IOWADOT
Form 810025 (11-23)

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

FOR DEPARTMENT USE ONLY

Permit Number	Highway Number	County
86U-2024-011	US 63	Tama
DOT Project Number		**Expiration/Completion Date**
RF-63-(5)--35-86		06/12/25

APPLICANT (INDIVIDUAL OR COMPANY)

First Name	Middle Initial	Last Name	Phone Number	Ext.
Edward		Gikes	608-458-6242	
Company Name			**Phone Number**	**Ext.**
Alliant Energy				

Street Address	City/Town	State	ZIP Code
4902 N. Biltmore Ln	Madison	WI	53718

e-Mail Address	Secondary e-Mail Address
EdwardGikes@alliantenergy.com	

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 15, 10, 03, Twp. 83 N, Range 15 W on Highway No. US 63 generally located 0 (miles) Intersection (direction) from South County Road (city, county line, or other landmark).Work proposed is more specifically located as being from Approx. 0.12 miles N from 63S- 120 (Milepost #) and 253+00 120 (Highway Station) to Approx. 0.3 miles S from 63S-123 (Milepost #) and 350+00 123 (Highway Station) on the West 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: _____

FOR DEPARTMENT USE ONLY

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)*	Agent/Owner *(Signature)*	Title
Edward Gilkes	Edward C. Gilkes	Project Manager
Name of Owner *(Print or Type)*		**Date**
Edward Gilkes		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
Kendall Jordan	City Administrator	3-28-24
Type or Print Name	**Authorized Official for the City of**	
Kendall Jordan	Toledo	
e-Mail Address	K.Jordan@toledoiowa.gov	

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	Title	Date
Ben Daleske	Tama County Engineer	11/30/23
Type or Print Name	**Authorized Official for the County of**	
Ben Daleske	Tama	
e-Mail Address	bdaleske@tamacounty.org	

FEDERAL HIGHWAY ADMINISTRATION ACTION (WHEN REQUIRED)

☐ Recommend Approval ☐ Do Not Recommend Approval ☐ None Required

Authorized FHWA Representative Signature	Date

DEPARTMENT OF TRANSPORTATION FINAL ACTION

☒ Application Approved ☐ Application Denied Permit Number: 86U-2024-011

Authorized Highway District Representative	Signature	Date
Deanna McClain	Deanna McClain	06/12/24
e-Mail Address	Deanna.McClain@iowadot.us	

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
Mohamed Mohamed			
Street Address	**City/Town**	**State**	**ZIP Code**
3277 L. Ave.	Tama	IA	523339
e-Mail Address	Mohamed.Mohamed@iowadot.us		**Permit Number:**

Edward Gilkes

Edward Gilkes

Site Plan & Attachments Checklist for Utilities Accommodation Permit

Last updated 10-30-2023

- [X] Plans showing highway centerline, route number, stationing and milepost.
- [X] Visible orientation (north arrow) and identifying landmarks.
- [X] 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.
- [X] Provide Iowa One Call design request information (minimally the list of utility owners).
- [X] 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.
- [X] 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
- [X] Show the start/stop stationing and depths or elevations for all bores, longitudinal and transverse.
- [X] Show the start/stop stationing and depths or elevations for all plowing locations.
- [X] Show casing start/stop locations, lengths, diameter, and material if casings are used.
- [X] 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.
- [X] 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.
- [X] Identify any physical focal points, posts, pedestals, shutoffs, overflow valves, hydrants, etc.
- [X] 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.
- [X] 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

- [X] Proper Traffic Control Standards (Iowa DOT TCxxx Series Standard plans preferred) Available at: http://iowadot.gov/design/stdplne_tc.htm
- [X] Required Height / Depth Typical (supplied by the department)
- [X] Tile Repair Guide (rural locations) (supplied by the department)
- [X] Special Seeding Requirements and Erosion Control (supplied by the department)
- [X] 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 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 280th 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 63
Tama County

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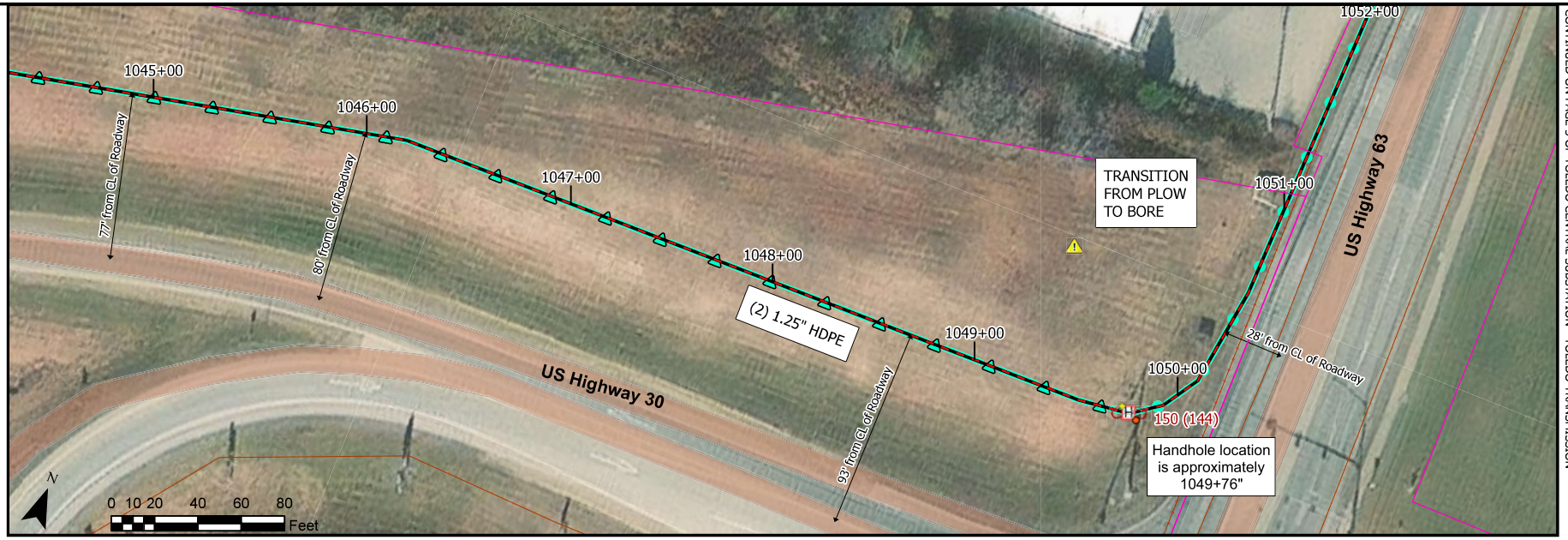


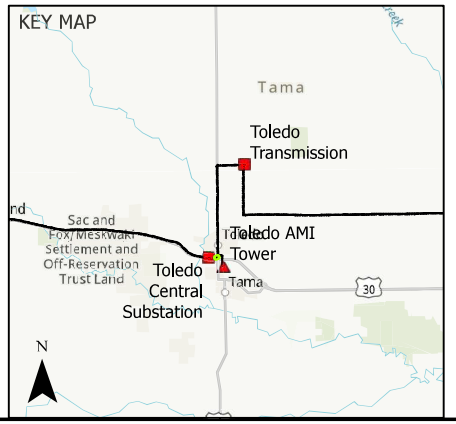
HANDHOLE LOCATION	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACKLENGTH
41.983802°N/92.581932°W	UG-SD-001, UG-SD-002	MAINTENANCE HANDHOLE	30"X48"X36" HANDHOLE, FIBER MARKER W TEST STATION	1	150

Legend

- Existing Utilities: Coax, Electric, Fiber, Gas, Sewer, Storm, Telephone, Traffic
- Conduits: Underground, Bore Conduit; Underground, Existing Conduit; Underground, Plow Conduit; Underground, Hydrovac
- Fiber: 144, 36
- Pull Points: EXISTING HAND-HOLE, EXISTING JUNCTION BOX, MAINTENANCE HAND-HOLE, NEW JUNCTION BOX, SPLICE POINT HAND-HOLE, EXISTING MAN-HOLE
- 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.
3. FIBER INSTALLATION TO REMAIN ON BACKSLOPE OF THE DITCH, AWAY FROM THE FORESLOPE, WITHIN THE ROW UNLESS OTHERWISE NOTED.
4. FIBER TO MAINTAIN A DEPTH OF 36 INCHES OR DEEPER 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.



CONTINUED ON PAGE 5 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

REVISIONS

0	PROJECT # 149681-03
	ISSUED FOR REVIEW

ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 4/1/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 4 OF 54

Alliant Energy

TOLC-TOLT-4 | REV: 0

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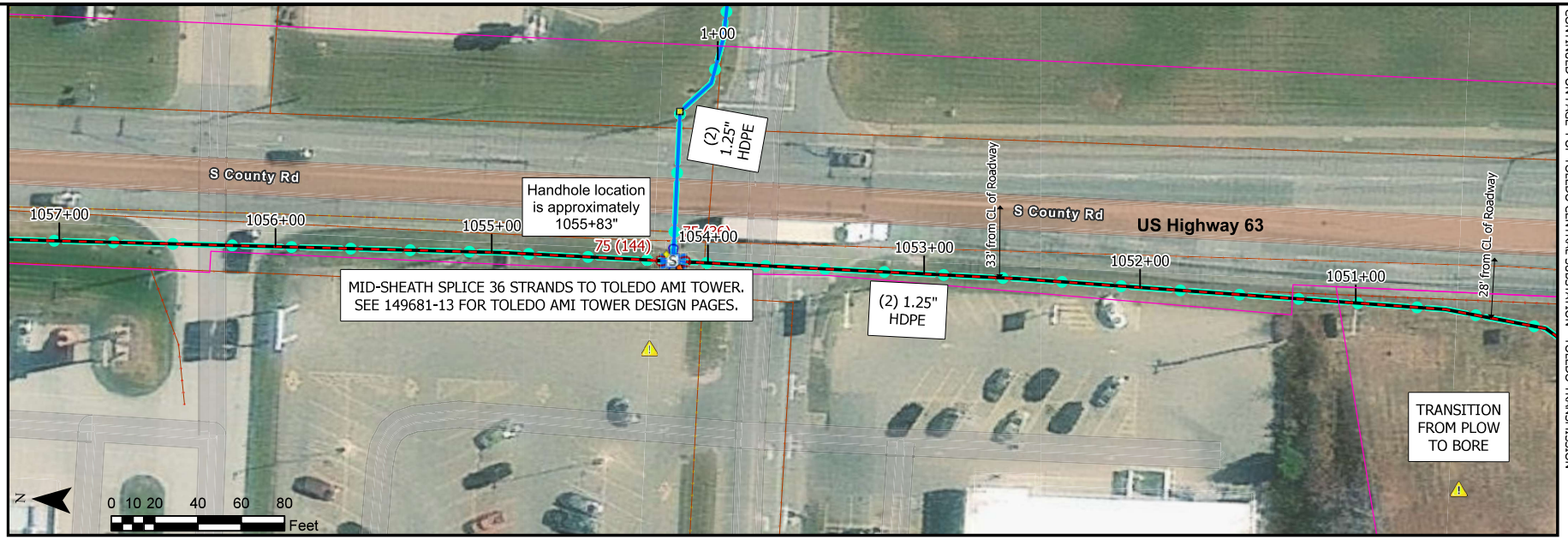

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HANDHOLE LOCATION	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACKLENGTH
41.984982°N/92.581797°W	UG-SD-001, UG-SD-003	MID-SHEATH SPLICE	30"X60"X36" HANDHOLE, FIBER MARKER W TEST STATION	3	225

Legend

Existing Utilities
- Coax
- Electric
- Fiber
- Gas
- Sewer
- Storm
- Telephone
- Traffic

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

Fiber
- 144
- 36

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

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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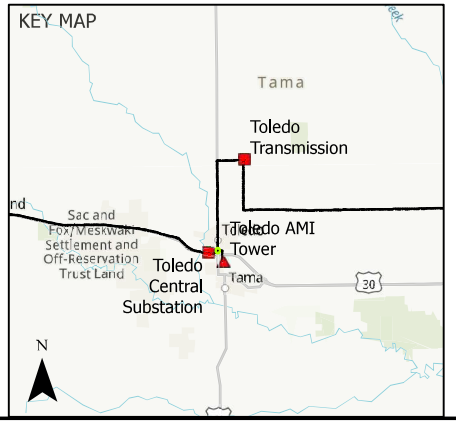
2. PARCEL LINES IN MAP ARE NOT SURVEYED AND FOR REFERENCE ONLY.
3. FIBER INSTALLATION TO REMAIN ON BACKSLOPE OF THE DITCH, AWAY FROM THE FORESLOPE, WITHIN THE ROW UNLESS OTHERWISE NOTED.
4. FIBER TO MAINTAIN A DEPTH OF 36 INCHES OR DEEPER UNLESS OTHERWISE SPECIFIED.
5. FIBER TO MAINTAIN A MINIMUM 18" 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

ENGINEER: TVN
REVIEWED BY: KJM
DESIGNED BY: CJ
SCALE: "AS NOTED"
DATE: 4/1/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 5 OF 54

Alliant Energy

TOLC-TOLT-5 | REV: 0

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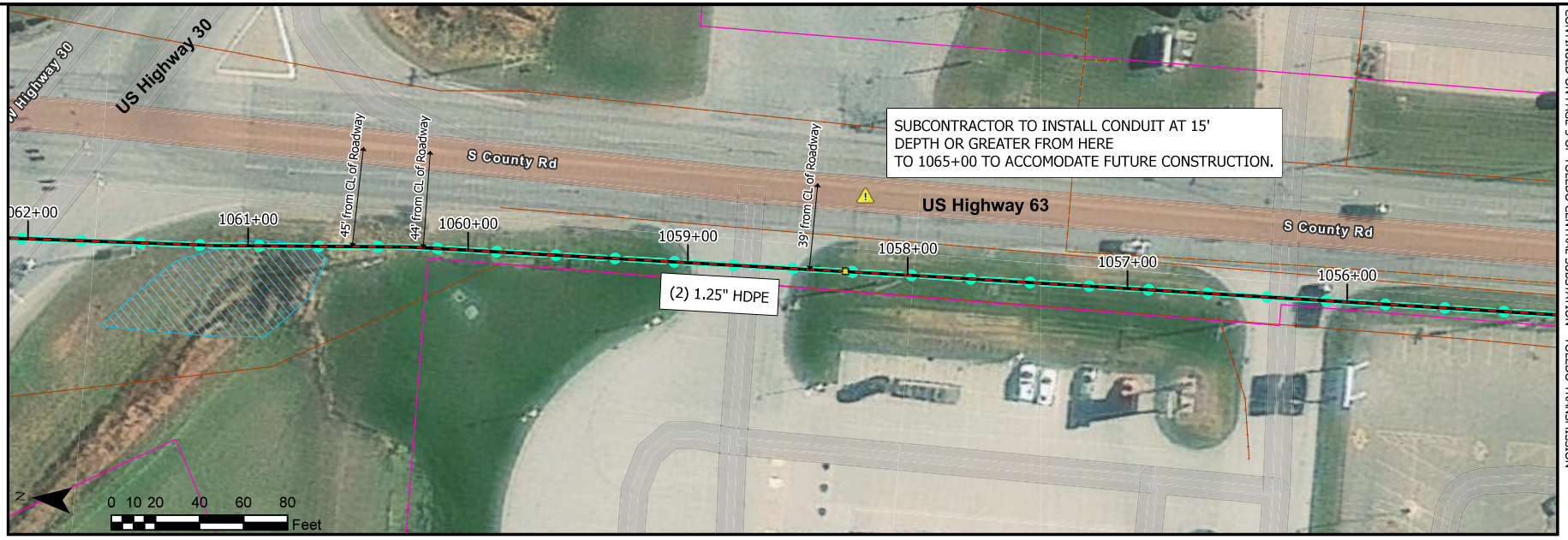

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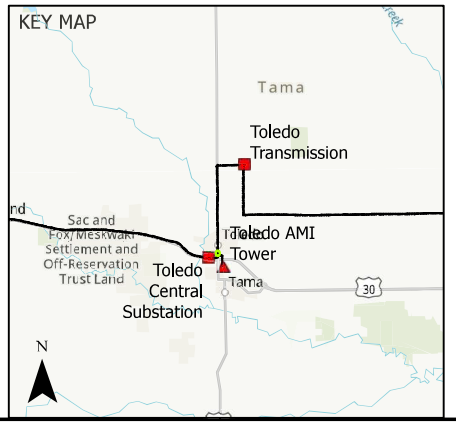
Legend

- Existing Utilities: Coax, Electric, Fiber, Gas, Sewer, Storm, Telephone, Traffic
- Conduits: Underground, Bore Conduit; Underground, Existing Conduit; Underground, Plow Conduit; Underground, Hydrovac
- Fiber: 144, 36
- Pull Points: EXISTING HAND-HOLE; EXISTING JUNCTION BOX; MAINTENANCE HAND-HOLE; NEW JUNCTION BOX; SPLICE POINT HAND-HOLE; EXISTING MAN-HOLE
- 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.
3. FIBER INSTALLATION TO REMAIN ON BACKSLOPE OF THE DITCH, AWAY FROM THE FORESLOPE, WITHIN THE ROW UNLESS OTHERWISE NOTED.
4. FIBER TO MAINTAIN A DEPTH OF 36 INCHES OR DEEPER 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.
9. HDD WILL BE DRILLED AT A DEPTH OF A MINIMUM 15' BELOW GRADE



REVISIONS	
0	PROJECT # 149681-03
	ISSUED FOR REVIEW

ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 4/2/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 6 OF 54

Alliant Energy

TOLC-TOLT-6 | REV: 0

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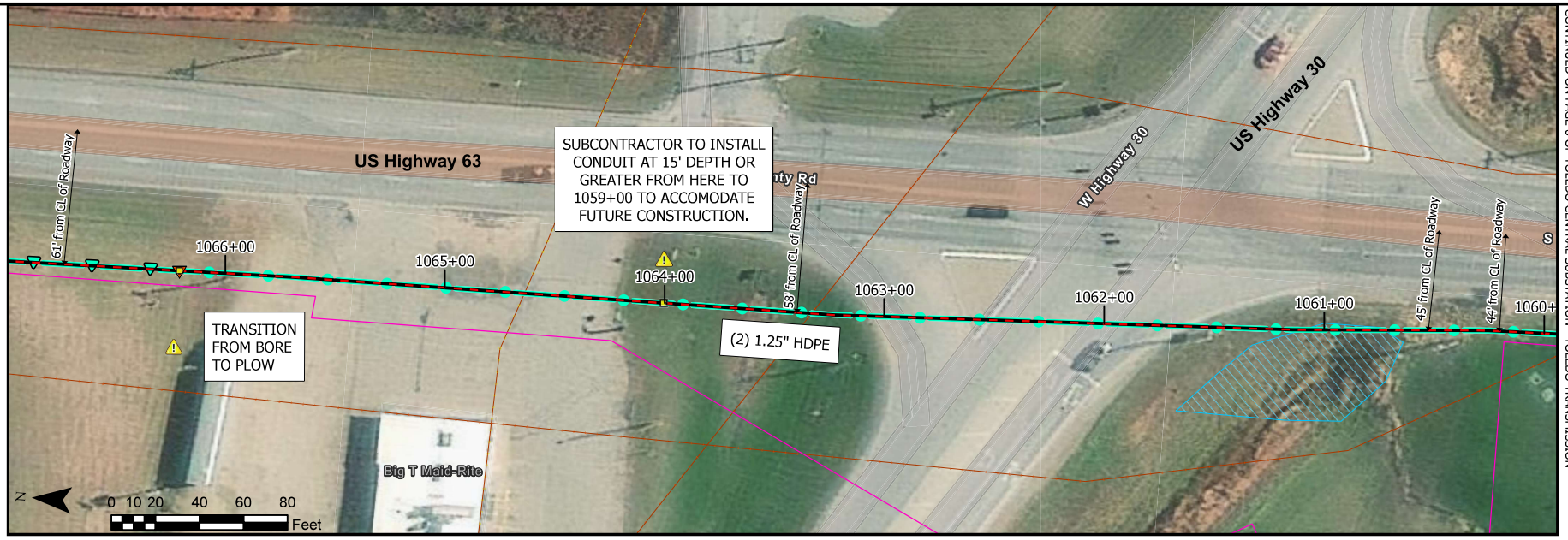

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REVISIONS

0	PROJECT # 149681-03
	ISSUED FOR REVIEW

ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 4/2/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 7 OF 54

Legend

Existing Utilities
- Coax
- Electric
- Fiber
- Gas
- Sewer
- Storm
- Telephone
- Traffic

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

Fiber
- 144
- 36

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

Slack Coils
- 144
- 36

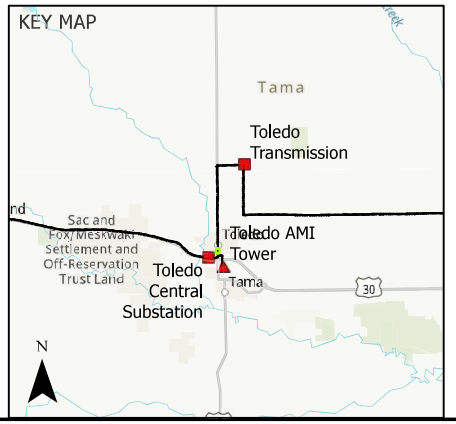
Markers
- Fiber Marker (w/ Test Station)
- Fiber Marker (No Test Station)

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



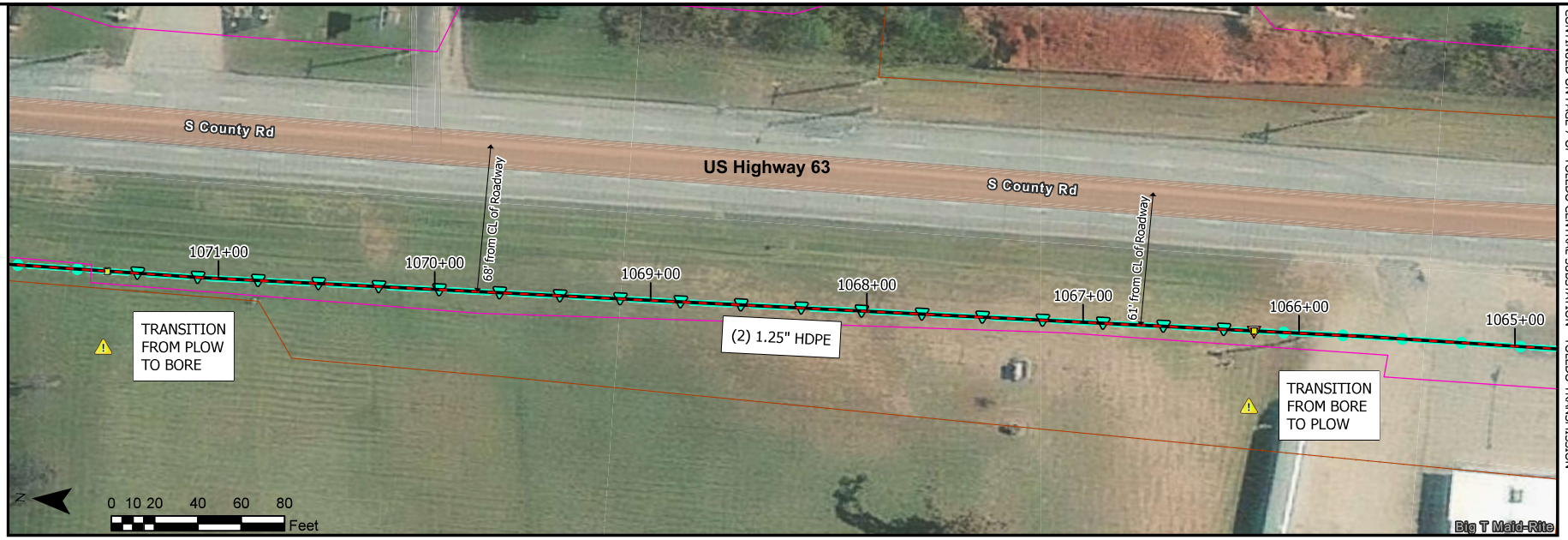
Notes

1. DISTANCES MEASURED BY SOFTWARE ARE APPROXIMATE, FIELD TO VERIFY.
2. PARCEL LINES IN MAP ARE NOT SURVEYED AND FOR REFERENCE ONLY.
3. FIBER INSTALLATION TO REMAIN ON BACKSLOPE OF THE DITCH, AWAY FROM THE FORESLOPE, WITHIN THE ROW UNLESS OTHERWISE NOTED.
4. FIBER TO MAINTAIN A DEPTH OF 36 INCHES OR DEEPER 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.
9. HDD WILL BE DRILLED AT A DEPTH OF A MINIMUM 15' BELOW GRADE

Alliant Energy

TOLC-TOLT-7 | REV: 0

CONTINUED ON PAGE 9 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 7 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

Legend

- **Existing Utilities**: Coax, Electric, Fiber, Gas, Sewer, Storm, Telephone, Traffic
- **Conduits**: Underground, Bore Conduit; Underground, Existing Conduit; Underground, Plow Conduit; Underground, Hydrovac
- **Fiber**: 144, 36
- **Pull Points**: EXISTING HAND-HOLE; EXISTING JUNCTION BOX; MAINTENANCE HAND-HOLE; NEW JUNCTION BOX; SPLICE POINT HAND-HOLE; EXISTING MAN-HOLE
- **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.
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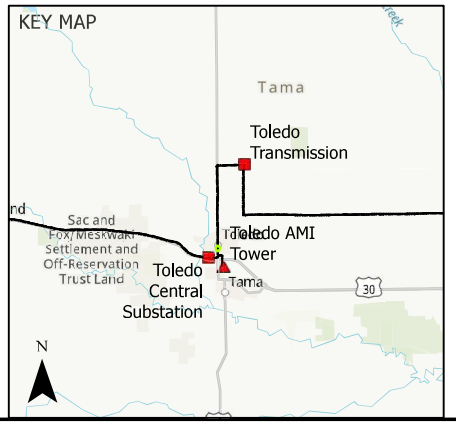
8. REFER TO GENERAL NOTES SHEET FOR ALL OTHER PROJECT NOTES.



REVISIONS	
0	PROJECT # 149681-03
	ISSUED FOR REVIEW

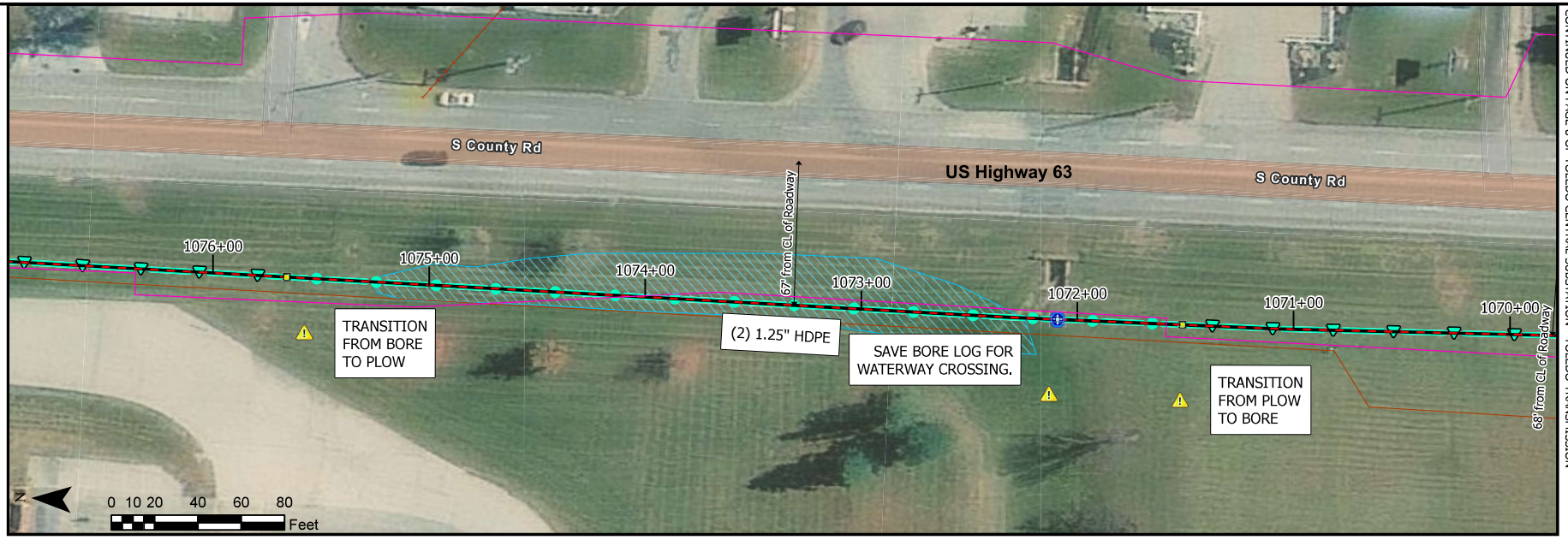
ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 4/1/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 8 OF 54

Alliant Energy

TOLC-TOLT-8 | REV: 0

CONTINUED ON PAGE 10 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 8 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

Legend

Existing Utilities
- Coax
- Electric
- Fiber
- Gas
- Sewer
- Storm
- Telephone
- Traffic

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

Fiber
- 144
- 36

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

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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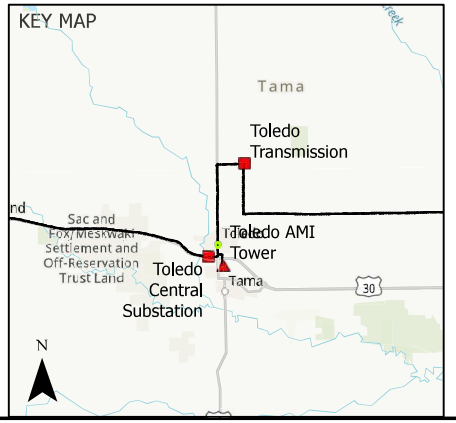


REVISIONS

0	PROJECT # 149681-03
	ISSUED FOR REVIEW

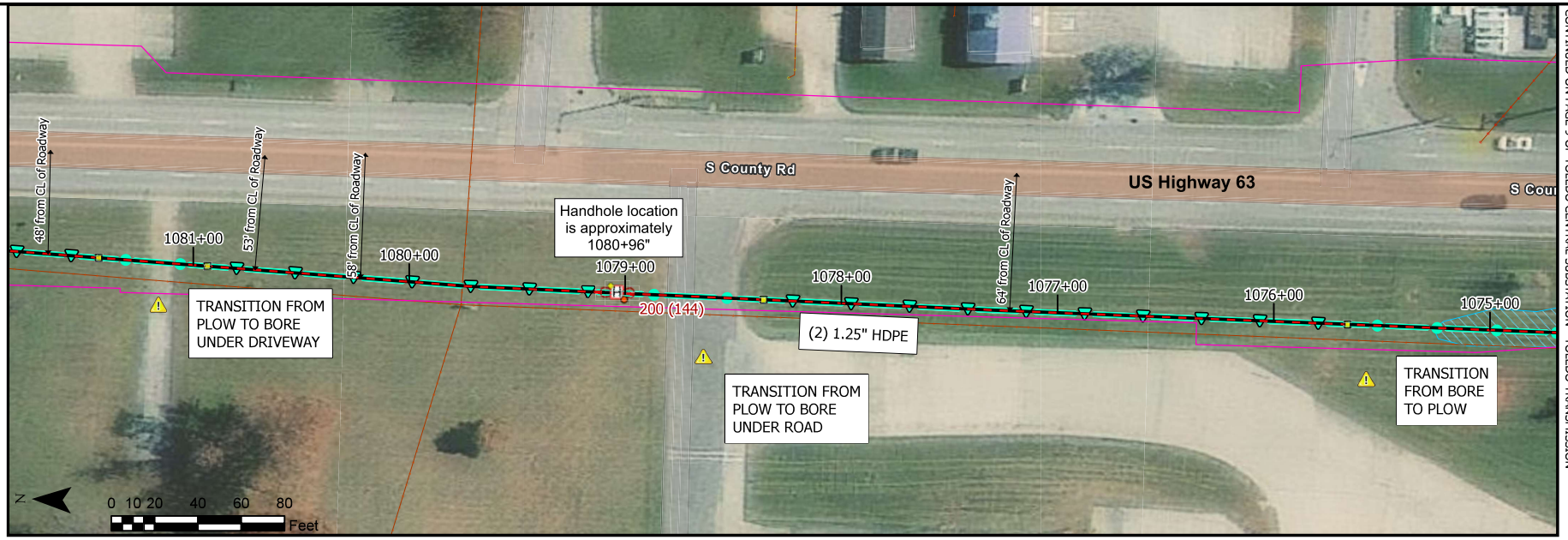
ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 4/1/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 9 OF 54

Alliant Energy

TOLC-TOLT-9 | REV: 0

CONTINUED ON PAGE 11 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 9 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

HANDHOLE LOCATION	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACKLENGTH
41.991805°N/92.581914°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, MAINTENANCE HAND-HOLE, NEW JUNCTION BOX, SPLICE POINT HAND-HOLE, EXISTING MAN-HOLE
- 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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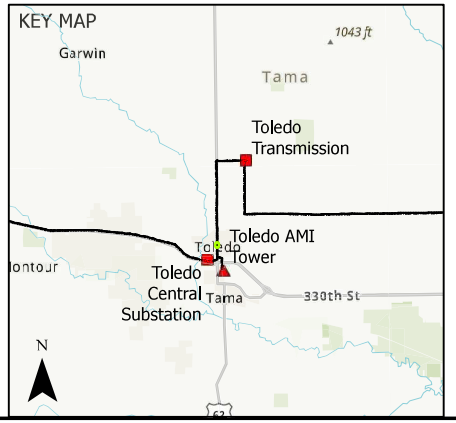
8. REFER TO GENERAL NOTES SHEET FOR ALL OTHER PROJECT NOTES.



REVISIONS

0	PROJECT # 149681-03
	ISSUED FOR REVIEW

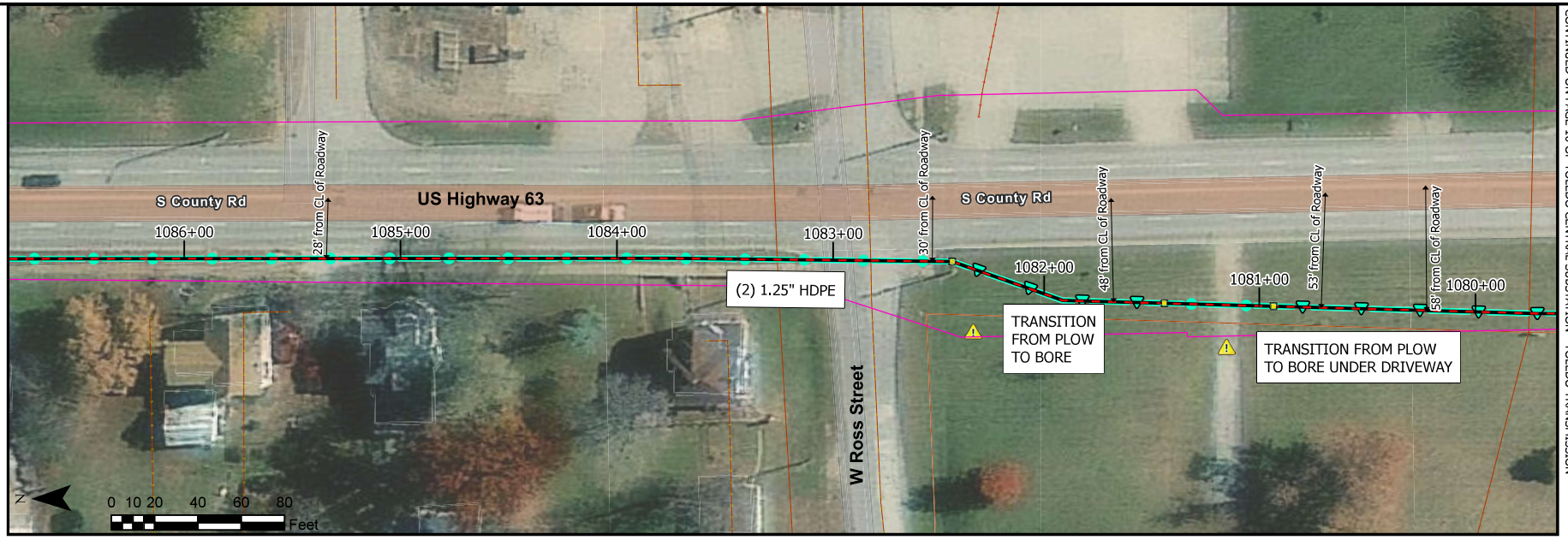
ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 3/4/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 10 OF 54

Alliant Energy

TOLC-TOLT-10 | REV: 0

CONTINUED ON PAGE 12 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 10 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

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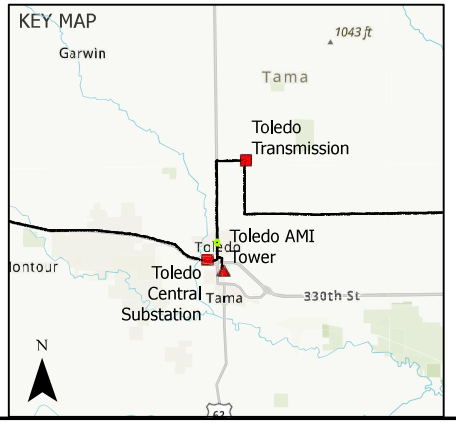


REVISIONS	
0	PROJECT # 149681-03
	ISSUED FOR REVIEW

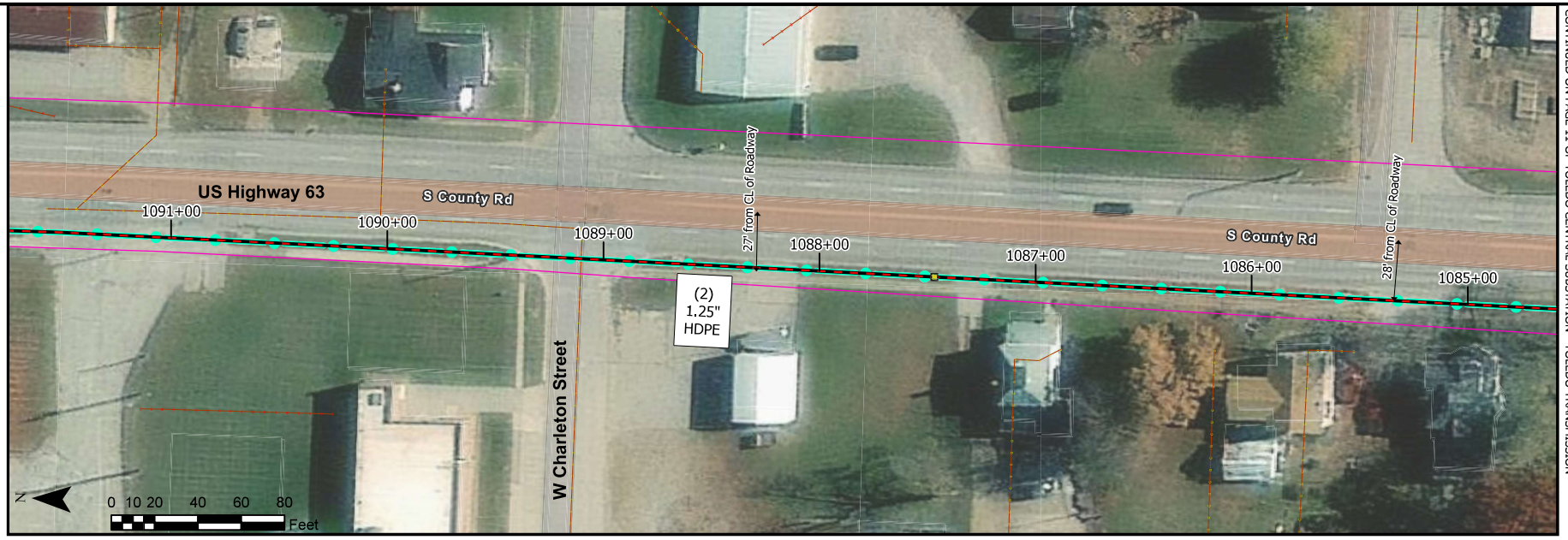
ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 3/4/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 11 OF 54

Alliant Energy

TOLC-TOLT-11 | REV: 0

CONTINUED ON PAGE 13 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 11 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

REVISIONS

0	PROJECT # 149681-03
	ISSUED FOR REVIEW

ENGINEER: TVN	REVIEWED BY: KJM	DESIGNED BY: CJ	SCALE: "AS NOTED"	DATE: 3/4/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 12 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, MAINTENANCE HAND-HOLE, NEW JUNCTION BOX, SPLICE POINT HAND-HOLE, EXISTING MAN-HOLE
- 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.
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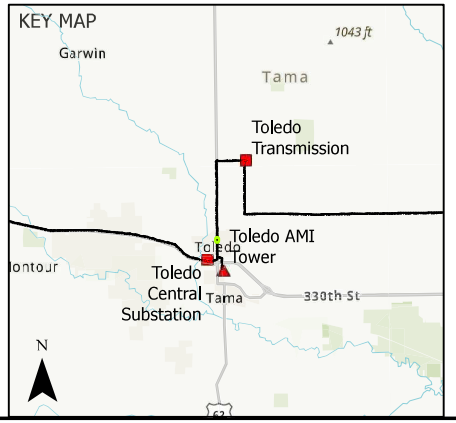
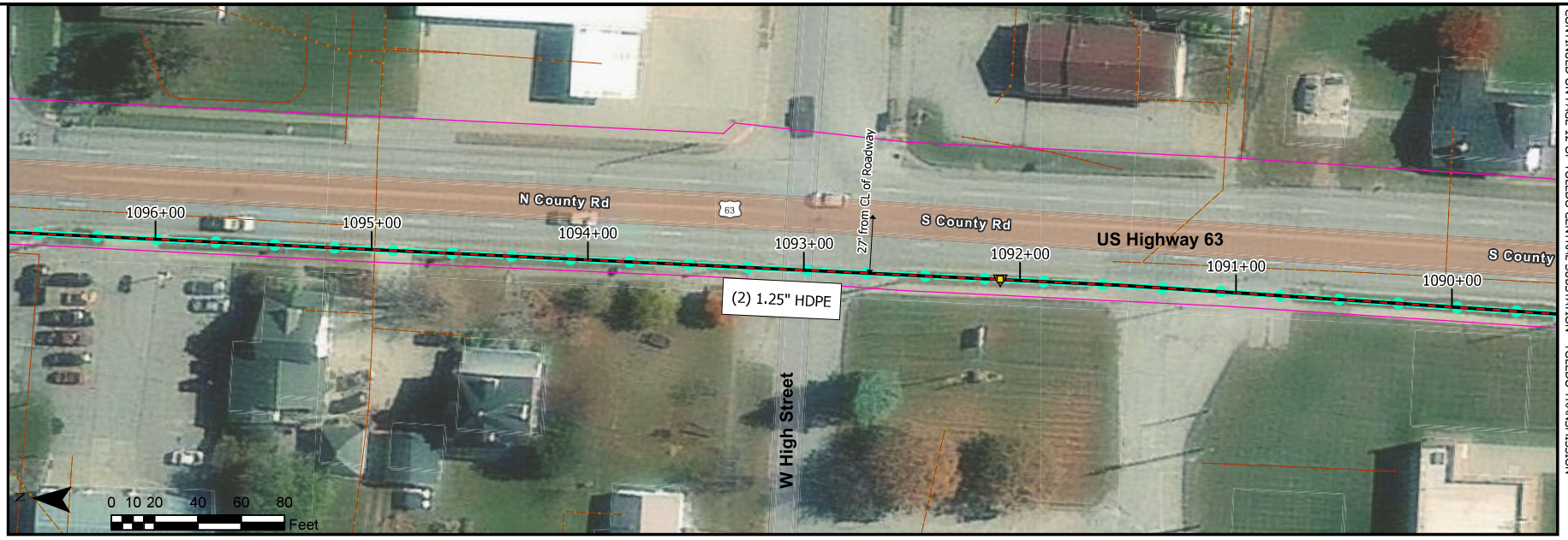


Alliant Energy

TOLC-TOLT-12	REV: 0

CONTINUED ON PAGE 14 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 12 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

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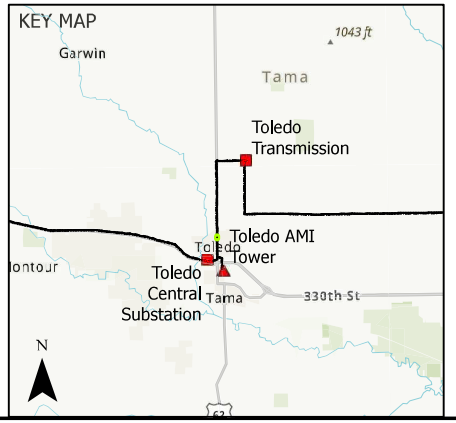


REVISIONS	
0	PROJECT # 149681-03
	ISSUED FOR REVIEW

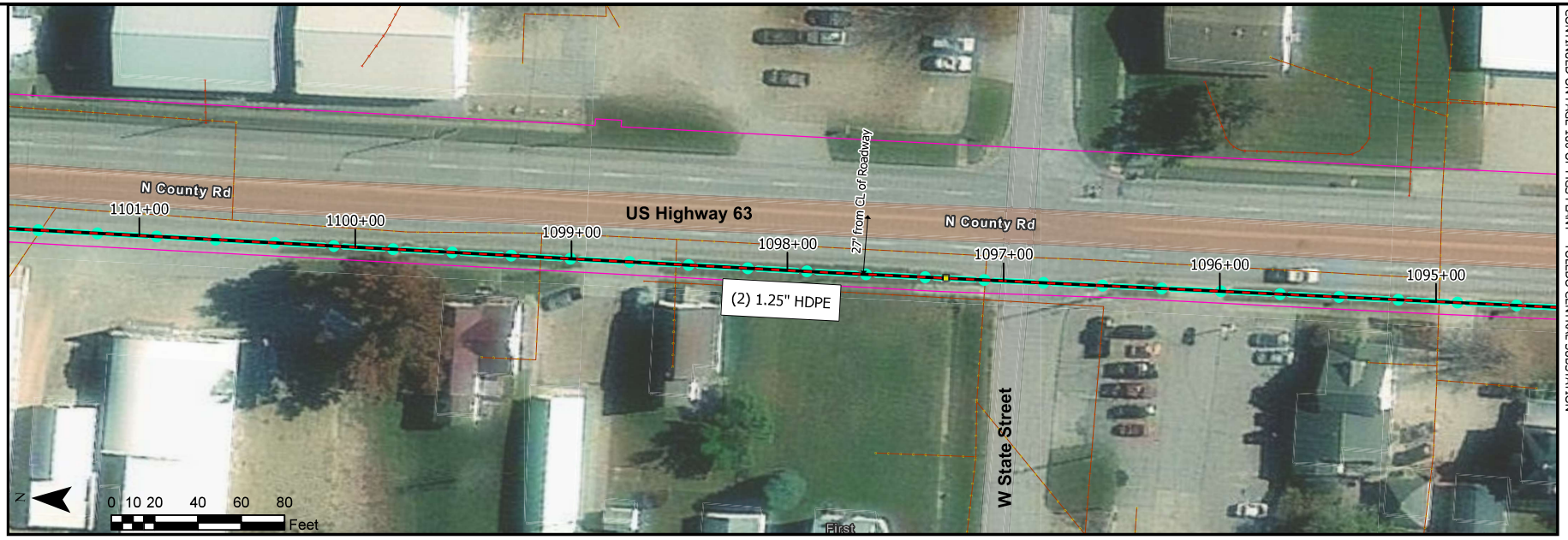
ENGINEER: TVN	REVIEWED BY: KJM	DESIGNED BY: CJ	SCALE: "AS NOTED"	DATE: 3/4/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 13 OF 54

