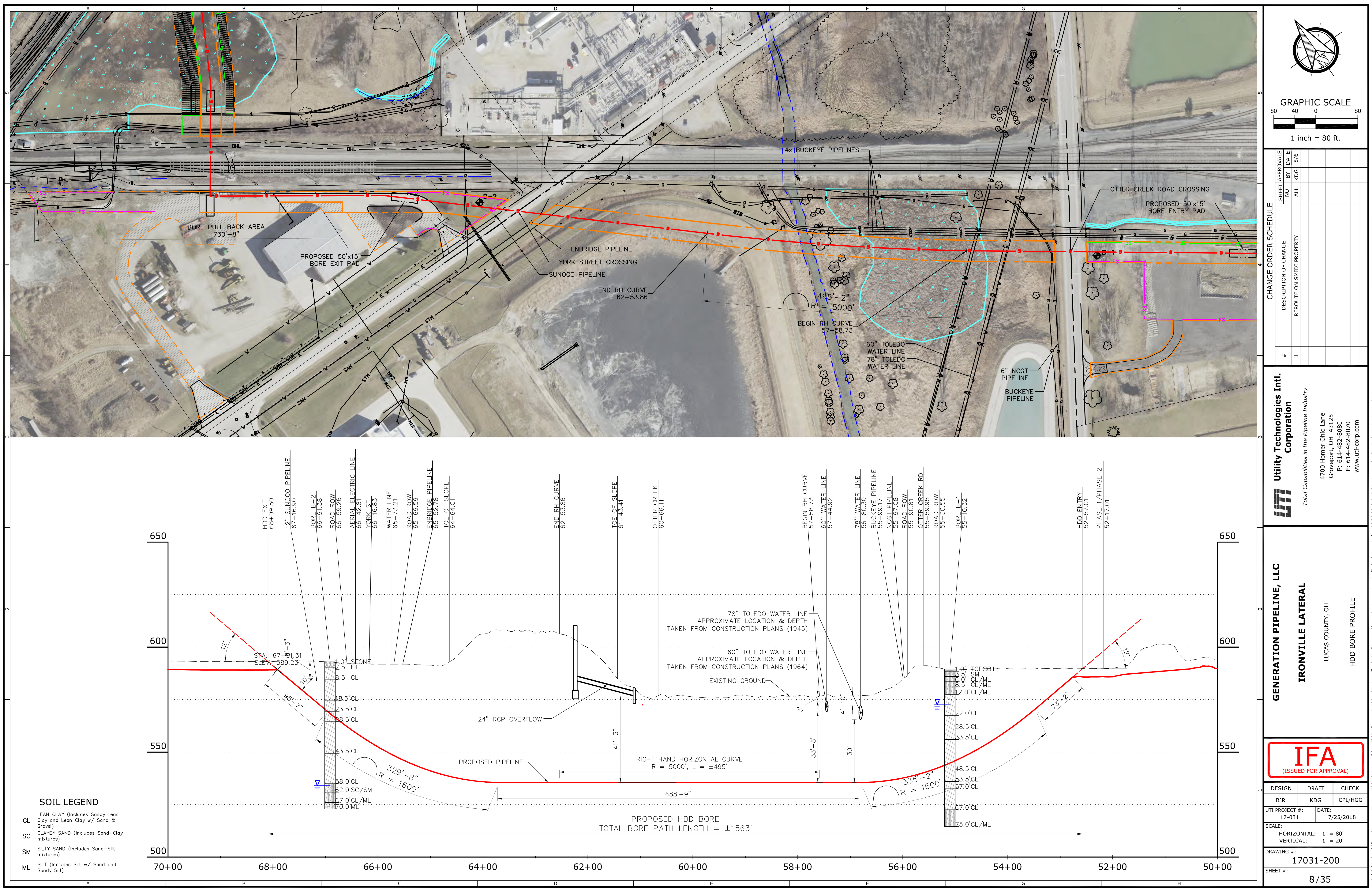

GRAPHIC SCALE
1 inch = 80 ft.
CHANGE ORDER SCHEDULE
DESCRIPTION OF CHANGE
REROUTE ON SMIDI PROPERTY
SHEET APPROVALS
NO. BY DATE
ALL KDG 8/6
Utility Technologies Intl. Corporation
Total Capabilities in the Pipeline Industry
4700 Homer Ohio Lane
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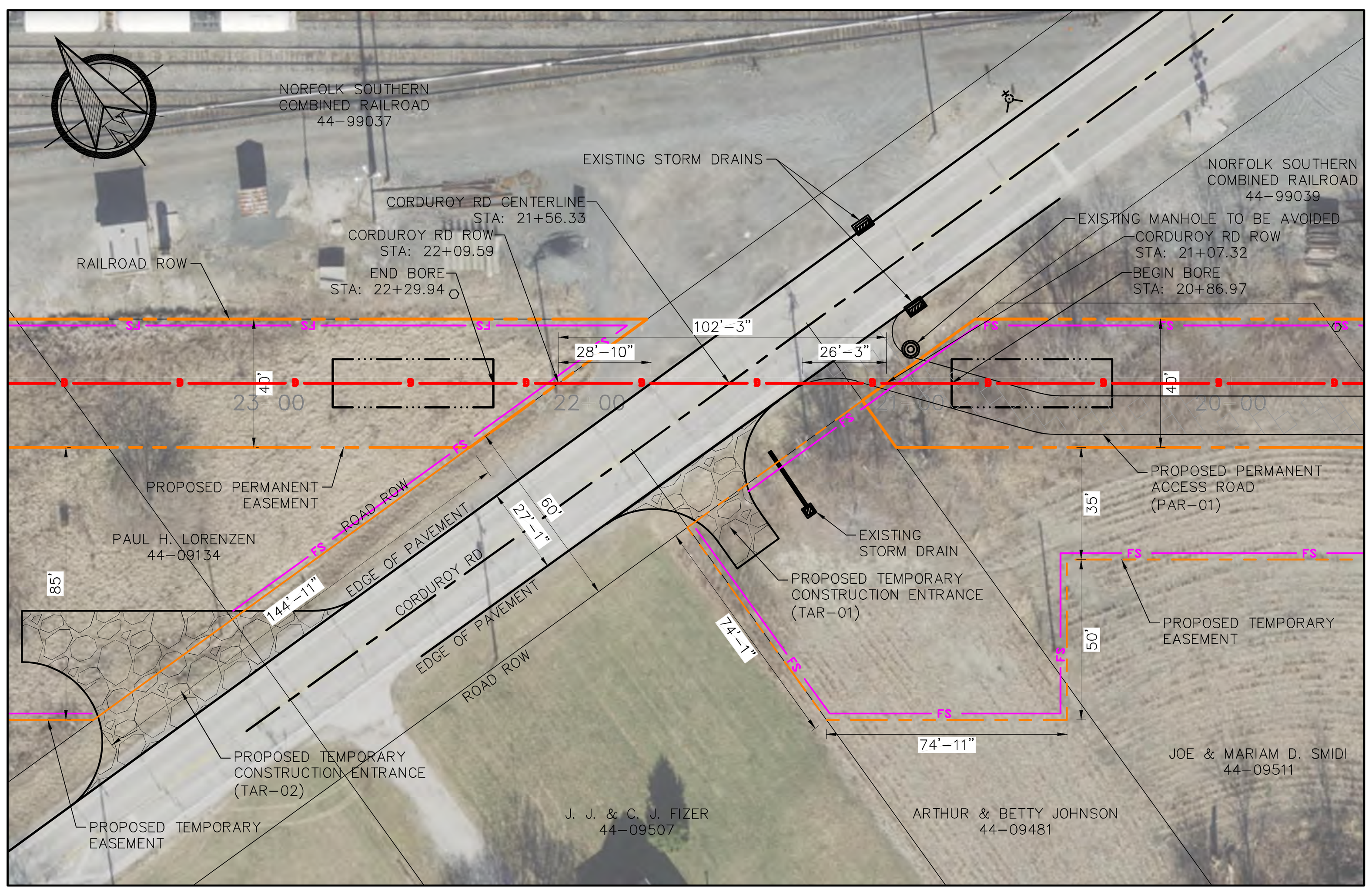
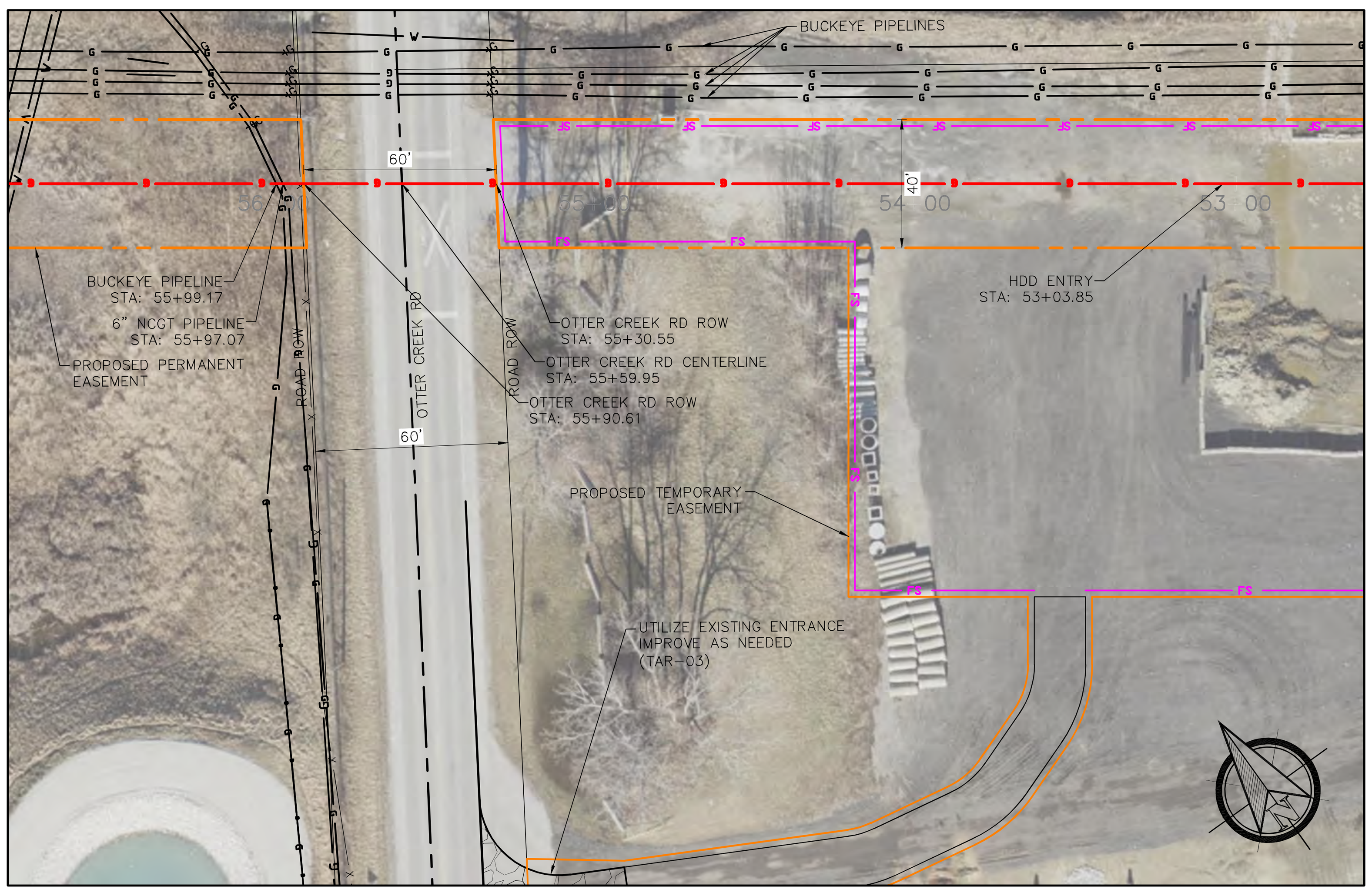
GENERATION PIPELINE, LLC
IRONVILLE LATERAL
LUCAS COUNTY, OH
HDD BORE PROFILE
IFA
(ISSUED FOR APPROVAL)
DESIGN BJR
DRAFT KDG
CHECK CPL/HGG
UTI PROJECT #: 17-031
DATE: 7/25/2018
SCALE: HORIZONTAL: 1" = 80' VERTICAL: 1" = 20'
DRAWING #: 17031-200
SHEET #: 8/35
BORE PULL BACK AREA 730'-8"
PROPOSED 50'x15' BORE EXIT PAD
ENBRIDGE PIPELINE
YORK STREET CROSSING
SUNOCO PIPELINE
END RH CURVE 62+53.86
4x BUCKEYE PIPELINES
OTTER CREEK ROAD CROSSING
PROPOSED 50'x15' BORE ENTRY PAD
495'-2" R = 5000'
BEGIN RH CURVE 57+58.73
60" TOLEDO WATER LINE
78" TOLEDO WATER LINE
6" NCGT PIPELINE
BUCKEYE PIPELINE
78" TOLEDO WATER LINE APPROXIMATE LOCATION & DEPTH TAKEN FROM CONSTRUCTION PLANS (1945)
60" TOLEDO WATER LINE APPROXIMATE LOCATION & DEPTH TAKEN FROM CONSTRUCTION PLANS (1964)
EXISTING GROUND
24" RCP OVERFLOW
PROPOSED PIPELINE
RIGHT HAND HORIZONTAL CURVE R = 5000', L = ±495'
688'-9"
329'-8" R = 1600'
335'-2" R = 1600'
PROPOSED HDD BORE
TOTAL BORE PATH LENGTH = ±1563'
STA. 67+91.31 ELEV. 589.23'
SOIL LEGEND
CL LEAN CLAY (Includes Sandy Lean Clay and Lean Clay w/ Sand & Gravel)
SC CLAYEY SAND (Includes Sand–Clay mixtures)
SM SILTY SAND (Includes Sand–Silt mixtures)
ML SILT (Includes Silt w/ Sand and Sandy Silt)
650
600
550
500
70+00
68+00
66+00
64+00
62+00
60+00
58+00
56+00
54+00
52+00
50+00



