LETTING DATE
June 17, 2025

PCC Pavement - Grade and New
HSIPX-063-5(078)--3L-86

TAMA COUNTY

281_01
9/28/22

SECTION 404 PERMIT AND CONDITIONS

Construct this project according to the requirements of U.S. Army Corps of Engineers Nationwide Permit No. 14

A copy of this permit is available from the Iowa DOT website (http://www.envpermits.iowadot.gov/). The U.S. Army Corps of Engineers reserves the right to visit the site without prior notice.

IOWA DOT

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM
TAMA COUNTY
PCC Pavement - Grade and New

US Highway 63
Business US 30 Intersection in Toledo

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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

IOWA ONE CALL
1-800-292-8989
www.iowaonecall.com
811 Know what's below. Call before you dig.

REVISIONS

	TOTAL
	140
PROJECT IDENTIFICATION NUMBER	
24-86-063-010	
PROJECT NUMBER	
HSIPX-063-5(078)--3L-86	
R.O.W. PROJECT NUMBER	

INDEX OF SHEETS

No.	DESCRIPTION
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B Sheets	**Typical Cross Sections and Details**
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C.11	Standard Road Plans
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E Sheets	**Side Road Plan and Profile Sheets**
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G.2	Control Point Vicinity Map
G.3	Horizontal and Vertical Project Control Coordinates
G.4 - 5	Alignment Coordinates
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J.3	Custom Sign Details
* J.4	Traffic Control & Staging Legend & Symbol Info. Sheet
* J.5 - 10	Staging and Traffic Control Sheets
* J.11 - 12	Detour Sheet
L Sheets	**Geometric, Staking and Jointing Sheets**
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* P.1	Lighting Legend & Symbol Information Sheet
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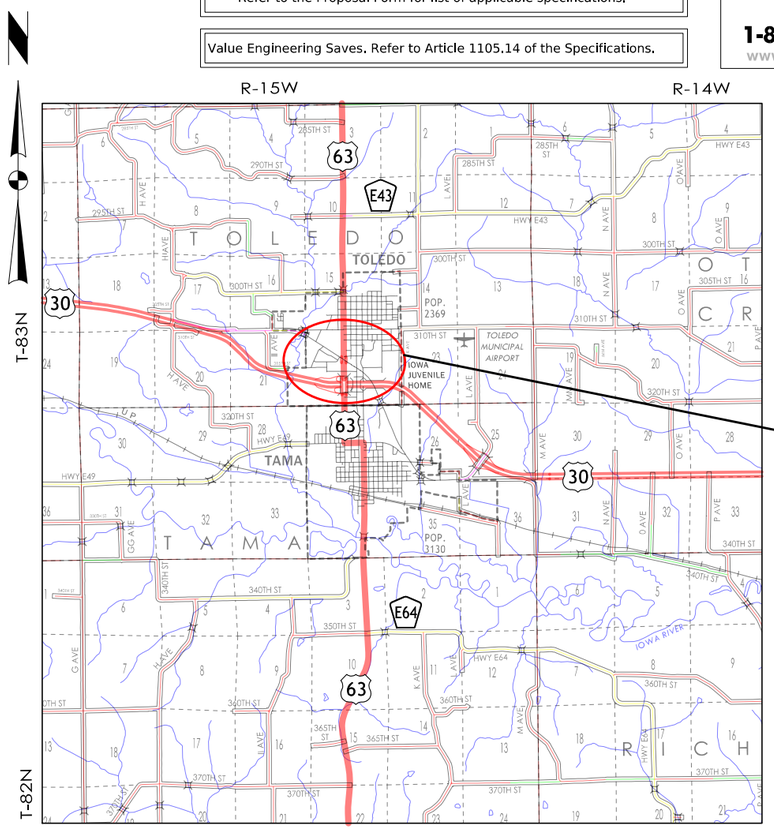

PROJECT LOCATION

LOCATION MAP SCALE
0 1 2 3
Miles

INDEX OF SHEETS

No.	DESCRIPTION
R Sheets	**Erosion Control Sheets**
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* RR.1	Erosion Control Legend and Symbol Information Sheet
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X Sheets	**Mainline Cross Sections**
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DESIGN DATA URBAN

2026	AADT	6900	V.P.D.
2046	AADT	7400	V.P.D.
2046	DHV	770	V.P.H.
TRUCKS		9	%
Total Design ESALs		6,400,000	

INDEX OF SEALS

SHEET NO.	NAME	TYPE	BID QUANTITY SHEETS
A.1	James Watters	Primary Signature Block	X
P.1	Laura Gilbert	Lighting Signature Block	X

ROADWAY DESIGN

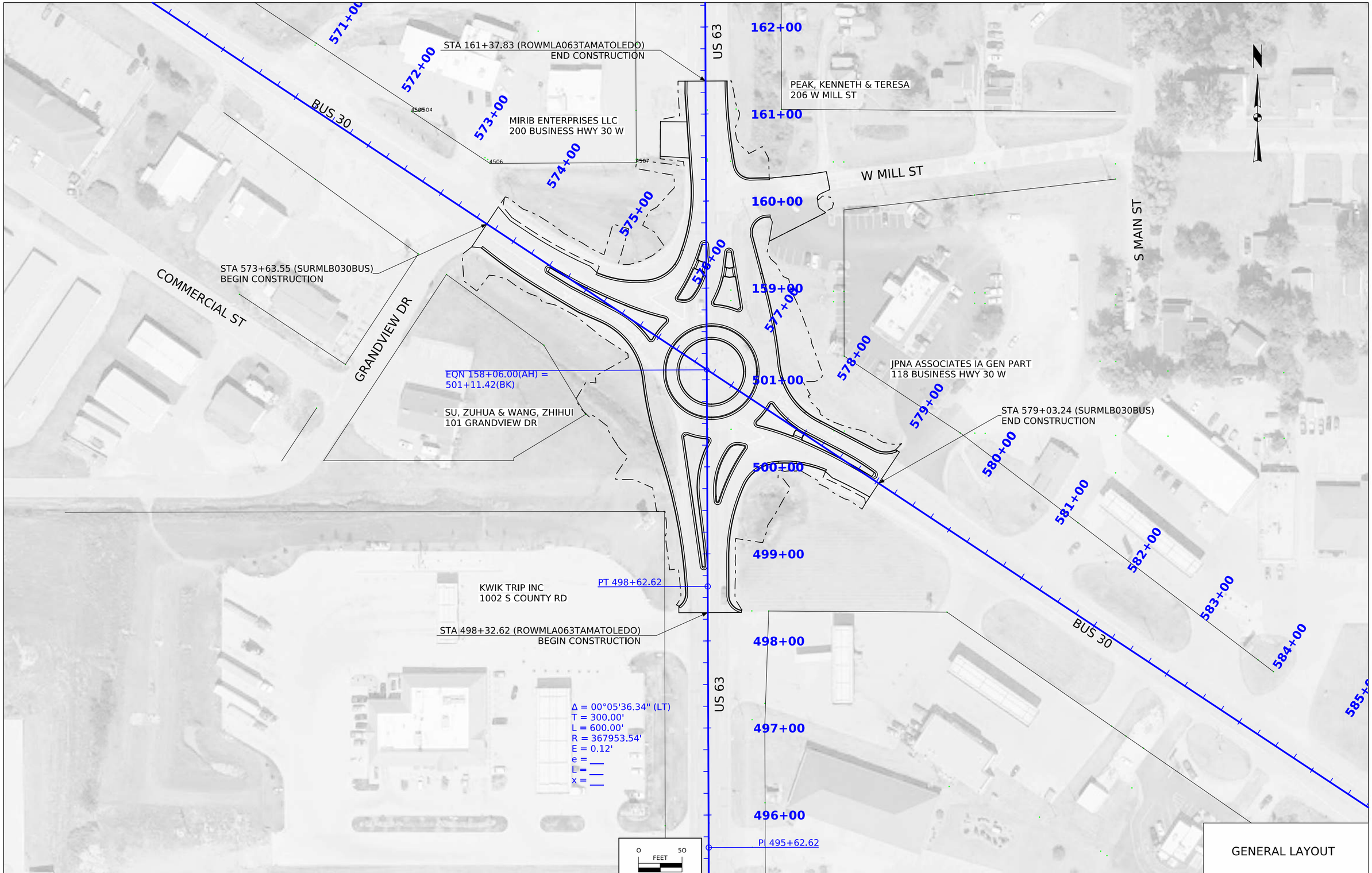
LICENSED PROFESSIONAL ENGINEER
JAMES A. WATTERS
P24847
IOWA

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

Signature — Date: 3-25-2025
James Watters
Printed or Typed Name

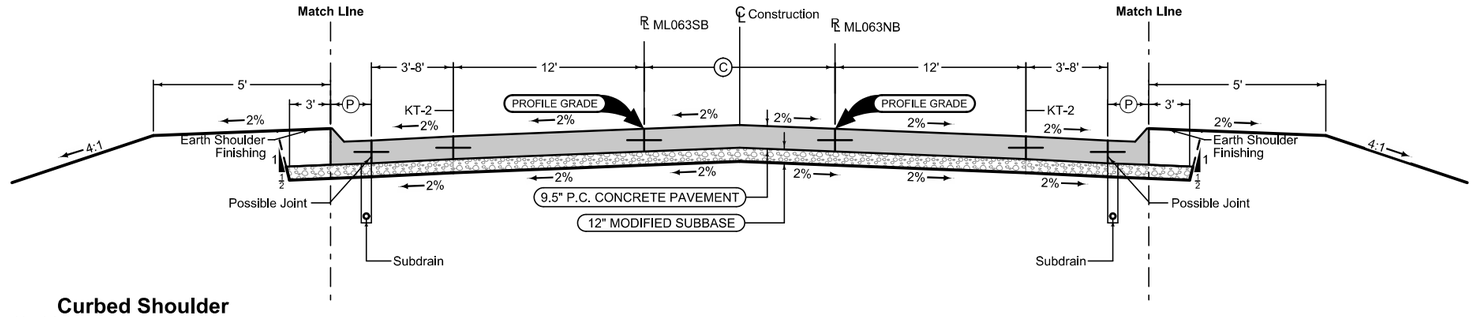
My license renewal date is December 31, 2025

Pages or sheets covered by this seal: A.1-2, B.1-5, C.1-18, CS.1-3, D.1-3, E.1-3, G.1-5, J.1-11, L.1-15, M.1-6, MSA.1, MWM.1, N.1, RC.1-2, RR.1-2, U.1-2, VW.1, W.1-23, and X.1-14



FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER A.2

11:29:13 AM 3/26/2025 mbrinker pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\8606301024\Design\CADD_Files\Sheet_Files\SHT_86063078Z09_A02.dgn



Curbed Shoulder

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

Single pour: L-2
Staged : BT-2
Transverse: CD at 17' Spacing

			2_Curb_ 04-21-20
STATION TO STATION		(P) Feet	Curb Type See PV-102
4953+39.51	4953+82.37	2.5	6" STD
4957+65.59	4959+58.42	2.5	6" STD

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

		2P_TWLTL_ 04-21-20
STATION TO STATION		(C) Feet
4953+31.77	4953+82.37	9'-13'
4957+65.59	4959+58.42	9'-13'

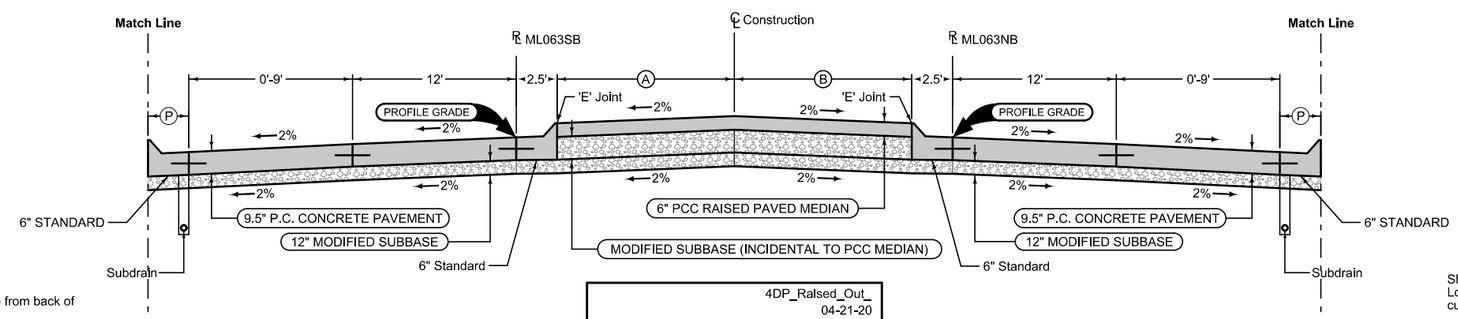
Curbed Shoulder

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

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

			2_Curb_ 04-21-20
STATION TO STATION		(P) Feet	Curb Type See PV-102
4953+31.77	4953+82.37	2.5	6" STD
4957+65.59	4959+58.42	2.5	6" STD

TYPICAL SECTION 1
MAINLINE



Curbed Shoulder

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

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

			2_Curb_ 04-21-20
STATION TO STATION		(P) Feet	Curb Type See PV-102
4953+82.37	4955+39.99	3	6" STD

		4DP_Raised_Out_ 04-21-20	
BEGIN STATION	END STATION	(A) Feet	(B) Feet
4953+82.37	4955+42.45	2.5'-15'	2.5'-15'
4956+90.64	4957+75.63	2.5'-15'	2.5'-15'

TYPICAL SECTION 2
MAINLINE WITH MEDIAN ISLAND

Curbed Shoulder

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

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

			2_Curb_ 04-21-20
STATION TO STATION		(P) Feet	Curb Type See PV-102
4956+92.38	4957+65.59	3	6" STD

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

See Tab 112-9 for shoulder quantities.

US 63 NB/SB

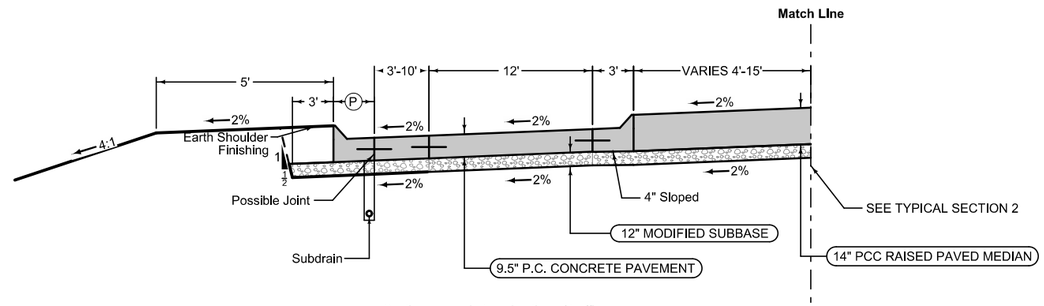
FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER B.1

Curbed Shoulder

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

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

			2_Curb_ 04-21-20
STATION TO STATION		(P) Feet	Curb Type See PV-102
4956+90.64	4957+75.63	2.5	6" STD

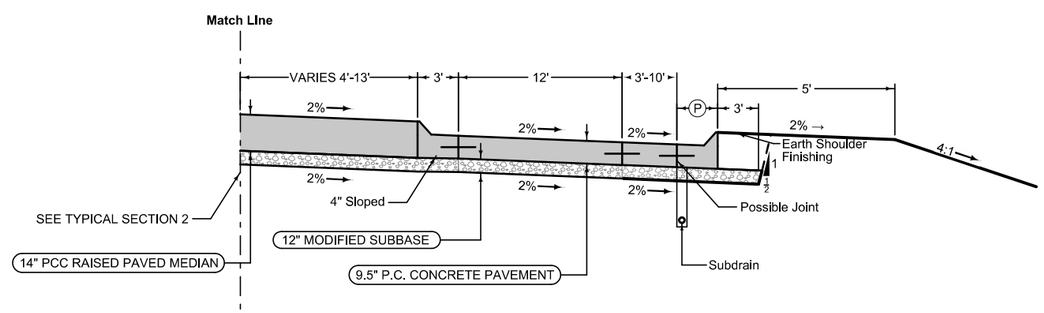


Section shown in the direction of traffic.

Ramp Jointing:
Transverse joints: CD at 17' spacing
Longitudinal joints: BT-2

	1RP_ 04-20-21
BEGIN STATION	END STATION
4956+90.64	4957+75.63

TYPICAL SECTION 3
SPLITTER ISLAND



Section shown in the direction of traffic.

Ramp Jointing:
Transverse joints: CD at 17' spacing
Longitudinal joints: BT-2

	1RP_ 04-20-21
BEGIN STATION	END STATION
4954+56.06	4955+42.45

TYPICAL SECTION 4
SPLITTER ISLAND

Curbed Shoulder

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

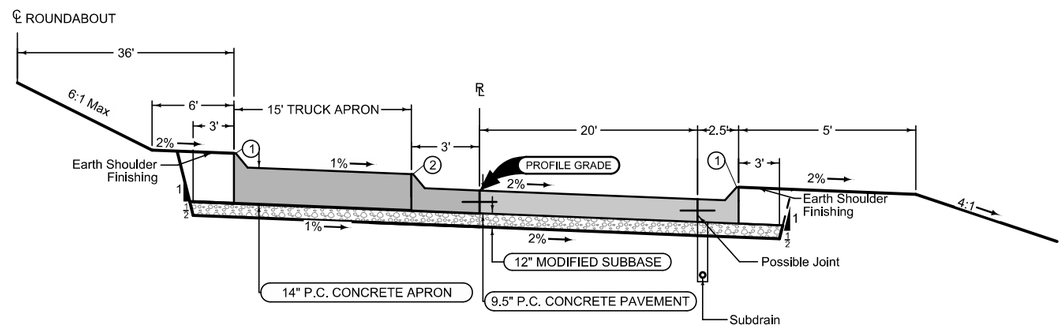
Single pour: L-2
Staged : BT-2
Transverse: CD at 17' spacing

			2_Curb_ 04-21-20
STATION TO STATION		(P) Feet	Curb Type See PV-102
4954+56.06	4955+42.45	2.5	6" STD

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

See Tab 112-9 for shoulder quantities.

US 63 NB/SB
SPLITTER ISLANDS



1 6" STANDARD CURB

2 4" SLOPED CURB

NOTE: SEE 'L' SHEETS FOR JOINTING LAYOUT

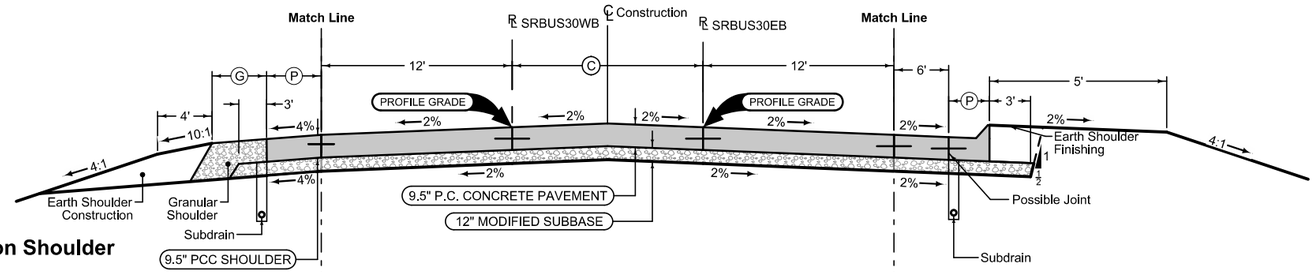
LOCATION	
BEGIN STATION	END STATION
10+00.00	13+45.58

TYPICAL SECTION 5
ROUNDABOUT CENTER ISLAND

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

See Tab 112-9 for shoulder quantities.

RAB



Full Depth PCC Combination Shoulder

Shoulder Jointing:
Longitudinal joint: BT-2
Transverse joints: CD at 15' spacing

STATION TO STATION		(P) Feet	(G) Feet
			2_C_FullPCC_ 04-20-21
501+55.25	502+38.45	6'	4'

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

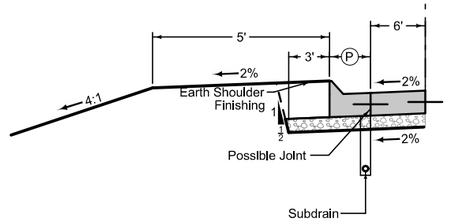
STATION TO STATION		(C) Feet
		2P_TWLTL_ 04-21-20
501+55.25	502+38.45	6'-10'
506+94.54	507+00.81	12'

Curbed Shoulder

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

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

STATION TO STATION		(P) Feet	Curb Type See PV-102
			2_Curb_ 04-21-20
501+66.60	502+38.45	2.5	6" STD

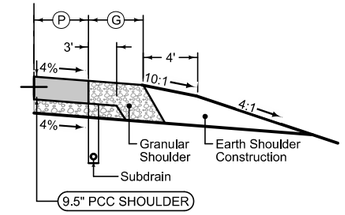


Curbed Shoulder

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

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

STATION TO STATION		(P) Feet	Curb Type See PV-102
			2_Curb_ 04-21-20
506+94.54	507+00.81	2.5	6" STD



Full Depth PCC Combination Shoulder

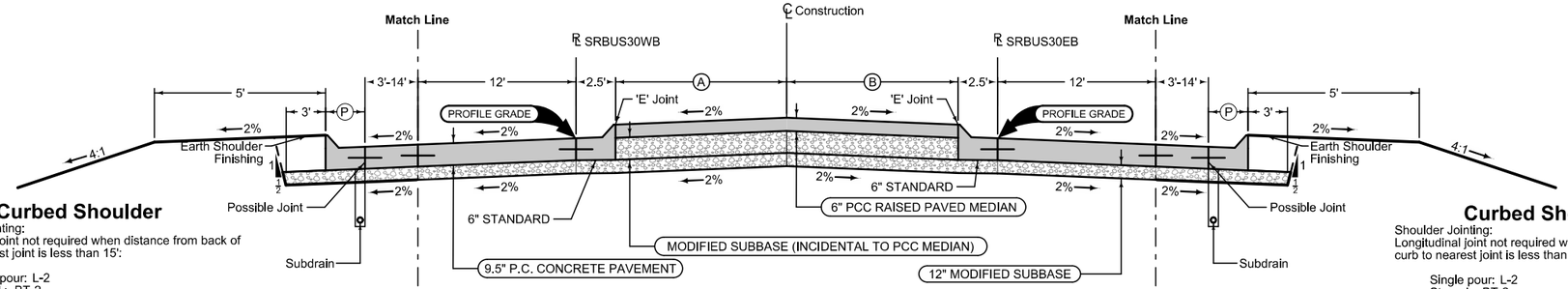
Shoulder Jointing:
Longitudinal joint: BT-2
Transverse joints: CD at 15' spacing

STATION TO STATION		(P) Feet	(G) Feet
			2_C_FullPCC_ 04-20-21
501+55.25	501+66.60	6'	3'
506+94.54	507+00.81	6'-10'	4'

TYPICAL SECTION 6
MAINLINE

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

BUS 30 EB/WB



Curbed Shoulder

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

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

2_Curb_ 04-21-20			
STATION TO STATION		P Feet	Curb Type See PV-102
502+93.44	503+90.83	2.5	6" STD
505+42.60	506+94.54	2.5	6" STD

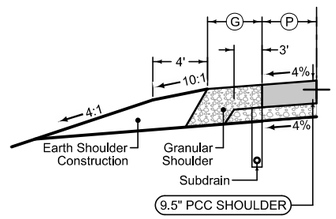
4DP_Raised_Out_ 04-21-20			
BEGIN STATION	END STATION	A Feet	B Feet
502+38.45	503+90.83	2.5'-14'	2.5'-14'
505+42.60	506+94.54	2.5'-14'	2.5'-14'

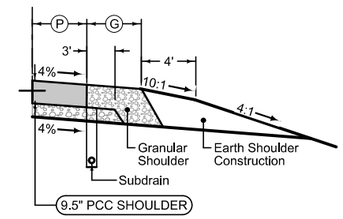
Curbed Shoulder

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

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

2_Curb_ 04-21-20			
STATION TO STATION		P Feet	Curb Type See PV-102
502+38.45	503+90.83	2.5	6" STD
505+42+60	506+40.28	2.5	6" STD





Full Depth PCC Combination Shoulder

Shoulder Jointing:
Longitudinal joint: BT-2
Transverse joints: CD at 15' spacing

2_C_FullPCC_ 04-20-21			
STATION TO STATION		P Feet	G Feet
502+38.45	502+93.44	8'	4'

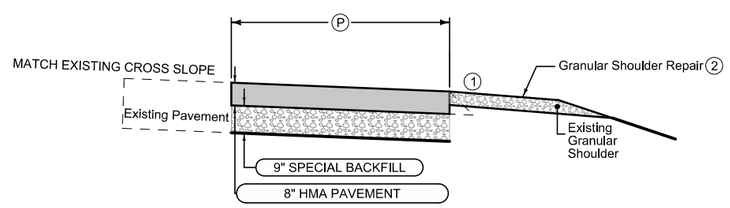
Full Depth PCC Combination Shoulder

Shoulder Jointing:
Longitudinal joint: BT-2
Transverse joints: CD at 15' spacing

2_C_FullPCC_ 04-20-21			
STATION TO STATION		P Feet	G Feet
506+40.28	506+94.54	8'	4'

TYPICAL SECTION 7
MAINLINE WITH MEDIAN ISLAND

ROAD IDENTIFICATION	BEGIN STATION	END STATION	P Feet
USH 63 SB	4953+42.43	4954+29.99	0'-10'
USH 63 SB	4958+00.87	4959+58.05	0'-6'
USH 63 SB	4959+96.47	4960+20.71	0'-3'
BUS 30 EB	501+64.02	504+06.89	0'-8'
BUS 30 EB	499+00.42	500+60.25	0'-9'



1 POSSIBLE HMA 1:1 SLOPE

QUANTITY CALCULATIONS BASED ON VERTICAL PAVEMENT EDGES

2 QUANTITY CALCULATIONS BASED ON 4 IN THICKNESS

EXISTING SUBDRAINS AND SUBDRAIN OUTLETS SHALL REMAIN FUNCTIONAL

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

See Tab 112-9 for shoulder quantities.

TYPICAL SECTION 8
TEMPORARY PAVEMENT

BUS 30 EB/WB

ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Roadway Items : Roadway Items
City Items : City Items

Item no.	Item Code	Item	Unit	Quantities Estimated			Estimate Reference Notes
				Roadway Items	City Items	Total	
1	2102-2625001	EMBANKMENT-IN-PLACE, CONTRACTOR FURNISHED	CY	1,656		1,656	Refer to T Sheets.
2	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	CY	2,772		2,772	
3	2102-2712015	EXCAVATION, CLASS 12, BOULDERS OR ROCK FRAGMENTS	CY	5		5	Refer to Tab. 103-07 in CS Sheets. Dispose of excess material according to Article 1106.07 of the current Standard Specifications.
4	2105-8425005	TOPSOIL, FURNISH AND SPREAD	CY	330.5		330.5	To be used in addition to "Topsoil, Strip, Salvage and Spread" to maintain 8 inch minimum topsoil across grading areas.
5	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD	CY	661		661	Strip and salvage 6 inches of topsoil within the limits of grading limits. After constructing earthwork up to the subgrade elevations, spread the stockpiled topsoil to an 8-inch depth across the grading area. Refer to T Sheets. Topsoil determined to be unsuitable, including live vegetation, shall be removed from the site and properly disposed of, and is incidental to this item. Quantity includes 661 CY of stripping 6 inches and 606 CY of placement which includes a 40% shrink factor. Excess topsoil to be placed on the foreslopes and backslopes within the project limits, as approved by the Engineer. There will be no additional compensation for overhaul of excess materials.
6	2107-0875000	COMPACTION WITH MOISTURE AND DENSITY CONTROL	CY	3,787		3,787	Cubic yards shown on the contract documents as determined by the template fill volume. Shrinkage will not be included in the moisture and density control quantity.
7	2115-0100000	MODIFIED SUBBASE	CY	2,699.4		2,699.4	Refer to typicals on B Sheets and Tab. 100-05, 100-24, and 112-09. Does not include subbase under median pavement.
8	2121-7425020	GRANULAR SHOULDERS, TYPE B	TON	80.84		80.84	Refer to typicals on B Sheets and Tab. 112-09.
9	2122-5190095	PAVED SHOULDER, P.C. CONCRETE, 9.5 IN.	SY	134.1		134.1	Refer to typicals on B Sheets and Tab. 112-09.
10	2123-7450000	SHOULDER CONSTRUCTION, EARTH	STA	1.98		1.98	Refer to typicals on B Sheets and Tab. 112-09.
11	2123-7450020	SHOULDER FINISHING, EARTH	STA	15.91		15.91	Includes 15.91 Stations of nominal 3 FT. wide shoulder.
12	2301-1033095	STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE PAVEMENT, CLASS C, CLASS 3 DURABILITY, 9.5 IN.	SY	6,561.8		6,561.8	Refer to Tab. 100-24 and B Sheets for locations. Integral curb is included in this item. Certified Plant Inspection and the development of a maturity curve is required and incidental to this item. Refer to U Sheets for locations of different curb types.
13	2301-1033140	STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE PAVEMENT, CLASS C, CLASS 3 DURABILITY, 14 IN.	SY	777.5		777.5	Refer to Tab. 112-05 for locations. Certified plant inspection is required and is incidental to this item. Bid item is for truck apron. See B Sheets. See project Special Provisions for colored Portland Cement Concrete for details.
14	2301-4875006	MEDIAN, P.C. CONCRETE, 6 IN.	SY	561.4		561.4	Refer to Tab. 112-05 for locations. Certified Plant Inspection is required and is incidental to this item.
15	2301-6911722	PORTLAND CEMENT CONCRETE PAVEMENT SAMPLES	LS	1		1	Per specifications.
16	2301-7000110	PAYMENT ADJUSTMENT INCENTIVE/DISINCENTIVE FOR PCC PAVEMENT THICKNESS (BY SCHEDULE)	EACH	9,243.82		9,243.82	

Item no.	Item Code	Item	Unit	Quantities			Estimate Reference Notes
				Estimated			
				Roadway Items	City Items	Total	
17	2304-0101000	TEMPORARY PAVEMENT	SY	2,569.7		2,569.7	Includes temporary HMA pavement at a depth of 8 inches and 6 inches of special backfill for pavement required for staged construction. Method of Measurement: The area of the completed work will be measured in square yards. Measurement will be based on the actual area of the pavement placed as shown in the plans. Refer to Tab. 100-25 and J Sheets for details and locations. Basis of Payment: Payment will be made at the contract unit price per square yard. This payment will be full compensation for furnishing all materials, labor, equipment, and incidentals necessary to complete the work as specified, including but not limited to surface preparation, placement, and finishing of the pavement.
18	2317-7000110	PAYMENT ADJUSTMENT INCENTIVE/DISINCENTIVE FOR PCC PAVEMENT SMOOTHNESS (BY SCHEDULE)	EACH	747.38		747.38	
19	2401-6745355	REMOVAL OF CONCRETE FOOTINGS OF HIGHWAY SIGNS	EACH	7		7	Refer to Tab. 190-62 for locations and details. This item shall consist of removal of concrete foundations for steel breakaway sign support posts. Concrete footings or parts of concrete foundations removed shall become the property of the contractor and shall be removed in accordance with Article 1104.08. Unless otherwise provided or ordered, concrete foundations for steel breakaway sign support posts shall be removed 1 foot below natural ground surface. Where portions of the existing concrete foundations lie wholly or in part within limits for a new structure (culvert, concrete footing, or other), they shall be removed as necessary to accommodate construction of the proposed structure. Holes remaining from the removal of concrete foundations for steel breakaway sign support posts shall be backfilled with suitable earth to the original level or to the natural ground surface in accordance with Article 2402.09. Method of Measurement: The Engineer will count each concrete foundation for steel breakaway sign support post removed. Basis of Payment: For each concrete foundation for steel breakaway sign support post removed, the contractor shall be paid the contract unit price. This payment shall be full compensation for furnishing all material, equipment, and labor and for the performance of all work necessary for removal of the concrete foundations from the project and for any backfilling made necessary by these operations.
20	2401-6745650	REMOVAL OF EXISTING STRUCTURES	LS	1		1	Refer to Tab. 110-02 for existing structure description. Includes all work for removal and disposal of the existing culvert.
21	2402-0425040	FLOODED BACKFILL	CY	1,770.8		1,770.8	Refer to Tab. 104-03.
22	2402-2720100	EXCAVATION, CLASS 20, FOR ROADWAY PIPE CULVERT	CY	2,308.2		2,308.2	Refer to Tab. 104-03.
23	2416-0100015	APRONS, CONCRETE, 15 IN. DIA.	EACH	5		5	Refer to M Sheets and Tab. 104-05B for locations.
24	2416-0100024	APRONS, CONCRETE, 24 IN. DIA.	EACH	3		3	Refer to M Sheets and Tab. 104-05B for locations.
25	2416-0102248	APRON, LOW CLEARANCE CONCRETE, EQUIVALENT DIAMETER 48 IN.	EACH	4		4	Refer to VW Sheets and Tab. 104-03 for locations.

Item no.	Item Code	Item	Unit	Quantities			Estimate Reference Notes
				Estimated			
				Roadway Items	City Items	Total	
26	2416-1200248	CULVERT, LOW CLEARANCE CONCRETE ROADWAY PIPE, EQUIVALENT DIAMETER 48 IN.	LF	416		416	
27	2435-0130148	MANHOLE, SANITARY SEWER, SW-301, 48 IN.	EACH		4	4	Refer to MSA Sheets for locations.
28	2435-0140160	MANHOLE, STORM SEWER, SW-401, 60 IN.	EACH	1		1	Refer to M Sheets and Tab. 104-05B for locations.
29	2435-0250900	INTAKE, SW-509	EACH	11		11	
30	2435-0251224	INTAKE, SW-512, 24 IN.	EACH	2		2	
31	2435-0400308	INTERNAL DROP CONNECTION, SW-308	EACH		2	2	Install two internal drop connections on SAN MH-2 at STA 404+01.55. Refer to Sheet MSA.1. Unit price includes, but is not limited to, cutting the hole and installing a flexible watertight connector, providing and installing the receiving bowl, flexible coupler between the bowl and the drop pipe, the PVC drop pipe, pipe brackets and bolts, the bottom elbow, repair of fillet if required, and a splash guard if required. Method of Measurement: Each size of internal drop connection will be counted. Basis of Payment: Payment will be at the unit price for each size of internal drop connection.
32	2502-8212036	SUBDRAIN, LONGITUDINAL, (SHOULDER) 6 IN. DIA.	LF	2,243		2,243	Refer to typicals on B Sheets and Tab. 104-09. All fittings and connections are incidental.
33	2502-8221303	SUBDRAIN OUTLET, DR-303	EACH	25		25	Refer to Tab. 104-9.
34	2502-8221306	SUBDRAIN OUTLET, DR-306	EACH	10		10	
35	2503-0114215	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 15 IN.	LF	386		386	Refer to M Sheets and Tab. 104-05B for pipe locations. See M Sheets for locations. Rigid pipe bedding shall be of type R-1 and shall comply with Standard Road Plan SW-102.
36	2503-0114218	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 18 IN.	LF	94		94	
37	2503-0114224	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 24 IN.	LF	310		310	
38	2503-0200036	REMOVE STORM SEWER PIPE LESS THAN OR EQUAL TO 36 IN.	LF	200		200	Item includes disposal of material offsite.
39	2504-0114008	SANITARY SEWER GRAVITY MAIN, TRENCHED, POLYVINYL CHLORIDE PIPE (PVC), 8 IN.	LF		544	544	Refer to MSA Sheets for locations.
40	2504-0200806	SANITARY SEWER SERVICE STUB WITH RISER, POLYVINYL CHLORIDE PIPE (PVC), 6 IN.	LF		73	73	
41	2504-0240036	REMOVE SANITARY SEWER PIPE LESS THAN OR EQUAL TO 36 IN.	LF		476	476	
42	2504-0320300	SANITARY SEWER CLEANOUT, SW-203	EACH		1	1	

Item no.	Item Code	Item	Unit	Quantities Estimated Roadway Items	City Items	Total	Estimate Reference Notes
43	2507-3250005	ENGINEERING FABRIC	SY	240.8		240.8	Refer to Tab. 100-23. Use material specified for embankment erosion control according to article 4196.01, B, 3. Material will be measured in square yards of actual area covered. Refer to details. The tabulation includes estimated locations for placement of "Engineering Fabric" to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 30% additional quantity for other locations of erosion.
44	2507-6800061	REVETMENT, CLASS E	TON	227.286		227.286	Refer to Tab. 100-23. The tabulation includes estimated locations for placement of "Revetment, Class E" to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 30% additional quantity for other locations of erosion.
45	2510-6745850	REMOVAL OF PAVEMENT	SY	8,826.2		8,826.2	Refer to Tab. 110-01. Existing pavement is assumed to be 12.5-inches thick and is a combination of bituminous and concrete materials.
46	2510-6750600	REMOVAL OF INTAKES AND UTILITY ACCESSES	EACH	2		2	Refer to Tab. 110-15 for locations.
47	2511-7526006	SIDEWALK, P.C. CONCRETE, 6 IN.	SY	22.6		22.6	Refer to Tab. 112-04.
48	2511-7528101	DETECTABLE WARNINGS	SF	119.3		119.3	
49	2512-1725256	CURB AND GUTTER, P.C. CONCRETE, 2.5 FT.	LF	641.32		641.32	Refer to typical on B Sheets and Tab. 112-04. Integral curb is included in "Standard or Slip Form Portland Cement Concrete Pavement, Class C, Class 3 Durability, 9.5 IN." item. Refer to U Sheets for curb types and locations.
50	2512-1725306	CURB AND GUTTER, P.C. CONCRETE, 3.0 FT.	LF	241.3		241.3	Refer to typical on B Sheets and Tab. 112-04. Integral curb is included in "Standard or Slip Form Portland Cement Concrete Pavement, Class C, Class 3 Durability, 14 IN." item. Refer to U Sheets for curb types and locations.
51	2515-2475106	DRIVEWAY, REINFORCED P.C. CONCRETE, 6 IN.	SY	143.1		143.1	
52	2515-6745600	REMOVAL OF PAVED DRIVEWAY	SY	126		126	Refer to Tab. 110-01. Driveway thicknesses are unknown unless noted otherwise.
53	2520-3350015	FIELD OFFICE	EACH	1		1	
54	2523-0000100	LIGHTING POLES	EACH	7		7	Refer to P Sheets for details.
55	2523-0000200	ELECTRICAL CIRCUITS	LF	923		923	
56	2523-0000310	HANDHOLES AND JUNCTION BOXES	EACH	2		2	
57	2523-0000400	CONTROL CABINET	EACH	1		1	'Refer to P Sheets for details. Provide electrical service drop in coordination with local electric utility company.
58	2524-6765210	REMOVAL OF TYPE A SIGN ASSEMBLY	EACH	15		15	Refer to Tab. 190-62 for location and details. This item for the removal of Type A sign assemblies, including the sign panels, sign brackets, supporting structures and hardware. Contractor shall carefully dismantle each sign assembly. Sign posts, brackets and hardware shall become property of the contractor. All holes resulting from removal of posts shall be filled level with the adjacent grade with backfill material conforming to the Standard Specifications. Method of Measurement: The Engineer will count the number of sign assemblies removed. Basis of Payment: The Contractor will be paid the contract unit price for each sign assembly removed.
59	2524-9276010	PERFORATED SQUARE STEEL TUBE POSTS	LF	725		725	Refer to Tabulation(s) 190-50 and/or 190-51 for locations and details.

Item no.	Item Code	Item	Unit	Quantities Estimated Roadway Items	City Items	Total	Estimate Reference Notes
60	2524-9276024	PERFORATED SQUARE STEEL TUBE POST ANCHOR, BREAK-AWAY CONCRETE INSTALLATION	EACH	49		49	
61	2524-9325001	TYPE A SIGNS, SHEET ALUMINUM	SF	634.9		634.9	Refer to Tab. 190-51 and 190-66 for locations and details.
62	2525-0000120	REMOVAL OF TRAFFIC SIGNALIZATION	LS	1		1	This lump sum item is for the removal of traffic signals at the intersection of USH 63 and BUS 30.
63	2526-8285000	CONSTRUCTION SURVEY	LS	1		1	Construction Survey shall be in accordance with Section 2526 of the current Standard Specifications.
64	2527-9263181	PAVEMENT MARKINGS REMOVED	STA	25.57		25.57	
65	2527-9263190	SYMBOLS AND LEGENDS REMOVED	EACH	10		10	
66	2527-9263209	PAINTED PAVEMENT MARKINGS, WATERBORNE OR SOLVENT-BASED	STA	52.33		52.33	Refer to U sheets and Tab. 108-22.
67	2527-9263231	REMOVABLE TAPE MARKINGS, WET RETROREFLECTIVE	STA	23.47		23.47	Refer to J Sheets and Tab. 108-22.
68	2528-2518000	SAFETY CLOSURE	EACH	12		12	Refer to J Sheets and Tab. 108_13A.
69	2528-8400157	TEMPORARY FLOODLIGHTING LUMINAIRE	EACH	4		4	Refer to Tab. 108-27.
70	2528-8445110	TRAFFIC CONTROL	LS	1		1	Refer to J Sheets and Tab 108-23A.
71	2528-8445113	FLAGGERS	EACH	0		0	See Proposal.
72	2528-9109020	TEMPORARY LANE SEPARATOR SYSTEM	LF	2,416		2,416	Refer to Tab. 108-35.
73	2528-9290050	PORTABLE DYNAMIC MESSAGE SIGN (PDMS)	CDAY	0		0	See Proposal.
74	2533-4980005	MOBILIZATION	LS	1		1	Includes all costs associated with mobilization for the entire project.
75	2537-8900000	REMEDIATION OF PETROLEUM CONTAMINATED SOIL	CY	25		25	
76	2537-8900100	SAMPLING AND TESTING FOR PETROLEUM CONTAMINATION (WATER AND SOIL SAMPLES FOR REMEDIATION OF PETROLEUM CONTAMINATED SOIL)	EACH	2		2	
77	2549-0041060	BYPASS PUMPING	LS		1	1	
78	2552-0000300	TRENCH COMPACTION TESTING	LS	1		1	Contractor is responsible for trench compaction testing performed by an independent testing laboratory hired by the Contractor. Use for all sanitary sewer, storm sewer, and water main trench installation.
79	2554-0114008	WATER MAIN, TRENCHED, POLYVINYL CHLORIDE PIPE (PVC), 8 IN.	LF		101	101	Refer to MWM Sheets and WM Tabulation 3 for locations.
80	2554-0202200	FITTINGS BY COUNT, DUCTILE IRON, 22.5-DEGREE BEND, 8 IN.	EACH		2	2	Refer to MWM Sheets and WM Tabulation 1 for locations.
81	2554-0202200	FITTINGS BY COUNT, DUCTILE IRON, 45-DEGREE BEND, 8 IN.	EACH		1	1	
82	2554-0202200	FITTINGS BY COUNT, DUCTILE IRON, 6 IN. X 4 IN. REDUCER	EACH		1	1	

Item no.	Item Code	Item	Unit	Quantities			Estimate Reference Notes
				Estimated			
				Roadway Items	City Items	Total	
83	2554-0202200	FITTINGS BY COUNT, DUCTILE IRON, CAP, 6 IN.	EACH		2	2	
84	2554-0204110	WATER SERVICE STUB, COPPER, 1 IN.	EACH		3	3	
85	2554-0207006	VALVE, GATE, DIP, 6 IN.	EACH		1	1	
86	2554-0210201	FIRE HYDRANT ASSEMBLY, WM-201	EACH		1	1	
87	2554-0210205	FIRE HYDRANT ASSEMBLY REMOVAL	EACH		1	1	
88	2599-9999005	('EACH' ITEM) CONNECT TO EXISTING SANITARY SEWER	EACH		5	5	Refer to MSA Sheets for locations. This item shall include all materials and work necessary to cut and remove existing pipe or fitting, pumping water from trench excavation, furnish and install sleeves, clean existing sewer, and connect to existing sanitary sewer. Contractor shall be responsible for verifying all existing sanitary sewer elevations and locations at tie-in points prior to installation of proposed sanitary sewers. Method of Measurement: Measurement will be based on each connection made to the existing sanitary sewer. Basis of Payment: Payment will be made at the contract unit price per connection to the existing sanitary sewer.
89	2599-9999005	('EACH' ITEM) CONNECT TO EXISTING WATER MAIN	EACH		3	3	Refer to MWM Sheets for locations. Materials and construction shall be per Standard Specification 2554. This item shall include all materials and work necessary to cut and remove existing pipe or fitting, pumping water from trench excavation, furnish and install sleeves, clean existing main, and connect to existing water main, including removing caps if necessary. Contractor shall be responsible for verifying all existing water main elevations and locations at tie in points prior to installation of proposed water mains. Communicate with City staff to coordinate water main connections and property owner notification. Method of Measurement: Measurement will be based on each connection made to the existing water main. Basis of Payment: Payment will be made at the contract unit price per connection to the existing water main.
90	2599-9999005	('EACH' ITEM) REMOVE MANHOLE, SANITARY SEWER	EACH		3	3	Refer to MSA Sheets and Tab. 110-15 for locations. This item shall include all materials and work necessary to remove the existing sanitary manhole, including excavation, pumping water from trench excavation, plugging pipes, filling remaining structures with flowable mortar, and placing compacted fill. Contractor shall be responsible for verifying all existing sanitary sewer elevations and locations prior to removal. Method of Measurement: The Engineer will count the number of sanitary sewer manholes removed. Basis of Payment: The Contractor will be paid the contract unit price for each sanitary sewer manhole removed.

Item no.	Item Code	Item	Unit	Quantities Estimated Roadway Items	City Items	Total	Estimate Reference Notes
91	2599-9999009	('LINEAR FEET' ITEM) WATER MAIN ABANDONMENT, FILL AND PLUG	LF		990	990	Refer to MWM sheets for locations. This item shall be used for abandoning existing water main as noted within plans and filling with flowable mortar meeting Standard Specification section 2506.02, E and plugging ends of existing water main. Existing main shall be completely filled with flowable mortar by pumping. Removal of main at conflicts with proposed utilities shall be considered incidental to the utility being installed. Method of Measurement: Measurement will be based on the linear feet of the existing water main plugged and filled with flowable mortar, as measured in the field along the centerline of the existing main. Basis of Payment: Payment will be made at the contract unit price per linear foot of the existing water main plugged and filled with flowable mortar. This includes excavation, sawing, flowable mortar, capping, backfilling, and compaction as necessary.
92	2601-2634105	MULCHING, BONDED FIBER MATRIX	ACRE	1		1	Apply bonded fiber matrix as the mulch for all seeding areas. Apply seed and fertilizer for the area to be covered before applying bonded fiber matrix mulch. Apply bonded fiber matrix mulch at a rate of a minimum of 3000 pounds per acre. Permanent seeding, fertilizing, and mulching is incidental to mobilization as it is calculated to be under 1 total acre.
93	2601-2638352	SLOPE PROTECTION, WOOD EXCELSIOR MAT	SQ	15.4		15.4	Refer to Tab. 100-22 for locations. Refer to Standard Road Plan EC-101. Prepare seedbed according to article 2601.03, B, 4 of the Standard Specifications. Install wood excelsior mat according to Article 2601.03, H, 2, of the Standard Specifications. Seed according to article 2601.03, H, 2, of the Standard Specifications. Refer to Table 2601.03-7 for seed mixture.
94	2601-2642120	STABILIZING CROP - SEEDING AND FERTILIZING (URBAN)	ACRE	1		1	Item is included for disturbed areas during contractor staging as directed by the engineer. Seed and fertilize all urban disturbed areas according to article 2601.03, C, 2, of the Standard Specifications.
95	2601-2643110	WATERING FOR SOD, SPECIAL DITCH CONTROL, OR SLOPE PROTECTION	MGAL	2.31		2.31	Estimate for watering slope protection areas is based on a total of 3 waterings at a rate of 50 gallons per square.
96	2601-2643300	MOBILIZATION FOR WATERING	EACH	3		3	
97	2602-0000020	SILT FENCE	LF	2,150		2,150	Refer to Tab. 100-17. The tabulation includes estimated locations for placement of "Silt Fence" to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 25% additional quantity for field adjustments and replacements.
98	2602-0000030	SILT FENCE FOR DITCH CHECKS	LF	131		131	Refer to Tab. 100-18. The tabulation includes estimated locations for placement of silt fence for ditch checks to address possible erosion during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 50% additional quantity for field adjustments and replacements.
99	2602-0000071	REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS	LF	2,281		2,281	This item is included for silt fence and silt fence for ditch check removal required for staging reasons, removal to allow for replacement (replacement to be paid separately), or for areas that have achieved 70% permanent growth. Remove silt fence and posts after mulching or vegetation is established and approved by the Engineer.
100	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK	LF	228.1		228.1	This item is included for clean-out and repair of the silt fence and silt fence for ditch checks during the project.

Item no.	Item Code	Item	Unit	Quantities			Estimate Reference Notes
				Estimated			
				Roadway Items	City Items	Total	
101	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.	LF	275		275	Refer to RR sheets and Tab. 100-19. The tabulation includes estimated locations for placement of "Perimeter and Slope Sediment Control Device, 12 IN. Dia." to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 25% additional quantity for field adjustments and replacements. Use perimeter and slope sediment control devices fabricated using wood excelsior.
102	2602-0000320	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 20 IN. DIA.	LF	475		475	Refer to RR sheets and Tab. 100-19. The tabulation includes estimated locations for placement of "Perimeter and Slope Sediment Control Device, 20 IN. Dia." to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 25% additional quantity for field adjustments and replacements. Use perimeter and slope sediment control devices fabricated using wood excelsior.
103	2602-0000351	REMOVAL OF PERIMETER AND SLOPE OR DITCH CHECK SEDIMENT CONTROL DEVICE	LF	750		750	Refer to RR sheets and Tab. 100-19. Bid item includes 25% additional quantity for field adjustments and replacements.
104	2602-0000400	TEMPORARY INTAKE OR MANHOLE COVER ASSEMBLY	EACH	6		6	Refer to Tab 100-11 and RR Sheets. Method of Measurement: Measurement will be made for each temporary intake or manhole cover installed. Basis of Payment: Payment will be made at the contract unit price for each temporary intake or manhole cover installed.
105	2602-0000410	MAINTENANCE OF TEMPORARY INTAKE OR MANHOLE COVER ASSEMBLY	EACH	6		6	Refer to Tab. 100-11 and RR Sheets. Intake or manhole cover shall be maintained until tops are placed to prevent debris and sediment from entering the intake or manhole. Clean out and dispose of material when capacity reaches 50%. Method of Measurement: Measurement will be made per each clean-out. Basis of Payment: Payment will be made at the contract unit price for each clean-out occurrence.
106	2602-0000420	REMOVAL OF TEMPORARY INTAKE OR MANHOLE COVER ASSEMBLY	EACH	6		6	Refer to Tab 100-11 and RR Sheets. Intake or manhole cover shall be kept in place until tops are placed to prevent debris and sediment from entering the intake or manhole. Method of Measurement: Measurement will be made per each intake or manhole cover removed. Basis of Payment: Payment will be made at the contract unit price for each intake or manhole cover removed.
107	2602-0000500	OPEN-THROAT CURB INTAKE SEDIMENT FILTER, EC-602	LF	130		130	Refer to Tab. 100-36.
108	2602-0000510	MAINTENANCE OF OPEN-THROAT CURB INTAKE SEDIMENT FILTER	EACH	10		10	
109	2602-0000520	REMOVAL OF OPEN-THROAT CURB INTAKE SEDIMENT FILTER	EACH	10		10	

Item no.	Item Code	Item	Unit	Quantities			Estimate Reference Notes
				Estimated			
				Roadway Items	City Items	Total	
110	2602-0000530	GRATE INTAKE SEDIMENT FILTER BAG, EC-604	EACH	2		2	Refer to Tab. 100-36 and RR Sheets. Method of Measurement: Measurement will be made for each filter bag installed. Basis of Payment: Payment will be made at the contract unit price for each filter bag installed.
111	2602-0000540	MAINTENANCE OF GRATE INTAKE SEDIMENT FILTER BAG	EACH	2		2	Refer to Tab. 100-36 and RR Sheets. Sediment filter bags shall be maintained throughout the length of the project to prevent debris and sediment from entering the intake. Clean out and dispose of material when capacity reaches 50%. Method of Measurement: Measurement will be made per each clean-out. Basis of Payment: Payment will be made at the contract unit price for each clean-out occurrence.
112	2602-0000550	REMOVAL OF GRATE INTAKE SEDIMENT FILTER BAG	EACH	2		2	Refer to Tab. 100-36 and RR Sheets. Sediment filters may be removed from intake openings upon completion of construction. Method of Measurement: Measurement will be made per each filter bag removed. Basis of Payment: Payment will be made at the contract unit price for each filter bag removed.
113	2602-0010010	MOBILIZATIONS, EROSION CONTROL	EACH	1		1	
114	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL	EACH	1		1	

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8/15/22

PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE CONVERSION OF THE INTERSECTION OF THE BUSINESS ROUTE OF UNITED STATES HIGHWAY 30 (BUS30) AND UNITED STATES HIGHWAY 63 (US63) FROM A TRAFFIC SIGNAL-CONTROLLED INTERSECTION TO A SINGLE-LANE ROUNDABOUT WITH US63 SOUTHBOUND AND NORTHBOUND RIGHT-TURN BYPASS LANES IN THE CITY OF TOLEDO, IOWA IN TAMA COUNTY.
PROJECT LIMITS FOR THIS PROJECT START AT AND INCLUDE THE INTERSECTION OF US63 AND BUS30 AND EXTEND NORTH 330 FEET, SOUTH 290 FEET, WEST 300 FEET, AND EAST 250 FEET.

STORM SEWER WILL BE INSTALLED WITHIN THE PROJECT LIMITS, INCLUDING THE CONSTRUCTION OF DUAL 59” X 36” ARCH LOW CLEARANCE CULVERT PIPES RUNNING UNDER THE SOUTH LEG OF BUS30.

ANCILLARY WORK INCLUDES SANITARY SEWER RELOCATION, WATER MAIN RELOCATION, SIGNING, PAVEMENT MARKINGS, TURF ESTABLISHMENT, AND EROSION CONTROL DEVICES.

262_05
9/28/22

UTILITIES (POINT 25 PROJECT)

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

232_03B
9/28/22

EROSION CONTROL (URBAN SEEDING)

Area to be seeded is estimated to be less than 1 acre. If the Contractor determines the area exceeds 2 acres, notify the Engineer. Approved quantity in excess of 2 acres will be paid for as extra work according to Article 1109.03,B of the Standard Specifications.

Following the completion of work in a disturbed area and according to the seeding dates in Section 2601 of the Standard Specifications, place seed, fertilizer, and mulch on the disturbed area as follows:

Place seed and fertilize according to the requirements of Article 2601.03,C,4 and Section 4169 of the Standard Specifications.

Place mulch according to the requirements of Articles 2601.03,E,2,a and 4169.07,A of the Standard Specifications.

Preparing the seedbed, furnishing and applying seed, fertilizer, and mulch are incidental to mobilization and will not be paid for separately.

SN-1
Special

STEEL PLATES

1” thick steel plate shall be placed over the well of intake No. 1 and 6 for protection before placement of detour grading or pavement during Stage 1A, over the well of intake No. 14 and pipe P-18 before placement of detour grading or pavement during Stage 1B, and over the well of intake No. 10 before placement of detour grading or pavement during Stage 2A. Plate for the well of intake No. 1 and 6 shall be removed during Stage 2B. Plate for pipe P-18 shall be removed prior to finishing connection to intake No. 19 in Stage 2A. Plate for the well of intake No. 10 and No. 14 shall be removed during Stage 4. The placement and removal of the steel plates are incidental to the intake bid items. Refer to Tab. 100-26 and 104-5B for additional information. Also refer to Staging Notes in Tab 108-26A.

111_26
4/15/25

UTILITIES

Line No.	Company	Contact	Phone	Email
1.0	Alliant Energy	Billie Reid	319-786-3703	billiereid@alliantenergy.com
2.0		Kyle Wildman		KyleWildman@alliantenergy.com
3.0		Jon Katzenmeier		JonKatzenmeier@alliantenergy.com
4.0	Aureon Network Services	Jeff Klocko	515-830-0445	jeff.klocko@aureon.com
5.0	City of Toledo	Kendal Jordan	641-484-2160	kjordan@toledoiowa.gov
6.0	Lumen CenturyLink	Steve Parker	515-265-0968	Steven.Parker4@lumen.com
7.0		Ben Pacocha		ben.pacocha@lumen.com
8.0	Mediacom	Tim Hawkins	515-246-1890	thawkins1@mediacomcc.com
9.0		Rusty Beaty		rbeaty@mediacomcc.com
10.0	Windstream	Dan Hogan	563-920-2428	Dan.Hogan@windstream.com
11.0		Jonathan Nieves		Jonathan.Nieves@windstream.com

105_04
4/15/25

STANDARDS

The following Standards apply to construction work on this project.

Number	Date	Title
DR-101	04-18-17	Pipe Culvert (Bedding and Backfill)
DR-102	04-21-15	Pipe Culvert (Cover and Camber)
DR-103	04-21-15	Pipe Culvert (Installation Details)
DR-104	04-19-16	Depth of Cover Tables for Concrete and Corrugated Pipe
DR-121	04-18-23	Connected Pipe Joints
DR-122	10-18-16	Construction of Type 'C' Concrete Adaptors for Pipe Culvert Connections
DR-201	10-17-23	Concrete Aprons
DR-202	10-17-23	Low Clearance Concrete Pipe Aprons
DR-303	10-17-17	Subdrains (Longitudinal)
DR-306	10-17-23	Precast Concrete Headwall for Subdrain Outlets
DR-601	04-18-17	Reinforced Concrete Pipe Culvert
EC-101	04-19-16	Wood Excelsior Mat for Ditch Protection
EC-104	04-17-18	Turf Reinforced Mat (TRM)
EC-103	04-21-15	Wood Excelsior Mat for Slope Protection
EC-201	04-20-21	Silt Fence
EC-204	10-19-21	Perimeter, Slope and Ditch Check Sediment Control Devices
EC-301	10-18-22	Rock Erosion Control (REC)
EC-602	10-15-24	Open-Throat Curb Intake Sediment Filter
EC-603	10-17-23	Erosion Control for Intake or Manhole Well
EC-604	10-17-23	Grate Intake Sediment Filter Bag
EW-101	10-17-17	Embankment and Rebuilding Embankments
EW-502	04-18-17	Safety Ramp
LI-101	10-21-14	Light Pole Location
LI-103	04-19-22	Conduit and Precast Handholes
LI-130	10-17-17	Temporary Floodlighting Luminaires
LI-141	10-21-14	Electrical Installation (Roadway Ducts)
LI-201	04-18-17	Light Pole Foundation
MI-210	04-16-24	PCC Driveways and Alleys
MI-220	04-15-25	Detectable Warnings and Pedestrian Ramp
PM-110	10-15-24	Line Types
PM-111	04-21-20	Symbols and Legends
PV-3	10-15-24	Safety Edge
PV-101	04-15-25	Joints
PV-102	04-21-20	PCC Curb Details
PV-103	04-19-22	Manhole Boxouts in PCC Pavement
PV-104	04-21-20	Ramped Median Nose
SI-101	04-19-16	Locations - Type 'A' Signs
SI-112	04-19-16	Footings For Steel Breakaway Posts
SI-113	10-15-19	Support Structures - Steel Breakaway Posts
SI-119	10-17-17	Support Structures - Mounting Brackets
SI-121	10-16-18	Fabrication - Sign Legend Components
SI-131	10-18-16	Installation - Type 'A' Signs
SI-133	10-17-17	Installation - Type 'A' Sign Shim
SI-882	10-18-16	Special Signs for Restricted Width Traffic Control Zones
SW-101	04-17-18	Trench Bedding and Backfill Zones
SW-102	04-20-21	Rigid Gravity Pipe Trench Bedding
SW-103	04-20-21	Flexible Gravity Pipe Trench Bedding
SW-104	04-20-21	Pressure Pipe Trench Bedding
SW-203	04-17-18	Sanitary Sewer Cleanout
SW-211	04-17-18	Storm Sewer Pipe Connections
SW-301	10-18-22	Circular Sanitary Sewer Manhole
SW-308	04-20-21	Internal Drop Connection for Sanitary Sewer Manhole
SW-401	04-20-21	Circular Storm Sewer Manhole
SW-502	04-21-20	Circular Single Grate Intake
SW-509	04-21-20	Double Open-Throat Curb Intake, Small Box

105_04
4/15/25

STANDARDS

The following Standards apply to construction work on this project.

Number	Date	Title
SW-512	04-21-20	Circular Area Intake
SW-514	04-17-18	Boxouts for Grate Intakes
SW-601	04-21-20	Castings for Sanitary Sewer Manholes
SW-602	04-21-20	Castings for Storm Sewer Manholes
SW-603	10-16-18	Castings for Grate Intakes
SW-604	04-21-20	Castings for Area Intakes
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-81	04-18-23	Restricted Width Signing (Less Than 14.5 Feet)
TC-202	04-18-23	Work Within 15 ft of Traveled Way
TC-233	10-17-17	Pavement Marking Operations Two-Lane
TC-251	04-18-23	Temporary Road Closure
TC-252	04-21-20	Routes Closed to Traffic
TC-253	04-18-23	Paved On-Site Detour
TC-282	10-15-19	Uneven Lanes
WM-101	10-18-16	Thrust Blocks
WM-102	10-18-16	Tracer System
WM-201	04-19-22	Fire Hydrant Assembly

100_26
8/15/22

INCIDENTAL ITEMS

Special or unique items where method of measurement / basis of payment is not indicated in the specifications or other contract documents.

Line No.	Incidental Item	Unit	Quantity	Incidental to Item Code	Incidental to Item	Remarks
1.0	Seeding - Fertilizing - Mulching (Urban)	Acre		2533-4980005	Mobilization	Less than 1 acre.
2.0	Steel Plate	Each	1	2435-0250900	INTAKE - SW-509	[1] Intake No. 1
3.0	Steel Plate	Each	1	2435-0250900	INTAKE - SW-509	[1] Intake No. 6
4.0	Steel Plate	Each	1	2435-0251224	INTAKE - SW-512 - 24 IN.	[1] Intake No. 14
5.0	Steel Plate	Each	1	2435-0250900	INTAKE - SW-509	[1] Intake No. 10
6.0	Steel Plate	Each	1	2503-0114224	STORM SEWER GRAVITY MAIN - TRENCHED - RCP - 2000D (CLASS III) - 24 IN.	[1] P-18

[1] Covering wells and pipes with a Grade 36 plate to facilitate stage construction is required. Refer to note SN-1 and Tab. 104-5B for additional information.

110_01
4/5/24

REMOVAL OF PAVEMENT

Refer to Tabulation 102-5.

* Not a bid item.

Line No.	Station From	Station To	Side	Pavement Type	Area (SY)	Saw Cut* (LF)	Remarks
1.0	4954+23.15	4955+25.42	Both	HMA	592.9	150.7	Stage 1A - US63: South Leg
2.0	504+88.58	507+01.67	Both	HMA	1376.2	60.9	Stage 1B - BUS30: East Leg
3.0	4953+30.78	4954+23.15	Both	HMA	316.7	145.4	Stage 1B - US63: South Leg
4.0	4955+05.66	4959+57.43	Both	HMA	2041.0	447.9	Stage 1B - US63: North Leg
5.0	4956+56.18	4959+57.98	Right	HMA	1357.8	88.8	Stage 2A - US63: North Leg
6.0	501+54.92	503+75.78	Left	HMA	844.5	251.8	Stage 2A - BUS30: West Leg
7.0	501+54.92	504+25.34	Right	HMA	912.0	31.6	Stage 2B - BUS30: West Leg
8.0	4955+14.91	4956+71.67	Both	HMA	749.0	39.4	Stage 2B - US63: South Leg
9.0	4953+32.48	4954+29.97	Both	HMA	228.9	39.2	Stage 2B - US63: South Leg
10.0	4957+63.14	4958+28.60	Right	HMA	407.2	94.3	Stage 1B - W Mill St and Parking Lot
Total:					**8826.2**		

110_02
8/15/22

REMOVAL OF EXISTING STRUCTURES

Line No.	Location	Description	Remarks
1.0	Sur Sta. 499+98.09.	6X3.5X136.5 RCB	

104_03
3/18/24

DRAINAGE STRUCTURE BY ROAD CONTRACTOR

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

Drainage Area (ACRE)	Location	Type	Size (IN) (1)	Pipe Classification	Kind of Pipe (2)	Length New Const. (LF)	Length of total that is Trenchless	Bedding Class	Design Cover (H) (FT)	Camber* (DR-102) (FT)	Apron No. (IN)	Apron No. (OUT)	Apron Guard* (DR-213) (No.)	Elbow* (DR-141) (No.)	Diaphragm* (DR-501) (No.)	Tee Section* (DR-142) (No.)	"D" Section* (DR-141) (No.)	Reducer* (No.)	Type 'C' Conn.* (DR-122)	Type 'C' Conn.* (No.)	Connected Pipe Joint* (DR-121)	4" Perforated Subdrain* (FT)	Flow Line Elevation LT.	Flow Line Elevation RT.	Flow Line Elevation Other	Flow Line Elevation Other	Dimensions Lineal Feet Total (Left)	Dimensions Lineal Feet Total (Right)	Dimensions Lineal Feet Extensions	Dimensions Lineal Feet Extensions	Skew Ahead Degrees (Left)	Skew Ahead Degrees (Right)	Dike Location	Dike Station	Dike Elevation	Dike Type	Class 20 (CY)	Flowable Mortar	Floodable Backfill* (A)	Porous Backfill* (B)	Flooded Backfill(A+B)	Remarks
85.2	4955+01.71	DR-601	48.0	2000D	LCP	208.0		B	8.89	0.15	1	1											862.50	865.20			141.63	83.20			17.9						1154.1		862.7	22.7	885.4	[1] Culvert is designed to be cut and cover.
85.2	4955+10.02	DR-601	48.0	2000D	LCP	208.0		B	8.96	0.15	1	1											862.50	865.20			139.39	85.44			13.4						1154.1		862.7	22.7	885.4	[1] Culvert is designed to be cut and cover.
Total:											**2**	**2**																									**2308.2**				**1770.8**	

[1] 59" X 36" arch Low Clearance Pipe

102_03
10/15/24

ACCESS POINTS AND SAFETY RAMPS

Refer to Cross-Sections

Length of Unclassified Pipe calculated is based on using Corrugated Metal Pipe.
(1) Refer to MI-210.
(2) Refer to EW-501.
(3) Refer to EW-501 or EW-502.
*Predetermined for access point not constructed with this project.

Line No.	Station	Side	Access Type	Descriptor	Case	Curb Type	Curb Length (1) (LF)	Width (FT)	PR (1) (2) (FT)	SR (2) (FT)	Pipe Culvert (H) (3) (FT)	Pipe Culvert Size (3) (IN)	Culvert Length (3) (LF)	Pipe Culvert Lt. (3) (LF)	Pipe Culvert Rt. (3) (LF)	Culvert Aprons (3) (No.)	Driveway Surface Type	Driveway Surface Area (SY)	Driveway Surfacing Material (TON)	Remarks
1.0	4958+98.00	Left	B		2		40.0	40.0									PCC	143.1		Stage 2A - US63: North Leg

110_08
8/15/22

REMOVAL OF CONCRETE DRIVES

* Not a Bid Item.

