff Ave. then to SE 16th Street.  
 -Ramps associated with WB US 30 are to remain open as normal

Stage 1 Construction  
 -Remove Existing EB bridge, Construct EB Bridge, EB auxiliary lane to approximately Sta 1290+00, and Duff Ave. slip entrance ramp

Stage 2 Traffic  
 -Maintain 2 WB lanes on existing WB bridge and pavement.  
 -Merge EB US 30 traffic to the inside lane prior to Duff Ave. interchange. Merge the Duff Ave. EB loop entrance ramp and EB slip entrance ramp into the existing outside lane. No lane change maneuvers will be allowed through the work zone, in the EB lanes  
 -Lane Shift 2 lanes of EB traffic to temporary median pavement and temporary bridge  
 -Close Dayton Ave. Exit Ramp. Detour traffic to Duff Ave. then to SE 16th Street.  
 -Ramps associated with WB US 30 are to remain open as normal

Stage 2 Construction  
 -Construct RCB's under the EB lanes, EB Bridge, EB auxiliary lane from approximately Sta 1290+00 to end of project, and Dayton Ave. exit ramp  
 -Construct RCB under recreational trail, associated low flow ditch, and re-construct recreational trail  
 -Construct full depth paved shoulders to handle traffic in Year 3 (2 lanes in each direction on the EB lanes)

Stage 3 Traffic  
 -EB and WB traffic will be in their respective lanes  
 -Close the median side lane of EB & WB US Highway 30, per Standard Road Plan TC-418.  
 -Ramps are to remain open as normal

Stage 3 Construction  
 -Remove median pavement (Leave some pavement for Year 3 contractor to use??), Grade median ditch  
 -Construct median crossovers for Year 3

The EB bridge removal and construction can be accomplished in Stages 1 & 2.

Year 3  
 Stage 1 Traffic  
 -Maintain 2 EB lanes on EB bridge and pavement built in Year 2.  
 -Lane Shift 2 lanes of WB traffic to the EB bridge built in Year 2. Traffic shall be separated by Temporary Barrier Rail.  
 -Close Duff Ave. exit ramp. Detour traffic to Dayton Ave. exit then SE 16th Street.  
 -Close Dayton Ave. Entrance Ramp. Detour traffic to SE 16th Street then to Duff Ave.  
 -Ramps associated with EB US 30 are to remain open as normal

Stage 1 Construction  
 -Remove temporary bridge and existing WB bridge, Construct WB Bridge, WB auxiliary lane to approximately 1288+00, and Duff Ave. exit ramp exit ramp

Stage 2 Traffic  
 -Maintain 2 EB lanes on EB bridge and pavement built in Year 2.

**STAGING NOTES**

-Lane Shift 2 lanes of WB traffic at Dayton Ave. interchange to the South to provide space to work.  
 -Lane Shift 2 lanes of WB traffic to the EB bridge built in Year 2. Traffic shall be separated by Temporary Barrier Rail.  
 -Close Dayton Ave. Entrance Ramp. Detour traffic to SE 16th Street then to Duff Ave.  
 -Ramps associated with EB US 30 are to remain open as normal

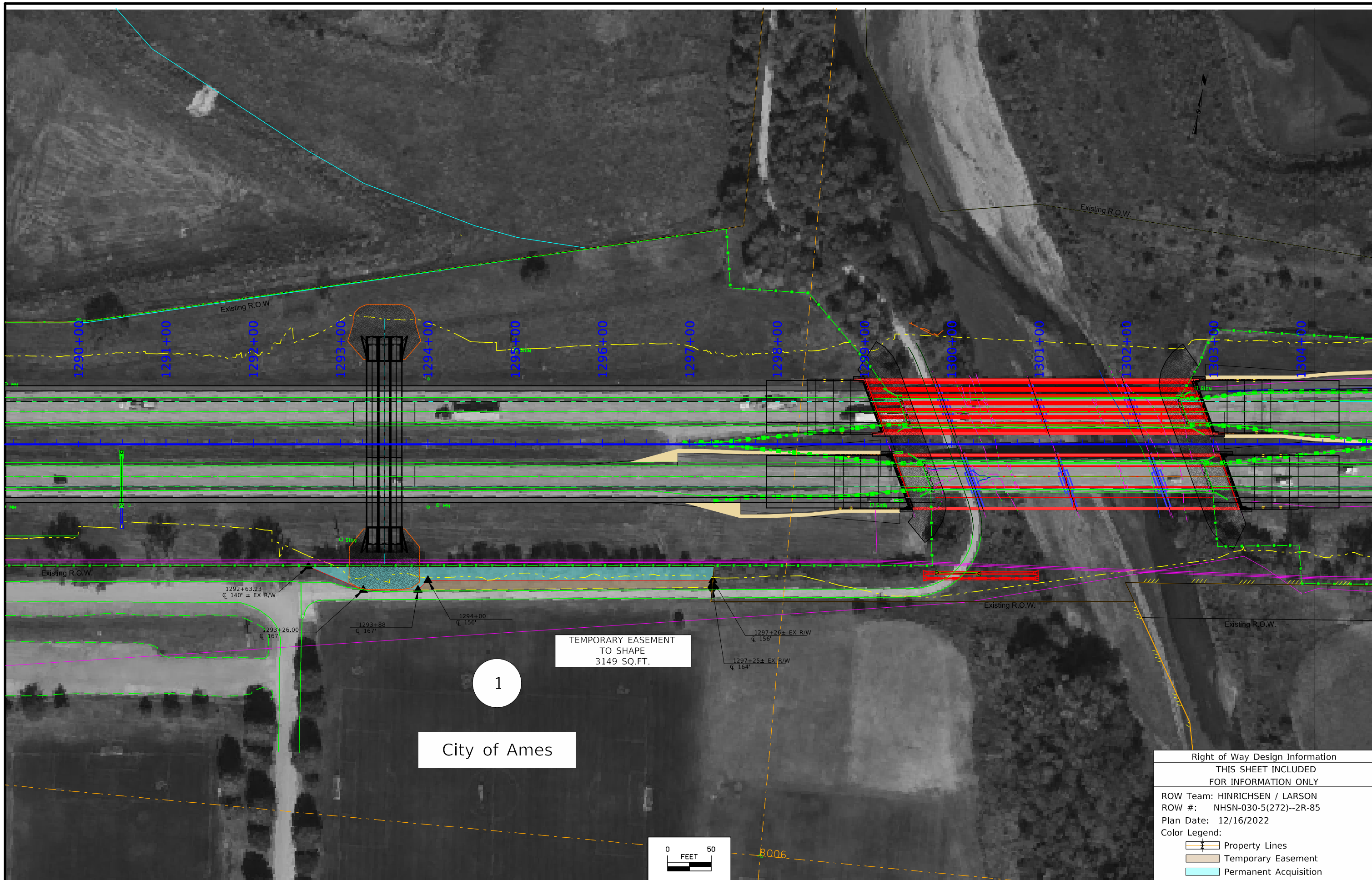
Stage 2 Construction  
 -Construct RCB's under the WB lanes, WB Bridge, WB auxiliary lane from approximately 1288+00 to end of project, and Dayton Ave. entrance ramp

Stage 3 Traffic  
 -EB and WB traffic will be in their respective lanes  
 -Close the median side lane of EB & WB US Highway 30, per Standard Road Plan TC-418.  
 -Ramps are to remain open as normal

Stage 3 Construction  
 -Remove temporary median cross overs, grade median ditch

**TRAFFIC CONTROL PLAN**

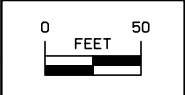
NO ACCESS RIGHTS ARE TO BE ACQUIRED ON THIS PROJECT.



1

TEMPORARY EASEMENT  
TO SHAPE  
3149 SQ.FT.

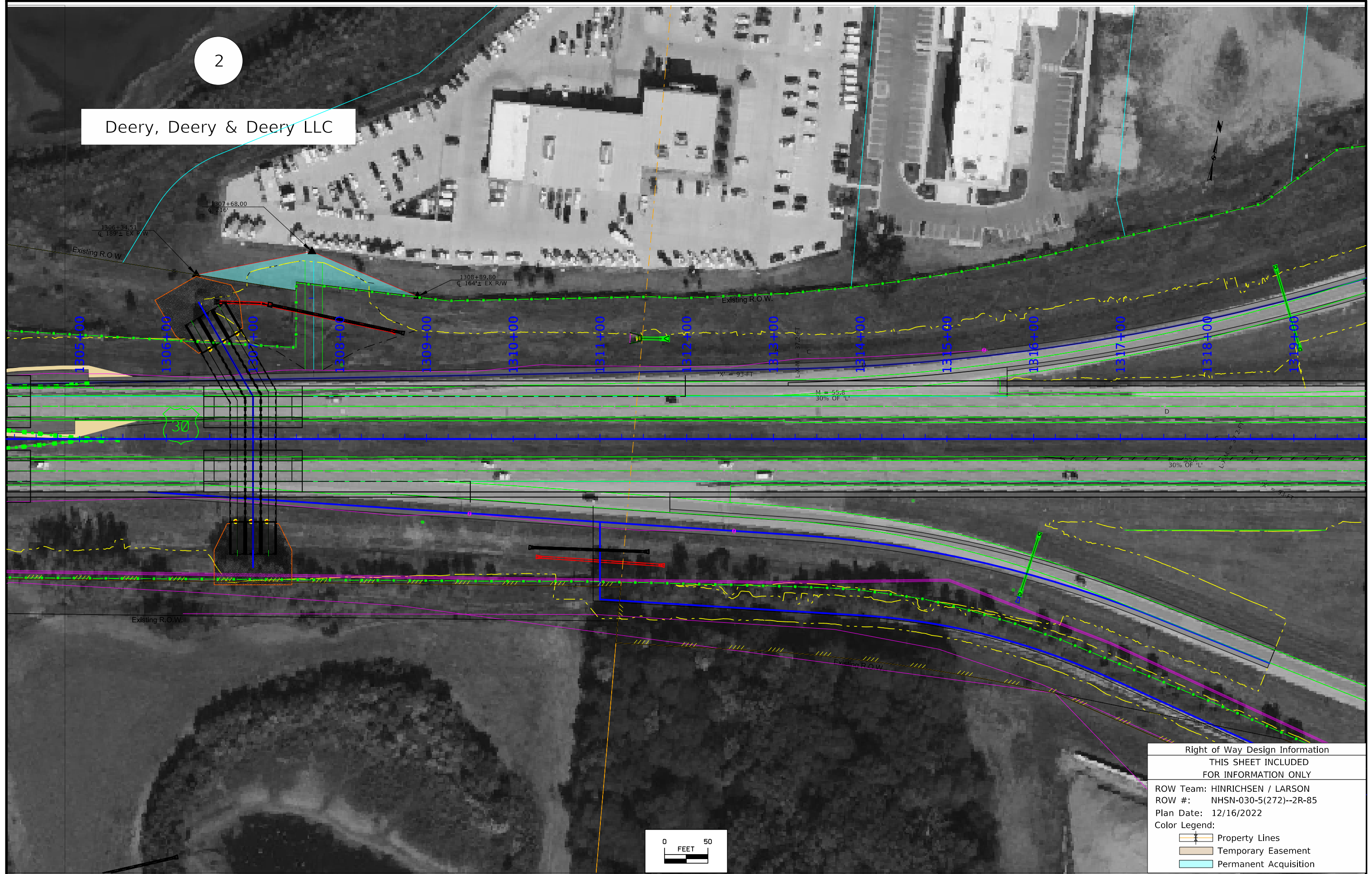
City of Ames



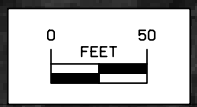
Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: HINRICHSEN / LARSON	
ROW #: NHSN-030-5(272)--2R-85	
Plan Date: 12/16/2022	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition

2

Deery, Deery & Deery LLC












Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team:	HINRICHSEN / LARSON
ROW #:	NHSN-030-5(272)--2R-85
Plan Date:	12/16/2022
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



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

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

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





















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

### PLAN VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

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

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

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

	Channelizing Device		Crash Cushion (Temp or Perm)
	Drum		Traffic Signal
	Temporary Lane Separator		Flagger
	Tubular Marker		Temporary Floodlighting
	Channelizer Marker		Traffic Sign
	Concrete Barrier Marker		Type III Barricade
	Delineator		Type A Warning Light
	Temporary Barrier Rail		Direction of Traffic
	Pavement Removal		Safety Closure
	Sand Barrel Layout		Lane Identification

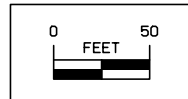
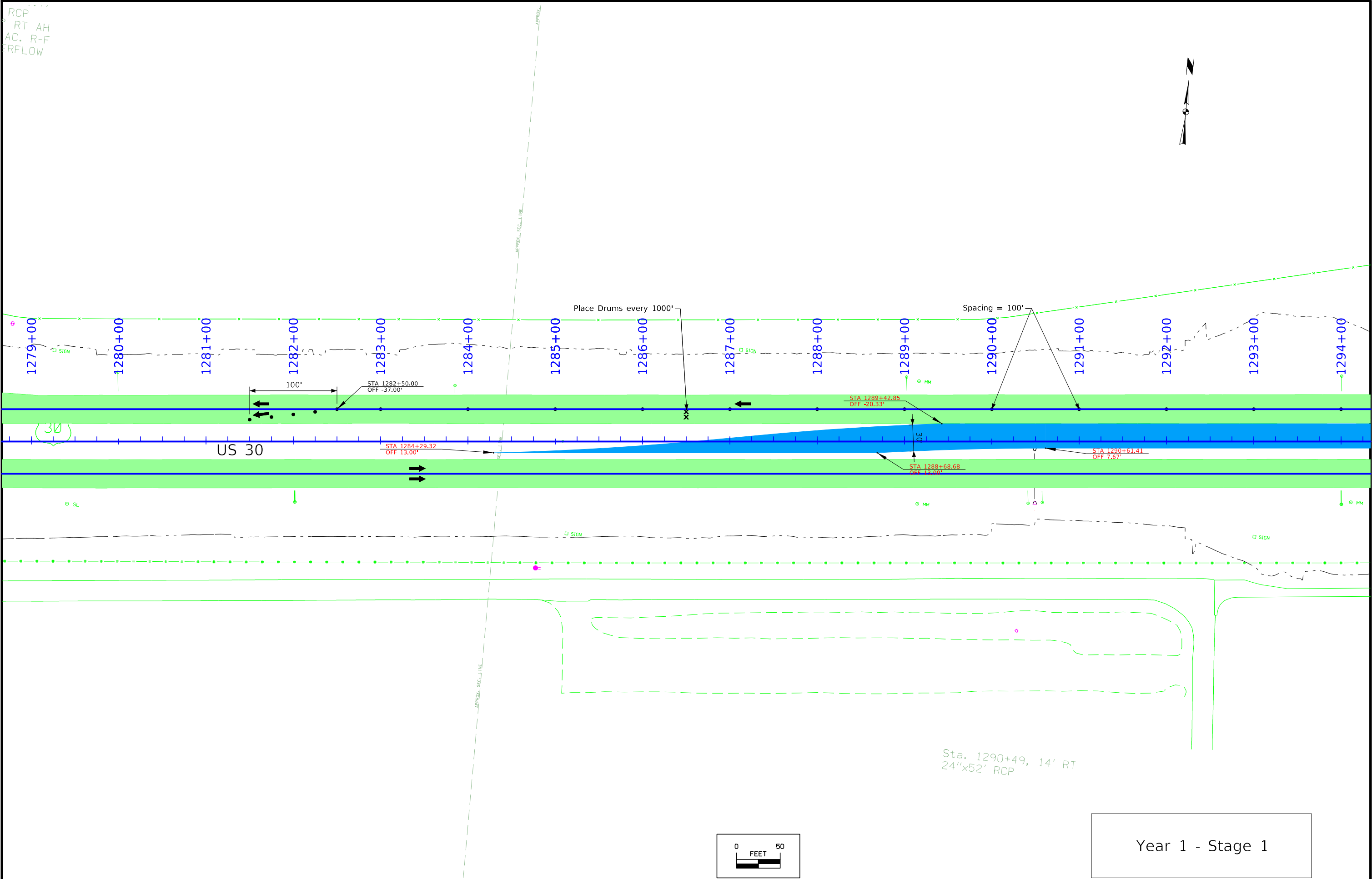
NOTE: Device spacing according to Standard Road Plans unless specifically dimensioned.

## TRAFFIC CONTROL AND STAGING LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES J)

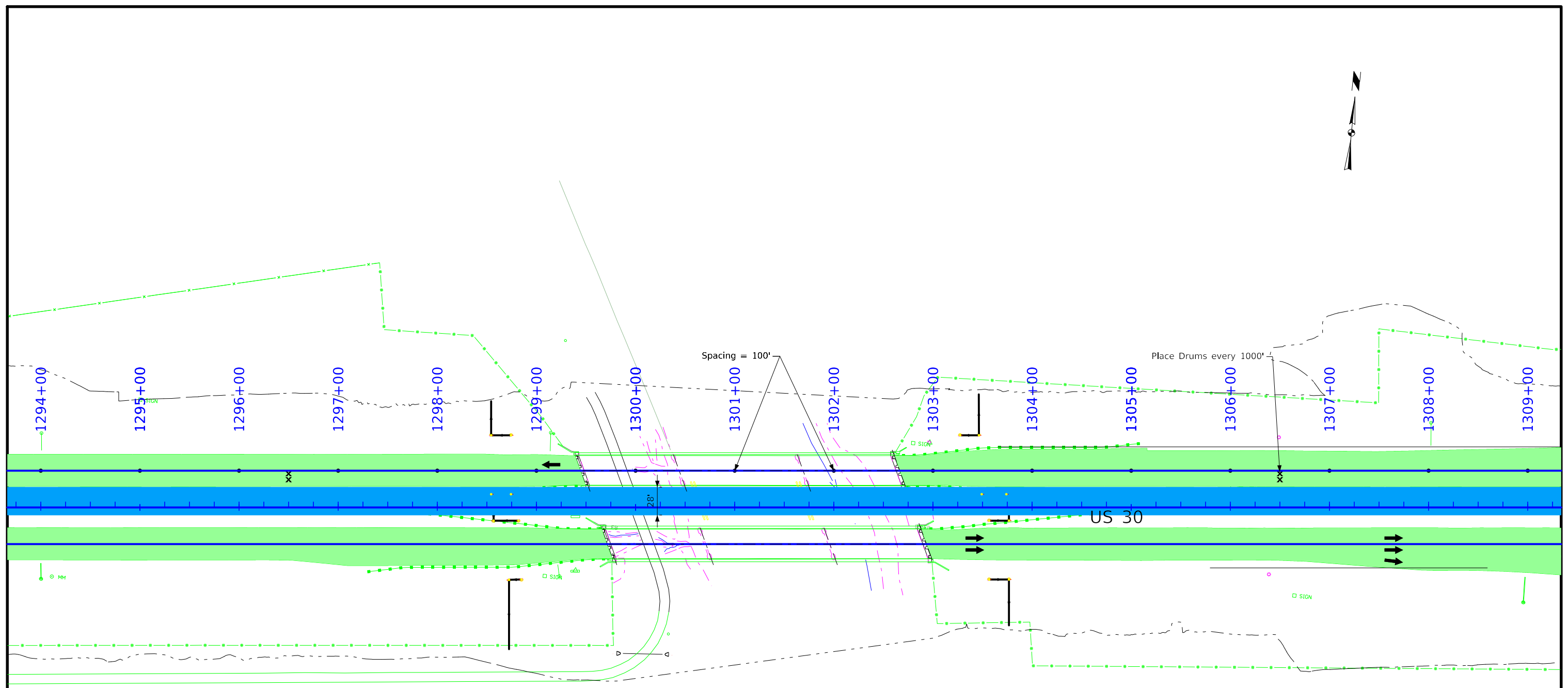


RCP  
RT AH  
AC. R-F  
RFLOW

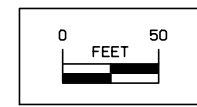


Year 1 - Stage 1

FILE NO.	ENGLISH	DESIGN TEAM WHKS & CO.	STORY COUNTY	PROJECT NUMBER BRFN-030-5(271)--38-85	SHEET NUMBER J.3
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Sta. 1299+87, 148' RT  
24"x40" RCP

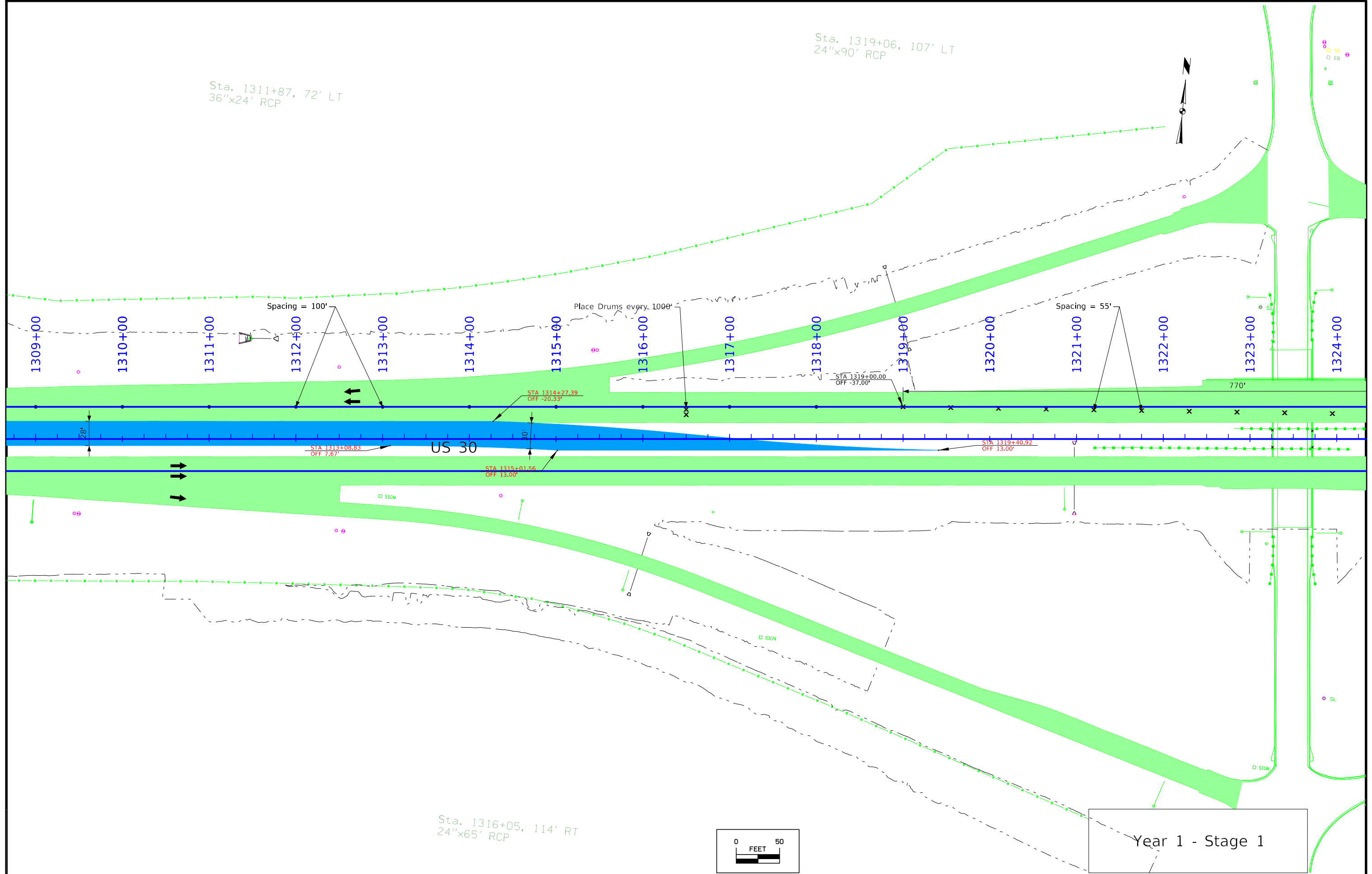


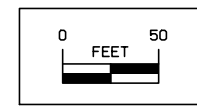
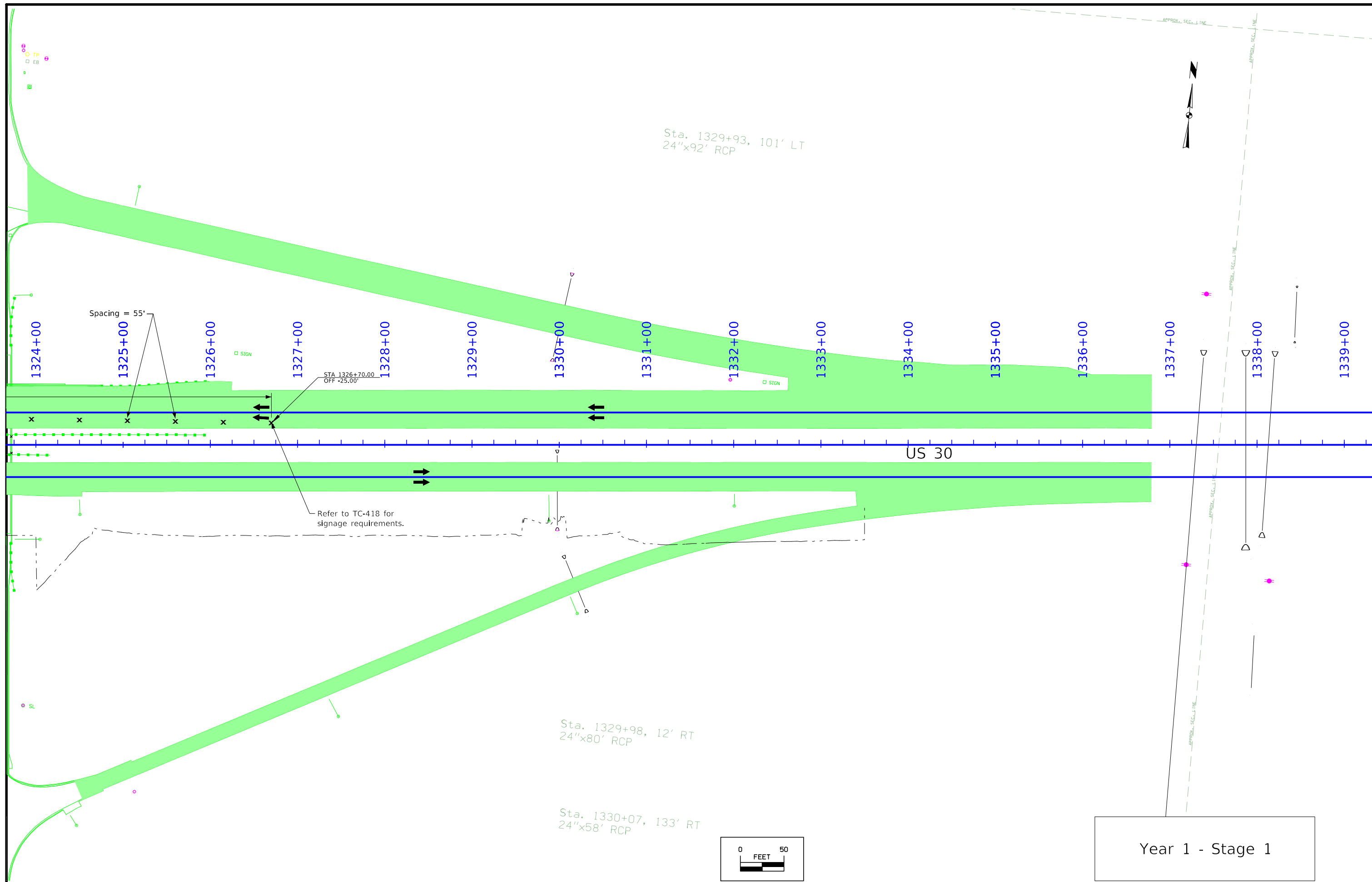
Year 1 - Stage 1

Sta. 1311+87, 72' LT  
36"x24" RCP

Sta. 1319+06, 107' LT  
24"x90" RCP

Sta. 1316+05, 114' RT  
24"x65" RCP





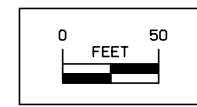
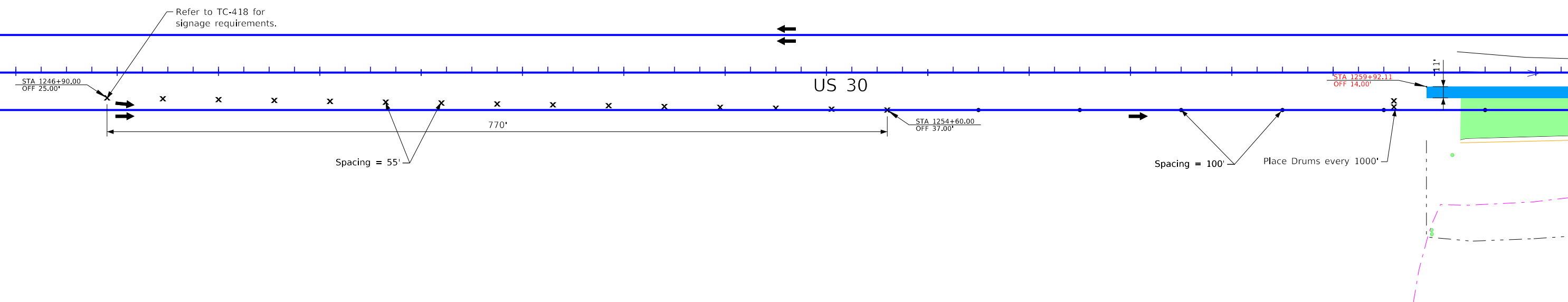
Year 1 - Stage 1

FILE NO.	ENGLISH	DESIGN TEAM WHKS & CO.	STORY COUNTY	PROJECT NUMBER BRFN-030-5(271)--38-85	SHEET NUMBER J.6
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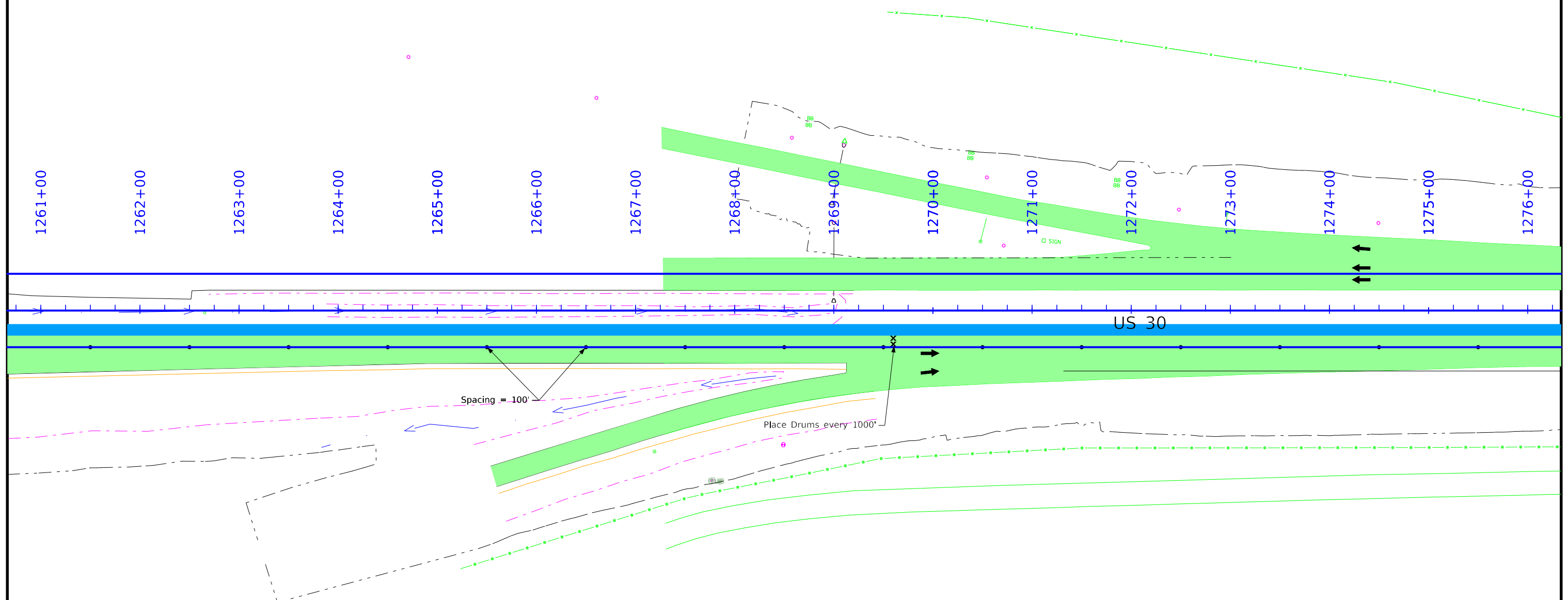
1246+00 1247+00 1248+00 1249+00 1250+00 1251+00 1252+00 1253+00 1254+00 1255+00 1256+00 1257+00 1258+00 1259+00 1260+00 1261+00



Sta. 1276+  
18"x3' RCP



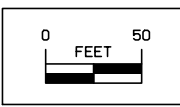
1261+00 1262+00 1263+00 1264+00 1265+00 1266+00 1267+00 1268+00 1269+00 1270+00 1271+00 1272+00 1273+00 1274+00 1275+00 1276+00



US 30

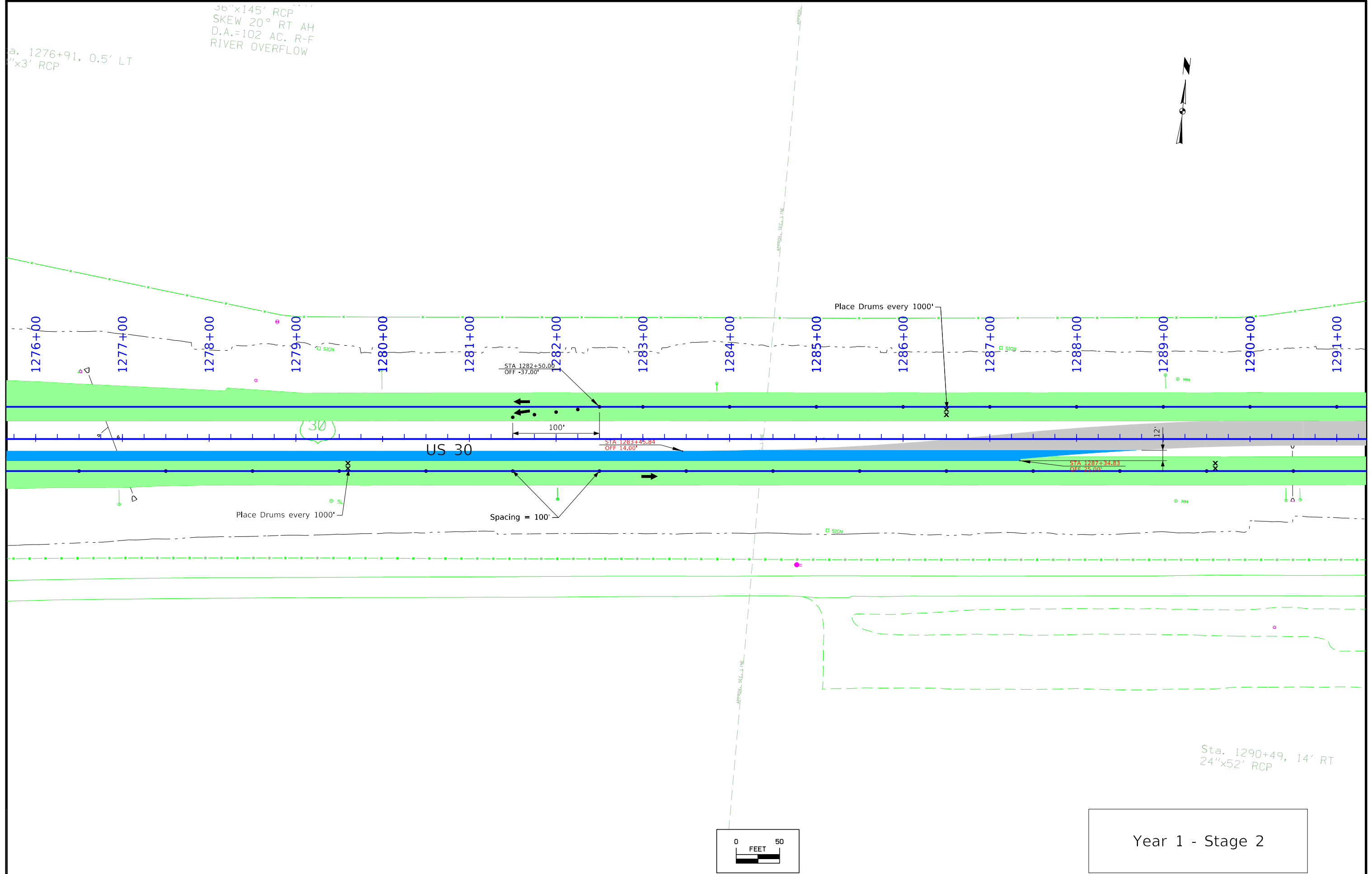
Spacing = 100'

Place Drums every 1000'



WASHINGTON T  
T-83N R-24  
SEC 14

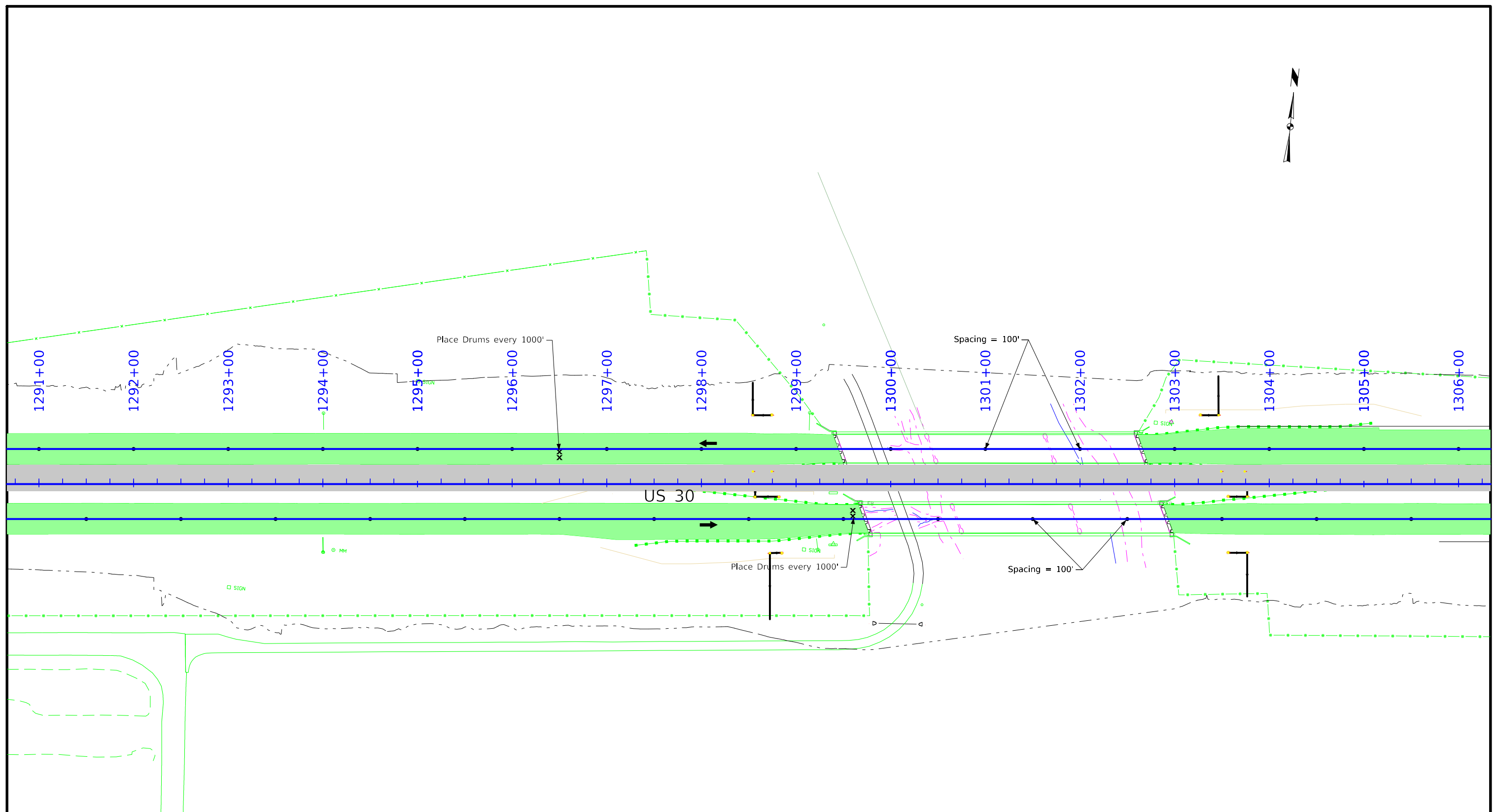
Year 1 - Stage 2



a. 1276+91, 0.5' LT  
 36" x 3' RCP

36" x 145' RCP  
 SKEW 20° RT AH  
 D.A.=102 AC. R-F  
 RIVER OVERFLOW

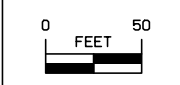




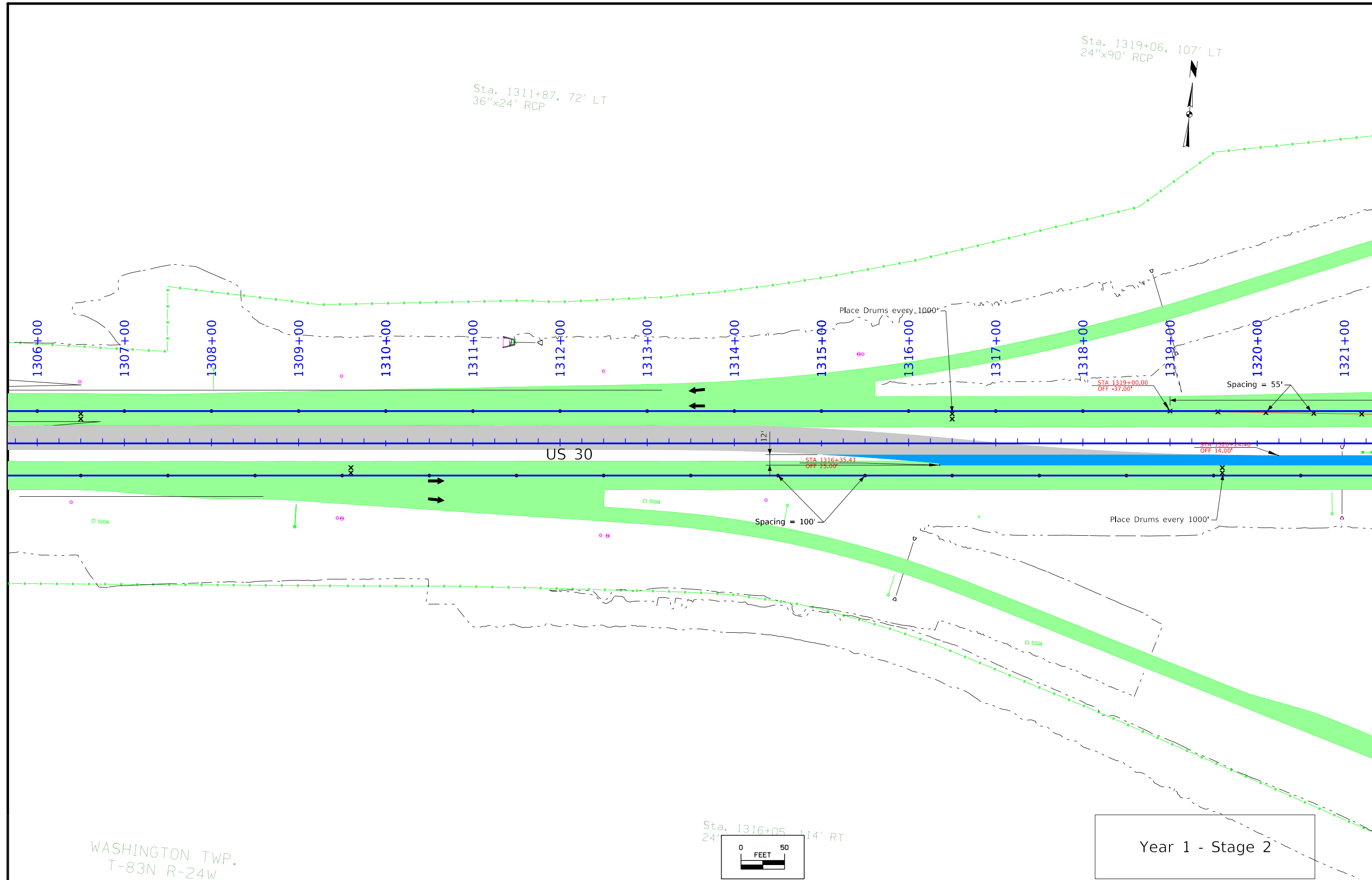
US 30

Sta. 1299+87, 148' RT  
24"x40' RCP

Year 1 - Stage 2



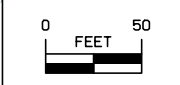




Sta. 1311+87, 72' LT  
36"x24' RCP

Sta. 1319+06, 107' LT  
24"x90' RCP

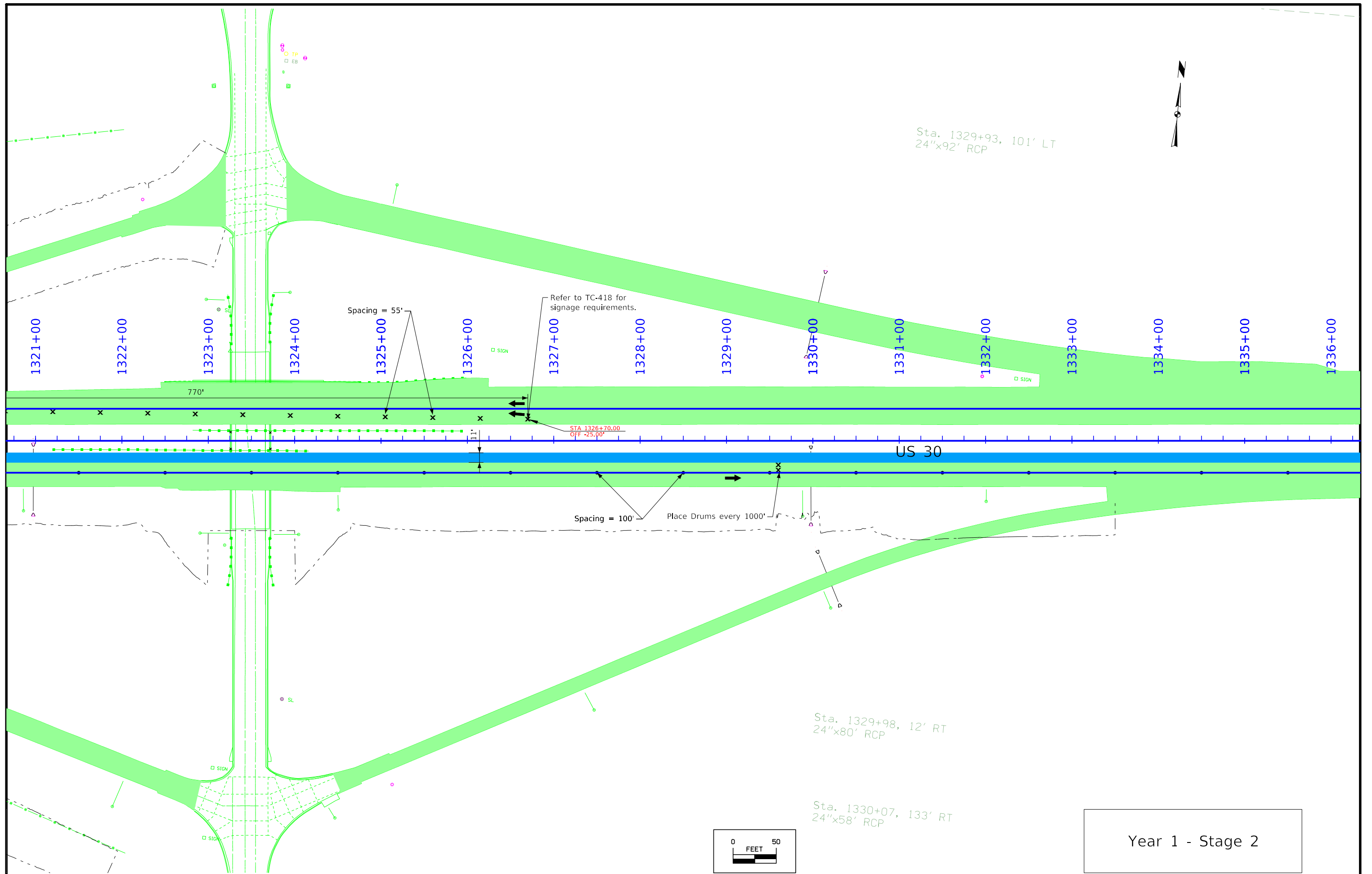
Sta. 1316+05, 114' RT  
24' RCP



Year 1 - Stage 2

WASHINGTON TWP.  
T-83N R-24W

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Sta. 1338+46, 175' LT  
12"x52' RCP

