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

LETTING DATE

POLK Co.

INDEX OF SHEETS

IOWA DOT

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.

IOWA ONE CALL
1-800-292-8989 | 811
www.iowaonecall.com

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)

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

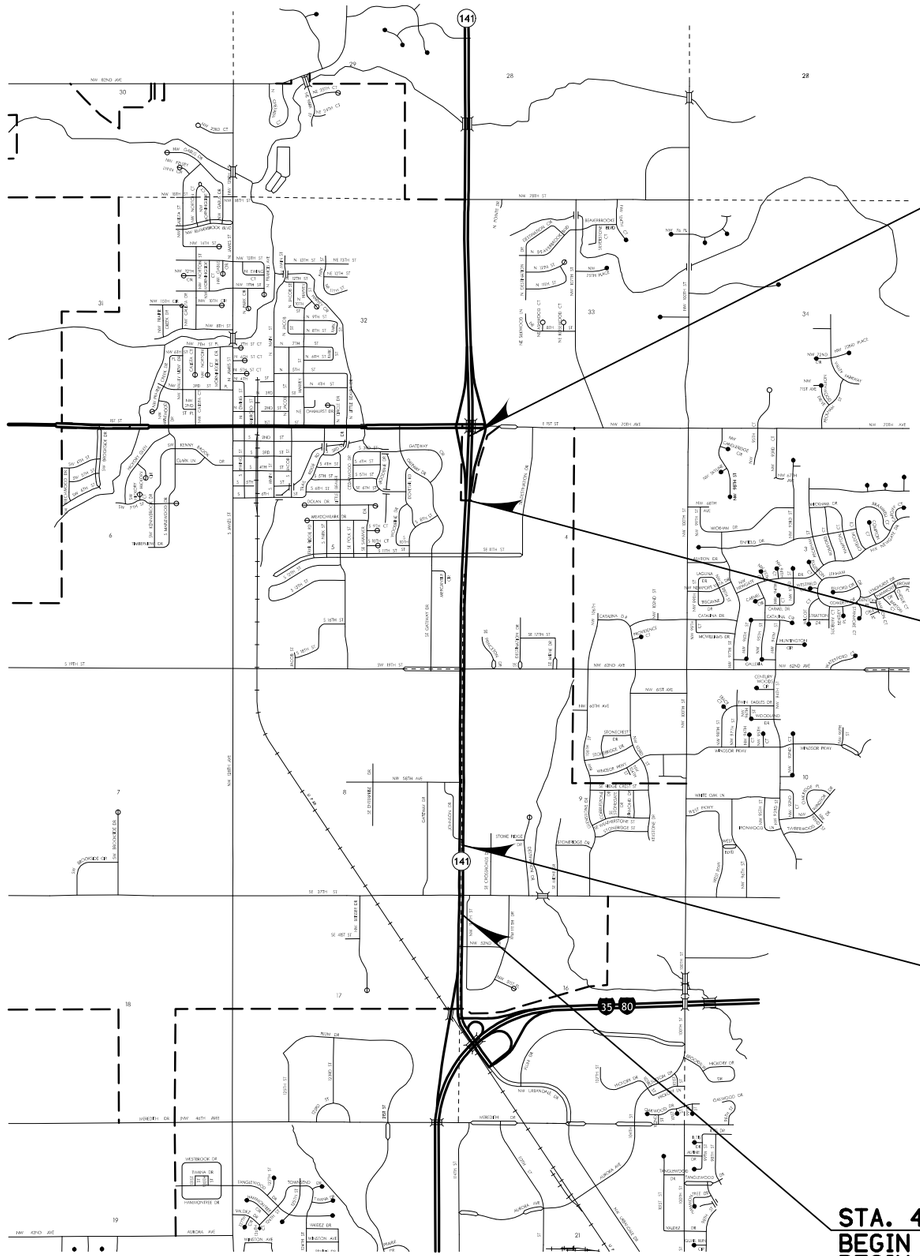
2016	AADT	33,400	V.P.D.
2036	AADT	47,900	V.P.D.
2036	DHV	4950	V.P.H.
TRUCKS		8	%
Total Design ESALs		--	

PRELIMINARY PLANS

Subject to change by final design.

D5 PLAN – Date: 8/4/2014

R-25W



STA. 160+47.00 (SUR141B)
END PROJECT
END INSIDE SHOULDER PAVING

STA. 144+92.95 (SUR141B)
END THIRD LANE PAVING

STA. 64+50.62 (SUR141A)
STA. 64+50.72 (SUR141B)

STA. 45+96.81 (SUR141A)
BEGIN PROJECT
BEGIN PAVING

R-25W

LOCATION MAP SCALE
0 1/3 2/3 1
Miles

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER A.2

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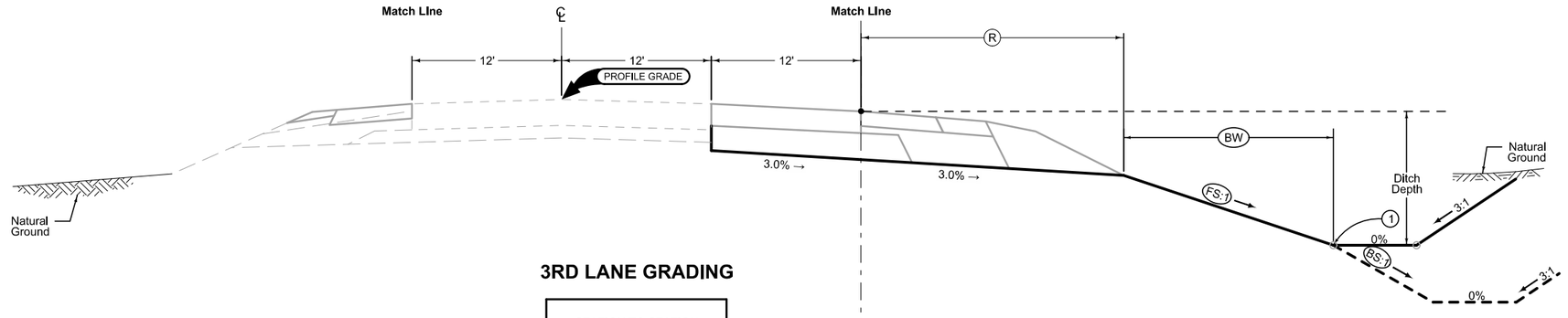
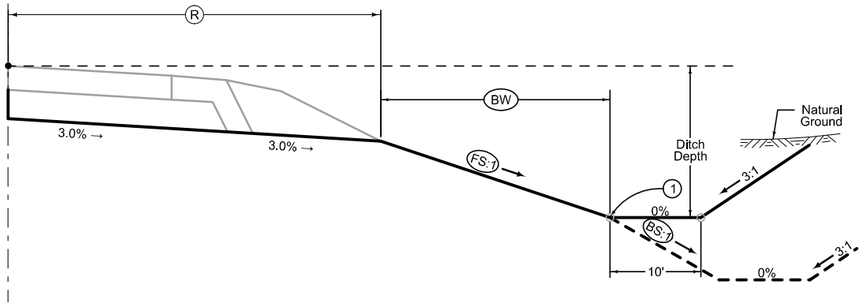


3RD LANE GRADING

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



AUXILARY LANE GRADING (BARNROOF SECTION)

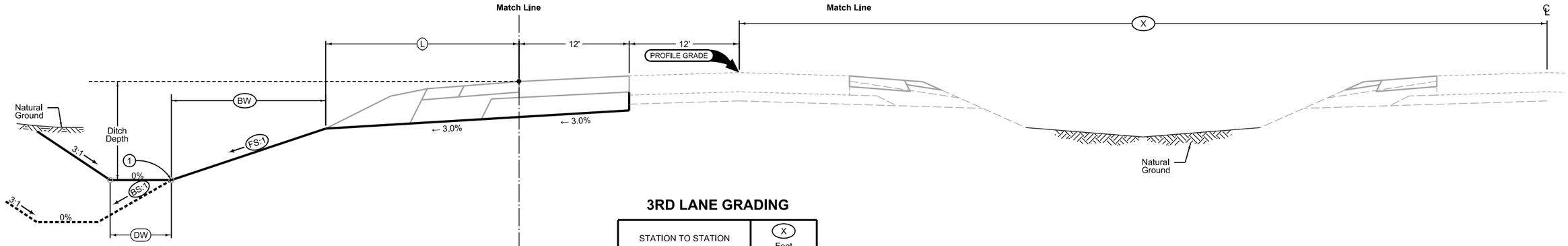
STATION TO STATION		(R) Feet	(BW) Feet	(FS)	(BS)
45+96.81	46+86.81	23.32-25.06	6.68-4.94	5-5.87	3
46+86.81	47+45.00	25.06-24.94	4.94-5.06	5.87-4	3
47+45.00	47+76.81	24.94-27.07	5.06-2.93	4	3
47+76.81	51+50.74	27.07	2.93	4	4
51+50.74	51+76.81	27.07-32.66	2.93-0	4	4

(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

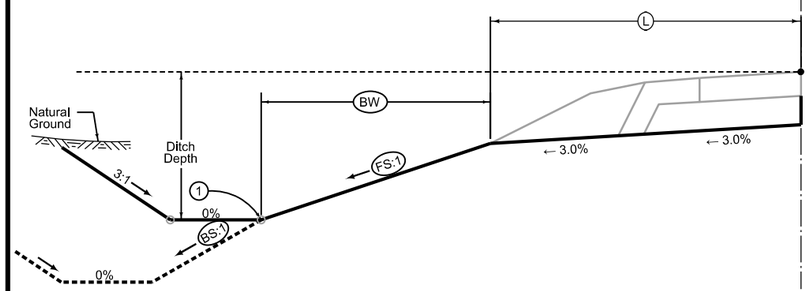


3RD LANE GRADING

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)	(BS)
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)	(BS)
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

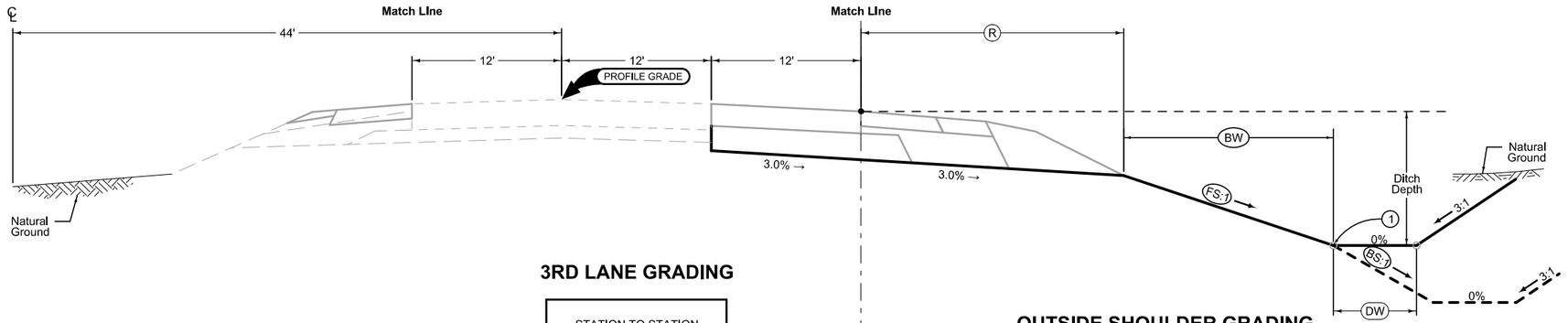
(1) Refer to project plan and cross sections for specific location of foreslope change.

See Tab XXX-XX for pavement quantities.

See Tab XXX-X for shoulder quantities.

SUR 141 A EB

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER B.2

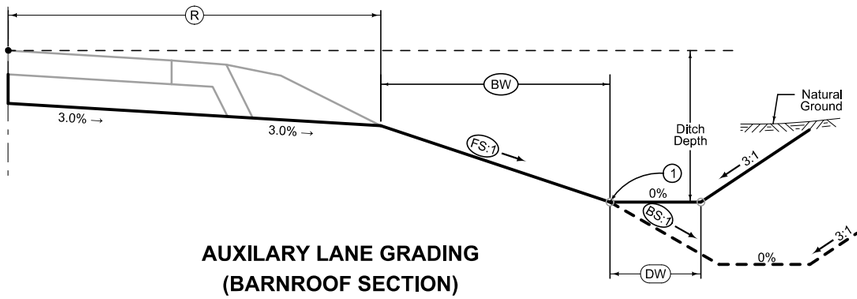


3RD LANE GRADING

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)	(BS)
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



AUXILARY LANE GRADING (BARNROOF SECTION)

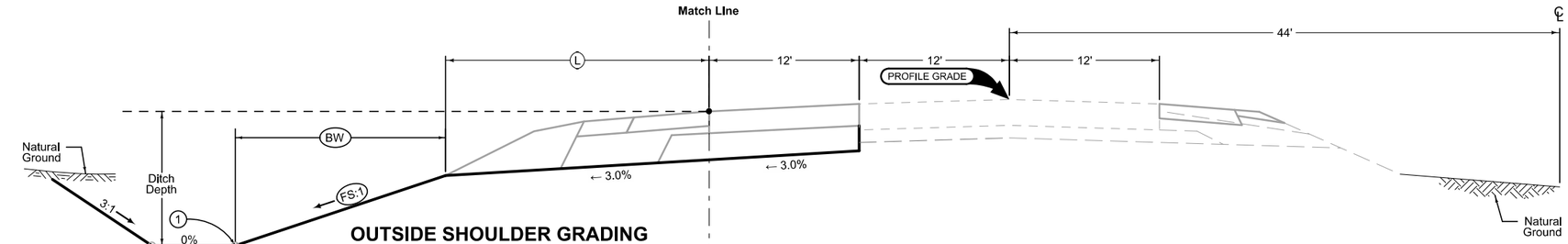
STATION TO STATION		(BW) Feet	(R) Feet	(DW) Feet	(FS)	(BS)
80+39.65	80+89.65	11.25-8.52	18.75-21.48	-	4	3
80+89.65	81+08.90	8.52	21.48	-	4	3
98+85.22	99+75.22	3.97	26.03	-	6	3.5
99+75.22	100+05.05	3.97-2.32	26.03-27.68	-	6	3.5
100+05.05	100+25.05	2.32 - 0	27.68-34.49	5	6 - 20.41	3.5 - 3
100+25.44	100+36.16	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

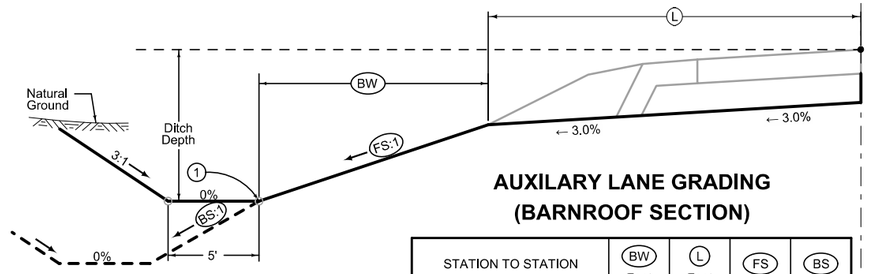


OUTSIDE SHOULDER GRADING (BARNROOF SECTION)

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

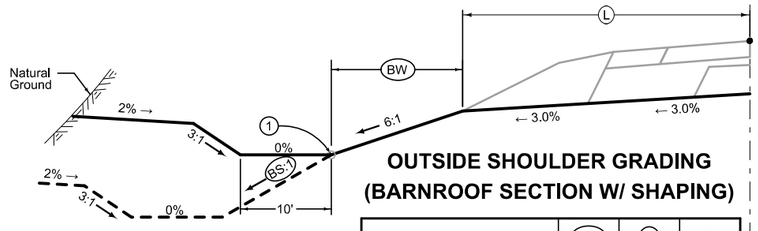
3RD LANE GRADING

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



AUXILARY 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

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER B.4

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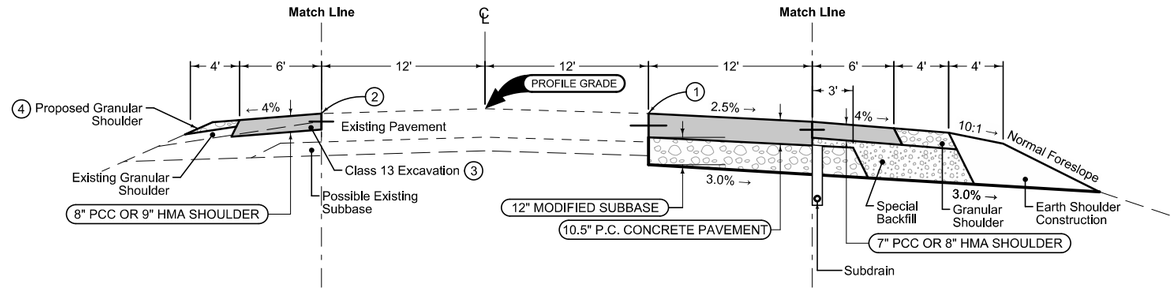
(2) Match existing pavement and provide a vertical edge.

(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.



(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."

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

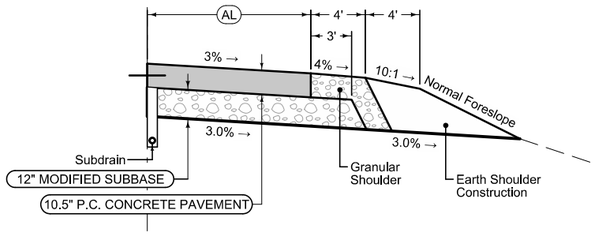
Mainline Jointing:
Transverse joints: CD at 20' spacing
Longitudinal joint: BT-4

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



Auxiliary Lane w/ Granular Shoulder

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

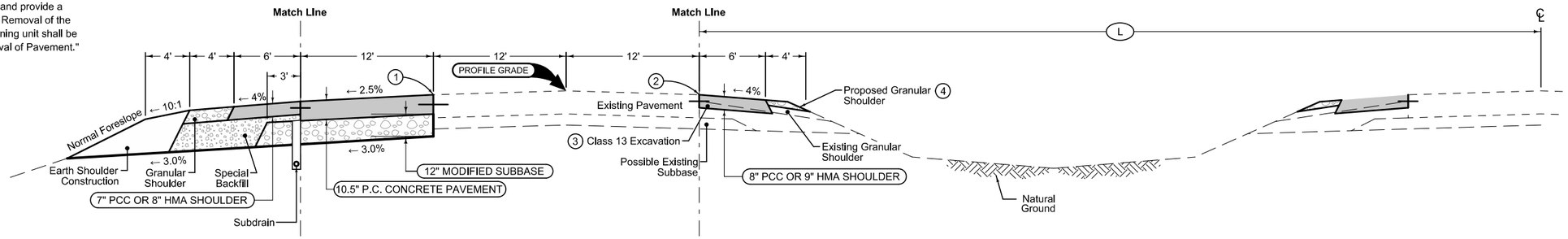
STATION TO STATION		(AL) Feet
45+96.81	46+86.81	6.0
46+86.81	47+76.81	6.0 - 12.0
47+76.81	51+76.81	12.0

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

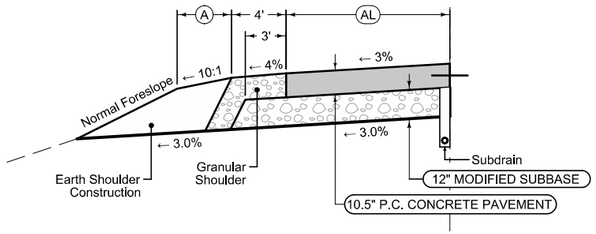
PCC Shoulder Jointing:
Longitudinal joint: BT-3
Transverse joints: C at 20' spacing
HMA Shoulder Jointing:
Longitudinal joint: B

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

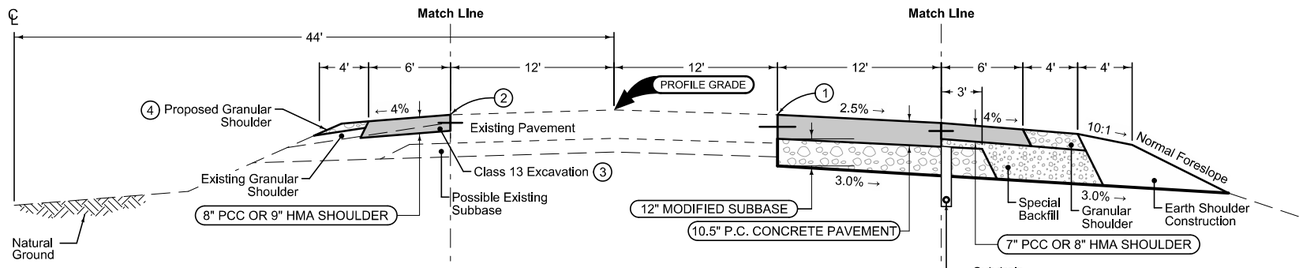
See Tab XXX-XX for pavement quantities.
See Tab XXX-X for shoulder quantities.

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

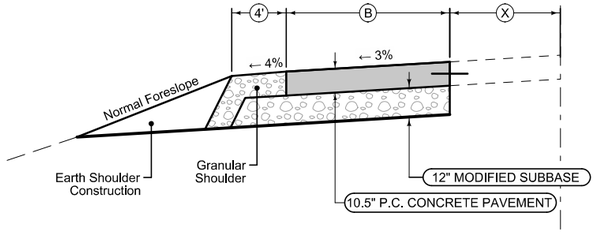
STATION TO STATION	
64+50.72	76+26.27
79+57.49	99+75.22
106+07.71	125+87.71
132+42.98	144+92.95

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

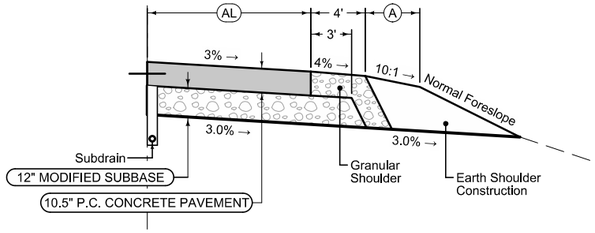
(1) Match existing pavement. Remove the existing 2' paved widening unit and provide a vertical edge. Removal of the 2' paved widening unit shall be bid as "Removal of Pavement."



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

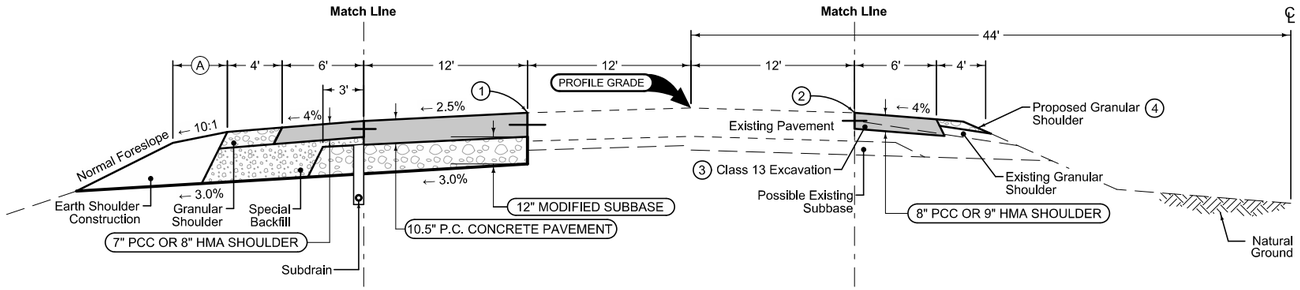
Longitudinal joint: L-2 or KT-2
Transverse joint: Match Mainline

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

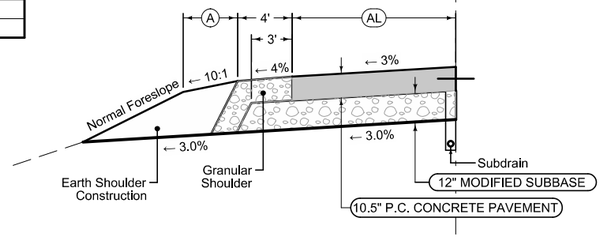
Mainline Jointing:
Transverse joints: CD at 20' spacing
Longitudinal joint: BT-4

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

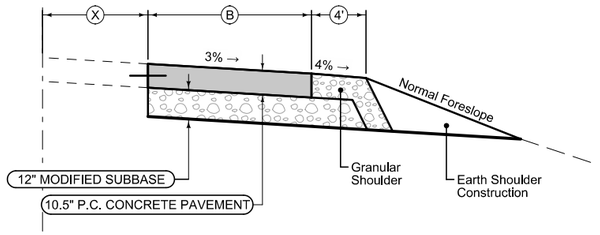
STATION TO STATION	
66+54.09	78+14.34
79+70.33	103+94.37
111+99.10	130+54.50
138+76.27	160+47.00



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

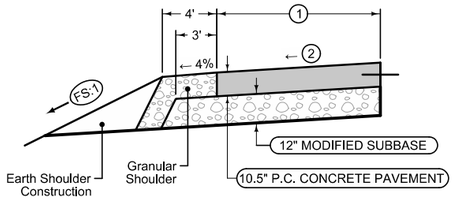
Longitudinal joint: BT-4
Transverse joint: CD at 20' spacing

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



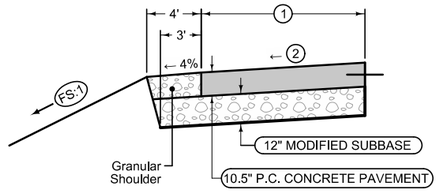
RETURN NAME	STATION TO STATION		FS
SR37TH_RET_4	0+00.00	0+45.00	4
SRJNSNDR_RET_2	0+05.00	0+73.39	4
SRJNSNDR_RET_3	0+00.00	1+21.00	4
SR28TH_RET_1	0+26.31	1+36.72	4
SR28TH_RET_2	0+70.00	1+56.17	6
SR28TH_RET_3	0+00.00	1+37.00	6
SR19TH_RET_1	0+51.40	1+44.37	4
SR19TH_RET_2	0+00.00	1+81.84	6
SR19TH_RET_3	0+00.00	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



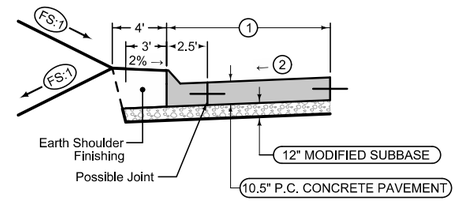
RETURN NAME	STATION TO STATION		FS
SR37TH_RET_4	0+45.00	1+09.58	4
SRJNSNDR_RET_3	1+21.00	1+37.11	4
SR19TH_RET_4	0+30.00	0+39.93	4
SR11TH_RET_2	0+35.29	0+44.00	4
SR11TH_RET_3	0+87.00	1+12.61	6

(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



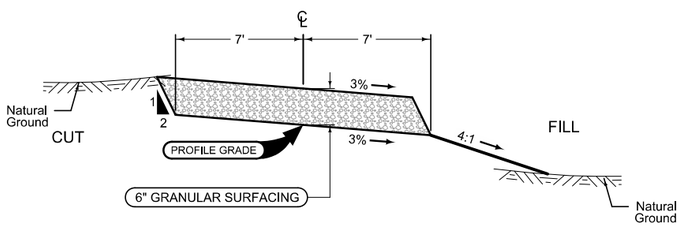
RETURN NAME	STATION TO STATION		FS	Curb Type See PV-102
SRJNSNDR_RET_2	0+00.00	0+05.00	4	6" STD
SRJNSNDR_RET_3	1+37.11	1+43.29	4	6" STD
SR28TH_RET_1	0+00.00	0+26.31	6	6" STD
SR28TH_RET_2	0+00.00	0+70.00	6	6" STD
SR28TH_RET_3	1+37.00	2+03.64	6	6" STD
SR19TH_RET_1	0+00.00	0+51.40	4	6" STD
SR19TH_RET_3	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

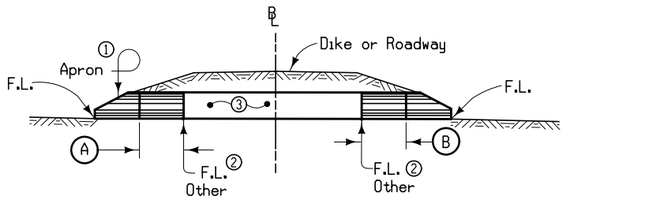


GRANULAR SURFACING

STATION TO STATION	
900+19.63	903+47.94

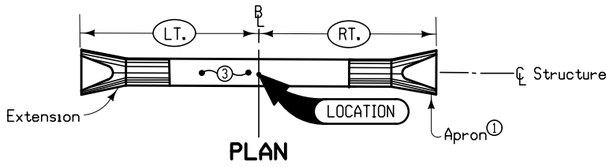
FARM ACCESS ROAD

1301
10-03-00



SECTION

A+B =Length



PLAN

Notes:

℄ shall be ℄ 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.

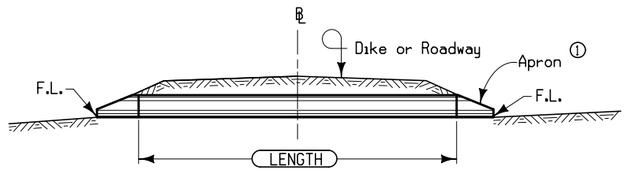
① See Standard Road Plan RF-3 for concrete, RF-5 for metal.

② Optional type "D" section only when specified in tabulation.

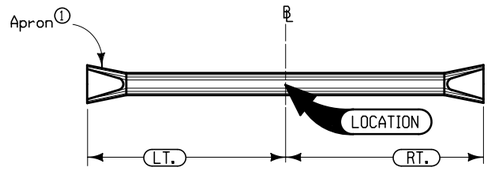
③ Existing structure.

PIPE EXTENSION

1101
04-30-02



SECTION



PLAN

Notes:

℄ shall be ℄ of roadway, dike, survey, or other; as detailed on plans.

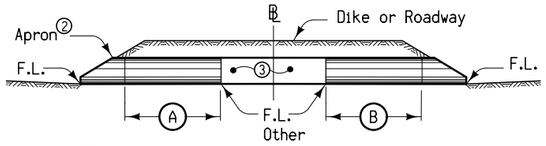
Skew angle is the angle which one end of the pipe is ahead (by stationing) of line perpendicular to the ℄ (example skew Rt. ahead 30°).

Refer to tabular listing and other plans for additional information.

① See Standard Road Plan RF-3 For Conc. or RF-5 for Metal.

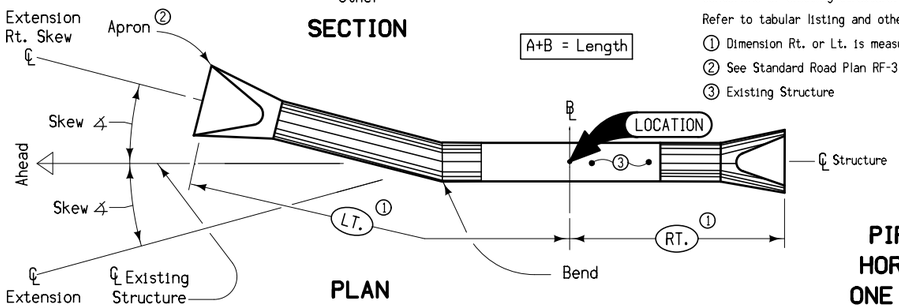
PIPE CULVERT

1302
10-03-00



SECTION

A+B = Length



PLAN

Notes:

℄ shall be ℄ 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.

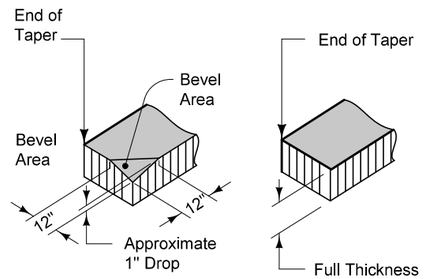
① Dimension Rt. or Lt. is measured at ℄ of pipe along laying length

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



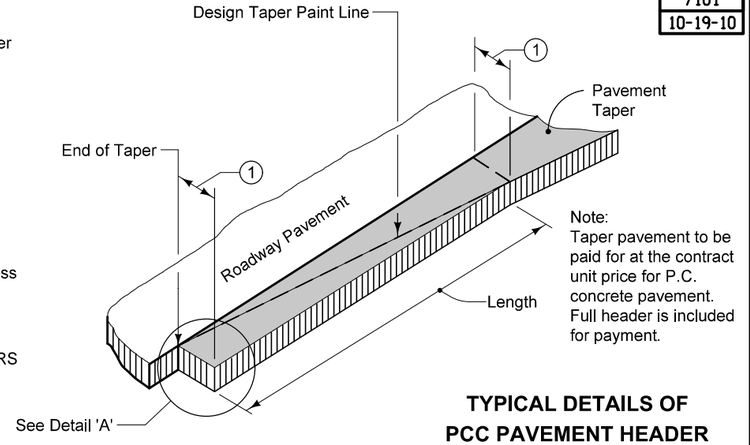
DETAIL 'A'

FOR
GRANULAR SHOULDERS

DETAIL 'A'

FOR
PAVED SHOULDERS

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

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER B.10

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SURVEY SYMBOLS

- OUT Tile Outlet
- PPA Power Pole Co. 1
- MIS Miscellaneous
- LUM Luminaire
- SI Sign
- FLG Flag Poles
- GP Guard Post (Less Than 4 Posts)
- TFR Tree Fruit
- EB Electrical Box
- TEV Evergeen Tree
- TDC Tree Deciduous
- PLG Location of General Photo
- PR Electic Riser Pole
- FHD Fire Hydrants
- WV Water Valve
- MH Utility Access (Manhole)
- MM Mile Marker Post
- TP TPD Telephone Pedestal
- GV Gas Valve
- WEL Well
- TVP TVP TV Pedestal
- SHR Shrub
- BIN Grain Bin
- UB Utility Box
- IN Storm Sewer Intake
- BB Billboard
- HT Electrical Highline Tower
- Tile TIL Tile Line
- 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
- FO2 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
- FO3 FOC Underground Fiber Optic Co. 3
- SP Stream Profile
- G-HP GHA Underground High Pres Gas Co 1
- FO FOA Underground Fiber Optic Co. 1
- E4 ELD Underground Electric Line Co. 4

UTILITY LEGEND

- E2 - Baker Electric (QLD)
- FO2 - Iowa Network Services (QLD)
- E1 - MidAmerican (QLD)
- G - Black Hills Energy (QLD)
- TV - Mediacom (QLD)
- FO - Iowa Communication Services (QLD)
- FO3 - 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
- Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Clearing & Grubbing Area
- Pavement Removal

RIGHT-OF-WAY LEGEND

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

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

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

FILE NO.	ENGLISH	DESIGN TEAM	COUNTY	PROJECT NUMBER	SHEET NUMBER
		Iowa DOT\HDR	POLK	NHSX-141-7(42)--3H-77	D.1

8:19:21 AM 7/1/2014 8:19:21 AM pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042lgd.sht

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

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

GABUS FAMILY TRUST LC

FO2

45

50

IOWA 141 EB

POT Sta 41+22.10

Sta. 45+96.81
Begin Project

IOWA 141 WB

(SUR141A)

SIGN

SIGN

FO2

RICK L. THOMPSON

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" X174' Conc. Pipe (U.A.C.)

Sta. 45+96.81
Begin Paving

CITY OF GRIMES, IOWA

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

0 FEET 50

SE 37TH ST

IOWA 141

EXISTING GROUND

-1.92% Rt.
Ditch Grade

+77 Rt.
958.50

+30 Rt.
959.40

965 960 955 950 945 940 935

Lt
Rt

U.A.C.

U.A.C.

SE 37TH ST

Ditch Grade

SE 37TH ST

41 42 43 44 45 46 47 48 49 50 51 52 53

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER D.2

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

Sta. 53+39.02 24" X 272' Conc Pipe D.A. = 10 Ac - F-R (U.A.C.)

WEBSTER TWP. T-79N R-25W SEC. 8

JOHN GILLOTTI

INTERSTATE GATEWAY BUSINESS PARK

CANOYER BROTHERS LLC

Sta. 61+94.26 (Left) Skew 30 Degree AH Lt 8' X 8' X 213' RCB D.A. = 1099 Ac - F-R

Remove Headwall Extend With 8' x 8' x 18' RCB Lt. 928.31 F.L. = Rt. NA Other 928.31

JOHN GILLOTTI

GATEWA

JOHNSON DR.

IOWA 141 EB

IOWA 141 WB

(SUR141A)

(SUR141B)

PC Sta 59+89.73

PI Sta 62+25.18

POT Sta 64+50.72

PT Sta 64+50.62

POT Sta 64+50.72 SUR141B = POC Sta 64+50.59 44.00' LT SUR141A

SE 37TH ST

24" X174' Conc. Pipe (U.A.C.)

DLE FOUR WAY LC

CROSSROADS PLAT 3

AMERICAN TRUST AND SAVINGS BANK

WEBSTER TWP. T-79N R-25W SEC. 9

Sta. 61+94.26 (Right) Skew 30 Degree AH Lt 8' X 8' X 213' RCB D.A. = 1099 Ac - F-R

Remove Flume Extend With 8' x 8' x 12' RCB Skew = 15° Lt. Ahead Lt. NA F.L. = Rt. 923.32 Other 923.32

0 FEET 50

OUTLOT "Y"

Curve Data
Δ = 1° 03' 32.19" (LT)
T = 225.45
L = 450.89
R = 24,395.96
E = 1.04

Sta. 62+37.48 24" X 117' Conc Pipe D.A. = Median Ac - Median

Remove Outlet Apron Extend From Outlet With 24" x 16' RCP Lt. 936.06 F.L. = Rt. 923.70 Other 923.83

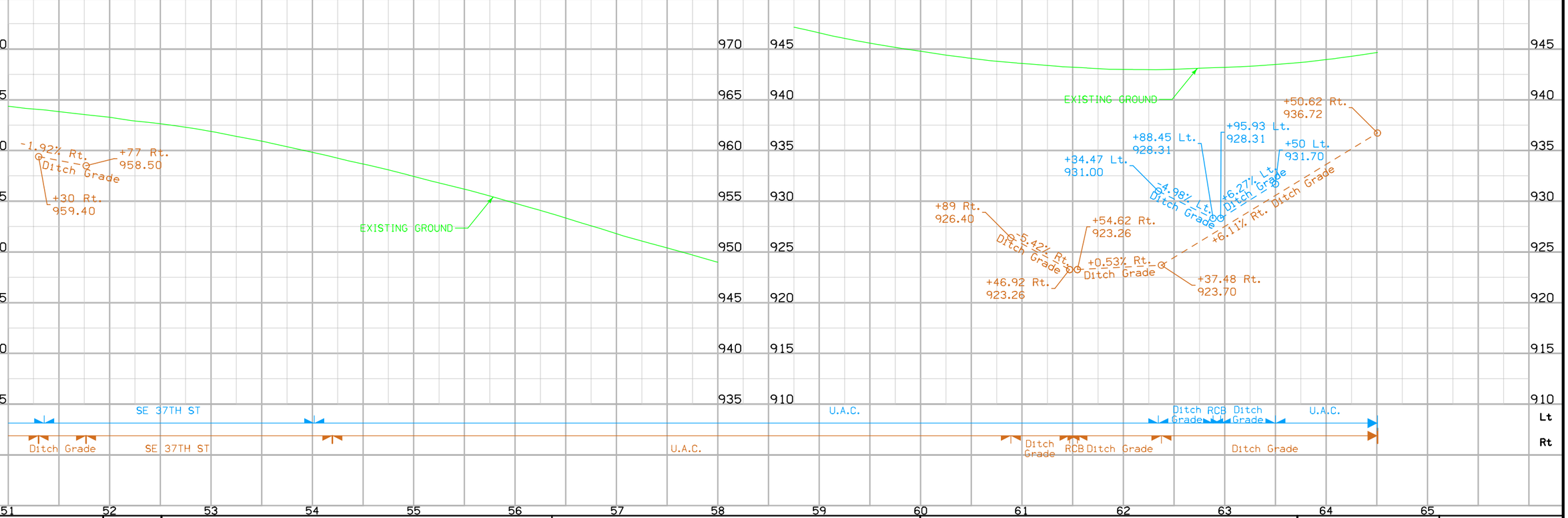
STAM GARDEN CENTER & NURSERY LLC

Sta. 66+13.99 OUTLOT "Y" 24" X 70' Conc Pipe D.A. = Median Ac - Median (U.A.C.)

+85.53 Prop. Type "C" Ent.

CROSSROADS

IOWA 141



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

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GATEWAY BUSINESS PARK CONDOMINIUM
GATEWAY BUSINESS PARK II CONDOMINIUM
GATEWAY BUSINESS PARK PLAT 2
JELOH LLC
FIRST AMERICAN BANK
JOHNSON DR
WEBSTER TWP.
T-79N R-25W
SEC. 8
Sta. 69+83.69, 8.25' LT
24" X 78' Conc Pipe
D.A. = Median Ac - Median
Remove Outlet Apron
Extend From Outlet
With 24" x 16' RCP
Lt. 944.30
F.L. = Rt. 947.66
Other 944.99
IOWA 141 EB
IOWA 141 WB
(SUR141B)
(SUR141A)
POT Sta 64+50.72
PT Sta 64+50.62
POT Sta 64+50.72 SUR141B
= POC Sta 64+50.59
44.00' LT SUR141A
Sta. 66+13.99
24" X 70' Conc Pipe
D.A. = Median Ac - Median
(U.A.C.)
OUTLOT "Y"
+85.53 Prop.
Type "C" Ent.
30" x 46' R.C.P (U.A.C.)
24" X 50' C.M.P. (U.A.C.)
15"X185' Plastic Pipe (U.A.C.)
BRENTON COMMUNITIES FUND X GRIMES
WEBSTER TWP.
T-79N R-25W
SEC. 9
SE 28TH ST
IOWA 141
0 FEET 50

+85.53
2.64%
1.75%
EXISTING GROUND
+84 Lt.
944.30
+1.05% Lt. Ditch Grade
+55 Rt.
943.10
+6.14% Rt.
Ditch Grade
+29.97 Lt.
940.60
+51 Rt.
936.70
Johnson Dr.
Ditch Grade - 5' Wide
U.A.C.
SE 28TH ST
Ditch Grade
U.A.C.
SE 28TH ST
Lt
Rt

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER D.4

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12"x18' P.V.C. (U.A.C.)

M-KEDS HOME PLACE PLAT 1

OUTLOT "X"

WEBSTER TWP. T-79N R-25W SEC. 8

M-KEDS LTD II

EXISTING FARM ACCESS ROAD (OBLITERATE)

FARM ACCESS ROAD

Sta. 92+06.93 Lt. 18" X 82' C.M.P. (U.A.C.)

+06.93 Prop. Type "C" Ent.

18" X 60' C.M.P. (U.A.C.)

IOWA 141 EB

(SUR141B)

IOWA 141 WB

I-9

I-8

I-11

I-10

SE 28TH ST

F02 F0

BRENTON COMMUNITIES FUND X GRIMES

0 FEET 50

WEBSTER TWP. T-79N R-25W SEC. 9

Sta. 91+51.55, 17.45' Rt
24" X 67' Conc Pipe
D.A. = Median Ac - Median
Remove Outlet Apron
Extend From Outlet
With 24" x 2' RCP
Lt. 956.35
F.L. = Rt. 955.63
Other 955.67

+10.71 Prop. Type "C" Ent.

Sta. 92+10.71 Lt. 18" X 73' C.M.P. (U.A.C.)

IOWA 141

+06.93 = +10.71

0.68% 1.76% 0.50% 1.75% .094%

EXISTING GROUND

+0.70% Lt. Ditch Grade

+71.94 Lt. 954.30

+30 Lt. 957.50

+00 Lt. 955.50

-1.28% Lt. Ditch Grade

970 965 960 955 950 945 940

Lt Ditch Grade U.A.C. Entrance U.A.C. Ditch Grade

Rt Closed Ditch See Sheet U.1 U.A.C. Entrance U.A.C.

79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER D.5

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x 60'
C.)

DARRYL C. SEIBERT

Sta. 100+87.35 (Left)
Skew 30 Degree AH Lt
8' X 4' X 199' RCB
D.A. = 331 Ac - F-R
Remove Headwall
Extend With
8' x 4' x 14' RCB
Lt. 943.55
F.L. = Rt. NA
Other 943.46

WEBSTER TWP.
T-79N R-25W
SEC. 8

Sta. 503+79.67 (19THWEST)
36" X 96'
Conc. Pipe
Remove 15' & Outlet Apron
Extend From Outlet
With 36" x 22' RCP
Skew = 14° Rt. Ahead
Lt. 946.12
F.L. = Rt. 945.23
Other 945.50

Sta. 503+73.02 (19THWEST)
36" X 94'
Conc. Pipe
Remove 16' & Outlet Apron
Extend From Outlet
With 36" x 18' RCP
Skew = 20° Rt. Ahead
Lt. 976.15
F.L. = Rt. 945.33
Other 945.63

30" X 56' Conc. Pipe (U.A.C.)
30" X 56' Conc. Pipe (U.A.C.)

IOWA 141 EB

(SUR141B)

IOWA 141 WB

SE 19TH ST

Sta. 99+03.52, 14.06' Rt
24" X 87'' Conc Pipe
D.A. = Median Ac - Median
(U.A.C.)

