



# MARSHALLTOWN, IOWA

## IOWA COMMUNICATIONS NETWORK

### MARSHALLTOWN POLICE & FIRE STATION

#### PHASE 2

#### PROJECT COORDINATION CONTACTS

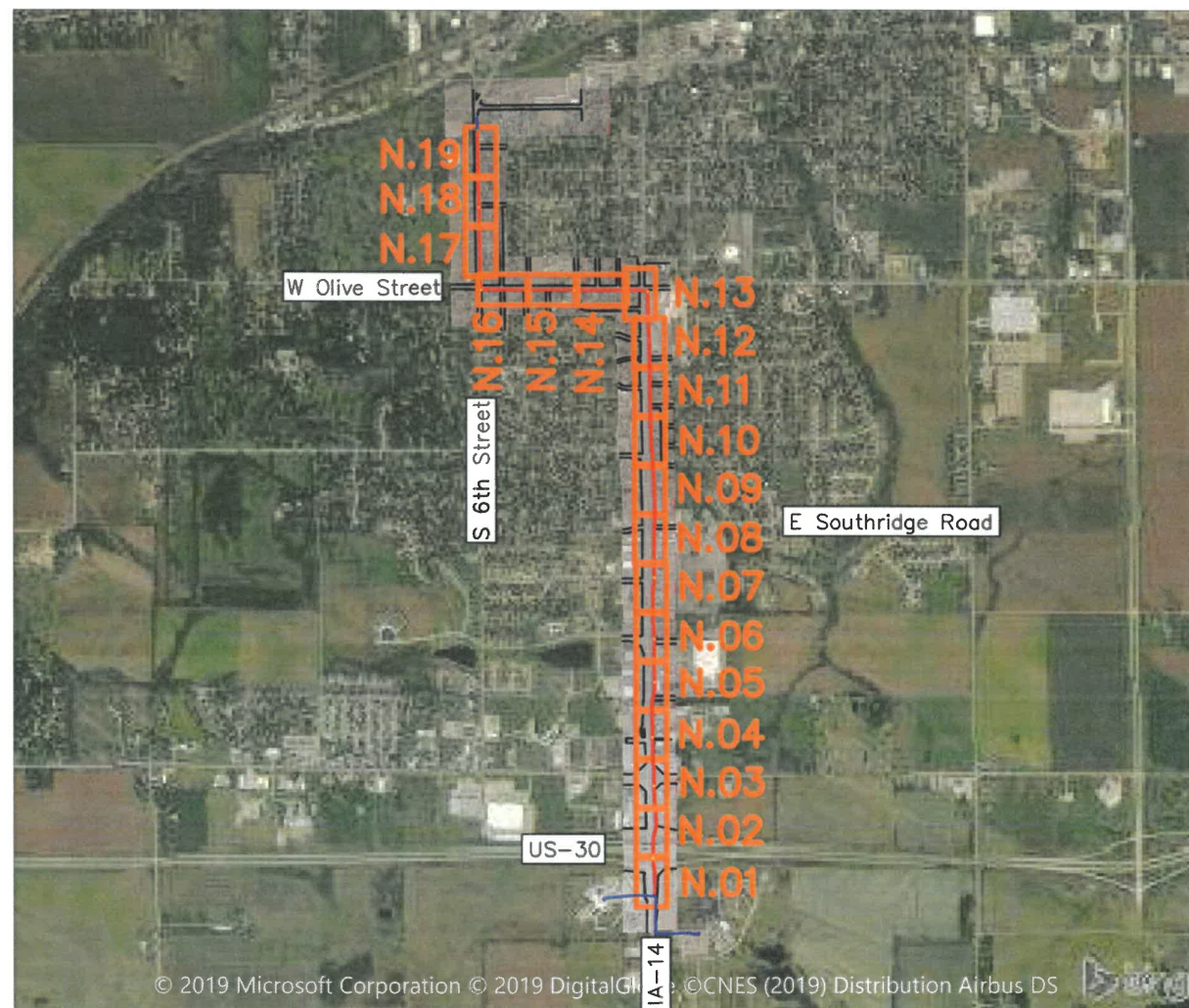
NAME	AGENCY	PHONE	EMAIL
TIM FLICKINGER	ICN	515-725-4699	TIMOTHY.FLICKINGER@IOWA.GOV
BRAD BATEMAN	CITY OF MARSHALLTOWN	641-754-5734	BBATEMAN@MARSHALLTOWN-IA.GOV
DEANNA SMYTH-PETERS	IOWA DOT	515-986-5460	DEANNA.SMYTH-PETERS@IOWADOT.US



PRIOR TO CONSTRUCTION:

CALL 811 FOR LOCATION OF UNDERGROUND TELEPHONE, ELECTRIC, GAS MAINS, CABLE TELEVISION AND OTHER UTILITIES.

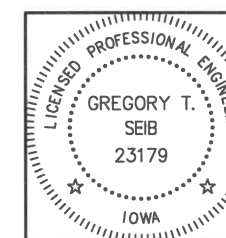
EXISTING UNDERGROUND AND OVERHEAD UTILITIES AND DRAINAGE STRUCTURES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. IT IS THE RESPONSIBILITY OF THE INDIVIDUAL CONTRACTORS TO EXACTLY LOCATE AND PROTECT EACH EXISTING UTILITY BEFORE AND DURING ACTUAL CONSTRUCTION.



SHT. NO.	SHEET INDEX
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C.01	ESTIMATE OF QUANTITIES AND LISTING OF WORK
C.02	GENERAL NOTES
C.03	UTILITY CONTACTS
N SHEETS	FIBER PLANS
N.01 - N.19	FIBER DESIGN
ATTACHMENTS	ICN TYPICAL DETAILS FOR: - HANDHOLES - MANUFACTURES HANDHOLE INSTALLATION INSTRUCTION - TRI-VIEW DETAIL

#### PERMITS REQUIRED

SHT. NO.	PERMIT
N.01 - N.19	City of Marshalltown
N.01 - N.13	Iowa DOT Utility Accommodation - Hwy 14
N.01 - N.02	Iowa DOT Utility Accommodation - Hwy 30



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: Gregory T. Seib Date: 4-15-2019

Printed or Typed Name: Gregory T. Seib

License Number: 23179

My license renewal date is December 31, 2020

Pages or sheets covered by this seal: A.01-A.02, C.01-C.03, N.01-N.19



IOWA COMMUNICATIONS NETWORK

GRIMES STATE OFFICE BUILDING  
400 EAST 14TH STREET  
DES MOINES, IOWA 50319  
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THIS DRAWING IS PROVIDED FOR GENERAL INFORMATION ONLY AND IS NOT TO BE USED TO DETERMINE PRECISE ICN PLACEMENT. CALL ONE CALL BEFORE EXCAVATION (1-800-292-8989 OR 811)

MARSHALLTOWN PD & FIRE PHASE 2

MARSHALLTOWN IOWA

OSP LOG# 64190305

SHEET A.01

SCALE: NONE

SIZE: 11 x 17

F:\2016\0501-1000\016-0760\40-Design\Microstation\016-0760\_Marshalltown PD & Fire Ph 2\Bose\Marshalltown\_Design.dwg

1	PRELIMINARY	04-02-19
2	FINAL	04-15-19

LEGEND AND SYMBOLS

SPLICE-W/LOC. STATION

SPLICE-NO LOC. STATION

FIBER CHANGE (BID & CONST. ISSUE)

CASING PIPE  
(PVC OR STEEL)

(GALV. IRON PIPE) G.I.P.

RIGHT-OF-WAY LINE(phantom linetype)

CENTER LINE(center linetype)

FENCE LINE

PROPERTY LINE

EDGE OF GRAVEL

EDGE OF PAVEMENT

EDGE OF CONCRETE

CITY, COUNTY OR STATE BOUNDARY

SECTION LINE

TEMP. EASEMENT

BACK OF CURB

CONCRETE SIDEWALK

GAS LINE

STORM SEWER

SANITARY SEWER

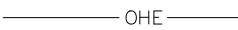
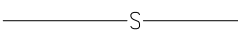
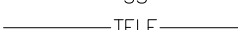
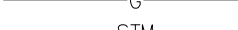
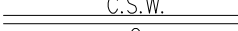
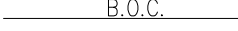
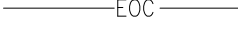
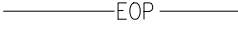
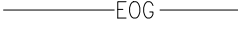
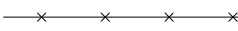
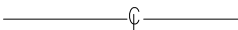
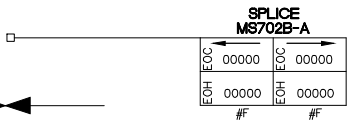
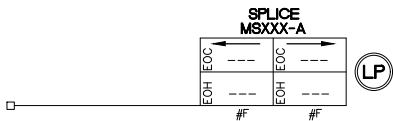
TELEPHONE LINE

WATER LINE

UNDERGROUND  
ELECTRIC

SUBSURFACE DRAIN TILE

OVERHEAD ELEC.



ROUTE MARKERS

POLE

POLE W/ANCHOR

TILE INTAKE

MILE POST MARKER

CULVERT

BRIDGE

TREE & VEGETATION

STREET SIGN

FIRE HYDRANT

STREET LIGHT

MANHOLES

12+34

ICN MKR



REMOVE & REPLACE

FLOW LINE

CUT & REPLACE

DITCH LINE

UTILITY PEDESTAL

WATER METER

GAS METER

GAS MARKER

TELEPHONE MARKER

R/W MARKER

DRAIN

RAILROAD SIGNAL/SIGN

R/R

F/L

C/R

D/L



GROUND

GROUND ROD

MAILBOX



ICN CABLE SEQUENCE NUMBER

(SEQ.#12345)

SECTION MARKER



UNIQUE SYMBOLS FOR THIS PROJECT

EXISTING

PROPOSED

DESCRIPTIONS

		ICN Bored Conduit
		Existing Conduit
		ICN Handhole
		Misc. Existing Handhole
		Locate Point
		Utility Pole
		Riser

ABBREVIATIONS

ICN	Iowa Communications Network
NEC	National Electric Code
TCP	Traffic Control Plan
ROW	Right of Way
HH	Handhole
DOT	Department of Transportation
NTS	Not to Scale
EOP	Edge of Pavement
BOC	Back of Curb



NOTE: THE PLAN LOCATIONS OF UNDERGROUND AND AERIAL UTILITIES, WHEN SHOWN, ARE APPROXIMATE ONLY. IN ADDITION, A PORTION OF UTILITY INFORMATION MAY NOT HAVE BEEN PROVIDED. ALL UTILITIES SHALL BE LOCATED AND MARKED PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTRACTING UTILITIES AND LOCATOR SERVICES AND SCHEDULING THE LOCATION OF UNDERGROUND UTILITIES. THE CONTRACTOR SHALL ALSO CONTACT ANY AND ALL UTILITIES AND LOCAL GOVERNMENT AGENCIES NOT PARTICIPATING IN LOCATION SERVICES.

LEGEND AND SYMBOL INFORMATION SHEET



IOWA COMMUNICATIONS NETWORK

GRIMES STATE OFFICE BUILDING  
400 EAST 14TH STREET  
DES MOINES, IOWA 50319  
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MARSHALLTOWN PD & FIRE PHASE 2

MARSHALLTOWN IOWA

OSP LOG# 64190305

SHEET A.02

SCALE: NONE

SIZE: 11 x 17

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1	PRELIMINARY	04-02-19			
2	FINAL	04-15-19			

ESTIMATE OF QUANTITIES				
Item No.	Item	Unit	Planned Total	As-Built Total
1	TRAFFIC CONTROL	LS	1	
2	MOBILIZATION	LS	1	
3	INSTALL HANDHOLE, 24" x 36" x 36"	EACH	13	
4	2" CONDUIT, BORED	LINEAR FT	14,820	
5	48 SM ARMORED FIBER (TOTAL)	LINEAR FT	16,920	
-	48 SM ARMORED FIBER (RUNNING LINE)	LINEAR FT	14,820	
-	48 SM ARMORED FIBER (COIL)	LINEAR FT	2,100	
6	ICN WARNING MARKERS*	EACH	4	
7	TYCO 450B SPLICE CLOSURE	EACH	1	
8	TRI-VIEW LOCATE STATION	EACH	1	

\* NOTE: TWO ICN WARNING MARKERS ARE SHOWN ON PLANS AND TWO OTHER LOCATIONS ARE TBD. COORDINATE WITH ICN.

