

APPLICATION AND AGREEMENT FOR USE OF HIGHWAY RIGHT-OF-WAY FOR UTILITIES ACCOMMODATION

FOR DEPARTMENT USE ONLY

Permit Number	Highway Number	County
DOT Project Number		Expiration/Completion Date

APPLICANT (INDIVIDUAL OR COMPANY)

First Name Edward	Middle Initial	Last Name Gikes	Phone Number 608-458-6242	Ext.
Company Name Alliant Energy			Phone Number	Ext.
Street Address 4902 N. Biltmore Ln		City/Town Madison	State WI	ZIP Code 53718
e-Mail Address EdwardGikes@alliantenergy.com		Secondary e-Mail Address		

INSTALLATION TO BE ACCOMMODATED

Approval is hereby requested to enter within the state highway right-of-way for the accommodation of a utility installation as detailed on the attachments and further described as follows.

The installation shall consist of:

Installation of optical fibers underground in conduit by the means of boring. Boring will be used to install conduit under roads and plowing will be used in open spaces. Boring will also be used to install conduit under waterways and wetlands. Plowing will open the earth, lay the conduit and reclose the earth to previous condition.

and shall be located as shown on the detailed plan attached hereto. (See current Iowa Department of Transportation Utility Accommodation Policy for submittal of detailed plan requirements. See Section 115.8 (3).) <https://iowadot.gov/rightofway/pdfs/UtilityPolicy.pdf>

WORK SITE LOCATION

Please refer to attachment #1 for work site location information

The proposed work as described above is located in Section _____, Twp. _____, Range _____ on Highway No. _____ generally located _____ (miles) _____ (direction) from _____ (city, county line, or other landmark). Work proposed is more specifically located as being from _____ (Milepost #) and _____ (Highway Station) to _____ (Milepost #) and _____ (Highway Station) on the _____ side of highway.

Disclosure Statement: The information furnished on this form will be used by the Department of Transportation to determine approval or denial of the application. Failure to provide all pertinent information will result in denial of the application. Information furnished is public information and copies may be provided to the public upon request.

The utility company, corporation, applicant, permit holder or licensee, (hereinafter referred to as the Permit applicant) agrees with the Iowa Department of Transportation (hereafter referred to as the Department) that the following stipulations and those special requirements as listed on this document shall govern under this permit after it is approved by the Department.

A. General

1. The installation shall meet the requirements of local municipal, county, state, and federal franchise rules and regulations, regulations and directives of the Iowa State Commerce Commission; the Iowa Department of Natural Resources, all rules and regulations of the Department and any other laws or regulations applicable.
2. The Permit Holder shall be fully responsible for any future adjustments of the facilities within the established highway right-of-way caused by highway construction or maintenance operations.
3. As per Section 115.8(8) of the Utility Accommodation Policy, As-Built plans are due within 90 days after completion of construction, the utility owner shall submit to the district representative an as-built plan.
4. The work described in this permit shall be completed as proposed in compliance with the stipulations and special requirements within one year from the date Department approval is received for said request. Failure on the part of the Permit Holder to abide by the stipulations or in constructing the work described as stipulated and within the time frame stated shall render this agreement and request null and void. The Permit Holder also agrees to save the State of Iowa and the Department harmless of any damages or losses that may be sustained by any person, or persons, on account of the conditions and requirements of this agreement.
5. Non-compliance with any of the terms of the Department's policy, permit, or agreement, may be considered cause for shut-down of construction operations, revocation of the permit, or withholding of relocation reimbursement and/or withholding of future application approvals until compliance is confirmed. The cost of any work deemed necessary to be performed by the State in removal of non-complying construction will be assessed against the Permit Holder.

B. Construction and Maintenance

1. The location, construction and maintenance of the utility installation covered by this application shall be in accordance with the current Department's Utility Accommodation Policy. <https://iowadot.gov/rightofway/pdfs/UtilityPolicy.pdf>
2. Before beginning any work in the highway right-of-way, it is the responsibility of the Permit Holder to obtain an easement from the drainage district if necessary. The Department assumes no responsibility for advising the Permit Holder of each location of a drainage district crossing. It is the Permit Holder's responsibility to locate these crossings and obtain any necessary easements or permission from the drainage district. See Code of Iowa, Chapter 468 for additional information.
3. A copy of the approved permit shall be available on the job site at all times for examination by Department personnel.
4. Operations in the construction and maintenance of this utility installation shall be carried on in such a manner as to cause minimum interference to or distraction of traffic on said highway.
5. Traffic protection shall minimally be in accordance with Part VI of the current Manual on Uniform Traffic Control Devices for Streets and Highways. The applicant shall be responsible for correctly using traffic control devices including signs, warning lights, and channelizing devices as needed while work is in progress or the clear zone is impacted. Flagging operations are the responsibility of the applicant. The Department's TC XXX Series Standards are the preferred traffic control specification plans.
http://www.iowadot.gov/design/stdplne_tc.htm
6. The applicant shall seed and mulch all disturbed areas within the highway right-of-way and shall be responsible for the vegetative cover until it becomes well established. Any surfaced areas such as driveways or shoulders and sodded waterways and plantings which are disturbed shall be restored to their original condition. Any damage to any other underground facilities during installation shall be repaired at the permit holder's expense.
7. All personnel in the highway right-of-way shall wear ANSI 107 Class 2 apparel at all times when exposed to traffic or construction equipment.
8. As per Policy Section 115.4(9) parking or storage in the clear zone is prohibited. When not in actual use, vehicles, equipment and materials shall not be parked or stored within the clear zone or median.
9. Unless specifically noted in Special Requirements section, all work performed within the right-of-way shall be restricted to 30 minutes after sunrise to 30 minutes before sunset.
10. Pedestals shall be placed within 12 inches of the right-of-way line.
11. All above and below ground appurtenances (pedestals, hydrants, drains, accesses, etc.) shall be marked with high visibility posts and signs. The minimum height requirement for the signs shall be 5 foot. Urban Roadway Sections may be exempted with department approval.

C. Liability

1. To the extent allowable by law, the Permit Holder agrees to indemnify, defend, and hold the Department harmless from any action or liability arising out of the design, construction, maintenance, placement of traffic control devices, inspection, or use of the Permit Holder's facilities. This agreement to indemnify, defend, and hold harmless applies to all aspects of the Department's application review and approval process, plan and construction reviews, and funding participation.
2. The Permit Holder shall indemnify and save harmless the State of Iowa, its agencies and employees, from any and all causes of action, suits at law or in equity, for losses, damages, claims or demands, and from any and all liability and expense of whatsoever nature, arising out of or in connection with the Permit Holder's use or occupancy of the public highway.
3. The State of Iowa and the Department assume no responsibility for damages to the Permit Holder's property occasioned by any construction or maintenance operations on said highway if the facilities are not located in accordance with this permit.
4. The State of Iowa, its agencies or employees, will be liable for expense incurred by the Permit Holder in its use and occupancy of the highway right-of-way only when negligence of the State, its agencies or employees, is the sole proximate cause of such expense. Whether in contract, tort or otherwise, the liability of the State, its agencies and employees, is limited to the reasonable, direct expense to repair damaged utilities, and in no event will such liability extend to loss of profits or business, indirect, special, consequential or incidental damages.

D. Notification

1. The Permit Holder is responsible for contacting **Iowa One-Call (1-800-292-8989)** and request the location of all underground utilities forty-eight (48) hours before excavation. Before beginning work in the highway right-of-way, the Permit Holder shall also contact any other known utility located in the area of the proposed work.
2. The Permit Holder agrees to give the Department forty-eight (48) hour notice of its intention to start construction or to perform routine maintenance on the highway right-of-way. Said notice shall be made to the local DOT contact person whose name is shown on Page 3.
3. **511 Notification** - The Permit Holder or their contractor **may not obstruct or close** primary highways or primary highway extensions (state highways within city limits) **without prior consent of the department**, except in emergency situations. Before setting up a lane closure or vertical/horizontal restriction of any kind on a primary highway, call the local DOT Maintenance Garage **AND** the Traffic Management Center per attached documents. Except in emergency situations, a 10-day advance notice is required.
<http://www.iowadot.gov/traffic/utility/pdfs/511UtilityNotification.pdf>

E. Buy America

Buy America applies to relocations of utility facilities that must move due to highway projects under certain specific conditions that include reimbursable locations and relocations due to interstate projects.

Please contact the Department's District Engineering Operation Technician (EOT) for more information on Buy America requirements or visit the following link: <https://iowadot.gov/rightofway/Utility-Accommodation-and-Coordination#533652456-buy-america>

Permit Number: _____

Special Requirements - in addition to the stipulations above, the following special requirements shall apply to this permit:

Applicant Signature and Agreement

The undersigned have read the stipulations of this permit agreement as stated, as well as attachments which may be included, and by signing this application agree to abide by all stipulations and to complete the work as proposed in compliance with the stipulations and attachments within one year from the date Department approval is granted for said request. Failure on the part of the applicant to abide by the stipulations or to construct the work desired as stipulated and within the time frame stated shall render this agreement and request null and void. The undersigned also agrees to save harmless the State of Iowa and the Iowa Department of Transportation from any damage or losses that may be sustained by any person or persons on account of the conditions and requirements of this agreement.

Name of Agent (Print or Type) Edward Gilkes	Agent/Owner (Signature) <i>Edward C. Gilkes</i>	Title Project Manager
Name of Owner (Print or Type) Edward Gilkes	Date 11/16/2023	
e-Mail Address edwardgilkes@alliantenergy.com		

CITY ACTION (IF PROPOSED WORK IS WITHIN AN INCORPORATED CITY, CITY ACTION IS REQUIRED)

"The undersigned city joins in the grants embodied in the above permit executed by the Iowa Department of Transportation on condition that all of the covenants and undertakings therein running to the Iowa Department of Transportation shall inure to the benefit of the undersigned city and recommends action on said permit application as noted below by the delegated city official".

☐ Recommend Approval ☐ Do Not Recommend Approval ☐ None Required

Signature	Title	Date
Type or Print Name	Authorized Official for the City of	
e-Mail Address		

COUNTY ACTION (IF PROPOSED WORK CROSSES COUNTY RIGHT-OF-WAY, COUNTY ACTION IS REQUIRED)

"The undersigned county joins in the grants embodied in the above permit executed by the Iowa Department of Transportation on condition that all of the covenants and undertakings therein running to the Iowa Department of Transportation shall inure to the benefit of the undersigned county and recommends action on said permit application as noted below by the delegated county official".

☒ Recommend Approval ☐ Do Not Recommend Approval ☐ None Required

Signature <i>Ben Daleske</i>	Title Tama County Engineer	Date 11/30/23
Type or Print Name Ben Daleske	Authorized Official for the County of Tama	
e-Mail Address bdaleske@tama county.org		

FEDERAL HIGHWAY ADMINISTRATION ACTION (WHEN REQUIRED)

☐ Recommend Approval ☐ Do Not Recommend Approval ☐ None Required

Authorized FHWA Representative Signature	Date
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DEPARTMENT OF TRANSPORTATION FINAL ACTION

☐ Application Approved ☐ Application Denied Permit Number:

Authorized Highway District Representative	Signature	Date
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e-Mail Address		
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Notice of Intention to commence activities on the highway rights-of-way shall be submitted by the applicant a minimum of 48 hours prior to actually commencing the activities as herein granted by this approved application. Notice is to be given to the following Iowa Department of Transportation representative. Except in emergencies a 10 day advance notice is required for lane restrictions of any kind:

Local DOT Contact Person (Type or Print Name)		Phone Number	
Street Address	City/Town	State IA	ZIP Code
e-Mail Address		Permit Number:	

Edward Gilkes

Site Plan & Attachments Checklist for Utilities Accommodation Permit

Last updated 10-30-2023

- ☒ Plans showing highway centerline, route number, stationing and milepost.
- ☒ Visible orientation (north arrow) and identifying landmarks.
- ☒ Clearly identify right-of-way (ROW) lines and include with horizontal distance from highway centerline shown, including all breakpoints and changes in the ROW distances.
- ☒ Provide Iowa One Call design request information (minimally the list of utility owners).
- ☒ List all the existing utilities in the installation area. Describe how your installation will address existing utilities that are in conflict, and show all observable existing features, such as power poles, pedestals, markers, handholes, trees, etc.
- ☒ Show all construction features/bore pits with the running line and horizontal distance from roadway edge or centerline (showing clear zone compliance). <https://iowadot.gov/rightofway/pdfs/UtilityPolicy.pdf>
- ☒ Show the start/stop stationing and depths or elevations for all bores, longitudinal and transverse.
- ☒ Show the start/stop stationing and depths or elevations for all plowing locations.
- ☒ Show casing start/stop locations, lengths, diameter, and material if casings are used.
- ☒ Show all facilities that are to be installed on the site plan including but not limited to pedestals, wire conduit, poles, guy anchors, junction boxes, handholes and manholes. ALL MUST BE REFERENCED BY highway stationing and distance from centerline.
- ☒ Show where installation starts and stops, leave the ROW, stops at existing pedestal, pole, etc. Use highway stationing and distance from centerline of the start and stops.
- ☒ Identify any physical focal points, posts, pedestals, shutoffs, overflow valves, hydrants, etc.
- ☒ Describe any other work to accomplish installation before, during or after installation, including but not limited to removal of brush/trees, removal of underbuild, construction of access, fence removal, fence replacement, etc.
- ☒ Identify unusual issues to be pointed out on the site plan. CLARITY IS THE KEY. It will not be assumed to be included in the permit or that the permit holder will perform certain work if it is not included in the plan.

Attachments

- ☒ Proper Traffic Control Standards (Iowa DOT TCxxx Series Standard plans preferred)
Available at: http://iowadot.gov/design/stdplne_tc.htm
- ☒ Required Height / Depth Typical (supplied by the department)
- ☒ Tile Repair Guide (rural locations) (supplied by the department)
- ☒ Special Seeding Requirements and Erosion Control (supplied by the department)
- ☒ 511 Lane Restriction Requirements (if any lane restriction is anticipated) (supplied by the department)

ALL ITEMS MUST BE LEGIBLE FOR REVIEW BY THE DEPARTMENT

Tama County Multiple Roads Iowa DOT Work Site Locations Information:

Highway No.	Section	Township	Range	Located Distance (miles)	Direction	City, county line or other land line	From Milepost (#)	Highway Station	To Milepost (#)	Highway Station	Side of Highway
US 30	07,08,13,14,15,16,17,18	83 N	16 W	0	Intersection	From Abbott Ave	Approx. 1.12 miles W from 30W- 194	194	Approx. 2.5 miles W from 30W- 195	195	North
	17, 18, 20, 21, 22	83 N	15 W	0	Intersection	To S County Road	Approx 0.1 miles N from 63N- 119	119	Approx. 0.8 miles E from 30W- 202	202	North
US 63	15, 10, 03	83 N	15 W	0	Intersection	From South County Road	Approx. 0.12 miles N from 63S- 120	120	Approx. 0.3 miles S from 63S- 123	123	West
	15, 10, 03	83 N	15 W	0	Intersection	To 280 th St	Approx 0.34 miles S from 63S – 123	123	Approx. 0.8 miles N from 63S - 122	122	West

Sale or lease of conduit/fiber

With regard to the right-of-way under its jurisdiction, Iowa Department of Transportation (IDOT) consents to Alliant constructing, operating, and maintaining the fiber and conduit facilities at the locations identified.

Alliant may lease its fiber to other companies without notifying IDOT and without those companies obtaining permits since Alliant is still the owner of record and responsible for maintaining the fiber.

Alliant may sell a portion of its facility (conduit or fibers) to another company or lease its conduit(s) to another company with that company owning the fiber within the conduit(s). If this occurs, that company shall obtain a permit from IDOT prior to ROW occupancy. In addition, a fee may be charged to that company for controlled-access ROW occupancy. In these situations, two (or more) owners would be occupying IDOT's ROW. Alliant shall notify IDOT in writing a minimum of 30 days prior to this transaction.

IDOT may terminate this permit if it discovers that Alliant has sold a portion of its facility or leased one or more of its conduits without notifying IDOT and another company retains ownership of the fiber inside. Upon written IDOT request, Alliant shall submit an affidavit to verify that it still owns all of the fiber and conduits installed under this permit. The affidavit shall also include the names, addresses, and contacts of companies that are leasing Alliant's conduit. For the foregoing, "lease" includes an indefeasible right of use.

US Highway 30
Tama County

CONTINUED ON PAGE 94 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



Fiber will be installed as close to the property line as possible and on the back slope of the drainage ditch if applies, all while avoiding existing utilities.

CONTINUED ON PAGE 96 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS

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PROJECT #
149681-02

ISSUED FOR REVIEW

THE INFORMATION ON THIS PRINT IS CONFIDENTIAL AND IS THE PROPERTY OF ALLIANT ENERGY

DATE: 11/13/2023

SCALE: "AS NOTED"

DESIGNED BY: CJ

REVIEWED BY: KJM

ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL SUBSTATION

PAGE 95 OF 196

MGNS-TOLC-95

REV: 0

Legend

Existing Utilities

Telecom

Electric

Gas

Sewer

Water

Other

Conduits

Underground, Bore Conduit

Underground, Existing Conduit

Underground, Plow Conduit

Underground, Hydrovac

Fiber

144

36

Pull Points

EXISTING HAND-HOLE

EXISTING JUNCTION BOX

EXISTING MAN-HOLE

MAINTENANCE HAND-HOLE

SPLICE POINT HAND-HOLE

NEW JUNCTION BOX

Slack Coils

144

36

Markers

Fiber Marker (w/ Test Station)

Fiber Marker (No Test Station)

Other

Construction Note

Highway Crossing

Water Crossing

Railroad Crossing

Bore Pit

Splice Point

Parcel Data

Right of Way

Private Easement

Wetlands

Wetlands

Sites

Substation

Office

Tower

Notes

1. DISTANCES MEASURED BY SOFTWARE ARE APPROXIMATE, FIELD TO VERIFY.

2. PARCEL LINES IN MAP ARE NOT SURVEYED AND FOR REFERENCE ONLY. SUBCONTRACTOR TO USE MEASUREMENTS FROM CENTERLINE FOR FINAL ALIGNMENT OF FIBER INSTALLATION.

3. FIBER INSTALLATION TO REMAIN ON BACKSLOPE OF DITCH WITHIN RIGHT OF WAY UNLESS OTHERWISE NOTED. FIBER TO BE INSTALLED AWAY FROM ANY LOW-GRADE WATER RETAINING AREAS.

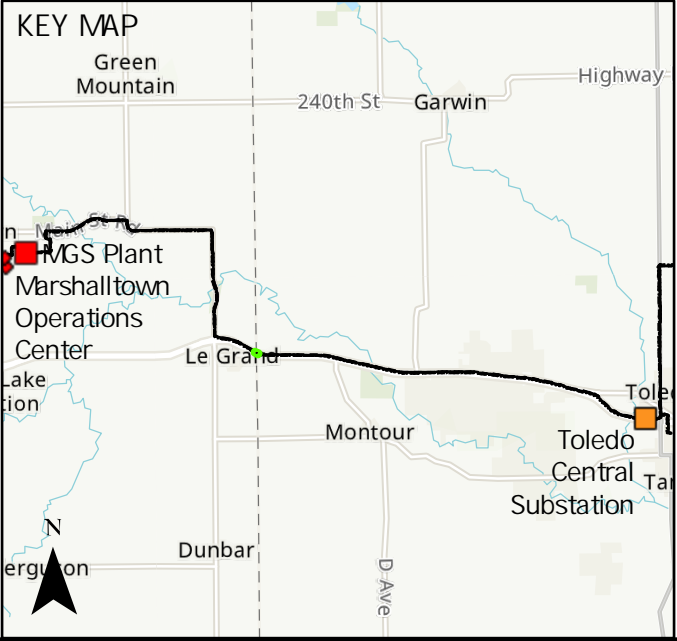
4. FIBER TO MAINTAIN A DEPTH OF 36 INCHES UNLESS OTHERWISE SPECIFIED.

5. FIBER TO MAINTAIN A MINIMUM 18" HORIZONTAL SEPARATION FROM EXISTING UTILITIES.

6. SUBCONTRACTOR TO LOCATE, MARK, AND AVOID ALL UTILITIES DURING FIBER INSTALLATION.

7. SUBCONTRACTOR TO NOTIFY LOCATION SERVICES AT MINIMUM THREE DAYS BEFORE EXCAVATION (1A: (800) 292-8989)

8. REFER TO GENERAL NOTES SHEET FOR ALL OTHER PROJECT NOTES.



CONTINUED ON PAGE 95 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 97 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

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MGS PLANT - TOLEDO CENTRAL SUBSTATION

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MGNS-TOLC-96

REV: 0

Legend

Existing Utilities

Telecom

Electric

Gas

Sewer

Water

Other

Conduits

Underground, Bore Conduit

Underground, Existing Conduit

Underground, Plow Conduit

Underground, Hydrovac

Fiber

144

36

Pull Points

EXISTING HAND-HOLE

EXISTING JUNCTION BOX

EXISTING MAN-HOLE

MAINTENANCE HAND-HOLE

SPLICE POINT HAND-HOLE

NEW JUNCTION BOX

Slack Coils

144

36

Markers

Fiber Marker (w/ Test Station)

Fiber Marker (No Test Station)

Other

Construction Note

Highway Crossing

Water Crossing

Railroad Crossing

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Wetlands

Sites

Substation

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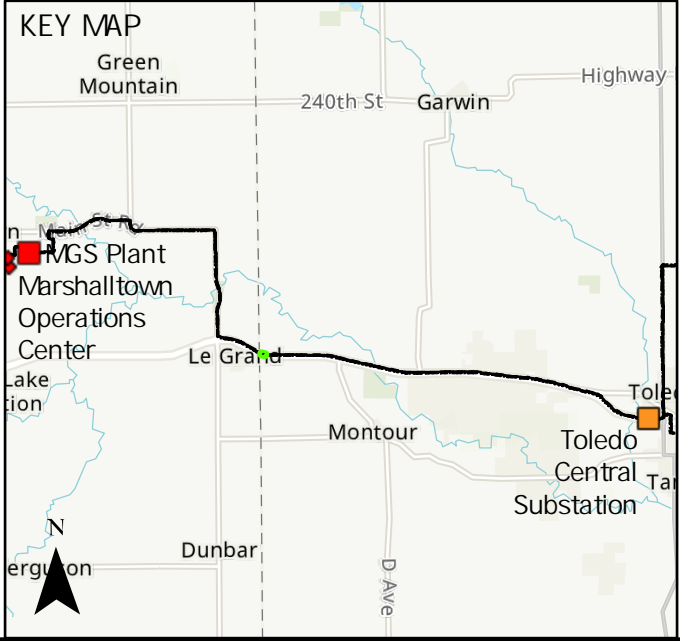
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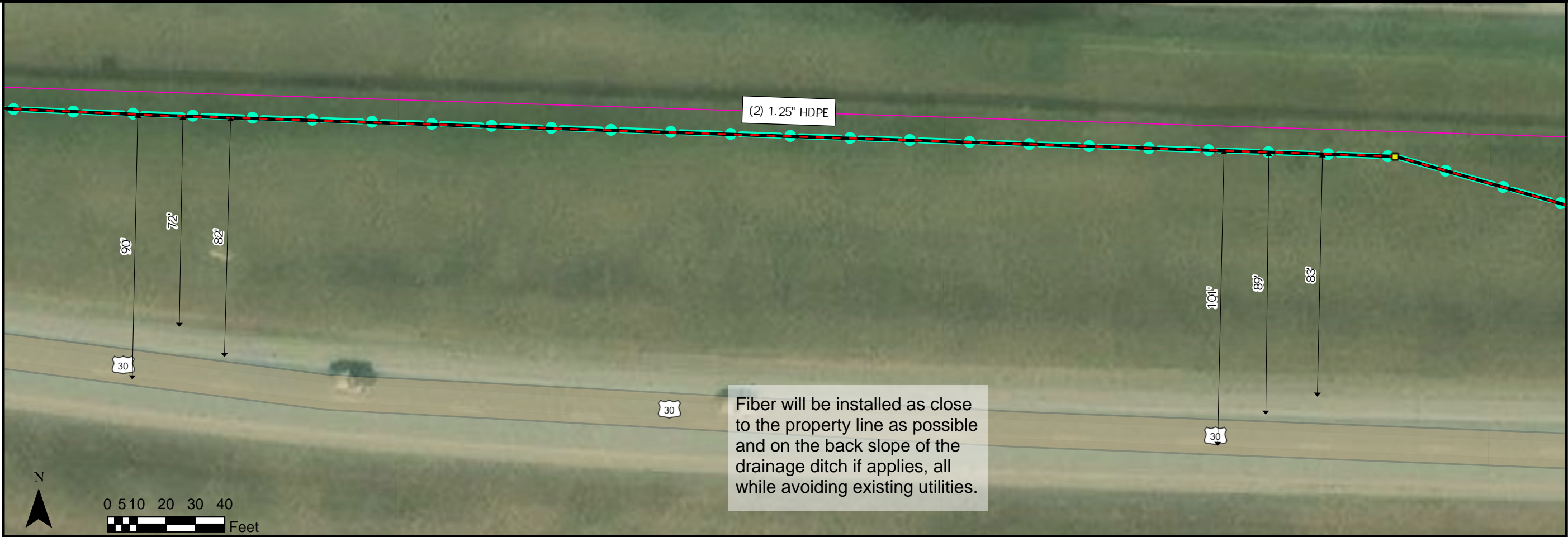
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CONTINUED ON PAGE 96 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 98 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

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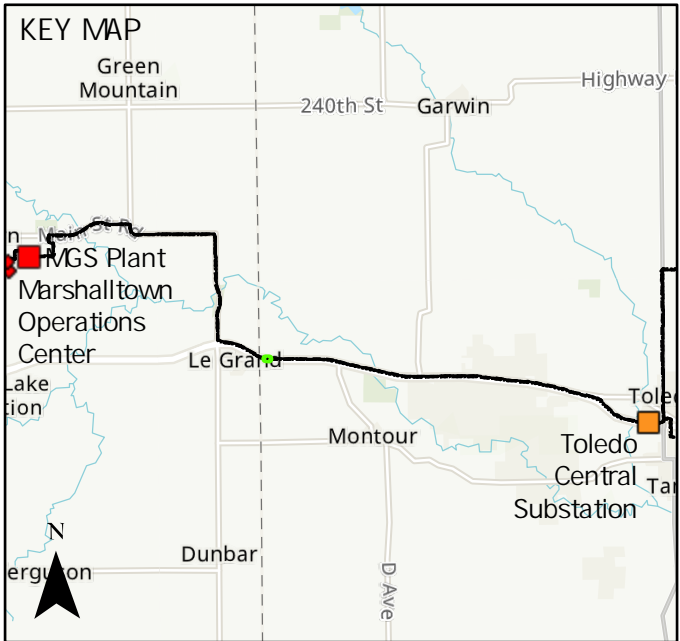
MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 97 OF 196

Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE		Railroad Crossing	Wetlands
Water		SPLICE POINT HAND-HOLE		Bore Pit	Sites
Other	Fiber	NEW JUNCTION BOX		Splice Point	Substation
	144				Office
	36				Tower

Notes

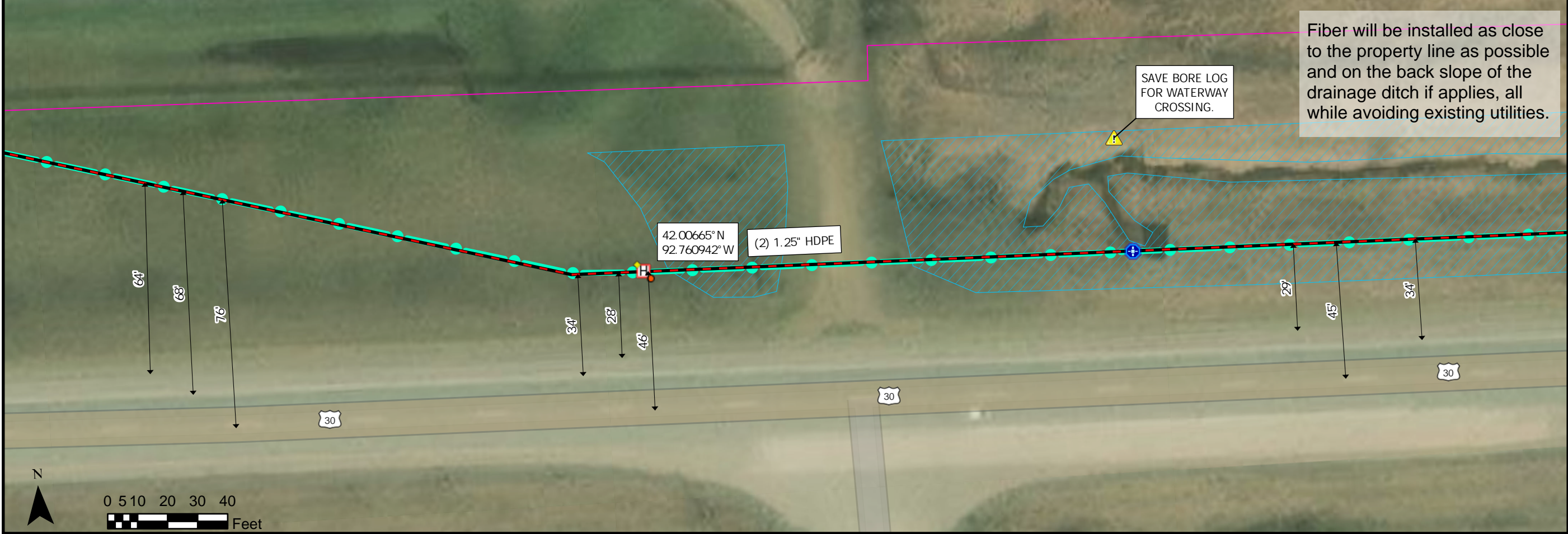
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MGNS-TOLC-97

REV: 0

CONTINUED ON PAGE 97 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



LABEL NUMBER	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACKLENGTH
42.00665° N/92.760942° W	UG-SD-001, UG-SD-002	MAINTENANCE HANDHOLE	30"X48"X36" HANDHOLE, FIBER MARKER W TEST STATION	0	0

Legend

Existing Utilities

- Telecom
- Electric
- Gas
- Sewer
- Water
- Other

Conduits

- Underground, Bore Conduit
- Underground, Existing Conduit
- Underground, Plow Conduit
- Underground, Hydrovac

Fiber

- 144
- 36

Pull Points

- EXISTING HAND-HOLE
- EXISTING JUNCTION BOX
- EXISTING MAN-HOLE
- MAINTENANCE HAND-HOLE
- SPLICE POINT HAND-HOLE
- NEW JUNCTION BOX

Slack Coils

- 144
- 36

Markers

- Fiber Marker (w/ Test Station)
- Fiber Marker (No Test Station)

Other

- Construction Note
- Highway Crossing
- Water Crossing
- Railroad Crossing
- Bore Pit
- Splice Point

Parcel Data

- Right of Way
- Private Easement

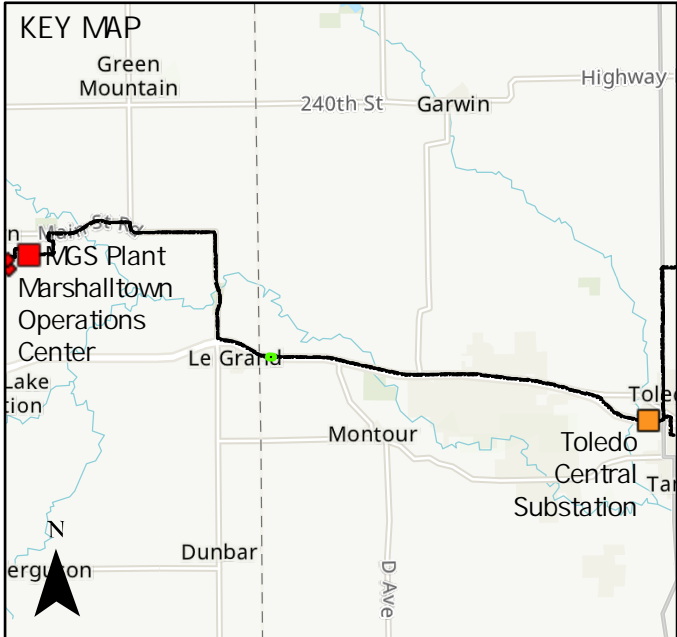
Wetlands

- Wetlands

Sites

- Substation
- Office
- Tower

- Notes
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REVISIONS

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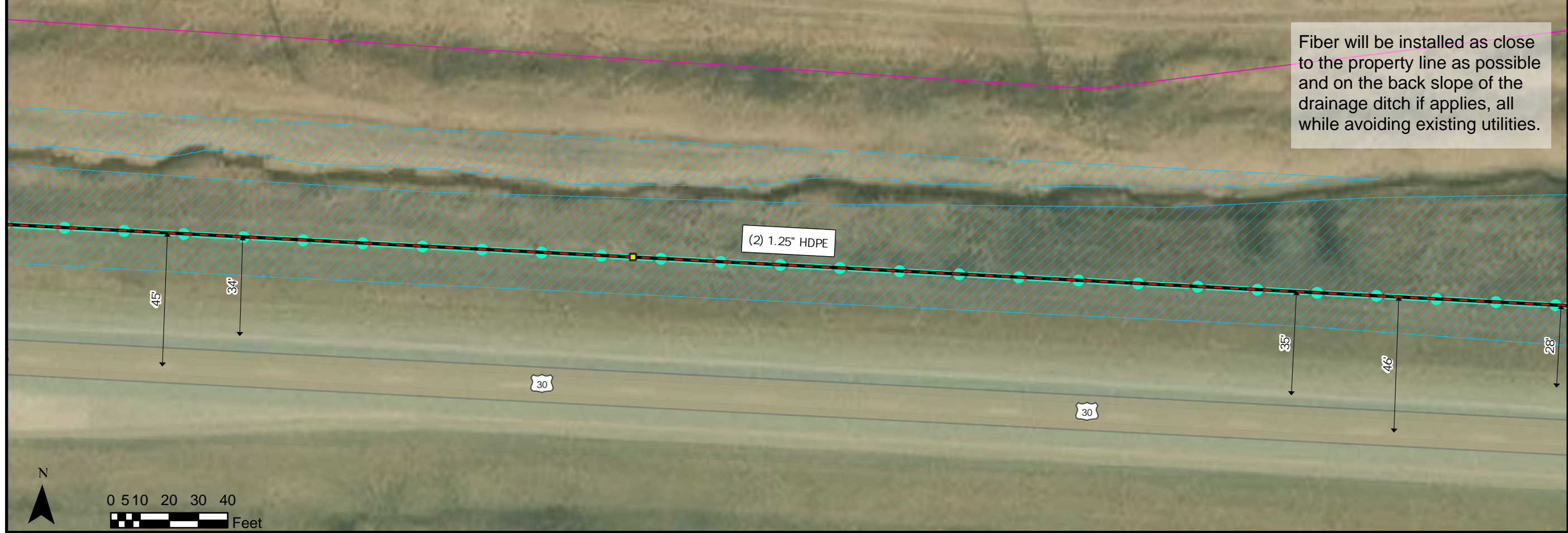
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MGS PLANT - TOLEDO CENTRAL SUBSTATION PAGE 98 OF 196

Alliant Energy

MGNS-TOLC-98	REV: 0
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CONTINUED ON PAGE 98 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 100 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS

0 PROJECT # 149681-02

ISSUED FOR REVIEW

THE INFORMATION ON THIS PRINT IS CONFIDENTIAL AND IS THE PROPERTY OF ALLIANT ENERGY

DATE: 11/13/2023
SCALE: "AS NOTED"
DESIGNED BY: CJ
REVIEWED BY: KJM
ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 99 OF 196



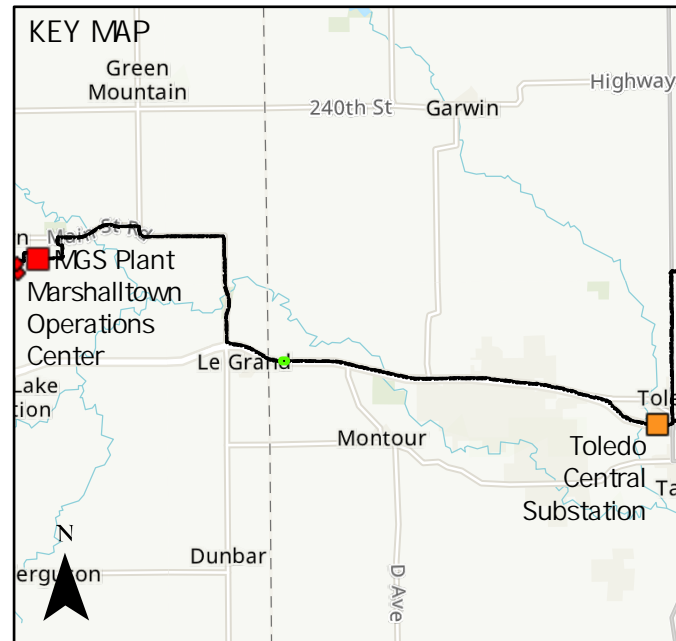
MGNS-TOLC-99 REV: 0

Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water		SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	Fiber	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	144				Office
	36				Tower

Notes

- DISTANCES MEASURED BY SOFTWARE ARE APPROXIMATE, FIELD TO VERIFY.
- PARCEL LINES IN MAP ARE NOT SURVEYED AND FOR REFERENCE ONLY. SUBCONTRACTOR TO USE MEASUREMENTS FROM CENTERLINE FOR FINAL ALIGNMENT OF FIBER INSTALLATION.
- FIBER INSTALLATION TO REMAIN ON BACKSLOPE OF DITCH WITHIN RIGHT OF WAY UNLESS OTHERWISE NOTED. FIBER TO BE INSTALLED AWAY FROM ANY LOW-GRADE WATER RETAINING AREAS.
- FIBER TO MAINTAIN A DEPTH OF 36 INCHES UNLESS OTHERWISE SPECIFIED.
- FIBER TO MAINTAIN A MINIMUM 18" HORIZONTAL SEPARATION FROM EXISTING UTILITIES.
- SUBCONTRACTOR TO LOCATE, MARK, AND AVOID ALL UTILITIES DURING FIBER INSTALLATION.
- SUBCONTRACTOR TO NOTIFY LOCATION SERVICES AT MINIMUM THREE DAYS BEFORE EXCAVATION (1A: (800) 292-8989)
- REFER TO GENERAL NOTES SHEET FOR ALL OTHER PROJECT NOTES.



CONTINUED ON PAGE 99 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 101 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS

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PROJECT #
149681-02

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REVIEWED BY: KJM

ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL SUBSTATION PAGE 100 OF 196

MGNS-TOLC-100

REV: 0

Legend

Existing Utilities

Telecom

Electric

Gas

Sewer

Water

Other

Conduits

Underground, Bore Conduit

Underground, Existing Conduit

Underground, Plow Conduit

Underground, Hydrovac

Fiber

144

36

Pull Points

EXISTING HAND-HOLE

EXISTING JUNCTION BOX

EXISTING MAN-HOLE

MAINTENANCE HAND-HOLE

SPLICE POINT HAND-HOLE

NEW JUNCTION BOX

Slack Coils

144

36

Markers

Fiber Marker (w/ Test Station)

Fiber Marker (No Test Station)

Other

Construction Note

Highway Crossing

Water Crossing

Railroad Crossing

Bore Pit

Splice Point

Parcel Data

Right of Way

Private Easement

Wetlands

Wetlands

Sites

Substation

Office

Tower

Notes

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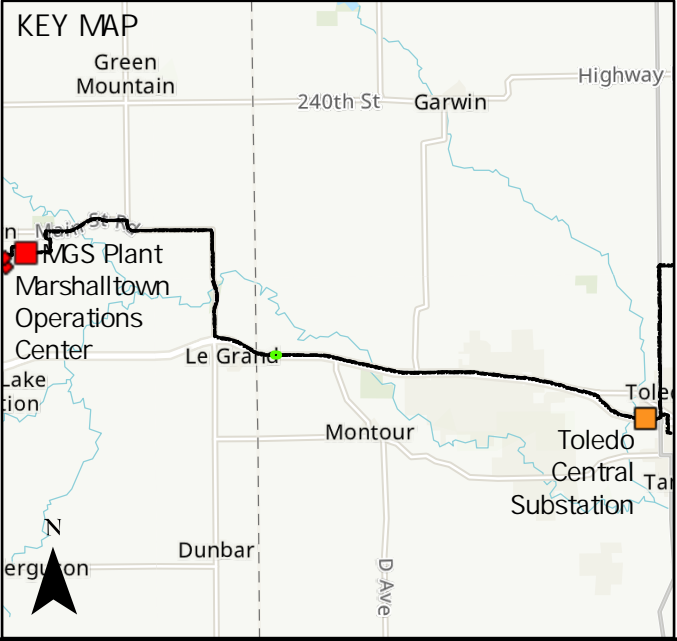
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CONTINUED ON PAGE 100 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 102 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS

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MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 101 OF 196

Legend

Existing Utilities

- Telecom
- Electric
- Gas
- Sewer
- Water
- Other

Conduits

- Underground, Bore Conduit
- Underground, Existing Conduit
- Underground, Plow Conduit
- Underground, Hydrovac

Fiber

- 144
- 36

Pull Points

- EXISTING HAND-HOLE
- EXISTING JUNCTION BOX
- EXISTING MAN-HOLE
- MAINTENANCE HAND-HOLE
- SPLICE POINT HAND-HOLE
- NEW JUNCTION BOX

Slack Coils

- 144
- 36

Markers

- Fiber Marker (w/ Test Station)
- Fiber Marker (No Test Station)

Other

- Construction Note
- Highway Crossing
- Water Crossing
- Railroad Crossing
- Bore Pit
- Splice Point

Parcel Data

- Right of Way
- Private Easement

Wetlands

- Wetlands

Sites

- Substation
- Office
- Tower

Notes

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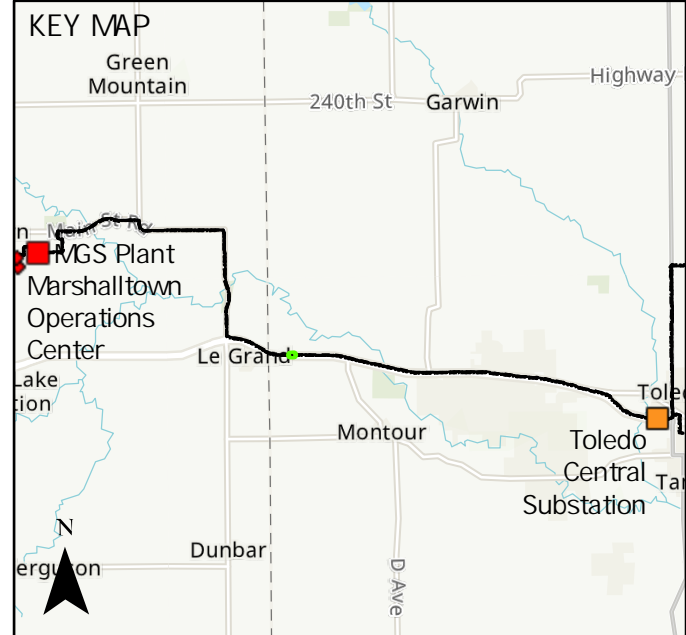
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CONTINUED ON PAGE 101 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



LABEL NUMBER	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACKLENGTH
42.006624° N/92.753352° W	UG-SD-001, UG-SD-002	MAINTENANCE HANDHOLE	30"X48"X36" HANDHOLE, FIBER MARKER W TEST STATION	0	0

Legend

Existing Utilities

- Telecom
- Electric
- Gas
- Sewer
- Water
- Other

Conduits

- Underground, Bore Conduit
- Underground, Existing Conduit
- Underground, Plow Conduit
- Underground, Hydrovac

Pull Points

- EXISTING HAND-HOLE
- EXISTING JUNCTION BOX
- EXISTING MAN-HOLE
- MAINTENANCE HAND-HOLE
- SPLICE POINT HAND-HOLE
- NEW JUNCTION BOX

Slack Coils

- 144
- 36

Markers

- Fiber Marker (w/ Test Station)
- Fiber Marker (No Test Station)

Other

- Construction Note
- Highway Crossing
- Water Crossing
- Railroad Crossing
- Bore Pit
- Splice Point

Parcel Data

- Right of Way
- Private Easement

Wetlands

- Wetlands

Sites

- Substation
- Office
- Tower

Notes

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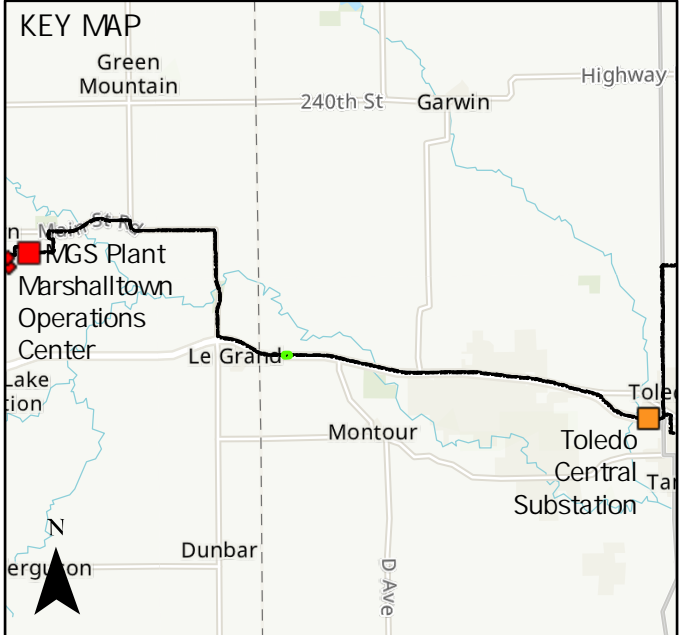
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REVISIONS

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REVIEWED BY: KJM

ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL SUBSTATION PAGE 102 OF 196

Alliant Energy

MGNS-TOLC-102

REV: 0

CONTINUED ON PAGE 103 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

CONTINUED ON PAGE 102 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 104 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS	
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ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 103 OF 196

Legend

Existing Utilities

- Telecom
- Electric
- Gas
- Sewer
- Water
- Other

Conduits

- Underground, Bore Conduit
- Underground, Existing Conduit
- Underground, Plow Conduit
- Underground, Hydrovac

Fiber

- 144
- 36

Pull Points

- EXISTING HAND-HOLE
- EXISTING JUNCTION BOX
- EXISTING MAN-HOLE
- MAINTENANCE HAND-HOLE
- SPLICE POINT HAND-HOLE
- NEW JUNCTION BOX

Slack Coils

- 144
- 36

Markers

- Fiber Marker (w/ Test Station)
- Fiber Marker (No Test Station)

Other

- Construction Note
- Highway Crossing
- Water Crossing
- Railroad Crossing
- Bore Pit
- Splice Point

Parcel Data

- Right of Way
- Private Easement

Wetlands

- Wetlands

Sites

- Substation
- Office
- Tower

Notes

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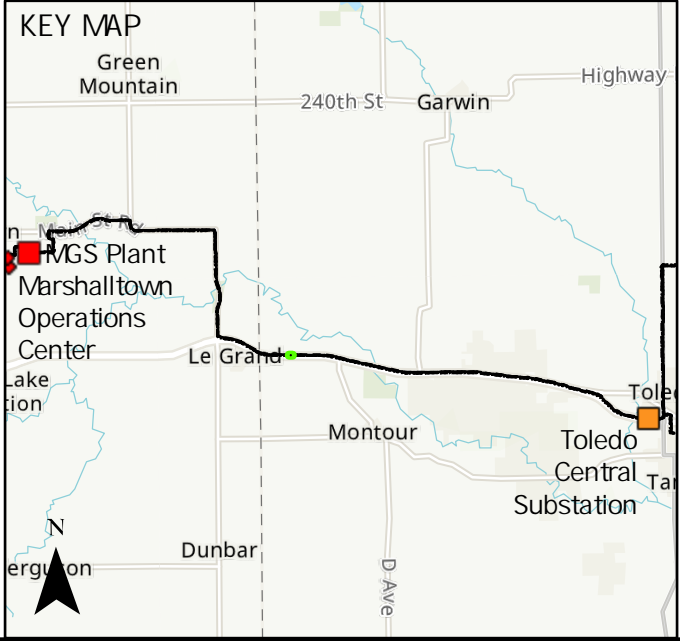
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8. REFER TO GENERAL NOTES SHEET FOR ALL OTHER PROJECT NOTES.



CONTINUED ON PAGE 103 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 105 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS

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MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 104 OF 196



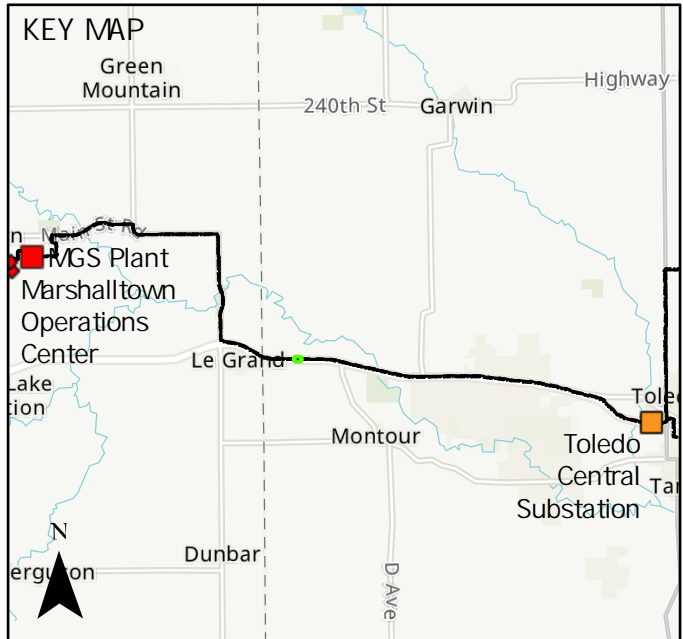
MGNS-TOLC-104 REV: 0

Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE		Railroad Crossing	Wetlands
Water	Fiber	SPLICE POINT HAND-HOLE		Bore Pit	Sites
Other	144	NEW JUNCTION BOX		Splice Point	Substation
	36				Office
					Tower

Notes

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CONTINUED ON PAGE 104 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 106 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

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ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 105 OF 196

Legend

Existing Utilities

- Telecom
- Electric
- Gas
- Sewer
- Water
- Other

Conduits

- Underground, Bore Conduit
- Underground, Existing Conduit
- Underground, Plow Conduit
- Underground, Hydrovac

Fiber

- 144
- 36

Pull Points

- EXISTING HAND-HOLE
- EXISTING JUNCTION BOX
- EXISTING MAN-HOLE
- MAINTENANCE HAND-HOLE
- SPLICE POINT HAND-HOLE
- NEW JUNCTION BOX

Slack Coils

- 144
- 36

Markers

- Fiber Marker (w/ Test Station)
- Fiber Marker (No Test Station)

Other

- Construction Note
- Highway Crossing
- Water Crossing
- Railroad Crossing
- Bore Pit
- Splice Point

Parcel Data

- Right of Way
- Private Easement

Wetlands

- Wetlands

Sites

- Substation
- Office
- Tower

Notes

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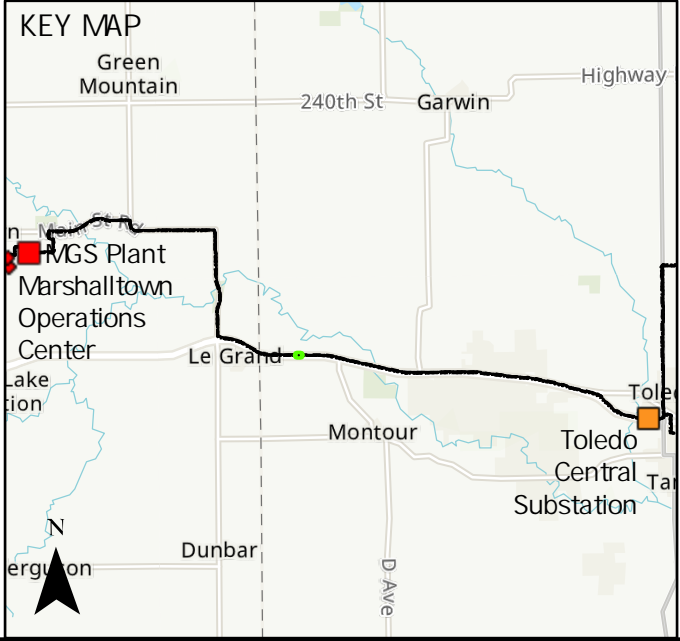
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CONTINUED ON PAGE 105 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



LABEL NUMBER	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACKLENGTH
42.006521°N/92.745947°W	UG-SD-001, UG-SD-002	MAINTENANCE HANDHOLE	30\"X48\"X36\" HANDHOLE, FIBER MARKER W TEST STATION	1	200

Legend

Existing Utilities

- Telecom
- Electric
- Gas
- Sewer
- Water
- Other

Conduits

- Underground, Bore Conduit
- Underground, Existing Conduit
- Underground, Plow Conduit
- Underground, Hydrovac

Fiber

- 144
- 36

Pull Points

- EXISTING HAND-HOLE
- EXISTING JUNCTION BOX
- EXISTING MAN-HOLE
- MAINTENANCE HAND-HOLE
- SPLICE POINT HAND-HOLE
- NEW JUNCTION BOX

Slack Coils

- 144
- 36

Markers

- Fiber Marker (w/ Test Station)
- Fiber Marker (No Test Station)

Other

- Construction Note
- Highway Crossing
- Water Crossing
- Railroad Crossing
- Bore Pit
- Splice Point

Parcel Data

- Right of Way
- Private Easement

Wetlands

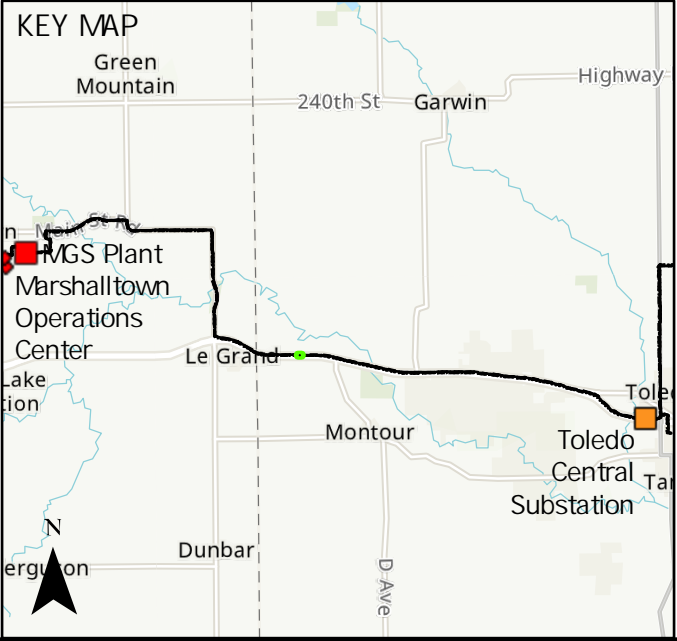
- Wetlands

Sites

- Substation
- Office
- Tower

Notes

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REVISIONS

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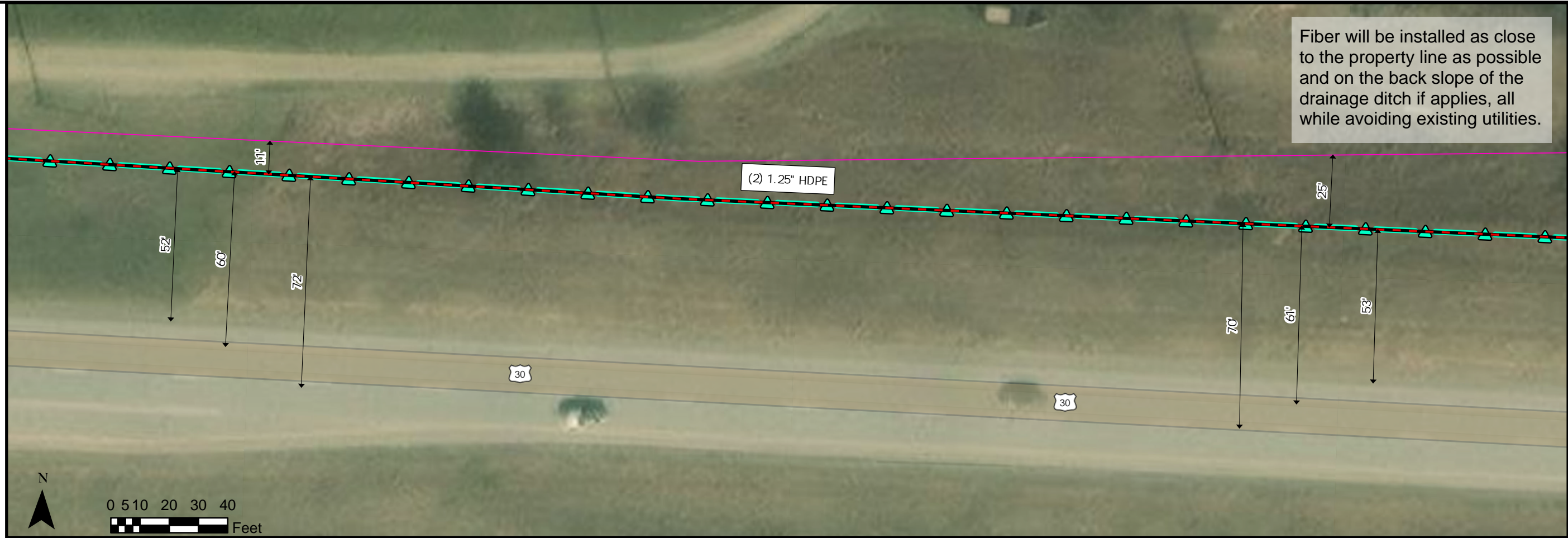
MGS PLANT - TOLEDO CENTRAL SUBSTATION PAGE 106 OF 196

Alliant Energy

MGNS-TOLC-106

REV: 0

CONTINUED ON PAGE 106 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 108 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

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MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 107 OF 196



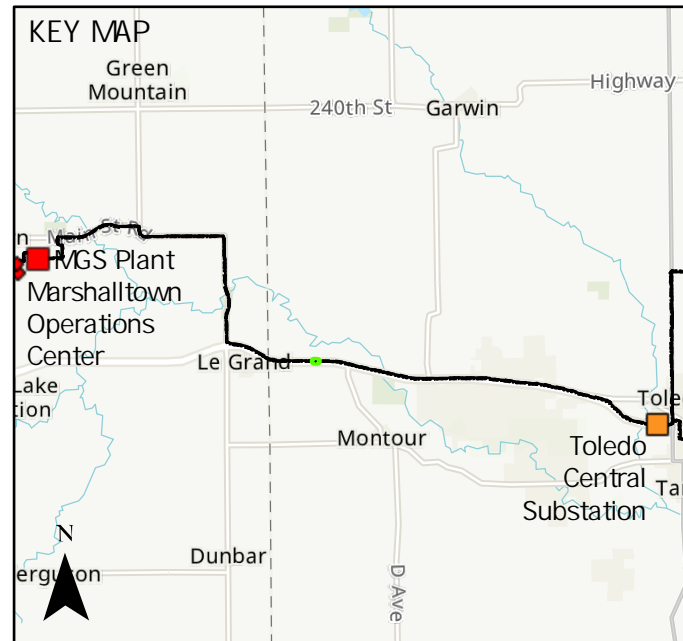
MGNS-TOLC-107 REV: 0

Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water	Fiber	SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	144	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	36				Office
					Tower

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CONTINUED ON PAGE 107 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 109 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

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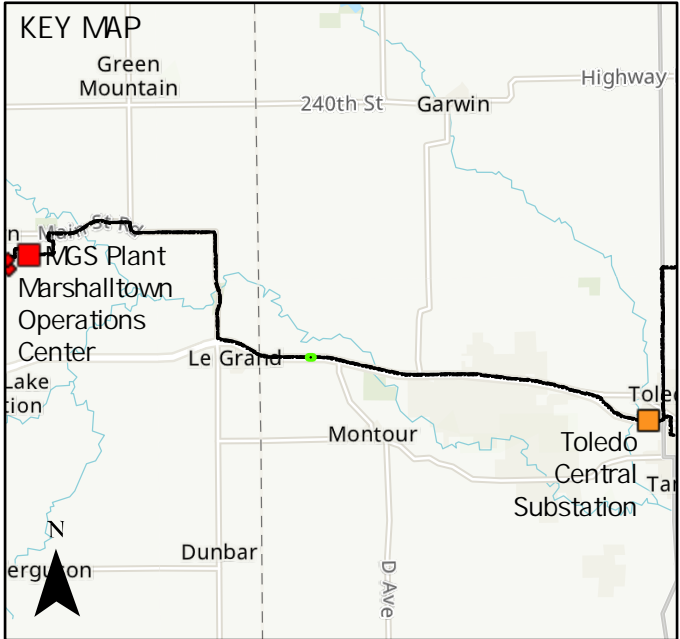
MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 108 OF 196



MGNS-TOLC-108 REV: 0

Legend	Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
	Telecom Electric Gas Sewer Water Other	Underground, Bore Conduit Underground, Existing Conduit Underground, Plow Conduit Underground, Hydrovac Fiber 144 36	EXISTING HAND-HOLE EXISTING JUNCTION BOX EXISTING MAN-HOLE MAINTENANCE HAND-HOLE SPLICE POINT HAND-HOLE NEW JUNCTION BOX	144 36 Markers Fiber Marker (w/ Test Station) Fiber Marker (No Test Station)	Construction Note Highway Crossing Water Crossing Railroad Crossing Bore Pit Splice Point	Right of Way Private Easement Wetlands Wetlands Sites Substation Office Tower

- Notes**
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 2. PARCEL LINES IN MAP ARE NOT SURVEYED AND FOR REFERENCE ONLY. SUBCONTRACTOR TO USE MEASUREMENTS FROM CENTERLINE FOR FINAL ALIGNMENT OF FIBER INSTALLATION.
 3. FIBER INSTALLATION TO REMAIN ON BACKSLOPE OF DITCH WITHIN RIGHT OF WAY UNLESS OTHERWISE NOTED. FIBER TO BE INSTALLED AWAY FROM ANY LOW-GRADE WATER RETAINING AREAS.
 4. FIBER TO MAINTAIN A DEPTH OF 36 INCHES UNLESS OTHERWISE SPECIFIED.
 5. FIBER TO MAINTAIN A MINIMUM 18" HORIZONTAL SEPARATION FROM EXISTING UTILITIES.
 6. SUBCONTRACTOR TO LOCATE, MARK, AND AVOID ALL UTILITIES DURING FIBER INSTALLATION.
 7. SUBCONTRACTOR TO NOTIFY LOCATION SERVICES AT MINIMUM THREE DAYS BEFORE EXCAVATION (1A: (800) 292-8989)
 8. REFER TO GENERAL NOTES SHEET FOR ALL OTHER PROJECT NOTES.



CONTINUED ON PAGE 108 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 110 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS

0 PROJECT # 149681-02

ISSUED FOR REVIEW

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DATE: 11/13/2023
SCALE: "AS NOTED"
DESIGNED BY: CJ
REVIEWED BY: KJM
ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 109 OF 196



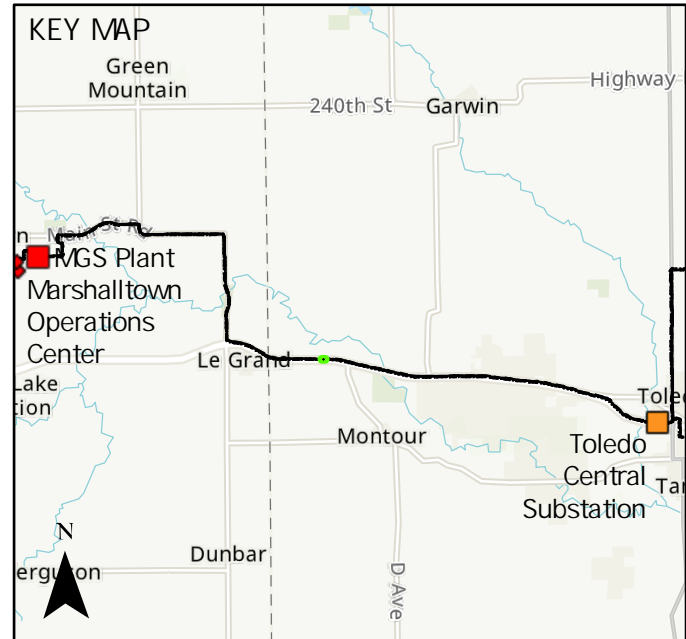
MGNS-TOLC-109 REV: 0

Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water	Fiber	SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	144	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	36				Office
					Tower

Notes

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CONTINUED ON PAGE 109 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



Fiber will be installed as close to the property line as possible and on the back slope of the drainage ditch if applies, all while avoiding existing utilities.

CONTINUED ON PAGE 111 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS	
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MGS PLANT - TOLEDO CENTRAL SUBSTATION PAGE 110 OF 196	
Alliant Energy	
MGNS-TOLC-110	REV: 0

Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE		Railroad Crossing	Wetlands
Water		SPLICE POINT HAND-HOLE		Bore Pit	Sites
Other		NEW JUNCTION BOX		Splice Point	Substation
	Fiber				Office
	144				Tower
	36				

Notes

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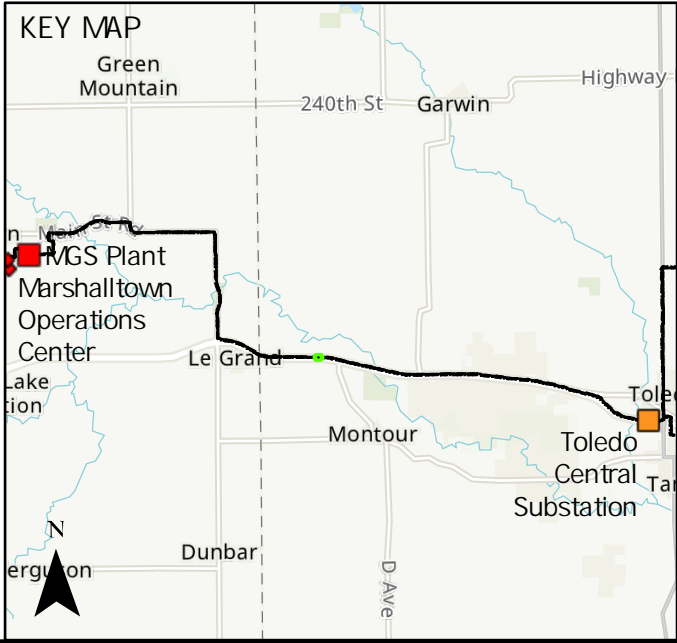
4. FIBER TO MAINTAIN A DEPTH OF 36 INCHES UNLESS OTHERWISE SPECIFIED.

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CONTINUED ON PAGE 110 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



LABEL NUMBER	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACK LENGTH
42.006462° N/92.737745° W	UG-SD-001, UG-SD-002	MAINTENANCE HANDHOLE	30"X48"X36" HANDHOLE, FIBER MARKER W TEST STATION	0	0

Legend

Existing Utilities

- Telecom
- Electric
- Gas
- Sewer
- Water
- Other

Conduits

- Underground, Bore Conduit
- Underground, Existing Conduit
- Underground, Plow Conduit
- Underground, Hydrovac

Fiber

- 144
- 36

Pull Points

- EXISTING HAND-HOLE
- EXISTING JUNCTION BOX
- EXISTING MAN-HOLE
- MAINTENANCE HAND-HOLE
- SPLICE POINT HAND-HOLE
- NEW JUNCTION BOX

Slack Coils

- 144
- 36

Markers

- Fiber Marker (w/ Test Station)
- Fiber Marker (No Test Station)

Other

- Construction Note
- Highway Crossing
- Water Crossing
- Railroad Crossing
- Bore Pit
- Splice Point

Parcel Data

- Right of Way
- Private Easement

Wetlands

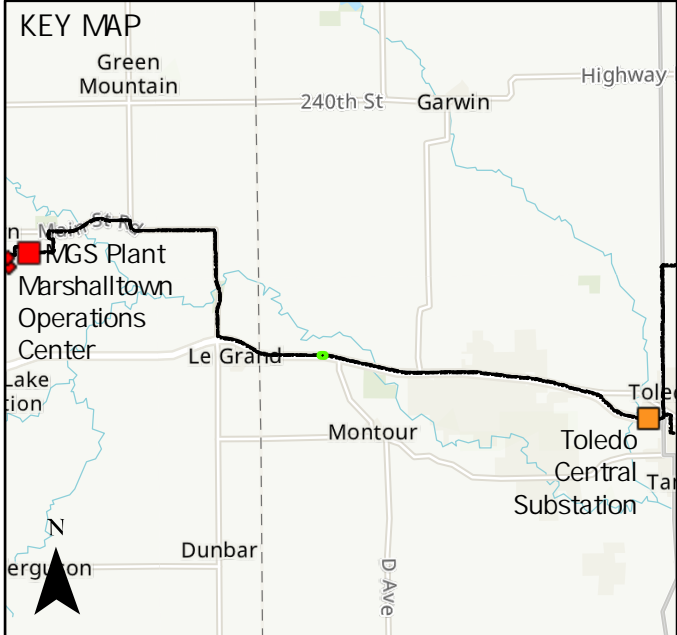
- Wetlands

Sites

- Substation
- Office
- Tower

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REVIEWED BY: KJM

ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL SUBSTATION PAGE 111 OF 196

Alliant Energy

MGNS-TOLC-111

REV: 0

CONTINUED ON PAGE 111 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 113 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

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MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 112 OF 196



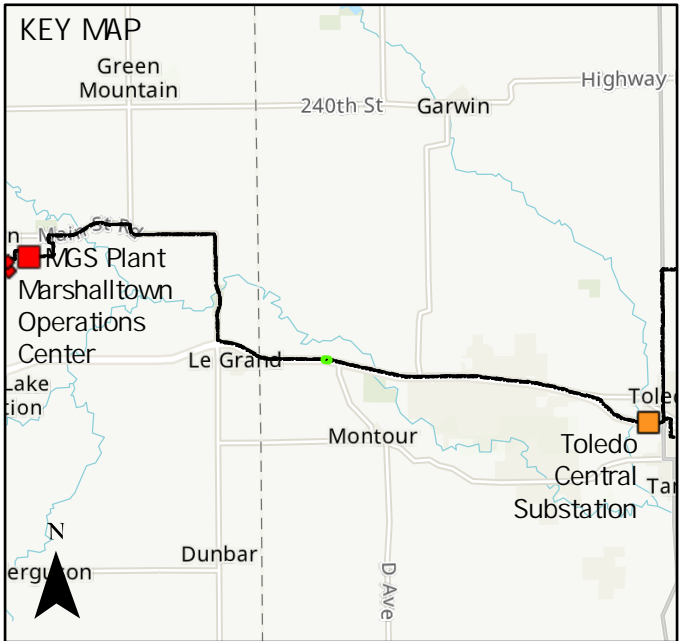
MGNS-TOLC-112 REV: 0

Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water	Fiber	SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	144	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	36				Office
					Tower

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CONTINUED ON PAGE 112 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 114 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

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MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 113 OF 196



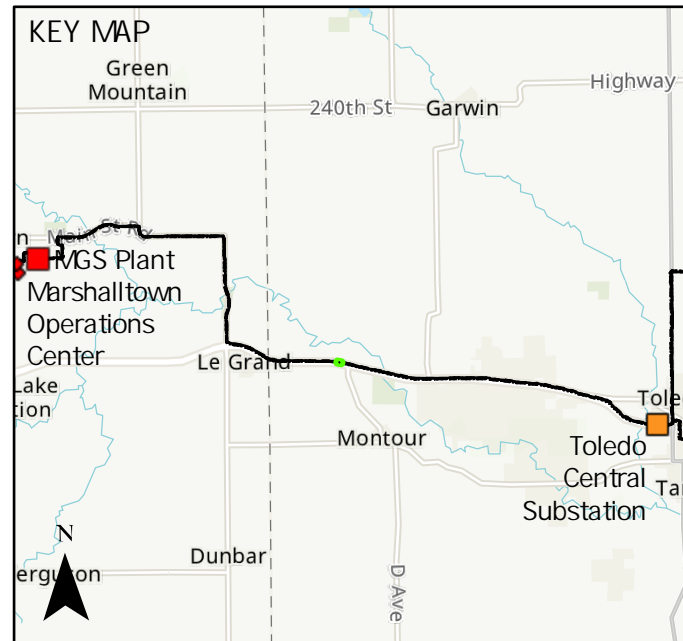
MGNS-TOLC-113 REV: 0

Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water		SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	Fiber	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	144				Office
	36				Tower

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CONTINUED ON PAGE 113 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



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MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 114 OF 196



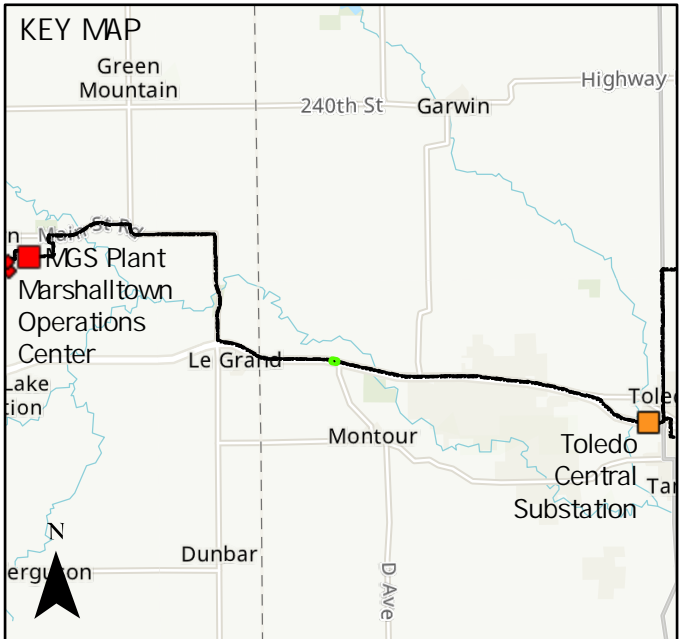
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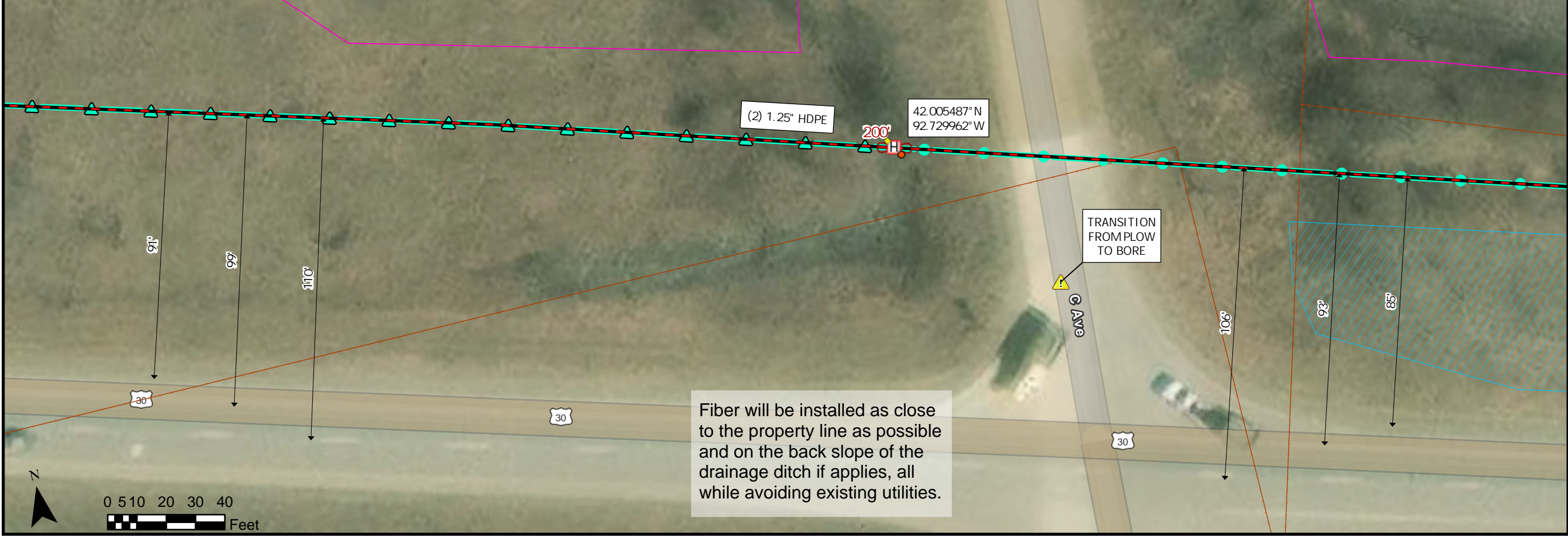
Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water		SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	Fiber	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	144				Office
	36				Tower

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CONTINUED ON PAGE 114 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



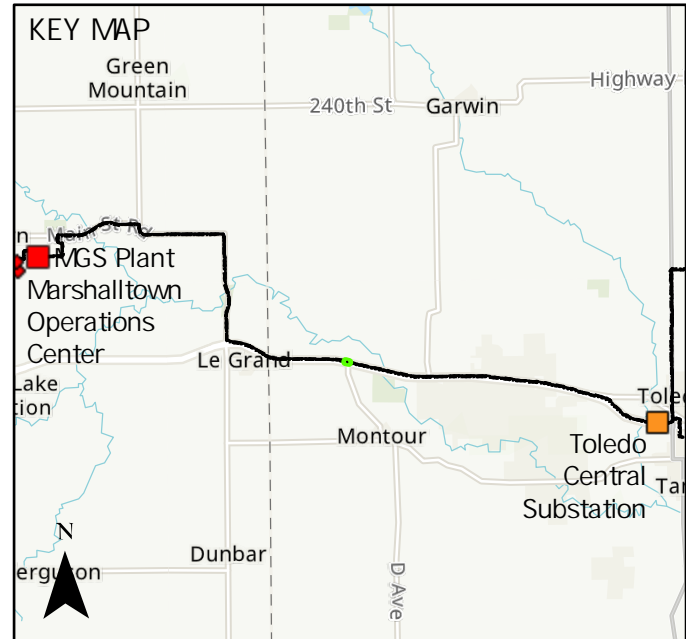
LABEL NUMBER	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACK LENGTH
42.005487° N/92.729962° W	UG-SD-001, UG-SD-002	MAINTENANCE HANDHOLE	30\"X48\"X36\" HANDHOLE, FIBER MARKER W TEST STATION	1	200

Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water	Fiber	SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	144	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	36				Office
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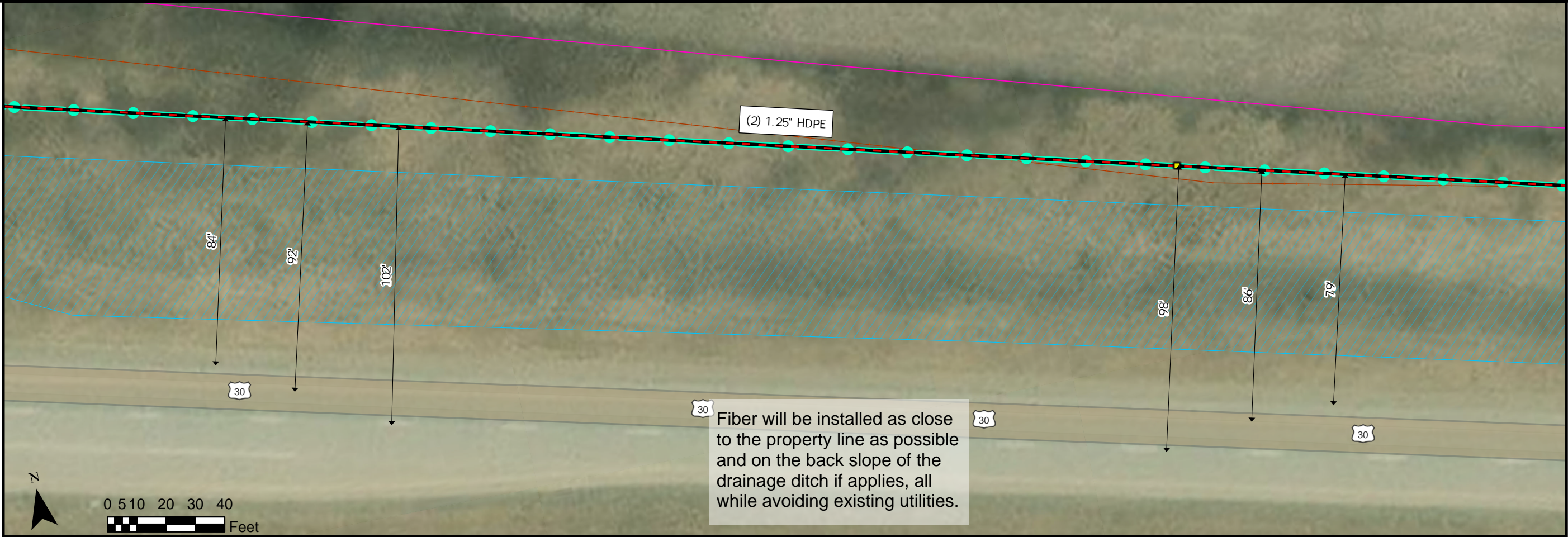
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MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 115 OF 196



MGNS-TOLC-115 REV: 0

CONTINUED ON PAGE 115 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 117 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

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MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 116 OF 196



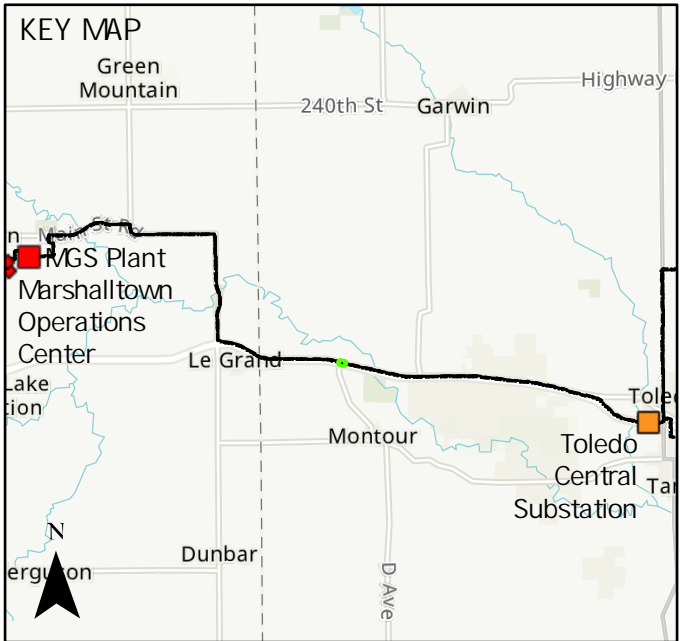
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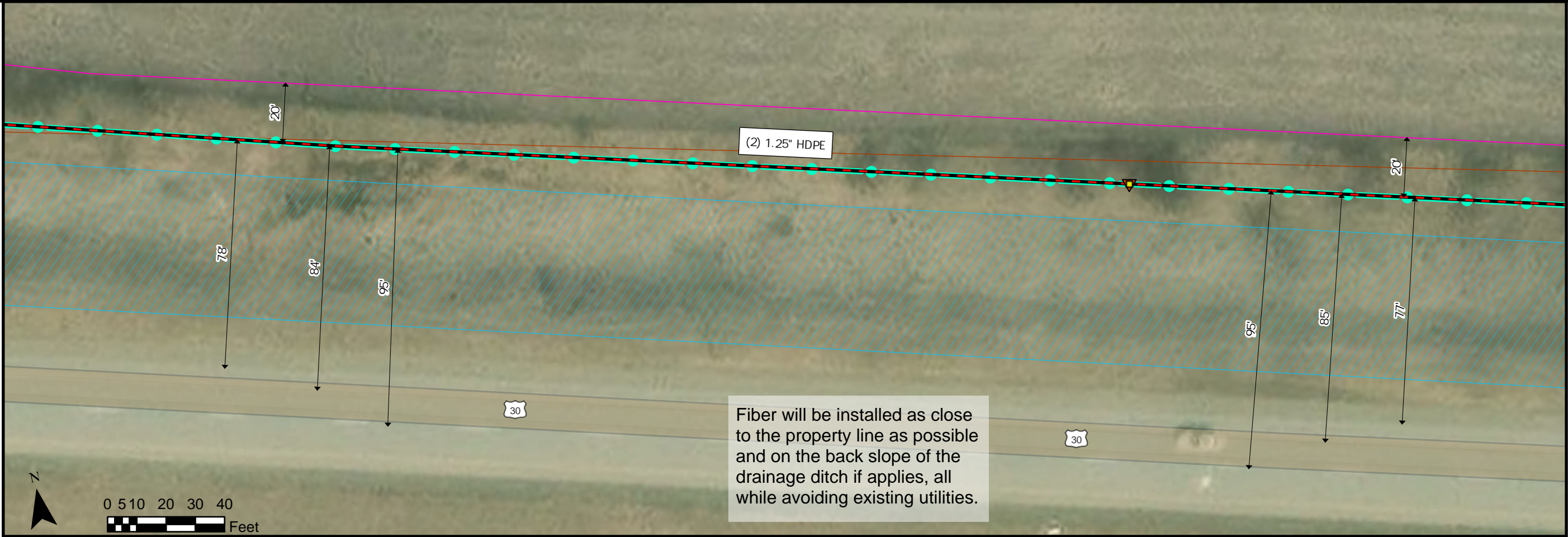
Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
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	36				Office
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CONTINUED ON PAGE 116 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



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MGS PLANT - TOLEDO CENTRAL SUBSTATION

PAGE 117 OF 196

MGNS-TOLC-117

REV: 0

Legend

Existing Utilities

Telecom

Electric

Gas

Sewer

Water

Other

Conduits

Underground, Bore Conduit

Underground, Existing Conduit

Underground, Plow Conduit

Underground, Hydrovac

Fiber

144

36

Pull Points

EXISTING HAND-HOLE

EXISTING JUNCTION BOX

EXISTING MAN-HOLE

MAINTENANCE HAND-HOLE

SPLICE POINT HAND-HOLE

NEW JUNCTION BOX

Slack Coils

144

36

Markers

Fiber Marker (w/ Test Station)

Fiber Marker (No Test Station)

Other

Construction Note

Highway Crossing

Water Crossing

Railroad Crossing

Bore Pit

Splice Point

Parcel Data

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Sites

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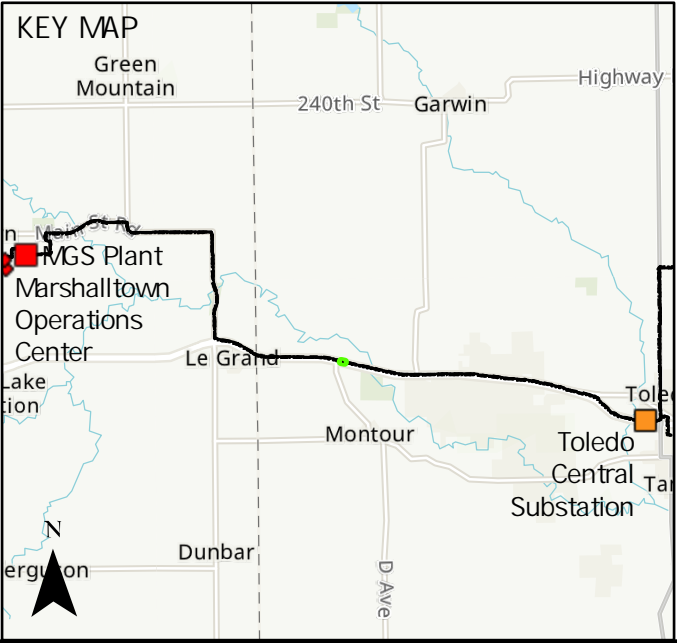
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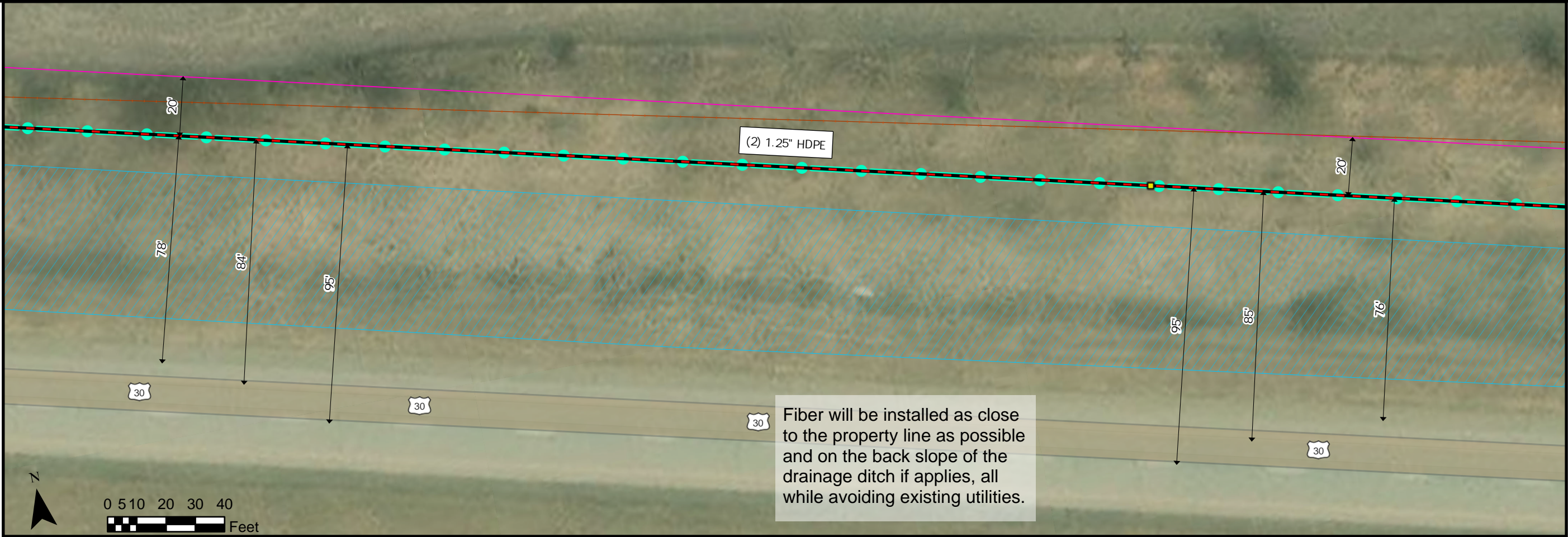
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MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 118 OF 196



MGNS-TOLC-118

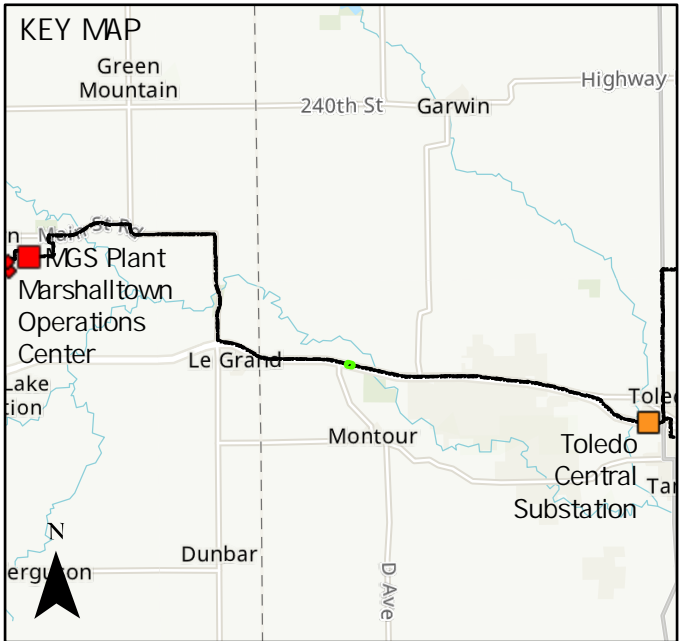
REV: 0

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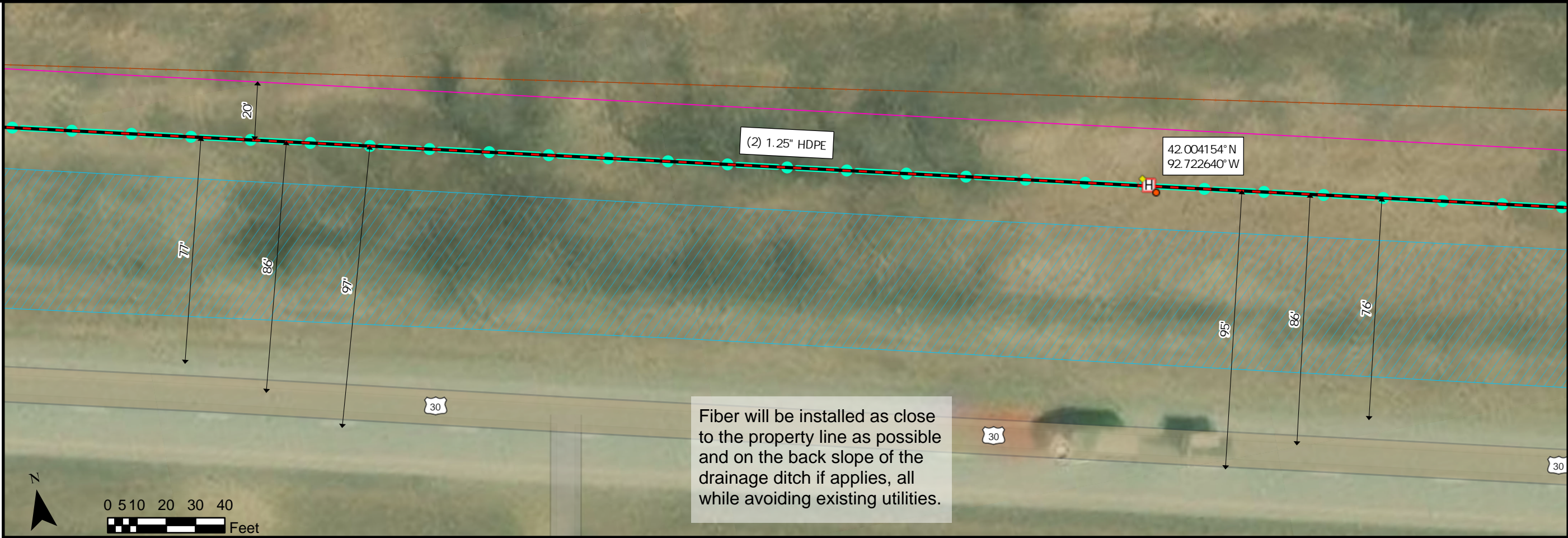
Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water		SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other		NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
					Office
					Tower

Notes

- DISTANCES MEASURED BY SOFTWARE ARE APPROXIMATE, FIELD TO VERIFY.
- PARCEL LINES IN MAP ARE NOT SURVEYED AND FOR REFERENCE ONLY. SUBCONTRACTOR TO USE MEASUREMENTS FROM CENTERLINE FOR FINAL ALIGNMENT OF FIBER INSTALLATION.
- FIBER INSTALLATION TO REMAIN ON BACKSLOPE OF DITCH WITHIN RIGHT OF WAY UNLESS OTHERWISE NOTED. FIBER TO BE INSTALLED AWAY FROM ANY LOW-GRADE WATER RETAINING AREAS.
- FIBER TO MAINTAIN A DEPTH OF 36 INCHES UNLESS OTHERWISE SPECIFIED.
- FIBER TO MAINTAIN A MINIMUM 18" HORIZONTAL SEPARATION FROM EXISTING UTILITIES.
- SUBCONTRACTOR TO LOCATE, MARK, AND AVOID ALL UTILITIES DURING FIBER INSTALLATION.
- SUBCONTRACTOR TO NOTIFY LOCATION SERVICES AT MINIMUM THREE DAYS BEFORE EXCAVATION (1A: (800) 292-8989)
- REFER TO GENERAL NOTES SHEET FOR ALL OTHER PROJECT NOTES.



CONTINUED ON PAGE 118 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



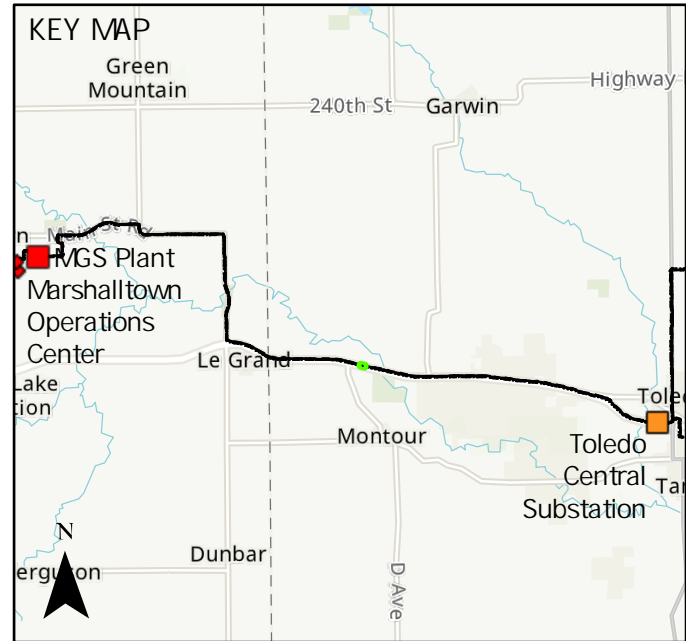
LABEL NUMBER	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACKLENGTH
42.004154°N/92.722640°W	UG-SD-001, UG-SD-002	MAINTENANCE HANDHOLE	30"X48"X36" HANDHOLE, FIBER MARKER W TEST STATION	0	0

Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water	Fiber	SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	144	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	36				Office
					Tower

Notes

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REVISIONS

0 PROJECT # 149681-02

ISSUED FOR REVIEW

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DATE: 11/13/2023
SCALE: "AS NOTED"
DESIGNED BY: CJ
REVIEWED BY: KJM
ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 119 OF 196



MGNS-TOLC-119 REV: 0

CONTINUED ON PAGE 119 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 121 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS

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REVIEWED BY: KJM

ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL SUBSTATION

PAGE 120 OF 196

MGNS-TOLC-120

REV: 0

Legend

Existing Utilities

Telecom

Electric

Gas

Sewer

Water

Other

Conduits

Underground, Bore Conduit

Underground, Existing Conduit

Underground, Plow Conduit

Underground, Hydrovac

Fiber

144

36

Pull Points

EXISTING HAND-HOLE

EXISTING JUNCTION BOX

EXISTING MAN-HOLE

MAINTENANCE HAND-HOLE

SPLICE POINT HAND-HOLE

NEW JUNCTION BOX

Slack Coils

144

36

Markers

Fiber Marker (w/ Test Station)

Fiber Marker (No Test Station)

Other

Construction Note

Highway Crossing

Water Crossing

Railroad Crossing

Bore Pit

Splice Point

Parcel Data

Right of Way

Private Easement

Wetlands

Wetlands

Sites

Substation

Office

Tower

Notes

1. DISTANCES MEASURED BY SOFTWARE ARE APPROXIMATE, FIELD TO VERIFY.

2. PARCEL LINES IN MAP ARE NOT SURVEYED AND FOR REFERENCE ONLY. SUBCONTRACTOR TO USE MEASUREMENTS FROM CENTERLINE FOR FINAL ALIGNMENT OF FIBER INSTALLATION.

3. FIBER INSTALLATION TO REMAIN ON BACKSLOPE OF DITCH WITHIN RIGHT OF WAY UNLESS OTHERWISE NOTED. FIBER TO BE INSTALLED AWAY FROM ANY LOW-GRADE WATER RETAINING AREAS.

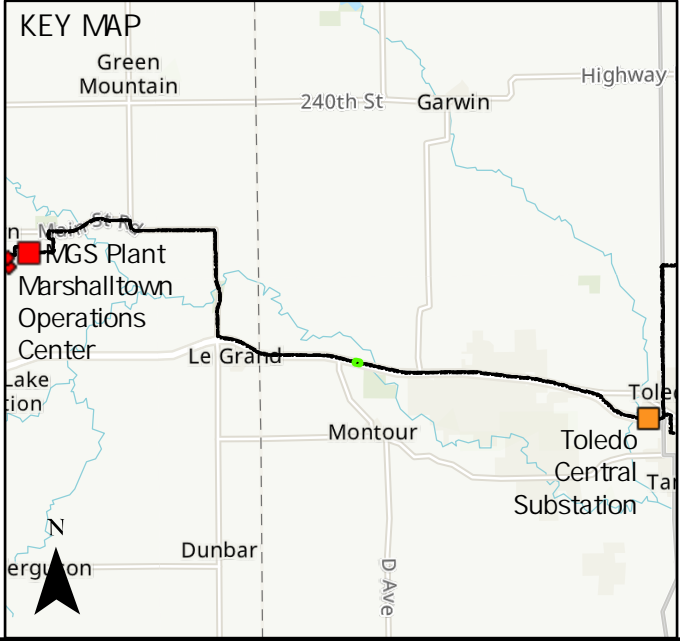
4. FIBER TO MAINTAIN A DEPTH OF 36 INCHES UNLESS OTHERWISE SPECIFIED.

5. FIBER TO MAINTAIN A MINIMUM 18" HORIZONTAL SEPARATION FROM EXISTING UTILITIES.

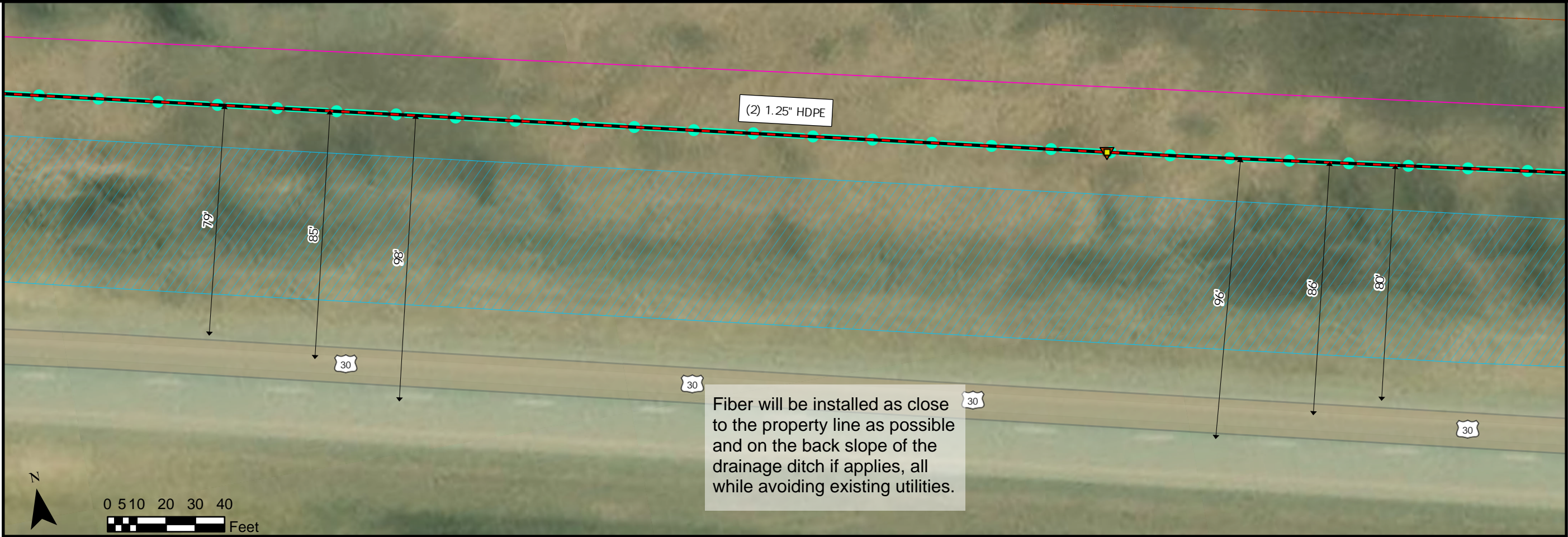
6. SUBCONTRACTOR TO LOCATE, MARK, AND AVOID ALL UTILITIES DURING FIBER INSTALLATION.