Sta. 100+87.35 (Right)
Skew 30 Degree AH Lt
8' X 4' X 199' RCB
D.A. = 331 Ac - F-R
Remove Headwall
Extend With
8' x 4' x 14' RCB
Lt. NA
F.L. = Rt. 942.76
Other 942.86

HUNTER FARMS

WEBSTER TWP.
T-79N R-25W
SEC. 9

0 FEET 50

Sta. 103+02.88, 2.5'Rt
24" X 90' Conc Pipe
D.A. = Median Ac - Median
Remove Outlet Apron
Extend From Outlet
With 24" x 4' RCP
Lt. 947.18
F.L. = Rt. 945.47
Other 945.58

1
KRAUSE HOLDINGS INC

IOWA 141

960
955
950
945
940
935
930

-1.28% Lt. Ditch Grade
+50 Lt. 952.30

EXISTING GROUND

-1.75% Lt. Ditch Grade
+10 Lt. 944.20
+47 Lt. 943.55
+57 Lt. 943.55
+27.18 Rt. 942.76
+0.98% Rt. Ditch Grade
+02.88 Rt. 945.47
+0.53% Lt. Ditch Grade
+1.12% Rt. Ditch Grade
+30 Rt. 946.90
+69 Lt. 945.20

Lt: Ditch Grade | U.A.C. | Ditch Grade-5' Wide | SE 19TH ST | U.A.C.

Rt: U.A.C. | U.A.C. | Ditch Grade - 5' Wide | Ditch Grade-5' Wide | SE 19TH ST | U.A.C. See Sheet U.1 | U.A.C.

94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER D.6

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CRAMER PROPERTIES LLC

PARCEL "S"
SE¼ SE¼
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 EB

IOWA 141 WB

(SUR141B)

PI Sta 121+94.02

PC Sta 117+97.44

NEWARK LAND TRUST LC

PRINCETON SUBDIVISION PLAT NO. 1

WE CAN BUILD IT LC

18" X 384' Conc. Pipe (U.A.C.)	12" X 17' Conc. Pipe (U.A.C.)	12" X 10' Conc. Pipe (U.A.C.)	12" X 10 Conc. Pipe (U.A.C.)

UVW INVESTMENTS LLC

PARCEL "F"
SW¼ SW¼
SEC. 4-79-25
BOOK 10162 PAGE 852

0 FEET 50

WEBSTER TWP.
T-79N R-25W
SEC. 4

+70.73 Prop.
Type "C" Ent.

UVW INVESTMENTS LLC

PARCEL "E"
NW¼ SW¼
SEC. 4-79-25
BOOK 10162 PAGE 852

IOWA 141

EXISTING GROUND

1.41%
0.36%

4.55%
3.42%

+08.91 Lt.
956.90

-0.50% Lt. Ditch Grade

+50 Lt.
955.69

-1.40% Lt. Ditch Grade

+00 Lt.
953.60

-0.53% Rt. Ditch Grade

+50 Rt.
955.10

+00 Rt.
952.70

+0.45% Lt. Ditch Grade

+20 Lt.
951.20

+40 Lt.
952.20

+73.35

+70.73

970
965
960
955
950
945
940

Lt: Ditch Grade - 5' Wide | U.A.C. | Entrance | Ditch Grade - 5' Wide | Ditch Grade-5' Wide

Rt: U.A.C. | Entrance | Ditch Grade-5' Wide

109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124

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

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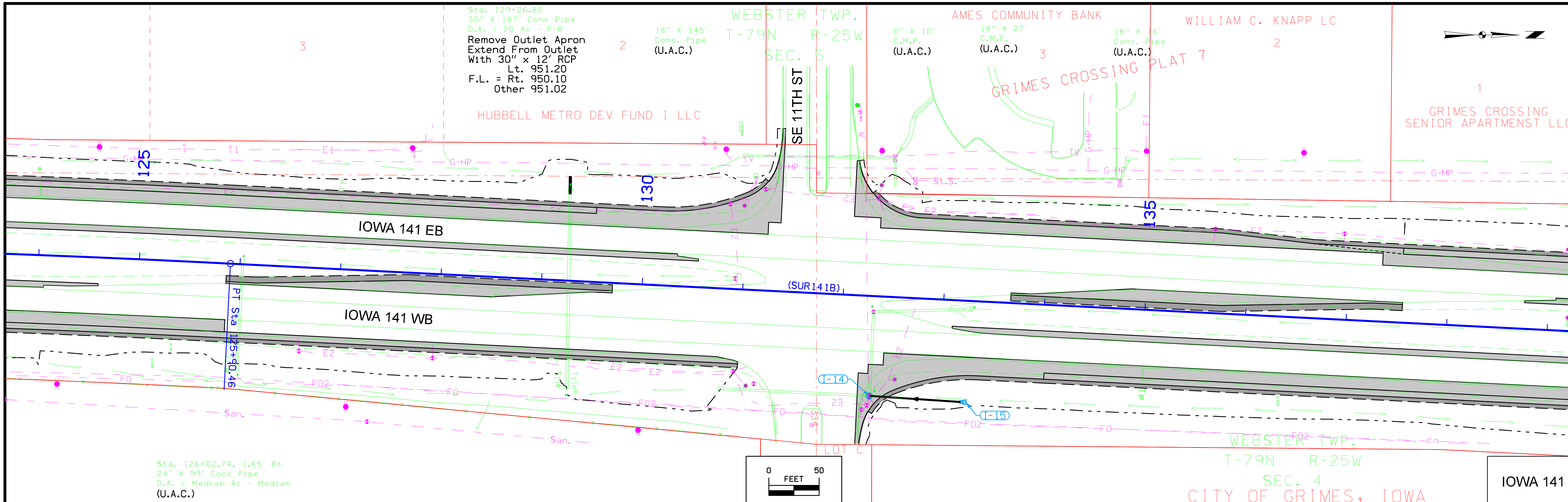

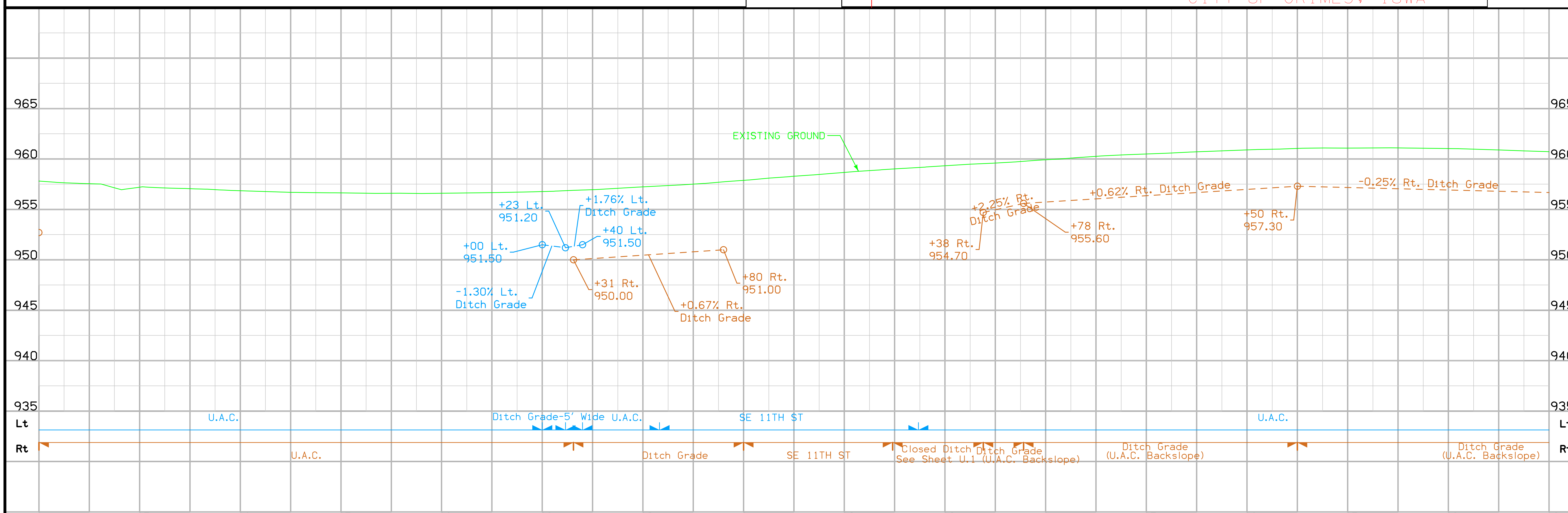

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SING
NST LLC

18" X 37'
C.M P.
(U.A.C.)

GRIMES CROSSING PLAT 6

24

WILLIAM C. KNAPP TRUST
WILLIAM C. KNAPP TRUSTEE

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

6

Sta. 148+54.55
42" X 229' Conc Pipe
D.A. = 109 Ac - F-R
(U.A.C.)

5

GRIMES CROSSING PLAT 3

4

G-HP

140

145

150

E2

IOWA 141 EB

Sta. 144+92.95
End Third Lane Paving

IOWA 44 TO IOWA 141 EB

(SUR141B)

IOWA 141 WB

F02

F0

OUTLOT "Z"

DESTINATION RIDGE PLAT 1
ALL POINTS DEVELOPMENT LC

IOWA 141 WB TO IOWA 44

Sta. 145+25.47, 14.85' Rt
24" X 69' Conc Pipe
D.A. = Median Ac - Median
(U.A.C.)

0 FEET 50

WEBSTER TWP.
T-79N R-25W
SEC. 4

Sta. 150+53.19, 75.27' Rt
24" X 58' Conc Pipe
D.A. = Median Ac - Median
(U.A.C.)

WAL-MART'S SECOND ADDITION

6

WAL-MART REAL ESTATE BUSINESS TRUST

IOWA 141

975
970
965
960
955
950
945

EXISTING GROUND

-0.25% Rt. Ditch Grade
+50 Rt.
956.30

-0.60% Rt. Ditch Grade
+00 Rt.
955.40

U.A.C.

Lt
Rt

Ditch Grade
(U.A.C. Backslope)

Ditch Grade
(U.A.C. Backslope)

U.A.C.

139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER D.9

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FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER D.10

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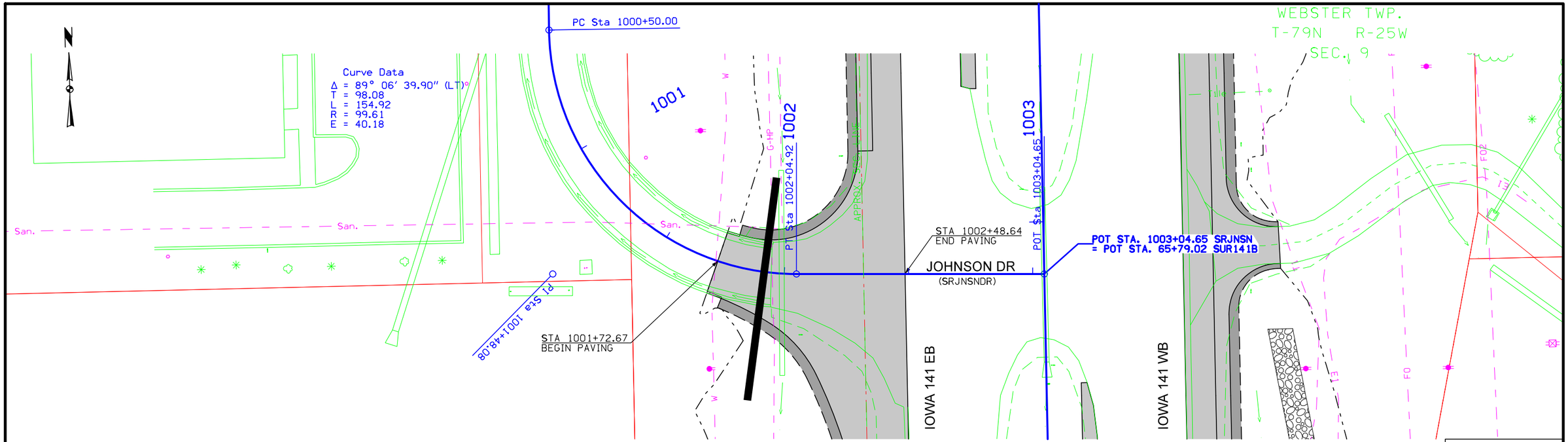

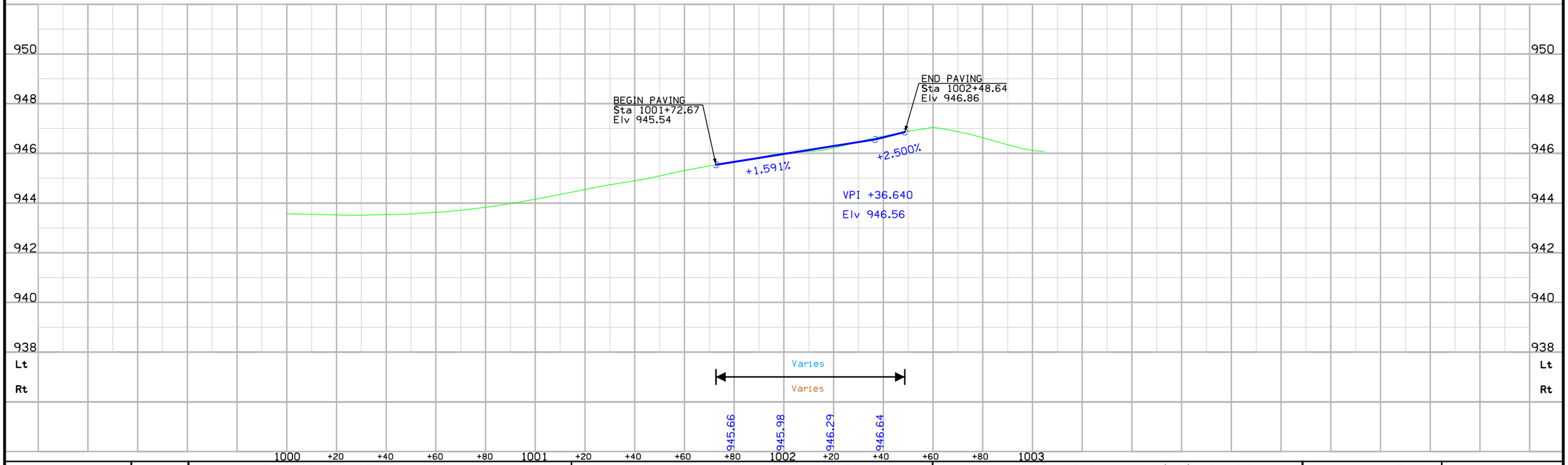

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER E.1

Sta. 304+00
24" x 97'
C.M.P.
(Remove)

Sta. 303+58
18" x 67'
C.M.P.
(Remove)

WEBSTER TWP.
T-79N R-25W
SEC. 9

POT Sta 300+00.00

300 301 302 303 304

STA 303+02.44
BEGIN PAVING

STA 304+44.00
END PAVING

POT Sta 305+00.00

POT STA. 305+00.00 SR28THWEST
= POT STA. 78+92.64 SUR141B

28TH STREET WEST (SR28THWEST)

APPROX. SEC. LINE

IOWA 141 EB

IOWA 141 WB

WEBSTER TWP.
T-79N R-25W
SEC. 8

Sta. 303+75.00
Install 37" x 23" x 84' RCP ARCH
F.L. = Lt. 954.00
Rt. 953.66

0 FEET 20

28TH STREET WEST

BEGIN PAVING
Sta 303+02.44
Elv 960.08

VPI +00.000
Elv 957.98
Len 60.00 ft.
K = 12

END PAVING
Sta 304+44.00
Elv 959.08

-2.153%

+2.500%

962
960
958
956
954
952
950

Lt
Rt

No Ditch
No Ditch

Varies
Varies

959.70 959.27 958.84 958.45 958.33 958.52 958.98

300 +20 +40 +60 +80 301 +20 +40 +60 +80 302 +20 +40 +60 +80 303 +20 +40 +60 +80 304 +20 +40 +60 +80 305

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER E.2

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Sta. 303+75.00
Install 18" x 20'
Unclassified Entrance Pipe
Skew = 30° Lt. Ahead
F.L. = Lt. 961.3
Rt. 960.1

POT Sta 900+00.00
STA 900+19.63
BEGIN SURFACING
PC Sta 900+25.18
PI Sta 900+47.80
PI Sta 900+59.73
PI Sta 903+47.94
STA 903+47.94
END SURFACING
POT Sta 904+34.53

900 901 902 903 904

FARM ACCESS ROAD (SRFARMACCESSRD)

T1 G-HP San. W

APPROX. SEC. LINE

IOWA 141

Tile

Curve Data
Δ = 94° 15' 35.28" (LT)
T = 22.62
L = 34.55
R = 21.00
E = 9.87

0 FEET 20

FARM ACCESS ROAD

968 966 964 962 960 958 956

BEGIN SURFACING
Sta 900+19.63
Elv 962.00

-1.000%

VPI +45.000
Elv 961.74
Len 50.00 ft
K = 20

+1.500%

VPI +90.000
Elv 963.92
Len 100.00 ft
K = 50

-0.506%

END SURFACING
Sta 903+47.94
Elv 963.12

Lt No Ditch
Rt No Ditch

961.99 961.89 961.99 962.27 962.57 962.87 963.17 963.43 963.61 963.71 963.72 963.66 963.56 963.46 963.36 963.26 963.16

900 +20 +40 +60 +80 901 +20 +40 +60 +80 902 +20 +40 +60 +80 903 +20 +40 +60 +80 901 +20

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

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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
IaRTN 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
IaRTN 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
IaRTN 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
IaRTN 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 El = 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. IaRTN 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.

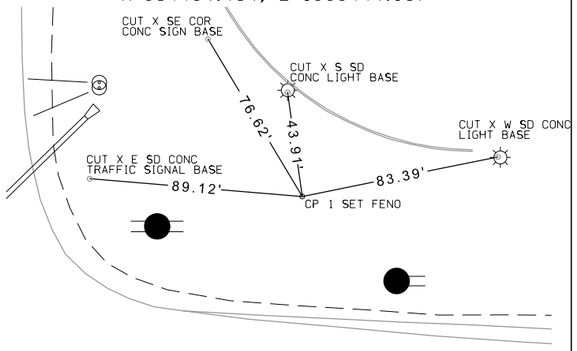
Alignment Information

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.

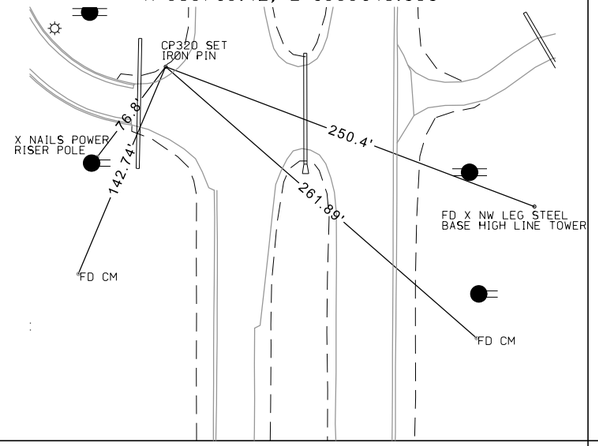
VERTICAL CONTROL

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

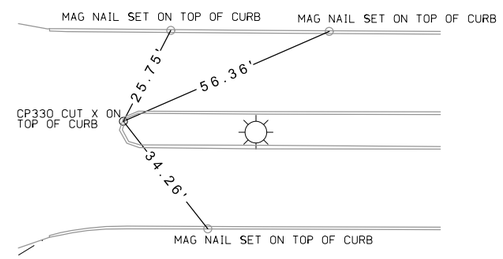
CP STA 53+62.13, 144.00′ Rt
CP 1, Set FENO Monument
N=604469.409, E=1565444.807



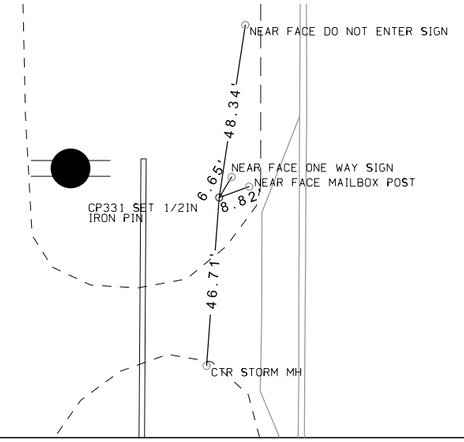
CP STA 66+05.00, 88.76′ Lt
CP 320, Found 1/2 IN IP
N=605715.92, E=1565190.303



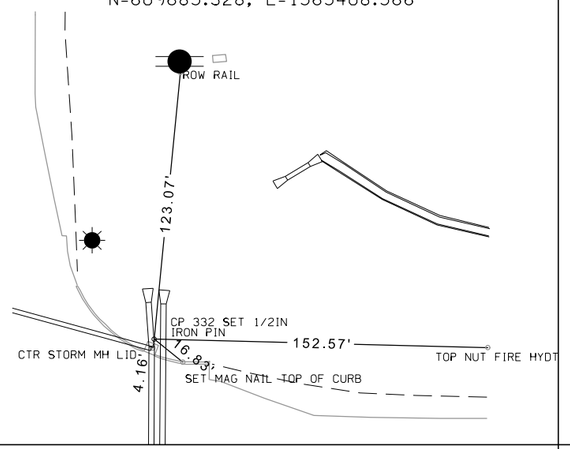
CP STA79+03.52,143.18′ Rt
CP 330, Cut X In Top Of Curb
N=607013.46, E=1565427.698



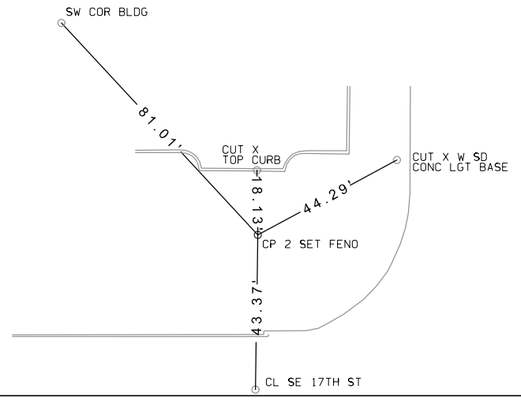
CP STA 92+26.24,79.91′ Lt
CP 331, Set 1/2 IN IP
N=608337.098, E=1565210.1720



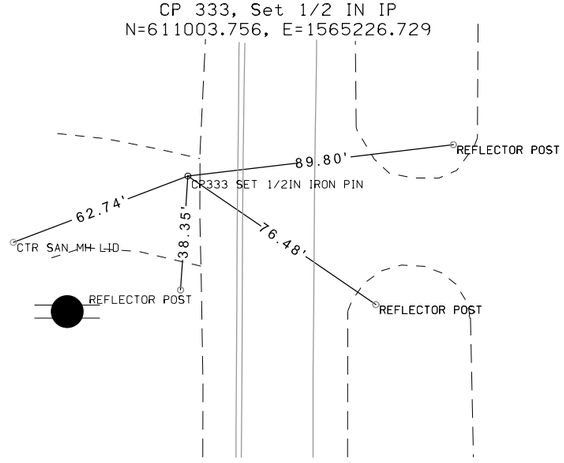
CP STA 105+75.29, 112.82′ Rt
CP 332, Set 1/2 IN IP
N=609685.328, E=1565408.566



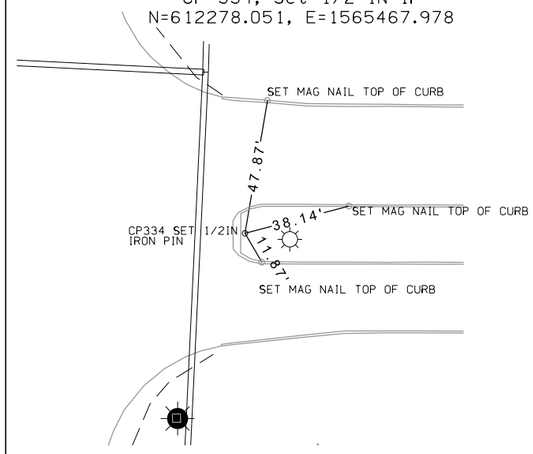
CP STA 112+88.46, 1825.30′ Rt
CP 2, Set FENO Monument
N=610391.293, E=1567124.036



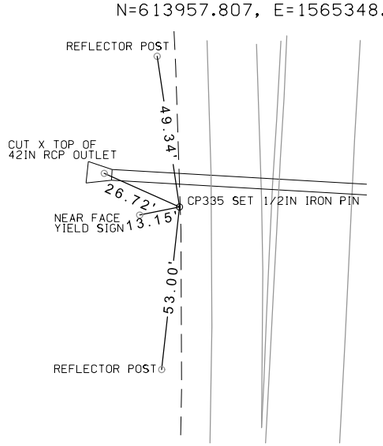
CP STA 118+92.53, 74.82′ Lt
CP 333, Set 1/2 IN IP
N=611003.756, E=1565226.729



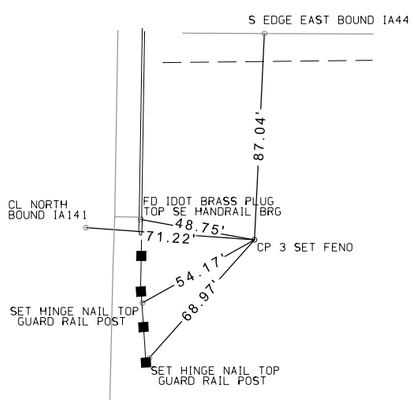
CP STA 131+74.50, 116.19′ Rt
CP 334, Set 1/2 IN IP
N=612278.051, E=1565467.978



CP STA 148+46.10, 87.91′ Lt
CP 335, Set 1/2 IN IP
N=613957.807, E=1565348.300



CP STA 160+54.87, 144.00′ Rt
CP 3, Set FENO Monument
N=615158.563, E=1565606.626



FILE NO.	ENGLISH	DESIGN TEAM **Iowa DOT\HDR**	**POLK** COUNTY	PROJECT NUMBER **NHSX-141-7(42)--3H-77**	SHEET NUMBER **G.2**

11:53:10 AM 7/5/2014 11:53:10 AM pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042G01.sht

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		41+22.10	603,233.13	1,565,271.59															
C1								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		64+50.72	605,561.27	1,565,278.42															
C2								117+97.44	610,907.94	1,565,300.89	121+94.02	611,304.52	1,565,302.55	125+90.46	611,700.60	1,565,322.52			
C3								157+01.20	614,807.39	1,565,479.16	161+51.55	615,257.18	1,565,501.82	166+01.45	615,707.35	1,565,489.25			
SRFARMACCESSRD																			
70000		900+00.00	607,581.20	1,565,102.40															
70001								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			
70003		903+47.94	607,888.28	1,565,151.36															
70004		904+34.53	607,974.86	1,565,149.88															
SR11TH RET 1																			
60010								0+00.00	612,323.92	1,565,515.43	0+17.87	612,324.05	1,565,497.56	0+35.50	612,329.18	1,565,480.44			
60011								0+35.50	612,329.18	1,565,480.44	0+59.48	612,336.07	1,565,457.47	0+80.21	612,358.29	1,565,448.47			
60012								0+80.21	612,358.29	1,565,448.47	1+24.46	612,399.30	1,565,431.84	1+67.31	612,443.49	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								0+00.00	612,129.82	1,565,270.07	0+44.25	612,174.01	1,565,272.30	0+87.10	612,215.02	1,565,255.67			
60031								0+87.10	612,215.02	1,565,255.67	1+11.33	612,237.48	1,565,246.57	1+32.23	612,244.25	1,565,223.30			
60032								1+32.23	612,244.25	1,565,223.30	1+50.09	612,249.23	1,565,206.15	1+67.71	612,249.22	1,565,188.29			
SR19TH RET 1																			
50010		0+00.00	609,675.43	1,565,433.53															
50011								0+17.58	609,681.39	1,565,416.99	0+38.54	609,688.49	1,565,397.27	0+57.27	609,707.53	1,565,388.51			
50012								0+57.27	609,707.53	1,565,388.51	1+01.52	609,747.73	1,565,370.01	1+44.37	609,791.98	1,565,370.20			
SR19TH RET 2																			
50020								0+00.00	609,668.46	1,565,087.21	0+49.38	609,668.12	1,565,136.59	0+97.22	609,688.48	1,565,181.57			
50021								0+97.22	609,688.48	1,565,181.57	1+17.61	609,696.89	1,565,200.14	1+35.94	609,715.89	1,565,207.54			
50022								1+35.94	609,715.89	1,565,207.54	1+59.15	609,737.52	1,565,215.97	1+81.84	609,760.73	1,565,216.06			
SR19TH RET 3																			
50030								0+00.00	609,499.82	1,565,220.97	0+44.25	609,544.07	1,565,221.15	0+87.10	609,584.26	1,565,202.66			
50031								0+87.10	609,584.26	1,565,202.66	1+09.94	609,605.02	1,565,193.11	1+29.96	609,611.38	1,565,171.16			
50032								1+29.96	609,611.38	1,565,171.16	1+46.17	609,615.90	1,565,155.59	1+62.20	609,616.29	1,565,139.38			
SR19TH RET 4																			
50040								0+00.00	609,525.40	1,565,375.08	0+22.85	609,548.25	1,565,375.17	0+44.93	609,568.79	1,565,385.18			
50041								0+44.93	609,568.79	1,565,385.18	0+56.07	609,578.81	1,565,390.07	0+66.27	609,583.21	1,565,400.31			
SR28THWEST																			
40000		300+00.00	607,005.22	1,564,784.48															
40001		305+00.00	607,003.18	1,565,284.48															
SR28TH RET 1																			
40010		0+00.00	607,036.69	1,565,413.37															
40010								0+04.18	607,036.69	1,565,409.19	0+26.34	607,042.21	1,565,387.73	0+45.89	607,061.81	1,565,377.40			
40011								0+45.89	607,061.81	1,565,377.40	0+66.04	607,079.64	1,565,368.01	0+85.92	607,099.40	1,565,364.03			
40012								0+85.92	607,099.40	1,565,364.03	1+11.41	607,124.38	1,565,358.99	1+36.72	607,149.87	1,565,359.09			
SR28TH RET 2																			
40020								0+00.00	607,018.36	1,565,086.95	0+44.06	607,018.26	1,565,131,.01	0+87.37	607,031.94	1,565,172.89			
40021								0+87.37	607,031.94	1,565,172.89	1+27.09	607,044.27	1,565,210.65	1+56.17	607,083.99	1,565,210.82			
SR28TH RET 3																			
40030								0+00.00	606,861.67	1,565,209.88	0+44.25	606,905.92	1,565,210.07	0+87.10	606,946.12	1,565,191.57			
40031								0+87.10	606,946.12	1,565,191.57	1+09.83	606,966.77	1,565,182.07	1+29.77	606,973.19	1,565,160.26			
40032								1+29.77	606,973.19	1,565,160.26	1+47.52	606,978.20	1,565,143.23	1+65.03	606,978.27	1,565,125.49			

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

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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)
SR37TH RET 4																			
30040								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			
30042		1+09.58	604,350.53	1,565,406.48															
SRJNSNDR																			
90000		1000+00.00	605,842.55	1,565,082.59															
90001								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			
90003		1003+04.65	605,689.57	1,565,278.96															
SRJNSNDR RET 2																			
80034								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			
80035								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								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			
80031								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			
80032								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					
			θs	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											2° 38′ 43.85″ RT	396.58′	793.02′	17,174.97′	4.58′	
C3											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											16° 16′ 12.90″ RT	17.87′	35.50′	125.00′	1.27′	
60011											51° 14′ 36.69″ RT	23.98′	44.72′	50.00′	5.45′	
60012											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											24° 57′ 04.68″ LT	44.25′	87.10′	200.00′	4.84′	
60031											51° 43′ 12.24″ LT	24.24′	45.13′	50.00′	5.56′	
60032											16° 15′ 36.74″ LT	17.86′	35.47′	125.00′	1.27′	
SR19TH RET 1																
50011											45° 28′ 55.25″ RT	20.96′	39.69′	50.00′	4.21′	
50012											24° 57′ 04.68″ RT	44.25′	87.10′	200.00′	4.84′	
SR19TH RET 2																
50020											24° 45′ 28.84″ LT	49.38′	97.22′	225.00′	5.36′	
50021											44° 21′ 39.01″ LT	20.38′	38.71′	50.00′	4.00′	
50022											21° 02′ 22.09″ LT	23.21′	45.90′	125.00′	2.14′	
SR19TH RET 3																
50030											24° 57′ 04.68″ LT	44.25′	87.10′	200.00′	4.84′	
50031											49° 06′ 48.81″ LT	22.85′	42.86′	50.00′	4.97′	
50032											14° 46′ 51.25″ LT	16.21′	32.25′	125.00′	1.05′	
SR19TH RET 4																
50040											25° 44′ 28.49″ RT	22.85′	44.93′	100.00′	2.58′	
50041											40° 46′ 07.97″ RT	11.15′	21.35′	30.00′	2.00′	

SPIRAL OR CIRCULAR CURVE DATA

101-17
04-19-11

Name	Location	Δ_{scs}	Horizontal Alignment Data												Remarks
			Spiral Data								Curve Data				
			θs	Ls	Ts	Es	Xc	Yc	L.T.	S.T.	Δ_c	T	L	R	E	
SR28TH RET 1																
40010											47° 47′ 41.99″ RT	22.15′	41.71′	50.00′	4.69′	
40011											16° 22′ 56.65″ RT	20.15′	40.03′	140.00′	1.44′	
40012											11° 38′ 36.14″ RT	25.49′	50.80′	250.00′	1.30′	
SR28TH RET 2																
40020											18° 12′ 11.66″ LT	44.06′	87.37′	275.00′	3.51′	
40021											71° 40′ 33.13″ LT	39.72′	68.80′	55.00′	12.84′	
SR28TH RET 3																
40030											24° 57′ 04.68″ LT	44.25′	87.10′	200.00′	4.84′	
40031											48° 53′ 57.32″ LT	22.73′	42.67′	50.00′	4.93′	
40032											16° 09′ 38.80″ LT	17.75′	35.26′	125.00′	1.25′	
SR37TH RET 4																
30040											86° 34′ 34.82″ RT	61.23′	98.22′	65.00′	24.30′	
SNJNSNDR																
90001											89° 06′ 39.90″ LT	98.08′	154.92′	99.61′	40.18′	
SRJNSNDR RET 2																
80034											6° 47′ 53.32″ LT	5.14′	10.26′	86.51′	0.15′	
80035											103° 20′ 23.27″ LT	44.27′	63.13′	35.00′	21.43′	
SRJNSNDR RET 3																
80030											24° 57′ 04.68″ LT	44.25′	87.10′	200.00′	4.84′	
80031											31° 30′ 44.20″ LT	14.11′	27.50′	50.00′	1.95′	
80032											13° 09′ 12.57″ LT	14.41′	28.70′	125.00′	0.83′	

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					
		18698 SF		0 SF	0 SF		0 SF	0 SF		0 SF	0 SF								

JOHN GILLOTTI

CANOYER BROTHERS LLC.

COLLECTIVE INVESTMENT MANAGEMENT, LTD.

WEBSTER TWP.
T-79N R-25W
SEC. 8

INTERSTATE GATEWAY BUSINESS PARK

GATEWAY DR

JOHNSON DR

IOWA 141 EB

IOWA 141 WB

(SUR141A)

(SUR141B)

PC Sta 59+99.78

POT Sta 64+50.72

PI Sta 62+25.18

PT Sta 64+50.62

POT Sta 64+50.72 SUR141B
POC Sta 64+50.59
44.00' LT SUR141A

OUTLOT "Y"

SE 37TH ST

SE 37TH STREET

CROSSROADS PLAT 3

WEBSTER TWP.
T-79N R-25W
SEC. 9

0 FEET 50

AMERICAN TRUST
AND SAVINGS BANK

61+15
℄150'

62+15
℄145'

Curve Data
Δ = 1° 03' 32.19" (LT)
T = 225.41'
L = 450.80'
R = 24,395'
E = 1.04

63+00.08(Exist.Corner)
℄119'±ExR/W

CROSSROADS

+85.53 Prop.
Type "C" Ent.

IOWA 141

BOUNDARY PUMPING STATION DRIVE EASEMENT

225' WIDE TRANSM

2 STAM GARDEN CENTER
& NURSERY 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

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER H.1

10:49:58 AM 9/24/2014 mgogert pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\ROW\H1-HE2.sht

GATEWAY BUSINESS PARK II CONDOMINIUM

GATEWAY BUSINESS PARK II CONDOMINIUM

JELOH LLC

FIRST AMERICAN BANK

EICHINGER 4 LLC

SE 28TH STR

ENT MANAGEMENT, LTD.

NEWBLOOD INVESTMENT, LLC

PRESSURE SEWER EASEMENT

GATEWAY BUSINESS PARK

GATEWAY BUSINESS PARK PLAT 2

JOHNSON DR

WEBSTER TWP.
T-79N - R-25W
SEC. 8

IOWA 141 EB

IOWA 141 WB

(SUR141B)

(SUR141A)

PT Sta 64+50.62

POT Sta 64+50.72 SUR141B
= POC Sta 64+50.59
44.00' LT SUR141B

OUTLOT "Y"

+85.53 Prop.
Type "C" Ent.

0 FEET 50

IOWA 141

SE 28TH ST

UNDERGROUND ELECTRIC LINE EASEMENT

BOUNDARY PUMPING STATION DRIVE EASEMENT

225' WIDE TRANSMISSION LINE EASEMENT

4

BRENTON COMMUNITIES FUND X GRIMES

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**

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER H.2

10:49:36 AM 9/24/2014 mgogert pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\ROW\H1-HE2.sht

28TH STREET

UNDERGROUND ELECTRIC LINE EASEMENT

℄

TEMPORARY EASEMENT FOR ACCESSWAY

③

M-KEDS LTD II

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

M-KEDS HOME PLACE PLAT 1

84+45 ℄175′

84+90 ℄178′ OUTLOT

84+90 ℄160′

87+95 ℄160′

+06.93 Prop. Type "C" Ent.

91+50 ℄140′

92+16±P ℄140′

EXISTING FARM ACCESS ROAD (OBLITERATE)

FARM ACCESS ROAD

80

80

90

IOWA 141 EB

(SUR141B)

IOWA 141 WB

SE 28TH ST

UNDERGROUND ELECTRIC LINE EASEMENT

80+50 ℄124′

+10.71 Prop. Type "C" Ent.JT.

92+45 ℄135′

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

79+31±ExR/W ℄147′

91+80 ℄135′

92+16±P ℄135′

IOWA 141

28TH STREET

TEMPORARY EASEMENT TO SHAPE

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

0 50 FEET

④

BRENTON COMMUNITIES FUND X GRIMES

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**

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

10:08:07 AM 9/24/2014 mgogert pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\ROW\H1-HE2.sht

TO

(5)
DARRYL C. SEIBERT,
DELLA M. BURGUS AND
TWILA M. SEIBERT

(5)
DARRYL C. SEIBERT,
DELLA M. BURGUS AND
TWILA M. SEIBERT

S 19TH STREET

CRAMER PROPERTIES, L.L.C.

WEBSTER TWP.
T-79N R-25W
SEC. 8

105+22.98(Exist.Corner)
℄194'±ExR/W

101+55
℄155'

101+05
℄135'

101+95
℄155'

104+15
℄140'

100+95
℄124'

103+60
℄135'

95

100

105

IOWA 141 EB

(SUR141B)

IOWA 141 WB

ELECTRIC LINE EASEMENT

PERPETUAL EASEMENT FOR SANITARY SEWER

100+45
℄160'

99+85
℄160'

103+62±ExR/W
℄130'

WEBSTER TWP.
T-79N R-25W
SEC. 9

0 FEET 50

(6)
HUNTER FARMS

(6)
HUNTER FARMS

ELECTRIC LINE EASEMENT

PUBLIC UTILITY LINE EASEMENT

SE 19TH ST

S 19TH ST

KRAUSE HOLDINGS INC.

IOWA 141

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**

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER H.4

11:53:07 AM 9/23/2014 mgogert pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\ROW\H1-HE2.sht

CRAMER PROPERTIES, LLC.

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

+73.35 Prop.
Type "C" Ent.

HUBBELL METRO DEV. FUND I LLC.

OUTLOT "B"

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

GRIMES BUSINESS PARK PLAT 2

110
115
120

IOWA 141 EB

(SUR141B)

PI Sta 121+94.02

IOWA 141 WB

PC Sta 117+97.44

PRINCETON SUBDIVISION PLAT NO. 1

(U.A.C.)

NEWARK LAND TRUST LC

WE CAN BUILD IT LC

0 FEET 50

WEBSTER TWP.
T-79N R-25W
SEC. 8

+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**

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER H.5

11:53:25 AM 9/23/2014 mgogert pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\ROW\H1-HE2.sht

GRIMES BUSINESS PARK PLAT 1

HUBBELL METRO DEV. FUND I LLC.

3

2

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

TEMPORARY EASEMENT TO SHAPE

INGRESS EGRESS EASEMENT

STORM SEWER EASEMENT

PUBLIC UTILITY EASEMENT

7

AMES COMMUNITY BANK

WILLIAM C. KNAPP, LC.

GRIMES CROSSING SENIOR APARTMENTS,

132+15±P
℄160'

132+17±P
℄120'

GRIMES CROSSING PLAT 7

133+00
℄117'±PropR/W

134+98.20(PropertyCorner)
℄111'±ExR/W

SE 11TH ST

125

130

135

IOWA 141 EB

IOWA 141 WB

(SUR141B)

Pt Sta 125+90.49

LOT C

0 FEET 50

ELECTRIC LINE EASEMENT

PUBLIC UTILITY EASEMENT

WEBSTER TWP.
T-79N., R-25W.
SEC. 4

CITY OF GRIMES, IOWA

IOWA 141

UVW INVESTMENTS LLC.

ALL POINTS DEVELOPMENT LC.

S 11TH STREET

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**

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER H.6

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108-23A
08-01-08

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.

113-2
04-16-13

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* No.	Remarks
SE 19th Street	NE	2	

108-26A
08-01-08

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

PLAN VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

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

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

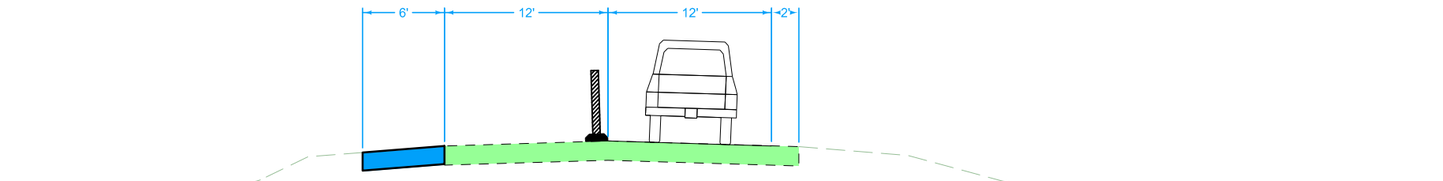
PLAN VIEW PATTERN AND SYMBOL LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

- Channelizing Device
- Drum
- Temporary Lane Separator
- Tubular Marker
- Channelizer Marker
- Concrete Barrier Marker
- Delineator
- Temporary Barrier Rail
- Pavement Removal
- Crash Cushion
- Traffic Signal
- Flagger
- Temporary Floodlighting
- Traffic Sign
- Type III Barricade
- Type A Warning Light
- Direction of Traffic
- Safety Closure

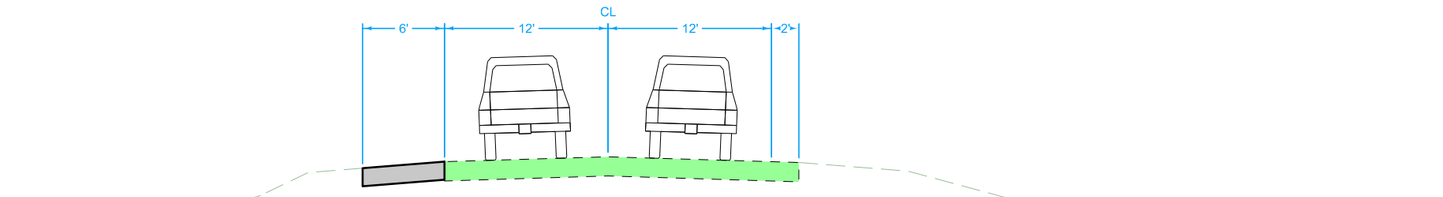
NOTE: Device spacing according to Standard Road Plans unless specifically dimensioned.