LISTING OF CONDUIT & FIBER WORK					
Conduit Run	Location		Length	2" Conduit, Bored	48 SM Armored Fiber, Underground
	From	To			
1A	HH 1-1E	HH 1-2	599	599	599
1B	HH 1-2	HH 3-1	1158	1158	1158
3A	HH 3-1	HH 4-1	772	772	772
4A	HH 4-1	HH 5-1	877	877	877
5A	HH 5-1	HH6-1	688	688	688
6A	HH 6-1	HH 7-1	981	981	981
7A	HH 7-1	HH 8-1	745	745	745
8A	HH 8-1	HH 10-1	1235	1235	1235
10A	HH 10-1	HH 12-1	1448	1448	1448
12A	HH 12-1	HH 13-1	1124	1124	1124
13A	HH 13-1	HH 15-1	1158	1158	1158
15A	HH 15-1	HH 16-1	1491	1491	1491
16A	HH 16-1	HH 18-1	1311	1311	1311
18A	HH 18-1	HH 19-1E	1233	1233	1233
Totals			14820		14820

\*NOTE: This table shows approximate lengths in conduit only and does not include any coils or slack for fiber cables, tracer wire, pull rope, etc. Contractor shall verify necessary quantities including coils.

LISTING OF HANDHOLE WORK				
Handhole Label	Handhole Type	Route	Station	48 SM Armored Fiber Coil
HH 1-1E	EXISTING	S.Center Street	0+00	75
HH 1-2	24" x 36" x 36"	S.Center Street	5+99	150
HH 3-1	24" x 36" x 36"	S.Center Street	17+57	150
HH 4-1	24" x 36" x 36"	S.Center Street	25+29	150
HH 5-1	24" x 36" x 36"	S.Center Street	34+06	150
HH 6-1	24" x 36" x 36"	S.Center Street	40+94	150
HH 7-1	24" x 36" x 36"	S.Center Street	50+75	150
HH 8-1	24" x 36" x 36"	S.Center Street	58+20	150
HH 10-1	24" x 36" x 36"	S.Center Street	70+55	150
HH 12-1	24" x 36" x 36"	S.Center Street	85+03	150
HH 13-1	24" x 36" x 36"	S.Center Street	96+27	150
HH 15-1	24" x 36" x 36"	E. Olive Street	107+85	150
HH 16-1	24" x 36" x 36"	E. Olive Street	122+76	150
HH 18-1	24" x 36" x 36"	S. 6th Street	135+87	150
HH 19-1E	EXISTING	S. 6th Street	148+20	75
Totals				2100

ESTIMATE OF QUANTITIES AND LISTING OF WORK



GENERAL NOTES	
MISC.	
1.	AERIAL PHOTOGRAPHY SHOWN ON PLANS IS FOR REFERENCE ONLY AND MAY NOT MATCH EXISTING CONDITIONS.
2.	ALL EXISTING IOWA COMMUNICATIONS NETWORK FIBER SHALL BE KEPT IN OPERATION. CONTRACTOR SHALL MAINTAIN AND PROTECT ALL EXISTING COMMUNICATION CABLES DURING CONSTRUCTION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
3.	THE RIGHT-OF-WAY, WHERE SHOWN ON PLANS, IS APPROXIMATE ONLY. RIGHT-OF-WAY SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
UTILITIES	
4.	THE PLAN LOCATIONS OF UNDERGROUND AND AERIAL UTILITIES, WHEN SHOWN, ARE APPROXIMATE ONLY. IN ADDITION, A PORTION OF UTILITY INFORMATION MAY NOT HAVE BEEN PROVIDED, ALL UTILITIES SHALL BE LOCATED AND MARKED PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING UTILITIES AND LOCATOR SERVICES AND SCHEDULING THE LOCATION OF UNDERGROUND UTILITIES. THE CONTRACTOR SHALL ALSO CONTACT ANY AND ALL UTILITIES AND LOCAL GOVERNMENT AGENCIES NOT PARTICIPATING IN LOCATION SERVICES.
5.	THE CONTRACTOR SHALL NOT DISTURB ANY EXISTING UTILITIES EXCEPT AS SPECIFICALLY DEFINED WITHIN THE SCOPE OF WORK FOR THIS CONTRACT. WHERE WORK AFFECTS OR IS AFFECTED BY THE EXISTING UTILITIES, THE WORK SHALL BE COORDINATED WITH THE UTILITY COMPANY AND/OR OWNER. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH IOWA COMMUNICATIONS NETWORK.
6.	UTILITY COMPANIES WHOSE FACILITIES ARE SHOWN ON THE PLANS OR KNOWN TO BE WITHIN THE CONSTRUCTION LIMITS SHALL BE NOTIFIED BY THE CONTRACTOR OF THE STARTING CONSTRUCTION DATE.
CONDUIT	
7.	THE CONTRACTOR SHALL BORE ALL CROSSINGS BENEATH ROADWAYS, STREETS, OTHER PAVED SURFACES, RAILROAD, WATER WAYS, OR OTHER STRUCTURE. DEPTH OF ALL BORES SHALL BE A MINIMUM OF 48 INCHES UNLESS OTHERWISE SPECIFIED IN PLANS. IF UNABLE TO TO MAINTAIN 48" DEPTH, CONTACT ICN FOR INSTRUCTIONS. DOCUMENT DEPTH AND DEVIATION ON CONTRACTOR REDLINES.
8.	ALL CONDUIT SHALL BE 2 INCH HDPE CONDUIT.
9.	ENTER ALL HANDHOLES, BOTH NEW AND EXISTING FROM THE BOTTOM.
10.	THE MINIMUM BENDING RADIUS OF HDPE CONDUIT SHALL BE THE CONDUIT MANUFACTURER'S RECOMMENDATIONS FOR MINIMUM BENDING RADIUS.
11.	PLUG CONDUITS IMMEDIATELY AFTER INSTALLATION WITH DUCT SEAL OR EXPANSION FOAM.
CONSTRUCTION	
12.	ANY AND ALL IMPROVEMENTS SUCH AS ASPHALT OR CONCRETE PAVEMENTS, CURBS, GUTTERS, WALKS, DRAINAGE DITCHES, CULVERTS, DRAIN TILES, EMBANKMENTS, SHRUBS, TREES, GRASS, SOD, ETC., IF DAMAGED, SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITIONS (OR BETTER) AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST TO THE IOWA COMMUNICATIONS NETWORK.
13.	IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR ANY EXISTING CONDUIT, CONDUCTORS, OR OTHER FACILITIES DAMAGED DURING CONSTRUCTION. ALL EXISTING INFRASTRUCTURE REMOVED OR DAMAGED BY THE CONTRACTOR SHALL BE REPLACED IN KIND BY THE CONTRACTOR, WITH NO ADDITIONAL COMPENSATION.
14.	MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF ALL APPLICABLE SECTIONS INCLUDING BUT NOT LIMITED TO ARTICLES 2523 AND 2525, OF THE "IOWA DEPARTMENT OF TRANSPORTATION ENGLISH STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2015" PLUS CURRENT SUPPLEMENT SPECIFICATIONS AND SPECIAL PROVISIONS.
15.	THE CONTRACTOR SHALL NOT DISTURB DESIRABLE GRASS AREAS AND DESIRABLE TREES OUTSIDE THE CONSTRUCTION LIMITS. THE CONTRACTOR WILL NOT BE PERMITTED TO PARK OR SERVICE VEHICLES AND EQUIPMENT OR USE THESE AREAS FOR STORAGE OF MATERIALS. STORAGE, PARKING AND SERVICE AREA(S) WILL BE SUBJECT TO THE APPROVAL OF THE RESIDENT CONSTRUCTION ENGINEER.

GENERAL NOTES	
CONSTRUCTION (CONTINUED)	
16.	THE TOP SIX (6) INCHES OF THE DISTURBED AREAS SHALL BE FREE OF ROCK AND DEBRIS AND SHALL BE FOR THE ESTABLISHMENT OF VEGETATION, SUBJECT TO THE APPROVAL OF THE ENGINEER.
17.	THE CONTRACTOR IS EXPECTED TO HAVE MATERIALS, EQUIPMENT, AND LABOR AVAILABLE ON A DAILY BASIS TO INSTALL AND MAINTAIN EROSION CONTROL FEATURES ON THE PROJECT. THIS MAY INVOLVE SEEDING, SILT FENCE, ROCK DITCH CHECKS, SILT BASINS, OR SILT DIKES.
18.	NO OPEN HOLES OR MOUNDS OF DIRT SHALL BE LEFT UNPROTECTED DURING NON-WORKING HOURS.
FIBER	
19.	CONTRACTOR SHALL PLACE TAGS ON ALL FIBER OPTIC CABLE IDENTIFYING THE OWNER AND DIRECTION OF THE CABLE AT EACH TERMINATION POINT AND IN EVERY HANDHOLE AND SPlice VAULT. TAGS SHALL CLEARLY IDENTIFY WHERE EACH INDIVIDUAL CABLE RUN ORIGINATED AND WHERE IT ENDS (HANDHOLE TO HANDHOLE, HANDHOLE TO CABINET, HANDHOLE TO BUILDING, ETC.) FOR FIBER INSTALLATIONS WITH JOINT DEPARTMENT OF TRANSPORTATION/OTHER AGENCY (OR ENTITY) USE WHERE THE FIBER WILL BE OWNED BY THE OTHER AGENCY (OR ENTITY), INSTALL TYPICAL IDENTIFIERS AND/OR MARKINGS FOR THAT FIBER. COORDINATE FINAL MARKER LOCATIONS WITH ICN.
20.	IN THE EVENT IT IS SUSPECTED THAT CABLE DAMAGE HAS OCCURRED PRIOR TO FINAL ACCEPTANCE, CONTRACTOR SHALL PERFORM OTDR TESTING OF ALL FIBER STRANDS WITHIN SEVENTY TWO (72) HOURS AFTER NOTIFICATION AND SUBMIT A COPY OF THE OTDR TEST TO THE ENGINEER UPON COMPLETION.
21.	CONTRACTOR SHALL REPLACE OR REPAIR, AS DIRECTED BY THE ENGINEER, ANY DAMAGE OCCURRING BEFORE FINAL ACCEPTANCE AT NO ADDITIONAL COST TO THE IOWA COMMUNICATIONS NETWORK. THE CONTRACTOR WILL NOT BE GRANTED AN EXTENSION OF TIME FOR DELAYS CAUSED BY REPLACING OR REPAIRING THE INSTALLED CABLE.
22.	CONTRACTOR SHALL REPAIR OR REPLACE ANY DEFECT IN THE INSTALLED CABLE AT NO ADDITIONAL COST TO THE IOWA COMMUNICATIONS NETWORK. CONSIDER A DEFECT TO BE ANY CONDITION RESULTING IN A NEGATIVE OR ADVERSE EFFECT ON CURRENT OR FUTURE OPERATIONS OF THE COMPLETED FIBER OPTIC COMMUNICATION SYSTEM AS DETERMINED BY THE ENGINEER.
23.	ANY EXISTING WIRING THAT IS DAMAGED DURING FIBER OPTIC CABLE INSTALLTION SHALL BE REPLACED OR REPAIRED, AS DIRECTED BY THE ENGINEER, AT NO ADDITIONAL COST TO THE IOWA COMMUNICATIONS NETWORK.
24.	CONTRACTOR SHALL INSTALL WARNING TAPE OVER ALL PLOWED CONDUIT AND DIRECT BURIED FIBER CABLES.
25.	THERE SHALL BE 4 MARKERS PLACED. MARKERS WILL BE PLACED IN COORDINATION WITH ICN. ICN WILL WORK WITH THE CONTRACTOR TO DETERMINE THE EXACT LOCATION OF THE MARKERS. MARKERS SHALL NOT BE PLACED WITHOUT COORDINATION WITH ICN.
26.	A COPY OF THIS CONSTRUCTION PLAN AND THE SCOPE OF WORK SHALL BE ON SITE AND AVAILABLE TO THOSE ACTUALLY PERFORMING THE INSTALLATION AT ALL TIMES WORK IS UNDERWAY. FAILURE TO OBSERVE THIS REQUIREMENT MAY RESULT IN WORK BEING STOPPED UNTIL THE DOCUMENTS ARE AVAILABLE.
ICN STANDARDS:	
CONTRACTOR SHALL ADHERE TO ICN STANDARD INSTALLATION DRAWING TYPICALS, PROJECT DETAILS, AND STANDARDS WITHIN THE SCOPE OF WORK BID DOCUMENT.	
LOCATE FACILITIES (THE CONDUIT/CABLE INSTALLATION CONTRACTOR IS RESPONSIBLE FOR PLACEMENT OF ALL LOCATE FACILITIES AND WIRES IN PREPARATION FOR THE SPLICING CONTRACTOR) 1. THE METALLIC SHIELD OF THE ARMORED CABLE SHALL BE USED AS THE LOCATE WIRE.	