7. SUBCONTRACTOR TO NOTIFY LOCATION SERVICES AT MINIMUM THREE DAYS BEFORE EXCAVATION (1A: (800) 292-8989)

8. REFER TO GENERAL NOTES SHEET FOR ALL OTHER PROJECT NOTES.



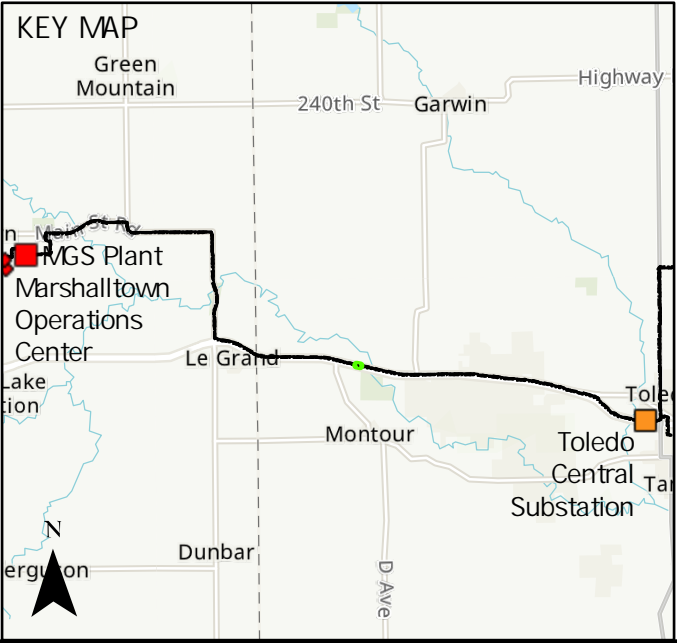
CONTINUED ON PAGE 120 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 122 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS	
0	PROJECT # 149681-02
ISSUED FOR REVIEW	
THE INFORMATION ON THIS PRINT IS CONFIDENTIAL AND IS THE PROPERTY OF ALLIANT ENERGY	
DATE: 11/13/2023	SCALE: "AS NOTED"
DESIGNED BY: CJ	REVIEWED BY: KJM
ENGINEER: TVN	
MGS PLANT - TOLEDO CENTRAL SUBSTATION PAGE 121 OF 196	
Alliant Energy	
MGNS-TOLC-121	REV: 0

Legend	
Existing Utilities <ul style="list-style-type: none">TelecomElectricGasSewerWaterOther	Conduits <ul style="list-style-type: none">Underground, Bore ConduitUnderground, Existing ConduitUnderground, Plow ConduitUnderground, Hydrovac Fiber <ul style="list-style-type: none">14436
Pull Points <ul style="list-style-type: none">EXISTING HAND-HOLEEXISTING JUNCTION BOXEXISTING MAN-HOLEMAINTENANCE HAND-HOLESPLICE POINT HAND-HOLENEW JUNCTION BOX	Slack Coils <ul style="list-style-type: none">14436 Markers <ul style="list-style-type: none">Fiber Marker (w/ Test Station)Fiber Marker (No Test Station)
Other <ul style="list-style-type: none">Construction NoteHighway CrossingWater CrossingRailroad CrossingBore PitSplice Point	
Parcel Data <ul style="list-style-type: none">Right of WayPrivate Easement Wetlands <ul style="list-style-type: none">Wetlands Sites <ul style="list-style-type: none">SubstationOfficeTower	
Notes <ol style="list-style-type: none">DISTANCES MEASURED BY SOFTWARE ARE APPROXIMATE, FIELD TO VERIFY.PARCEL LINES IN MAP ARE NOT SURVEYED AND FOR REFERENCE ONLY. SUBCONTRACTOR TO USE MEASUREMENTS FROM CENTERLINE FOR FINAL ALIGNMENT OF FIBER INSTALLATION.FIBER INSTALLATION TO REMAIN ON BACKSLOPE OF DITCH WITHIN RIGHT OF WAY UNLESS OTHERWISE NOTED. FIBER TO BE INSTALLED AWAY FROM ANY LOW-GRADE WATER RETAINING AREAS.FIBER TO MAINTAIN A DEPTH OF 36 INCHES UNLESS OTHERWISE SPECIFIED.FIBER TO MAINTAIN A MINIMUM 18" HORIZONTAL SEPARATION FROM EXISTING UTILITIES.SUBCONTRACTOR TO LOCATE, MARK, AND AVOID ALL UTILITIES DURING FIBER INSTALLATION.SUBCONTRACTOR TO NOTIFY LOCATION SERVICES AT MINIMUM THREE DAYS BEFORE EXCAVATION (1A: (800) 292-8989)REFER TO GENERAL NOTES SHEET FOR ALL OTHER PROJECT NOTES.	



CONTINUED ON PAGE 121 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 123 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS

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MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 122 OF 196



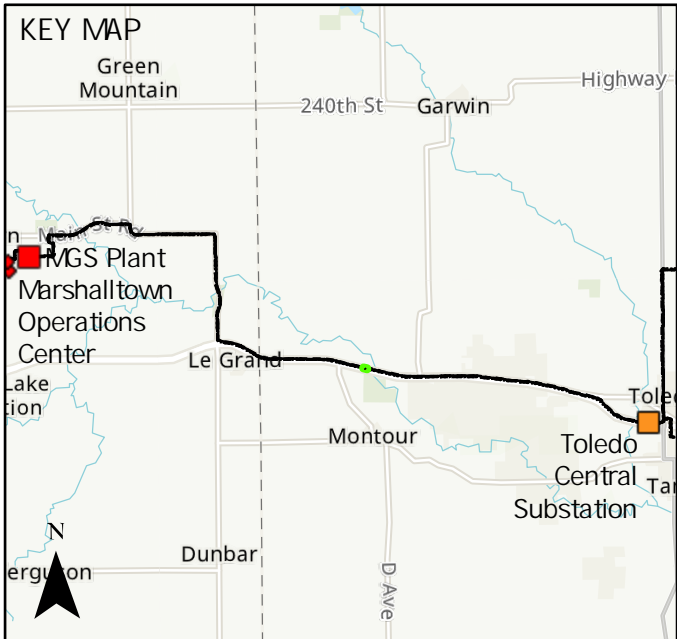
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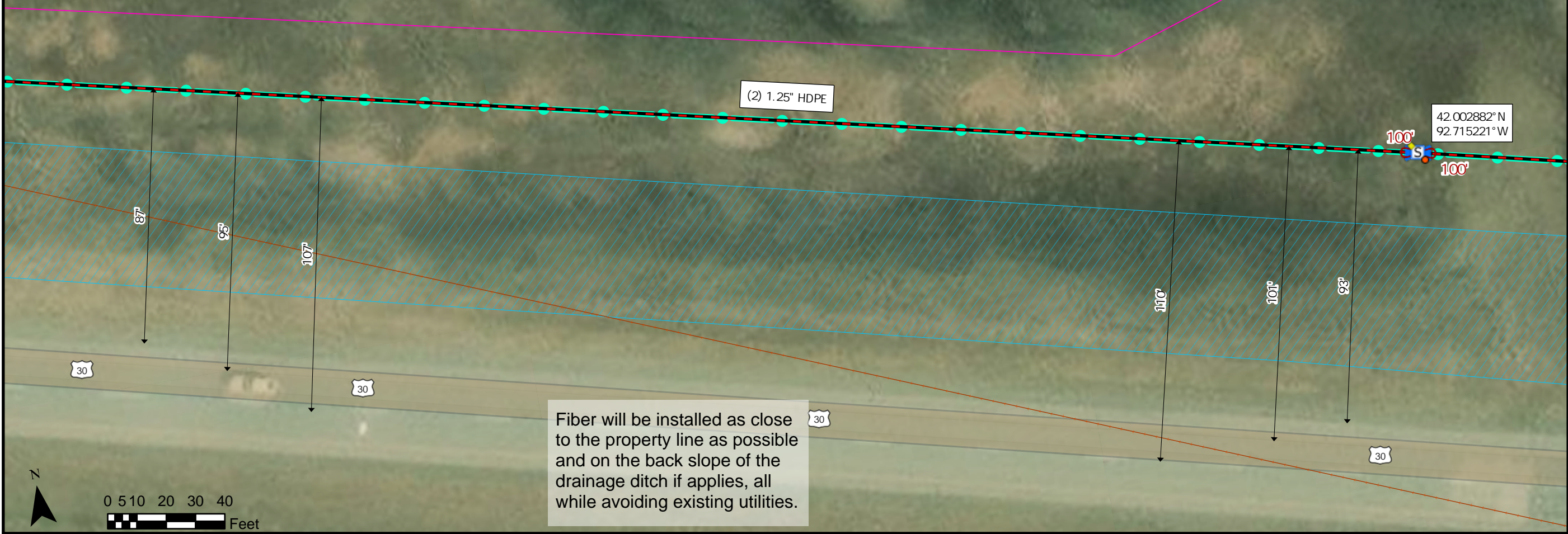
Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water		SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other		NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	Fiber				Office
	144				Tower
	36				

Notes

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CONTINUED ON PAGE 122 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



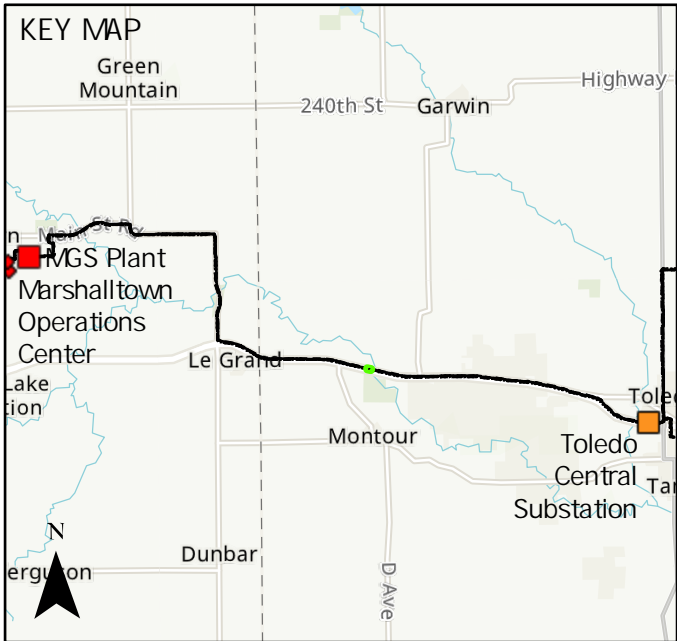
LABEL NUMBER	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACKLENGTH
42.002882° N/92.715221° W	UG-SD-001, UG-SD-003	END OF REEL SPLICE	30"X60"X36" HANDHOLE, FIBER MARKER W TEST STATION	2	200

Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE		Railroad Crossing	Wetlands
Water		SPLICE POINT HAND-HOLE		Bore Pit	Sites
Other	Fiber	NEW JUNCTION BOX	Fiber Marker (w/ Test Station)	Splice Point	Substation
	144		Fiber Marker (No Test Station)		Office
	36				Tower

Notes

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REVISIONS

0 PROJECT # 149681-02

ISSUED FOR REVIEW

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DATE: 11/13/2023
SCALE: "AS NOTED"
DESIGNED BY: CJ
REVIEWED BY: KJM
ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 123 OF 196



MGNS-TOLC-123 REV: 0

CONTINUED ON PAGE 123 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 125 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS

0

PROJECT #
149681-02

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REVIEWED BY: KJM

ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL SUBSTATION PAGE 124 OF 196

MGNS-TOLC-124

REV: 0

Legend

Existing Utilities

Telecom

Electric

Gas

Sewer

Water

Other

Conduits

Underground, Bore Conduit

Underground, Existing Conduit

Underground, Plow Conduit

Underground, Hydrovac

Fiber

144

36

Pull Points

EXISTING HAND-HOLE

EXISTING JUNCTION BOX

EXISTING MAN-HOLE

MAINTENANCE HAND-HOLE

SPLICE POINT HAND-HOLE

NEW JUNCTION BOX

Slack Coils

144

36

Markers

Fiber Marker (w/ Test Station)

Fiber Marker (No Test Station)

Other

Construction Note

Highway Crossing

Water Crossing

Railroad Crossing

Bore Pit

Splice Point

Parcel Data

Right of Way

Private Easement

Wetlands

Wetlands

Sites

Substation

Office

Tower

Notes

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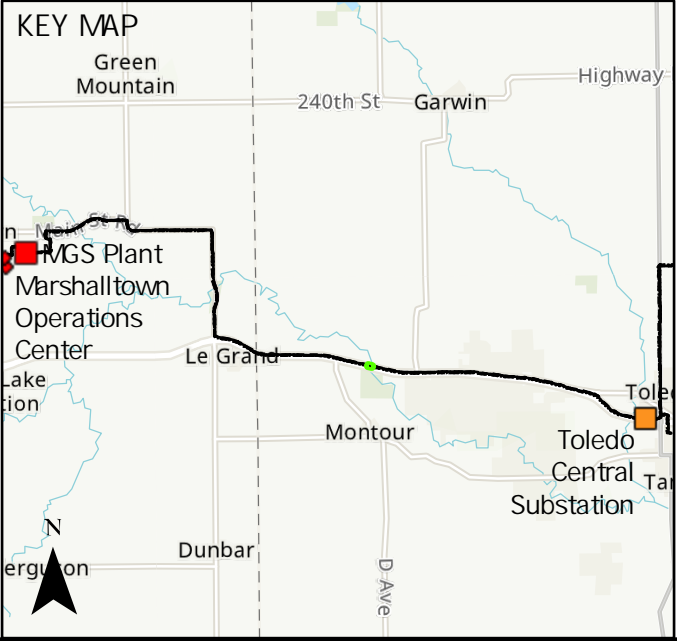
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5. FIBER TO MAINTAIN A MINIMUM 18" HORIZONTAL SEPARATION FROM EXISTING UTILITIES.

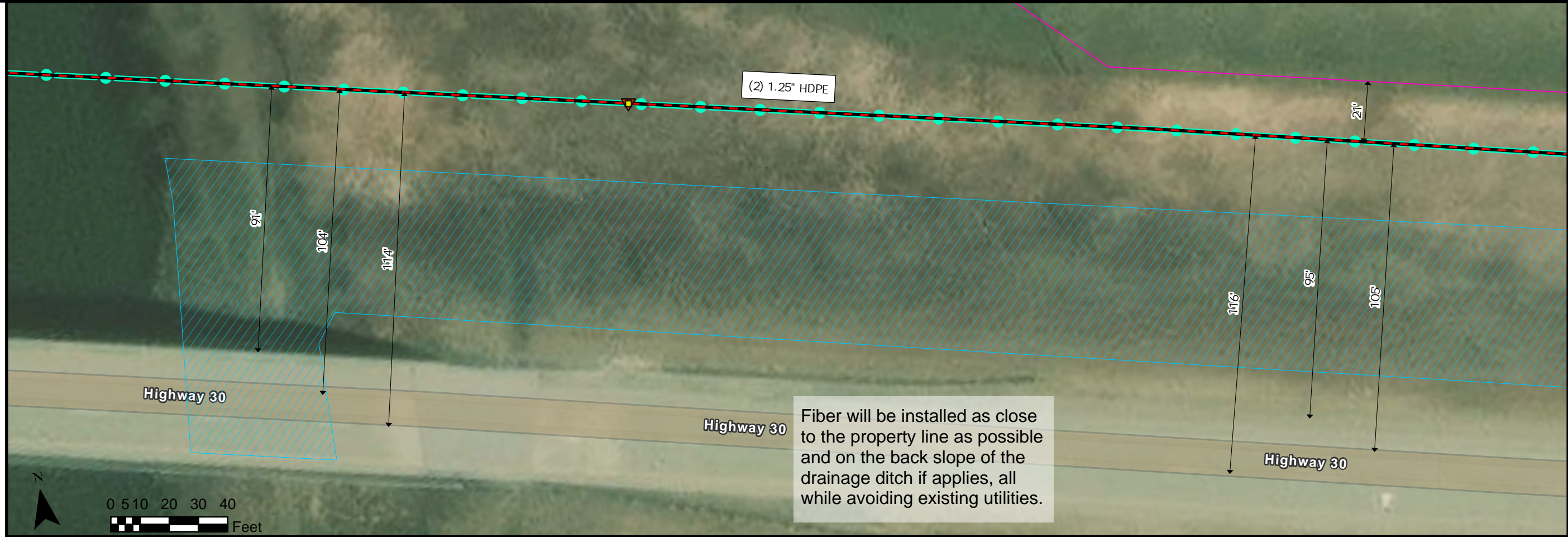
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8. REFER TO GENERAL NOTES SHEET FOR ALL OTHER PROJECT NOTES.



CONTINUED ON PAGE 124 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 126 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS

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REVIEWED BY: KJM
ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 125 OF 196



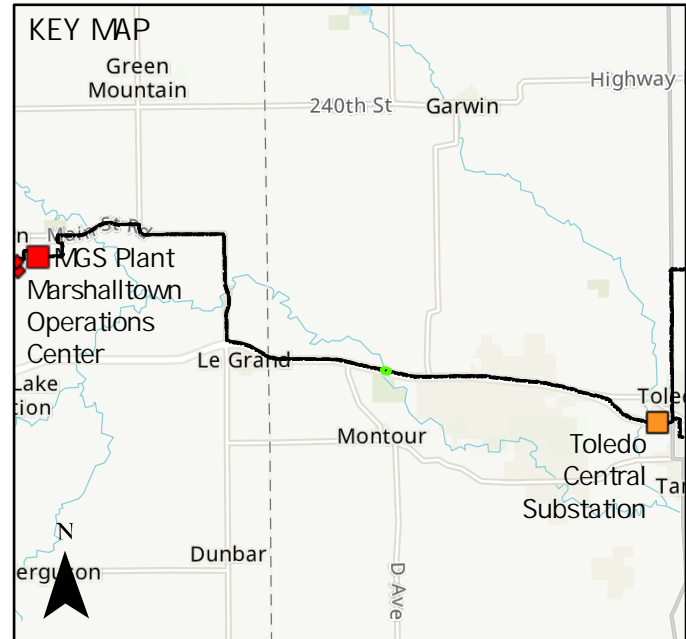
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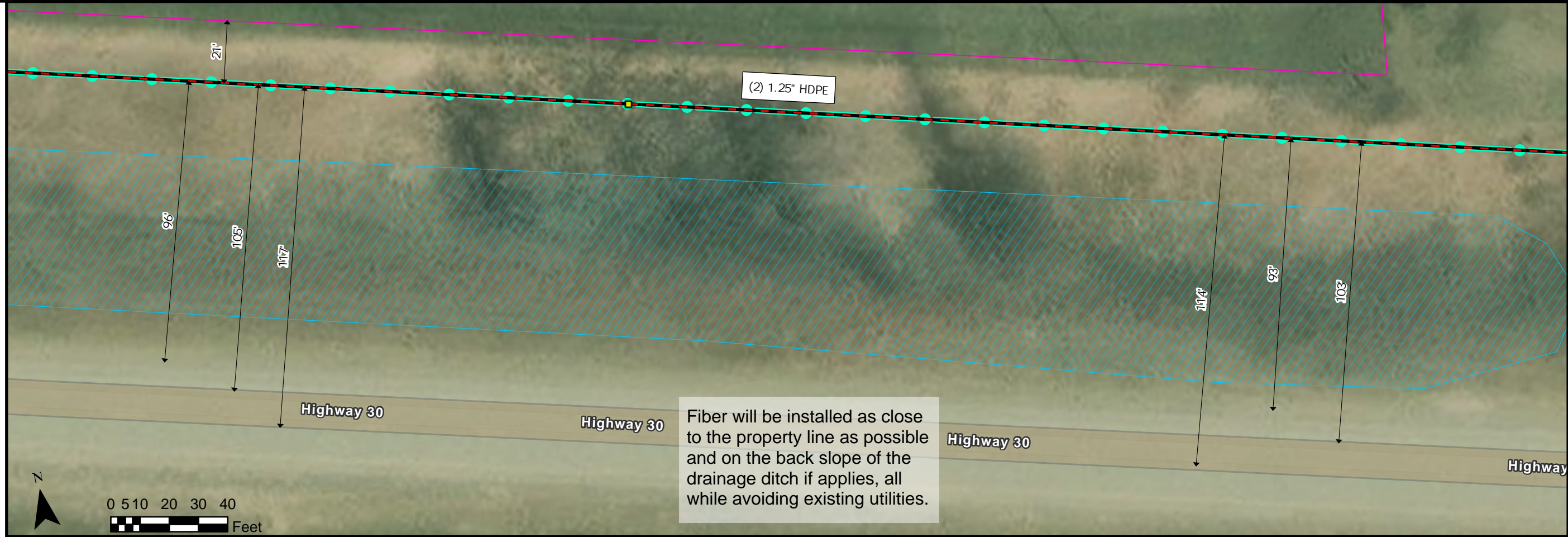
Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water		SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other		NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	Fiber				Office
	144				Tower
	36				

Notes

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CONTINUED ON PAGE 125 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 127 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS

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SCALE: "AS NOTED"
DESIGNED BY: CJ
REVIEWED BY: KJM
ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 126 OF 196



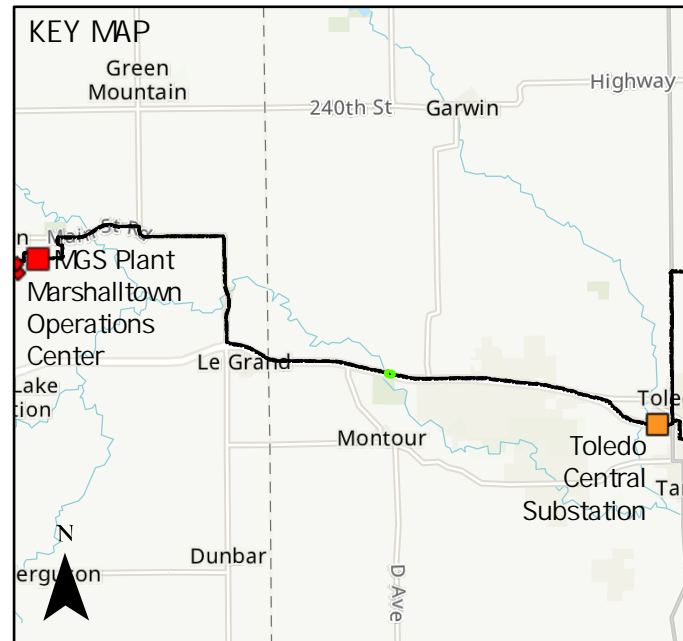
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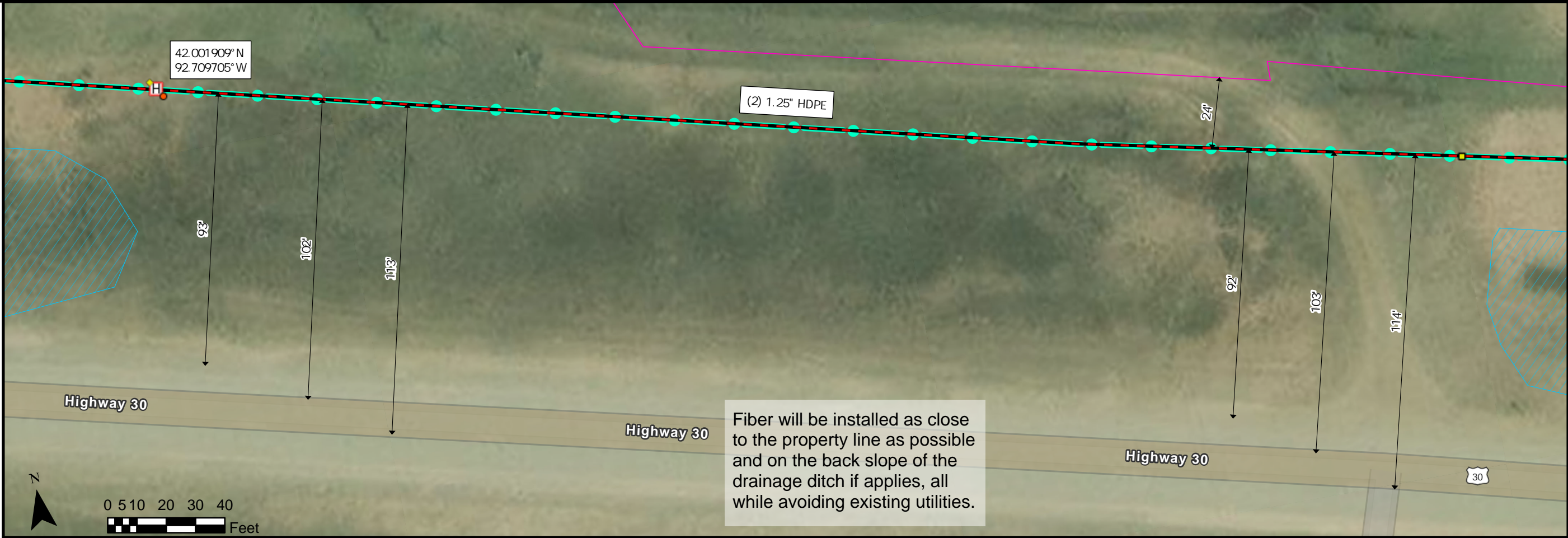
Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water	Fiber	SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	144	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	36				Office
					Tower

Notes

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CONTINUED ON PAGE 126 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



LABEL NUMBER	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACKLENGTH
42.001909° N/92.709705° W	UG-SD-001, UG-SD-002	MAINTENANCE HANDHOLE	30"X48"X36" HANDHOLE, FIBER MARKER W TEST STATION	0	0

Legend

Existing Utilities

- Telecom
- Electric
- Gas
- Sewer
- Water
- Other

Conduits

- Underground, Bore Conduit
- Underground, Existing Conduit
- Underground, Plow Conduit
- Underground, Hydrovac

Fiber

- 144
- 36

Pull Points

- EXISTING HAND-HOLE
- EXISTING JUNCTION BOX
- EXISTING MAN-HOLE
- MAINTENANCE HAND-HOLE
- SPLICE POINT HAND-HOLE
- NEW JUNCTION BOX

Slack Coils

- 144
- 36

Markers

- Fiber Marker (w/ Test Station)
- Fiber Marker (No Test Station)

Other

- Construction Note
- Highway Crossing
- Water Crossing
- Railroad Crossing
- Bore Pit
- Splice Point

Parcel Data

- Right of Way
- Private Easement

Wetlands

- Wetlands

Sites

- Substation
- Office
- Tower

- Notes
1. DISTANCES MEASURED BY SOFTWARE ARE APPROXIMATE, FIELD TO VERIFY.

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3. FIBER INSTALLATION TO REMAIN ON BACKSLOPE OF DITCH WITHIN RIGHT OF WAY UNLESS OTHERWISE NOTED. FIBER TO BE INSTALLED AWAY FROM ANY LOW-GRADE WATER RETAINING AREAS.

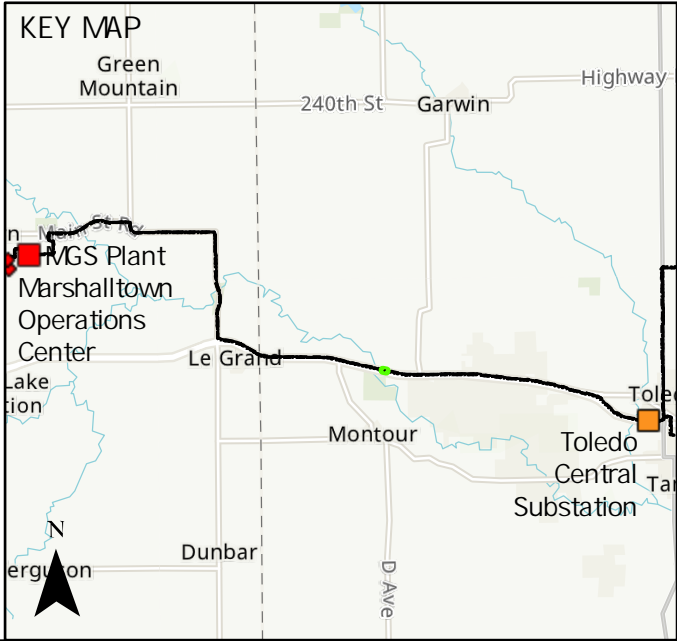
4. FIBER TO MAINTAIN A DEPTH OF 36 INCHES UNLESS OTHERWISE SPECIFIED.

5. FIBER TO MAINTAIN A MINIMUM 18" HORIZONTAL SEPARATION FROM EXISTING UTILITIES.

6. SUBCONTRACTOR TO LOCATE, MARK, AND AVOID ALL UTILITIES DURING FIBER INSTALLATION.

7. SUBCONTRACTOR TO NOTIFY LOCATION SERVICES AT MINIMUM THREE DAYS BEFORE EXCAVATION (1A: (800) 292-8989)

8. REFER TO GENERAL NOTES SHEET FOR ALL OTHER PROJECT NOTES.



REVISIONS

0 PROJECT # 149681-02

ISSUED FOR REVIEW

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DATE: 11/13/2023

SCALE: "AS NOTED"

DESIGNED BY: CJ

REVIEWED BY: KJM

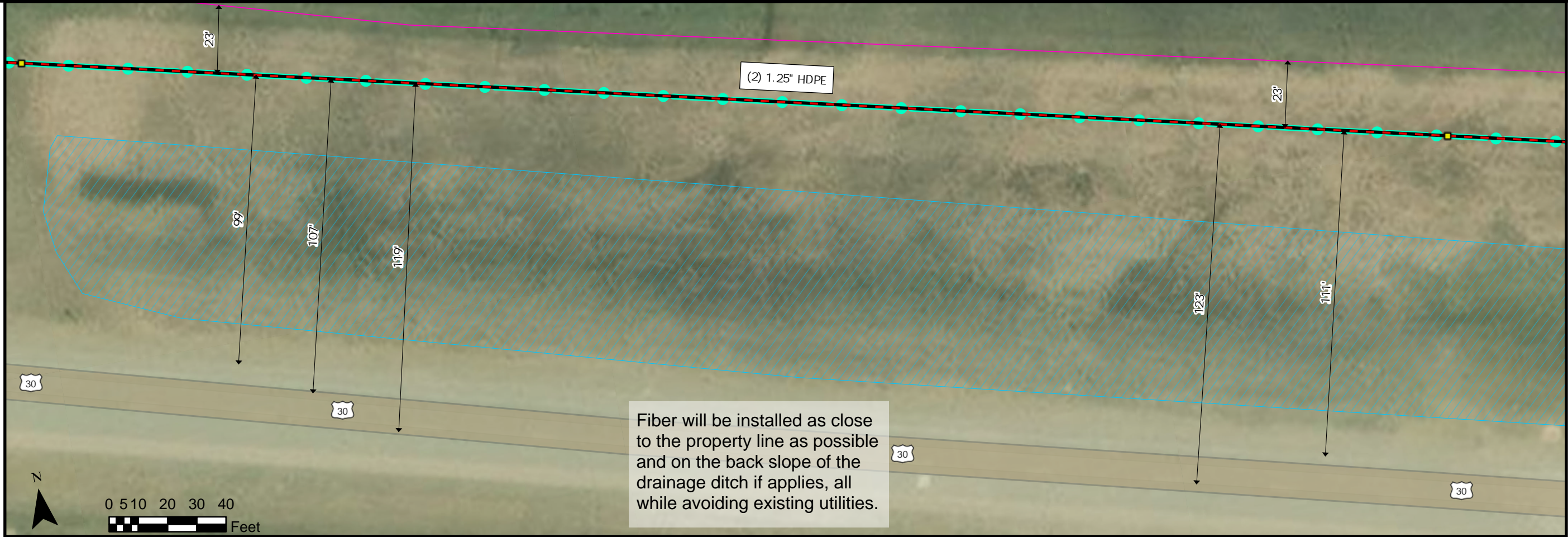
ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL SUBSTATION PAGE 127 OF 196

Alliant Energy

MGNS-TOLC-127 REV: 0

CONTINUED ON PAGE 127 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 129 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

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ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 128 OF 196



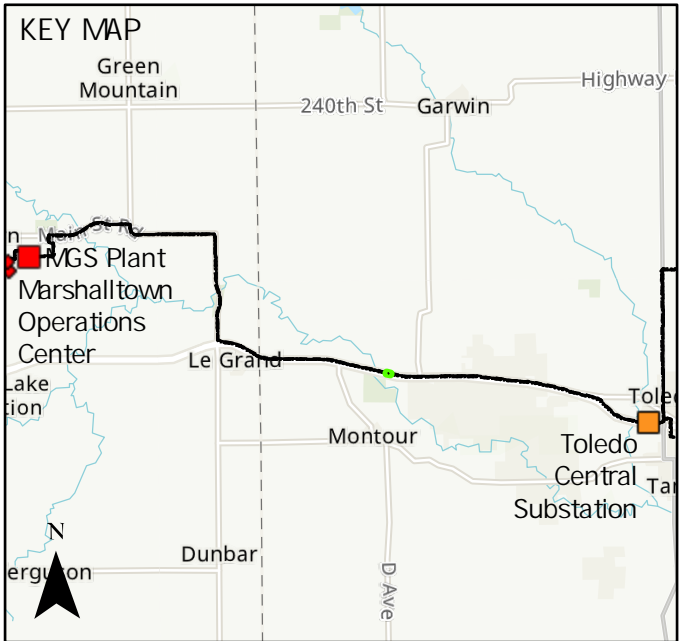
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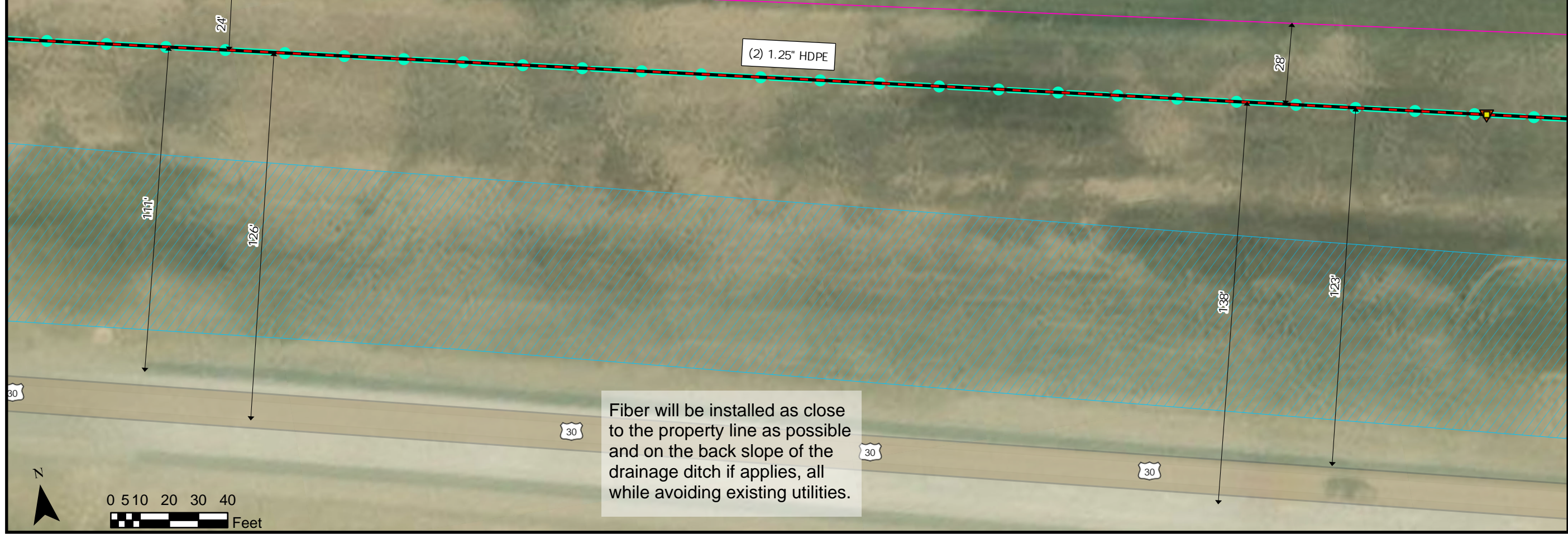
Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water	Fiber	SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	144	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	36				Office
					Tower

Notes

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CONTINUED ON PAGE 128 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 130 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS

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ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 129 OF 196



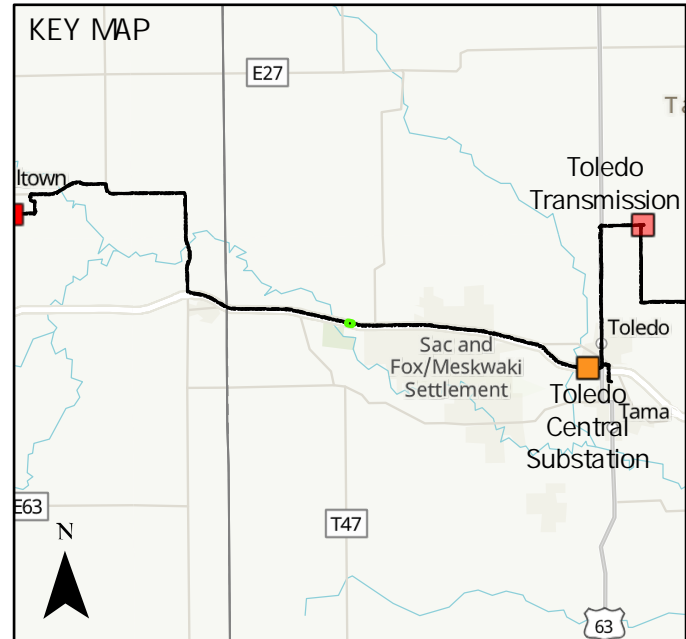
MGNS-TOLC-129 REV: 0

Legend

- | | | | | | |
|---------------------------|-------------------------------|------------------------|--------------------------------|-------------------|--------------------|
| Existing Utilities | Conduits | Pull Points | Slack Coils | Other | Parcel Data |
| Telecom | Underground, Bore Conduit | EXISTING HAND-HOLE | 144 | Construction Note | Right of Way |
| Electric | Underground, Existing Conduit | EXISTING JUNCTION BOX | 36 | Highway Crossing | Private Easement |
| Gas | Underground, Plow Conduit | EXISTING MAN-HOLE | | Water Crossing | Wetlands |
| Sewer | Underground, Hydrovac | MAINTENANCE HAND-HOLE | Markers | Railroad Crossing | Sites |
| Water | | SPLICE POINT HAND-HOLE | Fiber Marker (w/ Test Station) | Bore Pit | Substation |
| Other | Fiber | NEW JUNCTION BOX | Fiber Marker (No Test Station) | Splice Point | Office |
| | 144 | | | | Tower |
| | 36 | | | | |

Notes

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CONTINUED ON PAGE 129 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 131 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

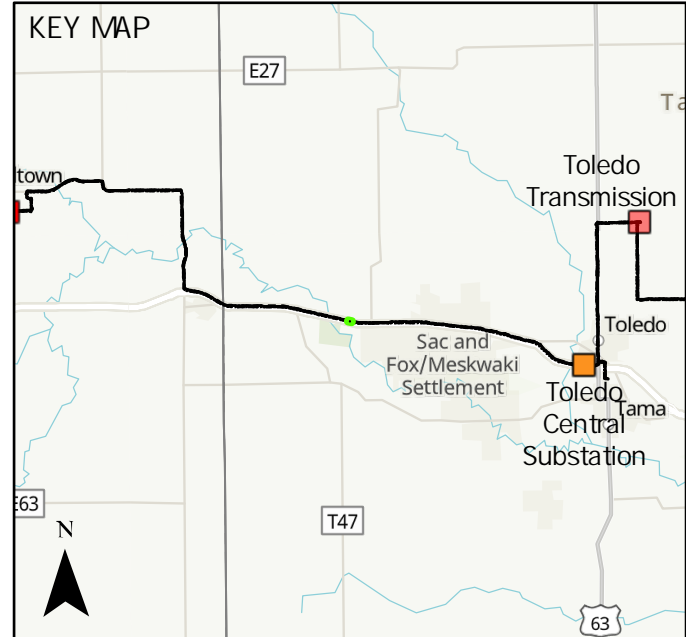
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ENGINEER: TVN	

Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE	Markers	Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE		Railroad Crossing	Wetlands
Water	Fiber	SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	144	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	36				Office
					Tower

Notes

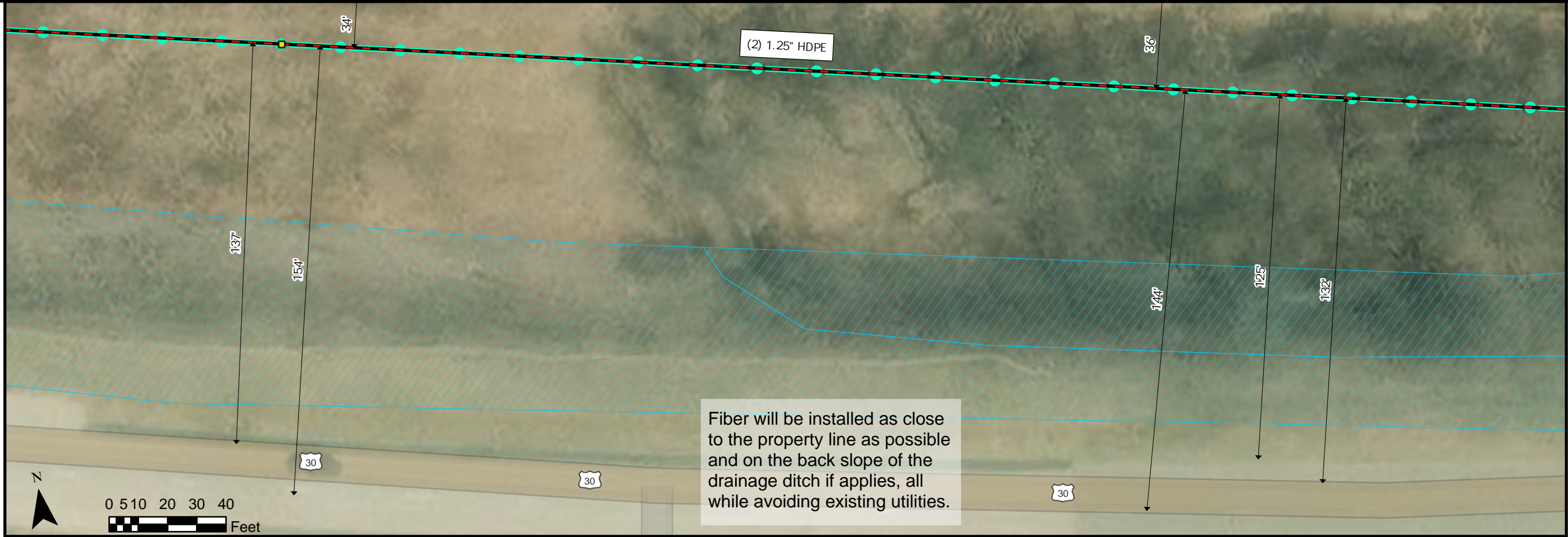
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MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 130 OF 196

MGNS-TOLC-130REV: 0

CONTINUED ON PAGE 130 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 132 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS

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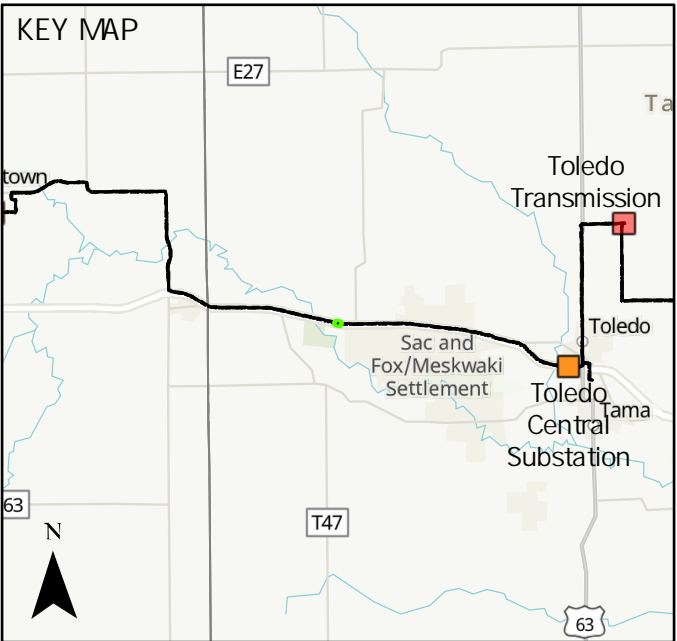
MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 131 OF 196

Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE	Markers	Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Fiber Marker (w/ Test Station)	Railroad Crossing	Sites
Water	Fiber	SPLICE POINT HAND-HOLE	Fiber Marker (No Test Station)	Bore Pit	Substation
Other	144	NEW JUNCTION BOX		Splice Point	Office
	36				Tower

Notes

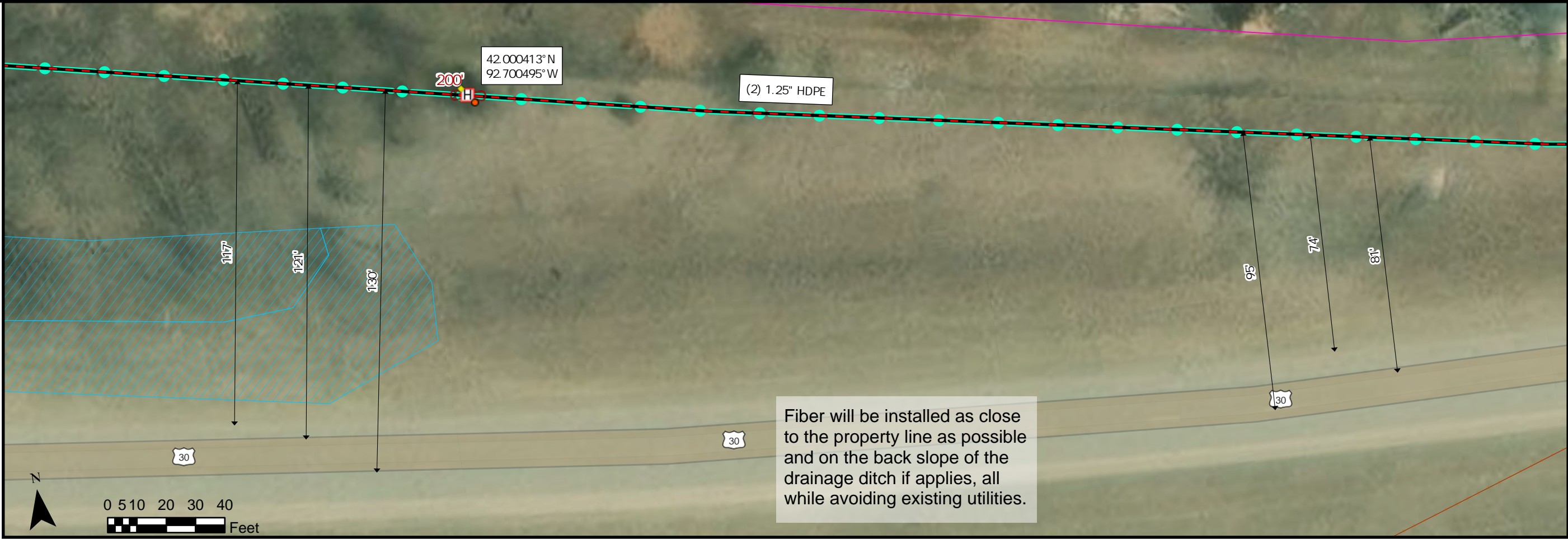
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MGNS-TOLC-131

REV: 0

CONTINUED ON PAGE 131 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



LABEL NUMBER	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACKLENGTH
42.000413° N/92.700495° W	UG-SD-001, UG-SD-002	MAINTENANCE HANDHOLE	30"X48"X36" HANDHOLE, FIBER MARKER W TEST STATION	1	200

Legend

- Existing Utilities

 - Telecom
 - Electric
 - Gas
 - Sewer
 - Water
 - Other
- Conduits

 - Underground, Bore Conduit
 - Underground, Existing Conduit
 - Underground, Plow Conduit
 - Underground, Hydrovac

Fiber

 - 144
 - 36
- Pull Points

 - EXISTING HAND-HOLE
 - EXISTING JUNCTION BOX
 - EXISTING MAN-HOLE
 - MAINTENANCE HAND-HOLE
 - SPLICE POINT HAND-HOLE
 - NEW JUNCTION BOX
- Slack Coils

 - 144
 - 36

Markers

 - Fiber Marker (w/ Test Station)
 - Fiber Marker (No Test Station)
- Other

 - Construction Note
 - Highway Crossing
 - Water Crossing
 - Railroad Crossing
 - Bore Pit
 - Splice Point
- Parcel Data

 - Right of Way
 - Private Easement

Wetlands

 - Wetlands

Sites

 - Substation
 - Office
 - Tower

Notes

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REVISIONS

0 PROJECT # 149681-02

ISSUED FOR REVIEW

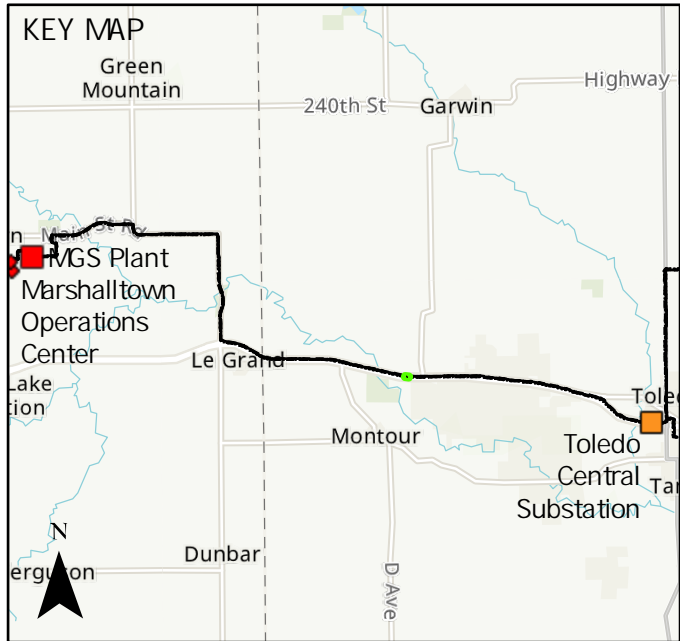
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ENGINEER: TVN

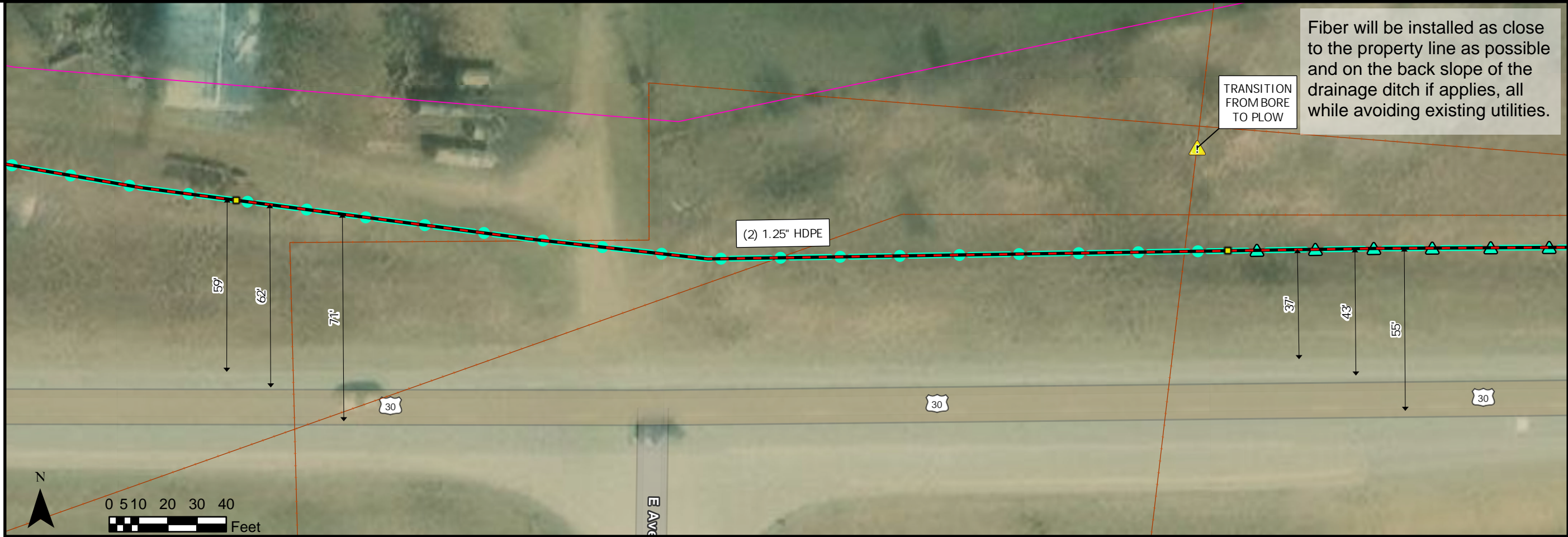
MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 132 OF 196



MGNS-TOLC-132 REV: 0



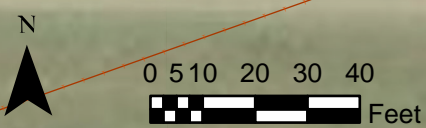
CONTINUED ON PAGE 132 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



Fiber will be installed as close to the property line as possible and on the back slope of the drainage ditch if applies, all while avoiding existing utilities.

TRANSITION FROM BORE TO PLOW

(2) 1.25" HDPE



CONTINUED ON PAGE 134 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS

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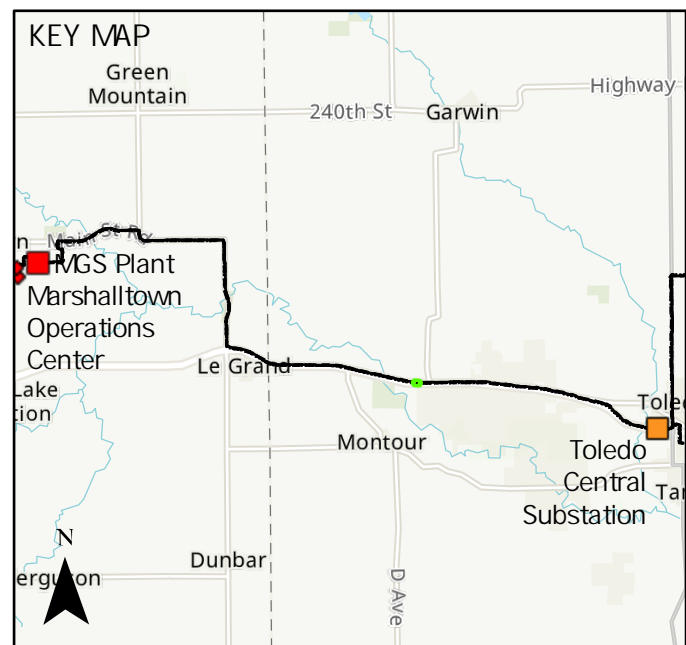
MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 133 OF 196

Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE		Railroad Crossing	Wetlands
Water		SPLICE POINT HAND-HOLE		Bore Pit	Sites
Other		NEW JUNCTION BOX		Splice Point	Substation
	Fiber				Office
	144				Tower
	36				

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CONTINUED ON PAGE 133 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

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CONTINUED ON PAGE 135 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

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MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 134 OF 196



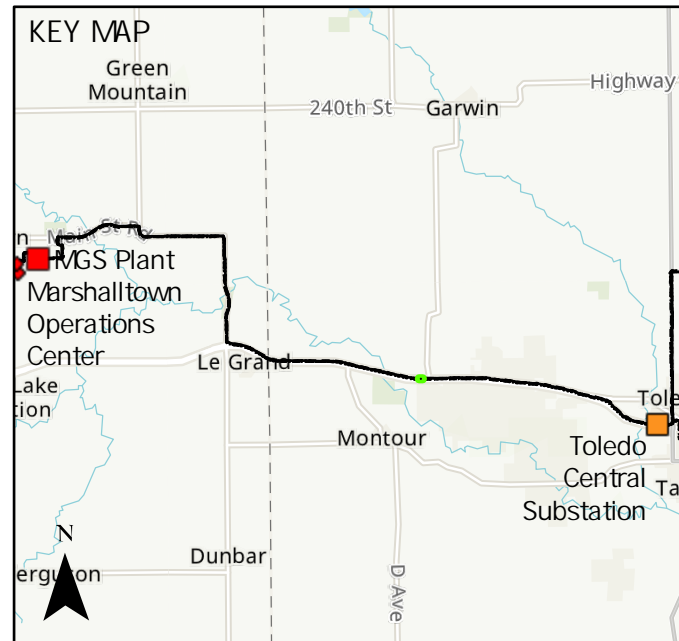
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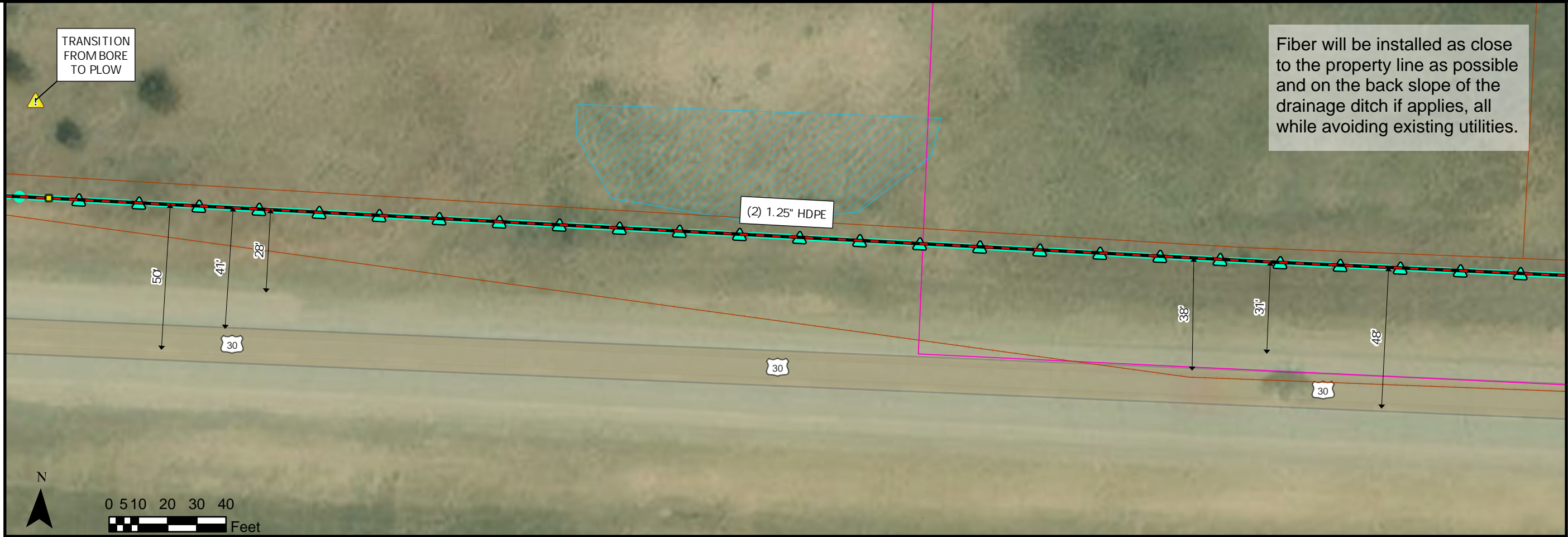
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	36				Office
					Tower

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CONTINUED ON PAGE 134 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



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MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 135 OF 196



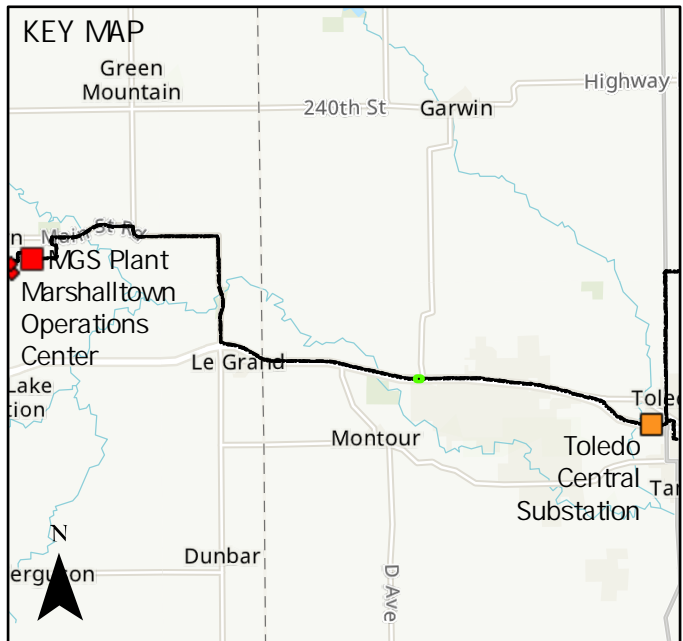
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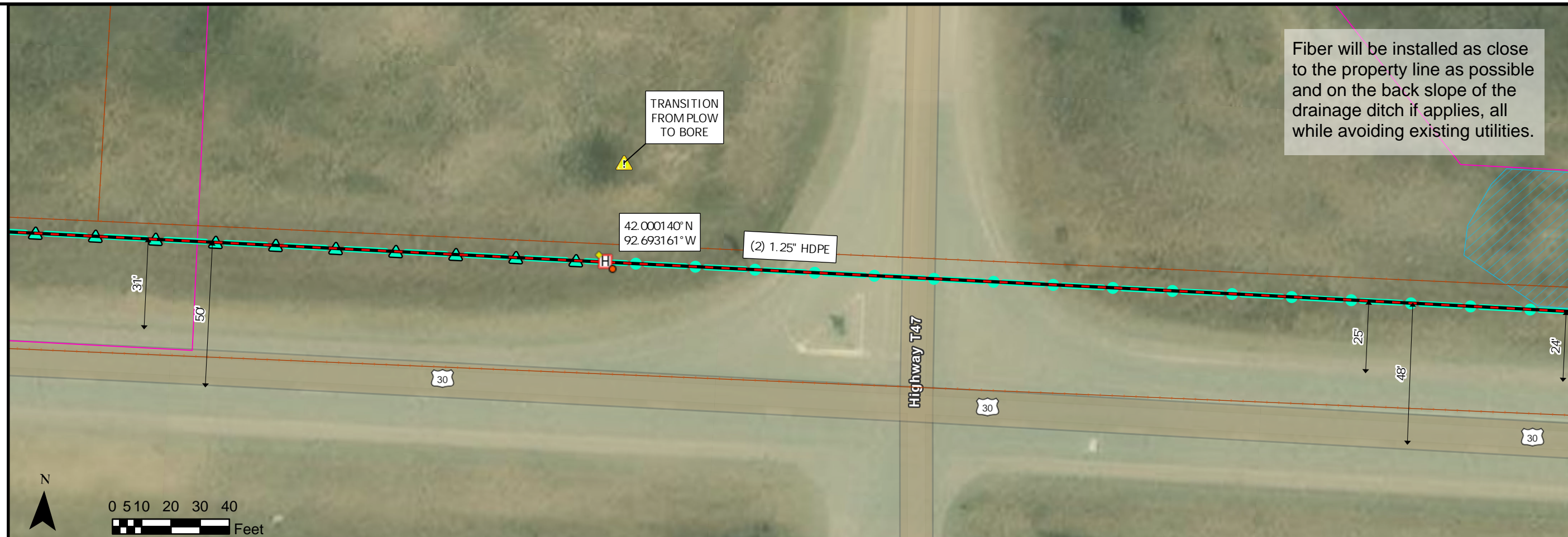
Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
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CONTINUED ON PAGE 135 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



LABEL NUMBER	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACKLENGTH
42.000140° N/92.693161° W	UG-SD-001, UG-SD-002	MAINTENANCE HANDHOLE	30"X48"X36" HANDHOLE, FIBER MARKER W TEST STATION	0	0

REVISIONS

0	PROJECT #
	149681-02

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REVIEWED BY: K. J. HARRIS
ENGINEER: TVN

NGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 136 OF 196



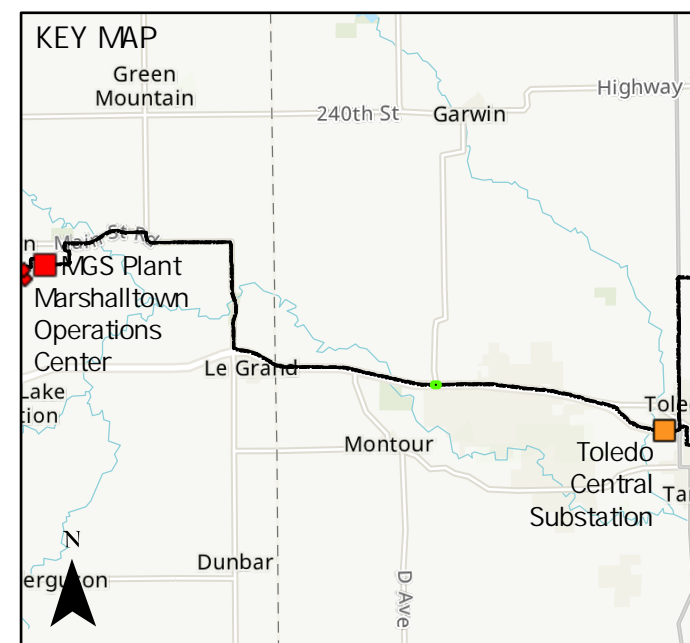
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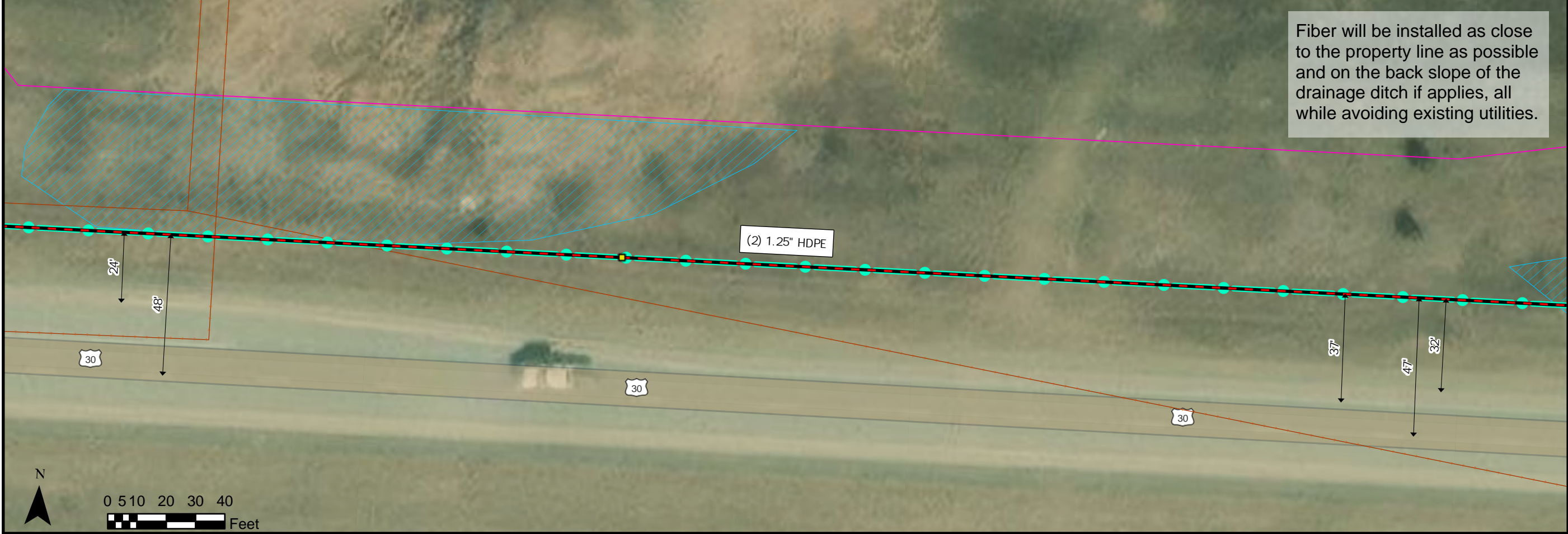
- | Existing Utilities | Conduits | Pull Points | Slack Coils | Other | Parcel Data |
|--------------------|-------------------------------|------------------------|--------------------------------|-------------------|------------------|
| Telecom | Underground, Bore Conduit | EXISTING HAND-HOLE | 144 | Construction Note | Right of Way |
| Electric | Underground, Existing Conduit | EXISTING JUNCTION BOX | 36 | Highway Crossing | Private Easement |
| Gas | Underground, Plow Conduit | EXISTING MAN-HOLE | | Water Crossing | Wetlands |
| Sewer | Underground, Hydrovac | MAINTENANCE HAND-HOLE | Markers | Railroad Crossing | Wetlands |
| Water | Fiber | SPLICE POINT HAND-HOLE | Fiber Marker (w/ Test Station) | Bore Pit | Sites |
| Other | 144 | NEW JUNCTION BOX | Fiber Marker (No Test Station) | Splice Point | Substation |
| | 36 | | | | Office |

Notes

1. DISTANCES MEASURED BY SOFTWARE ARE APPROXIMATE, FIELD TO VERIFY.
2. PARCEL LINES IN MAP ARE NOT SURVEYED AND FOR REFERENCE ONLY. SUBCONTRACTOR TO USE MEASUREMENTS FROM CENTERLINE FOR FINAL ALIGNMENT OF FIBER INSTALLATION.
3. FIBER INSTALLATION TO REMAIN ON BACKSLOPE OF DITCH WITHIN RIGHT OF WAY UNLESS OTHERWISE NOTED. FIBER TO BE INSTALLED AWAY FROM ANY LOW-GRADE WATER RETAINING AREAS.
4. FIBER TO MAINTAIN A DEPTH OF 36 INCHES UNLESS OTHERWISE SPECIFIED.
5. FIBER TO MAINTAIN A MINIMUM 18" HORIZONTAL SEPARATION FROM EXISTING UTILITIES.
6. SUBCONTRACTOR TO LOCATE, MARK, AND AVOID ALL UTILITIES DURING FIBER INSTALLATION.
7. SUBCONTRACTOR TO NOTIFY LOCATION SERVICES AT MINIMUM THREE DAYS BEFORE EXCAVATION (1A: (800) 292-8989)
8. REFER TO GENERAL NOTES SHEET FOR ALL OTHER PROJECT NOTES.



CONTINUED ON PAGE 136 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



Fiber will be installed as close to the property line as possible and on the back slope of the drainage ditch if applies, all while avoiding existing utilities.

CONTINUED ON PAGE 138 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

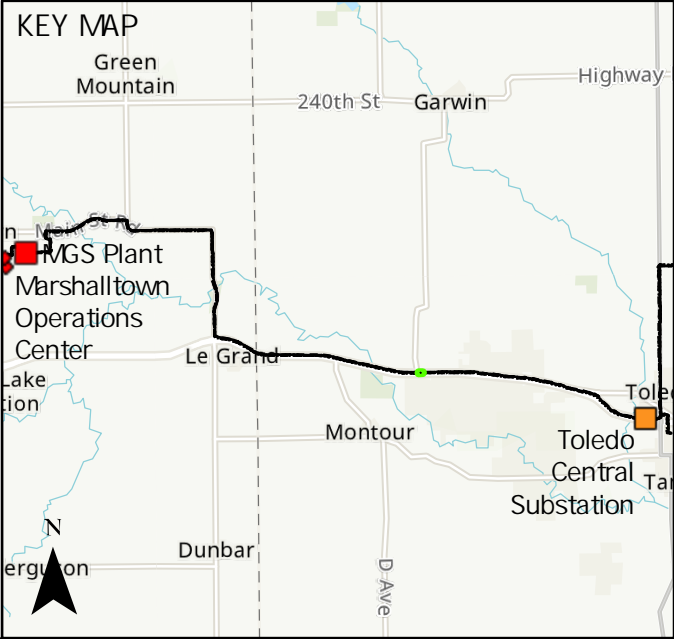
REVISIONS	
0	PROJECT # 149681-02
ISSUED FOR REVIEW	
THE INFORMATION ON THIS PRINT IS CONFIDENTIAL AND IS THE PROPERTY OF ALLIANT ENERGY	
DATE: 11/13/2023	SCALE: "AS NOTED"
DESIGNED BY: CJ	REVIEWED BY: KJM
ENGINEER: TVN	
MGS PLANT - TOLEDO CENTRAL SUBSTATION PAGE 137 OF 196	
Alliant Energy	
MGNS-TOLC-137	REV: 0

Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE		Railroad Crossing	Wetlands
Water		SPLICE POINT HAND-HOLE		Bore Pit	Sites
Other		NEW JUNCTION BOX		Splice Point	Substation
	Fiber				Office
	144				Tower
	36				

Notes

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CONTINUED ON PAGE 137 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 139 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

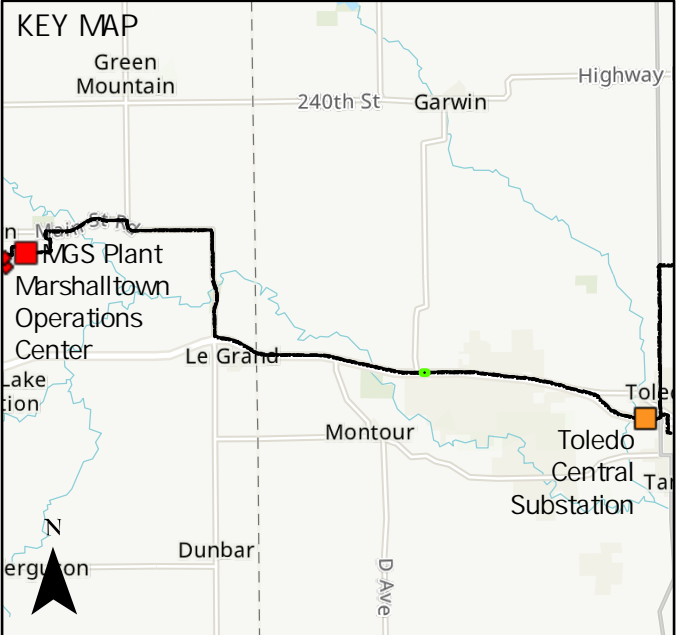
REVISIONS	
0	PROJECT # 149681-02
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THE INFORMATION ON THIS PRINT IS CONFIDENTIAL AND IS THE PROPERTY OF ALLIANT ENERGY	
ENGINEER: TVN	REVIEWED BY: KJM
DESIGNED BY: CJ	DATE: 11/13/2023
SCALE: "AS NOTED"	

Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water	Fiber	SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	144	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	36				Office
					Tower

Notes

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MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 138 OF 196

MGNS-TOLC-138

REV: 0

CONTINUED ON PAGE 138 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



Fiber will be installed as close to the property line as possible and on the back slope of the drainage ditch if applies, all while avoiding existing utilities.

TRANSITION FROM BORE TO PLOW

(2) 1.25" HDPE

30

30

CONTINUED ON PAGE 140 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS

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SCALE: "AS NOTED"

DESIGNED BY: CJ

REVIEWED BY: KJM

ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 139 OF 196

Legend

Existing Utilities

- Telecom
- Electric
- Gas
- Sewer
- Water
- Other

Conduits

- Underground, Bore Conduit
- Underground, Existing Conduit
- Underground, Plow Conduit
- Underground, Hydrovac

Fiber

- 144
- 36

Pull Points

- EXISTING HAND-HOLE
- EXISTING JUNCTION BOX
- EXISTING MAN-HOLE
- MAINTENANCE HAND-HOLE
- SPLICE POINT HAND-HOLE
- NEW JUNCTION BOX

Slack Coils

- 144
- 36

Markers

- Fiber Marker (w/ Test Station)
- Fiber Marker (No Test Station)

Other

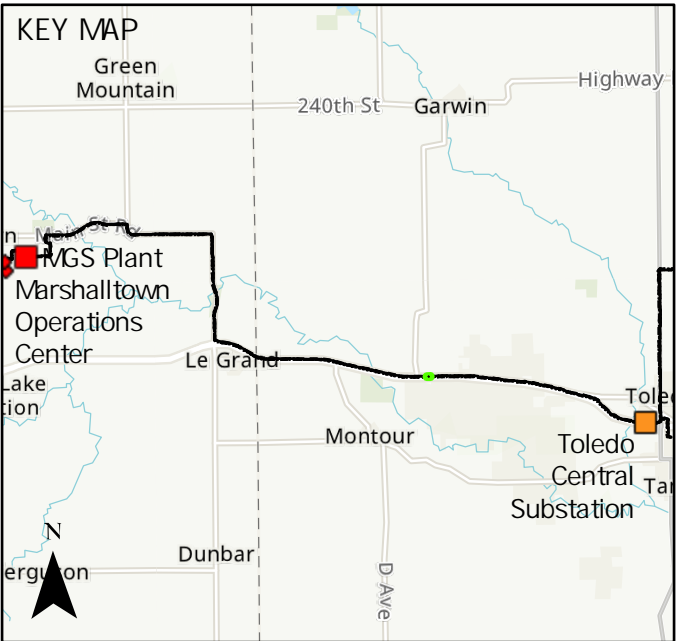
- Construction Note
- Highway Crossing
- Water Crossing
- Railroad Crossing
- Bore Pit
- Splice Point

Parcel Data

- Right of Way
- Private Easement
- Wetlands
- Wetlands
- Sites
- Substation
- Office
- Tower

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Notes



MGNS-TOLC-139

REV: 0

CONTINUED ON PAGE 139 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 141 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

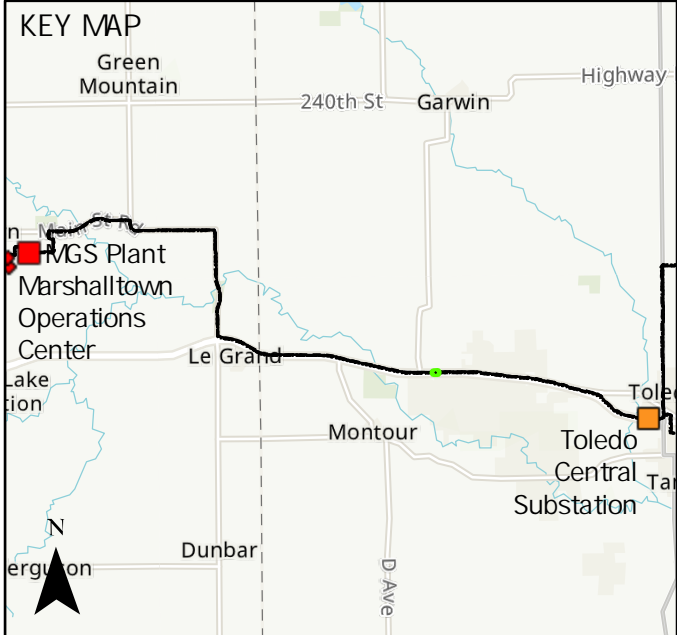
REVISIONS	
0	PROJECT # 149681-02
ISSUED FOR REVIEW	
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DATE: 11/13/2023	SCALE: "AS NOTED"
DESIGNED BY: CJ	REVIEWED BY: KJM
ENGINEER: TVN	
MGS PLANT - TOLEDO CENTRAL SUBSTATION PAGE 140 OF 196	
Alliant Energy	
MGNS-TOLC-140	REV: 0

Legend

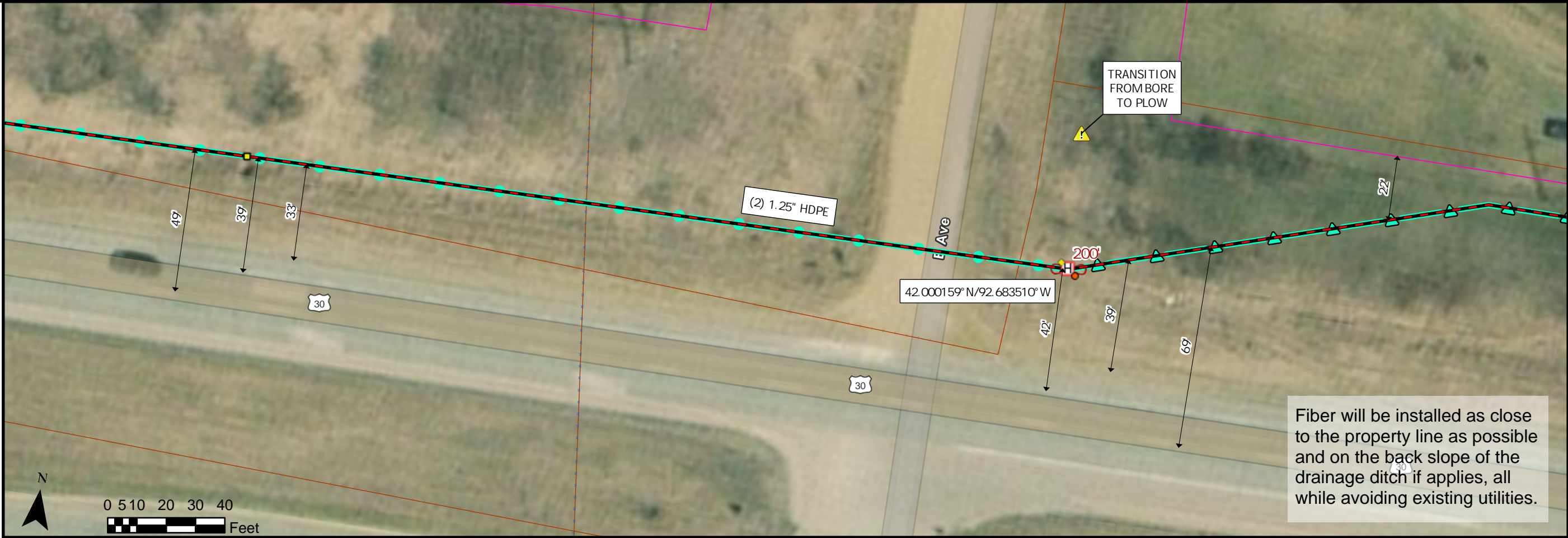
Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water	Fiber	SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	144	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	36				Office
					Tower

Notes

1. DISTANCES MEASURED BY SOFTWARE ARE APPROXIMATE, FIELD TO VERIFY.
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CONTINUED ON PAGE 140 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



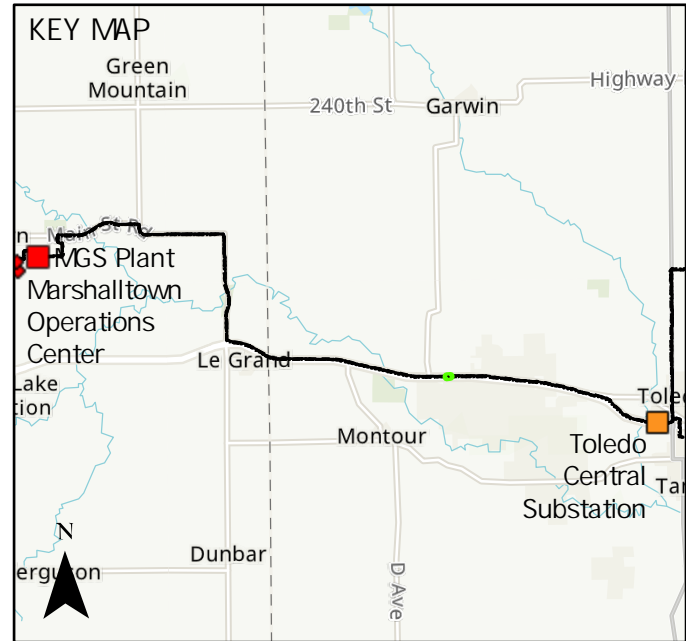
LABEL NUMBER	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACK LENGTH
42.000159° N/92.683510° W	UG-SD-001, UG-SD-002	MAINTENANCE HANDHOLE	30\"X48\"X36\" HANDHOLE, FIBER MARKER W TEST STATION	1	200

Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water	Fiber	SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	144	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	36				Office
					Tower

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REVISIONS

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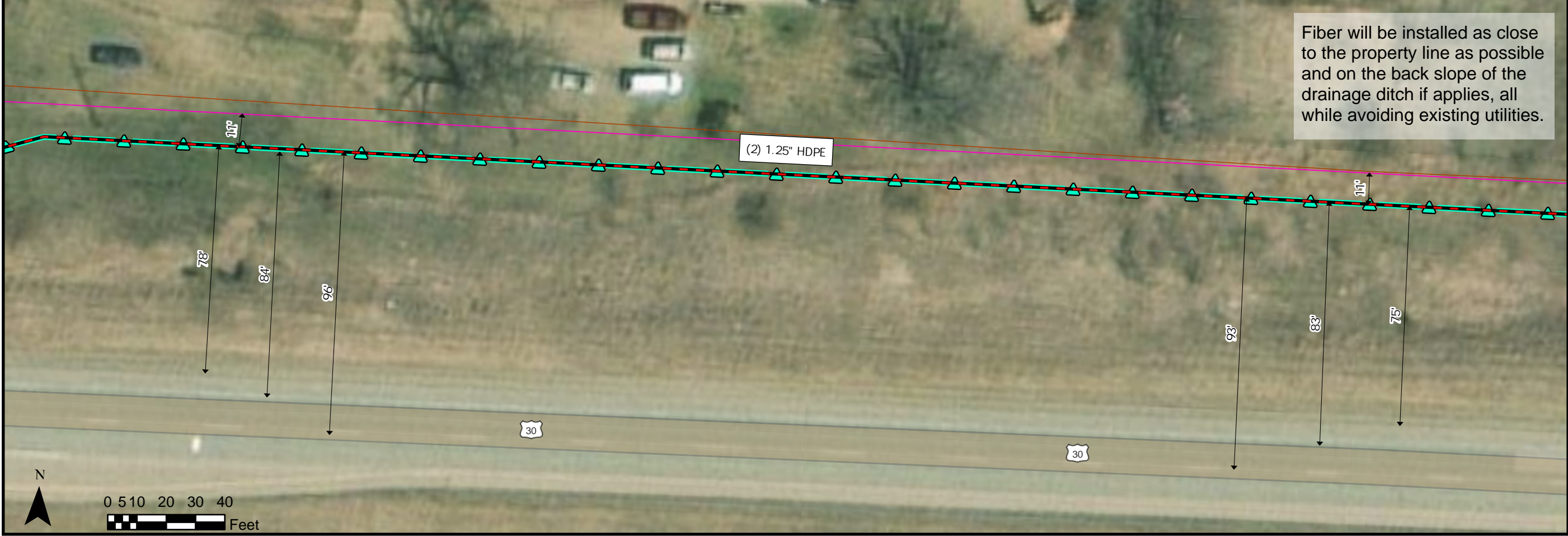
DATE: 11/13/2023
SCALE: "AS NOTED"
DESIGNED BY: CJ
REVIEWED BY: KJM
ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 141 OF 196



MGNS-TOLC-141 REV: 0

CONTINUED ON PAGE 141 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



Fiber will be installed as close to the property line as possible and on the back slope of the drainage ditch if applies, all while avoiding existing utilities.

(2) 1.25" HDPE

CONTINUED ON PAGE 143 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS

0 PROJECT # 149681-02

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DATE: 11/13/2023

SCALE: "AS NOTED"

DESIGNED BY: CJ

REVIEWED BY: KJM

ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 142 OF 196



MGNS-TOLC-142

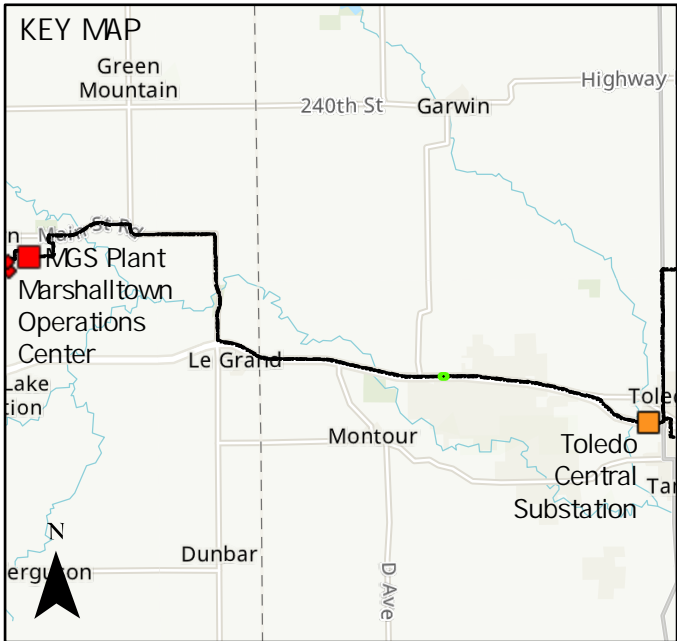
REV: 0

Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water	Fiber	SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	144	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	36				Office
					Tower

Notes

1. DISTANCES MEASURED BY SOFTWARE ARE APPROXIMATE, FIELD TO VERIFY.
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Fiber will be installed as close to the property line as possible and on the back slope of the drainage ditch if applies, all while avoiding existing utilities.

REVISIONS

0	PROJECT # 149681-02
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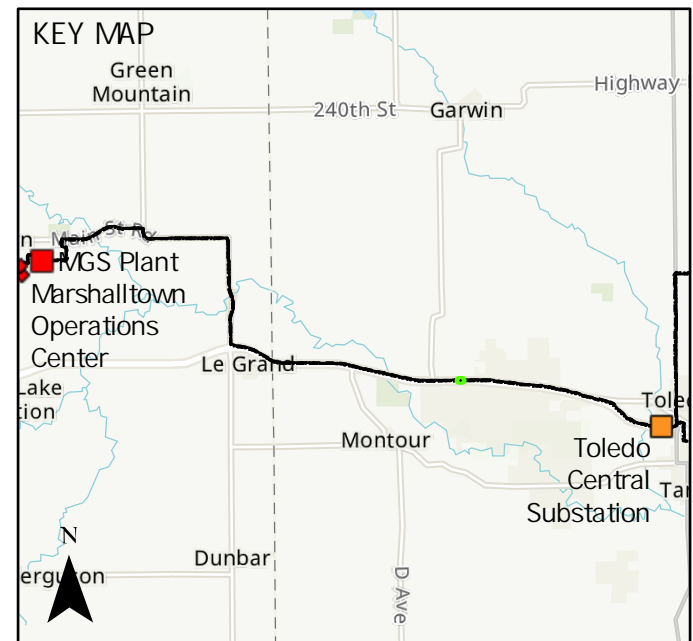
DATE: 11/13/2023

SCALE: "AS NOTED"


































DESIGNED BY: CJ

ENGINEER: TVN

MG S PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 143 OF 196



Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
 Telecom	 Underground, Bore Conduit	 EXISTING HAND-HOLE	 144	 Construction Note	 Right of Way
 Electric	 Underground, Existing Conduit	 EXISTING JUNCTION BOX	 36	 Highway Crossing	 Private Easement
 Gas	 Underground, Plow Conduit	 EXISTING MAN-HOLE		 Water Crossing	Wetlands
 Sewer	 Underground, Hydrovac	 MAINTENANCE HAND-HOLE	Markers	 Railroad Crossing	 Wetlands
 Water	Fiber	 SPLICE POINT HAND-HOLE	 Fiber Marker (w/ Test Station)	 Bore Pit	Sites
 Other	 144	 NEW JUNCTION BOX	 Fiber Marker (No Test Station)	 Splice Point	 Substation
	 36				 Office

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CONTINUED ON PAGE 143 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 145 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

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DESIGNED BY: CJ	REVIEWED BY: KJM
ENGINEER: TVN	

Legend

Existing Utilities

- Telecom
- Electric
- Gas
- Sewer
- Water
- Other

Conduits

- Underground, Bore Conduit
- Underground, Existing Conduit
- Underground, Plow Conduit
- Underground, Hydrovac

Fiber

- 144
- 36

Pull Points

- EXISTING HAND-HOLE
- EXISTING JUNCTION BOX
- EXISTING MAN-HOLE
- MAINTENANCE HAND-HOLE
- SPLICE POINT HAND-HOLE
- NEW JUNCTION BOX

Slack Coils

- 144
- 36

Markers

- Fiber Marker (w/ Test Station)
- Fiber Marker (No Test Station)

Other

- Construction Note
- Highway Crossing
- Water Crossing
- Railroad Crossing
- Bore Pit
- Splice Point

Parcel Data

- Right of Way
- Private Easement

Wetlands

- Wetlands

Sites

- Substation
- Office
- Tower

Notes

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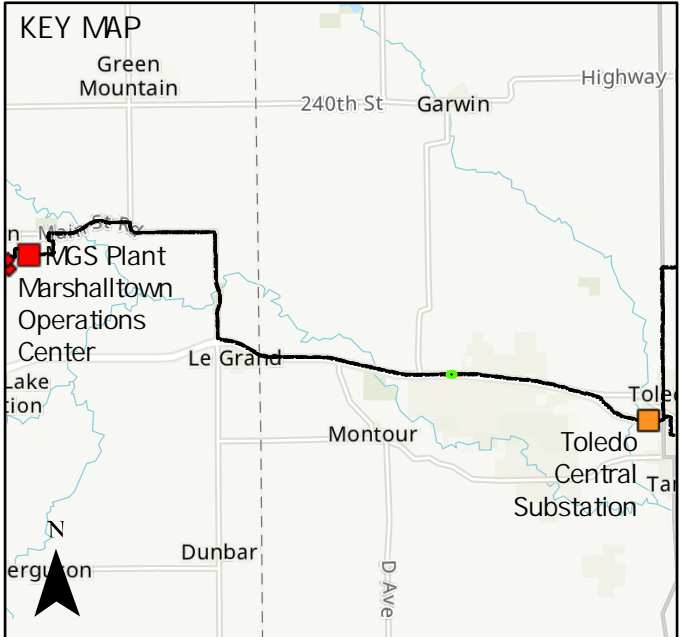
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CONTINUED ON PAGE 144 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



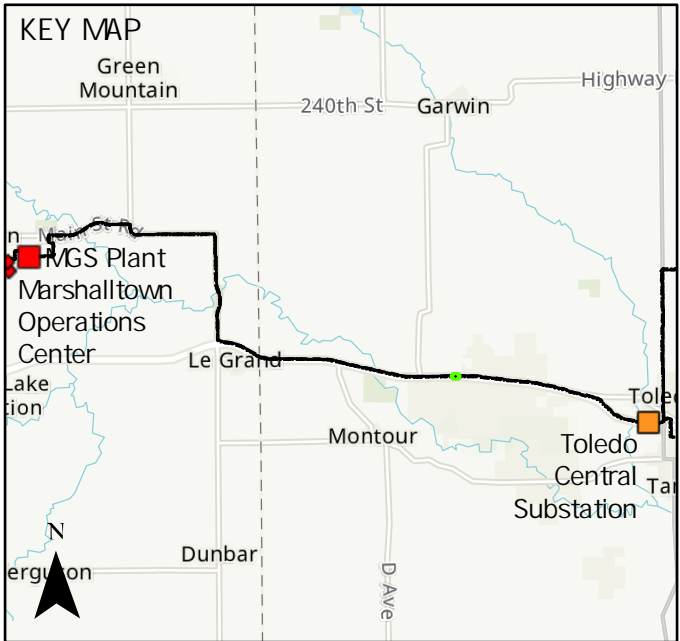
LABEL NUMBER	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACKLENGTH
42.000234°N/92.676161°W	UG-SD-001, UG-SD-002	MAINTENANCE HANDHOLE	30\"X48\"X36\" HANDHOLE, FIBER MARKER W TEST STATION	0	0

Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water	Fiber	SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	144	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	36				Office
					Tower

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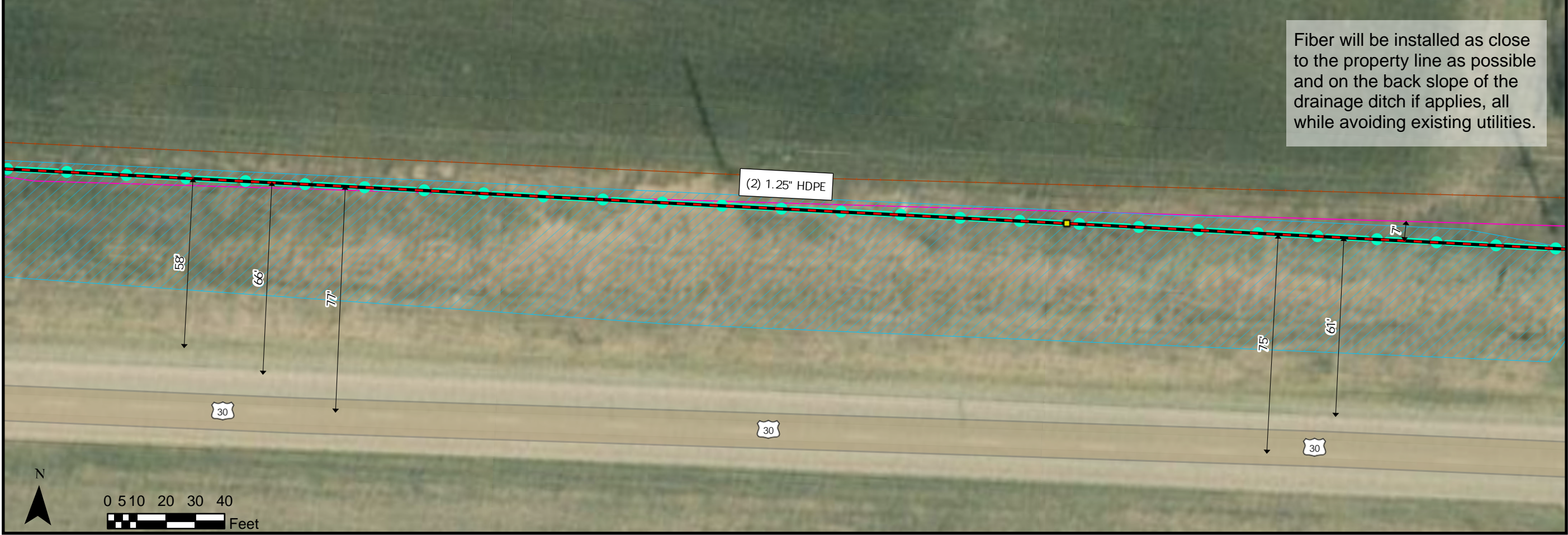
DATE: 11/13/2023
SCALE: "AS NOTED"
DESIGNED BY: CJ
REVIEWED BY: KJM
ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 145 OF 196



MGNS-TOLC-145 REV: 0

CONTINUED ON PAGE 145 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 147 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS	
0	PROJECT # 149681-02
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REVIEWED BY: KJM
ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 146 OF 196

Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water	Fiber	SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	144	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	36				Office
					Tower

Notes

1. DISTANCES MEASURED BY SOFTWARE ARE APPROXIMATE, FIELD TO VERIFY.

2. PARCEL LINES IN MAP ARE NOT SURVEYED AND FOR REFERENCE ONLY. SUBCONTRACTOR TO USE MEASUREMENTS FROM CENTERLINE FOR FINAL ALIGNMENT OF FIBER INSTALLATION.

3. FIBER INSTALLATION TO REMAIN ON BACKSLOPE OF DITCH WITHIN RIGHT OF WAY UNLESS OTHERWISE NOTED. FIBER TO BE INSTALLED AWAY FROM ANY LOW-GRADE WATER RETAINING AREAS.

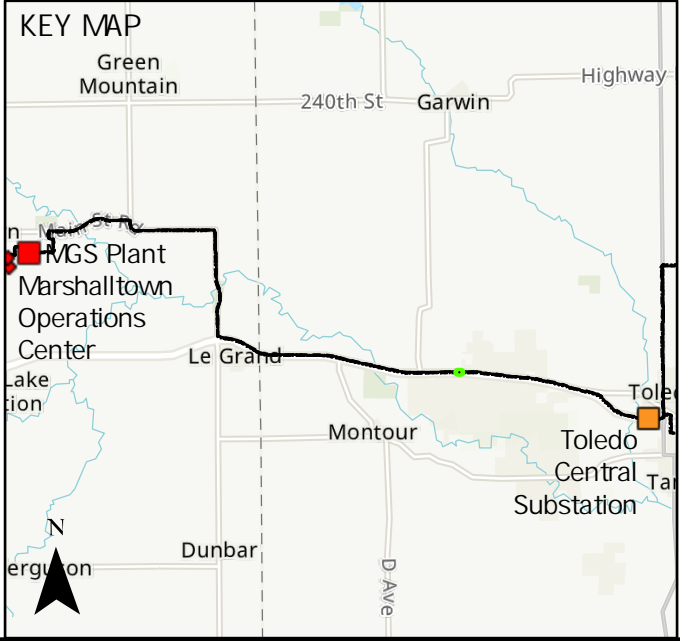
4. FIBER TO MAINTAIN A DEPTH OF 36 INCHES UNLESS OTHERWISE SPECIFIED.

5. FIBER TO MAINTAIN A MINIMUM 18" HORIZONTAL SEPARATION FROM EXISTING UTILITIES.

6. SUBCONTRACTOR TO LOCATE, MARK, AND AVOID ALL UTILITIES DURING FIBER INSTALLATION.

7. SUBCONTRACTOR TO NOTIFY LOCATION SERVICES AT MINIMUM THREE DAYS BEFORE EXCAVATION (1A: (800) 292-8989)

8. REFER TO GENERAL NOTES SHEET FOR ALL OTHER PROJECT NOTES.



CONTINUED ON PAGE 146 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



Fiber will be installed as close to the property line as possible and on the back slope of the drainage ditch if applies, all while avoiding existing utilities.

CONTINUED ON PAGE 148 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS

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149681-02

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ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL SUBSTATION

PAGE 147 OF 196

MGNS-TOLC-147

REV: 0

Legend

Existing Utilities

Telecom

Electric

Gas

Sewer

Water

Other

Conduits

Underground, Bore Conduit

Underground, Existing Conduit

Underground, Plow Conduit

Underground, Hydrovac

Fiber

144

36

Pull Points

EXISTING HAND-HOLE

EXISTING JUNCTION BOX

EXISTING MAN-HOLE

MAINTENANCE HAND-HOLE

SPLICE POINT HAND-HOLE

NEW JUNCTION BOX

Slack Coils

144

36

Markers

Fiber Marker (w/ Test Station)

Fiber Marker (No Test Station)

Other

Construction Note

Highway Crossing

Water Crossing

Railroad Crossing

Bore Pit

Splice Point

Parcel Data

Right of Way

Private Easement

Wetlands

Wetlands

Sites

Substation

Office

Tower

Notes

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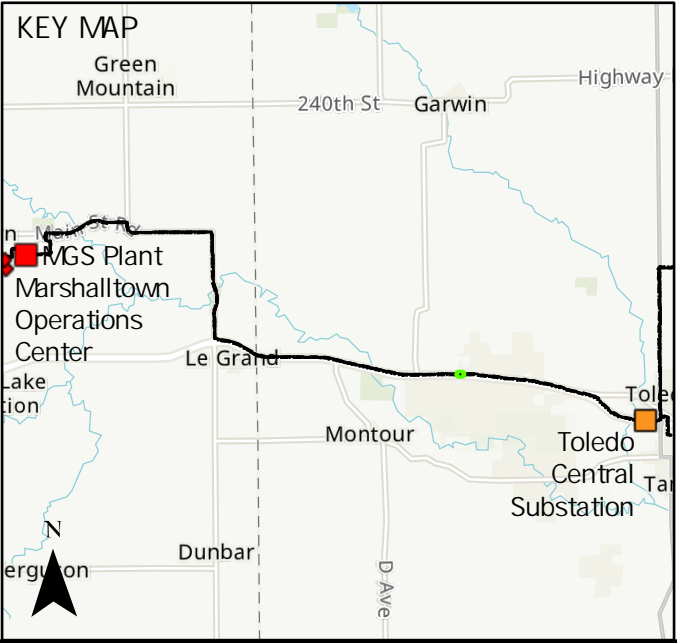
4. FIBER TO MAINTAIN A DEPTH OF 36 INCHES UNLESS OTHERWISE SPECIFIED.