Alliant Energy

TOLC-TOLT-13	REV: 0

CONTINUED ON PAGE 178 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION



CONTINUED ON PAGE 180 OF MGS PLANT - TOLEDO CENTRAL SUBSTATION

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

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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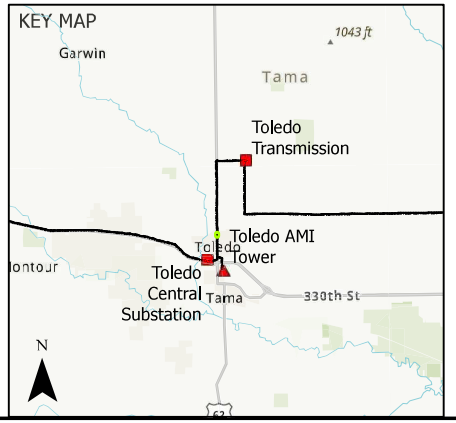


REVISIONS

0	PROJECT # 149681-03
	ISSUED FOR REVIEW

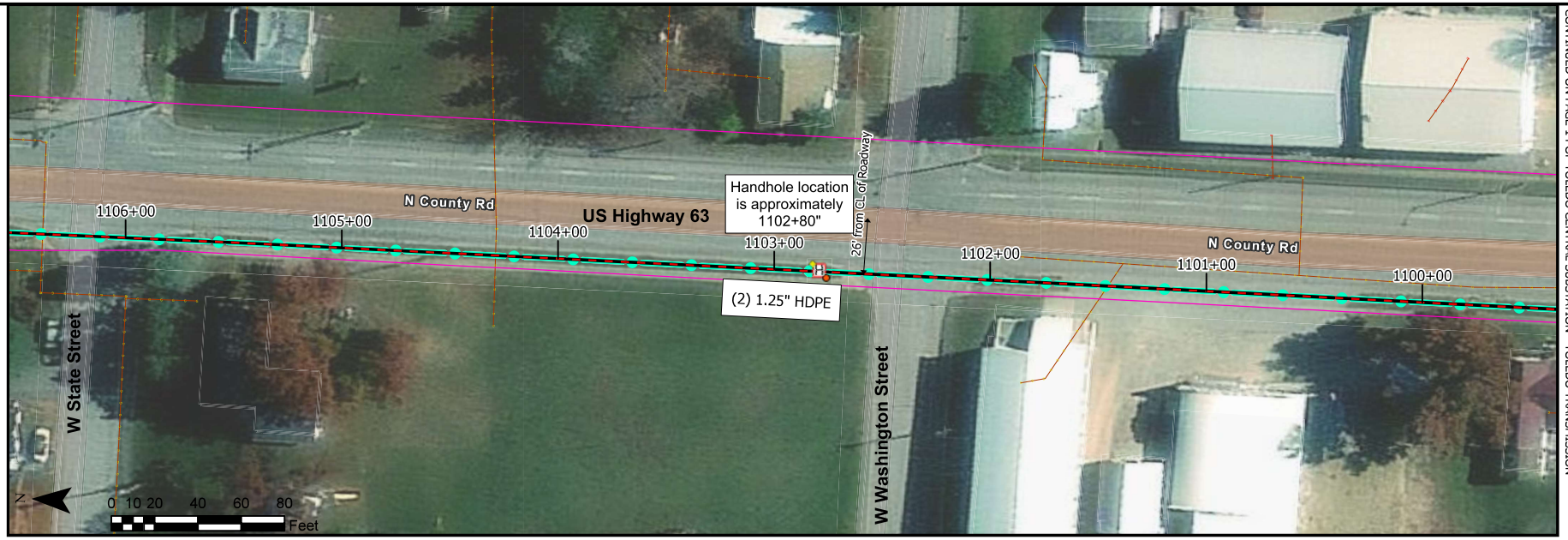
ENGINEER: TVN
REVIEWED BY: KJM
DESIGNED BY: CJ
SCALE: "AS NOTED"
DATE: 3/4/2024

MGS PLANT - TOLEDO CENTRAL SUBSTATION PAGE 179 OF 196

Alliant Energy

TOLC-TOLT-14
REV: 0

CONTINUED ON PAGE 16 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 14 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

HANDHOLE LOCATION	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACKLENGTH
41.998313°N/92.581729°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, MAINTENANCE HAND-HOLE, NEW JUNCTION BOX, SPLICE POINT HAND-HOLE, EXISTING MAN-HOLE
- Slack Coils: 144, 36
- Markers: Fiber Marker (w/ Test Station), Fiber Marker (No Test Station)
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- Sites: Substation, Office, Tower

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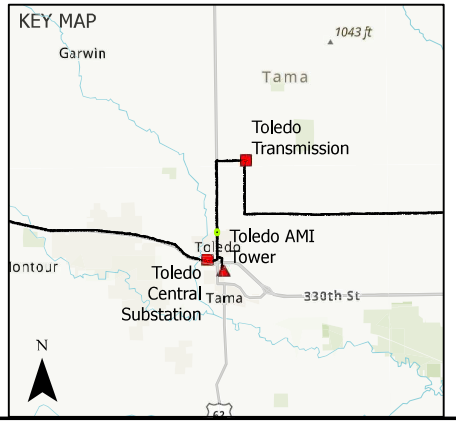


REVISIONS

0	PROJECT # 149681-03
	ISSUED FOR REVIEW

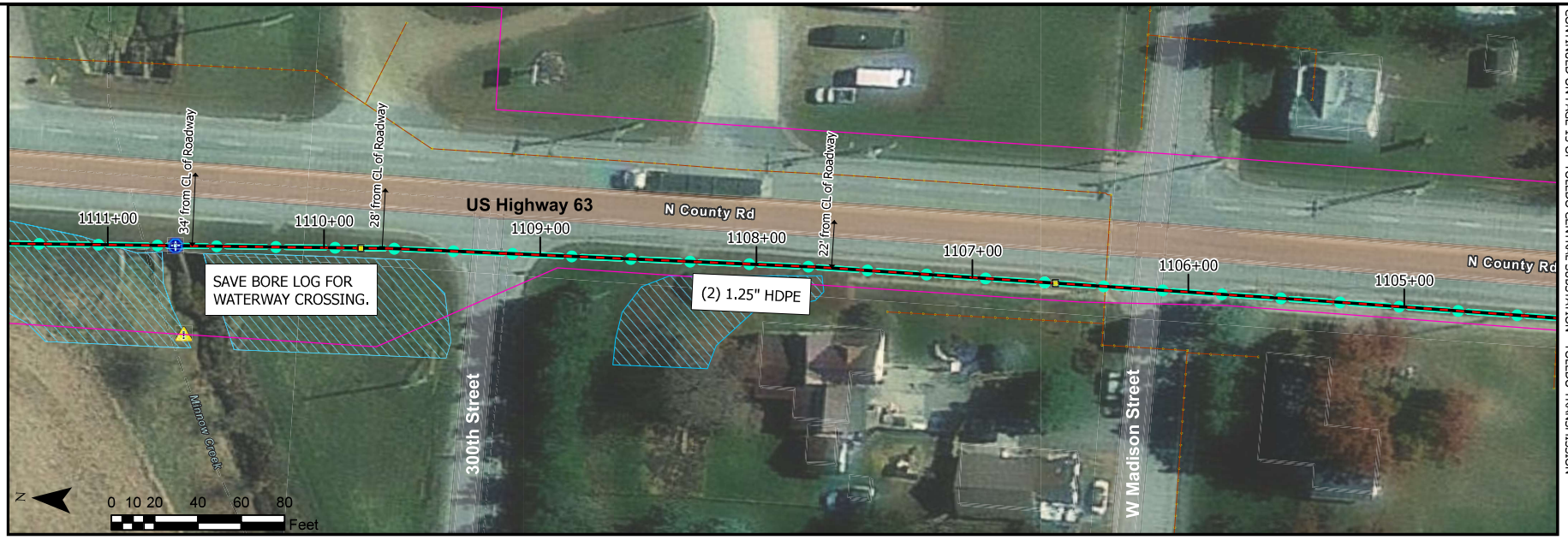
ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 3/4/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 15 OF 54

Alliant Energy

TOLC-TOLT-15 | REV: 0

CONTINUED ON PAGE 17 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 15 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

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

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

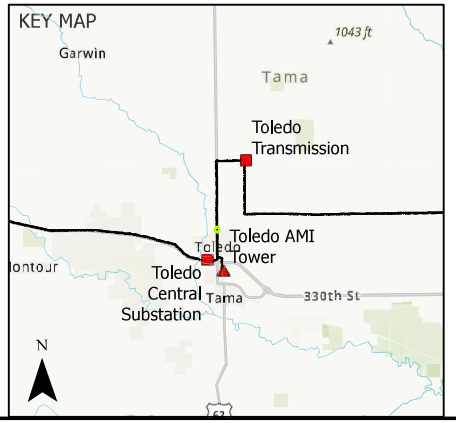
Parcel Data
- Right of Way
- Private Easement

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.
3. FIBER INSTALLATION TO REMAIN ON BACKSLOPE OF THE DITCH, AWAY FROM THE FORESLOPE, WITHIN THE ROW UNLESS OTHERWISE NOTED.
4. FIBER TO MAINTAIN A DEPTH OF 36 INCHES OR DEEPER 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

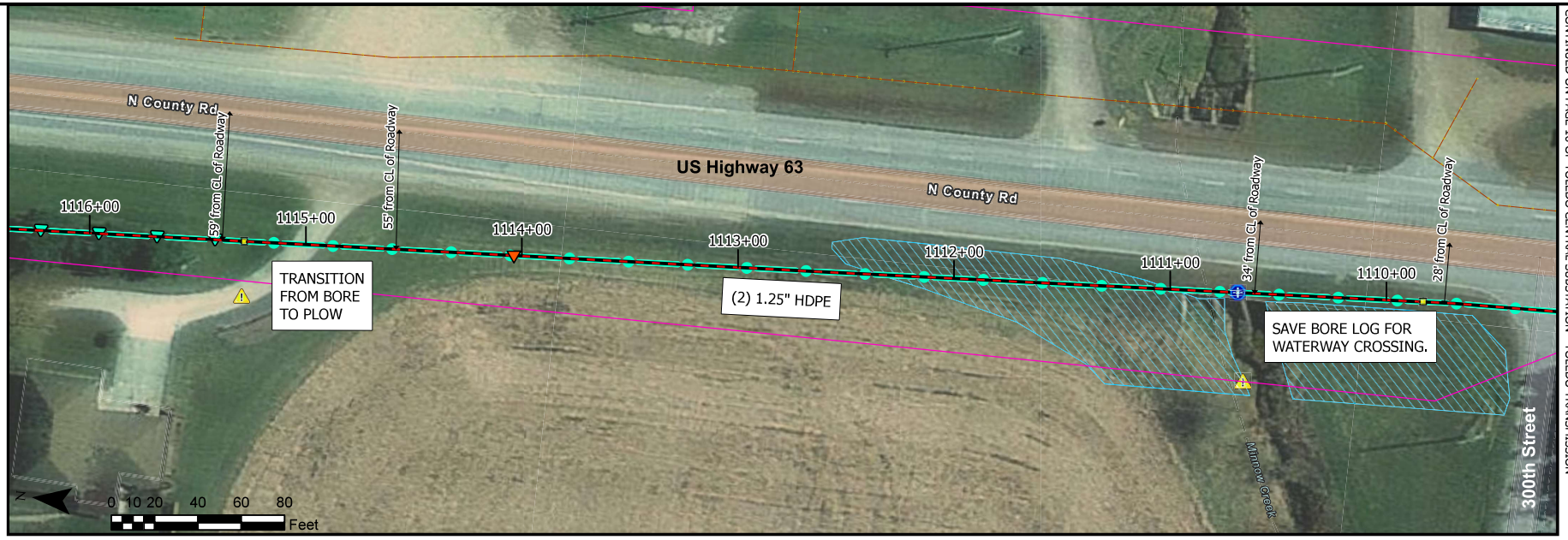
ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 3/4/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 16 OF 54

Alliant Energy

TOLC-TOLT-16 | REV: 0

CONTINUED ON PAGE 18 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 16 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

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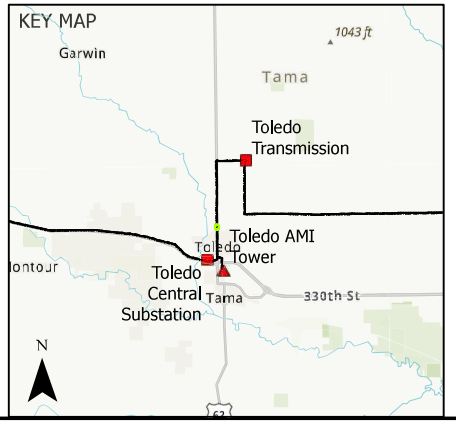


REVISIONS

0	PROJECT # 149681-03
	ISSUED FOR REVIEW

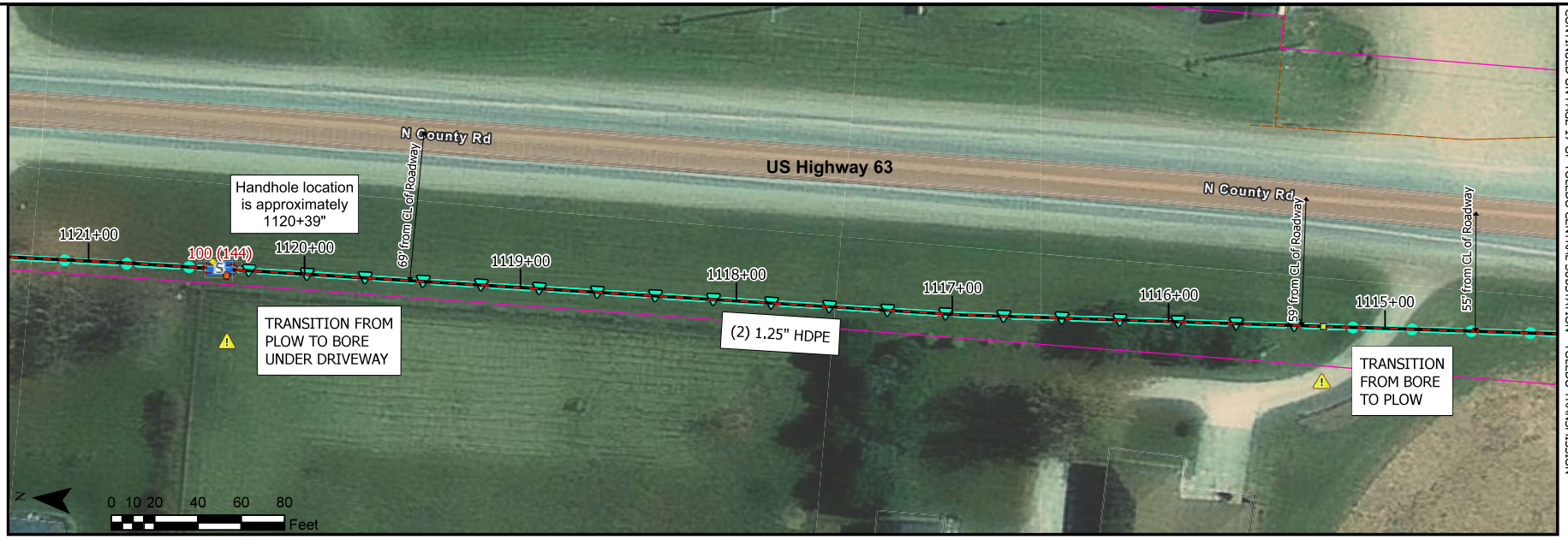
ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 3/4/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 17 OF 54

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

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

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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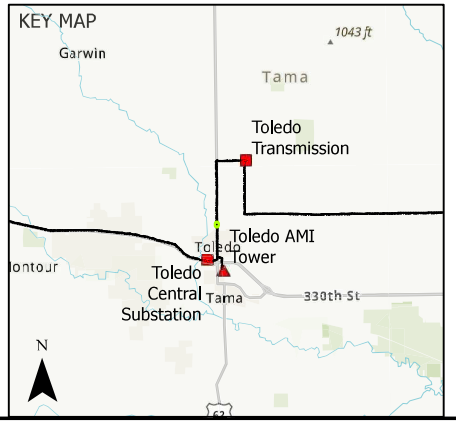

REVISIONS

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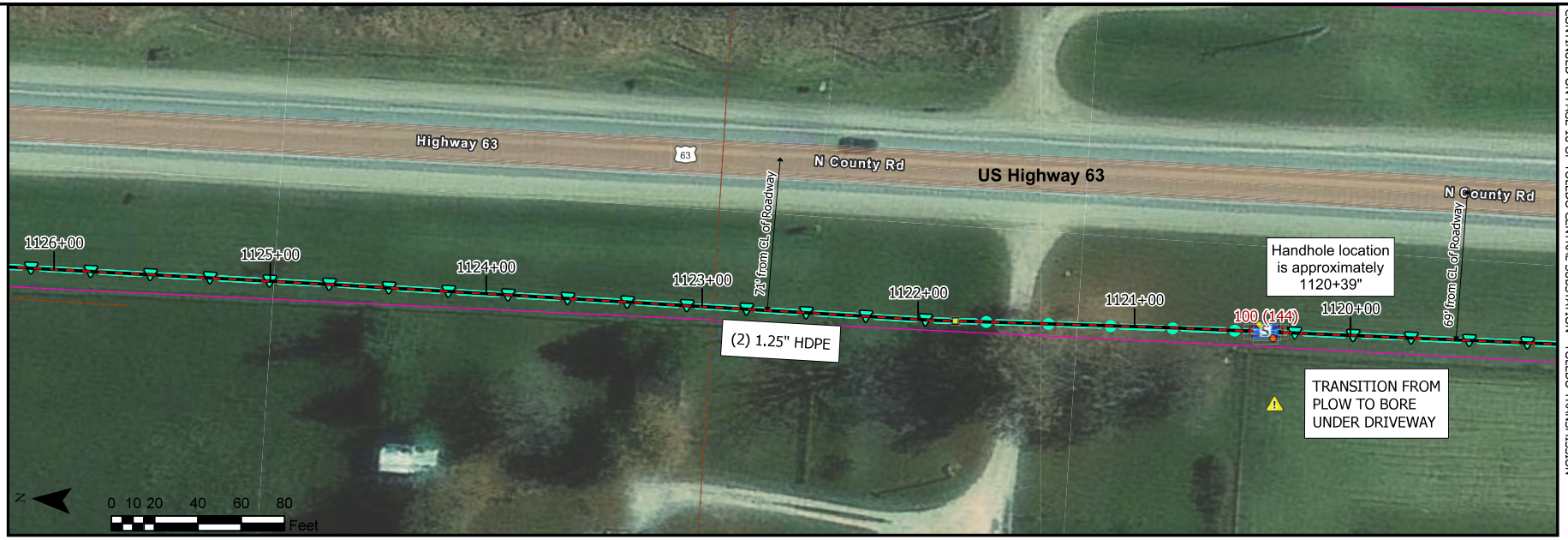
ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 3/4/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 18 OF 54

Alliant Energy

TOLC-TOLT-18 | REV: 0

CONTINUED ON PAGE 20 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 18 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

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

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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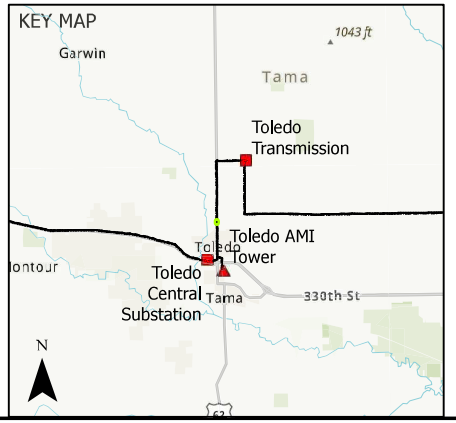


REVISIONS

0	PROJECT # 149681-03
	ISSUED FOR REVIEW

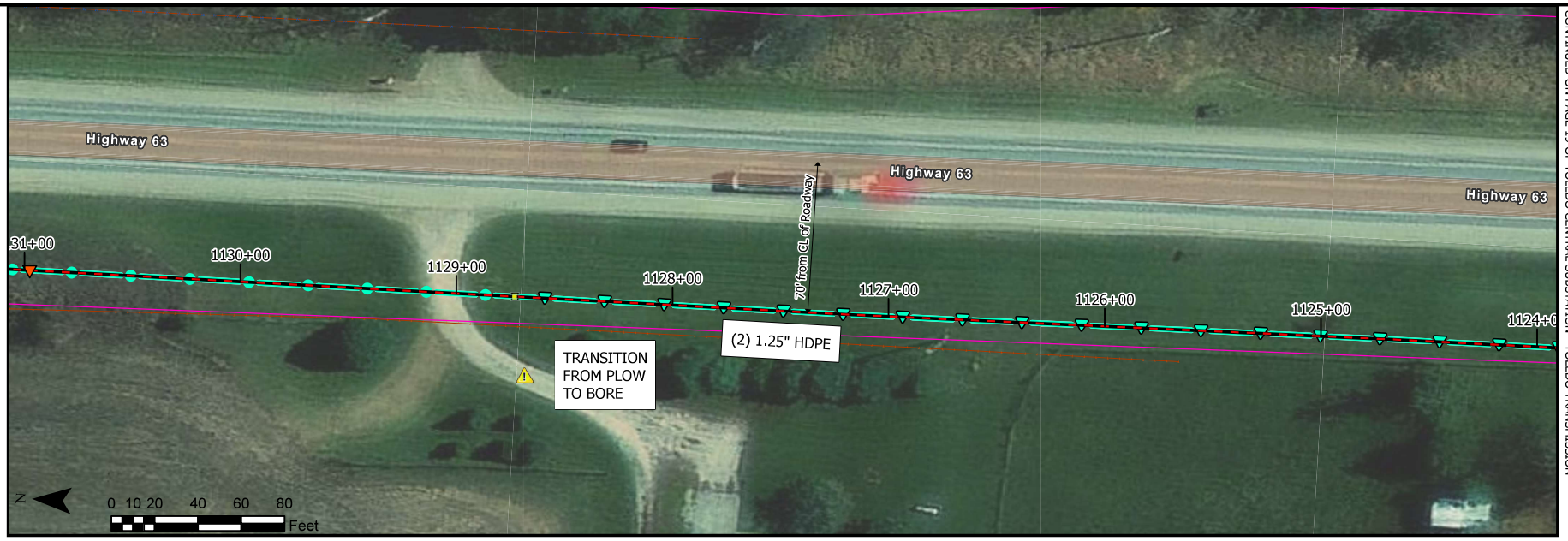
ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 3/4/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 19 OF 54

Alliant Energy

TOLC-TOLT-19 | REV: 0

CONTINUED ON PAGE 21 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 19 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

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

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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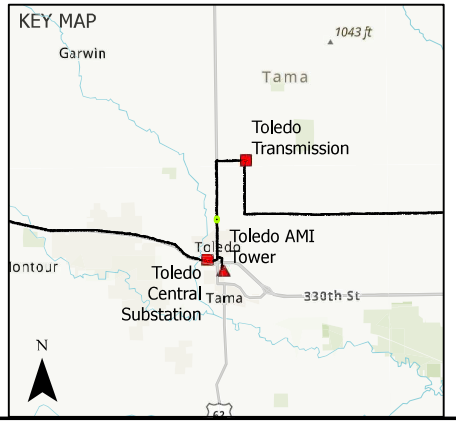


REVISIONS

0	PROJECT # 149681-03
	ISSUED FOR REVIEW

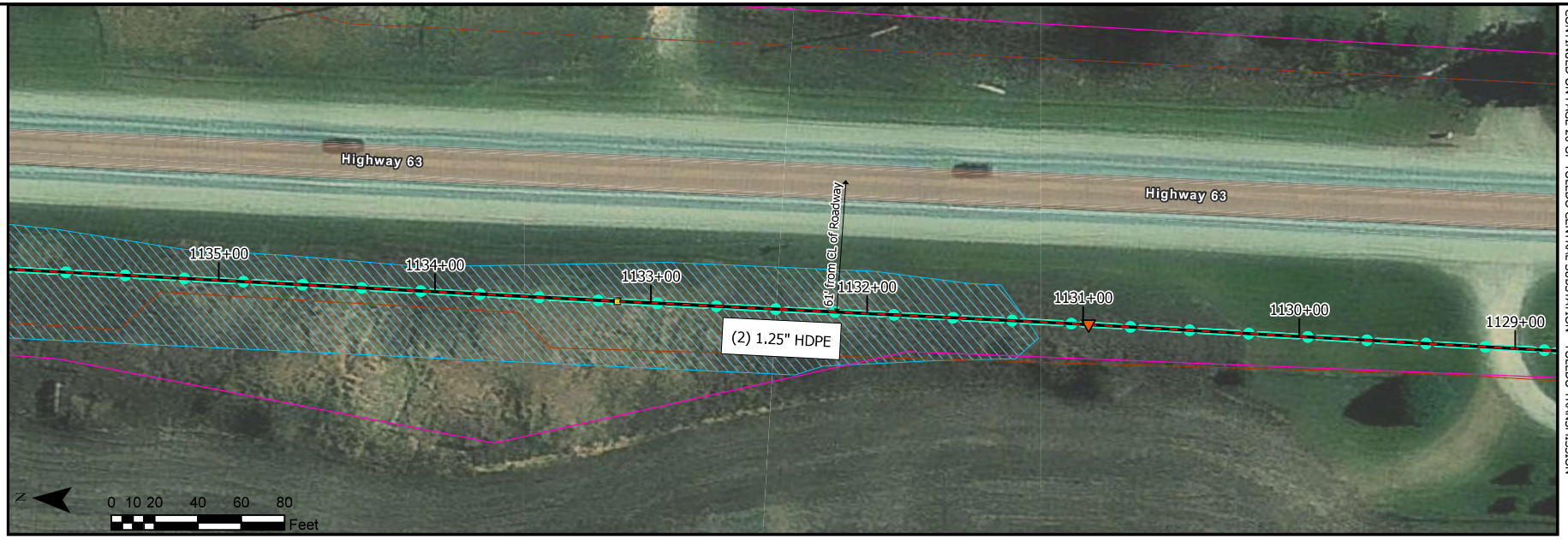
ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 3/4/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 20 OF 54

Alliant Energy

TOLC-TOLT-20 | REV: 0

CONTINUED ON PAGE 22 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 20 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

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, MAINTENANCE HAND-HOLE, NEW JUNCTION BOX, SPLICE POINT HAND-HOLE, EXISTING MAN-HOLE
- 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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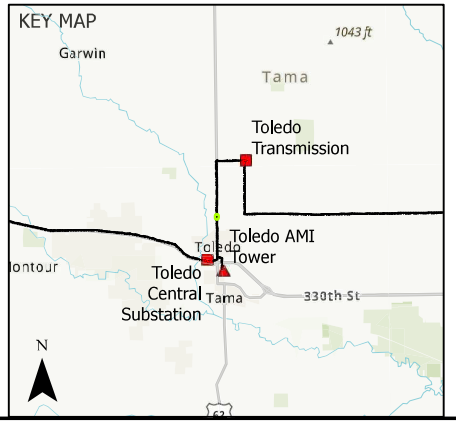
KEY MAP



REVISIONS

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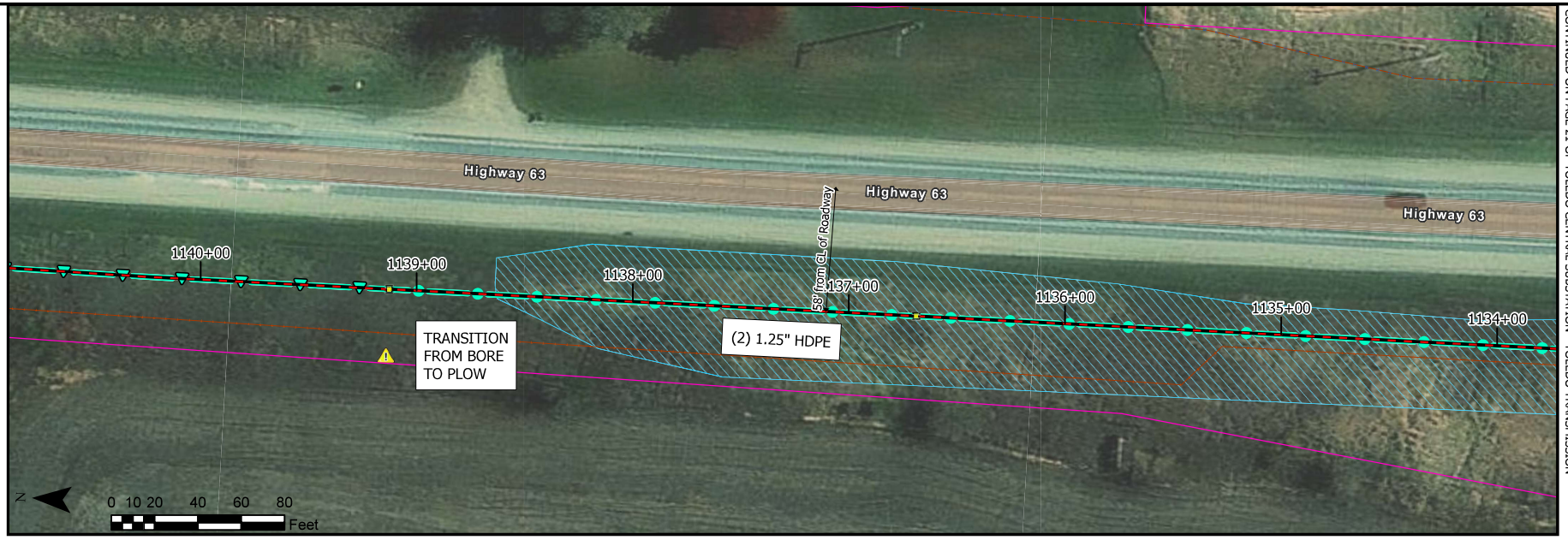
ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 3/4/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 21 OF 54

Alliant Energy

TOLC-TOLT-21 | REV: 0

CONTINUED ON PAGE 23 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 21 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

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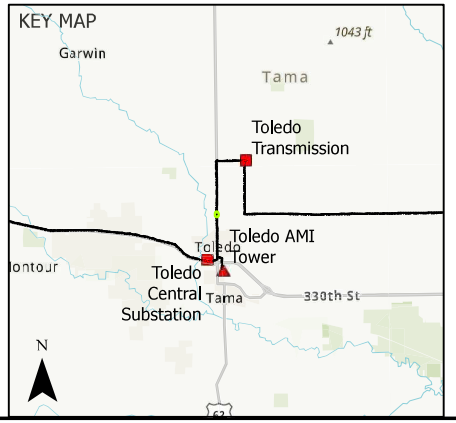

REVISIONS	
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ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 3/4/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 22 OF 54

Alliant Energy

TOLC-TOLT-22 | REV: 0

CONTINUED ON PAGE 24 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

CONTINUED ON PAGE 22 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

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

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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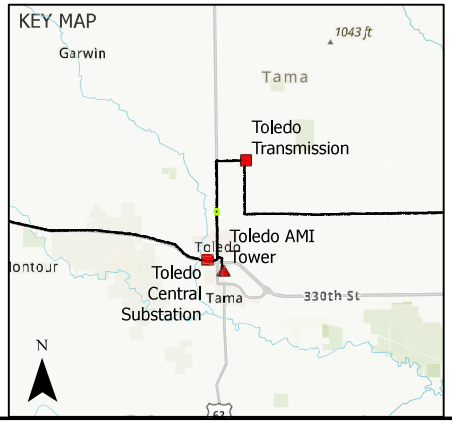

REVISIONS

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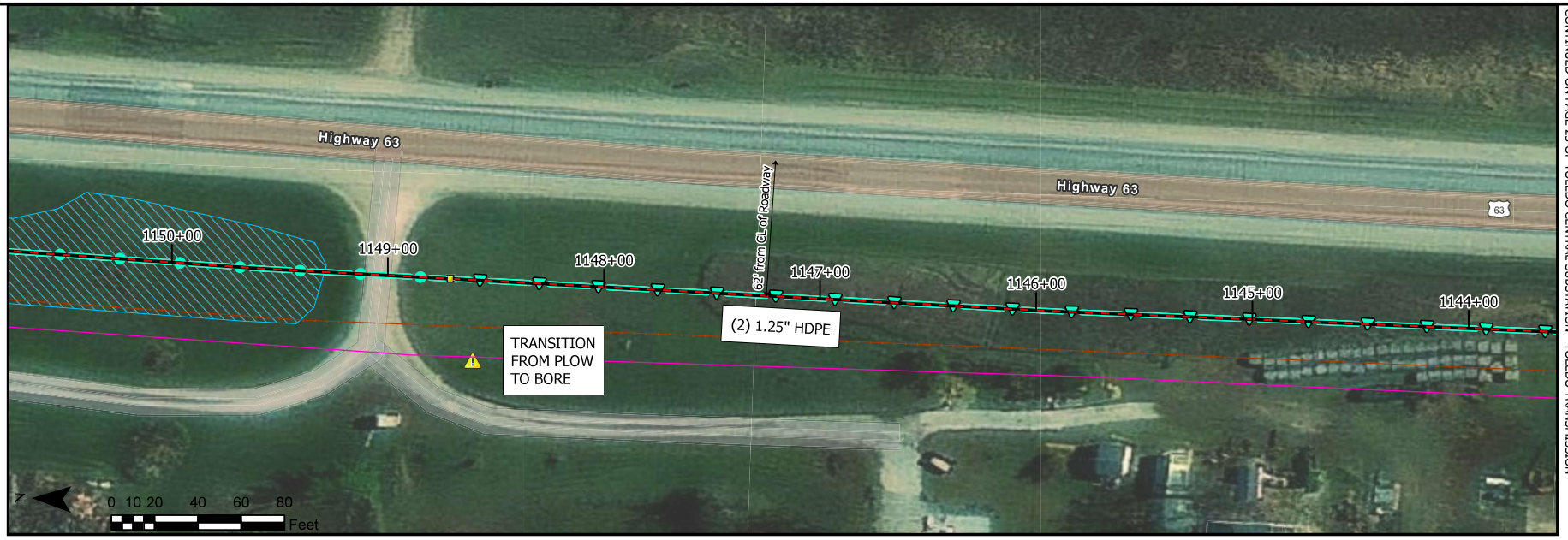
TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 23 OF 54

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

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

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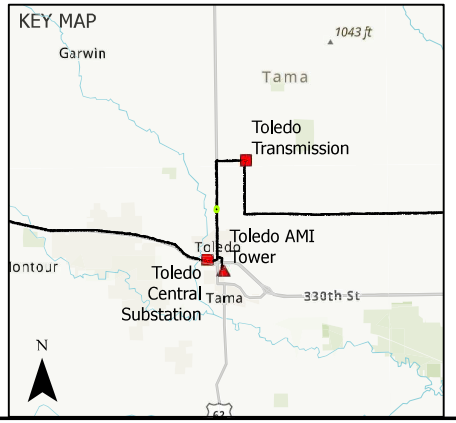
7. SUBCONTRACTOR TO NOTIFY LOCATION SERVICES AT MINIMUM THREE DAYS BEFORE EXCAVATION (IA: (800) 292-8989)
8. REFER TO GENERAL NOTES SHEET FOR ALL OTHER PROJECT NOTES.



REVISIONS	
0	PROJECT # 149681-03
	ISSUED FOR REVIEW

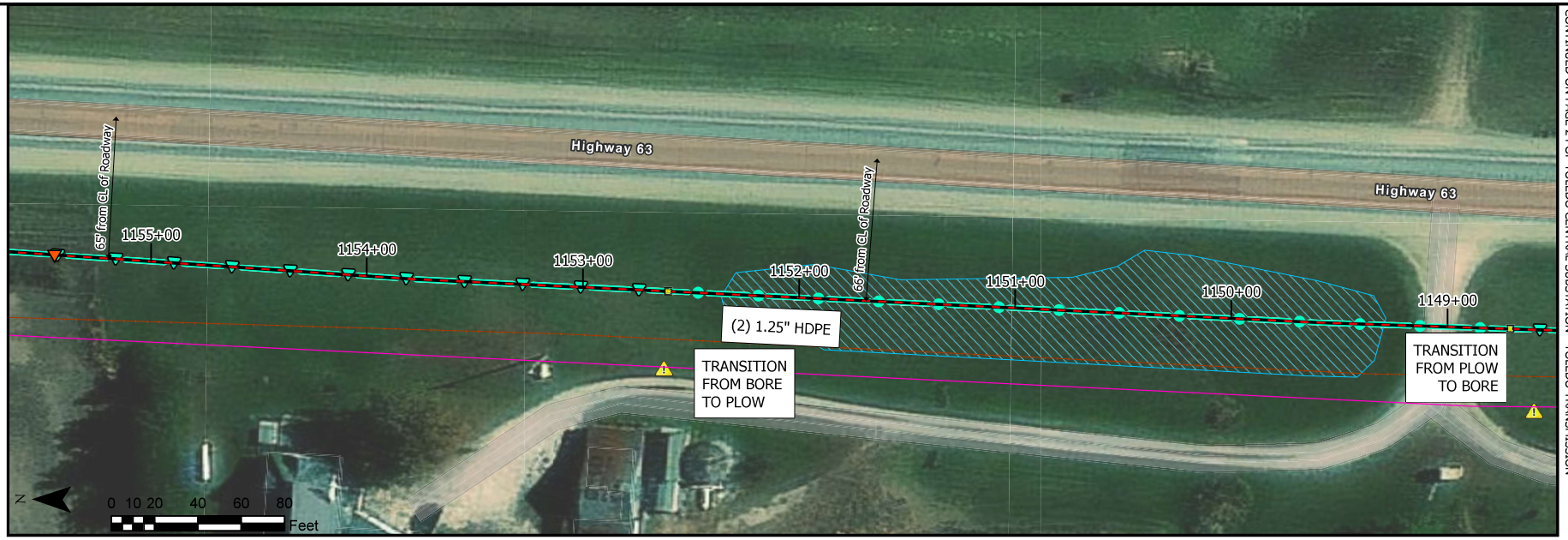
ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 3/4/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 24 OF 54

Alliant Energy

TOLC-TOLT-24 | REV: 0

CONTINUED ON PAGE 26 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 24 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

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

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.
3. FIBER INSTALLATION TO REMAIN ON BACKSLOPE OF THE DITCH, AWAY FROM THE FORESLOPE, WITHIN THE ROW UNLESS OTHERWISE NOTED.
4. FIBER TO MAINTAIN A DEPTH OF 36 INCHES OR DEEPER UNLESS OTHERWISE SPECIFIED.
5. FIBER TO MAINTAIN A MINIMUM 18" HORIZONTAL SEPARATION FROM EXISTING UTILITIES.
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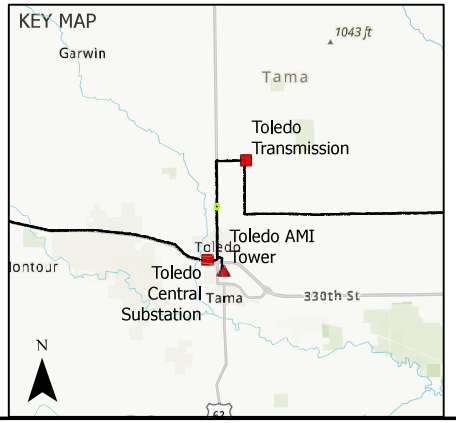

REVISIONS	
0	PROJECT # 149681-03
	ISSUED FOR REVIEW

ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 3/4/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 25 OF 54

Alliant Energy

TOLC-TOLT-25 | REV: 0

CONTINUED ON PAGE 27 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

CONTINUED ON PAGE 25 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

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

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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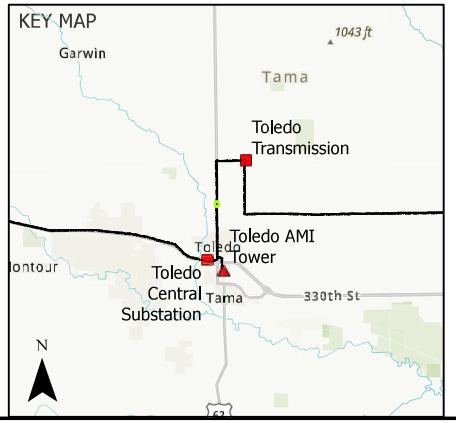


REVISIONS

0	PROJECT # 149681-03
	ISSUED FOR REVIEW

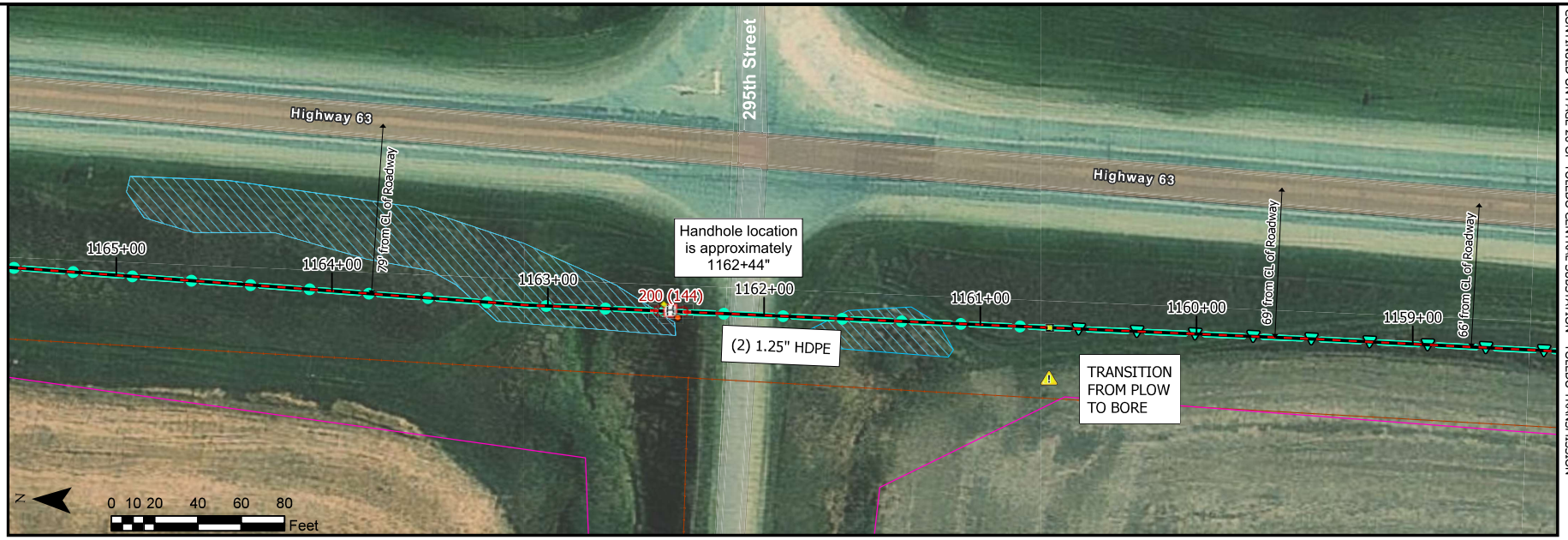
ENGINEER: TVN
REVIEWED BY: KJM
DESIGNED BY: CJ
SCALE: "AS NOTED"
DATE: 3/4/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 26 OF 54

Alliant Energy

TOLC-TOLT-26 | REV: 0

CONTINUED ON PAGE 28 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 26 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

HANDHOLE LOCATION	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, MAINTENANCE HAND-HOLE, NEW JUNCTION BOX, SPLICE POINT HAND-HOLE, EXISTING MAN-HOLE
- 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.
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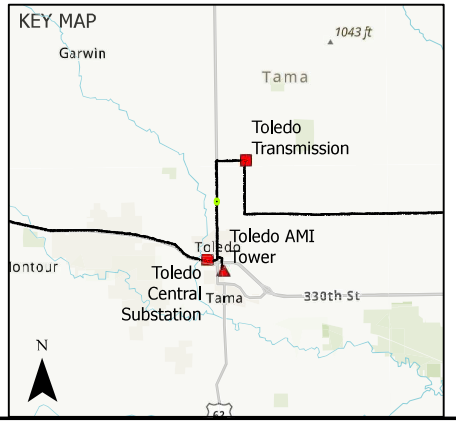


REVISIONS

0	PROJECT # 149681-03
	ISSUED FOR REVIEW

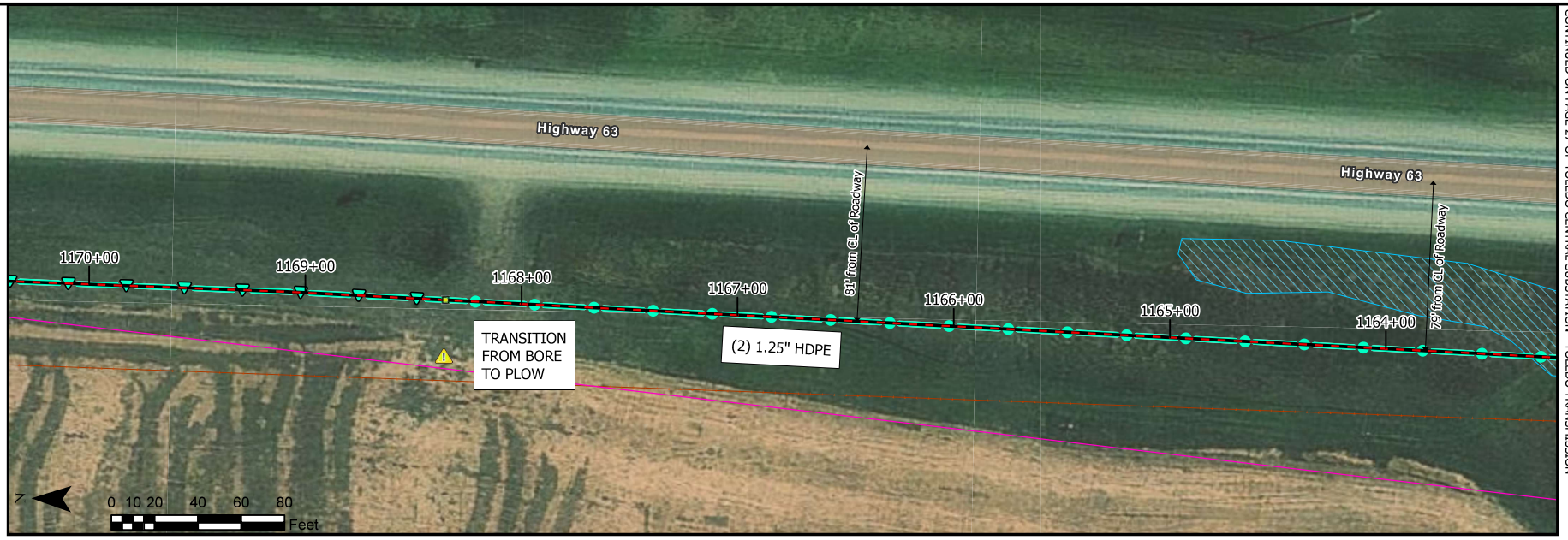
ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 3/4/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 27 OF 54

Alliant Energy

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

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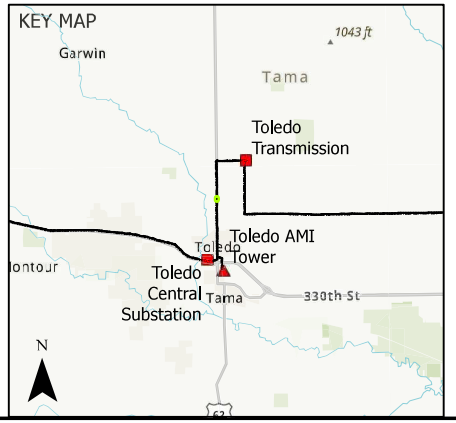


