



STA. 1513+75.00  
END CONSTRUCTION  
Ref. Loc. 53.7

PLANS OF PROPOSED IMPROVEMENT ON THE

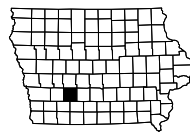
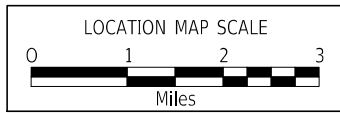
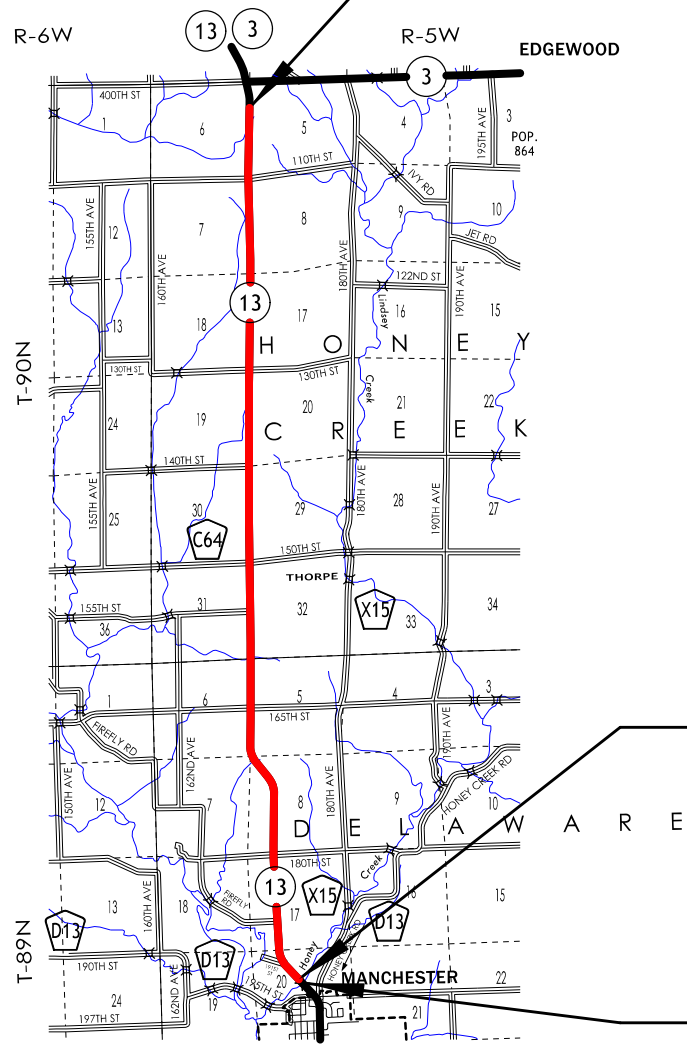
# PRIMARY ROAD SYSTEM DELAWARE COUNTY

Clearing and Grubbing  
Honey Creek 0.2 mi N of Co Rd D13 to S Jct IA 3

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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



REVISIONS

TOTAL	--
PROJECT IDENTIFICATION NUMBER	18-28-013-010
PROJECT NUMBER	NHSN-013-2(048)--2R-28
R.O.W. PROJECT NUMBER	NHSN-013-2(043)--2R-28

### INDEX OF SHEETS

No.	DESCRIPTION
<b>A Sheets</b>	<b>Title Sheets</b>
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<b>C Sheets</b>	<b>Quantities and General Information</b>
C.1	Estimated Project Quantities and Reference Notes
C.2	Standard Road Plans
C.2	Tabulations
<b>D Sheets</b>	<b>Mainline Plan and Profile Sheets</b>
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2 - 18	IA 13
<b>G Sheets</b>	<b>Survey Sheets</b>
G.1 - 6	Reference Ties and Bench Marks
G.7 - 8	Horizontal Control
<b>H Sheets</b>	<b>Right-of-Way Sheets</b>
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HE.1	Firefly Rd
HE.2	180th St
HE.3	165th St
HE.4	155th St
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HE.6	140th St
HE.7	130th St
HE.8	110th St
<b>J Sheets</b>	<b>Traffic Control and Staging Sheets</b>
J.1	Traffic Control Plan
<b>R Sheets</b>	<b>Erosion Control Sheets</b>
RC.1 - 4	Est. Quantities, PPP, General Notes and Tabulations
* RR.1 - 18	Erosion Control Plan Sheets
	* Color Plan Sheets

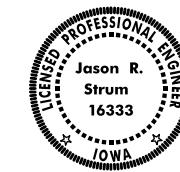
STA. 1025+61.75  
BEGIN CONSTRUCTION  
Ref. Loc. 44.0

FHWA # 23721

### INDEX OF SEALS

SHEET NO.	NAME	TYPE	BID QUANTITY SHEETS
A.1	Jason Strum	Primary Signature Block	C.1
RC.1	Rachel Harris	Landscape Design	RC.2

### ROADWAY DESIGN



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

Signature: Jason R. Strum Date: 09-01-2023  
Printed or Typed Name: Jason R. Strum  
My license renewal date is December 31, 2023

Pages or sheets covered by this seal: A.1, C.1-C.2, D.1-D.18, G.7-G8, X

# ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Roadway Items : Roadway Items

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
1	2101-0850001	CLEARING AND GRUBBING	ACRE	6.3	Refer to D Sheets for details. Do not grub area "AB" shown on sheet D.6. All material generated as a result of Clearing and Grubbing shall become the property of the contractor and must be disposed off site. Includes 13,432 LF of fence removal. Refer to Tab 100-8 for details.
2	2528-8445110	TRAFFIC CONTROL	LS	1	Refer to J sheets.
3	2528-8445113	FLAGGERS	EACH	0	See Proposal.
4	2533-4980005	MOBILIZATION	LS	1	--

100-08  
04-17-18

**REMOVAL OF FENCE**

Removal of Field Fence is incidental to Clearing and Grubbing.

Location				Type	Length	Remarks
From		To				
Station	Offset	Station	Offset	LF		
1085+50.00	51' Lt	1086+53.00	50' Lt	Field	121.0	
1090+16.00	42' Lt	1098+27.00	47' Lt	Field	811.0	
1099+84.00	45' Lt	1105+81.00	46' Lt	Field	599.0	
1099+88.00	45' Rt	1107+75.00	48' Rt	Field	784.0	
1113+36.00	50' Rt	1118+46.00	51' Rt	Field	510.0	
1119+65.00	50' Rt	1123+83.00	53' Rt	Field	418.0	
1143+59.00	62' Lt	1148+03.00	86' Lt	Field	490.0	
1148+54.00	89' Lt	1157+18.00	95' Lt	Field	971.0	
1277+03.00	74' Lt	1281+64.00	41' Lt	Field	493.0	
1311+28.00	60' Lt	1311+75.00	60' Lt	Field	65.0	
1312+92.00	60' Lt	1316+46.00	85' Lt	Field	383.0	
1317+11.00	92' Lt	1323+87.00	44' Lt	Field	718.0	
1329+46.00	67' Lt	1343+13.00	61' Lt	Field	1385.0	
11367+17.00	33' Lt	11369+12.00	35' Lt	Field	196.0	130th St
1370+07.00	63' Lt	1372+47.00	60' Lt	Field	240.0	
1372+72.00	60' Lt	1376+06.00	36' Lt	Field	336.0	
1380+36.00	51' Lt	1389+90.00	50' Lt	Field	954.0	
1391+68.00	51' Lt	1398+91.00	62' Lt	Field	769.0	
1400+58.00	63' Lt	1403+35.00	63' Lt	Field	277.0	
1404+45.00	63' Lt	1409+49.00	61' Lt	Field	504.0	
1409+86.00	60' Lt	1417+20.00	62' Lt	Field	734.0	
1418+03.00	62' Lt	1420+67.00	62' Lt	Field	264.0	
1421+21.00	62' Lt	1422+75.00	62' Lt	Field	154.0	
1423+59.00	61' Lt	1425+59.00	59' Lt	Field	200.0	
1440+34.00	48' Rt	1442+66.00	49' Rt	Field	232.0	
1445+13.00	48' Rt	1449+24.00	49' Rt	Field	411.0	
1452+34.00	60' Lt	1455+77.00	62' Lt	Field	343.0	
1456+70.00	61' Lt	1457+40.00	61' Lt	Field	70.0	
				Total	13432.0	

105-4  
10-18-11

**STANDARD ROAD PLANS**

The following Standard Road Plans apply to construction work on this project.

Number	Date	Title
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-202	04-18-23	Work within 15 ft of Traveled Way
TC-213	04-18-23	Lane Closure with Flaggers
TC-251	04-18-23	Temporary Road Closure

262-5  
10-18-05

**UTILITIES  
(POINT 25 PROJECT)**

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

### SURVEY SYMBOLS

- Interstate Highway Symbol
- U.S. Highway Symbol
- Iowa Highway Symbol
- County Road Highway Symbol
- Evergreen Tree
- Deciduous Tree
- Fruit Tree
- Shrub (Bushes)
- Timber
- Hedge
- Stump
- Swamp
- Rock Outcrop
- Broken Concrete
- Revetment (Rip Rap)
- Cemetery
- Grave
- Cave
- Sink Hole
- Board Fence
- Chain Link or Security Fence
- Wire Fence
- Terrace
- Earth Dam or Dike (Existing)
- Tile Outlet
- Edge of Water
- Existing Drainage
- Right of Way Rail or Lot Corner
- Concrete Monument
- Well
- Windmill
- Beehive Intake
- Existing Intake
- Existing Utility Access (Manhole)
- Fire Hydrant
- Water Hydrant (Rural)
- Septic Tank
- Cistern
- L.P. Gas Tank (No Footing)
- Underground Storage Tank
- Latrine
- Satellite TV Dish
- Water Hook Up
- Radio Tower
- Tower Anchor
- Guardrail (Beam or Cable)
- Guard Post (one or two)
- Guard Post (over two)
- Filler Pipe
- Gas Valve
- Water Valve
- Speed Limit Sign
- Mile Marker Post
- Sign
- Traffic Signal Control Box
- Rail Road Signal Control Box
- Telephone Switch Box
- Electric Box

### UTILITY LEGEND

- E1 Iowa DOT  
Doug Lickteig  
(319)-443-2370  
douglas.lickteig@iowadot.us
- E2 Alliant Energy  
Mick Bennett  
(319)-786-2005  
lmickbennett@alliantenergy.com
- F02 Iowa Communications Network  
Tim Flickinger  
(515)-725-4699  
timothy.flickinger@icn.state.us
- G Black Hills  
Brian McWilliams  
(563)-927-1017  
brian.mcwilliams@blackhillscorp.com
- T1 Windstream Communications  
Stephen Kness  
(319)-790-7678  
stephen.kness@windstream.com
- W Iowa Regional Water  
Matt Mahler  
(641)-792-7011  
mmahler@irua.net
- CIPCO  
Adam Clymer  
(319)-734-4323  
adam.clymer@cipco.net
- ITC  
Chad Levy  
(319)-297-6765  
clevi@itctransco.com
- Maquoketa Valley REC  
Nic Schulte  
(319)-462-3542  
nschulte@mvec.com
- Mediacom  
Dewey Callan or Craig Eggert  
(319)-493-8319 / (563)-419-5160  
dcallan@mediacomcc.com / ceggert@mediancomcc.com

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

LINEWORK		Design Color No.	
Green	(2)		Existing Topographic Features and Labels
Blue	(1)		Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)		Existing Utilities
SHADING		Design Color No.	
Lavender	(9)		Temporary Pavement Shading
Yellow	(4)		Proposed Pavement Shading
Orange	(6)		Proposed Granular Shading
Orange	(70)		Proposed Shoulder Granular Shading
Yellow	(68)		Proposed Shoulder Paved Full Depth Shading
Yellow	(132)		Proposed Shoulder Paved Partial Depth Shading
Gray, Dark	(112)		Proposed Grade and Pave Shading "In conjunction with a paving project"
Brown, Light	(236)		Grading Shading
Orange, Light	(134)		Proposed Granular Entrance Shading
Yellow	(220)		Proposed Paved Entrance Shading
Tan	(8)		Proposed Sidewalk Shading
Blue, Light	(230)		Proposed Sidewalk Landing Shading
Pink	(11)		Proposed Sidewalk Ramp Shading
Green, Light	(225)		Existing Pavement Shading
Red	(3)		Proposed Structure Shading
Red	(3)		Delineates Restricted Areas

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

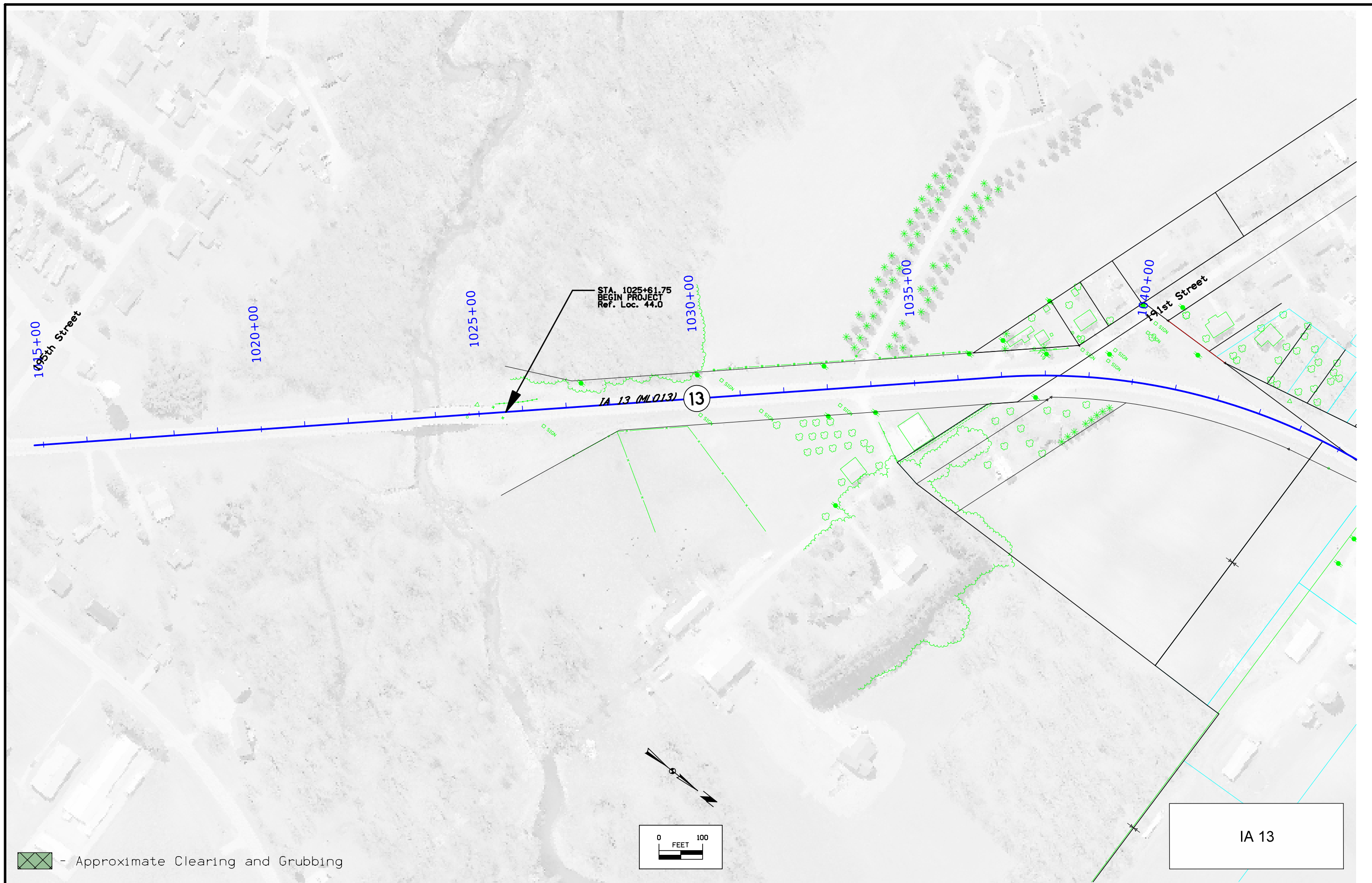
LINEWORK		Design Color No.	
Green	(10)		Existing Ground Line Profile
Blue	(1)		Proposed Profile and Annotation
Magenta	(5)		Existing Utilities
Blue, Light	(230)		Proposed Ditch Grades, Left
Black	(0)		Proposed Ditch Grades, Median
Rust	(14)		Proposed Ditch Grades, Right

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

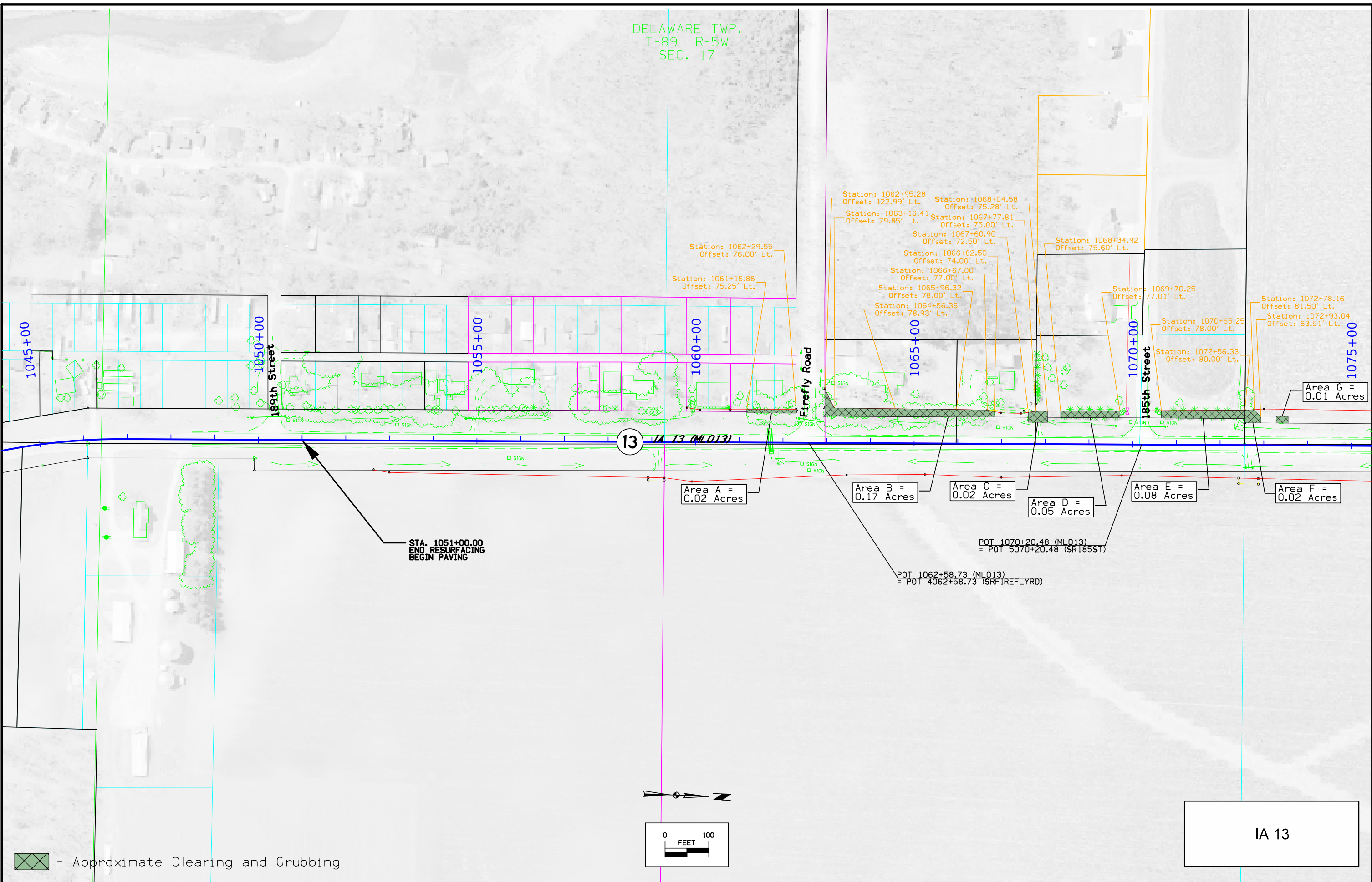
- ### RIGHT-OF-WAY LEGEND
- Proposed Right-of-Way
  - Existing Right of Way
  - Existing and Proposed Right-of-Way
  - Easement and Existing Right-of-Way
  - Easement (Temporary)
  - Easement
  - Access Control
  - Property Line

## PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

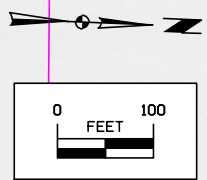
(COVERS SHEET SERIES D, E, F, & K)



DELAWARE TWP.  
T-89 R-5W  
SEC. 17

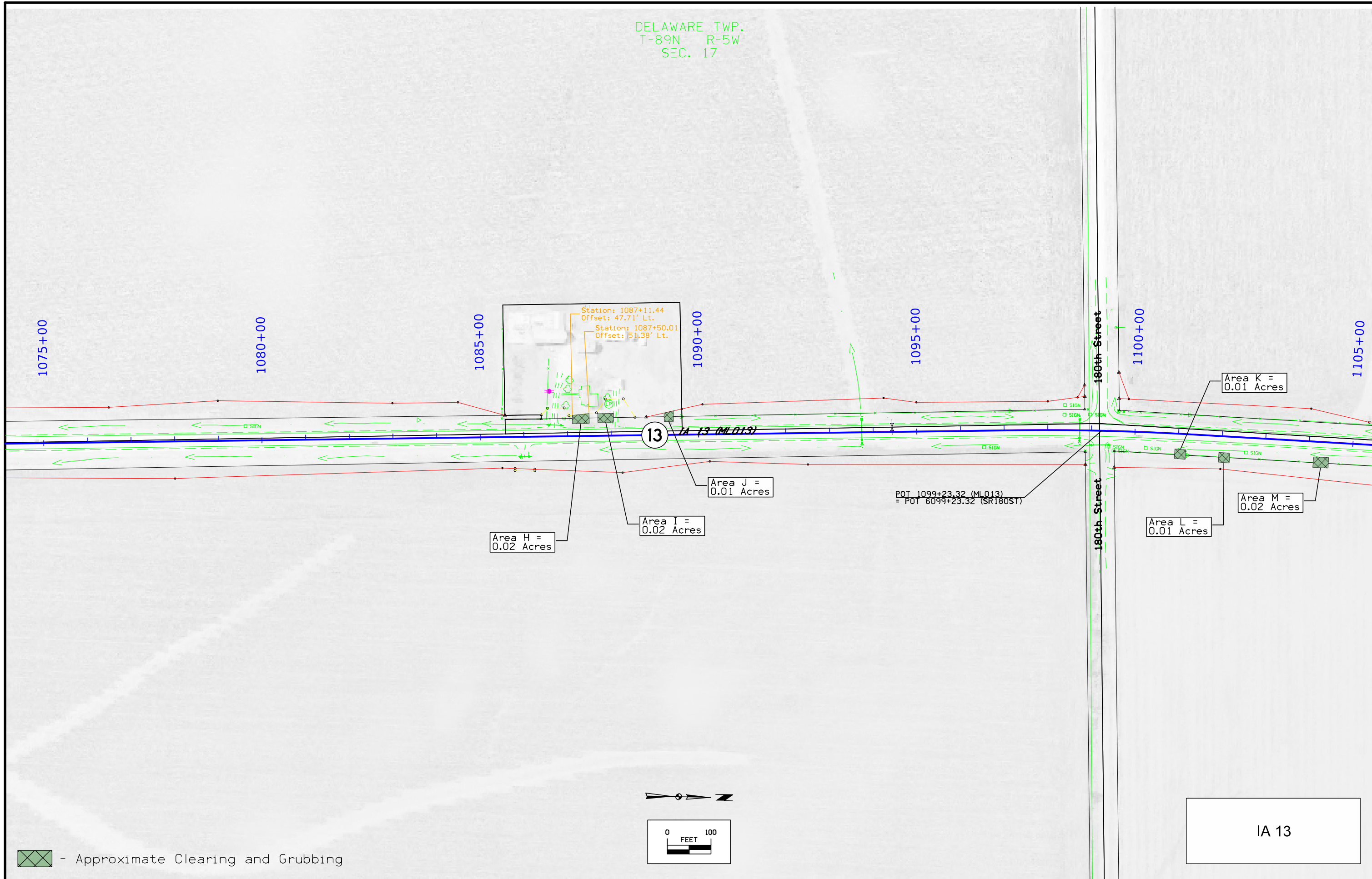


- Approximate Clearing and Grubbing

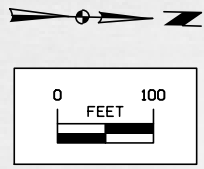


IA 13

DELAWARE TWP.  
T-89N R-5W  
SEC. 17

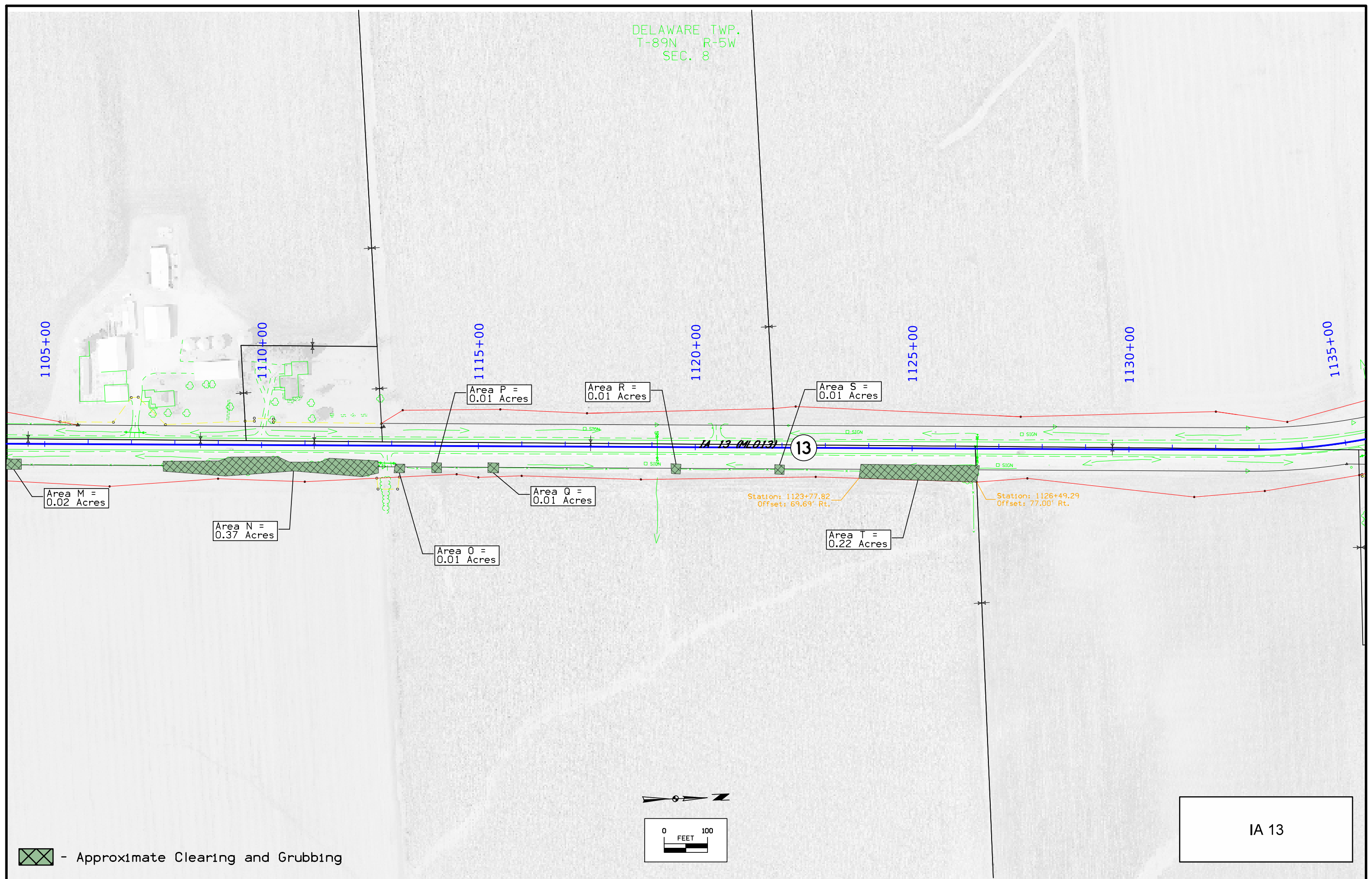


- Approximate Clearing and Grubbing



IA 13

DELAWARE TWP.  
T-89N R-5W  
SEC. 8



Area M =  
0.02 Acres

Area N =  
0.37 Acres

Area O =  
0.01 Acres

Area P =  
0.01 Acres

Area R =  
0.01 Acres

Area Q =  
0.01 Acres


Area S =  
0.01 Acres

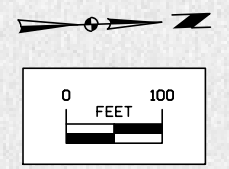
Area T =  
0.22 Acres

IA 13 (ML 013) 13

Station: 1123+77.82  
Offset: 69.69' Rt.

Station: 1126+49.29  
Offset: 77.00' Rt.

 - Approximate Clearing and Grubbing

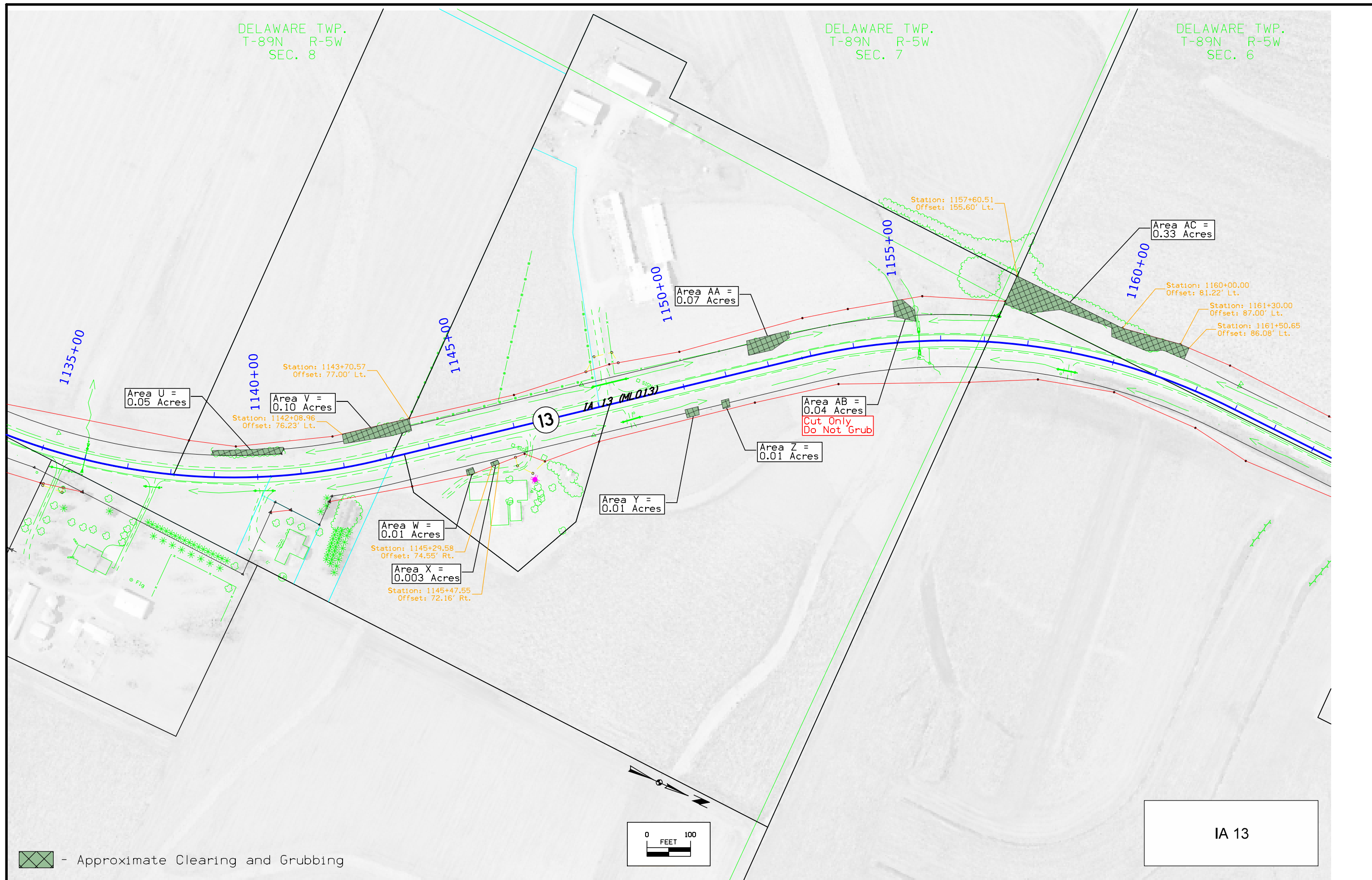


IA 13

DELAWARE TWP.  
T-89N R-5W  
SEC. 8

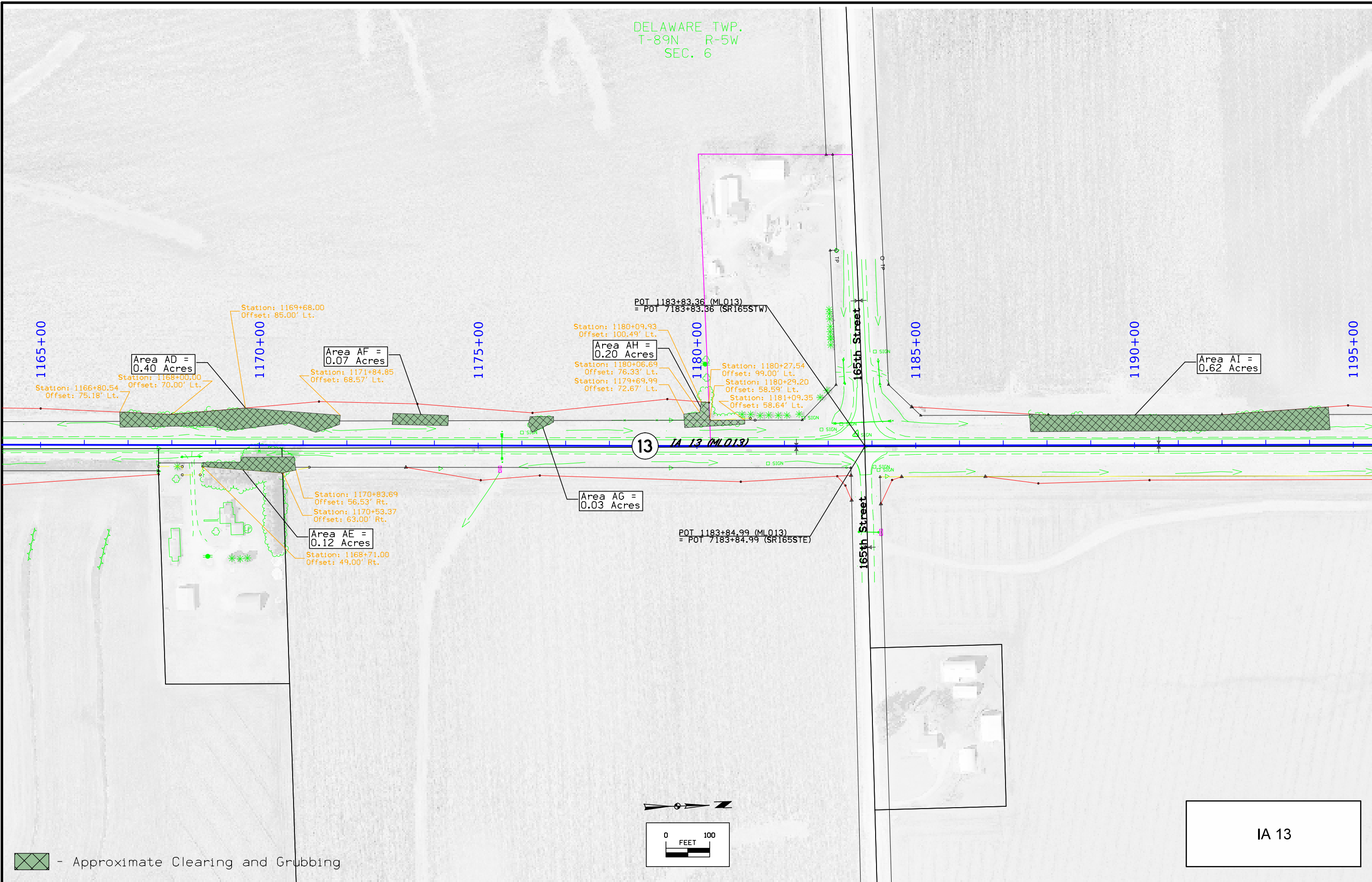
DELAWARE TWP.  
T-89N R-5W  
SEC. 7

DELAWARE TWP.  
T-89N R-5W  
SEC. 6



IA 13

DELAWARE TWP.  
T-89N R-5W  
SEC. 6



DELAWARE TWP.  
T-89N R-5W  
SEC. 6

HONEY CREEK TWP.  
T-90N R-5W  
SEC. 31



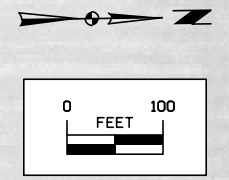
- Approximate Clearing and Grubbing

IA 13

HONEY CREEK TWP.  
T-90N R-5W  
SEC. 31



- Approximate Clearing and Grubbing



IA 13

HONEY CREEK TWP.  
T-90N R-5W  
SEC. 31

HONEY CREEK TWP.  
T-90N R-5W  
SEC. 30



Area AN =  
0.19 Acres

Station: 1256+81.13  
Offset: 97.02' Lt.