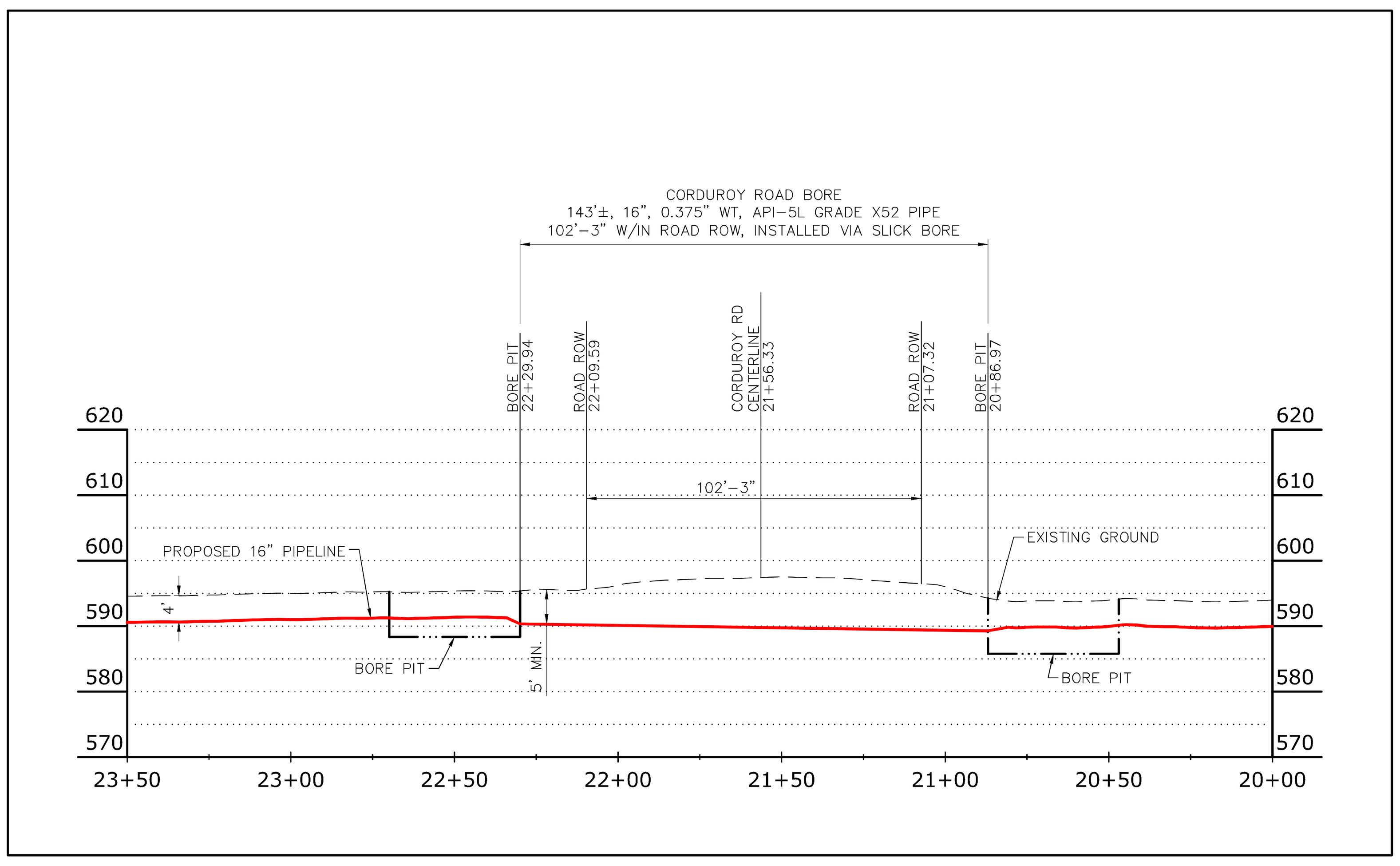
CORDUROY RD CROSSING PLAN VIEW

HORIZONTAL SCALE: 1" = 30'



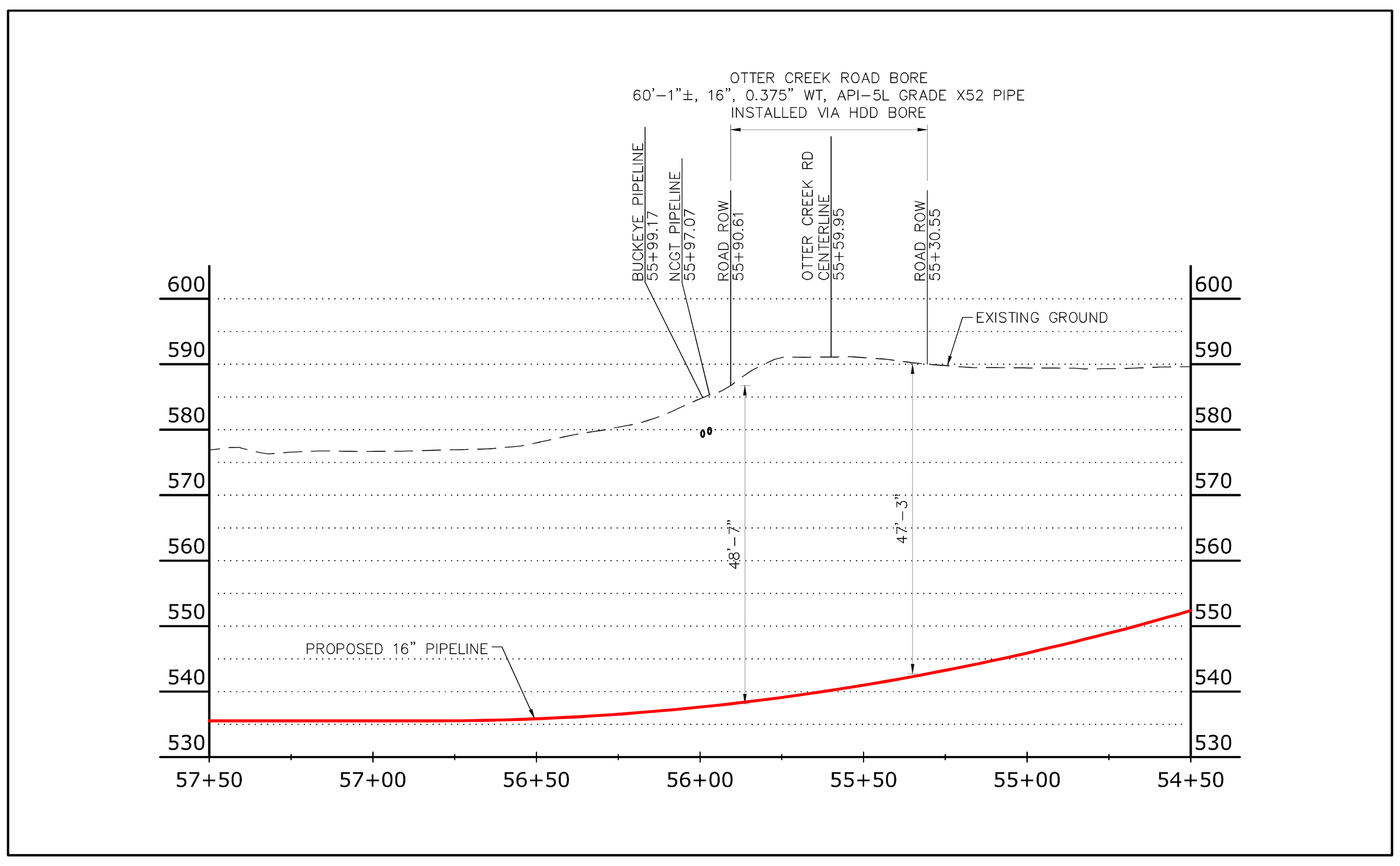
OTTER CREEK RD CROSSING PLAN VIEW

HORIZONTAL SCALE: 1" = 30'



CORDUROY RD CROSSING PROFILE VIEW

HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 15'



OTTER CREEK RD CROSSING PROFILE VIEW

HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 15'

GRAPHIC SCALE

30' 15' 0 30'

1 inch = 30 ft.

CHANGE ORDER SCHEDULE

#	DESCRIPTION OF CHANGE	SHEET NO.	APPROVALS BY	DATE
1	REROUTE ON SMIDI PROPERTY	ALL	KDG	8/6

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IRONVILLE LATERAL

LUCAS COUNTY, OH

ROAD CROSSING DETAILS

IFA
(ISSUED FOR APPROVAL)

DESIGN	DRAFT	CHECK
BJR	KDG	CPL/HGG

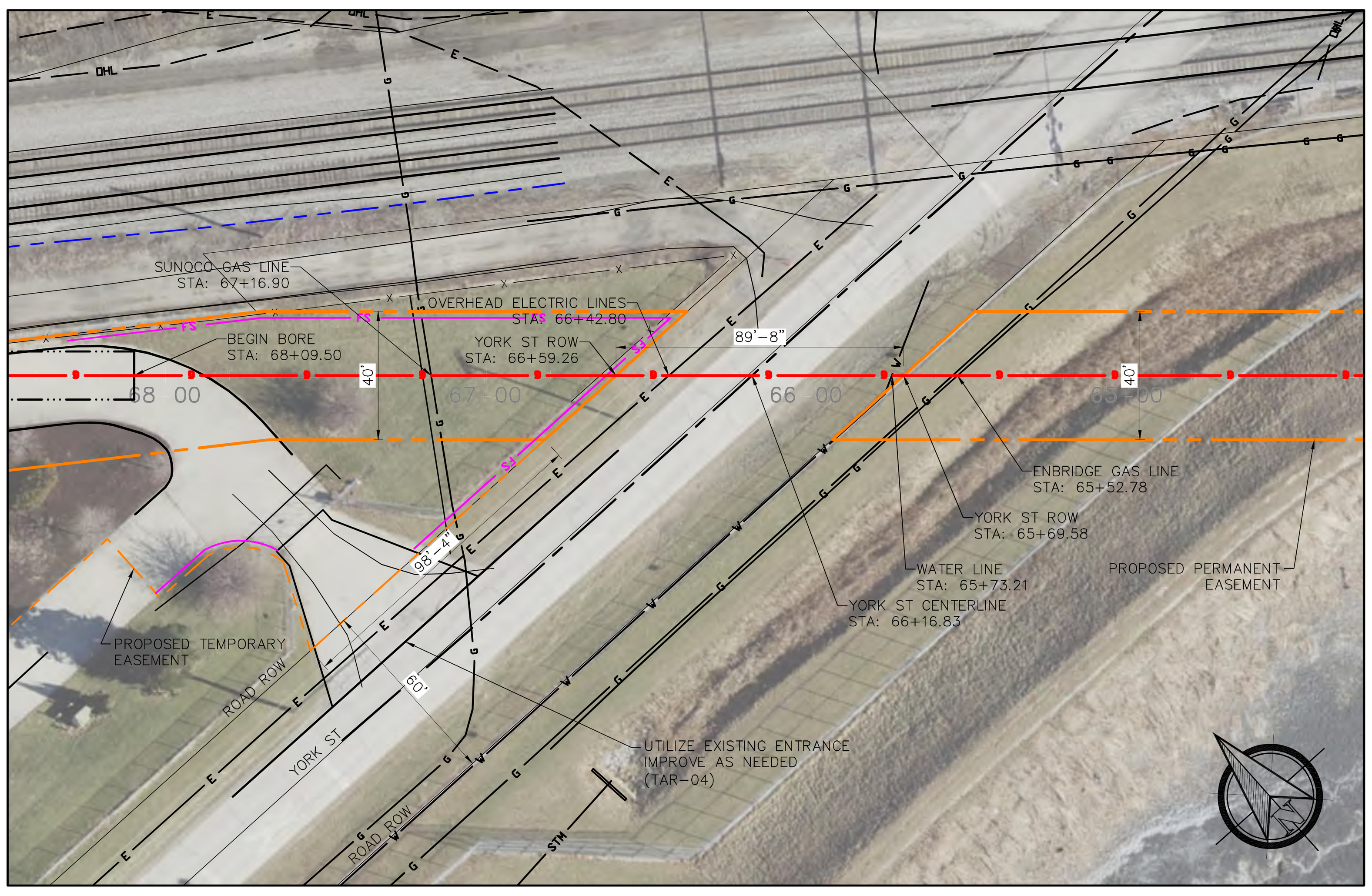
UTI PROJECT #: 17-031

DATE: 7/25/2018

SCALE:
HORIZONTAL: 1" = 30'
VERTICAL: 1" = 15'