REVISIONS	
0	PROJECT # 149681-03
	ISSUED FOR REVIEW

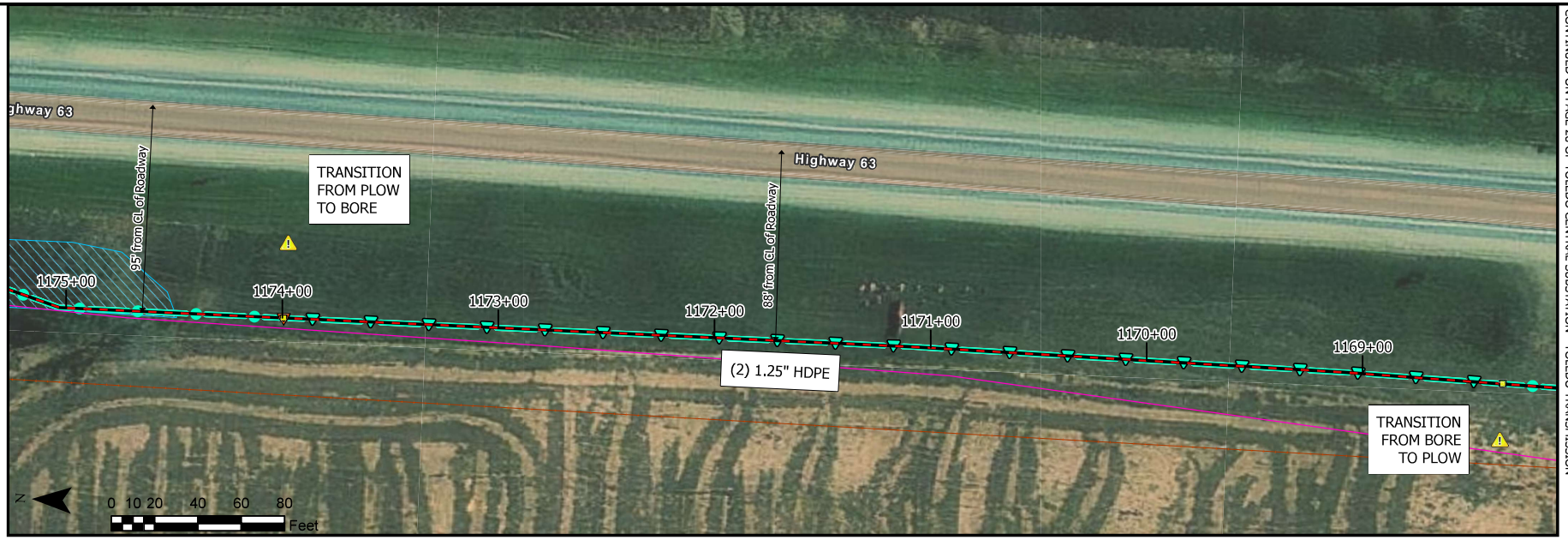
ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 3/4/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 28 OF 54

Alliant Energy

TOLC-TOLT-28 | REV: 0

CONTINUED ON PAGE 30 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 28 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

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

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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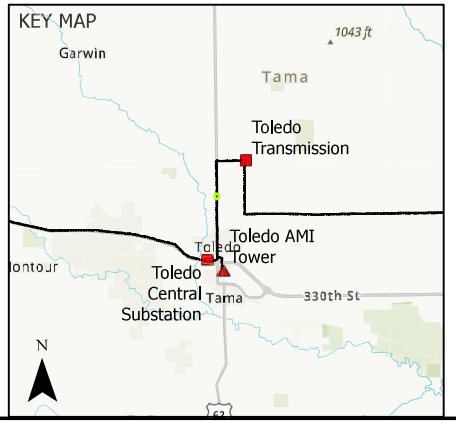


REVISIONS

0	PROJECT # 149681-03
	ISSUED FOR REVIEW

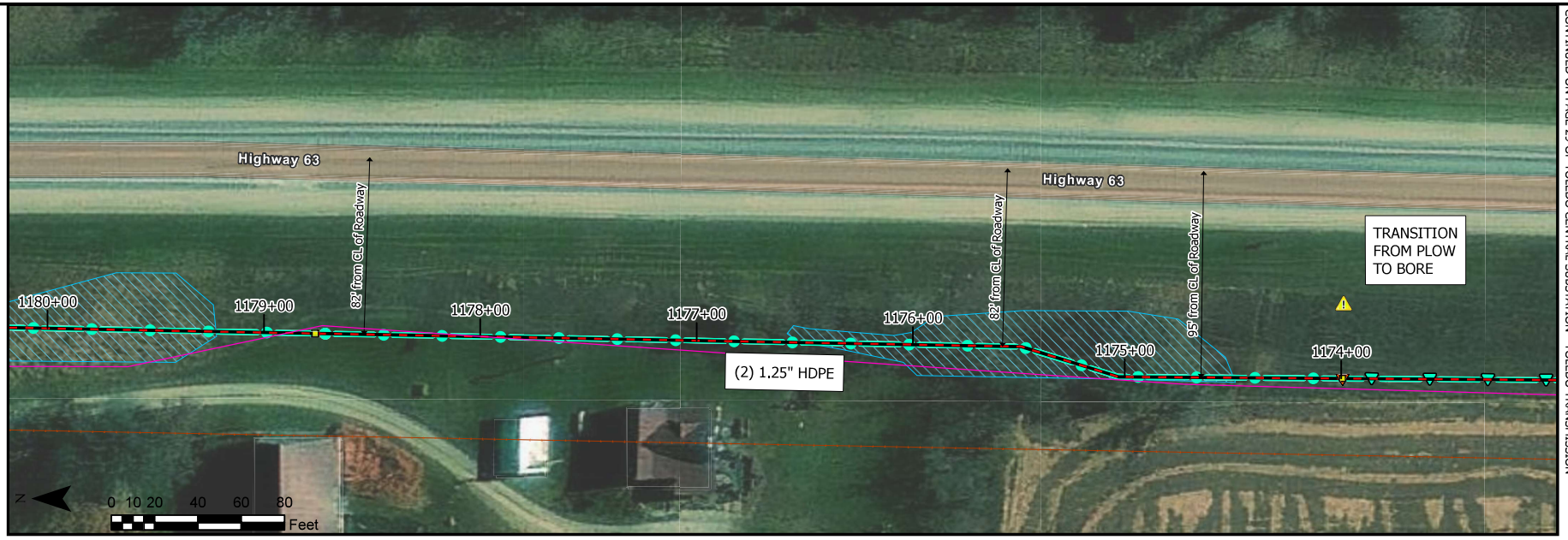
ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 3/4/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 29 OF 54

Alliant Energy

TOLC-TOLT-29 | REV: 0

CONTINUED ON PAGE 31 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 29 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

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, MAINTENANCE HAND-HOLE, NEW JUNCTION BOX, SPLICE POINT HAND-HOLE, EXISTING MAN-HOLE
- Slack Coils: 144, 36
- Markers: Fiber Marker (w/ Test Station), Fiber Marker (No Test Station)
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- Parcel Data: Right of Way, Private Easement
- Wetlands: Wetlands
- Sites: Substation, Office, Tower

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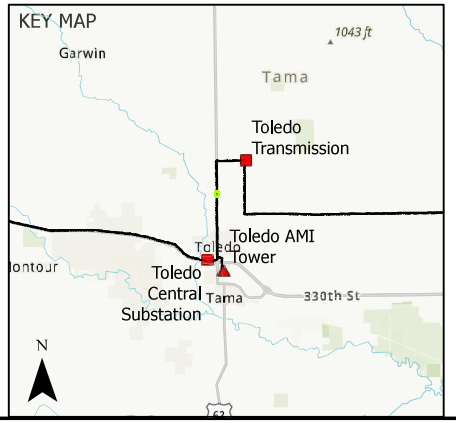

REVISIONS

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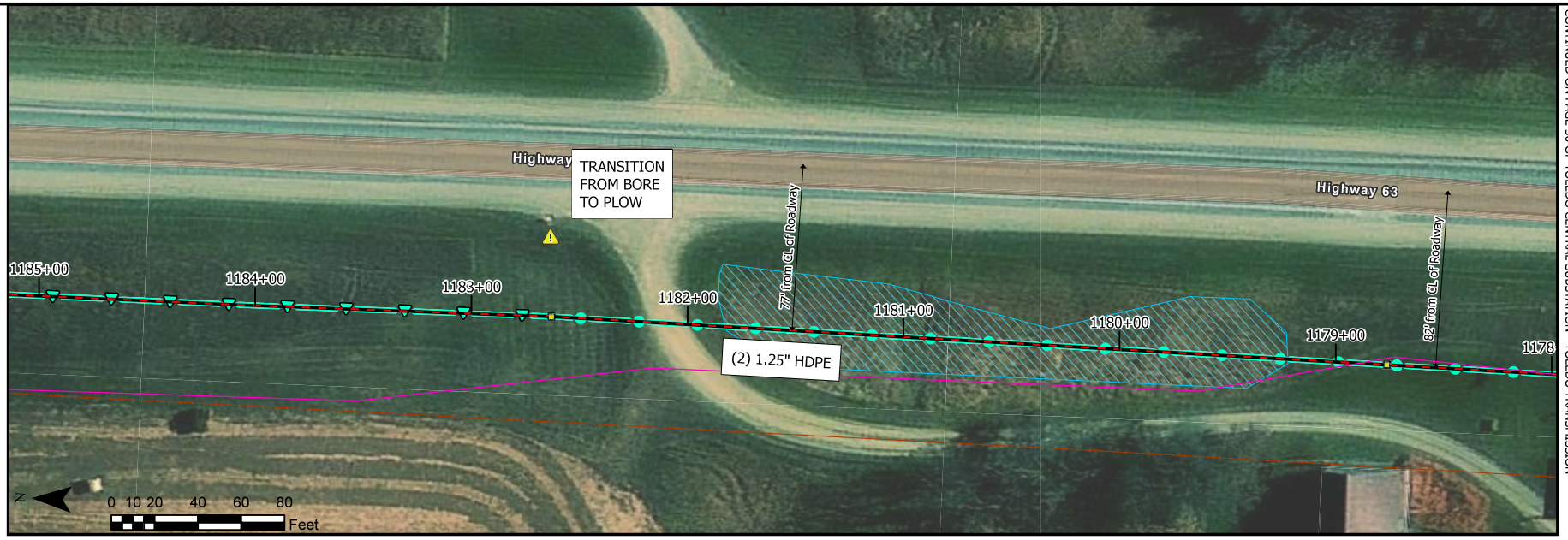
ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 3/4/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 30 OF 54

Alliant Energy

TOLC-TOLT-30 | REV: 0

CONTINUED ON PAGE 32 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 30 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

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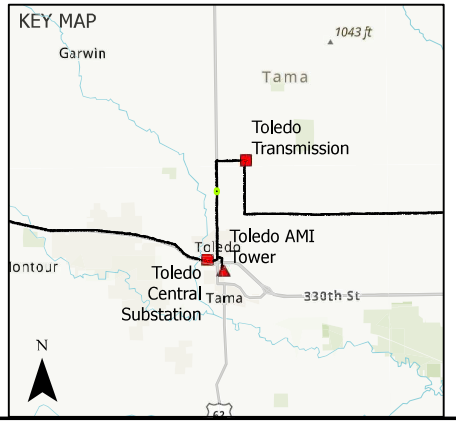

REVISIONS

0	PROJECT # 149681-03
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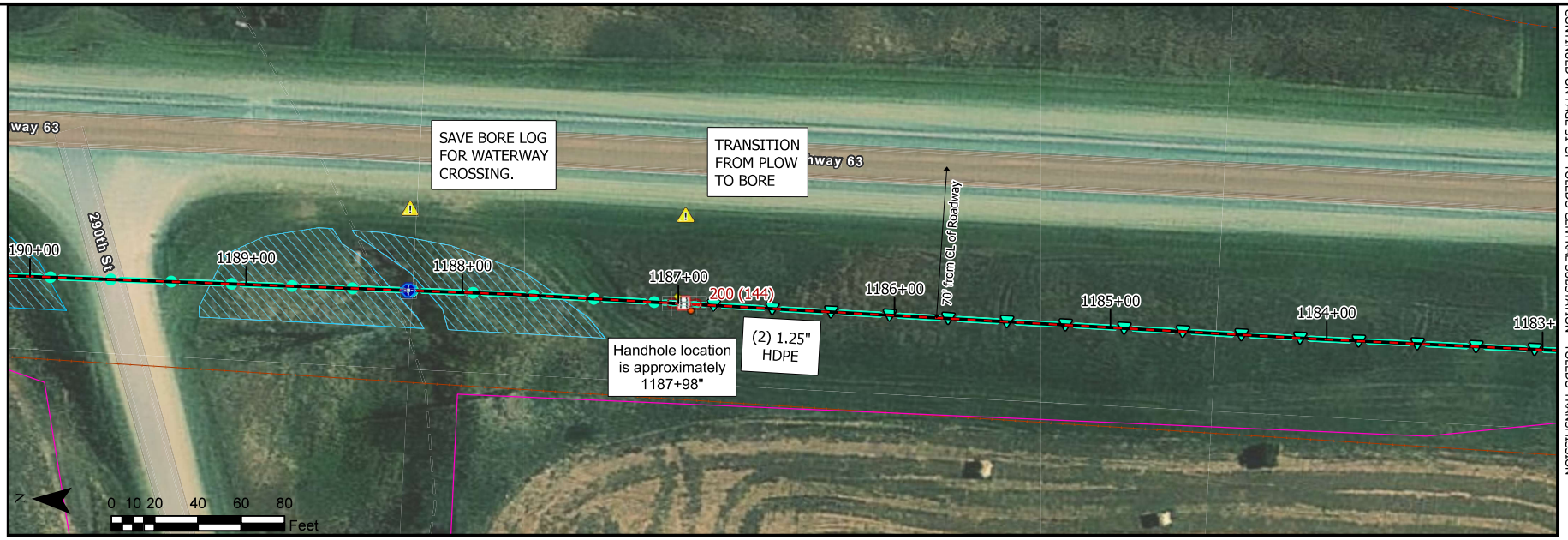
ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 3/4/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 31 OF 54

Alliant Energy

TOLC-TOLT-31 | REV: 0

CONTINUED ON PAGE 33 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 31 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

HANDHOLE LOCATION	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, MAINTENANCE HAND-HOLE, NEW JUNCTION BOX, SPLICE POINT HAND-HOLE, EXISTING MAN-HOLE
- 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 OR DEEPER UNLESS OTHERWISE SPECIFIED.
5. FIBER TO MAINTAIN A MINIMUM 18" HORIZONTAL SEPARATION FROM EXISTING UTILITIES.
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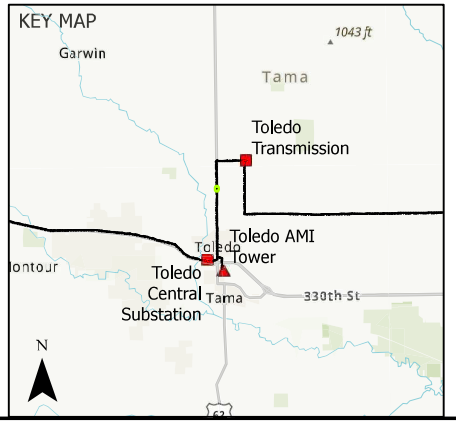


REVISIONS

0	PROJECT # 149681-03
	ISSUED FOR REVIEW

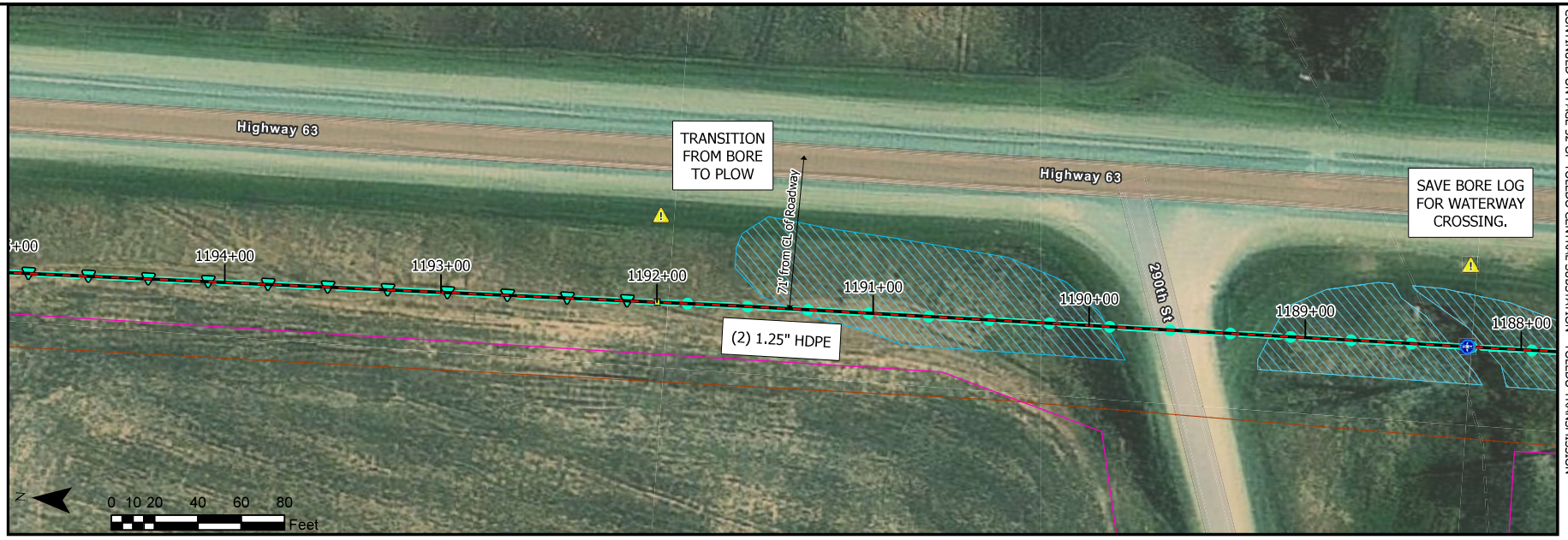
ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 3/4/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 32 OF 54

Alliant Energy

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

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

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

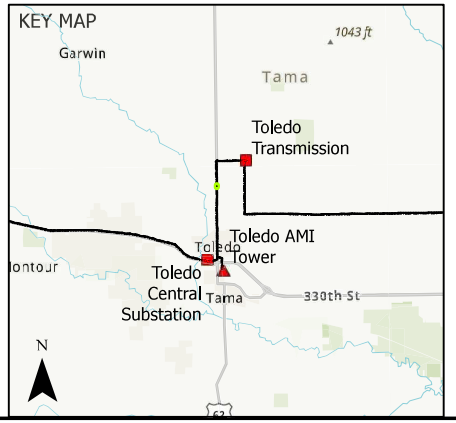
Parcel Data
- Right of Way
- Private Easement

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.
3. FIBER INSTALLATION TO REMAIN ON BACKSLOPE OF THE DITCH, AWAY FROM THE FORESLOPE, WITHIN THE ROW UNLESS OTHERWISE NOTED.
4. FIBER TO MAINTAIN A DEPTH OF 36 INCHES OR DEEPER 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

ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 3/4/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 33 OF 54

Alliant Energy

TOLC-TOLT-33 | REV: 0

CONTINUED ON PAGE 35 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

CONTINUED ON PAGE 33 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

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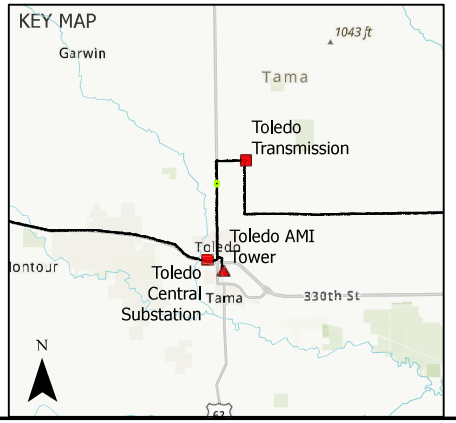

REVISIONS	
0	PROJECT # 149681-03
	ISSUED FOR REVIEW

ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 3/4/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 34 OF 54

Alliant Energy

TOLC-TOLT-34 | REV: 0

CONTINUED ON PAGE 36 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

CONTINUED ON PAGE 34 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

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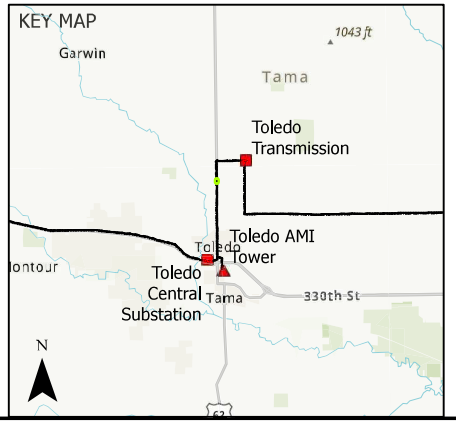

REVISIONS

0	PROJECT # 149681-03
	ISSUED FOR REVIEW

ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 3/4/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 35 OF 54

Alliant Energy

TOLC-TOLT-35 | REV: 0

CONTINUED ON PAGE 37 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

CONTINUED ON PAGE 35 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

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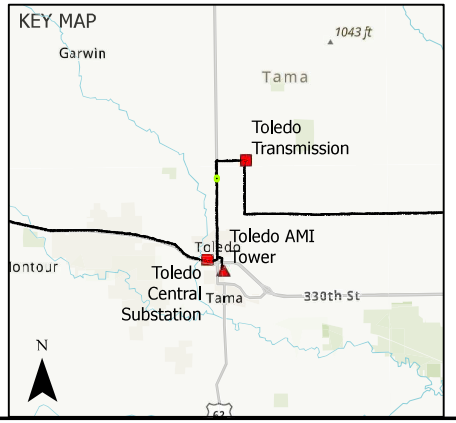

REVISIONS

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	ISSUED FOR REVIEW

ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 3/4/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 36 OF 54

Alliant Energy

TOLC-TOLT-36 | REV: 0

CONTINUED ON PAGE 38 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

CONTINUED ON PAGE 36 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, MAINTENANCE HAND-HOLE, NEW JUNCTION BOX, SPLICE POINT HAND-HOLE, EXISTING MAN-HOLE
- 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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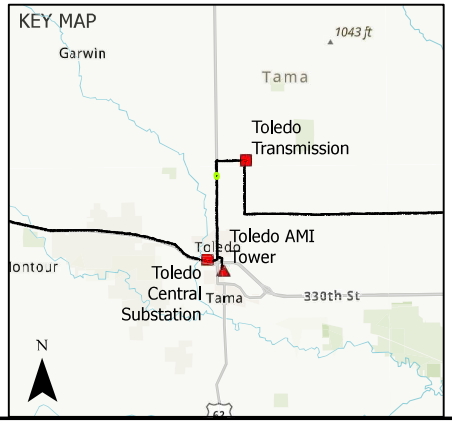

REVISIONS

0	PROJECT # 149681-03
	ISSUED FOR REVIEW

ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 3/4/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 37 OF 54

Alliant Energy

TOLC-TOLT-37 | REV: 0

CONTINUED ON PAGE 39 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

CONTINUED ON PAGE 37 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

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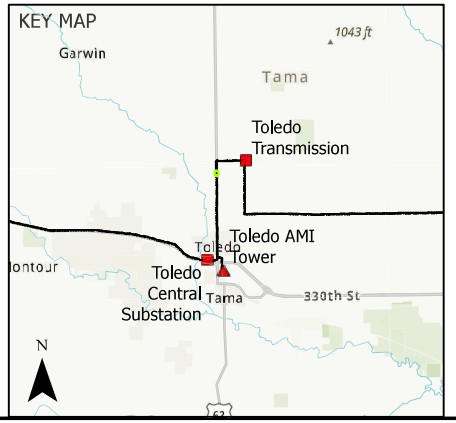

REVISIONS	
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ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 3/4/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 38 OF 54

Alliant Energy

TOLC-TOLT-38 | REV: 0

CONTINUED ON PAGE 40 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

CONTINUED ON PAGE 38 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

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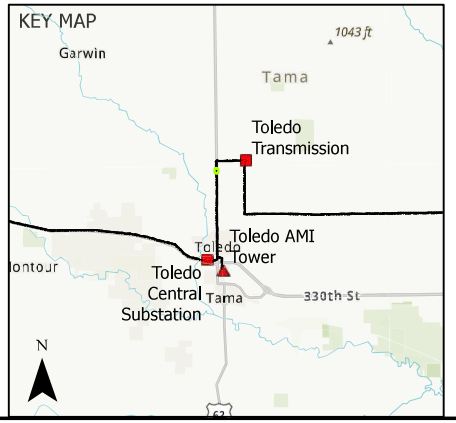

REVISIONS

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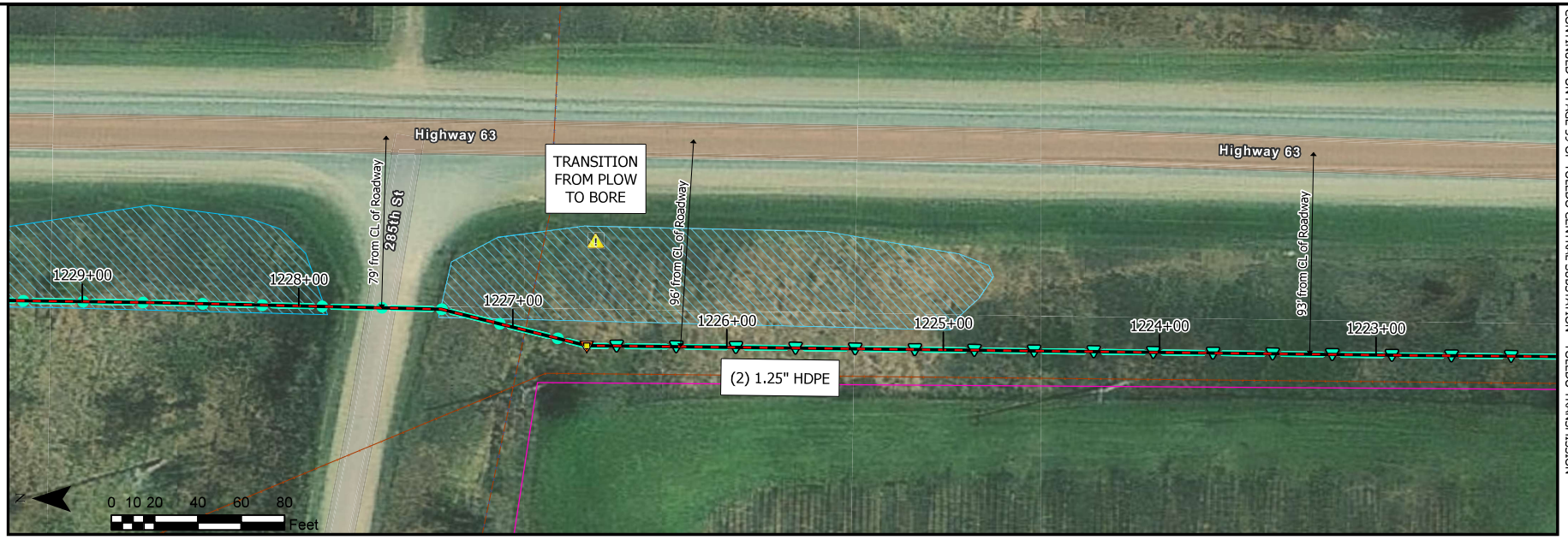
ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 3/4/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 39 OF 54

Alliant Energy

TOLC-TOLT-39 | REV: 0

CONTINUED ON PAGE 41 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 39 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

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

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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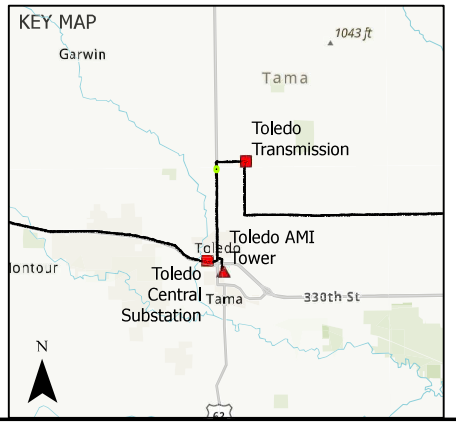

REVISIONS

0	PROJECT # 149681-03
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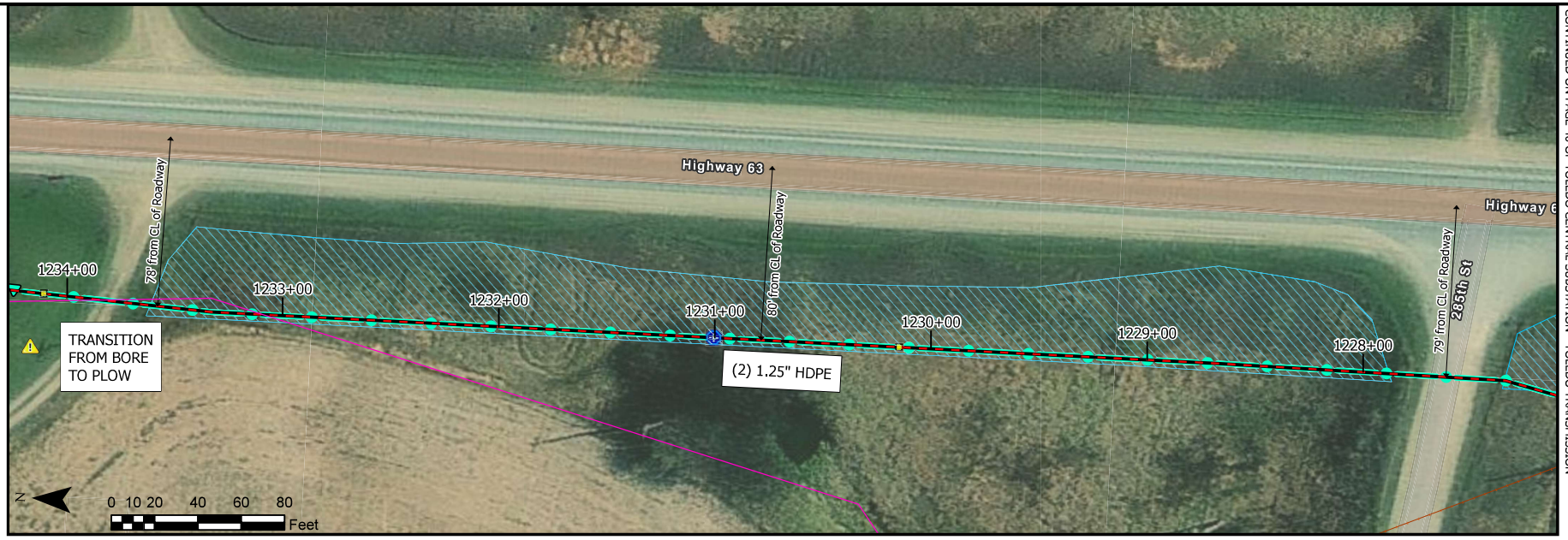
ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 3/4/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 40 OF 54

Alliant Energy

TOLC-TOLT-40 | REV: 0

CONTINUED ON PAGE 42 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 40 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

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

Slack Coils
- 144
- 36

Markers
- Fiber Marker (w/ Test Station)
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Other
- Construction Note
- Highway Crossing
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- Bore Pit
- Splice Point

Parcel Data
- Right of Way
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Wetlands
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Sites
- Substation
- Office
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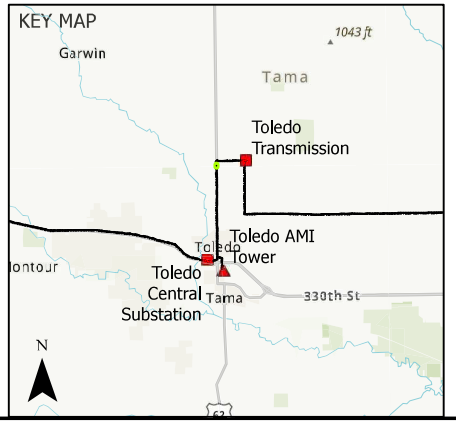

REVISIONS

0	PROJECT # 149681-03
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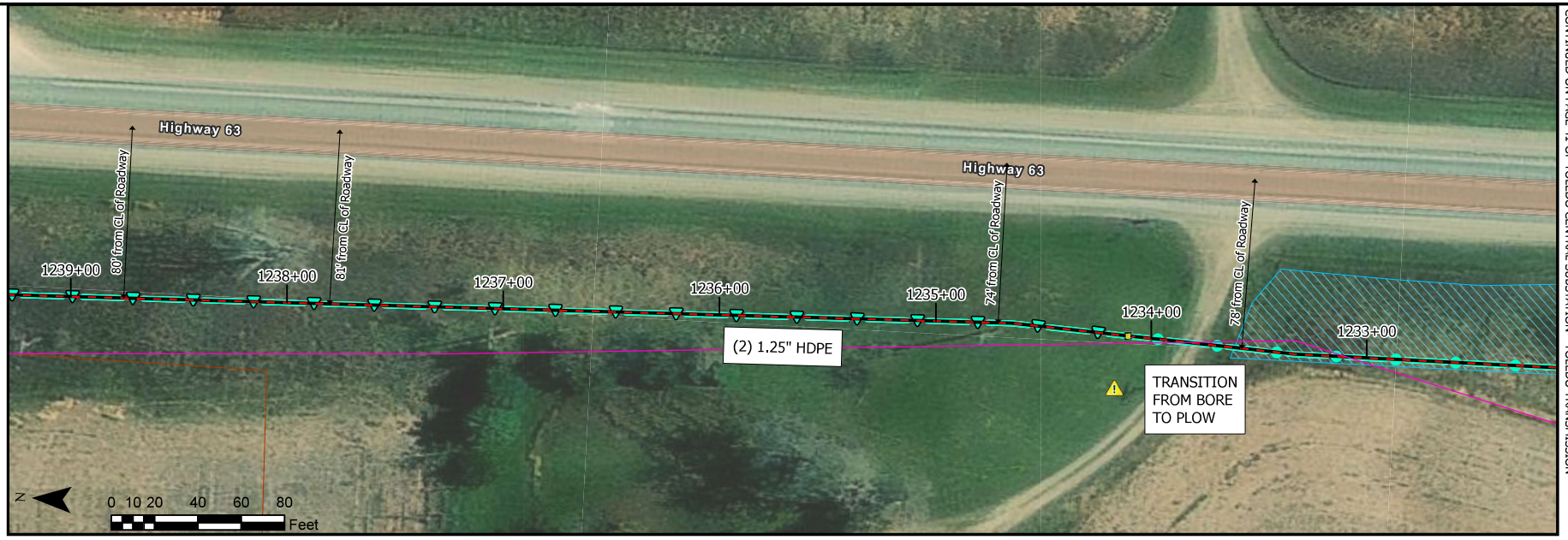
ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 3/4/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 41 OF 54

Alliant Energy

TOLC-TOLT-41 | REV: 0

CONTINUED ON PAGE 43 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



CONTINUED ON PAGE 41 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

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
- MAINTENANCE HAND-HOLE
- NEW JUNCTION BOX
- SPLICE POINT HAND-HOLE
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- 144
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Wetlands
- Wetlands

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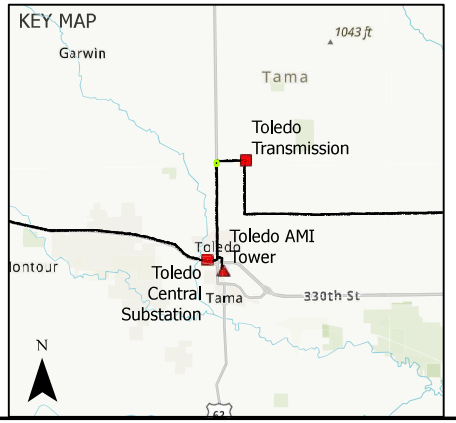
8. REFER TO GENERAL NOTES SHEET FOR ALL OTHER PROJECT NOTES.

KEY MAP



REVISIONS

0	PROJECT # 149681-03
	ISSUED FOR REVIEW

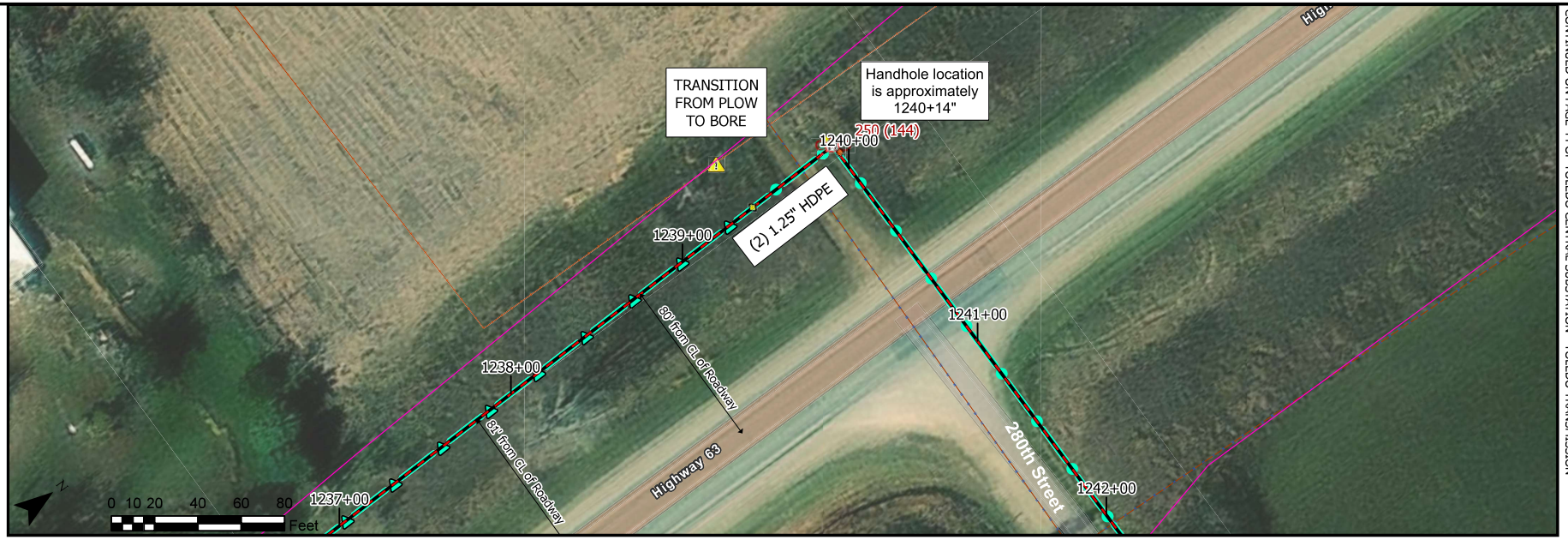
ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 3/4/2024

TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 42 OF 54

Alliant Energy

TOLC-TOLT-42 | REV: 0

CONTINUED ON PAGE 42 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION



HANDHOLE LOCATION	CONSTRUCTION DETAIL	NOTES	MATERIALS	SLACK	SLACKLENGTH
42.035910°N/92.581801°W	UG-SD-001, UG-SD-002	MAINTENANCE HANDHOLE	30"X48"X36" HANDHOLE, FIBER MARKER W TEST STATION	1	250

CONTINUED ON PAGE 44 OF TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION

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

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

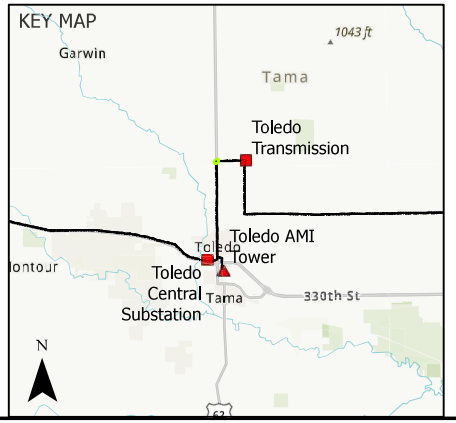
Parcel Data
- Right of Way
- Private Easement

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.
3. FIBER INSTALLATION TO REMAIN ON BACKSLOPE OF THE DITCH, AWAY FROM THE FORESLOPE, WITHIN THE ROW UNLESS OTHERWISE NOTED.
4. FIBER TO MAINTAIN A DEPTH OF 36 INCHES OR DEEPER 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

ENGINEER: TVN | REVIEWED BY: KJM | DESIGNED BY: CJ | SCALE: "AS NOTED" | DATE: 3/4/2024

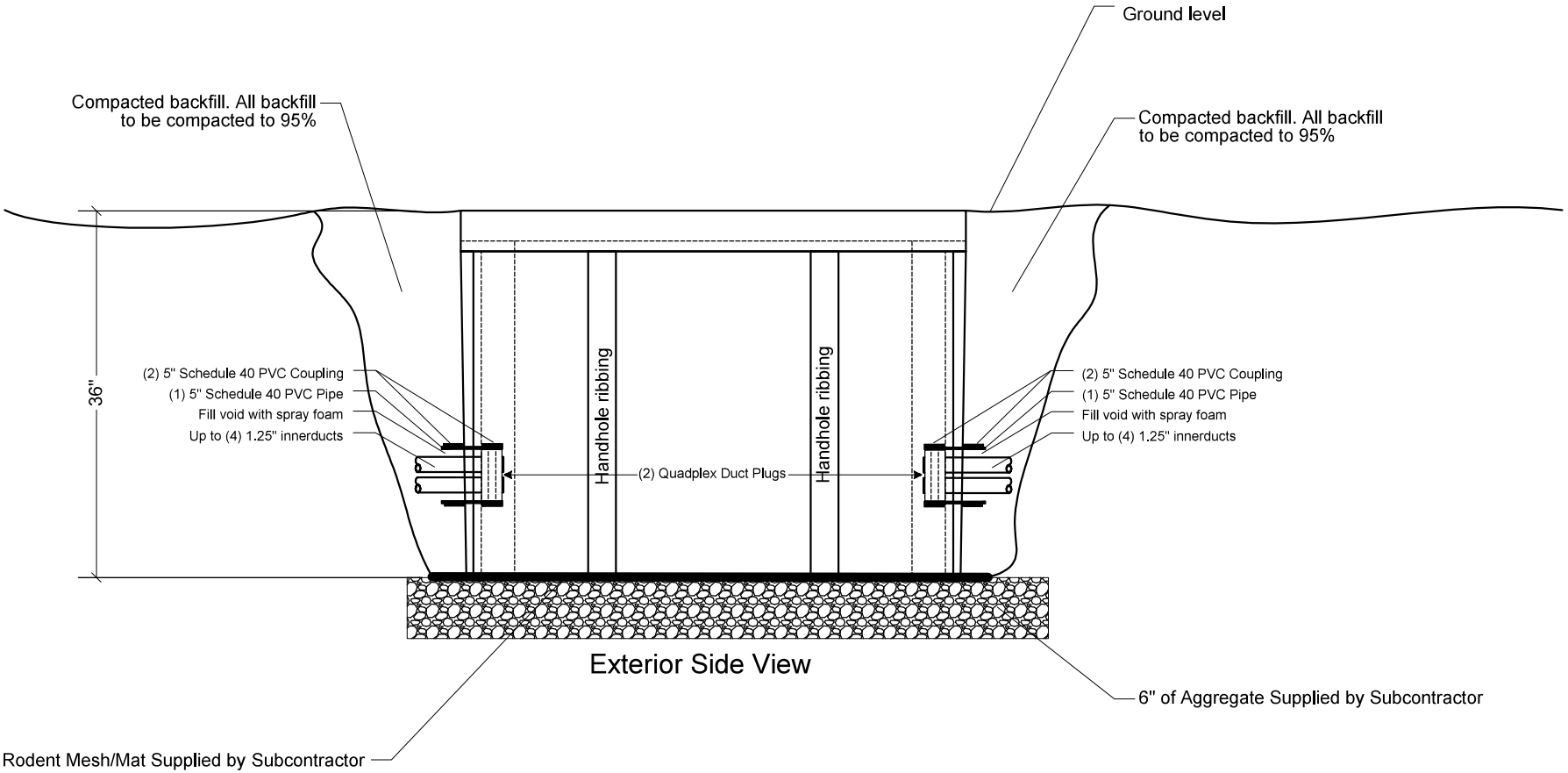
TOLEDO CENTRAL SUBSTATION - TOLEDO TRANSMISSION PAGE 43 OF 54

Alliant Energy

TOLC-TOLT-43 | REV: 0

TB.V8.01.03

Typical Handhole - Flush Mount



ALLIANT

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

Alliant Energy

FLUSH MOUNT HAND-HOLE DETAILS

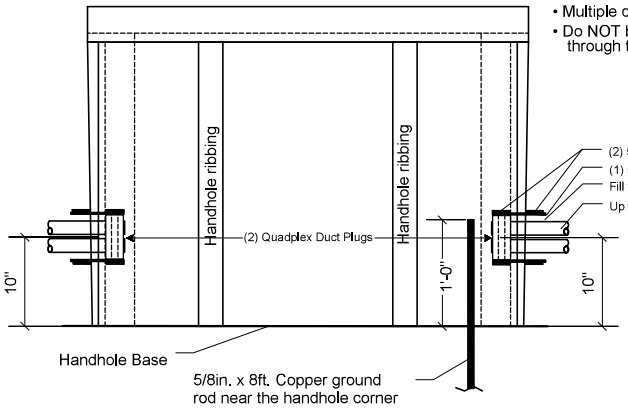
SCALE: SCALE

DWG. NO. UG-SD-001

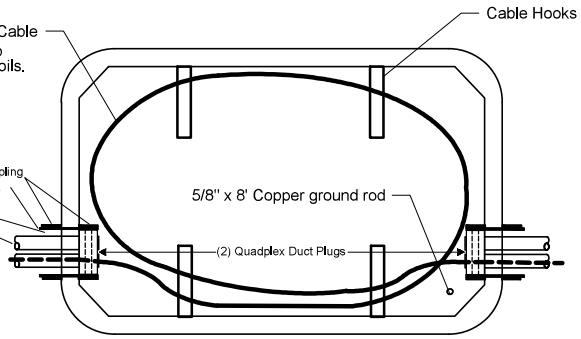
Plotted:CJENG 1/13/2023 12:51 PM
File:ALLIANT_SD001.DWG

TB.V8.01.03

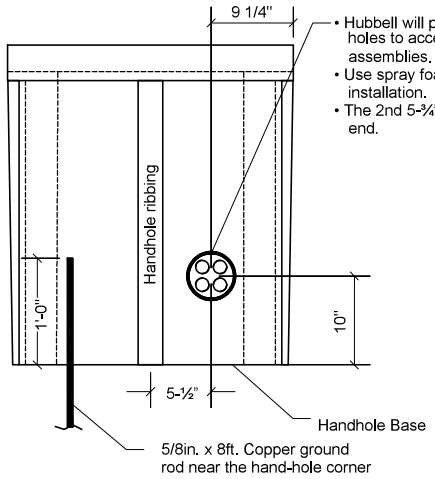
Maintenance Handhole Details



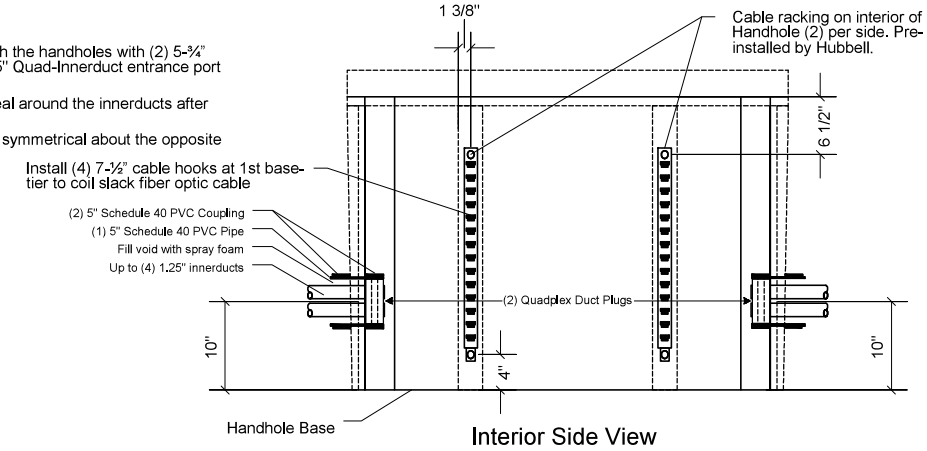
Exterior Side View



Interior Top View



Exterior End View



Interior Side View

ALLIANT

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

Alliant Energy

MAINTENANCE HAND-HOLE DETAILS

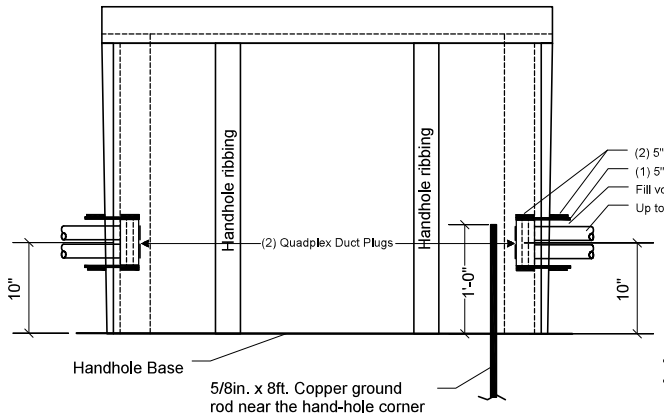
SCALE: SCALE

DWG. NO. UG-SD-002

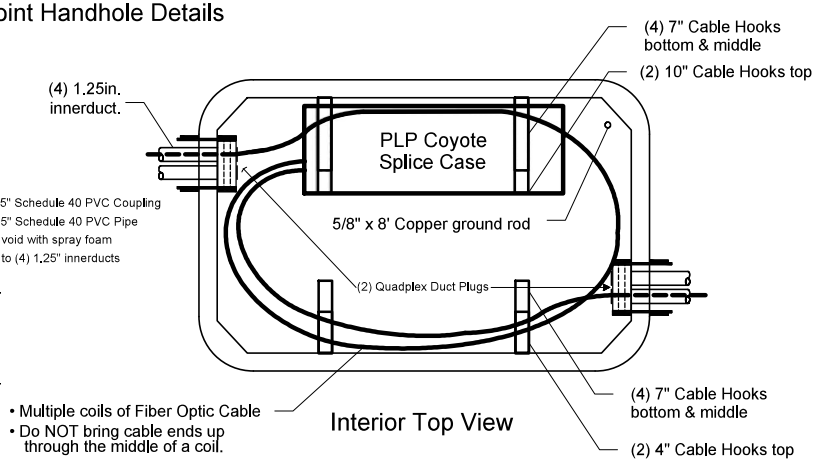
Plotted: CJENG 1/13/2023 12:51 PM
File: ALLIANT_SD002.DWG

TB.V8.01.03

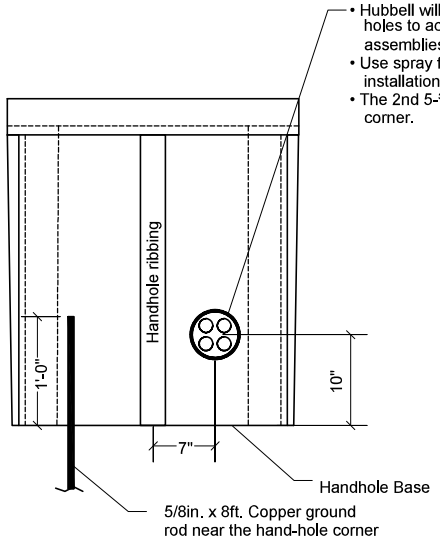
Splice Point Handhole Details



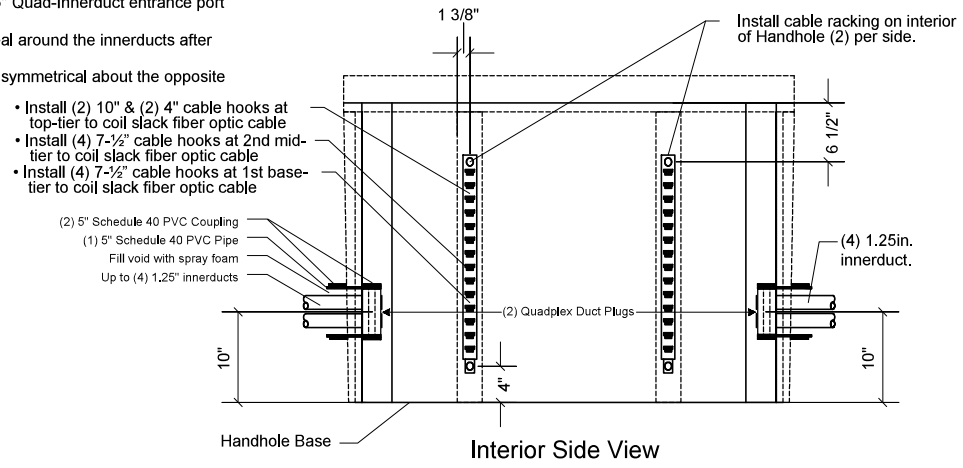
Exterior Side View



Interior Top View



Exterior End View



Interior Side View

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.