Station: 1259+62.78  
Offset: 84.30' Rt.


POT 1263+76.23 (ML 013)  
= POT 9263+76.23 (SRC64E)

Area A0 =  
0.01 Acres

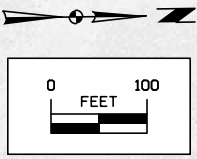
Station: 1258+97.70  
Offset: 76.00' Rt.

POT 1263+76.70 (ML 013)  
= POT 9263+76.70 (SRC64W)

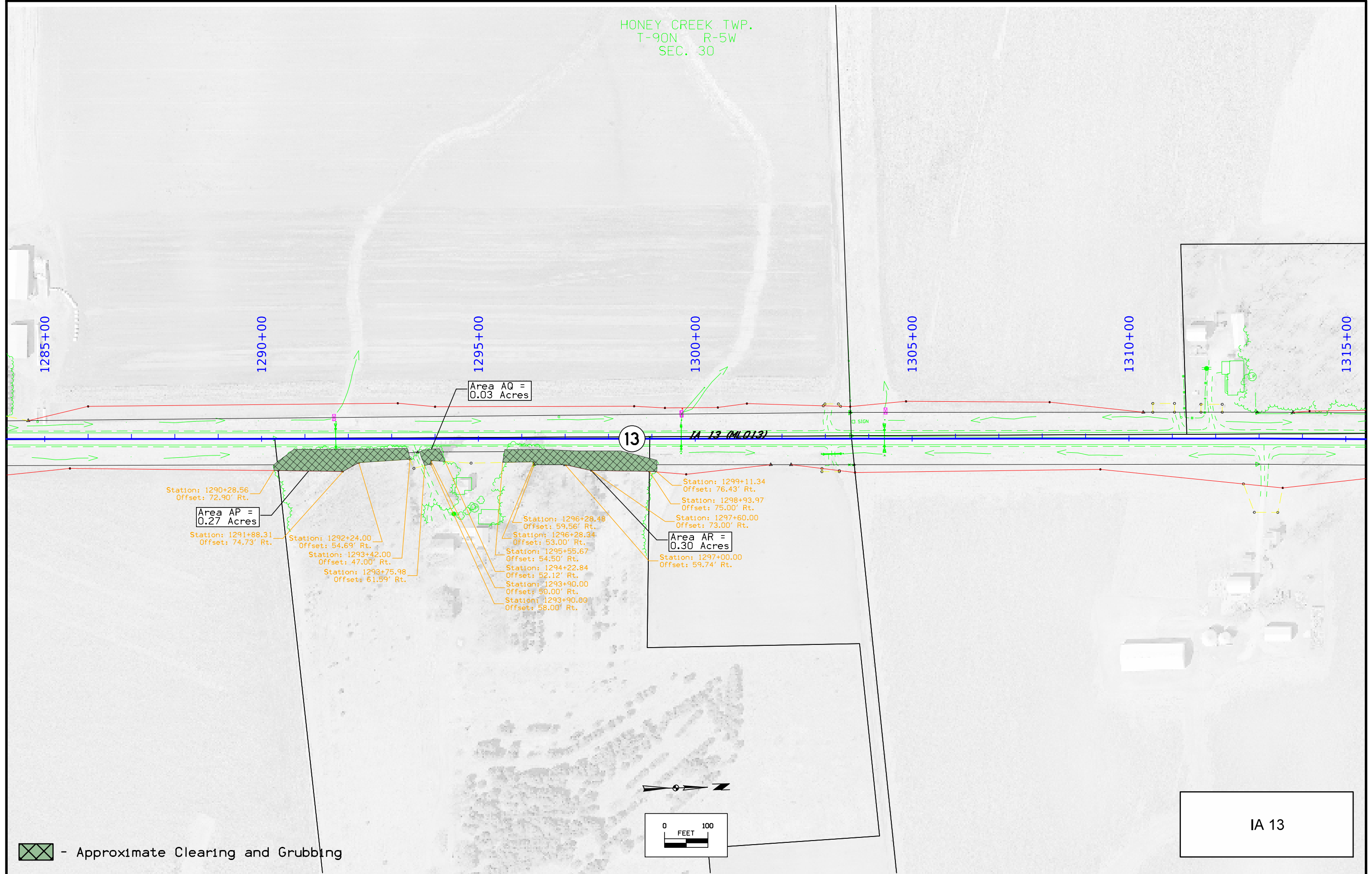
30'± C.M.P.

 - Approximate Clearing and Grubbing

IA 13



HONEY CREEK TWP.  
T-90N R-5W  
SEC. 30



- Approximate Clearing and Grubbing

HONEY CREEK TWP.  
T-90N R-5W  
SEC. 19

Station: 1316+46.15  
Offset: 128.87' Lt.  
**Area AS =  
0.02 Acres**  
Station: 1316+35.38  
Offset: 108.51' Lt.  
**1315+00**

POT 1316+79.88 (ML013)  
= POT 10316+79.88 (SR140ST)

**1320+00**

**1325+00**

Station: 1328+87.40  
Offset: 52.07' Lt.  
**Area AT =  
0.02 Acres**

**1330+00**

Station: 1329+64.00  
Offset: 72.12' Lt.

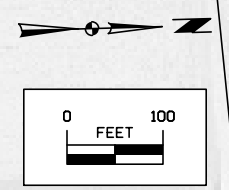
**1335+00**

**1340+00**

**1345+00**

**13** IA 13 (ML013)

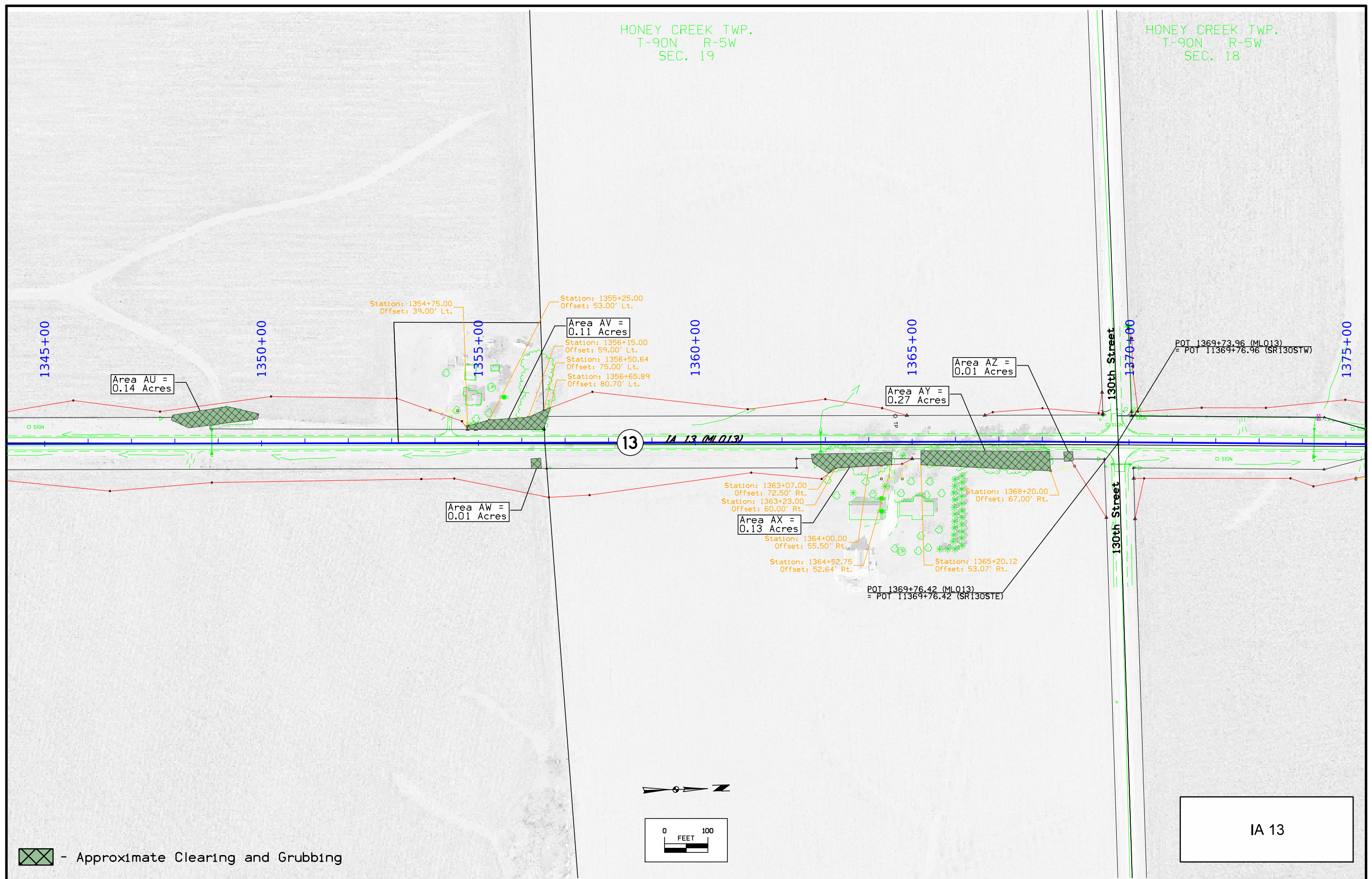
 - Approximate Clearing and Grubbing



IA 13

HONEY CREEK TWP.  
T-90N R-5W  
SEC. 19

HONEY CREEK TWP.  
T-90N R-5W  
SEC. 18



Area AU =  
0.14 Acres

Area AV =  
0.11 Acres

Area AW =  
0.01 Acres

Area AX =  
0.13 Acres

Area AY =  
0.27 Acres

Area AZ =  
0.01 Acres

Station: 1354+75.00  
Offset: 39.00' Lt.

Station: 1355+25.00  
Offset: 53.00' Lt.

Station: 1356+15.00  
Offset: 59.00' Lt.  
Station: 1356+50.64  
Offset: 75.00' Lt.  
Station: 1356+65.89  
Offset: 80.70' Lt.

Station: 1363+07.00  
Offset: 72.50' Rt.  
Station: 1363+23.00  
Offset: 60.00' Rt.

Station: 1364+00.00  
Offset: 55.50' Rt.  
Station: 1364+52.75  
Offset: 52.64' Rt.

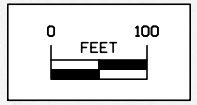
Station: 1368+20.00  
Offset: 67.00' Rt.

Station: 1365+20.12  
Offset: 53.07' Rt.

POT 1369+73.96 (ML013)  
= POT 11369+76.96 (SR130STW)

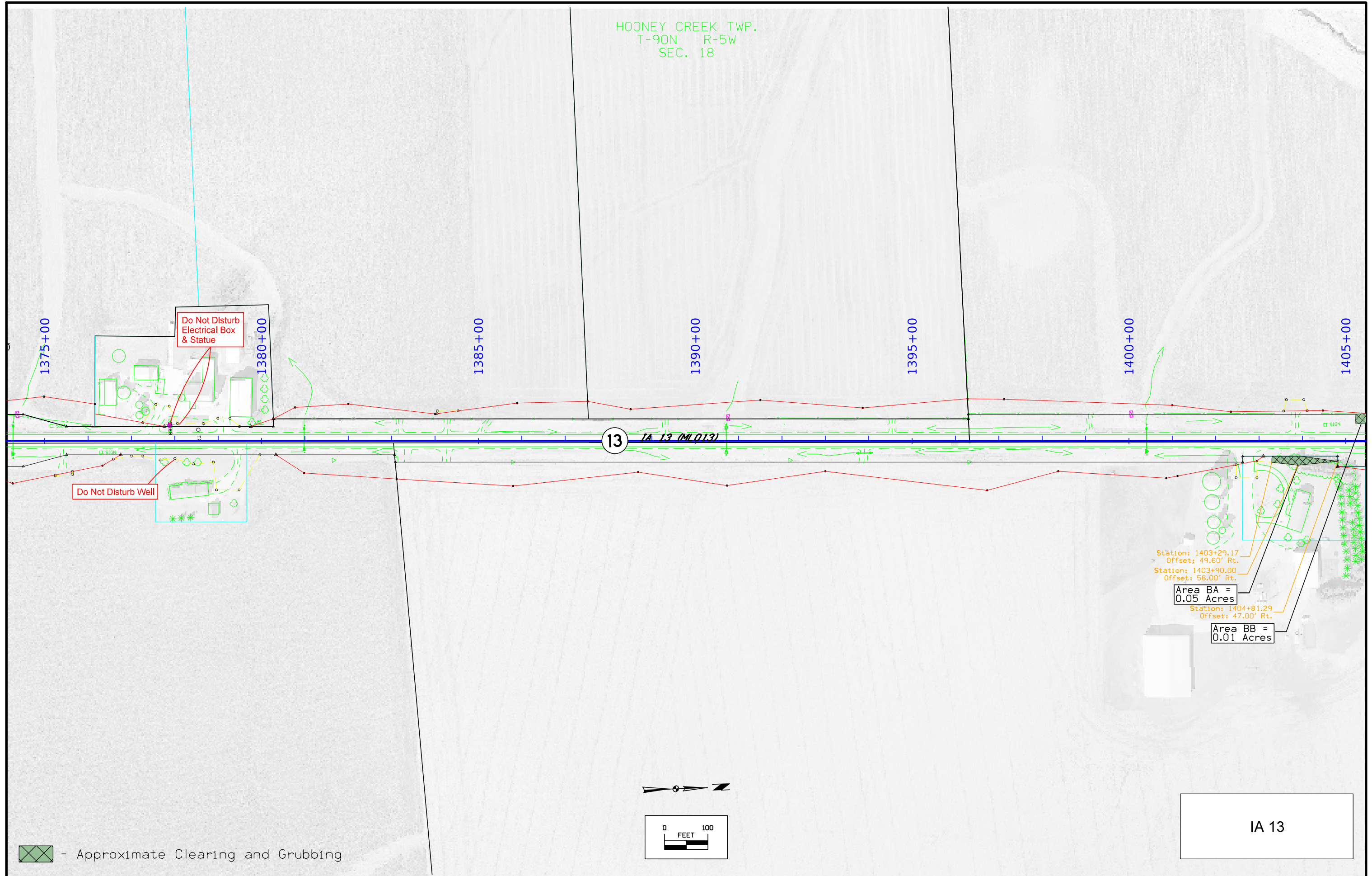
POT 1369+76.42 (ML013)  
= POT 11369+76.42 (SR130STE)

- Approximate Clearing and Grubbing

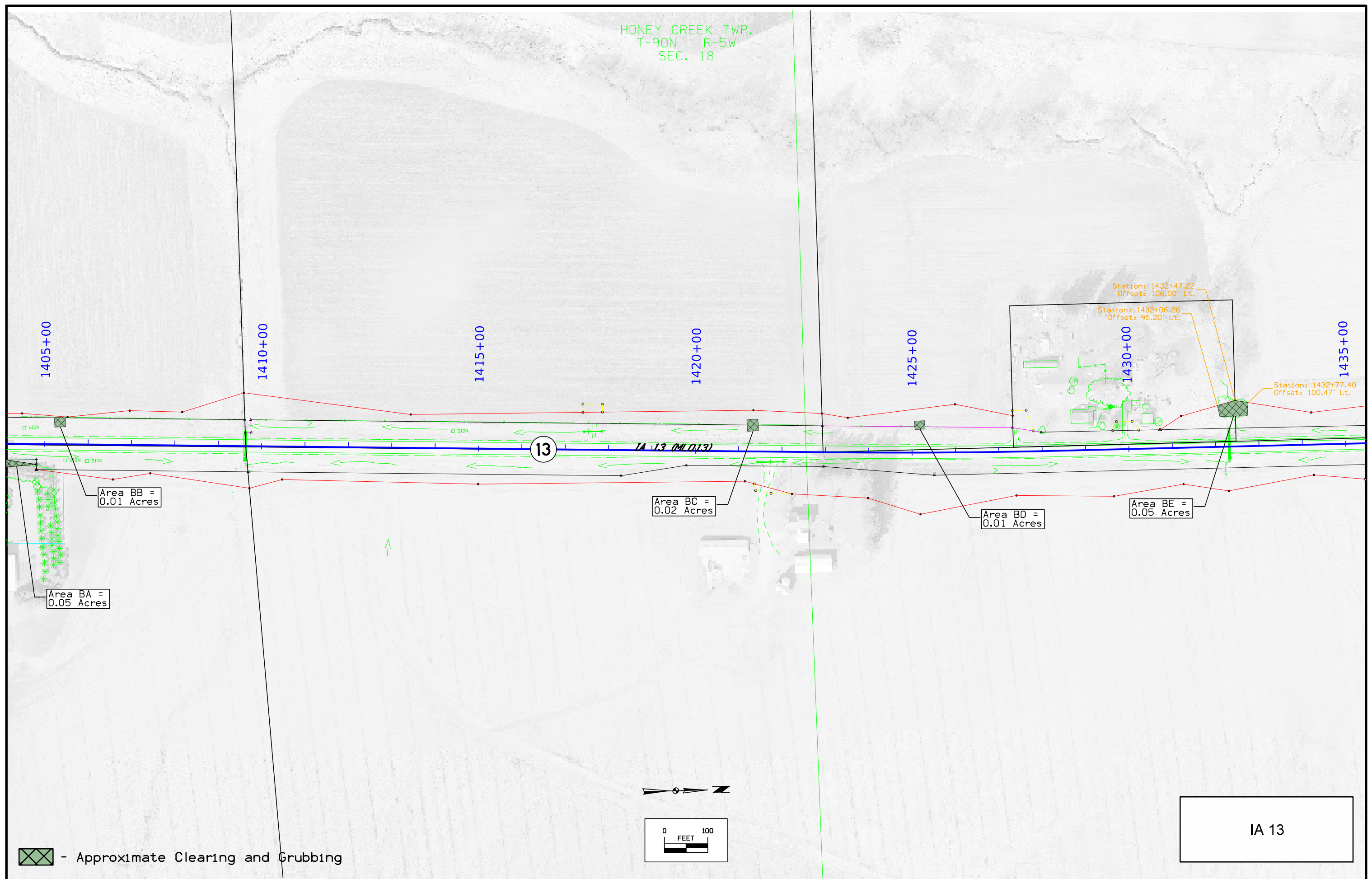



IA 13

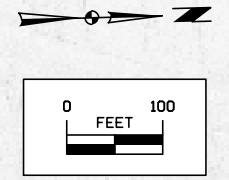
HOONEY CREEK TWP.  
T-90N R-5W  
SEC. 18



HONEY CREEK TWP.  
T-90N R-5W  
SEC. 18

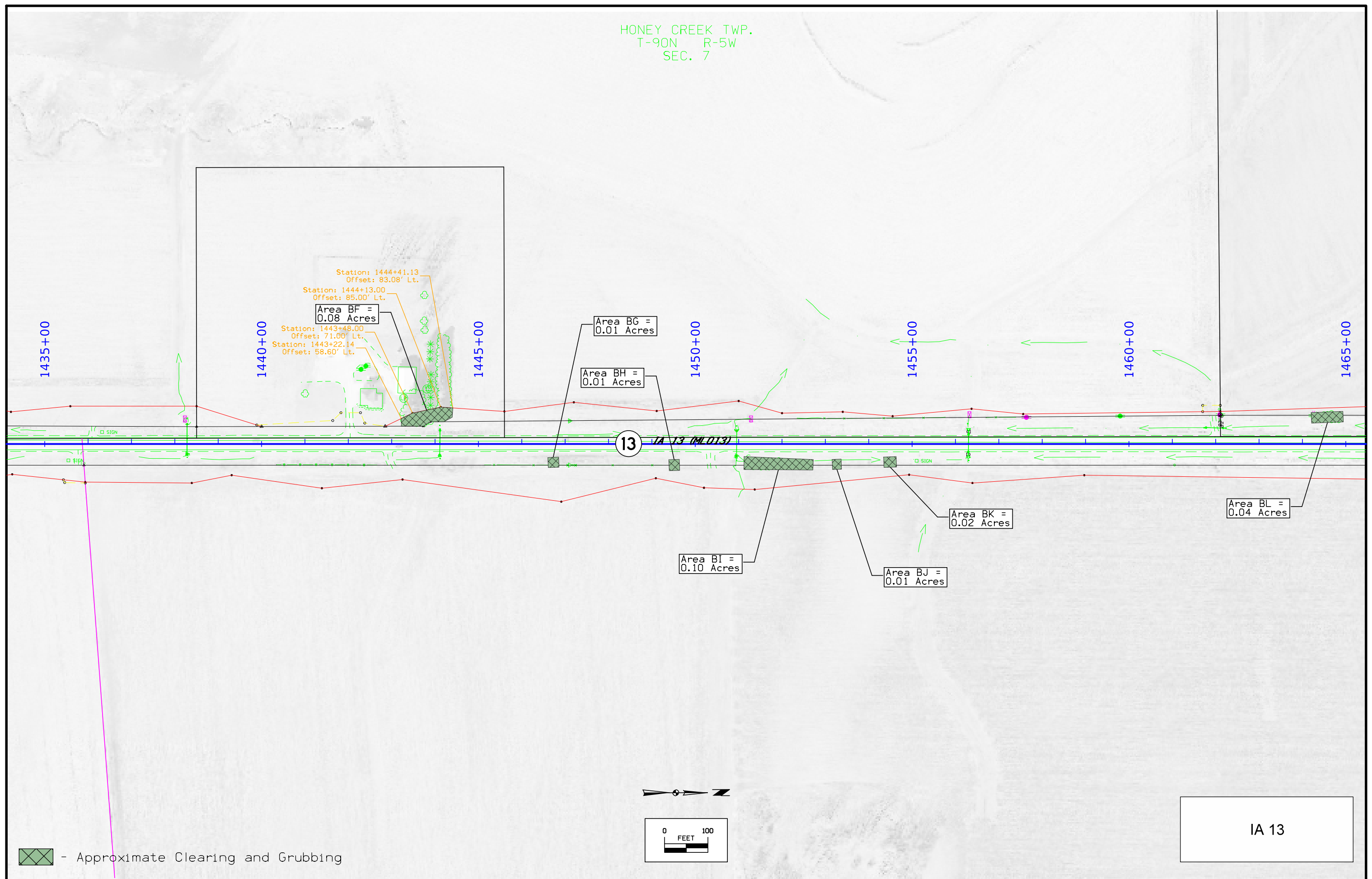


 - Approximate Clearing and Grubbing



IA 13

HONEY CREEK TWP.  
T-90N R-5W  
SEC. 7



Station: 1444+41.13  
Offset: 83.08' Lt.  
Station: 1444+13.00  
Offset: 85.00' Lt.  
Area BF =  
0.08 Acres  
Station: 1443+48.00  
Offset: 71.00' Lt.  
Station: 1443+22.14  
Offset: 58.60' Lt.

Area BG =  
0.01 Acres


Area BH =  
0.01 Acres

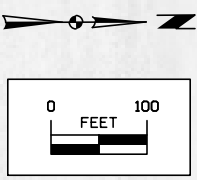
Area BI =  
0.10 Acres

Area BJ =  
0.01 Acres

Area BK =  
0.02 Acres

Area BL =  
0.04 Acres

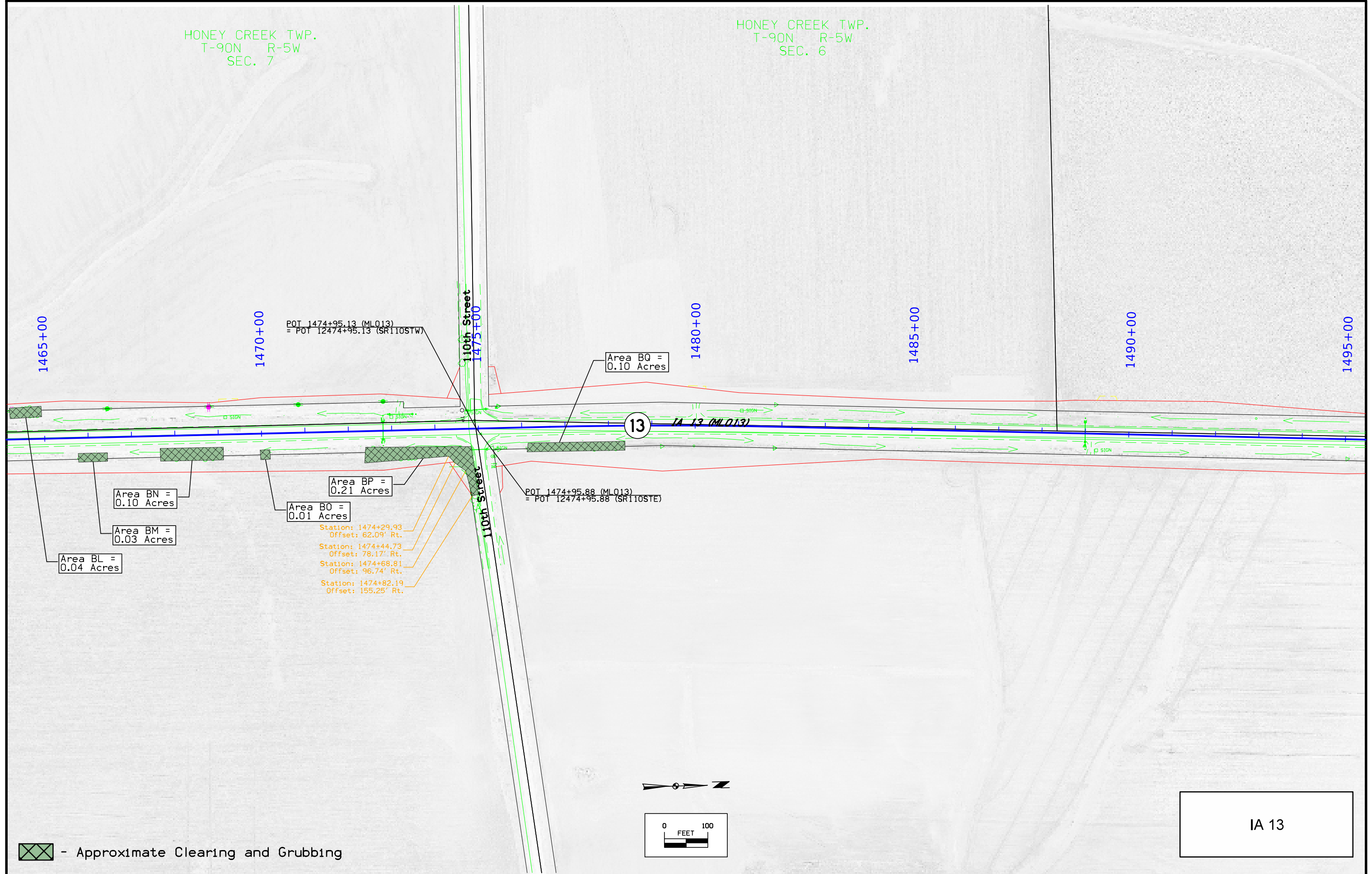
 - Approximate Clearing and Grubbing



IA 13

HONEY CREEK TWP.  
T-90N R-5W  
SEC. 7

HONEY CREEK TWP.  
T-90N R-5W  
SEC. 6



13

IA 13 (ML013)

110th Street  
1475+00

110th Street

POT 1474+95.13 (ML013)  
= POT 12474+95.13 (SR110STW)

Area BQ =  
0.10 Acres

POT 1474+95.88 (ML013)  
= POT 12474+95.88 (SR110STE)

Area BP =  
0.21 Acres


Area BO =  
0.01 Acres

Station: 1474+29.93  
Offset: 62.09' Rt.  
Station: 1474+44.73  
Offset: 78.17' Rt.  
Station: 1474+68.81  
Offset: 96.74' Rt.  
Station: 1474+82.19  
Offset: 155.25' Rt.

