

PCC PAVEMENT WIDENING
 NHSX-141-7(42)--3H-77

POLK CO.

LETTING DATE

INDEX OF SHEETS	
No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Title Sheet
A.2	Location Map Sheet
B Sheets	Typical Cross Sections and Details
B.1 - 10	Typical Cross Sections and Details
D Sheets	Mainline Plan and Profile Sheets
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2 - 10	Iowa 141
E Sheets	Side Road Plan and Profile Sheets
* E.1	Johnson Drive
* E.2	28th Street West
* E.3	Farm Access Road
G Sheets	Survey Sheets
G.1 - 2	Reference Ties and Bench Marks
G.3 - 5	Horizontal Control Tab. & Super for all Alignments
J Sheets	Traffic Control and Staging Sheets
* J.1	Traffic Control Plan & Staging Notes
* J.2	Traffic Control & Staging Legend & Symbol Info. Sheet
* J.3	Staging Typical Sections
* J.4 - 14	Staging and Traffic Control Sheets Stage 1
* J.15 - 25	Staging and Traffic Control Sheets Stage 2
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L Sheets	Geometric, Staking and Jointing Sheets
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M Sheets	Storm Sewer Sheets
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N Sheets	Traffic Signal Sheets
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U Sheets	500 Series, Mod.Stds. and Detail Sheets
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W Sheets	Mainline Cross Sections
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X.1	Side Road Cross Sections
	* Color Plan Sheets



Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM

POLK COUNTY

PCC PAVEMENT WIDENING

IA-44 to I-35/80 Grading, Paving, RCB Culvert Extension

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.15 of the Specifications.



MILEAGE SUMMARY			
			105-1
			09-27-94
Div.	Location	Lin. Ft.	Miles
1	Urban:		
	Sta 45+96.81 to Sta 64+50.62	1,853.81	
	Sta 64+50.72 to Sta 160+47.00	9,596.28	
	Total Net Project Length	11,450.09	2.17

For Project Location Map
Refer to Sheet A.2

DESIGN DATA URBAN			
2016	AADT	33,400	V.P.D.
2036	AADT	47,900	V.P.D.
2036	DHV	4950	V.P.H.
	TRUCKS	8	%
	Total		
	Design ESALs	--	

REVISIONS

TOTAL

116

PROJECT IDENTIFICATION NUMBER

13-77-141-020

PROJECT NUMBER

NHSX-141-7(42)--3H-77

R.O.W. PROJECT NUMBER

NHSN-141-7(43)--2R-77

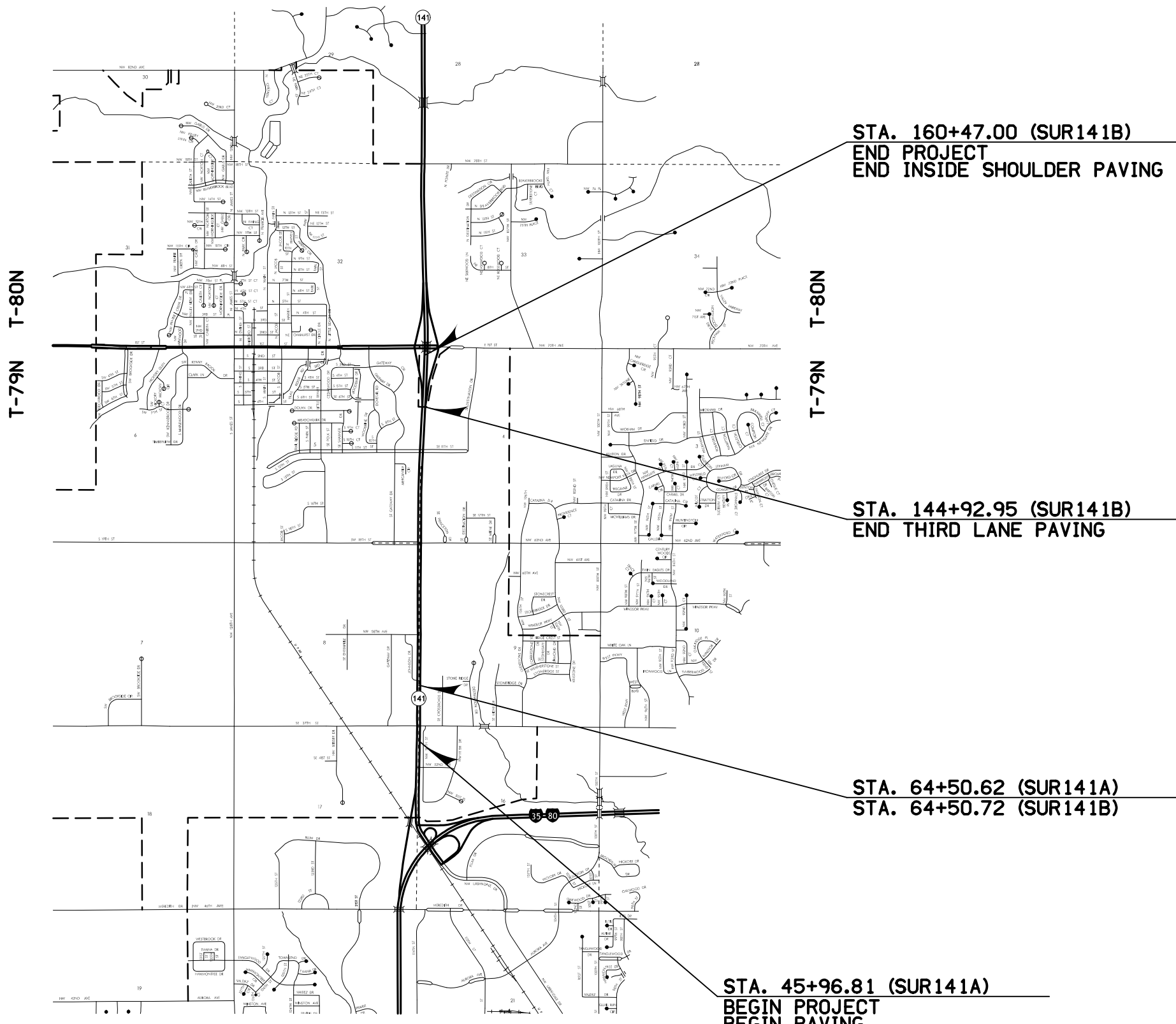
Design Speed = 60 mph
Clear Zone = 30' (Acceptable)

PRELIMINARY PLANS

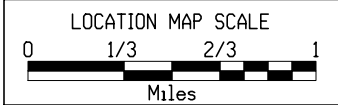
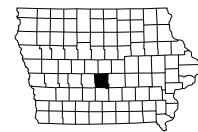
Subject to change by final design.

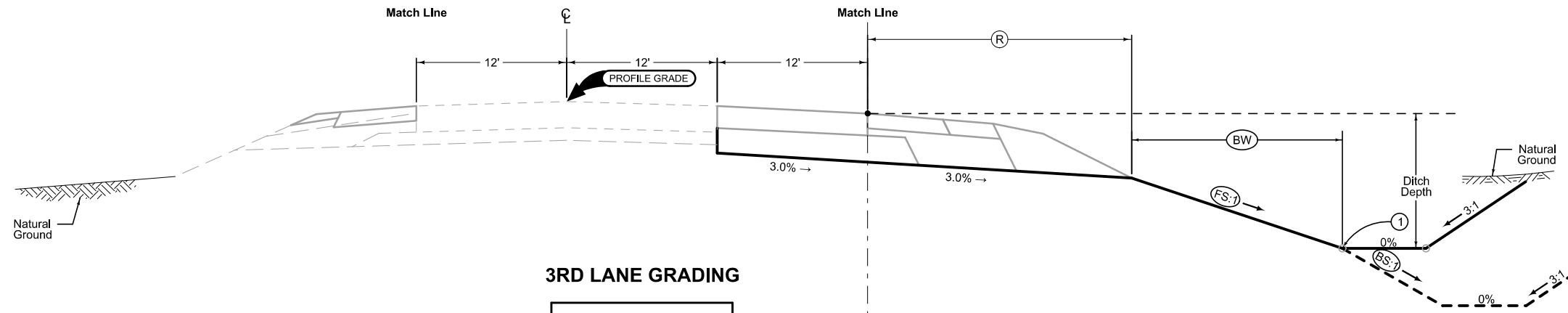
D5 PLAN - Date: 8/4/2014

R-25W



R-25W



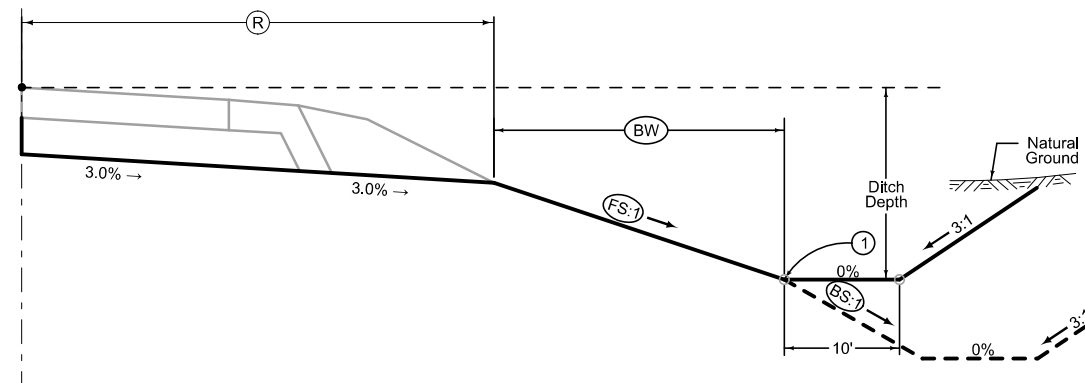


3RD LANE GRADING

STATION TO STATION	
60+46.17	64+50.62

**OUTSIDE SHOULDER GRADING
(BARNROOF SECTION)**

STATION TO STATION		(R) Feet	(BW) Feet	(FS)	(BS)
60+46.17	60+89.00	25.38-21.07	4.62-8.93	6-4	3.5-3
60+89.00	64+50.62	21.07	8.93	4	3



**AUXILIARY LANE GRADING
(BARNROOF SECTION)**

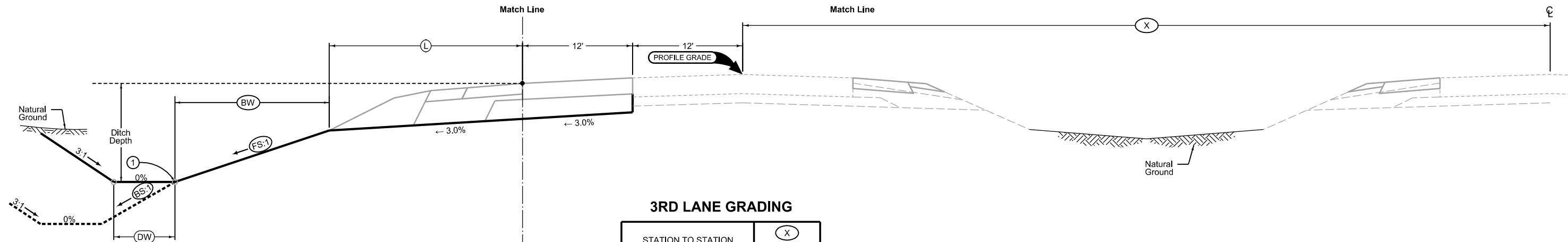
STATION TO STATION		(R) Feet	(BW) Feet	(FS)	(BS)
45+96.81	46+86.81	23.32-25.06	6.68-4.94	5-5.87	3
46+86.81	47+45.00	25.06-24.94	4.94-5.06	5.87-4	3
47+45.00	47+76.81	24.94-27.07	5.06-2.93	4	3
47+76.81	51+50.74	27.07	2.93	4	4
51+50.74	51+76.81	27.07-32.66	2.93-0	4	4

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

See Tab XXX-XX for pavement quantities.

See Tab XXX-X for shoulder quantities.

SUR 141 A WB

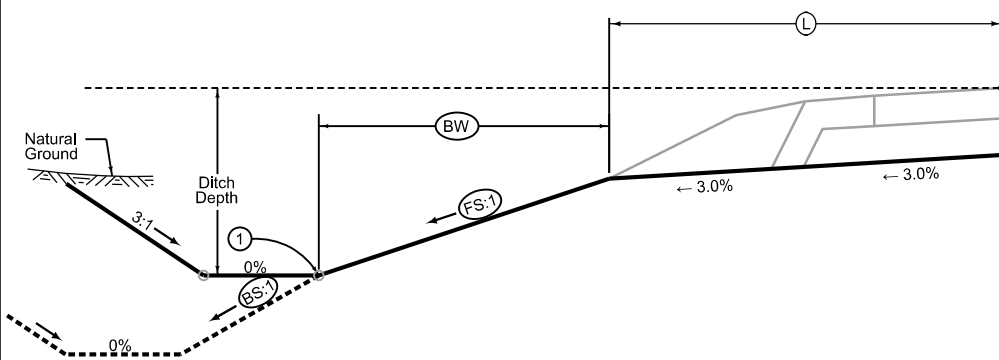


3RD LANE GRADING

STATION TO STATION		(X) Feet
60+52.82	64+50.62	84.2 - 88

**OUTSIDE SHOULDER GRADING
(BARNROOF SECTION)**

STATION TO STATION		(BW) Feet	(L) Feet	(DW) Feet	(FS) Feet	(BS) Feet
60+52.82	62+42.04	8.93	21.07	-	4	3
62+42.04	62+72.04	8.93-0.4	21.07-29.6	5	4-7.7	3
62+72.04	62+83.21	0.4-1.1	29.6-28.9	5	7.7-7.4	3
62+83.21	63+12.81	1.1-8.93	28.9-21.07	5	7.4-4	3
63+12.81	63+94.10	8.93	21.07	5	4	3



**AUXILARY LANE GRADING
(BARNROOF SECTION)**

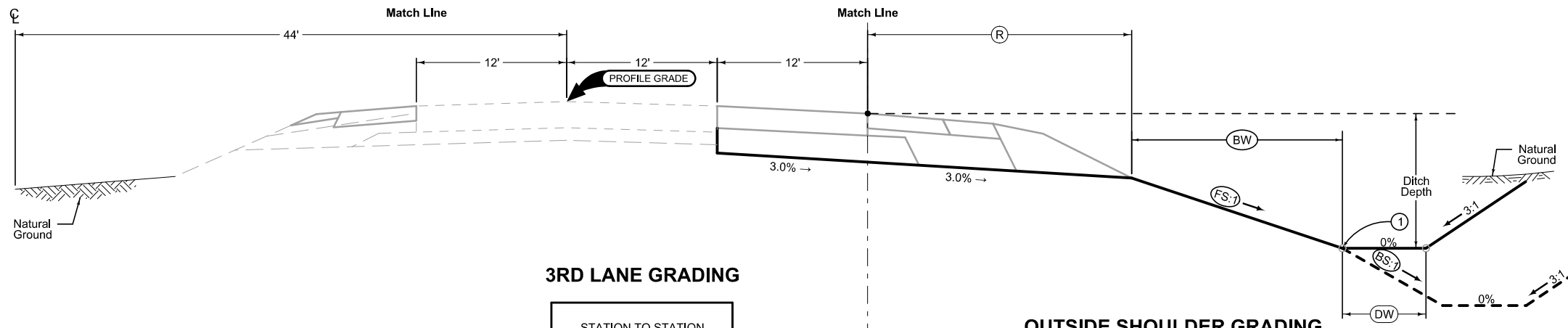
STATION TO STATION		(BW) Feet	(L) Feet	(FS) Feet	(BS) Feet
63+94.10	64+06.25	8.52	21.48	4	3
64+06.25	64+50.62	8.52-11	21.48-19	4	3-3.86

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

See Tab XXX-XX for pavement quantities.

See Tab XXX-X for shoulder quantities.

SUR 141 A EB

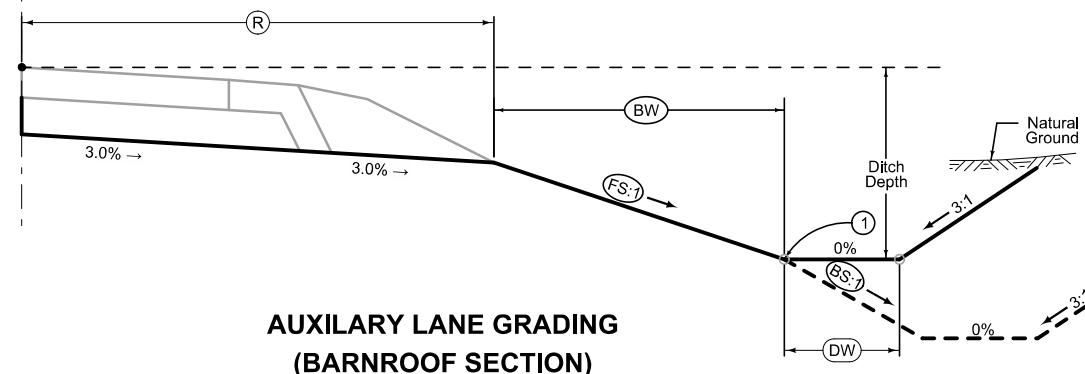


3RD LANE GRADING

STATION TO STATION	
64+50.72	76+26.27
79+57.49	99+75.22
106+07.71	125+87.71
132+42.98	144+92.95

**OUTSIDE SHOULDER GRADING
(BARNROOF SECTION)**

STATION TO STATION		(BW) Feet	(R) Feet	(DW) Feet	(FS) Feet	(BS) Feet
64+50.72	74+50.00	8.93	21.07	10	4	3
74+50.00	75+00.00	8.93-4.62	21.07-25.38	10	4-6	3-3.5
76+00.00	76+26.27	4.62-5.06	25.38-24.94	10	6	3.5
76+26.27	78+24.76	5.06	24.94	10	6	3.5
81+08.90	95+30.00	8.93	21.07	-	4	3
95+30.00	95+50.00	8.93-4.62	21.07-25.38	-	4-6	3-3.5
95+50.00	98+85.22	4.62	25.38	-	6	3.5
107+47.71	111+50.00	4.62	25.38	-	6	6
111+50.00	112+00.00	4.62-8.93	25.38-21.07	-	6-4	6-3
112+00.00	125+67.71	8.93	21.07	5	4	3
125+67.71	125+87.71	8.93-4.62	21.07-25.38	-	4-6	3-3.5
125+87.71	130+55.00	5.05	24.95	-	6	3.5
130+55.00	130+77.36	5.05-9.2	24.95-20.8	-	6-4	3.5-3
130+77.36	130+98.45	9.2	20.8	-	4	3
134+02.98	144+92.95	8.93	21.07	0.8-10.9	4	3



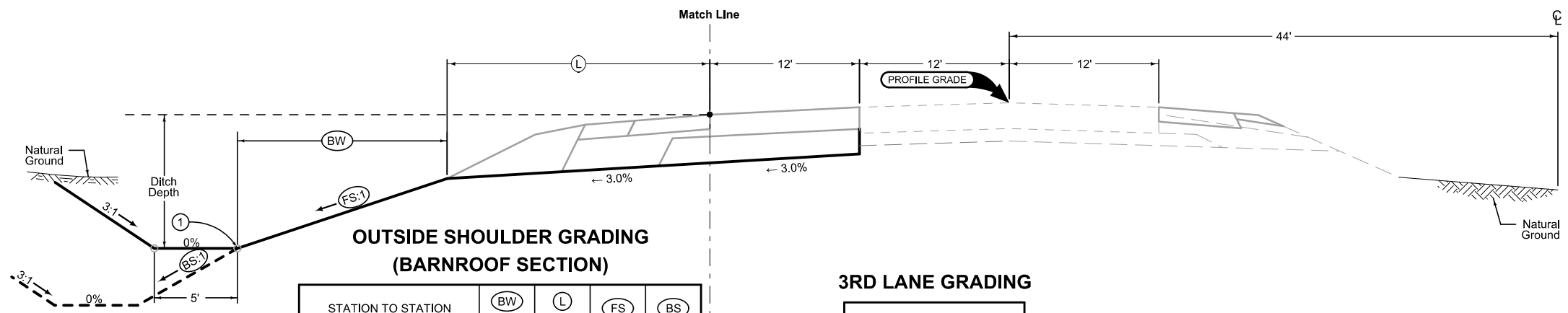
**AUXILIARY LANE GRADING
(BARNROOF SECTION)**

STATION TO STATION		(BW) Feet	(R) Feet	(DW) Feet	(FS) Feet	(BS) Feet
80+39.65	80+89.65	11.25-8.52	18.75-21.48	-	4	3
80+89.65	81+08.90	8.52	21.48	-	4	3
98+85.22	99+75.22	3.97	26.03	-	6	3.5
99+75.22	100+05.05	3.97-2.32	26.03-27.68	-	6	3.5
100+05.05	100+25.05	2.32-0	27.68-34.49	5	6-20.41	3.5-3
100+25.44	100+36.16	0	34.49-34.56	5	20.41-20.58	3
100+36.16	100+65.22	0-2.66	34.56-27.34	5	20.58-4	3
100+65.22	103+65.22	2.66	27.34	5	4	3
103+65.22	104+15.22	2.66-5.39	27.34-24.61	5	4	3
106+81.78	107+47.71	11.25-3.96	18.75-26.04	-	4-6	4-6
133+38.03	133+88.03	11.25-8.52	18.75-21.48	9.5-10.3	4	3
133+88.03	134+02.98	8.52	21.48	9.5-9.4	4	3

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

See Tab XXX-XX for pavement quantities.
See Tab XXX-X for shoulder quantities.

SUR 141 B WB

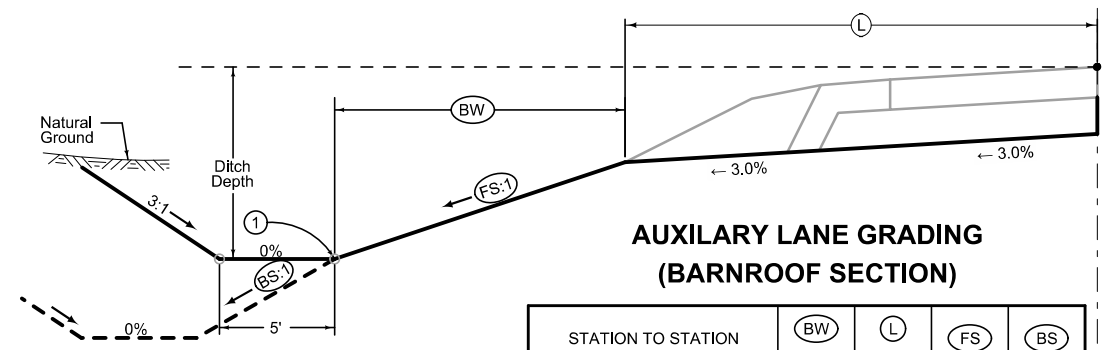


**OUTSIDE SHOULDER GRADING
(BARNROOF SECTION)**

STATION TO STATION		BW Feet	L Feet	FS	BS
66+29.97	66+79.97	11.66-8.93	18.34-21.07	4	3
66+79.97	76+84.86	8.93	21.07	4	3
84+30.00	92+40.00	4.62	25.38	6	3.5
92+40.00	92+60.00	4.62-8.93	25.38-21.07	6 - 4	3.5 - 3
92+60.00	100+98.11	8.93	21.07	4	3
100+98.11	101+38.11	8.93 - 0	21.07-37.11	4	3
101+38.11	101+49.22	0	37.11-36.97	4	3
101+49.22	101+89.24	0 - 8.93	36.97-21.07	4	3
101+89.24	103+23.18	8.93	21.07	4	3
111+79.88	128+73.00	8.93	21.07	4	3
128+73.00	129+03.00	8.93 - 0	21.07-32.82	4 - 13.55	3
129+03.00	129+51.10	0	32.82-32.16	13.55-11.59	3
137+53.57	144+59.69	4.62	25.38	6	3.5

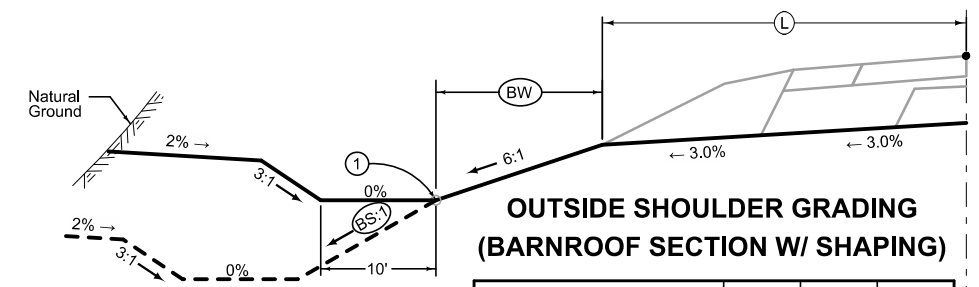
3RD LANE GRADING

STATION TO STATION	
64+50.72	78+57.21
79+31.97	105+07.75
111+69.88	131+22.34
137+33.57	144+59.69



**AUXILIARY LANE GRADING
(BARNROOF SECTION)**

STATION TO STATION		BW Feet	L Feet	FS	BS
64+50.72	64+56.25	11 - 11.25	19 - 18.75	4	3.86 - 4
76+84.86	77+50.82	8.52-5.92	21.48-24.08	4 - 6	3 - 6
103+23.18	103+88.99	10.19	15.34-17.87	4	3 - 4
106+49.88	106+99.88	0.58-2.93	29.42-27.07	6 - 4	3.5 - 3
106+99.88	109+99.88	2.93	27.07	4	3
109+99.88	110+89.88	2.93-8.93	27.07-21.07	4	3
110+89.88	111+79.88	8.93-8.52	21.07-21.48	4	3
129+51.10	130+16.49	0 - 5.92	31.24-24.08	11.59 - 6	3 - 6
132+73.57	133+23.57	5.66-2.93	24.34-27.07	4	3
133+23.57	135+73.57	2.93	27.07	4	3
135+73.57	136+63.57	2.93-4.62	27.07-25.38	4 - 6	3 - 3.5
136+63.57	137+53.57	4.62-3.97	25.38-26.03	6	3.5



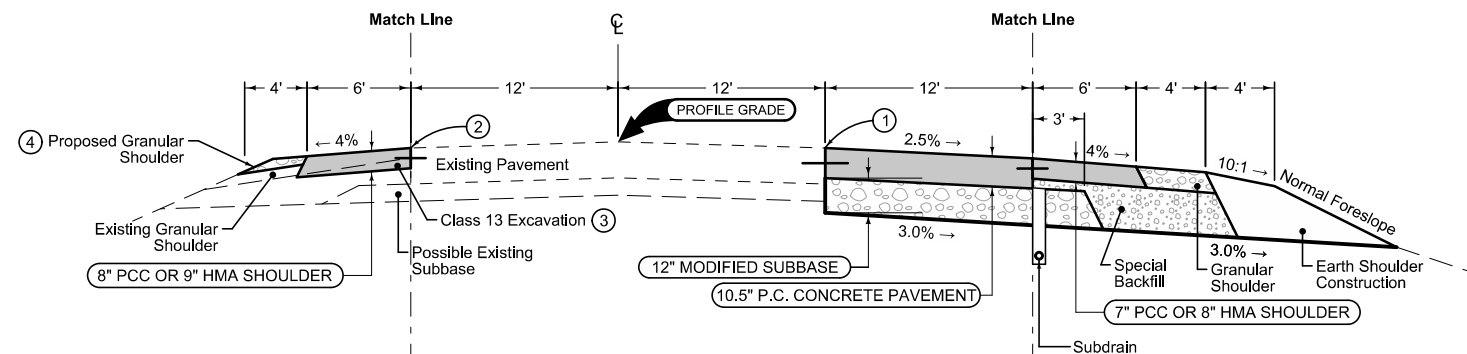
**OUTSIDE SHOULDER GRADING
(BARNROOF SECTION W/ SHAPING)**

STATION TO STATION		BW Feet	L Feet	BS
79+73.14	80+23.14	6.58-4.62	23.42-25.38	6 - 3.5
80+23.14	84+30.00	4.62	25.38	3.5

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

See Tab XXX-XX for pavement quantities.
See Tab XXX-X for shoulder quantities.

SUR 141 B EB



- ② Match existing pavement and provide a vertical edge.
- ③ Windrow the class 13 excavation material onto the remaining portion of the granular shoulder.
- ④ Blade and shape the windrowed Class 13 Excavation material to build up the existing shoulder upon completion of the new paved shoulder.

Retrofit Paved Shoulder Alternates

PCC Shoulder Jointing:
 Longitudinal joint: BT-3
 Transverse joints: C at 20' spacing
 HMA Shoulder Jointing:
 Longitudinal joint: B

STATION TO STATION	
53+19.06	64+50.62

3RD LANE PAVING

Mainline Jointing:
 Transverse joints: CD at 20' spacing
 Longitudinal joint: BT-4

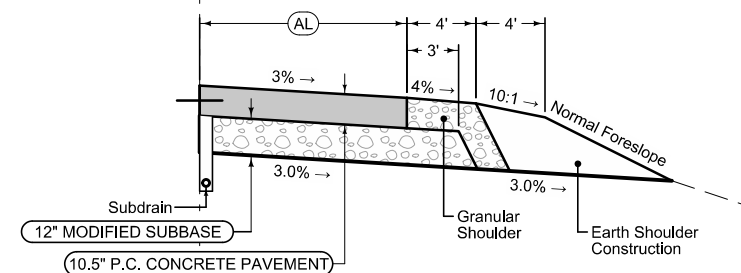
STATION TO STATION	
60+46.17	64+50.62

Combination, Paved Shoulder Alternates

PCC Shoulder Jointing:
 Longitudinal joint: BT-1 or BT-5
 Transverse joints: C at 20' spacing
 HMA Shoulder Jointing:
 Longitudinal joint: B

STATION TO STATION	
60+46.17	64+50.62

- ① Match existing pavement. Remove the existing 2' paved widening unit and provide a vertical edge. Removal of the 2' paved widening unit shall be bid as "Removal of Pavement."



Auxiliary Lane w/ Granular Shoulder

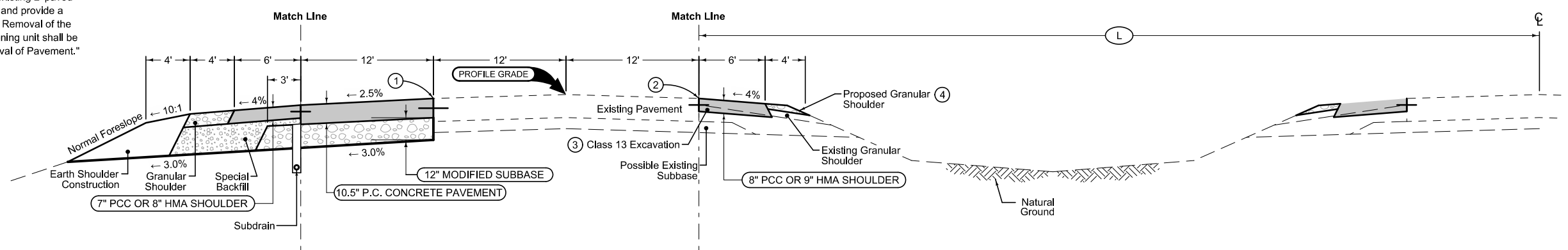
Longitudinal joint: L-2 or KT-2
 Transverse joint: Match Mainline

STATION TO STATION		AL Feet
45+96.81	46+86.81	6.0
46+86.81	47+76.81	6.0 - 12.0
47+76.81	51+76.81	12.0

See Tab XXX-XX for pavement quantities.
 See Tab XXX-X for shoulder quantities.

SUR 141 A WB

① Match existing pavement. Remove the existing 2' paved widening unit and provide a vertical edge. Removal of the 2' paved widening unit shall be bid as "Removal of Pavement."



Combination, Paved Shoulder Alternates

PCC Shoulder Jointing:
 Longitudinal joint: BT-1 or BT-5
 Transverse joints: C at 20' spacing
 HMA Shoulder Jointing:
 Longitudinal joint: B

STATION TO STATION	
60+52.82	63+94.10

3RD LANE PAVING

Mainline Jointing:
 Transverse joints: CD at 20' spacing
 Longitudinal joint: BT-4

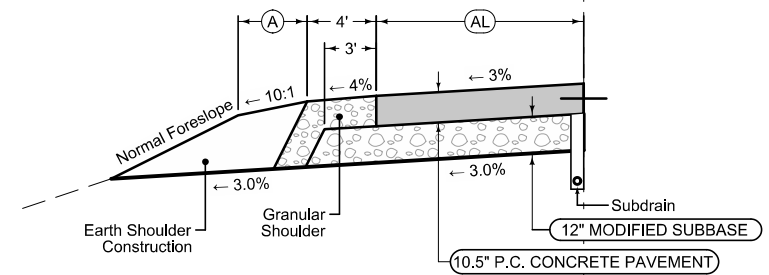
STATION TO STATION	
60+52.82	64+50.62

Retrofit Paved Shoulder Alternates

PCC Shoulder Jointing:
 Longitudinal joint: BT-3
 Transverse joints: C at 20' spacing
 HMA Shoulder Jointing:
 Longitudinal joint: B

STATION TO STATION		(L) Feet
57+57.74	64+40.86	66.4-76.0

- ② Match existing pavement and provide a vertical edge.
- ③ Windrow the class 13 excavation material onto the remaining portion of the granular shoulder.
- ④ Blade and shape the windrowed Class 13 Excavation material to build up the existing shoulder upon completion of the new paved shoulder.



Auxiliary Lane w/ Granular Shoulder

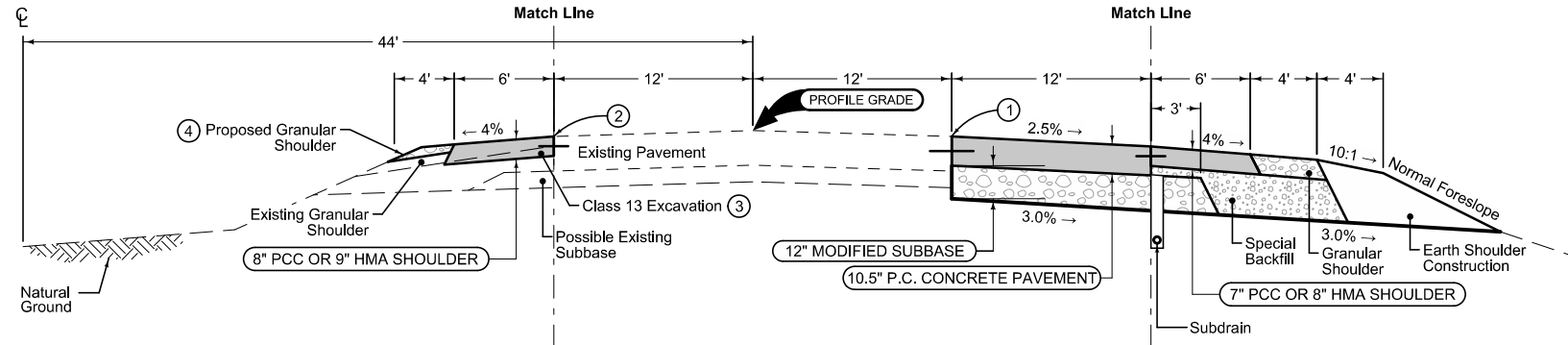
Longitudinal joint: L-2 or KT-2
 Transverse joint: Match Mainline

STATION TO STATION		(AL) Feet	(A) Feet
63+94.10	64+06.25	6.0	4.0
64+06.25	64+50.62	6.0	4-3.6

See Tab XXX-XX for pavement quantities.
 See Tab XXX-X for shoulder quantities.

SUR 141 A EB

- ② Match existing pavement and provide a vertical edge.
- ③ Windrow the class 13 excavation material onto the remaining portion of the granular shoulder.
- ④ Blade and shape the windrowed Class 13 Excavation material to build up the existing shoulder upon completion of the new paved shoulder.



Retrofit Paved Shoulder Alternates

PCC Shoulder Jointing:
 Longitudinal joint: BT-3
 Transverse joints: C at 20' spacing
 HMA Shoulder Jointing:
 Longitudinal joint: B

STATION TO STATION	
64+50.72	65+34.97
67+07.66	78+36.21
79+68.45	98+52.04
106+02.37	124+59.97
133+09.63	157+33.00

3RD LANE PAVING

Mainline Jointing:
 Transverse joints: CD at 20' spacing
 Longitudinal joint: BT-4

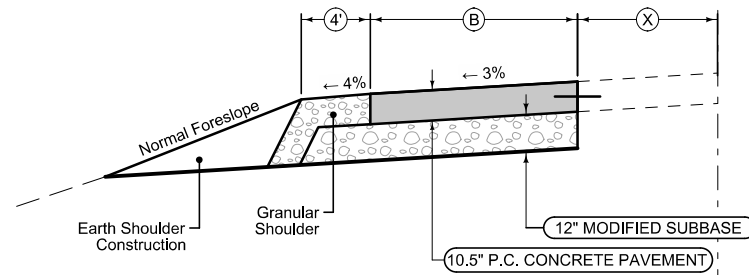
STATION TO STATION	
64+50.72	76+26.27
79+57.49	99+75.22
106+07.71	125+87.71
132+42.98	144+92.95

Combination, Paved Shoulder Alternates

PCC Shoulder Jointing:
 Longitudinal joint: BT-1 or BT-5
 Transverse joints: C at 20' spacing
 HMA Shoulder Jointing:
 Longitudinal joint: B

STATION TO STATION	
64+50.72	78+24.76
81+08.90	98+85.22
107+47.71	130+98.45
134+02.98	144+92.95

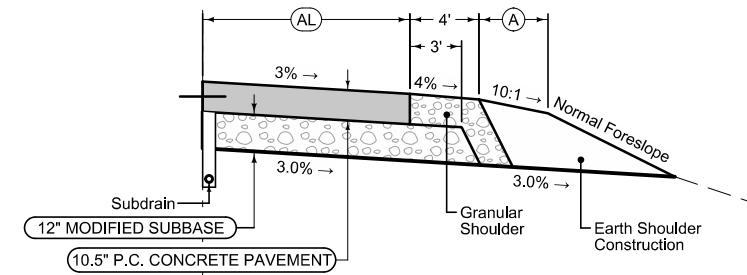
- ① Match existing pavement. Remove the existing 2' paved widening unit and provide a vertical edge. Removal of the 2' paved widening unit shall be bid as "Removal of Pavement."



Auxiliary Lane w/ Granular Shoulder

Longitudinal joint: BT-4
 Transverse joint: CD at 20' spacing

STATION TO STATION		(B) Feet	(X) Feet
99+60.87	99+90.87	2.0	12.0
99+90.87	101+40.87	2.0 - 12.0	12.0
101+40.87	102+21.05	12.0	12.0
102+21.05	103+21.05	12.0 - 2.0	12.0 - 22.0
103+21.05	103+40.79	2.0	22.0
125+86.84	126+16.84	2.0	12.0
126+16.84	127+66.84	2.0 - 12.0	12.0
127+66.84	128+50.39	12.0	12.0
128+50.39	129+50.39	12.0 - 2.0	12.0 - 22.0
129+50.39	129+70.50	2.0	22.0



Auxiliary Lane w/ Granular Shoulder

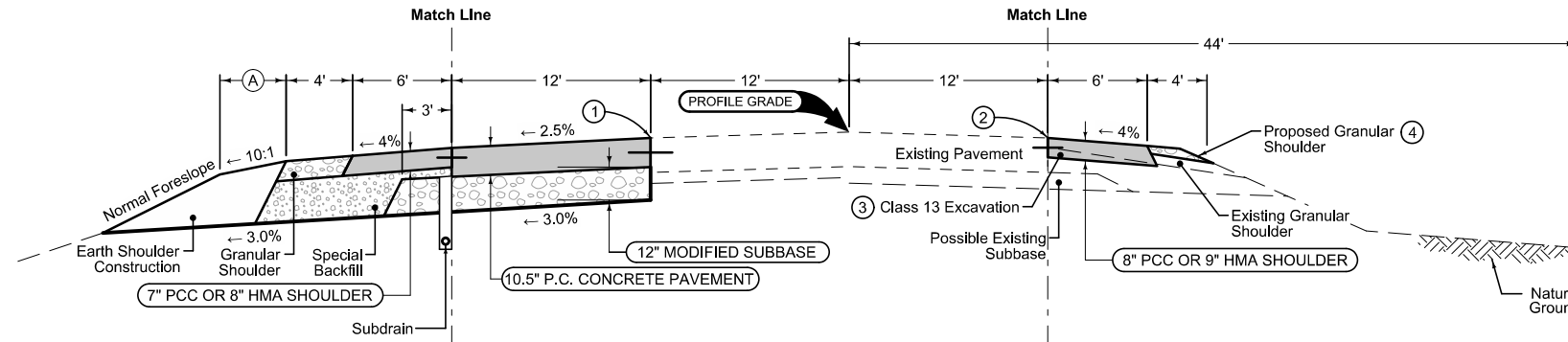
Longitudinal joint: L-2 or KT-2
 Transverse joint: Match Mainline

STATION TO STATION		(AL) Feet	(A) Feet
80+39.65	80+89.65	6.0	0 - 4
80+89.65	81+08.90	6.0	4
98+85.22	99+75.22	6.0	4
99+75.22	100+65.22	6.0 - 12.0	4
100+65.22	103+65.22	12.0	4
103+65.22	104+15.22	12.0	4 - 0
106+81.78	107+47.71	6.0	0 - 4
133+38.03	133+88.03	6.0	4
133+88.03	134+02.98	6.0	0 - 4

See Tab XXX-XX for pavement quantities.
 See Tab XXX-X for shoulder quantities.

SUR 141 B WB

① Match existing pavement. Remove the existing 2' paved widening unit and provide a vertical edge. Removal of the 2' paved widening unit shall be bid as "Removal of Pavement."



② Match existing pavement and provide a vertical edge.
 ③ Windrow the class 13 excavation material onto the remaining portion of the granular shoulder.
 ④ Blade and shape the windrowed Class 13 Excavation material to build up the existing shoulder upon completion of the new paved shoulder.

Combination, Paved Shoulder Alternates

PCC Shoulder Jointing:
 Longitudinal joint: BT-1 or BT-5
 Transverse joints: C at 20' spacing
 HMA Shoulder Jointing:
 Longitudinal joint: B

STATION TO STATION		(A) Feet
66+29.97	66+79.97	0 - 4
66+79.97	76+84.86	4
79+73.14	80+23.14	0 - 4
80+23.14	101+01.49	4
101+01.49	101+41.49	4 - 0
101+41.49	101+49.83	0
101+49.83	101+89.24	0 - 4
101+89.24	103+23.18	4
111+79.88	129+51.10	4
137+53.57	144+59.69	4

3RD LANE PAVING

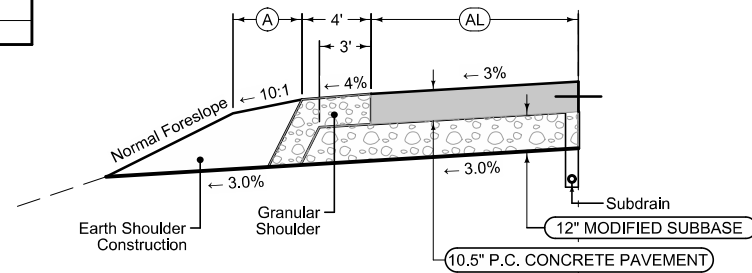
Mainline Jointing:
 Transverse joints: CD at 20' spacing
 Longitudinal joint: BT-4

STATION TO STATION	
64+50.72	105+07.75
111+69.88	131+22.34
137+33.57	144+59.69

Retrofit Paved Shoulder Alternates

PCC Shoulder Jointing:
 Longitudinal joint: BT-3
 Transverse joints: C at 20' spacing
 HMA Shoulder Jointing:
 Longitudinal joint: B

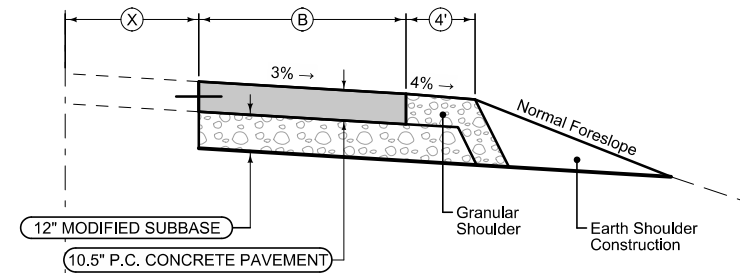
STATION TO STATION	
66+54.09	78+14.34
79+70.33	103+94.37
111+99.10	130+54.50
138+76.27	160+47.00



Auxiliary Lane w/ Granular Shoulder

Longitudinal joint: L-2 or KT-2
 Transverse joint: Match Mainline

STATION TO STATION		(AL) Feet	(A) Feet
64+50.72	64+56.25	6.0	.36 - 0
76+84.86	77+50.82	6.0	4 - 0
103+23.18	103+88.99	6.0	4 - 0
106+49.88	106+99.88	12.0	0 - 4
106+99.88	109+99.88	12.0	4
109+99.88	110+89.88	12.0 - 6.0	4
110+89.88	111+79.88	6.0	4
129+51.10	130+16.49	6.0	4 - 0
132+73.57	133+23.57	12.0	0 - 4
133+23.57	135+73.57	12.0	4
135+73.57	136+63.57	12.0 - 6.0	4
136+63.57	137+53.57	6.0	4



Auxiliary Lane w/ Granular Shoulder

Longitudinal joint: BT-4
 Transverse joint: CD at 20' spacing

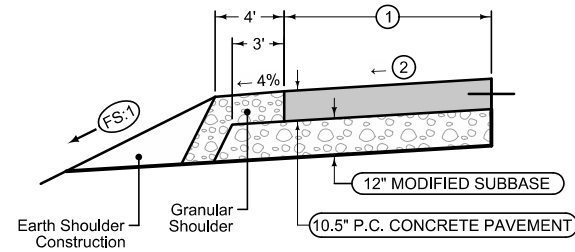
STATION TO STATION		(B) Feet	(X) Feet
107+16.68	107+36.68	2.0	22.0
107+36.68	108+36.68	2.0 - 12.0	22.0 - 12.0
108+36.68	109+02.08	12.0	12.0
109+02.08	110+52.08	12.0 - 2.0	12.0
110+52.08	110+82.08	2.0	12.0
133+66.32	133+86.32	2.0	22.0
133+86.32	134+86.32	2.0 - 12.0	22.0 - 12.0
134+86.32	135+75.22	12.0	12.0
135+75.22	137+25.22	12.0 - 2.0	12.0
137+25.22	137+55.22	2.0	12.0

See Tab XXX-XX for pavement quantities.

See Tab XXX-X for shoulder quantities.

SUR 141 B EB

RETURN 1

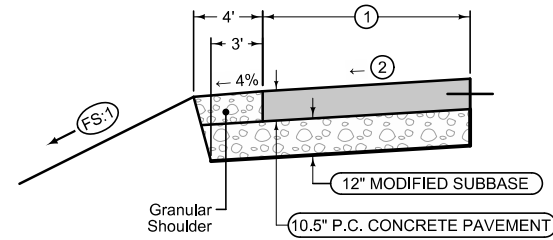


RETURN NAME	STATION TO STATION	FS
SR37TH_RET_4	0+00.00 0+45.00	4
SRJNSNDR_RET_2	0+05.00 0+73.39	4
SRJNSNDR_RET_3	0+00.00 1+21.00	4
SR28TH_RET_1	0+26.31 1+36.72	4
SR28TH_RET_2	0+70.00 1+56.17	6
SR28TH_RET_3	0+00.00 1+37.00	6
SR19TH_RET_1	0+51.40 1+44.37	4
SR19TH_RET_2	0+00.00 1+81.84	6
SR19TH_RET_3	0+00.00 1+43.78	4
SR19TH_RET_4	0+00.00 0+30.00	4
SR11TH_RET_1	0+47.53 1+67.31	4
SR11TH_RET_2	0+44.00 0+90.87	4
SR11TH_RET_3	0+00.00 0+87.00	6

- ① See Sheets L.1 - L.10 for return geometrics.
- ② See Sheets L.XX - L.XX for return edge profiles and staking details.

GRANULAR SHOULDER RETURN

RETURN 2

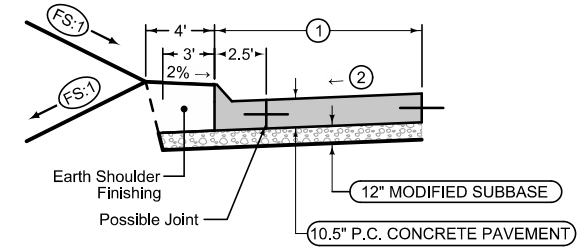


RETURN NAME	STATION TO STATION	FS
SR37TH_RET_4	0+45.00 1+09.58	4
SRJNSNDR_RET_3	1+21.00 1+37.11	4
SR19TH_RET_4	0+30.00 0+39.93	4
SR11TH_RET_2	0+35.29 0+44.00	4
SR11TH_RET_3	0+87.00 1+12.61	6

- ① See Sheets L.1 - L.10 for return geometrics.
- ② See Sheets L.XX - L.XX for return edge profiles and staking details.

**GRANULAR SHOULDER RETURN
(TRENCH SUBGRADE)**

RETURN 3

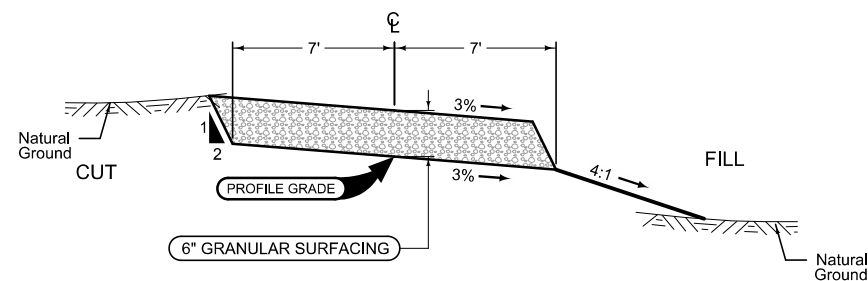


RETURN NAME	STATION TO STATION	FS	Curb Type See PV-102
SRJNSNDR_RET_2	0+00.00 0+05.00	4	6" STD
SRJNSNDR_RET_3	1+37.11 1+43.29	4	6" STD
SR28TH_RET_1	0+00.00 0+26.31	6	6" STD
SR28TH_RET_2	0+00.00 0+70.00	6	6" STD
SR28TH_RET_3	1+37.00 2+03.64	6	6" STD
SR19TH_RET_1	0+00.00 0+51.40	4	6" STD
SR19TH_RET_3	1+43.78 1+62.20	4	6" STD
SR19TH_RET_4	0+39.93 0+66.27	4	6" STD
SR11TH_RET_1	0+00.00 0+47.53	4	6" STD
SR11TH_RET_2	0+00.00 0+35.29	4	6" STD
SR11TH_RET_3	1+12.61 1+67.70	6	6" STD

- ① See Sheets L.1 - L.10 for return geometrics.
- ② See Sheets L.XX - L.XX for return edge profiles and staking details.

CURB RETURN

SR 1

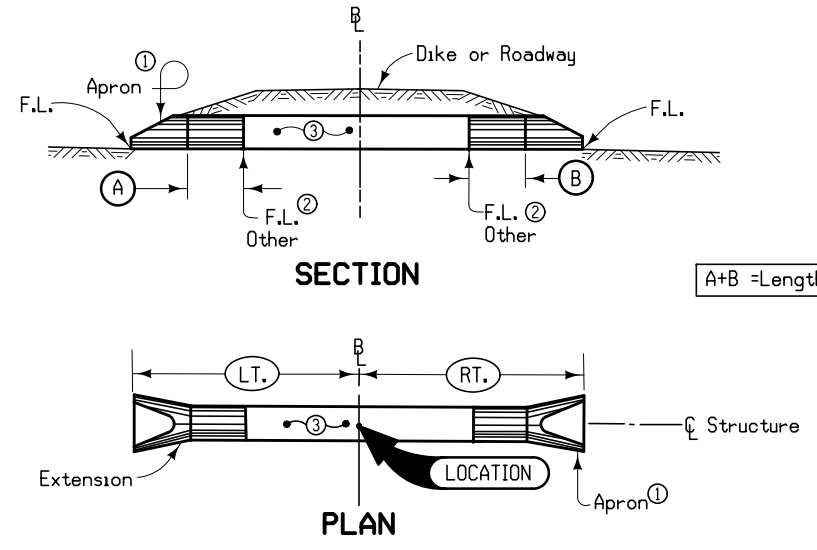


GRANULAR SURFACING

STATION TO STATION
900+19.63 903+47.94

FARM ACCESS ROAD

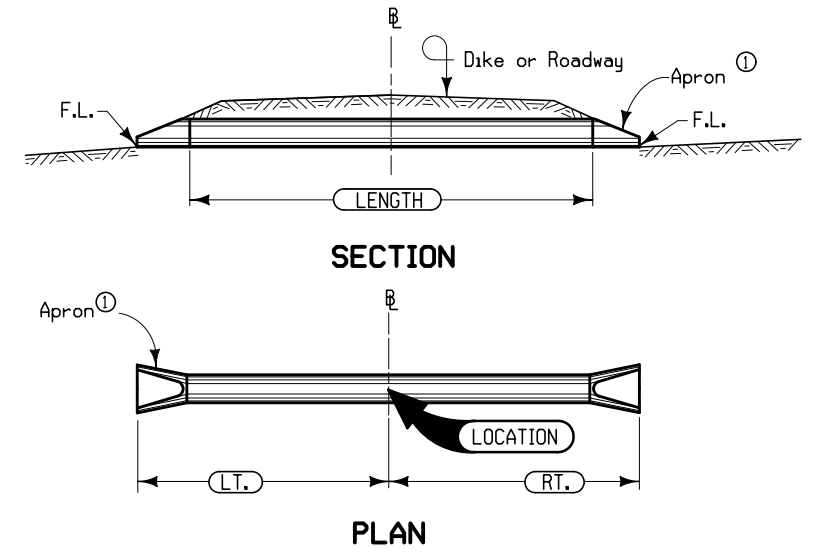
1301
10-03-00



Notes:
 B shall be C of roadway, dike, survey, or other; as detailed on plans.
 Extension shall be on line of existing structure to Lt., Rt. or both as specified. Adaptors may be required, see Standard Road Plan RF-2.
 Refer to tabular listing and other plans for additional information.
 ① See Standard Road Plan RF-3 for concrete, RF-5 for metal.
 ② Optional type "D" section only when specified in tabulation.
 ③ Existing structure.

PIPE EXTENSION

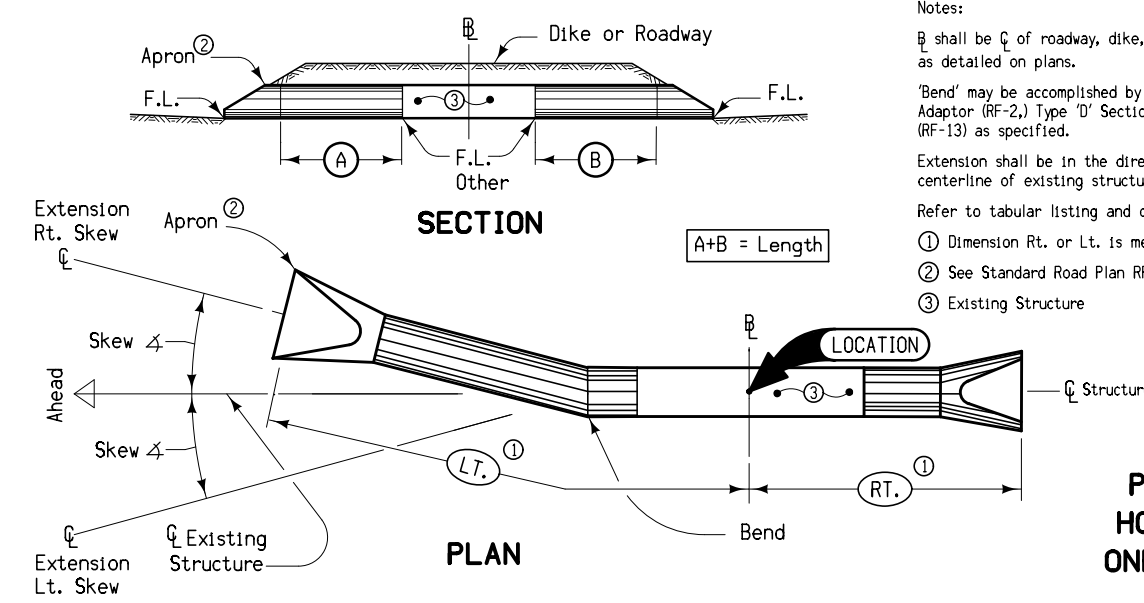
1101
04-30-02



Notes:
 B shall be C of roadway, dike, survey, or other; as detailed on plans.
 Skew angle is the angle which one end of the pipe is ahead (by stationing) of line perpendicular to the B (example skew Rt. ahead 30°).
 Refer to tabular listing and other plans for additional information.
 ① See Standard Road Plan RF-3 For Conc. or RF-5 for Metal.

PIPE CULVERT

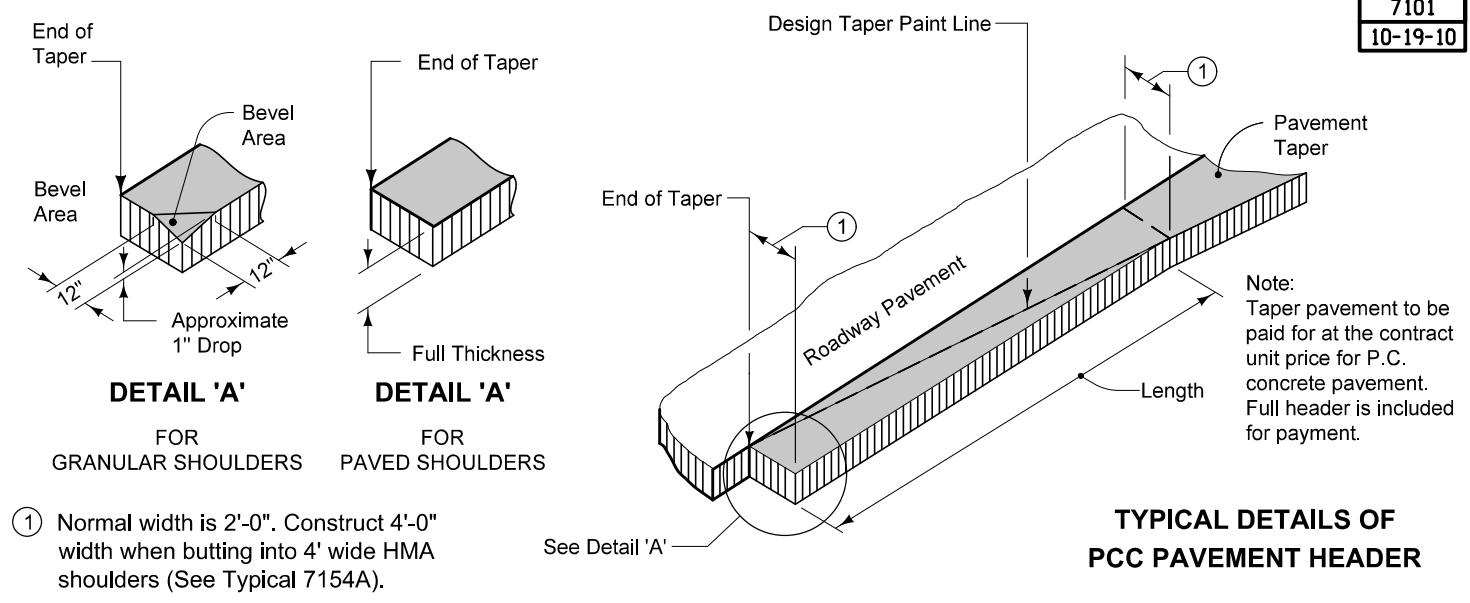
1302
10-03-00



Notes:
 B shall be C of roadway, dike, survey, or other; as detailed on plans.
 'Bend' may be accomplished by use of metal elbow, Adaptor (RF-2,) Type 'D' Section or Concrete Elbow (RF-13) as specified.
 Extension shall be in the direction specified with skew measured from centerline of existing structure.
 Refer to tabular listing and other plans for additional information.
 ① Dimension Rt. or Lt. is measured at C of pipe along laying length
 ② See Standard Road Plan RF-3 for concrete, or RF-5 for metal.
 ③ Existing Structure

PIPE EXTENSION HORIZONTAL BEND ONE OR BOTH ENDS

7101
10-19-10



① Normal width is 2'-0". Construct 4'-0" width when butting into 4' wide HMA shoulders (See Typical 7154A).

TYPICAL DETAILS OF PCC PAVEMENT HEADER

SURVEY SYMBOLS

- OUT Tile Outlet
- PPA Power Pole Co. 1
- MIS Miscellaneous
- LUM Luminaire
- SIGN SI Sign
- Flg FLG Flag Poles
- GP GP Guard Post (Less Than 4 Posts)
- ⊕ TFR Tree Fruit
- EB EB Electrical Box
- ✱ TEV Evergreen Tree
- ⊕ TDC Tree Deciduous
- 📷 PLG Location of General Photo
- PR Electric Riser Pole
- ⚡ FHD Fire Hydrants
- ⊙ WV WV Water Valve
- ⊕ MH MH Utility Access (Manhole)
- MM MM Mile Marker Post
- TP TPD Telephone Pedestal
- GV GV Gas Valve
- ⊗ WEL Well
- TVP TVP TV Pedestal
- 🌳 SHR Shrub
- ⊕ BIN Grain Bin
- UB UB Utility Box
- 📡 IN Storm Sewer Intake
- BB BB Billboard
- ⚡ HT Electrical Highline Tower
- Tile TIL Tile Line
- x FW Wire Fence
- # FCL Chain Link and Security Fence
- SF Silt Fence (Wetlands)
- LIN Miscellaneous Line
- BLD Building or Foundation
- UV Underground Utility Vault
- GDL Guard Rail Steel
- BRG Bridge
- FWD Wood Fence
- HDG Hedge Row
- ENU Edge Unpaved Entrance & Parking
- ← DU Centerline Draw or Stream (Up)
- D Centerline Draw or Stream (Down)
- ENT Centerline BL of Entrance
- CU Back of Curb
- GU Gutter In Front of Curb
- SNP Unpaved Shoulder
- EP Edge of Paved Roads (ML or SR)
- CON Concrete or A/C Slab
- SH Paved Shoulder
- ⚡ RIP Rip-Rap
- SWK Sidewalk
- BNK Stream Bank
- ENP Edge Paved Entrance & Park Lot
- E2 - ELB Underground Electric Line Co. 2
- E1 - ELA Underground Electric Line Co. 1
- F02 - FOB Underground Fiber Optic Co. 2
- TV - TVA Underground TV Cable Co. 1
- T1 - TLA Underground Telephone Line Co. 1
- W - WLA Underground Water Line Co. 1
- San. - SAA Sanitary Sewer Line Co. 1
- St.S. - STA Storm Sewer Line Co. 1
- W2 - WLB Underground Water Line Co. 2
- CUL Culvert
- PIP Pipe Culvert
- St.S.2 - STB Storm Sewer Line Co. 2
- ✱ TSG Traffic Signal
- BL Topo Breakline
- ⊕ TW Top of Water
- F03 - FOC Underground Fiber Optic Co. 3
- SP Stream Profile
- G-HP - GHA Underground High Pres Gas Co 1
- F0 - FOA Underground Fiber Optic Co. 1
- E4 - ELD Underground Electric Line Co. 4

UTILITY LEGEND

- E2 - Baker Electric (QLD)
- F02 - Iowa Network Services (QLD)
- E1 - MidAmerican (QLD)
- G - Black Hills Energy (QLD)
- TV - Mediacom (QLD)
- F0 - Iowa Communication Services (QLD)
- F03 - Centurylink (QLD)
- T1 - Centurylink (QLD)
- St.S. - City of Grimes (QLD)
- W - City of Grimes (QLD)
- San. - City of Grimes (QLD)
- W2 - Thorpe Water Development (QLD)
- St.S.2 - Iowa DOT (QLD)
- MidAmerican

PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK		Design Color No.	
Green	(2)		Existing Topographic Features and Labels
Blue	(1)		Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)		Existing Utilities
SHADING		Design Color No.	
Yellow	(4)		Highlight for Critical Notes or Features
Red	(3)		Delineates Restricted Areas
Lavender	(9)		Temporary Pavement Shading
Gray, Light	(48)		Proposed Pavement Shading
Gray, Med	(80)		Proposed Granular Shading
Gray, Dark	(112)		Proposed Grade and Pave Shading
Brown, Light	(236)		Grading Shading
Tan	(8)		Proposed Sidewalk Shading
Blue, Light	(230)		Proposed Sidewalk Landing Shading
Pink	(11)		Proposed Sidewalk Ramp Shading

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

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

CONVENTIONAL SIGNS

- Reference Point
- 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
- Access Control
- Proposed Right of Way

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

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

WEBSTER TWP.
T-79N R-25W
SEC. 17

18" X 24"
Conc. Pipe
W/ Conc.
Flume
(U.A.C.)

GABUS FAMILY TRUST LC

45

50

IOWA 141 EB

IOWA 141 WB

(SUR141A)

POT Sta 41+22.10

Sta. 45+96.81
Begin Project

Sta. 45+96.81
Begin Paving

NOIS

RICK L. THOMPSON

CITY OF GRIMES, IOWA

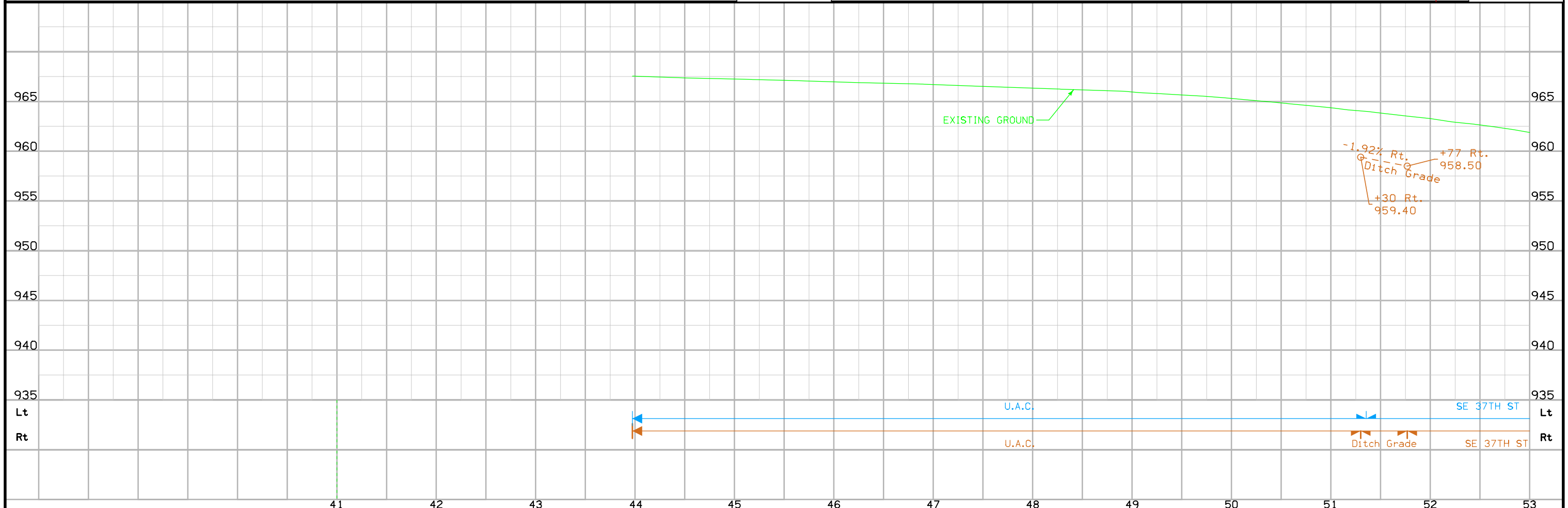
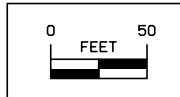
WEBSTER TWP.
T-79N R-25W
SEC. 16

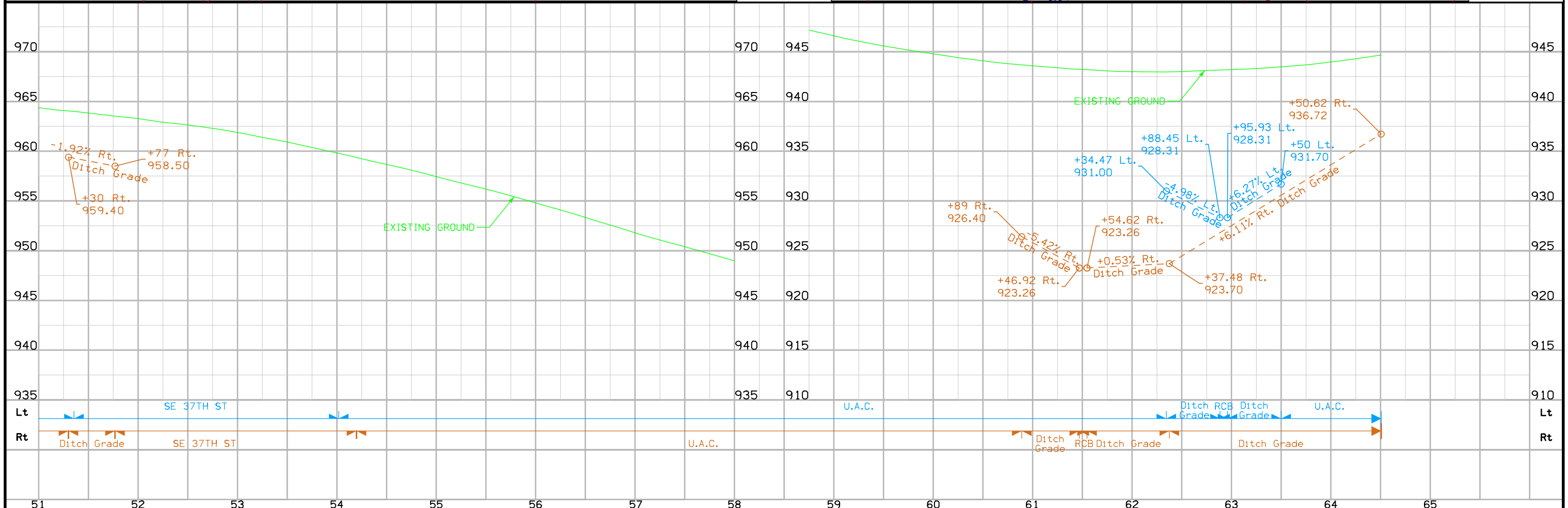
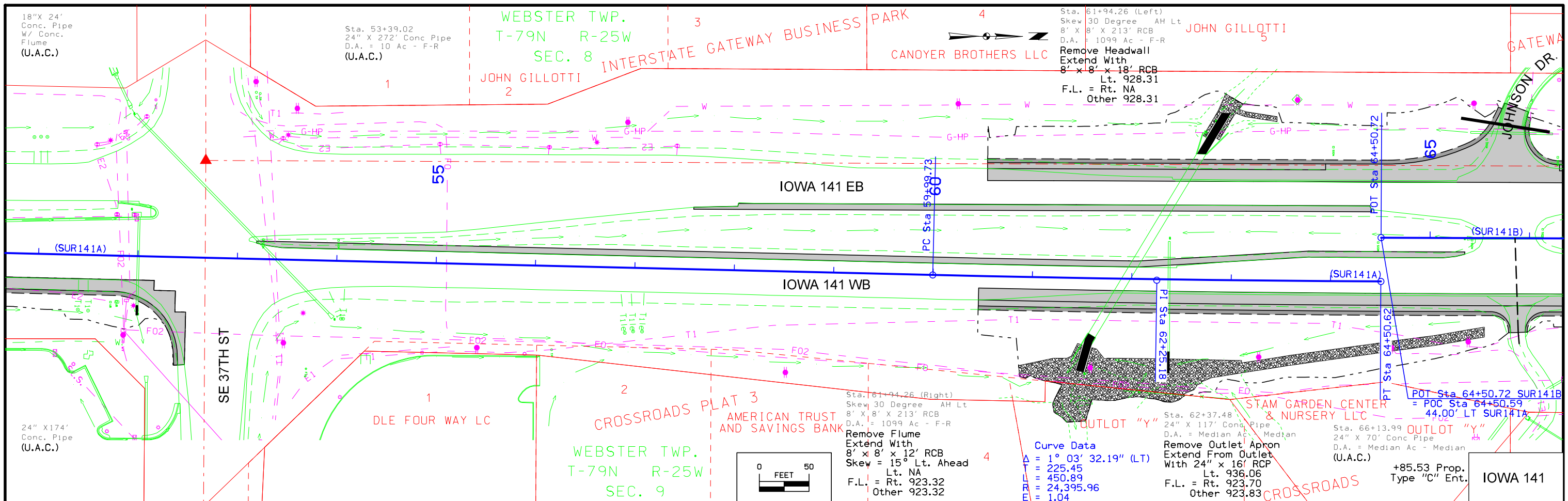
Sta. 52+00.22
24" X 89' Conc Pipe
D.A. = MEDIAN Ac - MEDIAN
Remove Outlet Apron
Extend From Outlet
With 24" x 4' RCP
Lt. 958.68
F.L. = Rt. 958.20
Other 958.21

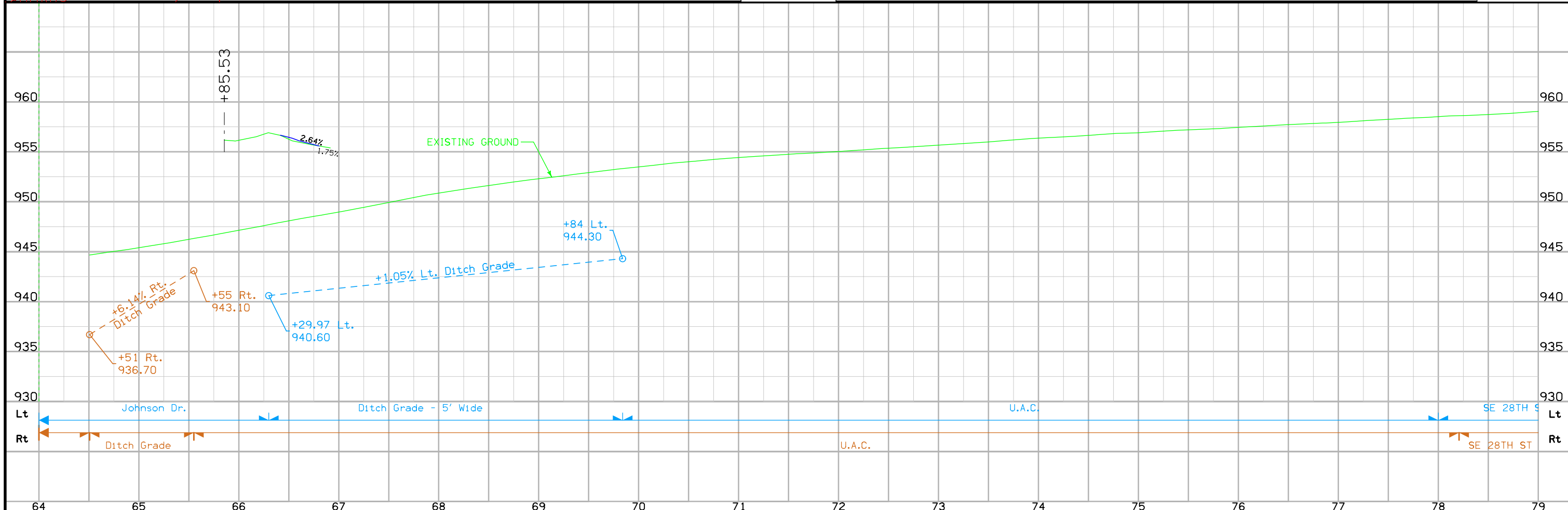
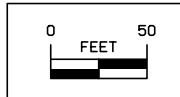
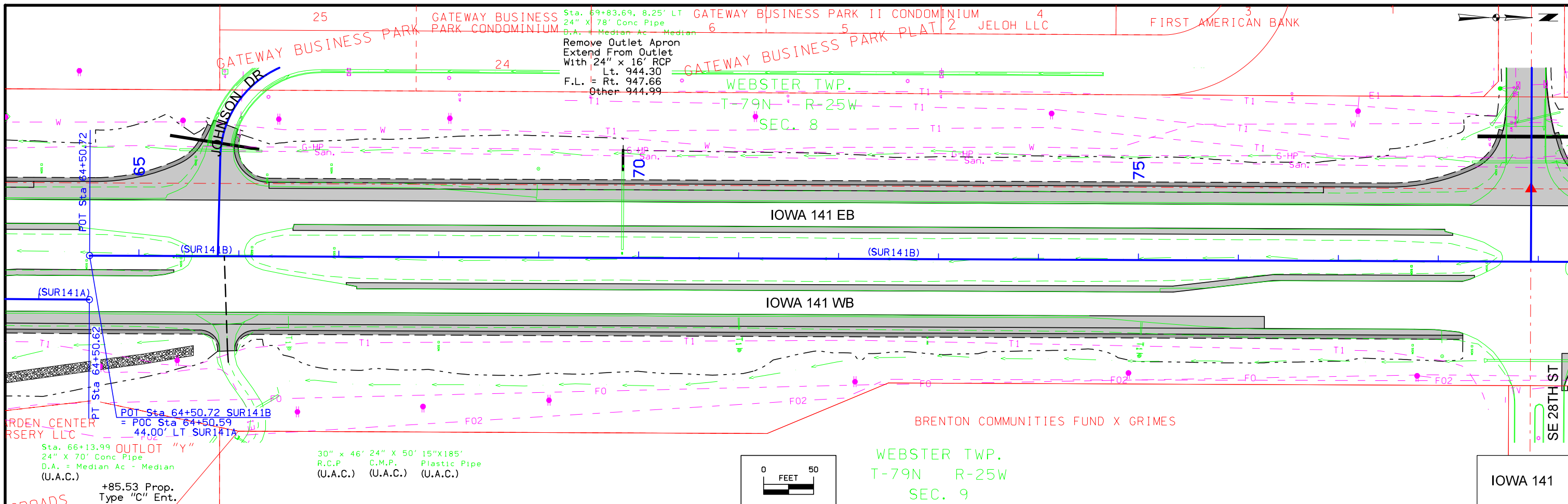
24" X 174'
Conc. Pipe
(U.A.C.)