ALLIANT

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

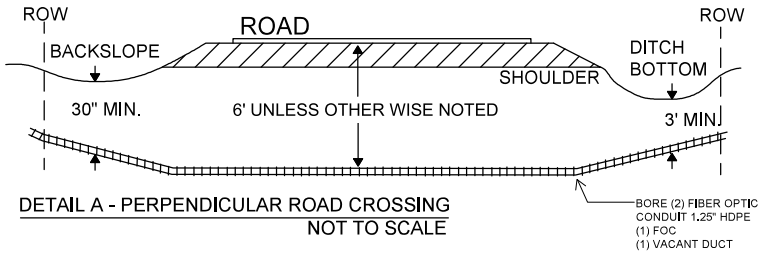
Alliant Energy

SPLICE HAND-HOLE DETAILS

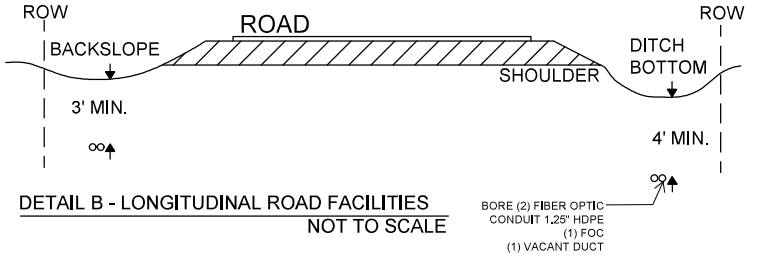
SCALE: SCALE

DWG. NO. UG-SD-003

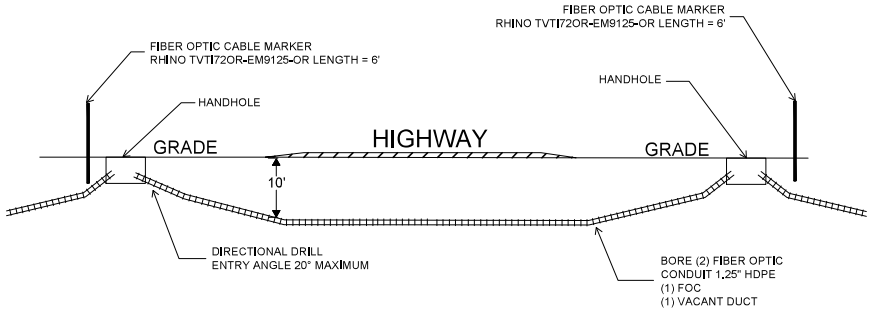
Plotted:CJENG 1/13/2023 12:51 PM
File:ALLIANT_SD003.DWG



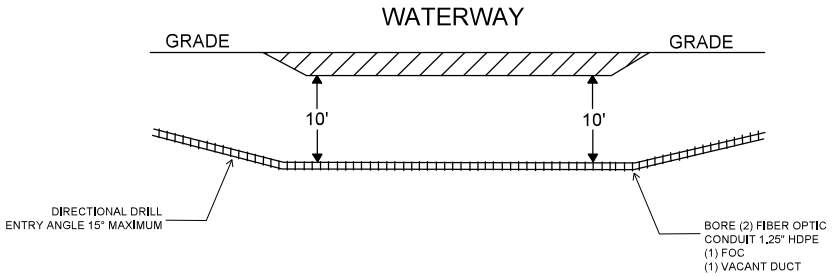
DETAIL A - PERPENDICULAR ROAD CROSSING
NOT TO SCALE



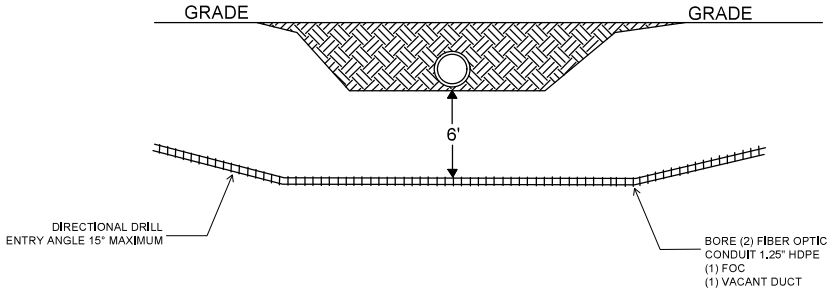
DETAIL B - LONGITUDINAL ROAD FACILITIES
NOT TO SCALE



DETAIL C - PERPENDICULAR HIGHWAY CROSSING
NOT TO SCALE



DETAIL D - WATERWAY CROSSING
NOT TO SCALE



DETAIL E - CULVERT CROSSING
NOT TO SCALE

ALLIANT

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

Alliant Energy

STANDARD CROSSING DETAILS

SCALE: SCALE

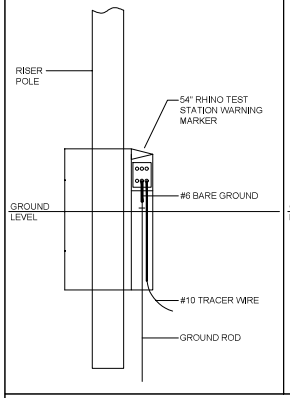
DWG. NO. UG-SD-005

TB.V8.01.03

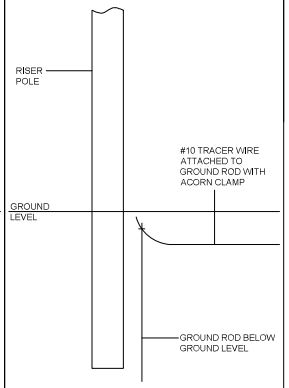
ALLIANT ENERGY

TYPICAL CONSTRUCTION DRAWINGS

TYPICAL GROUNDING OF TRACER WIRE AT RISER POLE WITH RHINO TEST STATION

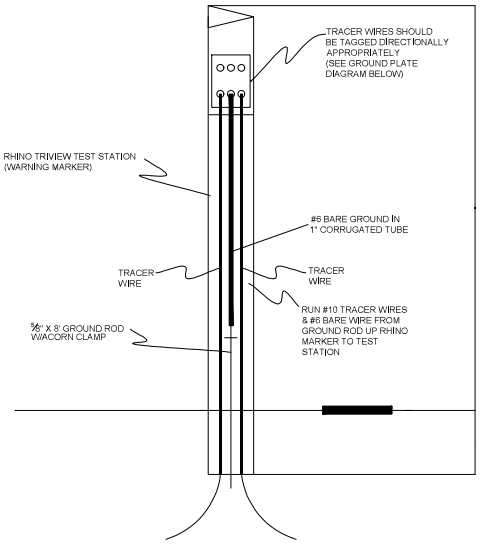


TYPICAL GROUNDING OF TRACER WIRE AT RISER POLE WITHOUT A RHINO TEST STATION

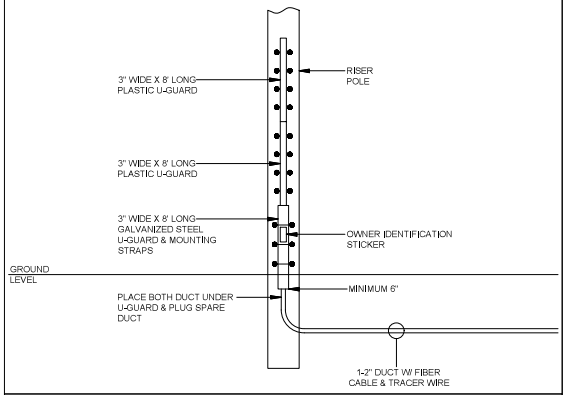


TYPICAL RHINO TEST STATION INSTALLATION (WITHOUT HANDHOLE)

SIDE VIEW

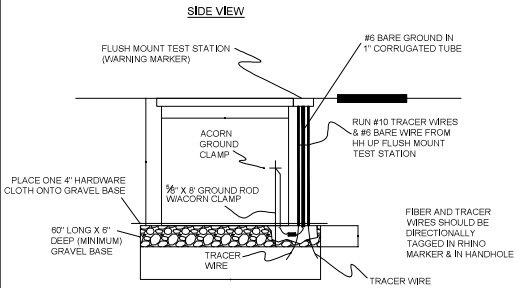


TYPICAL RISER GUARD INSTALLATION



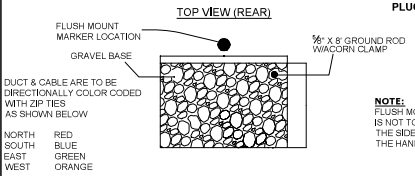
TYPICAL HAND HOLE INSTALLATION (WITH FLUSH MOUNT TEST STATION) QUAZITE HAND HOLE AND COVER

SIDE VIEW



NOTE:
PLUG ALL VACANT DUCTS

TOP VIEW (REAR)

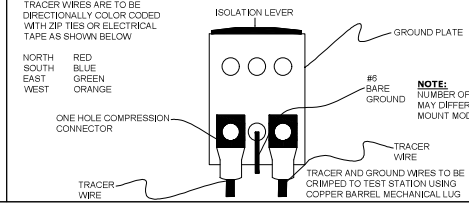


NOTE:
FLUSH MOUNT MARKER IS NOT TO BE SET ON THE SIDE OR END OF THE HANDHOLE.

TYPICAL FLUSH MOUNT TEST STATION (GROUND PLATE DETAIL)

TRACER WIRES ARE TO BE DIRECTIONALLY COLOR CODED WITH ZIP TIES OR ELECTRICAL TAPE AS SHOWN BELOW

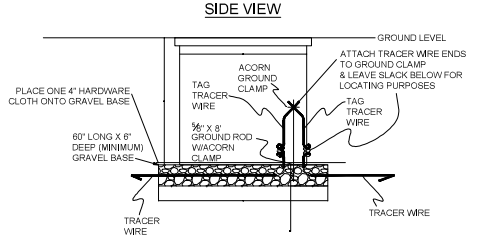
NORTH RED
SOUTH BLUE
EAST GREEN
WEST ORANGE



NOTE:
NUMBER OF CONNECTORS MAY DIFFER BASED ON FLUSH MOUNT MODEL CHOSEN.

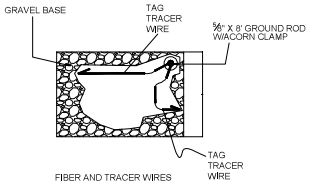
TYPICAL HAND HOLE INSTALLATION (WITHOUT RHINO TEST STATION) QUAZITE HAND HOLE AND COVER

SIDE VIEW



NOTE:
PLUG ALL VACANT DUCTS

TOP VIEW



DUCT & CABLE ARE TO BE DIRECTIONALLY COLOR CODED WITH ZIP TIES SHOWN BELOW

NORTH RED
SOUTH BLUE
EAST GREEN
WEST ORANGE

FIBER AND TRACER WIRES SHOULD BE TAGGED DIRECTIONALLY APPROPRIATE

ALLIANT

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

Alliant Energy

FIBER MARKER DETAILS

SCALE: SCALE

DWG. NO. UG-SD-006

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

Erosion Control

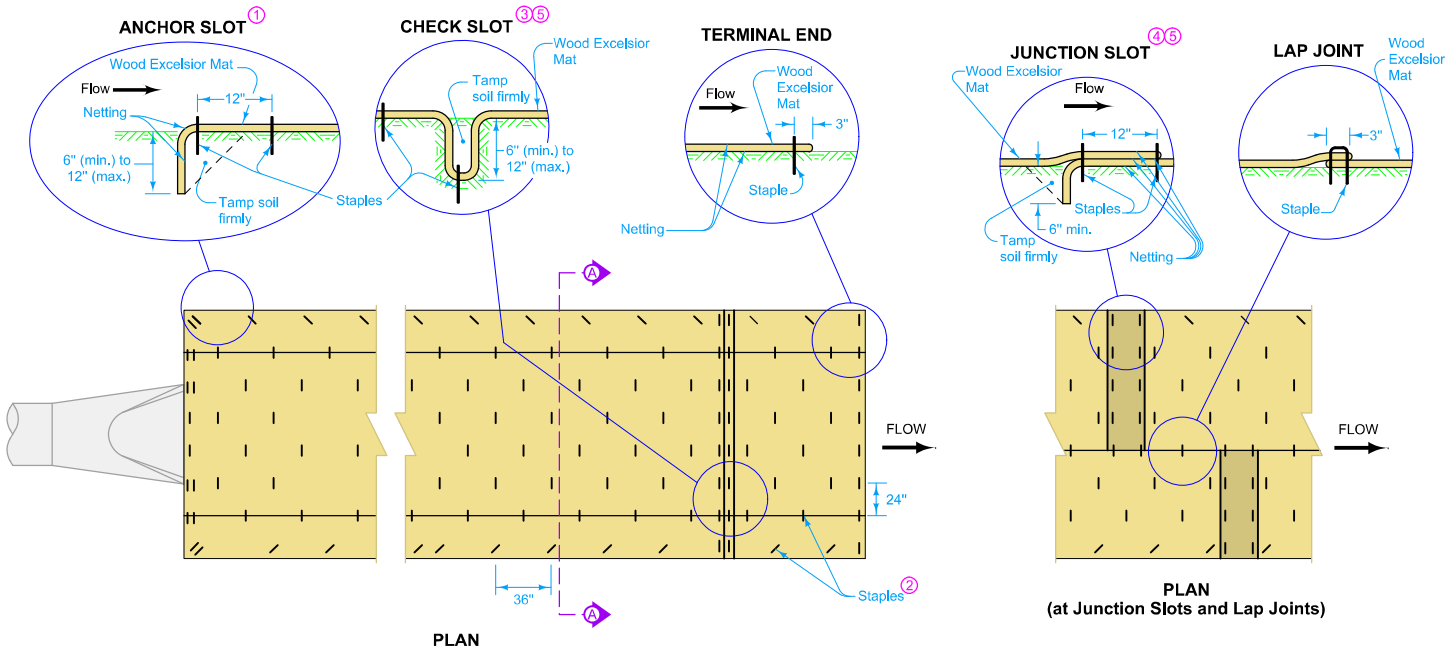
EC

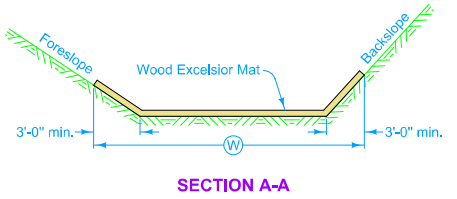
SECTION

Erosion Control

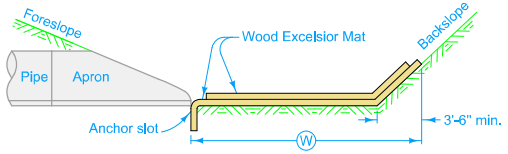
EC

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

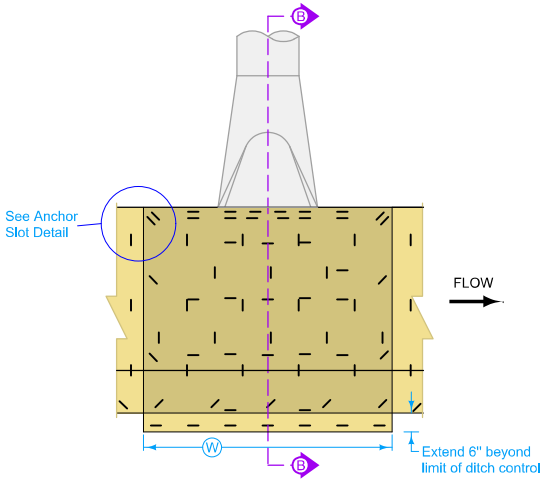




SECTION A-A



SECTION B-B



PLAN
(at Culvert Tranverse to Ditch)

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 Excesior Mat is placed over Turf Reinforced Mat.

Possible Contract Item:
Special Ditch Control, Wood Excelsior Mat

Possible Tabulation:
100-22

IOWADOT

REVISION 2 04-19-16

STANDARD ROAD PLAN

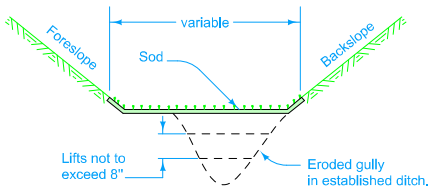
EC-101

SHEET 1 of 1

REVISIONS: Revised to show placement of erosion control beginning at the end of the apron.

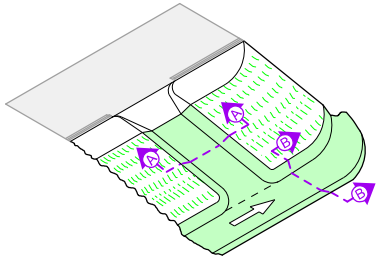
APPROVED BY DESIGN METHODS ENGINEER

SPECIAL DITCH CONTROL

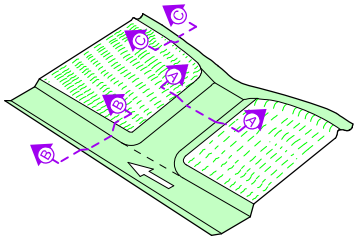


SECTIONS A-A AND B-B

Sod placement for eroded gully.



PERSPECTIVE FORESLOPE FLUME AND ROADWAY DITCH



PERSPECTIVE BACKSLOPE WITH FLUME AND INTERCEPTING DITCH

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.

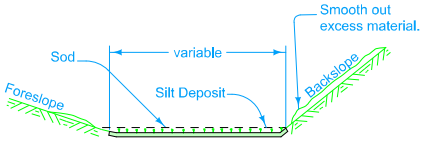
Provide necessary excavation at locations where silt conditions require shaping of a ditch to provide a proper type of area for installation of sod for special ditch control. Dispose excavated material in adjacent area as directed by the Engineer.

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.

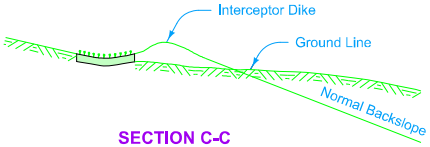
Work for providing proper ditches will not be paid for directly but is incidental to other work on the project.

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.



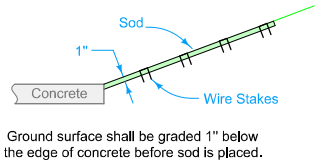
SECTION B-B

Sod placement for silted ditch in cut.



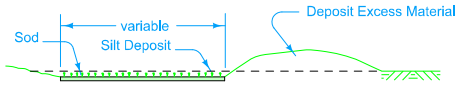
SECTION C-C

Sod placement on Interceptor Ditch



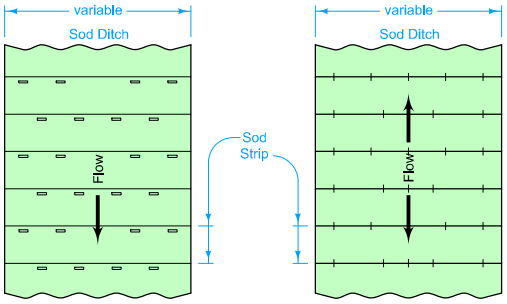
Ground surface shall be graded 1" below the edge of concrete before sod is placed.

CASE 1
NATURAL GROUND SLOPES TOWARD CONCRETE



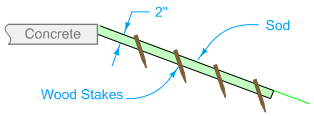
SECTION B-B

Sod placement for silted area in no-ditch section.



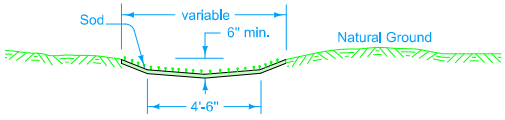
4 Wood Stakes per row, staggered in rows

5 Wire Stakes per row, staggered in rows



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

CASE 2
NATURAL GROUND SLOPES AWAY FROM CONCRETE



SECTION A-A

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

WOOD STAKES **WIRE STAKES**

STAKING FOR SOD CHANNELS

LEGEND

Existing Ground

Sod

IOWA DOT

STANDARD ROAD PLAN

REVISION	
1	04-21-15

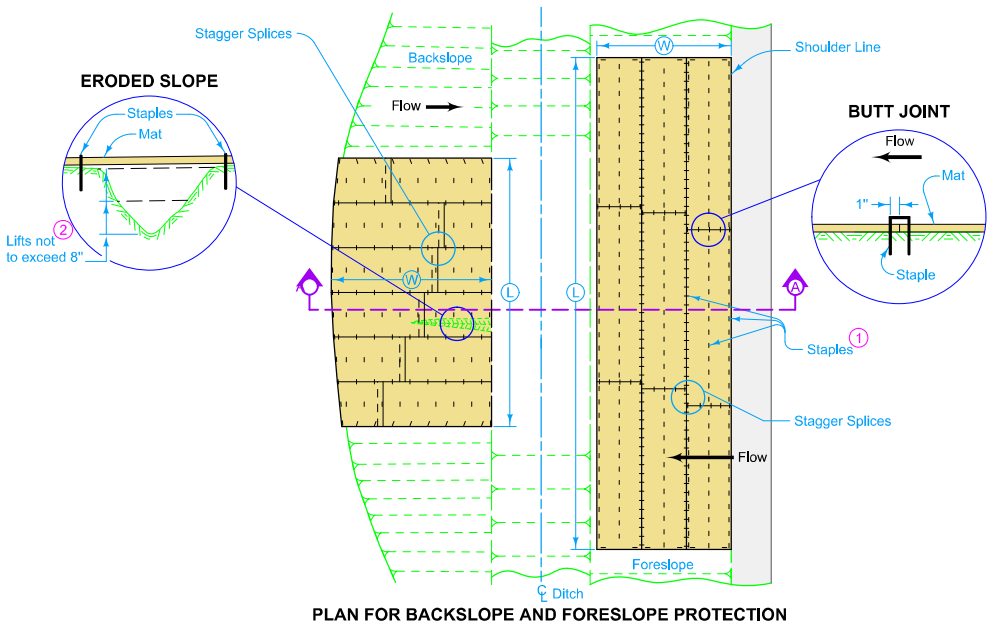
EC-102

SHEET 1 of 1

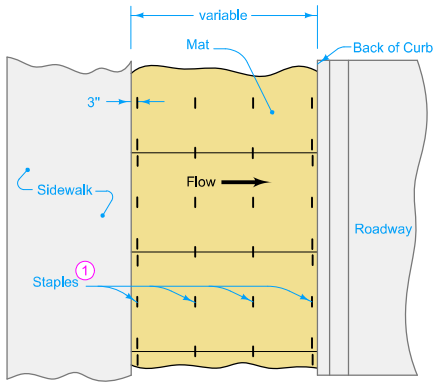
REVISIONS: Replaced DOT logo with new version. Revised Section A-A and B-B drawings to show ditch bottoms being flat.

APPROVED BY DESIGN METHODS ENGINEER

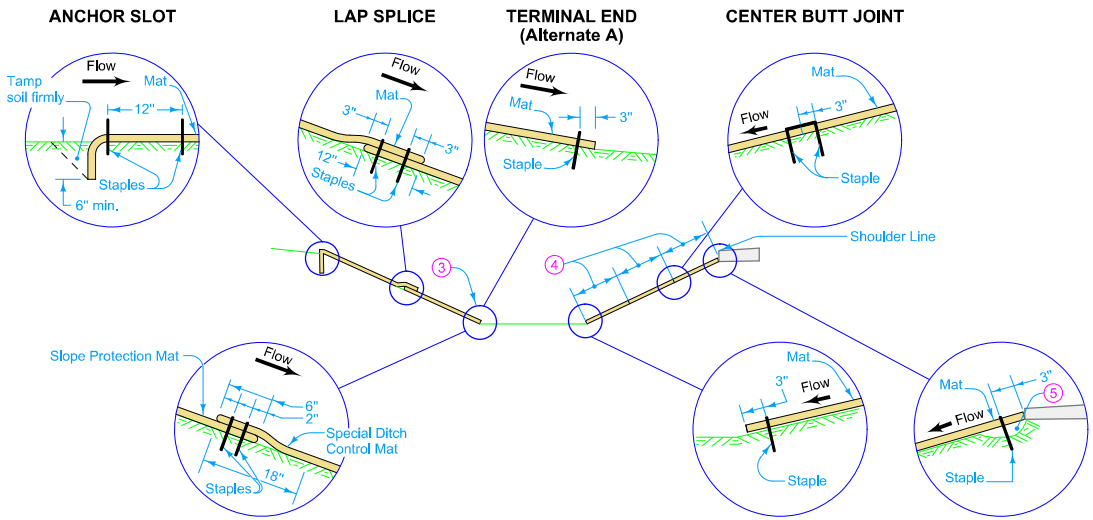
SOD FOR DITCH PROTECTION



PLAN FOR BACKSLOPE AND FORESLOPE PROTECTION



PLAN FOR SIDEWALK ADJACENT TO PAVEMENT



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

STANDARD ROAD PLAN

EC-103

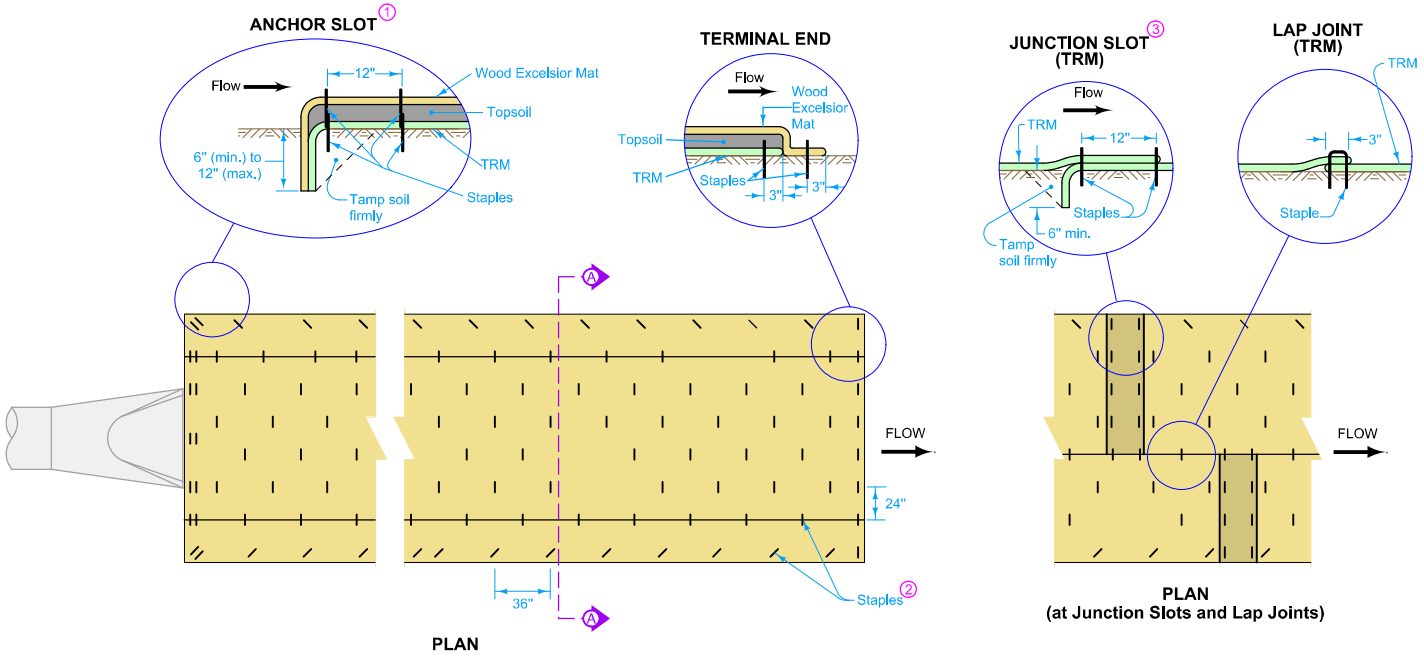
SHEET 1 of 1

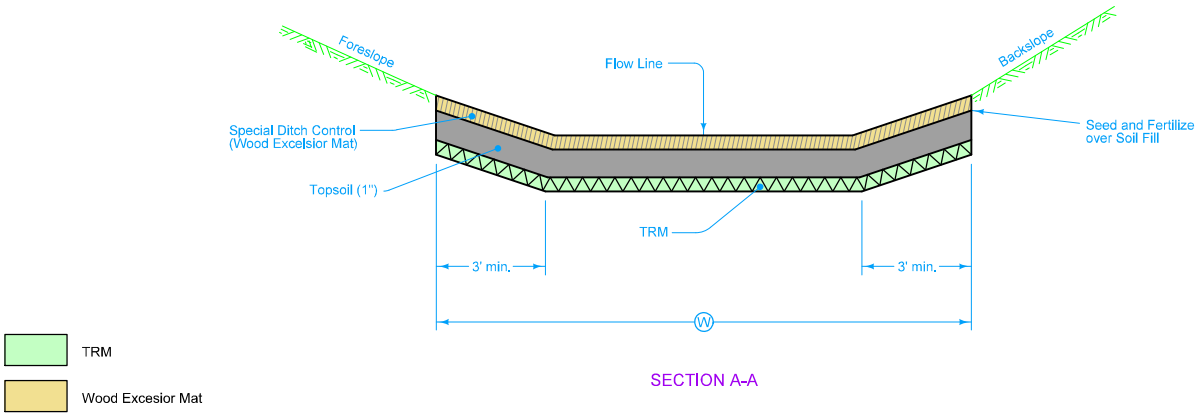
REVISIONS: Removed language from general notes already in the Specifications. Modified drawings. Added Possible Contract Item and Possible Tabulation.

APPROVED BY DESIGN METHODS ENGINEER

WOOD EXCELSIOR MAT FOR SLOPE PROTECTION

DESIGNER INFORMATION





SECTION A-A

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.

Possible Contract Items:
Turf Reinforcement Mat

Possible Tabulation:
100-22

IOWA DOT

STANDARD ROAD PLAN

REVISION	
New	04-17-18

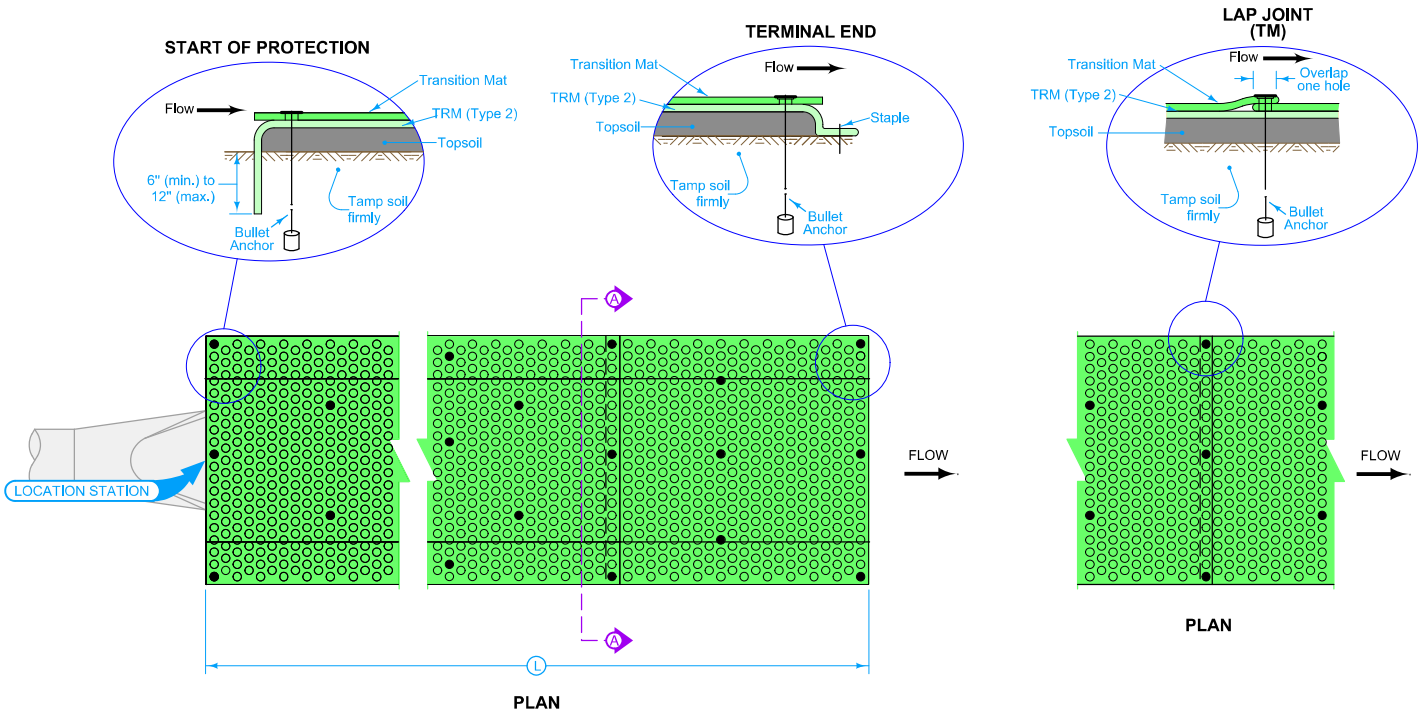
EC-104

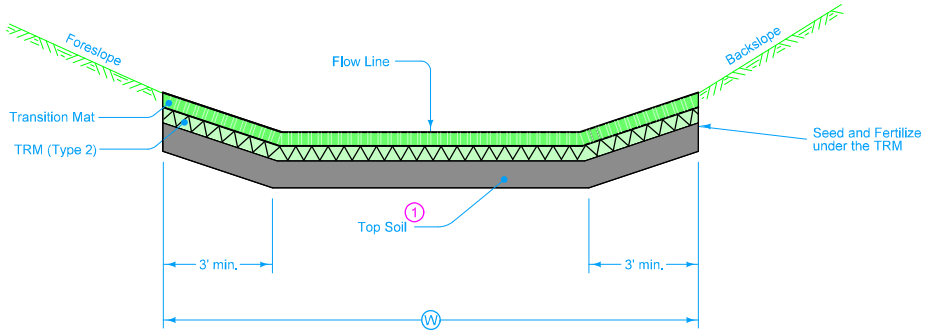
SHEET 1 of 1

REVISIONS: Added Designer Info button.

APPROVED BY DESIGN METHODS ENGINEER

TURF REINFORCEMENT MAT (TRM)





SECTION A-A

TM

TRM (Type 2)

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

IOWADOT

REVISION
3 | 04-17-18

STANDARD ROAD PLAN

EC-105

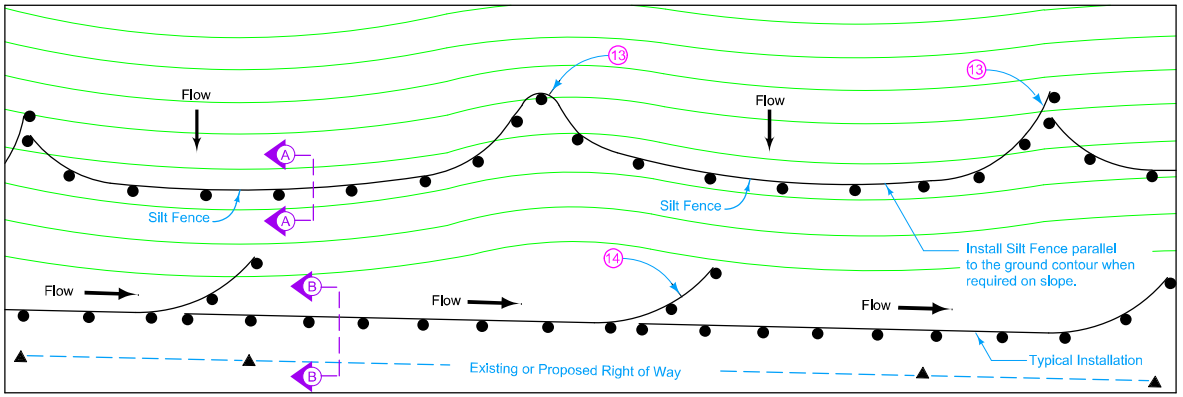
SHEET 1 of 1

REVISIONS: Changed Possible Contract Items to Transition Mat.

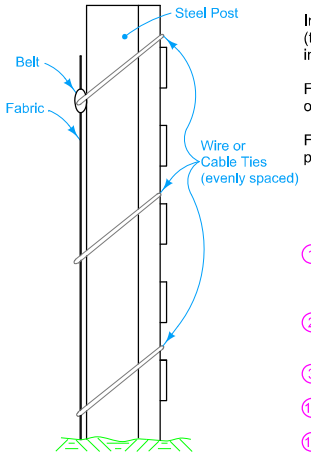
APPROVED BY DESIGN METHODS ENGINEER

TRANSITION MAT (TM)

DESIGNER INFORMATION



PLAN FOR SILT FENCE (11)



PROFILE VIEW ATTACHMENT TO POST

Install all silt fence using a silt fence machine. Use manual (trench) installation if phyical 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.

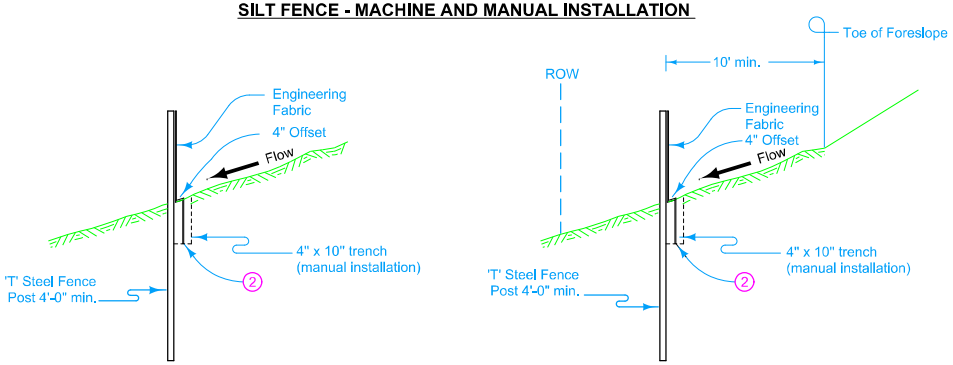
(3) Embed all posts 28 inches below the ground line.

(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.

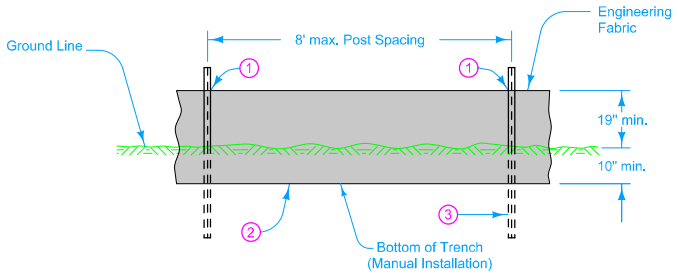
(14) Place silt fence continuously up to a maximum length of 200 feet. For every segment of silt fence that is placed, flare up the slope on both ends 20 feet of the segment to contain runoff as shown.