GENERAL NOTES



UTILITY CONTACTS				
Company	Name	Street	City, State, Zip	Phone
CITY OF MARSHALLTOWN	Brad Bateman	205 E. STATE ST.	MARSHALLTOWN, IA 50158	641-754-5734
ALLIANT ENERGY	PATRICIA SCHMITT	1911 E. ANSON ST.	MARSHALLTOWN, IA 50158	319-786-4239
CITY OF MARSHALLTOWN PUBLIC WORKS	JUSTIN NICKEL	36 N. CENTER STREET	MARSHALLTOWN, IA 50158	641-754-5734

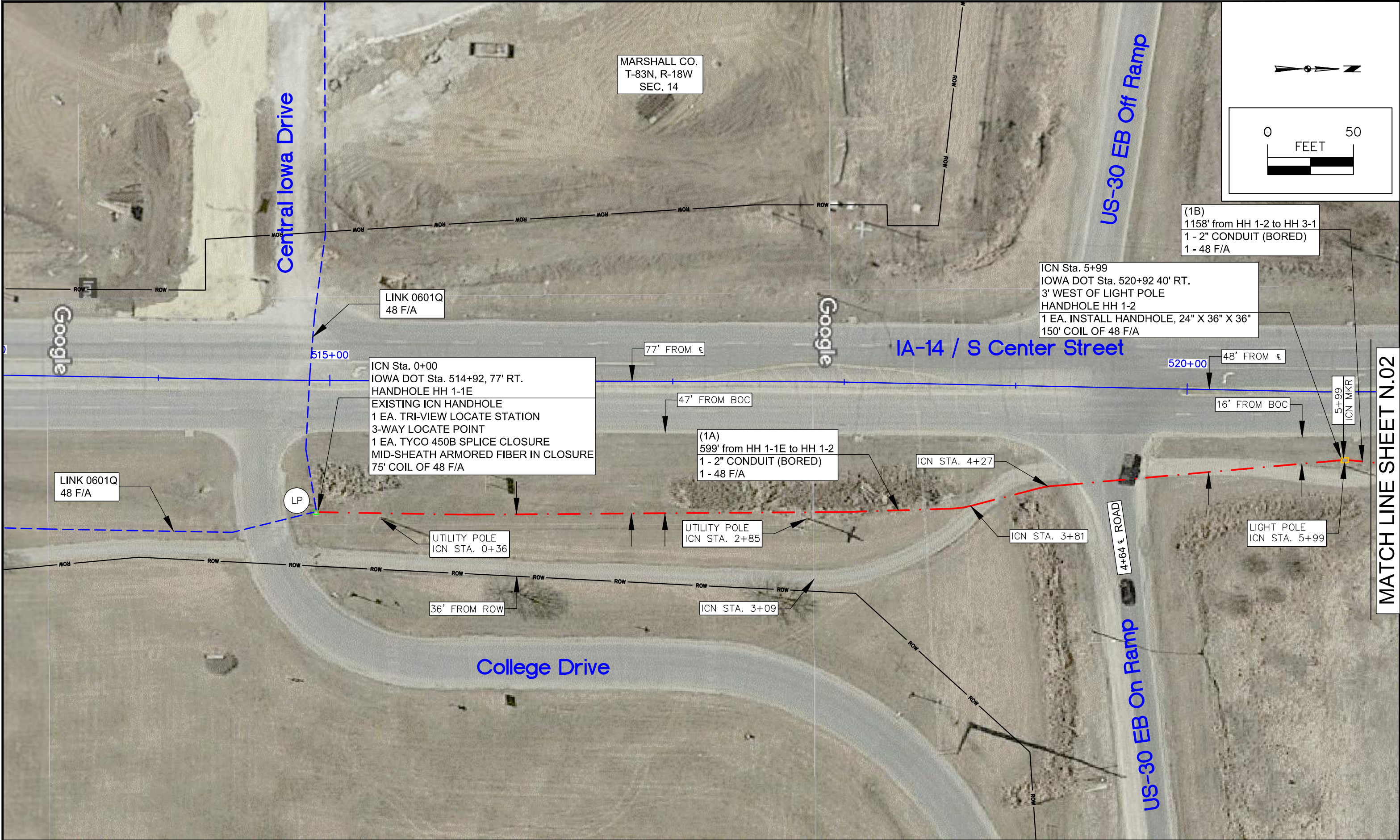
PERMIT CONTACTS						
Entity	Permit Notes	Contact Name	Street	City, State, Zip	Phone	Email Address
CITY OF MARSHALLTOWN	CITY OF MARSHALLTOWN DOES NOT REQUIRE A PERMIT. REQUESTED 90% PLANS SENT TO THE CITY FOR ROUTE REVIEW	BRAD BATEMAN	205 E. STATE ST.	MARSHALLTOWN, IA 50158	641-754-5734	bbateman@marshalltown-ia.gov
IOWA DOT		DEANNA SMYTH-PETERS	2300 S.E. 17TH ST.	GRIMES, IA 50111	515-986-5460	deanna.smyth-peters@iowadot.us

NOTE 1: THIS LIST IS NOT ALL-INCLUSIVE. CONTRACTOR IS RESPONSIBLE TO REQUEST LOCATES OF ALL UTILITIES, AND COORDINATE IF NEEDED, PRIOR TO COMMENCING WORK. 72 HOUR ADVANCE NOTICE IS REQUIRED TO NOTIFY ALL UTILITY COMPANIES.

NOTE 2: EXISTING UTILITY CONFLICTS: ANY CHANGES TO THE PLANNED RUNNING LINE REQUIRE PRE-APPROVAL BY THE ICN AND ROW AUTHORITY HAVING JURISDICTION. THE PLAN FOR PARALLEL UTILITIES WOULD BE TO ADJUST THE RUNNING LINE BY AN APPROPRIATE OFFSET (APPROXIMATELY 2') OR CHANGE DEPTH OF THE INSTALLATION DEPENDING ON ROW AVAILABILITY.

