

ITS INFRASTRUCTURE  
 ITS-030-5(295)--25-85  
 JULY 19, 2022  
 STORY CO.

INDEX OF SHEETS	
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\* COLOR PLAN SHEETS



PLANS OF PROPOSED IMPROVEMENT ON THE  
**U.S. HIGHWAY ROAD SYSTEM**  
**STORY COUNTY**

ITS INFRASTRUCTURE  
 Co Rd S14 Intersection in Nevada

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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

REVISIONS

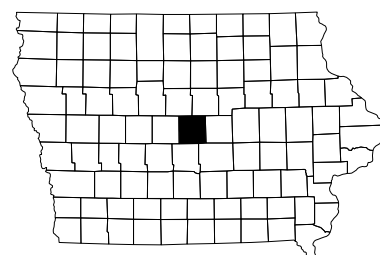
TOTAL
17
PROJECT IDENTIFICATION NUMBER
19-85-030-030
PROJECT NUMBER
ITS-030-5(295)--25-85
R.O.W. PROJECT NUMBER
NHSN-030-5(289)--2R-85



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[www.iowaonecall.com](http://www.iowaonecall.com)



For Project Location Map  
 Refer to Sheet No. A.2



INDEX OF SEALS		
SHEET NO.	NAME	TYPE
A.1	Charles Alan Miller	Primary Signature Block

LICENSED PROFESSIONAL ENGINEER  
 CHARLES ALAN MILLER  
 18604  
 IOWA

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

*Charles Alan Miller* \_\_\_\_\_ 04/29/2022  
 Signature Date

Charles Alan Miller  
 Printed or Typed Name

18604  
 License Number

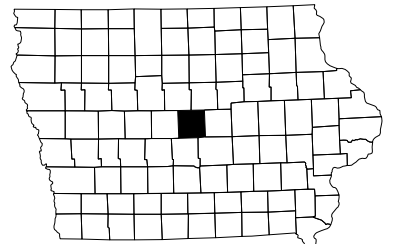
My license renewal date is December 31, 2022

Pages or sheets covered by this seal: A.1-A.3, C.1-C.3, J.1, N.1-N.4, RR.1-RR.2, U.1-U.4

NEVADA



N.1	N.2
N.3	N.4



INFRASTRUCTURE PLANS: SHEETS N.1 - N.2  
 FIBER SPLICING PLANS: SHEETS N.3 - N.4

**PROJECT LOCATION MAP**

STANDARD SYMBOLS

- Interstate Highway Symbol
- U.S. Highway Symbol
- Iowa Highway Symbol
- County Road Highway Symbol
- Evergreen Tree
- Deciduous Tree
- Fruit Tree
- Shrub (Bushes)
- Timber
- Hedge
- Stump
- Swamp
- Rock Outcrop
- Broken Concrete
- Revetment (Rip Rap)
- Cemetery
- Grave
- Cave
- Sink Hole
- Board Fence
- Chain Link or Security Fence
- Wire Fence
- Terrace
- Earth Dam or Dike (Existing)
- Earth Dam or Dike (Proposed)
- Tile Outlet
- Edge of Water
- Existing Drainage
- Proposed Drainage
- Right of Way Rail or Lot Corner
- Concrete Monument
- Well
- Windmill
- Beehive Intake
- Existing Intake
- Proposed Intake
- Existing Utility Access (Manhole)
- Proposed Utility Access (Manhole)
- Fire Hydrant
- Water Hydrant (Rural)
- Septic Tank
- Cistern Symbol
- L.P. Gas Tank (No Footing)
- Underground Storage Tank
- Latrine
- Luminaire

- Traffic Signal
- Traffic Signal with Luminaire
- Telephone Pedestal
- Television Pedestal
- Telephone Pole
- Telephone Pole (Second Company)
- Telephone Pole (Third Company)
- Telephone Pole (Fourth Company)
- Telephone Pole (Fifth Company)
- Power Pole
- Power Pole (Second Company)
- Power Pole (Third Company)
- Power Pole (Fourth Company)
- Power Pole (Fifth Company)
- Electrical Highline Tower (Metal or Concrete)
- Power Riser Pole
- Telegraph Pole
- Satellite TV Dish
- Existing Water Line
- Existing Water Line (Second Company)
- Existing Sanitary Sewer Line
- Existing Telephone Line
- Existing Telephone Line (Second Company)
- Existing Fiber Optics Telephone Line
- Existing Storm Sewer Line

- Existing Gas Line
- Existing High Pressure Gas Line
- Existing Gas Line (Second Company)
- Existing High Pressure Gas Line (Second Company)
- Existing Power Line
- Existing Power Line (Second Company)
- Cable Television Line
- Guardrail (Beam or Cable)
- Guard Post (one or two)
- Guard Post (over two)
- Filler Pipe
- Gas Valve
- Water Valve
- Speed Limit Sign
- Mile Marker Post
- SIGN
- Water Hook Up
- Radio Tower
- TCB
- RRB
- TSB

UNIQUE SYMBOLS FOR THIS PROJECT

EXISTING	PROPOSED	DESCRIPTIONS
		Iowa DOT Plowed Conduit
		Iowa DOT Bored Conduit
		Power Conduit
		Existing Iowa DOT Conduit/Power Conductors
		Iowa DOT Handhole, Type 30x17x24
		Iowa DOT Handhole, Type 48x30x36 or 24x36x36
		Iowa DOT Handhole, Misc.
		ICN Handhole
		Iowa DOT Traffic Camera
		Iowa DOT Traffic Sensor
		Meter Pedestal
		Iowa DOT ITS Device Cabinet, Pole Mount
		Iowa DOT ITS Device Cabinet, Ground Mount
		Iowa DOT Device Pole
		Iowa DOT Lighting Control/DMS Cabinet
		Locate Station

ABBREVIATIONS

DOT	Department of Transportation
ITS	Intelligent Transportation Systems
NEC	National Electric Code
OTDR	Optical Time Domain Reflectometer
TCP	Traffic Control Plan
ROW	Right of Way
HH	Handhole
ICN	Iowa Communications Network
NTS	Not to Scale

UTILITY CONTACTS

Company	Name	Street	City, State, Zip	Phone
Iowa Communications Network (ICN)	Mike Broderick	400 East 14th Street	Des Moines, IA 50319	515-725-4610
Iowa DOT ITS	Jason Dale	800 Lincoln Way	Ames, IA 50010	515-239-1995
Iowa DOT District 01	Sean Passick	1020 South 4th Street	Ames, IA 50010	515-986-5476
Iowa DOT Maintenance Garage	Scott Robinson	57073 US Hwy 30	Ames, IA 50010	515-663-6367
Alliant Energy	Heather Dee	200 1st Street SE	Cedar Rapids, IA 52401	319-786-8196
Iowa DOT - TMC	Ashley Hochberger			515-237-3300

LEGEND AND SYMBOL INFORMATION SHEET

# ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Roadway Items : Roadway Items

Item no.	Item Code	Item	Unit	Quantities		Estimate Reference Notes
				Estimated	Roadway Items	
1	2528-8445110	TRAFFIC CONTROL	LS	1	Refer to Traffic Control Plan and additional information on J Sheet.	
2	2533-4980005	MOBILIZATION	LS	1		
3	2599-9999005	('EACH' ITEM) FIBER OPTIC SPLICE (WITH PROTECTIVE SLEEVES)	EACH	144	See Contract Special Provisions for materials, construction, method of measurement and basis of payment. See Table ITS-3 on Sheet C.3.	
4	2599-9999005	('EACH' ITEM) FIBER OPTIC SPLICE CLOSURE (WITH STORAGE BASKETS)	EACH	2		
5	2599-9999005	('EACH' ITEM) FIBER OPTIC SPLICE TRAY (24)	EACH	12		
6	2599-9999005	('EACH' ITEM) HANDHOLE TYPE 24X36X36	EACH	1	See Contract Special Provisions for materials, construction, method of measurement and basis of payment. See Table ITS-1 on C.3.	
7	2599-9999005	('EACH' ITEM) HANDHOLE TYPE 48X30X36	EACH	1	See Contract Special Provisions for materials, construction, method of measurement and basis of payment. See Table ITS-1 on Sheet C.3.	
8	2599-9999009	('LINEAR FEET' ITEM) 2 HDPE CONDUIT, BORED	LF	319	See Contract Special Provisions for materials, construction, method of measurement and basis of payment. See Table ITS-2 on Sheet C.3.	
9	2599-9999009	('LINEAR FEET' ITEM) 2 HDPE CONDUIT, PLOWED	LF	1,683		
10	2599-9999009	('LINEAR FEET' ITEM) 96 SM ARMORED FIBER OPTIC CABLE, INSTALL	LF	2,252	Includes installing DOT furnished 96 SM fiber in conduit and 96 SM fiber coil in handholes. See Contract Special Provisions for materials, construction, method of measurement and basis of payment. See Tables ITS-1 and ITS-2 on Sheet C.3.	
11	2599-9999010	('LUMP SUM' ITEM) FIBER OPTIC ACCEPTANCE TESTING	LS	1	See Contract Special Provisions for materials, construction, method of measurement and basis of payment.	
12	2602-0000309	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 9 IN. DIA.	LF	40	Refer to Standard Road Plan EC-204.  Item is included for temporary perimeter sediment control, inlet protection, and water velocity reduction on slopes or ditches at locations to be determined during construction. Install at the direction of the Engineer. Verify specific locations with the Engineer prior to beginning placement.  Use Perimeter and Slope Sediment Control Devices fabricated using wood excelsior. Use wood excelsior sediment logs	