SILT FENCE - MACHINE AND MANUAL INSTALLATION

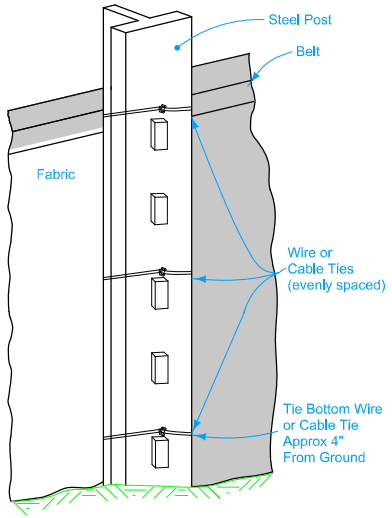


SECTION A-A

SECTION B-B



FRONT VIEW



BACK VIEW ATTACHMENT TO POST

Contour Lines

Possible Contract Items:
Silt Fence
Silt Fence for Ditch Checks

Possible Tabulations:
100-17
100-18

IOWA DOT

REVISION	
6	04-20-21

STANDARD ROAD PLAN

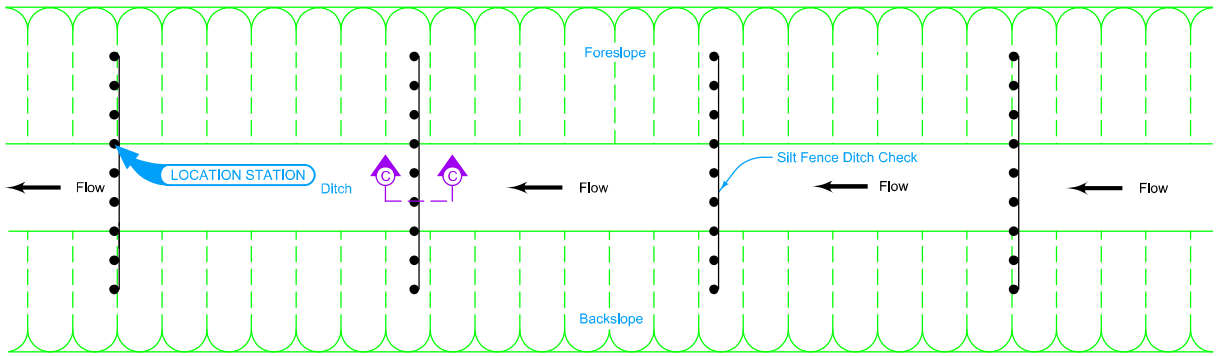
EC-201

SHEET 1 of 6

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

APPROVED BY DESIGN METHODS ENGINEER

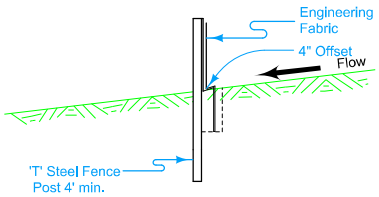
SILT FENCE



PLAN FOR DITCH CHECK (TYPE 1) (12)

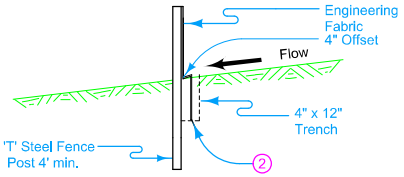
1. Secure top of engineering fabric to steel posts using cable ties (50 lb.) or wire passing through or encompassing the belt. See attachment to post.
2. For manual installation only, fold engineering fabric along bottom of trench.
3. Embed all posts 28 inches below the ground line.
4. Locate posts at 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

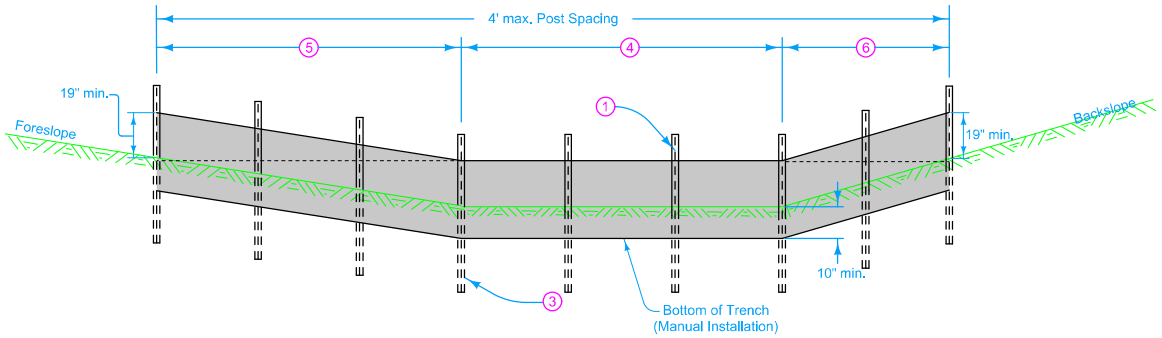


SECTION C-C

DITCH CHECK - MANUAL INSTALLATION



SECTION C-C



FRONT VIEW

IOWA DOT

STANDARD ROAD PLAN

REVISION	
6	04-20-21

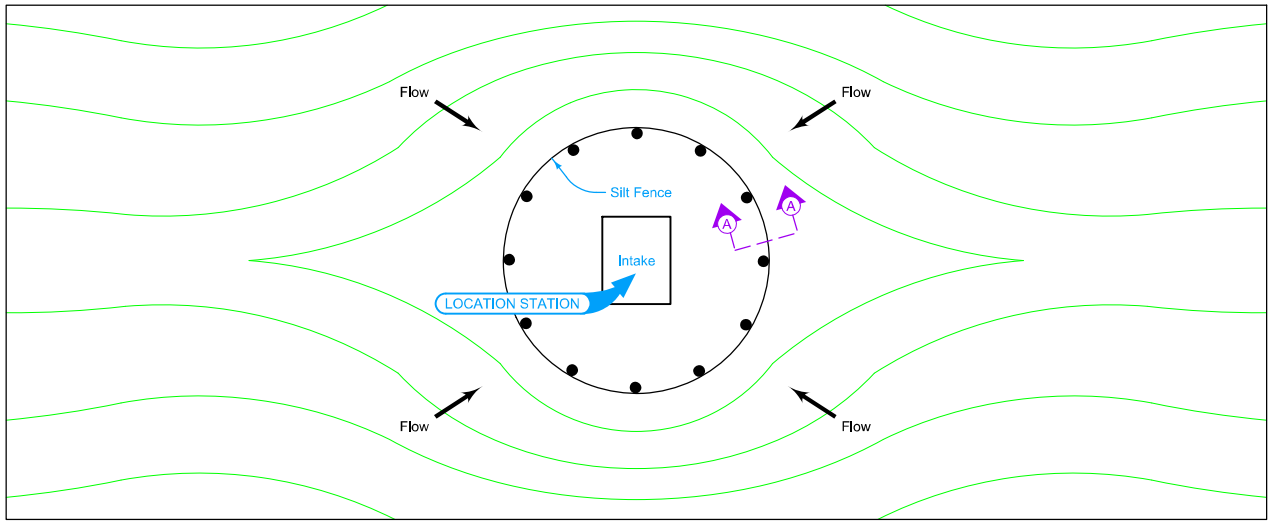
EC-201

SHEET 2 of 6

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

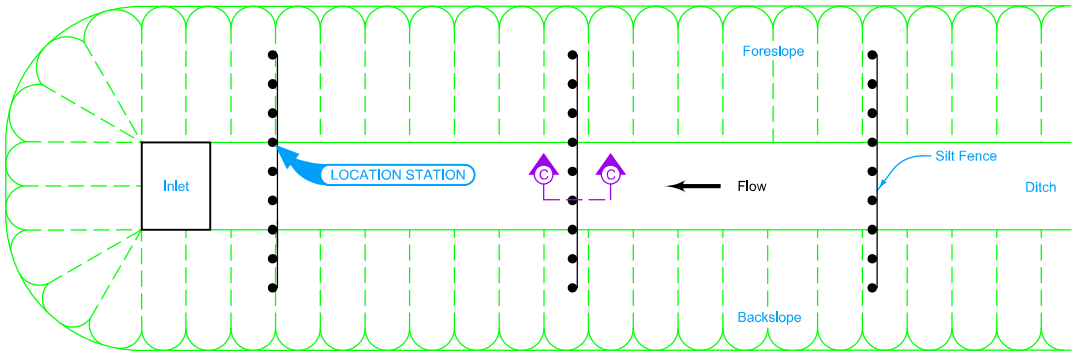
APPROVED BY DESIGN METHODS ENGINEER

SILT FENCE



PLAN FOR SILT FENCE AT INTAKE (TYPE 2) (12)

(12) Refer to Tab. 100-18



Contour Lines

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

IOWADOT

STANDARD ROAD PLAN

REVISION 6 04-20-21

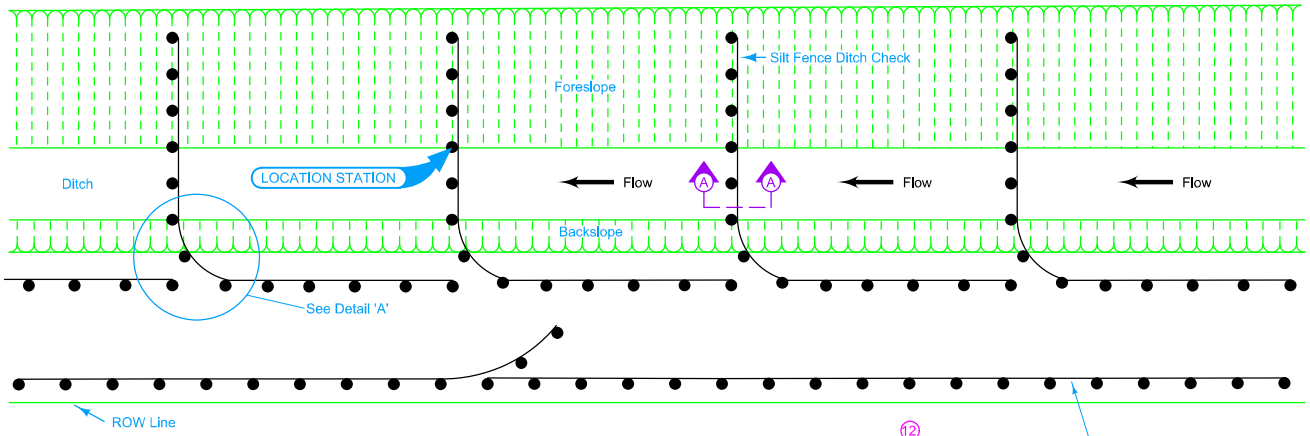
EC-201

SHEET 3 of 6

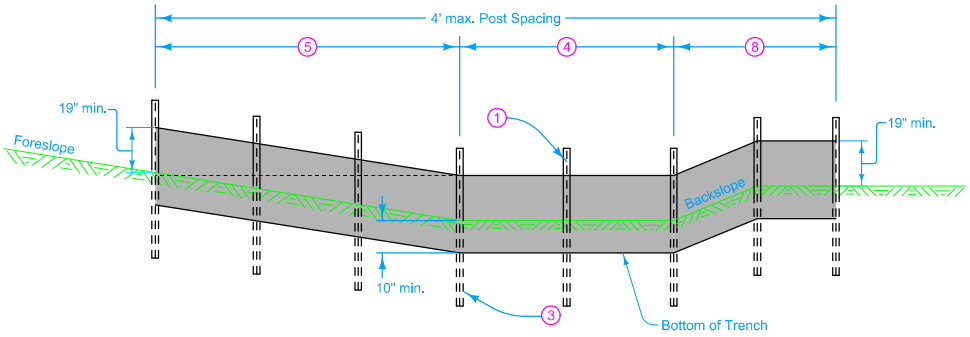
REVISIONS: Modified trench to 10". Added circle notes 13 & 14.

APPROVED BY DESIGN METHODS ENGINEER

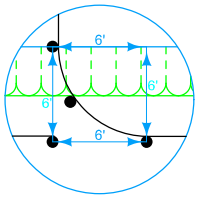
SILT FENCE



PLAN FOR SILT DITCH (SHALLOW DITCH SECTION-TYPE 4) (12)



FRONT VIEW



Detail 'A'

(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 beyone the intercept.

(12) Refer to Tab. 100-18

IOWA DOT

STANDARD ROAD PLAN

REVISION	
6	04-20-21

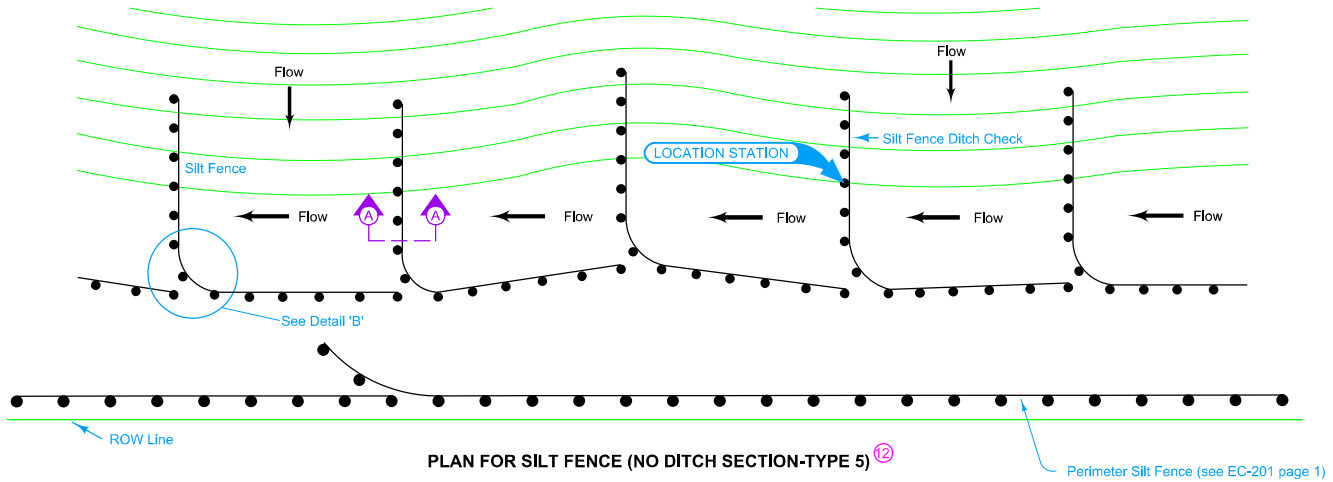
EC-201

SHEET 4 of 6

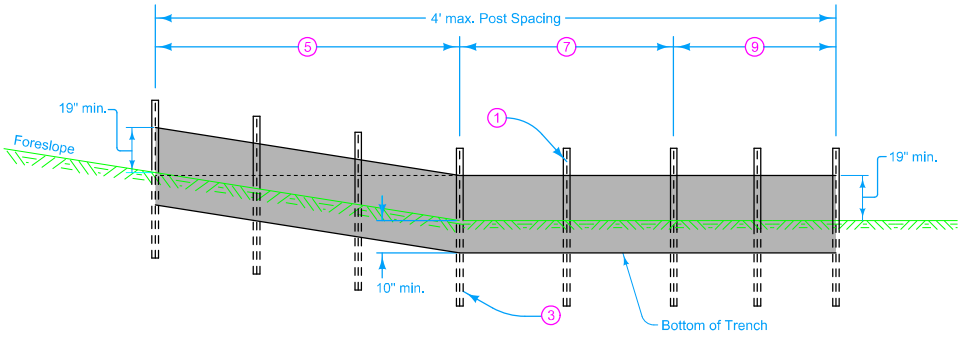
REVISIONS: Modified trench to 10". Added circle notes 13 & 14.

APPROVED BY DESIGN METHODS ENGINEER

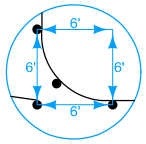
SILT FENCE



PLAN FOR SILT FENCE (NO DITCH SECTION-TYPE 5) (12)



FRONT VIEW



Detail 'B'

(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.

(5) Minimum end span (in feet) = 2 X Foreslope (H:V).

(7) Locate posts at toe of foreslope. Locate posts at 4 foot spacing

(9) Place posts as shown in Detail 'B' to transition from transverse to parallel installation. The parallel portion of the installation should approximately parallel the intercept of the foreslope.

(12) Refer to Tab. 100-18

IOWA DOT

STANDARD ROAD PLAN

REVISION	
6	04-20-21

EC-201

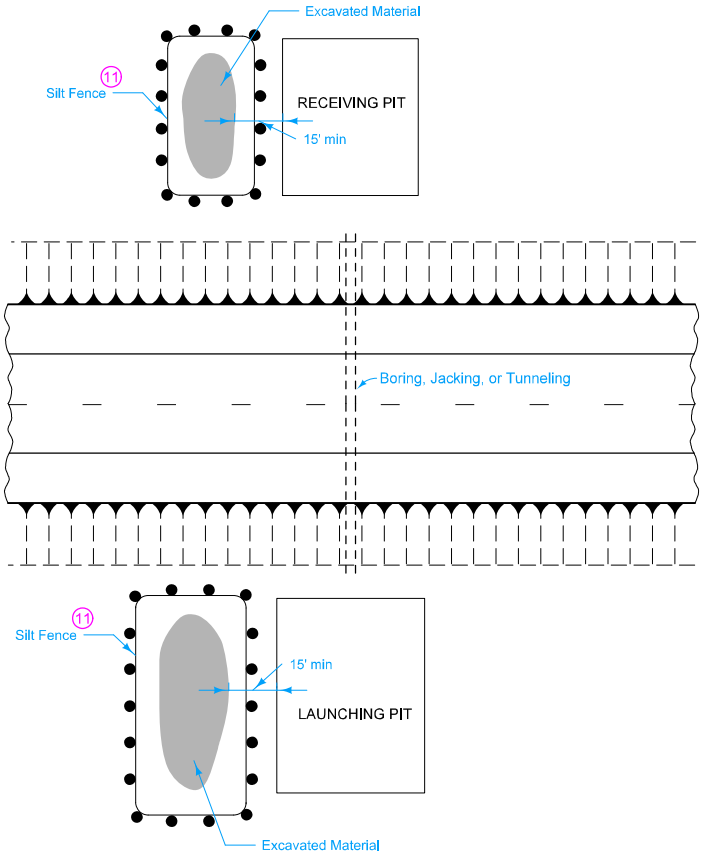
SHEET 5 of 6

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

APPROVED BY DESIGN METHODS ENGINEER

SILT FENCE

(11) Refer to Tab. 100-17



PLAN FOR SILT FENCE FOR TRENCHLESS CONSTRUCTION

IOWADOT

REVISION 6 04-20-21

STANDARD ROAD PLAN

EC-201

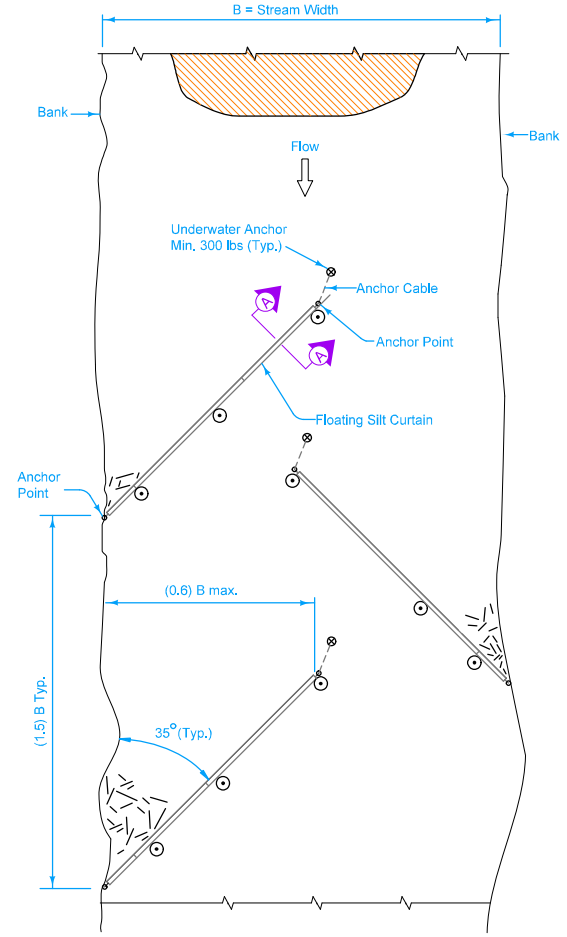
SHEET 6 of 6

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

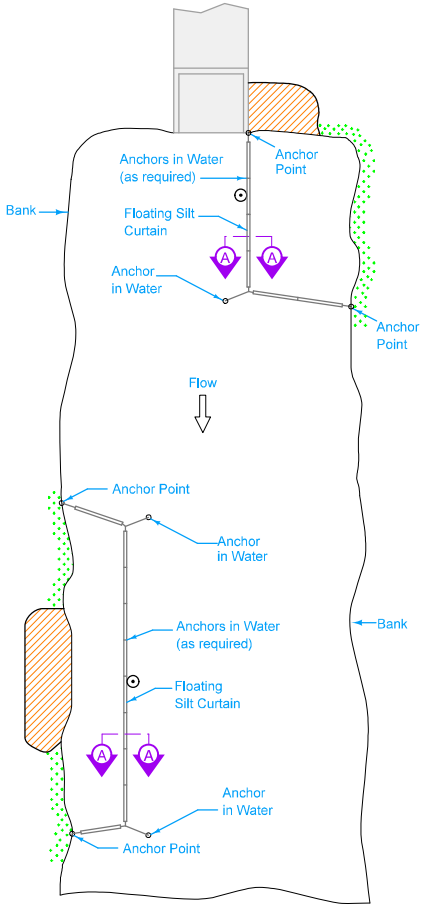
APPROVED BY DESIGN METHODS ENGINEER

SILT FENCE

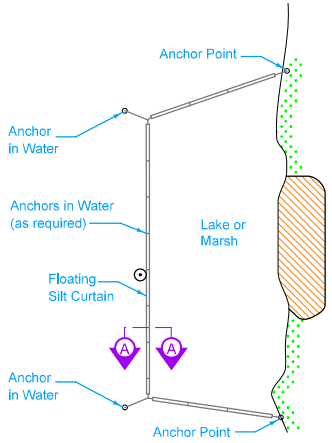
DESIGNER INFORMATION



PLAN
Disturbed Area within Stream



PLAN
Disturbed Area Adjacent
to Stream



PLAN
Still Water Only

LEGEND

- Carrier Float
- Buoy
- Undisturbed Vegetation
- Disturbed Soil

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.

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

IOWA DOT

STANDARD ROAD PLAN

REVISION	
6	10-21-14

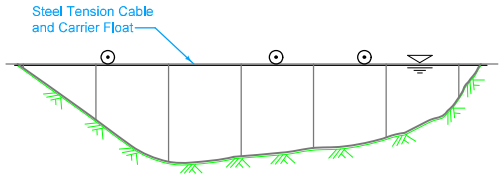
EC-202

SHEET 1 of 2

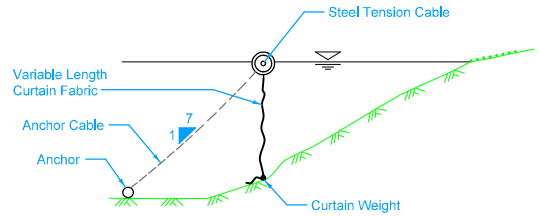
REVISIONS: Removed 100' typical spacing between anchors on page 2. Added possible contract item. Removed sections of standard notes and circle note 1.

APPROVED BY DESIGN METHODS ENGINEER

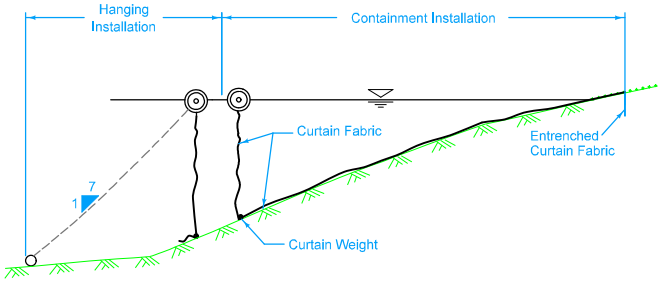
FLOATING SILT CURTAIN



PROFILE

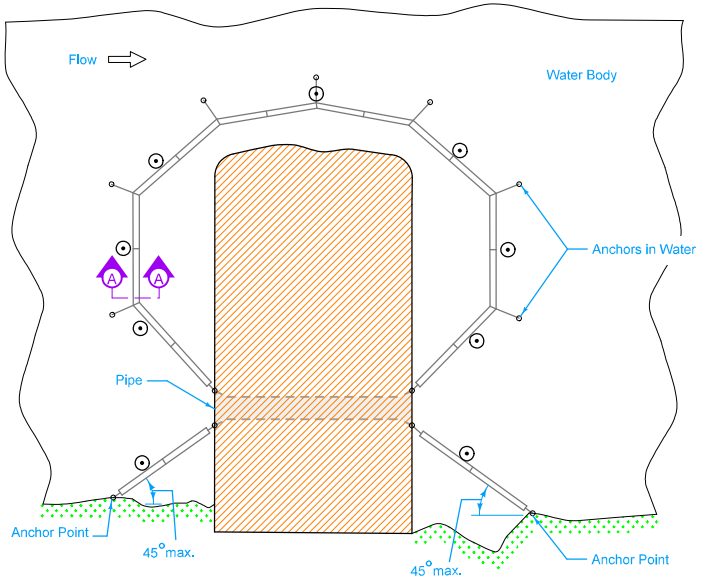


SECTION A-A
Hanging Installation

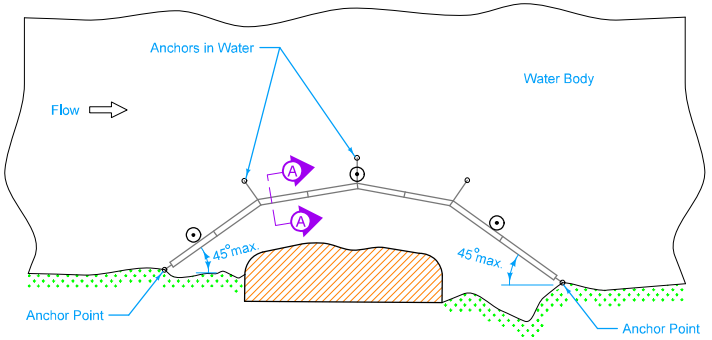


SECTION A-A
Containment Installation (1)

LEGEND
- Carrier Float
- Buoy
- Undisturbed Vegetation
- Disturbed Soil
- Water Surface



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

STANDARD ROAD PLAN

REVISION 6 10-21-14

EC-202

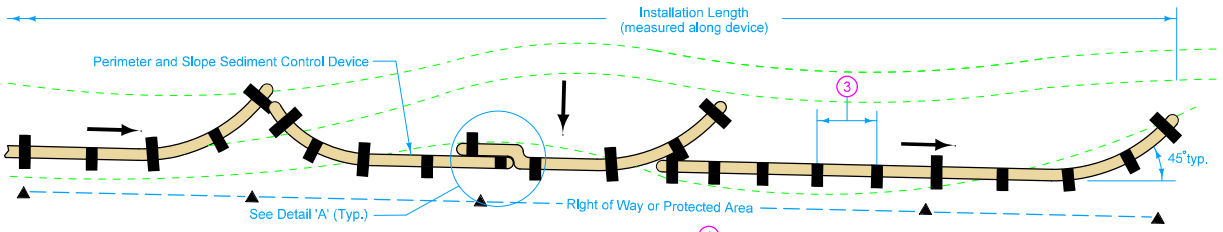
SHEET 2 of 2

REVISIONS: Removed 100' typical spacing between anchors on page 2. Added possible contract item. Removed sections of standard notes and circle note 1.

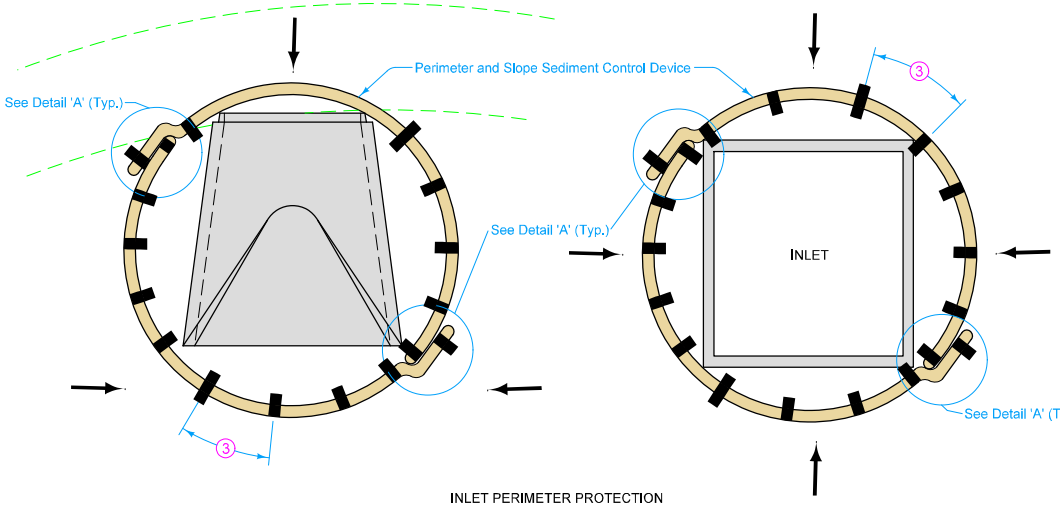
APPROVED BY DESIGN METHODS ENGINEER

FLOATING SILT CURTAIN

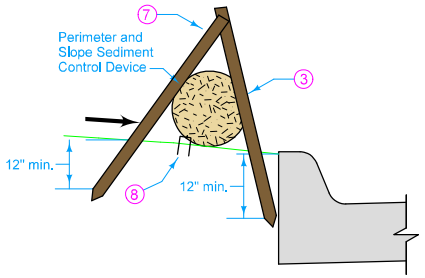
DESIGNER INFORMATION



PERIMETER CONTROL (1)



INLET PERIMETER PROTECTION



PERIMETER CONTROL ALONG CURB

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 approximatly 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

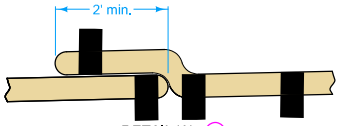
Possible Tabulation:
100-19

LEGEND

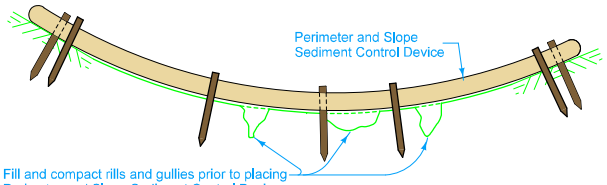
Contour Lines

Flow

(3) Wood Stake



DETAIL 'A' (2)
(Overlap Joint)



DETAIL 'B'

IOWA DOT

STANDARD ROAD PLAN

REVISION 6 10-19-21

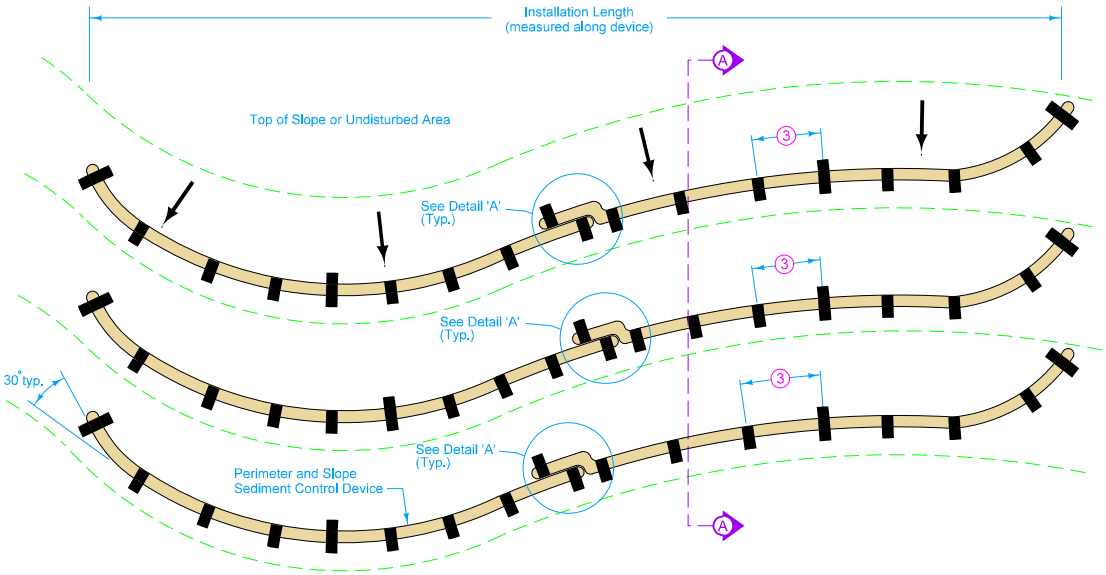
EC-204

SHEET 1 of 3

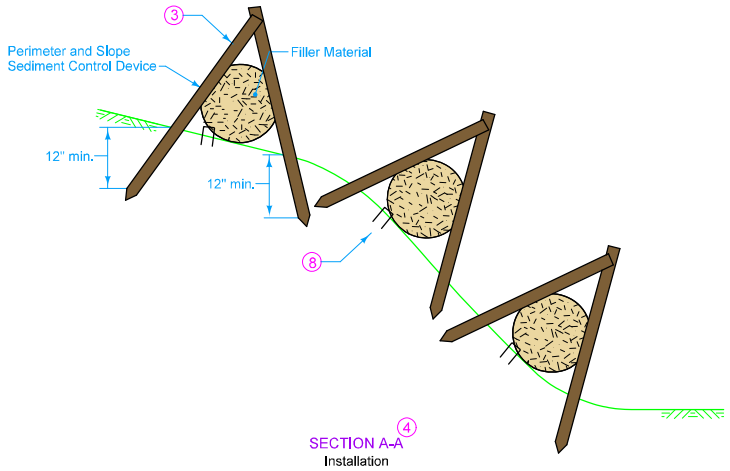
REVISIONS: Changed labeling on Sheet 3.

APPROVED BY DESIGN METHODS ENGINEER

PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES



SLOPE PROTECTION (4)



SECTION A-A (4)
Installation

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.

IOWA DOT

STANDARD ROAD PLAN

REVISION	
6	10-19-21

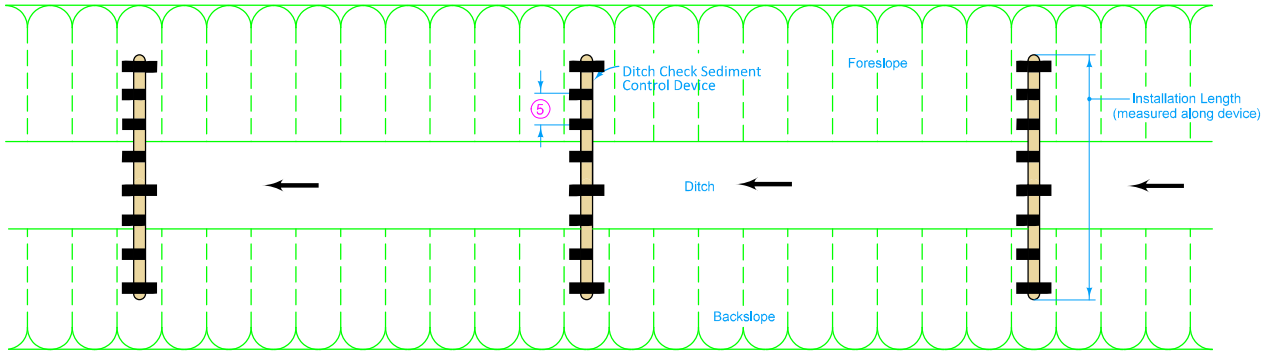
EC-204

SHEET 2 of 3

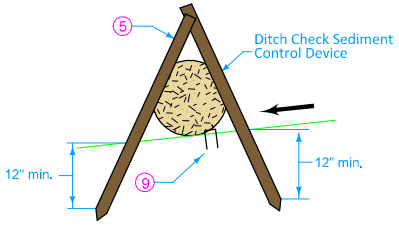
REVISIONS: Changed labeling on Sheet 3.

APPROVED BY DESIGN METHODS ENGINEER

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.

IOWADOT

STANDARD ROAD PLAN

REVISION 6 10-19-21

EC-204

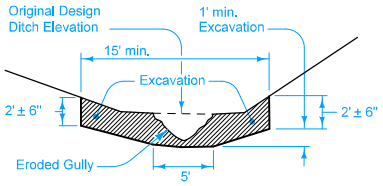
SHEET 3 of 3

REVISIONS: Changed labeling on Sheet 3.

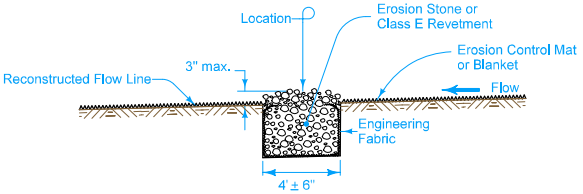
APPROVED BY DESIGN METHODS ENGINEER

PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES

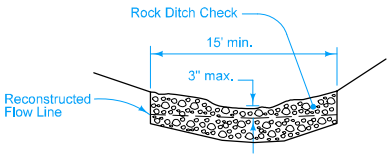
DESIGNER INFORMATION



EXCAVATION SECTION

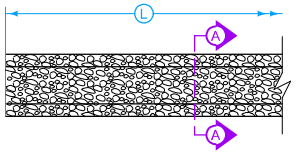


LONGITUDINAL SECTION AT CENTERLINE OF DITCH

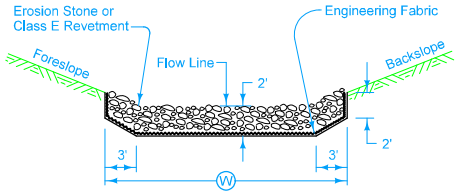


DITCH CHECK SECTION

TYPE 1
(Rock Ditch Check)

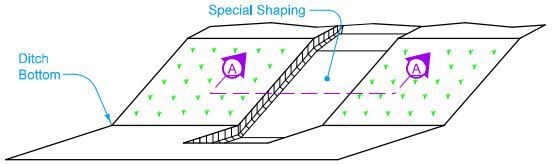


PLAN

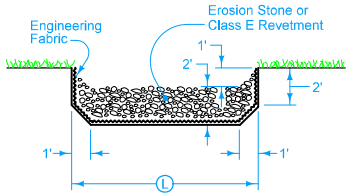


SECTION A-A

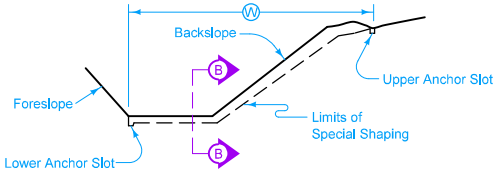
TYPE 2
(Rock Ditch)



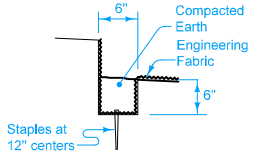
ISOMETRIC VIEW



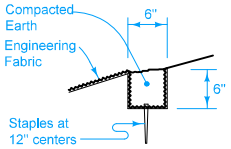
SECTION A-A



TYPICAL SECTION

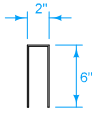


LOWER ANCHOR SLOT

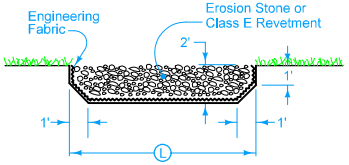


UPPER ANCHOR SLOT

TYPE 3
(Rock Flume)



STAPLE
(No. 11 wire)



SECTION B-B

Class 10 excavation required to install Rock Erosion Control is incidental and will not be paid for separately.

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

Possible Contract Items:
- Erosion Stone
- Class E Revetment
- Engineering Fabric

Possible Tabulation:
100-23

IOWADOT

STANDARD ROAD PLAN

REVISION	
2	10-18-22

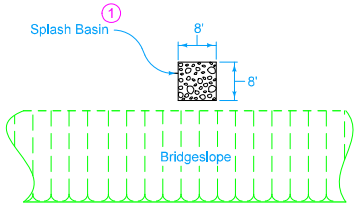
EC-301

SHEET 1 of 2

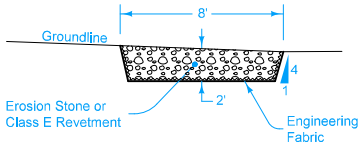
REVISIONS: Added note referencing 4196

APPROVED BY DESIGN METHODS ENGINEER

ROCK EROSION CONTROL (REC)

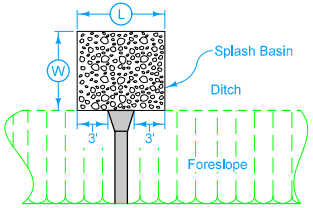


PLAN

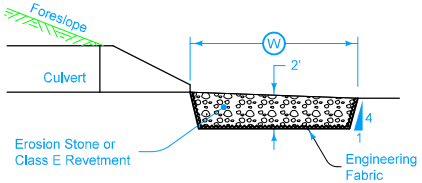


TYPICAL SECTION

SPLASH BASIN UNDER BRIDGE DRAIN



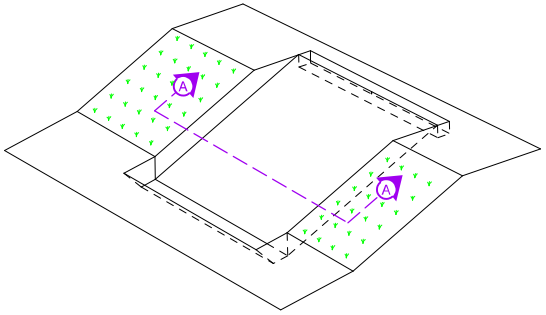
PLAN



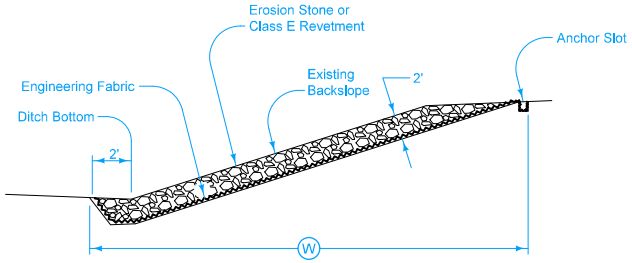
TYPICAL SECTION

SPLASH BASIN AT PIPE CULVERT OUTLET

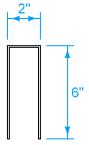
TYPE 4
(Rock Splash Basin)



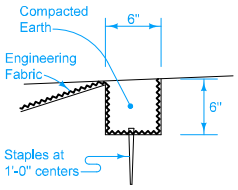
ISOMETRIC VIEW



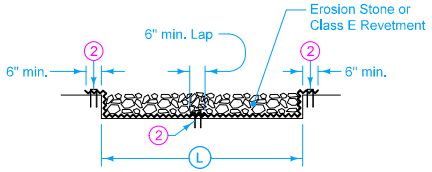
TYPICAL SECTION



STAPLE
(No. 11 wire)



ANCHOR SLOT



SECTION A-A

TYPE 5
(Rock Slope Protection)

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

IOWA DOT

STANDARD ROAD PLAN

REVISION	
2	10-18-22

EC-301

SHEET 2 of 2

REVISIONS: Added note referencing 4196

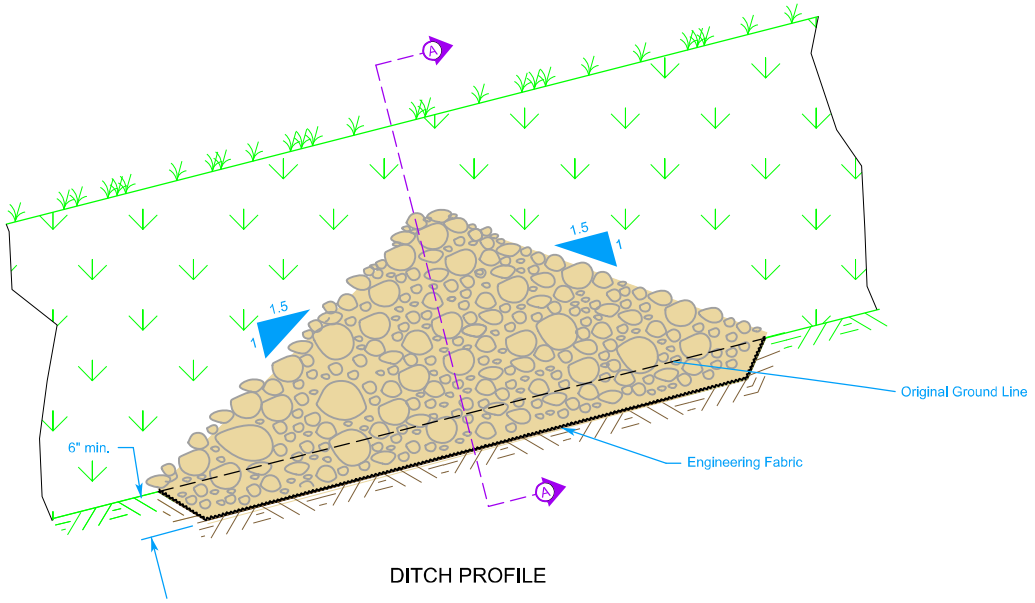
APPROVED BY DESIGN METHODS ENGINEER

ROCK EROSION CONTROL (REC)

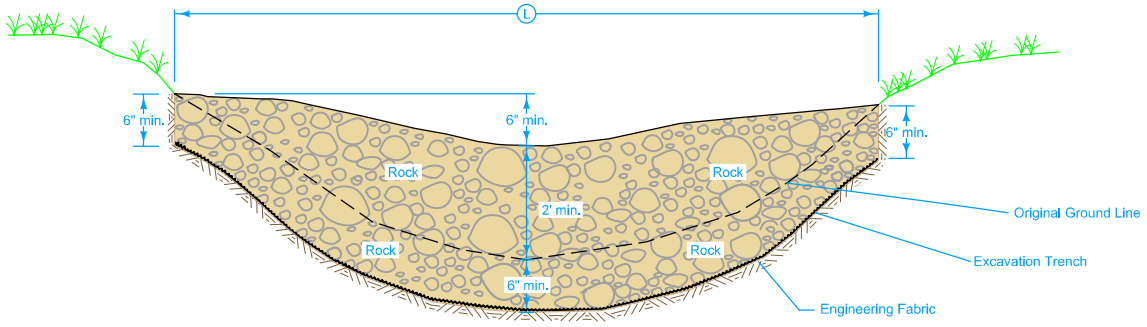
DESIGNER INFORMATION

Use Class D Revetment to construct Rock Check Dam.

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



DITCH PROFILE



SECTION A-A

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

Possible Tabulation:
- 100-32

IOWADOT

REVISION	
1	10-18-22

STANDARD ROAD PLAN

EC-302

SHEET 1 of 1

REVISIONS: Added note refering to 4196.

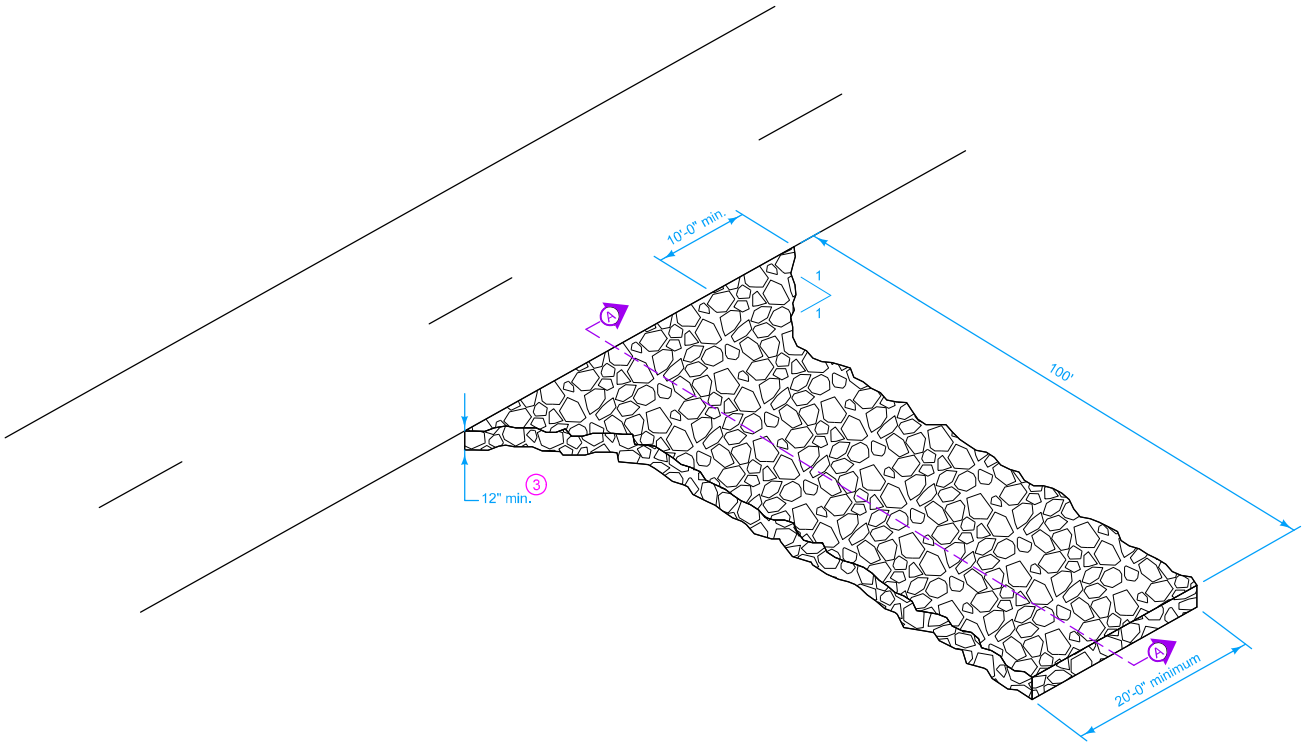
APPROVED BY DESIGN METHODS ENGINEER

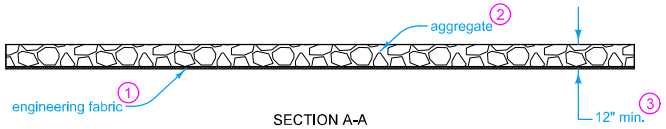
ROCK CHECK DAM

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 Specificaitons.
3. Depth may need to be increased depending on the weight of contractor vehicles and equipment.