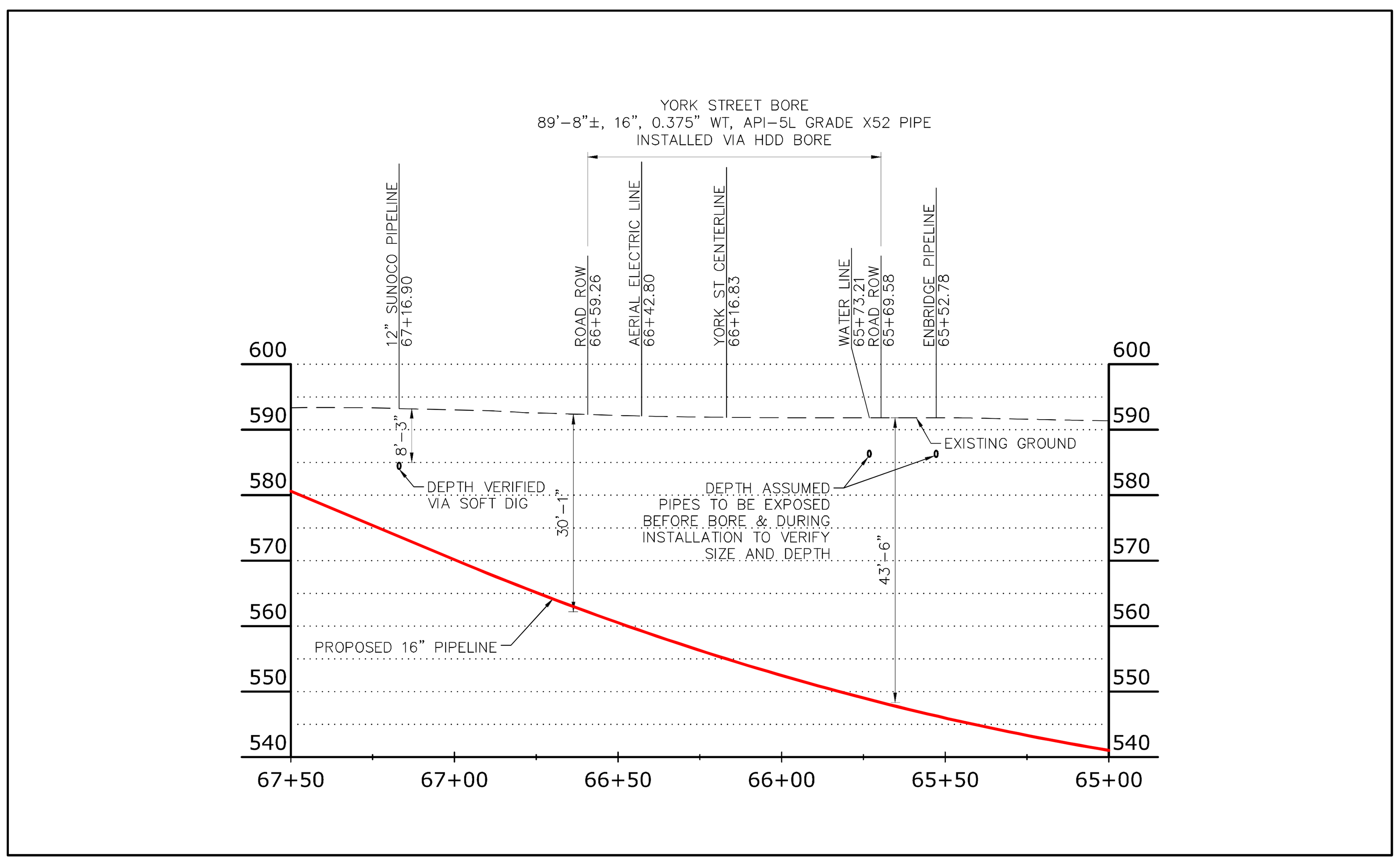
DRAWING #: 17031-200

SHEET #: 9/35



YORK ST CROSSING PLAN VIEW

HORIZONTAL SCALE: 1" = 30'



YORK ST CROSSING PROFILE VIEW

HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 15'

GRAPHIC SCALE

1 inch = 30 ft.

CHANGE ORDER SCHEDULE

#	DESCRIPTION OF CHANGE	SHEET NO.	APPROVALS BY	DATE
1	REROUTE ON SMIDI PROPERTY	ALL	KDG	8/6

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IRONVILLE LATERAL

LUCAS COUNTY, OH

ROAD CROSSING DETAILS

IFA
(ISSUED FOR APPROVAL)

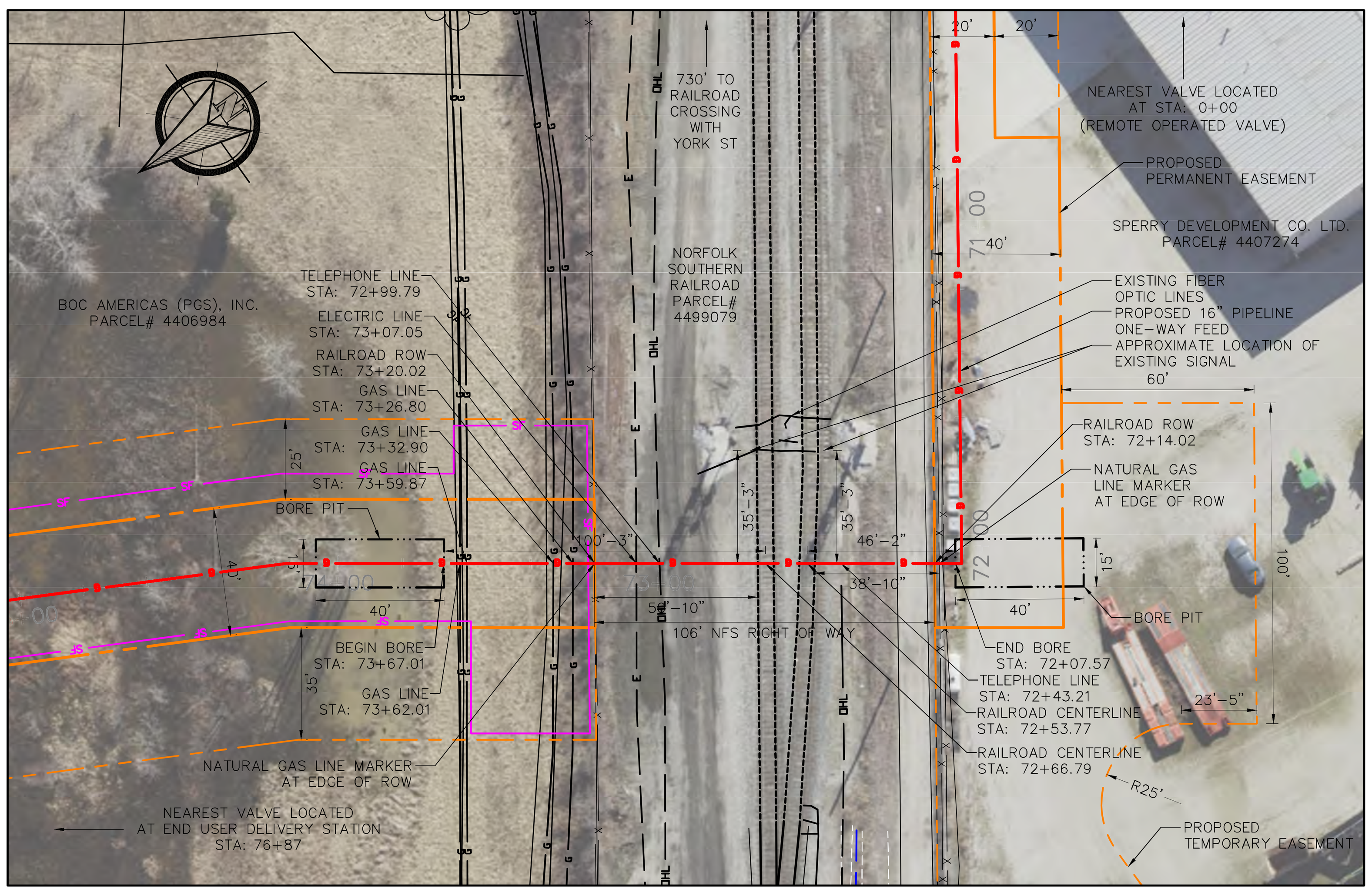
DESIGN	DRAFT	CHECK
BJR	KDG	CPL/HGG

UTI PROJECT #: 17-031
DATE: 7/25/2018

SCALE:
HORIZONTAL: 1" = 30'
VERTICAL: 1" = 15'