Area BN =  
0.10 Acres

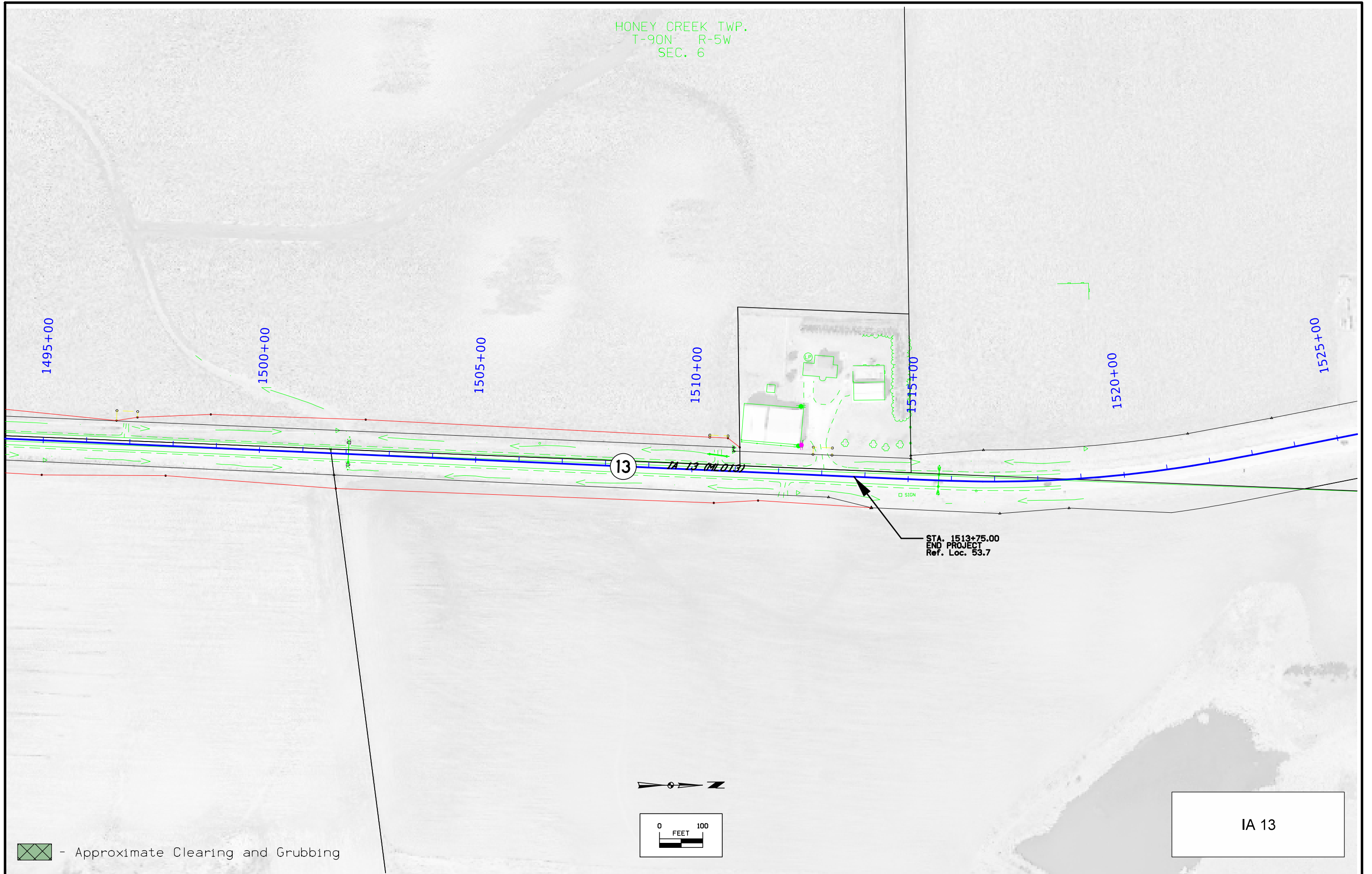
Area BM =  
0.03 Acres

Area BL =  
0.04 Acres

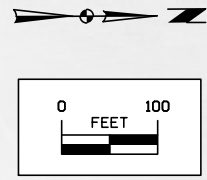
 - Approximate Clearing and Grubbing

IA 13

HONEY CREEK TWP.  
T-90N R-5W  
SEC. 6



 - Approximate Clearing and Grubbing



IA 13

## Survey Information

Delaware County  
 NHSX-013-2(42)--3H-28  
 PIN 18-28-013-010  
 IA 13 – Partial Survey of IA 13 0.5 Miles N of Honey Creek to 0.2 Miles S of  
 Junction IA 3  
 Approx. 9 Miles  
 SAP 0953.0

### General Information

Measurement units for this survey are US survey feet. Project datum and control was established using IARTN. This is a partial survey of IA 13. Starting 0.5 Miles north of Honey Creek and ending 0.2 Miles south of Junction IA 3

### Vertical Control

Vertical datum for this survey is relative to NAVD88. Geoid 12B was used in this survey. Iowa RTN was used to establish 16 control points surrounding the perimeter of the project. CP101-CP116 were then calibrated from CP100. Additional benchmarks were placed throughout the project using RTK GPS.

BM #518 EL= 1018.714' this survey 1983 AB Plan Sheet 16 of 97 EL=1018.75'  
 BM #530 EL=1069.312' this survey 1983 AB Plan Sheet 16 of 97 EL=1069.57'  
 BM #535 EL= 1093.007' this survey 1983 AB Plan Sheet 16 of 97 EL=1093.27'  
 BM #542 EL= 1102.501' this survey 1983 AB Plan Sheet 16 of 97 EL=1102.75'  
 BM #543 EL= 1110.365' this survey 1983 AB Plan Sheet 16 of 97 EL=1110.71'  
 BM #544 EL= 1107.384' this survey 1983 AB Plan Sheet 16 of 97 EL=1107.57'

### Horizontal Control

The project coordinate system for this survey is IaRCS Zone 3(U.S. Survey Feet). This survey control is relative to IaRTN reference Stations. IaRTN Reference Station coordinates are relative to the National Reference Station network datum: NAD83 (2011) for Epoch 2010.00. We establish 16 control points surrounding the perimeter of the project limits, observing each for 180 epochs. CP101-CP116 were then calibrated from CP100. Additional control points were placed throughout the project using GNSS Base-Rover setup relative to CP100.

The Combined Scale Factor may be used for total station stakeout and location to survey in the State Plane Coordinate system.

### Alignment Information

The horizontal alignment for this survey is a retrace of As-Built Plans No. P-236Abc-24390948. Survey stationing was equated to the plan PC at STA 152+79.40 at point #4228, Found Cut "X" in Pavement, and run back and ahead without equation throughout the end of the survey. The alignment from STA 514+72.75 forward throughout the end of the survey is a retrace of As-Built Plans No. F-13-2(13)—20-28.

Survey stationing relates to as-built plan stationing as follows:

PT Sta. 14+79.40 Project No. P-236Abc-24390948  
 Survey POT Sta. 14+79.40

PC Sta 152+79.40 Project No. P-236Abc-24390948  
 Survey PC STA 152+79.40

PI STA 367+77.10 Project No. P-236Abc-24390948  
 Survey PI STA 367+77.40

PC STA 423+86.60 Project No. P-236Abc-24390948  
 Survey PC STA 423+86.90

PC STA 476+65.00 Project No. P-236Abc-24390948  
 Survey PC STA 476+65.30

TS STA 616+83.75 Project No. F-13-2(13)—20-28  
 Survey TS STA 514+72.75

CS STA 621+42.02 Project No. F-13-2(13)—20-28  
 Survey CS STA 521+60.25

POT STA 628+44.99 Project No. F-13-2(13)—20-28  
 Survey POT STA 528+64.19

### Point Numbers Used

Control Points 100-117, 120-158  
 Bench Points 500-536,538-551  
 Topo 4000-33435,37000-38355,40000-40469

Point Numbers available for future surveys  
 1-99,118,119,159-499,537,552-999,1037-1999,2034-2999,3027-3999,  
 33436-36999,38356-39999,40470-100000

### Date(s) of Survey

Begin Date 10/28/2019  
 End Date 4/30/2020

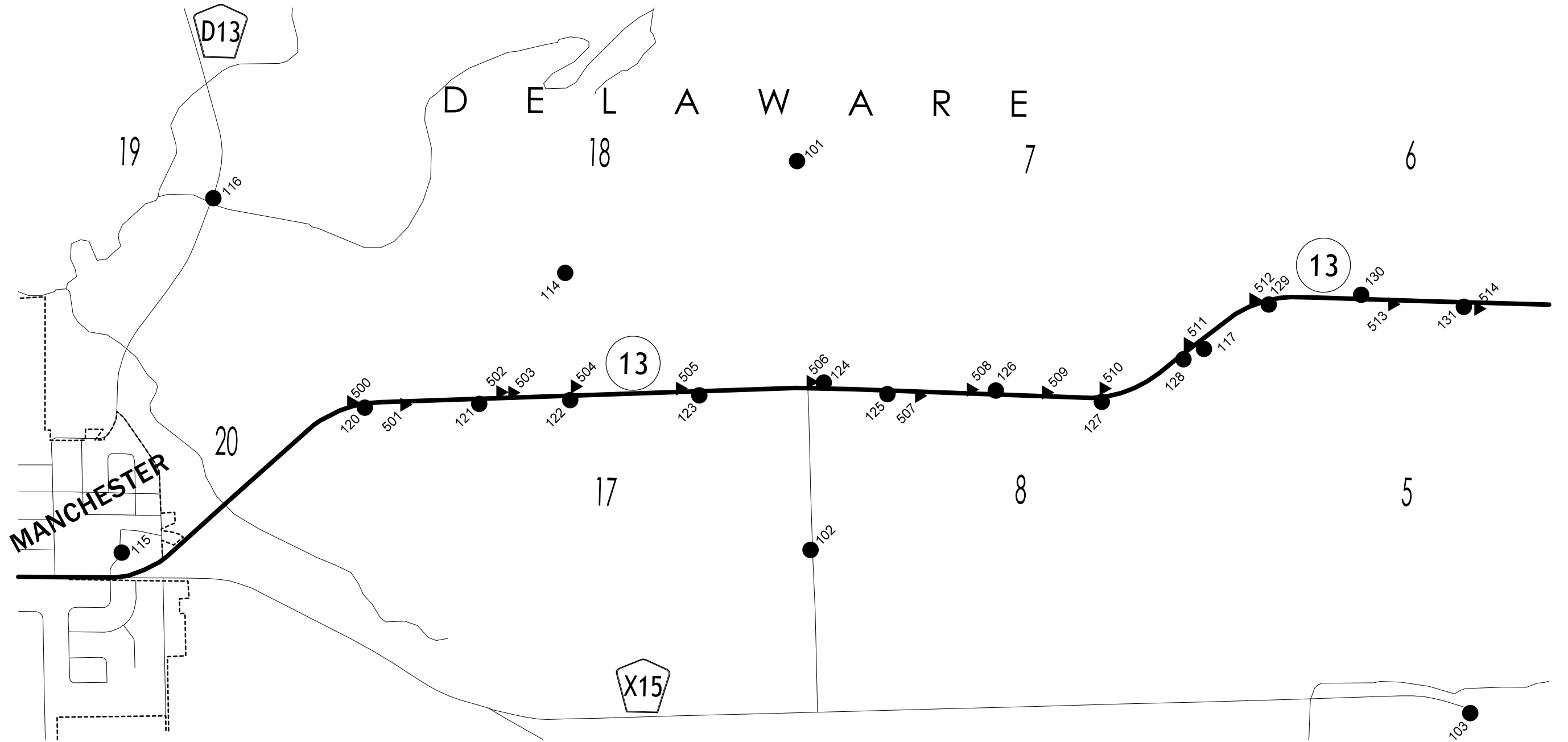
### Party Personnel

Jeremy Leemon	Survey Project Manager
Chris Ries	Assistant Survey Project Manager
CJ Beckman	Instrument
Scott Jones	Instrument
Jacob Powers	Instrument

Survey Feature table lafea1/22/2015.doc  
 Trimble IowaDOT19.1.fxl file  
 CADD Feature Table and Cell files IDOTsurvey\_smd

### CONTROL POINT VICINITY MAP

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



HORIZ. DATUM: NAD83(2011) EPOCH 2010.00

VERT. DATUM: NAVD88

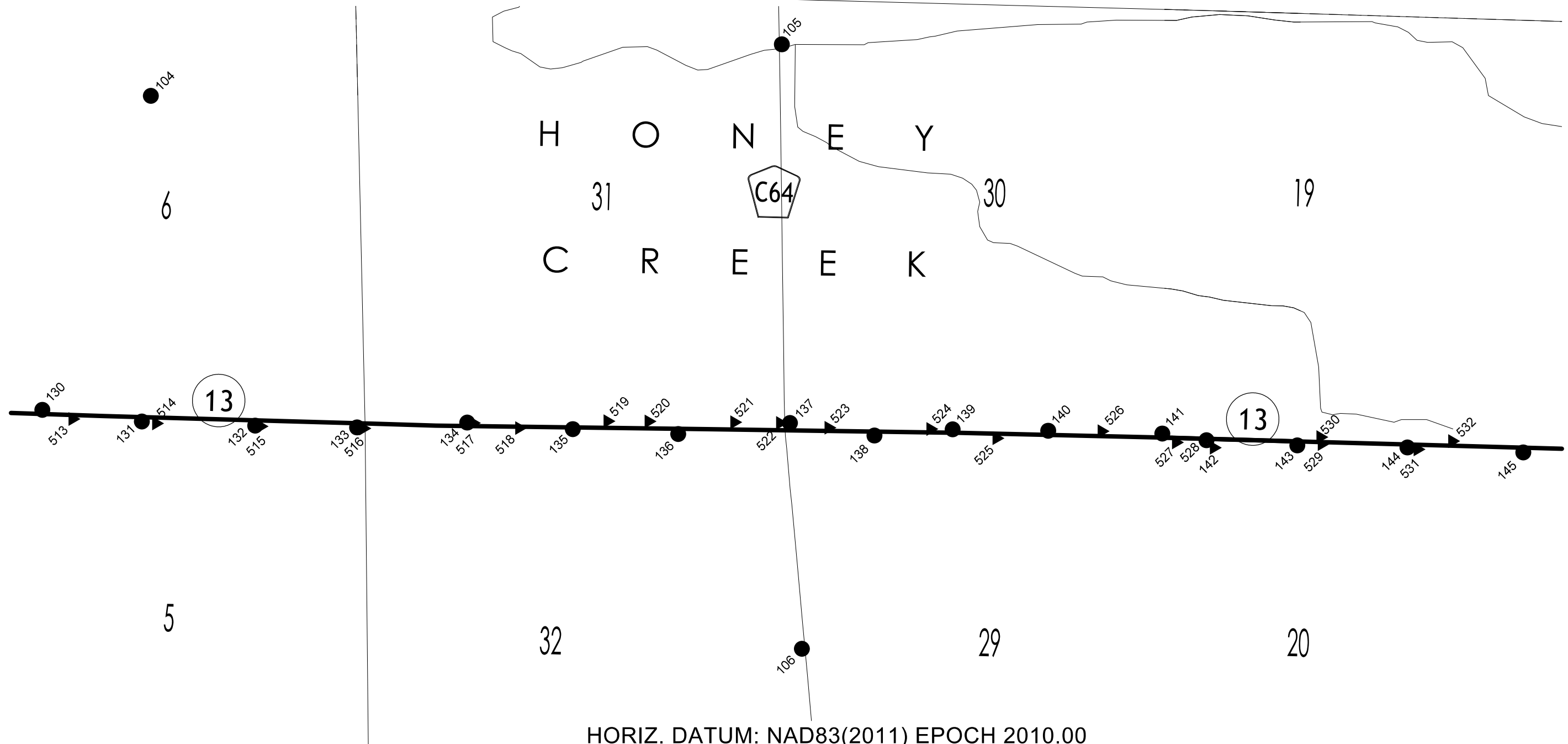
1a. Regional Coordinate System Zone 3

Coordinate listing from next sheet will be used with 1aRTN for monument recovery. No other reference ties are given.



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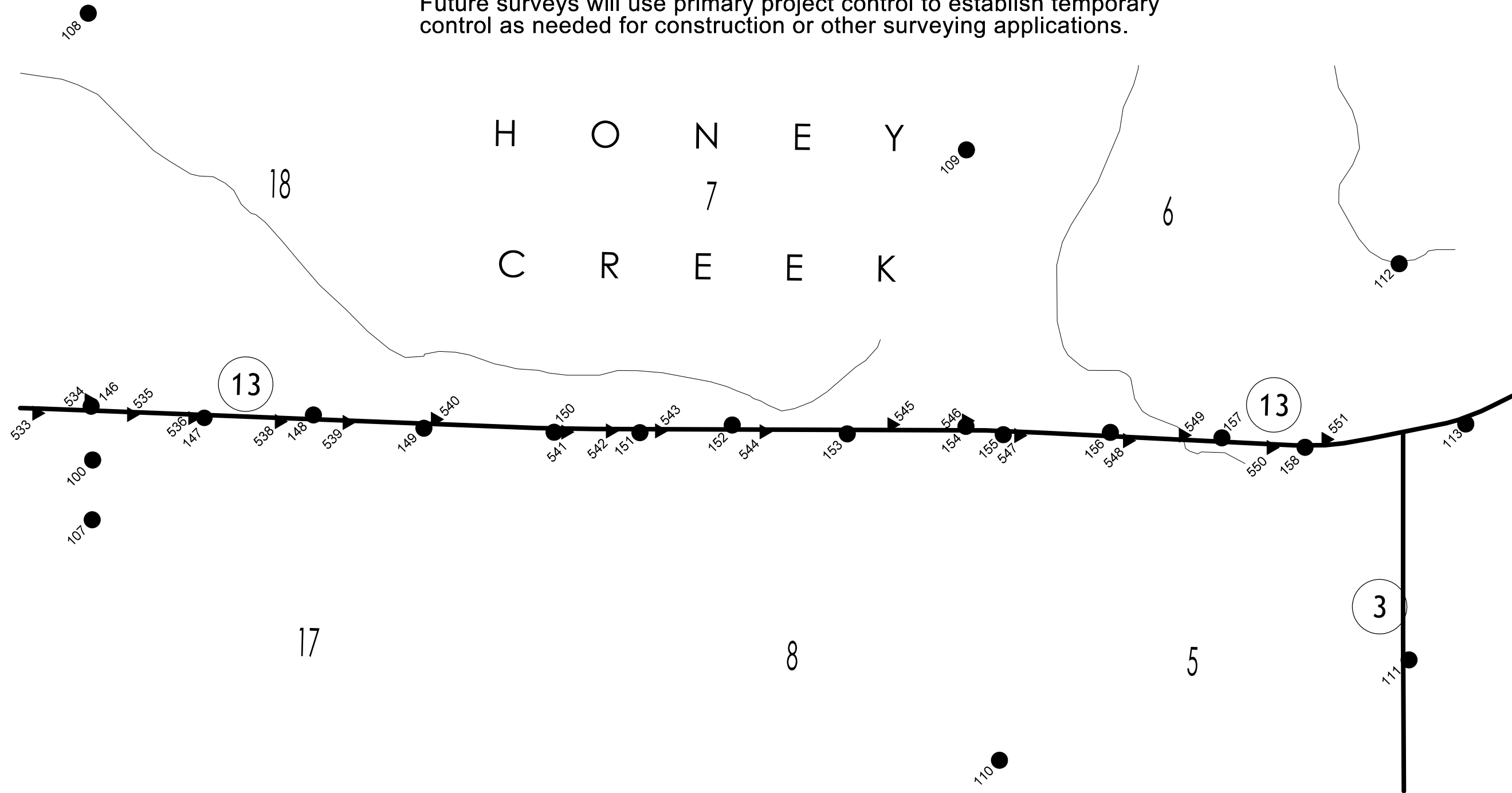
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# HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING

HORIZ. DATUM: NAD83(2011) EPOCH 2010.00

VERT. DATUM: NAVD88

## Ia. Regional Coordinate System Zone 3

Point Name	Northing	Easting	Elev.	Fea. Code	Description										
100	9156609.88	13428109.73	1113.52	CP	SET REBAR 6 IN DEEP 24 FT SOUTH OF 130TH ST CL 599 FT EAST OF IA 13 CL	136	9144692.05	13427297.85	1038.75	CP	SET REBAR 6 IN DEEP 67 FT EAST OF CL SOUTH SIDE OF FIELD ENT				
101	9129808.81	13425361.63	965.32	CP	SET REBAR 6 IN DEEP 38 FT SOUTH OF 180TH ST CL 120 FT WEST OF CULVERT	137	9146097.64	13427159.21	1055.44	CP	FD REBAR 6 IN DEEP 90 FT WEST OF CL 60 FT NORTH OF 150TH ST CL				
102	9129972.80	13430107.40	973.24	CP	FD REBAR 6 IN DEEP 26 FT SOUTH OF 180TH ST CL NEAR CORNER POST	138	9147160.26	13427317.49	1077.17	CP	SET REBAR 6 IN DEEP 54 FT EAST OF CL				
103	9138025.75	13432098.74	1004.52	CP	SET REBAR 6 IN DEEP 50 FT SE OF 180TH AVE CL 38 FT SOUTH OF 165TH ST CL	139	9148144.45	13427239.17	1066.63	CP	SET REBAR 6 IN DEEP 40 FT WEST OF CL 24 FT NORTH OF PP				
104	9138059.37	13423046.27	1014.03	CP	SET REBAR 6 IN DEEP 55 FT NORTH OF 165TH CL 93 FT WEST OF 162ND AVE CL	140	9149346.52	13427256.49	1051.70	CP	SET REBAR 6 IN DEEP 50 FT WEST OF CL 130 FT SOUTH OF PP				
105	9145995.39	13422398.91	999.64	CP	SET REBAR 6 IN DEEP 26 FT NORTH OF 150TH ST 20 FT WEST OF TRIP BOX CUL	141	9150780.92	13427291.81	1064.30	CP	SET REBAR 6 IN DEEP 49 FT WEST OF CL 74 FT SOUTH OF RES ENT				
106	9146247.69	13429998.35	1057.44	CP	SET REBAR 6 IN DEEP 44 FT SOUTH OF 150TH ST AT CORNER POST	142	9151337.12	13427376.73	1064.43	CP	SET REBAR 6 IN DEEP 21 FT EAST OF CL AT 140TH ST INTERSECTION				
107	9156605.01	13428834.84	1108.73	CP	SET REBAR 6 IN DEEP 30 FT SOUTH OF 130TH ST CL AT FENCE	143	9152479.63	13427441.53	1086.44	CP	SET REBAR 6 IN DEEP 53 FT EAST OF CL 180 FT NORTH OF FARM ENT				
108	9156557.81	13422695.84	1079.62	CP	FD REBAR 6 IN DEEP 30 FT SOUTH OF 130TH ST 100 FT WEST OF TREE	144	9153864.57	13427467.49	1092.56	CP	SET REBAR 6 IN DEEP 38 FT EAST OF CL NORTH SIDE OF FIELD ENT				
109	9167201.34	13424352.04	1161.98	CP	FD REBAR 6 IN DEEP 20 FT NORTH OF 110TH ST 530 FT WEST OF FARM ENT	145	9155321.18	13427529.19	1145.65	CP	SET REBAR 6 IN DEEP 58 FT EAST OF CL NORTH SIDE OF FENCE				
110	9167602.09	13431749.77	1095.75	CP	FD REBAR 6 IN DEEP 24 FT SOUTH OF 110TH ST WEST SIDE OF FIELD ENT	146	9156592.29	13427457.94	1107.17	CP	SET REBAR 6 IN DEEP 52 FT WEST OF CL 40 FT SOUTH OF 130TH ST CL				
111	9172565.41	13430532.79	1142.69	CP	FD REBAR 6 IN DEEP 63 FT NORTH OF IA 3 CL 45 FT SW OF 398TH CL	147	9157963.77	13427599.85	1105.72	CP	FD REBAR 6 IN DEEP 36 FT EAST OF CL 63 FT SOUTH OF PP				
112	9172446.34	13425731.62	1135.93	CP	FD REBAR 6 IN DEEP 40 FT SOUTH OF 400TH ST 45 FT EAST OF CULVERT	148	9159286.59	13427564.38	1104.43	CP	FD REBAR 6 IN DEEP 51 FT WEST OF CL 31 FT SOUTH OF PP				
113	9173253.97	13427674.30	1171.00	CP	FD REBAR 6 IN DEEP 77 FT NE OF CL 13 FT SE OF BILLBOARD	149	9160625.43	13427725.48	1076.09	CP	SET REBAR 6 IN DEEP 58 FT EAST OF CL 10 FT NORTH OF PIPE				
114	9126978.75	13426726.67	961.96	CP	SET REBAR 6 IN DEEP 42 SOUTH OF 185TH ST ACROSS FORM HOUSE #16939	150	9162203.10	13427774.44	1131.86	CP	SET REBAR 6 IN DEEP 47 FT EAST OF CL 140 FT SOUTH OF PP				
115	9121566.03	13430140.63	953.12	CP	FD REBAR 6 IN DEEP W CAP 4 FEET BEHIND CURB NORTH OF WINDSOR DR	151	9163243.30	13427778.90	1112.35	CP	SET REBAR 6 IN DEEP 44 FT EAST OF CL NORTH SIDE OF FIELD ENT				
116	9122683.94	13425814.54	943.05	CP	FD MAG NAIL NW COR OF BRIDGE 195TH ST	152	9164363.14	13427685.82	1127.42	CP	CUT X ON ROW RAIL 53 FT WEST OF CL 17 FT SOUTH OF PP				
117	9134714.93	13427604.45	1037.31	CP	SET REBAR 6 IN DEEP W/ ALUM. CAP 32 FT EAST OF CL NORTH OF FIELD ENT	153	9165757.49	13427793.10	1111.73	CP	SET REBAR 6 IN DEEP 49 FT EAST OF CL 100 FT SOUTH OF FIELD ENT				
120	9124532.64	13428371.06	951.85	CP	SET REBAR 6 IN DEEP 48 FT EAST OF CL	154	9167195.05	13427702.90	1142.33	CP	SET REBAR 6 IN DEEP 47 FT WEST OF CL 44 FT NORTH OF 110 ST CL				
121	9125928.89	13428325.25	953.30	CP	SET REBAR 6 IN DEEP 62 FT EAST OF CL 15 FT SOUTH OF FIELD ENT	155	9167648.42	13427803.78	1160.74	CP	SET REBAR 6 IN DEEP 47 FT EAST OF CL 24 FT NORTH OF PP				
122	9127040.58	13428279.03	953.24	CP	SET REBAR 6 IN DEEP 54 FT EAST OF CL AT 185TH ST	156	9168946.09	13427776.34	1147.54	CP	SET REBAR 6 IN DEEP 43 FT WEST OF CL				
123	9128616.20	13428220.96	984.65	CP	SET REBAR 6 IN DEEP 48 FT EAST OF CL SOUTH SIDE OF FIELD ENT	157	9170297.74	13427841.49	1148.83	CP	SET REBAR 6 IN DEEP 45 FT WEST OF CL				
124	9129993.81	13428086.94	990.79	CP	FD REBAR 6 IN DEEP 45 FT WEST OF CL 47 FT NORTH OF 180TH ST	158	9171305.63	13427956.13	1165.63	CP	SET REBAR 6 IN DEEP 22 FT EAST OF CL 85 FT NORTH OF PIPE				
125	9130911.52	13428206.35	1018.27	CP	SET REBAR 6 IN DEEP 42 FT EAST OF CL 105 FT SOUTH OF RES ENT										
126	9132234.92	13428163.03	1014.19	CP	SET REBAR 6 IN DEEP 51 FT WEST OF CL 23 FT NORTH OF PP										
127	9133529.21	13428301.41	1029.12	CP	SET REBAR 6 IN DEEP 58 FT EAST OF CL 50 FT SOUTH OF FARM ENT										
128	9134525.69	13427780.45	1043.43	CP	SET REBAR 6 IN DEEP 52 FT EAST OF CL 12 FT SE OF FARM ENT										
129	9135566.27	13427113.17	1018.46	CP	SET REBAR 6 IN DEEP 53 FT EAST OF CL SOUTH SIDE OF FIELD ENT										
130	9136694.59	13426993.96	1059.95	CP	SET REBAR 6 IN DEEP 50 FT WEST OF CL 120 FT NORTH OF SIGN										
131	9138002.20	13427135.72	1058.79	CP	SET REBAR 6 IN DEEP 50 FT EAST OF CL 43 FT SOUTH OF 165TH ST CL										
132	9139371.31	13427192.45	1026.19	CP	SET REBAR 6 IN DEEP 67 FT EAST OF CL 14 FT SOUTH OF FIELD ENT										
133	9140721.13	13427224.26	1015.91	CP	SET REBAR 6 IN DEEP 59 FT EAST OF CL NW OF PP										
134	9142038.67	13427154.53	1019.07	CP	CUT X ON ROW RAIL 41 FT WEST OF CL										
135	9143366.41	13427236.14	1023.65	CP	SET REBAR 6 IN DEEP 23 FT EAST OF CL AT 155TH ST INTERSECTION										

# HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING

HORIZ. DATUM: NAD83(2011) EPOCH 2010.00

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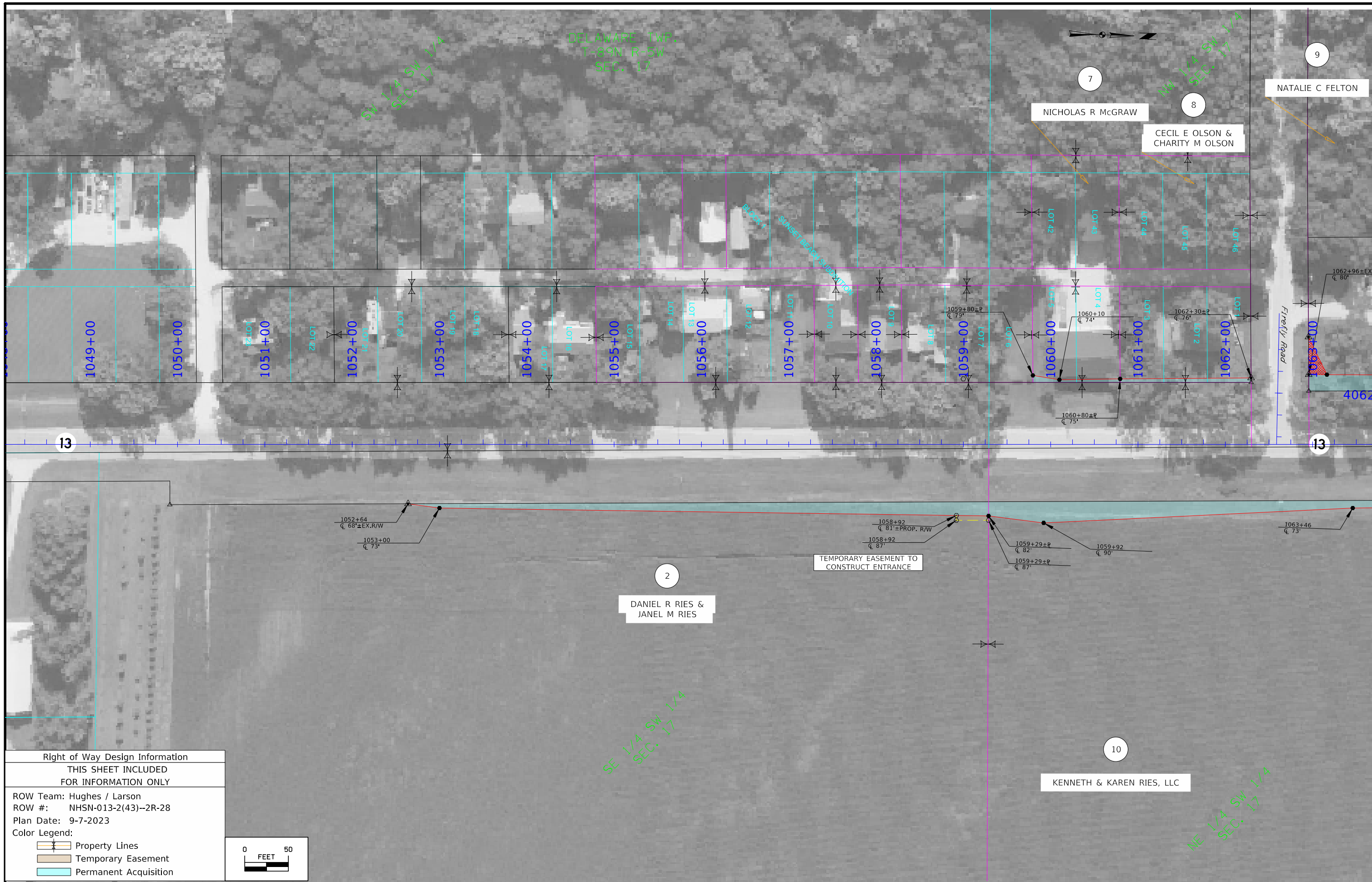
## Ia. Regional Coordinate System Zone 3