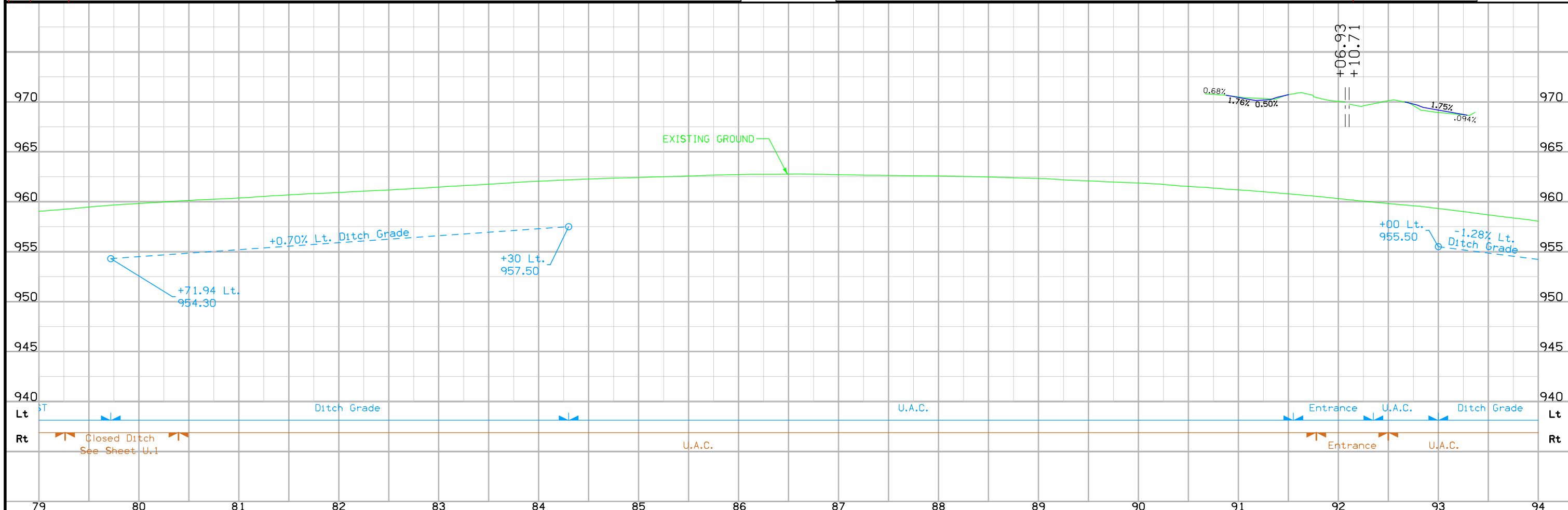
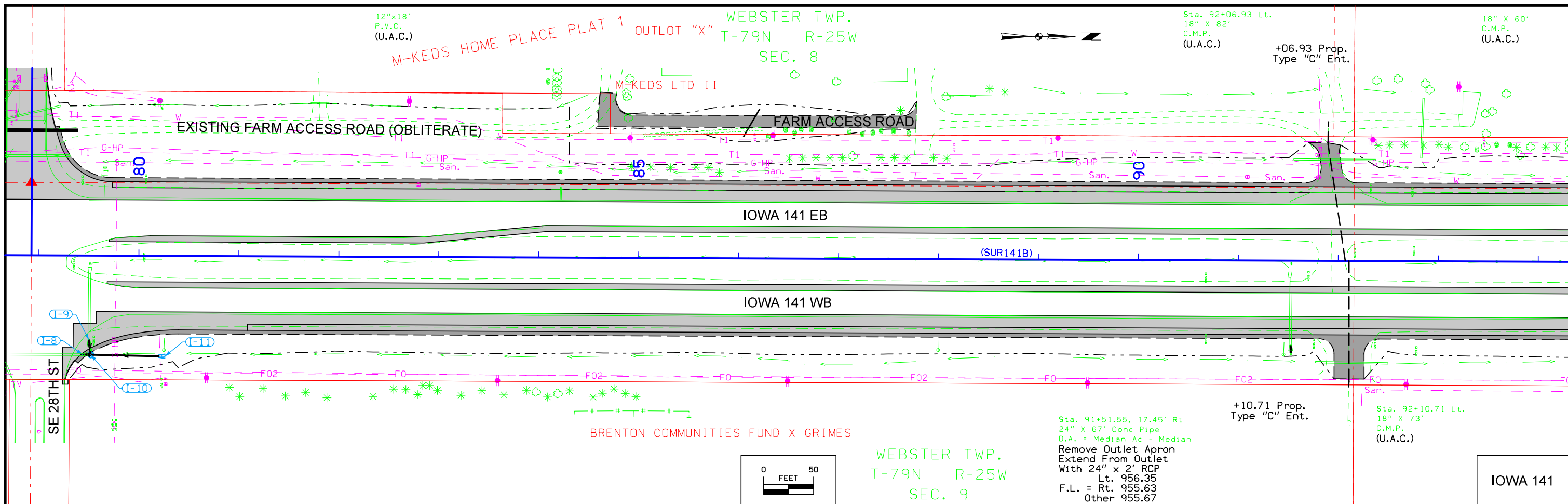
SE 37TH ST

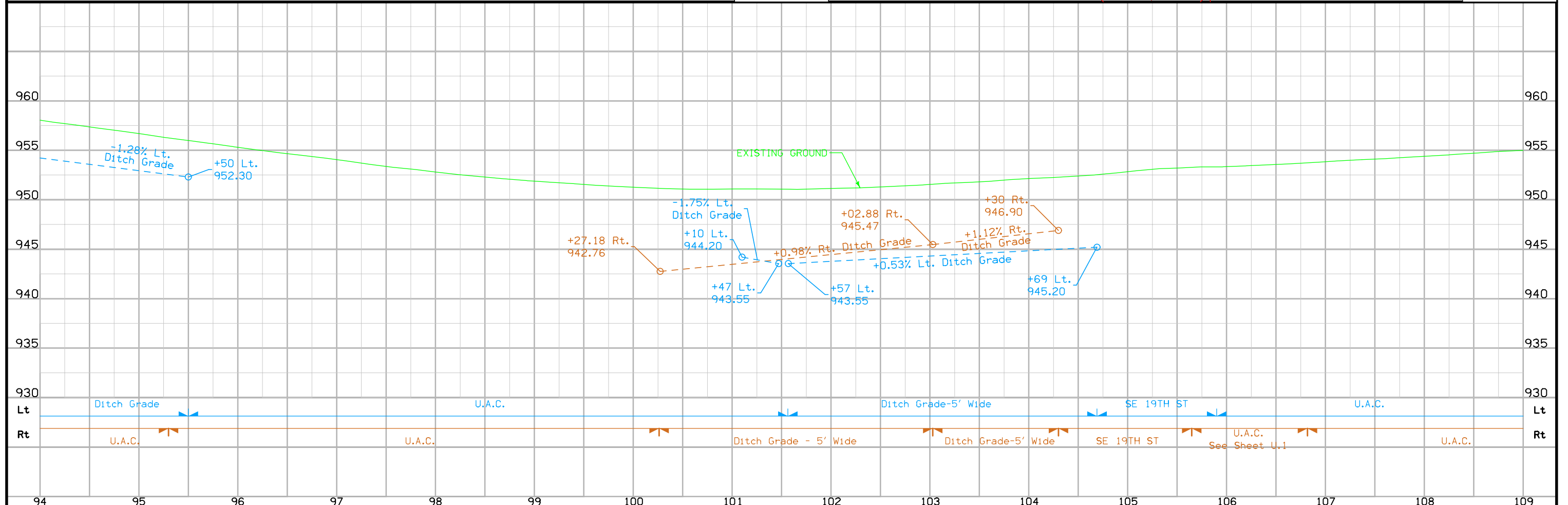
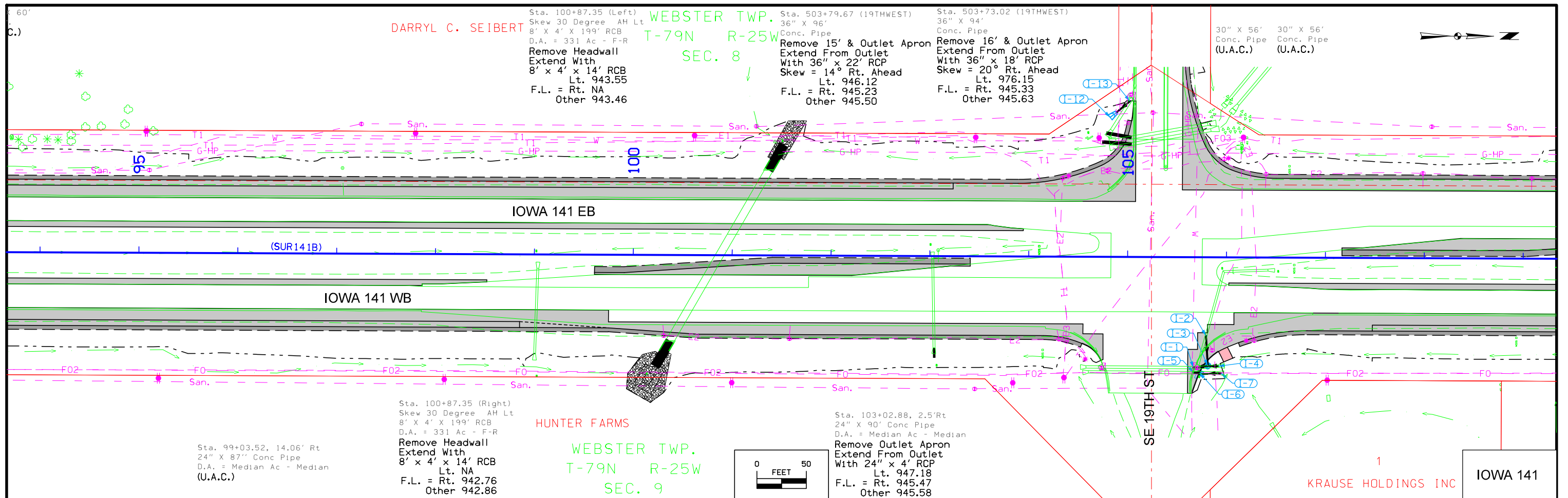
IOWA 141











CRAMER PROPERTIES LLC

PARCEL "S"
SE¹/₄ SE¹/₄
SEC. 5-79-25
BOOK 11066 PAGE 478

WEBSTER TWP.
T-79N R-25W
SEC. 5

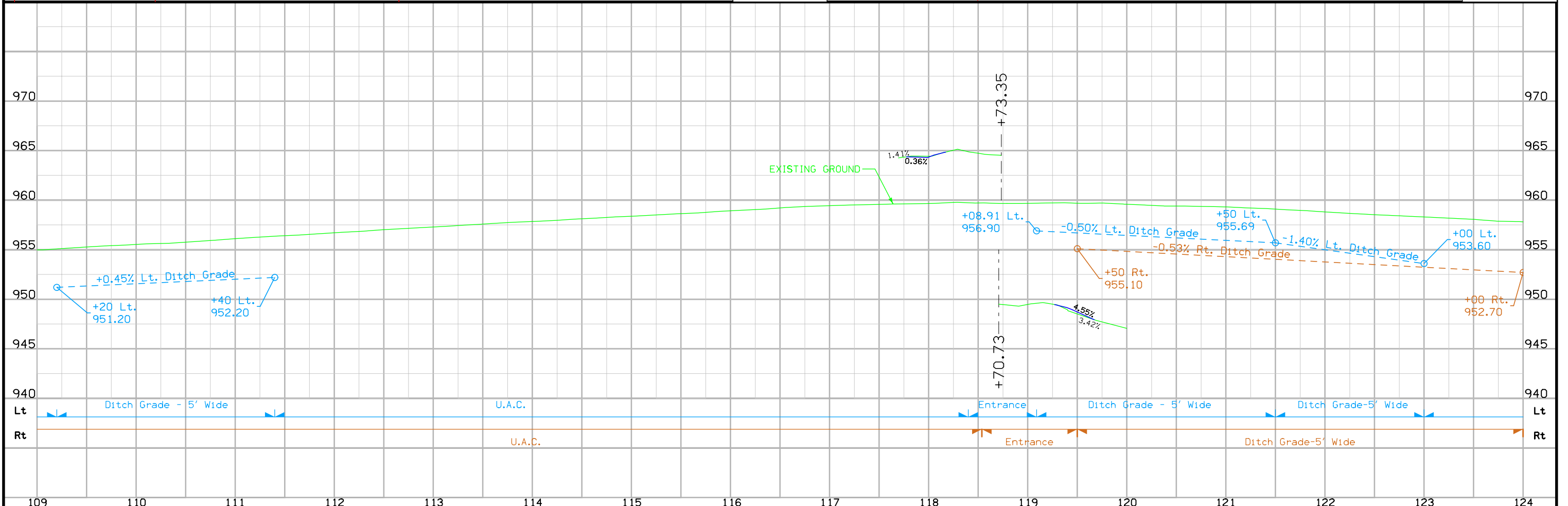
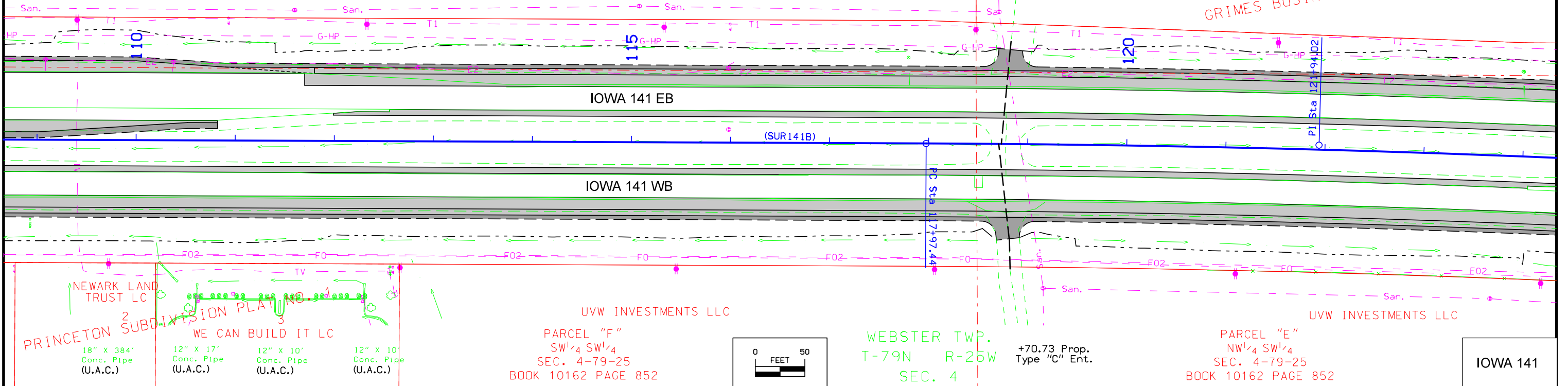
+73.35 Prop.
Type "C" Ent.

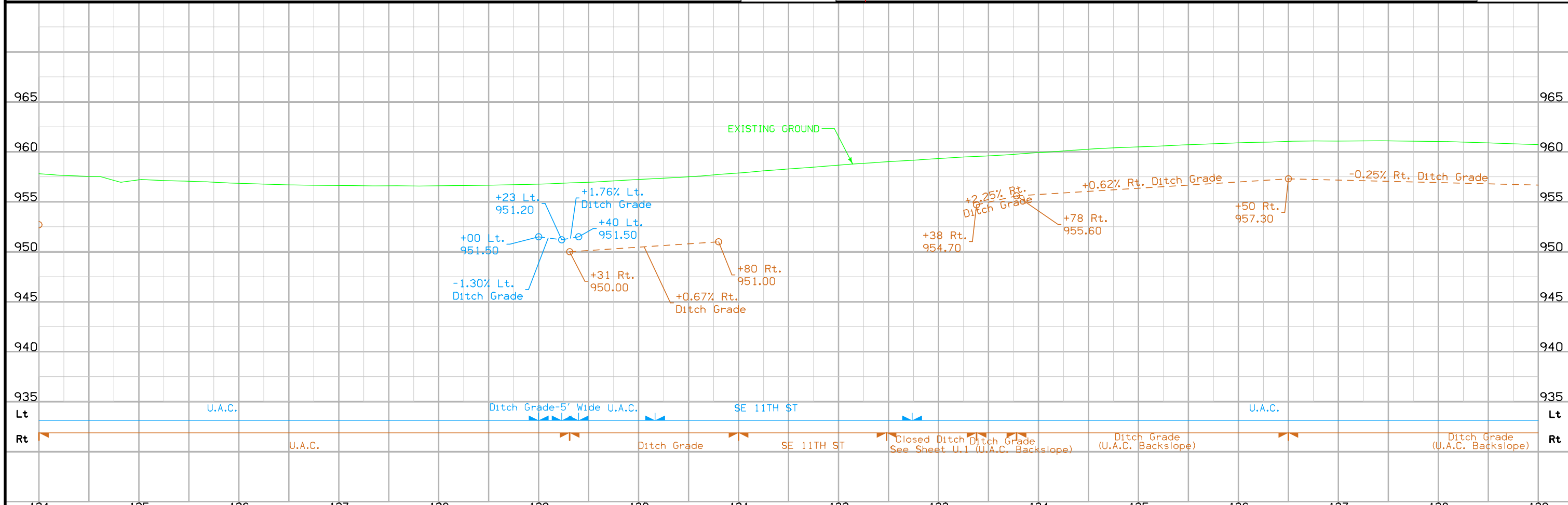
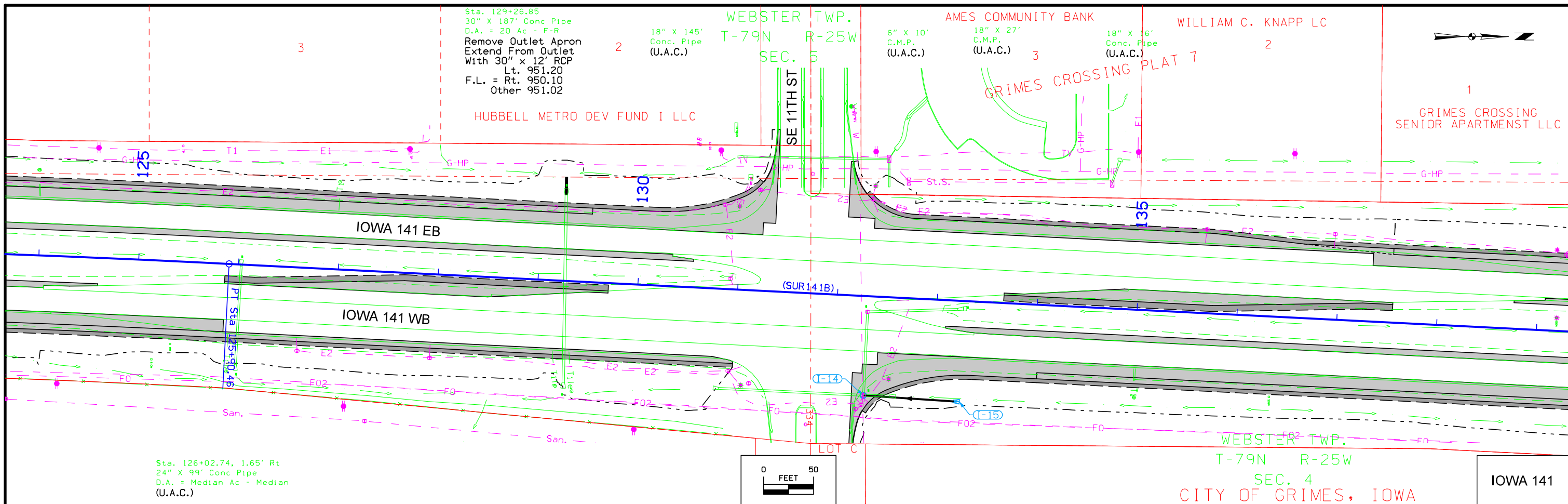
OUTLOT "B"

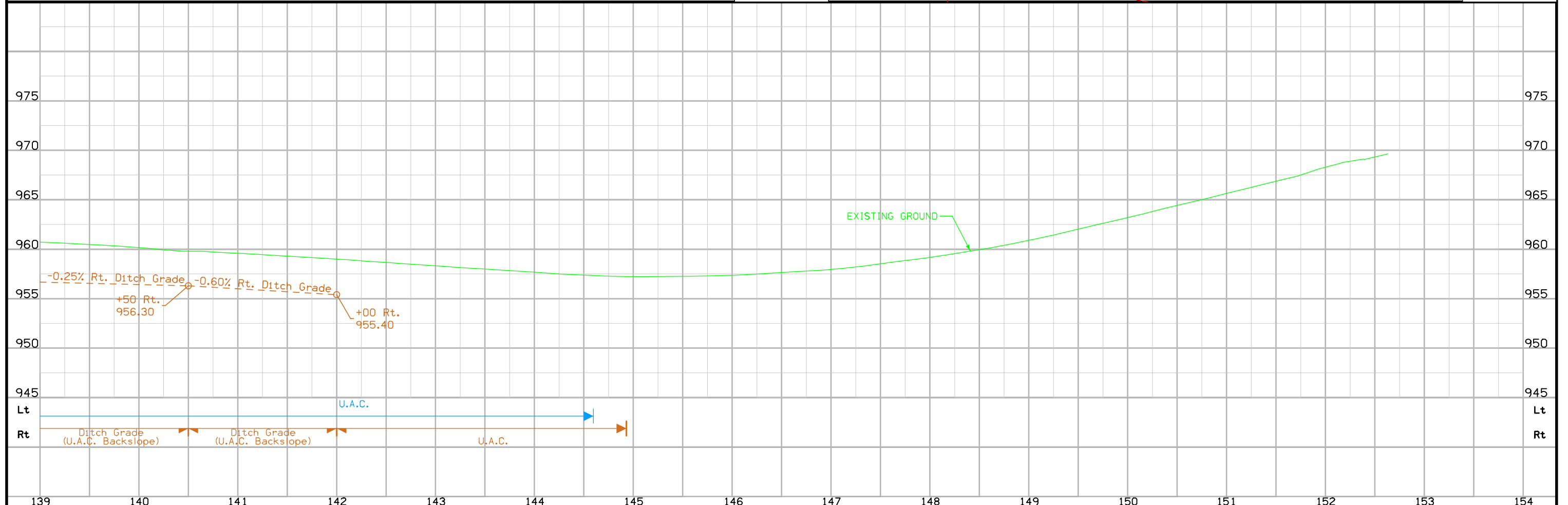
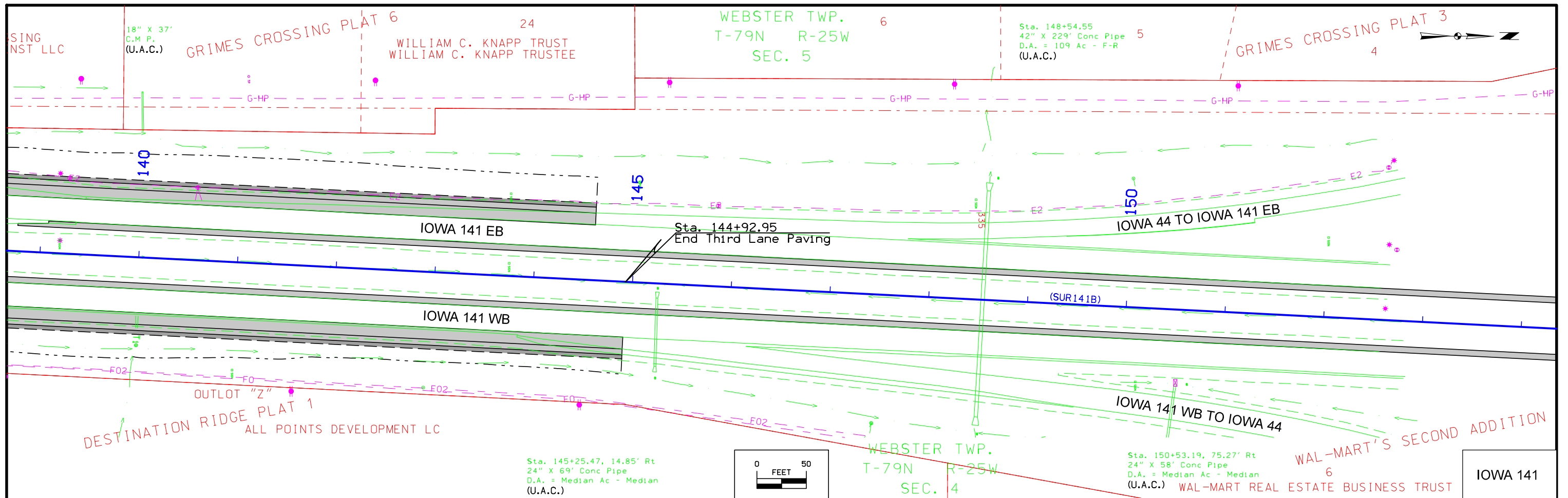
Curve Data
Δ = 2° 38' 43.85" (RT)
T = 396.58
L = 793.02
R = 17,174.97
E = 4.58



HUBBELL METRO DEV FUND I LLC
GRIMES BUSINESS PARK PLAT 2

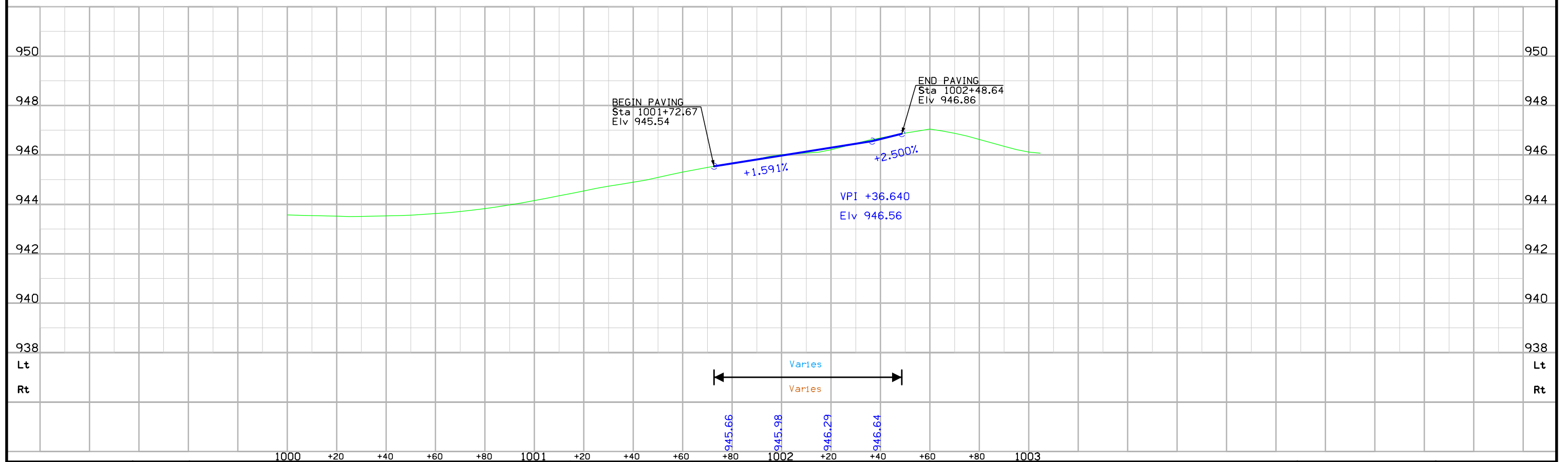
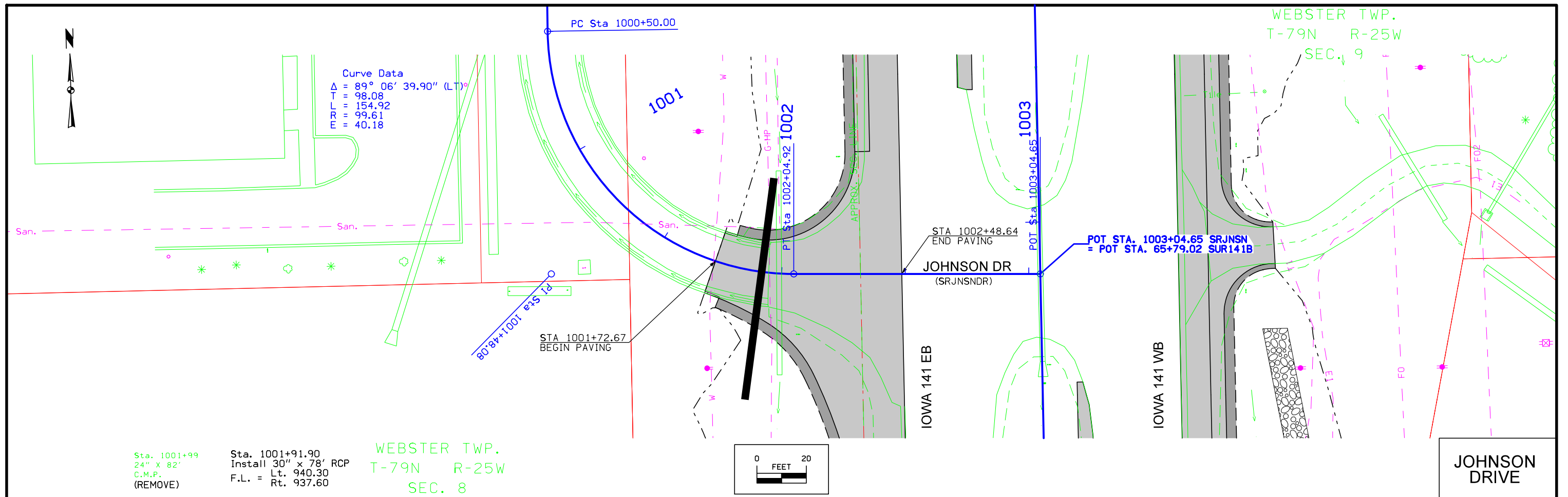


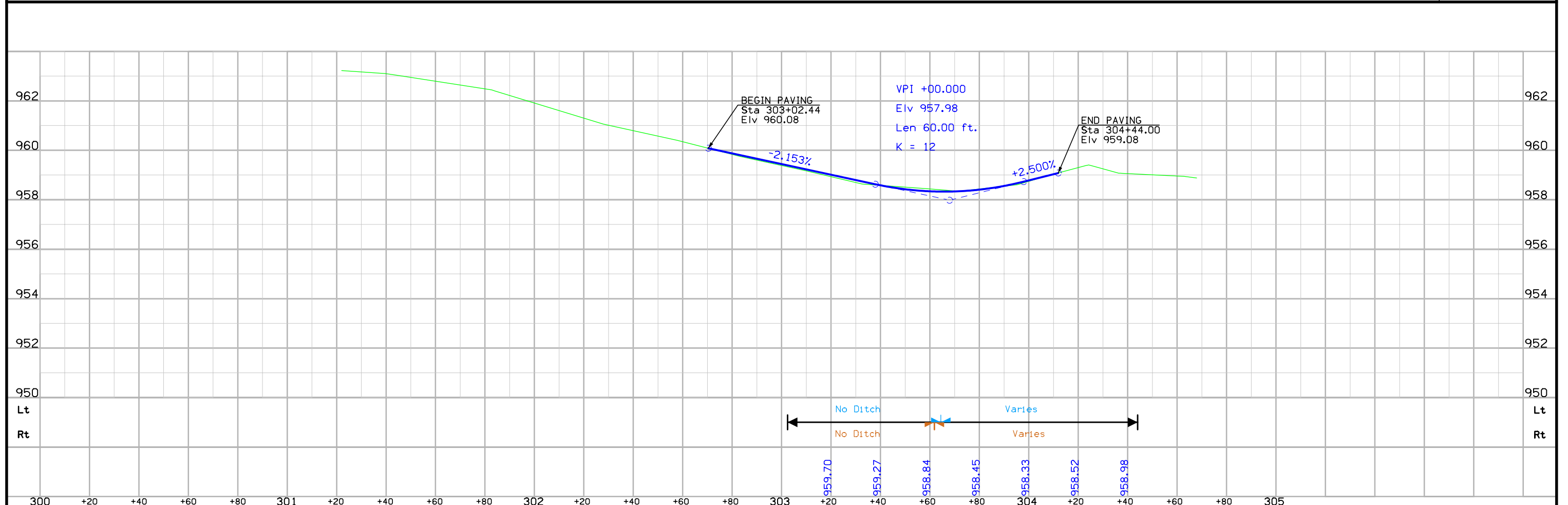
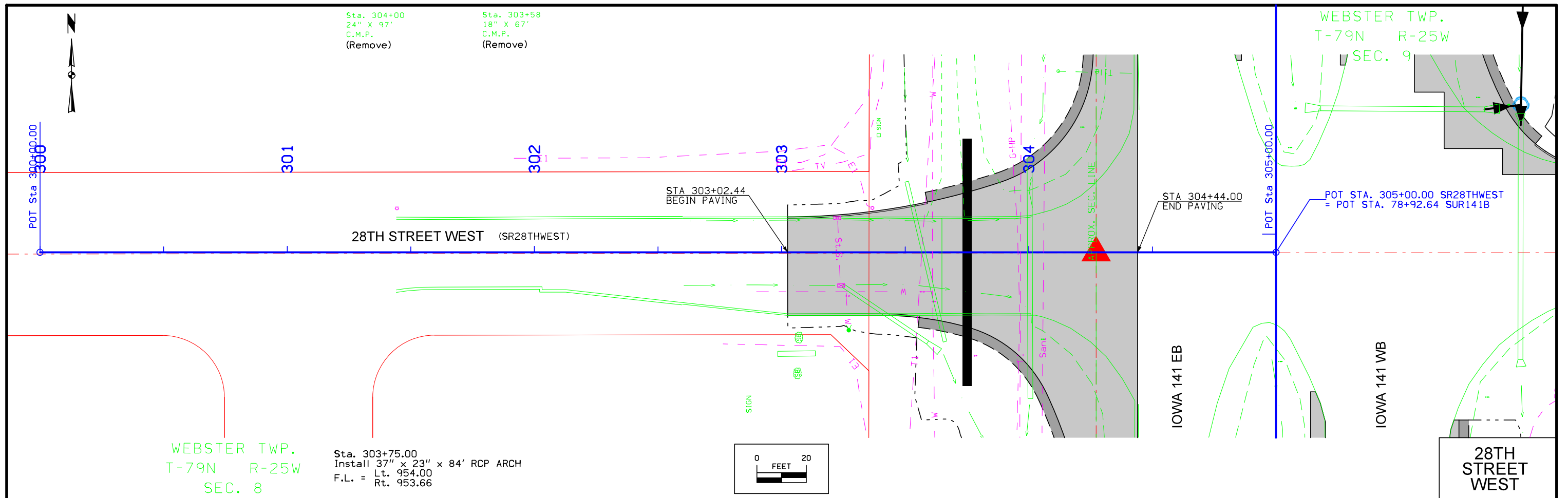


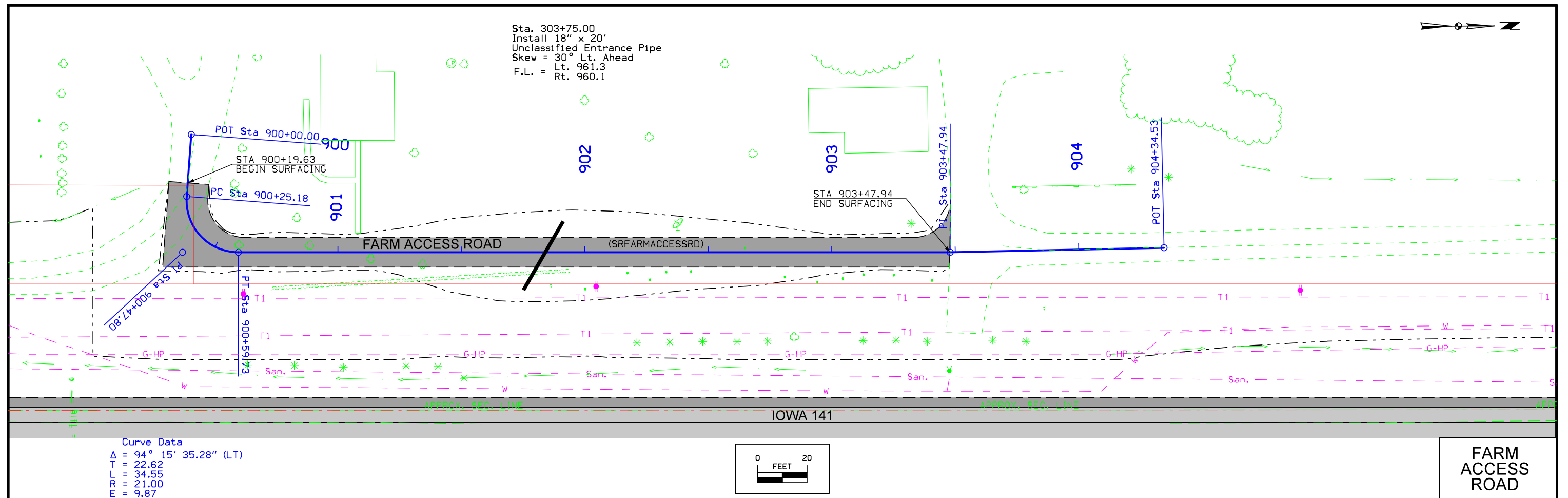




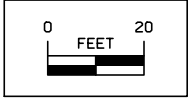
			IOWA 141
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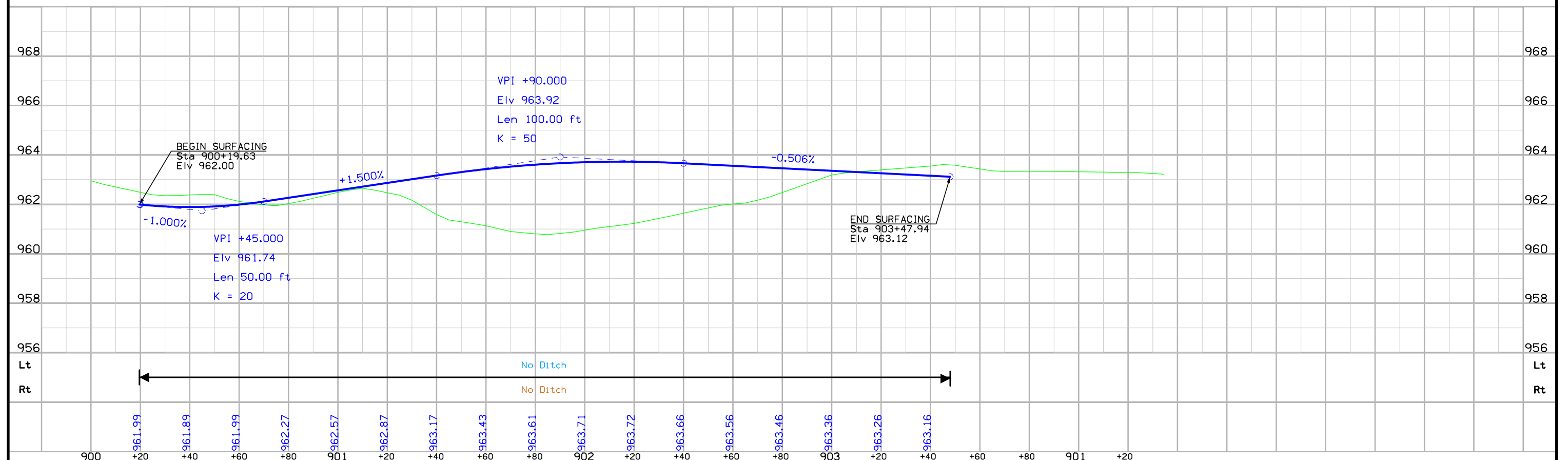




Curve Data
 $\Delta = 94^\circ 15' 35.28''$ (LT)
 T = 22.62
 L = 34.55
 R = 21.00
 E = 9.87



FARM ACCESS ROAD



Survey Information

General Information

Measurement units for this survey are US survey feet. This survey is for adding lanes to HWY 141. Project datum and control information is provided by Design Survey Office. This project is a partial DTM.

Vertical Control

Project ellipsoidal height was established at Pt. 2 by averaging a minimum of two Iowa RTN 360 Epoch observations with 4 hours or greater time span between each observation. NAVD88 height was computed at Pt. 2 using Geoid 12A. The relative network error of height observations was less than 0.01 ft. at 95% confidence level. Additional vertical control was established at points. 1 and 3 by averaging a minimum of two Iowa RTN 360 Epoch observations with 4 hours or greater time span between each observation. NAVD88 height was computed at these points using Geoid 12A. The relative network error of height observations was less than 0.02 ft. and 0.04 ft. respectively at 95% confidence level.

This survey observed 4 NGS Control Monument with published NAVD88 height to compare with observed survey height:

Mark 835 is located 8 miles south of the project.
 NGS 1st. order class II mark designated 835 published height = 835.10
 laRTN NAVD88 height computed using Geoid 12A = 835.09
 The relative network error of the height observations of a GPS target in close proximity to 835 was less than 0.02 ft. at 95% confidence level. The elevation from the target was then transferred to 835 and then closed back to the target with an error of less than 0.01 ft.

Mark Q155 is located 8 miles south of the project.
 NGS 1st. order class II mark designated Q155 published height = 839.08
 laRTN NAVD88 height computed using Geoid 12A = 839.05
 The relative network error of the height observations of a GPS target in close proximity to Q155 was less than 0.03 ft. at 95% confidence level. The elevation from the target was then transferred to Q155 and then closed back to the target with an error of less than 0.01 ft.

Mark J33 is located 13 miles east of the project.
 NGS 2nd order mark designated J33 published height = 938.93
 laRTN NAVD88 height computed using Geoid 12A = 939.06
 The relative network error of the height observations of a GPS target in close proximity to Q155 was less than 0.04 ft. at 95% confidence level. The elevation from the target was then transferred to Q155 and then closed back to the target with an error of less than 0.01 ft

Mark X3 is located 16 miles northwest of the project.
 NGS 1st. order class II mark designated X3 published height = 1026.36
 laRTN NAVD88 height computed using Geoid 12A = 1026.40
 The relative network error of the height observations of X3 was less than 0.03 ft. at 95% confidence level.

This survey also observed one As built plan height benchmark inside the project limits to compare with observed survey height:

BM # 509 EI = 938.22 ft. NHSN-141-7(24)--2R-77 as built plans this survey =938.49

The local error of height observations on project control relative to Pt. 2 was less than 0.02 ft. at 95% confidence level based on 3 base and rover observations.

Horizontal Control

The project coordinate system is Modified Iowa State Plane South Zone (U.S. Survey Feet) scaled around Pt. 2 at 610391.293 N, 1567124.036 E, 961.859 (H)eight. laRTN datum is adjusted to NAD83(2011) (Epoch 2010.00). Project coordinates were established at Pt. 2 by averaging a minimum of two Iowa RTN RTK observations with 4 hours or greater time span between each observation. The relative network error of observations was less than 0.04 ft. at 95% confidence level. Additional control points were placed at the North and South ends of the project by averaging a minimum of three base and rover observations with 1 hour or greater time span between each observation. The local error of these observations was less than 0.04 ft. at 95% confidence level.

1/Combined Scale Factor of project (State plane grid modified to ground)=1.000058607841

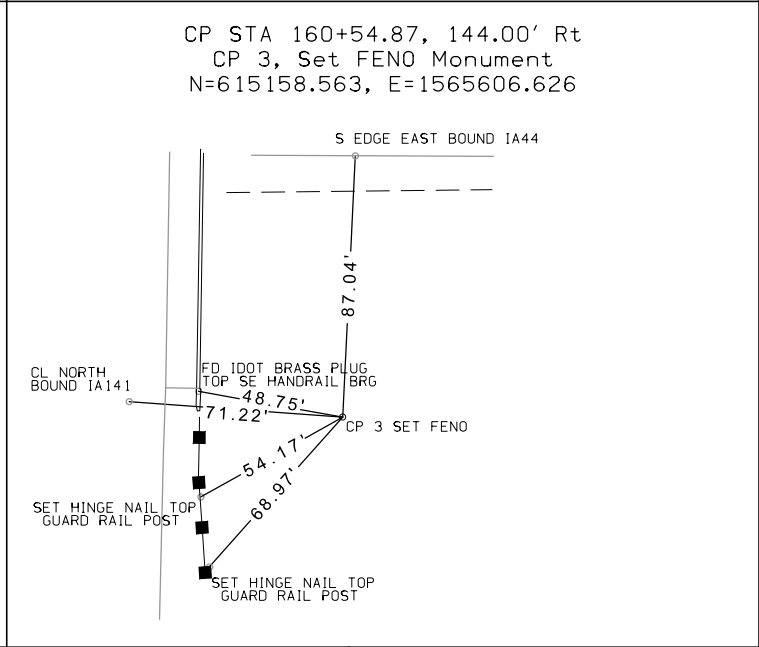
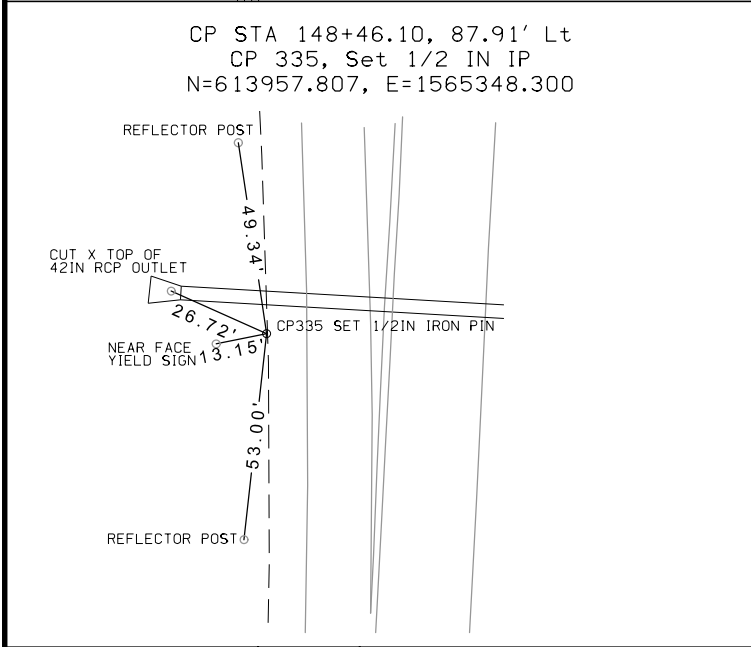
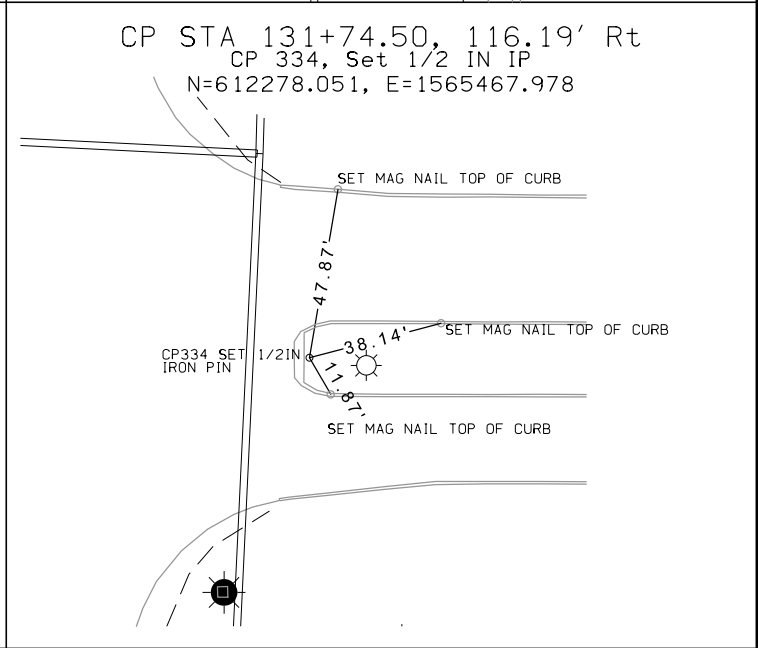
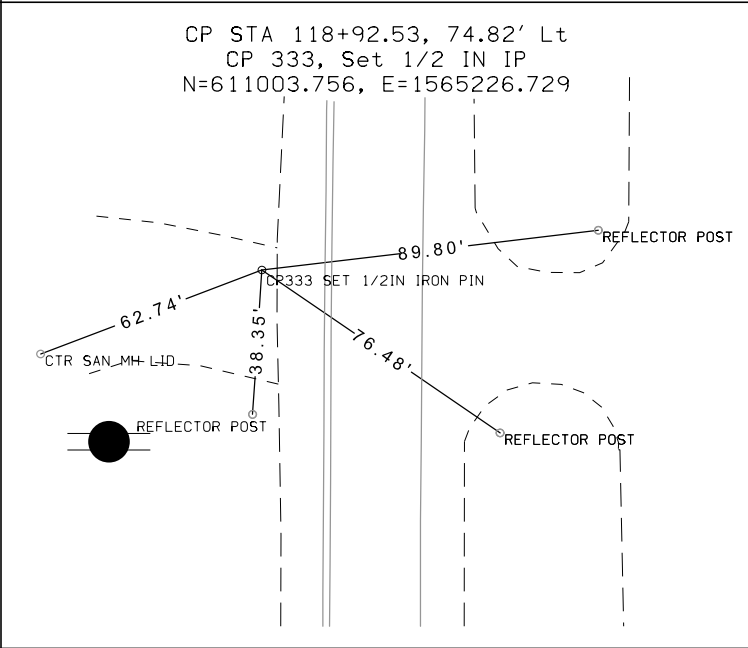
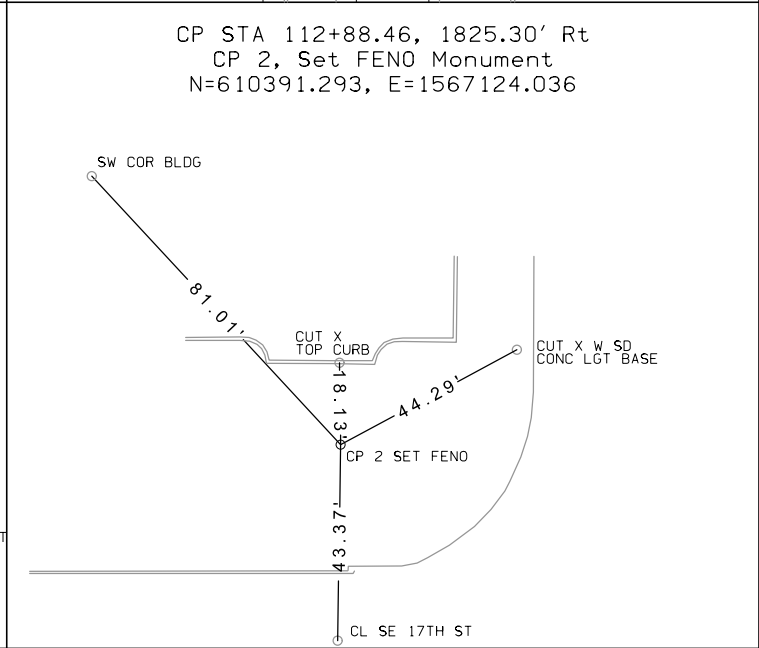
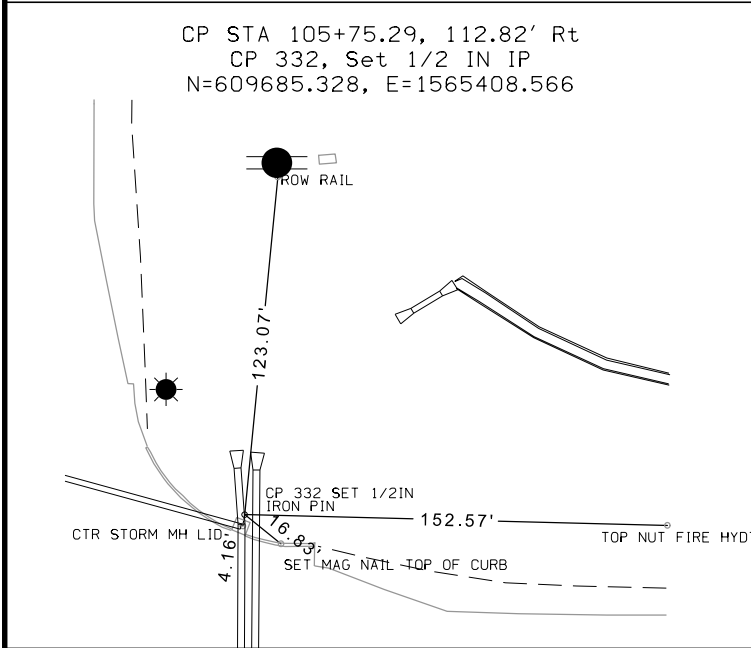
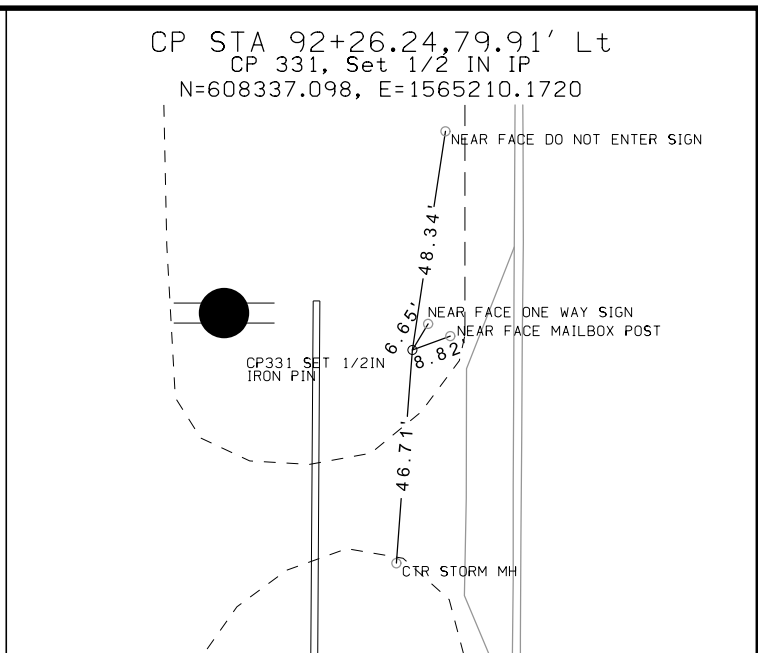
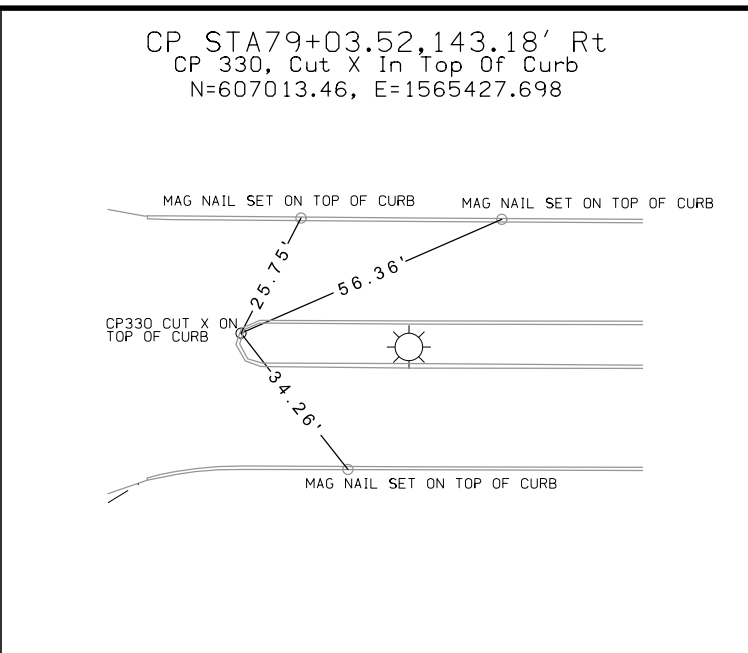
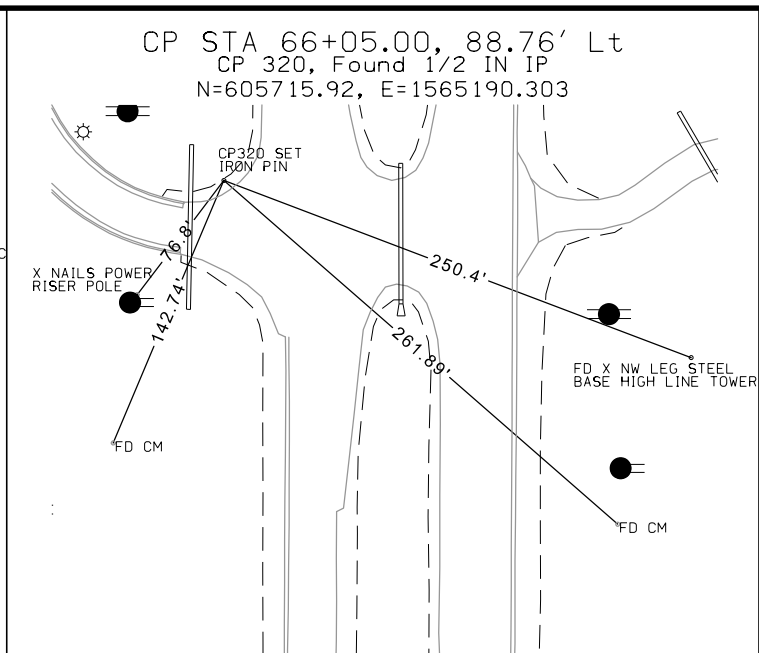
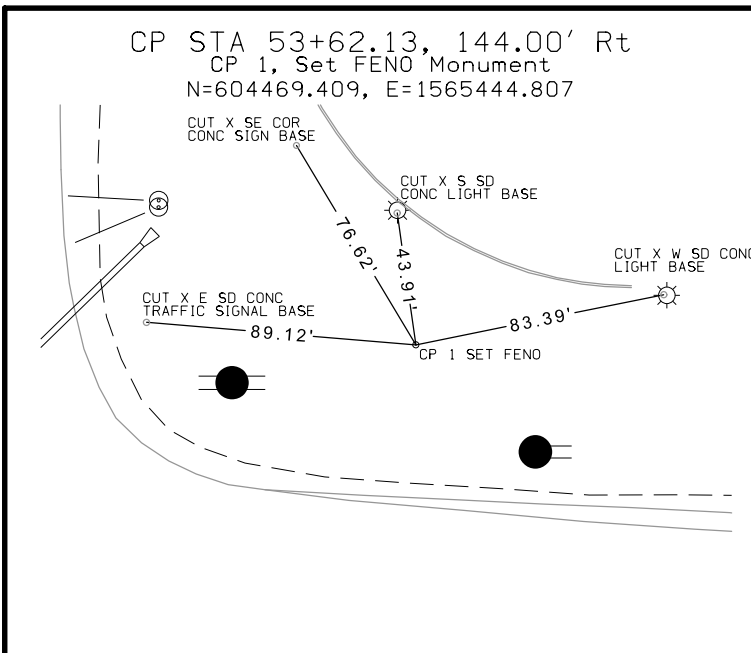
The 1/Combined Scale Factor scaled at Pt. 2 will be used for GPS/GNSS stakeout and location survey in the Project Coordinate system. A scale factor of 1 will be used for total station stakeout and location survey in the Project Coordinate system.

Alignment Information

The horizontal alignments for this survey are a retrace of As-built Plans NHSN-141-7(24)--TR-77 and a retrace of As-built Plans FN-141-7(7)--21-77. For the first part of the alignment survey stationing was equated to the plan PI at STA 41+22.10 and run ahead without equation throughout the survey. For the second part of the alignment survey stationing was equated to the plan PI at STA 64+50.72 and run ahead without equation throughout the survey.