TRAFFIC CONTROL AND STAGING

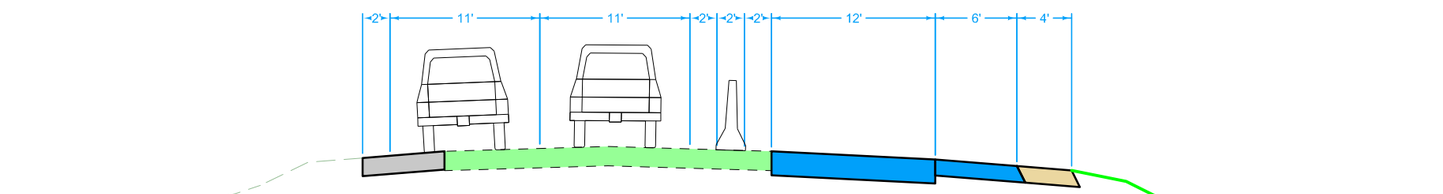
(COVERS SHEET SERIES J)



IOWA 141 - STAGE 1
OFF-PEAK HOURS



IOWA 141 - STAGE 1
PEAK HOURS



IOWA 141 - STAGE 2

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

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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

LEFT LANE CLOSED AHEAD

W20-5
48" x 48"

MERGE

W4-2M
48" x 48"

RAMP TO I-35/80 SB

0'-500'

IOWA 141 EB

IOWA 141 WB

500'

500'

600'
MERGING TAPER

100'

ROAD WORK AHEAD

W20-1
48" x 48"

RAMP FROM I-35/80 WB

W4-2
48" x 48"

SE GRIMES BLVD (FRONTAGE ROAD)

SE CAPITOL CIRCLE

0 FEET 50

IOWA 141
STAGE 1

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER J.4

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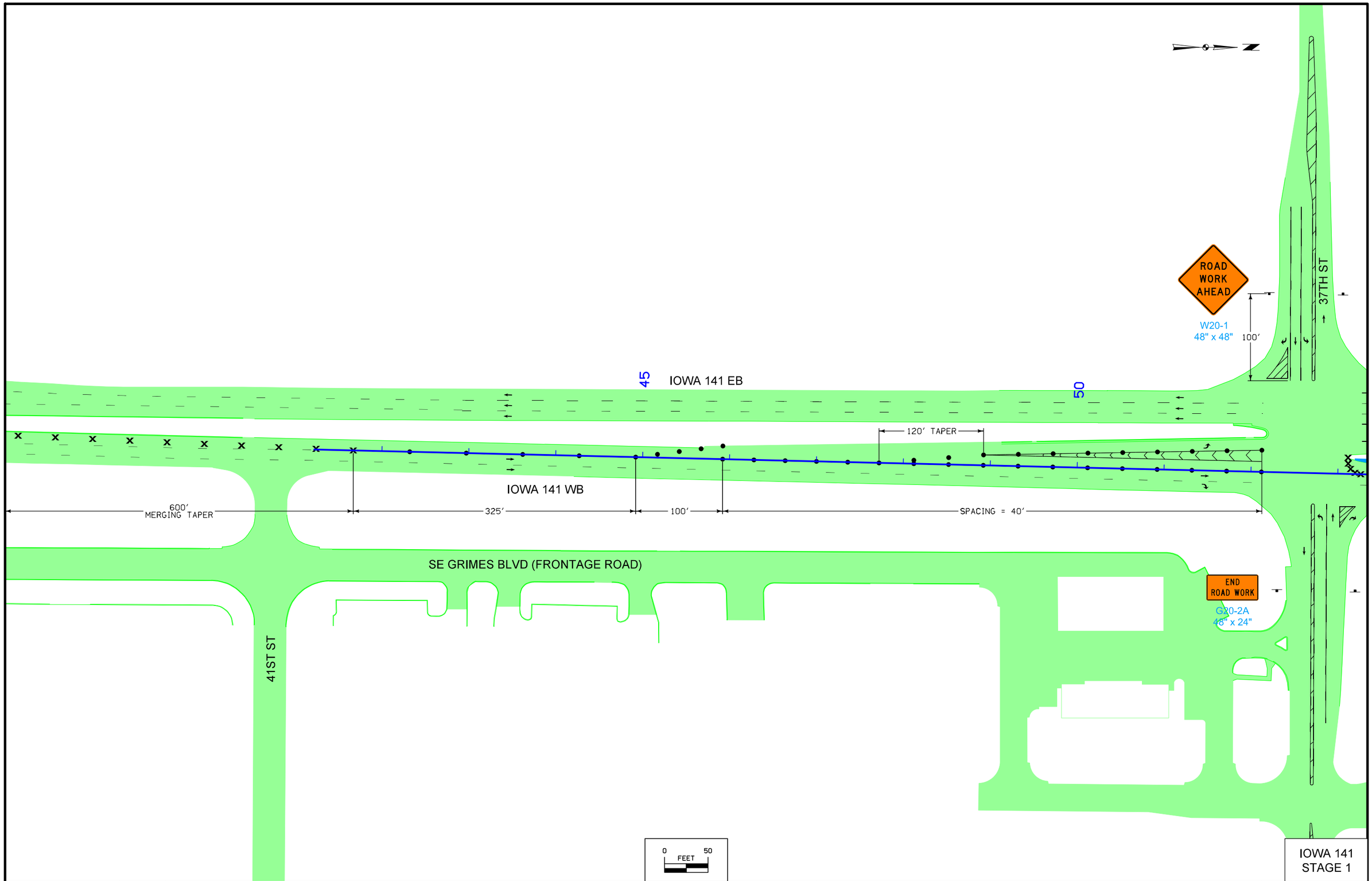

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11:55:51 AM 7/5/2014 11:55:51 AM jdhsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042J01.sht

ROAD WORK AHEAD
W20-1
48" x 48"
100′
37TH ST
END ROAD WORK
G20-2A
48" x 24"
END ROAD WORK
G20-2A
48" x 24"
100′
100′
55
60
IOWA 141 EB
80′ SPACING (TYP.)
ROAD WORK AHEAD
W20-1
48" x 48"
100′
65
120′ TAPER
SPACING = 40′
80′ SPACING (TYP.)
IOWA 141 WB
500′
SPACING = 40′
100′
ROAD WORK AHEAD
W20-1
48" x 48"
END ROAD WORK
G20-2A
48" x 24"
SPEED LIMIT 45
R2-1
48" x 60"
0 FEET 50
IOWA 141
STAGE 1

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER J.6

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28TH ST

JOHNSON DRIVE

ROAD WORK AHEAD
W20-1
48" x 48"

100′

65

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

70

SPEED LIMIT 45
R2-1
48" x 60"

80′ SPACING (TYP.)

75

500′

ROAD WORK AHEAD
W20-1
48" x 48"

100′

IOWA 141 EB

120′ TAPER

SPACING = 40′

80′ SPACING (TYP.)

IOWA 141 WB

SPACING = 40′

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

28TH ST

SE COVENANT DRIVE

0 FEET 50

IOWA 141
STAGE 1

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

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28TH ST

END
ROAD WORK

G20-2A
48" x 24"

80

SPACING = 40'

85

IOWA 141 EB

80' SPACING
(TYP.)

90

120' TAPER

80' SPACING
(TYP.)

IOWA 141 WB

100'

500'

ROAD
WORK
AHEAD

W20-1
48" x 48"

SPEED
LIMIT
45

R2-1
48" x 60"

28TH ST

SE COVENANT DRIVE

0 FEET 50

IOWA 141
STAGE 1

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER J.8

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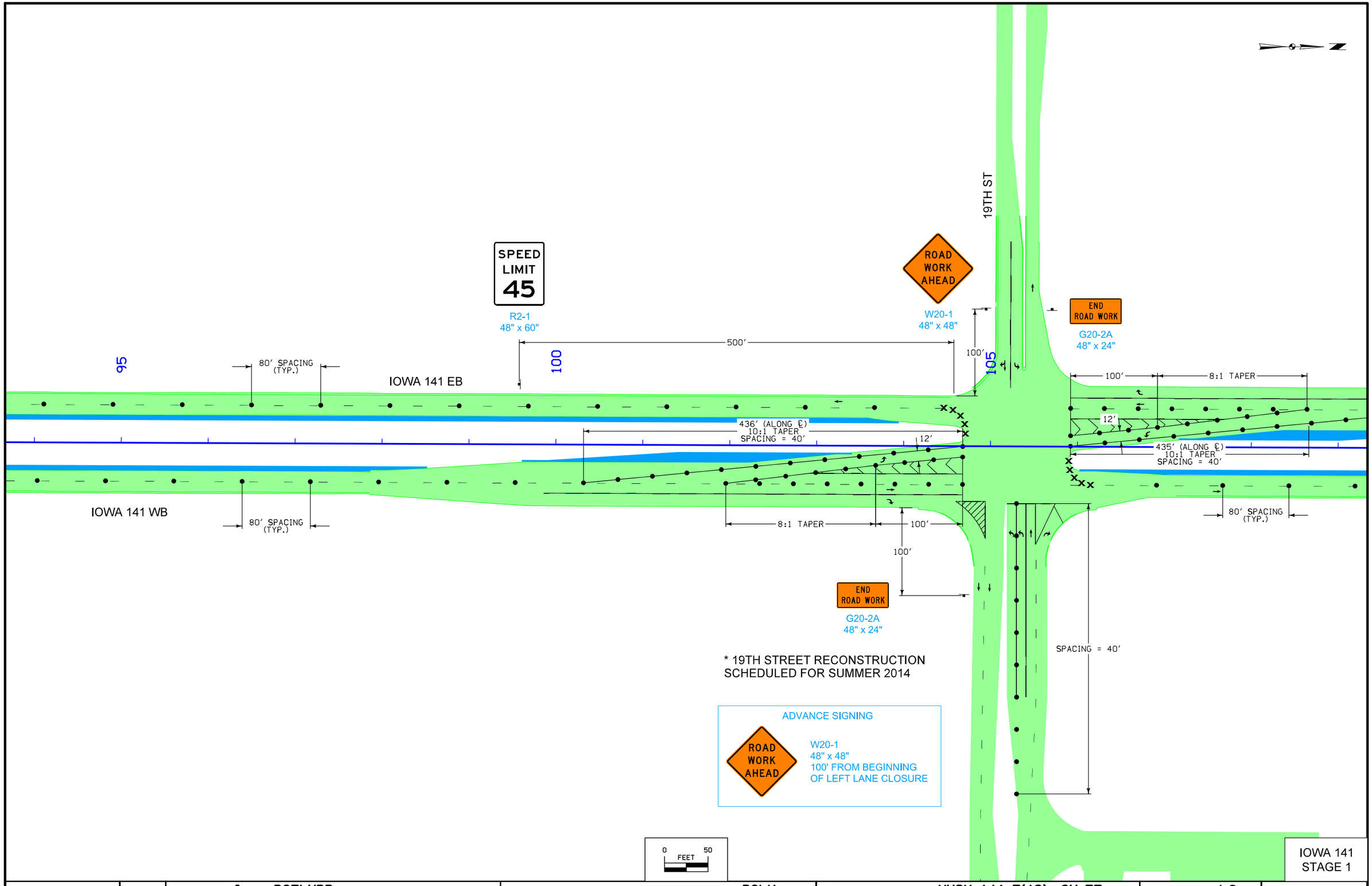

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER J.9

9:47:47 PM 6/23/2014 9:47:47 PM pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\77141O2013\Design\77141042J01.sht

110

115

120

80' SPACING (TYP.)

80' SPACING (TYP.)

IOWA 141 EB

435' (ALONG ℄)
10:1 TAPER
SPACING = 40'

500' FROM END OF RETURN

80' SPACING (TYP.)

IOWA 141 WB

80' SPACING (TYP.)

SPEED LIMIT 45

R2-1
48" x 60"

0 50 FEET

IOWA 141
STAGE 1

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER J.10

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SPEED LIMIT 45

R2-1
48" x 60"

125

500′

IOWA 141 EB

80′ SPACING (TYP.)

130

ROAD WORK AHEAD

W20-1
48" x 48"

100′

END ROAD WORK

G20-2A
48" x 24"

100′

8:1 TAPER

135

80′ SPACING (TYP.)

457′ (ALONG ℄)
10:1 TAPER
SPACING = 40′

12′

12′

435′ (ALONG ℄)
10:1 TAPER
SPACING = 40′

80′ SPACING (TYP.)

IOWA 141 WB

8:1 TAPER

100′

100′

80′ SPACING (TYP.)

500′

END ROAD WORK

G20-2A
48" x 24"

11TH ST

ROAD WORK AHEAD

W20-1
48" x 48"

SPEED LIMIT 45

R2-1
48" x 60"

0 FEET 50

IOWA 141
STAGE 1

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER J.11

9:47:58 PM 6/23/2014 9:47:58 PM pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042J01.sht

END OF PAVEMENT TAPER

140

760′
40′ SPACING

TAPER PAVEMENT WIDTH = 12′

145

R1-2
48" x 48" x 48"

BEGINNING OF GORE AREA

500′

150

BE PREPARED TO STOP

W20-7B
48" x 48"

500′
TO W20-1

80′ SPACING (TYP.)

IOWA 141 EB

IOWA 141 WB

80′ SPACING (TYP.)

0′-500′

END ROAD WORK

G20-2A
48" x 24"

0 50
FEET

IOWA 141
STAGE 1

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER J.12

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ROAD WORK AHEAD

W20-1
48" x 48"

500'
TO W20-7B

155

160

165

IOWA 44

80' SPACING
(TYP.)

STA. 160+47

600'

IOWA 141 EB

770'
SPACING = 45'

STA. 157+33

80' SPACING
(TYP.)

100'

0' TO 500'

IOWA 141 WB

END
ROAD WORK

G20-2A
48" x 24"

0 FEET 50

IOWA 141
STAGE 1

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER J.13

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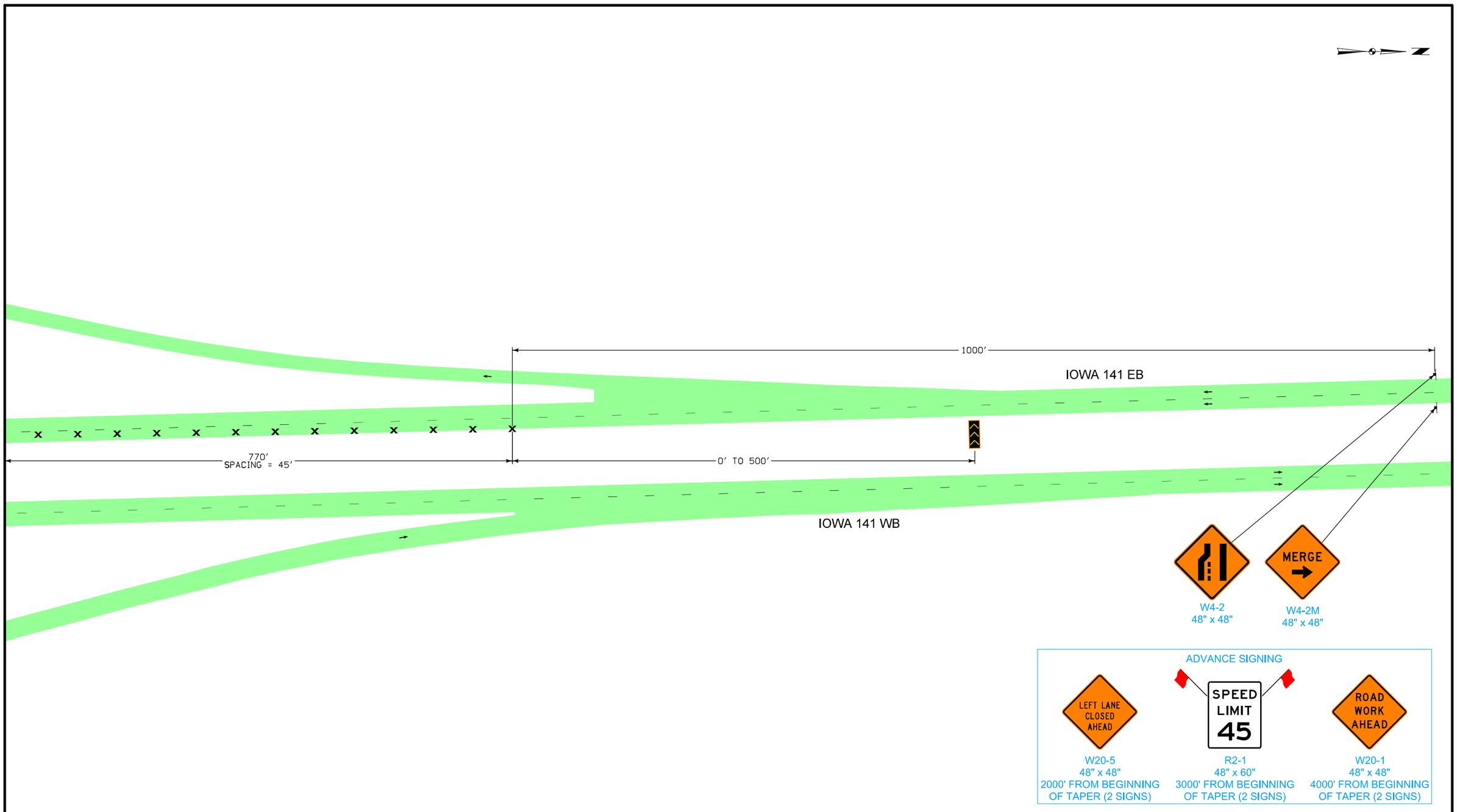

IOWA 141
STAGE 1

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER J.14

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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

250'

50'

250'

50'

500'

500'

0'-100'

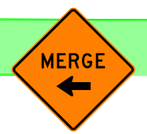
166.67'
SHOULDER TAPER
SPACING = 45'

630'
MERGING
TAPER

100'

W20-1
48" x 48"

W20-5
48" x 48"



W4-2M
48" x 48"

SE GRIMES BLVD (FRONTAGE ROAD)

SE CAPITOL CIRCLE

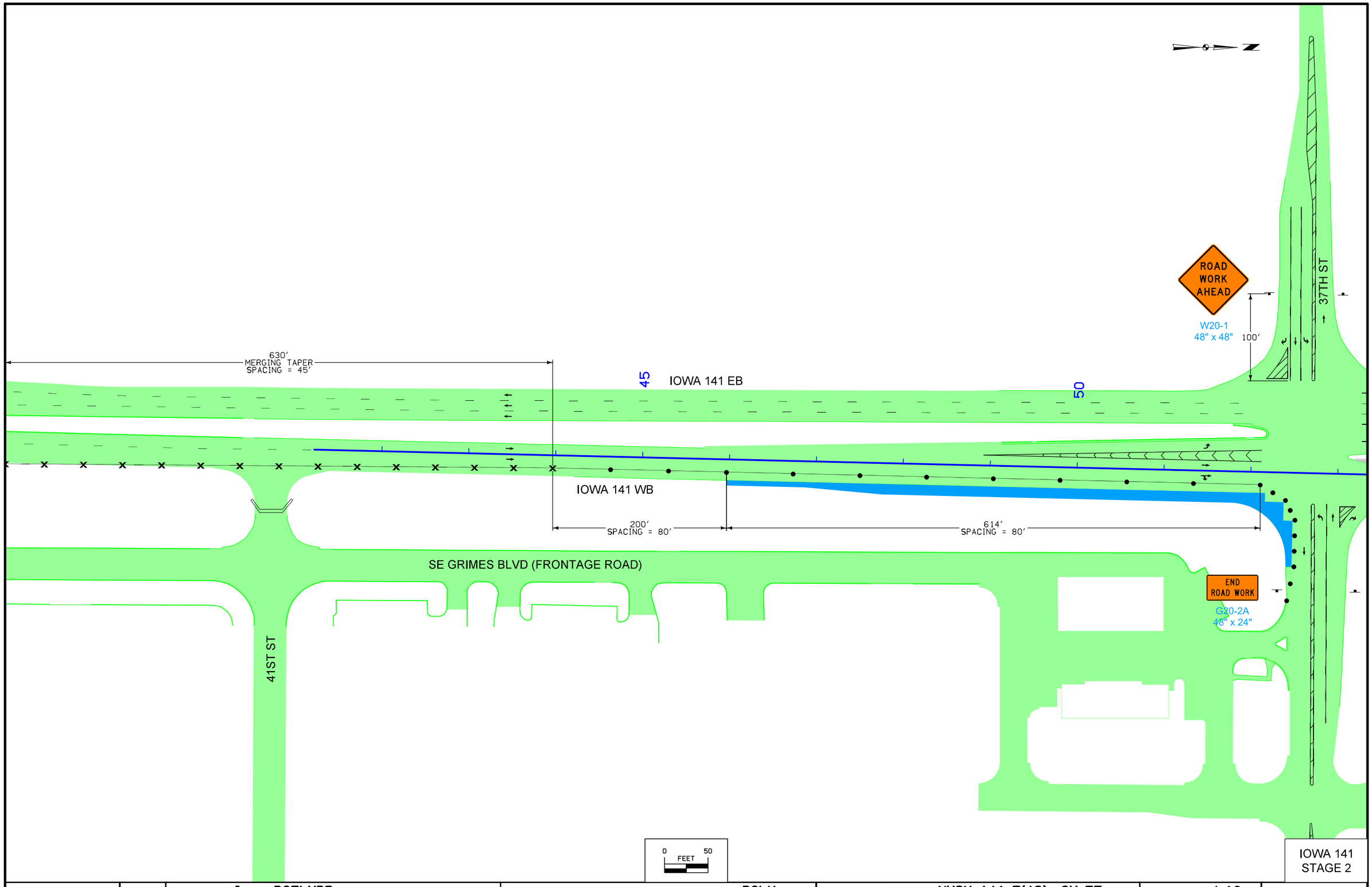
RAMP FROM
I-35/80 WB

0 FEET 50

IOWA 141
STAGE 2

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER J.15

9:48:20 PM 6/23/2014 9:48:20 PM pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\77141O2013\Design\77141042J01.sht



FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER J.16

9:48:26 PM 6/23/2014 9:48:26 PM pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042J01.sht

ROAD WORK AHEAD
W20-1
48" x 48"
100′
37TH ST
END ROAD WORK
G20-2A
48" x 24"
END ROAD WORK
G20-2A
48" x 24"
100′
100′
IOWA 141 EB
55
60
65
125′ SHIFTING TAPER
125′ SHIFTING TAPER
200′
IOWA 141 WB
SPEED LIMIT 45
R2-1
48" x 60"
SPACING = 40′
R3-2
30" x 30"
MAINTAIN ACCESS THROUGHOUT CONSTRUCTION
100′
ROAD WORK AHEAD
W20-1
48" x 48"
END ROAD WORK
G20-2A
48" x 24"
ALL LANES
W1-4L
48" x 48"
W24-1cP
30" x 30"
0 FEET 50
IOWA 141
STAGE 2

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER J.17

9:48:31 PM 6/23/2014 9:48:31 PM pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042J01.sht

28TH ST

JOHNSON DRIVE

SPEED LIMIT 45

R2-1
48" x 60"

R3-1
30" x 30"

500′

65

70

IOWA 141 EB

75

IOWA 141 WB

SPACING = 40′

MAINTAIN ACCESS THROUGHOUT CONSTRUCTION

SPACING = 40′

100′

R3-2
30" x 30"

END ROAD WORK

G20-2A
48" x 24"

28TH ST

SE COVENANT DRIVE

0 FEET 50

IOWA 141
STAGE 2

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER J.18

9:48:36 PM 6/23/2014 9:48:36 PM pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042J01.sht

SHEET NOTES:

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

28TH ST

SEE NOTE 1 THIS SHEET

R3-1
30" x 30"

80

85

IOWA 141 EB

90

SEE NOTE 1 THIS SHEET

IOWA 141 WB

500'

50'

100'

75'

28TH ST

SPEED LIMIT 45

R2-1
48" x 60"

MAINTAIN ACCESS THROUGHOUT CONSTRUCTION

SE COVENANT DRIVE

ROAD WORK AHEAD

W20-1
48" x 48"

0 50
FEET

IOWA 141
STAGE 2

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER J.19

9:48:42 PM 6/23/2014 9:48:42 PM pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042J01.sht

SPEED LIMIT 45

R2-1
48" x 60"

500'

R3-2
30" x 30"

19TH ST

ROAD CLOSED

DETOUR

95

IOWA 141 EB

100

105

SPACING = 40'

IOWA 141 WB

* 19TH STREET RECONSTRUCTION SCHEDULED FOR SUMMER 2014

100'

END ROAD WORK

G20-2A
48" x 24"

50'

194'
MERGING
TAPER

ADVANCE SIGNING

W4-2
48" x 48"
350' FROM BEGINNING OF TAPER

RIGHT LANE CLOSED AHEAD

W20-5
48" x 48"
700' FROM BEGINNING OF TAPER

ROAD WORK AHEAD

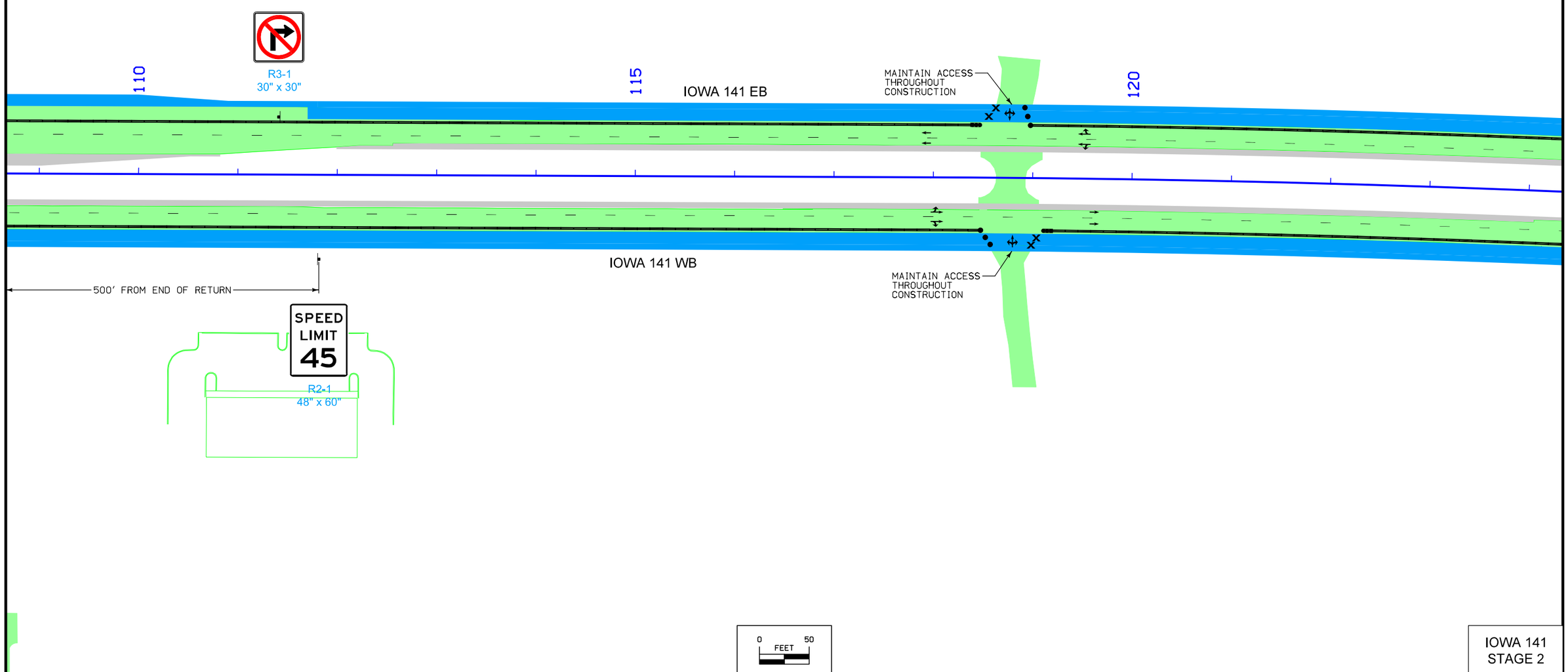
W20-1
48" x 48"
1,050' FROM BEGINNING OF TAPER

0 FEET 50

IOWA 141
STAGE 2

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER J.20

9:48:47 PM 6/23/2014 9:48:47 PM pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\77141O2013\Design\77141042J01.sht



IOWA 141
STAGE 2

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER J.21

9:48:53 PM 6/23/2014 9:48:53 PM pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042J01.sht

ADVANCE SIGNING

ROAD WORK AHEAD
W20-1
48" x 48"
350' FROM BEGINNING OF TAPER

RIGHT LANE CLOSED AHEAD
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"

500′

125

IOWA 141 EB

130

270′ MERGING TAPER

50′

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

100′

135

IOWA 141 WB

100′

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

11TH ST

50′

245′ MERGING TAPER

500′

ADVANCE SIGNING

W4-2
48" x 48"
100' FROM BEGINNING OF TAPER

RIGHT LANE CLOSED AHEAD
W20-5
48" x 48"
200' FROM BEGINNING OF TAPER

ROAD WORK AHEAD
W20-1
48" x 48"
300' FROM BEGINNING OF TAPER

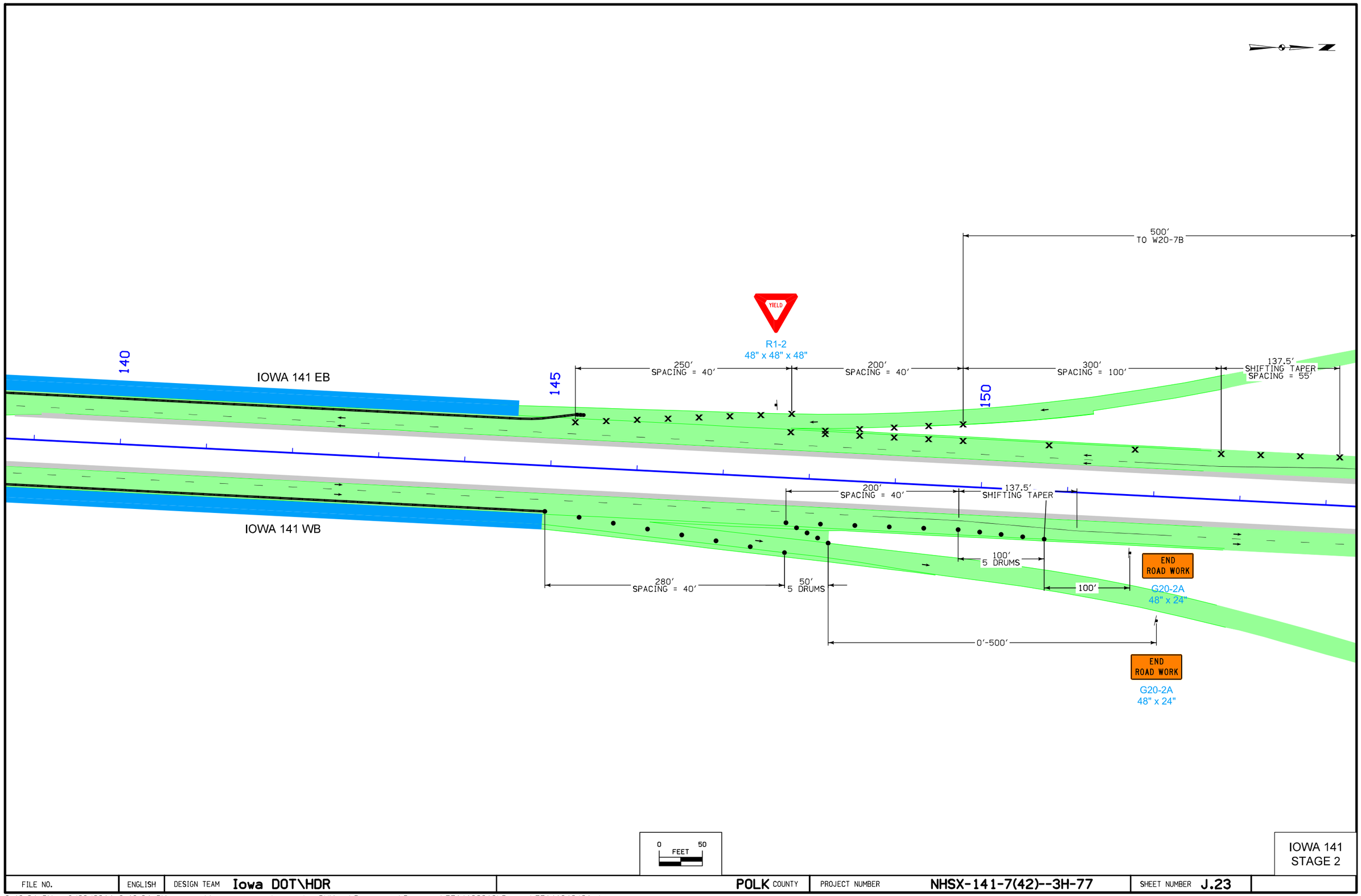
SPEED LIMIT 45
R2-1
48" x 60"

0 FEET 50

IOWA 141
STAGE 2

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER J.22

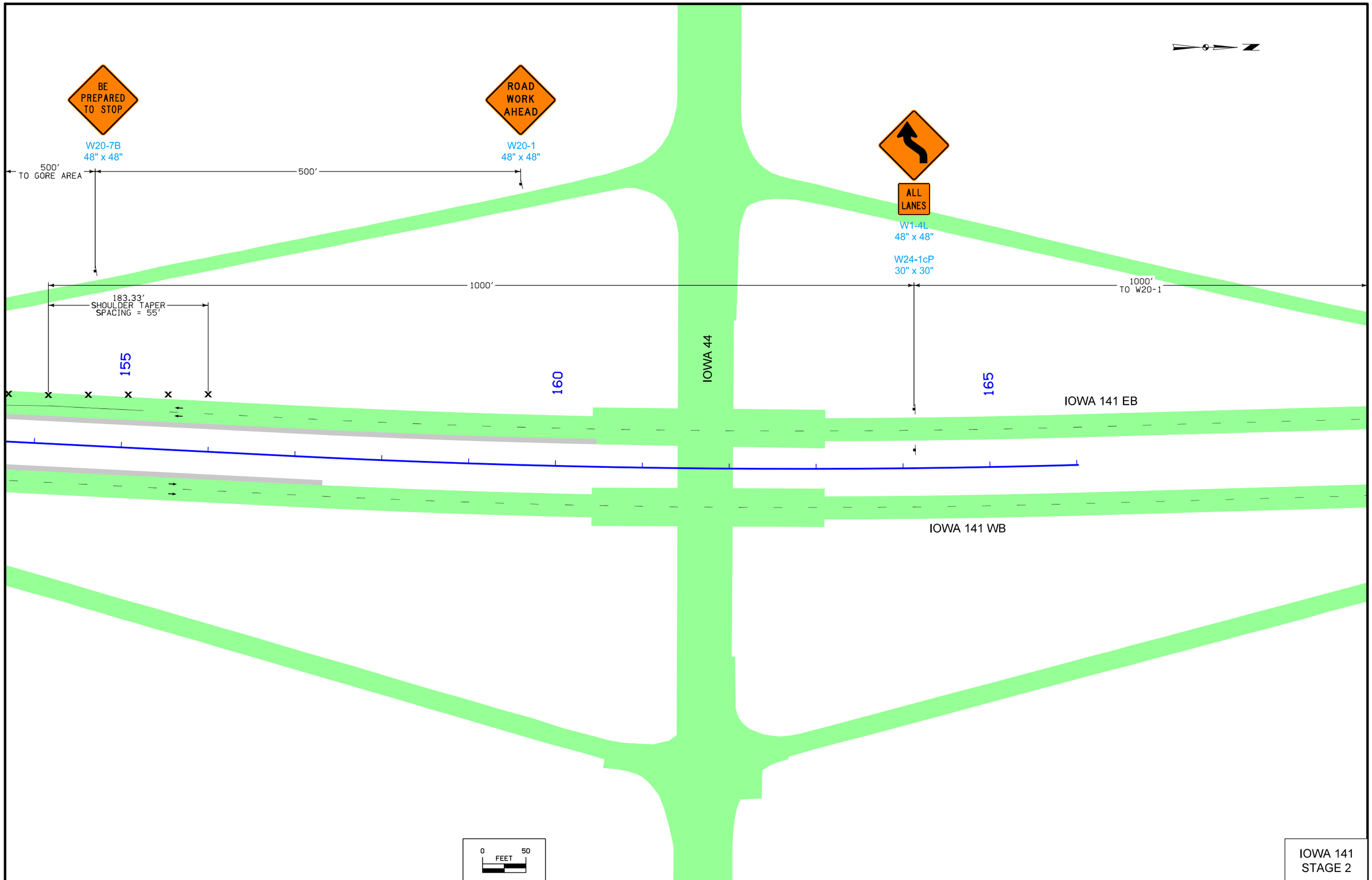
9:48:58 PM 6/23/2014 pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042J01.sht



IOWA 141
STAGE 2

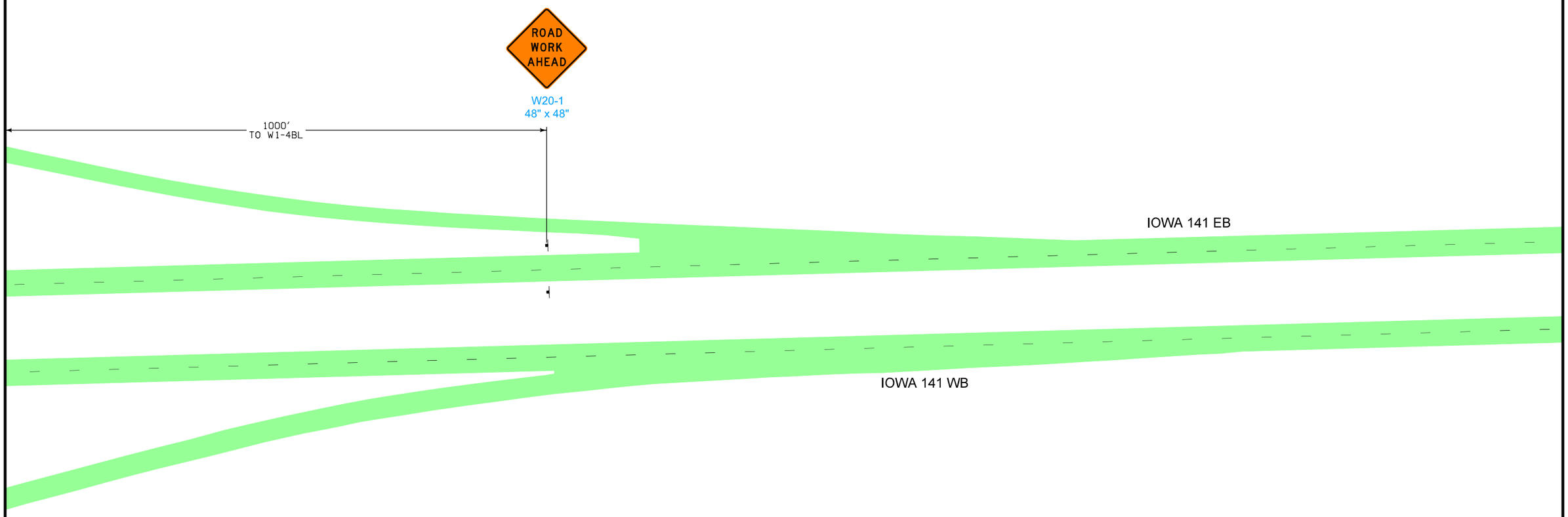
FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER J.23

9:49:04 PM 6/23/2014 9:49:04 PM pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042J01.sht



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

9:49:09 PM 6/23/2014 9:49:09 PM tyanesch pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042J01.sht

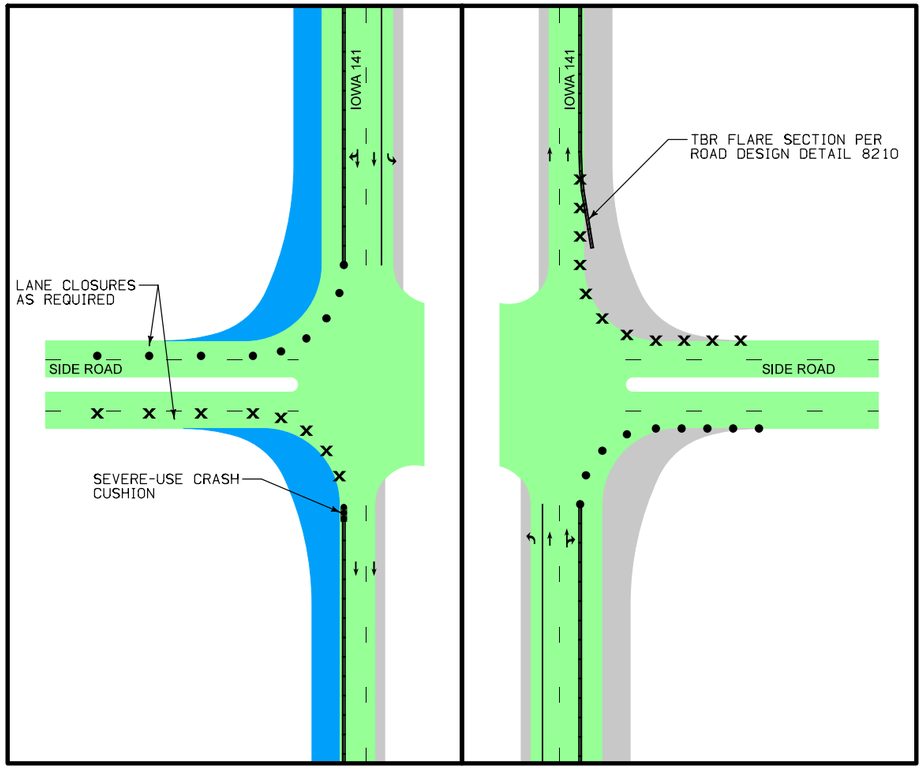


0 50
FEET

IOWA 141
STAGE 2

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER J.25

9:49:15 PM 6/23/2014 9:49:15 PM pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042J01.sht



TYPICAL STAGING LAYOUT DURING CONSTRUCTION STAGE 2

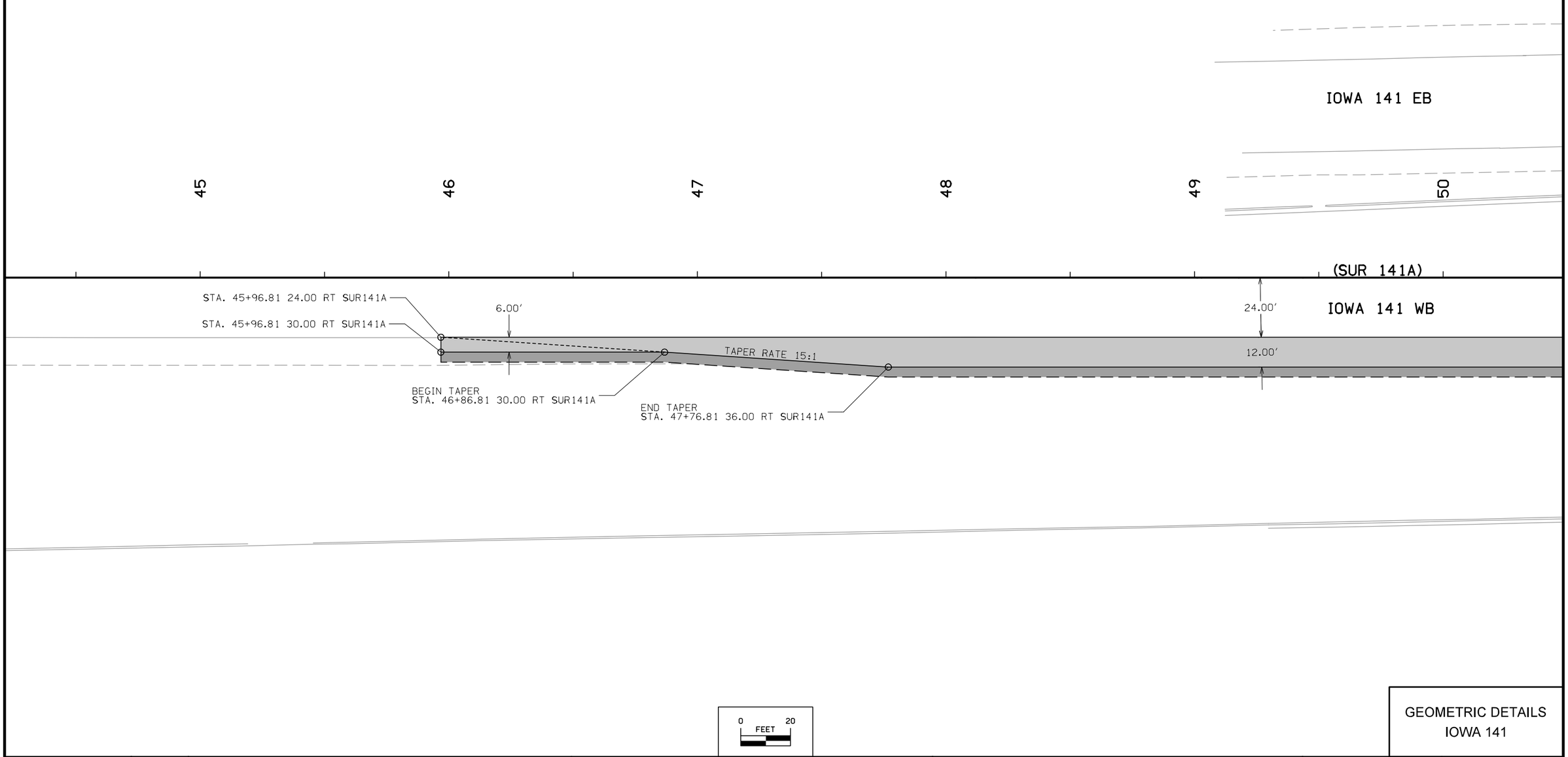
TYPICAL STAGING LAYOUT PRE-CONSTRUCTION AND POST-CONSTRUCTION STAGE 2

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.