Line No.	Station	Side	Area (SY)	Saw Cut* (LF)	Remarks
1.0	4958+98.00	Left	126.0	39.8	Vacant Lot, 200 Business 30 W
Total:			**126**		

110_15
8/15/22

REMOVAL OF INTAKES AND UTILITY ACCESSES

Line No.	Item No.	Location Description	Type	Remarks
1.0	1	NB US63 Sta 495799.92; 4.56' RT	Intakes	
2.0	2	NB US63 Sta 495853.73; 13.15' RT	Intakes	
3.0	3	NB US63 Sta 4955+10.83; 21.41' RT	Utilities	Sanitary Manhole
4.0	4	NB US63 Sta 4957+31.28; 22.31' LT	Utilities	Sanitary Manhole
5.0	5	NB US63 Sta 4958+29.56; 2.57' LT	Utilities	Sanitary Manhole

112_05
8/15/22

CONCRETE MEDIANS

* Bid item

Line No.	Station From	Station To	Type	Area* (SY)	Modified Subbase (CY)	Special Backfill (CY)	Remarks
1.0	4957+04.41	4957+32.84	Median PCC 6"	83.2	49.70		Stage 3 - US63: North Leg
2.0	4957+41.08	4957+58.12	Median PCC 6"	14.7	8.80		Stage 3 - US63: North Leg
3.0	4953+86.61	4955+26.91	Median PCC 6"	149.8	89.50		Stage 2B - US63: South Leg
4.0	505+47.04	505+87.13	Median PCC 6"	68.3	40.80		Stage 1B - BUS30: East Leg
5.0	505+97.24	506+89.37	Median PCC 6"	68.5	40.90		Stage 1B - BUS30: East Leg
6.0	505+47.04	505+61.67	Median PCC 6"	16.8	10.00		Stage 4 - BUS30: East Leg
7.0	502+44.10	503+82.33	Median PCC 6"	160.1	95.60		Stage 2B - BUS30: West Leg
Total:				**561.4**			

110_14
7/11/24

SANITARY OR STORM SEWER ABANDONMENT OR REMOVAL

* Not a bid item

Line No.	Location Description	Sewer and Work Type	≤ 36 inch Diameter (LF)	> 36 inch Diameter (LF)	Plug Quantity (EA)	* Flowable Mortar or CLSM (CY)	Remarks
1.0	US 63 STA 4955+15	Storm Sewer - Removal	200.0				
2.0	US 63 STA 400+85-405+30	Sanitary Sewer - Removal	476.0				

100_19
10/15/24

PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE

Possible Standards: EC-204

Line No.	Station From	Station To	Side	Sediment Control Device Type	Diameter Size	Length (LF)	Remarks
8.0	10+00.00	13+45.58	Left	Perimeter and Slope	12 inch	220.00	ML063RAB_Interior; RAB circle
12.0	+.00			Perimeter and Slope	12 inch	55.00	25% undistributed - 12 inch
						275	
Diameter Size 12 inch:							
1.0	**4954+32.25**		**Right**	**Perimeter and Slope**	20 inch	50.00	ML063NB; Inlet 2 protection
2.0	4955+01.71		Right	Perimeter and Slope	20 inch	30.00	ML063NB;Culvert inlet protection
3.0	4955+10.02		Right	Perimeter and Slope	20 inch	30.00	ML063NB;Culvert inlet protection
4.0	4955+80.94		Right	Perimeter and Slope	20 inch	30.00	ML063NB; Intake 14 protection
5.0	4956+41.69		Right	Perimeter and Slope	20 inch	30.00	ML063NB; Intake 12 protection
6.0	4957+93.18		Right	Perimeter and Slope	20 inch	30.00	ML063NB; Intake 22 protection
7.0	4958+61.48		Right	Perimeter and Slope	20 inch	30.00	ML063NB; Inlet 23 protection
9.0	4954+40.75		Left	Perimeter and Slope	20 inch	50.00	ML063SB; Inlet 1 protection
10.0	4955+85.75		Left	Perimeter and Slope	20 inch	50.00	ML063SB; Inlet 6 protection
11.0	503+05.32		Left	Perimeter and Slope	20 inch	50.00	BUS30WB; Inlet 10 protection
13.0	+.00			Perimeter and Slope	20 inch	95.00	25% undistributed - 20 inch
						475	
Diameter Size 20 inch:							
Total:						**750**	

100_17
8/15/22

TABULATION OF SILT FENCES

Refer to EC-201

Line No.	Station From	Station To	Side	Length (FT)	Remarks
1.0	4953+33.36	4954+26.23	Right	280.00	ML063NB. SE quadrant of RAB.
2.0	4958+36.48	4959+60.62	Right	150.00	ML063NB. North of RAB.
3.0	4953+42.67	4955+50.35	Left	295.00	ML063SB. SW quadrant of RAB.
4.0	4955+09.28	4956+06.73	Left	170.00	ML063SB. SW quadrant of RAB.
5.0	4958+03.77	4958+07.10	Left	125.00	ML063SB. NW quadrant of RAB.
6.0	4958+19.45	4958+73.65	Left	65.00	North of RAB.
7.0	4959+19.07	4959+58.69	Left	60.00	North of RAB.
8.0	501+46.12	501+73.12	Right	35.00	SRBUS30EB. West of RAB.
9.0	501+89.47	503+84.49	Right	215.00	SRBUS30EB. West of RAB.
10.0	501+50.42	502+87.81	Left	185.00	SRBUS30WB.West of RAB.
11.0	505+61.12	506+99.62	Left	140.00	SRBUS30WB.East of RAB.
12.0	+.00			430.00	25% UNDISTRIBUTED
Total:				**2150**	

100_22
8/15/22

ROLLED EROSION CONTROL

Refer to EC-101, EC-103 and EC-104.

Line No.	Road Identification	Station From	Station To	Side	Length (FT)	Width (FT)	TRM Type (EC-104)	TRM Quantity (Squares)	Slope Protection (EC-103) (Squares)	Special Ditch Control (EC-101) (Squares)	Remarks
1.0	NB USH 63	4953+33.07	4955+38.60	Right					45.9		SE site quadrant along USH 63 NB & Business 30 EB
2.0	NB USH 63	4955+75.48	4956+43.50	Left					39.6		RAB center
3.0	NB USH 63	4955+77.76	4957+90.46	Right					71.5		Between Business 30 & W Mill St
4.0	NB USH 63	4956+46.58	4957+18.36	Right	100.0	16.0				16.0	Ditch along USH 63 NB
5.0	NB USH 63	4957+83.79	4958+01.90	Right					2.3		Around Intake 12
6.0	NB USH 63	4958+34.83	4959+57.43	Right					17.4		North of W Mill St
7.0	SB USH 63	4953+40.70	4956+84.98	Left					118.9		SW site quadrant along USH 63 SB & Business 30 EB
8.0	SB USH 63	4956+92.59	4958+78.07	Left					82.6		NW site quadrant along USH 63 SB & Business 30 WB
9.0	SB USH 63	4959+12.47	4959+58.14	Left					4.6		North of driveway at 200 Business 30
Total:									**382.8**	**16**	

100_11
4/16/24

EROSION CONTROL FOR INTAKE OR MANHOLE WELL

Possible Standard Road Plan : EC-603

Line No.	Location Station	Side	Cover Assembly Type	Quantity (EA)	Remarks
1.0	4954+40.75	Right	Installation	1	ML063SB
4.0	4955+85.75	Right	Installation	1	ML063SB
7.0	503+05.32	Right	Installation	1	BUS30WB
10.0	4956+41.69	Right	Installation	1	ML063NB
13.0	4955+80.94	Right	Installation	1	ML063NB
16.0	4957+93.18	Right	Installation	1	ML063NB
				6	
Cover Assembly Type Installation:					
2.0	**4954+40.75**	**Right**	Maintenance	1	ML063SB
5.0	4955+85.75	Right	Maintenance	1	ML063SB
8.0	503+05.32	Right	Maintenance	1	BUS30WB
11.0	4956+41.69	Right	Maintenance	1	ML063NB
14.0	4955+80.94	Right	Maintenance	1	ML063NB
17.0	4957+93.18	Right	Maintenance	1	ML063NB
				6	
Cover Assembly Type Maintenance:					
3.0	**4954+40.75**	**Right**	Removal	1	ML063SB
6.0	4955+85.75	Right	Removal	1	ML063SB
9.0	503+05.32	Right	Removal	1	BUS30WB
12.0	4956+41.69	Right	Removal	1	ML063NB
15.0	4955+80.94	Right	Removal	1	ML063NB
18.0	4957+93.18	Right	Removal	1	ML063NB
				6	
Cover Assembly Type Removal:					
Total:				**18**	

100_37
4/16/24

GRATE INTAKE SEDIMENT FILTER BAG

Possible Standard Road Plan : EC-604

Line No.	Location Station	Side	Installation (Each)	Maintenance (Each)	Removal (Each)	Remarks
1.0	4955+80.94	Right	1.0	1	1.0	NB US 63
2.0	4957+60.69	Left	1.0	1	1.0	SB US 63
Total:			**2**	**2**	**2**	

100_23
8/15/22

ROCK EROSION CONTROL

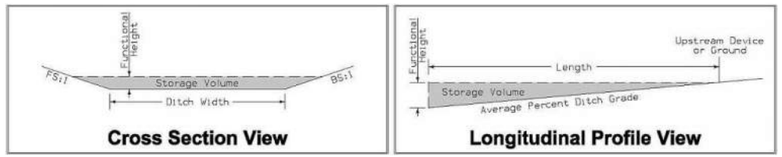
Refer to EC-301 and Detail 570-8

Line No.	Road Identification	Station From	Station To	Side	Length (FT)	Width (FT)	Rock Erosion Control Type	Engineering Fabric (SY)	Class E Revetment (TON)	Erosion Stone (TON)	Remarks
1.0	NB USH 63	4954+15.83	4955+18.90	Right			Type 2 - Rock Ditch	79.3	74.891		SE quadrant of RAB; Pipe outlets & culvert inlets
2.0	SB USH 63	4955+37.32	4955+71.25	Left			Type 2 - Rock Ditch	64.5	60.943		SE quadrant of RAB; Pipe outlets & culvert outlets
3.0	SB USH 63	4958+00.25	4958+20.88	Left			Type 4 - Rock Splash Basin	23.8	22.463		Pipe Outlet 21 & existing pipe outlet
4.0	EB BUS 30	501+78.79	501+87.53	Right			Type 4 - Rock Splash Basin	8.8	8.269		Pipe Outlet 9
5.0	WB BUS 30	502+89.69	503+01.40	Left			Type 4 - Rock Splash Basin	8.8	8.269		Pipe Outlet 11
Total:								**185.2**	**174.835**		

100_18
8/15/22

SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201



* The functional height used in the volume equation is 85% of effective height. Effective height is 1.58 feet as shown on EC-201.
* Volume equation: [0.5*Spacing*(0.5*H^2*FS+DW*H+0.5*H^2*BS)]

Line No.	Basin No.	Type	Station	Side	Installation (LF)	Maintenance (LF)	Removal (LF)	Foreslope (FS:1)	Backslope (BS:1)	Ditch Width (FT)	Avg. % Slope Ditch Grade	Volume (CF)	Remarks
1.0	1	Type 3	4956+70.00	Right	33.0	3.3	16.5	4.0	3.0	10.0	2.3	256.62	ML063NB
2.0	1	Type 3	4956+80.00	Right	29.0	2.9	14.5	4.0	3.0	10.0	2.3	325.71	ML063NB
3.0	1	Type 3	4957+05.00	Right	25.0	2.5	12.5	4.0	3.0	10.0	2.3	858.69	ML063NB
4.0			+.00		44.0	4.4	22.0						50% UNDISTRIBUTED
Total:					**131**	**13.1**	**65.5**						

100_36
8/15/22

OPEN-THROAT CURB INTAKE SEDIMENT FILTER

Possible Standard: EC-602

Line No.	Station	Side	Installation (LF)	Maintenance (Each)	Removal (Each)	Remarks
1.0	4954+32.25	Right	13.0	1	1.0	NB US 63
2.0	4955+38.60	Right	13.0	1	1.0	NB US 63
3.0	4956+16.24	Right	13.0	1	1.0	NB US 63
4.0	4957+69.35	Right	13.0	1	1.0	NB US 63
5.0	4958+61.08	Right	13.0	1	1.0	NB US 63
6.0	4954+40.75	Left	13.0	1	1.0	SB US 63
7.0	4955+85.75	Left	13.0	1	1.0	SB US 63
8.0	4956+83.27	Left	13.0	1	1.0	SB US 63
9.0	4956+88.42	Left	13.0	1	1.0	SB US 63
10.0	4957+80.25	Left	13.0	1	1.0	SB US 63
Total:			**130**	**10**	**10**	

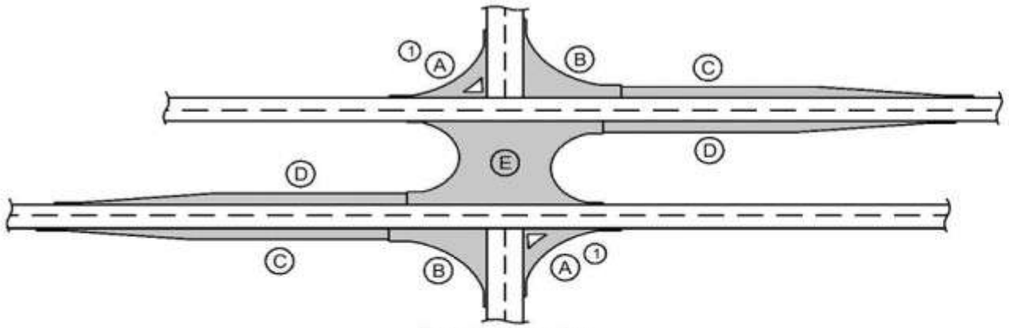
108_13A
3/27/25

SAFETY CLOSURES

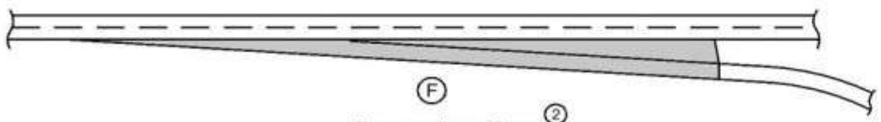
Refer to Section 2528 of the Standard Specifications

Station	Road Closure Qty.	Hazard Closure Qty.	Remarks
4953+40.00	1		Stage 1A: US63 NB South Leg
4955+50.00	1		Stage 1A: US63 NB @ BUS30
504+55.00	1		Stage 1B: BUS30 EB @ US63
507+05.00	1		Stage 1B: BUS30 EB East Leg
4953+30.00	1		Stage 1B: US63 NB South Leg
4959+60.00	1		Stage 1B: US63 NB North Leg
4957+50.00	1		Stage 1B: US63 NB Hardee's NW Entrance
4958+20.00	1		Stage 1B: US63 NB W Mill St
4959+60.00	1		Stage 2A: US63 SB North Leg
501+55.00	1		Stage 2A: BUS30 WB West Leg
4953+30.00	1		Stage 2B: US63 SB South Leg
501+55.00	1		Stage 2B: BUS30 EB West Leg
Total:	**12**		

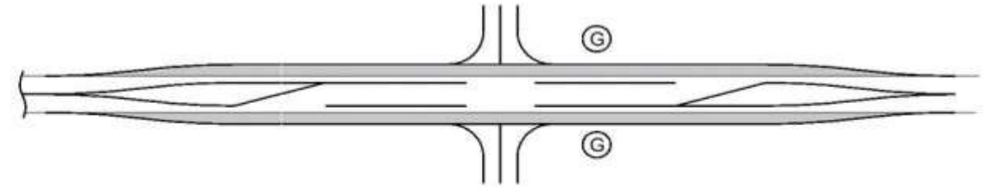
PCC PAVEMENT



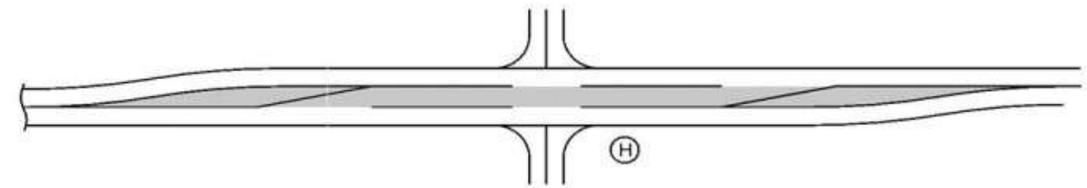
Typical Intersection



Ramp or Loop Taper (2)



Channelized Intersection
Widen Existing Roadway

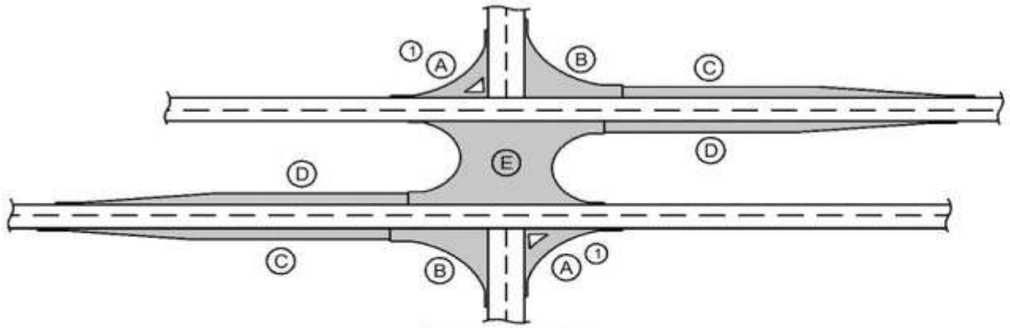


Channelized Intersection
Reconstructed Roadway

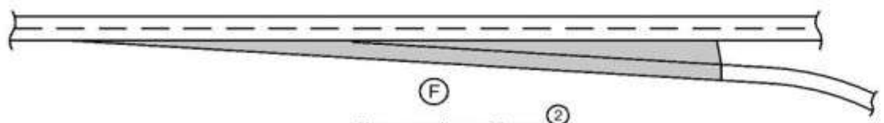
(1) Does not include raised island area or curb. Refer to tabulation 112-4 for quantities.
(2) Refer to PV-410, PV-411, PV-412, and PV-414.
(3) Quantity includes Pavement Header.

Line No.	Road Identification	Direction of Travel	Station From	Station To	Width (FT)	Length (FT)	Area (SY)	Area A(1) (SY)(3)	Area B (SY)(3)	Area C (SY)(3)	Area D (SY)(3)	Area E (SY)(3)	Area F(2) (SY)(3)	Area G (SY)(3)	Area H (SY)(3)	Area by Thickness - Thickness(IN)	Area by Thickness - Area (SY)	Polymer Grid (SY)	Special Backfill (TON)	Modified Subbase (CY)	Granular Subbase (SY)	Remarks
1.0	US63	NB	4956+39.91	4959+57.53	34.3	317.62	965.10									9.5	965.1			322.00		Stage 1B - US63: North Leg
2.0	US63	SB	4957+58.81	4959+56.76	15.9	197.95	262.80									9.5	262.8			88.00		Stage 1B - US63: North Leg
3.0	RAB		13+25.48	13+45.58	20.0	20.10	52.80									9.5	52.8			18.00		Stage 1B - RAB
4.0	RAB		10+00.00	11+52.55	20.0	152.55	406.50									9.5	406.5			136.00		Stage 1B - RAB
5.0	US63	NB	4953+30.78	4955+40.67	18.5	209.89	423.60									9.5	423.6			141.00		Stage 1B - US63: South Leg
6.0	US63	NB	4953+31.89	4955+40.67	21.6	208.78	436.90									9.5	436.9			146.00		Stage 1B - US63: South Leg
7.0	BUS30	EB	505+09.06	507+00.63	24.2	191.57	393.70									9.5	393.7			131.00		Stage 1B - BUS30: East Leg
8.0	BUS30	WB	505+25.12	507+01.12	21.0	176.00	426.60									9.5	426.6			142.00		Stage 1B - BUS30: East Leg
9.0	US63	SB	4956+88.90	4959+57.41	22.4	268.51	410.60									9.5	410.6			137.00		Stage 2A - US63: North Leg
10.0	US63	SB	4956+92.07	4959+57.70	21.5	265.63	515.70									9.5	515.7			172.00		Stage 2A - US63: North Leg
11.0	RAB		11+51.98	11+88.66	20.0	36.68	96.30									9.5	96.3			32.00		Stage 2A - RAB
12.0	BUS30	WB	501+54.92	504+25.00	24.2	270.08	470.90									9.5	470.9			157.00		Stage 2A - BUS30: West Leg
13.0	US63	SB	4953+32.48	4955+64.27	20.5	231.79	542.00									9.5	542.0			181.00		Stage 2B - US63: South Leg
14.0	US63	SB	4953+32.97	4955+90.91	11.3	257.94	122.40									9.5	122.4			41.00		Stage 2B - US63: South Leg
15.0	BUS30	EB	501+56.96	504+08.78	23.1	251.82	663.00									9.5	663.0			221.00		Stage 2B - BUS30: West Leg
17.0	RAB		11+88.66	13+25.48	20.0	136.82	372.90									9.5	372.9			124.00		Stage 2B - RAB
							6561.80													2189		
Area by Thickness - Thickness(IN) 9.5:																						
16.0	**RAB**		**11+62.97**	**13+36.31**	**19.5**	**173.34**	**309.20**									14.0	309.2			103.00		Stage 2B - RAB; Colored
18.0	RAB		13+36.31	13+45.58	19.5	9.27	16.40									14.0	16.4			6.00		Stage 3 - RAB; Colored
19.0	RAB		10+00.00	11+77.28	19.5	177.28	290.40									14.0	290.4			97.00		Stage 3 - RAB; Colored
20.0	US63	NB	4954+57.99	4955+38.60	13.6	80.61	92.20									14.0	92.2			31.00		Stage 4 - US63; South Leg; Colored
21.0	US63	SB	4957+44.73	4957+70.59	9.9	25.86	15.60									14.0	15.6			5.00		Stage 2A - US63: North Leg; Colored
22.0	US63	SB	4957+11.51	4957+33.11	12.9	21.60	15.60									14.0	15.6			5.00		Stage 2A - US63: North Leg; Colored
23.0	US63	SB	4956+91.22	4957+21.45	13.3	30.23	38.10									14.0	38.1			13.00		Stage 3 - US63: North Leg; Colored
							777.5													**260**		
Area by Thickness - Thickness(IN) 14.0:																						
Total:							**7339.3**													**2449**		

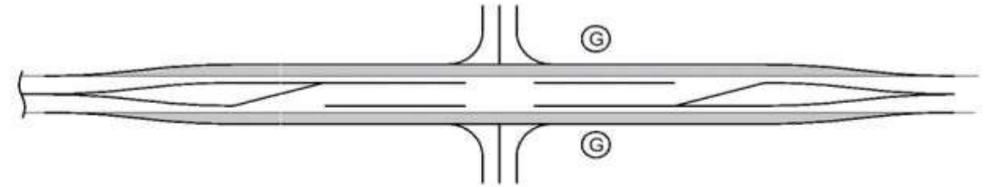
HMA PAVEMENT



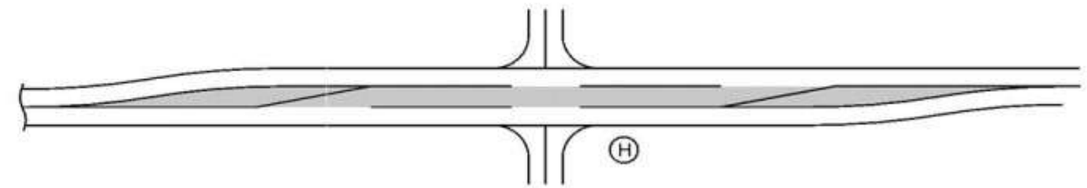
Typical Intersection



Ramp or Loop Taper (2)



Channelized Intersection
Widen Existing Roadway



Channelized Intersection
Reconstructed Roadway

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

Line No.	Road Identification	Direction of Travel	Station From	Station To	Width (FT)	Length (FT)	Area (SY)	Area A(1) (SY)(3)	Area B (SY)(3)	Area C (SY)(3)	Area D (SY)(3)	Area E(2) (SY)(3)	Area F (SY)(3)	Area G (SY)(3)	Area H (SY)(3)	HMA Pavement Surface (TONS)	HMA Pavement Surface (SY)	HMA Pavement Intermediate (TONS)	HMA Pavement Intermediate (SY)	HMA Pavement Base (TONS)	HMA Pavement Base (SY)	Binder Surface (TONS)	Binder Intermediate (TONS)	Binder Base (TONS)	Polymer Grid (SY)	Special Backfill (TONS)	Modified Subbase (CY)	Granular Subbase (SY)	Pavement Scarification (SY)	Remarks
1.0	US63	SB	4958+00.87	4959+57.99		157.12	83.60									9.719	83.60	9.405	83.60	18.810	83.60	0.583	0.564	1.129		40.000				[1] Stage 1A - North Leg
2.0	US63	SB	4959+96.47	4960+21.06		24.59	4.90									0.570	4.90	0.551	4.90	1.103	4.90	0.034	0.033	0.066		2.000				[1] Stage 1A - North Leg
3.0	US63	NB	4954+23.17	4955+21.42		98.25	313.80									36.479	313.80	35.303	313.80	70.605	313.80	2.189	2.118	4.236		148.000				[1] Stage 1A - South Leg
4.0	US63	SB	4953+42.43	4955+41.24		198.81	312.40									36.316	312.40	35.145	312.40	70.290	312.40	2.179	2.109	4.217		148.000				[1] Stage 1A - South Leg
5.0	BUS30	EB	499+00.42	500+60.25		159.83	102.90									11.962	102.90	11.576	102.90	23.152	102.90	0.718	0.695	1.389		49.000				[1] Stage 1A - West Leg
6.0	BUS30	EB	501+64.02	504+06.89		242.87	143.00									16.624	143.00	16.087	143.00	32.175	143.00	0.997	0.965	1.930		68.000				[1] Stage 1A - West Leg
7.0	US63	NB	4954+55.07	4955+41.46		86.39	138.60									16.112	138.60	15.592	138.60	31.185	138.60	0.967	0.936	1.871		65.000				[1] Stage 1B - South Leg
8.0	US63	WB	505+44.92	505+62.74		17.82	29.80									3.464	29.80	3.352	29.80	6.705	29.80	0.208	0.201	0.402		14.000				[1] Stage 1B - East Leg
9.0	RAB	RAB	13+17.71	13+45.58		27.87	60.30									7.010	60.30	6.784	60.30	13.567	60.30	0.421	0.407	0.814		28.000				[1] Stage 1B - RAB Leg
10.0	RAB	RAB	10+00.00	11+63.54		163.54	463.30									53.859	463.30	52.121	463.30	104.242	463.30	3.232	3.127	6.255		219.000				[1] Stage 1B - RAB Leg
11.0	US63	SB	4956+96.48	4957+62.49		66.01	167.00									19.414	167.00	18.788	167.00	37.575	167.00	1.165	1.127	2.255		79.000				[1] Stage 1B - North Leg
12.0	US63	SB	4956+88.25	4957+23.20		34.95	61.40									7.138	61.40	6.907	61.40	13.815	61.40	0.428	0.414	0.829		29.000				[1] Stage 2A - North Leg
13.0	BUS30	WB	501+54.92	503+62.34		207.42	214.40									24.924	214.40	24.120	214.40	48.240	214.40	1.495	1.447	2.894		101.000				[1] Stage 2A - West Leg
14.0	RAB	RAB	11+52.27	11+62.98		10.71	67.00									7.789	67.00	7.537	67.00	15.075	67.00	0.467	0.452	0.904		32.000				[1] Stage 2B - RAB Leg
15.0	US63	NB	4957+42.08	4958+34.34		92.26	407.30									47.349	407.30	45.821	407.30	91.642	407.30	2.841	2.749	5.499		192.000				[2] Stage 1B - North Leg
Total:							**2569.7**									**298.729**	**2569.7**	**289.089**	**2569.7**	**578.181**	**2569.7**	**17.924**	**17.344**	**34.69**		**1214**				

[1] 8" HMA over 9" Special Backfill at 140 lbs/cf

112_09
10/15/24

SHOULDERS

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

Roadway Identification	Direction of Travel (1)	Station From	Station To	Side	P Width (FT)	P SG Width (2) (FT)	G Width (FT)	L Length (FT)	Class 13 Excavation (CY)(3)(4)	HMA (TON)	HMA (TON/ STA)	Binder (TONS)	Paved Shoulder (3) (SY)	Shoulder at Grdrail (5)(7)	Reinforced Paved Shoulder(3) (SY)	Special Backfill HMA Alt. (3) (TON)	Special Backfill HMA Alt. (TON/STA)	Special Backfill PCC Alt. (3) (TON)	Special Backfill PCC Alt. (TON/STA)	Polymer Grid (SY)	Subbase (3) (8) (CY)	Granular Shoulder (3) (TON)	Granular Shoulder (TON/STA)	Shoulder Const. Alt (3) (STA)	Shoulder Const. Alt HMA (6) (CY)	Shoulder Const. Alt PCC (6) (CY)	Remarks
BUS30	EB	506+40.71	506+50.78	Right	4.25		5.75	10.10					4.8								2.70	5.921	58.800	0.10			[1] Stage 1B-BUS30: East Leg
BUS30	EB	506+50.78	506+96.43	Right	6		4	44.50					30.4								14.80	16.936	37.100	0.46			[1] Stage 1B-BUS30: East Leg
BUS30	EB	506+96.43	507+00.54	Right	6		6.35	4.70					2.7								1.60	2.733	66.500	0.04			[1] Stage 1B-BUS30: East Leg
BUS30	WB	501+55.16	501+58.98	Left	11.2		8.15	4.10					4.8								2.20	3.396	88.900	0.04			[1] Stage 2A-BUS30: West Leg
BUS30	WB	501+58.98	501+74.92	Left	8.3		4	15.90					14.7								6.70	5.914	37.100	0.16			[1] Stage 2A-BUS30: West Leg
BUS30	WB	501+74.92	502+82.74	Left	6		4	106.80					71.9								35.60	40.001	37.100	1.08			[1] Stage 2A-BUS30: West Leg
BUS30	WB	502+82.74	502+92.84	Left	4.25		5.75	10.10					4.8								2.70	5.939	58.800	0.10			[1] Stage 2A-BUS30: West Leg
Total:													**134.1**								**66.3**	**80.84**		**1.98**			

[1] 9.5 inches PCC over 12 inches Modified Subbase

100_05
10/17/23

CURB AND GUTTER

Refer to PV-102

Line No.	Station From	Station To	Side	Length (LF)	Width (LF)	Width 1.5 (LF)	Width 2.0 (LF)	Width 2.5 (LF)	Width 3.0 (LF)	Width 3.5 (LF)	Width 4.0 (LF)	Width 4.5 (LF)	Width 5.0 (LF)	Width 5.5 (LF)	Modified Subbase (CY)	Special Backfill (TON)	Remarks
1.0	4953+82.65	4953+87.41	Left	11.92	2.5			11.92							2.40		Stage 1B - US63
2.0	4957+70.09	4957+74.60	Right	10.70					10.70						2.20		Stage 2A - US63
3.0	502+38.35	502+43.30	Right	11.50	2.5			11.50							2.30		Stage 2B - BUS30
4.0	502+43.31	503+86.60	Right	143.30	2.5			143.30							29.20		Stage 2B - BUS30
5.0	503+84.90	503+87.19	Left	5.40	2.5			5.40							1.10		Stage 2B - BUS30
6.0	503+86.58	503+89.66	Right	8.10	2.5			8.10							1.70		Stage 2B - BUS30
7.0	11+96.10	12+13.78	Right	24.80	2.5			24.80							5.10		Stage 2B - RAB
8.0	13+07.71	13+25.36	Right	29.70	2.5			29.70							6.10		Stage 2B - RAB
9.0	4953+86.47	4955+31.43	Left	146.30	2.5			146.30							29.80		Stage 2B - US63
10.0	4955+31.43	4955+33.79	Left	5.20	2.5			5.20							1.10		Stage 2B - US63
11.0	4955+35.12	4955+37.89	Right	7.60	2.5			7.60							1.50		Stage 2B - US63
12.0	11+31.41	11+52.69	Right	26.80	2.5			26.80							5.50		Stage 3 - RAB
13.0	4956+90.42	4957+22.05	Right	39.60					39.60						8.80		Stage 3 - US63
14.0	4956+90.42	4957+10.56	Right	28.90					28.90						6.40		Stage 3 - US63
15.0	4956+91.39	4957+62.64	Left	75.60	2.5			75.60							15.40		Stage 3 - US63
16.0	4957+02.04	4957+60.61	Right	67.30	2.5			67.30							13.70		Stage 3 - US63
17.0	10+20.57	10+43.42	Right	77.80	2.5			77.80							15.80		Stage 4 - RAB
18.0	4954+55.07	4955+41.46	Right	75.60					75.60						16.80		Stage 4 - US63
19.0	4954+55.07	4955+41.46	Right	86.50					86.50						19.20		Stage 4 - US63
Total:								**641.32**	**241.3**						**184.1**		

MATERIALS FOR TYPE 'A' SIGNS

Refer to SI-101, SI-111, SI-119 and N Sheets.

Line No.	Type A Signing Typicals	Sign Number	Dir. of Travel	Sign Location Station	Wood Posts (No.)	4 x 6 Leg 1 (FT)	4 x 6 Leg 2 (FT)	Perf. Sq. Steel Leg 1 (FT)	Perf. Sq. Steel Leg 2 (FT)	Perf. Sq. Steel Leg 3 (FT)	Perf. Sq. Anchor Type	Anchor Quantity (EA)	Steel Rect. Tube (No)	Steel Rect. Tube (FT)	Rect. Tube Anchors (EA)	Type A Bracket One Post	Type A Bracket Two Post	Type A Bracket Auxiliary	Type A Bracket (H)	Type A Bracket (F)	Type A Bracket (F1)	Install. Type	Install. Dim X (FT)	Install. Signing Notes	Remarks
1.0		D1-5	NB	4952+06.00				19.0	19.0		Concrete	2					1					1	12.0		ML063NB
2.0		D1-5	SB	4959+77.00				19.0	19.0		Concrete	2					1					1	12.0		ML063SB
3.0		D1-5	EB	500+55.00				19.0	19.0		Concrete	2					1					1	12.0		ML030EB
4.0		D1-5	WB	508+44.00				19.0	19.0		Concrete	2					1					1	12.0		ML030WB
5.0		R1-1	WB	4958+56.00				13.0			Concrete	1				1						1	12.0		ML063NB; Side road
6.0		R1-2	NB	4955+30.00				14.0			Concrete	1				1						1	12.0		ML063NB
7.0		R1-2	NB	4955+35.00				14.0			Concrete	1				1						1	12.0		ML063NB
8.0		R1-2	NB	4955+39.00				14.0			Concrete	1				1						1	12.0		ML063NB
9.0		R1-2	NB	4955+39.00				14.0			Concrete	1				1						1	12.0		ML063NB
10.0		R1-2	SB	4956+93.00				14.0			Concrete	1				1						1	12.0		ML063SB
11.0		R1-2	SB	4956+93.00				14.0			Concrete	1				1						1	12.0		ML063SB
12.0		R1-2	SB	4957+01.00				14.0			Concrete	1				1						1	12.0		ML063SB
13.0		R1-2	SB	4957+44.00				14.0			Concrete	1				1						1	12.0		ML063SB
14.0		R1-2	EB	503+78.00				14.0			Concrete	1				1						1	12.0		ML030EB
15.0		R1-2	EB	503+82.00				14.0			Concrete	1				1						1	12.0		ML030EB
16.0		R1-2	WB	505+43.00				14.0			Concrete	1				1						1	12.0		ML030WB
17.0		R1-2	WB	505+53.00				14.0			Concrete	1				1						1	12.0		ML030WB
18.0		R6-1	EB	504+39.00				14.0	14.0		Concrete	2					1					1	12.0		ML030EB
19.0		R6-4B	EB	504+39.00													1								ML030EB
20.0		R6-1	WB	504+92.00				14.0	14.0		Concrete	2					1					1	12.0		ML030WB
21.0		R6-4B	WB	504+92.00													1								ML030WB
22.0		R6-1	NB	4955+83.00				14.0	14.0		Concrete	2					1					1	12.0		ML063NB
23.0		R6-4B	NB	4955+83.00													1								ML063NB
24.0		R6-1	SB	4956+50.00				14.0	14.0		Concrete	2					1					1	12.0		ML063SB
25.0		R6-4B	SB	4956+50.00													1								ML063SB
26.0		R4-7	NB	4954+02.00				13.0			Concrete	1				1						1	12.0		ML063NB
27.0		R4-7	SB	4957+56.00				13.0			Concrete	1				1						1	12.0		ML063SB
28.0		R4-7	EB	502+47.00				13.0			Concrete	1				1						1	12.0		ML030EB
29.0		R4-7	WB	506+87.00				13.0			Concrete	1				1						1	12.0		ML030WB
30.0		R3-8	NB	4953+45.00				13.0			Concrete	1				1						1	12.0		ML063NB
31.0		R3-8	SB	4958+58.00				13.0			Concrete	1				1						1	12.0		ML063SB
32.0		M2-1	NB	4948+81.00				14.0			Concrete	1				1						1	12.0		ML063NB
33.0		M2-1	SB	4963+65.00				14.0			Concrete	1				1						1	12.0		ML063SB
34.0		M2-1	EB	496+51.00				14.0			Concrete	1				1						1	12.0		ML030EB
35.0		M2-1	WB	512+52.00				14.0			Concrete	1				1						1	12.0		ML030WB
36.0		M4-3	NB	4948+81.00												1									ML063NB
37.0		M4-3	SB	4963+65.00												1									ML063SB
38.0		M1-4	NB	4948+81.00												1									ML063NB
39.0		M1-4	SB	4955+33.00												1									ML063SB
40.0		M1-4	SB	4963+65.00												1									ML063SB
41.0		M1-4	NB	4956+98.00												1									ML063NB
42.0		M1-4	EB	496+51.00												1									ML030EB
43.0		M1-4	WB	503+85.00												1									ML030WB
44.0		M1-4	WB	512+52.00												1									ML030WB
45.0		M1-4	EB	505+51.00												1									ML030EB
46.0		W2-6	NB	4950+25.00				15.0			Concrete	1				1						1	12.0		ML063NB
47.0		W2-6	SB	4961+78.00				15.0			Concrete	1				1						1	12.0		ML063SB
48.0		W2-6	EB	498+51.00				15.0			Concrete	1				1						1	12.0		ML030EB
49.0		W2-6	WB	510+52.00				15.0			Concrete	1				1						1	12.0		ML030WB
50.0		W13-1P	NB	4950+25.00												1									ML063NB
51.0		W13-1P	SB	4961+78.00												1									ML063SB
52.0		W13-1P	EB	498+51.00												1									ML030EB
53.0		W13-1P	WB	510+52.00												1									ML030WB
54.0		W12-1	NB	4954+62.00				13.0			Concrete	1				1						1	12.0		ML063NB
55.0		W12-1	SB	4957+66.00				13.0			Concrete	1				1						1	12.0		ML063SB

190_51
2/10/23

MATERIALS FOR TYPE 'A' SIGNS

Refer to SI-101, SI-111, SI-119 and N Sheets.

Line No.	Type A Signing Typicals	Sign Number	Dir. of Travel	Sign Location Station	Wood Posts (No.)	4 x 6 Leg 1 (FT)	4 x 6 Leg 2 (FT)	Perf. Sq. Steel Leg 1 (FT)	Perf. Sq. Steel Leg 2 (FT)	Perf. Sq. Steel Leg 3 (FT)	Perf. Sq. Anchor Type	Anchor Quantity (EA)	Steel Rect. Tube (No)	Steel Rect. Tube (FT)	Rect. Tube Anchors (EA)	Type A Bracket One Post	Type A Bracket Two Post	Type A Bracket Auxiliary	Type A Bracket (H)	Type A Bracket (F)	Type A Bracket (F1)	Install. Type	Install. Dim X (FT)	Install. Signing Notes	Remarks
56.0		M3-3	SB	4955+33.00				15.0			Concrete	1				1						1	12.0		ML063SB
57.0		M3-1	NB	4956+98.00				15.0			Concrete	1				1						1	12.0		ML063NB
58.0		M6-2	SB	4955+33.00												1									ML063SB
59.0		M6-2	NB	4956+98.00												1									ML063NB
60.0		M6-2	WB	503+85.00												1									ML030WB
61.0		M6-2	EB	505+51.00												1									ML030EB
62.0		M4-3	WB	503+85.00				15.0			Concrete	1				1						1	12.0		ML030WB
63.0		M4-3	EB	505+51.00				15.0			Concrete	1				1						1	12.0		ML030EB
Total:								**593**	**132**			**49**				**51**									

PERFORATED SQUARE STEEL TUBE POST ANCHOR, BREAK-AWAY CONCRETE INSTALLATION 49 EACH

190_66
9/29/23

SUMMARY OF TYPE 'A' SIGNS

Line No.	Sign Number	Non-Standard Sign Number or Name	Quantity (EA)	Size (IN)	Total Sign Area (SF)	Remarks
1.0	R1-1		1	30X30	6.3	
2.0	R1-2		12	36X36	108.0	
3.0	R6-1		4	36X12	12.0	
4.0			4	60X24	40.0	
5.0	R4-7		4	24X30	20.0	
6.0		R3-8(MOD)	2	30X30	12.6	
7.0	M2-1		4	21X15	8.8	
8.0			2	24X12	4.0	
9.0	M1-4		8	24X24	32.0	
10.0			4	30X30	25.2	
11.0	W13-1P		4	18X18	9.2	
12.0	W12-1		2	24X24	8.0	
13.0	M3-3		1	24X12	2.0	
14.0	M3-1		1	24X12	2.0	
15.0	M6-2		4	21X15	8.8	
16.0		D1-5	1	96X126	84.0	EB; See Sheet N.2
17.0		D1-5	1	96X126	84.0	WB; See Sheet N.2
18.0		D1-5	1	96X126	84.0	NB; See Sheet N.3
19.0		D1-5	1	96X126	84.0	SB; See Sheet N.3
Total:					**634.9**	

190_62
2/13/23

EXISTING SIGNS TO BE REMOVED

Line No.	Sign Number or Description	Location Station	Direction of Travel	Type 'A' Sign Assembly (RA) (EA)	Type 'B' Sign Assembly (RB) (EA)	Type 'A' Remove and Reinstall (RR) (EA)	Type 'B' Remove and Reinstall (RR) (EA)	Concrete Foundation (RF) (EA)	Support Structure & Foundation (RS) (EA)	Applicable Signing Notes	Remarks
1.0	R1-2	4955+31.62	NB	1					1		NB Right turn
2.0	M1-4	4954+00.77	NB	1					1		
3.0	M6-3	4954+00.77	NB	1							Shared support structure and foundation
4.0	M1-4	4957+23.84	NB	1					1		
5.0	M3-1	4957+23.84	NB	1							Shared support structure and foundation
6.0	R1-2	4957+77.34	SB	1							Heading SB Right turn; Mounted on lightpole
7.0	M1-4	4958+06.09	SB	2					1		
8.0	M6-3	4958+06.09	SB	2							Shared support structure and foundation
9.0	R1-1	4958+52.89	WB	1					1		W Mill St
10.0	R3-8	501+73.90	EB	1					1		
11.0	M1-4	502+79.18	EB	1					1		
12.0	M6-4	502+79.18	EB	1							Shared support structure and foundation
13.0	R3-8	508+28.68	WB	1							Mounted on lightpole
Total:				**15**					**7**		

108_35
8/15/22

TEMPORARY LANE SEPARATOR SYSTEM

See TC-61

Line No.	Station From	Station To	Length (LF)	Remarks
1.0	4953+25.00	4959+60.00	622.0	ML063NB: Stage 1B
2.0	4954+60.00	4960+10.00	509.0	ML063SB: Stage 2A
3.0	501+70.00	504+75.00	315.0	ML030WB: Stage 2A
4.0	4953+30.00	4960+10.00	660.0	ML063SB: Stage 2B
5.0	501+55.00	504+20.00	310.0	ML030WB: Stage 2B
Total:			**2416**	

108_01
8/15/22

LIGHTING INSTALLATIONS

Line No.	Location No.	Station	LI-101 Type	A	E (FT)	LI-201 Type	Remarks
1.0	A-1	4957+76.18	4	4	6.0	A	
2.0	A-2	4958+55.96	4	4	6.0	A	
3.0	A-3	503+53.98	4	4	6.0	A	
4.0	A-4	12+70.58	4	4	6.0	A	
5.0	B-1	506+11.10	4	4	6.0	A	
6.0	B-2	505+62.29	4	4	6.0	A	
7.0	B-3	4957+04.19	4	4	6.0	A	

108_02A
8/15/22

LISTING OF LIGHTING AND SIGNAL WORK

Line No.	Handhole No.	Handhole Station	Handhole Type	Conduit Line No.	Station From	Station To	Conduit Type	Diameter (IN)	Length (LF)	Remarks
1.0	H1	4956+95.00	TYPE II							
2.0	H2	503+49.00	TYPE II							

108_02
10/24/24

ELECTRICAL DUCTS

Line No.	Location	Conduit Type	Diameter (IN)	Length (FT)	Remarks
1.0	CC to B-1	PVC	2.0	54.0	
2.0	CC to B-2	PVC	2.0	137.0	
3.0	CC to H1	PVC	2.0	124.0	
4.0	H2 to A-1	PVC	2.0	67.0	
5.0	H1 to H2	PVC	2.0	178.0	
6.0	A-2 to A-1	PVC	2.0	100.0	
7.0	A-3 to A-4	PVC	2.0	106.0	
8.0	H2 to A-3	PVC	2.0	100.0	
9.0	CC to Utility Pad	PVC	2.0	57.0	
Total:				**923**	

108_27
8/15/22

TEMPORARY FLOODLIGHTING LUMINAIRES

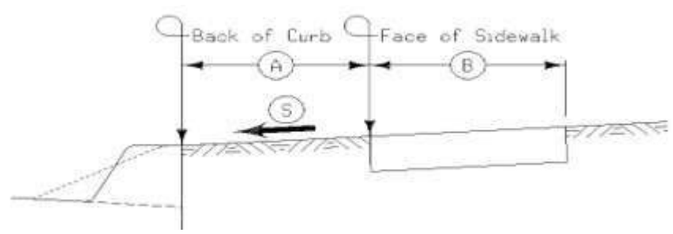
Possible Standard: LI-130

Line No.	Item No.	Station	Offset (FT)	Number Luminaires	Remarks
1.0		4954+58.38	-56.6	1	ML063SB
2.0		4953+84.72	48.9	1	ML063NB
3.0		495877+77.00	-1.3	1	ML063NB
4.0		4957+91.20	13.6	1	ML063NB
Total:				**4**	

113_01A
11/19/24

SIDEWALKS

See MI-220 and S Sheets



Line No.	Road Identification	Station From	Station To	Side	A (FT)	B (FT)	S %	Sidewalk Thickness (IN)	Sidewalk Length (FT)	Sidewalk Width (FT)	Sidewalk Area (SF)	4" PCC Sidewalk (SY)	6" PCC Sidewalk (SY)	8" PCC Sidewalk (SY)	10" PCC Sidewalk (SY)	Detectable Warnings (SF)	Remarks
1.0	BUS30	505+88.78	505+98.70	Left		10.0		6					3.0			20.0	Stage 1B - BUS30: East Leg Curb Ramp
2.0	BUS30	505+87.72	505+97.59	Right		10.0		6					3.0			20.2	Stage 1B - BUS30: East Leg Curb Ramp
3.0	US63	4957+31.49	4957+41.49	Left		10.0		6					4.3			20.0	Stage 3 - US63: North Leg Curb Ramp
4.0	US63	4957+31.42	4957+41.08	Left		10.0		6					4.5			19.7	Stage 3 - US63: North Leg Curb Ramp
5.0	US63	4957+31.43	4957+44.42	Right		10.0		6					4.1			20.0	Stage 2A - US63: North Leg Curb Ramp
6.0	US63	4957+33.51	4957+47.42	Right		10.0		6					3.7			19.4	Stage 2A - US63: North Leg Curb Ramp
Total:													**22.6**			**119.3**	

PAVEMENT MARKING LINE TYPES

See PM-110

Line factors based on 6-inch wide continuous line.
***MNY4 - Factor of 1.00 as value includes number of 6-inch passes to cover median nose area.

ELY4: Edge Line Left (Yellow) @ 1.00
ELW4: Edge Line (White) @ 1.00
ELY6: Edge Line Left (Yellow) @ 1.00
ELW6: Edge Line (White) @ 1.00
CHW8: Channelizing Line (White) @ 1.33
DELW18: Dotted Edge Line (White) @ 0.5
LDW8: Lane Drop (White) @ 0.33
MNY6: Median Nose (Yellow) @ 1.00
SLW2: Stop Line (White) @ 4.00
CHY8: Channelizing Line (Yellow) @ 1.33
YLW2: Yield Line (white) @ 1.15
DCY4: Double Centerline (Yellow) @ 2.00
DCY6: Double Centerline (Yellow) @ 2.00
SPY6: Sloped Curb 6: (Yellow) @ 2.28

Location								Length by Line Type (Unfactored)																Remarks
Road ID	Station to Station		Dir. of Travel	Marking Type	Side			DCY4	ELW4	ELY4	CHW8	DELW18	SLW2	DCY6	ELW6	ELY6	LDW8	CHY8	YLW2	MNY6	SPY6	NPY6	SLW4	
					L	C	R	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	
EB BUS 30																								
	501+54.92	503+64.74	WB	Waterborne/Solvent Paint			X								2.08									
	501+55.14	502+75.24	EB	Waterborne/Solvent Paint		X												1.20						
	501+56.05	503+90.34	EB	Waterborne/Solvent Paint			X								2.27									
	502+75.24	503+77.73	EB	Waterborne/Solvent Paint		X										1.02								
	503+77.72	503+82.04	EB & WB	Waterborne/Solvent Paint	X						0.69													
	503+91.80		EB	Waterborne/Solvent Paint			X												0.19					
	505+14.23	505+33.29	EB	Waterborne/Solvent Paint			X					0.22												
	505+36.16	505+63.05	EB & WB	Waterborne/Solvent Paint	X						0.69													
	505+43.46	506+10.21	EB	Waterborne/Solvent Paint			X					0.61												
	505+50.16	506+85.05	EB	Waterborne/Solvent Paint		X										1.35								
	505+72.12	507+00.68	EB	Waterborne/Solvent Paint			X								1.26									
	506+85.03		EB	Waterborne/Solvent Paint			X														0.10			
	506+85.03		EB	Waterborne/Solvent Paint			X													0.01				
	506+85.05	507+00.83	EB	Waterborne/Solvent Paint		X												0.16						
NB US 63																								
	4953+90.88		NB	Waterborne/Solvent Paint	X																0.10			
	4953+90.88		NB	Waterborne/Solvent Paint	X															0.01				
	4954+64.32		NB	Waterborne/Solvent Paint			X														0.10			
	4954+64.32		NB	Waterborne/Solvent Paint			X													0.01				
	4955+30.28	4955+42.16	NB	Waterborne/Solvent Paint			X				0.50													
	4955+36.12	4955+37.20	NB	Waterborne/Solvent Paint			X												0.19					
	4955+38.60	4955+42.30	NB	Waterborne/Solvent Paint			X												0.29					
	4956+13.69	4959+57.43	NB	Waterborne/Solvent Paint			X								3.58									
	4956+80.28	4957+15.03	NB & SB	Waterborne/Solvent Paint	X	X	X				0.78													
	4953+31.90	4955+38.60	NB	Waterborne/Solvent Paint			X								1.91									
	4953+32.77	4954+15.51	NB	Waterborne/Solvent Paint		X												0.82						
	4953+50.92	4954+34.81	NB	Waterborne/Solvent Paint			X										0.82							
	4954+15.51	4955+23.39	NB	Waterborne/Solvent Paint		X										1.08								
	4954+34.81	4954+64.61	NB	Waterborne/Solvent Paint			X				0.54													
	4954+57.29	4955+38.60	NB	Waterborne/Solvent Paint			X									0.61								
	4954+64.66	4955+30.34	NB	Waterborne/Solvent Paint			X								0.55									
	4955+23.39	4955+38.62	NB & SB	Waterborne/Solvent Paint	X	X	X				0.76													
	4956+00.11	4956+32.08	NB	Waterborne/Solvent Paint			X					0.32												
	4956+94.36	4957+54.38	NB	Waterborne/Solvent Paint		X										0.60								
	4957+54.38	4959+57.44	NB	Waterborne/Solvent Paint		X												2.03						
	4958+16.07		NB	Waterborne/Solvent Paint			X							0.22										
	4958+16.07	4958+36.05	NB	Waterborne/Solvent Paint			X						0.20											
SB US 63																								
	4956+87.15	4956+92.59	SB	Waterborne/Solvent Paint	X														0.30					
	4953+32.56	4954.12+44	SB	Waterborne/Solvent Paint		X												0.80						
	4954.12+44	4955+36.35	SB	Waterborne/Solvent Paint		X										1.24								
	4956+87.15	4956+98.64	SB	Waterborne/Solvent Paint	X						0.48													
	4956+92.59	4959+57.49	SB	Waterborne/Solvent Paint	X										2.45									
	4956+93.80		SB	Waterborne/Solvent Paint	X														0.19					
	4957+53.42		SB	Waterborne/Solvent Paint			X														0.10			
	4957+53.42		SB	Waterborne/Solvent Paint			X													0.01				
	4957+63.42	4957+99.64	SB	Waterborne/Solvent Paint	X						0.70													
	4953+32.75	4956+18.10	SB	Waterborne/Solvent Paint	X										3.06									
	4956+01.57	4956+31.62	SB	Waterborne/Solvent Paint	X							0.30												
	4956+98.67	4957+63.67	SB	Waterborne/Solvent Paint	X											0.54								
	4956+98.67	4957+63.67	SB	Waterborne/Solvent Paint	X										0.53									
	4957+07.76	4957+53.69	SB	Waterborne/Solvent Paint		X										0.46								
	4957+53.69	4959+56.76	SB	Waterborne/Solvent Paint		X												2.03						

PAVEMENT MARKING LINE TYPES

See PM-110

Line factors based on 6-inch wide continuous line.
***MNY4 - Factor of 1.00 as value includes number of 6-inch passes to cover median nose area.

ELY4: Edge Line Left (Yellow) @ 1.00
ELW4: Edge Line (White) @ 1.00
ELY6: Edge Line Left (Yellow) @ 1.00
ELW6: Edge Line (White) @ 1.00
CHW8: Channelizing Line (White) @ 1.33
DELW18: Dotted Edge Line (White) @ 0.5
LDW8: Lane Drop (White) @ 0.33
MNY6: Median Nose (Yellow) @ 1.00
SLW2: Stop Line (White) @ 4.00
CHY8: Channelizing Line (Yellow) @ 1.33
YLW2: Yield Line (white) @ 1.15
DCY4: Double Centerline (Yellow) @ 2.00
DCY6: Double Centerline (Yellow) @ 2.00
SPY6: Sloped Curb 6: (Yellow) @ 2.28

Location								Length by Line Type (Unfactored)																	
Road ID	Station to Station		Dir. of Travel	Marking Type	Side			DCY4	ELW4	ELY4	CHW8	DELW18	SLW2	DCY6	ELW6	ELY6	LDW8	CHY8	YLW2	MNY6	SPY6	NPY6	SLW4	Remarks
					L	C	R	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	
	4957+63.59		SB	Waterborne/Solvent Paint	X																0.10			
	4957+63.59		SB	Waterborne/Solvent Paint	X															0.01				
	4957+99.64	4958+61.51	SB	Waterborne/Solvent Paint	X												0.59							
WB BUS 30																								
	501+54.92	502+43.31	WB	Waterborne/Solvent Paint		X												0.88						
	502+43.31	503+83.03	WB	Waterborne/Solvent Paint		X										1.40								
	502+48.29		WB	Waterborne/Solvent Paint	X																0.10			
	502+48.29		WB	Waterborne/Solvent Paint	X															0.01				
	503+19.68	503+91.17	WB	Waterborne/Solvent Paint	X							0.67												
	503+99.83	504+18.96	WB	Waterborne/Solvent Paint	X							0.23												
	505+41.50		WB	Waterborne/Solvent Paint	X														0.19					
	505+42.94	507+00.82	WB	Waterborne/Solvent Paint	X										1.50									
	505+55.51	506+57.99	WB	Waterborne/Solvent Paint		X										1.02								
	506+57.99	507+00.61	WB	Waterborne/Solvent Paint		X												0.43						
Stage 1A																								
	4957+46.72	4958+16.20	SB	Removal of Paint	X																	0.65		ML063SB
	4959+75.66	4961+55.94	SB	Removal of Paint			X															3.44		ML063SB
Stage 1B																								
	4956+64.17	4957+46.72	SB	Removal of Paint	X																	0.80		ML063SB
	4958+16.20	4959+75.66	SB	Removal of Paint	X																	1.61		ML063SB
	4956+62.92	4958+39.01	NB	Removal of Paint	X																	1.59		ML063NB
	4959+57.43	4961+56.33	NB	Removal of Paint	X																	1.99		ML063NB
	4952+33.69	4953+32.80	SB	Removal of Paint	X				0.99															ML063SB
	4950+94.83	4953+32.80	SB	Removal of Paint	X				2.37															ML063SB
	4950+93.12	4953+32.45	NB	Removal of Paint	X				2.39															ML063NB
	4952+31.16	4953+32.45	NB	Removal of Paint			X		1.01															ML063NB
	503+86.62		EB	Removal of Paint									0.25											ML030EB
	4952+11.28	4956+20.89	SB	Wet Retroreflective Removable Tape	X				4.31															ML063SB
	4953+28.27	4956+35.07	NB	Wet Retroreflective Removable Tape	X				2.99															ML063SB
	4950+93.20	4952+15.70	BOTH	Wet Retroreflective Removable Tape						1.23														ML063NB
	4950+56.09	4952+14.96	NB	Wet Retroreflective Removable Tape					1.21															ML063NB
	503+86.45	504+21.76	BOTH	Wet Retroreflective Removable Tape	X		X	0.36																ML030EB
	504+51.06		EB	Wet Retroreflective Removable Tape	X		X						0.11											ML030EB
	4956+35.07	4961+54.45	NB	Wet Retroreflective Removable Tape	X		X		5.16															ML063SB
	4959+58.05	4961+55.77	BOTH	Wet Retroreflective Removable Tape						2														ML063SB
	4957+86.45	4960+58.63	SB	Wet Retroreflective Removable Tape					2.78															ML063SB
Stage 2A																								
	502+40.14	503+85.91	EB	Removal of Paint			X																1.43	ML030EB
	501+55.72	503+78.28	EB	Removal of Paint			X			2.29														ML030WB
	503+12.23	503+82.15	WB	Removal of Paint			X			0.74														ML030WB
	4953+32.48	4955+79.29	SB	Removal of Paint			X															2.36		ML063SB
	4960+62.22	4961+83.55	SB	Removal of Paint		X																1.20		ML063SB
	4953+82.37	4954+55.80	NB	Wet Retroreflective Removable Tape			X			0.76														ML063NB
	4960+62.22	4961+83.55	SB	Wet Retroreflective Removable Tape	X		X		1.21															ML063SB
	4960+62.22	4961+83.55	SB	Wet Retroreflective Removable Tape			X			1.21														ML063SB
	4959+57.44	4960+59.33	NB	Wet Retroreflective Removable Tape			X		1.01															ML063NB
Stage 2B																								
	4951+59.83	4952+77.74	NB	Wet Retroreflective Removable Tape	X		X			1.2														ML063NB
	50108+64.78	50109+87.85	EB	Wet Retroreflective Removable Tape			X		1.21															ML030EB
	501+55.72	503+96.44	WB	Wet Retroreflective Removable Tape	X				2.41															ML030WB
	4956+94.44	4959+56.76	SB	Wet Retroreflective Removable Tape	X		X		2.54															ML063SB
	4960+62.22	4961+83.55	SB	Wet Retroreflective Removable Tape	X		X		1.21															ML063SB
	4960+62.22	4961+83.55	SB	Wet Retroreflective Removable Tape			X			1.21														ML063SB

108_22
MODIFIED

PAVEMENT MARKING LINE TYPES

See PM-110

Line factors based on 6-inch wide continuous line.
***MNY4 - Factor of 1.00 as value includes number of 6-inch passes to cover median nose area.

ELY4: Edge Line Left (Yellow) @ 1.00
ELW4: Edge Line (White) @ 1.00
ELY6: Edge Line Left (Yellow) @ 1.00
ELW6: Edge Line (White) @ 1.00
CHW8: Channelizing Line (White) @ 1.33
DELW18: Dotted Edge Line (White) @ 0.5
LDW8: Lane Drop (White) @ 0.33
MNY6: Median Nose (Yellow) @ 1.00
SLW2: Stop Line (White) @ 4.00
CHY8: Channelizing Line (Yellow) @ 1.33
YLW2: Yield Line (white) @ 1.15
DCY4: Double Centerline (Yellow) @ 2.00
DCY6: Double Centerline (Yellow) @ 2.00
SPY6: Sloped Curb 6: (Yellow) @ 2.28

Location							Length by Line Type (Unfactored)																Remarks
Road ID	Station to Station	Dir. of Travel	Marking Type	Side			DCY4	ELW4	ELY4	CHW8	DELW18	SLW2	DCY6	ELW6	ELY6	LDW8	CHY8	YLW2	MNY6	SPY6	NPY6	SLW4	
				L	C	R	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	
Factored Total:	**Waterborne/Solvent Paint**									**6.84**	**1.18**	**0.8**	**0.44**	**19.19**	**9.32**	**0.47**	**11.11**	**1.55**	**0.06**	**1.37**			
Factored Total:	**Wet Retroreflective Removable Tape**						**0.48**	**17.45**	**5.1**			**0.44**											
Factored Total:	**Removal of Paint**							**4.53**	**2.03**			**1**									**17.05**	**0.96**	
Factored Total:	**Removal of Removable Tape**						**0.48**	**17.45**	**5.1**			**0.44**											

Bid Quantity: Painted Pavement Markings, Waterborne or Solvent-Based	**52.33**
Bid Quantity: Wet Retroreflective Removable Tape Markings	**23.47**
Bid Quantity: Pavement Markings Removed	**25.57**
Incidental Removal of Removable Tape	**23.47**

108_29
4/15/25

PAVEMENT MARKING SYMBOLS AND LEGENDS

Refer to PM-111

Line No.	Roadway Identification	Station	Side	Pavement Symbol	Quantity (EA)	Groove Marking Needed?	Remarks
1.0	EB BUS 30	502+75.00		LTAW	1		Stage 1A; Removal of Paint
2.0	EB BUS 30	502+75.00		CSRW	1		Stage 1B; Removal of Paint
3.0	EB BUS 30	503+15.00		LTAW	1		Stage 1A; Removal of Paint
4.0	EB BUS 30	503+15.00		CSRW	1		Stage 1B; Removal of Paint
5.0	EB BUS 30	503+75.00		LTAW	1		Stage 1A; Removal of Paint
6.0	EB BUS 30	503+75.00		CSRW	1		Stage 1B; Removal of Paint
7.0	NB US 63	4955+30.00		LTAW	1		Stage 1B; Removal of Paint
8.0	NB US 63	4959+10.00		LTAW	1		Stage 1A; Removal of Paint
9.0	SB US 63	4957+00.00		LTAW	1		Stage 1A; Removal of Paint
10.0	SB US 63	4959+35.00		LTAW	1		Stage 1A; Removal of Paint
11.0	WB BUS 30	505+60.00		LTAW	1		Removed with pavement
12.0	WB BUS 30	505+60.00		CSRW	1		Removed with pavement
13.0	WB BUS 30	505+75.00		LTAW	1		Removed with pavement
14.0	WB BUS 30	505+90.00		LTAW	1		Removed with pavement
15.0	WB BUS 30	505+90.00		CSRW	1		Removed with pavement
16.0	WB BUS 30	506+10.00		LTAW	1		Removed with pavement
17.0	WB BUS 30	506+30.00		LTAW	1		Removed with pavement
18.0	WB BUS 30	506+30.00		CSRW	1		Removed with pavement

Removal of Paint Symbols 10 EACH

WM TABULATION 1

WATER FITTINGS AND APPURTENANCES

* Bid Item

Water Main Fitting/Appurenance Proposed Location						Fitting	Appurtenances	Notes
Station	Offset	Side	Station	Offset	Side			
US 63			Water Main Pipe Run					
4954+41.35	36.25	LT	100+10.00	0.00	T	22.5 Degree Bend, 8 in.		
4954+79.81	49.55	LT	100+56.94	0.00	T	45 Degree Bend, 8 in.		
4954+85.62	73.86	LT	100+82.92	0.00	T	22.5 Degree Bend, 8 in.		
4952+17.66	8.33	RT				6 in. Cap		
4957+59.01	42.12	RT					Fire Hydrant Assembly, WM-201	
4958+30.37	65.91	RT				4 in. X 6 in. Reducer		
4958+30.68	60.92	RT				6 in. Tee		
4958+31.00	55.93	RT					Valve, Gate, DIP, 6 in.	
4958+31.57	50.96	RT				6 in. Cap		

TOTALS:		
	22.5 Degree Bend, 8 in.	2
	45 Degree Bend, 8 in.	1
	4 in. X 6 in. Reducer	1
	6 in. Tee	1
	6 in. Cap	2
	Fire Hydrant Assembly, WM-201	1
	Valve, Gate, DIP, 6 in.	1

WM TABULATION 2

WATER SERVICES

* Bid Item

Water Service Curb Stop Proposed Location						Property Address	Property Owner	Water Service Corporation	Water Service Curb Stop, Extension, and Box	Water Service Pipe Size	Water Service Proposed Pipe Length	Notes
Station	Offset	Side	Station	Offset	Side					IN.	FT	
US 63			Water Main Pipe Run									
4957+11.00	79.71	RT				118 Business HWY 30 W	JPNA Associates IA Gen Part	1	1	1	177	
4958+75.00	93.21	LT						1	1	1	148	
4959+17.99	64.66	LT				200 Business HWY 30 W	MIRIB Enterprises LLC	1	1	1	126	

TOTALS:	3	3

WM TABULATION 3

WATER MAIN PIPES

* Bid Item

Water Main Pipe Proposed Location												Diameter (in)	Length (ft)	Notes
Begin Station	Offset	Side	End Station	Offset	Side	Begin Station	Offset	Side	End Station	Offset	Side			
US 63						Water Main Pipe Run								
4954+31.44	37.54	LT	4954+41.35	36.25	LT	100+00	0.00	CL	100+10	0.00	CL	8	10	Connect to Existing 8 in. Main
4954+41.35	36.25	LT	4954+79.81	49.55	LT	100+10	0.00	CL	100+56.94	0.00	CL	8	48	
4954+79.81	49.55	LT	4954+85.62	73.86	LT	100+56.94	0.00	CL	100+82.92	0.00	CL	8	26	
4954+85.62	73.86	LT	4954+85.22	91.32	LT	100+82.92				0.00	CL	8	27	Connect to Existing 8 in. Main
							0.00	CL	101+10.40					
4958+30.37	65.91	RT	4958+30.68	60.92								6	10	Reducer and Connect to Existing 4" Water Line
4958+30.68	60.92	RT	4958+31.00	55.93								6	10	
4958+31.00	55.93	RT	4958+31.57	50.96								6	5	Cap

TOTALS:	
Water Main, Trenched, Polyvinyl Chloride Pipe (PVC), 6 in.	25
Water Main, Trenched, Polyvinyl Chloride Pipe (PVC), 8 in.	111

103_06
8/15/22

EMBANKMENT WITH MOISTURE CONTROL

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

SPECIAL ATTENTION (SLIVER FILL)

Special attention should be given to Article 2107.03.C, of the current Standard Specification Series, on this project.