Item no.	Item Code	Item	Unit	Quantities		Estimate Reference Notes
				Estimated		
				Roadway Items		
13	2602-0000351	REMOVAL OF PERIMETER AND SLOPE OR DITCH CHECK SEDIMENT CONTROL DEVICE	LF	40		Included for removal of perimeter and sediment control devices. All material shall become the property of the contractor and removed from the project within 24 hours.
14	2602-0010010	MOBILIZATIONS, EROSION CONTROL	EACH	1		
15	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL	EACH	1		

<b>100-1D</b> 10-18-05
<b>PROJECT DESCRIPTION</b>
THIS PROJECT INVOLVES INSTALLING CONDUIT, HANDHOLES, AND FIBER OPTIC CABLE, AND SPLICING OF FIBER OPTIC CABLE. FIBER OPTIC CABLE WILL BE INSTALLED STARTING ON THE WEST END OF THE FUTURE S14 NEAR NEVADA, IA. THE FIBER WILL RUN ALONG U.S. 30 ON THE SOUTH SIDE OF U.S. 30 TO THE EAST TIE IN POINT NEAR THE 6TH ST INTERSECTION. THIS WILL COVER APPROXIMATELY 0.5 MILES. SPLICING OF FIBER OPTIC CABLES MUST BE SPLICED IN HANDHOLES AT TWO LOCATIONS ALONG U.S. 30.

<b>111-25</b> 10-18-11																																													
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EX HH 2-1	EXISTING	U.S. 30	75																						
		Subtotal	250																						

<b>232-3C</b> 10-19-21
<b>EROSION CONTROL (NATIVE GRASS SEEDING)</b>
Area to be seeded is estimated to be less than 1 acre. If the Contractor determines the area exceeds 2 acres, notify the Engineer. Approved quantity in excess of 2 acres will be paid for as extra work according to Article 1109.03,B of the Standard Specifications.
Following the completion of work in a disturbed area and according to the seeding dates in Section 2601 of the Standard Specifications, place seed and mulch on the disturbed area lying 8 feet or more beyond the shoulder as follows:

<b>ITS-2</b>																																						
<b>LISTING OF CONDUIT AND FIBER WORK</b>																																						
<table border="1"> <thead> <tr> <th rowspan="2">Conduit Run</th> <th colspan="2">Location</th> <th rowspan="2">2" HDPE Conduit, Bored (LF)</th> <th rowspan="2">2" HDPE Conduit, Plowed (LF)</th> <th rowspan="2">96 SM Armored Fiber (LF)</th> </tr> <tr> <th>From</th> <th>To</th> </tr> </thead> <tbody> <tr> <td>1A</td> <td>HH1-1</td> <td>BORE</td> <td></td> <td>110</td> <td>110</td> </tr> <tr> <td>1B</td> <td>PLOW</td> <td>PLOW</td> <td>319</td> <td></td> <td>319</td> </tr> <tr> <td>1C</td> <td>BORE</td> <td>HH1-2</td> <td></td> <td>343</td> <td>343</td> </tr> <tr> <td>1D</td> <td>HH1-2</td> <td>HH2-1</td> <td></td> <td>1230</td> <td>1230</td> </tr> <tr> <td></td> <td></td> <td>Subtotal</td> <td>319</td> <td>1683</td> <td>2002</td> </tr> </tbody> </table>	Conduit Run	Location		2" HDPE Conduit, Bored (LF)	2" HDPE Conduit, Plowed (LF)	96 SM Armored Fiber (LF)	From	To	1A	HH1-1	BORE		110	110	1B	PLOW	PLOW	319		319	1C	BORE	HH1-2		343	343	1D	HH1-2	HH2-1		1230	1230			Subtotal	319	1683	2002
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1C	BORE	HH1-2		343	343																																	
1D	HH1-2	HH2-1		1230	1230																																	
		Subtotal	319	1683	2002																																	

SEED MIX: Big bluestem (Andropogon gerardii) 6 lbs. PLS/Acre (7.0 kg/ha) Indiangrass (Sorghastrum nutans) 6 lbs. PLS/Acre (7.0 kg/ha) Little bluestem (Schizachyrium scoparium) 6 lbs. PLS/Acre (7.0 kg/ha) Partridge Pea (Chamaecrista fasciculata) 4 lbs. PLS/Acre (4.5 kg/ha) Sideoats grama (Bouteloua curtipendula) 4 lbs. PLS/Acre (4.5 kg/ha) Canada wildrye (Elymus canadensis) 2 lbs. PLS/Acre (2.2 kg/ha) Switchgrass (Panicum virgatum) 1 lbs. PLS/Acre (1.1 kg/ha) Oats (Avena sativa) 32 lbs./Acre (36.0 kg/ha)
Furnish Big bluestem, Indiangrass, Canada wildrye and Little bluestem that is debarbed or equal to facilitate the application of seed.

<b>ITS-3</b>																		
<b>LISTING OF HANDHOLE WORK SPLICING</b>																		
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HH 1-1	48x30x36	U.S. 30	1	6	72													
HH 2-1	EXISTING	U.S. 30	1	6	72													

Furnish seed certified as Source Identified Class (Yellow Tag) Source G0-Iowa. Oats are excluded from this requirement.
Place seed according to the requirements of Article 4169.02 of the Standard Specifications.
Place mulch according to the requirements of Articles 2601.03,E,2,a and 4169.07,A of the Standard Specifications.
Preparing the seedbed, furnishing and applying seed and mulch are incidental to mobilization and will not be paid for separately.

<b>253-1</b> 10-18-11
<b>MEDIAN CROSSOVER</b>
The Contractor is prohibited from using any established or other type median crossover on this project unless specifically designated for the Contractor's use by this plan.