GEOMETRIC DETAILS
IOWA 141

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER L.1

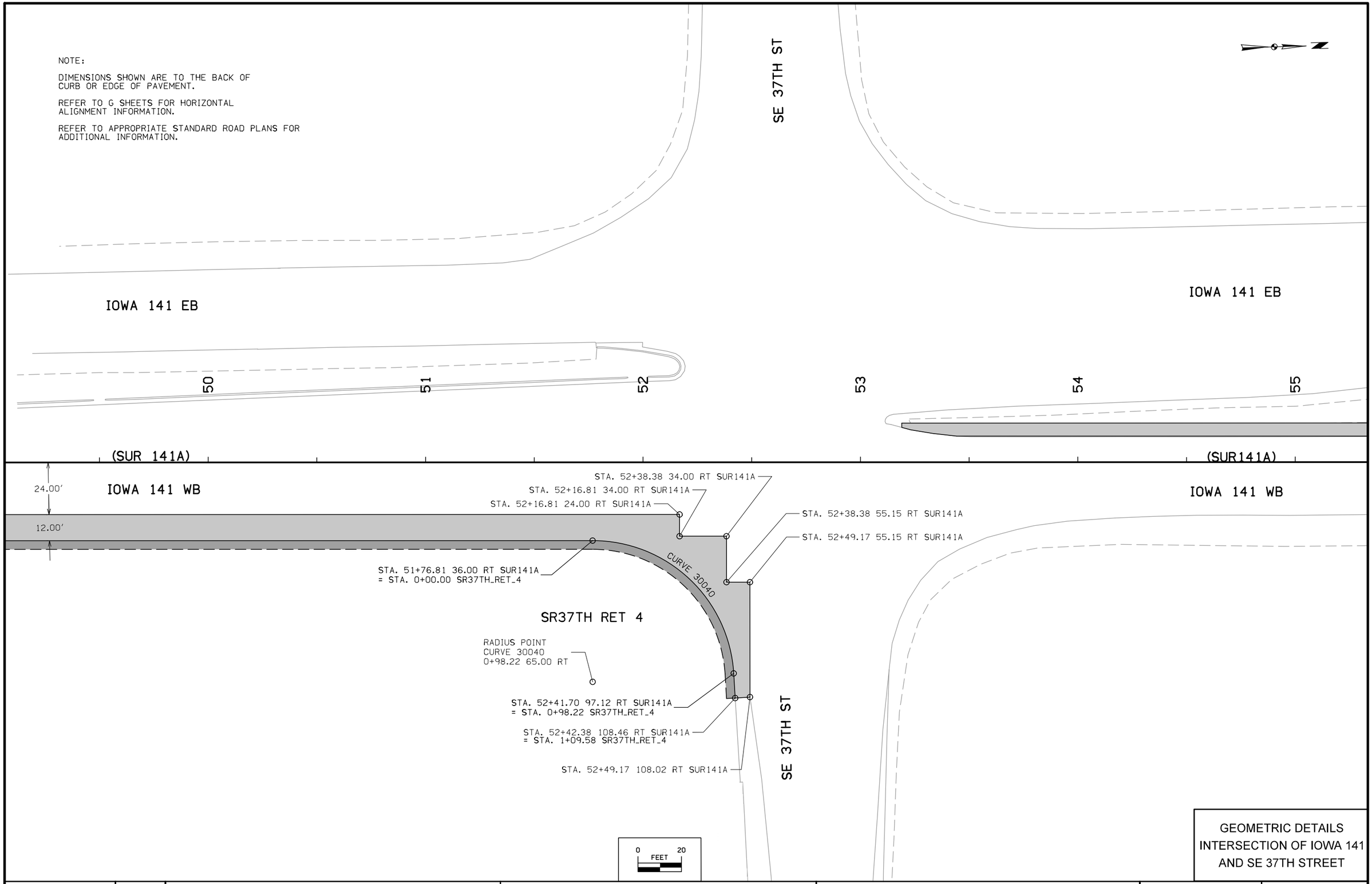
7:18:52 AM 8/4/2014 7:18:52 AM mtu pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\771410211.sht

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 37TH STREET

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER L.2

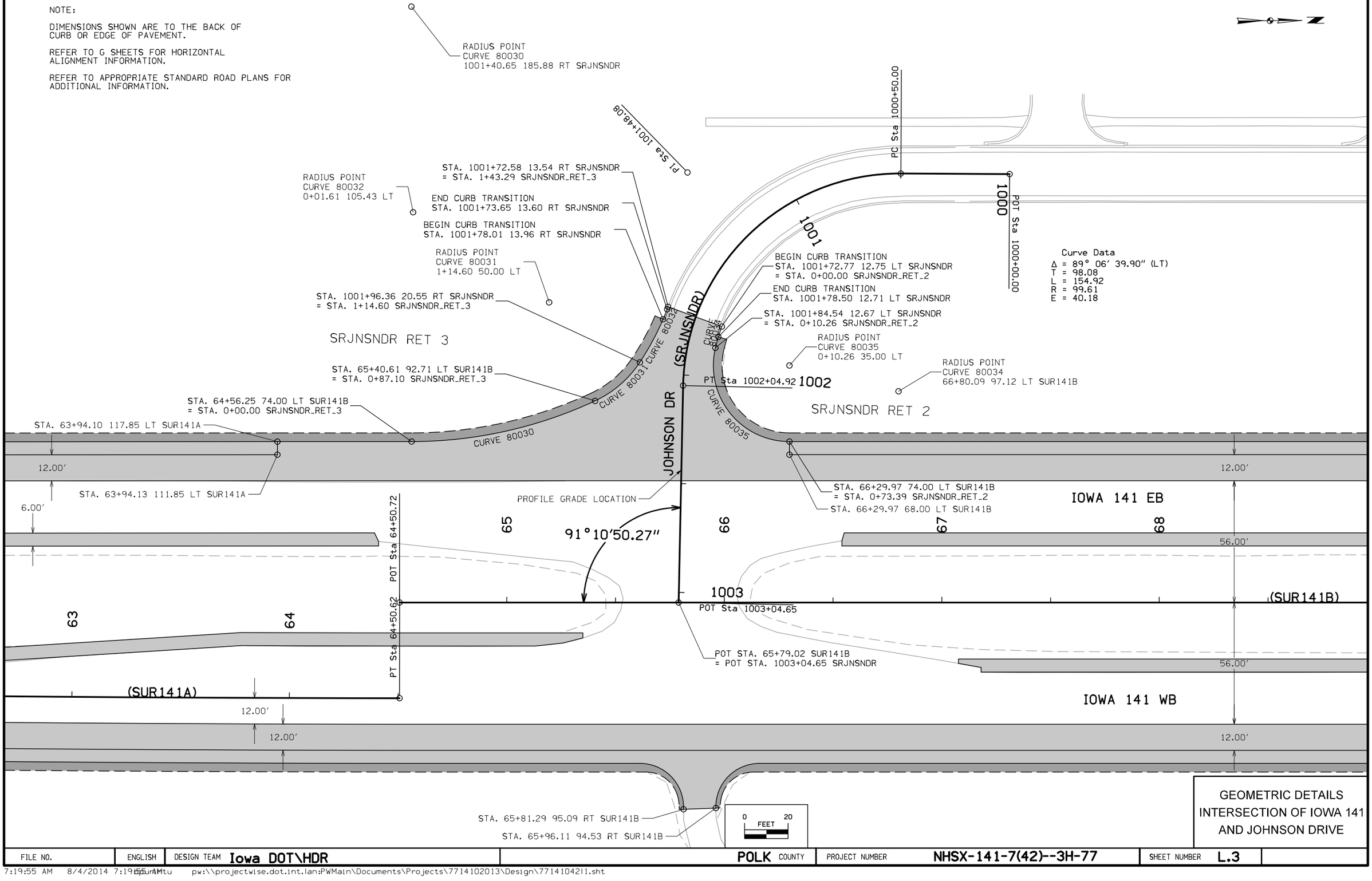
7:19:24 AM 8/4/2014 7:19:24 AM tu pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\771410421l.sht

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 JOHNSON DRIVE

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

7:19:55 AM 8/4/2014 7:19:55 AM tu pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\771410421l.sht

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.

STA. 303+02.50 25.58 RT SR28THWEST
= STA. 2+03.64 SR28TH_RET_3

STA. 303+41.11 25.56 RT SR28THWEST
= STA. 1+65.03 SR28TH_RET_3

END CURB TRANSITION
STA. 303+64.01 27.68 RT SR28THWEST

BEGIN CURB TRANSITION
STA. 303+68.90 28.69 RT SR28THWEST

STA. 303+75.90 30.50 RT SR28THWEST
= STA. 1+29.77 SR28TH_RET_3

RADIUS POINT
CURVE 40032
303+41.12 150.56 RT
SR28THWEST

RADIUS POINT
CURVE 40031
1+29.77 50.00 LT

STA. 78+35.19 92.67 LT SUR141B
= STA. 0+87.10 SR28TH_RET_3

STA. 77+50.82 74.00 LT SUR141B
= STA. 0+00.00 SR28TH_RET_3

SR28TH RET 3

CURVE 40032
CURVE 40031
CURVE 40030

STA. 76+84.86 74.00 LT SUR141B

STA. 76+84.86 68.00 LT SUR141B

12.00'

SE 28TH ST (SR28THSTWEST)

303

STA. 303+02.42 14.37 LT SR28THWEST
= STA. 0+00.00 SR28TH_RET_2

BEGIN CURB TRANSITION
STA. 303+54.01 19.36 LT SR28THWEST

END CURB TRANSITION
STA. 303+58.91 20.35 LT SR28THWEST

STA. 303+88.30 28.30 LT SR28THWEST
= STA. 0+87.37 SR28TH_RET_2

RADIUS POINT
CURVE 40021
0+87.37 55.00 LT

RADIUS POINT
CURVE 40020
81+81.99 198.17 LT
SUR141B

CURVE 40020

304

SR28TH RET 2

CURVE 40021

STA. 79+73.14 74.00 LT SUR141B
= STA. 1+56.17 SR28TH_RET_2

STA. 79+73.14 68.00 LT SUR141B

12.00'

PROFILE GRADE LOCATION

89°59'34.91"

IOWA 141 EB

76 77 78 79 80 81 82

56.00'

POT STA. 78+92.64 SUR141B
= POT STA. 305+00.00 SR28THWEST

POT Sta 305+00.00

56.00'

(SUR141B)

IOWA 141 WB

56.00'

STA. 76+26.27 56.00 RT SUR141B

STA. 76+26.27 68.00 RT SUR141B

12.00'

STA. 81+08.90 68.00 RT SUR141B

STA. 81+08.90 74.00 RT SUR141B

12.00'

STA. 79+57.49 56.00 RT SUR141B

STA. 79+57.49 68.00 RT SUR141B

STA. 79+34.67 68.00 RT SUR141B

STA. 79+34.67 91.60 RT SUR141B

STA. 79+24.11 91.60 RT SUR141B

SE 28TH ST

CURVE 40012

CURVE 40011

CURVE 40010

STA. 80+39.65 74.00 RT SUR141B
= STA. 1+36.72 SR28TH_RET_1

STA. 79+89.19 79.14 RT SUR141B
= STA. 0+85.92 SR28TH_RET_1

STA. 79+51.66 92.68 RT SUR141B
= STA. 0+45.89 SR28TH_RET_1

END CURB TRANSITION
STA. 79+36.60 104.99 RT SUR141B

BEGIN CURB TRANSITION
STA. 79+33.61 109.00 RT SUR141B

SR28TH RET 1

RADIUS POINT
CURVE 40010
79+75.16 136.82 RT SUR141B

STA. 79+26.68 124.57 RT SUR141B
= STA. 0+04.18 SR28TH_RET_1

STA. 79+26.70 128.75 RT SUR141B
= STA. 0+00.00 SR28TH_RET_1

STA. 79+24.11 128.75 RT SUR141B

0 20
FEET

GEOMETRIC DETAILS INTERSECTION OF IOWA 141 AND SE 28TH STREET

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER L.4

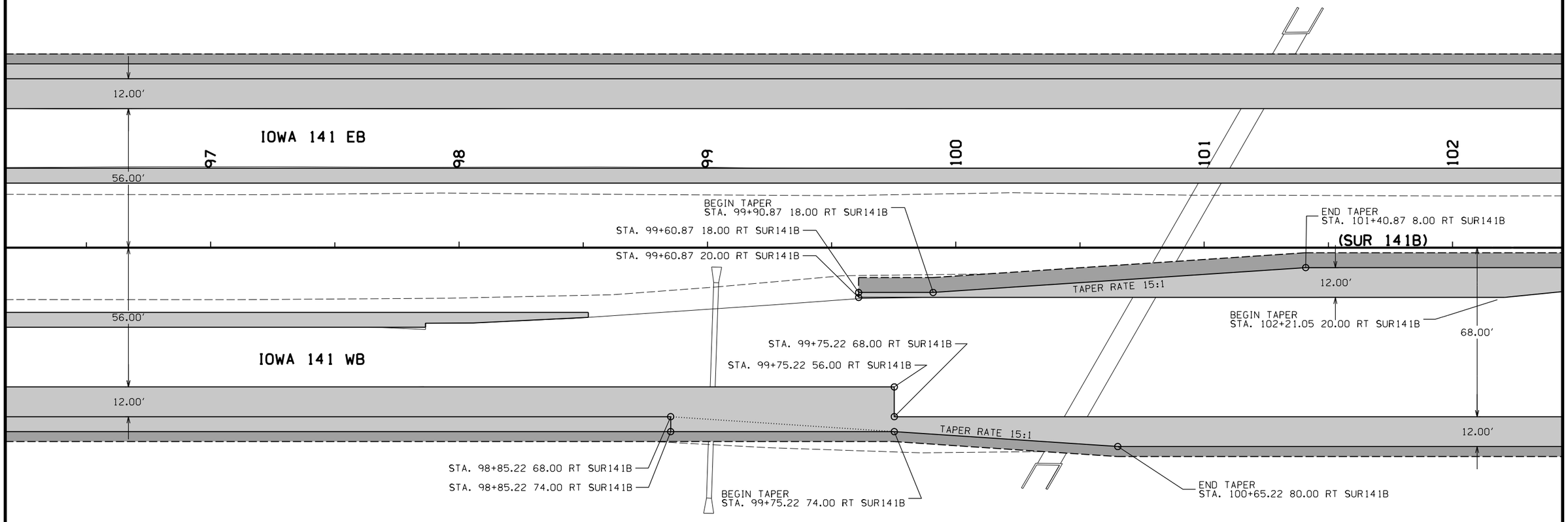
7:20:33 AM 8/4/2014 7:20:33 AM tu pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\7714104211.sht

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

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER L.5

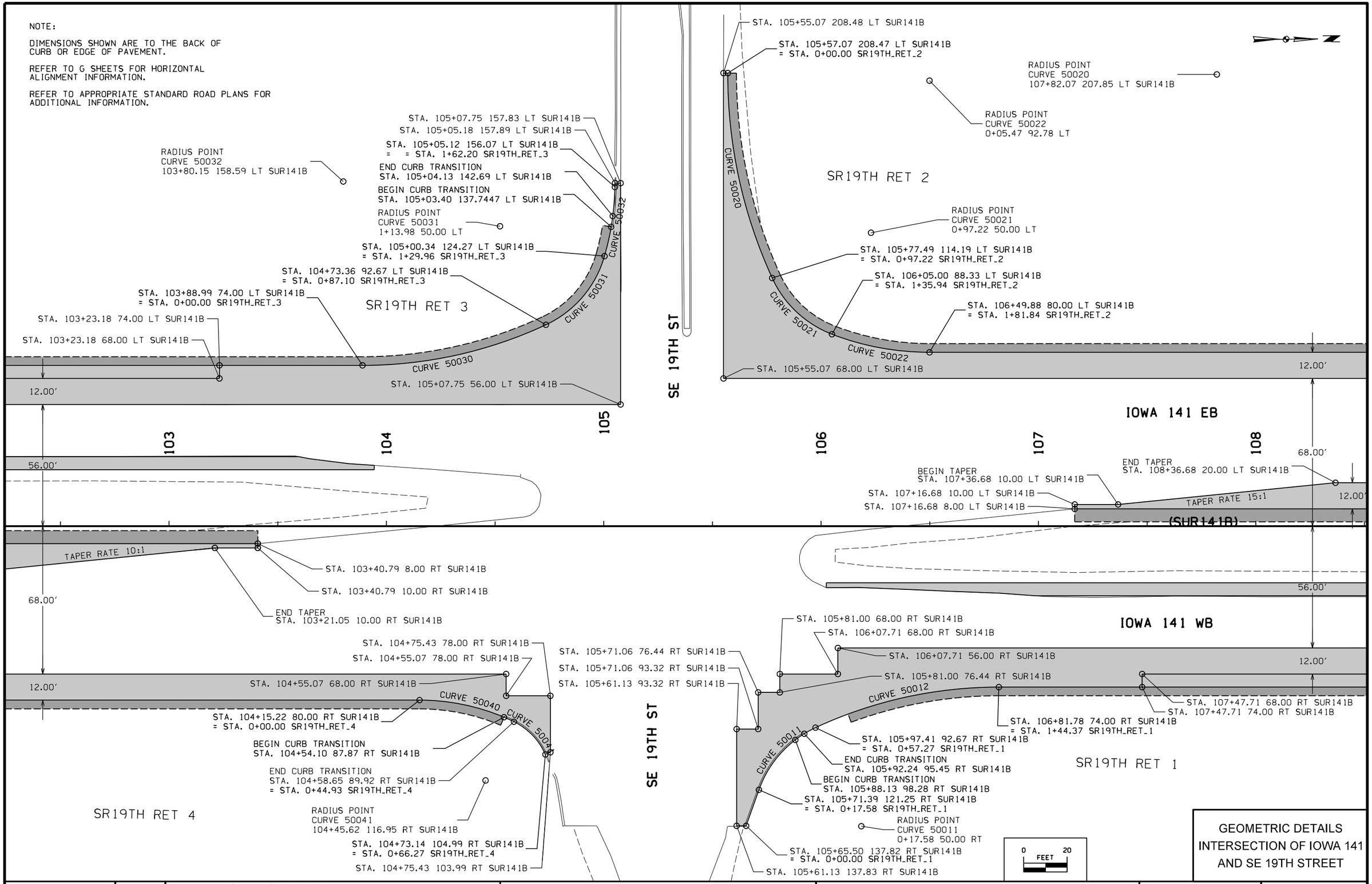
6:51:02 PM 8/4/2014 6:51:02 PM jgsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\771410421l.sht

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

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER L.6

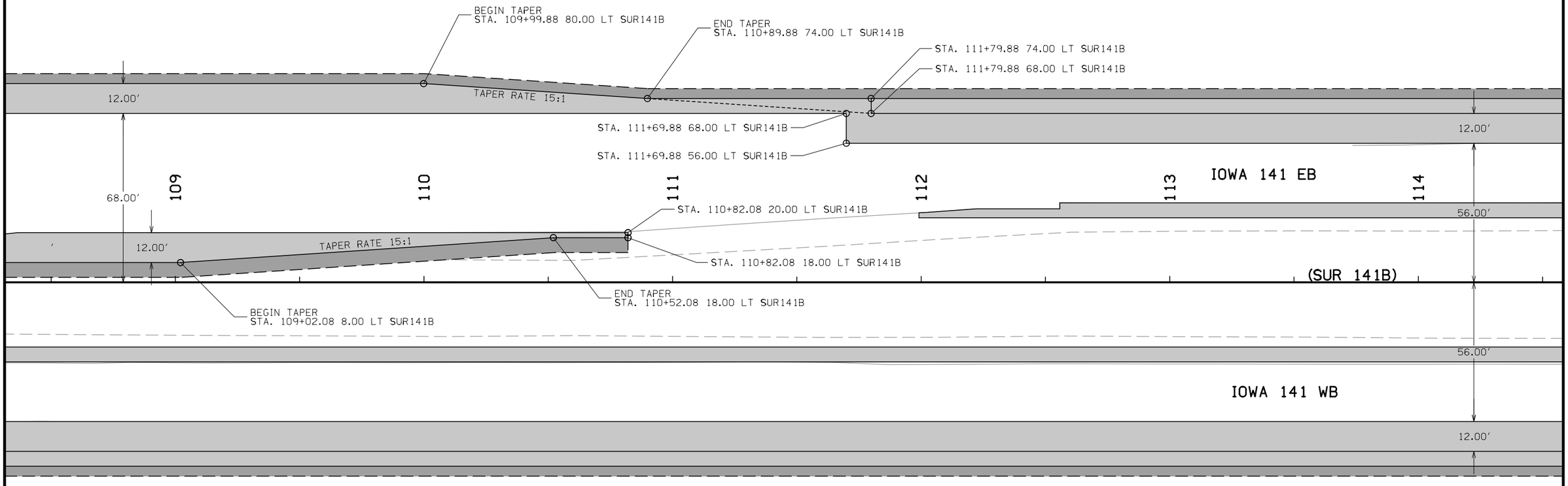
6:51:21 PM 8/4/2014 6:51:21 PM pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\7714104211.sht

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.



0 FEET 20

GEOMETRIC DESIGN
IOWA 141

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

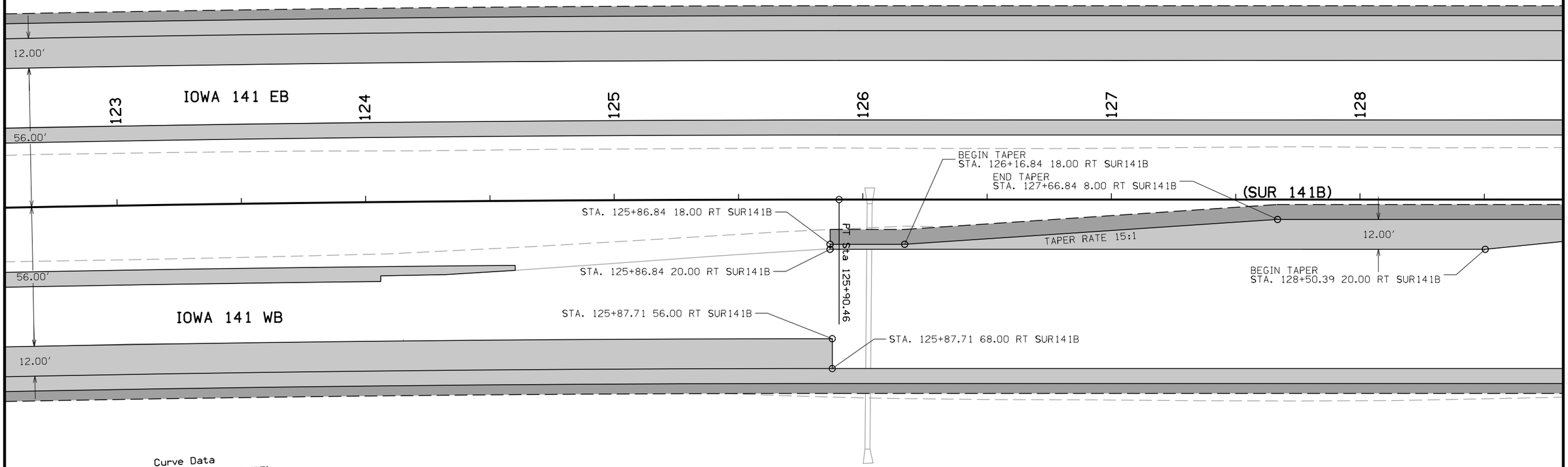
7:21:49 AM 8/4/2014 7:21:49 AM pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\7714104211.sht

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

0 20
FEET

GEOMETRIC DESIGN
IOWA 141

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER L.8

7:22:30 AM 8/4/2014 7:22:30 AM tu pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\771410411.sht

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.

SR11TH RET 3

RADIUS POINT
CURVE 60032
130+06.79 155.29 LT SUR141B

RADIUS POINT
CURVE 60031
1+32.23 50.00 LT

STA. 131+34.60 161.84 LT SUR141B

STA. 131+31.63 161.68 LT SUR141B
= STA. 1+67.71 SR11TH_RET_3

STA. 131+28.42 126.47 LT SUR141B
= STA. 1+32.23 SR11TH_RET_3

END CURB TRANSITION
STA. 131+23.03 112.94 LT SUR141B

BEGIN CURB TRANSITION
STA. 131+20.32 108.74 LT SUR141B

STA. 131+00.86 92.67 LT SUR141B
= STA. 0+87.10 SR11TH_RET_3

STA. 130+16.49 74.00 LT SUR141B
= STA. 0+00.00 SR11TH_RET_3

CURVE 60032
CURVE 60031
CURVE 60030

STA. 131+34.60 68.00 LT SUR141B
STA. 129+51.10 74.00 LT SUR141B
STA. 129+51.10 68.00 LT SUR141B
STA. 131+22.34 68.00 LT SUR141B
STA. 131+22.34 56.00 LT SUR141B

SE 11TH ST

STA. 132+07.07 133.40 LT SUR141B

STA. 132+09.53 133.83 LT SUR141B
= STA. 0+00.00 SR11TH_RET_2

RADIUS POINT
CURVE 60020
0+81.50 65.00 LT

BEGIN CURB TRANSITION
STA. 132+21.38 106.25 LT SUR141B

SR11TH RET 2

END CURB TRANSITION
STA. 132+24.52 102.35 LT SUR141B

STA. 132+73.57 80.00 LT SUR141B
= STA. 0+90.87 SR11TH_RET_2

CURVE 60020

STA. 132+33.57 78.00 LT SUR141B
STA. 132+33.57 68.00 LT SUR141B
STA. 132+07.07 78.00 LT SUR141B

129 130 131 132 133 134

IOWA 141 EB

END TAPER
STA. 134+86.32 20.00 LT SUR141B

12.00'
68.00'

BEGIN TAPER
STA. 133+86.32 10.00 LT SUR141B
STA. 133+66.32 10.00 LT SUR141B
STA. 133+66.32 8.00 LT SUR141B

TAPER RATE 10:1

(SUR141B)

STA. 129+70.50 8.00 RT SUR141B
STA. 129+70.50 10.00 RT SUR141B

TAPER RATE 10:1

END TAPER
STA. 129+50.39 10.00 RT SUR141B

56.00'

STA. 130+98.45 72.00 RT SUR141B
STA. 130+94.49 70.82 RT SUR141B
STA. 130+77.36 68.00 RT SUR141B

STA. 132+18.71 77.14 RT SUR141B
STA. 132+28.22 77.14 RT SUR141B
STA. 132+28.22 68.00 RT SUR141B

IOWA 141 WB

STA. 134+02.98 68.00 RT SUR141B
STA. 132+42.98 56.00 RT SUR141B
STA. 132+42.98 68.00 RT SUR141B

12.00'

CURVE 60012

STA. 134+02.98 74.00 RT SUR141B

CURVE 60011

STA. 133+38.03 74.00 RT SUR141B
= STA. 1+67.31 SR11TH_RET_1

STA. 132+53.66 92.67 RT SUR141B
= STA. 0+80.21 SR11TH_RET_1

SR11TH RET 1

END CURB TRANSITION
STA. 132+30.44 114.84 RT SUR141B

RADIUS POINT
CURVE 60011
0+80.21 50.00 RT

RADIUS POINT
CURVE 60010
133+47.59 155.90 RT SUR141B

CURVE 60010

BEGIN CURB TRANSITION
STA. 132+28.35 119.38 RT SUR141B

STA. 132+26.20 126.07 RT SUR141B
= STA. 0+35.50 SR11TH_RET_1

STA. 132+22.70 161.27 RT SUR141B
= STA. 0+00.00 SR11TH_RET_1

STA. 132+18.71 161.44 RT SUR141B

SE 11TH ST

0 20
FEET

GEOMETRIC DETAILS
INTERSECTION OF IOWA 141
AND SE 11TH STREET

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER L.9

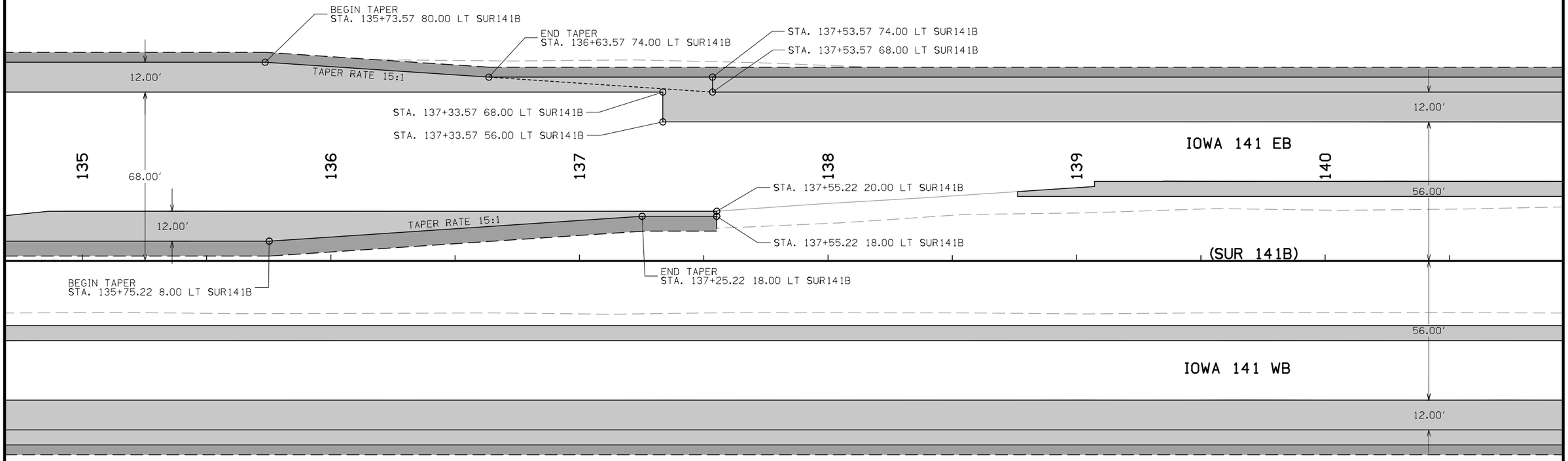
7:22:59 AM 8/4/2014 7:22:59 AM tu pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\771410421l.sht

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.



0 20
FEET

GEOMETRIC DESIGN
IOWA 141

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER L.10

7:23:31 AM 8/4/2014 7:23:51 AM tu pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\7714104211.sht

(1) Diameter or equivalent diameter

* Bid Item

** For SW-545

STORM SEWER

INTAKES AND UTILITY ACCESSES

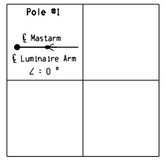
No.	Location Station and Offset	*Type or Standard Road Plan	Form Grade Elev.	Bottom Well Elev.	Extension Length** FT	Notes
I-1	105+66.85, 111.75 RT	RF-13				7.5° Bend
I-2	105+79.59, 79.51 RT	RF-13				20° Bend
I-3	105+81.46, 109.83 RT	SW-401		947.19		60", RIM=952.17
I-4	105+92.07, 110.22 RT	RF-2				
I-5	105+67.16, 116.91 RT	RF-2				
I-6	105+73.16, 116.93 RT	SW-507	951.56	947.16		
I-7	105+94.96, 117.25 RT	RF-13				3.2° Bend
I-8	79+44.12, 98.96 RT	RF-2				
I-9	79+50.47, 84.33 RT	RF-13				7.5° Bend
I-10	79+52.32, 99.10 RT	SW-401		953.1		60", RIM=958.15
I-11	80+20.31, 100.29 RT	RF-3				
I-12	104+81.69, 141.08 LT	RF-3				
I-13	105+01.78, 157.66 LT	RF-13				20° Bend
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				

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.

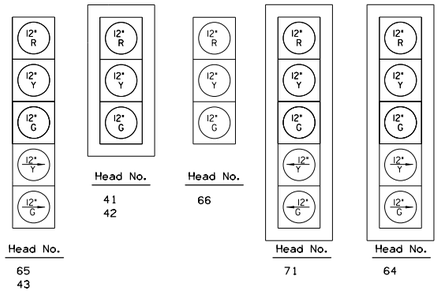
Line Number	Intake/ Utility Access No. From	To	Class 'D'	Pipe Size (1) IN	Bid* Length FT	Design Length FT	Slope %	Flow Lines: Inlet Elevation	Flow Lines: Outlet Elevation	Flow Lines: Other Elevation	Pipe Profile Sheet No.	Notes
P-1	I-3	I-1	2000	30	16	12.2	0.005	947.69	947.63			
P-2	I-2	I-3	2000	24	31	28.0	0.005	948.09	947.95			
P-3	I-4	I-3	2000	30	12	8.1	0.005	947.83	947.79			
P-4	I-6	I-5	2000	30	9	6.0		947.66	947.66			
P-5	I-7	I-6	2000	30	23	19.1	0.011	947.87	947.66			
P-6	I-10	I-8	2000	24	9	5.7	0.009	954	953.95			
P-7	I-9	I-10	2000	24	16	12.4	0.008	954.1	954			
P-8	I-11	I-10	2000	24	69	65.5	0.01	954.63	954			
P-9	I-13	I-12	2000	36	22	18.2	0.003	945.55	945.5			
P-10	I-15	I-14	2000	24	91	87.5	0.032	954.7	951.88			

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.

PHASE INFORMATION

PEDESTRIAN PUSHBUTTON LAYOUT

LEGEND

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

TRAFFIC SIGNAL INSTALLATION DETAILS

New 07-28-03

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

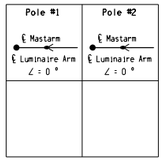
TRAFFIC SIGNAL LAYOUT

IA 141 AND SE 37TH STREET
GRIMES, IOWA

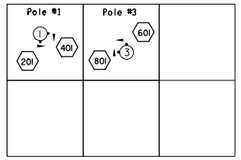
FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER N.1

SYSTEMTIME SYSTEMDATE USERNAME DGNSPEC

LUMINAIRE ARM LAYOUT



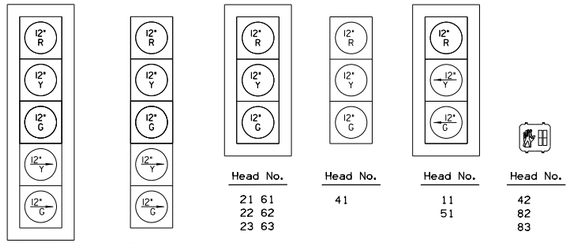
PEDESTRIAN PUSHBUTTON LAYOUT



R9-5-12

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.
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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.

PHASE INFORMATION

Ring & Barrier Structure

Phase Assignments

LEGEND

- 24 Signal Number
- 1 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

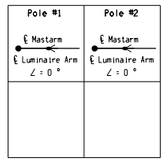
TRAFFIC SIGNAL LAYOUT

IA 141 AND SE 19TH STREET
GRIMES, IOWA

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER N.2

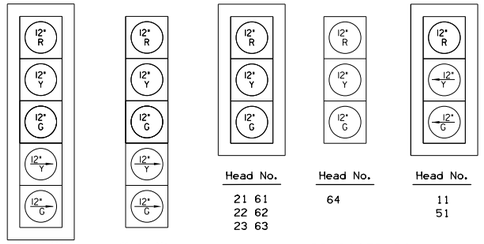
SYSTEMTIME SYSTEMDATE USERNAME DGNSPEC

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.

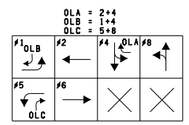
PROPOSED POWER SOURCE
EXISTING SIGNAL CONTROLLER
2 - P.B. (201) (401)
REMOVE EXISTING 70' COMBO MAST ARM POLE AND FOOTING
EXISTING POWER SOURCE
(70' mast arm U.A.C.)
(98' mast arm)
(60' mast arm U.A.C.)
REMOVE EXISTING 70' COMBO MAST ARM POLE AND FOOTING
2 - P.B. (601) (801)
IA 141
SE 11TH STREET
129 130 131 132 133 134 135

TRAFFIC SIGNAL INSTALLATION DETAILS

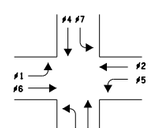
New 07-28-03

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

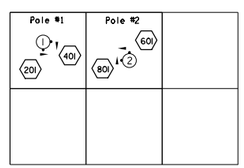
PHASE INFORMATION



Ring & Barrier Structure



Phase Assignments



LEGEND

- (24) Signal Number
- (1) Pole Number
- Power Source
- Pad Mounted Contoller
- Signal Head w/ Backplate
- Signal Head Pole Mounted
- Pole Base
- Luminaire Arm

0 FEET 20

TRAFFIC SIGNAL LAYOUT

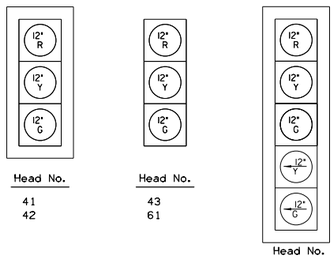
IA 141 AND SE 11TH STREET
GRIMES, IOWA

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

SYSTEMTIME SYSTEMDATE USERNAME DGNSPEC

TRAFFIC SIGNAL FACES

All indicators shall be LED



Head No.	Head No.	Head No.
41	43	71
42	61	

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.

PHASE INFORMATION

Ring & Barrier Structure

Phase Assignments

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

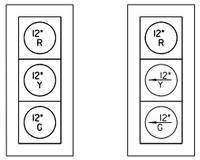
IA 141 AND SE 37TH STREET
GRIMES, IOWA

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER N.4

SYSTEMTIME SYSTEMDATE USERNAME DGNSPEC

TRAFFIC SIGNAL FACES

All indicators shall be LED



Head No.	Head No.
21 61	51
22 62	

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

Ring & Barrier Structure

Phase Assignments

TEMP SIGNAL LAYOUT

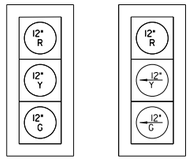
IA 141 AND SE 19TH STREET
GRIMES, IOWA

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER N.5

SYSTEMTIME SYSTEMDATE USERNAME DGNSPEC

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.

(70' mast arm U.A.C.)

REMOVE EXISTING 70' COMBO MAST ARM POLE AND FOOTING

IA 141

SE 37TH ST

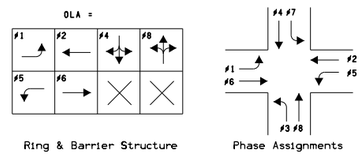
(60' mast arm U.A.C.)

REMOVE EXISTING 70' COMBO MAST ARM POLE AND FOOTING

50 51 52 53 54 55

0 20 FEET

PHASE INFORMATION



Ring & Barrier Structure

Phase Assignments

LEGEND

- 22 — Signal Number
- 1 — 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

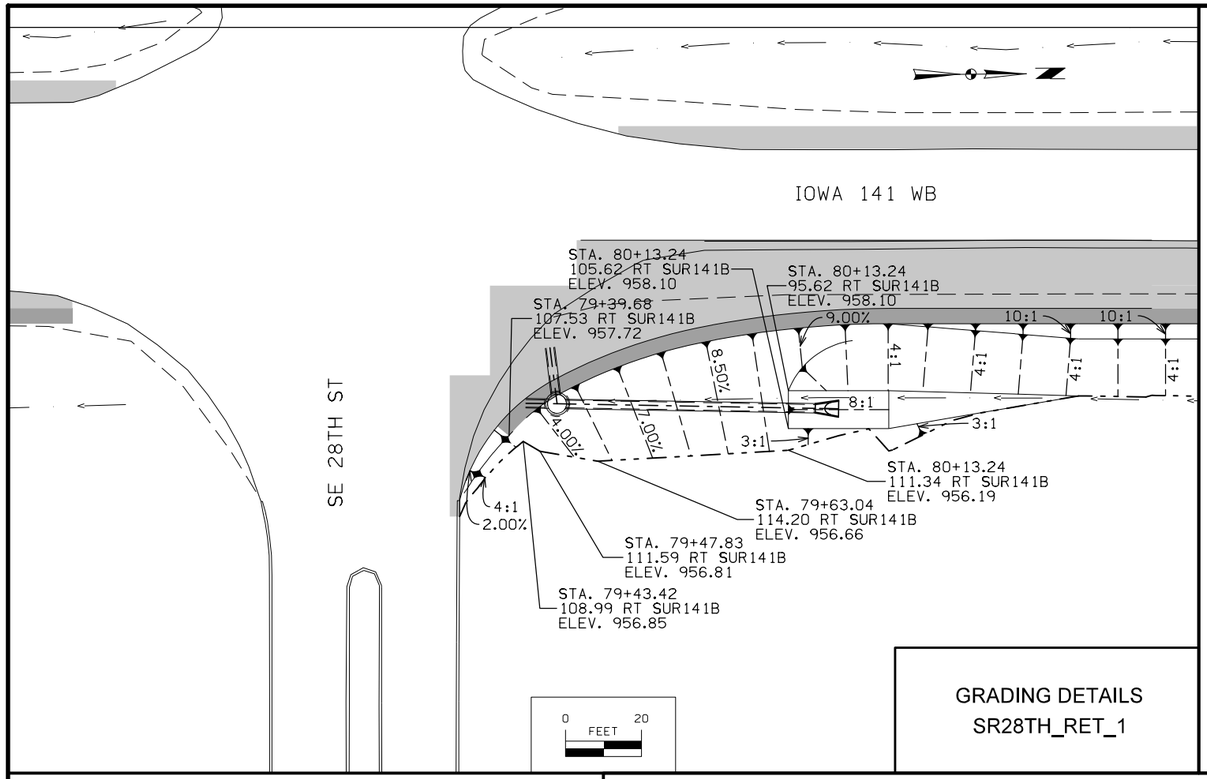
ITEM	ID NO.	STATION	SIDE	OFFSET
40' Class 4 Wood Pole	1	130+80.69	Lt	91.5
40' Class 4 Wood Pole	2	130+80.35	Lt	14.5
40' Class 4 Wood Pole	3	132+77.06	Rt	10.4
40' Class 4 Wood Pole	4	132+76.69	Rt	96.4