103_07
8/15/22

SHRINKAGE DATA

Material	%	Remarks
Entire Project	30.0	
Topsoil	40.0	
Boulder Estimate	0.0	5 CY

103_10
8/15/22

TOPSOIL STRIPPING AND PLACEMENT

Line No.	Road Identification	Dir. of Traffic	Station From	Station To	Topsoil Stripping Thickness (IN)	Topsoil Placement Thickness (IN)	Remarks
1.0	US 63 NB	NB	4953+33.07	4955+50.85	6	8	East side of US 63; South of RAB
2.0	US 63 NB	NB	4956+40.22	4959+57.43	6	8	East side of US 63; North of RAB
3.0	US 63 SB	SB	4953+40.70	4955+89.99	6	8	West side of US 63; South of RAB
4.0	US 63 SB	SB	4956+80.69	4959+56.39	6	8	West side of US 63; North of RAB
5.0	BUS 30 EB	EB	501+55.15	504+31.07	6	8	South side of BUS 30; West of RAB
6.0	BUS 30 EB	EB	505+25.29	507+00.81	6	8	South side of BUS 30; East of RAB
7.0	BUS 30 WB	WB	501+55.23	504+08.11	6	8	North side of BUS 30; West of RAB
8.0	BUS 30 WB	WB	505+02.89	506+98.42	6	8	North side of BUS 30; East of RAB

LONGITUDINAL SUBDRAIN SHOULDER

* Not a bid item.

Line No.	Road or Lane Identification	Station From	Station To	Side	Depth (IN) (D)	Subdrain Size (IN)	Length (FT)	Outlet Station	Outlet Type	Porous Backfill* (CY)	Remarks
1.0	US 63 NB	4953+30.78	4954+32.25	Right	24.0	6.0	112.0	4953+30.78	DR-306	6.2	South project limits
1.1							2.0	4954+32.25	DR-303		Connect to Inlet 2
2.0	US 63 NB	4954+32.25	4955+38.60	Right	24.0	6.0	91.9	4954+32.25	DR-303	5.1	Connect to Inlet 2
2.1							2.0	4955+38.60			Connect to Inlet 15
3.0	BUS 30 EB	505+75.65	506+40.00	Right	24.0	6.0	66.3	505+75.65		3.7	Connect to Inlet 15; Alignment Change
3.1								506+40.00	DR-303		Connect to Line 4
4.0	BUS 30 EB	506+40.00	507+00.62	Right	34.0	6.0	59.0	506+40.00		5.1	Connect to Line 3; Typical Section Change
4.1								507+00.62	DR-306		East project limits
5.0	US 63 NB	4958+61.08	4959+57.43	Right	24.0	6.0	95.8	4958+61.08	DR-303	5.3	Connect to Inlet 17
5.1								4959+57.43	DR-306		North project limits
6.0	US 63 NB	4958+32.37	4958+61.08	Right	24.0	6.0	55.9	4958+32.37	DR-303	3.1	W Mill St approach limits
6.1								4958+61.08	DR-306		Connect to Inlet 17
7.0	US 63 NB	4957+69.35	4957+92.43	Right	24.0	6.0	44.4	4957+69.35	DR-303	2.5	Connect to Inlet 18
7.1								4957+92.43	DR-306		W Mill St approach limits
8.0	US 63 NB	4956+88.38	4957+69.35		24.0	6.0	80.9	4956+88.38		4.5	Connect to Lines 9 and 20 with tee
8.1							2.0	4957+69.35	DR-303		Connect to Inlet 18
9.0	US 63 NB	4956+16.24	4956+88.38	Right	24.0	6.0	97.4	4956+16.24	DR-303	5.4	Connect to Inlet 13
9.1								4956+88.38			Connect to Lines 8 and 20 with tee
10.0	BUS 30 WB	505+41.78	507+06.58	Right	24.0	6.0	147.4	505+41.78	DR-303	8.2	Connect to Inlet 13; Alignment Change
10.1								507+06.58	DR-306		East project limits
11.0	US 63 SB	4957+80.25	4959+57.57	Right	24.0	6.0	184.6	4957+80.25	DR-303	10.3	Connect to Inlet 20
11.1								4959+57.57	DR-306		North project limits
12.0	US 63 SB	4956+92.59	4957+80.25	Right	24.0	6.0	123.1	4956+92.59	DR-303	6.8	Connect to Inlet 10
12.1							2.0	4957+80.25	DR-303		Connect to Inlet 20
13.0	BUS 30 WB	502+93.50	503+05.32	Right	24.0	6.0	13.9	502+93.50	DR-303	0.8	Connect to Line 14
13.1							2.0	503+05.32	DR-303		Connect to Inlet 10; Alignment Change
14.0	BUS 30 WB	501+54.92	502+93.50	Right	24.0	6.0	139.7	502+93.50	DR-303	7.8	Connect to Line 13
14.1								501+54.92	DR-306		West project limits
15.0	BUS 30 EB	501+56.36	501+83.16	Right	34.0	6.0	26.8	501+56.36	DR-306	2.3	West project limits
15.1							2.0	501+83.16	DR-303		Connect to Inlet 8
16.0	BUS 30 EB	501+83.16	504+12.84	Right	24.0	6.0	240.0	501+83.16	DR-303	13.3	Connect to Inlet 8
16.1							2.0	504+12.84	DR-303		Connect to Inlet 6
17.0	US 63 SB	4955+41.07	4955+85.75	Right	24.0	6.0	64.6	4955+85.75	DR-303	3.6	Connect to Inlet 6, Alignment Change
17.1								4955+41.07			Connect to Lines 18 and 22 with tee
18.0	US 63 SB	4954+40.75	4955+41.07	Right	24.0	6.0	99.3	4955+41.07		5.5	Connect to Lines 17 and 22 with tee
18.1							2.0	4954+40.75	DR-303		Connect to Inlet 1
19.0	US 63 SB	4953+37.67	4954+40.75	Right	24.0	6.0	105.1	4953+37.67	DR-306	5.8	South project limits
19.1							2.0	4954+40.75	DR-303		Connect to Inlet 1
20.0	RAB	11+15.01	11+31.13	Right	24.0	6.0	35.6	11+15.01		2.0	Connect to Lines 8 and 9 with tee
20.1								11+31.13			Connect to Line 21
21.0	RAB	11+31.13	12+51.80	Right	24.0	6.0	161.3	11+31.13		9.0	Connect to Line 20; Diagonal
21.1							2.0	12+51.80	DR-303		Connect to Inlet 6
22.0	RAB	12+89.94	13+06.51	Right	24.0	6.0	35.7	12+89.94		2.0	Connect to Lines 17 and 18 with tee
22.1								13+06.51			Connect to Line 23
23.0	RAB	13+06.51	13+45.58	Right	24.0	6.0	52.2	13+06.51		2.9	Connect to Line 22; Diagonal
23.1								13+45.58			Alignment end; Connect to Line 24
24.0	RAB	10+00.00	10+32.15	Right	24.0	6.0	43.0	10+00.00		2.4	Alignment start; Connect to Line 23
24.1							2.0	10+32.15	DR-303		Connect to Inlet 14
25.0	RAB	10+32.15	10+45.01	Right	24.0	6.0	19.2	10+32.15	DR-303	1.1	Connect to Inlet 14
25.1								10+45.01			Connect to Line 26
26.0	RAB	10+45.01	10+57.06	Right	24.0	6.0	23.9	10+45.01		1.3	Connect to Line 25; Diagonal
26.1							2.0	10+57.06	DR-303		Connect to Inlet 13
Total:							**2243**			**126**	

SUBDRAIN OUTLET, DR-303: 25 EACH SUBDRAIN OUTLET, DR-306: 10 EACH

NOTE: ALL LONGITUDINAL SUBDRAINS ARE TYPE 7 WITH PCC OR TYPE 8 WITH HMA (ACC) UNLESS OTHERWISE NOTED IN THE REMARKS COLUMN.
ALL LONGITUDINAL SUBDRAINS MAY BE ADJUSTED BOTH VERTICALLY AND HORIZONTALLY IN THE FIELD AS NECESSARY.

SURVEY SYMBOLS

- Interstate Highway Symbol
- U.S. Highway Symbol
- Iowa Highway Symbol
- County Road Highway Symbol
- Evergreen Tree
- Deciduous Tree
- Fruit Tree
- SB Shrub (Bushes)
- Timber
- Hedge
- Stump
- Swamp
- Rock Outcrop
- Broken Concrete
- Revetment (Rip Rap)
- Cemetery
- G Grave
- CV Cave
- SH 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
- WH Water Hydrant (Rural)
- Septic Tank
- C Cistern
- LP L.P. Gas Tank (No Footing)
- UST Underground Storage Tank
- Latrine
- Satellite TV Dish
- WHU Water Hook Up
- RT Radio Tower
- TA Tower Anchor
- Guardrail (Beam or Cable)
- GP Guard Post (one or two)
- Guard Post (over two)
- FP Filler Pipe
- GV Gas Valve
- WV Water Valve
- SL Speed Limit Sign
- MM Mile Marker Post
- SIGN Sign
- TCB Traffic Signal Control Box
- RRB Rail Road Signal Control Box
- TSB Telephone Switch Box
- EB Electric Box
- BEND
- CAP
- REDUCER
- TEE
- VALVECAP

UTILITY LEGEND

E1	E1D, Alliant Energy - Quality D
FO	FO1D, Windstream Communications - Quality D
FO2	FO2D, Aureon Network Services - Quality D
FO3	FO3D, CenturyLink - Quality D
FO4	FO4D, Alliant Energy - Quality D
G	GL1D, Alliant Energy - Quality D
SAN.	SA1D, City of Toledo- Quality D
ST S	ST1D, City of Toledo - Quality D
TI	TL1D, Windstream Communications - Quality D
W	WL1D, City of Toledo - Quality D

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
Yellow	(4)	Proposed Pavement Shading
Orange	(6)	Proposed Granular Shading
Orange	(70)	Proposed Shoulder Granular Shading
Yellow	(68)	Proposed Shoulder Paved Full Depth Shading
Yellow	(132)	Proposed Shoulder Paved Partial Depth Shading
Gray, Dark	(112)	Proposed Grade and Pave Shading "In conjunction with a paving project"
Brown, Light	(236)	Grading Shading
Orange, Light	(134)	Proposed Granular Entrance Shading
Blue, Light	(230)	Proposed Concrete Median Shading
Pink	(11)	Proposed Concrete Median Shading, Colored
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
Red	(3)	Delineates Restricted Areas

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK	Design Color No.	
Green	(10)	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

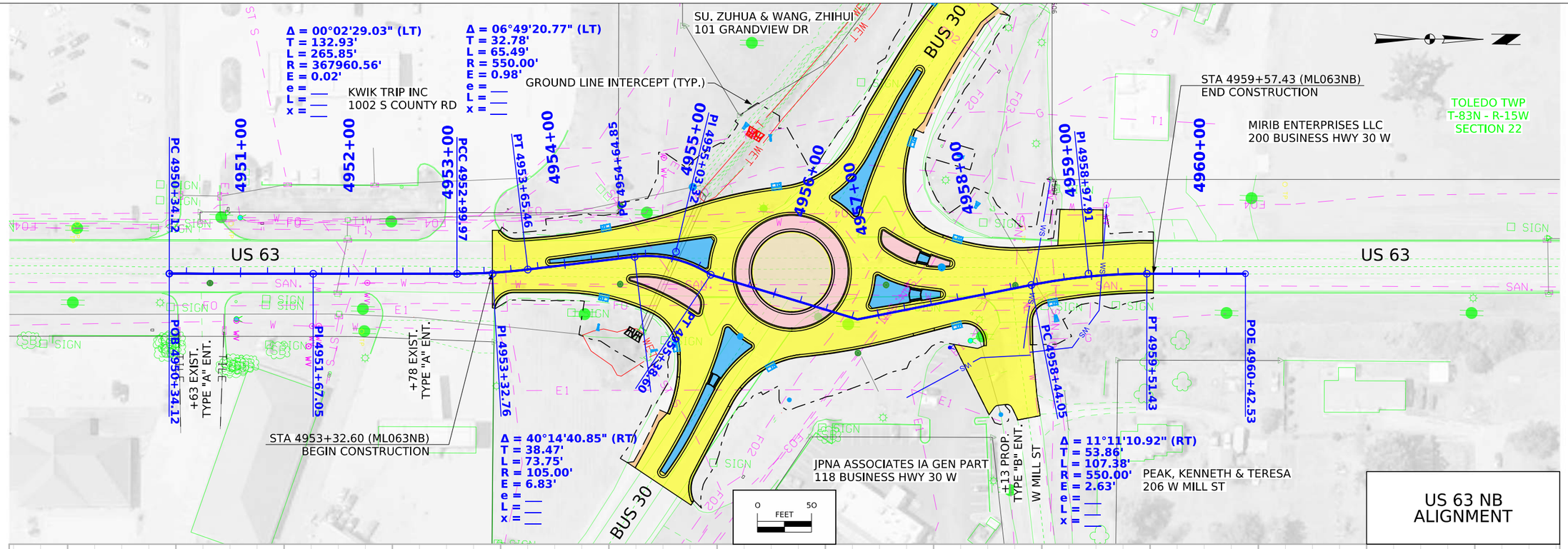
- Reference Point / Station — Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Trench Drain
- HighTension Cable Guardrail
- Sheet Pile
- Pavement Removal
- Clearing & Grubbing Area

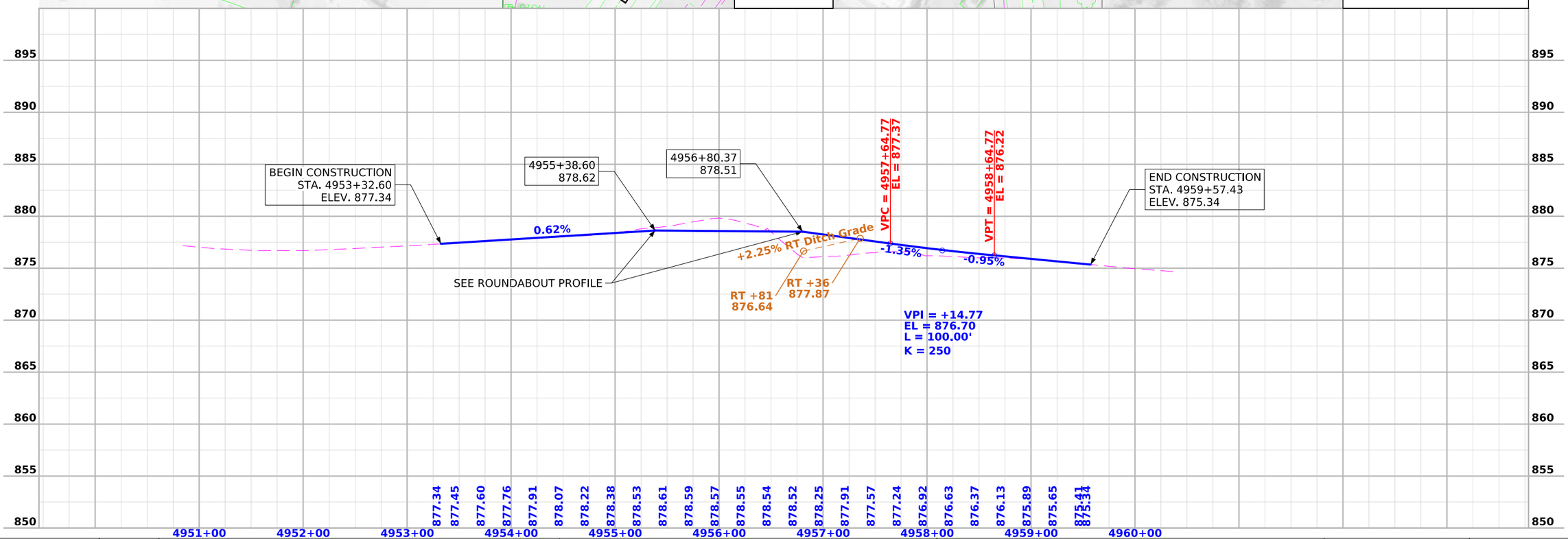
RIGHT-OF-WAY LEGEND

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

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES D, E)





FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER D.2

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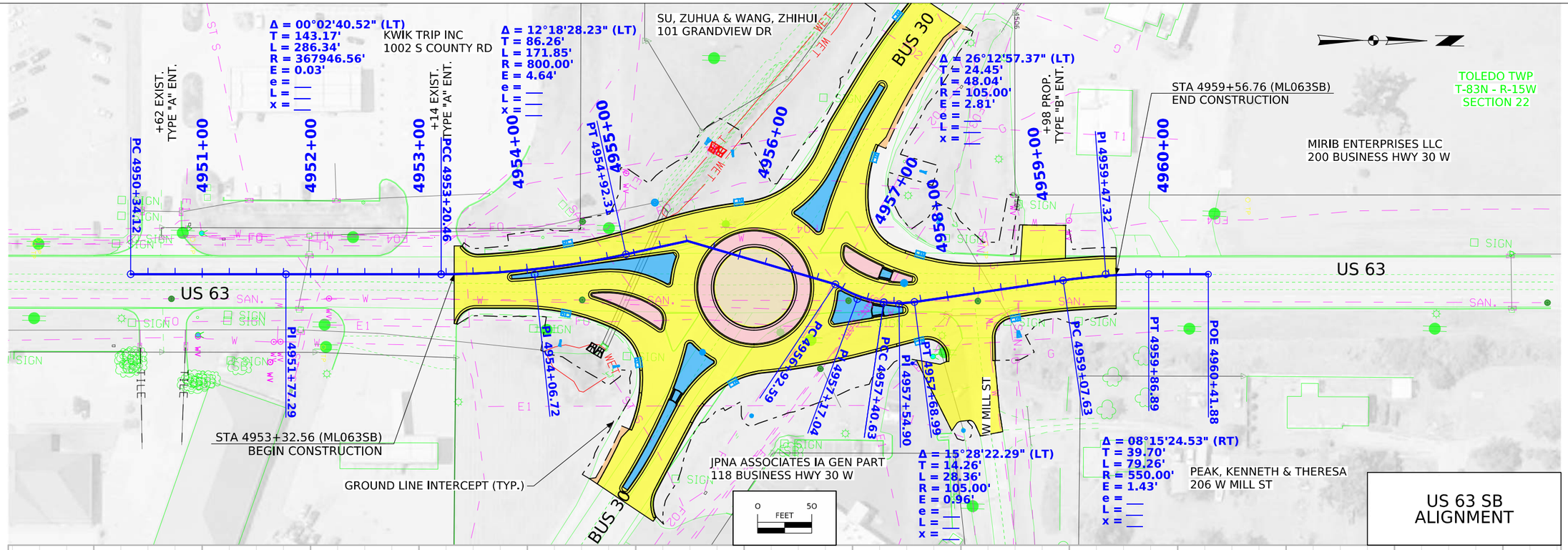

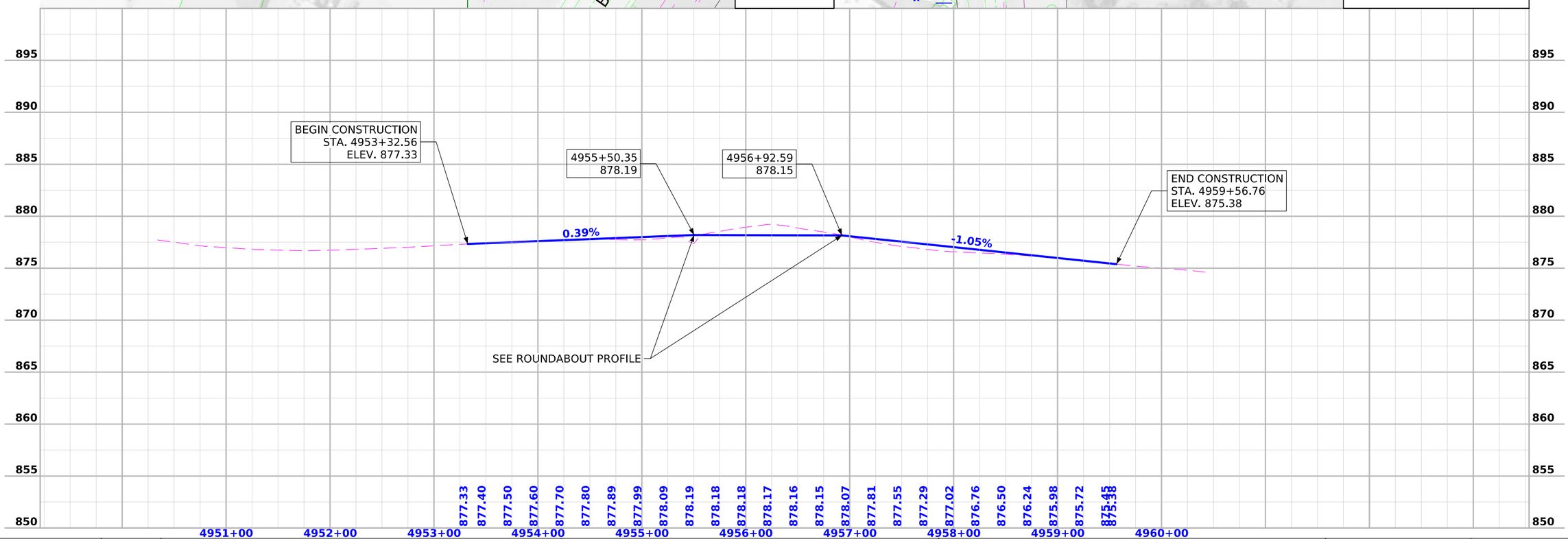

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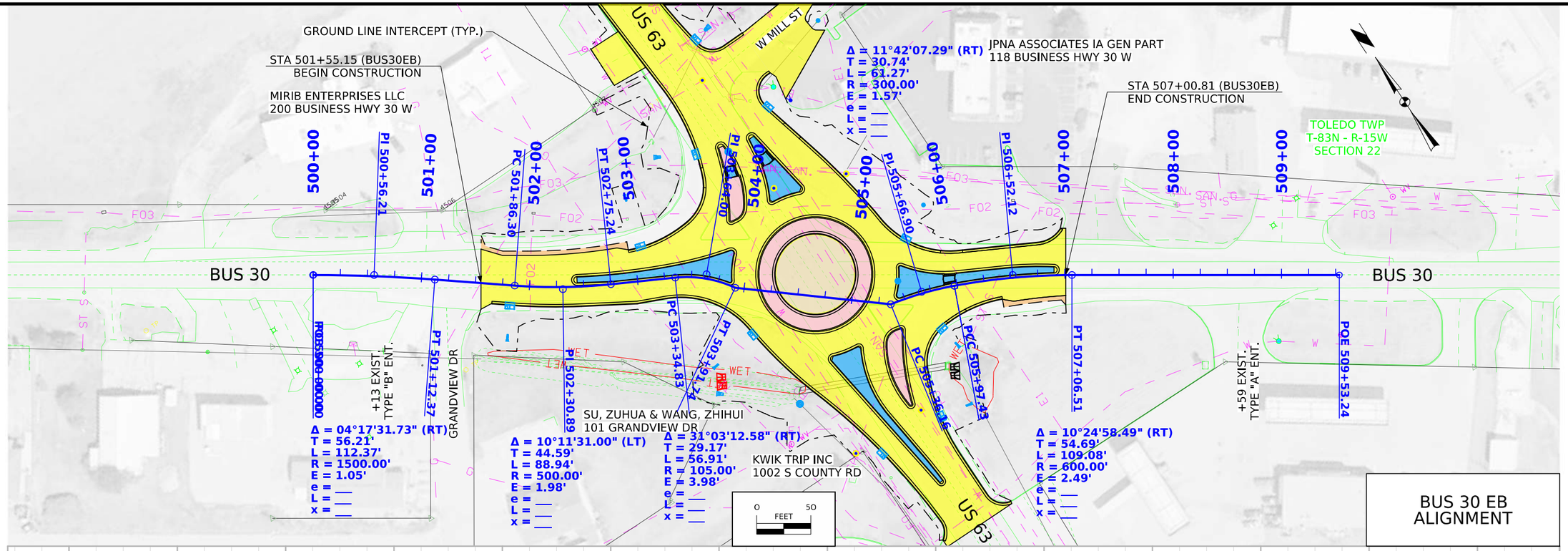
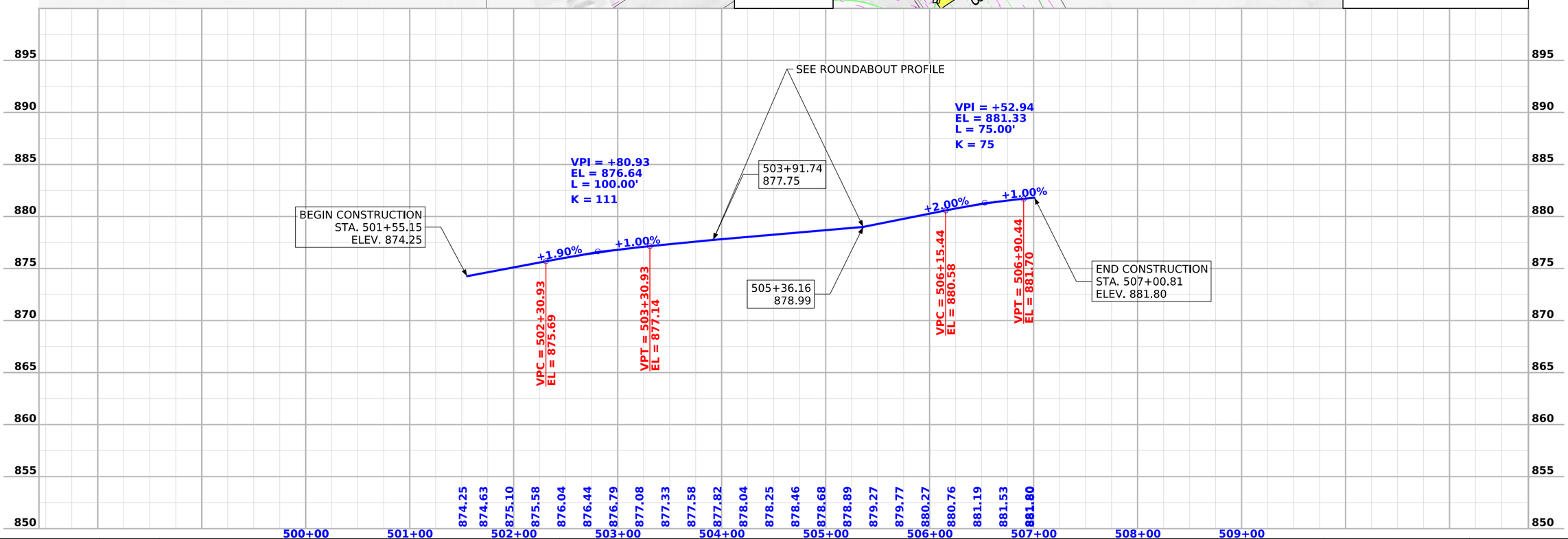
11:36:42 AM 3/26/2025 mbrinker pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\8606301024\Design\CADD_Files\Sheet_Files\SHT_86063078Z09_D02_ML030_SB





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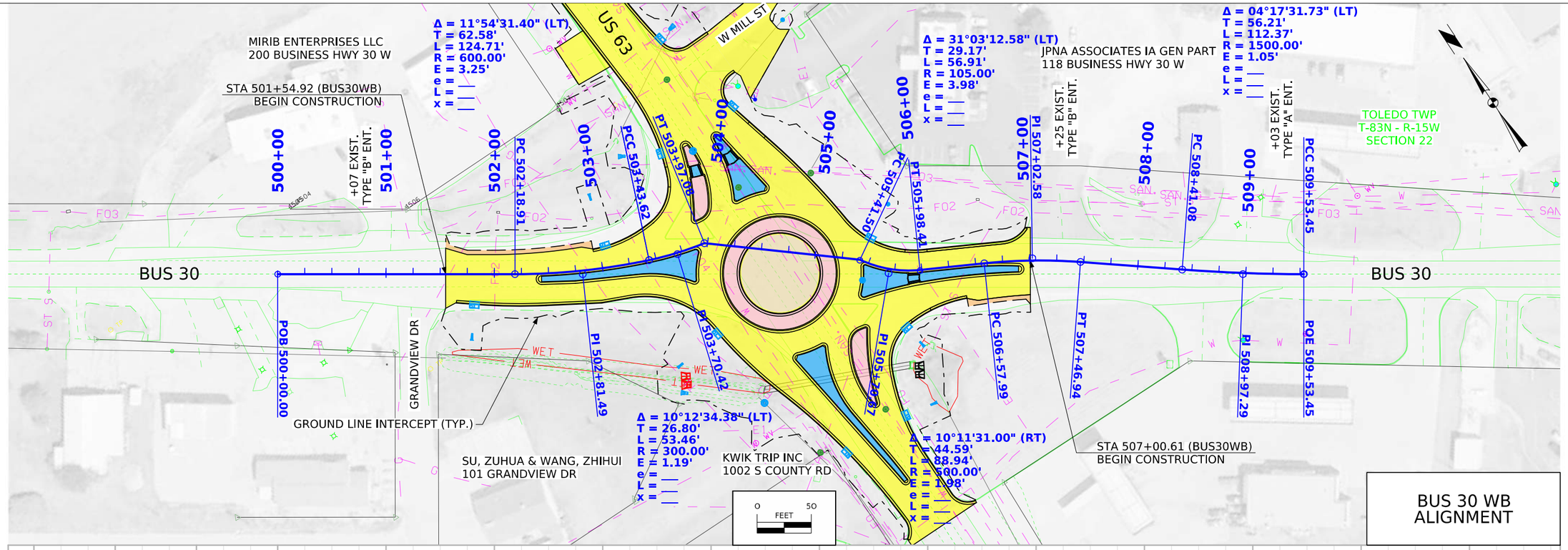
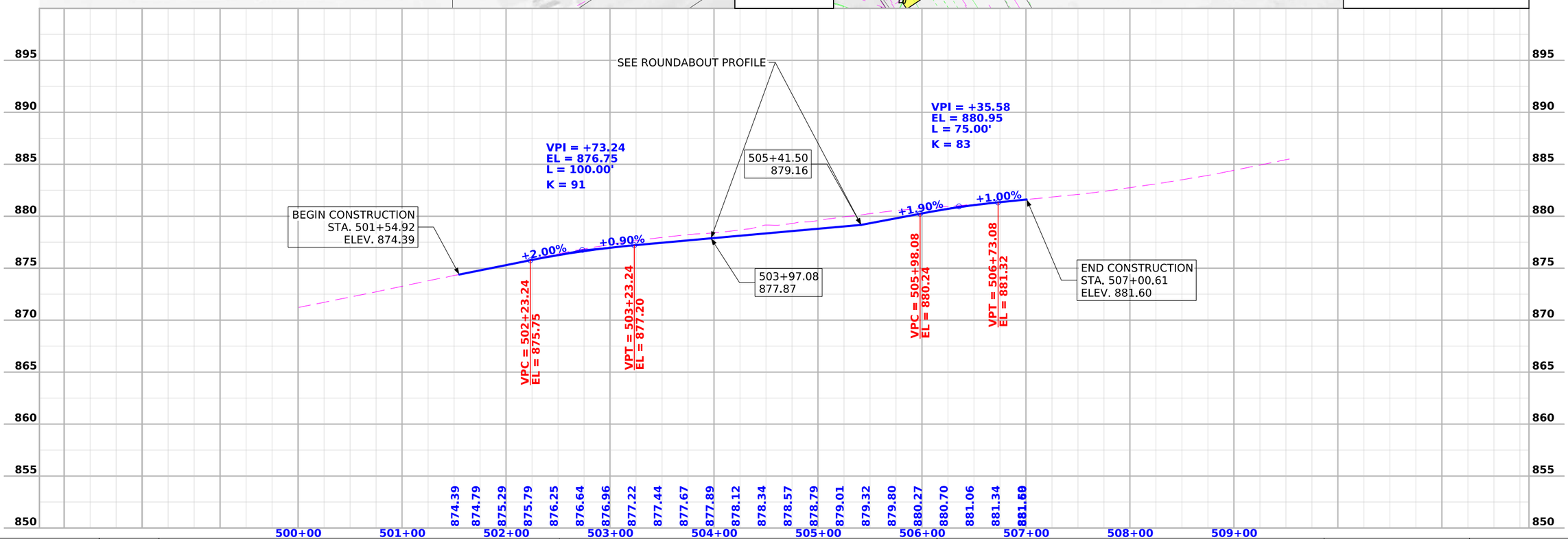
11:43:27 AM 3/26/2025 mbrinker pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\8606301024\Design\CADD_Files\Sheet_Files\SHT_86063078Z09_E01_ML063_EB

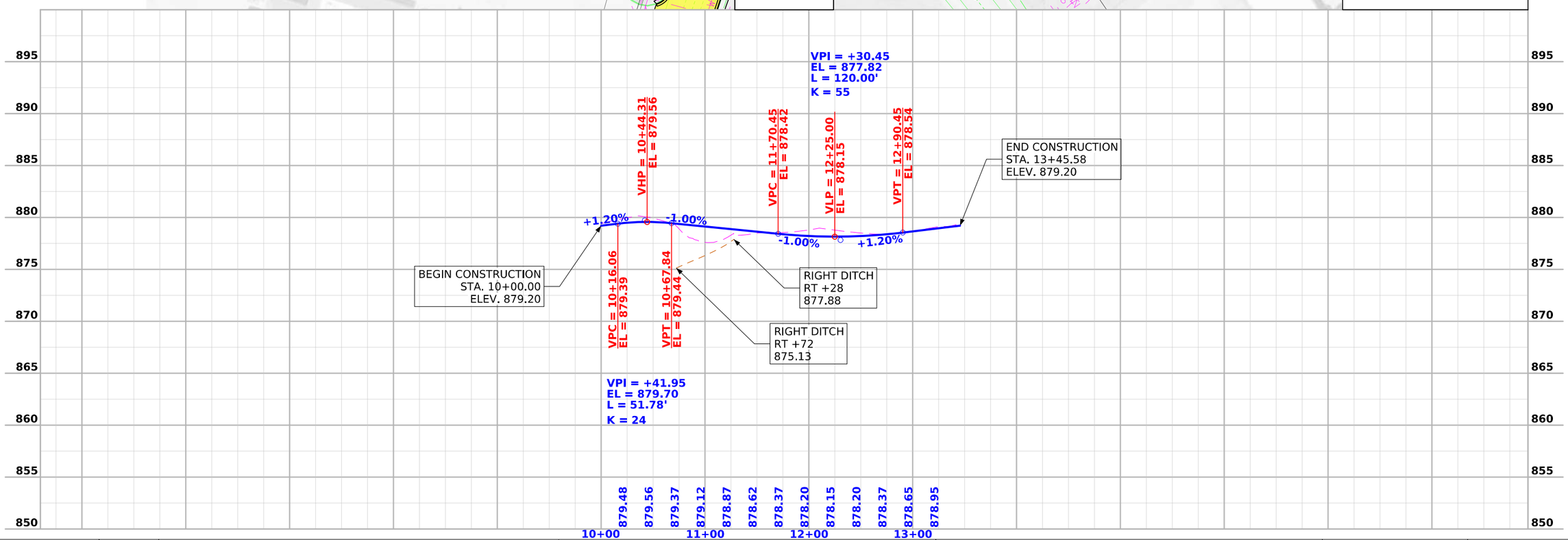




FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER E.2

11:43:56 AM 3/26/2025 mbrinker pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\8606301024\Design\CADD_Files\Sheet_Files\SHT_86063078Z09_E02_ML063_WB

ROUNDABOUT ALIGNMENT



FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER E.3

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SURVEY INDEX

County: Tama
PIN: 24-86-063-010
Project Number: HSIPX-063-5(078)--3L-86
Location: Business US30 Intersection in Toledo
Type of Work: PCC Pavement - Grade and New
Project Directory: 8606301024

Survey Personnel
John Hahn – Survey Party Chief
Kokou Allande – Assistant Survey Party Chief

Date(s) of Survey
Begin Date	11/20/23
End Date	05/20/24

General Information
This survey is for US Hwy 63 PCC Paving- Grade and New at the intersection of US63 and Business 30 in Toledo. This project is a Partial Field DTM with Photo control.

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

Project Control
Published values for NGS GSVS monuments 152 and 151 were held fixed for final control. A previously post processed position on point 1 was held fixed as well. A base setup on GSVS152 was used to establish final control values on points 24 and CP1.

For a full, detailed description of the establishment of control for this project please consult the Preliminary Survey Project Control and Primary Control Establishment Report documents in the Control folder of the PrelimSurvey project directory.

PROJECT DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 ADJUSTMENT)
COORDINATE SYSTEM: IOWA REGIONAL COORDINATE SYSTEM ZONE 9 (U.S. SURVEY FOOT)
VERTICAL DATUM: NAVD88
GEOID MODEL: 2018u3

Alignment Information
The horizontal alignments for U.S. Hwy 63 and Old U.S. Hwy 30 this survey were provided by District 1 Right of Way Survey.

CONTROL POINT VICINITY MAP

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

HORIZ. DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 Adjustment) - Iowa RCS Zone 09 (U.S. Survey Foot)

VERT. DATUM: NAVD88 - Geoid Model: 2018u3

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

HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING

HORIZ. DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 Adjustment)
Ia. Regional Coordinate System Zone 09 (U.S. Survey Foot)
VERT. DATUM: NAVD88
Geoid Model: 2018u3

Point Name	Northing	Easting	Elevation	Code-Description
GSVS151	7831793.69	19560595.71	838.16	CP FND NGS SECOND ORDER CLASS I VERTICAL MARK AS DESCRIBED IN GOOD CONDITION
GSVS152	7831235.71	19566082.66	939.59	CP FND NGS SECOND ORDER CLASS I VERTICAL MARK AS DESCRIBED IN GOOD CONDITION
1	7839047.66	19566565.86	857.46	CP FND FENO MON PROJ NHSX-063-5(55)--3H-86 AS DESCRIBED IN GOOD CONDITION
24	7834260.65	19562134.83	841.99	CP FND TAMA CO GPS CONTROL POINT AS DESCRIBED IN GOOD CONDITION
CP1	7833804.03	19563851.17	871.03	CP SET FENO MON 0.15 MI NORTH OF INTERSECTION US 63 AND US 30 BUSINESS LOOP IN THE WESTERLY ROW
CPKS	7832821.9	19563848.57	877.01	CP SET 5/8X40 REBAR IN THE NW QUADRANT OF US 63 AND US 30 BUSINESS LOOP IN THE TOP OF FORESLOPE
CPMR	7833155.16	19563777.2	874.96	CP SET 5/8X40 REBAR 225FT SOUTH OF INTERSECTION US 63 AND US 30 BUSINESS LOOP IN THE TOP OF WESTERLY FORESLOPE

ALIGNMENT COORDINATES

Line No.	Name	Location	Point on Tangent Station	Point on Tangent Y Northing	Point on Tangent X Easting	Begin Spiral Station	Begin Spiral Y Northing	Begin Spiral X Easting	Begin Curve Station	Begin Curve Y Northing	Begin Curve X Easting	Simple Curve PI or Master PI Station	Simple Curve PI or Master PI Y Northing	Simple Curve PI or Master PI X Easting	End Curve Station	End Curve Y Northing	End Curve X Easting	End Spiral Station	End Spiral Y Northing	End Spiral X Easting
1.0	1	ROWMLA063TAMATOLEDO	320+00.00	7818300.61	19565160.41															
2.0	2	ROWMLA063TAMATOLEDO							321+98.13	7818498.505	19565150.76	330+48.83	7819348.199	19565109.33	338+98.13	7820197.801	19565152.61			
3.0	4	ROWMLA063TAMATOLEDO							352+94.07	7821591.938	19565223.63	356+18.61	7821916.049	19565240.14	359+42.96	7822240.575	19565238.29			
4.0	6	ROWMLA063TAMATOLEDO	365+99.96	7822897.557	19565234.53															
5.0	7	ROWMLA063TAMATOLEDO	373+54.76	7823652.36	19565232.19															
6.0	8	ROWMLA063TAMATOLEDO	395+27.12	7823772.148	19565232.34															
7.0	9	ROWMLA063TAMATOLEDO	400+00.00	7824245.032	19565232.93															
8.0	10	ROWMLA063TAMATOLEDO	429+80.13	7827225.148	19565227.77															
9.0	11	ROWMLA063TAMATOLEDO	443+08.00	7827215.833	19563890.56															
10.0	12	ROWMLA063TAMATOLEDO							451+83.87	7828091.705	19563889.62	452+83.89	7828191.727	19563889.51	453+83.87	7828291.624	19563894.5			
11.0	14	ROWMLA063TAMATOLEDO							453+84.02	7828291.768	19563894.5	454+84.04	7828391.665	19563899.49	455+84.02	7828491.687	19563899.38			
12.0	16	ROWMLA063TAMATOLEDO							466+19.72	7829527.385	19563898.15	469+19.72	7829827.385	19563897.8	472+19.72	7830127.384	19563897.03			
13.0	18	ROWMLA063TAMATOLEDO							492+62.62	7832170.281	19563891.82	495+62.62	7832470.28	19563891.05	498+62.62	7832770.277	19563889.79			
14.0	20	ROWMLA063TAMATOLEDO	158+06.00	7833019.075	19563888.75															
15.0	21	ROWMLA063TAMATOLEDO	179+00.78	7835113.835	19563879.99															
16.0	22	ROWMLA063TAMATOLEDO	186+97.76	7835910.729	19563891.75															
17.0	23	ROWMLA063TAMATOLEDO	193+13.42	7836526.386	19563889.76															
18.0	24	ROWMLA063TAMATOLEDO	202+37.15	7837450.113	19563891.35															
19.0	24	ROWMLA063TAMATOLEDO	214+99.70	7838712.627	19563881.03															
20.0																				
21.0	1	SURMLB030BUS	538+97.80	7835100.142	19560746.6															
22.0	1	SURMLB030BUS	598+83.52	7831795.383	19565737.34															
23.0																				
24.0	1	ML063NB							4950+34.12	7832441.858	19563898.02	4951+67.05	7832574.784	19563897.58	4952+99.97	7832707.709	19563897.05			
25.0	2	ML063NB							4952+99.97	7832707.709	19563897.05	4953+32.76	7832740.493	19563896.92	4953+65.46	7832773.029	19563892.89			
26.0	4	ML063NB	4954+15.50	7832822.687	19563886.75															
27.0	5	ML063NB							4954+64.85	7832871.664	19563880.69	4955+03.32	7832909.844	19563875.97	4955+38.60	7832942.038	19563897.03			
28.0	7	ML063NB	4956+80.37	7833077.848	19563937.71															
29.0	8	ML063NB							4958+44.05	7833238.281	19563905.29	4958+97.91	7833291.076	19563894.62	4959+51.43	7833344.937	19563894.39			
30.0	9	ML063NB	4960+42.53	7833436.034	19563894.01															
31.0																				
32.0	1	ML063SB							4950+34.12	7832441.812	19563884.02	4951+77.29	7832584.983	19563883.55	4953+20.46	7832728.153	19563882.97			
33.0	2	ML063SB							4953+20.46	7832728.153	19563882.97	4954+06.72	7832814.409	19563882.62	4954+92.31	7832898.608	19563863.89			
34.0	4	ML063SB	4955+50.34	7832955.256	19563851.29															
35.0	5	ML063SB							4956+92.59	7833091.907	19563890.78	4957+17.04	7833112.368	19563904.16	4957+40.63	7833136.636	19563907.13			
36.0	6	ML063SB							4957+40.63	7833136.636	19563907.13	4957+54.90	7833150.795	19563908.86	4957+68.99	7833164.903	19563906.76			
37.0	8	ML063SB							4959+07.63	7833302.021	19563886.27	4959+47.33	7833341.284	19563880.41	4959+86.89	7833380.983	19563880.24			
38.0	9	ML063SB	4960+41.88	7833435.975	19563880.01															
39.0																	19563598.36			
40.0	1	BUS30EB							500+00.00	7833272.211	19563507.08	500+56.21	7833241.177	19563553.95	501+12.37	7833206.723	19563598.36			
41.0	3	BUS30EB							501+86.30	7833161.407	19563656.77	502+30.89	7833134.076	19563692	502+75.24	7833113.41	19563731.51			
42.0	5	BUS30EB							503+34.83	7833085.792	19563784.31	503+64.00	7833072.272	19563810.16	503+91.74	7833047.355	19563825.33			
43.0	7	BUS30EB							505+36.16	7832955.349	19563936.65	505+66.90	7832949.276	19563966.79	505+97.43	7832937.216	19563995.07			
44.0	8	BUS30EB							505+97.43	7832937.216	19563995.07	506+52.12	7832915.764	19564045.37	507+06.51	7832885.569	19564090.97			
45.0	9	BUS30EB	509+53.24	7832749.344	19564296.7															
46.0																				
47.0	1	BUS30WB	500+00.00	7833272.211	19563507.08															
48.0	2	BUS30WB							502+18.91	7833151.347	19563689.6	502+81.49	7833116.797	19563741.78	503+43.62	7833093.757	19563799.96			
49.0	3	BUS30WB							503+43.62	7833093.757	19563799.96	503+70.42	7833083.89	19563824.88	503+97.08	7833078.596	19563851.15			
50.0	5	BUS30WB							505+41.50	7832986.59	19563962.47	505+70.67	7832961.673	19563977.64	505+98.41	7832948.152	19564003.49			
51.0	7	BUS30WB							506+58.00	7832920.535	19564056.29	507+02.58	7832899.869	19564095.8	507+46.94	7832872.538	19564131.03			
52.0	9	BUS30WB							508+41.08	7832814.832	19564205.42	508+97.29	7832780.378	19564249.83	509+53.45	7832749.344	19564296.7			
53.0																				
54.0	1	ML063RAB_Interior							10+00.00	7832964.727	19563911.09				11+72.79	7833069.218	19563876.71			
55.0	2	ML063RAB_Interior							11+72.79	7833069.218	19563876.71				13+45.58	7832964.727	19563911.09			
56.0																				
57.0																				

ALIGNMENT COORDINATES

Line No.	Name	Location	Point on Tangent Station	Point on Tangent Y Northing	Point on Tangent X Easting	Begin Spiral Station	Begin Spiral Y Northing	Begin Spiral X Easting	Begin Curve Station	Begin Curve Y Northing	Begin Curve X Easting	Simple Curve PI or Master PI Station	Simple Curve PI or Master PI Y Northing	Simple Curve PI or Master PI X Easting	End Curve Station	End Curve Y Northing	End Curve X Easting	End Spiral Station	End Spiral Y Northing	End Spiral X Easting
58.0	1	WATERMAIN	100+00.00	7832833.895	19563847.54															
59.0	2	WATERMAIN	100+10.00	7832843.895	19563847.6															
60.0	3	WATERMAIN	100+56.94	7832887.558	19563830.37															
61.0	4	WATERMAIN	100+82.92	7832897.907	19563806.54															
62.0	4	WATERMAIN	101+00.40	7832898.461	19563789.07															
63.0																				
64.0	1	SE Curb Return								7832803.375	19563911.72	+44.25	7832847.624	19563911.53	+87.09	7832887.822	19563930.02			
65.0	2	SE Curb Return							+87.09	7832887.822	19563930.02	1+12.71	7832911.091	19563940.73	1+33.66	7832913.769	19563966.2			
66.0	3	SE Curb Return							1+33.66	7832913.769	19563966.2	1+65.03	7832917.05	19563997.4	1+95.03	7832904.643	19564026.21			
67.0																				
68.0	1	SE Island Curb Return								7832867.152	19563905.08	+34.43	7832900.085	19563915.11	+68.28	7832928.269	19563934.88			
69.0	2	SE Island Curb Return							+68.28	7832928.269	19563934.88	+74.33	7832933.221	19563938.36	+76.17	7832934.479	19563932.44			
70.0	3	SE Island Curb Return							+76.17	7832934.479	19563932.44	+78.88	7832935.042	19563929.79	+81.59	7832935.577	19563927.13			
71.0	4	SE Island Curb Return							+81.59	7832935.577	19563927.13	+91.40	7832937.513	19563917.52	+98.96	7832929.481	19563911.89			
72.0	5	SE Island Curb Return							+98.96	7832929.481	19563911.89	1+29.83	7832904.204	19563894.17	1+58.18	7832873.45	19563896.8			
73.0	7	SE Island Curb Return							1+63.67	7832867.976	19563897.27	1+84.42	7832847.306	19563899.04	1+74.72	7832867.152	19563905.08			
74.0	8	SE Island Curb Return							1+74.72	7832867.152	19563905.08	1+95.46	7832847.306	19563899.04	1+63.67	7832867.976	19563897.27			
75.0																				
76.0	1	NE Curb Return								7832962.272	19564011.31	+41.54	7832983.56	19563975.64	+77.28	7833024.782	19563970.51			
77.0	2	NE Curb Return							+77.28	7833024.782	19563970.51	1+24.22	7833071.484	19563965.74	1+70.98	7833116.876	19563953.78			
78.0	3	NE Curb Return	2+25.97	7833170.047	19563939.76															
79.0																				
80.0	1	SW Curb Return								7832763.103	19563866.84	+83.31	7832846.312	19563862.65	1+65.57	7832925.231	19563835.94			
81.0	2	SW Curb Return							1+65.57	7832925.231	19563835.94	2+08.33	7832965.733	19563822.24	2+50.76	7833008.217	19563817.4			
82.0	3	SW Curb Return							2+50.76	7833008.217	19563817.4	2+99.80	7833056.937	19563811.86	3+39.73	7833076.574	19563766.93			
83.0	4	SW Curb Return	3+66.04	7833087.11	19563742.82															
84.0																				
85.0	1	NW Curb Return								7833128.784	19563761.5	+31.86	7833116.468	19563790.89	+62.29	7833120.351	19563822.51			
86.0	2	NW Curb Return							+62.29	7833120.284	19563821.93	+89.16	7833123.211	19563848.64	1+10.73	7833148.114	19563858.73			
87.0	3	NW Curb Return							1+10.73	7833148.114	19563858.73	1+56.78	7833190.788	19563876.03	2+01.25	7833236.729	19563872.92			
88.0																				
89.0	1	NW Island Curb Return								7833096.825	19563860.66	+8.89	7833095.619	19563869.47	+16.05	7833102.762	19563874.76			
90.0	2	NW Island Curb Return							+16.05	7833102.762	19563874.76	+49.67	7833129.79	19563894.76	+80.09	7833163.191	19563890.86			
91.0	3	NW Island Curb Return							+80.09	7833163.191	19563890.86	1+05.13	7833188.067	19563887.96	+93.83	7833163.982	19563881.09			
92.0	4	NW Island Curb Return							+93.83	7833163.982	19563881.09	1+27.44	7833131.662	19563871.87	1+60.51	7833103.67	19563853.27			
93.0	5	NW Island Curb Return							1+60.51	7833103.67	19563853.27	1+66.78	7833098.45	19563849.8	1+68.53	7833097.502	19563855.99			
94.0	6	NW Island Curb Return							1+68.53	7833097.502	19563855.99	1+70.89	7833097.145	19563858.33	1+73.25	7833096.825	19563860.66			

SPIRAL OR CIRCULAR CURVE DATA

Line No.	Name	Location	SCS	S	Ls	Ts	Es	Xc	Yc	L.T.	S.T.	C	T	L	R	E	Remarks
1.0	C1	ROWMLA063TAMATOLEDO										5.708	850.704	1700	17065.616	21.19	
2.0	C2	ROWMLA063TAMATOLEDO										3.244	324.532	648.89	11460.856	4.594	
3.0	C3	ROWMLA063TAMATOLEDO										2.921	100.022	200	3922.49	1.275	
4.0	C4	ROWMLA063TAMATOLEDO										2.927	100.022	200	3914.478	1.278	
5.0	C5	ROWMLA063TAMATOLEDO										0.078	300	600	438237.48	0.103	
6.0	C6	ROWMLA063TAMATOLEDO										0.093	300	600	367953.54	0.122	
7.0																	
8.0	C1	ML063NB										0.041	132.926	265.852	367960.56	0.024	
9.0	C4	ML063NB										6.822	32.784	65.491	550	0.976	
10.0	C2	ML063NB										40.245	38.471	73.752	105	6.826	
11.0	C3	ML063NB										11.186	53.862	107.381	550	2.631	
12.0																	
13.0	C1	ML063SB										0.045	143.171	286.343	367946.56	0.028	
14.0	C5	ML063SB										12.308	86.257	171.85	800	4.637	
15.0	C2	ML063SB										26.216	24.45	48.043	105	2.809	
16.0	C5	ML063SB										15.473	14.265	28.355	105	0.965	
17.0	C3	ML063SB										8.257	39.699	79.26	550	1.431	
18.0																	
19.0	C1	BUS30EB										4.292	56.21	112.368	1500	1.053	
20.0	C2	BUS30EB										10.192	44.588	88.941	500	1.984	
21.0	C3	BUS30EB										31.053	29.172	56.908	105	3.977	
22.0	C4	BUS30EB										11.702	30.743	61.272	300	1.571	
23.0	C5	BUS30EB										10.416	54.69	109.079	600	2.487	
24.0																	
25.0	C1	BUS30WB										11.909	62.579	124.708	600	3.255	
26.0	C5	BUS30WB										10.21	26.799	53.457	300	1.195	
27.0	C2	BUS30WB										31.053	29.172	56.908	105	3.977	
28.0	C3	BUS30WB										10.192	44.588	88.941	500	1.984	
29.0	C4	BUS30WB										4.292	56.21	112.368	1500	1.053	
30.0																	
31.0	C500	ML063RAB_Interior												172.788	55		
32.0																	
33.0	C1	SE Curb Return										24.951	44.249	87.095	200	4.836	
34.0	C3	SE Curb Return										59.294	25.613	46.57	45	6.778	
35.0	C3	SE Curb Return										29.3	31.369	61.366	120	4.032	
36.0																	
37.0	C1	SE Island Curb Return										18.111	34.426	68.278	216	2.726	
38.0	C3	SE Island Curb Return										158.173	20.745	11.043	4	17.127	
39.0	C4	SE Island Curb Return										158.173	20.745	11.043	4	17.127	
40.0																	
41.0	C1	NE Curb Return										52.079	41.541	77.281	85.023	9.606	
42.0	C2	NE Curb Return										8.947	46.943	93.696	600	1.834	
43.0																	
44.0	C1	SW Curb Return										15.811	83.314	165.57	600	5.757	
45.0	C2	SW Curb Return										12.203	42.758	85.193	400	2.279	
46.0	C3	SW Curb Return										59.899	49.034	88.969	85.102	13.116	
47.0																	
48.0	C1	NW Curb Return										29.74	31.863	62.288	120	4.158	
49.0	C2	NW Curb Return										61.683	26.87	48.446	45	7.412	
50.0	C3	NW Curb Return										25.931	46.046	90.515	200	5.232	
51.0																	
52.0	C2	NW Island Curb Return										17.689	33.61	66.685	216	2.599	
53.0	C3	NW Island Curb Return										114.911	6.268	8.022	4	3.436	
54.0	C6	NW Island Curb Return										0.902	2.361	4.722	300	0.009	

108_23A
8/15/22

TRAFFIC CONTROL PLAN

1. Traffic control on this project shall be in accordance with the Manual on Uniform Traffic Control Devices (MUTCD) for the Streets and Highways as adopted by the Iowa Department of Transportation per 761 of the Iowa Administrative Code (IAC) Chapter 13.

2. Road closures
   - Stage 1A – NB/SB through traffic on US63. See Detour plans.
   - Stage 1B – EB/WB through traffic on BUS30. See Detour plans.
   - Stage 1B - W Mill St from US63 through north entrance to Hardee’s.
   - Stage 2A – EB/WB through traffic on BUS30. See Detour plans.
   - Stage 2B – EB/WB through traffic on BUS30. See Detour plans.
   - Stage 3 – EB/WB through traffic on BUS30. See Detour plans.

3. Temporary pavement should be placed where necessary to maintain a minimum 11' lane width.

4. Contractor shall coordinate traffic control with other projects in the area. Refer to Tab 111-01.

5. The contractor shall maintain access to all businesses and private driveways throughout the duration of the project.

6. Emergency access shall be maintained throughout construction. Prior to any changes in staging or emergency access route, Contractor shall notify City of Toledo 1 week.

7. All traffic control devices will be furnished, erected, maintained, and removed by the Contractor.

8. All open trenches shall be filled to the level of the adjoining pavement before opening the lane to traffic.

9. Proposed permanent pavement markings shall be installed in such a way as to not conflict with any temporary traffic control.

10. Detour signs are to be covered when detour route is not in effect. The Contractor shall maintain detour signing along the route.

111_01
10/14/22

COORDINATED OPERATIONS

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

Project	Type of Work
None.	
None.	

108_26A
8/15/22

STAGING NOTES

Stage 1A

CONSTRUCTION

1. Construct twin culverts across south leg of US63.
2. Construct 8” watermain connection and abandon existing watermain. See MWM.1 & MWM.2.
3. Construct SAN MH-1, connection to existing 8” sanitary sewer, and connection to existing 6” sanitary sewer service to Kwik Star. See MSA.1
4. Construct the following storm sewer pipes and structures:
   - Intake 1, P1 – Well only, cover with steel plate and bury.
   - Intake 2, P2, Apron 3
   - Manhole 4, P4, Apron 5
   - Intake 6, P6, Apron 7 – Well only, cover with steel plate and bury.
5. Pave temporary pavement as shown in Stage 1A staging plan. Refer to tab 100_25 for locations and Typical Section 8 detail on sheet B.5.

TRAFFIC

1. Install US63 detour signage for stage prior to road closures.
2. Existing signal system shall be turned to flashing red condition, indicating an all way stop condition.
3. Close South leg of US63 from BUS30 to Kwik Star East entrance/Casey’s West entrance.
4. Maintain access to all adjacent entrances.

Stage 1B

CONSTRUCTION

1. Remove existing signal system.
2. Construct fire hydrant, valve, connection to existing 4” watermain, and water services. See MWM.1
3. Construct MH-2, MH-3, MH-4, and 8” PVC sanitary sewer pipe. See MSA.1
4. Construct the following storm sewer pipes and structures:
   - Intake 12, P12
   - Intake 13, P13
   - Intake 14, P14 – Well only, cover with steel plate and temp pave.
   - Intake 22, P22
   - Apron23, P23,
   - Intake 17, P17
   - Intake 18, P18 – cover pipe end with steel plate for staging connection in Stage 2A.
5. Construct permanent pavement as shown.
6. Construct temporary pavement as shown.

TRAFFIC

1. Install BUS30 detour signage prior to road closures.
2. Existing signal system should be removed. Intersection will function as a side road stop-controlled intersection with US 63 NB/SB traffic as through movement and BUS30 as side road.
3. Close BUS30 to EB/WB through traffic as shown.
4. Close W Mill St as shown.
5. Maintain access to all adjacent entrances.

Stage 2A

CONSTRUCTION

1. Construct the following storm sewer pipes and structures:
   - P18 – remove steel plate and finish connection to intake 19
   - Intake 19, P19
   - Intake 20, P20, Apron 21
   - Intake 10, P10, Apron 11 – Well only, cover with steel plate and temp pave.
2. Construct permanent pavement as shown.
3. Construct temporary pavement as shown.

TRAFFIC

1. Maintain BUS30 detour signage.
2. Shift traffic as shown in staging sheets.
3. Intersection will function as a side road stop-controlled intersection with US 63 NB/SB traffic as through movement and BUS 30 as side road.

108_26A
8/15/22

STAGING NOTES

Stage 2B

CONSTRUCTION

1. Remove temporary pavement on SB outside exit lane of US63 and EB outside approach lane of BUS30.
2. Construct the following storm sewer pipes and structures:
   - Intake 8, P8, Apron 9
3. Construct permanent pavement as shown.

TRAFFIC

1. Maintain BUS30 detour signage.
2. Shift traffic as shown in staging sheets.
3. Intersection will function as a side road stop-controlled intersection with US 63 NB/SB traffic as through movement and BUS 30 as side road.

Stage 3

CONSTRUCTION

1. Construct permanent pavement as shown.

TRAFFIC

1. Maintain BUS30 detour signage.
2. Shift traffic as shown in staging sheets.
3. Intersection will function as a side road stop-controlled intersection with US 63 NB/SB traffic as through movement and BUS 30 as side road.

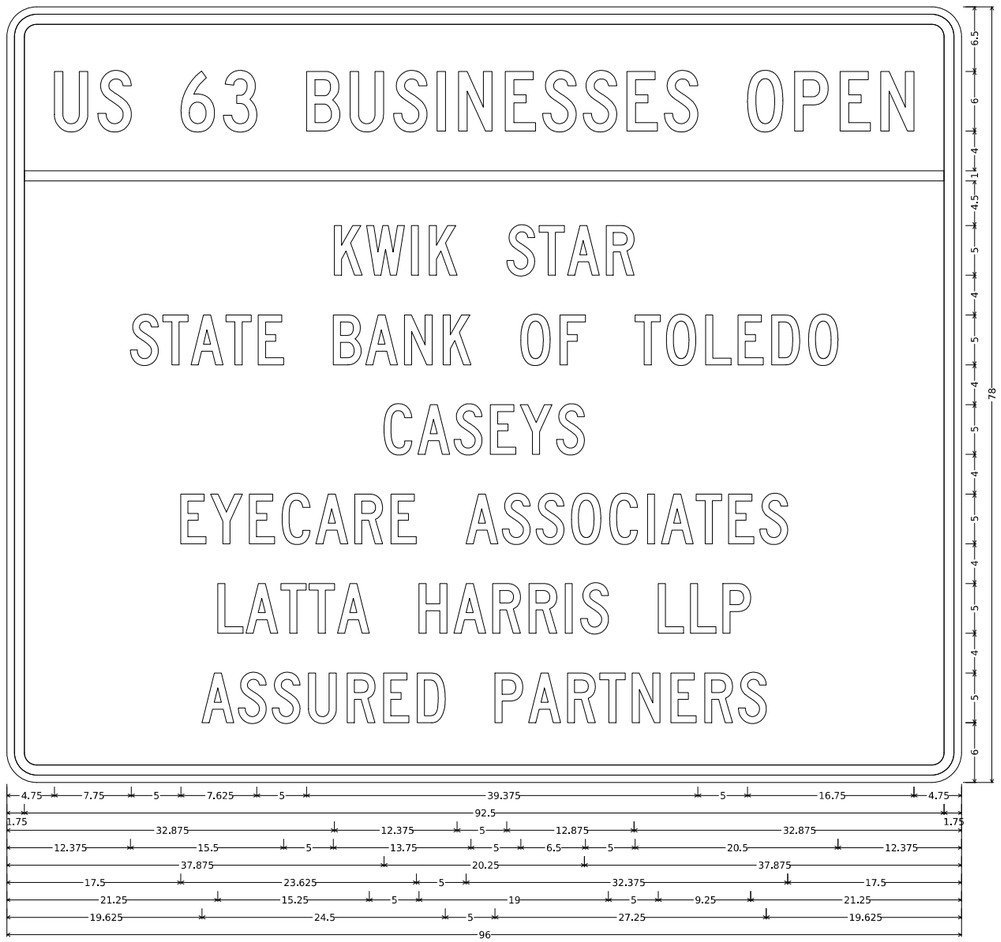
Stage 4

CONSTRUCTION

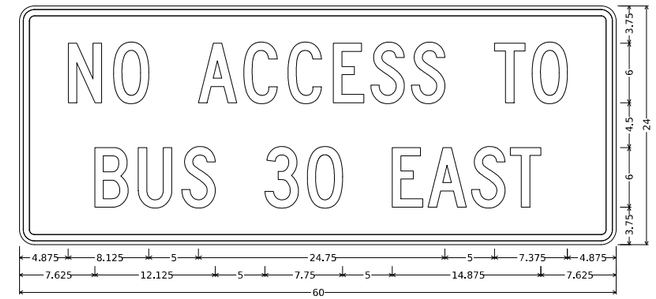
1. Construct permanent pavement as shown.

TRAFFIC

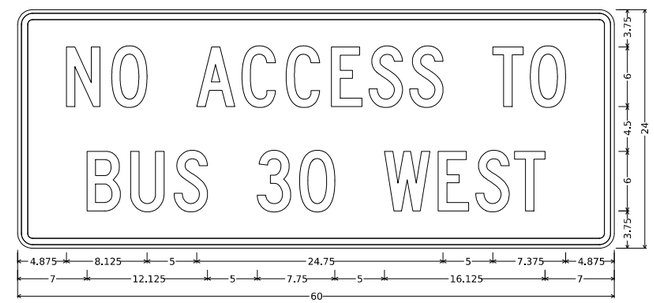
1. Remove BUS30 detour signage.
2. Intersection should function as fully open roundabout controlled intersection.



3.000" Radius, 1.000" Border, 0.750" Indent, Black on, Orange;
"US", C 2K; "63", C 2K; "BUSINESSES", C 2K; "OPEN", C 2K; "KWIK", C 2K; "STAR", C 2K; "STATE", C 2K; "BANK", C 2K; "OF", C 2K; "TOLEDO", C 2K; "CASEYS", C 2K;
"EYECARE", C 2K; "ASSOCIATES", C 2K; "LATTA", C 2K; "HARRIS", C 2K; "LLP", C 2K; "ASSURED", C 2K; "PARTNERS", C 2K;



1.500" Radius, 0.625" Border, 0.375" Indent, Black on, Orange;
"NO", C 2K; "ACCESS", C 2K; "TO", C 2K; "BUS", C 2K; "30", C 2K; "EAST", C 2K;



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"NO", C 2K; "ACCESS", C 2K; "TO", C 2K; "BUS", C 2K; "30", C 2K; "WEST", C 2K;

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 Subbase
- Proposed Special Backfill
- Temporary Barrier Rail
- Proposed Granular Shoulder
- Temporary Shoulder
- Existing Shoulder Strengthening
- 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

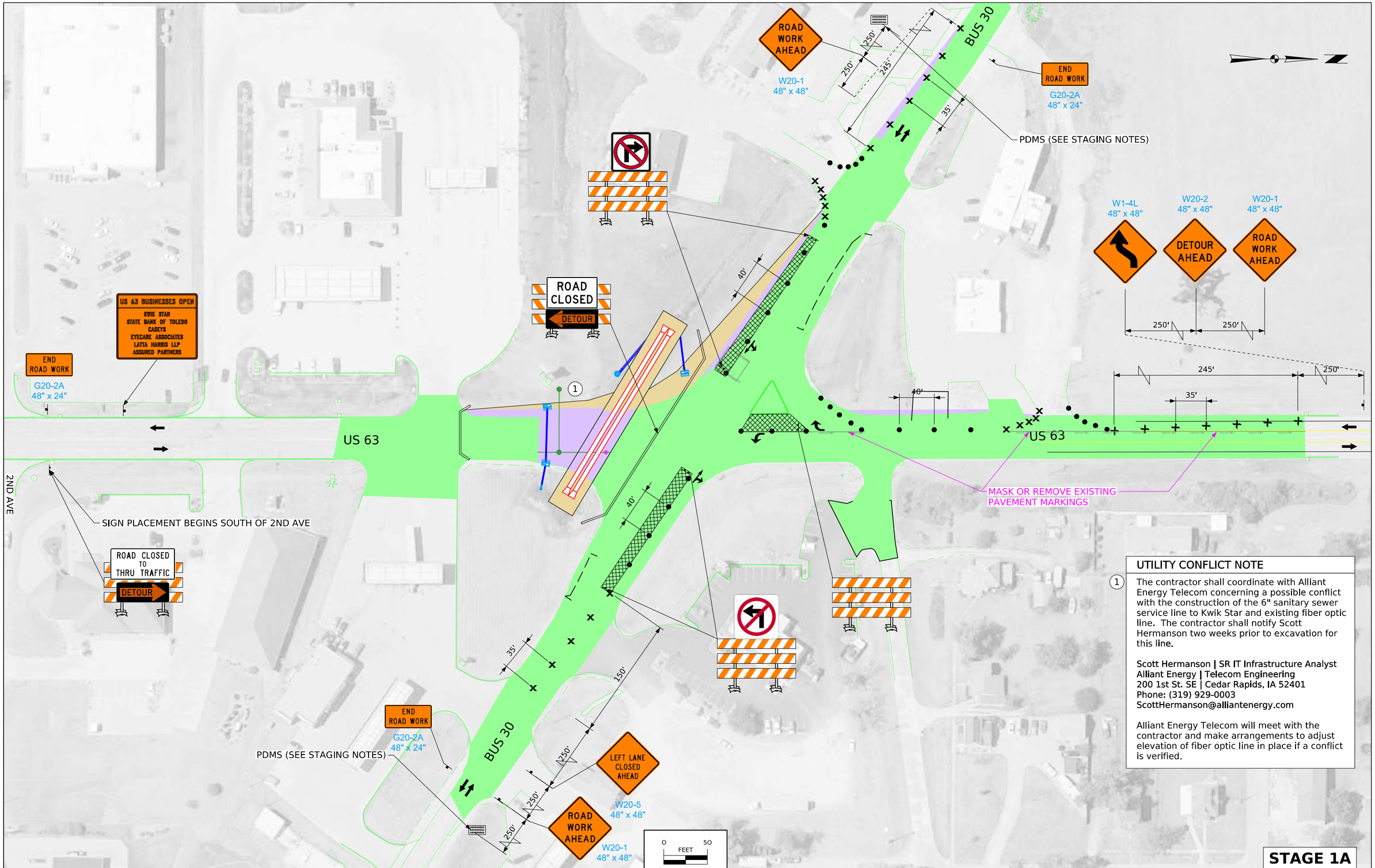
PLAN VIEW PATTERN AND SYMBOL LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

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



UTILITY CONFLICT NOTE

1 The contractor shall coordinate with Alliant Energy Telecom concerning a possible conflict with the construction of the 6" sanitary sewer service line to Kwik Star and existing fiber optic line. The contractor shall notify Scott Hermanson two weeks prior to excavation for this line.