500	9124367.87	13428304.94	953.41	BM	SET RR SPK E SIDE PP 50 FT WEST OF CL	536	9157819.84	13427602.50	1105.61	BM	SET RR SPK W SIDE PP 45 FT EAST OF CL
501	9125015.63	13428335.26	956.41	BM	CUT X ON ROW RAIL 42 FT EAST OF CL 50 FT NORTH OF FIREFLY RD	538	9158871.98	13427643.70	1092.79	BM	SET RR SPK W SIDE PP 45 EAST OF CL 146 FT NORTH OF PIPE
502	9126252.25	13428205.88	952.15	BM	FD BARN SPIKE 46 FT WEST OF CL 33 FT SOUTH OF FIREFLY RD	539	9159694.28	13427655.07	1093.66	BM	FD IHC BM ON INHDWL EAST SIDE
503	9126333.77	13428188.76	954.23	BM	CUT X ON ROW RAIL 60 FT WEST OF CL	540	9160764.89	13427618.51	1075.62	BM	SET RR SPK E SIDE PP 54 FT WEST OF CL 146 NORTH OF PIPE
504	9127073.13	13428145.74	956.48	BM	CUT A SQUARE ON SOUTH CORNER FAWN TRAIL SIGN	541	9162343.30	13427772.27	1121.83	BM	SET RR SPK W SIDE PP 42 FT EAST OF CL 45 FT SOUTH OF ENT
505	9128378.46	13428138.74	980.67	BM	SET RR SPK E SIDE PP 42 FT WEST OF CL	542	9162884.26	13427758.79	1102.50	BM	FD IHC BM ON IN HDWL
506	9129981.76	13428086.45	991.42	BM	SET RR SPK E SIDE PP 45 FT WEST OF CL 35 FT NORTH OF 180TH ST	543	9163480.59	13427758.23	1110.37	BM	FD IHC BM ON IN HDWL
507	9131298.93	13428227.31	1013.60	BM	CUT X ON ROW RAIL 48 FT EAST OF CL SOUTH SIDE OF FIELD ENT	544	9164747.64	13427767.74	1107.38	BM	FD IHC BM ON IN HDWL 60 FT NORTH OF FIELD ENT
508	9131931.03	13428151.38	1008.81	BM	SET RR SPK SE SIDE PP 51 FT WEST OF CL	545	9166298.36	13427681.72	1116.18	BM	FD RR SPK E SIDE PP 65 FT WEST OF CL
509	9132848.53	13428185.66	1020.72	BM	FD RR SPK E SIDE PP 51 FT WEST OF CL	546	9167199.65	13427699.85	1143.95	BM	CUT X ON ROW RAIL 50 FT WEST OF CL 50 FT NORTH OF 110TH ST CL
510	9133536.88	13428198.69	1025.00	BM	SET RR SPK E SIDE PP 42 FT WEST OF CL	547	9167834.12	13427813.87	1155.36	BM	CUT X ON ROW RAIL 49 FT EAST OF CL 9 FT SOUTH OF PP
511	9134578.81	13427595.87	1038.06	BM	CUT X ON ROW RAIL 59 FT WEST OF CL 57 FT SE OF FARM ENT	548	9169153.50	13427875.31	1151.51	BM	SET RR SPK W SIDE PP 46 FT EAST OF CL 185 FT SOUTH OF FIELD ENT
512	9135381.15	13427053.04	1013.40	BM	CUT X ON ROW RAIL 60 FT WEST OF CL NEAR CORNER POST	549	9169829.91	13427809.79	1146.65	BM	CUT X ON ROW RAIL 53 FT WEST OF CL 31 FT SOUTH OF PIPE
513	9137074.28	13427109.24	1060.21	BM	SET RR SPK W SIDE PP 52 FT EAST OF CL 200 FT NORTH OF FIELD ENT	550	9170893.14	13427958.47	1161.97	BM	SET RR SPK W SIDE PP 43 FT EAST OF CL 30 FT NORTH OF FIELD ENT
514	9138093.51	13427158.50	1058.74	BM	CUT X ON ROW RAIL 70 EAST OF CL 45 FT NORTH OF 165TH ST CL	551	9171558.18	13427859.82	1166.25	BM	SET RR SPK E SIDE PP 68 FT WEST OF CL
515	9139403.13	13427194.82	1025.92	BM	SET RR SPK W SIDE PP 68 FT EAST OF CL 18 FT NORTH OF FIELD ENT						
516	9140716.19	13427232.57	1017.22	BM	FD RR SPKW SIDE PP 68 FT EAST OF CL						
517	9142038.67	13427154.53	1019.07	BM	CUT X ON ROW RAIL 41 FT WEST OF CL						
518	9142692.99	13427222.81	1018.71	BM	FD IHC BM ON INHDWL EAST SIDE						
519	9143804.03	13427136.15	1034.70	BM	SET RR SPK E SIDE PP 83 FT WEST OF CL 115 FT NORTH OF PIPE						
520	9144319.69	13427139.48	1040.88	BM	FD RR SPK E SIDE PP 86 FT WEST OF CL 175 FT NORTH OF PIPE						
521	9145397.75	13427149.63	1049.69	BM	FD RR SPK E SIDE PP 91 FT WEST OF CL 175 FT NORTH OF RES ENT						
522	9145972.96	13427158.95	1055.54	BM	SET RR SPK E SIDE PP 89 FT WEST OF CL 64 FT SOUTH OF 150 ST CL						
523	9146583.33	13427219.26	1063.36	BM	FD RR SPK E SIDE PP 37 FT WEST OF CL AT FARM ENT						
524	9147863.97	13427235.09	1071.92	BM	SET RR SPK E SIDE PP 38 FT WEST OF CL 55 FT SOUTH OF FARM ENT						
525	9148696.26	13427351.26	1057.73	BM	CUT X ON ROW RAIL 60 FT EAST OF CL AT CORNER OF CROPPFIELD						
526	9150017.75	13427262.76	1048.97	BM	CUT X ON ROW RAIL 60 FT WEST OF CL 52 FT NORTH OF FIELD ENT						
527	9150953.48	13427403.68	1077.07	BM	CUT X ON ROW RAIL 59 FT EAST OF CL 18 FT SOUTH OF FARM ENT						
528	9151347.00	13427415.94	1065.73	BM	CUT X ON ROW RAIL 60 FT EAST OF CL AT 140TH ST INTERSECTION						
529	9152770.85	13427336.24	1066.14	BM	SET RR SPK E SIDE PP 61 FT WEST OF CL 20 FT SOUTH OF PIPE						
530	9152786.49	13427424.88	1069.31	BM	FD IHC BM ON INHDWL EAST SIDE						
531	9153991.57	13427491.43	1096.47	BM	CUT X ON ROW RAIL 59 FT EAST OF CL 135 FT NORTH OF FIELD ENT						
532	9154427.31	13427386.57	1105.55	BM	SET RR SPK E SIDE PP 59 FT WEST OF CL 118 SOUTH OF PIPE						
533	9155933.32	13427543.17	1112.71	BM	SET RR SPK W SIDE PP 58 FT EAST OF CL 10 FT SOUTH OF PIPE						
534	9156600.53	13427447.03	1109.06	BM	CUT X ON ROW RAIL 63 FT WEST OF CL 30 FT SOUTH OF 130TH ST CL						
535	9157081.97	13427558.75	1093.01	BM	FD IHC BM ON INHDWL EAST SIDE						

**ALIGNMENT COORDINATES**

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)
IA 13		1014+79.07	9122161.68	13430151.38				1036+94.90	9123809.30	13428669.74	1042+16.87	9124197.43	13428320.72	1046+96.01	9124719.11	13428303.21			
								1097+14.62	9129734.90	13428134.87	1099+18.13	9129938.29	13428128.04	1101+21.47	9130141.65	13428135.66			
								1132+72.27	9133290.24	13428253.64	1138+00.77	9133818.37	13428273.43	1142+84.88	9134232.81	13427945.47			
								1152+79.16	9135012.50	13427328.48	1158+03.74	9135423.85	13427002.96	1162+84.86	9135948.15	13427020.07			
											1179+39.12	9137601.53	13427074.03						
											1219+09.12	9141569.85	13427189.49						
											1282+83.12	9147943.29	13427274.06						
											1312+93.12	9150952.46	13427344.54						
											1367+77.12	9156434.15	13427503.58						
								1423+24.57	9161977.37	13427720.15	1425+87.49	9162240.09	13427730.41	1428+50.35	9162503.01	13427731.47			
								1476+65.00	9167317.62	13427750.71	1479+25.05	9167577.66	13427751.75	1481+85.01	9167837.39	13427764.58			
		1514+72.45	9171120.83	13427926.82															
SRFIREFLYRD		4061+08.69	9126279.04	13428100.76															
		4062+58.73	9126280.94	13428250.79															
SR185ST		5066+99.59	9127033.44	13427904.47															
		5070+20.48	9127042.27	13428225.24															
SR180ST		6095+72.02	9129934.14	13427780.54															
											6098+38.35	9129943.80	13428046.70						
											6100+17.33	9129943.28	13428225.68						
		6101+58.79	9129949.61	13428367.00															
SR165STW		7179+58.43	9138040.44	13426662.04															
		7183+83.36	9138045.58	13427086.95															
SR165STE		7183+84.99	9138047.21	13427086.99															
		7186+98.20	9138045.18	13427400.20															
SR155ST		8433+67.64	9143362.12	13426876.00															
		8237+04.98	9143365.55	13427213.32															
SRC64W		9260+35.06	9146029.04	13426907.22															
		9263+76.70	9146037.04	13427248.77															
SRC64E		9263+76.23	9146036.56	13427248.76															
		9266+40.63	9146060.18	13427512.10															
SR140ST		10313+62.41	9151338.10	13427038.29															
		10316+79.88	9151339.06	13427355.76															
SR130STW		11367+06.96	9156631.25	13427244.27															
		11369+73.96	9156630.85	13427511.27															
SR130STE		11369+76.42	9156633.30	13427511.36															
		11372+21.94	9156632.81	13427756.88															
SR110STW		12471+61.33	9167150.24	13427416.24															
		12474+95.13	9167147.74	13427750.03															
SR110STE		12474+95.88	9167148.50	13427750.03															
		12477+21.06	9167171.75	13427974.01															





DELAWARE TWP.  
T-89N R-5W  
SEC. 17

SW 1/4 SW 1/4  
SEC. 17

NW 1/4 SW 1/4  
SEC. 17

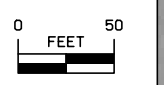
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SEC. 17

NE 1/4 SW 1/4  
SEC. 17

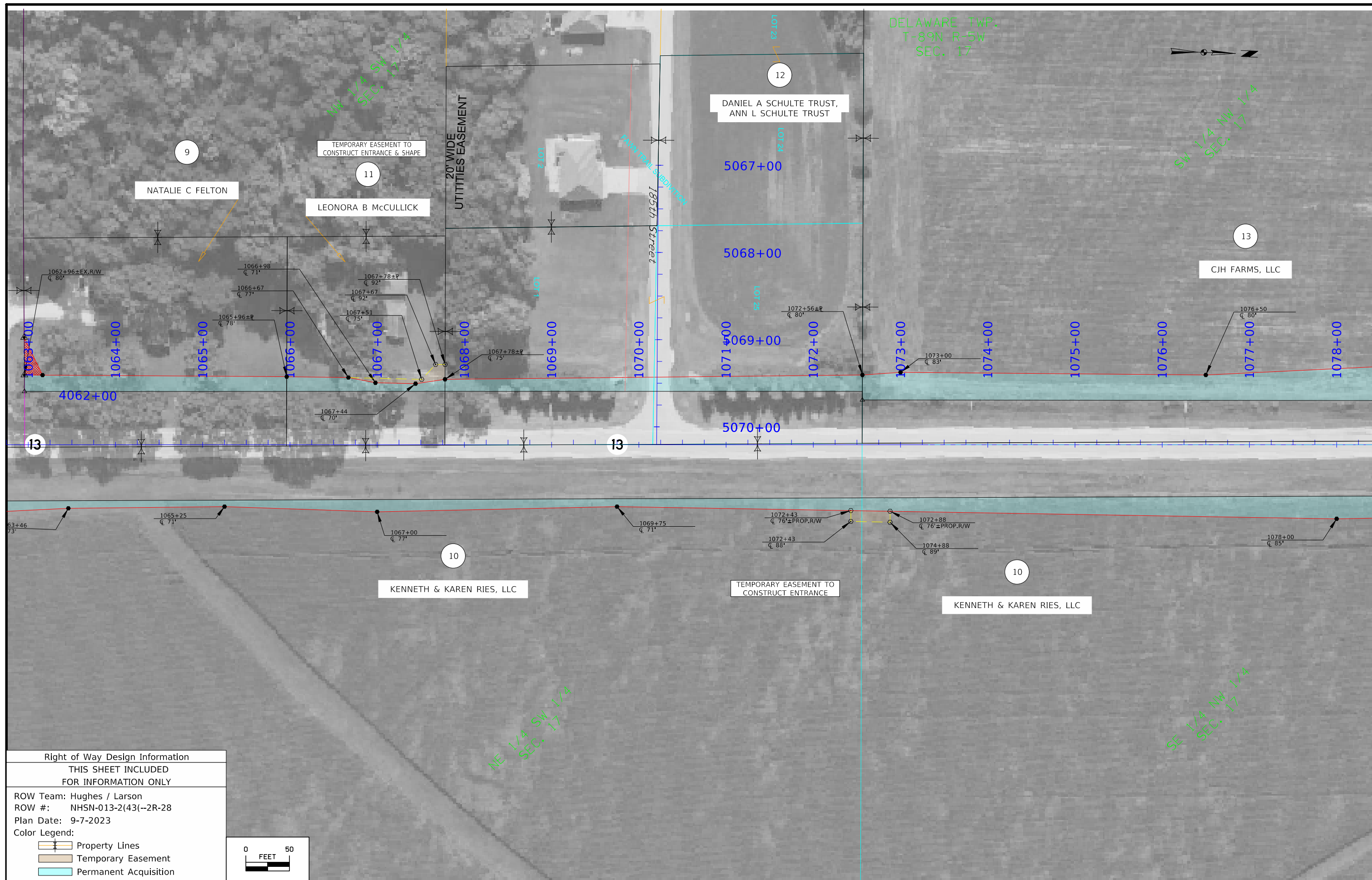
Right of Way Design Information  
THIS SHEET INCLUDED  
FOR INFORMATION ONLY

ROW Team: Hughes / Larson  
ROW #: NHSN-013-2(43)--2R-28  
Plan Date: 9-7-2023

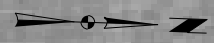
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 Temporary Easement  
 Permanent Acquisition



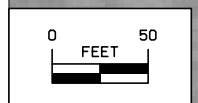
FILE NO.	ENGLISH	DESIGN TEAM STRUM / PRINDLE / McNAMARA	DELAWARE COUNTY	PROJECT NUMBER NHSN-013-2(048)--2R-28	SHEET NUMBER H.1
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DELAWARE TWP.  
T-89N R-5W  
SEC. 17



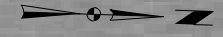
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THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: Hughes / Larson	
ROW #: NHSN-013-2(43)--2R-28	
Plan Date: 9-7-2023	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



FILE NO.	ENGLISH	DESIGN TEAM STRUM / PRINDLE / McNAMARA	DELAWARE COUNTY	PROJECT NUMBER NHSN-013-2(048)--2R-28	SHEET NUMBER H.2
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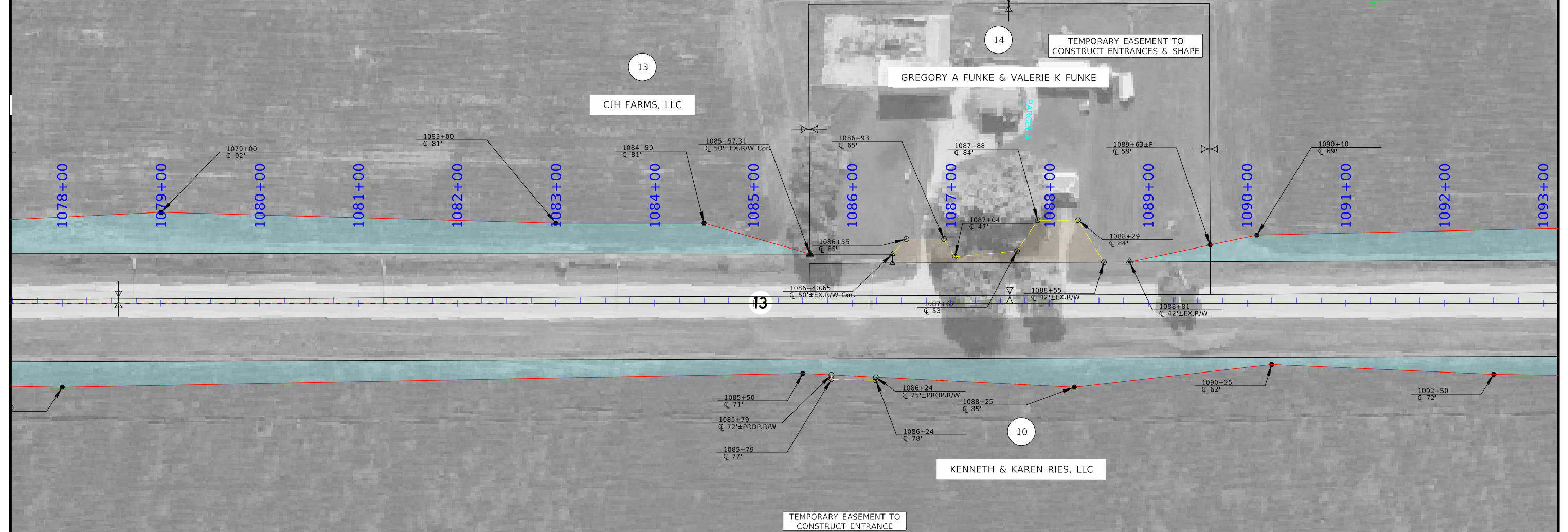
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DELAWARE TWP.  
T-89N R-5W  
SEC. 17

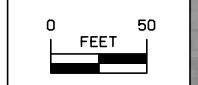


SW 1/4 NW 1/4  
SEC. 17

NW 1/4 NW 1/4  
SEC. 17



Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: Hughes / Larson	
ROW #: NHSN-013-2(43)--2R-28	
Plan Date: 9-7-2023	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



DELAWARE TWP.  
T-89N R-5W  
SEC. 17

DELAWARE TWP.  
T-89N R-5W  
SEC. 8

SW 1/4 SW 1/4  
SEC. 8

NW 1/4 NW 1/4  
SEC. 17

SE 1/4 SW 1/4  
SEC. 8

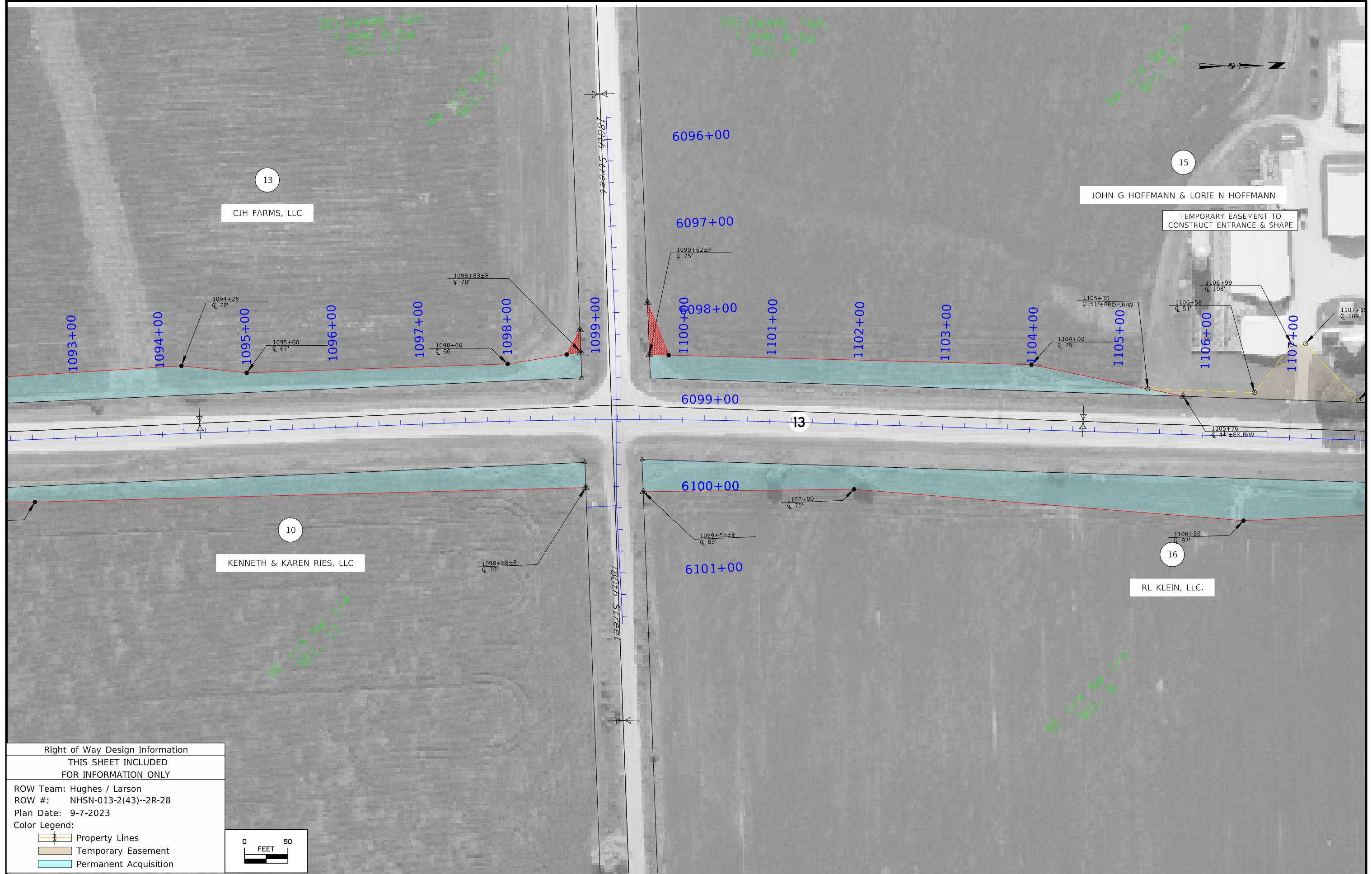
13  
CJH FARMS, LLC

15  
JOHN G HOFFMANN & LORIE N HOFFMANN

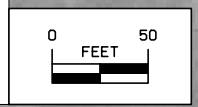
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KENNETH & KAREN RIES, LLC

16  
RL KLEIN, LLC.

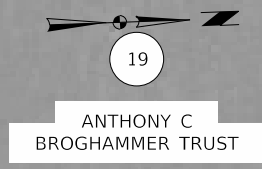
TEMPORARY EASEMENT TO  
CONSTRUCT ENTRANCE & SHAPE



Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team:	Hughes / Larson
ROW #:	NHSN-013-2(43)--2R-28
Plan Date:	9-7-2023
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



DELAWARE TWP.  
T-89N R-5W  
SEC. 8



SW 1/4 SW 1/4  
SEC. 8

NW 1/4 SW 1/4  
SEC. 8

15

JOHN G HOFFMANN & LORIE N HOFFMANN

TEMPORARY EASEMENT TO  
CONSTRUCT ENTRANCE & SHAPE

17

ROBERT G NAEVE &  
KARY L NAEVE

18

DAVID A BROGHAMMER

13

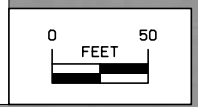
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RL KLEIN, LLC.

TEMPORARY EASEMENT TO  
CONSTRUCT ENTRANCE



Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: Hughes / Larson	
ROW #: NHSN-013-2(43)--2R-28	
Plan Date: 9-7-2023	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



FILE NO.	ENGLISH	DESIGN TEAM STRUM / PRINDLE / McNAMARA	DELAWARE COUNTY	PROJECT NUMBER NHSN-013-2(048)--2R-28	SHEET NUMBER H.5
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DELAWARE TWP.  
T-89N R-5W  
SEC. 8

NW 1/4 SW 1/4  
SEC. 8

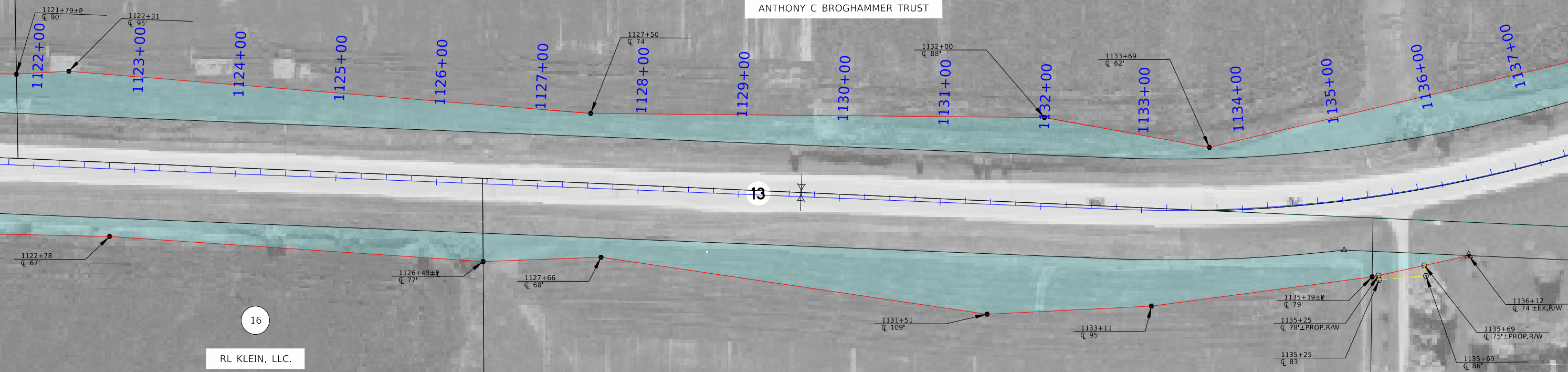
SW 1/4 NW 1/4  
SEC. 8

ANTHONY C BROGHAMMER TRUST

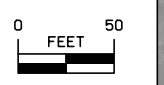
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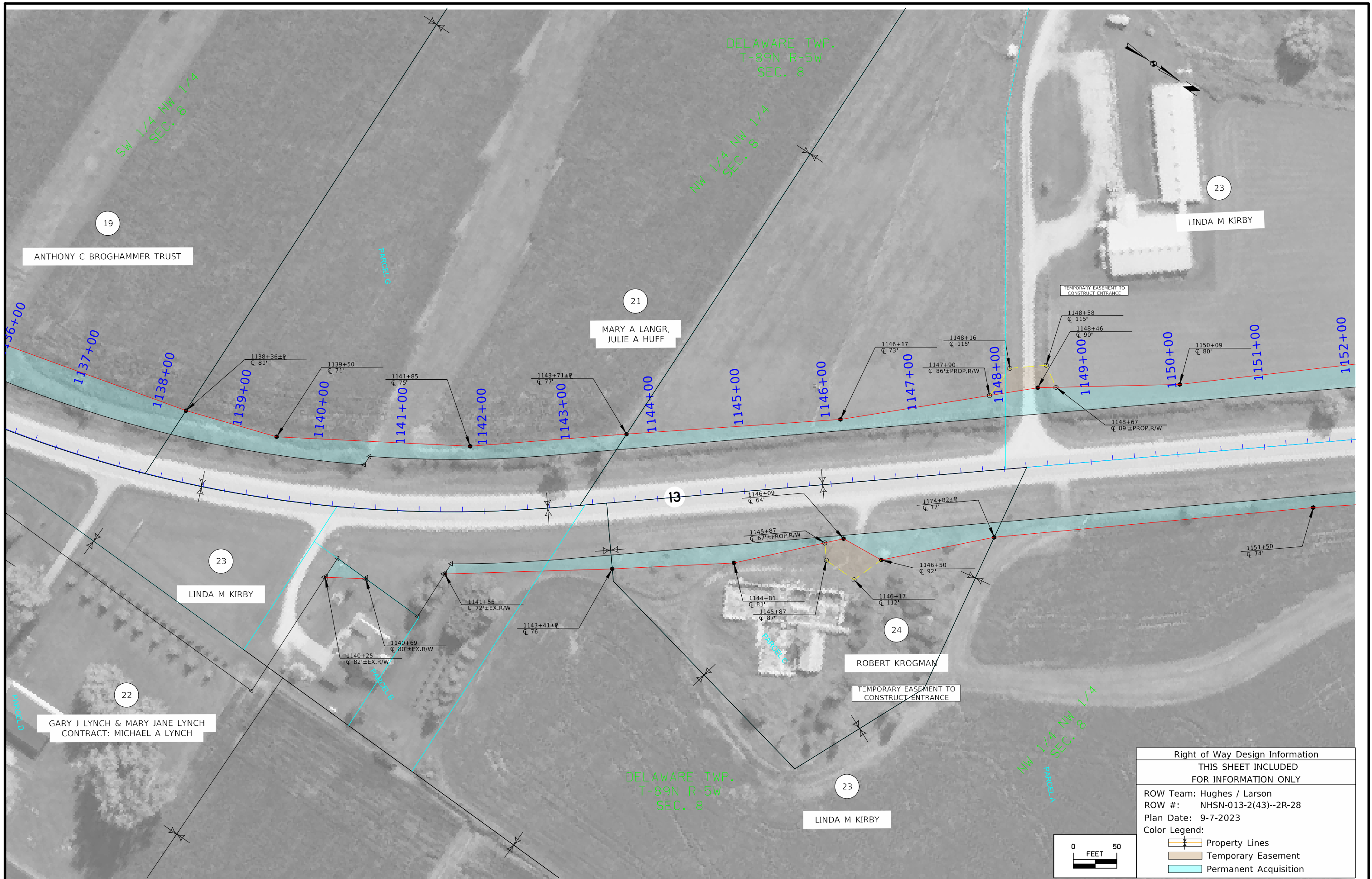
GARY J LYNCH & MARY J LYNCH

GARY J LYNCH & MARY JANE LYNCH  
CONTRACT: MICHAEL A LYNCH

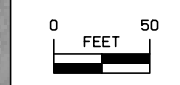


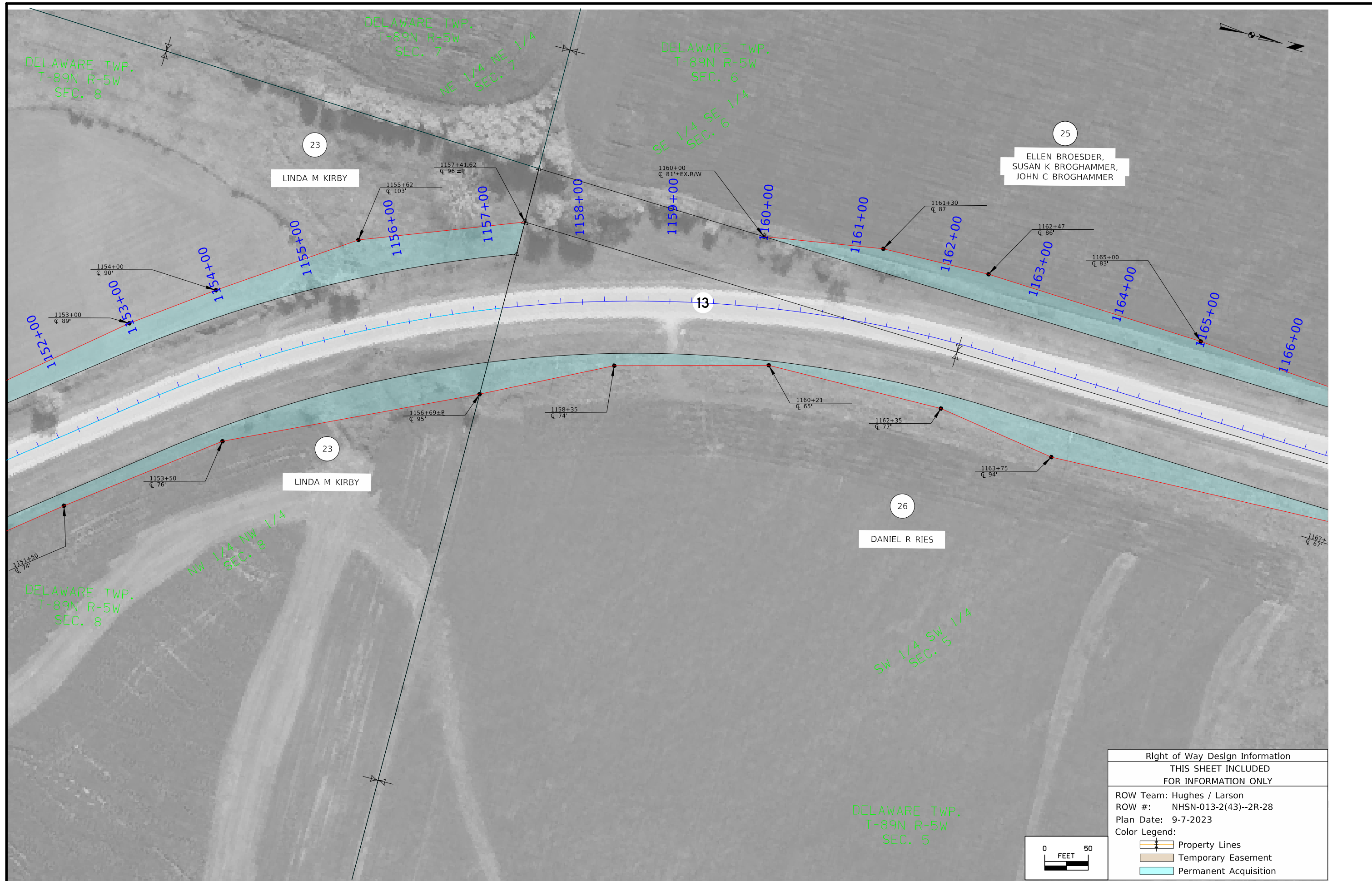
Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team:	Hughes / Larson
ROW #:	NHSN-013-2(43)--2R-28
Plan Date:	9-7-2023
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition






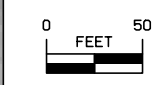


Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: Hughes / Larson	
ROW #: NHSN-013-2(43)--2R-28	
Plan Date: 9-7-2023	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition





Right of Way Design Information	
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ROW Team: Hughes / Larson	
ROW #: NHSN-013-2(43)--2R-28	
Plan Date: 9-7-2023	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



