

PU-20-381

**NuStar Pipeline Operating
Partnership L.P.'s**

PSC Hearing Exhibit 5



PRELIMINARY

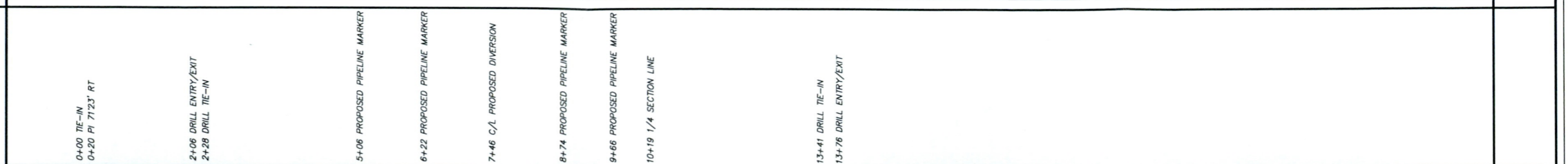
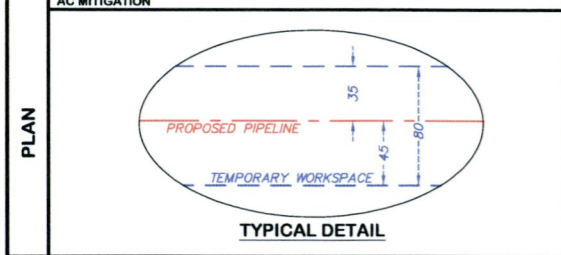
SUMMARY	BILL OF MATERIALS				REFERENCE DRAWINGS		DRAWING REVISION							
	NO.	DESCRIPTION	QUANTITY	NO.	DESCRIPTION	QUANTITY	NO.	DATE	BY	DESCRIPTION	CHK	ENG	APP	CLIENT
							1	4/13/20	KTB	ALIGNMENT & WORKSPACE	GKD			
							2	7/22/20	KTB	HDD & STATIONING				
							3	7/24/20	KTB	WORKSPACE				
							4	8/26/20	KTB	WETLANDS				
							5	9/4/20	KTB	SIGNS & TEST LEADS				
							6	11/10/20	KTB	WORKSPACE				

NuStar
PIPELINE OPERATING PARTNERSHIP, L.P.

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WWW.EFNSURVEY.COM

ALIGNMENT SKETCH MAPLETON DIVERSION		
CASS COUNTY	NORTH DAKOTA	
IMAGERY DATE:	DRAWN BY: KTB	CLIENT PROJECT NO.:
SURVEY BY: KB, DF	DRAWING DATE: 3/30/20	EFN PROJECT NO.: 39039
DWG BY: KTB	APPROVED:	SCALE: 1" = 400'
CHECKED BY: GKD	SHEET: 1 OF 6	

SURVEY/ABSTRACT	TRACT	0+00	PARENT PIN 53000009053020 JANET WANZEK ETAL 61.76	10+19	PARENT PIN 53000009054000 JANET WANZEK ETAL 92.79	25+80
	RODS					
ENVIRONMENTAL	TIMING RESTRICTIONS					
	WETLAND / WATERBODY ID					
	WETLAND / WATERBODY TYPE					
	WATERBODY CLASSIFICATION					
CONSTRUCTION METHOD		OPEN CUT	HDD		OPEN CUT	
REGULATORY SPECIFICATION						
AC MITIGATION						



LEGEND

- PROPOSED 8-INCH PIPELINE
- PROPOSED WORKSPACE
- PROPOSED DRILL ENTRY/EXIT
- PROPOSED GAS SIGN
- GAS SIGN
- UNDERGROUND GAS
- SPOT ELEVATION
- EXISTING CONTOUR LINE

PRELIMINARY

0+00

25+80

SCALE IN FEET
0 100
Bearings based on NAD 83,
North Dakota North, Int. Ft.
grid system.

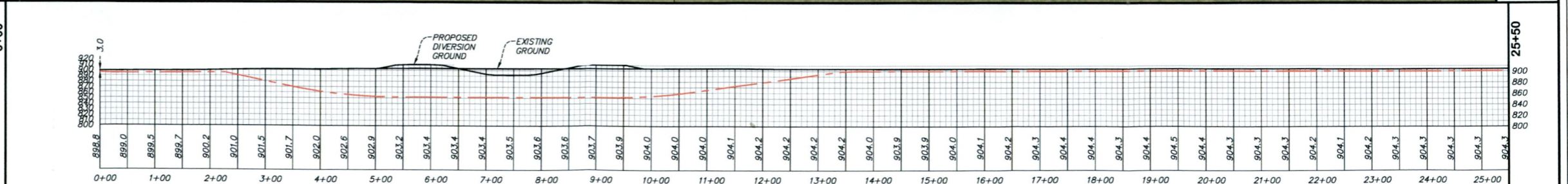


NOTES:

1. EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR SHALL CALL NORTH DAKOTA ONE CALL AT 811 48 HOURS PRIOR TO CONSTRUCTION.