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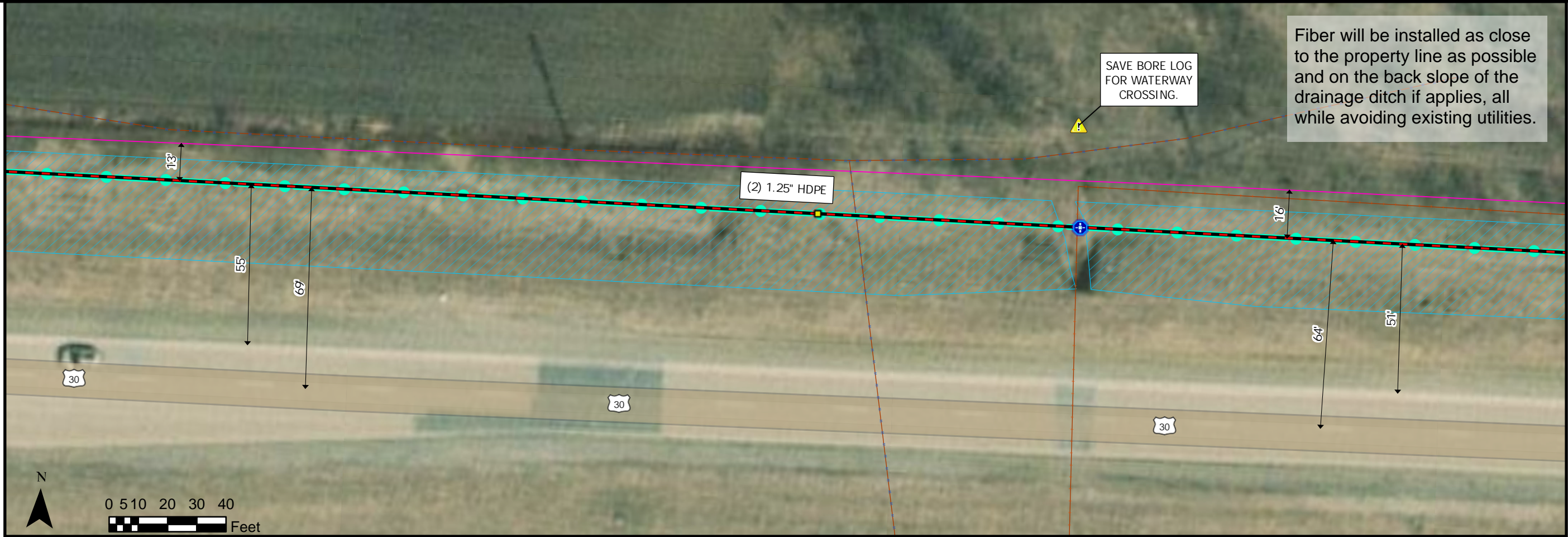
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8. REFER TO GENERAL NOTES SHEET FOR ALL OTHER PROJECT NOTES.



CONTINUED ON PAGE 147 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 149 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS

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MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 148 OF 196



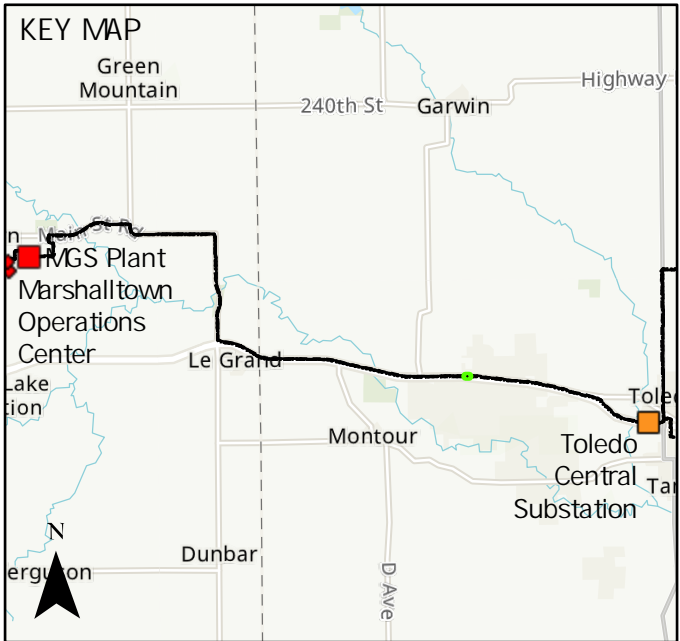
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Legend

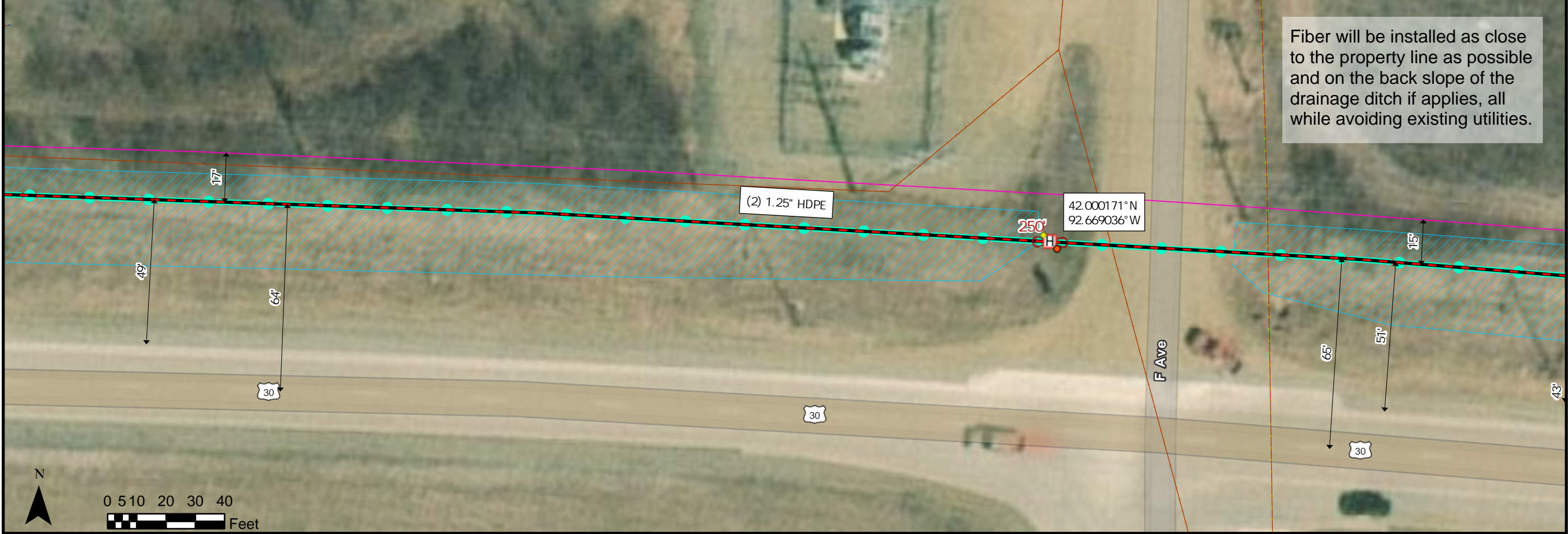
Existing Utilities	Telecom	Conduits	Underground, Bore Conduit	Pull Points	[H] EXISTING HAND-HOLE	Slack Coils	144	Other	Construction Note	Parcel Data	Right of Way
	Electric		Underground, Existing Conduit		[J] EXISTING JUNCTION BOX		36		Highway Crossing		Private Easement
	Gas		Underground, Plow Conduit		[M] EXISTING MAN-HOLE	Markers	Fiber Marker (w/ Test Station)		Water Crossing		Wetlands
	Sewer		Underground, Hydrovac		[H] MAINTENANCE HAND-HOLE		Fiber Marker (No Test Station)		Railroad Crossing		Wetlands
	Water	Fiber		[S] SPLICE POINT HAND-HOLE	[J] NEW JUNCTION BOX				Bore Pit		Sites
	Other								Splice Point		Substation
			144								Office
			36								Tower

Notes

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- REFER TO GENERAL NOTES SHEET FOR ALL OTHER PROJECT NOTES.



CONTINUED ON PAGE 148 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



LABEL NUMBER	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACKLENGTH
42.000171°N/92.669036°W	UG-SD-001, UG-SD-002	MAINTENANCE HANDHOLE	30\"X48\"X36\" HANDHOLE, FIBER MARKER W TEST STATION	1	250

Legend

Existing Utilities

- Telecom
- Electric
- Gas
- Sewer
- Water
- Other

Conduits

- Underground, Bore Conduit
- Underground, Existing Conduit
- Underground, Plow Conduit
- Underground, Hydrovac

Fiber

- 144
- 36

Pull Points

- EXISTING HAND-HOLE
- EXISTING JUNCTION BOX
- EXISTING MAN-HOLE
- MAINTENANCE HAND-HOLE
- SPLICE POINT HAND-HOLE
- NEW JUNCTION BOX

Slack Coils

- 144
- 36

Markers

- Fiber Marker (w/ Test Station)
- Fiber Marker (No Test Station)

Other

- Construction Note
- Highway Crossing
- Water Crossing
- Railroad Crossing
- Bore Pit
- Splice Point

Parcel Data

- Right of Way
- Private Easement

Wetlands

- Wetlands

Sites

- Substation
- Office
- Tower

- Notes
1. DISTANCES MEASURED BY SOFTWARE ARE APPROXIMATE, FIELD TO VERIFY.

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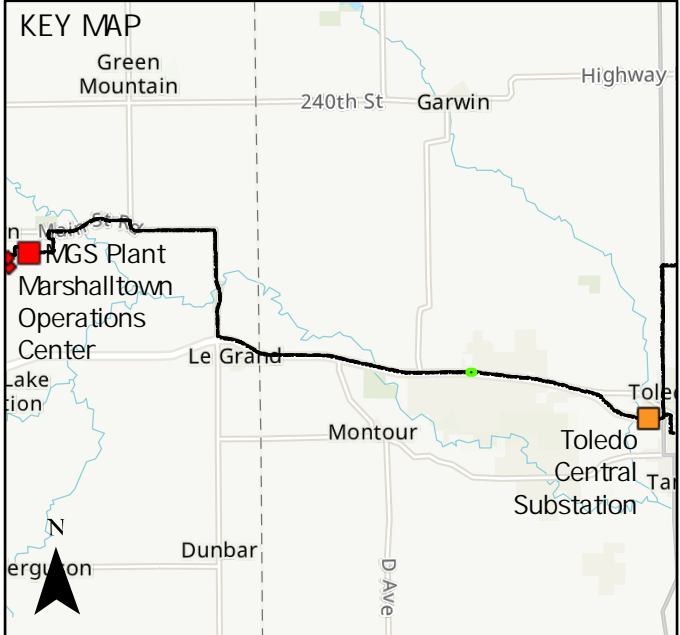
4. FIBER TO MAINTAIN A DEPTH OF 36 INCHES UNLESS OTHERWISE SPECIFIED.

5. FIBER TO MAINTAIN A MINIMUM 18\"

6. SUBCONTRACTOR TO LOCATE, MARK, AND AVOID ALL UTILITIES DURING FIBER INSTALLATION.

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REVISIONS

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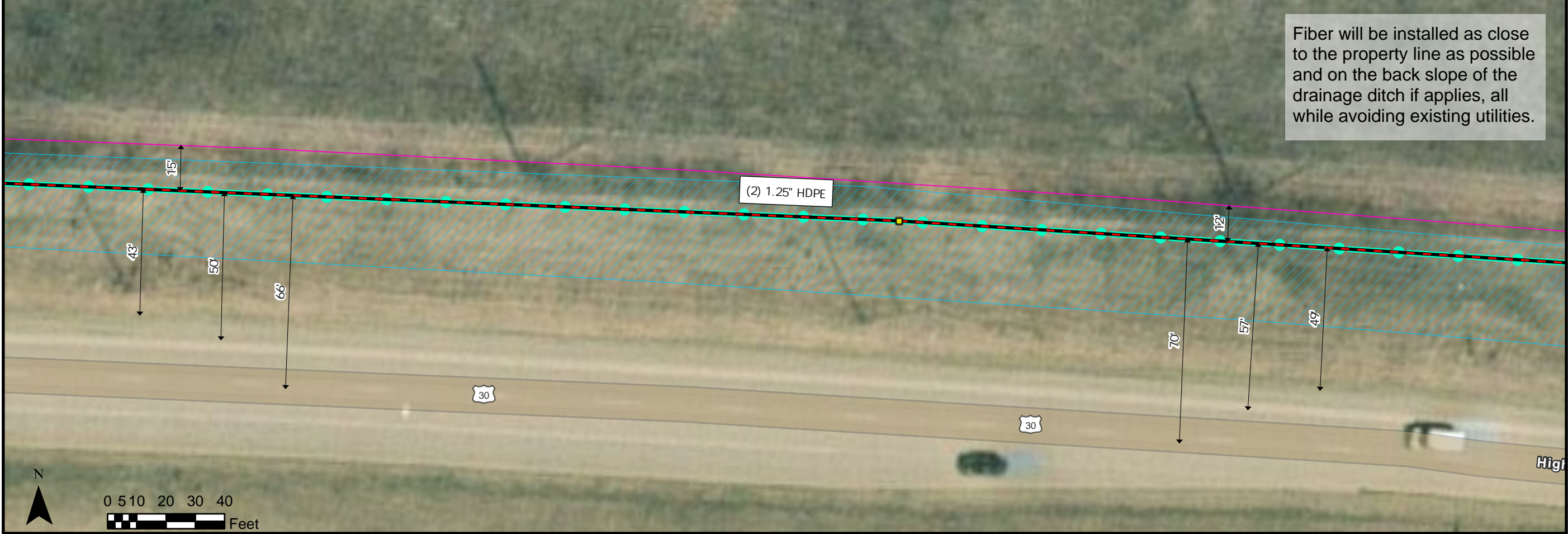
ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 149 OF 196

MGNS-TOLC-149

REV:
0

CONTINUED ON PAGE 149 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



Fiber will be installed as close to the property line as possible and on the back slope of the drainage ditch if applies, all while avoiding existing utilities.

CONTINUED ON PAGE 151 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS	
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ENGINEER: TVN	
MGS PLANT - TOLEDO CENTRAL SUBSTATION PAGE 150 OF 196	
Alliant Energy	
MGNS-TOLC-150	REV: 0

Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE		Railroad Crossing	Wetlands
Water		SPLICE POINT HAND-HOLE		Bore Pit	Sites
Other		NEW JUNCTION BOX		Splice Point	Substation
	Fiber				Office
	144				Tower
	36				

Notes

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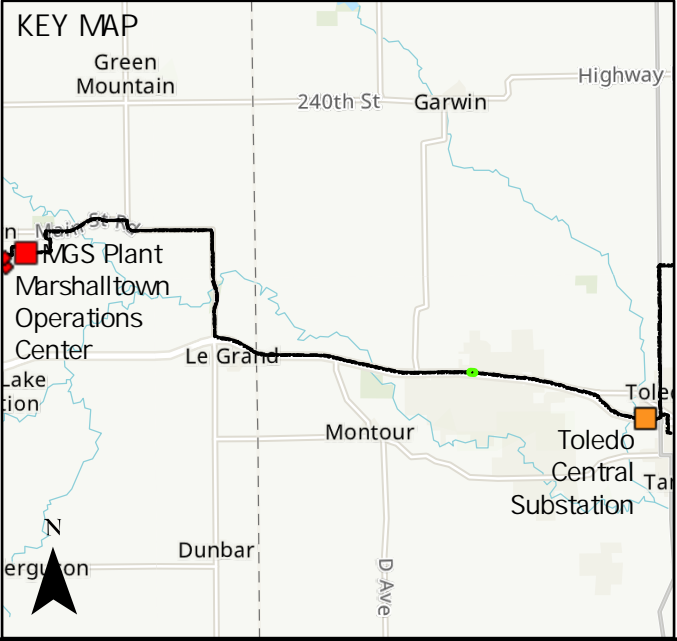
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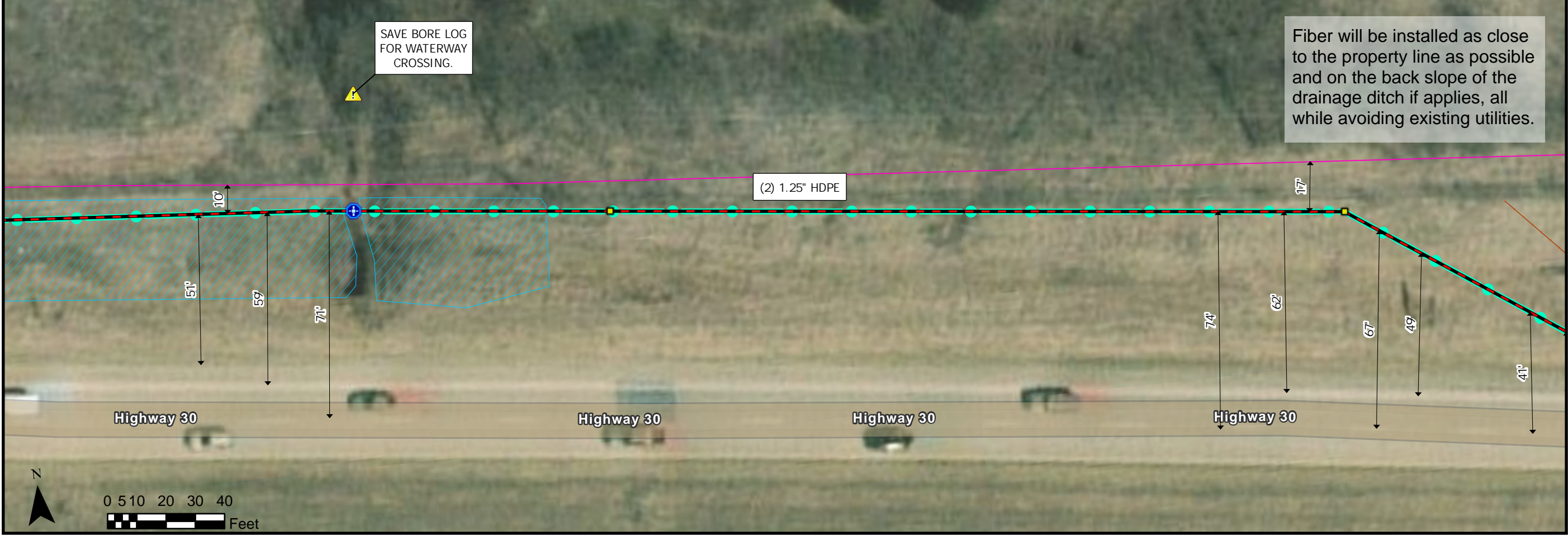
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8. REFER TO GENERAL NOTES SHEET FOR ALL OTHER PROJECT NOTES.



CONTINUED ON PAGE 150 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 152 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

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Legend

Existing Utilities

- Telecom
- Electric
- Gas
- Sewer
- Water
- Other

Conduits

- Underground, Bore Conduit
- Underground, Existing Conduit
- Underground, Plow Conduit
- Underground, Hydrovac

Fiber

- 144
- 36

Pull Points

- EXISTING HAND-HOLE
- EXISTING JUNCTION BOX
- EXISTING MAN-HOLE
- MAINTENANCE HAND-HOLE
- SPLICE POINT HAND-HOLE
- NEW JUNCTION BOX

Slack Coils

- 144
- 36

Markers

- Fiber Marker (w/ Test Station)
- Fiber Marker (No Test Station)

Other

- Construction Note
- Highway Crossing
- Water Crossing
- Railroad Crossing
- Bore Pit
- Splice Point

Parcel Data

- Right of Way
- Private Easement

Wetlands

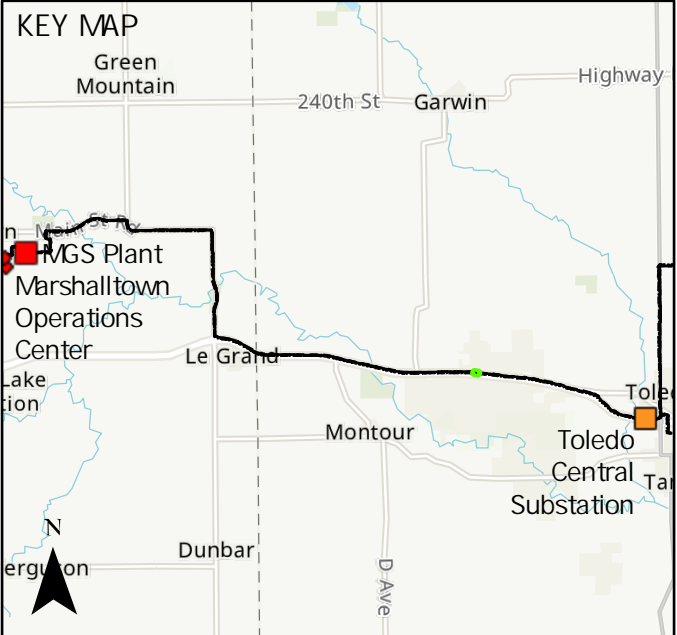
- Wetlands

Sites

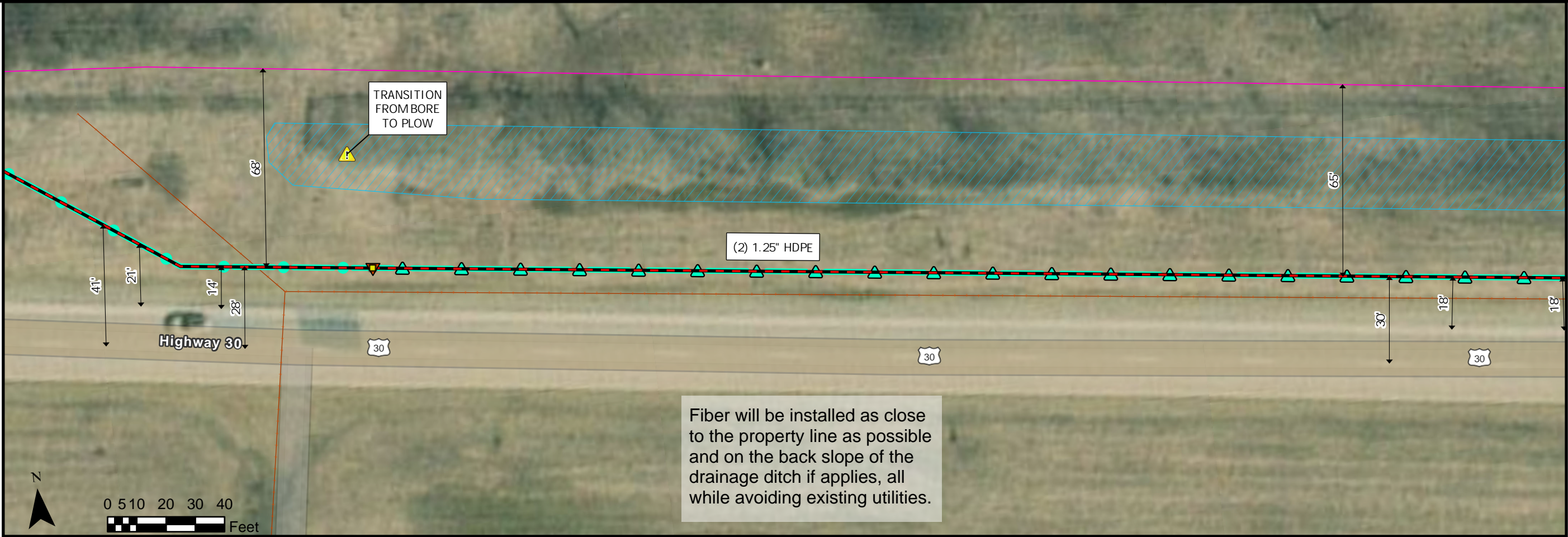
- Substation
- Office
- Tower

Notes

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CONTINUED ON PAGE 151 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 153 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS

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MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 152 OF 196



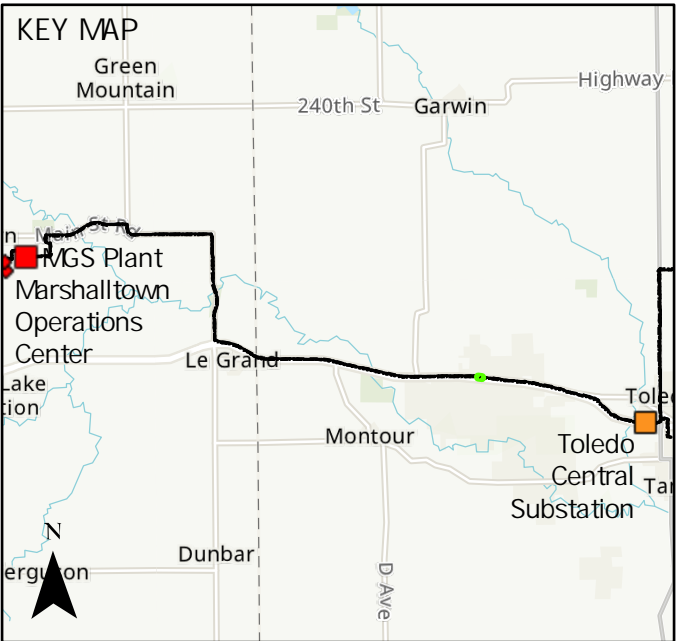
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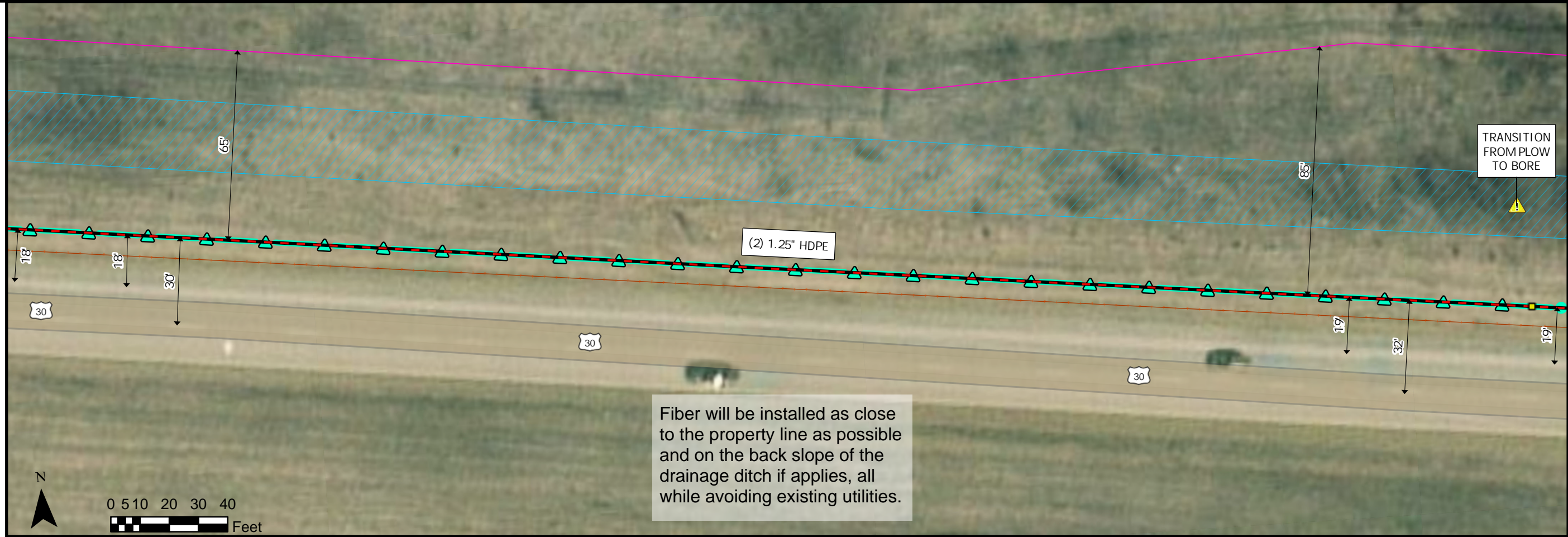
Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water	Fiber	SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	144	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	36				Office
					Tower

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CONTINUED ON PAGE 152 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 154 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

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MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 153 OF 196



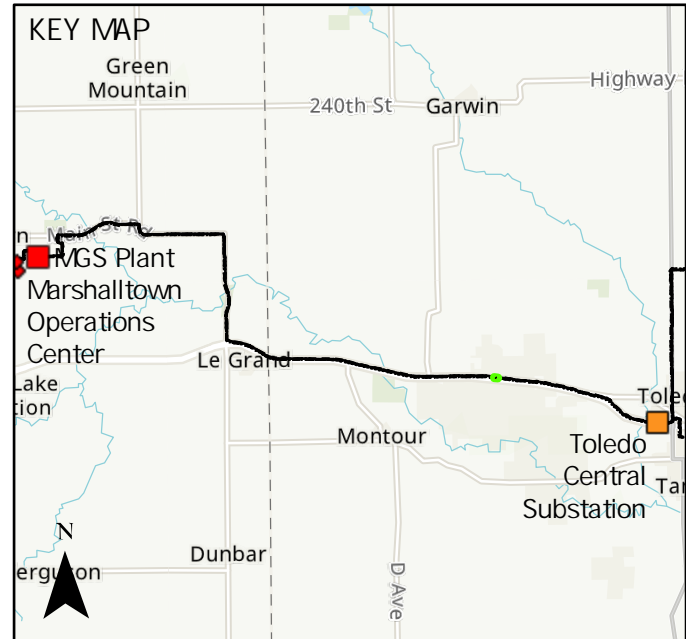
MGNS-TOLC-153 REV: 0

Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE		Railroad Crossing	Wetlands
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	Fiber				Office
	144				Tower
	36				

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CONTINUED ON PAGE 153 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



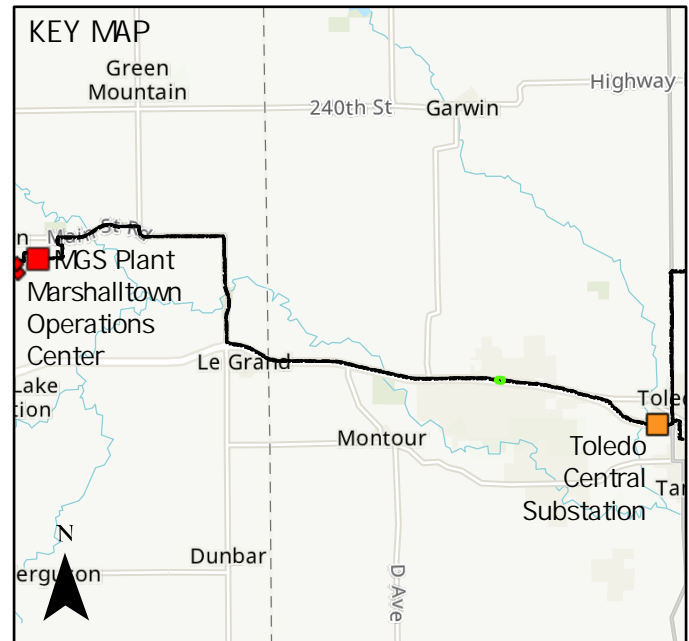
LABEL NUMBER	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACK LENGTH
41.999359° N/92.659824° W	UG-SD-001, UG-SD-002	MAINTENANCE HANDHOLE	30"X48"X36" HANDHOLE, FIBER MARKER W TEST STATION	0	0

Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
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Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
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REVISIONS

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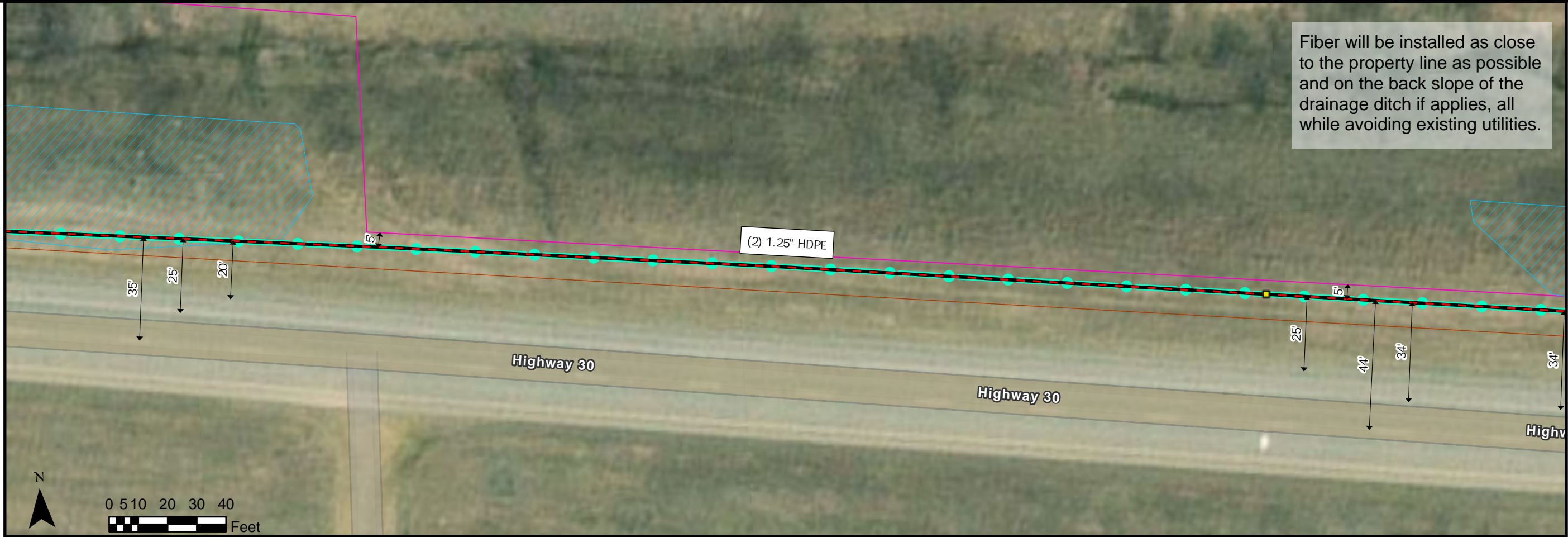
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ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 154 OF 196



MGNS-TOLC-154 REV: 0

CONTINUED ON PAGE 154 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 156 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS

0 PROJECT # 149681-02

ISSUED FOR REVIEW

THE INFORMATION ON THIS PRINT IS CONFIDENTIAL AND IS THE PROPERTY OF ALLIANT ENERGY

DATE: 11/13/2023
SCALE: "AS NOTED"
DESIGNED BY: CJ
REVIEWED BY: KJM
ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 155 OF 196



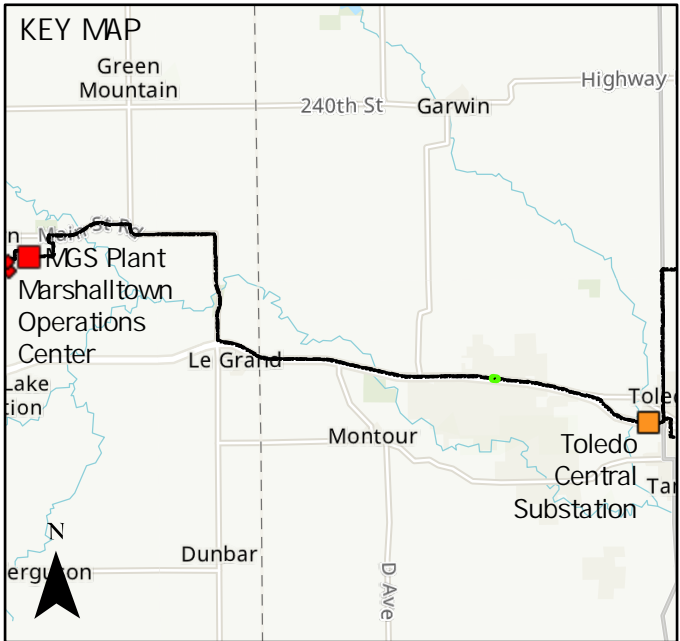
MGNS-TOLC-155 REV: 0

Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water	Fiber	SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	144	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	36				Office
					Tower

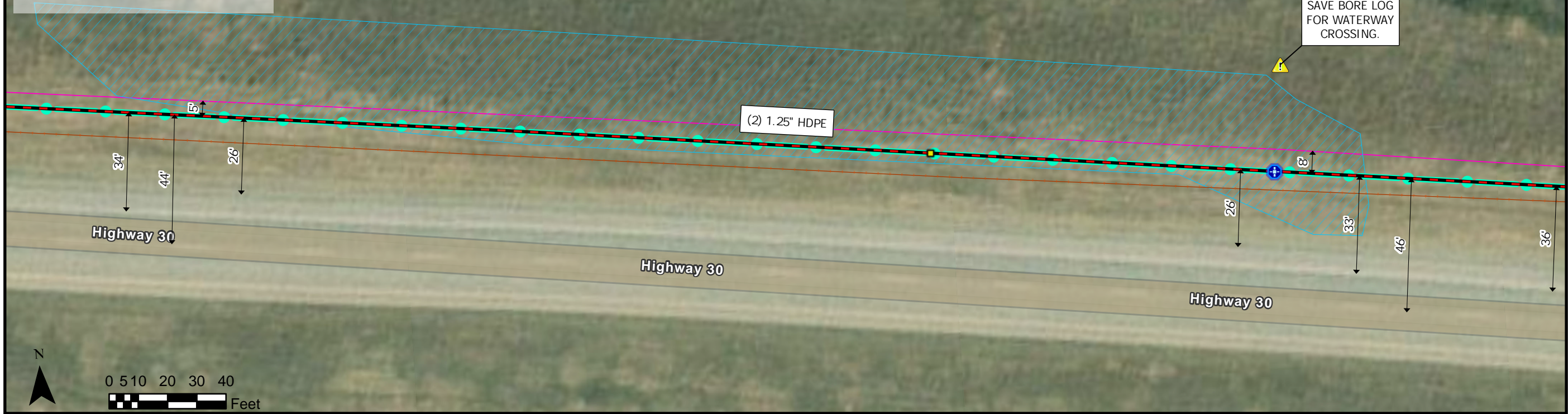
Notes

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- FIBER INSTALLATION TO REMAIN ON BACKSLOPE OF DITCH WITHIN RIGHT OF WAY UNLESS OTHERWISE NOTED. FIBER TO BE INSTALLED AWAY FROM ANY LOW-GRADE WATER RETAINING AREAS.
- FIBER TO MAINTAIN A DEPTH OF 36 INCHES UNLESS OTHERWISE SPECIFIED.
- FIBER TO MAINTAIN A MINIMUM 18" HORIZONTAL SEPARATION FROM EXISTING UTILITIES.
- SUBCONTRACTOR TO LOCATE, MARK, AND AVOID ALL UTILITIES DURING FIBER INSTALLATION.
- SUBCONTRACTOR TO NOTIFY LOCATION SERVICES AT MINIMUM THREE DAYS BEFORE EXCAVATION (1A: (800) 292-8989)
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CONTINUED ON PAGE 155 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

Fiber will be installed as close to the property line as possible and on the back slope of the drainage ditch if applies, all while avoiding existing utilities.



CONTINUED ON PAGE 157 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS

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ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 156 OF 196



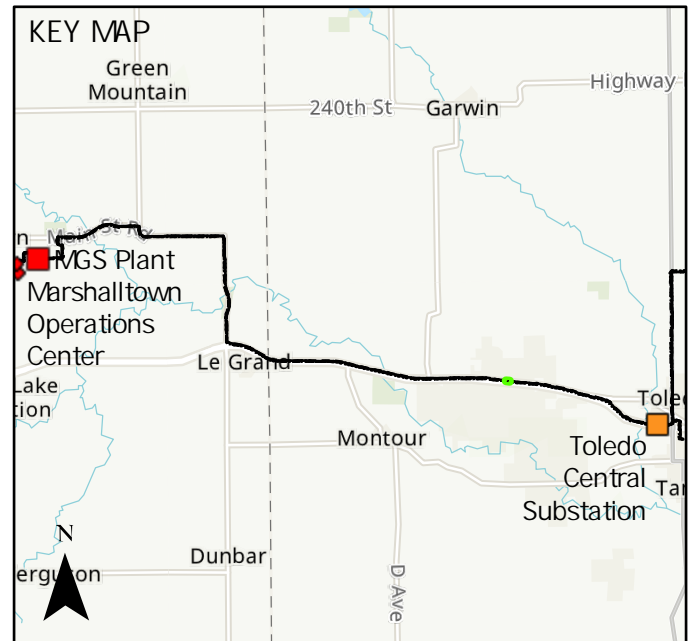
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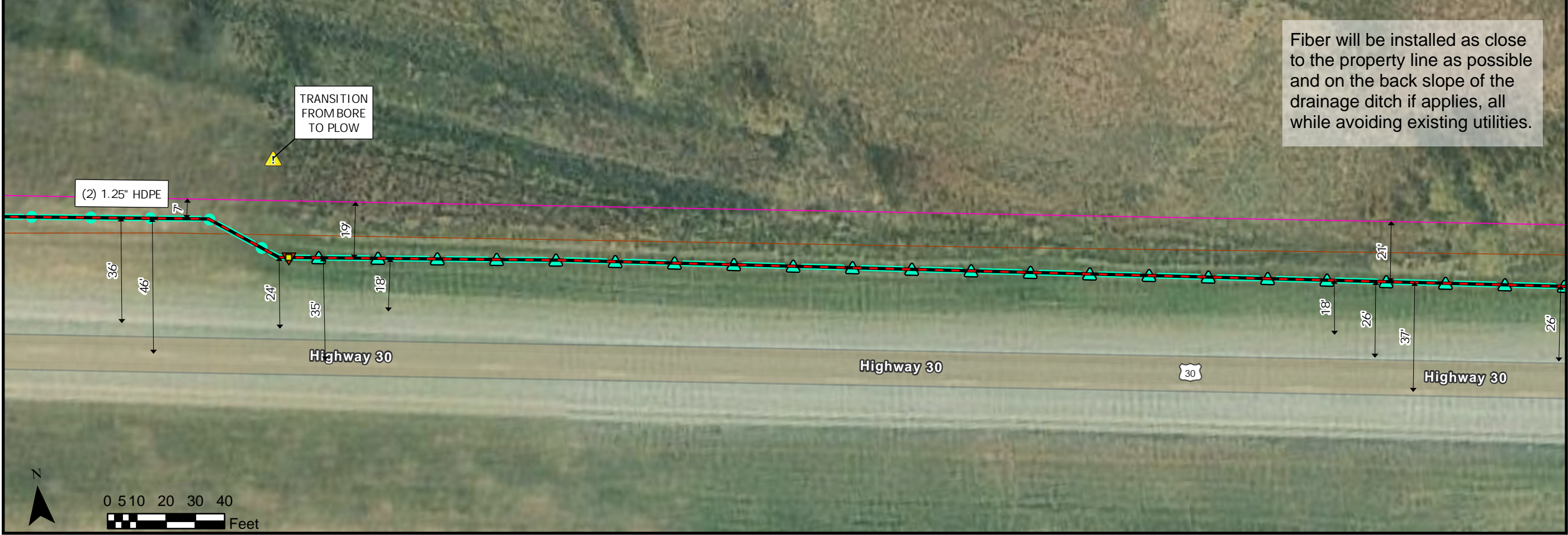
Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE		Railroad Crossing	Wetlands
Water	Fiber	SPLICE POINT HAND-HOLE		Bore Pit	Sites
Other	144	NEW JUNCTION BOX		Splice Point	Substation
	36				Office
					Tower

Notes

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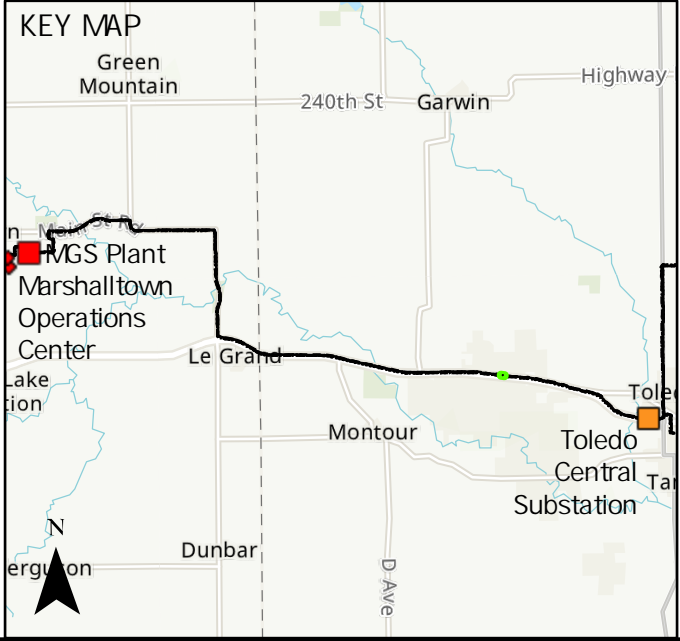
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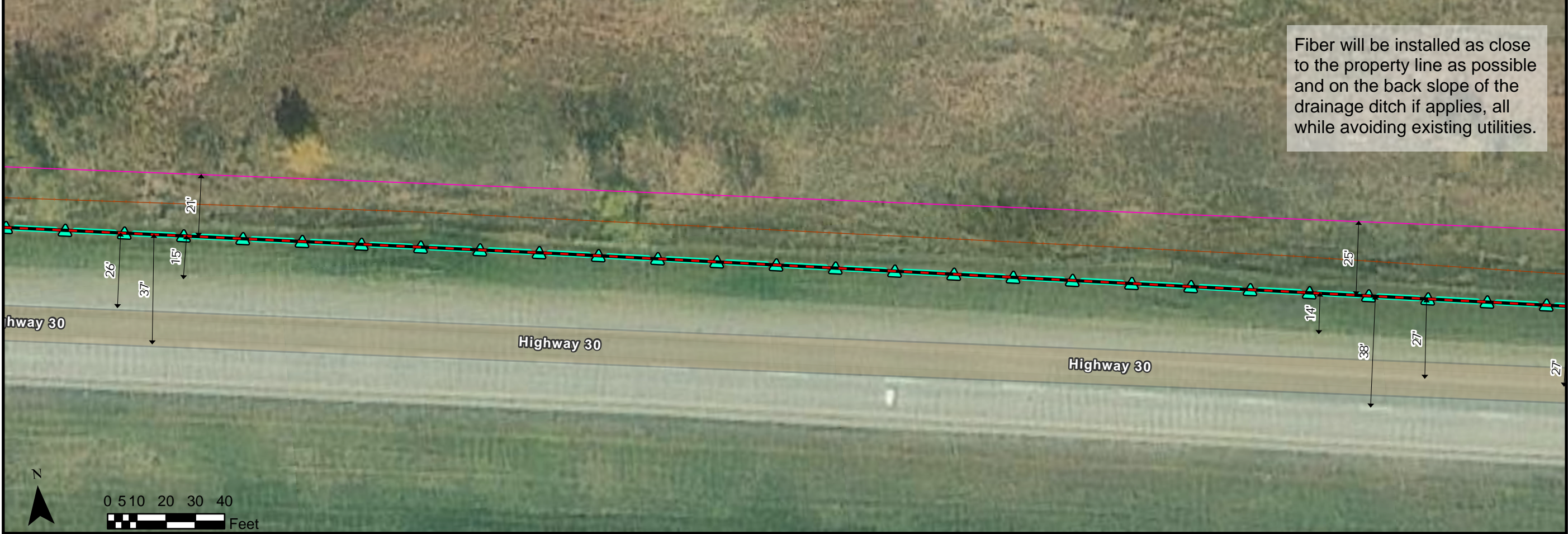
CONTINUED ON PAGE 158 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS	
0	PROJECT # 149681-02
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DATE: 11/13/2023	SCALE: "AS NOTED"
DESIGNED BY: CJ	REVIEWED BY: KJM
ENGINEER: TVN	
MGS PLANT - TOLEDO CENTRAL SUBSTATION PAGE 157 OF 196	
Alliant Energy	
MGNS-TOLC-157	REV: 0

Legend	
Existing Utilities Telecom Electric Gas Sewer Water Other	Conduits Underground, Bore Conduit Underground, Existing Conduit Underground, Plow Conduit Underground, Hydrovac Fiber 144 36
Pull Points EXISTING HAND-HOLE EXISTING JUNCTION BOX EXISTING MAN-HOLE MAINTENANCE HAND-HOLE SPLICE POINT HAND-HOLE NEW JUNCTION BOX	Slack Coils 144 36 Markers Fiber Marker (w/ Test Station) Fiber Marker (No Test Station)
Other Construction Note Highway Crossing Water Crossing Railroad Crossing Bore Pit Splice Point	Parcel Data Right of Way Private Easement Wetlands Wetlands Sites Substation Office Tower
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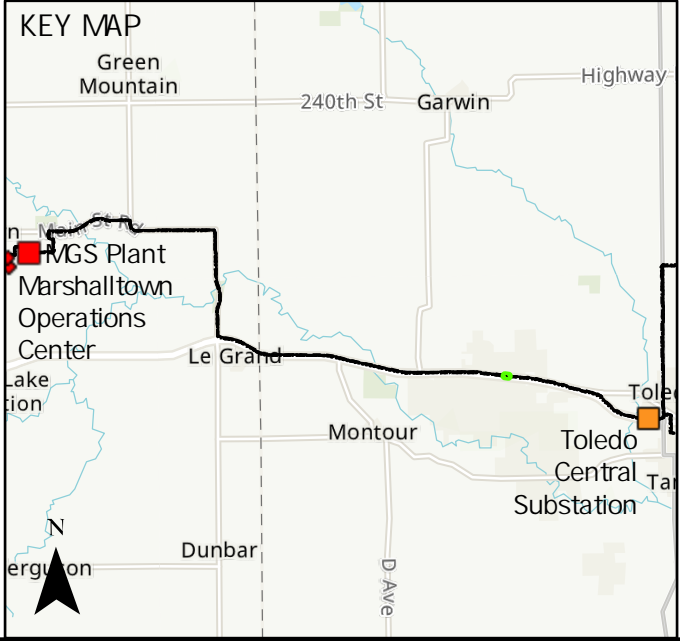
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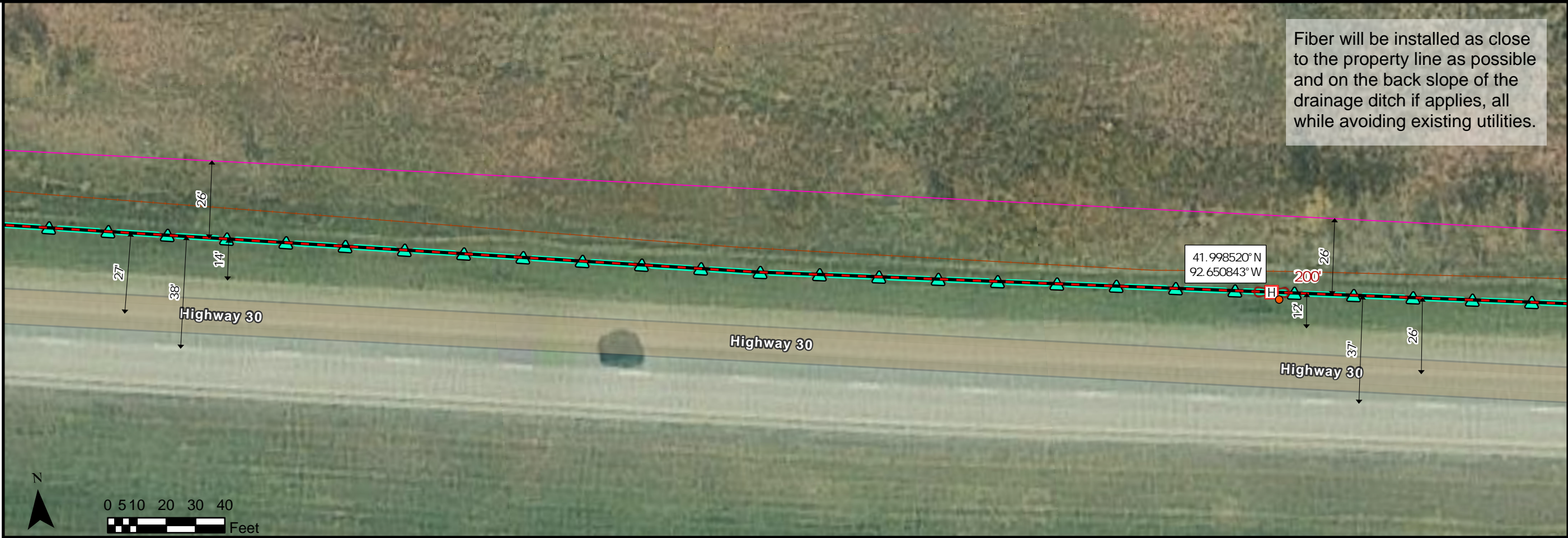
CONTINUED ON PAGE 159 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

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ENGINEER: TVN	
MGS PLANT - TOLEDO CENTRAL SUBSTATION PAGE 158 OF 196	
Alliant Energy	
MGNS-TOLC-158	REV: 0

Legend	
Existing Utilities Telecom Electric Gas Sewer Water Other	Conduits Underground, Bore Conduit Underground, Existing Conduit Underground, Plow Conduit Underground, Hydrovac Fiber 144 36
Pull Points EXISTING HAND-HOLE EXISTING JUNCTION BOX EXISTING MAN-HOLE MAINTENANCE HAND-HOLE SPLICE POINT HAND-HOLE NEW JUNCTION BOX	Slack Coils 144 36 Markers Fiber Marker (w/ Test Station) Fiber Marker (No Test Station)
Other Construction Note Highway Crossing Water Crossing Railroad Crossing Bore Pit Splice Point	Parcel Data Right of Way Private Easement Wetlands Wetlands Sites Substation Office Tower
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CONTINUED ON PAGE 158 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



LABEL NUMBER	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACKLENGTH
41.998520° N/92.650843° W	UG-SD-001, UG-SD-002	MAINTENANCE HANDHOLE	30"X48"X36" HANDHOLE, FIBER MARKER W TEST STATION	1	200

Legend

Existing Utilities

- Telecom
- Electric
- Gas
- Sewer
- Water
- Other

Conduits

- Underground, Bore Conduit
- Underground, Existing Conduit
- Underground, Plow Conduit
- Underground, Hydrovac

Fiber

- 144
- 36

Pull Points

- EXISTING HAND-HOLE
- EXISTING JUNCTION BOX
- EXISTING MAN-HOLE
- MAINTENANCE HAND-HOLE
- SPLICE POINT HAND-HOLE
- NEW JUNCTION BOX

Slack Coils

- 144
- 36

Markers

- Fiber Marker (w/ Test Station)
- Fiber Marker (No Test Station)

Other

- Construction Note
- Highway Crossing
- Water Crossing
- Railroad Crossing
- Bore Pit
- Splice Point

Parcel Data

- Right of Way
- Private Easement

Wetlands

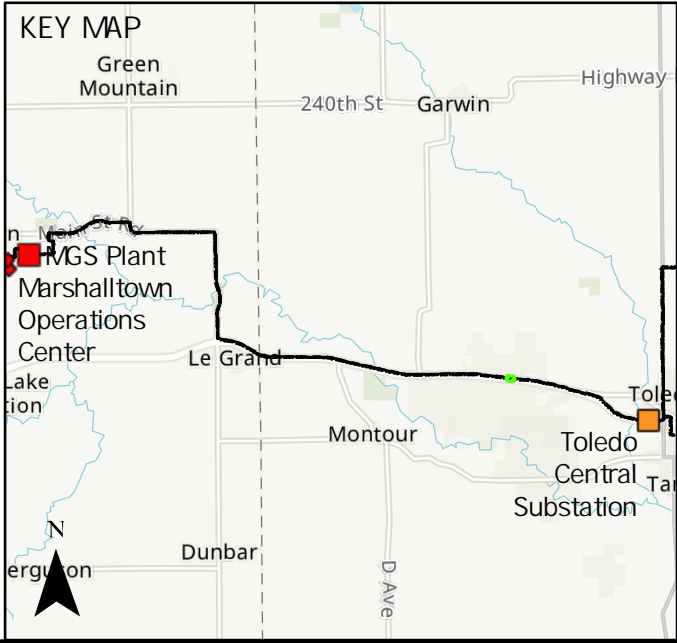
- Wetlands

Sites

- Substation
- Office
- Tower

Notes

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REVISIONS

0

PROJECT # 149681-02

ISSUED FOR REVIEW

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DATE: 11/13/2023

SCALE: "AS NOTED"

DESIGNED BY: CJ

REVIEWED BY: KJM

ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL SUBSTATION PAGE 159 OF 196

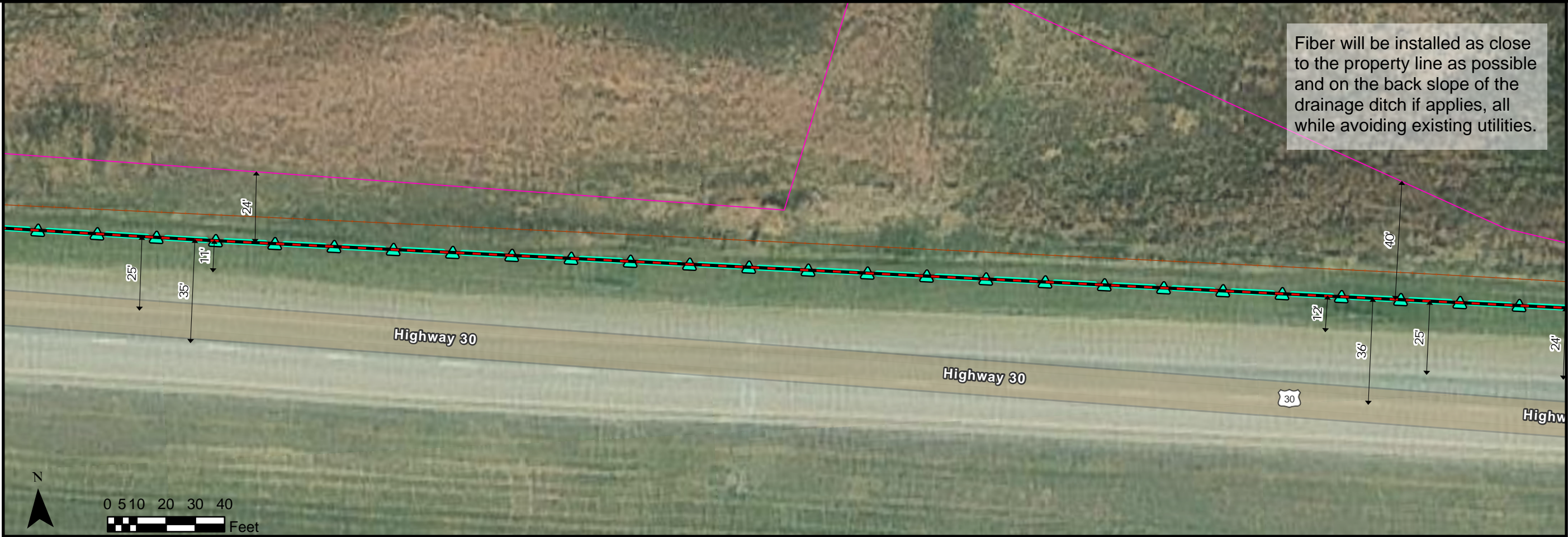
Alliant Energy

MGNS-TOLC-159

REV: 0

CONTINUED ON PAGE 160 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

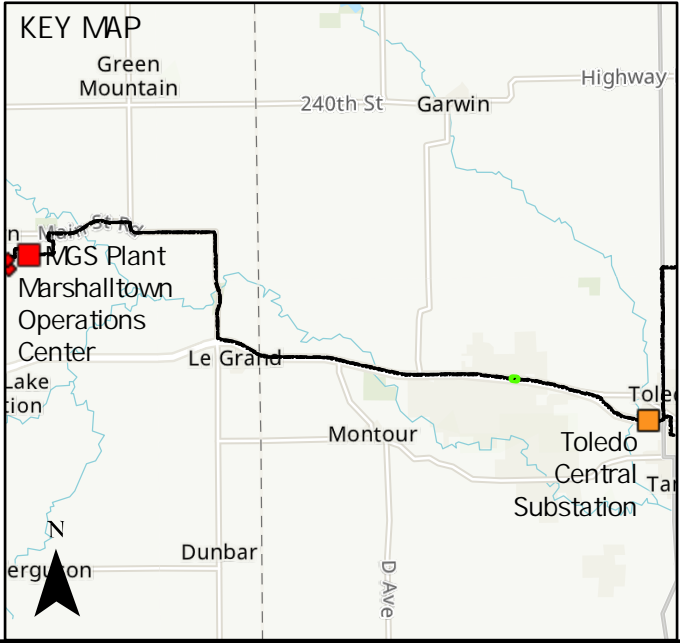
CONTINUED ON PAGE 159 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



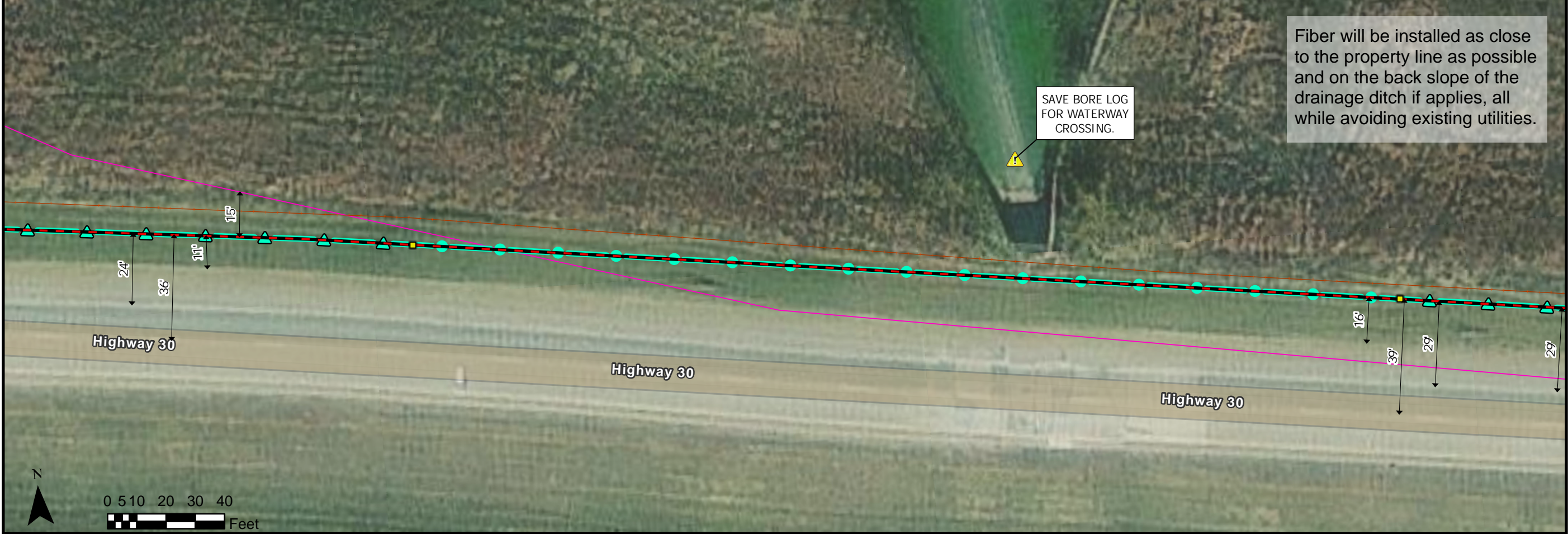
CONTINUED ON PAGE 161 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

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ENGINEER: TVN	
MGS PLANT - TOLEDO CENTRAL SUBSTATION PAGE 160 OF 196	
Alliant Energy	
MGNS-TOLC-160	REV: 0

Legend	
Existing Utilities Telecom Electric Gas Sewer Water Other	Conduits Underground, Bore Conduit Underground, Existing Conduit Underground, Plow Conduit Underground, Hydrovac Fiber 144 36
Pull Points EXISTING HAND-HOLE EXISTING JUNCTION BOX EXISTING MAN-HOLE MAINTENANCE HAND-HOLE SPLICE POINT HAND-HOLE NEW JUNCTION BOX	Slack Coils 144 36 Markers Fiber Marker (w/ Test Station) Fiber Marker (No Test Station)
Other Construction Note Highway Crossing Water Crossing Railroad Crossing Bore Pit Splice Point	Parcel Data Right of Way Private Easement Wetlands Wetlands Sites Substation Office Tower
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CONTINUED ON PAGE 160 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 162 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

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ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 161 OF 196

Legend	Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
	Telecom Electric Gas Sewer Water Other	Underground, Bore Conduit Underground, Existing Conduit Underground, Plow Conduit Underground, Hydrovac Fiber 144 36	EXISTING HAND-HOLE EXISTING JUNCTION BOX EXISTING MAN-HOLE MAINTENANCE HAND-HOLE SPLICE POINT HAND-HOLE NEW JUNCTION BOX	144 36 Markers Fiber Marker (w/ Test Station) Fiber Marker (No Test Station)	Construction Note Highway Crossing Water Crossing Railroad Crossing Bore Pit Splice Point	Right of Way Private Easement Wetlands Wetlands Sites Substation Office Tower

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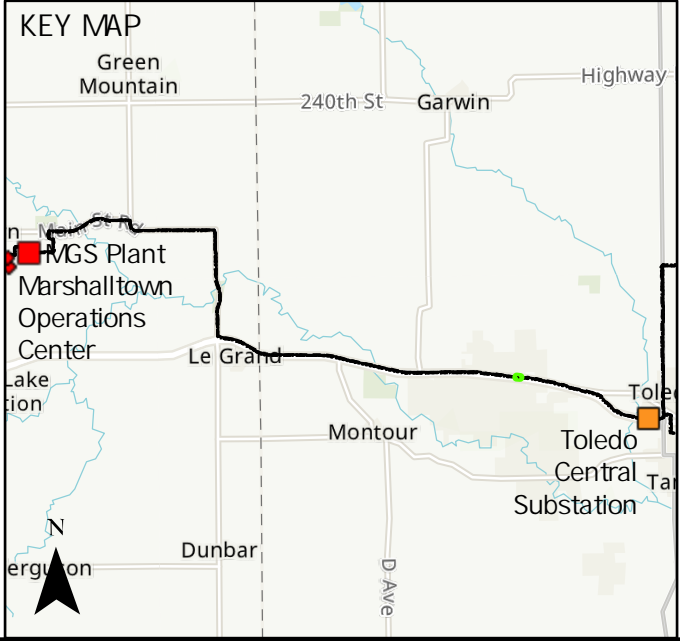
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5. FIBER TO MAINTAIN A MINIMUM 18" HORIZONTAL SEPARATION FROM EXISTING UTILITIES.

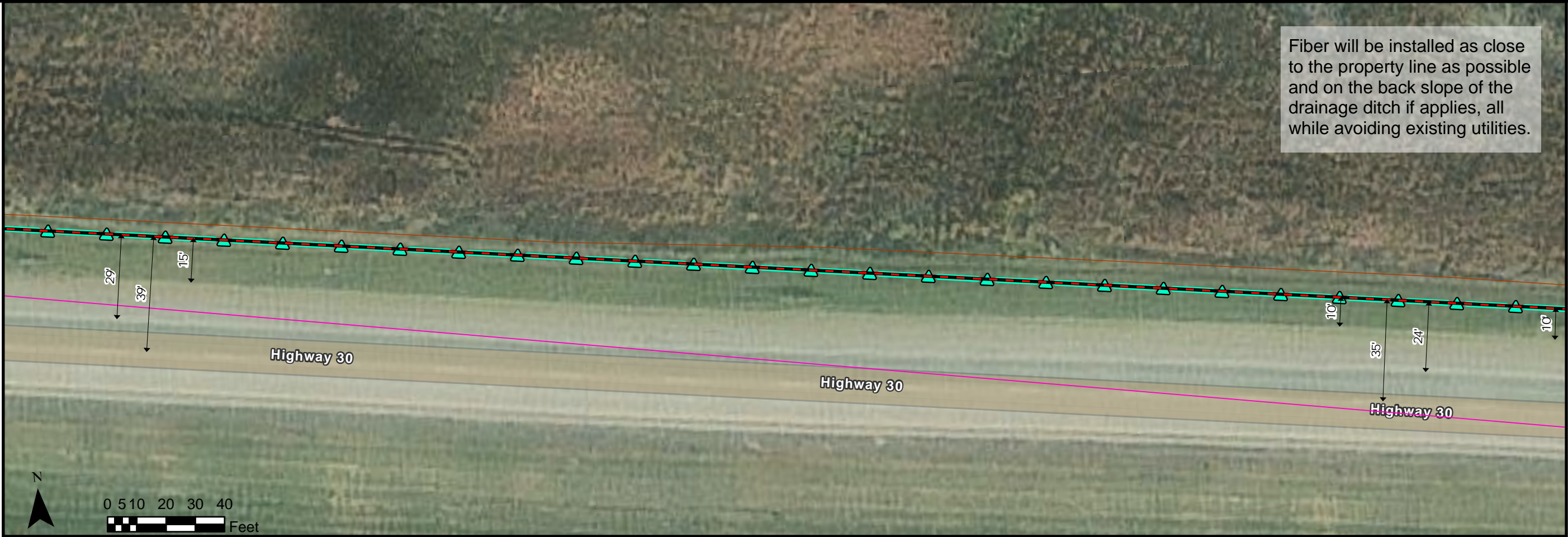
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CONTINUED ON PAGE 161 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 163 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

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MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 162 OF 196



MGNS-TOLC-162

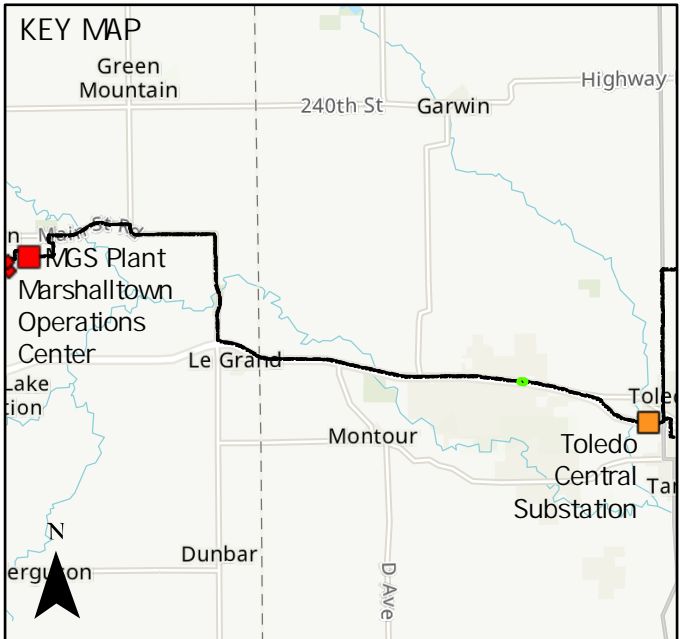
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Legend

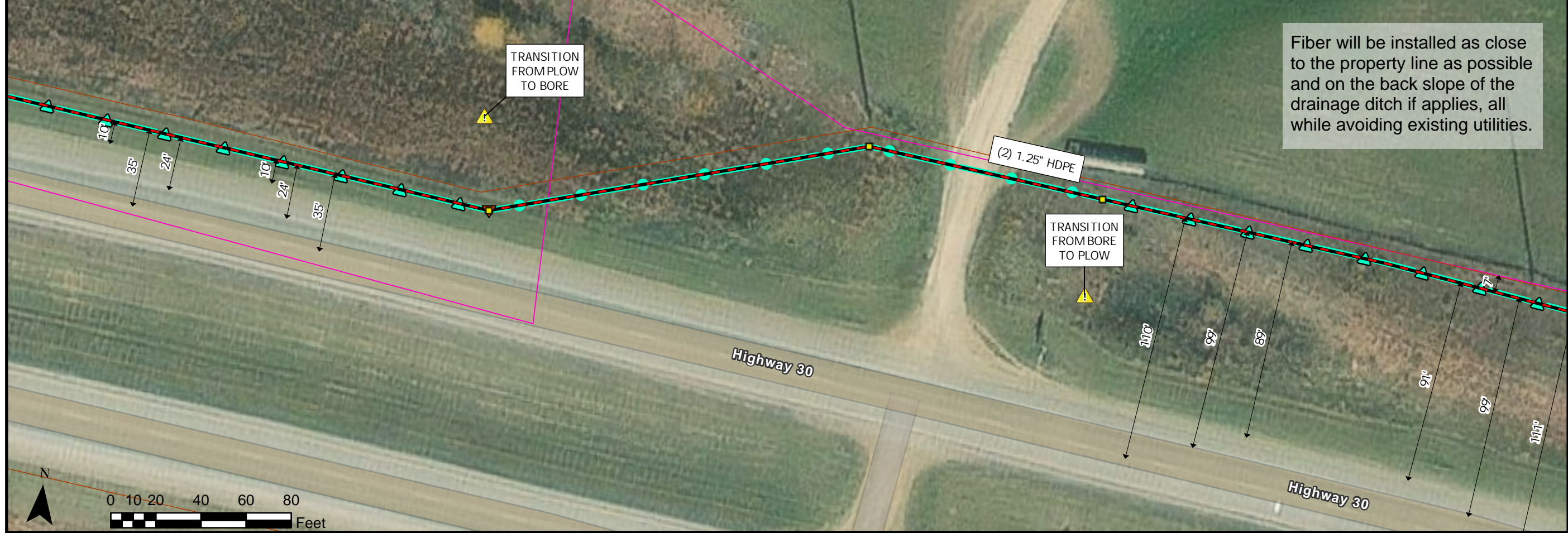
Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water	Fiber	SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	144	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	36				Office
					Tower

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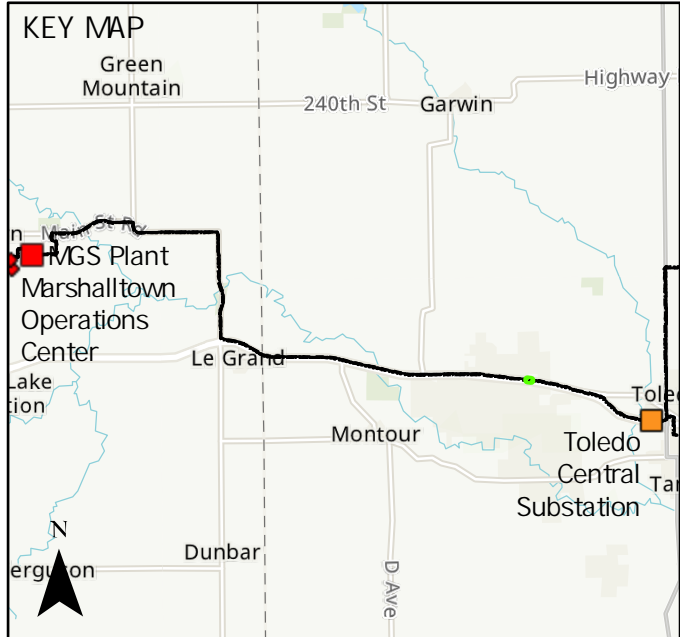
CONTINUED ON PAGE 162 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 164 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

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ENGINEER: TVN	
MGS PLANT - TOLEDO CENTRAL SUBSTATION PAGE 163 OF 196	
Alliant Energy	
MGNS-TOLC-163	REV: 0

Legend	
Existing Utilities Telecom Electric Gas Sewer Water Other	Conduits Underground, Bore Conduit Underground, Existing Conduit Underground, Plow Conduit Underground, Hydrovac Fiber 144 36
Pull Points EXISTING HAND-HOLE EXISTING JUNCTION BOX EXISTING MAN-HOLE MAINTENANCE HAND-HOLE SPLICE POINT HAND-HOLE NEW JUNCTION BOX	Slack Coils 144 36 Markers Fiber Marker (w/ Test Station) Fiber Marker (No Test Station)
Other Construction Note Highway Crossing Water Crossing Railroad Crossing Bore Pit Splice Point	Parcel Data Right of Way Private Easement Wetlands Wetlands Sites Substation Office Tower
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CONTINUED ON PAGE 163 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



LABEL NUMBER	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACKLENGTH
41.997904° N/92.642022° W	UG-SD-001, UG-SD-002	MAINTENANCE HANDHOLE	30"X48"X36" HANDHOLE, FIBER MARKER W TEST STATION	0	0

Legend

Existing Utilities

- Telecom
- Electric
- Gas
- Sewer
- Water
- Other

Conduits

- Underground, Bore Conduit
- Underground, Existing Conduit
- Underground, Plow Conduit
- Underground, Hydrovac

Fiber

- 144
- 36

Pull Points

- EXISTING HAND-HOLE
- EXISTING JUNCTION BOX
- EXISTING MAN-HOLE
- MAINTENANCE HAND-HOLE
- SPLICE POINT HAND-HOLE
- NEW JUNCTION BOX

Slack Coils

- 144
- 36

Markers

- Fiber Marker (w/ Test Station)
- Fiber Marker (No Test Station)

Other

- Construction Note
- Highway Crossing
- Water Crossing
- Railroad Crossing
- Bore Pit
- Splice Point

Parcel Data

- Right of Way
- Private Easement

Wetlands

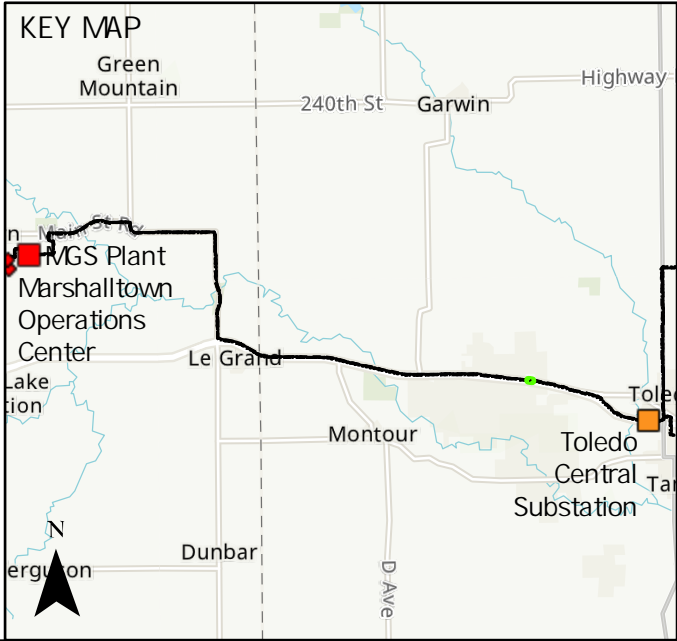
- Wetlands

Sites

- Substation
- Office
- Tower

Notes

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- PARCEL LINES IN MAP ARE NOT SURVEYED AND FOR REFERENCE ONLY. SUBCONTRACTOR TO USE MEASUREMENTS FROM CENTERLINE FOR FINAL ALIGNMENT OF FIBER INSTALLATION.
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REVISIONS

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PROJECT # 149681-02

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DATE: 11/13/2023

SCALE: "AS NOTED"

DESIGNED BY: CJ

REVIEWED BY: KJM

ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL SUBSTATION

PAGE 164 OF 196

Alliant Energy

MGNS-TOLC-164

REV: 0

CONTINUED ON PAGE 164 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 166 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

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MGS PLANT - TOLEDO CENTRAL SUBSTATION

PAGE 165 OF 196

MGNS-TOLC-165

REV: 0

Legend

Existing Utilities

Telecom

Electric

Gas

Sewer

Water

Other

Conduits

Underground, Bore Conduit

Underground, Existing Conduit

Underground, Plow Conduit

Underground, Hydrovac

Fiber

144

36

Pull Points

EXISTING HAND-HOLE

EXISTING JUNCTION BOX

EXISTING MAN-HOLE

MAINTENANCE HAND-HOLE

SPLICE POINT HAND-HOLE

NEW JUNCTION BOX

Slack Coils

144

36

Markers

Fiber Marker (w/ Test Station)

Fiber Marker (No Test Station)

Other

Construction Note

Highway Crossing

Water Crossing

Railroad Crossing

Bore Pit

Splice Point

Parcel Data

Right of Way

Private Easement

Wetlands

Wetlands

Sites

Substation

Office

Tower

Notes

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3. FIBER INSTALLATION TO REMAIN ON BACKSLOPE OF DITCH WITHIN RIGHT OF WAY UNLESS OTHERWISE NOTED. FIBER TO BE INSTALLED AWAY FROM ANY LOW-GRADE WATER RETAINING AREAS.

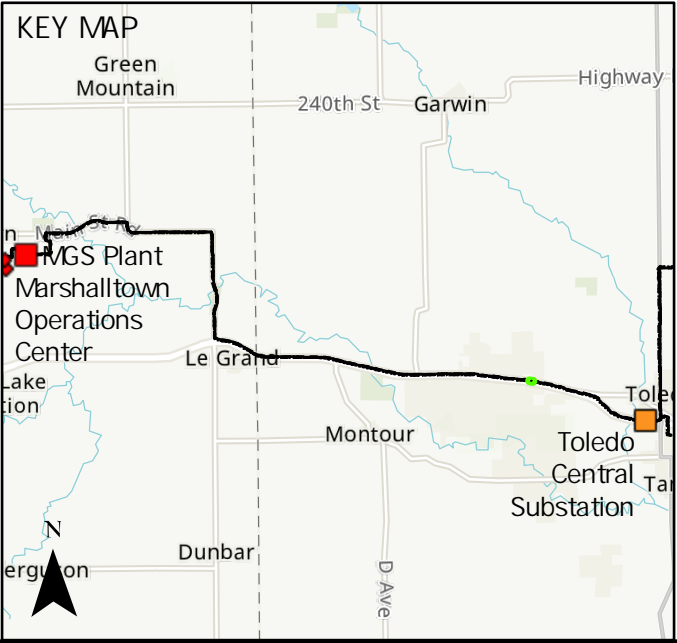
4. FIBER TO MAINTAIN A DEPTH OF 36 INCHES UNLESS OTHERWISE SPECIFIED.

5. FIBER TO MAINTAIN A MINIMUM 18" HORIZONTAL SEPARATION FROM EXISTING UTILITIES.

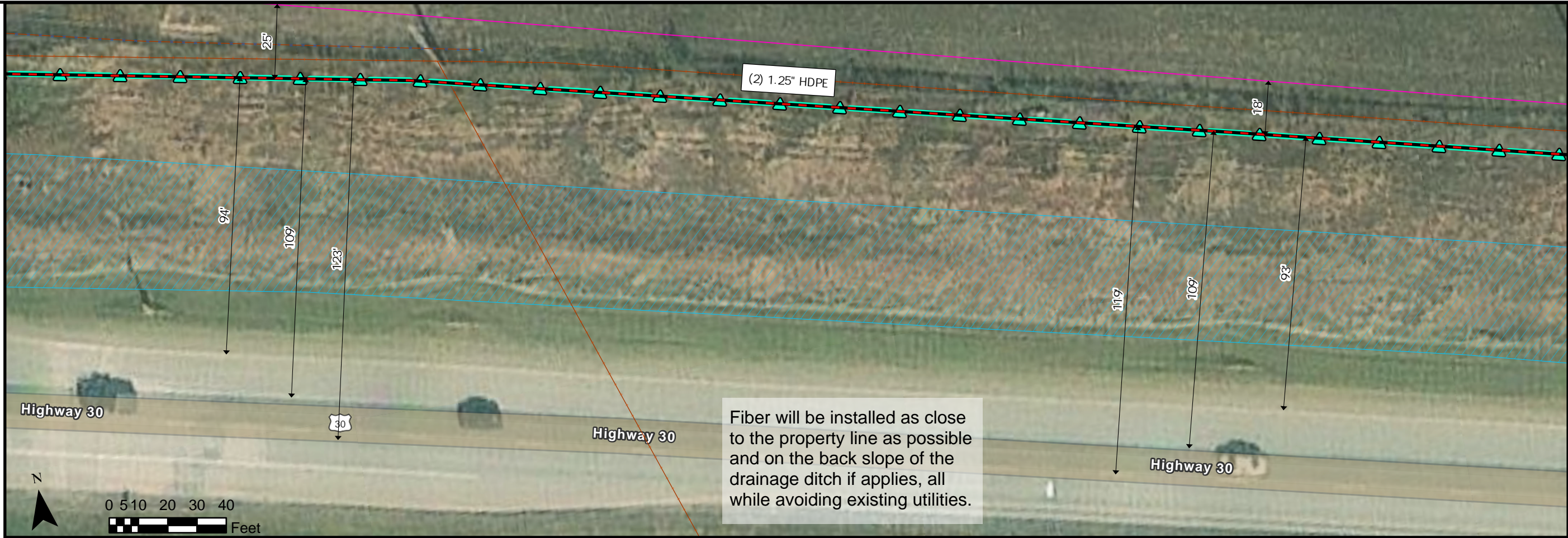
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7. SUBCONTRACTOR TO NOTIFY LOCATION SERVICES AT MINIMUM THREE DAYS BEFORE EXCAVATION (1A: (800) 292-8989)

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CONTINUED ON PAGE 165 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 167 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

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MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 166 OF 196



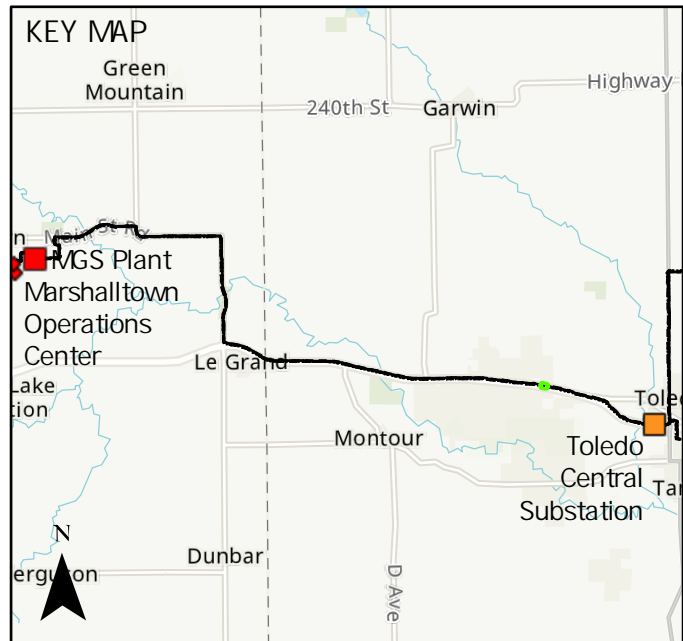
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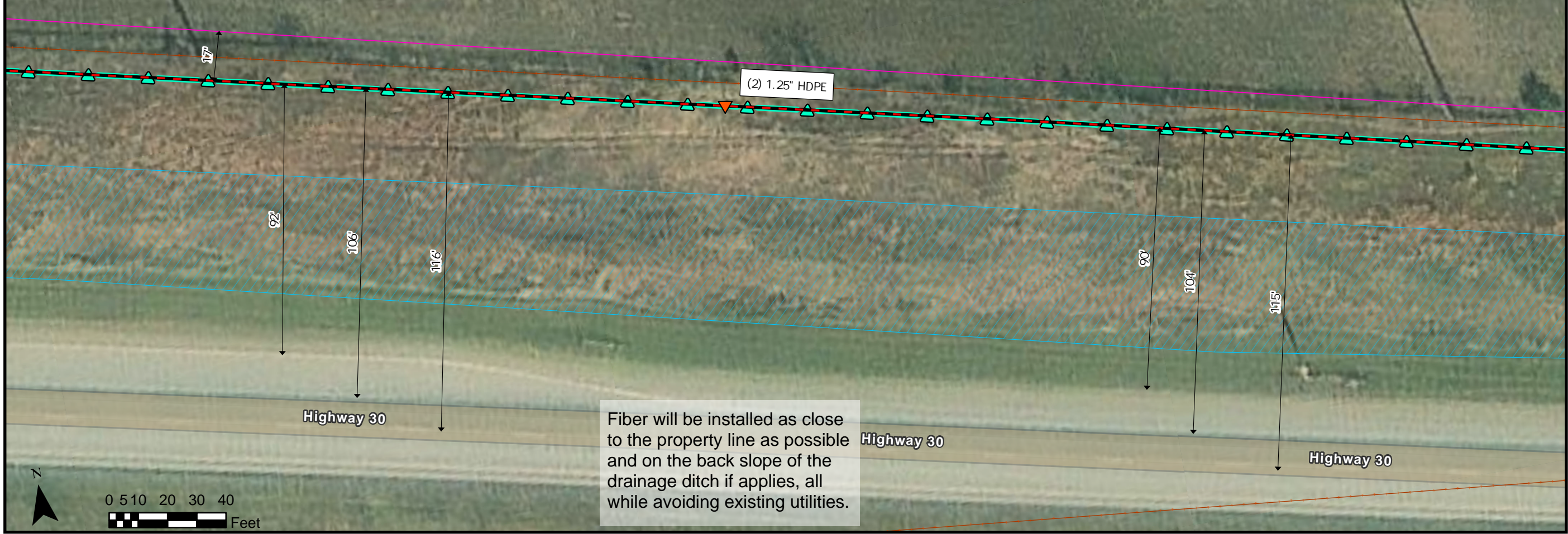
Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water	Fiber	SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	144	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	36				Office
					Tower

Notes

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CONTINUED ON PAGE 166 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 168 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

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MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 167 OF 196



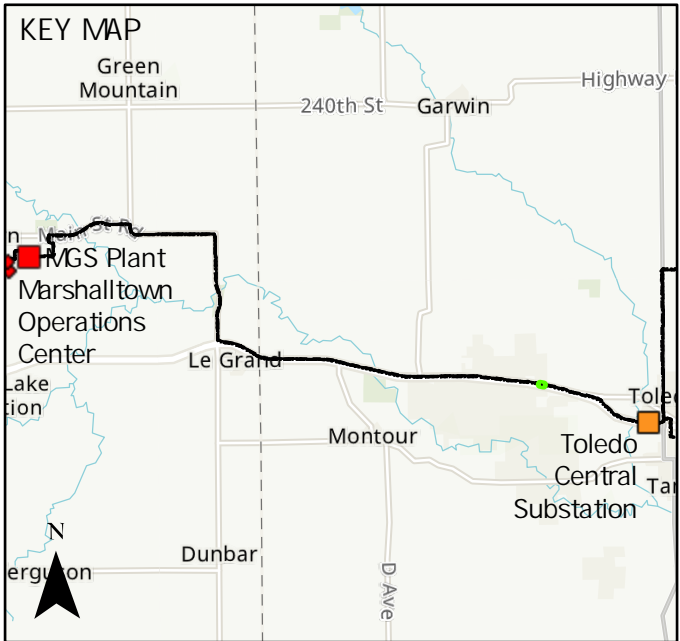
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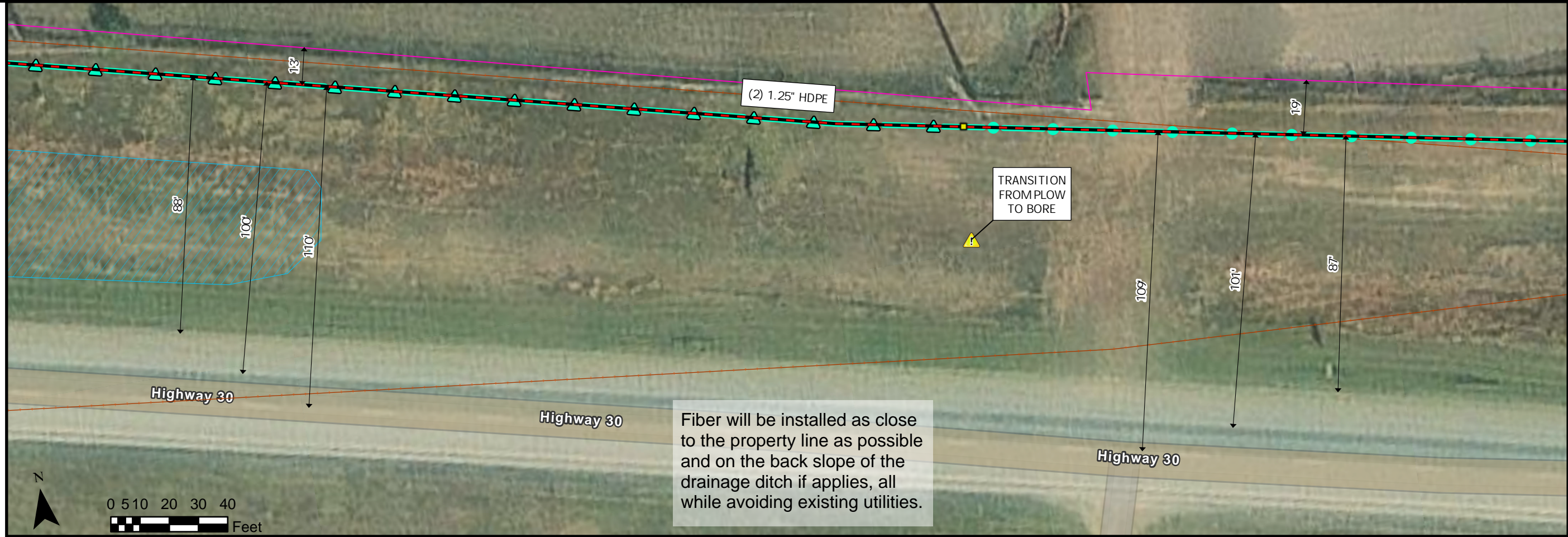
Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water		SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	Fiber	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	144				Office
	36				Tower

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MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 168 OF 196



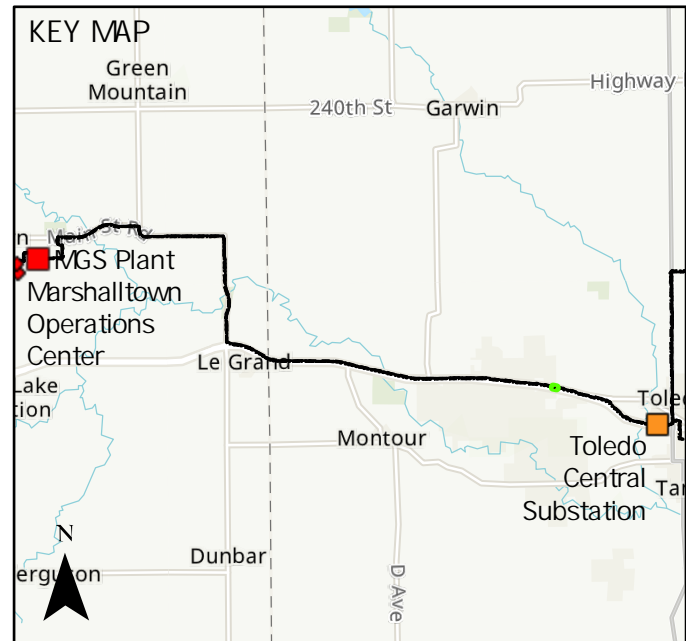
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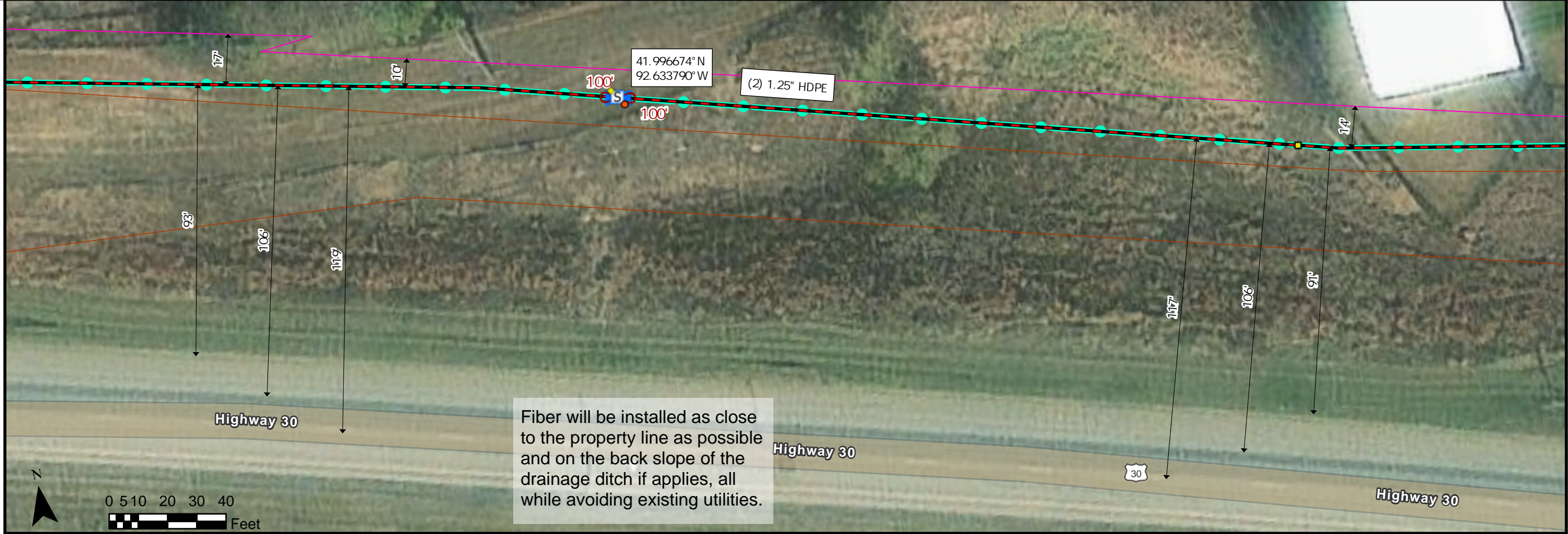
Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE		Railroad Crossing	Wetlands
Water		SPLICE POINT HAND-HOLE		Bore Pit	Sites
Other		NEW JUNCTION BOX		Splice Point	Substation
	Fiber				Office
	144				Tower
	36				

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CONTINUED ON PAGE 168 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



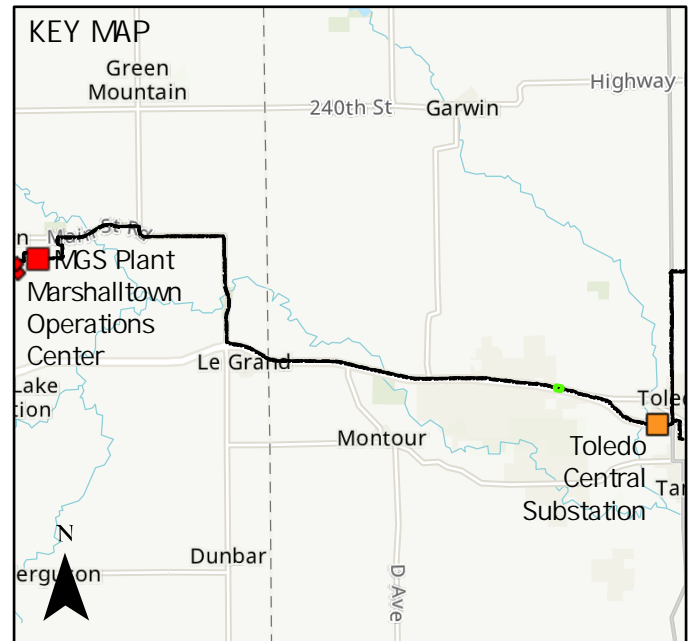
LABEL NUMBER	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACKLENGTH
41.996674°N/92.633790°W	UG-SD-001, UG-SD-003	END OF REEL SPLICE	30"X60"X36" HANDHOLE, FIBER MARKER W TEST STATION	2	200

Legend

- | Existing Utilities | | Conduits | | Pull Points | | Slack Coils | | Other | | Parcel Data | |
|---|----------|---|-------------------------------|---|------------------------|---|--------------------------------|---|-------------------|---|------------------|
|  | Telecom |  | Underground, Bore Conduit |  | EXISTING HAND-HOLE |  | 144 |  | Construction Note |  | Right of Way |
|  | Electric |  | Underground, Existing Conduit |  | EXISTING JUNCTION BOX |  | 36 |  | Highway Crossing |  | Private Easement |
|  | Gas |  | Underground, Plow Conduit |  | EXISTING MAN-HOLE | | |  | Water Crossing | Wetlands | |
|  | Sewer |  | Underground, Hydrovac |  | MAINTENANCE HAND-HOLE | Markers | |  | Railroad Crossing |  | Wetlands |
|  | Water | Fiber | |  | SPLICE POINT HAND-HOLE |  | Fiber Marker (w/ Test Station) |  | Bore Pit | Sites | |
|  | Other |  | 144 |  | NEW JUNCTION BOX |  | Fiber Marker (No Test Station) |  | Splice Point |  | Substation |
| | |  | 36 | | | | | | |  | Office |

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SCALE: "AS NOTED"

DESIGNED BY: C. J. HARRIS

REVIEWED BY: K. J. HARRIS

ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 169 OF 196

MGNS-TOLC-169

REV:
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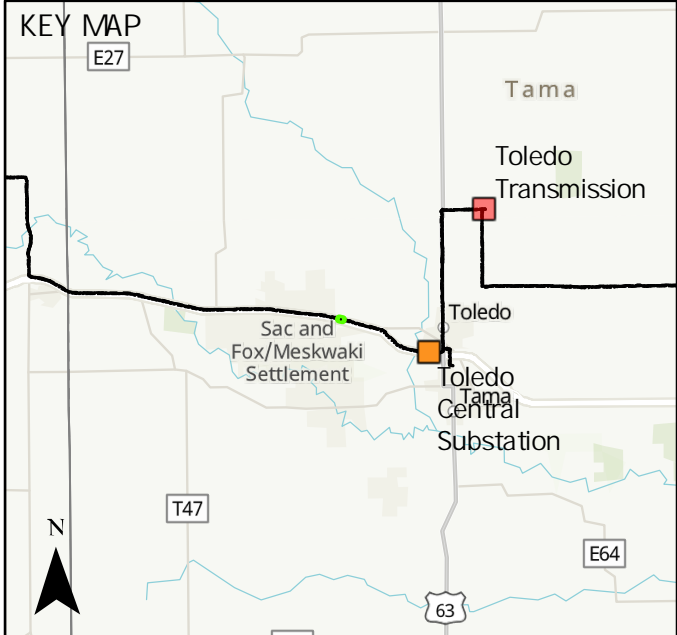
CONTINUED ON PAGE 169 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 171 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS	
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ENGINEER: TVN	
MGS PLANT - TOLEDO CENTRAL SUBSTATION PAGE 170 OF 196	
Alliant Energy	
MGNS-TOLC-170	REV: 0

Legend	
Existing Utilities Telecom Electric Gas Sewer Water Other	Conduits Underground, Bore Conduit Underground, Existing Conduit Underground, Plow Conduit Underground, Hydrovac Fiber 144 36
Pull Points EXISTING HAND-HOLE EXISTING JUNCTION BOX EXISTING MAN-HOLE MAINTENANCE HAND-HOLE SPLICE POINT HAND-HOLE NEW JUNCTION BOX	Slack Coils 144 36 Markers Fiber Marker (w/ Test Station) Fiber Marker (No Test Station)
Other Construction Note Highway Crossing Water Crossing Railroad Crossing Bore Pit Splice Point	Parcel Data Right of Way Private Easement Wetlands Wetlands Sites Substation Office Tower
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CONTINUED ON PAGE 170 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 172 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

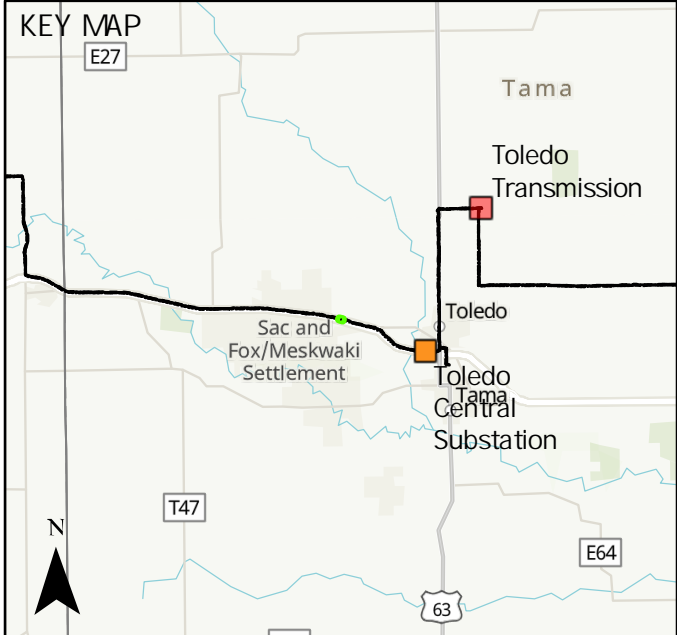
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MGS PLANT - TOLEDO CENTRAL SUBSTATION PAGE 171 OF 196	
Alliant Energy	
MGNS-TOLC-171	REV: 0

Legend

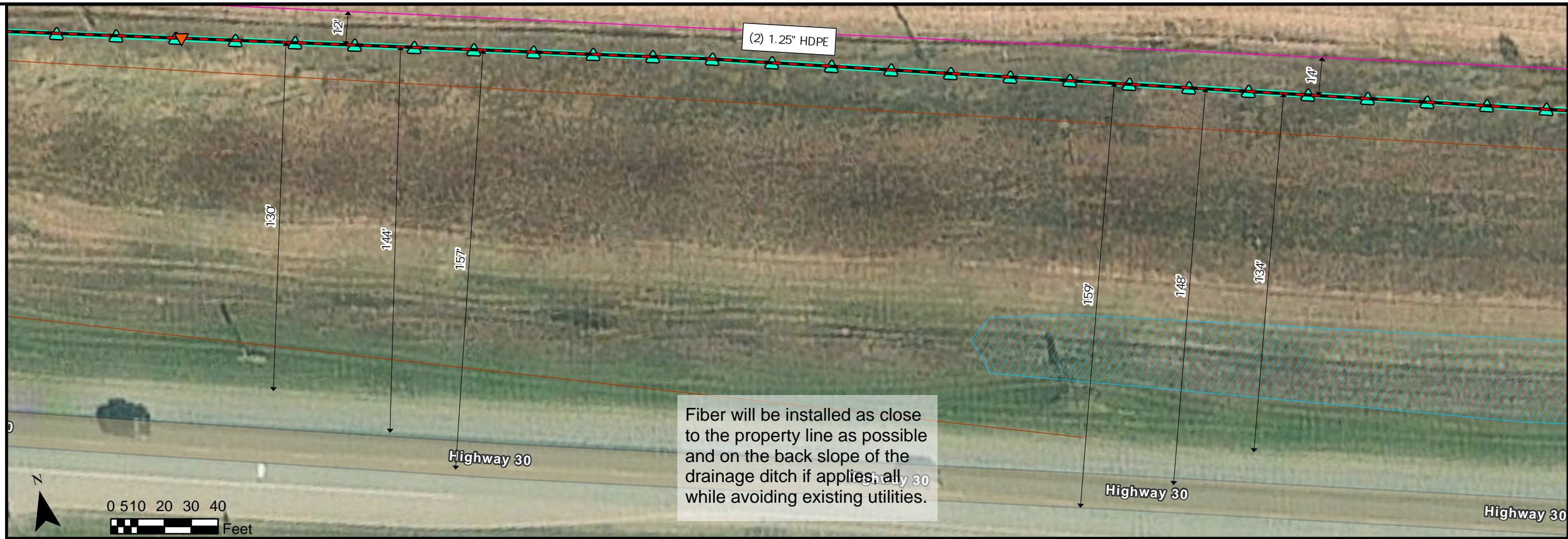
Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE		Railroad Crossing	Wetlands
Water		SPLICE POINT HAND-HOLE		Bore Pit	Sites
Other		NEW JUNCTION BOX		Splice Point	Substation
	Fiber				Office
	144				Tower
	36				

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MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 172 OF 196



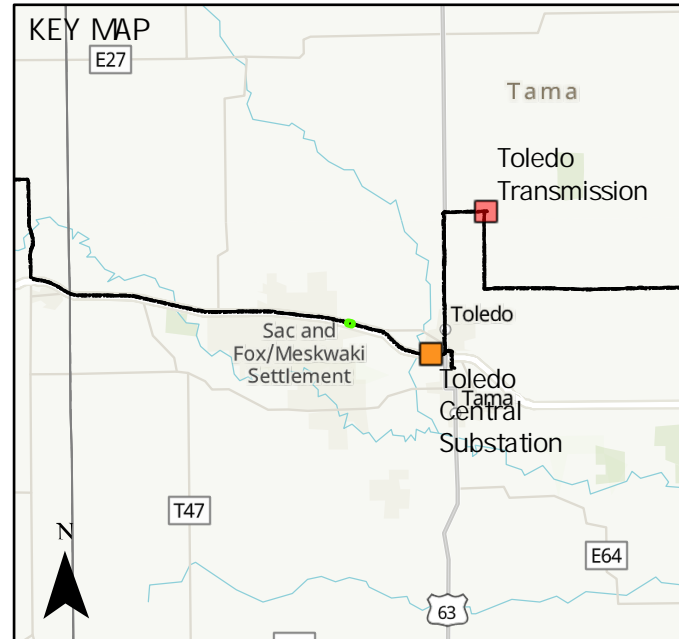
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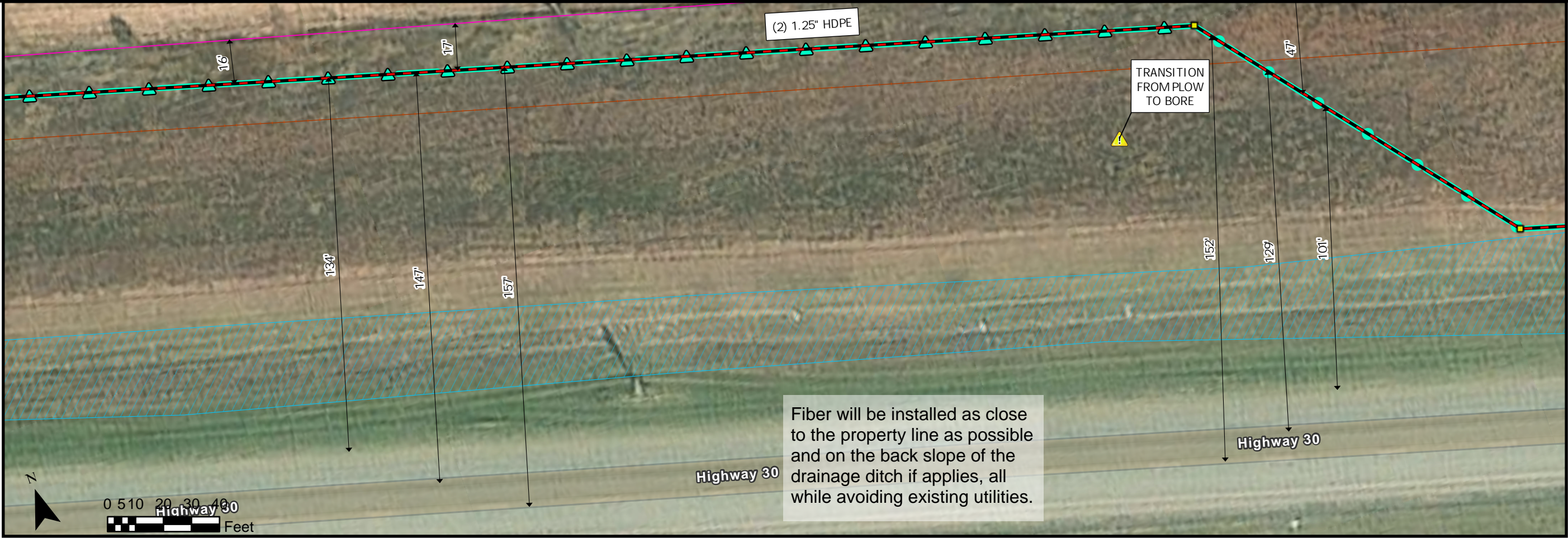
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CONTINUED ON PAGE 174 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

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MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 173 OF 196



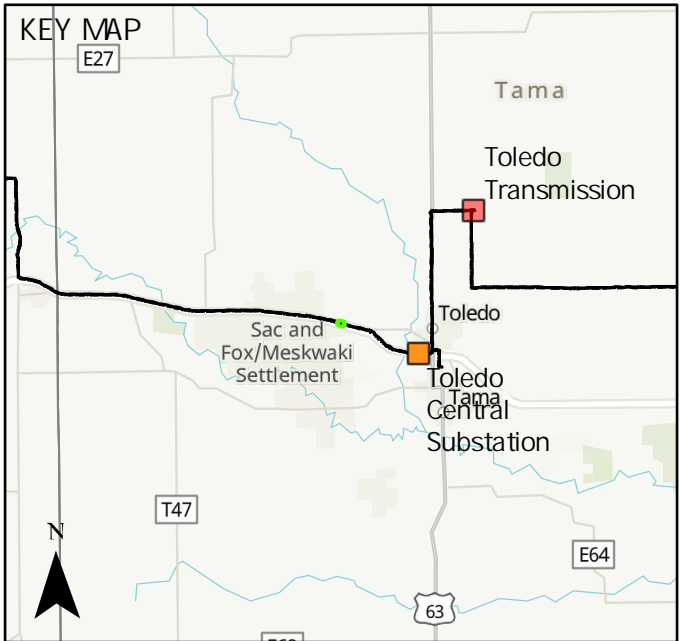
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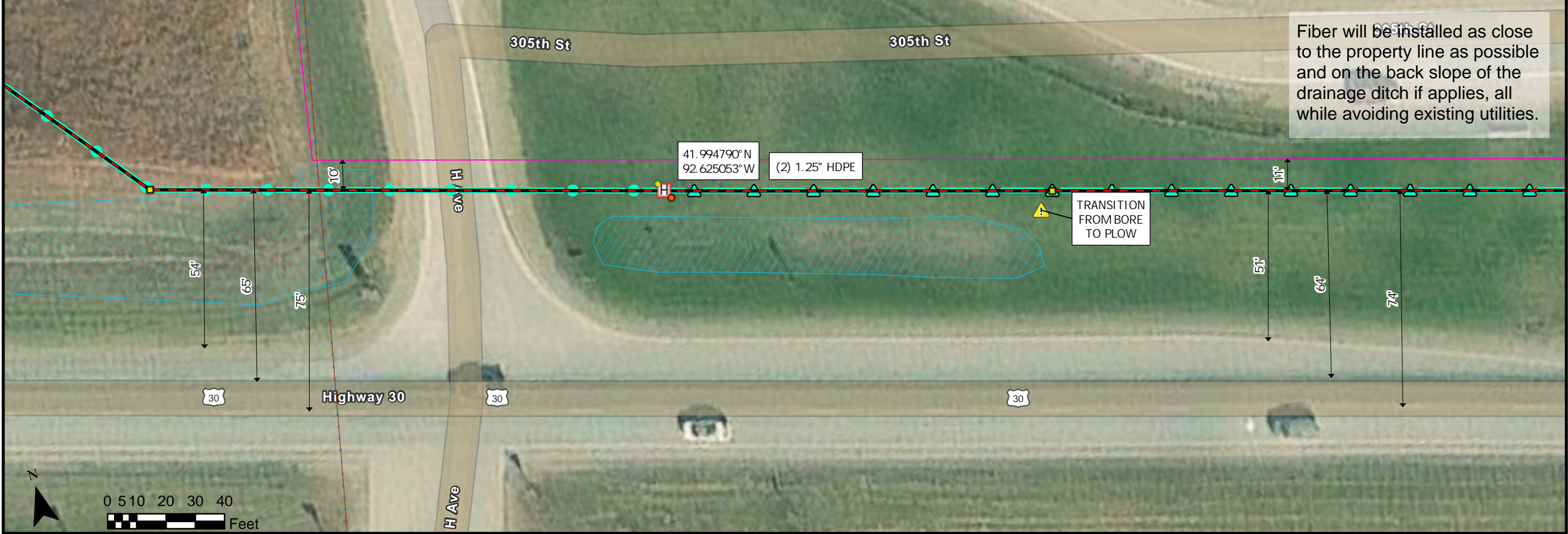
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Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
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- FIBER TO MAINTAIN A MINIMUM 18" HORIZONTAL SEPARATION FROM EXISTING UTILITIES.
- SUBCONTRACTOR TO LOCATE, MARK, AND AVOID ALL UTILITIES DURING FIBER INSTALLATION.
- SUBCONTRACTOR TO NOTIFY LOCATION SERVICES AT MINIMUM THREE DAYS BEFORE EXCAVATION (1A: (800) 292-8989)
- REFER TO GENERAL NOTES SHEET FOR ALL OTHER PROJECT NOTES.