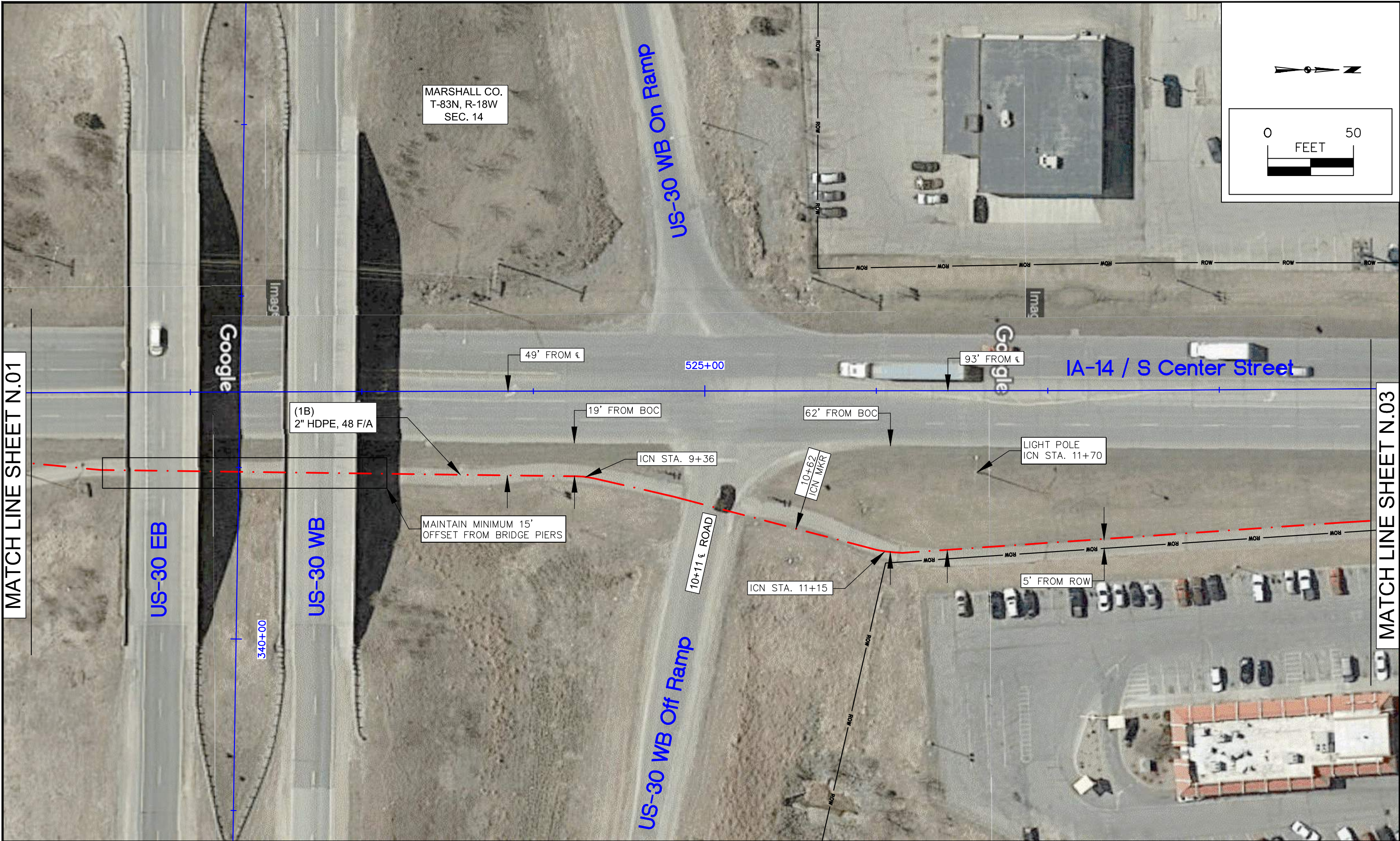
UTILITY CONTACTS





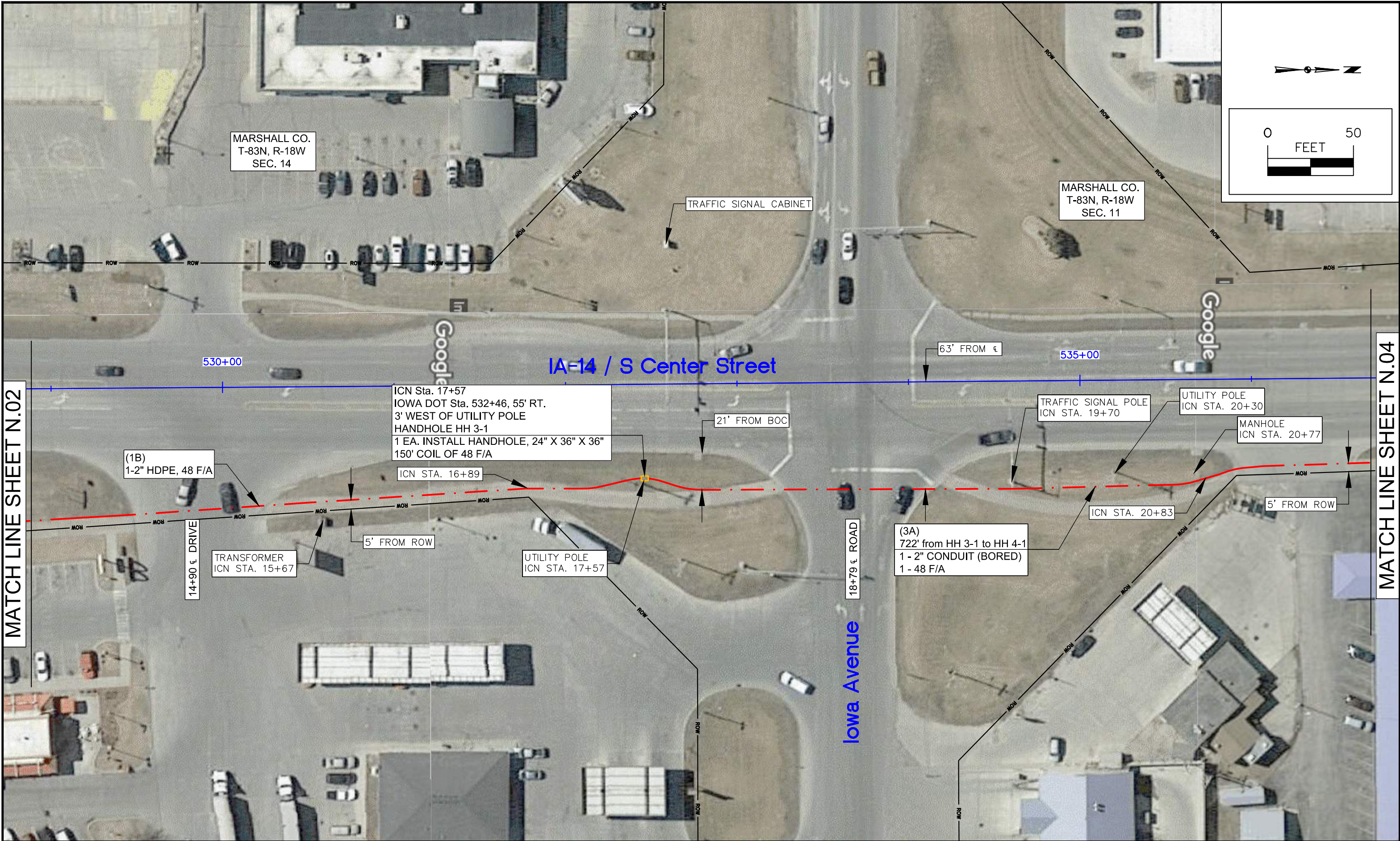


MATCH LINE SHEET N.01



MATCH LINE SHEET N.03





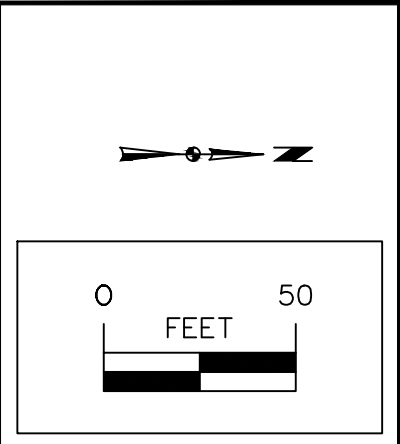
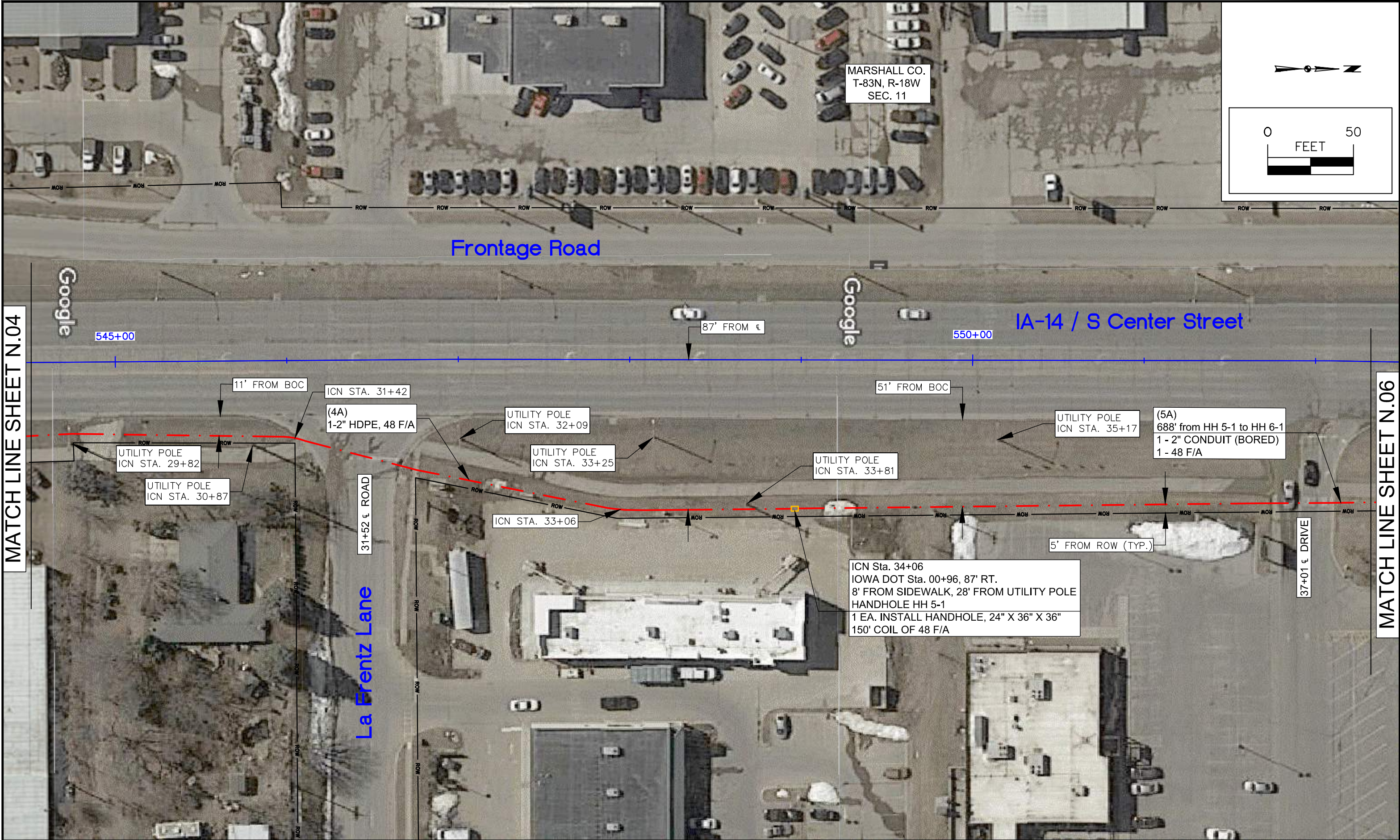
MATCH LINE SHEET N.02