<b>GENERAL NOTES</b>
Misc.
1. Aerial photography shown on plans is for reference only and may not match existing conditions.
2. All existing Iowa DOT ITS devices and Iowa DOT and ICN fiber shall be kept in operation. Contractor shall maintain and protect all existing power and communication cables and devices during construction unless otherwise directed by the engineer.
3. This project does not include purchasing, or installation of, any camera equipment or sensor equipment.
4. The right-of-way, where shown on plans, is approximate only. Right-of-way shall be verified by the contractor prior to construction.
Utilities
5. The contractor shall not disturb any existing utilities except as specifically defined within the scope of work for this contract. Where work affects or is affected by the existing utilities, the work shall be coordinated with the utility company and/or owner. The contractor is responsible for coordinating with the Iowa DOT.
Construction
6. Any and all improvements such as asphalt or concrete pavements, curbs, gutters, walks, drainage ditches, culverts, drain tiles, embankments, shrubs, trees, grass, sod, etc., if damaged, shall be restored to pre-construction conditions (or better) as directed by the engineer at no additional cost to the Iowa DOT.
7. It shall be the contractor's responsibility to repair any existing conduit, conductors, or other facilities damaged during construction. All existing infrastructure removed or damaged by the contractor shall be replaced in kind by the contractor, with no additional compensation.
8. The top six (6) inches of the disturbed areas shall be free of rock and debris and shall be for the establishment of vegetation, subject to the approval of the engineer.
9. The contractor is expected to have materials, equipment, and labor available on a daily basis to install and maintain erosion control features on the project. This may involve seeding, silt fence, rock ditch checks, silt basins, or silt dikes.
10. No open holes or mounds of dirt shall be left unprotected during non-working hours.
Conduit
11. The contractor shall bore all crossings beneath roadways, streets, other paved surfaces, railroad, or other structure. Depth of all bores shall be a minimum of 48 inches unless otherwise specified in plans.
12. Above ground risers shall be rigid steel conduit to a minimum depth of 18 inches below surface. All other conduit shall be HDPE conduit. Rigid P.V.C conduit (Schedule 40 or as approved) may be substituted for underground conduit runs under 25 feet or as otherwise directed by the engineer.
13. The contractor shall plow all conduit where existing conditions allow unless otherwise specified on the plans. The contractor may bore in lieu of plowing at the contractor's expense.
14. Contractor shall attempt to install all conduit adjacent to DOT fence/ROW at the offsets noted on plan sheets. Removal/Disturbance of existing tree growth is allowed; however, removal of obvious DOT plantings shall be avoided. Where thick tree growth results in a need to change installation methods or routing, the engineer should first be notified and approve the requested change.
15. Bore lengths as shown on design plans are to be considered minimum for construction unless otherwise approved by the engineer.
16. All conduit shall be orange HDPE conduit (SDR 13.5). Rigid P.V.C conduit (Schedule 40 or as approved) may be substituted for conduit runs under 25 feet or as otherwise directed by the engineer.
17. Transverse bore pits and receiving pits shall be within 15 feet of ROW line.
18. Contractor shall make an attempt to avoid existing drainage tile. Contractor is responsible for repairing damaged drainage tile.
Fiber
19. In the event it is suspected that cable damage has occurred prior to final acceptance, contractor shall perform OTDR testing of all fiber strands within seventy two (72) hours after notification and submit a copy of the OTDR test to the engineer upon completion.
20. Contractor shall replace or repair, as directed by the engineer, any damage occurring before final acceptance at no additional cost to the Iowa DOT. Perform any repairs or replacements as soon as reasonably possible unless otherwise approved by the engineer. The contractor will not be granted an extension of time for delays caused by replacing or repairing the installed cable.
21. Contractor shall repair or replace any defect in the installed cable at no additional cost to the Iowa DOT. Consider a defect to be any condition resulting in a negative or adverse effect on current or future operations of the completed fiber optic communication system as determined by the engineer.
22. Any existing wiring that is damaged during fiber optic cable installation shall be replaced or repaired, as directed by the engineer, at no additional cost to the Iowa DOT.
23. Coils of 100 feet of fiber cable shall be placed in each Type 24"x36"x36" handhole unless otherwise specified on the plans or the tabulation (Table ITS-1) on sheet C.3. Coils of 150 feet of fiber cable shall be placed in each Type 48"x30"x36" handhole unless otherwise specified on the plans or tabulation (Table ITS-1) on sheet C.3.
24. Contractor shall place tags on all fiber optic cable identifying the owner and direction of the cable at each termination point and in every handhole and splice vault. Tags shall clearly identify where each individual cable run originated and where it ends (handhole to handhole, handhole to cabinet, handhole to building, etc.) For fiber installations with joint department of transportation/other agency (or entity) use where the fiber will be owned by the other agency (or entity), install typical identifiers and/or markings for that fiber.
25. Any existing pull tape that is used as a pull rope for fiber optic cable installation shall be replaced in kind. The cost of any tracer wire or pull tape replacement shall be subsidiary to the fiber optic cable installation.

<b>105-4</b> 10-18-11															
<b>STANDARD ROAD PLANS</b>															
The following Standard Road Plans apply to construction work on this project.															
<table border="1"> <thead> <tr> <th>Number</th> <th>Date</th> <th>Title</th> </tr> </thead> <tbody> <tr> <td>EC-204</td> <td>10-19-21</td> <td>Perimeter, Slope and Ditch Check Sediment Control Devices</td> </tr> <tr> <td>TC-1</td> <td>10-15-19</td> <td>Work Not Affecting Traffic (Two-Lane or Multi-Lane)</td> </tr> <tr> <td>TC-402</td> <td>10-19-21</td> <td>Work Within 15 ft of Traveled Way</td> </tr> <tr> <td>TC-418</td> <td>04-19-22</td> <td>Lane Closure on Divided Highway</td> </tr> </tbody> </table>	Number	Date	Title	EC-204	10-19-21	Perimeter, Slope and Ditch Check Sediment Control Devices	TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)	TC-402	10-19-21	Work Within 15 ft of Traveled Way	TC-418	04-19-22	Lane Closure on Divided Highway
Number	Date	Title													
EC-204	10-19-21	Perimeter, Slope and Ditch Check Sediment Control Devices													
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)													
TC-402	10-19-21	Work Within 15 ft of Traveled Way													
TC-418	04-19-22	Lane Closure on Divided Highway													

FILE NO.	ENGLISH	DESIGN TEAM	VAN DYKE\HNTB	STORY COUNTY	PROJECT NUMBER	ITS-030-5(295)--25-85	SHEET NUMBER	C.3
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108-23A  
08-01-08

**TRAFFIC CONTROL PLAN**

1. TRAFFIC SHALL BE MAINTAINED AT ALL TIMES. TEMPORARY LANE CLOSURES WILL NOT BE ALLOWED EXCEPT AS PROVIDED IN NOTE 2.
2. A. U.S. 30: SINGLE LANE CLOSURES WILL BE ALLOWED AT ALL TIMES EXCEPT 6:00 AM TO 8:00 AM AND 4:00 PM TO 6:00 PM WEEKDAYS MONDAY THROUGH FRIDAY. SEE TABLE 108-23B.  
B. ALL LOCAL CITY STREETS: SINGLE LANE CLOSURES WILL BE ALLOWED AT ALL TIMES EXCEPT 6:00 AM TO 8:00 AM AND 4:00 PM TO 6:00 PM WEEKDAYS MONDAY THROUGH FRIDAY.
3. SHOULDER CLOSURES WILL BE ALLOWED AT ALL TIMES EXCEPT 6:00 AM TO 8:00 AM AND 4:00 PM TO 6:00 PM WEEKDAYS MONDAY THROUGH FRIDAY.
4. THE CONTRACTOR SHALL COORDINATE TRAFFIC CONTROL WITH OTHER PROJECTS AS DESCRIBED ON STANDARD NOTATION 111-01.
5. THE CONTRACTOR SHALL MAINTAIN A CLEAN PAVEMENT LEADING INTO AND OUT OF THE WORK AREA AT ALL TIMES.
6. ANY DISTURBED AREAS MUST BE RESTORED AND LEVEL WITH THE SURROUNDING PAVEMENT EACH NIGHT. DAYTIME DROP-OFFS SHALL NOT BE ALLOWED.
7. TRAFFIC CONTROL MEASURES USED FOR BORE PITS LOCATED WITHIN THE CLEAR ZONE MUST REMAIN IN PLACE IF THE BORE PITS ARE LEFT OVERNIGHT.

111-01  
04-17-12

**COORDINATED OPERATIONS**

Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.

Project	Type of Work
NHSX-030-5(276)--3H-85	Grading and Paving
NHSX-030-5(277)--3H-85	Bridge
NHSX-030-5(291)--3H-85	Traffic Signs

108-23B  
10-17-17

\* This is to only be used in conjunction with Tabulation 108-23A  
Shaded area indicates times that lane closures are not allowed