2. HEAVY EQUIPMENT WORKING IN WETLANDS OR LOW LANDS MUST BE PLACED ON MATS, OR OTHER MEASURES MUST BE TAKEN TO MINIMIZE SOIL DISTURBANCE.

SCALE
HORIZONTAL: 1" = 100'
VERTICAL: 1" = 100'



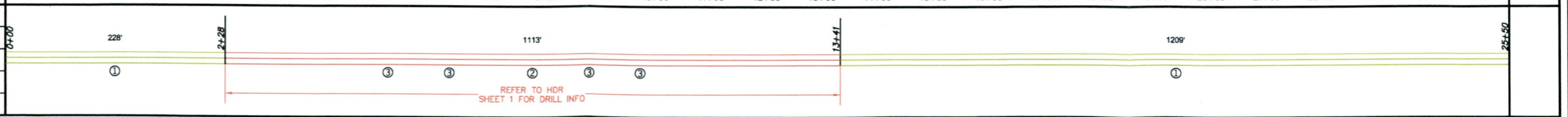
CLASSIFICATION

DESIGN PRESSURE

MAX ALLOWABLE OPERATING PRESSURE

NORMAL OPERATING PRESSURE

DESIGN FACTOR



BILL OF MATERIALS

NO.	DESCRIPTION	QUANTITY	NO.	DESCRIPTION	QUANTITY
1		1437'			
2		1113'			
3	PIPELINE MARKERS	4			

REFERENCE DRAWINGS

DESCRIPTION	DWG FILE

DRAWING REVISION

NO.	DATE	BY	DESCRIPTION	CHK	ENG	APP	QUANT
1	4/13/20	KTB	ALIGNMENT & WORKSPACE	GKD			
2	7/22/20	KTB	HDD & STATIONING				
3	7/24/20	KTB	WORKSPACE WIDTH				
4	9/4/20	KTB	SIGNS & TEST LEADS				
5	11/10/20	KTB	WORKSPACE				

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ALIGNMENT SKETCH
MAPLETON DIVERSION

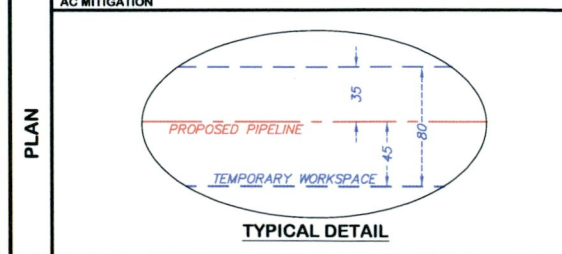
CASS COUNTY

NORTH DAKOTA

IMAGERY DATE: _____ DRAWN BY: KTB CLIENT PROJECT NO.: _____
SURVEY BY: KB, DF DRAWING DATE: 3/30/20 EFN PROJECT NO.: 39039
DWG BY: KTB APPROVED: _____ SCALE: 1" = 100'
CHECKED BY: GKD SHEET: 2 OF 6

OWNER	TRACT	25+50	PARENT PIN 53000009054000 JANET WANZEK ETAL 60.18	35+43	PARENT PIN 53000009055000 JANET WANZEK ETAL 103.45	52+50
	RODS					

ENVIRONMENTAL	TIMING RESTRICTIONS	
	WETLAND / WATERBODY ID	
	WETLAND / WATERBODY TYPE	
	WATERBODY CLASSIFICATION	
	CONSTRUCTION METHOD	OPEN CUT
REGULATORY SPECIFICATION	HDD	
AC MITIGATION	OPEN CUT	



PRELIMINARY

LEGEND

- PROPOSED 8-INCH PIPELINE
- PROPOSED WORKSPACE
- PROPOSED DRILL ENTRY/EXIT
- PROPOSED GAS SIGN
- SPOT ELEVATION
- EXISTING CONTOUR LINE
- TREE