CONTINUED ON PAGE 173 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



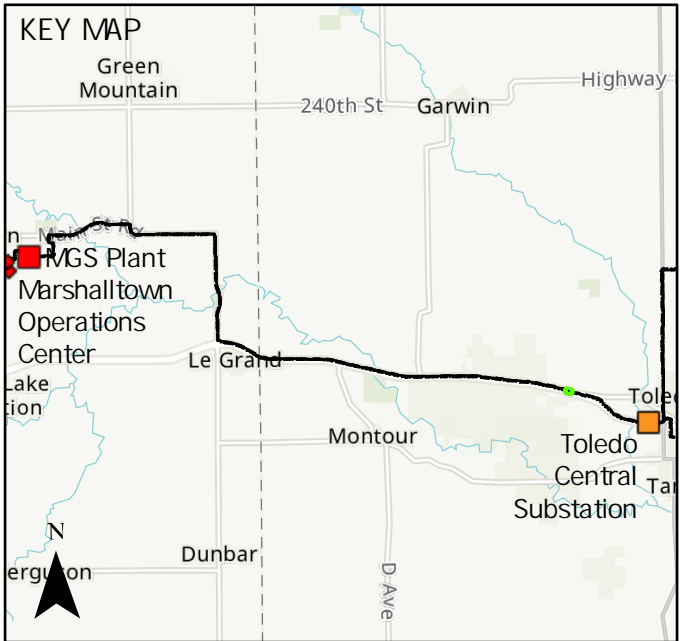
LABEL NUMBER	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACKLENGTH
41.994790° N/92.625053° W	UG-SD-001, UG-SD-002	MAINTENANCE HANDHOLE	30"X48"X36" HANDHOLE, FIBER MARKER W TEST STATION	0	0

Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water	Fiber	SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	144	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	36				Office
					Tower

Notes

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REVISIONS

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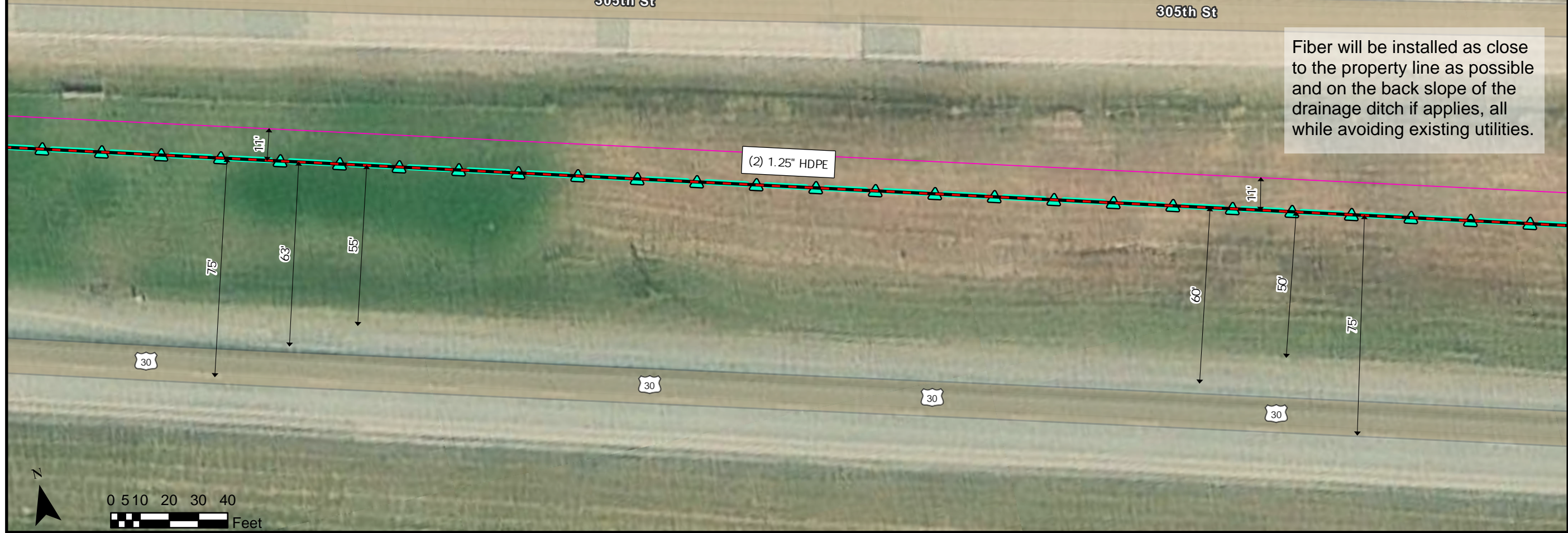
DATE: 11/13/2023
SCALE: "AS NOTED"
DESIGNED BY: CJ
REVIEWED BY: KJM
ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 174 OF 196



MGNS-TOLC-174 REV: 0

CONTINUED ON PAGE 174 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 176 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS	
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ENGINEER: TVN	

Legend

Existing Utilities

- Telecom
- Electric
- Gas
- Sewer
- Water
- Other

Conduits

- Underground, Bore Conduit
- Underground, Existing Conduit
- Underground, Plow Conduit
- Underground, Hydrovac

Fiber

- 144
- 36

Pull Points

- EXISTING HAND-HOLE
- EXISTING JUNCTION BOX
- EXISTING MAN-HOLE
- MAINTENANCE HAND-HOLE
- SPLICE POINT HAND-HOLE
- NEW JUNCTION BOX

Slack Coils

- 144
- 36

Markers

- Fiber Marker (w/ Test Station)
- Fiber Marker (No Test Station)

Other

- Construction Note
- Highway Crossing
- Water Crossing
- Railroad Crossing
- Bore Pit
- Splice Point

Parcel Data

- Right of Way
- Private Easement

Wetlands

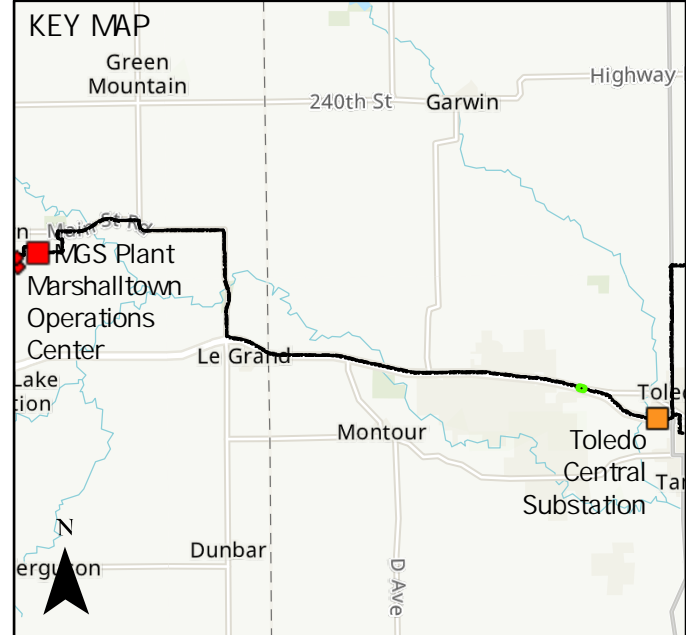
- Wetlands

Sites

- Substation
- Office
- Tower

Notes

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MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 175 OF 196

MGNS-TOLC-175

REV: 0

CONTINUED ON PAGE 175 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 177 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS

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ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 176 OF 196



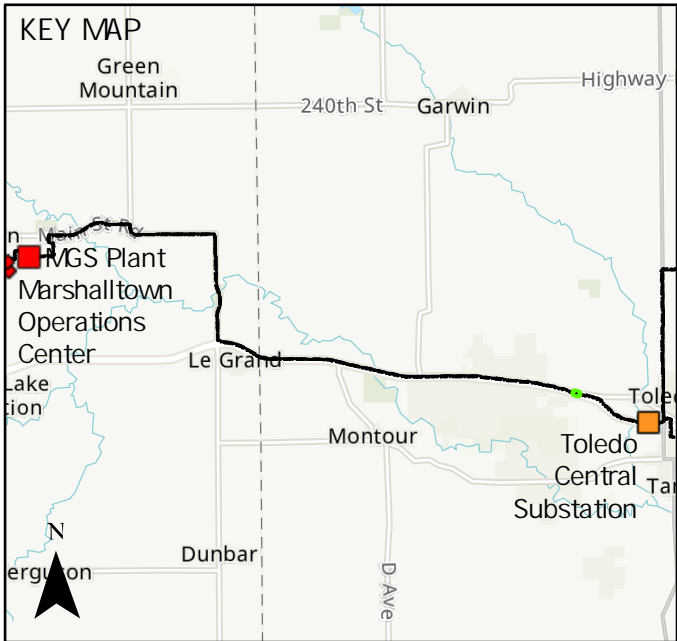
MGNS-TOLC-176 REV: 0

Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water	Fiber	SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	144	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	36				Office
					Tower

Notes

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CONTINUED ON PAGE 176 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 178 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

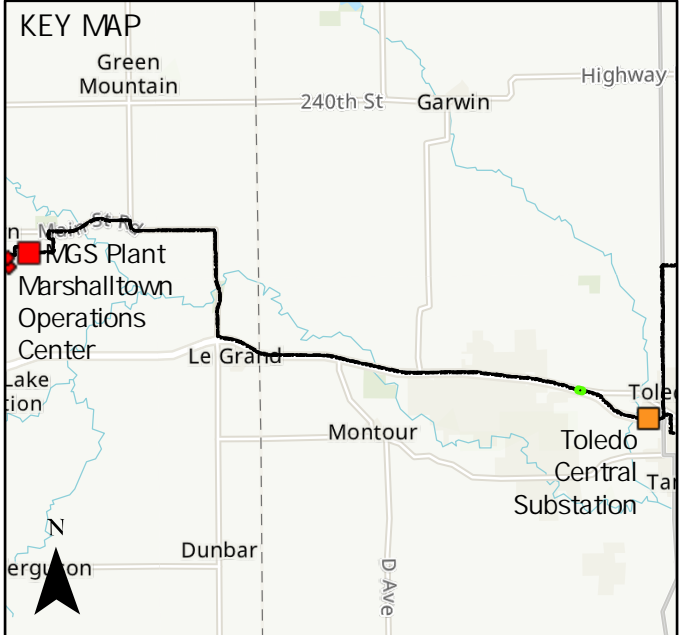
REVISIONS	
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ENGINEER: TVN	
MGS PLANT - TOLEDO CENTRAL SUBSTATION PAGE 177 OF 196	
Alliant Energy	
MGNS-TOLC-177	REV: 0

Legend

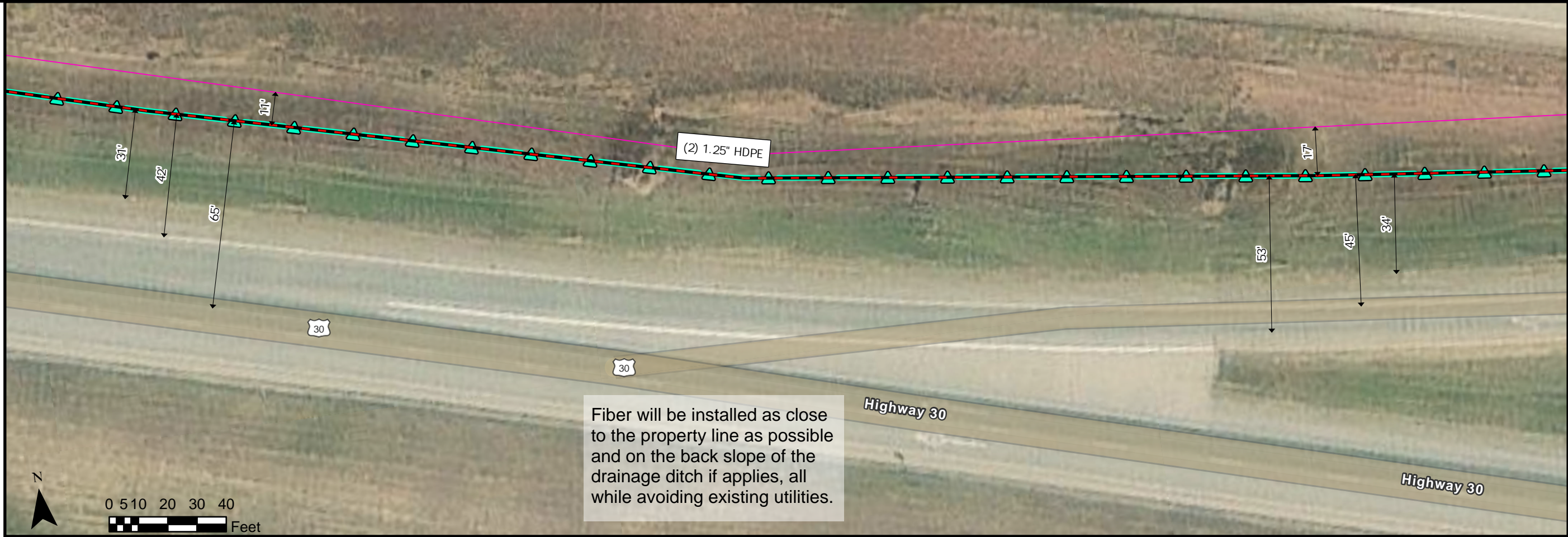
Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE		Railroad Crossing	Wetlands
Water		SPLICE POINT HAND-HOLE		Bore Pit	Sites
Other		NEW JUNCTION BOX		Splice Point	Substation
	Fiber				Office
	144				Tower
	36				

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CONTINUED ON PAGE 177 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 179 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS

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MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 178 OF 196



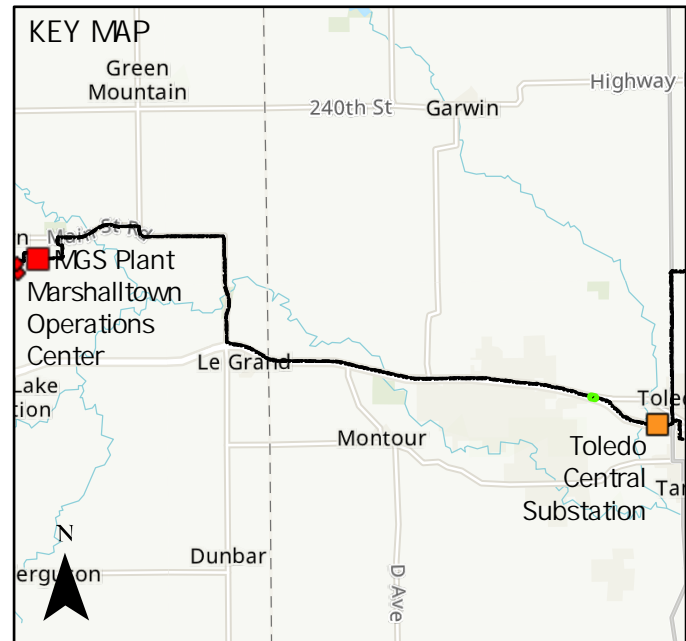
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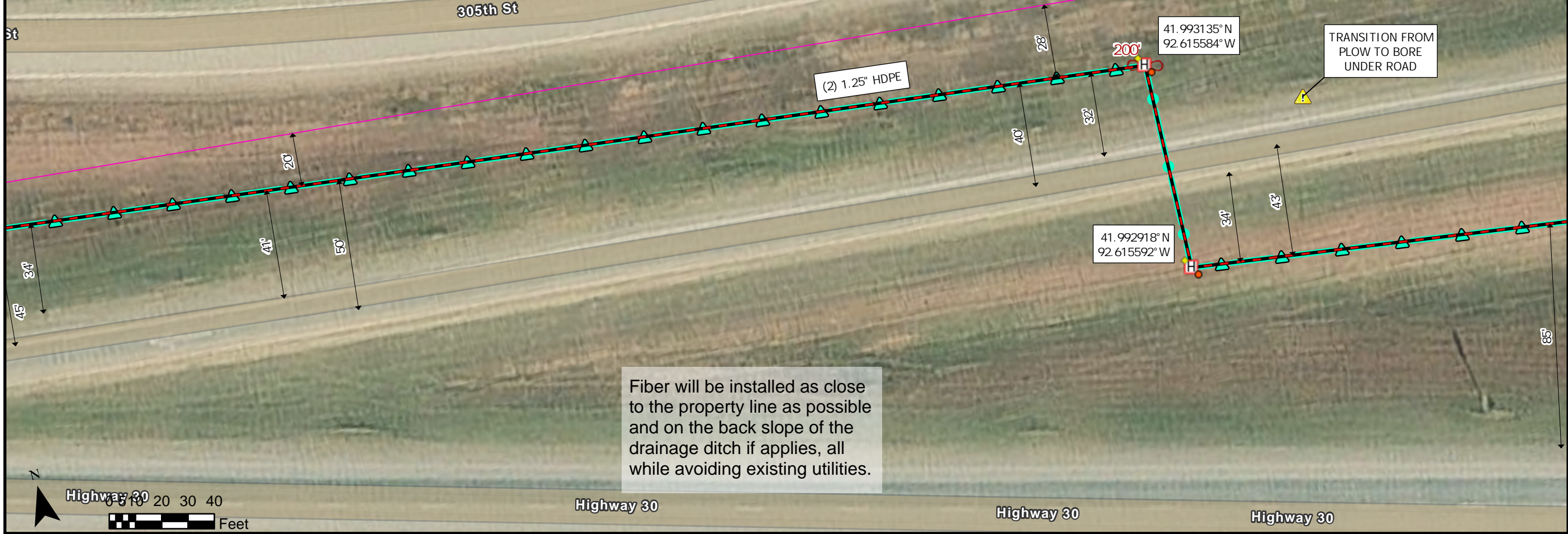
Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water		SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	Fiber	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	144				Office
	36				Tower

Notes

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CONTINUED ON PAGE 178 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



LABEL NUMBER	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACKLENGTH
41.992918° N/92.615592° W	UG-SD-001, UG-SD-002	MAINTENANCE HANDHOLE	30"X48"X36" HANDHOLE, FIBER MARKER W TEST STATION	0	0
41.993135° N/92.615584° W	UG-SD-001, UG-SD-002	MAINTENANCE HANDHOLE	30"X48"X36" HANDHOLE, FIBER MARKER W TEST STATION	1	200

Legend

Existing Utilities

- Telecom
- Electric
- Gas
- Sewer
- Water
- Other

Conduits

- Underground, Bore Conduit
- Underground, Existing Conduit
- Underground, Plow Conduit
- Underground, Hydrovac

Fiber

- 144
- 36

Pull Points

- EXISTING HAND-HOLE
- EXISTING JUNCTION BOX
- EXISTING MAN-HOLE
- MAINTENANCE HAND-HOLE
- SPLICE POINT HAND-HOLE
- NEW JUNCTION BOX

Slack Coils

- 144
- 36

Markers

- Fiber Marker (w/ Test Station)
- Fiber Marker (No Test Station)

Other

- Construction Note
- Highway Crossing
- Water Crossing
- Railroad Crossing
- Bore Pit
- Splice Point

Parcel Data

- Right of Way
- Private Easement

Wetlands

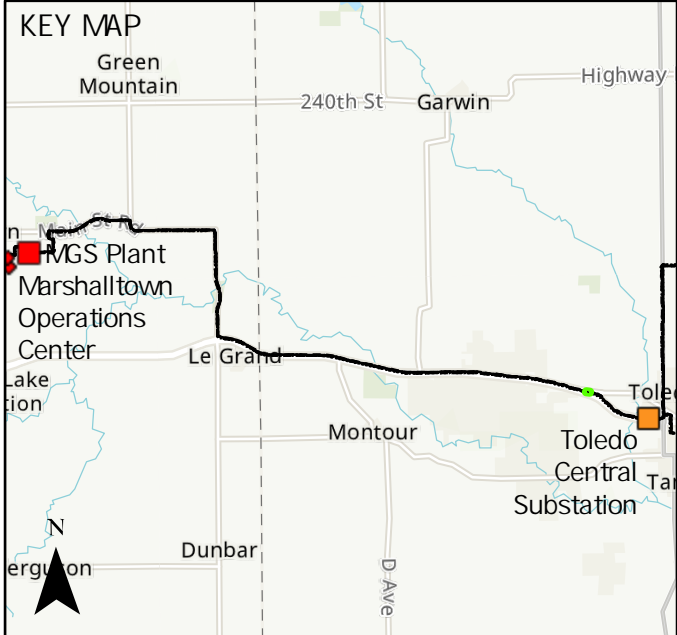
- Wetlands

Sites

- Substation
- Office
- Tower

Notes

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REVISIONS

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PROJECT # 149681-02

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DATE: 11/13/2023

SCALE: "AS NOTED"

DESIGNED BY: CJ

REVIEWED BY: KJM

ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL SUBSTATION PAGE 179 OF 196

Alliant Energy

MGNS-TOLC-179

REV: 0

CONTINUED ON PAGE 179 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 181 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS

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ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 180 OF 196



MGNS-TOLC-180

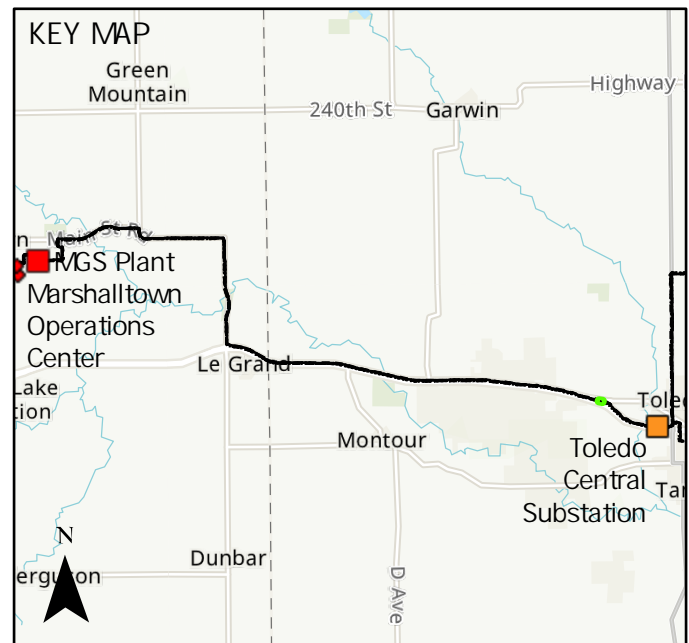
REV: 0

Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water	Fiber	SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	144	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	36				Office
					Tower

Notes

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CONTINUED ON PAGE 180 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



LABEL NUMBER	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACKLENGTH
41.992266°N/92.612090°W	UG-SD-001, UG-SD-002	MAINTENANCE HANDHOLE	30\"X48\"X36\" HANDHOLE, FIBER MARKER W TEST STATION	0	0

Legend

Existing Utilities

- Telecom
- Electric
- Gas
- Sewer
- Water
- Other

Conduits

- Underground, Bore Conduit
- Underground, Existing Conduit
- Underground, Plow Conduit
- Underground, Hydrovac

Fiber

- 144
- 36

Pull Points

- EXISTING HAND-HOLE
- EXISTING JUNCTION BOX
- EXISTING MAN-HOLE
- MAINTENANCE HAND-HOLE
- SPLICE POINT HAND-HOLE
- NEW JUNCTION BOX

Slack Coils

- 144
- 36

Markers

- Fiber Marker (w/ Test Station)
- Fiber Marker (No Test Station)

Other

- Construction Note
- Highway Crossing
- Water Crossing
- Railroad Crossing
- Bore Pit
- Splice Point

Parcel Data

- Right of Way
- Private Easement

Wetlands

- Wetlands

Sites

- Substation
- Office
- Tower

- Notes
1. DISTANCES MEASURED BY SOFTWARE ARE APPROXIMATE, FIELD TO VERIFY.

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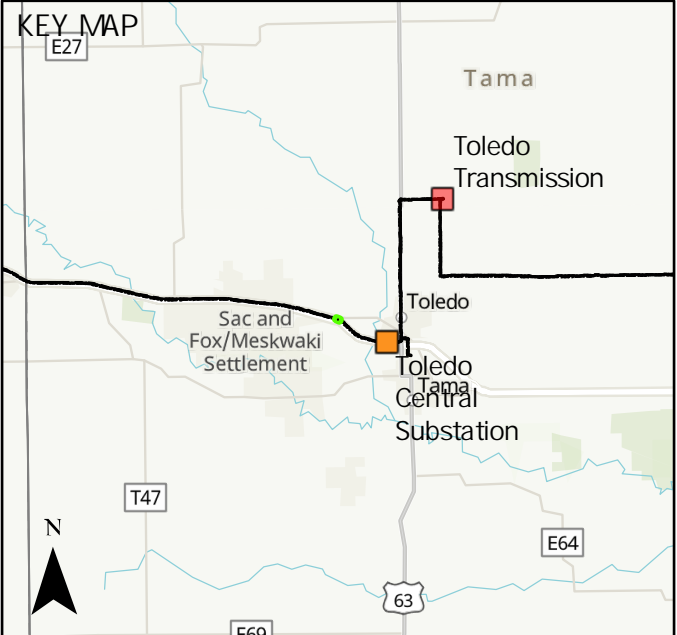
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REVISIONS

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ENGINEER: TVN

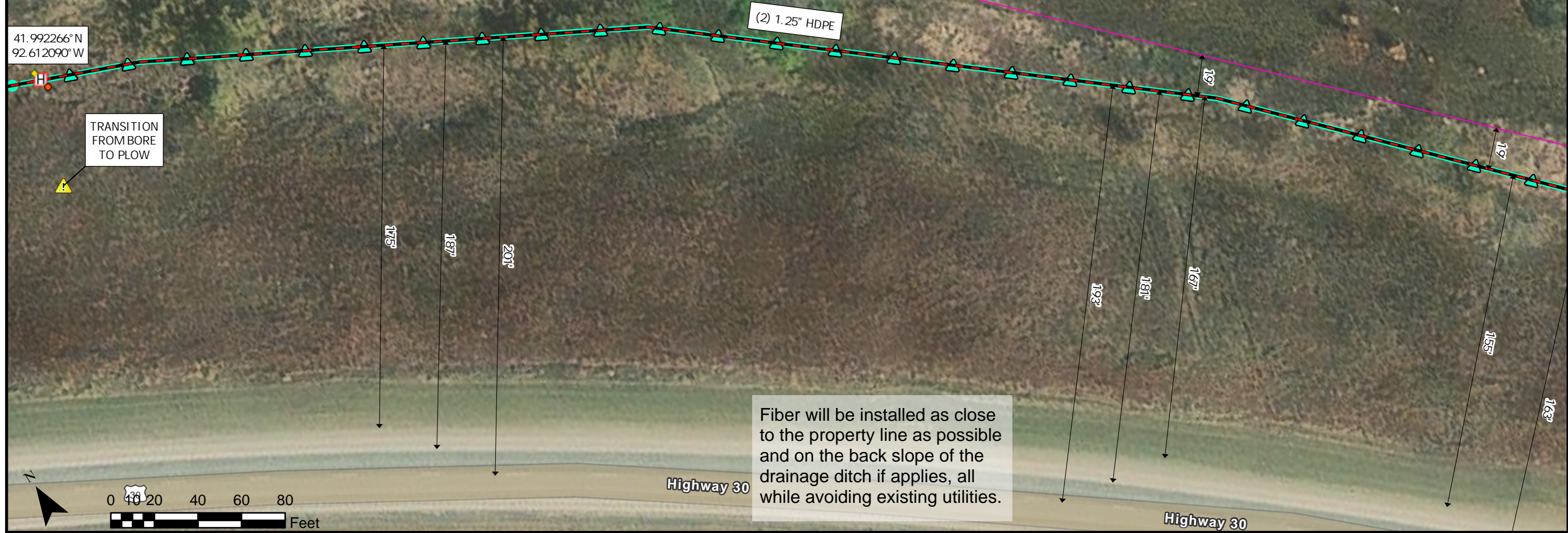
MGS PLANT - TOLEDO CENTRAL SUBSTATION PAGE 181 OF 196

Alliant Energy

MGNS-TOLC-181

REV: 0

CONTINUED ON PAGE 181 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 183 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS

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ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 182 OF 196



MGNS-TOLC-182 REV: 0

Legend

Existing Utilities

- Telecom
- Electric
- Gas
- Sewer
- Water
- Other

Conduits

- Underground, Bore Conduit
- Underground, Existing Conduit
- Underground, Plow Conduit
- Underground, Hydrovac

Fiber

- 144
- 36

Pull Points

- EXISTING HAND-HOLE
- EXISTING JUNCTION BOX
- EXISTING MAN-HOLE
- MAINTENANCE HAND-HOLE
- SPLICE POINT HAND-HOLE
- NEW JUNCTION BOX

Slack Coils

- 144
- 36

Markers

- Fiber Marker (w/ Test Station)
- Fiber Marker (No Test Station)

Other

- Construction Note
- Highway Crossing
- Water Crossing
- Railroad Crossing
- Bore Pit
- Splice Point

Parcel Data

- Right of Way
- Private Easement

Wetlands

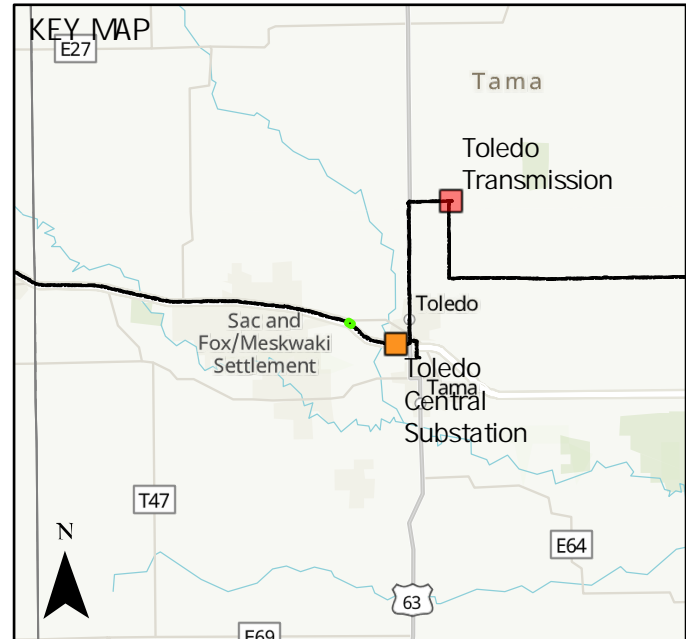
- Wetlands

Sites

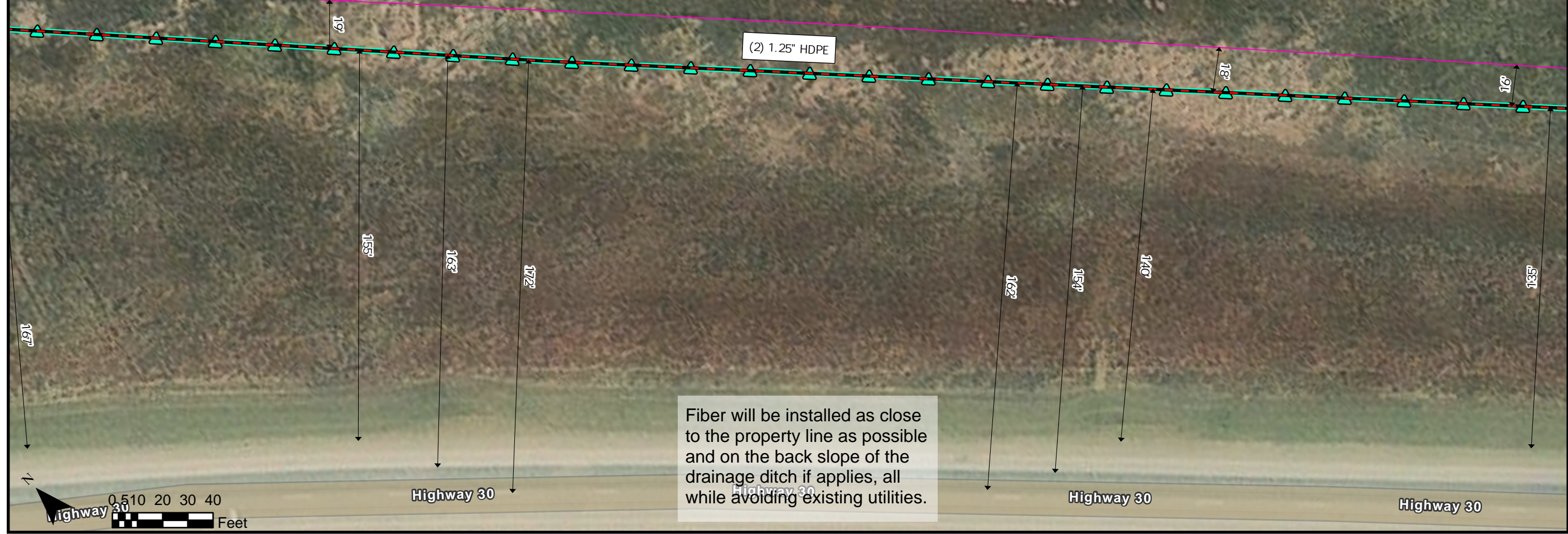
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- SUBCONTRACTOR TO NOTIFY LOCATION SERVICES AT MINIMUM THREE DAYS BEFORE EXCAVATION (1A: (800) 292-8989)
- REFER TO GENERAL NOTES SHEET FOR ALL OTHER PROJECT NOTES.



CONTINUED ON PAGE 182 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 184 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS	
0	PROJECT # 149681-02
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DATE: 11/13/2023
SCALE: "AS NOTED"
DESIGNED BY: CJ
REVIEWED BY: KJM
ENGINEER: TVN

Legend

Existing Utilities

- Telecom
- Electric
- Gas
- Sewer
- Water
- Other

Conduits

- Underground, Bore Conduit
- Underground, Existing Conduit
- Underground, Plow Conduit
- Underground, Hydrovac

Fiber

- 144
- 36

Pull Points

- EXISTING HAND-HOLE
- EXISTING JUNCTION BOX
- EXISTING MAN-HOLE
- MAINTENANCE HAND-HOLE
- SPLICE POINT HAND-HOLE
- NEW JUNCTION BOX

Slack Coils

- 144
- 36

Markers

- Fiber Marker (w/ Test Station)
- Fiber Marker (No Test Station)

Other

- Construction Note
- Highway Crossing
- Water Crossing
- Railroad Crossing
- Bore Pit
- Splice Point

Parcel Data

- Right of Way
- Private Easement

Wetlands

- Wetlands

Sites

- Substation
- Office
- Tower

Notes

1. DISTANCES MEASURED BY SOFTWARE ARE APPROXIMATE, FIELD TO VERIFY.

2. PARCEL LINES IN MAP ARE NOT SURVEYED AND FOR REFERENCE ONLY. SUBCONTRACTOR TO USE MEASUREMENTS FROM CENTERLINE FOR FINAL ALIGNMENT OF FIBER INSTALLATION.

3. FIBER INSTALLATION TO REMAIN ON BACKSLOPE OF DITCH WITHIN RIGHT OF WAY UNLESS OTHERWISE NOTED. FIBER TO BE INSTALLED AWAY FROM ANY LOW-GRADE WATER RETAINING AREAS.

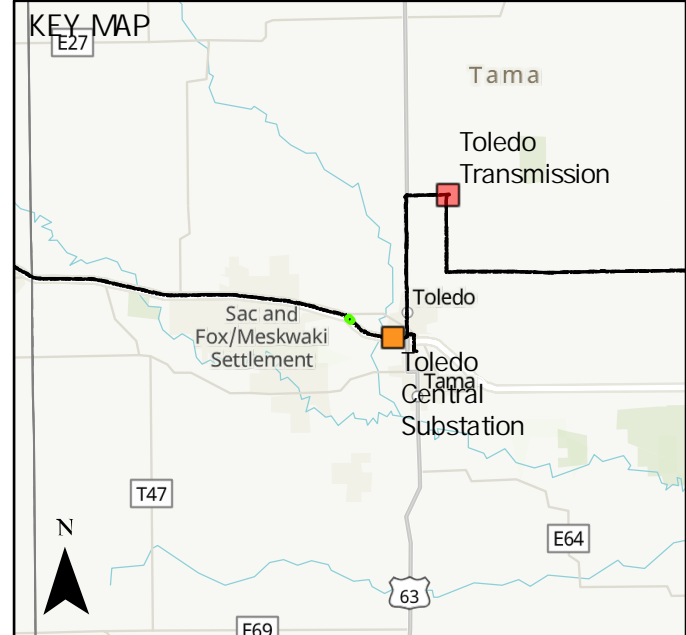
4. FIBER TO MAINTAIN A DEPTH OF 36 INCHES UNLESS OTHERWISE SPECIFIED.

5. FIBER TO MAINTAIN A MINIMUM 18" HORIZONTAL SEPARATION FROM EXISTING UTILITIES.

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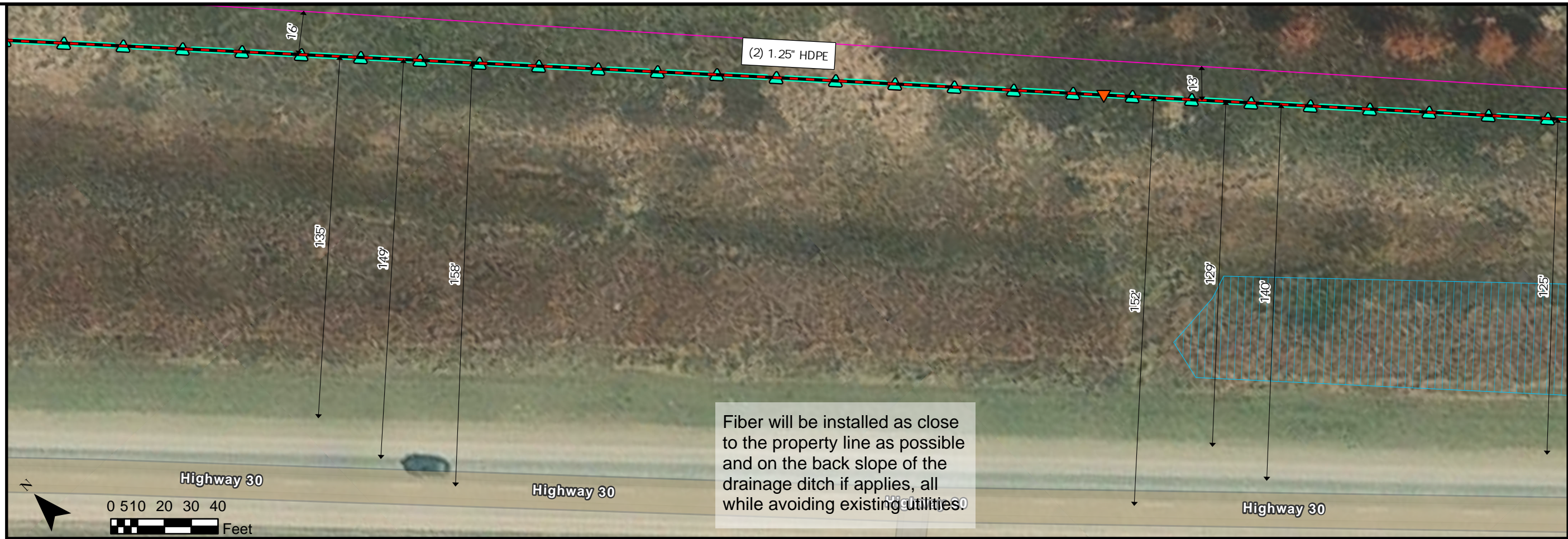


MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 183 OF 196

MGNS-TOLC-183

REV: 0

CONTINUED ON PAGE 183 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 185 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS

0 PROJECT # 149681-02

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REVIEWED BY: KJM
ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 184 OF 196



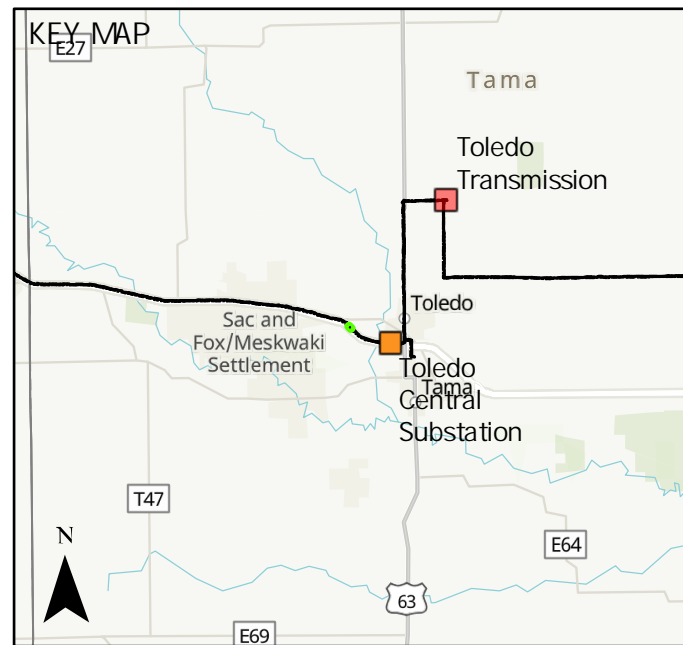
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Legend

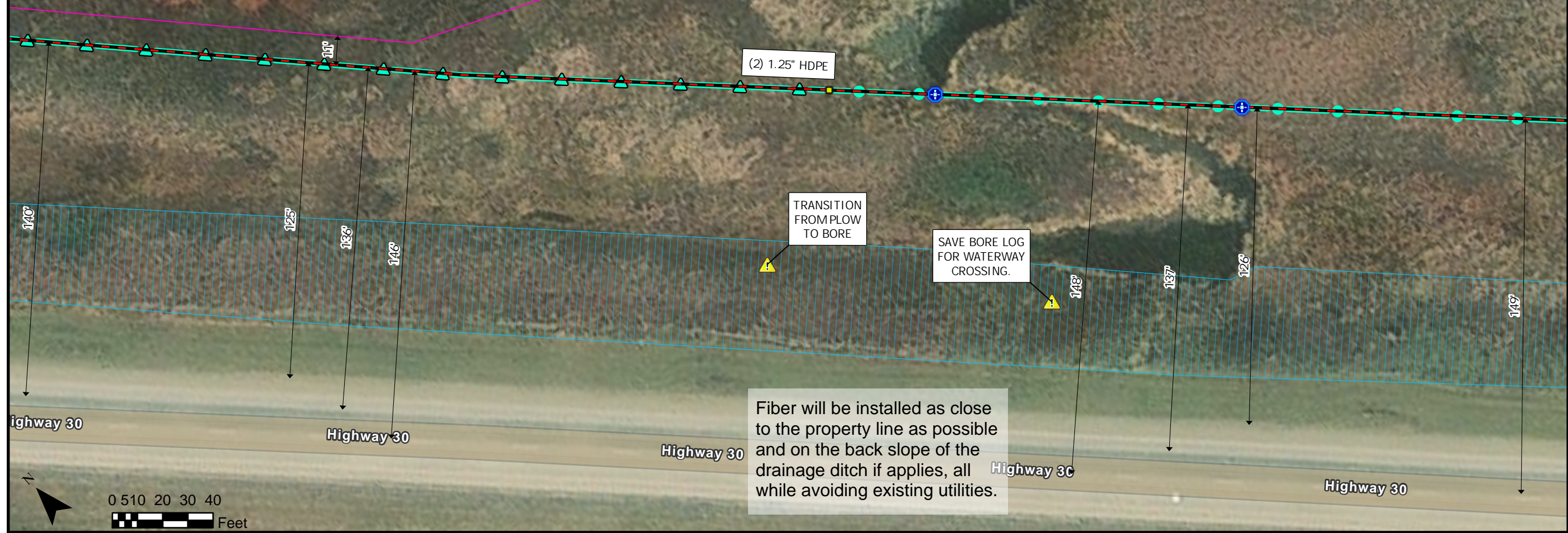
Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water	Fiber	SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	144	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	36				Office
					Tower

Notes

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CONTINUED ON PAGE 184 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



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REVIEWED BY: KJM
ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 185 OF 196



MGNS-TOLC-185 REV: 0

Legend

Existing Utilities

- Telecom
- Electric
- Gas
- Sewer
- Water
- Other

Conduits

- Underground, Bore Conduit
- Underground, Existing Conduit
- Underground, Plow Conduit
- Underground, Hydrovac

Fiber

- 144
- 36

Pull Points

- EXISTING HAND-HOLE
- EXISTING JUNCTION BOX
- EXISTING MAN-HOLE
- MAINTENANCE HAND-HOLE
- SPLICE POINT HAND-HOLE
- NEW JUNCTION BOX

Slack Coils

- 144
- 36

Markers

- Fiber Marker (w/ Test Station)
- Fiber Marker (No Test Station)

Other

- Construction Note
- Highway Crossing
- Water Crossing
- Railroad Crossing
- Bore Pit
- Splice Point

Parcel Data

- Right of Way
- Private Easement

Wetlands

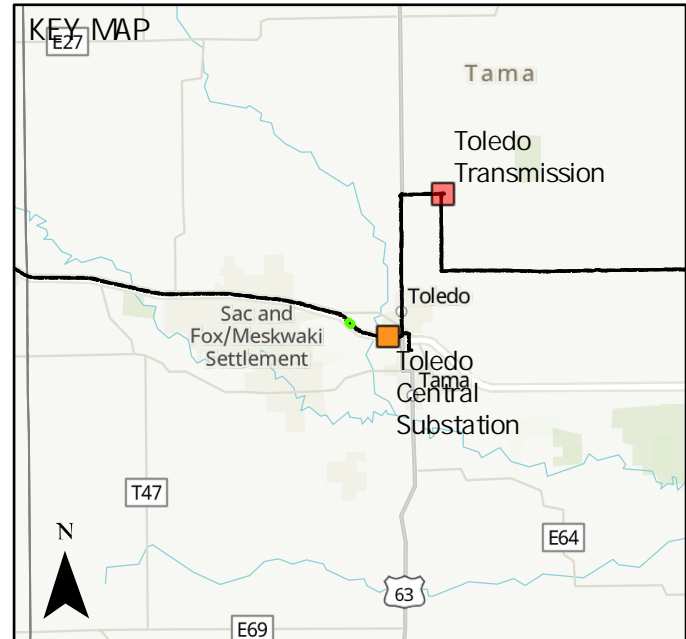
- Wetlands

Sites

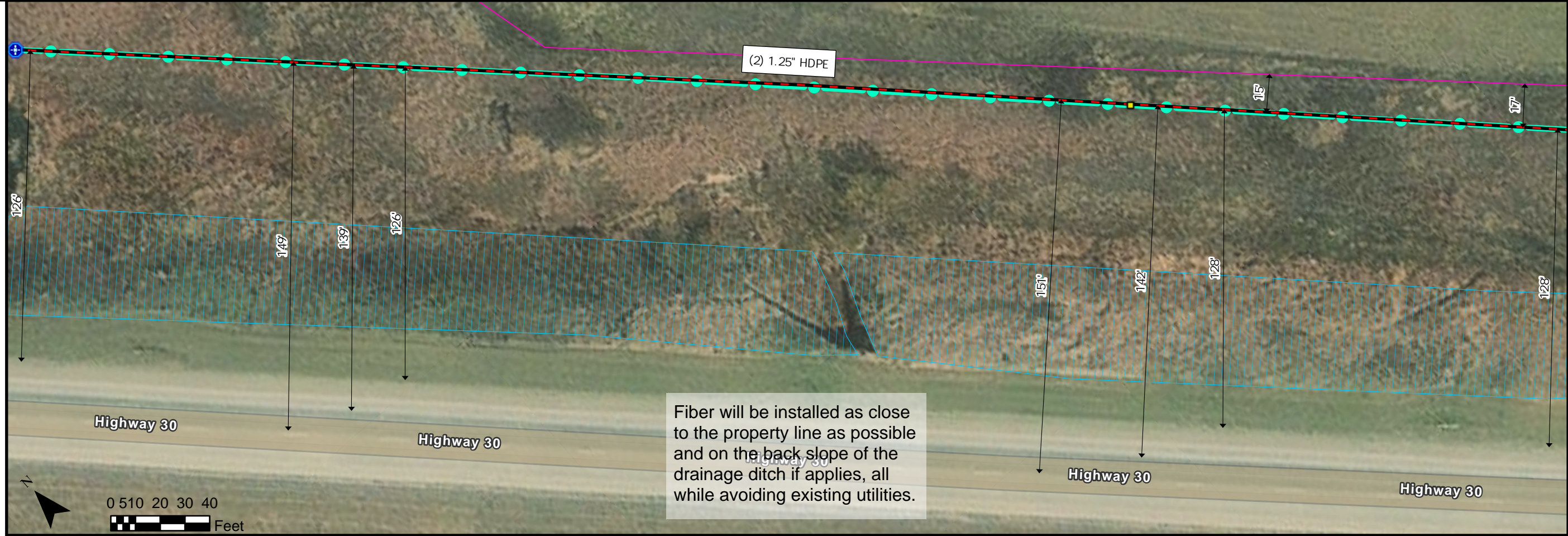
- Substation
- Office
- Tower

Notes

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CONTINUED ON PAGE 185 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 187 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS

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REVIEWED BY: KJM
ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 186 OF 196



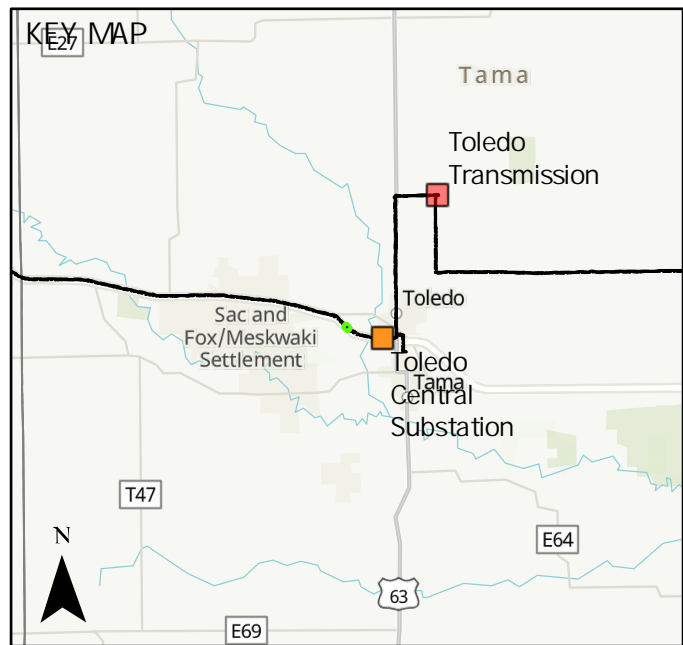
MGNS-TOLC-186 REV: 0

Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE		Railroad Crossing	Wetlands
Water		SPLICE POINT HAND-HOLE		Bore Pit	Sites
Other		NEW JUNCTION BOX		Splice Point	Substation
	Fiber				Office
	144				Tower
	36				

Notes

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CONTINUED ON PAGE 186 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



LABEL NUMBER	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACKLENGTH
41.987266° N/92.604840° W	UG-SD-001, UG-SD-002	MAINTENANCE HANDHOLE	30"X48"X36" HANDHOLE, FIBER MARKER W TEST STATION	1	200

Legend

Existing Utilities

- Telecom
- Electric
- Gas
- Sewer
- Water
- Other

Conduits

- Underground, Bore Conduit
- Underground, Existing Conduit
- Underground, Plow Conduit
- Underground, Hydrovac

Fiber

- 144
- 36

Pull Points

- EXISTING HAND-HOLE
- EXISTING JUNCTION BOX
- EXISTING MAN-HOLE
- MAINTENANCE HAND-HOLE
- SPLICE POINT HAND-HOLE
- NEW JUNCTION BOX

Slack Coils

- 144
- 36

Markers

- Fiber Marker (w/ Test Station)
- Fiber Marker (No Test Station)

Other

- Construction Note
- Highway Crossing
- Water Crossing
- Railroad Crossing
- Bore Pit
- Splice Point

Parcel Data

- Right of Way
- Private Easement

Wetlands

- Wetlands

Sites

- Substation
- Office
- Tower

Notes

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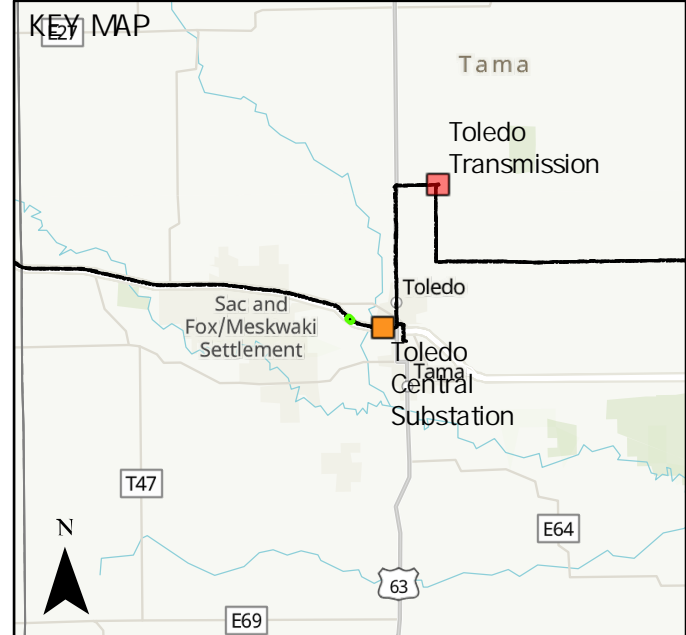
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REVISIONS

0	PROJECT # 149681-02
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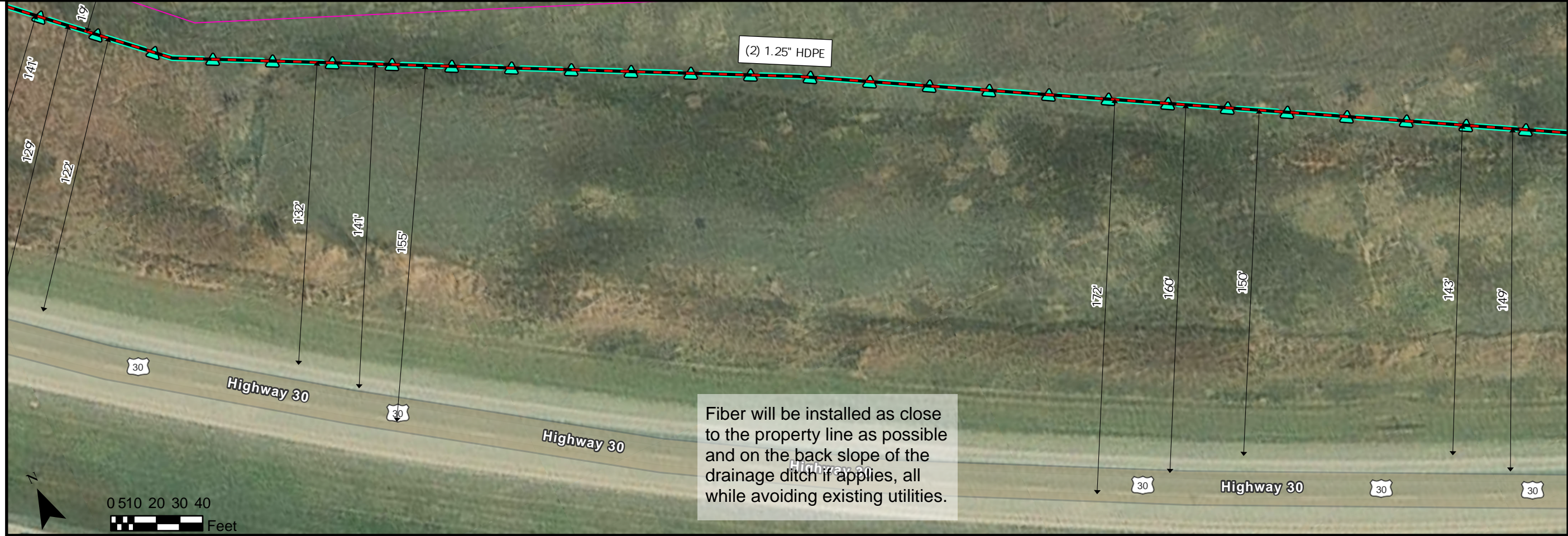
DATE: 11/13/2023	SCALE: "AS NOTED"	DESIGNED BY: CJ	REVIEWED BY: KJM	ENGINEER: TVN
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MGS PLANT - TOLEDO CENTRAL SUBSTATION PAGE 187 OF 196

Alliant Energy

MGNS-TOLC-187	REV: 0
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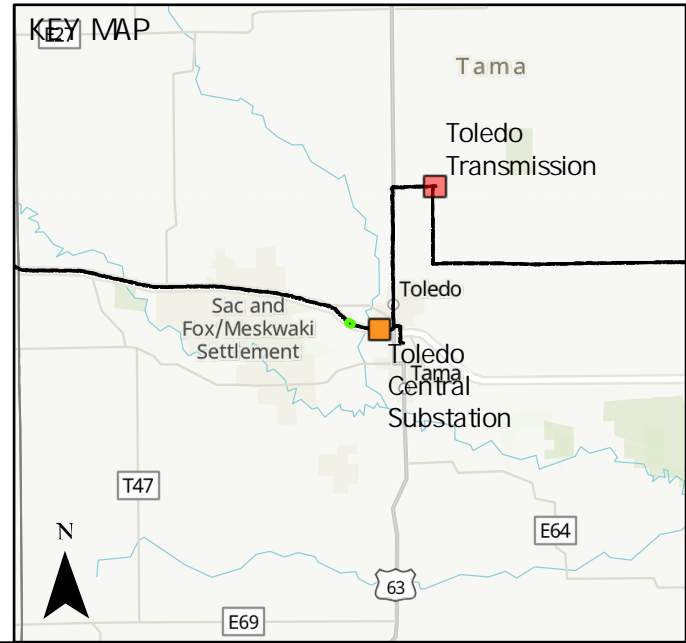
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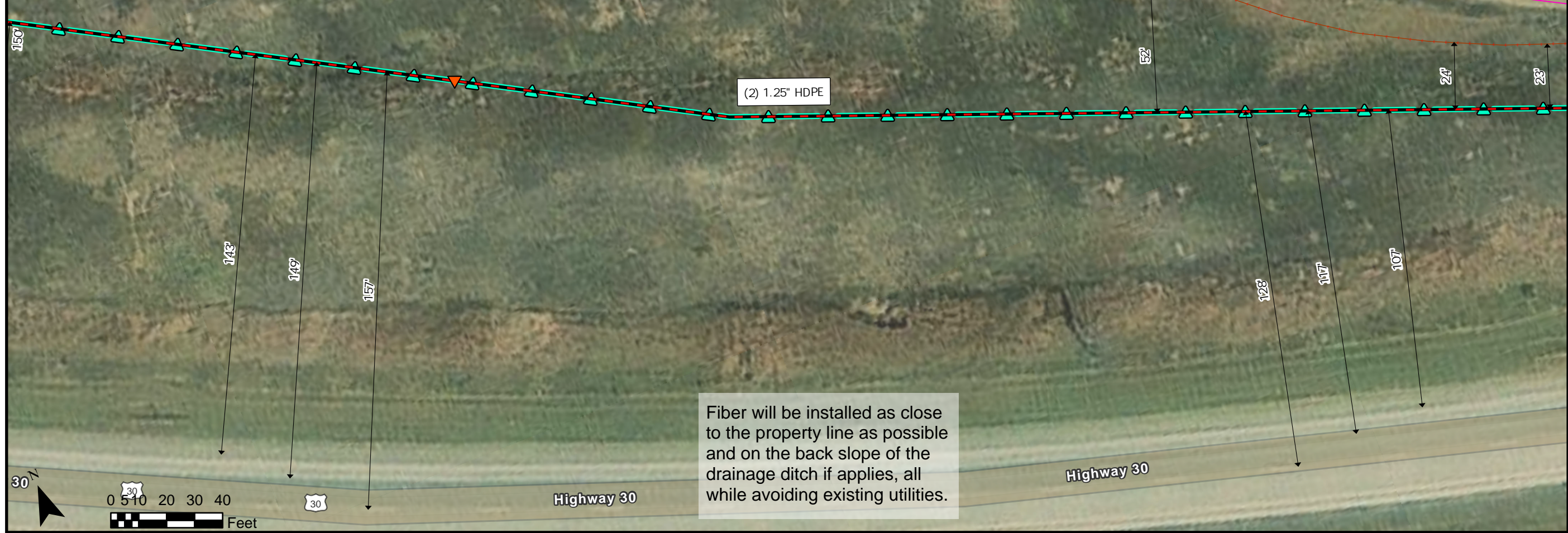
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REVISIONS	
0	PROJECT # 149681-02
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ENGINEER: TVN	
MGS PLANT - TOLEDO CENTRAL SUBSTATION PAGE 188 OF 196	
Alliant Energy	
MGNS-TOLC-188	REV: 0

Legend	
Existing Utilities Telecom Electric Gas Sewer Water Other	Conduits Underground, Bore Conduit Underground, Existing Conduit Underground, Plow Conduit Underground, Hydrovac Fiber 144 36
Pull Points EXISTING HAND-HOLE EXISTING JUNCTION BOX EXISTING MAN-HOLE MAINTENANCE HAND-HOLE SPLICE POINT HAND-HOLE NEW JUNCTION BOX	Slack Coils 144 36 Markers Fiber Marker (w/ Test Station) Fiber Marker (No Test Station)
Other Construction Note Highway Crossing Water Crossing Railroad Crossing Bore Pit Splice Point	Parcel Data Right of Way Private Easement Wetlands Wetlands Sites Substation Office Tower
Notes 1. DISTANCES MEASURED BY SOFTWARE ARE APPROXIMATE, FIELD TO VERIFY. 2. PARCEL LINES IN MAP ARE NOT SURVEYED AND FOR REFERENCE ONLY. SUBCONTRACTOR TO USE MEASUREMENTS FROM CENTERLINE FOR FINAL ALIGNMENT OF FIBER INSTALLATION. 3. FIBER INSTALLATION TO REMAIN ON BACKSLOPE OF DITCH WITHIN RIGHT OF WAY UNLESS OTHERWISE NOTED. FIBER TO BE INSTALLED AWAY FROM ANY LOW-GRADE WATER RETAINING AREAS. 4. FIBER TO MAINTAIN A DEPTH OF 36 INCHES UNLESS OTHERWISE SPECIFIED. 5. FIBER TO MAINTAIN A MINIMUM 18" HORIZONTAL SEPARATION FROM EXISTING UTILITIES. 6. SUBCONTRACTOR TO LOCATE, MARK, AND AVOID ALL UTILITIES DURING FIBER INSTALLATION. 7. SUBCONTRACTOR TO NOTIFY LOCATION SERVICES AT MINIMUM THREE DAYS BEFORE EXCAVATION (1A: (800) 292-8989) 8. REFER TO GENERAL NOTES SHEET FOR ALL OTHER PROJECT NOTES.	



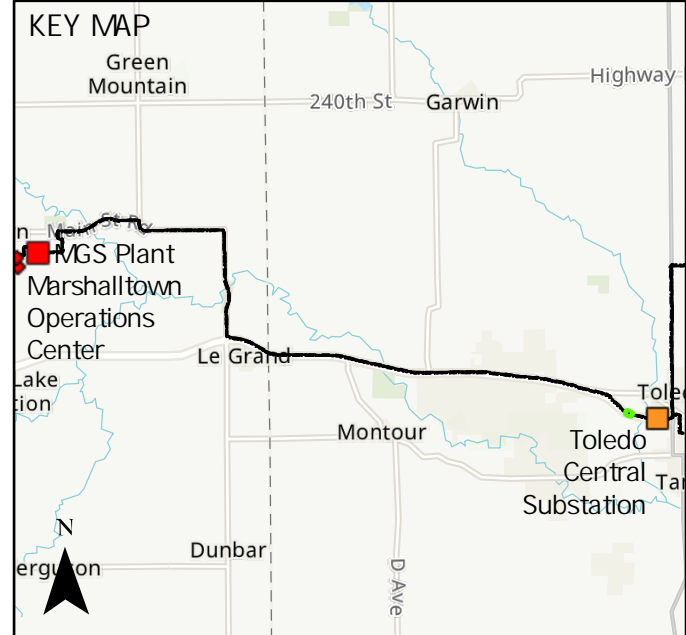
CONTINUED ON PAGE 188 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 190 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS	
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ENGINEER: TVN	
MGS PLANT - TOLEDO CENTRAL SUBSTATION PAGE 189 OF 196	
Alliant Energy	
MGNS-TOLC-189	REV: 0

Legend	
Existing Utilities Telecom Electric Gas Sewer Water Other	Conduits Underground, Bore Conduit Underground, Existing Conduit Underground, Plow Conduit Underground, Hydrovac Fiber 144 36
Pull Points EXISTING HAND-HOLE EXISTING JUNCTION BOX EXISTING MAN-HOLE MAINTENANCE HAND-HOLE SPLICE POINT HAND-HOLE NEW JUNCTION BOX	Slack Coils 144 36 Markers Fiber Marker (w/ Test Station) Fiber Marker (No Test Station)
Other Construction Note Highway Crossing Water Crossing Railroad Crossing Bore Pit Splice Point	Parcel Data Right of Way Private Easement Wetlands Wetlands Sites Substation Office Tower
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CONTINUED ON PAGE 189 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 191 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS

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ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 190 OF 196



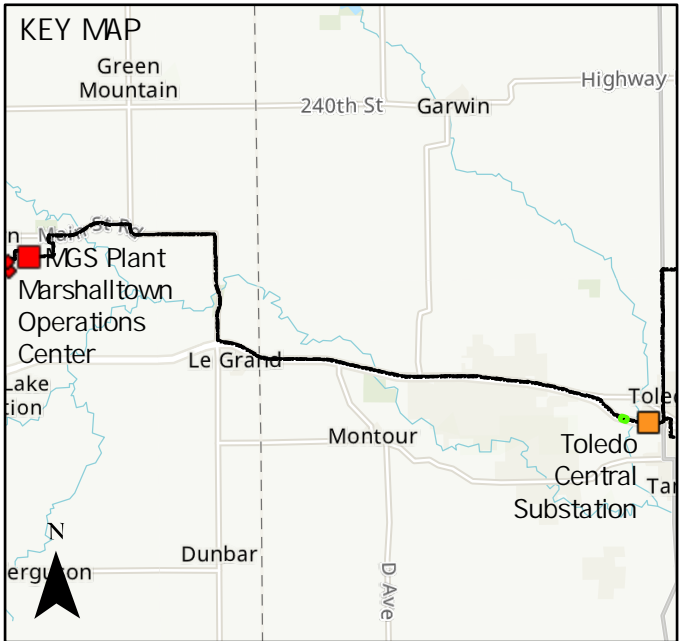
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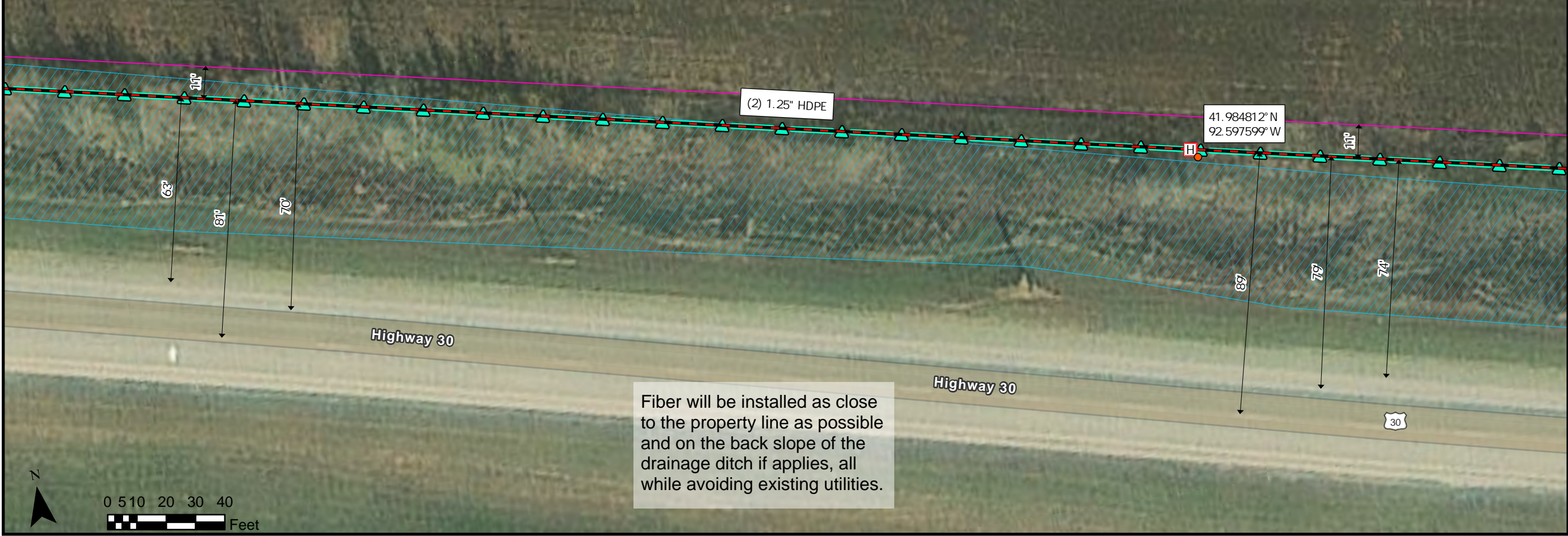
Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water	Fiber	SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	144	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	36				Office
					Tower

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CONTINUED ON PAGE 190 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



LABEL NUMBER	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACKLENGTH
41.984812° N/92.597599° W	UG-SD-001, UG-SD-002	MAINTENANCE HANDHOLE	30"X48"X36" HANDHOLE, FIBER MARKER W TEST STATION	0	0

Legend

Existing Utilities

- Telecom
- Electric
- Gas
- Sewer
- Water
- Other

Conduits

- Underground, Bore Conduit
- Underground, Existing Conduit
- Underground, Plow Conduit
- Underground, Hydrovac

Fiber

- 144
- 36

Pull Points

- EXISTING HAND-HOLE
- EXISTING JUNCTION BOX
- EXISTING MAN-HOLE
- MAINTENANCE HAND-HOLE
- SPLICE POINT HAND-HOLE
- NEW JUNCTION BOX

Slack Coils

- 144
- 36

Markers

- Fiber Marker (w/ Test Station)
- Fiber Marker (No Test Station)

Other

- Construction Note
- Highway Crossing
- Water Crossing
- Railroad Crossing
- Bore Pit
- Splice Point

Parcel Data

- Right of Way
- Private Easement

Wetlands

- Wetlands

Sites

- Substation
- Office
- Tower

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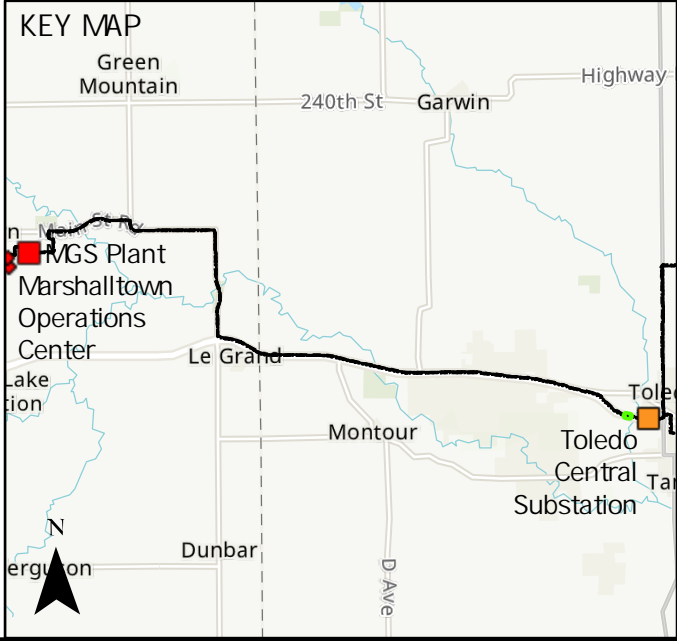
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REVISIONS

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DATE: 11/13/2023

SCALE: "AS NOTED"

DESIGNED BY: CJ

REVIEWED BY: KJM

ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL SUBSTATION PAGE 191 OF 196

Alliant Energy

MGNS-TOLC-191

REV: 0

CONTINUED ON PAGE 191 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 193 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

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MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 192 OF 196



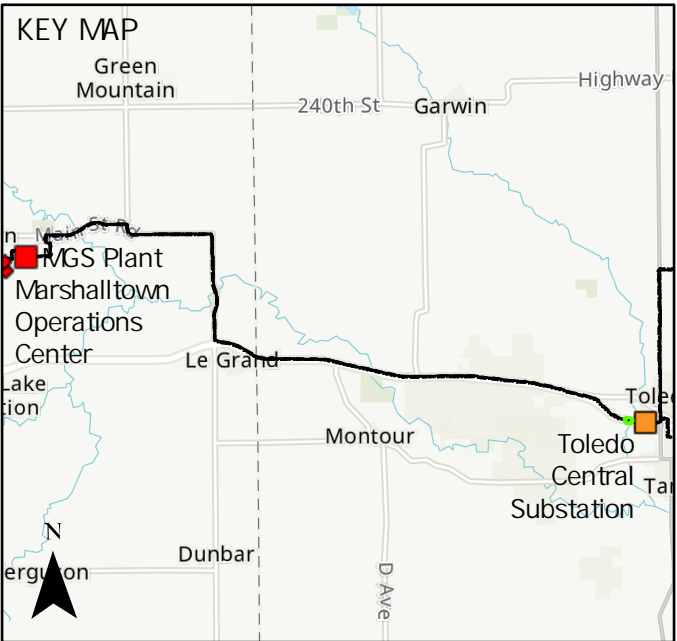
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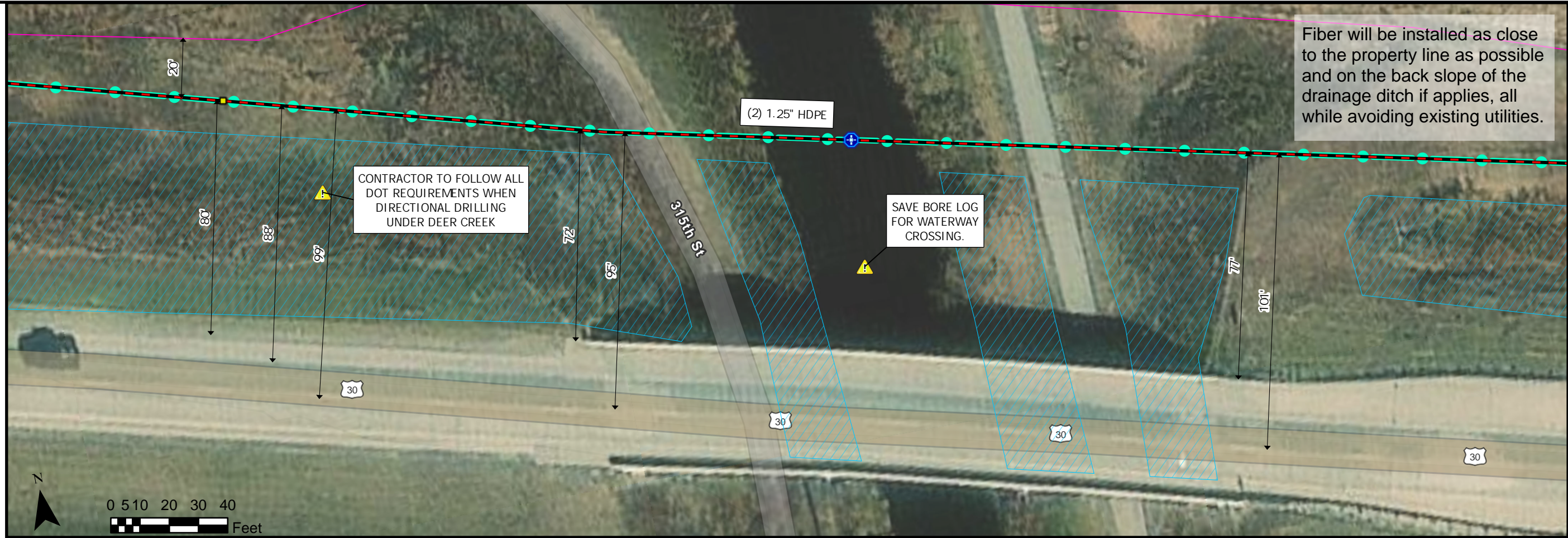
Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water	Fiber	SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	144	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	36				Office
					Tower

Notes

- DISTANCES MEASURED BY SOFTWARE ARE APPROXIMATE, FIELD TO VERIFY.
- PARCEL LINES IN MAP ARE NOT SURVEYED AND FOR REFERENCE ONLY. SUBCONTRACTOR TO USE MEASUREMENTS FROM CENTERLINE FOR FINAL ALIGNMENT OF FIBER INSTALLATION.
- FIBER INSTALLATION TO REMAIN ON BACKSLOPE OF DITCH WITHIN RIGHT OF WAY UNLESS OTHERWISE NOTED. FIBER TO BE INSTALLED AWAY FROM ANY LOW-GRADE WATER RETAINING AREAS.
- FIBER TO MAINTAIN A DEPTH OF 36 INCHES UNLESS OTHERWISE SPECIFIED.
- FIBER TO MAINTAIN A MINIMUM 18" HORIZONTAL SEPARATION FROM EXISTING UTILITIES.
- SUBCONTRACTOR TO LOCATE, MARK, AND AVOID ALL UTILITIES DURING FIBER INSTALLATION.
- SUBCONTRACTOR TO NOTIFY LOCATION SERVICES AT MINIMUM THREE DAYS BEFORE EXCAVATION (1A: (800) 292-8989)
- REFER TO GENERAL NOTES SHEET FOR ALL OTHER PROJECT NOTES.