VERTICAL CONTROL

Point	North	East	Elevation	Station	Offset	Feature	Description
1	604469.409	1565444.807	956.66	53+62.13	144.0023	CP	CP 1 SET FENO MONUMENT
509	605381.1070	1565194.0620	938.4940	62+69.05	-126.7562	BM	FD IHC BUTTON ON INLET HDWL 4 X 8 RCB
510	605627.1730	1565424.4440	945.8710	65+17.24	145.7488	BM	FD X NW LEG STEEL BASE HIGH LINE TOWER
511	606972.0480	1565111.1860	961.2220	78+60.78	-173.1583	BM	FD X SW HEADBOLT FIRE HYD
330	607013.4600	1565427.6980	956.6710	79+03.52	143.1769	CP	CP330 SET CUT X ON TOP OF CURB
520	609721.0290	1565186.4100	950.3770	106+10.05	-109.4874	BM	CUT X SE CORNER CONC W/ELECTRIC BOX
2	610391.2930	1567124.0360	961.8590	112+88.46	1825.3047	CP	CP 2 SET FENO MONUMENT
521	612283.5640	1565465.7110	957.6260	131+79.90	113.6521	BM	CUT X N END CONC MEDIAN HEAD
3	615158.563	1565606.626	982.56	160+54.87	115.1503	CP	CP 3 SET FENO MONUMENT



ALIGNMENT COORDINATES

101-16
10-20-09

Name	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates	
			Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)
SUR141A 17 C1		41+22.10	603,233.13	1,565,271.59				59+99.73	605,110.24	1,565,315.93	62+25.18	605,335.63	1,565,321.26	64+50.62	605,561.07	1,565,322.42			
SUR141B 206 C2 C3		64+50.72	605,561.27	1,565,278.42				117+97.44 157+01.20	610,907.94 614,807.39	1,565,300.89 1,565,479.16	121+94.02 161+51.55	611,304.52 615,257.18	1,565,302.55 1,565,501.82	125+90.46 166+01.45	611,700.60 615,707.35	1,565,322.52 1,565,489.25			
SRFARMACCESSRD 70000 70001 70003 70004		900+00.00	607,581.20	1,565,102.40				900+25.18	607,579.22	1,565,127.50	900+47.80	607,577.45	1,565,150.06	900+59.73	607,600.07	1,565,150.15			
SR11TH RET 1 60010 60011 60012								0+00.00 0+35.50 0+80.21	612,323.92 612,329.18 612,358.29	1,565,515.43 1,565,480.44 1,565,448.47	0+17.87 0+59.48 1+24.46	612,324.05 612,336.07 612,399.30	1,565,497.56 1,565,457.47 1,565,431.84	0+35.50 0+80.21 1+67.31	612,329.18 612,358.29 612,443.49	1,565,480.44 1,565,448.47 1,565,434.07			
SR11TH RET 2 60020								0+00.00	612,325.62	1,565,220.04	0+54.64	612,332.30	1,565,274.27	0+90.87	612,386.87	1,565,277.02			
SR11TH RET 3 60030 60031 60032								0+00.00 0+87.10 1+32.23	612,129.82 612,215.02 612,244.25	1,565,270.07 1,565,255.67 1,565,223.30	0+44.25 1+11.33 1+50.09	612,174.01 612,237.48 612,249.23	1,565,272.30 1,565,246.57 1,565,206.15	0+87.10 1+32.23 1+67.71	612,215.02 612,244.25 612,249.22	1,565,255.67 1,565,223.30 1,565,188.29			
SR19TH RET 1 50010 50011 50012		0+00.00	609,675.43	1,565,433.53				0+17.58 0+57.27	609,681.39 609,707.53	1,565,416.99 1,565,388.51	0+38.54 1+01.52	609,688.49 609,747.73	1,565,397.27 1,565,370.01	0+57.27 1+44.37	609,707.53 609,791.98	1,565,388.51 1,565,370.20			
SR19TH RET 2 50020 50021 50022								0+00.00 0+97.22 1+35.94	609,668.46 609,688.48 609,715.89	1,565,087.21 1,565,181.57 1,565,207.54	0+49.38 1+17.61 1+59.15	609,668.12 609,696.89 609,737.52	1,565,136.59 1,565,200.14 1,565,215.97	0+97.22 1+35.94 1+81.84	609,688.48 609,715.89 609,760.73	1,565,181.57 1,565,207.54 1,565,216.06			
SR19TH RET 3 50030 50031 50032								0+00.00 0+87.10 1+29.96	609,499.82 609,584.26 609,611.38	1,565,220.97 1,565,202.66 1,565,171.16	0+44.25 1+09.94 1+46.17	609,544.07 609,605.02 609,615.90	1,565,221.15 1,565,193.11 1,565,155.59	0+87.10 1+29.96 1+62.20	609,584.26 609,611.38 609,616.29	1,565,202.66 1,565,171.16 1,565,139.38			
SR19TH RET 4 50040 50041								0+00.00 0+44.93	609,525.40 609,568.79	1,565,375.08 1,565,385.18	0+22.85 0+56.07	609,548.25 609,578.81	1,565,375.17 1,565,390.07	0+44.93 0+66.27	609,568.79 609,583.21	1,565,385.18 1,565,400.31			
SR28THWEST 40000 40001		300+00.00 305+00.00	607,005.22 607,003.18	1,564,784.48 1,565,284.48															
SR28TH RET 1 40010 40011 40012		0+00.00	607,036.69	1,565,413.37				0+04.18 0+45.89 0+85.92	607,036.69 607,061.81 607,099.40	1,565,409.19 1,565,377.40 1,565,364.03	0+26.34 0+66.04 1+11.41	607,042.21 607,079.64 607,124.38	1,565,387.73 1,565,368.01 1,565,358.99	0+45.89 0+85.92 1+36.72	607,061.81 607,099.40 607,149.87	1,565,377.40 1,565,364.03 1,565,359.09			
SR28TH RET 2 40020 40021								0+00.00 0+87.37	607,018.36 607,031.94	1,565,086.95 1,565,172.89	0+44.06 1+27.09	607,018.26 607,044.27	1,565,131.01 1,565,210.65	0+87.37 1+56.17	607,031.94 607,083.99	1,565,172.89 1,565,210.82			
SR28TH RET 3 40030 40031 40032								0+00.00 0+87.10 1+29.77	606,861.67 606,946.12 606,973.19	1,565,209.88 1,565,191.57 1,565,160.26	0+44.25 1+09.83 1+47.52	606,905.92 606,966.77 606,978.20	1,565,210.07 1,565,182.07 1,565,143.23	0+87.10 1+29.77 1+65.03	606,946.12 606,973.19 606,978.27	1,565,191.57 1,565,160.26 1,565,125.49			

ALIGNMENT COORDINATES

101-16
10-20-09

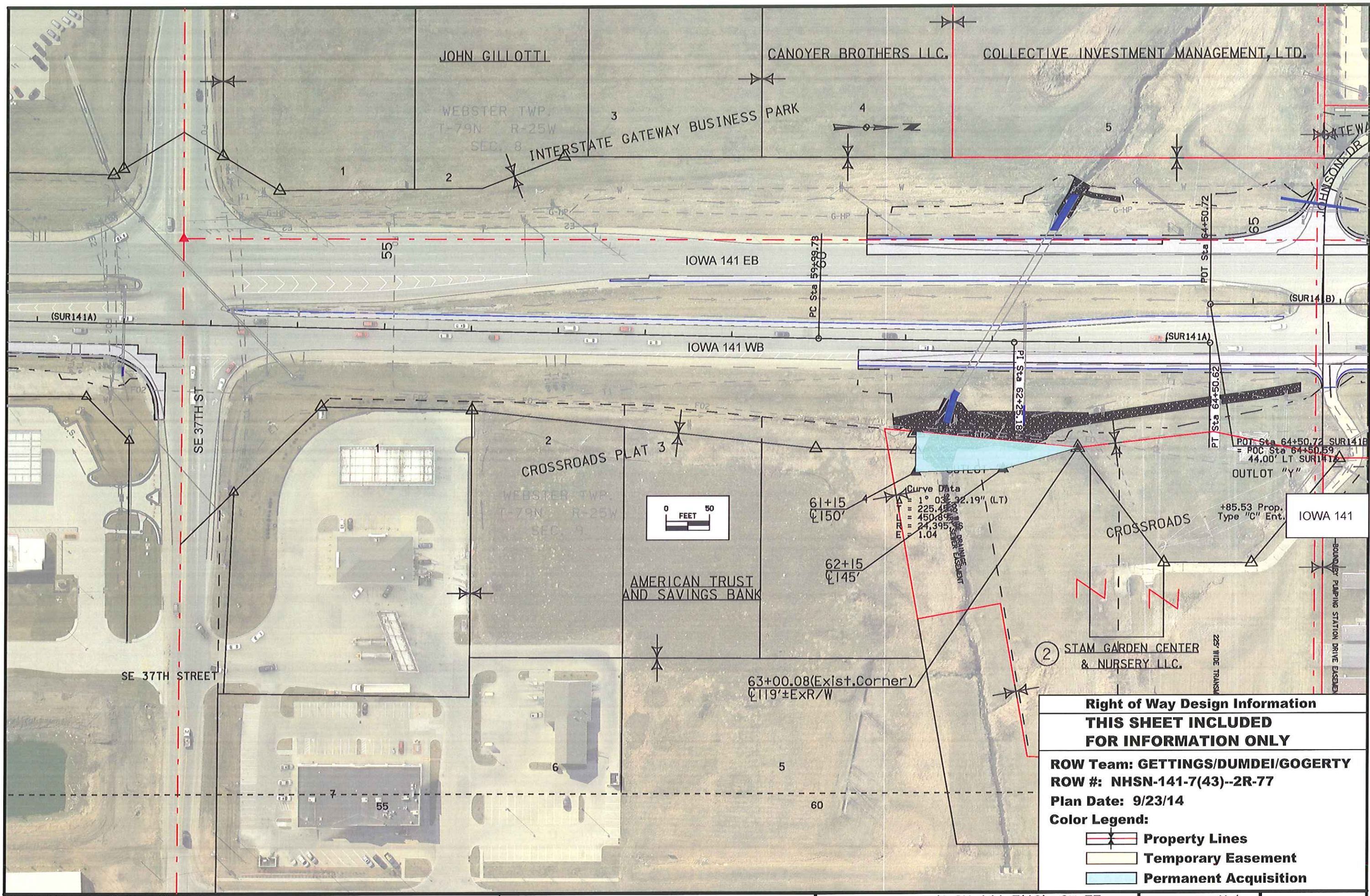
Name	Location	Point on Tangent		Begin Spiral		Begin Curve		Simple Curve PI or Master PI of SCS			End Curve		End Spiral			
		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates	
			Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)
SR37TH RET 4 30040 30042		1+09.58	604,350.53	1,565,406.48			0+00.00	604,286.70	1,565,332.49	0+61.23	604,347.91	1,565,333.94	0+98.22	604,350.12	1,565,395.12	
SRJNSNDR 90000 90001 90003		1000+00.00	605,842.55	1,565,082.59			1000+50.00	605,792.55	1,565,082.12	1001+48.08	605,694.48	1,565,081.21	1002+04.92	605,692.04	1,565,179.26	
SRJNSNDR RET 2 80034 80035							0+00.00	605,709.95	1,565,152.14	0+05.14	605,708.16	1,565,156.96	0+10.26	605,706.96	1,565,161.95	
							0+10.26	605,706.96	1,565,161.95	0+54.53	605,696.56	1,565,204.98	0+73.39	605,740.83	1,565,205.17	
SRJNSNDR RET 3 80030 80031 80032							0+00.00	605,567.12	1,565,204.44	0+44.25	605,611.37	1,565,204.60	0+87.10	605,651.55	1,565,186.08	
							0+87.10	605,651.55	1,565,186.08	1+01.20	605,664.37	1,565,180.18	1+14.60	605,672.20	1,565,168.45	
							1+14.60	605,672.20	1,565,168.45	1+29.01	605,680.21	1,565,156.47	1+43.29	605,685.28	1,565,142.98	

SPIRAL OR CIRCULAR CURVE DATA

101-17
04-19-11

Name	Location	Δ_{SCS}	Horizontal Alignment Data													Remarks		
			Spiral Data					Curve Data										
			θ_s	Ls	Ts	Es	Xc	Yc	L.T.	S.T.	Δ_c	T	L	R	E			
SUR141A C1														1° 03' 32.19" LT	225.45'	450.89'	24,395.96'	1.04'
SUR141B C2 C3														2° 38' 43.85" RT	396.58'	793.02'	17,174.97'	4.58'
														4° 28' 56.07" LT	450.35'	900.25'	11,507.74'	8.81'
SRFARMACCESSRD 70001														94° 15' 35.28" LT	22.62'	34.55'	21.00'	9.87'
SR11TH RET 1 60010 60011 60012														16° 16' 12.90" RT	17.87'	35.50'	125.00'	1.27'
														51° 14' 36.69" RT	23.98'	44.72'	50.00'	5.45'
														24° 57' 04.68" RT	44.25'	87.10'	200.00'	4.84'
SR11TH RET 2 60020														80° 06' 02.82" LT	54.64'	90.87'	65.00'	19.91'
SR11TH RET 3 60030 60031 60032														24° 57' 04.68" LT	44.25'	87.10'	200.00'	4.84'
														51° 43' 12.24" LT	24.24'	45.13'	50.00'	5.56'
														16° 15' 36.74" LT	17.86'	35.47'	125.00'	1.27'
SR19TH RET 1 50011 50012														45° 28' 55.25" RT	20.96'	39.69'	50.00'	4.21'
														24° 57' 04.68" RT	44.25'	87.10'	200.00'	4.84'
SR19TH RET 2 50020 50021 50022														24° 45' 28.84" LT	49.38'	97.22'	225.00'	5.36'
														44° 21' 39.01" LT	20.38'	38.71'	50.00'	4.00'
														21° 02' 22.09" LT	23.21'	45.90'	125.00'	2.14'
SR19TH RET 3 50030 50031 50032														24° 57' 04.68" LT	44.25'	87.10'	200.00'	4.84'
														49° 06' 48.81" LT	22.85'	42.86'	50.00'	4.97'
														14° 46' 51.25" LT	16.21'	32.25'	125.00'	1.05'
SR19TH RET 4 50040 50041														25° 44' 28.49" RT	22.85'	44.93'	100.00'	2.58'
														40° 46' 07.97" RT	11.15'	21.35'	30.00'	2.00'

Polk	ROW: NHSN-141-7(43)--2R-77					PIN	13-77-141-020										
	IA 44 to N of I-35/80																
		STATE		COUNTY		CITY			BORROW								
PARCEL NO.	OWNER NAME	FEE	EASE	FEE	EASE	FEE	EASE	EXCESS	FEE	T.E.	MITIGATION	OTHER	HOUSE	BUILDING(S)	A/C ONLY	TOTAL ACQ.	
2	Stam Garden Center & Nursery LLC. - Fee	5315 SF															
3	M-Keds LTD II - Fee																
4	Brenton Communities Fund X Grimes - Fee																
5	Della M. Burgus - Fee Darryl C. Seibert - Fee Twila M. Seibert - Fee	5851 SF															
6	Hunter Farms - Fee	4978 SF															
7	Ames Community Bank - Fee	2554 SF															
6 Parcels	"TOTALS	0 AC	0 AC	0 AC	0 AC	0 AC	0 AC	0 AC	0 AC	0 AC	0 AC	0 AC	0 AC	0 AC			
		18698 SF	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF								

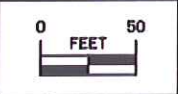
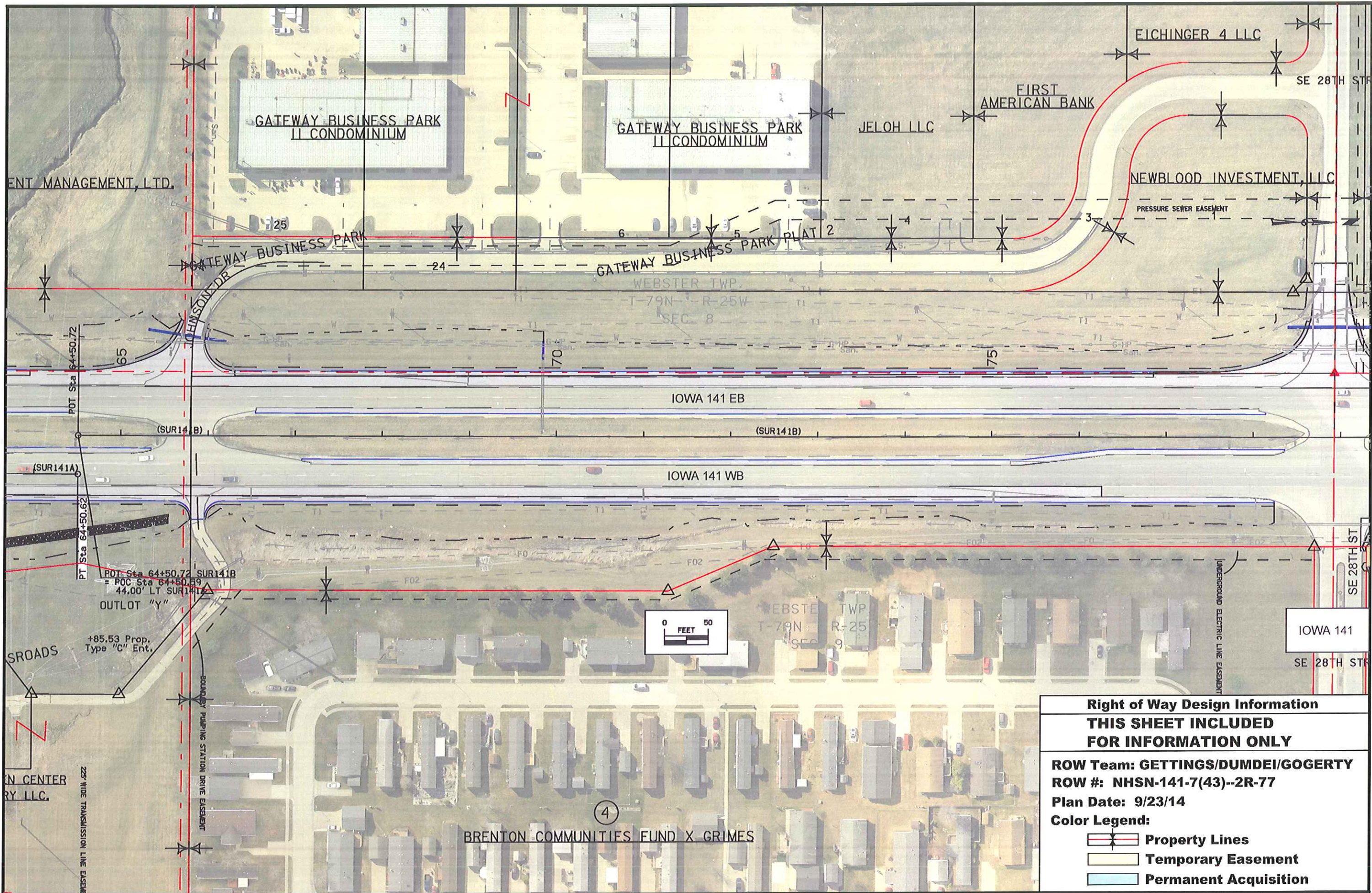


Curve Data
 Δ = 1° 03' 32.19" (LT)
 R = 225.45'
 L = 450.89'
 E = 24,395.00'
 E = 1.04

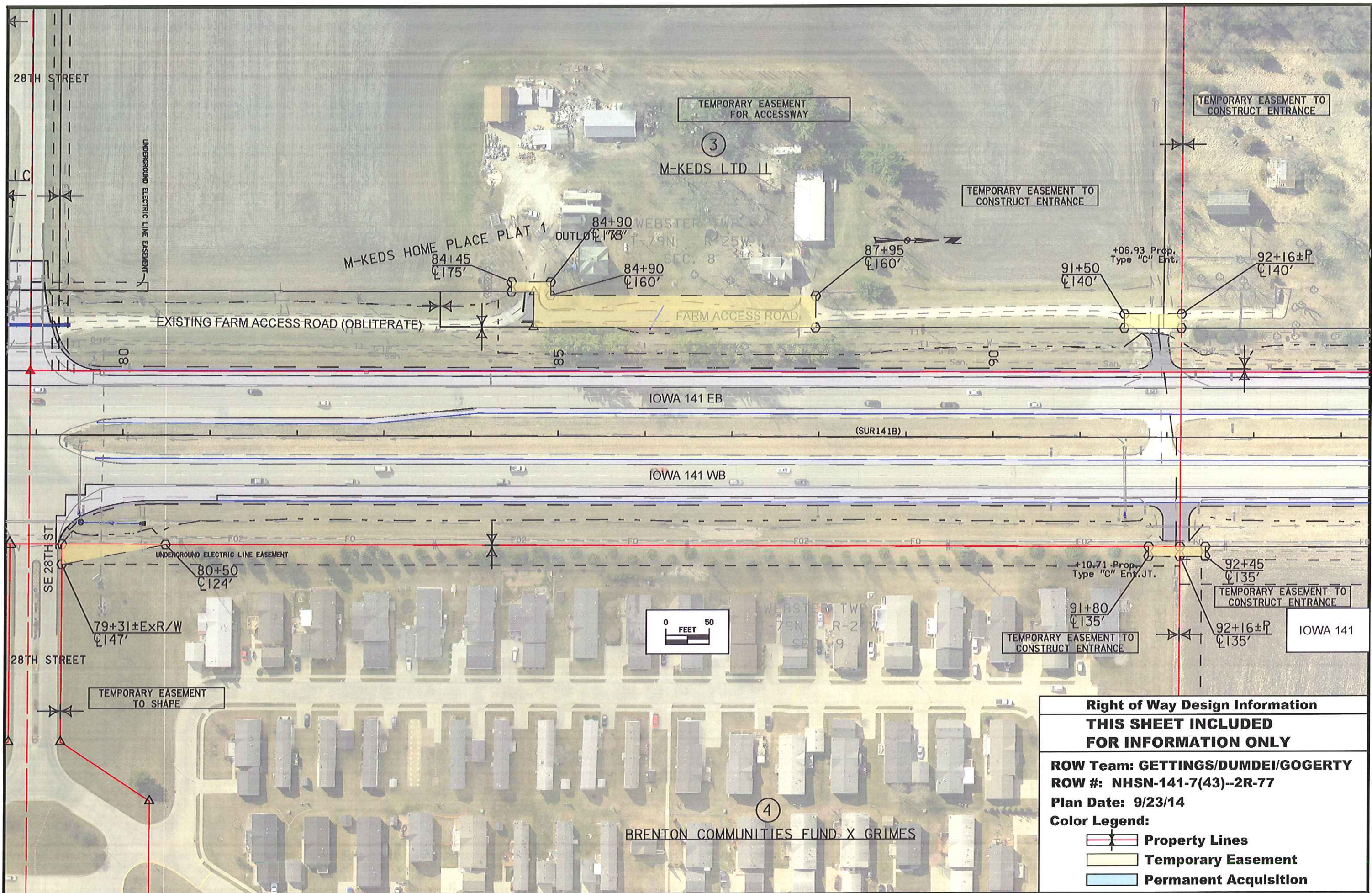
Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY

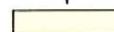
ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: NHSN-141-7(43)--2R-77
Plan Date: 9/23/14
Color Legend:

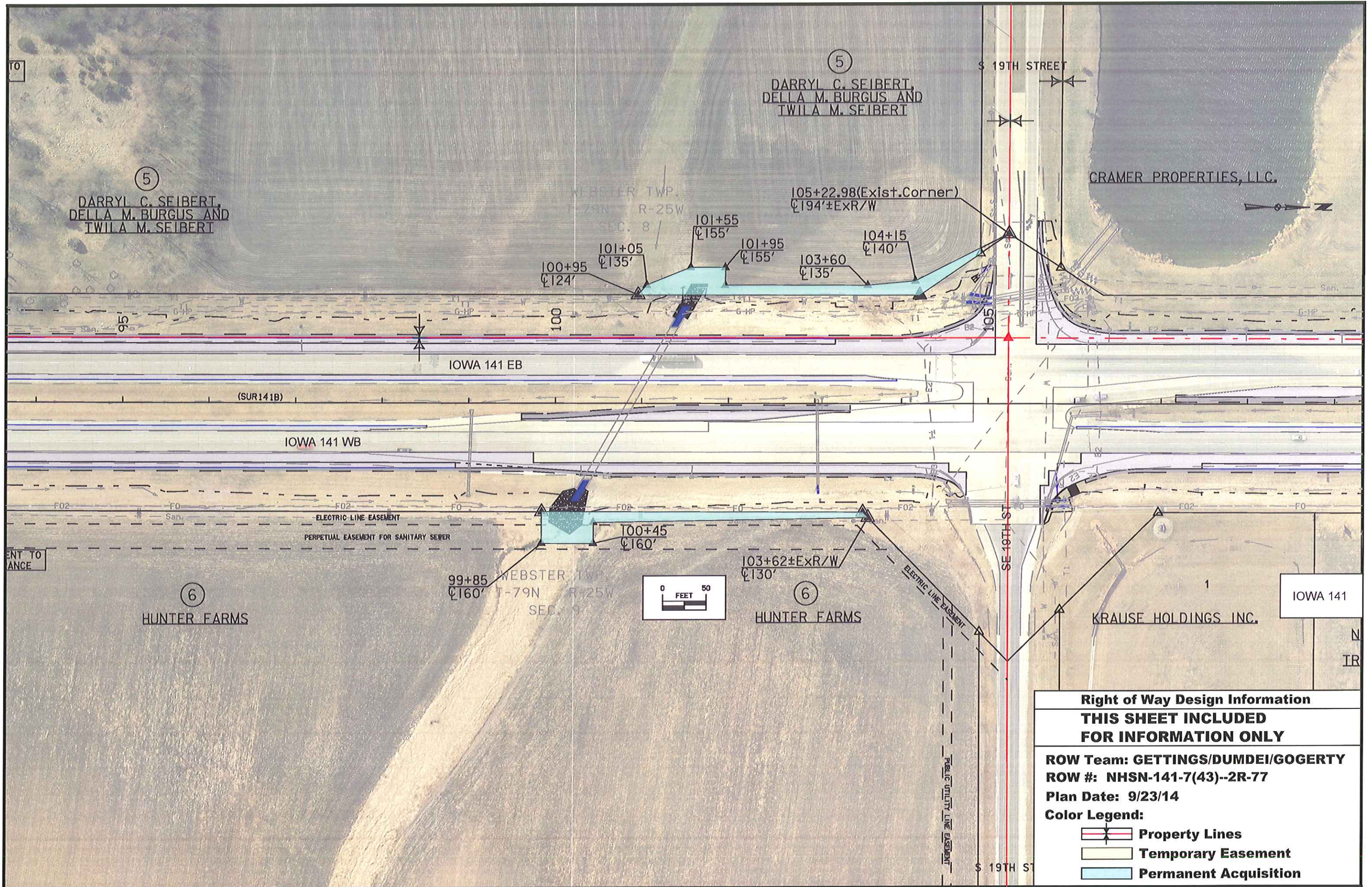
- Property Lines
- Temporary Easement
- Permanent Acquisition



Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: GETTINGS/DUMDEI/GOGERTY	
ROW #: NHSN-141-7(43)--2R-77	
Plan Date: 9/23/14	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: GETTINGS/DUMDEI/GOGERTY	
ROW #: NHSN-141-7(43)--2R-77	
Plan Date: 9/23/14	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: NHSN-141-7(43)--2R-77
Plan Date: 9/23/14

Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition

CRAMER PROPERTIES, LLC.

WEBSTER TWP.
T-79N R-25W
SEC. 5

HUBBELL METRO DEV. FUND I LLC.

OUTLOT "B"
Curve Data
 $\Delta = 2^\circ 38' 43.85''$ (RT)
T = 396.58
L = 793.02
R = 17,174.97
E = 4.58

GRIMES BUSINESS PARK PLAT 2

IOWA 141 EB

(SUR141B)

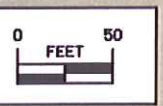
IOWA 141 WB

PRINCETON SUBDIVISION PLAT NO. 1

(U.A.C.)
NEWARK
LAND
TRUST LC

(U.A.C.) WE CAN BUILD IT LC (U.A.C.)

WEBSTER TWP.
T-79N R-25W
SEC. 7



+70.73 Prop.
Type "C" Ent.

IOWA 141

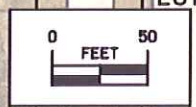
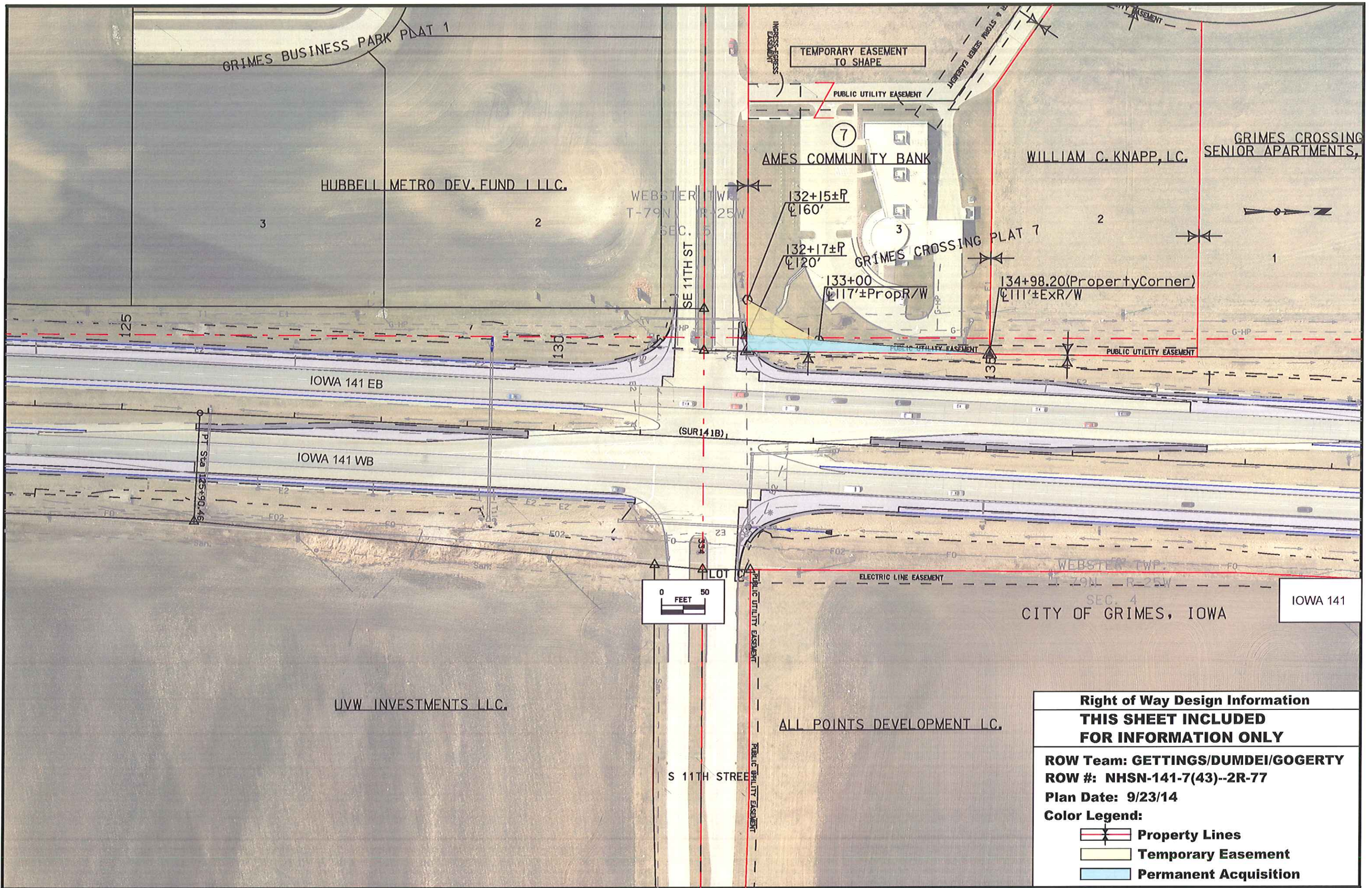
UVW INVESTMENTS LLC.

Right of Way Design Information
THIS SHEET INCLUDED
FOR INFORMATION ONLY

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: NHSN-141-7(43)--2R-77
Plan Date: 9/23/14

Color Legend:

-  Property Lines
-  Temporary Easement
-  Permanent Acquisition



Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: GETTINGS/DUMDEI/GOGERTY	
ROW #: NHSN-141-7(43)--2R-77	
Plan Date: 9/23/14	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition

TRAFFIC CONTROL PLAN

Refer to Staging Notes in Tab 108-26A for Traffic Control Plan details.

IA 141 is an east-west route; however, in the area of this project, IA 141 runs north and south. The directional terms "eastbound" (south) and "westbound" (north) will be used.

Property accesses must be maintained but will require partial closures. Duration of partial closure of accesses shall be minimized. Work shall not occur on adjacent intersections at the same time.

The Department reserves the right to modify these restrictions to accommodate specific contractor activities and unforeseen traffic conditions.

Installation of traffic control shall conform to the Manual on Uniform Traffic Control Devices (MUTCD) 2009 edition, unless otherwise specified in the plans.

IA 141
Two eastbound lanes must be maintained during morning peak hours (6 AM to 9AM) and two westbound lanes must be maintained during afternoon peak hours (3 PM to 6PM). Two lanes must be maintained for both directions on Friday and Saturday nights (3 PM to 12 PM). During all other times, one travel lane is required for both directions.

The posted speed on IA 141 will be reduced to 45 mph during construction.

Johnson Drive
Johnson Drive will be closed to traffic during intersection construction.

SE 19th Street
SE 19th Street west of IA 141 will be closed to traffic during intersection construction. A detour will be signed using SE Gateway Drive and SE 11th Street.

The SE 19th Street bike path will be closed to pedestrians at the IA 141 intersection.

SE 41st Street
The SE 41st Street access at IA 141 will be closed to traffic during construction.

SE 28th Street
SE 28th Street west of IA 141 will be closed to traffic during intersection construction. A detour will be signed using SE Gateway Drive and SE 37th Street.

PEDESTRIAN PATH CLOSURES

Refer to TC-601.

*Assumes 6 foot wide barricade.
Closures may need to be removed and re-established.

Location	Side	Type III Barricades*	Remarks
		No.	
SE 19th Street	NE	2	

STAGING NOTES

Stage 1

Traffic:

- Reduce WB IA 141 to one 12 foot lane during off-peak hours (see Traffic Control Plan, Tab 108-23A).
- Reduce EB IA 141 to one 12 foot lane during off-peak hours (see Traffic Control Plan, Tab 108-23A).
- Close the WB SE 19th Street inside left turn lane during off-peak hours.

Construction:

- Construct inside shoulder while traffic is reduced to one lane.
- Construction must be limited to sections which can be replaced in the 21 hour period of off-peak construction. This will require night work.
- Construct left turn lane pavement at SE 19th Street and SE 11th Street.
- Construct Farm Access Road.
- At all times, a drop-off greater than 2 inches is prohibited at the edge of the travel lane.

Stage 2

Traffic:

- Shift both lanes of EB and WB IA 141 to the inside, utilizing the inside shoulder constructed in Stage 1. Maintain 11 foot lanes.
- Close WB IA 141 right turn lanes at SE 37th Street, SE 28th Street, SE 19th Street, and SE 11th Street.
- Close EB IA 141 right turn lanes at SE 19th Street and SE 11th Street.
- Close EB IA 141 left turn lanes at SE 28th Street and SE 19th Street during intersection closures.
- Close the access at SE 41st Street.
- SE 37th Street
 - Shift traffic around southeast return construction.
- Johnson Drive
 - Close Johnson Drive at the IA 141 intersection. Open after work is completed in the intersection.
- SE 28th Street west of IA 141
 - Close at the IA 141 intersection. Open after work is completed in the intersection.
 - Utilize SE Gateway drive and SE 37th Street to detour SE 28th Street Traffic.
- SE 28th Street east of IA 141
 - Reduce WB lane width to 13 feet.
- SE 19th Street west of IA 141
 - Close at the IA 141 intersection. Open after work is completed in the intersection.
 - Utilize SE Gateway Drive and SE 11th Street to detour SE 19th Street traffic.
- SE 19th Street east of IA 141
 - Reduce WB traffic to one lane but maintain dual left turn lanes.
 - Close pedestrian access.
- SE 11th Street west of IA 141
 - Close EB right turn lane.
 - Reduce WB traffic to one 12 foot lane.
- SE 11th Street east of IA 141
 - Reduce WB traffic to one 12 foot lane. Maintain existing left turn lane.
- Maintain existing property access at all times.
- Century farm traffic will use the existing access road at SE 28th Street and the Farm Access Road constructed in Stage 1 during the construction of the entrance at Station 90+06.93. This entrance must be completed and open for property access prior to beginning SE 28th Street intersection construction and existing access road removal.










Construction:

- Install temporary barrier rail (TBR) on IA 141 to protect work area.
- Construct third lane, auxiliary lanes, outside shoulders, and associated grading.
- Construct intersection returns.
- Maintain breaks in the TBR at intersections and property accesses.
 - Install severe use attenuators to accommodate return and property access construction.
 - Once a sufficient area of pavement has been constructed at each return and property access, reconfigure TBR to use a 6:1 TBR flare, locating the TBR end a minimum of 10 feet from the edge of lane.
- Stage construct property accesses to maintain access at all times.

**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, Light	(236)	Proposed Grading Limits Shading
Brown, Med	(237)	Future Proposed Pavement Shading

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



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

PLAN VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Magenta	(5)	Pavement Marking Call Outs
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Yellow	(4)	Pavement Markings, Yellow
Off White	(254)	Pavement Markings, White

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, Light	(236)	Proposed Grading Limits Shading
Pink, Dark	(13)	Proposed MSE or CIP Wall Shading
Red	(3)	Proposed Bridge Shading and Sign Trusses
Black w/Gray, Light Fill	(0,48)	Previously Constructed Structure

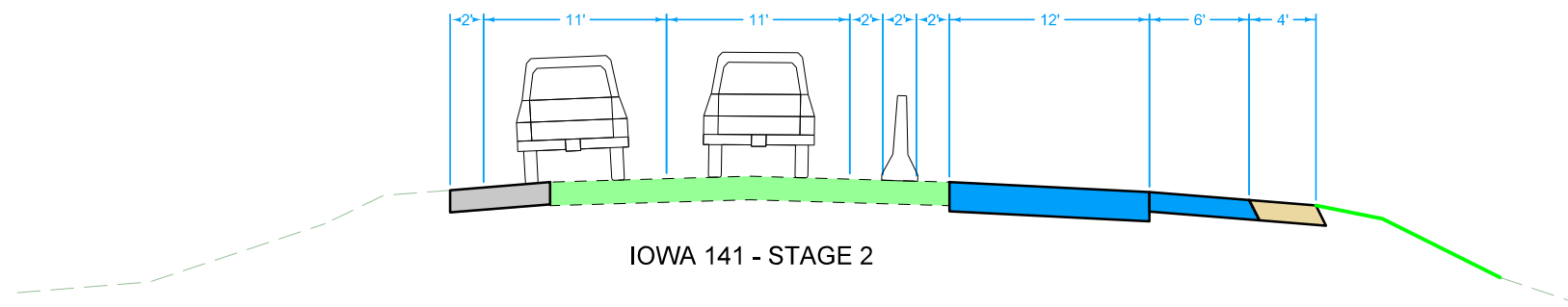
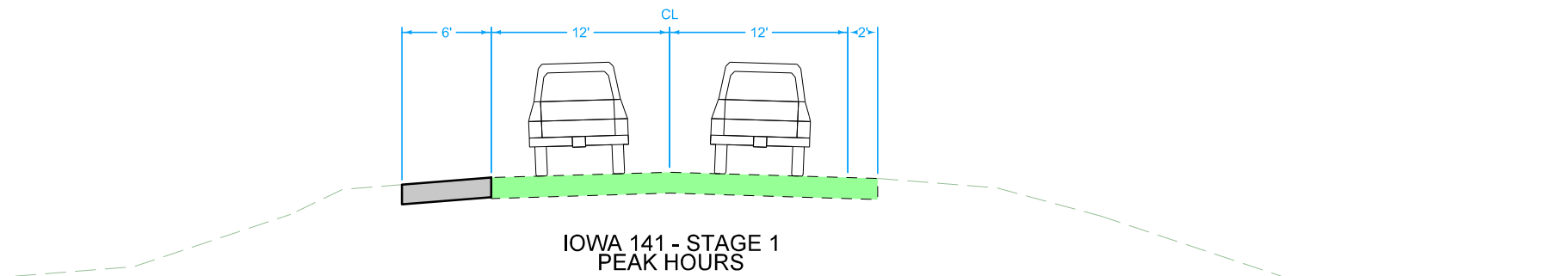
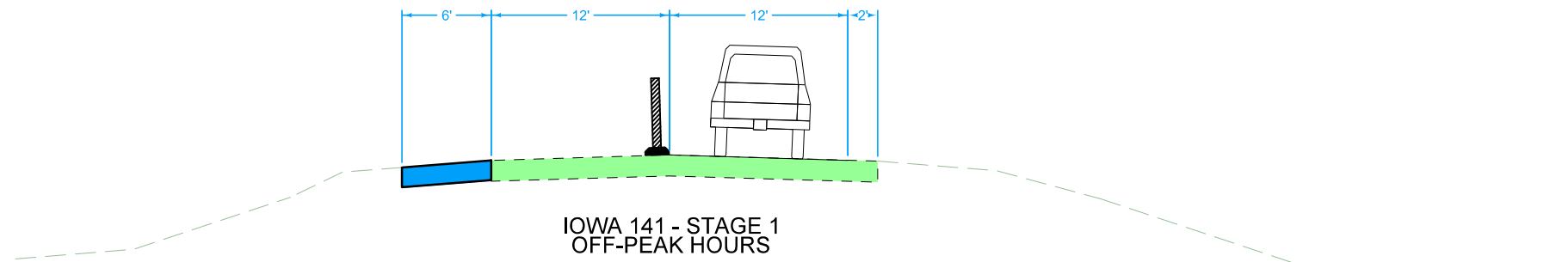
**PLAN VIEW PATTERN AND SYMBOL LEGEND
OF TRAFFIC CONTROL AND STAGING SHEETS**

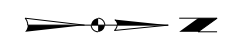
●	Channelizing Device	■	Crash Cushion
✕	Drum	○→	Traffic Signal
■	Temporary Lane Separator	■	Flagger
◆	Tubular Marker	○●	Temporary Floodlighting
♦	Channelizer Marker	†	Traffic Sign
△	Concrete Barrier Marker	†	Type III Barricade
↵	Delineator	☀	Type A Warning Light
≡	Temporary Barrier Rail	←	Direction of Traffic
	Pavement Removal		Safety Closure

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

**TRAFFIC CONTROL
AND
STAGING**

(COVERS SHEET SERIES J)





ADVANCE SIGNING

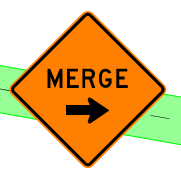
ROAD WORK AHEAD
W20-1
48" x 48"
2000' FROM BEGINNING OF TAPER (2 SIGNS)

SPEED LIMIT 45
R2-1
48" x 60"
1400' FROM BEGINNING OF TAPER (2 SIGNS)

RAILROAD



W20-5
48" x 48"



W4-2M
48" x 48"

RAMP TO I-35/80 SB

IOWA 141 EB

IOWA 141 WB

0'-500'

600' MERGING TAPER



W20-1
48" x 48"

RAMP FROM I-35/80 WB

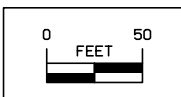
100'



W4-2
48" x 48"

SE CAPITOL CIRCLE

SE GRIMES BLVD (FRONTAGE ROAD)



IOWA 141
STAGE 1



W20-1
48" x 48"

100'

37TH ST

45 IOWA 141 EB

50

120' TAPER

IOWA 141 WB

600'
MERGING TAPER

325'

100'

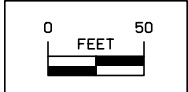
SPACING = 40'

SE GRIMES BLVD (FRONTAGE ROAD)

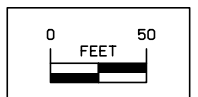
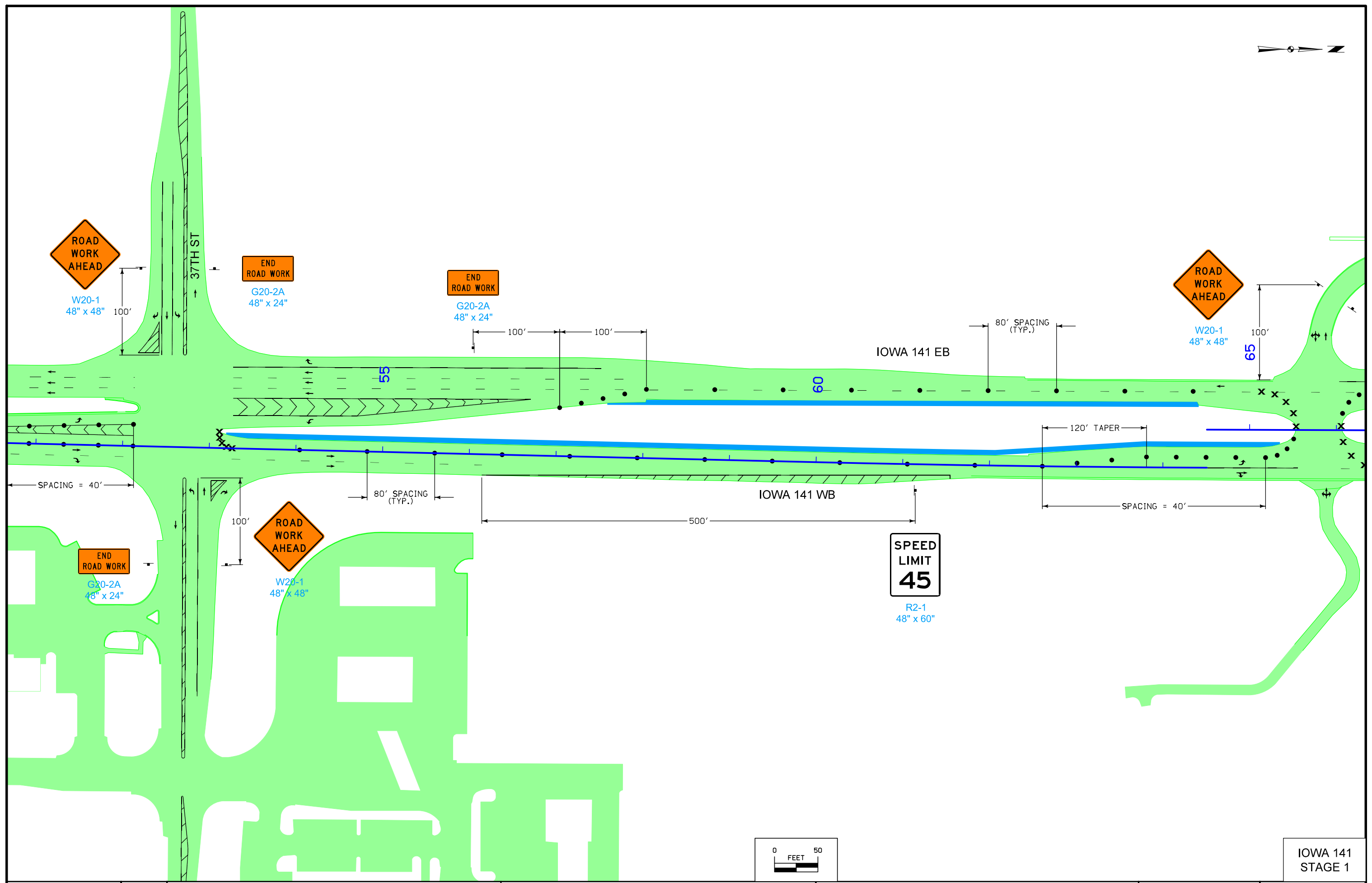
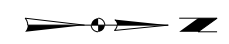


G20-2A
48" x 24"

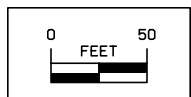
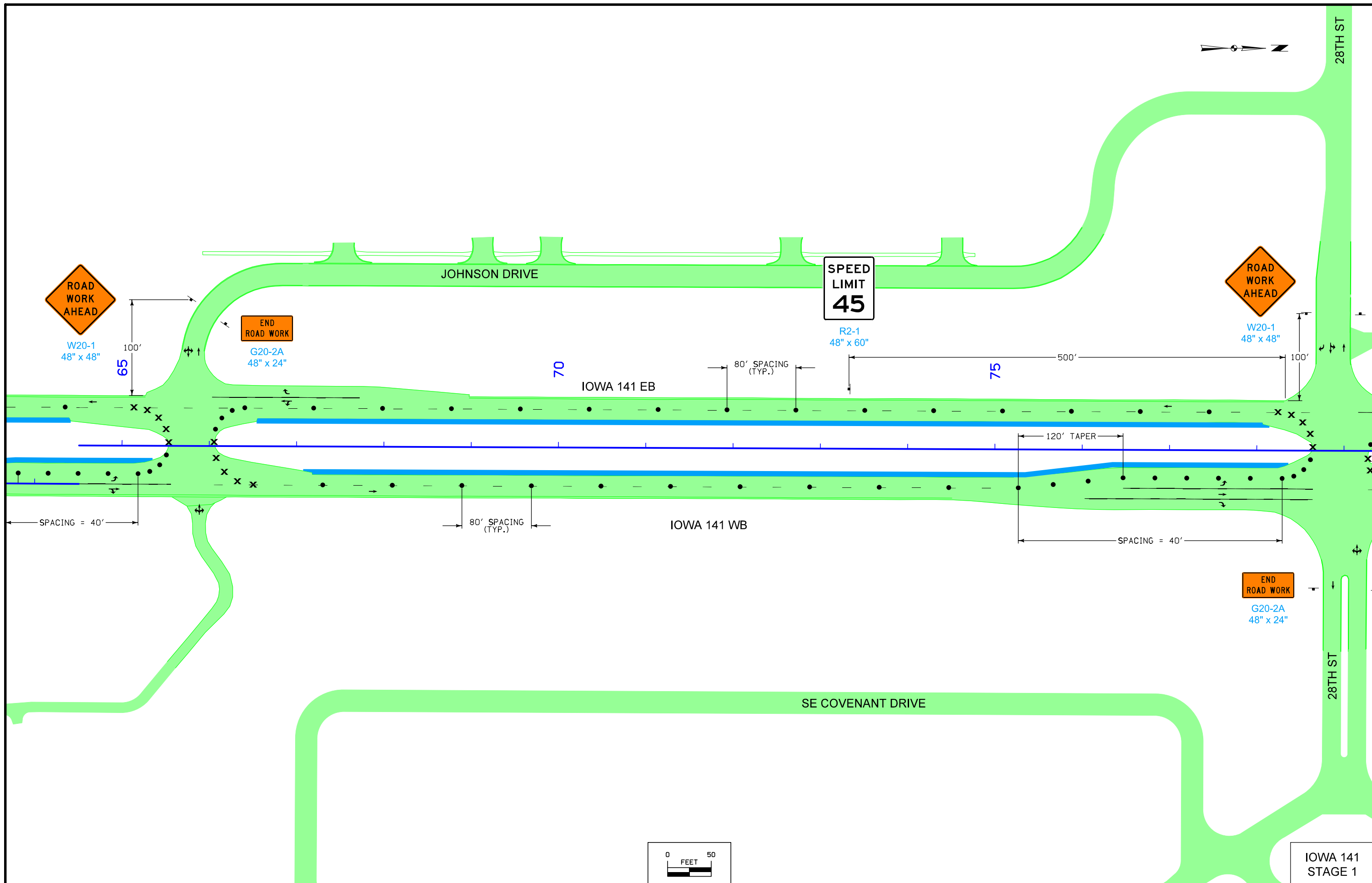
41ST ST



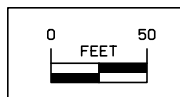
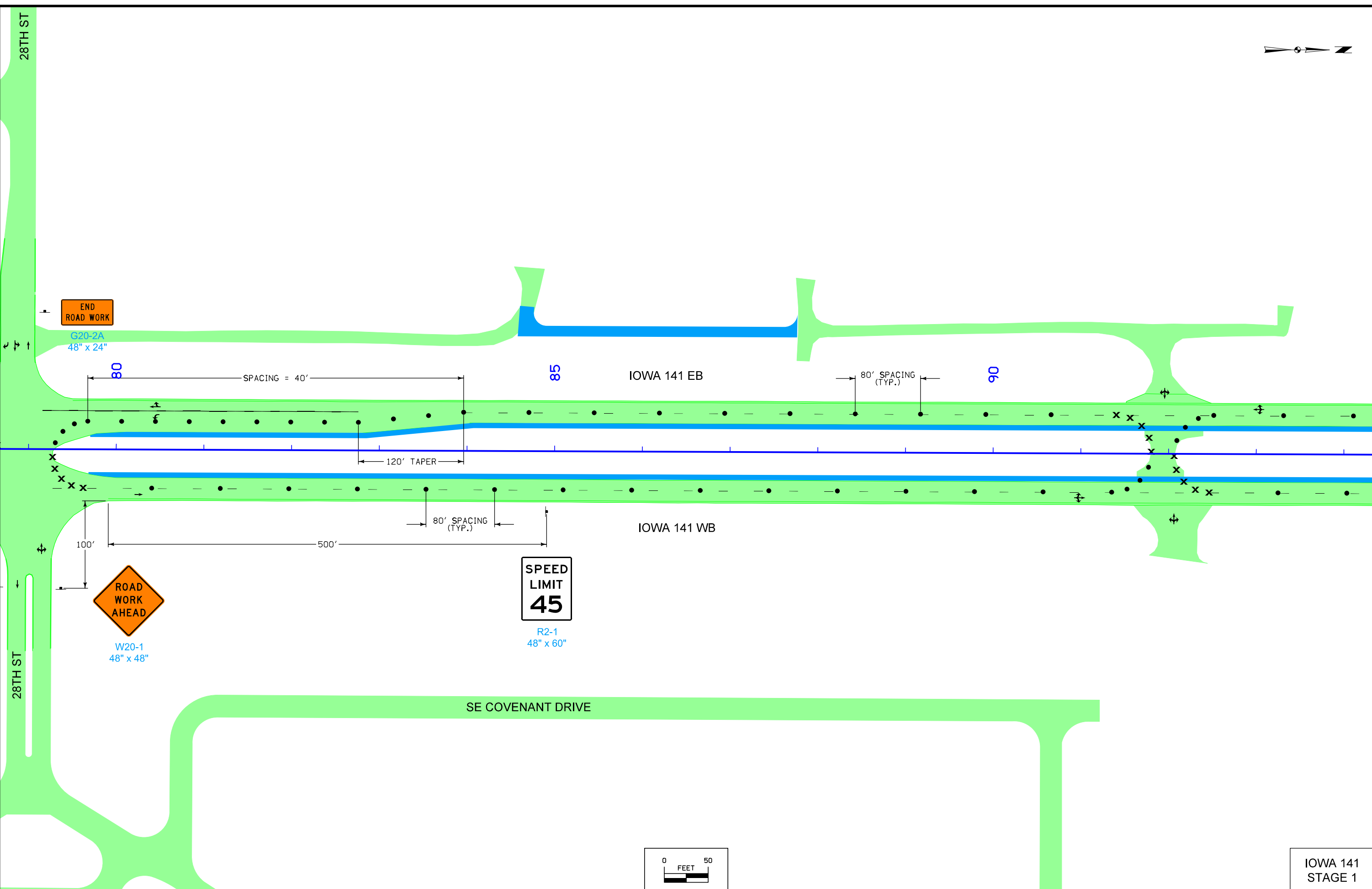
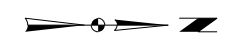
IOWA 141
STAGE 1

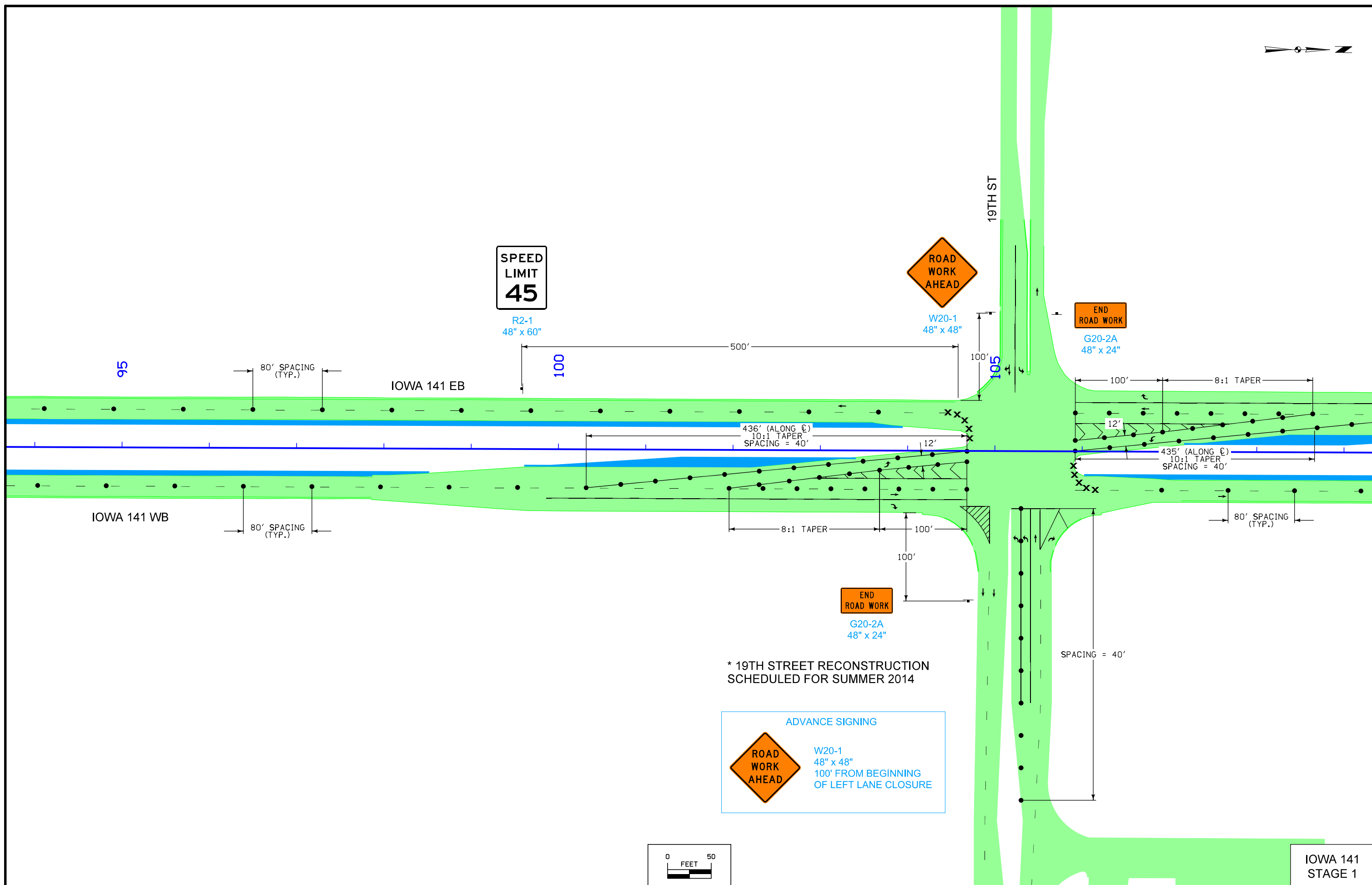
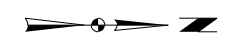


IOWA 141
STAGE 1



IOWA 141
STAGE 1





**SPEED
LIMIT
45**

R2-1
48" x 60"

**ROAD
WORK
AHEAD**

W20-1
48" x 48"

**END
ROAD WORK**

G20-2A
48" x 24"

95

IOWA 141 EB

IOWA 141 WB

19TH ST

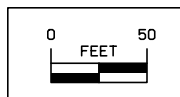
105

* 19TH STREET RECONSTRUCTION
SCHEDULED FOR SUMMER 2014

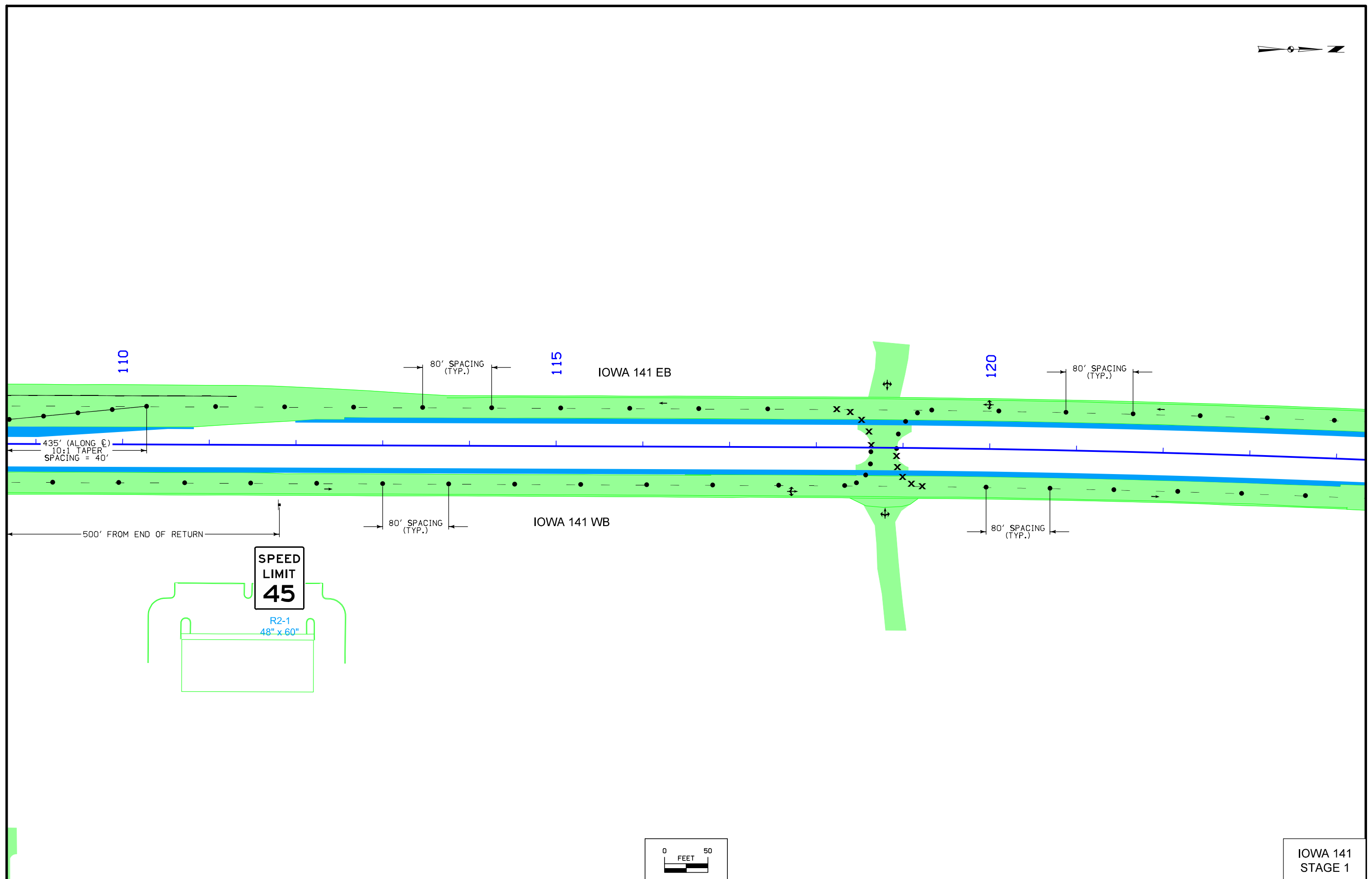
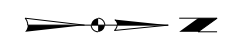
ADVANCE SIGNING

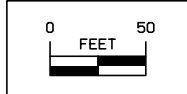
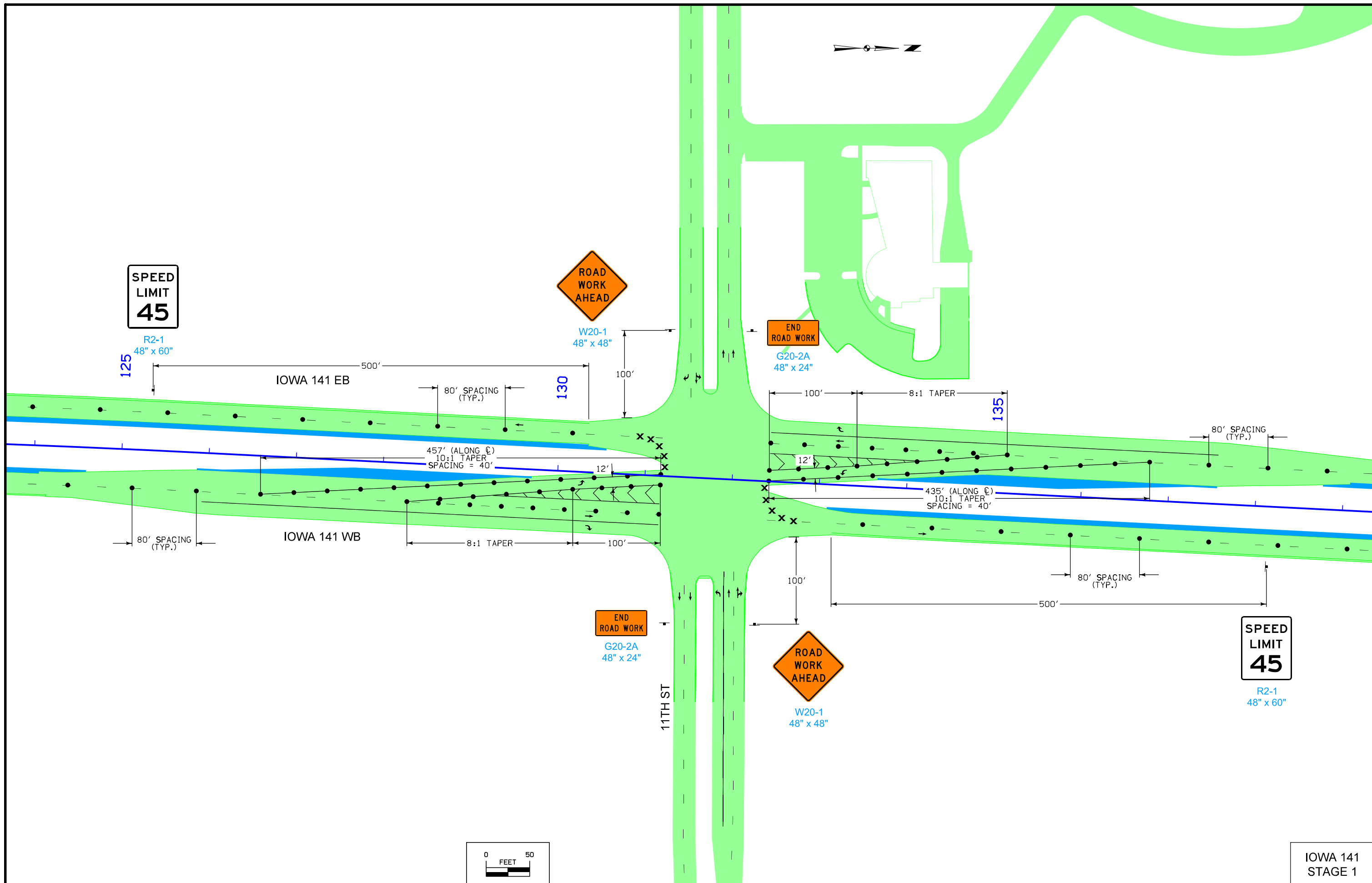
**ROAD
WORK
AHEAD**

W20-1
48" x 48"
100' FROM BEGINNING
OF LEFT LANE CLOSURE

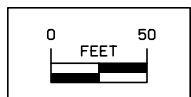
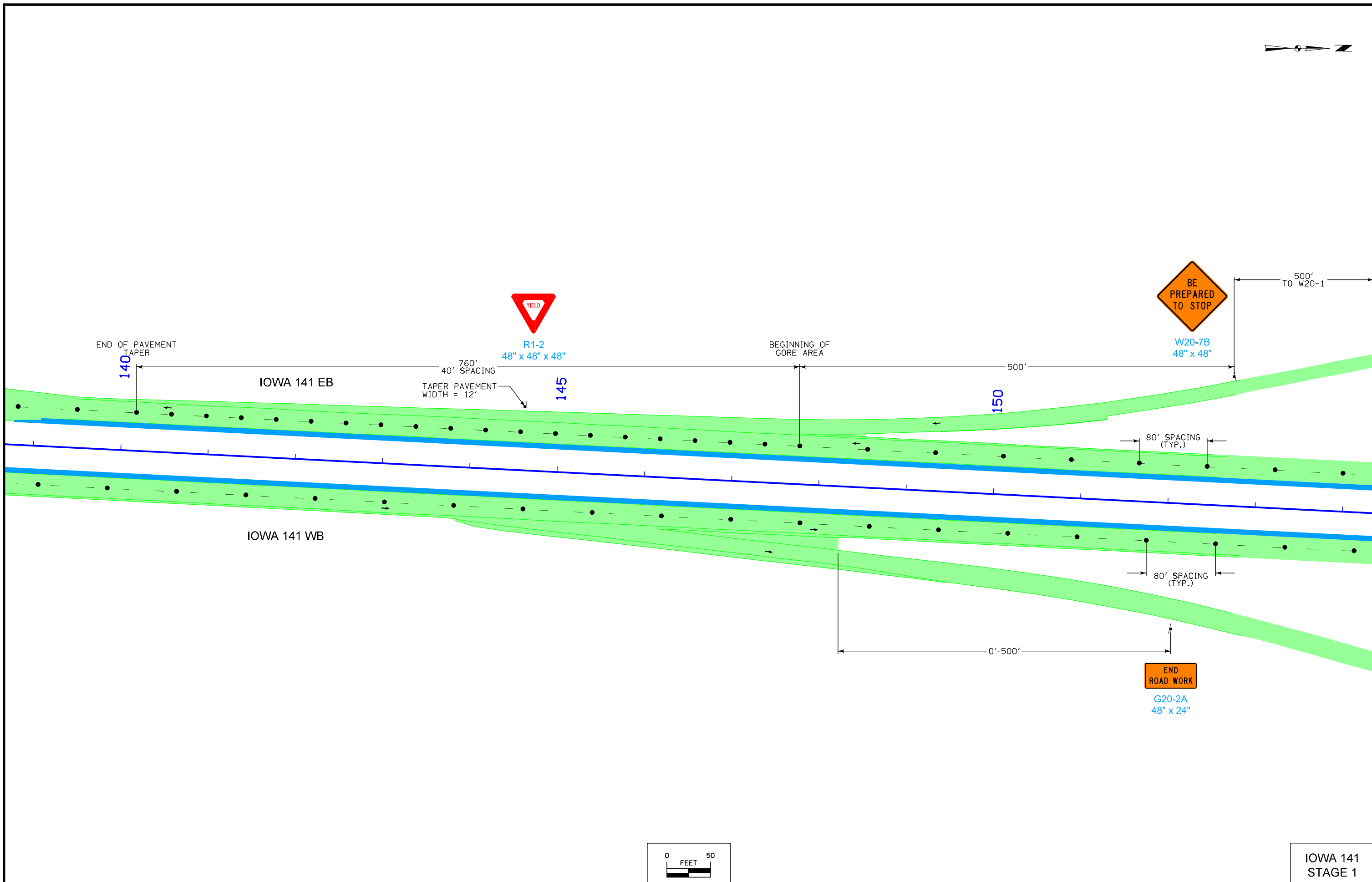
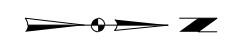


IOWA 141
STAGE 1

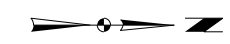




IOWA 141
STAGE 1



IOWA 141
STAGE 1



W20-1
48" x 48"

500'
TO W20-7B

155

160

165

IOWA 44

IOWA 141 EB

STA. 160+47

80' SPACING
(TYP.)

770'
SPACING = 45'

600'

STA. 157+33

80' SPACING
(TYP.)