Scott Hermanson | SR IT Infrastructure Analyst
Alliant Energy | Telecom Engineering
200 1st St. SE | Cedar Rapids, IA 52401
Phone: (319) 929-0003
ScottHermanson@alliantenergy.com

Alliant Energy Telecom will meet with the contractor and make arrangements to adjust elevation of fiber optic line in place if a conflict is verified.

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER J.5

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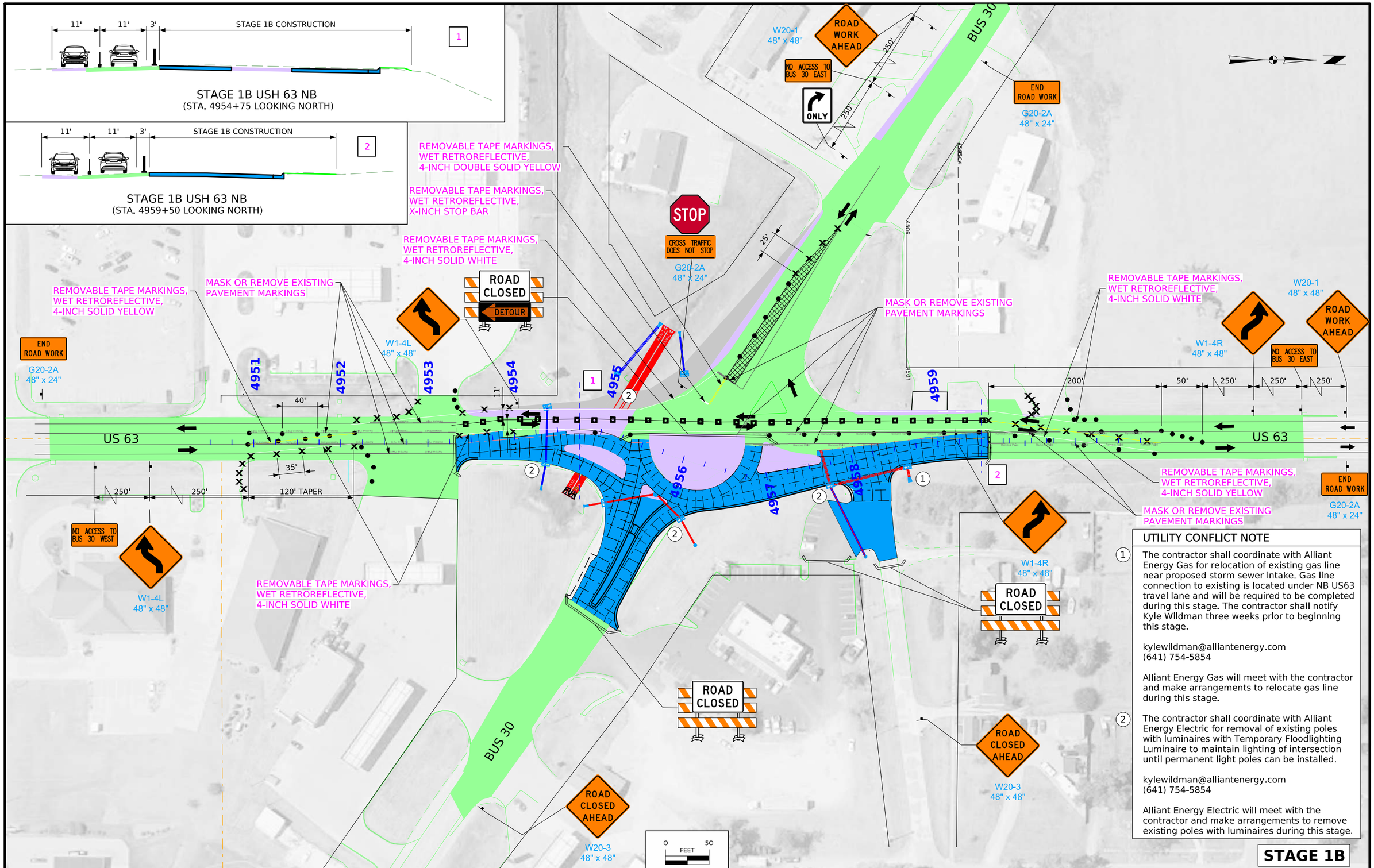

UTILITY CONFLICT NOTE

1. The contractor shall coordinate with Alliant Energy Gas for relocation of existing gas line near proposed storm sewer intake. Gas line connection to existing is located under NB US63 travel lane and will be required to be completed during this stage. The contractor shall notify Kyle Wildman three weeks prior to beginning this stage.

   kylewildman@alliantenergy.com
   (641) 754-5854

   Alliant Energy Gas will meet with the contractor and make arrangements to relocate gas line during this stage.

2. The contractor shall coordinate with Alliant Energy Electric for removal of existing poles with luminaires with Temporary Floodlighting Luminaire to maintain lighting of intersection until permanent light poles can be installed.

   kylewildman@alliantenergy.com
   (641) 754-5854

   Alliant Energy Electric will meet with the contractor and make arrangements to remove existing poles with luminaires during this stage.

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER J.6

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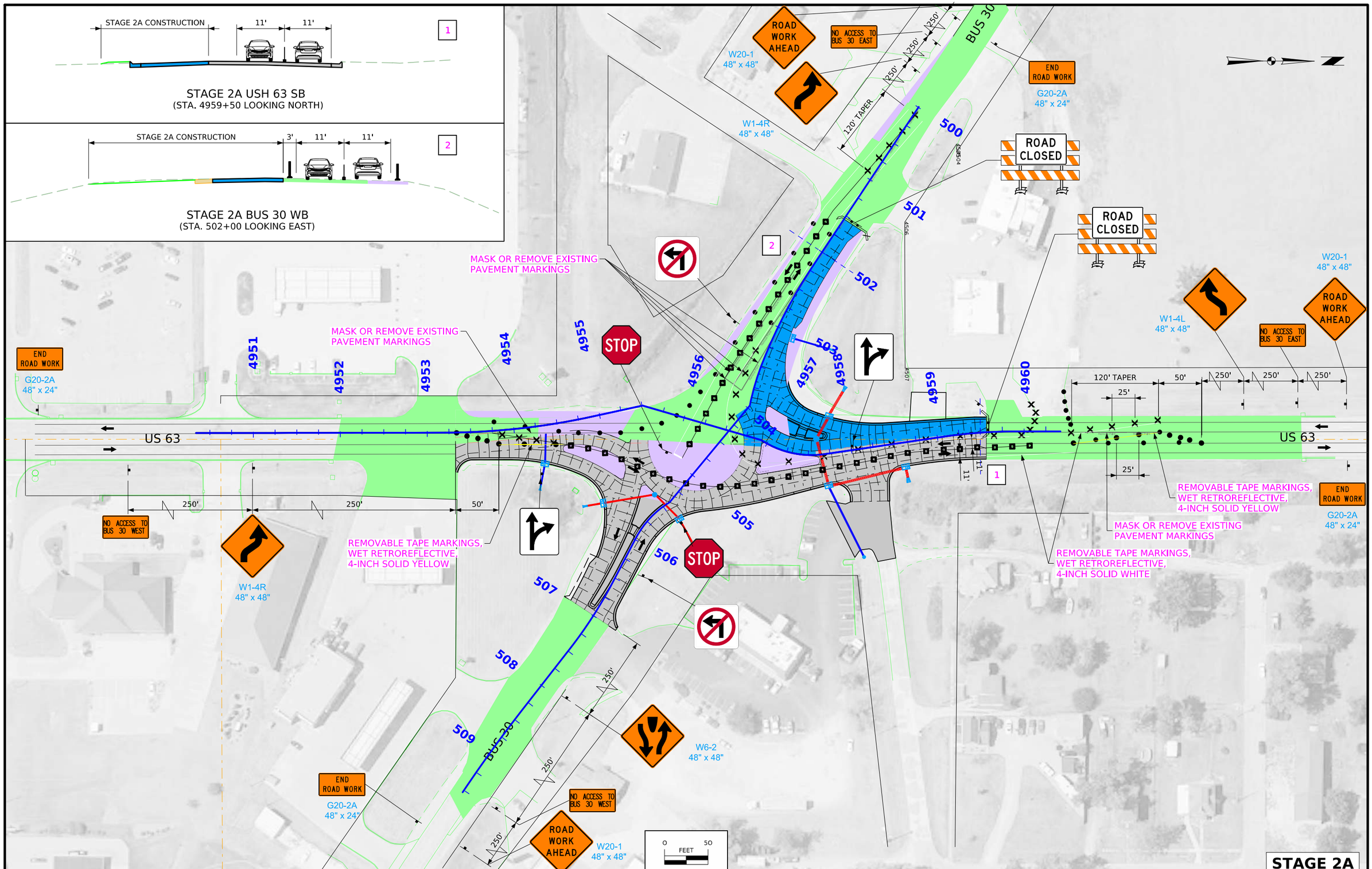

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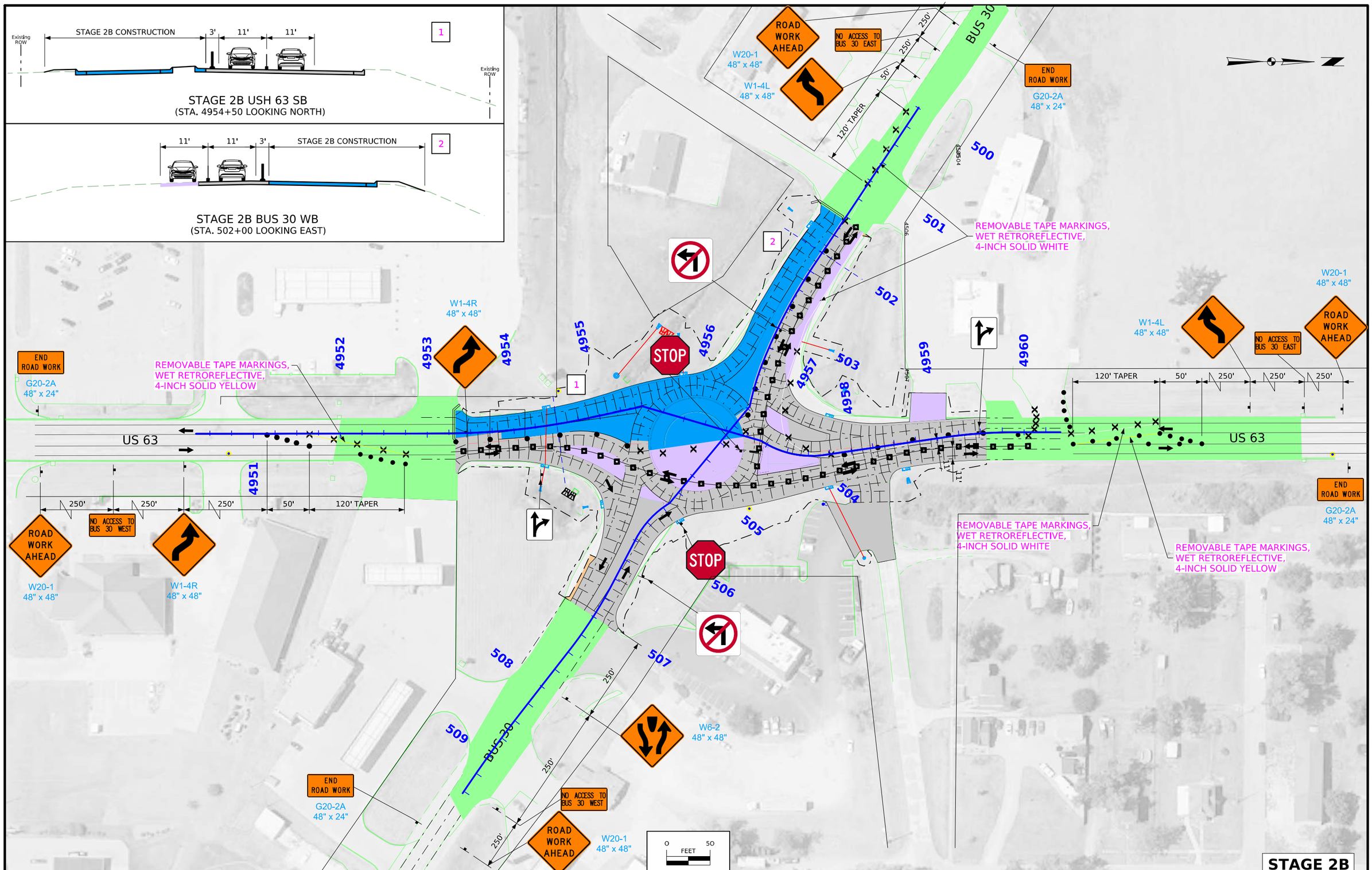

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER J.8

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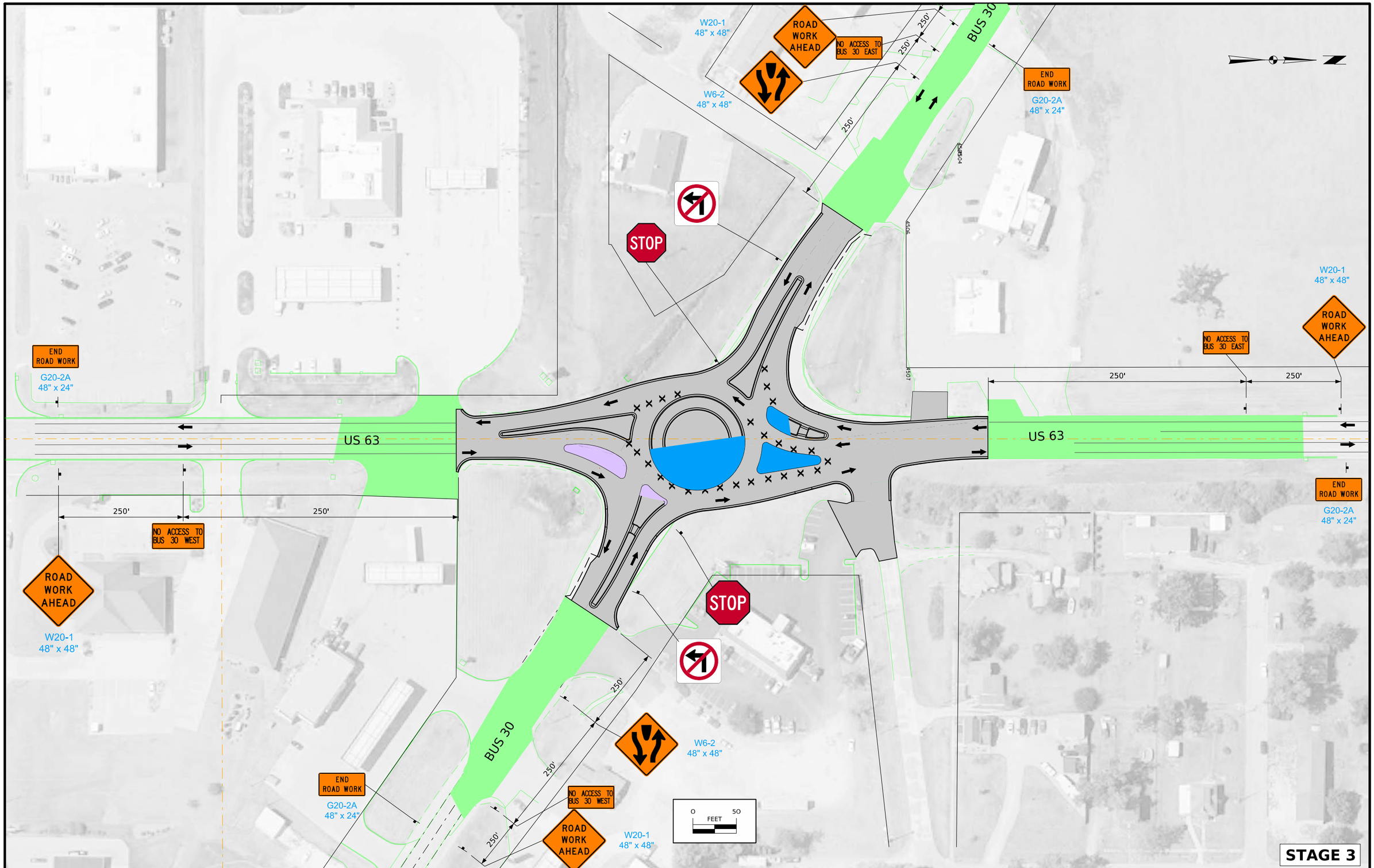

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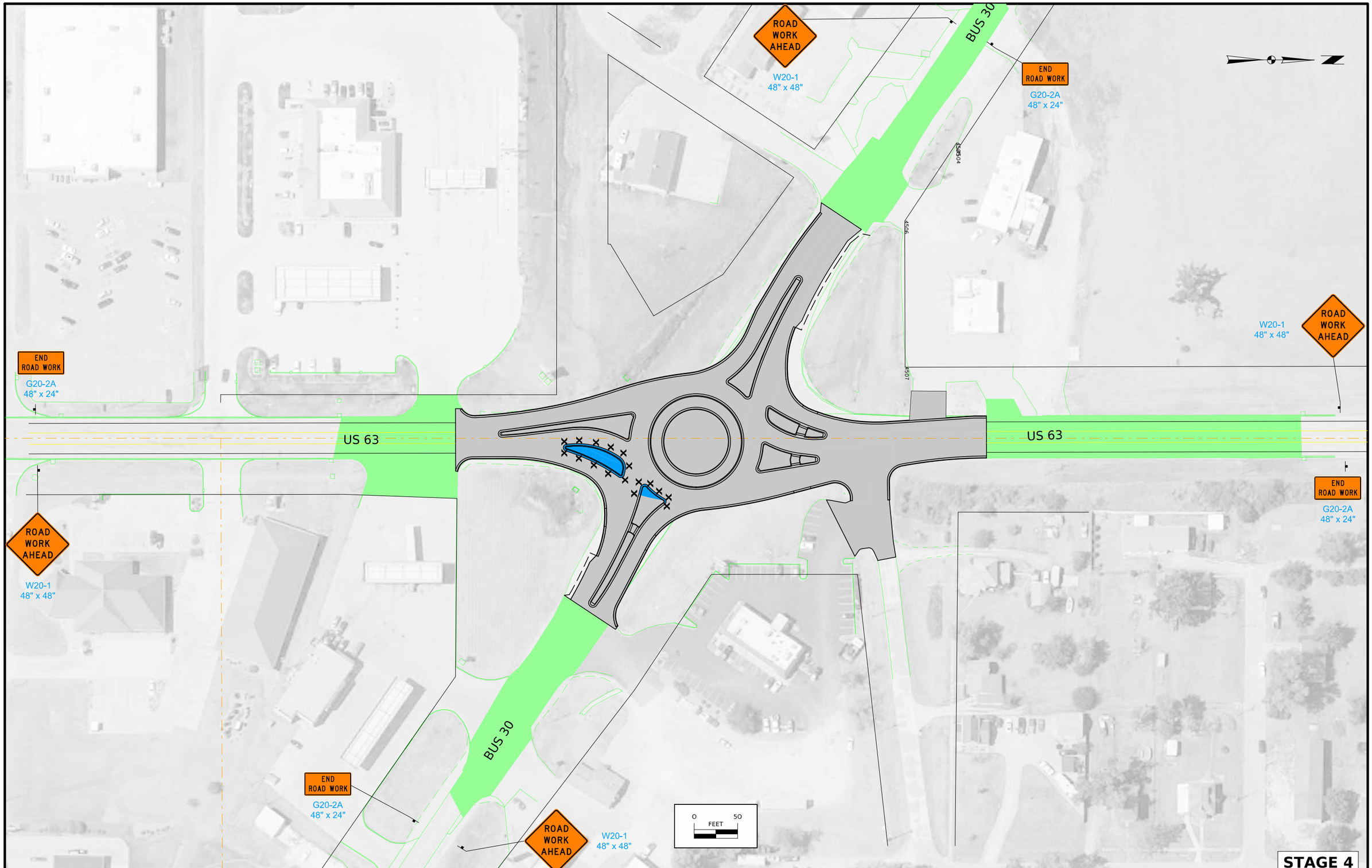

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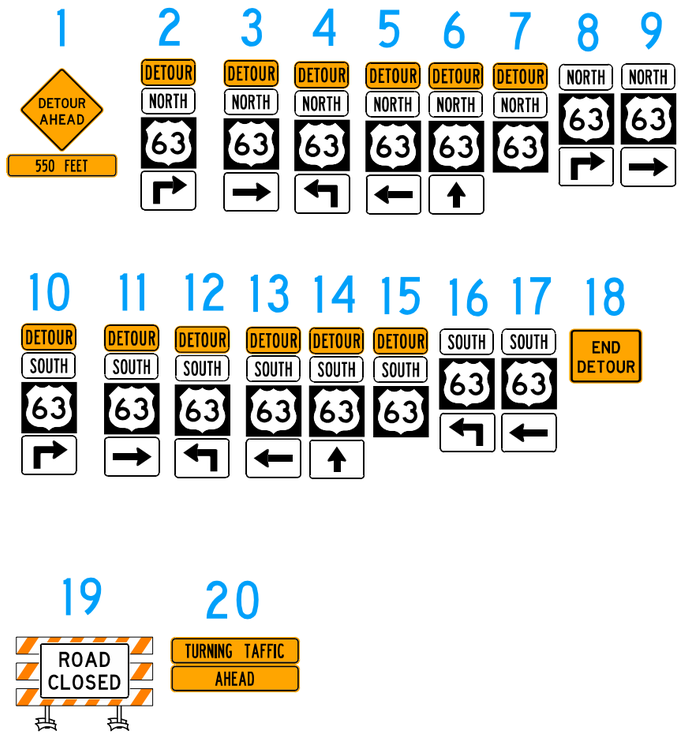

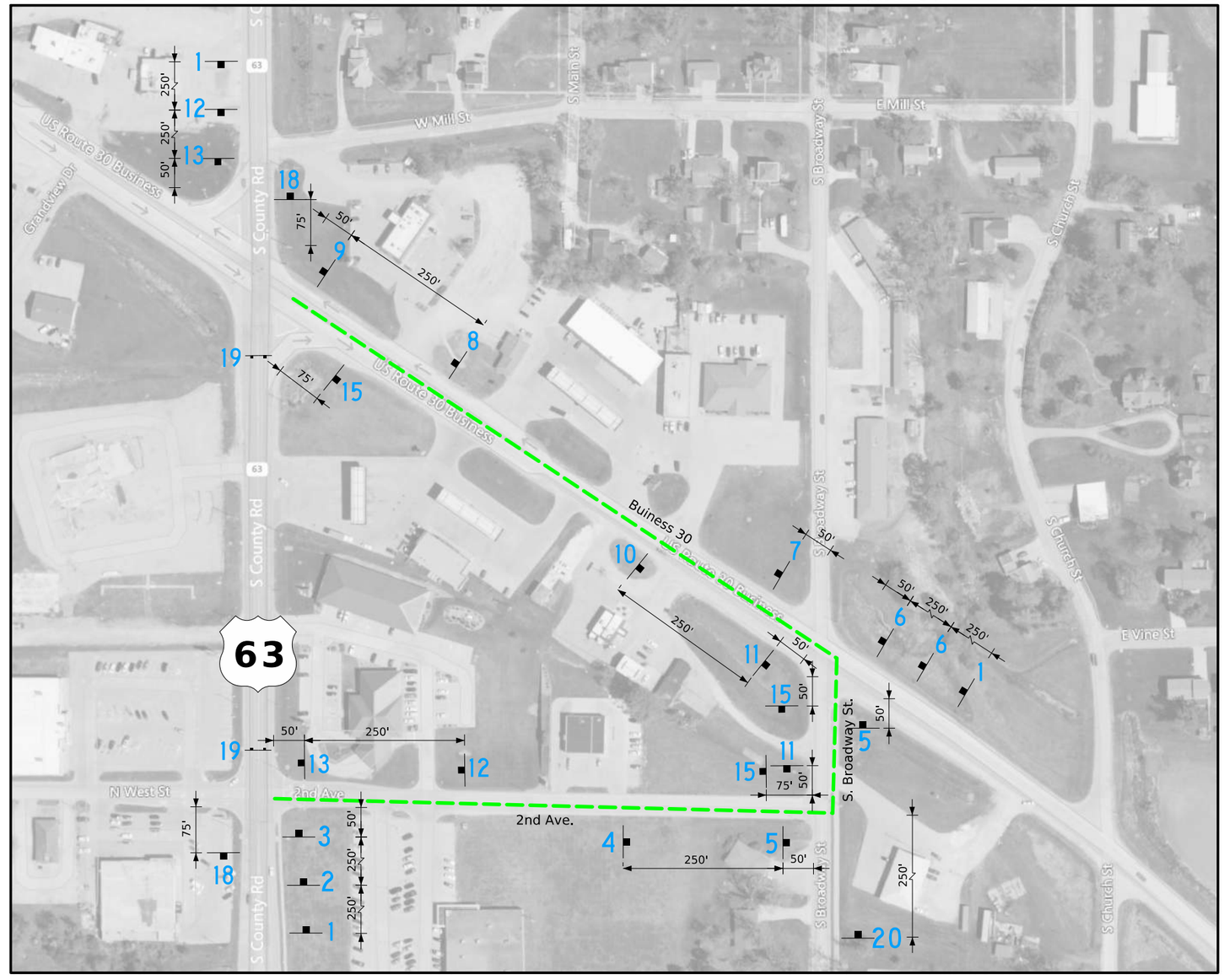

LEGEND

DETOUR ROUTE ----

Closed X

Tama County
U.S. 63 Detour

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER J.11

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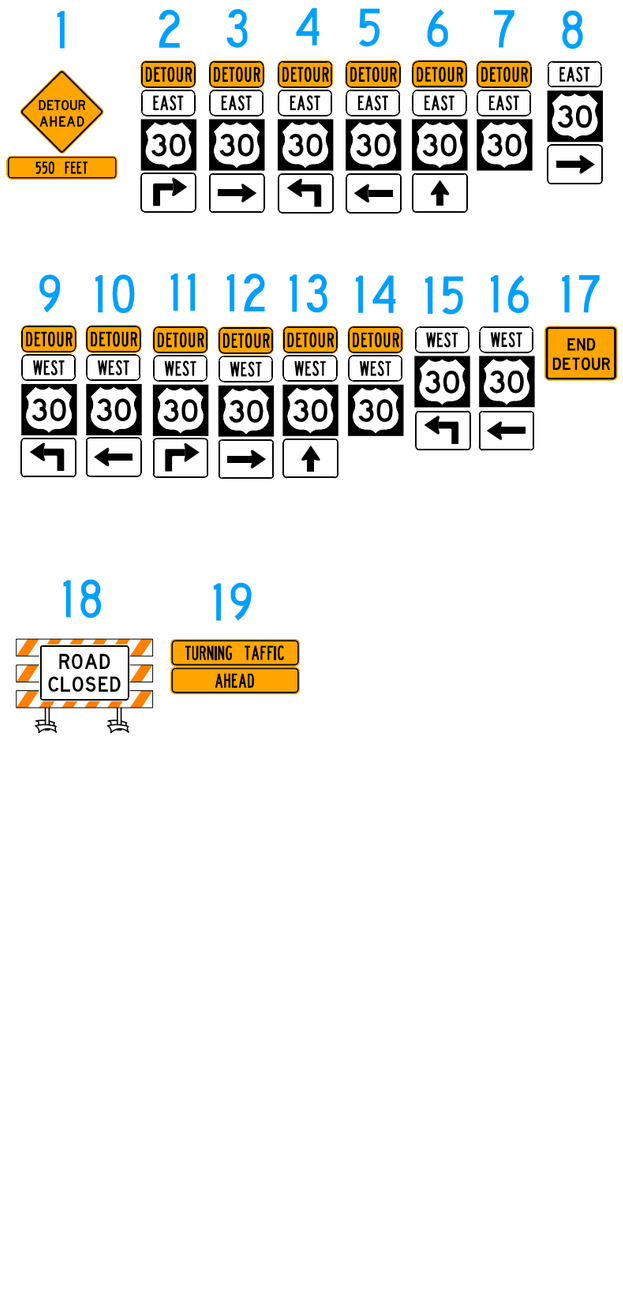

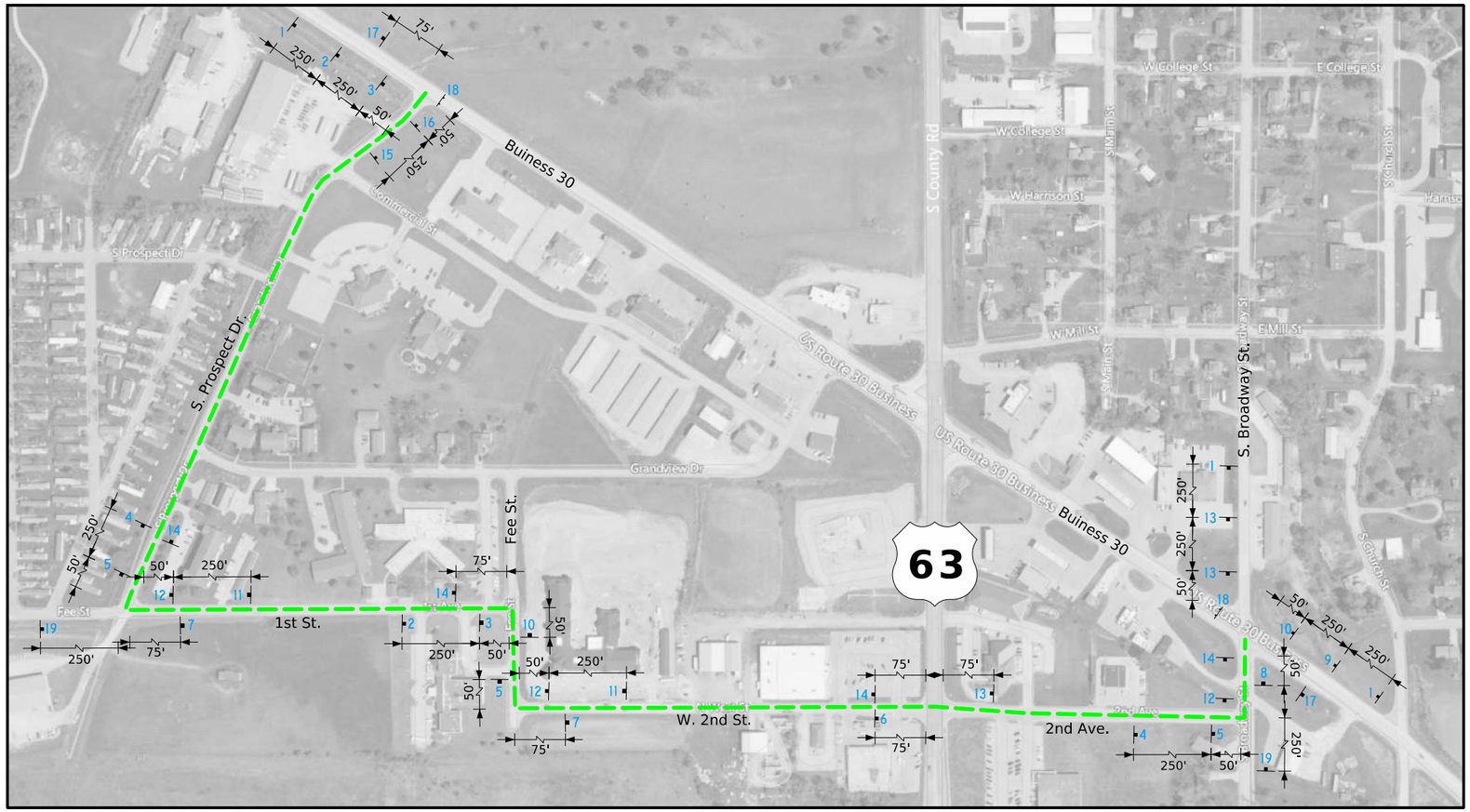

LEGEND

DETOUR ROUTE ----

Closed X

Tama County
U.S. 63 Detour

FILE NO.	ENGLISH	DESIGN TEAM **MSA PROFESSIONAL SERVICES**	**TAMA** COUNTY	PROJECT NUMBER **HSIPX-063-5(078)--3L-86**	SHEET NUMBER **J.12**

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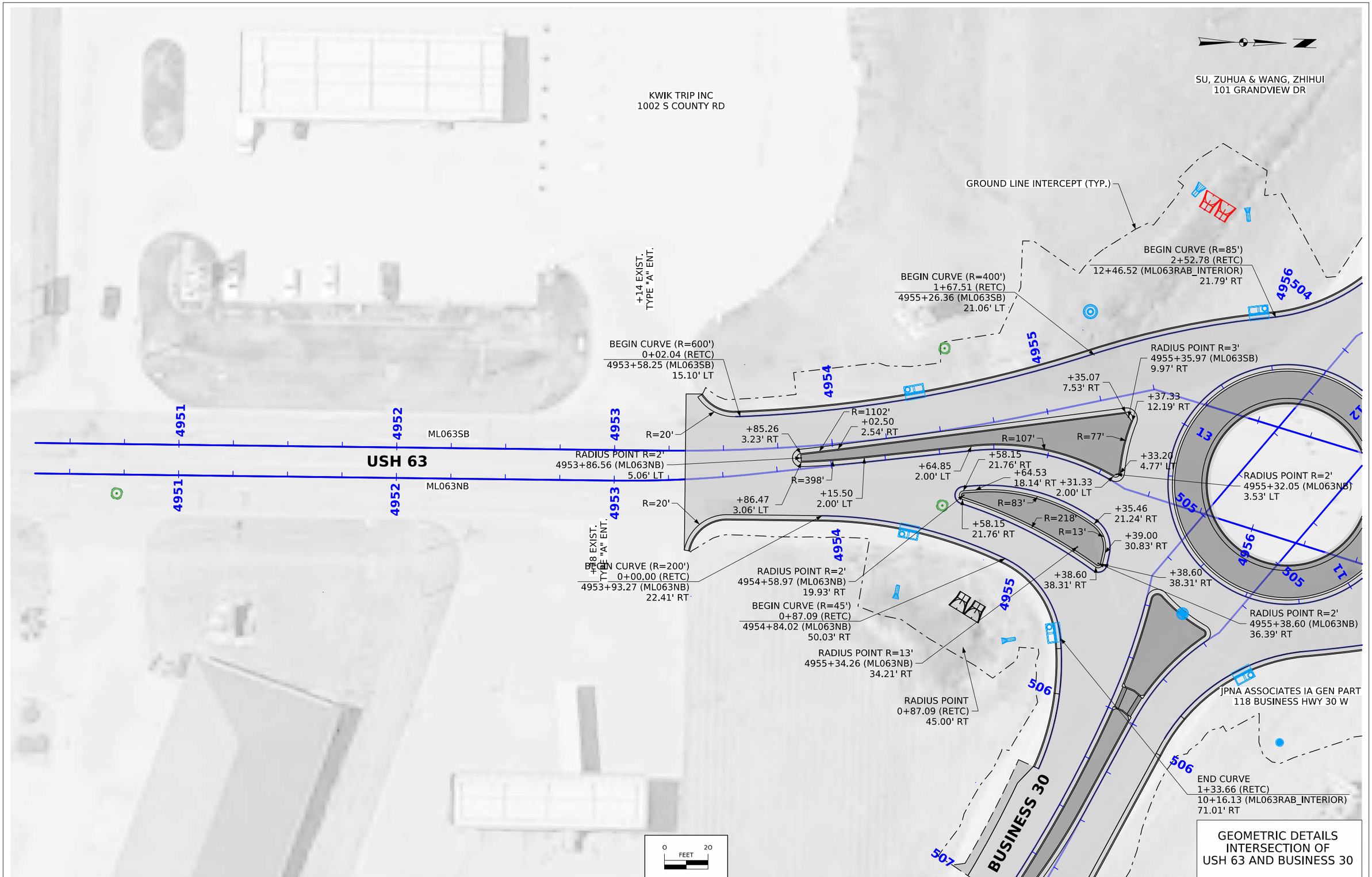

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER L.1

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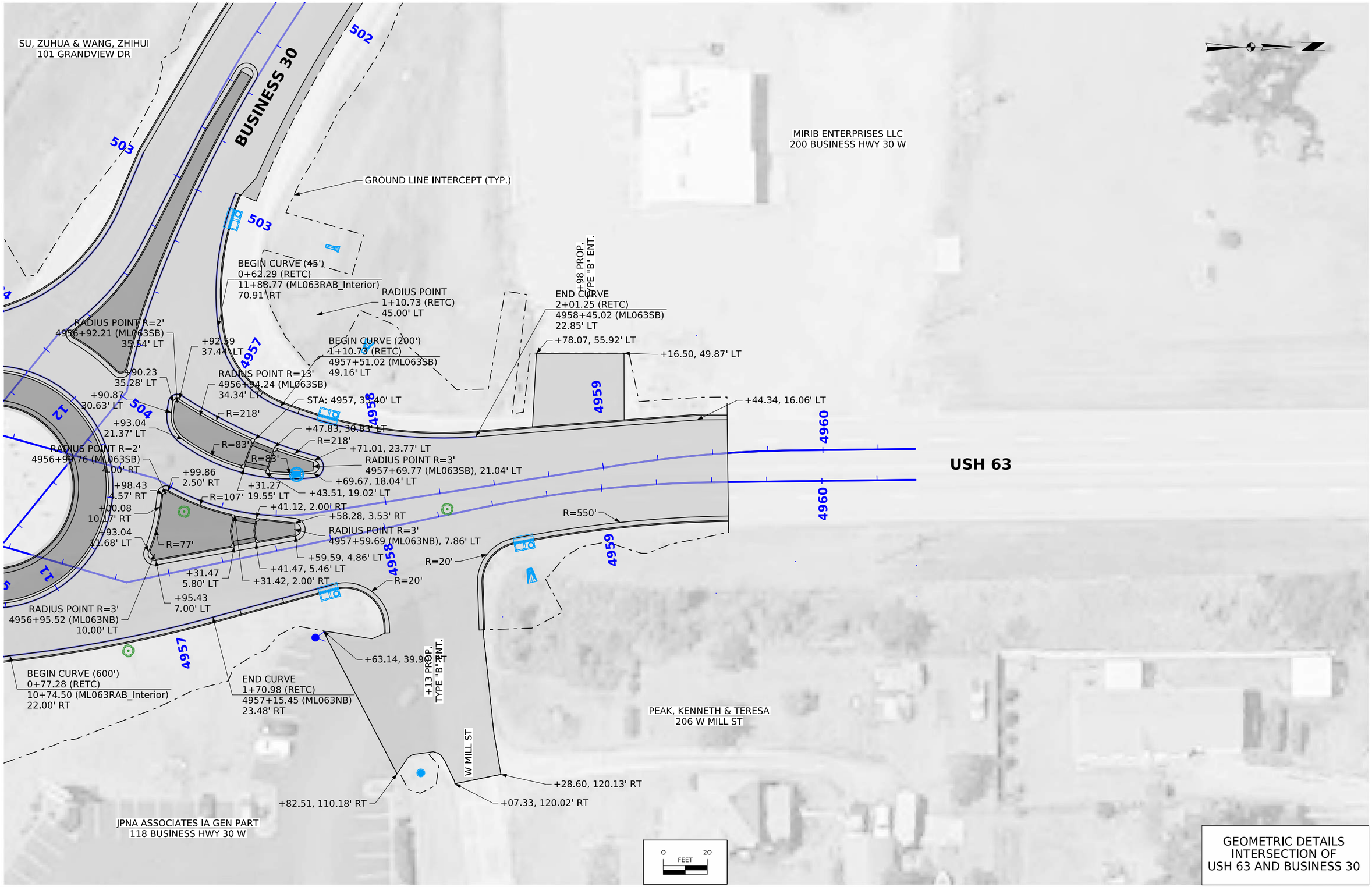

GEOMETRIC DETAILS
INTERSECTION OF
USH 63 AND BUSINESS 30

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER L.2

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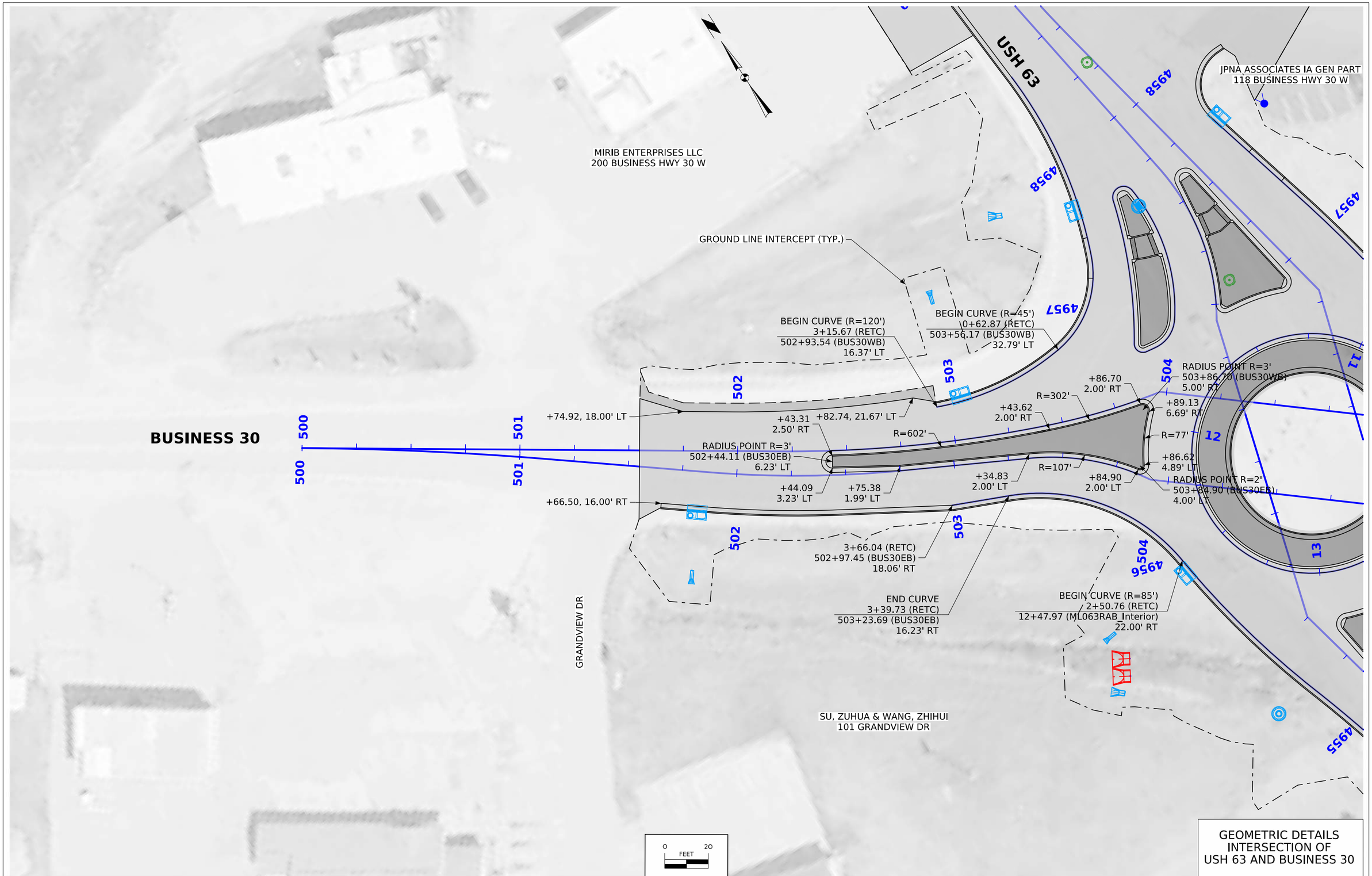

GEOMETRIC DETAILS
INTERSECTION OF
USH 63 AND BUSINESS 30

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER L.3

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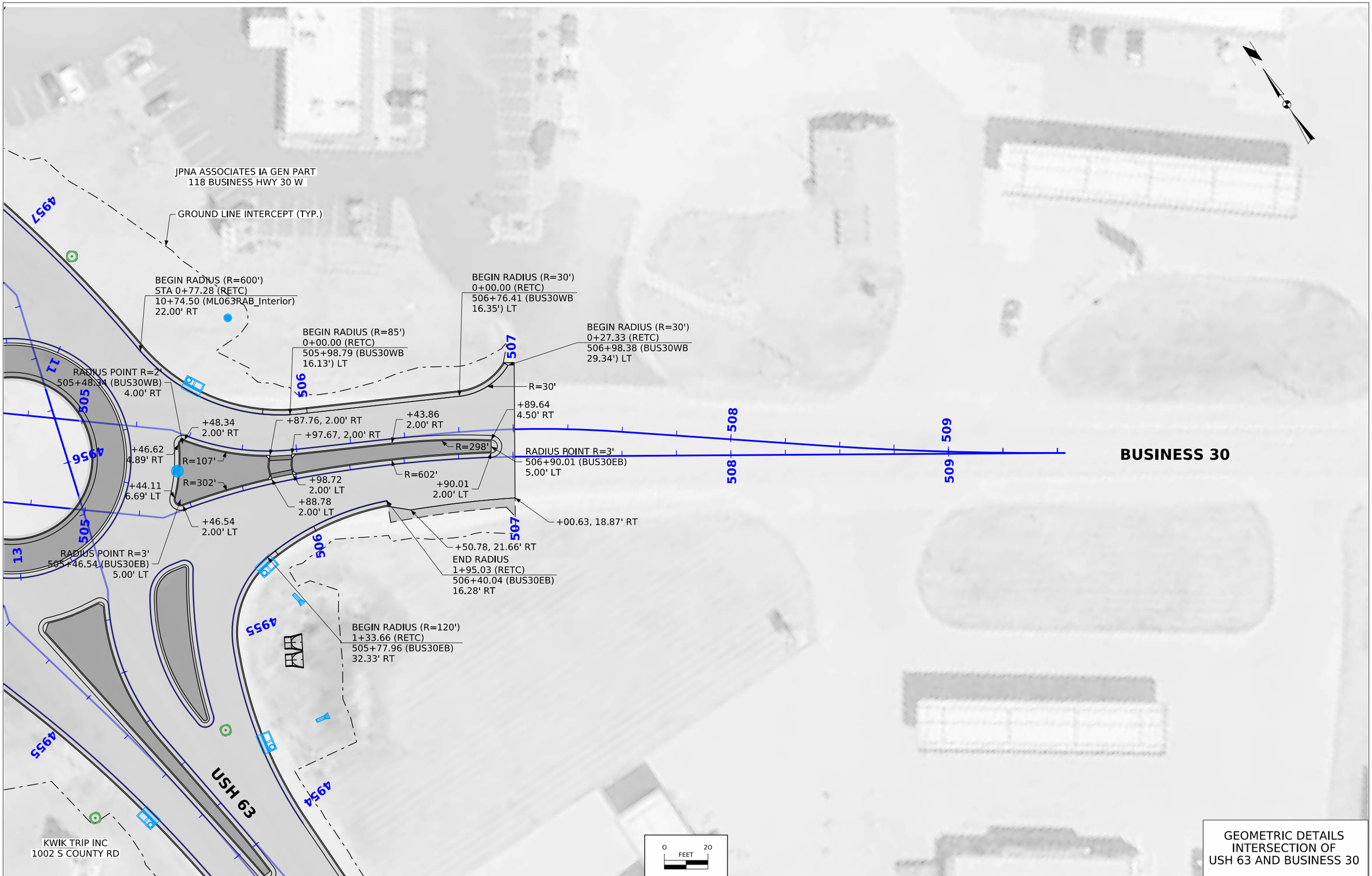

GEOMETRIC DETAILS
INTERSECTION OF
USH 63 AND BUSINESS 30

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER L.4

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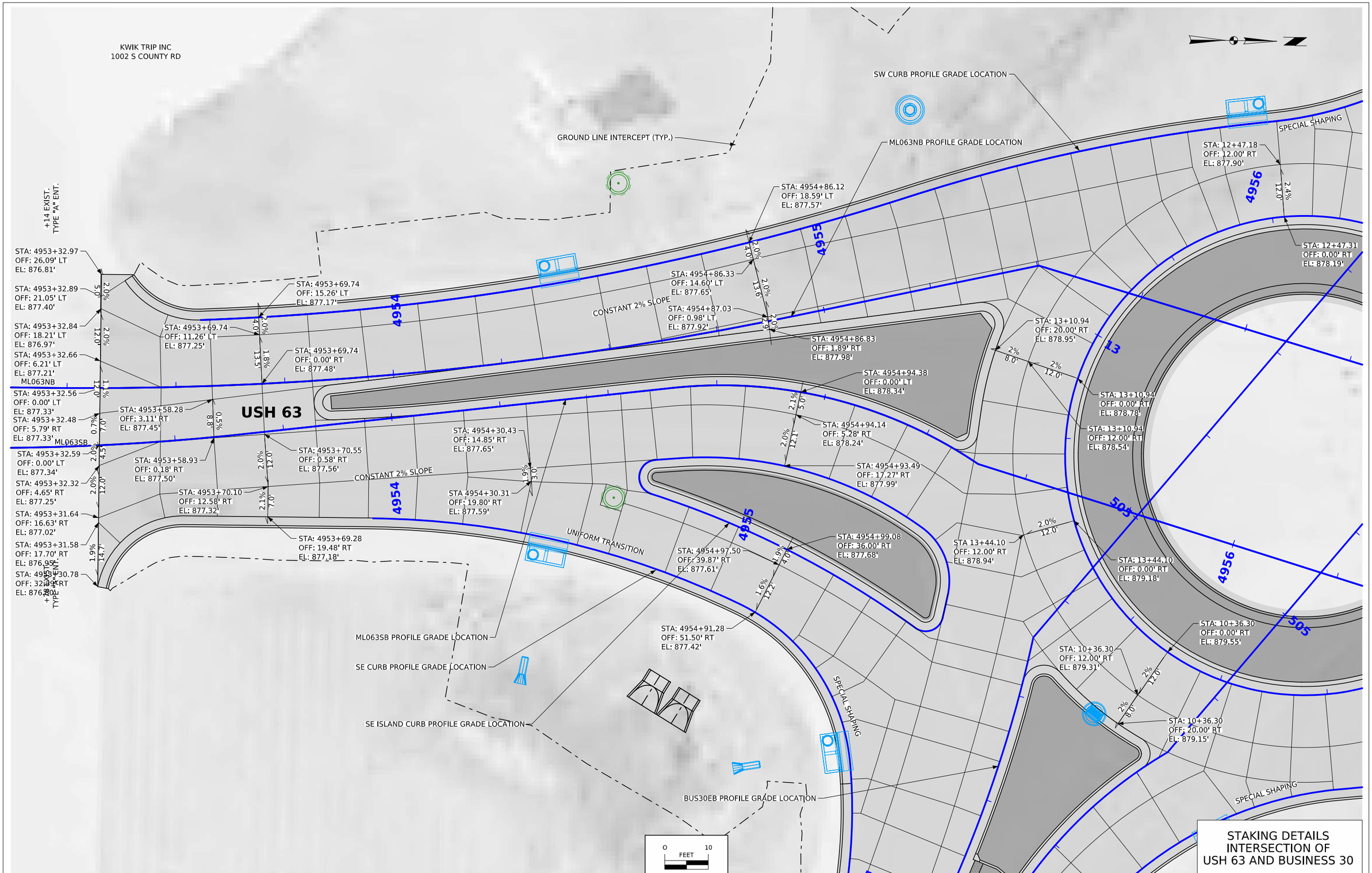

STAKING DETAILS
INTERSECTION OF
USH 63 AND BUSINESS 30

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER L.5

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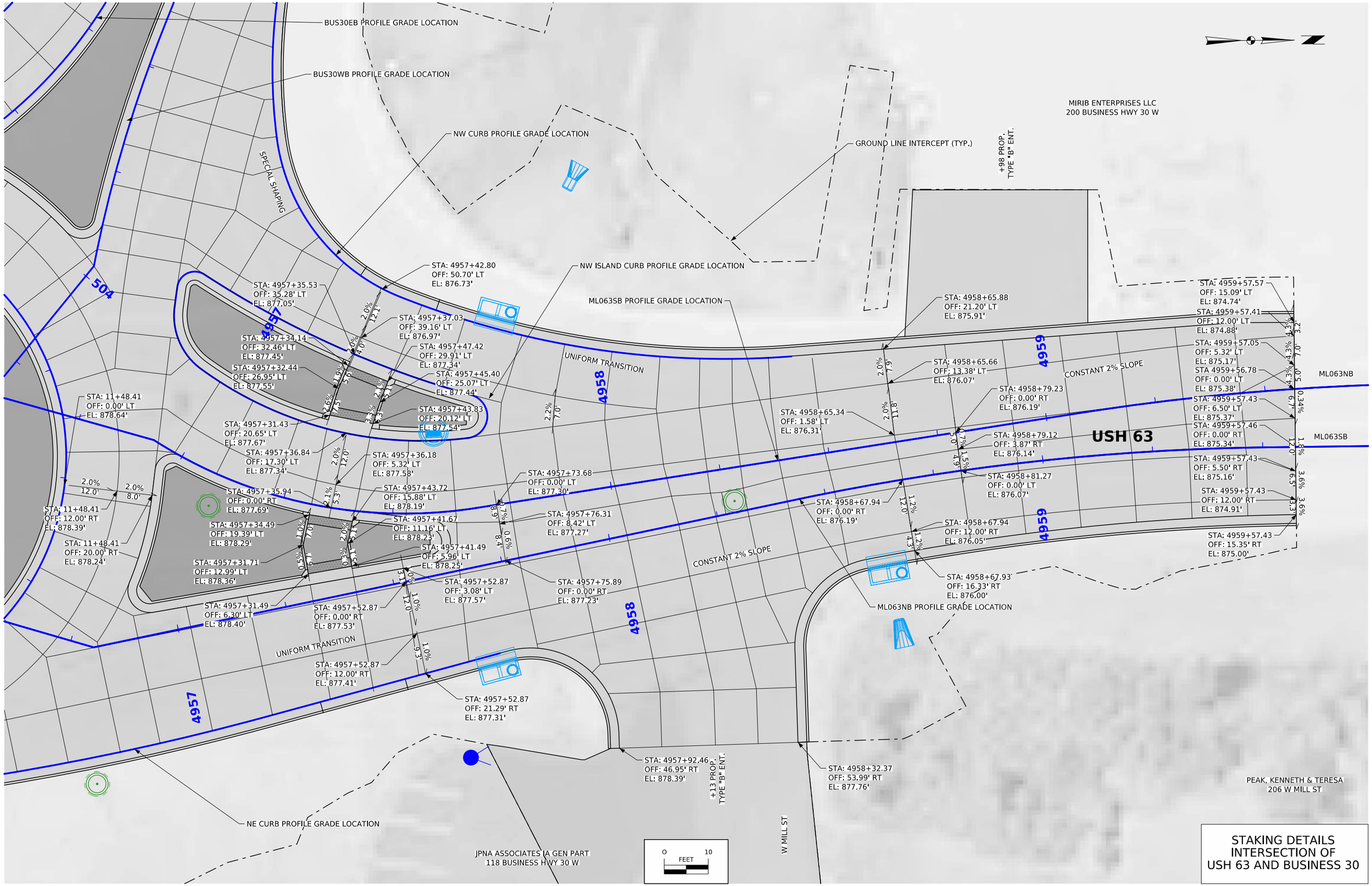

STAKING DETAILS
INTERSECTION OF
USH 63 AND BUSINESS 30

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER L.6

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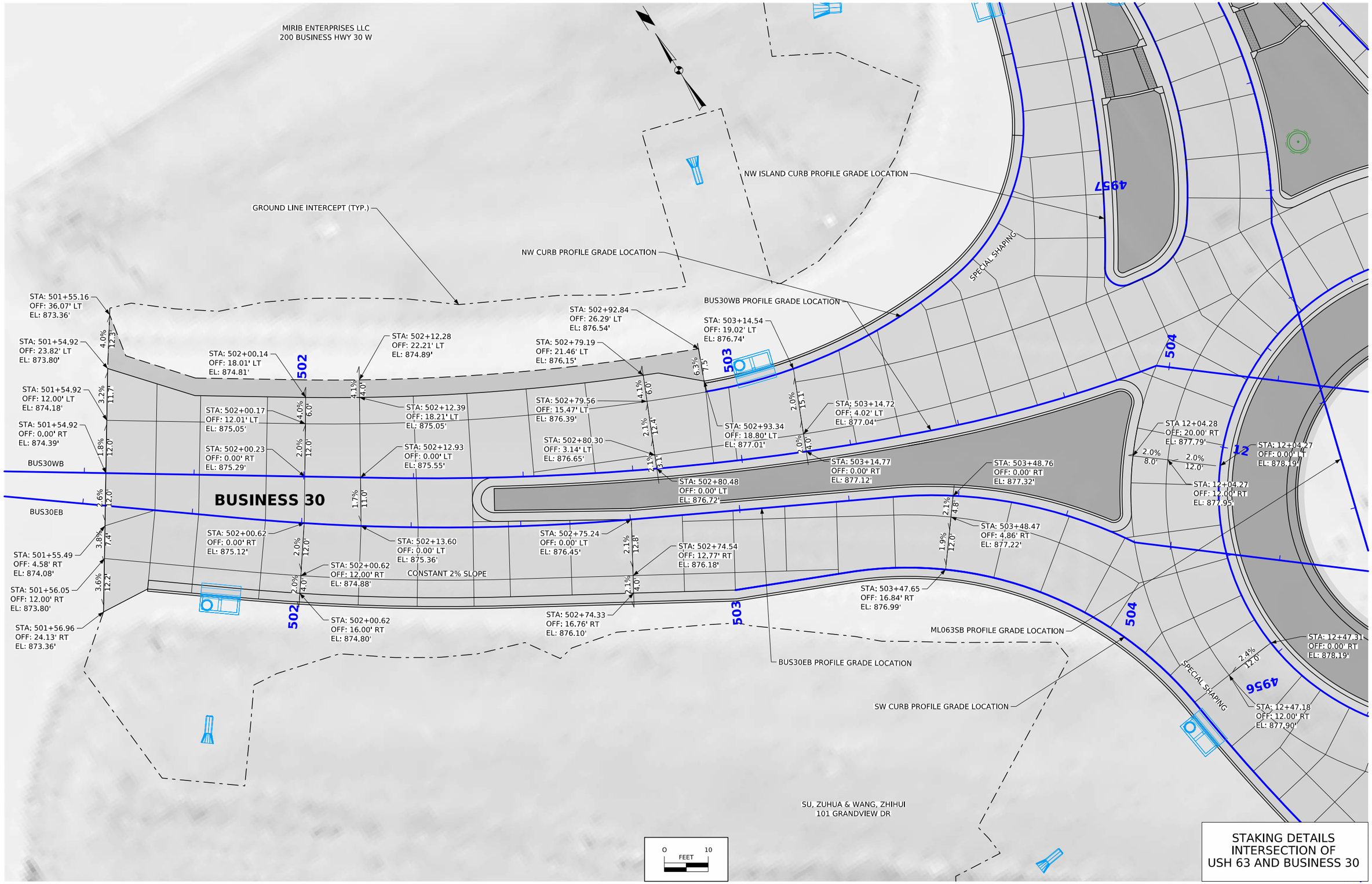

STAKING DETAILS
INTERSECTION OF
USH 63 AND BUSINESS 30

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER L.7

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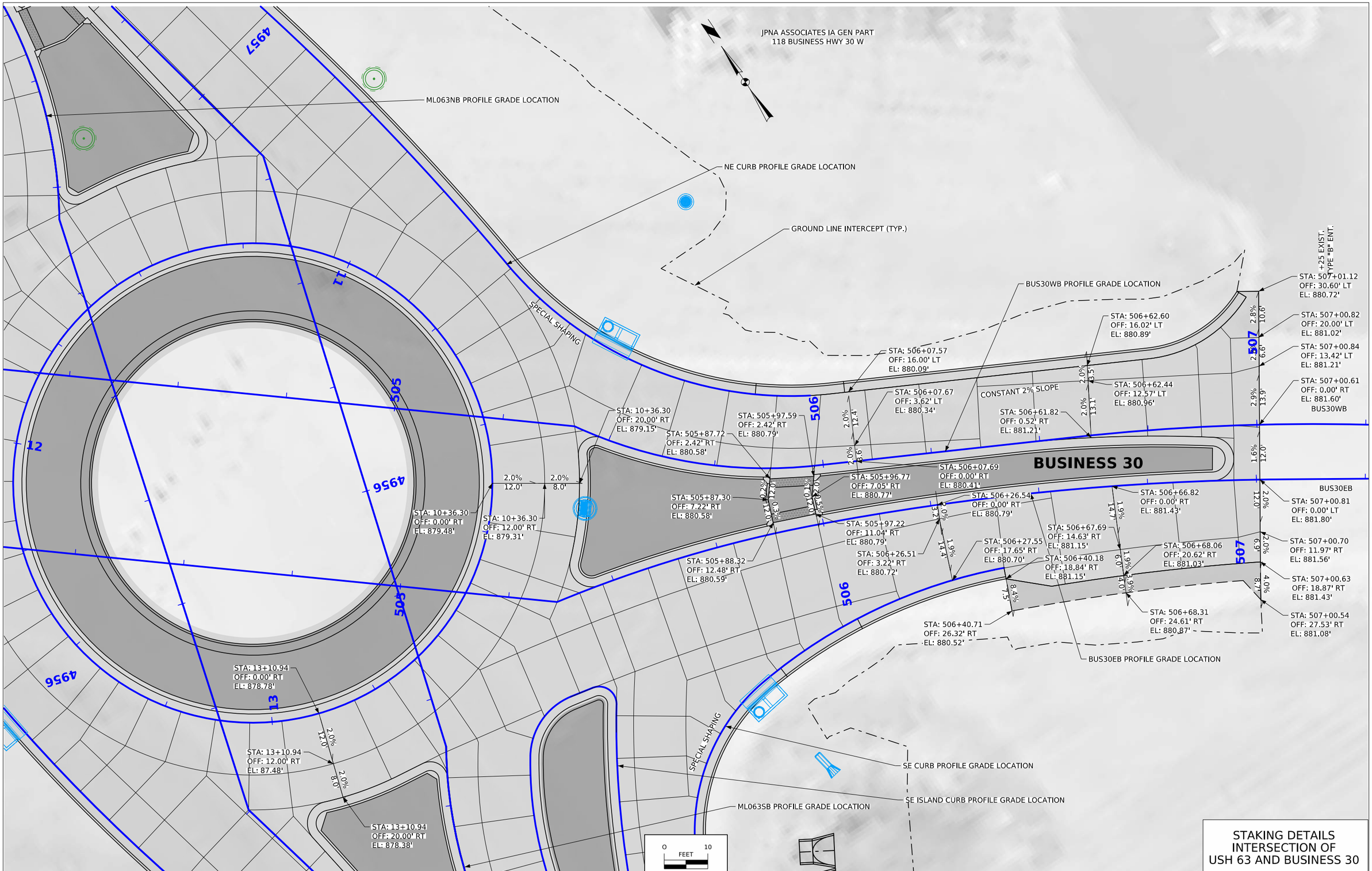

STAKING DETAILS
INTERSECTION OF
USH 63 AND BUSINESS 30

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER L.8

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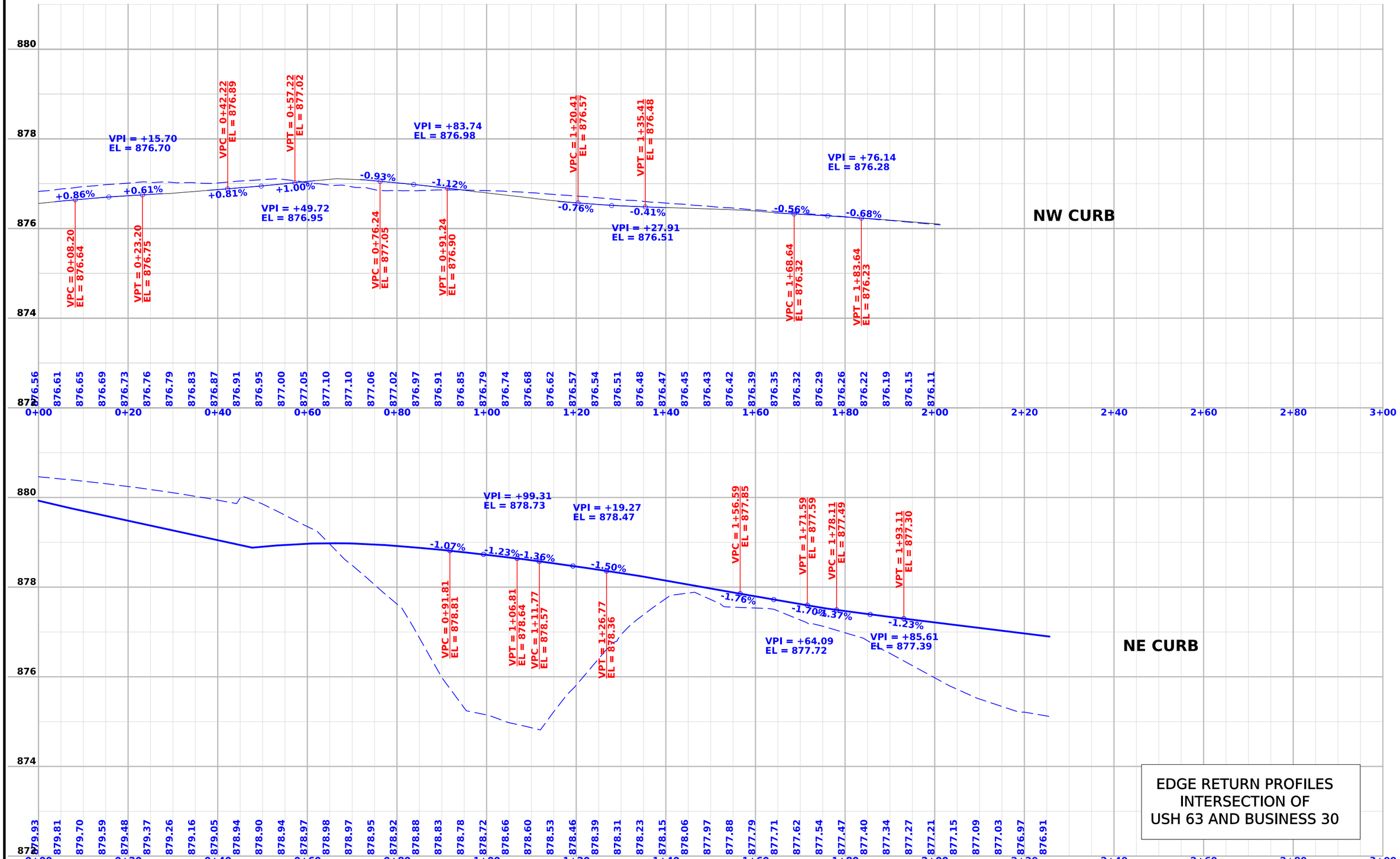