CONTINUED ON PAGE 192 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 194 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

REVISIONS

0 PROJECT # 149681-02

ISSUED FOR REVIEW

THE INFORMATION ON THIS PRINT IS CONFIDENTIAL AND IS THE PROPERTY OF ALLIANT ENERGY

DATE: 11/13/2023
SCALE: "AS NOTED"
DESIGNED BY: CJ
REVIEWED BY: KJM
ENGINEER: TVN

MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 193 OF 196



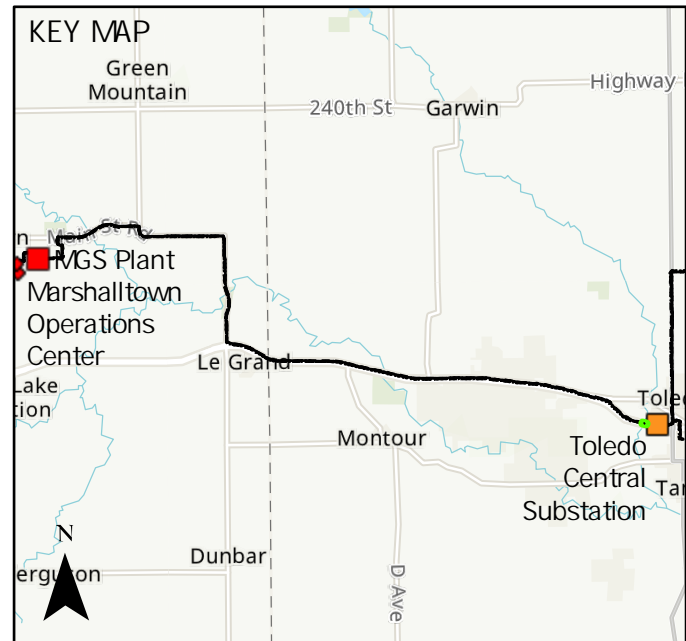
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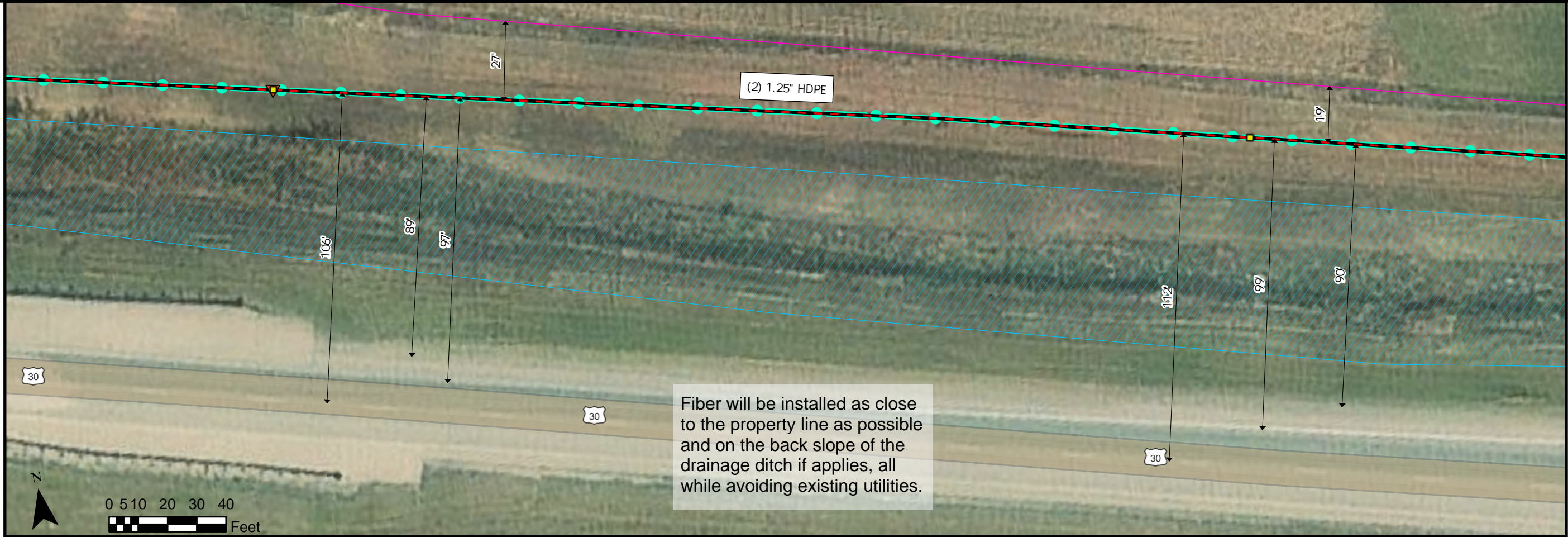
Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE	Markers	Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Fiber Marker (w/ Test Station)	Railroad Crossing	Wetlands
Water	Fiber	SPLICE POINT HAND-HOLE	Fiber Marker (No Test Station)	Bore Pit	Sites
Other	144	NEW JUNCTION BOX		Splice Point	Substation
	36				Office
					Tower

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CONTINUED ON PAGE 193 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 195 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

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MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 194 OF 196



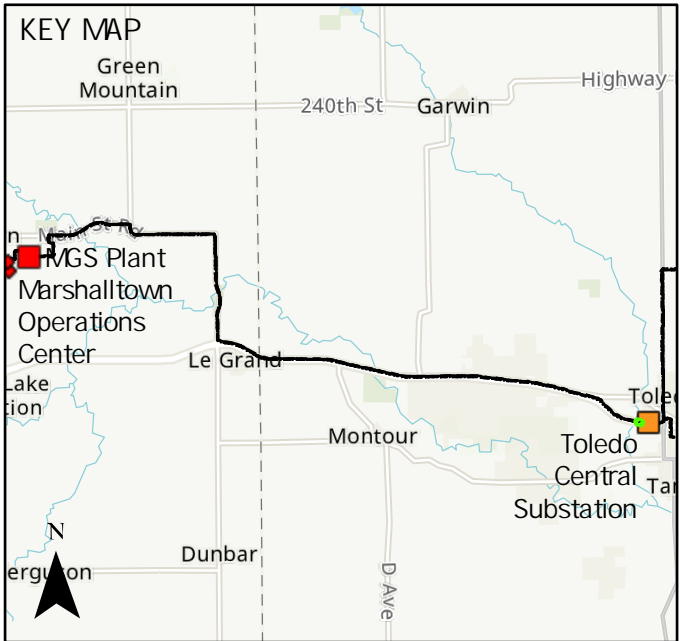
MGNS-TOLC-194 REV: 0

Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water		SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	Fiber	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	144				Office
	36				Tower

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MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 195 OF 196



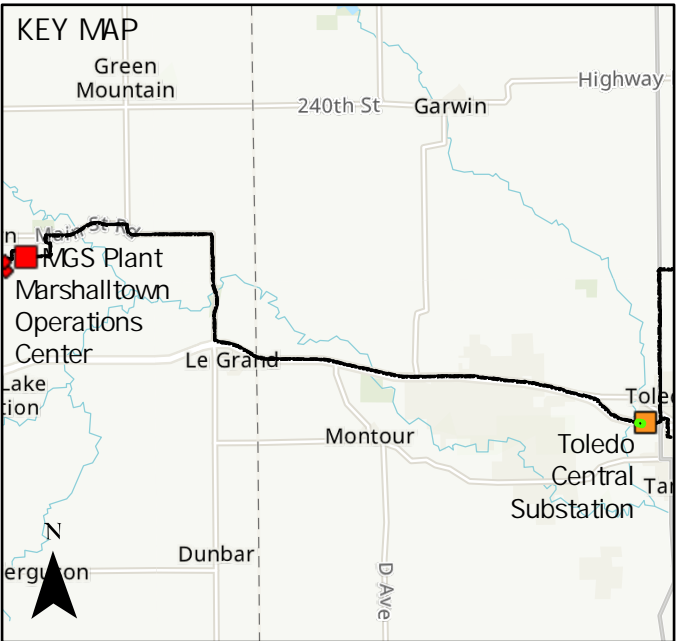
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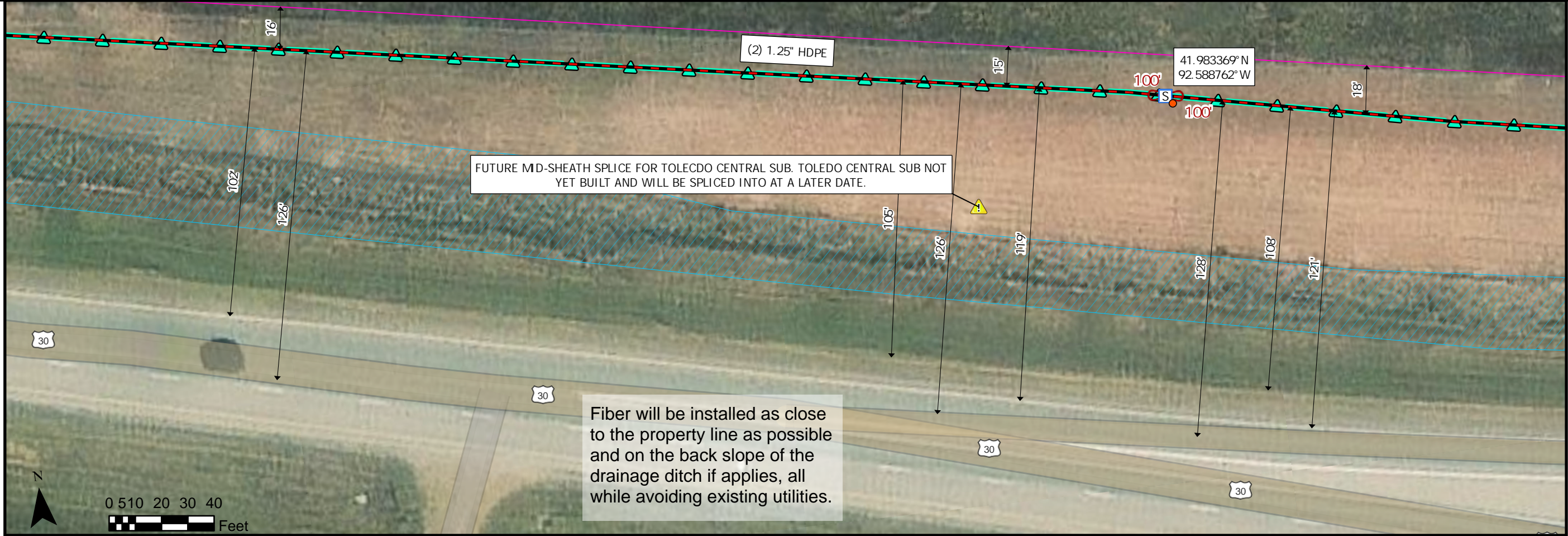
Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water	Fiber	SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	144	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	36				Office
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CONTINUED ON PAGE 195 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



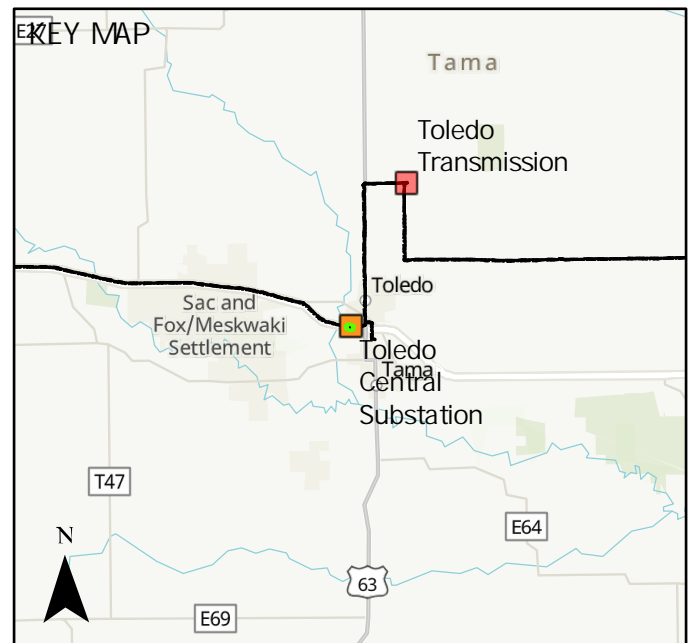
LABEL NUMBER	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACKLENGTH
41.983369°N/92.588762°W	UG-SD-001, UG-SD-003	FUTURE MID-SHEATH SPLICE	30"X60"X36" HANDHOLE, FIBER MARKER W TEST STATION	2	200

Legend

- | Existing Utilities | Conduits | Pull Points | Slack Coils | Other | Parcel Data |
|--|---|--|--|---|--|
|  Telecom |  Underground, Bore Conduit |  EXISTING HAND-HOLE |  144 |  Construction Note |  Right of Way |
|  Electric |  Underground, Existing Conduit |  EXISTING JUNCTION BOX |  36 |  Highway Crossing |  Private Easement |
|  Gas |  Underground, Plow Conduit |  EXISTING MAN-HOLE | |  Water Crossing | Wetlands |
|  Sewer |  Underground, Hydrovac |  MAINTENANCE HAND-HOLE | Markers |  Railroad Crossing |  Wetlands |
|  Water | Fiber |  SPLICE POINT HAND-HOLE |  Fiber Marker (w/ Test Station) |  Bore Pit | Sites |
|  Other |  144 |  NEW JUNCTION BOX |  Fiber Marker (No Test Station) |  Splice Point |  Substation |
| |  36 | | | |  Office |

Notes

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REVISIONS

0 PROJECT #
149681-02

ISSUED FOR REVIEW

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ALLIANT ENERGY

ENGINEER: TWN

REVIEWED BY: KJM

DESIGNED BY: CJ

SCALE: "AS NOTED"

MGS PLANT - TOLEDO CENTRAL
SUBSTATION PAGE 196 OF 196



MGNS-TOLC-196

REV:
0

CONTINUED ON PAGE NONE OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



LABEL NUMBER	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACKLENGTH
41.983369° N/92.588762° W	UG-SD-001, UG-SD-003	FUTURE MID-SHEATH SPLICE	30"X60"X36" HANDHOLE, FIBER MARKER W TEST STATION	2	200

Legend

Existing Utilities

- Telecom
- Electric
- Gas
- Sewer
- Water
- Other

Conduits

- Underground, Bore Conduit
- Underground, Existing Conduit
- Underground, Plow Conduit
- Underground, Hydrovac

Fiber

- 144
- 36

Pull Points

- EXISTING HAND-HOLE
- EXISTING JUNCTION BOX
- EXISTING MAN-HOLE
- MAINTENANCE HAND-HOLE
- SPLICE POINT HAND-HOLE
- NEW JUNCTION BOX

Slack Coils

- 144
- 36

Markers

- Fiber Marker (w/ Test Station)
- Fiber Marker (No Test Station)

Other

- Construction Note
- Highway Crossing
- Water Crossing
- Railroad Crossing
- Bore Pit
- Splice Point

Parcel Data

- Right of Way
- Private Easement

Wetlands

- Wetlands

Sites

- Substation
- Office
- Tower

Notes

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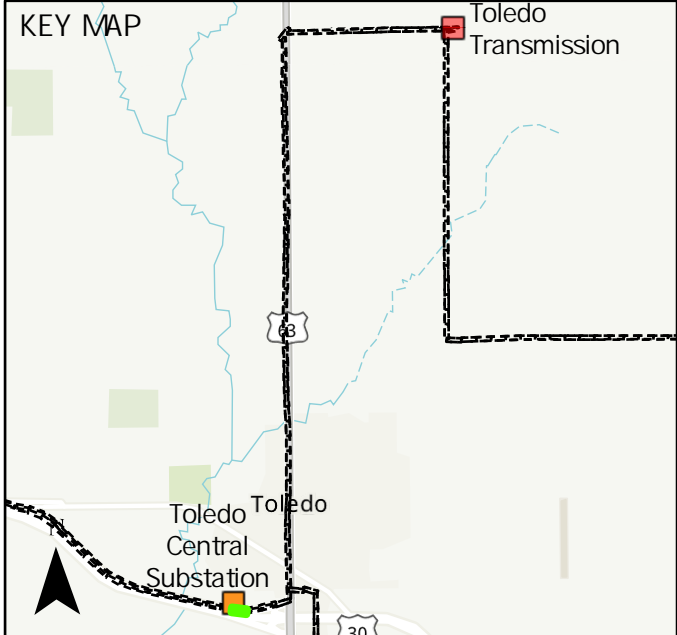
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REVISIONS

0

PROJECT #
149681-03

ISSUED FOR REVIEW

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DATE: 11/13/2023

SCALE: "AS NOTED"

DESIGNED BY: CJ

REVIEWED BY: KJM

ENGINEER: TVN

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 1 OF 54

Alliant Energy

TOLC-TOLT-1

REV: 0

CONTINUED ON PAGE 1 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



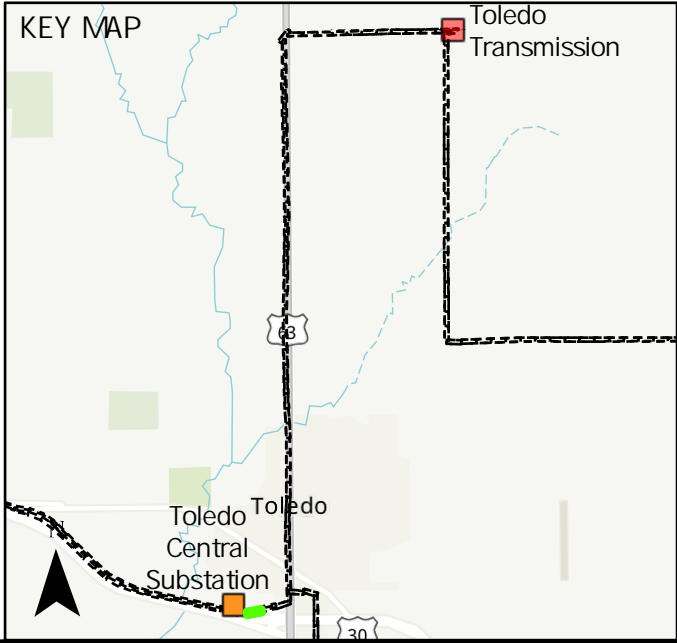
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REVISIONS	
0	PROJECT # 149681-03
ISSUED FOR REVIEW	
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DATE: 11/13/2023	SCALE: "AS NOTED"
DESIGNED BY: CJ	REVIEWED BY: KJM
ENGINEER: TVN	
TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 2 OF 54	
TOLC-TOLT-2	REV: 0

Legend	
Existing Utilities Telecom Electric Gas Sewer Water Other	Conduits Underground, Bore Conduit Underground, Existing Conduit Underground, Plow Conduit Underground, Hydrovac Fiber 144 36
Pull Points EXISTING HAND-HOLE EXISTING JUNCTION BOX EXISTING MAN-HOLE MAINTENANCE HAND-HOLE SPLICE POINT HAND-HOLE NEW JUNCTION BOX	Slack Coils 144 36 Markers Fiber Marker (w/ Test Station) Fiber Marker (No Test Station)
Other Construction Note Highway Crossing Water Crossing Railroad Crossing Bore Pit Splice Point	Parcel Data Right of Way Private Easement Wetlands Wetlands Sites Substation Office Tower

Notes

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CONTINUED ON PAGE 2 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 4 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

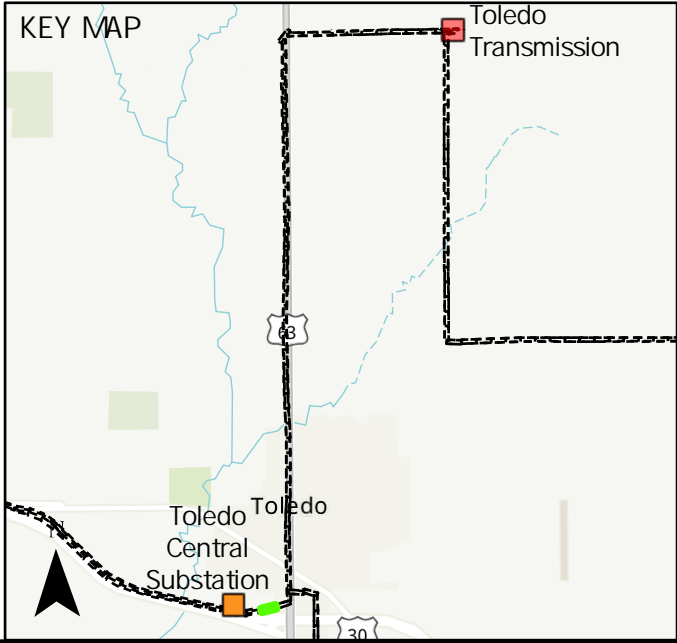
REVISIONS	
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TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 3 OF 54	
TOLC-TOLT-3	REV: 0

Legend

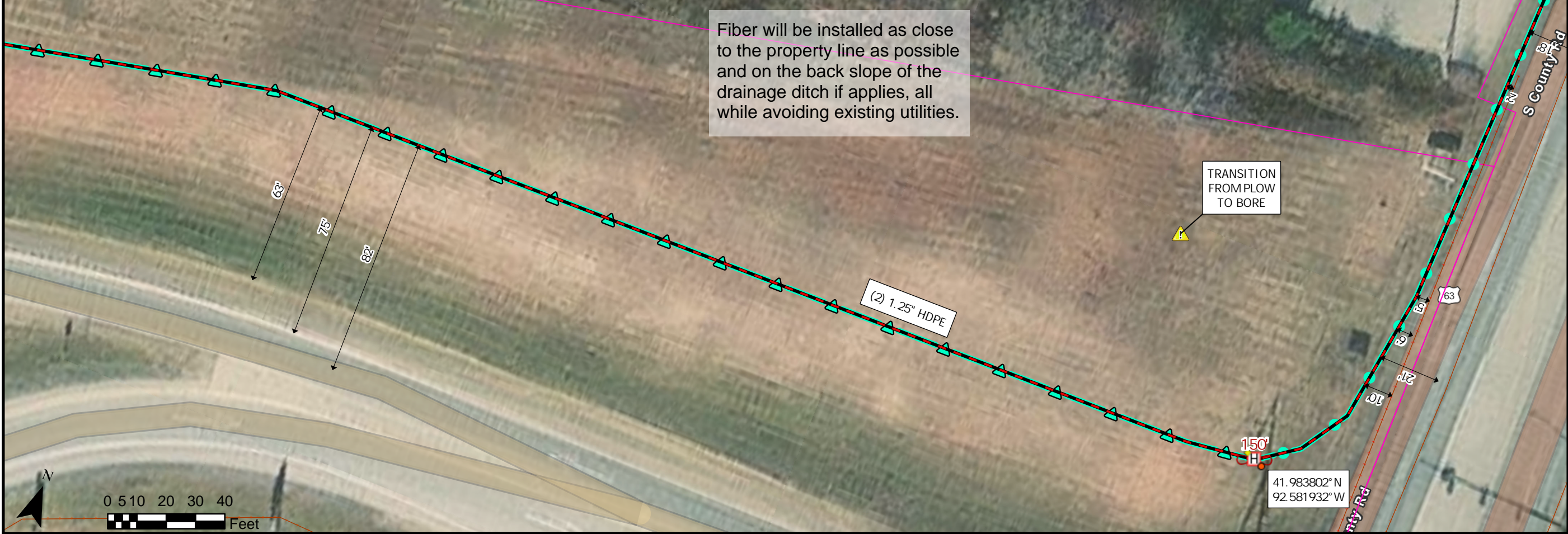
Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water	Fiber	SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	144	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	36				Office
					Tower

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CONTINUED ON PAGE 3 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



LABEL NUMBER	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACKLENGTH
41.983802° N/92.581932° W	UG-SD-001, UG-SD-002	MAINTENANCE HANDHOLE	30\"X48\"X36\" HANDHOLE, FIBER MARKER W TEST STATION	1	150

Legend

Existing Utilities

- Telecom
- Electric
- Gas
- Sewer
- Water
- Other

Conduits

- Underground, Bore Conduit
- Underground, Existing Conduit
- Underground, Plow Conduit
- Underground, Hydrovac

Fiber

- 144
- 36

Pull Points

- EXISTING HAND-HOLE
- EXISTING JUNCTION BOX
- EXISTING MAN-HOLE
- MAINTENANCE HAND-HOLE
- SPLICE POINT HAND-HOLE
- NEW JUNCTION BOX

Slack Coils

- 144
- 36

Markers

- Fiber Marker (w/ Test Station)
- Fiber Marker (No Test Station)

Other

- Construction Note
- Highway Crossing
- Water Crossing
- Railroad Crossing
- Bore Pit
- Splice Point

Parcel Data

- Right of Way
- Private Easement

Wetlands

- Wetlands

Sites

- Substation
- Office
- Tower

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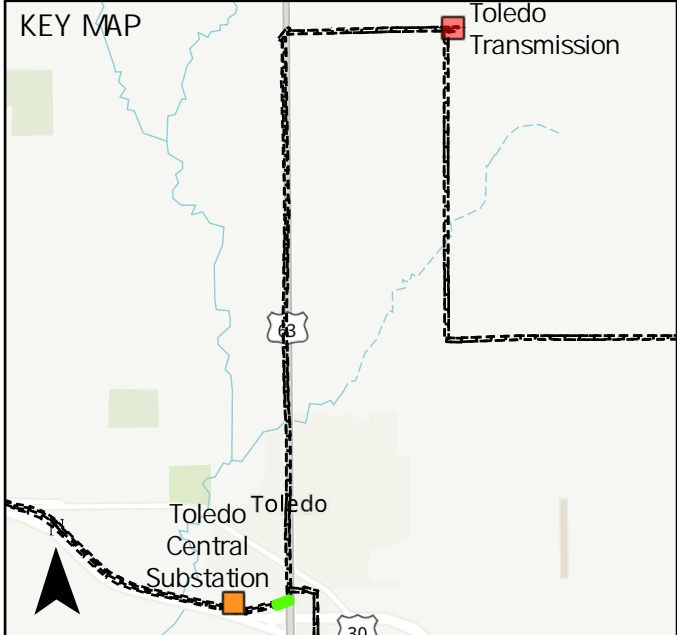
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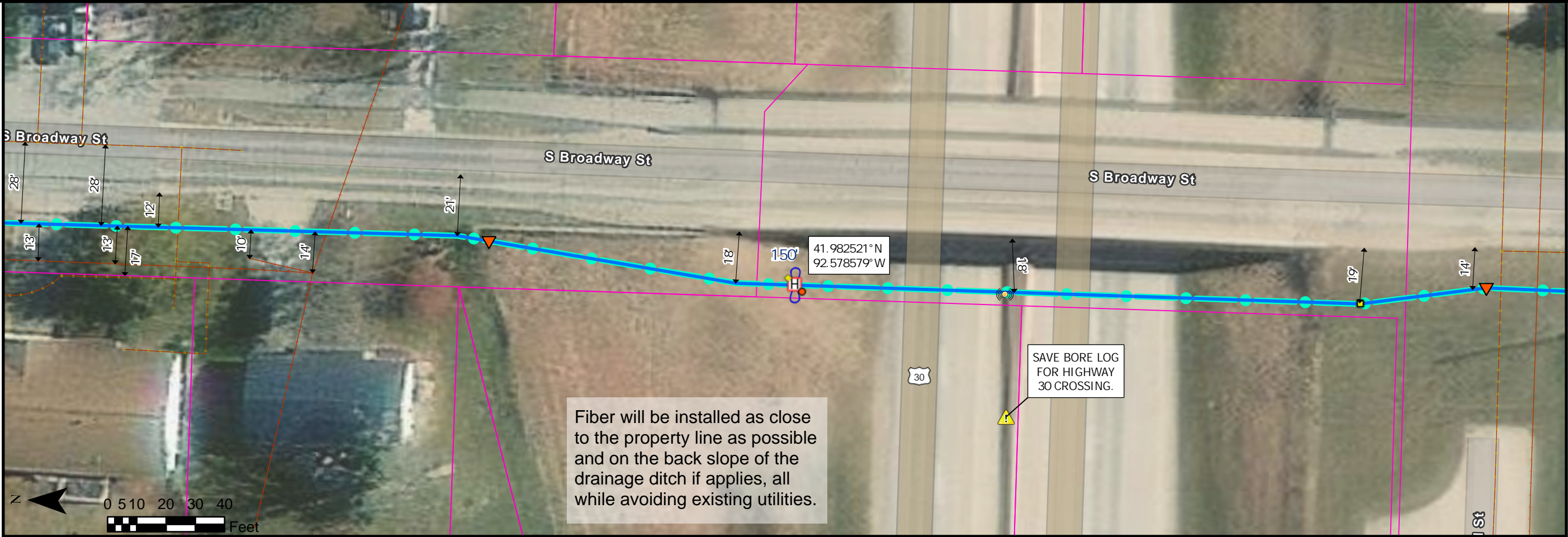
TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 4 OF 54

Alliant Energy

TOLC-TOLT-4

REV: 0

CONTINUED ON PAGE 3 OF TOLEDO AM TOWER LATERAL



LABEL NUMBER	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACKLENGTH
41.982521° N/92.578579° W	UG-SD-001, UG-SD-002	MAINTENANCE HANDHOLE	30"X48"X36" HANDHOLE, FIBER MARKER W TEST STATION	1	150

Legend

Existing Utilities

- Telecom
- Electric
- Gas
- Sewer
- Water
- Other

Conduits

- Underground, Bore Conduit
- Underground, Existing Conduit
- Underground, Plow Conduit
- Underground, Hydrovac

Fiber

- 144
- 36

Pull Points

- EXISTING HAND-HOLE
- EXISTING JUNCTION BOX
- EXISTING MAN-HOLE
- MAINTENANCE HAND-HOLE
- SPLICE POINT HAND-HOLE
- NEW JUNCTION BOX

Slack Coils

- 144
- 36

Markers

- Fiber Marker (w/ Test Station)
- Fiber Marker (No Test Station)

Other

- Construction Note
- Highway Crossing
- Water Crossing
- Railroad Crossing
- Bore Pit
- Splice Point

Parcel Data

- Right of Way
- Private Easement

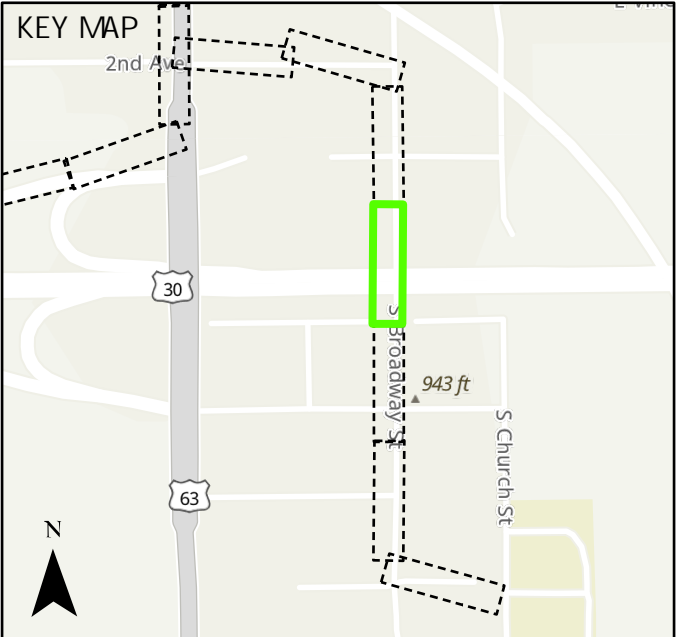
Wetlands

- Wetlands

Sites

- Substation
- Office
- Tower

- Notes
- DISTANCES MEASURED BY SOFTWARE ARE APPROXIMATE, FIELD TO VERIFY.
 - PARCEL LINES IN MAP ARE NOT SURVEYED AND FOR REFERENCE ONLY. SUBCONTRACTOR TO USE MEASUREMENTS FROM CENTERLINE FOR FINAL ALIGNMENT OF FIBER INSTALLATION.
 - FIBER INSTALLATION TO REMAIN ON BACKSLOPE OF DITCH WITHIN RIGHT OF WAY UNLESS OTHERWISE NOTED. FIBER TO BE INSTALLED AWAY FROM ANY LOW-GRADE WATER RETAINING AREAS.
 - FIBER TO MAINTAIN A DEPTH OF 36 INCHES UNLESS OTHERWISE SPECIFIED.
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REVISIONS

0

PROJECT #
149681-13

ISSUED FOR REVIEW

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DATE: 11/13/2023

SCALE: "AS NOTED"

DESIGNED BY: CJ

REVIEWED BY: KJM

ENGINEER: TVN

TOLEDO AM TOWER LATERAL PAGE 4 OF 7

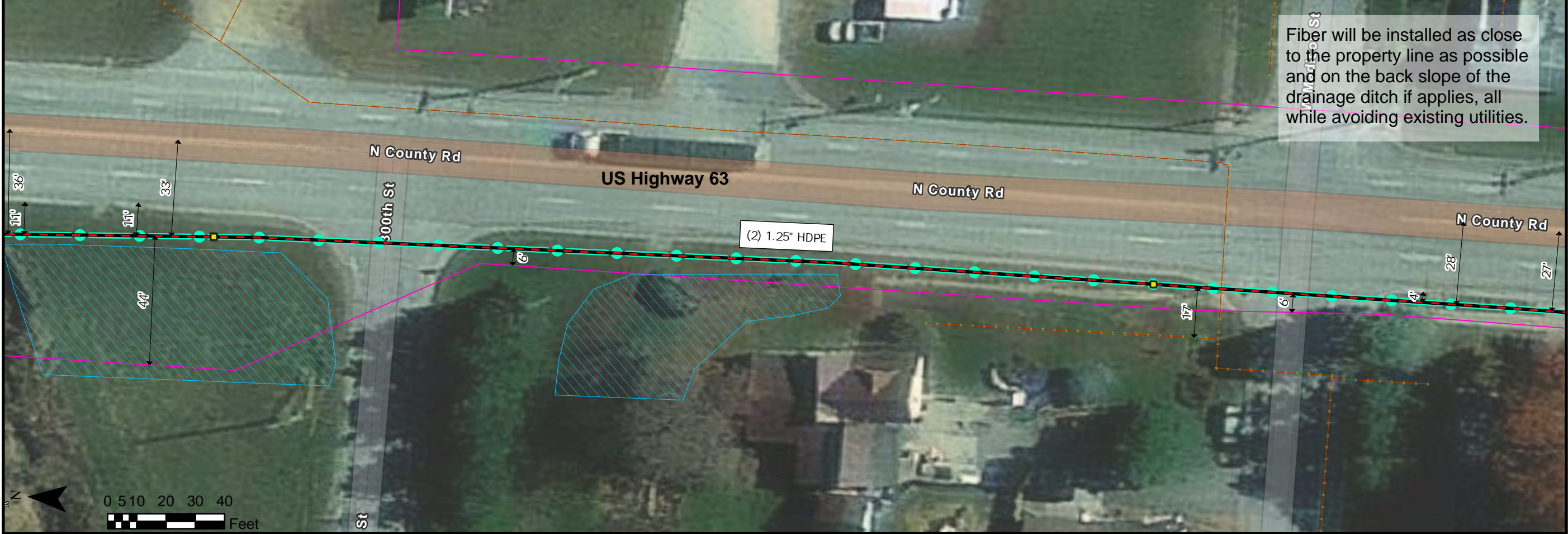
TATL-TOLA-4

REV: 0

US Highway 63

Tama County

CONTINUED ON PAGE 17 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 15 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

REVISIONS

0

PROJECT #
149681-03

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REVIEWED BY: KJM

ENGINEER: TVN

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 16 OF 54

TOLC-TOLT-16

REV: 0

Legend

Existing Utilities

Telecom

Electric

Gas

Sewer

Water

Other

Conduits

Underground, Bore Conduit

Underground, Existing Conduit

Underground, Plow Conduit

Underground, Hydrovac

Fiber

144

36

Pull Points

EXISTING HAND-HOLE

EXISTING JUNCTION BOX

EXISTING MAN-HOLE

MAINTENANCE HAND-HOLE

SPLICE POINT HAND-HOLE

NEW JUNCTION BOX

Slack Coils

144

36

Markers

Fiber Marker (w/ Test Station)

Fiber Marker (No Test Station)

Other

Construction Note

Highway Crossing

Water Crossing

Railroad Crossing

Bore Pit

Splice Point

Parcel Data

Right of Way

Private Easement

Wetlands

Wetlands

Sites

Substation

Office

Tower

Notes

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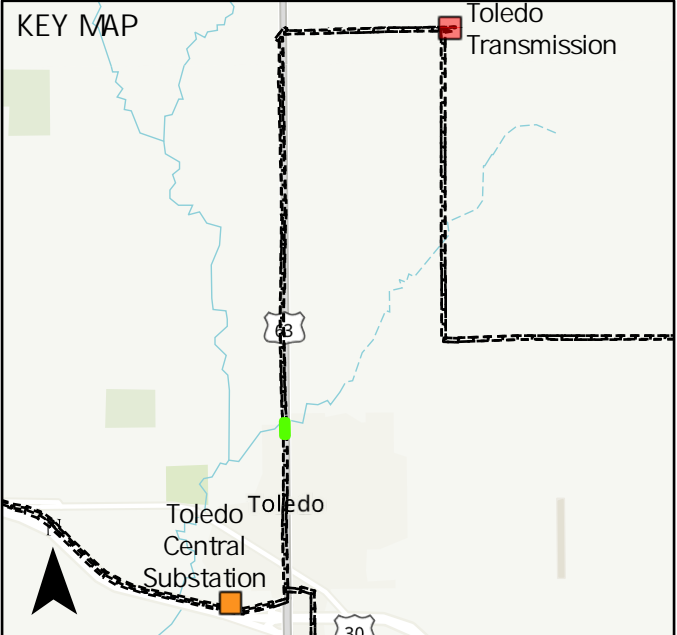
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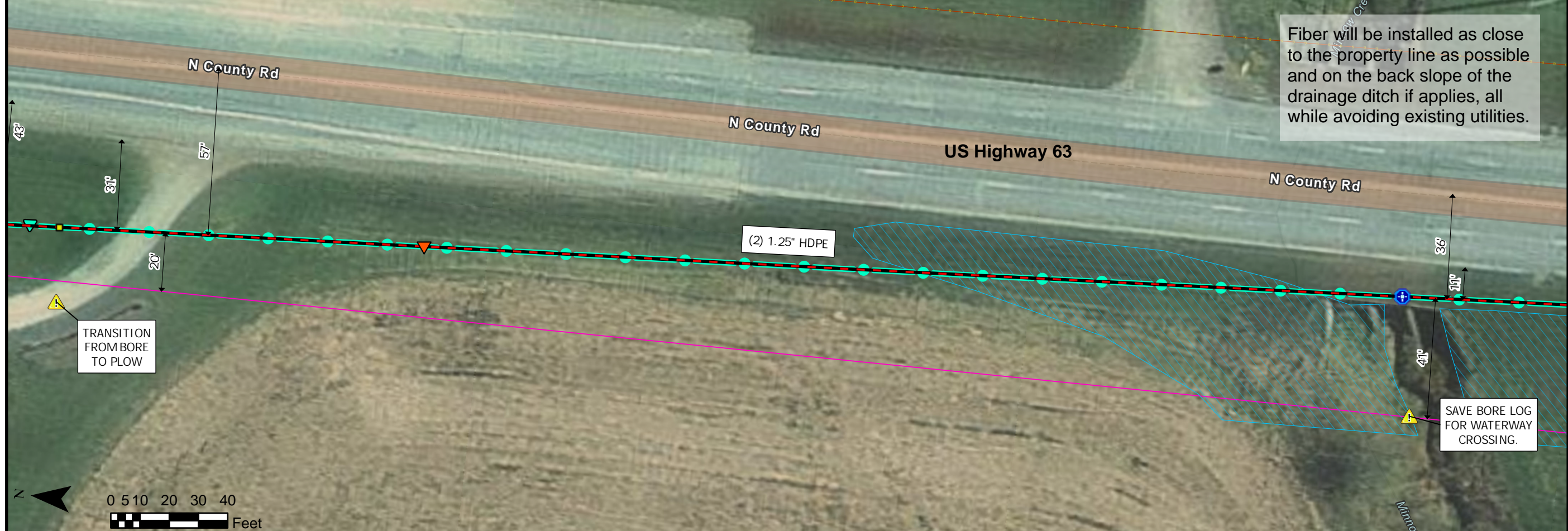
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CONTINUED ON PAGE 18 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 16 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

REVISIONS

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ENGINEER: TVN

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 17 OF 54

Legend

Existing Utilities

Telecom

Electric

Gas

Sewer

Water

Other

Conduits

Underground, Bore Conduit

Underground, Existing Conduit

Underground, Plow Conduit

Underground, Hydrovac

Fiber

144

36

Pull Points

EXISTING HAND-HOLE

EXISTING JUNCTION BOX

EXISTING MAN-HOLE

MAINTENANCE HAND-HOLE

SPLICE POINT HAND-HOLE

NEW JUNCTION BOX

Slack Coils

144

36

Markers

Fiber Marker (w/ Test Station)

Fiber Marker (No Test Station)

Other

Construction Note

Highway Crossing

Water Crossing

Railroad Crossing

Bore Pit

Splice Point

Parcel Data

Right of Way

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Wetlands

Wetlands

Sites

Substation

Office

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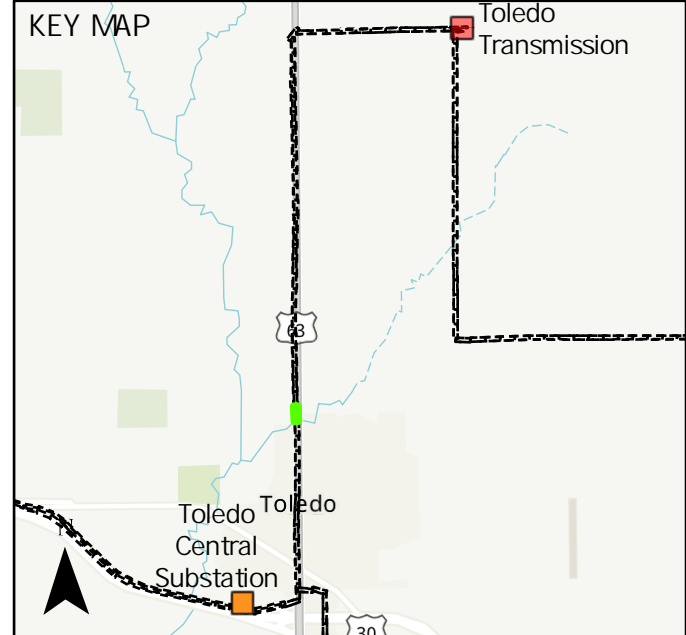
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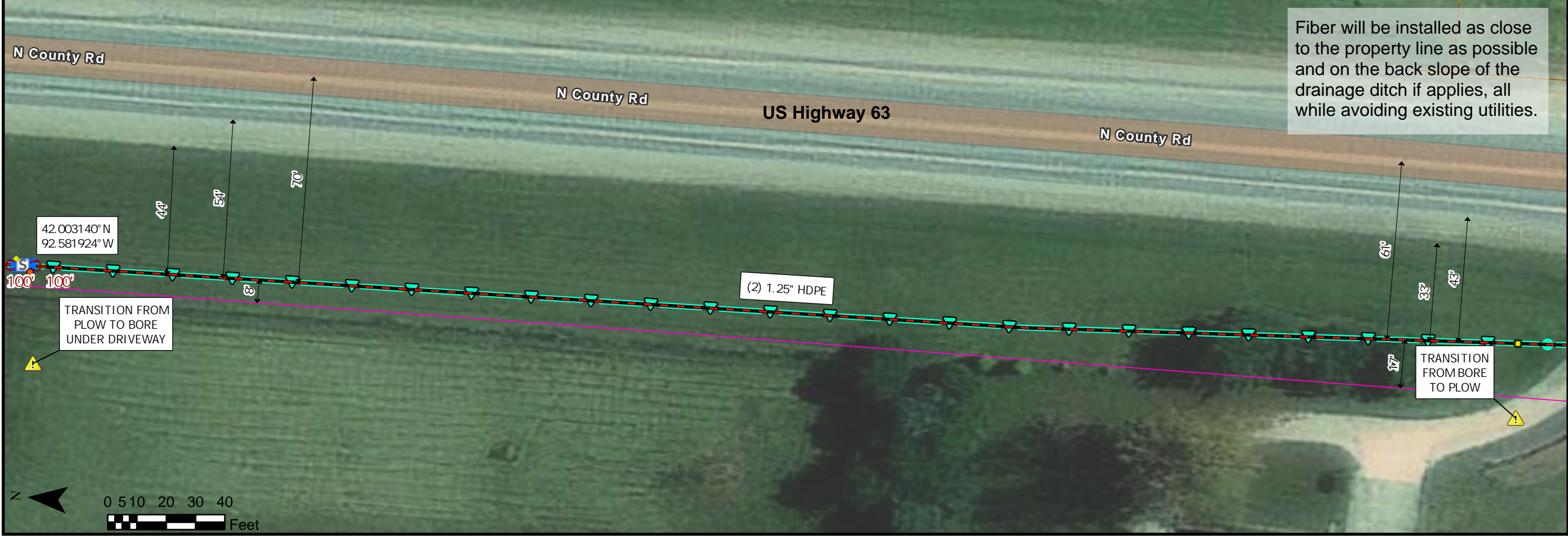


Alliant Energy

TOLC-TOLT-17

REV: 0

CONTINUED ON PAGE 19 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 17 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

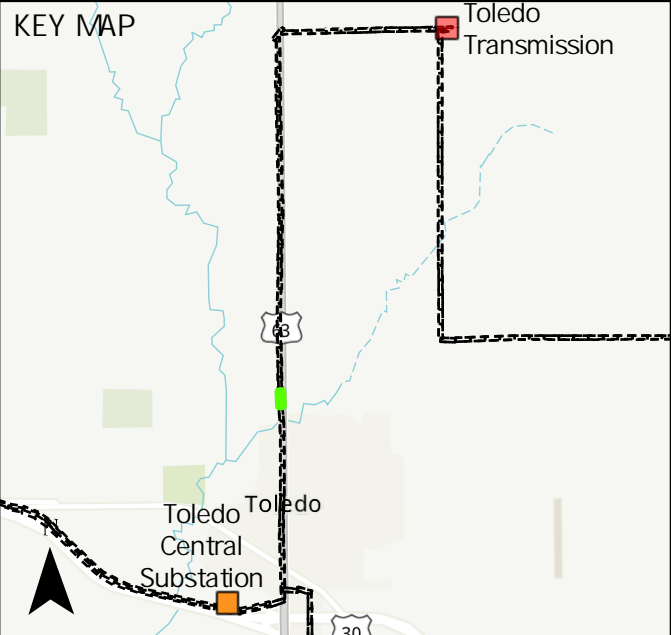
REVISIONS	
0	PROJECT # 149681-03
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REVIEWED BY: KJM
ENGINEER: TVN

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 18 OF 54

Legend	Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
	Telecom Electric Gas Sewer Water Other	Underground, Bore Conduit Underground, Existing Conduit Underground, Plow Conduit Underground, Hydrovac Fiber 144 36	EXISTING HAND-HOLE EXISTING JUNCTION BOX EXISTING MAN-HOLE MAINTENANCE HAND-HOLE SPLICE POINT HAND-HOLE NEW JUNCTION BOX	144 36 Markers Fiber Marker (w/ Test Station) Fiber Marker (No Test Station)	Construction Note Highway Crossing Water Crossing Railroad Crossing Bore Pit Splice Point	Right of Way Private Easement Wetlands Wetlands Sites Substation Office Tower

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CONTINUED ON PAGE 20 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



LABEL NUMBER	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACKLENGTH
42.003140° N/92.581924° W	UG-SD-001, UG-SD-003	END OF REEL SPLICE	30"X60"X36" HANDHOLE, FIBER MARKER W TEST STATION	2	200

Legend

Existing Utilities

- Telecom
- Electric
- Gas
- Sewer
- Water
- Other

Conduits

- Underground, Bore Conduit
- Underground, Existing Conduit
- Underground, Plow Conduit
- Underground, Hydrovac

Fiber

- 144
- 36

Pull Points

- EXISTING HAND-HOLE
- EXISTING JUNCTION BOX
- EXISTING MAN-HOLE
- MAINTENANCE HAND-HOLE
- SPLICE POINT HAND-HOLE
- NEW JUNCTION BOX

Slack Coils

- 144
- 36

Markers

- Fiber Marker (w/ Test Station)
- Fiber Marker (No Test Station)

Other

- Construction Note
- Highway Crossing
- Water Crossing
- Railroad Crossing
- Bore Pit
- Splice Point

Parcel Data

- Right of Way
- Private Easement

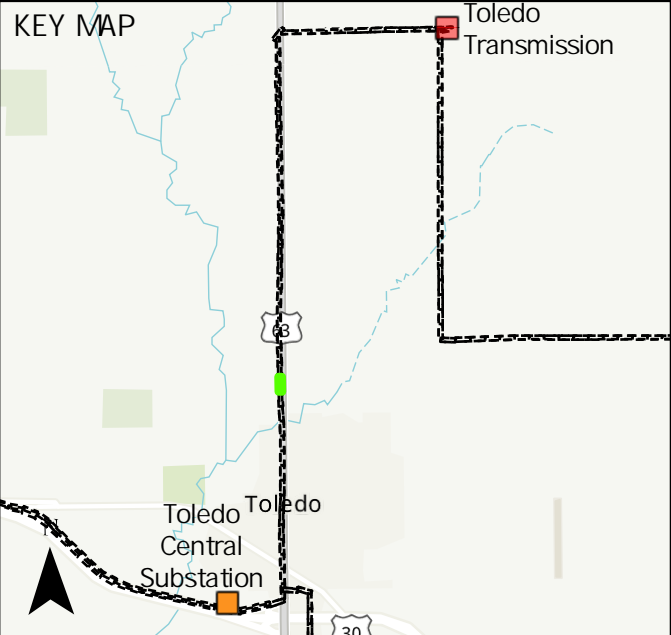
Wetlands

- Wetlands

Sites

- Substation
- Office
- Tower

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REVISIONS

0

PROJECT #
149681-03

ISSUED FOR REVIEW

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SCALE: "AS NOTED"

DESIGNED BY: CJ

REVIEWED BY: KJM

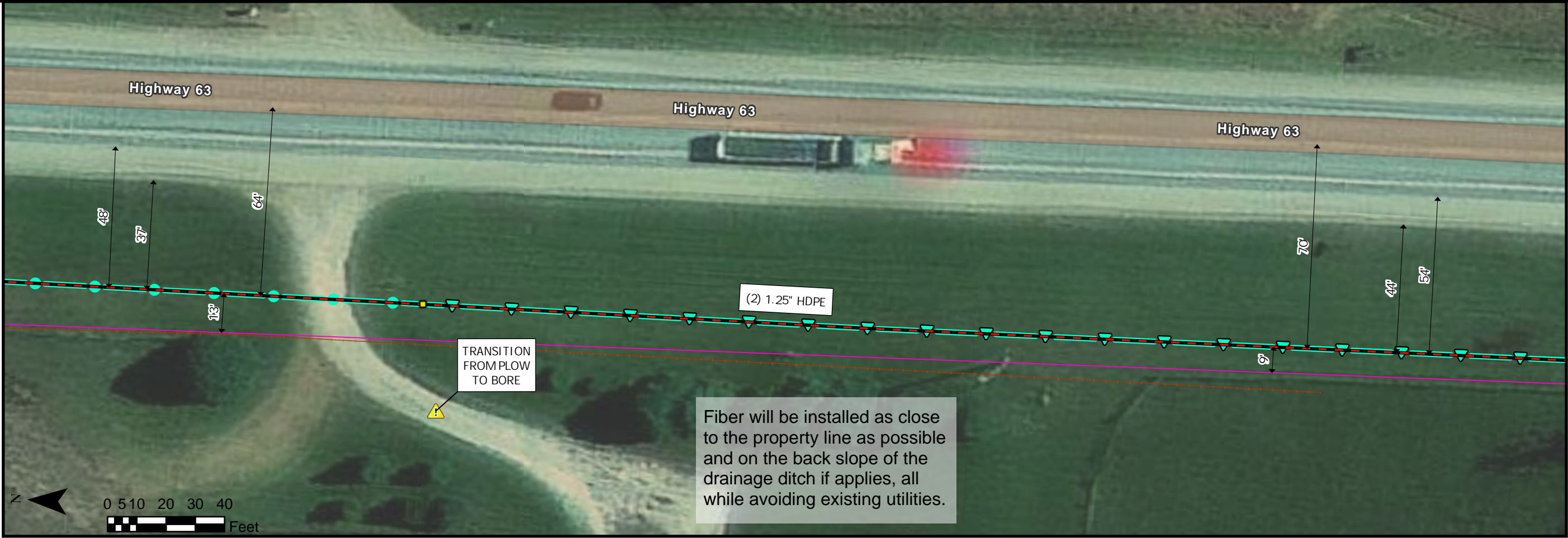
ENGINEER: TVN

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 19 OF 54

TOLC-TOLT-19

REV: 0

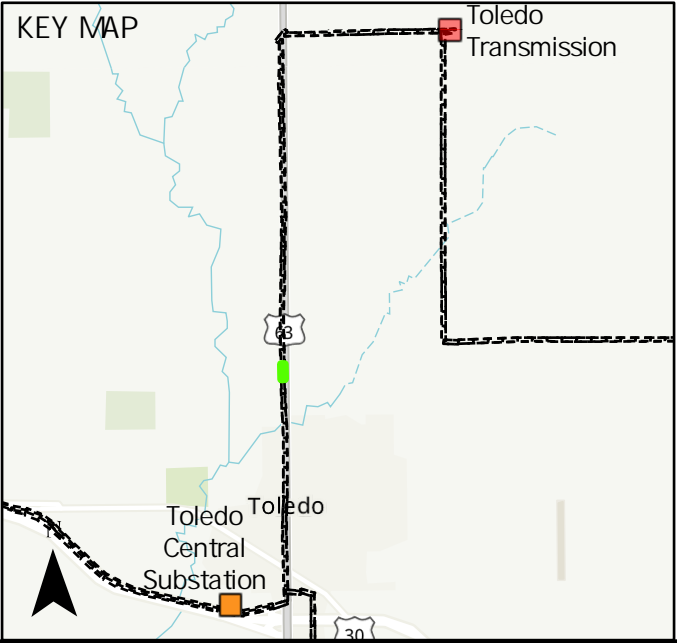
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CONTINUED ON PAGE 19 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

REVISIONS	
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ENGINEER: TVN	
TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 20 OF 54	
TOLC-TOLT-20	REV: 0

Legend	
Existing Utilities — Telecom — Electric — Gas — Sewer — Water — Other	Conduits ● Underground, Bore Conduit ● Underground, Existing Conduit ▲ Underground, Plow Conduit ● Underground, Hydrovac Fiber — 144 — 36
Pull Points [H] EXISTING HAND-HOLE [J] EXISTING JUNCTION BOX [M] EXISTING MAN-HOLE [H] MAINTENANCE HAND-HOLE [S] SPLICE POINT HAND-HOLE [J] NEW JUNCTION BOX	Slack Coils ∞ 144 ∞ 36 Markers ● Fiber Marker (w/ Test Station) ▼ Fiber Marker (No Test Station)
Other ! Construction Note ⦿ Highway Crossing ⦿ Water Crossing ⦿ Railroad Crossing ■ Bore Pit ⦿ Splice Point	Parcel Data — Right of Way ■ Private Easement Wetlands ▨ Wetlands Sites ■ Substation ● Office ▲ Tower
Notes 1. DISTANCES MEASURED BY SOFTWARE ARE APPROXIMATE, FIELD TO VERIFY. 2. PARCEL LINES IN MAP ARE NOT SURVEYED AND FOR REFERENCE ONLY. SUBCONTRACTOR TO USE MEASUREMENTS FROM CENTERLINE FOR FINAL ALIGNMENT OF FIBER INSTALLATION. 3. FIBER INSTALLATION TO REMAIN ON BACKSLOPE OF DITCH WITHIN RIGHT OF WAY UNLESS OTHERWISE NOTED. FIBER TO BE INSTALLED AWAY FROM ANY LOW-GRADE WATER RETAINING AREAS. 4. FIBER TO MAINTAIN A DEPTH OF 36 INCHES UNLESS OTHERWISE SPECIFIED. 5. FIBER TO MAINTAIN A MINIMUM 18" HORIZONTAL SEPARATION FROM EXISTING UTILITIES. 6. SUBCONTRACTOR TO LOCATE, MARK, AND AVOID ALL UTILITIES DURING FIBER INSTALLATION. 7. SUBCONTRACTOR TO NOTIFY LOCATION SERVICES AT MINIMUM THREE DAYS BEFORE EXCAVATION (1A: (800) 292-8989) 8. REFER TO GENERAL NOTES SHEET FOR ALL OTHER PROJECT NOTES.	



CONTINUED ON PAGE 22 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 20 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

REVISIONS	
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ENGINEER: TVN	
TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 21 OF 54	
Alliant Energy	
TOLC-TOLT-21	REV: 0

Legend	Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
	Telecom Electric Gas Sewer Water Other	Underground, Bore Conduit Underground, Existing Conduit Underground, Plow Conduit Underground, Hydrovac Fiber 144 36	EXISTING HAND-HOLE EXISTING JUNCTION BOX EXISTING MAN-HOLE MAINTENANCE HAND-HOLE SPLICE POINT HAND-HOLE NEW JUNCTION BOX	 Markers Fiber Marker (w/ Test Station) Fiber Marker (No Test Station)	Construction Note Highway Crossing Water Crossing Railroad Crossing Bore Pit Splice Point	Right of Way Private Easement Wetlands Wetlands Sites Substation Office Tower

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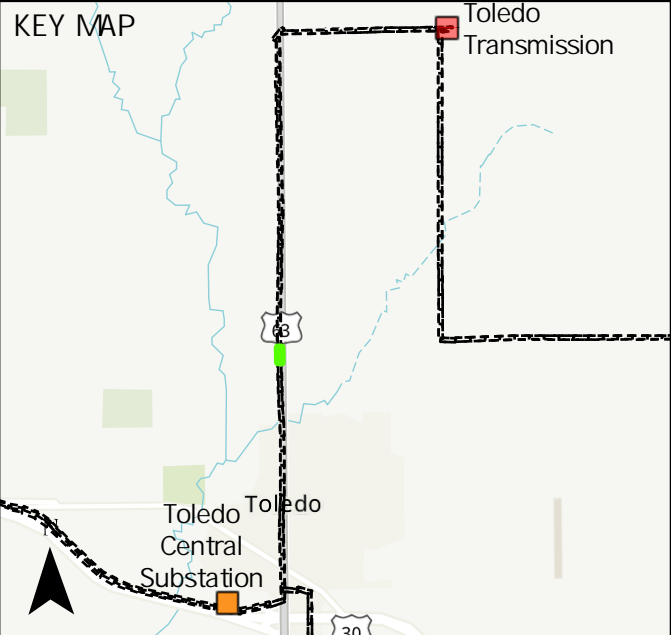
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CONTINUED ON PAGE 23 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 21 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

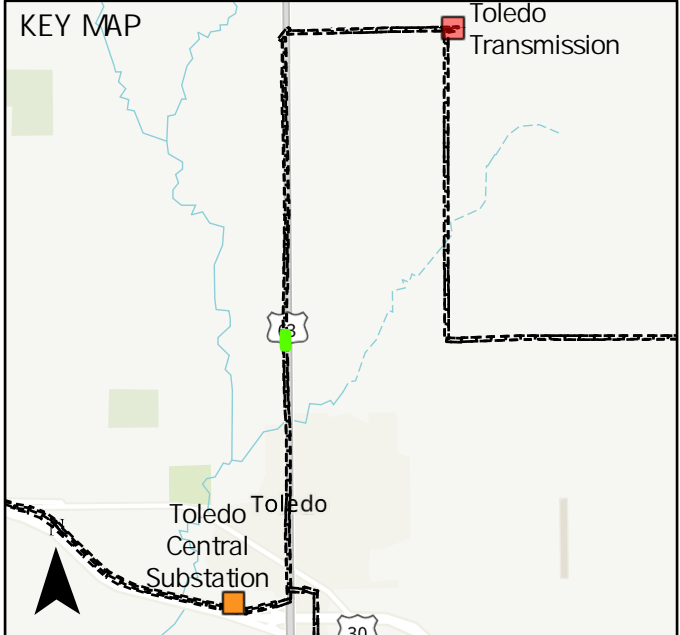
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TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 22 OF 54	
Alliant Energy	
TOLC-TOLT-22	REV: 0

Legend

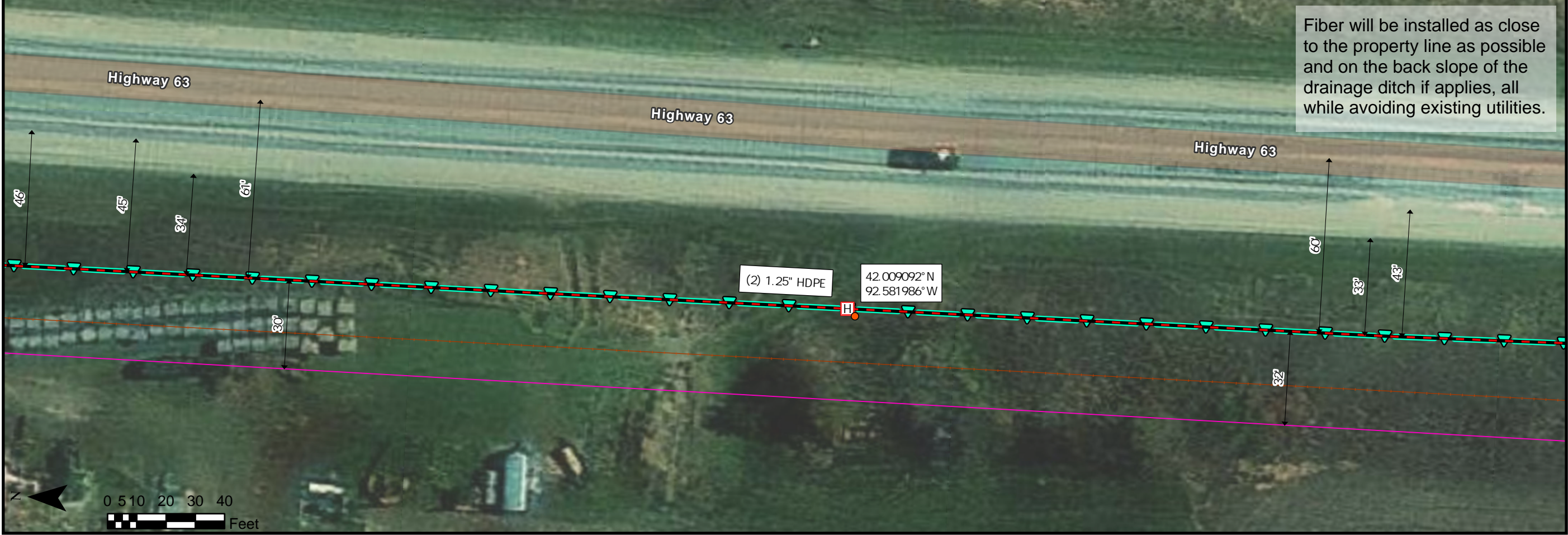
Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE		Railroad Crossing	Wetlands
Water		SPLICE POINT HAND-HOLE		Bore Pit	Sites
Other		NEW JUNCTION BOX		Splice Point	Substation
	Fiber				Office
	144				Tower
	36				

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CONTINUED ON PAGE 24 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



LABEL NUMBER	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACKLENGTH
42.009092° N/92.581986° W	UG-SD-001, UG-SD-002	MAINTENANCE HANDHOLE	30"X48"X36" HANDHOLE, FIBER MARKER W TEST STATION	0	0

Legend

Existing Utilities

- Telecom
- Electric
- Gas
- Sewer
- Water
- Other

Conduits

- Underground, Bore Conduit
- Underground, Existing Conduit
- Underground, Plow Conduit
- Underground, Hydrovac

Fiber

- 144
- 36

Pull Points

- EXISTING HAND-HOLE
- EXISTING JUNCTION BOX
- EXISTING MAN-HOLE
- MAINTENANCE HAND-HOLE
- SPLICE POINT HAND-HOLE
- NEW JUNCTION BOX

Slack Coils

- 144
- 36

Markers

- Fiber Marker (w/ Test Station)
- Fiber Marker (No Test Station)

Other

- Construction Note
- Highway Crossing
- Water Crossing
- Railroad Crossing
- Bore Pit
- Splice Point

Parcel Data

- Right of Way
- Private Easement

Wetlands

- Wetlands

Sites

- Substation
- Office
- Tower

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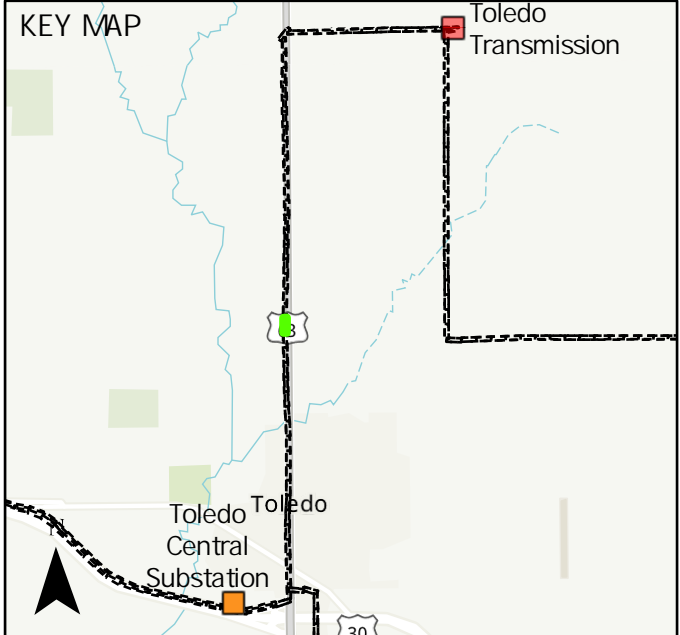
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REVISIONS

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REVIEWED BY: KJM

ENGINEER: TVN

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 23 OF 54

Alliant Energy

TOLC-TOLT-23

REV: 0

CONTINUED ON PAGE 25 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 23 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

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ENGINEER: TVN

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 24 OF 54

TOLC-TOLT-24

REV: 0

Legend

Existing Utilities

Telecom

Electric

Gas

Sewer

Water

Other

Conduits

Underground, Bore Conduit

Underground, Existing Conduit

Underground, Plow Conduit

Underground, Hydrovac

Fiber

144

36

Pull Points

EXISTING HAND-HOLE

EXISTING JUNCTION BOX

EXISTING MAN-HOLE

MAINTENANCE HAND-HOLE

SPLICE POINT HAND-HOLE

NEW JUNCTION BOX

Slack Coils

144

36

Markers

Fiber Marker (w/ Test Station)

Fiber Marker (No Test Station)

Other

Construction Note

Highway Crossing

Water Crossing

Railroad Crossing

Bore Pit

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Wetlands

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Substation

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3. FIBER INSTALLATION TO REMAIN ON BACKSLOPE OF DITCH WITHIN RIGHT OF WAY UNLESS OTHERWISE NOTED. FIBER TO BE INSTALLED AWAY FROM ANY LOW-GRADE WATER RETAINING AREAS.

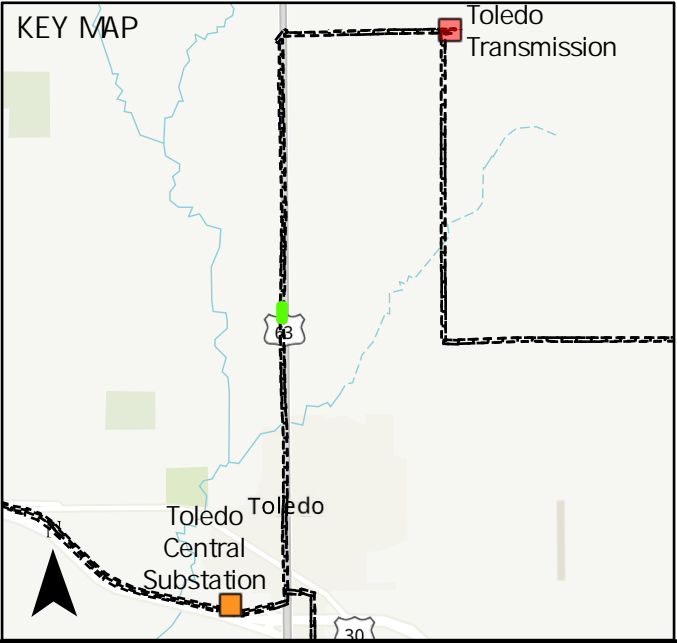
4. FIBER TO MAINTAIN A DEPTH OF 36 INCHES UNLESS OTHERWISE SPECIFIED.

5. FIBER TO MAINTAIN A MINIMUM 18" HORIZONTAL SEPARATION FROM EXISTING UTILITIES.

6. SUBCONTRACTOR TO LOCATE, MARK, AND AVOID ALL UTILITIES DURING FIBER INSTALLATION.

7. SUBCONTRACTOR TO NOTIFY LOCATION SERVICES AT MINIMUM THREE DAYS BEFORE EXCAVATION (1A: (800) 292-8989)

8. REFER TO GENERAL NOTES SHEET FOR ALL OTHER PROJECT NOTES.



CONTINUED ON PAGE 26 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 24 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

REVISIONS

0 PROJECT # 149681-03

ISSUED FOR REVIEW

THE INFORMATION ON THIS PRINT IS CONFIDENTIAL AND IS THE PROPERTY OF ALLIANT ENERGY

DATE: 11/13/2023
SCALE: "AS NOTED"
DESIGNED BY: CJ
REVIEWED BY: KJM
ENGINEER: TVN

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 25 OF 54



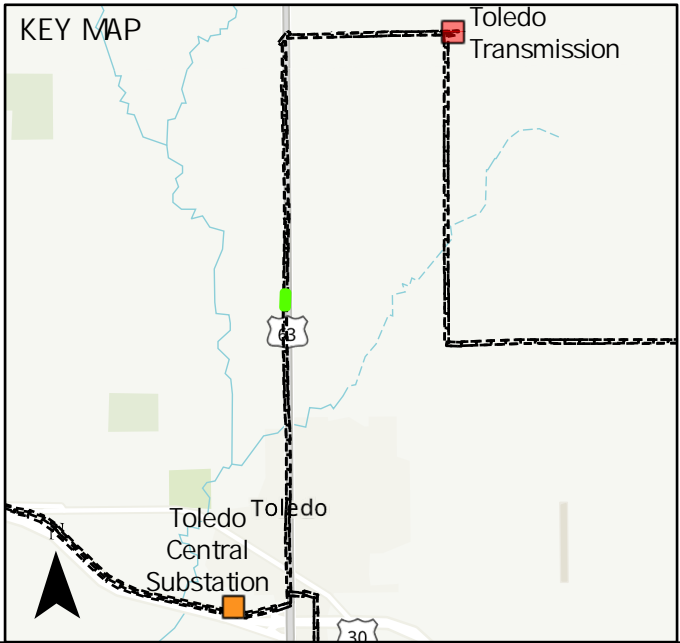
TOLC-TOLT-25 REV: 0

Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE		Railroad Crossing	Wetlands
Water		SPLICE POINT HAND-HOLE		Bore Pit	Sites
Other	Fiber	NEW JUNCTION BOX		Splice Point	Substation
	144				Office
	36				Tower

Notes

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CONTINUED ON PAGE 27 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 25 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

REVISIONS	
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ENGINEER: TVN	
TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 26 OF 54	
TOLC-TOLT-26	REV: 0

Legend	Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
	Telecom Electric Gas Sewer Water Other	Underground, Bore Conduit Underground, Existing Conduit Underground, Plow Conduit Underground, Hydrovac Fiber 144 36	EXISTING HAND-HOLE EXISTING JUNCTION BOX EXISTING MAN-HOLE MAINTENANCE HAND-HOLE SPLICE POINT HAND-HOLE NEW JUNCTION BOX	144 36 Markers Fiber Marker (w/ Test Station) Fiber Marker (No Test Station)	Construction Note Highway Crossing Water Crossing Railroad Crossing Bore Pit Splice Point	Right of Way Private Easement Wetlands Wetlands Sites Substation Office Tower

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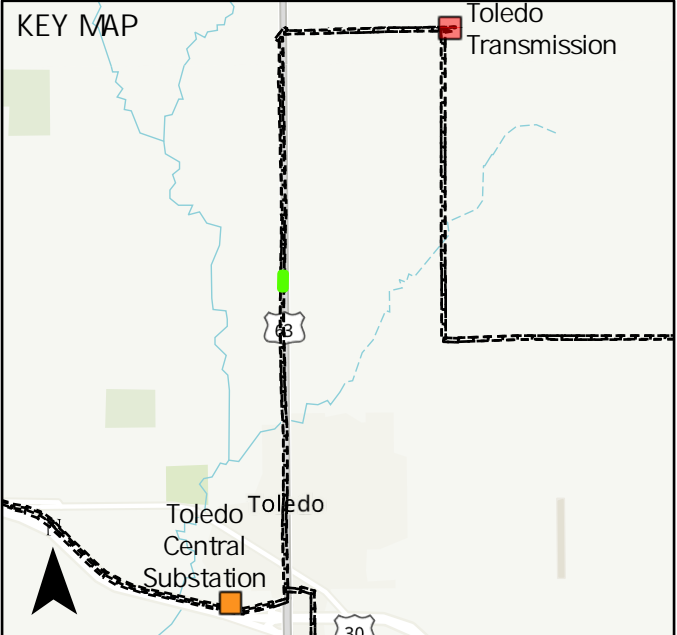
4. FIBER TO MAINTAIN A DEPTH OF 36 INCHES UNLESS OTHERWISE SPECIFIED.

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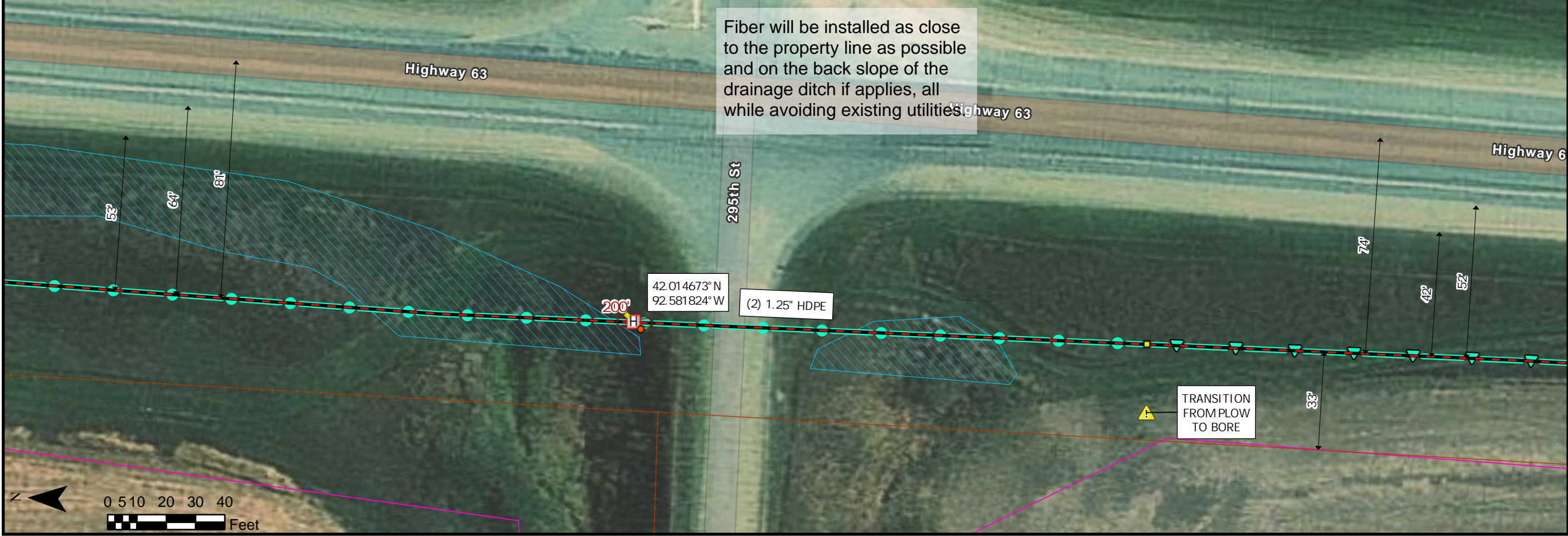
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CONTINUED ON PAGE 28 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



LABEL NUMBER	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACKLENGTH
42.014673° N/92.581824° W	UG-SD-001, UG-SD-002	MAINTENANCE HANDHOLE	30"X48"X36" HANDHOLE, FIBER MARKER W TEST STATION	1	200

Legend

Existing Utilities

- Telecom
- Electric
- Gas
- Sewer
- Water
- Other

Conduits

- Underground, Bore Conduit
- Underground, Existing Conduit
- Underground, Plow Conduit
- Underground, Hydrovac

Fiber

- 144
- 36

Pull Points

- EXISTING HAND-HOLE
- EXISTING JUNCTION BOX
- EXISTING MAN-HOLE
- MAINTENANCE HAND-HOLE
- SPLICE POINT HAND-HOLE
- NEW JUNCTION BOX

Slack Coils

- 144
- 36

Markers

- Fiber Marker (w/ Test Station)
- Fiber Marker (No Test Station)

Other

- Construction Note
- Highway Crossing
- Water Crossing
- Railroad Crossing
- Bore Pit
- Splice Point

Parcel Data

- Right of Way
- Private Easement

Wetlands

- Wetlands

Sites

- Substation
- Office
- Tower

- Notes
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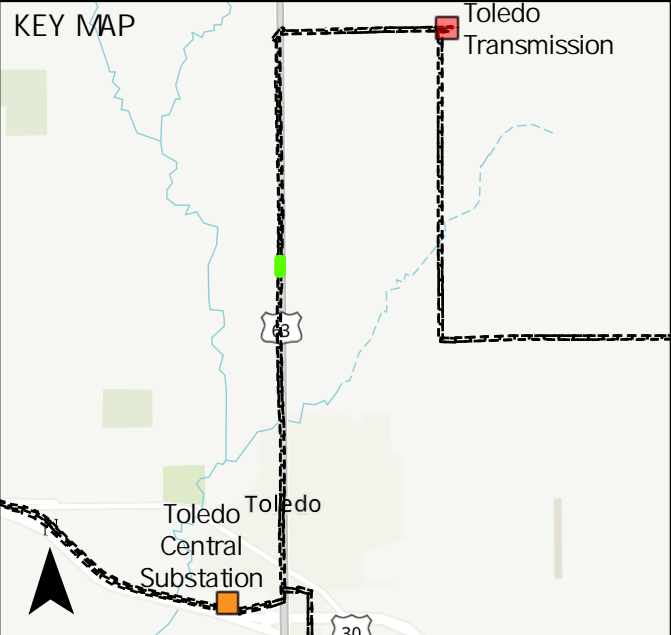
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REVISIONS

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DESIGNED BY: CJ

REVIEWED BY: KJM

ENGINEER: TVN

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 27 OF 54

TOLC-TOLT-27

REV: 0

CONTINUED ON PAGE 29 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 27 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

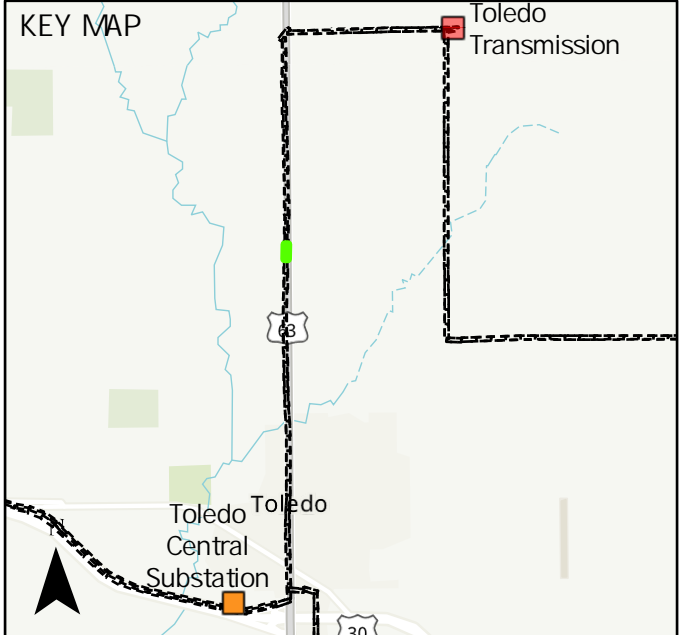
REVISIONS	
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ENGINEER: TVN

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 28 OF 54

Legend	Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
	Telecom Electric Gas Sewer Water Other	Underground, Bore Conduit Underground, Existing Conduit Underground, Plow Conduit Underground, Hydrovac Fiber 144 36	EXISTING HAND-HOLE EXISTING JUNCTION BOX EXISTING MAN-HOLE MAINTENANCE HAND-HOLE SPLICE POINT HAND-HOLE NEW JUNCTION BOX	 Markers Fiber Marker (w/ Test Station) Fiber Marker (No Test Station)	Construction Note Highway Crossing Water Crossing Railroad Crossing Bore Pit Splice Point	Right of Way Private Easement Wetlands Wetlands Sites Substation Office Tower

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CONTINUED ON PAGE 30 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 28 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

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TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 29 OF 54

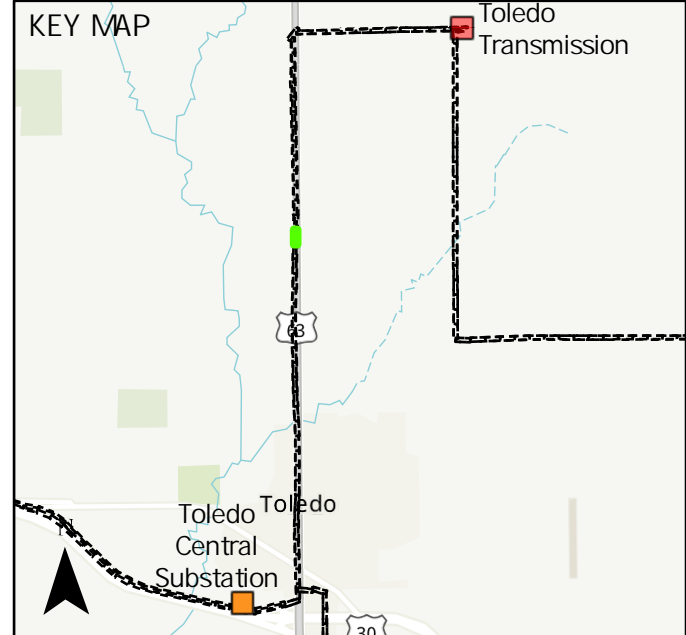
TOLC-TOLT-29REV: 0

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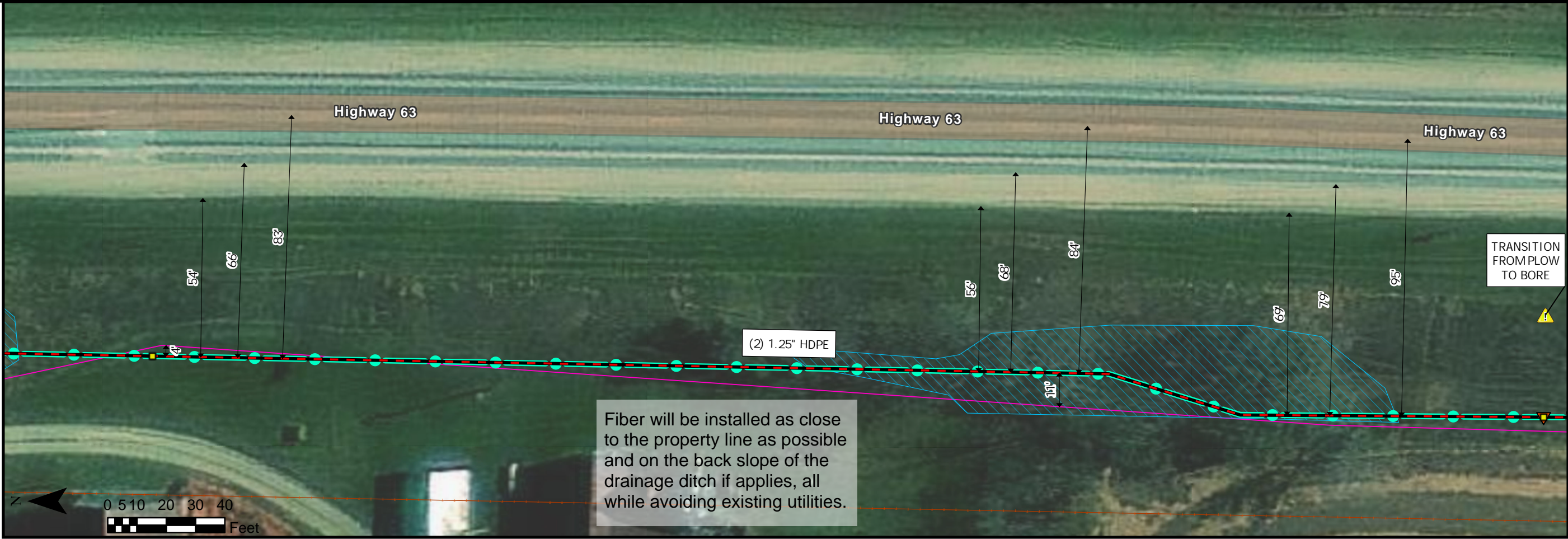
Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE		Railroad Crossing	Wetlands
Water		SPLICE POINT HAND-HOLE		Bore Pit	Sites
Other		NEW JUNCTION BOX		Splice Point	Substation
	Fiber				Office
	144				Tower
	36				

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CONTINUED ON PAGE 31 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

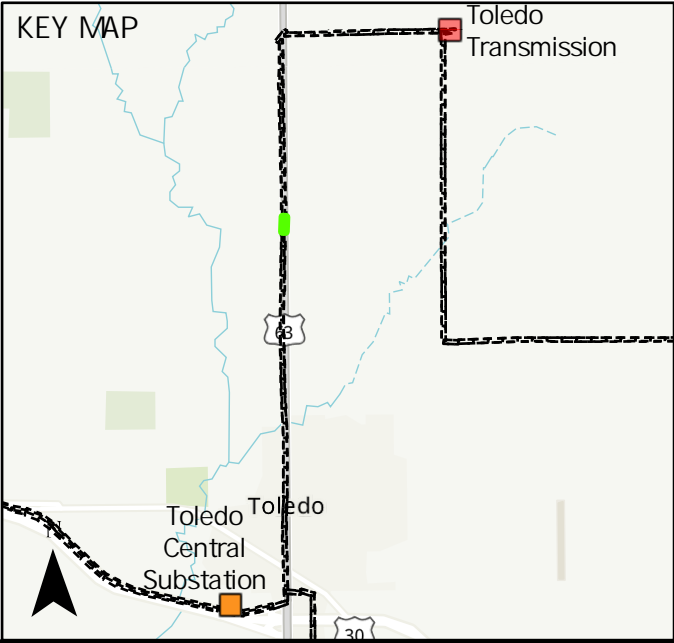


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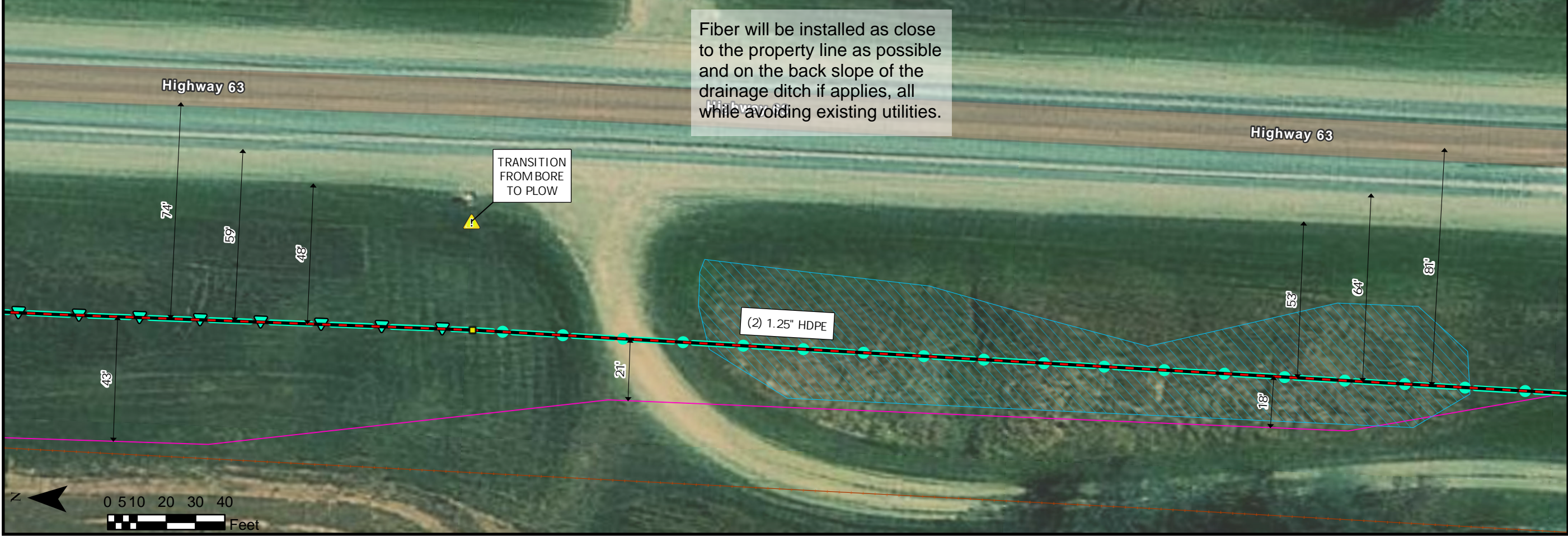
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ENGINEER: TVN	
TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 30 OF 54	
Alliant Energy	
TOLC-TOLT-30	REV: 0

Legend	Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
	Telecom Electric Gas Sewer Water Other	Underground, Bore Conduit Underground, Existing Conduit Underground, Plow Conduit Underground, Hydrovac Fiber 144 36	EXISTING HAND-HOLE EXISTING JUNCTION BOX EXISTING MAN-HOLE MAINTENANCE HAND-HOLE SPLICE POINT HAND-HOLE NEW JUNCTION BOX	144 36 Markers Fiber Marker (w/ Test Station) Fiber Marker (No Test Station)	Construction Note Highway Crossing Water Crossing Railroad Crossing Bore Pit Splice Point	Right of Way Private Easement Wetlands Wetlands Sites Substation Office Tower

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CONTINUED ON PAGE 32 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



Fiber will be installed as close to the property line as possible and on the back slope of the drainage ditch if applies, all while avoiding existing utilities.

CONTINUED ON PAGE 30 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

REVISIONS

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TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION
PAGE 31 OF 54

TOLC-TOLT-31

REV:
0

Legend	Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
	Telecom Electric Gas Sewer Water Other	Underground, Bore Conduit Underground, Existing Conduit Underground, Plow Conduit Underground, Hydrovac Fiber 144 36	EXISTING HAND-HOLE EXISTING JUNCTION BOX EXISTING MAN-HOLE MAINTENANCE HAND-HOLE SPLICE POINT HAND-HOLE NEW JUNCTION BOX	144 36 Markers Fiber Marker (w/ Test Station) Fiber Marker (No Test Station)	Construction Note Highway Crossing Water Crossing Railroad Crossing Bore Pit Splice Point	Right of Way Private Easement Wetlands Wetlands Sites Substation Office Tower

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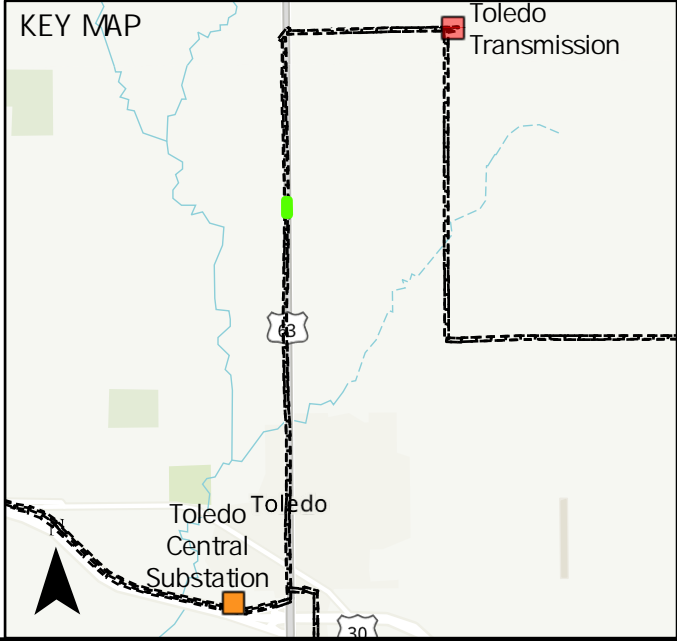
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CONTINUED ON PAGE 33 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



LABEL NUMBER	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACKLENGTH
42.021400° N/92.581644° W	UG-SD-001, UG-SD-002	MAINTENANCE HANDHOLE	30"X48"X36" HANDHOLE, FIBER MARKER W TEST STATION	1	200

Legend

Existing Utilities

- Telecom
- Electric
- Gas
- Sewer
- Water
- Other

Conduits

- Underground, Bore Conduit
- Underground, Existing Conduit
- Underground, Plow Conduit
- Underground, Hydrovac

Fiber

- 144
- 36

Pull Points

- EXISTING HAND-HOLE
- EXISTING JUNCTION BOX
- EXISTING MAN-HOLE
- MAINTENANCE HAND-HOLE
- SPLICE POINT HAND-HOLE
- NEW JUNCTION BOX

Slack Coils

- 144
- 36

Markers

- Fiber Marker (w/ Test Station)
- Fiber Marker (No Test Station)

Other

- Construction Note
- Highway Crossing
- Water Crossing
- Railroad Crossing
- Bore Pit
- Splice Point

Parcel Data

- Right of Way
- Private Easement

Wetlands

- Wetlands

Sites

- Substation
- Office
- Tower

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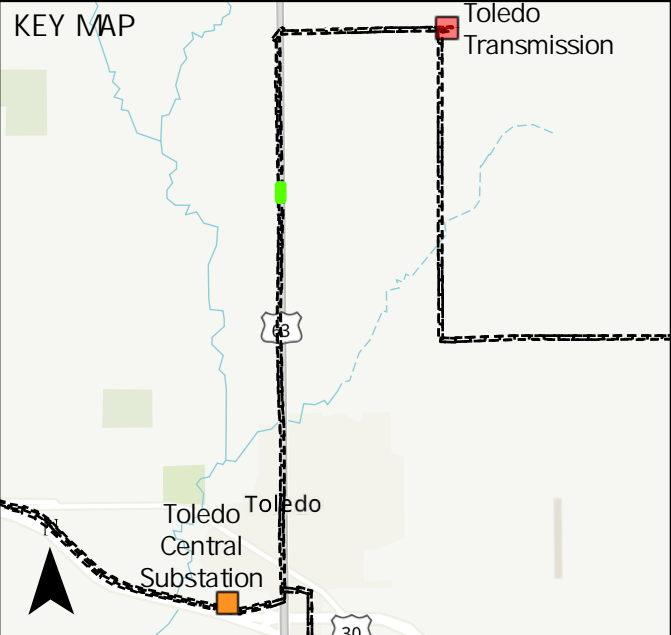
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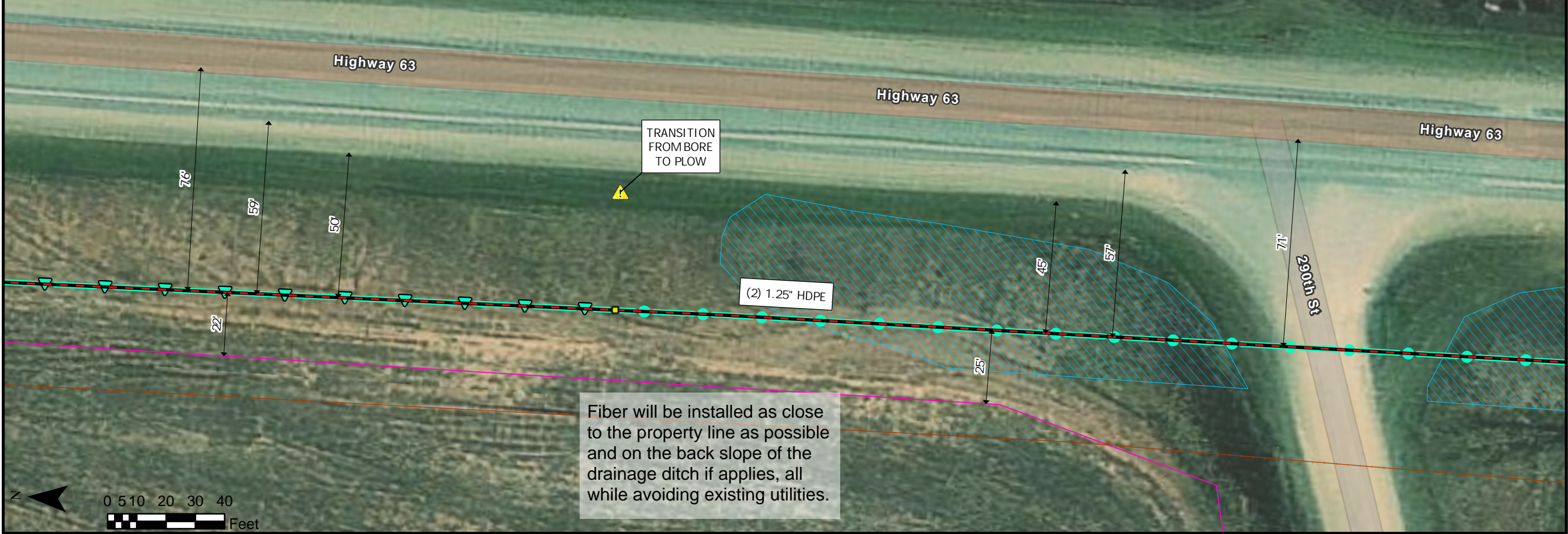
ENGINEER: TVN

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 32 OF 54

TOLC-TOLT-32

REV: 0

CONTINUED ON PAGE 34 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 32 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

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TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 33 OF 54

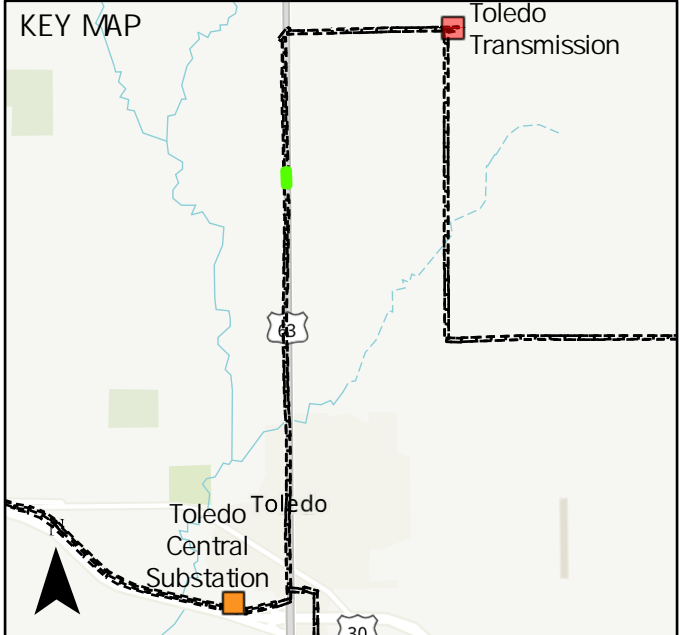
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Legend

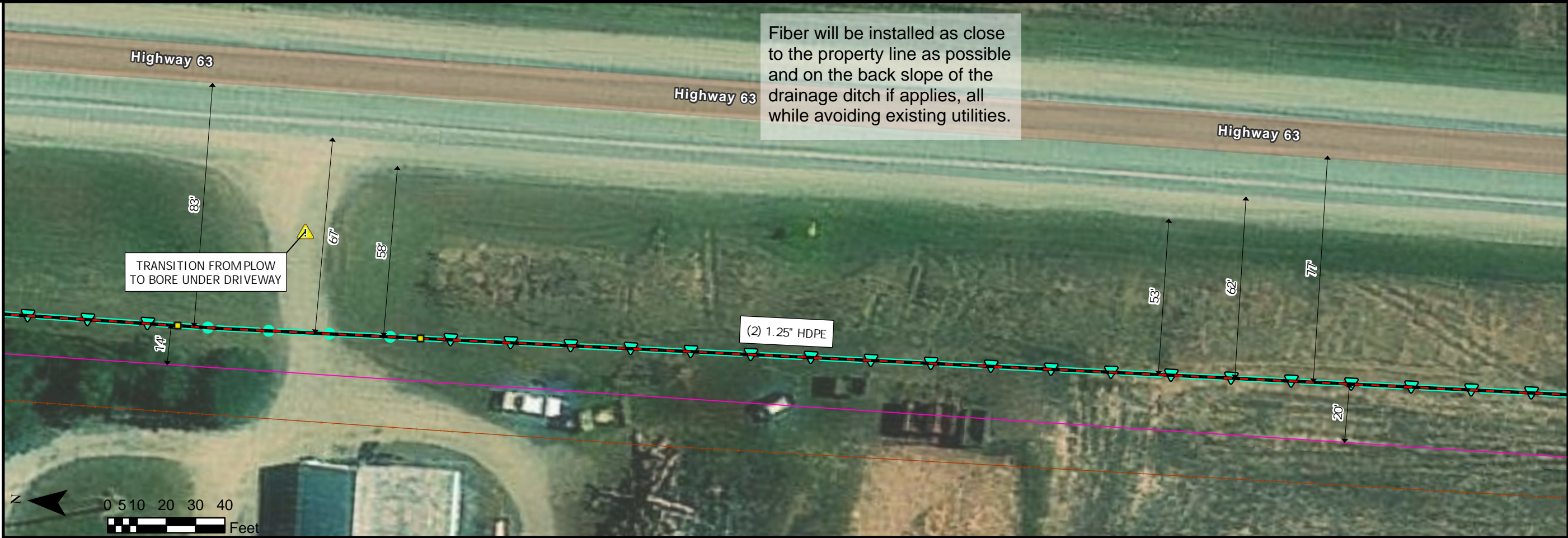
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Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water		SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
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REVISIONS

0 PROJECT # 149681-03

ISSUED FOR REVIEW

THE INFORMATION ON THIS PRINT IS CONFIDENTIAL AND IS THE PROPERTY OF ALLIANT ENERGY

DATE: 11/13/2023
SCALE: "AS NOTED"
DESIGNED BY: CJ
REVIEWED BY: KJM
ENGINEER: TVN

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 34 OF 54



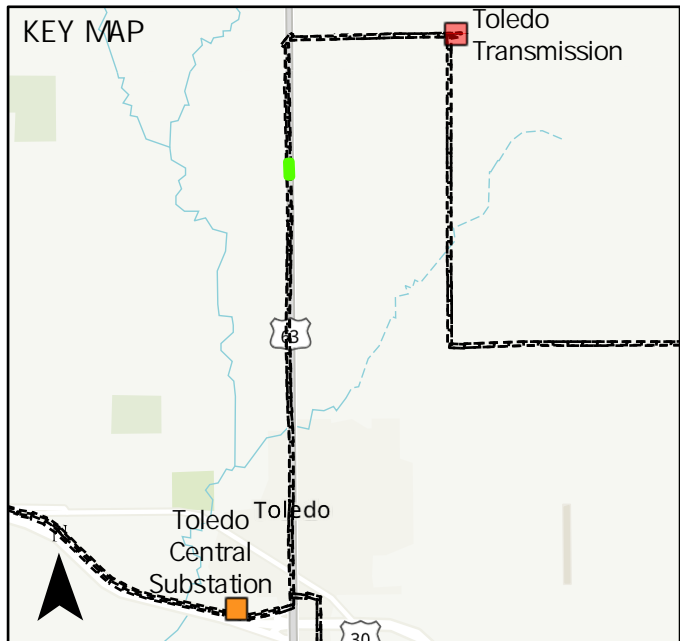
TOLC-TOLT-34 REV: 0

Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water	Fiber	SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	144	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	36				Office
					Tower

Notes

1. DISTANCES MEASURED BY SOFTWARE ARE APPROXIMATE, FIELD TO VERIFY.
2. PARCEL LINES IN MAP ARE NOT SURVEYED AND FOR REFERENCE ONLY. SUBCONTRACTOR TO USE MEASUREMENTS FROM CENTERLINE FOR FINAL ALIGNMENT OF FIBER INSTALLATION.
3. FIBER INSTALLATION TO REMAIN ON BACKSLOPE OF DITCH WITHIN RIGHT OF WAY UNLESS OTHERWISE NOTED. FIBER TO BE INSTALLED AWAY FROM ANY LOW-GRADE WATER RETAINING AREAS.
4. FIBER TO MAINTAIN A DEPTH OF 36 INCHES UNLESS OTHERWISE SPECIFIED.
5. FIBER TO MAINTAIN A MINIMUM 18" HORIZONTAL SEPARATION FROM EXISTING UTILITIES.
6. SUBCONTRACTOR TO LOCATE, MARK, AND AVOID ALL UTILITIES DURING FIBER INSTALLATION.
7. SUBCONTRACTOR TO NOTIFY LOCATION SERVICES AT MINIMUM THREE DAYS BEFORE EXCAVATION (1A: (800) 292-8989)
8. REFER TO GENERAL NOTES SHEET FOR ALL OTHER PROJECT NOTES.



CONTINUED ON PAGE 36 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 34 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

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TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 35 OF 54



TOLC-TOLT-35

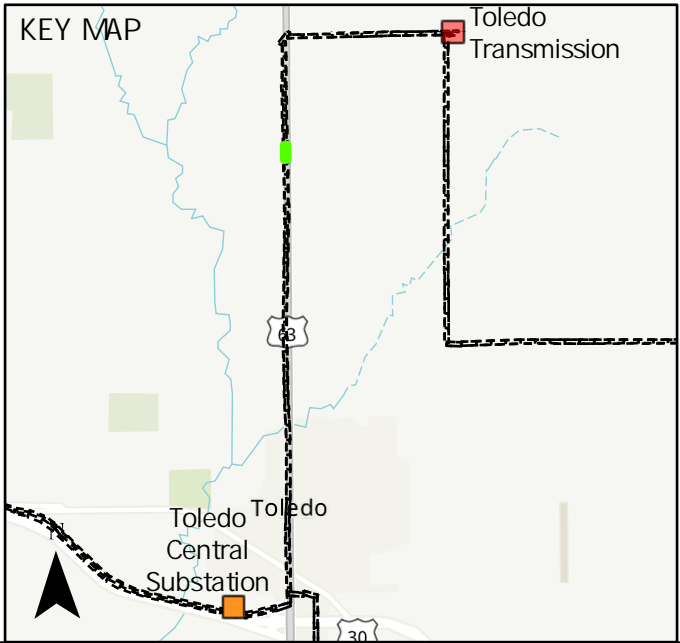
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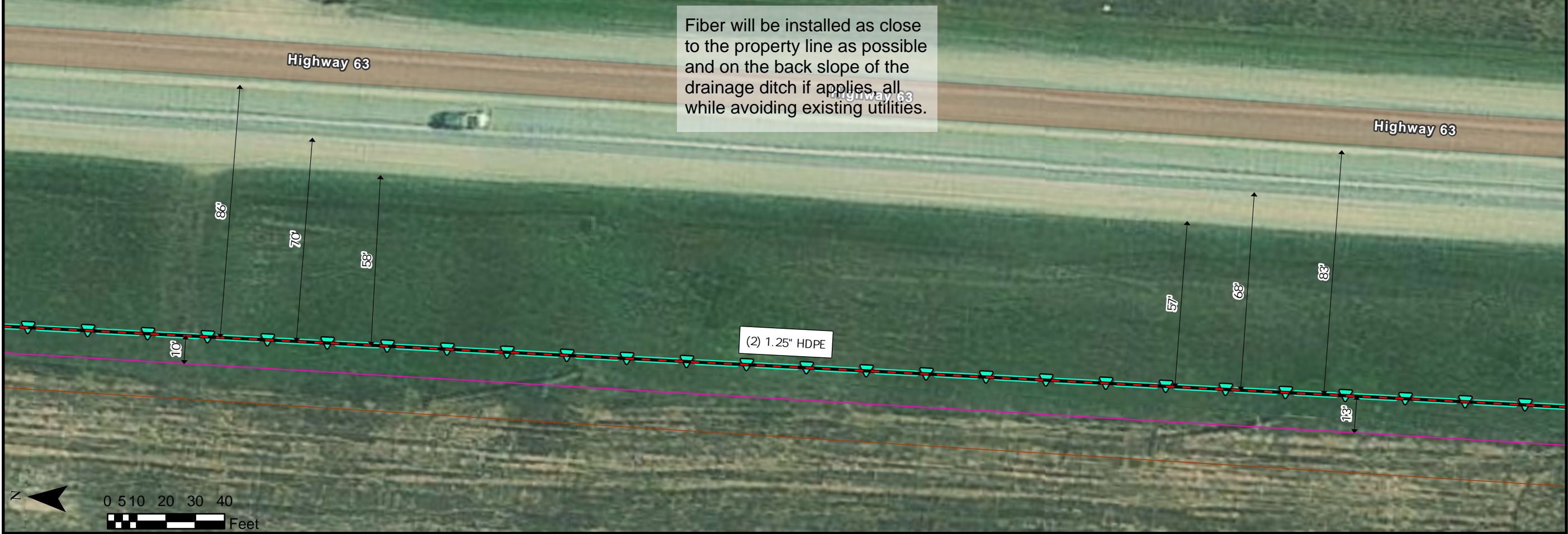
Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water	Fiber	SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	144	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
	36				Office
					Tower

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CONTINUED ON PAGE 37 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



Fiber will be installed as close to the property line as possible and on the back slope of the drainage ditch if applies, all while avoiding existing utilities.

CONTINUED ON PAGE 35 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

REVISIONS

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TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 36 OF 54

Alliant Energy

TOLC-TOLT-36

REV: 0

Legend	Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
	Telecom Electric Gas Sewer Water Other	Underground, Bore Conduit Underground, Existing Conduit Underground, Plow Conduit Underground, Hydrovac Fiber 144 36	EXISTING HAND-HOLE EXISTING JUNCTION BOX EXISTING MAN-HOLE MAINTENANCE HAND-HOLE SPLICE POINT HAND-HOLE NEW JUNCTION BOX	144 36 Markers Fiber Marker (w/ Test Station) Fiber Marker (No Test Station)	Construction Note Highway Crossing Water Crossing Railroad Crossing Bore Pit Splice Point	Right of Way Private Easement Wetlands Wetlands Sites Substation Office Tower

- Notes
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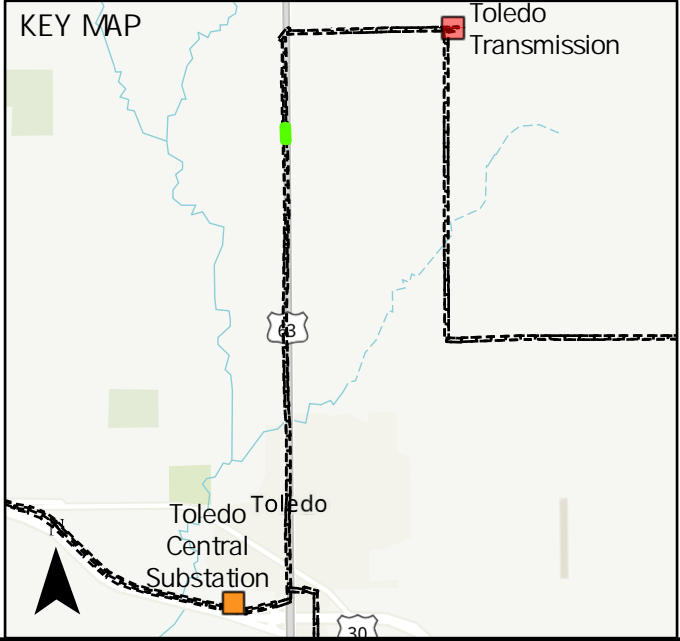
4. FIBER TO MAINTAIN A DEPTH OF 36 INCHES UNLESS OTHERWISE SPECIFIED.

5. FIBER TO MAINTAIN A MINIMUM 18" HORIZONTAL SEPARATION FROM EXISTING UTILITIES.

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CONTINUED ON PAGE 38 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



LABEL NUMBER	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACKLENGTH
42.028574° N/92.581800° W	UG-SD-001, UG-SD-002	MAINTENANCE HANDHOLE	30\"X48\"X36\" HANDHOLE, FIBER MARKER W TEST STATION	0	0

Legend

Existing Utilities

- Telecom
- Electric
- Gas
- Sewer
- Water
- Other

Conduits

- Underground, Bore Conduit
- Underground, Existing Conduit
- Underground, Plow Conduit
- Underground, Hydrovac

Fiber

- 144
- 36

Pull Points

- EXISTING HAND-HOLE
- EXISTING JUNCTION BOX
- EXISTING MAN-HOLE
- MAINTENANCE HAND-HOLE
- SPLICE POINT HAND-HOLE
- NEW JUNCTION BOX

Slack Coils

- 144
- 36

Markers

- Fiber Marker (w/ Test Station)
- Fiber Marker (No Test Station)

Other

- Construction Note
- Highway Crossing
- Water Crossing
- Railroad Crossing
- Bore Pit
- Splice Point

Parcel Data

- Right of Way
- Private Easement

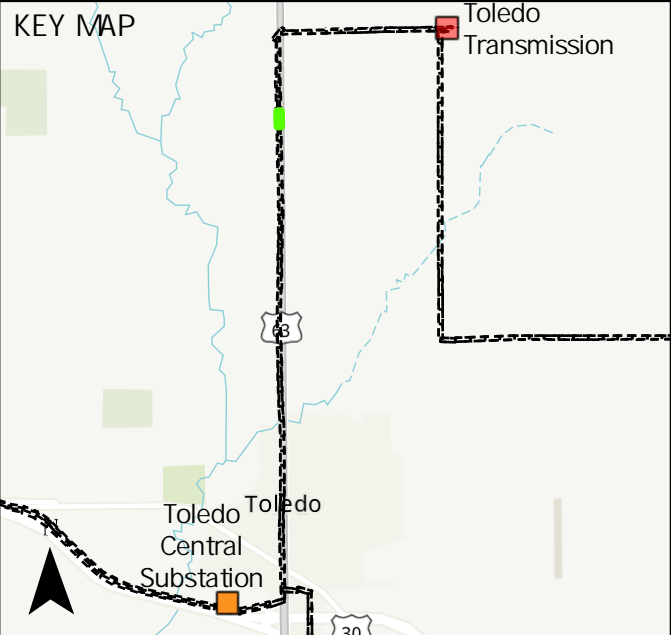
Wetlands

- Wetlands

Sites

- Substation
- Office
- Tower

- Notes
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 - FIBER TO MAINTAIN A DEPTH OF 36 INCHES UNLESS OTHERWISE SPECIFIED.
 - FIBER TO MAINTAIN A MINIMUM 18\"/>



REVISIONS

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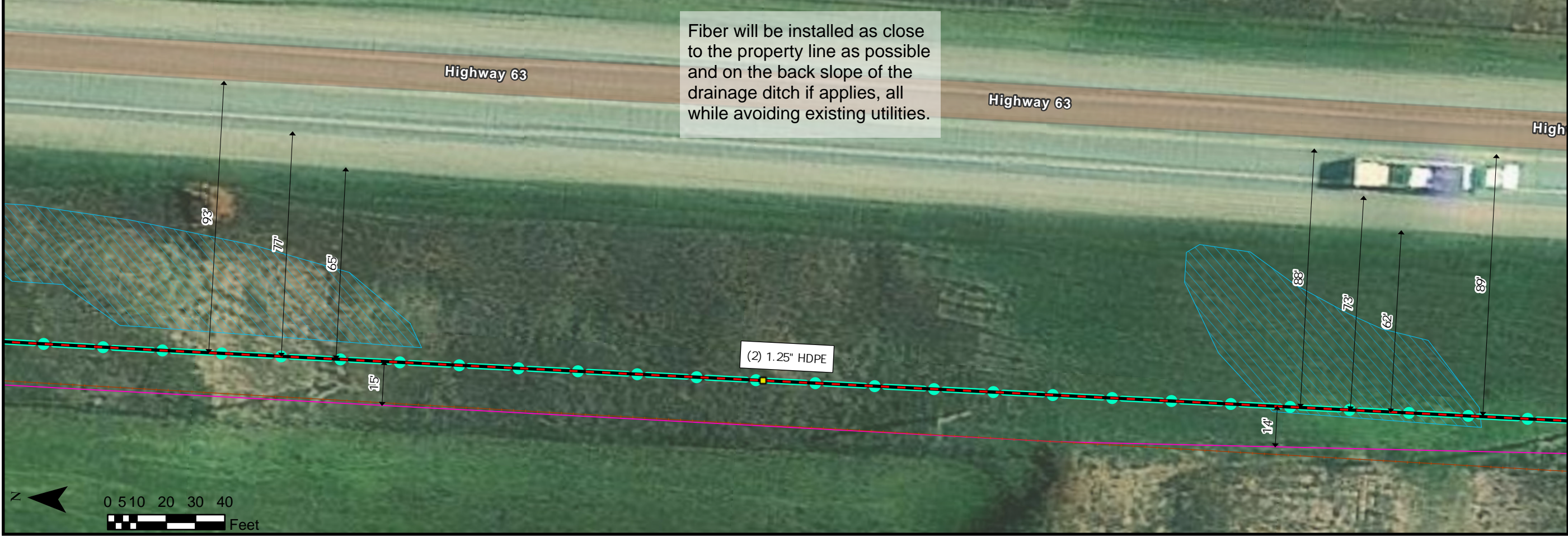
ENGINEER: TVN

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 37 OF 54

TOLC-TOLT-37

REV: 0

CONTINUED ON PAGE 39 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



Fiber will be installed as close to the property line as possible and on the back slope of the drainage ditch if applies, all while avoiding existing utilities.