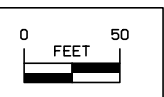
100'

0' TO 500'

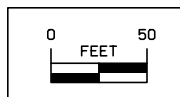
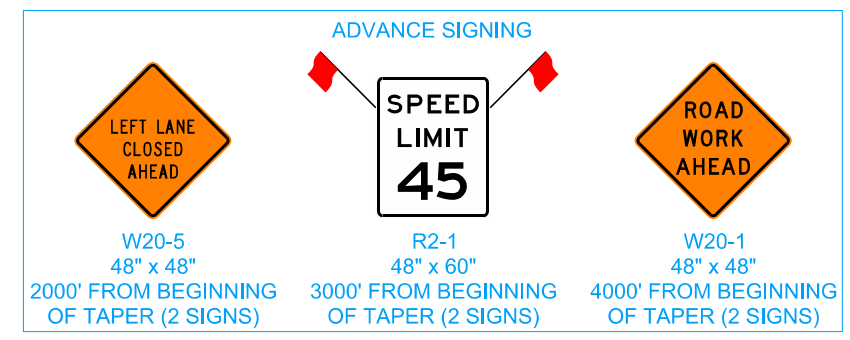
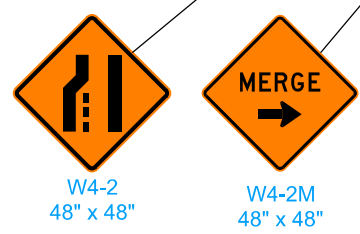
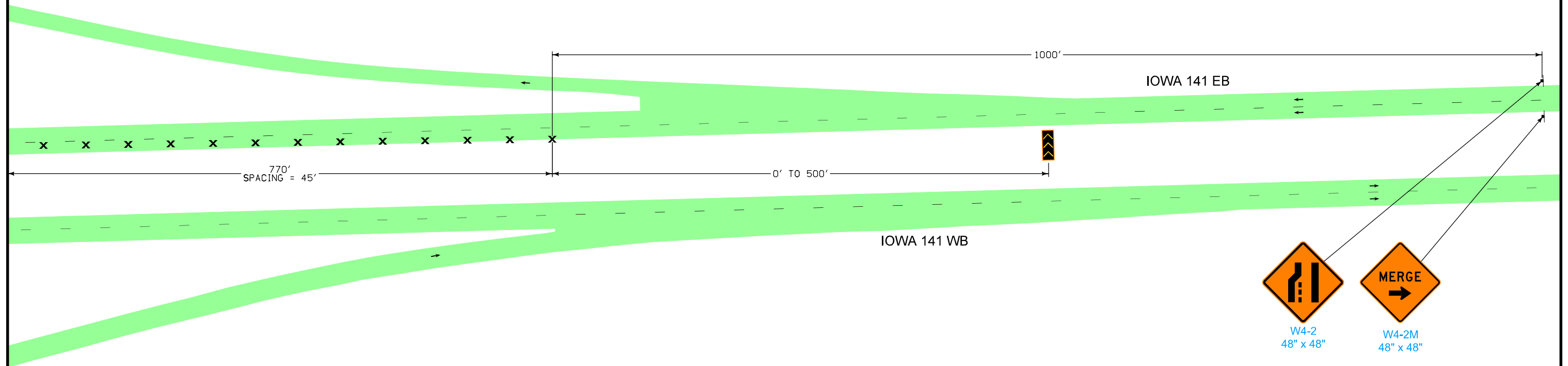
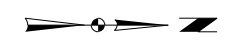
IOWA 141 WB



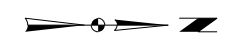
G20-2A
48" x 24"




IOWA 141
STAGE 1



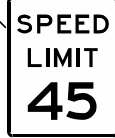
IOWA 141
STAGE 1



ADVANCE SIGNING



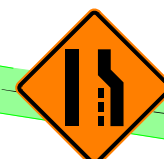
W20-1
48" x 48"
2200' FROM BEGINNING
OF MERGING TAPER
(2 SIGNS)



R2-1
48" x 60"
1600' FROM BEGINNING
OF MERGING TAPER
(2 SIGNS)

RAILROAD

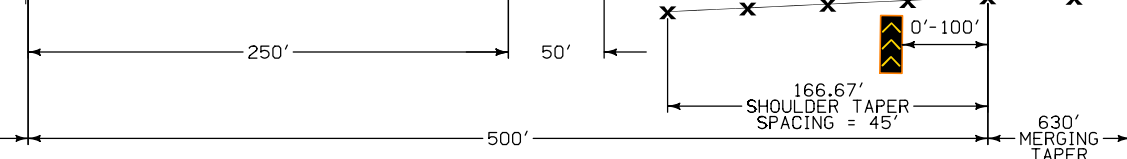
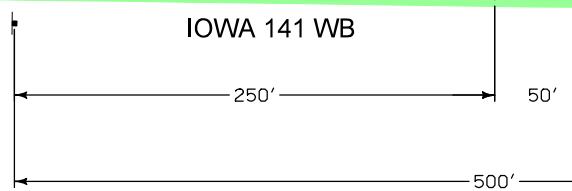
RAMP TO
I-35/80 SB



W4-2
48" x 48"

IOWA 141 EB

IOWA 141 WB



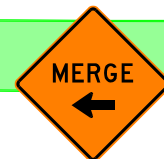
RAMP FROM
I-35/80 WB



W20-1
48" x 48"



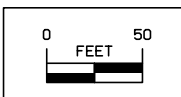
W20-5
48" x 48"



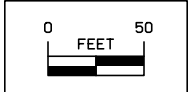
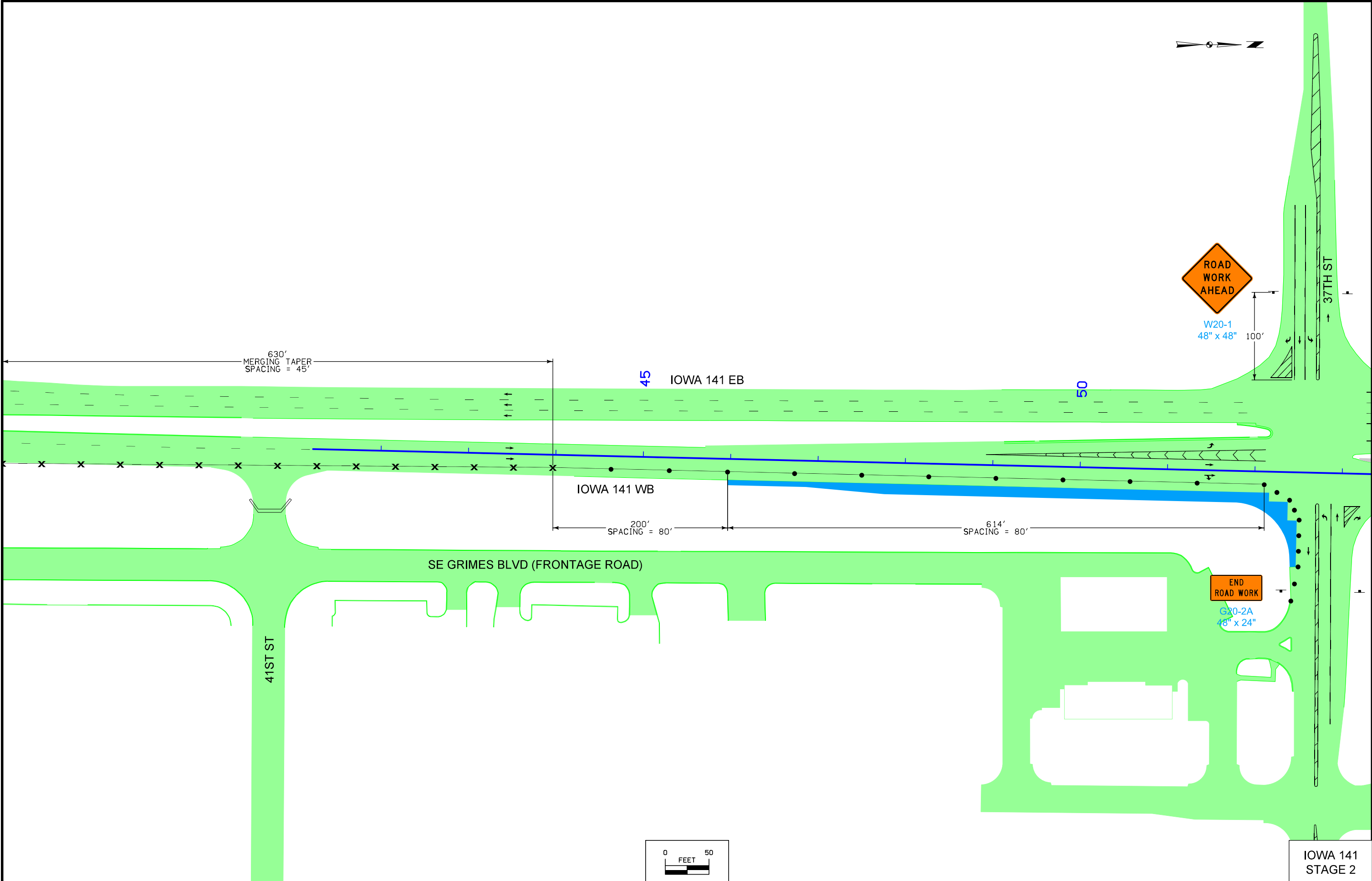
W4-2M
48" x 48"

SE GRIMES BLVD (FRONTAGE ROAD)

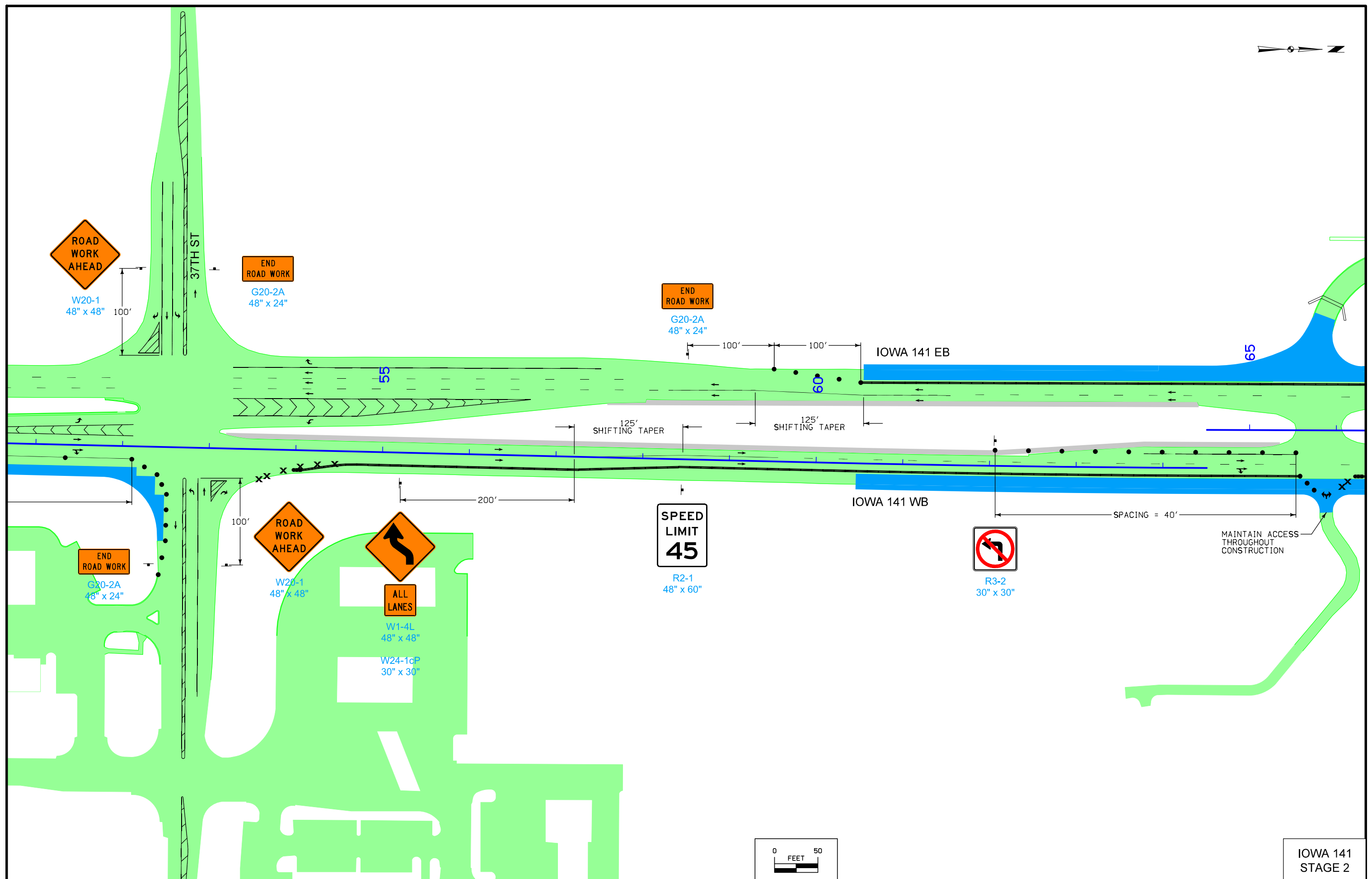
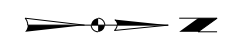
SE CAPITOL CIRCLE

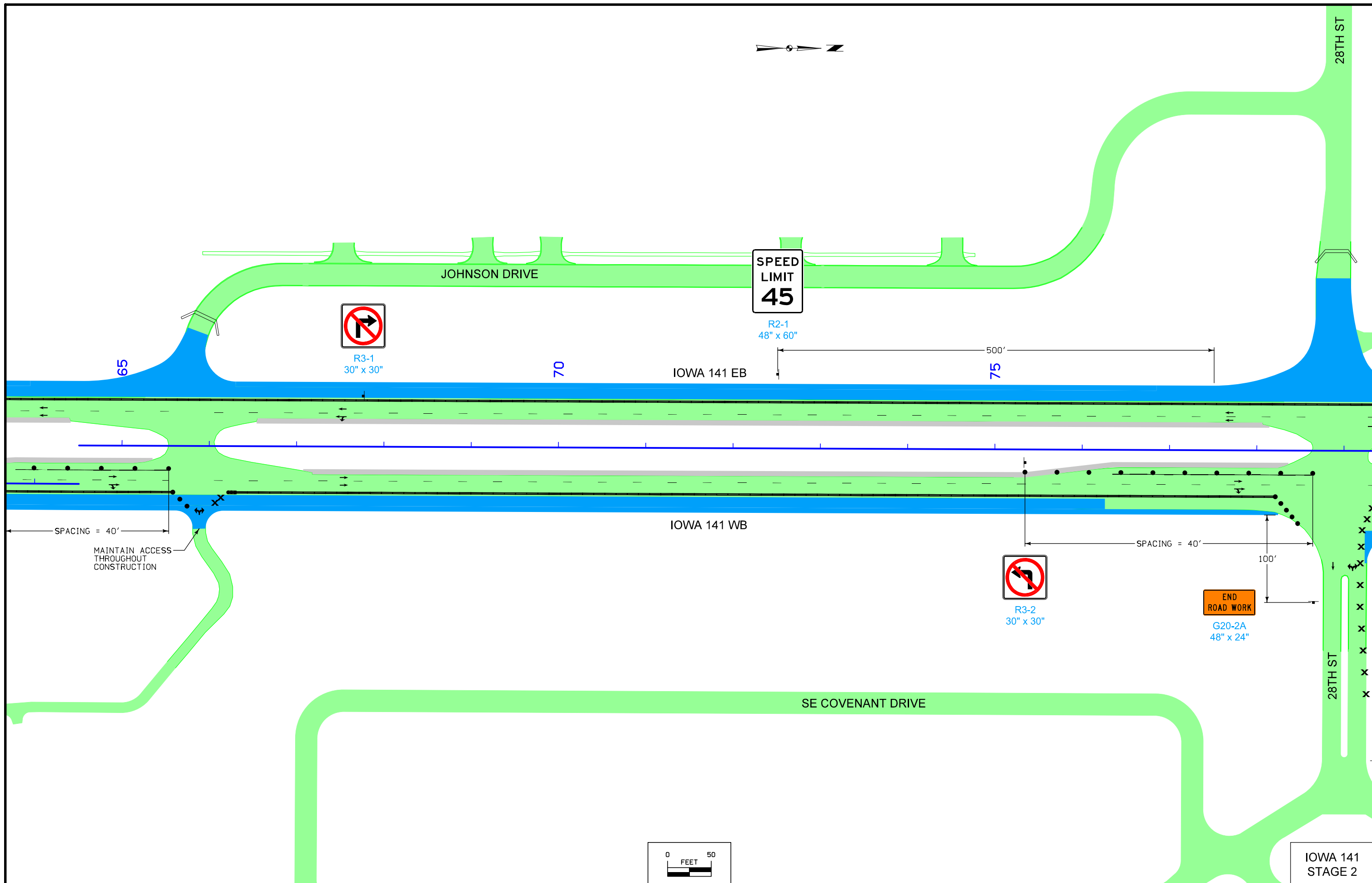


IOWA 141
STAGE 2



IOWA 141
STAGE 2



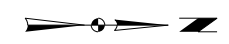


IOWA 141
STAGE 2

28TH ST

SHEET NOTES:

1. MAINTAIN PROPERTY ACCESS THROUGHOUT CONSTRUCTION. NORTH ENTRANCE MUST BE OPEN PRIOR TO BEGINNING 28TH STREET INTERSECTION CONSTRUCTION AND ACCESS ROAD REMOVAL.



SEE NOTE 1 THIS SHEET



R3-1
30" x 30"

SEE NOTE 1 THIS SHEET

80

85

IOWA 141 EB

90

28TH ST

IOWA 141 WB

MAINTAIN ACCESS THROUGHOUT CONSTRUCTION



R2-1
48" x 60"

500'

50'

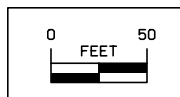
100'

75'

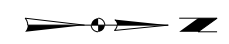


W20-1
48" x 48"

SE COVENANT DRIVE



IOWA 141
STAGE 2



SPEED
LIMIT
45

R2-1
48" x 60"



R3-2
30" x 30"

ROAD
CLOSED
DETOUR

95

IOWA 141 EB

100

19TH ST

105

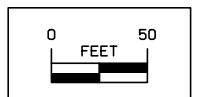
IOWA 141 WB

* 19TH STREET RECONSTRUCTION
SCHEDULED FOR SUMMER 2014

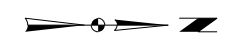
ADVANCE SIGNING

	W4-2 48" x 48" 350' FROM BEGINNING OF TAPER
	W20-5 48" x 48" 700' FROM BEGINNING OF TAPER
	W20-1 48" x 48" 1,050' FROM BEGINNING OF TAPER

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



IOWA 141
STAGE 2



R3-1
30" x 30"

110

115

IOWA 141 EB

120

MAINTAIN ACCESS
THROUGHOUT
CONSTRUCTION

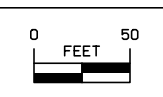
IOWA 141 WB

MAINTAIN ACCESS
THROUGHOUT
CONSTRUCTION

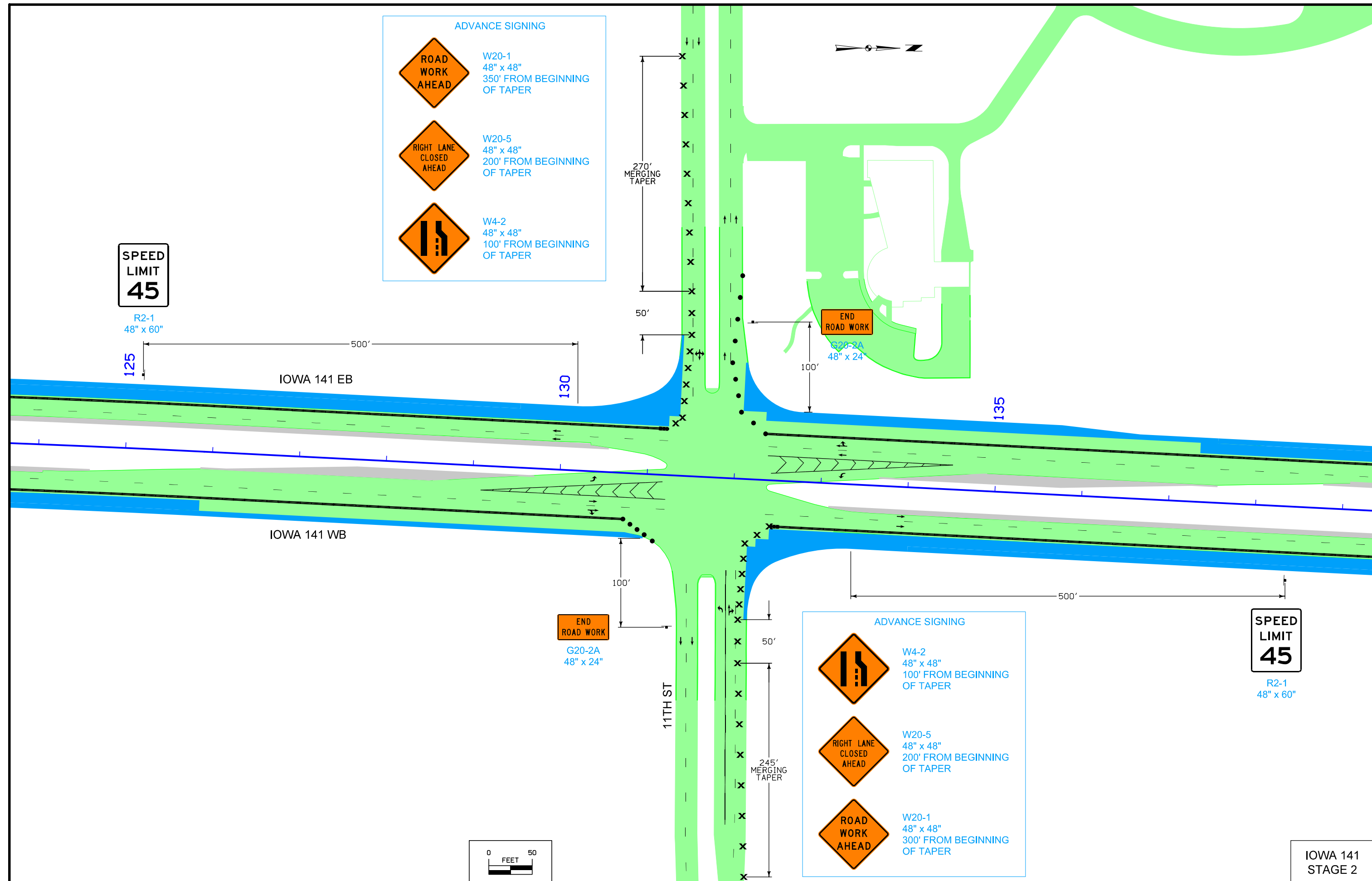
500' FROM END OF RETURN

SPEED
LIMIT
45




R2-1
48" x 60"



IOWA 141
STAGE 2



ADVANCE SIGNING

-  W20-1
48" x 48"
350' FROM BEGINNING OF TAPER
-  W20-5
48" x 48"
200' FROM BEGINNING OF TAPER
-  W4-2
48" x 48"
100' FROM BEGINNING OF TAPER

SPEED LIMIT
45

R2-1
48" x 60"




IOWA 141 EB

IOWA 141 WB

11TH ST

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

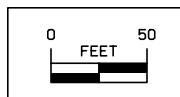
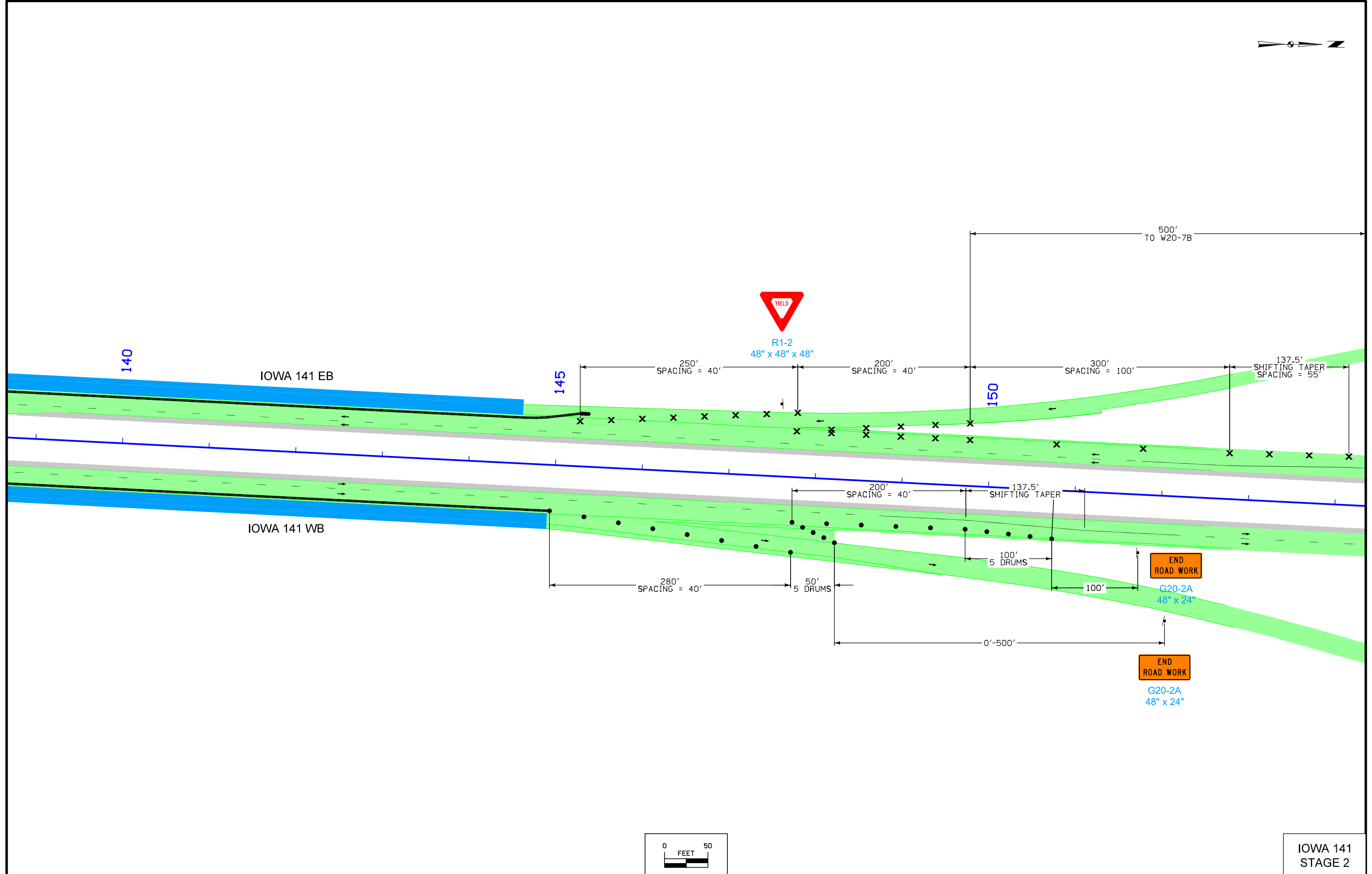
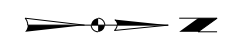
ADVANCE SIGNING

-  W4-2
48" x 48"
100' FROM BEGINNING OF TAPER
-  W20-5
48" x 48"
200' FROM BEGINNING OF TAPER
-  W20-1
48" x 48"
300' FROM BEGINNING OF TAPER

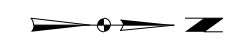
SPEED LIMIT
45

R2-1
48" x 60"

IOWA 141
STAGE 2



IOWA 141
STAGE 2



W20-7B
48" x 48"



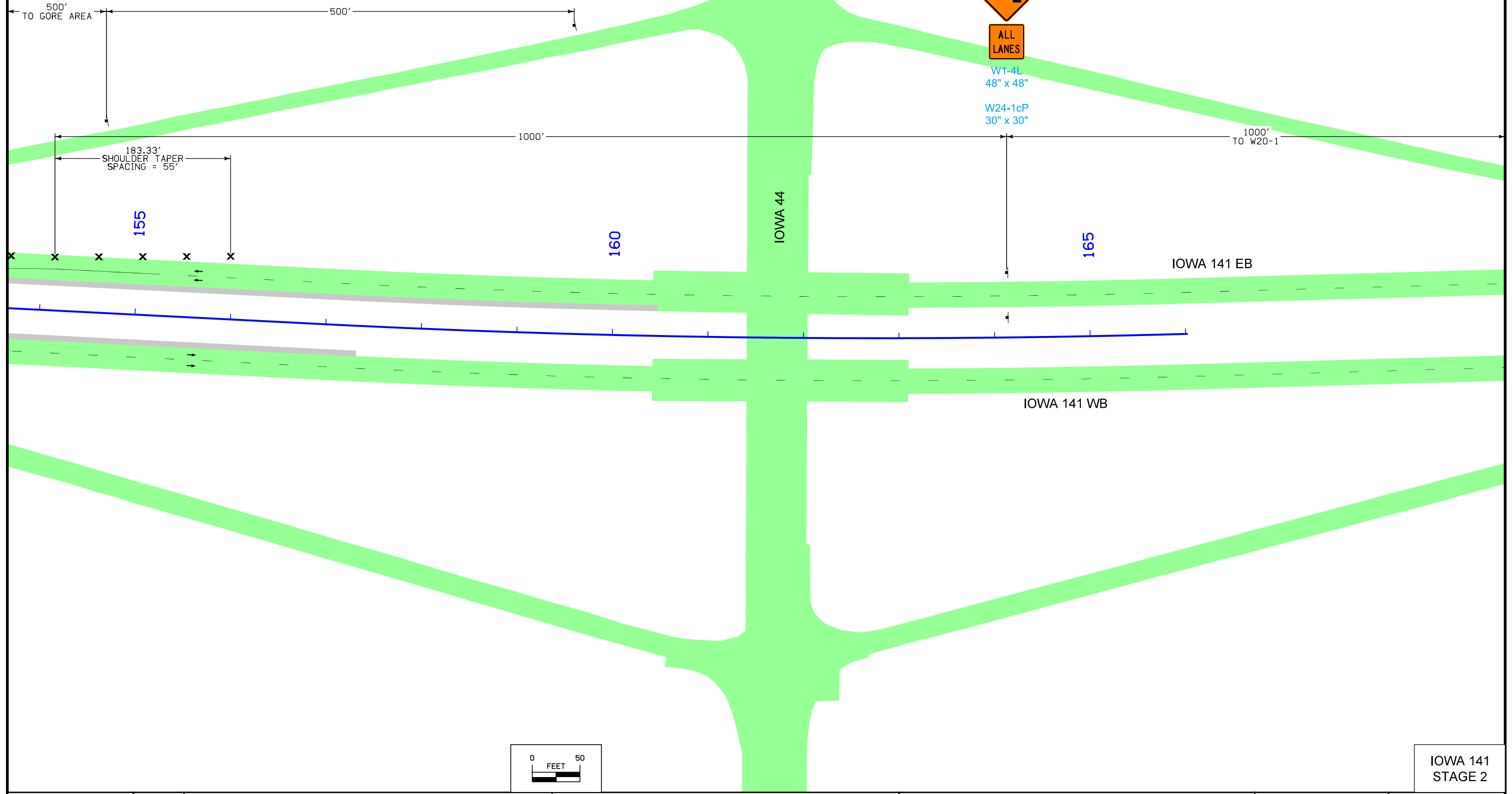
W20-1
48" x 48"

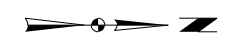


ALL
LANES

W1-4L
48" x 48"

W24-1cP
30" x 30"



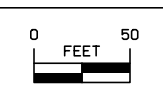


W20-1
48" x 48"

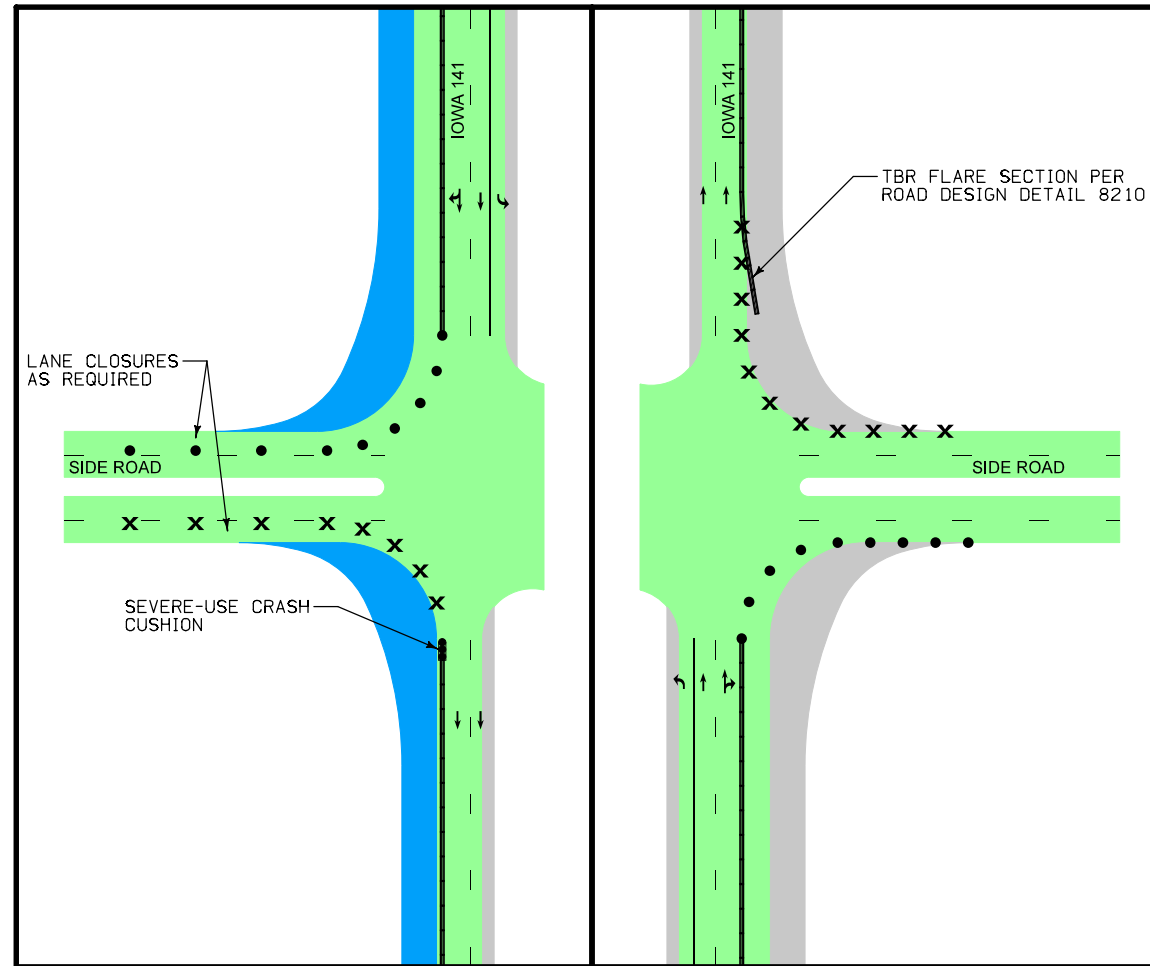
1000'
TO W1-4BL

IOWA 141 EB

IOWA 141 WB



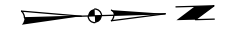
IOWA 141
STAGE 2



TYPICAL STAGING LAYOUT
DURING CONSTRUCTION
STAGE 2

TYPICAL STAGING LAYOUT
PRE-CONSTRUCTION AND
POST-CONSTRUCTION
STAGE 2

NOTE:
 DIMENSIONS SHOWN ARE TO THE BACK OF CURB OR EDGE OF PAVEMENT.
 REFER TO G SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.
 REFER TO APPROPRIATE STANDARD ROAD PLANS FOR ADDITIONAL INFORMATION.



45

46

47

48

49

IOWA 141 EB

50

(SUR 141A)

STA. 45+96.81 24.00 RT SUR141A
 STA. 45+96.81 30.00 RT SUR141A

6.00'

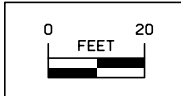
TAPER RATE 15:1

BEGIN TAPER
 STA. 46+86.81 30.00 RT SUR141A

END TAPER
 STA. 47+76.81 36.00 RT SUR141A

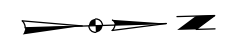
24.00'
 12.00'

IOWA 141 WB



GEOMETRIC DETAILS
 IOWA 141

NOTE:
 DIMENSIONS SHOWN ARE TO THE BACK OF CURB OR EDGE OF PAVEMENT.
 REFER TO 6 SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.
 REFER TO APPROPRIATE STANDARD ROAD PLANS FOR ADDITIONAL INFORMATION.



IOWA 141 EB

IOWA 141 EB

(SUR 141A)

(SUR141A)

IOWA 141 WB

IOWA 141 WB

24.00'

12.00'

STA. 52+38.38 34.00 RT SUR141A
 STA. 52+16.81 34.00 RT SUR141A
 STA. 52+16.81 24.00 RT SUR141A
 STA. 52+38.38 55.15 RT SUR141A
 STA. 52+49.17 55.15 RT SUR141A

STA. 51+76.81 36.00 RT SUR141A
 = STA. 0+00.00 SR37TH.RET_4

SR37TH RET 4

RADIUS POINT
 CURVE 30040
 0+98.22 65.00 RT

STA. 52+41.70 97.12 RT SUR141A
 = STA. 0+98.22 SR37TH.RET_4

STA. 52+42.38 108.46 RT SUR141A
 = STA. 1+09.58 SR37TH.RET_4

STA. 52+49.17 108.02 RT SUR141A

CURVE 30040

SE 37TH ST

SE 37TH ST

50

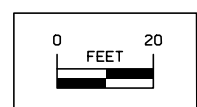
51

52

53

54

55



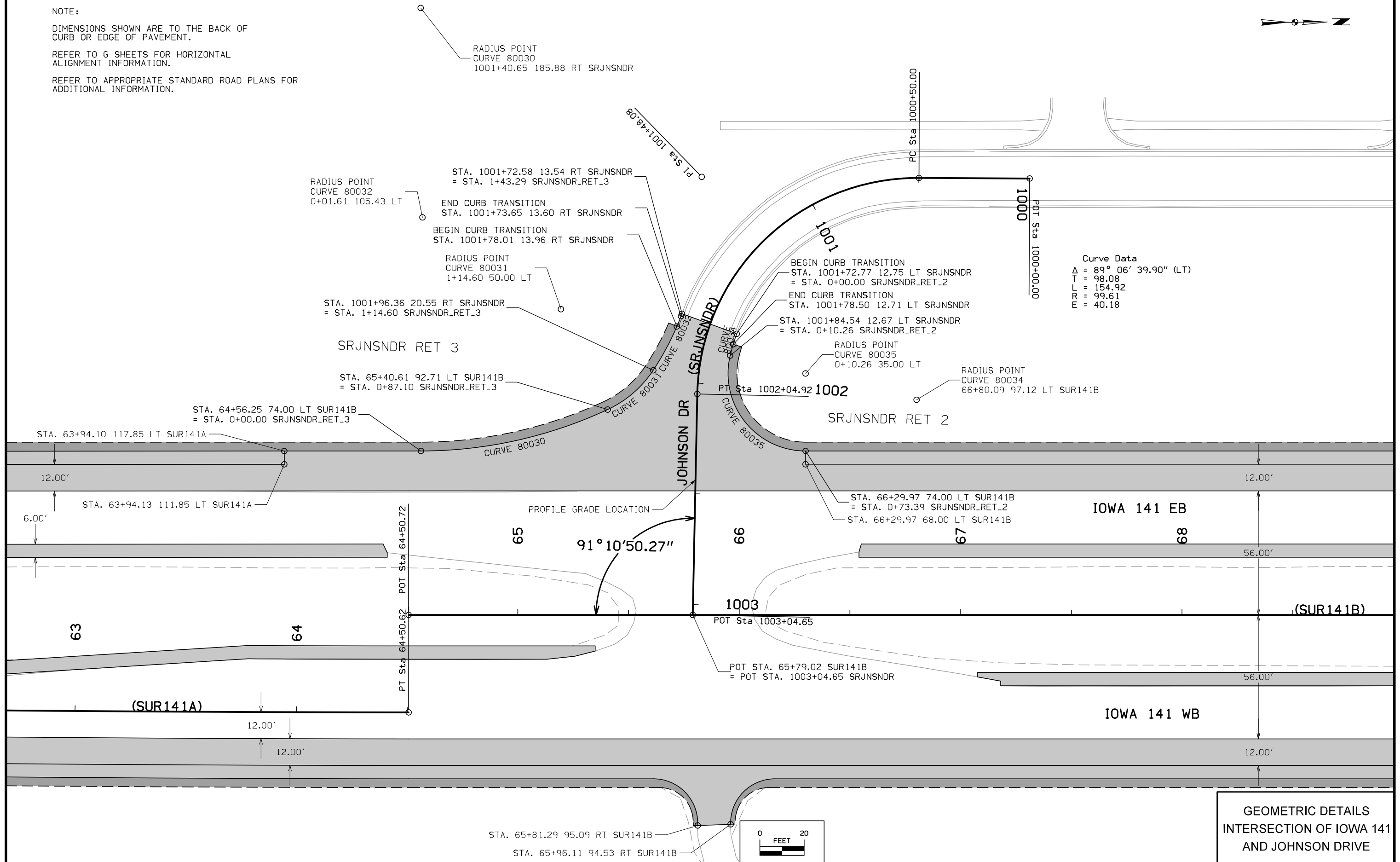
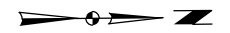
GEOMETRIC DETAILS
 INTERSECTION OF IOWA 141
 AND SE 37TH STREET

NOTE:

DIMENSIONS SHOWN ARE TO THE BACK OF CURB OR EDGE OF PAVEMENT.

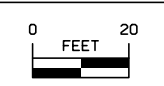
REFER TO G SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

REFER TO APPROPRIATE STANDARD ROAD PLANS FOR ADDITIONAL INFORMATION.



Curve Data

Δ	= 89° 06' 39.90" (LT)
T	= 98.08
L	= 154.92
R	= 99.61
E	= 40.18



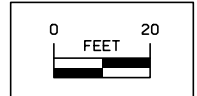
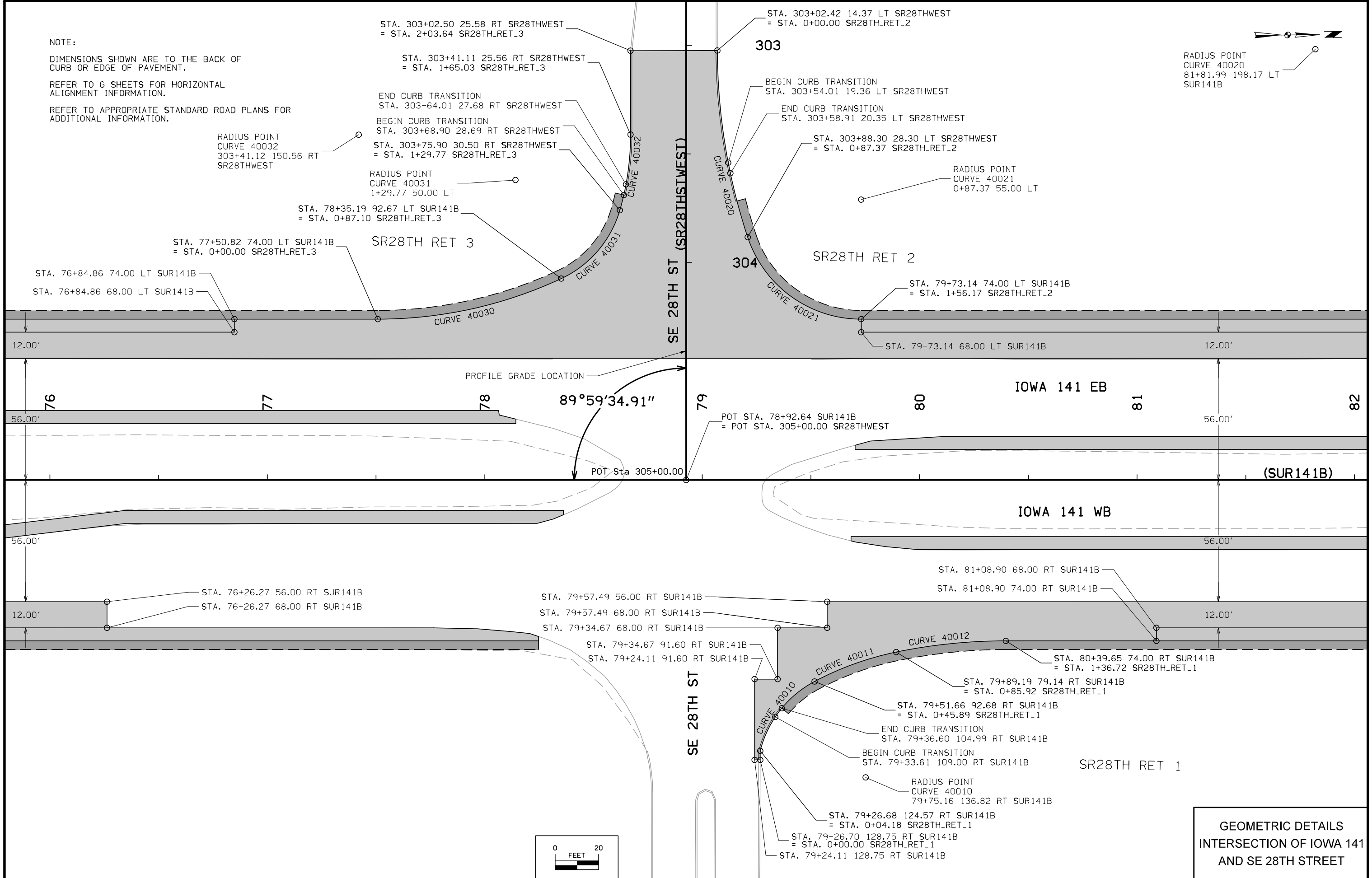
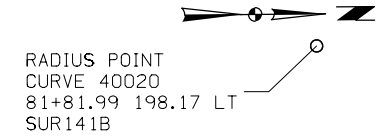
GEOMETRIC DETAILS
INTERSECTION OF IOWA 141
AND JOHNSON DRIVE

NOTE:

DIMENSIONS SHOWN ARE TO THE BACK OF CURB OR EDGE OF PAVEMENT.

REFER TO G SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

REFER TO APPROPRIATE STANDARD ROAD PLANS FOR ADDITIONAL INFORMATION.



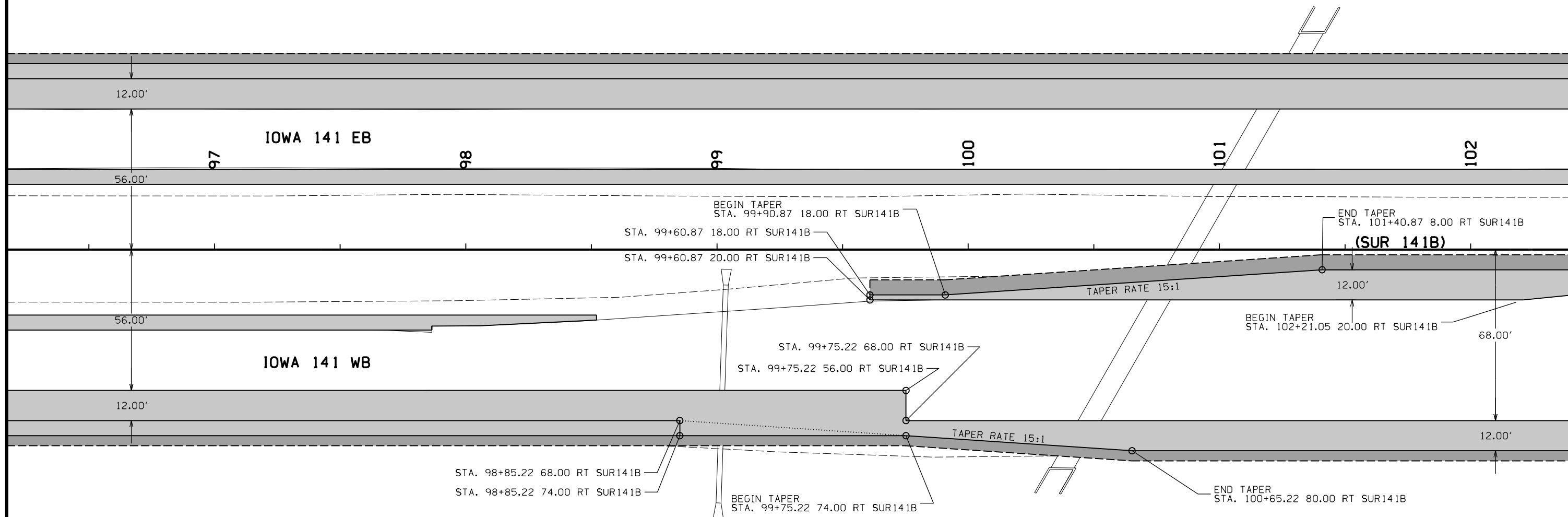
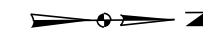
**GEOMETRIC DETAILS
INTERSECTION OF IOWA 141
AND SE 28TH STREET**

NOTE:

DIMENSIONS SHOWN ARE TO THE BACK OF CURB OR EDGE OF PAVEMENT.

REFER TO G SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

REFER TO APPROPRIATE STANDARD ROAD PLANS FOR ADDITIONAL INFORMATION.



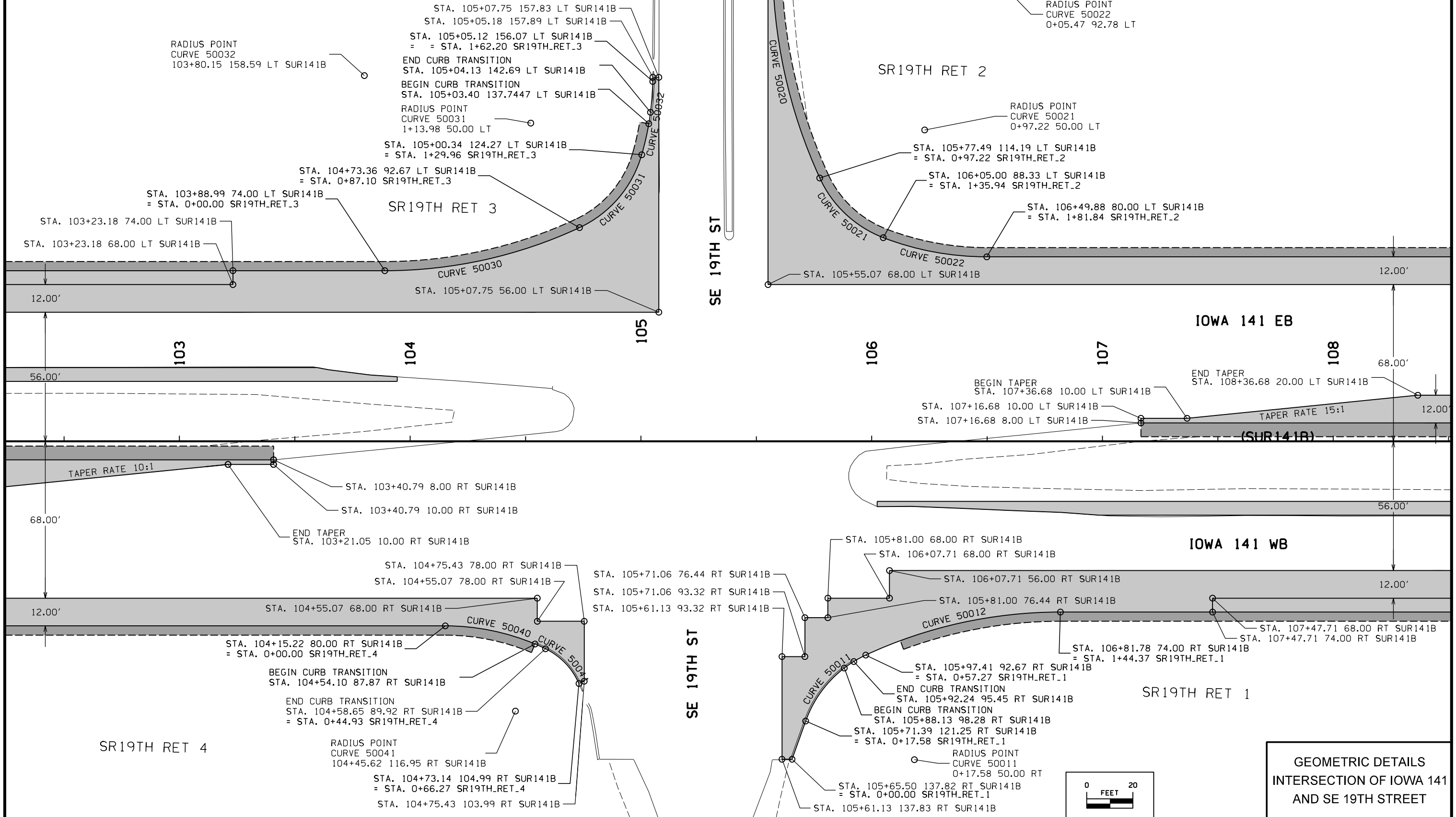
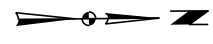
GEOMETRIC DESIGN
IOWA 141

NOTE:

DIMENSIONS SHOWN ARE TO THE BACK OF CURB OR EDGE OF PAVEMENT.

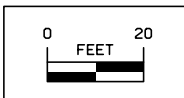
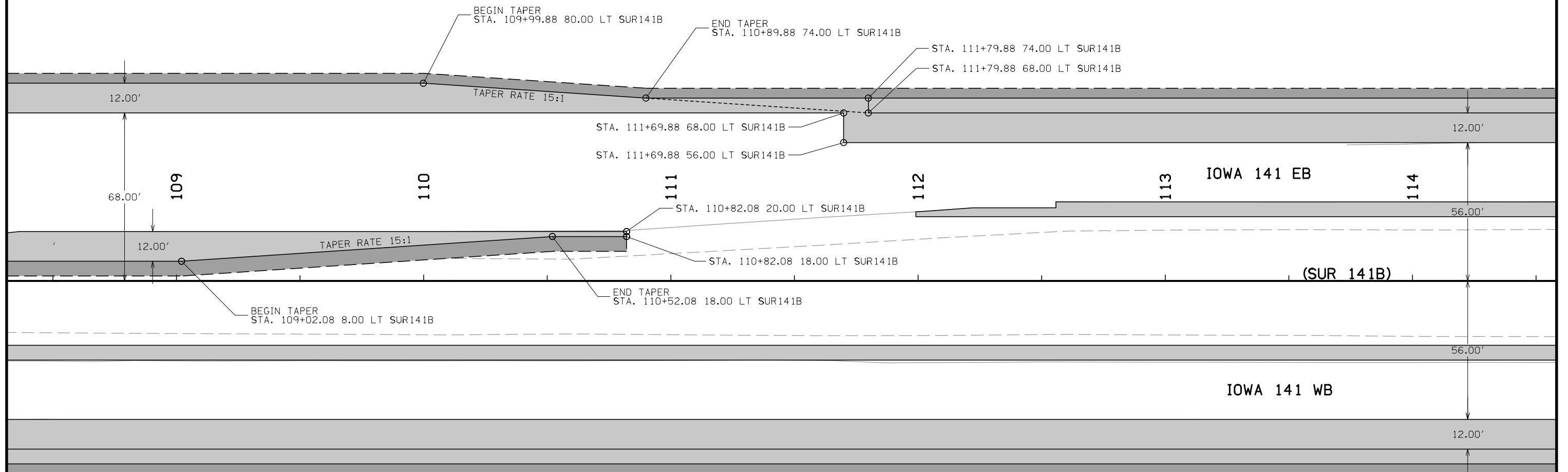
REFER TO G SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

REFER TO APPROPRIATE STANDARD ROAD PLANS FOR ADDITIONAL INFORMATION.



**GEOMETRIC DETAILS
INTERSECTION OF IOWA 141
AND SE 19TH STREET**

NOTE:
 DIMENSIONS SHOWN ARE TO THE BACK OF CURB OR EDGE OF PAVEMENT.
 REFER TO G SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.
 REFER TO APPROPRIATE STANDARD ROAD PLANS FOR ADDITIONAL INFORMATION.



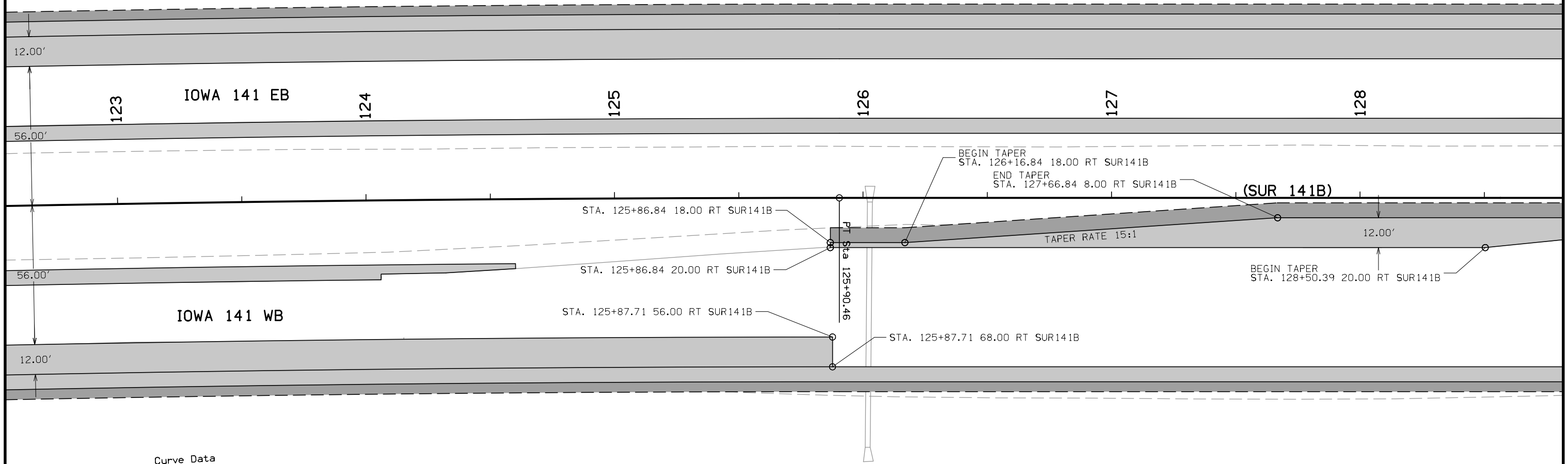
GEOMETRIC DESIGN
 IOWA 141

NOTE:

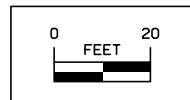
DIMENSIONS SHOWN ARE TO THE BACK OF CURB OR EDGE OF PAVEMENT.

REFER TO G SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

REFER TO APPROPRIATE STANDARD ROAD PLANS FOR ADDITIONAL INFORMATION.

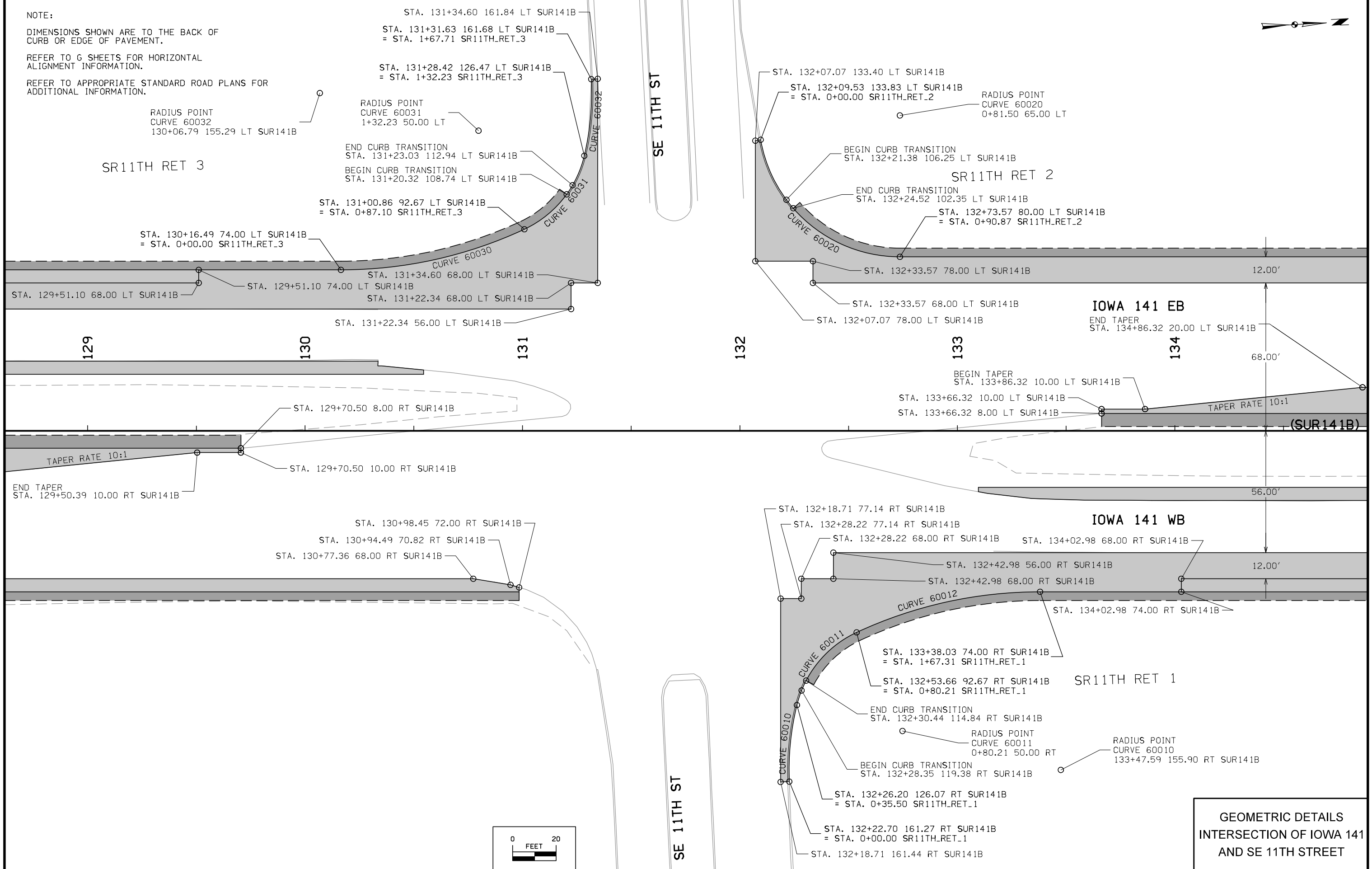


Curve Data
 $\Delta = 2^\circ 38' 43.85''$ (RT)
 $T = 396.58$
 $L = 793.02$
 $R = 17,174.97$
 $E = 4.58$



GEOMETRIC DESIGN
 IOWA 141

NOTE:
 DIMENSIONS SHOWN ARE TO THE BACK OF CURB OR EDGE OF PAVEMENT.
 REFER TO G SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.
 REFER TO APPROPRIATE STANDARD ROAD PLANS FOR ADDITIONAL INFORMATION.



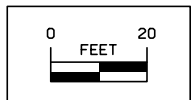
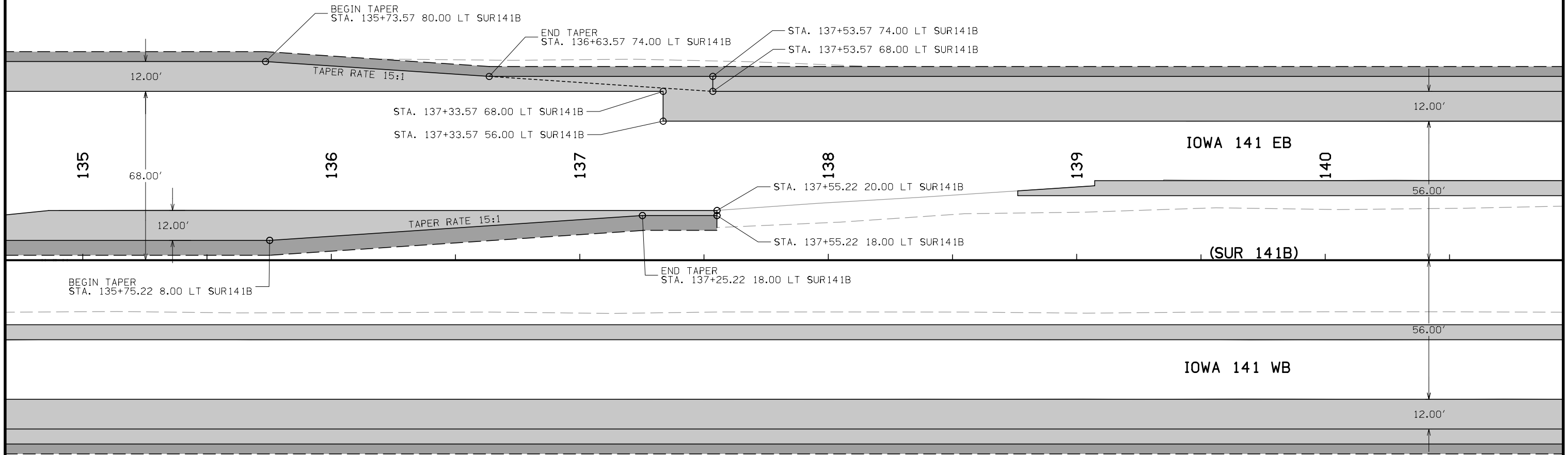
**GEOMETRIC DETAILS
 INTERSECTION OF IOWA 141
 AND SE 11TH STREET**

NOTE:

DIMENSIONS SHOWN ARE TO THE BACK OF CURB OR EDGE OF PAVEMENT.

REFER TO G SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

REFER TO APPROPRIATE STANDARD ROAD PLANS FOR ADDITIONAL INFORMATION.



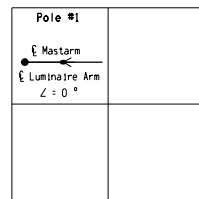
GEOMETRIC DESIGN
IOWA 141

STORM SEWER

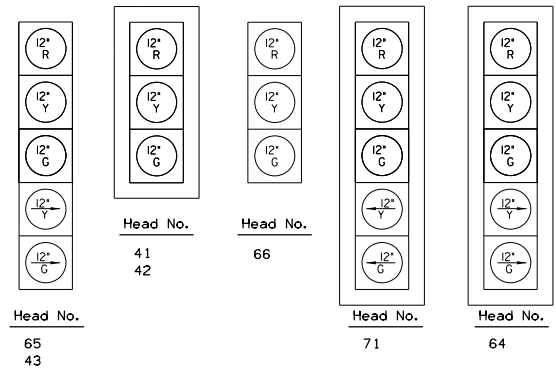
① Diameter or equivalent diameter
* Bid Item
** For SW-545

INTAKES AND UTILITY ACCESSES							PIPES												
							Design Length, Slope, and Flowlines are calculated from inside wall to inside wall along CL of pipe. An additional 3 ft length is added to each side of the Design Length to account for estimated length to center of structures.												
No.	Location Station and Offset	*Type or Standard Road Plan	Form Grade	Bottom Well	Extension Length**	Notes	Line Number	Intake/Utility Access No.		Class 'D'	Pipe Size	Bid* Length	Design Length	Slope %	Flow Lines			Pipe Profile Sheet No.	Notes
			Elev.	Elev.	FT			IN	FT		FT				Inlet Elevation	Outlet Elevation	Other Elevation		
I-1	105+66.85, 111.75 RT	RF-13				7.5° Bend	P-1	I-3	I-1	2000	30	16	12.2	0.005	947.69	947.63			
I-2	105+79.59, 79.51 RT	RF-13				20° Bend	P-2	I-2	I-3	2000	24	31	28.0	0.005	948.09	947.95			
I-3	105+81.46, 109.83 RT	SW-401		947.19		60", RIM=952.17	P-3	I-4	I-3	2000	30	12	8.1	0.005	947.83	947.79			
I-4	105+92.07, 110.22 RT	RF-2					P-4	I-6	I-5	2000	30	9	6.0		947.66	947.66			
I-5	105+67.16, 116.91 RT	RF-2					P-5	I-7	I-6	2000	30	23	19.1	0.011	947.87	947.66			
I-6	105+73.16, 116.93 RT	SW-507	951.56	947.16			P-6	I-10	I-8	2000	24	9	5.7	0.009	954	953.95			
I-7	105+94.96, 117.25 RT	RF-13				3.2° Bend	P-7	I-9	I-10	2000	24	16	12.4	0.008	954.1	954			
I-8	79+44.12, 98.96 RT	RF-2					P-8	I-11	I-10	2000	24	69	65.5	0.01	954.63	954			
I-9	79+50.47, 84.33 RT	RF-13				7.5° Bend	P-9	I-13	I-12	2000	36	22	18.2	0.003	945.55	945.5			
I-10	79+52.32, 99.10 RT	SW-401		953.1		60", RIM=958.15	P-10	I-15	I-14	2000	24	91	87.5	0.032	954.7	951.88			
I-11	80+20.31, 100.29 RT	RF-3																	
I-12	104+81.69, 141.08 LT	RF-3				20° Bend													
I-13	105+01.78, 157.66 LT	RF-13																	
I-14	132+30.78, 99.44 RT	SW-401		951.34		60", RIM=957.39													
I-15	133+26.90, 100.84 RT	RF-3																	

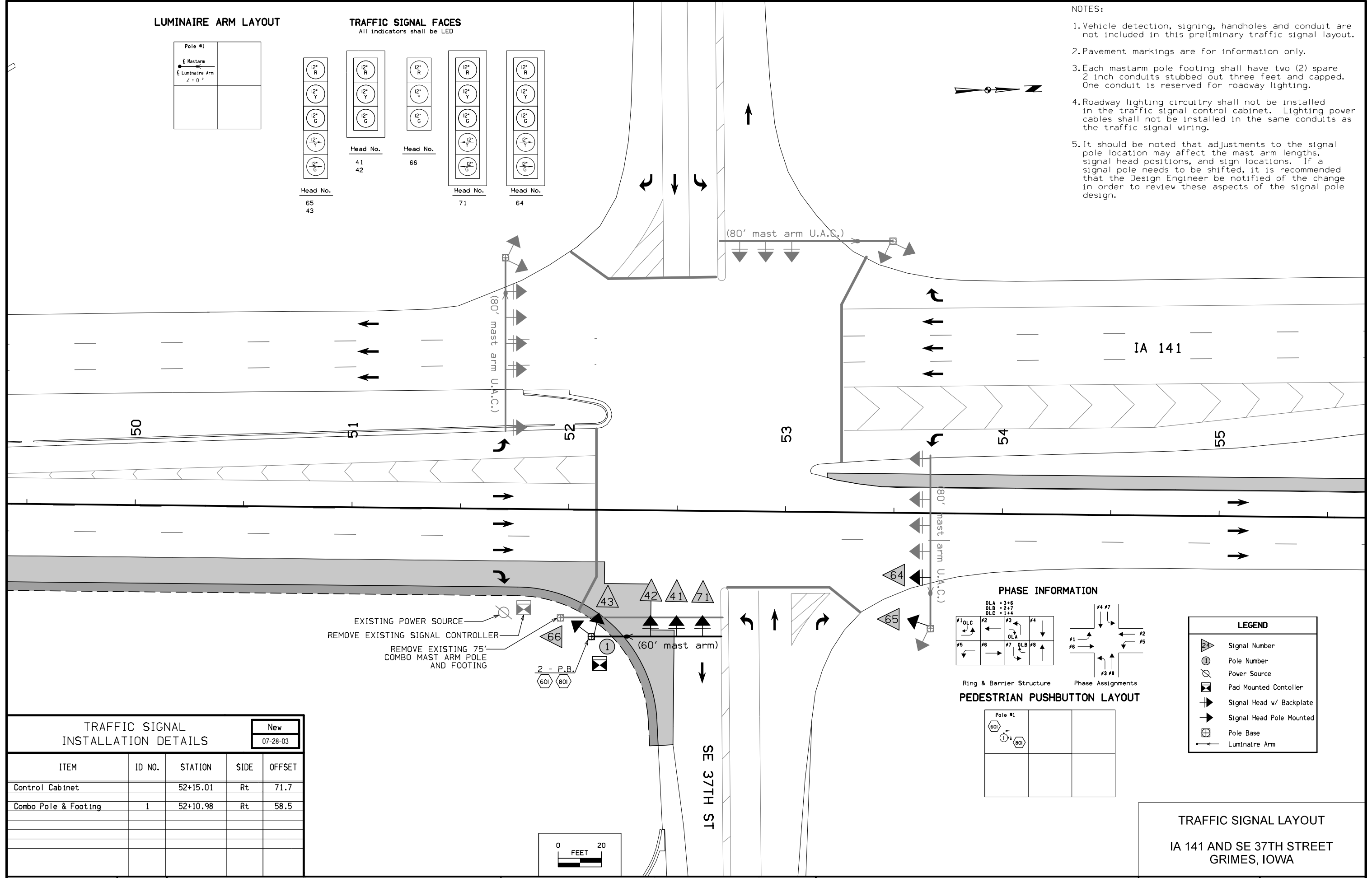
LUMINAIRE ARM LAYOUT



TRAFFIC SIGNAL FACES
All indicators shall be LED

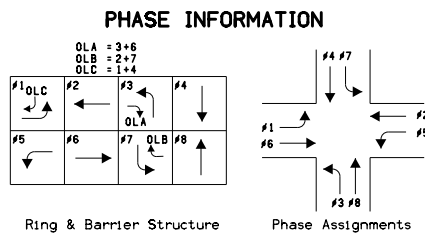


- NOTES:**
1. Vehicle detection, signing, handholes and conduit are not included in this preliminary traffic signal layout.
 2. Pavement markings are for information only.
 3. Each mastarm pole footing shall have two (2) spare 2 inch conduits stubbed out three feet and capped. One conduit is reserved for roadway lighting.
 4. Roadway lighting circuitry shall not be installed in the traffic signal control cabinet. Lighting power cables shall not be installed in the same conduits as the traffic signal wiring.
 5. It should be noted that adjustments to the signal pole location may affect the mast arm lengths, signal head positions, and sign locations. If a signal pole needs to be shifted, it is recommended that the Design Engineer be notified of the change in order to review these aspects of the signal pole design.

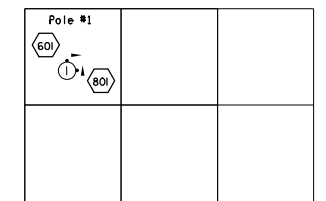


EXISTING POWER SOURCE
REMOVE EXISTING SIGNAL CONTROLLER
REMOVE EXISTING 75' COMBO MAST ARM POLE AND FOOTING

2 - P.B.
(60) (80)



PEDESTRIAN PUSHBUTTON LAYOUT



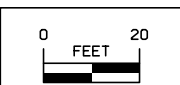
LEGEND

- Signal Number
- Pole Number
- Power Source
- Pad Mounted Controller
- Signal Head w/ Backplate
- Signal Head Pole Mounted
- Pole Base
- Luminaire Arm

TRAFFIC SIGNAL INSTALLATION DETAILS

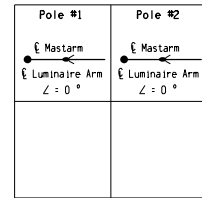
ITEM	ID NO.	STATION	SIDE	OFFSET
Control Cabinet		52+15.01	Rt	71.7
Combo Pole & Footing	1	52+10.98	Rt	58.5

New
07-28-03

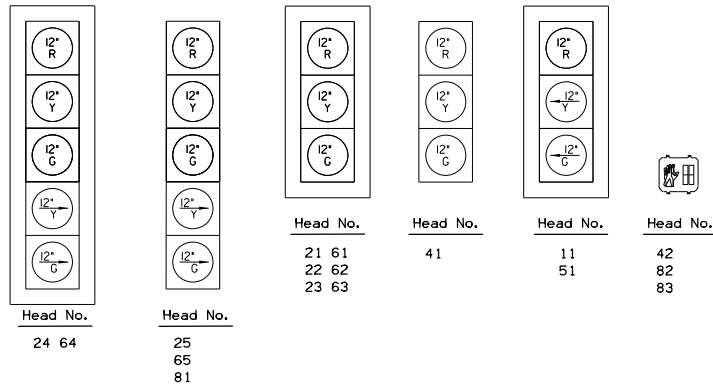


TRAFFIC SIGNAL LAYOUT
IA 141 AND SE 37TH STREET
GRIMES, IOWA

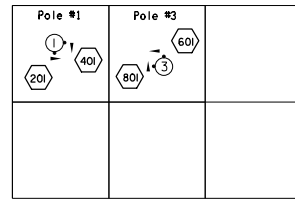
LUMINAIRE ARM LAYOUT



TRAFFIC SIGNAL FACES
All Indicators shall be LED



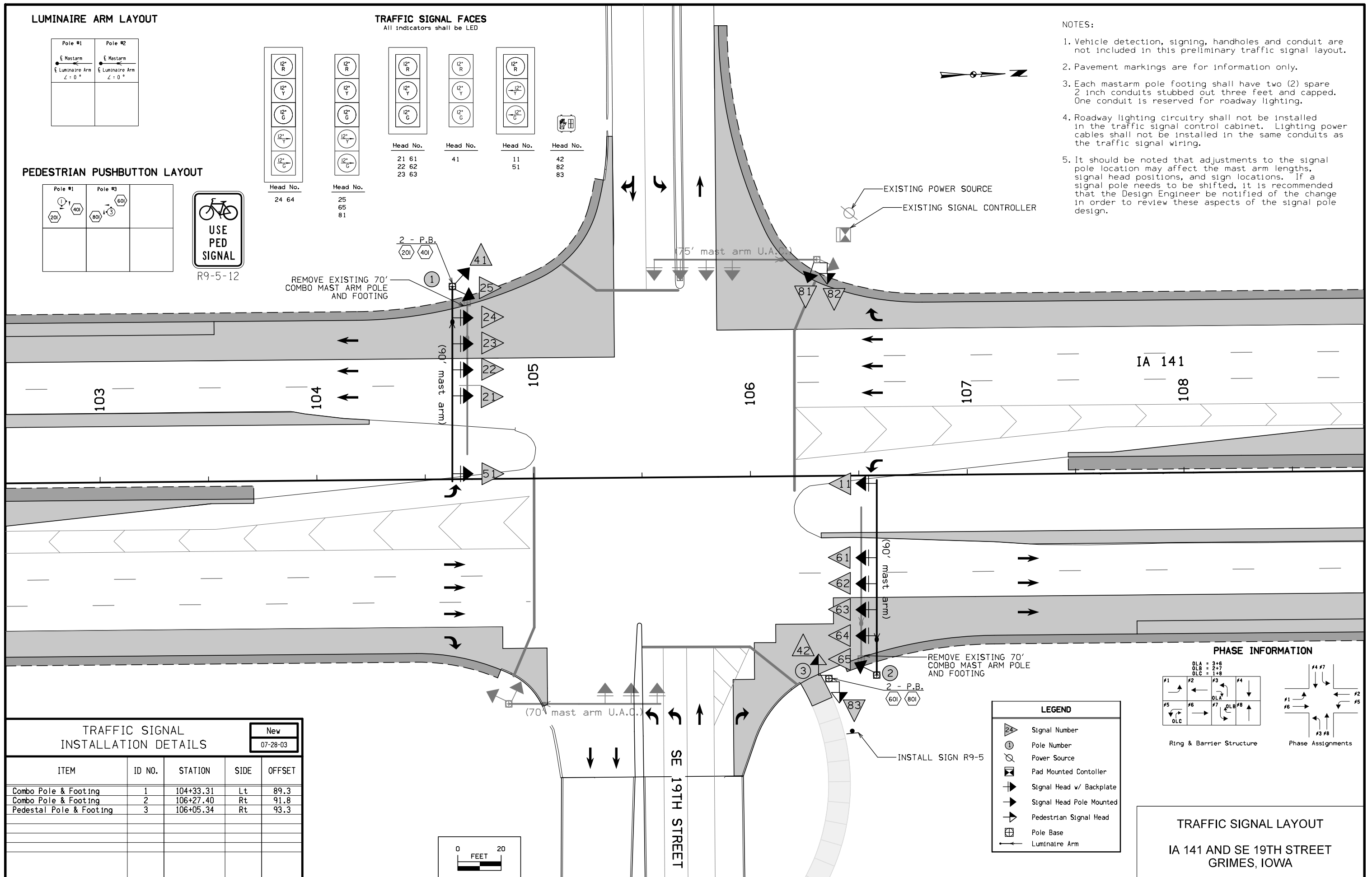
PEDESTRIAN PUSHBUTTON LAYOUT



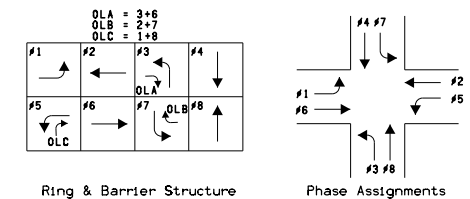
R9-5-12

NOTES:

- Vehicle detection, signing, handholes and conduit are not included in this preliminary traffic signal layout.
- Pavement markings are for information only.
- Each mastarm pole footing shall have two (2) spare 2 inch conduits stubbed out three feet and capped. One conduit is reserved for roadway lighting.
- Roadway lighting circuitry shall not be installed in the traffic signal control cabinet. Lighting power cables shall not be installed in the same conduits as the traffic signal wiring.
- It should be noted that adjustments to the signal pole location may affect the mast arm lengths, signal head positions, and sign locations. If a signal pole needs to be shifted, it is recommended that the Design Engineer be notified of the change in order to review these aspects of the signal pole design.