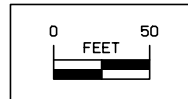
Sta. 1337+93, 279' RT  
48"x60' CMP

STA 1338+90.00  
OFF 37.00'

100'

11'

US 30

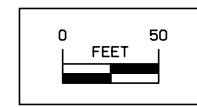
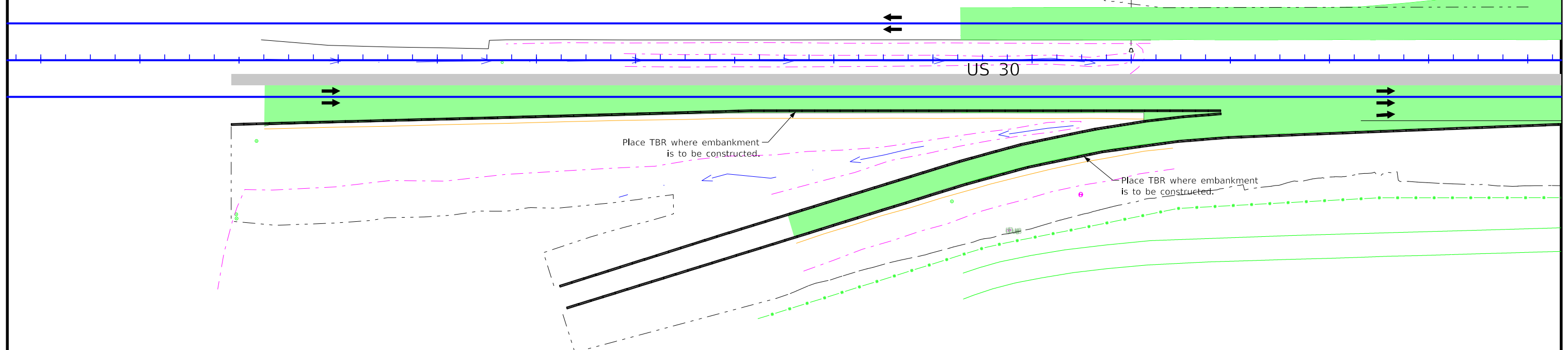


Year 1 - Stage 2

1336+00 1337+00 1338+00 1339+00 1340+00 1341+00 1342+00 1343+00 1344+00 1345+00 1346+00 1347+00 1348+00 1349+00 1350+00 1351+00



1258+00 1259+00 1260+00 1261+00 1262+00 1263+00 1264+00 1265+00 1266+00 1267+00 1268+00 1269+00 1270+00 1271+00 1272+00 1273+00

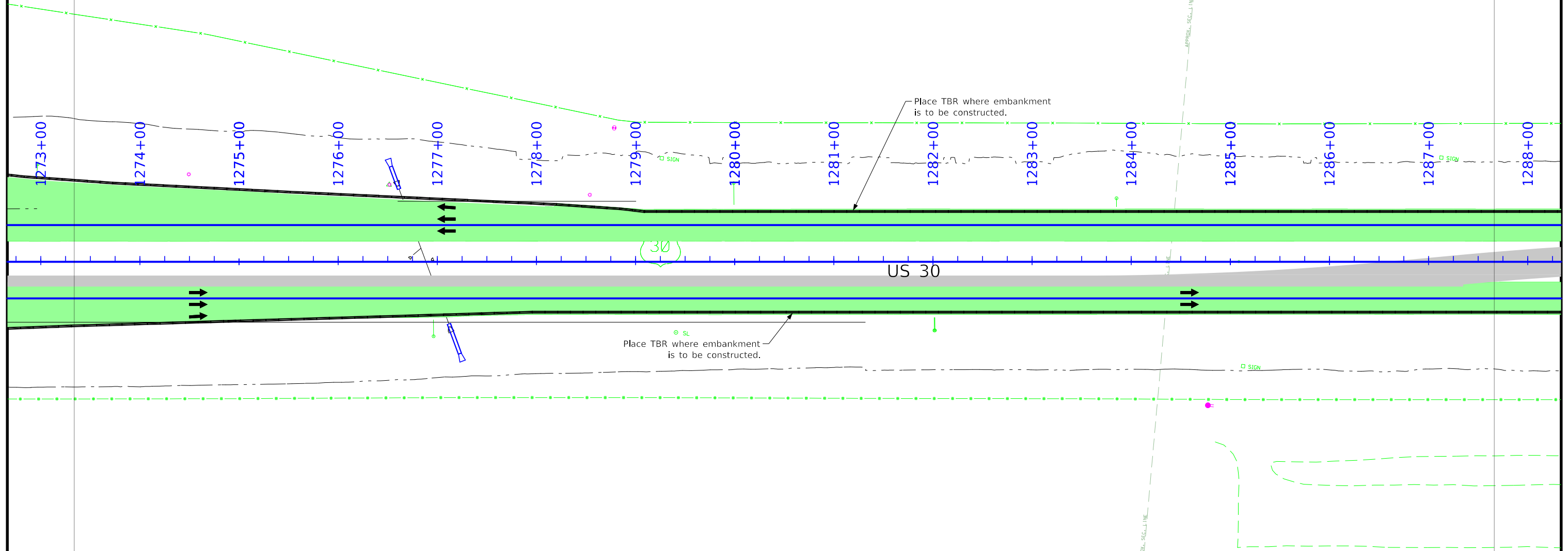


Year 1 - Stage 3

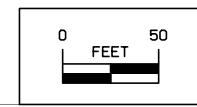
ON TWP  
R-24W  
11

Sta. 1276+91, 0.5' LT  
18"x3' RCP

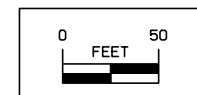
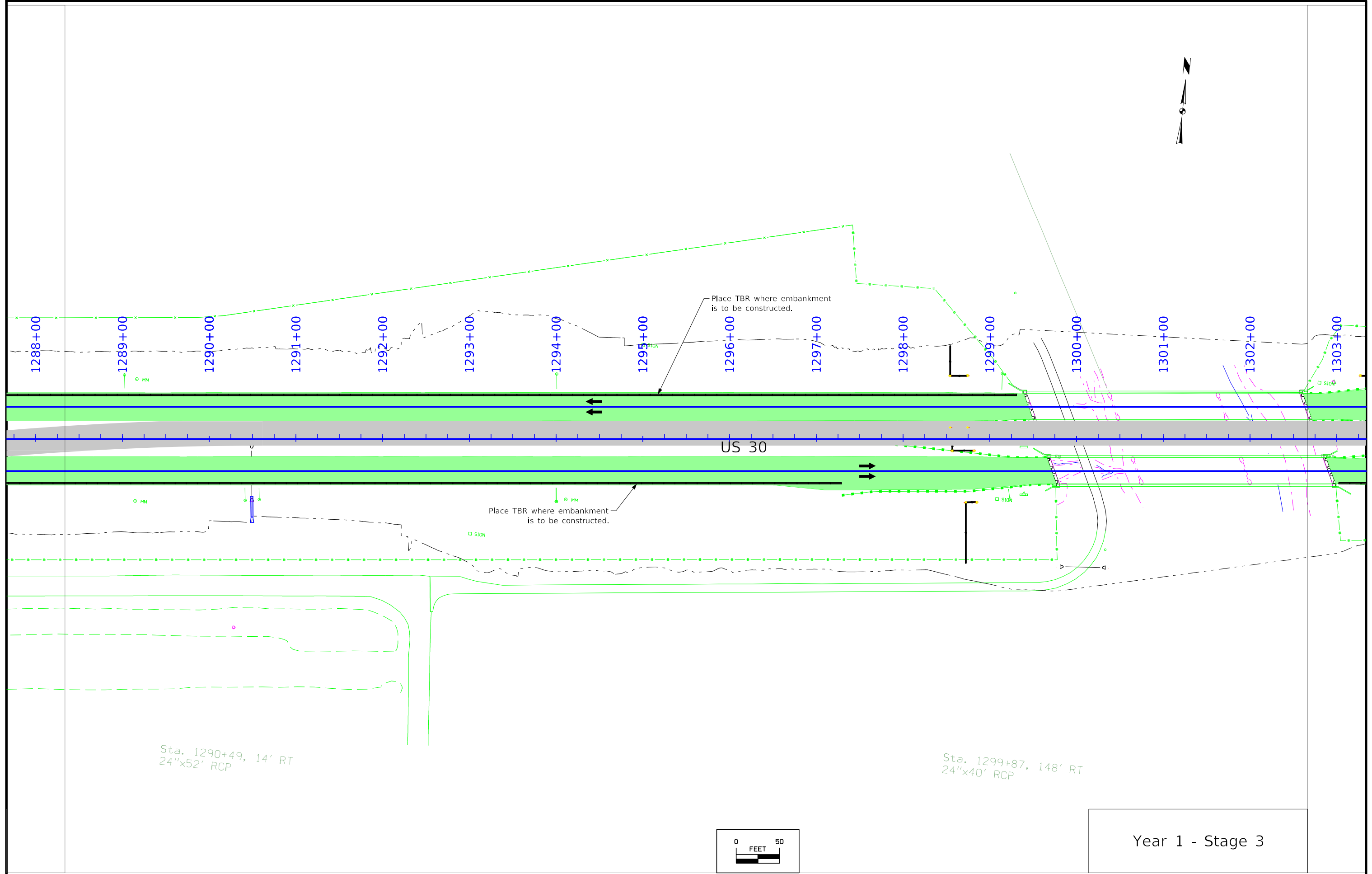
36"x145' RCP  
SKEW 20° RT AH  
D.A.=102 AC. R-F  
RIVER OVERFLOW



ON TWP.  
R-24W  
14



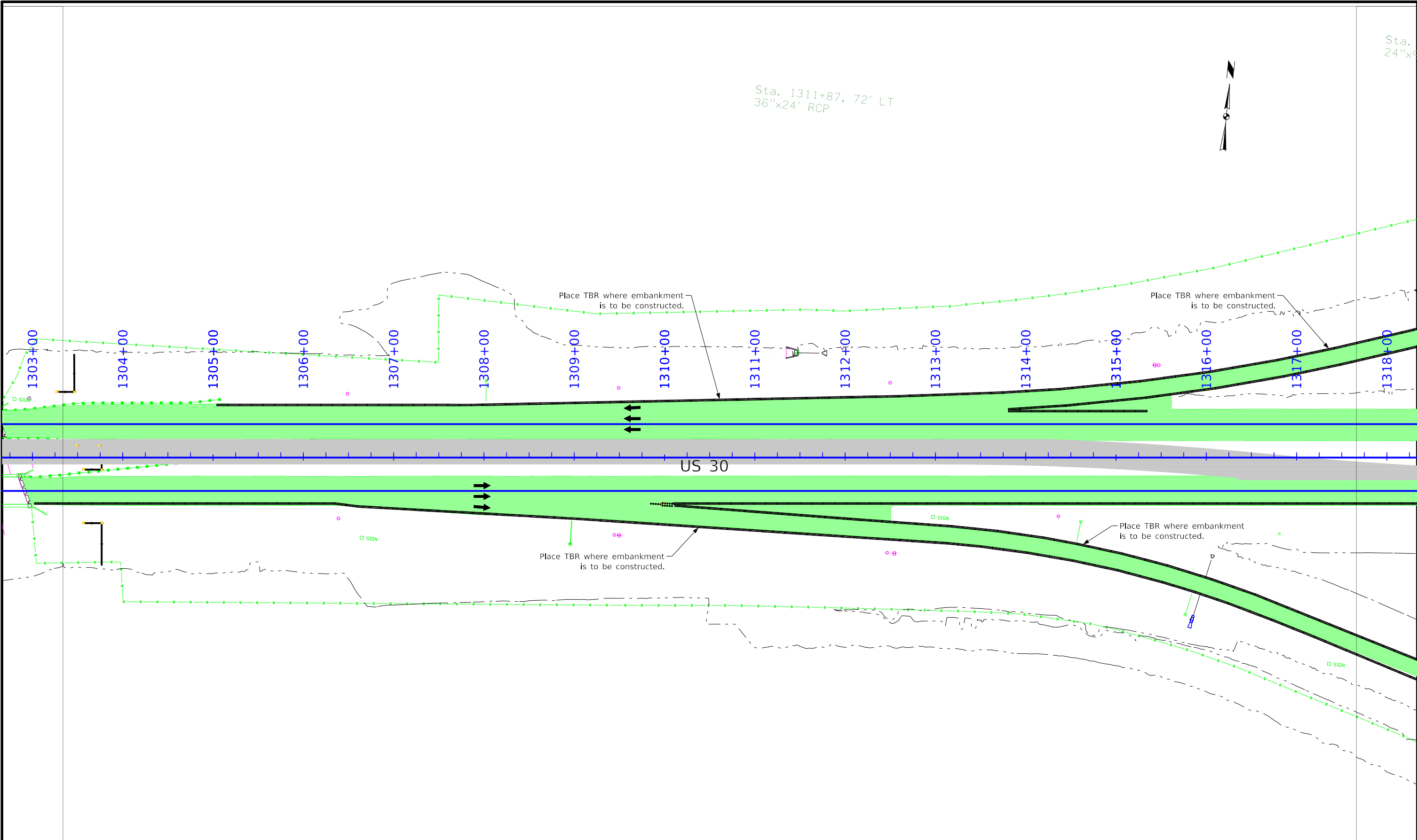
Year 1 - Stage 3



Year 1 - Stage 3

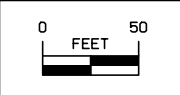
Sta. 24"x6"

Sta. 1311+87, 72' LT  
36"x24' RCP



US 30

WASHINGTON TWP.  
T-83N R-24W



Sta. 1316+05, 114' R  
24"x65' RCP

Year 1 - Stage 3

Sta. 1319+06, 107' LT  
24"x90' RCP

Sta. 1329+93, 101' LT  
24"x92' RCP

Place TBR where embankment  
is to be constructed.

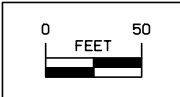
Place TBR where embankment  
is to be constructed.

US 30

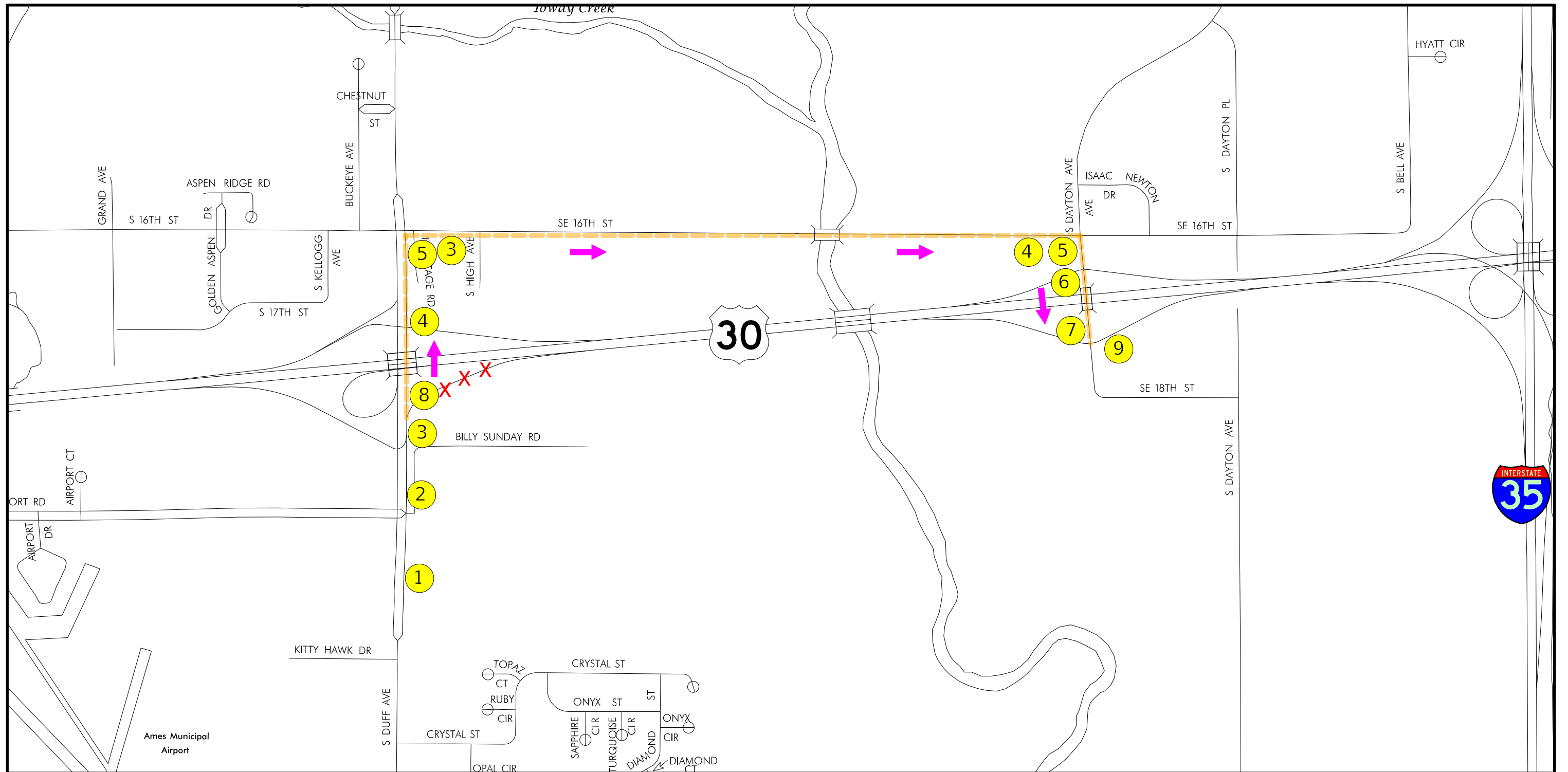
Sta. 1329+98, 12' RT  
24"x80' RCP

Sta. 1329+98, 12' RT  
24"x80' RCP

Year 1 - Stage 3







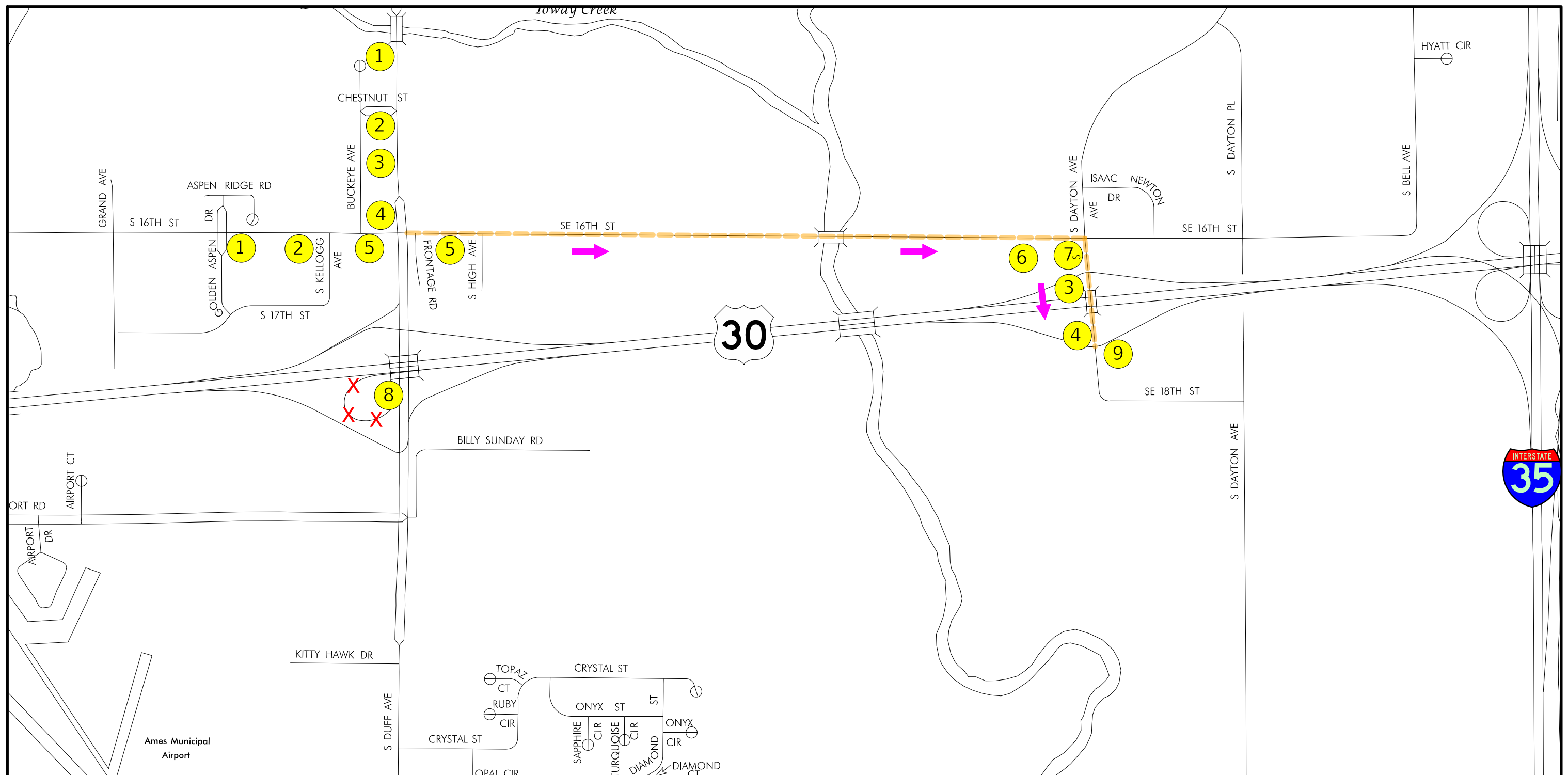
1	2	3	4	5	6	7	8	9
 <b>W20-2</b> 48" x 48"	 <b>RAMP CLOSED</b> <b>FOLLOW DETOUR</b> CUSTOM SIGN	 <b>DETOUR</b> <b>EAST</b>  M4-3, 24" X 12" M3-2, 24" X 12"  M1-4, 24" X 24"  M6-3, 21" X 15"	 <b>DETOUR</b> <b>EAST</b>  M4-3, 24" X 12" M3-2, 24" X 12"  M1-4, 24" X 24"  M5-1R, 21" X 15"	 <b>DETOUR</b> <b>EAST</b>  M4-3, 24" X 12" M3-2, 24" X 12"  M1-4, 24" X 24"  M6-1R, 21" X 15"	 <b>DETOUR</b> <b>EAST</b>  M4-3, 24" X 12" M3-2, 24" X 12"  M1-4, 24" X 24"  M5-1L, 21" X 15"	 <b>DETOUR</b> <b>EAST</b>  M4-3, 24" X 12" M3-2, 24" X 12"  M1-4, 24" X 24"  M6-1L, 21" X 15"	 <b>ROAD CLOSED</b> R11-2 48" x 30"	 <b>END</b> <b>DETOUR</b> M4-8A 24" X 18"

Detour Direction

Detour Route

Ramp Closure

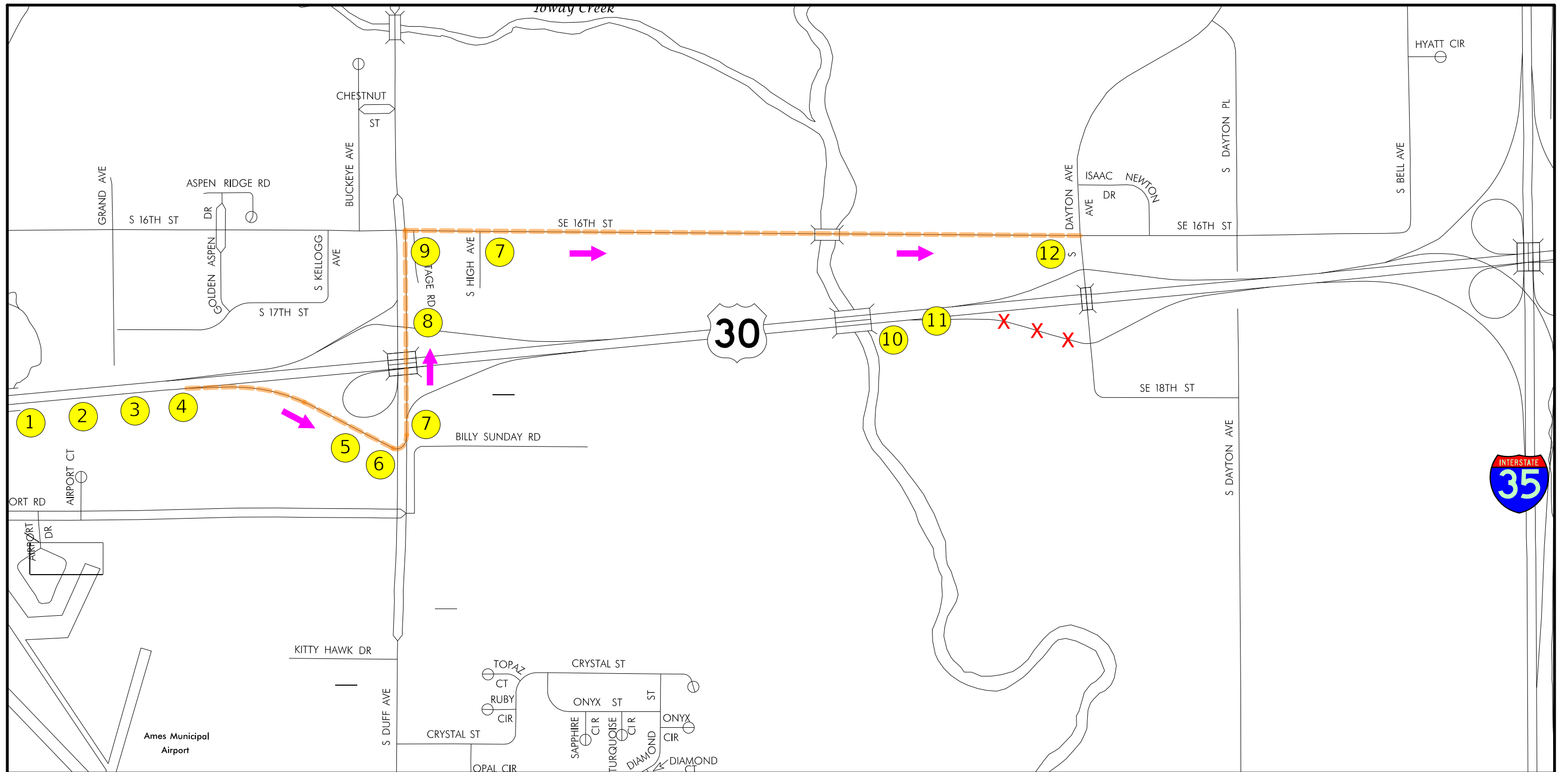
## Ramp D Detour



1	2	3	4	5	6	7	8	9
 <b>W20-2</b> 48" x 48"	 <b>RAMP CLOSED</b> FOLLOW DETOUR CUSTOM SIGN	 DETOUR EAST M4-3, 24" X 12" M3-2, 24" X 12" M1-4, 24" X 24" M5-1L, 21" X 15"	 DETOUR EAST M4-3, 24" X 12" M3-2, 24" X 12" M1-4, 24" X 24" M6-1L, 21" X 15"	 DETOUR EAST M4-3, 24" X 12" M3-2, 24" X 12" M1-4, 24" X 24" M6-3, 21" X 15"	 DETOUR EAST M4-3, 24" X 12" M3-2, 24" X 12" M1-4, 24" X 24" M5-1R, 21" X 15"	 DETOUR EAST M4-3, 24" X 12" M3-2, 24" X 12" M1-4, 24" X 24" M6-1R, 21" X 15"	 <b>ROAD CLOSED</b> R11-2 48" x 30"	 <b>END DETOUR</b> M4-8A 24" X 18"

Detour Direction  
 Detour Route  
 Ramp Closure

**Duff Ave. EB Loop  
Entrance Ramp Detour**



1	2	3	4	5	6	7	8	9	10	11	12
W20-2 48" x 48"	DAYTON AVE RAMP CLOSED FOLLOW DETOUR CUSTOM SIGN	M4-3, 24" X 12" M3-1, 24" X 12" CUSTOM SIGN M5-2R, 21" X 15"	M4-3, 24" X 12" M3-1, 24" X 12" CUSTOM SIGN M6-2R, 21" X 15"	M4-3, 24" X 12" M3-1, 24" X 12" CUSTOM SIGN M5-1L, 21" X 15"	M4-3, 24" X 12" M3-1, 24" X 12" CUSTOM SIGN M6-1L, 21" X 15"	M4-3, 24" X 12" M3-1, 24" X 12" CUSTOM SIGN M6-3, 21" X 15"	M4-3, 24" X 12" M3-1, 24" X 12" CUSTOM SIGN M5-1R, 21" X 15"	M4-3, 24" X 12" M3-1, 24" X 12" CUSTOM SIGN M6-1R, 21" X 15"	E5-2a 48" x 36"	R11-2 48" x 30"	M4-8A 24" X 18"

Detour Direction

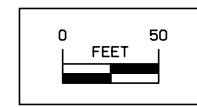
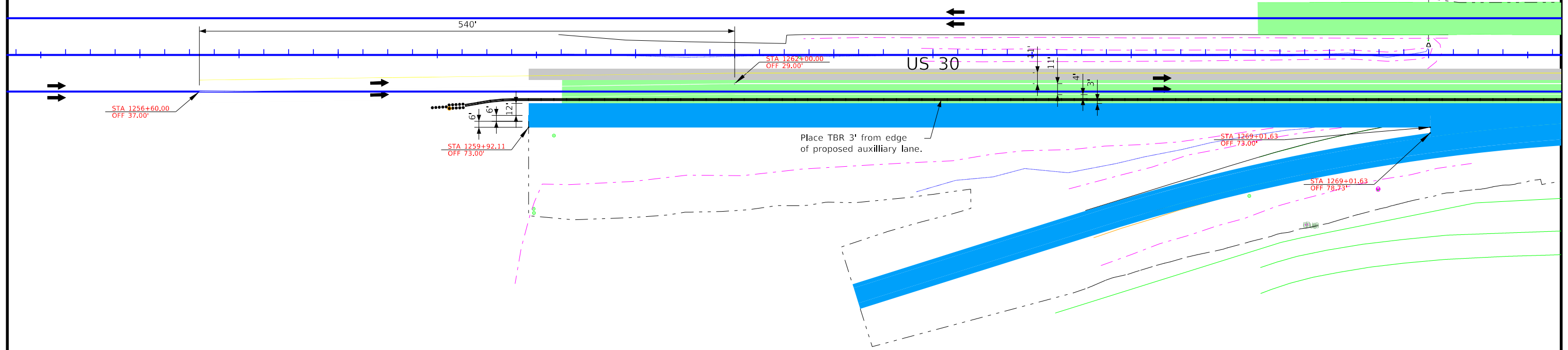
Detour Route

Ramp Closure

## Ramp A Detour



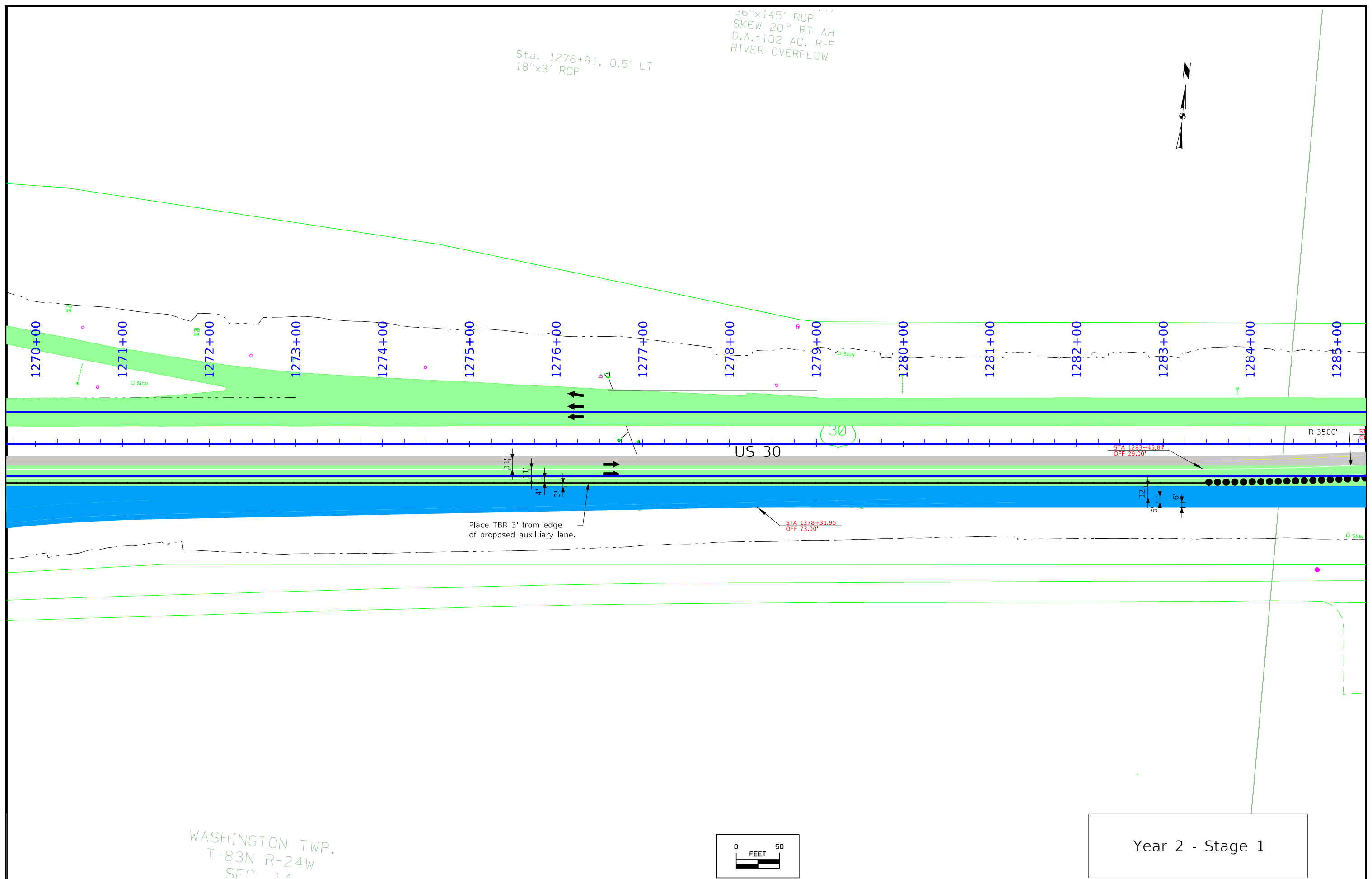
1255+00    1256+00    1257+00    1258+00    1259+00    1260+00    1261+00    1262+00    1263+00    1264+00    1265+00    1266+00    1267+00    1268+00    1269+00    1270+00



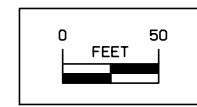
Year 2 - Stage 1

Sta. 1276+91, 0.5' LT  
18"x3' RCP

36"x145' RCP  
SKEW 20° RT AH  
D.A.=102 AC. R-F  
RIVER OVERFLOW

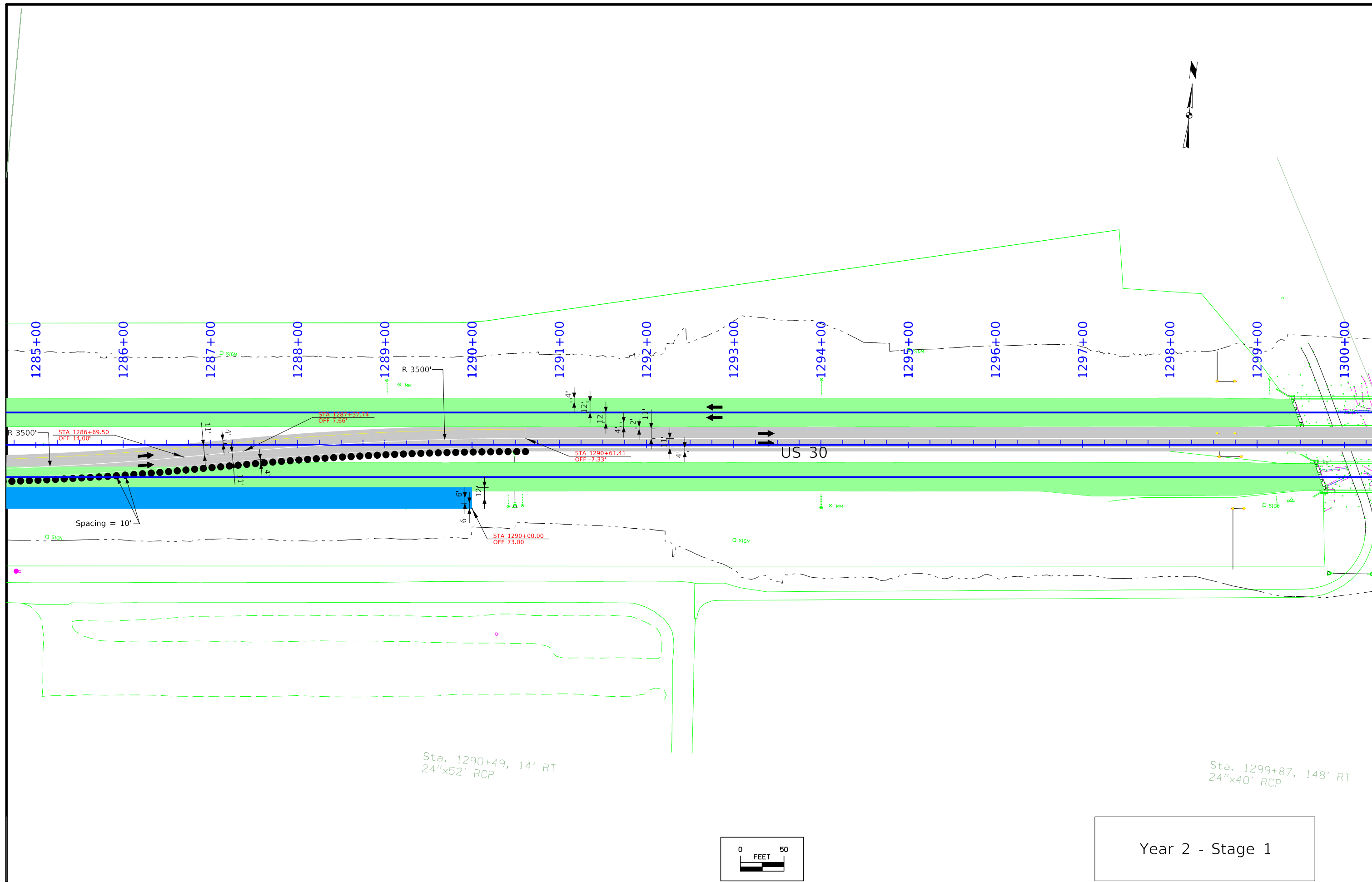


WASHINGTON TWP.  
T-83N R-24W  
SEC 14



Year 2 - Stage 1

FILE NO.	ENGLISH	DESIGN TEAM WHKS & CO.	STORY COUNTY	PROJECT NUMBER BRFN-030-5(271)--38-85	SHEET NUMBER J.23
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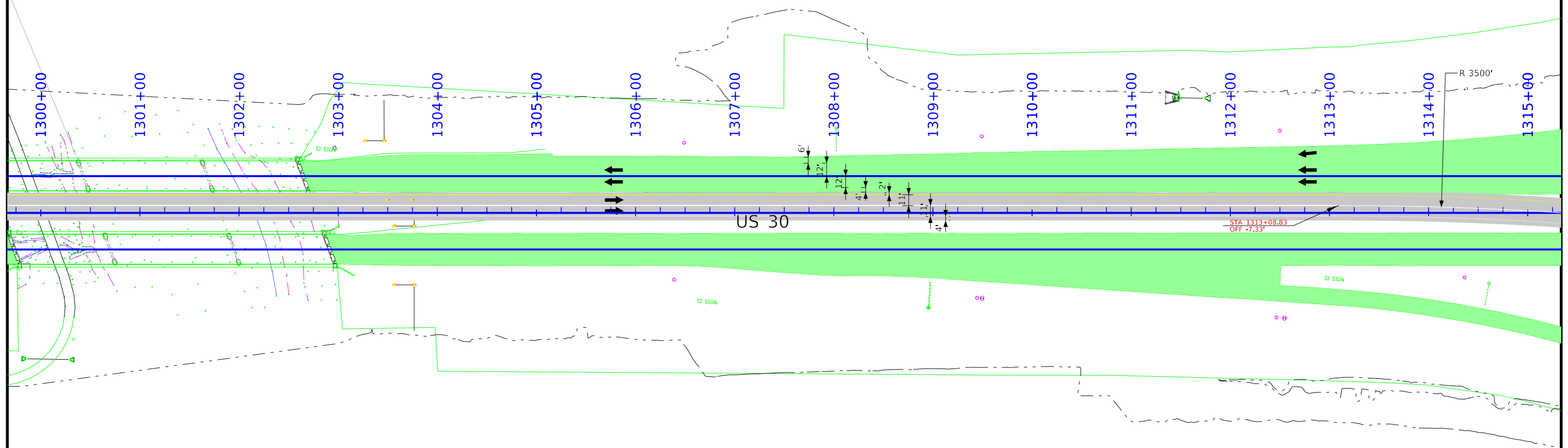
Sta. 1290+49, 14' RT  
24"x52' RCP