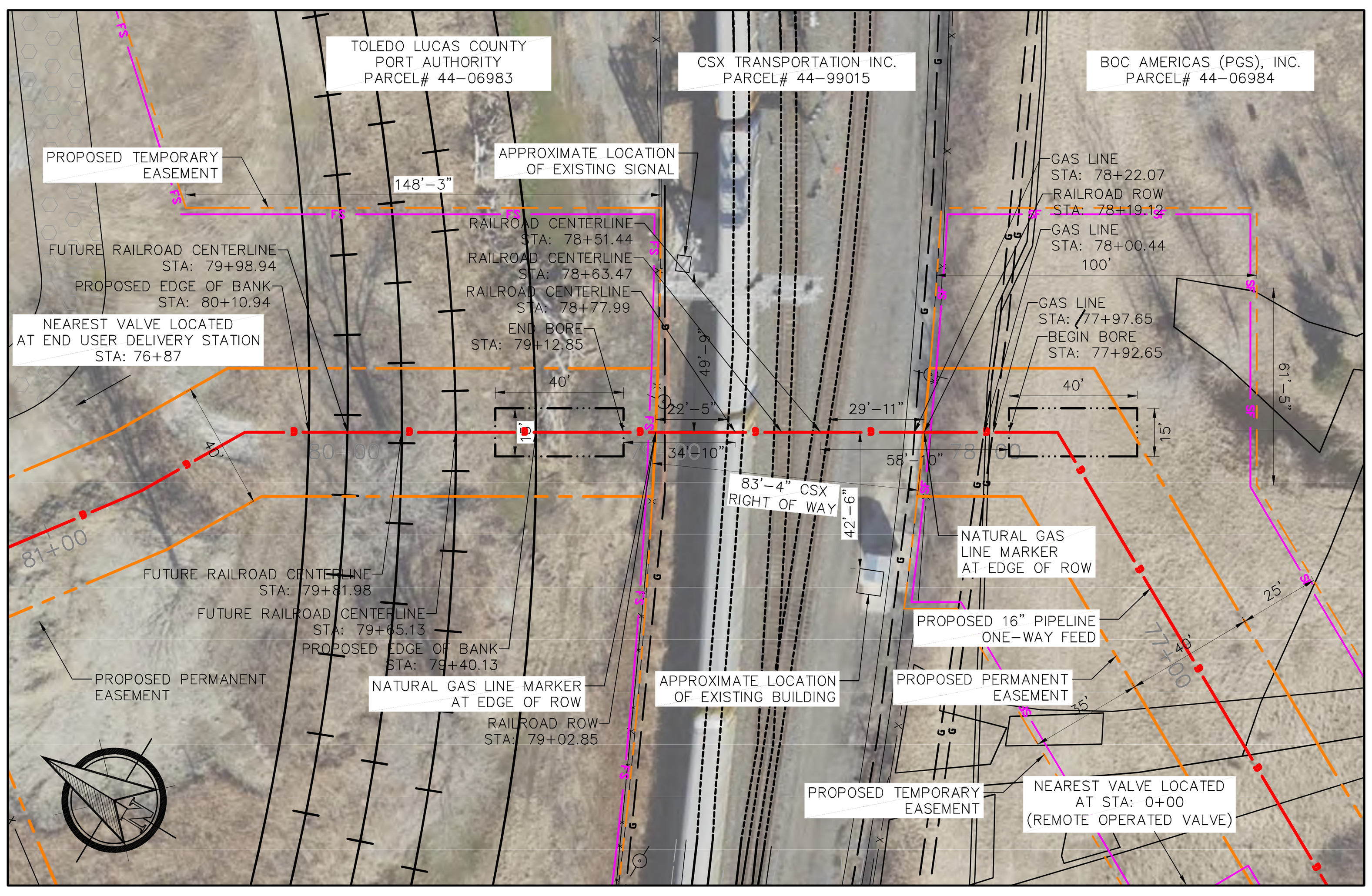
DRAWING #: 17031-200

SHEET #: 10/35



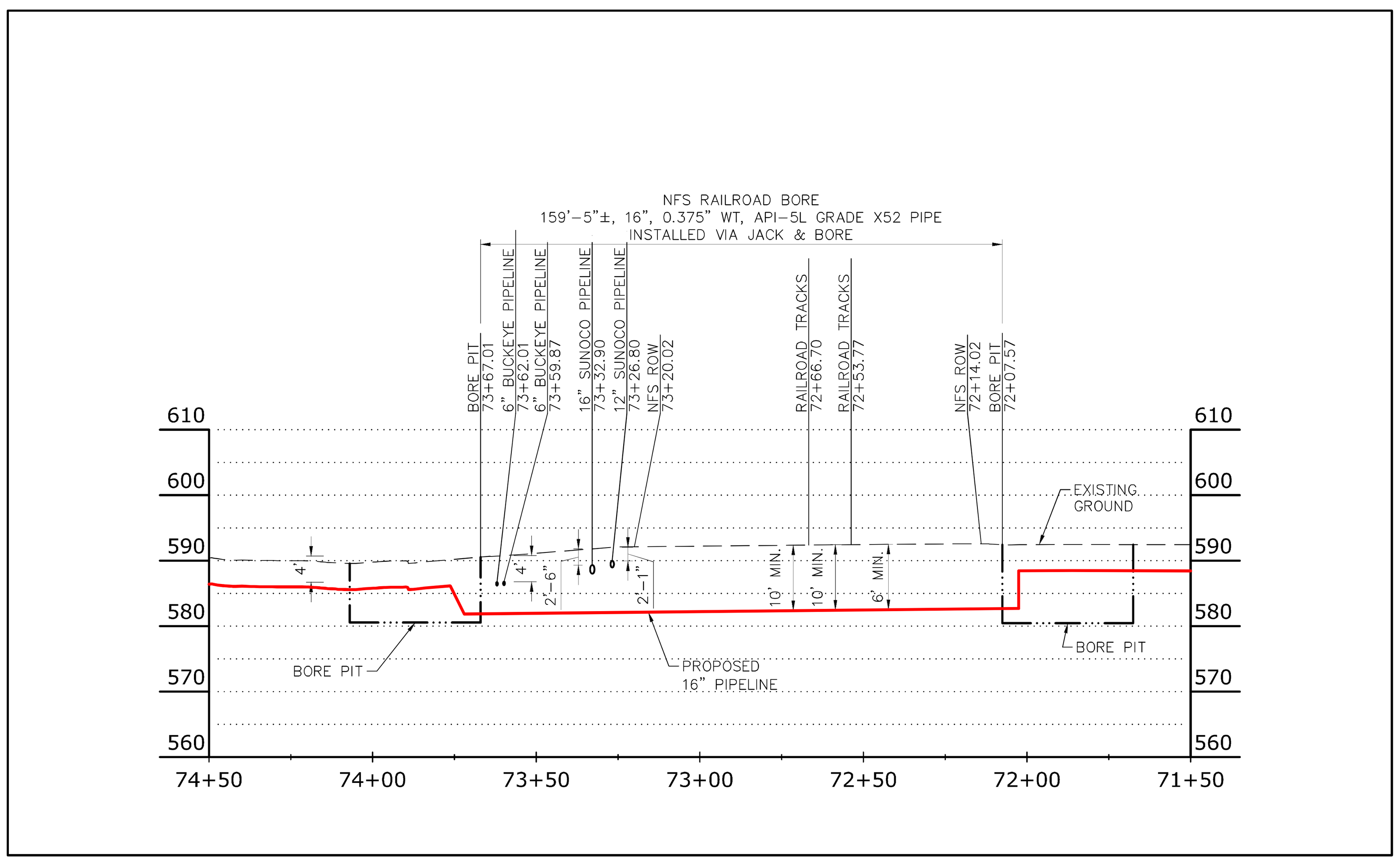
NORFOLK SOUTHERN RAILROAD CROSSING PLAN VIEW

HORIZONTAL SCALE: 1" = 30'



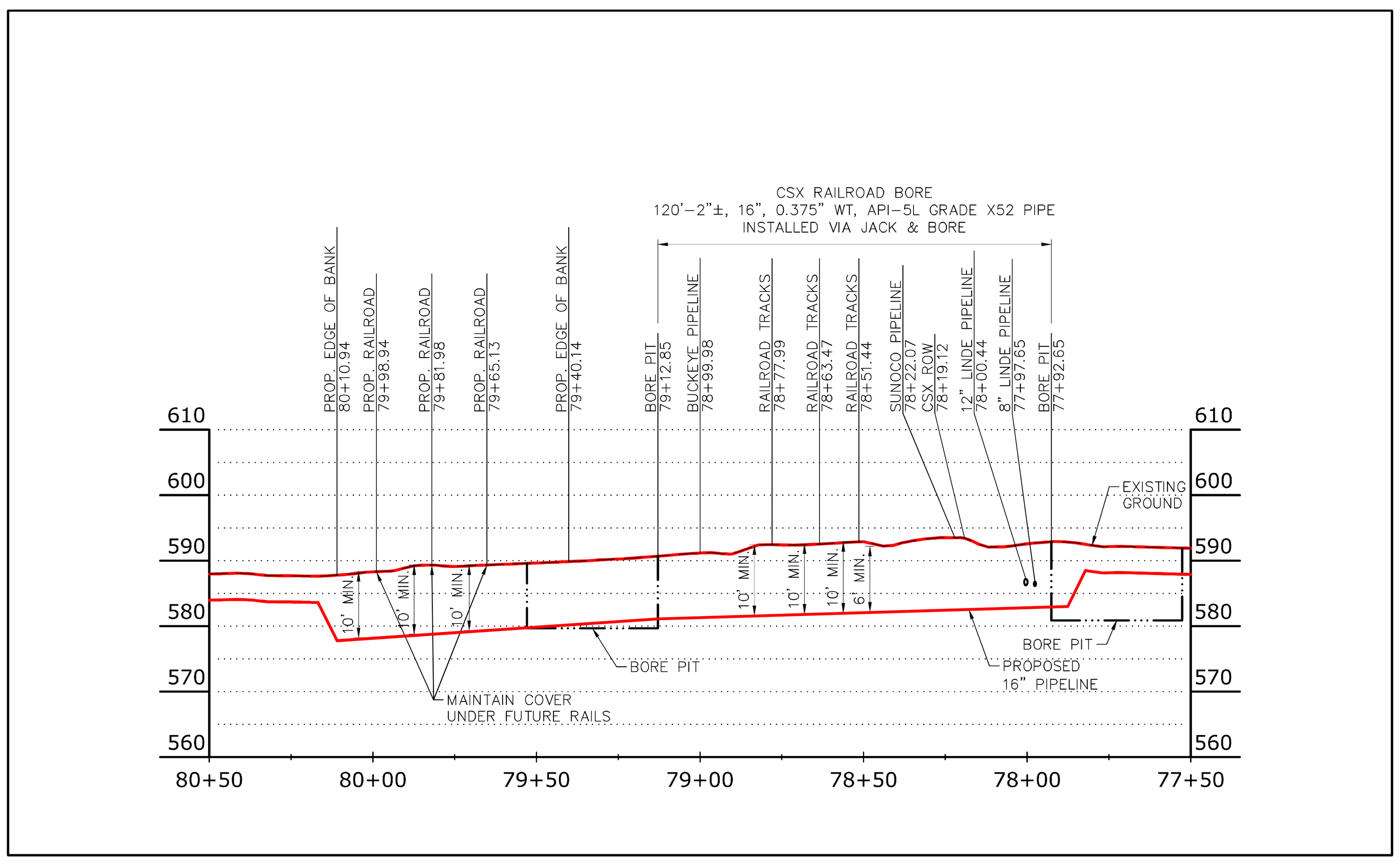
CSX RAILROAD CROSSING PLAN VIEW

HORIZONTAL SCALE: 1" = 30'



NORFOLK SOUTHERN RAILROAD CROSSING PROFILE VIEW

HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 15'



CSX RAILROAD CROSSING PROFILE VIEW

HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 15'

GRAPHIC SCALE

30' 15' 0 30'

1 inch = 30 ft.

CHANGE ORDER SCHEDULE

#	DESCRIPTION OF CHANGE	SHEET NO.	BY	DATE
1	REROUTE ON SMIDI PROPERTY	ALL	KDG	8/6

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IRONVILLE LATERAL

LUCAS COUNTY, OH

RAILROAD CROSSING DETAILS

IFA
(ISSUED FOR APPROVAL)