PHASE INFORMATION



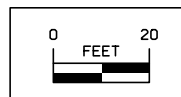
LEGEND

- Signal Number
- Pole Number
- Power Source
- Pad Mounted Contoller
- Signal Head w/ Backplate
- Signal Head Pole Mounted
- Pedestrian Signal Head
- Pole Base
- Luminaire Arm

TRAFFIC SIGNAL INSTALLATION DETAILS

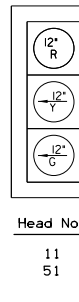
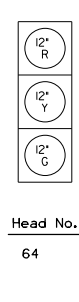
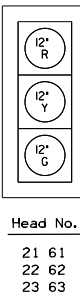
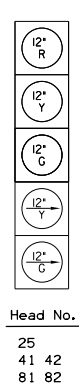
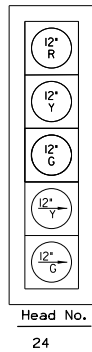
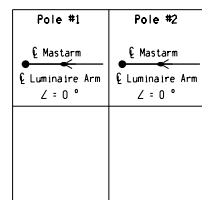
New
07-28-03

ITEM	ID NO.	STATION	SIDE	OFFSET
Combo Pole & Footing	1	104+33.31	Lt	89.3
Combo Pole & Footing	2	106+27.40	Rt	91.8
Pedestal Pole & Footing	3	106+05.34	Rt	93.3



TRAFFIC SIGNAL LAYOUT
IA 141 AND SE 19TH STREET
GRIMES, IOWA

LUMINAIRE ARM LAYOUT



TRAFFIC SIGNAL FACES
All indicators shall be LED

Head No. 21 61, 22 62, 23 63, 64, 11 51

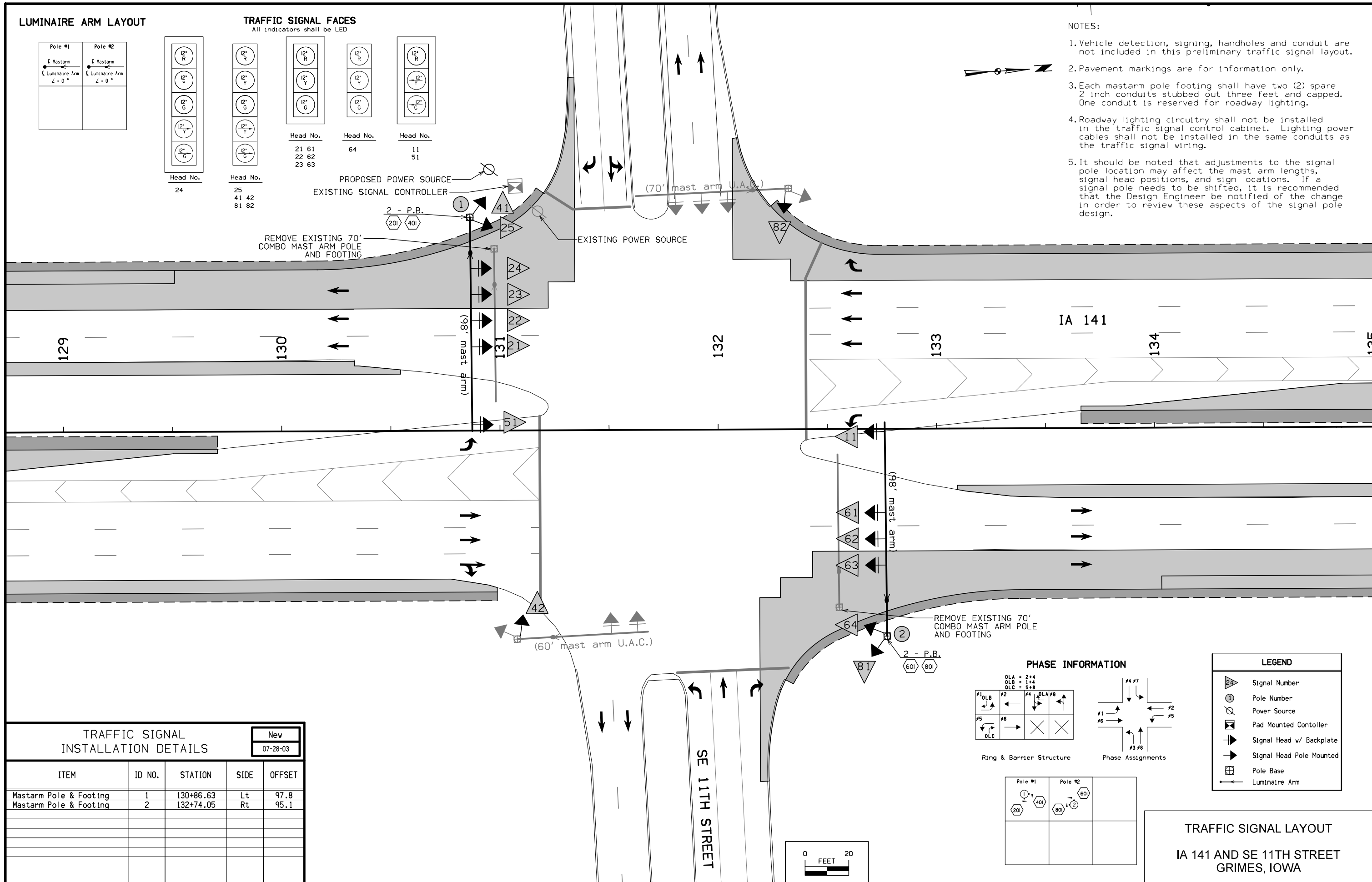
PROPOSED POWER SOURCE
EXISTING SIGNAL CONTROLLER

REMOVE EXISTING 70' COMBO MAST ARM POLE AND FOOTING

EXISTING POWER SOURCE

NOTES:

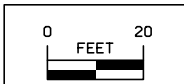
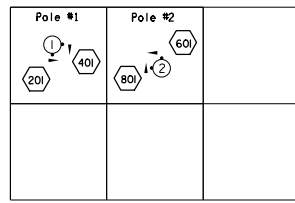
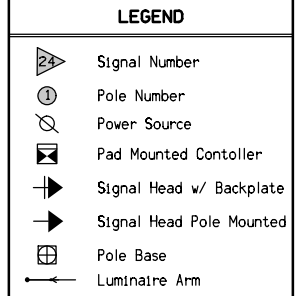
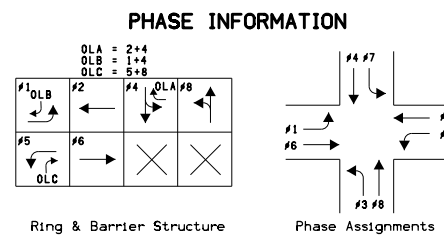
1. Vehicle detection, signing, handholes and conduit are not included in this preliminary traffic signal layout.
2. Pavement markings are for information only.
3. Each mastarm pole footing shall have two (2) spare 2 inch conduits stubbed out three feet and capped. One conduit is reserved for roadway lighting.
4. Roadway lighting circuitry shall not be installed in the traffic signal control cabinet. Lighting power cables shall not be installed in the same conduits as the traffic signal wiring.
5. It should be noted that adjustments to the signal pole location may affect the mast arm lengths, signal head positions, and sign locations. If a signal pole needs to be shifted, it is recommended that the Design Engineer be notified of the change in order to review these aspects of the signal pole design.



TRAFFIC SIGNAL INSTALLATION DETAILS

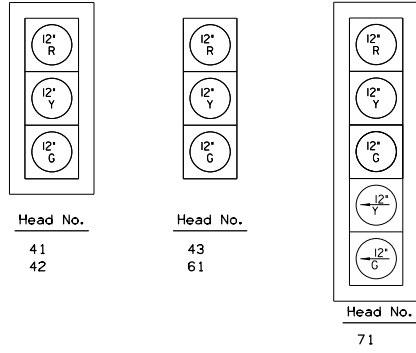
New
07-28-03

ITEM	ID NO.	STATION	SIDE	OFFSET
Mastarm Pole & Footing	1	130+86.63	Lt	97.8
Mastarm Pole & Footing	2	132+74.05	Rt	95.1

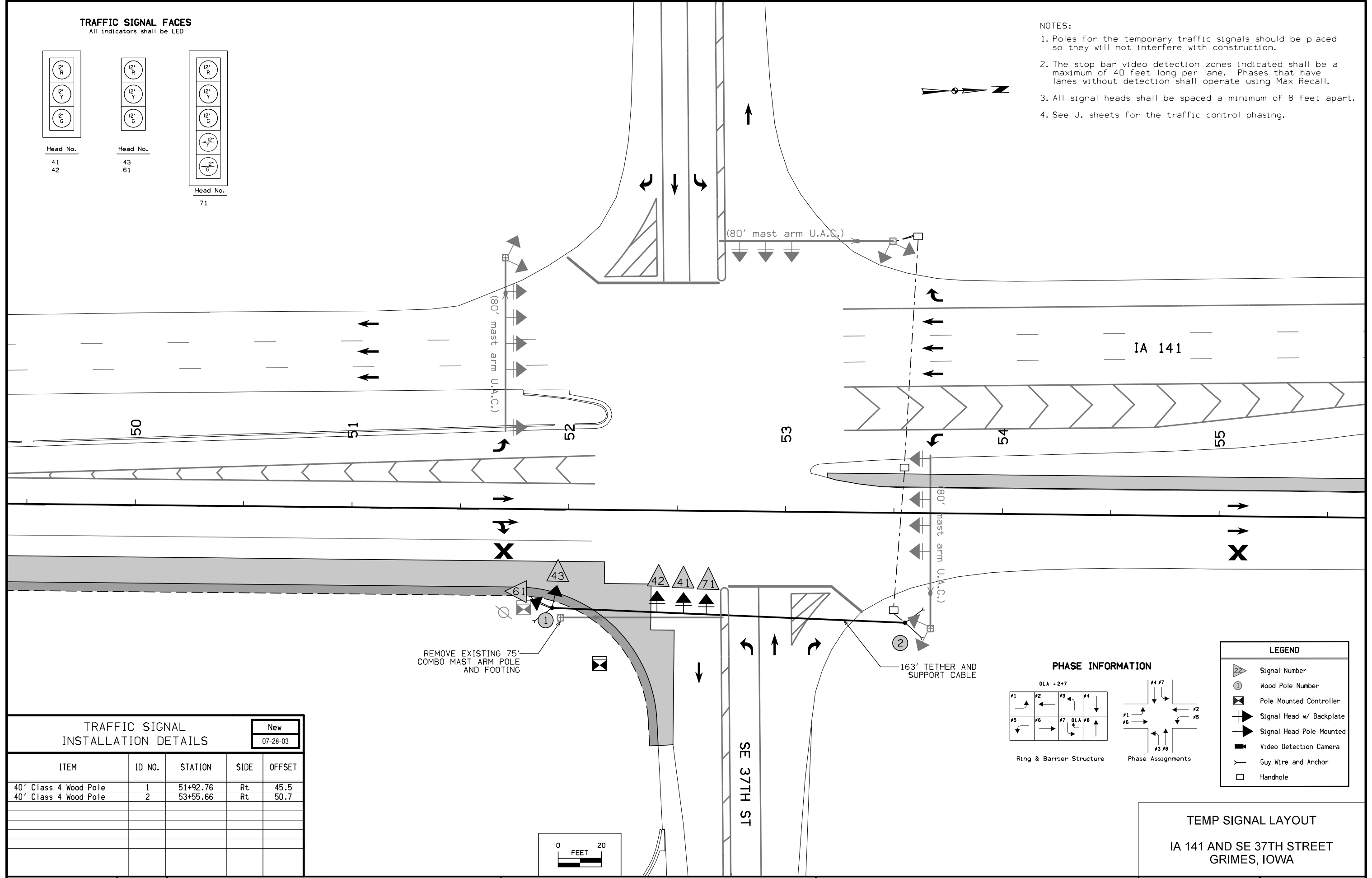


TRAFFIC SIGNAL LAYOUT
IA 141 AND SE 11TH STREET
GRIMES, IOWA

TRAFFIC SIGNAL FACES
All indicators shall be LED

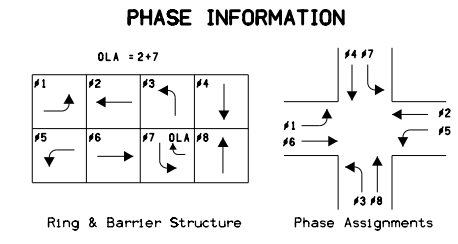


- NOTES:**
1. Poles for the temporary traffic signals should be placed so they will not interfere with construction.
 2. The stop bar video detection zones indicated shall be a maximum of 40 feet long per lane. Phases that have lanes without detection shall operate using Max Recall.
 3. All signal heads shall be spaced a minimum of 8 feet apart.
 4. See J. sheets for the traffic control phasing.



REMOVE EXISTING 75' COMBO MAST ARM POLE AND FOOTING

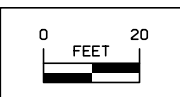
163' TETHER AND SUPPORT CABLE



LEGEND

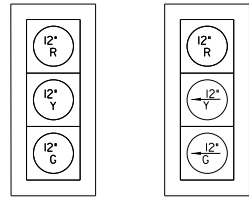
- Signal Number
- Wood Pole Number
- Pole Mounted Controller
- Signal Head w/ Backplate
- Signal Head Pole Mounted
- Video Detection Camera
- Guy Wire and Anchor
- Handhole

TRAFFIC SIGNAL INSTALLATION DETAILS				
				New 07-28-03
ITEM	ID NO.	STATION	SIDE	OFFSET
40' Class 4 Wood Pole	1	51+92.76	Rt	45.5
40' Class 4 Wood Pole	2	53+55.66	Rt	50.7



TEMP SIGNAL LAYOUT
IA 141 AND SE 37TH STREET
GRIMES, IOWA

TRAFFIC SIGNAL FACES
All indicators shall be LED

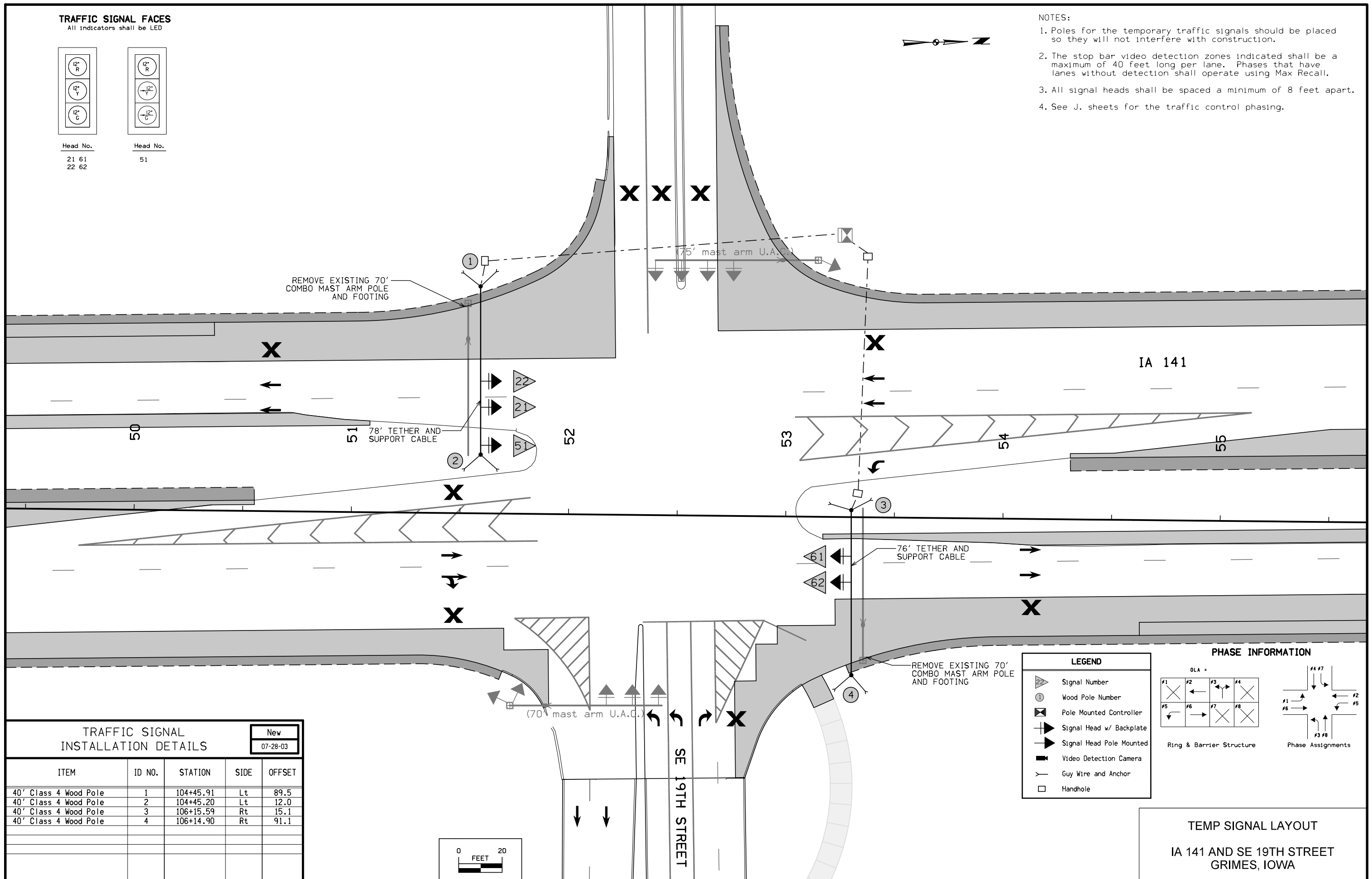


Head No. 21 61
22 62

Head No. 51

NOTES:

1. Poles for the temporary traffic signals should be placed so they will not interfere with construction.
2. The stop bar video detection zones indicated shall be a maximum of 40 feet long per lane. Phases that have lanes without detection shall operate using Max Recall.
3. All signal heads shall be spaced a minimum of 8 feet apart.
4. See J. sheets for the traffic control phasing.



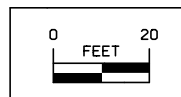
TRAFFIC SIGNAL INSTALLATION DETAILS				
				New 07-28-03
ITEM	ID NO.	STATION	SIDE	OFFSET
40' Class 4 Wood Pole	1	104+45.91	Lt	89.5
40' Class 4 Wood Pole	2	104+45.20	Lt	12.0
40' Class 4 Wood Pole	3	106+15.59	Rt	15.1
40' Class 4 Wood Pole	4	106+14.90	Rt	91.1

LEGEND

- Signal Number
- Wood Pole Number
- Pole Mounted Controller
- Signal Head w/ Backplate
- Signal Head Pole Mounted
- Video Detection Camera
- Guy Wire and Anchor
- Handhole

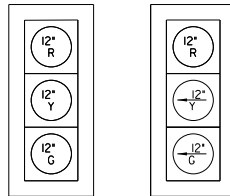
PHASE INFORMATION

OLA =



TEMP SIGNAL LAYOUT
IA 141 AND SE 19TH STREET
GRIMES, IOWA

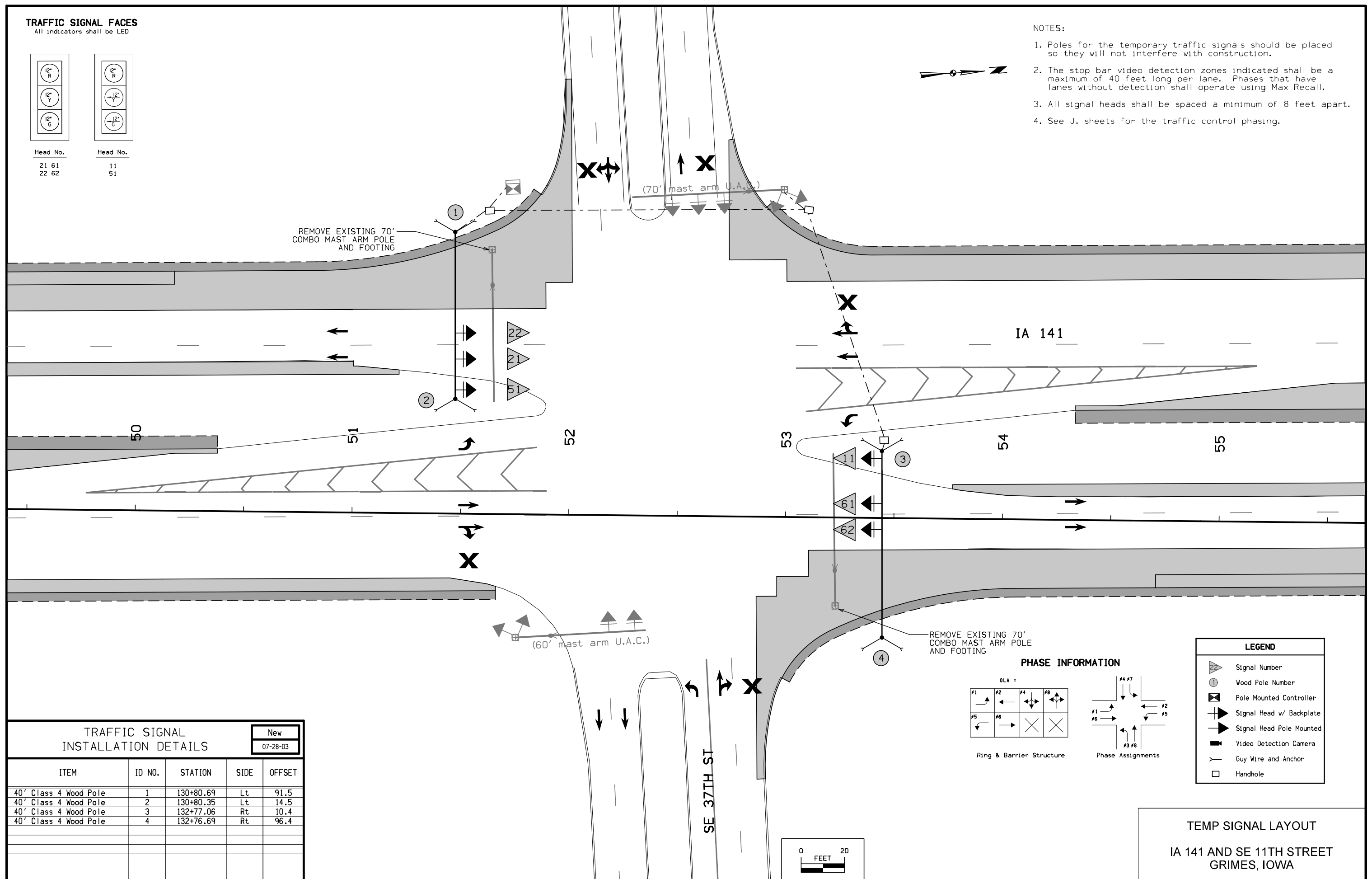
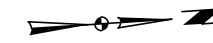
TRAFFIC SIGNAL FACES
All indicators shall be LED



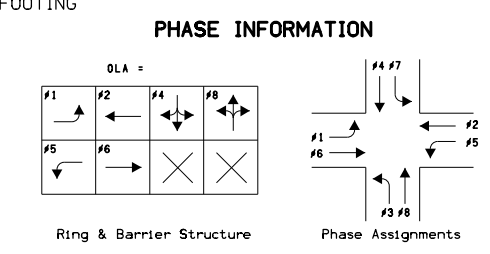
Head No.	Head No.
21 61	11
22 62	51

NOTES:

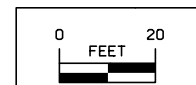
1. Poles for the temporary traffic signals should be placed so they will not interfere with construction.
2. The stop bar video detection zones indicated shall be a maximum of 40 feet long per lane. Phases that have lanes without detection shall operate using Max Recall.
3. All signal heads shall be spaced a minimum of 8 feet apart.
4. See J. sheets for the traffic control phasing.



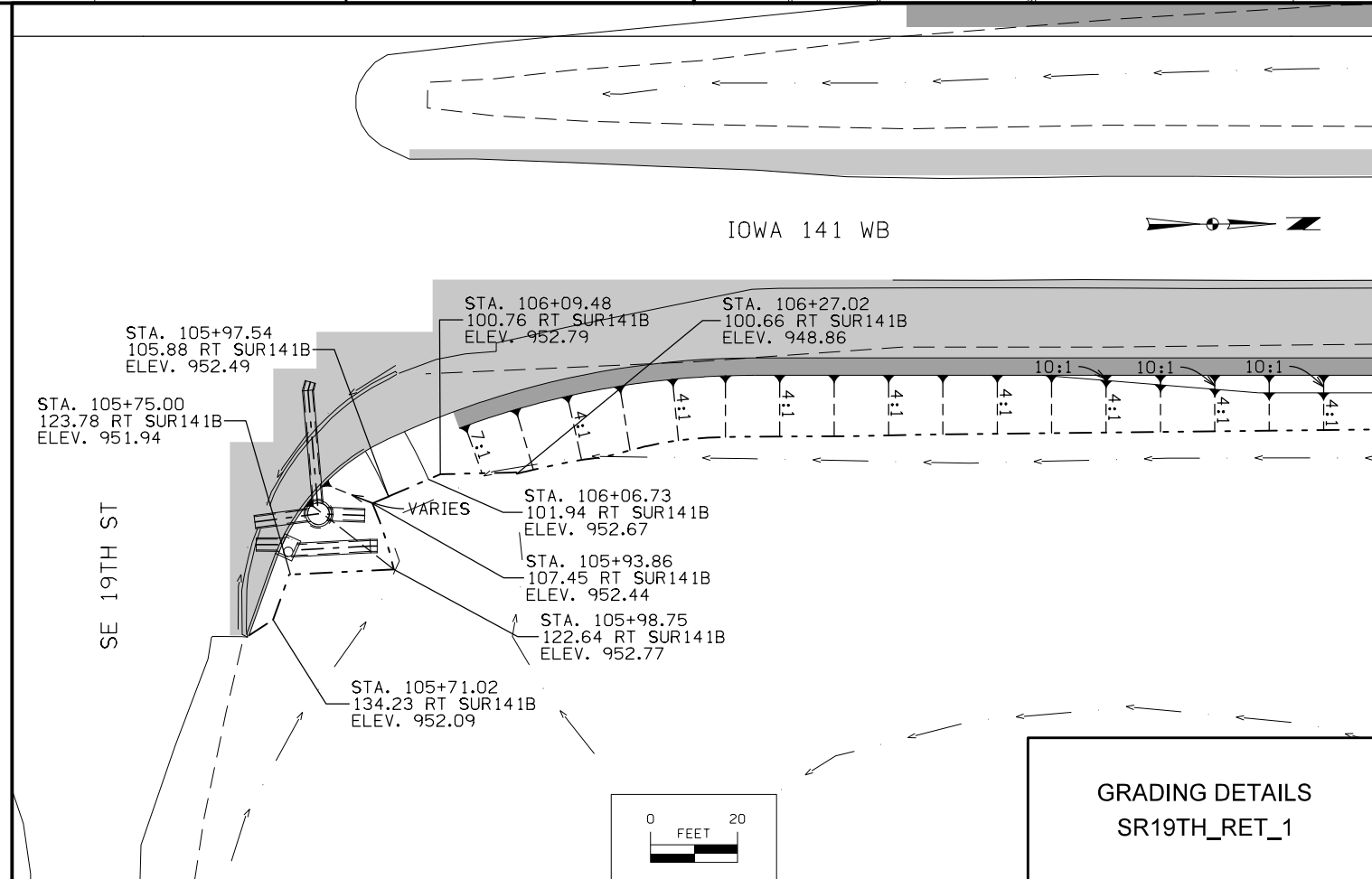
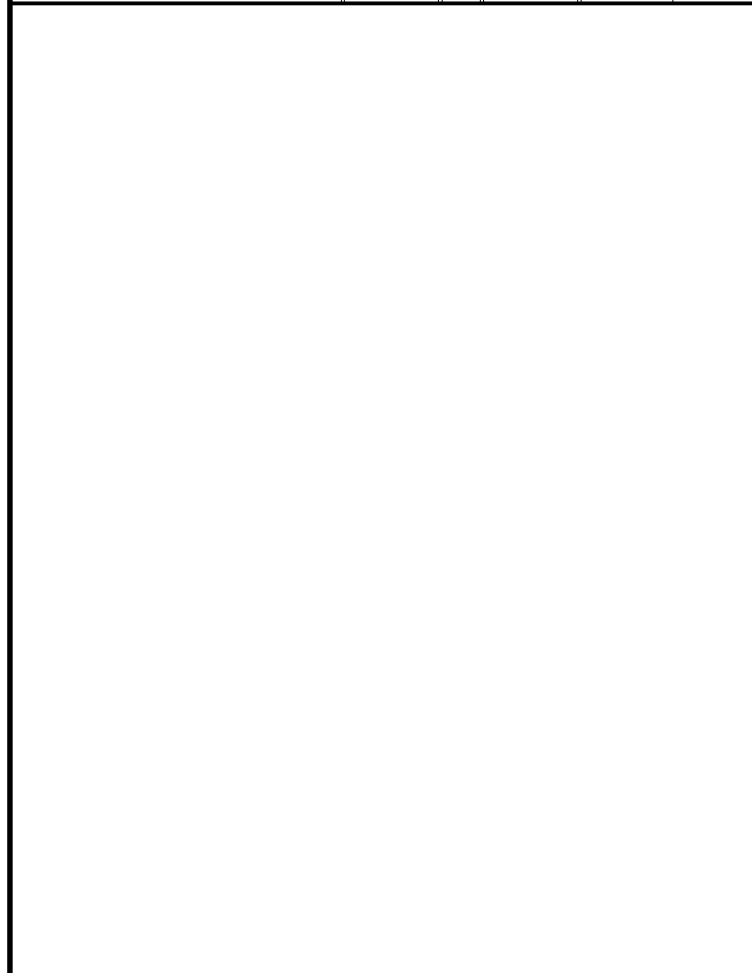
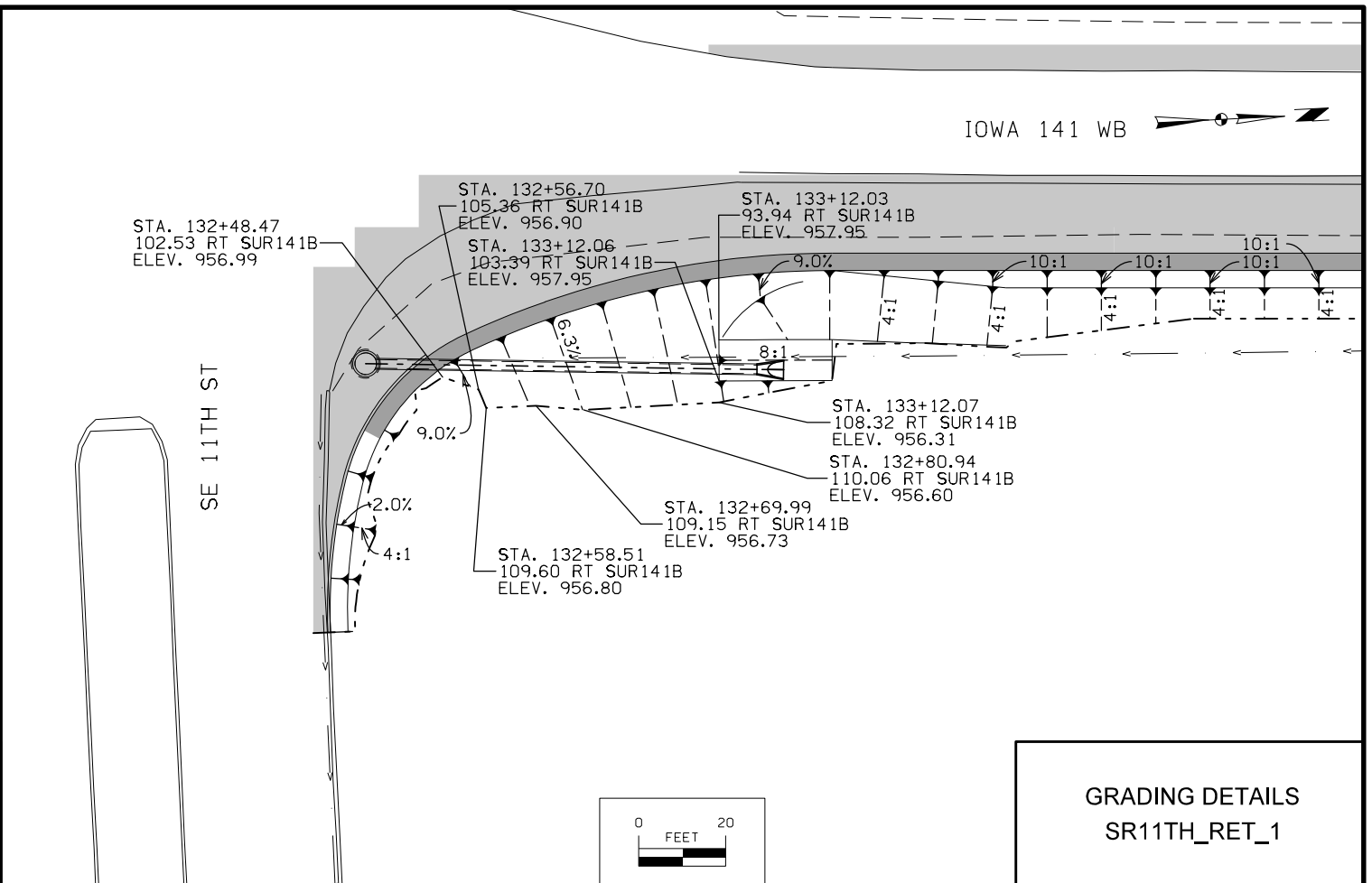
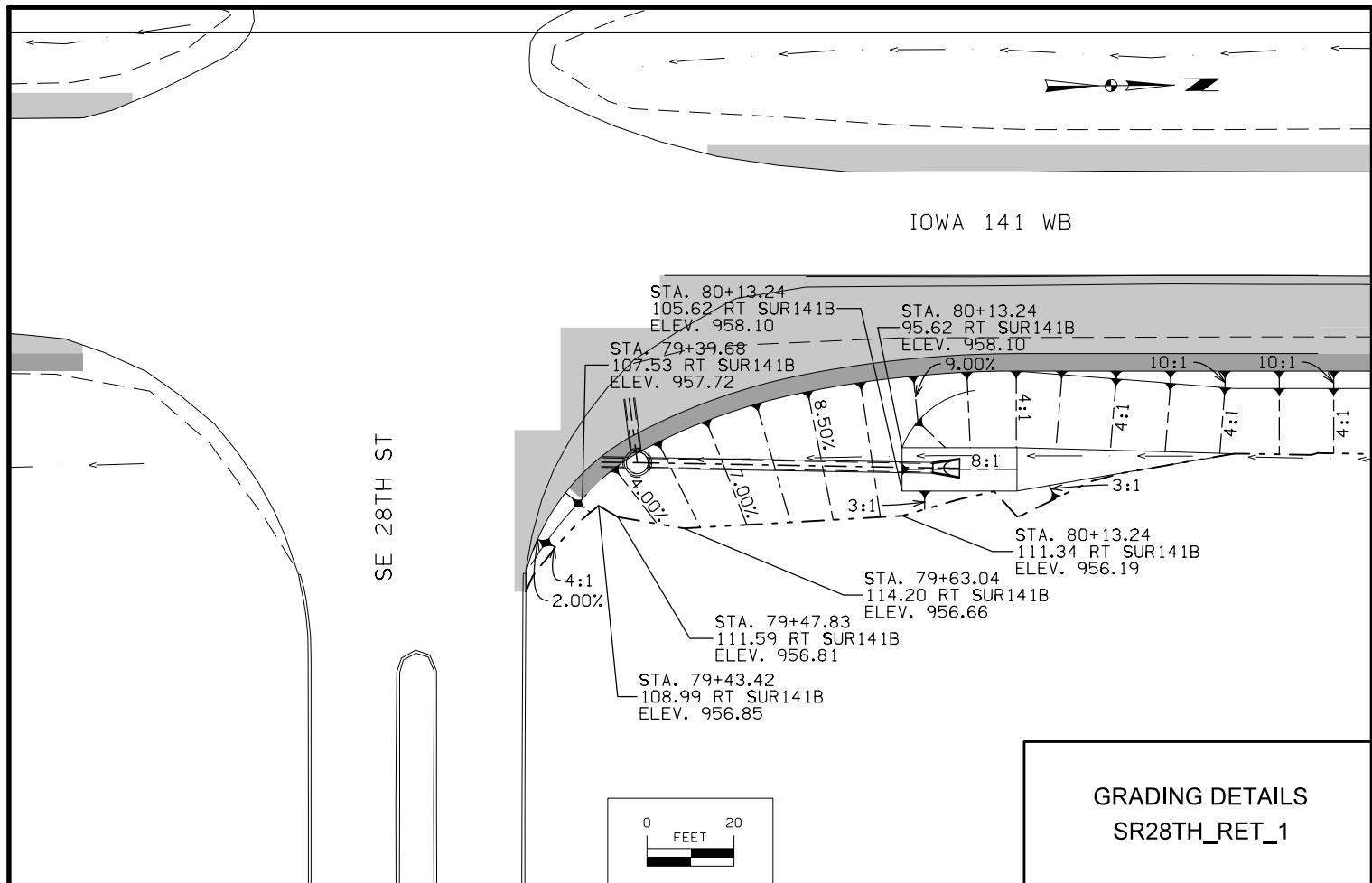
TRAFFIC SIGNAL INSTALLATION DETAILS				
ITEM	ID NO.	STATION	SIDE	OFFSET
40' Class 4 Wood Pole	1	130+80.69	Lt	91.5
40' Class 4 Wood Pole	2	130+80.35	Lt	14.5
40' Class 4 Wood Pole	3	132+77.06	Rt	10.4
40' Class 4 Wood Pole	4	132+76.69	Rt	96.4

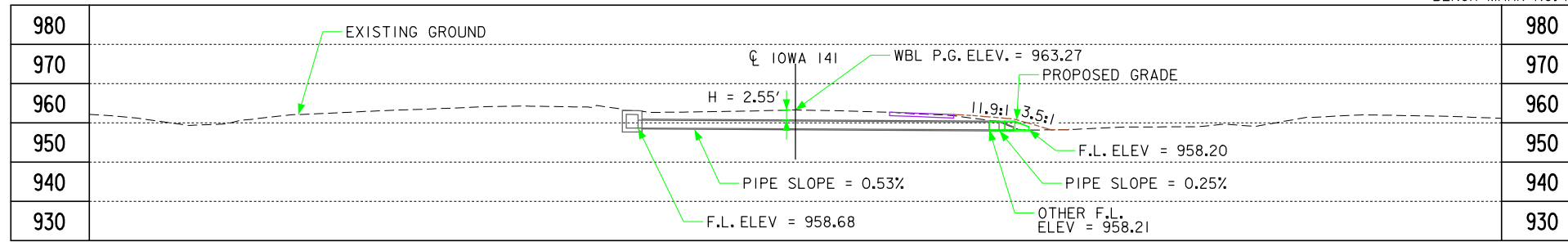


LEGEND	
	Signal Number
	Wood Pole Number
	Pole Mounted Controller
	Signal Head w/ Backplate
	Signal Head Pole Mounted
	Video Detection Camera
	Guy Wire and Anchor
	Handhole

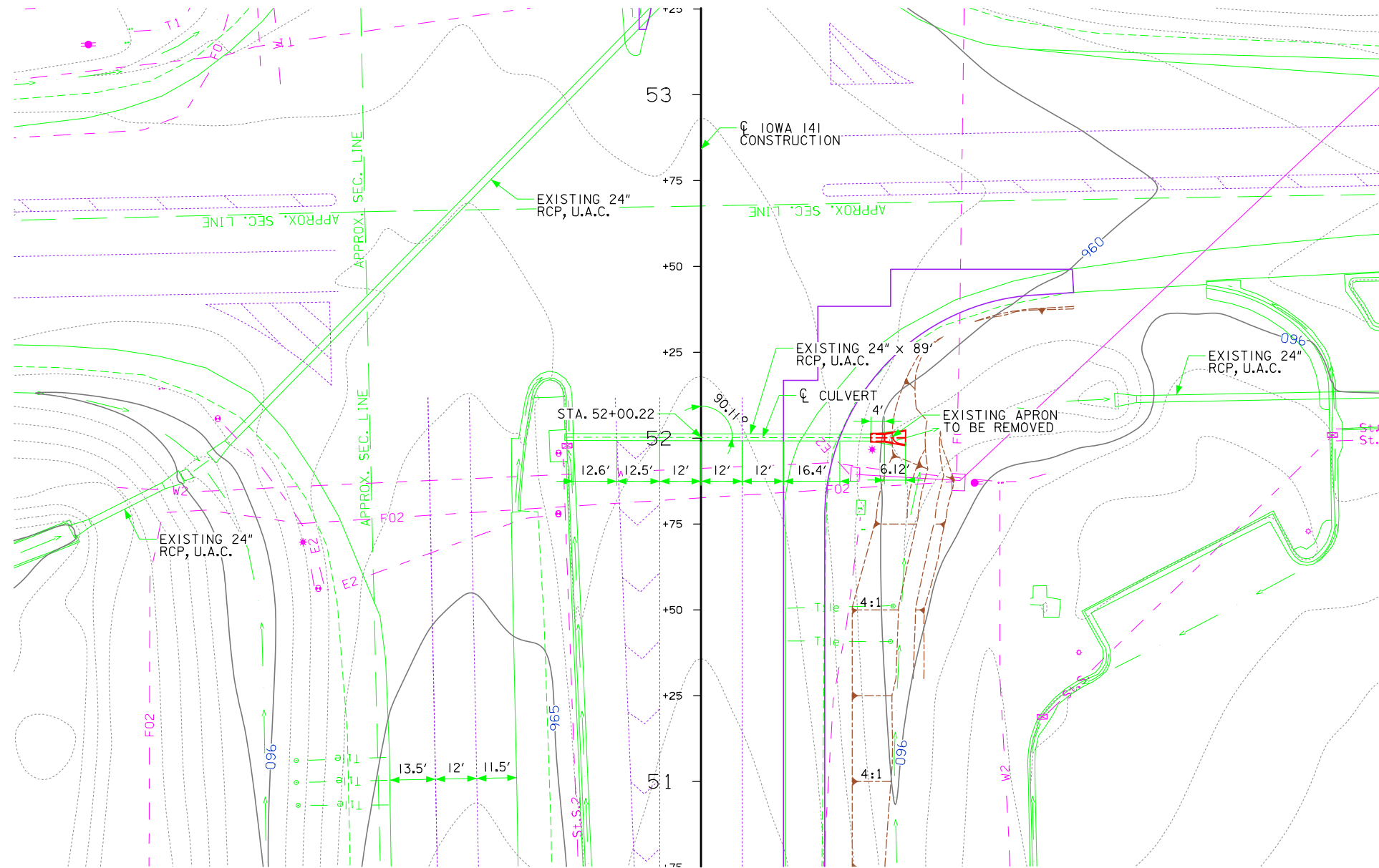


TEMP SIGNAL LAYOUT
IA 141 AND SE 11TH STREET
GRIMES, IOWA





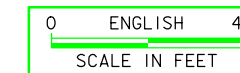
LONGITUDINAL SECTION ALONG CL CULVERT



PLAT PLAN



HYDRAULIC DATA
DRAINAGE AREA = MEDIAN



UTILITIES LEGEND:

- E2 - Baker Electric (QLD)
- F02 - Iowa Network Services (QLD)
- E1 - MidAmerican (QLD)
- G - Black Hills Energy (QLD)
- TV - Mediacom (QLD)
- F0 - Iowa Communication Services (QLD)
- F03 - Centurylink (QLD)
- T1 - Centurylink (QLD)
- St.S. - City of Grimes (QLD)
- W - City of Grimes (QLD)
- San. - City of Grimes (QLD)
- W2 - Thorpe Water Development (QLD)
- St.S.2 - Iowa DOT (QLD)
- MidAmerican

LOCATION

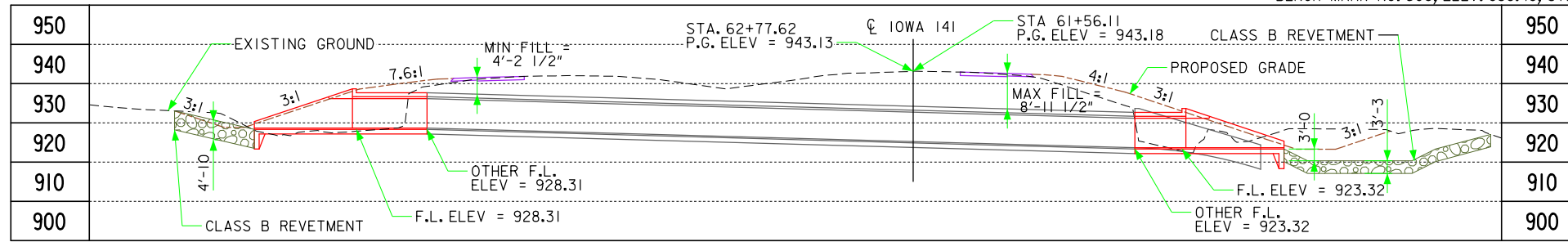
IOWA 141
T-79N R-25W
SECTION 16
WEBSTER TOWNSHIP
POLK COUNTY

TRAFFIC ESTIMATE

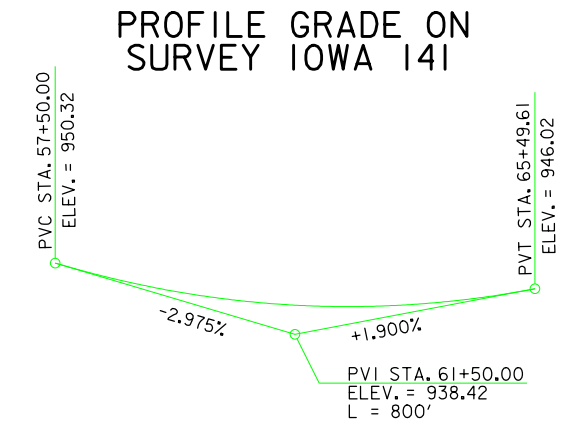
2016 AADT	33,400	V.P.D.
2036 AADT	47,900	V.P.D.
2036 DHV	4,950	V.P.H.
TRUCKS	8	%
TOTAL DESIGN ESALS	-	

PRELIMINARY

DESIGN FOR 0° SKEW
24 in. x 4 ft. Ext. Right REINFORCED CONCRETE PIPE
 PLAT PLAN
 STATION 52+00.22 (CL IOWA 141) JULY 2014
POLK COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. 1 OF 1 FILE NO. _____ DESIGN NO. _____



LONGITUDINAL SECTION AT CULVERT INVERTS



SURVEY IOWA 141 ALIGNMENT INFORMATION

Curve Data
 $\Delta = 1^\circ 03' 32.19''$ (LT)
 T = 225.45
 L = 450.89
 R = 24,395.96
 E = 1.04
 P.C. STA = 59+99.73
 P.T. STA = 64+50.62

HYDRAULIC DATA
 DRAINAGE AREA = 1099 ACRES F-R

UTILITIES LEGEND:

- E2 - Baker Electric (QLD)
- F02 - Iowa Network Services (QLD)
- E1 - MidAmerican (QLD)
- G - Black Hills Energy (QLD)
- TV - Mediacom (QLD)
- F0 - Iowa Communication Services (QLD)
- F03 - Centurylink (QLD)
- T1 - Centurylink (QLD)
- St.S. - City of Grimes (QLD)
- W - City of Grimes (QLD)
- San. - City of Grimes (QLD)
- W2 - Thorpe Water Development (QLD)
- St.S.2 - Iowa DOT (QLD)
- MidAmerican

LOCATION

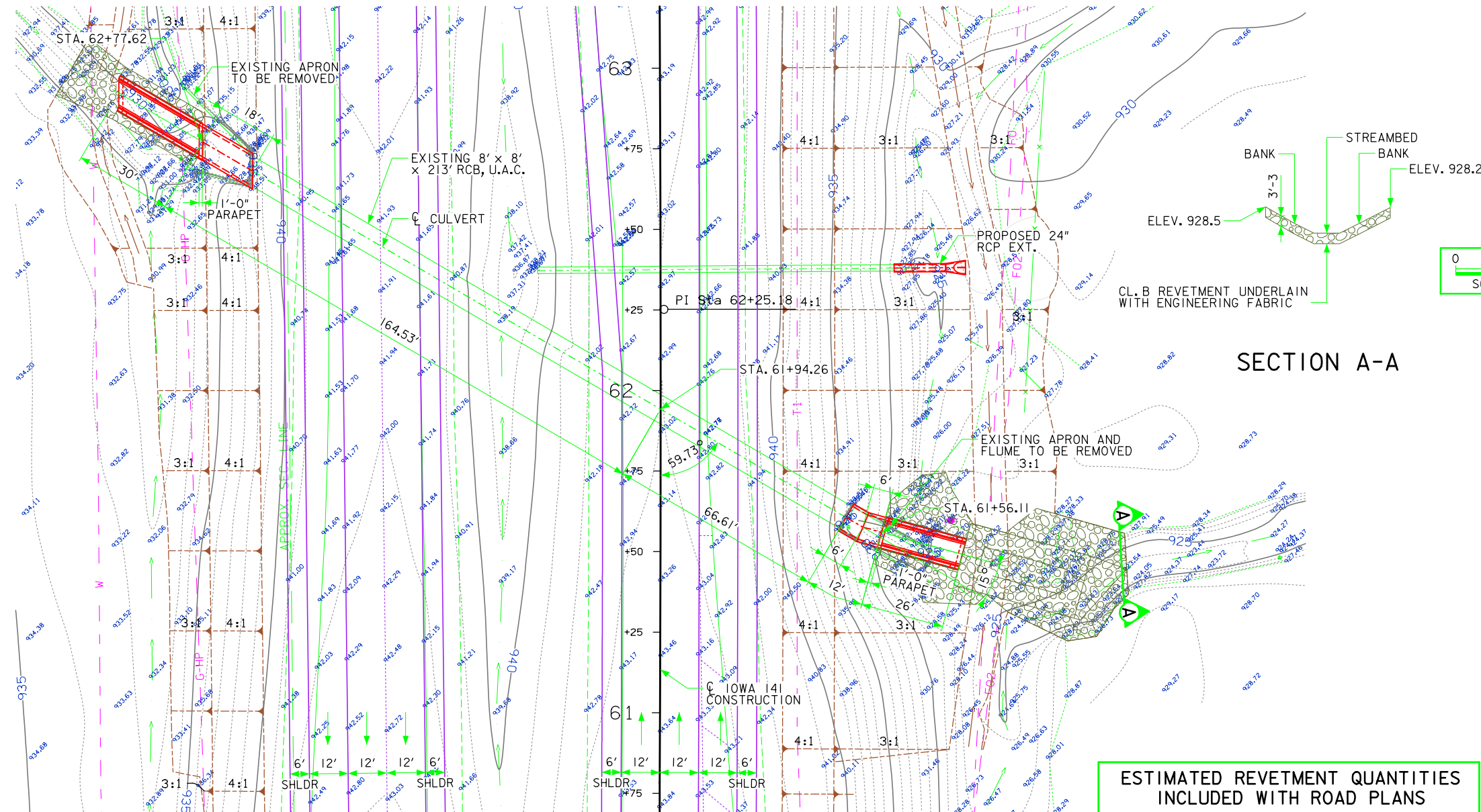
IOWA 141
 T-79N R-25W
 SECTIONS 8,9
 WEBSTER TOWNSHIP
 POLK COUNTY
 LAT 41.661048
 LONG -93.774827

TRAFFIC ESTIMATE

2016 AADT	33,400	V.P.D.
2036 AADT	47,900	V.P.D.
2036 DHV	4,950	V.P.H.
TRUCKS	8	%
TOTAL DESIGN ESALS		

PRELIMINARY

DESIGN FOR 0° SKEW LEFT, 15° SKEW RIGHT
8 ft. x 8 ft. Ext. Left
8 ft. x 8 ft. Ext. Right
REINFORCED CONCRETE BOX
SITUATION PLAN
 STATION 61+94.26 (CL IOWA 141) JULY 2014
POLK COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. 1 OF 1 FILE NO. DESIGN NO. 316



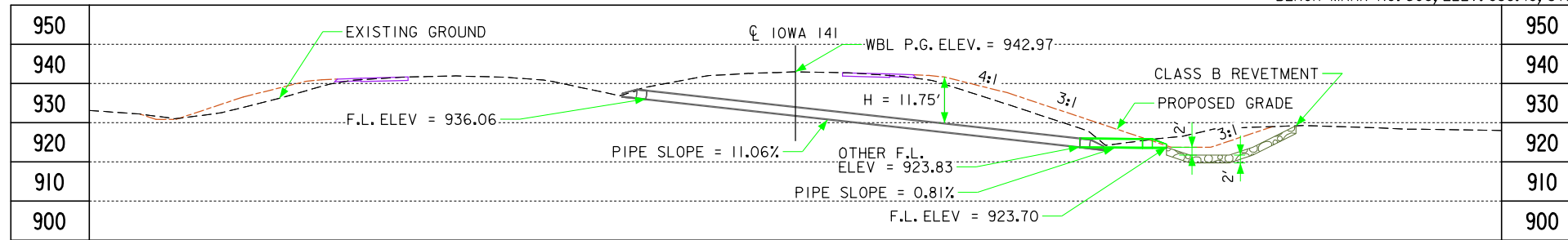
SITUATION PLAN

SECTION A-A

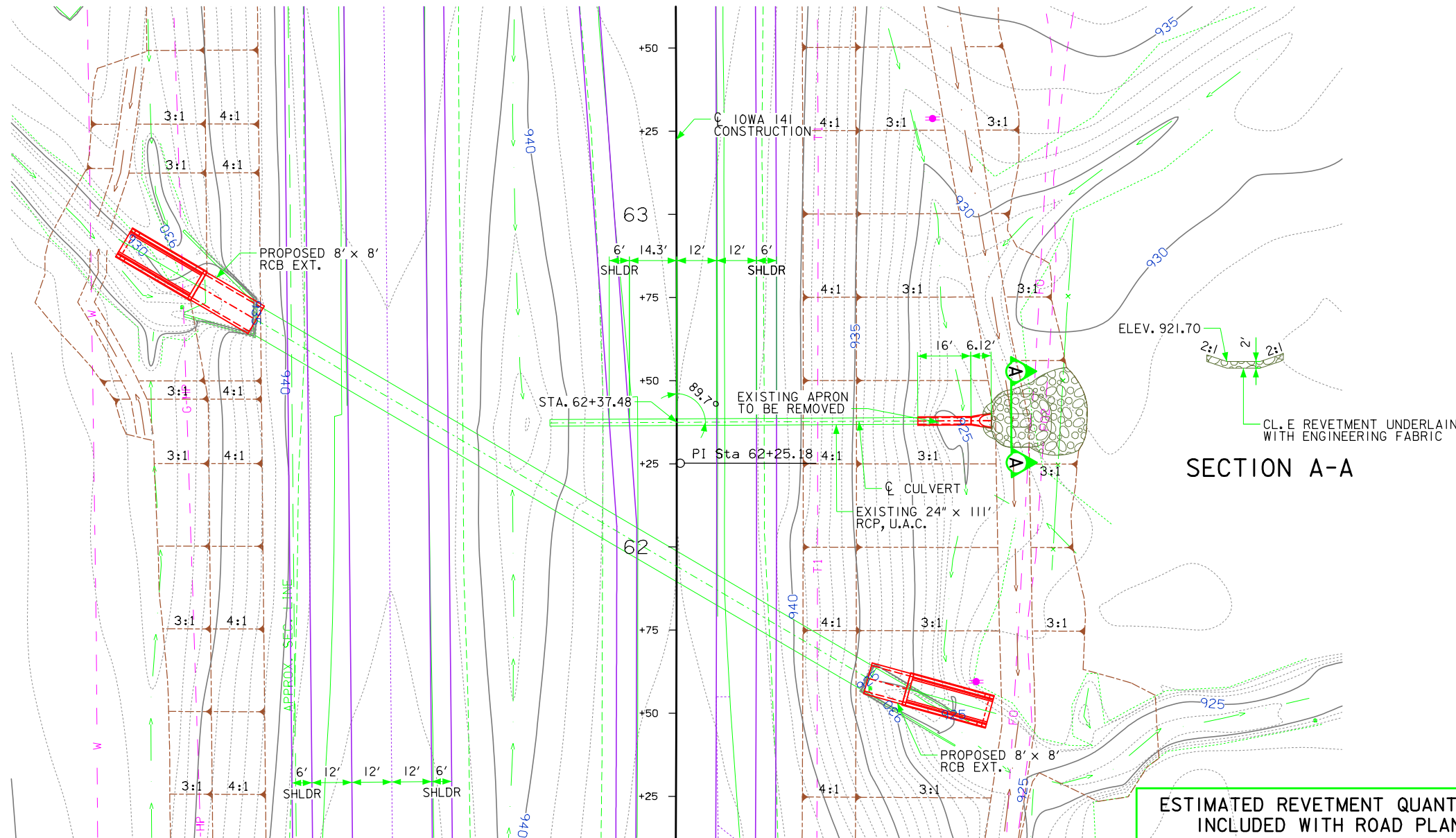
ESTIMATED REVETMENT QUANTITIES INCLUDED WITH ROAD PLANS

LOCATION	REVETMENT CL. "B" (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
INLET	153.62	156.61	94.83
OUTLET	405.18	330.38	250.11
TOTALS	558.80	486.99	344.94

EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE. QUANTITIES SHOWN FOR INFORMATION ONLY. SEE ROAD SHEETS.



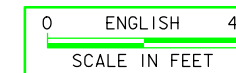
LONGITUDINAL SECTION ALONG CL CULVERT



PLAT PLAN



HYDRAULIC DATA
DRAINAGE AREA = MEDIAN



UTILITIES LEGEND:

- E2 - Baker Electric (QLD)
- F02 - Iowa Network Services (QLD)
- E1 - MidAmerican (QLD)
- G - Black Hills Energy (QLD)
- TV - Mediacom (QLD)
- F0 - Iowa Communication Services (QLD)
- F03 - Centurylink (QLD)
- T1 - Centurylink (QLD)
- St.S. - City of Grimes (QLD)
- W - City of Grimes (QLD)
- San. - City of Grimes (QLD)
- W2 - Thorpe Water Development (QLD)
- St.S.2 - Iowa DOT (QLD)
- MidAmerican

LOCATION

IOWA 141
T-79N R-25W
SECTIONS 8,9
WEBSTER TOWNSHIP
POLK COUNTY

TRAFFIC ESTIMATE

2016 AADT	33,400	V.P.D.
2036 AADT	47,900	V.P.D.
2036 DHV	4,950	V.P.H.
TRUCKS	8	%
TOTAL DESIGN ESALS		

LOCATION	REVETMENT CL. "B" (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
INLET	0.00	0.00	0.00
OUTLET	70.97	87.80	43.81
TOTALS	70.97	87.80	43.81

EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE. QUANTITIES SHOWN FOR INFORMATION ONLY. SEE ROAD SHEETS.

PRELIMINARY

DESIGN FOR 0° SKEW

24 in. x 16 ft. Ext. Right REINFORCED CONCRETE PIPE

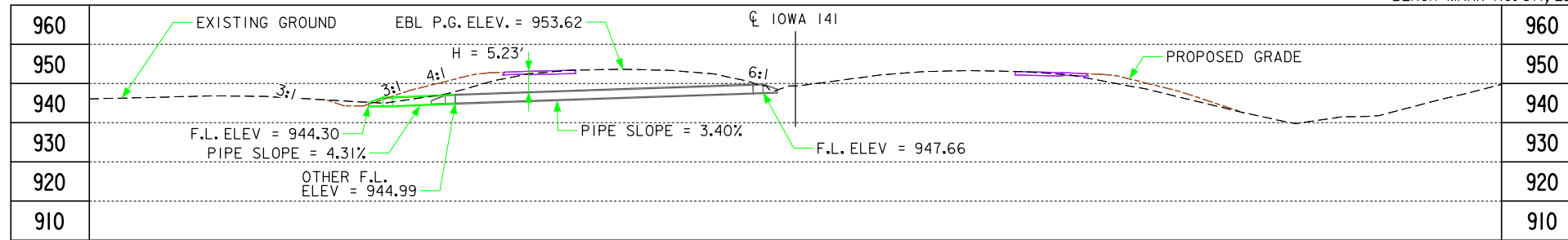
PLAT PLAN

STATION 62+37.48 (CL IOWA 141) JULY 2014

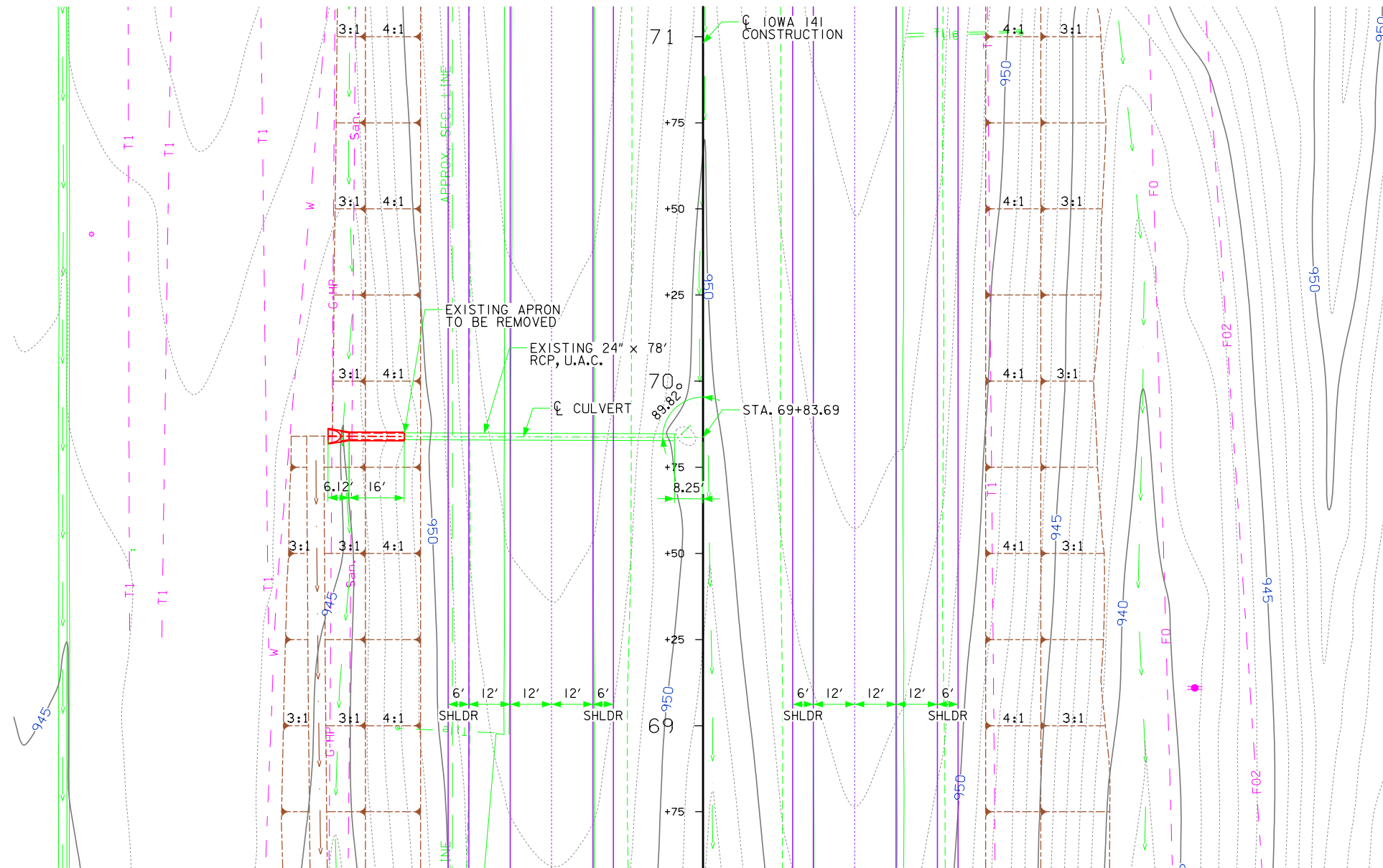
POLK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. DESIGN NO.