TEMP SIGNAL LAYOUT

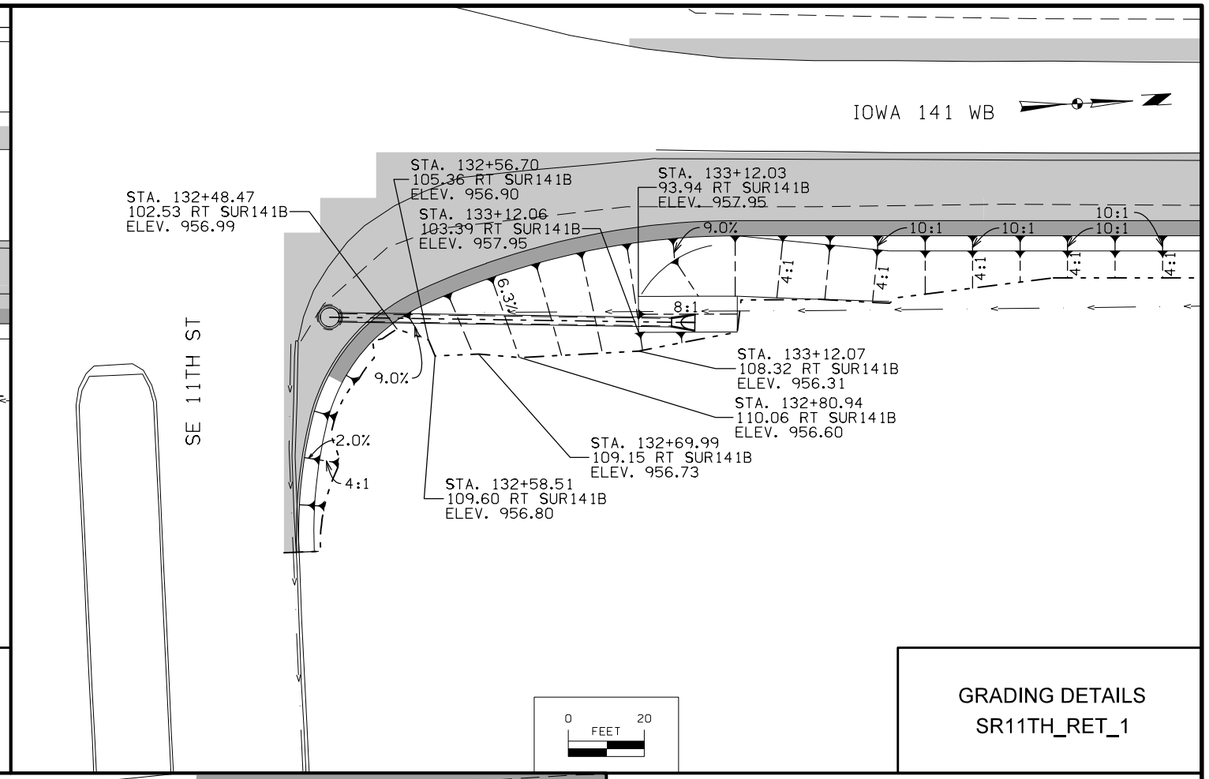
IA 141 AND SE 11TH STREET
GRIMES, IOWA

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER N.6

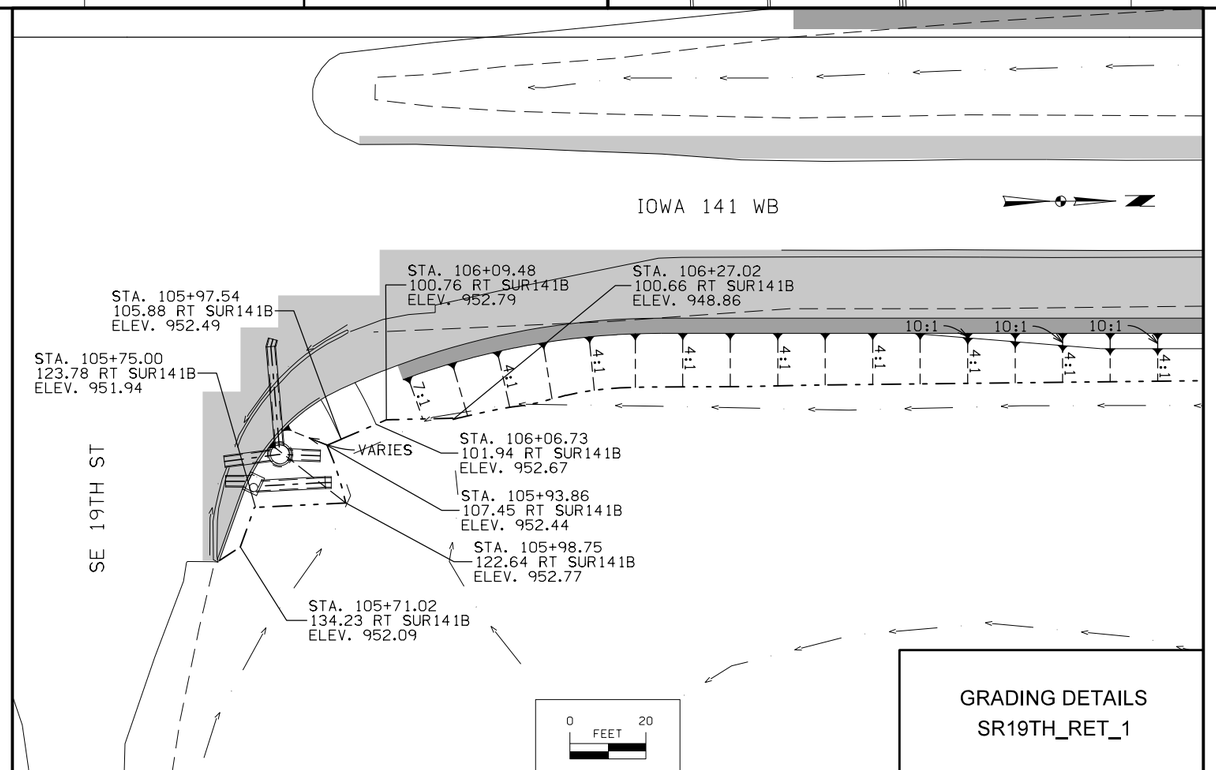
SYSTEMTIME SYSTEMDATE USERNAME DGNSPEC



GRADING DETAILS
SR28TH_RET_1



GRADING DETAILS
SR11TH_RET_1

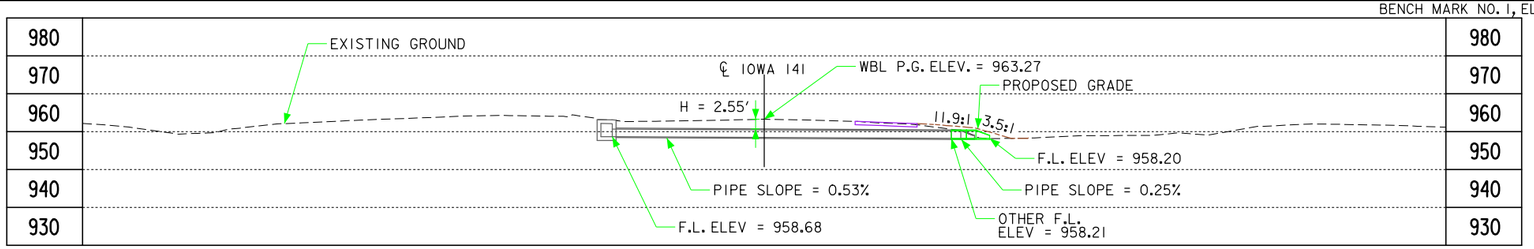


GRADING DETAILS
SR19TH_RET_1

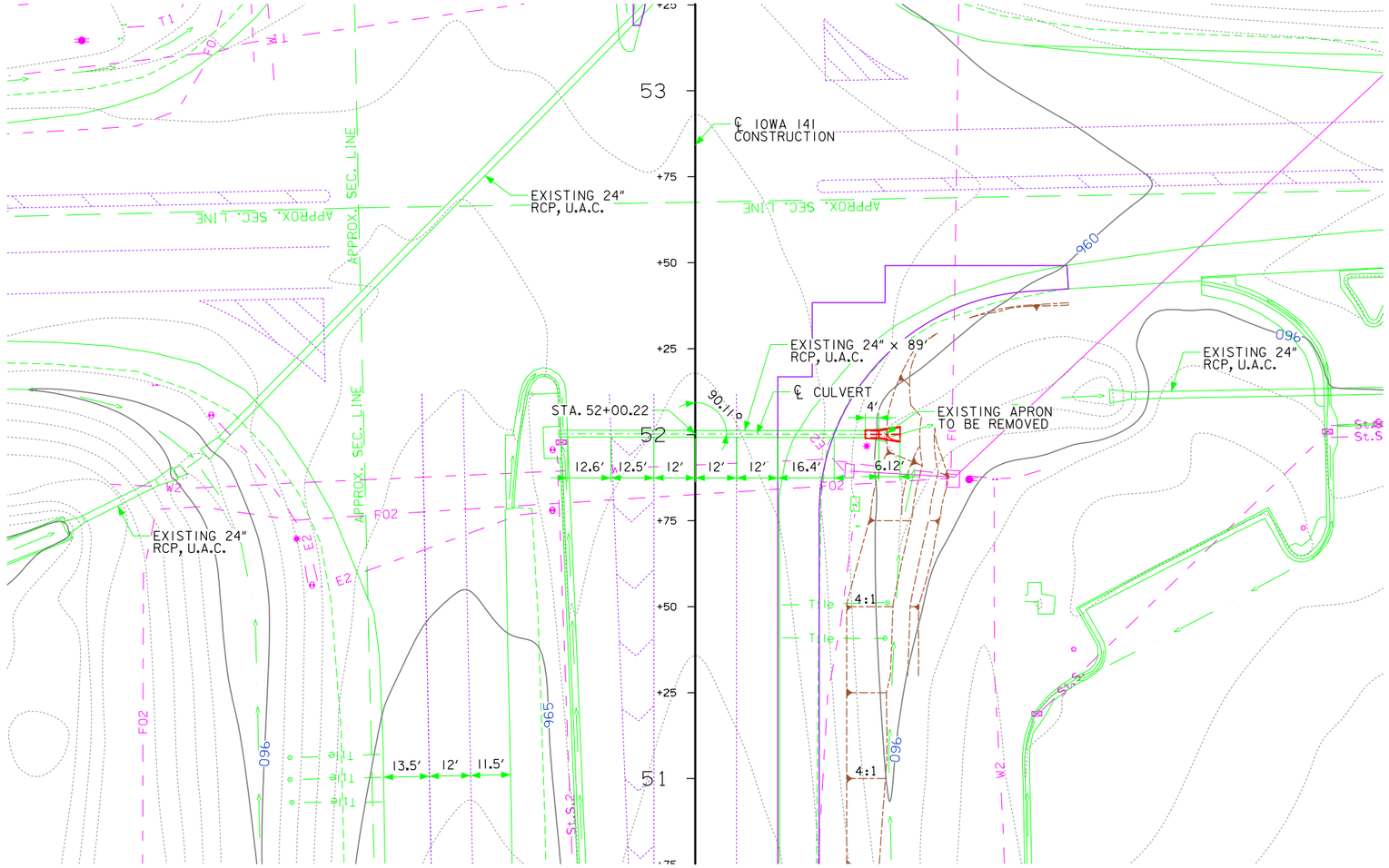
FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER U.1

10:33:50 AM 7/5/2014 10:33:50 AM pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042U1.sht

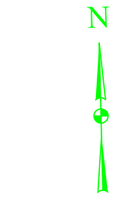
BENCH MARK NO. 1, ELEV. 956.64, STA. 53+62.13, 144.00' RT, CP 1 SET FENO MONUMENT



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN



HYDRAULIC DATA

DRAINAGE AREA = MEDIAN

0 ENGLISH 40
SCALE IN FEET

UTILITIES LEGEND:

- E2 - Baker Electric (QLD)
- FO2 - Iowa Network Services (QLD)
- E1 - MidAmerican (QLD)
- G - Black Hills Energy (QLD)
- TV - Mediacom (QLD)
- FO - Iowa Communication Services (QLD)
- FO3 - 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 (℄ IOWA 141) JULY 2014

POLK COUNTY

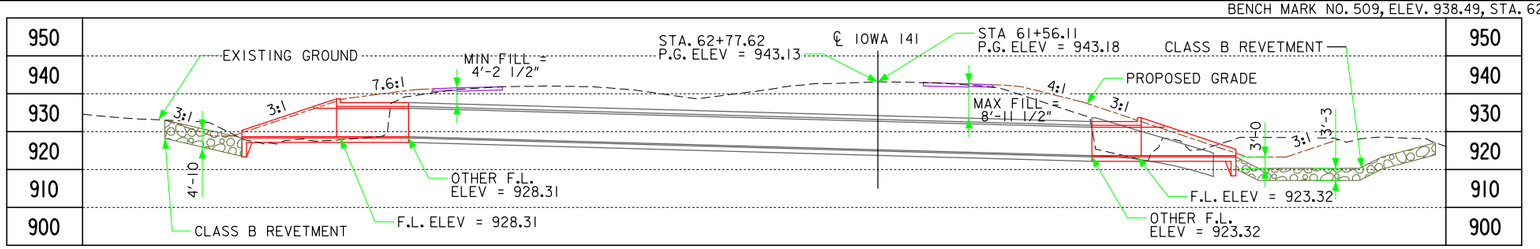
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

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

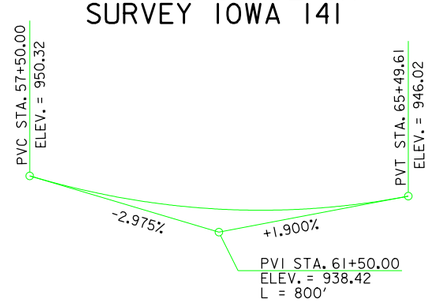
DESIGN TEAM Iowa DOT/HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER V.1

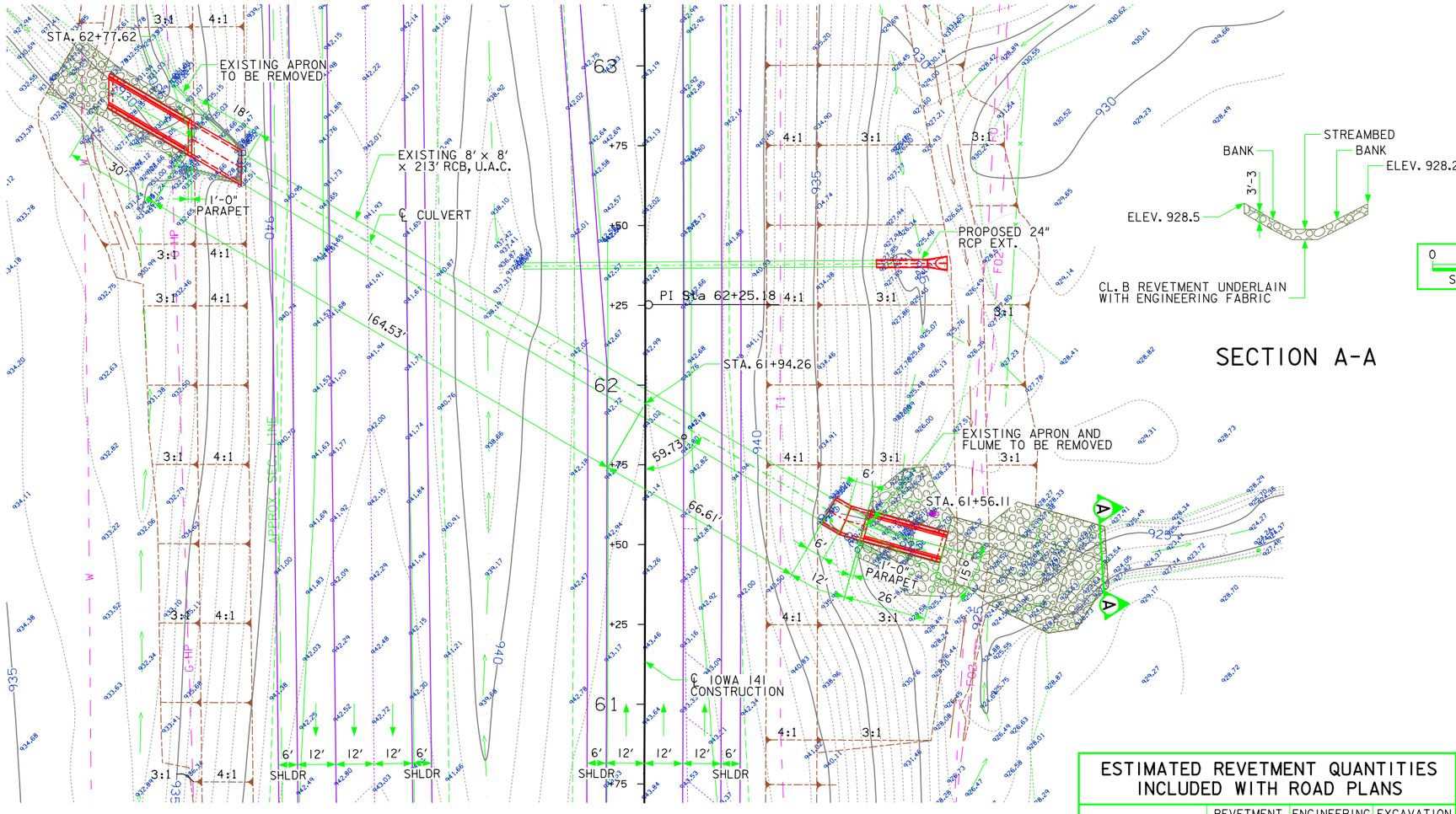
7/5/2014 12:26:42 PM johsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\BRPrelim\77141042.str TSL_77_STA52+00 11x17_pdf.pltcfg

BENCH MARK NO. 509, ELEV. 938.49, STA. 62+69.05, 126.76' LT, FD IHC BUTTON ON INLET HDWL 4 X 8 RCB



LONGITUDINAL SECTION AT CULVERT INVERTS





SITUATION PLAN

SECTION A-A

0 ENGLISH 40
SCALE IN FEET

SURVEY IOWA 141 ALIGNMENT INFORMATION

Curve Data
Δ = 1° 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)
- FO2 - Iowa Network Services (QLD)
- E1 - MidAmerican (QLD)
- G - Black Hills Energy (QLD)
- TV - Mediacom (QLD)
- FO - Iowa Communication Services (QLD)
- FO3 - 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

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.

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 (℄ IOWA 141) JULY 2014

POLK COUNTY

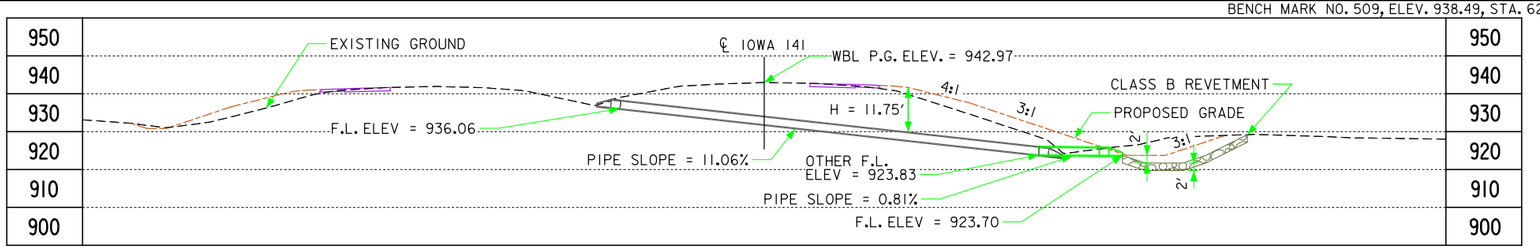
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. _____ DESIGN NO. 316

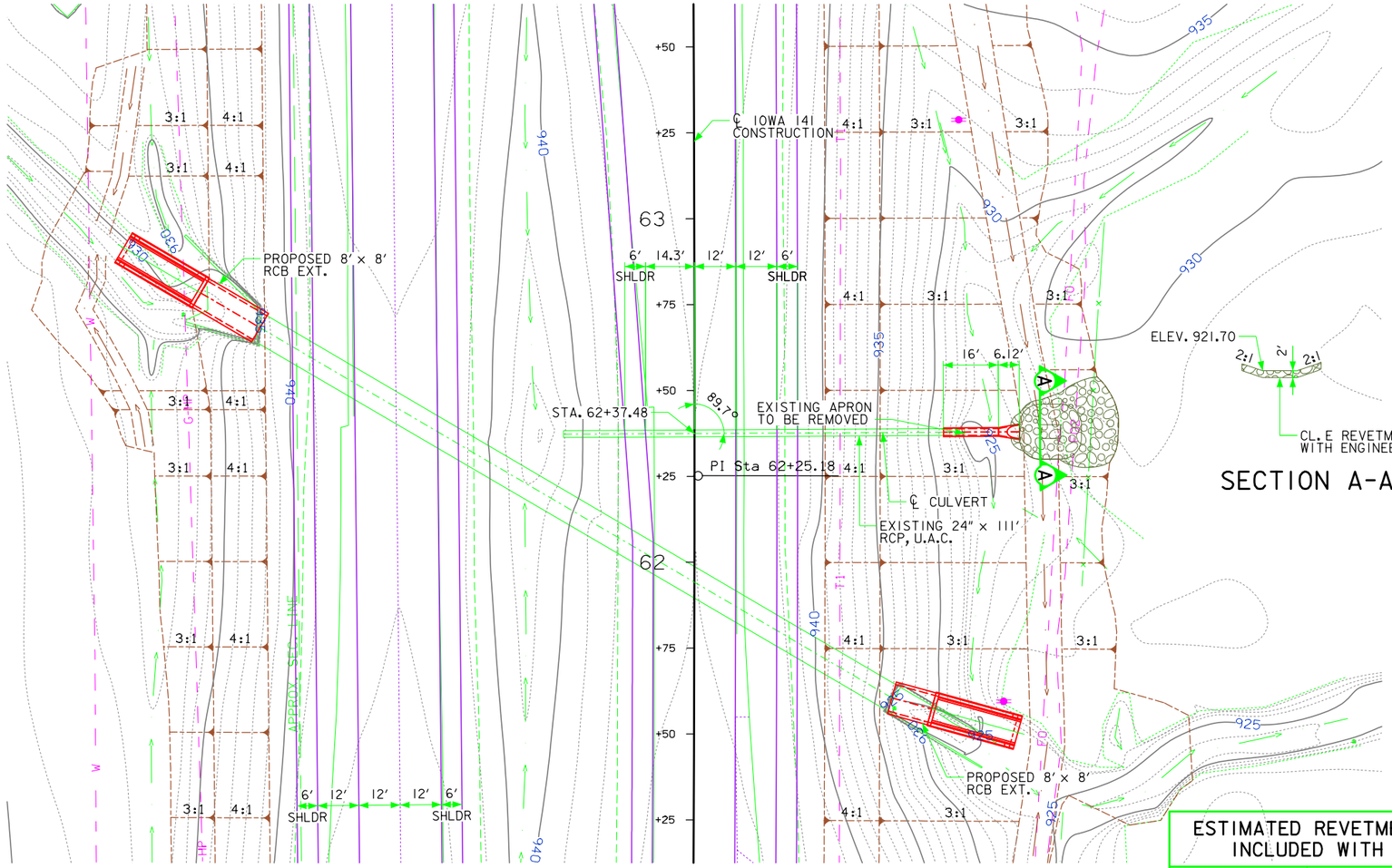
DESIGN TEAM Iowa DOT/HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER V.2

8/29/2014 2:52:44 PM johsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\BRPrelim\77141042.str TSL_77_STA61+94 11x17_pdf.pltcfg

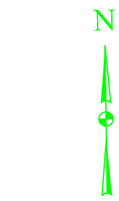
BENCH MARK NO. 509, ELEV. 938.49, STA. 62+69.05, 126.76' LT, FD IHC BUTTON ON INLET HDWL 4 X 8 RCB

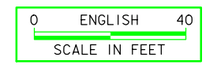


LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN





SECTION A-A

HYDRAULIC DATA

DRAINAGE AREA = MEDIAN

UTILITIES LEGEND:

- E2 - Baker Electric (QLD)
- FO2 - Iowa Network Services (QLD)
- E1 - MidAmerican (QLD)
- G - Black Hills Energy (QLD)
- TV - Mediacom (QLD)
- FO - Iowa Communication Services (QLD)
- FO3 - 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

ESTIMATED REVETMENT QUANTITIES INCLUDED WITH ROAD PLANS

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.

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. Right REINFORCED CONCRETE PIPE

PLAT PLAN

STATION 62+37.48 (℄ IOWA 141) JULY 2014

POLK COUNTY

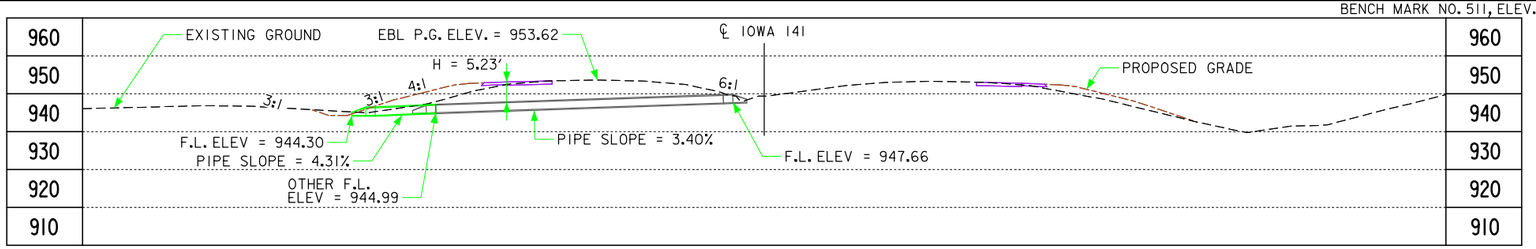
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

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

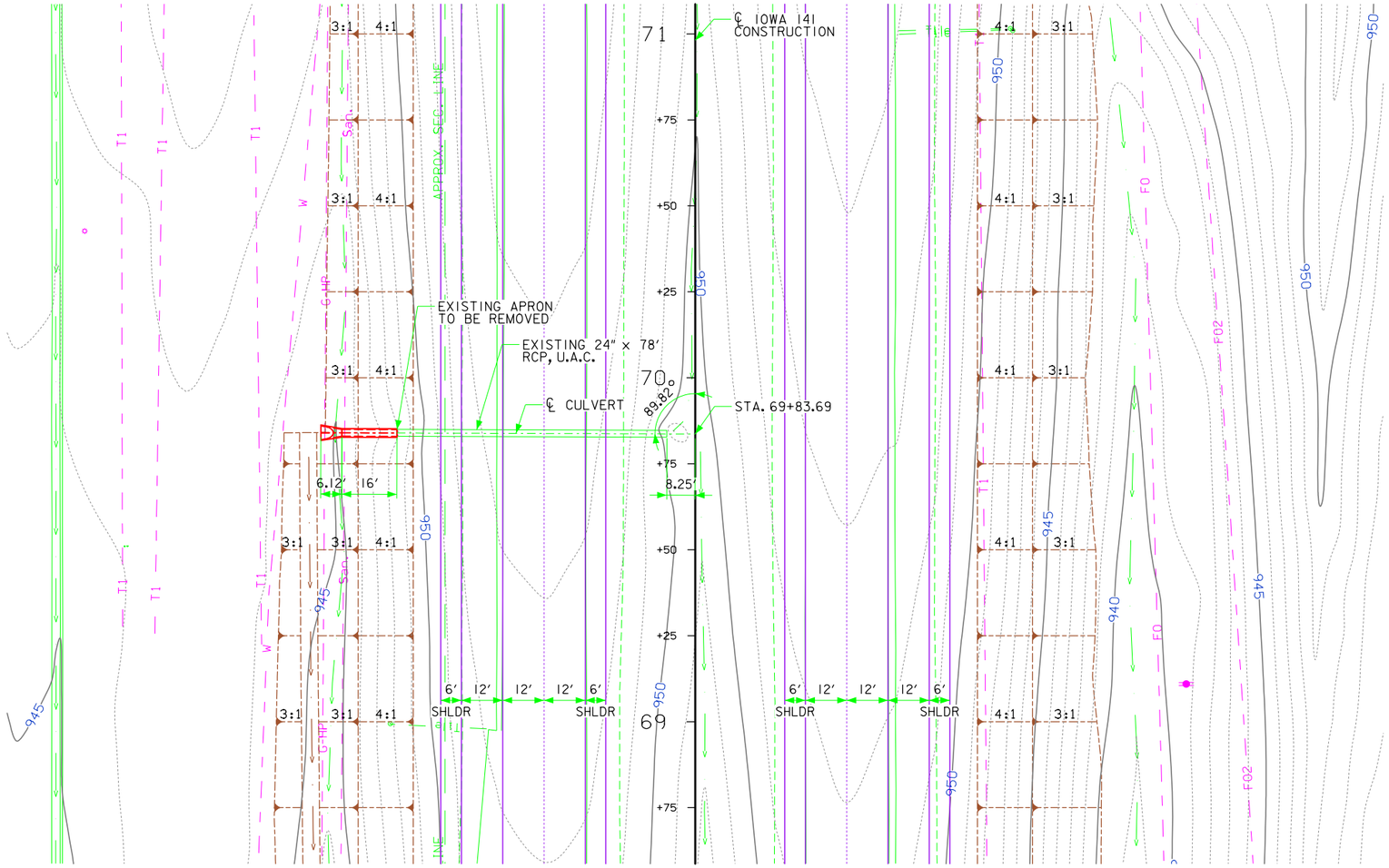
DESIGN TEAM Iowa DOT/HDR | POLK COUNTY | PROJECT NUMBER NHSX-141-7(42)--3H-77 | SHEET NUMBER V.3

7/5/2014 12:31:48 PM johsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\BRPrelim\77141042.str TSL_77_STA62+37 11x17_pdf.pltcfg

BENCH MARK NO. 511, ELEV. 961.22, STA. 78+60.78, 173.16' LT, FD X SW HEADBOLT FIRE HYD



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

N

HYDRAULIC DATA

DRAINAGE AREA = MEDIAN

0 ENGLISH 40
SCALE IN FEET

UTILITIES LEGEND:

- E2 - Baker Electric (QLD)
- FO2 - Iowa Network Services (QLD)
- E1 - MidAmerican (QLD)
- G - Black Hills Energy (QLD)
- TV - Mediacom (QLD)
- FO - Iowa Communication Services (QLD)
- FO3 - 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 (℄ IOWA 141) JULY 2014

POLK COUNTY

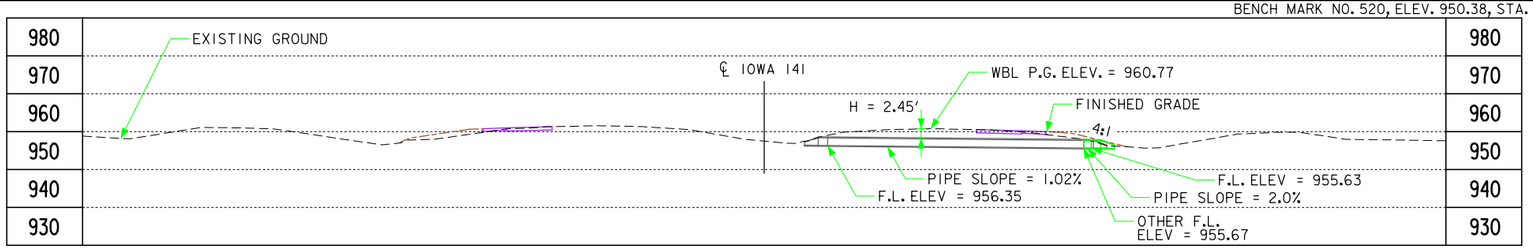
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

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

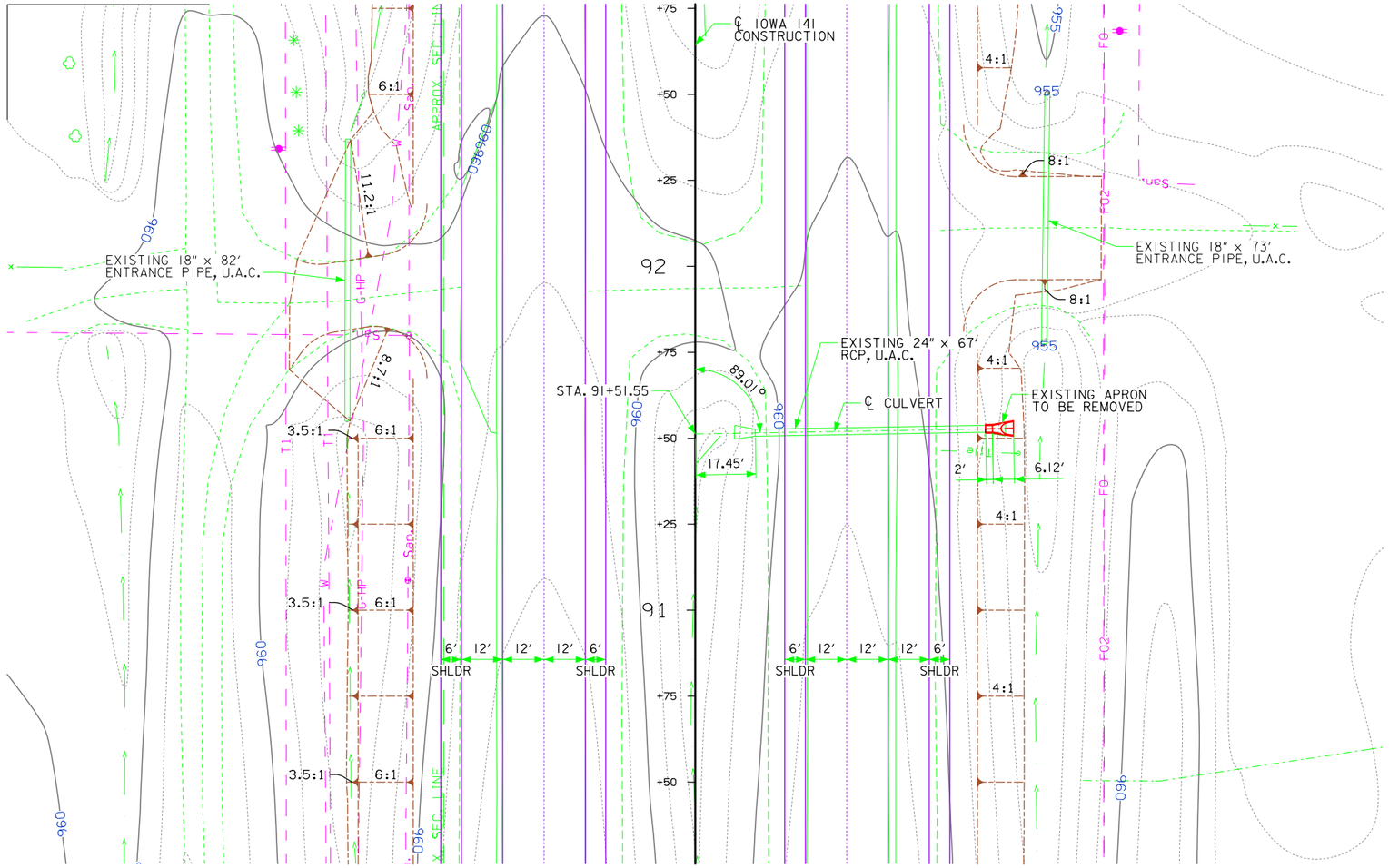
DESIGN TEAM Iowa DOT/HDR | POLK COUNTY | PROJECT NUMBER NHSX-141-7(42)--3H-77 | SHEET NUMBER V.4

7/5/2014 12:26:36 PM johsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\BRPrelim\77141042.str TSL_77_STA69+83 11x17_pdf.pltcfg

BENCH MARK NO. 520, ELEV. 950.38, STA. 106+10.05, 109.49' LT, CUT X SE CORNER CONC W/ELECTRIC BOX



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

N

HYDRAULIC DATA

DRAINAGE AREA = MEDIAN

0 ENGLISH 40
SCALE IN FEET

UTILITIES LEGEND:

- E2 - Baker Electric (QLD)
- FO2 - Iowa Network Services (QLD)
- E1 - MidAmerican (QLD)
- G - Black Hills Energy (QLD)
- TV - Mediacom (QLD)
- FO - Iowa Communication Services (QLD)
- FO3 - 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 (℄ IOWA 141) JULY 2014

POLK COUNTY

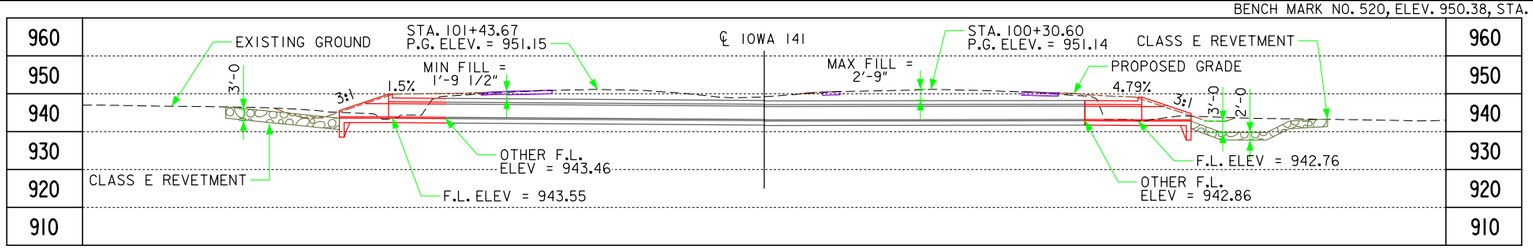
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

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

DESIGN TEAM Iowa DOT/HDR | POLK COUNTY | PROJECT NUMBER NHSX-141-7(42)--3H-77 | SHEET NUMBER V.5

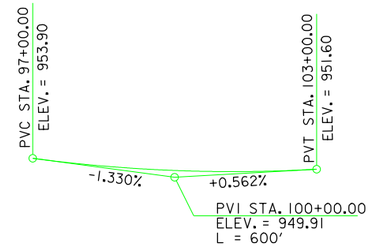
7/21/2014 3:02:47 PM johsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\BRPrelim\77141042.str TSL_77_STA91+51 11x17_pdf.pltcfg

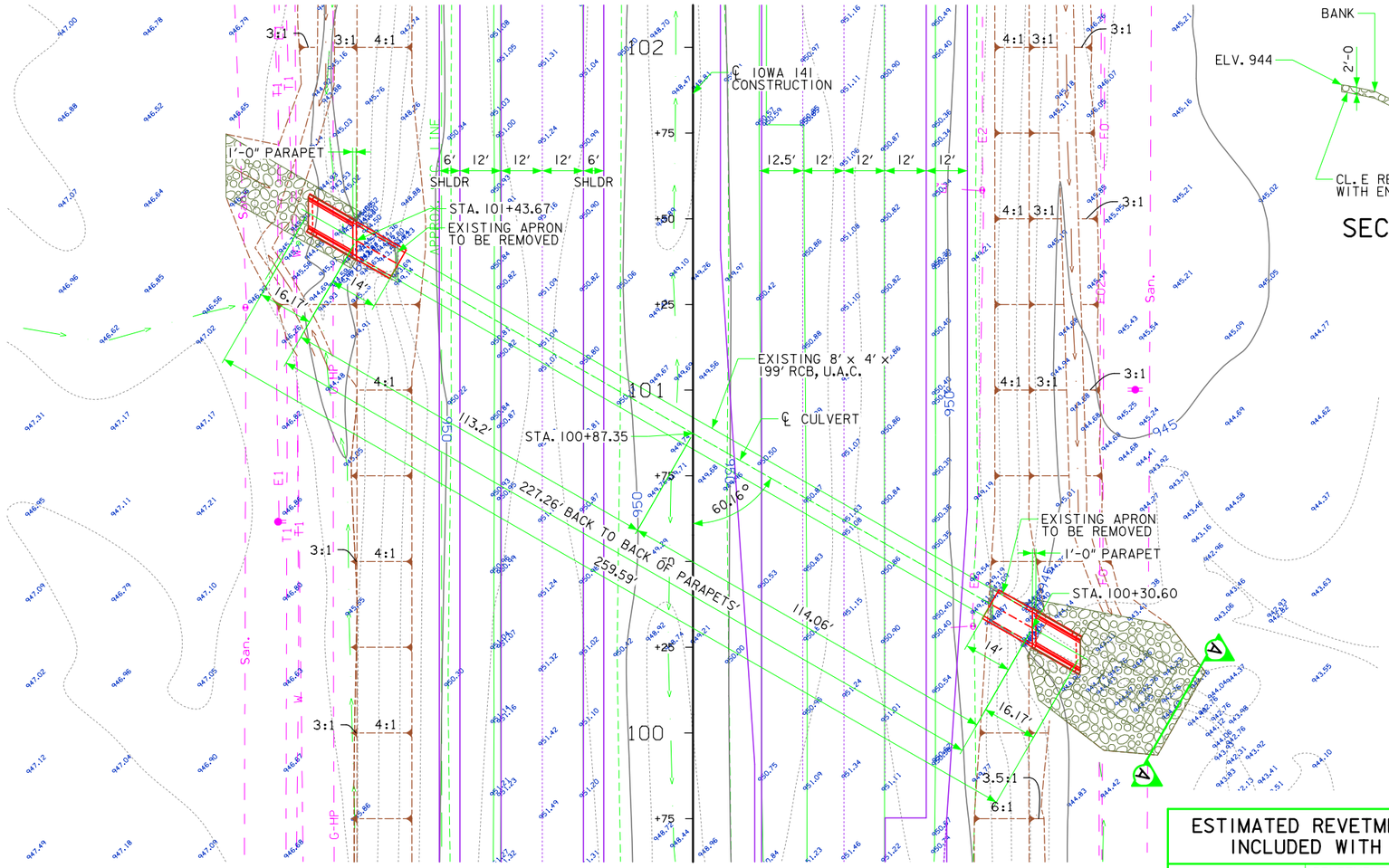
BENCH MARK NO. 520, ELEV. 950.38, STA. 106+10.05, 109.49' LT, CUT X SE CORNER CONC W/ELECTRIC BOX



LONGITUDINAL SECTION AT CULVERT INVERTS

PROFILE GRADE ON SURVEY IOWA 141





SITUATION PLAN

SECTION A-A

N

SURVEY IOWA 141 ALIGNMENT INFORMATION

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

0 ENGLISH 40
SCALE IN FEET

HYDRAULIC DATA

DRAINAGE AREA = 331 ACRES F-R

UTILITIES LEGEND:

- E2 - Baker Electric (QLD)
- FO2 - Iowa Network Services (QLD)
- E1 - MidAmerican (QLD)
- G - Black Hills Energy (QLD)
- TV - Mediacom (QLD)
- FO - Iowa Communication Services (QLD)
- FO3 - 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
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 (℄ IOWA 141) JULY 2014

POLK COUNTY

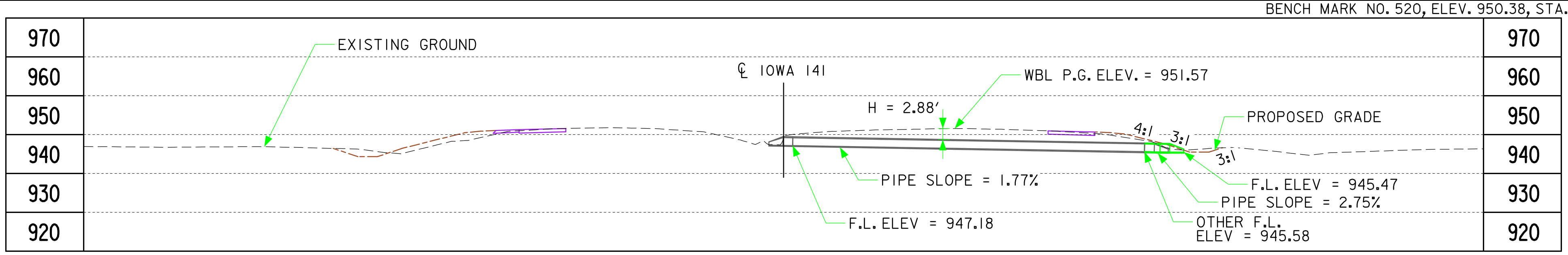
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. _____ DESIGN NO. 416

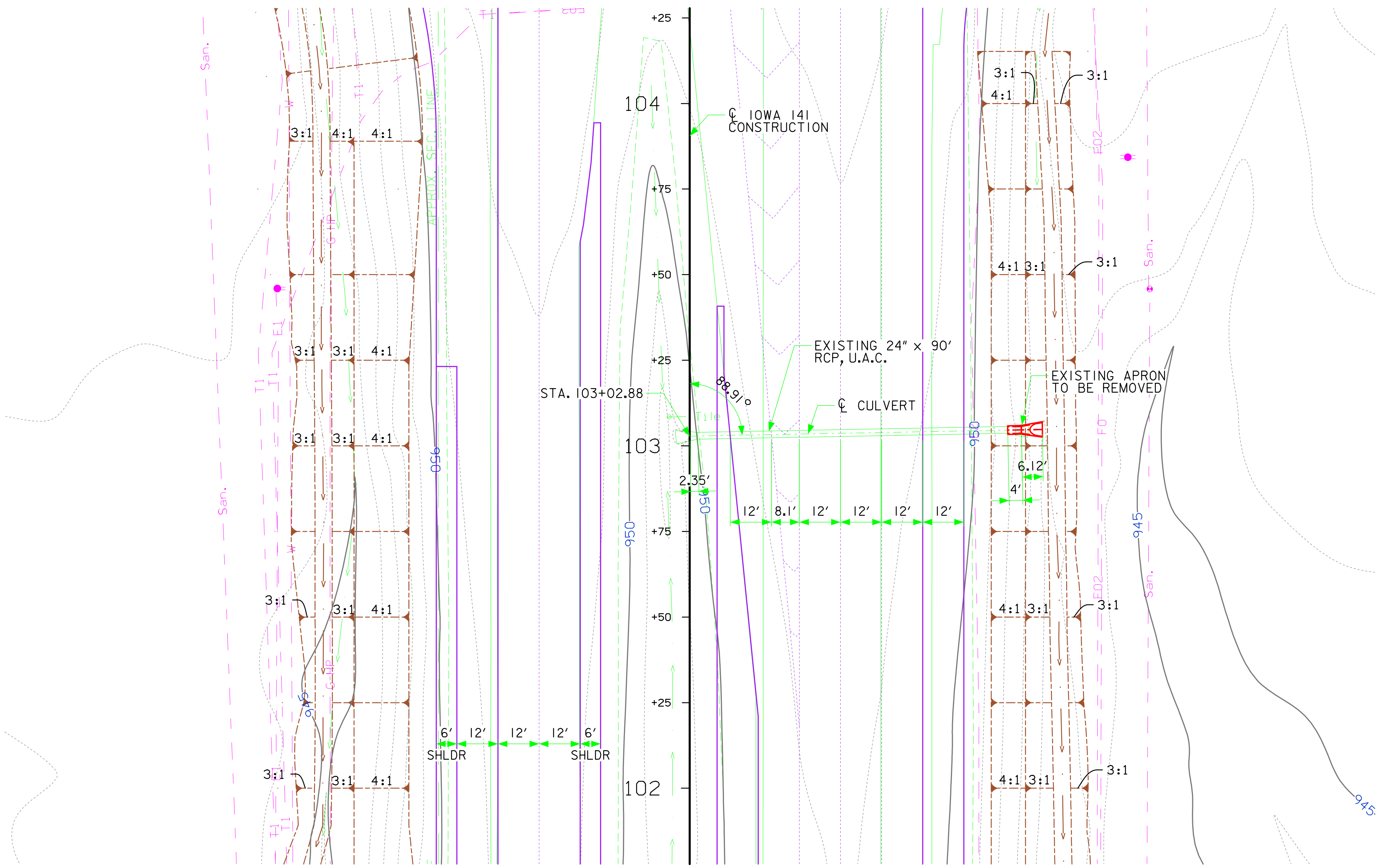
DESIGN TEAM Iowa DOT/HDR | POLK COUNTY | PROJECT NUMBER NHSX-141-7(42)--3H-77 | SHEET NUMBER V.6

8/28/2014 3:25:41 PM johsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\BRPrelim\77141042.str TSL_77_STA100+87 11x17_pdf.pltcfg

BENCH MARK NO. 520, ELEV. 950.38, STA. 106+10.05, 109.49′ LT, CUT X SE CORNER CONC W/ELECTRIC BOX



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

N

0	ENGLISH	40
	SCALE IN FEET	

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 - Gity 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