MATCH LINE SHEET N.04

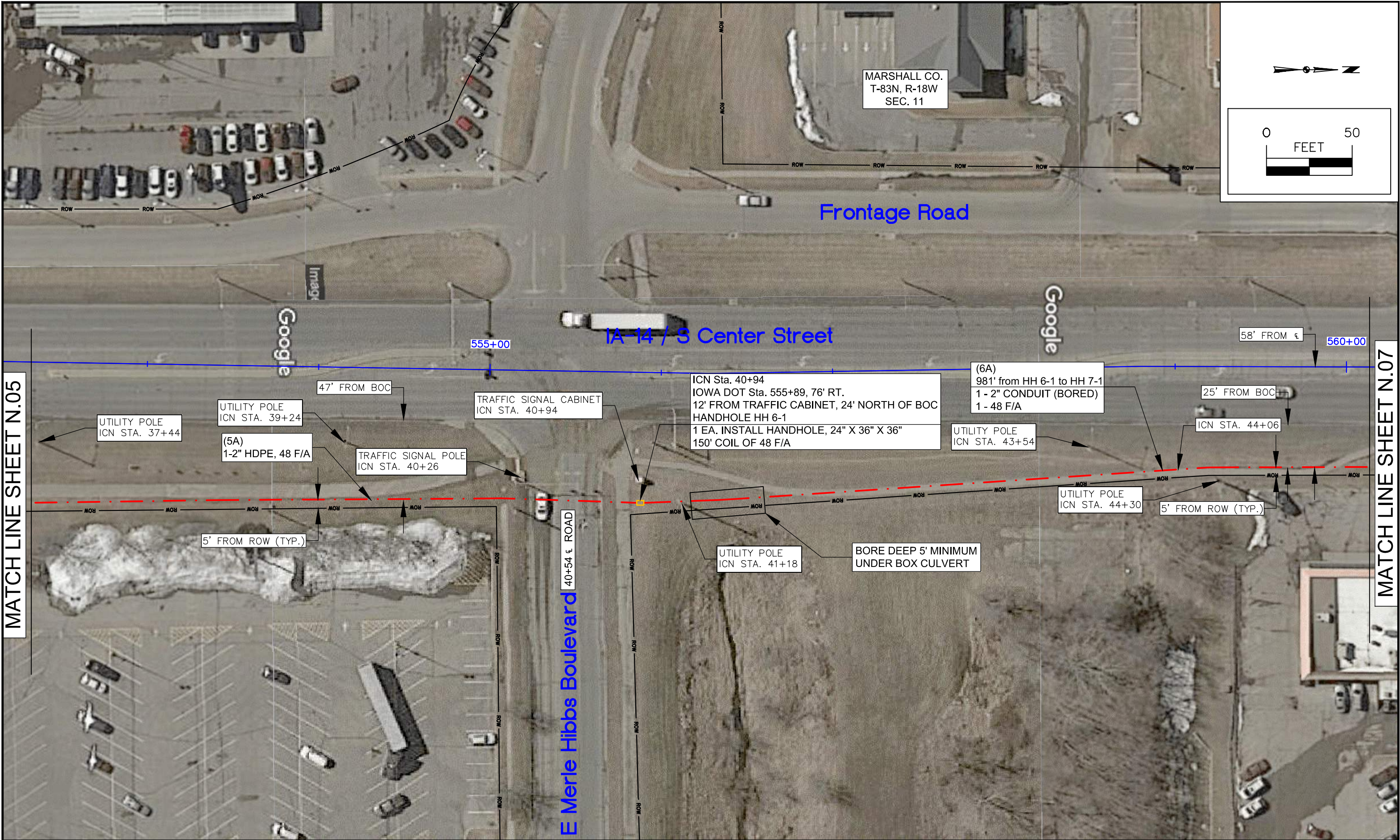








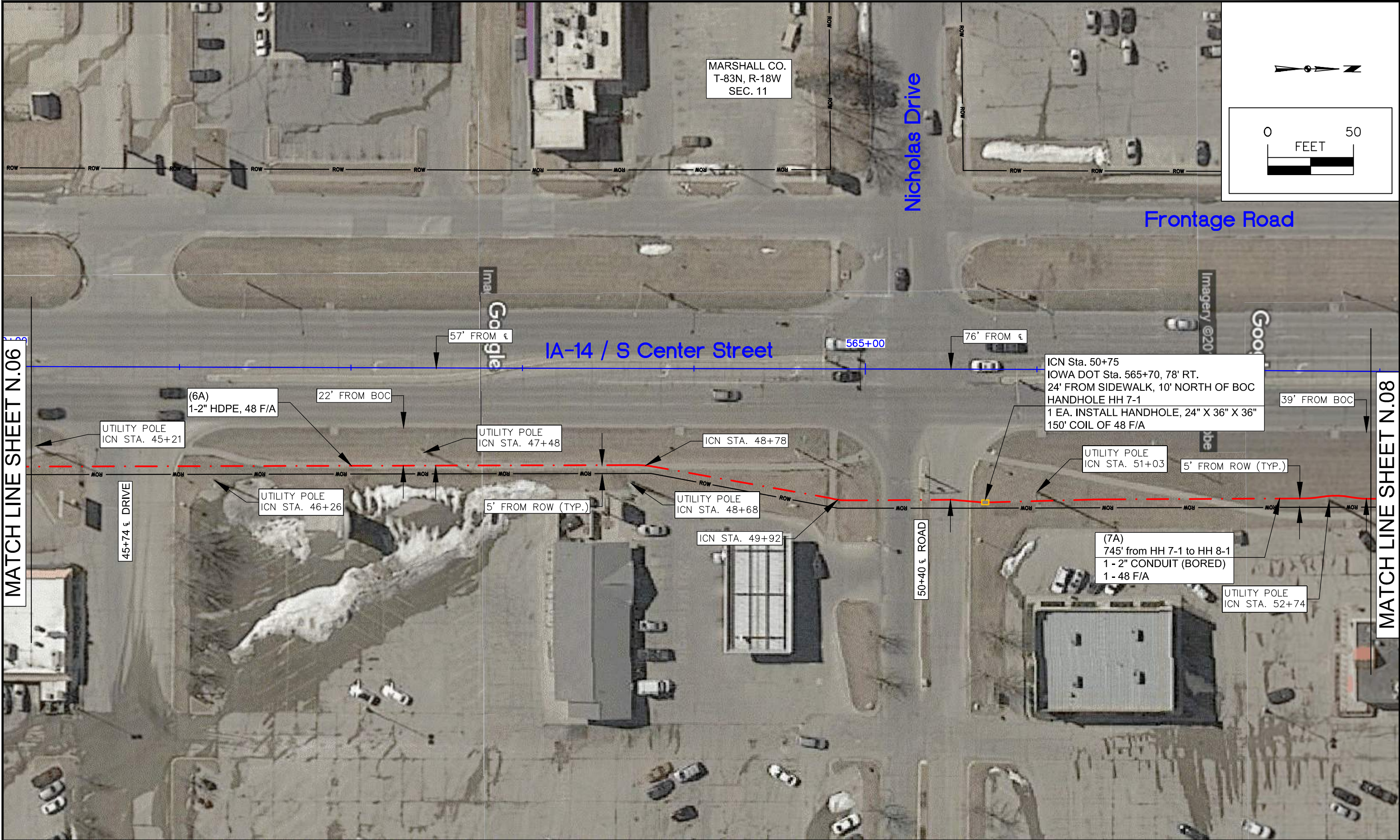




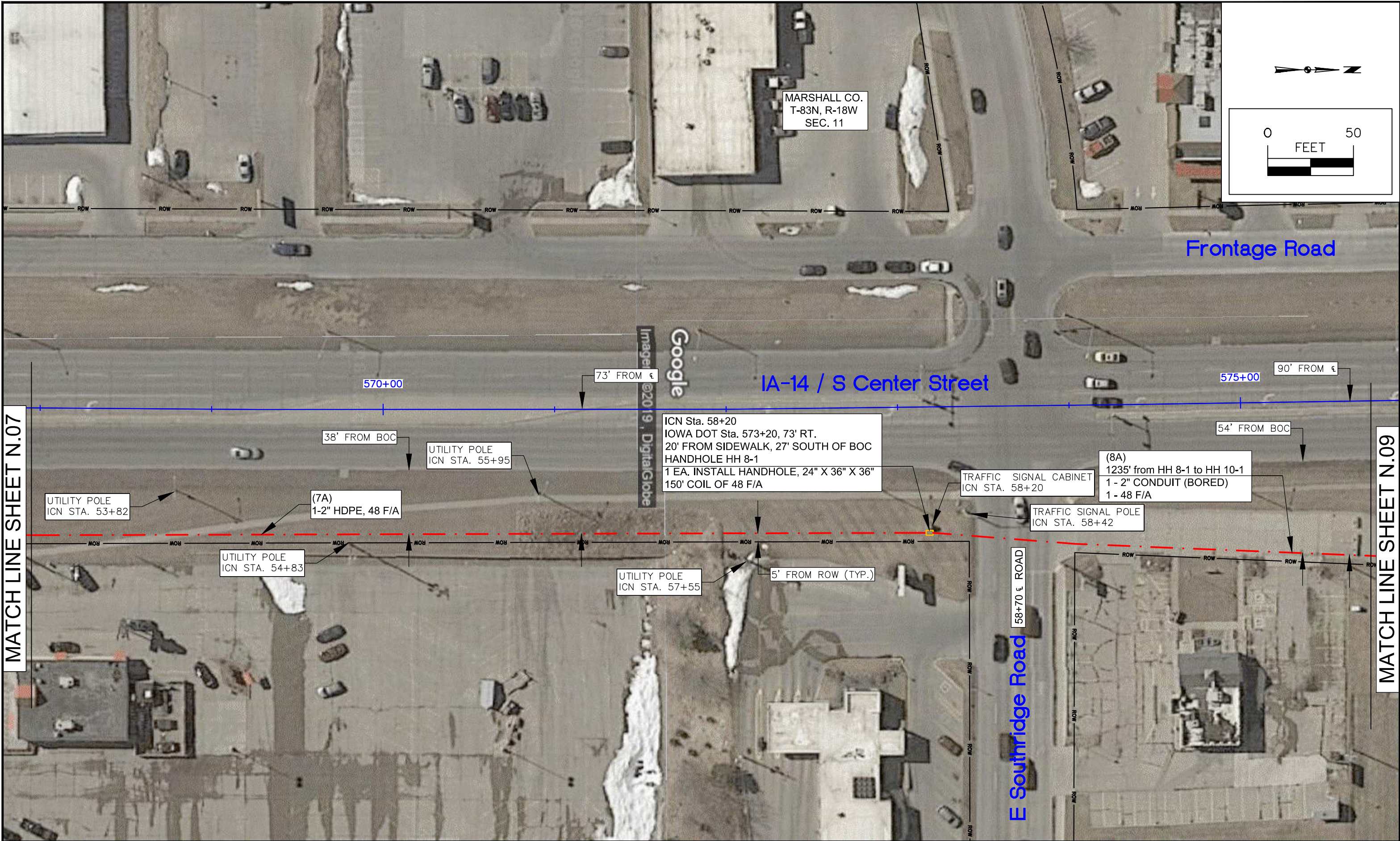
MATCH LINE SHEET N.05

MATCH LINE SHEET N.07





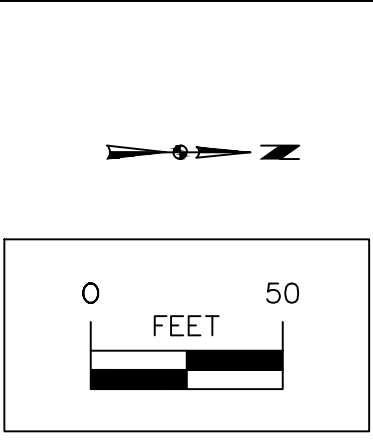
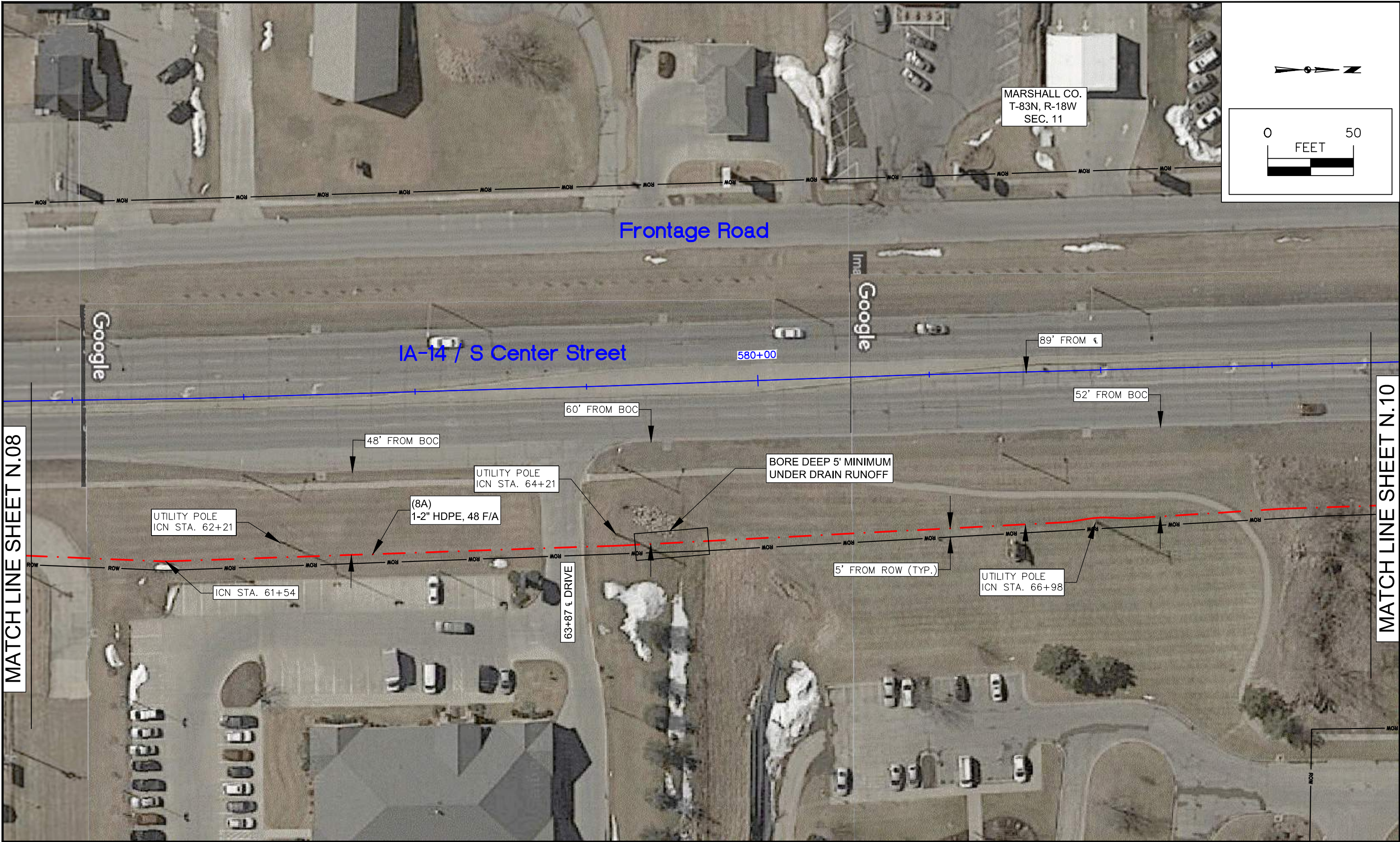