**TRAFFIC CONTROL CLOSURE TABLE(S)**

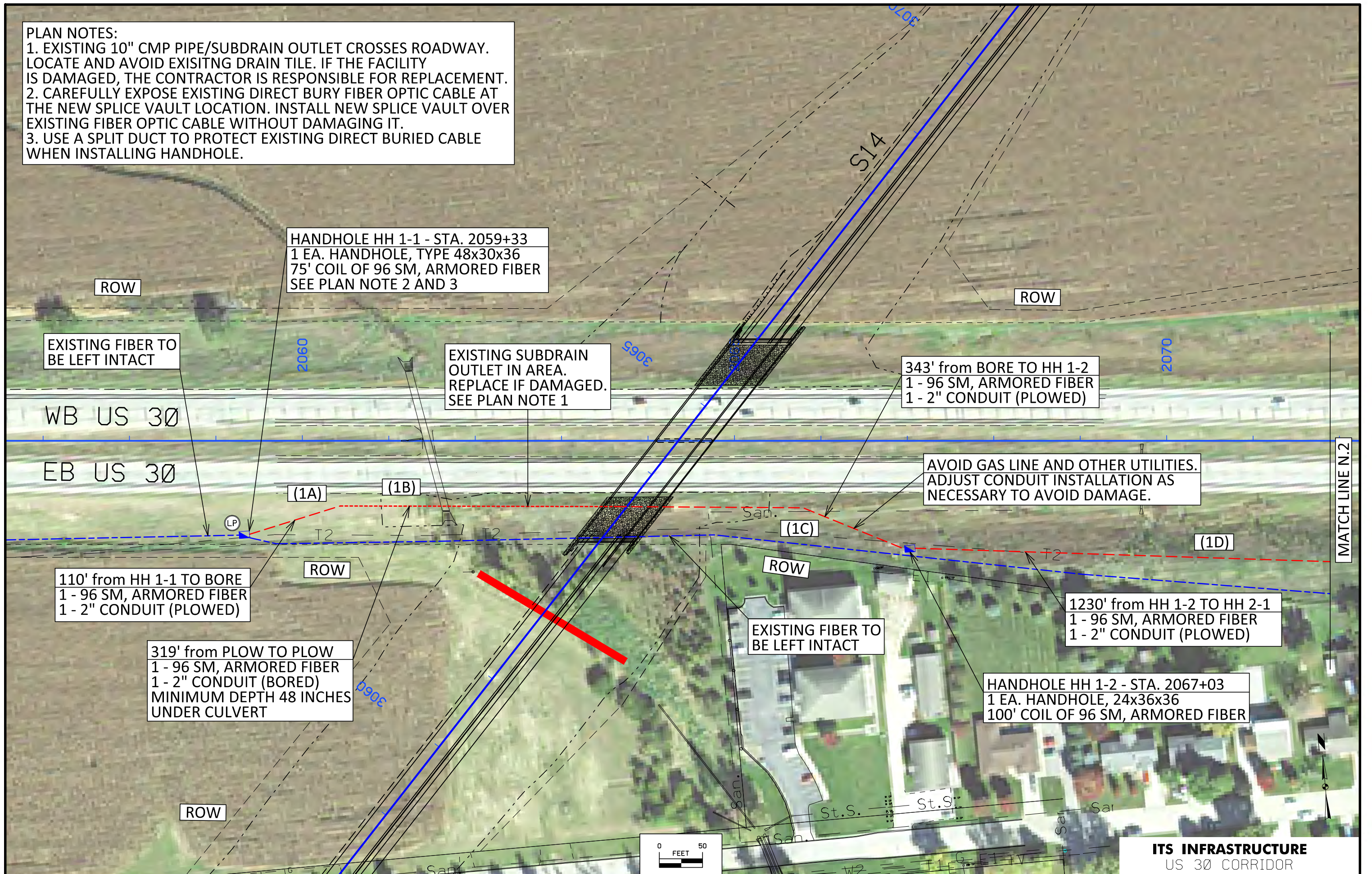
	AM														NOON	PM																																								
	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00	5:30	6:00	6:30	7:00	7:30	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00	5:30	6:00	6:30	7:00	7:30	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30								
SUN																																																								
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**TRAFFIC CONTROL SHEET**



**PLAN NOTES:**

1. EXISTING 10" CMP PIPE/SUBDRAIN OUTLET CROSSES ROADWAY. LOCATE AND AVOID EXISTING DRAIN TILE. IF THE FACILITY IS DAMAGED, THE CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT.
2. CAREFULLY EXPOSE EXISTING DIRECT BURY FIBER OPTIC CABLE AT THE NEW SPLICE VAULT LOCATION. INSTALL NEW SPLICE VAULT OVER EXISTING FIBER OPTIC CABLE WITHOUT DAMAGING IT.
3. USE A SPLIT DUCT TO PROTECT EXISTING DIRECT BURIED CABLE WHEN INSTALLING HANDHOLE.



**HANDHOLE HH 1-1 - STA. 2059+33**  
 1 EA. HANDHOLE, TYPE 48x30x36  
 75' COIL OF 96 SM, ARMORED FIBER  
 SEE PLAN NOTE 2 AND 3

EXISTING FIBER TO BE LEFT INTACT

EXISTING SUBDRAIN OUTLET IN AREA. REPLACE IF DAMAGED. SEE PLAN NOTE 1

343' from BORE TO HH 1-2  
 1 - 96 SM, ARMORED FIBER  
 1 - 2" CONDUIT (PLOWED)

AVOID GAS LINE AND OTHER UTILITIES. ADJUST CONDUIT INSTALLATION AS NECESSARY TO AVOID DAMAGE.

110' from HH 1-1 TO BORE  
 1 - 96 SM, ARMORED FIBER  
 1 - 2" CONDUIT (PLOWED)

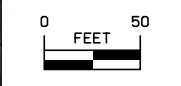
319' from PLOW TO PLOW  
 1 - 96 SM, ARMORED FIBER  
 1 - 2" CONDUIT (BORED)  
 MINIMUM DEPTH 48 INCHES UNDER CULVERT

1230' from HH 1-2 TO HH 2-1  
 1 - 96 SM, ARMORED FIBER  
 1 - 2" CONDUIT (PLOWED)

**HANDHOLE HH 1-2 - STA. 2067+03**  
 1 EA. HANDHOLE, 24x36x36  
 100' COIL OF 96 SM, ARMORED FIBER

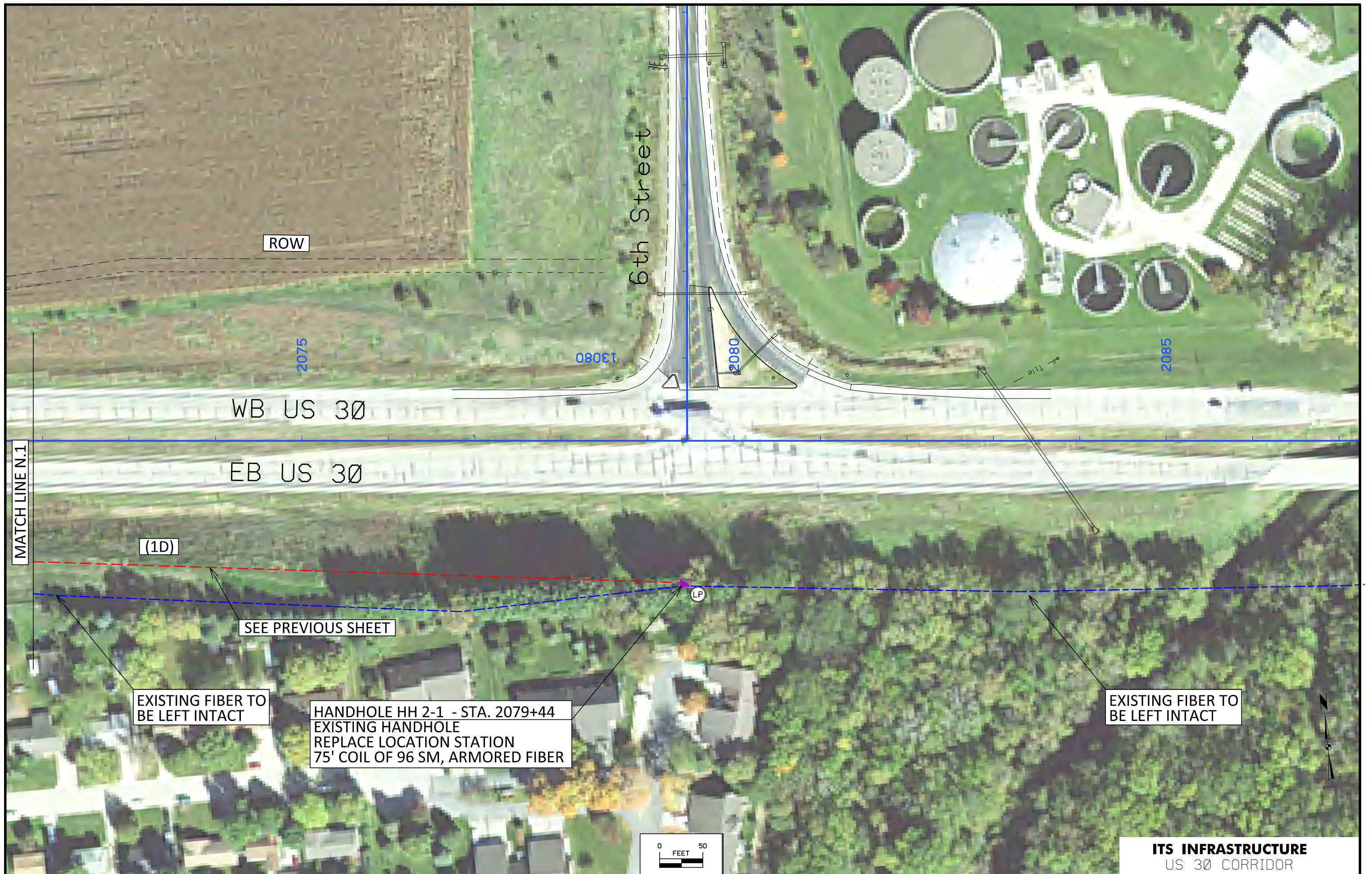
EXISTING FIBER TO BE LEFT INTACT

MATCH LINE N.2



**ITS INFRASTRUCTURE**  
 US 30 CORRIDOR





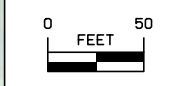
EXISTING FIBER TO BE LEFT INTACT

HANDHOLE HH 2-1 - STA. 2079+44  
 EXISTING HANDHOLE  
 REPLACE LOCATION STATION  
 75' COIL OF 96 SM, ARMORED FIBER

EXISTING FIBER TO BE LEFT INTACT

SEE PREVIOUS SHEET

MATCH LINE N.1



**ITS INFRASTRUCTURE**  
 US 30 CORRIDOR



PLAN NOTE:  
1. SPLICE DETAILS WILL BE PROVIDED BY THE IOWA DOT.