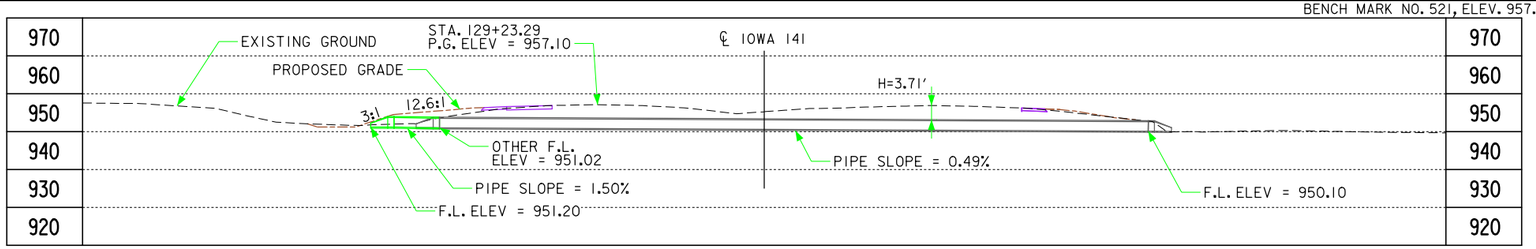
STATION 103+02.88 (℄ IOWA 141) JULY 2014

POLK COUNTY

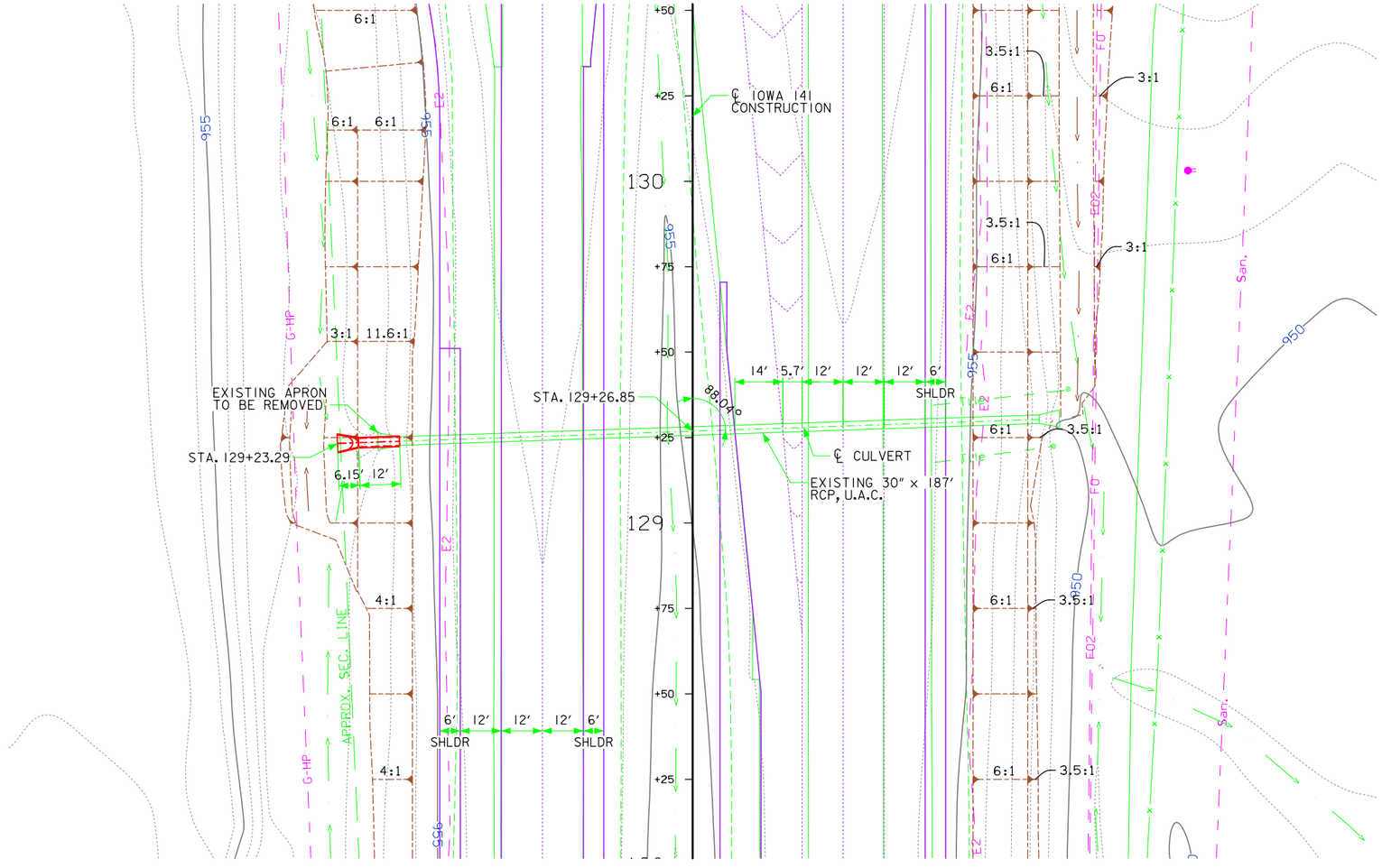
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

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

BENCH MARK NO. 521, ELEV. 957.63, STA. 131+79.90, 113.65' RT, CUT X N END CONC MEDIAN HEAD



LONGITUDINAL SECTION AT CULVERT INVERTS



PLAT PLAN

N

0 ENGLISH 40
SCALE IN FEET

HYDRAULIC DATA

DRAINAGE AREA = 20 ACRES F-R

UTILITIES LEGEND:

- E2 - Baker Electric (QLD)
- FO2 - Iowa Network Services (QLD)
- E1 - MidAmerican (QLD)
- G - Black Hills Energy (QLD)
- TV - Mediacom (QLD)
- FO - Iowa Communication Services (QLD)
- FO3 - 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 (℄ IOWA 141) JULY 2014

POLK COUNTY

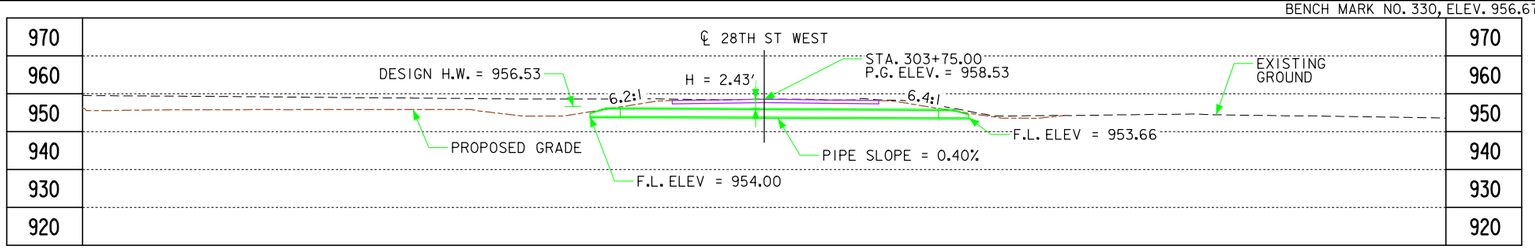
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

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

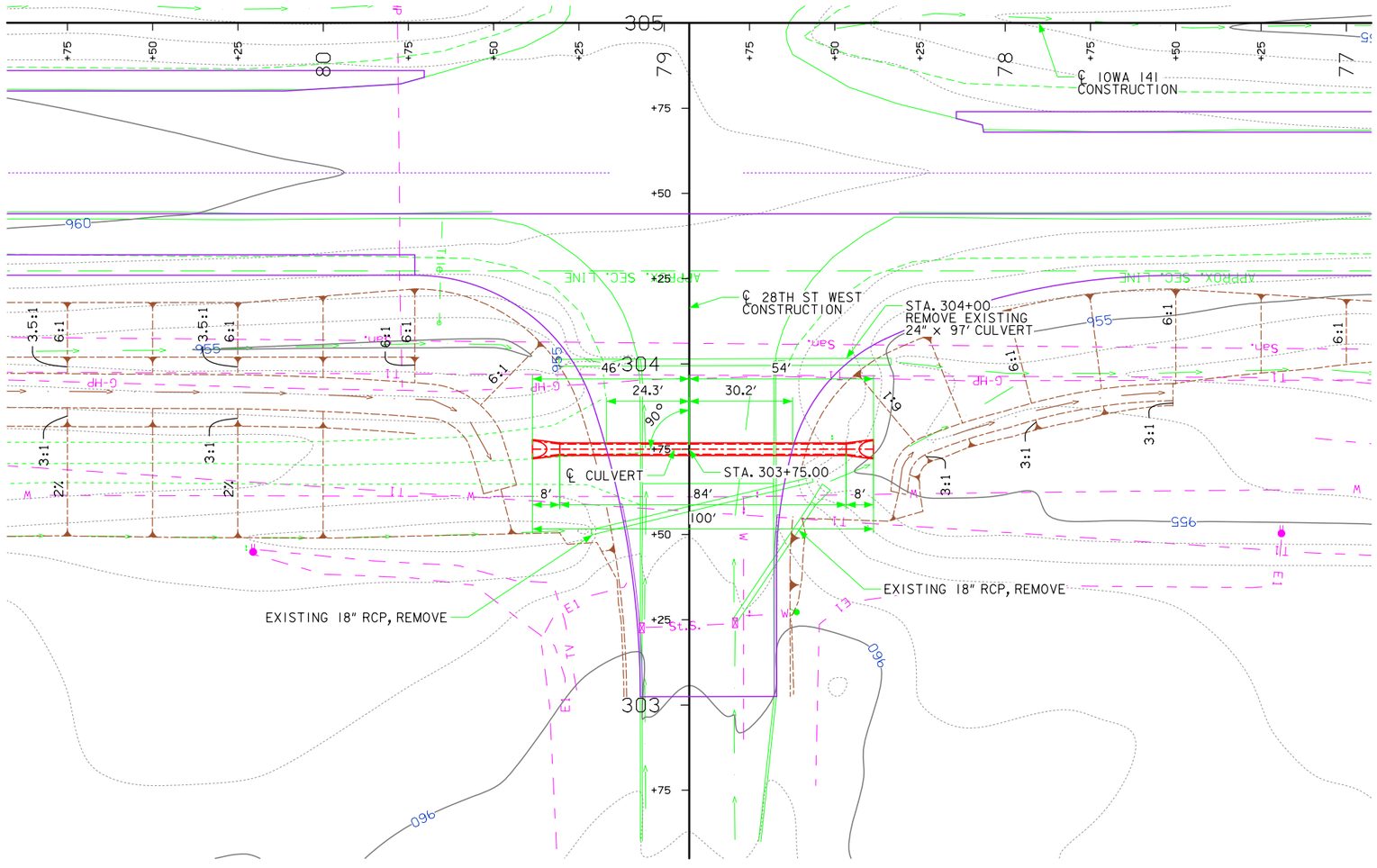
DESIGN TEAM Iowa DOT/HDR | POLK COUNTY | PROJECT NUMBER NHSX-141-7(42)--3H-77 | SHEET NUMBER V.8

7/5/2014 12:26:53 PM johsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\BRPrelim\77141042.str TSL_77_STA129+27 11x17_pdf.pltcfg

BENCH MARK NO. 330, ELEV. 956.67, STA. 79+03.52, 143.18' RT, CP330 SET CUT X ON TOP OF CURB



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

N

0 ENGLISH 40
SCALE IN FEET

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)
- FO2 - Iowa Network Services (QLD)
- E1 - MidAmerican (QLD)
- G - Black Hills Energy (QLD)
- TV - Mediacom (QLD)
- FO - Iowa Communication Services (QLD)
- FO3 - Centurylink (QLD)
- T1 - Centurylink (QLD)
- St.S. - City of Grimes (QLD)
- W - Gity 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 (℄ 28TH ST WEST) JULY 2014

POLK COUNTY

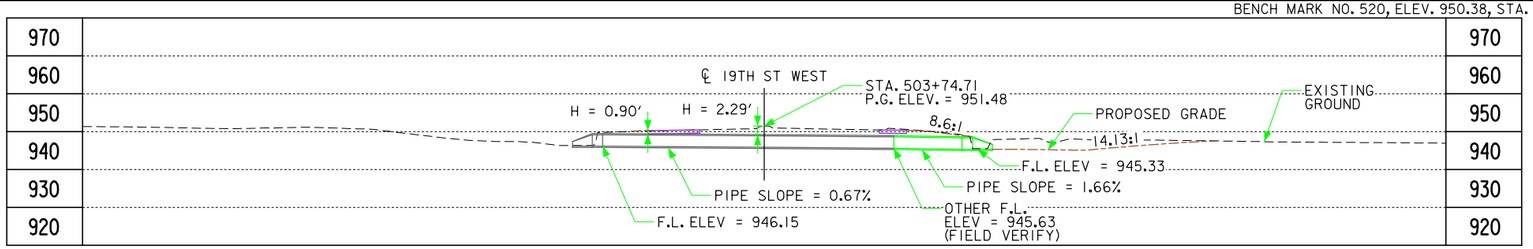
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

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

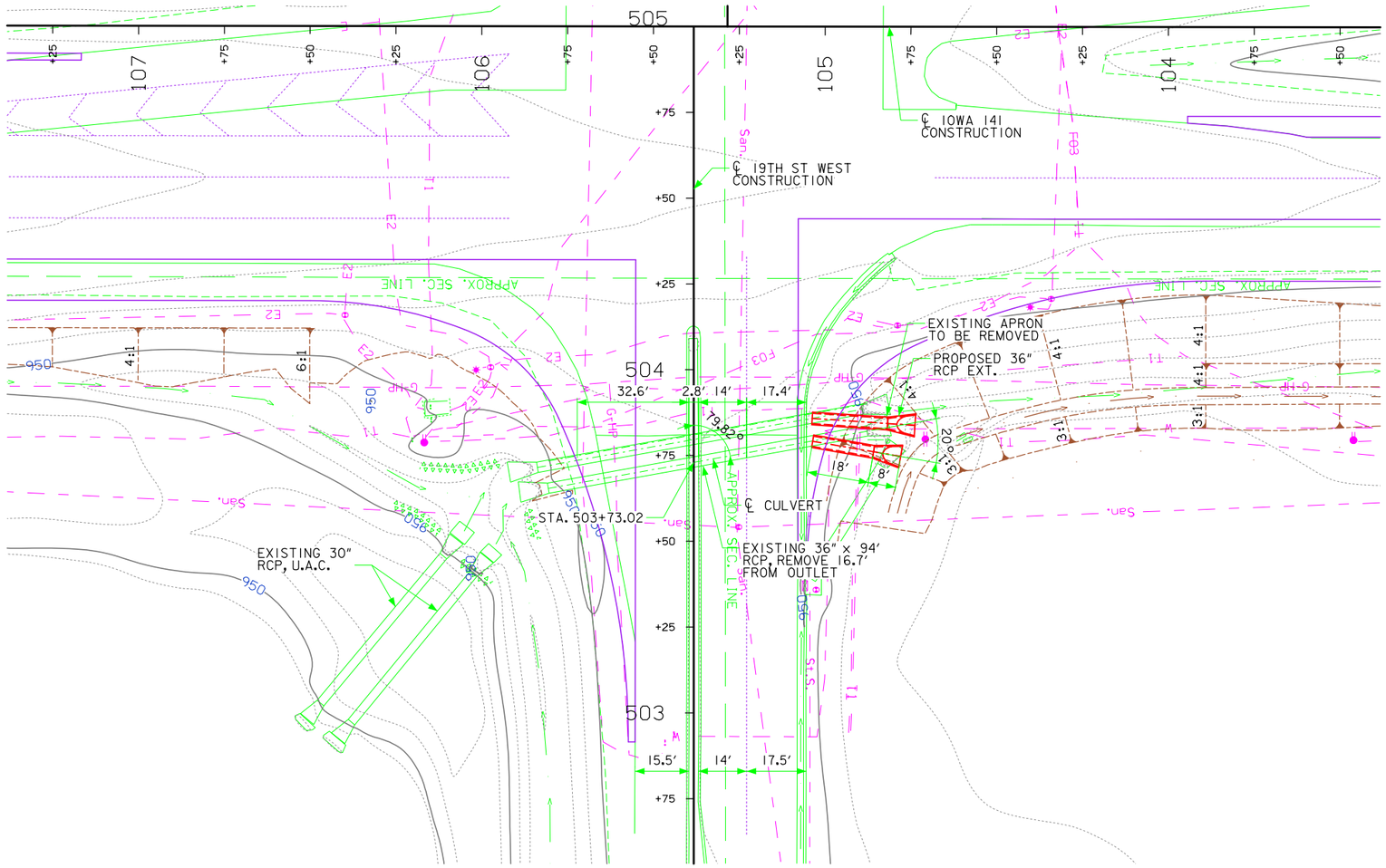
DESIGN TEAM Iowa DOT/HDR | POLK COUNTY | PROJECT NUMBER NHSX-141-7(42)--3H-77 | SHEET NUMBER V.9

7/5/2014 12:26:55 PM johsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\BRPrelim\77141042.str TSL_77_STA303+75 11x17_pdf.pltcfg

BENCH MARK NO. 520, ELEV. 950.38, STA. 106+10.05, 109.49' LT, CUT X SE CORNER CONC W/ELECTRIC BOX



LONGITUDINAL SECTION AT CULVERT INVERTS



PLAT PLAN

N

0 ENGLISH 40
SCALE IN FEET

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 (℄ 19TH ST WEST) JULY 2014

POLK COUNTY

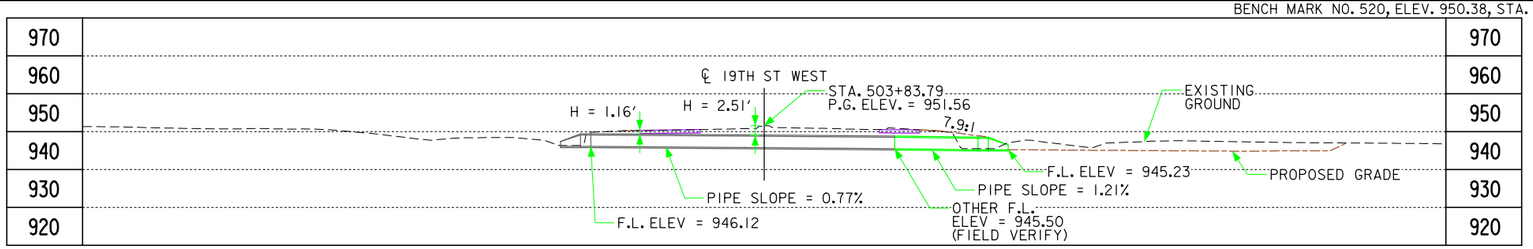
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

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

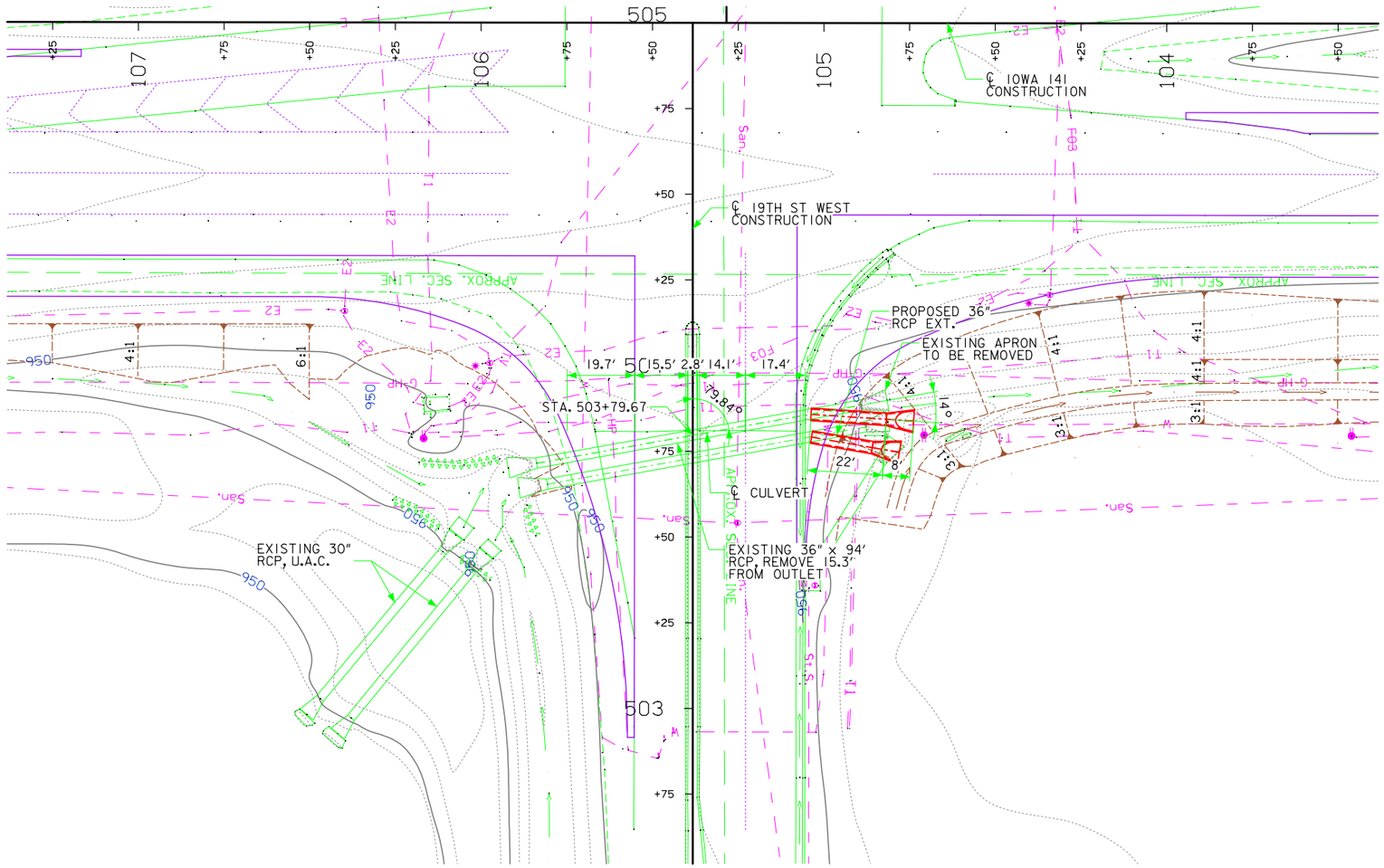
DESIGN TEAM Iowa DOT/HDR | POLK COUNTY | PROJECT NUMBER NHSX-141-7(42)--3H-77 | SHEET NUMBER V.10

7/5/2014 12:26:57 PM johsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\BRPrelim\77141042.str TSL_77_STA503+73 11x17_pdf.pltcfg

BENCH MARK NO. 520, ELEV. 950.38, STA. 106+10.05, 109.49' LT, CUT X SE CORNER CONC W/ELECTRIC BOX



LONGITUDINAL SECTION AT CULVERT INVERTS



PLAT PLAN

N

0 ENGLISH 40
SCALE IN FEET

UTILITIES LEGEND:

- E2 - Baker Electric (QLD)
- FO2 - Iowa Network Services (QLD)
- E1 - MidAmerican (QLD)
- G - Black Hills Energy (QLD)
- TV - Mediacom (QLD)
- FO - Iowa Communication Services (QLD)
- FO3 - 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 (℄ 19TH ST WEST) JULY 2014

POLK COUNTY

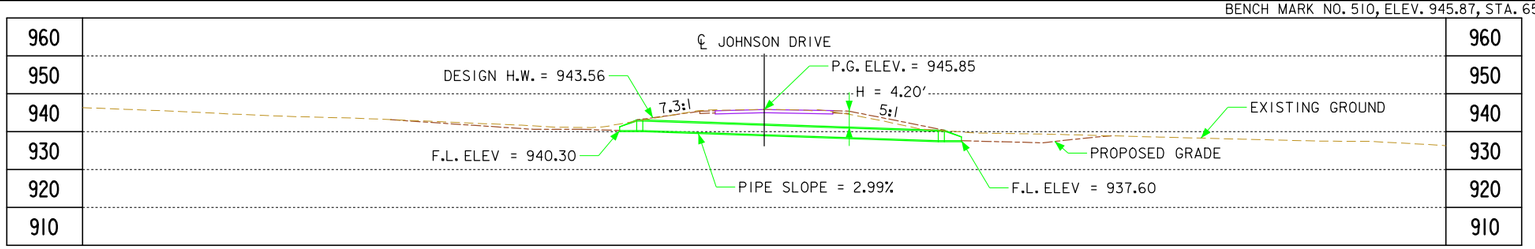
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

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

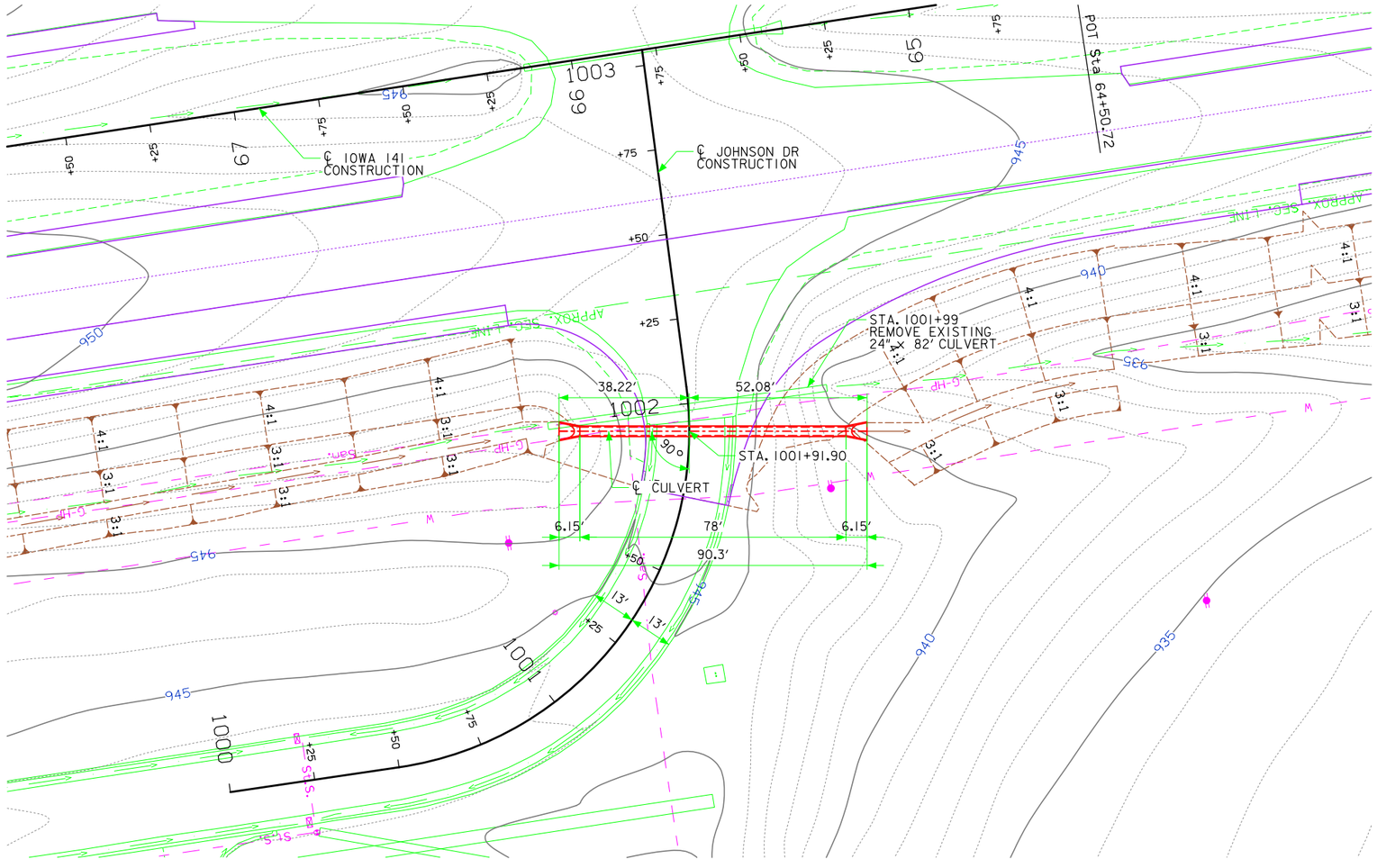
DESIGN TEAM Iowa DOT/HDR | POLK COUNTY | PROJECT NUMBER NHSX-141-7(42)--3H-77 | SHEET NUMBER V.11

7/5/2014 12:26:59 PM johsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\BRPrelim\77141042.str TSL_77_STA503+80 11x17_pdf.pltcfg

BENCH MARK NO. 510, ELEV. 945.87, STA. 65+17.24, 145.75' RT, FD X NW LEG STEEL BASE HIGH LINE TOWER



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

N

0 ENGLISH 40
SCALE IN FEET

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)
- FO2 - Iowa Network Services (QLD)
- E1 - MidAmerican (QLD)
- G - Black Hills Energy (QLD)
- TV - Mediacom (QLD)
- FO - Iowa Communication Services (QLD)
- FO3 - 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 (℄ JOHNSON DR) JULY 2014

POLK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

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

DESIGN TEAM Iowa DOT/HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER V.12

7/5/2014 12:36:48 PM johsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\BRPrelim\77141042.str TSL_77_STA1001+92 11x17_pdf.pltcfg

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\RCB
- Proposed Pipe\RCB
- 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

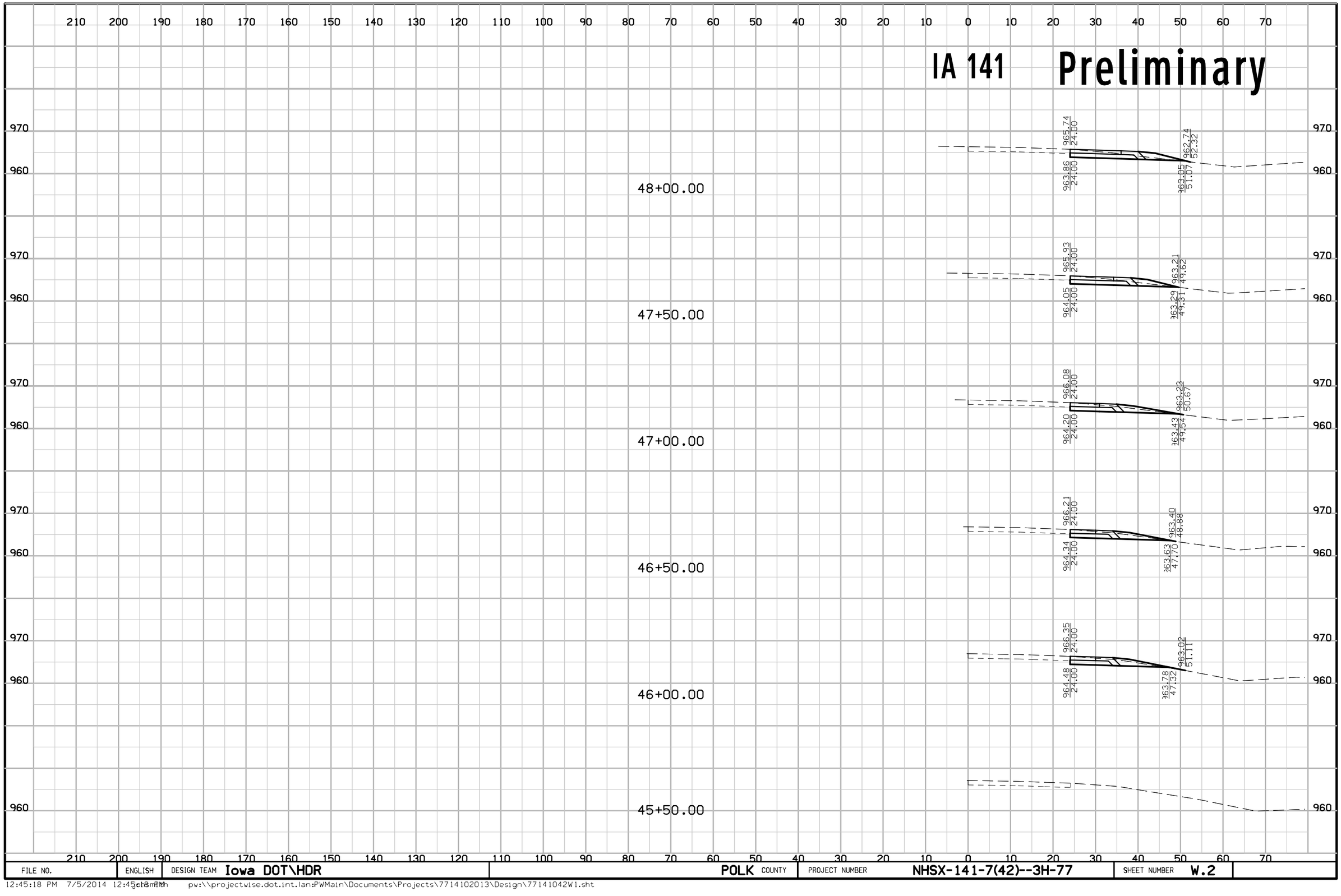
Proposed ROW — Proposed Right-of-Way Limit

Temporary ROW — Temporary Right-of-Way Limit

CROSS SECTION LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES W, X, Y, & Z)

IA 141 **Preliminary**



FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER W.2

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IA 141
Preliminary

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

970
960

Existing ROW

50+50.00

964.34
24.00
962.47
24.00
960.64
55.14
961.66
51.07

Existing ROW

50+00.00

964.79
24.00
962.91
24.00
961.37
53.98
962.10
51.07

980
970
960

49+50.00

965.13
24.00
963.26
24.00
961.26
55.84
962.45
51.07

970
960

49+00.00

965.38
24.00
963.51
24.00
961.79
54.68
962.70
51.07

970
960

48+50.00

965.59
24.00
963.71
24.00
962.64
52.11
962.90
51.07

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

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

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IA 141

Preliminary

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

970
960

Existing ROW

53+00.00

Existing ROW

52+50.00

Existing ROW

962.71
24.00

960.84
24.00

960.23
40.36

959.45
60.96

958.20
65.26

958.20
69.50

958.30
69.76

Existing ROW

52+00.22

Existing ROW

963.30
24.00

961.42
24.00

960.61
51.07

959.02
57.46

959.02
62.46

959.85
64.97

51+50.00

Existing ROW

963.80
24.00

961.92
24.00

961.11
51.07

960.06
55.25

51+00.00

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER W.4

12:45:19 PM 7/5/2014 12:45:19 PM pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042W1.sht

IA 141

Preliminary

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

970
960
950

Existing ROW

55+50.00

Existing ROW

55+00.00

Existing ROW

54+50.00

Existing ROW

54+00.00

Existing ROW

53+50.00

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER W.5

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IA 141

Preliminary

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

Existing ROW

950

940

58+00.00

960

950

940

Existing ROW

57+50.00

960

950

Existing ROW

57+00.00

960

950

Existing ROW

56+50.00

960

950

Existing ROW

56+00.00

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

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER W.6

12:45:21 PM 7/5/2014 12:45:21 PM pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042W1.sht

IA 141
Preliminary

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

950 940 930

Existing ROW

943.81 12.00

941.94 12.00

940.83 48.79

939.92 54.00

939.92 59.04

60+50.00

Existing ROW

60+00.00

Existing ROW

59+50.00

Existing ROW

59+00.00

Existing ROW

58+50.00

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

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

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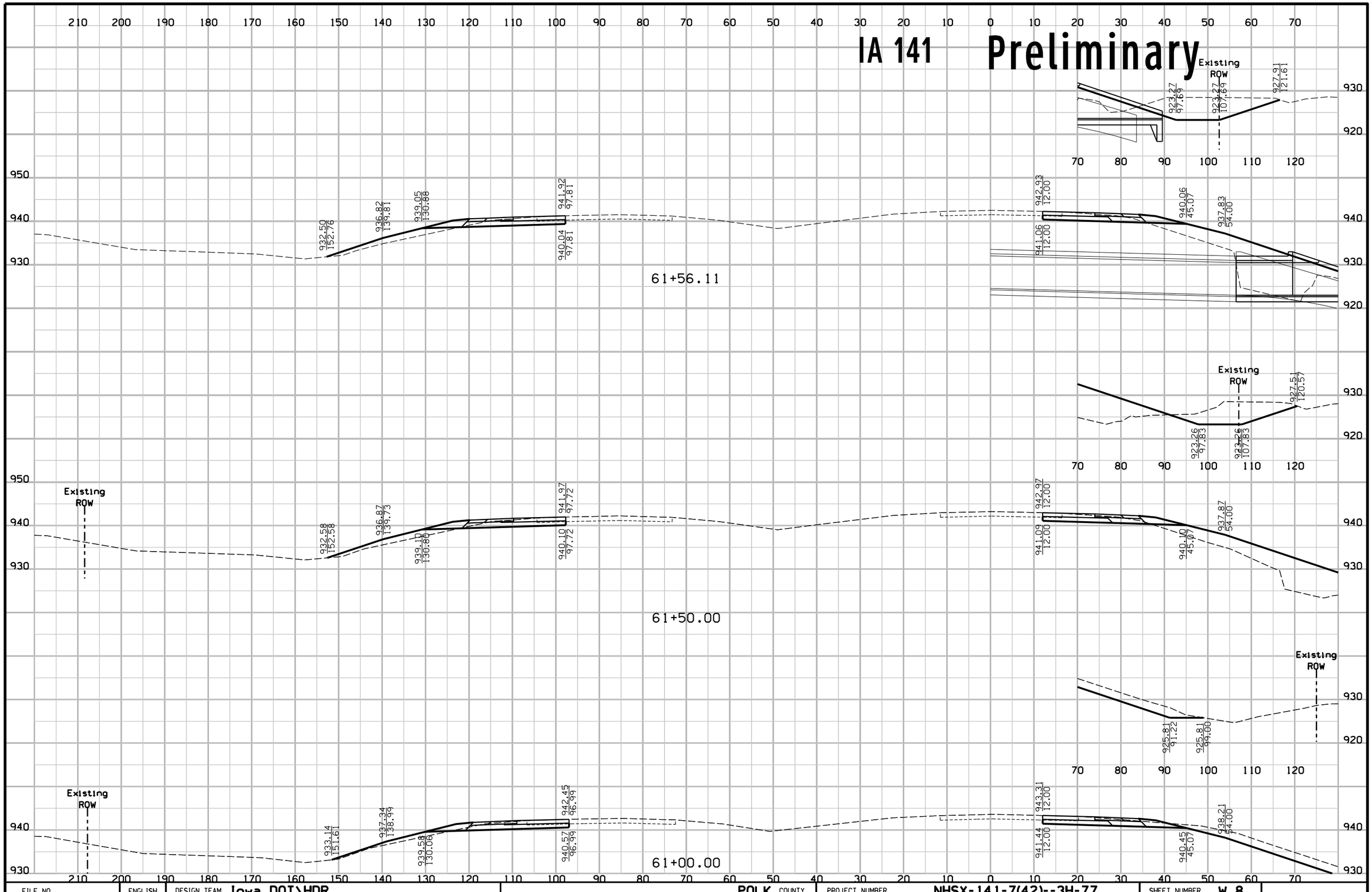
IA 141 Preliminary



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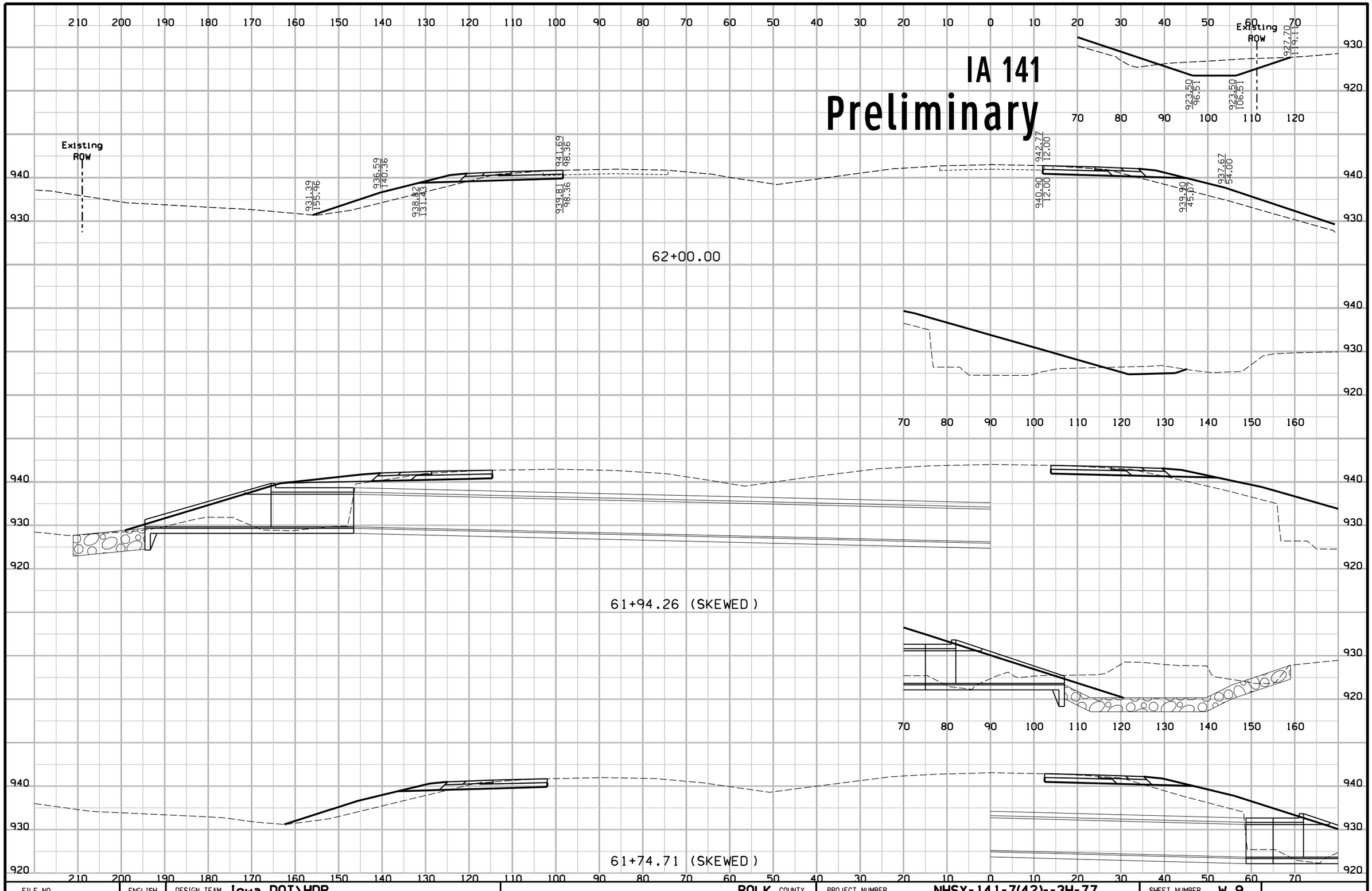
IA 141
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER W.9

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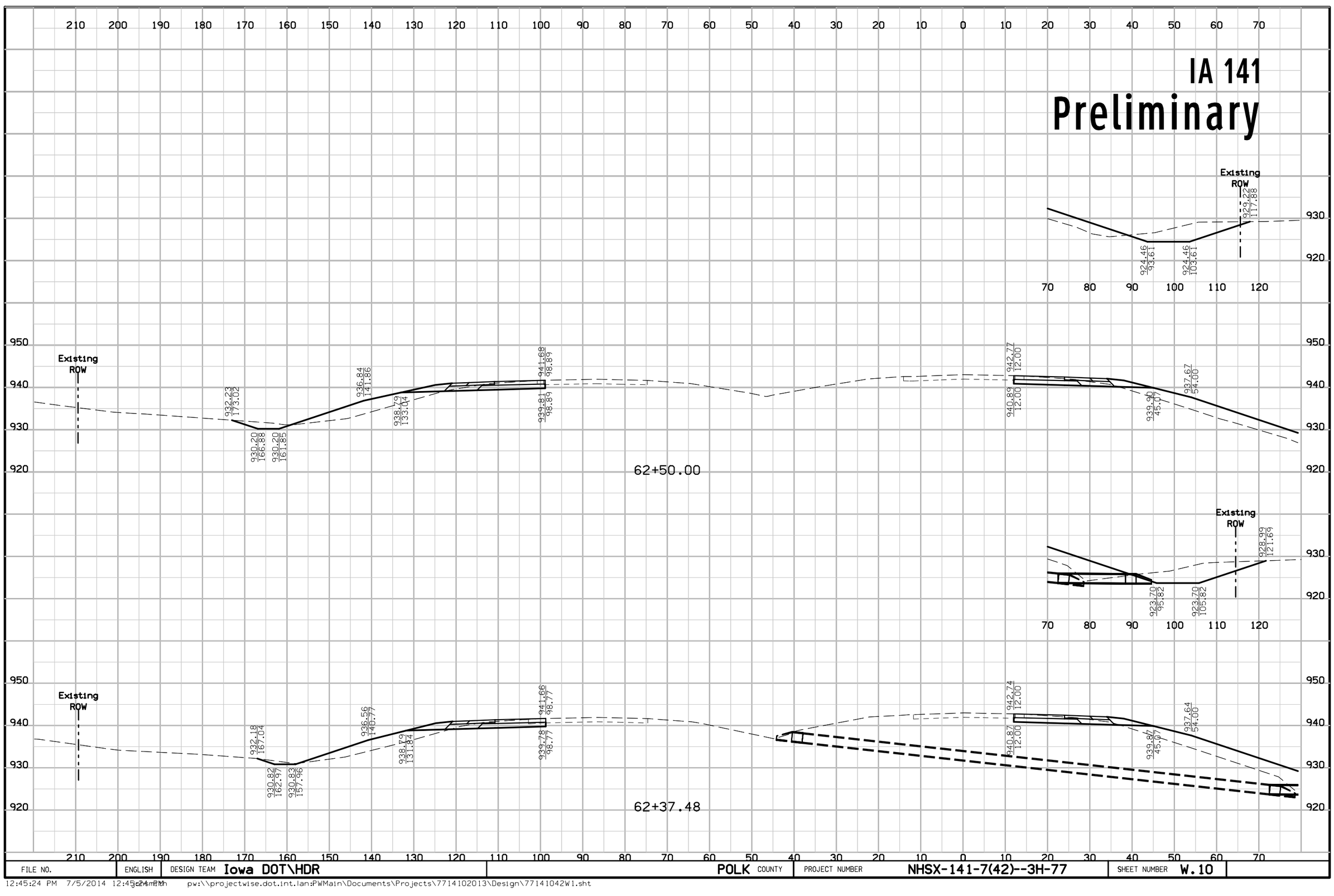
IA 141
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM	Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER	NHSX-141-7(42)--3H-77	SHEET NUMBER	W.10