SECTION A-A

IOWA DOT

STANDARD ROAD PLAN

REVISION	
4	10-19-21

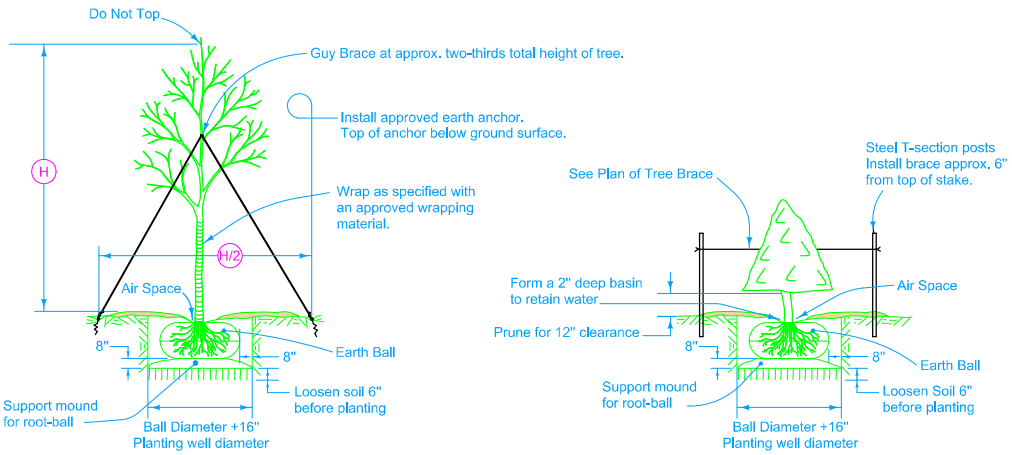
EC-303

SHEET 1 of 1

REVISIONS: Defined length to be 100', to be consistant with spec change.

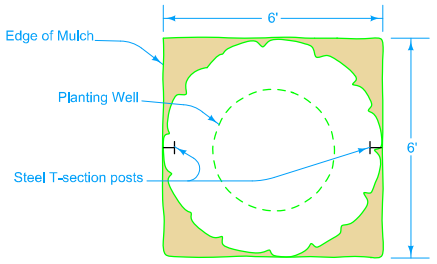
APPROVED BY DESIGN METHODS ENGINEER

STABLIZED CONSTRUCTION ENTRANCE



LARGE TREE **SMALL TREE**

BALLED AND BURLAPPED PLANTING



PLAN FOR INSTALLING MULCH

Refer to detail project plans for additional information regarding planting location and layout.

When no specific requirement is indicated, complete planting as directed by the Engineer.

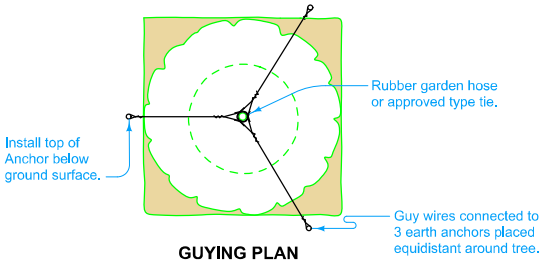
Till entire area to be mulched with a rotary tiller or other method approved by the Engineer.

Rake smooth the entire area to be mulched and ensure it is free of vegetation, debris, clods and rocks. Form a 2 inch deep basin around plants to retain water. Plant plants at the same depth as they were in the nursery.

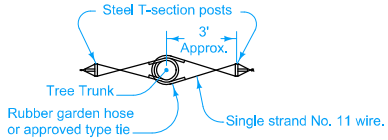
Follow mulch material and depth as designated on the plans. Pull mulch back ½ inch to 1 inch from the plants to allow air circulation at a uniform depth to reflect the 2 inch basin.

Pruning consists of removing dead, broken, and irregular branches only. Do not prune the tops of plants unless it is to remove dead or broken material.

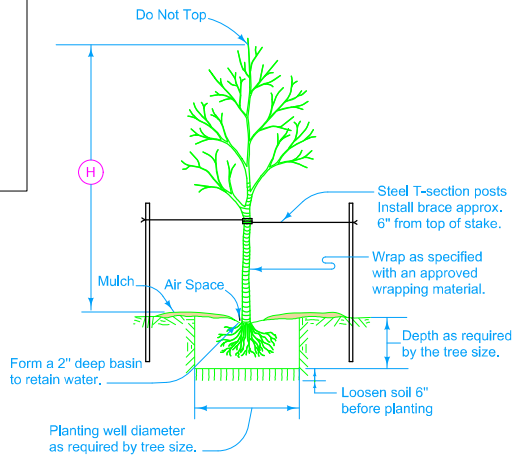
Use steel posts complying with Article 4154.09 of the Standard Specifications for staking. For trees 5 feet in height and less use posts 5 feet in length. For trees taller than 5 feet use posts 7 feet in length.



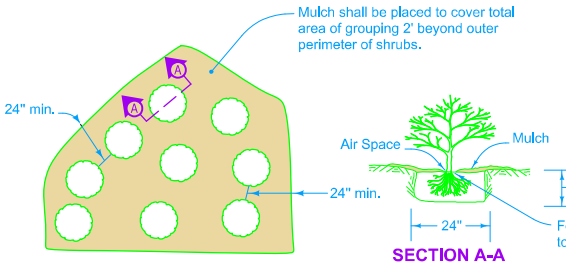
GUYING PLAN



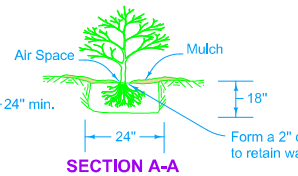
PLAN OF TREE BRACE



BARE ROOT PLANTING



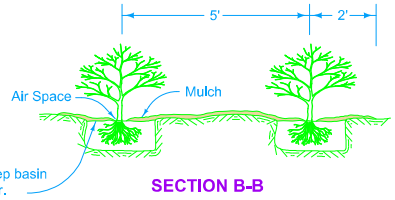
PLAN



SECTION A-A

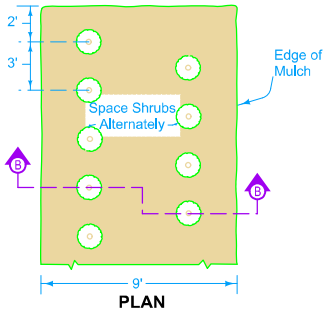
(Individual shrub in group plantings)

PLANTING OF IRREGULAR SHRUB GROUPS



SECTION B-B

LIVING SNOW FENCE



PLAN

IOWA DOT

STANDARD ROAD PLAN

REVISION	
1	04-21-15

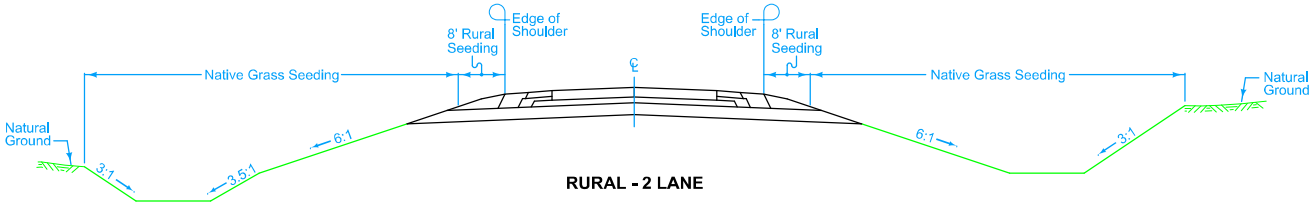
EC-501

SHEET 1 of 1

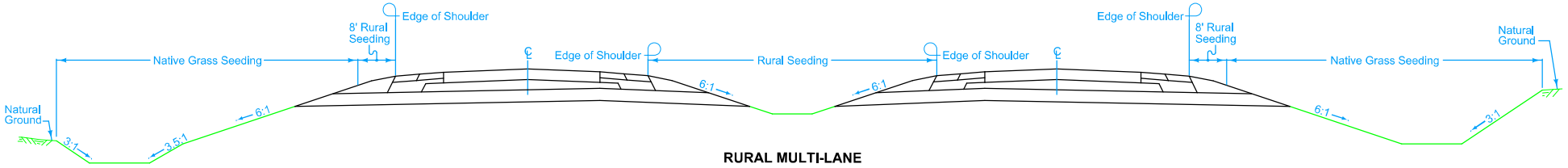
REVISIONS: Replaced DOT logo with new version.

APPROVED BY DESIGN METHODS ENGINEER

TREES AND SHRUBS



RURAL - 2 LANE



RURAL MULTI-LANE

IOWADOT

STANDARD ROAD PLAN

REVISION	
New	04-21-15

EC-502

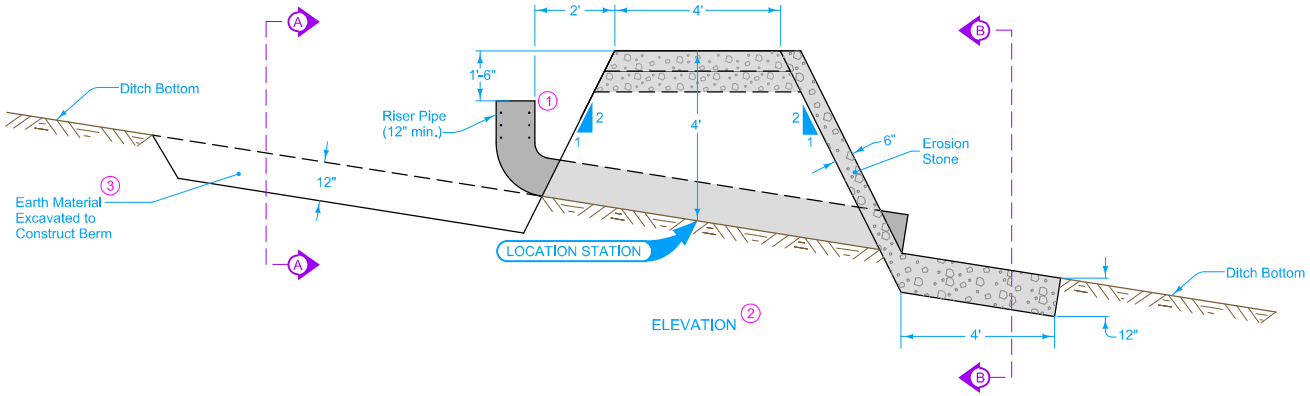
SHEET 1 of 1

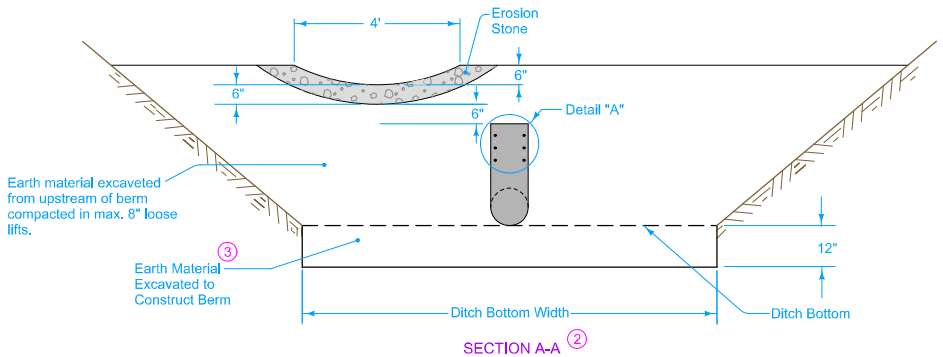
REVISIONS: New.

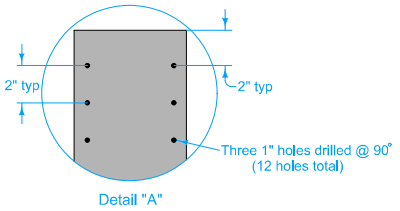
APPROVED BY DESIGN METHODS ENGINEER

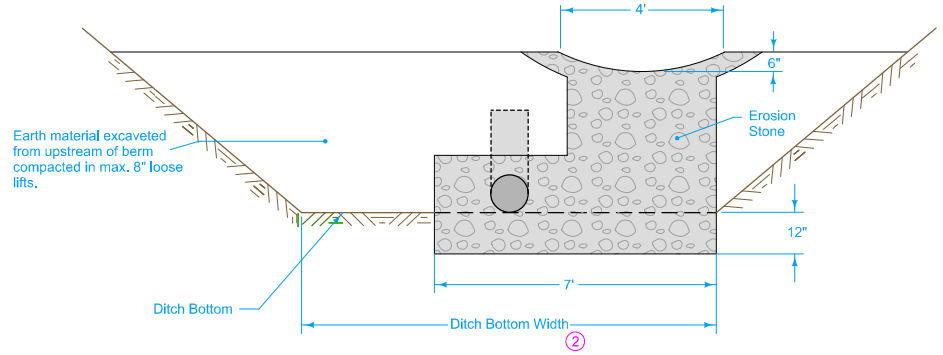
SEEDING IN RURAL AREAS

DESIGNER INFORMATION









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

STANDARD ROAD PLAN

EC-601

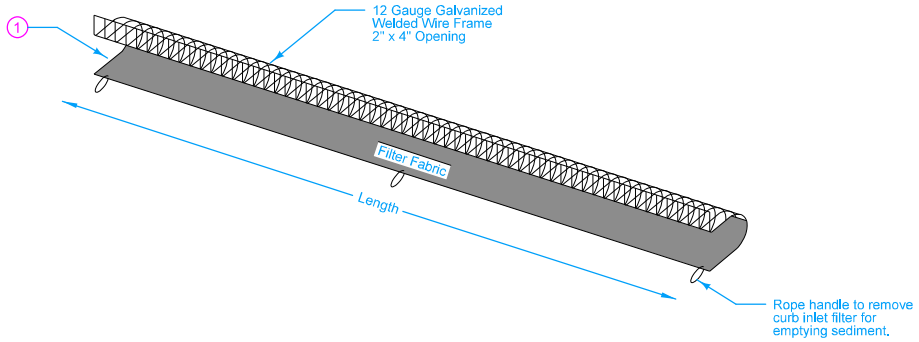
SHEET 1 of 1

REVISIONS: New. Replaces Design Detail 570-3

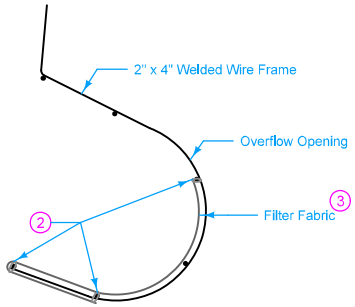
APPROVED BY DESIGN METHODS ENGINEER

TEMPORARY SEDIMENT CONTROL BASIN

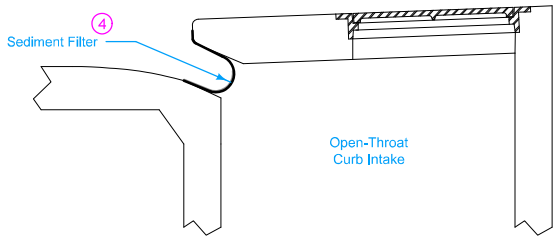
DESIGNER INFORMATION



OPEN-THROAT CURB INTAKE SEDIMENT FILTER



SEDIMENT FILTER CROSS SECTION



SEDIMENT FILTER PLACEMENT

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.

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

STANDARD ROAD PLAN

EC-602

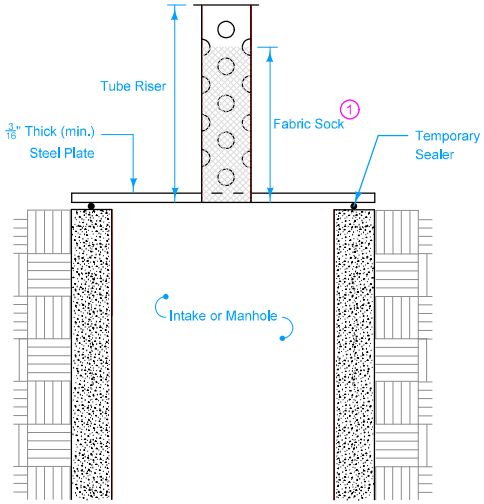
SHEET 1 of 1

REVISIONS: Modified circle note 4.

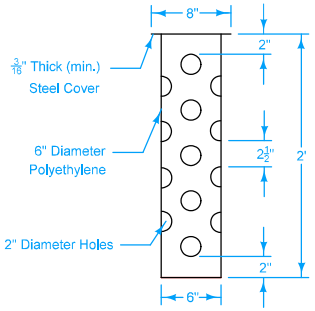
APPROVED BY DESIGN METHODS ENGINEER

OPEN-THROAT CURB INTAKE SEDIMENT FILTER

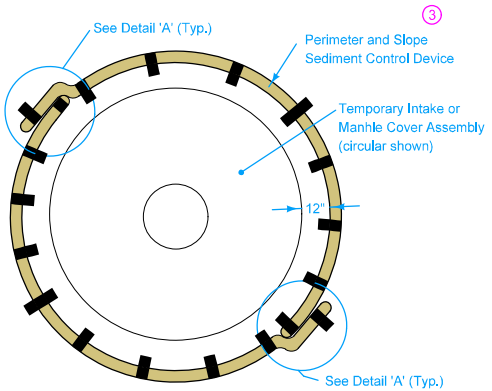
DESIGNER INFORMATION

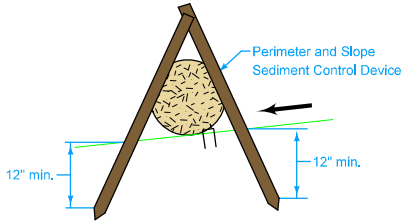


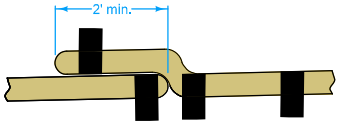
SECTION VIEW



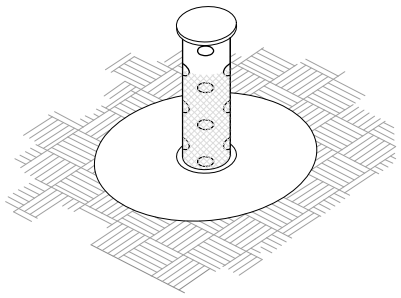
TUBE RISER 2



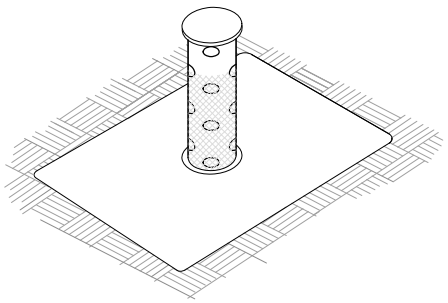




DETAIL 'A'
(Overlap Joint)



ISOMETRIC VIEW
(Circular)



ISOMETRIC VIEW
(Rectangular)

TEMPORARY INTAKE OR MANHOLE COVER ASSEMBLY

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 occurance. Payment is full compensation for inspecting fabric sock and replacing when flow capicity has been reduced to 50%.

Method of Measurment 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

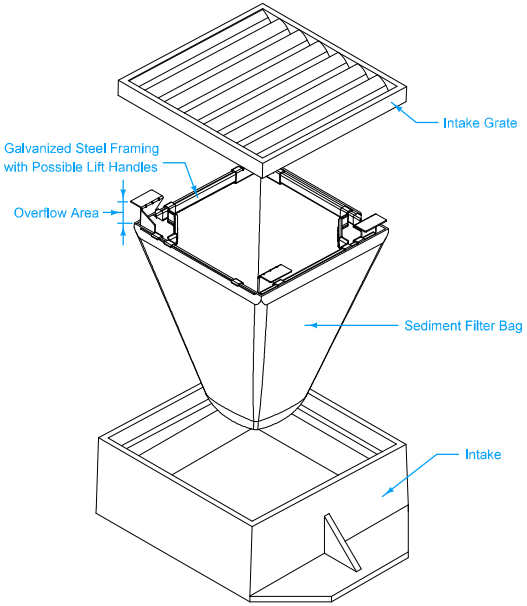
SHEET 1 of 1

REVISIONS: New. Replaces Detail 570-5.

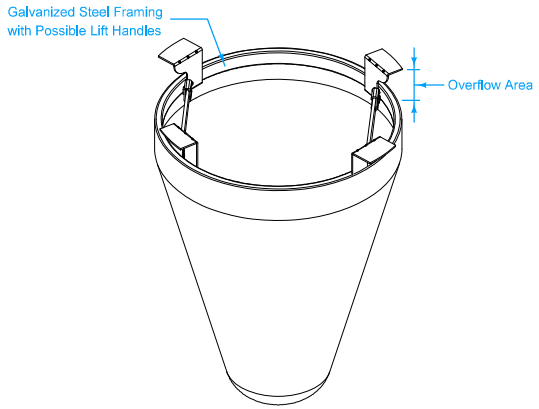
APPROVED BY DESIGN METHODS ENGINEER

EROSION CONTROL FOR INTAKE OR MANHOLE WELL

DESIGNER INFORMATION



TYPICAL SEDIMENT FILTER BAG PLACEMENT



SEDIMENT FILTER BAG FOR CIRCULAR GRATE

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 clampling 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.

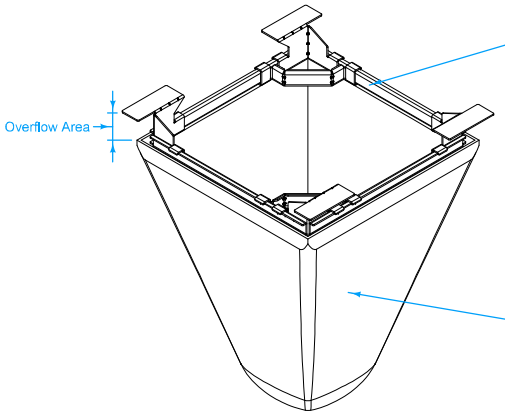
Basis of Payment for Grate Intake Sediment Filter Bag will be at the contract unit price for each device installed. Payment is full compensation for furnishing all equipment, labor, and materials required to install the Grate Intake Sediment Filter Bag as shown.

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

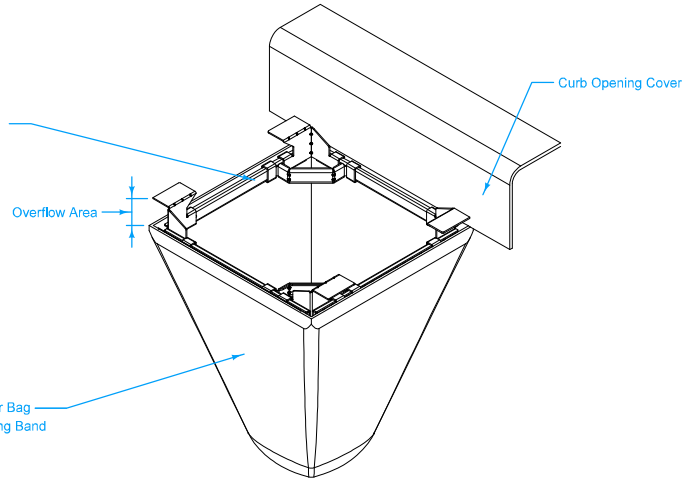
Basis of Payment for Maintenance of Grate Intake Sediment Filter Bag will be at the contract unit price for each occurence. Payment is full compensation for clean out and disposal of material when capacity reaches 50%, and for any other repair needed during the project.

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.



SEDIMENT FILTER BAG FOR SQUARE
OR RECTANGULAR GRATE



SEDIMENT FILTER BAG FOR COMBINATION
GRATE WITH CURB OPENING

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

IOWADOT

REVISION	
New	10-17-23

STANDARD ROAD PLAN

EC-604

SHEET 1 of 1

REVISIONS: New. Replaces Detail 570-7.

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

SECTION

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	Stort 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

SECTION

TC

Traffic Control

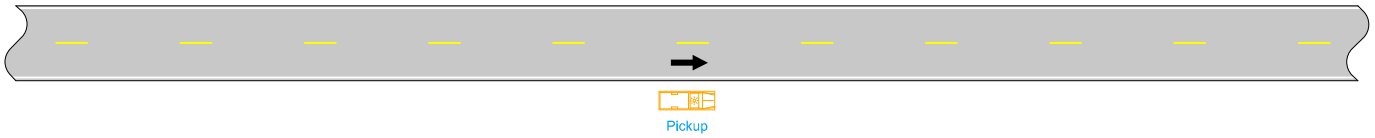
NO.	DATE	TITLE
TC-601	10-15-19	Pedestrian Detour
TC-602	10-15-19	Sidewalk Diversion

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

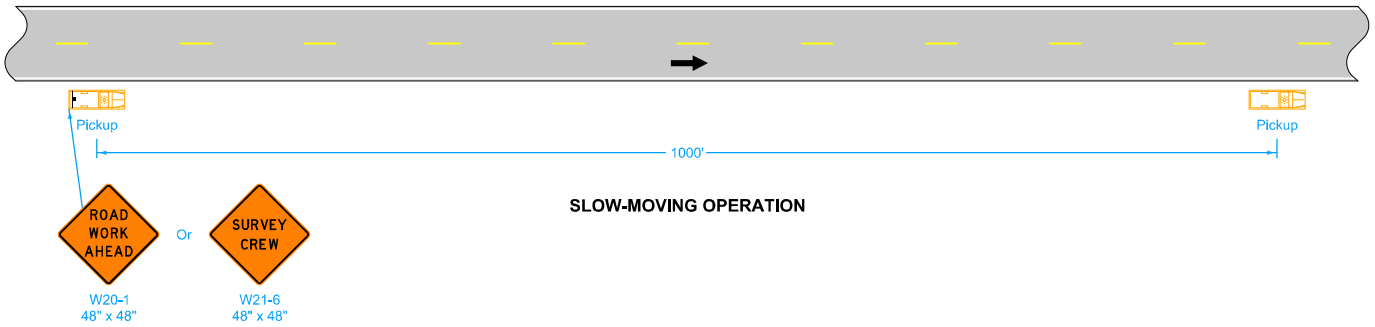
When parked, locate vehicles as far from the open traffic lane as possible. Entrances and driveways should be used whenever appropriate.

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

LEGEND

- Traffic Sign
- Direction of Traffic

Possible Contract Item:
Traffic Control

IOWA DOT

REVISION
3 | 10-15-19

STANDARD ROAD PLAN

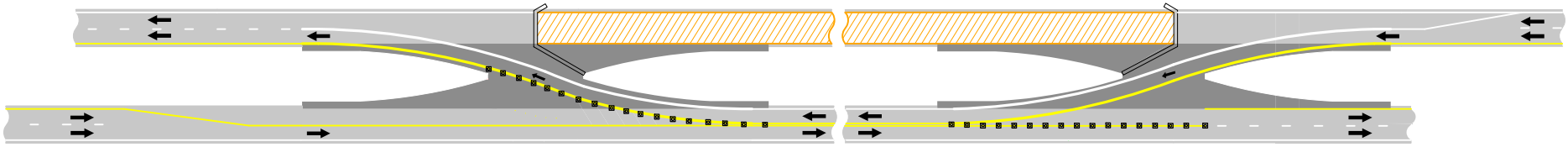
TC-1

SHEET 1 of 1

REVISIONS: New logo.

APPROVED BY DESIGN METHODS ENGINEER

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



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

IOWADOT

STANDARD ROAD PLAN

REVISION 17 10-17-23

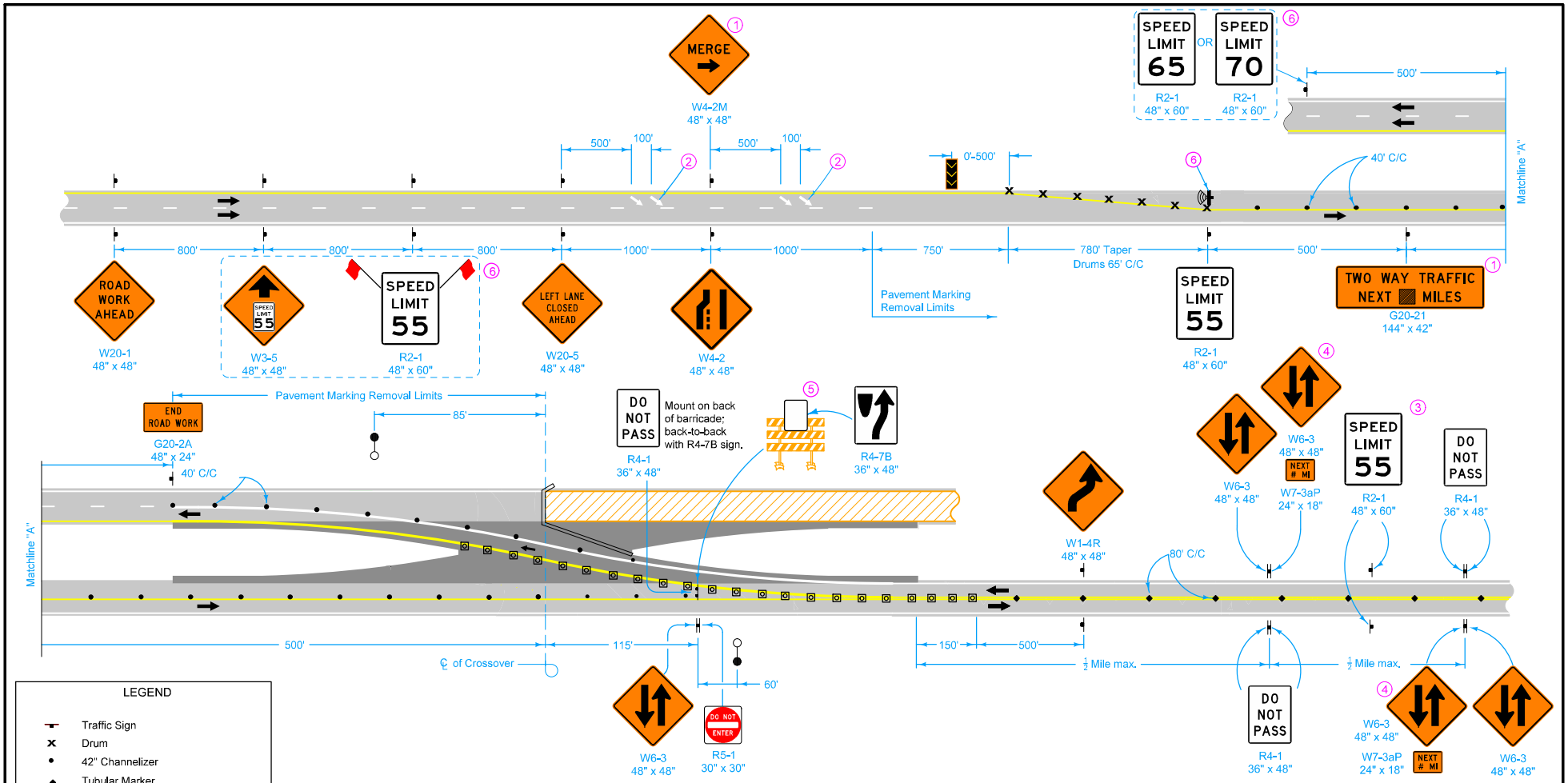
TC-61

SHEET 1 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



LEGEND

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

See sheet 4 for supplemental drawings.

1. Refer to SI-881 for sign details.
2. Refer to PM-111 for arrow details.
3. Space Speed Limit signs at one-mile intervals.
4. Install an additional supplemental plaque with the message NEXT X MILES on the Two-Way Traffic symbol sign assembly on the right side of the roadway to inform motorists of the remaining length of two-lane traffic. Round X to the nearest whole-mile increment.
5. Use a 4 foot wide Type III Barricade.
6. For roadways with a posted speed limit of 60 mph or greater before road work:

   Place SPEED LIMIT AHEAD sign and SPEED LIMIT 55 sign prior to the lane closure as shown. Place SPEED LIMIT 65 or 70 beyond the work area as shown.

   Remove or cover all existing signs that conflict with 55 mph speed limit while 55 mph speed limit is in effect.

   Place Speed Feedback Sign at the end of the merge taper.

IOWA DOT

STANDARD ROAD PLAN

REVISION 17 10-17-23

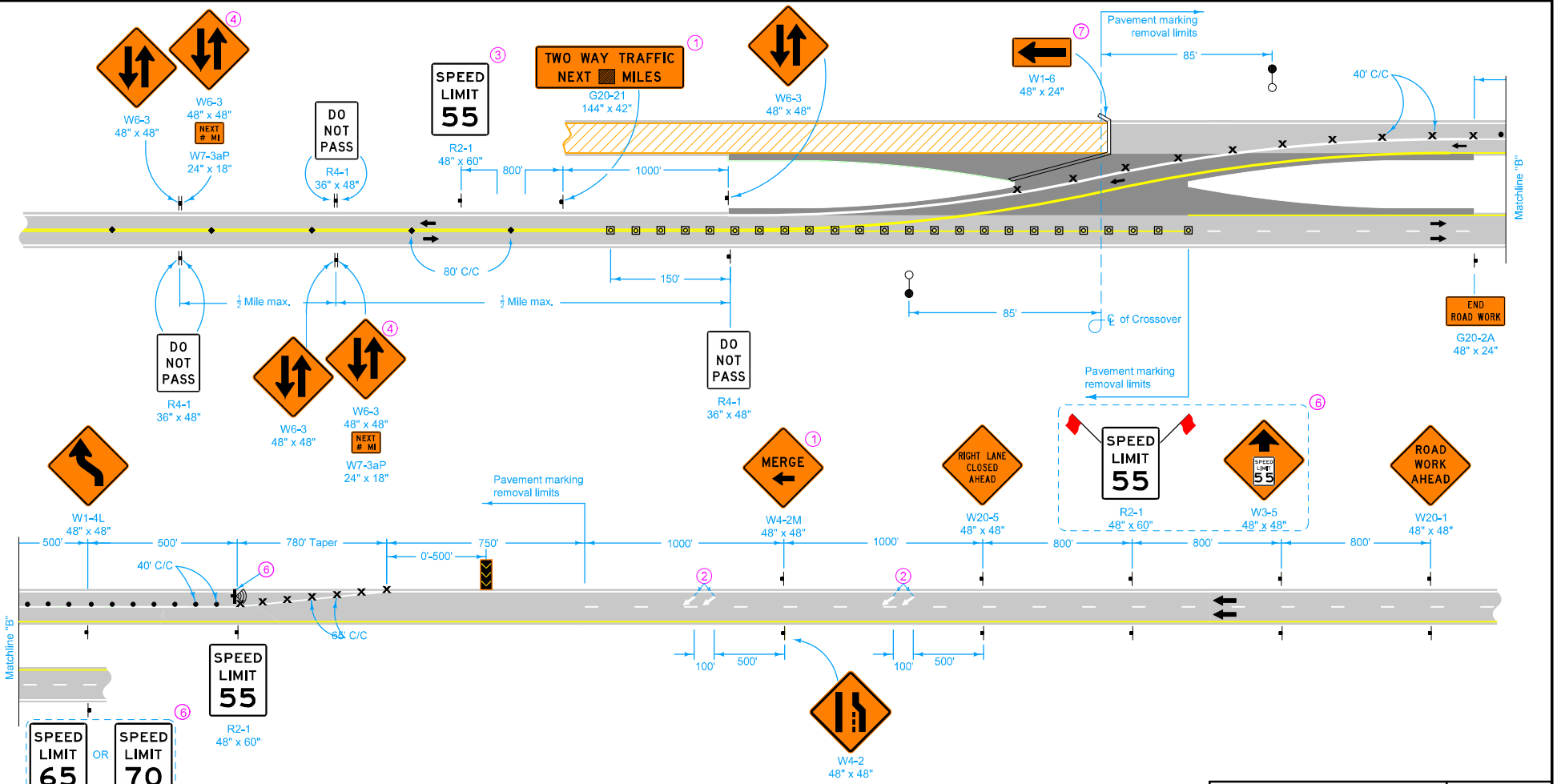
TC-61

SHEET 2 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



LEGEND

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

See sheet 4 for supplemental drawings.

1. Refer to SI-881 for sign details.
2. Refer to PM-111 for arrow details.
3. Space Speed Limit signs at one-mile intervals.
4. Install an additional supplemental plaque with the message NEXT X MILES on the Two-Way Traffic symbol sign assembly on the right side of the roadway to inform motorists of the remaining length of two-lane traffic. Round X to the nearest whole-mile increment.
6. For roadways with a posted speed limit of 60 mph or greater before road work:

   Place SPEED LIMIT AHEAD sign and SPEED LIMIT 55 sign prior to the lane closure as shown. Place SPEED LIMIT 65 or 70 beyond the work area as shown.

   Remove or cover all existing signs that conflict with 55 mph speed limit while 55 mph speed limit is in effect.

   Place Speed Feedback Sign at the end of the merge taper.
7. Add below R11-2 already included in Safety Closure.

IOWA DOT

STANDARD ROAD PLAN

REVISION 17 10-17-23

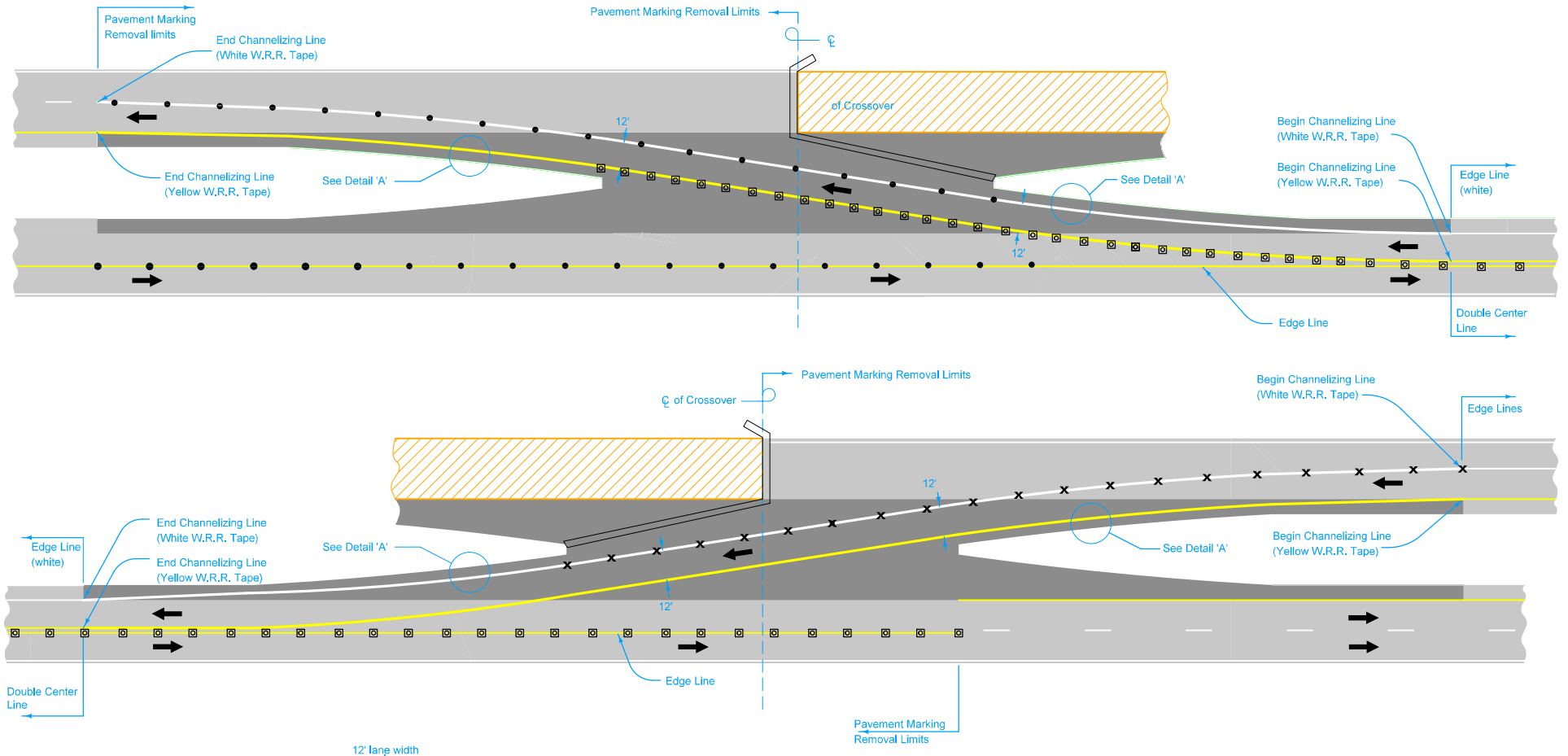
TC-61

SHEET 3 of 6

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

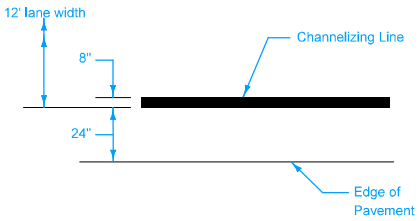
APPROVED BY DESIGN METHODS ENGINEER

TWO-LANE, TWO WAY OPERATION



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.

IOWA DOT

STANDARD ROAD PLAN

REVISION 17 10-17-23

TC-61

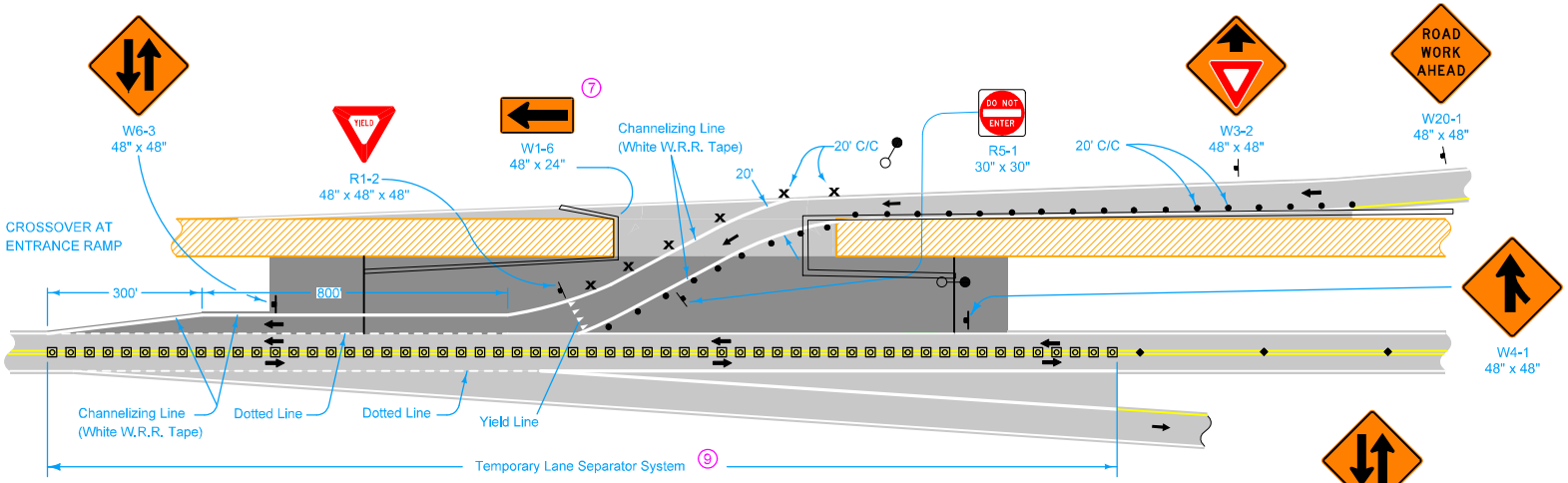
SHEET 4 of 6

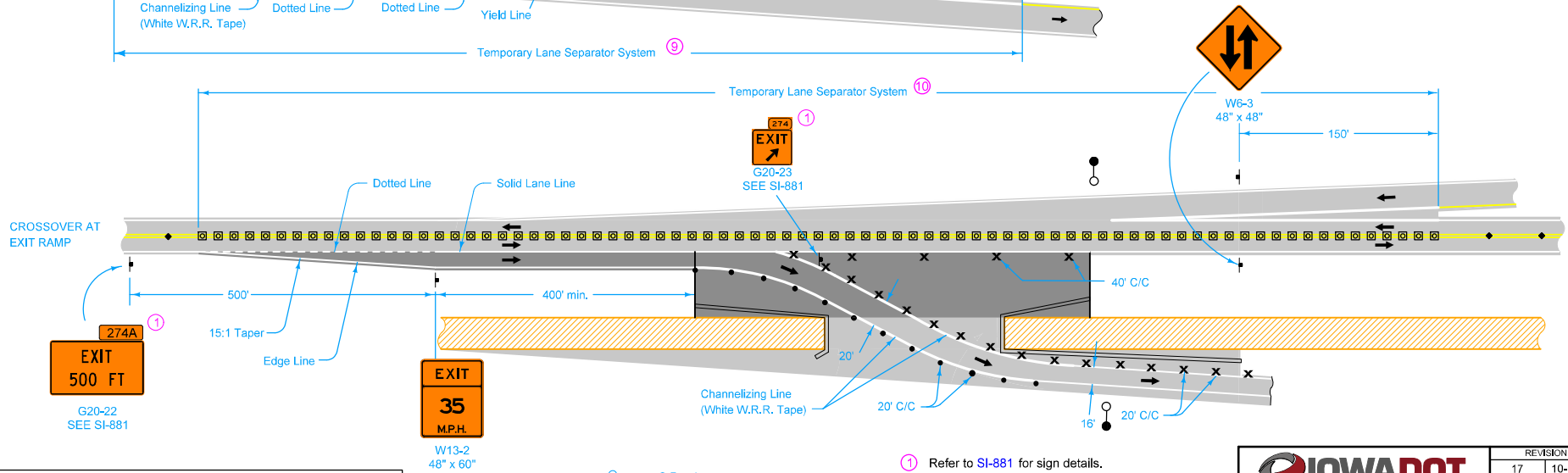
REVISIONS: Removed channellizer markers, Removed note about queue length. Added at grade Intersection detail.

APPROVED BY DESIGN METHODS ENGINEER

TWO-LANE, TWO WAY OPERATION

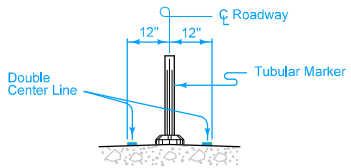
RAMP LOCATIONS





LEGEND

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



PLACEMENT OF
DOUBLE YELLOW CENTERLINE

(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.