Sta. 1299+87, 148' RT  
24"x40' RCP

Year 2 - Stage 1



Sta. 1311+87, 72' LT  
36"x24' RCP



US 30

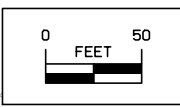
STA 1313+08.83  
OFF -7.33'

R 3500'

8' RT

114' RT

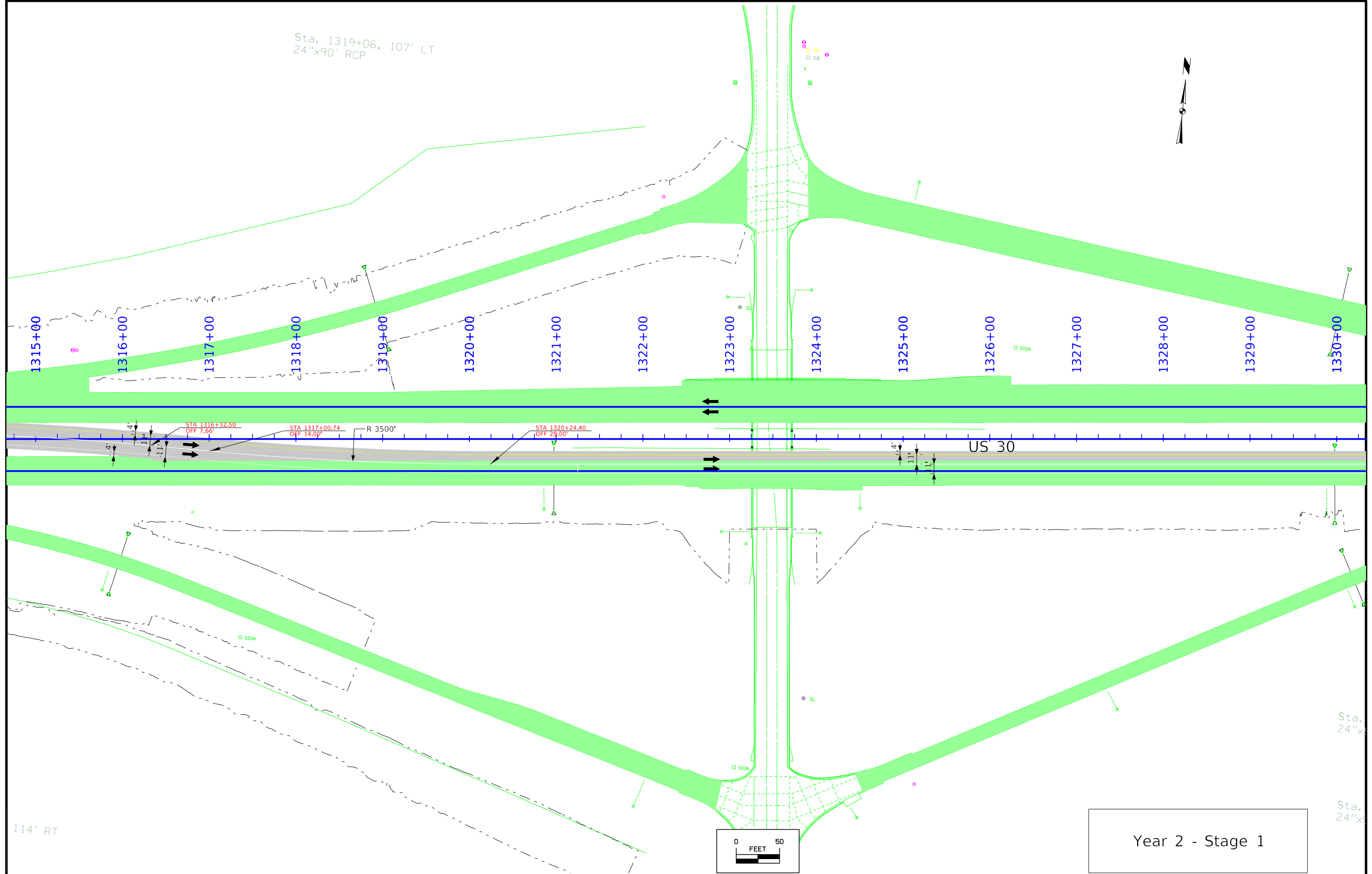
WASHINGTON  
T-83N R-2



Year 2 - Stage 1

FILE NO.	ENGLISH	DESIGN TEAM WHKS & CO.	STORY COUNTY	PROJECT NUMBER BRFN-030-5(271)--38-85	SHEET NUMBER J.25
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Sta. 1319+06, 107' LT  
24"x90' RCP



STA 1316+32.50  
OFF 7.66'

STA 1317+00.74  
OFF 14.00'

R 3500'

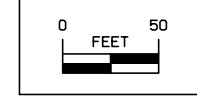
STA 1320+24.40  
OFF 29.00'

US 30

114' RT

Sta. 24"x

Sta. 24"x

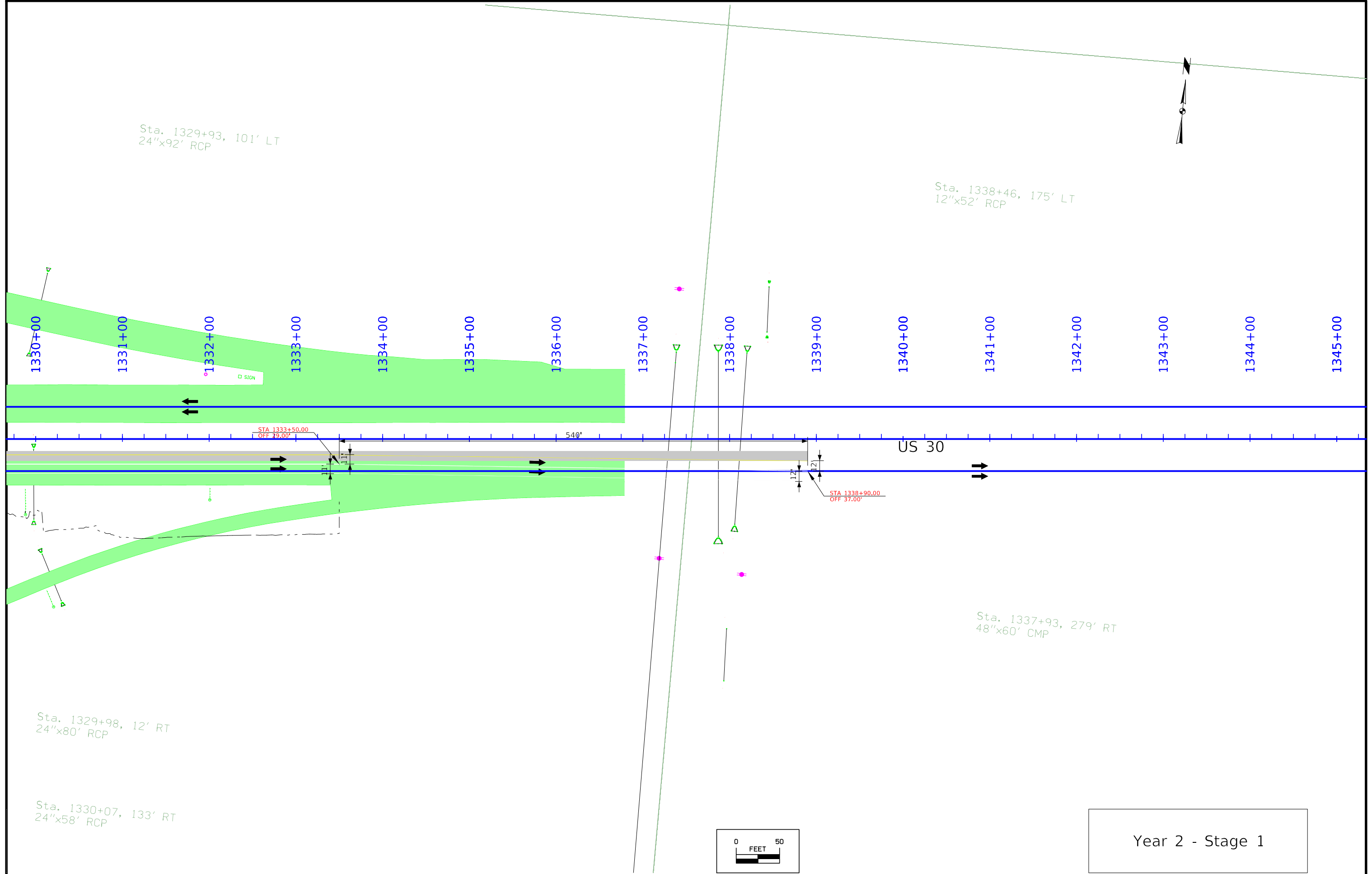


Year 2 - Stage 1



Sta. 1329+93, 101' LT  
24"x92' RCP

Sta. 1338+46, 175' LT  
12"x52' RCP



1330+00 1331+00 1332+00 1333+00 1334+00 1335+00 1336+00 1337+00 1338+00 1339+00 1340+00 1341+00 1342+00 1343+00 1344+00 1345+00

US 30

STA 1333+50.00  
OFF 19.00'

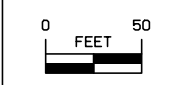
STA 1338+90.00  
OFF 37.00'

540'

Sta. 1329+98, 12' RT  
24"x80' RCP

Sta. 1337+93, 279' RT  
48"x60' CMP

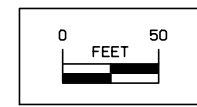
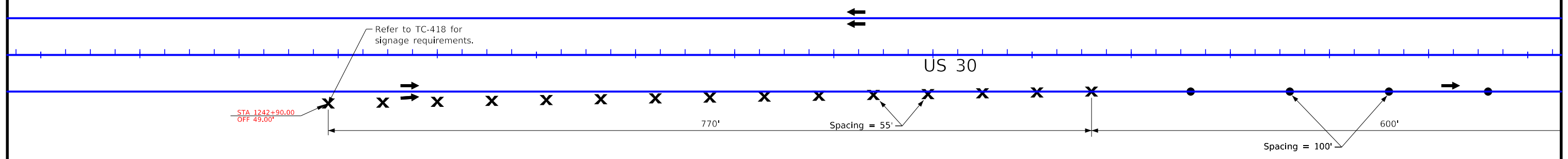
Sta. 1330+07, 133' RT  
24"x58' RCP



Year 2 - Stage 1



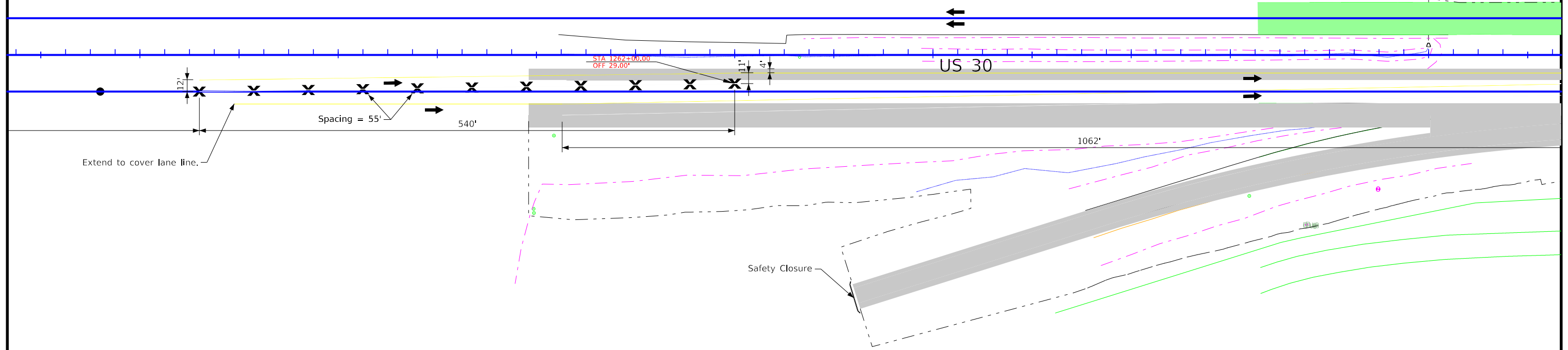
1240+00 1241+00 1242+00 1243+00 1244+00 1245+00 1246+00 1247+00 1248+00 1249+00 1250+00 1251+00 1252+00 1253+00 1254+00 1255+00



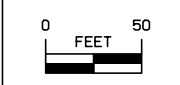
Year 2 - Stage 2



1255+00 1256+00 1257+00 1258+00 1259+00 1260+00 1261+00 1262+00 1263+00 1264+00 1265+00 1266+00 1267+00 1268+00 1269+00 1270+00

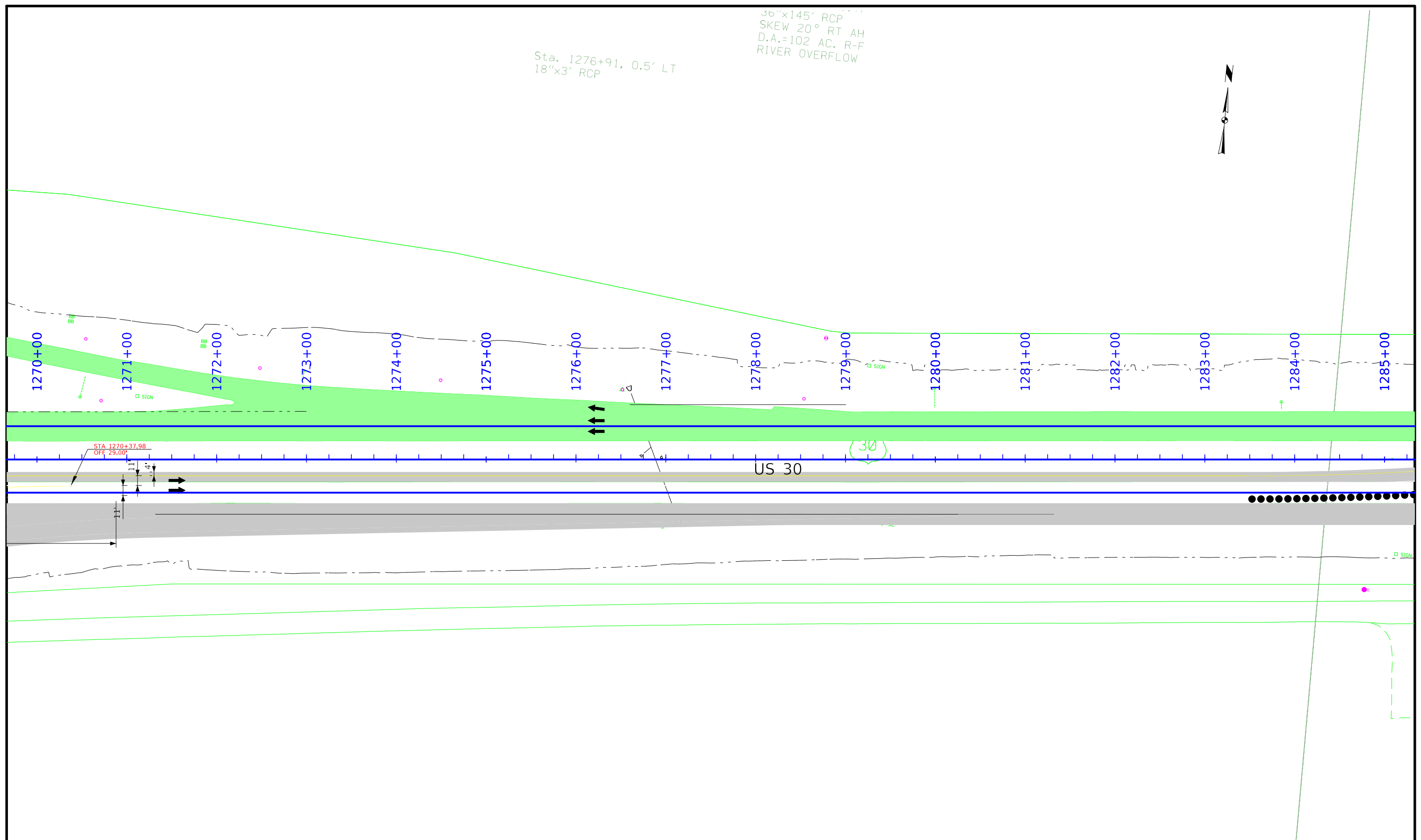


Year 2 - Stage 2

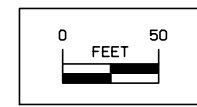


Sta. 1276+91, 0.5' LT  
18"x3' RCP

36"x145' RCP  
SKEW 20° RT AH  
D.A.=102 AC. R-F  
RIVER OVERFLOW

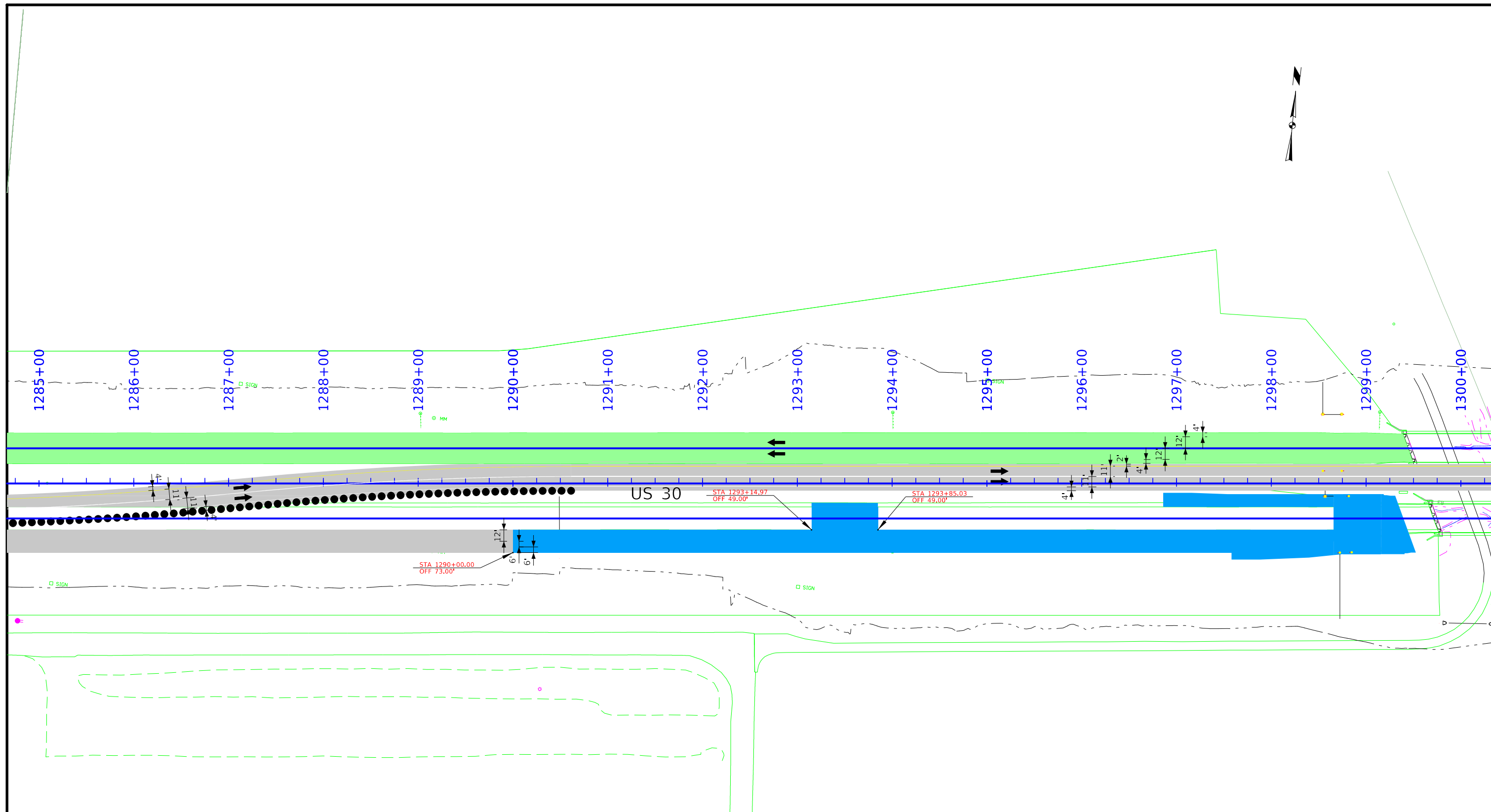


WASHINGTON TWP.  
T-83N R-24W  
SEC 14



Year 2 - Stage 2

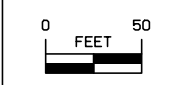
FILE NO.	ENGLISH	DESIGN TEAM WHKS & CO.	STORY COUNTY	PROJECT NUMBER BRFN-030-5(271)--38-85	SHEET NUMBER J.30
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Sta. 1290+49, 14' RT  
24"x52' RCP

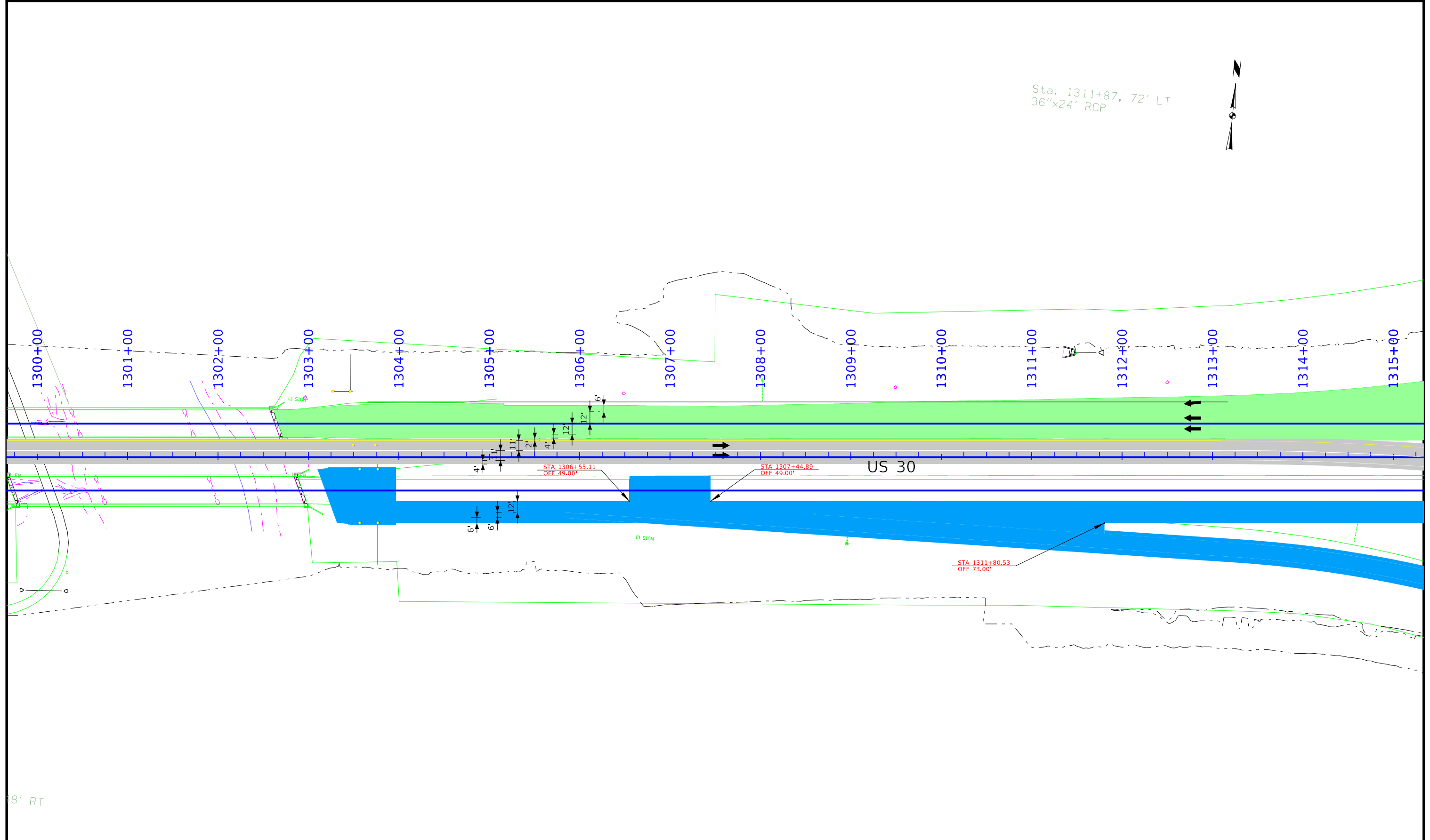
Sta. 1299+87, 148' RT  
24"x40' RCP

Year 2 - Stage 2





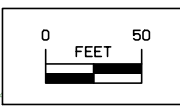
Sta. 1311+87, 72' LT  
36"x24' RCP



8' RT

114' RT

WASHINGTON  
T-83N R-2

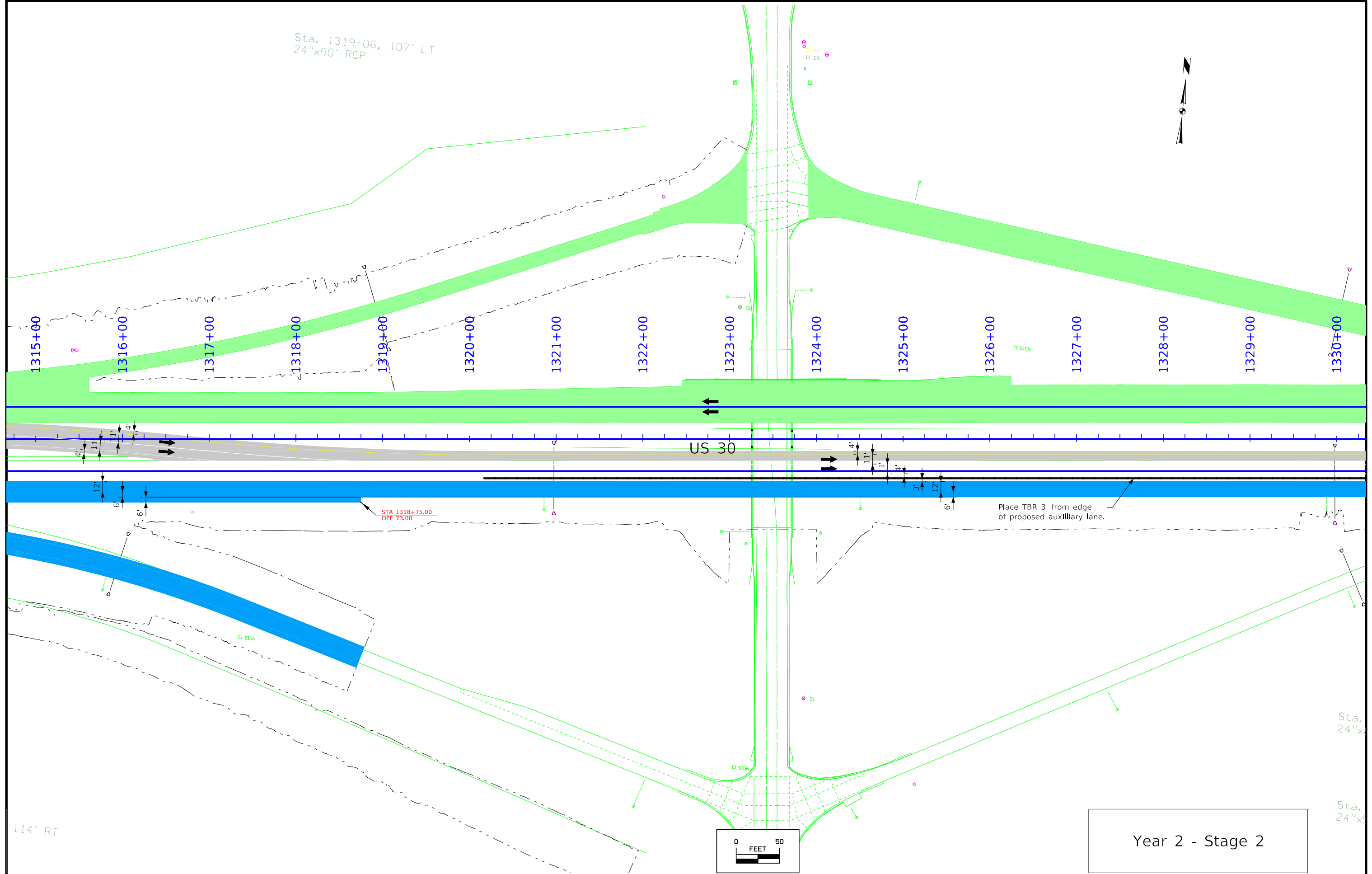


Year 2 - Stage 2

FILE NO.	ENGLISH	DESIGN TEAM WHKS & CO.	STORY COUNTY	PROJECT NUMBER BRFN-030-5(271)--38-85	SHEET NUMBER J.32
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10:49:20 16-Sep-22 skoontz pw:\projectwise.dot.int.lan:PWMain\Documents\Projects\8503002019\Bridge(271)\_Bridge-Unspecified\WHKS\Roadway\Sheet Files\TC\_WHKS\_85030271Z08.dgn

Sta. 1319+06, 107' LT  
24"x90' RCP

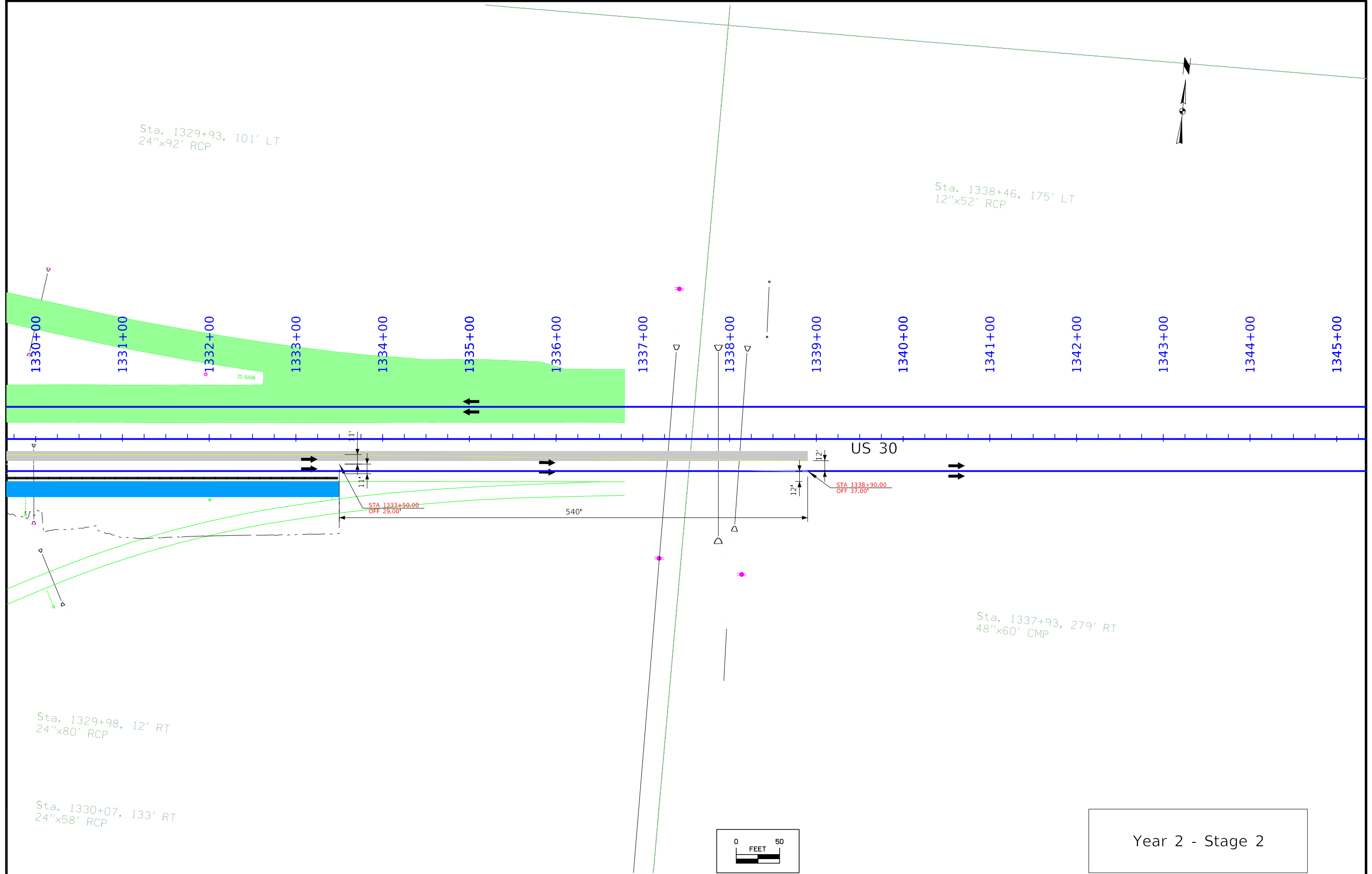


Place TBR 3' from edge  
of proposed auxiliary lane.

Year 2 - Stage 2

Sta. 1329+93, 101' LT  
24"x92' RCP

Sta. 1338+46, 175' LT  
12"x52' RCP



1330+00 1331+00 1332+00 1333+00 1334+00 1335+00 1336+00 1337+00 1338+00 1339+00 1340+00 1341+00 1342+00 1343+00 1344+00 1345+00

US 30

STA 1333+50.00  
OFF 29.00'

540'

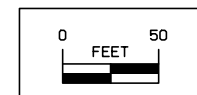
STA 1338+90.00  
OFF 37.00'

Sta. 1337+93, 279' RT  
48"x60' CMP

Sta. 1329+98, 12' RT  
24"x80' RCP

Sta. 1330+07, 133' RT  
24"x58' RCP

Year 2 - Stage 2







1259+00 1260+00 1261+00 1262+00 1263+00 1264+00 1265+00 1266+00 1267+00 1268+00 1269+00 1270+00 1271+00 1272+00 1273+00 1274+00

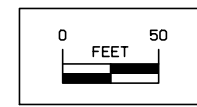
US 30

Refer to TC-418 for signage requirements.

STA 1267+60.53  
OFF -37.00'

STA 1267+60.53  
OFF -25.00'

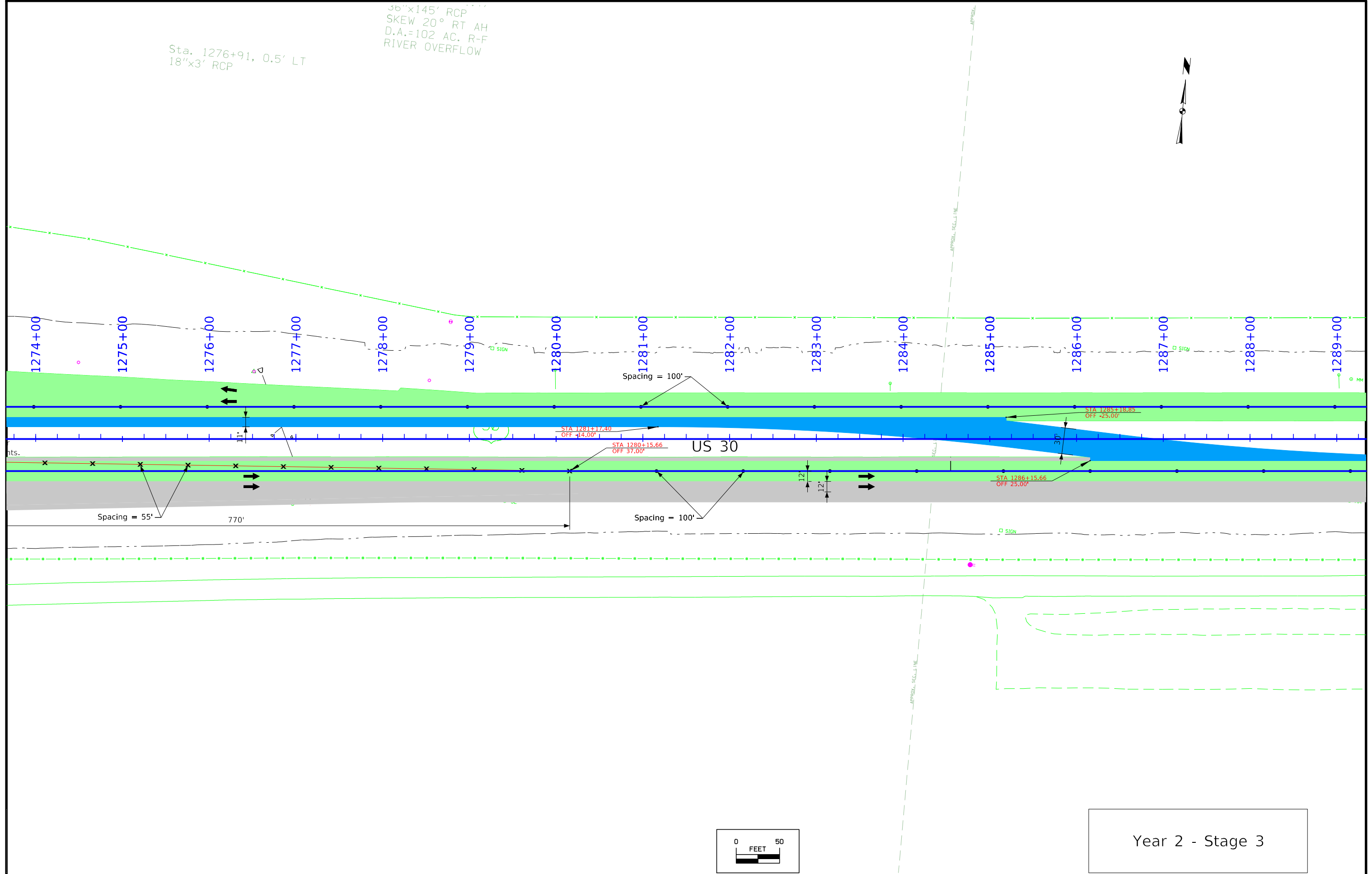
STA 1272+45.66  
OFF 25.00'