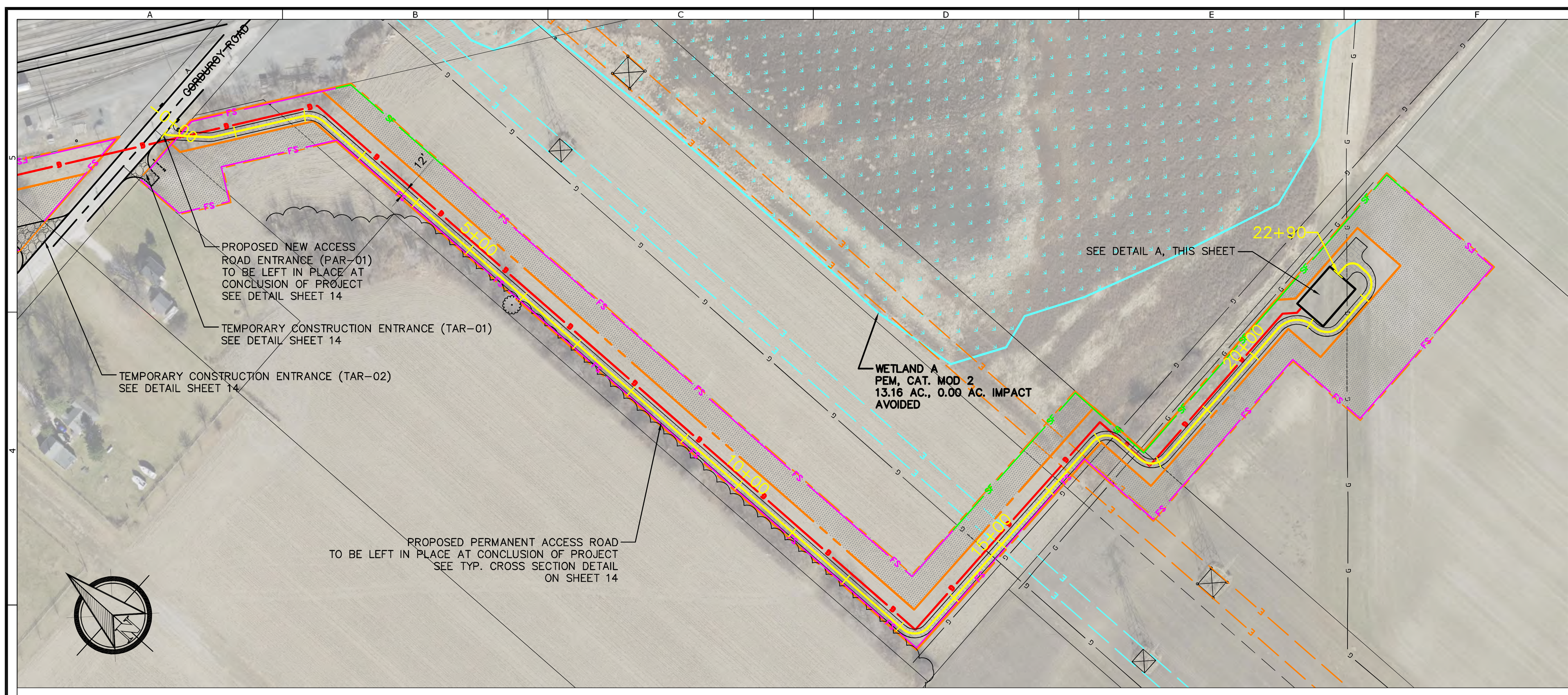
DESIGN	DRAFT	CHECK
BJR	KDG	CPL/HGG

UTI PROJECT #: 17-031
DATE: 7/25/2018

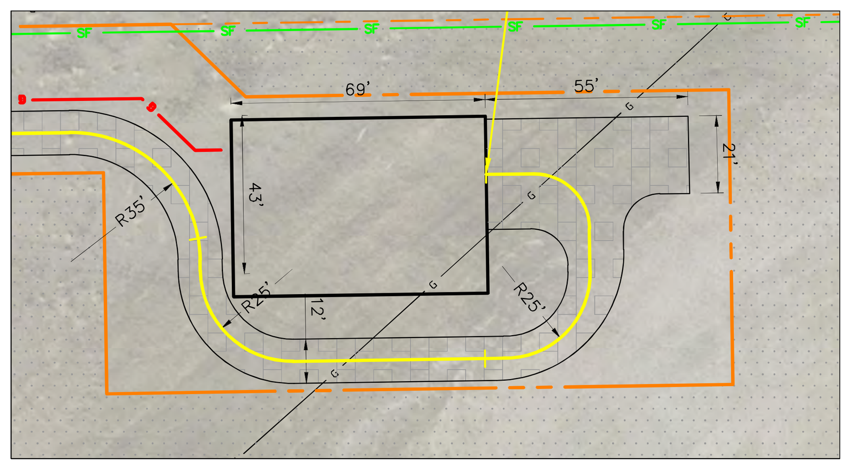
SCALE:
HORIZONTAL: 1" = 30'
VERTICAL: 1" = 15'

DRAWING #: 17031-200

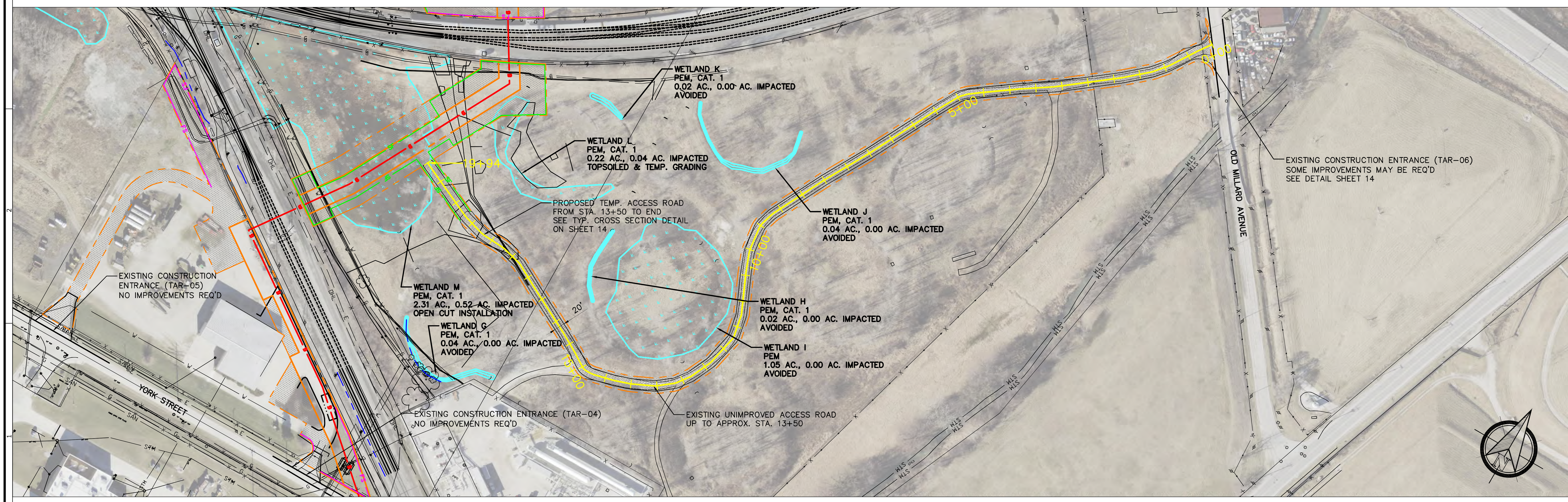
SHEET #: 11/35



LAUNCHER STATION ACCESS ROAD (PAR-01)
& CONSTRUCTION ENTRANCES (TAR-01 & TAR-02)



DETAIL A



BOC AMERICA ACCESS ROAD (TAR-06)

GRAPHIC SCALE

100 50 0 100

1 inch = 100 ft.

CHANGE ORDER SCHEDULE

#	DESCRIPTION OF CHANGE	SHEET NO.	APPROVALS BY	DATE
1	REROUTE ON SMIDI PROPERTY	ALL	KDG	8/6

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IRONVILLE LATERAL

LUCAS COUNTY, OH

ACCESS ROAD DETAILS

IFA
(ISSUED FOR APPROVAL)

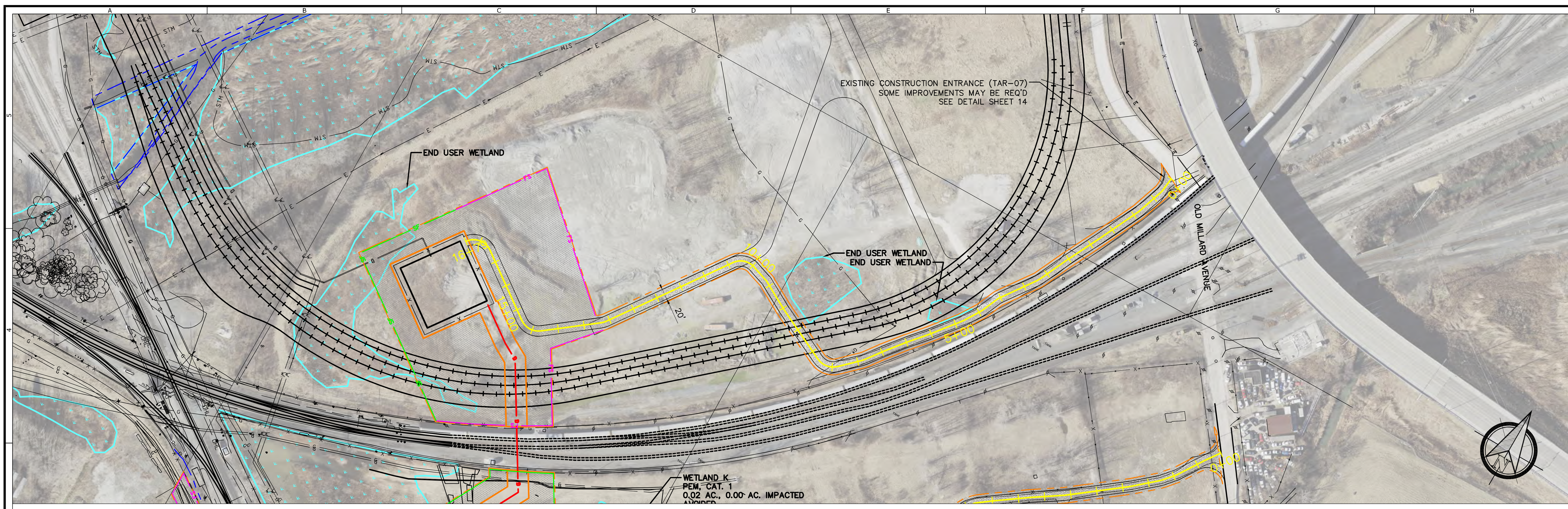
DESIGN	DRAFT	CHECK
BJR	KDG	CPL/HGG

UTI PROJECT #: 17-031 DATE: 7/25/2018

SCALE:
HORIZONTAL: 1" = 100'
VERTICAL: 1" = N/A

DRAWING #: 17031-200

SHEET #: 12/35



CNR IRONVILLE ACCESS ROAD (TAR-07)

GRAPHIC SCALE

100 50 0 100

1 inch = 100 ft.

CHANGE ORDER SCHEDULE

#	SHEET	DESCRIPTION OF CHANGE	APPROVALS NO.	BY	DATE
1	ALL	REROUTE ON SMIDI PROPERTY		KDG	8/6

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GENERATION PIPELINE, LLC

IRONVILLE LATERAL

LUCAS COUNTY, OH

ACCESS ROAD DETAILS

IFA
(ISSUED FOR APPROVAL)

DESIGN	DRAFT	CHECK
BJR	KDG	CPL/HGG

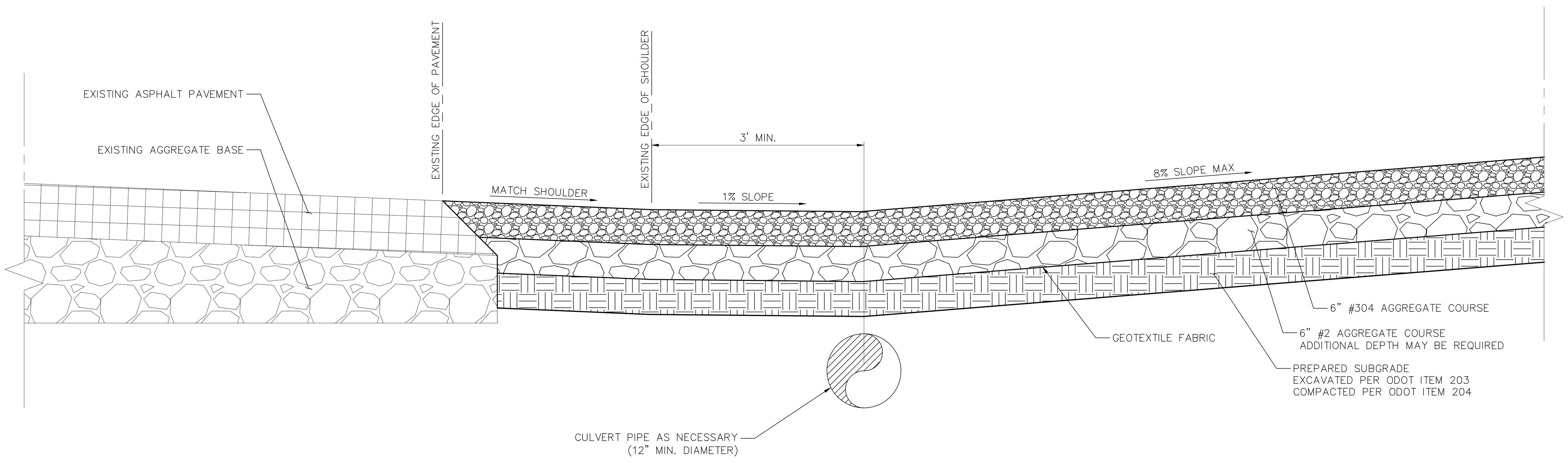
UTI PROJECT #: 17-031

DATE: 7/25/2018

SCALE:
HORIZONTAL: 1" = 100'
VERTICAL: 1" = N/A

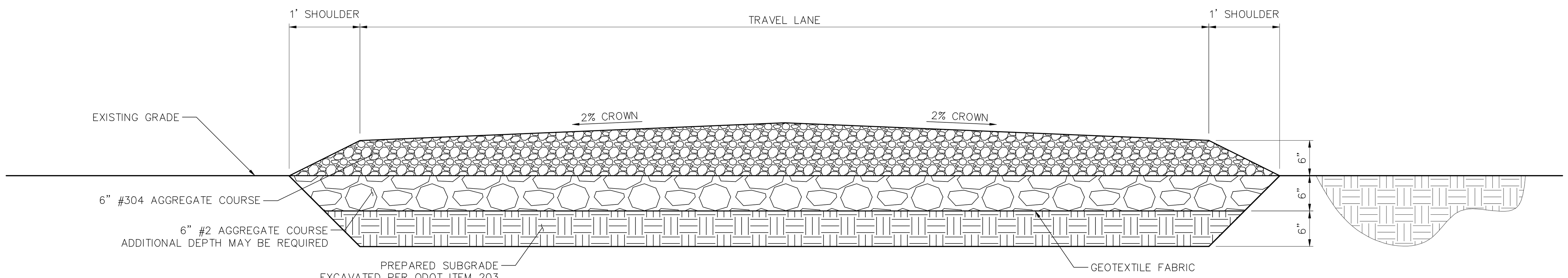
DRAWING #: 17031-200

SHEET #: 13/35



TYPICAL ACCESS ROAD ENTRANCE

NO SCALE



PERMANENT ACCESS ROAD CROSS SECTION

NO SCALE

CHANGE ORDER SCHEDULE

#	DESCRIPTION OF CHANGE	SHEET NO.	APPROVALS BY	APPROVALS DATE
1	REROUTE ON SMIDI PROPERTY	ALL	KDG	8/6

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GENERATION PIPELINE, LLC

IRONVILLE LATERAL

LUCAS COUNTY, OH

ACCESS ROAD DETAILS

IFA
(ISSUED FOR APPROVAL)