IOWA DOT

STANDARD ROAD PLAN

REVISION 17 10-17-23

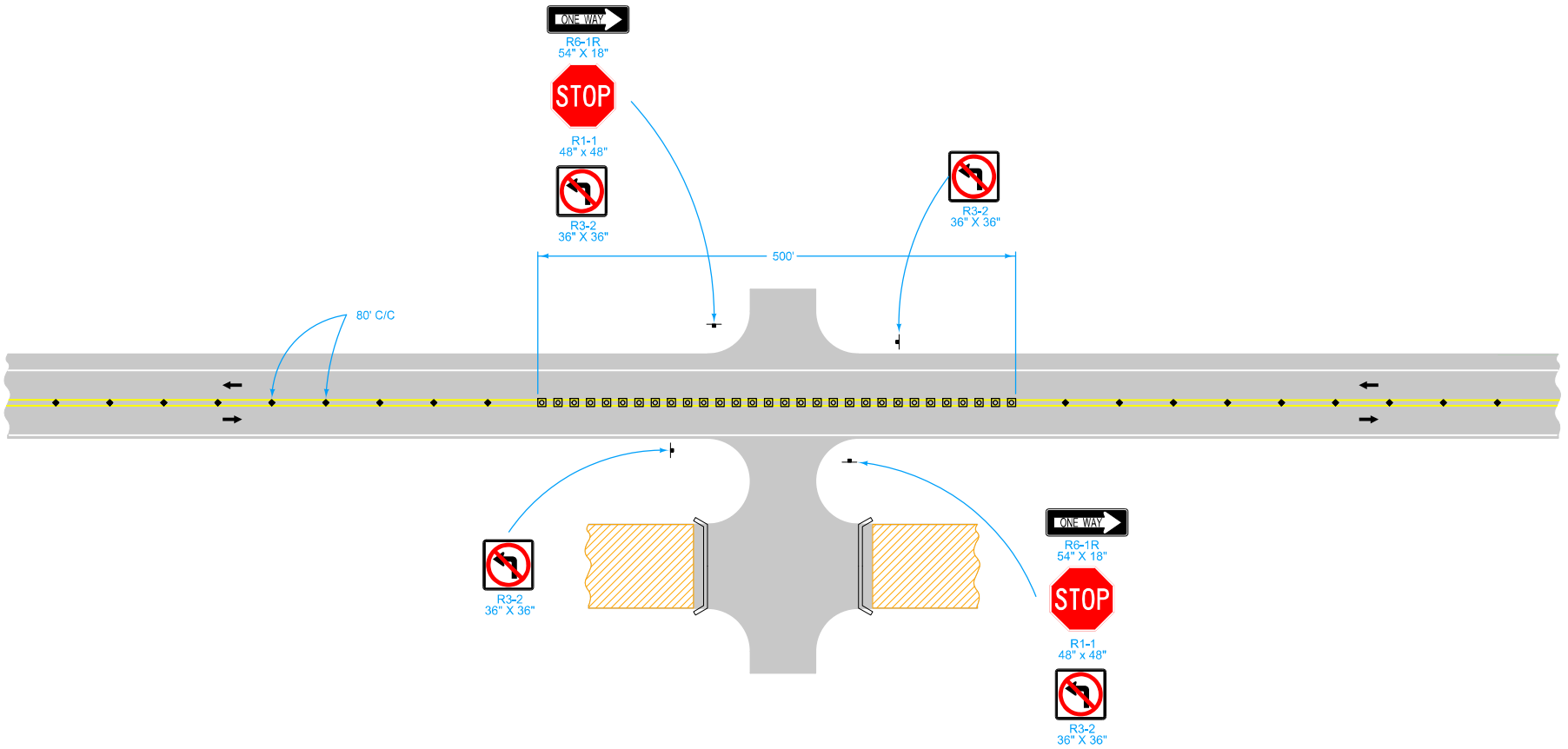
TC-61

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)

LEGEND

- Traffic Sign
- Tubular Marker
- Direction of Traffic
- Temporary Lane Separator System
- Work Area
- Safety Closure (Refer to TC-252)

IOWADOT

STANDARD ROAD PLAN

REVISION 17 10-17-23

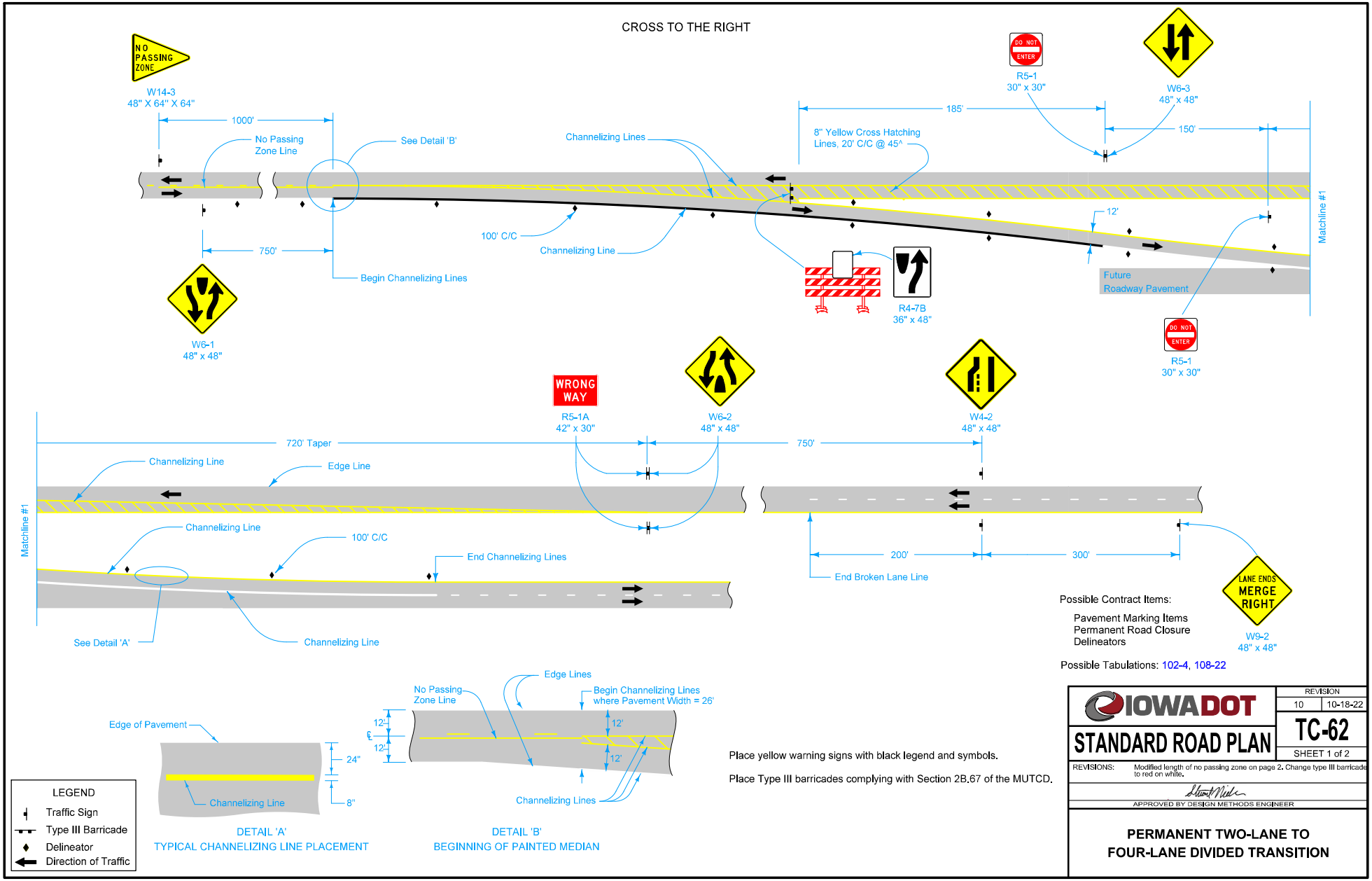
TC-61

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



Possible Contract Items:

Pavement Marking Items
Permanent Road Closure
Delineators

Possible Tabulations: 102-4, 108-22

Place yellow warning signs with black legend and symbols.

Place Type III barricades complying with Section 2B.67 of the MUTCD.

IOWA DOT

REVISION 10 10-18-22

STANDARD ROAD PLAN

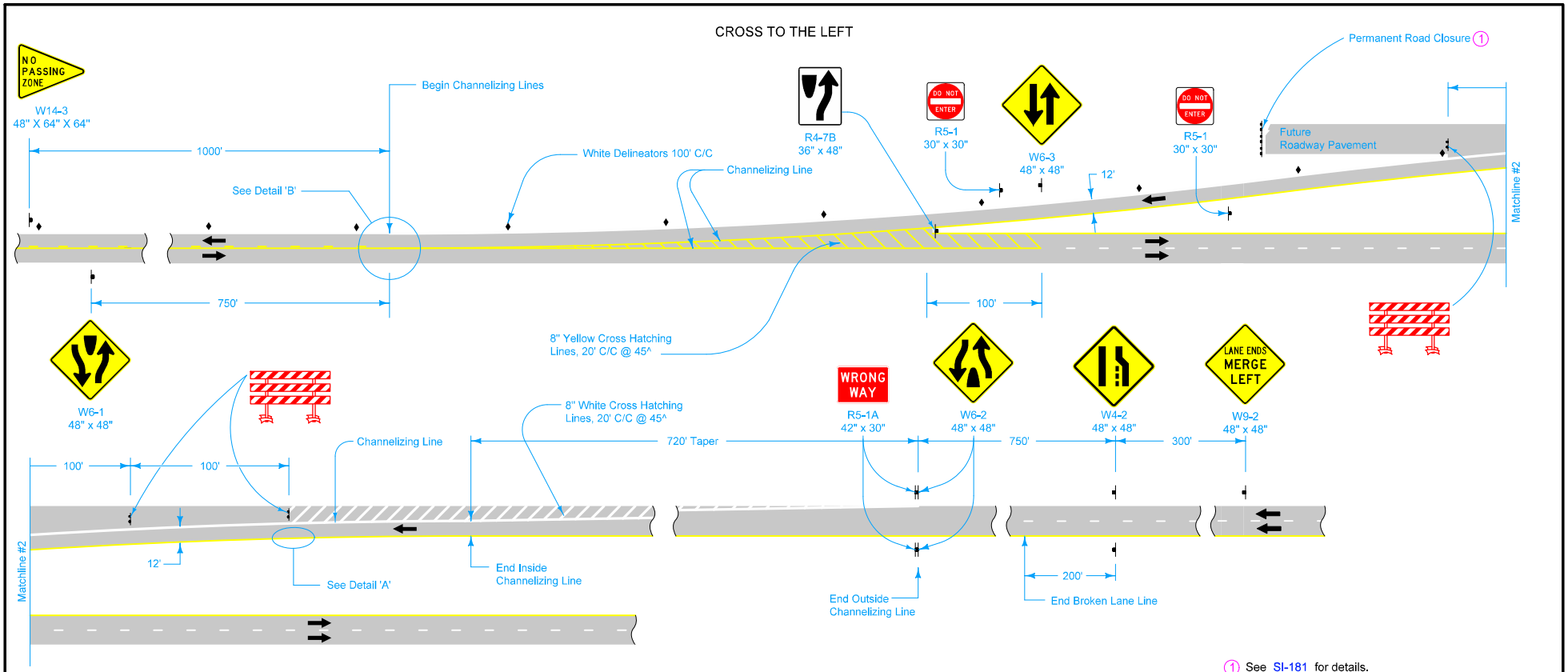
TC-62

SHEET 1 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



(1) See SI-181 for details.

LEGEND

- Traffic Sign
- Type III Barricade
- Delineator
- Direction of Traffic

IOWA DOT

STANDARD ROAD PLAN

REVISION 10 10-18-22

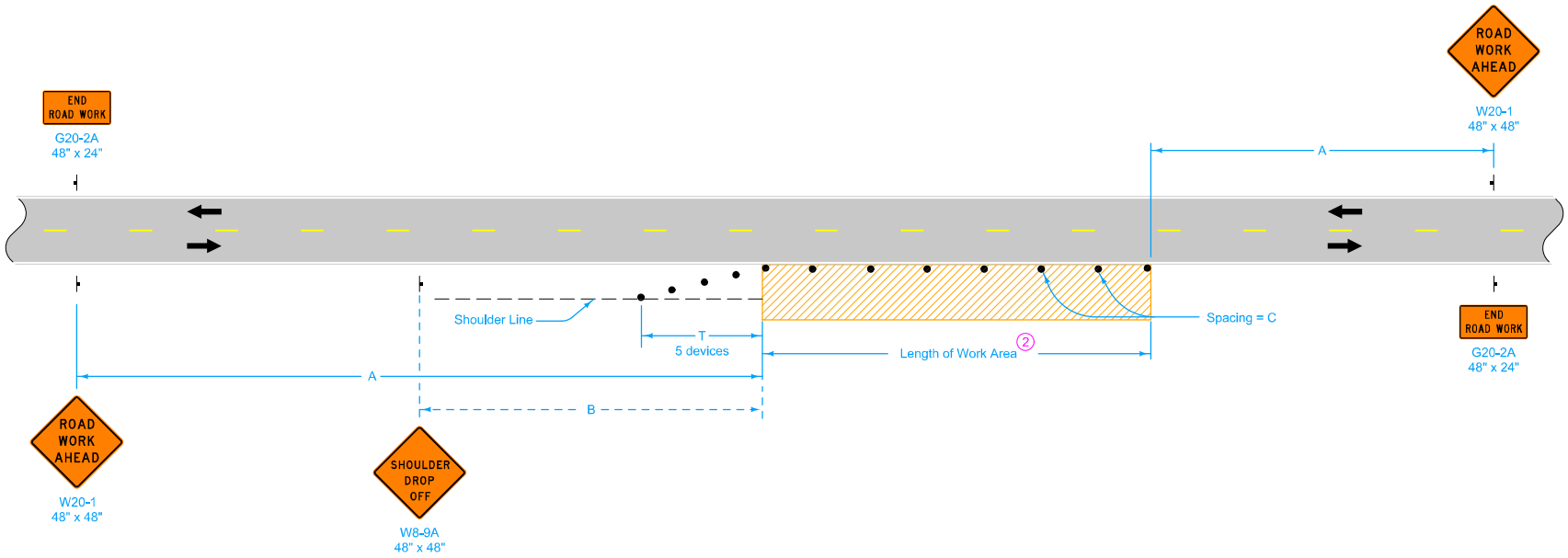
TC-62

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



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.

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.

(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.

Possible Contract Item:
Traffic Control

IOWA DOT

REVISION: 10 | 4-18-23

STANDARD ROAD PLAN

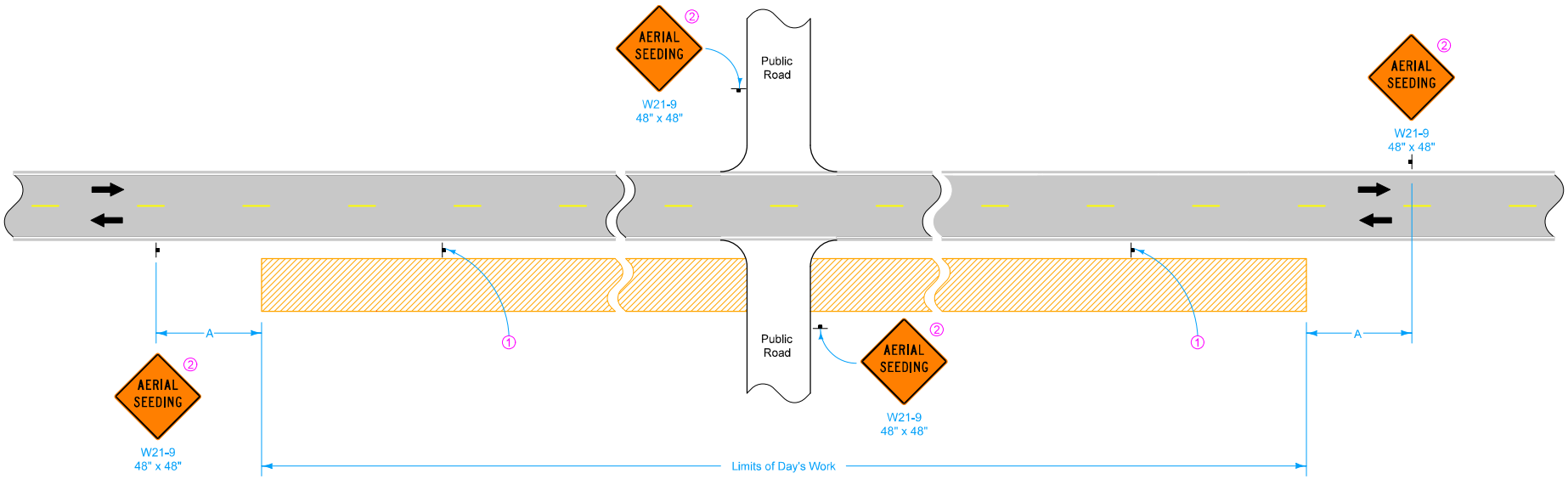
TC-202

SHEET 1 of 1

REVISIONS: Added speed limit note.

APPROVED BY DESIGN METHODS ENGINEER

WORK WITHIN 15 FT OF TRAVELED WAY



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.

IOWA DOT

REVISION
5 | 4-18-23

STANDARD ROAD PLAN

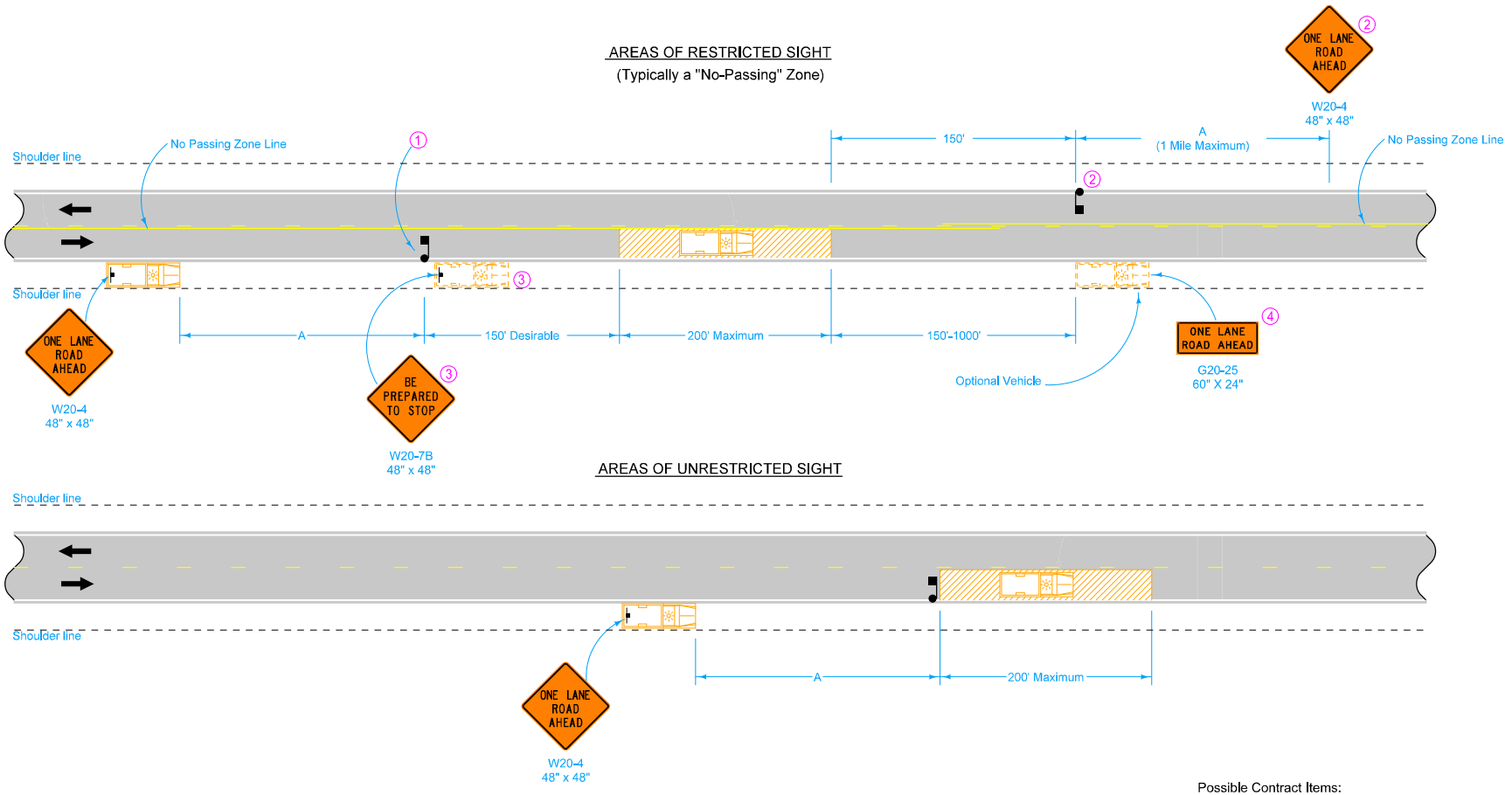
TC-203

SHEET 1 of 1

REVISIONS: Added speed limit note.

APPROVED BY DESIGN METHODS ENGINEER

AERIAL SEEDING OPERATIONS



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.

This layout is intended for use with slow-moving operations or with operations involving stops not to exceed 15 minutes. 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 traffic to pass when conditions are safe.
2. When a stop is made or work proceeds in an area where sight distance is restricted from either direction and is anticipated to be more than 5 minutes, a second flagger and ONE LANE ROAD AHEAD sign is required.
3. This vehicle and sign may be used in lieu of a flagger for Falling Weight Deflectometer tests.
4. Refer to SI-881 for sign details.

Possible Contract Items:
Flaggers
Traffic Control

IOWA DOT

REVISION 4 4-18-23

STANDARD ROAD PLAN

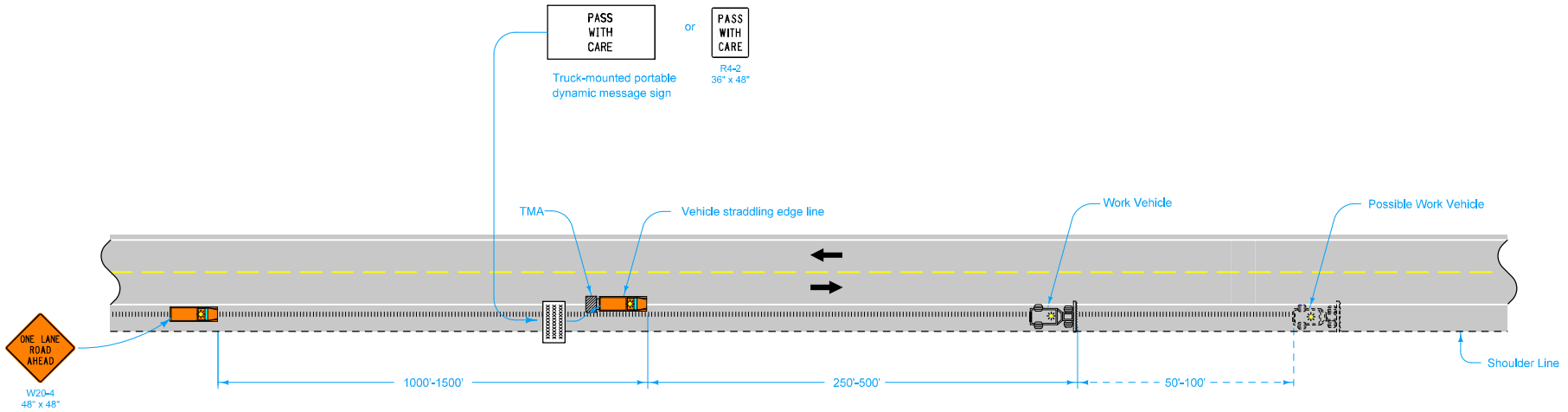
TC-231

SHEET 1 of 1

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

APPROVED BY DESIGN METHODS ENGINEER

SLOW MOVING VEHICLE OPERATING IN THE TRAFFIC LANE



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

IOWA DOT

STANDARD ROAD PLAN

REVISION	
4	10-21-14

TC-232

SHEET 1 of 1

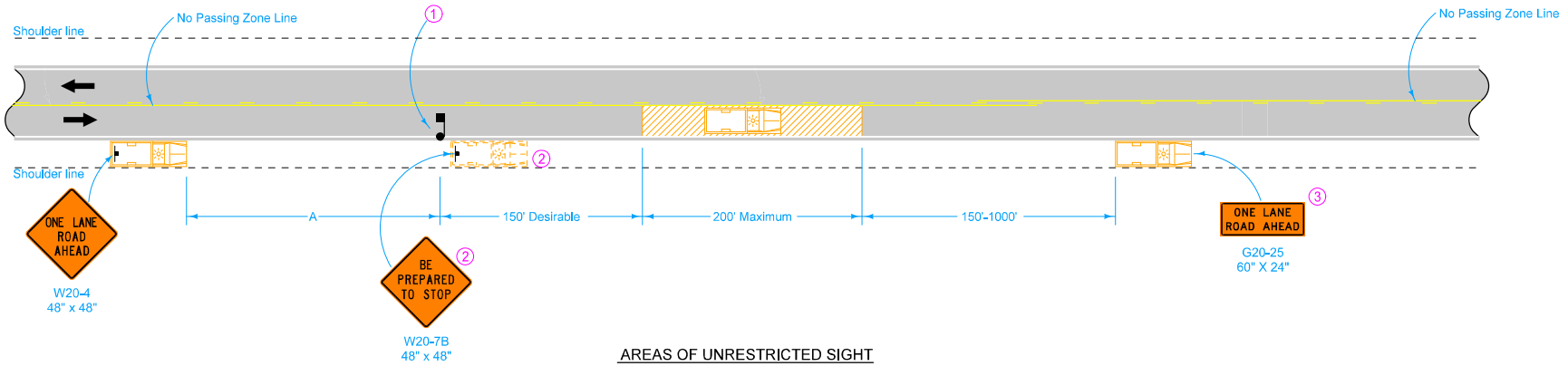
REVISIONS: Changed "changeable message sign" to "portable dynamic message sign".

APPROVED BY DESIGN METHODS ENGINEER

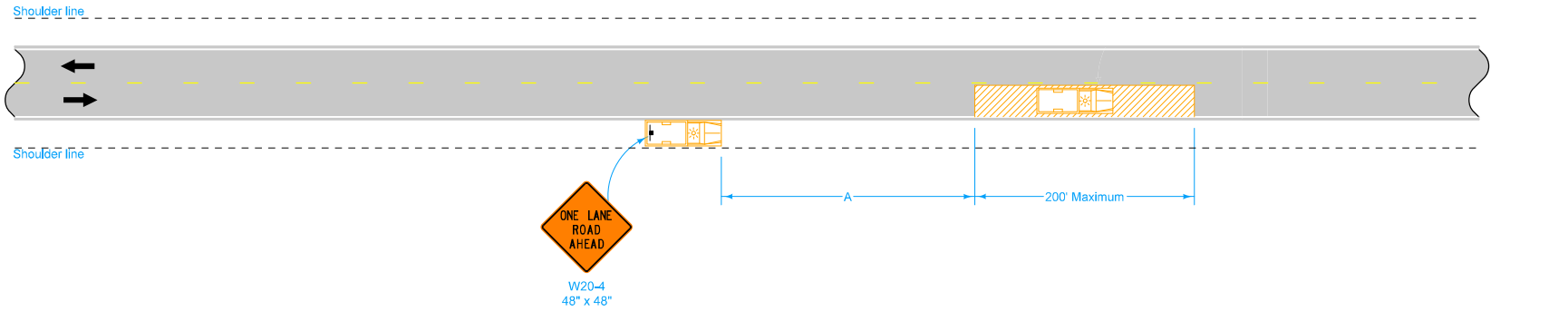
SHOULDER RUMBLE STRIP OPERATIONS

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.

IOWADOT

STANDARD ROAD PLAN

REVISION	
2	4-18-23

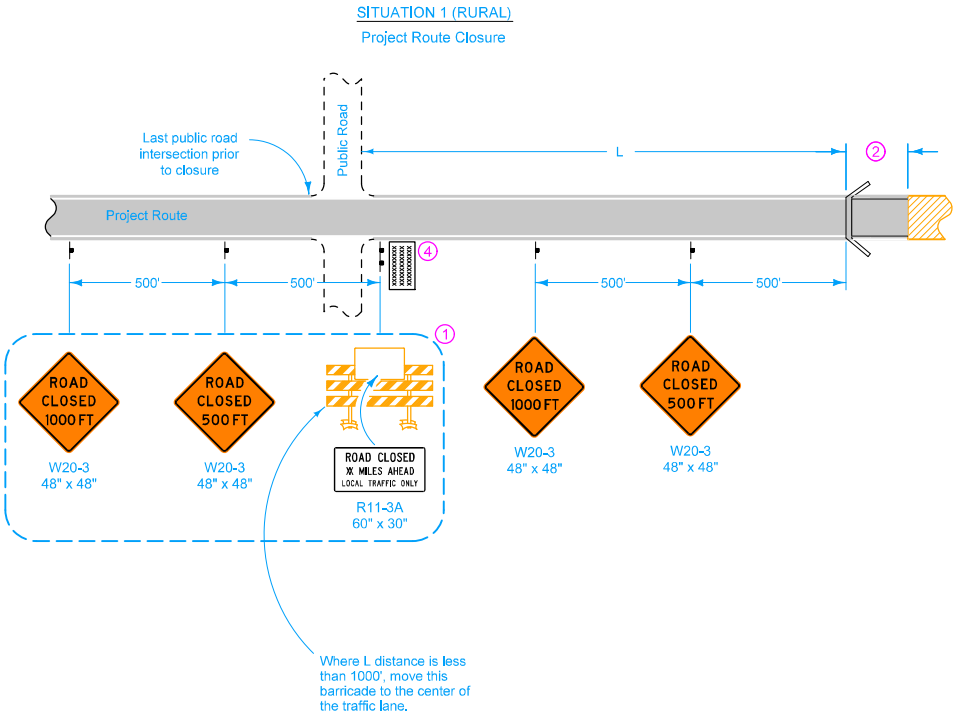
TC-235

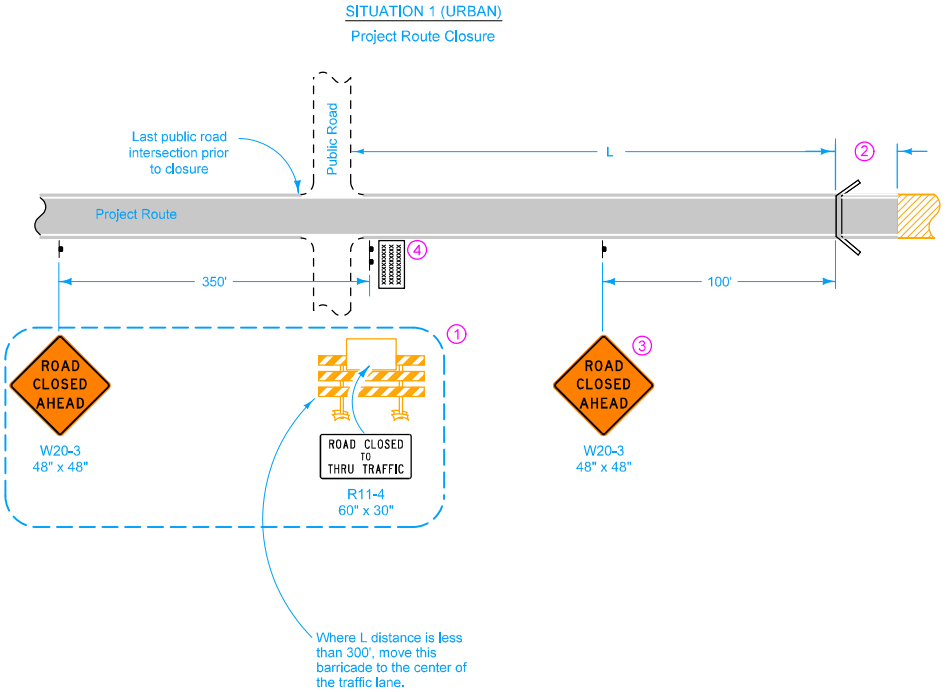
SHEET 1 of 1

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

APPROVED BY DESIGN METHODS ENGINEER

EDGE RUT REPAIR





LEGEND

- Traffic Sign
- Type III Barricade
- Portable Dynamic Message Sign
- Work Area
- Road Closure

(1) In situation 1, if the intersection is the point of detour these signs and barricade will become the responsibility of the contracting authority and may be modified by the contracting authority to fit detour signing.

(2) When possible, a 100' buffer is desirable.

(3) When L is less than 300 feet, omit the ROAD CLOSED AHEAD sign.

(4) Place for 7 calendar days prior to closure. The Engineer will determine the message to display. Remove when road is closed. Use of Portable Dynamic Message Sign is optional on non-primary roadways.

IOWA DOT

STANDARD ROAD PLAN

REVISION 6 04-21-20

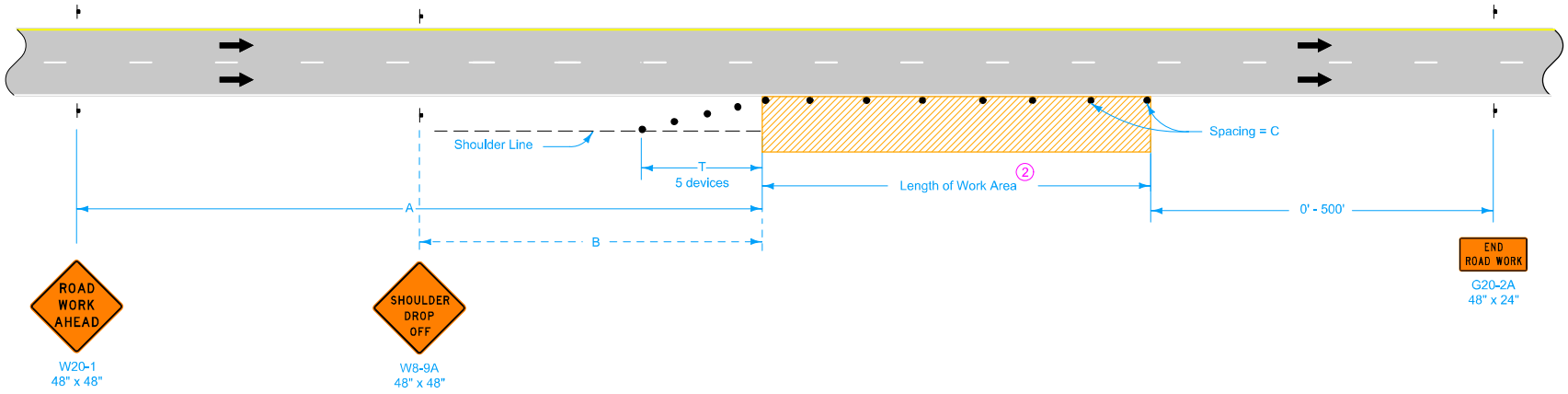
TC-252

SHEET 2 of 3

REVISIONS: Added Portable Dynamic Message Sign and new note 4 on Sheet 2.

APPROVED BY DESIGN METHODS ENGINEER

ROUTES CLOSED TO TRAFFIC



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.

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.

(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.

Possible Contract Item:
Traffic Control

IOWA DOT

REVISION 10 4-18-23

STANDARD ROAD PLAN

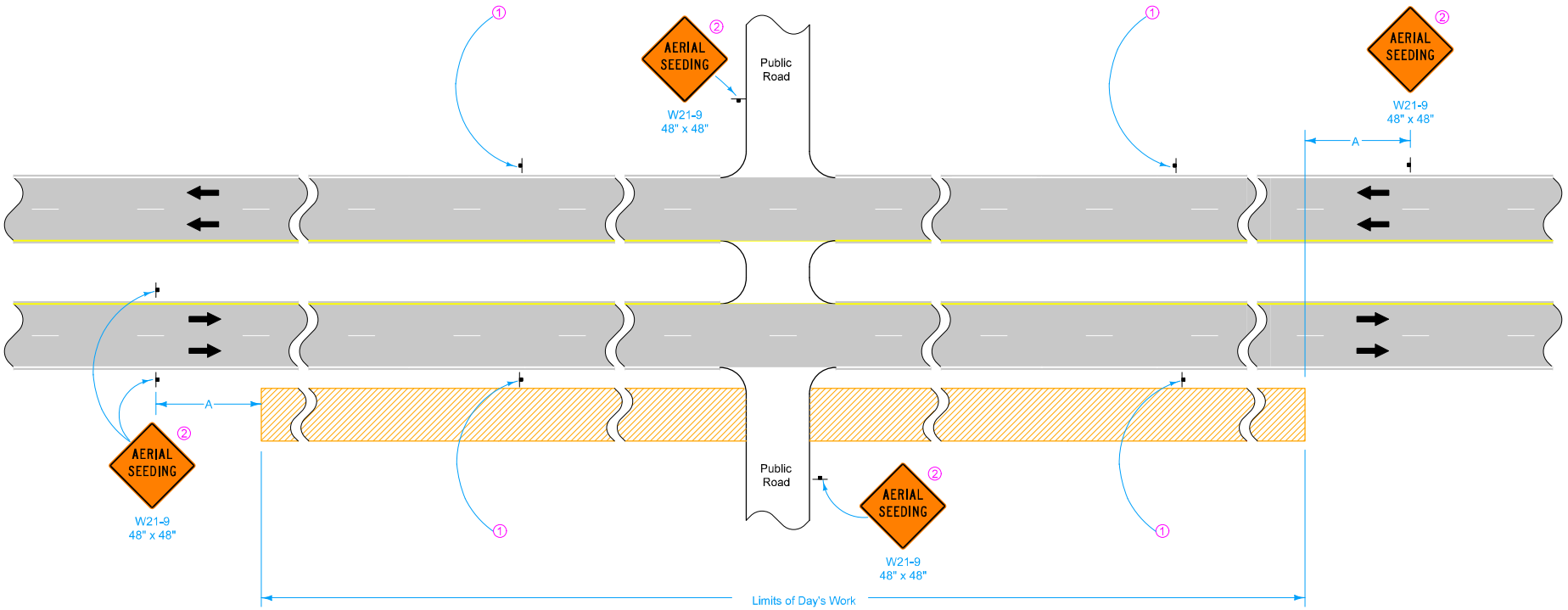
TC-402

SHEET 1 of 1

REVISIONS: Added speed limit note.

APPROVED BY DESIGN METHODS ENGINEER

WORK WITHIN 15 FT OF TRAVELED WAY



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.

IOWA DOT

STANDARD ROAD PLAN

REVISION 5 4-18-23

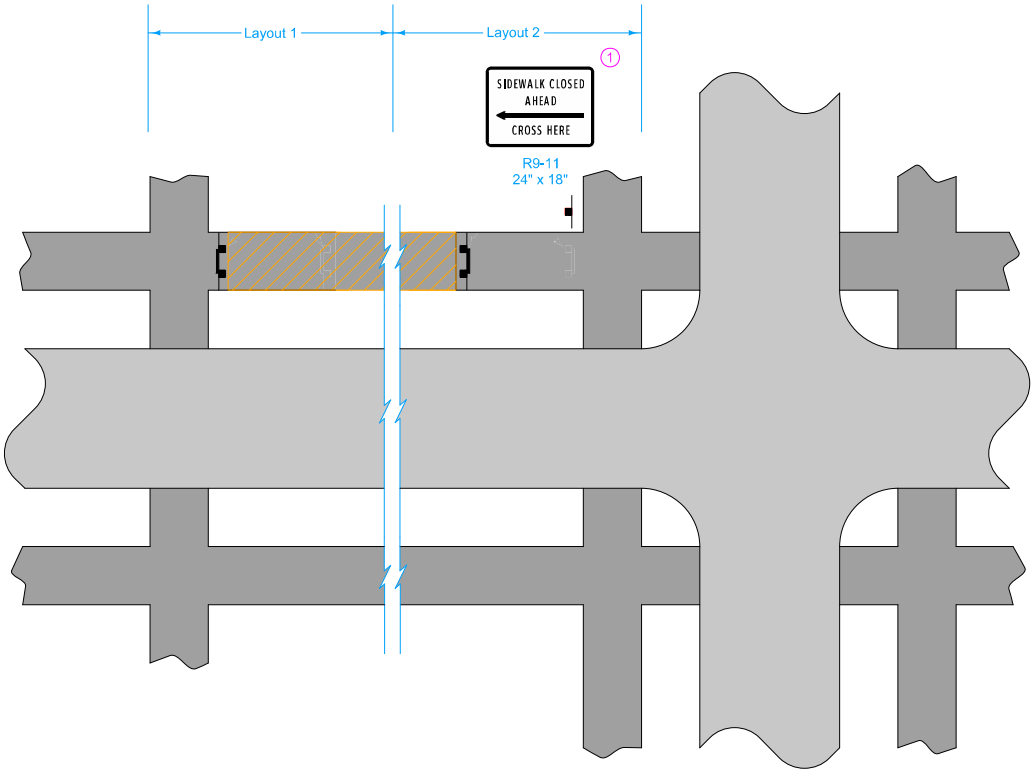
TC-403

SHEET 1 of 1

REVISIONS: Added speed limit note.

APPROVED BY DESIGN METHODS ENGINEER

AERIAL SEEDING OPERATIONS



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

Possible Contract Item:
Traffic Control

Possible Tabulation:
113-2

MID-BLOCK CLOSURE

LEGEND

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

IOWADOT

REVISION
1 | 10-15-19

STANDARD ROAD PLAN

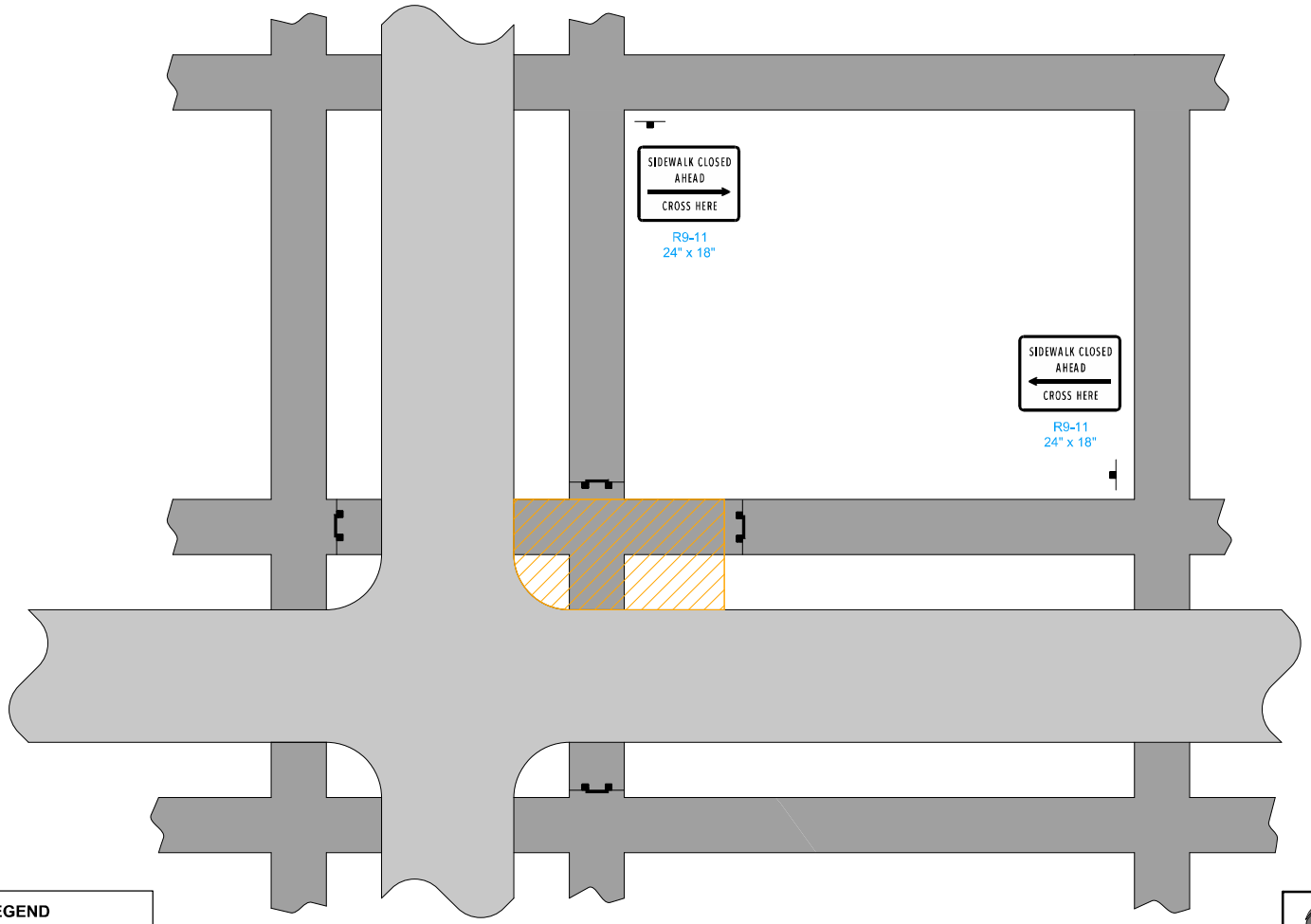
TC-601

SHEET 1 of 2

REVISIONS: New logo.

APPROVED BY DESIGN METHODS ENGINEER

PEDESTRIAN DETOUR



LEGEND

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

CLOSURE AT INTERSECTION

IOWADOT

REVISION 1 10-15-19

STANDARD ROAD PLAN

TC-601

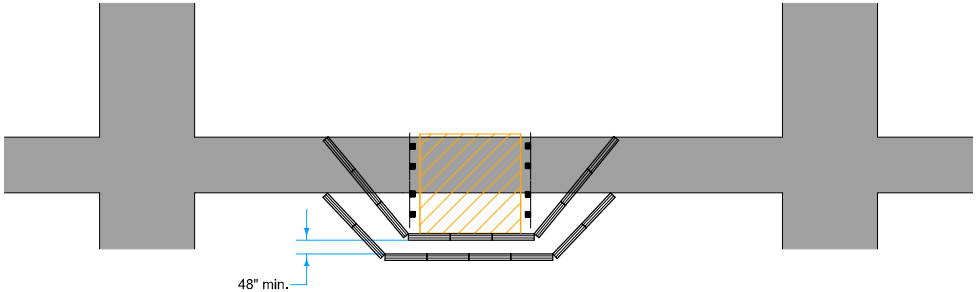
SHEET 2 of 2

REVISIONS: New logo.