DELAWARE TWP.  
T-89N R-5W  
SEC. 6

SE 1/4 SE 1/4  
SEC. 6

NE 1/4 SE 1/4  
SEC. 6

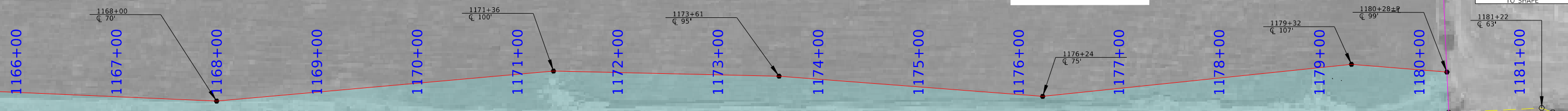
29

ROGER D &  
CONNIE GROTH

25

ELLEN BROESDER,  
SUSAN K BROGHAMMER,  
JOHN C BROGHAMMER

TEMPORARY EASEMENT  
TO SHAPE



13

26

DANIEL R RIES

27

KENNETH L JR, &  
WANDA A LINDERWELL

28

GILBERT A & MAUREEN E HOFFMANN

NW 1/4 SW 1/4  
SEC. 5

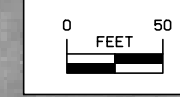
SW 1/4 SW 1/4  
SEC. 5

DELAWARE TWP.  
T-89N R-5W  
SEC. 5

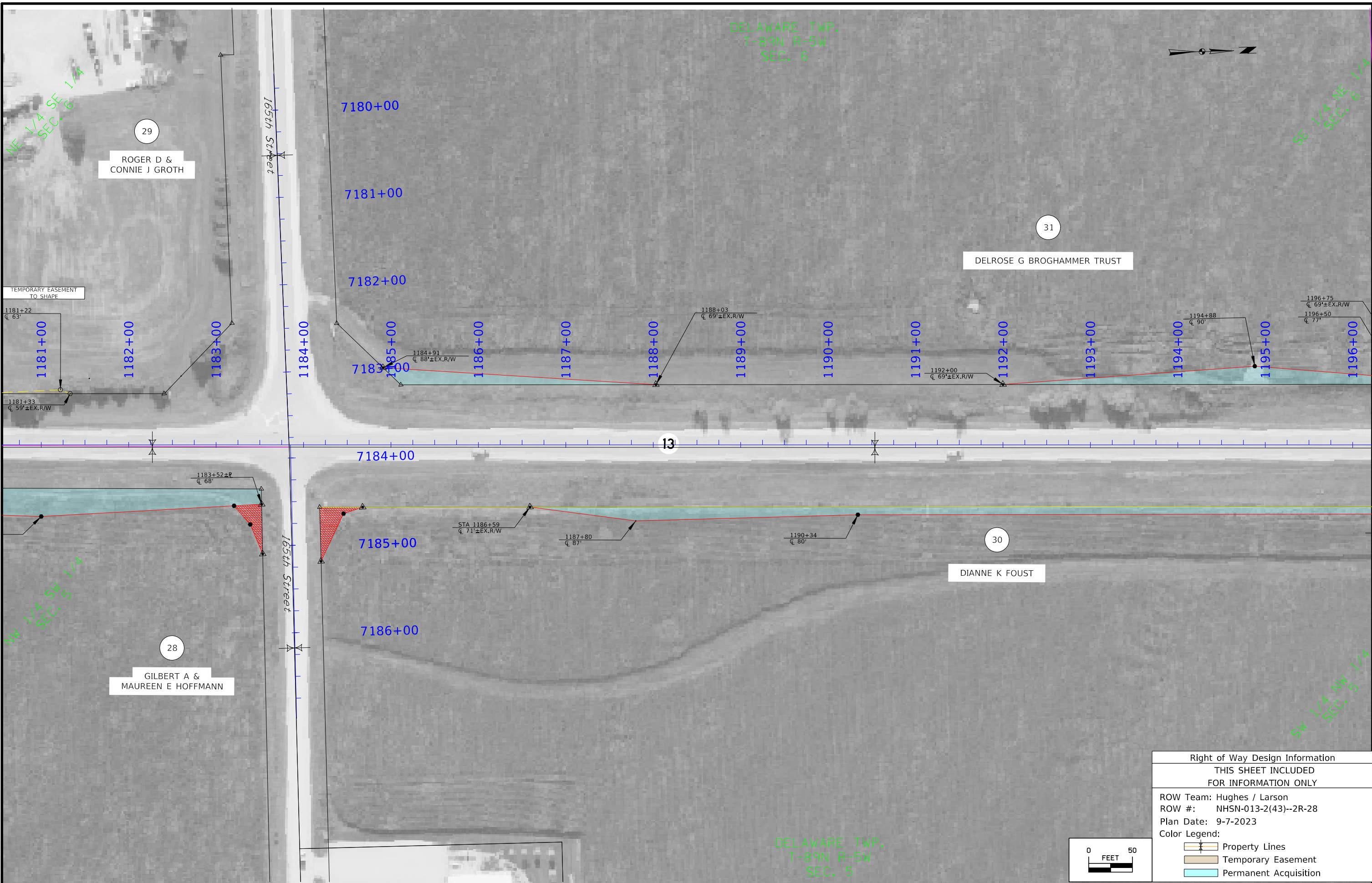
Right of Way Design Information  
THIS SHEET INCLUDED  
FOR INFORMATION ONLY

ROW Team: Hughes / Larson  
ROW #: NHSN-013-2(43)--2R-28  
Plan Date: 9-7-2023

Color Legend:



FILE NO.	ENGLISH	DESIGN TEAM STRUM / PRINDLE / McNAMARA	DELAWARE COUNTY	PROJECT NUMBER NHSN-013-2(048)--2R-28	SHEET NUMBER H.9
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DELAWARE TWP.  
T-89N R-5W  
SEC. 6

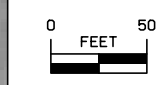
SE 1/4 NE 1/4  
SEC. 6

NE 1/4 SE 1/4  
SEC. 6

NW 1/4 SW 1/4  
SEC. 5

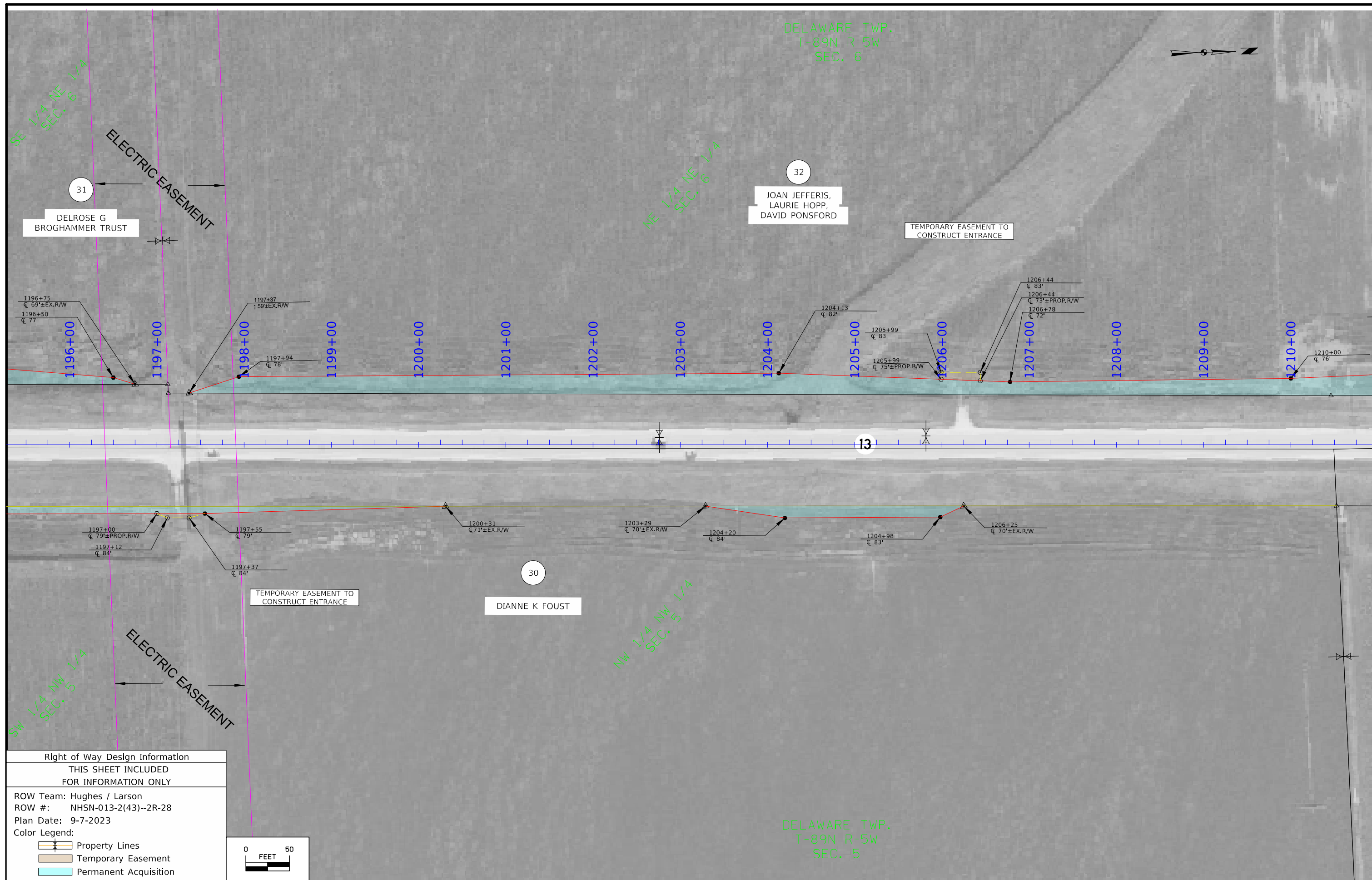
SW 1/4 NW 1/4  
SEC. 5

Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: Hughes / Larson	
ROW #: NHSN-013-2(43)--2R-28	
Plan Date: 9-7-2023	
Color Legend:	
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	Temporary Easement
	Permanent Acquisition

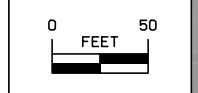


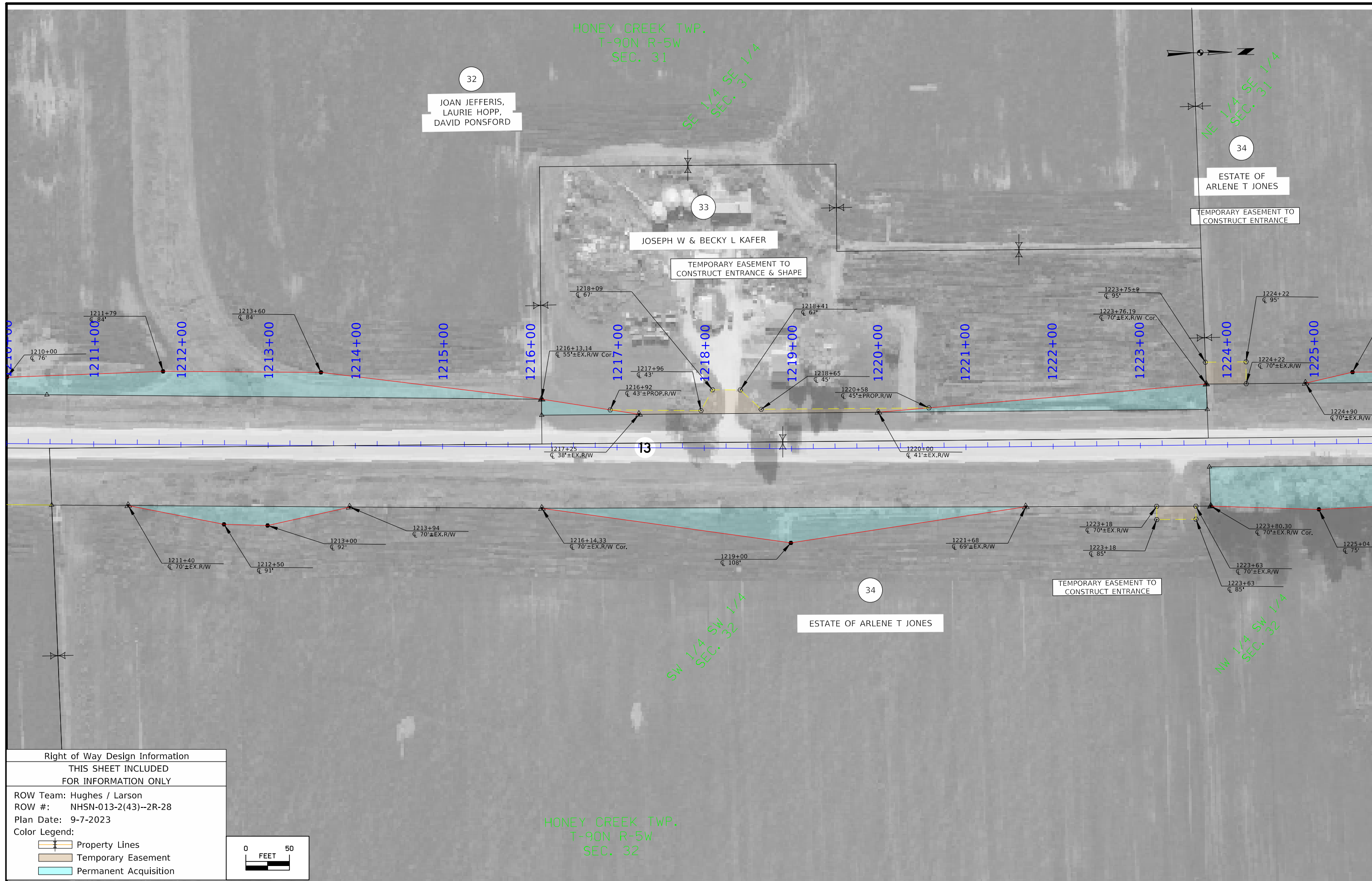
DELAWARE TWP.  
T-89N R-5W  
SEC. 5

FILE NO.	ENGLISH	DESIGN TEAM STRUM / PRINDLE / MCNAMARA	DELAWARE COUNTY	PROJECT NUMBER NHSN-013-2(048)--2R-28	SHEET NUMBER H.10
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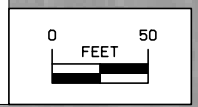


Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: Hughes / Larson	
ROW #: NHSN-013-2(43)--2R-28	
Plan Date: 9-7-2023	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition





Right of Way Design Information	
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ROW Team: Hughes / Larson	
ROW #: NHSN-013-2(43)--2R-28	
Plan Date: 9-7-2023	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



FILE NO.	ENGLISH	DESIGN TEAM STRUM / PRINDLE / McNAMARA	DELAWARE COUNTY	PROJECT NUMBER NHSN-013-2(048)--2R-28	SHEET NUMBER H.12
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HONEY CREEK TWP.  
T-90N R-5W  
SEC. 31

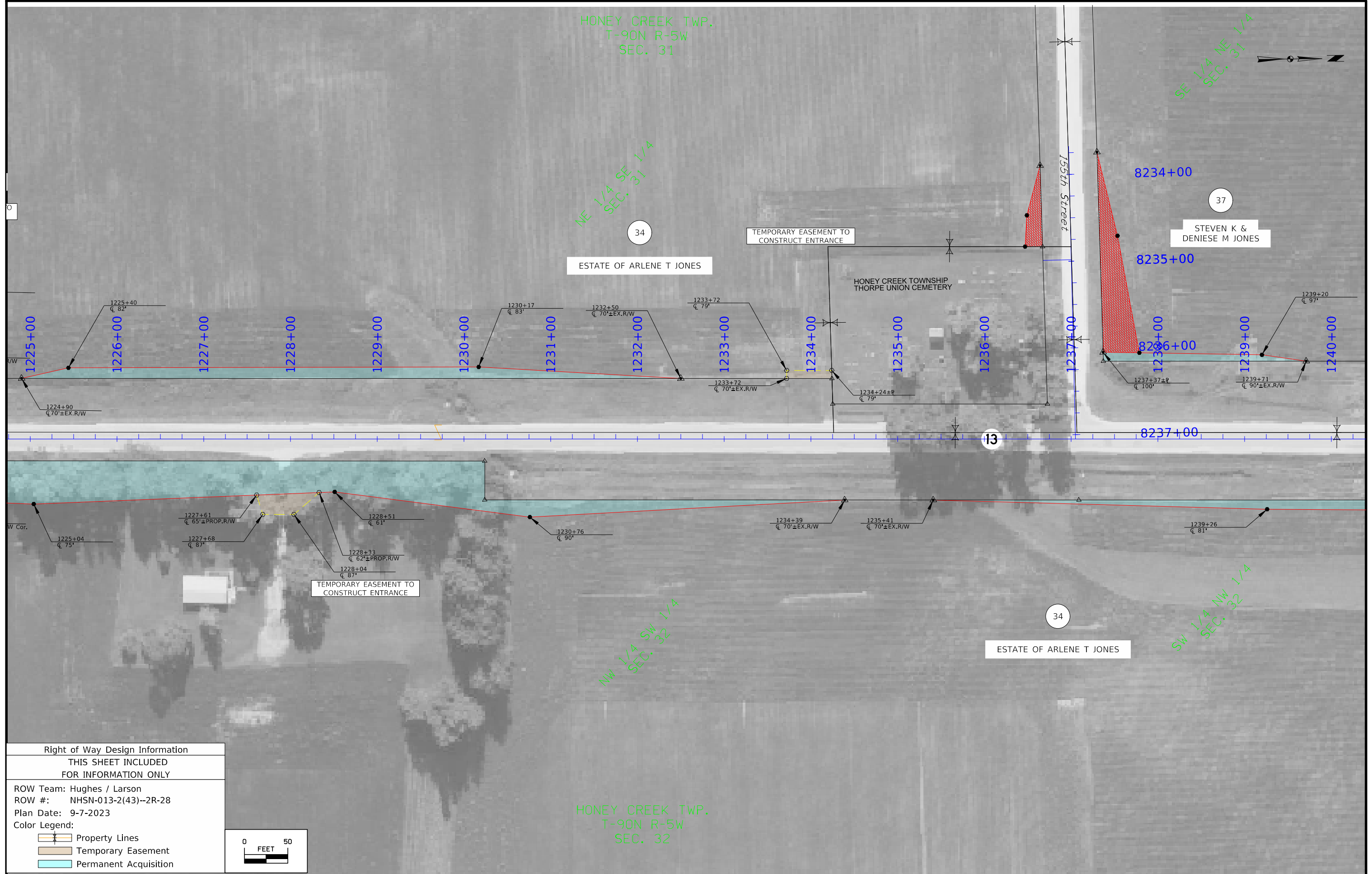
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SEC. 31

SE 1/4 NE 1/4  
SEC. 31

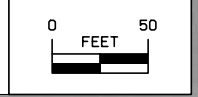
NW 1/4 SW 1/4  
SEC. 32

SW 1/4 NW 1/4  
SEC. 32

HONEY CREEK TWP.  
T-90N R-5W  
SEC. 32



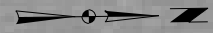
Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: Hughes / Larson	
ROW #: NHSN-013-2(43)--2R-28	
Plan Date: 9-7-2023	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



FILE NO.	ENGLISH	DESIGN TEAM STURM / PRINDLE / McNAMARA	DELAWARE COUNTY	PROJECT NUMBER NHSN-013-2(048)--2R-28	SHEET NUMBER H.13
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HONEY CREEK TWP.  
T-90N R-5W  
SEC. 31

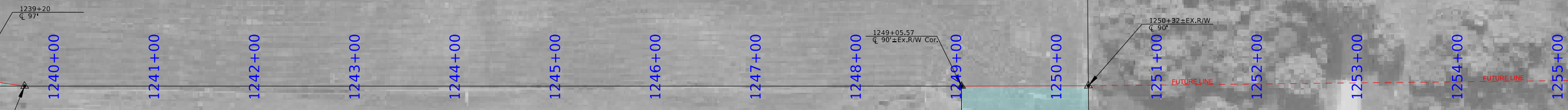


NE 1/4 NE 1/4  
SEC. 31

SE 1/4 NE 1/4  
SEC. 31

37  
STEVEN K & DENIESE M JONES

STATE OF IOWA

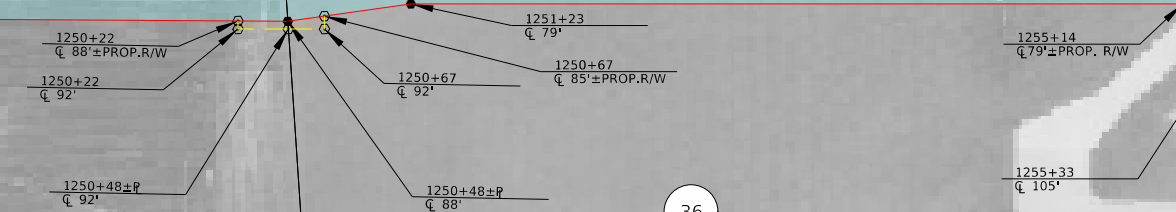


13

34

ESTATE OF ARLENE T JONES

SW 1/4 NW 1/4  
SEC. 32



36  
GERALD A &  
CHERYL M HEIMS

PANEL 1

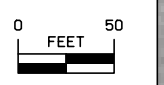
HONEY CREEK TWP.  
T-90N R-5W  
SEC. 32

NW 1/4 NW 1/4  
SEC. 32

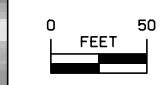
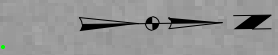
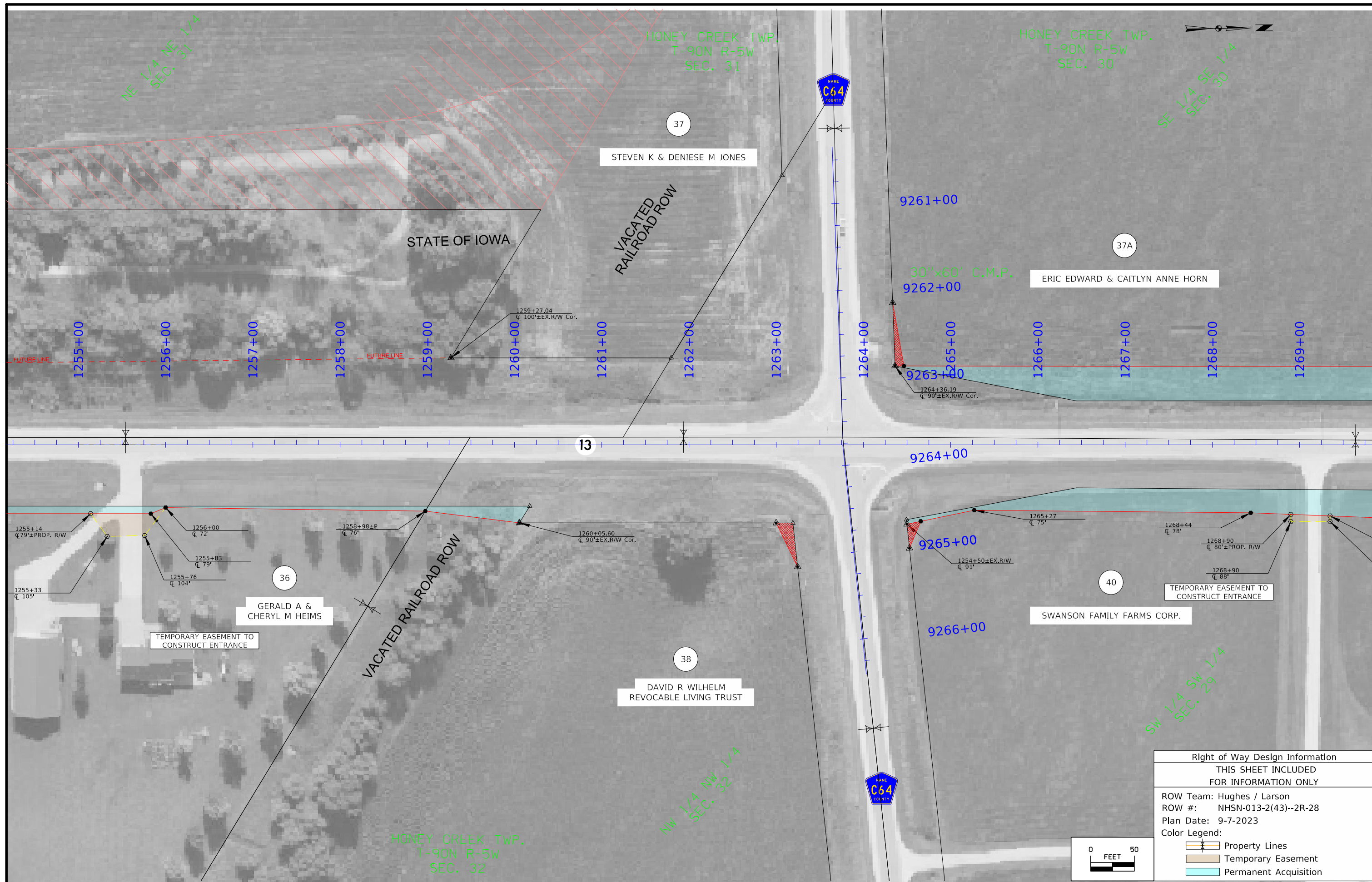
Right of Way Design Information  
THIS SHEET INCLUDED  
FOR INFORMATION ONLY

ROW Team: Hughes / Larson  
ROW #: NHSN-013-2(43)--2R-28  
Plan Date: 9-7-2023

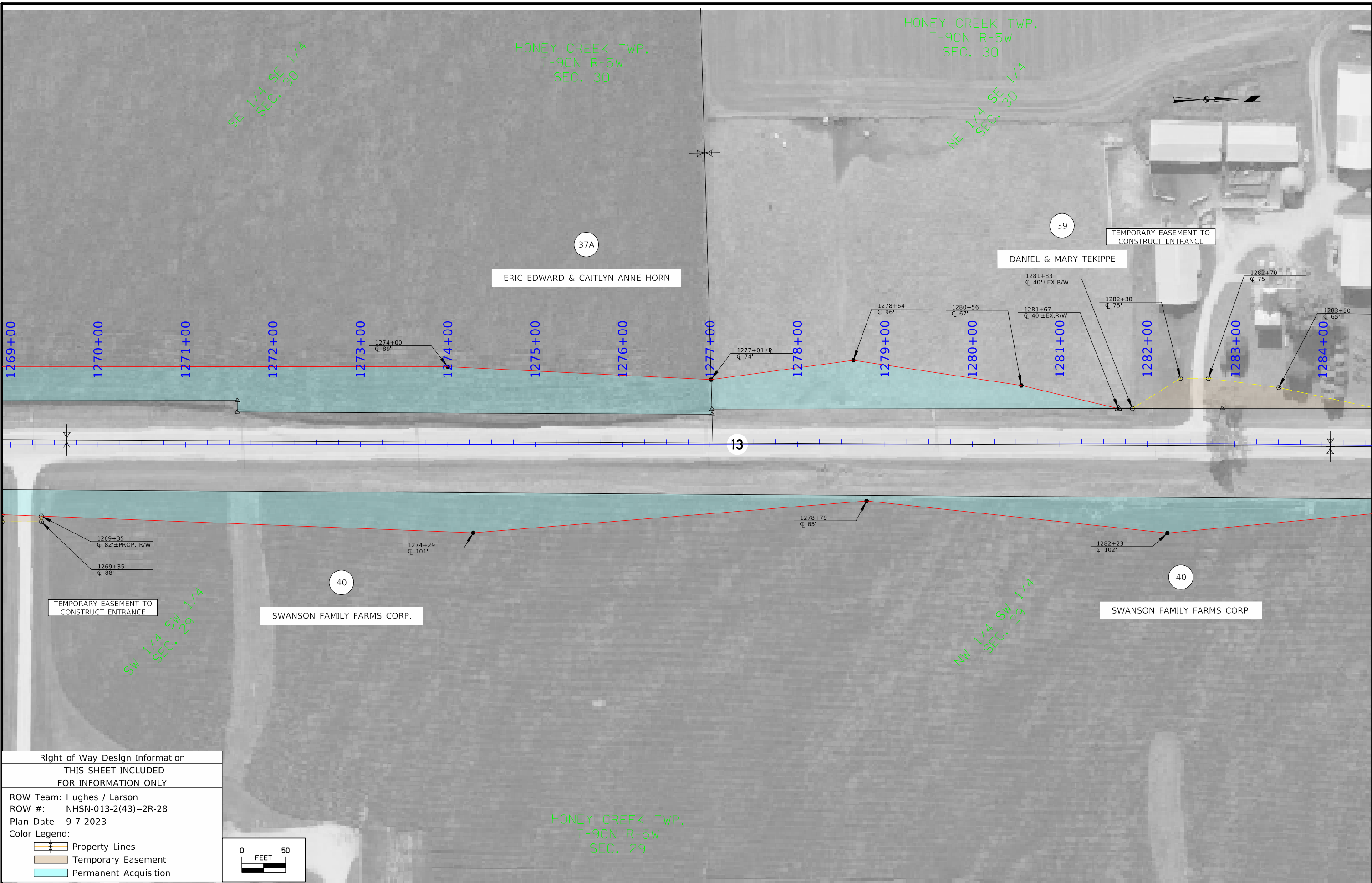
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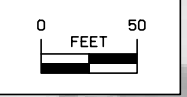
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Right of Way Design Information	
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ROW Team: Hughes / Larson	
ROW #: NHSN-013-2(43)--2R-28	
Plan Date: 9-7-2023	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition

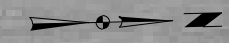


Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: Hughes / Larson	
ROW #: NHSN-013-2(43)--2R-28	
Plan Date: 9-7-2023	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



FILE NO.	ENGLISH	DESIGN TEAM STRUM / PRINDLE / McNAMARA	DELAWARE COUNTY	PROJECT NUMBER NHSN-013-2(048)--2R-28	SHEET NUMBER H.16
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HONEY CREEK TWP.  
T-90N R-5W  
SEC. 30



NE 1/4 SE 1/4  
SEC. 30

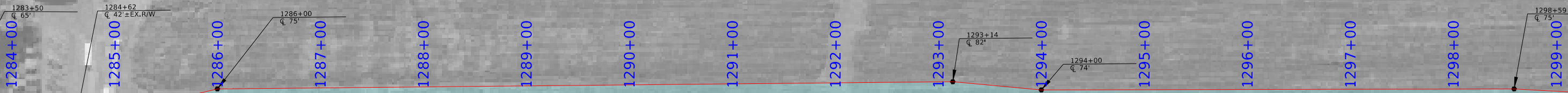
SE 1/4 NE 1/4  
SEC. 30

39

DANIEL & MARY TEKIPPE

39

DANIEL & MARY TEKIPPE



13

TEMPORARY EASEMENT TO  
CONSTRUCT ENTRANCE & SHAPE

40

SWANSON FAMILY FARMS CORP.