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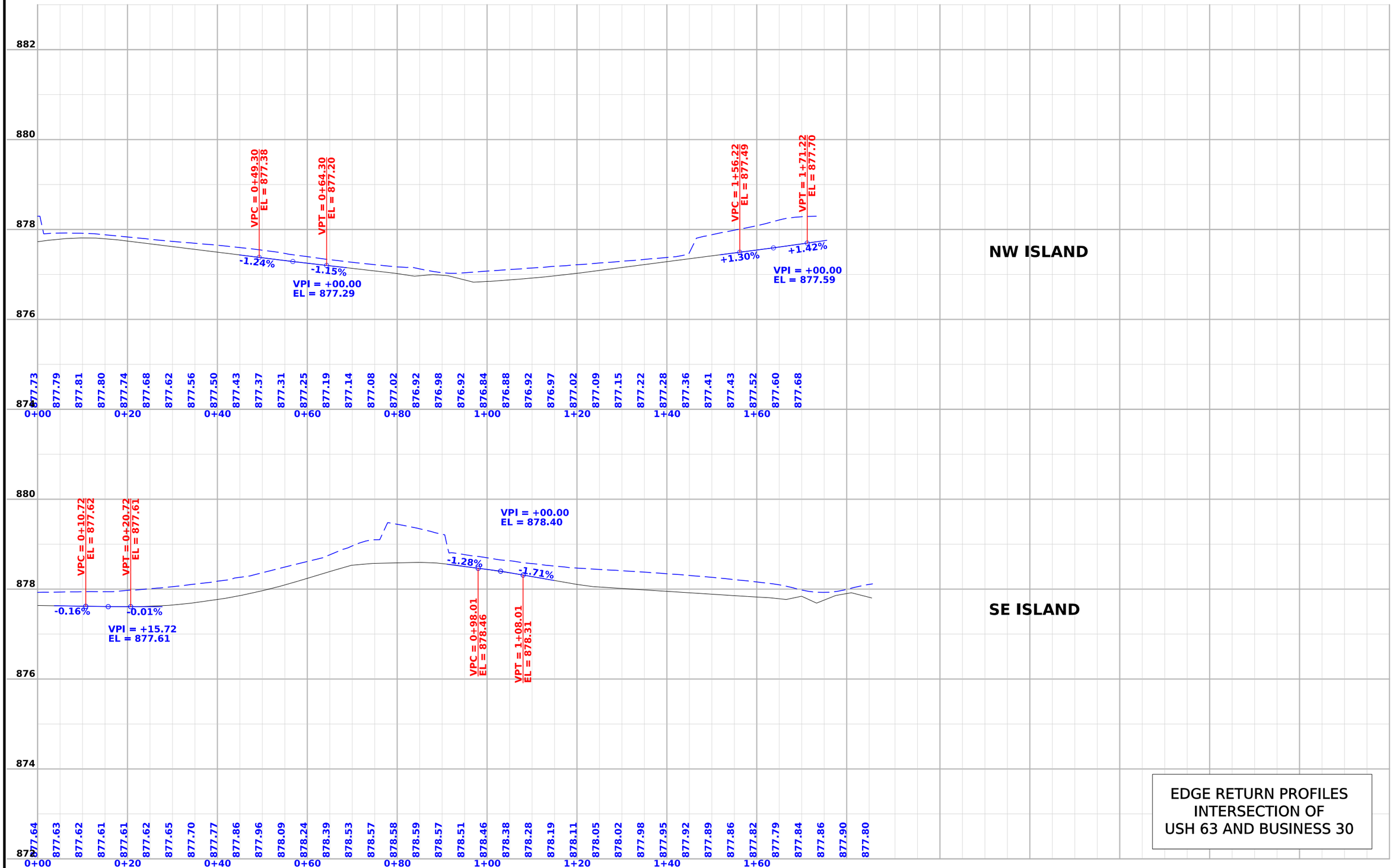

EDGE RETURN PROFILES
INTERSECTION OF
USH 63 AND BUSINESS 30

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER L.10

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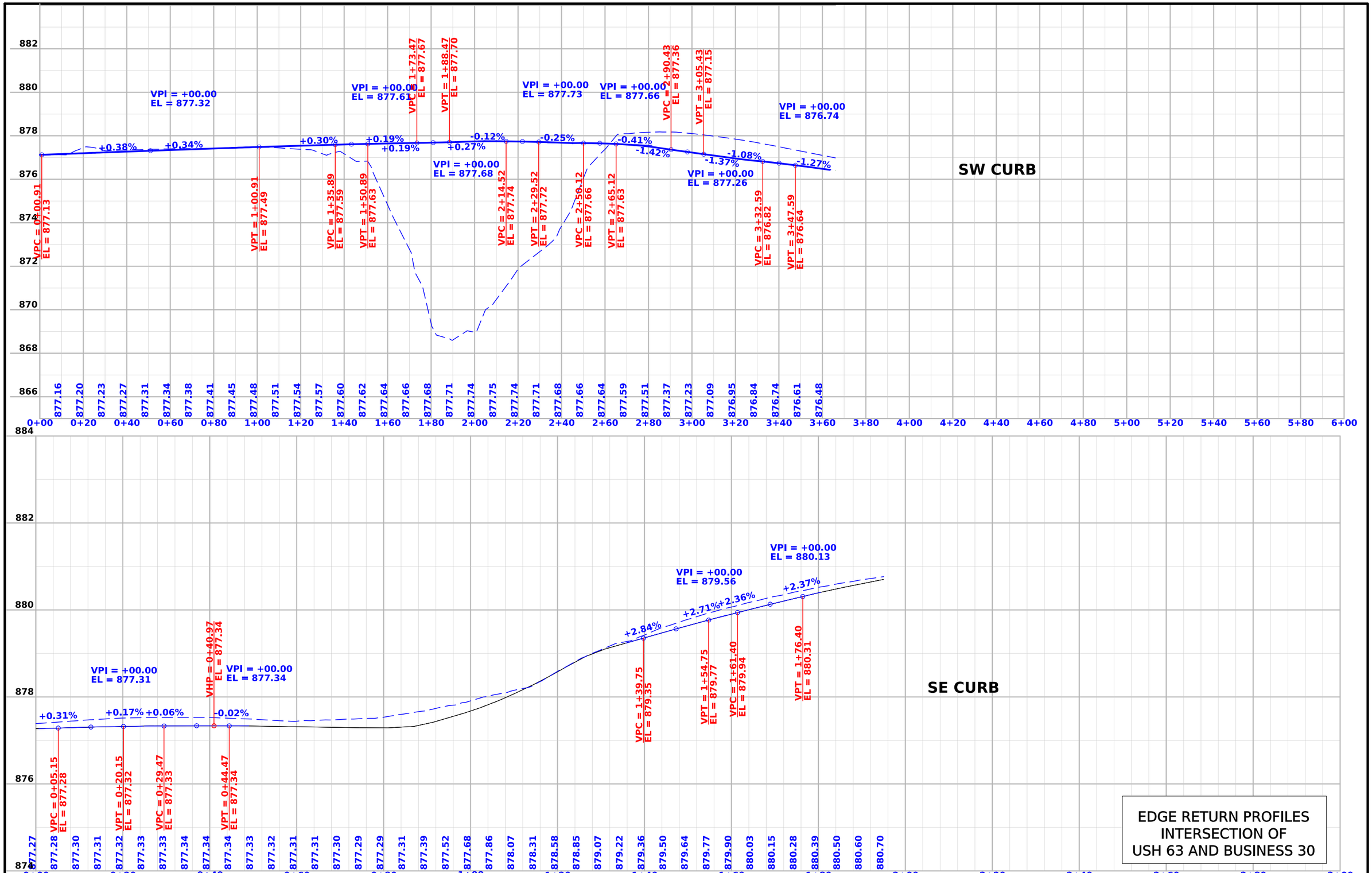

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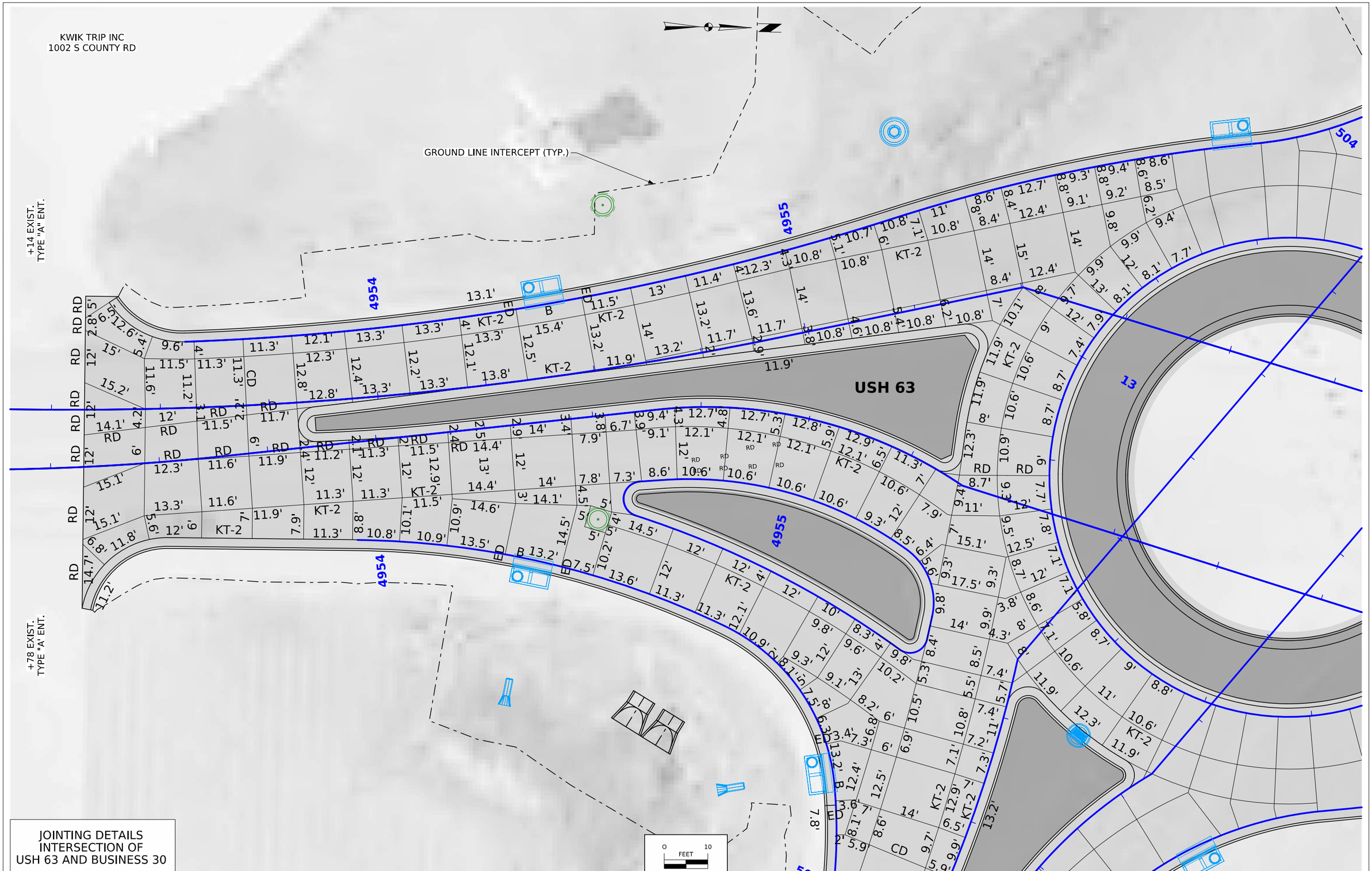

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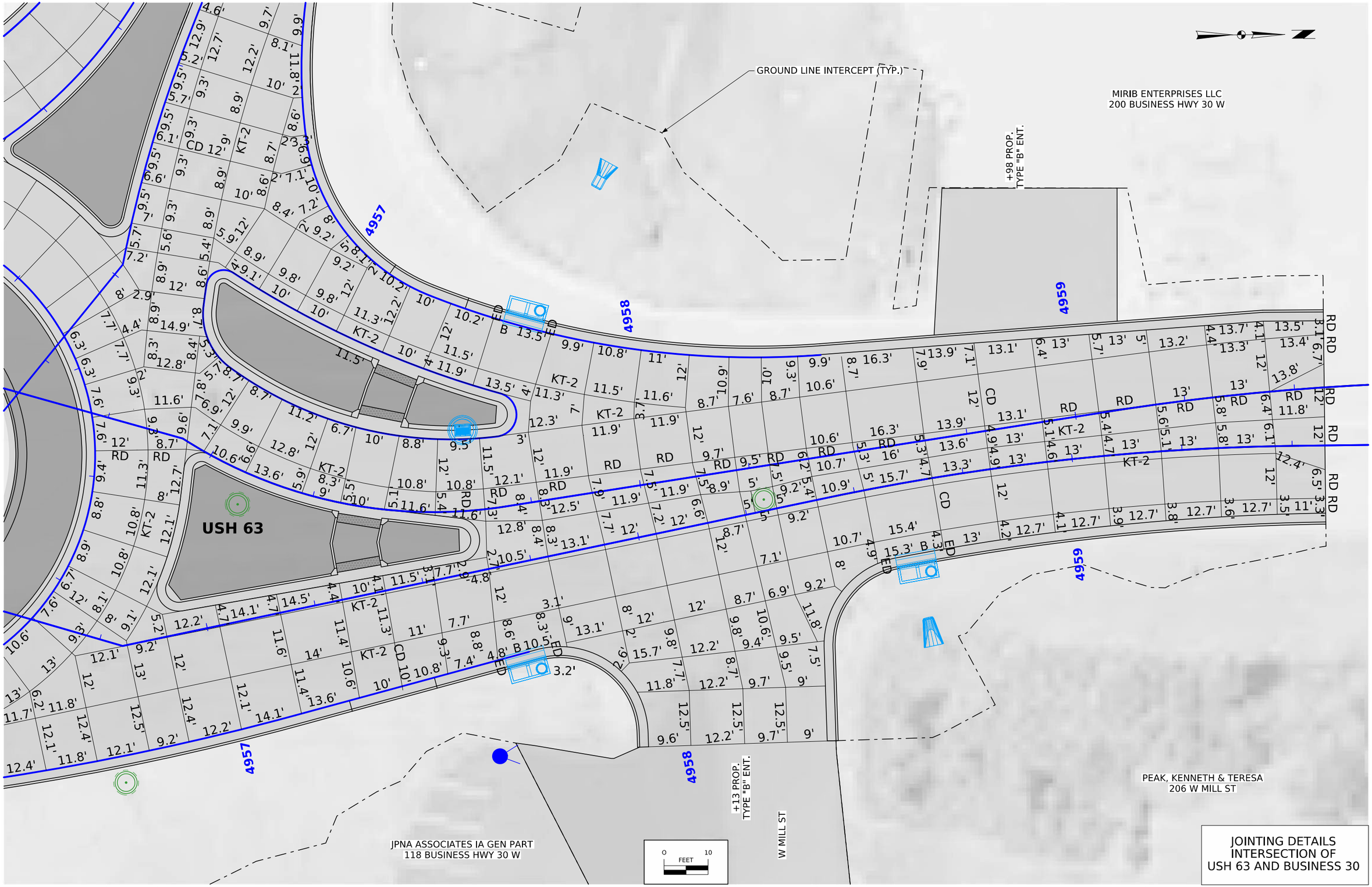

JOINTING DETAILS
INTERSECTION OF
USH 63 AND BUSINESS 30

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER L.13

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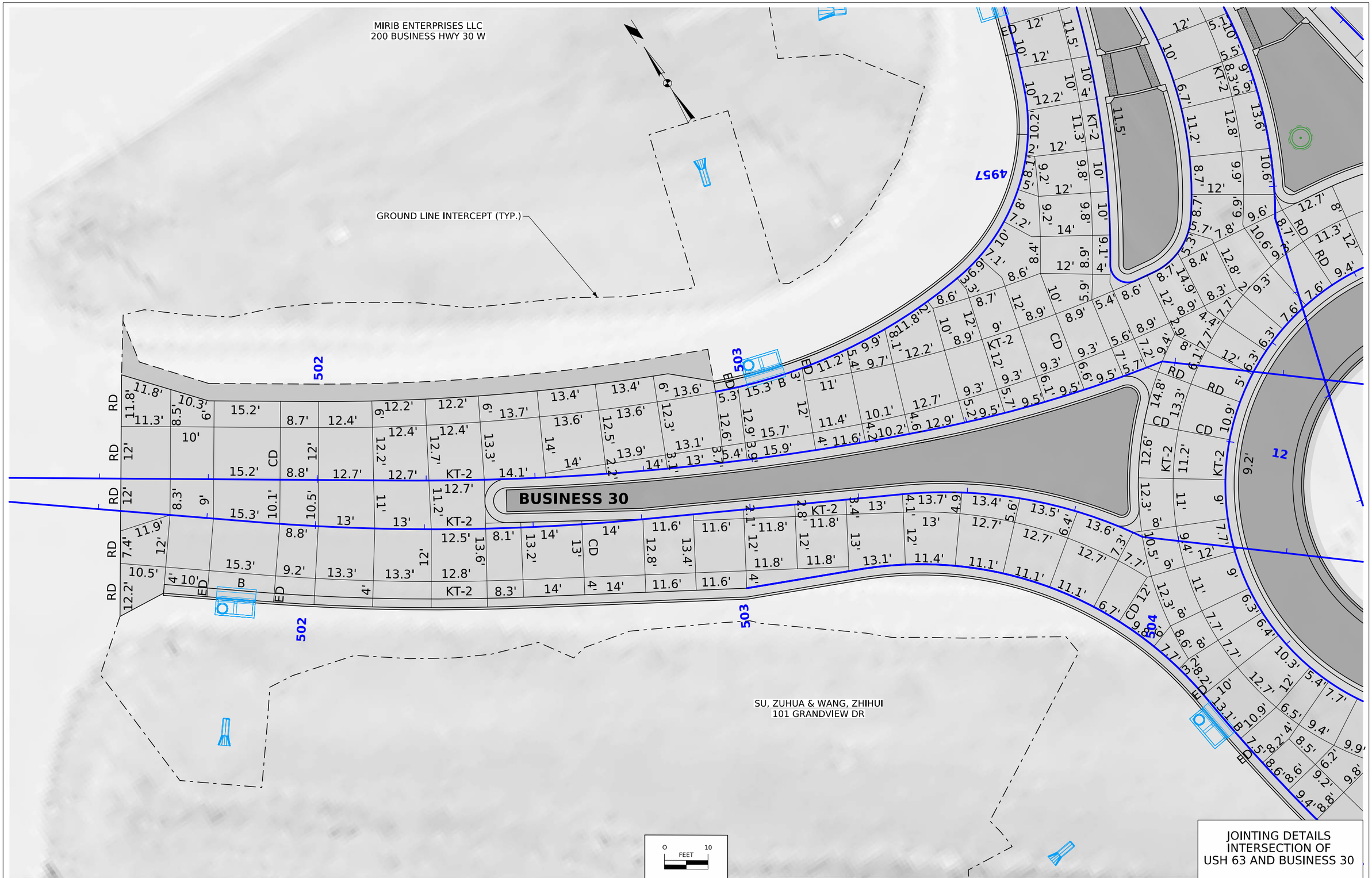

JOINTING DETAILS
INTERSECTION OF
USH 63 AND BUSINESS 30

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER L.14

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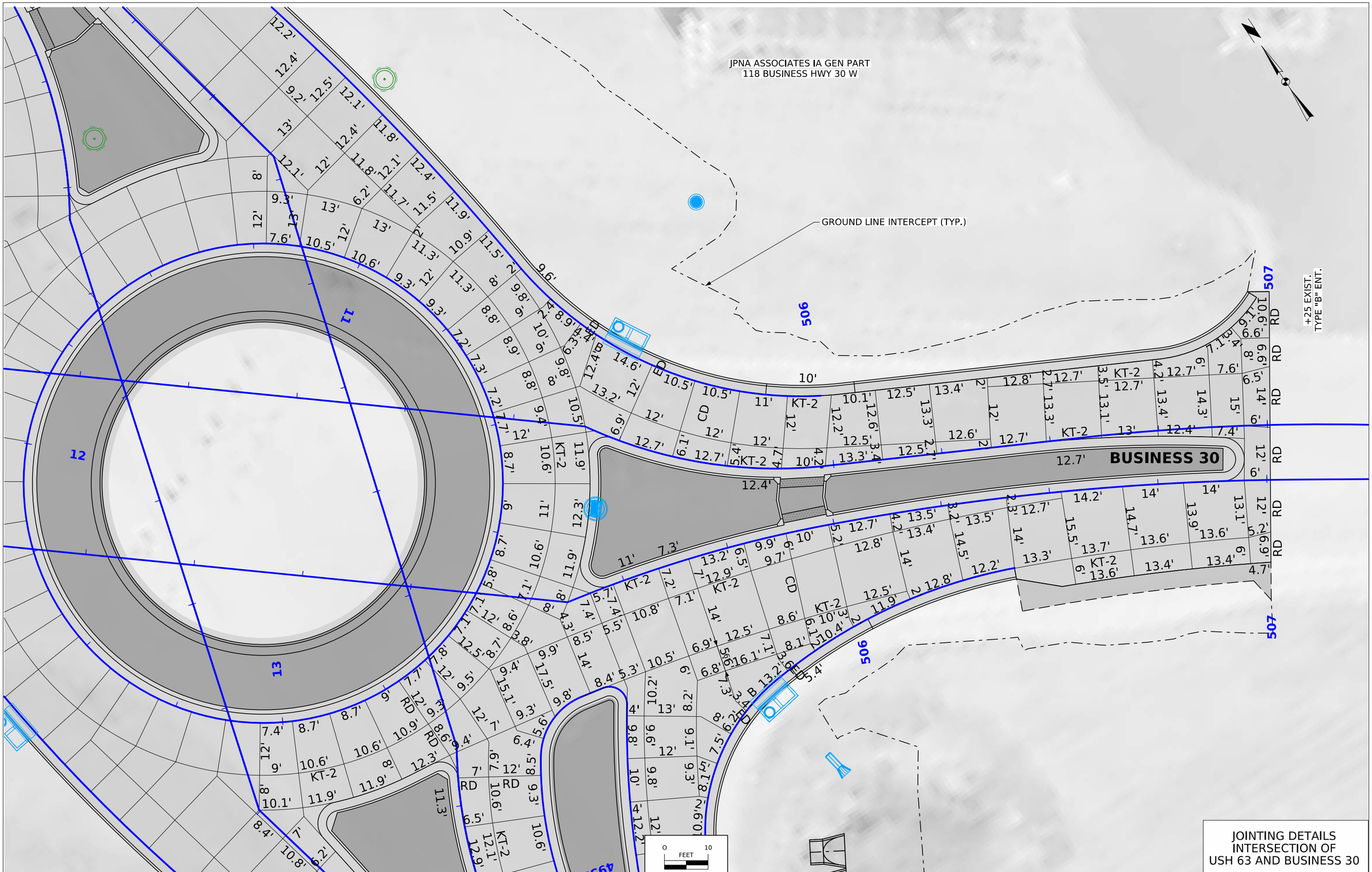

JOINTING DETAILS
INTERSECTION OF
USH 63 AND BUSINESS 30

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER L.15

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STORM SEWER

(1) Diameter or equivalent diameter
* Bid Item
** For SW-545
Design Length, Slope, and Flowlines are calculated from inside wall to inside wall along CL of pipe. An additional 2 ft length is added to each end of the Design Length to account for estimated length to center of structures.

No.	Location Station	Offset	Type or Standard Road Plan*	Form Grade Elev.	Bottom Well Elev.	Extension Length**	Notes	Line Number	Intake / Utility Access No. From	Intake / Utility Access No. To	Class 'D'	Pipe Size (1) (IN)	Bid Length* (FT)	Design Length (FT)	Slope %	Connected Pipe Joint (DR-121)	Flow Line Inlet Elev.	Flow Line Outlet Elev.	Flow Line Other Elev.	Pipe Profile Sheet No.	Notes
1	4954+40.75	19.2	SW-509R	877.38	871.05		ML063SB	P-1	1	2	2000	15.0	73	64.0	1.0		871.55	870.91		M.4	[1]
2	4954+32.25	33.7	SW-509L	877.30	870.11		ML063NB	P-2	2	3	2000	15.0	27	22.0	1.0	Type 3	870.61	870.39		M.4	
3	4954+24.63	57.8	DR-201 Type-2 (15 IN.)	870.39			ML063NB														
4	4955+28.57	41.0	SW-401 (60 IN.)	875.12	863.32		ML063SB	P-4	4	5	2000	24.0	72	69.0	0.5	Type 3	863.82	863.48		M.4	
5	4955+50.35	90.7	DR-201 Type-2 (24 IN.)	863.48			ML063SB														
6	4955+85.75	47.4	SW-509L	877.61	867.73		ML063SB	P-6	6	7	2000	15.0	44	39.0	2.6	Type 3	868.23	867.21		M.4	[1]
7	4955+69.01	86.4	DR-201 Type-2 (15 IN.)	867.21			ML063SB														
8	501+83.16	18.5	SW-509L	874.41	864.99		BUS30EB	P-8	8	9	2000	15.0	29	24.0	2.0	Type 3	865.49	865.01		M.4	
9	501+83.22	45.4	DR-201 Type-2 (15 IN.)	865.01			BUS30EB														
10	503+05.32	20.0	SW-509R	876.62	870.45		BUS30WB	P-10	10	11	2000	15.0	46	41.0	2.0	Type 3	870.95	870.13		M.4	[1]
11	502+97.65	63.5	DR-201 Type-2 (15 IN.)	870.13			BUS30WB														
12	4956+41.69	89.5	SW-512 (24 IN. Case 1)	874.97	872.14		ML063NB	P-12	12	13	2000	15.0	38	32.0	0.5		872.64	872.49		M.5	
13	4956+16.24	64.8	SW-509R	878.83	871.88		ML063NB	P-13	13	14	2000	15.0	44	37.0	1.0		872.38	872.01		M.5	
14	4955+80.94	47.5	SW-502 (48 IN.)	879.08	871.41		ML063NB	P-14	14	15	2000	15.0	65	58.0	1.0		871.91	871.33		M.5	[1] [2]
15	4955+38.60	73.6	SW-509L	879.04	870.73		ML063NB	P-15	15	16	2000	15.0	20	15.0	0.5	Type 3	871.23	871.15		M.5	
16	4955+23.85	84.9	DR-201 Type-2 (15 IN.)	871.15			ML063NB														
22	4957+93.18	112.0	SW-512 (24 IN. Case 1)	878.73	872.10		ML063NB	P-22	22	18	2000	18.0	94	88.0	1.0		872.60	871.71		M.5	
18	4957+69.35	22.8	SW-509R	877.08	870.61		ML063NB														
23	4958+61.48	31.5	P-DR-201 Type-1 (24 IN.)	872.58			ML063NB	P-23	23	17	2000	24.0	15	10.0	9.9	Type 3	872.58	871.63		M.6	
17	4958+61.08	18.9	SW-509R	876.05	871.13		ML063NB	P-17	17	18	2000	24.0	92	83.0	0.5		871.63	871.21		M.6	
18	4957+69.35	22.8	SW-509R	877.08	870.61		ML063NB	P-18	18	19	2000	24.0	61	53.0	1.0		871.11	870.59		M.6	[1]
19	4957+60.69	19.4	SW-502 (60 IN.)	877.05	869.99		ML063SB	P-19	19	20	2000	24.0	35	27.0	1.0		870.49	870.22		M.6	[2]
20	4957+80.25	42.1	SW-509L	876.44	869.62		ML063SB	P-20	20	21	2000	24.0	35	30.0	0.5	Type 3	870.12	869.97		M.6	
21	4958+00.50	68.3	P-DR-201 Type-1 (24 IN.)	869.97			ML063SB						4								

[1] See Tab. 100-26 and Special Note SN-1 "Steel Plate" in C Sheets. Also see Staging Notes in J Sheets.
[2] Type HM Casting. See Sheet U.3.

DR-201 Type-2 (15 IN.)	5	EACH
DR-201 Type-2 (24 IN.)	1	EACH
P-DR-201 Type-1 (24 IN.)	2	EACH
SW-401 (60 IN.)	1	EACH
SW-502 (48 IN.)	1	EACH
SW-502 (60 IN.)	1	EACH
SW-509L	5	EACH
SW-509R	6	EACH
SW-512 (24 IN. Case 1)	2	EACH

CLASS III 15 IN. RCP	386	LF
CLASS III 18 IN. RCP	94	LF
CLASS III 24 IN. RCP	310	LF

SURVEY SYMBOLS

- Interstate Highway Symbol
- U.S. Highway Symbol
- Iowa Highway Symbol
- County Road Highway Symbol
- Evergreen Tree
- Deciduous Tree
- Fruit Tree
- SB Shrub (Bushes)
- Timber
- Hedge
- Stump
- Swamp
- Rock Outcrop
- Broken Concrete
- Revetment (Rip Rap)
- Cemetery
- G Grave
- CV Cave
- SH 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
- WH Water Hydrant (Rural)
- Septic Tank
- C Cistern
- LP L.P. Gas Tank (No Footing)
- UST Underground Storage Tank
- Latrine
- Satellite TV Dish
- WHU Water Hook Up
- RT Radio Tower
- TA Tower Anchor
- Guardrail (Beam or Cable)
- GP Guard Post (one or two)
- Guard Post (over two)
- FP Filler Pipe
- GV Gas Valve
- WV Water Valve
- SL Speed Limit Sign
- MM Mile Marker Post
- SIGN Sign
- TCB Traffic Signal Control Box
- RRB Rail Road Signal Control Box
- TSB Telephone Switch Box
- EB Electric Box
- BEND
- CAP
- REDUCER
- TEE
- VALVECAP

UTILITY LEGEND

E1	E1D, Alliant Energy - Quality D
FO	FO1D, Windstream Communications - Quality D
FO2	FO2D, Aureon Network Services - Quality D
FO3	FO3D, CenturyLink - Quality D
G	GL1D, Alliant Energy - Quality D
SAN.	SA1D, City of Toledo- Quality D
ST S	ST1D, CIty of Toledo - Quallty D
T1	TL1D, Windstream Communications - Quality D
W	WL1D, City of Toledo - Quality D

PLAN VIEW COLOR LEGEND OF STORM SEWER SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features, and Labels
Magenta	(5)	Existing Utilities
Blue, Dark	(1)	Proposed Storm Sewer Pipes, Alignment, Stationing, and Tic Marks
Blue, Light	(230)	Proposed Storm Sewer Intakes or Structures
SHADING	**Design Color No.**	
Lavender	(9)	Temporary Pavement Shading
Gray, Light	(48)	Proposed Pavement Shading
Gray, Medium	(80)	Proposed Granular Shading
Gray, Dark	(112)	Proposed Median Shading
Tan	(8)	Proposed Sidewalk Shading

PROFILE VIEW COLOR LEGEND OF STORM SEWER SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Ground Line Profile
Magenta	(5)	Existing Utilities Information
Blue, Dark	(1)	Proposed Pipes
Blue, Light	(230)	Proposed Intakes or Structures

PLAN VIEW LINE STYLE LEGEND OF STORM SEWER SHEETS

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

PROFILE VIEW LINE STYLE LEGEND OF STORM SEWER SHEETS

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

- Reference Point — Survey Line
- Station — Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Clearing & Grubbing Area
- Pavement Removal

RIGHT-OF-WAY LEGEND

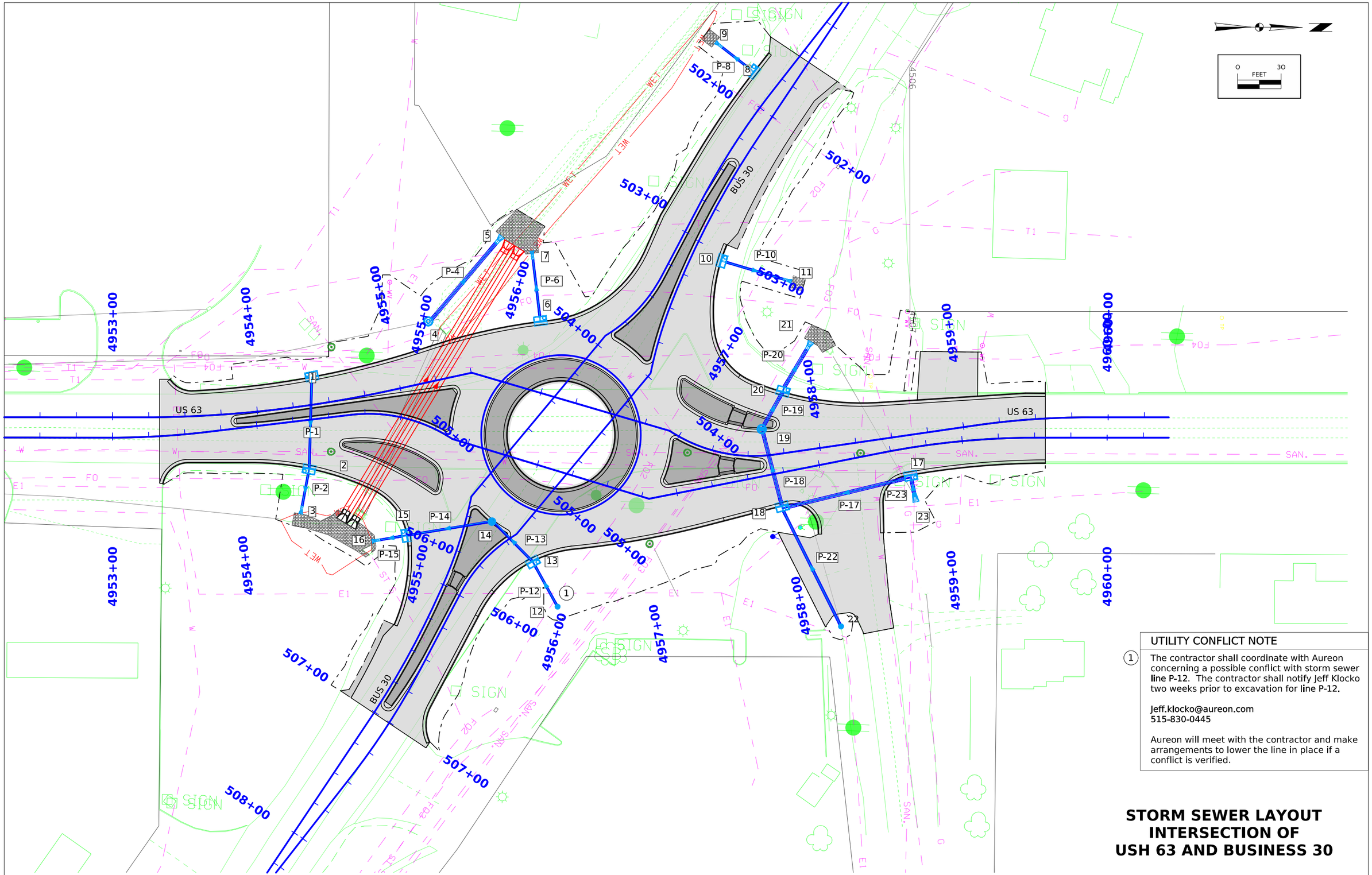
- Proposed Right-of-Way
- Existing and Proposed Right-of-Way
- Easement and Existing Right-of-Way
- Borrow
- Easement (Temporary)
- Easement
- Excess
- A/C Access Control

LIGHTING LEGEND

- STREET LIGHT POLE
- HANDHOLE
- M METER PEDESTAL
- PAD MOUNT TRANSFORMER
- CONTROL CABINET
- CONDUIT

STORM SEWER LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES M, MSA, MWM)



UTILITY CONFLICT NOTE

(1) The contractor shall coordinate with Aureon concerning a possible conflict with storm sewer line P-12. The contractor shall notify Jeff Klocko two weeks prior to excavation for line P-12.

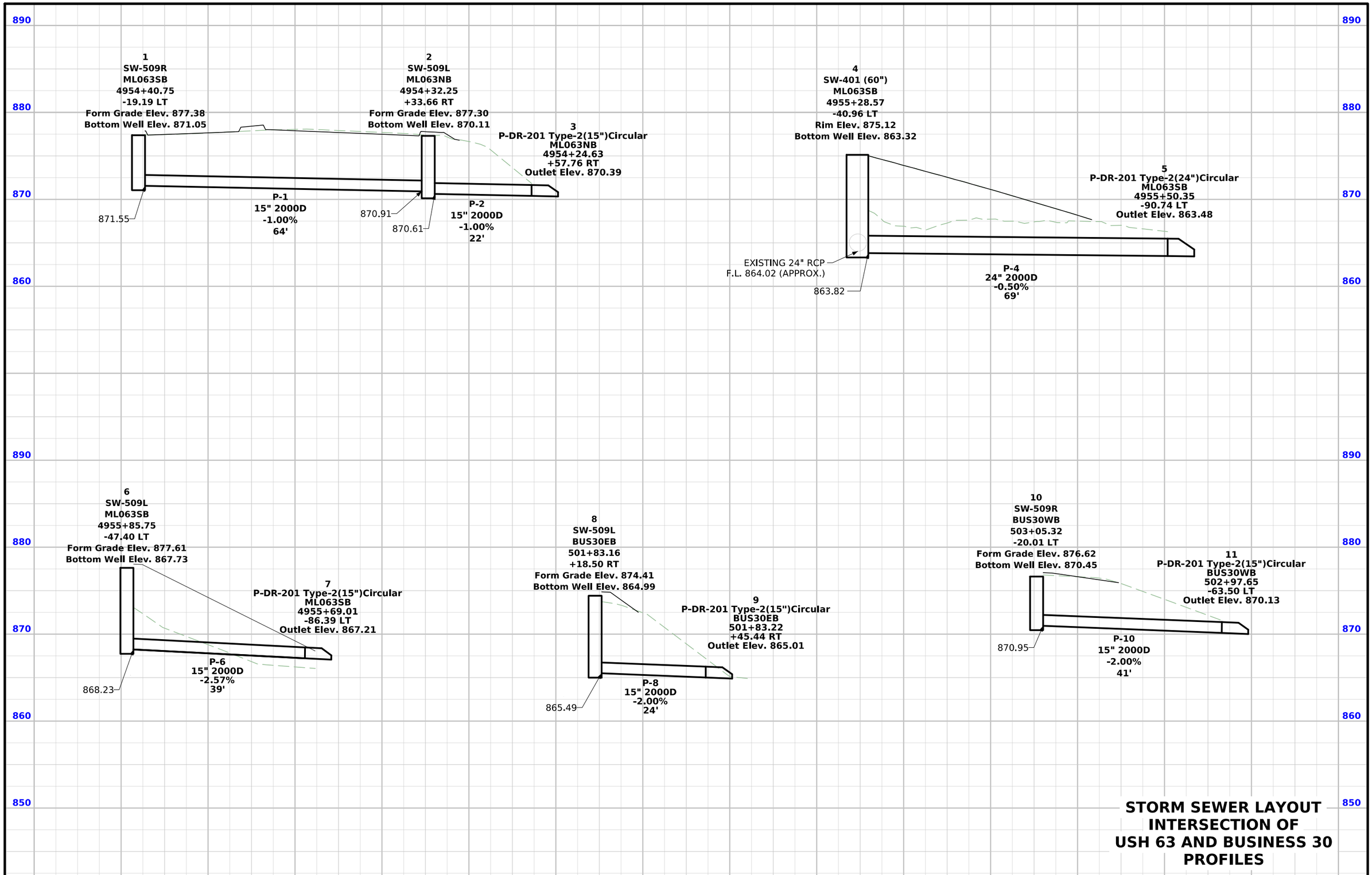
Jeff.klocko@aureon.com
515-830-0445

Aureon will meet with the contractor and make arrangements to lower the line in place if a conflict is verified.

STORM SEWER LAYOUT INTERSECTION OF USH 63 AND BUSINESS 30

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER M.3

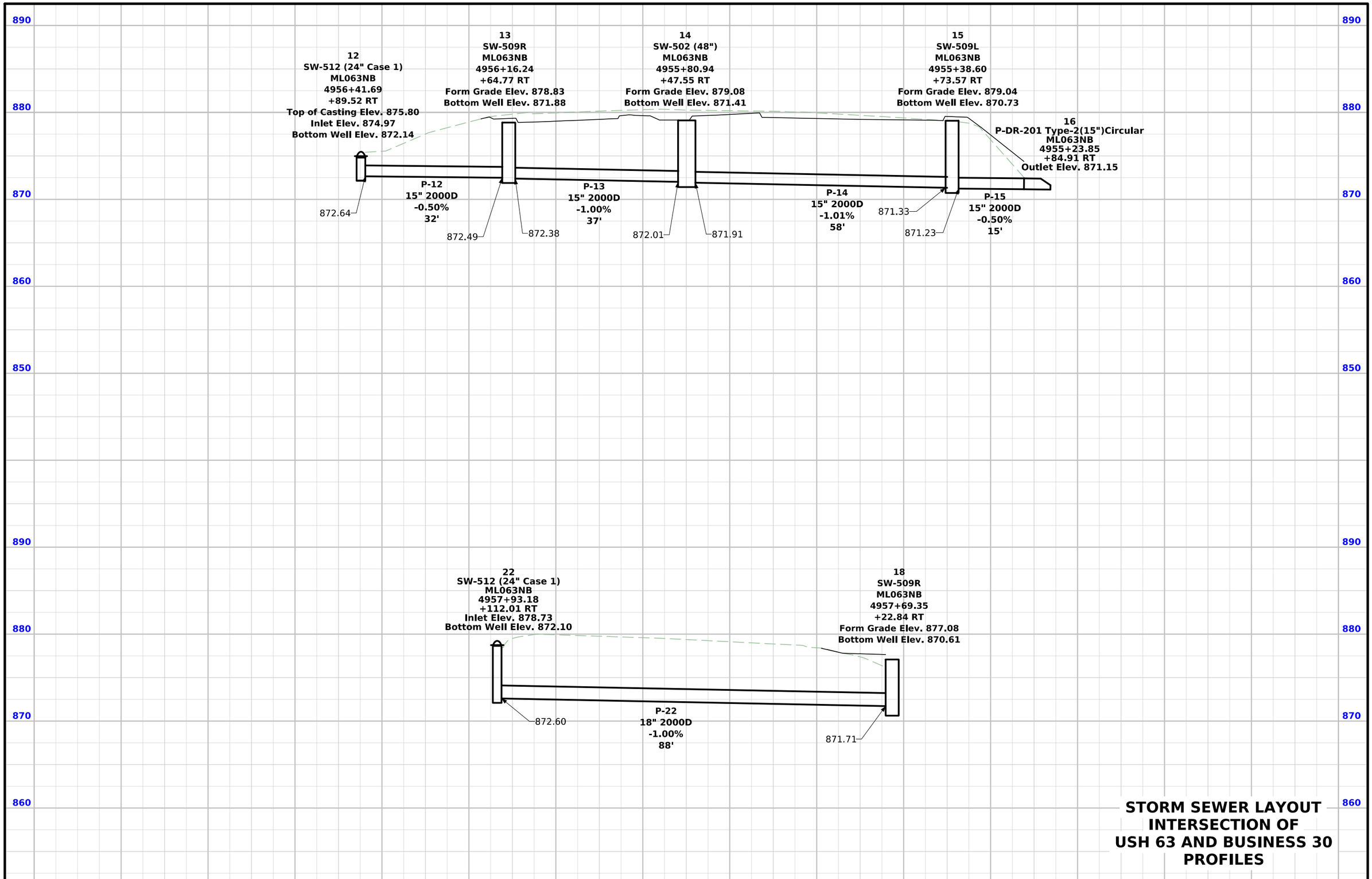
1:41:42 PM 3/31/2025 mbrinker pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\8606301024\Design\CADD_Files\Sheet_Files\SHT_86063078Z09_M03.dgn



STORM SEWER LAYOUT INTERSECTION OF USH 63 AND BUSINESS 30 PROFILES

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER M.4

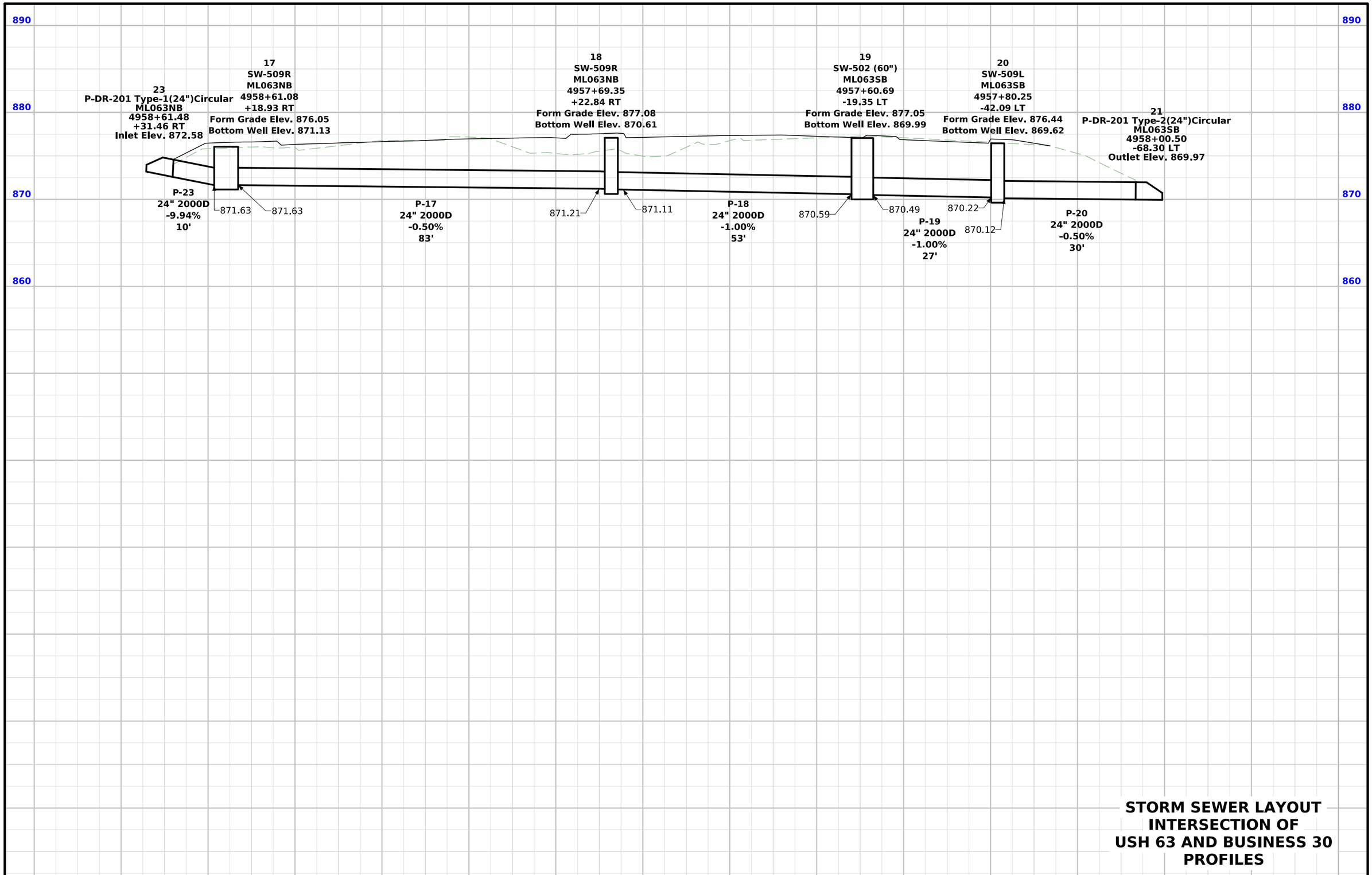
3:41:59 PM 3/21/2025 khankins pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\8606301024\Design\CADD_Files\Sheet_Files\SHT_86063078Z09_M03.dgn



STORM SEWER LAYOUT INTERSECTION OF USH 63 AND BUSINESS 30 PROFILES

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER M.5

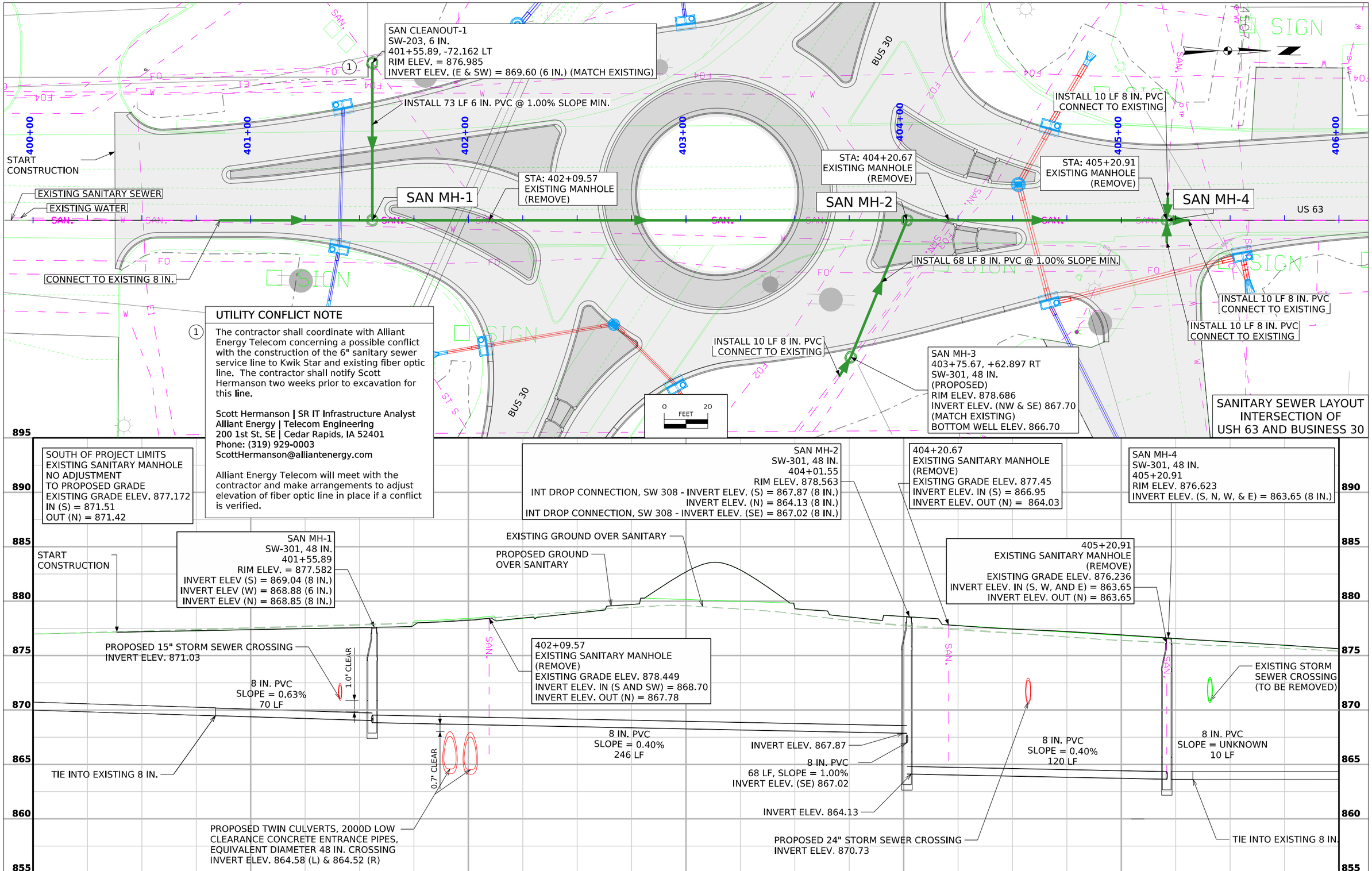
3:50:22 PM 3/21/2025 khankins pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\8606301024\Design\CADD_Files\Sheet_Files\SHT_86063078Z09_M03.dgn



STORM SEWER LAYOUT
INTERSECTION OF
USH 63 AND BUSINESS 30
PROFILES

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER M.6

3:57:07 PM 3/21/2025 khankins pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\8606301024\Design\CADD_Files\Sheet_Files\SHT_86063078Z09_M03.dgn



UTILITY CONFLICT NOTE

1 The contractor shall coordinate with Alliant Energy Telecom concerning a possible conflict with the construction of the 6" sanitary sewer service line to Kwik Star and existing fiber optic line. The contractor shall notify Scott Hermanson two weeks prior to excavation for this line.

Scott Hermanson | SR IT Infrastructure Analyst
Alliant Energy | Telecom Engineering
200 1st St. SE | Cedar Rapids, IA 52401
Phone: (319) 929-0003
ScottHermanson@alliantenergy.com

Alliant Energy Telecom will meet with the contractor and make arrangements to adjust elevation of fiber optic line in place if a conflict is verified.

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER MSA.1

2:17:32 PM 3/31/2025 mbrinker pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\8606301024\Design\CADD_Files\Sheet_Files\SHT_86063078Z09_MSA01.dgn

SU, ZUHUA & WANG, ZHIHUI
101 GRANDVIEW DR

KWIK TRIP INC
1002 S COUNTY RD

WATERMAIN
100+82.92
22.5-DEGREE BEND,
DIP, 8 IN. X 8 IN.

WATERMAIN
100+10.40
CONNECT TO EXISTING 8 IN. MAIN.
FIELD VERIFY DEPTH.

WATERMAIN
100+10.00
22.5-DEGREE BEND,
DIP, 8 IN. X 8 IN.

WATERMAIN
100+56.94
45-DEGREE BEND,
DIP, 8 IN. X 8 IN.

WATERMAIN
100+00.00
CONNECT TO EXISTING 8 IN. MAIN.
FIELD VERIFY DEPTH.

MIRIB ENTERPRISES LLC
200 BUSINESS HWY 30 W

0 FEET 20

ML063NB
4959+17.99, -64.66 LT
WATER SERVICE STUB (INCLUDES CORPORATION,
SERVICE PIPE, STOP, AND STOP BOX)
CONNECT TO EXISTING WATER SERVICE.

ML063NB
4958+75.00, -93.21 LT
WATER SERVICE STUB (INCLUDES CORPORATION,
SERVICE PIPE, STOP, AND STOP BOX)
CONNECT TO EXISTING WATER SERVICE.

101+00
100+00
401+00
402+00
4955+00
403+00
4956+00
404+00
4957+00
405+00
4958+00
4959+00
406+00

ABANDON & FILL
EXISTING WATER MAIN

ML063NB
4957+59.01, +42.12 RT
FIRE HYDRANT
ASSEMBLY, WM-201

MILL STREET

ML063NB
4958+93.38, +33.07 RT
CAP EXISTING WATER MAIN

SEE CONNECTION DETAIL

PEAK, KENNETH
& TERESA
206 W MILL ST

JPNA ASSOCIATES IA GEN PART
118 BUSINESS HWY 30 W

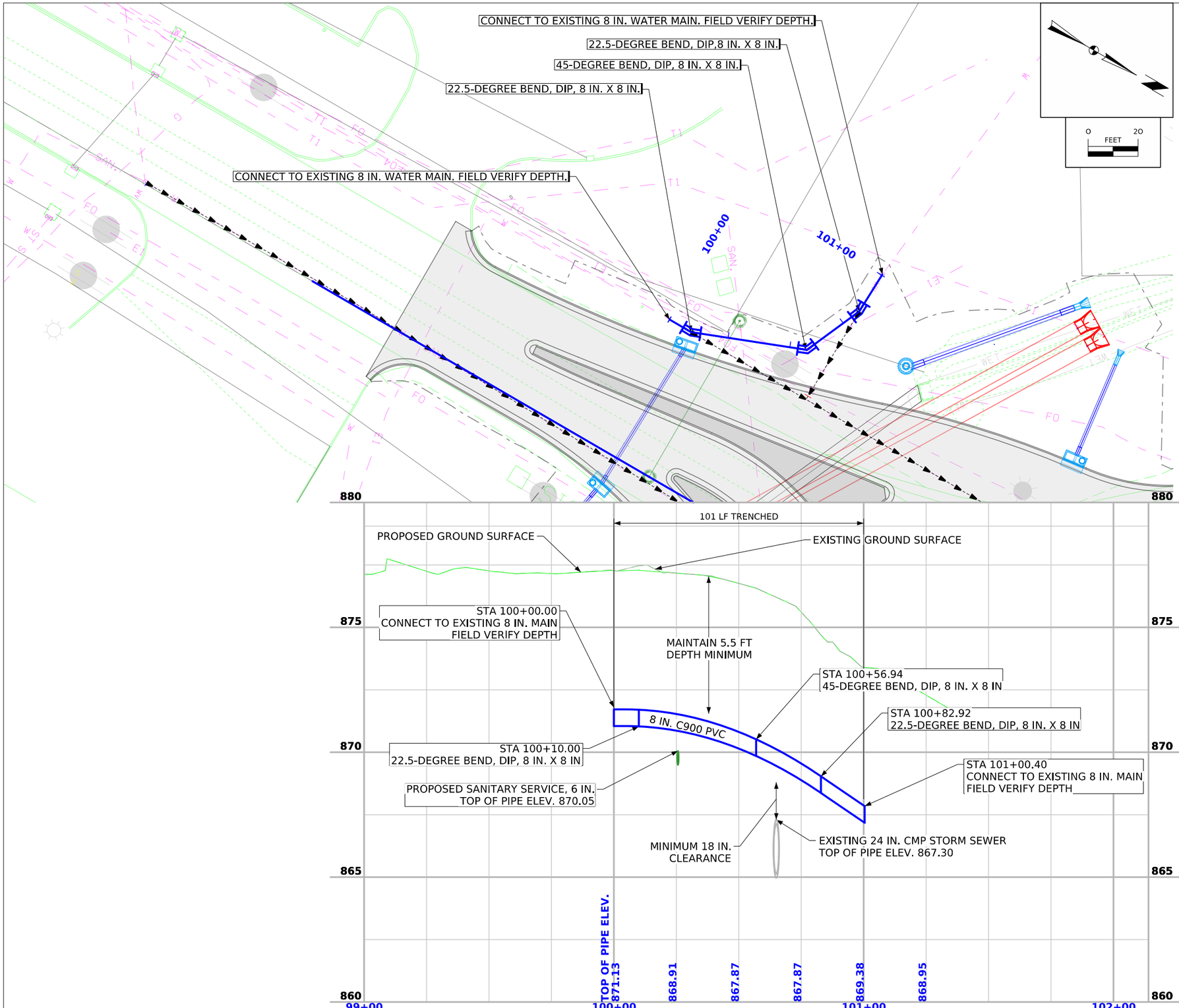
PROPOSED WATER MAIN OVERVIEW

1" CU SERVICE (2)
CAP 6" WATERMAIN
6" RW VALVE
5'
6"X6" TEE
HYDRANT
ASSEMBLY
10'
1" CU SERVICE (1)
4"X6" REDUCER & CONNECT
TO EXISTING 4" WATER LINE

CONNECTION DETAIL

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER MWM.1

4:46:30 AM 3/24/2025 madkins pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\8606301024\Design\CADD_Files\Sheet_Files\SHT_86063078Z09_MWM01.dgn



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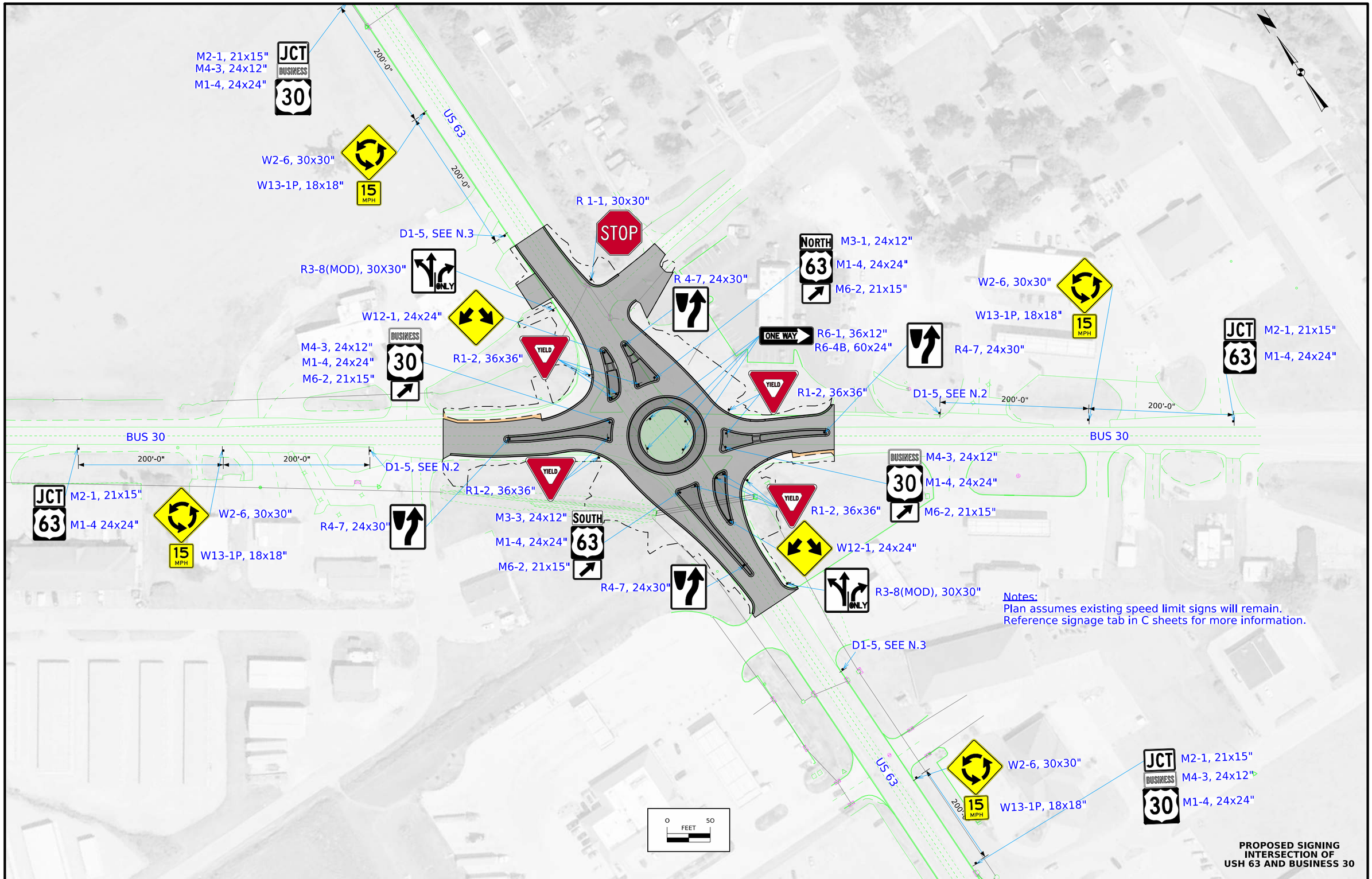
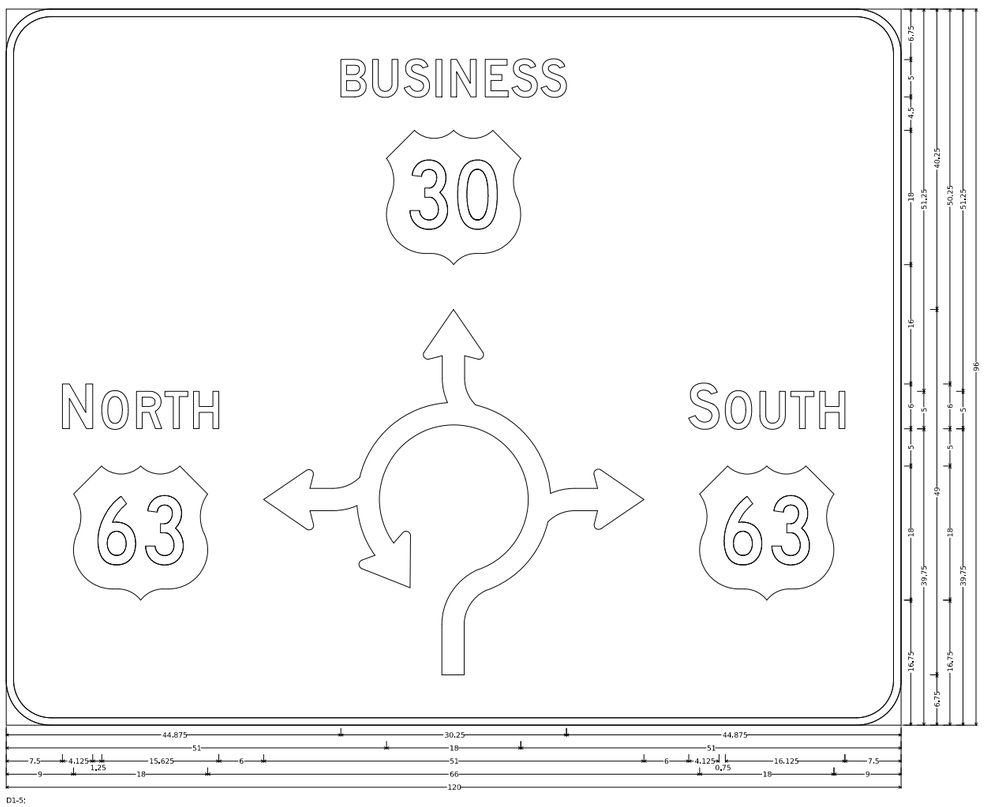


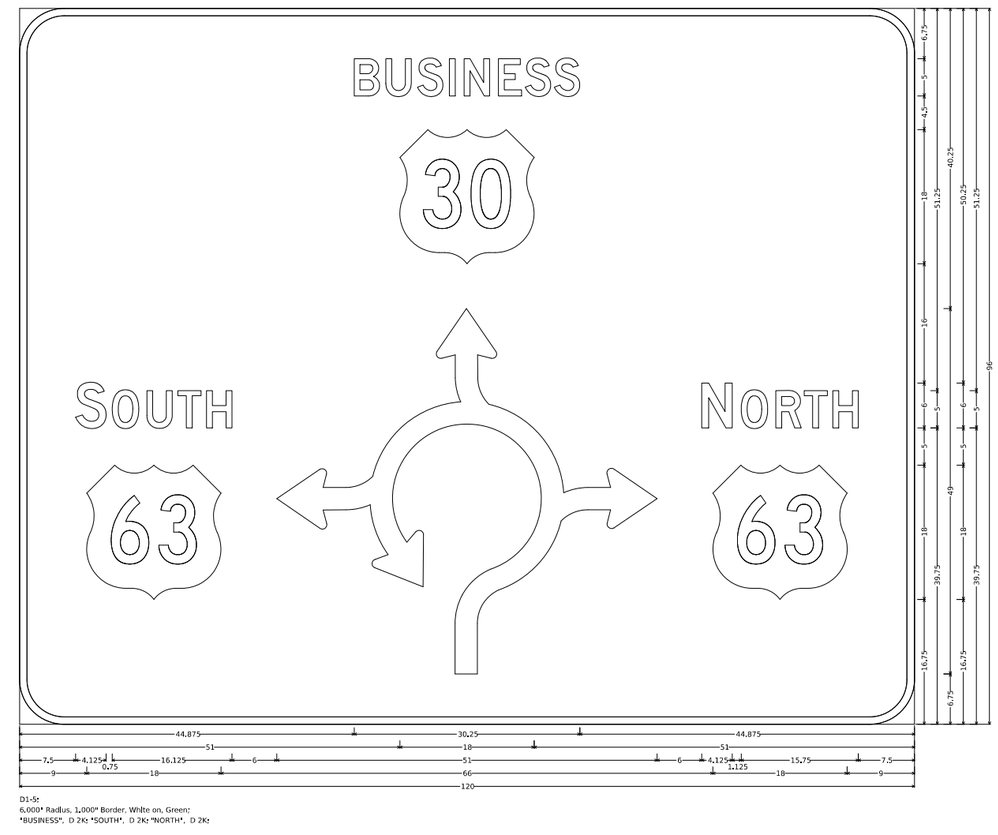
Notes:
Plan assumes existing speed limit signs will remain.
Reference signage tab in C sheets for more information.