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

IOWADOT

REVISION 1 10-15-19

STANDARD ROAD PLAN

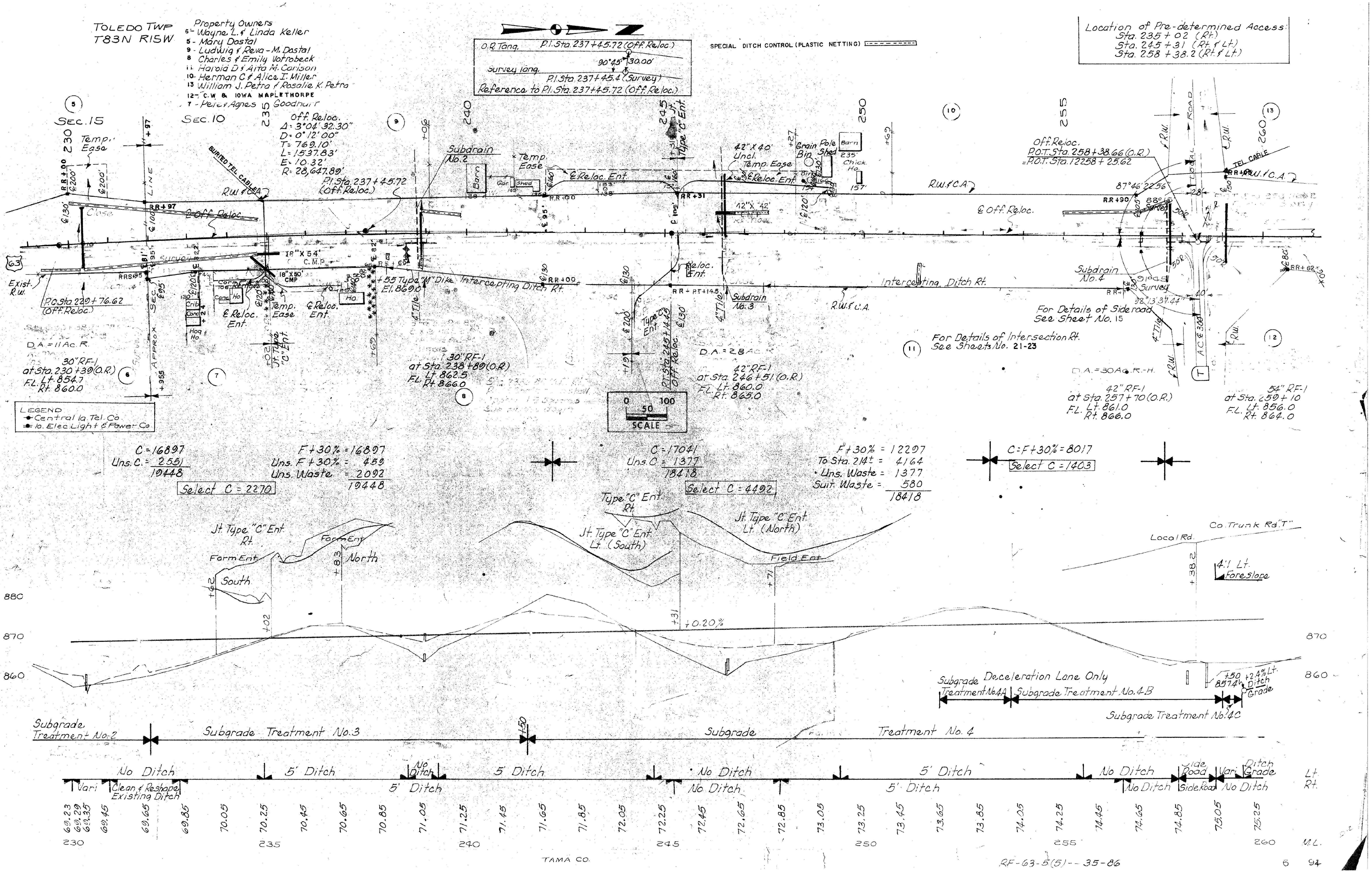
TC-602

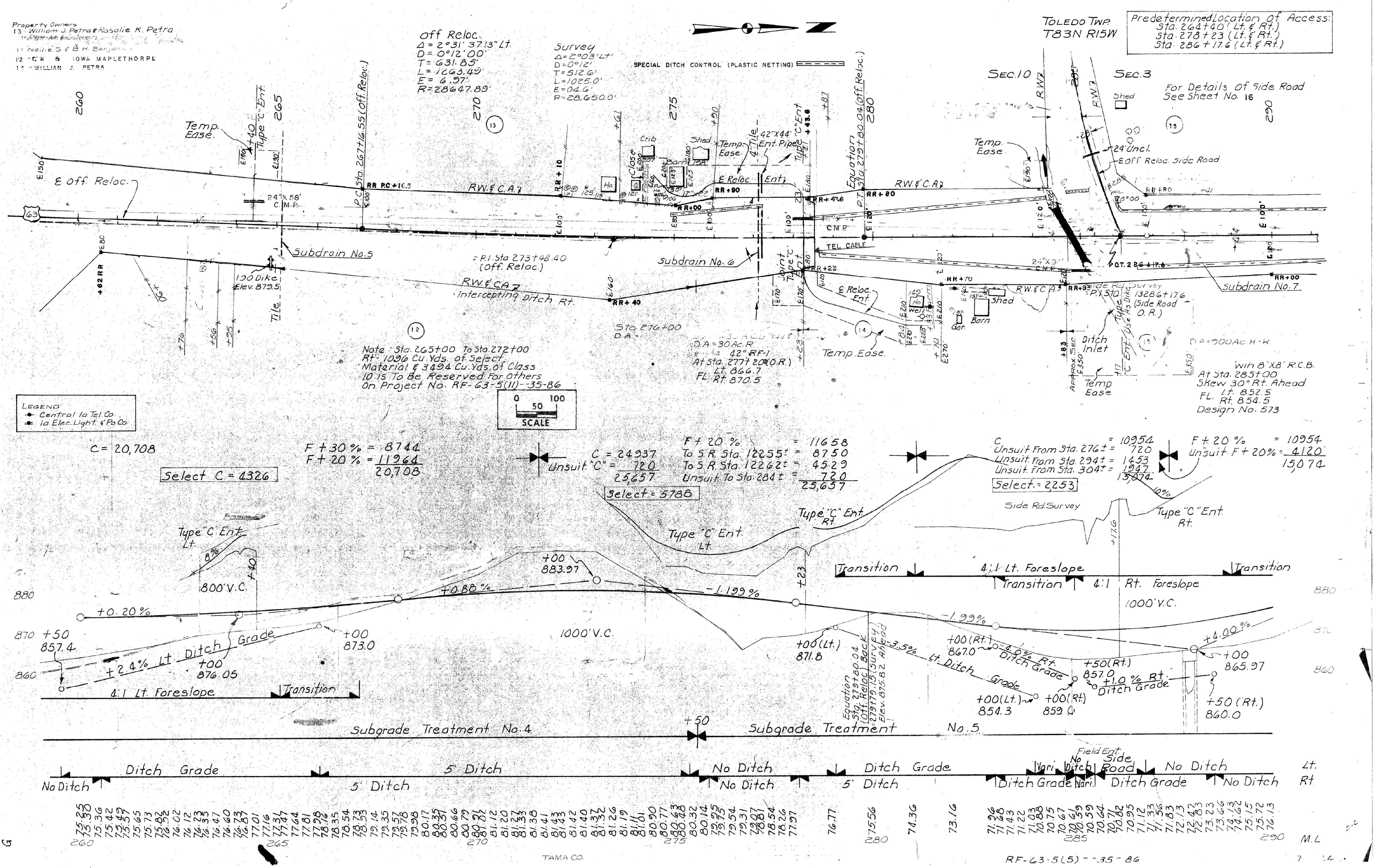
SHEET 1 of 1

REVISIONS: New logo.

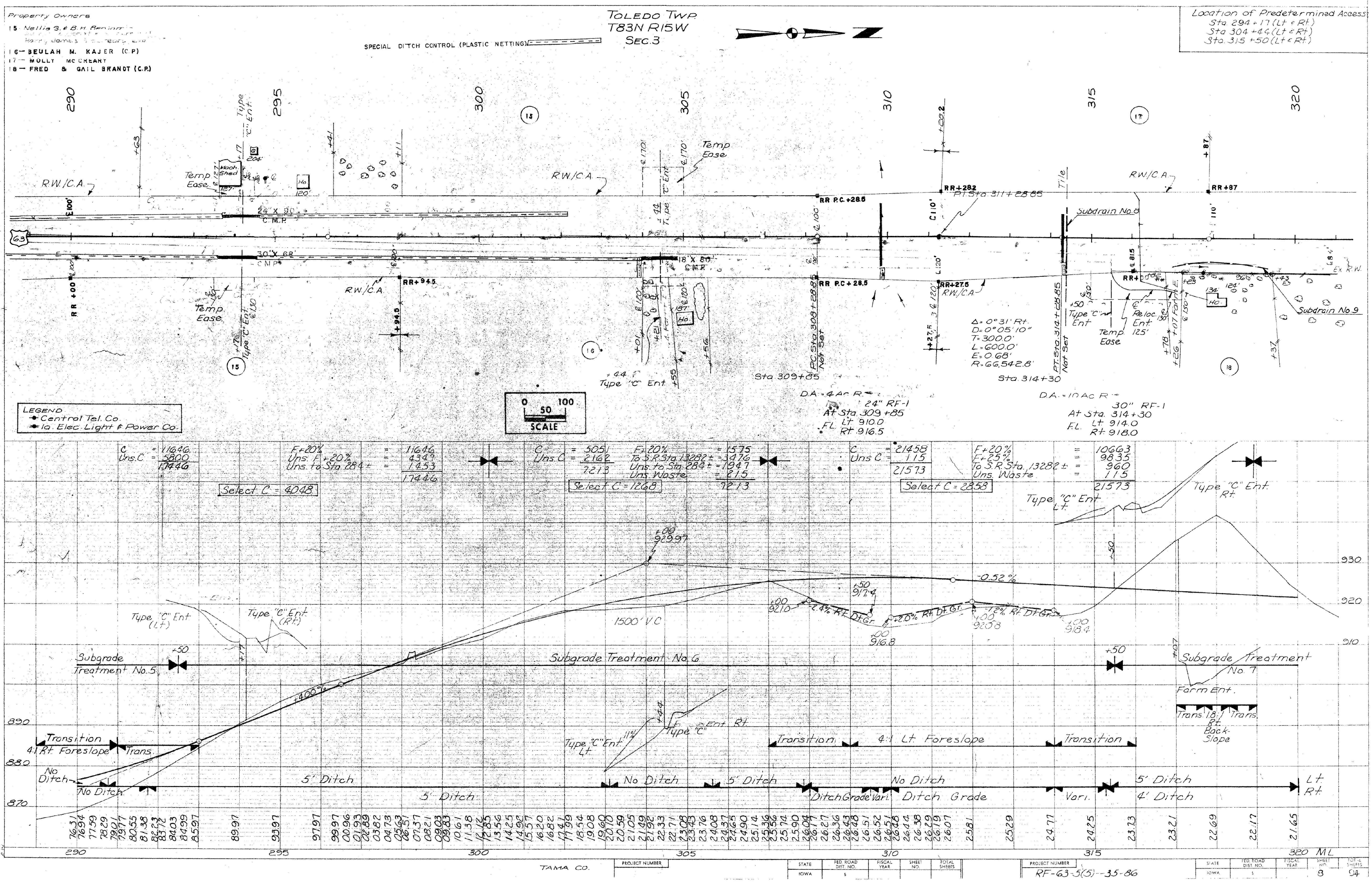
APPROVED BY DESIGN METHODS ENGINEER

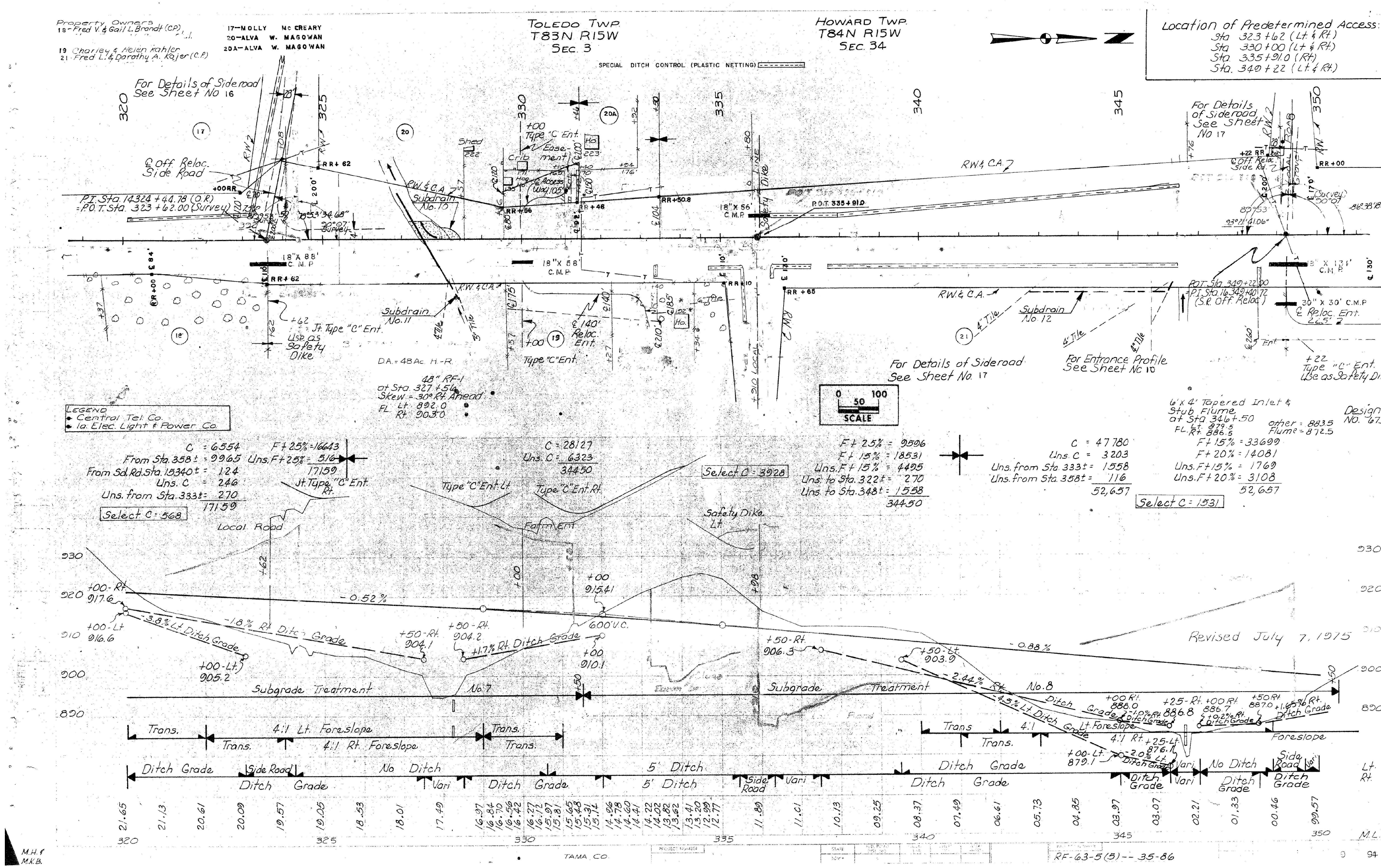
SIDEWALK DIVERSION


TOLEDO TWP
T83N R15W
Property Owners
6- Wayne L. & Linda Keller
5- Mary Dostal
9- Ludwig & Reva - M. Dostal
8 Charles & Emily Votrobeck
11 Harold D. & Alta M. Carlson
10- Herman C. & Alice I. Miller
13 William J. Petro & Rosalie K. Petro
12- C.W. & IOWA MAPLETHORPE
7 - Peter & Agnes Goodhuir
O.R. Tang.
P.I. Sta. 237+45.72 (Off. Reloc.)
90°45' 30.00'
Survey Tang.
P.I. Sta. 237+45.4 (Survey)
Reference to P.I. Sta. 237+45.72 (Off. Reloc.)
SPECIAL DITCH CONTROL (PLASTIC NETTING)
Location of Pre-determined Access:
Sta. 235+02 (Rt.)
Sta. 245+31 (Rt. & Lt.)
Sta. 258+38.2 (Rt. & Lt.)
SEC. 15
SEC. 10
Off. Reloc.
Δ: 3°04' 32.30"
D: 0°12' 00"
T: 769.10'
L: 1537.83'
E: 10.32'
R: 28,647.89'
P.I. Sta. 237+45.72 (Off. Reloc.)
BURIED TEL CABLE
Subdrain No. 2
Subdrain No. 3
Subdrain No. 4
Temp. Ease
Barn
Gar.
Shed
Grain Bin
Pole Shed
Chick. Ho.
42" X 40' Uncl.
42" X 42'
18" X 54' C.M.P.
18" X 50' CMP
+55 Type "M" Dike El. 869.0
Intercepting Ditch Rt.
R.W. & C.A.
℄ Off. Reloc.
℄ Reloc. Ent.
Jt. Type "C" Ent.
Off. Reloc.
P.O. Sta. 229+76.62 (Off. Reloc.)
P.T. Sta. 245+14.63 (Off. Reloc.)
Off. Reloc.
P.O.T. Sta. 258+38.66 (O.R.)
= P.O.T. Sta. 12258+25.62
TEL CABLE
ROAD
LOCAL
87°46' 22.56"
92°13' 37.44"
For Details of Sideroad See Sheet No. 15
For Details of Intersection Rt. See Sheets No. 21-23
D.A. = 11 Ac. R.
30" RF-1 at Sta. 230+39 (O.R.)
F.L. Lt. 854.7 Rt. 860.0
30" RF-1 at Sta. 238+89 (O.R.)
F.L. Lt. 862.5 Rt. 866.0
D.A. = 28 Ac.
42" RF-1 at Sta. 246+51 (O.R.)
F.L. Lt. 860.0 Rt. 865.0
D.A. = 30 Ac. R.-H.
42" RF-1 at Sta. 257+70 (O.R.)
F.L. Lt. 861.0 Rt. 866.0
54" RF-1 at Sta. 259+10
F.L. Lt. 856.0 Rt. 864.0
LEGEND
Central Ia. Tel. Co.
Ia. Elec. Light & Power Co.
0 50 100
SCALE
C = 16897
Uns. C. = 2551
19448
Select C = 2270
F+30% = 16897
Uns. F+30% = 459
Uns. Waste = 2092
19448
C = 17041
Uns. C = 1377
18418
Select C = 4492
F+30% = 12297
To Sta. 214± = 4164
Uns. Waste = 1377
Suit. Waste = 580
18418
C: F+30% = 8017
Select C = 1403
Jt. Type "C" Ent. Rt.
Farm Ent.
North
South
Type "C" Ent. Rt.
Jt. Type "C" Ent. Lt. (South)
Jt. Type "C" Ent. Lt. (North)
Field Ent.
Co. Trunk Rd. "T"
Local Rd.
4:1 Lt. Foreslope
+0.20%
880
870
860
Subgrade Deceleration Lane Only
Subgrade Treatment No. 4A
Subgrade Treatment No. 4B
Subgrade Treatment No. 4C
+50 +2.4% Lt. Ditch Grade
Subgrade Treatment No. 2
Subgrade Treatment No. 3
Subgrade Treatment No. 4
No Ditch
5' Ditch
Vari.
Clean & Reshape Existing Ditch
Side Road
Ditch Grade
Lt.
Rt.
69.23 69.29 69.35 69.45 69.65 69.85 70.05 70.25 70.45 70.65 70.85 71.05 71.25 71.45 71.65 71.85 72.05 72.25 72.45 72.65 72.85 73.05 73.25 73.45 73.65 73.85 74.05 74.25 74.45 74.65 74.85 75.05 75.25
230 235 240 245 250 255 260
M.L.
MKB.
TAMA CO.
RF-63-5(5)--35-86
6 94



Property Owners
13 William J. Petra & Rosalie K. Petra
12 C.W. & Iowa Maplethorpe
14 William J. Petra
Off Reloc.
Δ = 2°31' 37.13" Lt.
D = 0°12' 00"
T = 631.85'
L = 1263.49'
E = 6.97'
R = 28647.89'
Survey
Δ = 2°03' Lt'
D = 0°12'
T = 512.6'
L = 1025.0'
E = 04.6'
R = 28,650.0'
SPECIAL DITCH CONTROL (PLASTIC NETTING)
TOLEDO TWP.
T83N R15W
Predetermined Location of Access:
Sta. 264+40 (Lt. & Rt.)
Sta. 278+23 (Lt. & Rt.)
Sta. 286+17.6 (Lt. & Rt.)
Sec. 10
Sec. 3
For Details of Side Road See Sheet No. 16
Temp. Ease.
Type "C" Ent.
E Off Reloc.
24"x58' C.M.P.
P.C. Sta. 267+16.55 (Off. Reloc.)
RW & C.A.
Subdrain No. 5
Subdrain No. 6
Subdrain No. 7
130 Dike Elev. 879.5
Tile
P.I. Sta. 273+48.40 (Off. Reloc.)
RW & C.A. Intercepting Ditch Rt.
42"x44" Ent. Pipe
Equation P.T. Sta. 279+80.04 (Off. Reloc.)
TEL CABLE
C.M.P.
24" Uncl.
E Off Reloc. Side Road
E Reloc. Ent.
Sta. 276+00 D.A.
D.A. = 30 Ac. R
42" RF-1
At Sta. 277+20 (O.R.)
Lt. 866.7
FL. Rt. 870.5
Ditch Inlet
Temp. Ease
P.T. 286+17.6
P.I. Sta. 1328.6+17.6 (Side Road O.R.)
D.A. = 900 Ac. H-R.
Twin 8'x8' R.C.B.
At Sta. 285+00
Skew 30° Rt. Ahead
FL. Lt. 852.5
Rt. 854.5
Design No. 573
Note: Sta. 265+00 To Sta. 272+00
Rt. 1096 Cu. Yds. of Select Material & 3494 Cu. Yds. of Class 10 Is To Be Reserved For Others On Project No. RF-63-5(11)-35-86
LEGEND
Central Ia. Tel. Co.
Ia. Elec. Light & Pa. Co.
SCALE 0 50 100
C = 20,708
Select C = 4326
F + 30% = 8744
F + 20% = 11964
20,708
C = 24937
Unsuit. "C" = 720
25,657
Select = 5788
F + 20% = 11658
To S.R. Sta. 1225.5± = 8750
To S.R. Sta. 1226.2± = 4529
Unsuit. To Sta. 284± = 720
25,657
C = 10954
Unsuit. From Sta. 276± = 720
Unsuit. From Sta. 294± = 1653
Unsuit. From Sta. 304± = 1947
15,074
Select = 2253
F + 20% = 10954
Unsuit. F + 20% = 4120
15,074
Side Rd. Survey
Type "C" Ent. Lt.
Type "C" Ent. Rt.
+0.20%
+0.88%
-1.199%
-1.99%
+4.00%
800' V.C.
1000' V.C.
+00 883.97
+50 857.4
+00 873.0
+00 876.05
+2.4% Lt. Ditch Grade
+00 (Lt.) 871.8
Equation Sta. 279+80.04 (Off. Reloc.) Back = 279+79.15 (Survey) Ahead Elev. 875.82
-3.5% Lt. Ditch Grade
+00 (Rt.) 867.0
-4.0% Rt. Ditch Grade
+50 (Rt.) 857.0
+1.0% Rt. Ditch Grade
+00 (Lt.) 854.3
+00 (Rt.) 859.0
+00 865.97
+50 (Rt.) 860.0
4:1 Lt. Foreslope
4:1 Rt. Foreslope
Transition
Subgrade Treatment No. 4
Subgrade Treatment No. 5
Ditch Grade
5' Ditch
No Ditch
Vari.
Field Ent.
Side Road
Lt.
Rt.
M.L.
880
870
860
260
265
270
275
280
285
290
TAMA CO.
RF-63-5(5)--35-86


Property Owners
16 - BEULAH M. KAJER (C.P)
17 - MOLLY MC CREANT
18 - FRED & GAIL BRANDT (C.P.)
TOLEDO TWP.
T83N R15W
SEC.3
SPECIAL DITCH CONTROL (PLASTIC NETTING)
Location of Predetermined Access:
Sta. 294+17 (Lt. & Rt.)
Sta. 304+44 (Lt. & Rt.)
Sta. 315+50 (Lt. & Rt.)
LEGEND
Central Tel. Co.
Ia. Elec. Light & Power Co.
SCALE
Subdrain No. 8
Subdrain No. 9
Δ=0°31' Rt.
D=0°05'10"
T=300.0'
L=600.0'
E=0.68'
R=66,542.8'
Sta. 309+85
Sta. 314+30
D.A.=4 Ac. R-
24" RF-1
At Sta. 309+85
F.L. Lt. 910.0
Rt. 916.5
D.A.=10 Ac. R-
30" RF-1
At Sta. 314+30
F.L. Lt. 914.0
Rt. 918.0
Select C = 4048
Select C = 1268
Select C = 2858
1500' V.C.
Subgrade Treatment No. 5
Subgrade Treatment No. 6
Subgrade Treatment No. 7
Transition
4:1 Rt. Foreslope
4:1 Lt. Foreslope
5' Ditch
No Ditch
Ditch Grade
4' Ditch
Form Ent.
TAMA CO.
PROJECT NUMBER
RF-63-5(5)--35-86
STATE IOWA
SHEET NO. 8
TOTAL SHEETS 94
PLAN
PROFILE


Property Owners
18-Fred V. & Gail L. Brandt (CP)
19 Charley & Helen Kahler
21 Fred L. & Dorothy A. Kajer (C.P.)
17-MOLLY Mc CREARY
20-ALVA W. MAGOWAN
20A-ALVA W. MAGOWAN
TOLEDO TWP.
T83N R15W
SEC. 3
HOWARD TWP.
T84N R15W
SEC. 34
SPECIAL DITCH CONTROL (PLASTIC NETTING)
Location of Predetermined Access:
Sta. 323+62 (Lt. & Rt.)
Sta. 330+00 (Lt. & Rt.)
Sta. 335+91.0 (Rt.)
Sta. 340+22 (Lt. & Rt.)
For Details of Sideroad See Sheet No 16
For Details of Sideroad See Sheet No 17
For Details of Sideroad See Sheet No. 17
For Entrance Profile See Sheet No 10
P.I. Sta. 14324+44.78 (O.R.) = P.O.T. Sta. 323+62.00 (Survey)
P.O.T. 335+91.0
Subdrain No. 10
Subdrain No. 11
Subdrain No. 12
RW & C.A.
DA.=48Ac. H-R.
48" RF-1 at Sta. 327+54 Skew = 30° Rt. Ahead FL. Lt. 892.0 Rt. 903.0
LEGEND
Central Tel. Co.
Ia. Elec. Light & Power Co.
6'x4' Tapered Inlet & Stub Flume at Sta. 346+.50
Design No. 673
Select C: 568
Select C: 3928
Select C: 1531
Revised July 7, 1975
Subgrade Treatment
Ditch Grade
4:1 Lt. Foreslope
4:1 Rt. Foreslope
TAMA CO.
RF-63-5(5)--35-86
94

Special Requirements to Permit

1. All material or equipment shall be kept off the Right of Way during non-working hours.
2. Right of Way shall be restored at the end of each working day.
3. No open holes or dirt piles shall be left on Right of Way during non –working hours.
4. No parking on shoulders.
5. Final seeding and restoration of Right of Way shall be done.
6. No digging into the side slopes of any road or highway shall be allowed.
7. Proper traffic control must be used at all times.

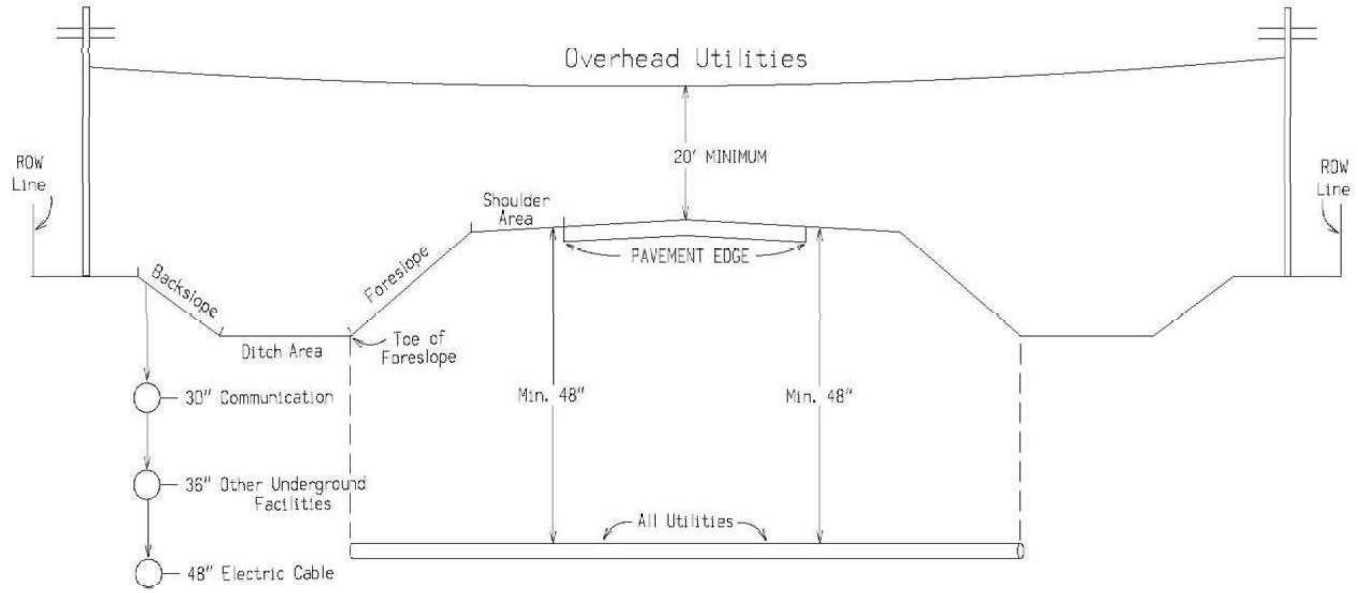
Acceptable Clear-zone Distances (feet).

		FORESLOPES			BACKSLOPES		
design speed	design ADT	6:1 or flatter	Steeper than 6:1, up to and including 4:1	Steeper than 4:1	Steeper than 4:1*	4:1 or flatter, up to 6:1	6:1 or flatter
40 mph or less	ADT < 750	7	7	**	7	7	7
	750 ≤ ADT < 1500	10	12	**	10	10	10
	1500 ≤ ADT < 6000	12	14	**	12	12	12
	ADT ≥ 6000	14	16	**	14	14	14
45 – 50 mph	ADT < 750	10	12	**	8	8	10
	750 ≤ ADT < 1500	14	16	**	10	12	14
	1500 ≤ ADT < 6000	16	20	**	12	14	16
	ADT ≥ 6000	20	24	**	14	18	20
55 mph	ADT < 750	12	14	**	8	10	10
	750 ≤ ADT < 1500	16	20	**	10	14	16
	1500 ≤ ADT < 6000	20	24	**	14	16	20
	ADT ≥ 6000	22	26	**	16	20	22
60 mph	ADT < 750	16	20	**	10	12	14
	750 ≤ ADT < 1500	20	26	**	12	16	20
	1500 ≤ ADT < 6000	26	30	**	14	18	24
	ADT ≥ 6000	30	30	**	20	24	26
65 – 70 mph	ADT < 750	18	20	**	10	14	14
	750 ≤ ADT < 1500	24	28	**	12	18	20
	1500 ≤ ADT < 6000	28	30	**	16	22	26
	ADT ≥ 6000	30	30	**	22	26	28

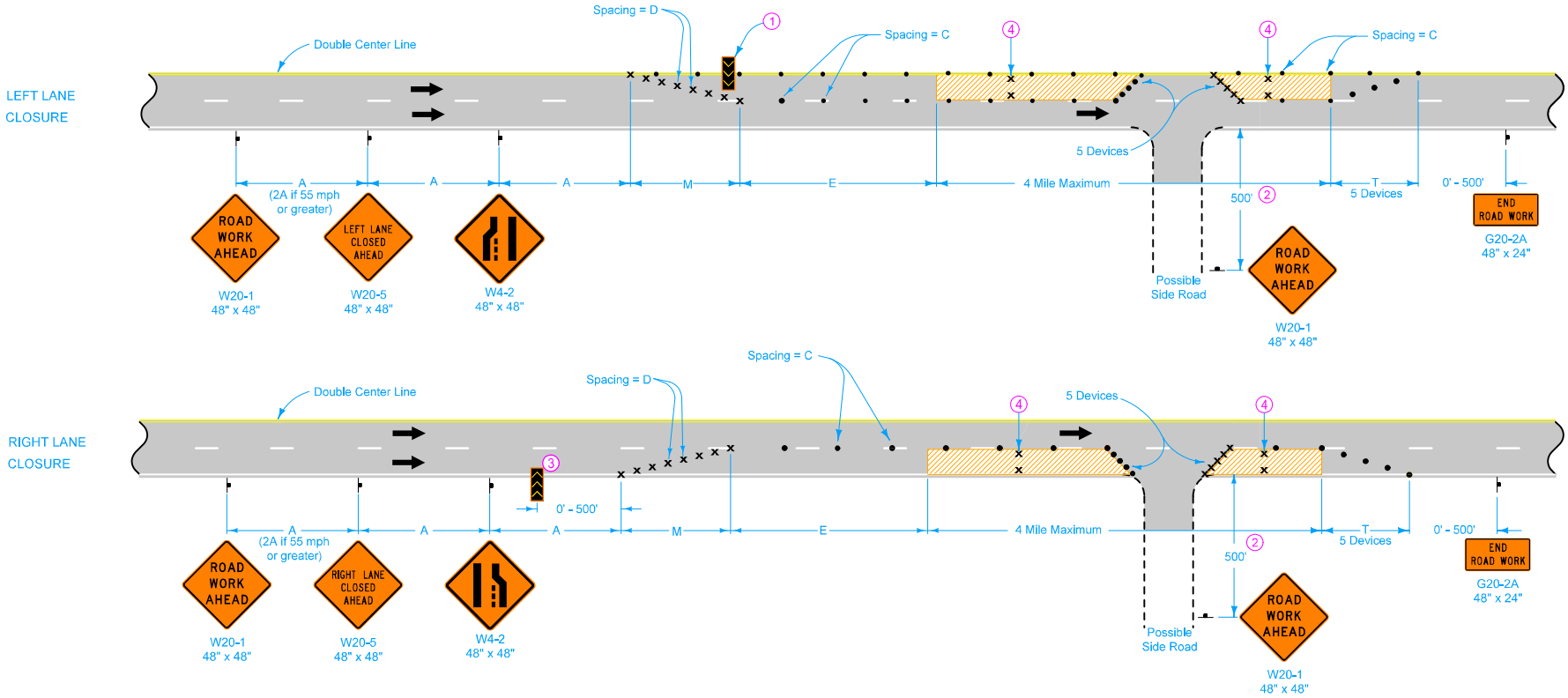
* Backslopes as steep as 2.5:1 can be considered as part of the clear zone, as long as they are relatively smooth and do not contain any fixed objects. Refer to Section 8A-4 of the Design Manual for information regarding backslopes steeper than 2.5:1.

** Since a vehicle traveling on a slope steeper than 4:1 is likely to be diverted to the bottom of the slope, the width of any slope steeper than 4:1 cannot be counted in the clear zone determination. Refer to Section 8A-2 of the Design Manual for information on providing clear recovery areas at the base of steep slopes.

Minimum Policy Requirements
Rural Section
Non-Freeway Highway



Notes:
Utilities shall be locted between the toe of foreslope and the highway row line.
Utilities should be located as near to the highway row line as practical.
See Utility Policy, Section 115.13 for further details.



LEGEND

- Traffic Sign
- Drum
- 42" Channelizer
- Arrow Board
- Work Area
- Direction of Traffic

SPEED LIMIT (mph)*	A	C	D	E	M	T
35 or less	250'	40'	35'	0'-200'	245'	50'
40	500'	80'	40'	0'-300'	320'	50'
45	700'	80'	45'	0'-400'	630'	100'
50	700'	80'	45'	400'	630'	100'
55 - 60	1000'	100'	55'	600'	770'	100'

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

Where there is a lane line drop-off or rise, do not allow traffic to cross over the drop-off or rise, except for ramp locations where a BUMP (W8-1) sign is placed.

Lane line drop-offs greater than a nominal 4 inches are not allowed during non-working hours.

(1) Place arrow board within the closed lane behind the drums and as close to the beginning of the taper as practical.

(2) Where side road speed limit is 40 mph or less, a distance of 200 feet is allowed.

(3) When there is no shoulder, place arrow board within the closed lane behind the drums and as close to the beginning of the taper as practical.

(4) For lanes closed to traffic, place two drums every 1000 feet. For full depth excavations, in a closed lane, place two drums in front of each location. Additional drums need not be placed for full depth excavations spaced closer than 150 feet.

Possible Contract Item:

Traffic Control

IOWA DOT

REVISION 9 4-18-23

STANDARD ROAD PLAN

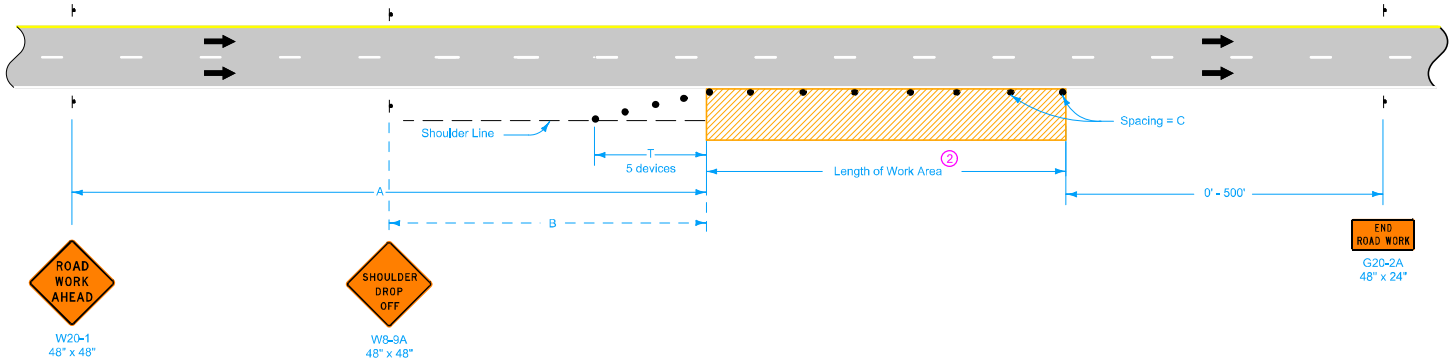
TC-419

SHEET 1 of 1

REVISIONS: Added speed limit note.

APPROVED BY DESIGN METHODS ENGINEER

LANE CLOSURE ON UNDIVIDED HIGHWAY



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.L2 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'

(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.

IOWA DOT

REVISION
8 | 04-21-15

STANDARD ROAD PLAN

TC-402

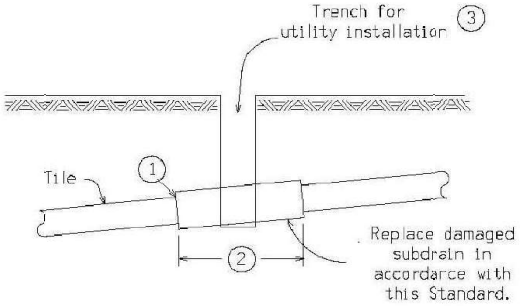
SHEET 1 of 1

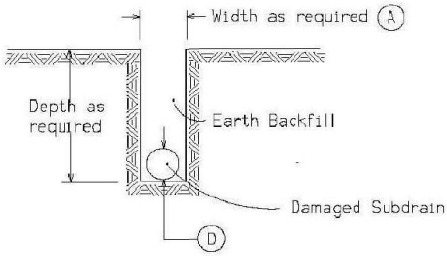
REVISIONS: Modified general notes, changed title and replaced the DOT logo in the title block with the new version.

Brian Smith
APPROVED BY DESIGN METHODS ENGINEER

WORK WITHIN 15 FT OF TRAVELED WAY

Tile Line Repair Guideline





Note:
Rep acement of drainage tile shall be accomplished so as to cause the minimum of disturbance to existing field tile. The repaired drainage tile shall be left in a functional condition with special emphasis placed on maintaining existing flow line elevations.

(A)= A minimum of 24" shall be excavated outside the normal utility trench wall or such greater width as may be required to expose a minimum of 12" of undamaged drain tile.

REPLACEMENT SCHEDULE - CASE 'A'										
Existing Tile (D)	4	6	8	10	12	15	18	21	24	>24
Proposed Subdrain Size										
Concrete Pipe	-	-	12	15	15	18	21	24	30	D+6"
Coated C.M.P.	10	12	15	18	21	24	30	36	36	*

* Replacement sizes provide equivalent capacity based on 6" settlement assumming a 0.20% slope with n = 0.013 for concrete pipe and n = 0.025 for corrugated pipe (Manning Formula)

NOTES:

Tile lines disturbed within the right-of-way (outside the Roadway Embankment Area *) limits shall be repaired as follows:

May be repaired with schedule 40 PVC pipe of compatible size or in accordance with the replacement schedule-case 'A' as listed above. Replacement with schedule 40 PVC pipe shall require using a connecting device of a Femco plain and plain flexible pipe coupling or equal.

Tile lines disturbed within the "Roadway Embankment Area" shall be replaced in accordance with the replacement schedule - case 'A' stated above and as follows:

(1) Concrete collar to be placed around joint where existing tile line and corrugated aluminized metal pipe connect.

(2) Minimum length of corrugated metal pipe shall be 4 feet. Minimum length of 2 feet on each side of the tile line break location.

(3) Trench shall be backfilled with 8 inches loose material, compacted to 6 inches with a minimum of 95% compaction of natural density.

A. Backfill and compact area around drain tile to be completed by hand until new tile is completely covered. Remainder of the trench shall be backfilled by acceptable methods.

B. Area shall require inspection by the Iowa Department of Transportation irspectors or their designated personnel prior to backfilling of trench.

* "Roadway Embankment Area" is defined as the area lying between the foreslopes of a two-lane roadway and from near foreslope to far foreslope of a four lane roadway.

Form 531051 (09-23)

IOWADOT

511 Request Form

Email NEW 511 entries to IowaDOT.Traffic@iowadot.us. Updates and/or changes to the current 511 entries may be emailed or by calling 515-237-3300.

If you need a press release for this project please contact Keven Arrowsmith in the Office of Strategic Communications, by email (Keven.Arrowsmith@iowadot.us).

General Information

Requester: _____ E-mail address: _____

Does this project include Intelligent Work Zones? ☐ Yes ☐ No

Responsible RCE Office:

☐ Grimes	☐ Sioux City	☐ Chariton
☐ Jefferson	☐ Cherokee	☐ Cedar Rapids
☐ Marshalltown	☐ Council Bluffs	☐ Davenport
☐ Mason City	☐ Creston	☐ Manchester
☐ New Hampton	☐ Mount Pleasant	☐ Other

Route and direction (N, S, E, W or Both) _____

DOT Project Number (if applicable) _____

DOT Permit Number (for contractors) _____

Project description (PCC/HMA resurfacing or overlay, bridge replacement, new bridge, etc.

_____

Project begin location (detailed description) (Do NOT use landmarks)

_____

Project end location (detailed description) (Do NOT use landmarks)

_____

County/Counties _____

24 hour project contact (for **after-hours** traffic control issues)

Name _____ Phone _____ (If none, please enter **none**)

Describe the impact on traffic

☐ Closed	☐ Left 3 lanes closed	☐ Ramp partially closed
☐ Closed intermittently	☐ Center lane closed	☐ Exit ramp partially closed
☐ Intermittent lane closure	☐ Center 2 lanes closed	☐ Entrance ramp partially closed
☐ Opposing traffic	☐ Center 3 lanes closed	☐ Ramp closed (systems interchange)
☐ Right lane closed	☐ Right shoulder closed	☐ Local road closures in area
☐ Right 2 lanes closed	☐ Left shoulder closed	☐ Single lane traffic alternating directions
☐ Right 3 lanes closed	☐ Both shoulders closed	☐ Slow moving maintenance vehicle
☐ Left lane closed	☐ Exit ramp closed	
☐ Left 2 lanes closed	☐ Entrance ramp closed	

Additional project information (pilot car, flagger, etc.)

Will there be temporary overhead signals? (15' standard height restriction) ☐ Yes ☐ No

If yes, please provide the location of the temporary overhead signals.

Project begin date and time: _____ Project end date and time: _____

Times of Closure ☐ Continuous ☐ Weekdays (Monday – Friday) ☐ Nights

Times of closure (Actual times required) _____

Restrictions (Need help deciding appropriate restrictions? Call Motor Carrier Services at 515-237-3264)

Are there restrictions? ☐ Yes ☐ No (If no, please skip ahead to the "**Detour information**" section.

Are there width restrictions? ☐ Yes ☐ No

Is the width restriction the entire length of the project? ☐ Yes ☐ No

If yes, what is the width restriction? _____

If no, do you have the Restriction Tabulation sheet? ☐ Yes ☐ No

If yes, please attach the Restriction Tabulation Sheet.

If no, how many width restricted areas and bridges are within the project? _____

If you do NOT have the Restriction Tabulation Sheet, please complete the relevant information for each restricted area or bridge.

1. Area or bridge # _____ Travel direction ☐ N ☐ S ☐ E ☐ W Measured width minus (at least) 1 ft. _____
2. Area or bridge # _____ Travel direction ☐ N ☐ S ☐ E ☐ W Measured width minus (at least) 1 ft. _____
3. Area or bridge # _____ Travel direction ☐ N ☐ S ☐ E ☐ W Measured width minus (at least) 1 ft. _____
4. Area or bridge # _____ Travel direction ☐ N ☐ S ☐ E ☐ W Measured width minus (at least) 1 ft. _____
5. Area or bridge # _____ Travel direction ☐ N ☐ S ☐ E ☐ W Measured width minus (at least) 1 ft. _____
6. Area or bridge # _____ Travel direction ☐ N ☐ S ☐ E ☐ W Measured width minus (at least) 1 ft. _____
7. Area or bridge # _____ Travel direction ☐ N ☐ S ☐ E ☐ W Measured width minus (at least) 1 ft. _____
8. Area or bridge # _____ Travel direction ☐ N ☐ S ☐ E ☐ W Measured width minus (at least) 1 ft. _____
9. Area or bridge # _____ Travel direction ☐ N ☐ S ☐ E ☐ W Measured width minus (at least) 1 ft. _____
10. Area or bridge # _____ Travel direction ☐ N ☐ S ☐ E ☐ W Measured width minus (at least) 1 ft. _____

Are there height restrictions? ☐ Yes ☐ No (if no, please continue to next section)

If yes, do you have the Restriction Tabulation sheet? ☐ Yes ☐ No

If yes, please attach the Restriction Tabulation Sheet.

If no, how many overhead bridges are within the project? _____

If you do NOT have the Restriction Tabulation Sheet, please complete the relevant information for each overhead bridge

1. Bridge # or location _____ Travel direction ☐ N ☐ S ☐ E ☐ W Estimated Vertical Clearance _____
2. Bridge # or location _____ Travel direction ☐ N ☐ S ☐ E ☐ W Estimated Vertical Clearance _____
3. Bridge # or location _____ Travel direction ☐ N ☐ S ☐ E ☐ W Estimated Vertical Clearance _____
4. Bridge # or location _____ Travel direction ☐ N ☐ S ☐ E ☐ W Estimated Vertical Clearance _____
5. Bridge # or location _____ Travel direction ☐ N ☐ S ☐ E ☐ W Estimated Vertical Clearance _____
6. Bridge # or location _____ Travel direction ☐ N ☐ S ☐ E ☐ W Estimated Vertical Clearance _____
7. Bridge # or location _____ Travel direction ☐ N ☐ S ☐ E ☐ W Estimated Vertical Clearance _____
8. Bridge # or location _____ Travel direction ☐ N ☐ S ☐ E ☐ W Estimated Vertical Clearance _____
9. Bridge # or location _____ Travel direction ☐ N ☐ S ☐ E ☐ W Estimated Vertical Clearance _____
10. Bridge # or location _____ Travel direction ☐ N ☐ S ☐ E ☐ W Estimated Vertical Clearance _____

Are there **weight** restrictions? ☐ Yes ☐ No ☐ Unknown

If yes, what is the weight restriction? _____

Are there **length** restrictions? ☐ Yes ☐ No ☐ Unknown

If yes, what is the length restriction? _____

Are these restrictions 24 hours per day? ☐ Yes ☐ No (If no, please enter the daily start / end times below.)

Enter the daily restriction START time _____ And daily restriction END time _____

Additional information pertaining to restrictions (shoulder type and width, TBR, channelizing devices, etc.)

Detour Information

Is there a marked detour? ☐ Yes ☐ No

If yes, are oversized loads allowed on the detour? ☐ Yes ☐ No

If yes, are there restrictions on the detour? (height, width, length, weight)

If no, what restriction prevents oversize / overweight loads? (height, width, weight, length)

Do you have a map of the detour? ☐ Yes ☐ No

If yes, please attach the map of the detour

If no, please describe the detour in detail in the space provided below.

District Traffic Tech (contact for all detour restriction info)

Name _____ Phone _____

Maintenance Garage responsible for detour: _____

Dynamic Message Signs (DMS)

Request use of permanent DMS is area: ☐ Yes ☐ No

Will there be portable DMS tied to this project? ☐ Yes ☐ No

Table 2601.03-1: Rural Stabilizing Crop Seeding Rates and Schedule

March 1 through October 31	
Oat Grain rye Canada wildrye (Elymus canadensis)	50 lbs. per acre 50 lbs. per acre 5 lbs PLS. per acre
November 1 through February 28 (or 29)	
Oat Grain rye Canada wildrye (Elymus canadensis)	62 lbs. per acre 62 lbs. per acre 7 lbs. PLS. per acre
For stabilizing crop only, Canada wildrye (Elymus canadensis) seed will not be required to be certified as Source Identified Class (Yellow Tag) Source G0-Iowa.	
Canada wildrye (Elymus canadensis) seed shall be debearded or equal to facilitate application of seed.	

Table 2601.03-3: Permanent Seed Rates, Rural Areas

Fescue, Tall[1]	100 lbs. per acre
Ryegrass, Perennial[2]	75 lbs. per acre
Bluegrass, Kentucky	20 lbs. per acre

1. All tall fescue shall be endophyte free.
2. Perennial ryegrass shall be cultivars Linn, Amazon, Norlea, or Nui, or a combination thereo