41

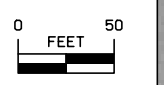
STEVEN B & ROSE M SCHMOCK

NW 1/4 SW 1/4  
SEC. 29

SW 1/4 NW 1/4  
SEC. 29

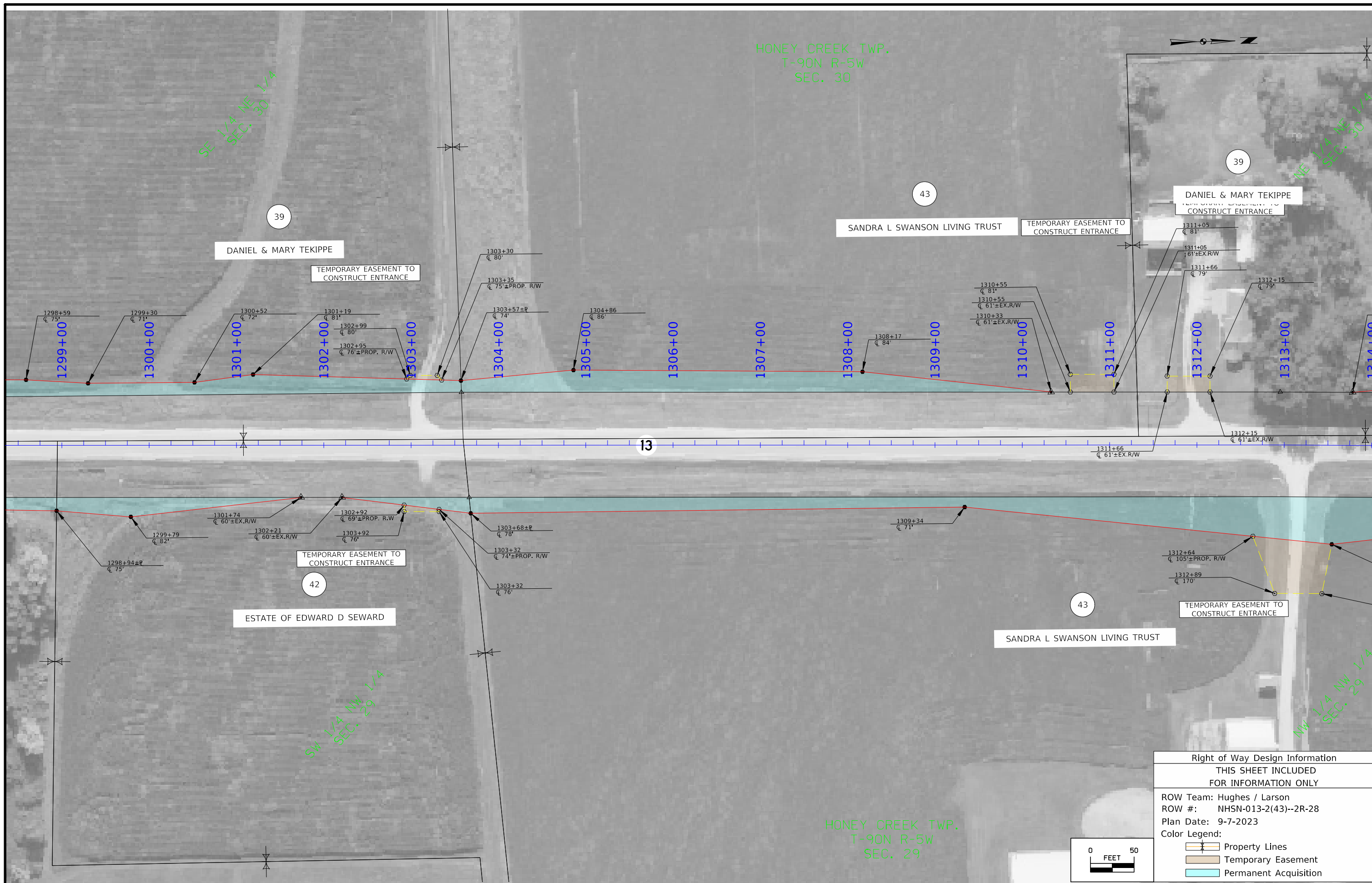
HONEY CREEK TWP.  
T-90N R-5W  
SEC. 29

Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team:	Hughes / Larson
ROW #:	NHSN-013-2(43)--2R-28
Plan Date:	9-7-2023
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



FILE NO.	ENGLISH	DESIGN TEAM	STRUM / PRINDLE / McNAMARA	DELAWARE COUNTY	PROJECT NUMBER	NHSN-013-2(048)--2R-28	SHEET NUMBER	H.17
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HONEY CREEK TWP.  
T-90N R-5W  
SEC. 30

SE 1/4 NE 1/4  
SEC. 30

NE 1/4 NE 1/4  
SEC. 30

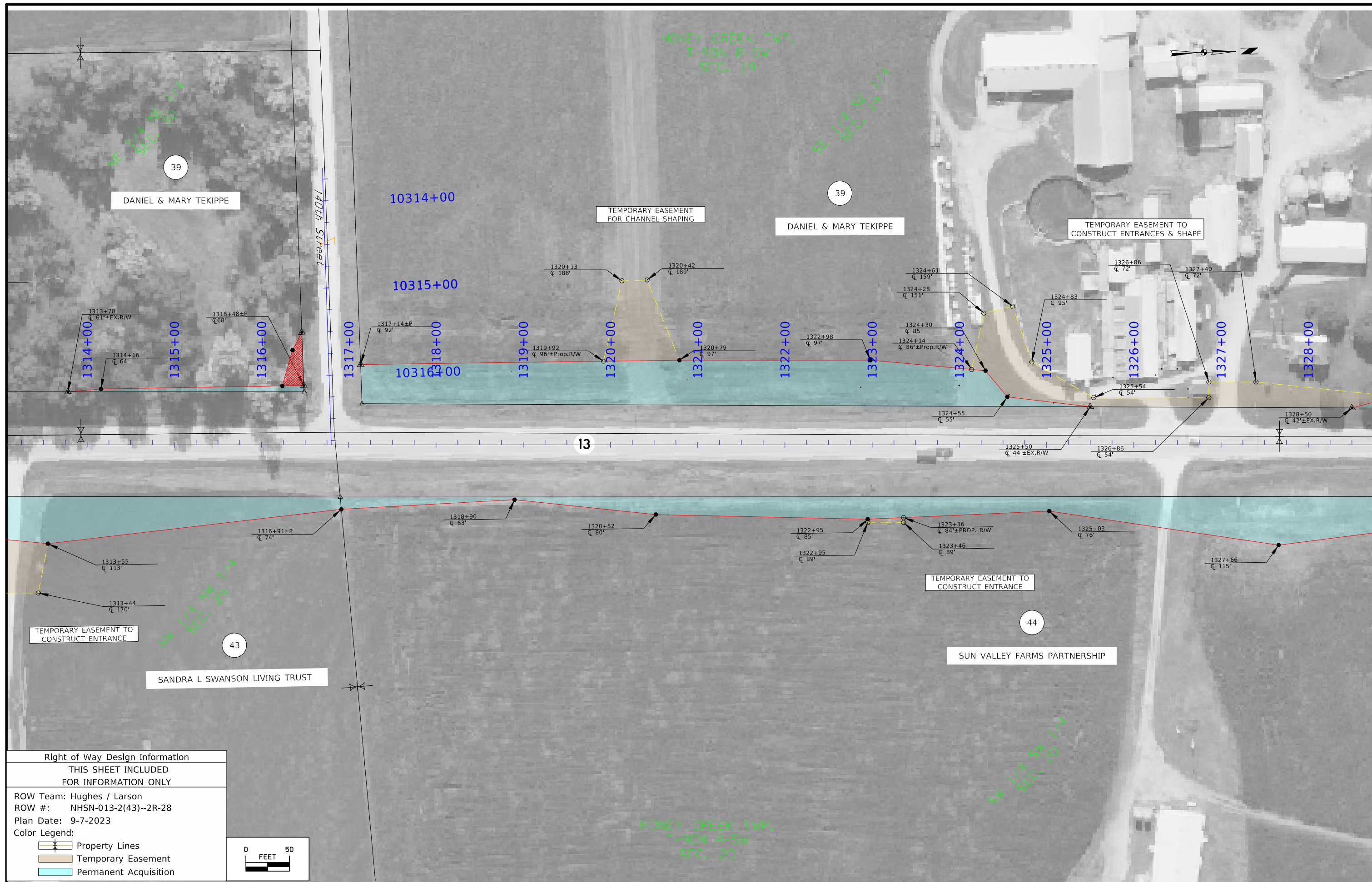
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SEC. 29

NW 1/4 NW 1/4  
SEC. 29

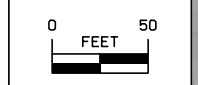
Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team:	Hughes / Larson
ROW #:	NHSN-013-2(43)--2R-28
Plan Date:	9-7-2023
Color Legend:	
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	Temporary Easement
	Permanent Acquisition

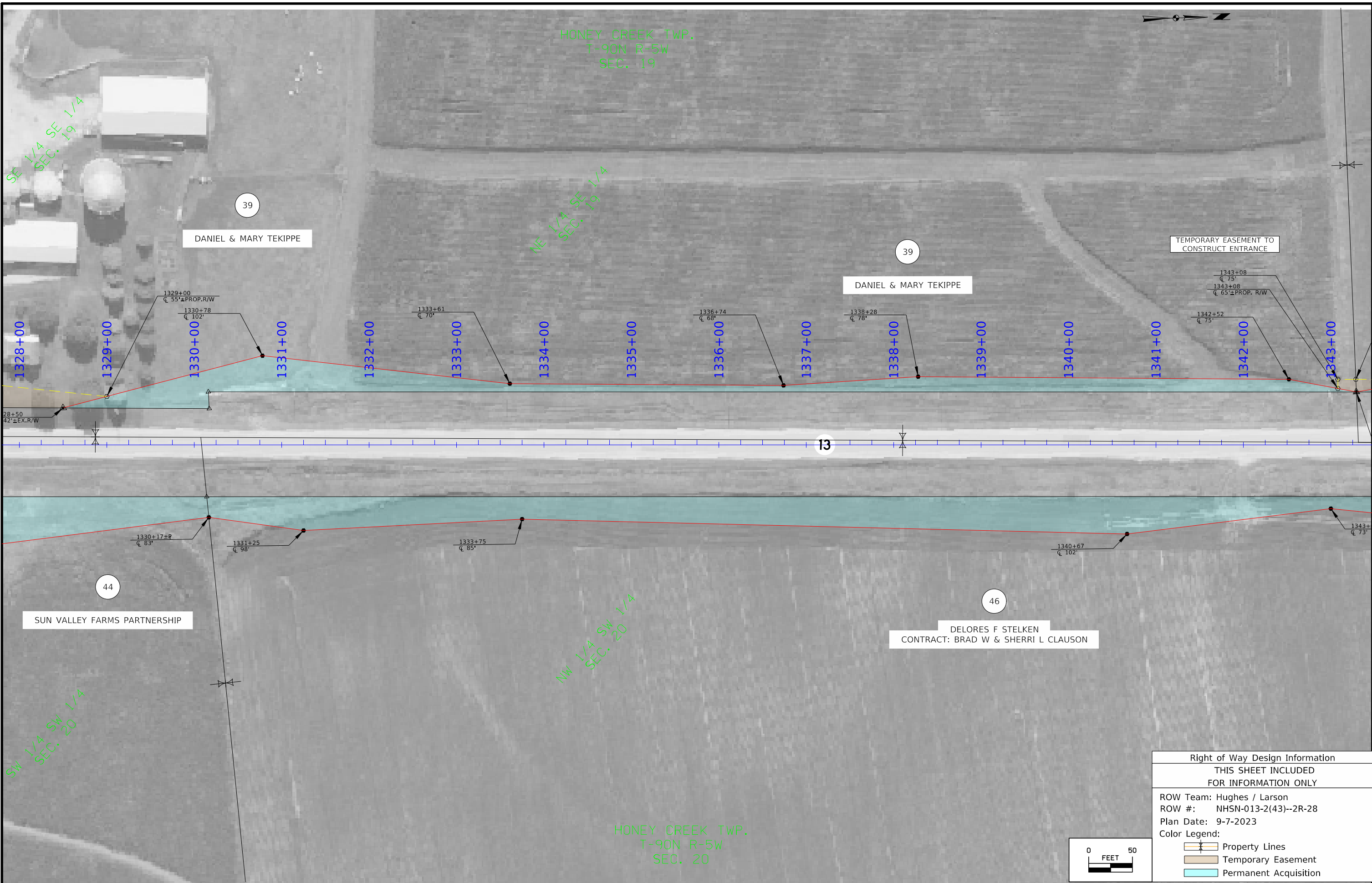
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Right of Way Design Information	
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ROW Team: Hughes / Larson	
ROW #: NHSN-013-2(43)--2R-28	
Plan Date: 9-7-2023	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition





HONEY CREEK TWP.  
T-90N R-5W  
SEC. 19

SE 1/4 SEC. 19

NE 1/4 SEC. 19

NW 1/4 SEC. 20

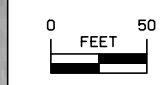
SW 1/4 SEC. 20

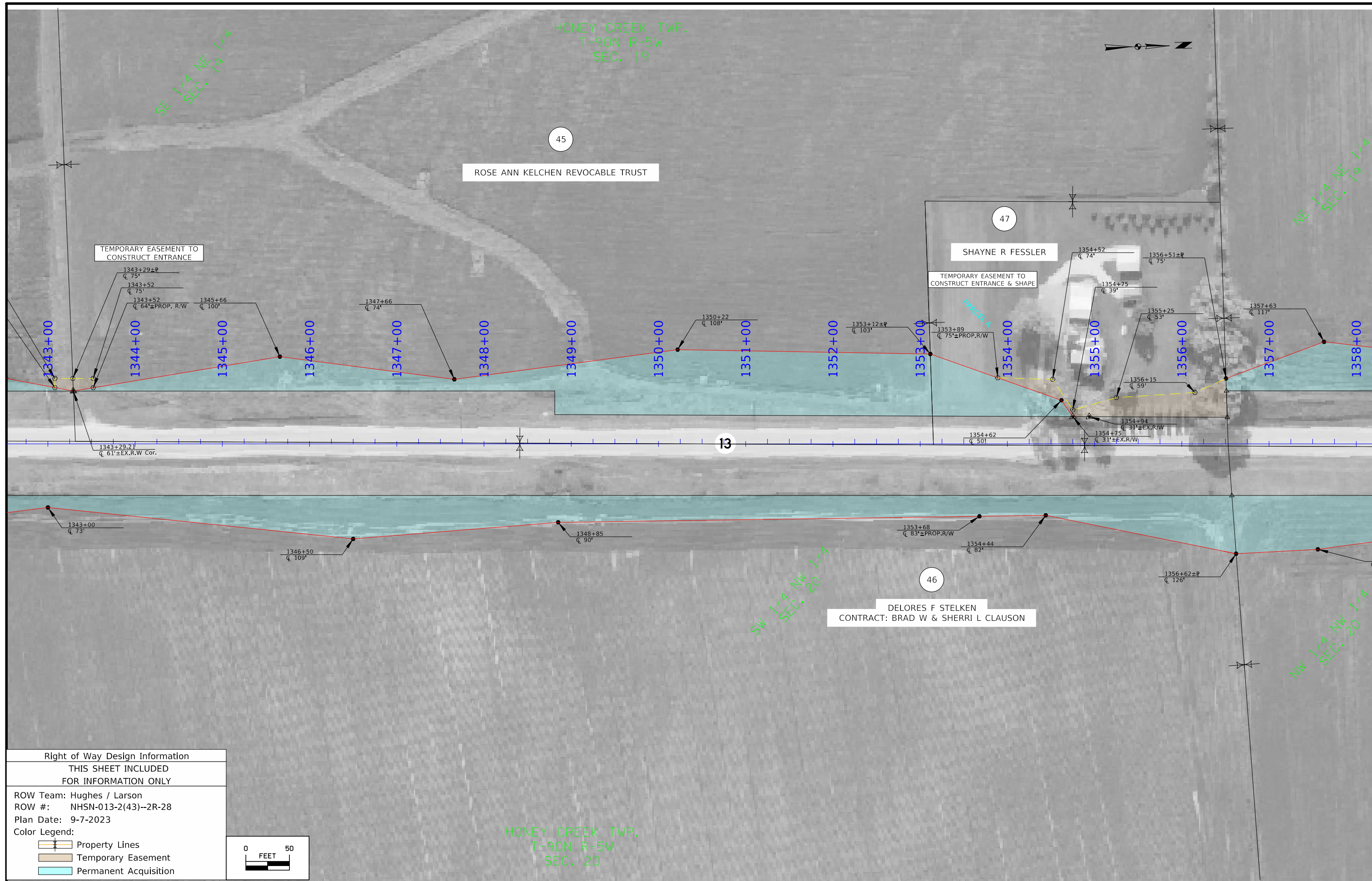
HONEY CREEK TWP.  
T-90N R-5W  
SEC. 20

TEMPORARY EASEMENT TO  
CONSTRUCT ENTRANCE

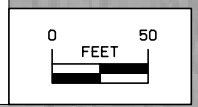
DELORES F STELKEN  
CONTRACT: BRAD W & SHERRI L CLAUSON

Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: Hughes / Larson	
ROW #: NHSN-013-2(43)--2R-28	
Plan Date: 9-7-2023	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition





Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: Hughes / Larson	
ROW #: NHSN-013-2(43)--2R-28	
Plan Date: 9-7-2023	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



FILE NO.	ENGLISH	DESIGN TEAM STRUM / PRINDLE / McNAMARA	DELAWARE COUNTY	PROJECT NUMBER NHSN-013-2(048)--2R-28	SHEET NUMBER H.21
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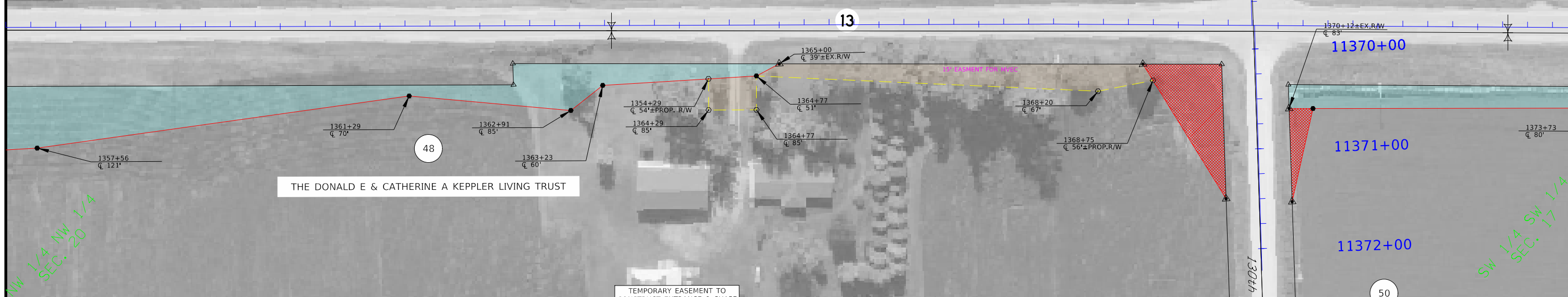
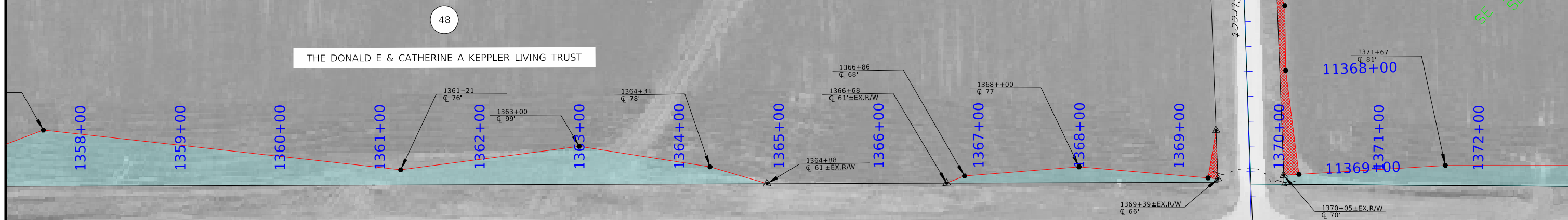
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HONEY CREEK TWP.  
T-90N R-5W  
SEC. 19

HONEY CREEK TWP.  
T-90N R-5W  
SEC. 18

NE 1/4 NE 1/4  
SEC. 19

SE 1/4 SE 1/4  
SEC. 18

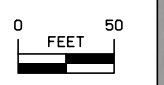


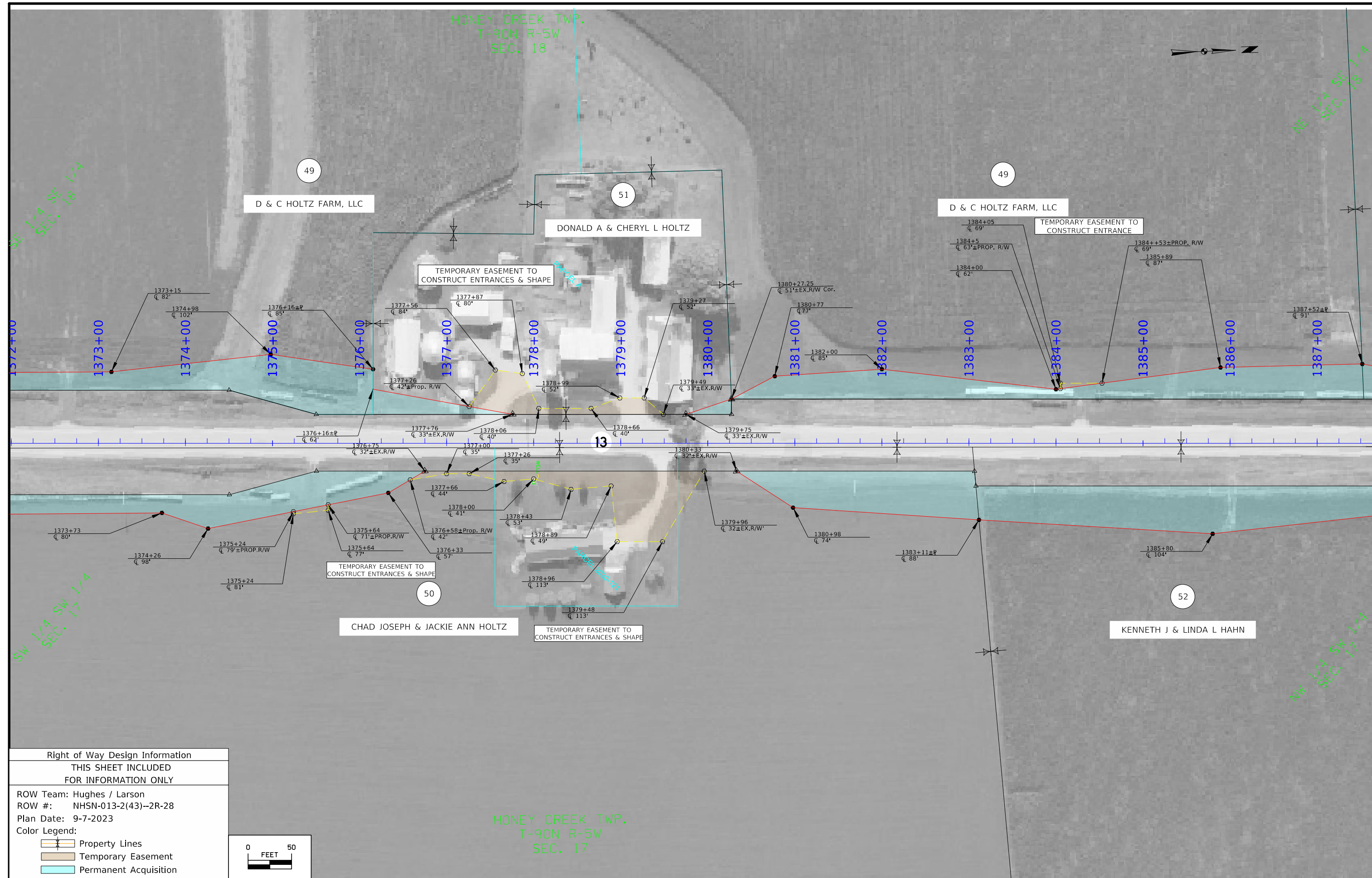
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SEC. 20

SW 1/4 SW 1/4  
SEC. 17

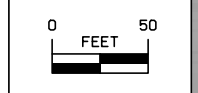
HONEY CREEK TWP.  
T-90N R-5W  
SEC. 20

Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: Hughes / Larson	
ROW #: NHSN-013-2(43)--2R-28	
Plan Date: 9-7-2023	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



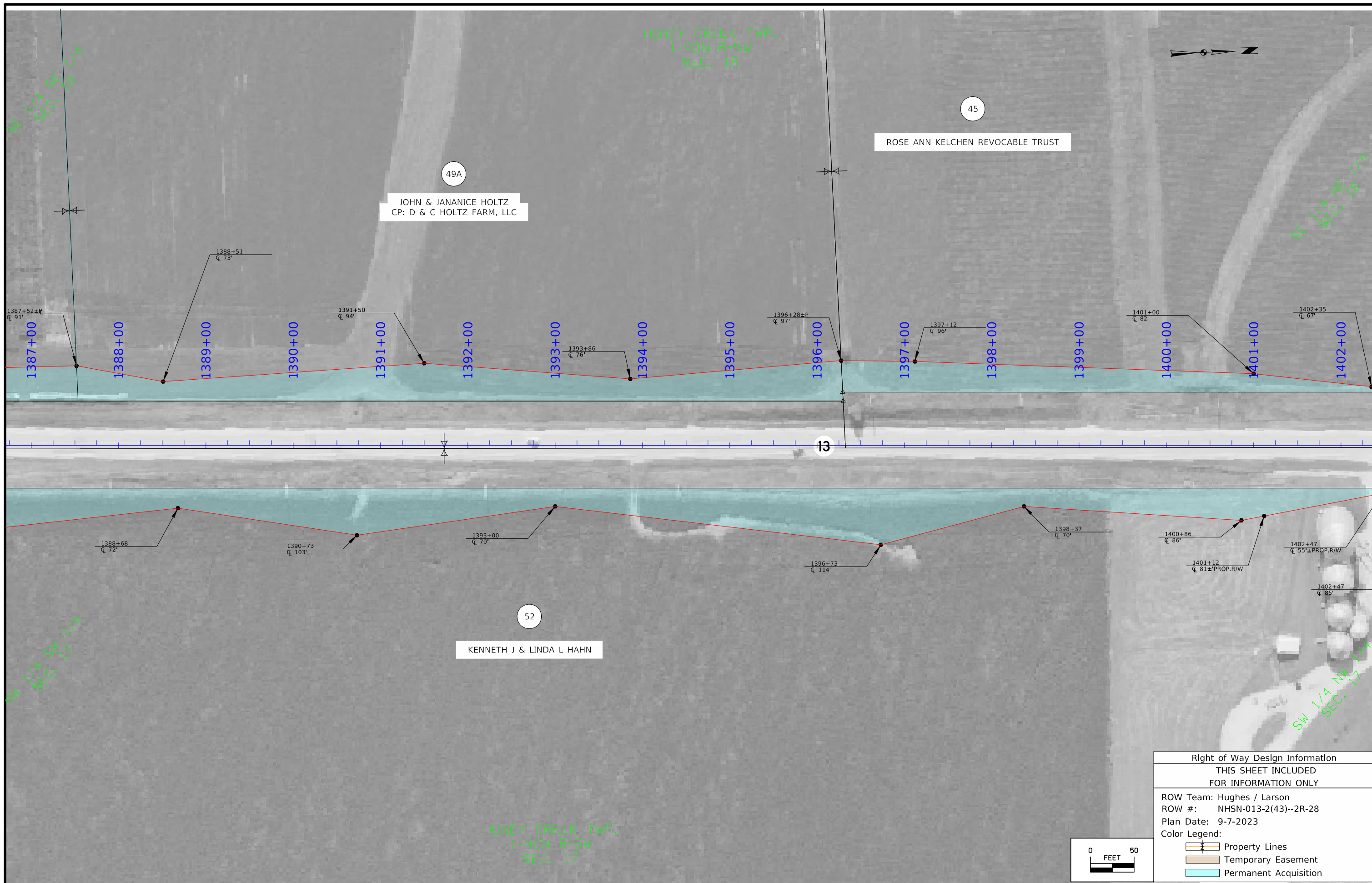


Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: Hughes / Larson	
ROW #: NHSN-013-2(43)--2R-28	
Plan Date: 9-7-2023	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



FILE NO.	ENGLISH	DESIGN TEAM	STRUM / PRINDLE / McNAMARA	DEAWARE COUNTY	PROJECT NUMBER	NHSN-013-2(048)--2R-28	SHEET NUMBER	H.23
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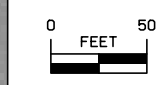
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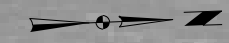
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Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: Hughes / Larson	
ROW #: NHSN-013-2(43)--2R-28	
Plan Date: 9-7-2023	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition

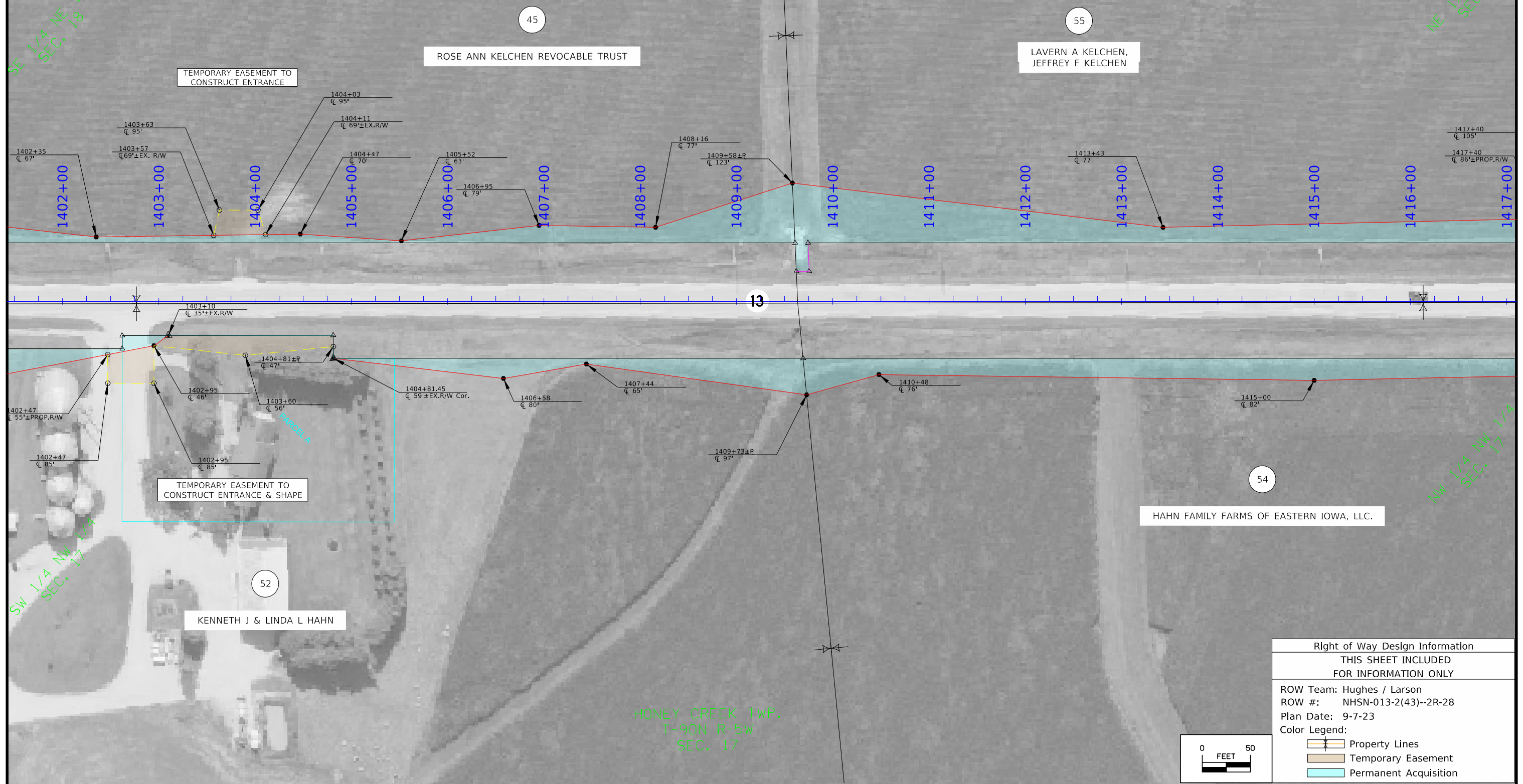


HONEY CREEK TWP.  
T-90N R-5W  
SEC. 18



SE 1/4 NE 1/4  
SEC. 18




NE 1/4 NE 1/4  
SEC. 18

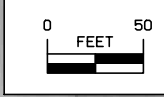


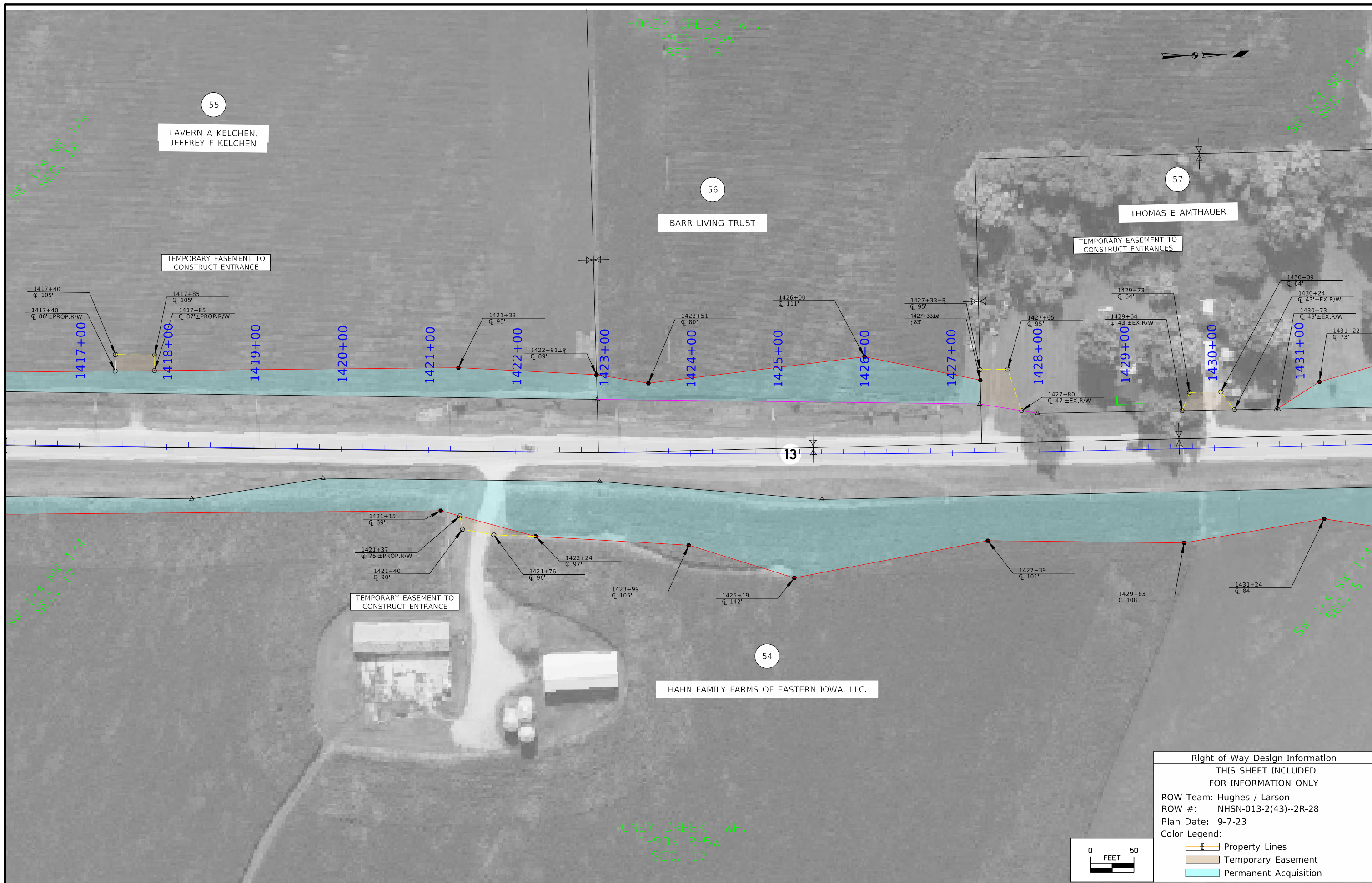
SW 1/4 NW 1/4  
SEC. 17

NW 1/4 NW 1/4  
SEC. 17

HONEY CREEK TWP.  
T-90N R-5W  
SEC. 17

Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team:	Hughes / Larson
ROW #:	NHSN-013-2(43)--2R-28
Plan Date:	9-7-23
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition





NE 1/4 NE 1/4  
SEC. 18

SE 1/4 SE 1/4  
SEC. 17

NW 1/4 NW 1/4  
SEC. 17

SW 1/4 SW 1/4  
SEC. 8

HONEY CREEK TWP.  
T-90N R-5W  
SEC. 18

HONEY CREEK TWP.  
T-90N R-5W  
SEC. 17

55  
LAVERN A KELCHEN,  
JEFFREY F KELCHEN

56  
BARR LIVING TRUST

57  
THOMAS E AMTHAUER

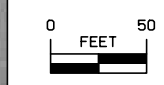
54  
HAHN FAMILY FARMS OF EASTERN IOWA, LLC.