PROPOSED SIGNING INTERSECTION OF USH 63 AND BUSINESS 30

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER N.1

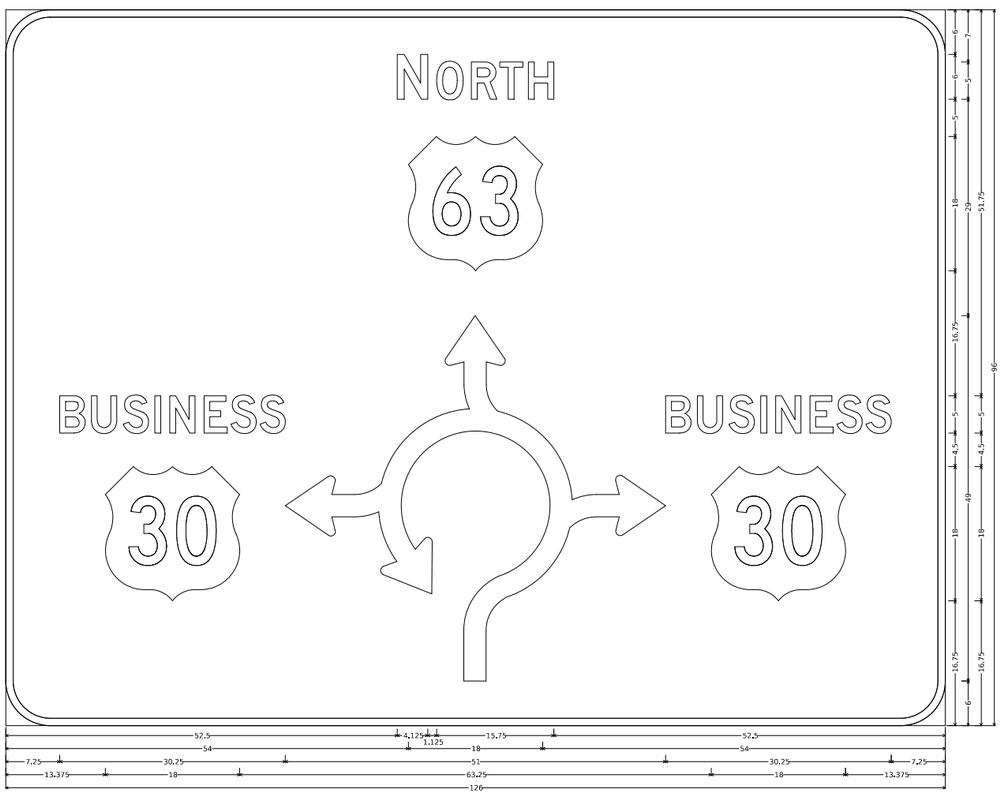
12:58:03 PM 3/31/2025 mbrinker pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\8606301024\Design\CADD_Files\Sheet_Files\SHT_86063078Z09_N01.dgn





D1-5 SIGN DETAILS

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER N.2



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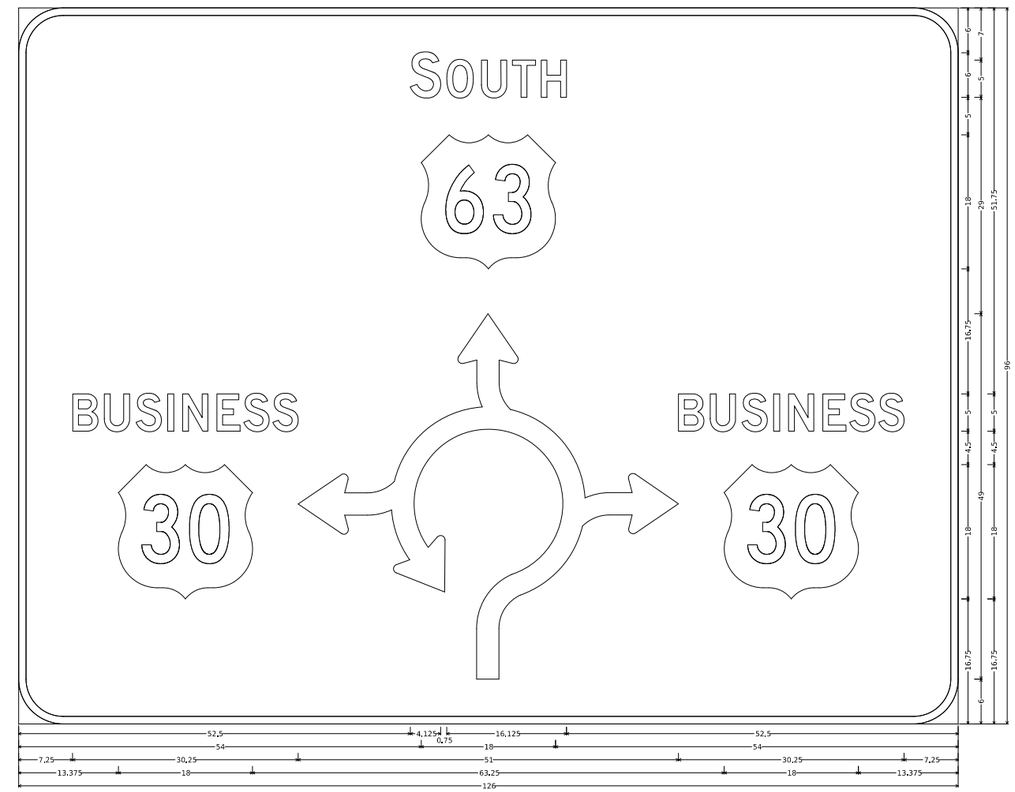
"NORTH", D 2K: "BUSINESS", D 2K: "BUSINESS", D 2K:



D1-5:
6.000" Radius, 1.000" Border, White on, Green:
"SOUTH", D 2K: "BUSINESS", D 2K: "BUSINESS", D 2K:

D1-5 SIGN DETAILS

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER N.3

ESTIMATE OF LIGHTING QUANTITIES – ROUNDABOUT

ITEM	DESCRIPTION	UNITS	TOTAL
CONTROL CABINET	CONTROL CABINET WITH FOUNDATION (LI–152)	LS	1
POWER SUPPLY	POWER SERVICE CONNECTION WITH METER PEDESTAL	LS	1
WIRE AND CABLE	LUMINAIRE CABLE – 1c #6 AWG	LIN FT	2336
	LUMINAIRE CABLE – 1c #10 AWG	LIN FT	266
	POWER CABLE – 1c #3 AWG	LIN FT	300
	POWER GROUND WIRE – 1c #8 AWG	LIN FT	100
	GROUND WIRE – 1c #6 BARE	LIN FT	1168
	TRACER WIRE – 1c #10	LIN FT	1268
CONDUIT	2" PVC, TRENCHED/BORED	LIN FT	923
LUMINAIRE	LUMINAIRE FIXTURE, LED, TYPE 2 DISTRIBUTION	EACH	1
	LUMINAIRE FIXTURE, LED, TYPE 4 DISTRIBUTION	EACH	6
	CONNECTOR – L–1, FUSED	EACH	7
	CONNECTOR – Y–1, FUSED	EACH	14
MISC.	STREET LIGHT POLE, 30' MOUNTING HEIGHT AND 8' ARM	EACH	7
	LIGHT POLE FOUNDATION (LI–201)	EACH	7
	HANDHOLE – TYPE II – 17" x 30" x 24" PRE–CAST POLYMER–CONCRETE HANDHOLE	EACH	2

ROUNDABOUT LIGHTING GENERAL NOTES:

1. STREET LIGHTING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2023, EXCEPT AS MODIFIED BY THESE PLANS.
2. UTILIZE THE IOWA DEPARTMENT OF TRANSPORTATION STANDARD ROAD PLAN LI–201 LIGHT POLE FOUNDATIONS, TYPE A, FOR STREET LIGHTING POLES.
3. LIGHTING POLES SHALL BE ROUND, TAPERED STEEL PROVIDING A 30 FT MOUNTING HEIGHT WITH AN 8 FT ARM AND A BREAKAWAY BASE. POLES SHALL BE GALVANIZED AND ELECTROSTATICALLY PAINTED WITH PRIME COAT AND BLACK FINISH COAT. ALL VISIBLE MOUNTING HARDWARE SHALL MATCH POLE FINISH. INSTALL TWO 1–CONDUCTOR #10 AWG CABLES FROM THE LUMINAIRE TO THE BASE OF THE POLE.
4. LUMINAIRE FIXTURES SHALL BE COBRA HEAD STYLE LED FIXTURES, OR APPROVED EQUAL, AT LEAST 100 LUMEN PER WATT EFFICACY, 4000K COLOR TEMPERATURE, RATED FOR 100,000 HOURS, MINIMUM 5 YEAR WARRANTY, AND BLACK FINISH. ALL FIXTURES SHALL BE CONTROLLED THROUGH THE PHOTOCELL LOCATED ON THE CONTROL CABINET, NO PHOTOCELL PER FIXTURE. NUMBER OF LUMENS FOR EACH DISTRIBUTION VARY AS FOLLOWS:
   a. TYPE 2 DISTRIBUTION FIXTURES SHALL BE RATED FOR 6,500 LUMENS MINIMUM/ 8,000 LUMENS MAXIMUM.
   b. TYPE 4 DISTRIBUTION FIXTURES SHALL BE RATED FOR 9,500 LUMENS MINIMUM/ 11,000 LUMENS MAXIMUM
5. PROVIDE LIGHTING CONTROL CABINET PER MODIFIED STANDARD ROAD PLAN LI–152.
6. PROVIDE TWO SEPARATE 20 AMP BREAKERS TO CONTROL STREET LIGHTING. ALL STREET LIGHTS SHALL BE CONTROLLED BY PHOTOCELL (LONG LIFE 15YR WARRANTY) LOCATED ON CONTROL CABINET. PROVIDE 120–VOLT, SINGLE PHASE, SERVICE TO EACH FIXTURE. LIGHTING CIRCUIT SHALL CONSIST OF 2–1c #6 AWG CABLES WITH A TRACER WIRE. PROVIDE A MINIMUM OF TWO ADDITIONAL BREAKER POSITIONS, NO BREAKERS, CONNECTED THROUGH THE PHOTOCELL FOR FUTURE USE. PROVIDE A MINIMUM OF TWO ADDITIONAL BREAKER POSITIONS, NO BREAKERS, NOT CONNECTED TO THE PHOTOCELL FOR FUTURE USE. LABEL BREAKER POSITIONS WITH PERMANENT METHOD.
7. SERVICE CONNECTION – INSTALL METER PEDESTAL, 200 AMP SERVICE WITH DISCONNECT, AND CONDUIT CONNECTING METER PEDESTAL TO ADJACENT TRANSFORMER. PROVIDE SERVICE CONNECTION FROM METER PEDESTAL TO CONTROL CABINET AS SHOWN. COORINATE SERVICE CONNECTION WITH ALLIANT ENERGY. ALLIANT ENERGY WILL PROVIDE AND INSTALL TRANSFORMER AND SERVICE CABLES TO METER.

LICENSED PROFESSIONAL ENGINEER
LAURA BETH GILBERT
P27951
IOWA

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

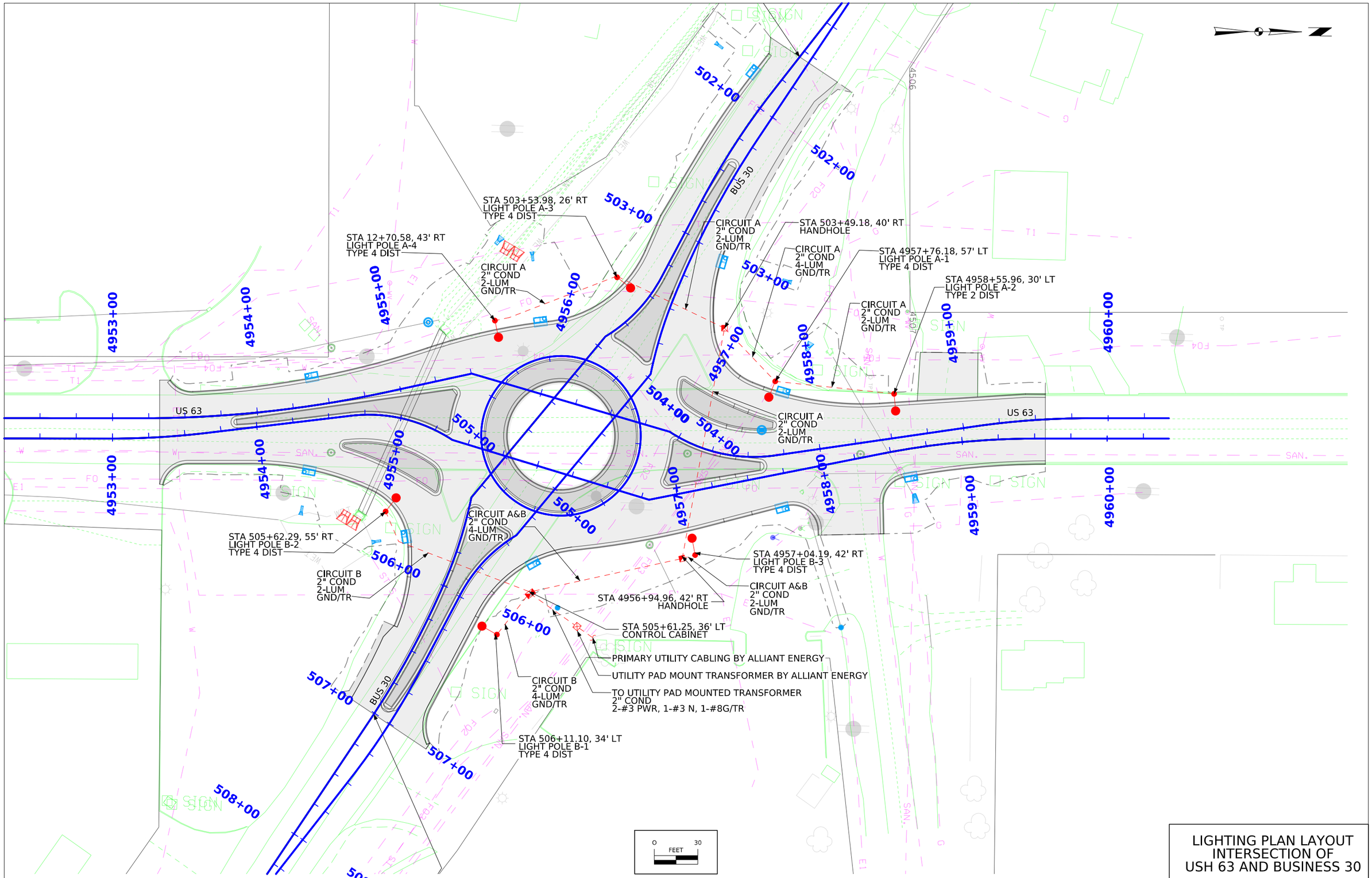
Laura Beth Gilbert 03/26/2025
Name Date

License Number P27951
My License Renewal Date is December 31, 20 26

Pages of sheets covered by this seal:
P.1, P.2, P.3, and P.4

LIGHTING LEGEND

	STREET LIGHT POLE
	HANDHOLE
M	METER PEDESTAL
	PAD MOUNT TRANSFORMER
	CONTROL CABINET
	CONDUIT
∅	SECONDARY SERVICE POINT
COND	CONDUIT
LUM	LUMINAIRE (1c #6)
GND	GROUND WIRE (1c #6)
TR	TRACER WIRE (1c #10)



LIGHTING PLAN LAYOUT
INTERSECTION OF
USH 63 AND BUSINESS 30

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER P.2

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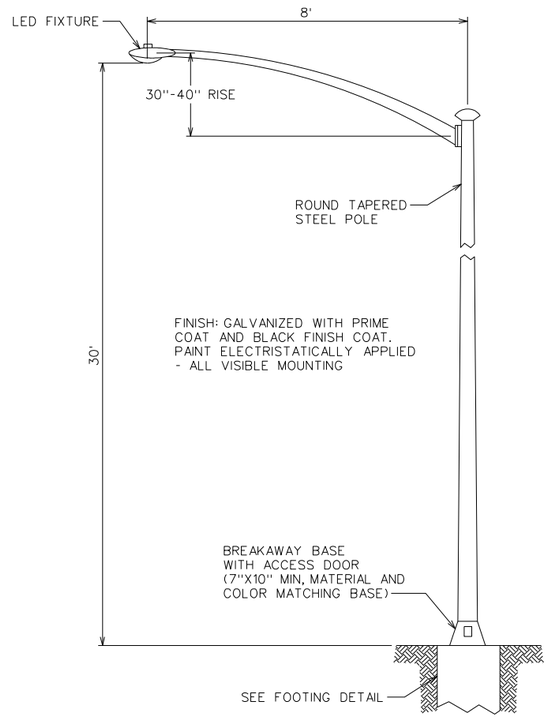
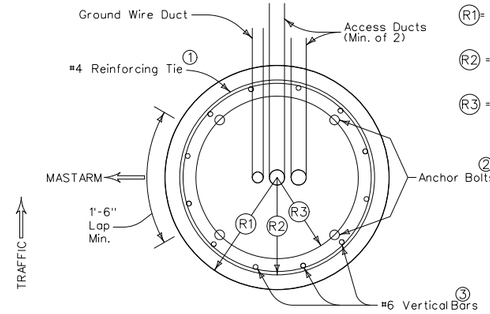


1 P.3 LIGHT POLE
NOT TO SCALE

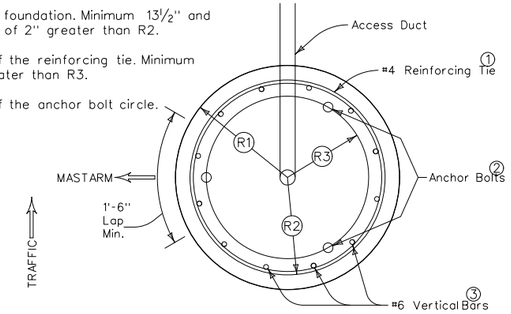


PLAN (TRANSFORMER BASE)

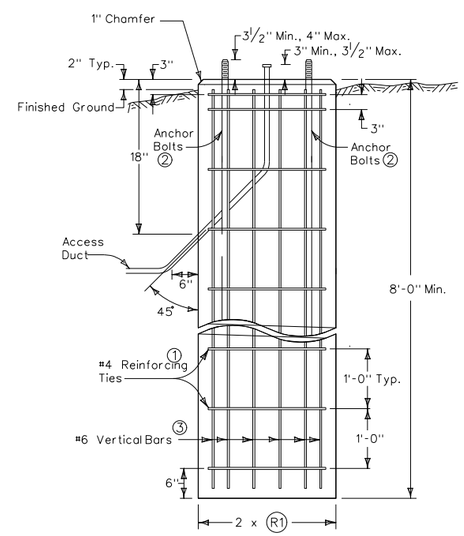
R1 = Radius of foundation. Minimum 13½" and minimum of 2" greater than R2.

R2 = Radius of the reinforcing tie. Minimum of 1" greater than R3.

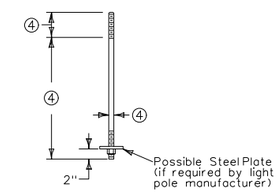
R3 = Radius of the anchor bolt circle.



PLAN (SLIP BASE)



TYPICAL SECTION
TYPE A FOUNDATION



ANCHOR BOLT

The Type A Foundation is the normally required foundation construction. Where rock, shale, sandstone, broken or shattered rock, or other similar material is encountered, the Engineer may approve the use of the Type B or C Foundation. Dispose of all excavations in the area adjacent to the foundation and shape to the natural contour unless directed otherwise by the Engineer.

Minimum diameter of foundation is determined by the Anchor Bolt Circle required for the diameter of the pole being installed. Where dimensional requirements indicated cannot be met with normal foundations, enlarge the foundation as necessary to accommodate the required diameter at no additional cost to the Contracting Authority.

Provide minimum 2" clear for all reinforcement.

Cap open ends of conduit during construction to prevent infiltration of foreign material. After the cable is installed, seal the upper end of the ducts against entry of moisture by a method approved by the Engineer.

For access ducts, use a 2" nominal inside diameter duct.

For Transformer Base foundations, install a minimum of two access ducts, unless specified otherwise. Also install a 1" nominal inside diameter duct for the ground wire duct.

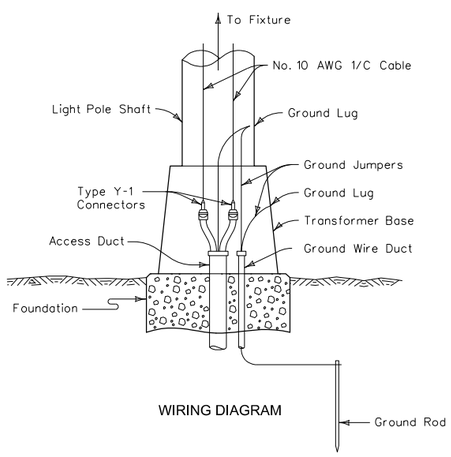
① #4 bars lapped a minimum of 1'-6" as indicated. Ties may be welded to vertical bars.

② Use full length galvanized anchor bolts: four for Transformer Base, three for Slip Base. Refer to the light pole manufacturer's requirements for anchor bolt, nut, and plate dimensions. Obtain a template from the light pole manufacturer for anchor bolt placement. Do not weld anchor bolts.

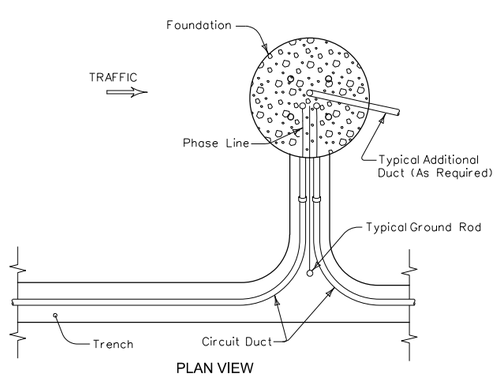
③ Place 12 equally spaced bars. Use #6 bars for 27 inch diameter drilled shaft. Use #7 bars for 30 inch diameter drilled shaft. Use #8 bars for 36 inch diameter drilled shaft.

④ Refer to light pole manufacturer's recommendations for Anchor Bolt dimensions.

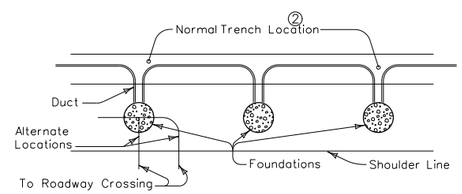
2 P.3 LIGHT POLE FOUNDATION (LI-201)
NOT TO SCALE



WIRING DIAGRAM



PLAN VIEW



TYPICAL LAYOUTS ①
CONNECTIONS TO FOUNDATIONS

Alternate designs may be submitted to the Engineer for approval.

Lighting circuits consist of single conductor phase lines with bare ground wires installed in continuous underground ducts.

Locate standard trenches for lighting distribution circuits 3 feet outside the line of the light pole foundations, except for roadway crossing, access to connection points, or other cases detailed on the project plans or approved by the Engineer.

The Engineer may allow variation from minimum depths for roadway crossings, access to connection points, soil conditions, or other special cases. Where rock is encountered, a minimum trench depth of 2 feet is required.

Ducts installed under pavement slabs, drives, and other similar locations detailed in the project plans are designated as "crossings" and distinguished from other underground circuit ductwork. Refer to LI-141 for additional details.

Use Y-1 connectors for all load taps in phase lines and use Y-3 connectors for all circuit branch taps, unless specified or detailed otherwise. When the method of in-line splicing is not specified on the project plans, the Engineer may approve the use of connector assemblies or field molded splices.

Provide 600 volt fuses as specified, 5 amperes for each Type Y-1 connector.
Seal all unused connector openings against entry of moisture as directed by the Engineer.

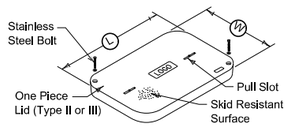
① Use a separate access duct for each connection to pole foundation.

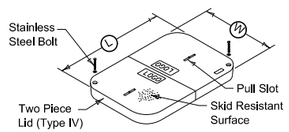
② Refer to NEC requirements for trench depth.

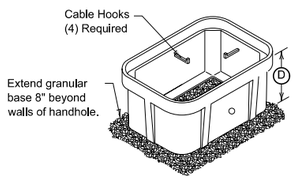
3 P.3 LIGHT POLE ELECTRICAL INSTALLATION (LI-142 MOD)
NOT TO SCALE

LIGHTING DETAILS

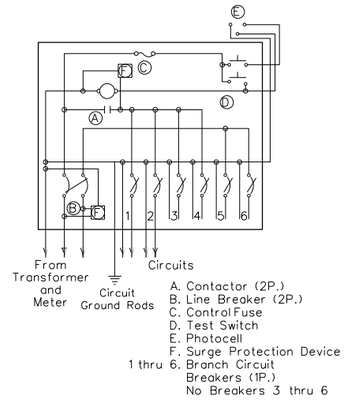
HANDHOLE DIMENSIONS TABLE (NOMINAL)			
TYPE	Ⓛ	Ⓦ	Ⓓ
II	30"	17"	24"
III	36"	24"	30"
IV	48"	30"	36"



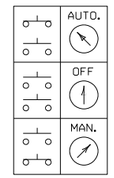




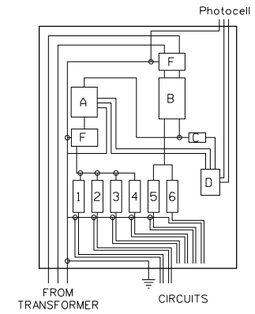
1 P.4 PRECAST CONCRETE COMPOSITE HANDHOLE (LI-103)
NOT TO SCALE



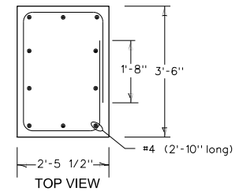
SCHEMATIC DIAGRAM



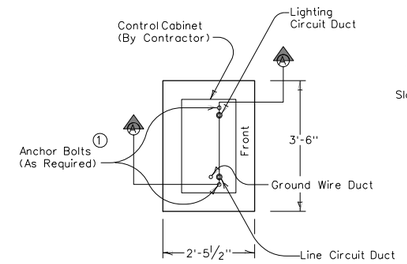
SWITCH OPERATION



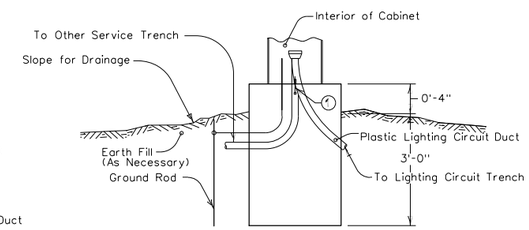
CONTROL PANEL WIRING DIAGRAM



TOP VIEW

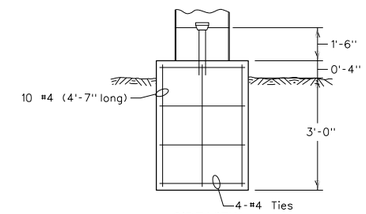


PLAN VIEW



SECTION A-A

INSTALLATION DETAILS



SIDE VIEW CONTROLLER PAD

ESTIMATED QUANTITIES (One Pad)	
Reinforcing Steel	53.9 lbs.
Structural Concrete	1.1 yd^3

LAYOUT LEGEND
Control Cabinet (Pad-Mounted)

Alternate design may be submitted to the Engineer for approval.

All circuit ducts shown, including ground wire duct, are included in the estimated quantities for plastic conduit contained in the tabulations.

The estimated quantities for wire and cable contained in the tabulations include connections to the loadside terminals of the branch circuit breakers.

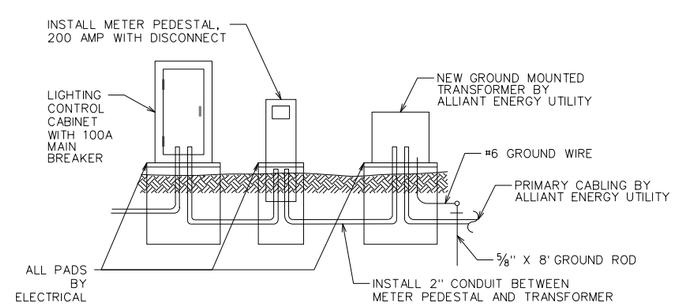
Ground wire for control cabinet is incidental to cabinet installation.

The No. 12, AWG grounding jumper for the photoelectric control is incidental to the length of ground wire.

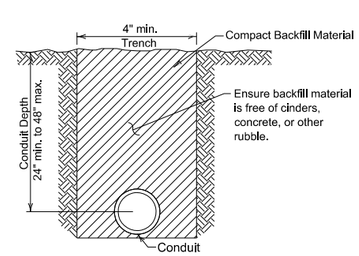
① 1/2" x 4" long Bolts (2 required)

2 P.4 CONTROL CABINET (LI-152 MOD)
NOT TO SCALE

- METER PEDESTAL TO BE PROVIDED BY CONTRACTOR. CONFIRM SPECIFICATIONS WITH ALLIANT ENERGY
- ALLIANT ENERGY TO INSTALL TRANSFORMER, METER, SERVICE CABLES BETWEEN METER AND TRANSFORMER, AND MAKE FINAL CONNECTIONS WITH TRANSFORMER



3 P.4 SERVICE CONNECTION (METER PEDESTAL)
NOT TO SCALE



4 P.4 CONDUIT IN TRENCH (LI-103)
NOT TO SCALE

POLLUTION PREVENTION PLAN

This project is regulated by the requirements of the Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) General Permit No. 2 OR an Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) individual storm water permit. The Contractor shall carry out the terms and conditions of this permit and the Pollution Prevention Plan (PPP).

This Base PPP includes information on Roles and Responsibilities, Project Site Description, Controls, Maintenance Procedures, Inspection Requirements, Non-Storm Water Controls, Potential Sources of Off Right-of-Way Pollution, and Definitions. This plan references other documents rather than repeating the information contained in the documents. A copy of this Base Pollution Prevention Plan, amended as needed during construction, will be readily available for review.

All contractors shall conduct their operations in a manner that controls pollutants, minimizes erosion, and prevents sediments from entering waters of the state and leaving the highway right-of-way. The Contractor shall be responsible for compliance and implementation of the PPP for their entire contract. This responsibility shall be further shared with subcontractors whose work is a source of potential pollution as defined in this PPP.

I. ROLES AND RESPONSIBILITES

A. Designer:
1. Prepares Base PPP included in the project plan.
2. Prepares Notice of Intent (NOI) submitted to Iowa DNR.
3. Is signature authority on the Base PPP. If consultant designed, signature from Contracting Authority is also required.

B. Contractor:
1. Signs a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP. All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
2. Designates a Water Pollution Control Manager (WPCM), who has the duties and responsibilities as defined in Section 2602 of the Standard Specifications.
3. Submits an Erosion Control Implementation Plan (ECIP) and ECIP updates according to Section 2602 of the Standard Specifications.
4. Installs and maintains appropriate controls. This work may be subcontracted as documented through Subcontractor Request Forms (Form 830231).
5. Supervises and implements good housekeeping practices according to Paragraph III, C, 2.
6. Conducts joint required inspections of the site with inspection staff. When Contractor is not mobilized on site, Contractor may delegate this responsibility to a trained or certified subcontractor. Contracting Authority also may waive joint inspection requirement during winter shutdown. In both circumstances, WPCM (or trained or certified delegate from the Contractor) is still responsible to review and sign inspection reports.
7. Complies with training and certification requirements of Section 2602 of the Standard Specifications.
8. Submits amended PPP site map according to Section 2602 of the Standard Specifications.

C. Subcontractors:
1. Sign a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP if: responsible for sediment or erosion controls; involved in land disturbing activities; or perorming work that is a source of potential pollution as defined in this PPP. Subcontracted work items are identified in Subcontractor Request Forms (Form 830231). All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
2. Implement good housekeeping practices according to Paragraph III, C, 2.

D. RCE/Project Engineer:
1. Is Project Storm Water Manager.
2. On projects where DOT is the Contracting Authority, is current with erosion control training or certification.
3. Takes actions necessary to ensure compliance with storm water requirements including, where appropriate, issuing stop work orders, and directing additional inspections at construction project sites that are experiencing problems with achieving permit compliance.
4. Orders the taking of measures to cease, correct, prevent, or minimize the consequences of non-compliance with the storm water requirements of the Applicable Permit.
5. Supervises all work necessary to meet storm water requirements at the Project, including work performed by contractors and subcontractors.
6. Requires employees, contractors, and subcontractors to take appropriate responsive action to comply with storm water requirements, including requiring any such person to cease or correct a violation of storm water requirements, and to order or recommend such other actions as necessary to meet storm water requirements.
7. Is familiar with the Project PPP and storm water site map.
8. On projects where DOT is Contracting Authority, is responsible for periodically monitoring inspection reports to determine whether deficiencies identified in inspection reports were adequately and timely addressed, and if not, has the authority and responsibility to direct immediate actions to correct the deficiencies.
9. Is the point of contact for the Project for regulatory officials, Inspector, contractors, and subcontractors regarding storm water requirements.
10. Is signature authority on Notice of Discontinuation.
11. Maintains an up-to-date record of contractors, subcontractors, and subcontracted work items through Subcontractor Request Forms (Form 830231).
12. Makes information to determine permit compliance available to the DNR upon their request.

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POLLUTION PREVENTION PLAN

E. Inspector:
1. Updates PPP through fieldbook entries and storm water site inspection reports if there is a change in design, construction, operation, or maintenance which has a significant effect on the discharge of pollutants from the project.
2. Makes information to determine permit compliance available to the DNR upon their request.
3. Conducts joint required inspections of the site with the contractor/subcontractor.
4. Completes an inspection report after each inspection.
5. Is signature authority on storm water inspection reports.

II. PROJECT SITE DESCRIPTION

A. This Pollution Prevention Plan (PPP) is for the construction of PCC reconstruction, roundabout, culvert pipes, and storm sewer at the US 63 and BUS 30 intersection in Toledo, IA.

B. This PPP covers approximately 4.34 acres with an estimated 2.51 acres being disturbed. The portion of the PPP covered by this contract has 2.51 acres disturbed.

C. The PPP is located in an area of multiple soil associations (Dinsdale – Klinger and Tama - Muscatine – Downs). The estimated weighted average runoff coefficient number for this PPP after completion will be 0.46.

D. Storm Water Site Map is located in the R sheets. Proposed slopes are shown in cross sections, details, or standard road plans.

E. The base storm water site map is amended by contract modifications and progress payments (fieldbook entries) of completed erosion control work. Also, due to project phasing, erosion and sediment controls shown on project plans may not be installed until needed, based on site conditions. For example, silt fence ditch checks will typically not be installed until the ditch has been installed. Installed locations may also be modified from tabulation locations by field staff. Installed locations will be documented by fieldbook entries and amended PPP site map.

F. Runoff from this work will flow into an Unnamed Drainage Ditch into Deer Creek.

III. CONTROLS

A. The Contractor's ECIP specified in Article 2602.03 of the Standard Specifications for accomplishment of storm water controls should clearly describe the intended sequence of major activities, and for each activity define the control measure and the timing during the construction process that the measure will be implemented.

B. Preserve vegetation in areas not needed for construction.

C. Sections 2601 and 2602 of the Standard Specifications define requirements to implement erosion and sediment control measures. Actual quantities used and installed locations may vary from the Base PPP and amendment of the plan will be documented via fieldbook entries, amended PPP site map, or by contract modification. Additional erosion and sediment control items may be required as determined by the inspector and/or contractor during storm water site inspections. If the work involved is not applicable to any contract items, the work will be paid for according to Article 1109.03 paragraph B of the Standard Specifications.

1. EROSION AND SEDIMENT CONTROLS

a. Stabilization Practices
1) Site plans will ensure that existing vegetation or natural buffers are preserved where attainable and disturbed portions of the site will be stabilized.
2) Initialize stabilization of disturbed areas immediately after clearing, grading, excavating, or other earth disturbing activities have:
a) Permanently ceased on any portion of the site, or
b) Temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days.
3) Staged permanent and/or temporary stabilizing seeding and mulching shall be completed as the disturbed areas are completed. Incomplete areas shall be stabilized according to paragraph III, C, 1, a, 2, b above.
4) Permanent and Temporary Stabilization practices to be used for this project are located in the storm water site map, Estimated Project Quantities (100-0A, 100-1A, or 100-1C), and Estimate Reference Information (100-4A) located in the C or R sheets. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation (105-4) in the C or R sheets.
5) Preservation of existing vegetation within right-of-way or easements will act as vegetative buffer strips.
6) Preservation of topsoil: Bid items to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C or R sheets. Additional information may be found in the Tabulations in the C or T Tabulation sheets, or is referenced in Section 2105 of the Standard Specifications.

b. Structural Practices
1) Structural practices will be implemented to divert flows from exposed soils and detain or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Additionally, structural practices may include: silt basins that provide 3600 cubic feet of storage per acre drained or equivalent sediment controls, outlet structures that withdraw water from surface when discharging basins, and controls to direct storm water to vegetated areas.
2) Structural practices to be used for this project are located in the storm water site map, Estimated Project Quantities (100-0A, 100-1A, or 100-1C), and Estimate Reference Information (100-4A) located in the C or R sheets, as well as all other item specific Tabulations. Typical drawings detailing construction of the devices to be used on this project can be found on the B or R sheets or are referenced in the Standard Road Plans Tabulation (105-4) located in the C or R sheets.

POLLUTION PREVENTION PLAN

c. Storm Water Management
Measures shall be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. This may include velocity dissipation devices at discharge locations and along length of outfall channel as necessary to provide a non-erosion velocity flow from structure to water course. If included with this project, these items are located in the storm water site map and Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C or R sheets, as well as all other item specific Tabulations. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation. The installation of these devices may be subject to Section 404 of the Clean Water Act.

2. OTHER CONTROLS
Contractor disposal of unused construction materials and construction material wastes shall comply with applicable state and local waste disposal, sanitary sewer, or septic system regulations. In the event of a conflict with other governmental laws, rules and regulations, the more restrictive laws, rules or regulations shall apply.
a. Vehicle Entrances and Exits - Construct and maintain entrances and exits to prevent tracking of sediments onto roadways.
b. Material Delivery, Storage and Use - Implement practices to prevent discharge of construction materials during delivery, storage, and use.
c. Stockpile Management - Install controls to reduce or eliminate pollution of storm water from stockpiles of soil and paving.
d. Waste Disposal - Do not discharge any materials, including building materials, into waters of the state, except as authorized by a Section 404 permit.
e. Spill Prevention and Control - Implement chemical spill and leak prevention and response procedures to contain and clean up spills and prevent material discharges to the storm drain system and waters of the state.
f. Concrete Residuals and Washout Wastes - Waste shall not be discharged to a surface water and is not allowed to adversely affect a water of the state. Designate temporary concrete washout facilities for rinsing out concrete trucks. Provide directions to truck drivers where designated washout facilities are located. Designated washout areas should be located at least 50 feet away from storm drains, streams or other water bodies. Care should be taken to ensure these facilities do not overflow during storm events.
g. Concrete Grooving/Grinding Slurry – Do not discharge slurry to a waterbody or storm drain. Slurry may be applied on foreslopes or removed from the project.
h. Vehicle and Equipment Storage and Maintenance Areas - Perform on site fueling and maintenance in accordance with all environment laws such as proper storage of onsite fuels and proper disposal of used engine oil or other fluids on site. Employ washing practices that prevent contamination of surface and ground water from wash water. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge.
i. Litter Management - Ensure employees properly dispose of litter. Minimize exposure of trash if exposure to precipitation or storm water would result in a discharge of pollutants.
j. Dewatering – Properly treat water to remove suspended sediment before it re-enters a waterbody or discharges off-site. Measures are also to be taken to prevent scour erosion at dewatering discharge point.

3. APPROVED STATE OR LOCAL PLANS
During the course of this construction, it is possible that situations will arise where unknown materials will be encountered. When such situations are encountered, they will be handled according to all federal, state, and local regulations in effect at the time.

IV. MAINTENANCE PROCEDURES
The Contractor is required to maintain all temporary erosion and sediment control measures in proper working order, including cleaning, repairing, or replacing them throughout the contract period. This shall begin when the features have lost 50% of their capacity.

V. INSPECTION REQUIREMENTS
A. Inspections shall be made jointly by the Contractor and the Contracting Authority's inspector at least once every seven calendar days. Storm water site inspections will include:
1. Date of the inspection.
2. Summary of the scope of the inspection.
3. Name and qualifications of the personnel making the inspection.
5. Review of erosion and sediment control measures within disturbed areas for the effectiveness in preventing impacts to receiving waters.
6. Major observations related to the implementation of the PPP.
7. Identification of corrective actions required to maintain or modify erosion and sediment control measures.

B. Include storm water site inspection reports in the Amended PPP. Incorporate any additional erosion and sediment control measures determined as a result of the inspection. Immediately begin corrective actions on all deficiencies found within 3 calendar days of the inspection and complete within 7 calendar days following the inspection. If it is determined that making the corrections less than 72 hours after the inspection is impracticable, it should be documented why it is impracticable and indicate an estimated date by which the corrections will be made.

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POLLUTION PREVENTION PLAN

VI. NON-STORM WATER DISCHARGES
This includes subsurface drains (i.e. longitudinal and standard subdrains) and slope drains. The velocity of the discharge from these features may be controlled by the use of headwalls or blocks, Class A stone, erosion stone or other appropriate materials. This also includes uncontaminated groundwater from dewatering operations, which will be controlled as discussed in Section III of the PPP.

VII. POTENTIAL SOURCES OF OFF RIGHT-OF-WAY (ROW) POLLUTION
Silts, sediment, and other forms of pollution may be transported onto highway right-of-way (ROW) as a result of a storm event. Potential sources of pollution located outside highway ROW are beyond the control of this PPP. Pollution within highway ROW will be conveyed and controlled per this PPP.

VIII. DEFINITIONS
A. Base PPP - Initial Pollution Prevention Plan.
B. Amended PPP - Base PPP amended during construction. May include Plan Revisions or Contract Modifications for new items, storm water site inspection reports, fieldbook entries made by the inspector, amended PPP site map by the Contractor, ECIP, NOI, co-permittee certifications, and Subcontractor Request Forms. Items amending the PPP are stored electronically and are readily available upon request.
C. Fieldbook Entries – This contains the inspector’s daily diary and bid item postings.
D. Controls - Methods, practices, or measures to minimize or prevent erosion, control sedimentation, control storm water, or minimize contaminants from other types of waste or materials. Also called Best Management Practices (BMPs).
E. Signature Authority - Representative authorized to sign various storm water documents.

CERTIFICATION STATEMENT
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature

James A. Watters
Printed or Typed Name

Signature

Printed or Typed Name

LINE STYLE LEGEND OF LANDSCAPE SHEETS

LINESTYLE	Design Element
- - - - - - - - - - - -	Living Snow Fence Single Row
:::::::::::::::::::	Living Snow Fence Double Row
———	Mechanical Edge

CELL LEGEND OF LANDSCAPE SHEETS

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

PATTERN LEGEND OF LANDSCAPE SHEETS

- Brush Clearing
- Spray Area
- Clearing & Grubbing

LINE STYLE LEGEND OF EROSION CONTROL SHEETS

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

CELL LEGEND OF EROSION CONTROL SHEETS

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

PLAN VIEW COLOR LEGEND OF EROSION CONTROL SHEETS

LINEWORK	Design Color No.		
Green	(2)		Existing Topographic Features and Labels
Blue	(1)		Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)		Existing Utilities
Black	(0)		Permanent Erosion Control Features
Blaze Orange	(222)		Temporary Erosion Control Features

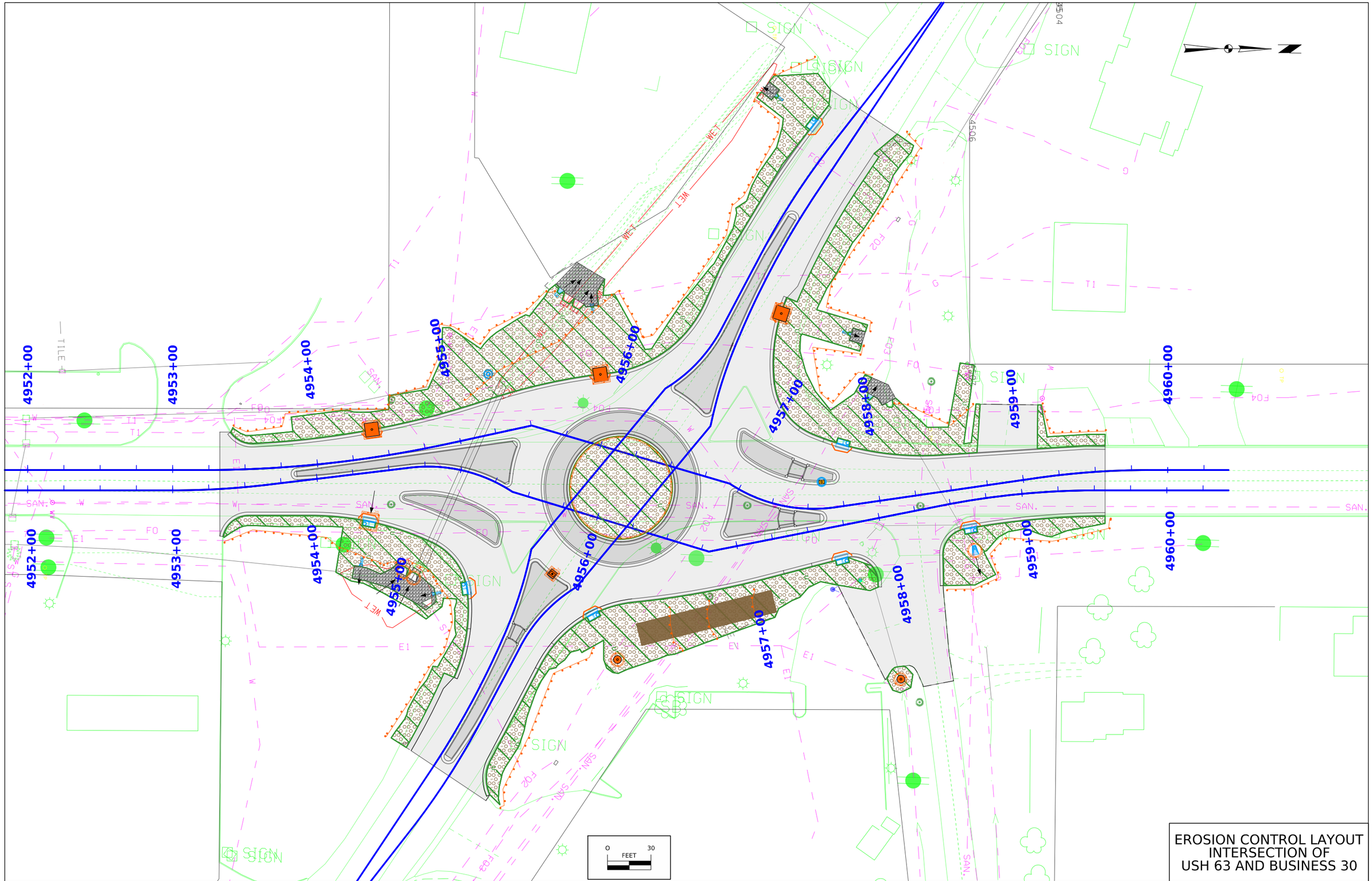
SHADING	Design Color No.			Transparency
Citron	(234)		Mulching, All Types	50%
Light Brown	(238)		Special Ditch Control, Wood Excelsior Mat	0%
Grass Green	(233)		8FT Mow Strip	50%
Red	(3)		Delineates Restricted Areas	0%

PATTERN LEGEND OF EROSION CONTROL SHEETS

- Seeding and Fertilizing
- R — Seeding and Fertilizing (Rural)
- U — Seeding and Fertilizing (Urban)
- N — Native Grass Seeding
- ST — Salt Tolerant Seeding
- WL — Wetland Grass Seeding
- WF — Wildflower Seeding
- SOD — Sodding
- Turf Reinforcement Mat Type 1
- Turf Reinforcement Mat Type 2
- Turf Reinforcement Mat Type 3
- Turf Reinforcement Mat Type 4
- Slope Protection, Wood Excelsior Mat
- Transition Mat
- Rock Features, Permanent
- Rock Features, Temporary

EROSION CONTROL LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES R)



EROSION CONTROL LAYOUT
INTERSECTION OF
USH 63 AND BUSINESS 30

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER RR.2

5:42:59 PM 3/31/2025 madkins pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\8606301024\Design\CADD_Files\Sheet_Files\SHT_86063078Z09_RR01.dgn

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut					Fill						Checks (EW-102)		Topsoil								
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Pavement Removal Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement 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					
ML063NB																						
4953+32.98	40	17	1	21	17	1	1	0	2	3	15	0	0	1	0	0	1					
4953+50.00	54	24	3	27	24	3	2		5	7	17	0	0	3	0	0	3					
4953+75.00	60	27	3	30	27	3	2		5	7	20	0	0	3	0	0	3					
4954+00.00	73	32	6	35	32	3	2		5	7	25	0	0	6	0	0	6					
4954+25.00	98	40	15	43	40	15	8		23	30	10	0	0	15	0	0	15					
4954+50.00	123	52	19	52	52	15	8		23	30	22	0	0	19	0	0	19					
4954+75.00	143	64	15	65	64	3	2		5	6	58	0	0	15	0	0	15					
4955+00.00	165	76	10	79	76	3	2	0	5	7	70	0	0	10	0	0	10					
4955+25.00	76	36	3	37	36	2	1	0	3	4	33	0	0	3	0	0	3					
4955+36.94	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0					
Gap	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0					
4956+87.24	40	22	16	1	22	15	6		21	28	-6	0	0	16	0	0	16					
4957+00.00	71	32	30	9	32	23	10		34	44	-12	0	0	30	0	0	30					
4957+25.00	48	17	23	9	17	19	10		29	38	-21	0	0	23	0	0	23					
4957+50.00	32	7	20	5	7	21	11		31	41	-33	0	0	20	0	0	20					
4957+75.00	54	29	18	7	29	11	6	0	17	22	7	0	0	18	0	0	18					
4958+00.00	85	54	8	23	54	0		0	1	1	53	0	0	8	0	0	8					
4958+25.00	70	34	10	27	34	9	4	0	13	17	17	0	0	10	0	0	10					
4958+50.00	47	16	14	18	16	12	6	0	19	24	-9	0	0	14	0	0	14					
4958+75.00	44	20	6	18	20	4	3		7	9	11	0	0	6	0	0	7					
4959+00.00	44	19	5	20	19	2	2		4	5	15	0	0	5	0	0	5					
4959+25.00	47	20	4	22	20	2	2		4	5	16	0	0	4	0	0	4					
4959+50.00	14	6	1	7	6	0	0		0	1	6	0	0	1	0	0	1					
4959+57.43																						
ML063NB																						
Totals:	1,429	645	229	555	645	169	86	2	256	333	313	0	0	229	0	0	230					

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut					Fill						Checks (EW-102)		Topsoil								
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Pavement Removal Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement 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					
ML063SB																						
4953+32.56	35	23	1	10	23	0	0		1	1	23	0	0	1	0	0	1					
4953+50.00	47	22	3	22	22	1	1		2	3	19	0	0	3	0	0	3					
4953+75.00	47	23	7	18	23	2	1		4	5	18	0	0	7	0	0	7					
4954+00.00	48	23	11	14	23	3	2		4	6	17	0	0	11	0	0	11					
4954+25.00	45	24	10	11	24	3	2		5	6	18	0	0	10	0	0	10					
4954+50.00	44	26	11	8	26	4	2		6	8	18	0	0	11	0	0	11					
4954+75.00	45	26	14	5	26	8	3		11	14	11	0	0	14	0	0	14					
4955+00.00	46	20	22	4	20	83	12		96	125	-105	0	0	22	0	0	22					
4955+25.00	34	9	22	3	9	194	18		211	275	-266	0	0	22	0	0	22					
4955+42.83	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0					
Gap	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0					
4956+94.24	28	12	0	15	12	5		3	8	10	2	0	0	0	0	0	0					
4957+00.00	113	49	0	64	49	27	0	18	45	59	-10	0	0	0	0	0	1					
4957+25.00	106	45	3	59	45	32	3	21	55	71	-27	0	0	3	0	0	3					
4957+50.00	97	40	3	54	40	26	3	17	46	60	-20	0	0	3	0	0	3					
4957+75.00	87	32	8	46	32	15	1	11	27	35	-3	0	0	8	0	0	8					
4958+00.00	77	25	14	38	25	8		6	14	18	7	0	0	14	0	0	14					
4958+25.00	65	22	9	33	22	6		4	10	13	9	0	0	9	0	0	9					
4958+50.00	69	31	6	32	31	7	3	2	12	16	16	0	0	6	0	0	6					
4958+75.00	86	52	3	31	52	4	3		7	10	42	0	0	3	0	0	3					
4959+00.00	69	40	1	29	40	2	1	1	4	5	35	0	0	1	0	0	1					
4959+25.00	47	18	2	27	18	4	1	1	7	9	9	0	0	2	0	0	2					
4959+50.00	12	5	0	7	5	1	0	0	1	2	3	0	0	0	0	0	0					
4959+56.39																						
ML063SB Totals:	1,248	568	150	531	568	435	58	85	577	751	-183	0	0	150	0	0	151					

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut					Fill						Checks (EW-102)		Topsoil								
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Pavement Removal Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement 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					
BUS030WB																						
501+54.92	31	6	1	23	6	4	1	3	8	11	-4	0	0	1	0	0	1					
501+75.00	45	16	4	25	16	10	2	8	19	25	-9	0	0	4	0	0	4					
502+00.00	48	17	5	26	17	9	1	8	17	23	-6	0	0	5	0	0	5					
502+25.00	49	18	3	27	18	9	1	8	19	25	-7	0	0	3	0	0	3					
502+50.00	50	20	2	28	20	10	1	9	20	26	-6	0	0	2	0	0	2					
502+75.00	59	22	10	27	22	12	1	11	24	31	-9	0	0	10	0	0	10					
503+00.00	63	27	9	27	27	16	1	14	31	40	-13	0	0	9	0	0	9					
503+25.00	67	34	0	33	34	19	0	14	33	44	-10	0	0	0	0	0	0					
503+50.00	74	39	0	35	39	11		7	18	23	16	0	0	0	0	0	0					
503+75.00	52	28	0	23	28	0			0	0	28	0	0	0	0	0	0					
503+94.81	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0					
Gap	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0					
505+43.12	19	12	1	6	12	0	0		1	1	12	0	0	1	0	0	1					
505+50.00	67	40	3	24	40	3	2	1	6	7	33	0	0	3	0	0	3					
505+75.00	59	32	3	24	32	4	2	3	9	11	21	0	0	3	0	0	3					
506+00.00	50	25	1	23	25	3	1	2	7	9	16	0	0	1	0	0	1					
506+25.00	46	21	3	22	21	5	2	0	7	10	11	0	0	3	0	0	3					
506+50.00	46	20	5	21	20	8	4		11	15	5	0	0	5	0	0	5					
506+75.00	55	25	5	24	25	4	2		6	8	18	0	0	5	0	0	5					
507+00.00	1	1	0	1	1	0			0	0	1	0	0	0	0	0	0					
507+00.47																						
BUS030WB																						
Totals:	880	403	57	421	403	128	21	88	236	307	96	0	0	57	0	0	57					

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut					Fill						Checks (EW-102)		Topsoil								
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Pavement Removal Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement 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					
BUS030EB																						
501+54.88	28	8	12	8	8	3	1		4	5	3	0	0	12	0	0	12					
501+75.00	59	22	17	20	22	7	4		11	14	8	0	0	17	0	0	17					
502+00.00	52	25	7	20	25	7	4		11	15	10	0	0	7	0	0	7					
502+25.00	55	27	6	22	27	6	3		9	11	16	0	0	6	0	0	6					
502+50.00	60	31	4	24	31	3	2		5	6	25	0	0	4	0	0	4					
502+75.00	66	36	3	27	36	2	1		3	4	32	0	0	3	0	0	3					
503+00.00	73	40	2	30	40	3	2	2	7	9	32	0	0	2	0	0	2					
503+25.00	83	47	2	35	47	6	1	4	12	15	32	0	0	2	0	0	2					
503+50.00	109	64	1	44	64	6	1	5	11	15	49	0	0	1	0	0	1					
503+75.00	58	34	0	23	34	2	0	2	4	6	29	0	0	0	0	0	0					
503+90.13	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0					
Gap	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0					
505+38.40	42	25	0	17	25	0			0	0	25	0	0	0	0	0	0					
505+50.00	113	62	1	50	62	2	1		3	3	59	0	0	1	0	0	1					
505+75.00	100	50	2	47	50	4	2	0	7	9	41	0	0	2	0	0	3					
506+00.00	72	34	2	36	34	5	1	2	8	11	24	0	0	2	0	0	2					
506+25.00	62	28	1	34	28	5	0	4	9	12	16	0	0	1	0	0	1					
506+50.00	61	25	1	35	25	6	1	5	12	15	10	0	0	1	0	0	2					
506+75.00	56	22	3	31	22	5	2	4	11	14	8	0	0	3	0	0	3					
507+00.00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
507+00.86																						
BUS030EB																						
Totals:	1,151	582	64	505	582	72	27	28	126	164	419	0	0	64	0	0	66					

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut					Fill						Checks (EW-102)		Topsoil								
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Pavement Removal Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement 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					
RAB																						
10+00.00	99	52	0	47	52	102		32	134	175	-123	0	0	0	0	0	0					
10+25.00	96	52	0	44	52	103		32	136	176	-125	0	0	0	0	0	0					
10+50.00	88	42	17	30	42	125	7	32	165	214	-173	0	0	17	0	0	17					
10+75.00	84	37	35	12	37	155	16	32	203	264	-227	0	0	35	0	0	35					
11+00.00	70	32	25	13	32	135	9	32	177	230	-198	0	0	25	0	0	25					
11+25.00	59	23	6	30	23	103	1	32	137	178	-155	0	0	6	0	0	6					
11+50.00	84	37	0	47	37	98		32	131	170	-133	0	0	0	0	0	0					
11+75.00	99	51	0	47	51	94		32	126	164	-113	0	0	0	0	0	0					
12+00.00	107	61	0	46	61	92		31	123	160	-99	0	0	0	0	0	0					
12+25.00	110	52	21	38	52	202	14	32	247	321	-269	0	0	21	0	0	21					
12+50.00	96	32	39	26	32	386	29	32	448	582	-550	0	0	39	0	0	39					
12+75.00	81	29	18	33	29	279	16	32	327	425	-396	0	0	18	0	0	18					
13+00.00	78	35	0	42	35	98		32	131	170	-134	0	0	0	0	0	0					
13+25.00	77	38	0	39	38	82		27	109	142	-104	0	0	0	0	0	0					
13+45.58																						
RAB																						
Totals:	1,228	574	161	494	574	2,056	92	445	2,592	3,370	-2,798	0	0	161	0	0	161					

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

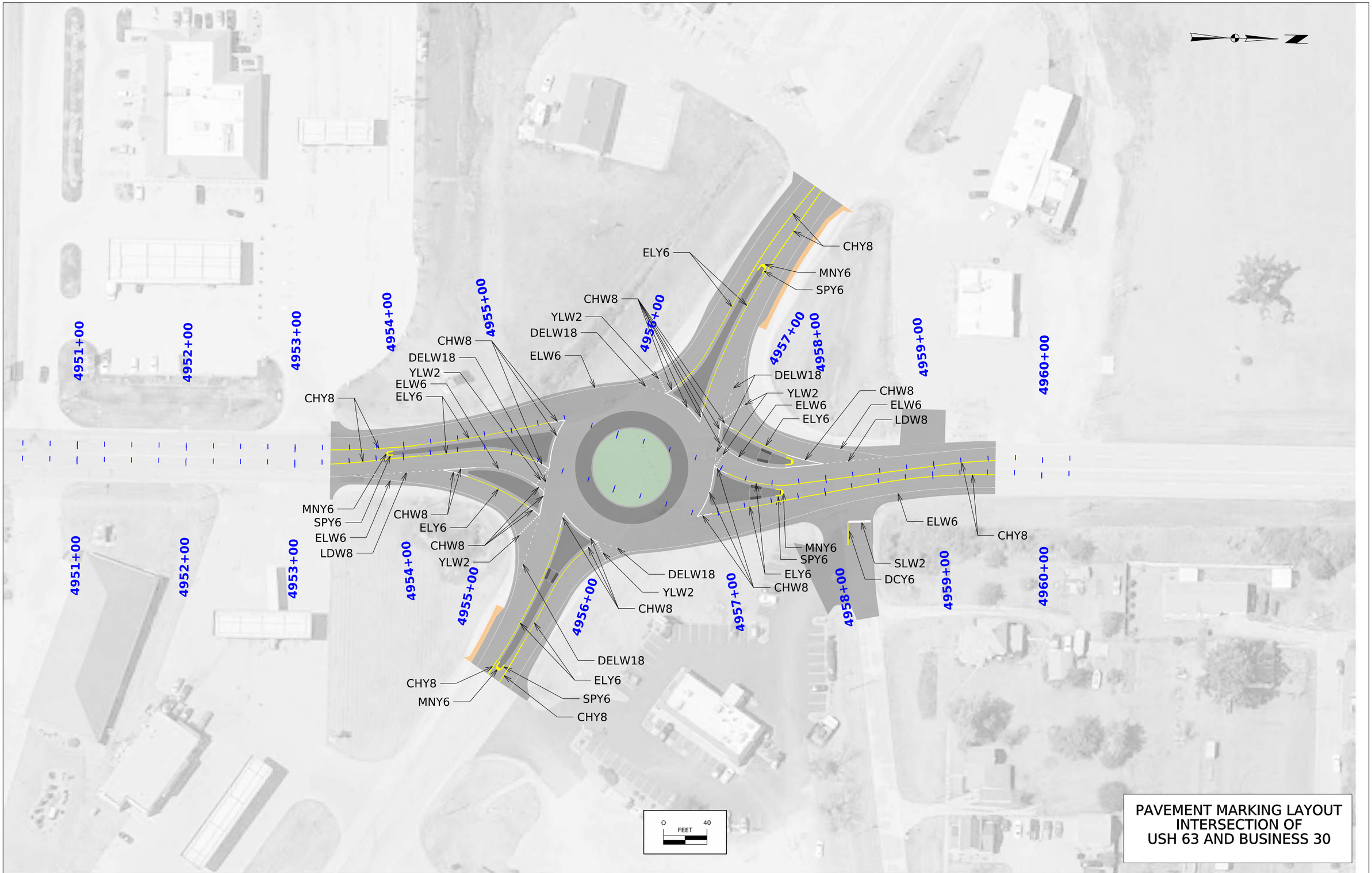
TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut					Fill						Checks (EW-102)		Topsoil								
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Pavement Removal Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement 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:																						
ML063NB	1,429	645	229	555	645	169	86	2	256	333	313	0	0	229	0	0	230					
ML063SB	1,248	568	150	531	568	435	58	85	577	751	-183	0	0	150	0	0	151					
BUS030WB	880	403	57	421	403	128	21	88	236	307	96	0	0	57	0	0	57					
BUS030EB	1,151	582	64	505	582	72	27	28	126	164	419	0	0	64	0	0	66					
RAB	1,228	574	161	494	574	2,056	92	445	2,592	3,370	-2,798	0	0	161	0	0	161					
Project Totals:	5,936	2,772	661	2,506	2,772	2,860	284	648	3,787	4,925	-2,153	0	0	661	0	0	665					

Excavation, Class 10, Roadway & Borrow
2,772
[5]

Embankment in Place, Contractor Furnished
2,153/1.3 = 1,656
[11]/1.3

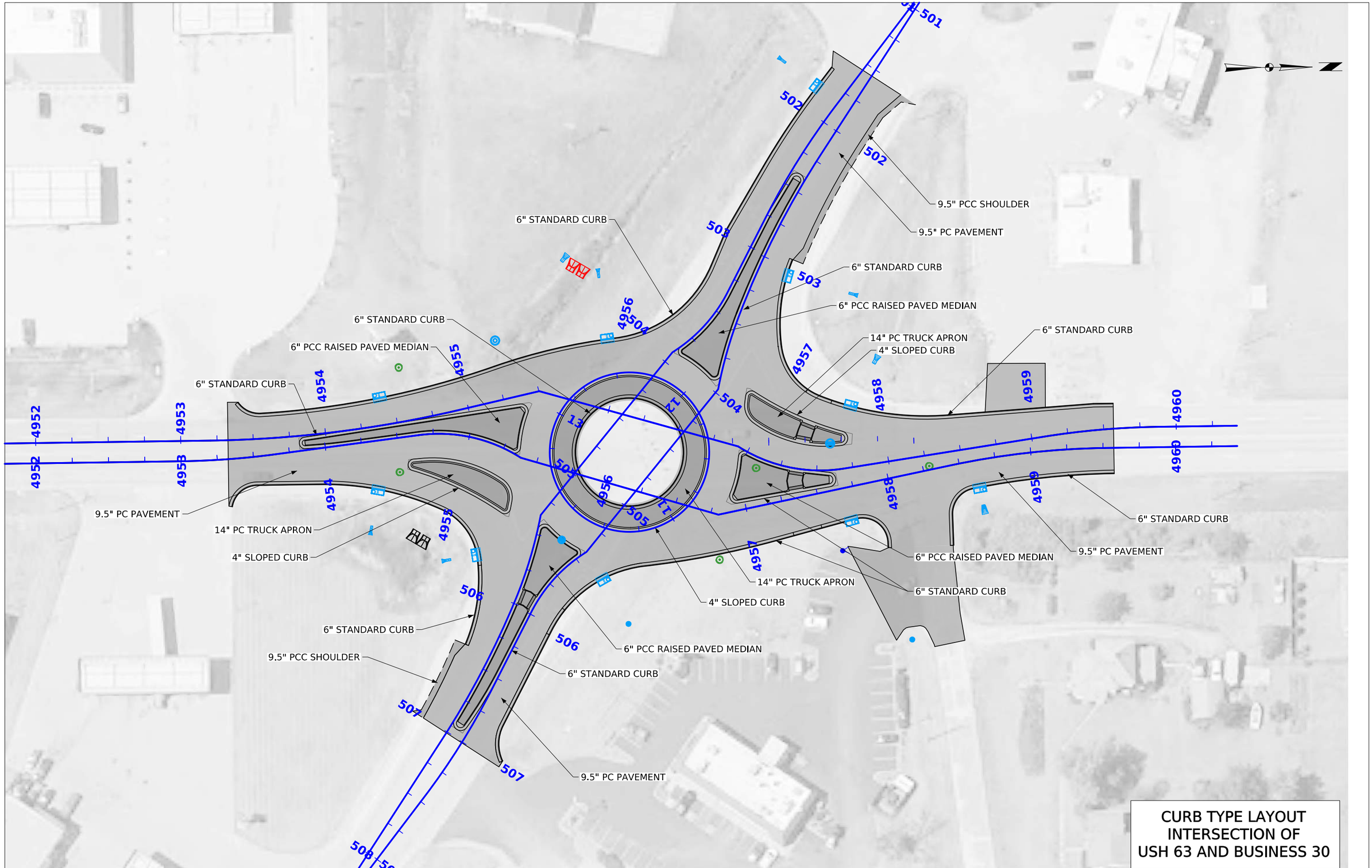
Topsoil, Strip, Salvage & Spread
661
[14]



PAVEMENT MARKING LAYOUT
INTERSECTION OF
USH 63 AND BUSINESS 30

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER U.1

8:18:17 AM 3/29/2025 mbrinker pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\8606301024\Design\CADD_Files\Sheet_Files\SHT_86063078Z09_U01.dgn



FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER U.2

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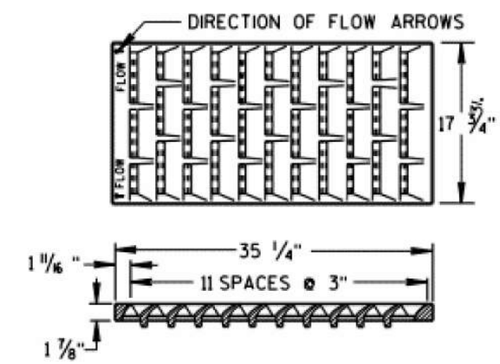
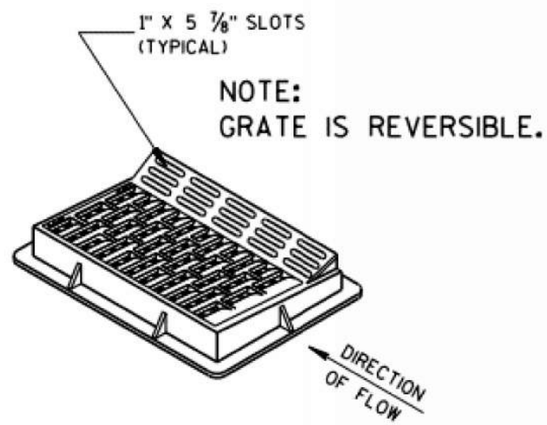
GENERAL NOTES

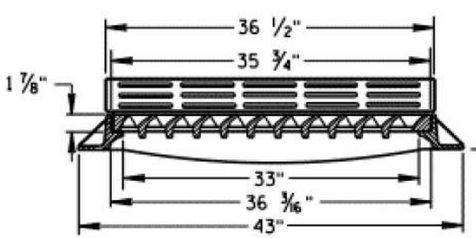
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

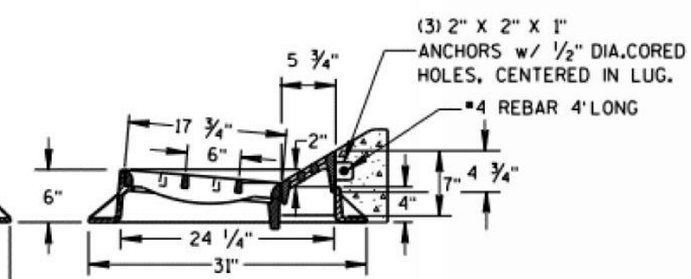
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.