DESIGN	DRAFT	CHECK
BJR	KDG	CPL/HGG

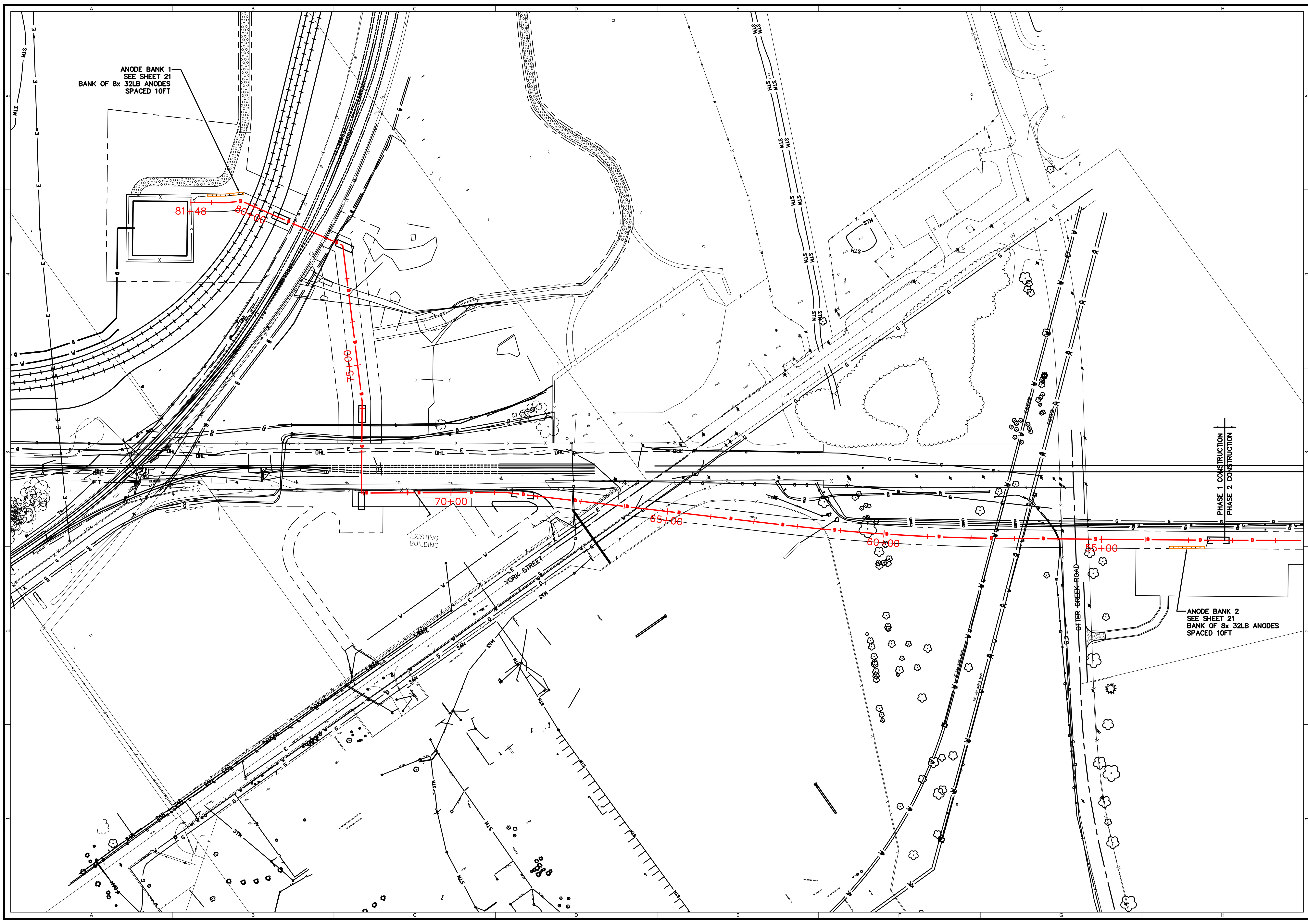
UTI PROJECT #: 17-031
DATE: 7/25/2018

SCALE:
HORIZONTAL: 1" = N/A
VERTICAL: 1" = N/A

DRAWING #: 17031-200

SHEET #: 14/35

\\dc01\Projects\Client\Generation Pipeline\17031-CNR Ironville\DWG\03-Alignment\17031_GPL_Ironville_CD07 Access Roads.dwg Layout:Drive Details 3 by:kgrupenhof on 08/20/2018 @ 12:31:15 pm ~ © Utility Technologies International



GRAPHIC SCALE

100 50 0 100

1 inch = 100 ft.

CHANGE ORDER SCHEDULE

#	DESCRIPTION OF CHANGE	SHEET NO.	APPROVALS BY	APPROVALS DATE
1	REROUTE ON SMIDI PROPERTY	ALL	KDG	8/6

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GENERATION PIPELINE, LLC

IRONVILLE LATERAL

LUCAS COUNTY, OH

PHASE 1 TEMPORARY
CATHODIC PROTECTION DESIGN

IFA
(ISSUED FOR APPROVAL)

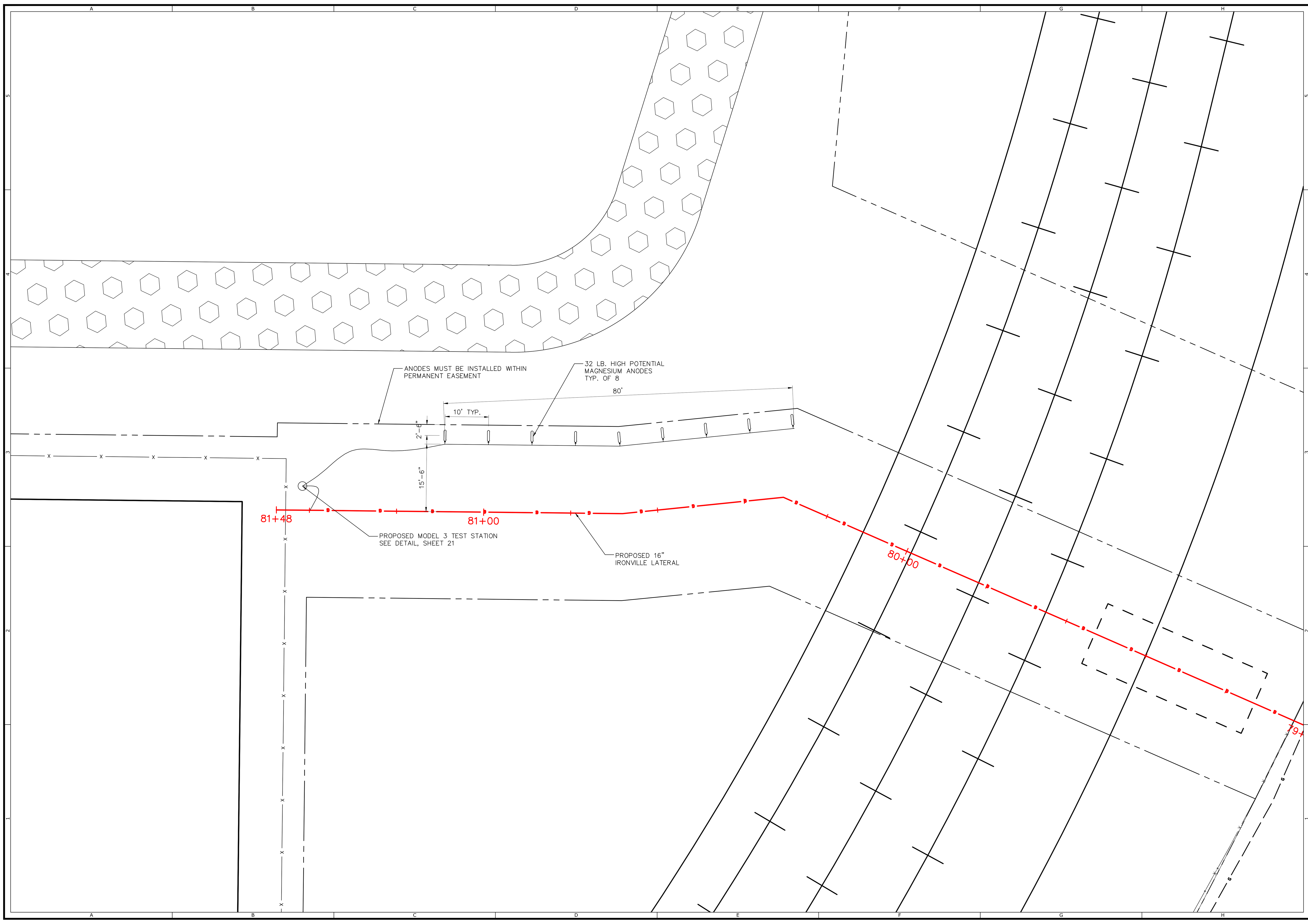
DESIGN	DRAFT	CHECK
BJR	KDG	CPL/HGG

UTI PROJECT #: 17-031
DATE: 7/25/2018

SCALE:
HORIZONTAL: 1" = 100'
VERTICAL: 1" = N/A

DRAWING #: 17031-200

SHEET #: 15/35



CHANGE ORDER SCHEDULE

#	DESCRIPTION OF CHANGE	SHEET NO.	APPROVALS BY	DATE
1	REROUTE ON SMIDI PROPERTY	ALL	KDG	8/6

Utility Technologies Intl. Corporation

Total Capabilities in the Pipeline Industry

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GENERATION PIPELINE, LLC

IRONVILLE LATERAL

LUCAS COUNTY, OH

ANODE BANK 1 DETAIL

IFA
(ISSUED FOR APPROVAL)