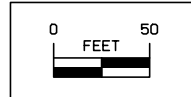
Year 2 - Stage 3

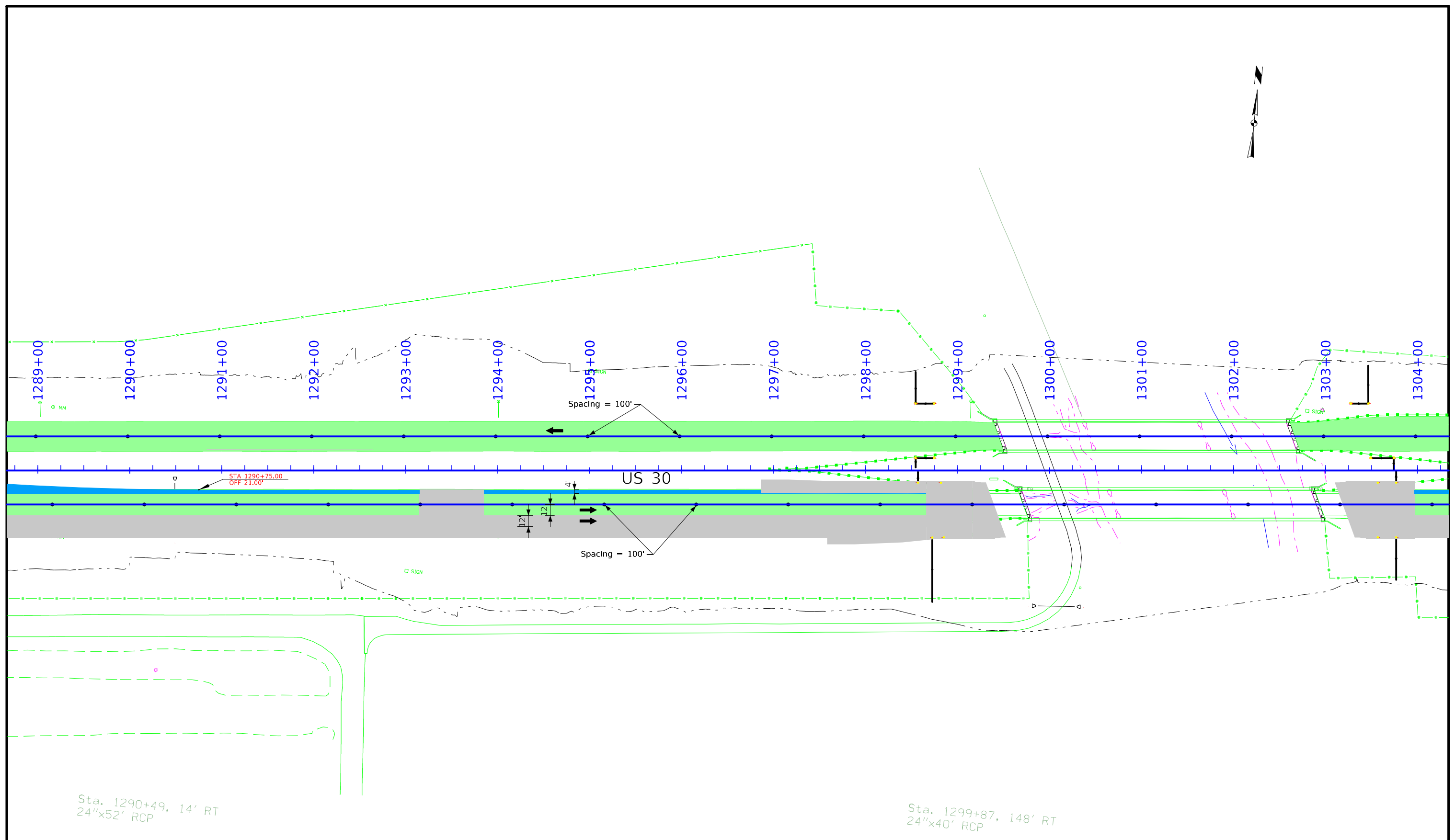
Sta. 1276+91, 0.5' LT  
18"x3' RCP

36"x145' RCP  
SKEW 20° RT AH  
D.A.=102 AC. R-F  
RIVER OVERFLOW



Year 2 - Stage 3

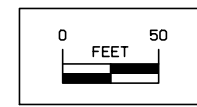




Sta. 1290+49, 14' RT  
24"x52' RCP

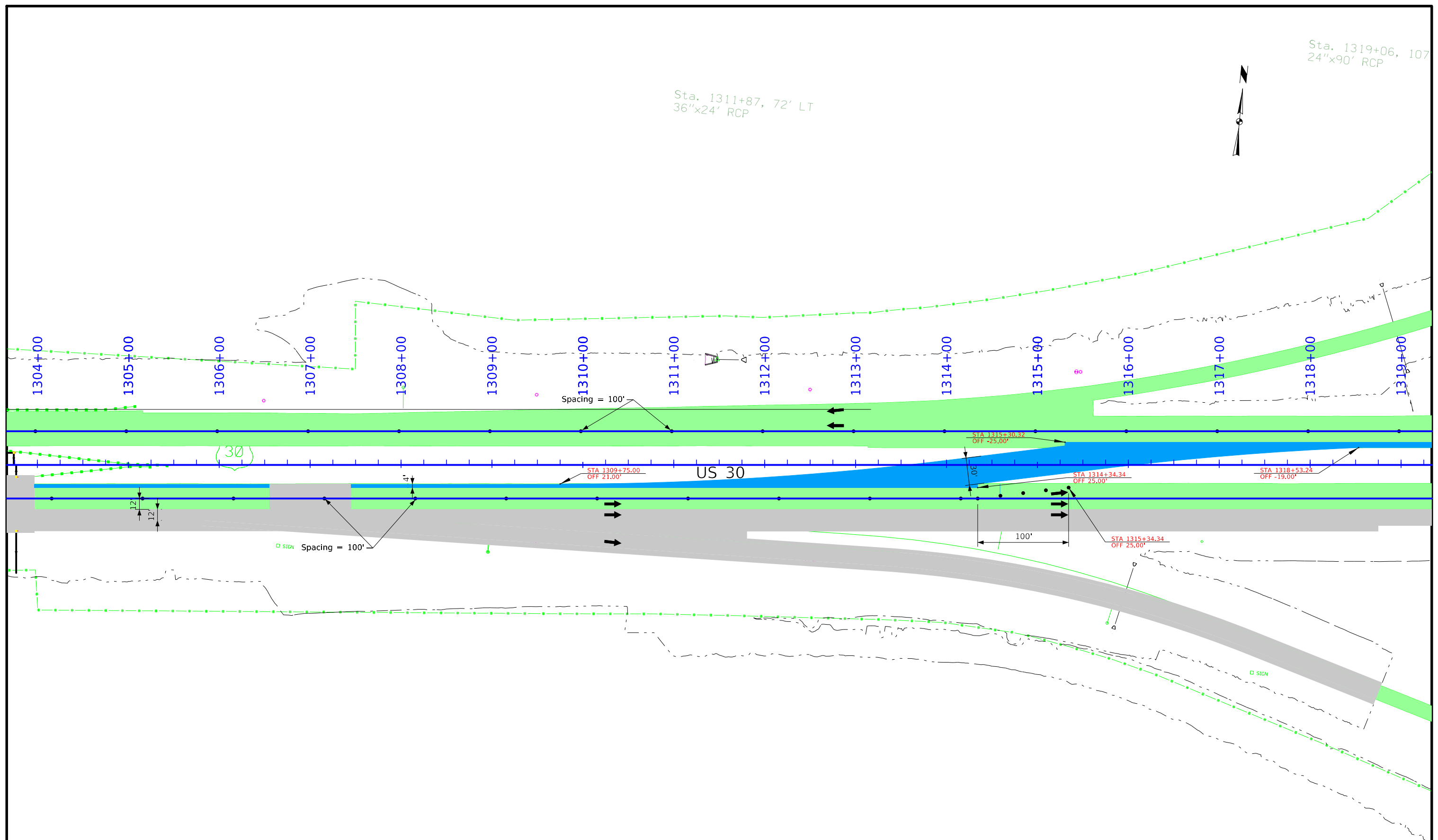
Sta. 1299+87, 148' RT  
24"x40' RCP

Year 2 - Stage 3

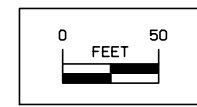


Sta. 1319+06, 107'  
24"x90' RCP

Sta. 1311+87, 72' LT  
36"x24' RCP



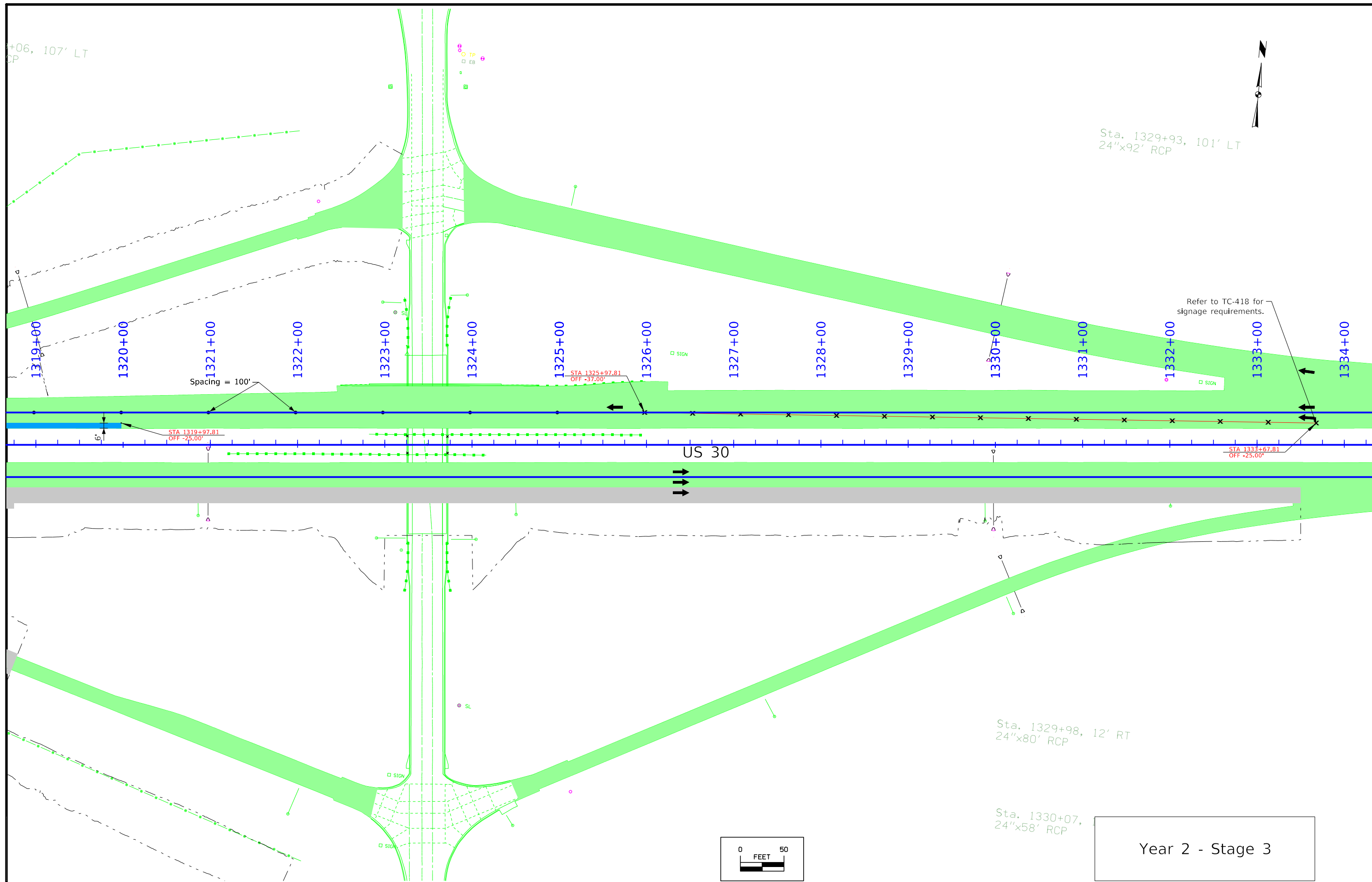
WASHINGTON TWP.  
T-83N R-24W



Sta. 1316+05, 114' RT  
24"x65' RCP

Year 2 - Stage 3

FILE NO.	ENGLISH	DESIGN TEAM WHKS & CO.	STORY COUNTY	PROJECT NUMBER BRFN-030-5(271)--38-85	SHEET NUMBER J.38
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+06, 107' LT  
CP

Sta. 1329+93, 101' LT  
24"x92' RCP

Refer to TC-418 for  
signage requirements.

Spacing = 100'

STA 1319+97.81  
OFF -25.00'

STA 1325+97.81  
OFF -37.00'

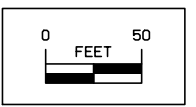
STA 1333+67.81  
OFF -25.00'

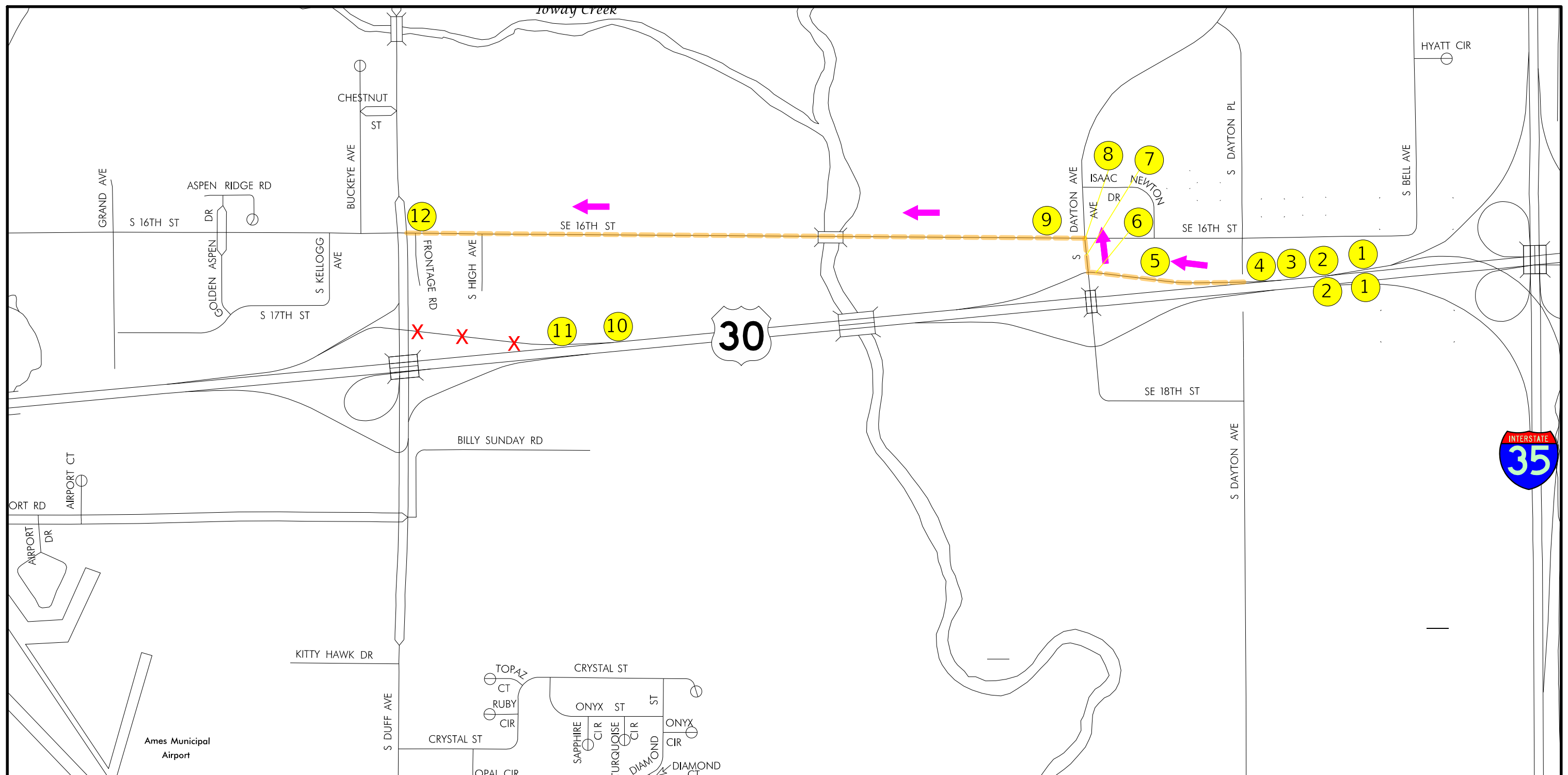
US 30

Sta. 1329+98, 12' RT  
24"x80' RCP

Sta. 1330+07,  
24"x58' RCP

Year 2 - Stage 3





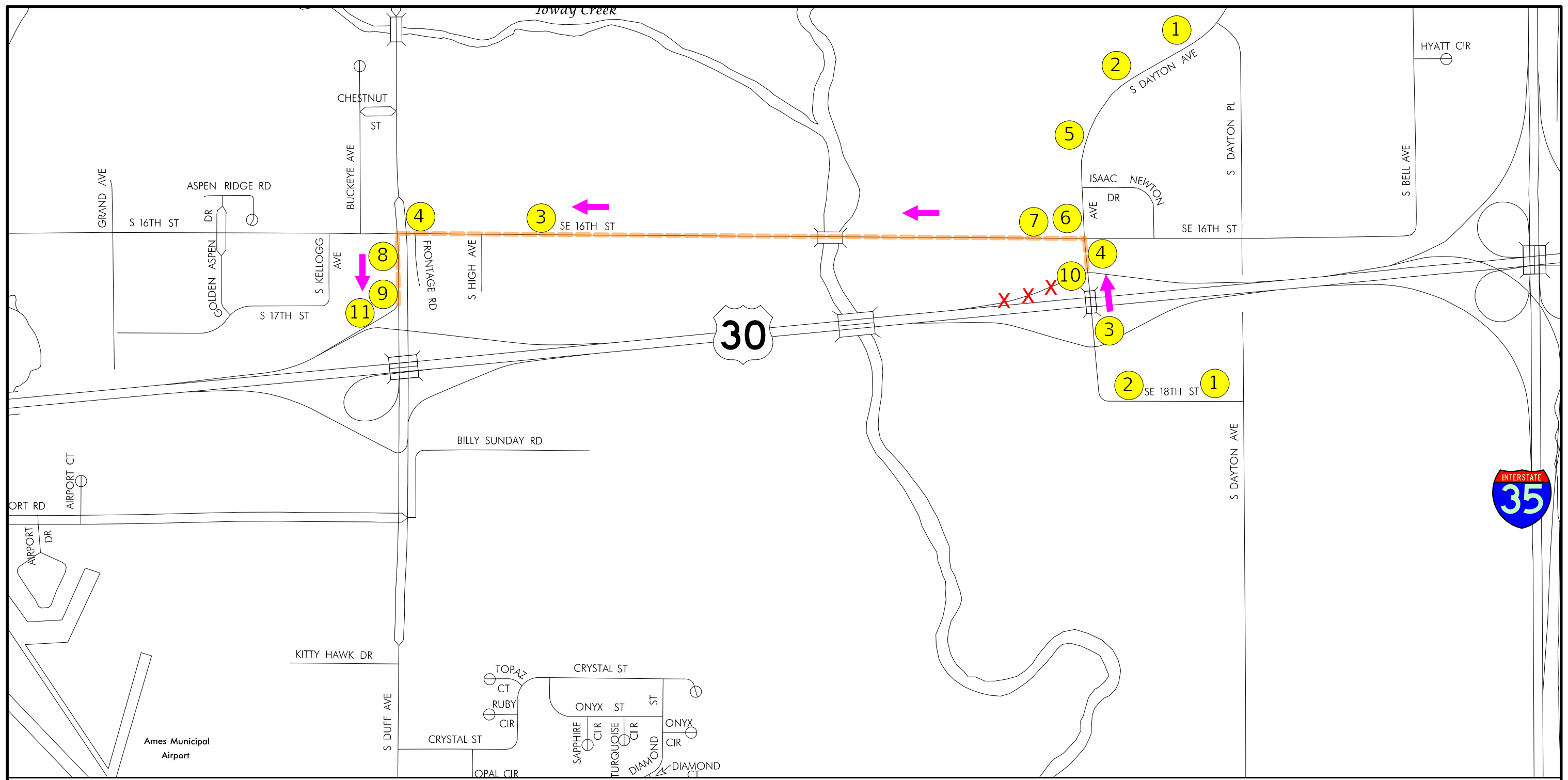
1	2	3	4	5	6	7	8	9	10	11	12
W20-2 48" x 48"	CUSTOM SIGN	M4-3, 24" X 12" M3-1, 24" X 12" CUSTOM SIGN M5-2R, 21" X 15"	M4-3, 24" X 12" M3-1, 24" X 12" CUSTOM SIGN M6-2R, 21" X 15"	M4-3, 24" X 12" M3-1, 24" X 12" CUSTOM SIGN M5-1R, 21" X 15"	M4-3, 24" X 12" M3-1, 24" X 12" CUSTOM SIGN M6-1R, 21" X 15"	M4-3, 24" X 12" M3-1, 24" X 12" CUSTOM SIGN M5-1L, 21" X 15"	M4-3, 24" X 12" M3-1, 24" X 12" CUSTOM SIGN M6-1L, 21" X 15"	M4-3, 24" X 12" M3-1, 24" X 12" CUSTOM SIGN M6-3, 21" X 15"	E5-2a 48" x 36"	R11-2 48" x 30"	M4-8A 24" X 18"

Detour Direction

Detour Route

Ramp Closure

## Ramp E Detour



1	2	3	4	5	6	7	8	9	10	11
 <b>W20-2</b> 48" x 48"	 <b>RAMP CLOSED</b> <b>FOLLOW DETOUR</b> CUSTOM SIGN	 <b>DETOUR</b> <b>WEST</b>  M4-3, 24" X 12" M3-4, 24" X 12" M1-4, 24" X 24"  M5-1L, 21" X 15"	 <b>DETOUR</b> <b>WEST</b>  M4-3, 24" X 12" M3-4, 24" X 12" M1-4, 24" X 24"  M6-1L, 21" X 15"	 <b>DETOUR</b> <b>WEST</b>  M4-3, 24" X 12" M3-4, 24" X 12" M1-4, 24" X 24"  M5-1R, 21" X 15"	 <b>DETOUR</b> <b>WEST</b>  M4-3, 24" X 12" M3-4, 24" X 12" M1-4, 24" X 24"  M6-1R, 21" X 15"	 <b>DETOUR</b> <b>WEST</b>  M4-3, 24" X 12" M3-4, 24" X 12" M1-4, 24" X 24"  M6-3, 21" X 15"	 <b>DETOUR</b> <b>WEST</b>  M4-3, 24" X 12" M3-4, 24" X 12" M1-4, 24" X 24"  M5-2R, 21" X 15"	 <b>DETOUR</b> <b>WEST</b>  M4-3, 24" X 12" M3-4, 24" X 12" M1-4, 24" X 24"  M6-2R, 21" X 15"	 <b>ROAD CLOSED</b> R11-2 48" x 30"	 <b>END DETOUR</b> M4-8A 24" X 18"

Detour Direction  
 Detour Route  
 Ramp Closure

## Ramp B Detour



1250+00 1251+00 1252+00 1253+00 1254+00 1255+00 1256+00 1257+00 1258+00 1259+00 1260+00 1261+00 1262+00 1263+00 1264+00 1265+00



US 30

STA 1252+22.11  
OFF 25.00'

Refer to TC-418 for  
signage requirements.

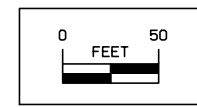
Spacing = 55'

770'

Spacing = 100'

540'

12'

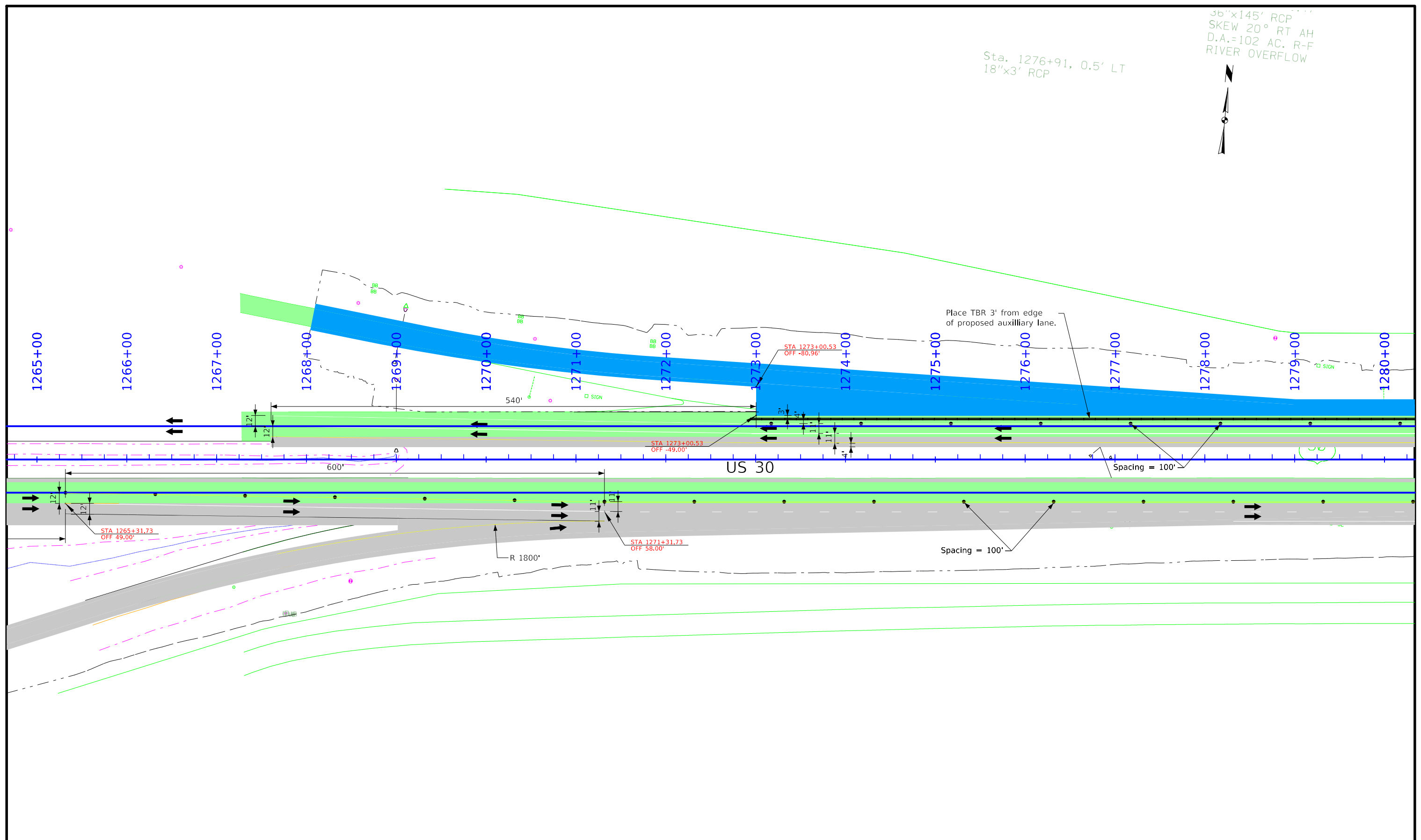


Year 3 - Stage 1

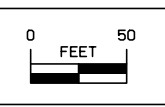


36"x145" RCP  
SKEW 20° RT AH  
D.A.=102 AC. R-F  
RIVER OVERFLOW

Sta. 1276+91, 0.5' LT  
18"x3" RCP

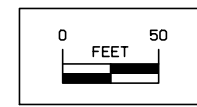
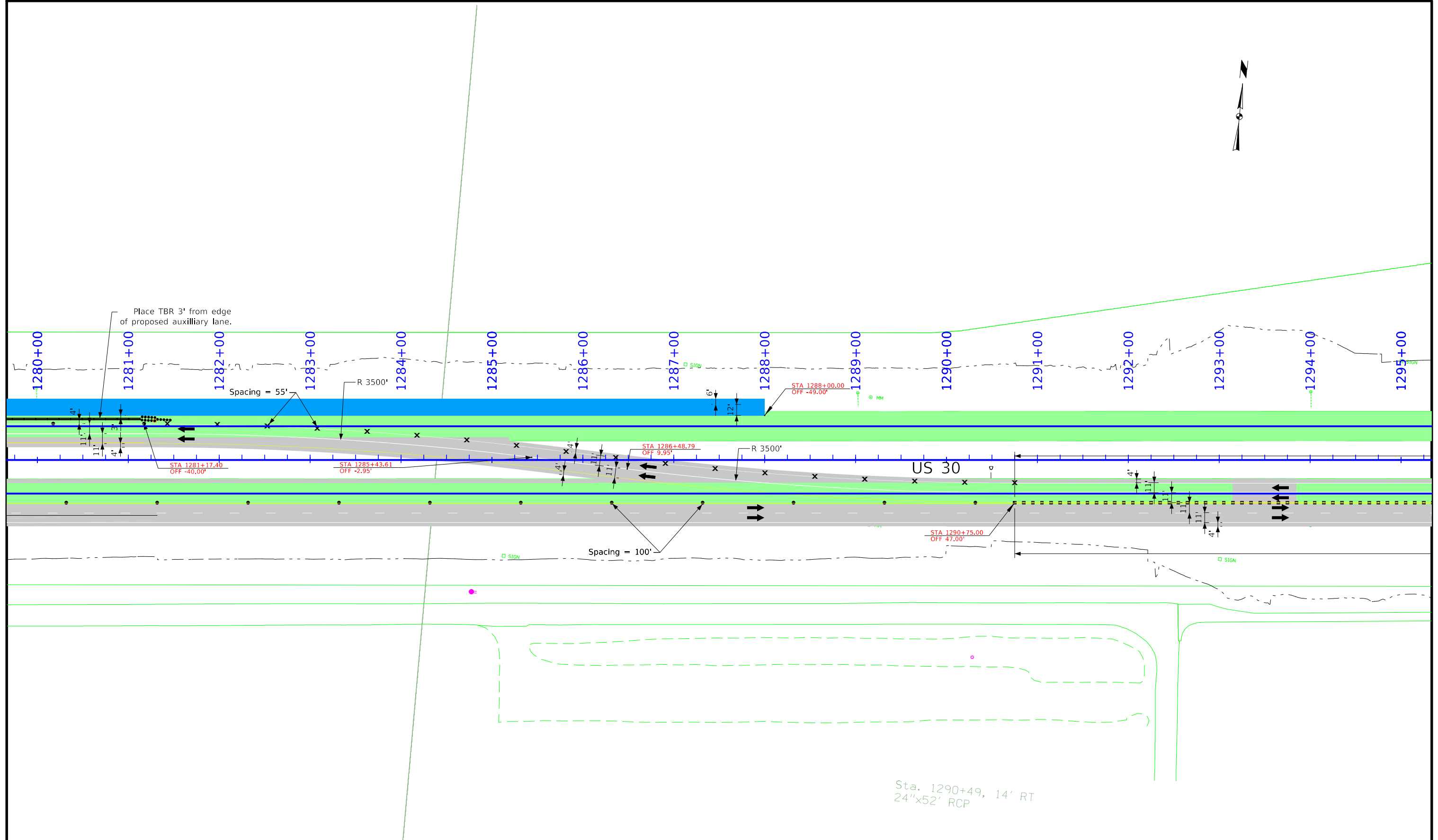


WASHINGTON  
T-83N R-  
SEC 1

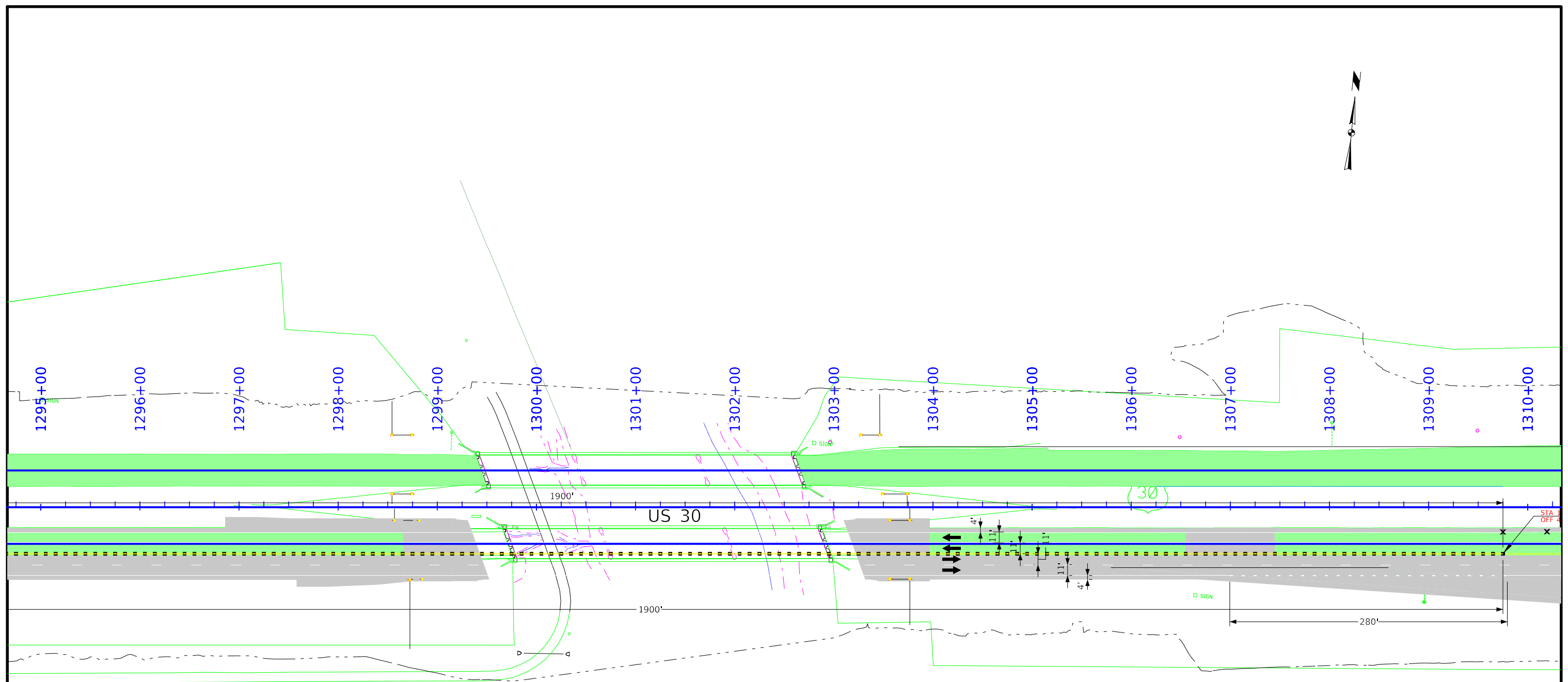


Year 3 - Stage 1

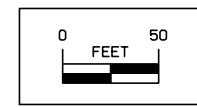
FILE NO.	ENGLISH	DESIGN TEAM WHKS & CO.	STORY COUNTY	PROJECT NUMBER BRFN-030-5(271)--38-85	SHEET NUMBER J.43
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Year 3 - Stage 1



Sta. 1299+87, 148' RT  
24"x40' RCP



WASH  
T-8

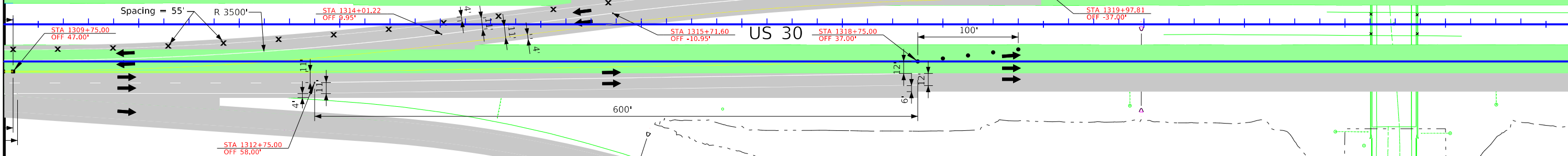
Year 3 - Stage 1

Sta. 1311+87, 72' LT  
36"x24' RCP

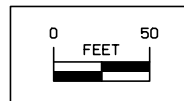
Sta. 1319+06, 107' LT  
24"x90' RCP

Safety Closure

1310+00 1311+00 1312+00 1313+00 1314+00 1315+00 1316+00 1317+00 1318+00 1319+00 1320+00 1321+00 1322+00 1323+00 1324+00 1325+00



Sta. 1316+05, 114' RT  
24"x65' RCP



Year 3 - Stage 1



1250+00 1251+00 1252+00 1253+00 1254+00 1255+00 1256+00 1257+00 1258+00 1259+00 1260+00 1261+00 1262+00 1263+00 1264+00 1265+00



US 30

STA 1252+22.11  
OFF 25.00'

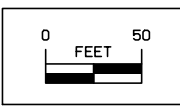
Refer to TC-418 for  
signage requirements.

Spacing = 55'

770'

Spacing = 100'

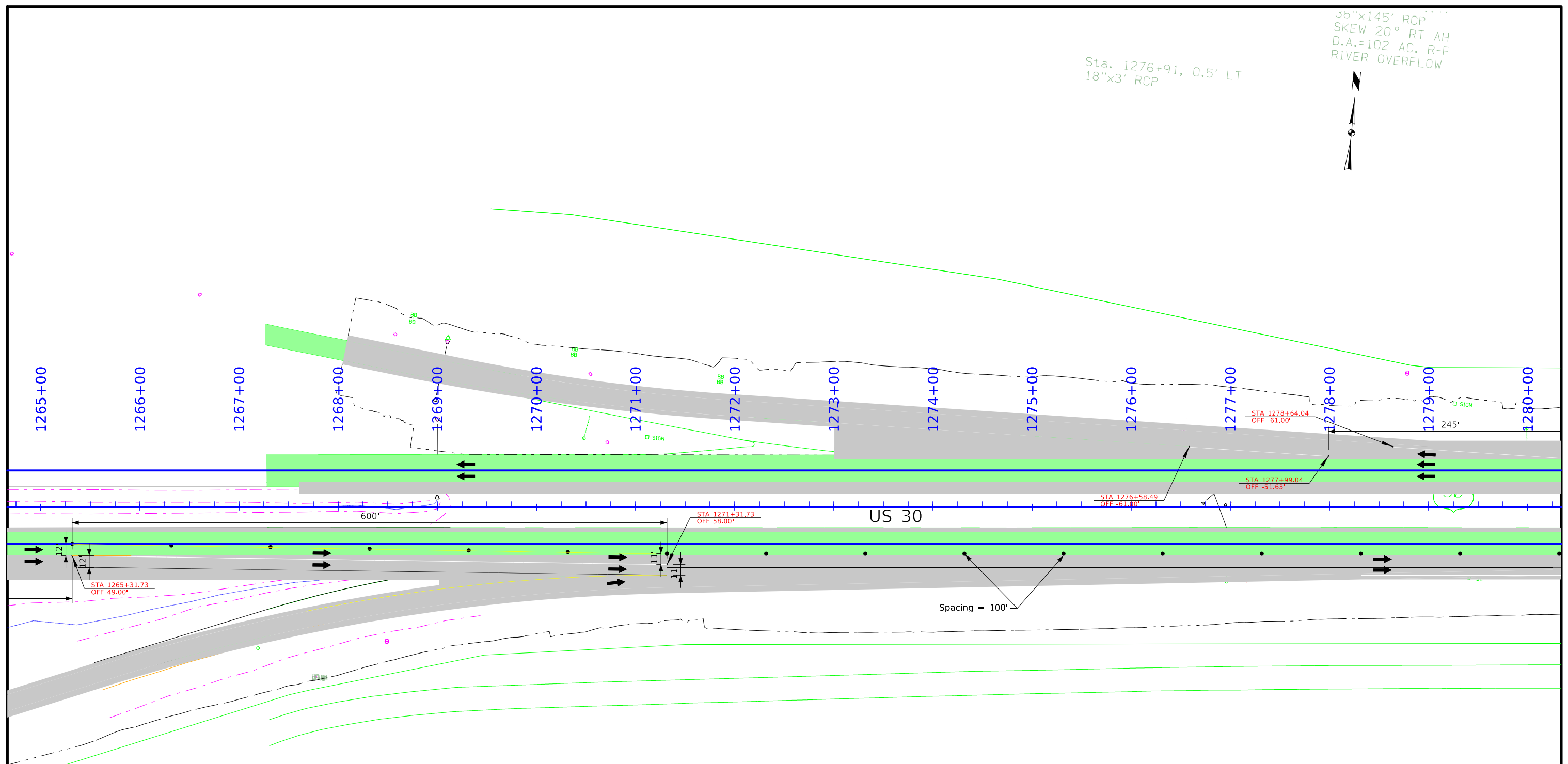
540'



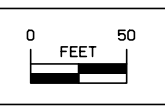
Year 3 - Stage 2

36" x 145' RCP  
SKEW 20° RT AH  
D.A.=102 AC. R-F  
RIVER OVERFLOW

Sta. 1276+91, 0.5' LT  
18" x 3' RCP

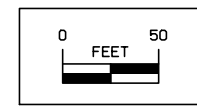
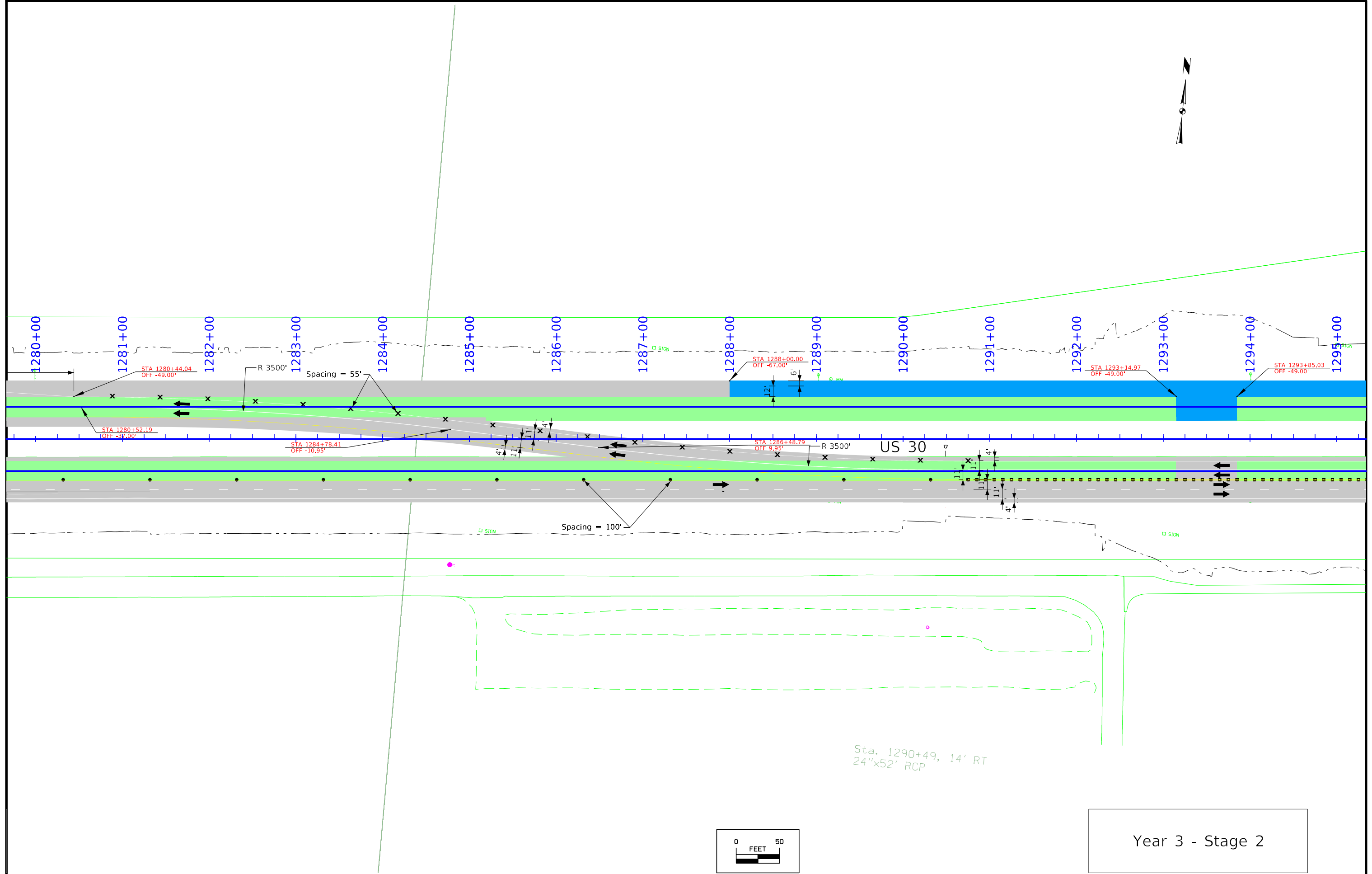


WASHINGTON  
T-83N R-  
SEC 1

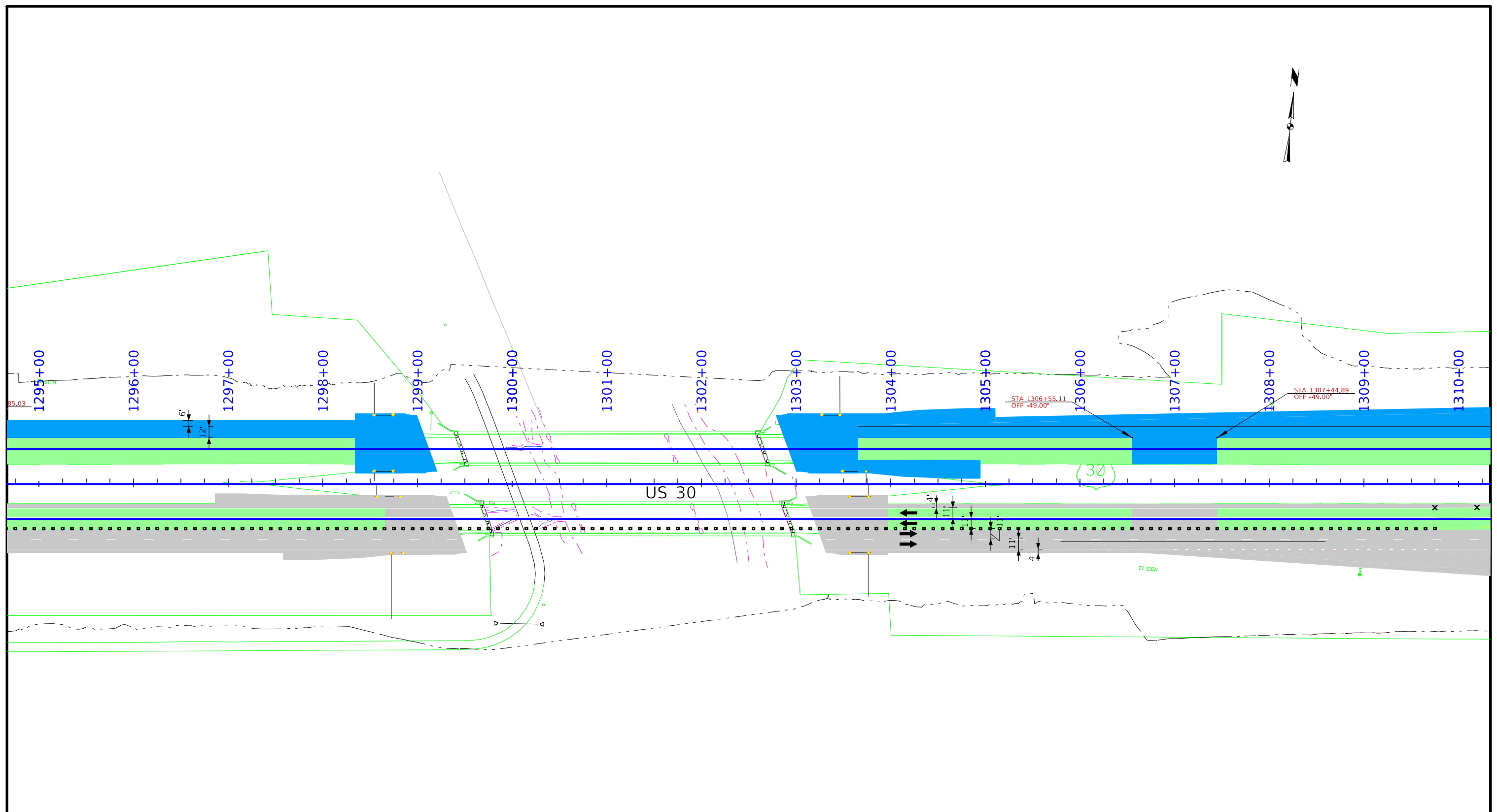


Year 3 - Stage 2

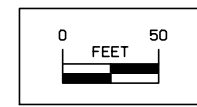
FILE NO.	ENGLISH	DESIGN TEAM WHKS & CO.	STORY COUNTY	PROJECT NUMBER BRFN-030-5(271)--38-85	SHEET NUMBER J.48
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Year 3 - Stage 2