NOTE:
GRATE IS REVERSIBLE.





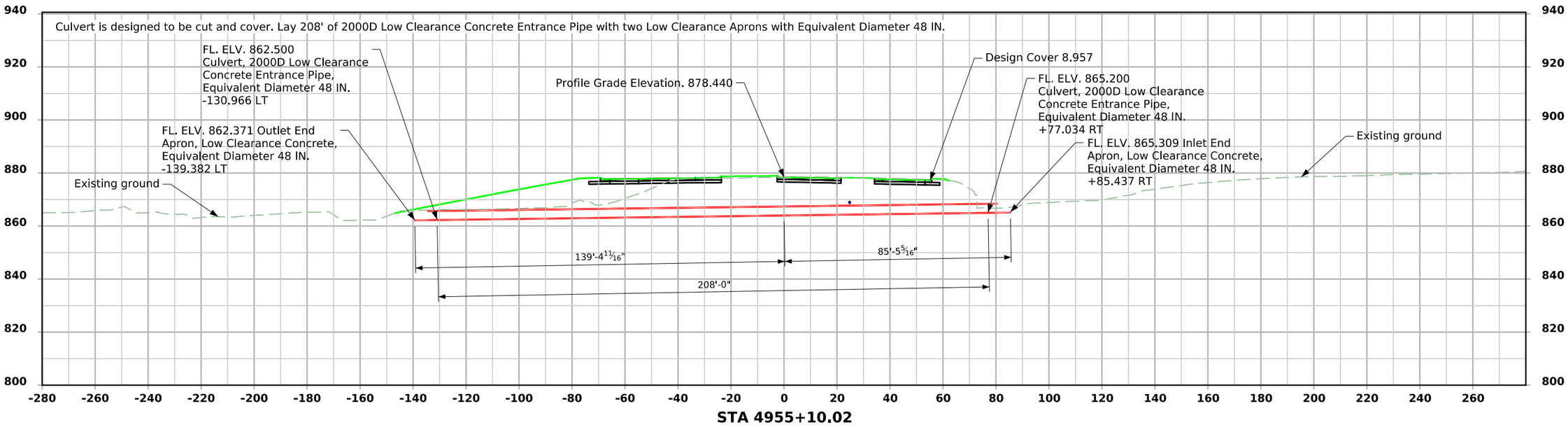
TYPE "HM"

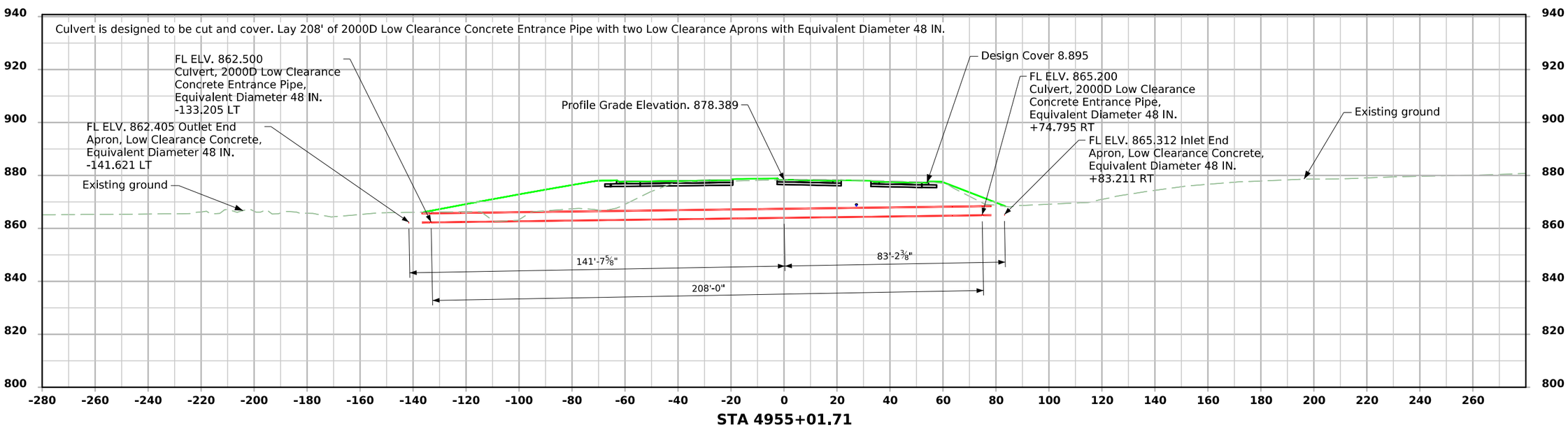
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

NOTE:
SPECIAL GRATE FOR THE TYPE "H" COVER MAY ALSO BE USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE

CASTING FOR GRATE INTAKE AT MEDIAN AND SPLITTER ISLANDS

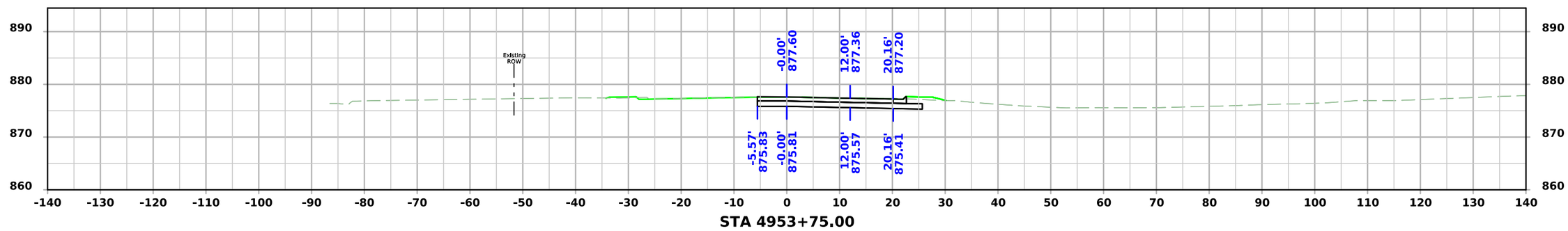
USH 63 NB

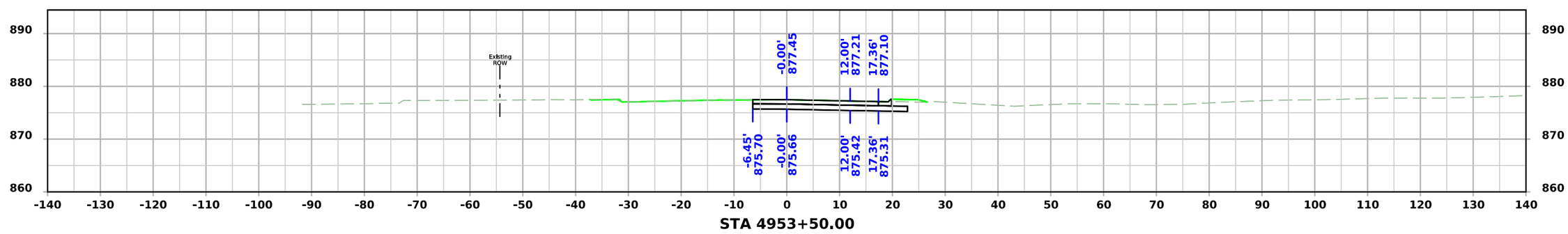


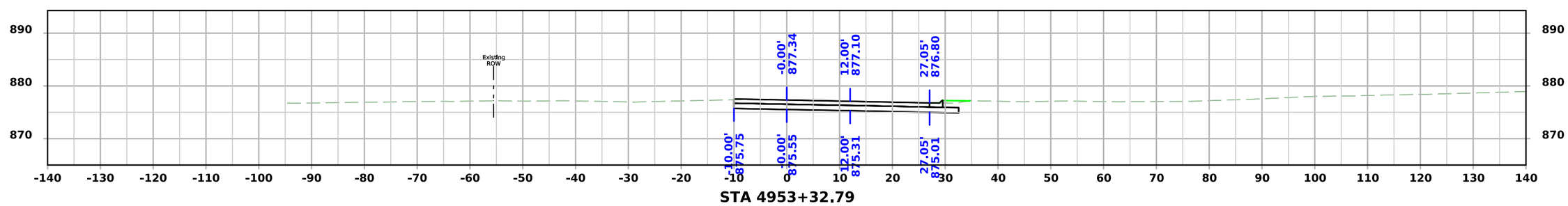


FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER VW.1

USH63 NB

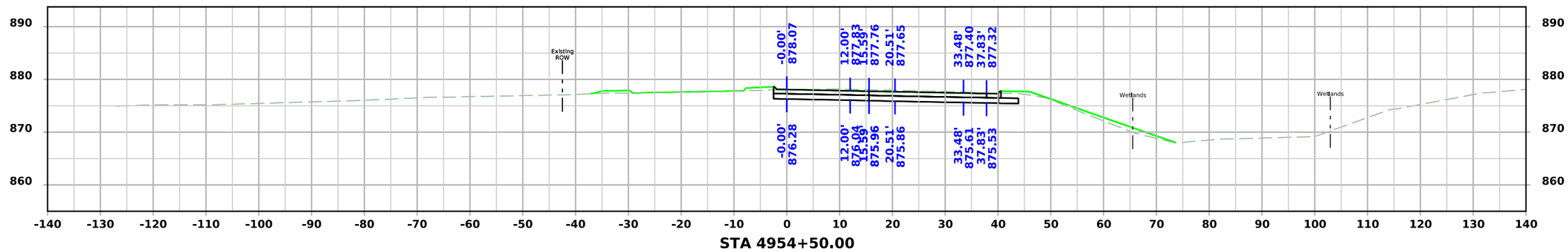


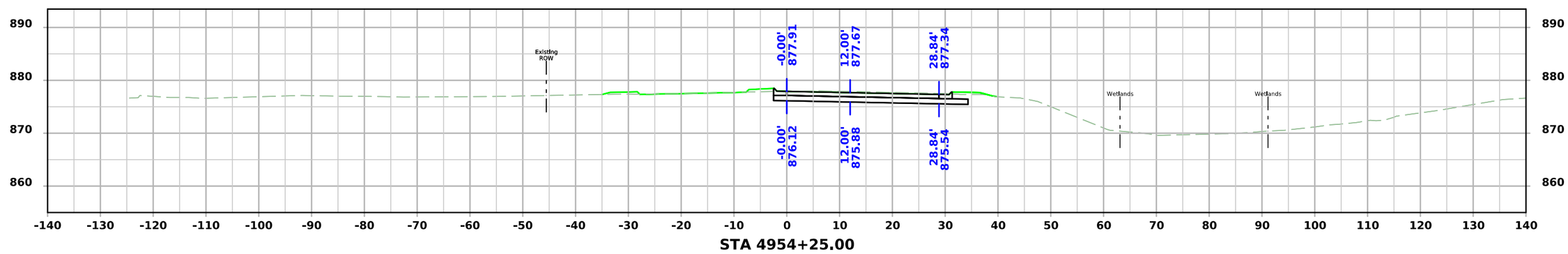


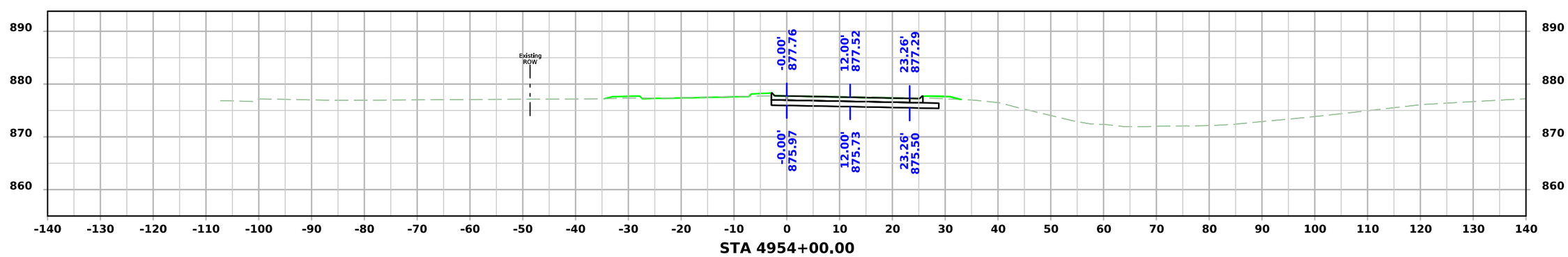


FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER W.1

USH63 NB

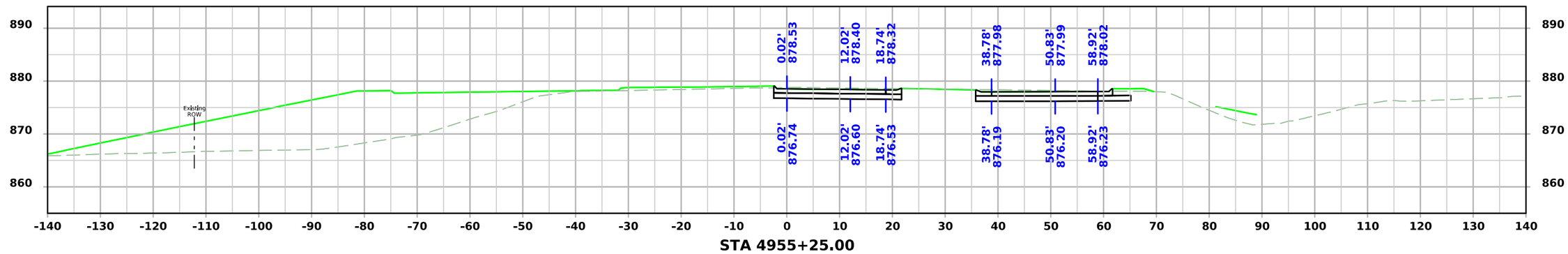




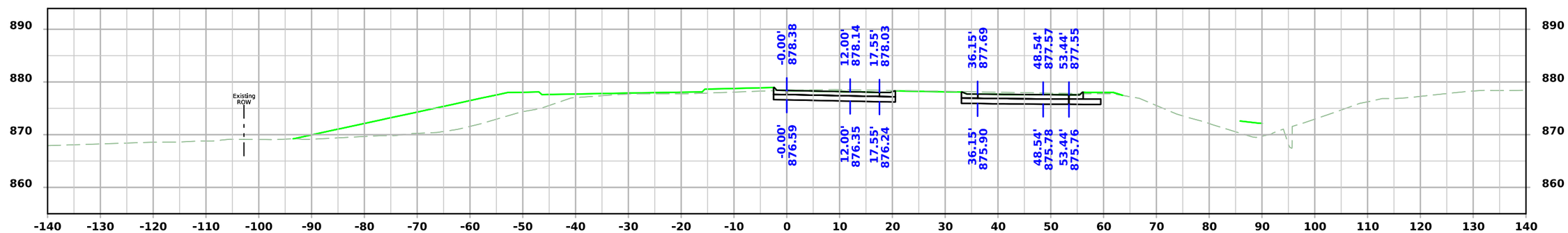


FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER W.2

USH63 NB



STA 4955+25.00



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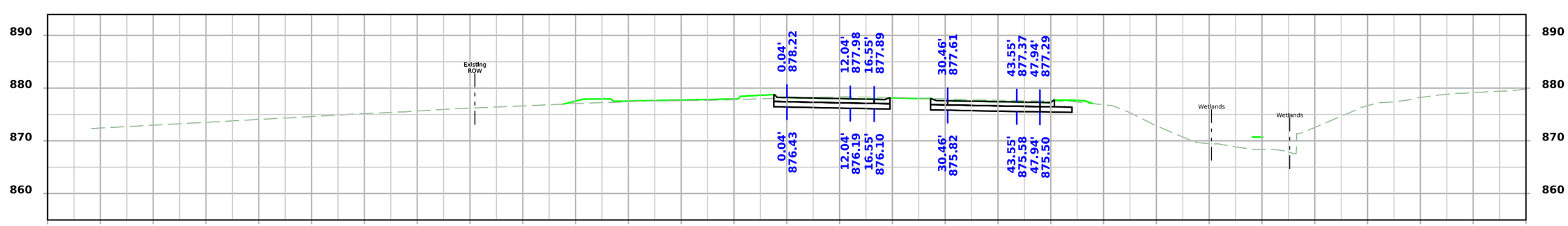
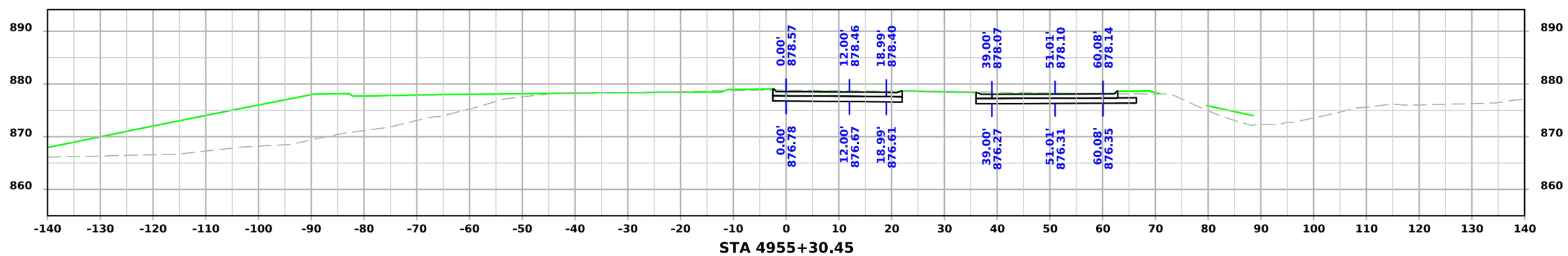


STA 4954+75.00

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER W.3

USH63 NB



FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER W.4

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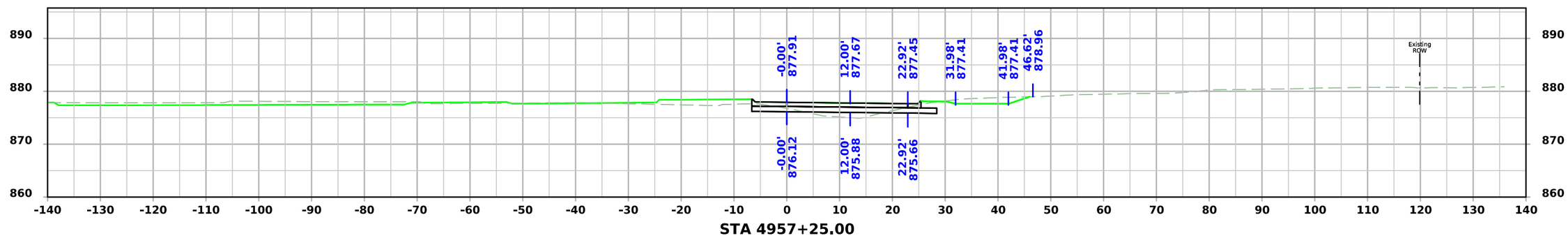
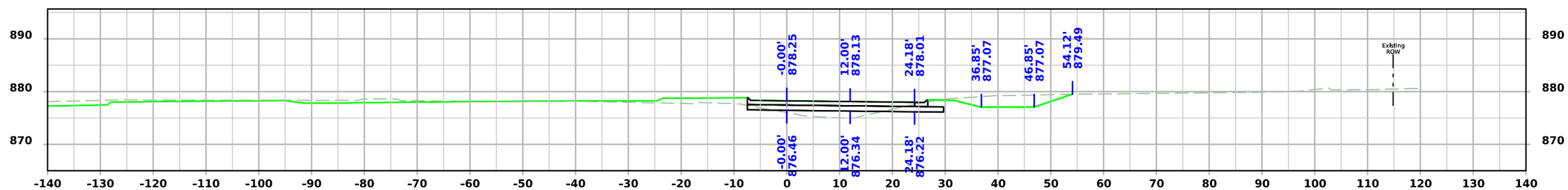
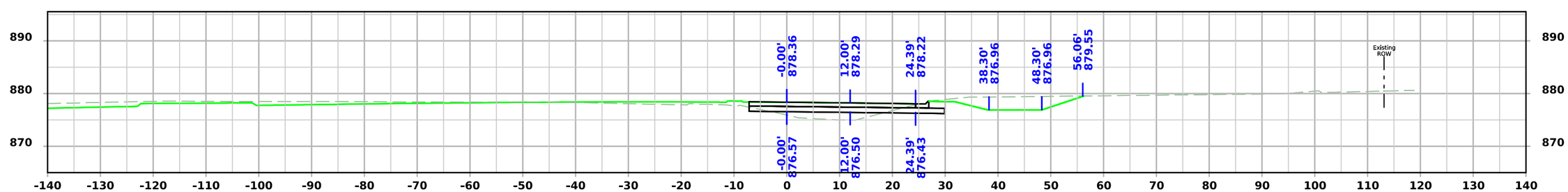
USH63 NB



STA 4957+25.00



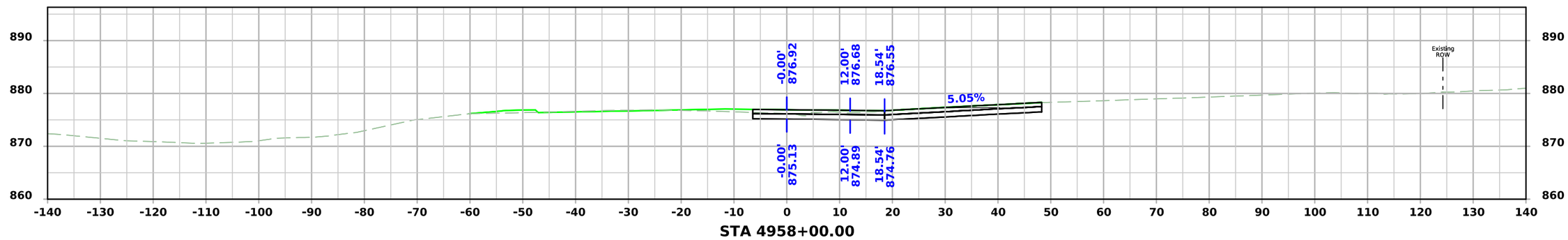
STA 4957+00.00

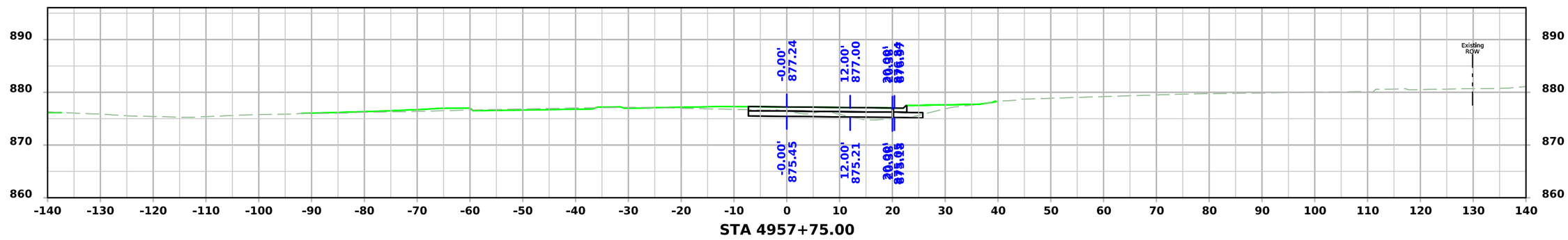


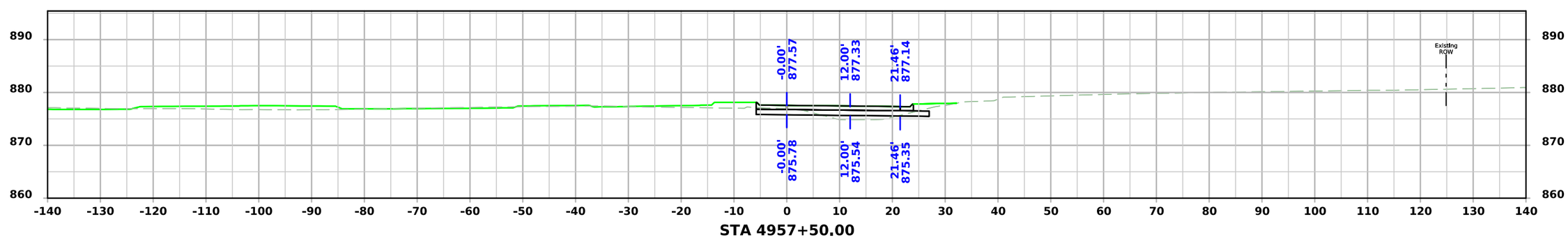
STA 4956+91.39

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER W.5

USH63 NB

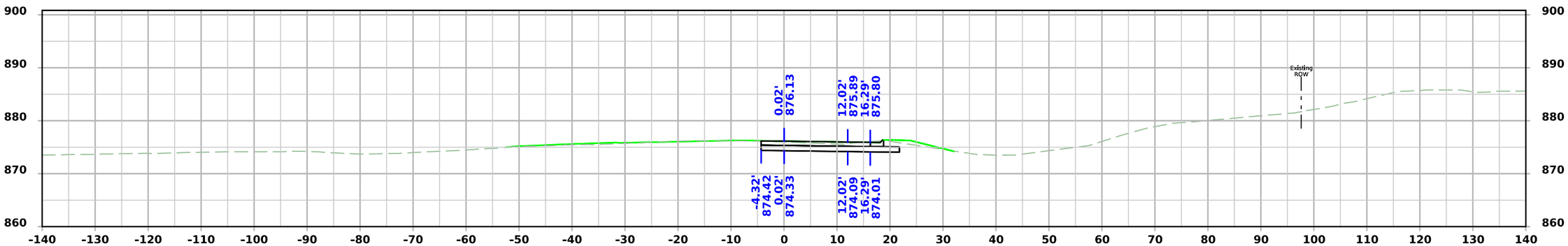




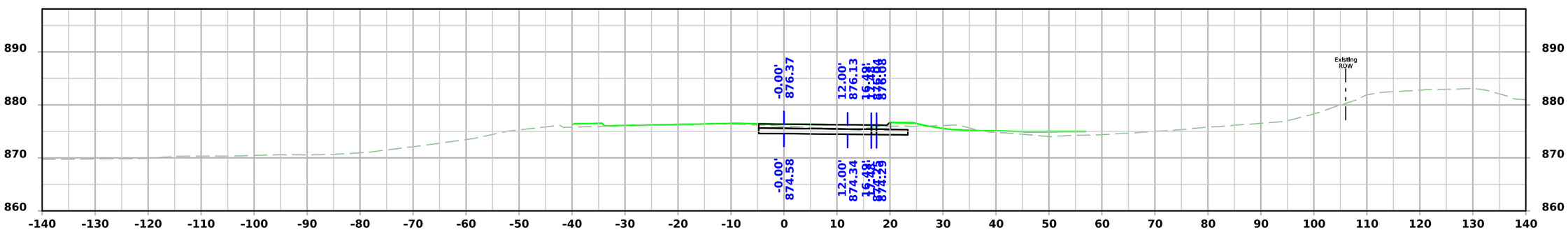


FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER W.6

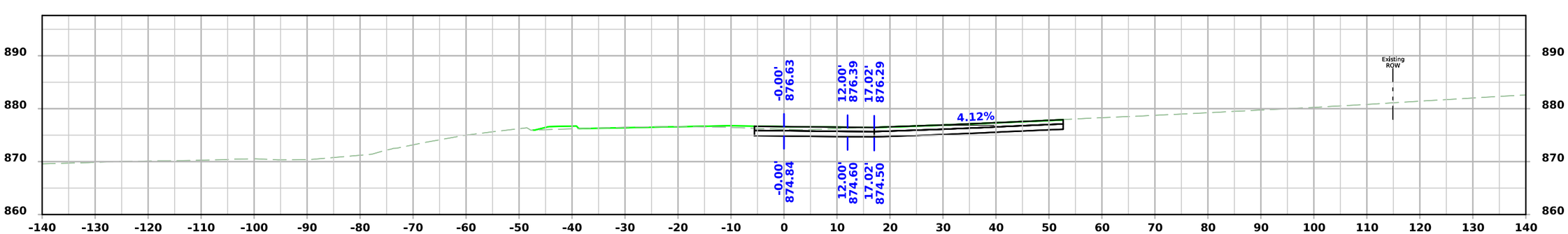
USH63 NB



STA 4958+75.00



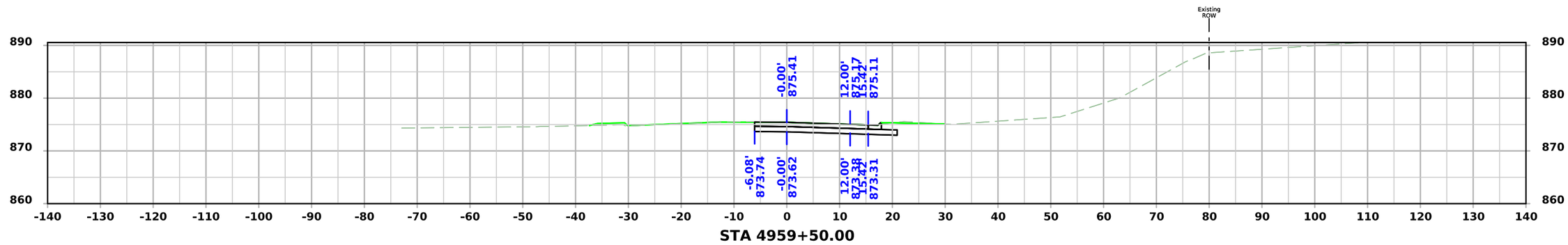
STA 4958+50.00

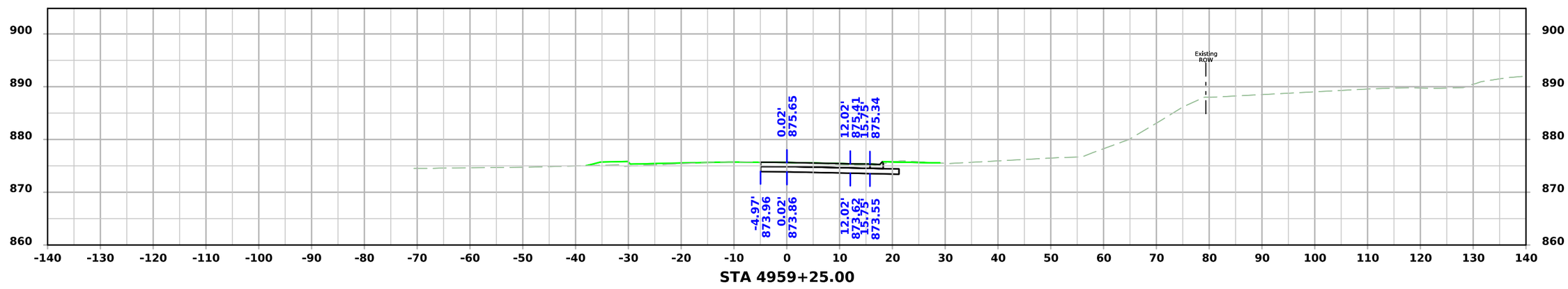


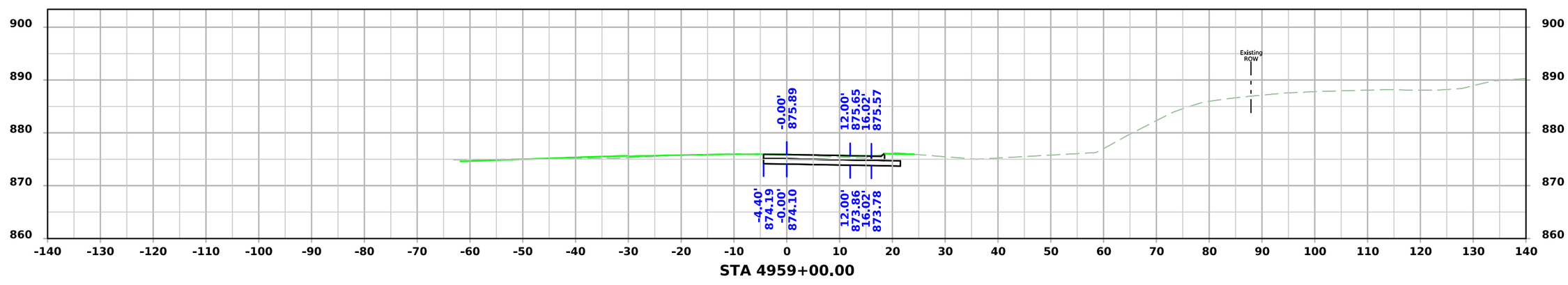
STA 4958+25.00

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER W.7

USH63 NB

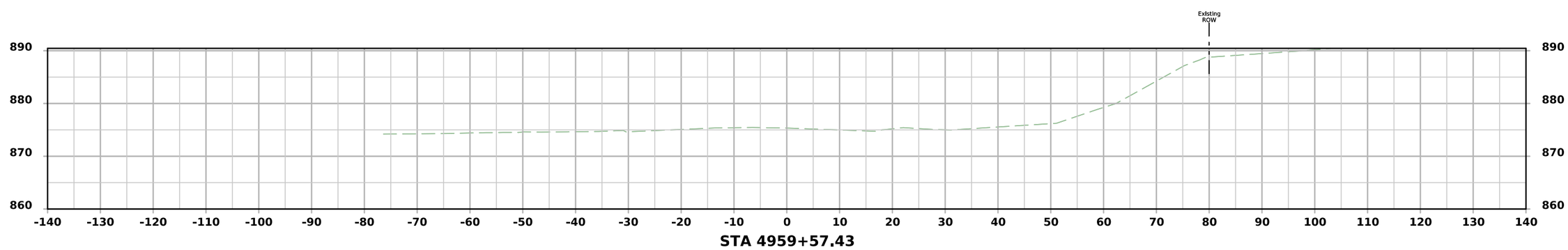






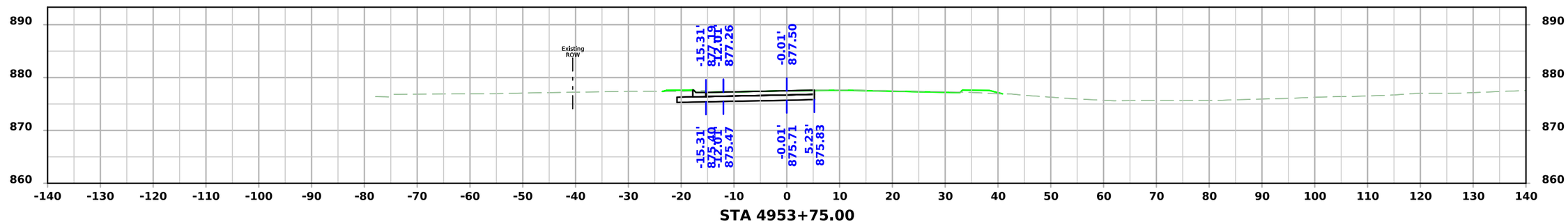
FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER W.8

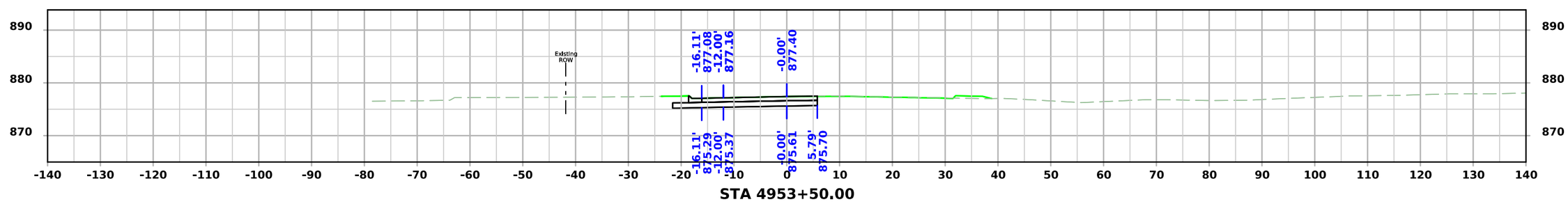
USH63 NB

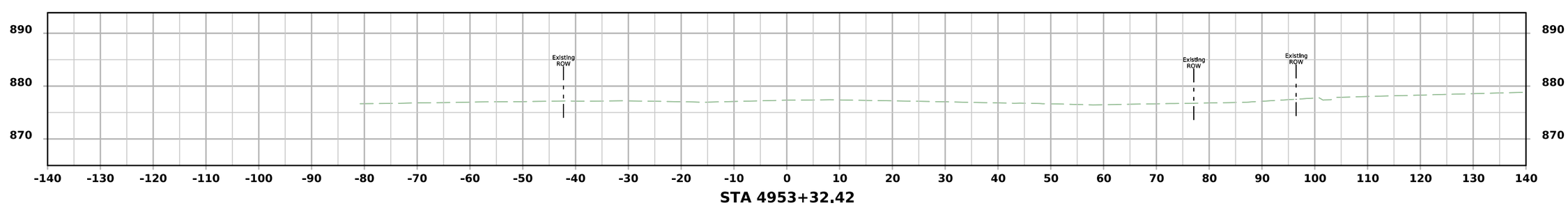


FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER W.9

USH63 SB







FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER W.10

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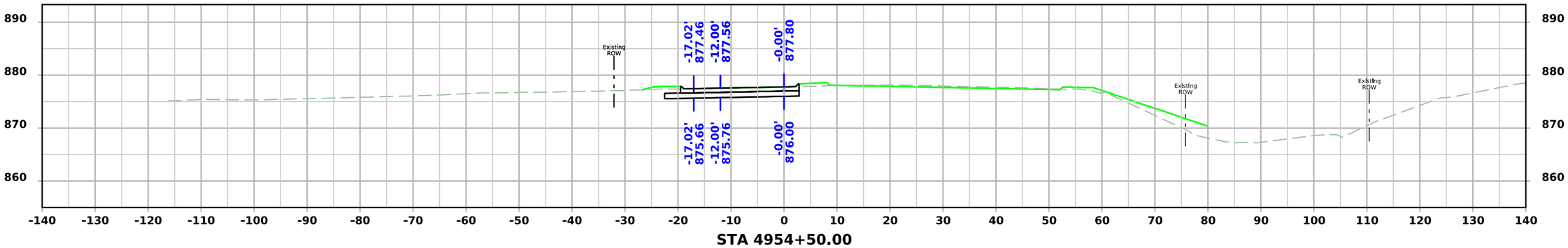
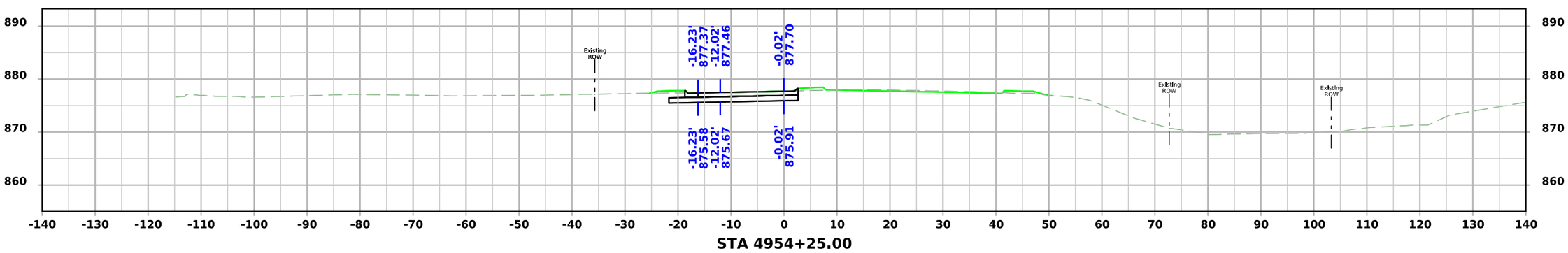
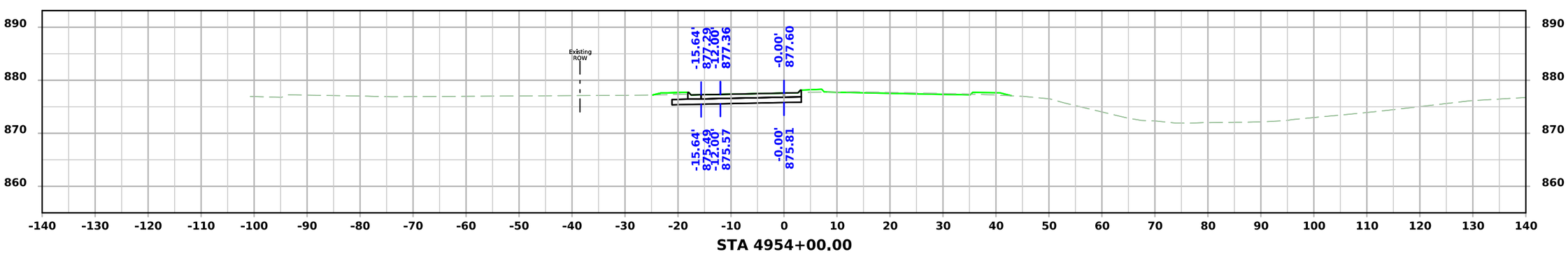
USH63 SB

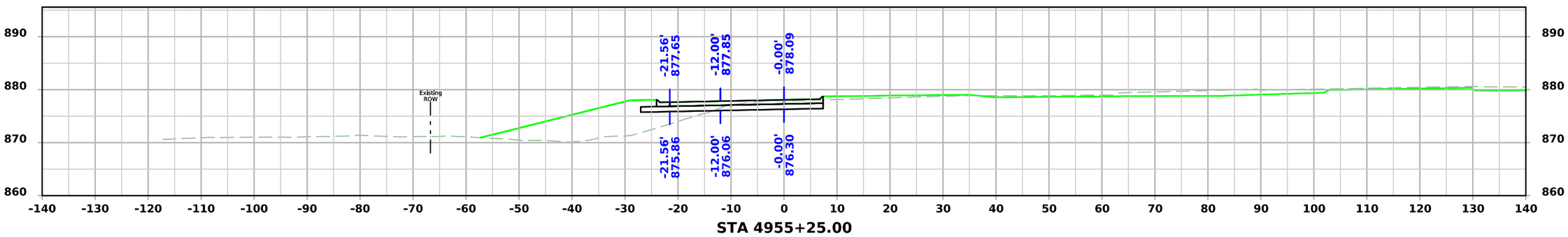




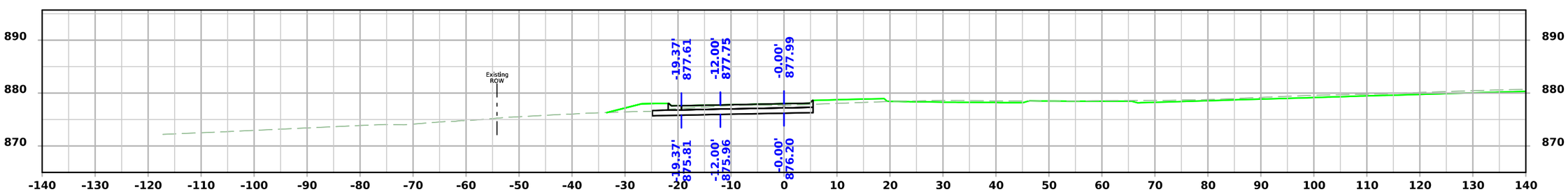


FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER W.11

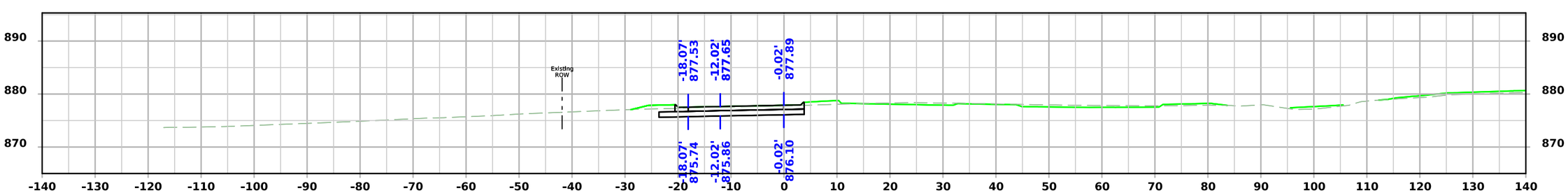
USH63 SB



STA 4955+25.00

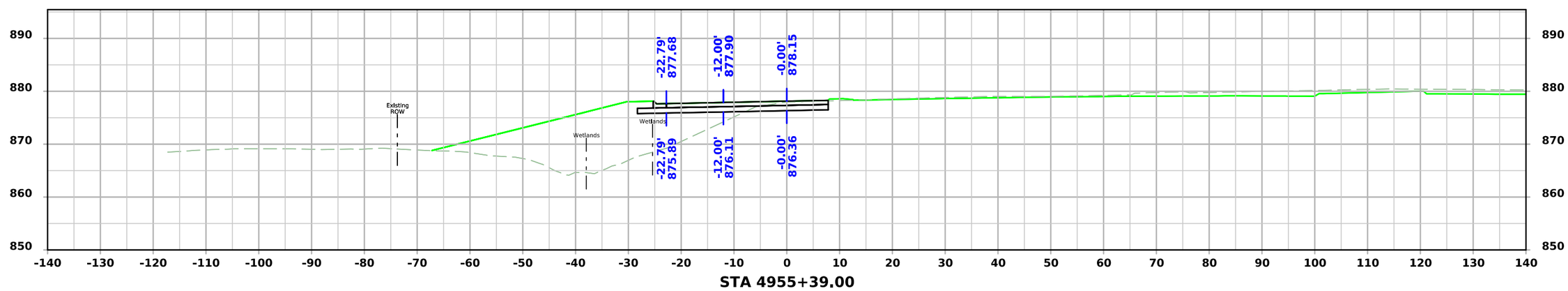


STA 4955+00.00



STA 4954+75.00

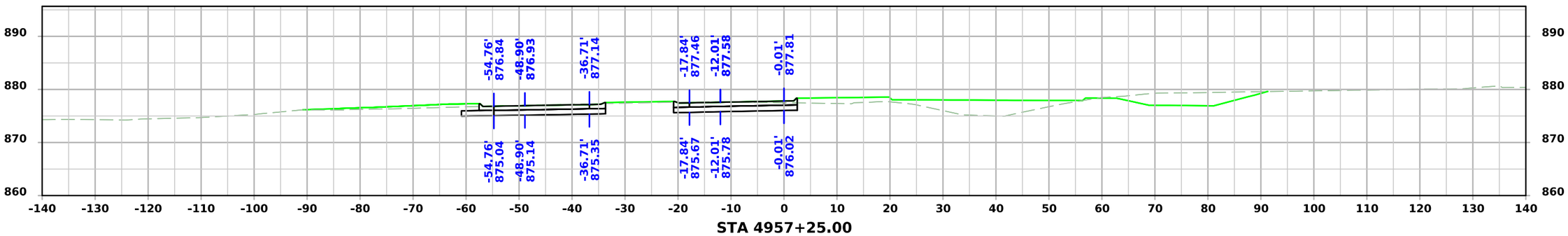
USH63 SB



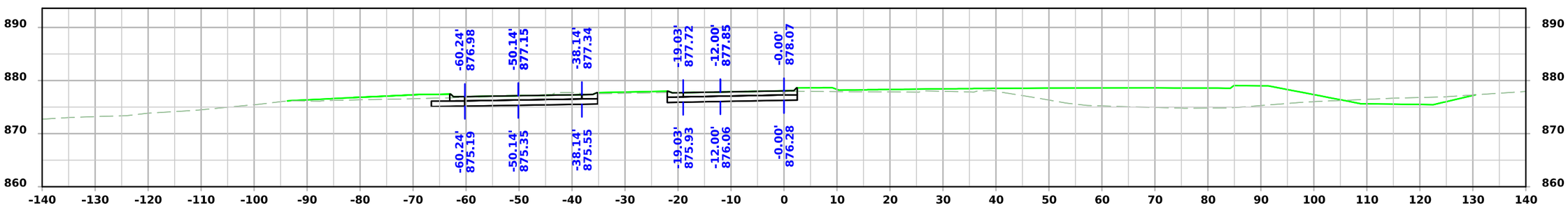
STA 4955+39.00

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER W.13

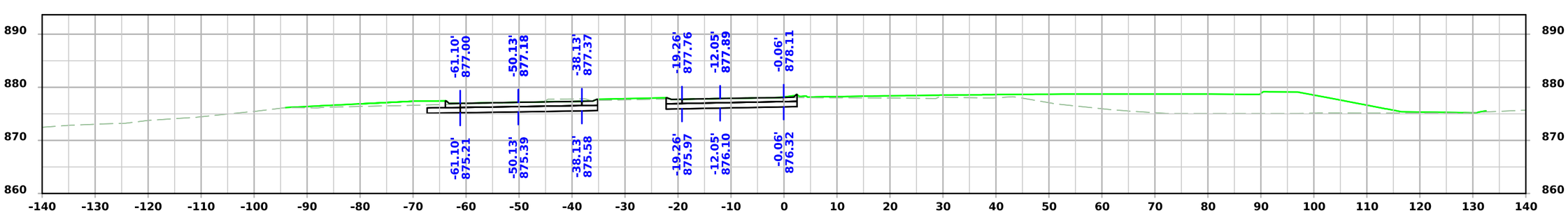
USH63 SB



STA 4957+25.00

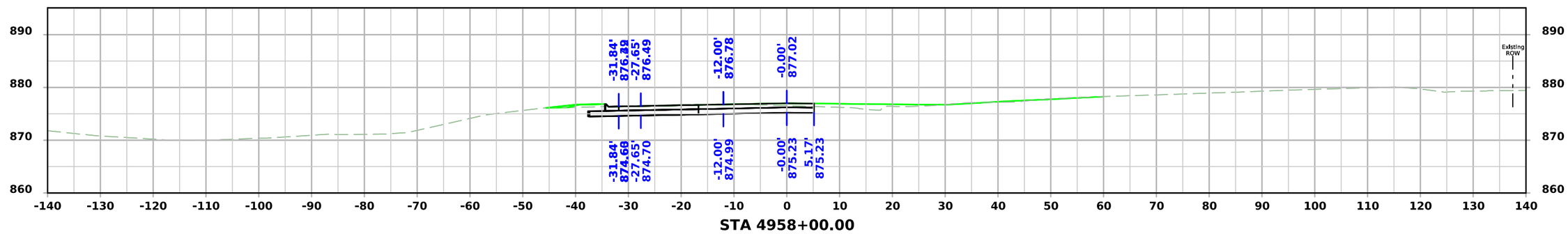


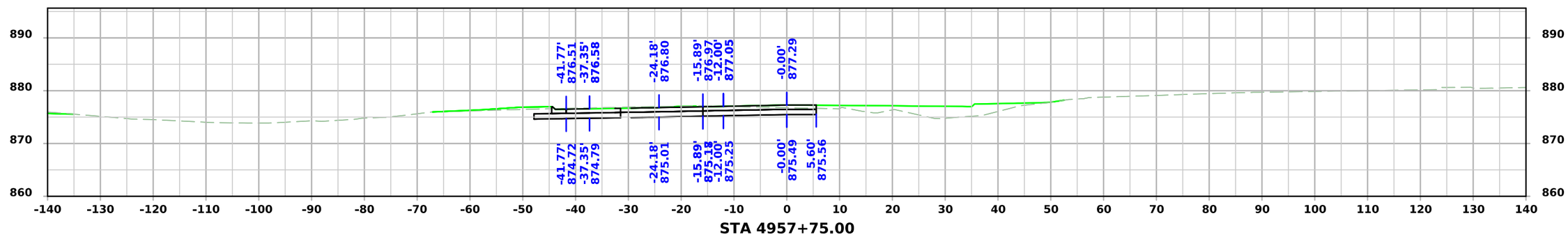
STA 4957+00.00

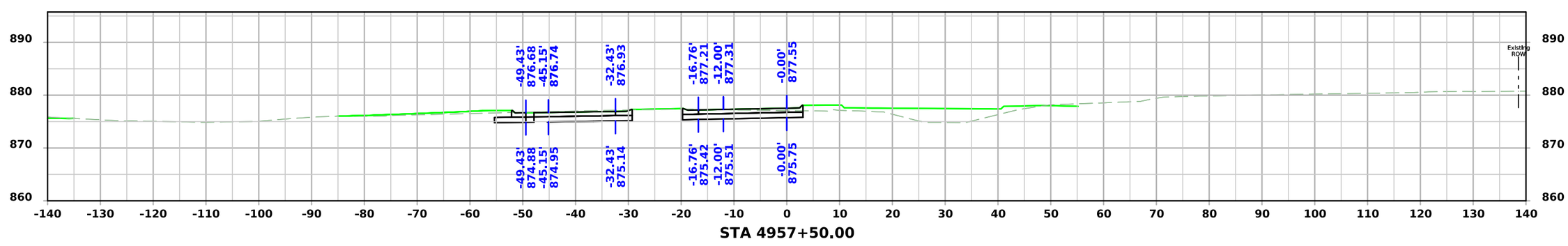


STA 4956+96.24

USH63 SB

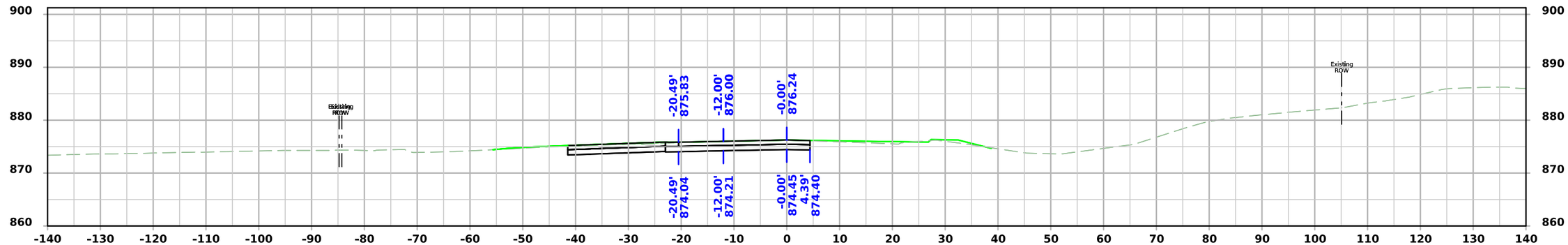




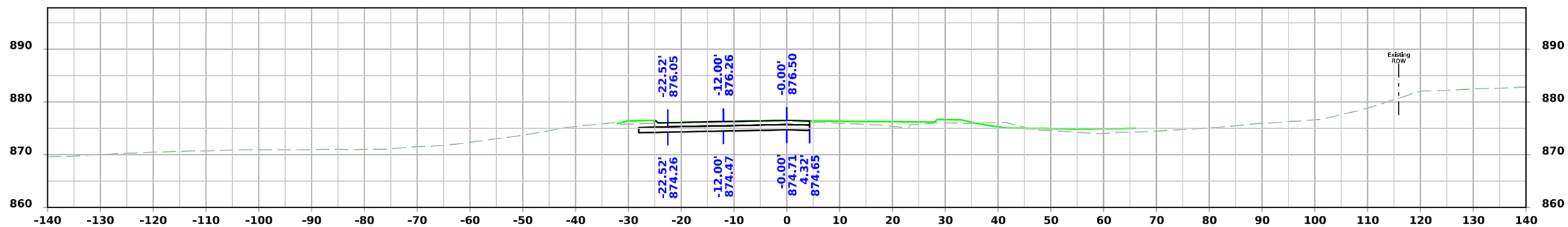


FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER W.15

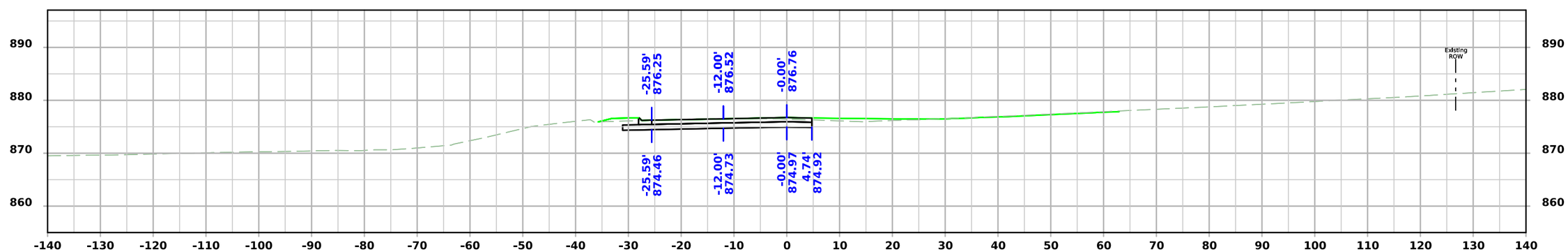
USH63 SB



STA 4958+75.00



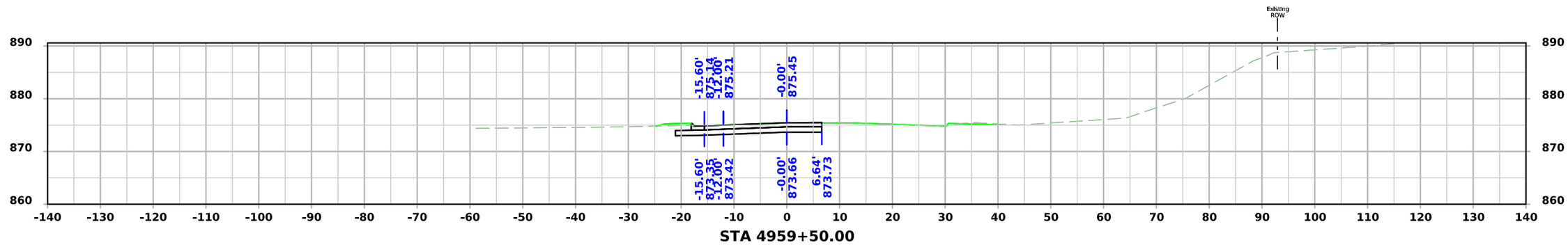
STA 4958+50.00

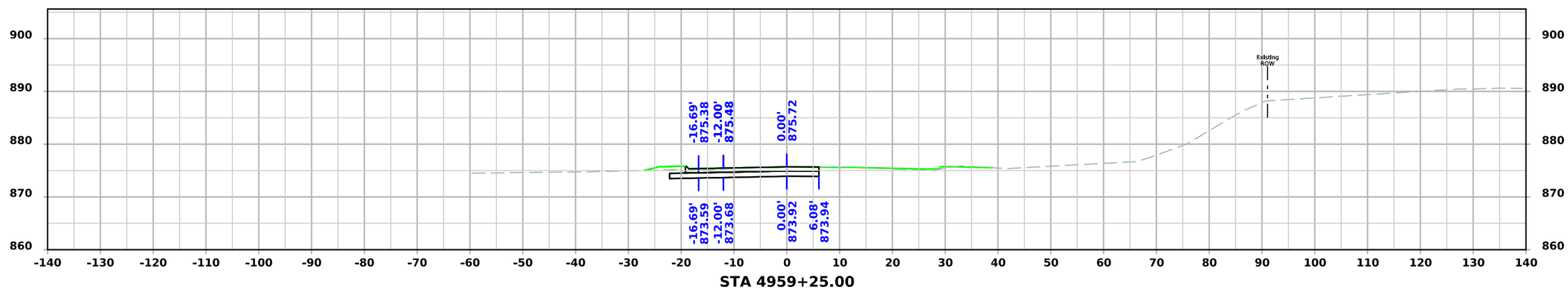


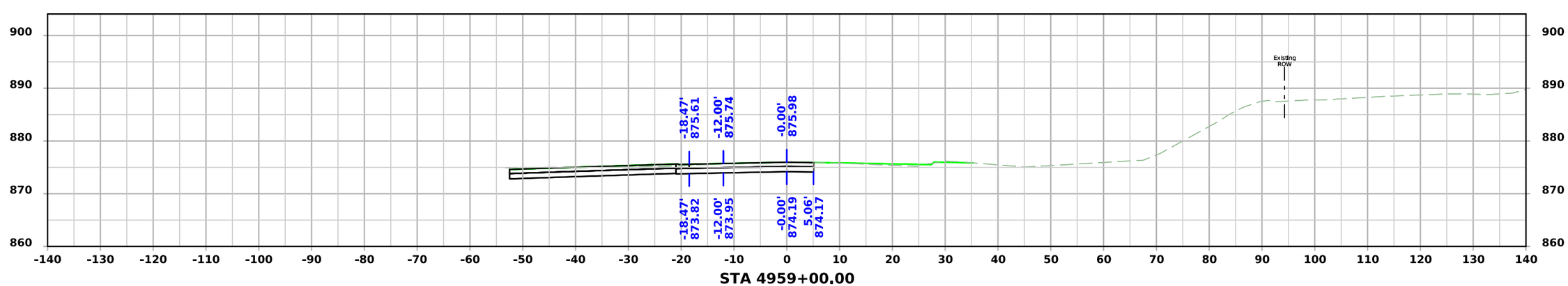
STA 4958+25.00

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER W.16

USH63 SB

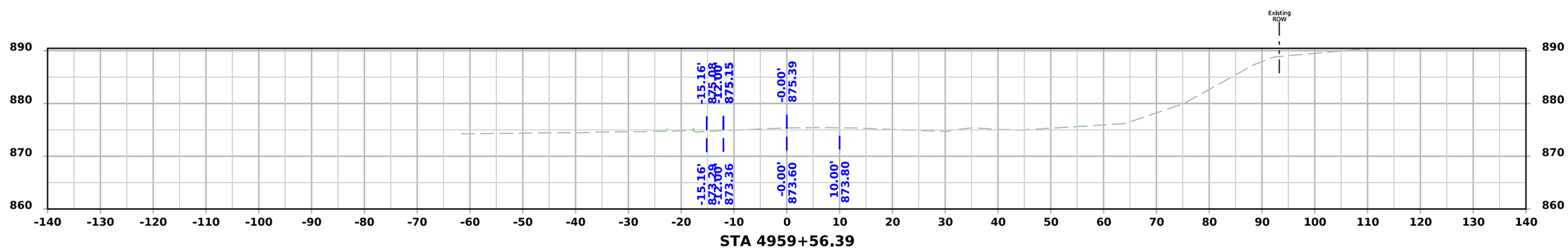






FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER W.17

USH63 SB



FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER W.18

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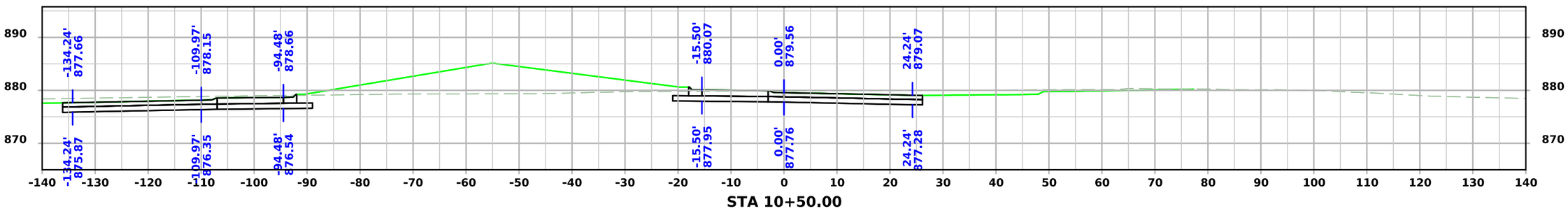
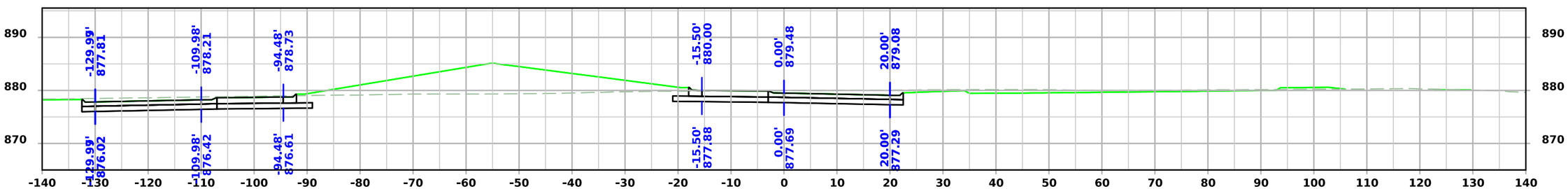
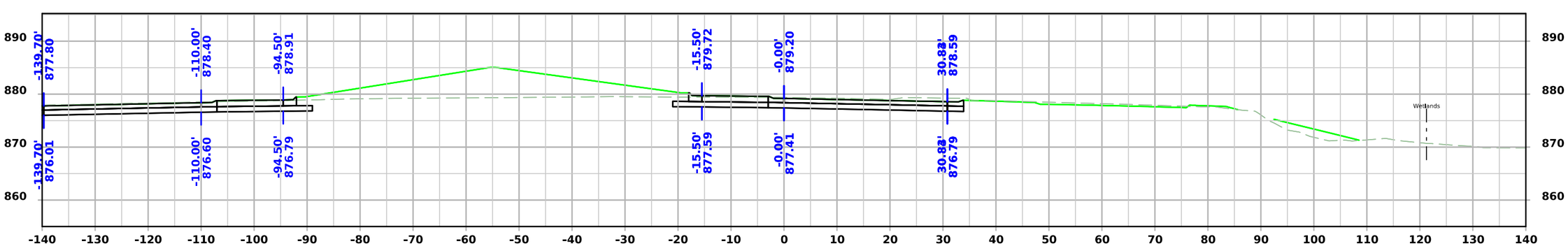
BUS30 RAB