HANDHOLE HH 1-1 - STA. 2059+33  
EXISTING HANDHOLE, TYPE 48x30x36  
EXISTING 75' COIL OF 96 SM, ARMORED FIBER  
EXISTING LOCATE STATION  
1 EA. SPLICE CLOSURE  
6 EA. FIBER OPTIC 24 CT SPLICE TRAY  
72 EA. FIBER OPTIC SPLICE  
SEE PLAN NOTE 1

110' from HH 1-1 TO BORE  
EXISTING 96 SM, ARMORED FIBER  
EXISTING 2" CONDUIT

343' from BORE TO HH 1-2  
EXISTING 96 SM, ARMORED FIBER  
EXISTING 2" CONDUIT

1230' from HH 1-2 TO HH 2-1  
EXISTING 96 SM, ARMORED FIBER  
EXISTING 2" CONDUIT

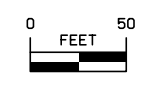
HANDHOLE HH 1-2 - STA. 2067+03  
EXISTING HANDHOLE, 24x36x36  
EXISTING 100' COIL OF 96 SM, ARMORED FIBER

CAREFULLY EXPOSE EXISTING DIRECT BURY FIBER OPTIC CABLE FROM THE EXISTING HANDHOLE TO 80' EAST. CUT EXISTING CABLE 75' FROM THE HANDHOLE. PULL EXISTING CABLE BACK INTO THE HANDHOLE FOR SPLICING TO THE NEW CABLE.

319' from PLOW TO PLOW  
EXISTING 96 SM, ARMORED FIBER  
EXISTING 2" CONDUIT

EXISTING FIBER TO BE LEFT INTACT

EXISTING FIBER TO BE ABANDONED AFTER CUT OVER

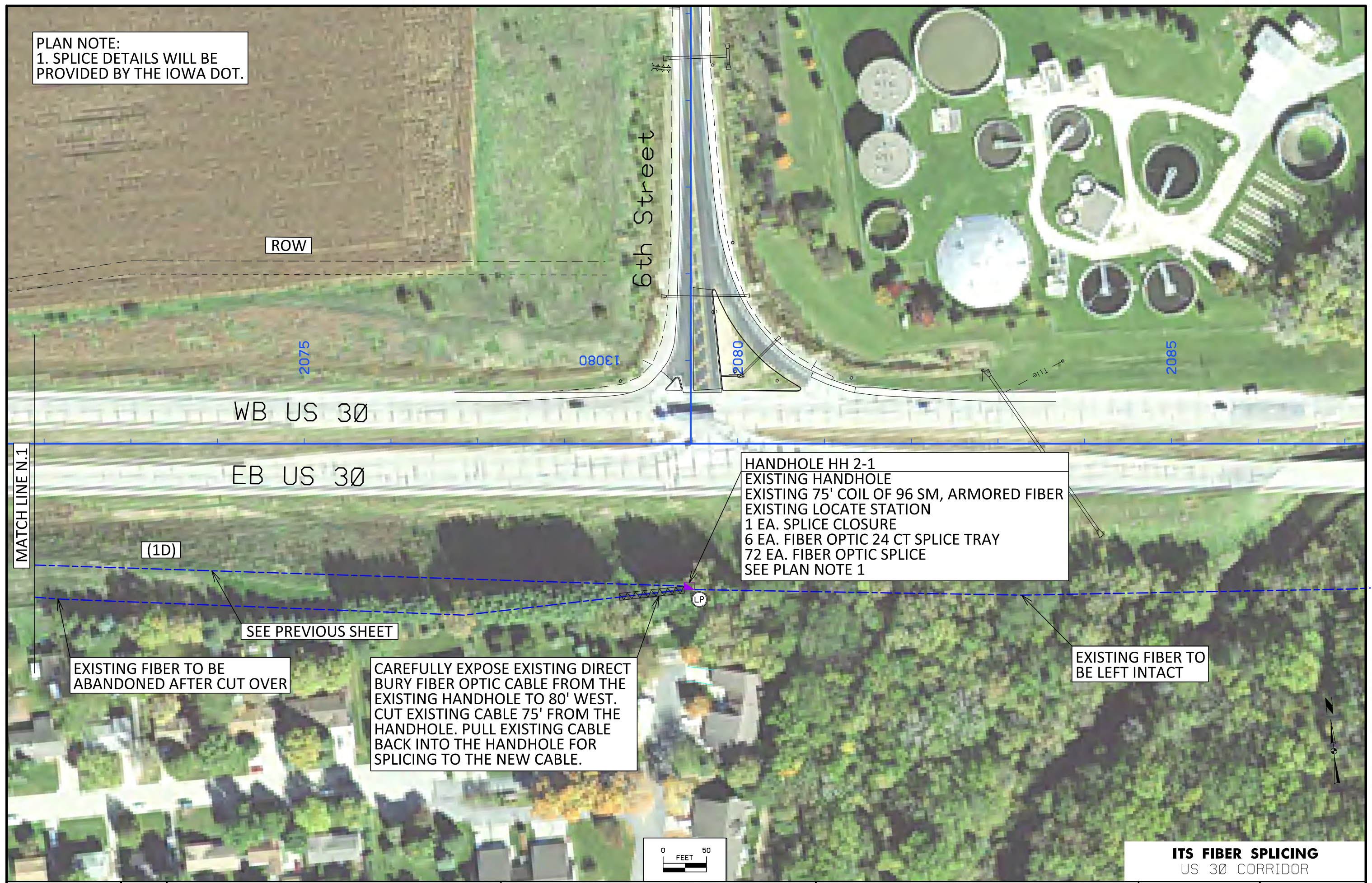


MATCH LINE N.2

**ITS FIBER SPLICING**  
US 30 CORRIDOR



PLAN NOTE:  
1. SPLICE DETAILS WILL BE PROVIDED BY THE IOWA DOT.

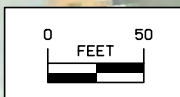


**HANDHOLE HH 2-1**  
 EXISTING HANDHOLE  
 EXISTING 75' COIL OF 96 SM, ARMORED FIBER  
 EXISTING LOCATE STATION  
 1 EA. SPLICE CLOSURE  
 6 EA. FIBER OPTIC 24 CT SPLICE TRAY  
 72 EA. FIBER OPTIC SPLICE  
 SEE PLAN NOTE 1

EXISTING FIBER TO BE ABANDONED AFTER CUT OVER

CAREFULLY EXPOSE EXISTING DIRECT BURY FIBER OPTIC CABLE FROM THE EXISTING HANDHOLE TO 80' WEST. CUT EXISTING CABLE 75' FROM THE HANDHOLE. PULL EXISTING CABLE BACK INTO THE HANDHOLE FOR SPLICING TO THE NEW CABLE.