Sta. 1299+87, 148' RT  
24"x40' RCP

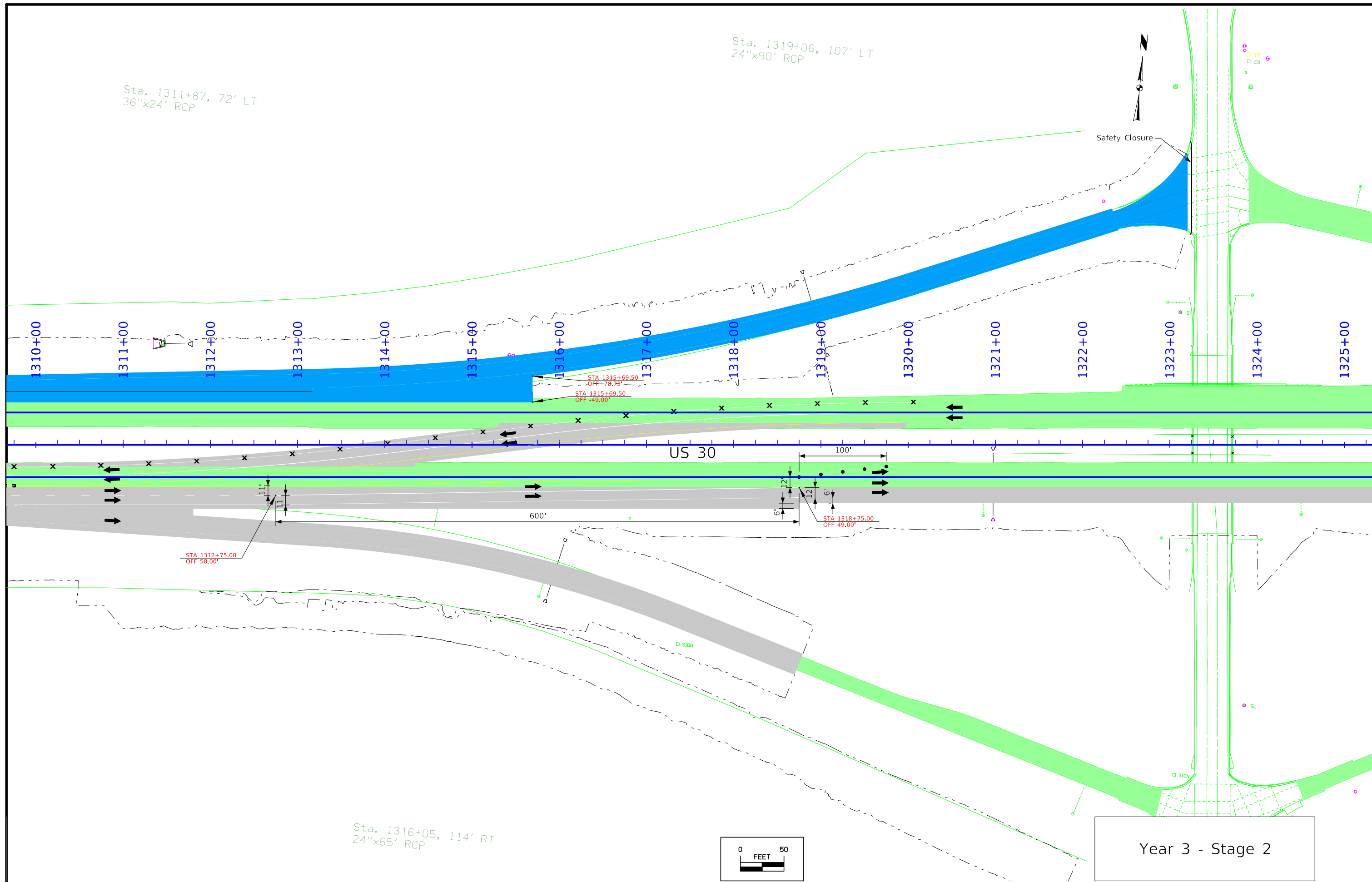


WASH  
T-8

Year 3 - Stage 2

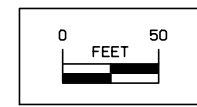
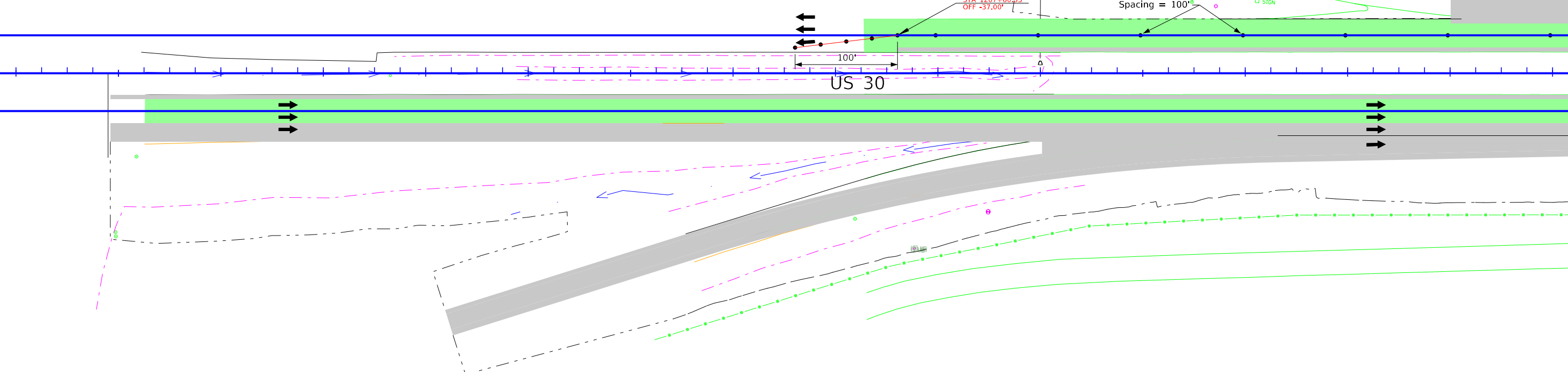
FILE NO.	ENGLISH	DESIGN TEAM WHKS & CO.	STORY COUNTY	PROJECT NUMBER BRFN-030-5(271)--38-85	SHEET NUMBER J.50
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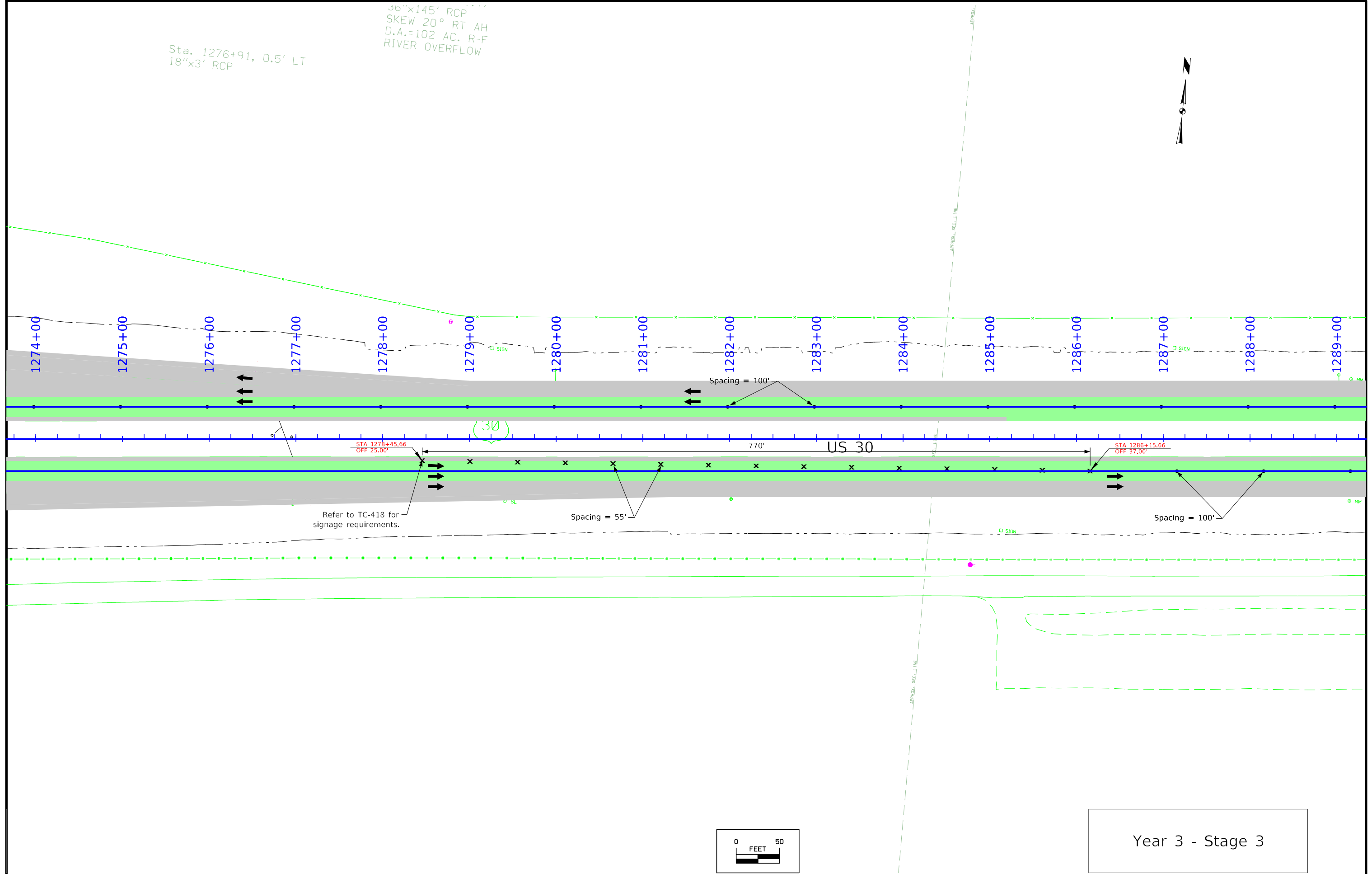
1259+00 1260+00 1261+00 1262+00 1263+00 1264+00 1265+00 1266+00 1267+00 1268+00 1269+00 1270+00 1271+00 1272+00 1273+00 1274+00



Year 3 - Stage 3

Sta. 1276+91, 0.5' LT  
18"x3' RCP

36"x145' RCP  
SKEW 20° RT AH  
D.A.=102 AC. R-F  
RIVER OVERFLOW



STA 1278+45.66  
OFF 25.00'

STA 1286+15.66  
OFF 37.00'

US 30

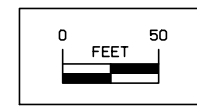
Spacing = 100'

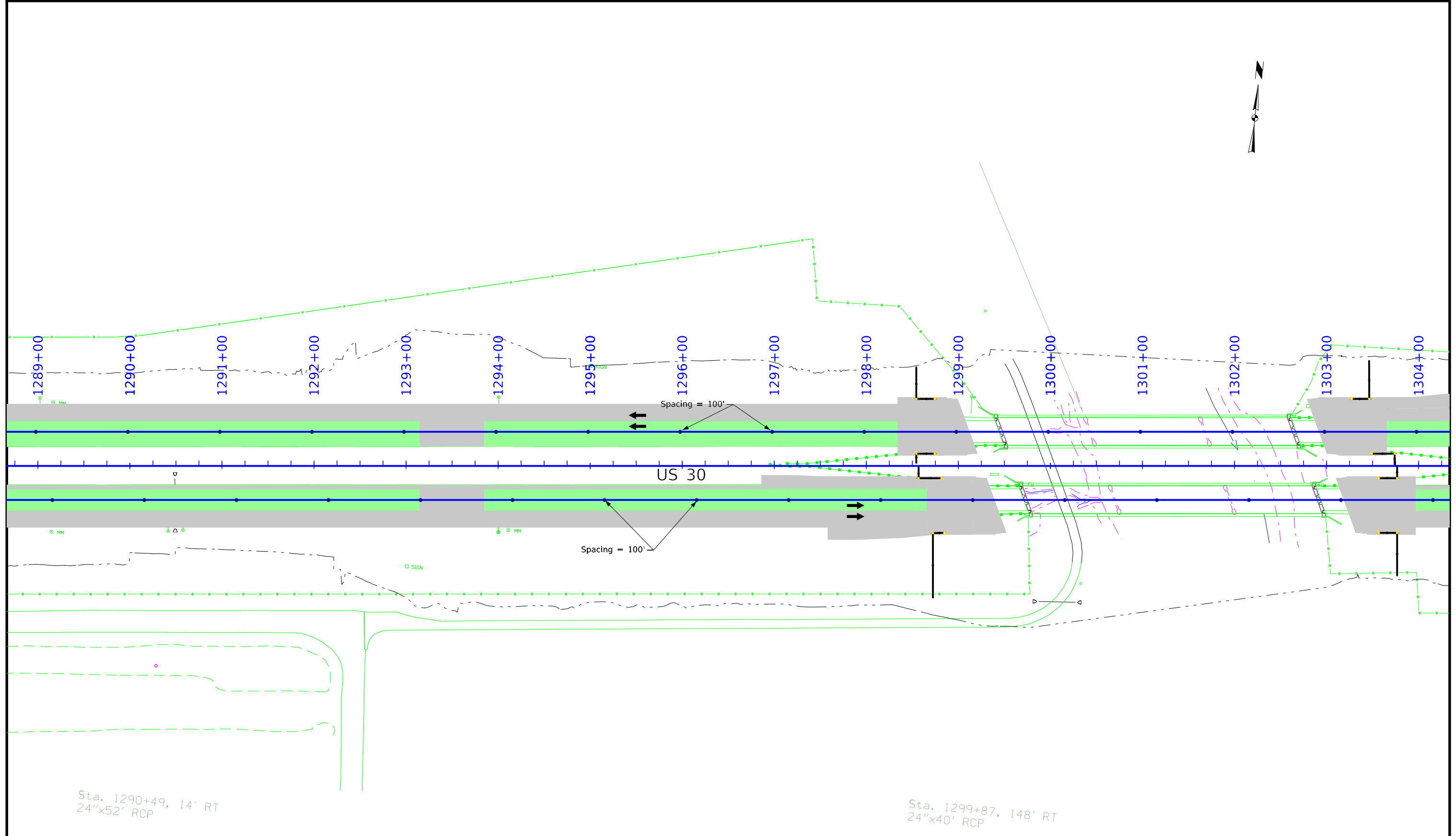
Spacing = 55'

Spacing = 100'

Refer to TC-418 for  
signage requirements.

Year 3 - Stage 3

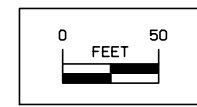




Sta. 1290+49, 14' RT  
24"x52' RCP

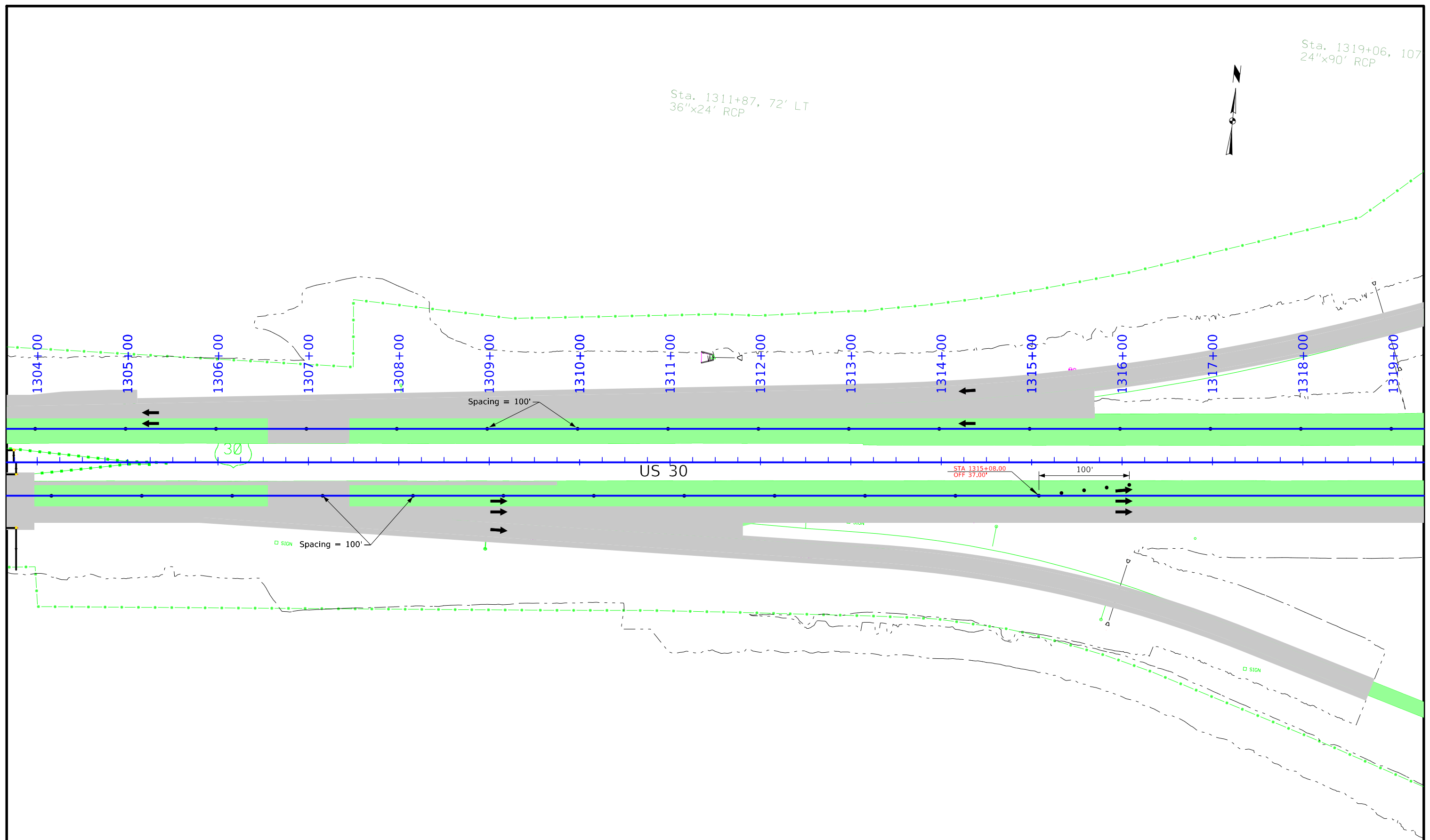
Sta. 1299+87, 148' RT  
24"x40' RCP

Year 3 - Stage 3

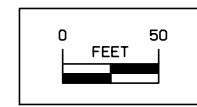


Sta. 1319+06, 107'  
24"x90' RCP

Sta. 1311+87, 72' LT  
36"x24' RCP

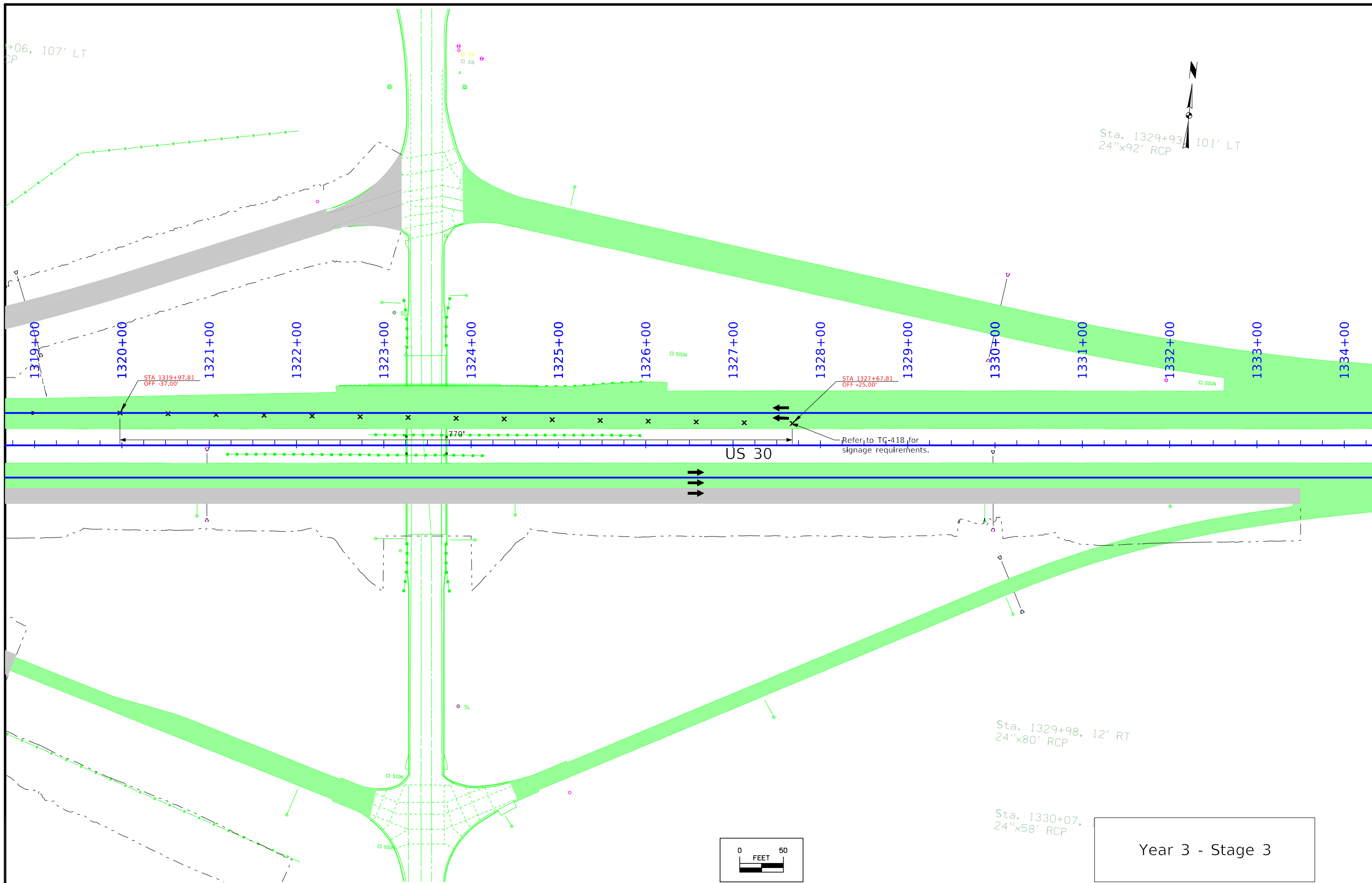


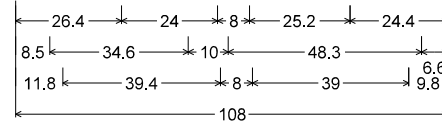
WASHINGTON TWP.  
T-83N R-24W



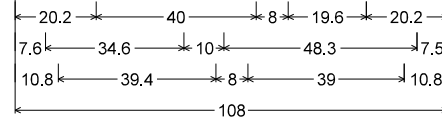
Sta. 1316+05, 114' RT  
24"x65' RCP

Year 3 - Stage 3

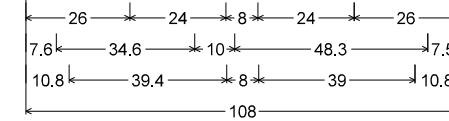




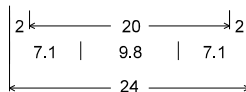
4.0" Radius, 1.3" Border, 0.8" Indent, Black on Orange;  
 [WEST] D 2K; [RAMP CLOSED] D 2K;  
 [FOLLOW DETOUR] D 2K;



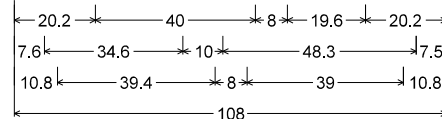
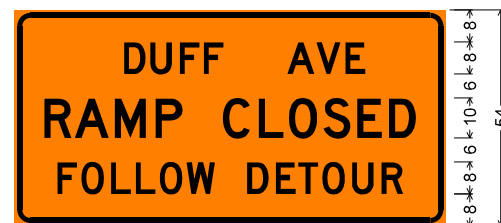
4.0" Radius, 1.3" Border, 0.8" Indent, Black on Orange;  
 [DAYTON AVE] D 2K; [RAMP CLOSED] D 2K;  
 [FOLLOW DETOUR] D 2K;



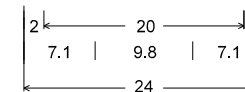
4.0" Radius, 1.3" Border, 0.8" Indent, Black on Orange;  
 [EAST] D 2K; [RAMP CLOSED] D 2K;  
 [FOLLOW DETOUR] D 2K;



2.0" Radius, 0.5" Border, 0.5" Indent, Black on Orange;  
 [DAYTON] D 2K;  
 [AVE] D 2K;

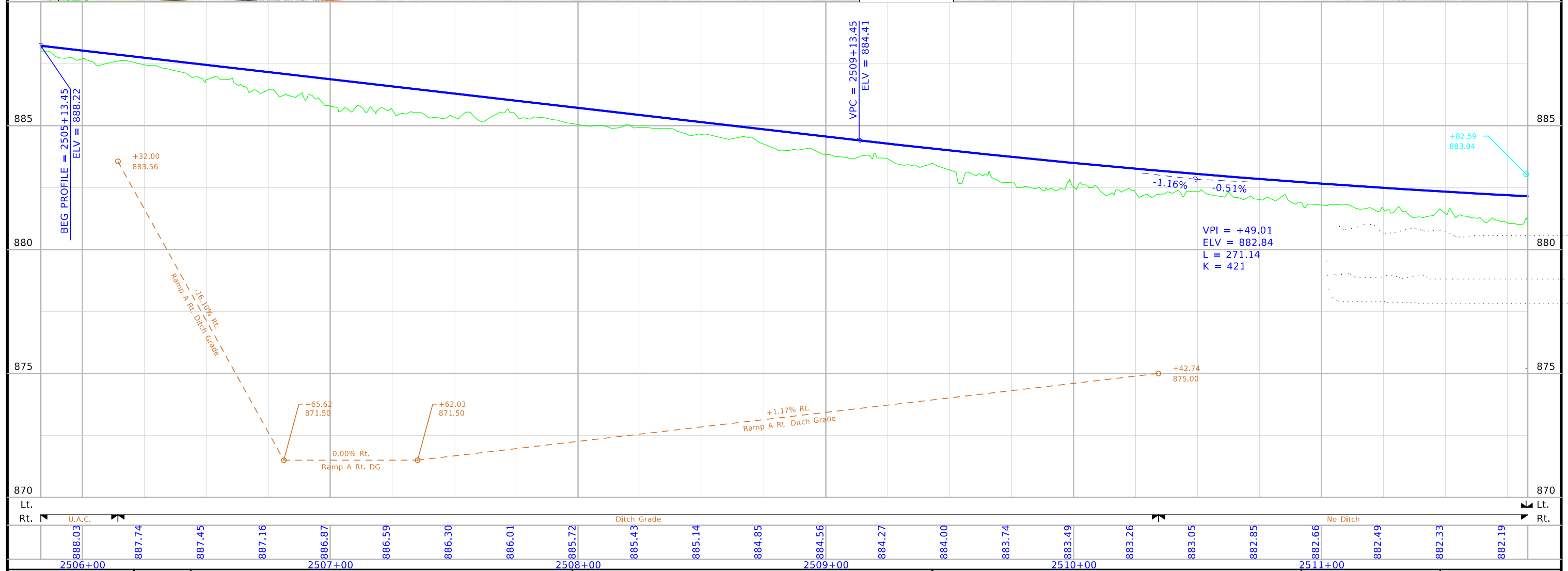
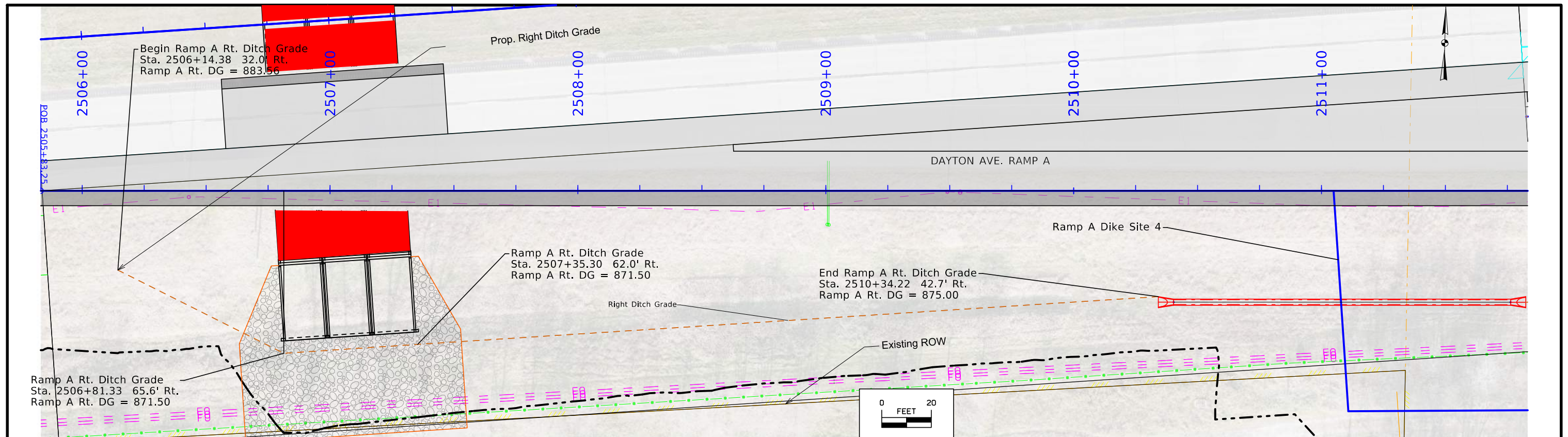


4.0" Radius, 1.3" Border, 0.8" Indent, Black on Orange;  
 [DUFF AVE] D 2K; [RAMP CLOSED] D 2K;  
 [FOLLOW DETOUR] D 2K;

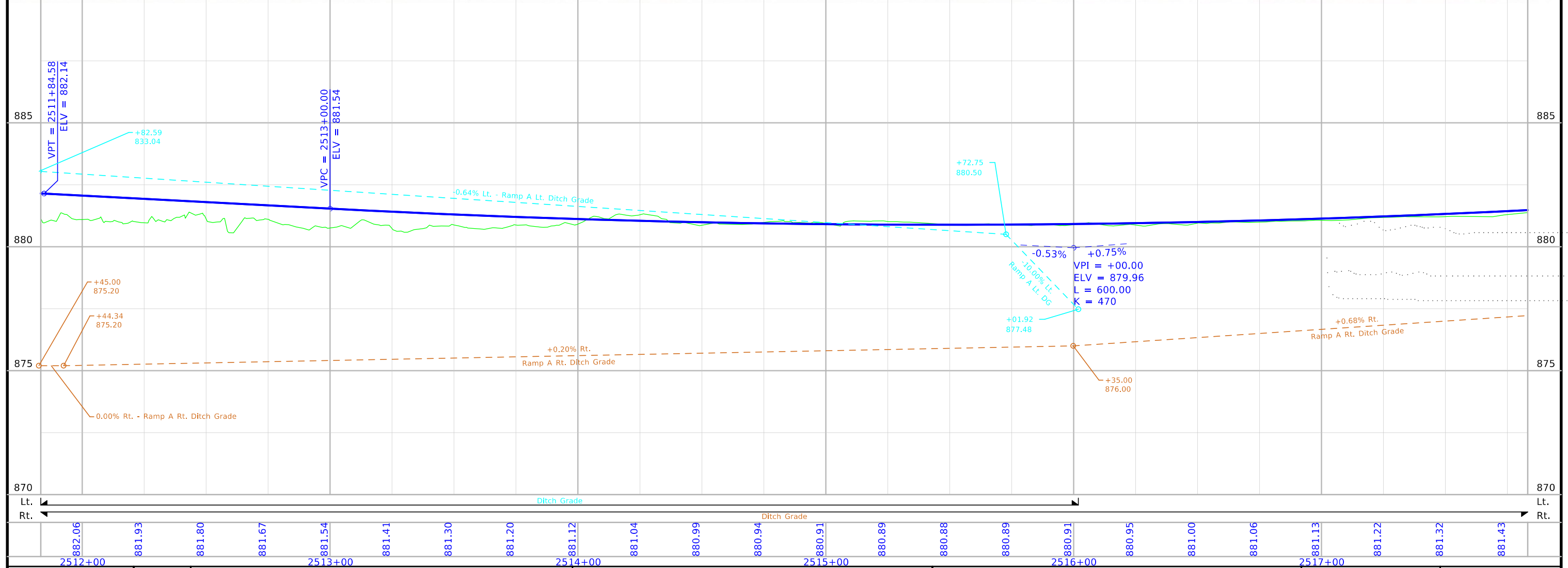
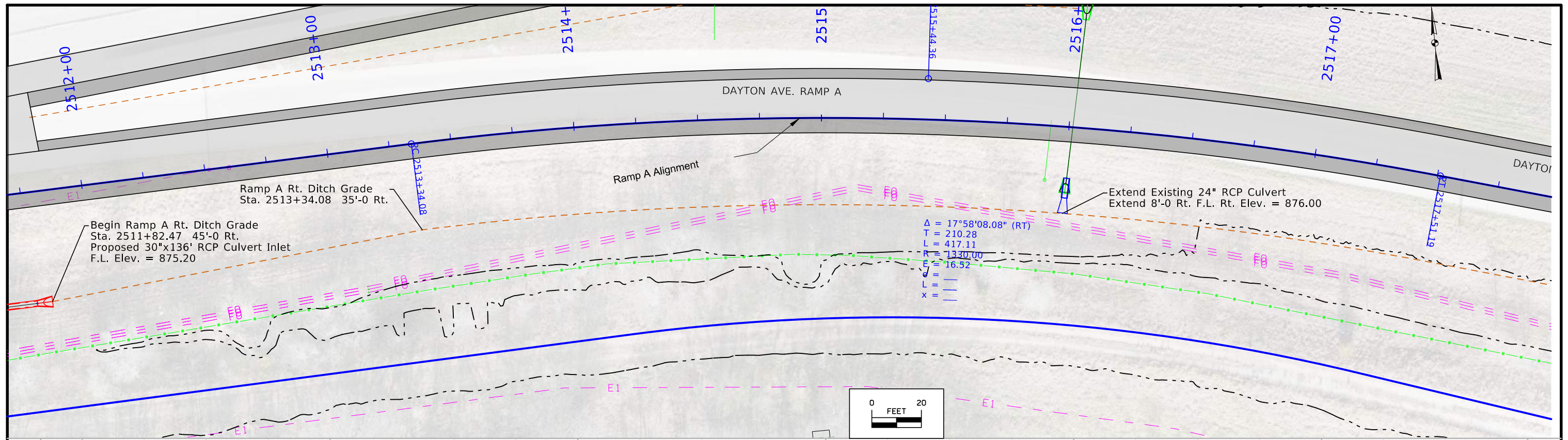


2.0" Radius, 0.5" Border, 0.5" Indent, Black on Orange;  
 [DUFF] D 2K;  
 [AVE] D 2K;

Custom Sign Details

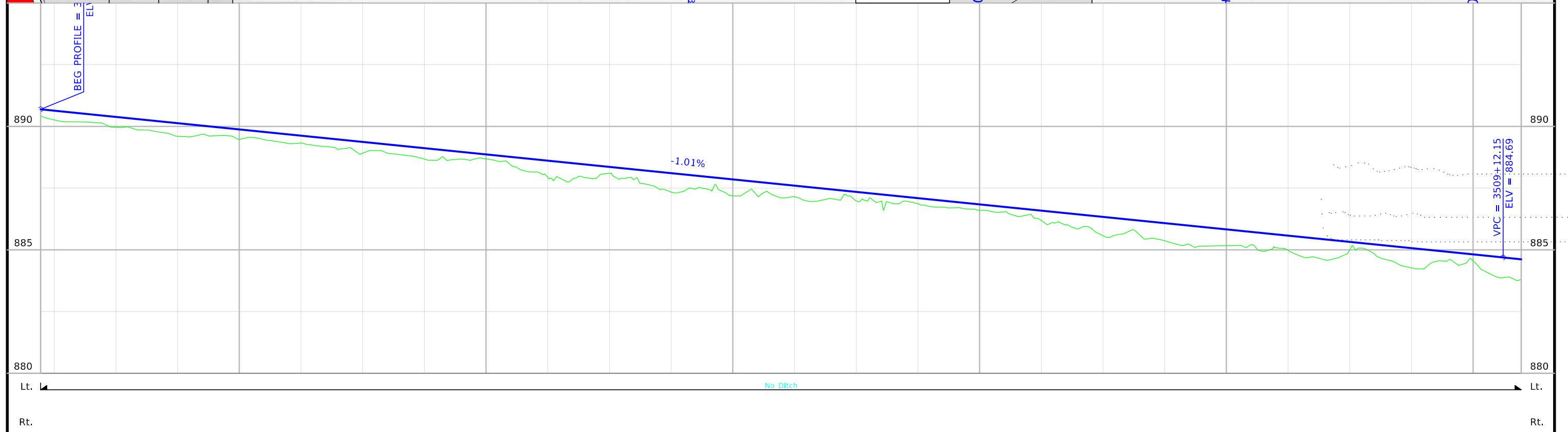
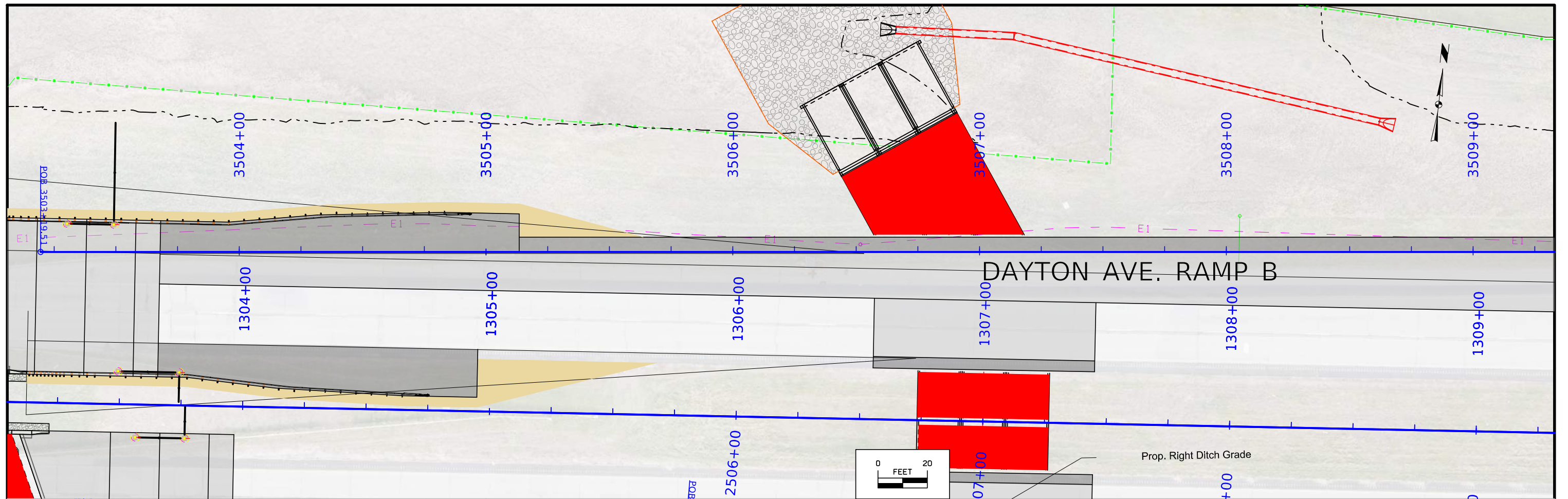




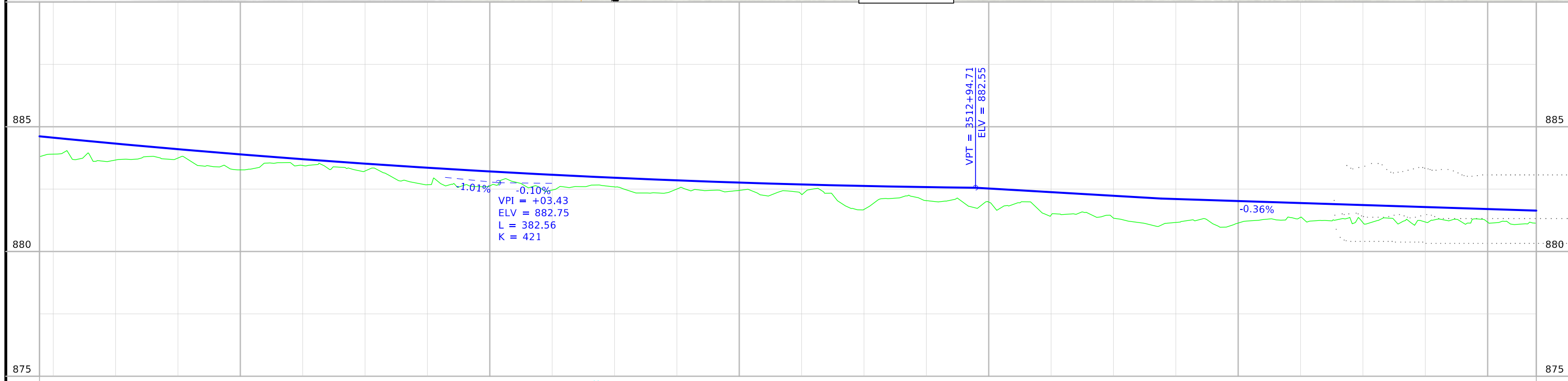
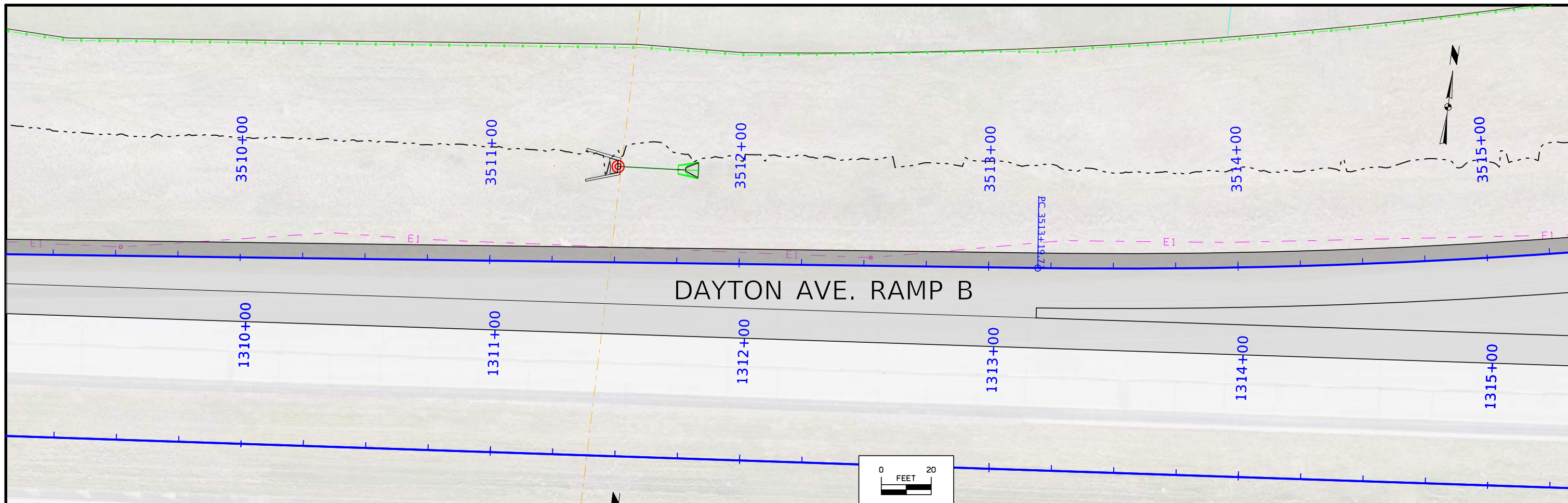