STA 10+50.00



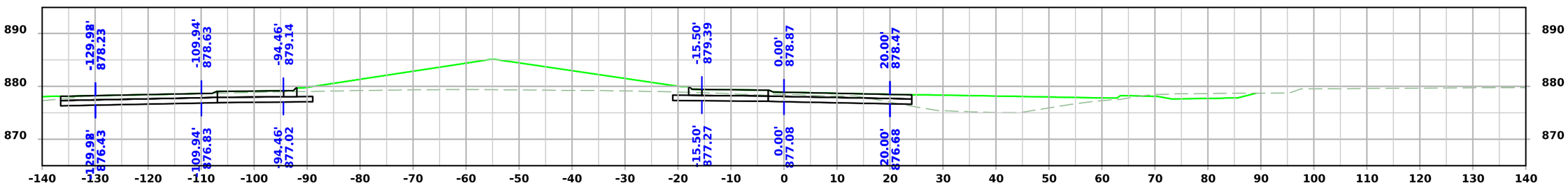
STA 10+25.00



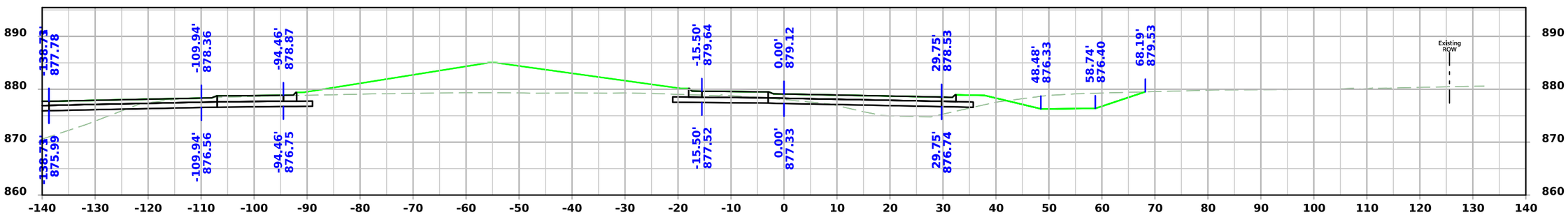
STA 10+00.00

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER W.19

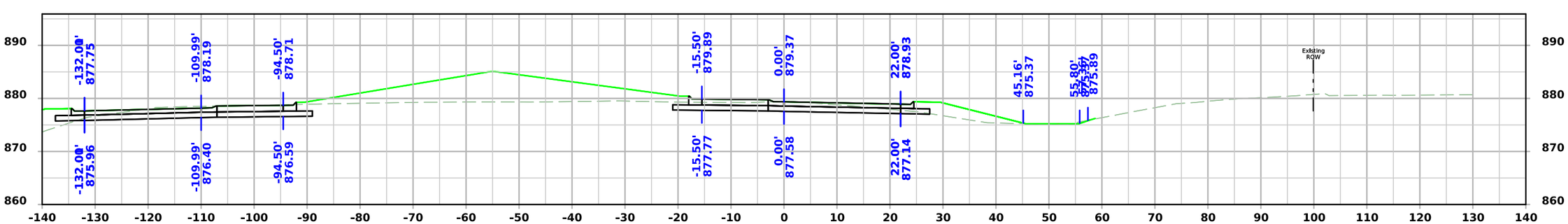
BUS30 RAB



STA 11+25.00



STA 11+00.00



STA 10+75.00

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER W.20

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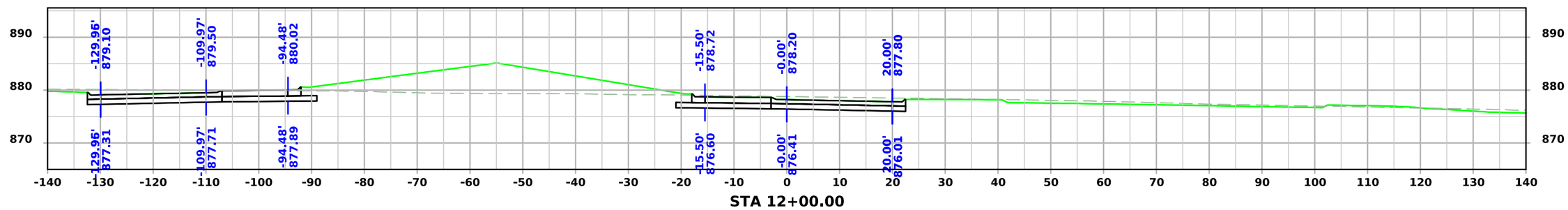
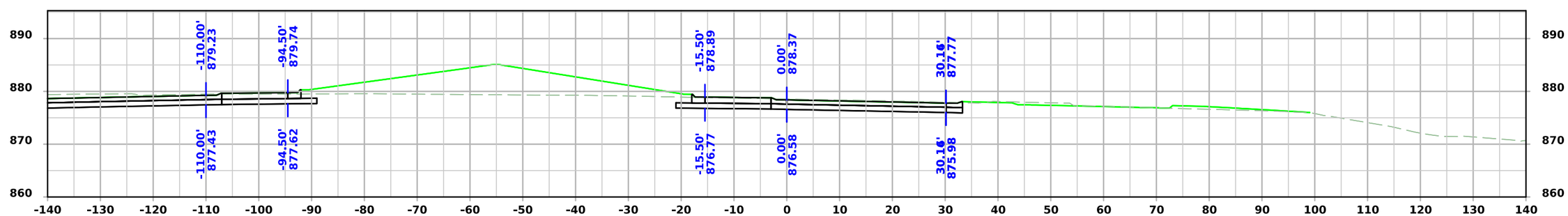
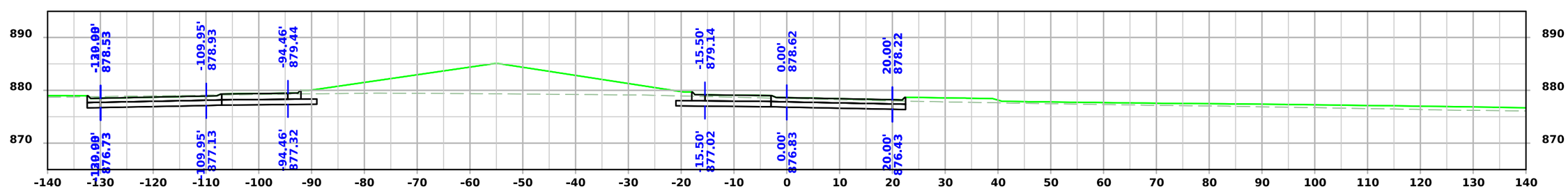
BUS30 RAB



STA 12+00.00



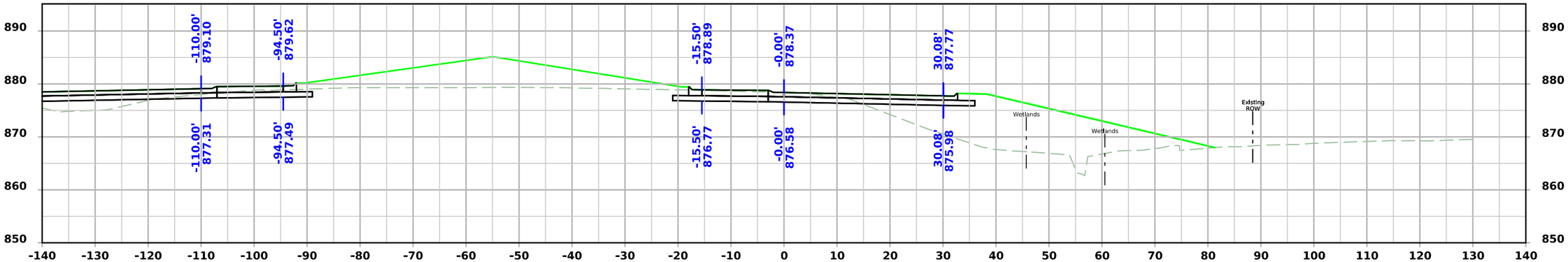
STA 11+75.00



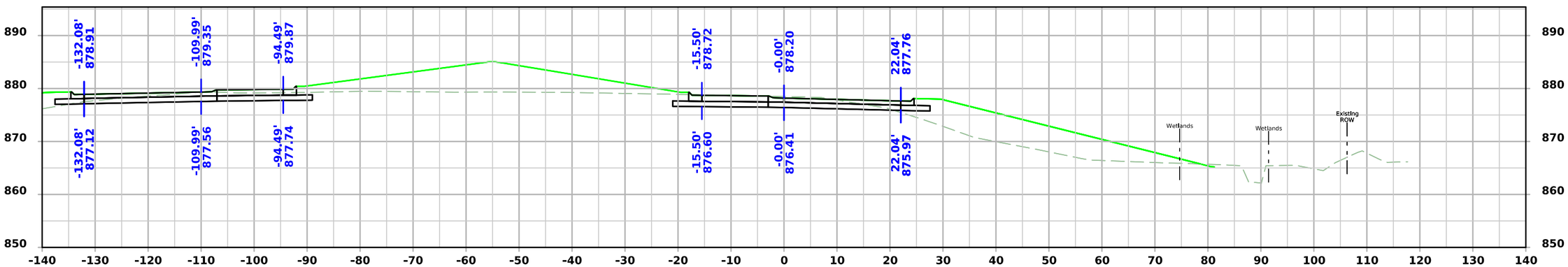
STA 11+50.00

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER W.21

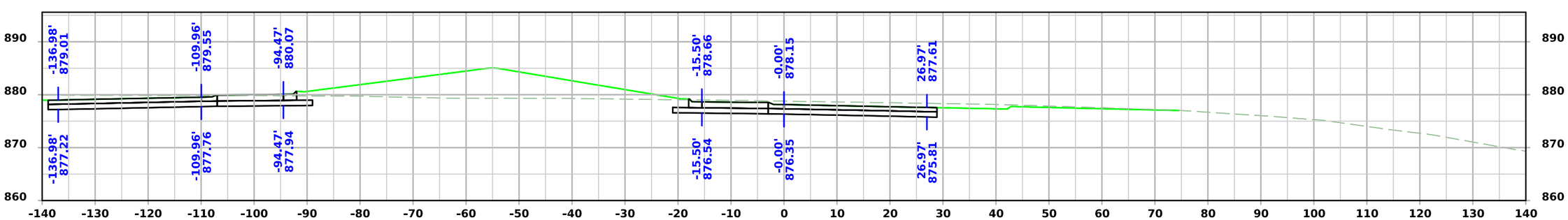
BUS30 RAB



STA 12+75.00

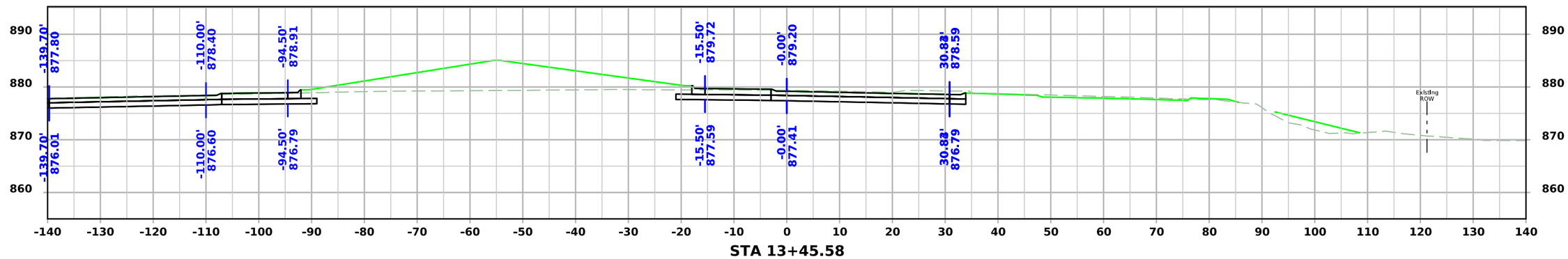


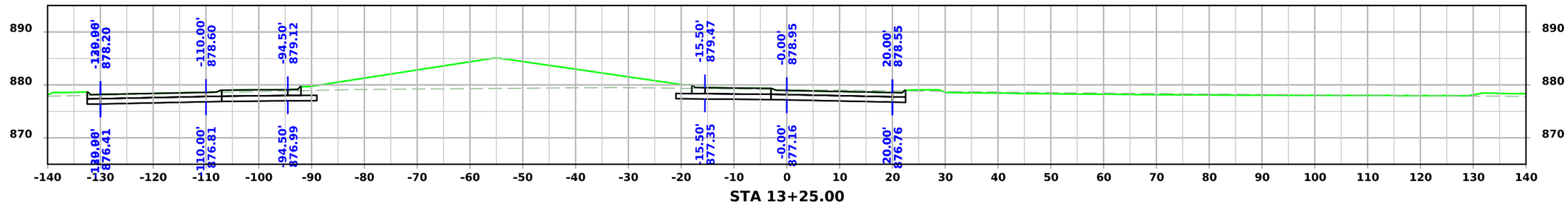
STA 12+50.00

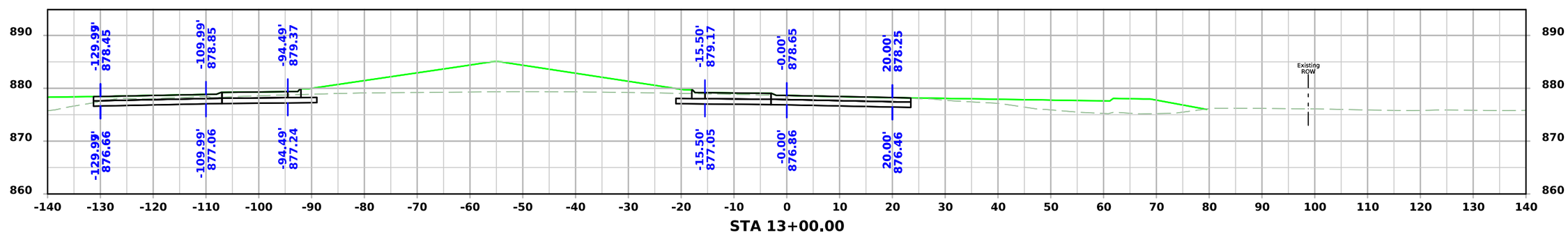


STA 12+25.00

BUS30 RAB



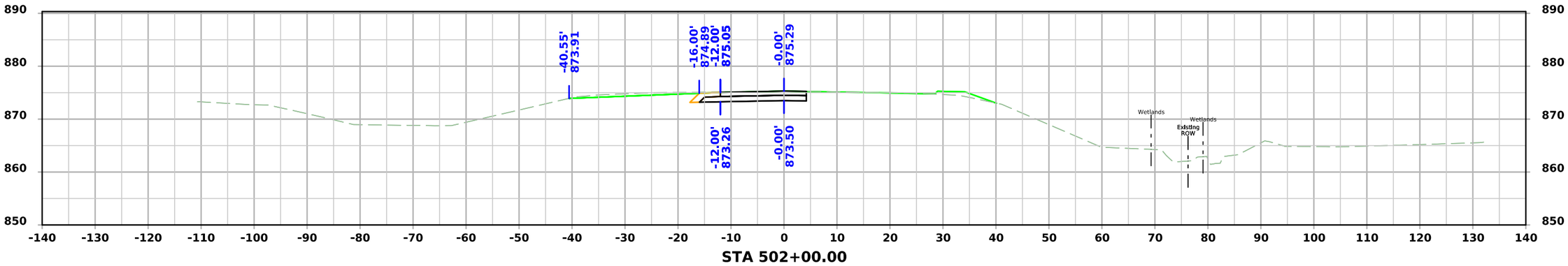


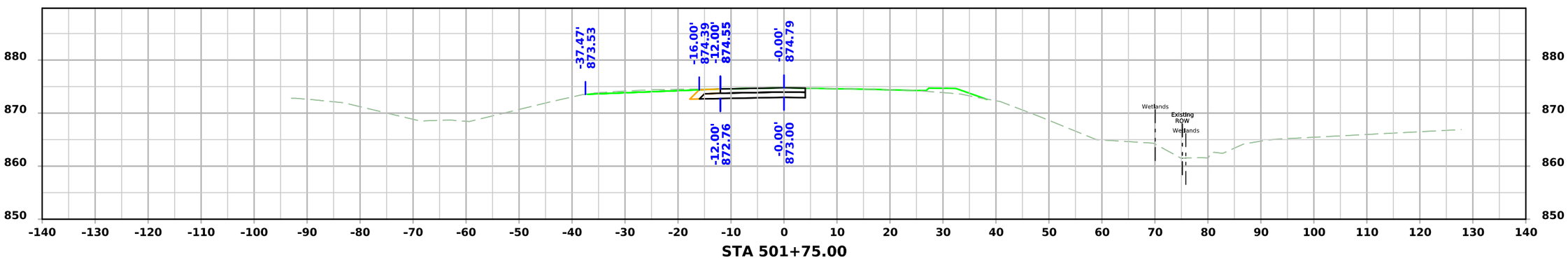


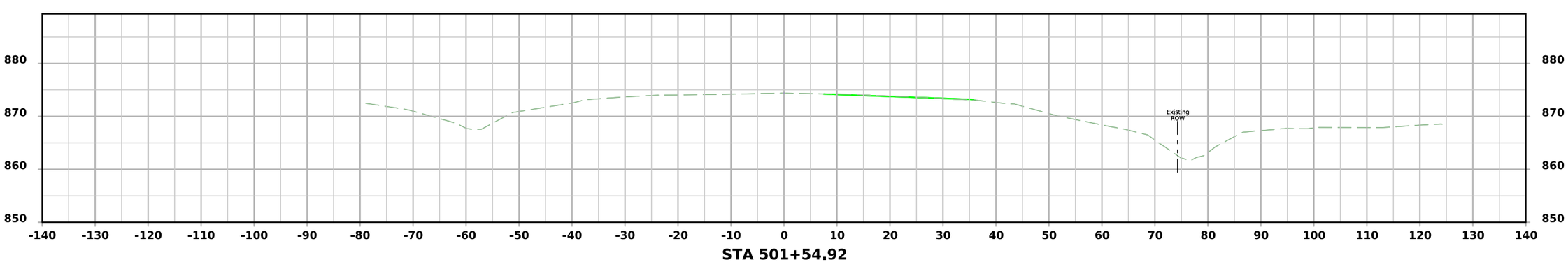
FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER W.23

4:11:47 PM 2/27/2025 crooyakkers pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\8606301024\Design\CADD_Files\Sheet_Files\SHT_86063078Z09_W05_ML030_RAB.dgn

BUS30 WB



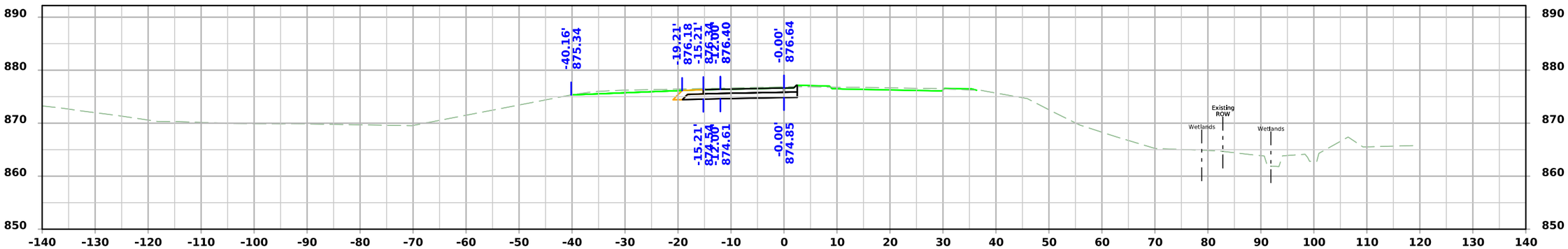




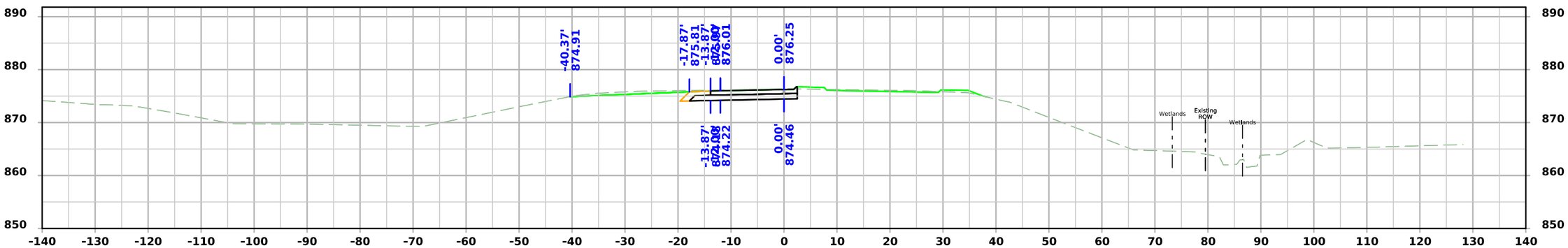
FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER X.1

4:17:25 PM 2/27/2025 crooyakkers pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\8606301024\Design\CADD_Files\Sheet_Files\SHT_86063078Z09_W02_ML030_WB.dgn

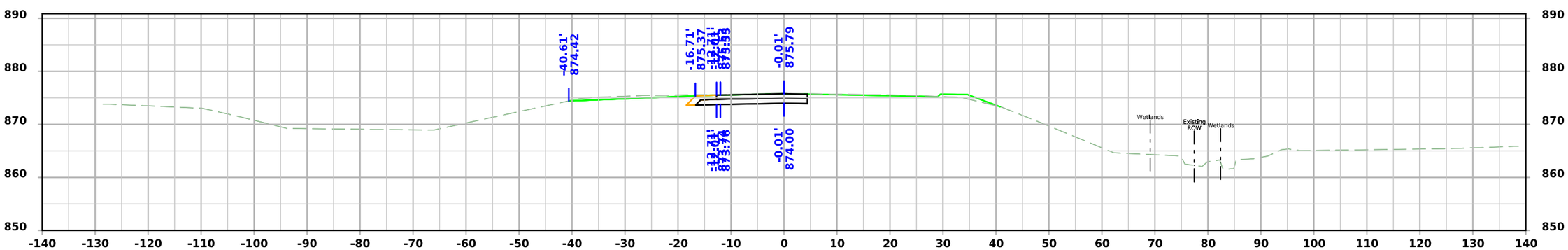
BUS30 WB



STA 502+75.00



STA 502+50.00

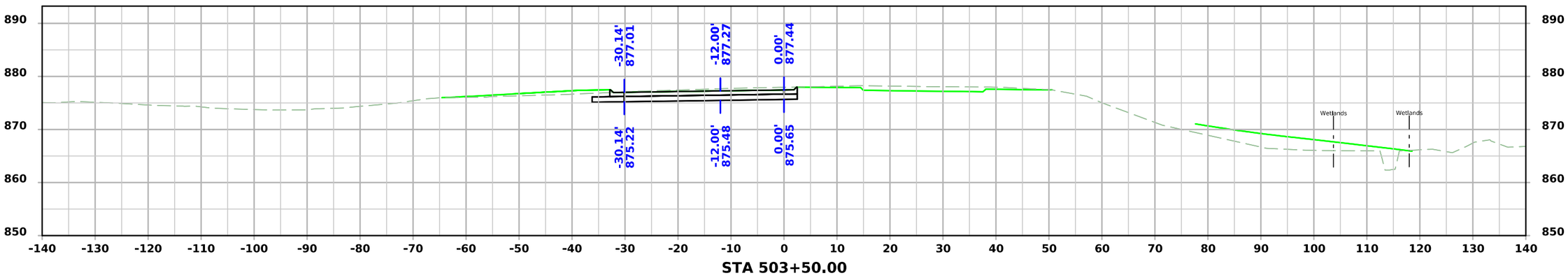


STA 502+25.00

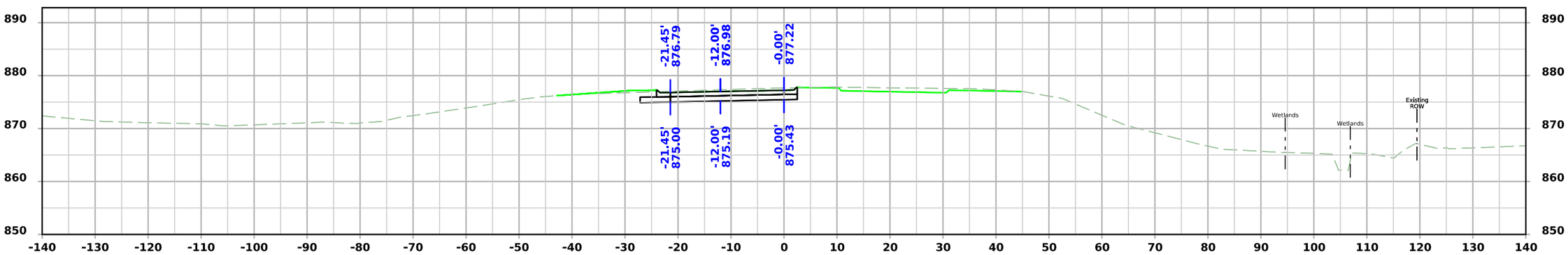
FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER X.2

4:17:27 PM 2/27/2025 crooyakkers pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\8606301024\Design\CADD_Files\Sheet_Files\SHT_86063078Z09_W02_ML030_WB.dgn

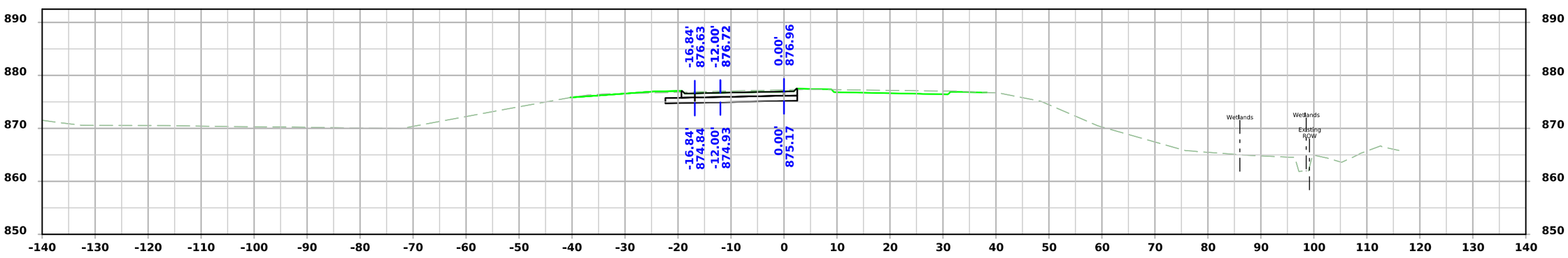
BUS30 WB



STA 503+50.00



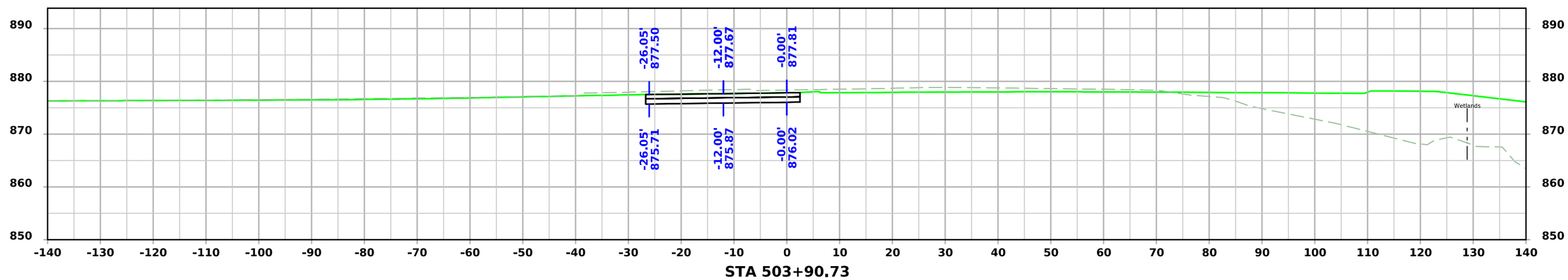
STA 503+25.00



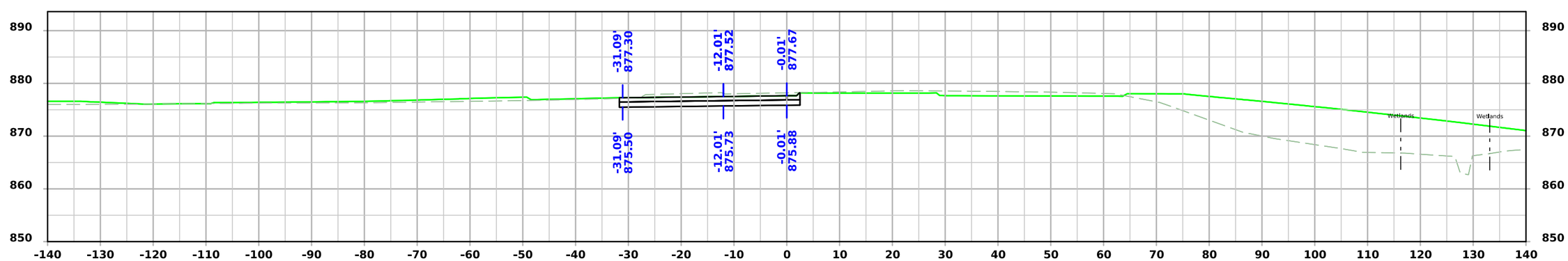
STA 503+00.00

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER X.3

BUS30 WB



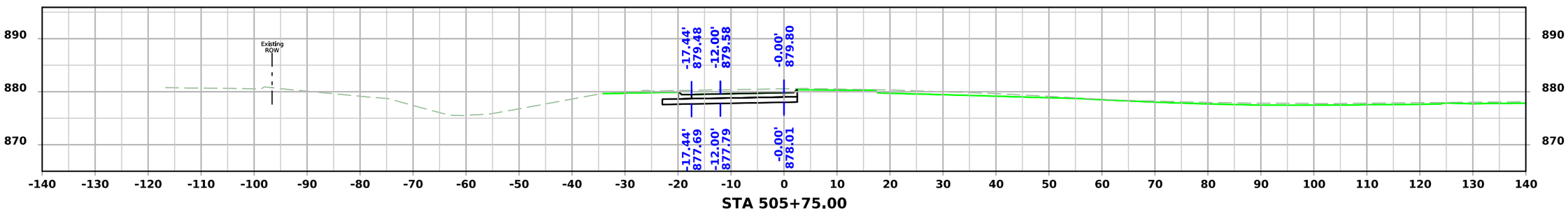
STA 503+90.73

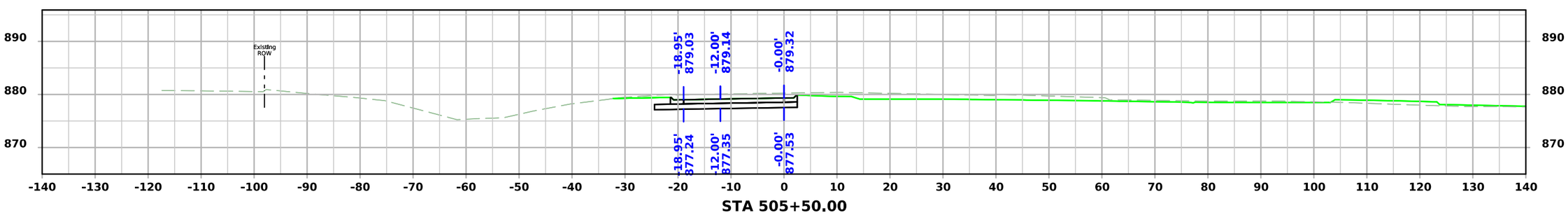


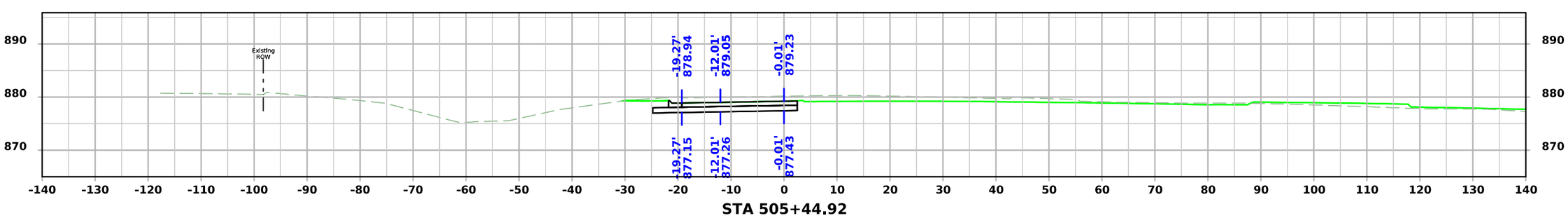
STA 503+75.00

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER X.4

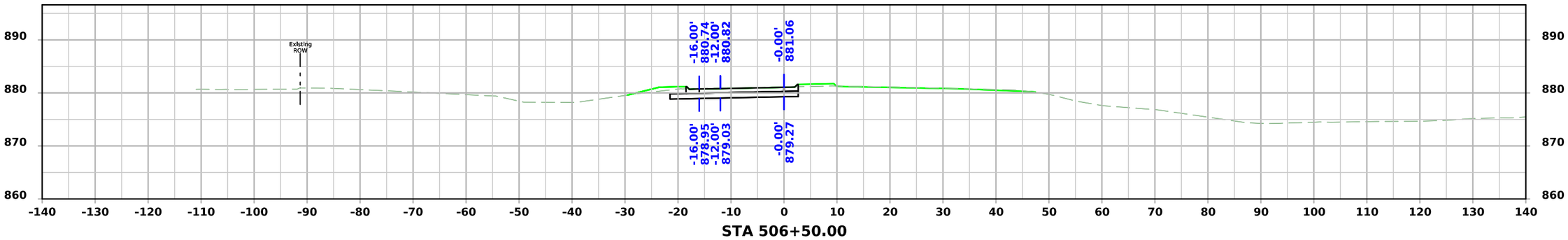
BUS30 WB


890
880
870
Existing ROW
-17.44' 879.48
-12.00' 879.58
-0.00' 879.80
-17.44' 877.69
-12.00' 877.79
-0.00' 878.01
-140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140
STA 505+75.00

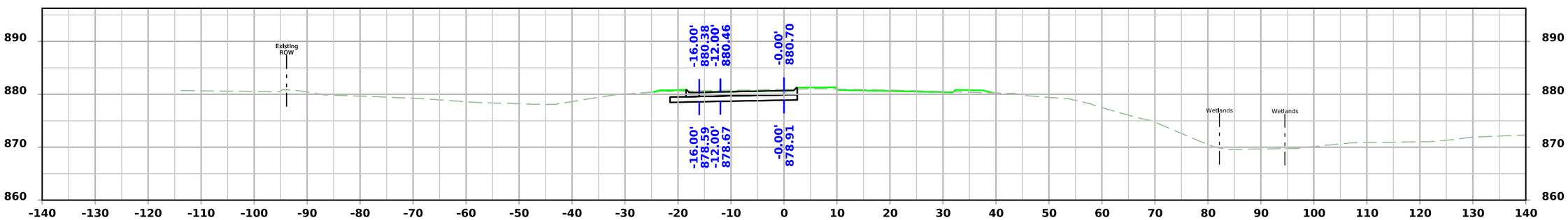

890
880
870
Existing ROW
-18.95' 879.03
-12.00' 879.14
-0.00' 879.32
-18.95' 877.24
-12.00' 877.35
-0.00' 877.53
-140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140
STA 505+50.00


890
880
870
Existing ROW
-19.27' 878.94
-12.01' 879.05
-0.01' 879.23
-19.27' 877.15
-12.01' 877.26
-0.01' 877.43
-140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140
STA 505+44.92

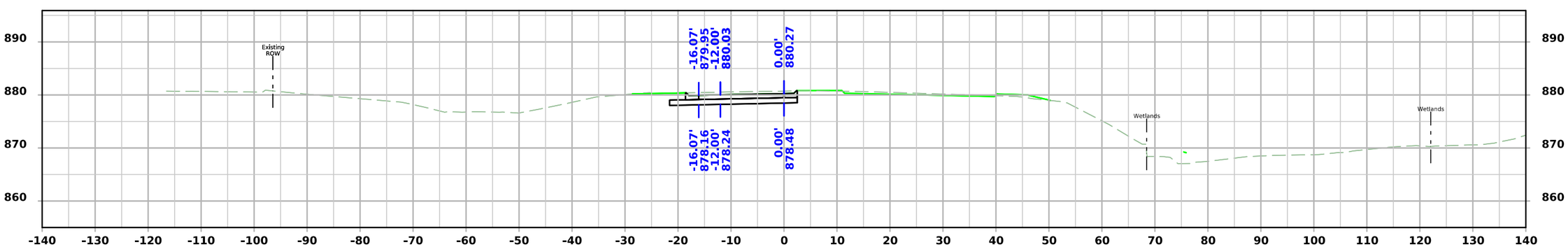
BUS30 WB



STA 506+50.00



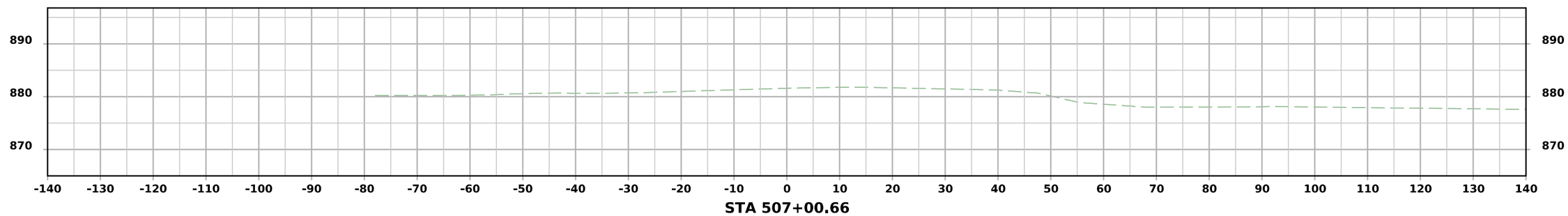
STA 506+25.00

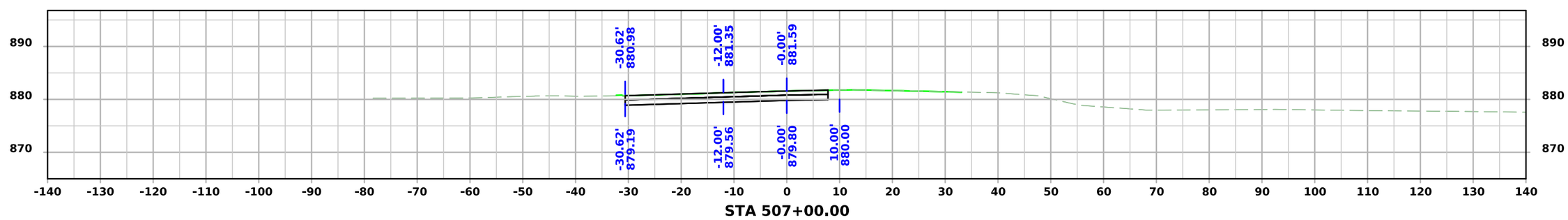


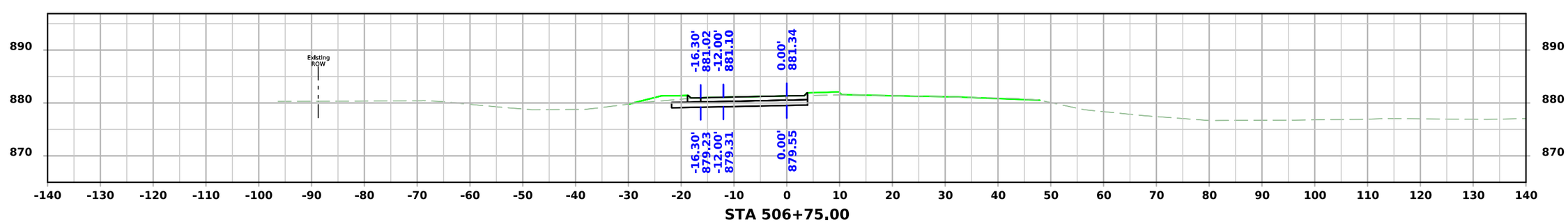
STA 506+00.00

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER X.6

BUS30 WB



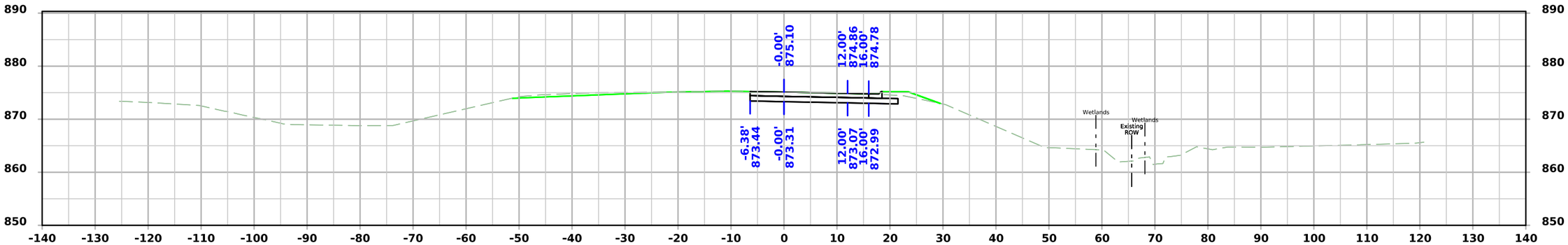




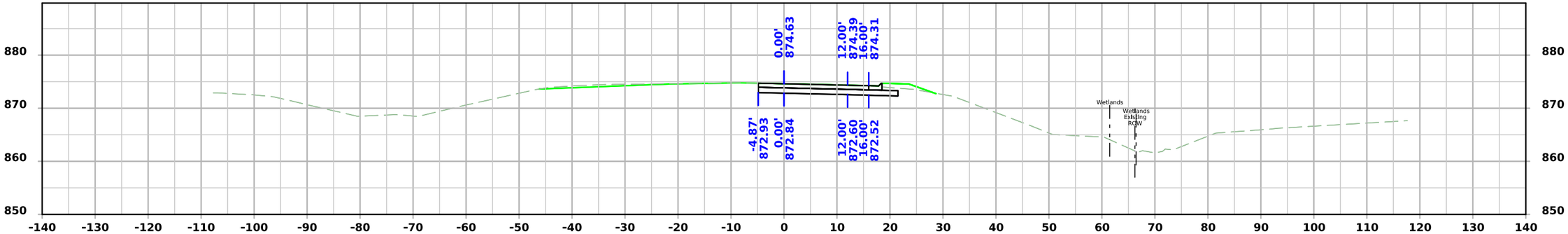
FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER X.7

4:17:37 PM 2/27/2025 crooyakkers pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\8606301024\Design\CADD_Files\Sheet_Files\SHT_86063078Z09_W02_ML030_WB.dgn

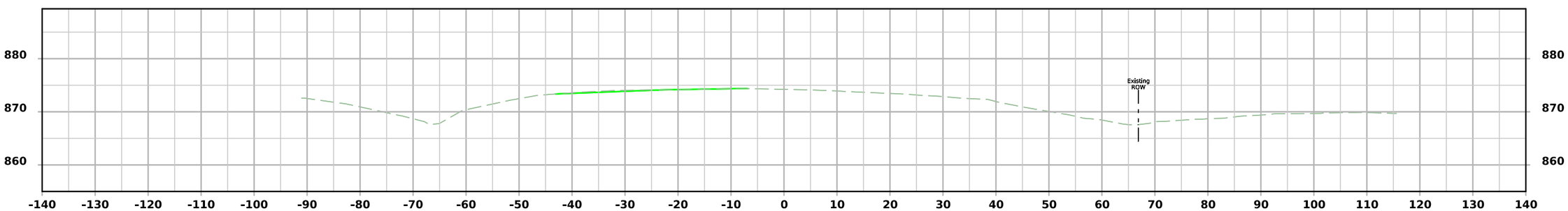
BUS30 EB



STA 502+00.00



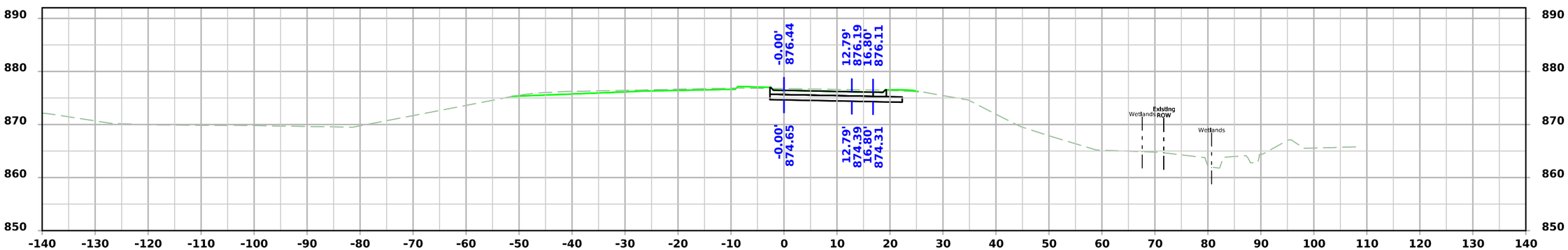
STA 501+75.00



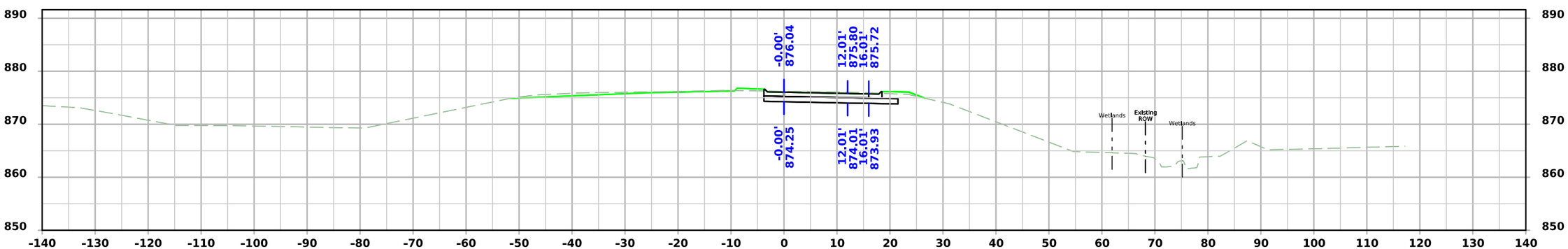
STA 501+54.88

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER X.8

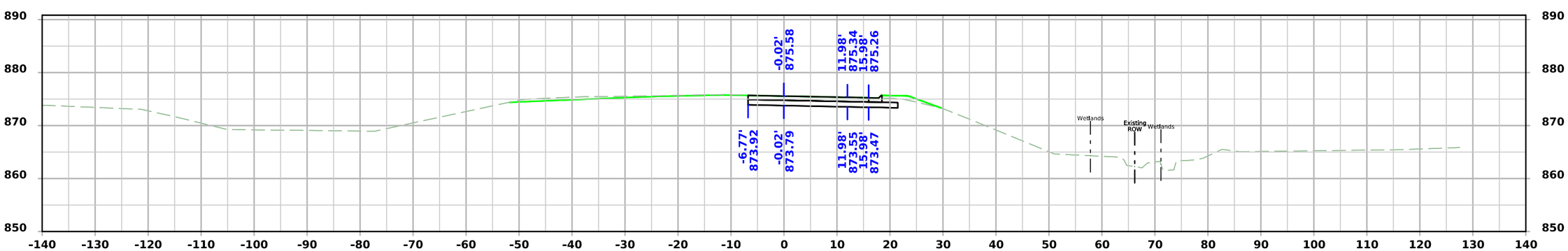
BUS30 EB



STA 502+75.00



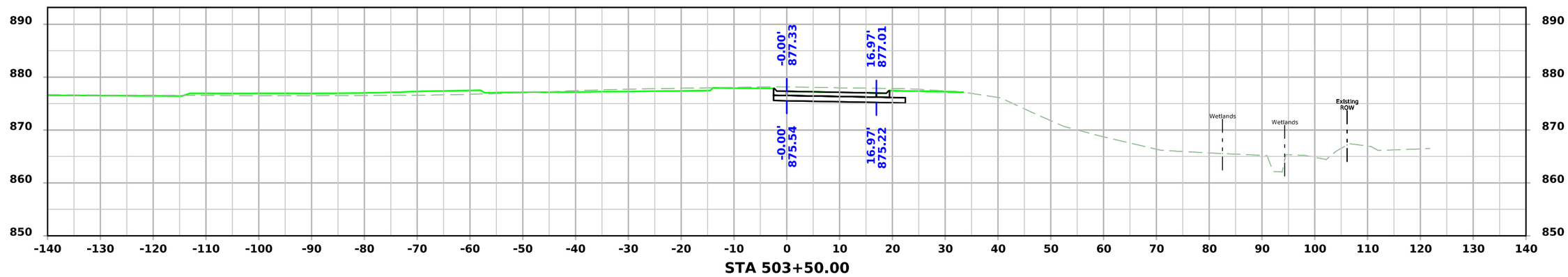
STA 502+50.00

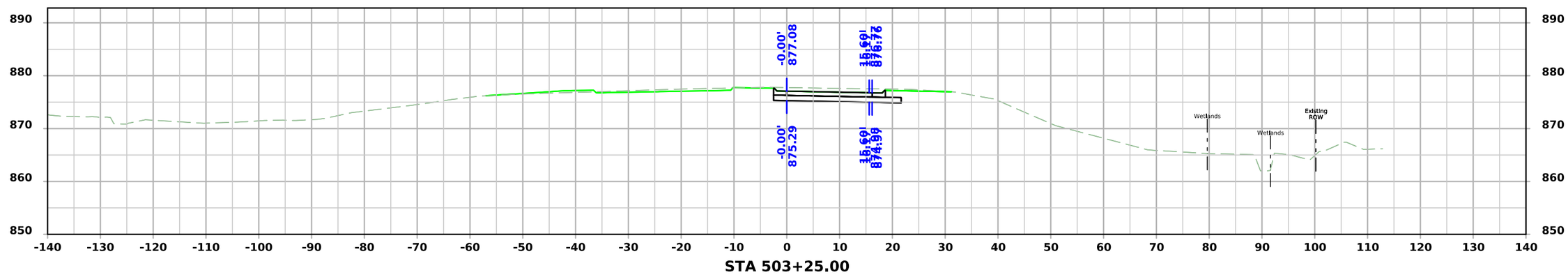


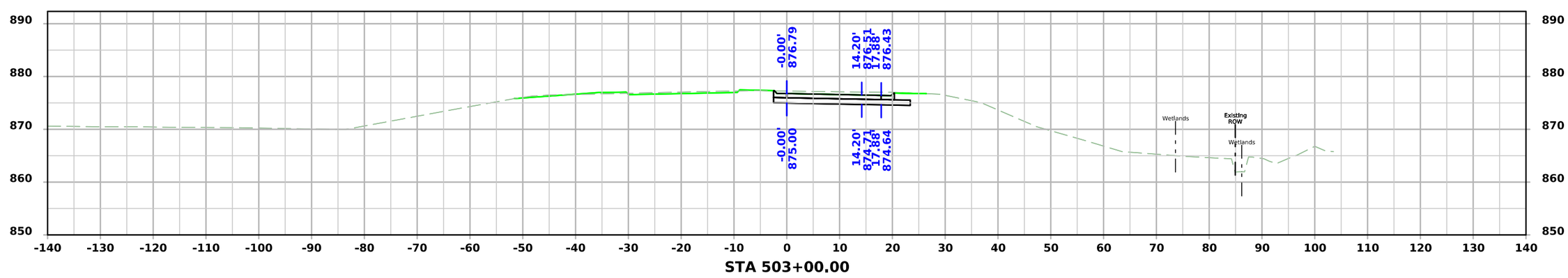
STA 502+25.00

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER X.9

BUS30 EB

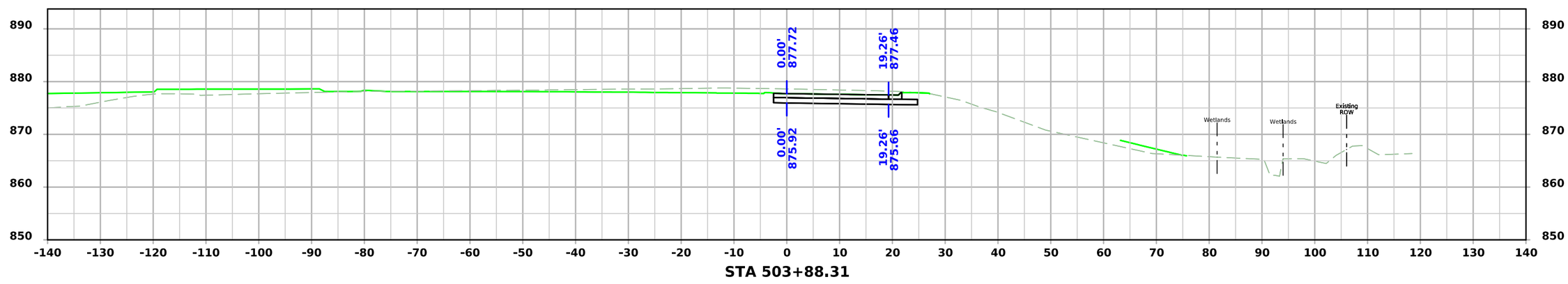


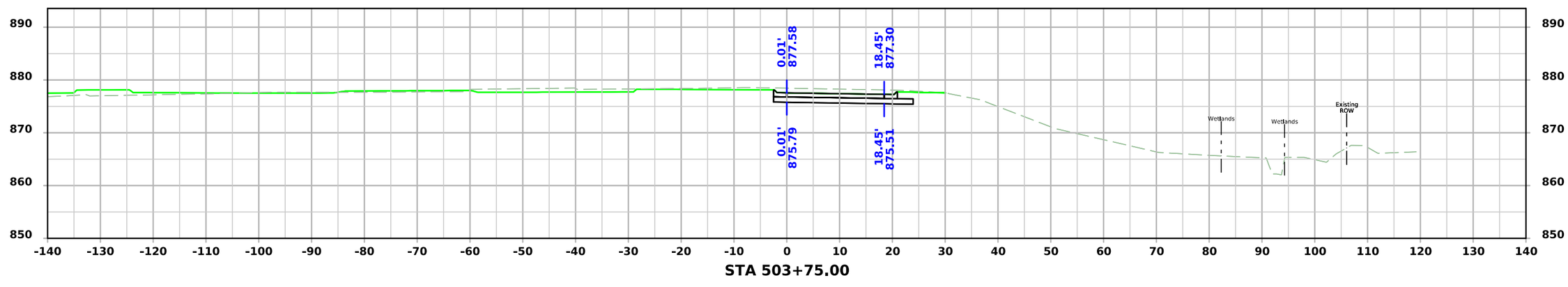




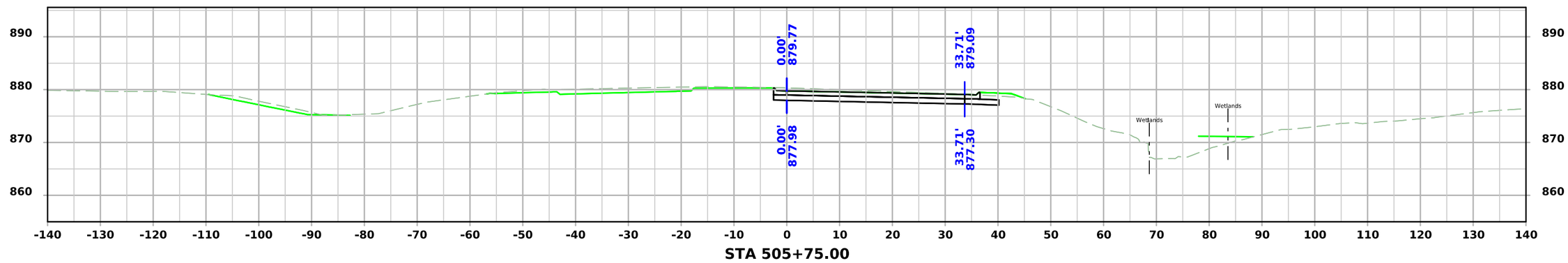
FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER X.10

BUS30 EB

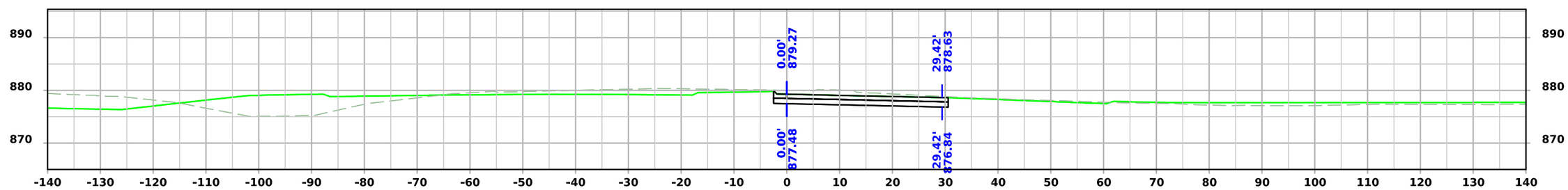

890
880
870
860
850
0.00'
877.72
19.26'
877.46
0.00'
875.92
19.26'
875.66
Wetlands
Wetlands
Existing ROW
-140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140
STA 503+88.31


890
880
870
860
850
0.01'
877.58
18.45'
877.30
0.01'
875.79
18.45'
875.51
Wetlands
Wetlands
Existing ROW
-140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140
STA 503+75.00

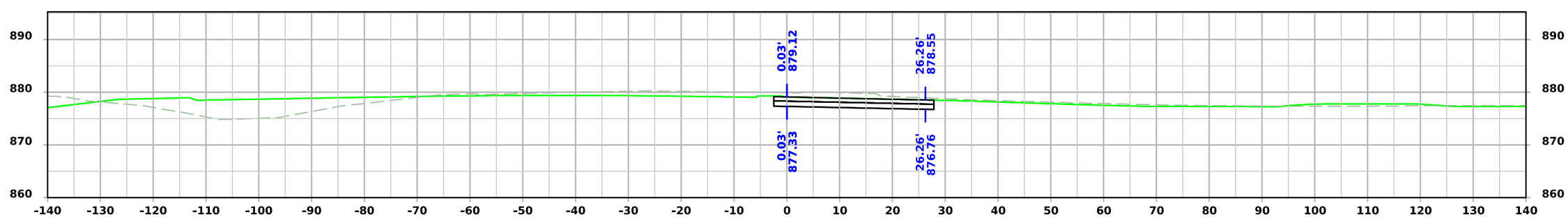
BUS30 EB



STA 505+75.00



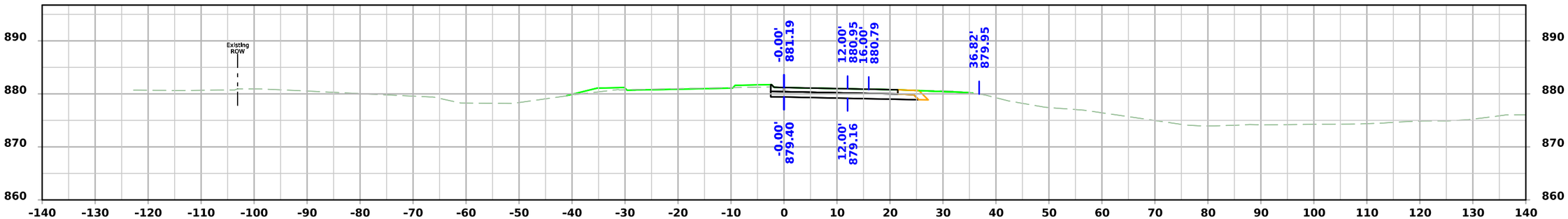
STA 505+50.00



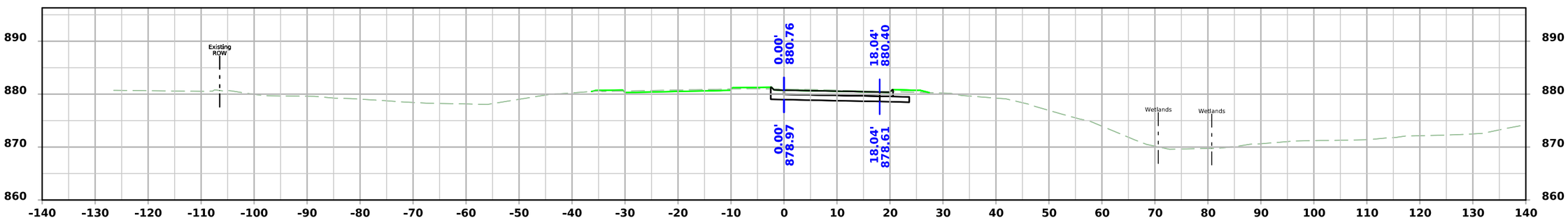
STA 505+42.50

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER X.12

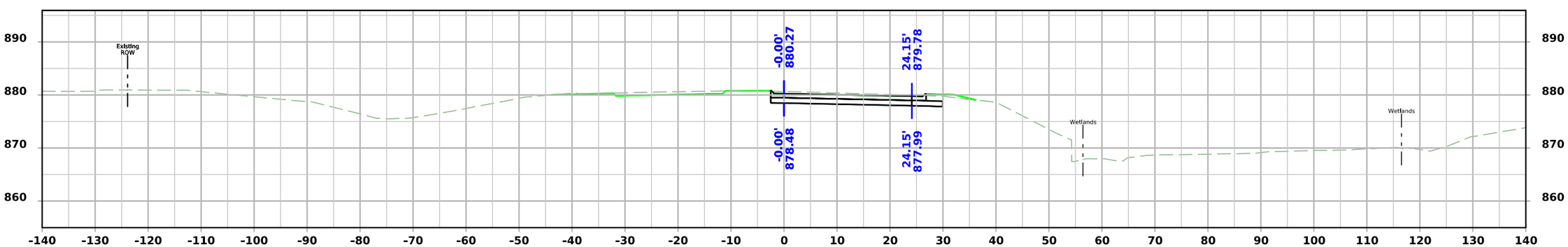
BUS30 EB



STA 506+50.00



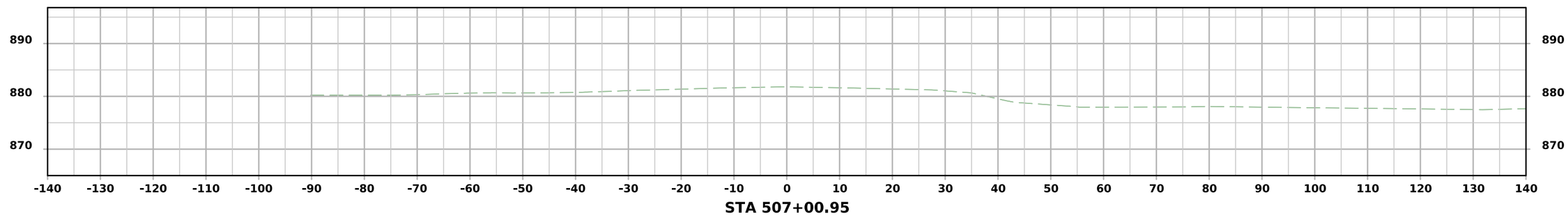
STA 506+25.00

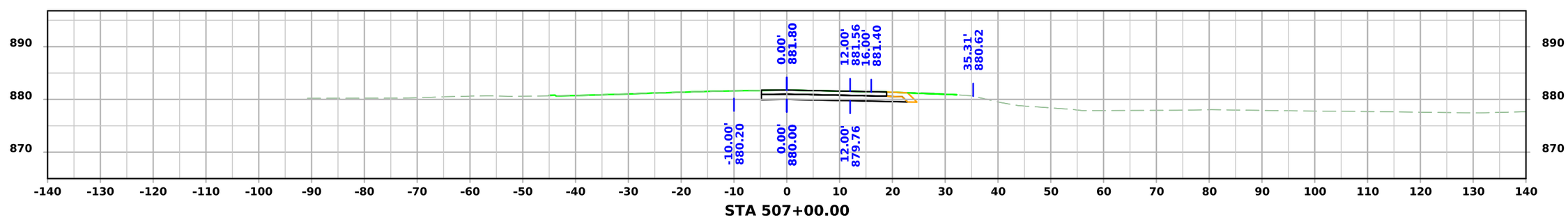


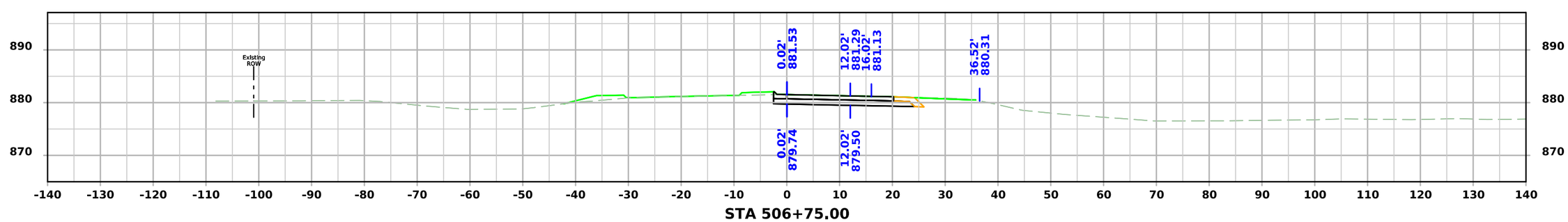
STA 506+00.00

FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER X.13

BUS30 EB







FILE NO.	ENGLISH	DESIGN TEAM MSA PROFESSIONAL SERVICES	TAMA COUNTY	PROJECT NUMBER HSIPX-063-5(078)--3L-86	SHEET NUMBER X.14