(2) 1.25" HDPE

CONTINUED ON PAGE 37 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

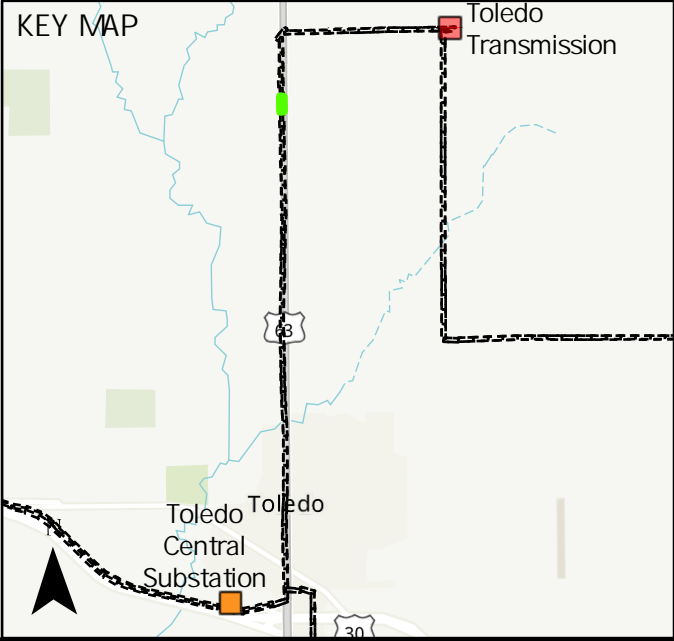
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ENGINEER: TVN	
TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 38 OF 54	
Alliant Energy	
TOLC-TOLT-38	REV: 0

Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE		Railroad Crossing	Wetlands
Water		SPLICE POINT HAND-HOLE		Bore Pit	Sites
Other	Fiber	NEW JUNCTION BOX	Markers	Splice Point	Substation
	144		Fiber Marker (w/ Test Station)		Office
	36		Fiber Marker (No Test Station)		Tower

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CONTINUED ON PAGE 40 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 38 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

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TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 39 OF 54

TOLC-TOLT-39

REV: 0

Legend	Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
	Telecom Electric Gas Sewer Water Other	Underground, Bore Conduit Underground, Existing Conduit Underground, Plow Conduit Underground, Hydrovac Fiber 144 36	EXISTING HAND-HOLE EXISTING JUNCTION BOX EXISTING MAN-HOLE MAINTENANCE HAND-HOLE SPLICE POINT HAND-HOLE NEW JUNCTION BOX	144 36 Markers Fiber Marker (w/ Test Station) Fiber Marker (No Test Station)	Construction Note Highway Crossing Water Crossing Railroad Crossing Bore Pit Splice Point	Right of Way Private Easement Wetlands Wetlands Sites Substation Office Tower

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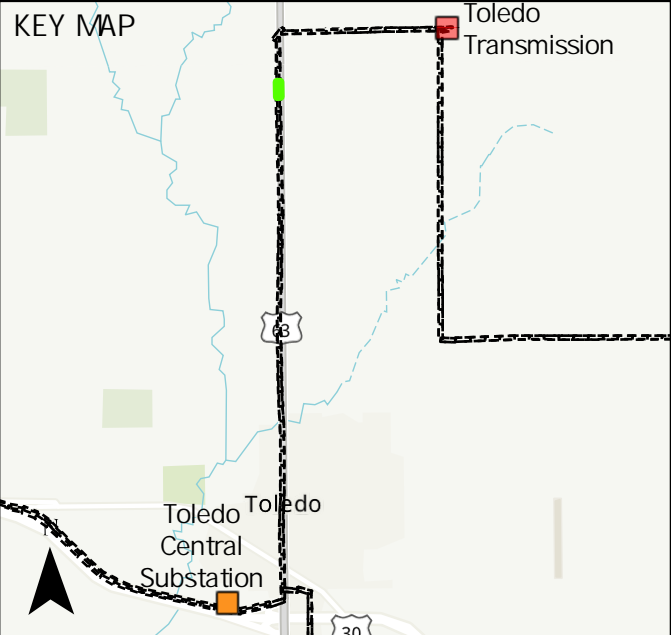
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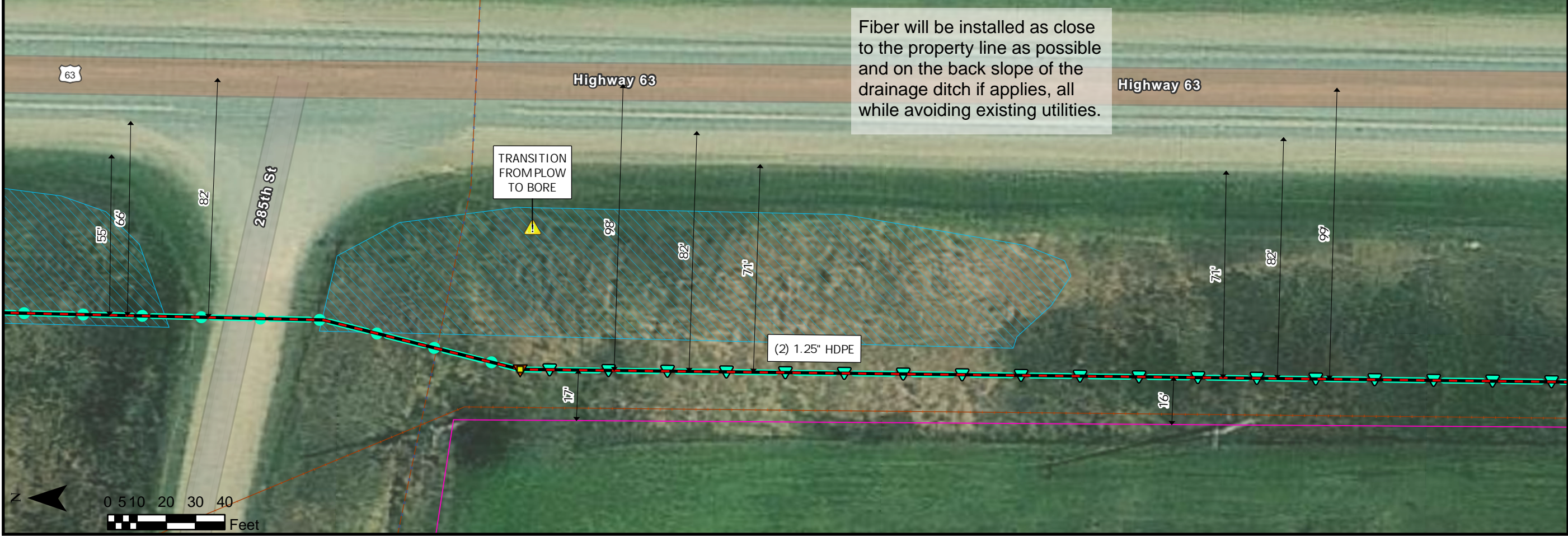
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CONTINUED ON PAGE 41 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



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TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

PAGE 40 OF 54

TOLC-TOLT-40

REV: 0

Legend

Existing Utilities

Telecom

Electric

Gas

Sewer

Water

Other

Conduits

Underground, Bore Conduit

Underground, Existing Conduit

Underground, Plow Conduit

Underground, Hydrovac

Fiber

144

36

Pull Points

EXISTING HAND-HOLE

EXISTING JUNCTION BOX

EXISTING MAN-HOLE

MAINTENANCE HAND-HOLE

SPLICE POINT HAND-HOLE

NEW JUNCTION BOX

Slack Coils

144

36

Markers

Fiber Marker (w/ Test Station)

Fiber Marker (No Test Station)

Other

Construction Note

Highway Crossing

Water Crossing

Railroad Crossing

Bore Pit

Splice Point

Parcel Data

Right of Way

Private Easement

Wetlands

Wetlands

Sites

Substation

Office

Tower

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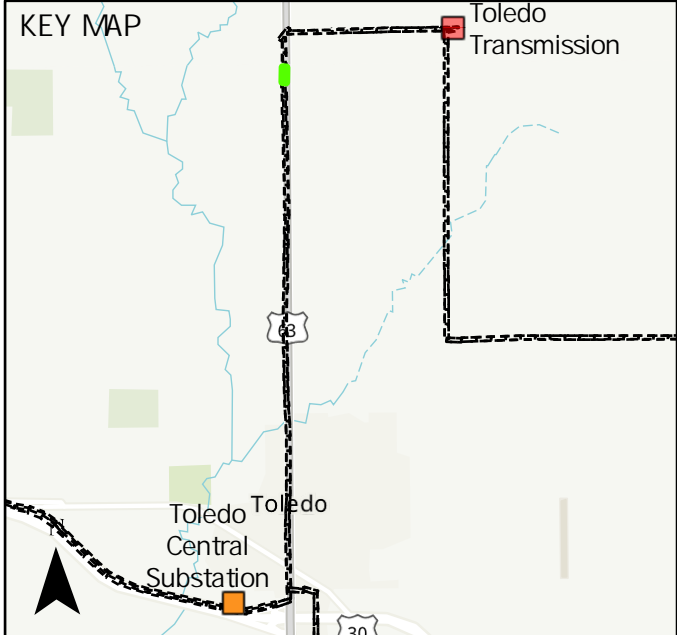
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TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

PAGE 41 OF 54

TOLC-TOLT-41

REV: 0

Legend

Existing Utilities

Telecom

Electric

Gas

Sewer

Water

Other

Conduits

Underground, Bore Conduit

Underground, Existing Conduit

Underground, Plow Conduit

Underground, Hydrovac

Fiber

144

36

Pull Points

EXISTING HAND-HOLE

EXISTING JUNCTION BOX

EXISTING MAN-HOLE

MAINTENANCE HAND-HOLE

SPLICE POINT HAND-HOLE

NEW JUNCTION BOX

Slack Coils

144

36

Markers

Fiber Marker (w/ Test Station)

Fiber Marker (No Test Station)

Other

Construction Note

Highway Crossing

Water Crossing

Railroad Crossing

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Wetlands

Sites

Substation

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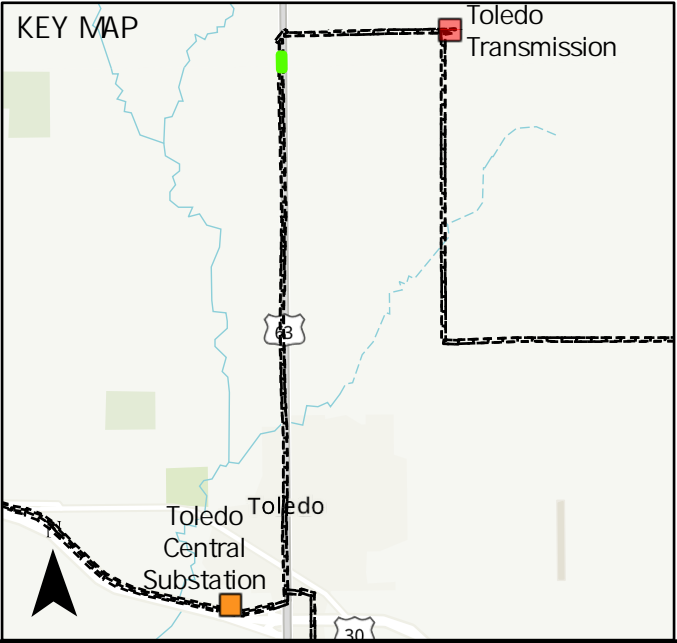
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TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 42 OF 54



TOLC-TOLT-42

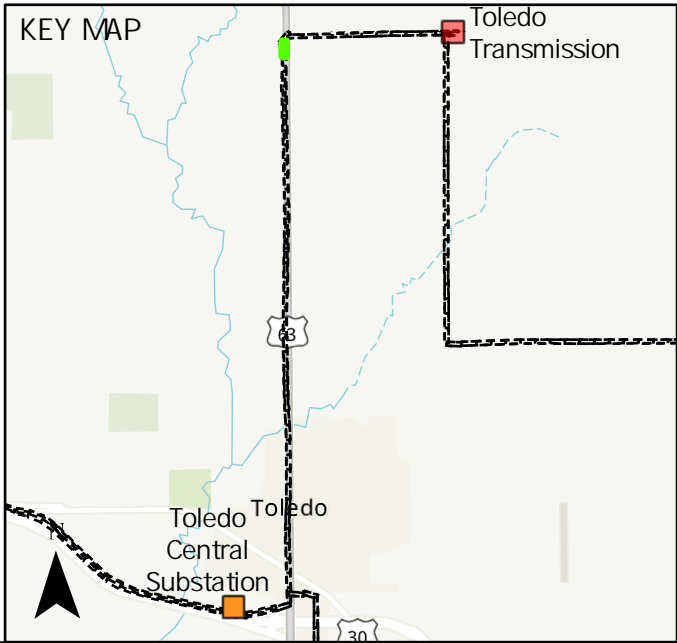
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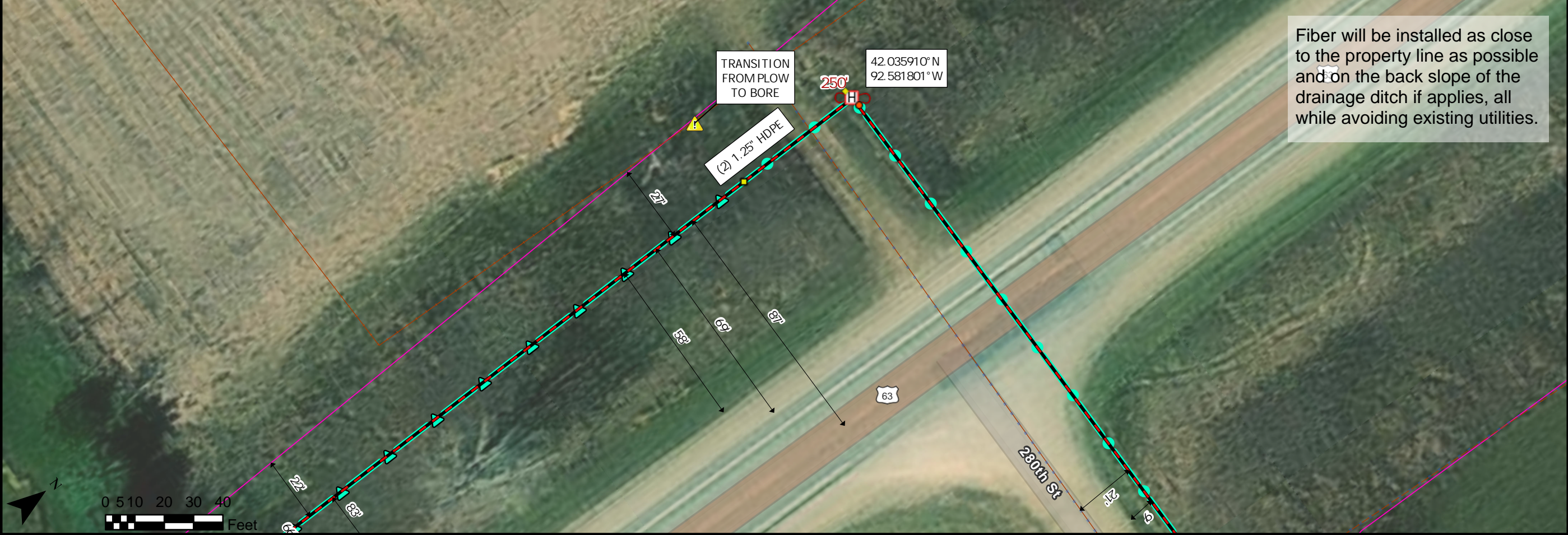
Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
Gas	Underground, Plow Conduit	EXISTING MAN-HOLE		Water Crossing	Wetlands
Sewer	Underground, Hydrovac	MAINTENANCE HAND-HOLE	Markers	Railroad Crossing	Wetlands
Water	Fiber	SPLICE POINT HAND-HOLE	Fiber Marker (w/ Test Station)	Bore Pit	Sites
Other	144	NEW JUNCTION BOX	Fiber Marker (No Test Station)	Splice Point	Substation
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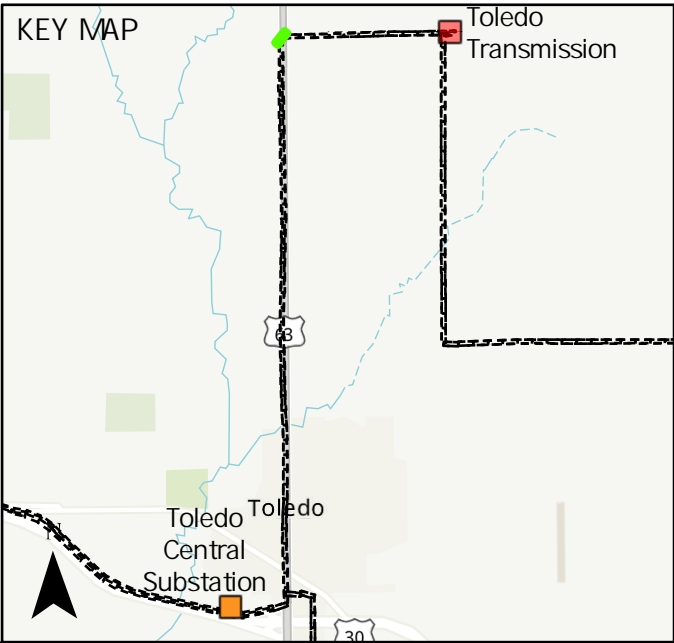
LABEL NUMBER	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACK LENGTH
42.035910° N/92.581801° W	UG-SD-001, UG-SD-002	MAINTENANCE HAND-HOLE	30"X48"X36" HANDHOLE, FIBER MARKER W TEST STATION	1	250

Legend

Existing Utilities	Conduits	Pull Points	Slack Coils	Other	Parcel Data
Telecom	Underground, Bore Conduit	EXISTING HAND-HOLE	144	Construction Note	Right of Way
Electric	Underground, Existing Conduit	EXISTING JUNCTION BOX	36	Highway Crossing	Private Easement
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Notes

1. DISTANCES MEASURED BY SOFTWARE ARE APPROXIMATE, FIELD TO VERIFY.
2. PARCEL LINES IN MAP ARE NOT SURVEYED AND FOR REFERENCE ONLY. SUBCONTRACTOR TO USE MEASUREMENTS FROM CENTERLINE FOR FINAL ALIGNMENT OF FIBER INSTALLATION.
3. FIBER INSTALLATION TO REMAIN ON BACKSLOPE OF DITCH WITHIN RIGHT OF WAY UNLESS OTHERWISE NOTED. FIBER TO BE INSTALLED AWAY FROM ANY LOW-GRADE WATER RETAINING AREAS.
4. FIBER TO MAINTAIN A DEPTH OF 36 INCHES UNLESS OTHERWISE SPECIFIED.
5. FIBER TO MAINTAIN A MINIMUM 18" HORIZONTAL SEPARATION FROM EXISTING UTILITIES.
6. SUBCONTRACTOR TO LOCATE, MARK, AND AVOID ALL UTILITIES DURING FIBER INSTALLATION.
7. SUBCONTRACTOR TO NOTIFY LOCATION SERVICES AT MINIMUM THREE DAYS BEFORE EXCAVATION (IA: (800) 292-8989)
8. REFER TO GENERAL NOTES SHEET FOR ALL OTHER PROJECT NOTES.



REVISIONS

0

PROJECT #
149681-03

ISSUED FOR REVIEW

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DATE: 11/13/2023

SCALE: "AS NOTED"

DESIGNED BY: CJ

REVIEWED BY: KJM

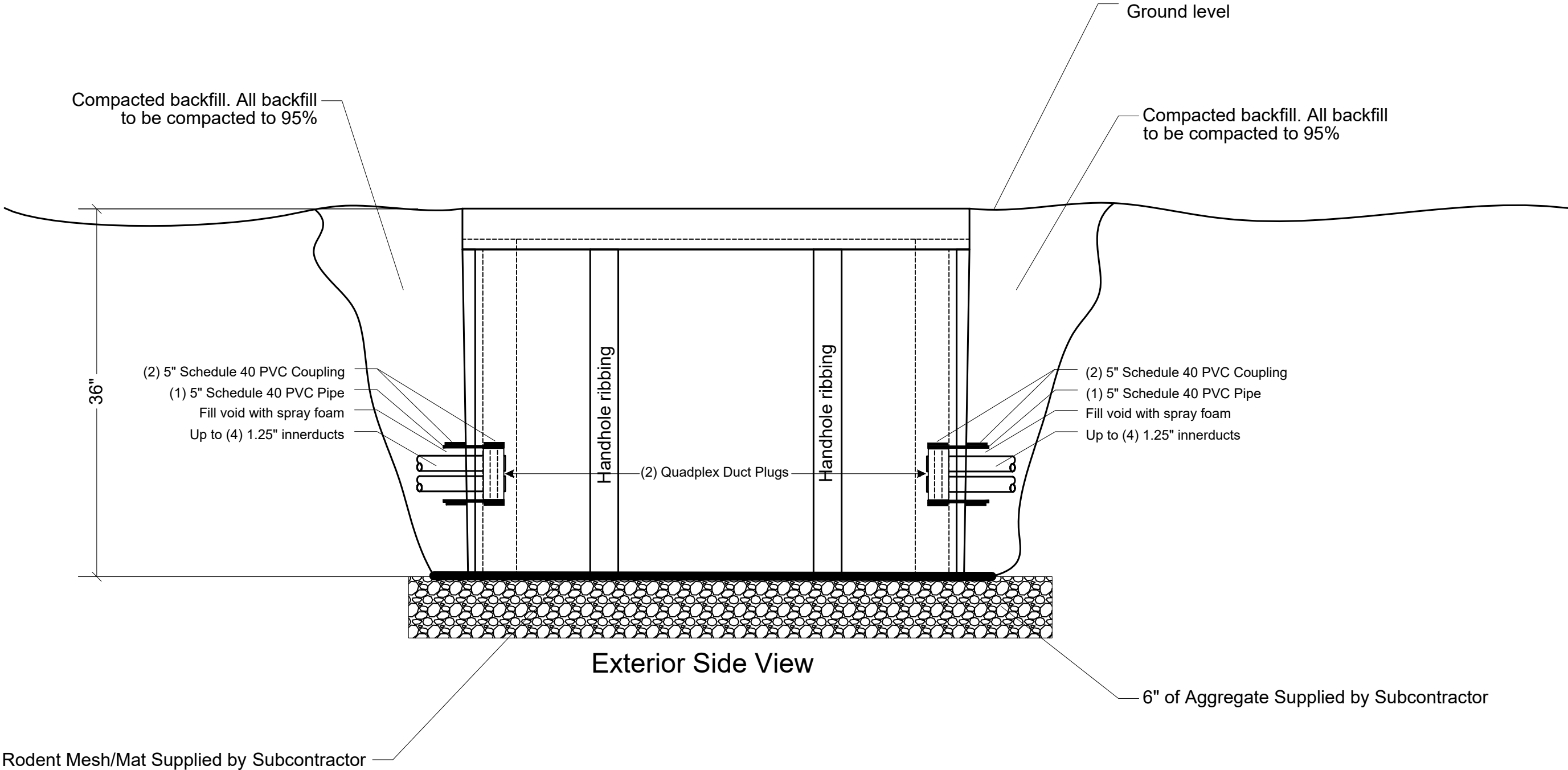
ENGINEER: TVN

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 43 OF 54

TOLC-TOLT-43

REV: 0

Typical Handhole - Flush Mount



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FLUSH MOUNT HAND-HOLE DETAILS

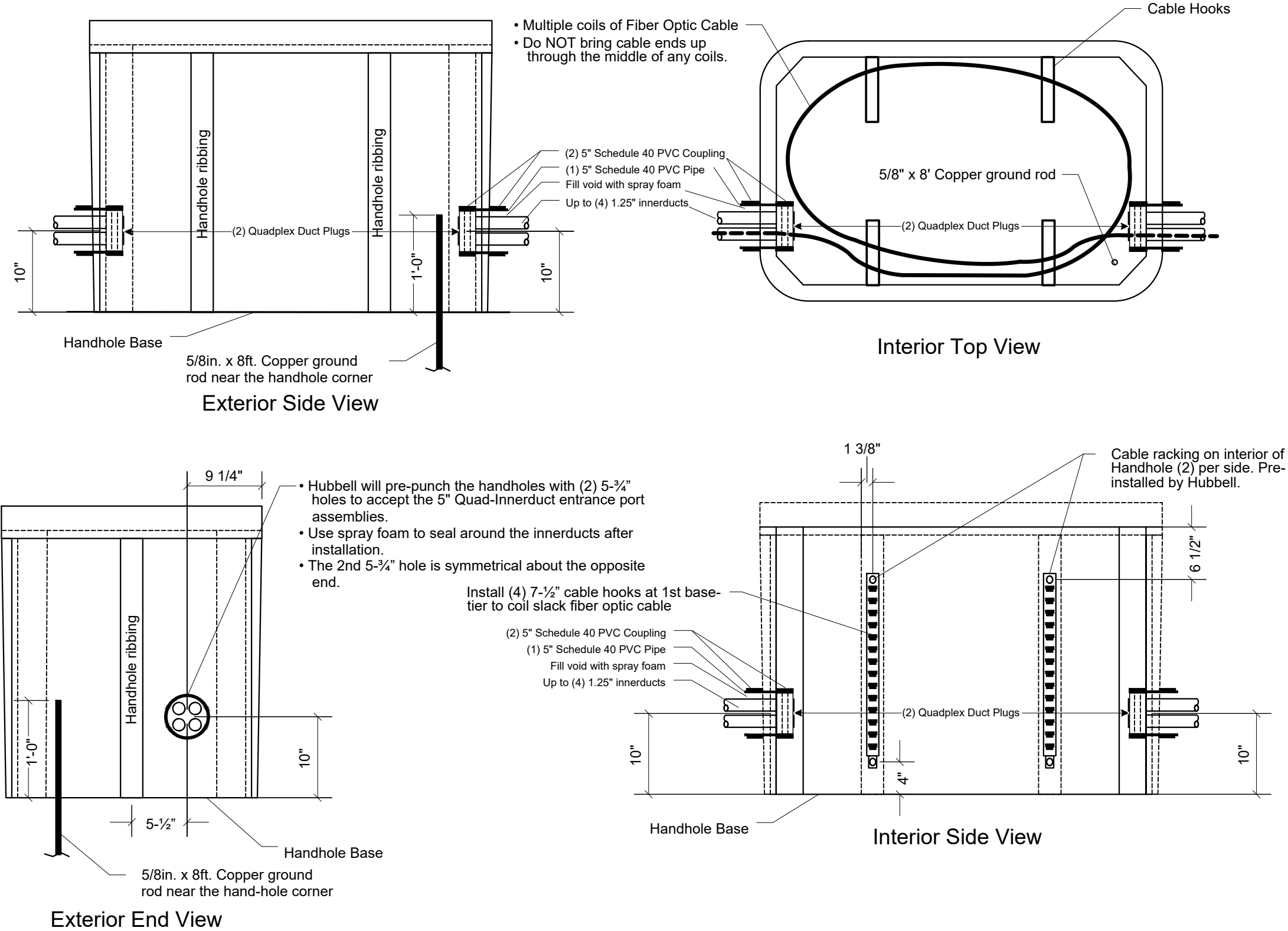
SCALE: SCALE

DWG. NO.

UG-SD-001

0	-	-	-	-	-
NO.	DATE	REVISION	BY	CHK'D	APV'D

Maintenance Handhole Details



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MAINTENANCE HAND-HOLE DETAILS

SCALE: SCALE

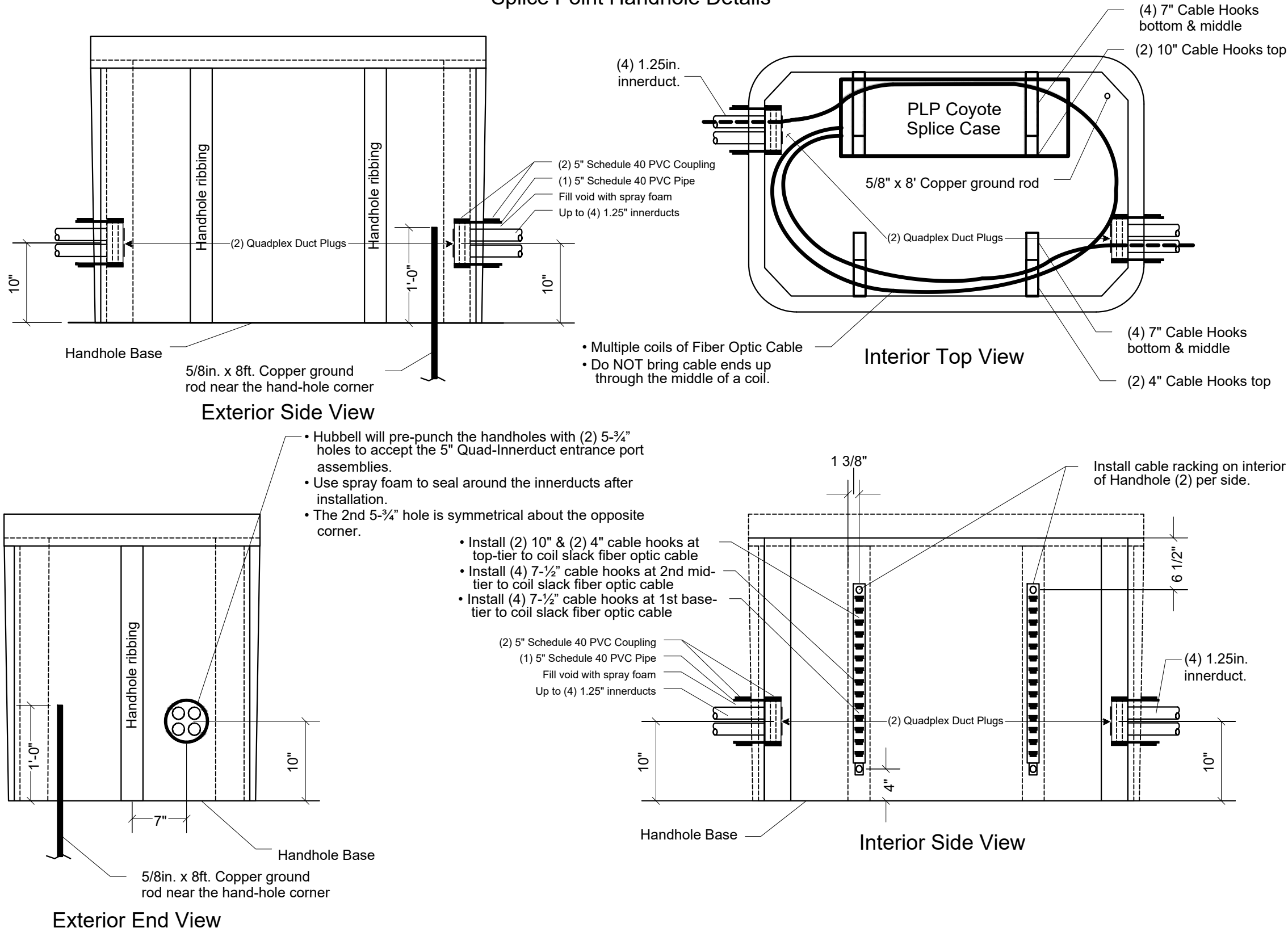
DWG. NO.

UG-SD-002

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NO.	DATE	REVISION	BY	CHK'D	APV'D

Plotted: CJENG 1/13/2023 12:51 PM
File: ALLIANT_SD003.DWG

Splice Point Handhole Details



NOTES:
1. HANDHOLES NOTED IN DESIGN AS "FUTURE MID-SHEATH SPLICE" WILL BE A 48X60 HANDHOLE, BUT WILL NOT HAVE THE SPLICE CASE INSTALLED UNTIL A FUTURE DATE.

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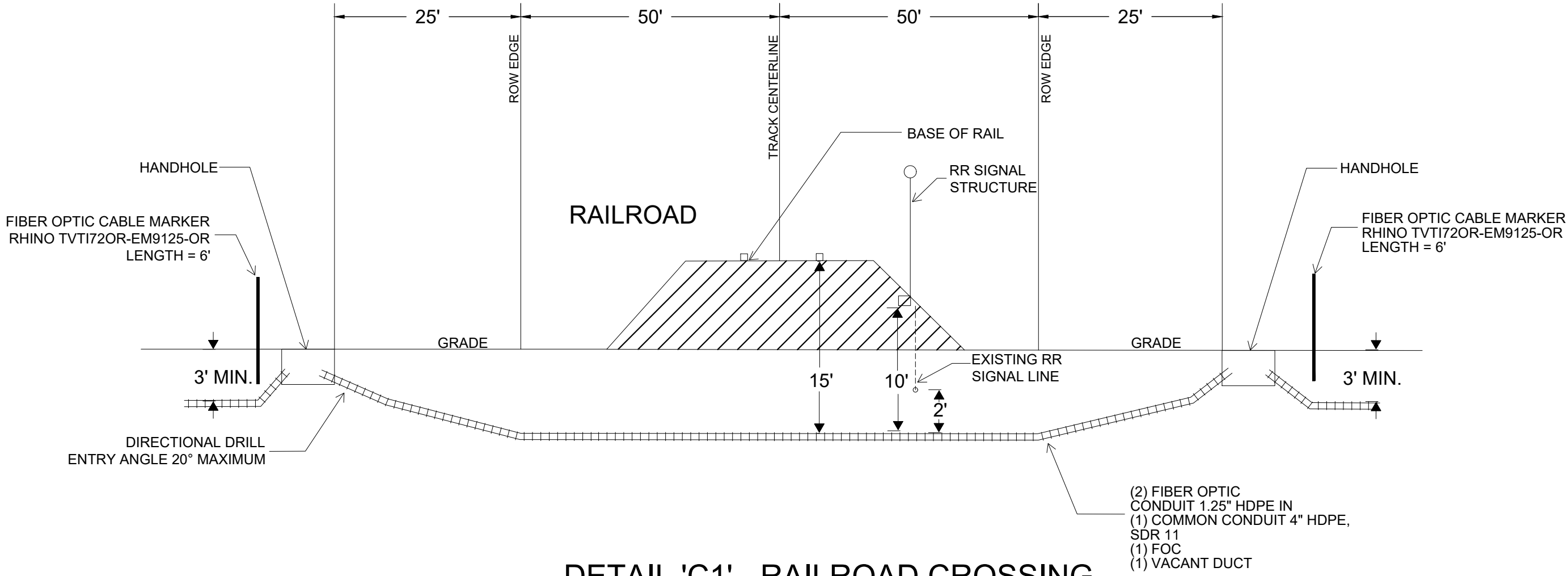
SPLICE HAND-HOLE DETAILS

SCALE: SCALE

DWG. NO.

UG-SD-003

0	-	-	-	-	-
NO.	DATE	REVISION	BY	CHK'D	APV'D



DETAIL 'C1' - RAILROAD CROSSING
NOT TO SCALE

- NOTES:
- 1.FIBER SHOULD BE INSTALLED ACCORDING TO SPECIFIC RAILWAY DEPTH REQUIREMENTS AS LISTED ON PERMIT. FOLLOW NOTES #2 AND #3 IF NOT APPLICABLE.
 - 2.FIBER SHOULD BE A MINIMUM OF 15' BELOW THE BASE OF THE RAIL WITHIN 50' OF AN EXISTING TRACK OR TO THE EDGE OF THE RIGHT OF WAY (MEASURED PERPENDICULAR TO THE TRACK)
 - 3.FIBER SHOULD BE A MINIMUM OF 6' BELOW THE BASE OF THE RAIL WHILE IN THE RAILROAD RIGHT OF WAY AND BEYOND 50' OF AN EXISTING TRACK (MEASURED PERPENDICULAR TO THE TRACK)
 - 4.REQUIRES 2X HDPE DUCTS TO BE INSTALLED IN 4" CASING CONDUIT

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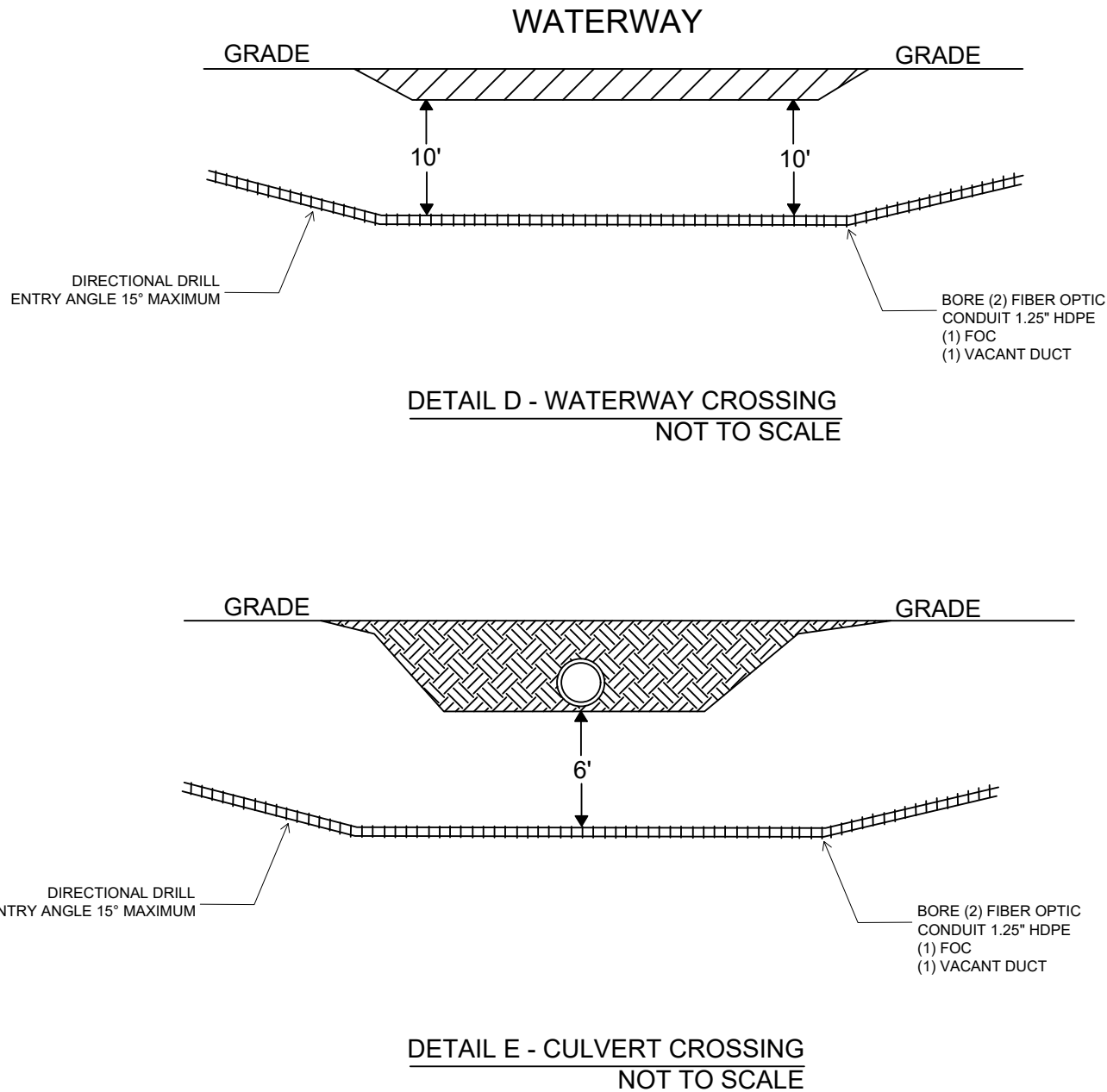
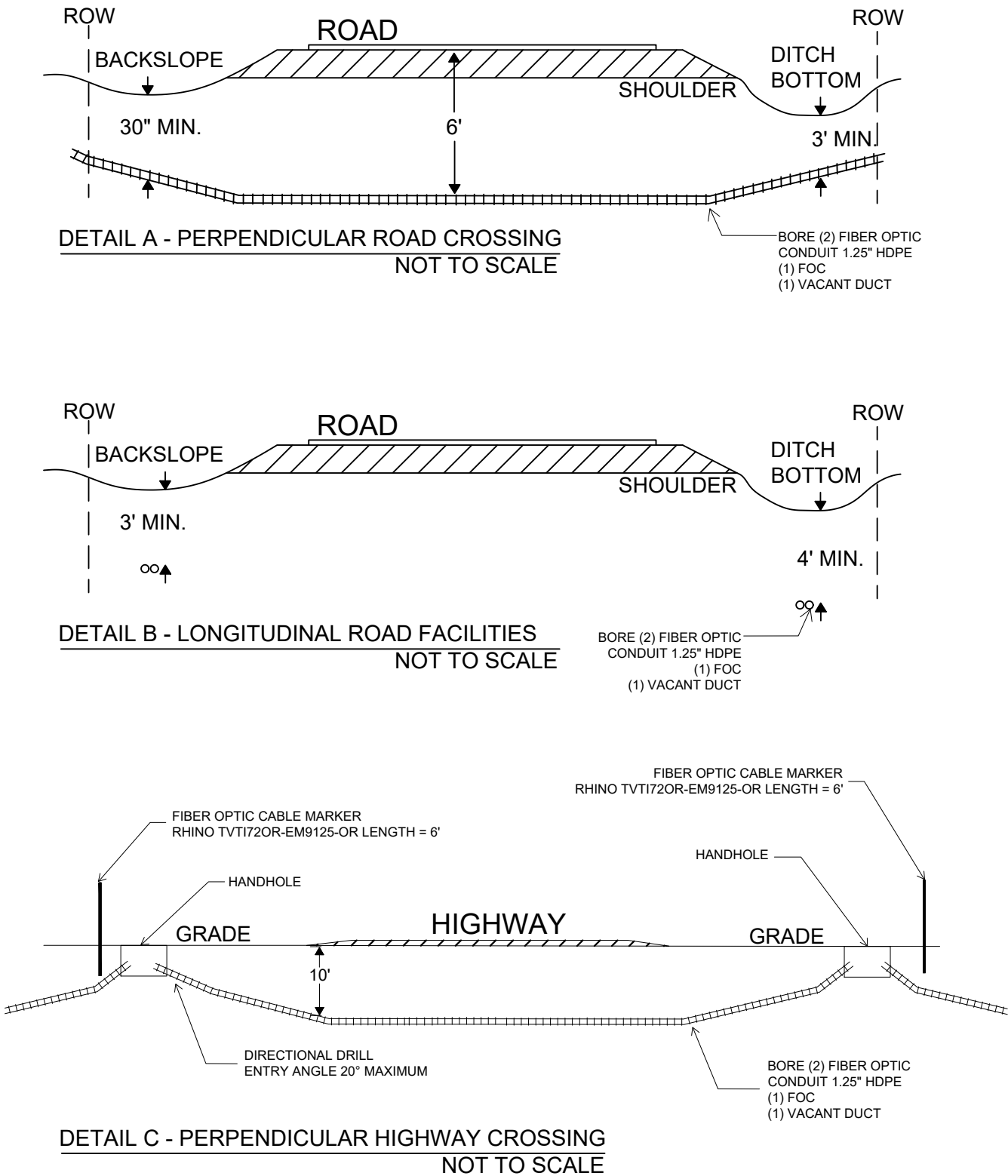
RAILROAD CROSSING DETAILS

SCALE: SCALE

DWG. NO.

UG-SD-004

0	-	-	-	-	-
NO.	DATE	REVISION	BY	CHK'D	APV'D



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STANDARD CROSSING DETAILS

SCALE: SCALE

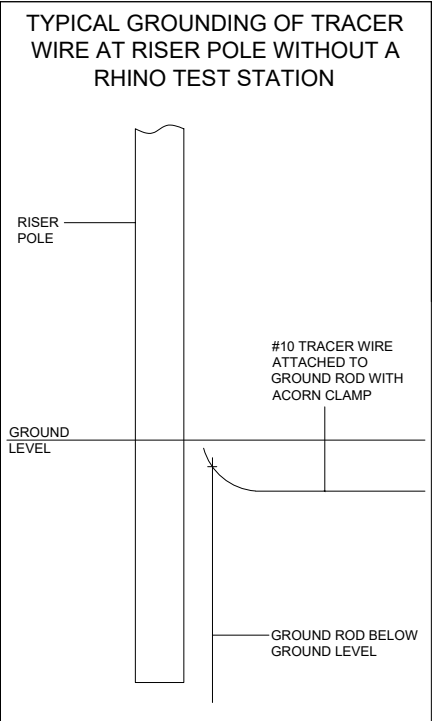
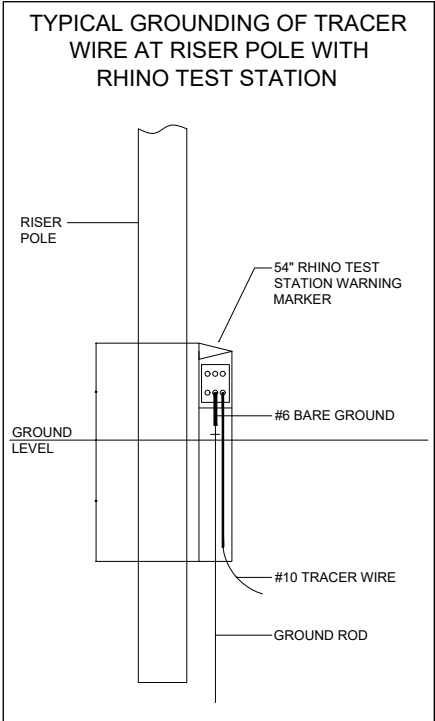
DWG. NO.

UG-SD-005

0	-	-	-	-	-
NO.	DATE	REVISION	BY	CHK'D	APV'D

Plotted: CJENG 6/21/2023 10:34 AM
File: ALLIANT_SD006.DWG

TB.V8.01.03

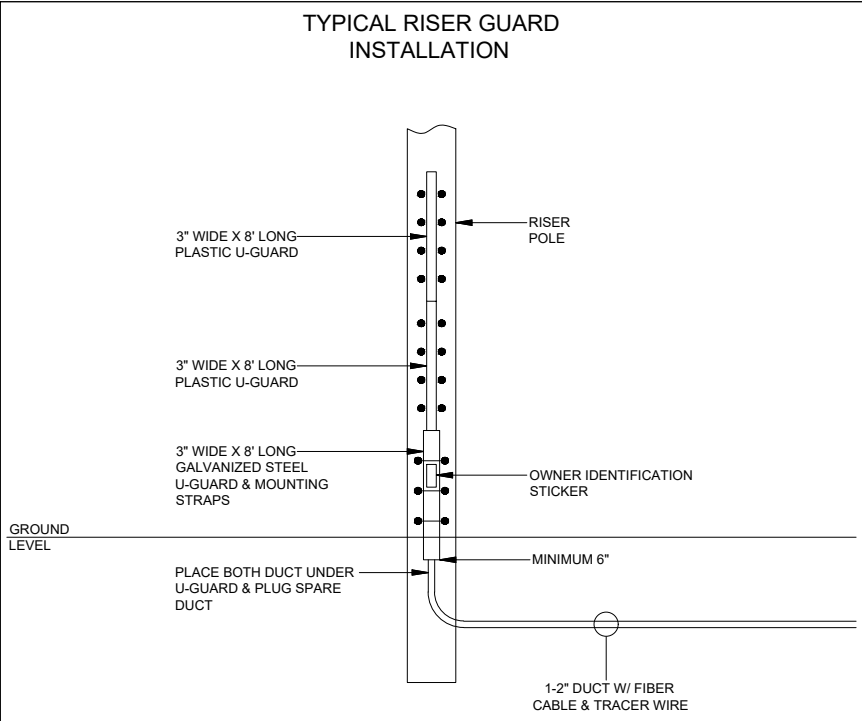
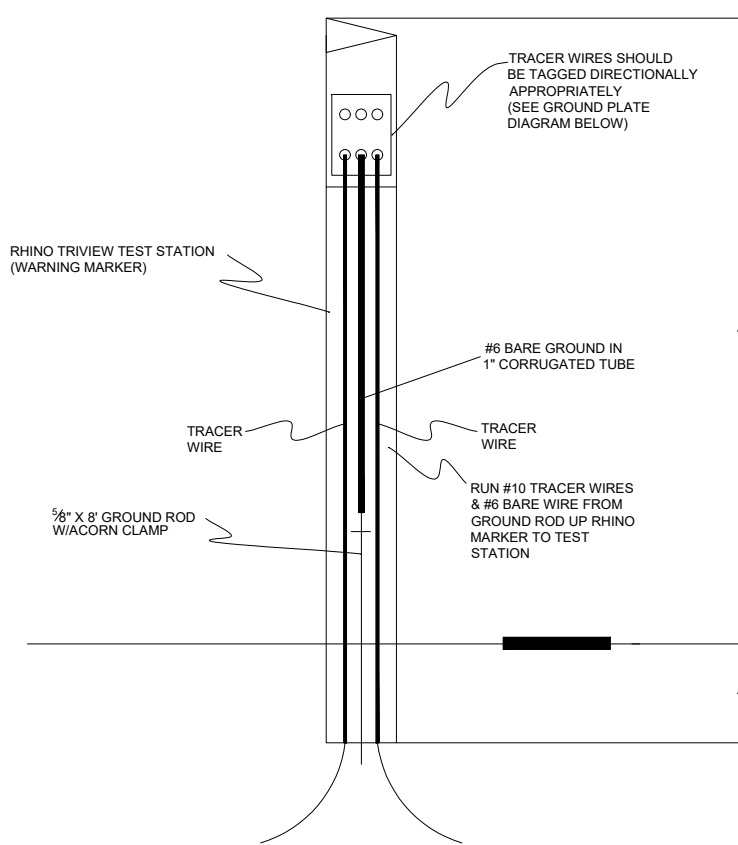


ALLIANT ENERGY

TYPICAL CONSTRUCTION DRAWINGS

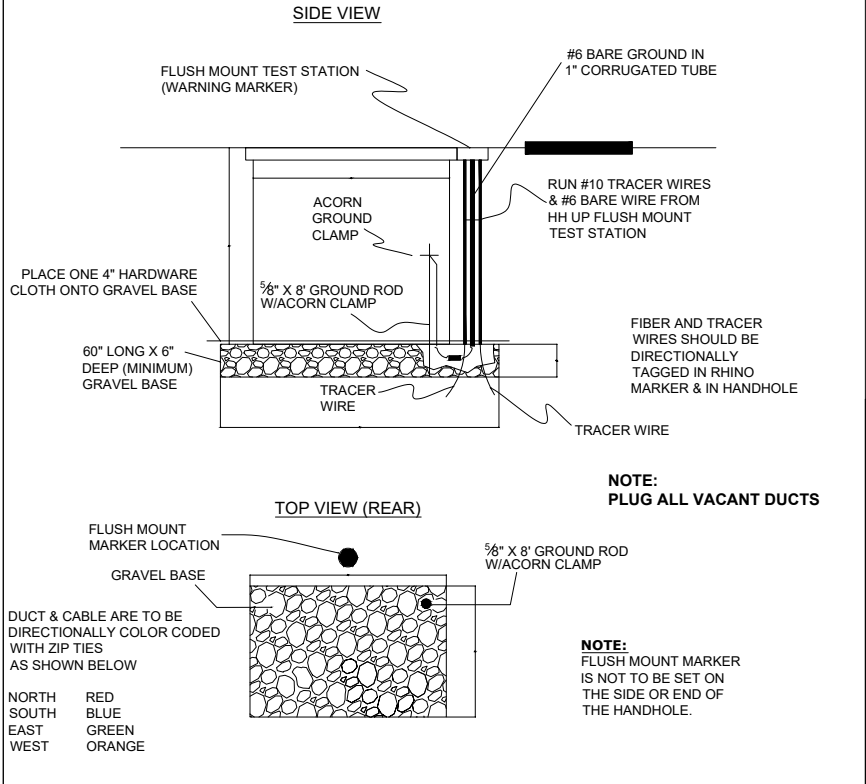
TYPICAL RHINO TEST STATION INSTALLATION (WITHOUT HANDHOLE)

SIDE VIEW

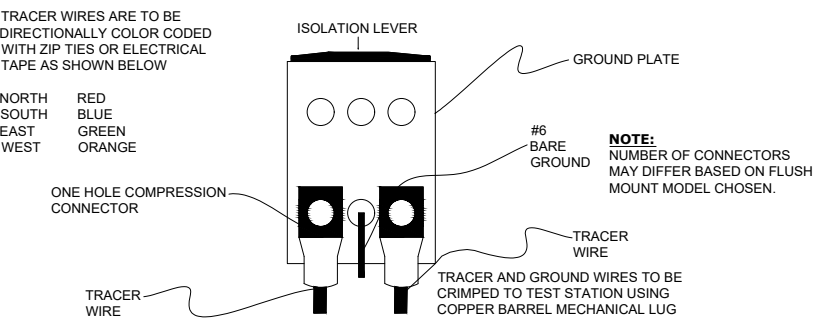


TYPICAL HAND HOLE INSTALLATION (WITH FLUSH MOUNT TEST STATION)

QUAZITE HAND HOLE AND COVER

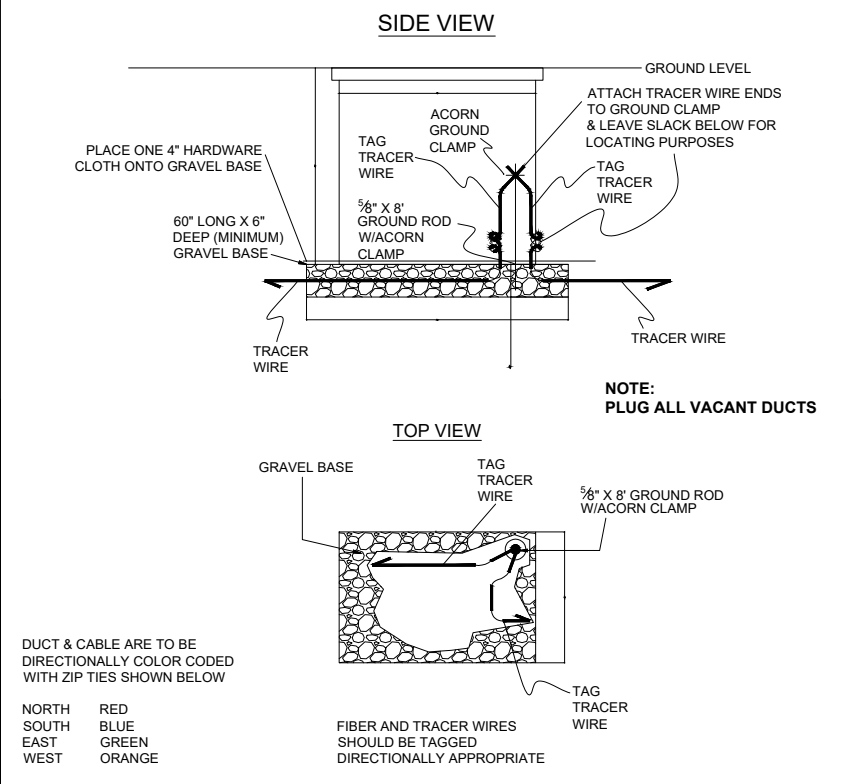


TYPICAL FLUSH MOUNT TEST STATION (GROUND PLATE DETAIL)



TYPICAL HAND HOLE INSTALLATION (WITHOUT RHINO TEST STATION)

QUAZITE HAND HOLE AND COVER



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FIBER MARKER DETAILS

SCALE: SCALE

DWG. NO.

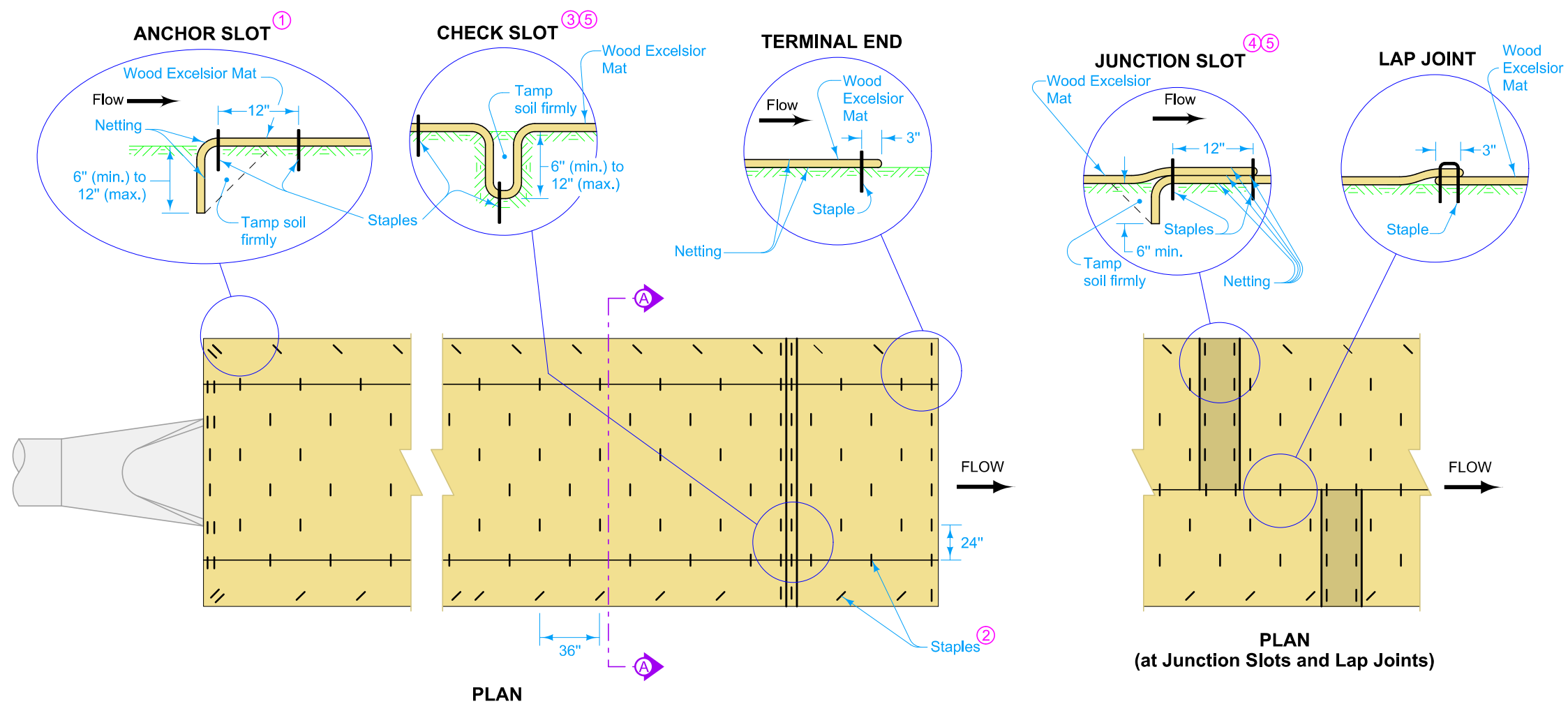
UG-SD-006

0	-	-	-	-	-
NO.	DATE	REVISION	BY	CHK'D	APV'D

Erosion Control

Erosion Control

NO.	DATE	TITLE
EC-101	04-19-16	Wood Excelsior Mat for Ditch Protection
EC-102	04-21-15	Sod for Ditch Protection
EC-103	04-21-15	Wood Excelsior Mat for Slope Protection
EC-104	04-17-18	Turf Reinforced Mat (TRM)
EC-105	04-17-18	Transition Mat
EC-201	04-20-21	Silt Fence
EC-202	10-21-14	Floating Silt Curtain
EC-204	10-19-21	Perimeter, Slope and Ditch Check Sediment Control Devices
EC-301	10-18-22	Rock Erosion Control (REC)
EC-302	10-18-22	Rock Check Dam
EC-303	10-19-21	Stabilized Construction Entrance
EC-501	04-21-15	Trees and Shrubs
EC-502	04-21-15	Seeding in Rural Areas
EC-601	10-16-18	Temporary Sediment Control Basin
EC-602	04-21-20	Open-Throat Curb Intake Sediment Filter
EC-603	10-17-23	Erosion Control for Intake or Manhole Well
EC-604	10-17-23	Grate Intake Sediment Filter Bag

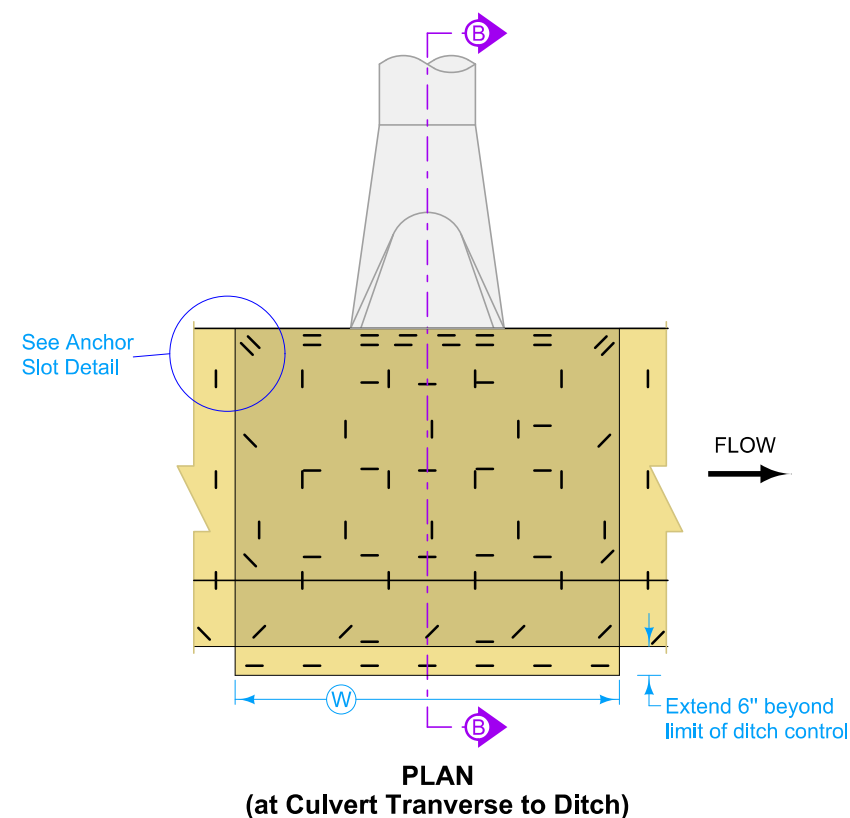
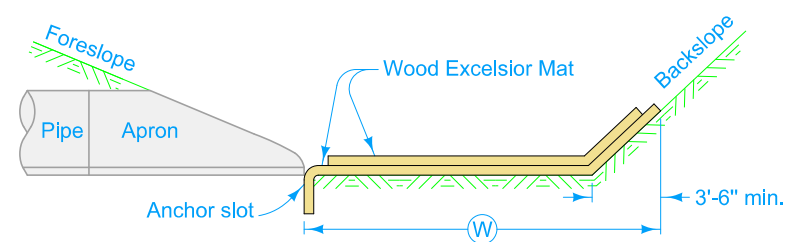
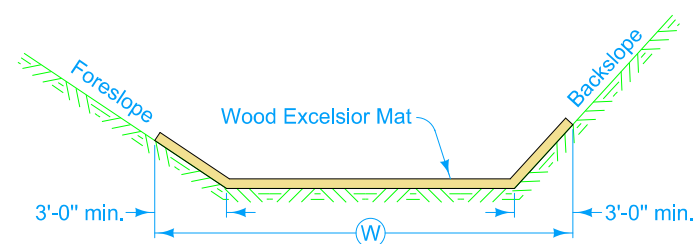


Provide necessary excavation at locations where silt conditions require shaping of a ditch to provide a proper type of area for installation of wood excelsior mat for special ditch control.

Ensure ground surface adjacent to any channels is shaped to facilitate natural drainage into the protected area.



Use all excavated material to fill low areas, gullies, backslope scours, and otherwise facilitate the free flow of surface water into the channel as directed by the Engineer. Alignment should be smooth and avoid abrupt changes.

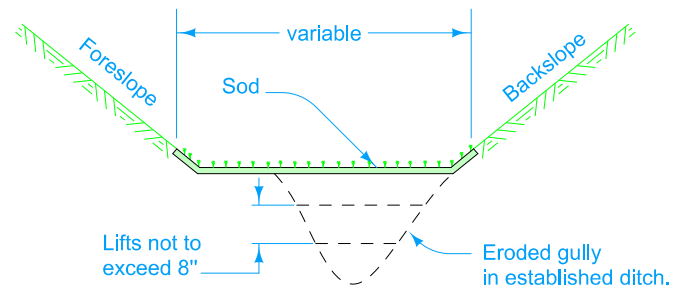
- ① Install anchor slot at the beginning (upstream end) of all wood excelsior mat installations.
- ② Place staples alternately in rows approximately 24 inches apart. Approximately 30 staples required per square (100 sq. ft.) of wood excelsior mat.
- ③ Space Check Slots in ditch channel so that one occurs within each 50 feet on slopes of more than 4%.
- ④ Stagger Junction Slots (end of rolls).
- ⑤ Do not use Junction Slots or Check Slots when Wood Excelsior Mat is placed over Turf Reinforced Mat.



Possible Contract Item:
Special Ditch Control, Wood Excelsior Mat

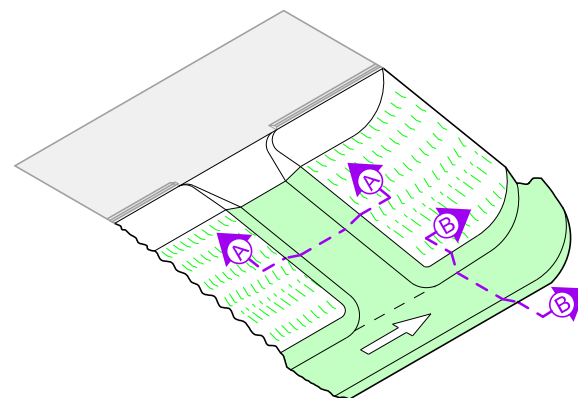
Possible Tabulation:
100-22

 IOWA DOT	REVISION	
	2	04-19-1
	EC-101	
	SHEET 1 of 1	
STANDARD ROAD PLAN		
REVISIONS:	Revised to show placement of erosion control beginning at the end of the apron.	
		
APPROVED BY DESIGN METHODS ENGINEER		
SPECIAL DITCH CONTROL		

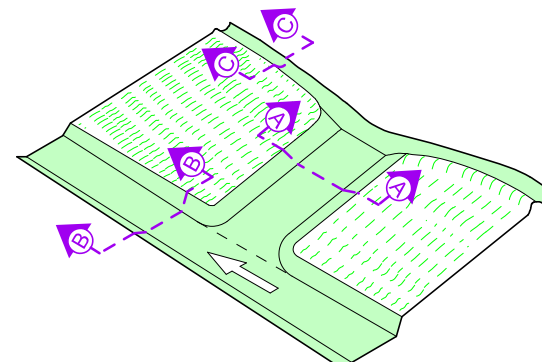


SECTIONS A-A AND B-B

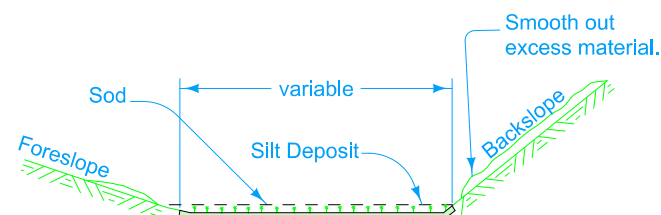
Sod placement for eroded gully.



PERSPECTIVE FORESLOPE FLUME AND ROADWAY DITCH

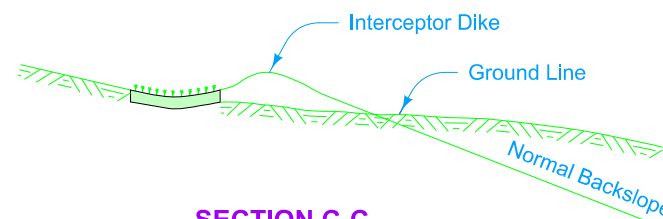


PERSPECTIVE BACKSLOPE WITH FLUME AND INTERCEPTING DITCH



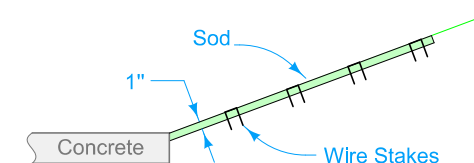
SECTION B-B

Sod placement for silted ditch in cut.



SECTION C-C

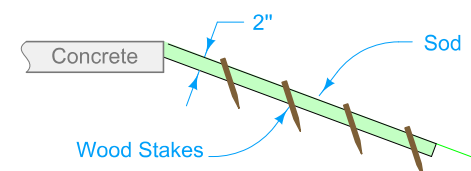
Sod placement on Interceptor Ditch



Ground surface shall be graded 1" below the edge of concrete before sod is placed.

CASE 1

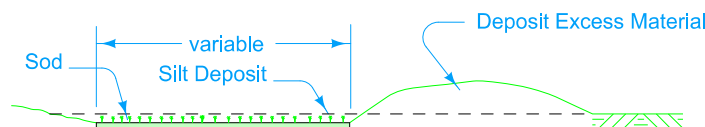
NATURAL GROUND SLOPES TOWARD CONCRETE



Grade ground surface 2" below the edge of concrete before sod is placed.

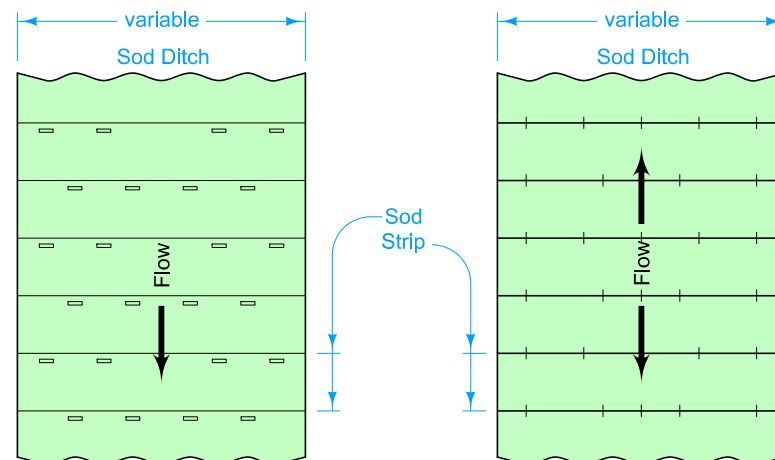
CASE 2

NATURAL GROUND SLOPES AWAY FROM CONCRETE



SECTION B-B

Sod placement for silted area in no-ditch section.



4 Wood Stakes per row, staggered in rows

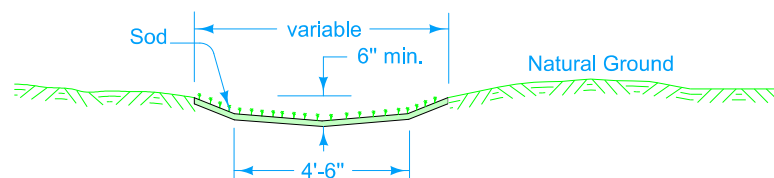
5 Wire Stakes per row, staggered in rows



WOOD STAKES

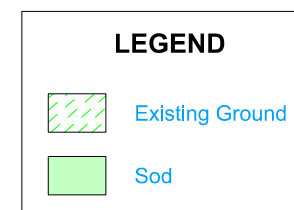
WIRE STAKES

STAKING FOR SOD CHANNELS



SECTION A-A

Sod placement on slopes where excavation is required for proper installation of sod.



Through ditches or borrow areas, construct sod channels at the low point. Use all excavated material to fill low areas to facilitate the free flow of surface water into the channel. Alignment should be smooth and avoid abrupt changes.



Provide necessary excavation at locations where silt conditions require shaping of a ditch to provide a proper type of area for installation of sod for special ditch control. Dispose excavated material in adjacent area as directed by the Engineer.

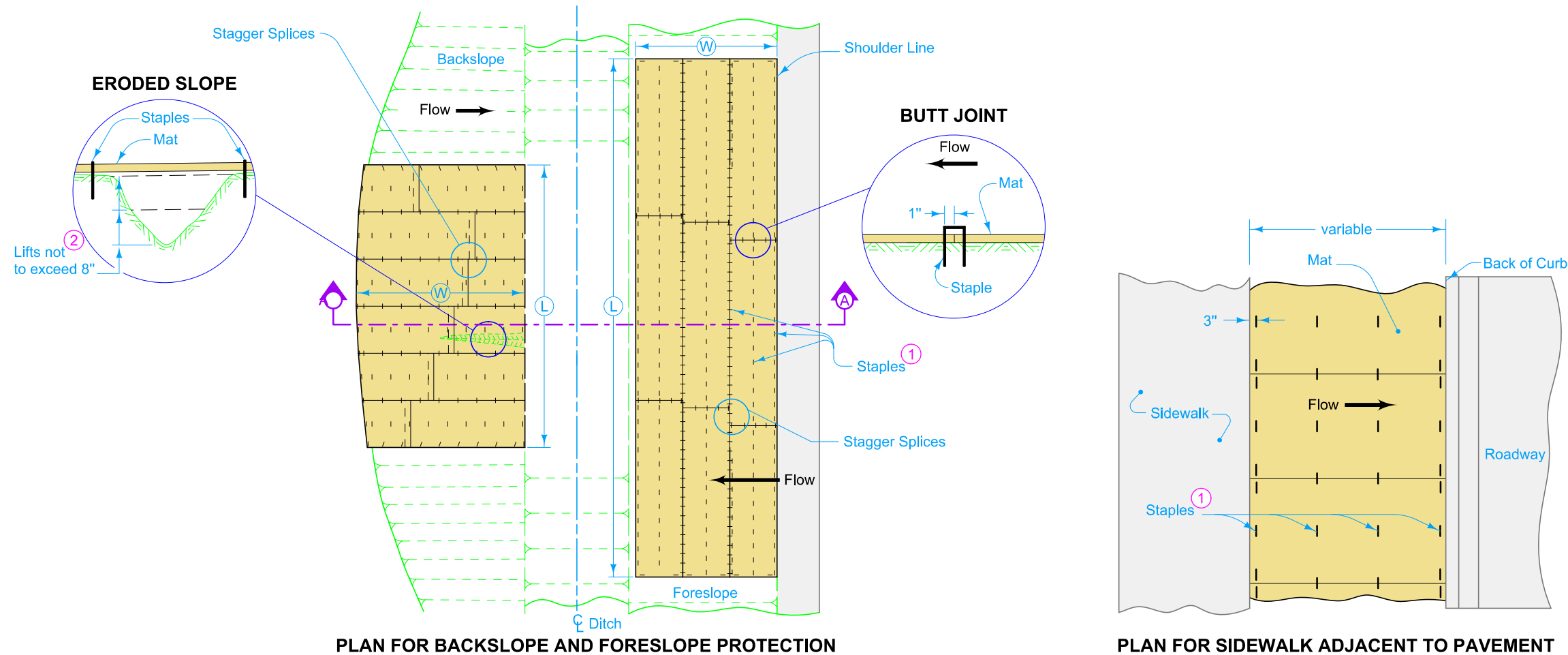
At locations where erosion has created gullies in ditches or backslopes, fill and compact gullies in lifts not more than 8-inches thick.

Unless specifically required otherwise by the Engineer, install wire stakes or wood stakes. Stagger wire stakes as shown. Minimum 33 stakes per square. Use wood stakes in sod flumes when designated by the Engineer. When directed by the Engineer, longer stakes may be required for certain soil conditions to properly hold sod in place.

Work for providing proper ditches will not be paid for directly but is incidental to other work on the project.

Shaping and grading work necessary to prepare the ground for sodding adjacent to concrete surfaces will not be paid for separately but is incidental to other work on the project. Such grading and shaping may include the removal and disposal of excess earth, as directed by the Engineer, in order to obtain satisfactory drainage and appearance for the finished work.

 IOWA DOT	REVISION	
	1	04-21-
	EC-102	
	SHEET 1 of 1	
STANDARD ROAD PLAN		
REVISIONS:	Replaced DOT logo with new version. Revised Section A-A and B-B drawings to show ditch bottoms being flat.	
		
APPROVED BY DESIGN METHODS ENGINEER		
SOD FOR DITCH PROTECTION		



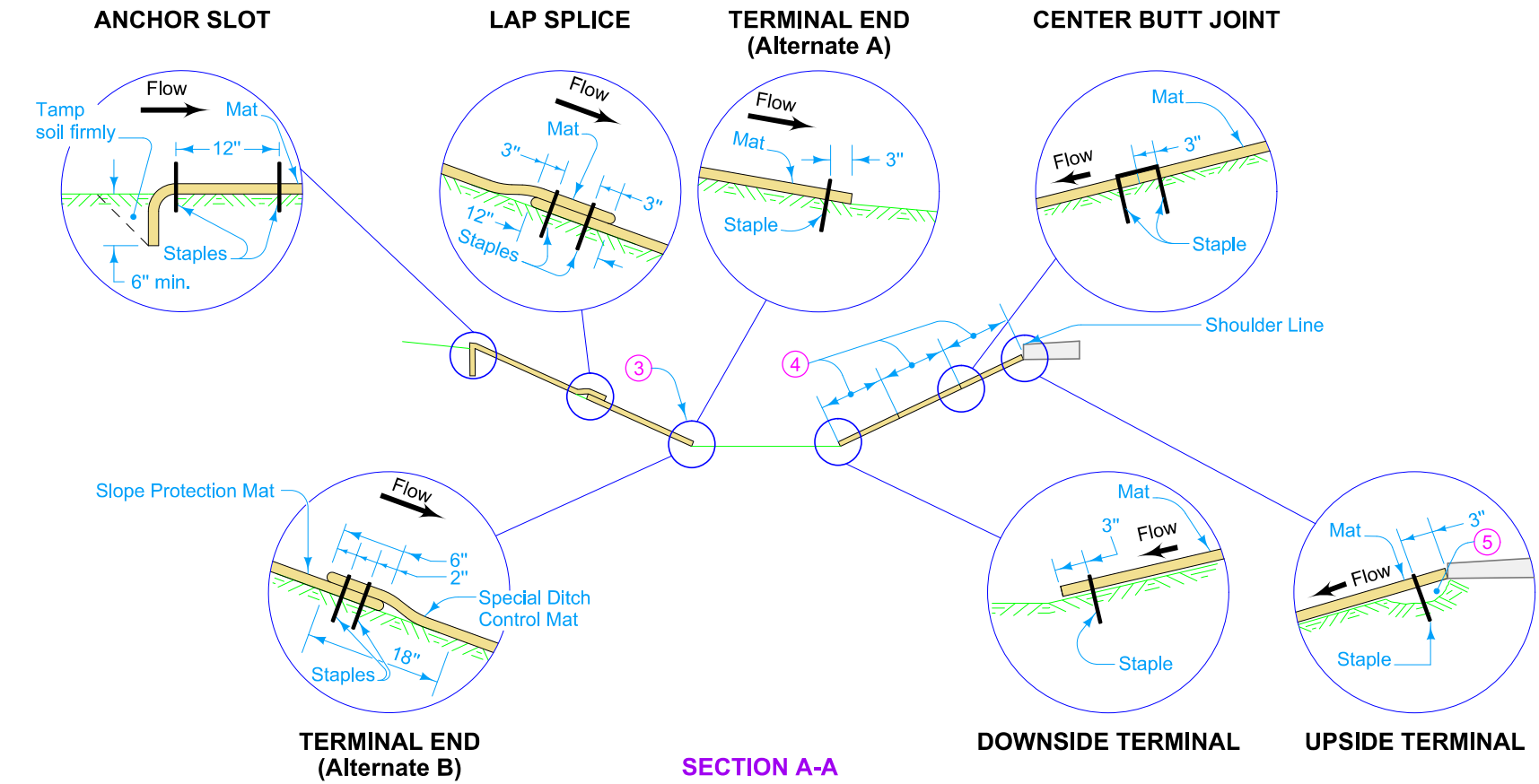
The work of providing suitable earth surface for placement of slope protection is incidental to preparation of seedbed.

Ensure that ground surfaces adjacent to any channels are shaped to facilitate natural drainage into the protected area.

Excelsior mat for backslope protection is installed with strips placed approximately perpendicular to roadway. Locations for slope protection are shown on detail plans.



Excelsior mat for foreslope protection is installed with strips placed approximately parallel to roadway. The location, width, and number of strips are specified on project plans.

- ① Space top row of staples at 18 inch centers, bottom row at 36 inch centers, and all others at 24 inch centers. Approximately 30 staples required per square (100 sq. ft) of wood excelsior mat.
- ② Where erosive gullies have developed in backslope, fill with soil and compact prior to placement of mat.
- ③ Where excelsior mat is to be placed as Special Ditch Control, install slope protection to facilitate placement of the ditch control as indicated (Alternate B). Where there is no Special Ditch Control, install slope protection as shown (Alternate A).
- ④ 4 feet unless specified otherwise for foreslope protection.
- ⑤ If erosive rill has developed adjacent to shoulder material, fill with suitable soil and compact prior to placement of mat.

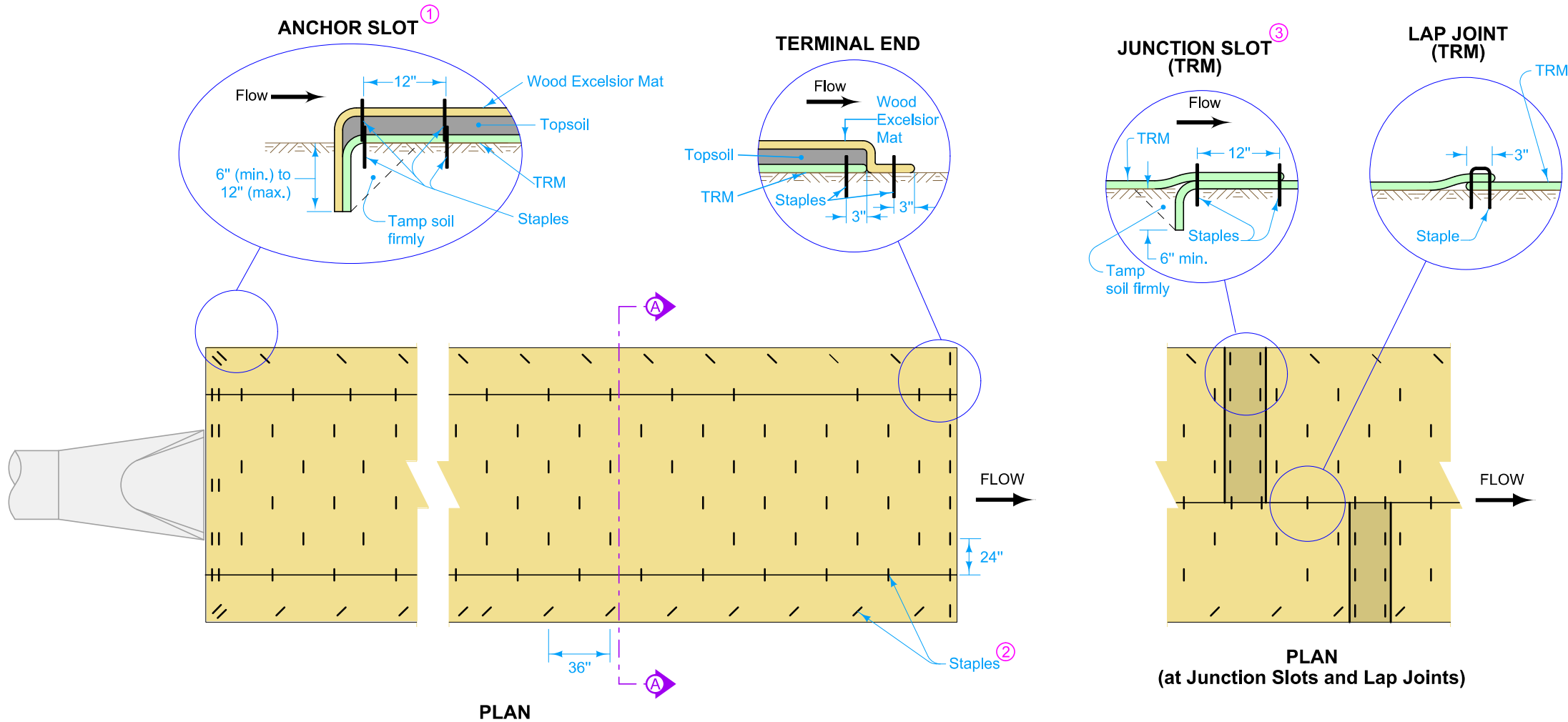


Possible Contract Item:
Slope Protection, Wood Excelsior Mat

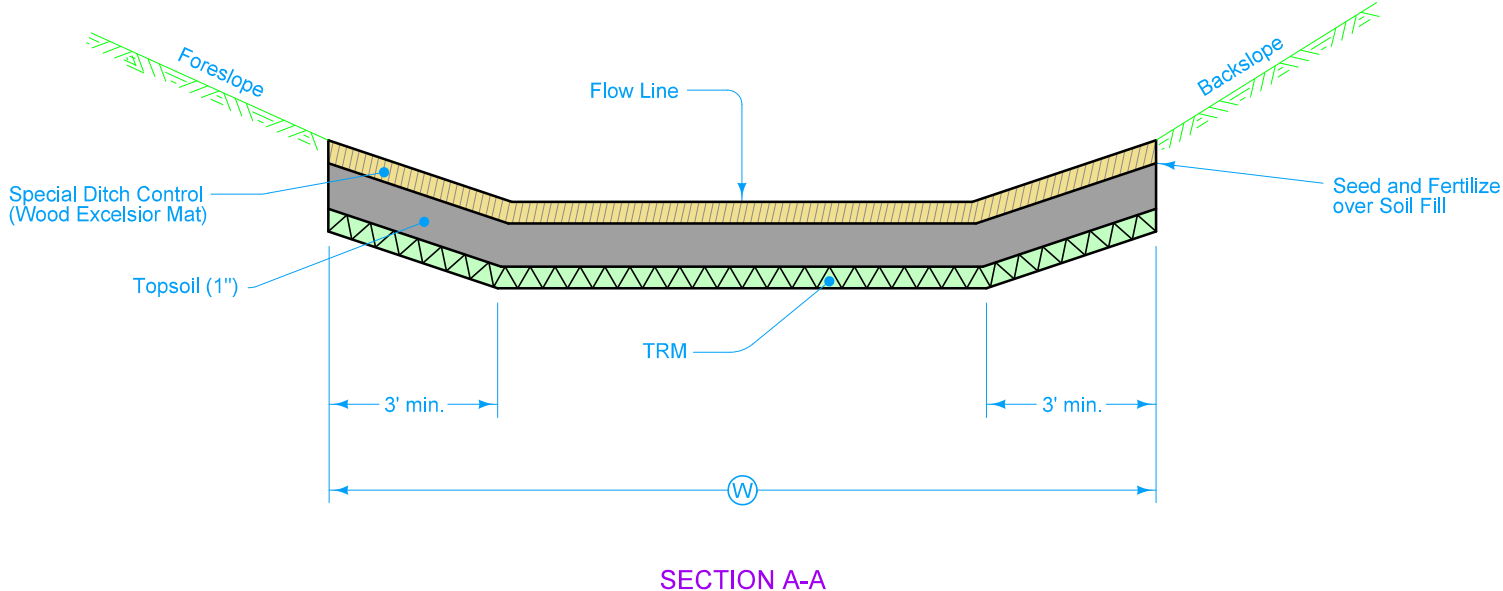
Possible Tabulation:
100-22

 IOWA DOT	REVISION	
	1	04-21-15
	EC-103	
	SHEET 1 of 1	
STANDARD ROAD PLAN		
REVISIONS:	Removed language from general notes already in the Specifications. Modified drawings. Added Possible Contract Item and Possible Tabulation.	
		
APPROVED BY DESIGN METHODS ENGINEER		
WOOD EXCELSIOR MAT FOR SLOPE PROTECTION		

Refer to [EC-101](#) for Special Ditch Control (Wood Excelsior Mat).





- ① Install anchor slot at the beginning (upstream end) of all mat installations.
- ② Place staples alternately in rows approximately 24 inches apart. Approximately 30 staples required per square (100 sq. ft.) of each type of mat.
- ③ Stagger Junction Slots.

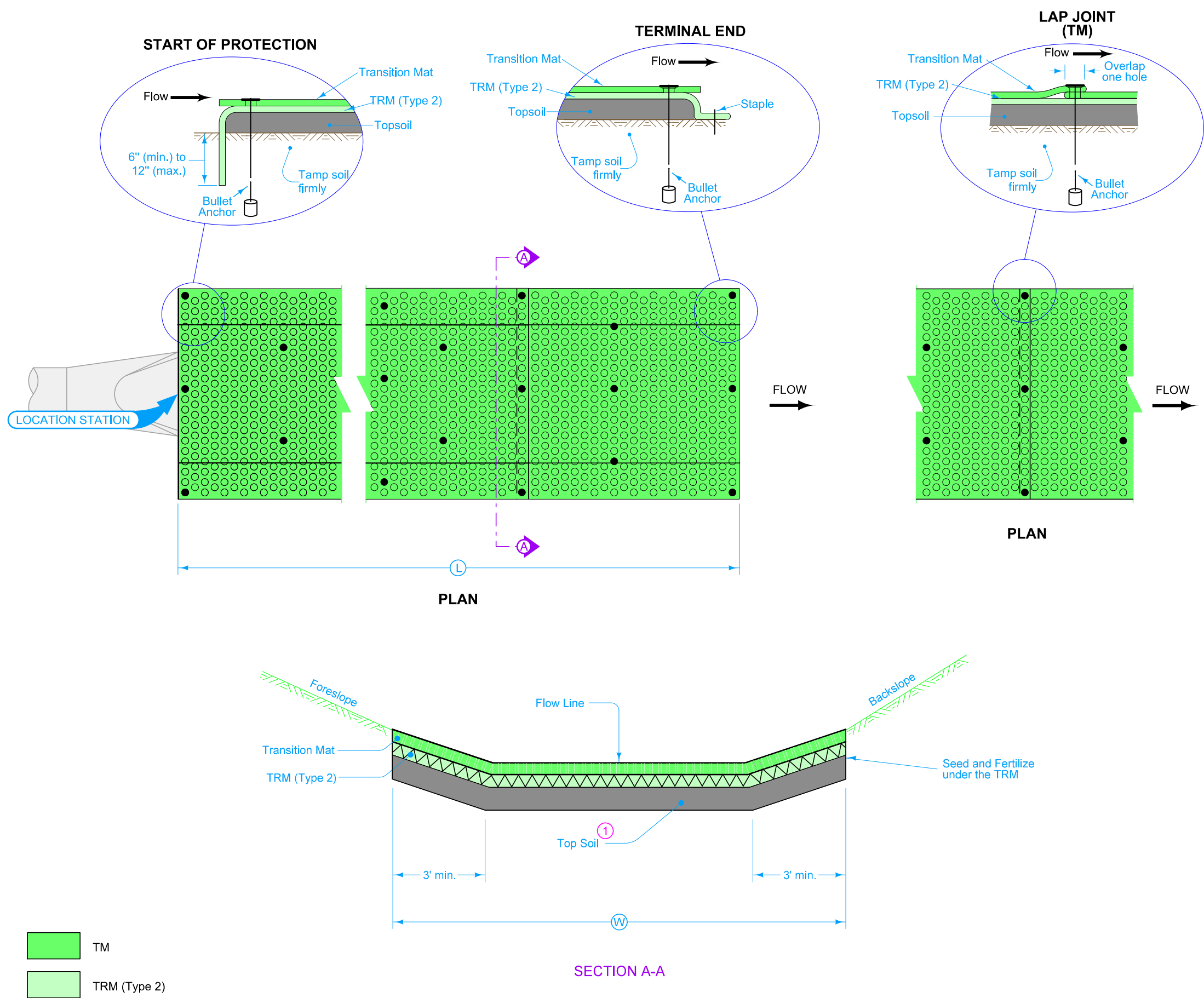


TRM
Wood Excesior Mat

Possible Contract Items:
Turf Reinforcement Mat

Possible Tabulation:
[100-22](#)

 IOWA DOT	REVISION	
	New	04-17-18
	EC-104	
STANDARD ROAD PLAN		SHEET 1 of 1
REVISIONS: Added Designer Info button.		
		
APPROVED BY DESIGN METHODS ENGINEER		
TURF REINFORCEMENT MAT (TRM)		


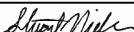


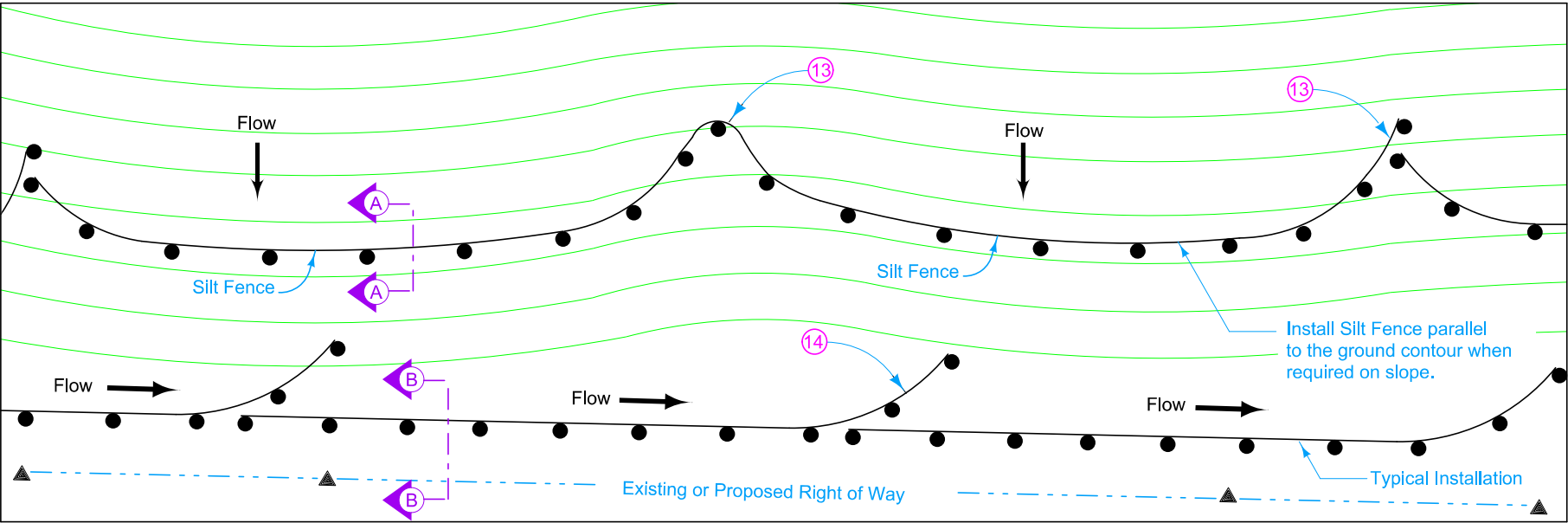
Refer to Standard Road Plan [EC-104](#) for the placement of the TRM.

- ① Place at same thickness as surrounding area. Refer to T Sheets to determine topsoil thickness for the surrounding area.

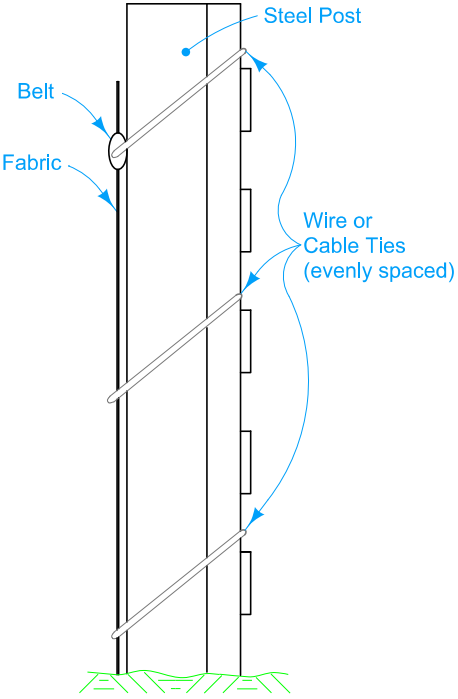
Possible Contract Items:
Transition Mat

Possible Tabulation:
[100-09](#)

 IOWA DOT	REVISION	
	3	04-17-18
	EC-105	
	SHEET 1 of 1	
REVISIONS: Changed Possible Contract Items to Transition Mat.		
		
APPROVED BY DESIGN METHODS ENGINEER		
<div>TRANSITION MAT (TM)</div>		



PLAN FOR SILT FENCE 11



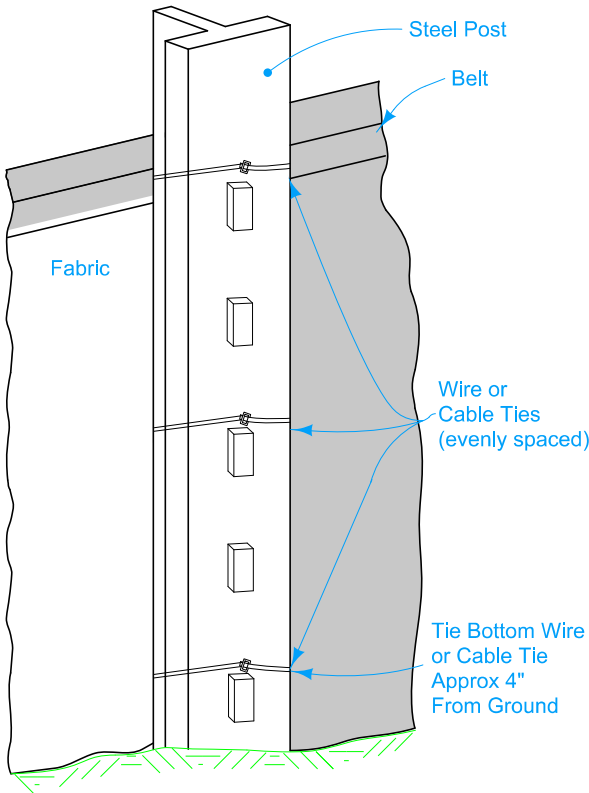
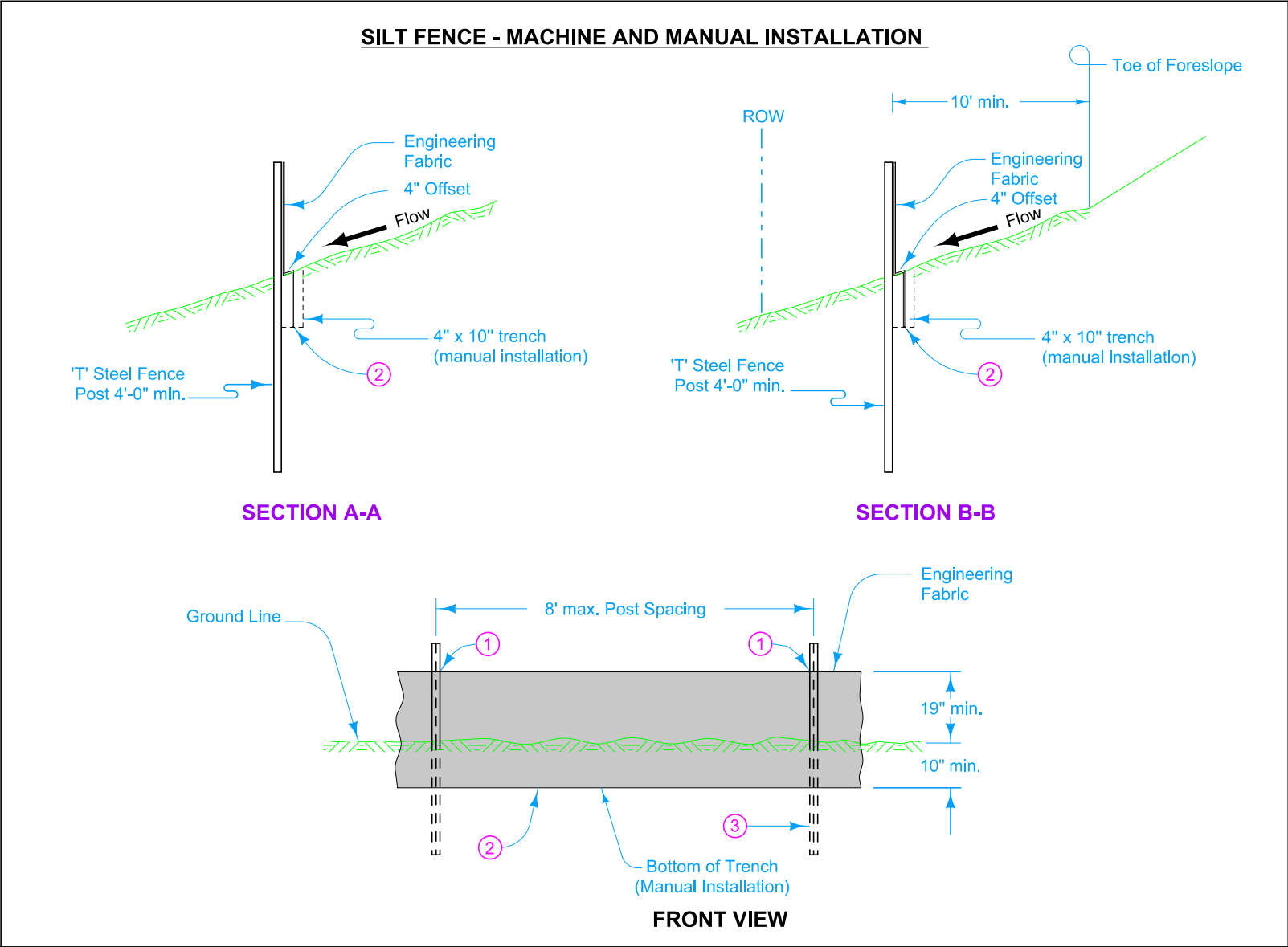
PROFILE VIEW ATTACHMENT TO POST

- Install all silt fence using a silt fence machine. Use manual (trench) installation if physical conditions prohibit machine installation.
- For machine installation, compact by driving over each side of silt fence at least two times with a rubber-tired vehicle.
- For manual installation, compact with a mechanical or pneumatic tamper.
- 1 Secure top of engineering fabric to steel posts using cable ties (50 lb.) or wire passing through or encompassing the belt. See attachment to post.
 - 2 For manual installation only, fold engineering fabric along bottom of trench.
 - 3 Embed all posts 28 inches below the ground line.
 - 11 Refer to Tab. 100-17
 - 13 The contractor has two installation options:
 - Place silt fence continuously up to a maximum of 200 feet. For every 200 foot segment of fence placed, flare up the slope on both ends 20 feet of the segment to contain runoff as shown, or
 - Place silt fence continuously. Every 200 feet, place a hump that extends 20 feet up the slope to contain runoff as shown.
 - 14 Place silt fence continuously up to a maximum length of 200 feet. For every segment of silt fence that is placed, flare up the slope on both ends 20 feet of the segment to contain runoff as shown.