TEMPORARY EASEMENT TO  
CONSTRUCT ENTRANCE

TEMPORARY EASEMENT TO  
CONSTRUCT ENTRANCES

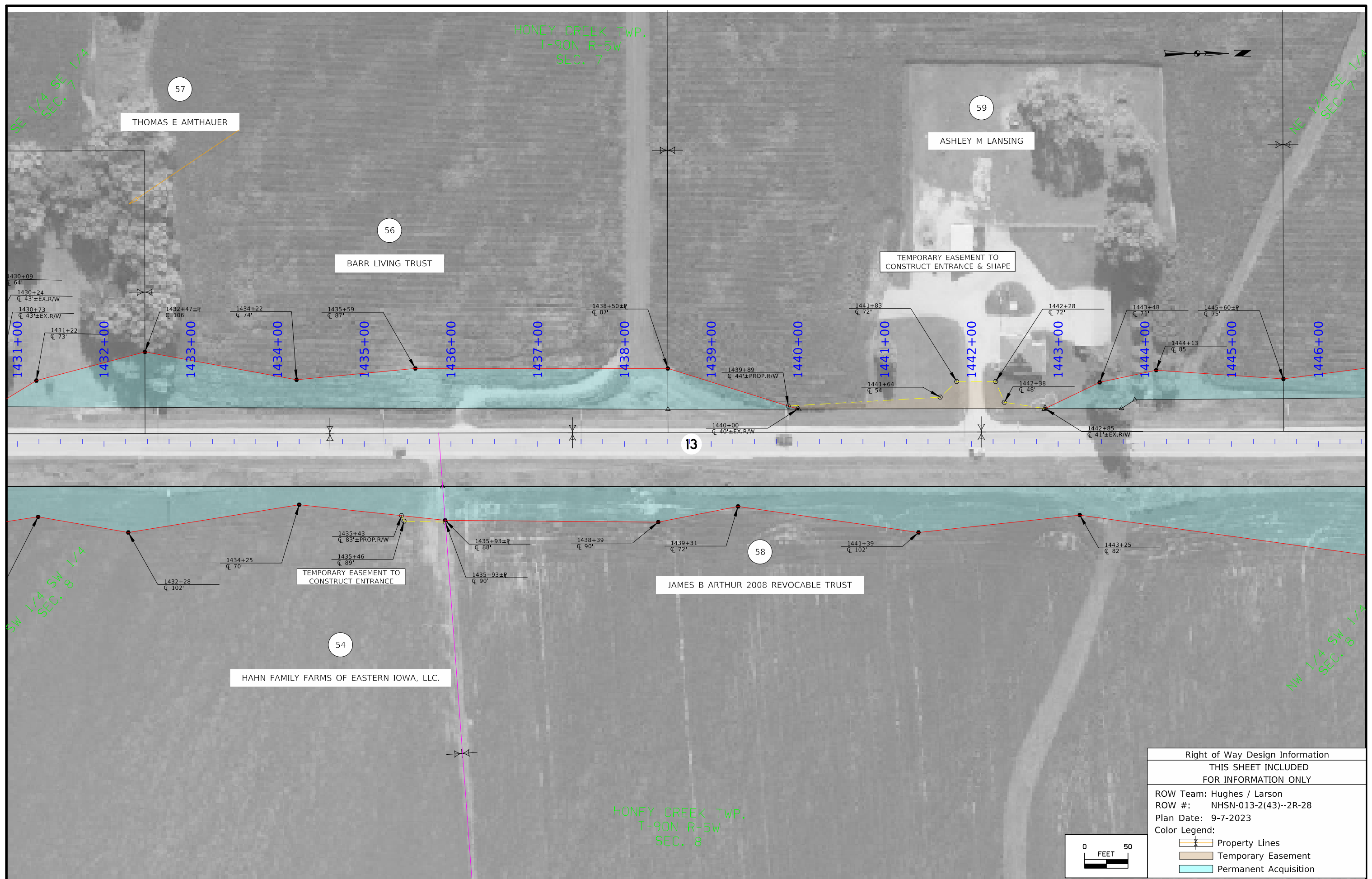
TEMPORARY EASEMENT TO  
CONSTRUCT ENTRANCE

Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: Hughes / Larson	
ROW #: NHSN-013-2(43)--2R-28	
Plan Date: 9-7-23	
Color Legend:	
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	Permanent Acquisition

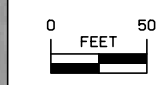


HONEY CREEK TWP.  
T-90N R-5W  
SEC. 7

HONEY CREEK TWP.  
T-90N R-5W  
SEC. 8



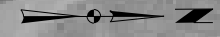
Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: Hughes / Larson	
ROW #: NHSN-013-2(43)--2R-28	
Plan Date: 9-7-2023	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



FILE NO.	ENGLISH	DESIGN TEAM STRUM / PRINDLE / McNAMARA	DELAWARE COUNTY	PROJECT NUMBER NHSN-013-2(048)--2R-28	SHEET NUMBER H.27
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3:39:14 PM 9/11/2023 CHUGHES pw:\NTP\wint1.dot.int.lan:PWMain\Documents\Projects\2801301018\ROW\ROW\_28013043.dgn

HONEY CREEK TWP.  
T-90N R-5W  
SEC. 7



NE 1/4 SE 1/4  
SEC. 7

SE 1/4 NE 1/4  
SEC. 7

56

BARR LIVING TRUST

1446+00 1447+00 1448+00 1449+00 1450+00 1451+00 1452+00 1453+00 1454+00 1455+00 1456+00 1457+00 1458+00 1459+00 1460+00 1461+00

13

58

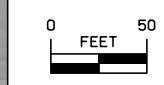
JAMES B ARTHUR 2008 REVOCABLE TRUST

HONEY CREEK TWP.  
T-90N R-5W  
SEC. 8

NW 1/4 SW 1/4  
SEC. 8

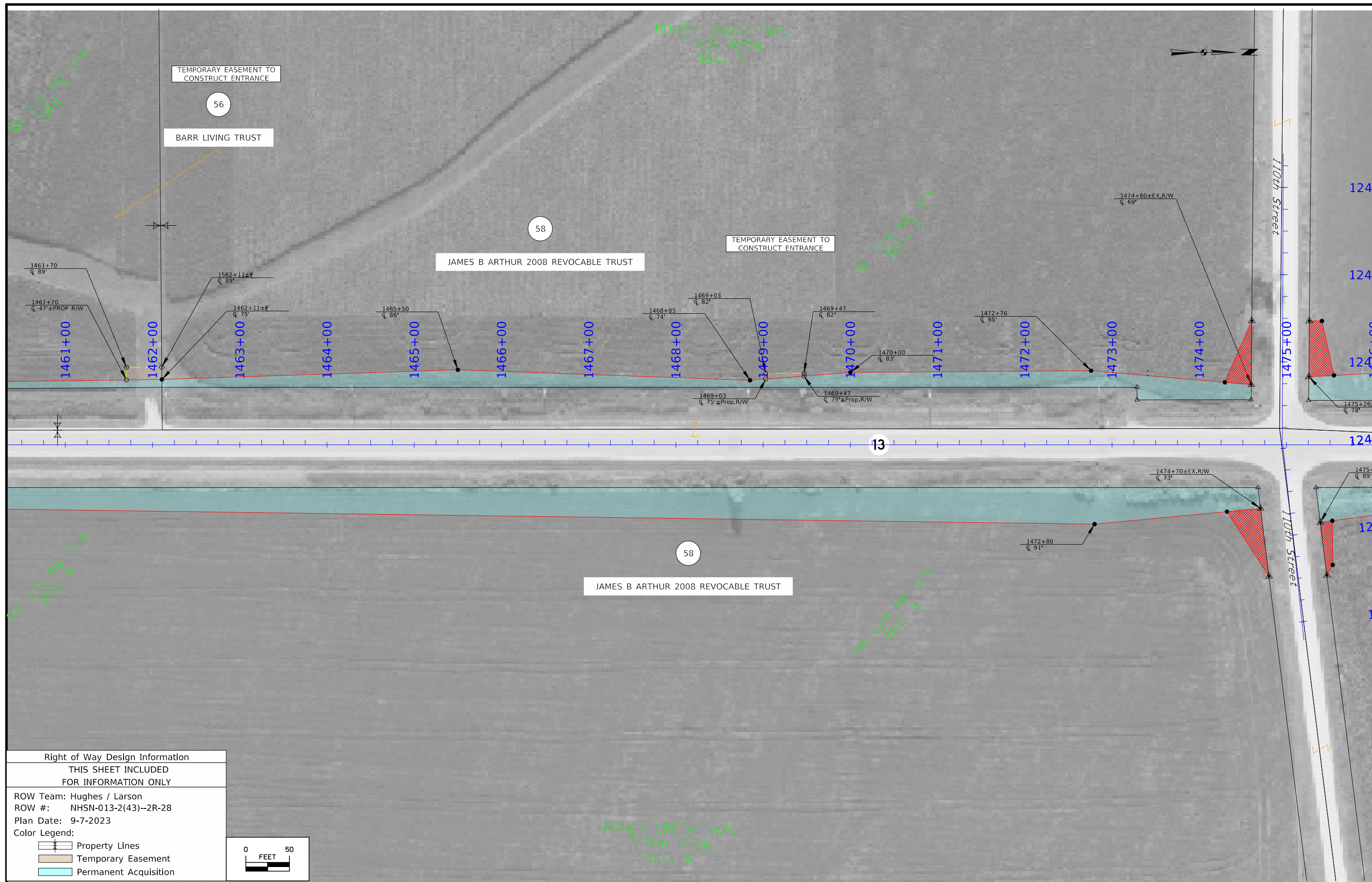
SW 1/4 NW 1/4  
SEC. 8

Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: Hughes / Larson	
ROW #: NHSN-013-2(43)--2R-28	
Plan Date: 9-7-2023	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition

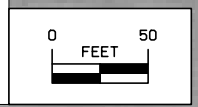


FILE NO.	ENGLISH	DESIGN TEAM STRUME / PRINDLE / McNAMARA	DELAWARE COUNTY	PROJECT NUMBER NHSN-013-2(048)--2R-28	SHEET NUMBER H.28
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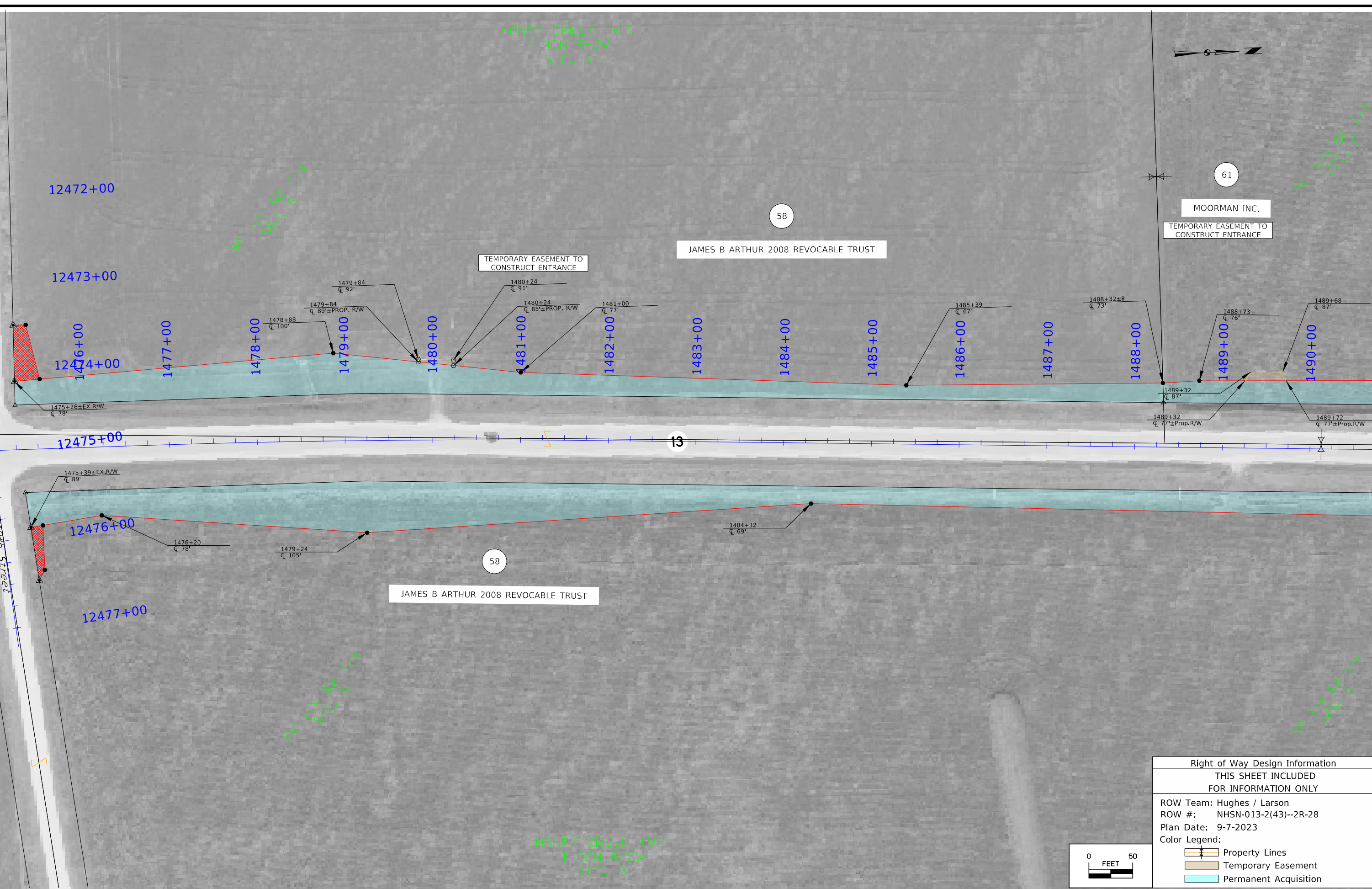
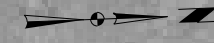
Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: Hughes / Larson	
ROW #: NHSN-013-2(43)--2R-28	
Plan Date: 9-7-2023	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



FILE NO.	ENGLISH	DESIGN TEAM STRUM / PRINDLE / McNAMARA	DELAWARE COUNTY	PROJECT NUMBER NHSN-013-2(048)--2R-28	SHEET NUMBER H.29
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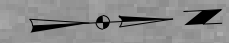
HONEY CREEK TWP.  
T-90N R-5W  
SEC. 6



Right of Way Design Information	
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ROW Team: Hughes / Larson	
ROW #: NHSN-013-2(43)--2R-28	
Plan Date: 9-7-2023	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition

HONEY CREEK TWP.  
T-90N R-5W  
SEC. 5

HONEY CREEK TWP.  
T-90N R-5W  
SEC. 6

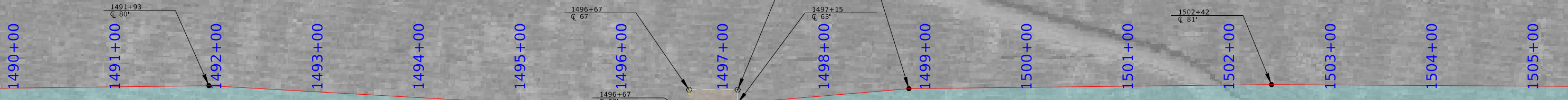


NE 1/4 SE 1/4  
SEC. 6

SE 1/4 NE 1/4  
SEC. 6

61

MOORMAN INC.  
TEMPORARY EASEMENT TO  
CONSTRUCT ENTRANCE



13

58

JAMES B ARTHUR 2008 REVOCABLE TRUST

60

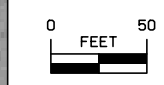
JOSEPH C KINTZLE REVOCABLE TRUST

NW 1/4 SW 1/4  
SEC. 5

SW 1/4 NW 1/4  
SEC. 5

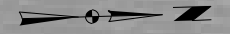
HONEY CREEK TWP.  
T-90N R-5W  
SEC. 5

Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team:	Hughes / Larson
ROW #:	NHSN-013-2(43)--2R-28
Plan Date:	9-7-2023
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



FILE NO.	ENGLISH	DESIGN TEAM STRUM / PRINDLE / McNAMARA	DELAWARE COUNTY	PROJECT NUMBER NHSN-013-2(048)--2R-28	SHEET NUMBER H.31
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HONEY CREEK TWP.  
T-90N R-5W  
SEC. 6



SE 1/4 NE 1/4  
SEC. 6

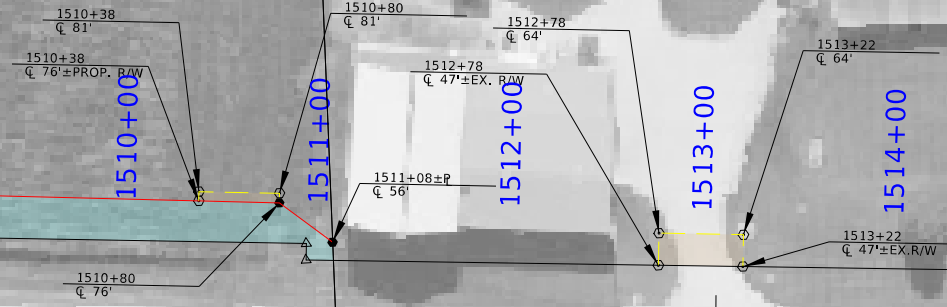
NE 1/4 NE 1/4  
SEC. 6

61  
MOORMAN INC.

62  
MICHAEL J & EDEN C GAUL

TEMPORARY EASEMENT TO  
CONSTRUCT ENTRANCE

TEMPORARY EASEMENT TO  
CONSTRUCT ENTRANCE



1505+00 1506+00 1507+00 1508+00 1509+00 1510+00 1511+00 1512+00 1513+00 1514+00 1515+00 1516+00 1517+00 1518+00 1519+00 1520+00

13

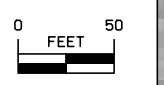


SW 1/4 NW 1/4  
SEC. 5

NW 1/4 NW 1/4  
SEC. 5

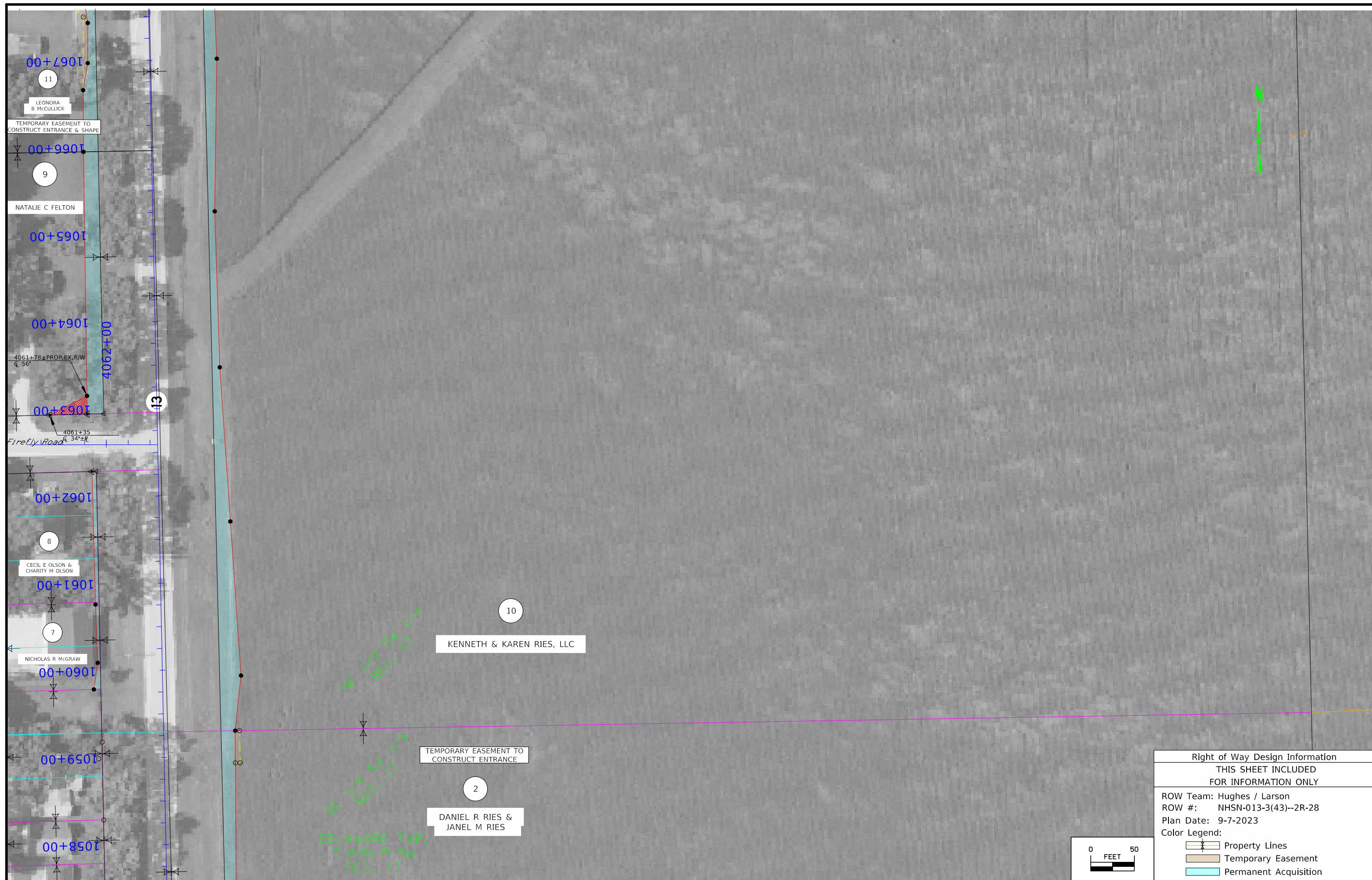
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JOSEPH C KINTZLE REVOCABLE TRUST

Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: Hughes / Larson	
ROW #: NHSN-013-2(43)--2R-28	
Plan Date: 9-7-2023	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



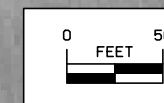
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T-90N R-5W  
SEC. 5

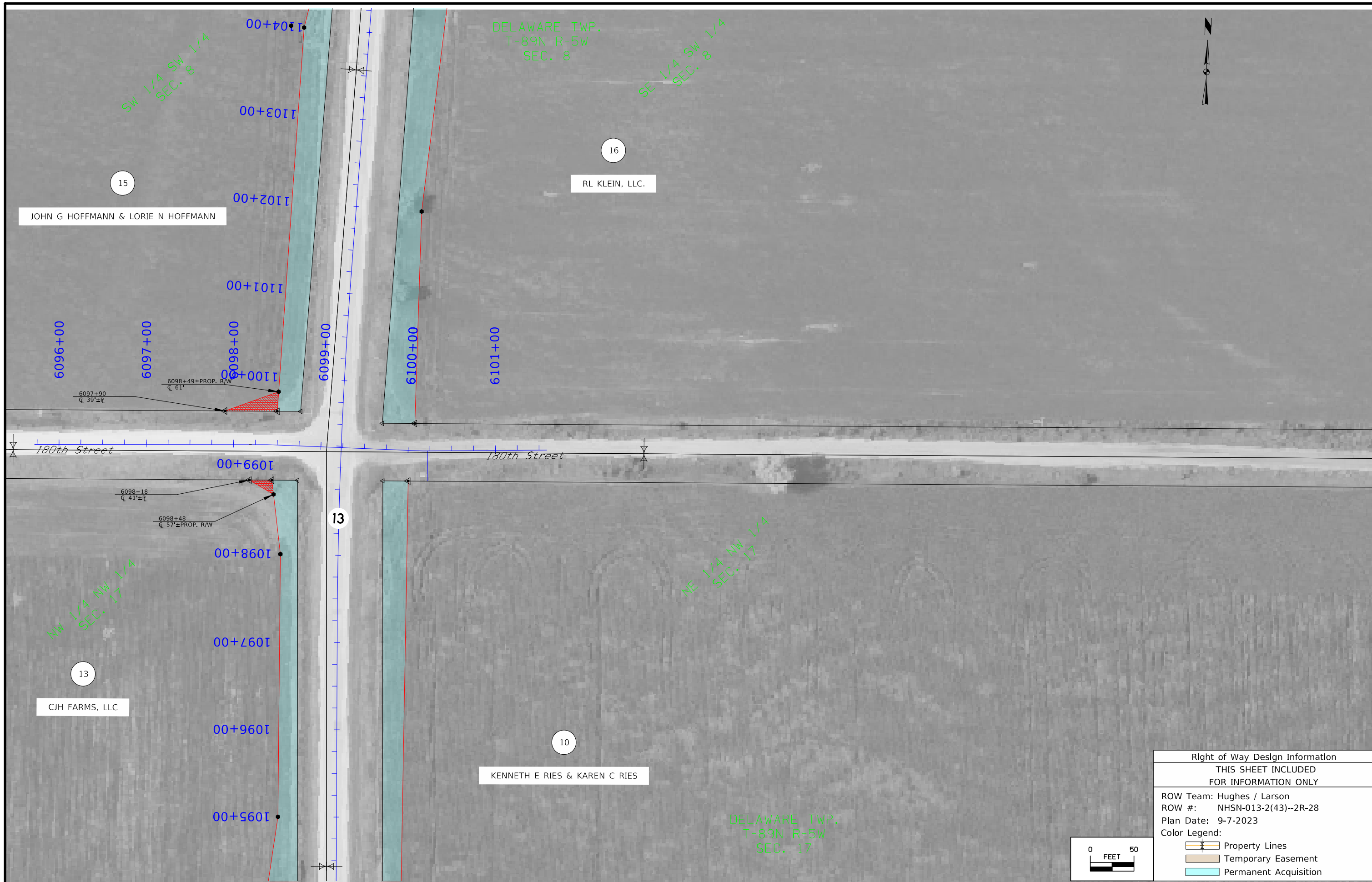
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FILE NO.	ENGLISH	DESIGN TEAM STRUM / PRINDLE / McNAMARA	DELAWARE COUNTY	PROJECT NUMBER NHSN-013-2(048)--2R-28	SHEET NUMBER HE.1
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Right of Way Design Information	
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ROW Team: Hughes / Larson	
ROW #: NHSN-013-3(43)--2R-28	
Plan Date: 9-7-2023	
Color Legend:	
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	Temporary Easement
	Permanent Acquisition

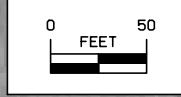




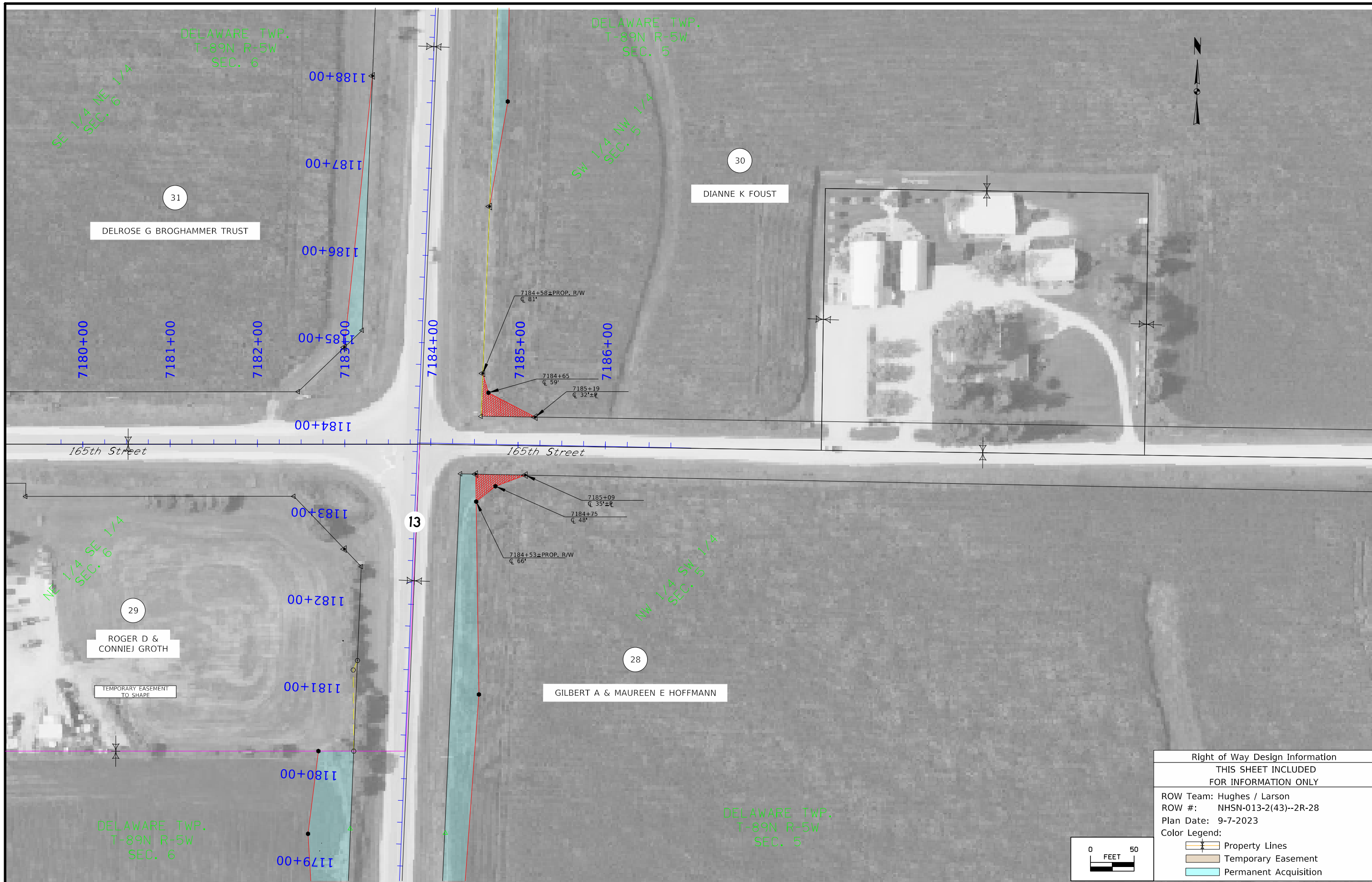
Right of Way Design Information  
 THIS SHEET INCLUDED  
 FOR INFORMATION ONLY

ROW Team: Hughes / Larson  
 ROW #: NHSN-013-2(43)--2R-28  
 Plan Date: 9-7-2023

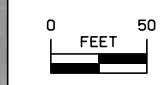
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 [Light Blue Area] Temporary Easement  
 [Dark Blue Area] Permanent Acquisition



FILE NO.	ENGLISH	DESIGN TEAM	STRUM / PRINDLE / McNAMARA	DELAWARE COUNTY	PROJECT NUMBER	NHSN-013-2(048)--2R-28	SHEET NUMBER	HE.2
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Right of Way Design Information	
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ROW Team: Hughes / Larson	
ROW #: NHSN-013-2(43)--2R-28	
Plan Date: 9-7-2023	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



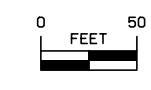
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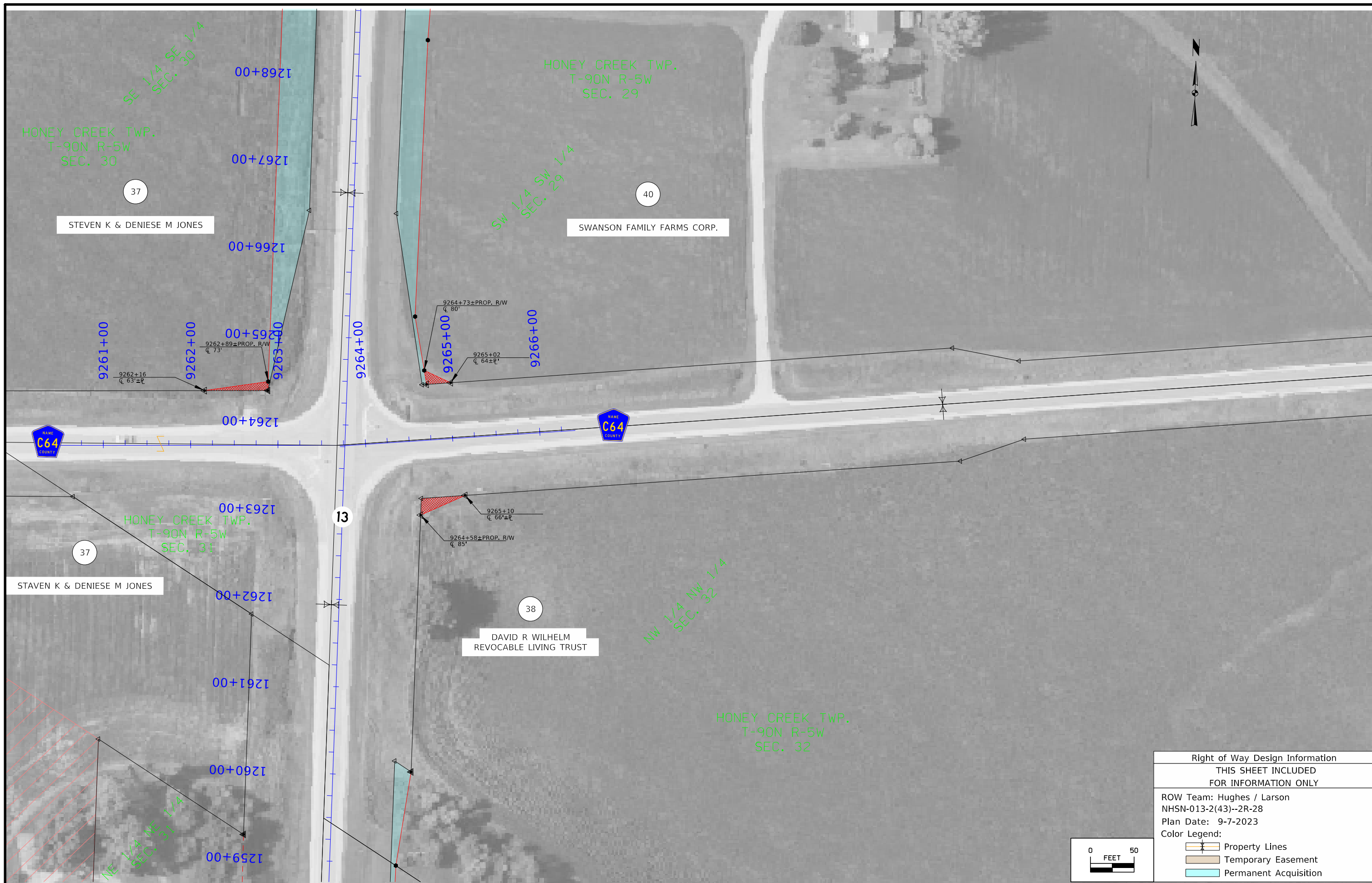
Right of Way Design Information  
 THIS SHEET INCLUDED  
 FOR INFORMATION ONLY