FILE NO.	ENGLISH	DESIGN TEAM WHKS & CO.	STORY COUNTY	PROJECT NUMBER BRFN-030-5(271)--38-85	SHEET NUMBER K.2
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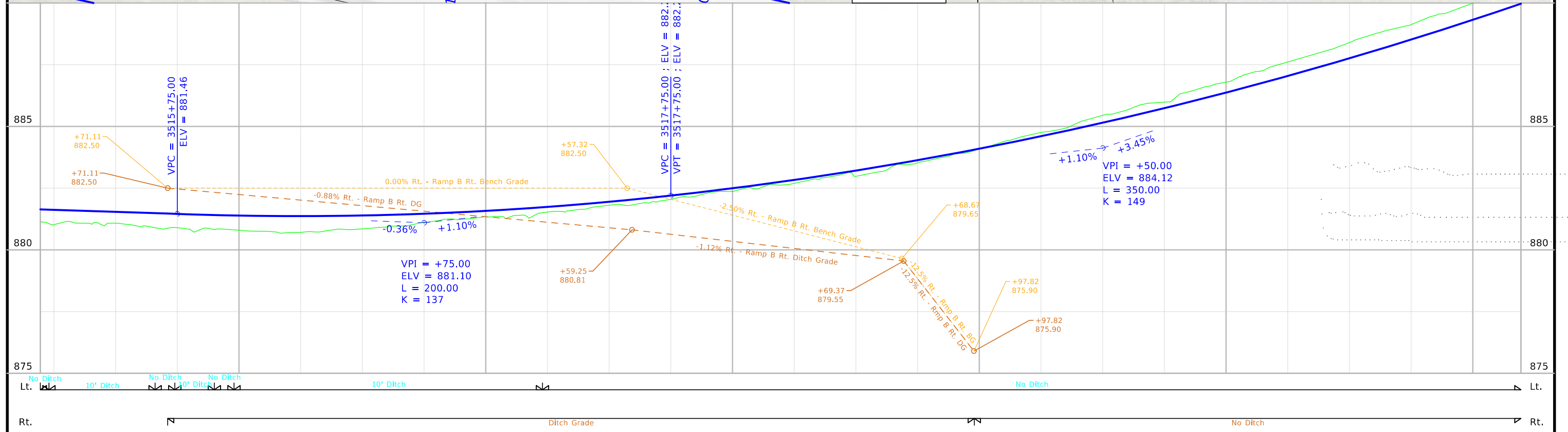
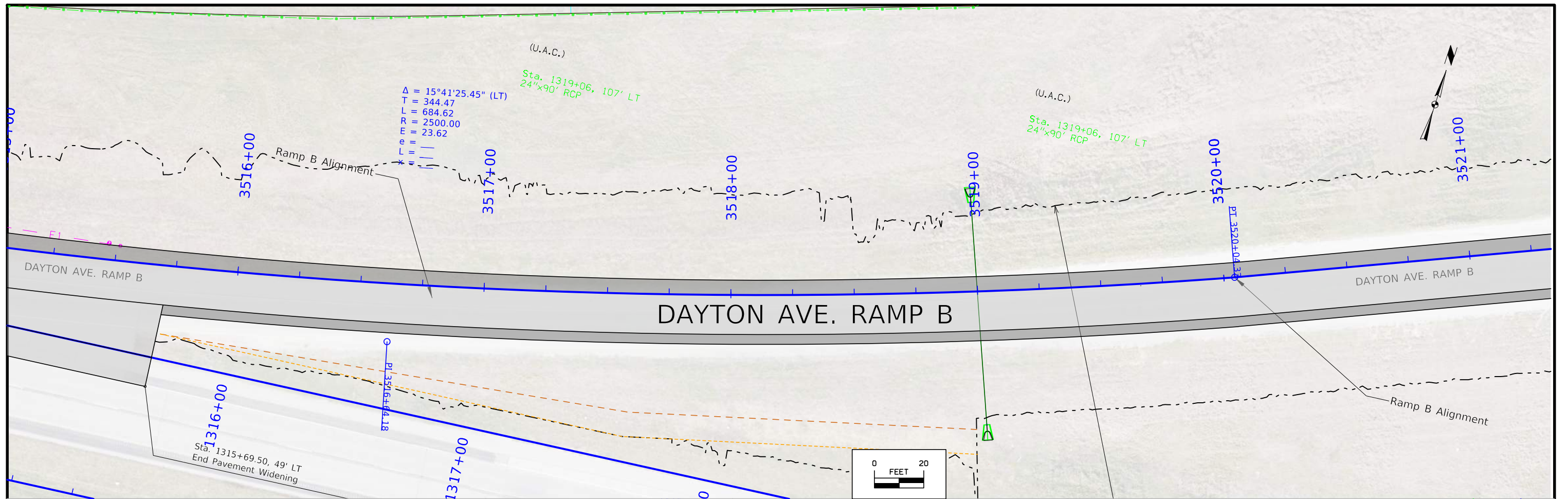


890.64	890.38	890.13	889.88	889.62	889.37	889.12	888.86	888.61	888.36	888.10	887.85	887.60	887.35	887.09	886.84	886.59	886.33	886.08	885.83	885.57	885.32	885.07	884.81
			3504+00				3505+00				3506+00				3507+00				3508+00				3509+00



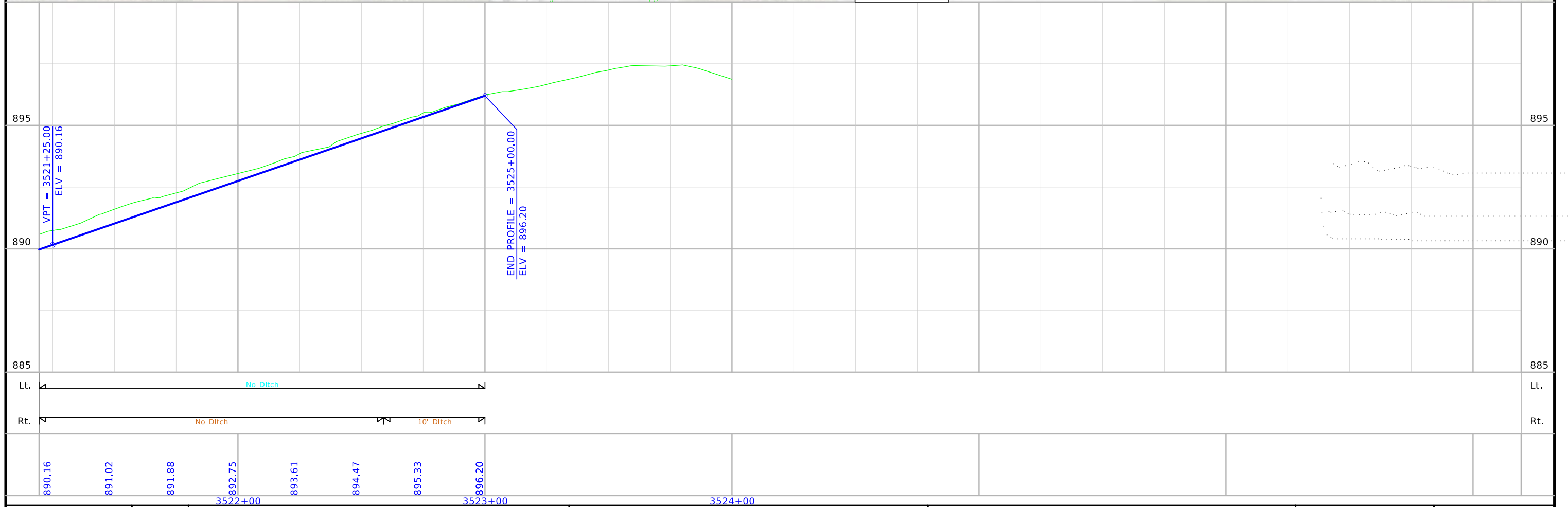
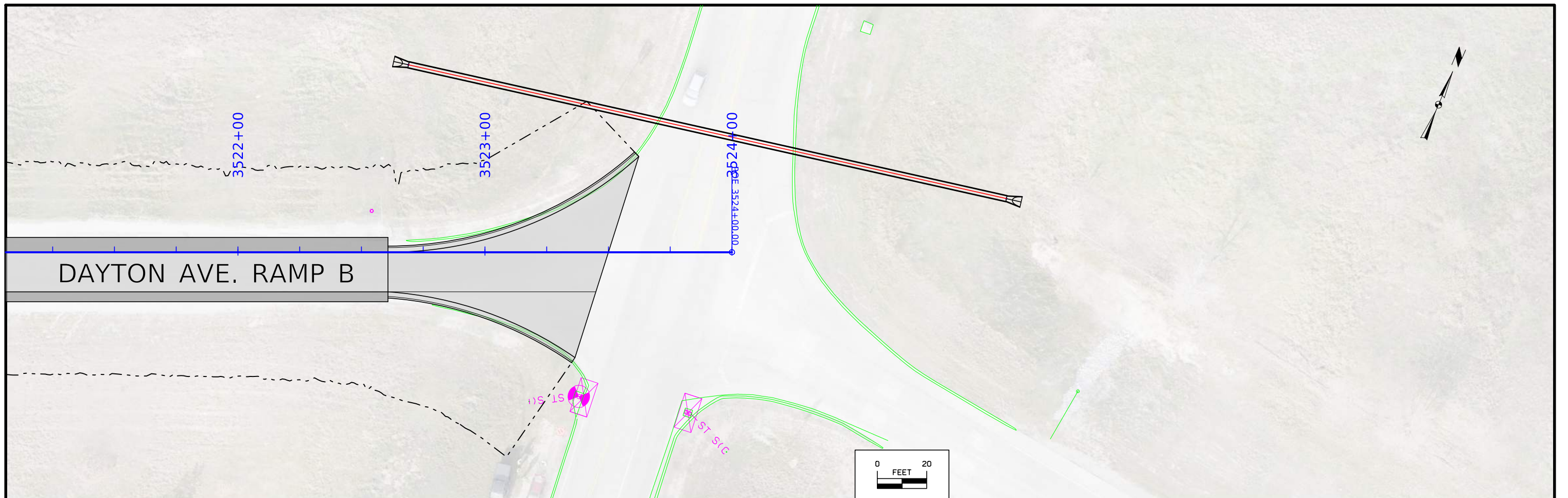
Lt. No Ditch Var 10' Ditch No Ditch Rt.

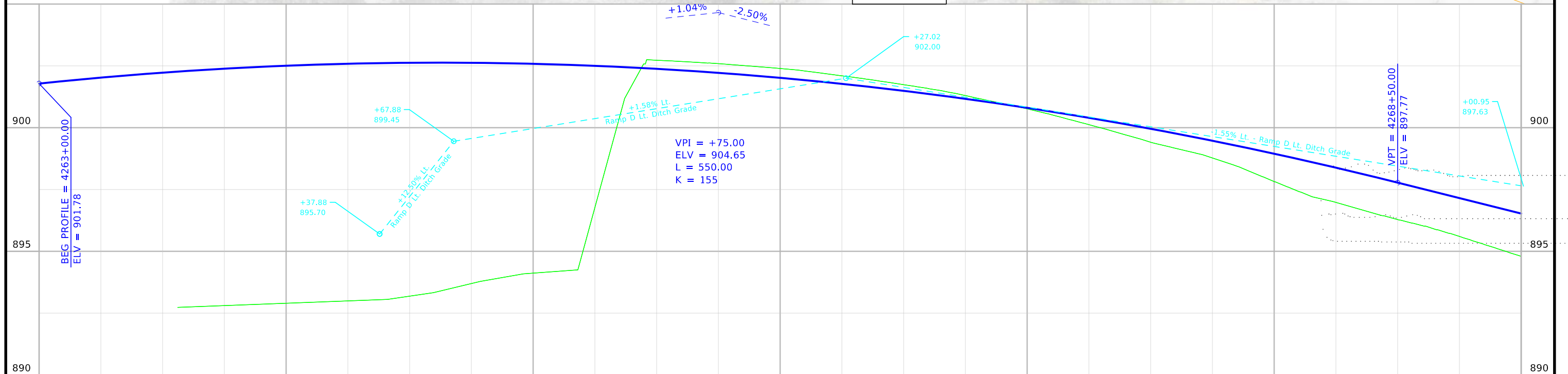
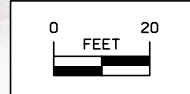
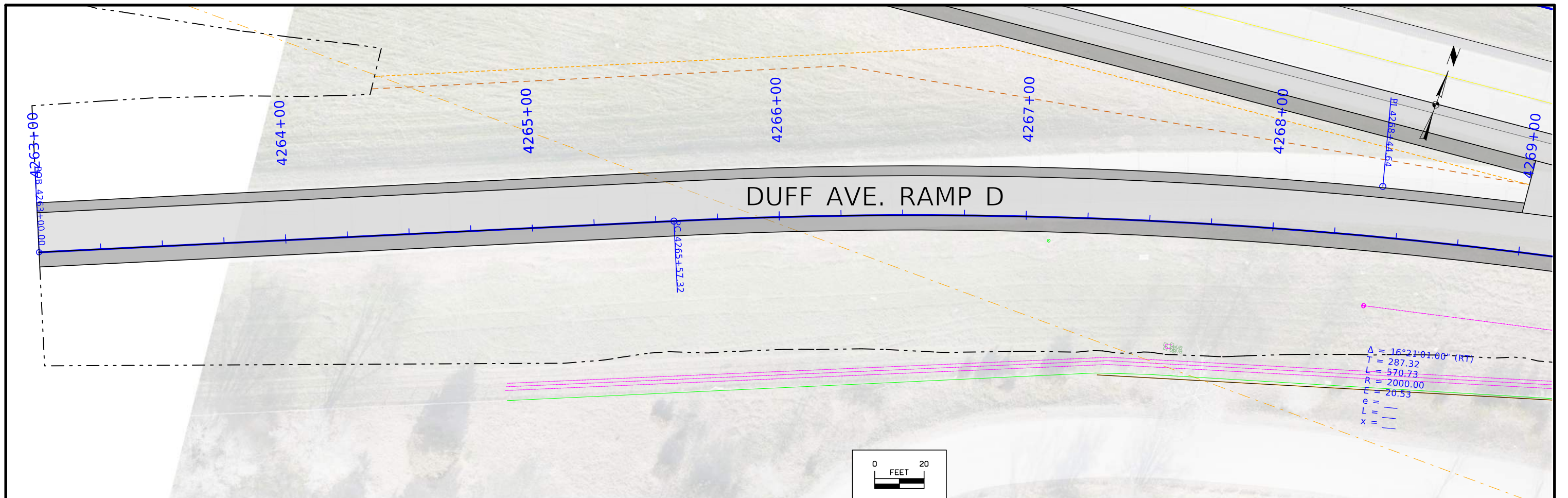
884.56	884.32	884.10	883.89	883.70	883.52	883.36	883.21	883.07	882.95	882.85	882.76	882.68	882.62	882.58	882.52	882.38	882.23	882.10	882.02	881.94	881.86	881.78	881.70
			3510+00				3511+00				3512+00				3513+00				3514+00				3515+00



881.62	881.54	881.46	881.39	881.37	881.39	881.46	881.58	881.74	881.94	882.20	882.49	882.83	883.21	883.63	884.10	884.60	885.15	885.74	886.37	887.04	887.76	888.52	889.32
		3516+00			3517+00			3518+00			3519+00			3520+00			3521+00						





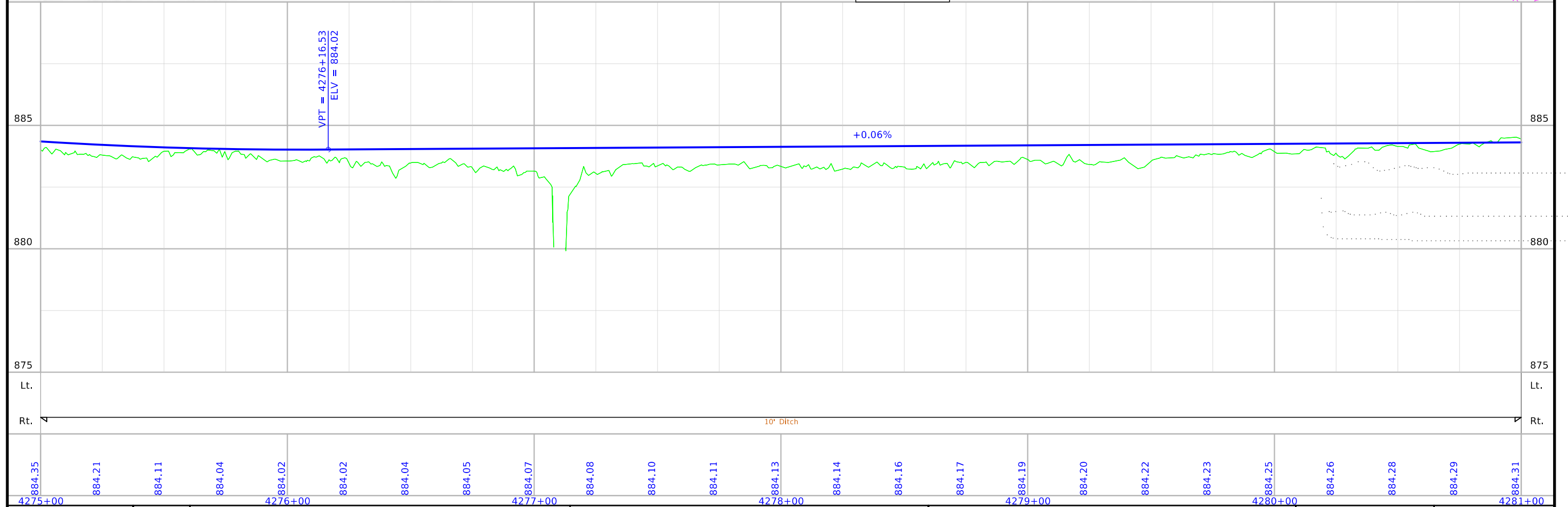
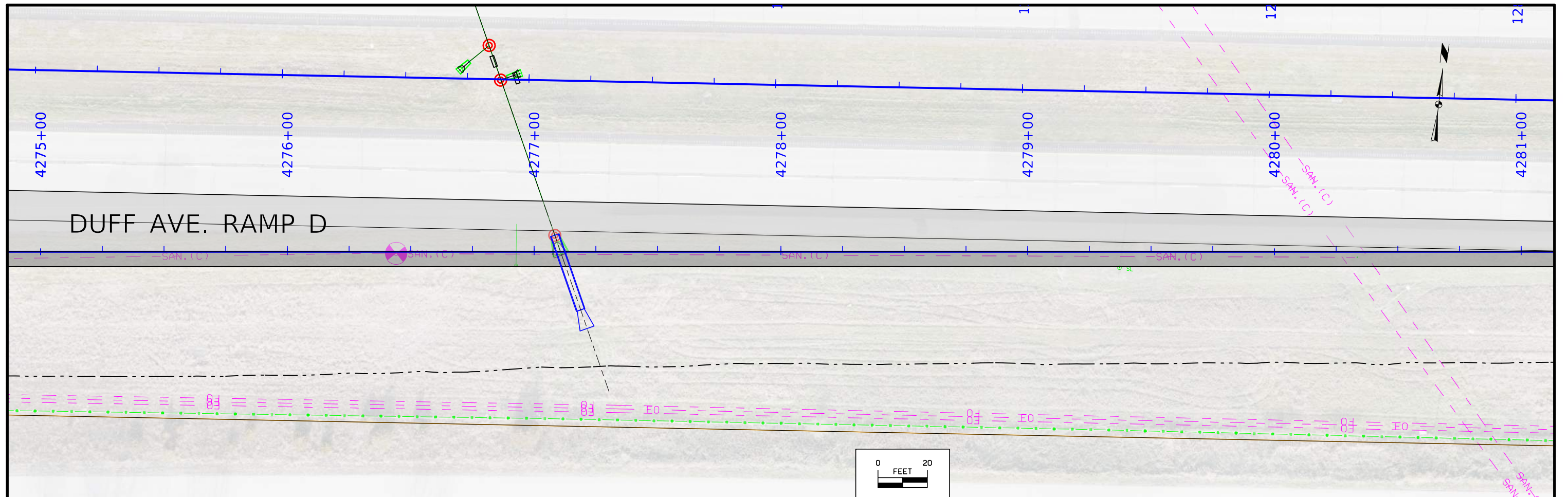


Lt. No Ditch Ditch Grade Lt.  
 Rt. No Ditch Rt.

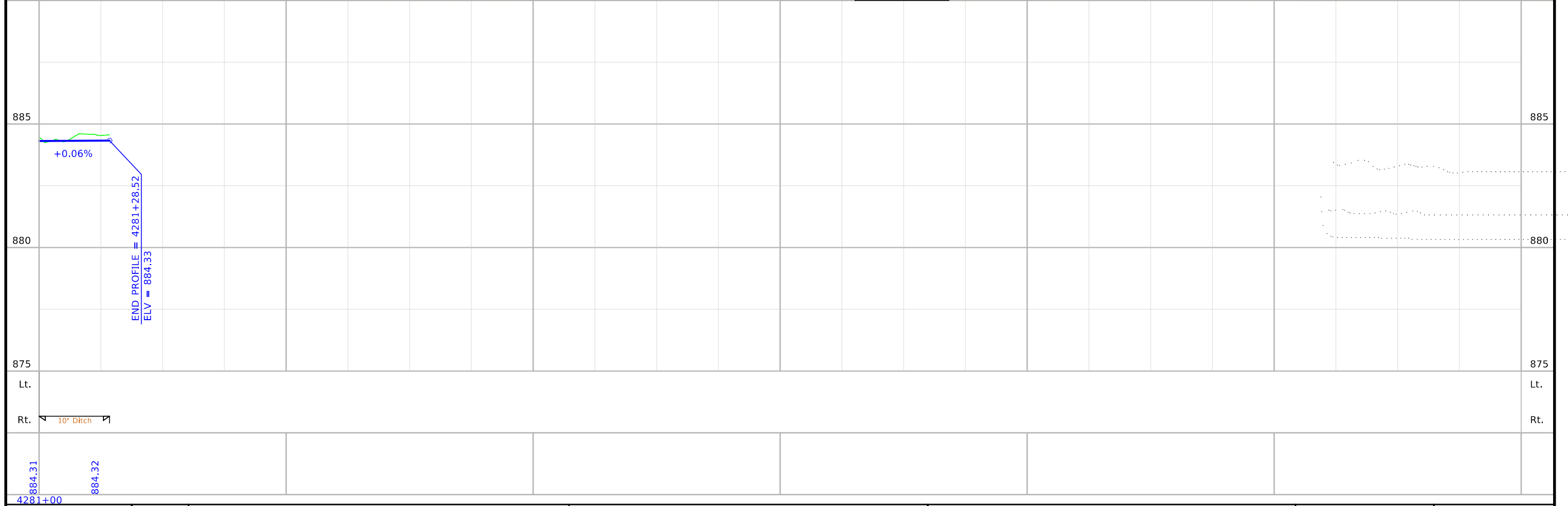
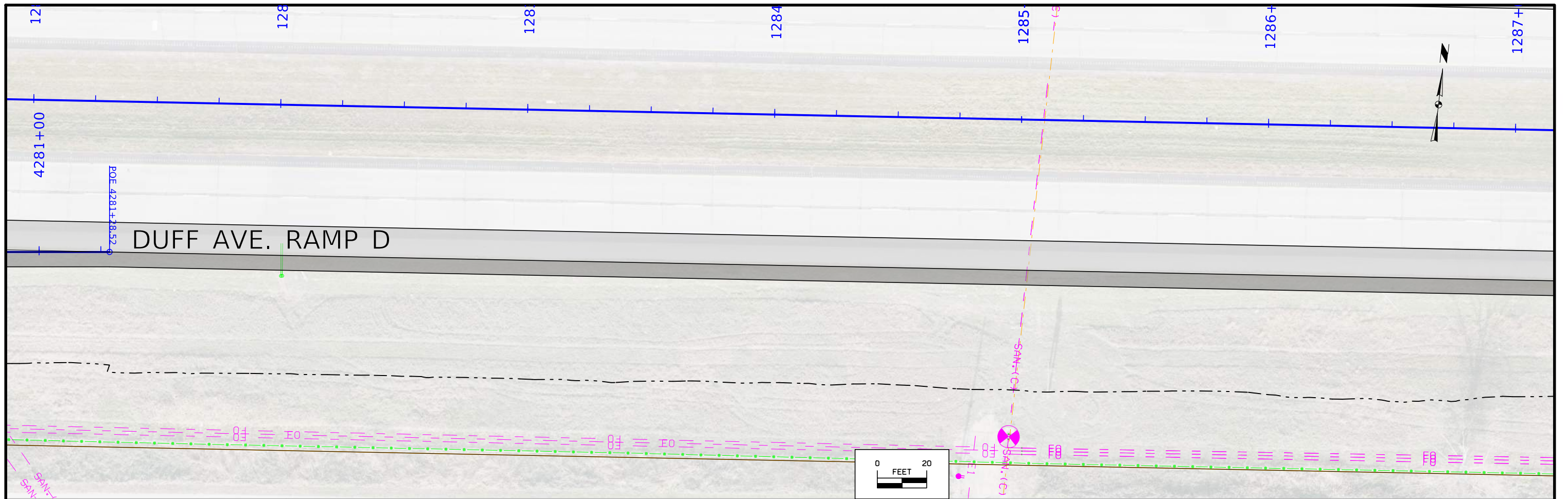
901.78	902.02	902.22	902.38	902.50	902.58	902.62	902.62	902.58	902.50	902.38	902.22	902.01	901.77	901.49	901.16	900.80	900.40	899.95	899.47	898.94	898.38	897.77	897.15	896.52
4263+00				4264+00				4265+00				4266+00				4267+00				4268+00			4269+00	

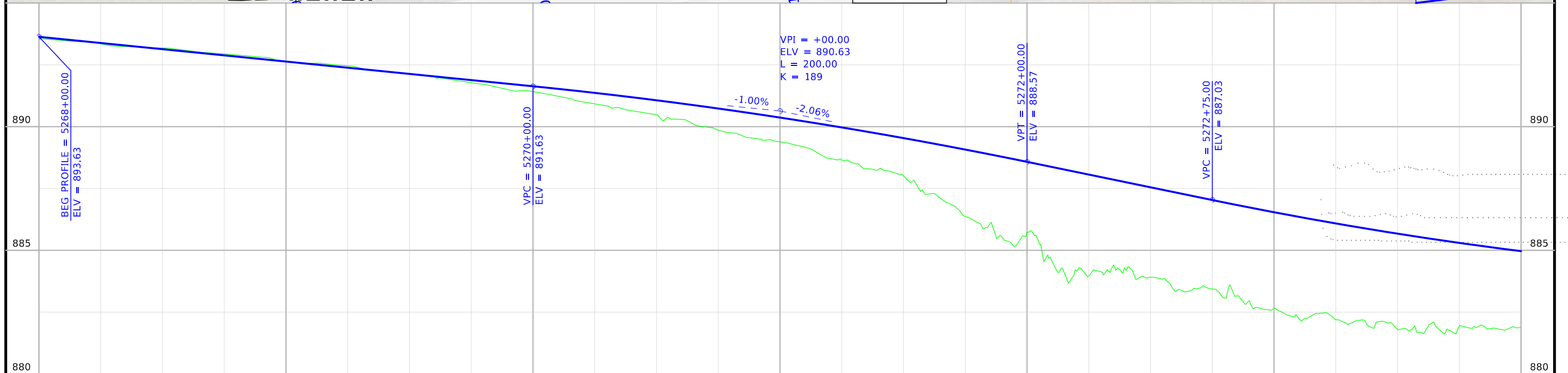
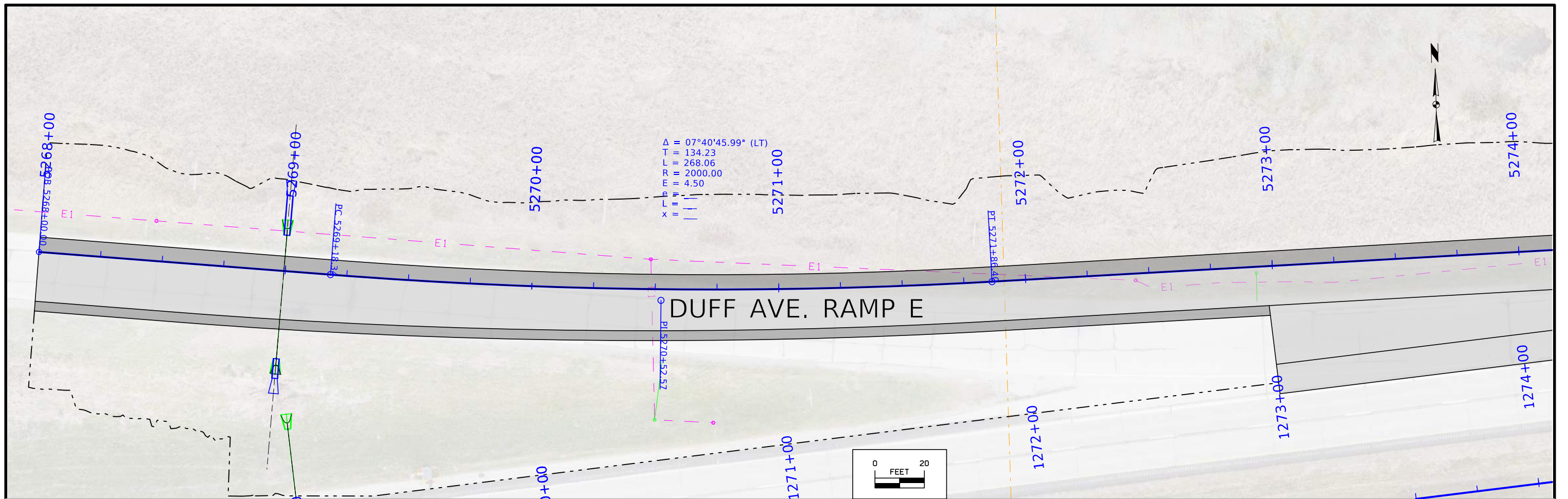




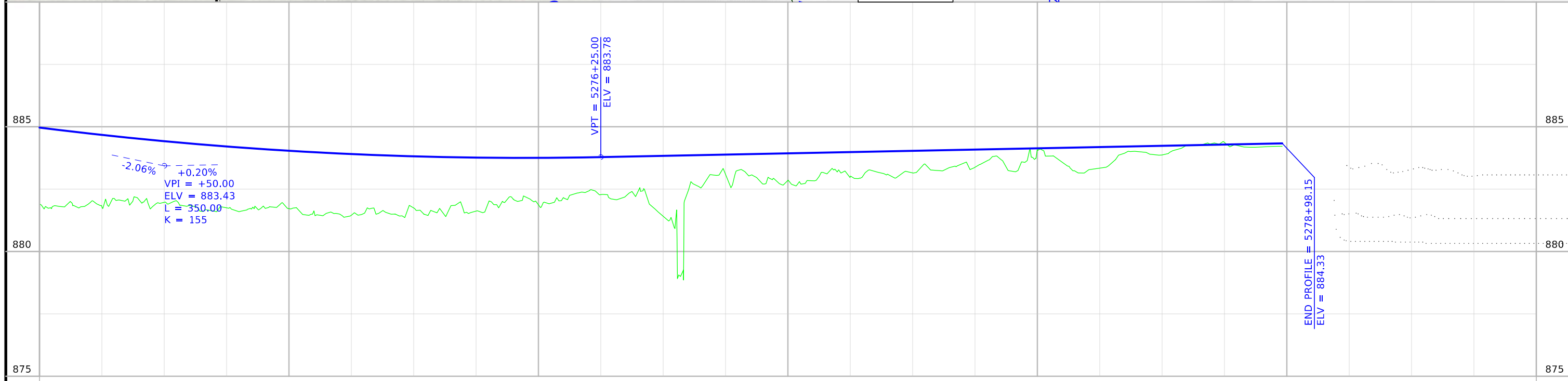
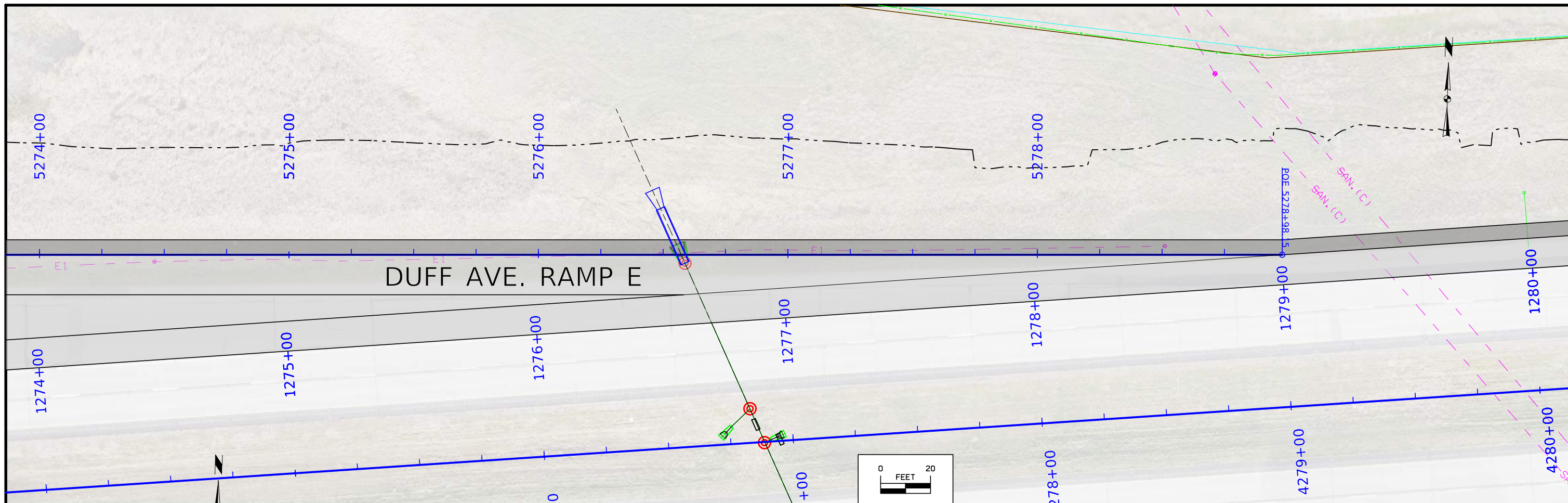


884.35	884.21	884.11	884.04	884.02	884.02	884.04	884.05	884.07	884.08	884.10	884.11	884.13	884.14	884.16	884.17	884.19	884.20	884.22	884.23	884.25	884.26	884.28	884.29	884.31
4275+00				4276+00				4277+00				4278+00				4279+00				4280+00				4281+00





893.63	893.38	893.13	892.88	892.63	892.38	892.13	891.88	891.63	891.36	891.06	890.73	890.37	889.97	889.54	889.07	888.57	888.06	887.55	887.03	886.54	886.08	885.67	885.30	884.97
5268+00				5269+00				5270+00				5271+00				5272+00				5273+00			5274+00	



Lt. 10' Ditch No Ditch 10' Ditch Rt.

884.97	884.67	884.42	884.21	884.04	883.91	883.81	883.76	883.75	883.78	883.83	883.88	883.93	883.98	884.03	884.08	884.13	884.18	884.23	884.28
5274+00			5275+00					5276+00				5277+00				5278+00			





**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

Station	Cut				Fill				Checks (EW-102)		Topsoil				[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]								
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut 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								
1293+75.00	142	124	18	124	135	135	175	-51	0	0	18	0	0	18								
1294+00.00	60	43	17	43	134	134	174	-131	0	0	17	0	0	17								
1294+25.00	60	43	18	43	129	129	168	-125	0	0	18	0	0	18								
1294+50.00	40	22	18	22	112	112	145	-123	0	0	18	0	0	18								
1294+75.00	127	108	19	108	91	91	119	-11	0	0	19	0	0	19								
1295+00.00	169	151	19	151	81	81	106	45	0	0	19	0	0	19								
1295+25.00	106	88	17	88	80	80	103	-15	0	0	17	0	0	18								
1295+50.00	82	64	18	64	85	85	111	-46	0	0	18	0	0	18								
1295+75.00	108	90	18	90	94	94	122	-32	0	0	18	0	0	18								
1296+00.00	163	145	18	145	100	100	130	16	0	0	18	0	0	18								
1296+25.00	154	136	17	136	105	105	136	0	0	0	17	0	0	17								
1296+50.00	81	63	17	63	113	113	146	-83	0	0	17	0	0	17								
1296+75.00	83	66	17	66	103	103	134	-68	0	0	17	0	0	17								
1297+00.00	107	88	19	88	57	57	74	14	0	0	19	0	0	20								
1297+25.00	110	87	23	87	16	16	21	66	0	0	23	0	0	23								
1297+50.00	96	72	24	72	9	9	11	61	0	0	24	0	0	24								
1297+75.00	59	35	24	35	14	14	19	16	0	0	24	0	0	24								
1298+00.00	35	13	22	13	24	24	31	-19	0	0	22	0	0	22								
1298+25.00	73	52	21	52	33	33	43	9	0	0	21	0	0	21								
1298+50.00	135	115	21	115	57	57	74	41	0	0	21	0	0	21								
1298+75.00	135	116	20	116	96	96	125	-10	0	0	20	0	0	20								
1299+00.00	68	49	19	49	140	140	182	-134	0	0	19	0	0	19								
1299+25.00	25	6	19	6	182	182	237	-232	0	0	19	0	0	19								
1299+50.00	26	6	20	6	206	206	268	-262	0	0	20	0	0	20								
1299+75.00	21	3	18	3	256	256	333	-330	0	0	18	0	0	18								
1299+81.05																						
WestEB30AUX																						
Totals:	4,968	3,838	1,131	3,838	17,232	17,232	22,407	-18,570	0	0	1,131	0	0	1,135								





**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

Station	Cut				Fill				Checks (EW-102)		Topsoil				[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]								
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut 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								
1319+75.00	18	11	7	11	9	9	12	-1	0	0	7	0	0	8								
1320+00.00	11	4	7	4	10	10	13	-9	0	0	7	0	0	7								
1320+25.00	36	29	7	29	11	11	14	15	0	0	7	0	0	7								
1320+50.00	47	40	7	40	9	9	12	28	0	0	7	0	0	7								
1320+75.00	31	24	8	24	7	7	9	15	0	0	8	0	0	8								
1321+00.00	21	13	8	13	5	5	7	6	0	0	8	0	0	8								
1321+25.00	13	5	8	5	6	6	8	-3	0	0	8	0	0	8								
1321+50.00	24	17	7	17	9	9	12	5	0	0	7	0	0	8								
1321+75.00	34	27	7	27	12	12	16	11	0	0	7	0	0	7								
1322+00.00	22	15	7	15	13	13	17	-1	0	0	7	0	0	7								
1322+25.00	28	18	10	18	6	6	8	11	0	0	10	0	0	10								
1322+50.00	56	39	16	39	0	0	0	39	0	0	16	0	0	16								
1322+75.00																						
EastEB30AUX																						
Totals:	1,582	1,189	394	1,189	1,301	1,301	1,693	-503	0	0	394	0	0	396								
Summary:																						
WestEB30AUX	4,968	3,838	1,131	3,838	17,232	17,232	22,407	-18,570	0	0	1,131	0	0	1,135								
EastEB30AUX	1,582	1,189	394	1,189	1,301	1,301	1,693	-503	0	0	394	0	0	396								
Project Totals:	6,550	5,027	1,525	5,027	18,533	18,533	24,100	-19,073	0	0	1,525	0	0	1,531								
<b>Excavation, Class 10, Roadway &amp; Borrow</b>																						
5,027 CY																						
[4]																						
<b>Embankment-In-Place</b>																						
19,073 / 1.3 = 14,672 CY																						
[9] / 1.3																						
<b>Topsoil, Strip, Salvage &amp; Spread</b>																						
1,525 CY																						
[12]																						

### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut				Fill					Checks (EW-102)		Topsoil				[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]							
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Existing Topsoil Stripping Undercut (+ Fill)	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							
WestWB30AUX																						
1273+00.00	0	0	0	0	0		0	0	0	0	0	0	0	0								
1273+50.00	42	42	0	42	0		0	0	42	0	0	0	0	0								
1274+00.00	42	42	0	42	0		0	0	42	0	0	0	0	0								
1274+50.00	41	41	0	41	0		0	0	41	0	0	0	0	0								
1275+00.00	42	42	0	42	0		0	0	42	0	0	0	0	0								
1275+50.00	43	43	0	43	0		0	0	43	0	0	0	0	0								
1276+00.00	44	44	0	44	0		0	0	44	0	0	0	0	0								
1276+50.00	44	44	0	44	0		0	0	44	0	0	0	0	0								
1277+00.00	44	44	0	44	0		0	0	44	0	0	0	0	0								
1277+50.00	45	45	0	45	0		0	0	45	0	0	0	0	0								
1278+00.00	45	45	0	45	0		0	0	45	0	0	0	0	0								
1278+50.00	44	44	0	44	0		0	0	44	0	0	0	0	0								
1279+00.00	44	44	0	44	0		0	0	44	0	0	0	0	0								
1279+50.00	68	51	17	51	43	9	52	67	-17	0	0	17	0	0	17							
1280+00.00	85	53	31	53	87	18	105	136	-83	0	0	31	0	0	32							
1280+50.00	78	50	28	50	77	18	95	123	-74	0	0	28	0	0	29							
1281+00.00	78	49	29	49	84	19	102	133	-84	0	0	29	0	0	29							
1281+50.00	76	46	31	46	109	21	130	169	-123	0	0	31	0	0	31							
1282+00.00	74	43	30	43	117	21	138	179	-136	0	0	30	0	0	31							
1282+50.00	74	43	31	43	117	21	138	179	-136	0	0	31	0	0	31							
1283+00.00	76	44	31	44	122	21	143	186	-141	0	0	31	0	0	31							
1283+50.00	85	53	32	53	120	20	140	182	-129	0	0	32	0	0	33							
1284+00.00	99	64	36	64	116	19	135	175	-112	0	0	36	0	0	36							
1284+50.00	94	59	35	59	126	20	146	190	-131	0	0	35	0	0	35							
1285+00.00	86	53	33	53	134	21	154	200	-148	0	0	33	0	0	33							
1285+50.00	84	51	33	51	127	21	148	192	-141	0	0	33	0	0	33							
1286+00.00	80	49	31	49	119	20	139	181	-132	0	0	31	0	0	31							
1286+50.00	80	51	29	51	114	19	133	173	-122	0	0	29	0	0	29							
1287+00.00	82	53	29	53	112	19	131	170	-118	0	0	29	0	0	29							
1287+50.00	80	51	29	51	115	20	135	176	-125	0	0	29	0	0	29							
1288+00.00	79	49	30	49	121	20	141	184	-134	0	0	30	0	0	30							
1288+50.00	79	50	29	50	120	19	139	181	-131	0	0	29	0	0	29							
1289+00.00	78	49	29	49	122	19	141	184	-135	0	0	29	0	0	29							
1289+50.00	79	50	30	50	128	20	148	193	-143	0	0	30	0	0	30							
1290+00.00	79	49	30	49	128	20	148	192	-143	0	0	30	0	0	30							
1290+50.00	81	50	31	50	115	21	136	177	-127	0	0	31	0	0	31							
1291+00.00	84	52	32	52	95	21	116	151	-98	0	0	32	0	0	32							
1291+50.00	85	54	31	54	81	20	102	132	-78	0	0	31	0	0	31							
1292+00.00	87	56	31	56	80	20	100	130	-74	0	0	31	0	0	31							
1292+50.00	98	61	36	61	129	21	150	195	-133	0	0	36	0	0	36							
1293+00.00	170	122	48	122	213	23	236	307	-185	0	0	48	0	0	48							
1293+50.00	252	196	56	196	263	25	288	375	-178	0	0	56	0	0	56							
1294+00.00	258	203	54	203	275	25	300	390	-187	0	0	54	0	0	55							
1294+50.00	154	120	34	120	248	16	264	343	-223	0	0	34	0	0	34							
1295+00.00	73	48	25	48	202	15	218	283	-235	0	0	25	0	0	25							
1295+50.00	83	48	35	48	201	25	227	295	-247	0	0	35	0	0	35							
1296+00.00	85	48	37	48	237	27	265	344	-296	0	0	37	0	0	37							
1296+50.00	87	49	38	49	264	29	292	380	-331	0	0	38	0	0	38							
1297+00.00	86	49	37	49	206	27	234	304	-255	0	0	37	0	0	38							
1297+50.00	90	57	33	57	86	20	106	138	-81	0	0	33	0	0	33							
1298+00.00	93	61	31	61	44	16	60	78	-16	0	0	31	0	0	31							
1298+50.00	87	54	33	54	73	19	92	120	-66	0	0	33	0	0	33							
1299+00.00	83	48	34	48	149	23	171	223	-174	0	0	34	0	0	34							
1299+40.00																						
WestWB30AUX Totals:	4,327	3,006	1,321	3,006	5,420	815	6,234	8,106	-5,102	0	0	1,321	0	0	1,323							