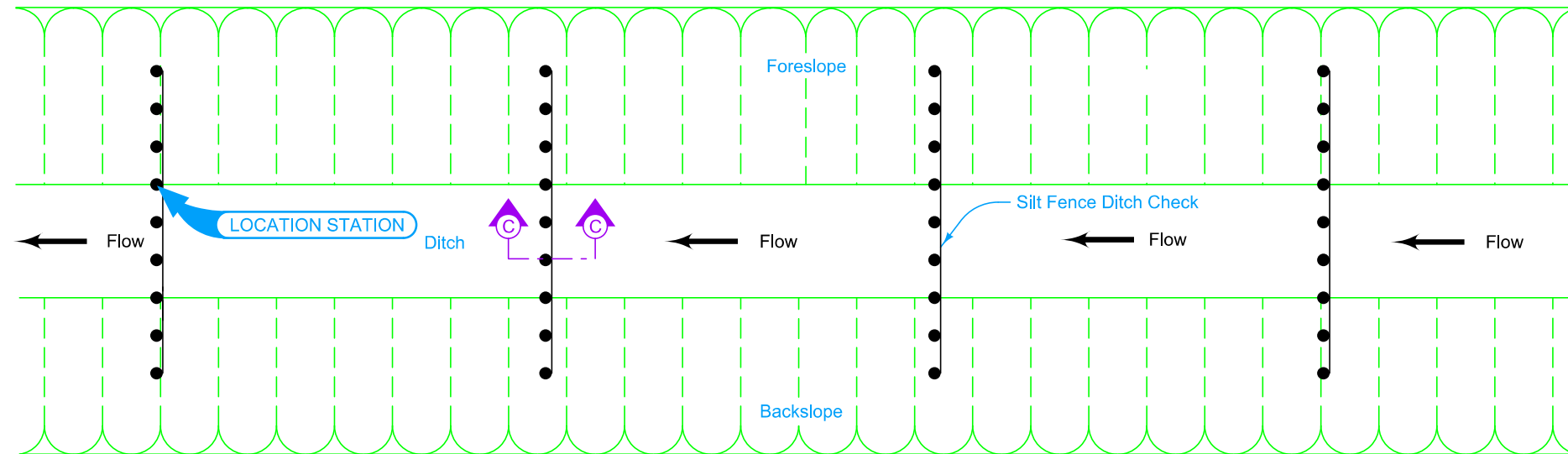
Possible Contract Items:
Silt Fence
Silt Fence for Ditch Checks

Possible Tabulations:
100-17
100-18



BACK VIEW ATTACHMENT TO POST

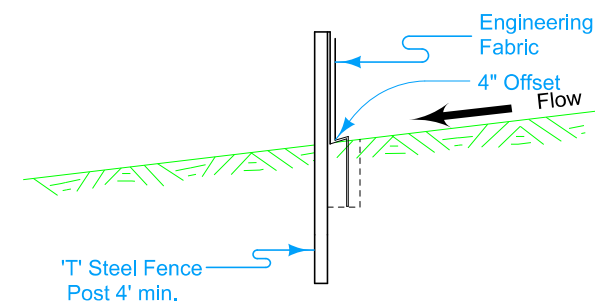
 IOWA DOT	REVISION	
	6	04-20-21
	EC-201	
STANDARD ROAD PLAN	SHEET 1 of 6	
REVISIONS: Modified trench to 10". Added circle notes 13 & 14.		
		
APPROVED BY DESIGN METHODS ENGINEER		
SILT FENCE		



PLAN FOR DITCH CHECK (TYPE 1) ¹²

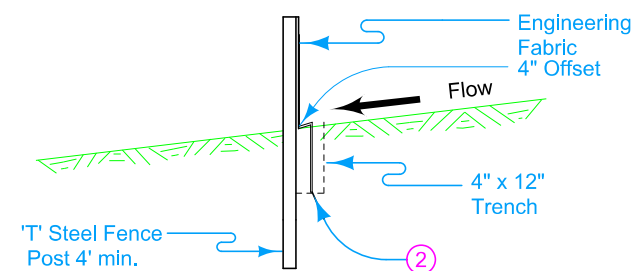
- ① Secure top of engineering fabric to steel posts using cable ties (50 lb.) or wire passing through or encompassing the belt. See attachment to post.
- ② For manual installation only, fold engineering fabric along bottom of trench.
- ③ Embed all posts 28 inches below the ground line.
- ④ Locate posts at toe of foreslope and toe of backslope and space remaining posts equally.
- ⑤ Minimum end span (in feet) = 2 X Foreslope (H:V).
- ⑥ Minimum end span (in feet) = 2 X Backslope (H:V).
- ⑫ Refer to Tab. 100-18

DITCH CHECK - MACHINE INSTALLATION

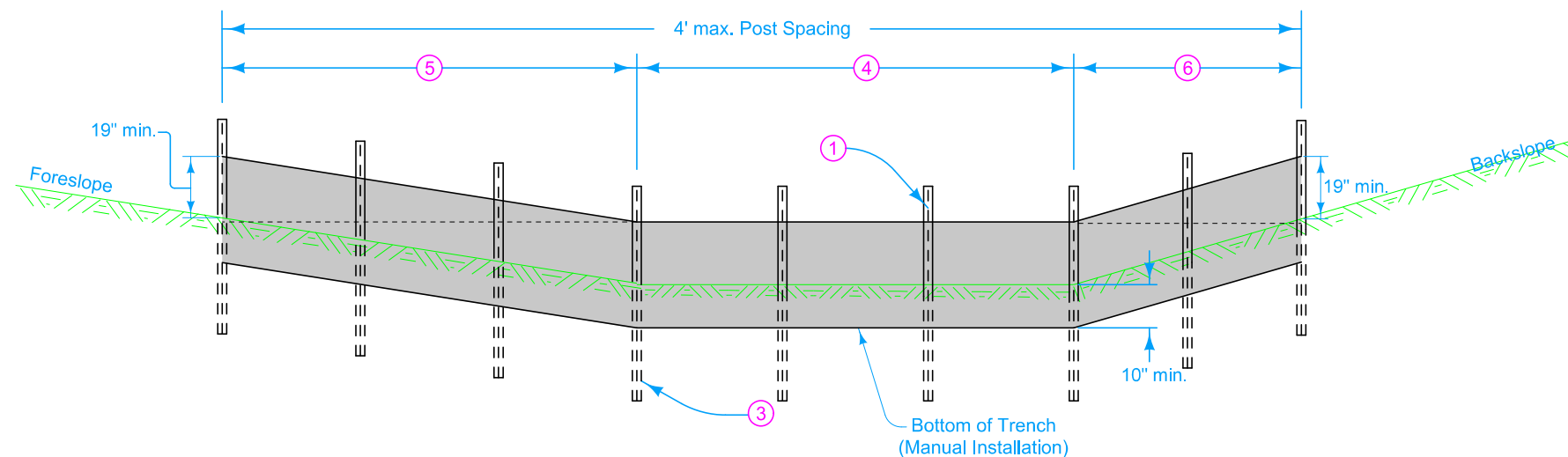


SECTION C-C

DITCH CHECK - MANUAL INSTALLATION



SECTION C-C



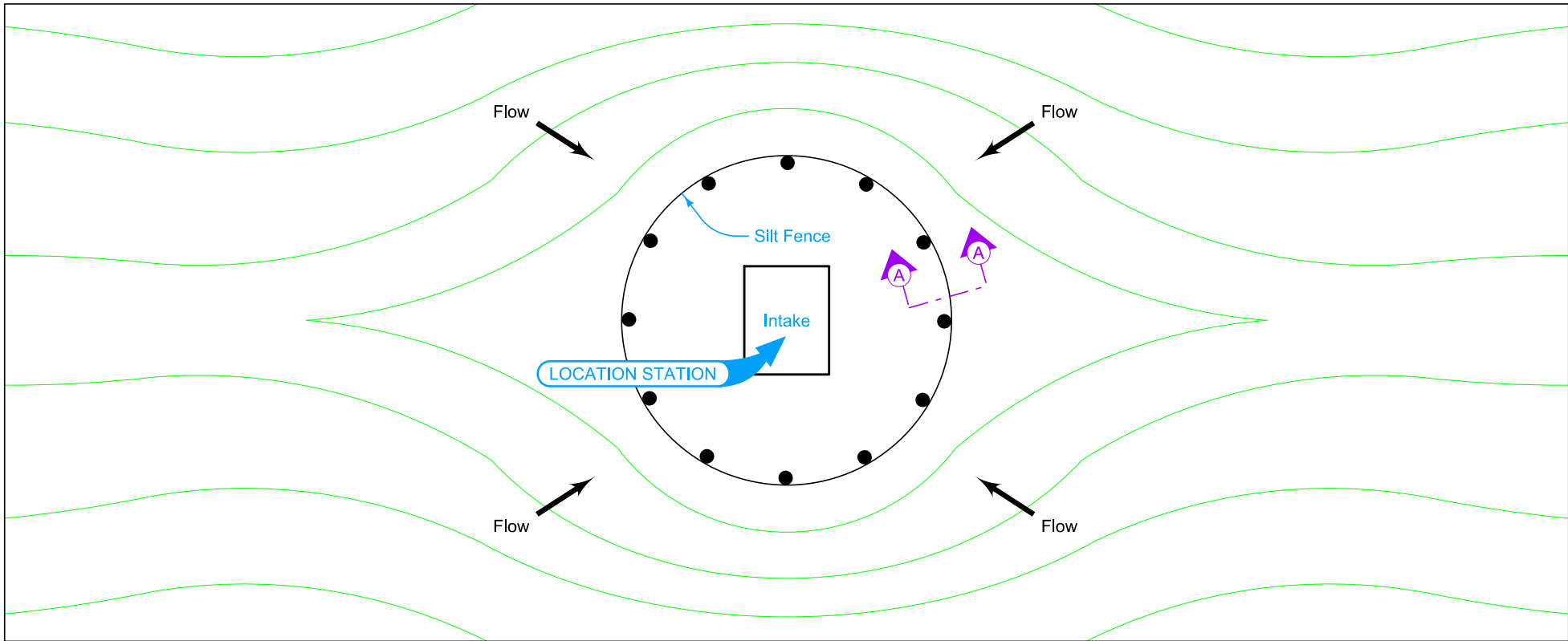
FRONT VIEW

 STANDARD ROAD PLAN	REVISION	
	6	04-20-21
	EC-201	
	SHEET 2 of 6	

REVISIONS: Modified trench to 10". Added circle notes 13 & 14.

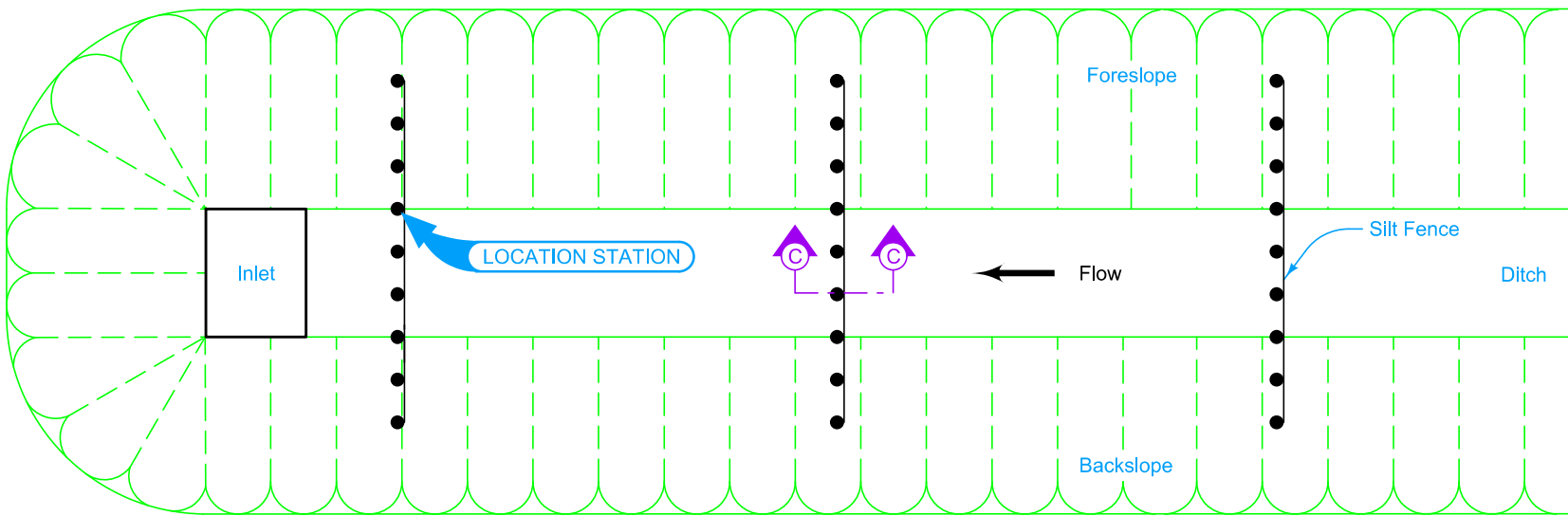
Shawn Miller
APPROVED BY DESIGN METHODS ENGINEER

SILT FENCE




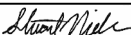
PLAN FOR SILT FENCE AT INTAKE (TYPE 2) ¹²

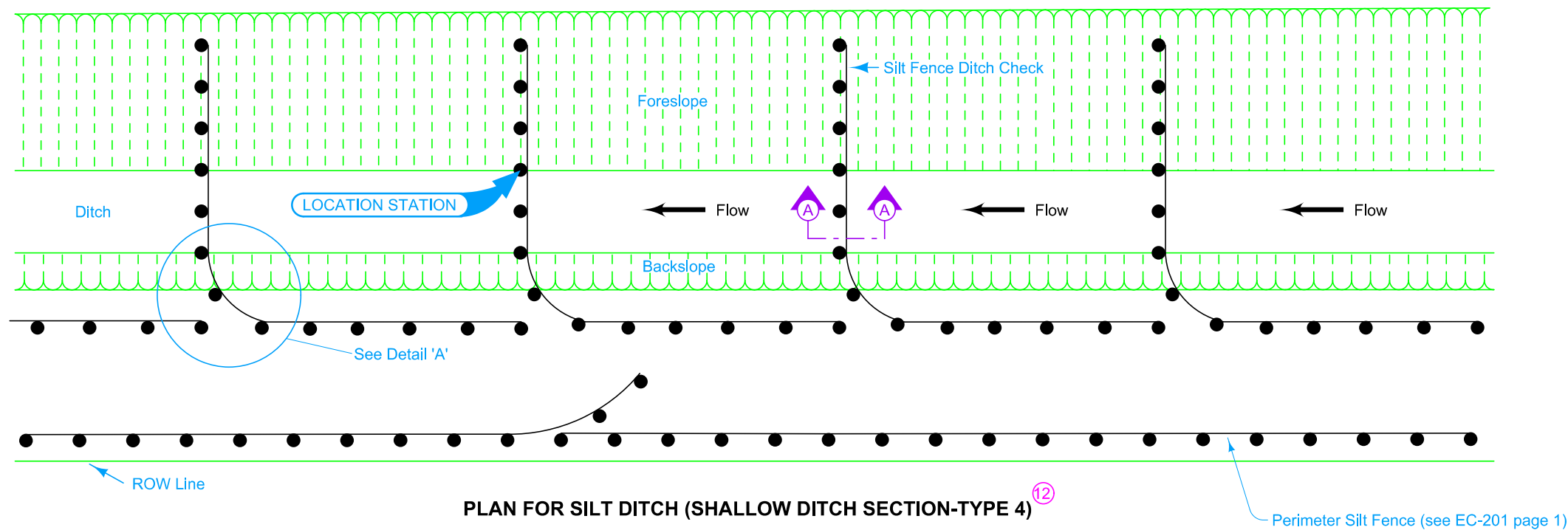
¹² Refer to Tab. 100-18



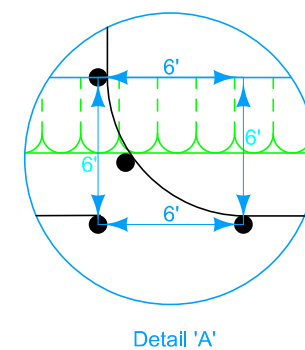
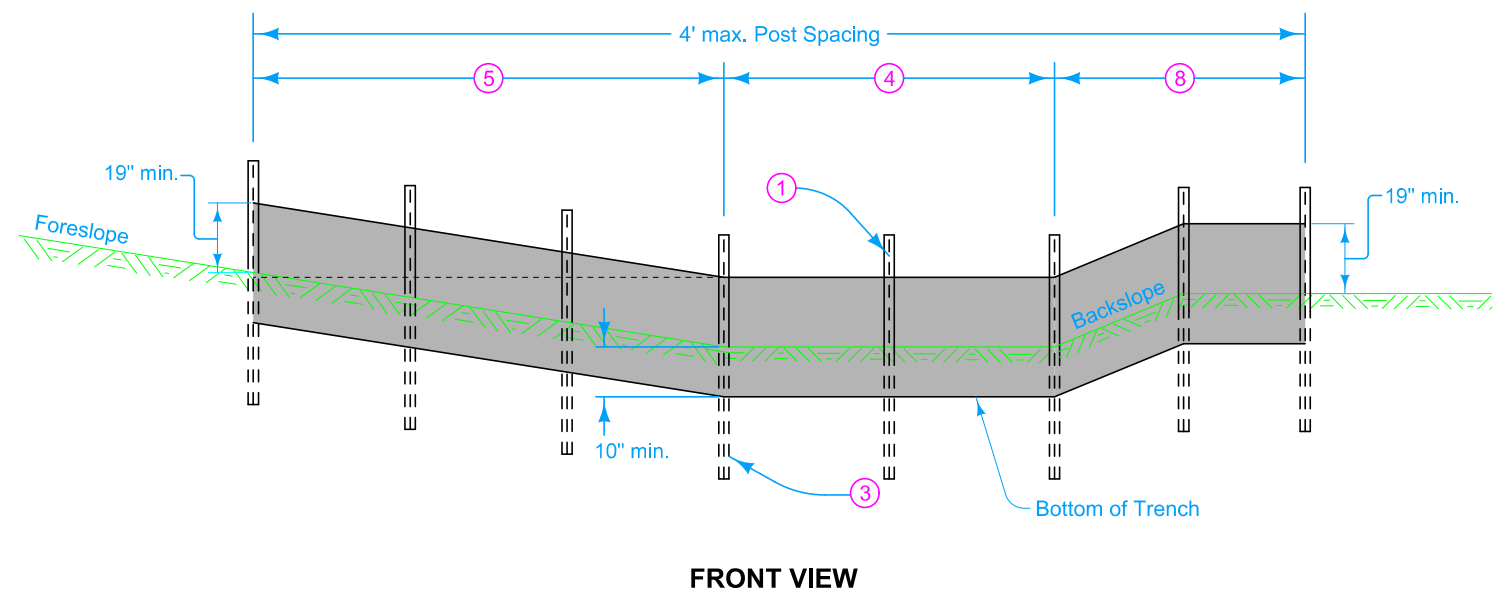
PLAN FOR SILT FENCE DITCH CHECK AT INLET (TYPE 3) ¹²



 Contour Lines

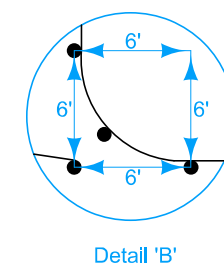
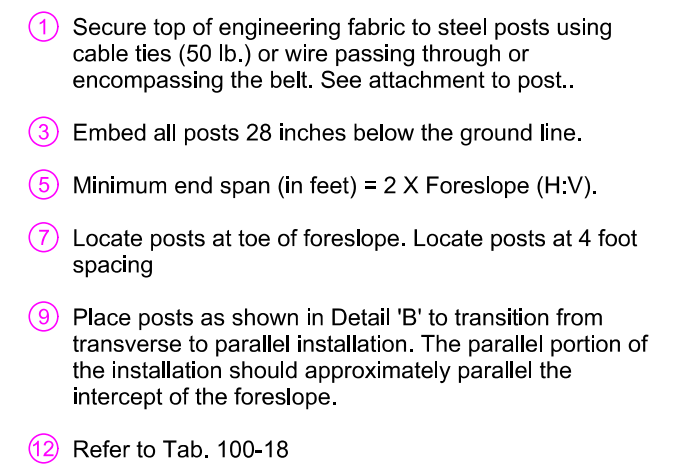
 IOWA DOT	REVISION	
	6	04-20-21
	EC-201	
STANDARD ROAD PLAN	SHEET 3 of 6	
REVISIONS: Modified trench to 10". Added circle notes 13 & 14.		
		
APPROVED BY DESIGN METHODS ENGINEER		
SILT FENCE		





- ① Secure top of engineering fabric to steel posts using cable ties (50 lb.) or wire passing through or encompassing the belt. See attachment to post..
- ③ Embed all posts 28 inches below the ground line.
- ④ Locate posts at toe of foreslope and toe of backslope and space remaining posts equally.
- ⑤ Minimum end span (in feet) = 2 X Foreslope (H:V).
- ⑧ Place posts shown in Detail 'A' to transition from transverse to parallel installation. Place one post at the back slope intercept and the other beyond the intercept.
- ⑫ Refer to Tab. 100-18

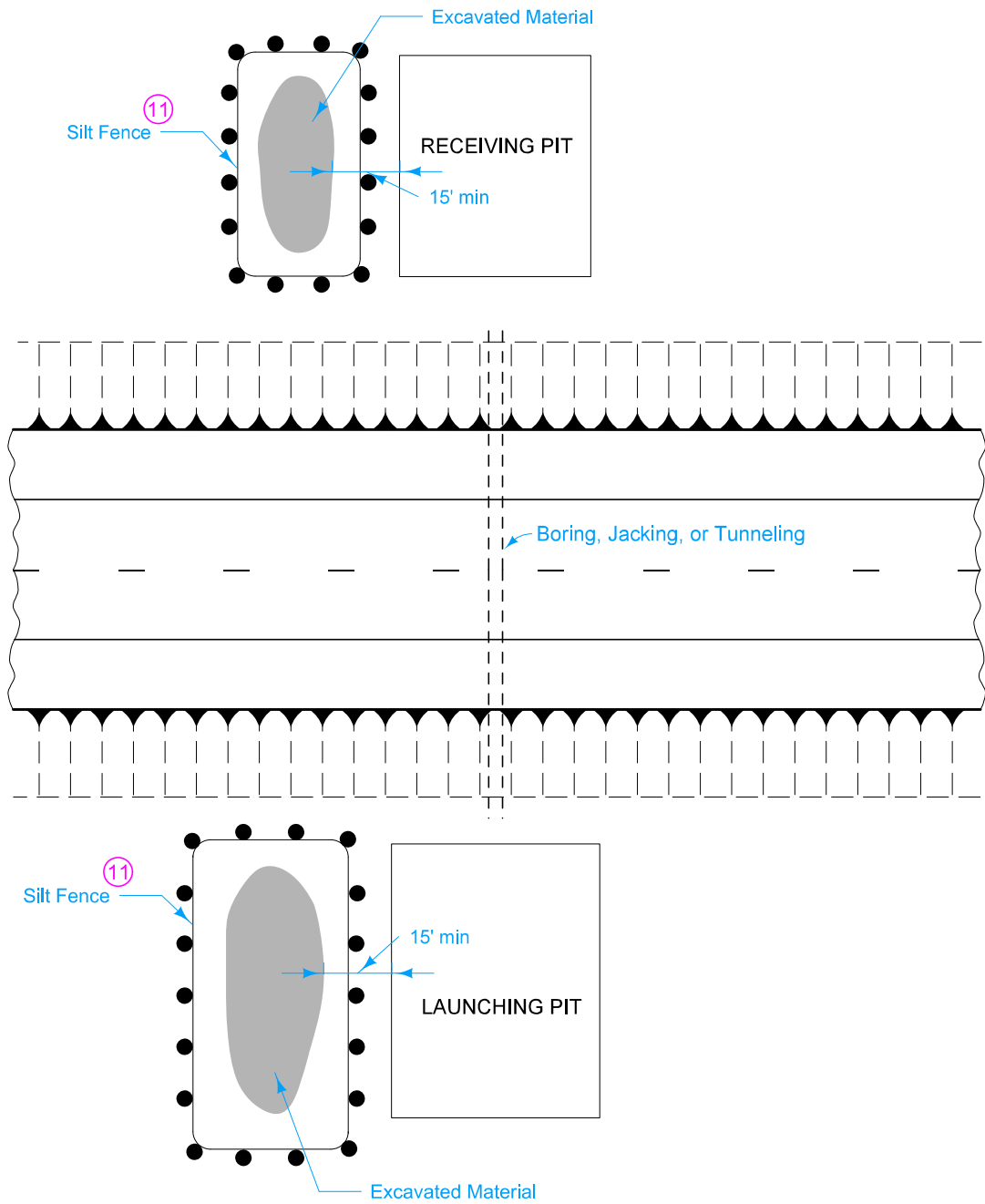


 IOWA DOT	REVISION	
	6	04-20-21
	EC-201	
	SHEET 4 of 6	
STANDARD ROAD PLAN		
REVISIONS: Modified trench to 10". Added circle notes 13 & 14.		
		
APPROVED BY DESIGN METHODS ENGINEER		
<div>SILT FENCE</div>		





 IOWA DOT	REVISION	
	6	04-20-21
STANDARD ROAD PLAN	EC-201	
	SHEET 5 of 6	
REVISIONS: Modified trench to 10". Added circle notes 13 & 14.		
		
APPROVED BY DESIGN METHODS ENGINEER		
<div style="text-align: center; border: 1px solid black; padding: 20px;"> SILT FENCE </div>		

11 Refer to Tab. 100-17



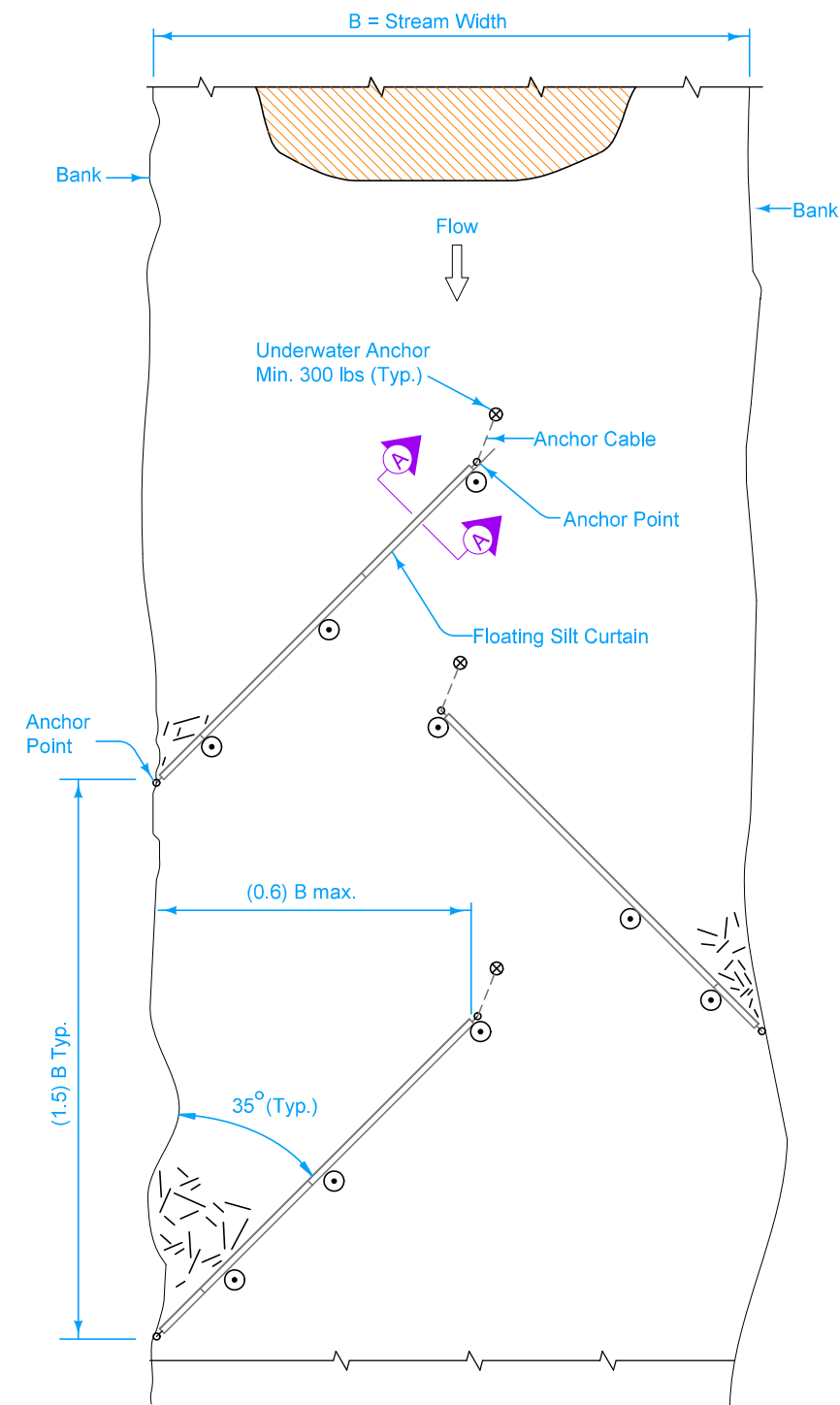
PLAN FOR SILT FENCE FOR TRENCHLESS CONSTRUCTION

 IOWA DOT	REVISION	
	6	04-20-21
	EC-201	
	SHEET 6 of 6	
REVISIONS: Modified trench to 10". Added circle notes 13 & 14.		
		
APPROVED BY DESIGN METHODS ENGINEER		
 <		

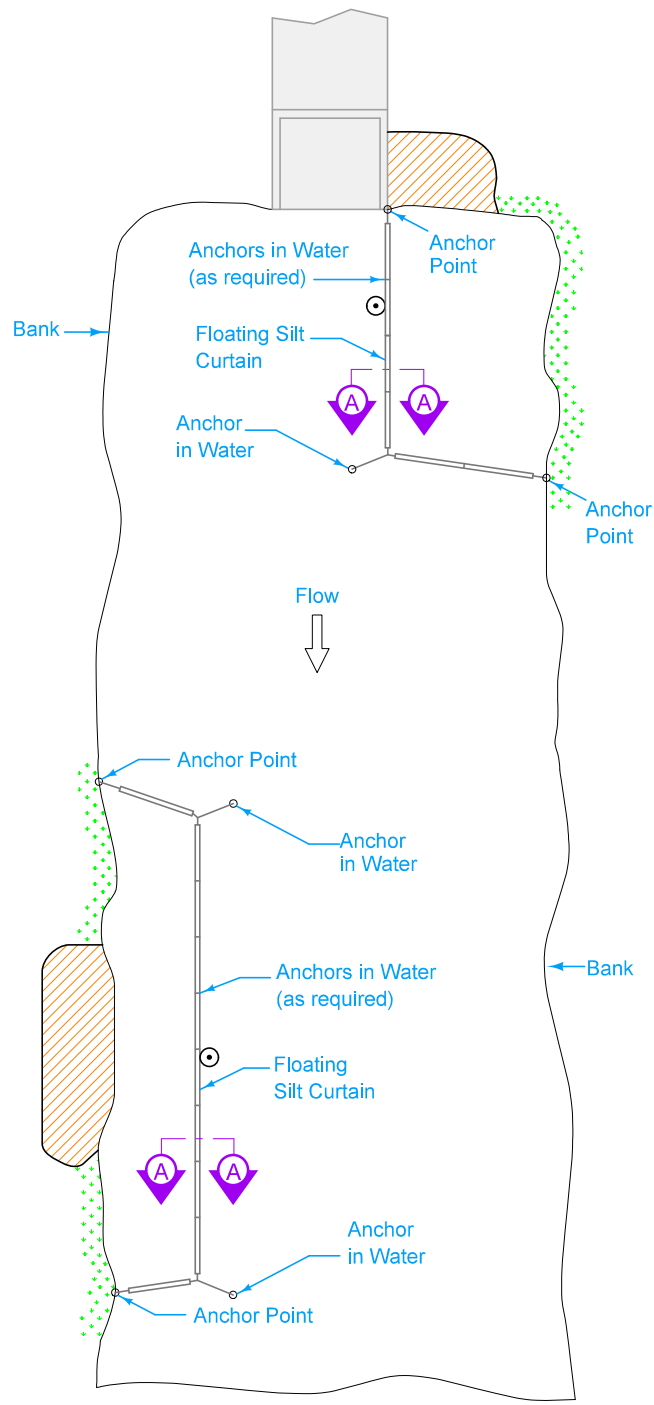
Keep silt curtain as close to work area as possible.

Depth of curtain is the dimension of the curtain fabric extending below the flotation, i.e. hanging in the water.

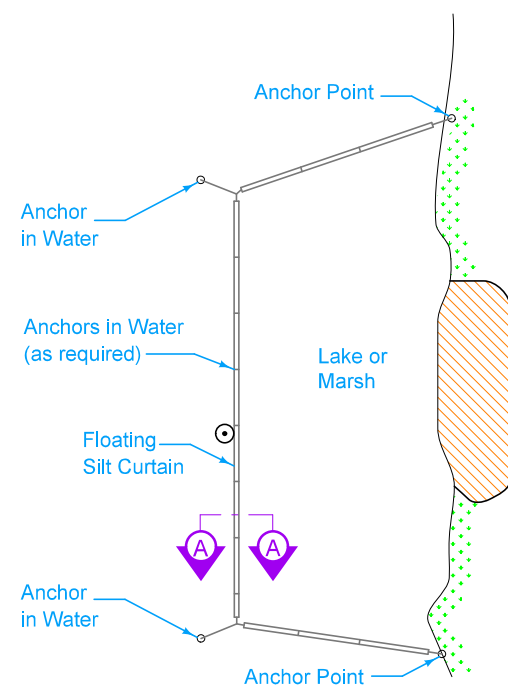
Install according to Hanging Installation unless specified otherwise.



PLAN
Disturbed Area within Stream



PLAN
Disturbed Area Adjacent to Stream





PLAN
Still Water Only

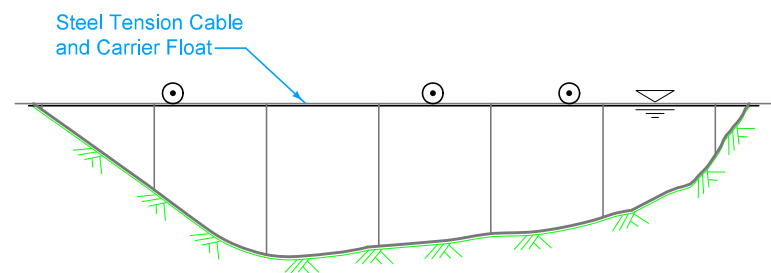
LEGEND

- Carrier Float
- Buoy
- Undisturbed Vegetation
- Disturbed Soil

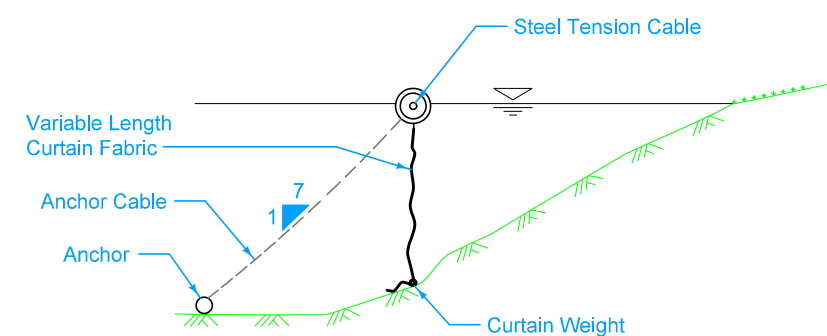
- Possible Contract Items:
- Clean-out of Floating Silt Curtain (Containment)
 - Floating Silt Curtain (Containment)
 - Floating Silt Curtain (Hanging)
 - Maintenance of Floating Silt Curtain

Possible Tabulation:
100-10

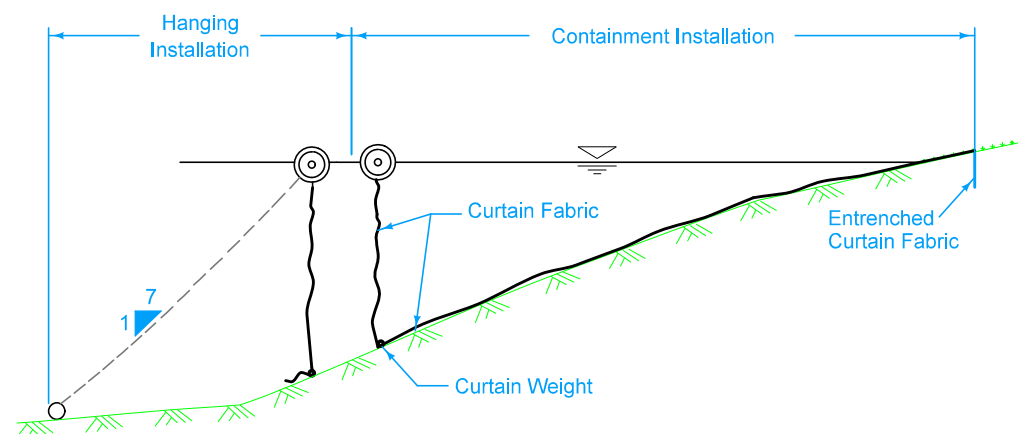
 STANDARD ROAD PLAN	REVISION	
	6	10-21-14
	EC-202	
	SHEET 1 of 2	
REVISIONS:	Removed 100' typical spacing between anchors on page 2. Added possible contract item. Removed sections of standard notes and circle note 1.	
		
APPROVED BY DESIGN METHODS ENGINEER		
FLOATING SILT CURTAIN		



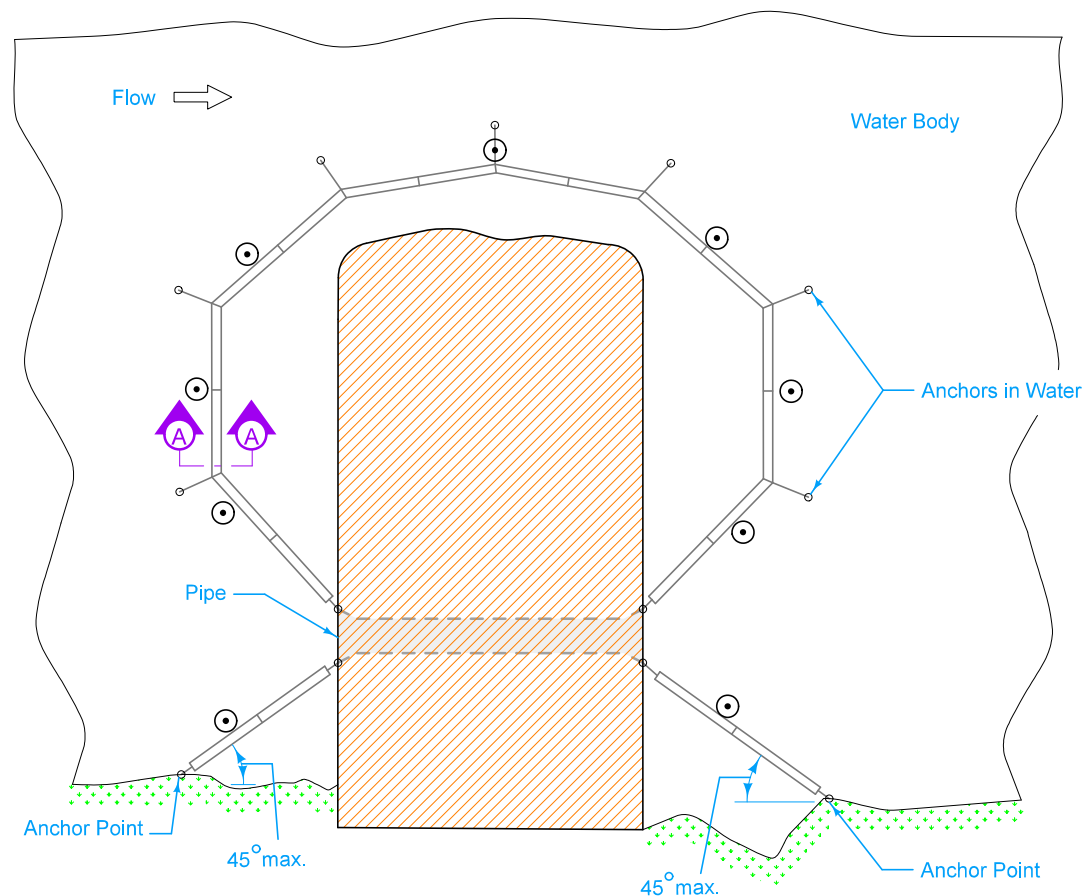
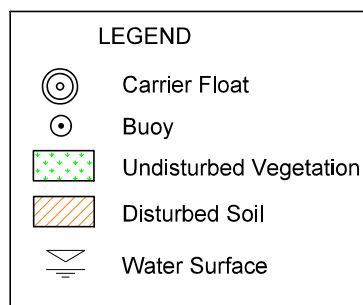
PROFILE



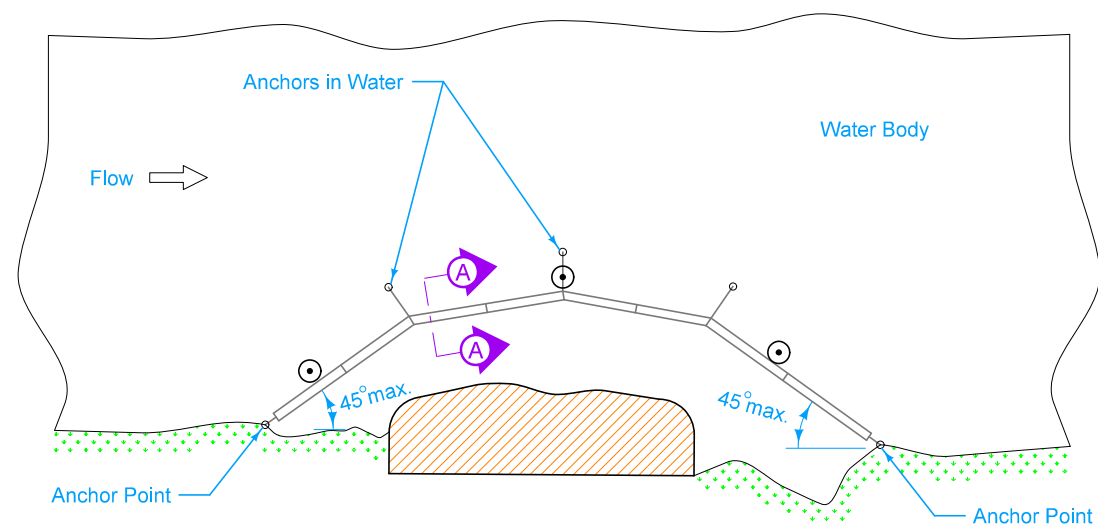
SECTION A-A
Hanging Installation



SECTION A-A
Containment Installation ①


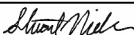


PLAN
Stream Crossing or Causeway
(with pipe)



PLAN
Causeway or Pad

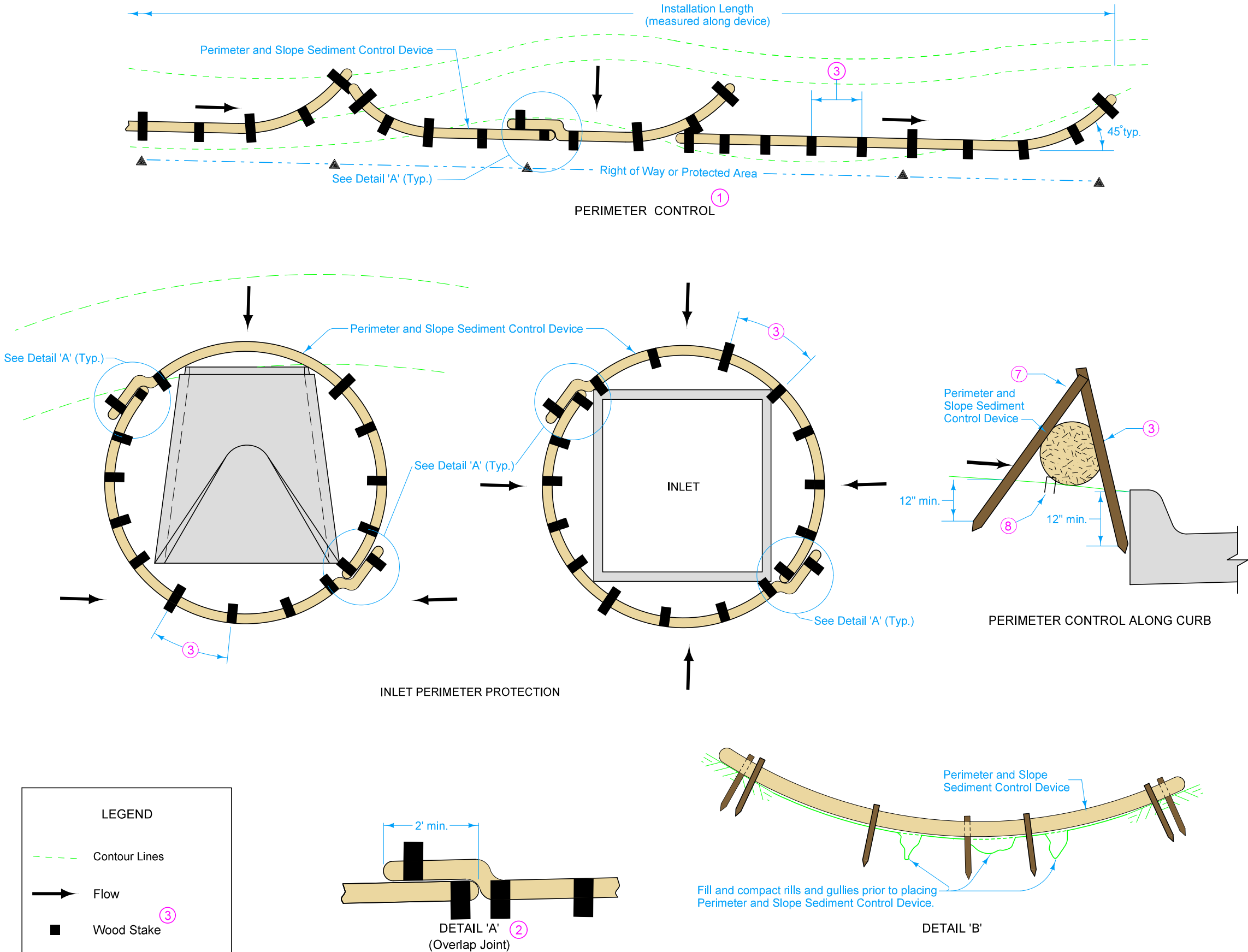
① When Containment Installation is specified, it will be in combination with a Hanging Installation that is paid for separately.

 IOWA DOT	REVISION	
	6	10-21-1
	EC-202	
	SHEET 2 of 2	
STANDARD ROAD PLAN		
REVISIONS:	Removed 100' typical spacing between anchors on page 2. Added possible contract item. Removed sections of standard notes and circle note 1.	
		
APPROVED BY DESIGN METHODS ENGINEER		
FLOATING SILT CURTAIN		

Not intended for use in perennial or intermittent streams.

Fill and compact rills and gullies (see Detail 'B') prior to placing Perimeter and Slope Sediment Control Device. Ensure ground surface is smooth in order to provide continuous contact with Perimeter and Slope Sediment Control Device. Minor ground shaping may be required. Filling and compacting rills and gullies, and minor ground shaping, is incidental to Perimeter and Slope Sediment Control Device.

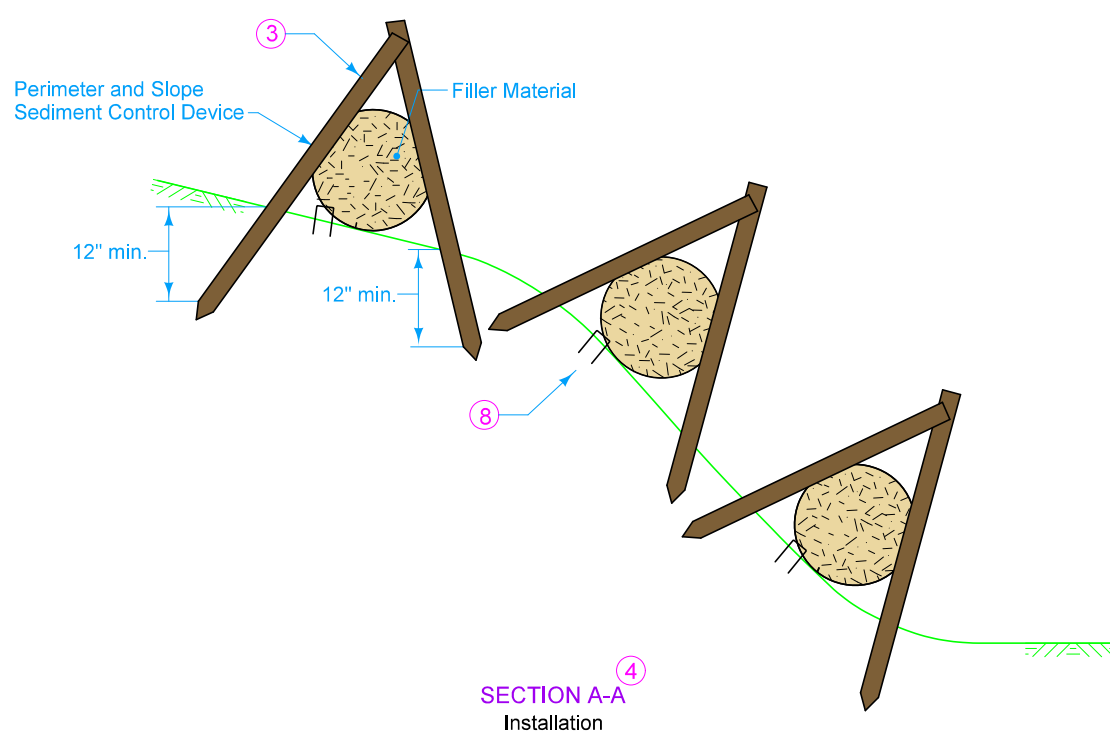
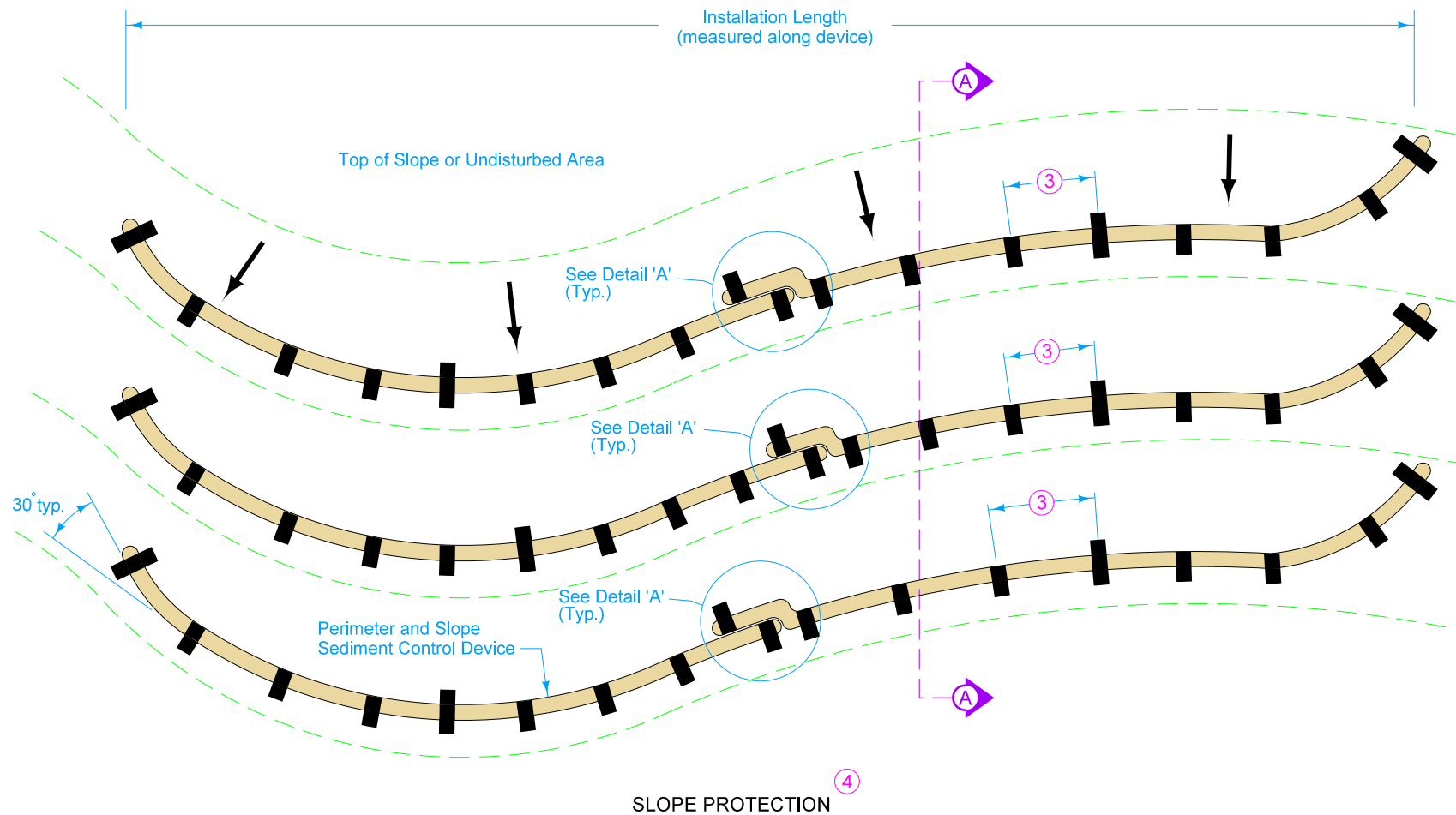
- 1 Overlap joints per Detail 'A'. Turn the lower 10 feet of each run up the slope to help contain runoff. When placed such that runoff is conveyed along the device, additional run-ups and/or means may be required to reduce erosion along the device. Run-ups will be included in the installation length.
- 2 Extra material required to install overlaps will not be included in the installation length.
- 3 Install downslope stakes at 4 foot maximum spacing. Upslope stakes spaced at ends and middle of device. Use minimum actual stake size 3/4" x 3/4" wood stakes.
- 7 All stakes to be placed at approximately 45 degree angle to ground.
- 8 Install staples every 2 feet on upslope side.



Possible Contract Item:
Perimeter and Slope Sediment Control Device
Ditch Check Sediment Control Device

Possible Tabulation:
100-19

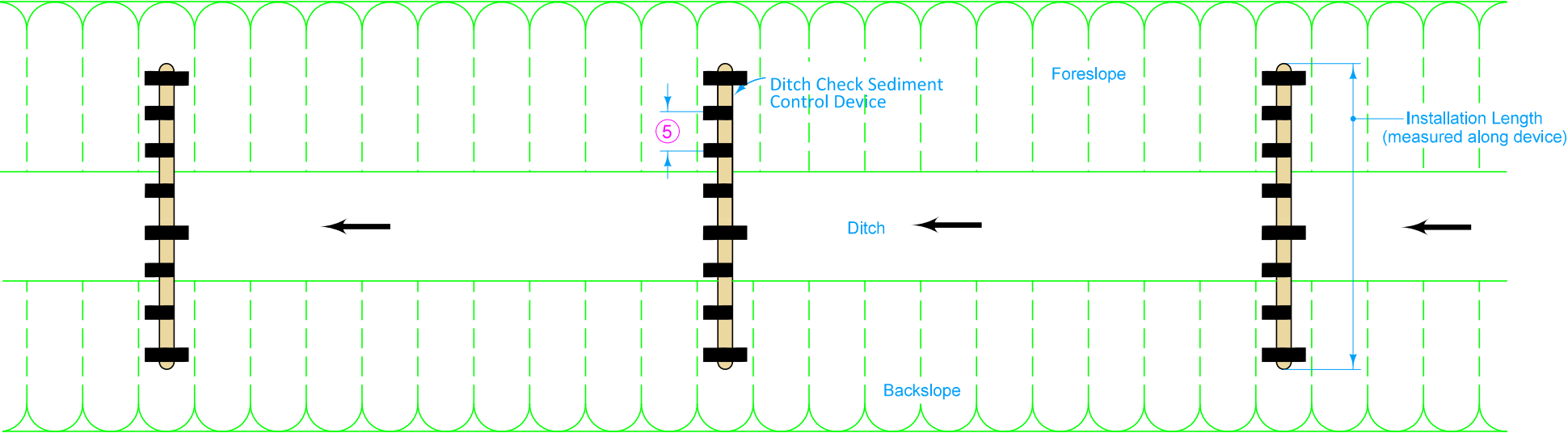
IOWA DOT STANDARD ROAD PLAN REVISIONS: Changed labeling on Sheet 3. APPROVED BY DESIGN METHODS ENGINEER PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES	REVISION	
	6	10-19-21
	EC-204 SHEET 1 of 3	



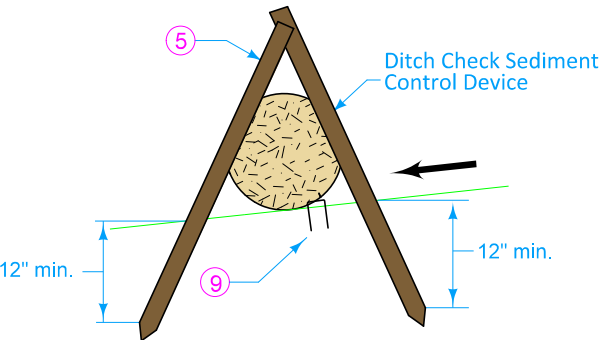
LEGEND	
---	Contour Lines
→	Flow
■	Wood Stake ③

- ③ Install downslope stakes at 4 foot maximum spacing. Upslope stakes spaced at ends and middle of device. Use minimum actual stake size 3/4" x 3/4" wood stakes. Install staples every 2 feet on upslope side.
- ④ Install Slope Protection perpendicular to slope (parallel to contours). Overlap joints per Detail 'A'. Run the last 10 feet of each device up the slope to prevent flow runaround. Run-ups will be included in the installation length.
- ⑧ Install staples every 2 feet on upslope side.

	REVISION			
	6	10-19-21		
	EC-204			
SHEET 2 of 3				
REVISIONS: Changed labeling on Sheet 3.				
 <small>APPROVED BY DESIGN METHODS ENGINEER</small>				
PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES				



DITCH PROTECTION ⁽⁶⁾



INSTALLATION IN DITCH

LEGEND

Contour Lines

Flow

Wood Stake ⁽⁵⁾

- (5)

Install downslope stakes at 2 foot maximum spacing. Upslope stakes spaced at ends and middle of device. Use minimum actual stake size 3/4" x 3/4" wood stakes.
- (6)

Install Ditch Protection perpendicular to ditch. Overlap joints per Detail 'A'.
- (9)

Install staples every 1 foot on upslope side.

IOWA DOT

STANDARD ROAD PLAN

REVISIONS: Changed labeling on Sheet 3.

APPROVED BY DESIGN METHODS ENGINEER

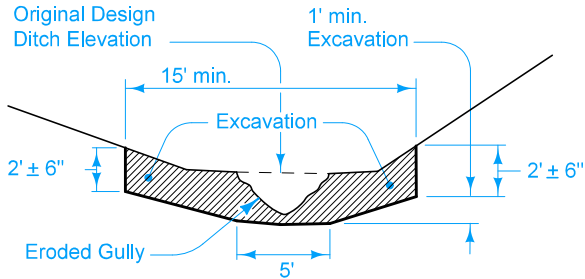
REVISION

610-19-21

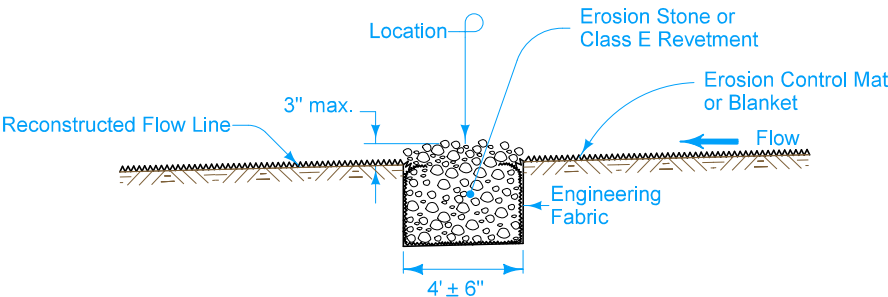
EC-204

SHEET 3 of 3

PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES

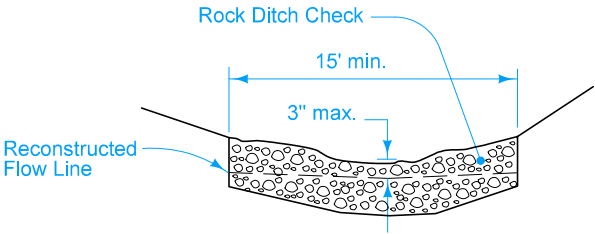


EXCAVATION SECTION

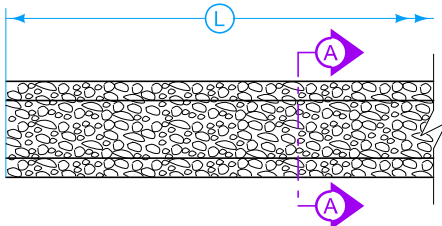


LONGITUDINAL SECTION AT CENTERLINE OF DITCH

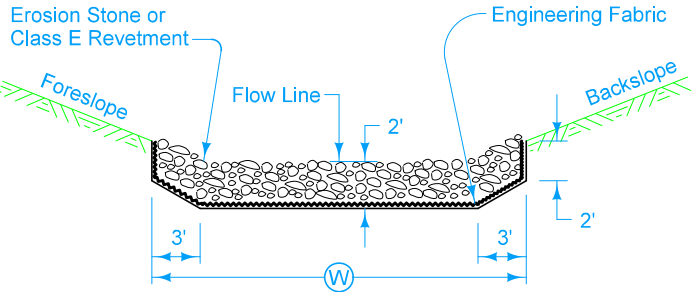
TYPE 1
(Rock Ditch Check)



DITCH CHECK SECTION

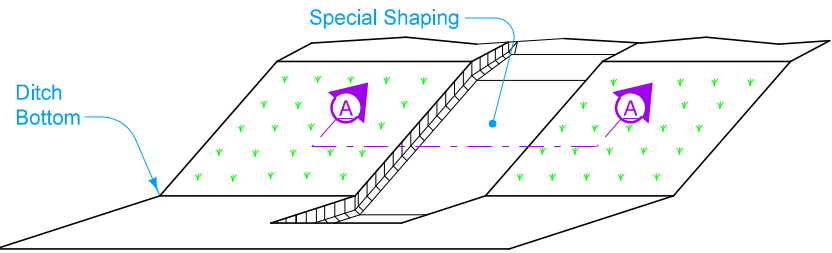


PLAN

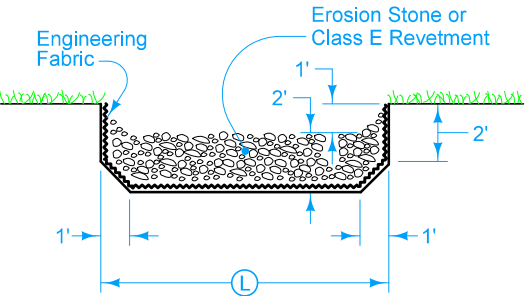


SECTION A-A

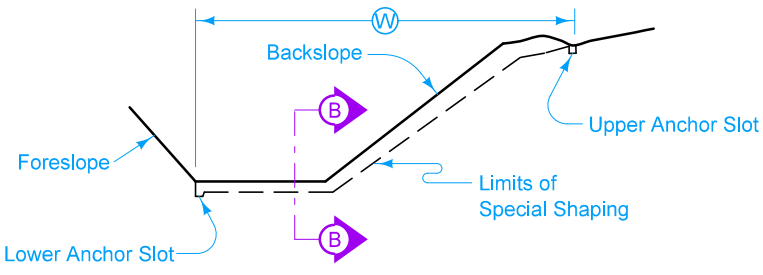
TYPE 2
(Rock Ditch)



ISOMETRIC VIEW



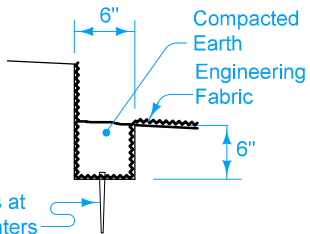
SECTION A-A



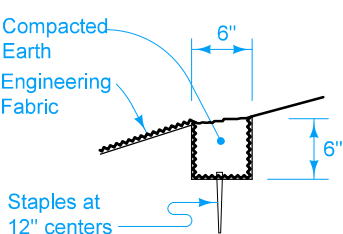
TYPICAL SECTION

Possible Contract Items:
Erosion Stone
Class E Revetment
Engineering Fabric

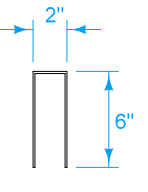
Possible Tabulation:
100-23



LOWER ANCHOR SLOT

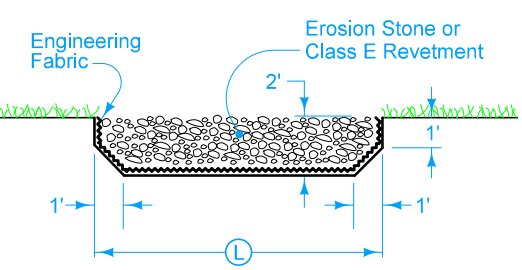


UPPER ANCHOR SLOT



STAPLE
(No. 11 wire)

TYPE 3
(Rock Flume)



SECTION B-B

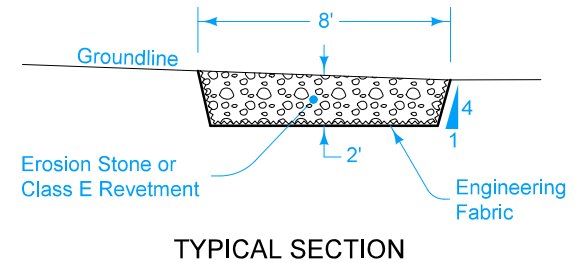
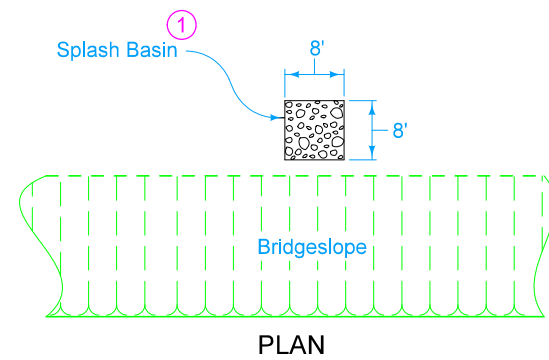
REVISION	
2	10-18-22
EC-301	
SHEET 1 of 2	

REVISIONS: Added note referencing 4196

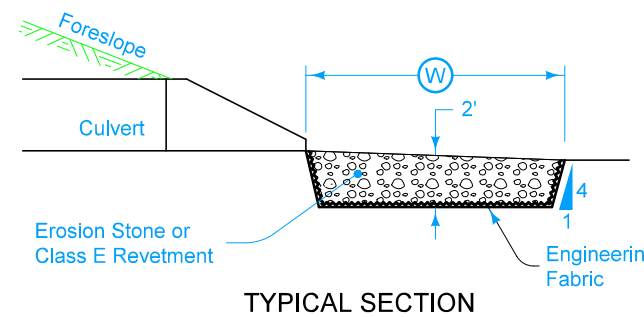
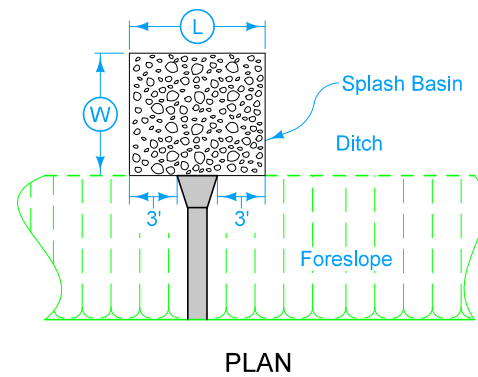
Shawn Miller

APPROVED BY DESIGN METHODS ENGINEER

ROCK EROSION CONTROL
(REC)

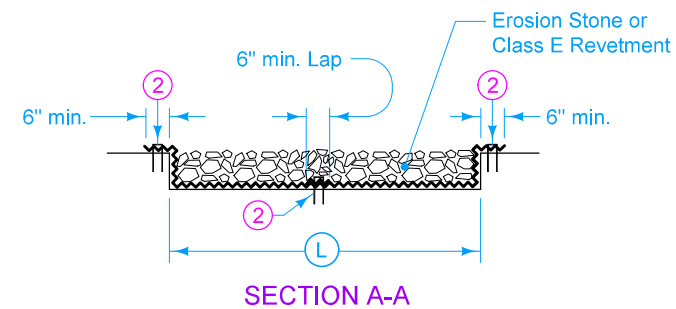
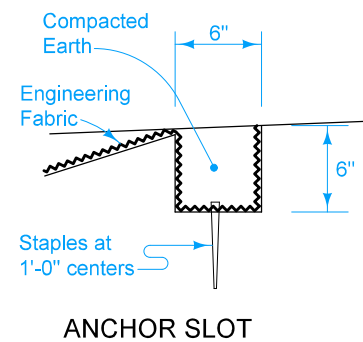
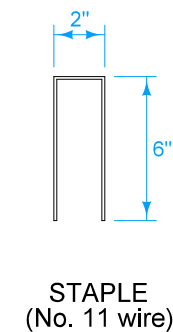
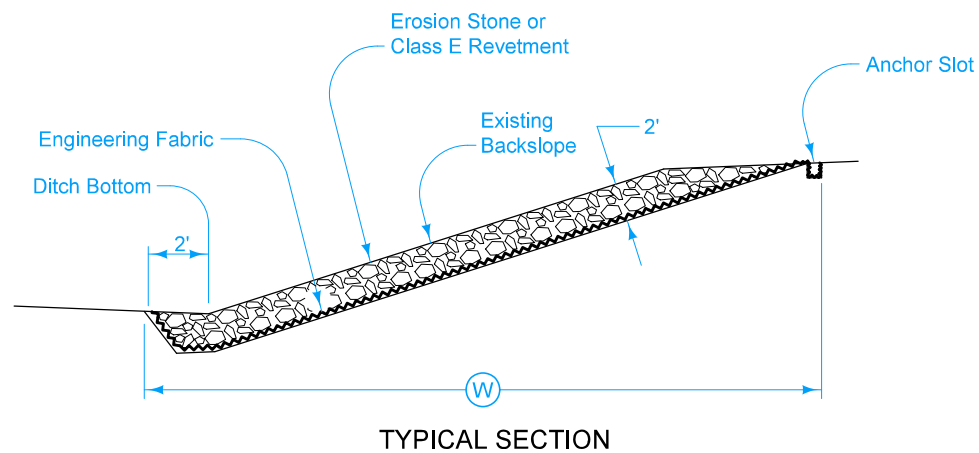
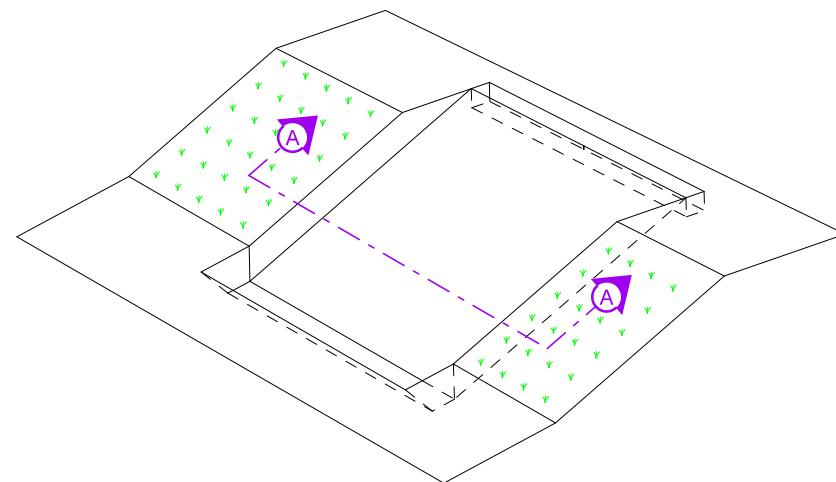


SPLASH BASIN UNDER BRIDGE DRAIN





SPLASH BASIN AT PIPE CULVERT OUTLET

TYPE 4
(Rock Splash Basin)



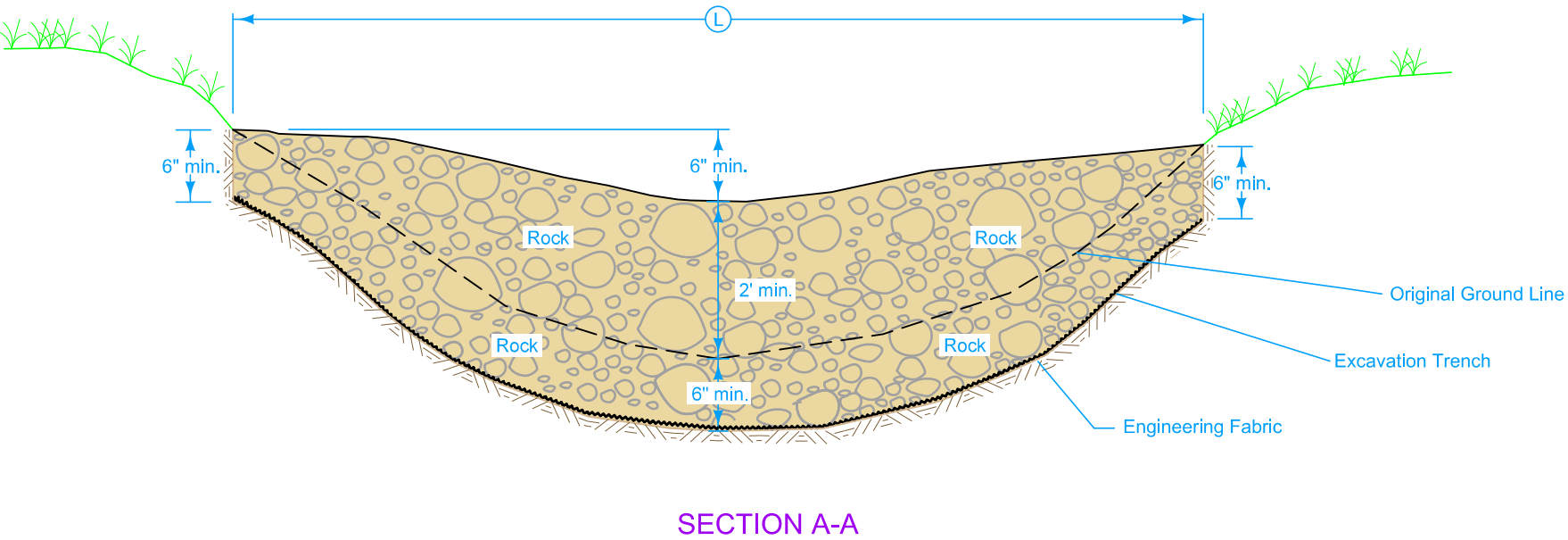
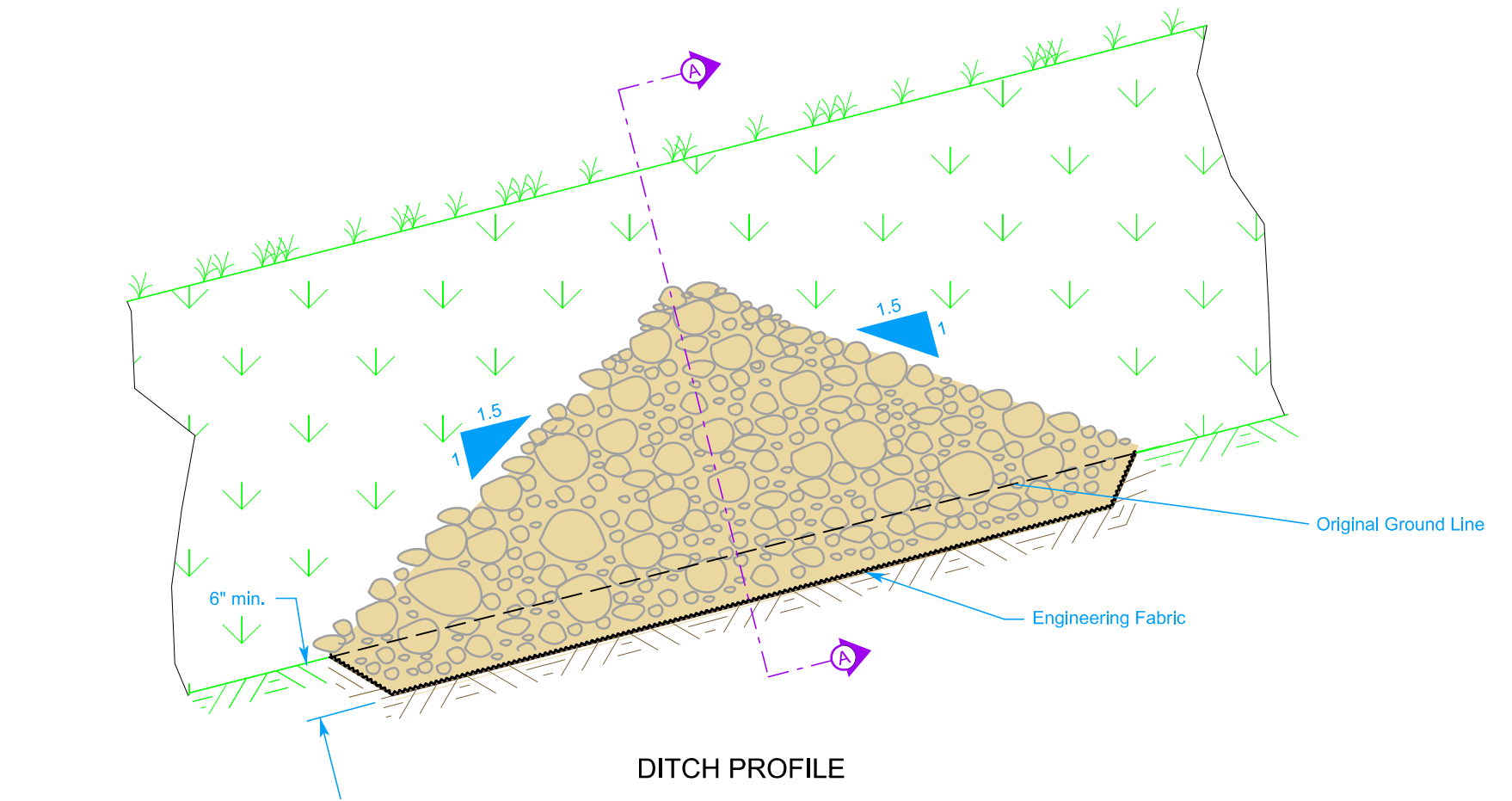
TYPE 5
(Rock Slope Protection)

- ① Center splash basin directly under bridge drain.
- ② Staples at 12 inch centers.

 IOWA DOT	REVISION	
	2	10-18-22
	EC-301	
STANDARD ROAD PLAN		
SHEET 2 of 2		
REVISIONS: Added note referencing 4196		
		
APPROVED BY DESIGN METHODS ENGINEER		
ROCK EROSION CONTROL (REC)		



Use Class D Revetment to construct Rock Check Dam.

Use fabric for Embankment Erosion Control complying with Section 4196 of the Standard Specifications.



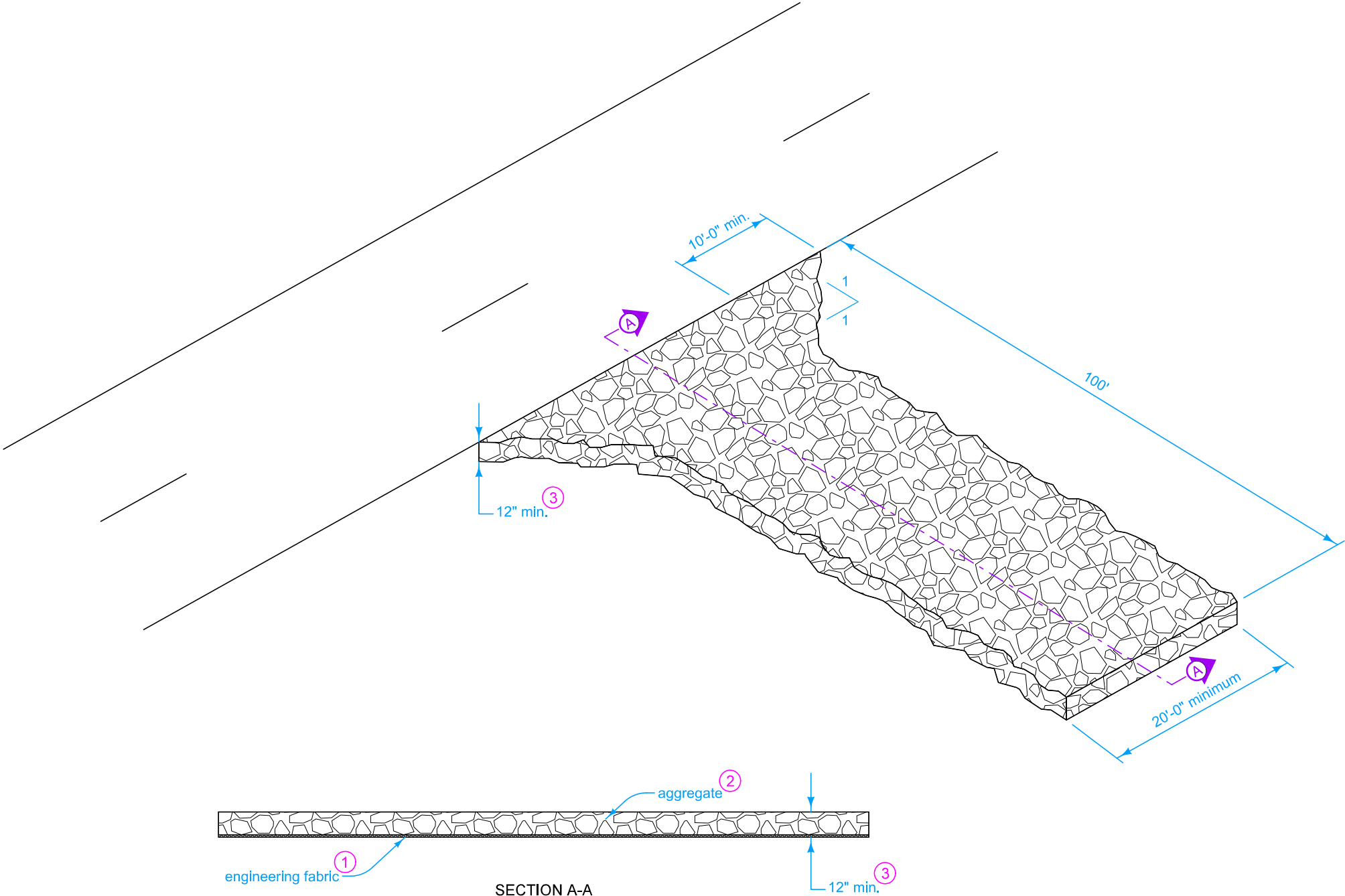
- Possible Contract Items:
- Rock Check Dam
 - Maintenance of Rock Check Dam
 - Removal of Rock Check Dam


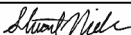
Possible Tabulation:
100-32

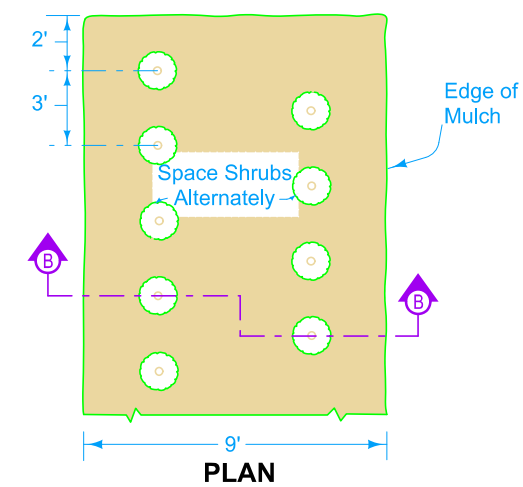
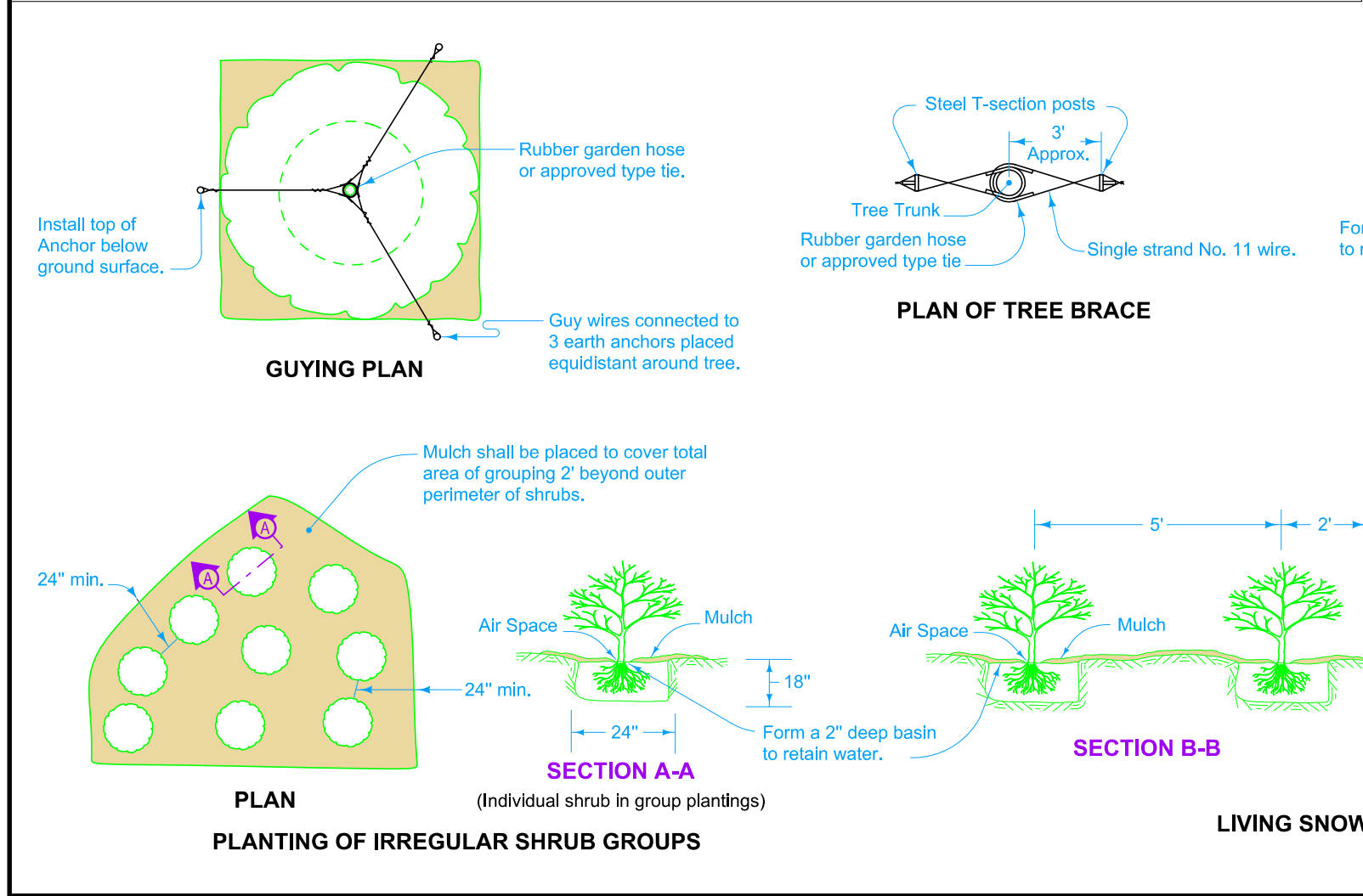
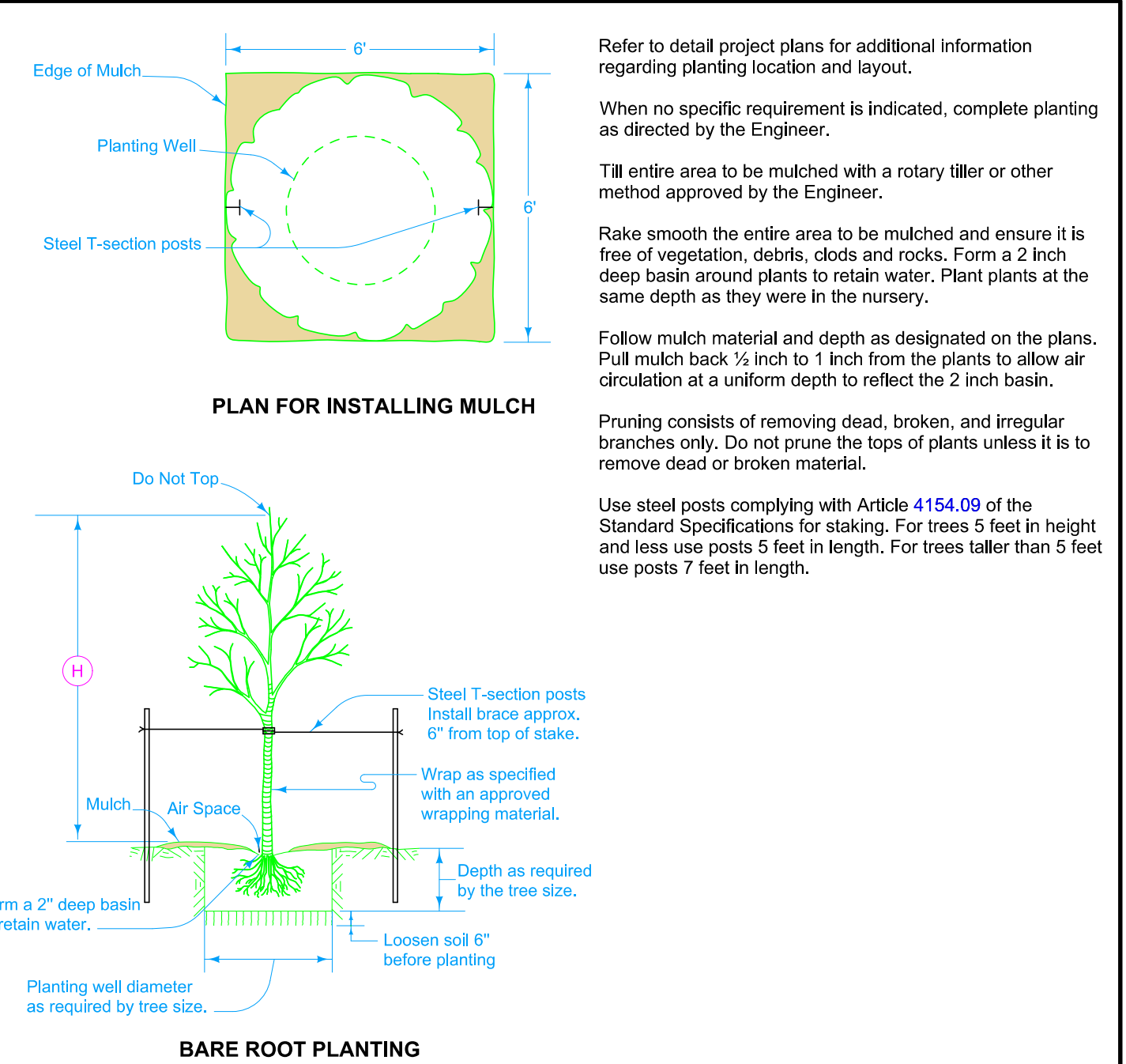
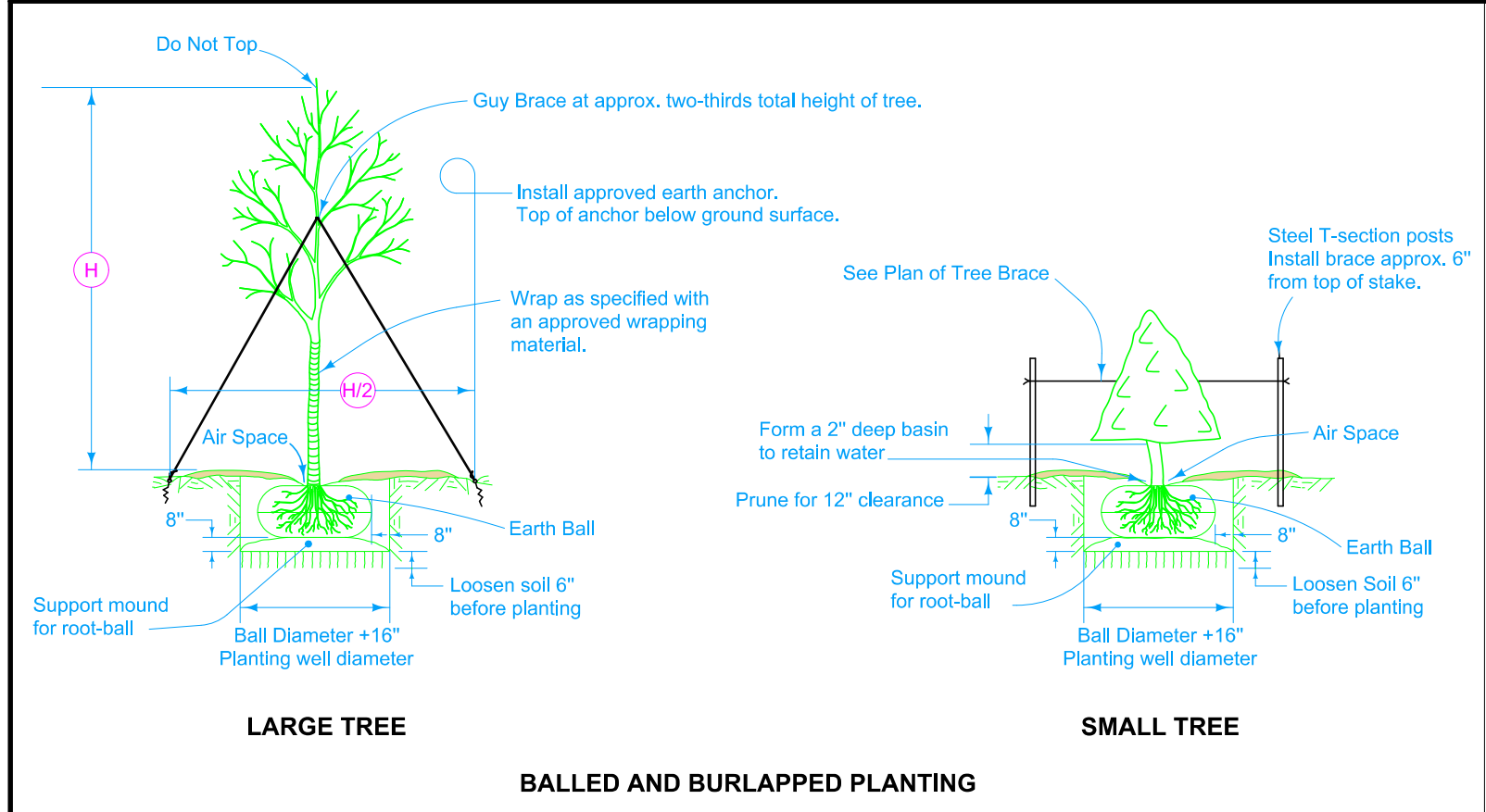
 IOWA DOT	REVISION	
	1	10-18-22
	EC-302	
STANDARD ROAD PLAN	SHEET 1 of 1	
REVISIONS: Added note referring to 4196.		
		
APPROVED BY DESIGN METHODS ENGINEER		
ROCK CHECK DAM		



DESIGNER INFORMATION

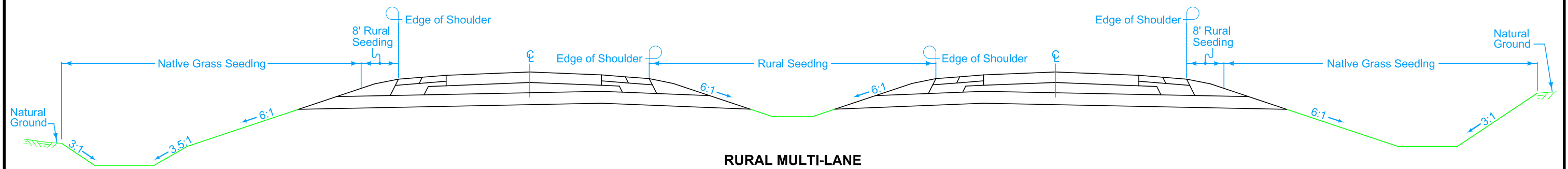
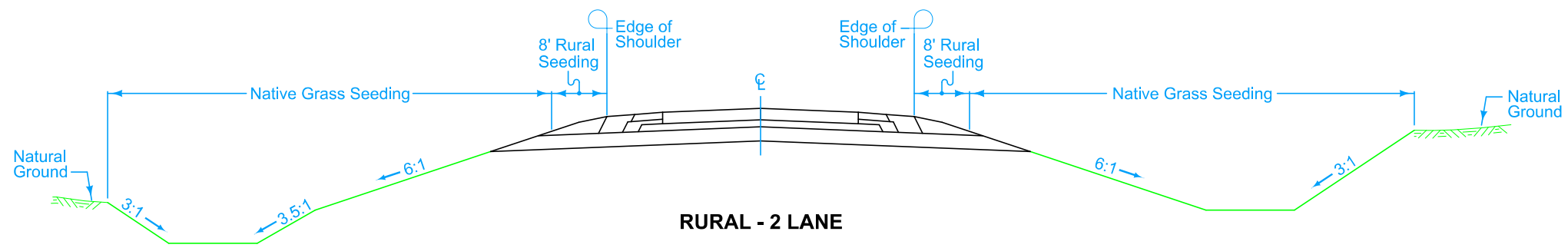
- Obtain the Engineer's approval for location of stabilized entrances prior to constructing.
- 1 Place engineering fabric prior to placing aggregate. Use fabric for Embankment Erosion Control complying with Section 4196 of the Standard Specifications.
 - 2 Use aggregate meeting Gradation No. 13a of Section 4109 of the Standard Specifcaitions.
 - 3 Depth may need to be increased depending on the weight of contractor vehicles and equipment.





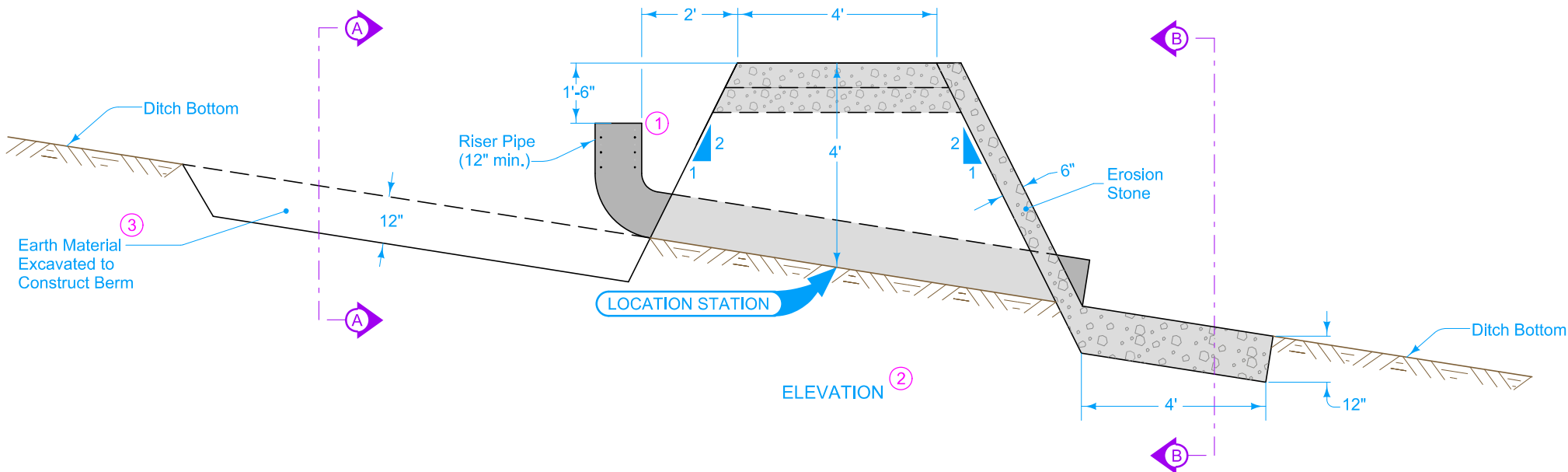
 IOWA DOT	REVISION	
	4	10-19-21
	EC-303	
STANDARD ROAD PLAN		
SHEET 1 of 1		
REVISIONS:	Defined length to be 100', to be consistant with spec change.	
		
APPROVED BY DESIGN METHODS ENGINEER		
STABLIZED CONSTRUCTION ENTRANCE		



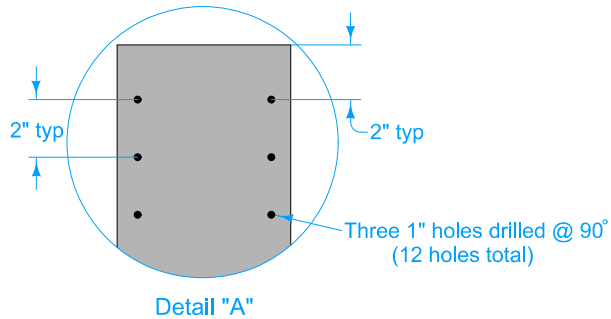
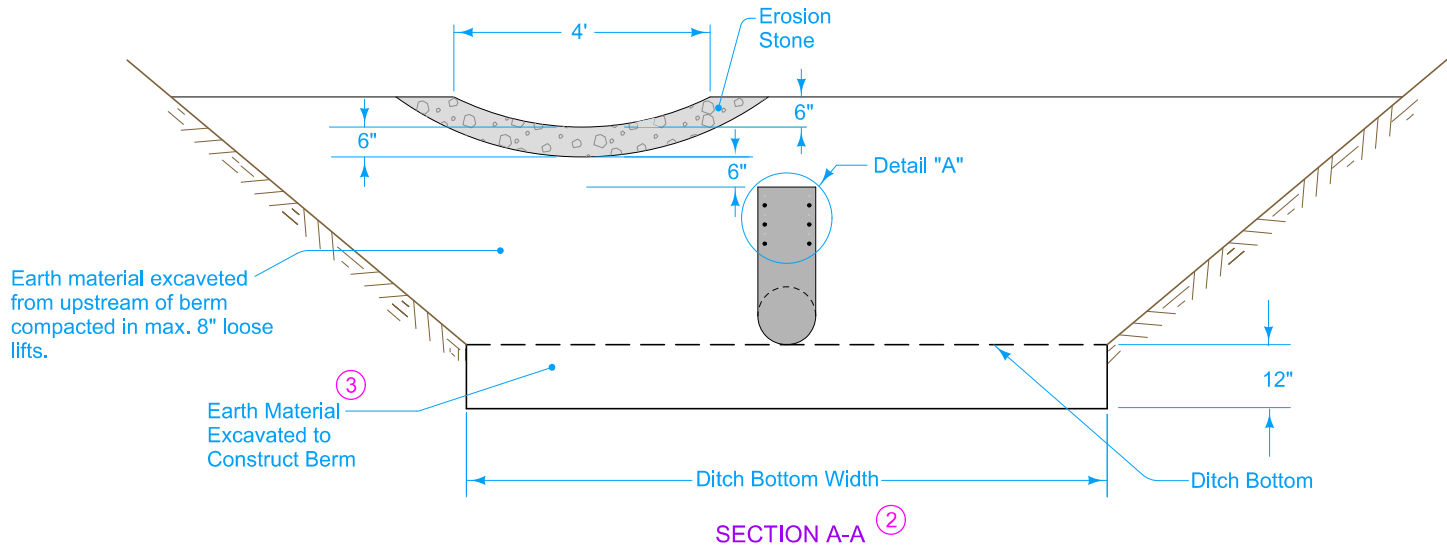
 IOWA DOT	REVISION	
	1	04-21-15
	EC-501	
STANDARD ROAD PLAN		
SHEET 1 of 1		
REVISIONS: Replaced DOT logo with new version.		
		