EXISTING FIBER TO BE LEFT INTACT



**ITS FIBER SPLICING**  
US 30 CORRIDOR



### LINE STYLE LEGEND OF EROSION CONTROL SHEETS

	Silt Fence
	Perimeter and Slope Sediment Control Device (9")
	Perimeter and Slope Sediment Control Device (12")
	Perimeter and Slope Sediment Control Device (20")
	Open-Throat Curb Intake Sediment Filter
	Concentrated Flow
	Sheet Flow

### CELL LEGEND OF EROSION CONTROL SHEETS

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

### PLAN VIEW COLOR LEGEND OF EROSION CONTROL SHEETS

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

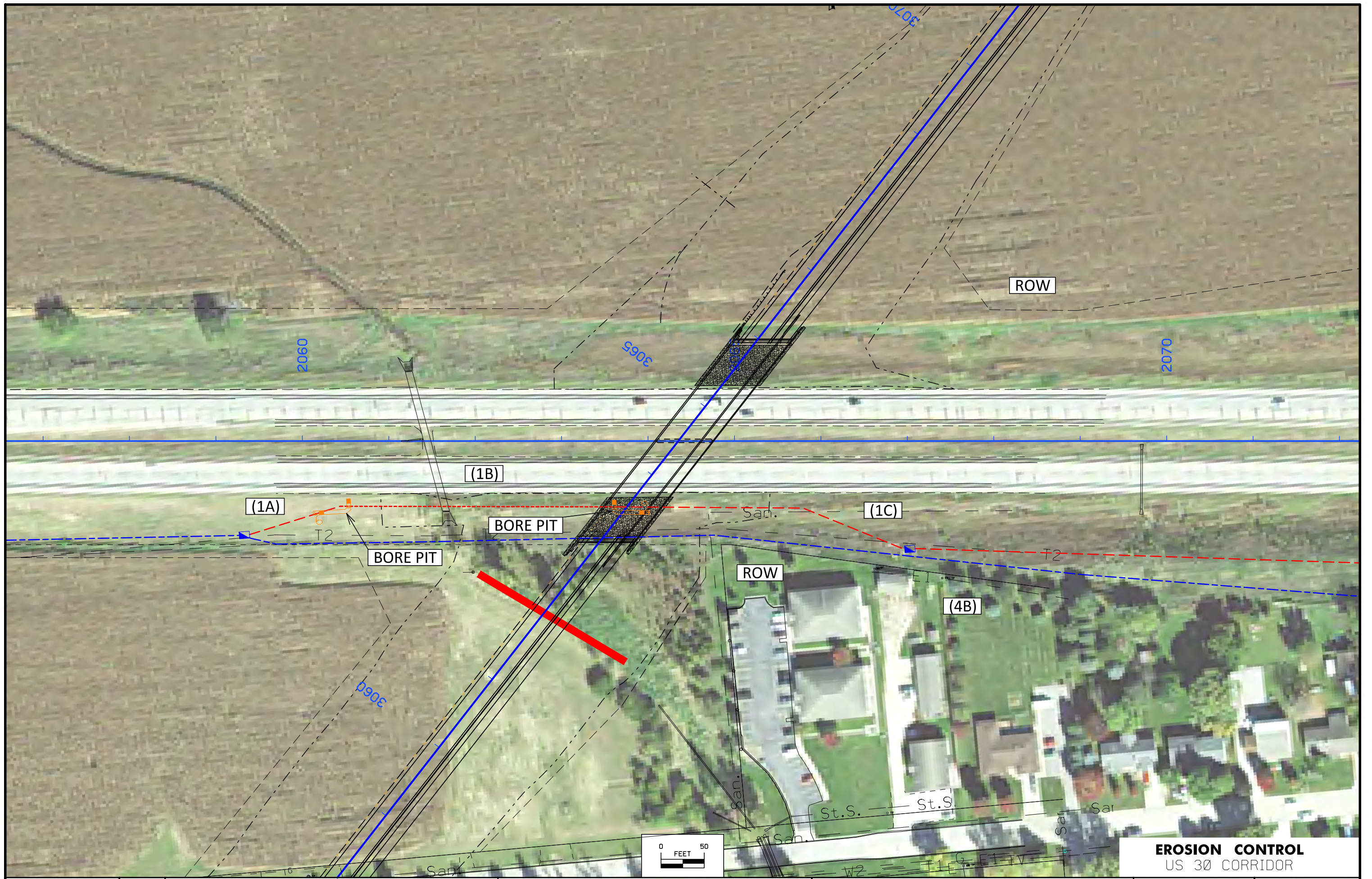
SHADING	Design Color No.		Transparency
Citron	(234)	Mulching, All Types	50%
Light Brown	(238)	Special Ditch Control, Wood Excelsior Mat	0%

### PATTERN LEGEND OF EROSION CONTROL SHEETS

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

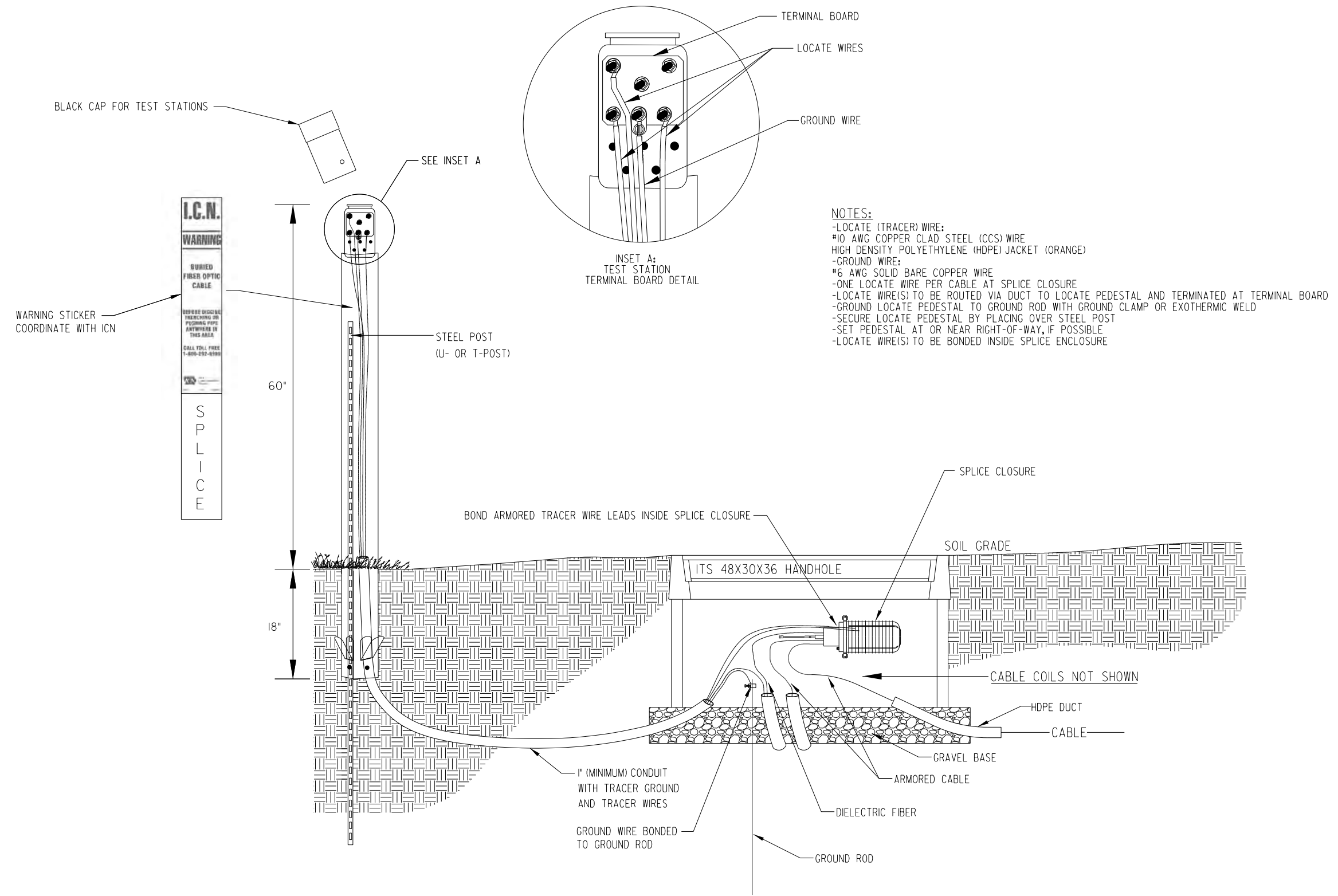
## EROSION CONTROL LEGEND AND SYMBOL INFORMATION SHEET





FILE NO.	ENGLISH	DESIGN TEAM	VAN DYKE\HNTB	STORY	COUNTY	PROJECT NUMBER	ITS-030-5(295)--25-85	SHEET NUMBER	RR.2
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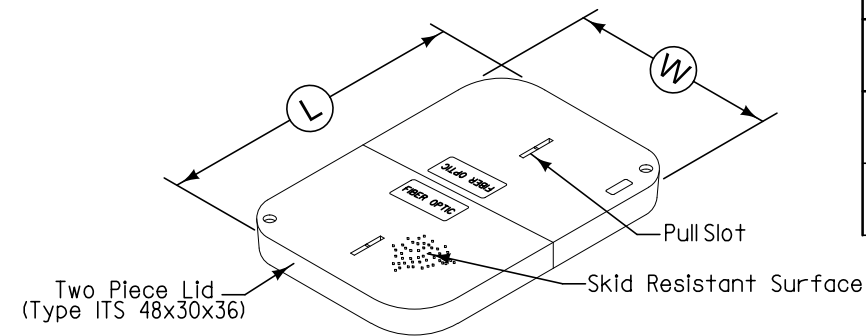
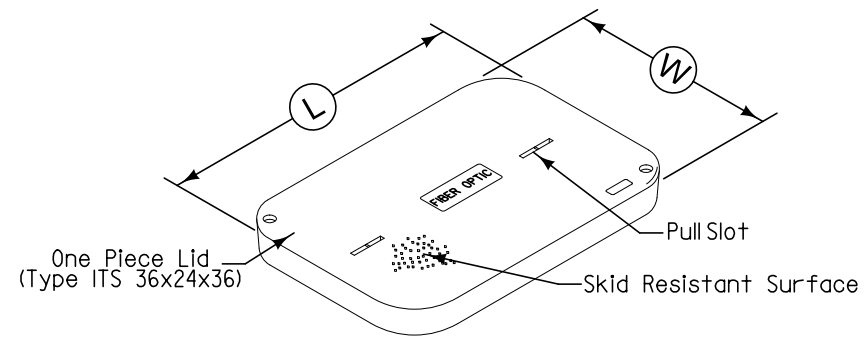