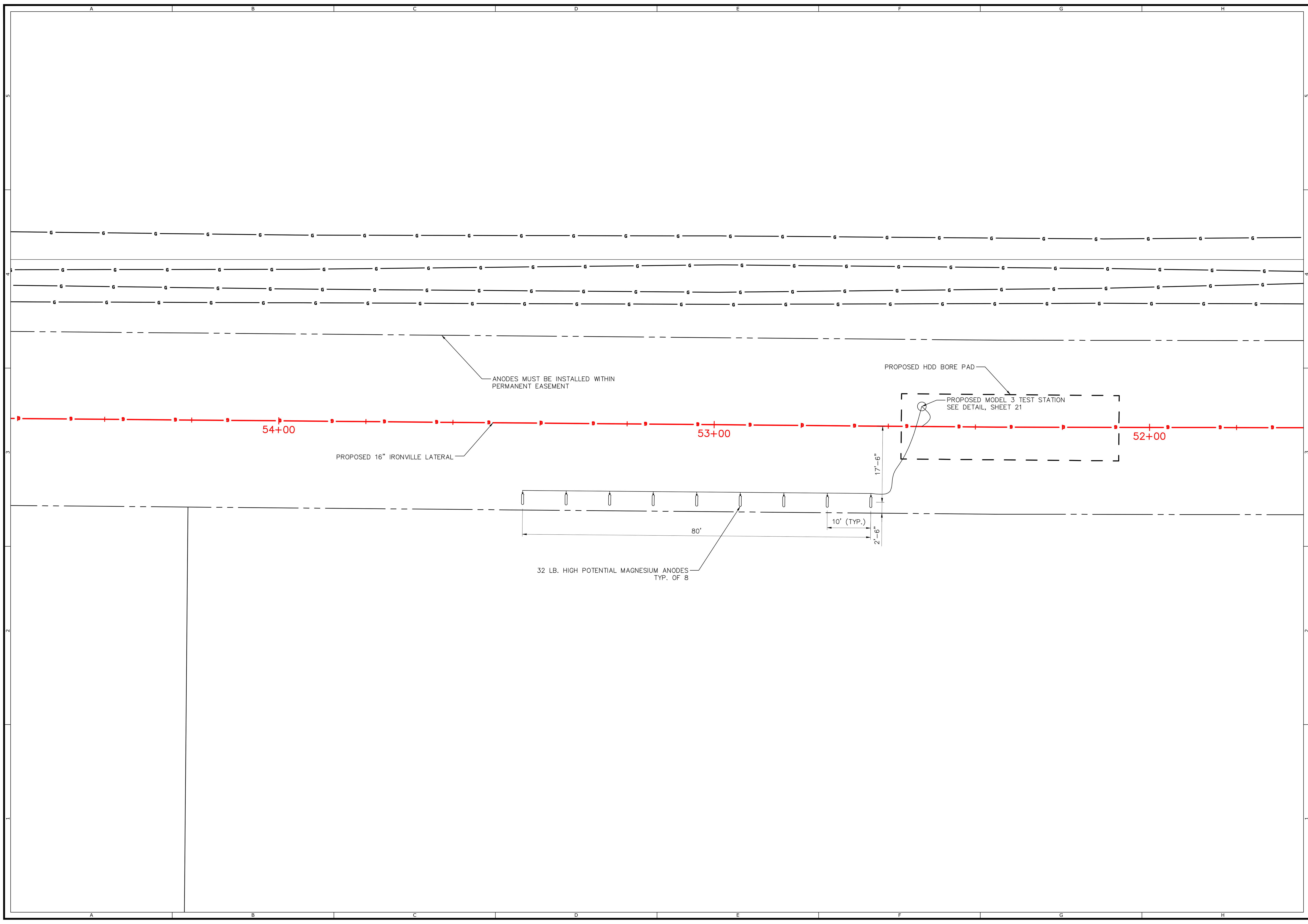
DESIGN	DRAFT	CHECK
BJR	KDG	CPL/HGG

UTI PROJECT #: 17-031
DATE: 7/25/2018

SCALE:
HORIZONTAL: 1" = 10'
VERTICAL: 1" = N/A

DRAWING #: 17031-200

SHEET #: 16/35



GRAPHIC SCALE

10 5 0 10

1 inch = 10 ft.

CHANGE ORDER SCHEDULE

#	DESCRIPTION OF CHANGE	SHEET NO.	BY	DATE
1	REROUTE ON SMIDI PROPERTY	ALL	KDG	8/6

Utility Technologies Intl. Corporation

Total Capabilities in the Pipeline Industry

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GENERATION PIPELINE, LLC

IRONVILLE LATERAL

LUCAS COUNTY, OH

ANODE BANK 2 DETAIL

IFA
(ISSUED FOR APPROVAL)

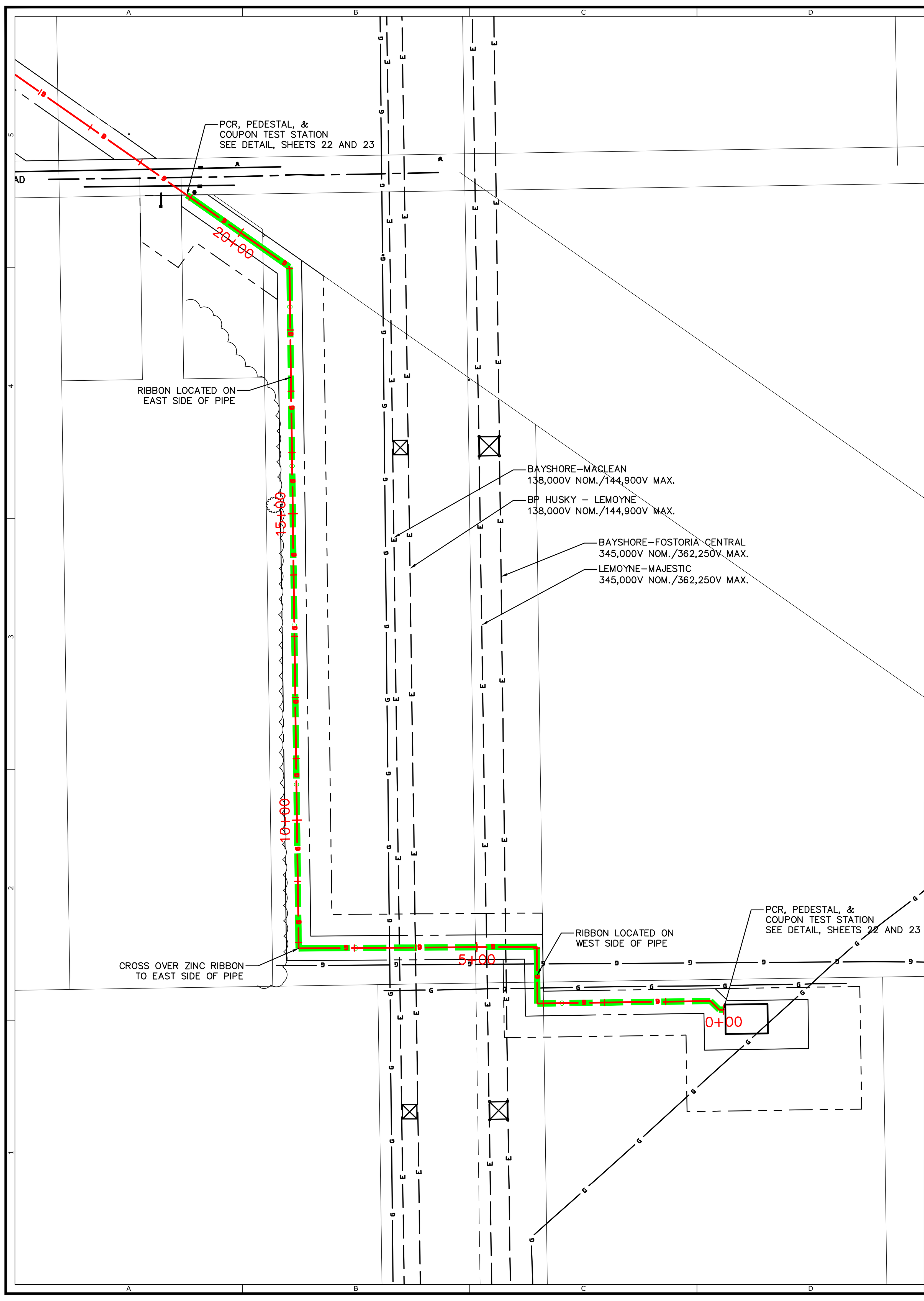
DESIGN	DRAFT	CHECK
BJR	KDG	CPL/HGG

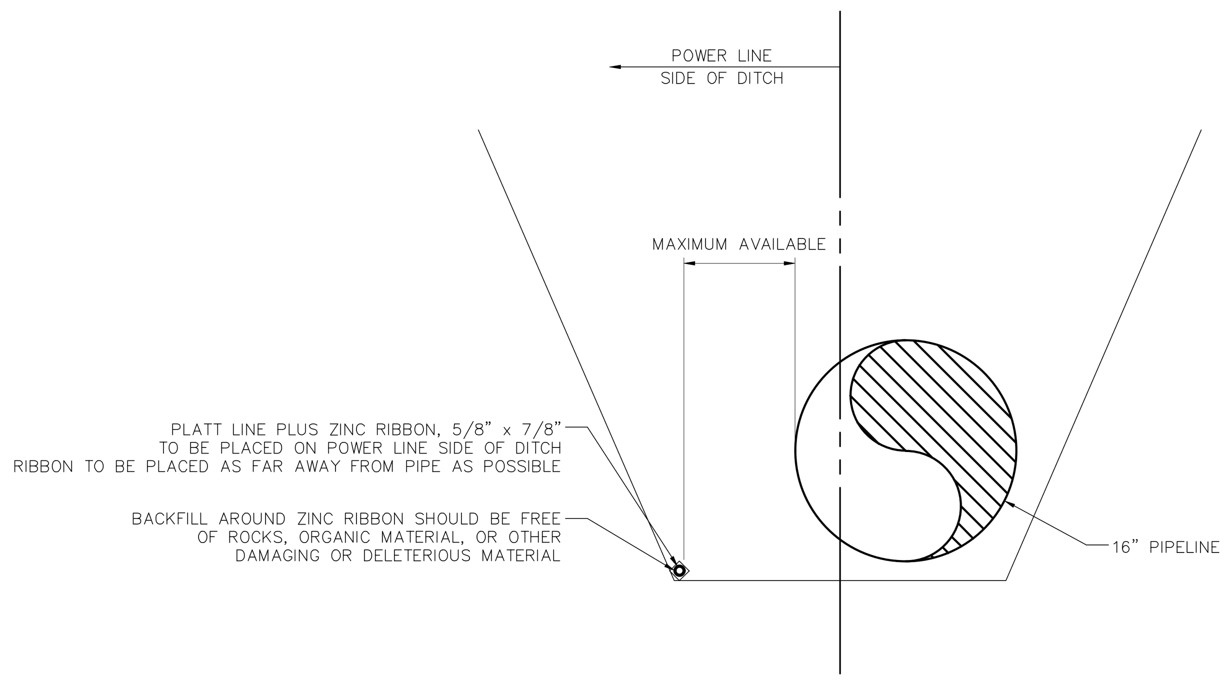
UTI PROJECT #: 17-031 DATE: 7/25/2018

SCALE:
HORIZONTAL: 1" = 10'
VERTICAL: 1" = N/A

DRAWING #: 17031-200

SHEET #: 17/35



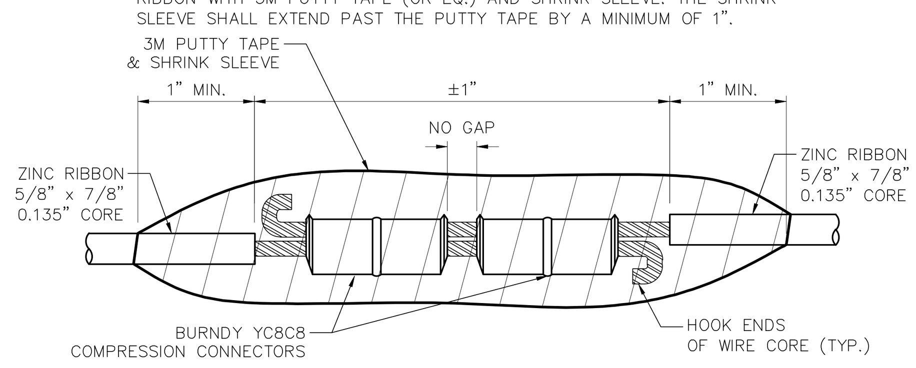


ZINC RIBBON DITCH DETAIL

NO SCALE

CONNECTION PROCEDURE:

1. REMOVE ±1" OF ZINC FROM STEEL CORE USING 1000°F TORCH TO MELT OFF ZINC MATERIAL.
2. OVERLAP STEEL CORES BY ±1" AND CRIMP TWO (2X) BURNDY YC8C8 COMPRESSION CONNECTORS TO SECURE. CONNECTORS SHALL BE PLACED END–TO–END AND STEEL CORES SHALL HAVE A BENT HOOK ON EACH END. CRIMPS SHALL BE MADE WITH A APPROPRIATELY SIZED HYDRAULIC CRIMPING TOOL.
3. WRAP EXPOSED STEEL CORE, CONNECTORS, AND A MINIMUM OF 1" OF ZINC RIBBON WITH 3M PUTTY TAPE (OR EQ.) AND SHRINK SLEEVE. THE SHRINK SLEEVE SHALL EXTEND PAST THE PUTTY TAPE BY A MINIMUM OF 1".



CABLE Y-SPLICE DETAIL

GRAPHIC SCALE

100 50 0 100

1 inch = 100 ft.