ROW Team: Hughes / Larson  
 ROW #: NHSN-013-2(43)--2R-28  
 Plan Date: 9-7-2023

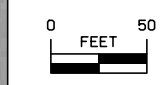
Color Legend:  
 [Yellow line] Property Lines  
 [Light Blue shaded area] Temporary Easement  
 [Cyan shaded area] Permanent Acquisition



FILE NO.	ENGLISH	DESIGN TEAM	STRUM / PRINDLE / McNAMARA	DELAWARE COUNTY	PROJECT NUMBER	NHSN-013-2(048)--2R-28	SHEET NUMBER	HE.4
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Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: Hughes / Larson NHSN-013-2(43)--2R-28 Plan Date: 9-7-2023	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



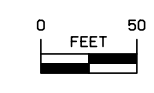
FILE NO.	ENGLISH	DESIGN TEAM	STRUM / PRINDLE / McNAMARA	DELAWARE COUNTY	PROJECT NUMBER	NHSN-013-2(048)--2R-28	SHEET NUMBER	HE.5
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Right of Way Design Information  
 THIS SHEET INCLUDED  
 FOR INFORMATION ONLY

ROW Team: Hughes / Larson  
 ROW #: NHSN-013-2(43)--2R-28  
 Plan Date: 9-7-2023

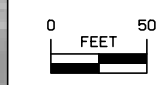
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 [Cyan Area] Permanent Acquisition

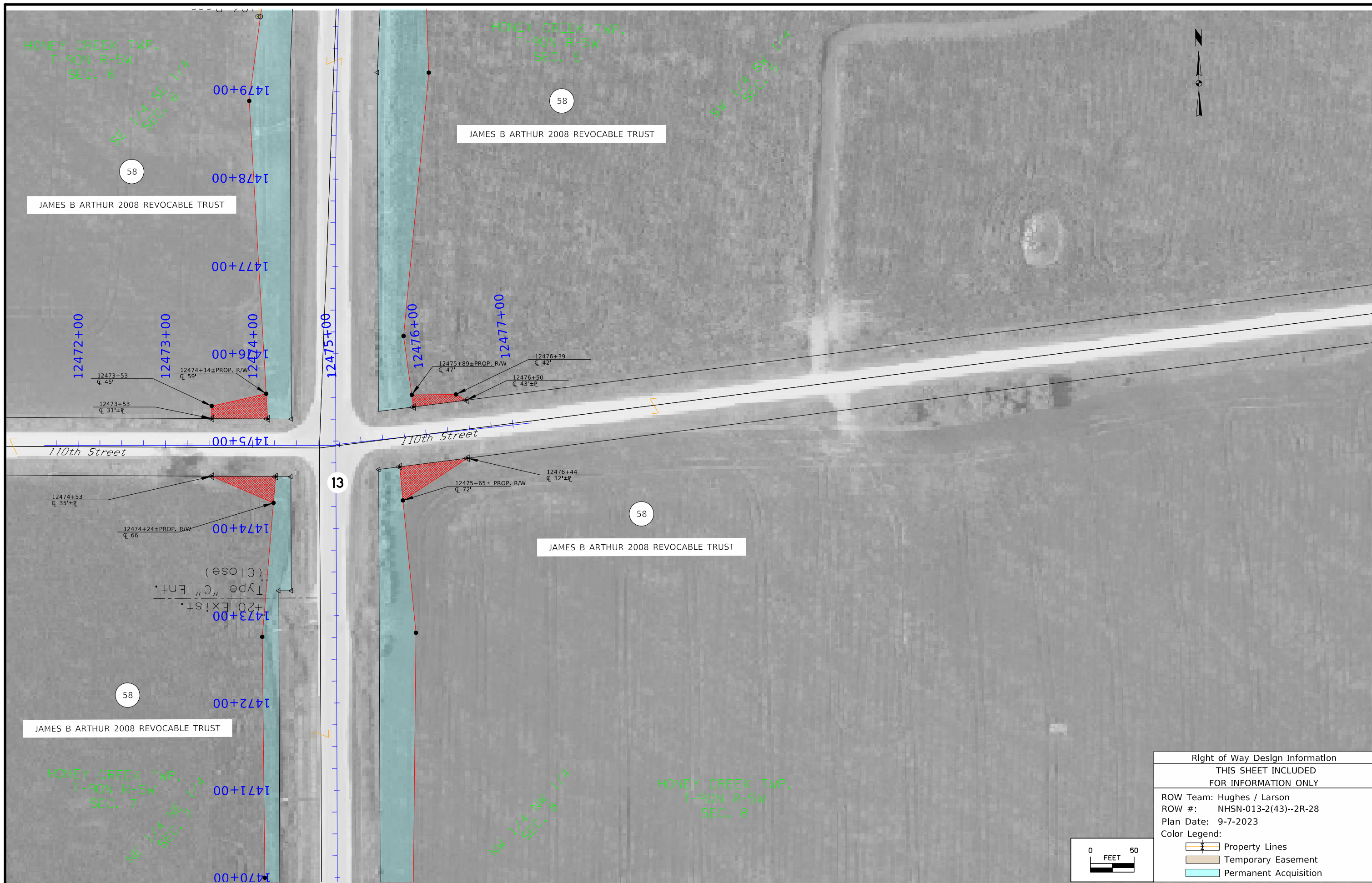


FILE NO.	ENGLISH	DESIGN TEAM STRUM / PRINDLE / McNAMARA	DELAWARE COUNTY	PROJECT NUMBER NHSN-013-2(048)--2R-28	SHEET NUMBER HE.6
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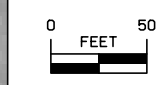


Right of Way Design Information	
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ROW Team: Hughes / Larson	
ROW #: NHNS-013-2943)--2R-28	
Plan Date: 9-7-23	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition





Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: Hughes / Larson	
ROW #: NHSN-013-2(43)--2R-28	
Plan Date: 9-7-2023	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



FILE NO.	ENGLISH	DESIGN TEAM STRUM / PRINDLE / McNAMARA	DELAWARE COUNTY	PROJECT NUMBER NHSN-013-2(048)--2R-28	SHEET NUMBER HE.8
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**LANDSCAPE DESIGN**



I hereby certify that the portion of this technical submission described below was prepared by me or under my direct supervision and responsible charge. I am a duly licensed professional landscape architect under the laws of the state of Iowa.

*Rachel Harris* 08-22-2023  
Signature Date

Rachel A. Harris  
Printed or Typed Name

My license renewal date is June 30, 2024

Pages or sheets covered by this seal: RC.1 - RC.4; RR.1 - RR.18

# ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Roadside Items : Roadside Items

Item no.	Item Code	Item	Unit	Quantities		Estimate Reference Notes
				Estimated		
				Roadside Items		
1	2601-2634100	MULCHING	ACRE	6.4		<p>Perform mulching according to Article 2601.03, E, 2, of the Standard Specifications. Anchor mulch into the soil using mulch anchoring equipment with a minimum of two passes.</p> <p>Item is included for areas requiring reshaping and seedbed preparation except where slope protection has been applied. Use mulch that is Certified Noxious Weed Seed Free Mulch as certified by the Iowa Crop Improvement Association or adjacent states Crop Improvement Associations.</p> <p>Mulch Rate: 1 1/2 tons of dry cereal straw or native grass straw per acre.</p>
2	2601-2642100	STABILIZING CROP - SEEDING AND FERTILIZING	ACRE	6.4		<p>Item is included for disturbed areas.</p> <p>Seed and fertilize all disturbed areas according to Article 2601.03, C, 1, of the Standard Specifications. If permanent seeding cannot be placed due to the restrictive planting dates, stabilizing crop will need to be placed on all disturbed areas as temporary erosion control. Preparation and seeding shall be performed in accordance with Section 2601. Stabilizing crop will not be used when the application dates in Section 2601 allows permanent seeding.</p> <p>If stabilizing crop must be used, place immediately following completions of finished grading. Reseeding of these areas will be required at contractors expense if damage occurs due to contractors negligence during the contract period.</p> <p>It is not necessary to place stabilizing crop in locations that have be covered by Wood Excelsior Mat.</p>
3	2602-0000150	STABILIZED CONSTRUCTION ENTRANCE, EC-303	LF	1,000		Refer to Standard Road Plan EC-303.
4	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.	LF	2,000		<p>Refer to Standard Road Plan EC-204.</p> <p>Item is included for temporary perimeter sediment control, inlet protection, and water velocity reduction on slopes or ditches at locations to be determined during construction. Verify specific locations with the Engineer prior to beginning placement.</p>
5	2602-0000320	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 20 IN. DIA.	LF	2,000		<p>Refer to Standard Road Plan EC-204.</p> <p>Item is included for temporary perimeter sediment control, inlet protection, and water velocity reduction on slopes or ditches at locations to be determined during construction. Verify specific locations with the Engineer prior to beginning placement.</p> <p>Item may be used in addition to, or as a direct replacement for "Perimeter and Slope Sediment Control Device, 12 in. dia." upon Engineer approval.</p>
6	2602-0000351	REMOVAL OF PERIMETER AND SLOPE OR DITCH CHECK SEDIMENT CONTROL DEVICE	LF	4,000		
7	2602-0010010	MOBILIZATIONS, EROSION CONTROL	EACH	1		
8	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL	EACH	1		

INDEX OF TABULATIONS		
Tabulation	Tabulation Title	Sheet No.
RC Sheets	SIGNATURE SHEET	RC.1
	ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES	RC.2
105-4	STANDARD ROAD PLANS	RC.3
110-12	POLLUTION PREVENTION PLAN	RC.3 - RC.4
111-25	INDEX OF TABULATIONS	RC.3
281-1	SECTION 404 PERMIT AND CONDITIONS	RC.3
281-3	STORM WATER BEST MANAGEMENT PRACTICES	RC.3

111-25  
10-18-11

STANDARD ROAD PLANS		
The following Standard Road Plans apply to construction work on this project.		
Number	Date	Title
EC-204	10-19-21	Perimeter, Slope and Ditch Check Sediment Control Devices
EC-303	10-19-21	Stabilized Construction Entrance
EC-502	04-21-15	Seeding in Rural Areas

105-4  
10-18-11

281-3  
10-17-17

### STORM WATER BEST MANAGEMENT PRACTICES

When the following best management practices are used, they are intended to account for disturbed areas where storage volume cannot be provided: Slope and Ditch Check Sediment Control Devices and Seeding.

110-12  
10-20-20

### POLLUTION PREVENTION PLAN

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

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

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

**I. ROLES AND RESPONSIBILITIES**

**A. Designer:**

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

**B. Contractor:**

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

**C. Subcontractors:**

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

**D. RCE/Project Engineer:**

1. Is Project Storm Water Manager.
2. On projects where DOT is the Contracting Authority, is current with erosion control training or certification.
3. Takes actions necessary to ensure compliance with storm water requirements including, where appropriate, issuing stop work orders, and directing additional inspections at construction project sites that are experiencing problems with achieving permit compliance.
4. Orders the taking of measures to cease, correct, prevent, or minimize the consequences of non-compliance with the storm water requirements of the Applicable Permit.
5. Supervises all work necessary to meet storm water requirements at the Project, including work performed by contractors and subcontractors.
6. Requires employees, contractors, and subcontractors to take appropriate responsive action to comply with storm water requirements, including requiring any such person to cease or correct a violation of storm water requirements, and to order or recommend such other actions as necessary to meet storm water requirements.
7. Is familiar with the Project PPP and storm water site map.
8. On projects where DOT is Contracting Authority, is responsible for periodically monitoring inspection reports to determine whether deficiencies identified in inspection reports were adequately and timely addressed, and if not, has the authority and responsibility to direct immediate actions to correct the deficiencies.
9. Is the point of contact for the Project for regulatory officials, Inspector, contractors, and subcontractors regarding storm water requirements.

110-12  
10-20-20

### POLLUTION PREVENTION PLAN

10. Is signature authority on Notice of Discontinuation.
11. Maintains an up-to-date record of contractors, subcontractors, and subcontracted work items through Subcontractor Request Forms (Form 830231).
12. Makes information to determine permit compliance available to the DNR upon their request.

**E. Inspector:**

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

**II. PROJECT SITE DESCRIPTION**

- A. This Pollution Prevention Plan (PPP) is for Clearing and Grubbing project in Delaware County.
- B. This PPP covers approximately 193.2 acres with an estimated 6.4 acres being disturbed. The portion of the PPP covered by this contract has 152.1 acres disturbed.
- C. The PPP is located in an area of Kenyon - Clyde - Floyd soil association. The estimated weighted average runoff coefficient number for this PPP after completion will be 0.31.
- D. Storm Water Site Map is located in the R sheets. Proposed slopes are shown in cross sections, details, or standard road plans. Supplemental information is located in the Tabulations in the C or CE sheets.
- E. The base storm water site map is amended by contract modifications and progress payments (fieldbook entries) of completed erosion control work. Also, due to project phasing, erosion and sediment controls shown on project plans may not be installed until needed, based on site conditions. For example, silt fence ditch checks will typically not be installed until the ditch has been installed. Installed locations may also be modified from tabulation locations by field staff. Installed locations will be documented by fieldbook entries and amended PPP site map.
- F. Runoff from this work will flow into Honey Creek and The Maquoketa River.

**III. CONTROLS**

- A. The Contractor's ECIP specified in Article 2602.03 of the Standard Specifications for accomplishment of storm water controls should clearly describe the intended sequence of major activities, and for each activity define the control measure and the timing during the construction process that the measure will be implemented.
- B. Preserve vegetation in areas not needed for construction.
- C. Sections 2601 and 2602 of the Standard Specifications define requirements to implement erosion and sediment control measures. Actual quantities used and installed locations may vary from the Base PPP and amendment of the plan will be documented via fieldbook entries, amended PPP site map, or by contract modification. Additional erosion and sediment control items may be required as determined by the inspector and/or contractor during storm water site inspections. If the work involved is not applicable to any contract items, the work will be paid for according to Article 1109.03 paragraph B of the Standard Specifications.

**1. EROSION AND SEDIMENT CONTROLS**

- a. Stabilization Practices
  - 1) Site plans will ensure that existing vegetation or natural buffers are preserved where attainable and disturbed portions of the site will be stabilized.
  - 2) Initialize stabilization of disturbed areas immediately after clearing, grading, excavating, or other earth disturbing activities have:
    - a) Permanently ceased on any portion of the site, or
    - b) Temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days.
  - 3) Staged permanent and/or temporary stabilizing seeding and mulching shall be completed as the disturbed areas are completed. Incomplete areas shall be stabilized according to paragraph III, C, 1, a, 2, b above.
  - 4) Permanent and Temporary Stabilization practices to be used for this project are located in the storm water site map, Estimated Project Quantities (100-0A, 100-1A, or 100-1C), and Estimate Reference Information (100-4A) located in the C or R sheets. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation (105-4) in the C or R sheets.
  - 5) Preservation of existing vegetation within right-of-way or easements will act as vegetative buffer strips.
  - 6) Preservation of topsoil: Bid items to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C or R sheets. Additional information may be found in the Tabulations in the C or T Tabulation sheets, or is referenced in Section 2105 of the Standard Specifications.
- b. Structural Practices
  - 1) Structural practices will be implemented to divert flows from exposed soils and detain or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Additionally, structural practices may include: silt basins that provide 3600 cubic feet of storage per acre drained or equivalent sediment controls, outlet structures that withdraw water from surface when discharging basins, and controls to direct storm water to vegetated areas.

**POLLUTION PREVENTION PLAN**

2) Structural practices to be used for this project are located in the storm water site map, Estimated Project Quantities (100-0A, 100-1A, or 100-1C), and Estimate Reference Information (100-4A) located in the C or R sheets, as well as all other item specific Tabulations. Typical drawings detailing construction of the devices to be used on this project can be found on the B or R sheets or are referenced in the Standard Road Plans Tabulation (105-4) located in the C or R sheets.

## c. Storm Water Management

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

## 2. OTHER CONTROLS

Contractor disposal of unused construction materials and construction material wastes shall comply with applicable state and local waste disposal, sanitary sewer, or septic system regulations. In the event of a conflict with other governmental laws, rules and regulations, the more restrictive laws, rules or regulations shall apply.

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

## 3. APPROVED STATE OR LOCAL PLANS

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

## IV. MAINTENANCE PROCEDURES

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

## V. INSPECTION REQUIREMENTS

- A. Inspections shall be made jointly by the Contractor and the Contracting Authority's inspector at least once every seven calendar days. Storm water site inspections will include:
  1. Date of the inspection.
  2. Summary of the scope of the inspection.
  3. Name and qualifications of the personnel making the inspection.
  5. Review of erosion and sediment control measures within disturbed areas for the effectiveness in preventing impacts to receiving waters.
  6. Major observations related to the implementation of the PPP.
  7. Identification of corrective actions required to maintain or modify erosion and sediment control measures.
- B. Include storm water site inspection reports in the Amended PPP. Incorporate any additional erosion and sediment control measures determined as a result of the inspection. Immediately begin corrective actions on all deficiencies found within 3 calendar days of the inspection and complete within 7 calendar days following the inspection. If it is determined that making the corrections less than 72 hours after the inspection is impracticable, it should be documented why it is impracticable and indicate an estimated date by which the corrections will be made.

## VI. NON-STORM WATER DISCHARGES

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

## VII. POTENTIAL SOURCES OF OFF RIGHT-OF-WAY (ROW) POLLUTION

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

## VIII. DEFINITIONS

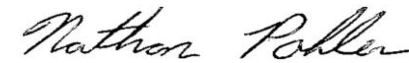
- A. Base PPP - Initial Pollution Prevention Plan.
- B. Amended PPP - Base PPP amended during construction. May include Plan Revisions or Contract Modifications for new items, storm water site inspection reports, fieldbook entries made by the inspector, amended PPP site map by the Contractor, ECIP, NOI, co-permittee certifications, and Subcontractor Request Forms. Items amending the PPP are stored electronically and are readily available upon request.
- C. Fieldbook Entries - This contains the inspector's daily diary and bid item postings.

**POLLUTION PREVENTION PLAN**

- D. Controls - Methods, practices, or measures to minimize or prevent erosion, control sedimentation, control storm water, or minimize contaminants from other types of waste or materials. Also called Best Management Practices (BMPs).
- E. Signature Authority - Representative authorized to sign various storm water documents.

-----  
CERTIFICATION STATEMENT

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



Signature

Nathan J. Pohlen

Print Name

### LINE STYLE LEGEND OF LANDSCAPE SHEETS

LINETYPE	Design Element
-----	Living Snow Fence Single Row
-----	Living Snow Fence Double Row
-----	Mechanical Edge

### CELL LEGEND OF LANDSCAPE SHEETS

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

### PATTERN LEGEND OF LANDSCAPE SHEETS

	Brush Clearing		Spray Area
	Clearing & Grubbing		

### LINE STYLE LEGEND OF EROSION CONTROL SHEETS

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

### CELL LEGEND OF EROSION CONTROL SHEETS

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

### PLAN VIEW COLOR LEGEND OF EROSION CONTROL SHEETS

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

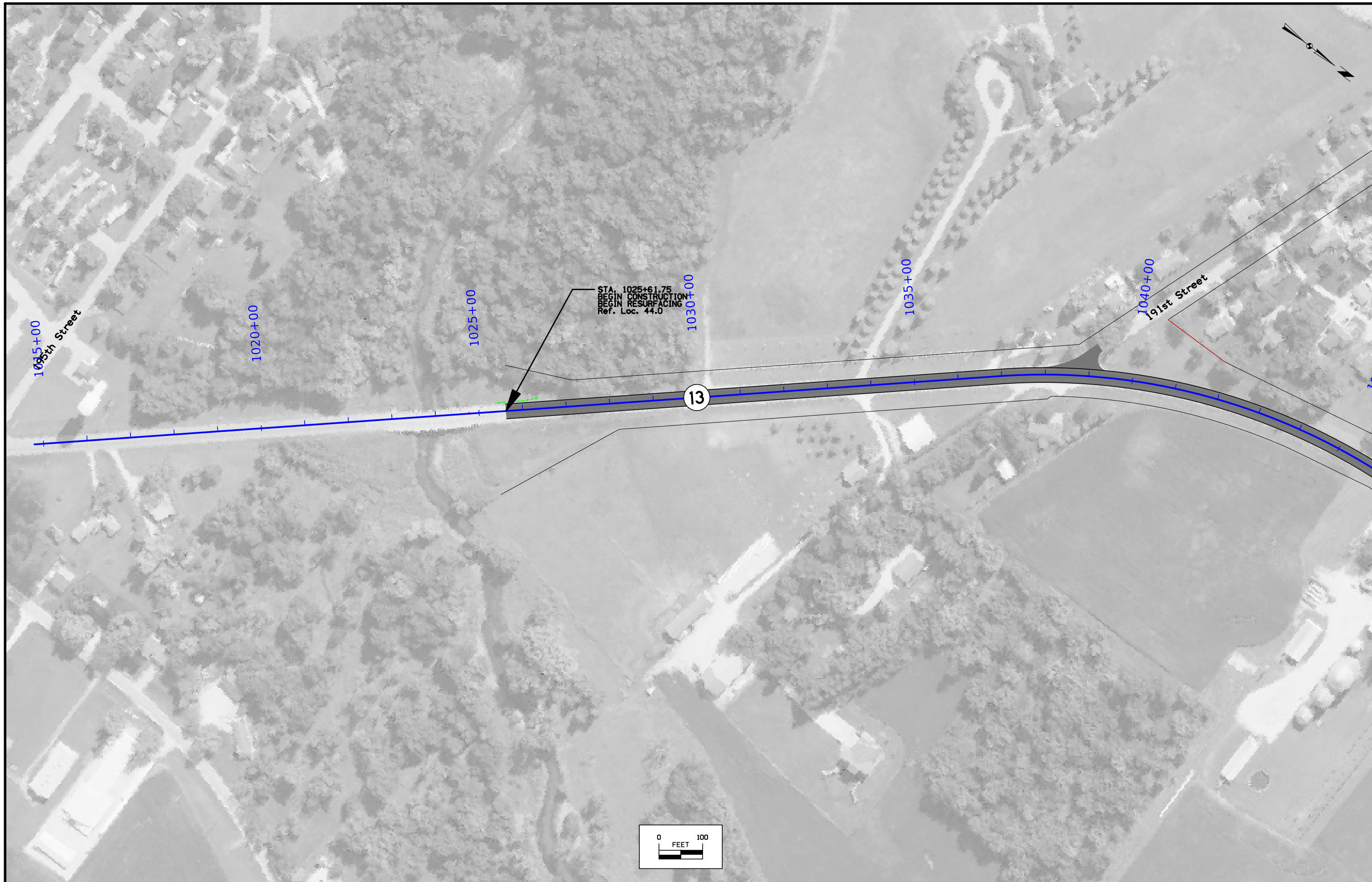
SHADING	Design Color No.	Design Element	Transparency
Citron	(234)	Mulching, All Types	50%
Light Brown	(238)	Special Ditch Control, Wood Excelsior Mat	0%
Grass Green	(233)	8FT Mow Strip	50%
Red	(3)	Delineates Restricted Areas	0%

### PATTERN LEGEND OF EROSION CONTROL SHEETS

	Seeding and Fertilizing		Turf Reinforcement Mat Type 1
	Seeding and Fertilizing (Rural)		Turf Reinforcement Mat Type 2
	Seeding and Fertilizing (Urban)		Turf Reinforcement Mat Type 3
	Native Grass Seeding		Turf Reinforcement Mat Type 4
	Salt Tolerant Seeding		Slope Protection, Wood Excelsior Mat
	Wetland Grass Seeding		Transition Mat
	Wildflower Seeding		Rock Features, Permanent
	Sodding		Rock Features, Temporary

## EROSION CONTROL LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES R)





FILE NO.	ENGLISH	DESIGN TEAM Harris/Pohlen/McDonald	Delaware COUNTY	PROJECT NUMBER NHSN-013-2(048)--2R-28	SHEET NUMBER RR.3
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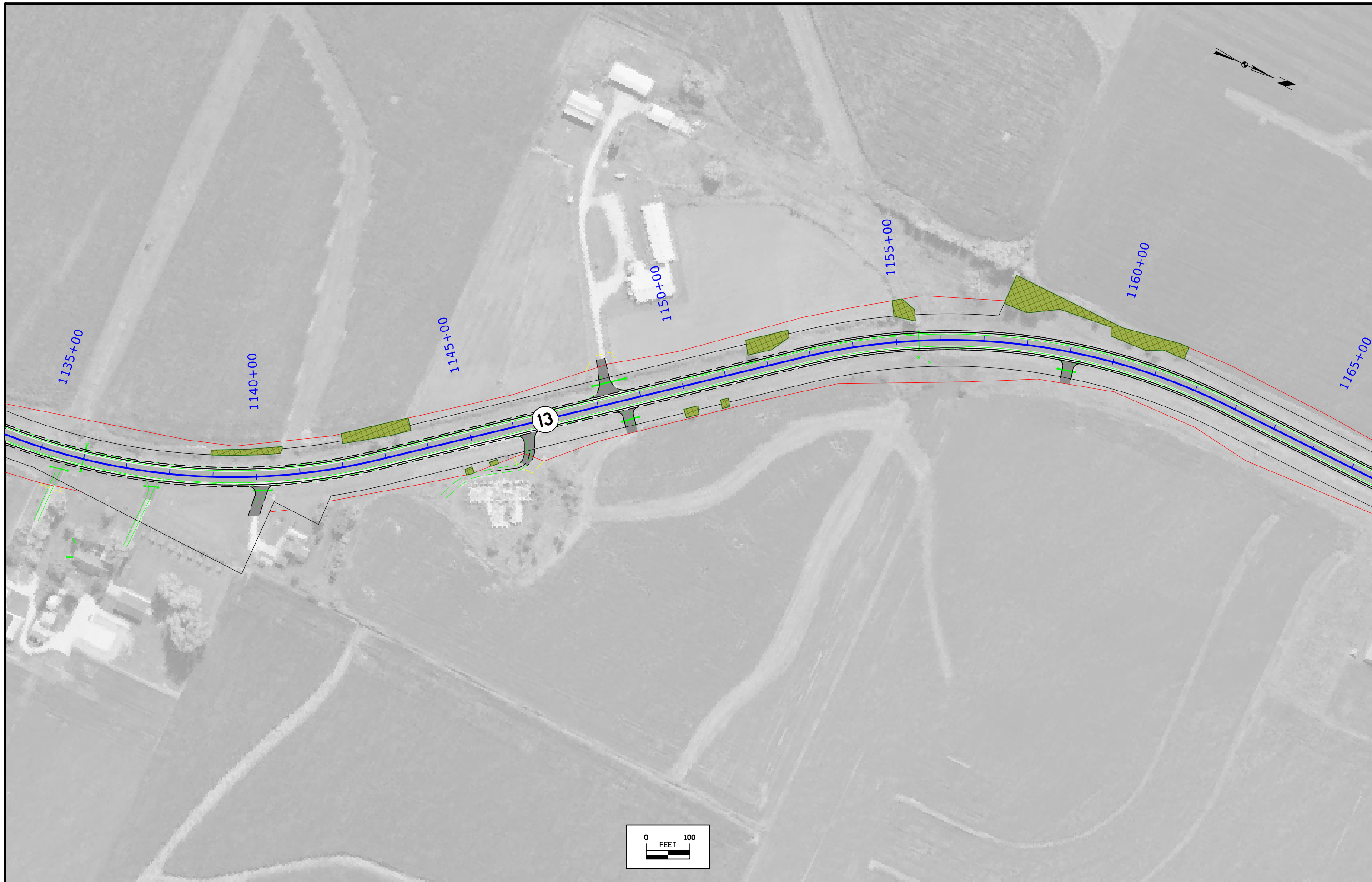
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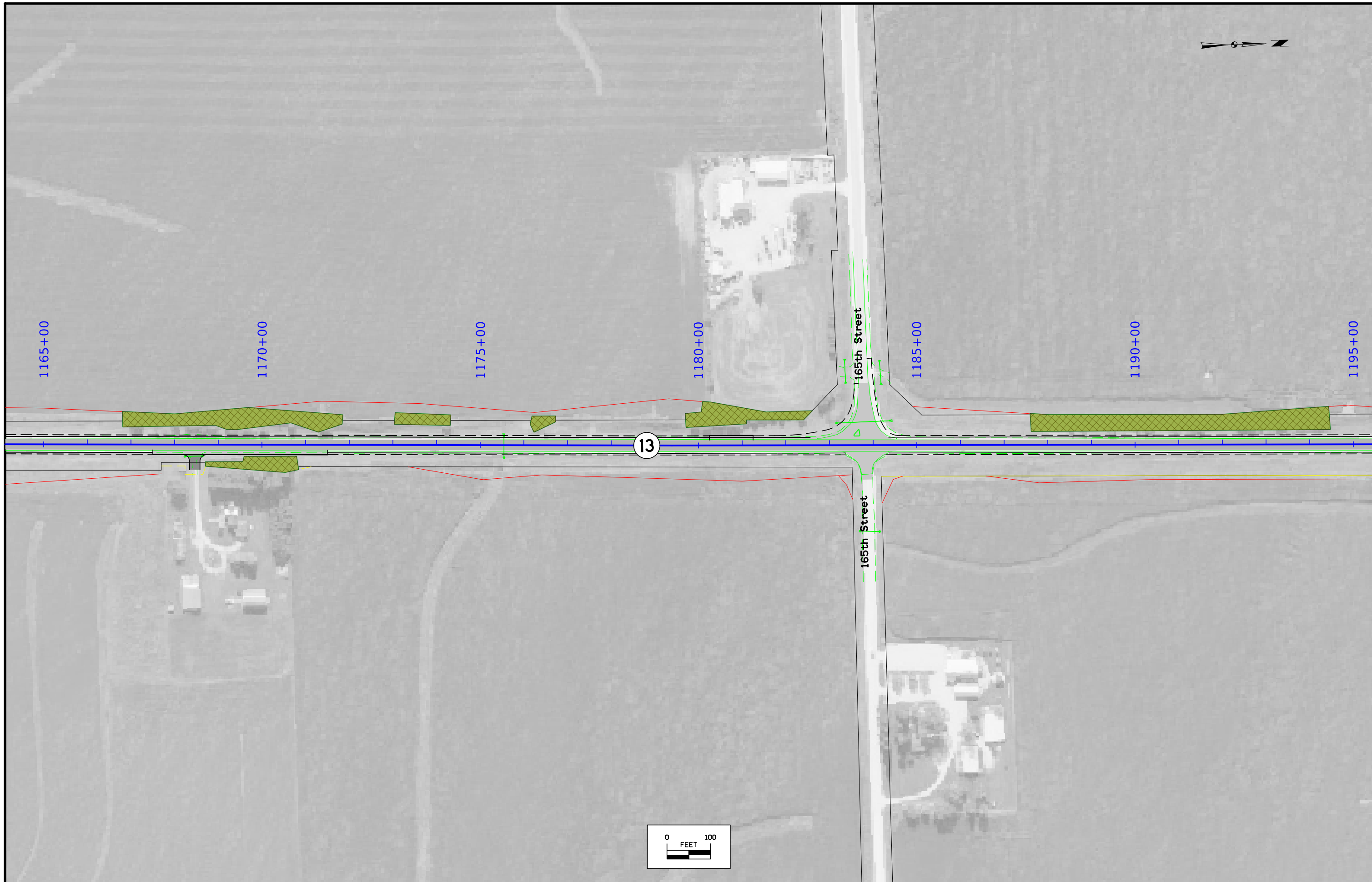
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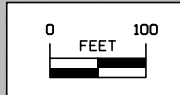
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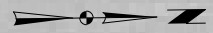
Do Not Disturb Trees

13



FILE NO.	ENGLISH	DESIGN TEAM Harris/Pohlen/McDonald	Delaware COUNTY	PROJECT NUMBER NHSN-013-2(048)--2R-28	SHEET NUMBER RR.8
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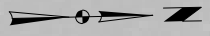
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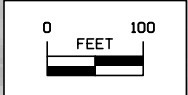
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FILE NO.	ENGLISH	DESIGN TEAM Harris/Pohlen/McDonald	Delaware COUNTY	PROJECT NUMBER NHSN-013-2(048)--2R-28	SHEET NUMBER RR.11
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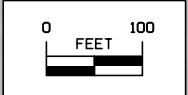
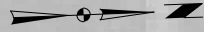
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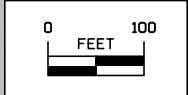
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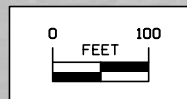
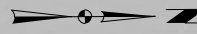
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FILE NO.	ENGLISH	DESIGN TEAM Harris/Pohlen/McDonald	Delaware COUNTY	PROJECT NUMBER NHSN-013-2(048)--2R-28	SHEET NUMBER RR.17
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