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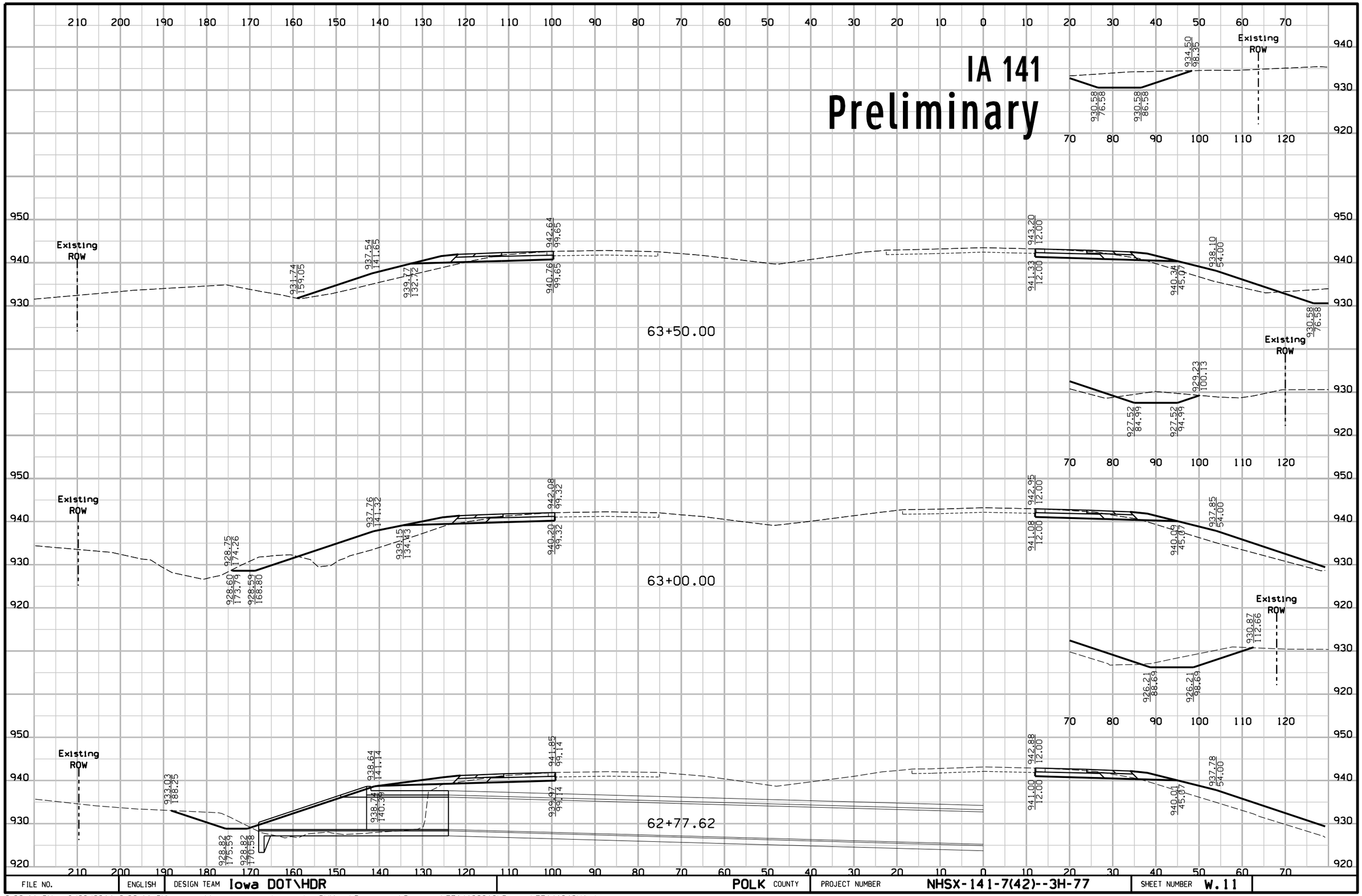
IA 141
Preliminary



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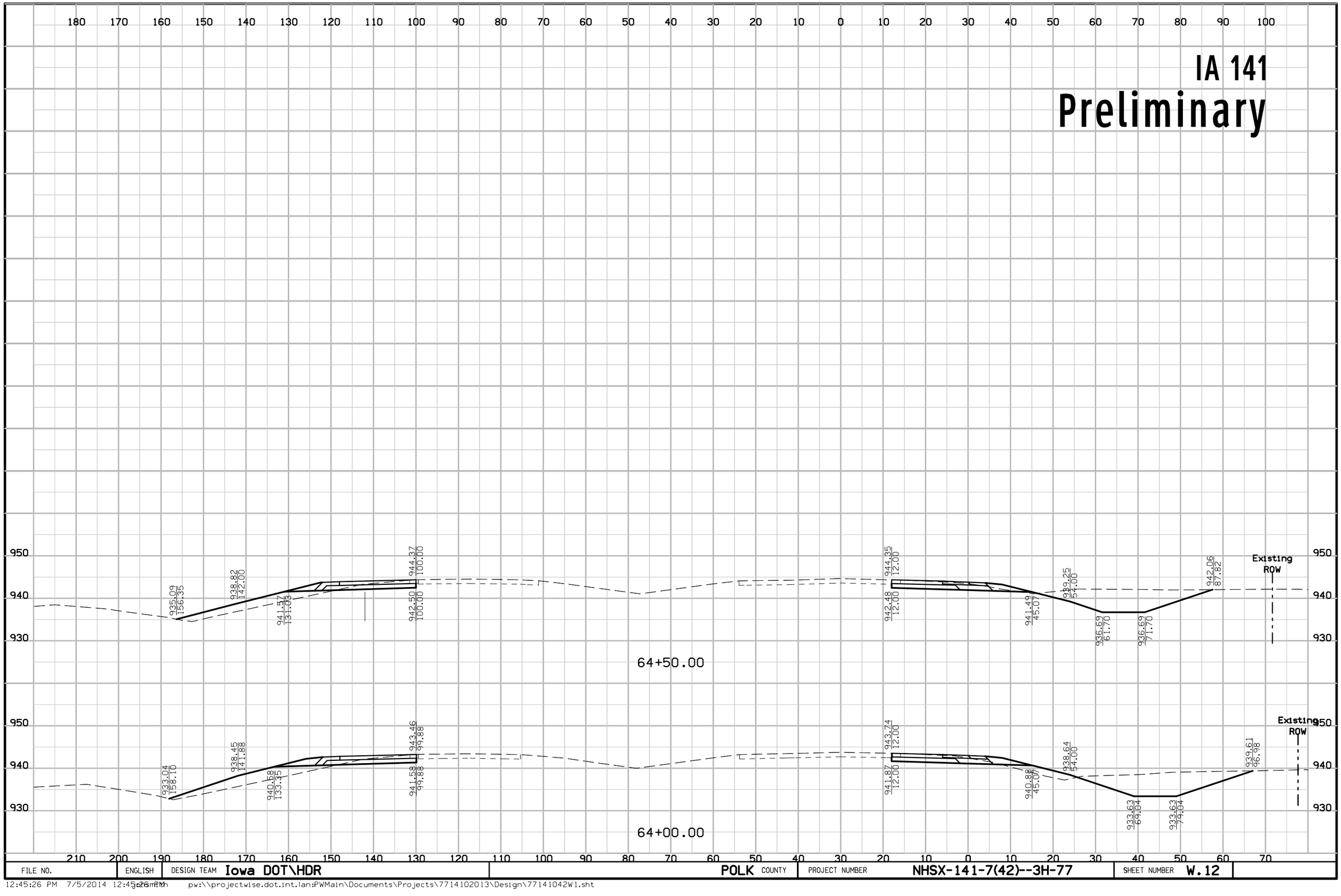
IA 141

Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER W.12

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IA 141
Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

950 940

942.64 114.32 | 940.81 108.82 | 940.81 103.82 | 942.75 98.00 | 945.39 87.43 | 945.98 68.00 | 948.21 56.00 | 946.24 56.00

66+50.00

945.95 56.00 | 947.83 56.00 | 944.96 89.07 | 942.73 98.00 | 942.15 99.73

950 940

944.33 90.93 | 947.26 56.00 | 945.38 56.00

66+00.00

945.00 56.00 | 946.88 56.00 | 944.26 80.60

950 940

942.56 121.24 | 943.46 115.21 | 946.28 56.00 | 944.41 56.00

65+50.00

944.11 56.00 | 945.98 56.00 | 943.11 89.07 | 942.79 90.35 | 942.79 100.35 | 946.05 110.12

950 940 930

939.66 132.07 | 936.46 122.46 | 936.41 117.34 | 939.67 103.56 | 942.55 91.49 | 945.32 56.00 | 943.44 56.00

65+00.00

943.23 56.00 | 945.11 56.00 | 942.24 89.07 | 940.01 98.00 | 939.72 98.85 | 939.72 108.85 | 944.27 122.48

950 940 930

935.12 112.30 | 938.83 98.00 | 941.58 87.00 | 944.38 56.00 | 942.51 56.00

64+50.72

942.49 56.00 | 944.36 56.00 | 941.50 89.07 | 939.26 98.00 | 936.70 105.69 | 936.70 115.69 | 942.09 131.85 | Existing ROW

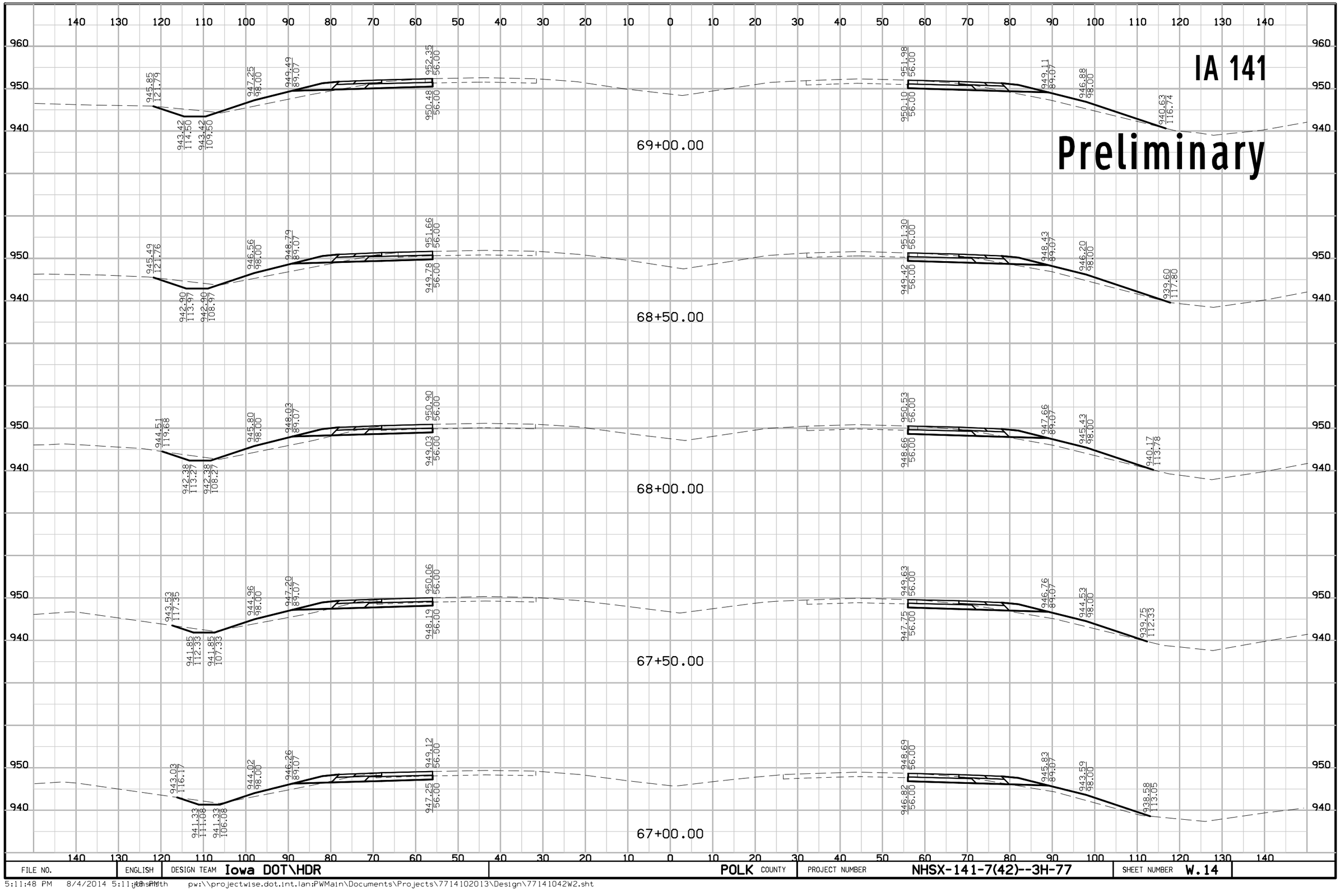
140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER W.13

5:11:47 PM 8/4/2014 5:11:47 PM jsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042W2.sht

IA 141

Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER W.14

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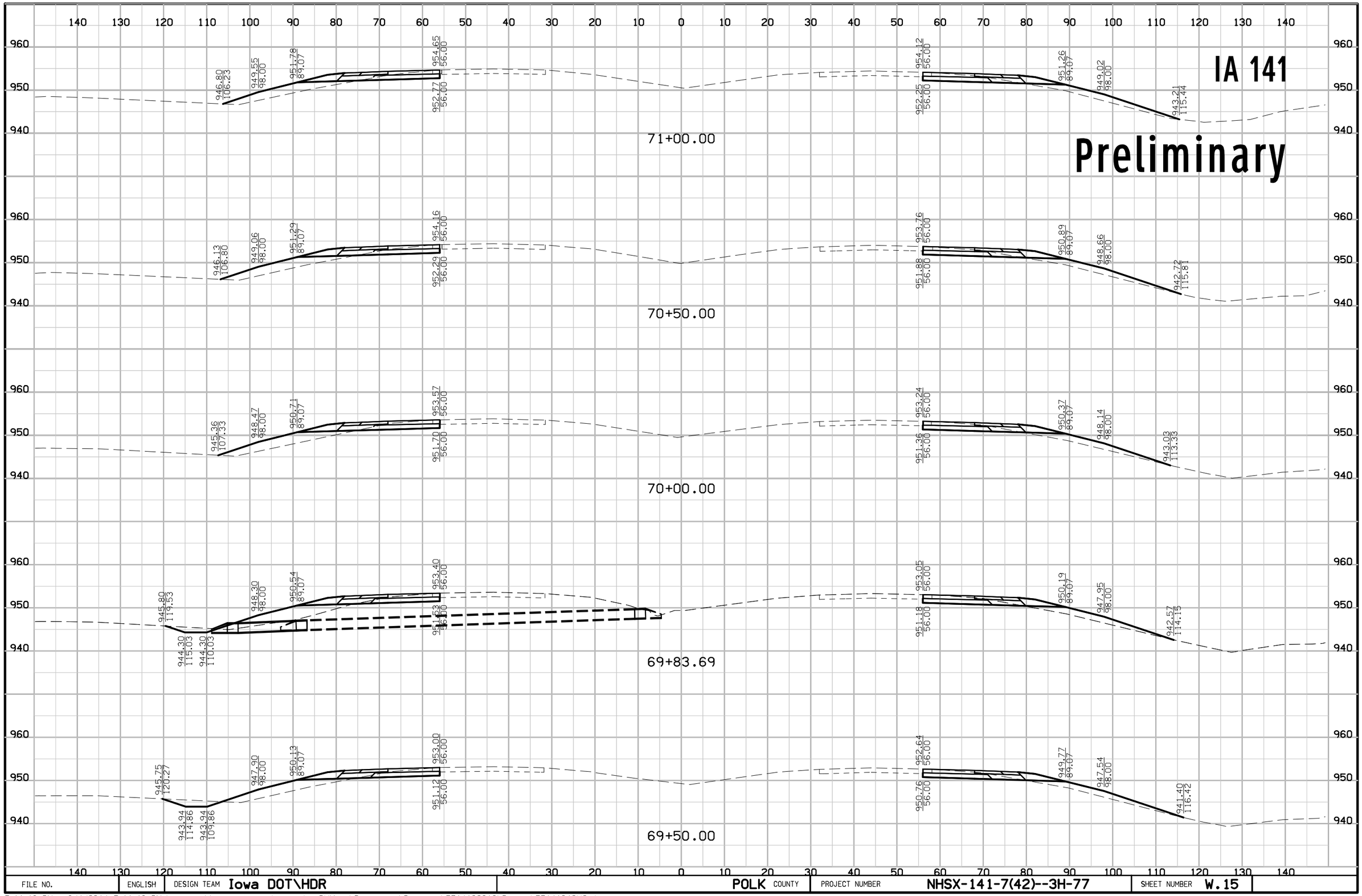

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER W.15

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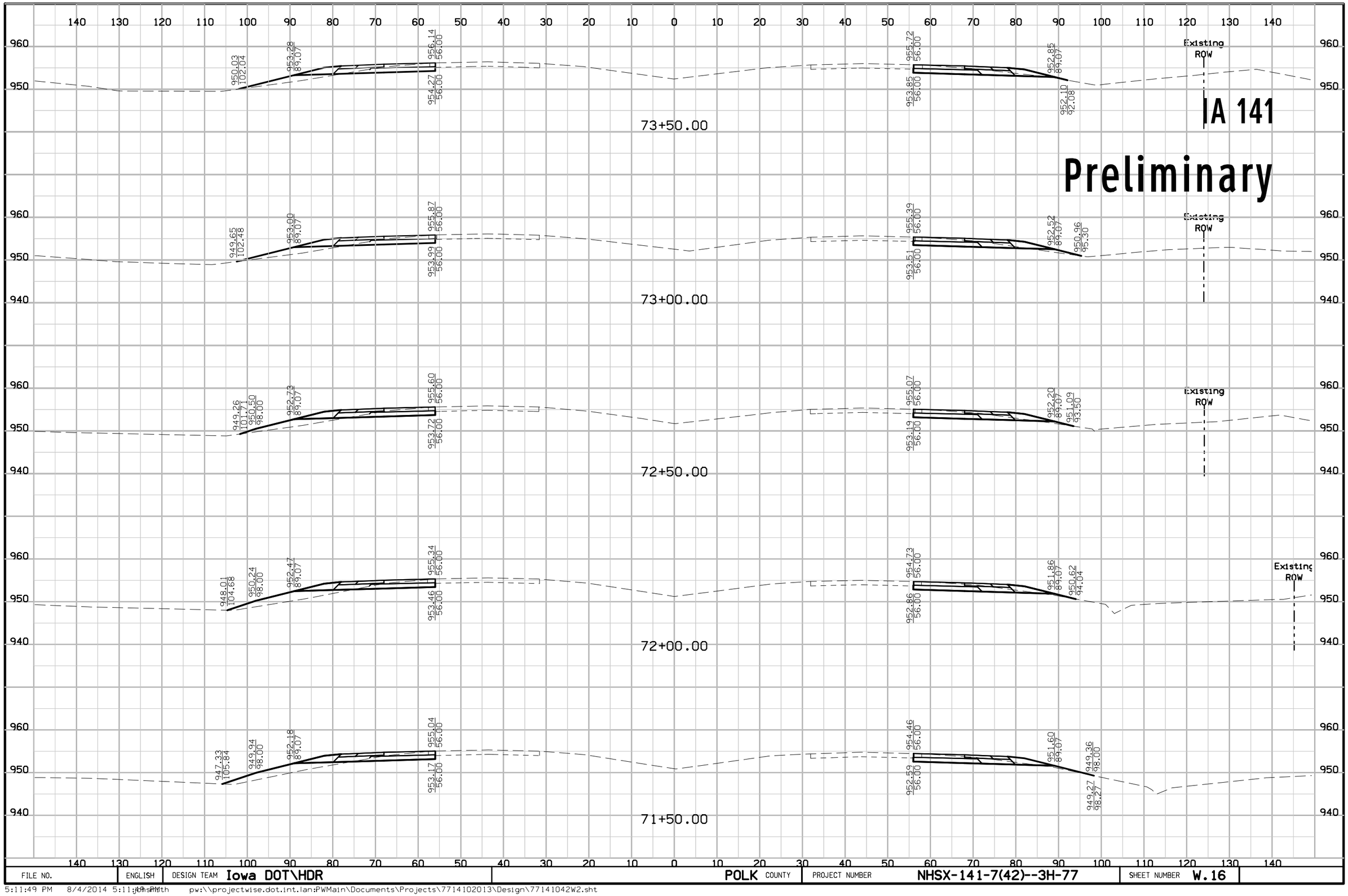

IA 141

Preliminary

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER W.16	

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IA 141

Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

960 950

952.15 99.18 | 954.68 89.07 | 957.54 56.00 | 955.67 56.00 | 957.15 56.00 | 955.28 56.00 | 954.16 93.38 | 953.39 98.00 | 952.11 102.49 | Existing ROW

76+00.00

951.03 102.50 | 954.39 89.07 | 957.26 56.00 | 955.38 56.00 | 956.91 56.00 | 955.04 56.00 | 953.91 93.38 | 953.14 98.00 | 952.00 102.01 | Existing ROW

75+50.00

950.89 101.91 | 954.10 89.07 | 956.96 56.00 | 955.09 56.00 | 956.66 56.00 | 954.78 56.00 | 953.66 93.38 | 952.89 98.00 | 951.85 101.64 | Existing ROW

75+00.00

950.31 103.29 | 953.86 89.07 | 956.73 56.00 | 954.85 56.00 | 956.36 56.00 | 954.49 56.00 | 953.49 89.07 | Existing ROW

74+50.00

949.91 103.60 | 953.54 89.07 | 956.41 56.00 | 954.54 56.00 | 956.04 56.00 | 954.16 56.00 | 952.69 91.00 | 953.17 89.07 | Existing ROW

74+00.00

FILE NO.	ENGLISH	DESIGN TEAM	Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER	NHSX-141-7(42)--3H-77	SHEET NUMBER	W.17

5:11:50 PM 8/4/2014 5:11:50 PM jsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042W2.sht

IA 141

Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

960
950

Existing ROW

958.86
56.00
956.98
56.00

78+50.00

954.27
121.75
953.36
118.94
954.73
105.01
953.35
113.78
956.04
96.75
958.63
56.00
956.75
56.00

957.85
68.71
955.98
68.71
955.28
91.83
954.56
97.98

78+00.00

953.08
105.67
954.37
98.00
955.38
92.00
958.33
56.00
956.46
56.00

957.53
68.01
955.65
68.01
954.90
92.94
953.98
98.50

77+50.00

952.53
100.98
955.16
89.59
958.04
56.00
956.17
56.00

957.32
68.01
955.45
68.01
954.70
92.94
953.28
101.45

77+00.00

952.62
98.30
954.93
89.07
957.79
56.00
955.92
56.00

957.04
68.01
955.17
68.01
954.42
92.94
953.57
98.00
952.55
101.58

76+50.00

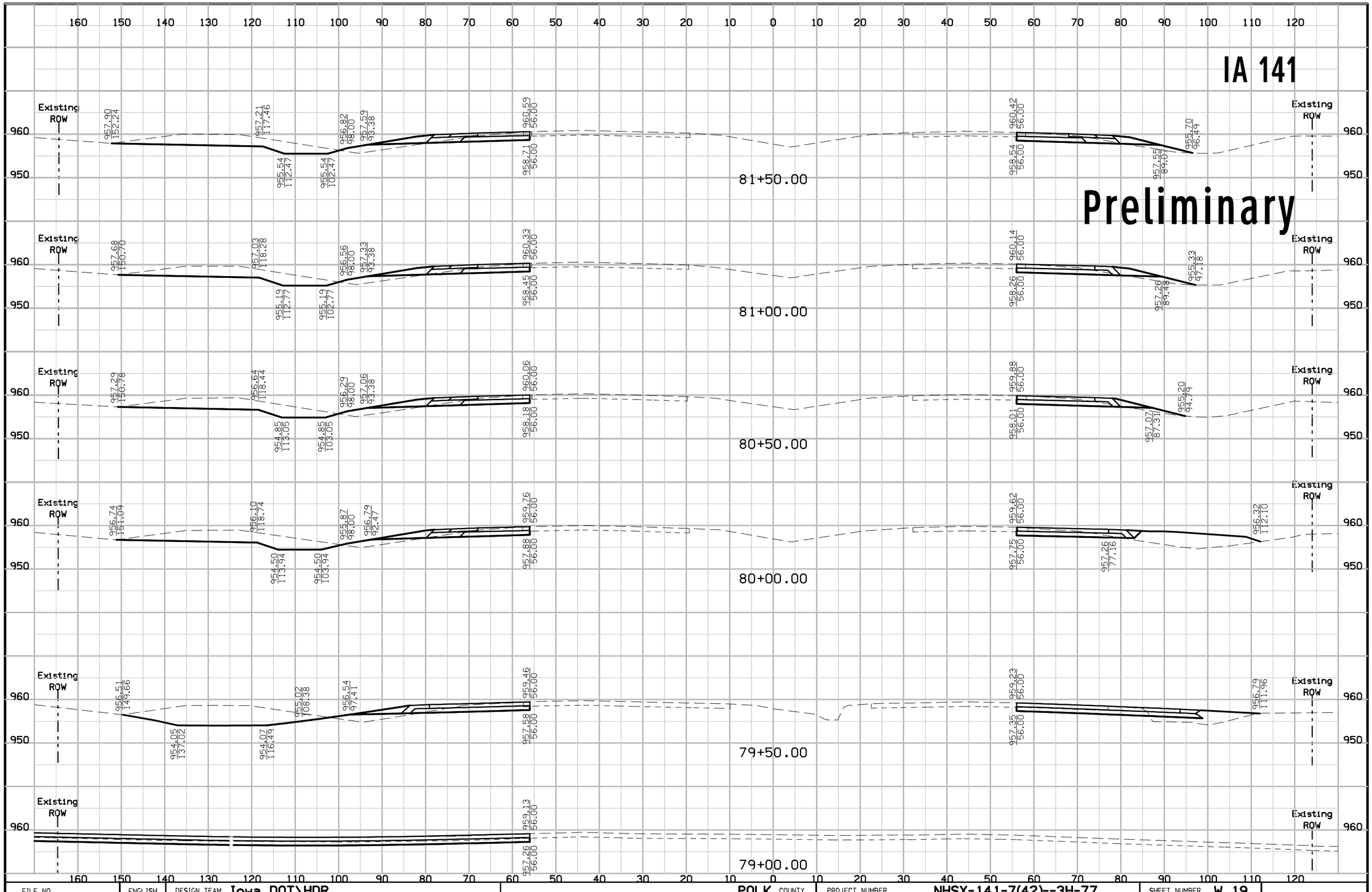
140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER W.18

5:11:51 PM 8/4/2014 5:11:51 PM jshsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042W2.sht

IA 141

Preliminary

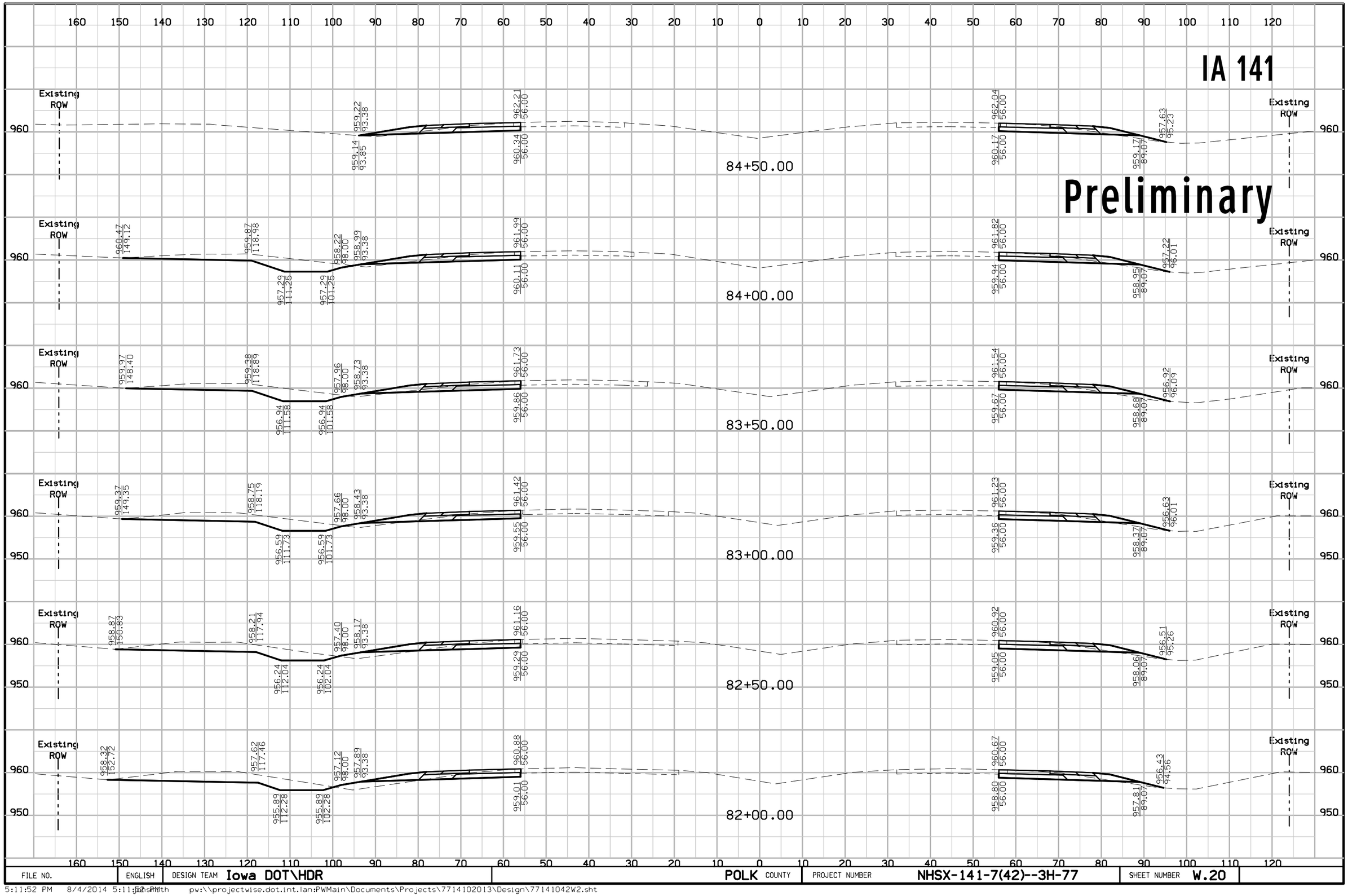


FILE NO.	ENGLISH	DESIGN TEAM	COUNTY	PROJECT NUMBER	SHEET NUMBER
		Iowa DOT\HDR	POLK	NHSX-141-7(42)--3H-77	W.19

5:11:52 PM 8/4/2014 5:11:52 PM jsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042W2.sht

IA 141

Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER W.20

5:11:52 PM 8/4/2014 5:11:52 PM jsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042W2.sht

IA 141

Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

970 960

Existing ROW

963.32 56.00 | 961.45 56.00 | 962.41 56.00 | 960.53 56.00 | 959.54 89.07 | 958.03 95.12

87+50.00

963.40 56.00 | 960.53 92.61 | 961.53 56.00 | 962.52 56.00 | 960.65 56.00 | 959.66 89.07 | 957.96 95.86

87+00.00

963.22 56.00 | 960.09 94.14 | 961.34 56.00 | 962.52 56.00 | 960.65 56.00 | 959.65 89.07 | 957.84 96.32

86+50.00

962.91 56.00 | 959.78 94.14 | 961.03 56.00 | 962.46 56.00 | 960.58 56.00 | 959.59 89.07 | 958.09 95.09

86+00.00

962.45 56.00 | 959.48 93.24 | 960.58 56.00 | 962.38 56.00 | 960.50 56.00 | 959.51 89.07 | 958.16 94.49

85+50.00

962.48 56.00 | 959.73 91.90 | 960.60 56.00 | 962.24 56.00 | 960.37 56.00 | 959.38 89.07 | 957.83 95.25

85+00.00

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER W.21

5:11:53 PM 8/4/2014 5:11:53 PM jsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042W2.sht

IA 141
Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

970
960

958.22
102.23
959.70
93.38
962.69
56.00
960.82
56.00

90+00.00

961.62
56.00
959.75
56.00
957.23
95.16
958.76
89.07

Existing
ROW

970
960

958.64
101.33
959.97
93.38
962.97
56.00
961.09
56.00

89+50.00

961.89
56.00
960.02
56.00
957.58
94.84
959.02
89.07

Existing
ROW

970
960

959.25
99.15
960.21
93.38
963.21
56.00
961.33
56.00

89+00.00

962.06
56.00
960.18
56.00
957.92
94.14
959.19
89.07

Existing
ROW

970
960

960.35
93.38
963.35
56.00
960.28
93.81
961.48
56.00

88+50.00

962.19
56.00
960.32
56.00
958.12
93.88
959.32
89.07

Existing
ROW

970
960

Existing
ROW

962.18
82.86
963.42
56.00
961.55
56.00

88+00.00

962.33
56.00
960.46
56.00
958.05
94.75
959.47
89.07

Existing
ROW

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER W.22

5:11:54 PM 8/4/2014 5:11:54 PM jsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042W2.sht

IA 141

Preliminary

92+00.00

91+51.55

91+50.00

91+00.00

90+50.00

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER W.23

5:11:55 PM 8/4/2014 5:11:55 PM pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042W2.sht

IA 141

Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

960 950

Existing ROW

955.58 103.80 | 953.58 97.80 | 953.58 92.80 | 954.51 89.07 | 957.38 56.00 | 955.50 56.00

957.11 56.00 | 955.24 56.00 | 952.62 95.56 | 954.25 89.07

94+50.00

Existing ROW

953.50 104.80 | 954.22 97.96 | 954.22 92.96 | 955.19 89.07 | 958.06 56.00 | 956.18 56.00

957.77 56.00 | 955.90 56.00 | 953.38 95.17 | 954.91 89.07

94+00.00

Existing ROW

957.26 105.37 | 954.86 98.17 | 954.86 93.17 | 955.99 89.07 | 958.75 56.00 | 956.88 56.00

958.41 56.00 | 956.54 56.00 | 954.14 94.67 | 955.55 89.07

93+50.00

Existing ROW

956.78 102.05 | 955.50 98.20 | 955.50 93.20 | 956.59 89.07 | 959.40 56.00 | 957.53 56.00

959.05 56.00 | 957.18 56.00 | 954.89 94.25 | 956.18 89.07

93+00.00

Existing ROW

956.30 94.92 | 957.18 90.72 | 960.10 56.00 | 958.22 56.00

959.61 56.00 | 957.74 56.00 | 955.44 90.30 | 956.75 89.07

92+50.00

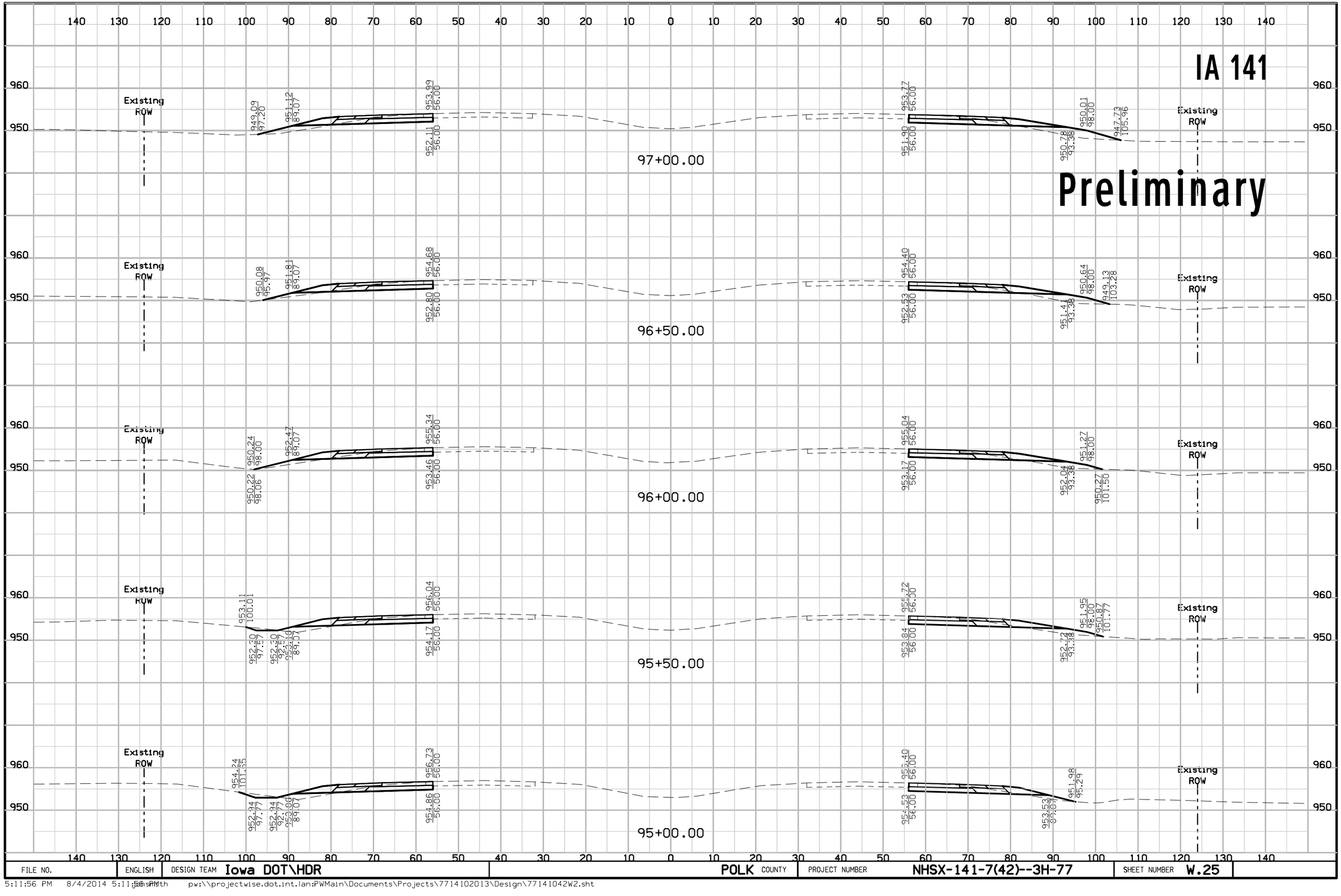
140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

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

5:11:56 PM 8/4/2014 5:11:56 PM jsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042W2.sht

IA 141

Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER W.25

5:11:56 PM 8/4/2014 5:11:56 PM jsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042W2.sht

IA 141

Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

950
940

946.29 99.33 | 948.86 89.07 | 951.72 56.00 | 949.85 56.00 | 951.63 56.00 | 949.77 56.00 | 948.16 94.03 | 947.95 98.00 | 947.41 99.91 | Existing ROW

99+03.52

950
940

946.40 98.97 | 948.88 89.07 | 951.75 56.00 | 949.87 56.00 | 951.66 56.00 | 949.78 56.00 | 948.64 94.03 | 947.98 98.00 | 947.32 100.32 | Existing ROW

99+00.00

950

Existing ROW | 947.96 94.54 | 949.33 89.07 | 952.19 56.00 | 950.32 56.00 | 952.10 56.00 | 950.22 56.00 | 949.10 93.38 | 948.33 98.00 | 946.08 105.87 | Existing ROW

98+50.00

960
950

Existing ROW | 948.10 96.03 | 949.84 89.07 | 952.71 56.00 | 950.83 56.00 | 952.54 56.00 | 950.67 56.00 | 949.55 93.38 | 948.77 98.00 | 946.55 105.79 | Existing ROW

98+00.00

960
950

Existing ROW | 948.31 97.63 | 950.45 89.07 | 953.32 56.00 | 951.45 56.00 | 953.07 56.00 | 951.20 56.00 | 950.08 93.38 | 949.31 98.00 | 946.95 106.25 | Existing ROW

97+50.00

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

FILE NO.	ENGLISH	DESIGN TEAM	Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER	NHSX-141-7(42)--3H-77	SHEET NUMBER	W.26

5:12:08 PM 8/4/2014 5:12:08 PM gsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042W2.sht

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

950 940

945.73 98.07 | 947.98 89.07 | 950.84 56.00 | 948.97 56.00 | 949.66 4.83 | 948.14 4.83 | 950.47 20.00 | 948.59 20.00 | 950.48 68.00 | 948.61 68.00 | 947.79 95.34 | 947.12 98.00 | 943.48 108.92 | 943.18 113.92 | 945.04 118.58 | Existing ROW

101+00.00

IA 141

Preliminary

950 940

100+87.35 (SKEWED)

945.63 99.04 | 948.12 89.07 | 950.99 56.00 | 949.11 56.00 | 949.82 8.17 | 948.30 8.17 | 950.53 20.00 | 948.65 20.00 | 950.48 68.00 | 948.60 68.00 | 948.27 78.69 | 947.63 100.05 | 947.64 99.83 | 943.02 113.57 | 943.02 118.44 | 944.48 122.63 | Existing ROW

950 940

100+50.00

945.89 98.26 | 948.19 89.07 | 951.06 56.00 | 949.18 56.00 | 949.93 9.53 | 948.40 9.53 | 950.59 20.00 | 948.71 20.00 | 950.49 68.00 | 948.61 68.00 | 949.09 98.00 | 942.79 116.90 | 942.79 121.90 | Existing ROW

950 940

100+30.60

945.73 99.36 | 948.31 89.07 | 951.17 56.00 | 949.30 56.00 | 950.07 11.50 | 948.57 11.50 | 950.70 20.00 | 948.82 20.00 | 950.63 68.00 | 948.75 68.00 | 947.92 95.35 | 947.49 97.95 | 945.88 103.60 | Existing ROW

950 940

100+00.00

946.02 99.10 | 948.52 89.07 | 951.39 56.00 | 949.52 56.00 | 951.30 56.00 | 949.42 56.00 | 947.62 98.00 | 948.28 94.03 | 946.16 103.11 | Existing ROW

950 940

99+50.00

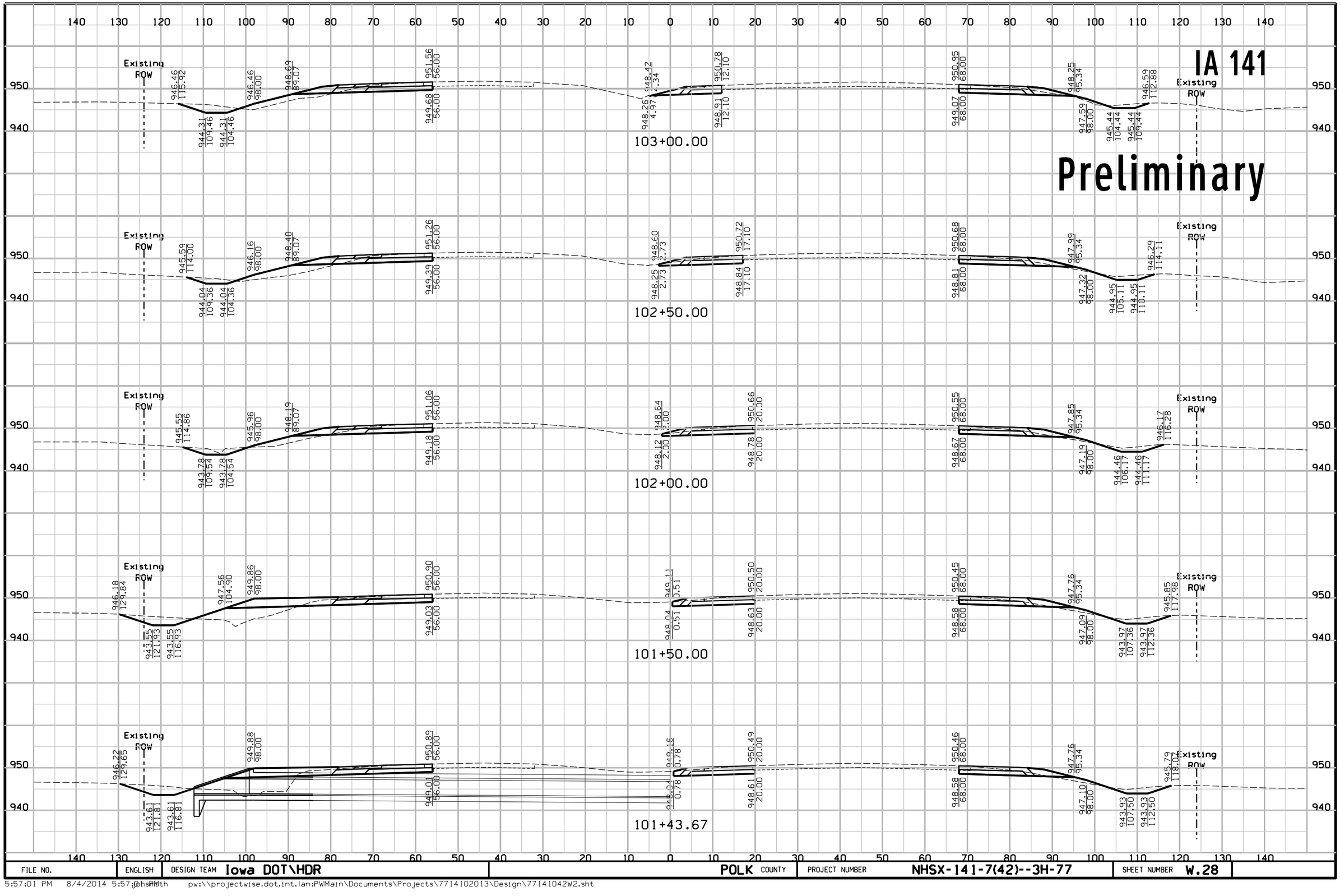
140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER W.27