CHANGE ORDER SCHEDULE

#	DESCRIPTION OF CHANGE	SHEET NO.	APPROVALS BY	DATE
1	REROUTE ON SMIDI PROPERTY	ALL	KDG	8/6

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IRONVILLE LATERAL

LUCAS COUNTY, OH

AC MITIGATION DESIGN

IFA
(ISSUED FOR APPROVAL)

DESIGN	DRAFT	CHECK
BJR	KDG	CPL/HGG

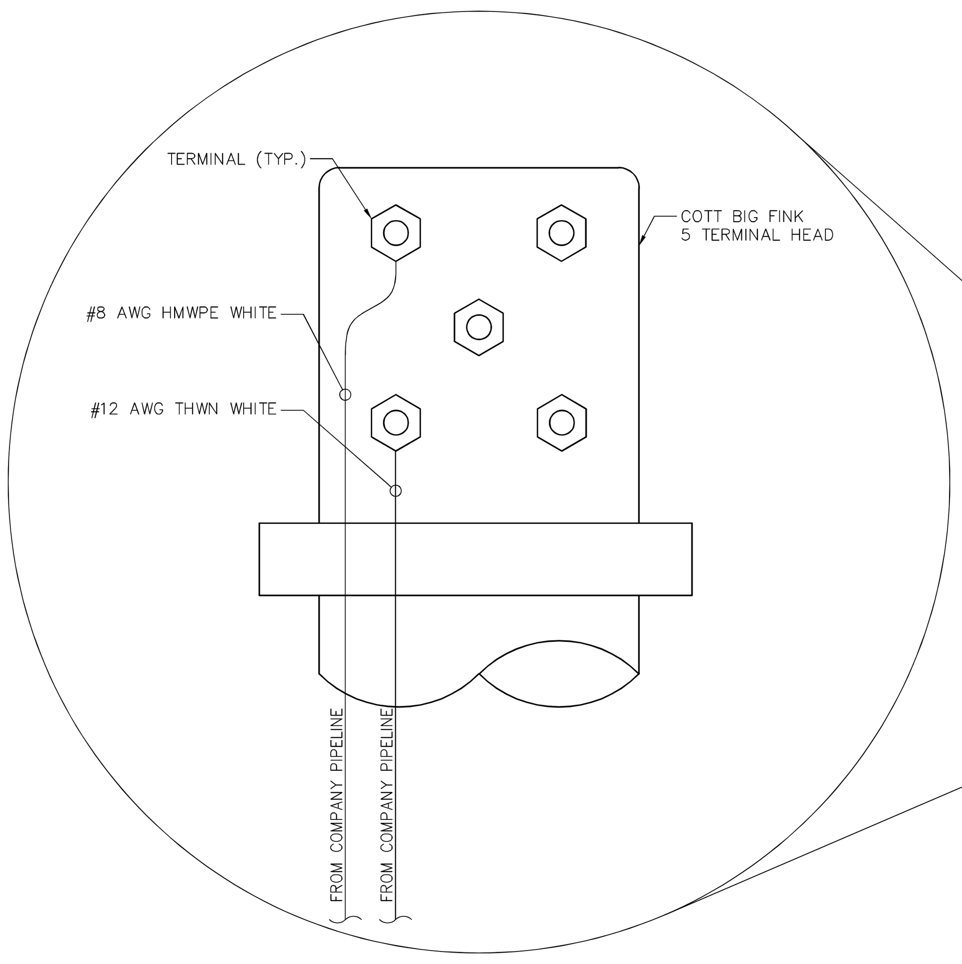
UTI PROJECT #: 17-031 DATE: 7/25/2018

SCALE: HORIZONTAL: 1" = 100' VERTICAL: 1" = N/A

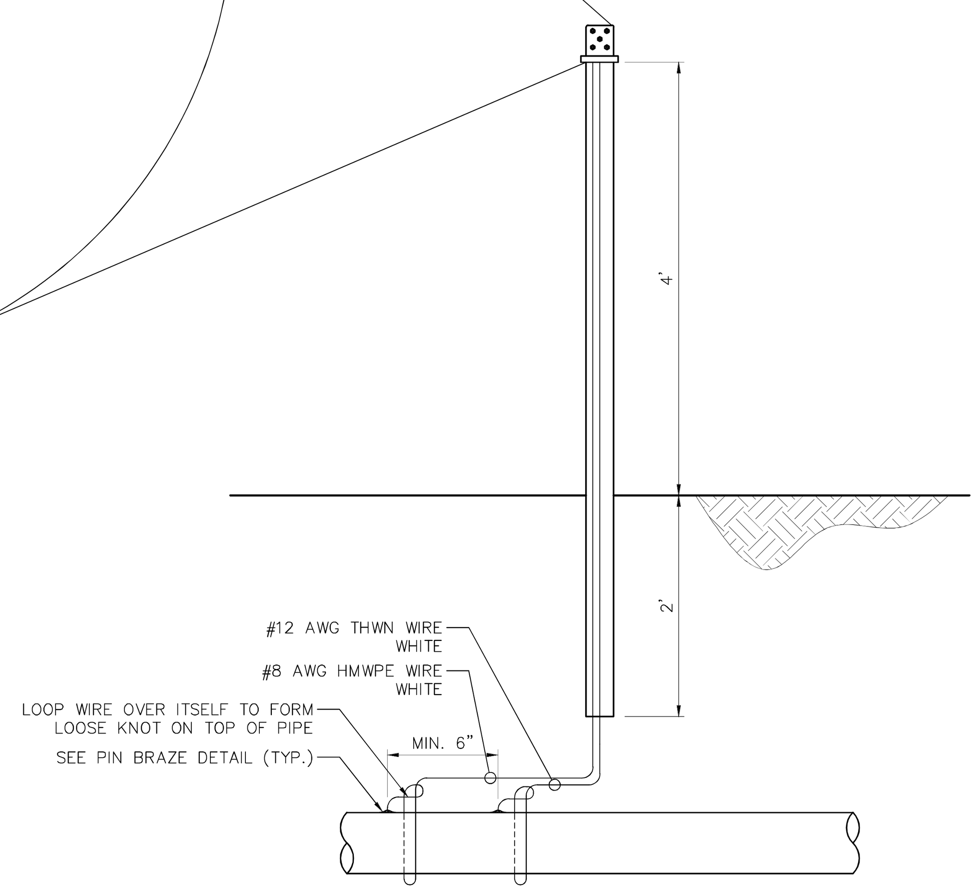
DRAWING #: 17031-200

SHEET #: 18/35

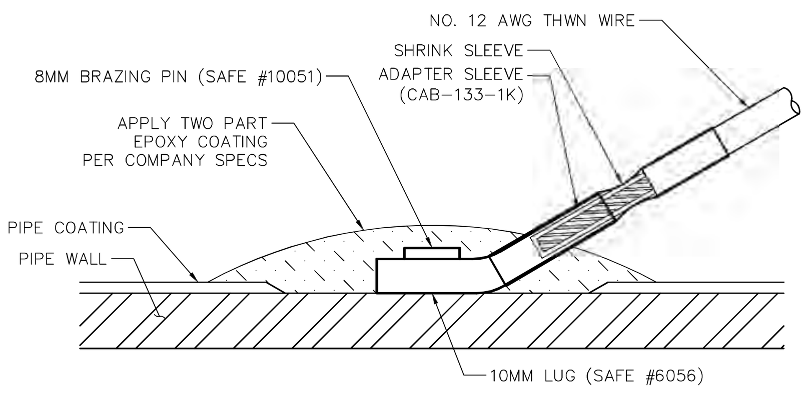
UTILITY TECHNOLOGIES INTERNATIONAL				
TEST STATION (MODEL #1) BOM				
ITEM #	QUANTITY	UNIT	SIZE	DESCRIPTION
801	1	EA	-	Test Station, Mfg: Cott, 5 Terminal, 6ft Length, 3in Diameter, Yellow Post and Cap
802	25	FT	#8	Wire, No. 8 AWG, HMWPE, White Jacket, Stranded Copper
803	25	FT	#12	Wire, No. 12 AWG, THWN, White Jacket, Solid Copper
804	2	EA	-	Cable Lug Kit, Mfg: Safetrack, P/N: Safe 6056 CP, Complete w/ 10mm Lug (SAFE 6056), 8mm Brazing Pin (SAFE 10051), 8mm Ferrule (SAFE 2003)
805	1	EA	-	Adapter Sleeve, Mfg. Erico, P/N: CAB-133-1K



TEST STATION TERMINAL DETAIL



TEST STATION MODEL 1
STANDARD TEST STATION INSTALLATION



PIN BRAZING COATING DETAIL

GENERAL NOTES

TEST STATIONS:
1. TEST STATIONS SHALL BE OF POLYCARBONATE MATERIAL.
2. TEST STATIONS SHALL BE YELLOW IN COLOR WITH COMPANY DECALS ON TWO SIDES.
3. TEST STATIONS SHALL BE 6 FEET IN LENGTH AND 3 INCHES IN DIAMETER. TEST STATIONS SHALL BE COTT BIG FINKS UNLESS OTHERWISE SPECIFIED OR APPROVED.

TEST STATION LOCATIONS:
1. TEST STATIONS SHALL BE REQUIRED AT LOCATIONS SPECIFIED ON THE CONSTRUCTION PLANS.
2. TEST STATIONS SHALL BE PLACED IN LOCATIONS WHERE THEY WILL BE EASILY VISIBLE, WHERE PRACTICAL.
3. TEST STATIONS SHALL BE PLACED IN EASILY ACCESSIBLE LOCATIONS, WHERE PRACTICAL.
4. TEST STATIONS SHALL BE PLACED IN LOCATIONS WERE POSSIBILITY OF THIRD PARTY DAMAGE IS MITIGATED (I.E. FENCE LINES, WOOD LINES, INSIDE FENCED AREAS, ETC.)
5. IN LOCATIONS PARALLELING OR CROSSING HIGH VOLTAGE POWER LINES COTT ZAP GUARD TEST STATIONS SHALL BE USED.

LEAD WIRE INSTALLATION:
1. ALL WIRE SHALL BE THE SIZE, INSULATION, AND COLOR SPECIFIED.
2. ALL WIRES SHALL BE COLORED FOR IDENTIFICATION:
   2.1. WHITE = COMPANY PIPELINE
   2.2. BLACK = FOREIGN PIPELINE
   2.3. RED = ANODE
   2.4. BLUE = CASING
3. ANY WIRES THAT ARE NOT COLORED OR ARE COLORED INCORRECTLY SHALL BE CLEARLY WRAPPED WITH COLORED TAPE AT THE TEST HEAD TO AID IN IDENTIFICATION.
4. WIRE INSULATION SHALL BE PROTECTED AT ALL TIMES DURING THE INSTALLATION PROCESS. ANY DAMAGED WIRE SHALL BE COMPLETELY REPLACED.
5. WIRE SHALL BE ATTACHED TO PIPELINE BY THE METHOD SHOWN (E.G THERMITE WELD OR PIN BRAZE). CONNECTIONS SHALL BE SPACED NO LESS THAN 6-INCHES. ALL CONNECTION MATERIALS AND EQUIPMENT USED SHALL BE SUITABLE FOR CATHODIC PROTECTION OF STEEL PIPE.
6. COATING THAT IS REMOVED OR DAMAGED AT CONNECTION LOCATIONS SHALL BE REPAIRED WITH A TWO-PART EPOXY PER COMPANY SPECIFICATIONS.
7. WIRE SHALL BE ATTACHED TO PIPELINE IN A MANNER AND LOCATION THAT REDUCES STRESS ON CONNECTION. WIRES ATTACHED TO PIPE SHALL BE WRAPPED AND TIED ONCE AROUND THE CIRCUMFERENCE OF THE PIPE PRIOR TO TERMINATION.
8. WIRE SHALL BE CONTINUOUS WHERE PRACTICAL (NO SPLICES). ANY SPLICES MADE SHALL BE WITH BURNDY COPPER CRIMPIT CONNECTORS AND BE ENCASED WITHIN AN APPROVED RESIN SPLICE KIT.
9. ALL LEAD WIRES SHALL BE VERIFIED FOR CONTINUITY PRIOR TO AND AFTER BACKFILL. ANY ISSUES FOUND SHALL BE IMMEDIATELY REPAIRED.

CHANGE ORDER SCHEDULE

#	DESCRIPTION OF CHANGE	SHEET NO.	APPROVALS BY	DATE
1	REROUTE ON SMIDI PROPERTY	ALL	KDG	8/6

Utility Technologies Intl. Corporation
Total Capabilities in the Pipeline Industry
4700 Homer Ohio Lane
Groveport, OH 43125
P: 614-482-8080
F: 614-482-8070
www.uti-corp.com

GENERATION PIPELINE, LLC
IRONVILLE LATERAL
LUCAS COUNTY, OH
MODEL 1 TEST STATION DETAILS

IFA
(ISSUED FOR APPROVAL)

DESIGN	DRAFT	CHECK
BJR	KDG	CPL/HGG

UTI PROJECT #: 17-031
DATE: 7/25/2018
SCALE:
HORIZONTAL: 1" = N/A
VERTICAL: 1" = N/A
DRAWING #: 17031-200
SHEET #: 19/35