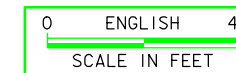
LONGITUDINAL SECTION ALONG \bar{C} CULVERT



PLAT PLAN



HYDRAULIC DATA
DRAINAGE AREA = MEDIAN



UTILITIES LEGEND:

- E2 - Baker Electric (QLD)
- F02 - Iowa Network Services (QLD)
- E1 - MidAmerican (QLD)
- G - Black Hills Energy (QLD)
- TV - Mediacom (QLD)
- F0 - Iowa Communication Services (QLD)
- F03 - Centurylink (QLD)
- T1 - Centurylink (QLD)
- St.S. - City of Grimes (QLD)
- W - City of Grimes (QLD)
- San. - City of Grimes (QLD)
- W2 - Thorpe Water Development (QLD)
- St.S.2 - Iowa DOT (QLD)
- MidAmerican

LOCATION

IOWA 141
T-79N R-25W
SECTIONS 8,9
WEBSTER TOWNSHIP
POLK COUNTY

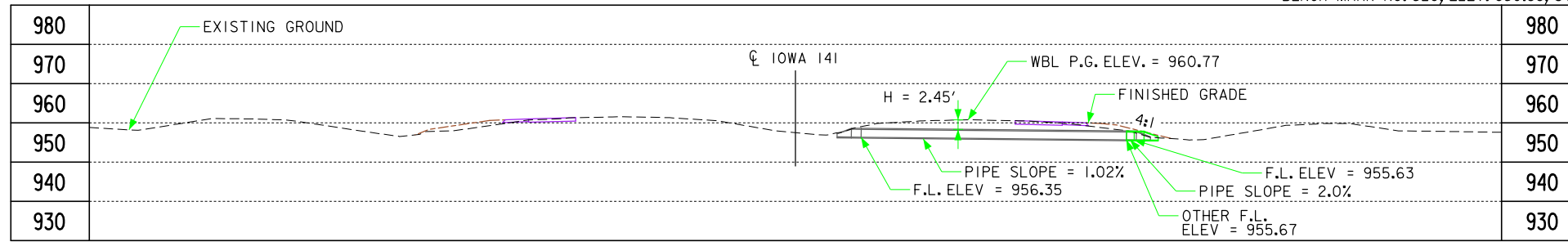
TRAFFIC ESTIMATE

2016 AADT	33,400	V.P.D.
2036 AADT	47,900	V.P.D.
2036 DHV	4,950	V.P.H.
TRUCKS	8	%
TOTAL DESIGN ESALS	-	

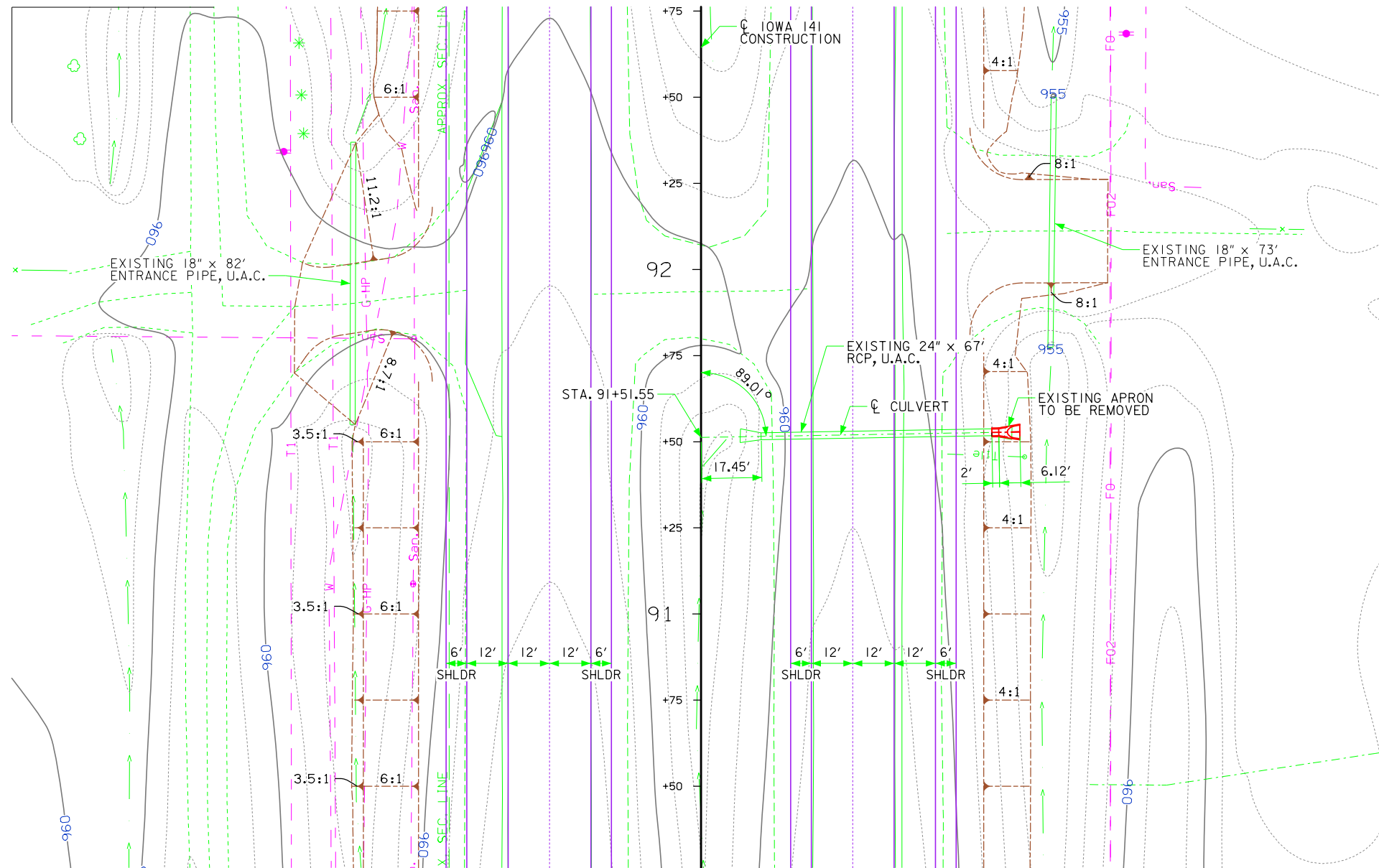
PRELIMINARY

DESIGN FOR 0° SKEW
24 in. x 16 ft. Ext. Left REINFORCED CONCRETE PIPE

PLAT PLAN
STATION 69+83.69 (\bar{C} IOWA 141) JULY 2014
POLK COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 1 OF 1 FILE NO. _____ DESIGN NO. _____



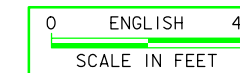
LONGITUDINAL SECTION ALONG \bar{C} CULVERT



PLAT PLAN



HYDRAULIC DATA
DRAINAGE AREA = MEDIAN



UTILITIES LEGEND:

- E2 - Baker Electric (QLD)
- F02 - Iowa Network Services (QLD)
- E1 - MidAmerican (QLD)
- G - Black Hills Energy (QLD)
- TV - Mediacom (QLD)
- F0 - Iowa Communication Services (QLD)
- F03 - Centurylink (QLD)
- T1 - Centurylink (QLD)
- St.S. - City of Grimes (QLD)
- W - City of Grimes (QLD)
- San. - City of Grimes (QLD)
- W2 - Thorpe Water Development (QLD)
- St.S.2 - Iowa DOT (QLD)
- MidAmerican

LOCATION

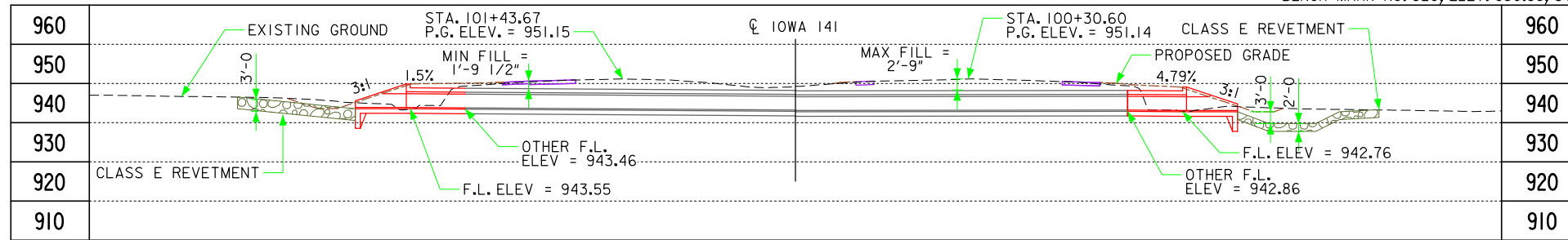
IOWA 141
T-79N R-25W
SECTIONS 8,9
WEBSTER TOWNSHIP
POLK COUNTY

TRAFFIC ESTIMATE

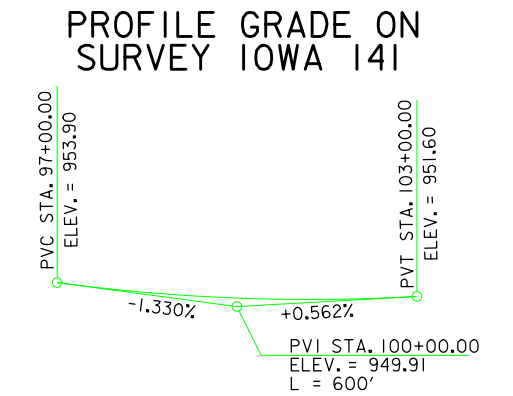
2016 AADT	33,400	V.P.D.
2036 AADT	47,900	V.P.D.
2036 DHV	4,950	V.P.H.
TRUCKS	8	%
TOTAL DESIGN ESALS	-	

PRELIMINARY

DESIGN FOR 0° SKEW
24 in. x 2 ft. Ext. Right REINFORCED CONCRETE PIPE
 PLAT PLAN
 STATION 91+51.55 (\bar{C} IOWA 141) JULY 2014
POLK COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. 1 OF 1 FILE NO. _____ DESIGN NO. _____

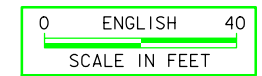
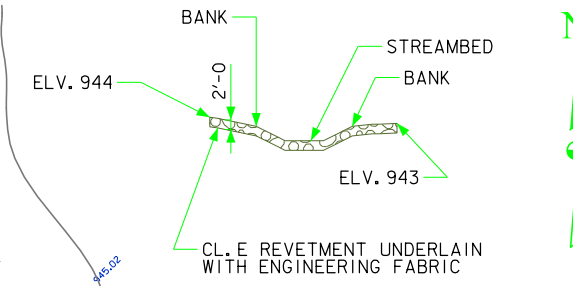
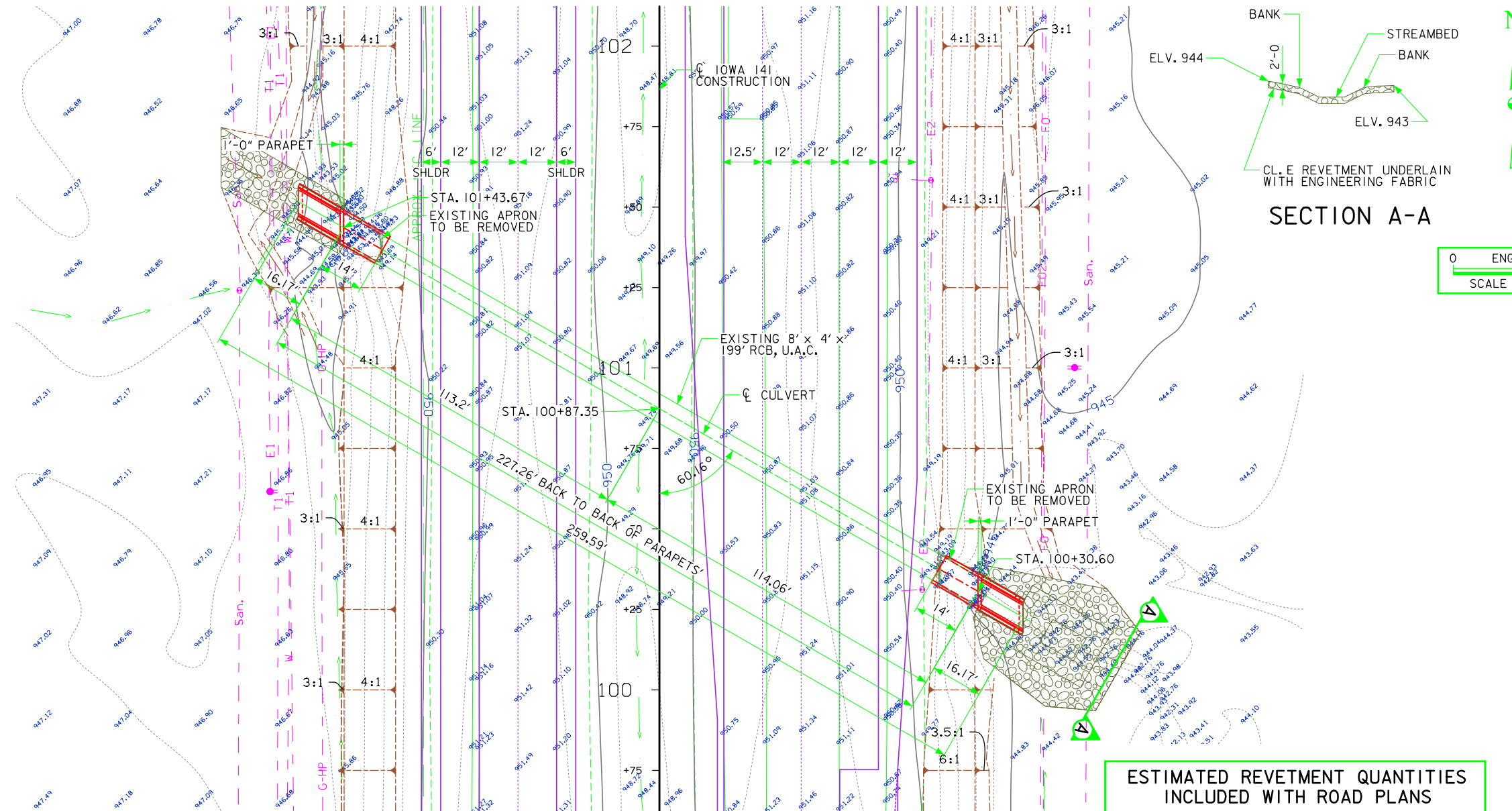


LONGITUDINAL SECTION AT CULVERT INVERTS



SURVEY IOWA 141 ALIGNMENT INFORMATION

IOWA 141 TANGENT BETWEEN
P.I. STA. 64+50.72 AND
P.C. STA. 117+97.44



HYDRAULIC DATA

DRAINAGE AREA = 331 ACRES F-R

UTILITIES LEGEND:

- E2 - Baker Electric (QLD)
- F02 - Iowa Network Services (QLD)
- E1 - MidAmerican (QLD)
- G - Black Hills Energy (QLD)
- TV - Mediacom (QLD)
- F0 - Iowa Communication Services (QLD)
- F03 - Centurylink (QLD)
- T1 - Centurylink (QLD)
- St.S. - City of Grimes (QLD)
- W - City of Grimes (QLD)
- San. - City of Grimes (QLD)
- St.S.2 - Thorpe Water Development (QLD)
- MidAmerican

LOCATION

IOWA 141
T-79N R-25W
SECTIONS 4,5
WEBSTER TOWNSHIP
POLK COUNTY
LAT 41.671731
LONG -93.774967

TRAFFIC ESTIMATE

2016 AADT	33,400	V.P.D.
2036 AADT	47,900	V.P.D.
2036 DHV	4,950	V.P.H.
TRUCKS	8	%
TOTAL DESIGN ESALS		

ESTIMATED REVETMENT QUANTITIES INCLUDED WITH ROAD PLANS

LOCATION	REVETMENT CL. "E" (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
INLET	92.5	104	58
OUTLET	175.0	202	108
TOTALS	267.5	306	166

EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE.
QUANTITIES SHOWN FOR INFORMATION ONLY. SEE ROAD SHEETS.

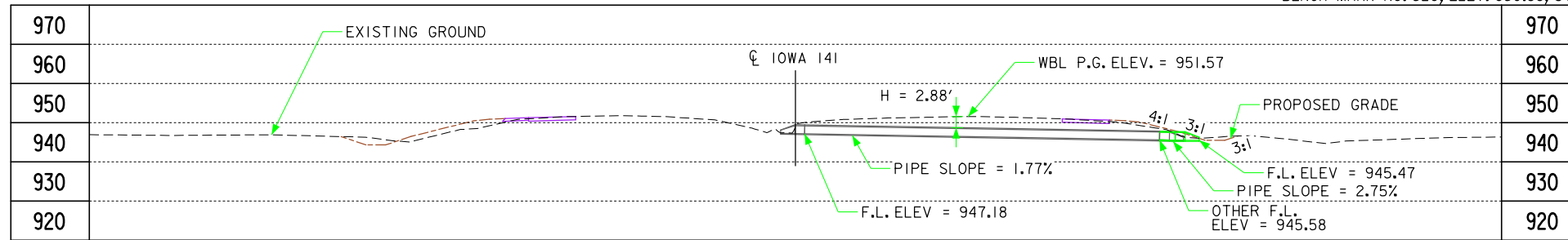
PRELIMINARY

DESIGN FOR 0° SKEW

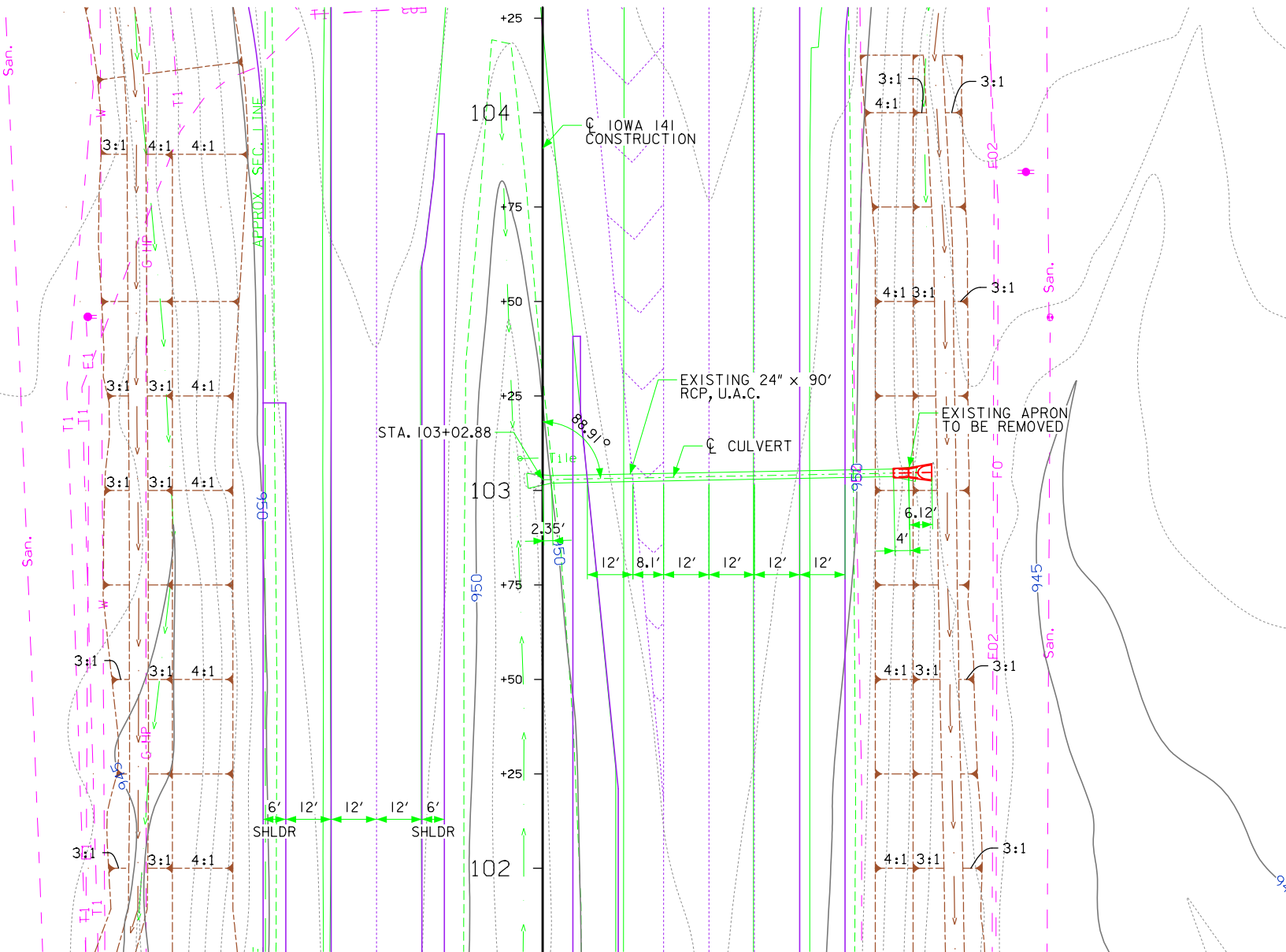
8 ft. x 4 ft. Ext. Left
8 ft. x 4 ft. Ext. Right
REINFORCED CONCRETE BOX
SITUATION PLAN

STATION 100+87.35 (CL. IOWA 141) JULY 2014

POLK COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 1 OF 1 FILE NO. DESIGN NO. 416



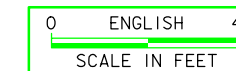
LONGITUDINAL SECTION ALONG CL CULVERT



PLAT PLAN



HYDRAULIC DATA
DRAINAGE AREA = MEDIAN



UTILITIES LEGEND:

- E2 - Baker Electric (QLD)
- F02 - Iowa Network Services (QLD)
- E1 - MidAmerican (QLD)
- G - Black Hills Energy (QLD)
- TV - Mediacom (QLD)
- F0 - Iowa Communication Services (QLD)
- F03 - Centurylink (QLD)
- T1 - Centurylink (QLD)
- St.S. - City of Grimes (QLD)
- W - City of Grimes (QLD)
- San. - City of Grimes (QLD)
- W2 - Thorpe Water Development (QLD)
- St.S.2 - Iowa DOT (QLD)
- MidAmerican

LOCATION

IOWA 141
T-79N R-25W
SECTIONS 4,5
WEBSTER TOWNSHIP
POLK COUNTY

TRAFFIC ESTIMATE

2016 AADT	33,400	V.P.D.
2036 AADT	47,900	V.P.D.
2036 DHV	4,950	V.P.H.
TRUCKS	8	%
TOTAL DESIGN ESALS	-	

PRELIMINARY

DESIGN FOR 0° SKEW

24 in. x 4 ft. Ext. Right REINFORCED CONCRETE PIPE

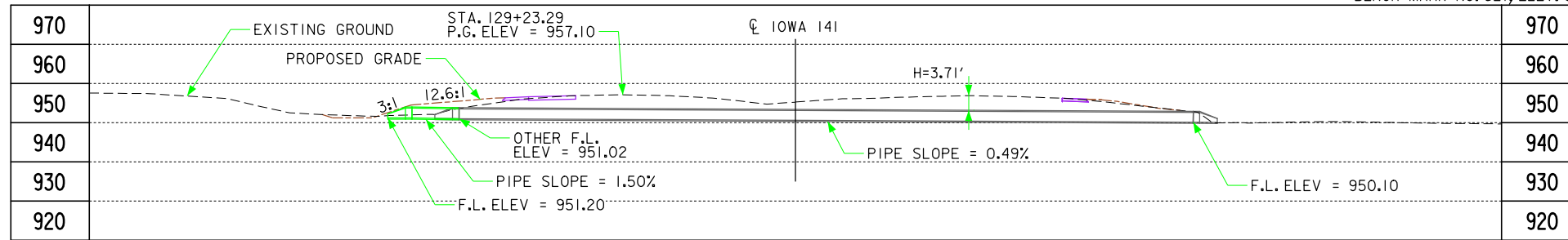
PLAT PLAN

STATION 103+02.88 (CL IOWA 141) JULY 2014

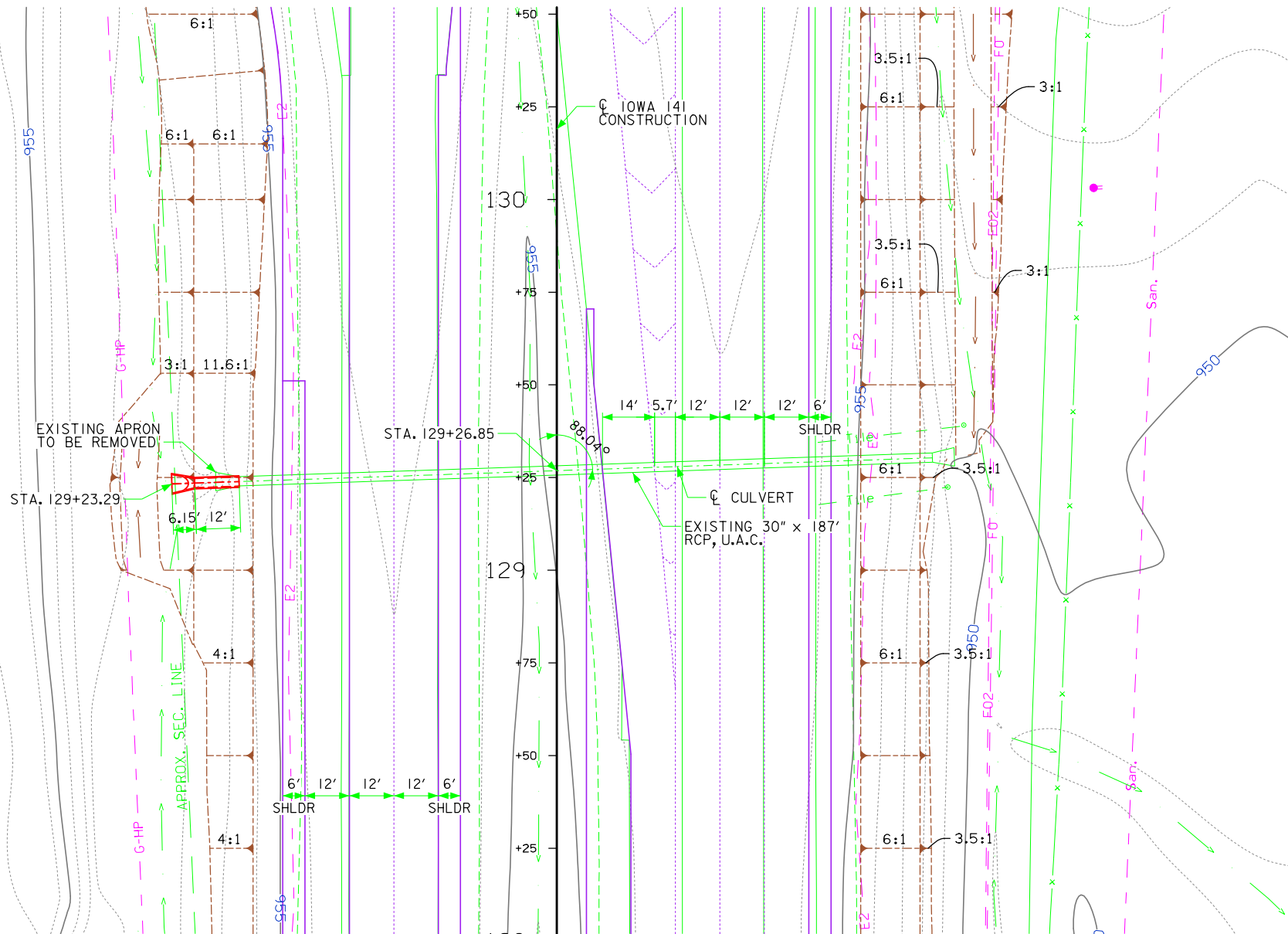
POLK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. _____ DESIGN NO. _____



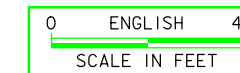
LONGITUDINAL SECTION AT CULVERT INVERTS



PLAT PLAN



HYDRAULIC DATA
DRAINAGE AREA = 20 ACRES F-R



UTILITIES LEGEND:

- E2 - Baker Electric (QLD)
- F02 - Iowa Network Services (QLD)
- E1 - MidAmerican (QLD)
- G - Black Hills Energy (QLD)
- TV - Mediacom (QLD)
- F0 - Iowa Communication Services (QLD)
- F03 - Centurylink (QLD)
- T1 - Centurylink (QLD)
- St.S. - City of Grimes (QLD)
- W - City of Grimes (QLD)
- San. - City of Grimes (QLD)
- W2 - Thorpe Water Development (QLD)
- St.S.2 - Iowa DOT (QLD)
- MidAmerican

LOCATION

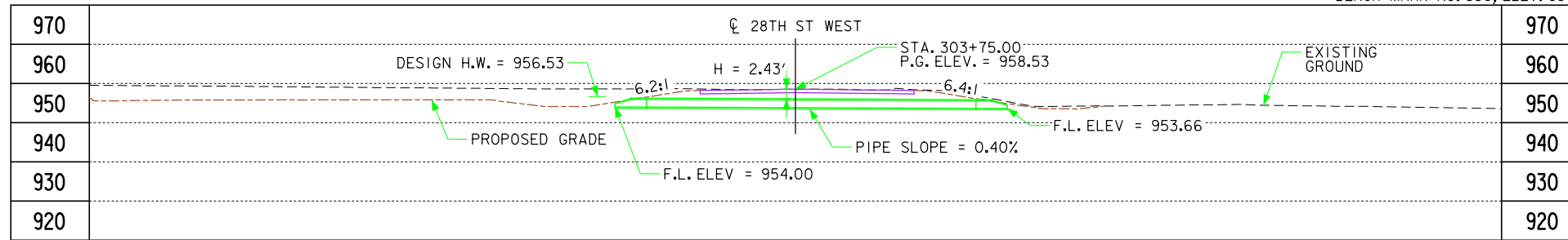
IOWA 141
T-79N R-25W
SECTIONS 4,5
WEBSTER TOWNSHIP
POLK COUNTY

TRAFFIC ESTIMATE

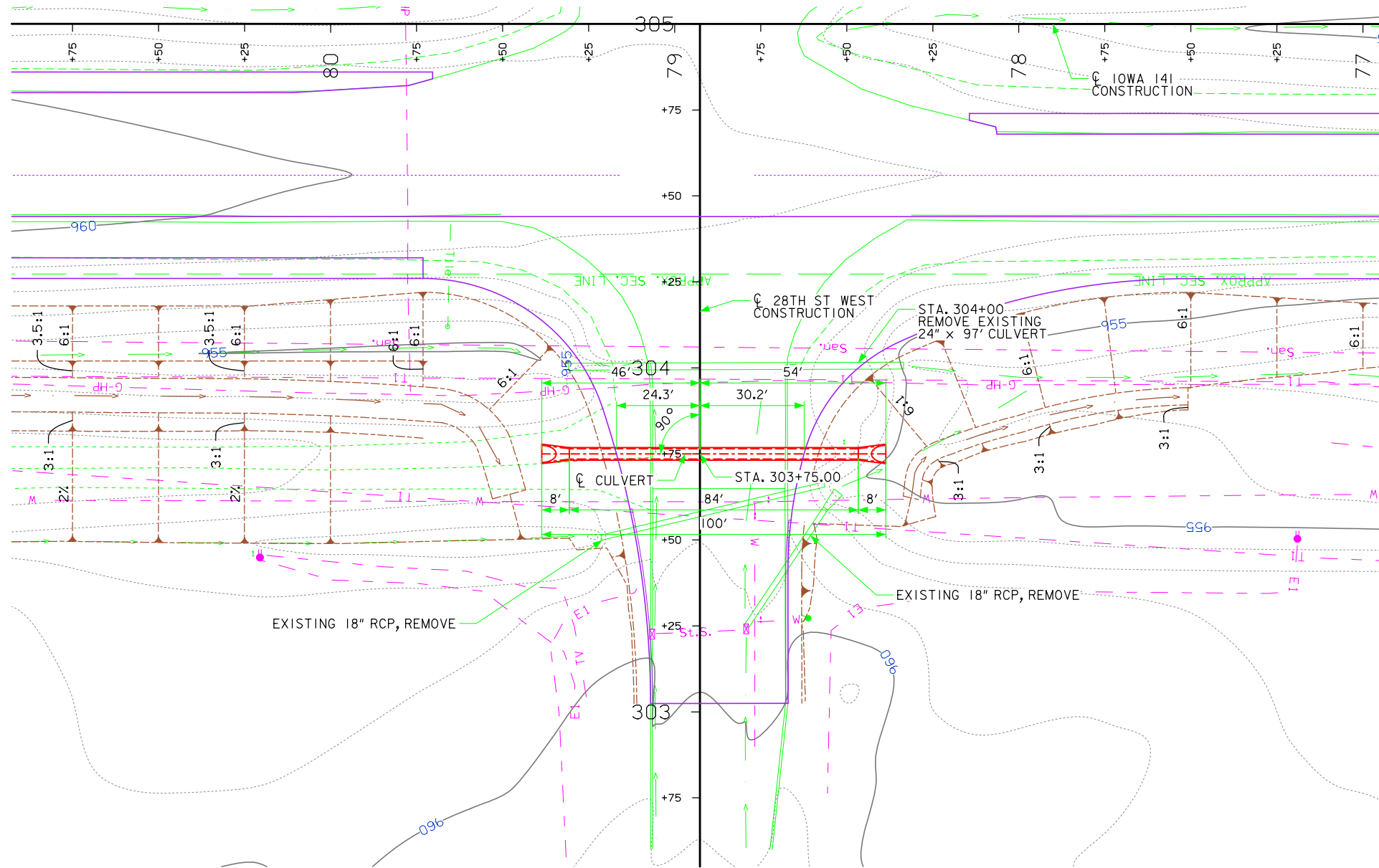
2016 AADT	33,400	V.P.D.
2036 AADT	47,900	V.P.D.
2036 DHV	4,950	V.P.H.
TRUCKS	8	%
TOTAL DESIGN ESALS	-	

PRELIMINARY

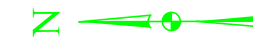
DESIGN FOR 0° SKEW
**30 in. x 12 ft. Ext. Left
 REINFORCED CONCRETE PIPE**
 PLAT PLAN
 STATION 129+26.85 (CL IOWA 141) JULY 2014
POLK COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. 1 OF 1 FILE NO. _____ DESIGN NO. _____



LONGITUDINAL SECTION ALONG \bar{C} CULVERT



PLAT PLAN

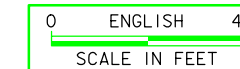


HYDRAULIC DATA

DRAINAGE AREA = 12.8 ACRES
 DESIGN DISCHARGE, Q50 = 25 CFS
 DESIGN HIGH WATER = 956.53

NOTES:

PIPE DIMENSIONS SHOWN IN PLAN VIEW ARE BASED ON LAYING LENGTH



UTILITIES LEGEND:

- E2 - Baker Electric (QLD)
- F02 - Iowa Network Services (QLD)
- E1 - MidAmerican (QLD)
- G - Black Hills Energy (QLD)
- TV - Mediacom (QLD)
- F0 - Iowa Communication Services (QLD)
- F03 - Centurylink (QLD)
- T1 - Centurylink (QLD)
- St.S. - City of Grimes (QLD)
- W - City of Grimes (QLD)
- San. - City of Grimes (QLD)
- W2 - Thorpe Water Development (QLD)
- St.S.2 - Iowa DOT (QLD)
- MidAmerican

LOCATION

IOWA 141
 T-79N R-25W
 SECTION 8
 WEBSTER TOWNSHIP
 POLK COUNTY

TRAFFIC ESTIMATE

2016 AADT	33,400	V.P.D.
2036 AADT	47,900	V.P.D.
2036 DHV	4,950	V.P.H.
TRUCKS	8	%
TOTAL DESIGN ESALS	-	

PRELIMINARY

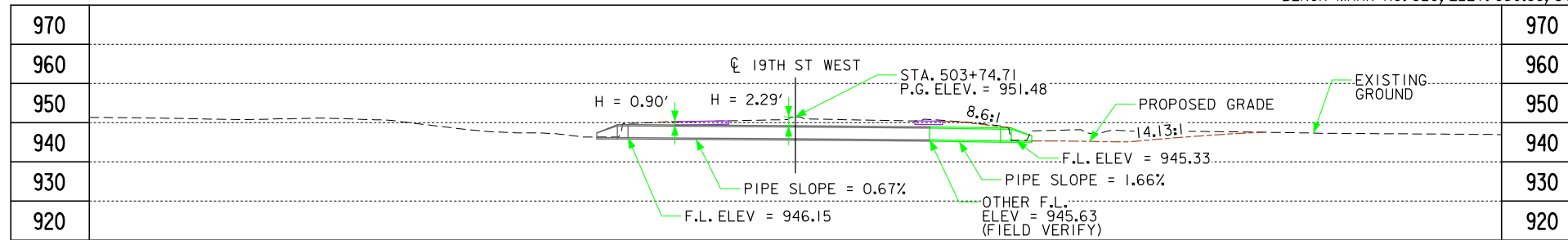
DESIGN FOR 0° SKEW
37" x 23" x 84'
REINFORCED CONCRETE ARCH PIPE

PLAT PLAN

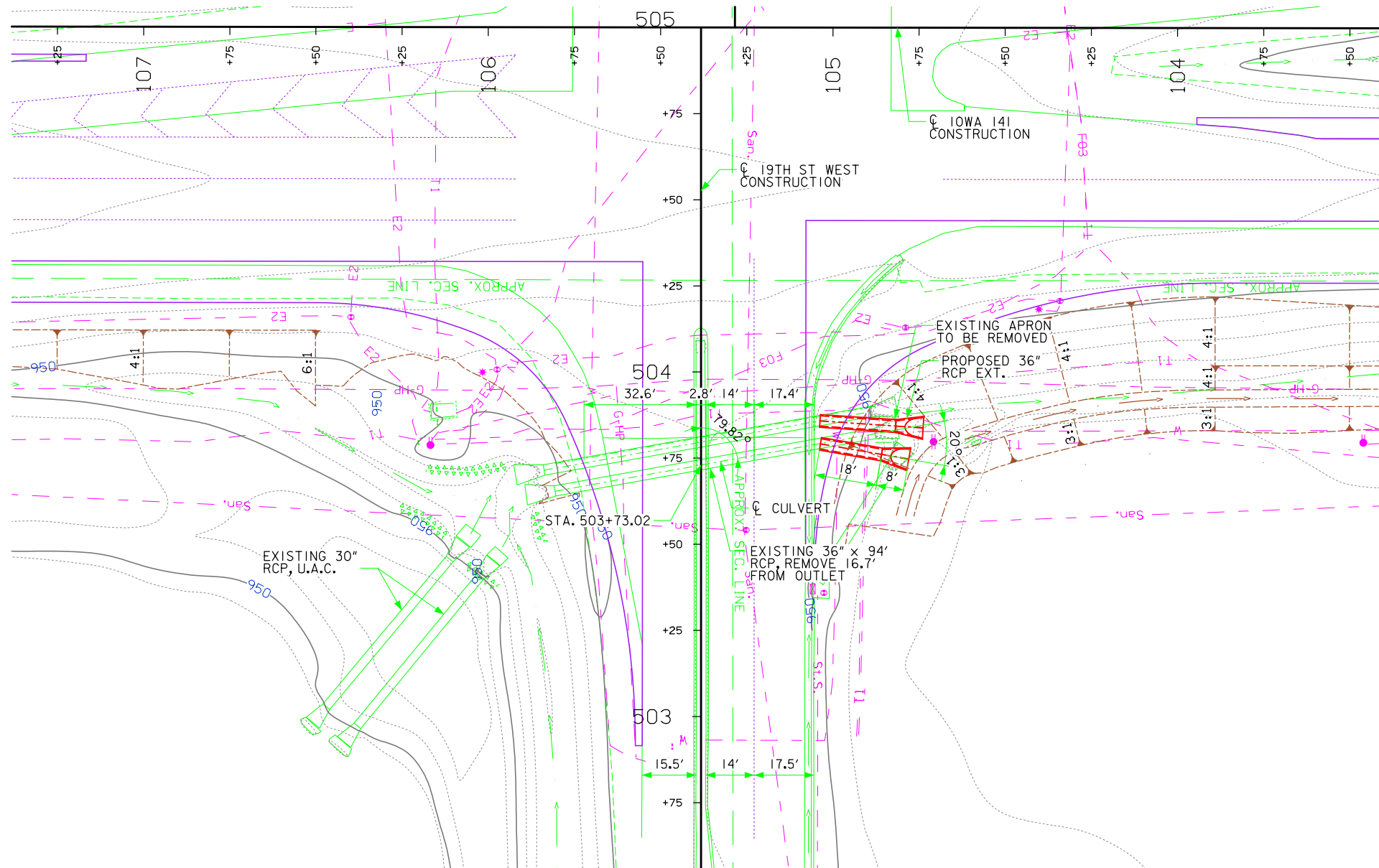
STATION 303+75.00 (\bar{C} 28TH ST WEST) JULY 2014

POLK COUNTY

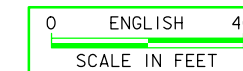
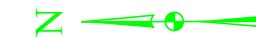
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. 1 OF 1 FILE NO. DESIGN NO.



LONGITUDINAL SECTION AT CULVERT INVERTS



PLAT PLAN



UTILITIES LEGEND:

- E2 - Baker Electric (QLD)
- F02 - Iowa Network Services (QLD)
- E1 - MidAmerican (QLD)
- G - Black Hills Energy (QLD)
- TV - Mediacom (QLD)
- F0 - Iowa Communication Services (QLD)
- F03 - Centurylink (QLD)
- T1 - Centurylink (QLD)
- St.S. - City of Grimes (QLD)
- W - City of Grimes (QLD)
- San. - City of Grimes (QLD)
- W2 - Thorpe Water Development (QLD)
- St.S.2 - Iowa DOT (QLD)
- MidAmerican

LOCATION

IOWA 141
T-79N R-25W
SECTION 5, 8
WEBSTER TOWNSHIP
POLK COUNTY

TRAFFIC ESTIMATE

2016 AADT	33,400	V.P.D.
2036 AADT	47,900	V.P.D.
2036 DHV	4,950	V.P.H.
TRUCKS	8	%
TOTAL DESIGN ESALS	-	

PRELIMINARY

DESIGN FOR 20° SKEW

36 in. x 18 ft. Ext. Right REINFORCED CONCRETE PIPE

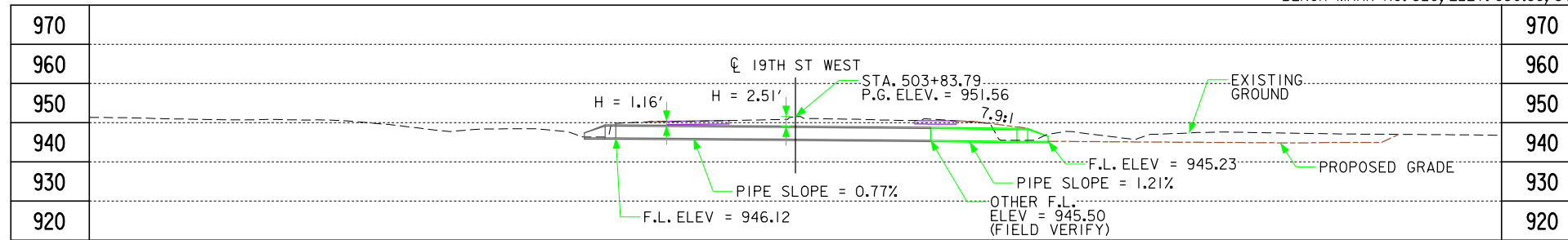
PLAT PLAN

STATION 503+73.02 (CL 19TH ST WEST) JULY 2014

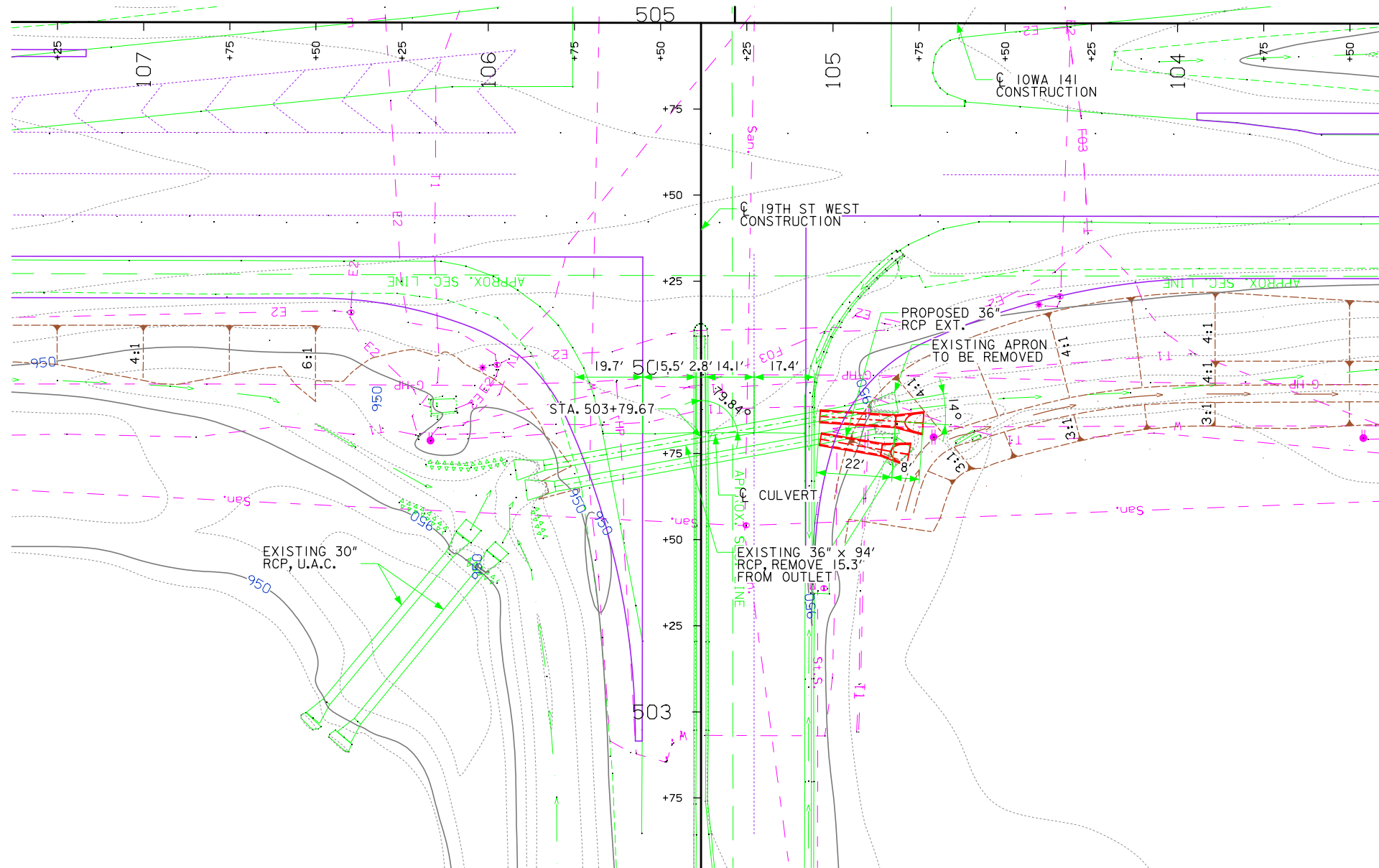
POLK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

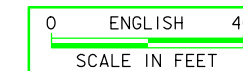
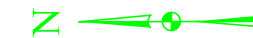
DESIGN SHEET NO. OF FILE NO. DESIGN NO.



LONGITUDINAL SECTION AT CULVERT INVERTS



PLAT PLAN



UTILITIES LEGEND:

- E2 - Baker Electric (QLD)
- F02 - Iowa Network Services (QLD)
- E1 - MidAmerican (QLD)
- G - Black Hills Energy (QLD)
- TV - Mediacom (QLD)
- F0 - Iowa Communication Services (QLD)
- F03 - Centurylink (QLD)
- T1 - Centurylink (QLD)
- St.S. - City of Grimes (QLD)
- W - City of Grimes (QLD)
- San. - City of Grimes (QLD)
- W2 - Thorpe Water Development (QLD)
- St.S.2 - Iowa DOT (QLD)
- MidAmerican

LOCATION

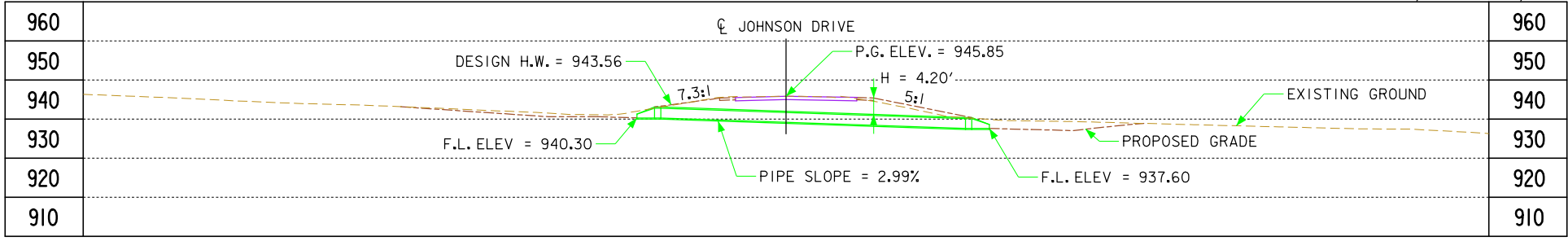
IOWA 141
T-79N R-25W
SECTION 5, 8
WEBSTER TOWNSHIP
POLK COUNTY

TRAFFIC ESTIMATE

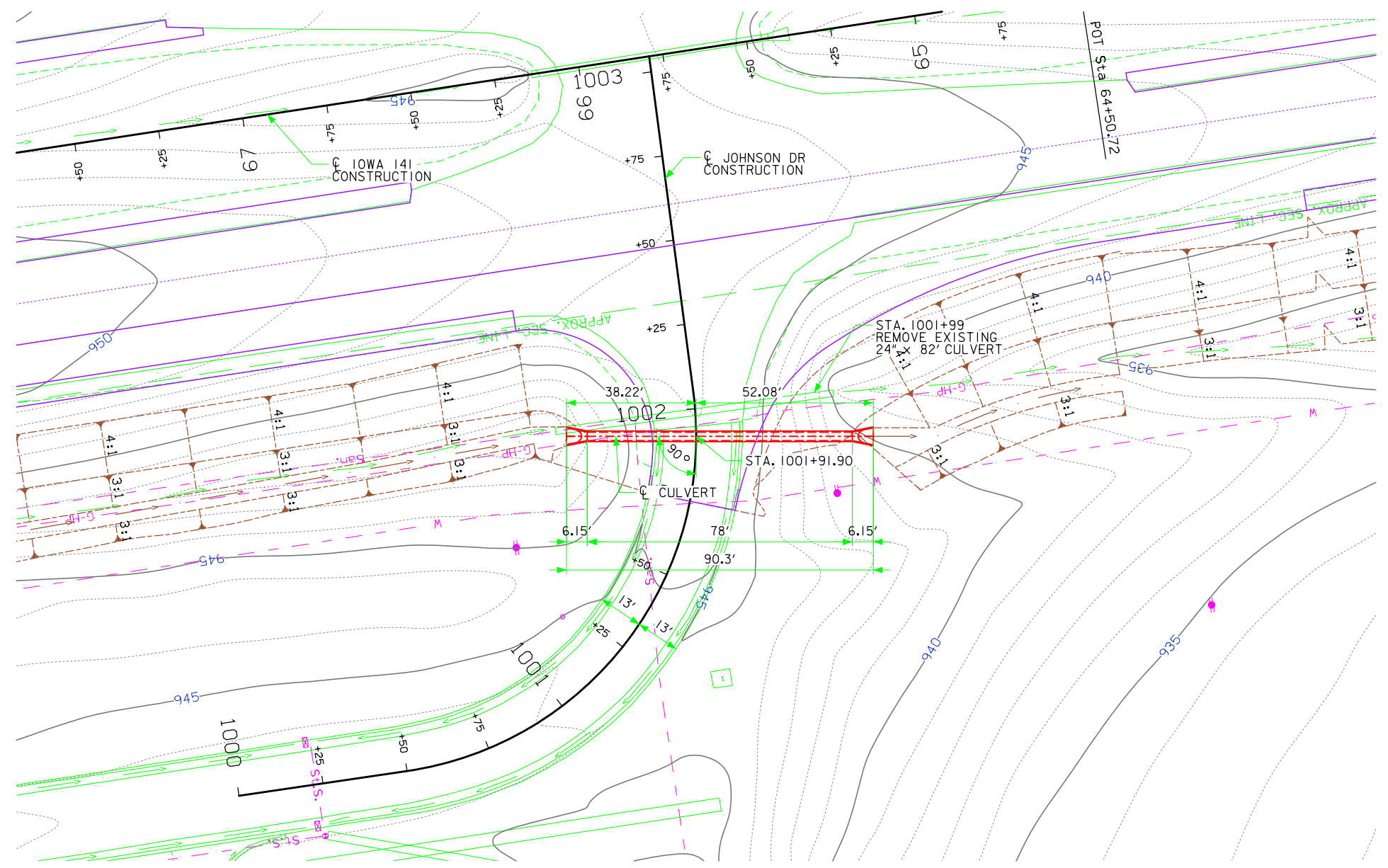
2016 AADT	33,400	V.P.D.
2036 AADT	47,900	V.P.D.
2036 DHV	4,950	V.P.H.
TRUCKS	8	%
TOTAL DESIGN ESALS	-	

PRELIMINARY

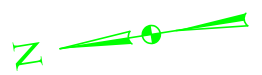
DESIGN FOR 14° SKEW
36 in. x 22 ft. Ext. Right REINFORCED CONCRETE PIPE
 PLAT PLAN
 STATION 503+79.67 (CL 19TH ST WEST) JULY 2014
POLK COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. 1 OF 1 FILE NO. DESIGN NO.



LONGITUDINAL SECTION ALONG CULVERT



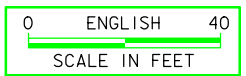
PLAT PLAN



HYDRAULIC DATA

DRAINAGE AREA = 18.7 ACRES
 DESIGN DISCHARGE, Q50 = 31 CFS
 DESIGN HIGH WATER = 943.56

NOTES:
 PIPE DIMENSIONS SHOWN IN PLAN VIEW ARE BASED ON LAYING LENGTH



UTILITIES LEGEND:

- E2 - Baker Electric (QLD)
- F02 - Iowa Network Services (QLD)
- E1 - MidAmerican (QLD)
- G - Black Hills Energy (QLD)
- TV - Mediacom (QLD)
- F0 - Iowa Communication Services (QLD)
- F03 - Centurylink (QLD)
- T1 - Centurylink (QLD)
- St.S. - City of Grimes (QLD)
- W - City of Grimes (QLD)
- San. - City of Grimes (QLD)
- W2 - Thorpe Water Development (QLD)
- St.S.2 - Iowa DOT (QLD)
- MidAmerican

LOCATION

IOWA 141
 T-79N R-25W
 SECTION 8
 WEBSTER TOWNSHIP
 POLK COUNTY

TRAFFIC ESTIMATE

2016 AADT	33,400	V.P.D.
2036 AADT	47,900	V.P.D.
2036 DHV	4,950	V.P.H.
TRUCKS	8	%
TOTAL DESIGN ESALS		

PRELIMINARY
 DESIGN FOR 0° SKEW
30" x 78'
REINFORCED CONCRETE PIPE
 PLAT PLAN
 STATION 1001+91.90 (C JOHNSON DR) JULY 2014
POLK COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. 1 OF 1 FILE NO. _____ DESIGN NO. _____

LINE STYLE LEGEND OF CROSS SECTION SHEETS (ROAD)

- - - - - - Existing Ground Line
- ===== Proposed Template
- ===== Proposed Topsoil Placement
- - - - - Additional Topsoil Removal
- ===== Subgrade Treatment
- - - - - Granular Shoulder
- ===== Pavement
- - - - - Existing Pipe\R/CB
- ===== Proposed Pipe\R/CB
- ===== Proposed Dike
- ===== All Elements Associated with Proposed Entrances

LINE STYLE LEGEND OF CROSS SECTION SHEETS (SOILS)

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

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

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

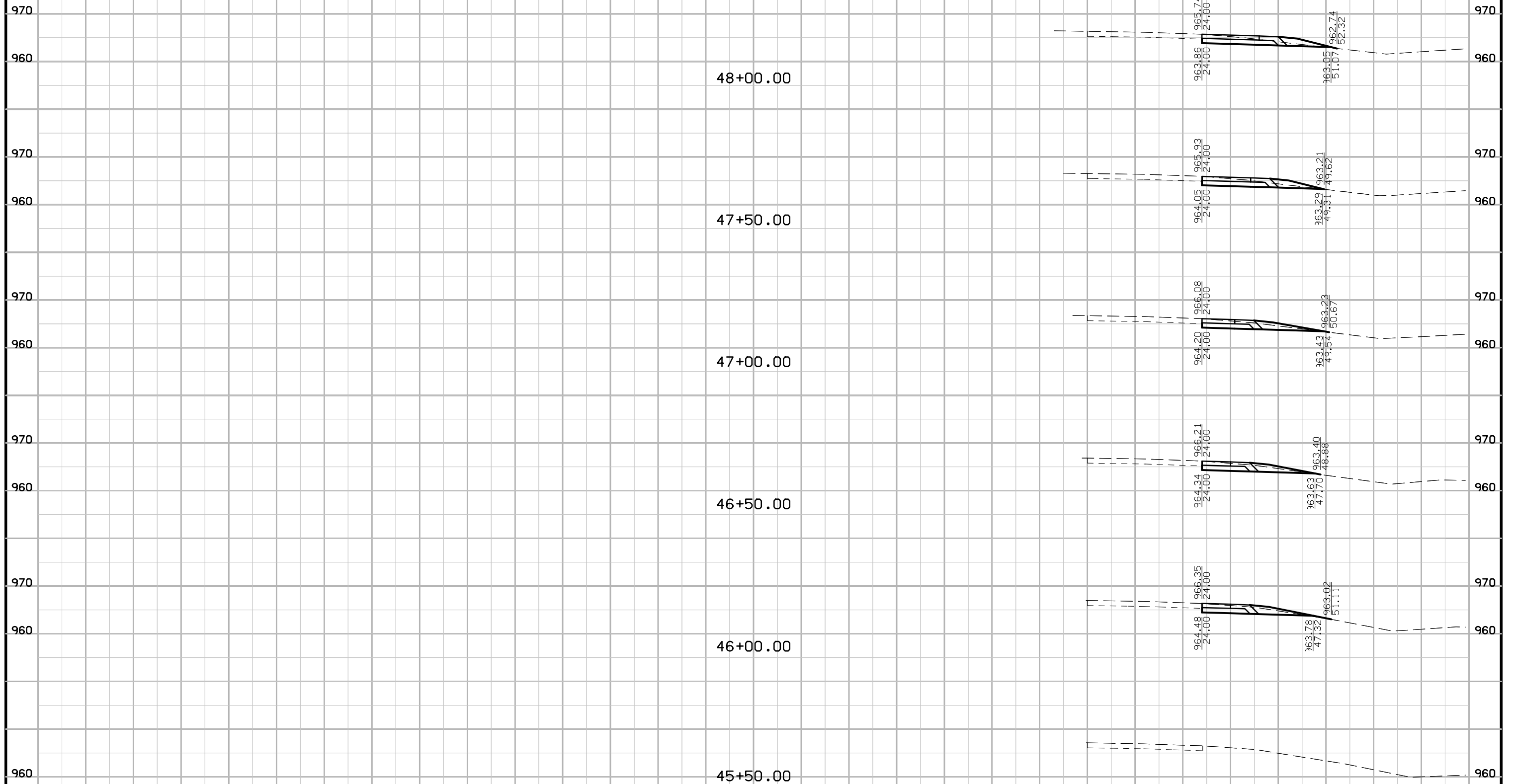
SYMBOL LEGEND OF CROSS SECTION SHEETS

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

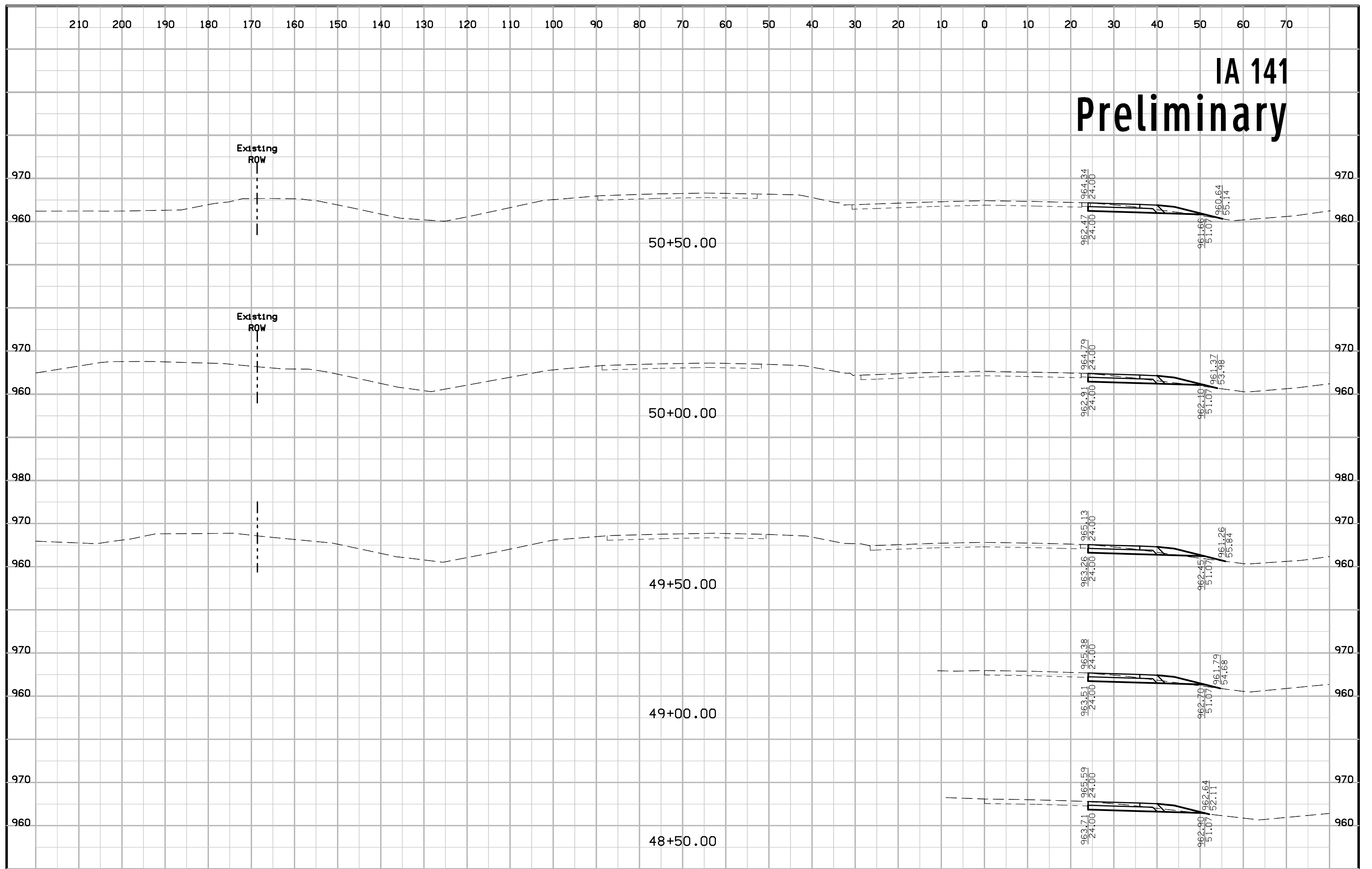
**CROSS SECTION
LEGEND AND SYMBOL
INFORMATION SHEET
(COVERS SHEET SERIES W, X, Y, & Z)**