MATCH LINE SHEET N.07

MATCH LINE SHEET N.09

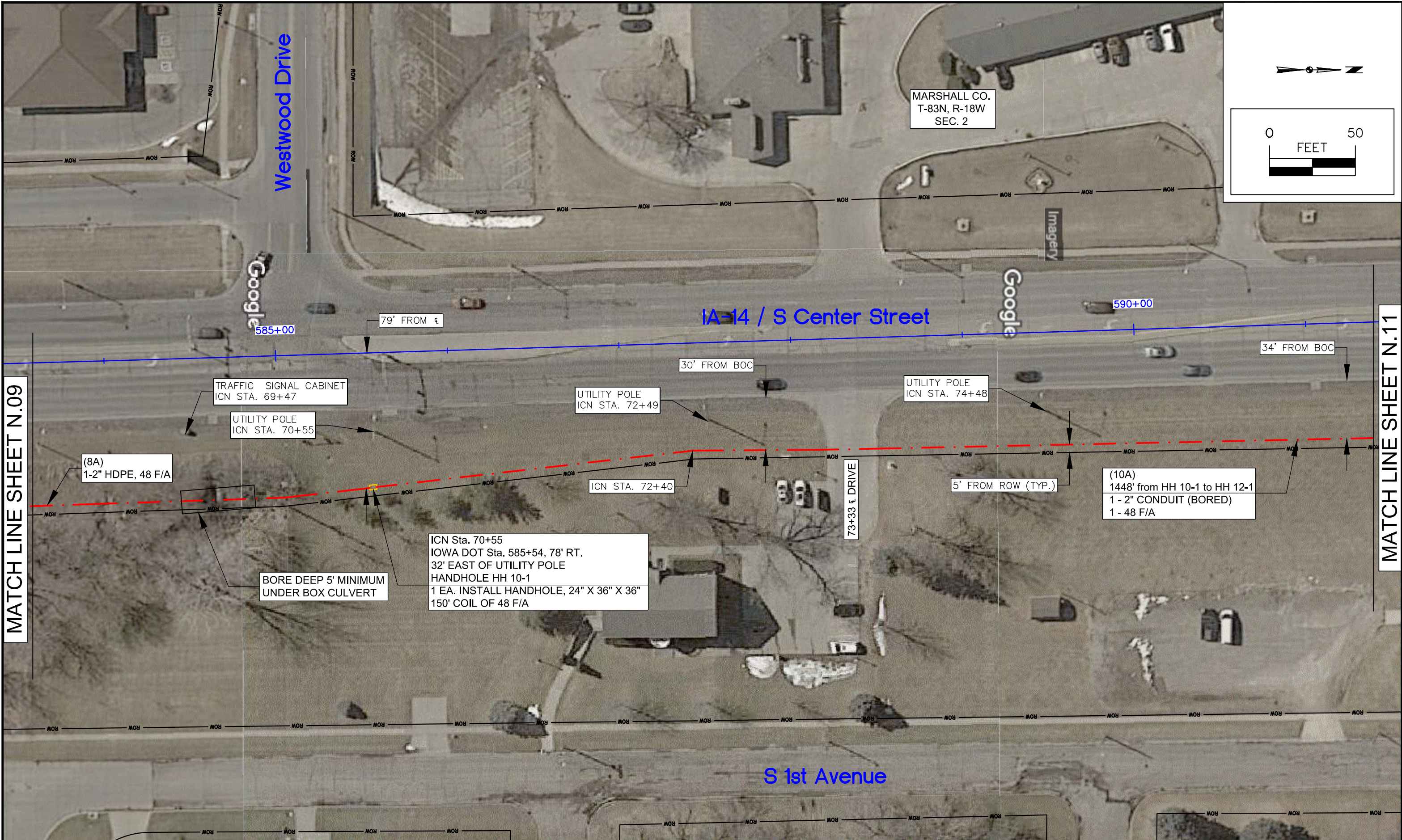




MATCH LINE SHEET N.08

MATCH LINE SHEET N.10

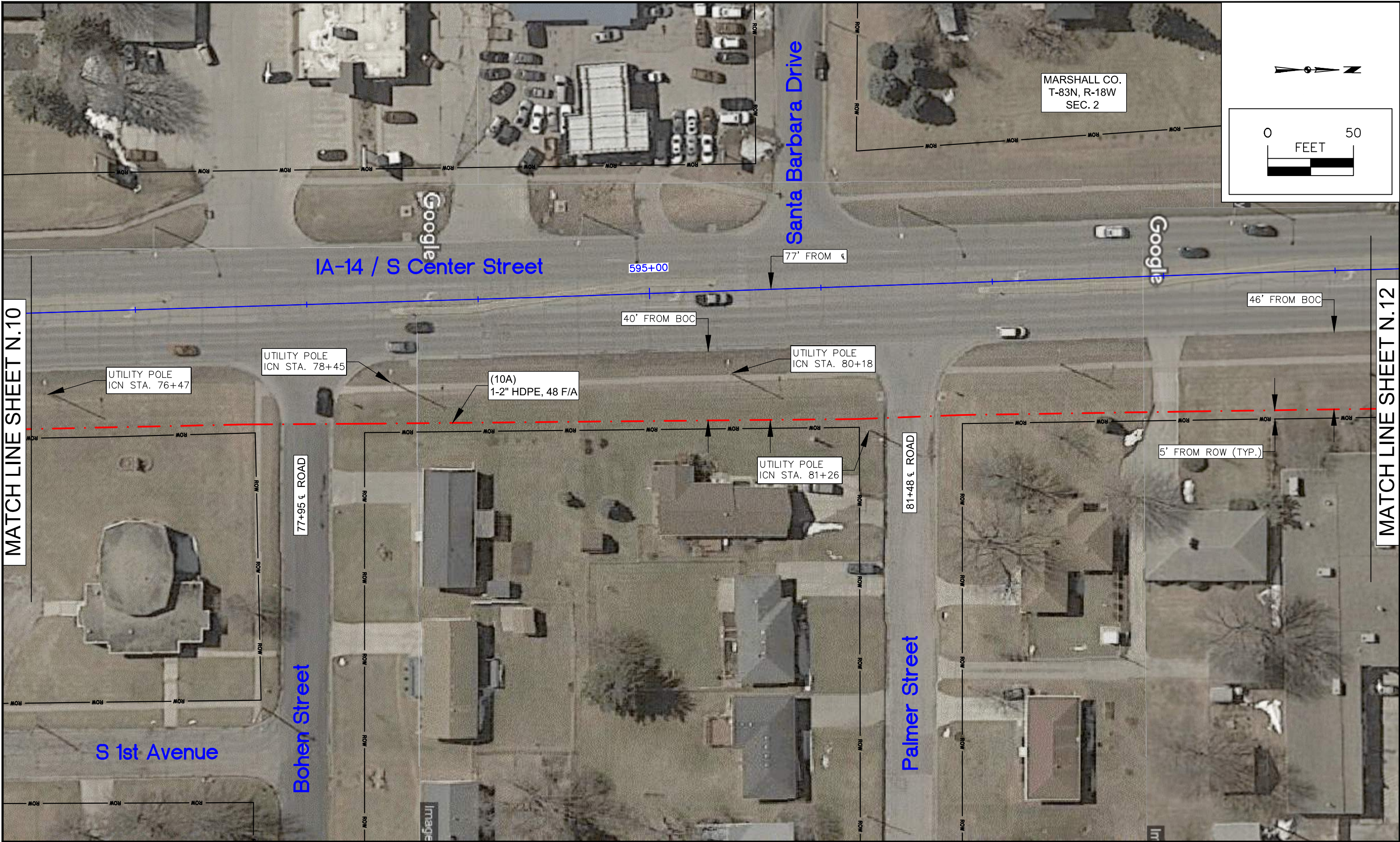




MATCH LINE SHEET N.09

MATCH LINE SHEET N.11

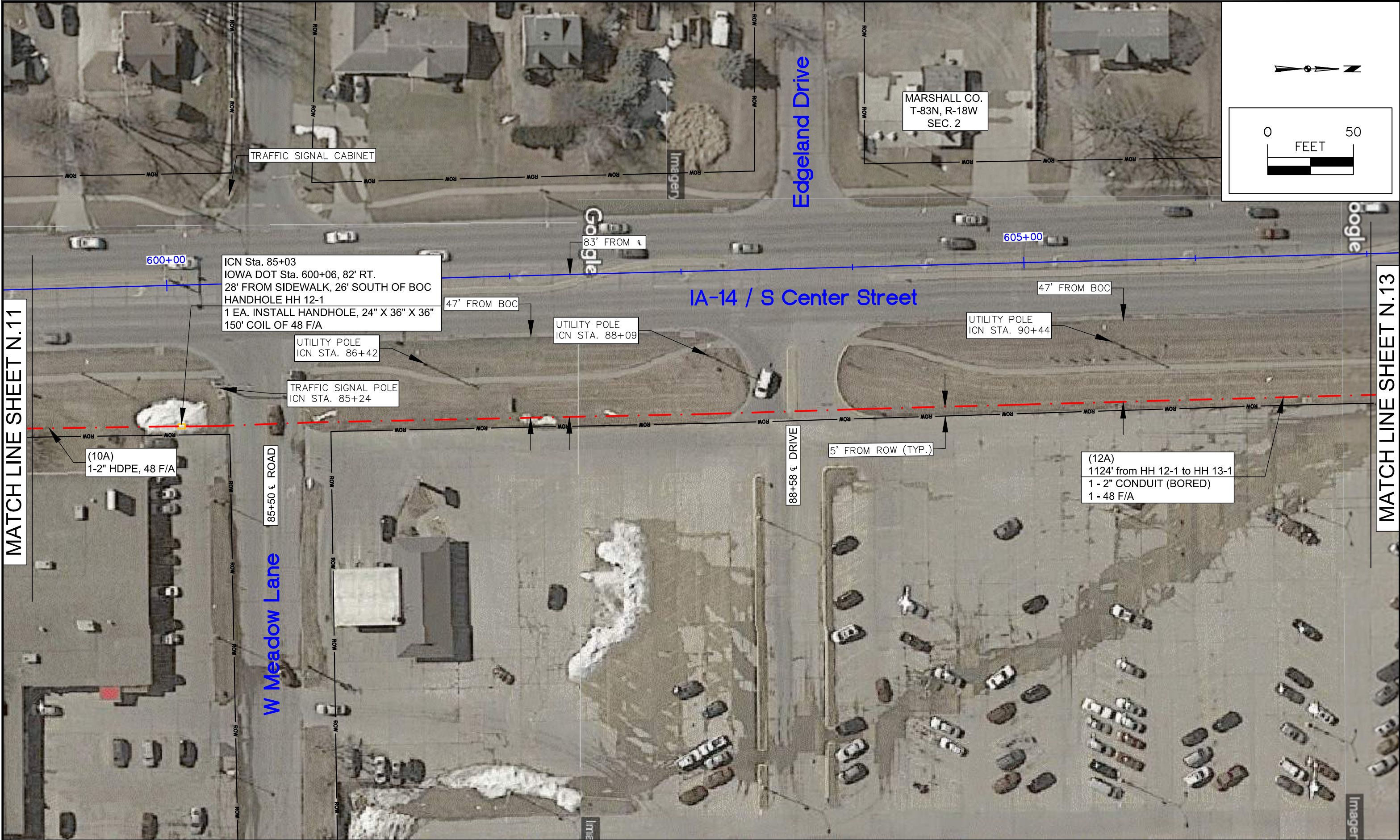




MATCH LINE SHEET N.10

MATCH LINE SHEET N.12

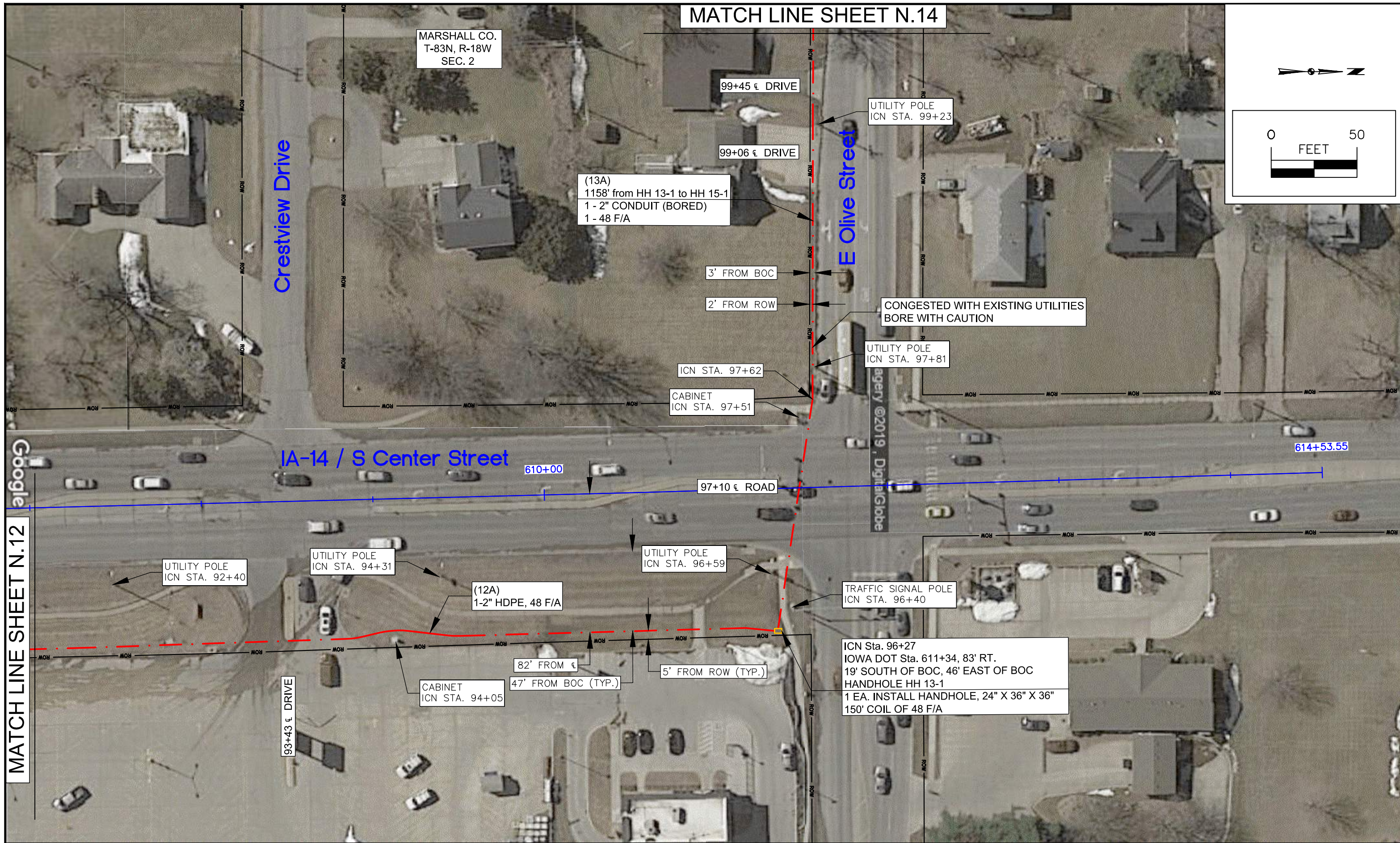




MATCH LINE SHEET N.11

MATCH LINE SHEET N.13





MATCH LINE SHEET N.14

MARSHALL CO.  
T-83N, R-18W  
SEC. 2

99+45  $\epsilon$  DRIVE

99+06  $\epsilon$  DRIVE

(13A)  
1158' from HH 13-1 to HH 15-1  
1 - 2" CONDUIT (BORED)  
1 - 48 F/A

3' FROM BOC

2' FROM ROW

ICN STA. 97+62

CABINET  
ICN STA. 97+51

UTILITY POLE  
ICN STA. 99+23

CONGESTED WITH EXISTING UTILITIES  
BORE WITH CAUTION

UTILITY POLE  
ICN STA. 97+81

Crestview Drive

E Olive Street

IA-14 / S Center Street

610+00

97+10  $\epsilon$  ROAD

614+53.55

UTILITY POLE  
ICN STA. 92+40

UTILITY POLE  
ICN STA. 94+31

(12A)  
1-2" HDPE, 48 F/A

UTILITY POLE  
ICN STA. 96+59

TRAFFIC SIGNAL POLE  
ICN STA. 96+40

ICN Sta. 96+27  
IOWA DOT Sta. 611+34, 83' RT.  
19' SOUTH OF BOC, 46' EAST OF BOC  
HANDHOLE HH 13-1  
1 EA. INSTALL HANDHOLE, 24" X 36" X 36"  
150' COIL OF 48 F/A

CABINET  
ICN STA. 94+05

82' FROM  $\epsilon$

47' FROM BOC (TYP.)

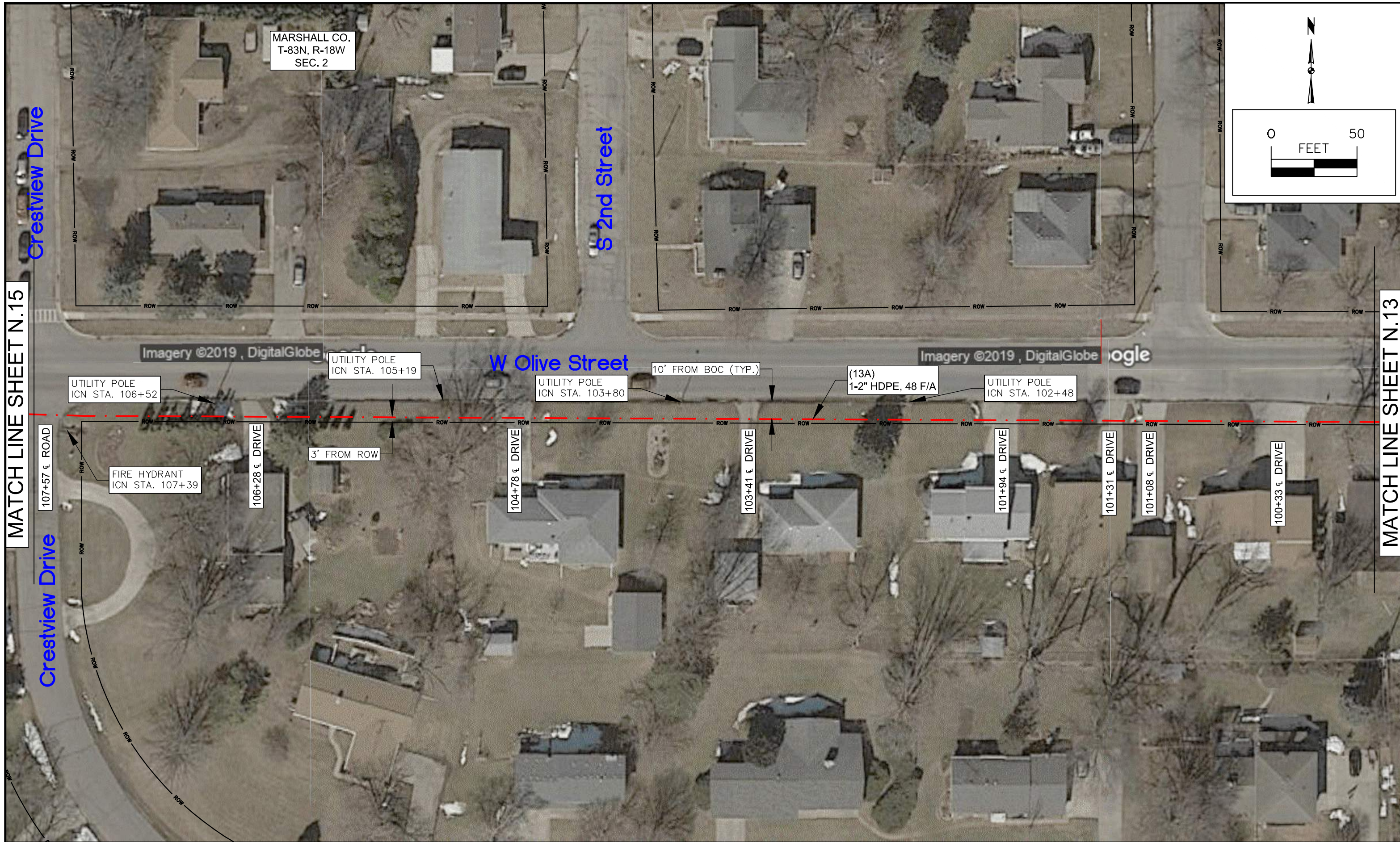
5' FROM ROW (TYP.)