5:12:10 PM 8/4/2014 5:12:10 PM jdsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042W2.sht

IA 141

Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER W.28

5:57:01 PM 8/4/2014 5:57:01 PM johnsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042W2.sht

IA 141

Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

960 950 940

952.77 56.00
950.90 56.00

105+00.00

Existing ROW
947.83 126.88
945.15 118.59
946.22 108.91
945.14 113.41
949.07 97.03
952.50 56.00
950.62 56.00
951.87 68.00
950.00 68.00
950.17 95.23
949.47 89.45

104+50.00

Existing ROW
947.13 117.02
944.85 110.16
944.85 105.16
946.55 98.35
949.48 86.60
952.23 56.00
950.35 56.00
951.53 68.00
949.66 68.00
948.90 93.44
947.76 98.00
946.56 101.58
946.56 106.58
948.03 110.98

104+00.00

Existing ROW
946.38 110.73
944.57 105.31
945.26 98.00
944.57 100.31
949.21 82.23
951.87 56.00
949.99 56.00
951.25 68.00
949.37 68.00
948.55 95.34
947.89 98.00
946.00 103.67
946.00 108.67
947.26 112.46
Existing ROW

103+50.00

Existing ROW
946.43 115.80
944.32 109.47
944.32 104.47
946.48 98.00
948.71 89.07
951.58 56.00
949.70 56.00
948.26 5.00
948.43 4.34
948.68 2.1
948.92 11.82
950.79 11.82
950.97 68.00
949.09 68.00
948.27 95.34
947.61 98.00
945.47 104.41
945.47 109.41
946.62 112.86
Existing ROW

103+02.88

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER W.29

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IA 141
Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

960
950

Existing ROW

951.12 95.07
950.52 97.43
953.80 68.00
951.93 68.00
953.52 11.33
951.61 11.33
952.86 2.11
951.37 2.11
953.86 56.00
951.98 56.00
950.86 93.38
949.60 100.96

107+50.00

960
950

Existing ROW

949.00 101.13
950.78 95.07
950.04 98.00
953.46 68.00
951.59 68.00
953.59 56.00
951.72 56.00
950.74 88.49
949.05 95.96
Existing ROW

107+00.00

960
950

Existing ROW

949.13 102.23
950.44 97.41
950.34 98.00
953.20 68.00
951.33 68.00
953.36 56.00
951.49 56.00
950.53 91.51
948.87 98.23

106+50.00

960
950
940

Existing ROW

950.46 102.54
949.86 93.99
950.92 68.00
952.80 68.00
952.77 68.00
950.90 68.00
949.92 107.40

106+00.00

950

105+50.00

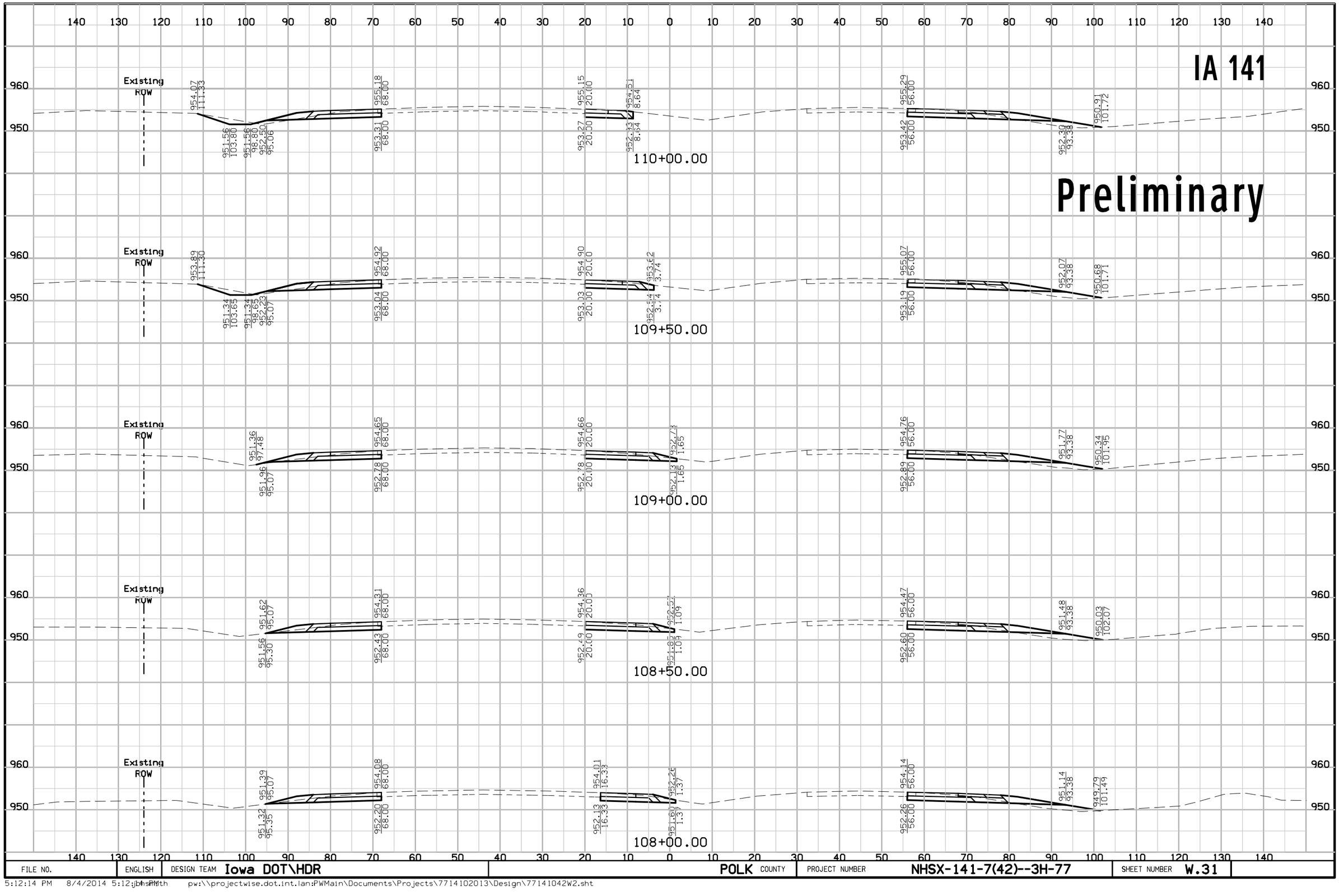
140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER W.30

5:12:13 PM 8/4/2014 5:12:13 PM jbsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042W2.sht

IA 141

Preliminary

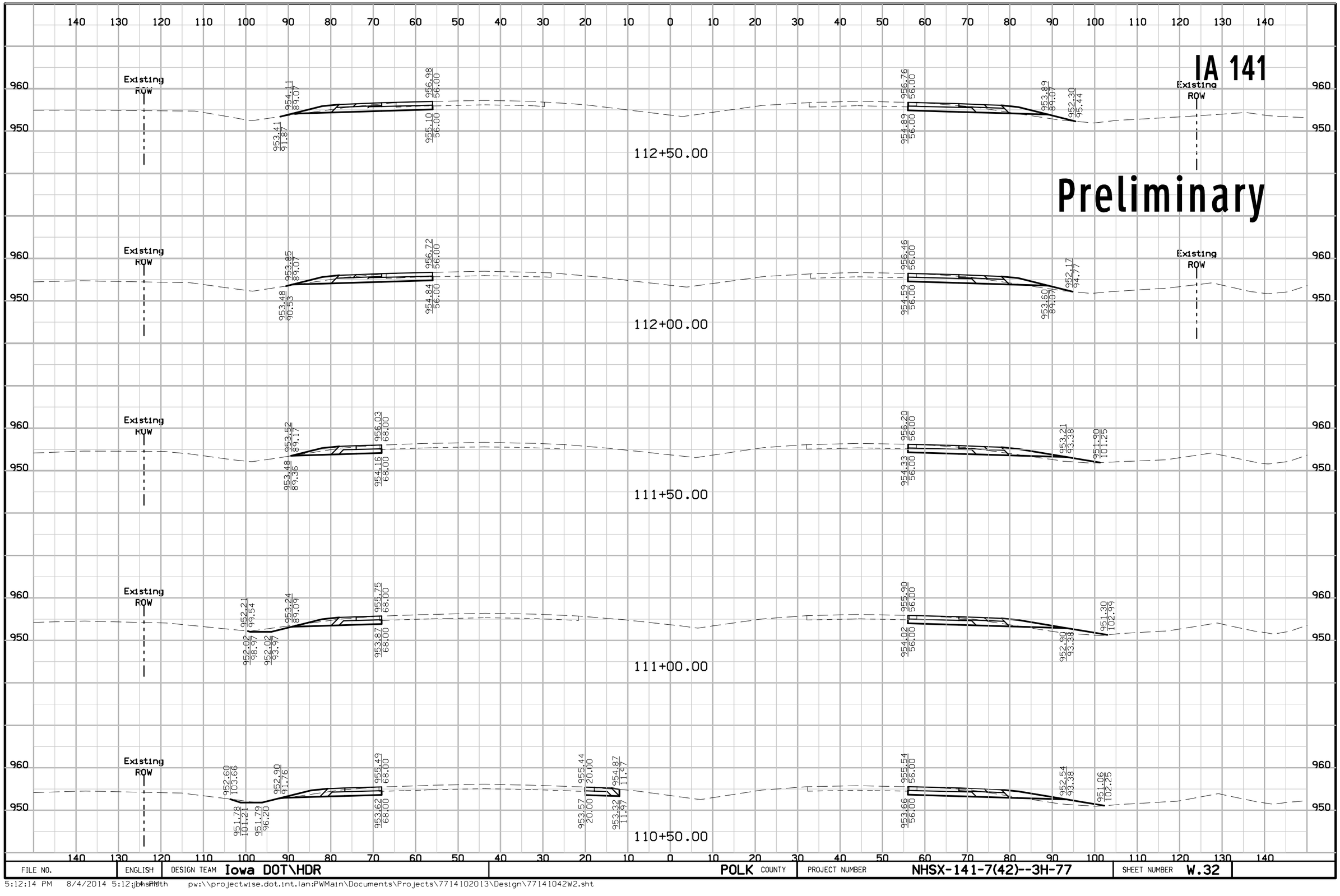


FILE NO.	ENGLISH	DESIGN TEAM	Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER	NHSX-141-7(42)--3H-77	SHEET NUMBER	W.31

5:12:14 PM 8/4/2014 5:12:14 PM jbsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042W2.sht

IA 141

Preliminary

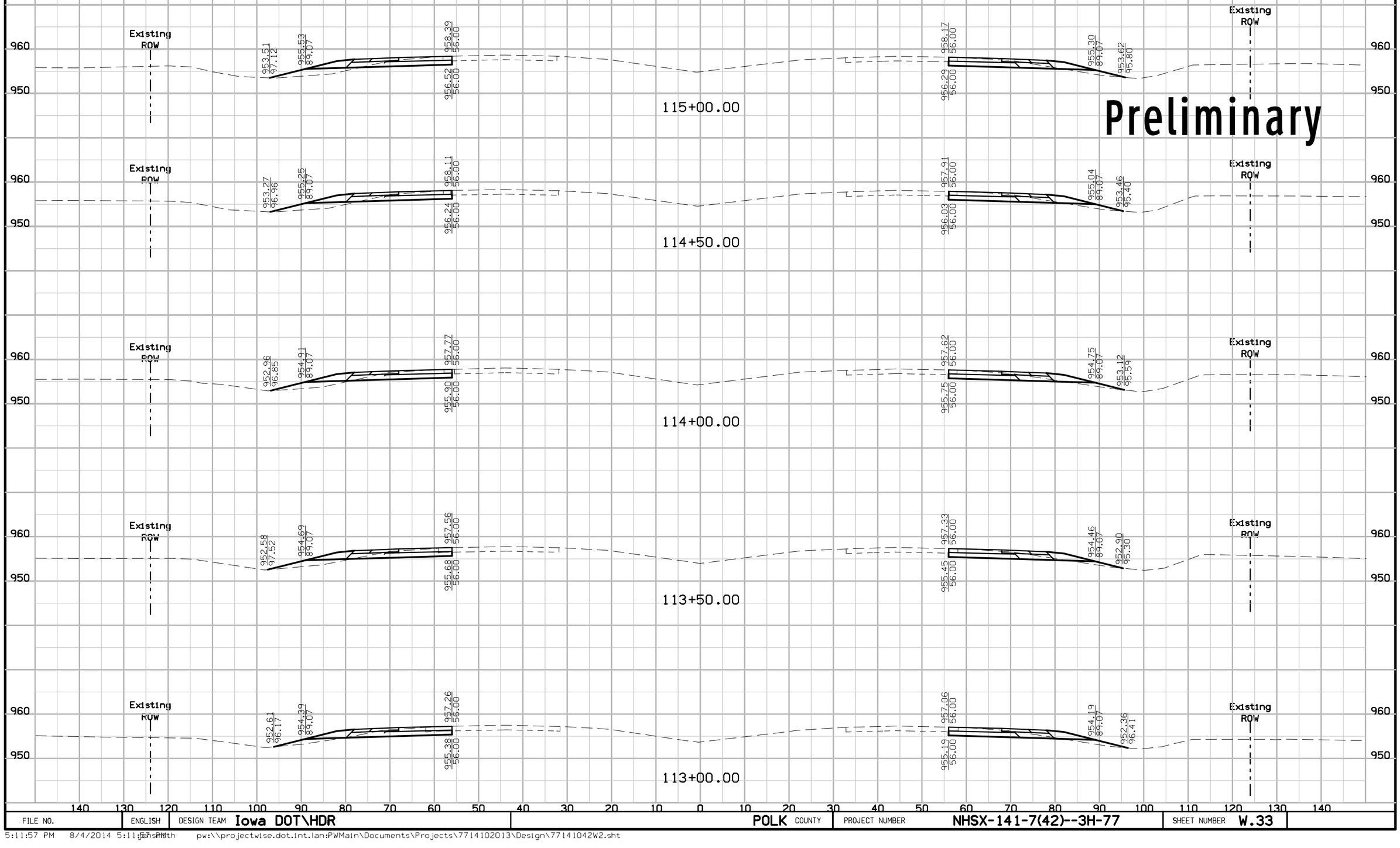


FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER W.32

5:12:14 PM 8/4/2014 5:12:14 PM jhsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042W2.sht

IA 141

Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER W.33

5:11:57 PM 8/4/2014 5:11:57 PM jsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042W2.sht

IA 141

Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

960 950

Existing ROW

955.96 92.90 956.92 89.07 959.78 56.00 957.91 56.00

959.45 56.00 957.58 56.00 956.58 89.07 956.44 89.63

118+00.00

Existing ROW

955.23 95.36 956.80 89.07 959.67 56.00 957.79 56.00

959.37 56.00 957.50 56.00 955.56 92.86 956.50 89.07

117+50.00

Existing ROW

955.01 95.57 956.63 89.07 959.50 56.00 957.62 56.00

959.24 56.00 957.36 56.00 956.37 89.07 955.25 93.55

117+00.00

Existing ROW

954.88 95.10 956.39 89.07 959.25 56.00 957.38 56.00

959.05 56.00 957.17 56.00 956.18 89.07 954.72 94.93

116+50.00

Existing ROW

954.38 96.12 956.15 89.07 959.01 56.00 957.14 56.00

958.72 56.00 956.85 56.00 955.86 89.07 954.47 94.62

116+00.00

Existing ROW

953.91 96.69 955.82 89.07 958.68 56.00 956.81 56.00

958.44 56.00 956.57 56.00 955.57 89.07 953.68 96.66

115+50.00

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER W.34

5:11:58 PM 8/4/2014 5:11:58 PM jsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042W2.sht

IA 141

Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

960 950

Existing ROW

956.69 98.64 | 955.94 96.40 | 955.94 91.40 | 956.53 89.07 | 959.40 56.00 | 957.52 56.00

121+00.00

959.06 56.00 | 957.19 56.00 | 956.20 89.07 | 954.30 96.65 | 954.30 101.65 | 955.27 104.57

Existing ROW

957.87 101.27 | 956.19 96.24 | 956.19 91.24 | 956.74 89.07 | 959.60 56.00 | 957.73 56.00

120+50.00

959.19 56.00 | 957.31 56.00 | 956.32 89.07 | 954.57 96.08 | 954.57 101.08 | 955.43 103.68

Existing ROW

957.55 99.12 | 956.44 95.79 | 956.44 90.79 | 956.87 89.07 | 959.74 56.00 | 957.87 56.00

120+00.00

959.38 56.00 | 957.51 56.00 | 956.51 89.07 | 954.83 95.79 | 954.83 100.79 | 955.58 103.03

Existing ROW

957.15 96.48 | 956.69 95.10 | 956.69 90.10 | 956.95 89.07 | 959.82 56.00 | 957.94 56.00

119+50.00

959.48 56.00 | 957.61 56.00 | 956.62 89.07 | 955.10 95.13 | 955.10 100.13 | 955.83 102.33

Existing ROW

957.26 99.89 | 959.85 56.00 | 957.98 56.00

119+00.00

959.49 56.00 | 957.61 56.00 | 956.62 89.07

Existing ROW

958.75 93.38 | 958.07 84.74 | 959.85 56.00 | 957.98 56.00

118+50.00

959.48 56.00 | 957.61 56.00 | 956.67 87.21

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER W.35

5:11:59 PM 8/4/2014 5:11:59 PM jsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042W2.sht

IA 141
Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

960
950

Existing ROW

952.93 97.19 | 954.96 89.07 | 957.83 56.00 | 955.95 56.00

124+00.00

957.55 56.00 | 955.67 56.00 | 954.68 89.07 | 952.70 97.00 | 952.86 102.47 | 952.70 102.00

Existing ROW

953.08 97.63 | 955.22 89.07 | 958.09 56.00 | 956.22 56.00

123+50.00

957.83 56.00 | 955.96 56.00 | 954.97 89.07 | 952.97 97.07 | 953.27 102.99 | 952.97 102.07

Existing ROW

953.58 96.62 | 955.47 89.07 | 958.33 56.00 | 956.46 56.00

123+00.00

958.09 56.00 | 956.22 56.00 | 955.22 89.07 | 953.23 97.03 | 953.93 104.12 | 953.23 102.03

Existing ROW

954.45 100.22 | 954.30 99.76 | 955.72 89.07 | 954.30 94.76 | 958.59 56.00 | 956.71 56.00

122+50.00

958.35 56.00 | 956.48 56.00 | 955.49 89.07 | 953.50 97.01 | 954.48 104.95 | 953.50 102.01

Existing ROW

955.17 98.54 | 955.98 89.07 | 958.85 56.00 | 955.00 98.01 | 955.00 93.01 | 956.97 56.00

122+00.00

958.63 56.00 | 956.75 56.00 | 955.76 89.07 | 953.77 97.03 | 954.85 105.28 | 953.77 102.03

Existing ROW

956.31 89.07 | 959.17 56.00 | 955.69 97.41 | 955.69 91.51 | 957.30 56.00

121+50.00

958.86 56.00 | 956.98 56.00 | 955.99 89.07 | 954.03 96.91 | 954.84 104.33 | 954.03 101.91

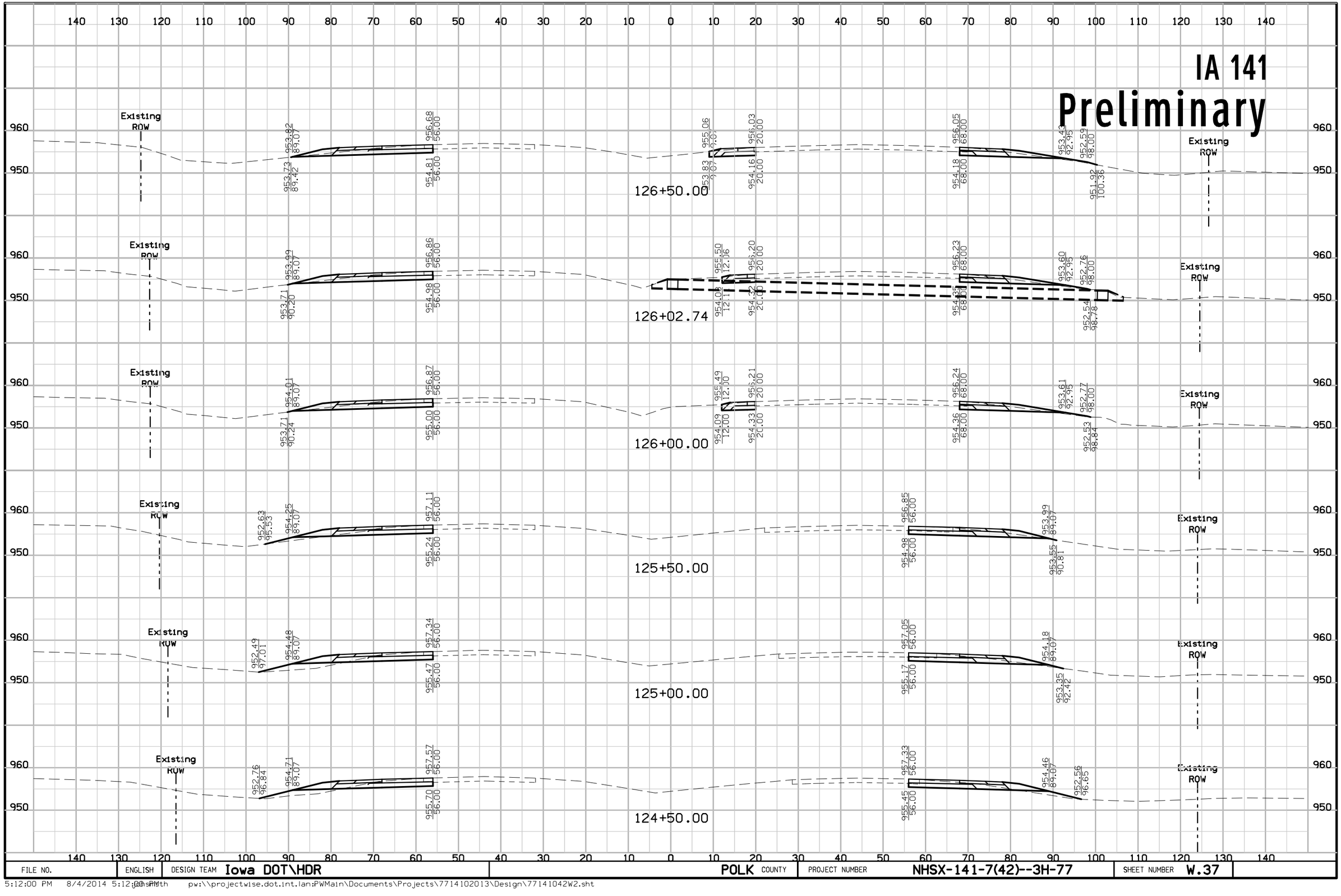
Existing ROW

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER W.36

5:12:00 PM 8/4/2014 5:12:00 PM jonsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042W2.sht

IA 141
Preliminary

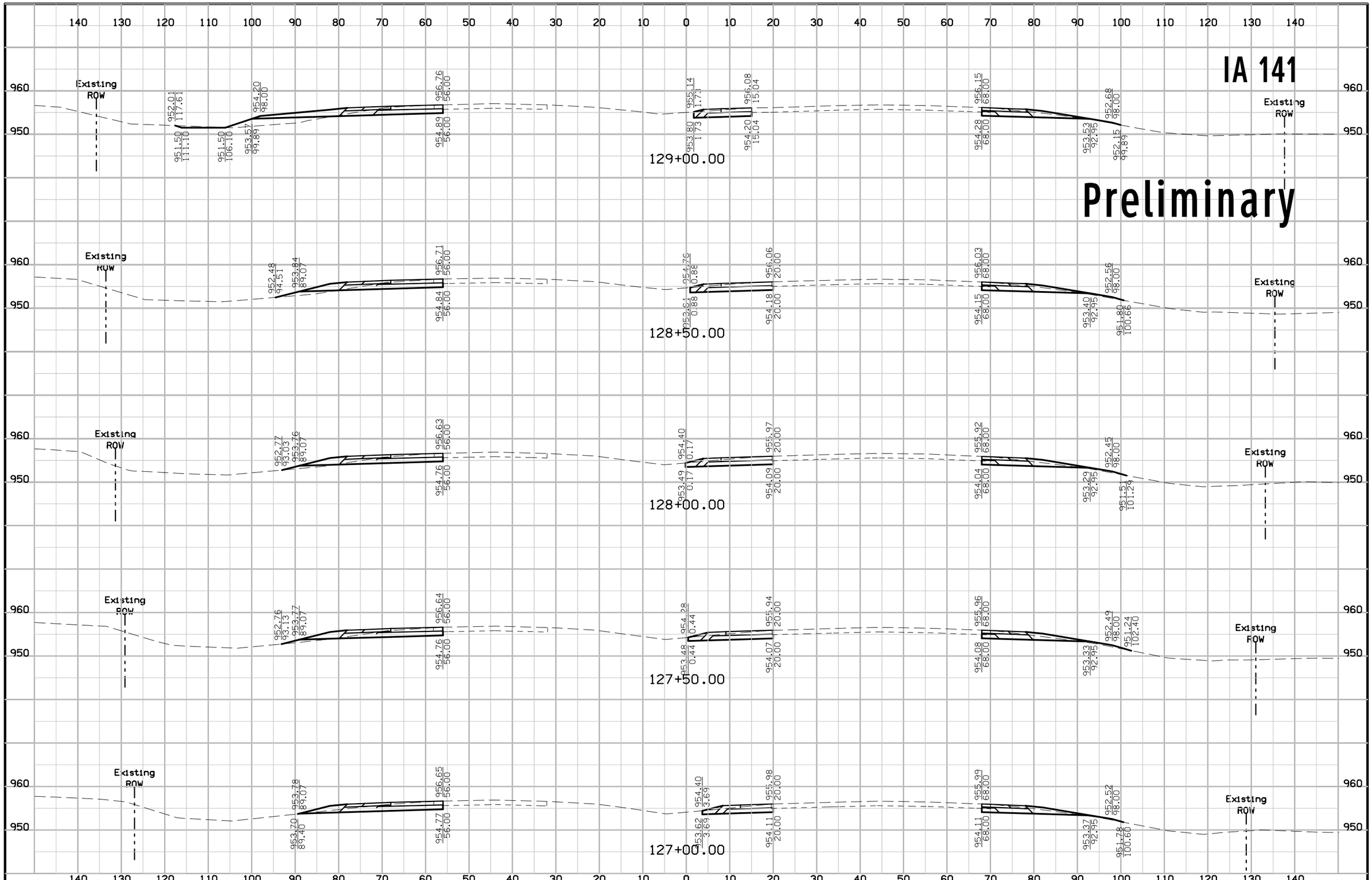


FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER W.37

5:12:00 PM 8/4/2014 5:12:00 PM jonsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042W2.sht

IA 141

Preliminary



FILE NO.	ENGLISH	DESIGN TEAM	Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER	NHSX-141-7(42)--3H-77	SHEET NUMBER	W.38

5:12:01 PM 8/4/2014 5:12:01 PM jsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042W2.sht

IA 141
Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

960
950

Existing ROW

955.52 105.59
955.05 105.58
957.88 56.00
956.00 56.00

131+00.00

Existing ROW

951.99 110.67
953.53 101.22
954.69 94.09
957.55 56.00
955.68 56.00

956.89 68.00
955.01 68.00
953.42 98.00
954.26 92.95
950.80 107.19
950.80 117.19
952.67 122.79

130+50.00

Existing ROW

951.75 107.37
954.16 94.94
957.20 56.00
953.71 98.00
955.33 56.00

956.58 68.00
954.70 68.00
953.11 98.00
953.95 92.95
950.46 107.27
950.46 117.27
951.44 120.20

130+00.00

Existing ROW

951.66 106.54
954.50 98.00
956.98 56.00
953.78 100.17
955.11 56.00

955.55 2.11
956.10 10.04
953.99 2.11
954.23 10.04

956.33 68.00
954.45 68.00
952.86 98.00
953.71 92.95
950.13 107.58
950.22 117.84
950.13 117.58

129+50.00

Existing ROW

952.08 120.58
953.68 100.54
956.89 56.00
951.21 112.96
951.21 107.96
954.52 98.00
955.50 56.00

955.35 2.11
956.09 12.71
953.89 2.11
954.21 12.71

956.21 68.00
954.34 68.00
953.59 92.95

129+23.29

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER W.39

5:12:02 PM 8/4/2014 5:12:02 PM jsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042W2.sht

IA 141
Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

960
950

Existing ROW
955.34 99.41
955.81 98.00
956.54 95.07
959.23 68.00
957.35 68.00

133+50.00

959.40 56.00
957.52 56.00
956.58 87.40
954.97 93.85
954.97 103.55
Existing ROW

970
960
950

Existing ROW
955.24 98.00
955.05 98.56
956.30 93.78
958.94 68.00
957.07 68.00

133+00.00

959.11 56.00
957.23 56.00
956.41 109.00
Existing ROW

960
950

Existing ROW
954.28 109.40
954.31 103.95
955.81 97.66
958.62 68.00
956.74 68.00

132+50.00

958.82 56.00
956.94 56.00
956.98 103.06
Existing ROW

960

Existing ROW

132+00.00

Existing ROW

960

xisting ROW

131+50.00

Existing ROW

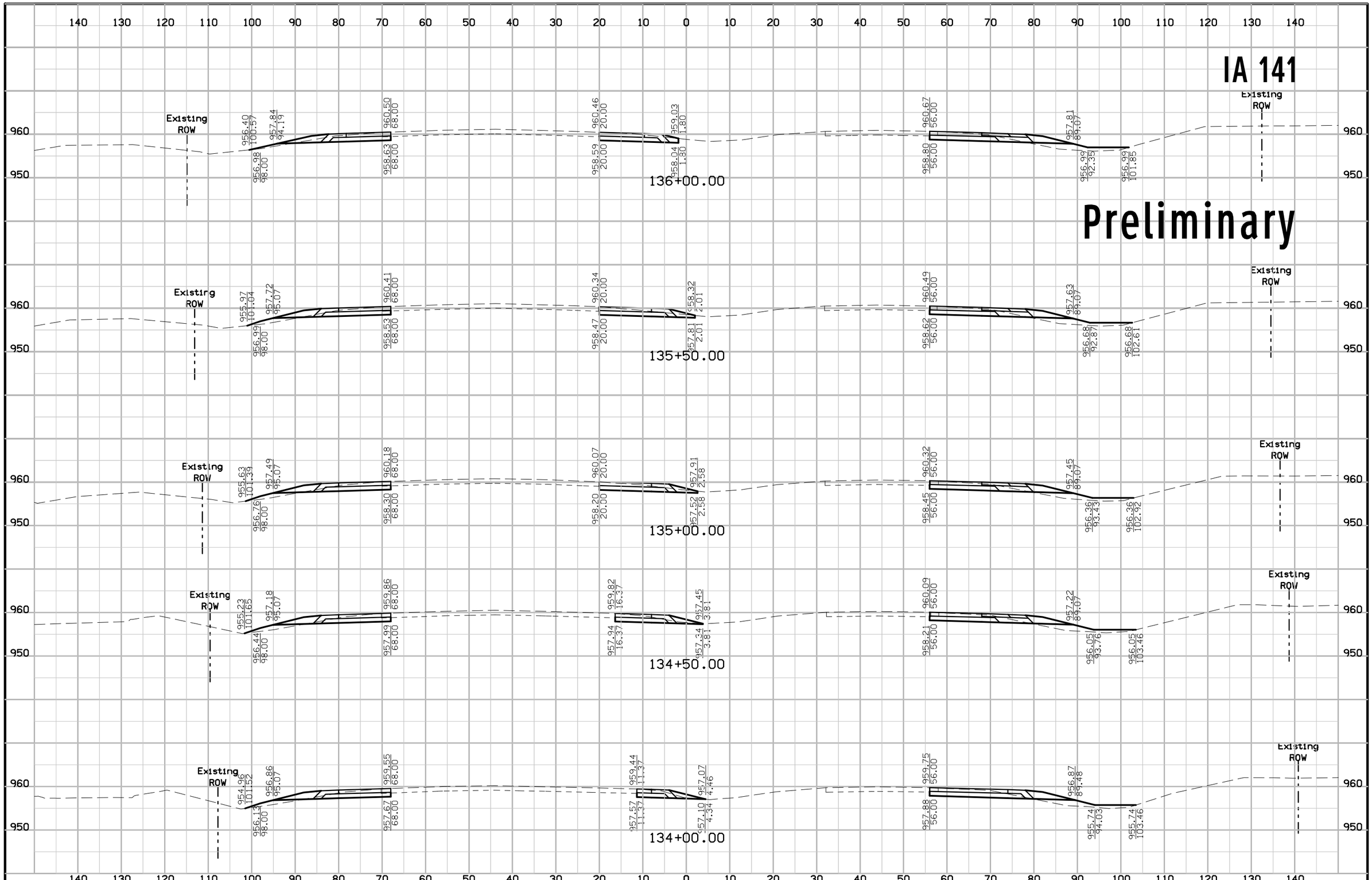
140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER W.40

5:12:03 PM 8/4/2014 5:12:03 PM jsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042W2.sht

IA 141

Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER W.41

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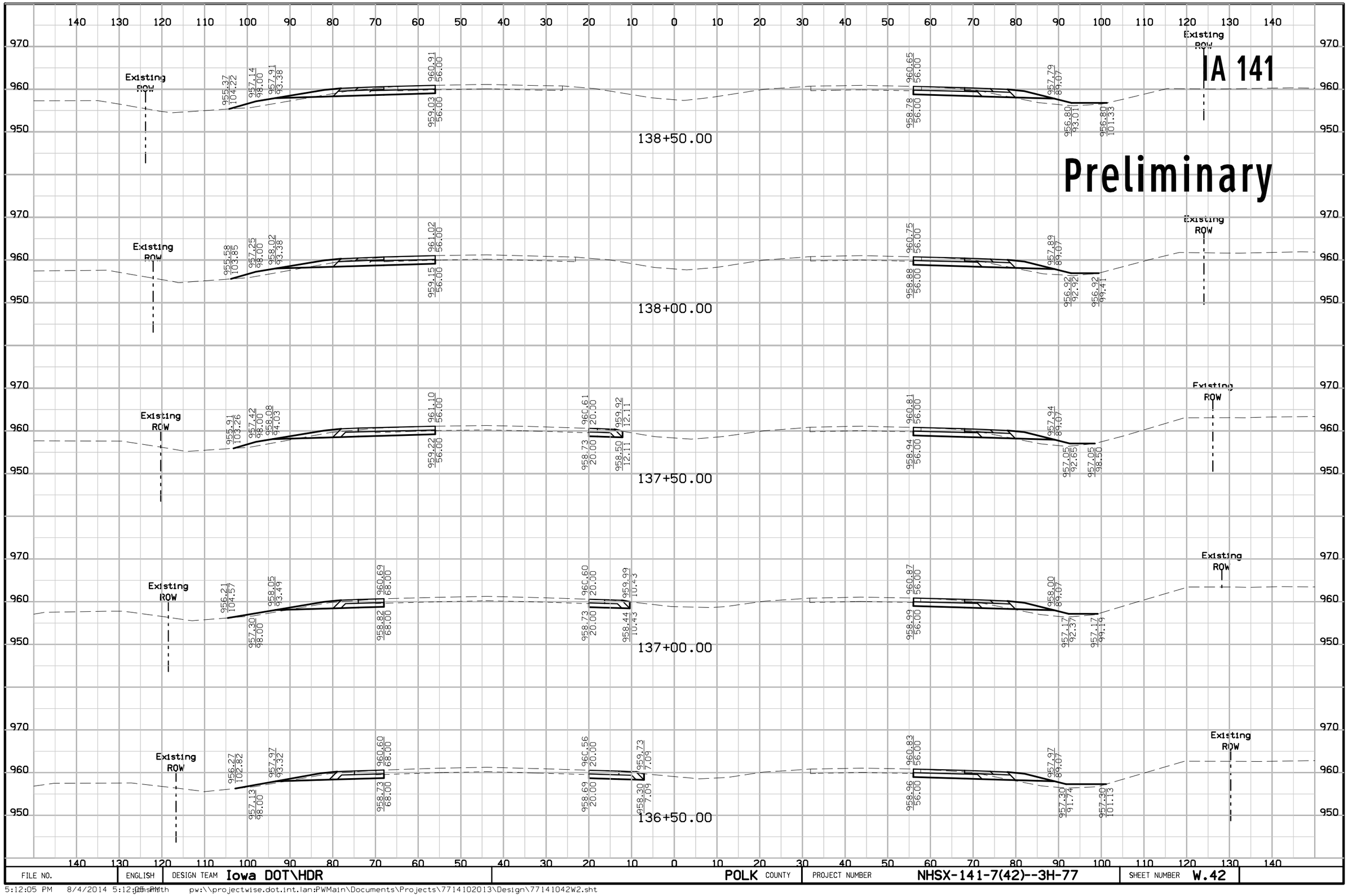
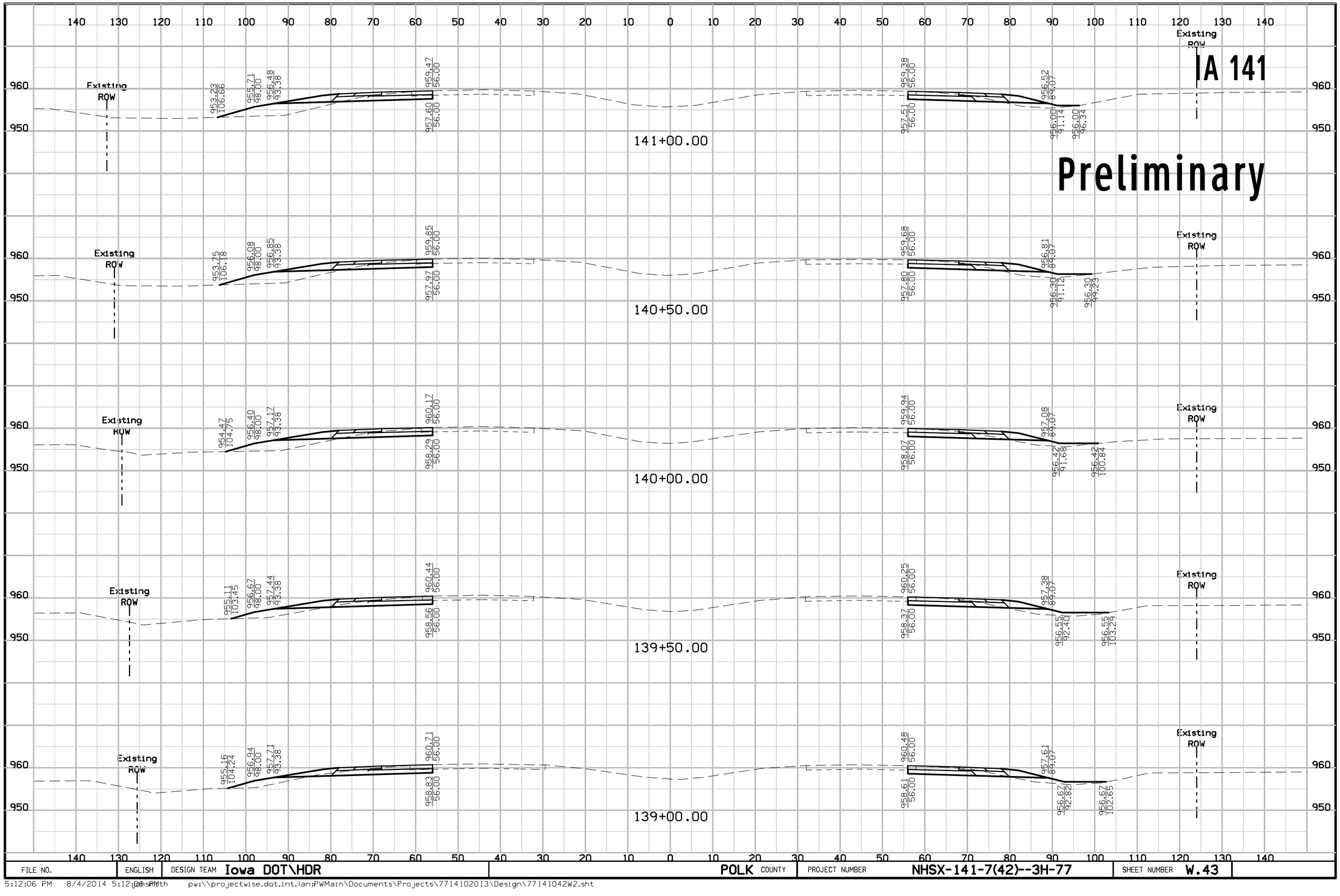


FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER W.42

5:12:05 PM 8/4/2014 5:12:05 PM jsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042W2.sht

IA 141

Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER W.43

5:12:06 PM 8/4/2014 5:12:26 PM jsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042W2.sht

IA 141

Preliminary

143+50.00

952.25 104.36 | 954.07 98.00 | 954.84 93.38 | 957.84 56.00 | 955.96 56.00
957.77 56.00 | 955.89 56.00 | 954.90 89.07 | 954.62 90.21
Existing ROW

143+00.00

952.38 105.00 | 954.38 98.00 | 955.15 93.38 | 958.15 56.00 | 956.27 56.00
958.07 56.00 | 956.20 56.00 | 955.20 89.07 | 954.77 90.81
Existing ROW

142+50.00

Existing ROW
952.55 105.63 | 954.72 98.00 | 955.49 93.38 | 958.49 56.00 | 956.61 56.00
958.41 56.00 | 956.54 56.00 | 955.55 89.07 | 955.18 90.52
Existing ROW

142+00.00

Existing ROW
952.51 106.83 | 955.02 98.00 | 955.79 93.38 | 958.79 56.00 | 956.92 56.00
958.75 56.00 | 956.88 56.00 | 955.89 89.07 | 955.40 91.01 | 955.40 91.78
Existing ROW

141+50.00

Existing ROW
952.86 106.89 | 955.40 98.00 | 956.17 93.38 | 959.17 56.00 | 957.29 56.00
959.09 56.00 | 957.22 56.00 | 956.22 89.07 | 955.70 91.16 | 955.70 95.62
Existing ROW

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER W.44

5:12:06 PM 8/4/2014 5:12:26 PM jsmith pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042W2.sht

IA 141

Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

960
950

Existing ROW

145+50.00

145+00.00

144+50.00

144+00.00

951.60
104.36
953.42
98.00
954.19
93.38
957.19
56.00
955.31
56.00

957.13
56.00
955.26
56.00
954.26
89.07
953.64
91.56

952.03
104.12
953.78
98.00
954.55
93.38
957.54
56.00
955.67
56.00

957.44
56.00
955.57
56.00
954.58
89.07
954.16
90.74

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER W.45

5:12:07 PM 8/4/2014 5:12:07 PM pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042W2.sht

FARM ACCESS ROAD

Preliminary

70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

965
960

963.51 / 7.24
963.57 / 7.00
963.36 / 0.00
963.15 / 7.00
962.70 / 8.79

903+00.00

962.21 / 13.46
963.82 / 7.00
963.61 / 0.00
963.40 / 7.00
961.49 / 14.66

902+50.00

961.42 / 16.98
963.92 / 7.00
963.71 / 0.00
963.50 / 7.00
960.38 / 19.46

902+00.00

961.77 / 14.00
963.62 / 7.00
963.41 / 0.00
963.10 / 7.00
960.62 / 16.89

901+50.00

962.70 / 7.32
962.78 / 7.00
962.57 / 0.00
962.36 / 7.00
962.26 / 7.39

901+00.00

962.52 / 7.79
962.13 / 7.00
961.92 / 0.00
961.61 / 10.18
962.16 / 11.28

900+50.00

FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\HDR	POLK COUNTY	PROJECT NUMBER NHSX-141-7(42)--3H-77	SHEET NUMBER X.1

12:38:22 PM 7/21/2014 12:38:22 PM pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7714102013\Design\77141042X01.sht