210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70

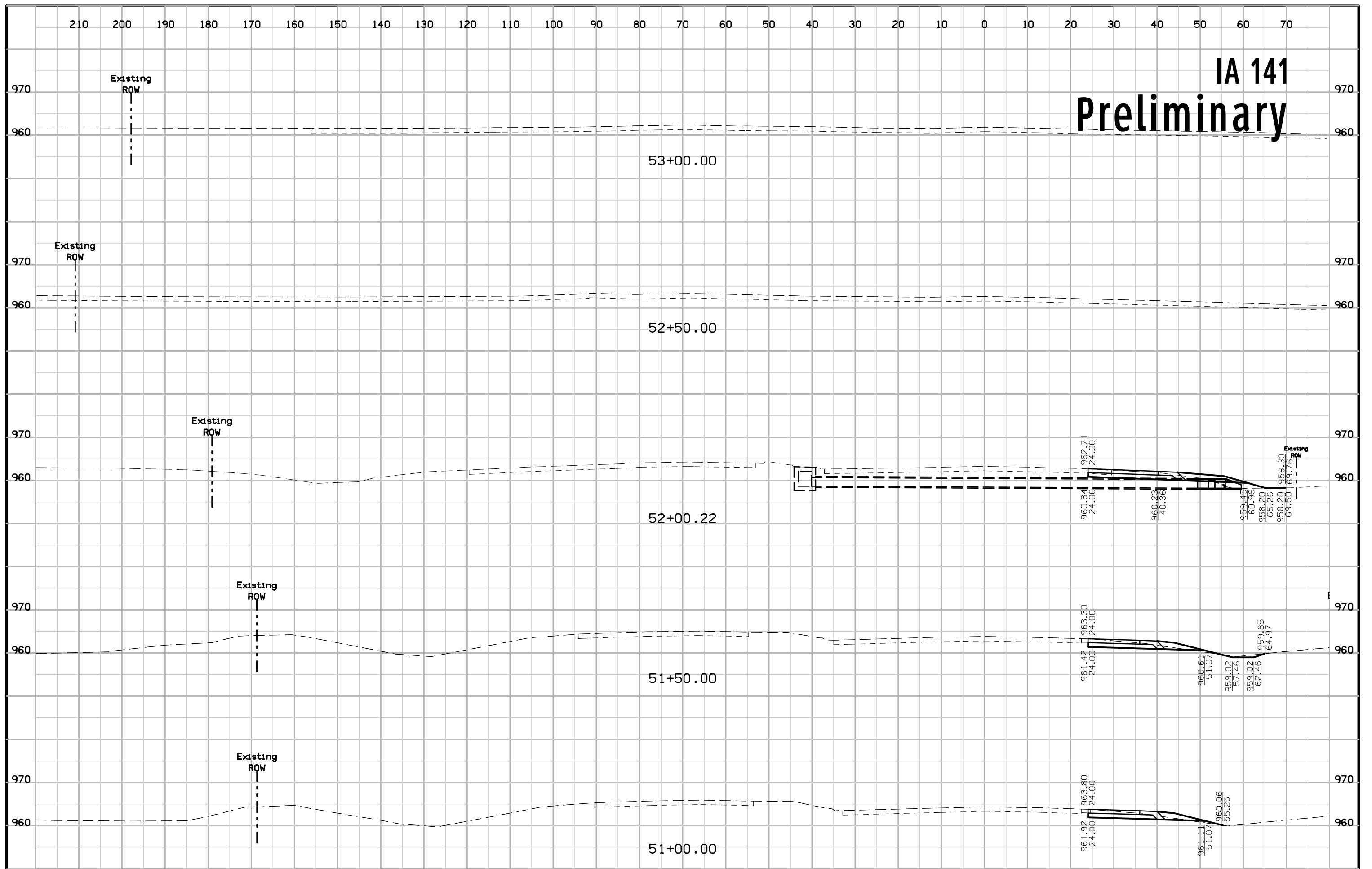
IA 141 Preliminary



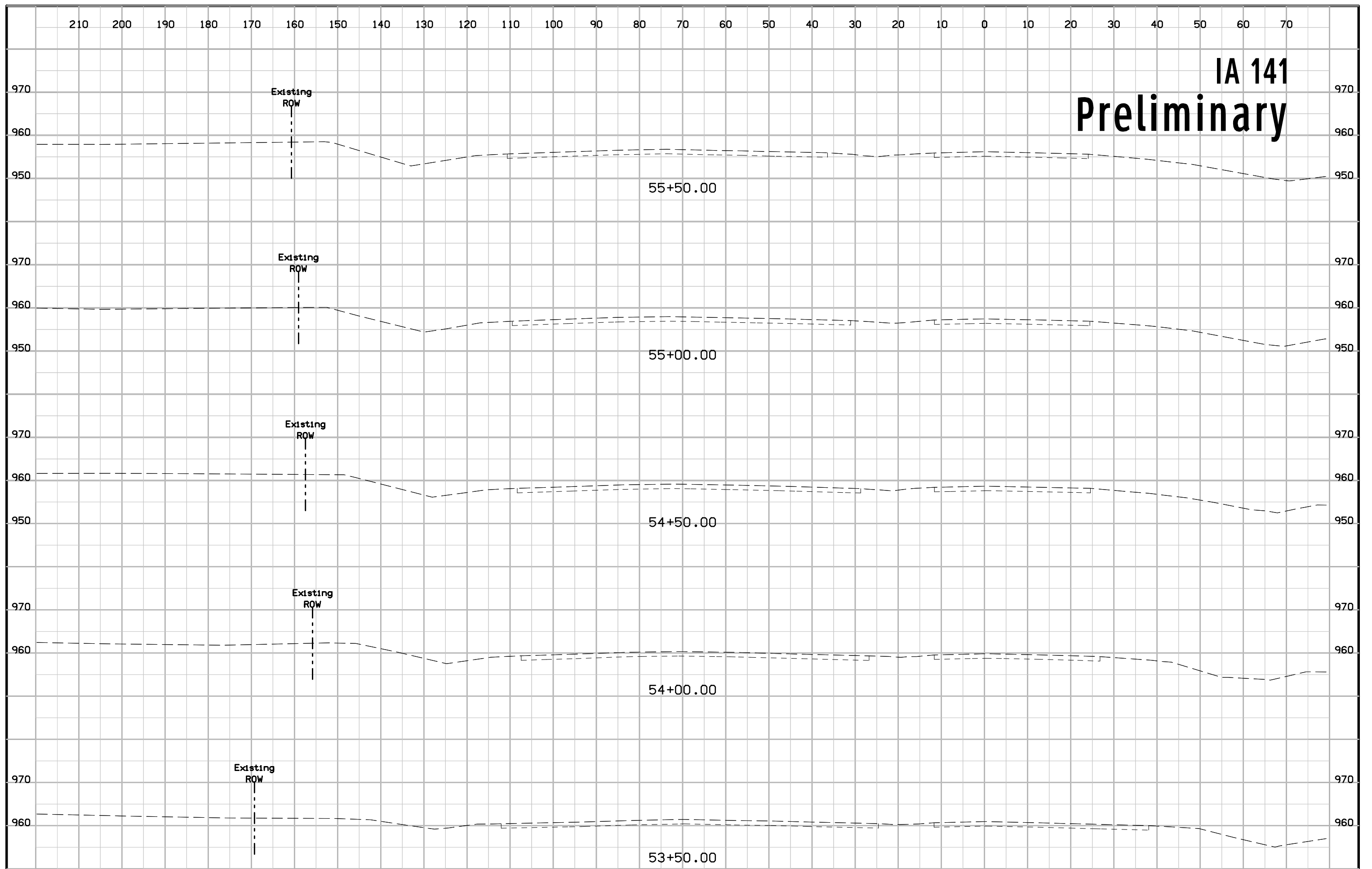
IA 141 Preliminary



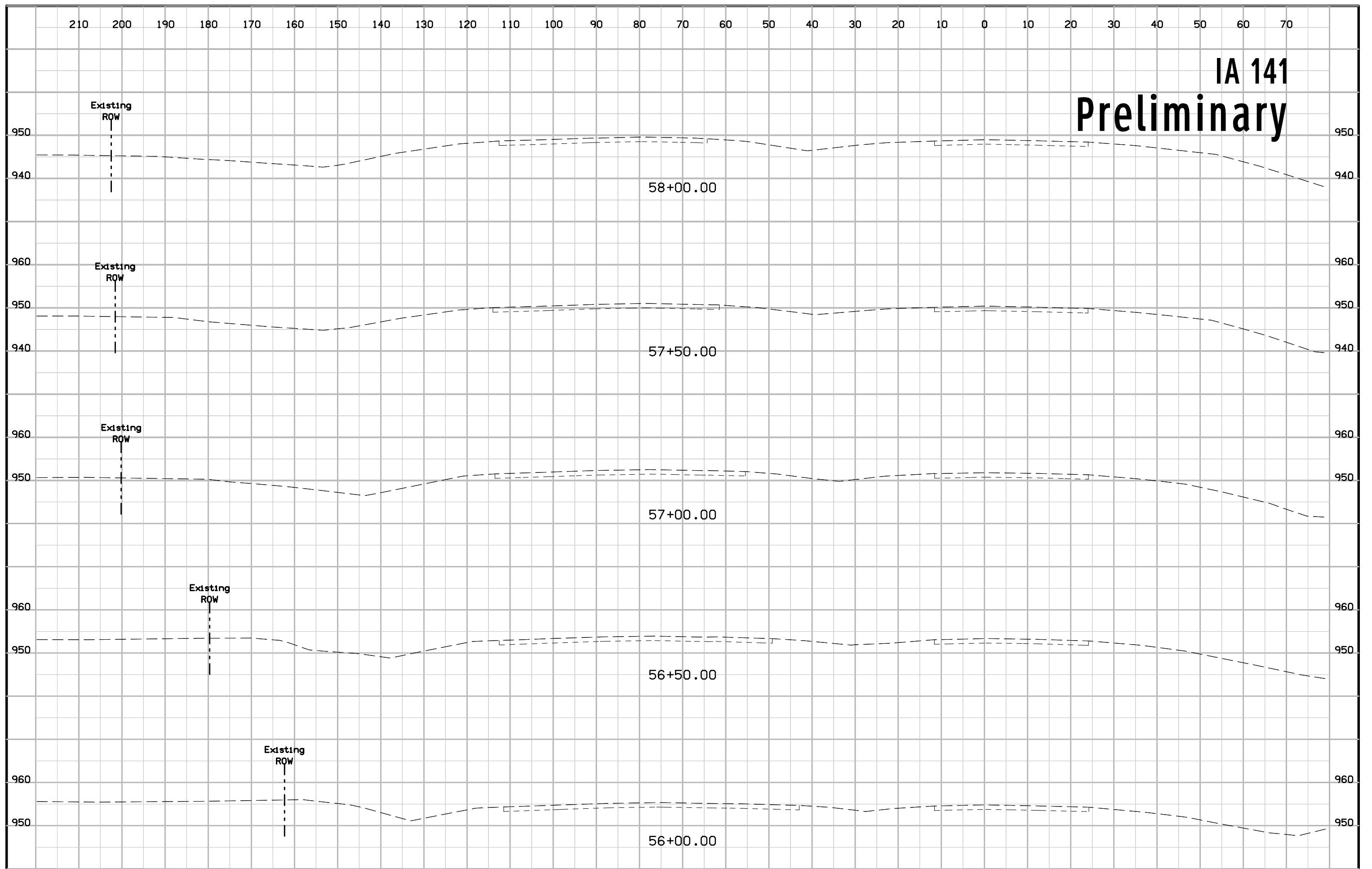
IA 141 Preliminary



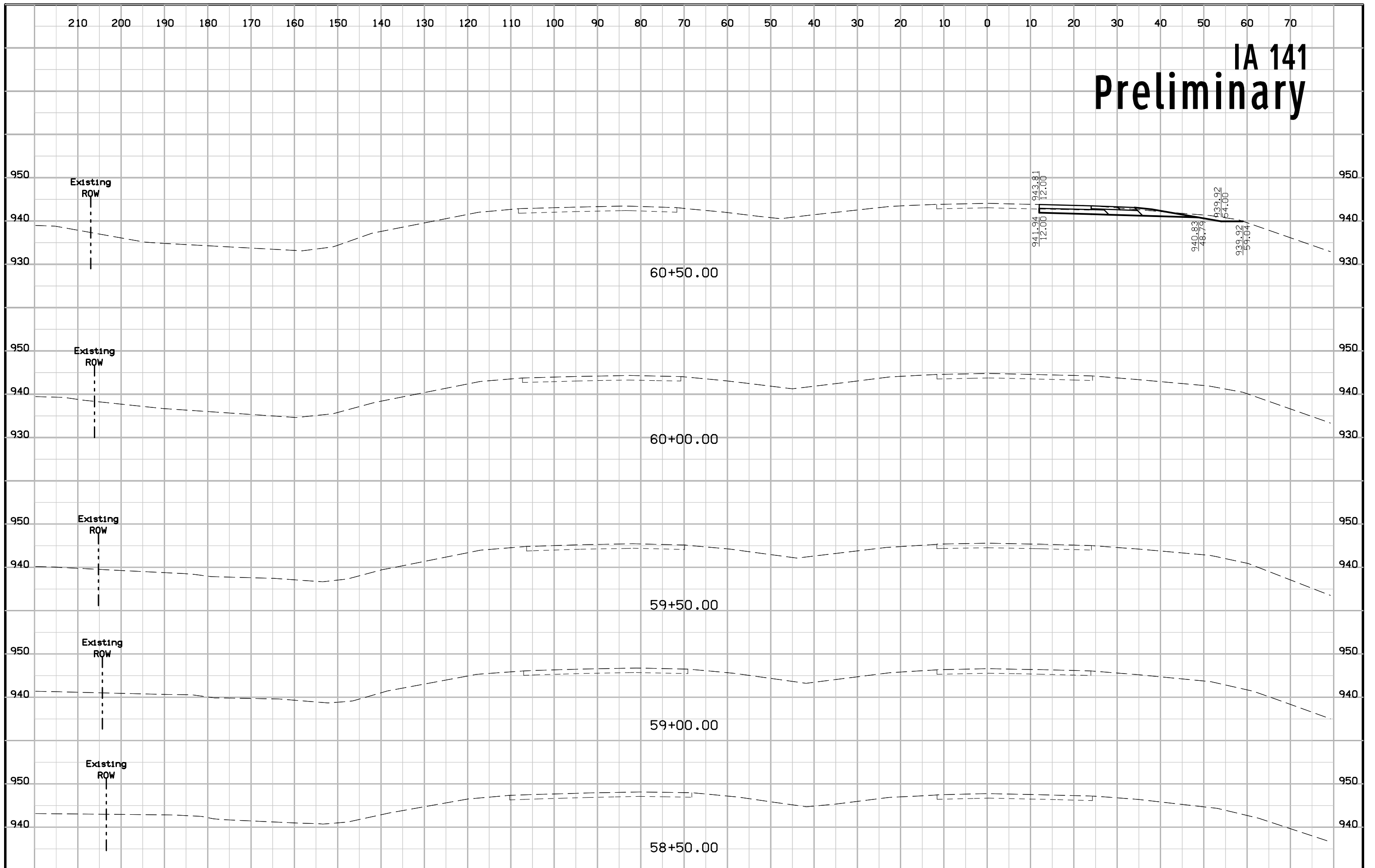
IA 141 Preliminary



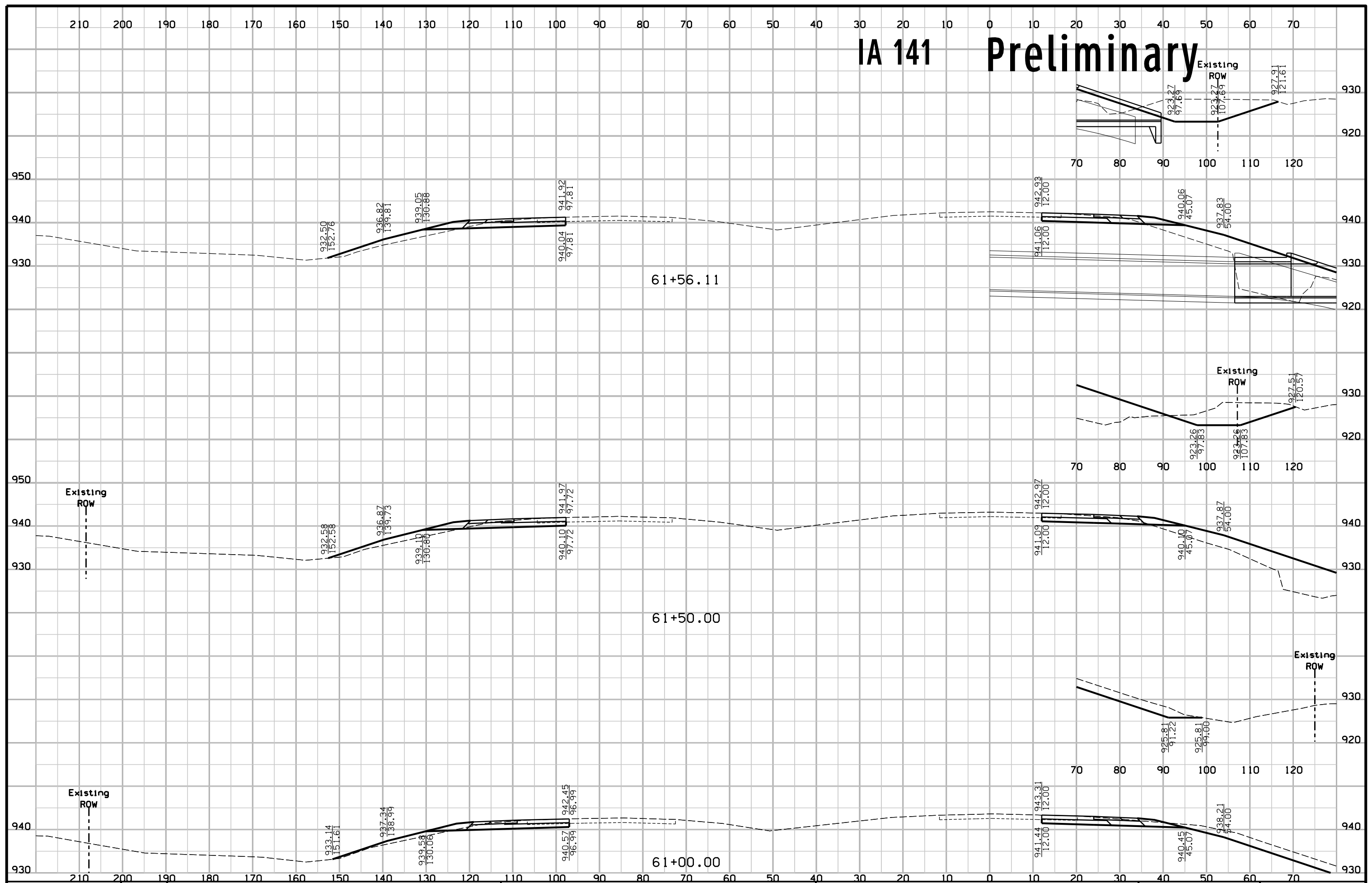
IA 141 Preliminary



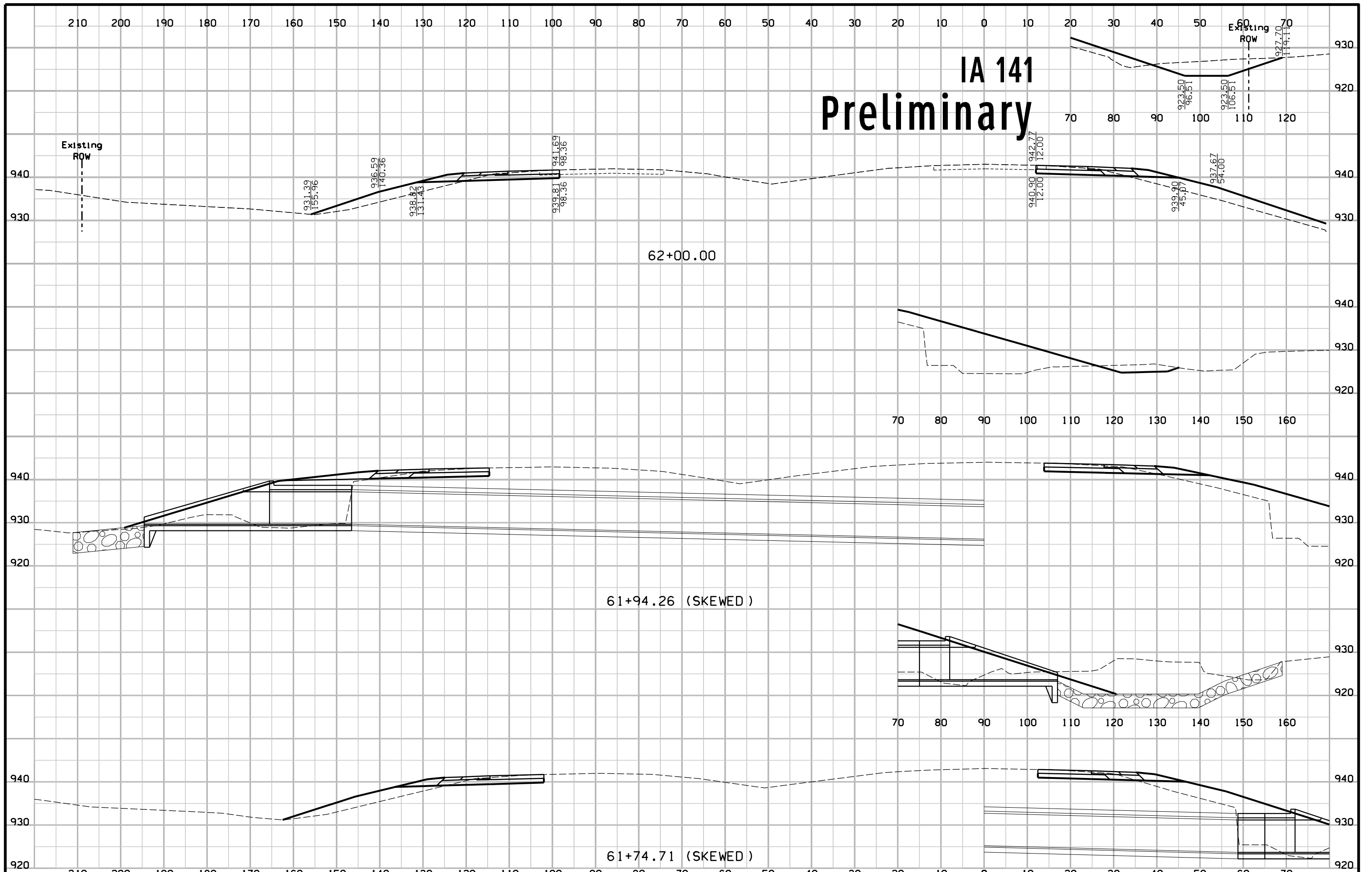
IA 141 Preliminary



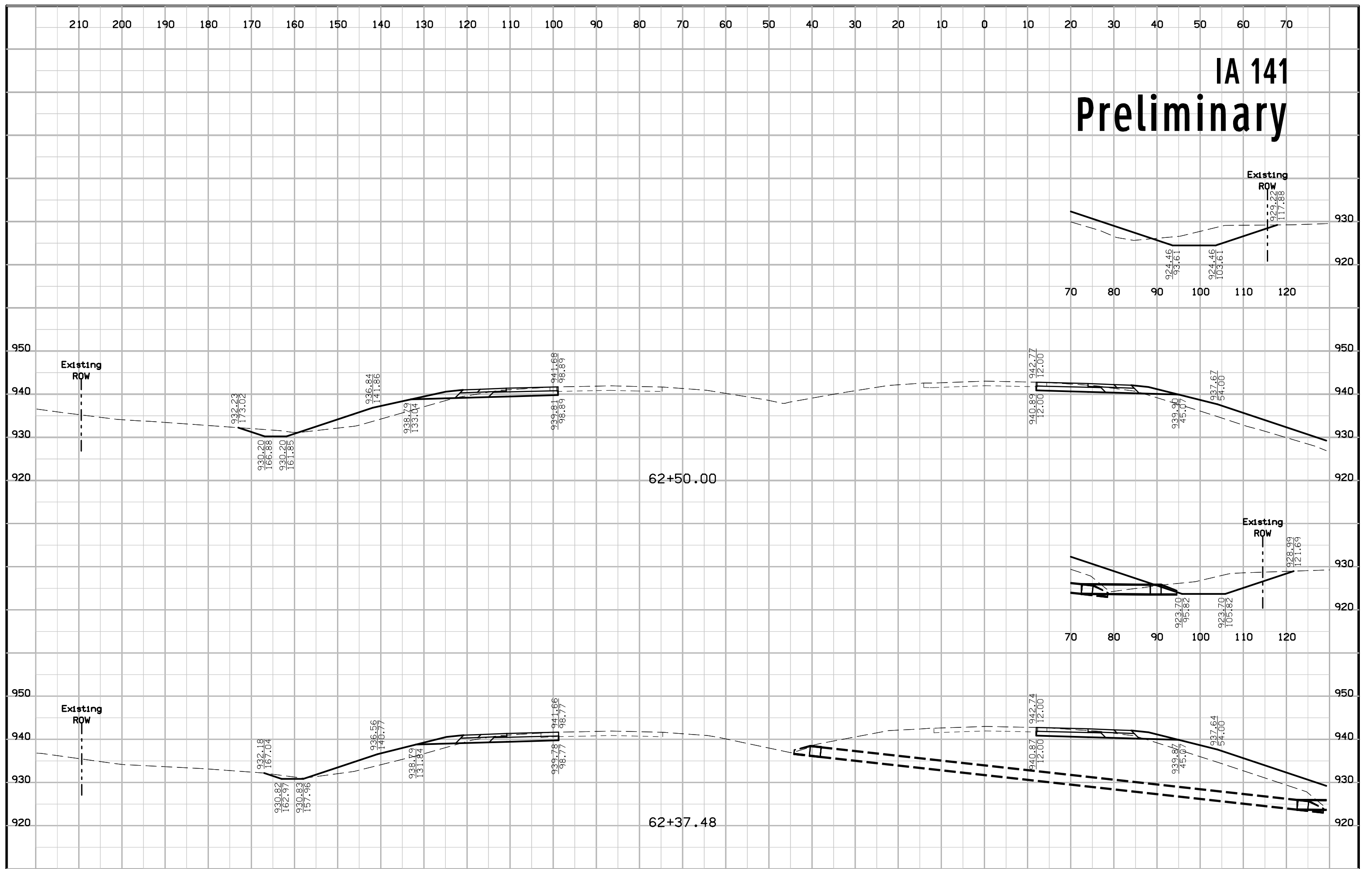
IA 141 Preliminary



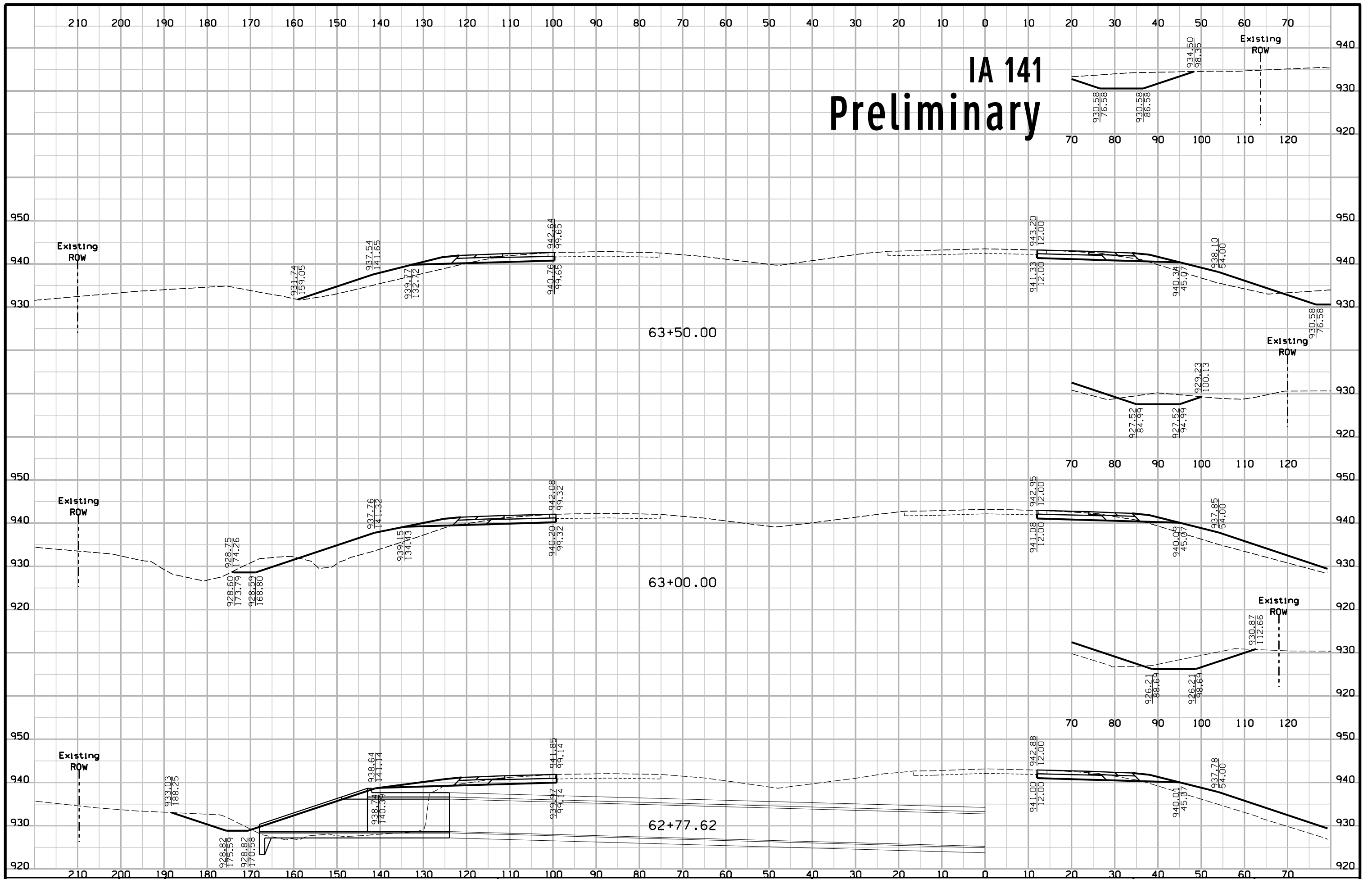
IA 141 Preliminary



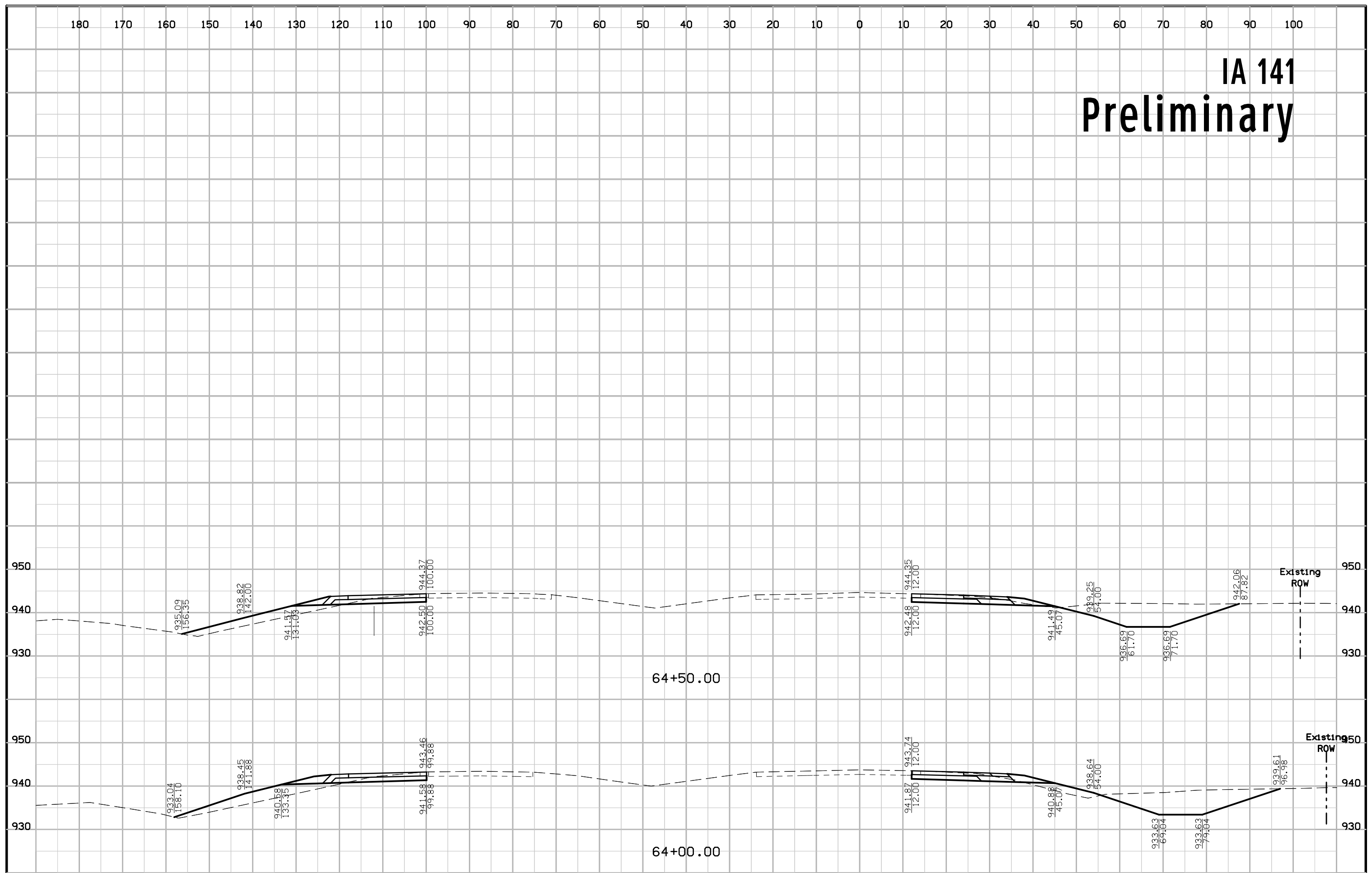
IA 141 Preliminary



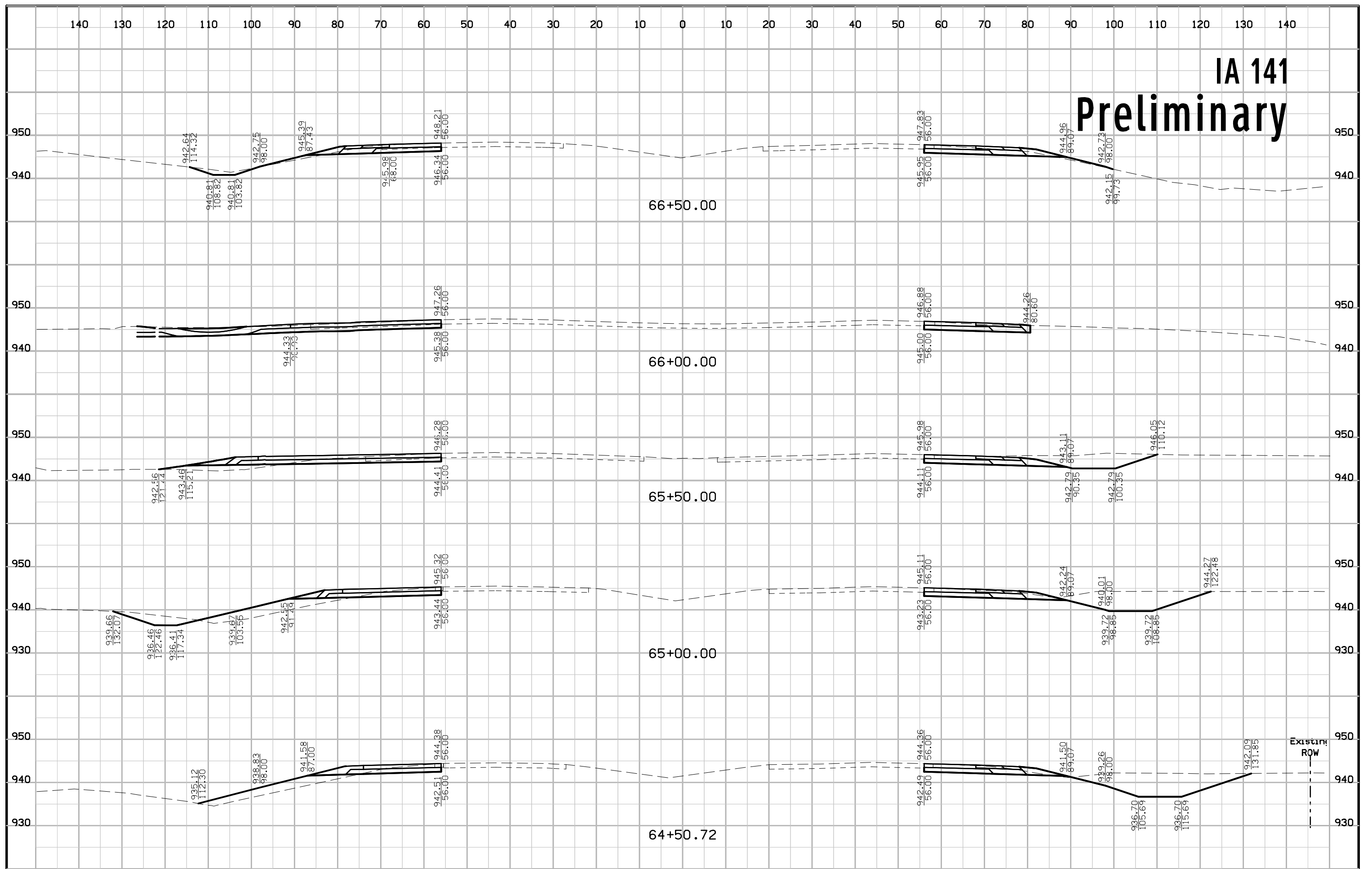
IA 141 Preliminary

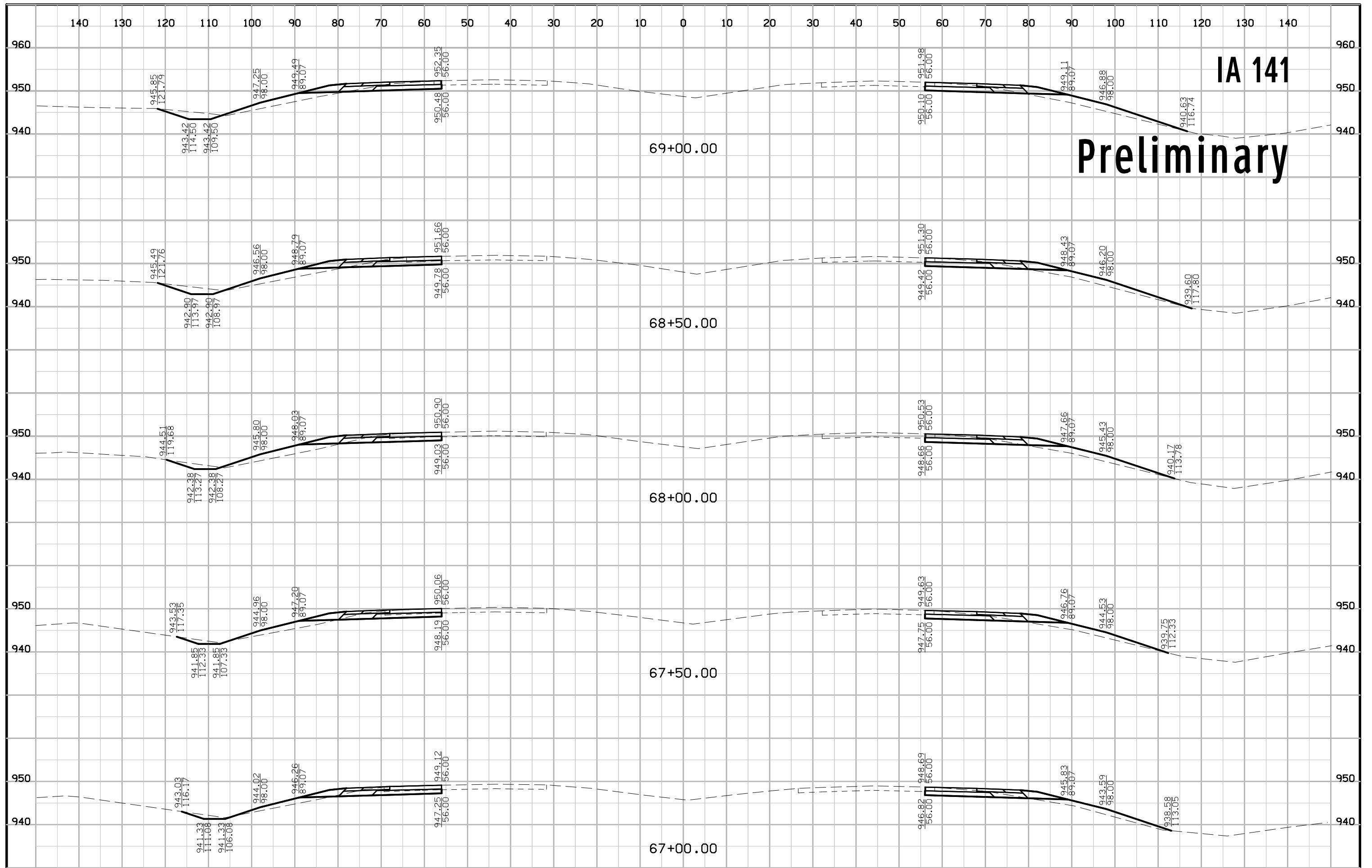


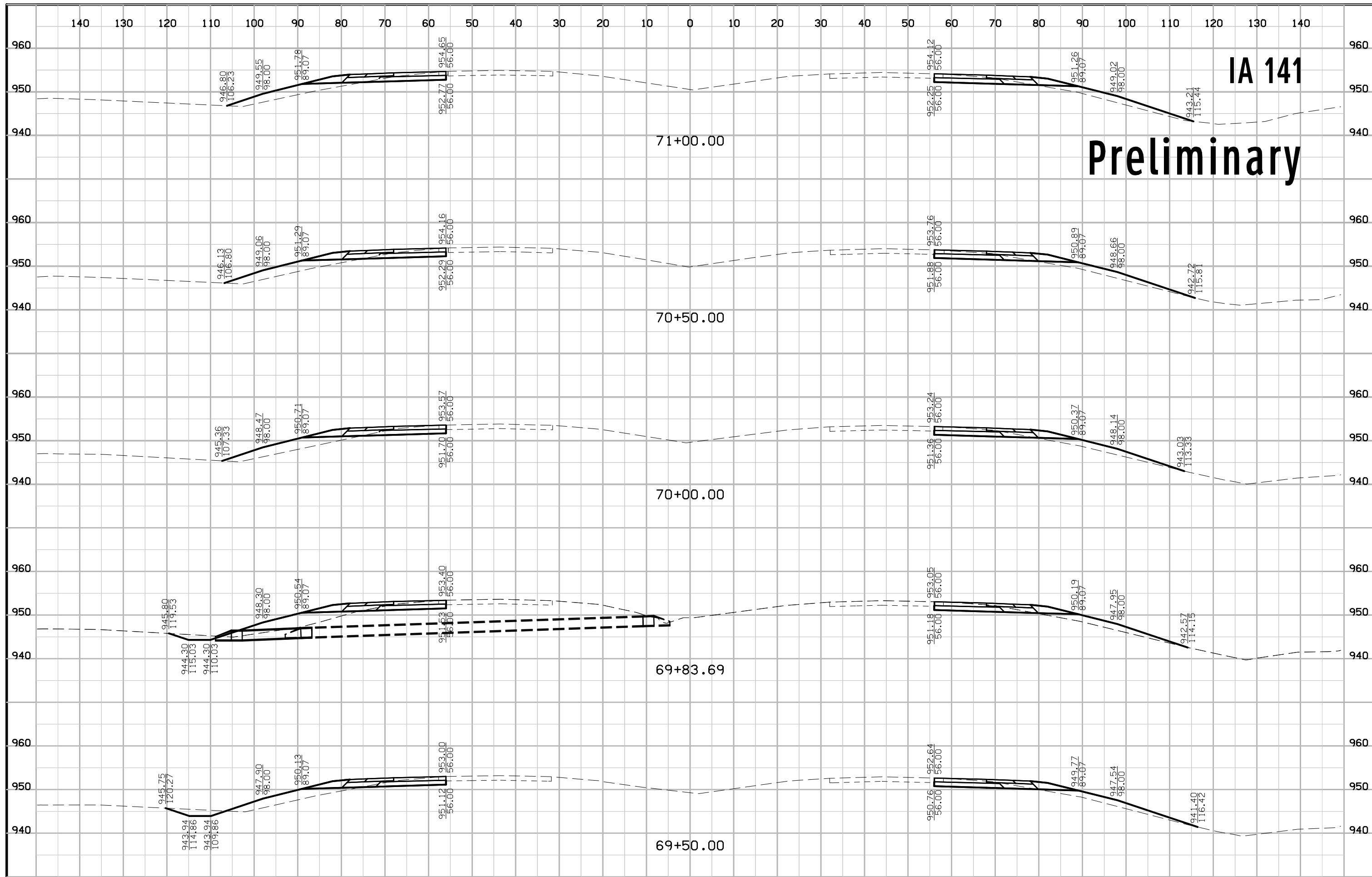
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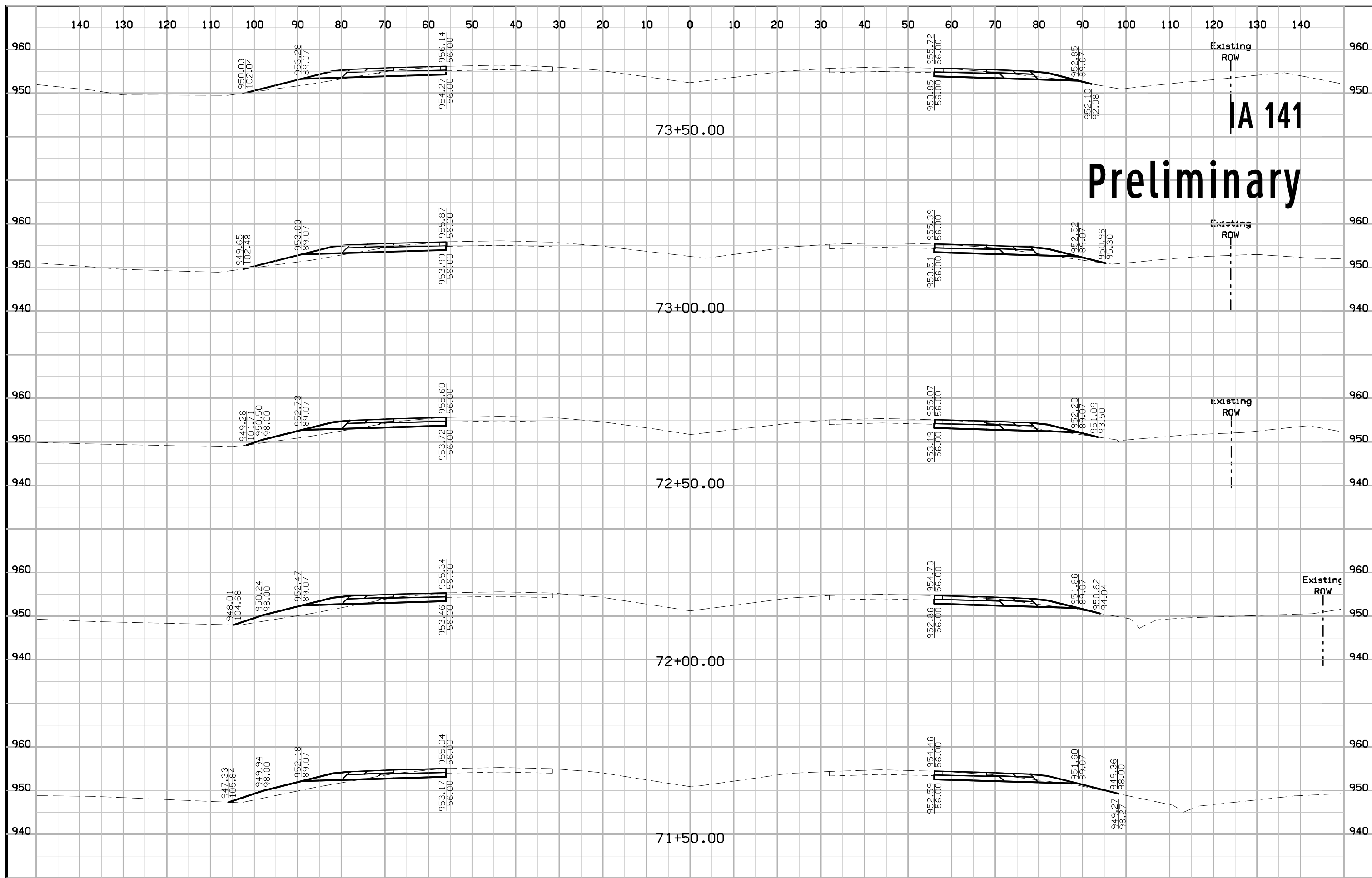


IA 141 Preliminary









IA 141
Preliminary

73+50.00

73+00.00

72+50.00

72+00.00

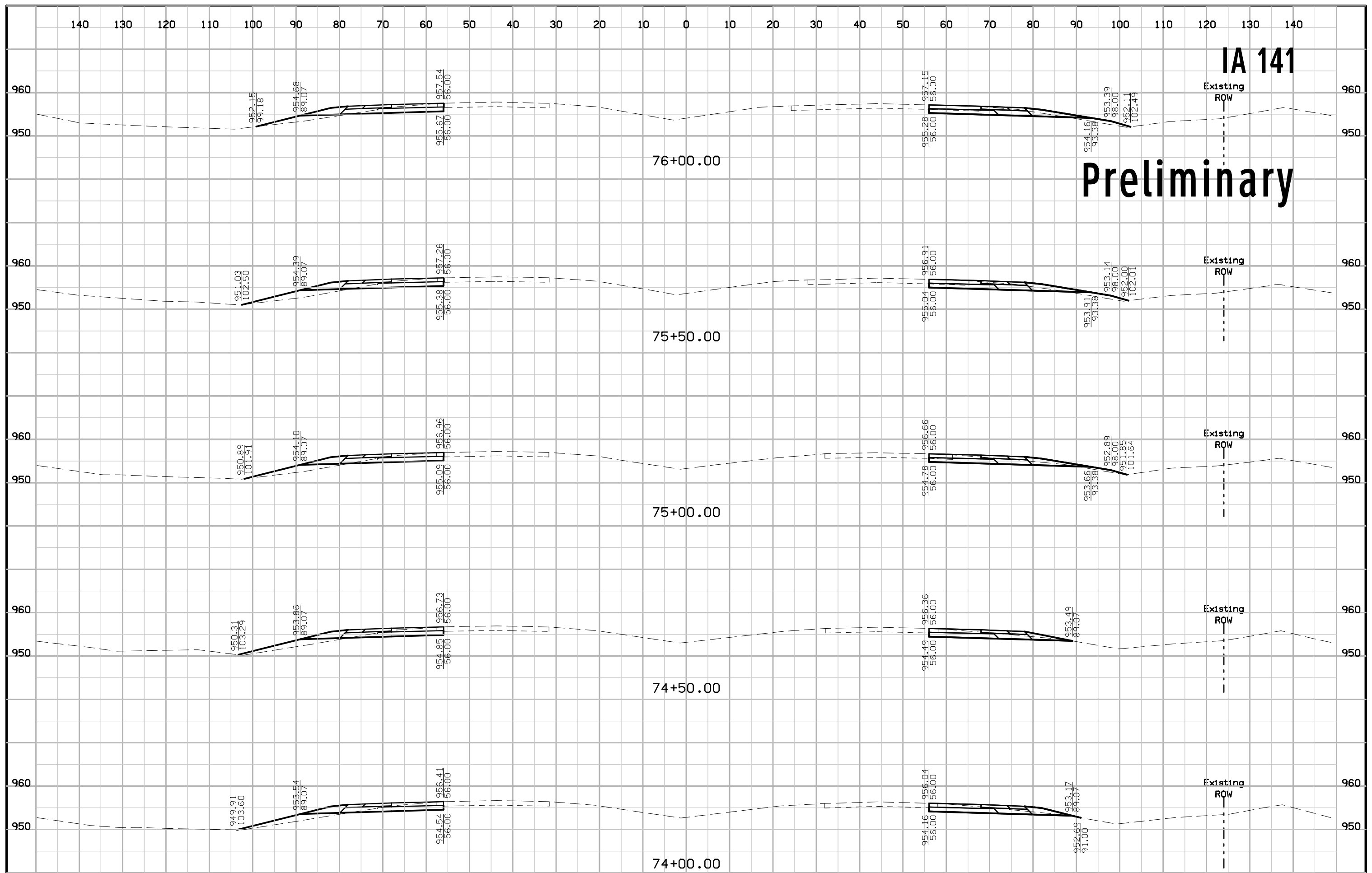
71+50.00

Existing ROW

Existing ROW

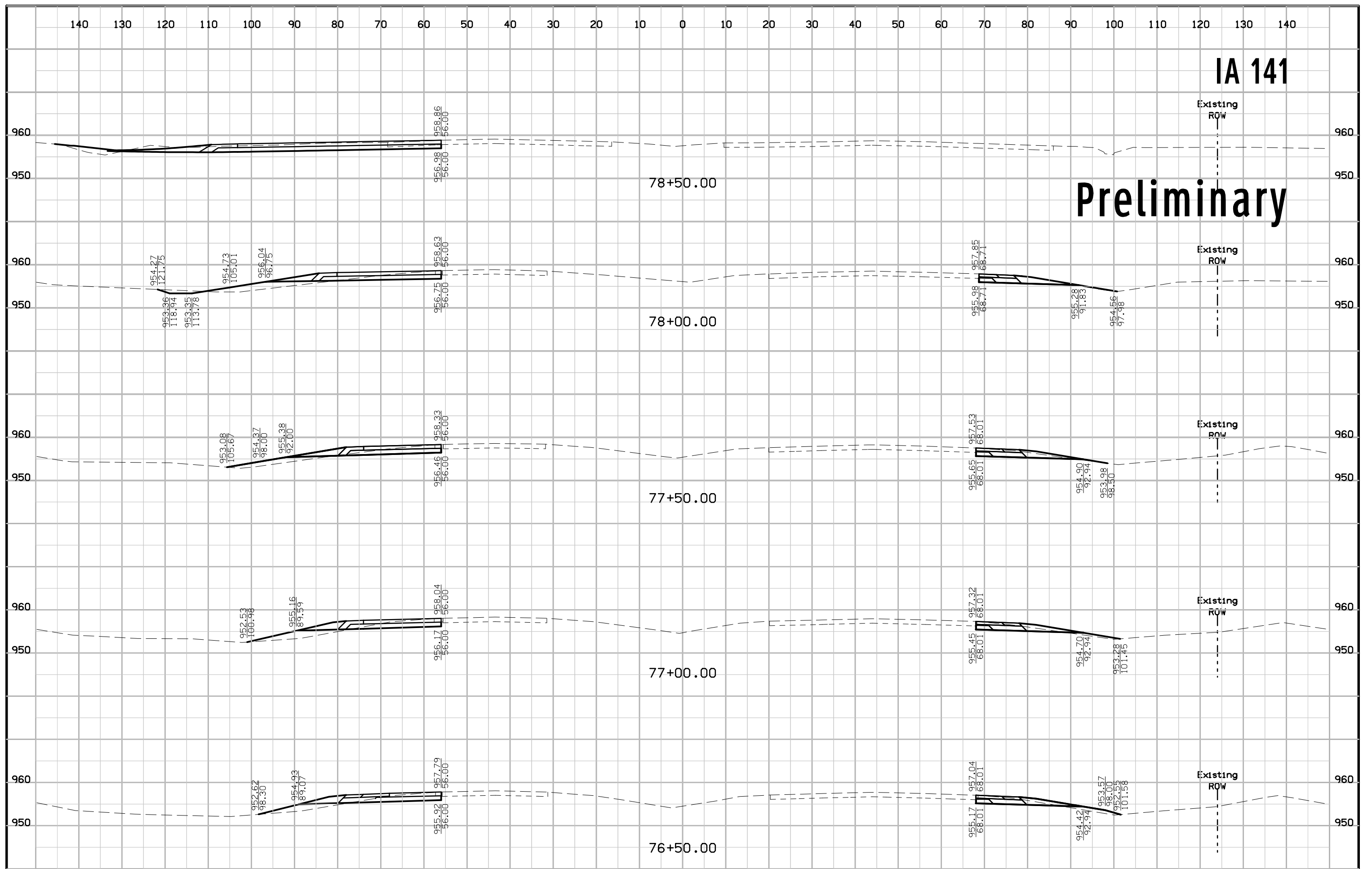
Existing ROW

Existing ROW



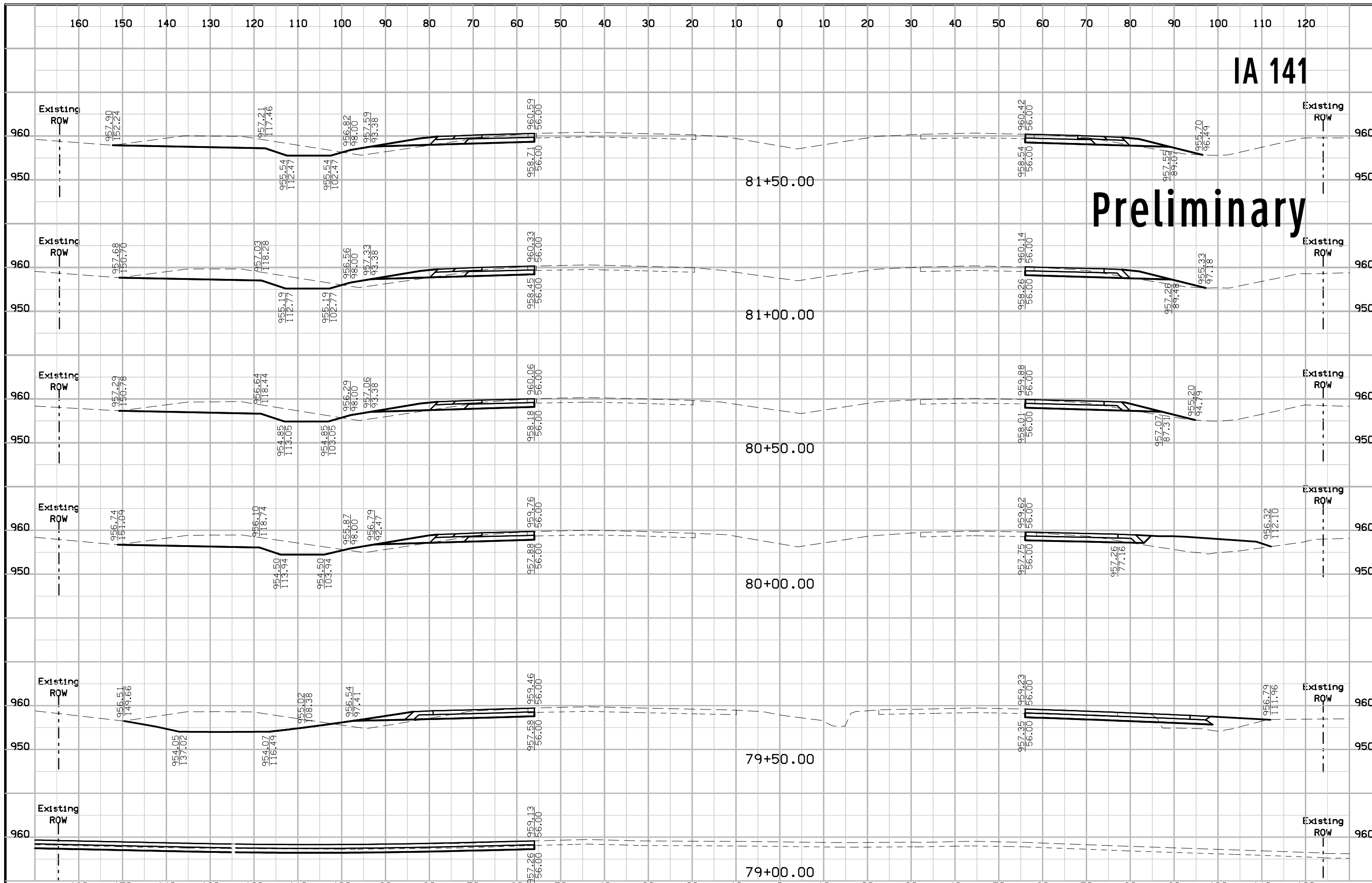
IA 141

Preliminary



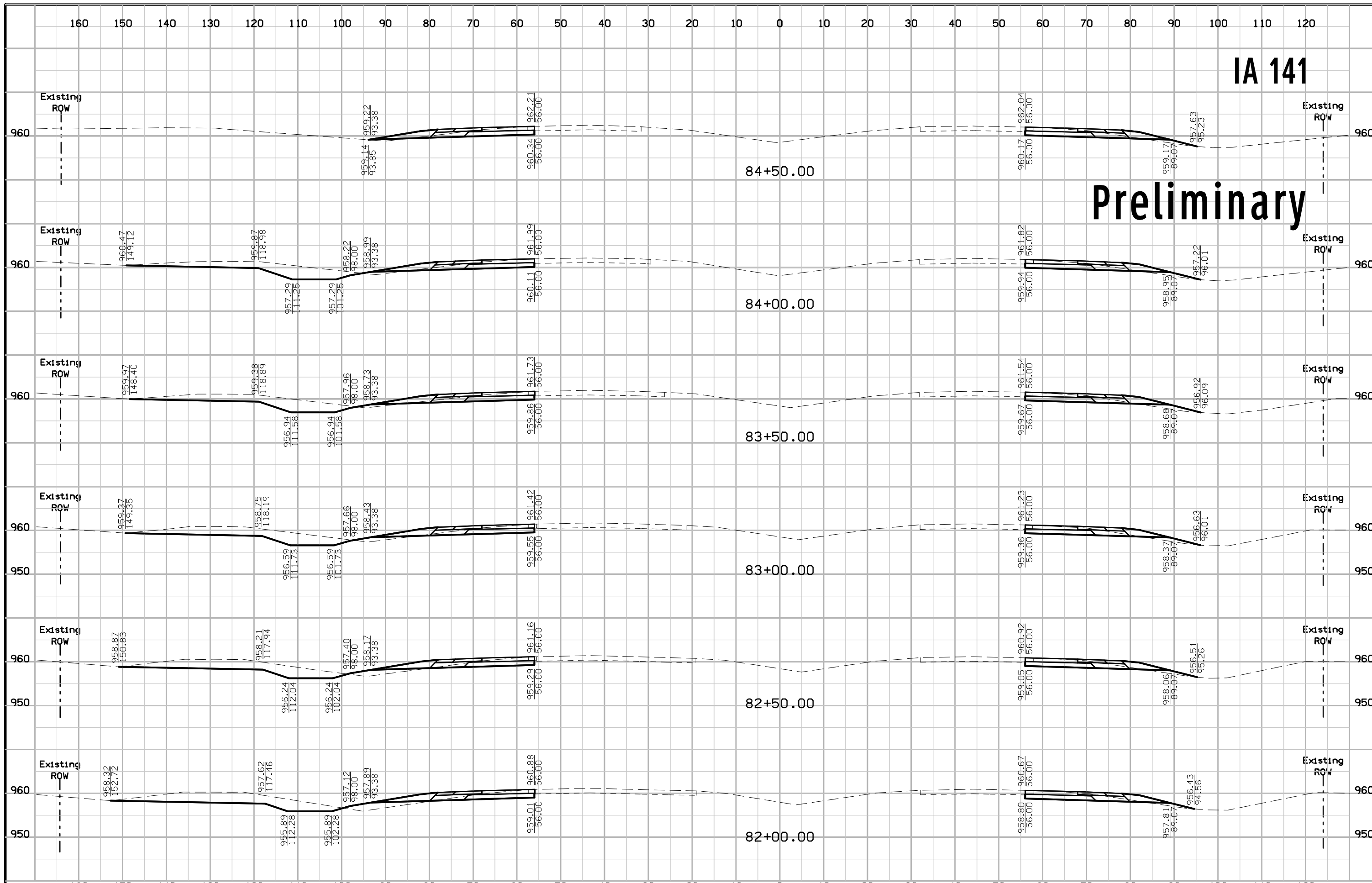
IA 141

Preliminary

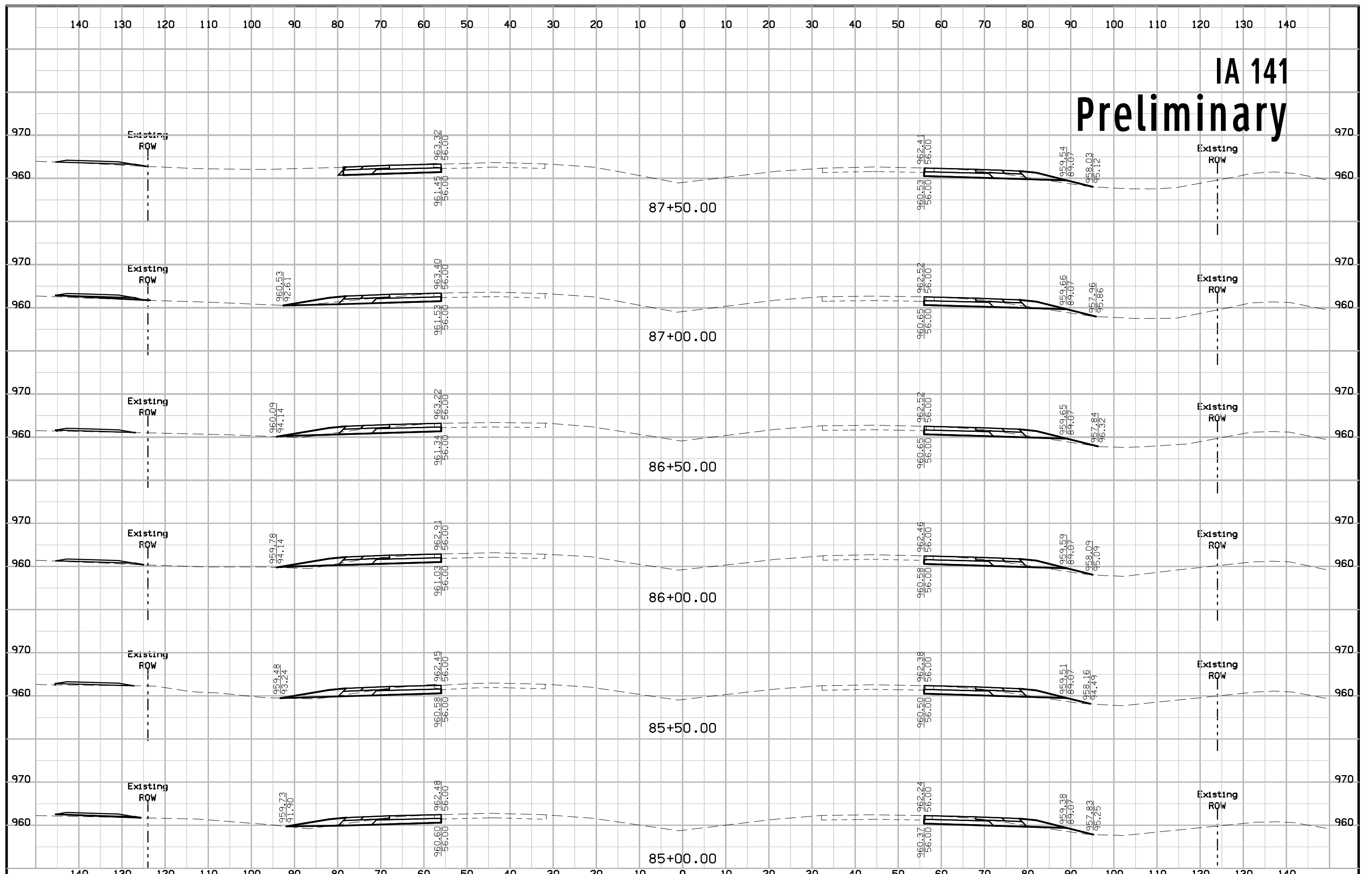


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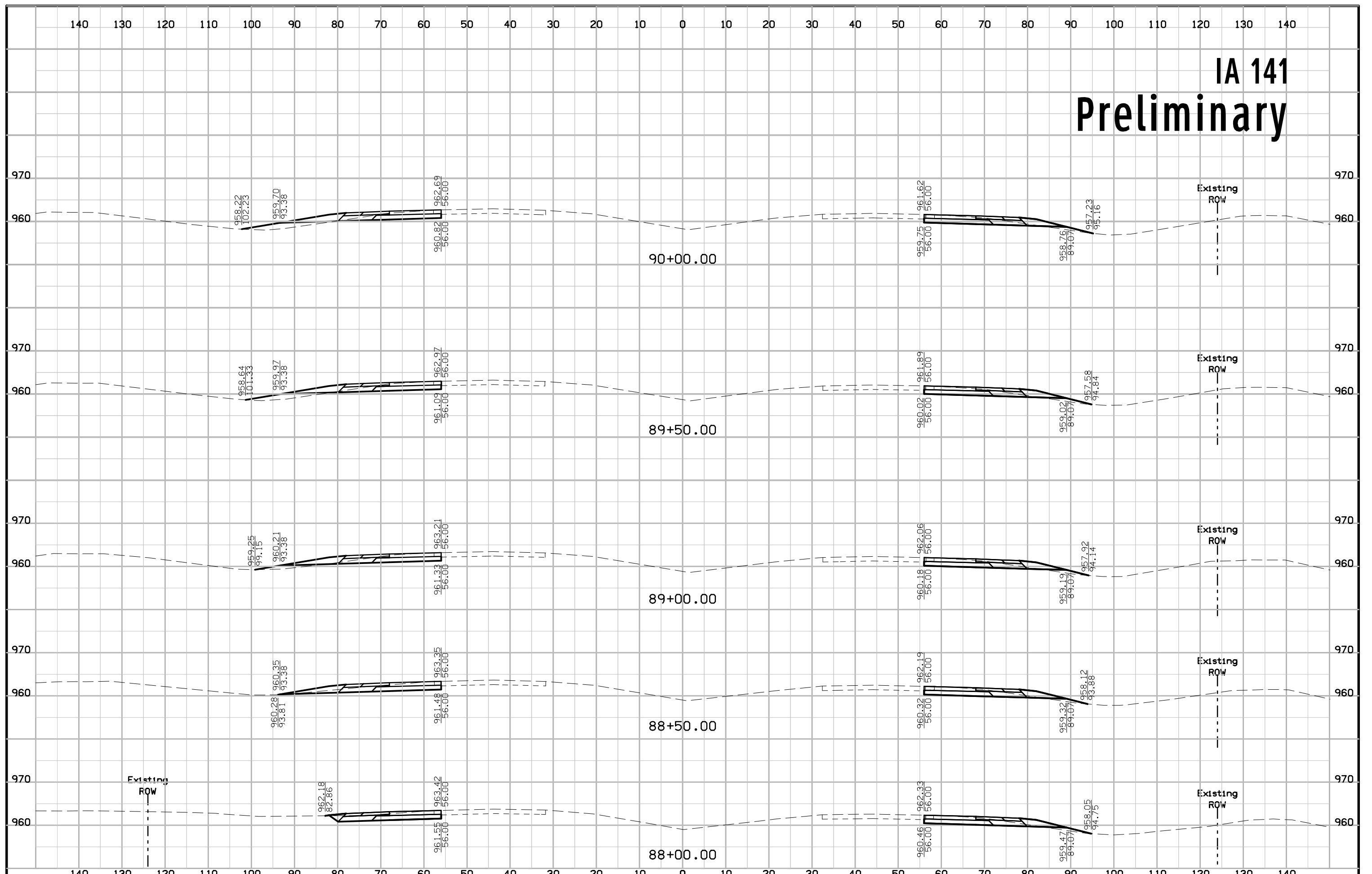
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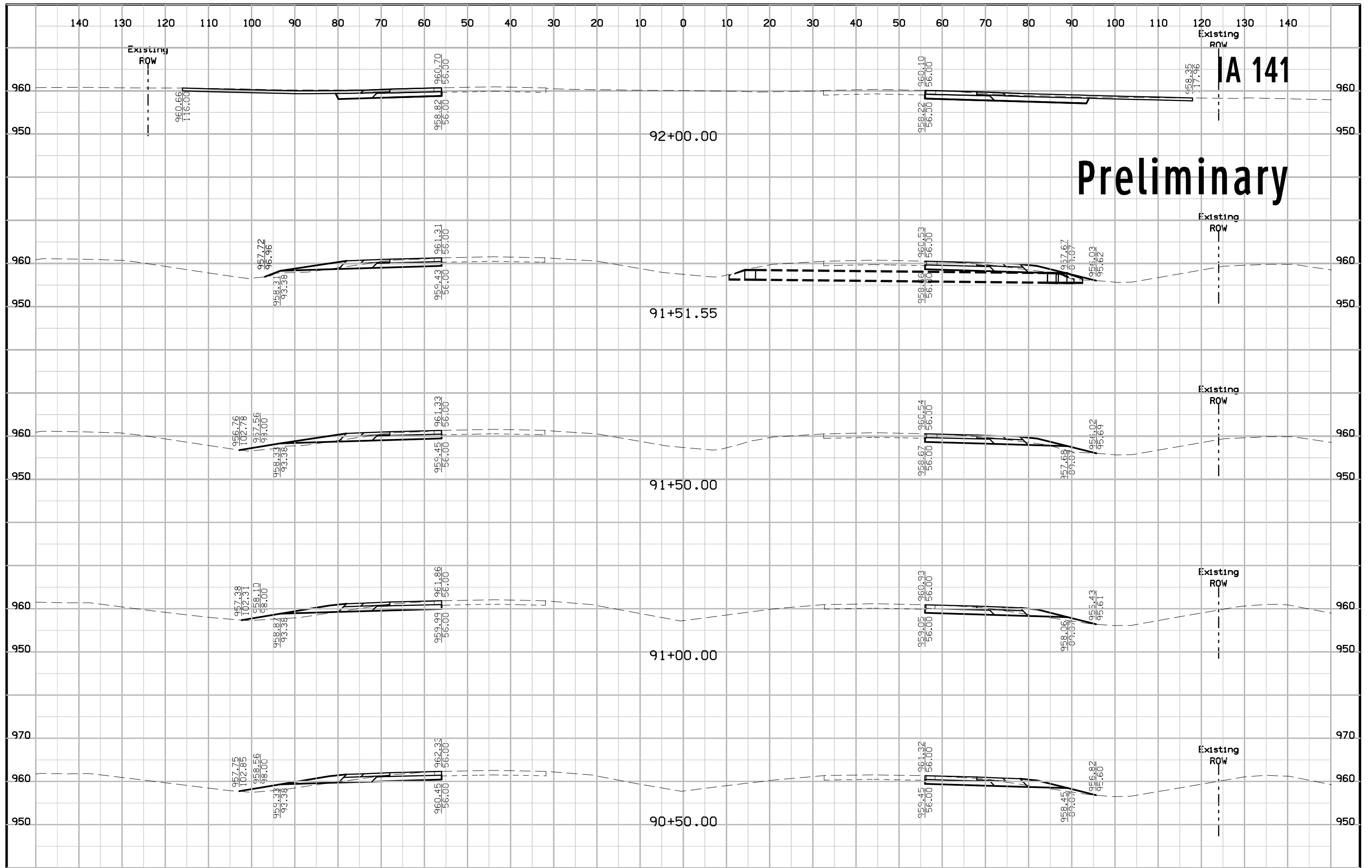


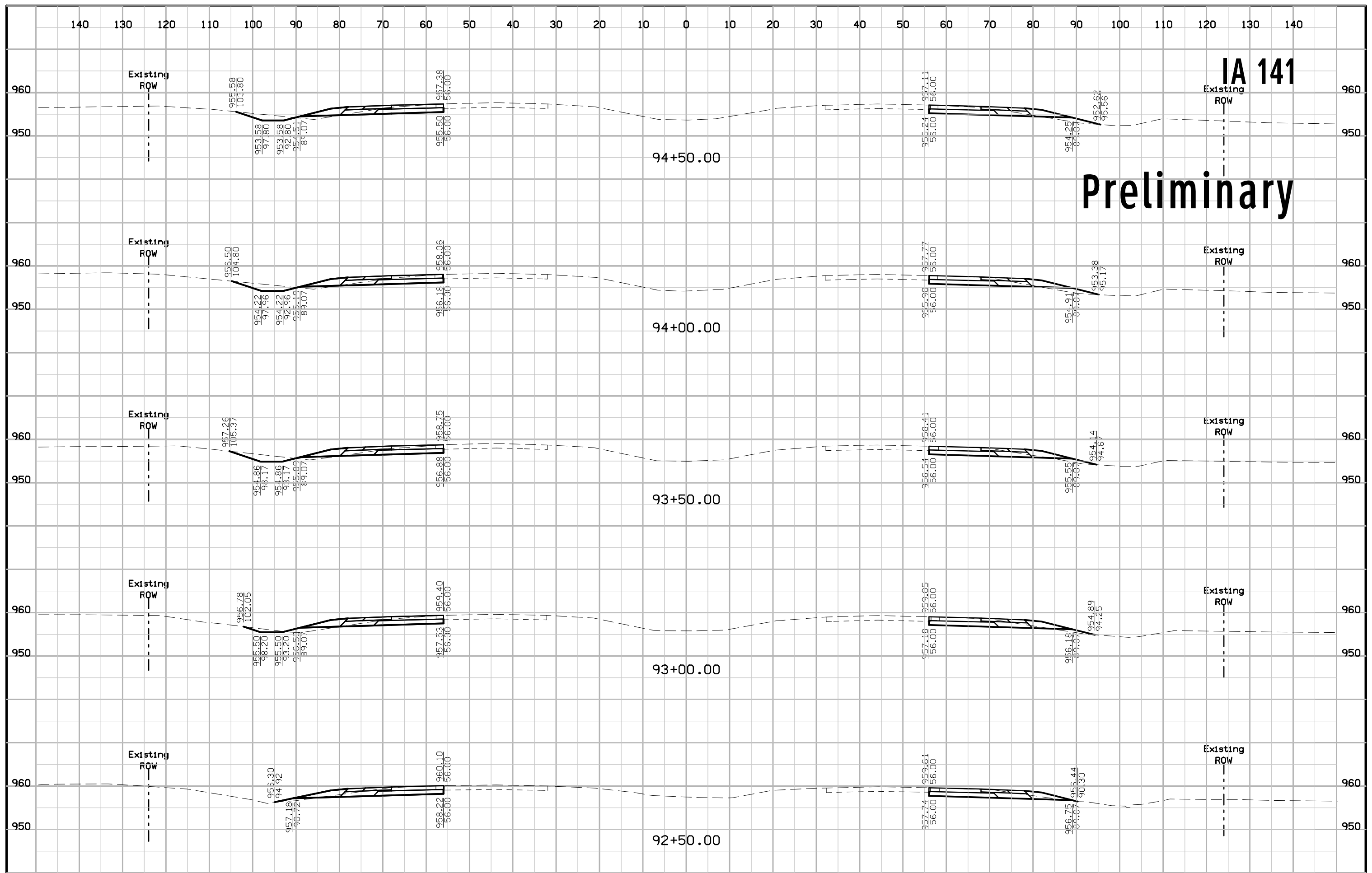
IA 141 Preliminary



IA 141 Preliminary



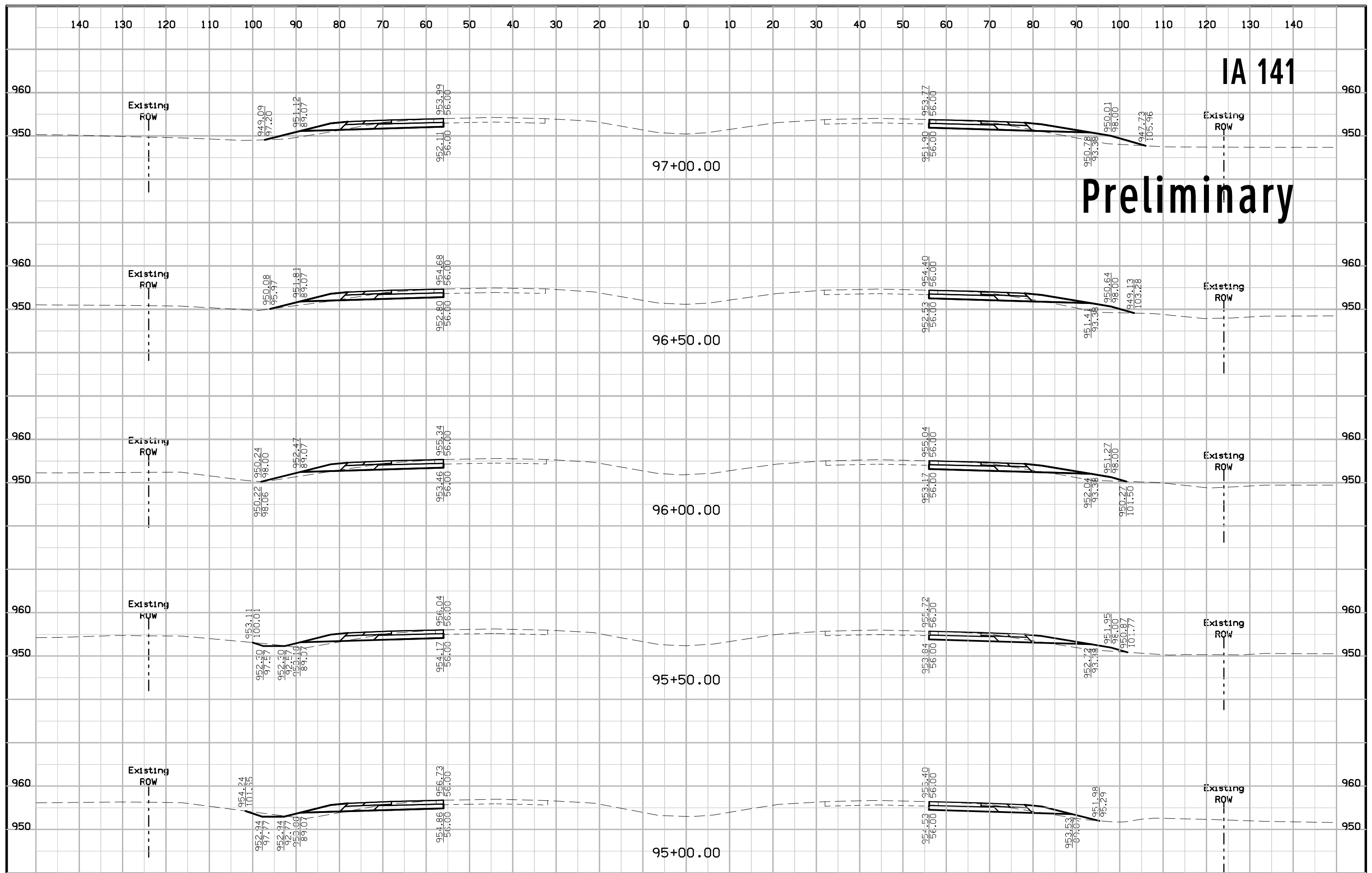




FILE NO.	ENGLISH	DESIGN TEAM	Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER	NHSX-141-7(42)--3H-77	SHEET NUMBER	W.24
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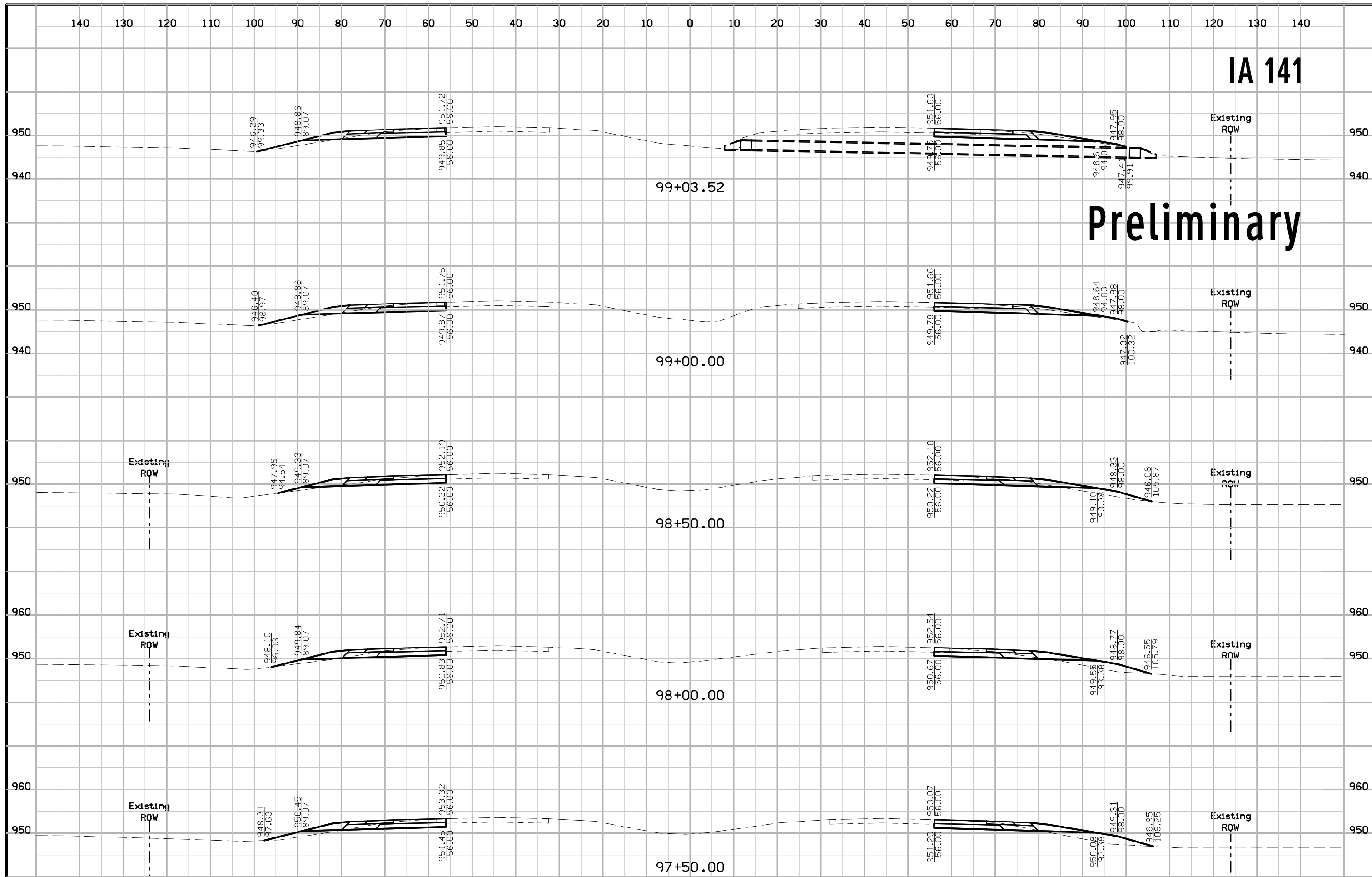
IA 141