**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

Station	Cut				Fill				Checks (EW-102)		Topsoil				[16]	[17]	[18]	[19]	[20]	[21]	[22]	
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]							
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Existing Topsoil Stripping Undercut (+ Fill)	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							
EastWB30AUX																						
1302+60.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
1302+75.00	15	4	11	4	118	10	128	166	-162	0	0	11	0	0	11							
1303+00.00	39	19	20	19	124	16	140	182	-164	0	0	20	0	0	20							
1303+25.00	31	21	10	21	57	7	65	84	-63	0	0	10	0	0	10							
1303+50.00	17	17	0	17	0	0	0	0	17	0	0	0	0	0	0							
1303+75.00	17	17	0	17	0	0	0	0	17	0	0	0	0	0	0							
1304+00.00	17	17	0	17	0	0	0	0	17	0	0	0	0	0	0							
1304+25.00	18	18	0	18	0	0	0	0	18	0	0	0	0	0	0							
1304+50.00	18	18	0	18	0	0	0	0	18	0	0	0	0	0	0							
1304+75.00	19	19	0	19	0	0	0	0	19	0	0	0	0	0	0							
1305+00.00	20	20	0	20	0	0	0	0	20	0	0	0	0	0	0							
1305+25.00	20	20	0	20	0	0	0	0	20	0	0	0	0	0	0							
1305+50.00	20	20	0	20	0	0	0	0	20	0	0	0	0	0	0							
1305+75.00	20	20	0	20	0	0	0	0	20	0	0	0	0	0	0							
1306+00.00	19	19	0	19	0	0	0	0	19	0	0	0	0	0	0							
1306+25.00	19	19	0	19	0	0	0	0	19	0	0	0	0	0	0							
1306+50.00	20	20	0	20	0	0	0	0	20	0	0	0	0	0	0							
1306+75.00	20	20	0	20	0	0	0	0	21	0	0	0	0	0	0							
1307+00.00	21	21	0	21	0	0	0	0	21	0	0	0	0	0	0							
1307+25.00	20	20	0	20	0	0	0	0	20	0	0	0	0	0	0							
1307+50.00	20	20	0	20	0	0	0	0	20	0	0	0	0	0	0							
1307+75.00	20	20	0	20	0	0	0	0	20	0	0	0	0	0	0							
1308+00.00	20	20	0	20	0	0	0	0	20	0	0	0	0	0	0							
1308+25.00	20	20	0	20	0	0	0	0	20	0	0	0	0	0	0							
1308+50.00	21	21	0	21	0	0	0	0	21	0	0	0	0	0	0							
1308+75.00	21	21	0	21	0	0	0	0	21	0	0	0	0	0	0							
1309+00.00	21	21	0	21	0	0	0	0	21	0	0	0	0	0	0							
1309+25.00	21	21	0	21	0	0	0	0	21	0	0	0	0	0	0							
1309+50.00	20	20	0	20	0	0	0	0	20	0	0	0	0	0	0							
1309+75.00	20	20	0	20	0	0	0	0	20	0	0	0	0	0	0							
1310+00.00	20	20	0	20	0	0	0	0	20	0	0	0	0	0	0							
1310+25.00	20	20	0	20	0	0	0	0	20	0	0	0	0	0	0							
1310+50.00	21	21	0	21	0	0	0	0	21	0	0	0	0	0	0							
1310+75.00	21	21	0	21	0	0	0	0	21	0	0	0	0	0	0							
1311+00.00	21	21	0	21	0	0	0	0	21	0	0	0	0	0	0							
1311+25.00	21	21	0	21	0	0	0	0	21	0	0	0	0	0	0							
1311+50.00	21	21	0	21	0	0	0	0	21	0	0	0	0	0	0							
1311+75.00	21	21	0	21	0	0	0	0	21	0	0	0	0	0	0							
1312+00.00	21	21	0	21	0	0	0	0	21	0	0	0	0	0	0							
1312+25.00	21	21	0	21	0	0	0	0	21	0	0	0	0	0	0							
1312+50.00	21	21	0	21	0	0	0	0	21	0	0	0	0	0	0							
1312+75.00	21	21	0	21	0	0	0	0	21	0	0	0	0	0	0							
1313+00.00	21	21	0	21	0	0	0	0	21	0	0	0	0	0	0							
1313+25.00	21	21	0	21	0	0	0	0	21	0	0	0	0	0	0							
1313+50.00	20	20	0	20	0	0	0	0	21	0	0	0	0	0	0							
1313+75.00	20	20	0	20	0	0	0	0	20	0	0	0	0	0	0							
1314+00.00	19	19	0	19	0	0	0	0	19	0	0	0	0	0	0							
1314+25.00	19	19	0	19	0	0	0	0	19	0	0	0	0	0	0							
1314+50.00	19	19	0	19	0	0	0	0	19	0	0	0	0	0	0							
1314+75.00	20	20	0	20	0	0	0	0	20	0	0	0	0	0	0							
1315+00.00	20	20	0	20	0	0	0	0	20	0	0	0	0	0	0							
1315+25.00	20	20	0	20	0	0	0	0	20	0	0	0	0	0	0							
1315+50.00	20	20	0	20	0	0	0	0	20	0	0	0	0	0	0							
1315+69.50	20	20	0	20	0	0	0	0	20	0	0	0	0	0	0							
EastWB30AUX Totals:	1,060	1,018	42	1,018	300	34	333	433	588	0	0	42	0	0	42							

### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut				Fill					Checks (EW-102)		Topsoil				[16]	[17]	[18]	[19]	[20]	[21]	[22]	
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]								
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Existing Topsoil Stripping Undercut (+ Fill)	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:																							
WestWB30AUX	4,327	3,006	1,321	3,006	5,420	815	6,234	8,106	-5,102	0	0	1,321	0	0	1,323								
EastWB30AUX	1,060	1,018	42	1,018	300	34	333	433	588	0	0	42	0	0	42								
Project Totals:	5,387	4,024	1,363	4,024	5,720	849	6,567	8,539	-4,514	0	0	1,363	0	0	1,365								
<b>Excavation, Class 10, Roadway &amp; Borrow</b>																							
4,024 CY																							
[4]																							
<b>Embankment-In-Place</b>																							
4,514 / 1.3 = 3,473 CY																							
[9] / 1.3																							
<b>Topsoil, Strip, Salvage &amp; Spread</b>																							
1,363 CY																							
[12]																							

**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

Station	Cut				Fill					Checks (EW-102)		Topsoil				[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]							
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Existing Topsoil Stripping Undercut (+ Fill)	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							
RampA																						
2505+83.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
2506+00.00	25	10	15	10	43	10	53	69	-59	0	0	15	0	0	15							
2506+25.00	39	26	13	26	72	9	81	105	-79	0	0	13	0	0	13							
2506+50.00	33	26	6	26	80	4	83	108	-82	0	0	6	0	0	7							
2506+75.00	82	75	6	75	88	4	91	119	-44	0	0	6	0	0	7							
2507+00.00	162	155	6	155	94	4	98	127	28	0	0	6	0	0	7							
2507+25.00	186	179	6	179	93	4	97	126	53	0	0	6	0	0	7							
2507+50.00	175	169	6	169	88	4	93	121	48	0	0	6	0	0	7							
2507+75.00	169	162	6	162	90	4	94	122	40	0	0	6	0	0	7							
2508+00.00	166	160	6	160	89	4	93	120	39	0	0	6	0	0	7							
2508+25.00	152	146	6	146	81	3	85	110	36	0	0	6	0	0	7							
2508+50.00	140	133	6	133	78	3	81	106	28	0	0	6	0	0	7							
2508+75.00	135	128	6	128	80	3	83	108	20	0	0	6	0	0	7							
2509+00.00	129	122	6	122	90	4	94	122	0	0	0	6	0	0	7							
2509+25.00	124	117	6	117	90	4	94	122	-5	0	0	6	0	0	7							
2509+50.00	116	109	6	109	81	4	85	111	-1	0	0	6	0	0	7							
2509+75.00	112	105	6	105	77	4	81	105	0	0	0	6	0	0	7							
2510+00.00	112	106	6	106	74	4	78	102	4	0	0	6	0	0	7							
2510+25.00	107	100	6	100	79	5	83	109	-8	0	0	6	0	0	7							
2510+50.00	93	83	10	83	76	8	84	109	-27	0	0	10	0	0	10							
2510+75.00	73	60	13	60	68	11	79	103	-43	0	0	13	0	0	13							
2511+00.00	74	64	10	64	62	8	70	92	-27	0	0	10	0	0	10							
2511+25.00	91	81	10	81	62	9	71	92	-10	0	0	10	0	0	10							
2511+50.00	99	86	13	86	64	11	76	99	-13	0	0	13	0	0	13							
2511+75.00	102	89	13	89	60	11	71	93	-4	0	0	13	0	0	13							
2512+00.00	108	94	15	94	57	8	65	84	9	0	0	15	0	0	15							
2512+25.00	116	99	16	99	53	4	57	75	24	0	0	16	0	0	17							
2512+50.00	123	107	17	107	50	4	54	71	36	0	0	17	0	0	17							
2512+75.00	121	103	18	103	51	4	55	71	32	0	0	18	0	0	18							
2513+00.00	113	94	20	94	50	4	54	70	24	0	0	20	0	0	20							
2513+25.00	107	87	20	87	46	4	49	64	23	0	0	20	0	0	20							
2513+50.00	99	81	19	81	40	3	43	57	24	0	0	19	0	0	19							
2513+75.00	101	82	19	82	37	3	40	53	30	0	0	19	0	0	19							
2514+00.00	109	87	22	87	36	3	38	50	37	0	0	22	0	0	22							
2514+25.00	115	94	21	94	33	2	36	46	48	0	0	21	0	0	21							
2514+50.00	116	95	21	95	29	2	31	40	55	0	0	21	0	0	22							
2514+75.00	119	101	18	101	27	1	28	36	65	0	0	18	0	0	18							
2515+00.00	125	108	17	108	31	1	33	43	66	0	0	17	0	0	17							
2515+25.00	126	105	21	105	37	1	39	50	55	0	0	21	0	0	21							
2515+50.00	122	102	21	102	41	1	42	55	47	0	0	21	0	0	21							
2515+75.00	119	99	21	99	47	1	48	62	37	0	0	21	0	0	21							
2516+00.00	132	111	21	111	43	1	44	57	54	0	0	21	0	0	21							
2516+25.00	149	125	24	125	26	0	26	34	91	0	0	24	0	0	24							
2516+50.00	148	122	25	122	16	0	16	21	101	0	0	25	0	0	25							
2516+75.00	138	116	22	116	16	0	16	20	96	0	0	22	0	0	22							
2517+00.00	132	107	25	107	15	0	15	19	88	0	0	25	0	0	25							
2517+25.00	128	99	29	99	18	0	18	24	76	0	0	29	0	0	29							
2517+50.00	122	96	26	96	20	0	20	26	70	0	0	26	0	0	26							
2517+75.00	117	93	24	93	18	0	18	24	69	0	0	24	0	0	24							
2518+00.00	110	86	24	86	14	0	14	19	68	0	0	24	0	0	24							
2518+25.00	101	79	22	79	13	0	13	17	62	0	0	22	0	0	22							
2518+50.00	97	80	17	80	14	0	14	19	62	0	0	17	0	0	17							
2518+75.00	117	87	30	87	14	0	14	18	70	0	0	30	0	0	30							
2519+00.00																						
RampA																						
Totals:	6,027	5,234	794	5,234	2,749	189	2,938	3,822	1,414	0	0	794	0	0	797							

**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

Station	Cut				Fill					Checks (EW-102)		Topsoil				[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]							
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Existing Topsoil Stripping Undercut (+ Fill)	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:																						
RampA	6,027	5,234	794	5,234	2,749	189	2,938	3,822	1,414	0	0	794	0	0	797							
Project Totals:	6,027	5,234	794	5,234	2,749	189	2,938	3,822	1,414	0	0	794	0	0	797							
<p><b>Excavation, Class 10, Roadway &amp; Borrow</b> 3,822 CY [4]</p> <p><b>Excavation, Class 10, Waste</b> 5,234 - 3,822 = 1,414 CY [4] - [8]</p> <p><b>Topsoil, Strip, Salvage &amp; Spread</b> 794 CY [12]</p>																						

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Table with columns: Station, Cut (Total Cut Unadjusted Volume, Total Class 10 Unadjusted Volume, Topsoil Cut Volume, Total Cut Adjusted), Fill (Total Fill Unadjusted Volume, Existing Topsoil Stripping Undercut (+ Fill), Total Fill Adjusted, Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor, Total Cut Adjusted Minus Fill w/ Shrink), Checks (EW-102) (Approx. Fill Vol. Below 5' & Above 20' w/ Shrink, Approx. Fill Volume Below 3' w/ Shrink), Topsoil (Topsoil Stripping Undercut Volume, Topsoil Placement Undercut Volume, Topsoil Placement With 1.4 Shrink Factor, Topsoil Stripping Minus Topsoil Placement w/Shrink), and columns [16] through [22].

Summary row with columns: FILE NO., DESIGN TEAM, STORY COUNTY, PROJECT NUMBER (BRFN-030-5(271\_--38-85)), SHEET NUMBER (T. 11)

**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

Station	Cut				Fill					Checks (EW-102)		Topsoil				[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]							
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Existing Topsoil Stripping Undercut (+ Fill)	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							
3519+75.00	121	101	20	101	0	0	0	0	102	0	0	20	0	0	20							
3520+00.00	125	105	20	105	0	0	0	0	105	0	0	20	0	0	20							
3520+25.00	129	109	20	109	0	0	0	0	109	0	0	20	0	0	20							
3520+50.00	133	113	20	113	0	0	0	0	113	0	0	20	0	0	20							
3520+75.00	133	113	20	113	0	0	0	0	113	0	0	20	0	0	20							
3521+00.00	132	112	20	112	0	0	0	0	112	0	0	20	0	0	20							
3521+25.00	131	111	20	111	0	0	0	0	111	0	0	20	0	0	20							
3521+50.00	126	106	20	106	0	0	0	0	106	0	0	20	0	0	20							
3521+75.00	121	101	20	101	0	0	0	0	101	0	0	20	0	0	20							
3522+00.00	116	96	20	96	0	0	0	0	96	0	0	20	0	0	20							
3522+25.00	117	97	20	97	0	0	0	0	97	0	0	20	0	0	20							
3522+50.00	122	102	21	102	0	0	0	0	102	0	0	21	0	0	21							
3522+75.00	150	128	22	128	0	0	0	0	128	0	0	22	0	0	22							
3523+00.00	88	76	12	76	0	0	0	0	76	0	0	12	0	0	12							
3523+25.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
3523+50.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
3523+75.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
3524+00.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
RampB																						
Totals:	5,896	4,607	1,290	4,607	3,249	643	3,891	5,061	-456	0	0	1,290	0	0	1,294							
<b>Excavation, Class 10, Roadway &amp; Borrow</b>																						
4,607 CY																						
[4]																						
<b>Embankment-In-Place</b>																						
456 / 1.3 = 351 CY																						
[9] / 1.3																						
<b>Topsoil, Strip, Salvage &amp; Spread</b>																						
1,290 CY																						
[12]																						





### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut				Fill				Checks (EW-102)		Topsoil				[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]						
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Existing Topsoil Stripping Undercut (+ Fill)	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						
4279+75.00	48	41	8	41	19	1	20	26	15	0	0	8	0	0	8						
4280+00.00	48	41	7	41	17	1	19	24	17	0	0	7	0	0	8						
4280+25.00	47	39	7	39	17	1	18	24	16	0	0	7	0	0	8						
4280+50.00	45	37	7	37	17	1	18	24	14	0	0	7	0	0	8						
4280+75.00	46	38	7	38	16	1	17	23	16	0	0	7	0	0	8						
4281+00.00	47	40	7	40	15	1	16	21	19	0	0	7	0	0	8						
4281+25.00	49	42	7	42	14	1	14	19	23	0	0	7	0	0	8						
4281+28.52 RampD																					
<b>Totals:</b>	4,745	3,930	815	3,930	10,492	381	10,872	14,138	-10,208	0	0	815	0	0	819						

**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

Station	Cut				Fill					Checks (EW-102)		Topsoil				[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]							
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Existing Topsoil Stripping Undercut (+ Fill)	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							
RampE																						
5268+00.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
5268+25.00	86	63	23	63	35	10	45	59	4	0	0	23	0	0	23							
5268+50.00	91	66	25	66	25	10	35	45	21	0	0	25	0	0	25							
5268+75.00	93	69	24	69	20	9	29	37	32	0	0	24	0	0	24							
5269+00.00	104	75	28	75	45	11	56	73	2	0	0	28	0	0	29							
5269+25.00	92	70	21	70	42	10	52	67	3	0	0	21	0	0	22							
5269+50.00	69	58	11	58	20	6	26	34	23	0	0	11	0	0	11							
5269+75.00	68	57	11	57	23	7	29	38	19	0	0	11	0	0	11							
5270+00.00	67	56	11	56	24	6	31	40	17	0	0	11	0	0	11							
5270+25.00	66	55	11	55	30	7	37	48	8	0	0	11	0	0	11							
5270+50.00	69	58	11	58	38	8	46	60	-2	0	0	11	0	0	11							
5270+75.00	79	68	12	68	46	9	55	72	-4	0	0	12	0	0	12							
5271+00.00	89	78	12	78	54	10	64	83	-6	0	0	12	0	0	12							
5271+25.00	91	79	12	79	60	11	70	92	-13	0	0	12	0	0	12							
5271+50.00	58	46	12	46	56	11	67	87	-41	0	0	12	0	0	12							
5271+75.00	23	12	11	12	55	10	65	85	-73	0	0	11	0	0	11							
5272+00.00	22	10	12	10	58	9	67	87	-77	0	0	12	0	0	12							
5272+25.00	19	7	12	7	62	9	71	92	-85	0	0	12	0	0	12							
5272+50.00	13	5	8	5	65	8	73	95	-90	0	0	8	0	0	8							
5272+75.00	20	10	10	10	53	7	60	78	-67	0	0	10	0	0	10							
5273+00.00	60	46	14	46	45	7	52	68	-22	0	0	14	0	0	14							
5273+25.00	91	76	14	76	46	7	53	68	8	0	0	14	0	0	14							
5273+50.00	90	76	14	76	40	7	47	61	15	0	0	14	0	0	14							
5273+75.00	89	75	14	75	34	6	41	53	22	0	0	14	0	0	14							
5274+00.00	84	70	14	70	31	7	38	49	21	0	0	14	0	0	14							
5274+25.00	75	61	13	61	32	8	40	52	9	0	0	13	0	0	14							
5274+50.00	69	56	13	56	32	9	41	53	3	0	0	13	0	0	13							
5274+75.00	69	56	13	56	34	9	42	55	1	0	0	13	0	0	13							
5275+00.00	76	62	14	62	32	8	40	52	10	0	0	14	0	0	14							
5275+25.00	82	68	14	68	27	7	35	45	23	0	0	14	0	0	14							
5275+50.00	82	68	14	68	25	7	32	42	26	0	0	14	0	0	14							
5275+75.00	77	63	14	63	28	8	36	46	17	0	0	14	0	0	14							
5276+00.00	73	59	14	59	33	9	42	54	5	0	0	14	0	0	14							
5276+25.00	73	59	14	59	38	9	47	61	-1	0	0	14	0	0	14							
5276+50.00	70	56	14	56	48	9	57	74	-18	0	0	14	0	0	14							
5276+75.00	72	57	15	57	41	8	49	64	-7	0	0	15	0	0	15							
5277+00.00	74	59	15	59	33	8	41	53	6	0	0	15	0	0	15							
5277+25.00	66	52	14	52	45	9	54	70	-18	0	0	14	0	0	14							
5277+50.00	58	45	14	45	52	9	61	79	-35	0	0	14	0	0	14							
5277+75.00	52	39	12	39	54	9	63	82	-43	0	0	12	0	0	12							
5278+00.00	48	37	11	37	50	9	59	77	-40	0	0	11	0	0	11							
5278+25.00	44	32	12	32	45	10	55	71	-39	0	0	12	0	0	12							
5278+50.00	44	30	13	30	42	9	51	66	-36	0	0	13	0	0	14							
5278+75.00	48	34	14	34	37	8	46	60	-26	0	0	14	0	0	14							
5278+98.15																						
RampE																						
Totals:	2,886	2,284	602	2,284	1,733	366	2,099	2,731	-447	0	0	602	0	0	604							
Excavation, Class 10, Roadway & Borrow																						
2,284 CY																						
[4]																						
Embankment-In-Place																						
447 / 1.3 = 344 CY																						
[9] / 1.3																						
Topsoil, Strip, Salvage & Spread																						
602 CY																						
[12]																						

### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

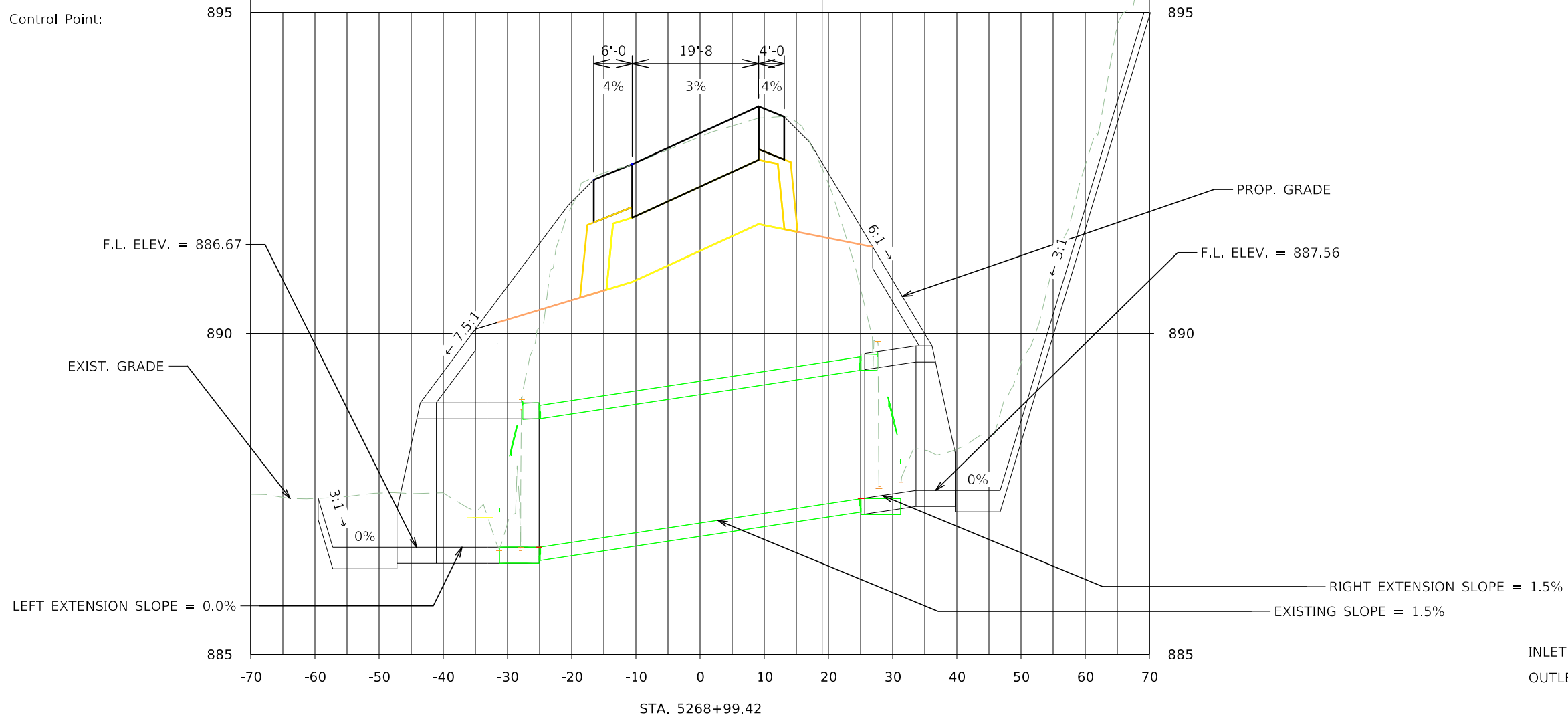
Station	Cut				Fill					Checks (EW-102)		Topsoil				[16]	[17]	[18]	[19]	[20]	[21]	[22]	
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]								
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Existing Topsoil Stripping Undercut (+ Fill)	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								
RampBDike3																							
35+17.34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								
35+20.00	14	0	13	0	12	8	19	25	-25	0	0	13	0	0	13								
35+30.00	69	0	69	0	145	58	203	264	-264	0	0	69	0	0	69								
35+40.00	93	0	93	0	222	83	305	396	-396	0	0	93	0	0	93								
35+50.00	80	0	80	0	187	65	252	327	-327	0	0	80	0	0	80								
35+60.00	58	0	58	0	238	44	282	366	-366	0	0	58	0	0	58								
35+70.00	40	0	40	0	399	35	434	564	-564	0	0	40	0	0	40								
35+80.00	23	0	23	0	455	23	478	622	-622	0	0	23	0	0	23								
35+90.00	24	0	24	0	380	23	404	525	-525	0	0	24	0	0	24								
36+00.00	24	0	24	0	279	23	302	392	-392	0	0	24	0	0	24								
36+10.00	20	0	20	0	203	20	223	290	-290	0	0	20	0	0	20								
36+20.00	17	0	17	0	176	17	193	251	-251	0	0	17	0	0	17								
36+30.00	15	0	15	0	140	15	155	201	-201	0	0	15	0	0	15								
36+40.00	9	0	9	0	60	9	69	89	-89	0	0	9	0	0	9								
36+43.00																							
RampBDike3																							
Totals:	487	1	487	1	2,895	423	3,317	4,313	-4,313	0	0	487	0	0	487								
<p><b>Excavation, Class 10, Roadway &amp; Borrow</b> 1 CY [4]</p> <p><b>Embankment-In-Place</b> <math>4,313 / 1.3 = 3,318</math> CY [9] / 1.3</p> <p><b>Topsoil, Strip, Salvage &amp; Spread</b> 487 CY [12]</p>																							

**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

Station	Cut				Fill				Checks (EW-102)		Topsoil				[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]						
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Existing Topsoil Stripping Undercut (+ Fill)	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						
RampADike4																					
25+11.05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
25+25.00	96	55	41	55	111	25	136	177	-122	0	0	41	0	0	41						
25+50.00	129	39	90	39	344	68	412	535	-497	0	0	90	0	0	91						
25+75.00	143	98	45	98	299	36	335	435	-337	0	0	45	0	0	45						
26+00.00	76	60	16	60	371	16	387	503	-443	0	0	16	0	0	16						
26+25.00	63	45	19	45	263	17	280	364	-320	0	0	19	0	0	19						
26+50.00	111	92	20	92	90	18	108	140	-49	0	0	20	0	0	20						
26+75.00	97	76	21	76	118	13	132	171	-95	0	0	21	0	0	21						
27+00.00	99	77	22	77	122	10	133	173	-96	0	0	22	0	0	22						
27+25.00	120	97	22	97	106	10	116	151	-53	0	0	22	0	0	22						
27+50.00	140	117	23	117	89	9	98	128	-11	0	0	23	0	0	23						
27+75.00	135	112	24	112	77	8	85	111	1	0	0	24	0	0	24						
28+00.00	109	86	23	86	77	8	85	110	-24	0	0	23	0	0	23						
28+25.00	102	79	23	79	76	7	83	108	-29	0	0	23	0	0	23						
28+50.00	99	78	21	78	75	7	82	106	-29	0	0	21	0	0	21						
28+75.00	102	81	21	81	80	7	87	113	-32	0	0	21	0	0	21						
29+00.00	107	85	23	85	79	6	85	111	-27	0	0	23	0	0	23						
29+25.00	111	88	23	88	68	6	75	97	-9	0	0	23	0	0	23						
29+50.00	114	92	22	92	68	5	73	96	-3	0	0	22	0	0	22						
29+75.00	127	106	21	106	67	5	73	95	11	0	0	21	0	0	21						
30+00.00	127	107	20	107	68	6	74	96	11	0	0	20	0	0	20						
30+25.00	117	97	20	97	72	6	77	101	-3	0	0	20	0	0	20						
30+50.00	114	95	20	95	71	5	76	99	-5	0	0	20	0	0	20						
30+75.00	130	108	22	108	74	6	80	104	5	0	0	22	0	0	22						
31+00.00	144	120	23	120	74	5	79	103	17	0	0	23	0	0	23						
31+25.00	137	114	23	114	79	5	84	109	5	0	0	23	0	0	23						
31+50.00	130	107	23	107	85	5	90	117	-11	0	0	23	0	0	23						
31+75.00	123	99	24	99	85	5	90	117	-18	0	0	24	0	0	24						
32+00.00	118	95	23	95	89	6	95	124	-29	0	0	23	0	0	23						
32+25.00	115	92	23	92	87	6	93	121	-29	0	0	23	0	0	23						
32+50.00	109	86	23	86	84	6	90	117	-31	0	0	23	0	0	23						
32+75.00	102	80	22	80	88	5	94	122	-42	0	0	22	0	0	22						
33+00.00	99	77	22	77	89	5	94	123	-45	0	0	22	0	0	22						
33+25.00	100	79	21	79	92	5	98	127	-48	0	0	21	0	0	22						
33+50.00	103	82	21	82	96	5	101	131	-49	0	0	21	0	0	21						
33+75.00	56	43	13	43	89	5	94	123	-80	0	0	13	0	0	13						
34+00.00	6	0	0	0	80	6	86	111	-111	0	0	6	0	0	6						
34+25.00	7	0	7	0	83	7	89	116	-116	0	0	7	0	0	7						
34+50.00	7	0	7	0	88	7	95	123	-123	0	0	7	0	0	7						
34+75.00	7	0	7	0	91	7	98	127	-127	0	0	7	0	0	8						
35+00.00	8	0	8	0	91	7	99	129	-129	0	0	8	0	0	8						
35+25.00	8	0	8	0	95	7	102	133	-133	0	0	8	0	0	8						
35+50.00	8	0	8	0	104	8	111	145	-145	0	0	8	0	0	8						
35+75.00	8	0	8	0	106	8	114	148	-148	0	0	8	0	0	8						
36+00.00	8	0	8	0	105	8	113	147	-147	0	0	8	0	0	8						
36+25.00	8	0	8	0	104	8	112	146	-146	0	0	8	0	0	9						
36+50.00	7	0	7	0	97	7	104	135	-135	0	0	7	0	0	8						
36+75.00	7	0	7	0	91	7	98	128	-128	0	0	7	0	0	7						
37+00.00	8	0	8	0	93	8	101	131	-131	0	0	8	0	0	8						
37+25.00	8	0	8	0	96	8	104	136	-136	0	0	8	0	0	8						
37+43.48	8	0	8	0	96	8	104	136	-136	0	0	8	0	0	8						
RampADike4																					
Totals:	4,014	3,045	970	3,045	5,227	474	5,700	7,413	-4,370	0	0	970	0	0	973						
<b>Excavation, Class 10, Roadway &amp; Borrow</b>																					
3,045 CY																					
[4]																					
<b>Embankment-In-Place</b>																					
4,370 / 1.3 = 3,362 CY																					
[9] / 1.3																					
<b>Topsoil, Strip, Salvage &amp; Spread</b>																					
970 CY																					
[12]																					

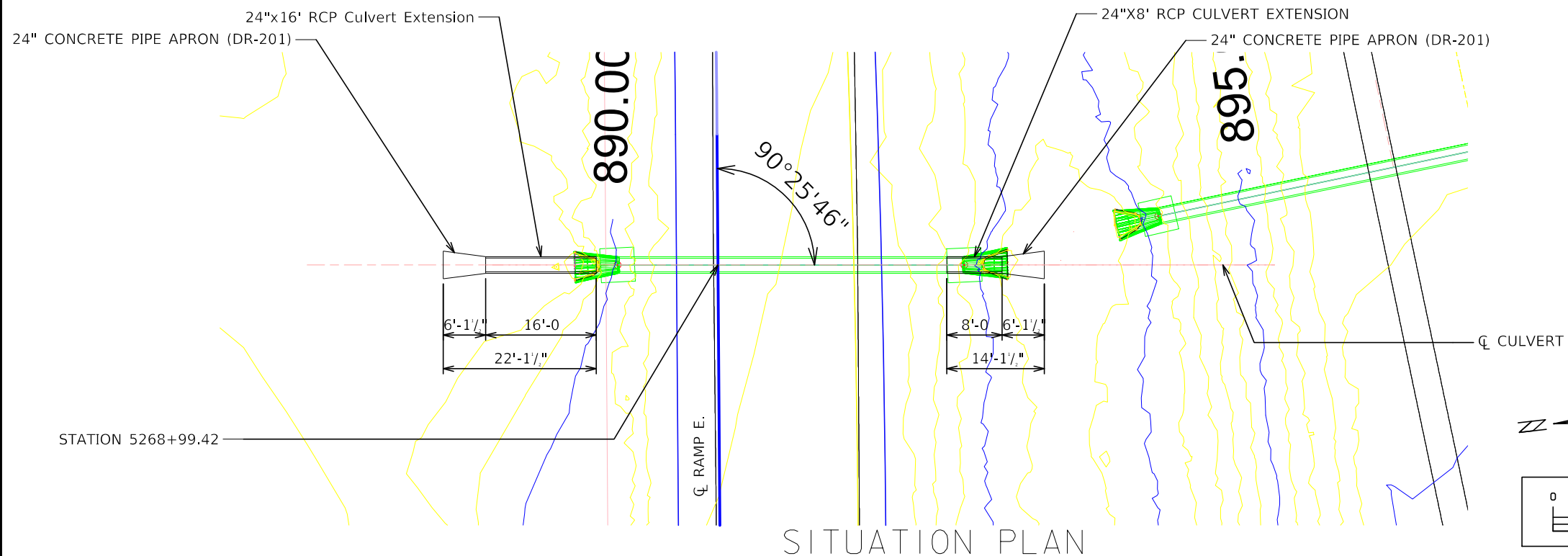
**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

Station	Cut				Fill					Checks (EW-102)		Topsoil				[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]							
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Existing Topsoil Stripping Undercut (+ Fill)	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:																						
WestEB30AUX	4,968	3,838	1,131	3,838	17,232		17,232	22,407	-18,570	0	0	1,131	0	0	1,135							
EastEB30AUX	1,582	1,189	394	1,189	1,301		1,301	1,693	-503	0	0	394	0	0	396							
WestWB30AUX	4,327	3,006	1,321	3,006	5,420	815	6,234	8,106	-5,102	0	0	1,321	0	0	1,323							
EastWB30AUX	1,060	1,018	42	1,018	300	34	333	433	588	0	0	42	0	0	42							
RampA	6,027	5,234	794	5,234	2,749	189	2,938	3,822	1,414	0	0	794	0	0	797							
RampB	5,896	4,607	1,290	4,607	3,249	643	3,891	5,061	-456	0	0	1,290	0	0	1,294							
RampD	4,745	3,930	815	3,930	10,492	381	10,872	14,138	-10,208	0	0	815	0	0	819							
RampE	2,886	2,284	602	2,284	1,733	366	2,099	2,731	-447	0	0	602	0	0	604							
RampBDike3	487	1	487	1	2,895	423	3,317	4,313	-4,313	0	0	487	0	0	487							
RampADike4	4,014	3,045	970	3,045	5,227	474	5,700	7,413	-4,370	0	0	970	0	0	973							
Project Totals:	35,992	28,152	7,846	28,152	50,598	3,325	53,917	70,117	-41,967	0	0	7,846	0	0	7,870							
<b>PROJECT TOTAL BID ITEM QUANTITIES</b>																						
<b>Excavation, Class 10, Roadway &amp; Borrow</b> 28,152 CY [4]																						
<b>Embankment-In-Place</b> 41,967 / 1.3 = 32,283 CY [9] / 1.3																						
<b>Topsoil, Strip, Salvage &amp; Spread</b> 7,846 CY [12]																						



INLET FLOWLINE ELEVATION = 887.56  
 OUTLET FLOWLINE ELEVATION = 886.67

### LONGITUDINAL SECTION ALONG $\text{CL}$ CULVERT



### LOCATION

ALONG WB US 30 EXIT RAMP TO DUFF AVE. (RAMP E)  
 T-83N, R-24W  
 SECTION 14  
 WASHINGTON TOWNSHIP  
 STORY COUNTY

DESIGN FOR 0°25'46" SKEW (L.A.)