APPROVED BY DESIGN METHODS ENGINEER		
TREES AND SHRUBS		



 IOWA DOT	REVISION	
	New	04-21-15
	EC-502	
	SHEET 1 of 1	
REVISIONS: New.		
		
APPROVED BY DESIGN METHODS ENGINEER		
SEEDING IN RURAL AREAS		

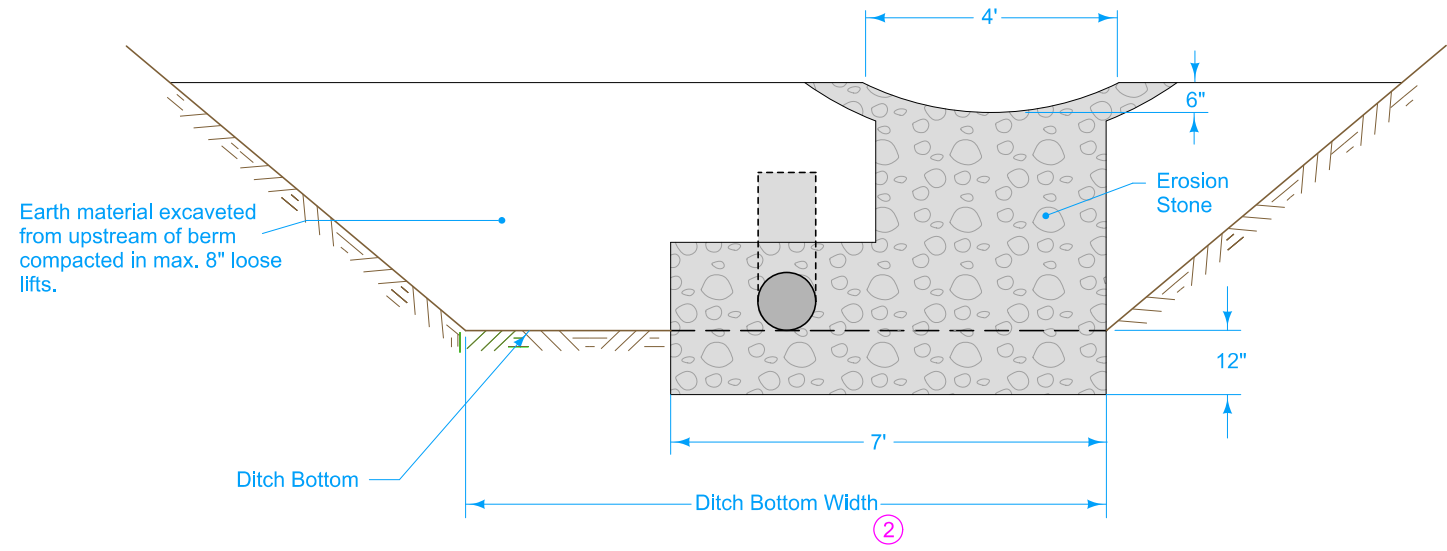




- 1 Ensure Riser Pipe remains vertical.
- 2 Dimensions shown are minimums.
- 3 When Temporary Sediment Control Basin is removed, if basin has not silted in to designed ditch grade, use topsoil to bring up to designed ditch grade.



- Possible Contract Items:
- Temporary Sediment Control Basin
 - Maintenance of Temporary Sediment Control Basin
 - Removal of Temporary Sediment Control Basin
- Incidental to Temporary Sediment Control Basin:
- Erosion Stone
 - Pipe
 - Excavated Earth Material

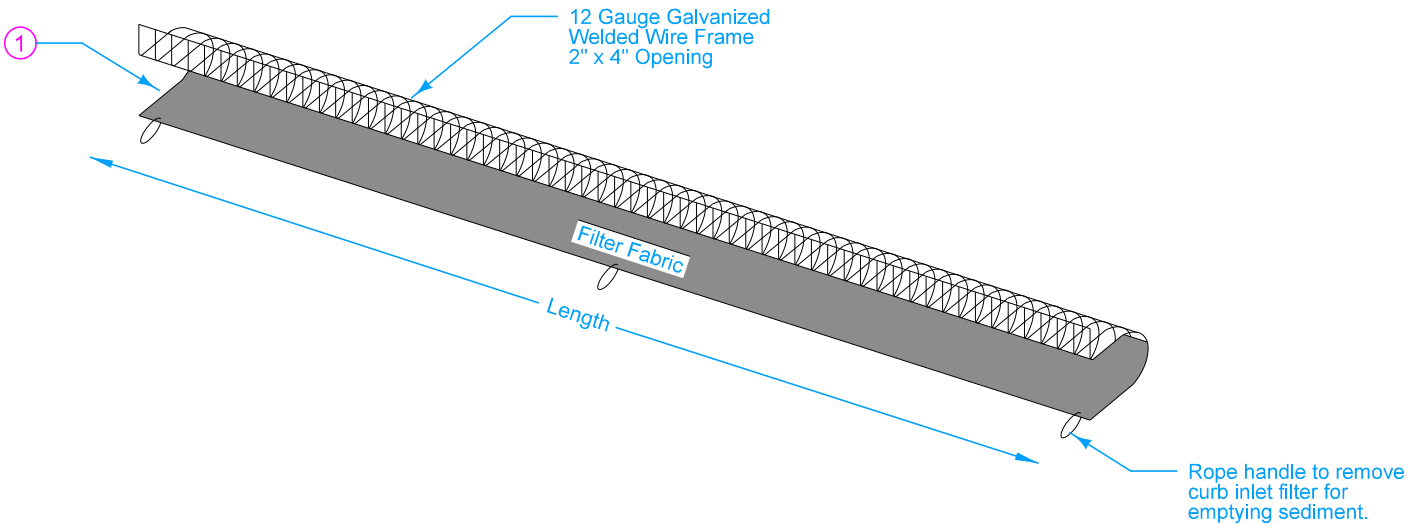
Possible Tabulation:
100-33



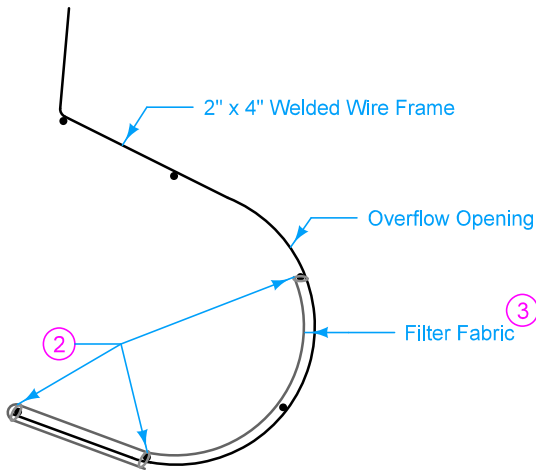
 IOWA DOT	REVISION	
	New	10-16-18
	EC-601	
STANDARD ROAD PLAN	SHEET 1 of 1	
REVISIONS: New. Replaces Design Detail 570-3		
		
APPROVED BY DESIGN METHODS ENGINEER		
<div>TEMPORARY SEDIMENT CONTROL BASIN</div>		

Remove sediment filter upon stabilization of sediment sources.

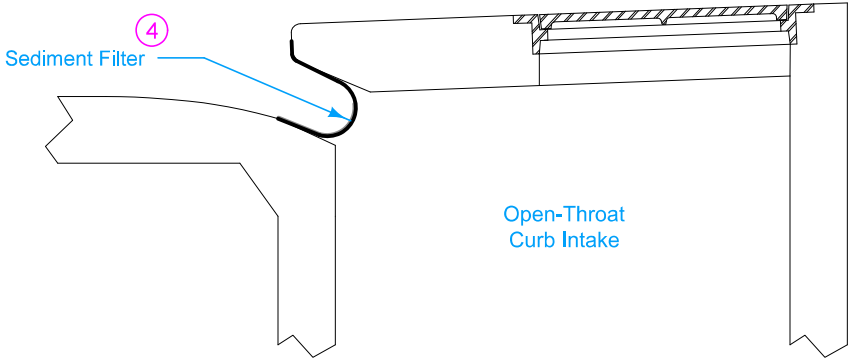
- 1 Trim frame as needed to tightly fit in the intake throat. Overlap fabric a minimum of 3 inches and securely fasten.
- 2 Securely attach filter fabric to the wire frame leaving an overflow opening above the filter fabric.
- 3 Woven material meeting the requirements of Table 4196.01-1 of the Standard Specifications, except a maximum apparent opening size US Sieve No. 10 and a minimum flow rate of 145 gallons per minute per square foot.
- 4 Insert sediment filter to create a compression fit in the intake throat. If overflow opening is not present after inserting filter, trim filter fabric so opening is present.



OPEN-THROAT CURB INTAKE SEDIMENT FILTER





SEDIMENT FILTER CROSS SECTION

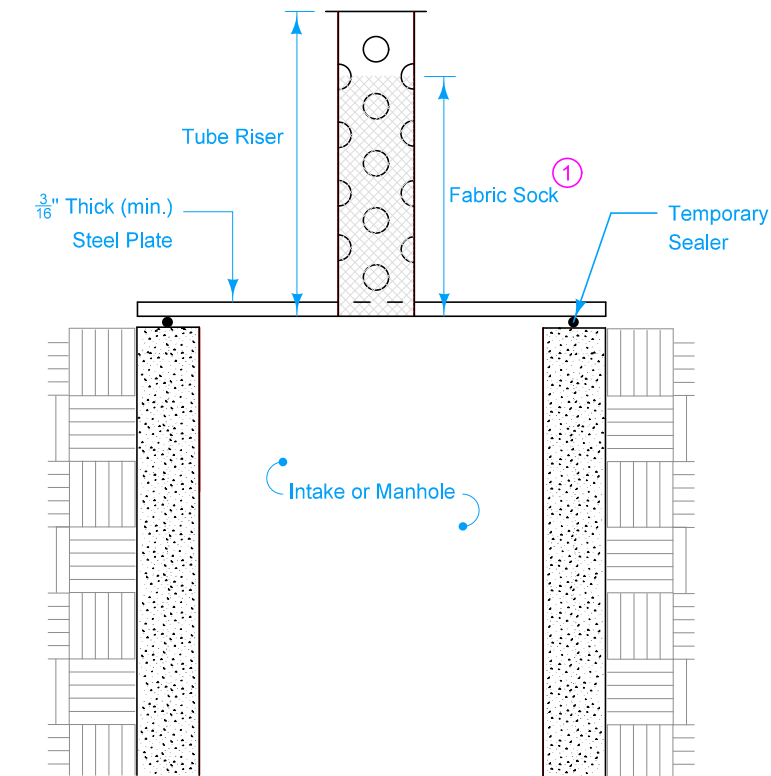


SEDIMENT FILTER PLACEMENT

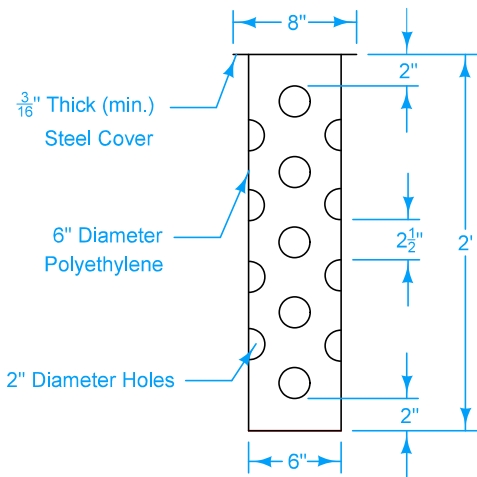
Possible Contract Items:
Open-throat Curb Intake Sediment Filter
Maintenance of Open-throat Curb Intake Sediment Filter
Removal of Open-throat Curb Intake Sediment Filter

Possible Tabulation:
100-36

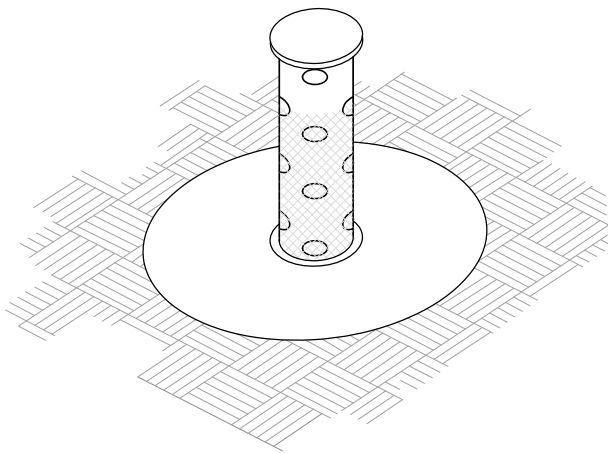
 IOWA DOT	REVISION	
	1	10-21-20
	EC-602	
STANDARD ROAD PLAN		SHEET 1 of 1
REVISIONS: Modified circle note 4.		
		
APPROVED BY DESIGN METHODS ENGINEER		
<div>OPEN-THROAT CURB INTAKE SEDIMENT FILTER</div>		



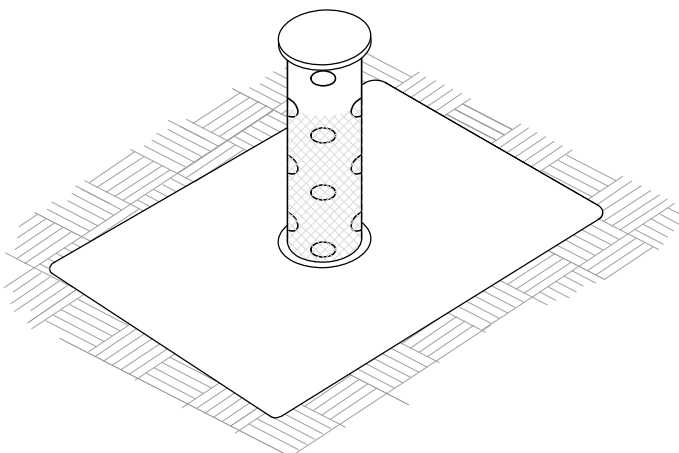
SECTION VIEW



TUBE RISER

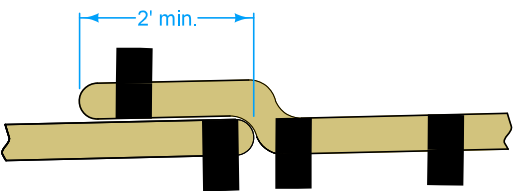
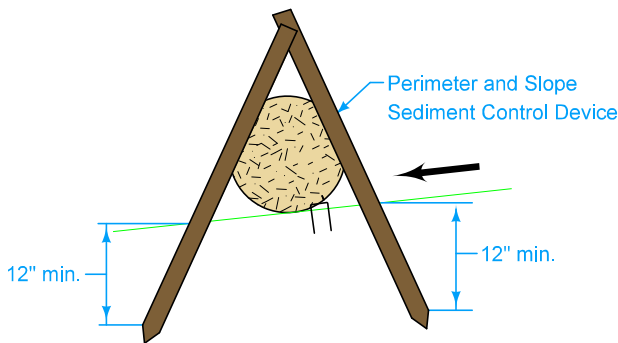
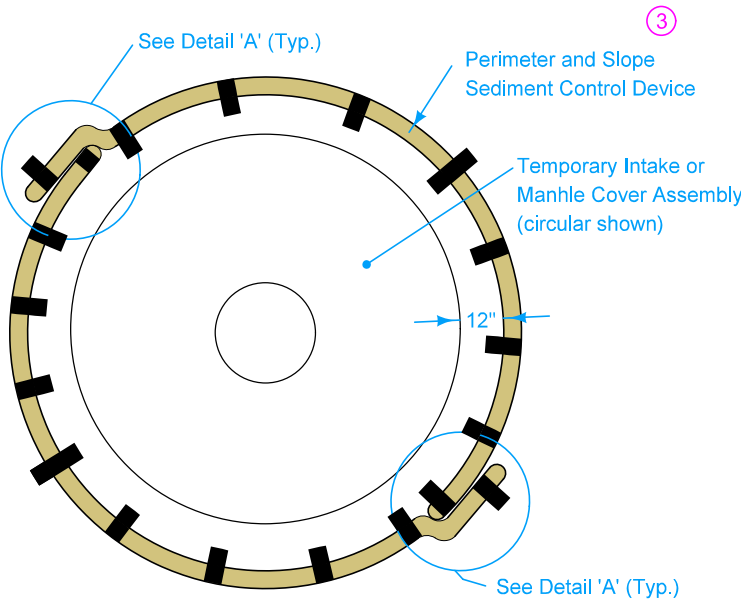


ISOMETRIC VIEW
(Circular)



ISOMETRIC VIEW
(Rectangular)

TEMPORARY INTAKE OR MANHOLE COVER ASSEMBLY



DETAIL 'A'
(Overlap Joint)

PERIMETER AND SLOPE SEDIMENT CONTROL

Method of Measurement for Temporary Intake or Manhole Cover Assembly will be by count.

Basis of Payment for Temporary Intake or Manhole Cover Assembly will be at the contract unit price for each device installed.

Method of Measurement for Maintenance of Temporary Intake or Manhole Cover Assembly will be by count.

Basis of Payment for Maintenance of Temporary Intake or Manhole Cover Assembly will be at the contract unit price for each occurrence. Payment is full compensation for inspecting fabric sock and replacing when flow capacity has been reduced to 50%.

Method of Measurement for Removal of Temporary Intake or Manhole Cover Assembly will be by count.

Basis of Payment for Removal of Temporary Intake or Manhole Cover Assembly will be at the contract unit price for each device removed.

- ① Wrap fabric sock around tube riser. Use fabric complying with Article 4196.01, B, 1 with a minimum flow rate of 90 gallons per minute per square foot. Ensure top of sock is below form grade elevation.
- ② Tube riser may be such that it can be pushed down and pulled up.
- ③ Place Perimeter and Slope Sediment Control Devices around all intake or manhole wells. Use 20 inch diameter device.
- ④ Extra material required to install overlaps will not be included in the installation length.

Possible Contract Items:
Temporary Intake or Manhole Cover Assembly
Maintenance of Temporary Intake or Manhole Cover Assembly
Removal of Temporary Intake or Manhole Cover Assembly
Perimeter and Slope Sediment Control Device

Possible Tabulations:
100-11
100-19

IOWA DOT	REVISION	
	New	10-17-23
STANDARD ROAD PLAN		EC-603
REVISIONS: New. Replaces Detail 570-5.		SHEET 1 of 1

APPROVED BY DESIGN METHODS ENGINEER

EROSION CONTROL FOR INTAKE
OR MANHOLE WELL

Use sediment filter bag consisting of woven material meeting the requirements of Table 4196.01-1 of the Standard Specifications, except a maximum apparent opening size of US Sieve No. 10 and a minimum flow rate of 145 gallons per minute per square foot. Sediment filter bags without steel grame and clamping bands will be allowed if overflow is provided.

Remove sediment filter bag upon stabilization of sediment sources.

Measurement for Grate Intake Sediment Filter Bag will be by count.

Basis of Payment for Grate Intake Sediment Filter Bag will be at the contract unit price for each device installed. Payment is full compensation for furnishing all equipment, labor, and materials required to install the Grate Intake Sediment Filter Bag as shown.

Method of Measurement for Maintenance of Grate Intake Sediment Filter Bag will be by count.

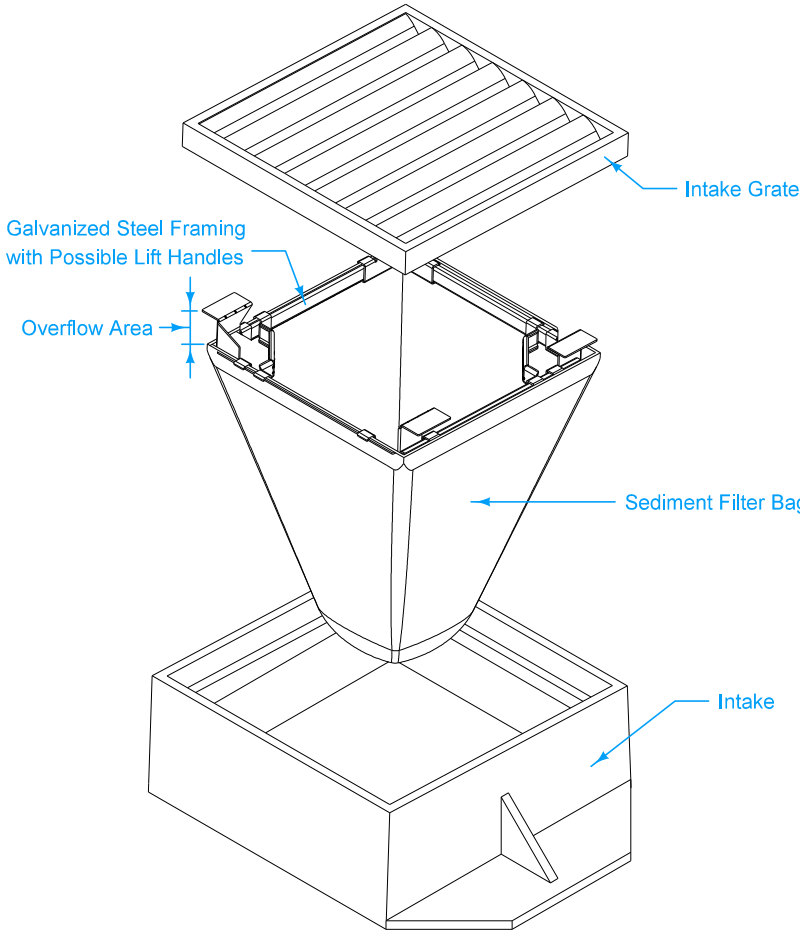
Basis of Payment for Maintenance of Grate Intake Sediment Filter Bag will be at the contract unit price for each occurence. Payment is full compensation for clean out and disposal of material when capacity reaches 50%, and for any other repair needed during the project.

Measurement for Removal of Grate Intake Sediment Filter Bag will be by count.

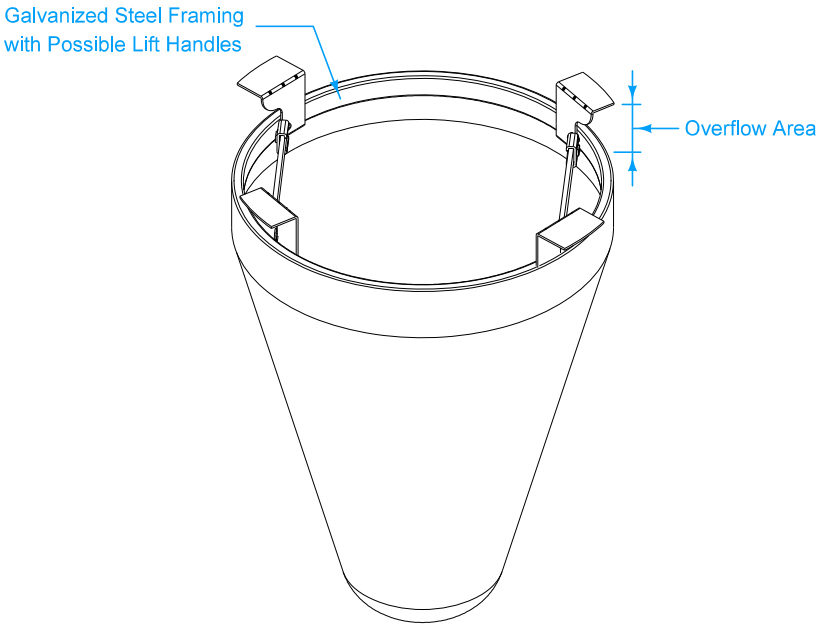
Basis of Payment for Removal of Grate Intake Sediment Filter Bag will be at the contract unit price for each device removed. Payment is full compensation for all labor and equipment required for removal.

Possible Contract Items:
Grate Intake Sediment Filter Bag
Maintenance of Grate Intake Sediment Filter Bag
Removal of Grate Intake Sediment Filter Bag

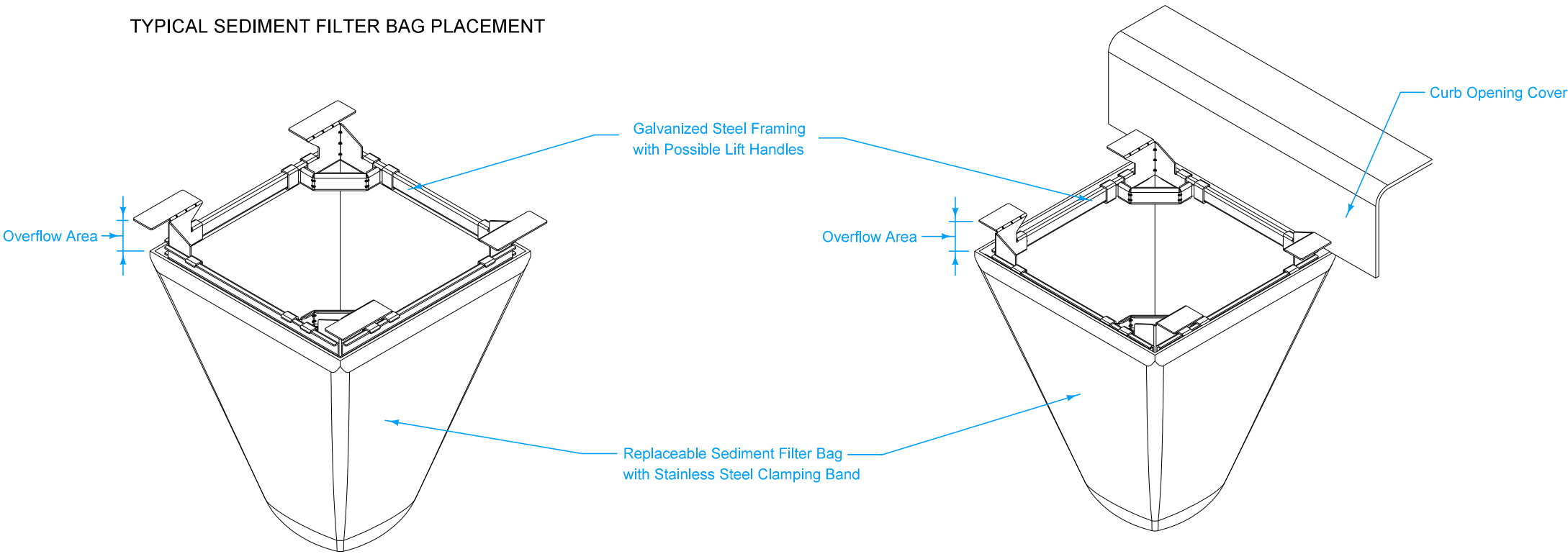
Possible Tabulation:
100-37



TYPICAL SEDIMENT FILTER BAG PLACEMENT



SEDIMENT FILTER BAG FOR CIRCULAR GRATE



SEDIMENT FILTER BAG FOR SQUARE OR RECTANGULAR GRATE

SEDIMENT FILTER BAG FOR COMBINATION GRATE WITH CURB OPENING

IOWA DOT	REVISION	
	New	10-17-23
STANDARD ROAD PLAN		EC-604
REVISIONS: New. Replaces Detail 570-7.		SHEET 1 of 1

APPROVED BY DESIGN METHODS ENGINEER

GRATE INTAKE SEDIMENT FILTER BAG

Seeding, Fertilizing, and Mulching

Design Manual
Chapter 10
Roadside Development
and Erosion Control

Originally Issued: 09-01-95

Revised: 07-27-21

Consult Roadside Development for assistance in determining the need for and the rates and quantities of seeding, fertilizing, and mulching. Roadside Development will provide a letter that lists the required bid items and the notes to be included in Tabulation [100-4A](#). Quantity is typically estimated by determining the area disturbed from edge of shoulder to 8 feet past the need line.

If the seeding, fertilizing, and mulching items contain less than 1 acre, they will typically be noted as incidental to construction and no bid item for these units will be required in the plan. When this is the case, one or more of the following standard notes is included in the plans:

- Standard Note [232-3A](#) (Rural Seeding).
- Standard Note [232-3B](#) (Urban Seeding).
- Standard Note [232-3C](#) (Native Grass Seeding).
- Standard Note [232-7](#) (Salvage and Removal Projects).
- Standard Note [232-11](#) (Stabilizing Crop Seeding).

See Section [1E-9](#) for more information regarding these standard notes.

When seeding is a bid item, seed mixtures should not be included in the Estimate Reference Information unless the mixture is different than the mixture provided in Section [2601](#) of the Standard Specifications.

When projects require Wetland Seeding, the Location and Environment Bureau will assist with presenting the areas in the plans. Designers will calculate the areas.

Permanent erosion control of ditches may require Special Ditch Control, Turf Reinforced Mat (TRM), or rock. Refer to the Permanent Erosion Control Matrix in the [Designer Info](#) for Standard Road Plan [EC-104](#) to determine the type of material appropriate for different ditch grades and lengths.

Chronology of Changes to Design Manual Section:

010B-001 Seeding, Fertilizing, and Mulching

7/27/2021	Revised Added guidance for permanent erosion control in ditches.
6/25/2019	Revised Updated hyperlinks. Updated header logo and text.
5/15/2014	Revised Changed "10 feet" dimensions to "8 feet" (mowers are 8 feet wide) and added reference to Section 2601 of the Standard Specifications for seed mixtures. Added information that when Wetland Seeding is required, OLE will assist designers with presenting the information in the plans. Moved some of the information associated with the standard notes to Section 1E-9.
5/8/2013	Revised Effective with October 2012 revision, Standard Note 232-3C can be used on projects with or without a 404 permit.
2/10/2012	Revised Updated information.
9/1/1995	NEW New material.

Traffic Control

TC

Traffic Control

NO.	DATE	TITLE
Two-Lane and Multi-Lane Roadways		
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-61	10-17-23	Two-Lane, Two-way Operation
TC-62	10-18-22	Permanent Two-Lane to Four-Lane Divided Transition
TC-63	04-18-23	Lane Closure at Two-Lane to Four-Lane Transition.
TC-64	04-18-23	Lane Closure at Two-Lane to Four-Lane Transition with Flagger
TC-81	04-18-23	Restricted Width Signing (Less Than 14.5 Feet)
Two-Lane Roadways		
TC-202	04-18-23	Work Within 15 ft of Traveled Way
TC-203	04-18-23	Aerial Seeding Operations
TC-211	10-15-19	Lane Closure on Low Volume Roadway
TC-212	04-18-23	Spot Location Lane Closure with Flaggers
TC-213	04-18-23	Lane Closure with Flaggers
TC-214	04-18-23	Lane Closure with Flaggers for use with Pilot Car
TC-215	4/1/62024	Lane Closure with Signals (Up to Three Days)
TC-216	04-18-23	Lane Closure with Signals
TC-217	04-18-23	Lane Closure with Signals and TBR
TC-218	04-18-23	Lane Closure with Pilot Car and Flagger Operated Signals
TC-228	04-18-23	Lane Closure Involving TWLTL
TC-231	04-18-23	Slow Moving Vehicle Operating in the Traffic Lane
TC-232	10-21-14	Shoulder Rumble Strip Operations
TC-233	10-17-17	Pavement Marking Operations Two-Lane
TC-234	04-18-23	Strip Sealing Operations
TC-235	04-18-23	Edge Rut Repair
TC-251	04-18-23	Temporary Road Closure
TC-252	04-21-20	Routes Closed to Traffic

Traffic Control

NO.	DATE	TITLE
TC-253	04-18-23	Paved On-Site Detour
TC-271	04-18-23	Signalized Equipment Crossing
TC-272	04-18-23	Unsignalized Equipment Crossing
TC-273	10-15-19	Construction Site Entrance
TC-282	10-15-19	Uneven Lanes
TC-283	04-18-23	Surveying Operations
TC-284	10-15-19	No Centerline Markings on Non-Primary Roadways
Multi-Lane Roadways		
TC-402	04-18-23	Work Within 15 ft of Traveled Way
TC-403	04-18-23	Aerial Seeding Operations
TC-415	04-18-23	Short Term Lane Closure with TMA
TC-416	10-15-19	Partial Lane Closure on Ramps
TC-417	04-21-20	Ramp Closure
TC-418	04-18-23	Lane Closure on Divided Highway
TC-419	04-18-23	Lane Closure on Undivided Highway
TC-420	10-16-18	Lane Closure at Ramps
TC-421	04-16-24	Lane Closure with TBR
TC-422	04-18-23	Closure of Two Adjacent Lanes on Divided Highway
TC-423	04-18-23	Closure of Two Adjacent Lanes on Undivided Highway
TC-429	04-18-23	Closure of Continuous Two-Way Left Turn Lane and Adjacent Lane
TC-431	04-16-24	Slow Moving Vehicle Operating in the Traffic Lane
TC-432	10-17-17	Shoulder Rumble Strip Operations
TC-433	10-17-17	Pavement Marking Operations
TC-435	04-18-23	Multi-Line Closure For Mobile Operation 50 mph or Greater
TC-451	04-18-23	Temporary Road Closure on Divided Highway
TC-454	04-18-23	Temporary Detour Using Ramps on Divided Highway
TC-482	04-19-22	Uneven Lanes

Traffic Control

SECTION

TC

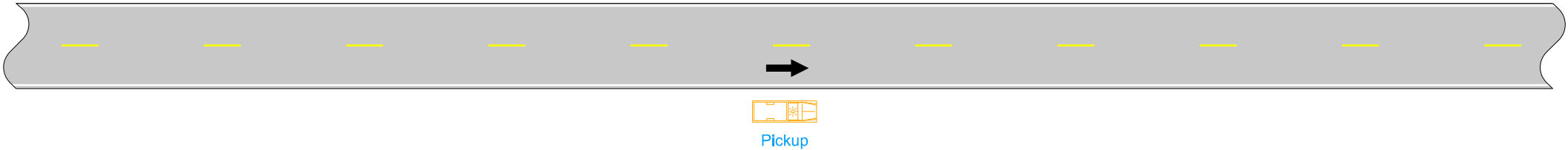
NO.	DATE	TITLE
TC-601	10-15-19	Pedestrian Detour
TC-602	10-15-19	Sidewalk Diversion

Do not allow work to interfere with the flow of traffic.

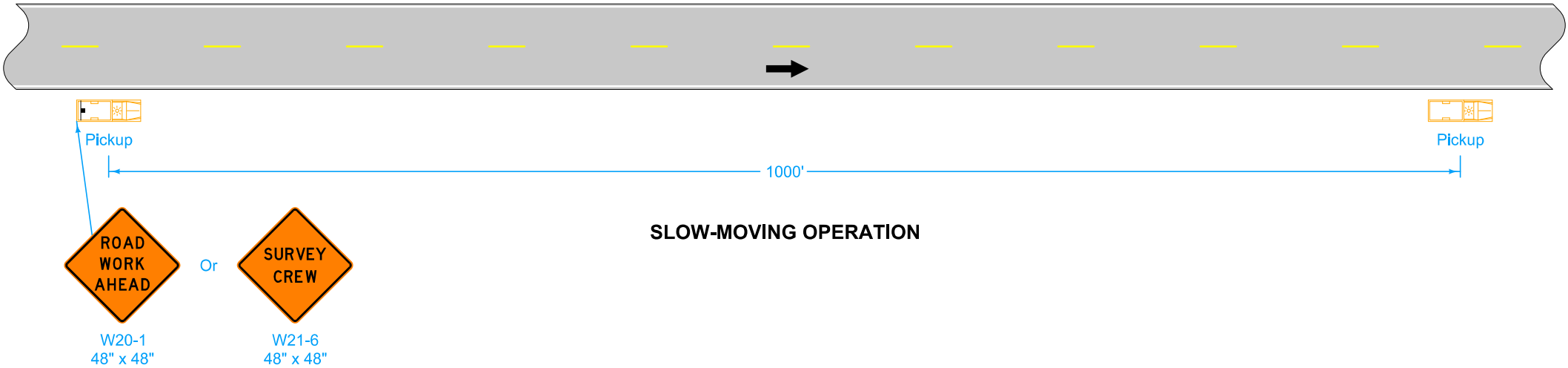
When parked, locate vehicles as far from the open traffic lane as possible. Entrances and driveways should be used whenever appropriate.

Equip all vehicles with an amber revolving light or amber strobe light.

① For work lasting longer than one hour, refer to [TC-202](#) or [TC-402](#).



VEHICLE STOPPED ON SHOULDER FOR LESS THAN ONE HOUR ①



SLOW-MOVING OPERATION

Possible Contract Item:
Traffic Control


LEGEND



Traffic Sign




Direction of Traffic



STANDARD ROAD PLAN

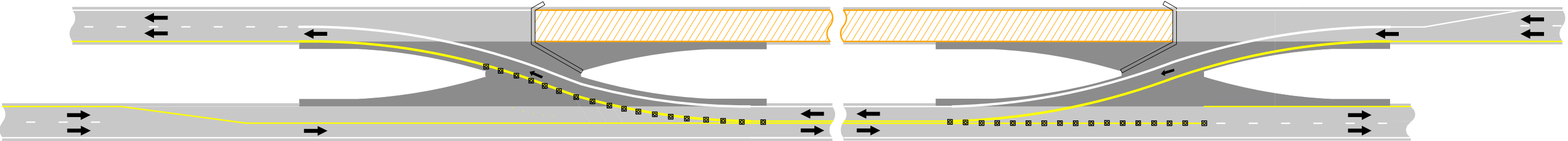
REVISIONS: New logo.



APPROVED BY DESIGN METHODS ENGINEER

WORK NOT AFFECTING TRAFFIC
(TWO-LANE OR MULTI-LANE)

REVISION	
3	10-15-19
TC-1	
SHEET 1 of 1	



See Sheets 2 and 4 for Details

See Sheets 3 and 4 for Details

OVERVIEW OF CROSSOVER

Place Two-Way Traffic symbol and DO NOT PASS signs alternately on both sides of the roadway at a maximum of one-half mile intervals for both directions of travel. Always have signs in sight of motorists.

Possible Contract Items:

- Painted Symbols and Legends

Pavement Marking Items

Pavement Marking Removed


Safety Closures
- Temporary Floodlighting

Temporary Lane Separator System

Traffic Control

Possible Tabulations:


[108-13A](#), [108-22](#), [108-27](#), [108-29](#), [108-30](#), [108-33](#), [108-35](#)



STANDARD ROAD PLAN

REVISIONS:

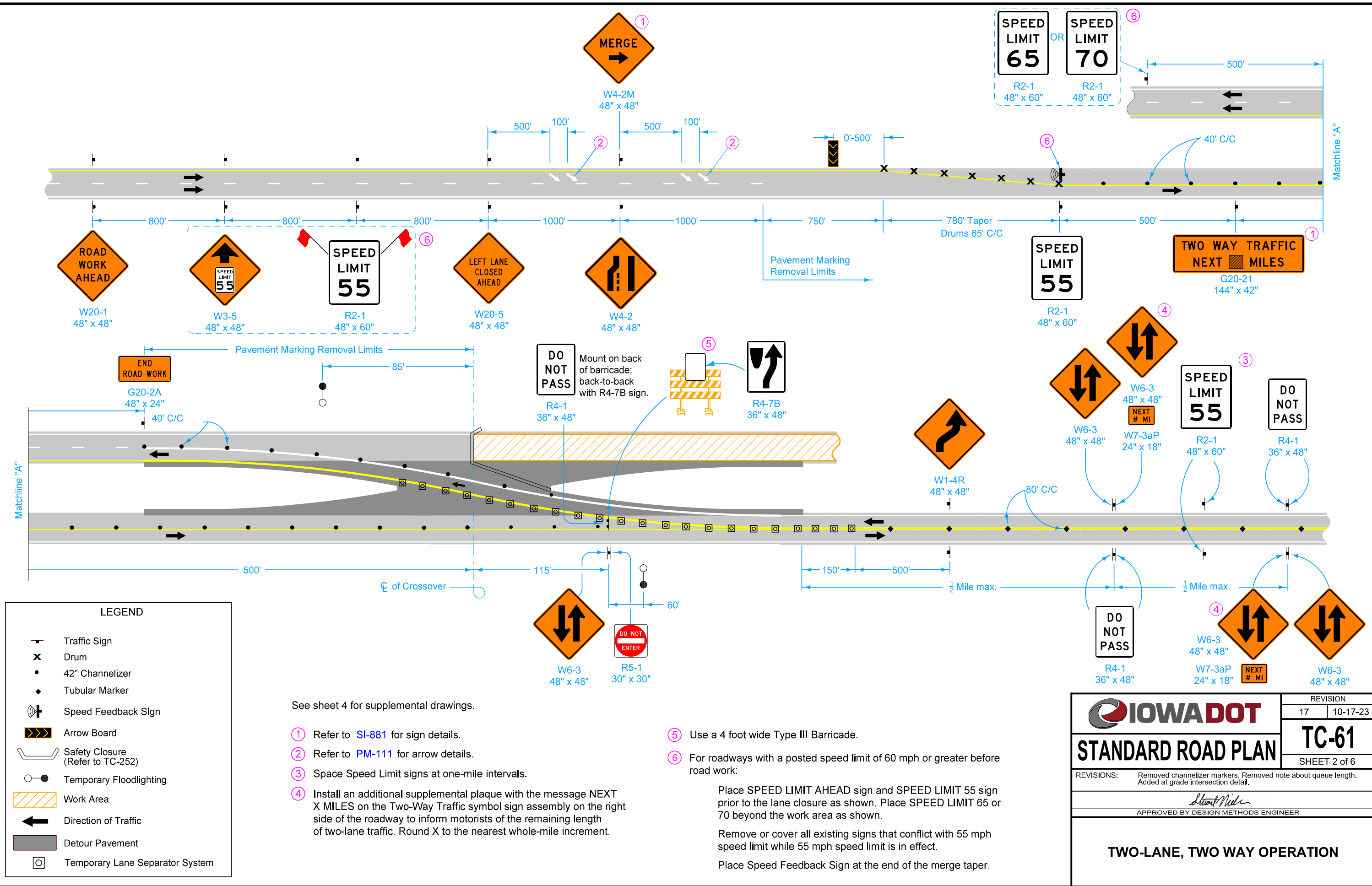
Removed channelizer markers. Removed note about queue length.
Added at grade intersection detail.

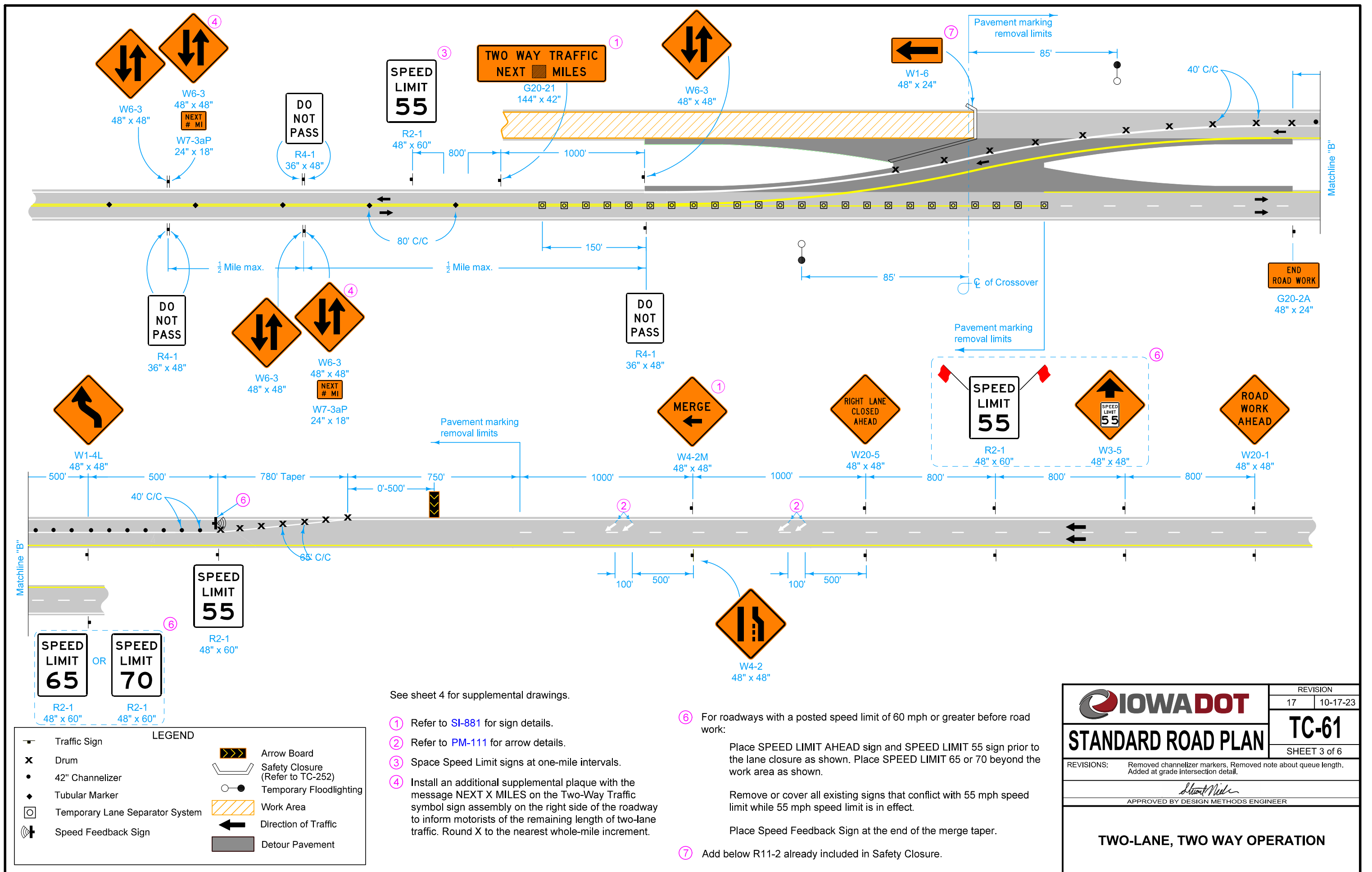


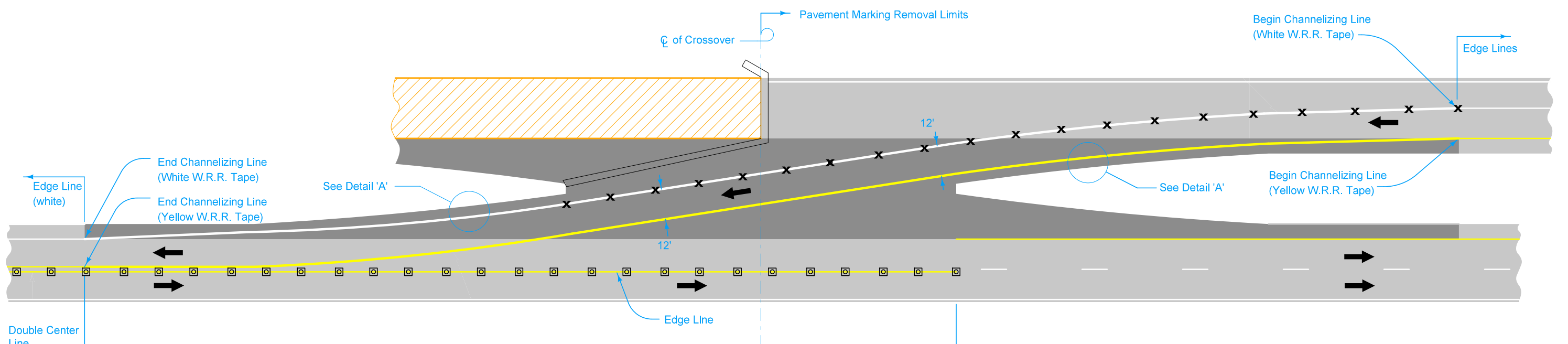
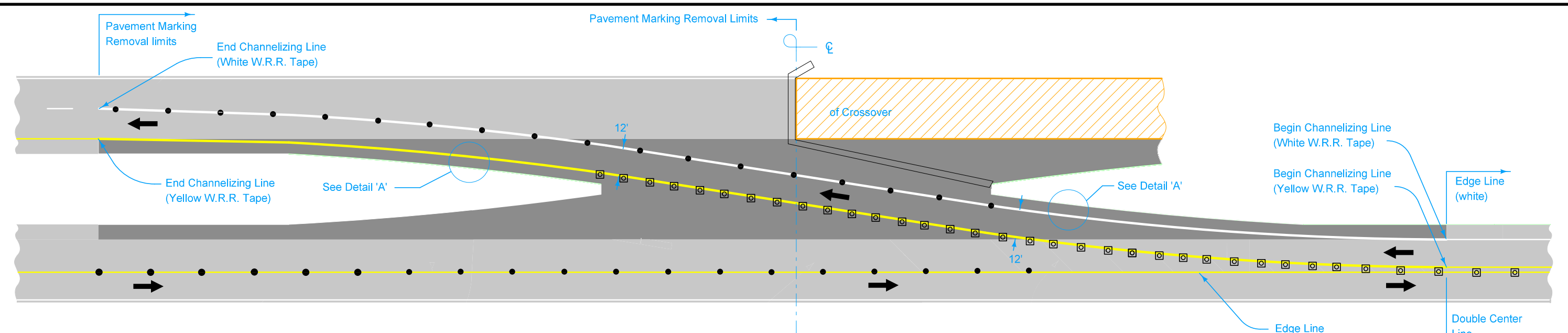
APPROVED BY DESIGN METHODS ENGINEER

TWO-LANE, TWO WAY OPERATION

REVISION		
17	10-17-23	
TC-61		
SHEET 1 of 6		

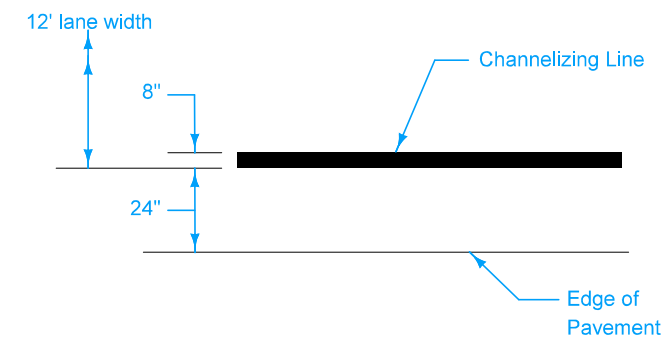






LEGEND

- ✕ Drum
- 42" Channelizer
- Work Area
- ← Direction of Traffic
- Detour Pavement
- Safety Closure (Refer to TC-252)
- Temporary Lane Separator System



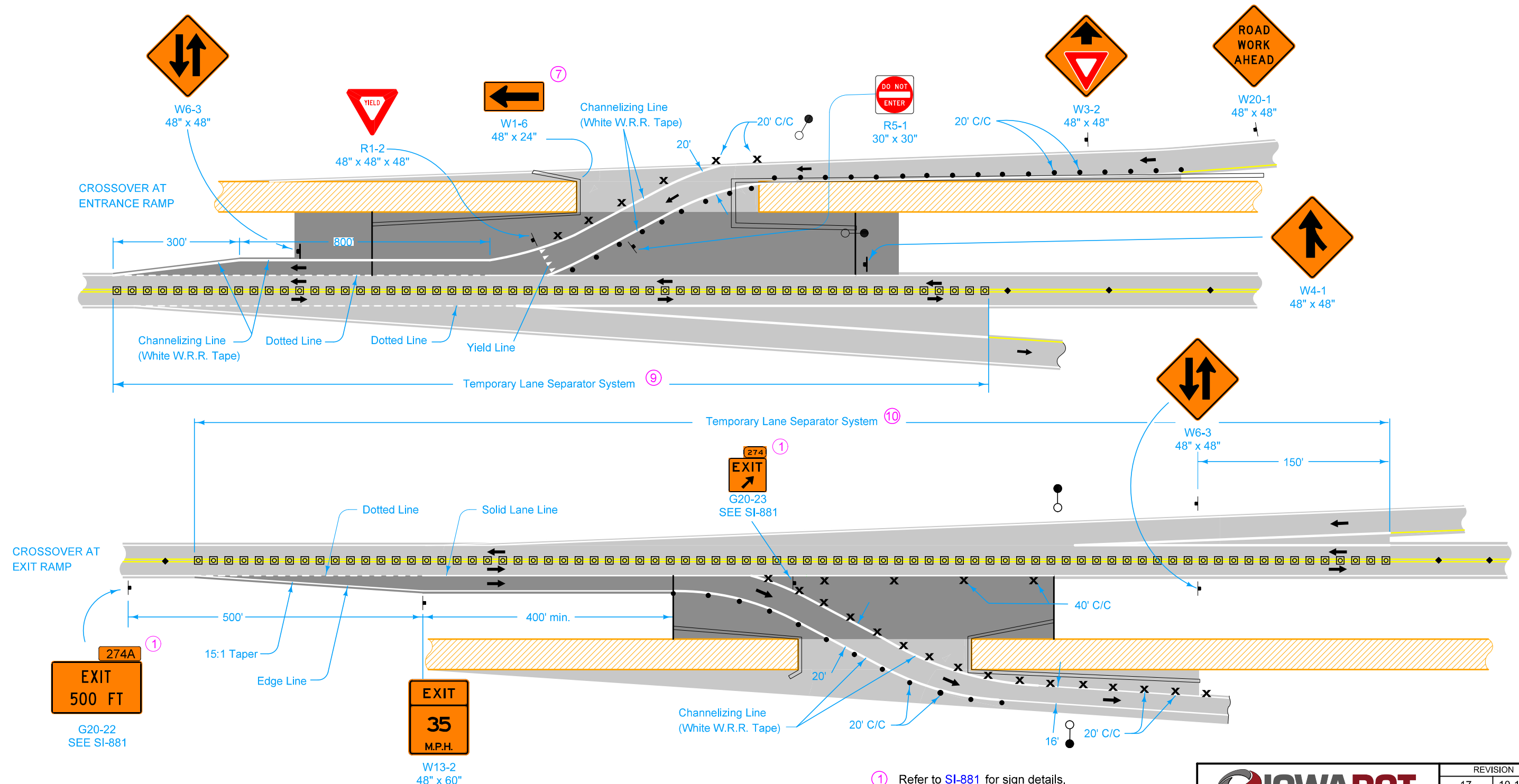
DETAIL 'A'

SUPPLEMENTAL CROSSOVER DRAWINGS ⁸

⁸ Details shown hereon are intended to provide additional information to the requirements shown on sheets 2 and 3.

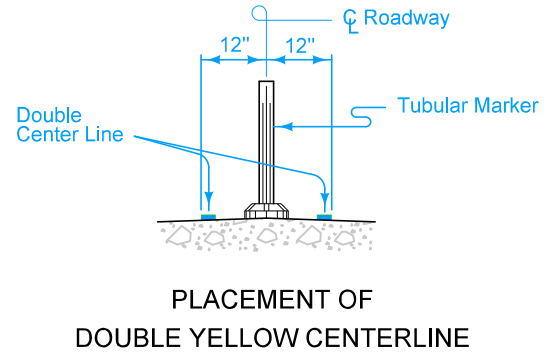
	REVISION	
	17	10-17-23
	TC-61	
SHEET 4 of 6		
REVISIONS: Removed channelizer markers. Removed note about queue length. Added at grade intersection detail.		
APPROVED BY DESIGN METHODS ENGINEER		
TWO-LANE, TWO WAY OPERATION		

RAMP LOCATIONS



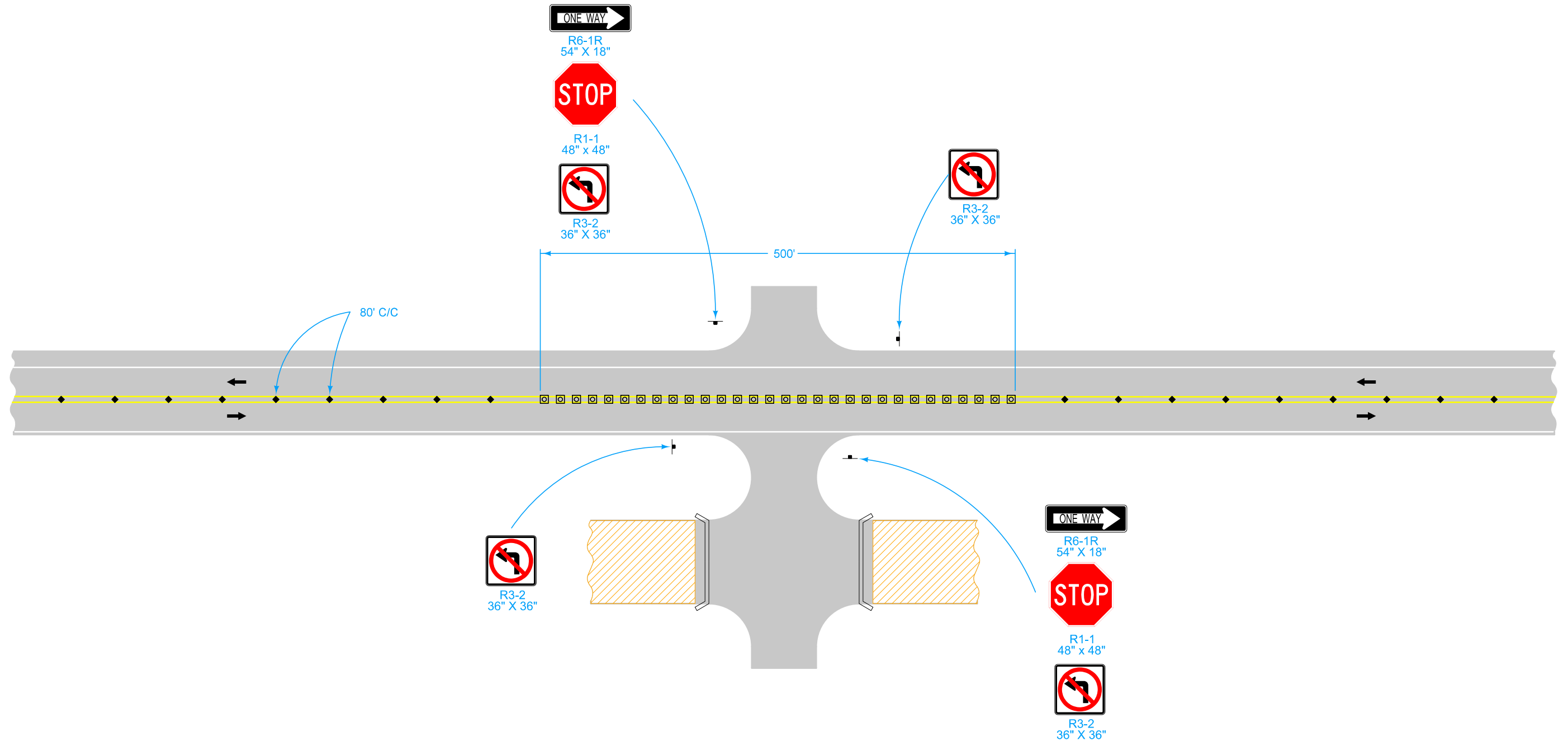
LEGEND

	Traffic Sign		Temporary Lane Separator System
	42" Channelizer		Work Area
	Drum		Detour Pavement
	Tubular Marker		Direction of Traffic
	Temporary Floodlighting		Safety Closure (Refer to TC-252)



- ① Refer to SI-881 for sign details.
- ⑦ Add below R11-2 already included in Safety Closure.
- ⑨ Place TLSS from start of ramp gore to end of temporary ramp crossover.
- ⑩ Place TLSS from start of full width decel lane to end of ramp gore.

 STANDARD ROAD PLAN	REVISION	
	17	10-17-23
	TC-61 SHEET 5 of 6	
REVISIONS: Removed channelizer markers. Removed note about queue length. Added at grade intersection detail.		
APPROVED BY DESIGN METHODS ENGINEER 		
TWO-LANE, TWO WAY OPERATION		



Traffic Control for At-Grade Intersections
(Right-In, Right-Out)

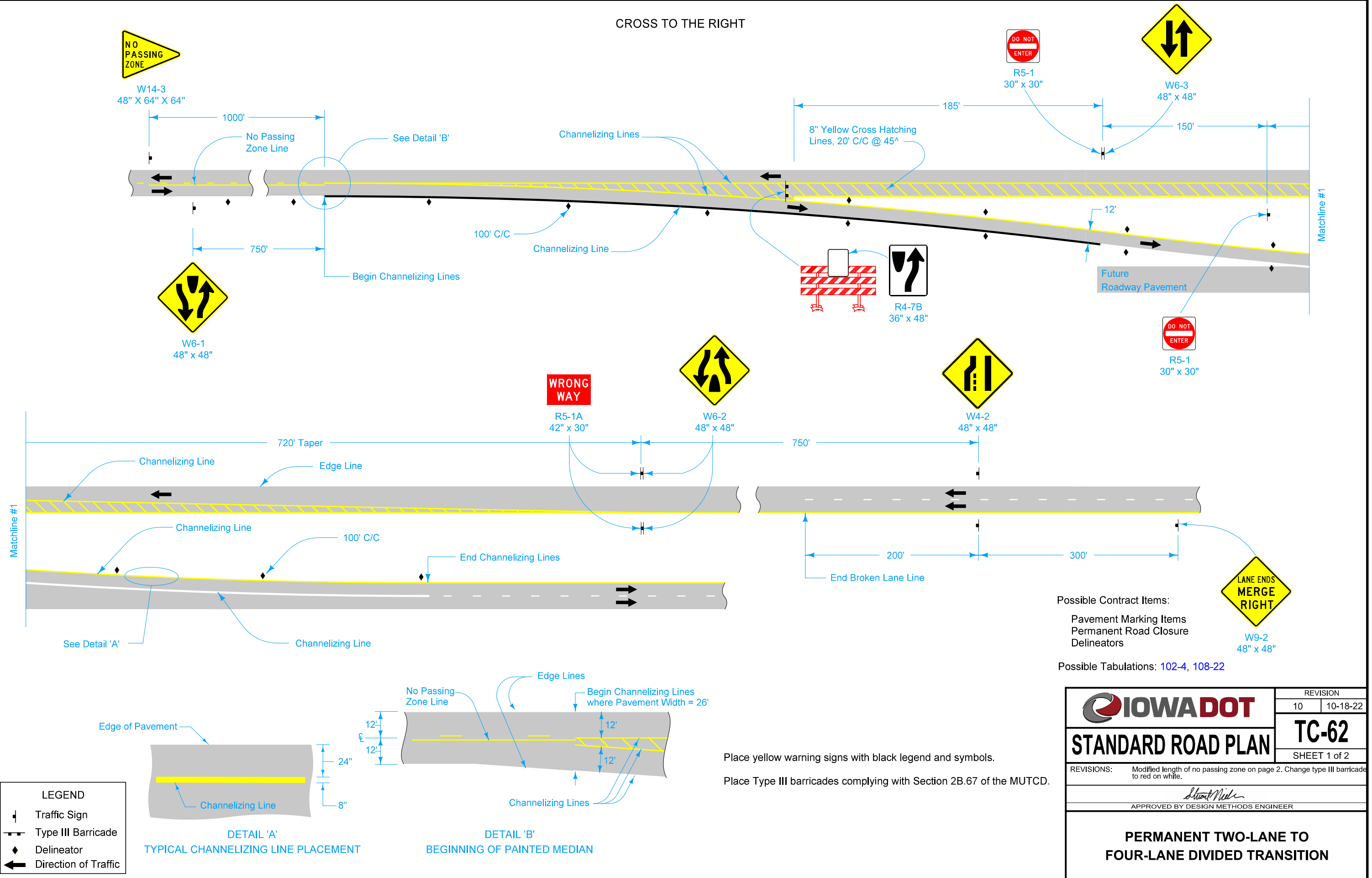
Traffic Sign
 Tubular Marker
 Direction of Traffic

LEGEND

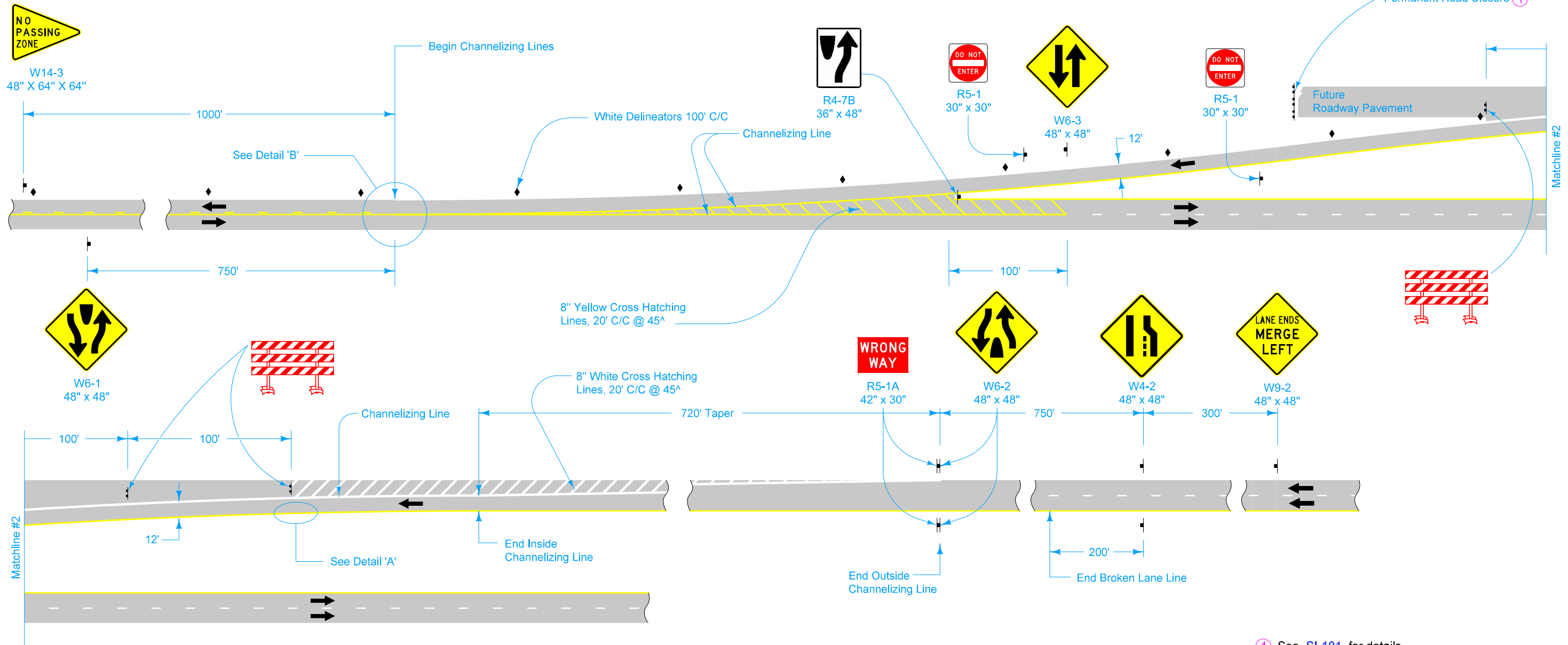
 Temporary Lane Separator System
 Work Area
 Safety Closure (Refer to TC-252)

	REVISION	
	17	10-17-23
	TC-61	
SHEET 6 of 6		
REVISIONS: Removed channelizer markers. Removed note about queue length. Added at grade intersection detail.		
APPROVED BY DESIGN METHODS ENGINEER		
TWO-LANE, TWO WAY OPERATION		

CROSS TO THE RIGHT





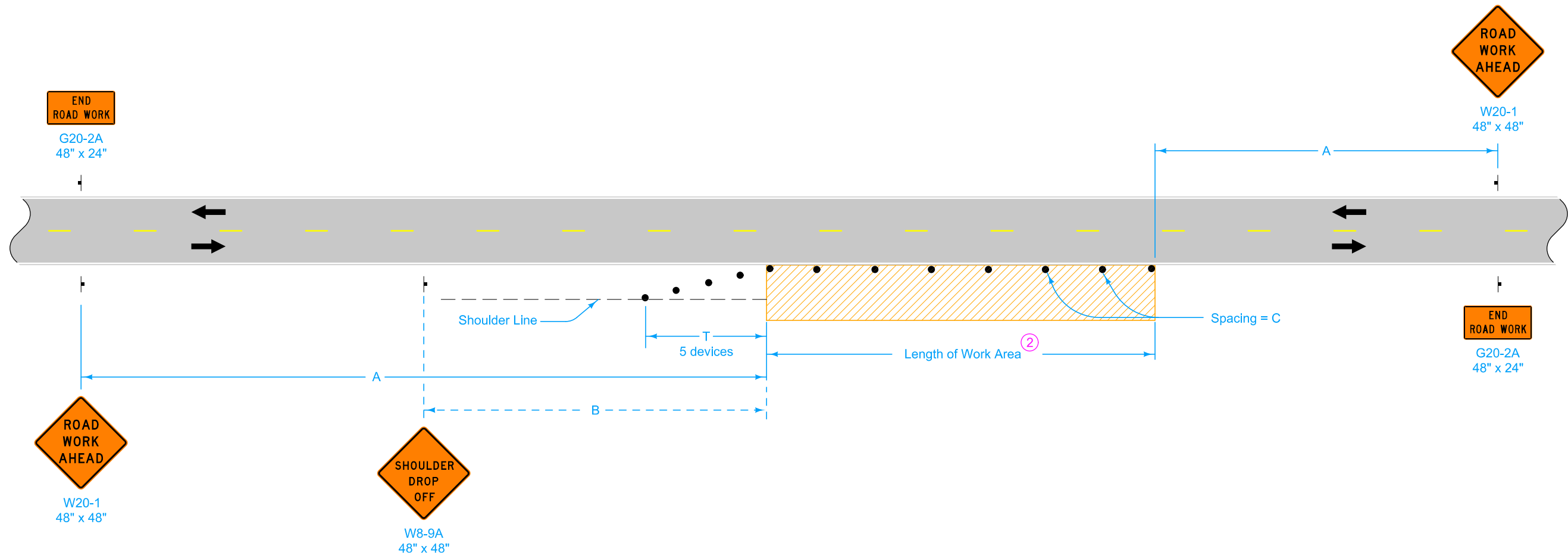
CROSS TO THE LEFT



① See SI-181 for details.

LEGEND	
	Traffic Sign
	Type III Barricade
	Delineator
	Direction of Traffic

 IOWA DOT	REVISION	
	10	10-18-22
	TC-62	
	SHEET 2 of 2	
REVISIONS:	Modified length of no passing zone on page 2. Change type III barricade to red on white.	
		
APPROVED BY DESIGN METHODS ENGINEER		
PERMANENT TWO-LANE TO FOUR-LANE DIVIDED TRANSITION		



When a pavement edge drop-off exists, install a SHOULDER DROP-OFF sign.

No pavement edge drop-offs greater than pavement depth will be allowed during non-working hours.

Shoulder edge drop-offs shall be mitigated according to Article 1107.08.K2 of the Standard Specifications.

For work lasting less than one hour, refer to TC-1.

Possible Contract Item:
Traffic Control

LEGEND

Traffic Sign

42" Channelizer

Work Area

Direction of Traffic

SPEED LIMIT (mph)*	A	B	C ^②	T
35 or less	500'	250'	40'	100'
40 - 45	700'	350'	80' ①	200'
50 or greater	1000'	500'	100' ①	200'

* Speed Limit refers to regulatory speed limit before road work.

① When the length of a pavement edge drop-off is 1000 feet or less, the temporary fillet requirement of Article 1107.08 of the Standard Specifications does not apply. Reduce channelizer spacing to 40 feet.

② For work areas less than 200 feet long, use channelizers spaced at 20 foot centers or use a vehicle with an amber revolving light or amber strobe light.

STANDARD ROAD PLAN

REVISIONS: Added speed limit note.

APPROVED BY DESIGN METHODS ENGINEER

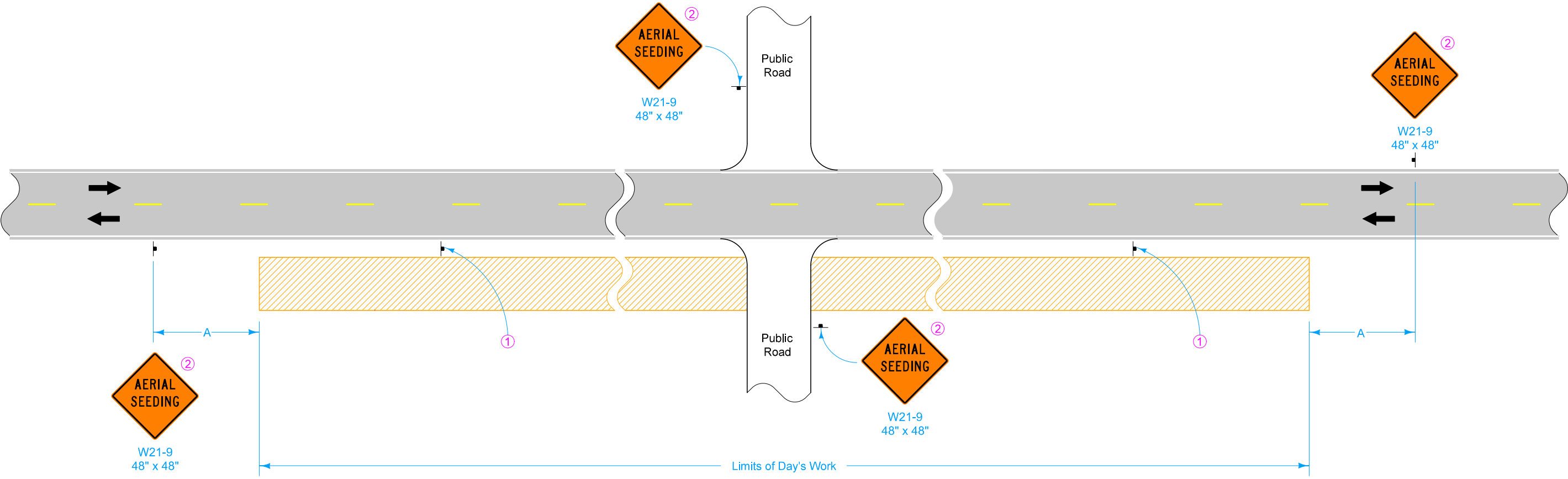
WORK WITHIN 15 FT OF TRAVELED WAY

REVISION

104-18-23

TC-202

SHEET 1 of 1



- ① Place AERIAL SEEDING signs along the mainline at a maximum spacing of 3 miles.
- ② Refer to [SI-881](#) for sign details.

Possible Contract Item:
Traffic Control

LEGEND

Traffic Sign

Work Area

Direction of Traffic

SPEED LIMIT (mph)*	A
35 or less	250'
40 - 45	350'
50 or greater	500'

* Speed Limit refers to regulatory speed limit before road work.

STANDARD ROAD PLAN

REVISIONS: Added speed limit note.

APPROVED BY DESIGN METHODS ENGINEER

AERIAL SEEDING OPERATIONS

REVISION	
5	4-18-23

TC-203

SHEET 1 of 1

The diagram illustrates the placement of 'ONE LANE ROAD AHEAD' signs in two scenarios: restricted sight and unrestricted sight.

AREAS OF RESTRICTED SIGHT (Typically a "No-Passing" Zone):

- The diagram shows a two-lane road with a dashed yellow center line and solid grey shoulders.
- A vehicle is shown in the left lane, approaching a 'No Passing Zone Line' (dashed yellow line).
- A 'ONE LANE ROAD AHEAD' sign (W20-4, 48" x 48") is placed on the left shoulder, with a distance 'A' (1 Mile Maximum) to the 'No Passing Zone Line'.
- A 'BE PREPARED TO STOP' sign (W20-7B, 48" x 48") is placed on the left shoulder, with a distance of 150' Desirable to the 'No Passing Zone Line'.
- A 'ONE LANE ROAD AHEAD' sign (W20-4, 48" x 48") is placed on the right shoulder, with a distance of 150' to the 'No Passing Zone Line'.
- A 'ONE LANE ROAD AHEAD' sign (W20-4, 48" x 48") is placed on the right shoulder, with a distance of 150' to the 'No Passing Zone Line'.
- A 'ONE LANE ROAD AHEAD' sign (W20-4, 48" x 48") is placed on the right shoulder, with a distance of 150' to the 'No Passing Zone Line'.

AREAS OF UNRESTRICTED SIGHT:

- The diagram shows a two-lane road with a dashed yellow center line and solid grey shoulders.
- A vehicle is shown in the left lane, approaching a 'No Passing Zone Line' (dashed yellow line).
- A 'ONE LANE ROAD AHEAD' sign (W20-4, 48" x 48") is placed on the left shoulder, with a distance 'A' (1 Mile Maximum) to the 'No Passing Zone Line'.
- A 'BE PREPARED TO STOP' sign (W20-7B, 48" x 48") is placed on the left shoulder, with a distance of 150' Desirable to the 'No Passing Zone Line'.
- A 'ONE LANE ROAD AHEAD' sign (W20-4, 48" x 48") is placed on the right shoulder, with a distance of 150' to the 'No Passing Zone Line'.
- A 'ONE LANE ROAD AHEAD' sign (W20-4, 48" x 48") is placed on the right shoulder, with a distance of 150' to the 'No Passing Zone Line'.
- A 'ONE LANE ROAD AHEAD' sign (W20-4, 48" x 48") is placed on the right shoulder, with a distance of 150' to the 'No Passing Zone Line'.
- A 'ONE LANE ROAD AHEAD' sign (W20-4, 48" x 48") is placed on the right shoulder, with a distance of 150' to the 'No Passing Zone Line'.

Shoulder line

Shoulder line

ONE LANE ROAD AHEAD



W20-4
48" x 48"

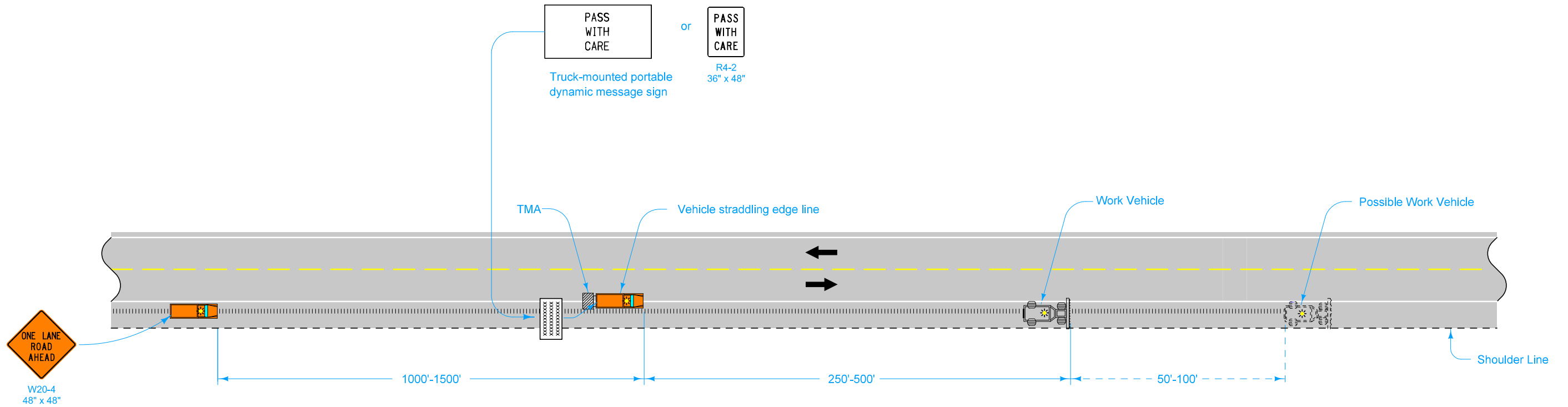
A

200' Maximum

Equip all vehicles with an amber revolving light or an amber strobe light.

- Possible Contract Items:
Flaggers
Traffic Control

 IOWA DOT	REVISION	
	4	4-18-23
STANDARD ROAD PLAN	TC-231	
	SHEET 1 of 1	
REVISIONS: Added speed limit note. Formatted speed limit table.		
		
APPROVED BY DESIGN METHODS ENGINEER		
<p style="text-align: center;"> SLOW MOVING VEHICLE OPERATING IN THE TRAFFIC LANE </p>		



LEGEND

- Traffic Sign
- Truck Mounted Attenuator (TMA)
- Direction of Traffic

When fog sealing the milled rumble strips, place a 48" X 48" FRESH OIL sign (W21-2) at the beginning of the work area. Place additional FRESH OIL signs after each intersection and periodically through the work area so that signs are no more than 2 miles apart.

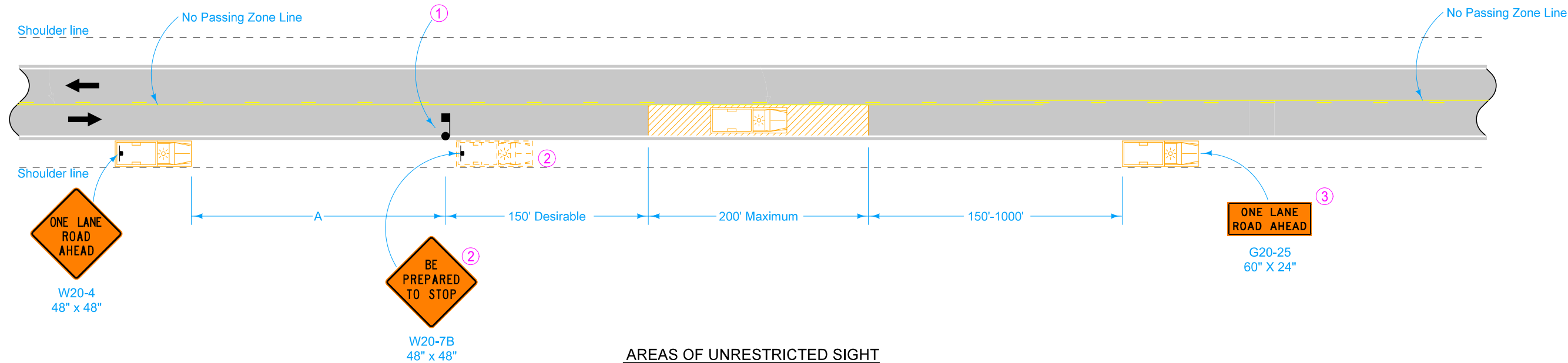
Operators should adjust their spacing, as necessary, to keep adjacent vehicles within view.

Equip all vehicles with an amber revolving light or amber strobe light.

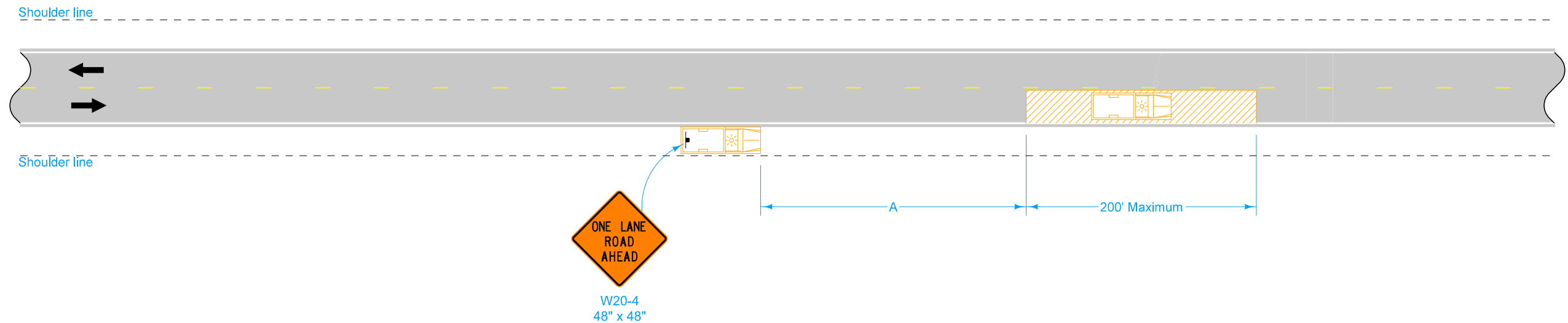
Possible Contract Item:
Traffic Control

 STANDARD ROAD PLAN	REVISION	
	4	10-21-14
	TC-232	
SHEET 1 of 1		
REVISIONS: Changed "changeable message sign" to "portable dynamic message sign".		
 APPROVED BY DESIGN METHODS ENGINEER		
SHOULDER RUMBLE STRIP OPERATIONS		

AREAS OF RESTRICTED SIGHT
(Typically a "No-Passing" Zone)



AREAS OF UNRESTRICTED SIGHT



LEGEND

- Direction of Traffic
- Flagger
- Traffic Sign
- Work Area
- Work Vehicle

SPEED LIMIT (mph)*	A min.
25 or less	200'
30-35	300'
40-45	500'
50 or greater	1000'

* Speed Limit refers to regulatory speed limit before road work.

For stops exceeding 15 minutes or in heavy traffic situations, use [TC-213](#).

Equip all vehicles with an amber revolving light or an amber strobe light.

- 1 When a stop is made in an area of restricted sight distance, use a flagger to hold traffic in the closed lane and allow to pass when conditions are safe.
- 2 This vehicle and sign may be used in lieu of a flagger.
- 3 Refer to [SI-881](#) for sign details.

STANDARD ROAD PLAN

REVISIONS: Added speed limit note. Formatted speed limit table.

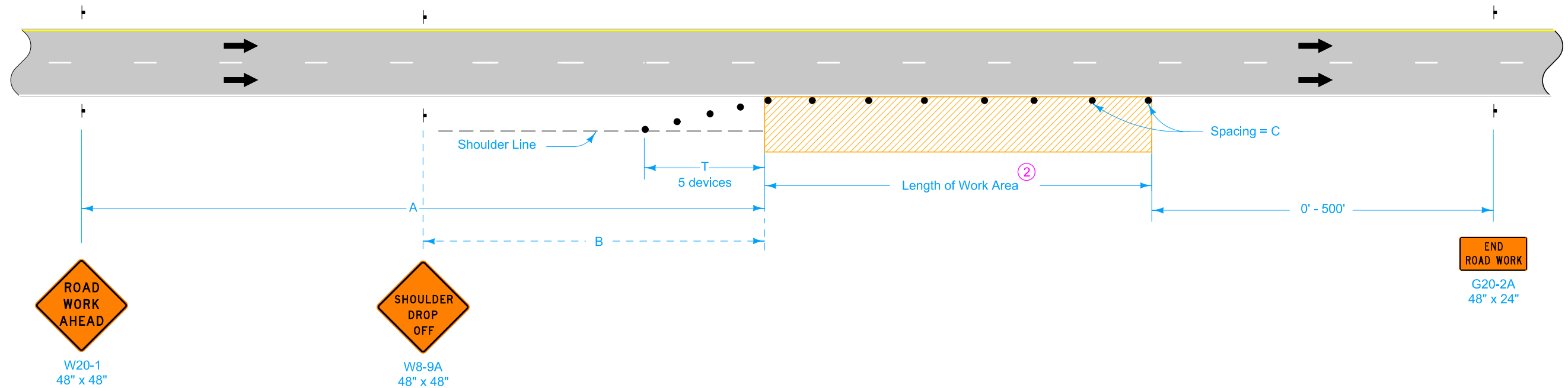
APPROVED BY DESIGN METHODS ENGINEER

EDGE RUT REPAIR

REVISION	
2	4-18-23

TC-235

SHEET 1 of 1



When a pavement edge drop-off exists, install a SHOULDER DROP-OFF sign.

No pavement edge drop-offs greater than pavement depth will be allowed during non-working hours.

Shoulder edge drop-offs shall be mitigated according to Article 1107.08.K2 of the Standard Specifications.

For work lasting less than one hour, refer to TC-1.

Possible Contract Item:
Traffic Control

LEGEND

Traffic Sign

42" Channelizer

Work Area

Direction of Traffic

SPEED LIMIT (mph)*	A	B	C ^②	T
40 or less	500'	250'	40'	100'
45 - 50	700'	350'	80' ①	200'
55 - 60	1500'	500'	100' ①	200'
65 - 70	1500'	500'	100' ①	230'

* Speed Limit refers to regulatory speed limit before road work.

- ① When the length of a pavement edge drop-off is 1000 feet or less, the temporary fillet requirement of Article 1107.08 of the Standard Specifications does not apply. Reduce channelizer spacing to 40 feet.
- ② For work areas less than 200 feet long, use channelizers spaced at 20 foot centers or use a vehicle with an amber revolving light or amber strobe light.

STANDARD ROAD PLAN

REVISIONS: Added speed limit note.

APPROVED BY DESIGN METHODS ENGINEER

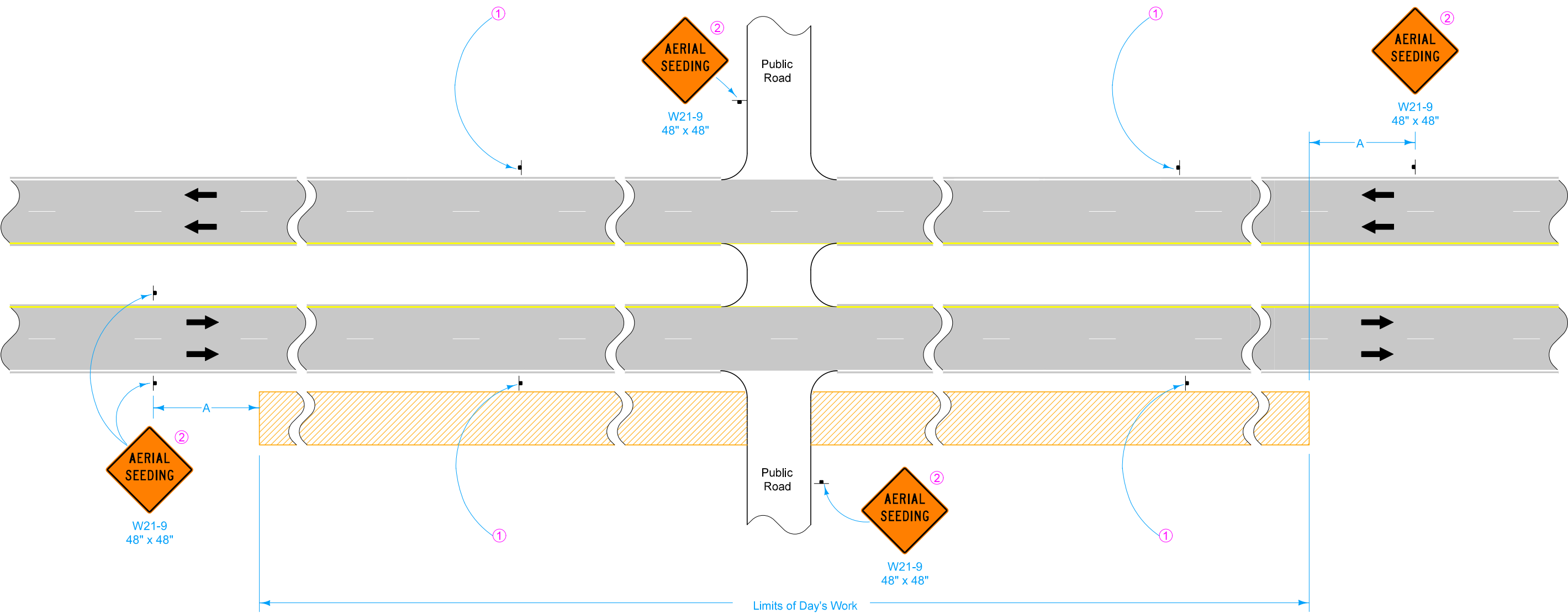
WORK WITHIN 15 FT OF TRAVELED WAY

REVISION

104-18-23

TC-402

SHEET 1 of 1



- ① Place AERIAL SEEDING signs along the mainline at a maximum spacing of 3 miles.
- ② Refer to [SI-881](#) for sign details.

Possible Contract Item:
Traffic Control

LEGEND

Traffic Sign

Work Area

Direction of Traffic

SPEED LIMIT (mph)*	A
35 or less	250'
40 - 45	500'
50 or greater	500'

* Speed Limit refers to regulatory speed limit before road work.

STANDARD ROAD PLAN

REVISIONS: Added speed limit note.

APPROVED BY DESIGN METHODS ENGINEER

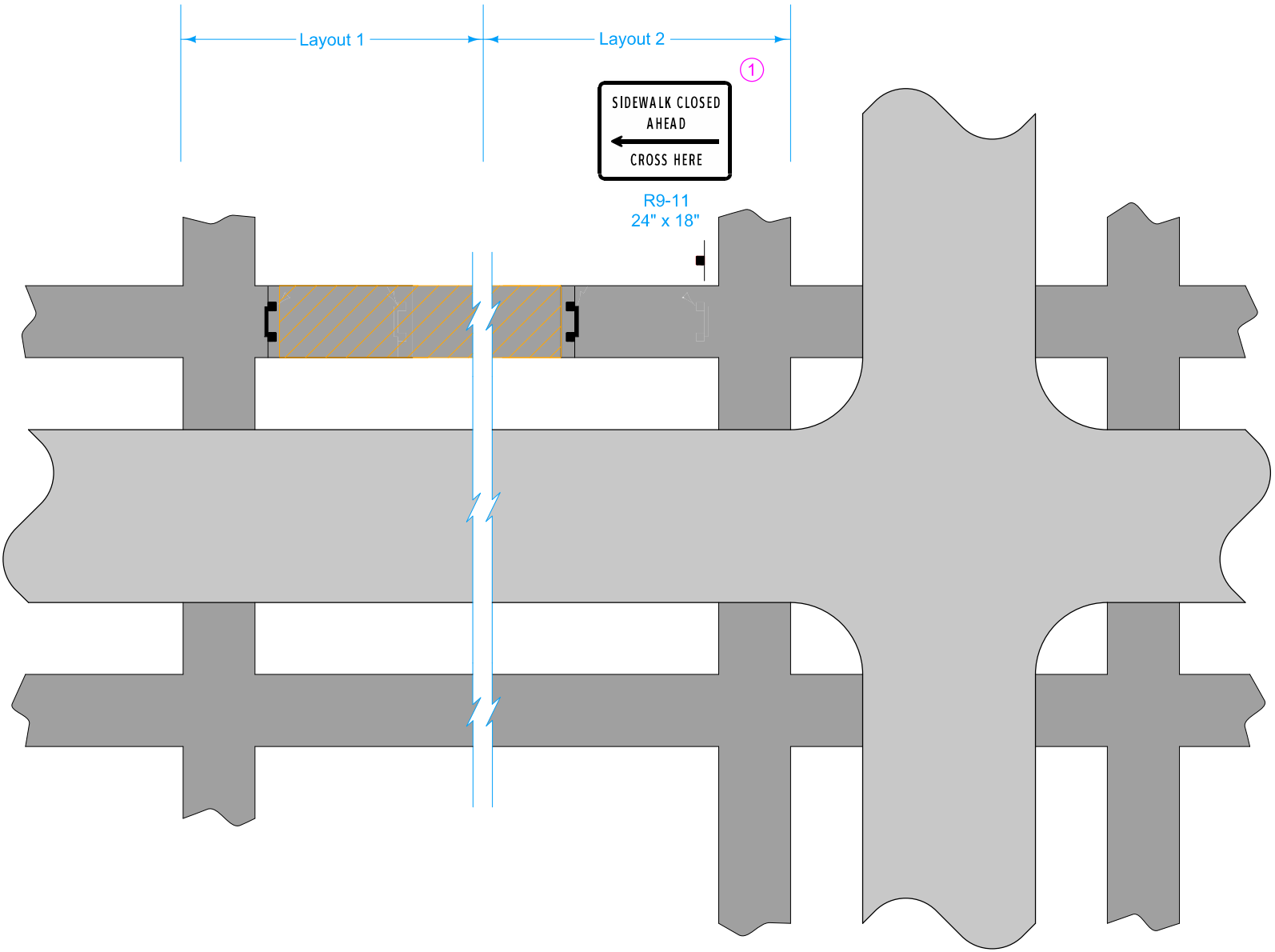
AERIAL SEEDING OPERATIONS

REVISION	
5	4-18-23

TC-403

SHEET 1 of 1

① Omit "SIDEWALK CLOSED AHEAD CROSS HERE" (R9-11) sign when closure is at sidewalk intersection as shown in layout 1.





MID-BLOCK CLOSURE

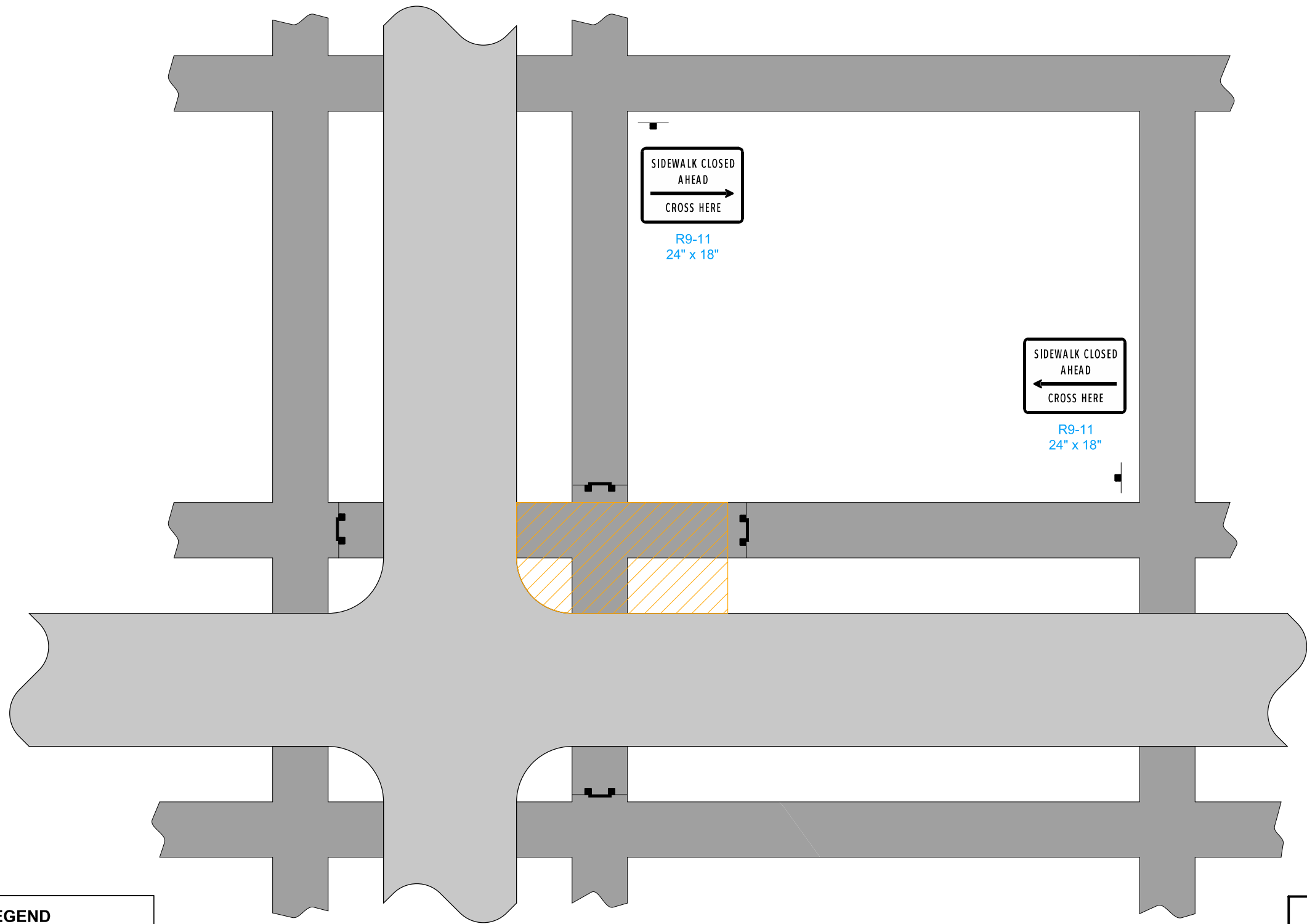
LEGEND

- Roadway
- Sidewalk
- Sign
- Pedestrian Path Closure
- Work Area






Possible Contract Item:
Traffic Control

Possible Tabulation:
113-2



 IOWA DOT	REVISION	
	1	10-15-19
	TC-601	
STANDARD ROAD PLAN		
SHEET 1 of 2		
REVISIONS: New logo.		
		
APPROVED BY DESIGN METHODS ENGINEER		



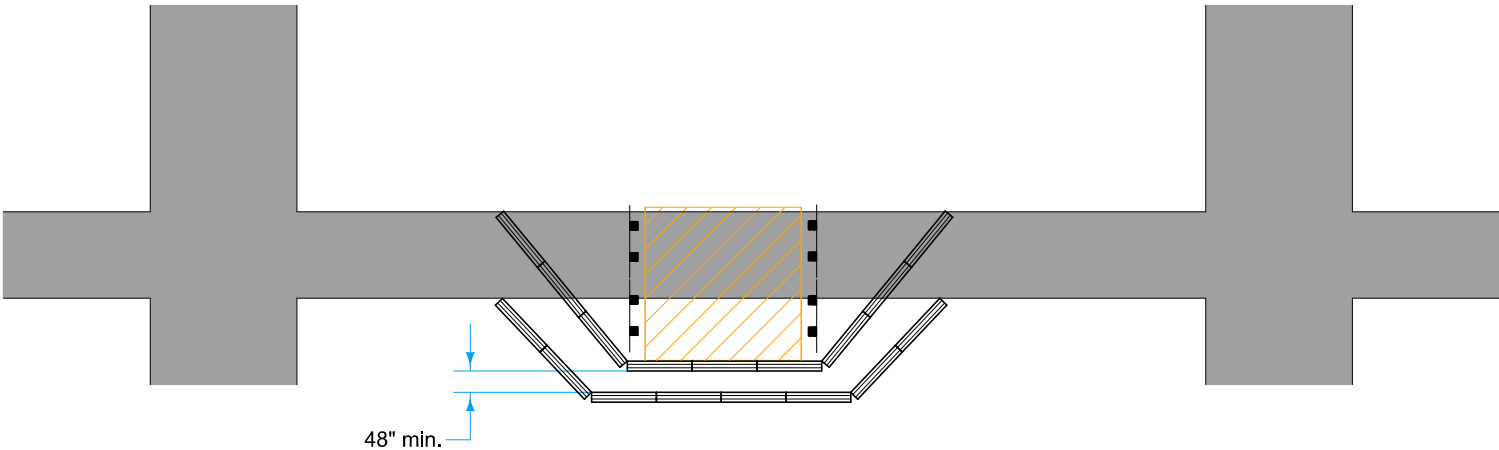
LEGEND

-  Roadway
-  Sidewalk
-  Sign
-  Pedestrian Path Closure
-  Work Area

CLOSURE AT INTERSECTION

	REVISION	
	1	10-15-19
STANDARD ROAD PLAN	TC-601	
REVISIONS: New logo.	SHEET 2 of 2	
 APPROVED BY DESIGN METHODS ENGINEER		
PEDESTRIAN DETOUR		

Acceptable materials and construction method for Pedestrian Channelizer will be defined in the contract documents. When Temporary Barrier Rail is specified as the Pedestrian Channelizer, [Section 2528](#) of the Standard Specifications applies. For other types of Pedestrian Channelizers, the length of Pedestrian Channelizer installed will be measured in feet. Payment will be at the contract price per linear foot.



- Possible Contract Items:
- Pedestrian Channelizer
 - Temporary Barrier Rail
 - Maintenance of Pedestrian Traffic

Possible Tabulation:
[113-3](#)

LEGEND


Sidewalk

Direction of Traffic

Work Area

Type III Barricade

Pedestrian Channelizer

	REVISION	
	1	10-15-19
STANDARD ROAD PLAN	TC-602	
	SHEET 1 of 1	
REVISIONS: New logo.		
<div><div></div><div>APPROVED BY DESIGN METHODS ENGINEER</div></div>		
SIDEWALK DIVERSION		