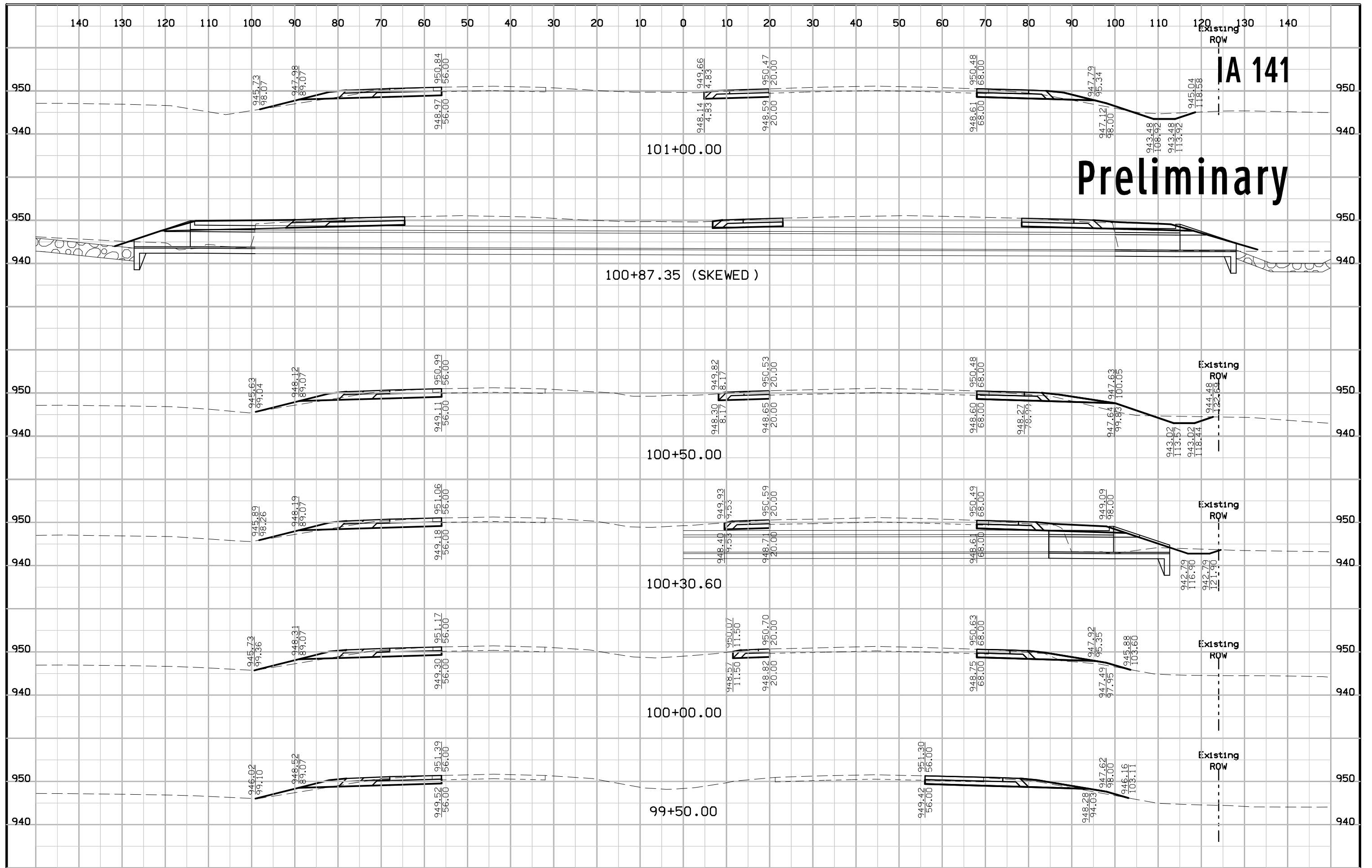
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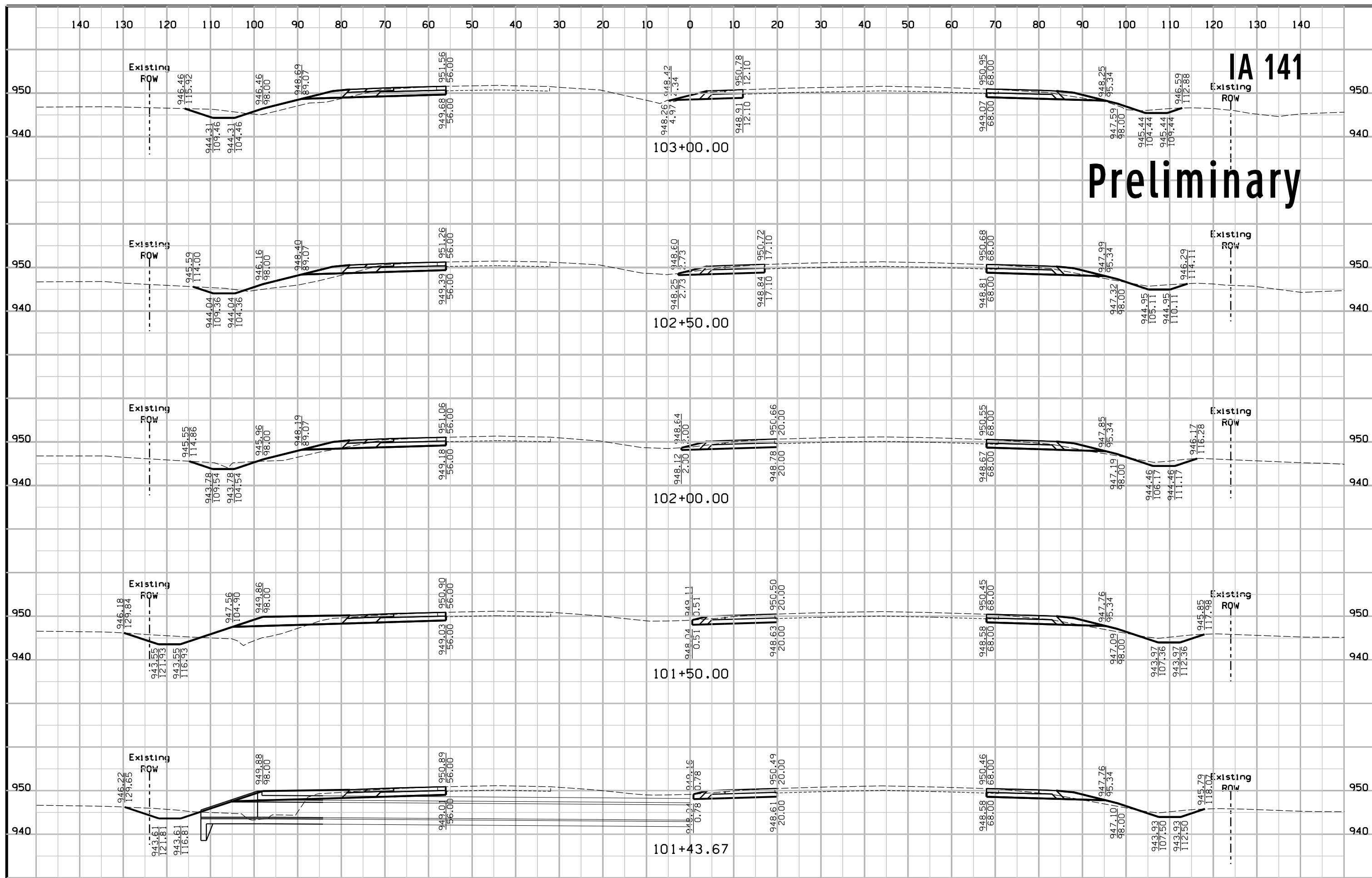


IA 141

Preliminary





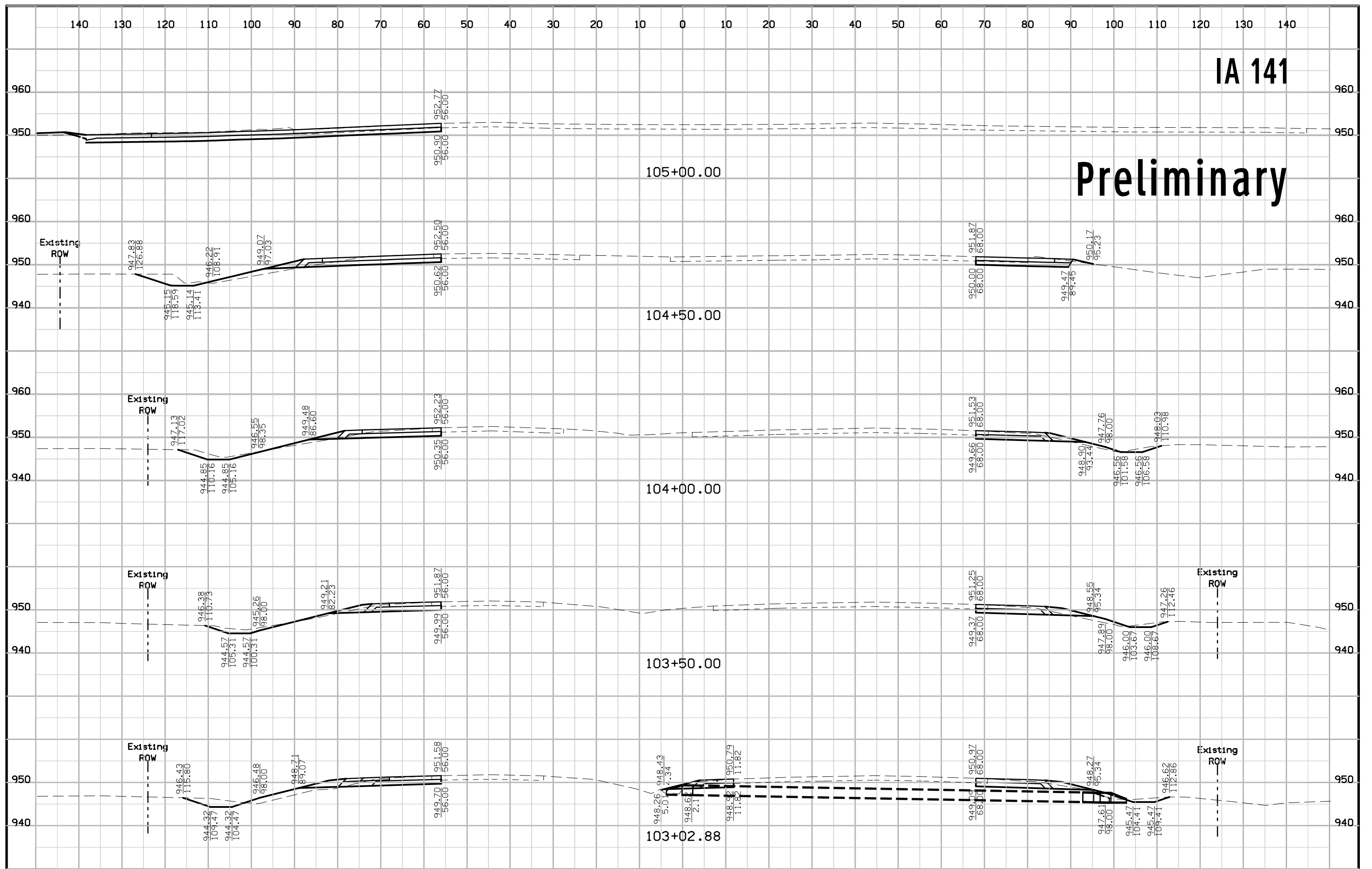


Preliminary

IA 141

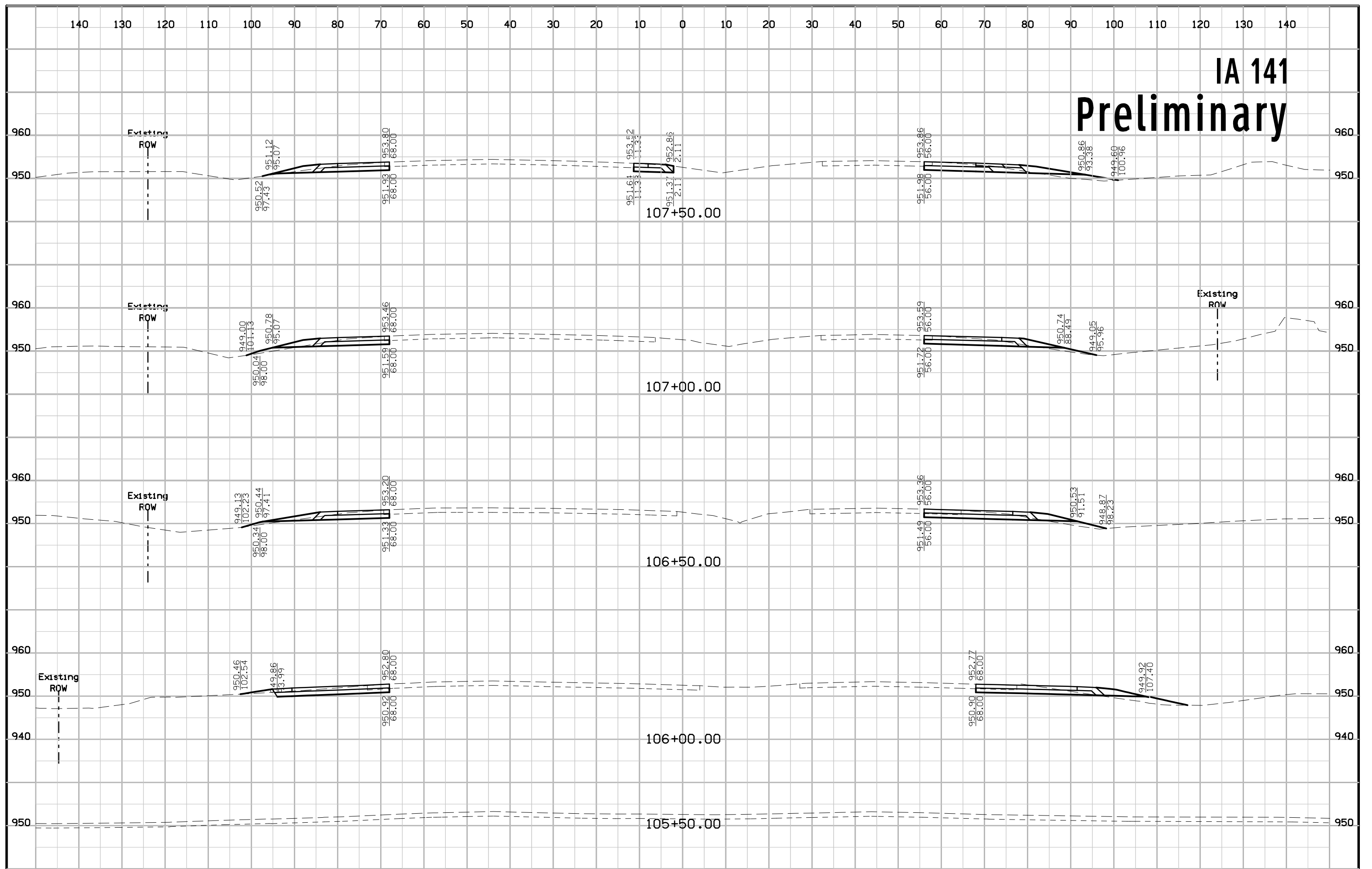
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Preliminary



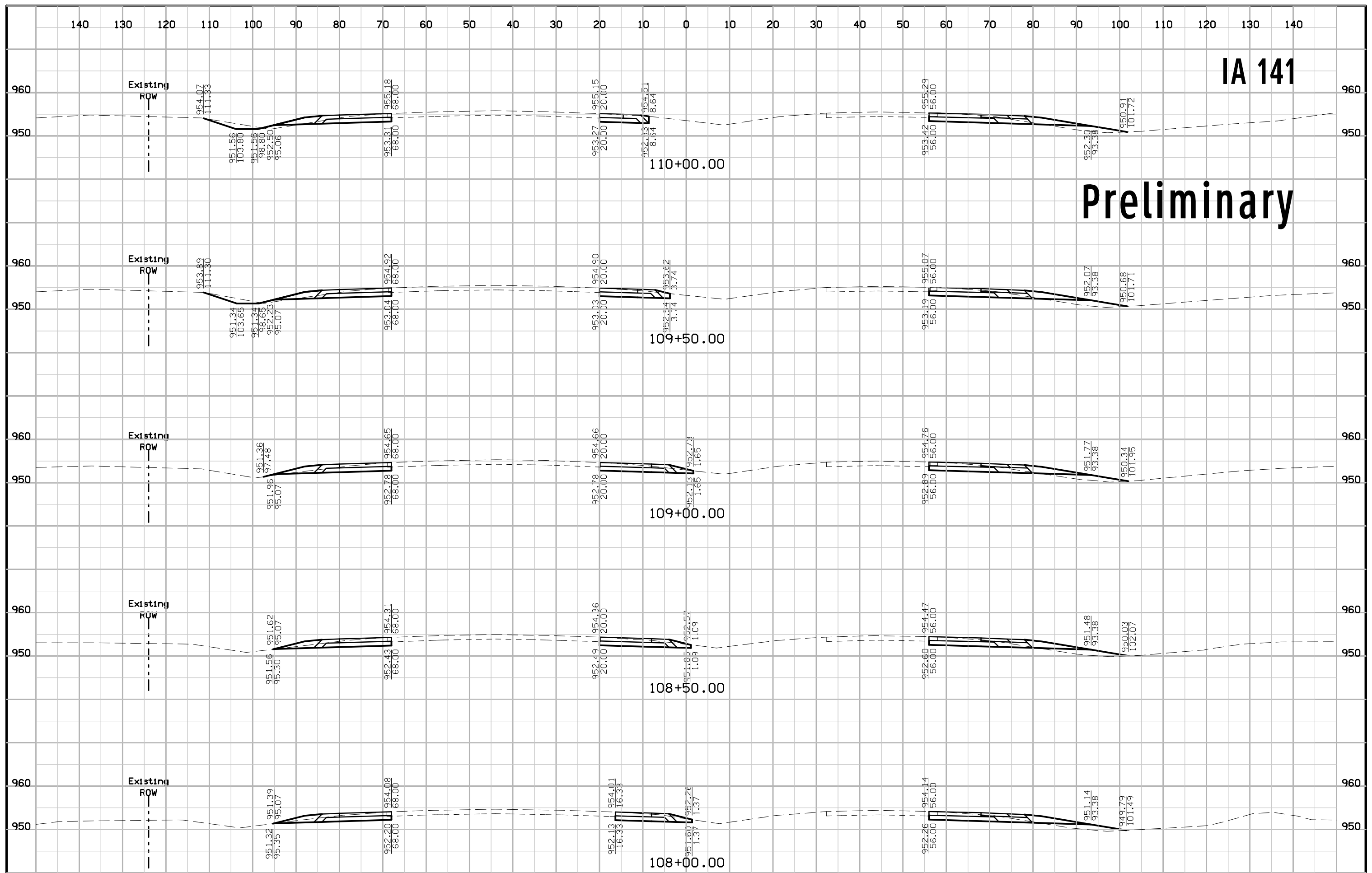
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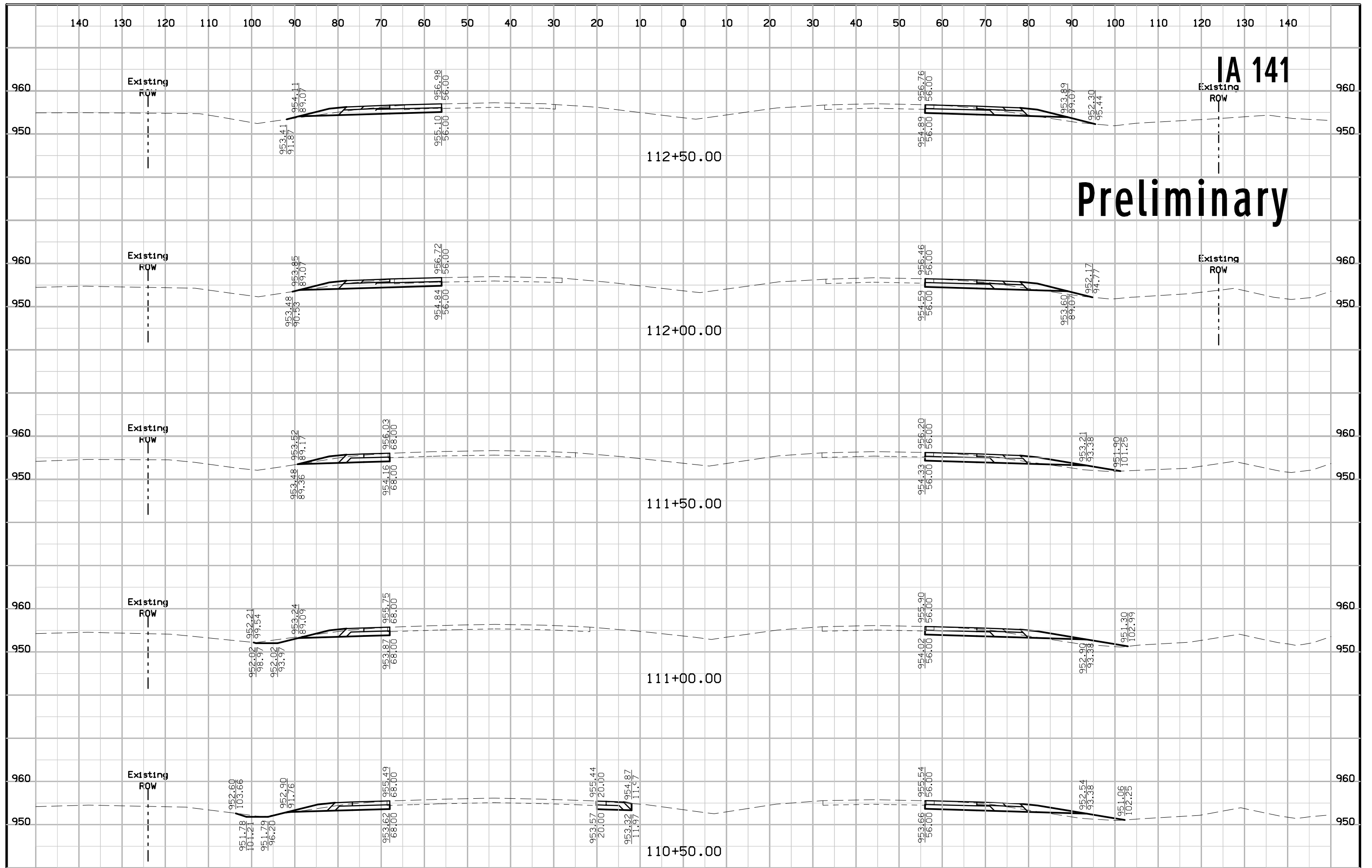
IA 141 Preliminary



IA 141

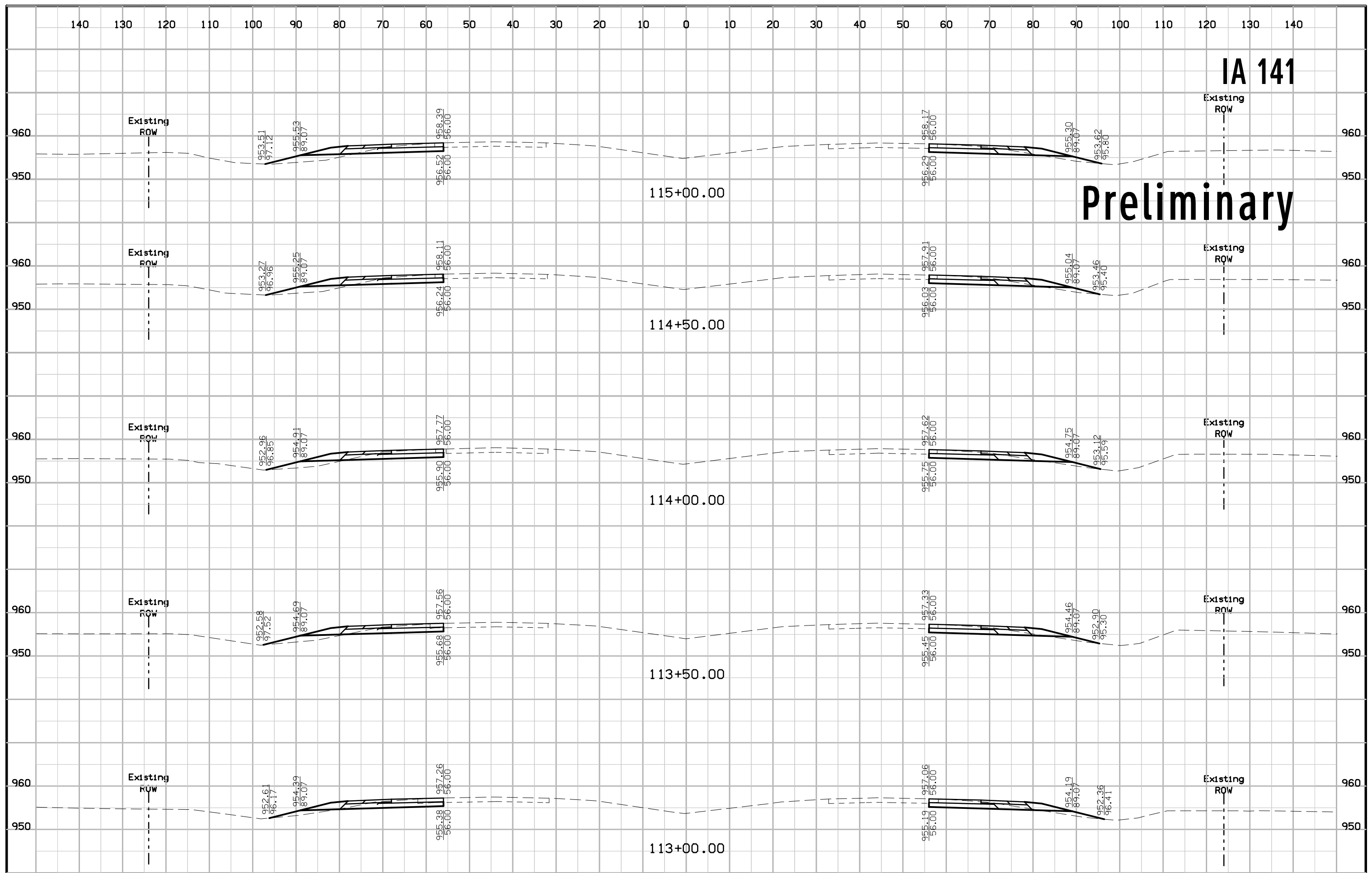
Preliminary





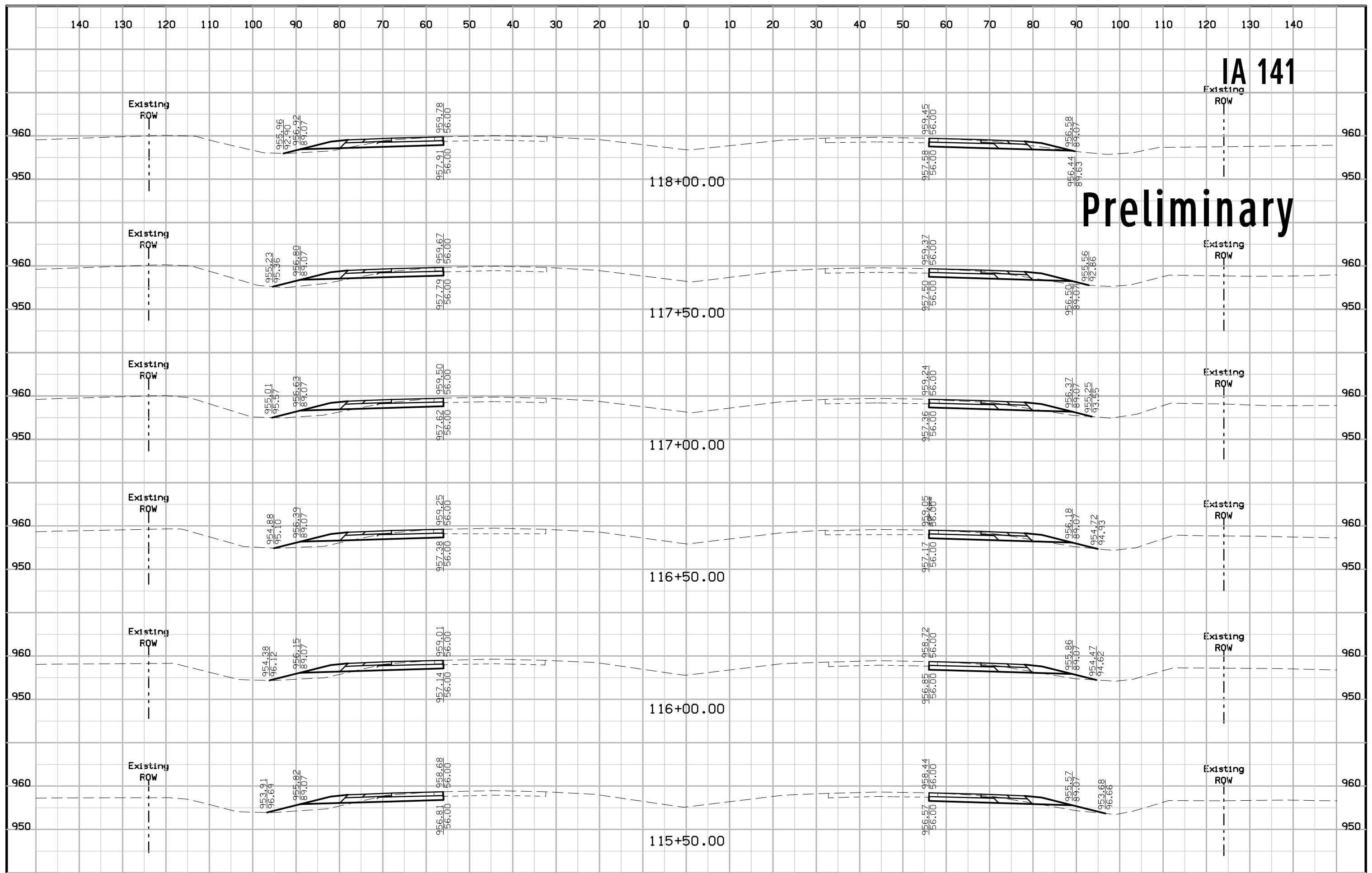
IA 141

Preliminary



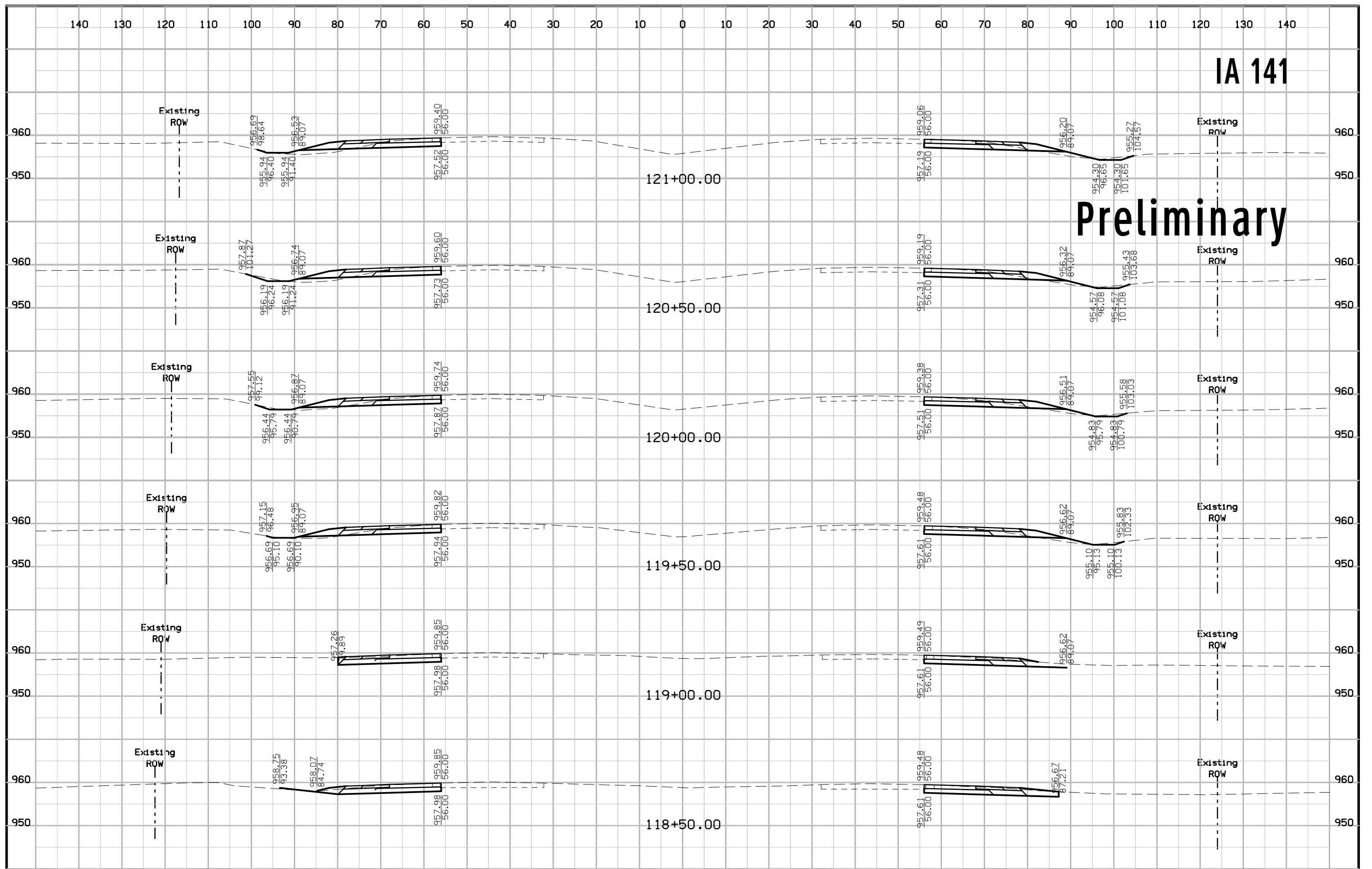
IA 141

Preliminary

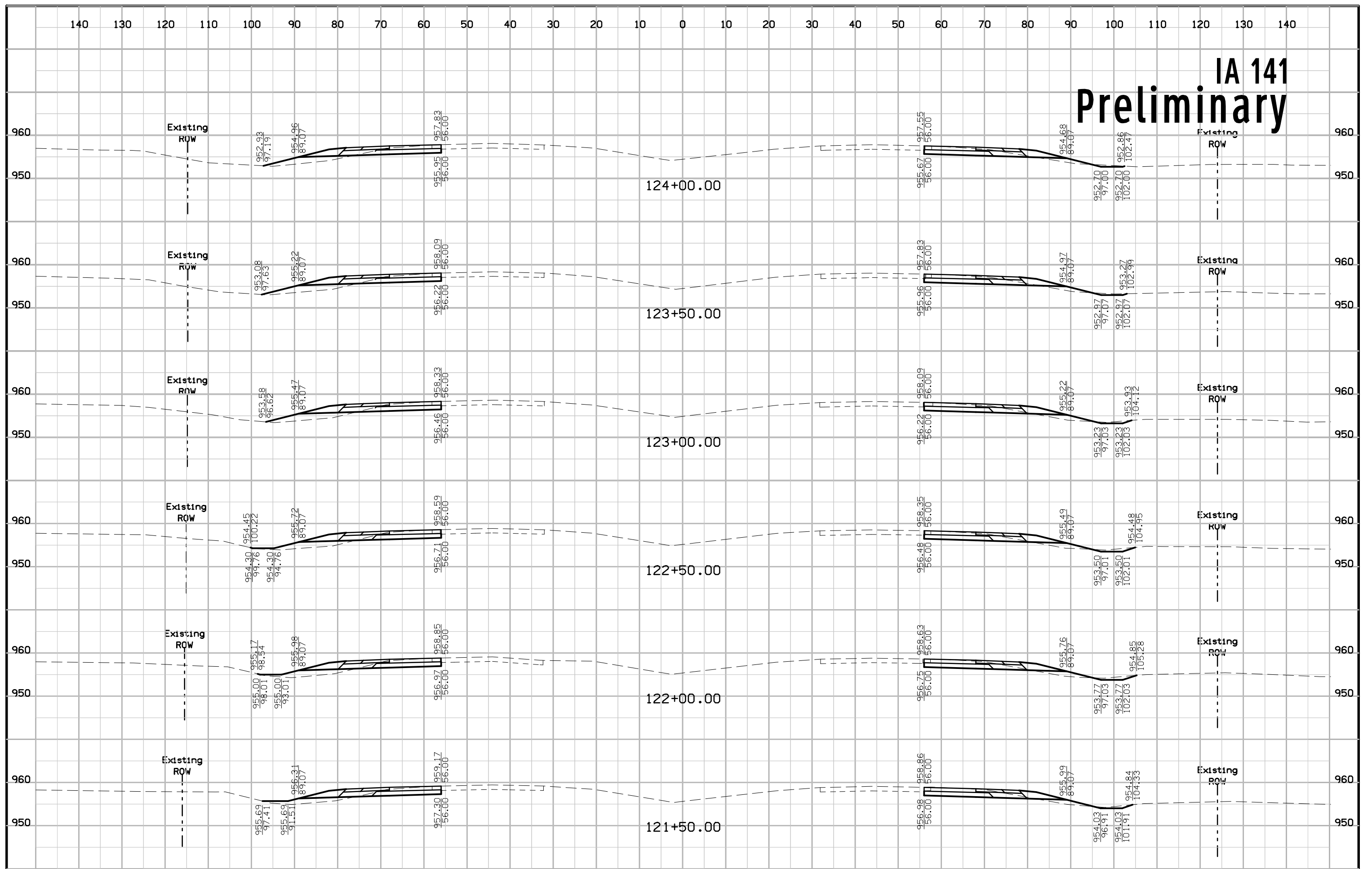


IA 141

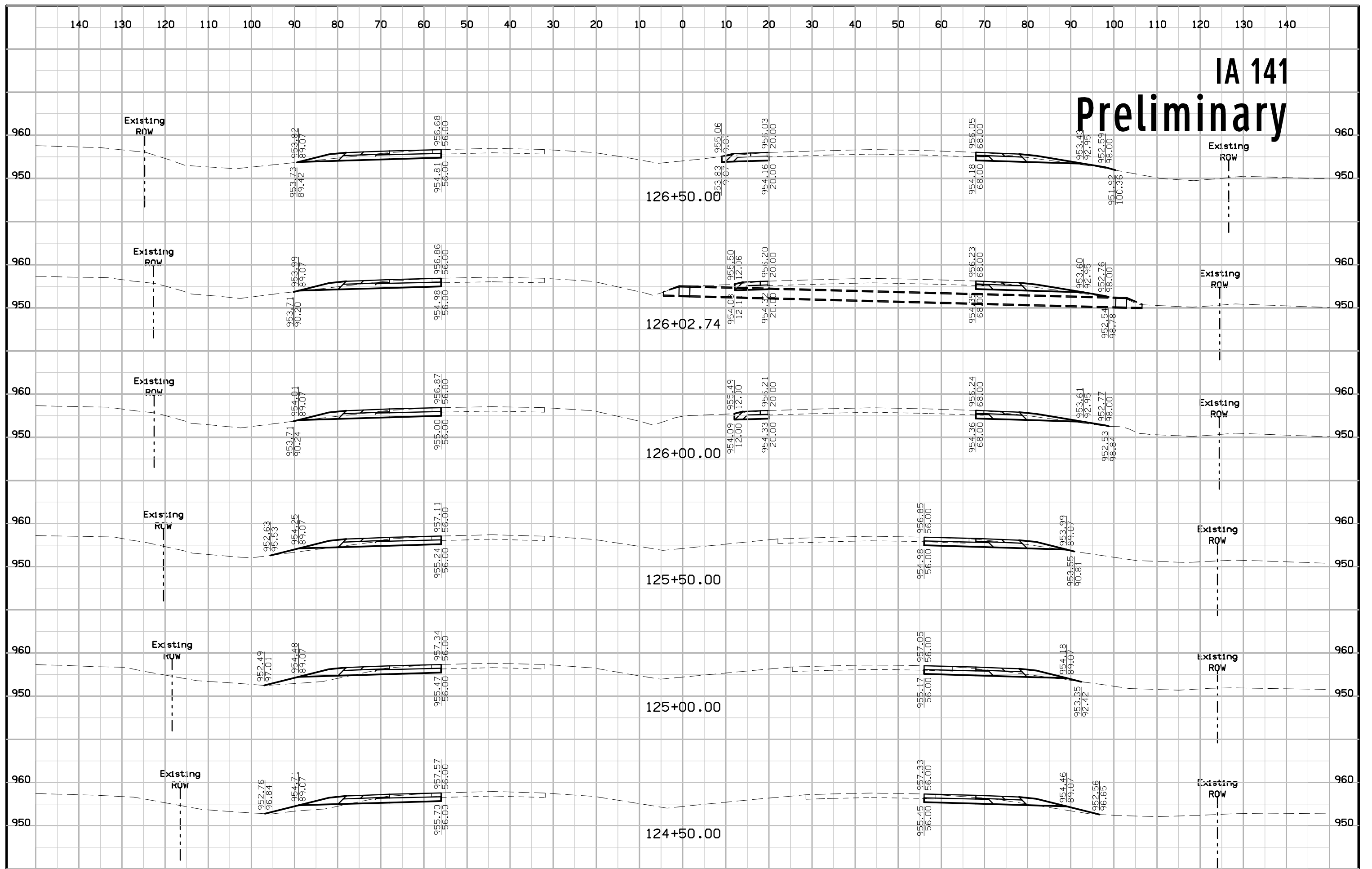
Preliminary



IA 141 Preliminary

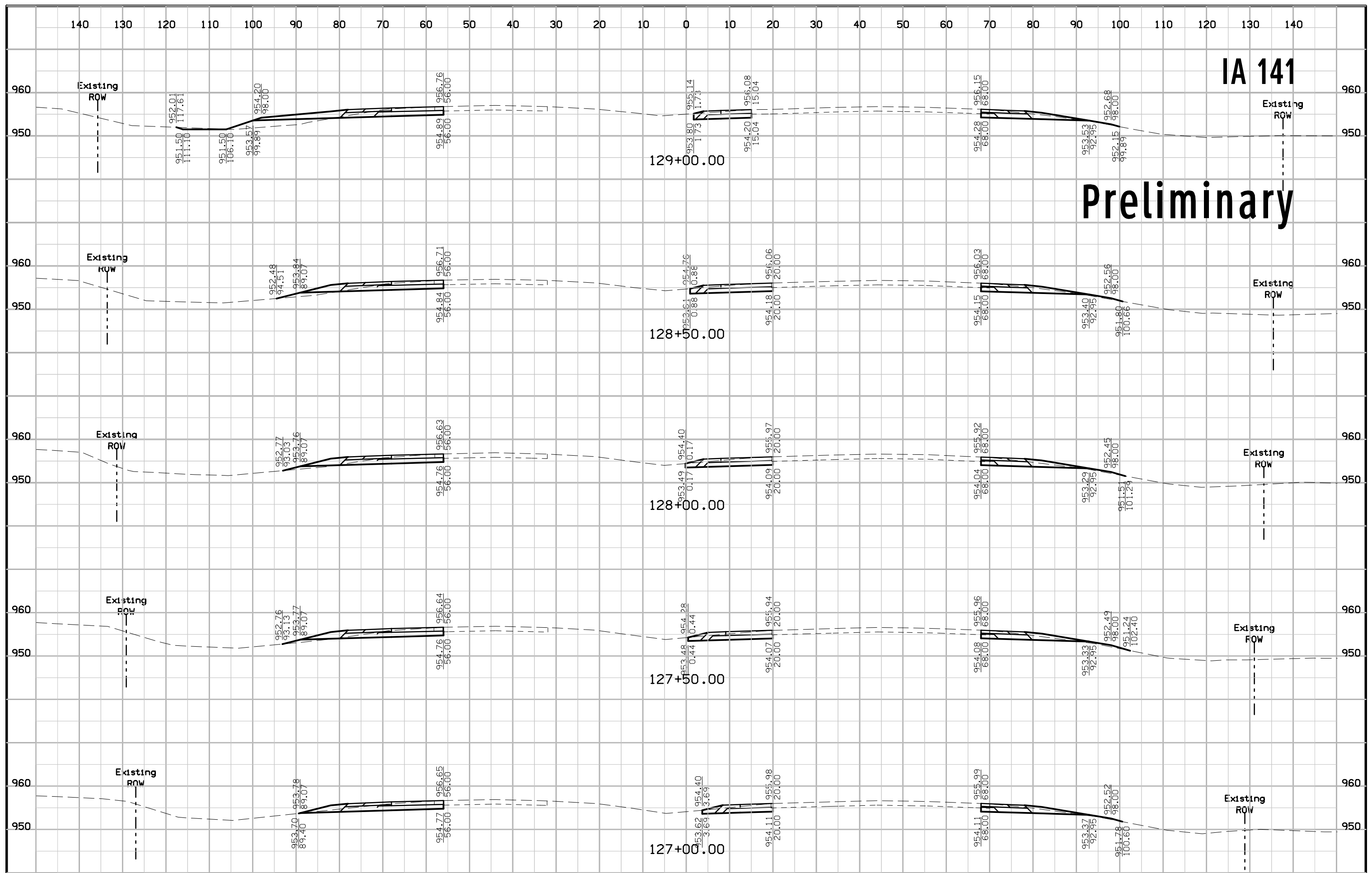


IA 141 Preliminary

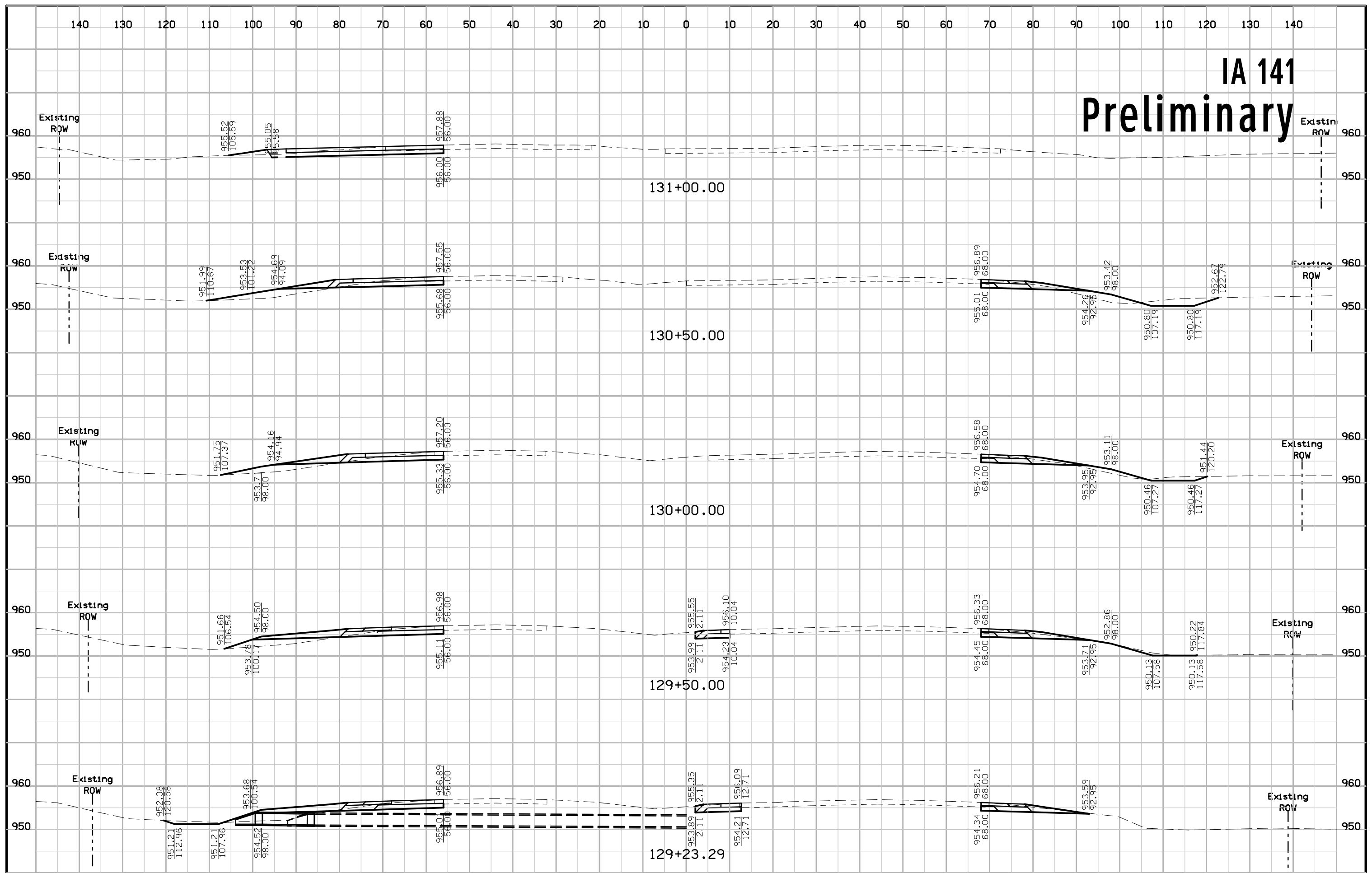


IA 141

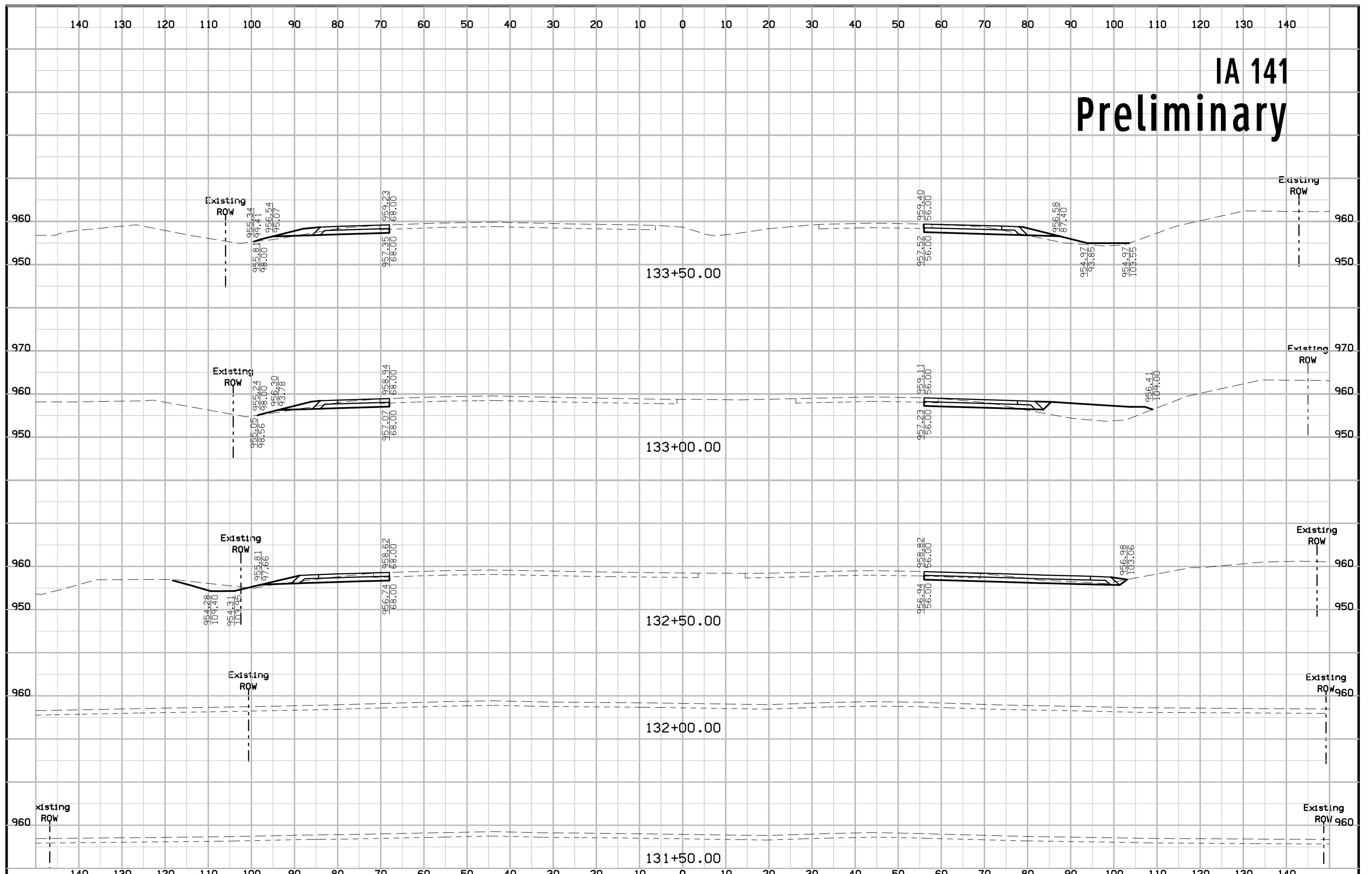
Preliminary



IA 141 Preliminary

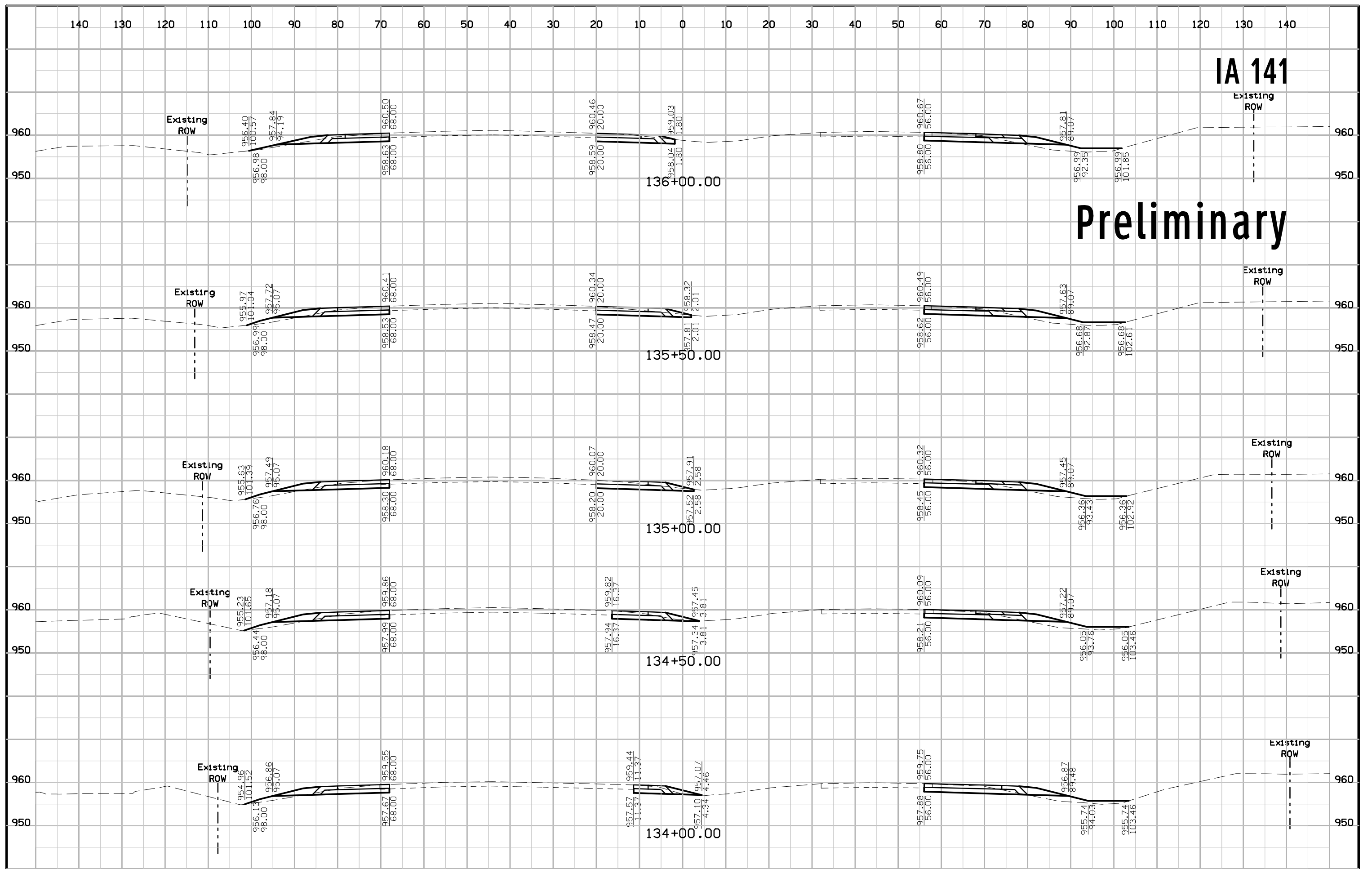


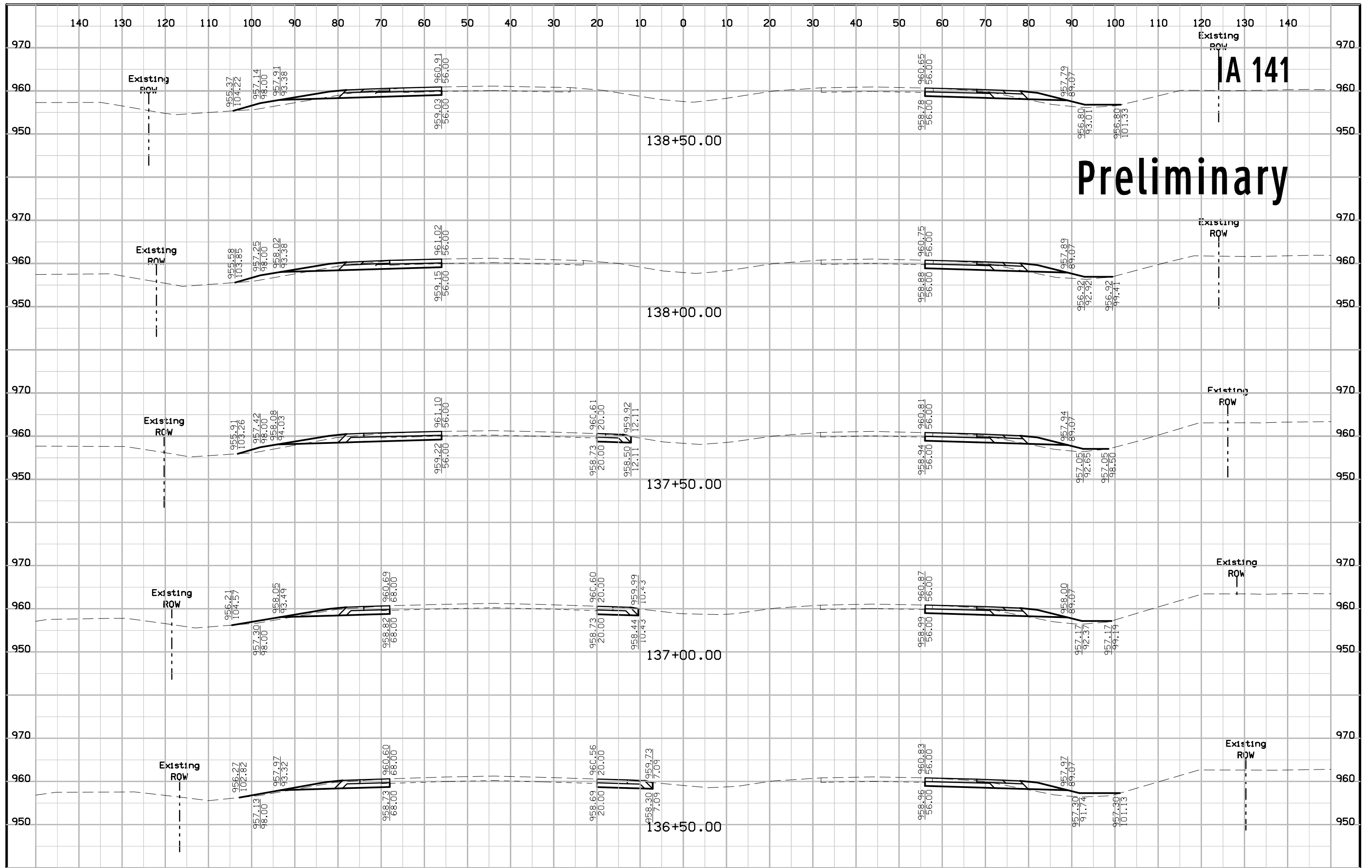
IA 141 Preliminary

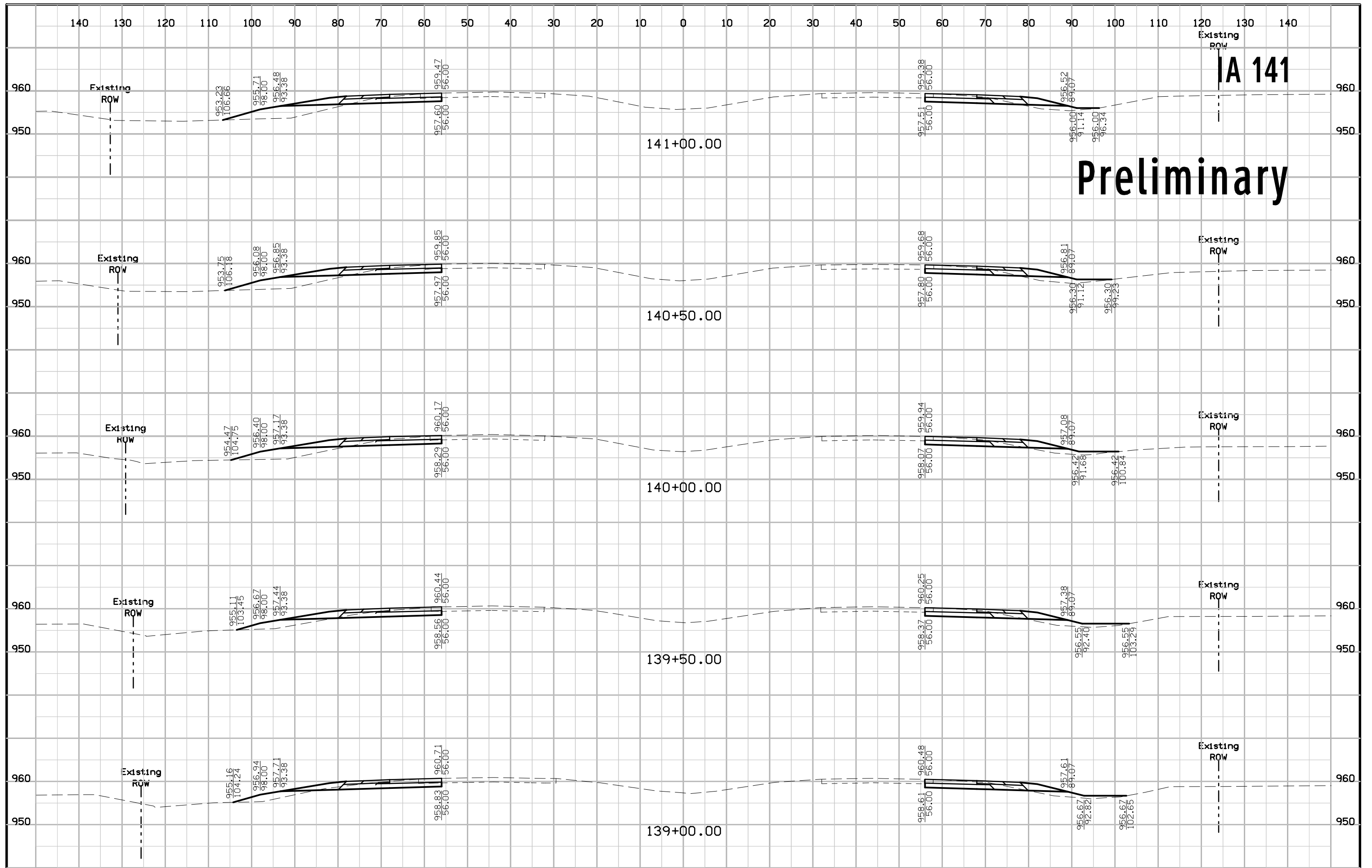


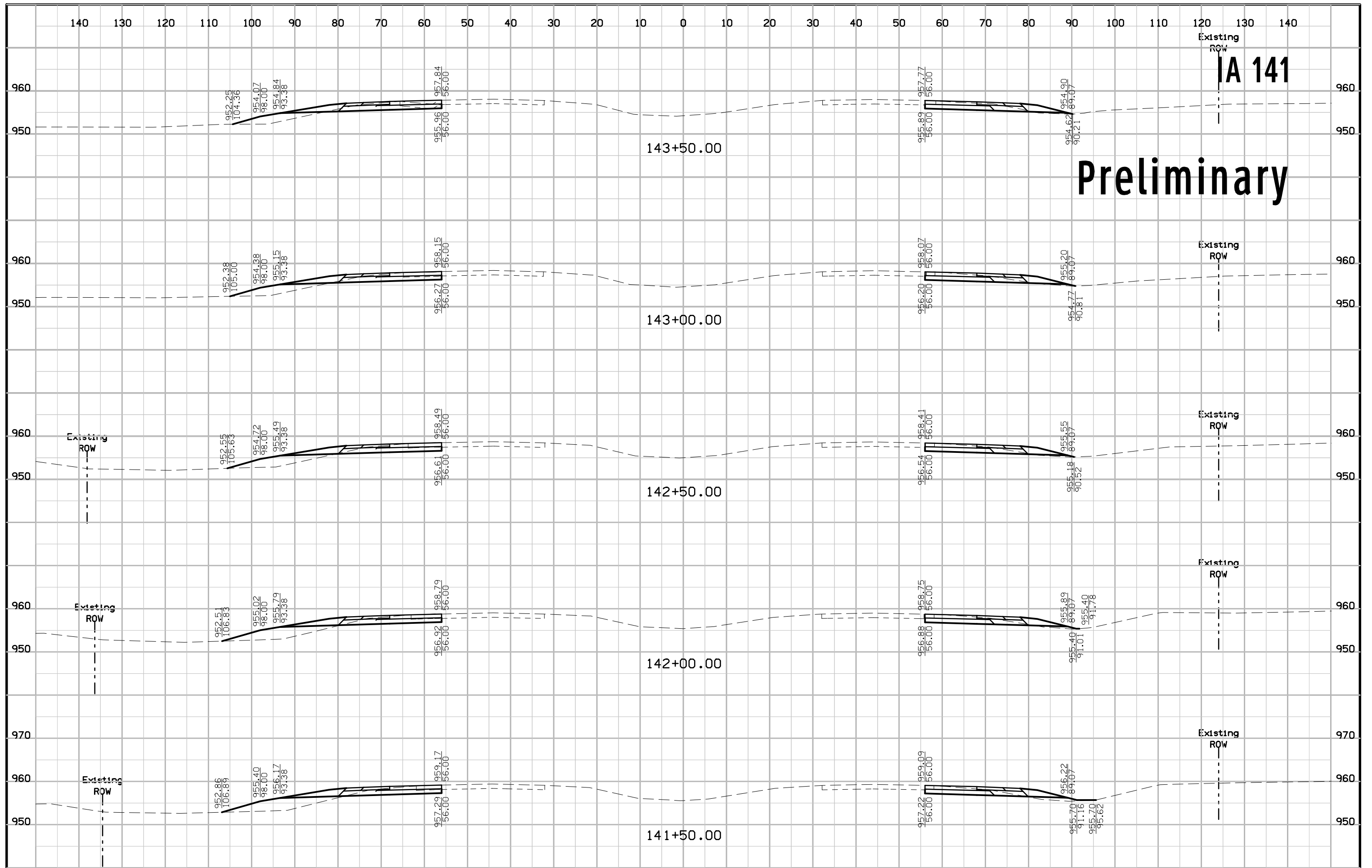
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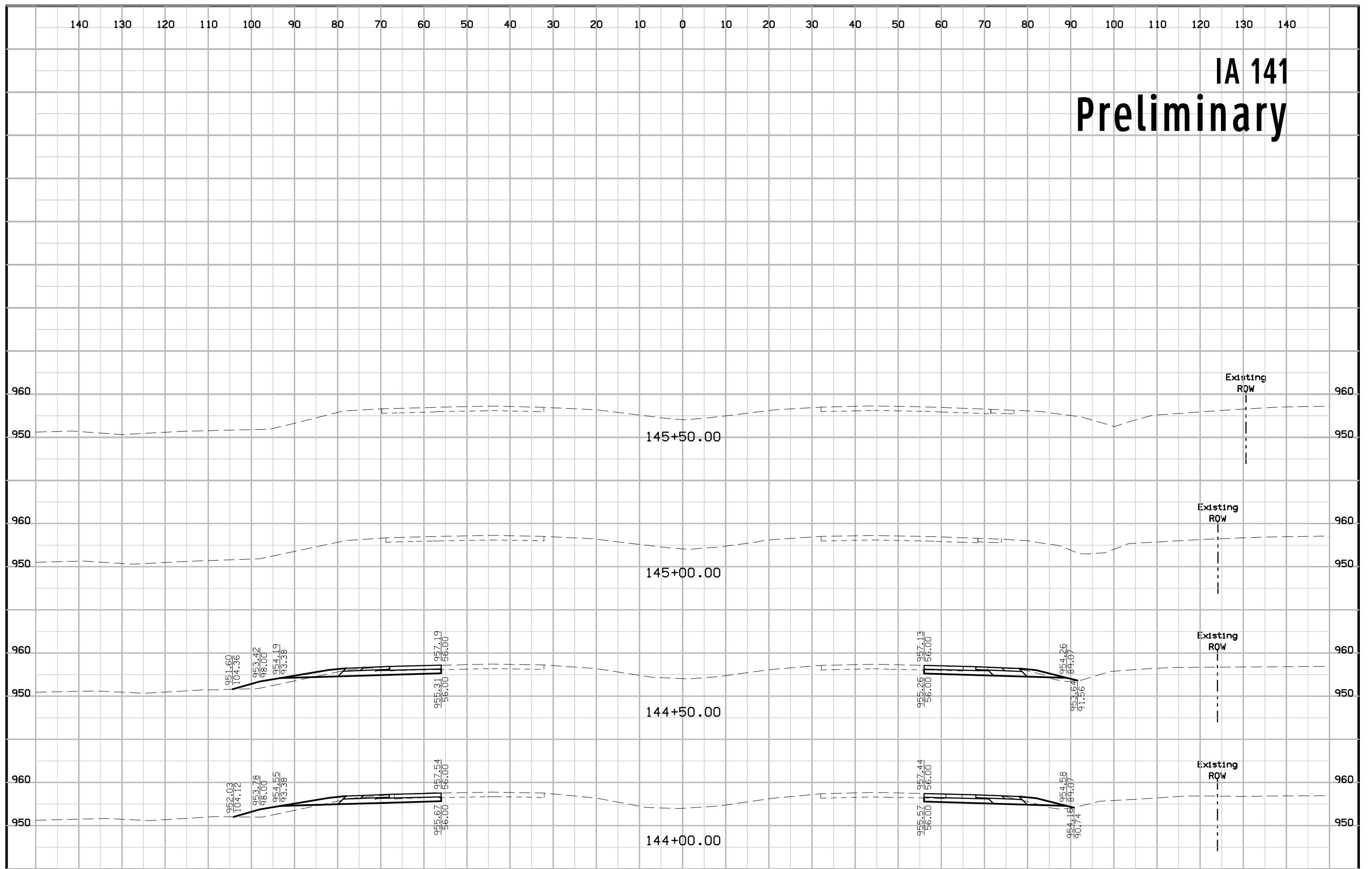








IA 141 Preliminary



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