93+43  $\epsilon$  DRIVE

Google

MATCH LINE SHEET N.12

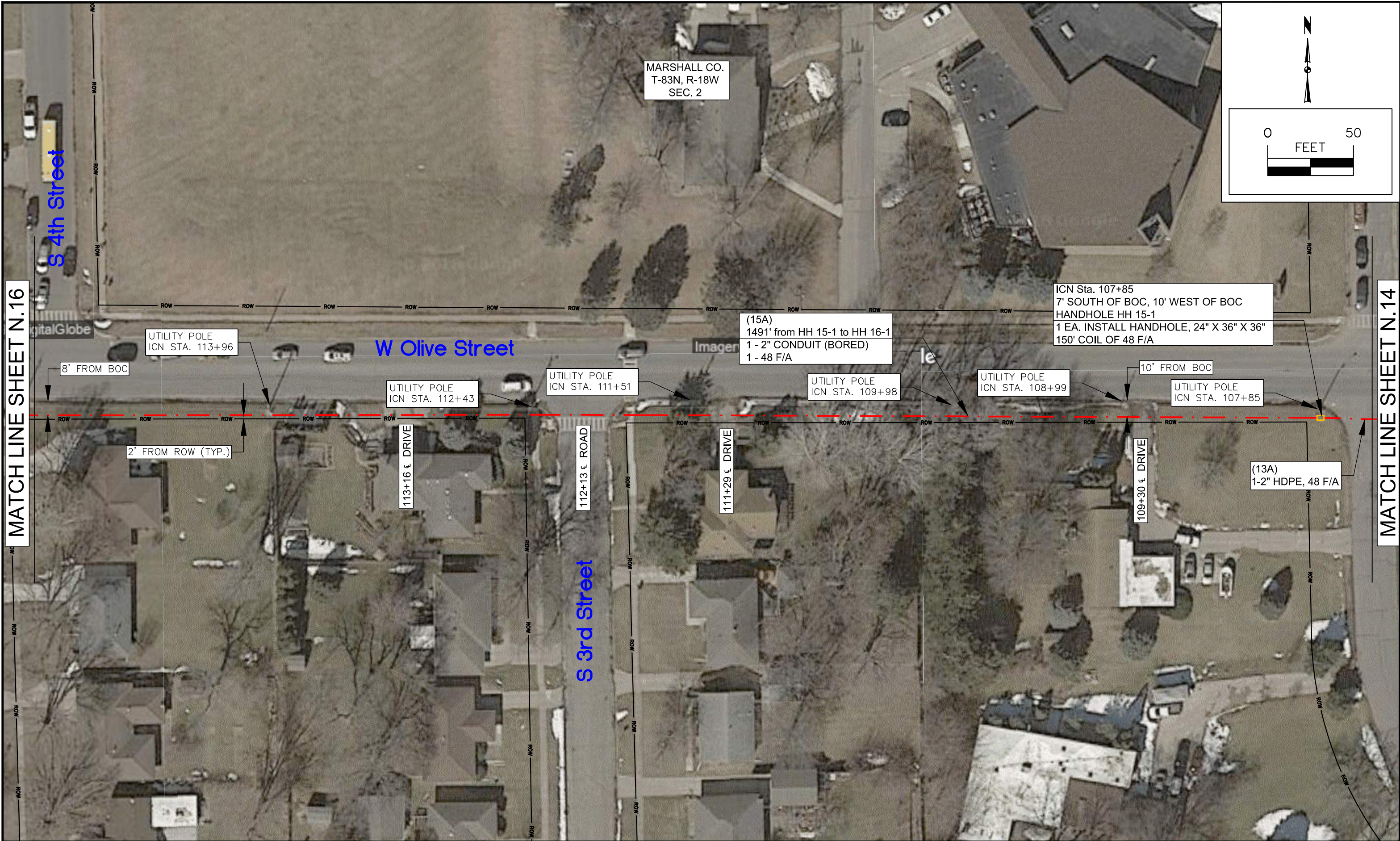




MATCH LINE SHEET N.15

MATCH LINE SHEET N.13





MATCH LINE SHEET N.16

MATCH LINE SHEET N.14



MATCH LINE SHEET N.17





**IOWA COMMUNICATIONS NETWORK**  
GRIMES STATE OFFICE BUILDING  
400 EAST 14TH STREET  
DES MOINES, IOWA 50319  
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THIS DRAWING IS PROVIDED FOR GENERAL INFORMATION ONLY AND IS NOT TO BE USED TO DETERMINE PRECISE ICN PLACEMENT. CALL ONE CALL BEFORE EXCAVATION (1-800-292-8989 OR 811)

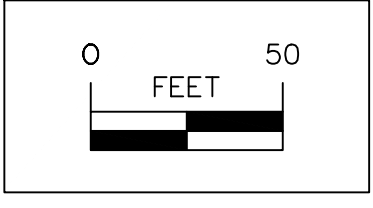
MARSHALLTOWN PD & FIRE PHASE 2  
MARSHALLTOWN IOWA  
OSP LOG# 64190305  
SHEET N.16    SCALE: 1"=50'    SIZE: 11 x 17

1	PRELIMINARY	04-02-19		
2	FINAL	04-15-19		
F:\2016\0501-1000\016-0760\40-Design\Microstation\016-0760_Marshalltown PD & Fire Ph 2\Base\Marshalltown_Design.dwg				