U.OI-1- LOCATE STATION DETAIL WITH SPLICE CLOSURE GROUND KIT  
NOT TO SCALE

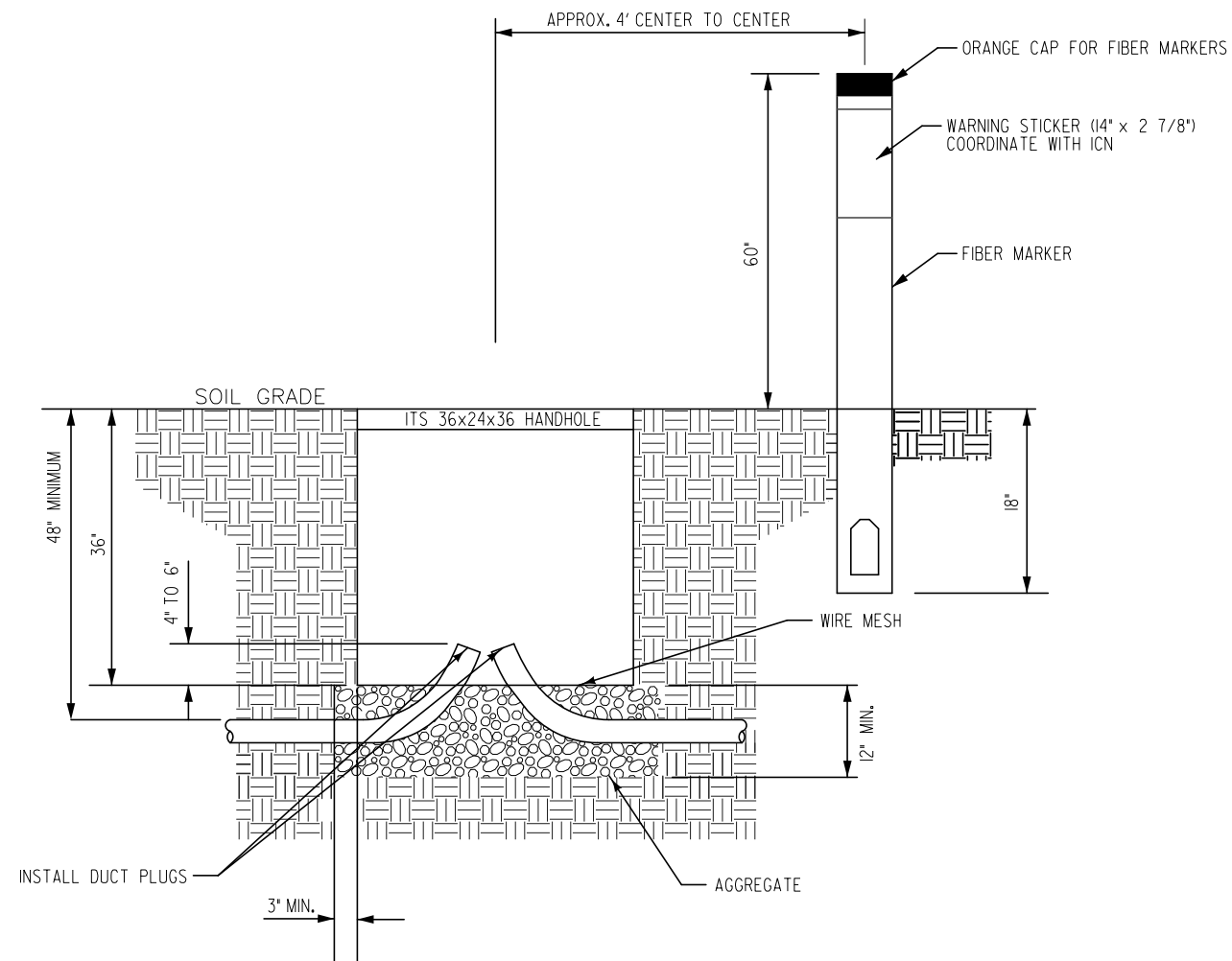
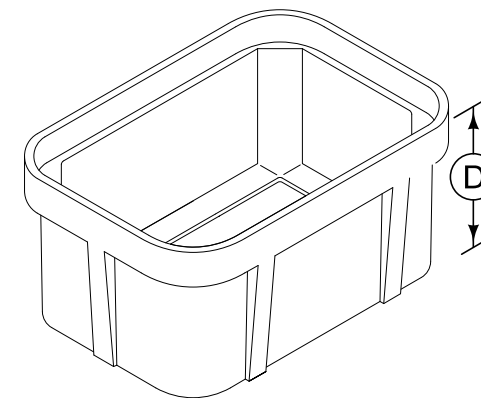
**LOCATE STATION DETAIL WITH SPLICE CLOSURE GROUND KIT**

FILE NO.	ENGLISH	DESIGN TEAM	VAN DYKE\HNTB	STORY	COUNTY	PROJECT NUMBER	ITS-030-5(295)--25-85	SHEET NUMBER	U.1
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HANDHOLE DIMENSIONS TABLE (NOMINAL)			
TYPE	L	W	D
ITS 36x24x36	36"	24"	36"
ITS 48x30x36	48"	30"	36"