## 24" REINFORCED CONCRETE PIPE CULVERT EXTENSION

### SITUATION PLAN

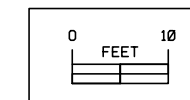
Turn-In Date: SEPTEMBER, 2022

STA. 5268+99.42

Story County

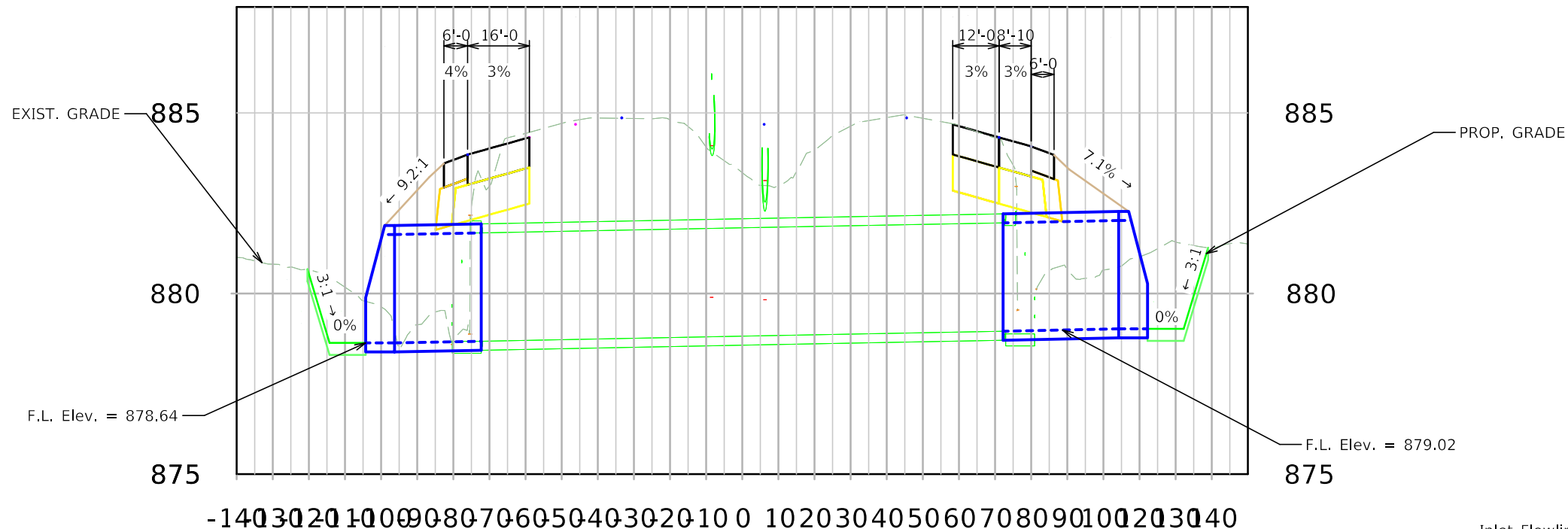
IOWA DEPARTMENT OF TRANSPORTATION

Design No. -- Design Sheet No. 1 of 9 FHWA/Asset



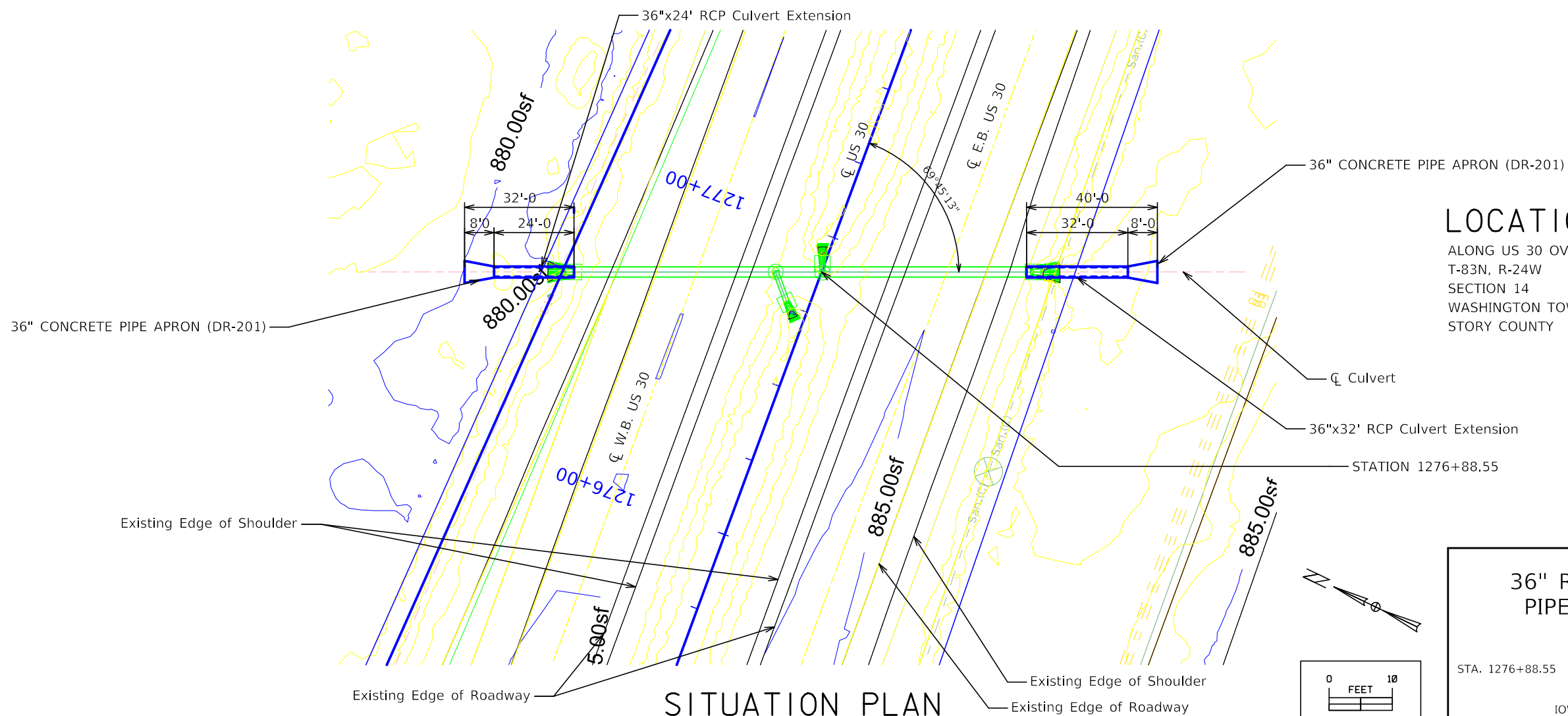
### SITUATION PLAN

Control Point:



LONGITUDINAL SECTION ALONG CULVERT

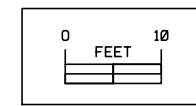
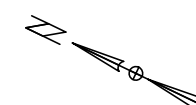
Inlet Flowline Elevation = 879.02  
Outlet Flowline Elevation = 878.64



LOCATION

ALONG US 30 OVER DRAINAGE DITCH  
T-83N, R-24W  
SECTION 14  
WASHINGTON TOWNSHIP  
STORY COUNTY

SITUATION PLAN



Design For 69°45'13" SKEW

**36" REINFORCED CONCRETE PIPE CULVERT EXTENSION**

SITUATION PLAN

Turn-In Date: SEPTEMBER, 2022

STA. 1276+88.55

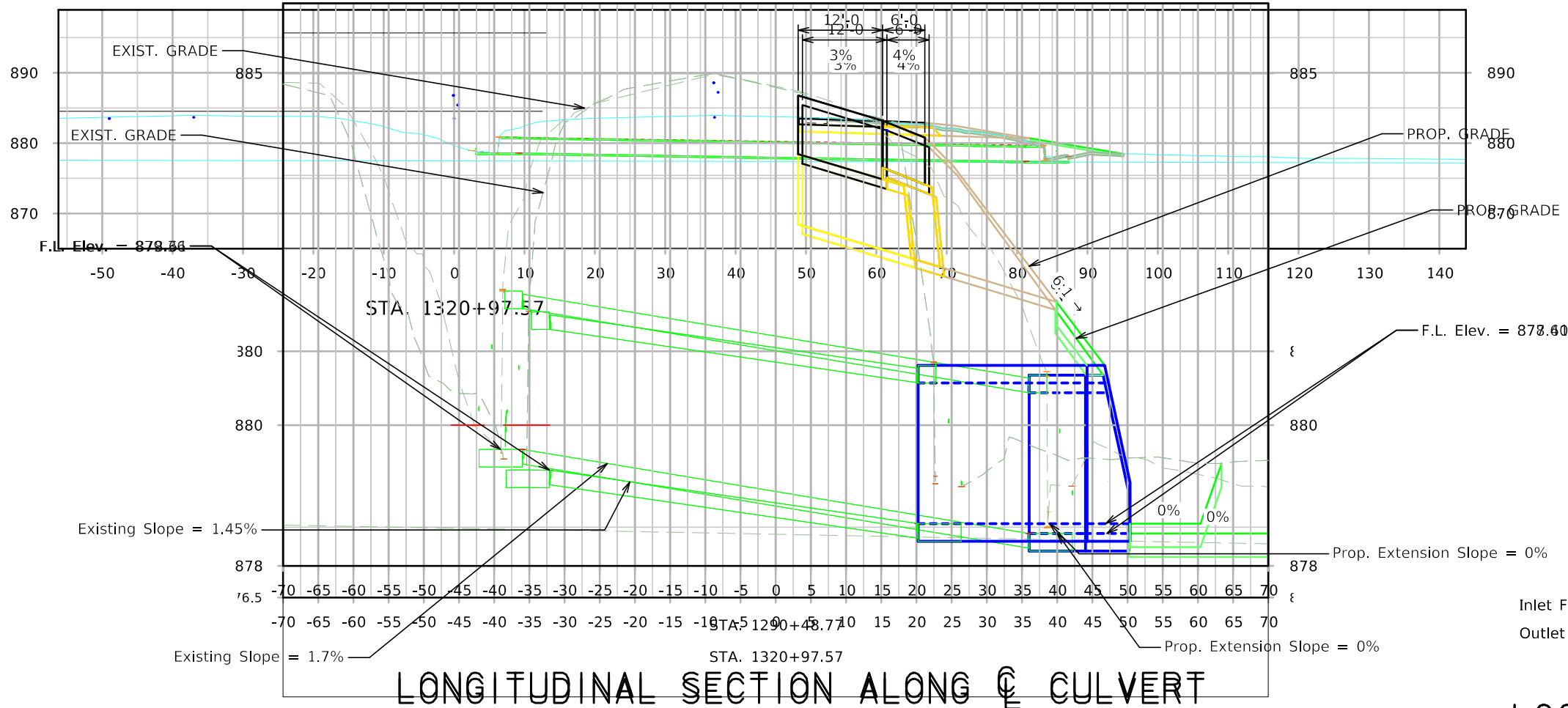
Story County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. -- Design Sheet No. 2 of 9 FHWA/Asset

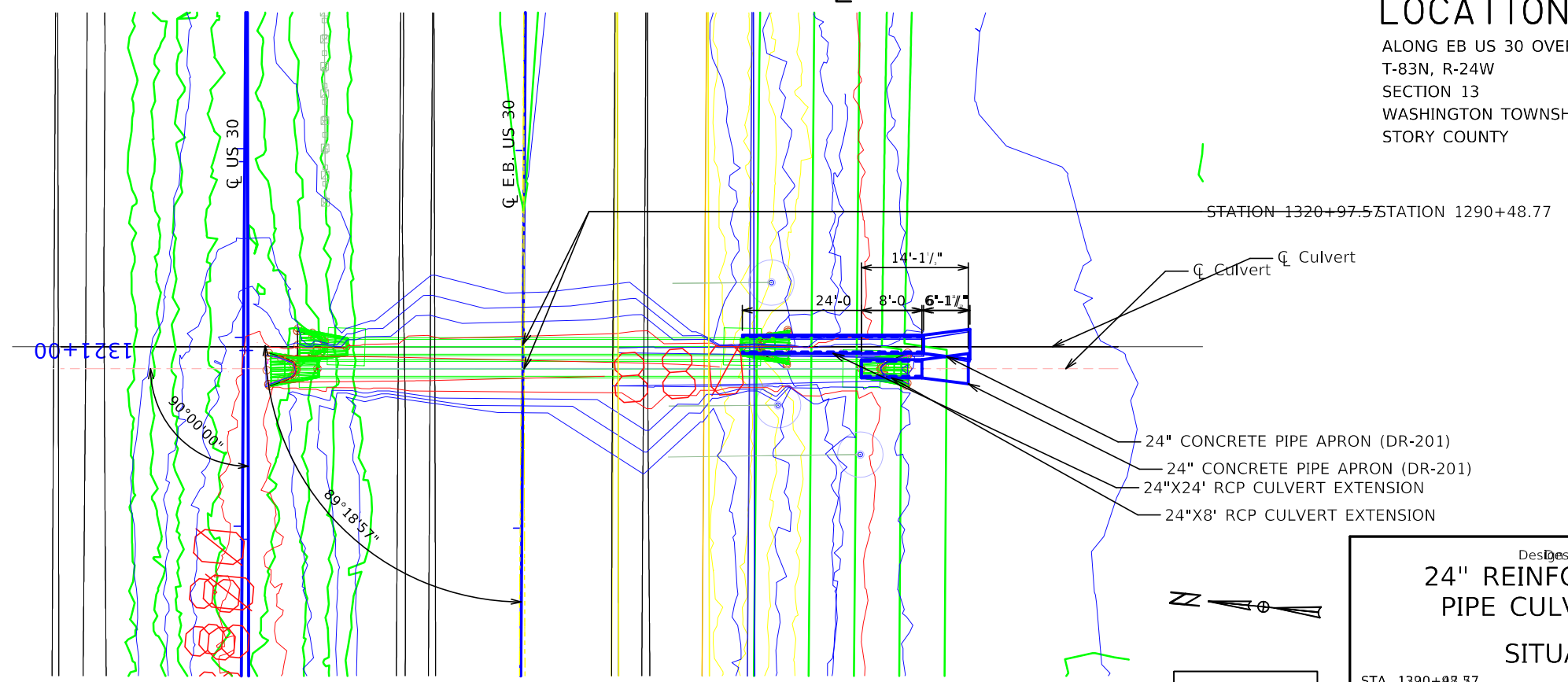


Control Point:



### LONGITUDINAL SECTION ALONG CULVERT

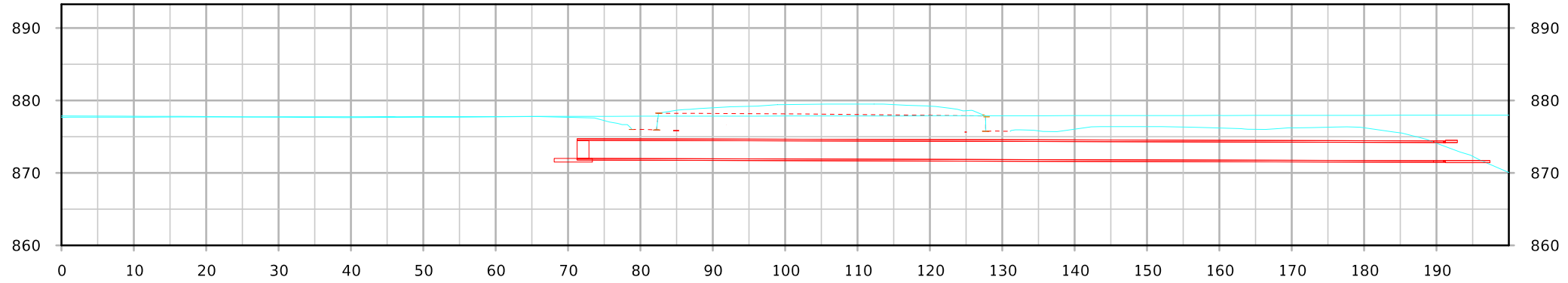
**LOCATION**  
 ALONG EB US 30 OVER DRAINAGE DITCH  
 T-83N, R-24W  
 SECTION 13  
 WASHINGTON TOWNSHIP  
 STORY COUNTY



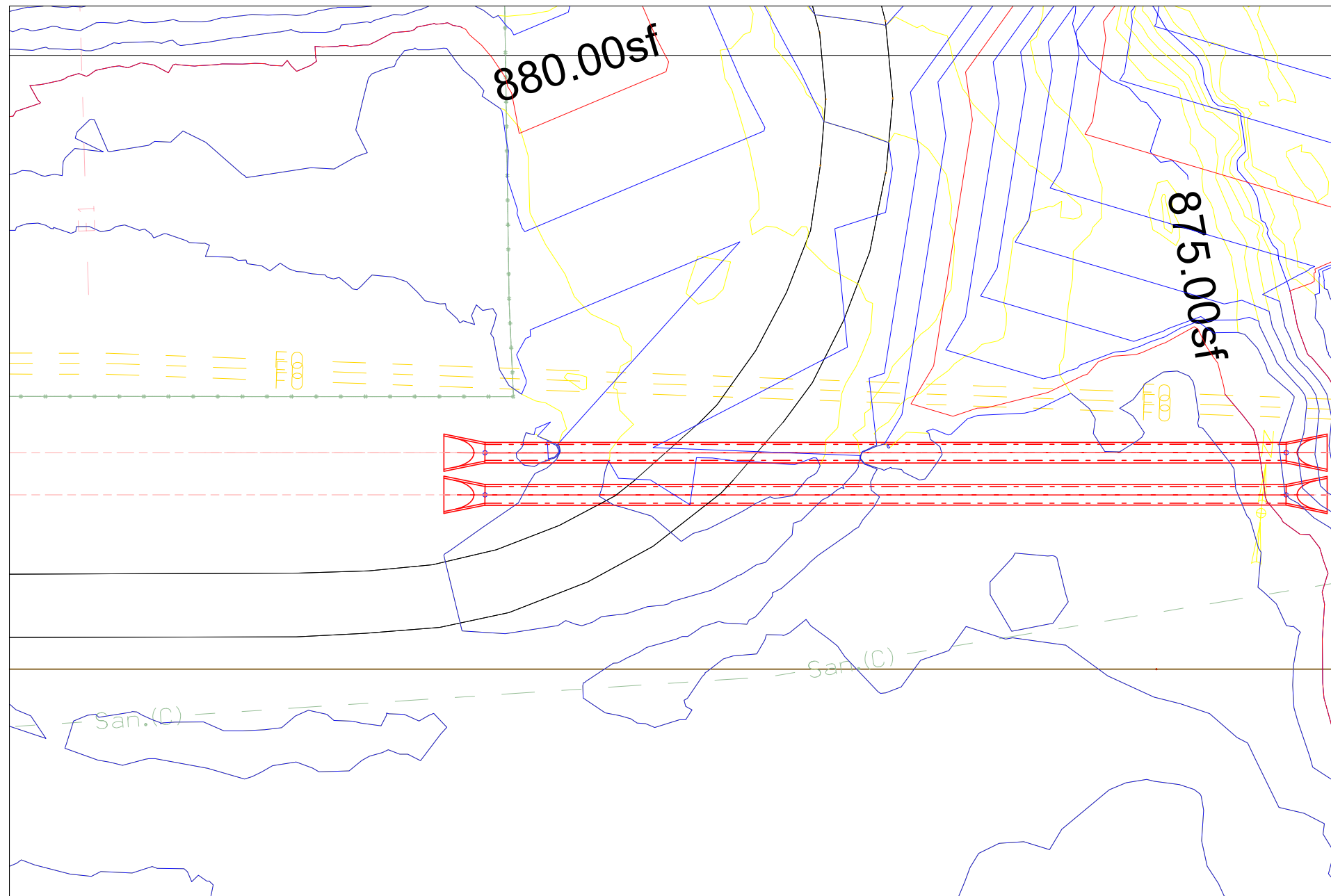
### SITUATION PLAN

Design: F80° 08' 51" Skew  
**24" REINFORCED CONCRETE PIPE CULVERT EXTENSION**  
 SITUATION PLAN  
 STA. 1320+97.57 Turn-In Date: SEPTEMBER, 2022  
 Story County  
 IOWA DEPARTMENT OF TRANSPORTATION  
 Design No. ... Decision Sheet No. 3 of 9 FHWA/Asst

Control Point:



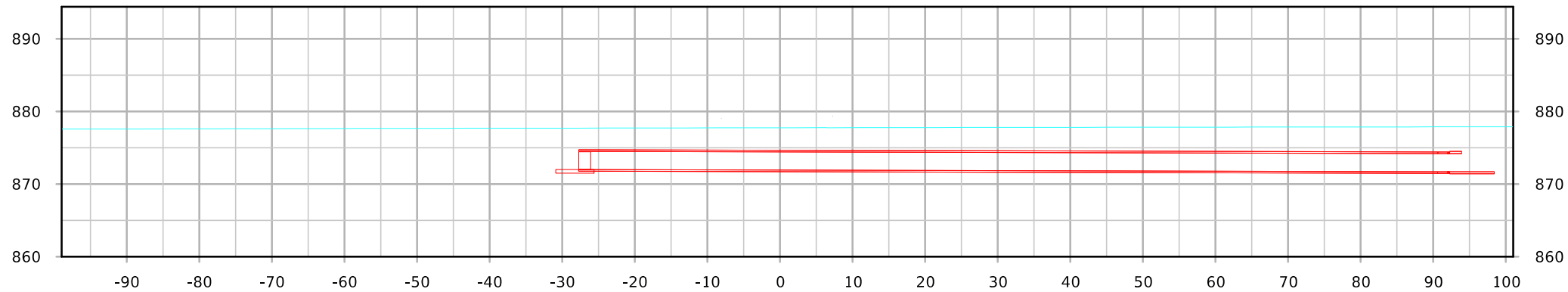
LONGITUDINAL SECTION ALONG  $\text{C}$  CULVERT



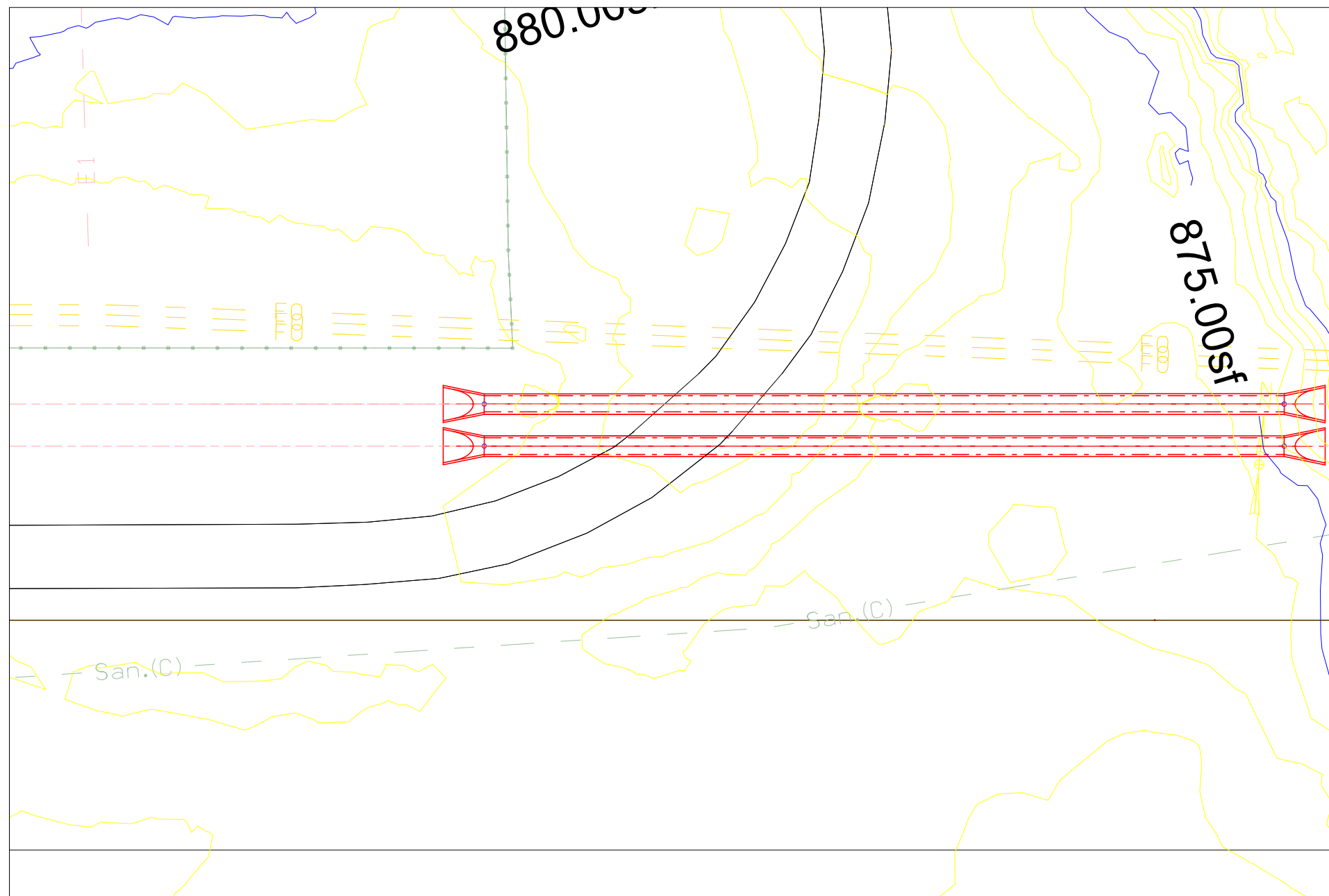
SITUATION PLAN

Design For  
**US30 STA. 1300+19.10 (Paved Trail)**  
**30" X 56' RCP**  
**SITUATION PLAN**  
 STA. 1300+19.10 (US30) Turn-In Date: SEPTEMBER 2022  
**Story County**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 Design No. \_\_\_\_\_ Design Sheet No. 4 of 9 FHWA/Asset

Control Point:



STA. 0+27.73  
LONGITUDINAL SECTION ALONG  $\phi$  CULVERT

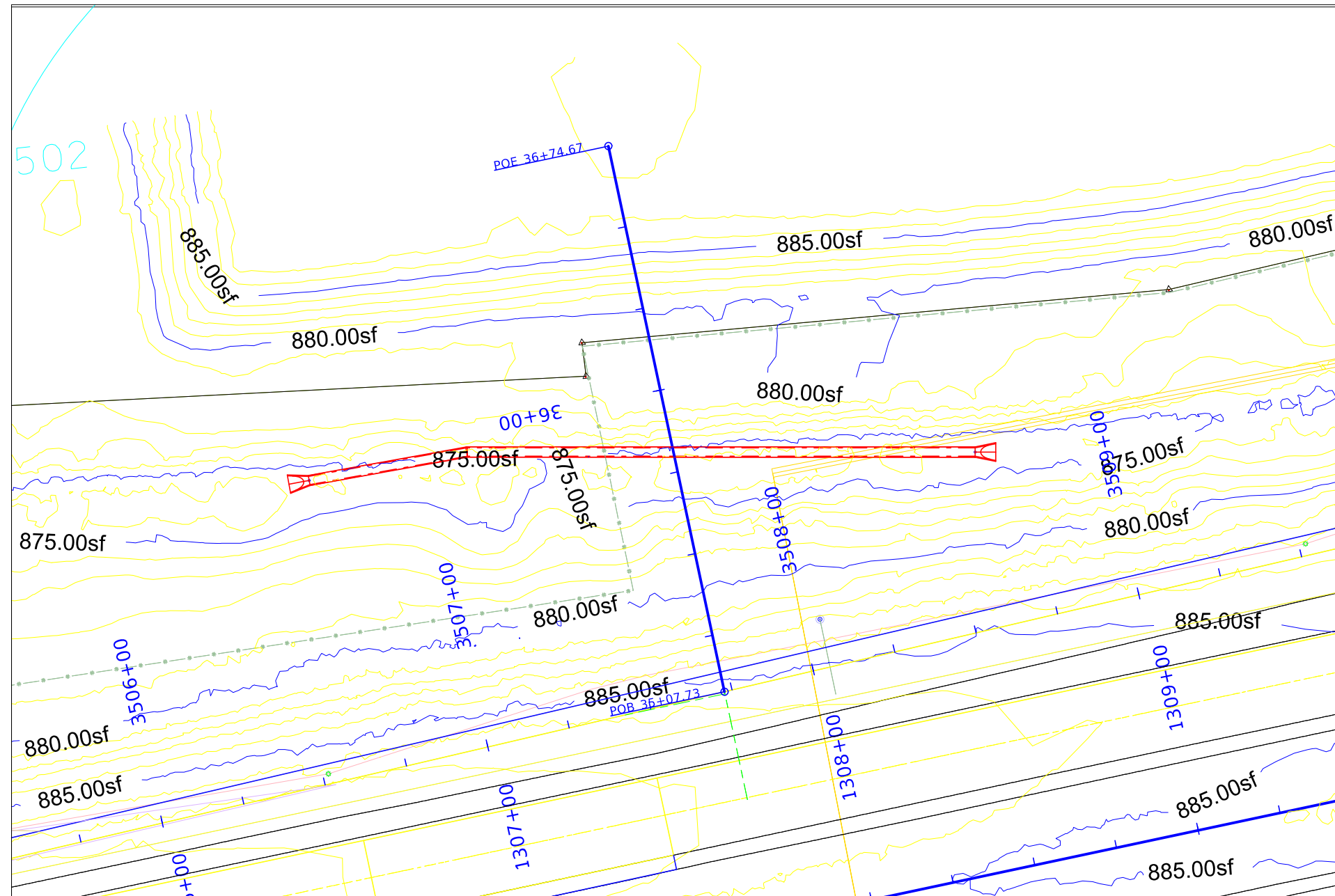


SITUATION PLAN

Design For  
**US 30 STA. 1300+19.10 (Paved Trail)**  
 30" X 56' RCP  
**SITUATION PLAN**  
 STA. 1300+19.10 (US30) Turn-In Date: SEPTEMBER 2022  
**Story County**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 Design No. Design Sheet No. 5 of 9 FHWA/Asset

Control Point:

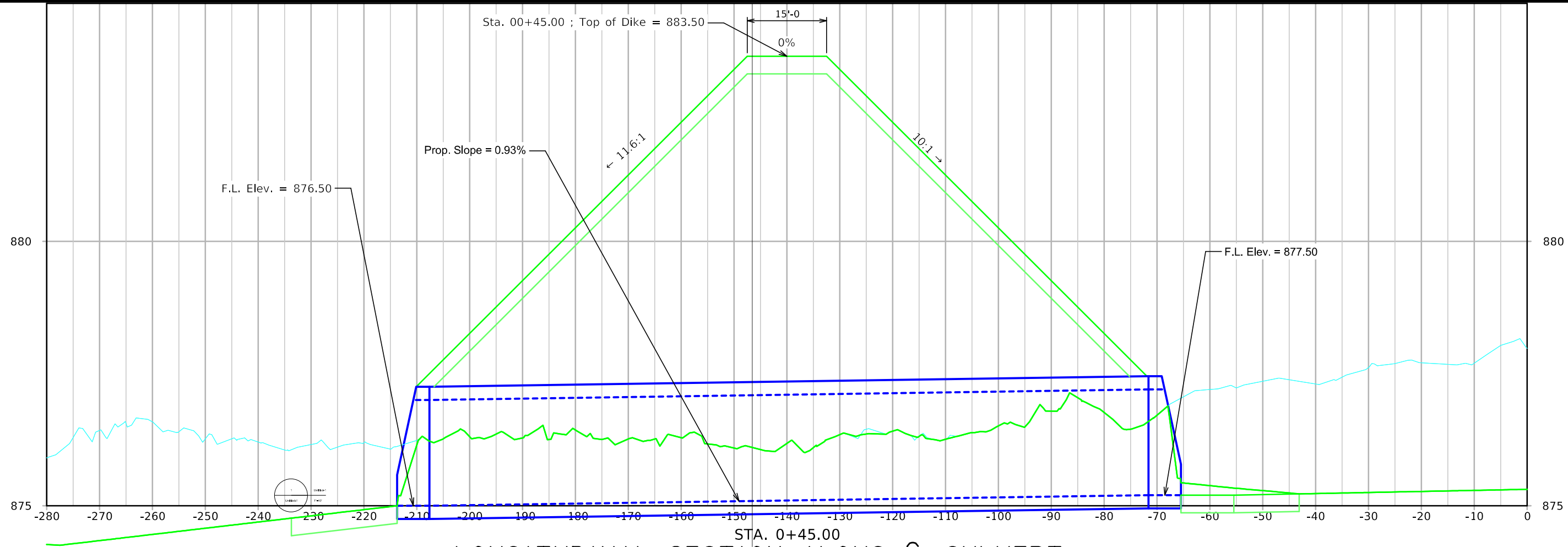
### LONGITUDINAL SECTION ALONG $\phi$ CULVERT



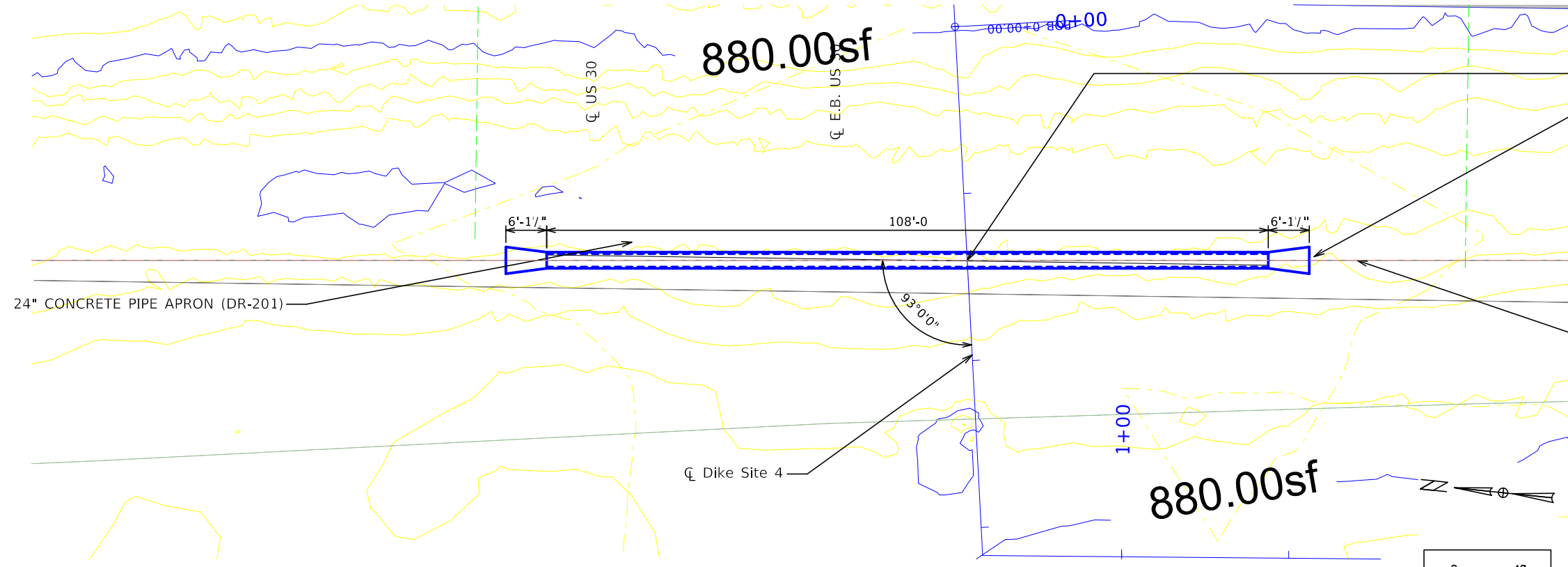
### SITUATION PLAN

Design For  
**DIKE SITE 3 STA. 01+06.75**  
 30" X 200' RCP  
**SITUATION PLAN**  
 STA. 01+06.75 (Dike 3) SEPTEMBER 2022  
 Story County  
 IOWA DEPARTMENT OF TRANSPORTATION  
 Design No. Design Sheet No. 6 of 9 FHWA/Asset

FILE NO.	ENGLISH	DESIGN TEAM WHKS & CO.	STORY COUNTY	PROJECT NUMBER BRFN-030-5(271)--38-85	SHEET NUMBER V.6
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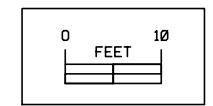


LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



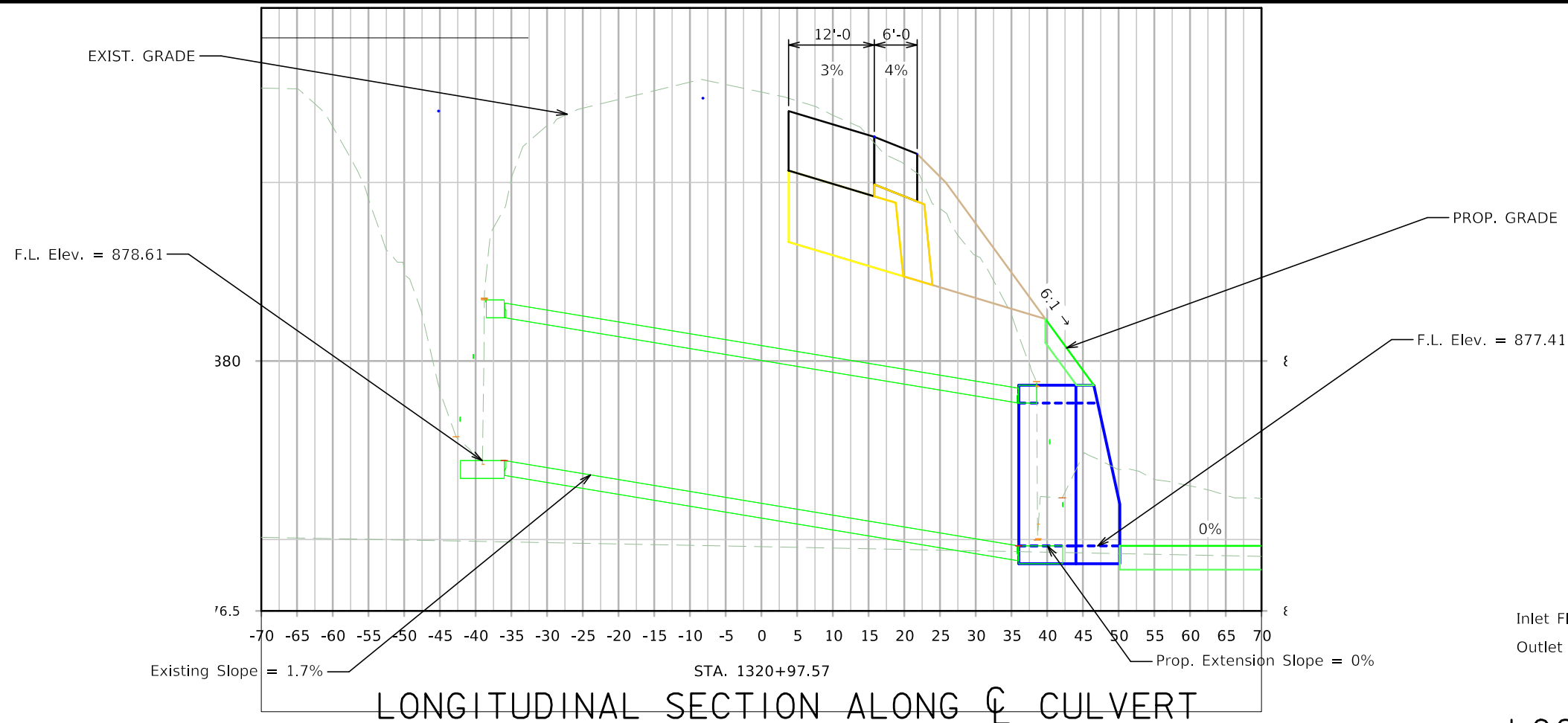
Inlet Flowline Elevation = 877.50  
 Outlet Flowline Elevation = 876.50  
 STATION 00+45.00  
 24" CONCRETE PIPE APRON (DR-201)  
**LOCATION**  
 ADJACENT TO EB US 30 ALONG DIKE SITE 4  
 (EB US 30 DAYTON AVE. EXIT RAMP, RAMP A)  
 T-83N, R-24W  
 SECTION 13  
 WASHINGTON TOWNSHIP  
 STORY COUNTY

SITUATION PLAN



Design For 93° Skew  
**24"x108' REINFORCED  
 CONCRETE PIPE CULVERT**  
 SITUATION PLAN  
 Turn-In Date: SEPTEMBER, 2022  
 STA. 00+45.00  
 Story County  
 IOWA DEPARTMENT OF TRANSPORTATION  
 Design No. \_\_\_\_\_ Design Sheet No. 6 of 8 EHW/A/Asst

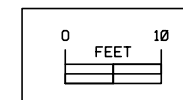
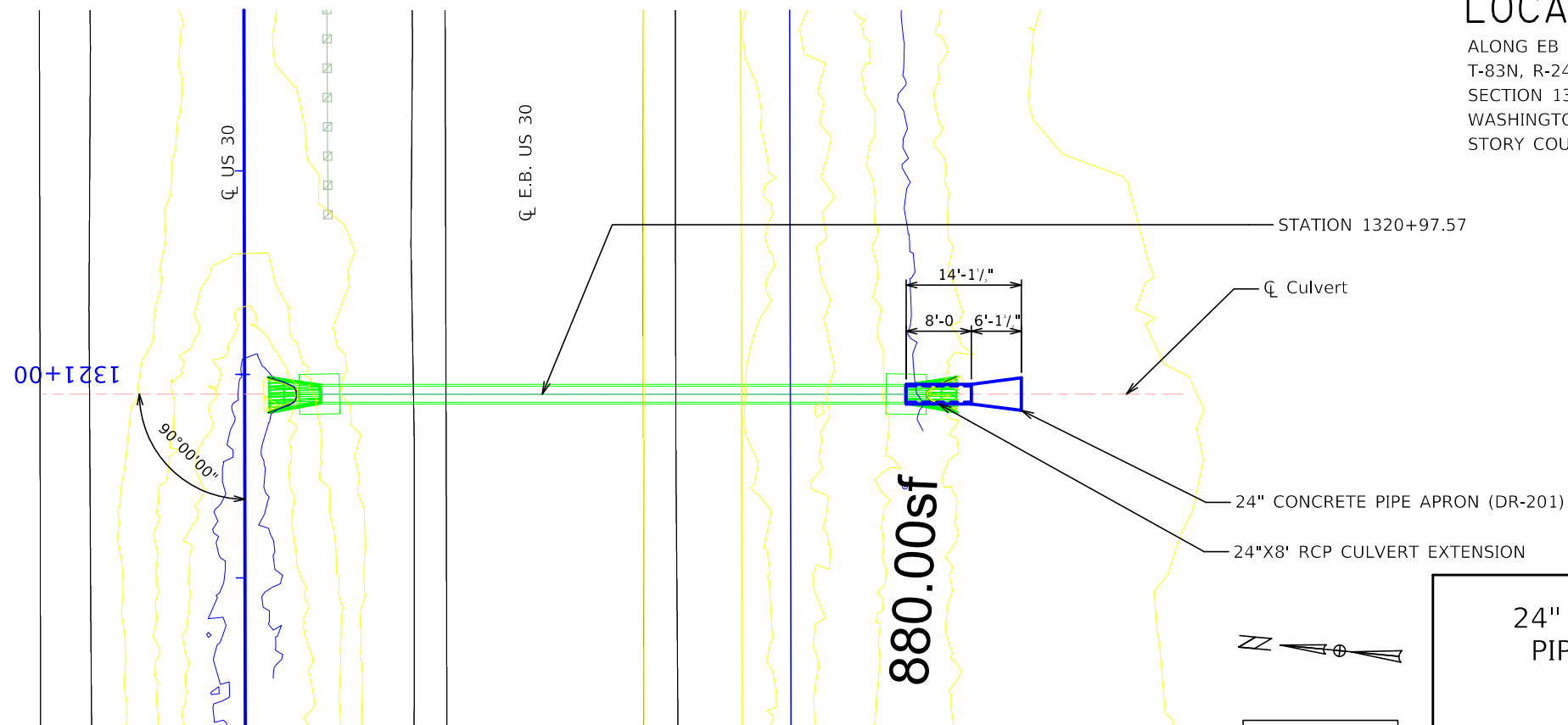
Control Point:



Inlet Flowline Elevation = 878.61  
 Outlet Flowline Elevation = 877.41

### LOCATION

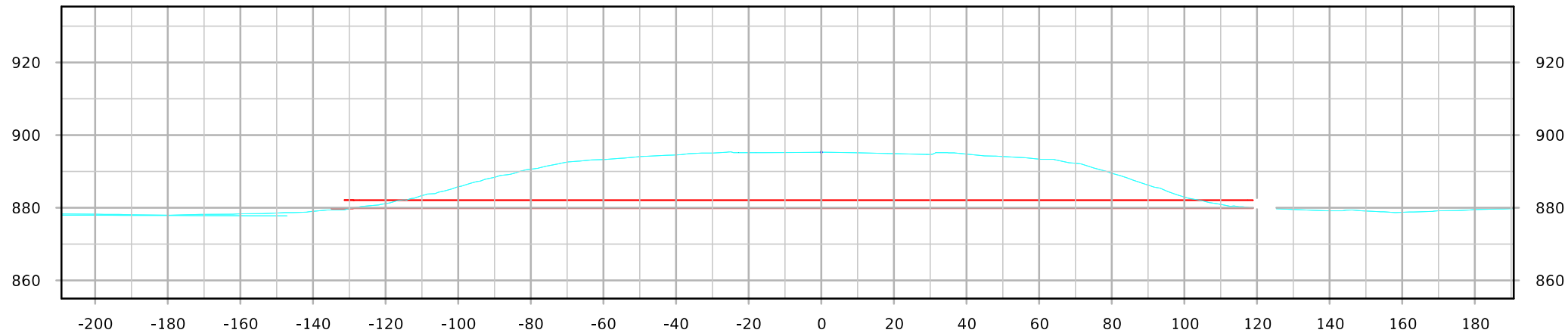
ALONG EB US 30 OVER DRAINAGE DITCH  
 T-83N, R-24W  
 SECTION 13  
 WASHINGTON TOWNSHIP  
 STORY COUNTY



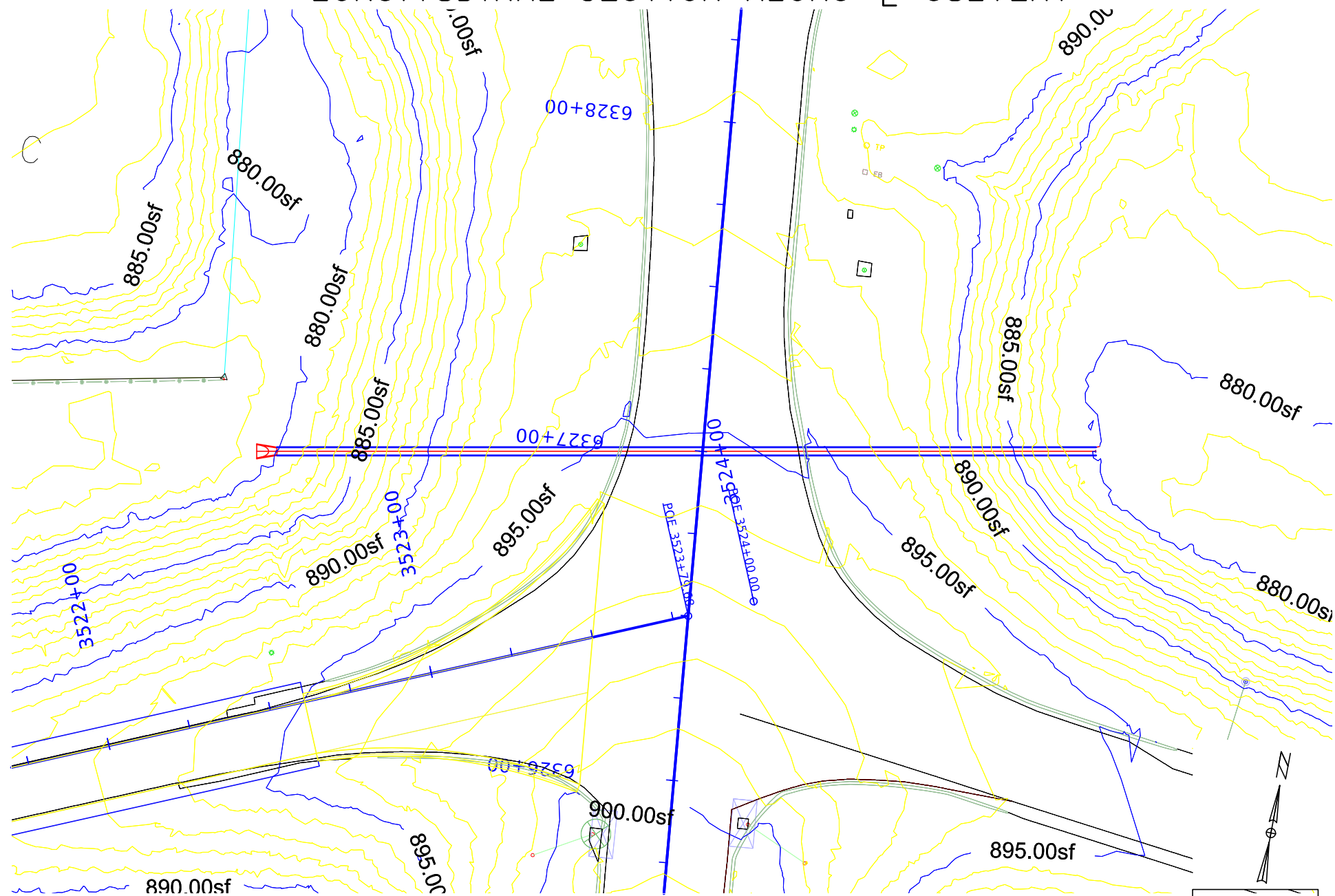
Design For 0° Skew  
**24" REINFORCED CONCRETE  
 PIPE CULVERT EXTENSION**  
 SITUATION PLAN  
 STA. 1320+97.57 Turn-In Date: SEPTEMBER, 2022  
 Story County  
 IOWA DEPARTMENT OF TRANSPORTATION  
 Design No. -- Design Sheet No. 7 of 9 FHWA/Asset

### SITUATION PLAN

Control Point:  
 BM No. 1: N.  
 7639791.758, E.  
 18533012.91, Elev.  
 891.216 Cut X on Conc.  
 Base of Sign



STA. 6327+00.03  
 LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



SITUATION PLAN

Design For Iowa DOT  
**24" REINFORCED CONCRETE  
 PIPE CULVERT - DAYTON AVE.**  
 SITUATION PLAN  
 STA. 6327+00.00 (DAYTON AVE.) Turn-In Date: SEPTEMBER 2022  
 Story County  
 IOWA DEPARTMENT OF TRANSPORTATION  
 Design No. Design Sheet No. 8 of 8 FHWA/Asset