MATCH LINE SHEET N.15

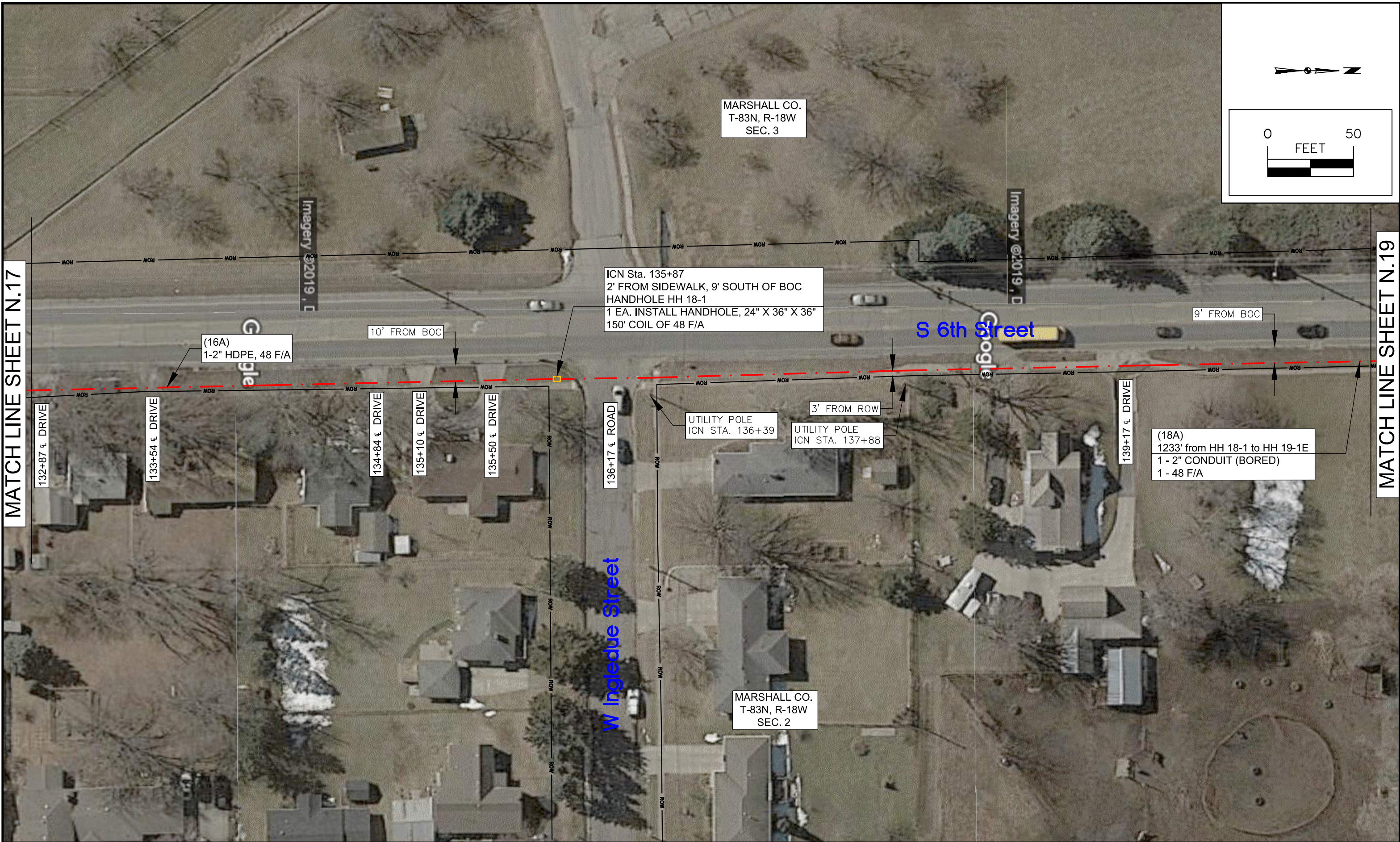


MATCH LINE SHEET N.16



MATCH LINE SHEET N.18



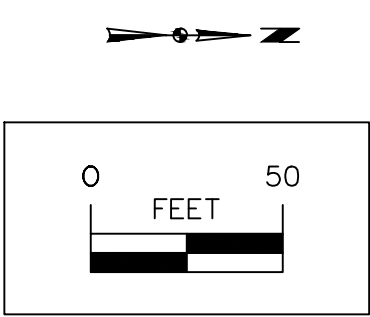


MATCH LINE SHEET N.17

MATCH LINE SHEET N.19



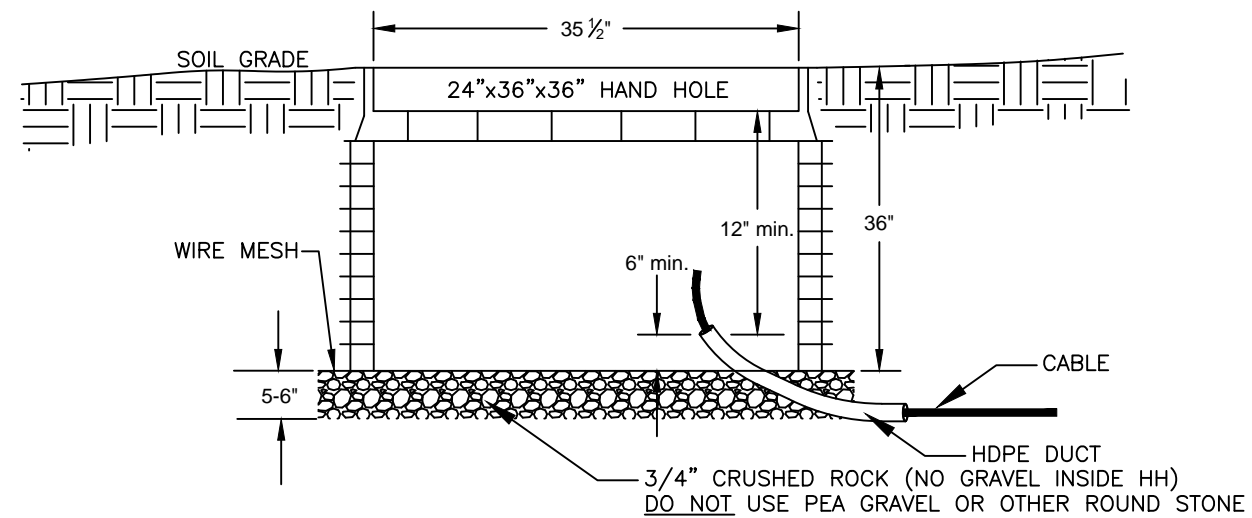
MATCH LINE SHEET N.18





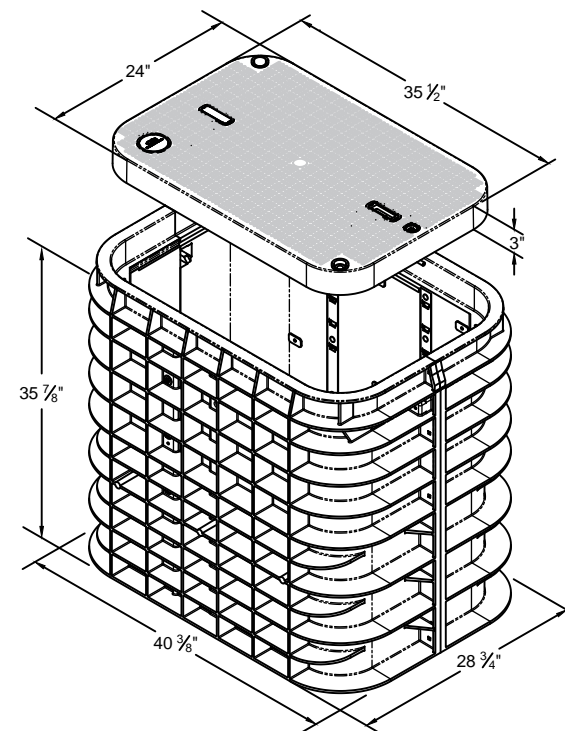
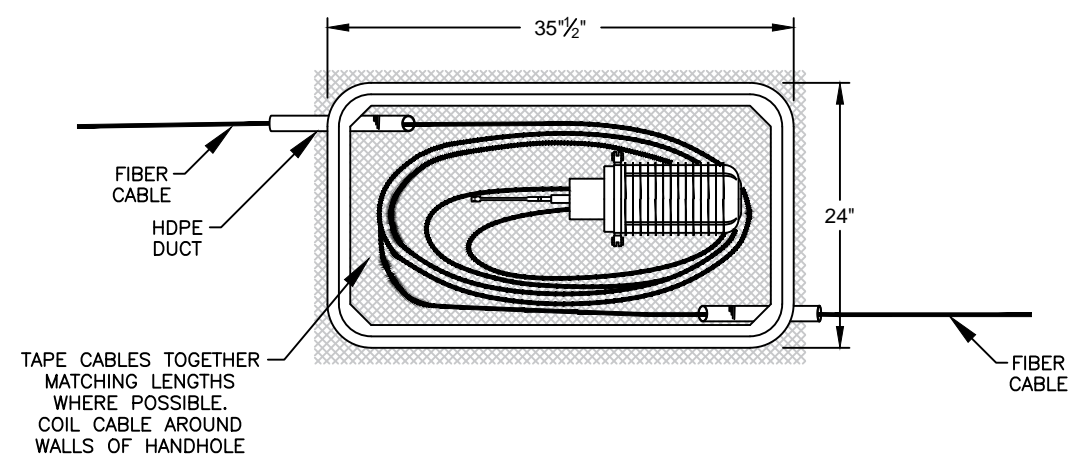
## HANDHOLE PLACEMENT TYPICAL

24" X 36" X 36" HAND HOLE

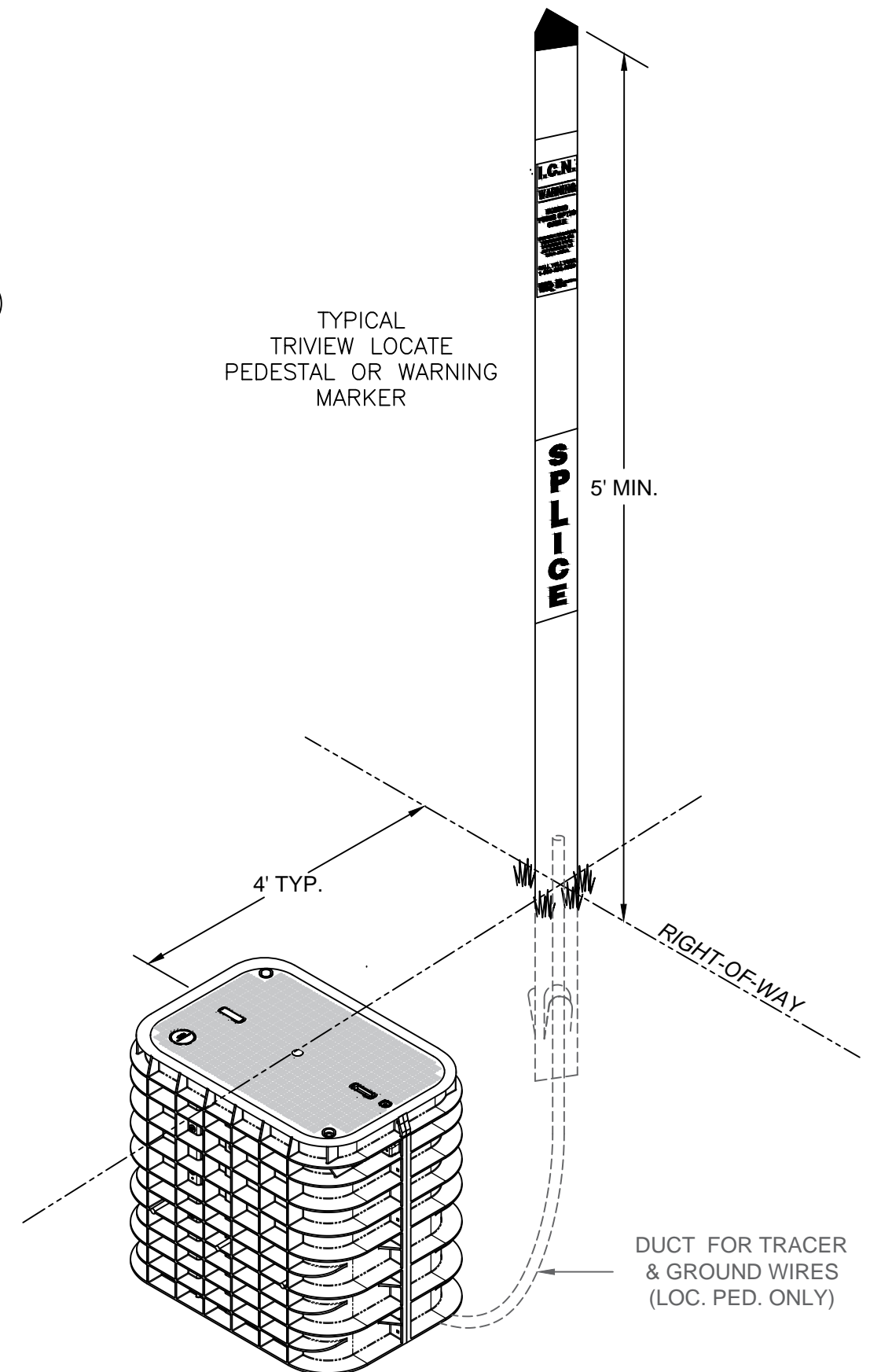


SEE INSTALLATION  
INSTRUCTIONS FOR  
PROPER PLACEMENT OF  
CHANNELL BULK  
HANDHOLE

TYPICAL  
TRIVIEW LOCATE  
PEDESTAL OR WARNING  
MARKER



BULK HANDHOLE  
TYPICAL  
24"X36"X36"



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IOWA COMMUNICATIONS NETWORK

GRIMES STATE OFFICE BUILDING  
400 EAST 14TH STREET  
DES MOINES, IOWA 50319  
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(1-800-292-8989 OR 811)

CONSTRUCTION DETAIL  
HANDHOLE TYPICAL - ICN STANDARD  
24" x 36" x 36"

TYPICAL BULK HANDHOLE

SCALE: NONE

SIZE: 11 x 17
---------------

1	ISSUE	5-21-18	5		
2			6		
3			7		
4			8		

C:\AutoCAD Standards\TYPICALS\TYPICAL-HH PLACEMENT.dwg





# INSTALLATION INSTRUCTION

## Install Channell BULK Vaults

Date: 5/12/15

### Installation Considerations

This Installation Instruction provides general information useful for installing the Channell BULK line of below-grade handhole vaults. This guide cannot anticipate all situations that could be encountered in the field and thus represents information applicable to common installation conditions. Please consult local company practice for proper product configuration for each application.

### Site Preparation

1. Ensure that all local, state, federal, OSHA and company-specific regulations are met prior to beginning and throughout the installation process.
2. Plan the excavation approximately 12 to 16 inches in length and width larger than the actual dimensions of the handhole to be installed. **(See Figure 1)**
3. Excavate the hole 6 to 8 inches in depth more than the overall height dimension of the handhole with the cover in place. Tamp the floor of excavated pit using either a hand tamp tool and/or a mechanical tamper. (Remember: if the handhole is to be set in concrete, the polymer ring must be included in this dimension.)
4. Place 5 to 6 inches of 3/4" crushed rock over the entire floor. The rock should be free of soil and other organic matter. This important step prevents subsistence of the vault over time, aids in drainage, and provides a solid foundation for the handhole. **(See Figure 2)**
  - a. As an alternative, a dry mix of cement and crushed rock in a 1:10 ratio may be used to form a higher strength foundation.
  - b. NOTE: Do not use "pea gravel" or other "round stone" for this step.
5.
  - a. Place the handhole body into the pit. **(See Figure 3)**
  - b. Center the handhole body in the excavated pit parallel to the sidewalk and/or curb if applicable.
  - c. Level and adjust the height of the handhole body to grade, as required, by adding more crushed rock.

FOR THE PURPOSE OF THIS ILLUSTRATION, THIS HANDHOLE IS BEING PLACED AT A SITE THAT WILL HAVE A FUTURE SIDEWALK; THEREFORE, THE COMPOSITE RING IS REQUIRED. THE RING IS ONLY REQUIRED AT SITES WHERE THE HANDHOLE IS BEING PLACED IN AND SURROUNDED BY CONCRETE.

6. Place the cover on the handhole body to prevent the backfill dirt from entering the inside of the handhole. The cover should be level with the ground. Bolting of the cover is recommended but is not a requirement for this step; however, the cover must always be bolted down prior to departure of the site. **(See Figure 4)**
7. The excess soil removed from the excavated pit shall be used during the backfill of the pit. The backfill shall be tamped continuously during the filling process to prevent settling around the sides of the handhole. **(See Figure 5)**

During the filling process of the soil around the handhole, stones that are 3" and larger shall be removed from the soil and not used.

8. The final backfill shall be tamped with a slope away from the handhole. All excess backfill material shall be removed from the installation site. **(See Figure 6)**



**Figure 1**



**Figure 2**



**Figure 3**



**Figure 4**



**Figure 5**



**Figure 6**





Diagram illustrating the installation of a buried fiber optic cable splice. The setup includes a terminal board, locate wires, ground wire, steel post, and a splice point. A warning label is attached to the post, and the ground is indicated at the bottom.

**WARNING**

**I.C.N.**

**BURIED FIBER OPTIC CABLE**

**BEFORE DIGGING TRENCHING OR PUSHING PIPE ANYWHERE IN THIS AREA**

**CALL TOLL FREE 1-800-292-8989**

**S P L I C E**

MIN. 5'

GROUND TO GROUND

- LOCATE (TRACER) WIRE: #10 or #12 AWG SOLID COPPER WIRE
- GROUND WIRE: #6 OR #8 AWG SOLID BARE COPPER WIRE
- ONE LOCATE WIRE PER FIBER CABLE AT SPLICE ENCLOSURE
- LOCATE WIRE(S) TO BE BONDED INSIDE SPLICE ENCLOSURE WITH 3M SCOTCHLOK SHIELD BONDING KIT
- LOCATE WIRE(S) TO BE ROUTED OUTSIDE OF SPLICE ENCLOSURE WITH FOSC CLOSURE SEALING KIT
- LOCATE WIRE(S) TO BE ROUTED VIA DUCT TO LOCATE PEDESTAL AND TERMINATED AT TERMINAL BOARD
- GROUND LOCATE PEDESTAL TO GROUND ROD WITH SOLID BARE COPPER WIRE AND GROUND CLAMP
- SECURE LOCATE PEDESTAL BY PLACING OVER STEEL POST
- SET PEDESTAL AT OR NEAR RIGHT-OF-WAY, IF POSSIBLE
- MINIMUM HEIGHT OF INSTALLED PEDESTAL MUST BE 5 FEET

Strip off a minimum of ¾" of insulation. Using a needle nose pliers bend a wire "eyelet" on the wire end in a clockwise manner. Use a flat washer on both sides of the wire eyelet when cinching it down on the stud. Flat washers shall be of appropriate size such that the hole matches the diameter of the stud and the outside diameter of the flat washer matches reasonably close to the eyelet diameter.