U.02-1 - ITS 36x24x36 HANDHOLE WITH FIBER MARKER  
NOT TO SCALE

U.02-2 - ITS HANDHOLES  
NOT TO SCALE

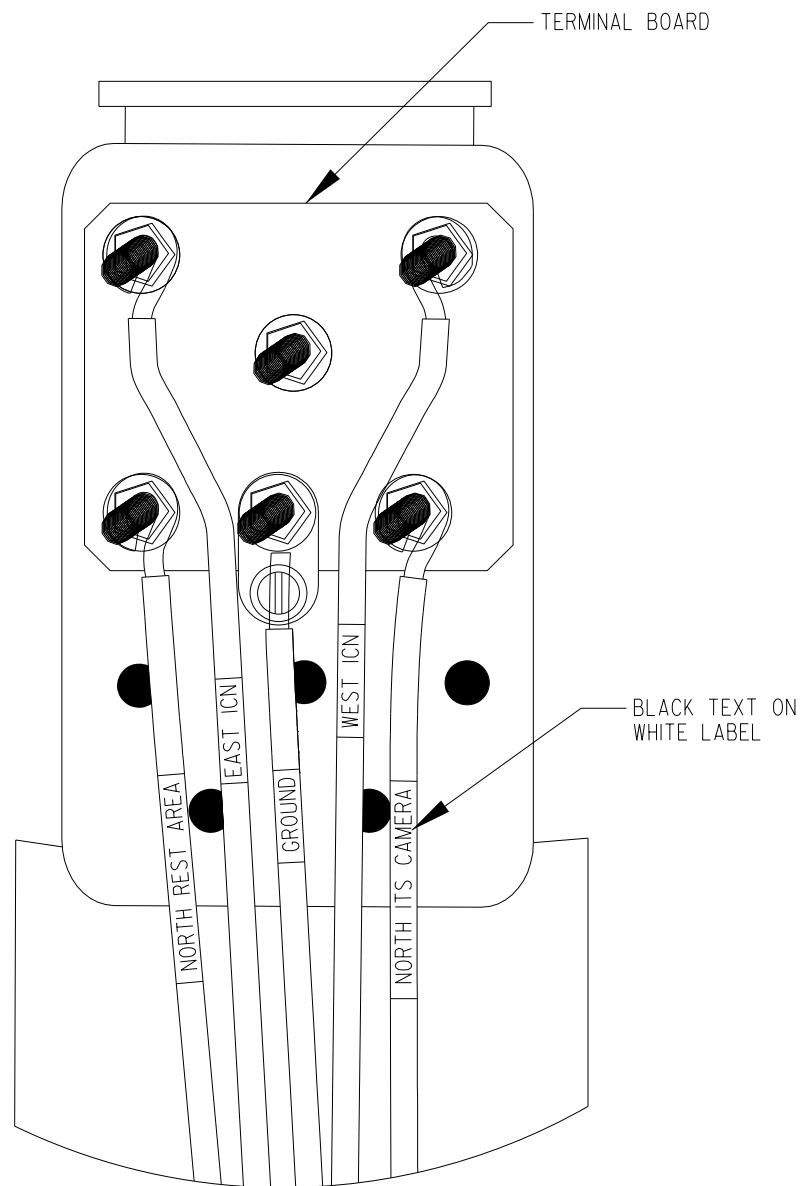
HANDHOLE GENERAL NOTES

- HANDHOLES SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND AS INDICATED HEREIN AND AS PER THE SPECIAL PROVISIONS.
- ALL HANDHOLE COVERS SHALL HAVE AN APPROVED ANTI-SKID PATTERN.
- HANDHOLES SHALL REST FIRMLY ON A BED OF PORTLAND CEMENT CONCRETE FINE AGGREGATE GRADATION NO.1 WITH A MINIMUM DEPTH OF 12" BELOW THE BOTTOM OF THE HANDHOLE, EXTENDING AT LEAST 3" BEYOND THE OUTSIDE EDGES OF THE PULL BOX.
- DO NOT INSTALL LID BOLTS.
- AFTER TRACER WIRE IS INSTALLED, ALL DUCT TERMINAL ENDS IN HANDHOLES SHALL BE SEALED AGAINST ENTRY OF MOISTURE BY METHODS STATED IN SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.
- ALL LIDS SHALL BE LABELED. ALL ITS HANDHOLE LIDS SHALL BE LABELED 'FIBER OPTIC'.
- NO CONDUIT MAY ENTER THROUGH SIDE WALL OF HANDHOLES, THEY MUST ENTER FROM THE BOTTOM.

**HANDHOLE DETAILS**

U.03-1- TEST STATION LABELING

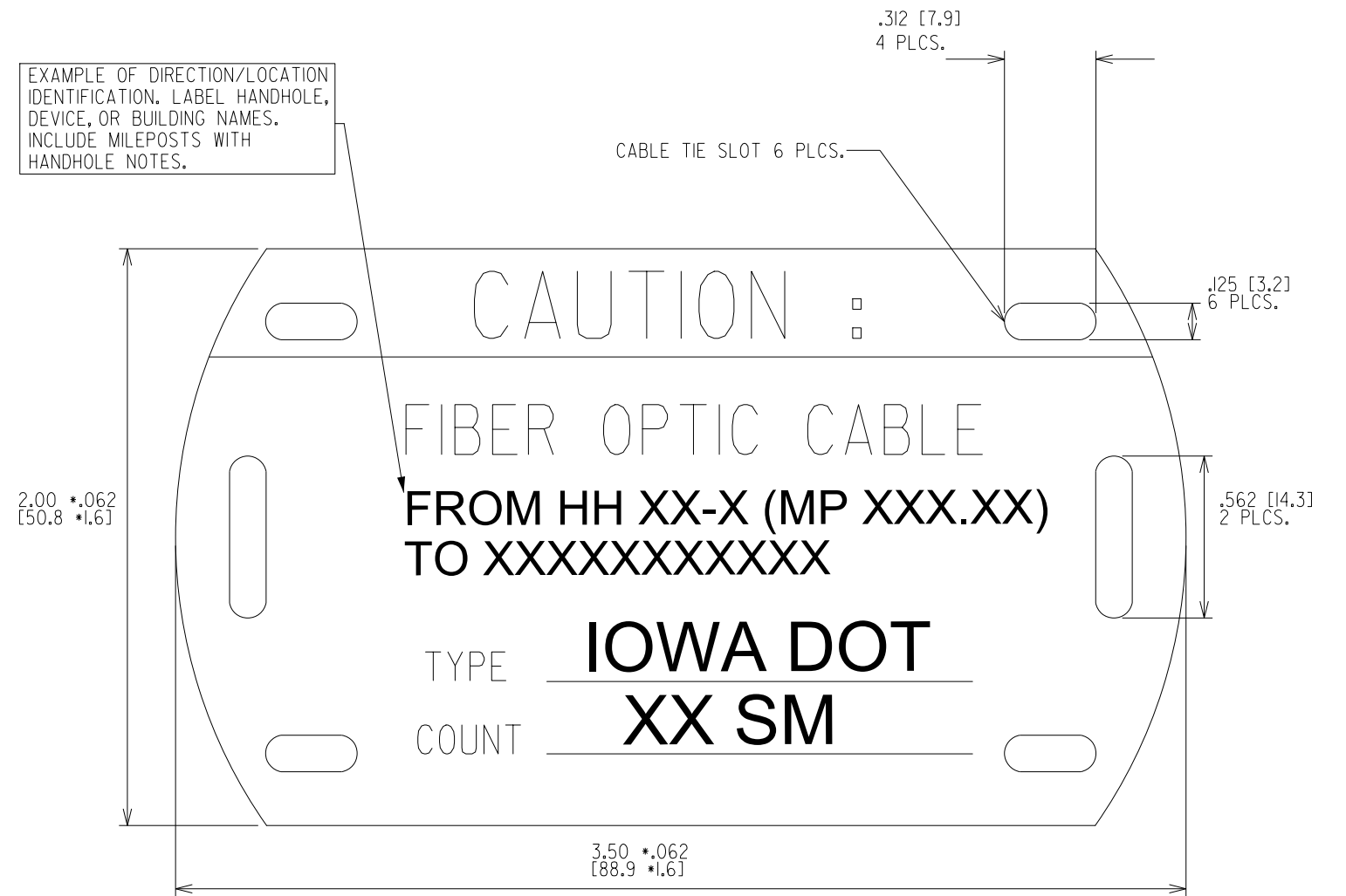
NOT TO SCALE



U.03-2 - FIBER AND POWER CABLE LABELING

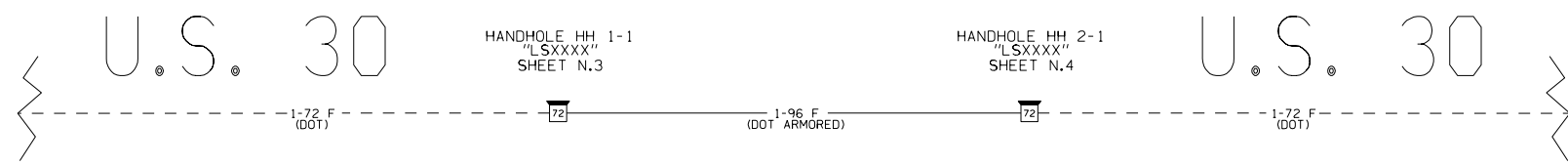
NOT TO SCALE

EXAMPLE OF DIRECTION/LOCATION IDENTIFICATION, LABEL HANDHOLE, DEVICE, OR BUILDING NAMES. INCLUDE MILEPOSTS WITH HANDHOLE NOTES.




FIBER OPTIC CABLE LABELING DETAILS

6TH STREET



LEGEND

-  FIBER TERMINATION PANEL WITH NUMBER OF TERMINATIONS (BY OTHERS)
-  SPLICE CLOSURE WITH NUMBER OF SPLICES (BY OTHERS)
-  EXISTING CAMERA CCTV XX
-  CAMERA CCTV XX
-  SENSOR CRDS XX (BY OTHERS)
-  EXISTING RADIO
-  EXISTING WIRELESS LINK
-  EXISTING SWITCH
-  NEW SWITCH
-  CAT-6 CABLE
-  SERIAL CONNECTION (BY OTHERS)
-  PEDESTAL MOUNT DEVICE/DMS CABINET (EXISTING)
-  POLE MOUNT DEVICE/DMS CABINET (EXISTING)
-  XX (DOT)— DOT FIBER WITH NUMBER OF FIBER STRANDS



NOT TO SCALE

U.04-1 - NETWORK ARCHITECTURE

NOT TO SCALE

**NETWORK ARCHITECTURE**

FILE NO.	ENGLISH	DESIGN TEAM <b>VAN DYKE\HNTB</b>	STORY	COUNTY	PROJECT NUMBER <b>ITS-030-5(295)--25-85</b>	SHEET NUMBER <b>U.4</b>
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