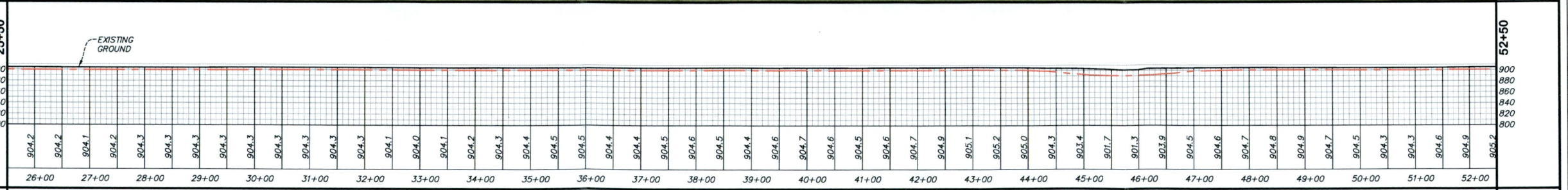
SCALE IN INT. FEET
Bearings based on NAD 83,
North Dakota North, Int. Fl.
grid system



PROFILE
HORIZONTAL: 1" = 100'
VERTICAL: 1" = 100'

NOTES:

- EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR SHALL CALL NORTH DAKOTA ONE CALL AT 811 48 HOURS PRIOR TO CONSTRUCTION.
- HEAVY EQUIPMENT WORKING IN WETLANDS OR LOW LANDS MUST BE PLACED ON MATS, OR OTHER MEASURES MUST BE TAKEN TO MINIMIZE SOIL DISTURBANCE.



PIPE DATA

CLASSIFICATION	
DESIGN PRESSURE	
MAX ALLOWABLE OPERATING PRESSURE	
NORMAL OPERATING PRESSURE	
DESIGN FACTOR	



SUMMARY

NO.	DESCRIPTION	QUANTITY
1		2435'
2		265'
3	PIPELINE MARKERS	2

BILL OF MATERIALS

NO.	DESCRIPTION	QUANTITY

REFERENCE DRAWINGS

DESCRIPTION	DWG FILE

DRAWING REVISION

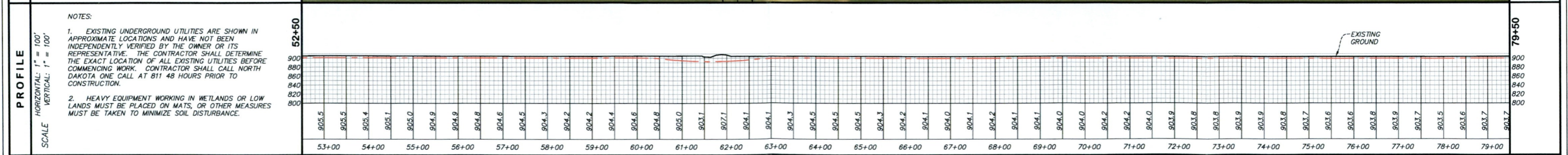
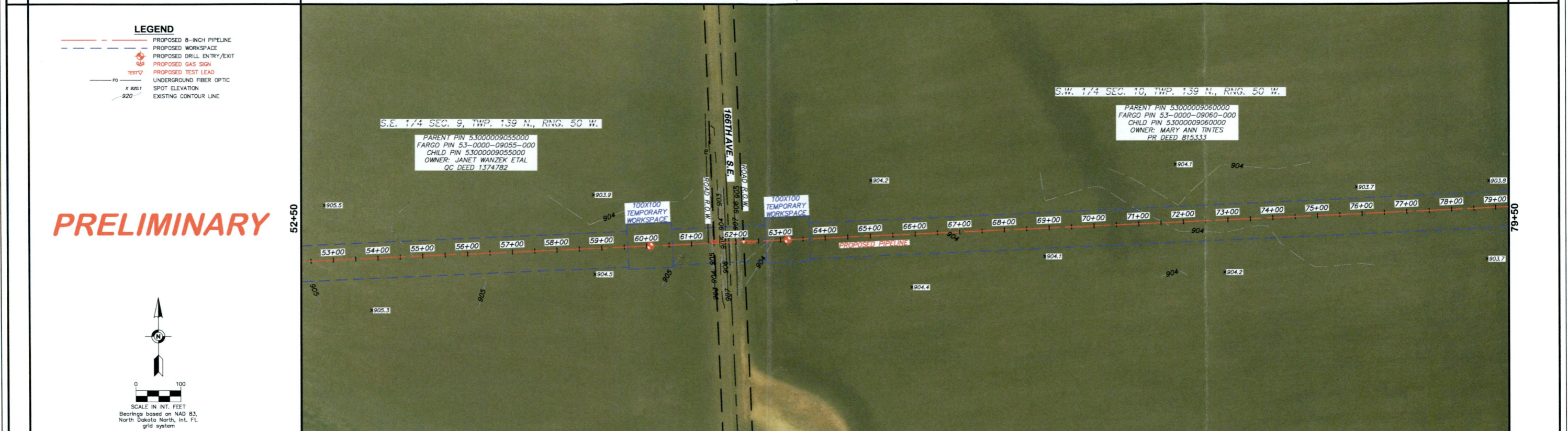
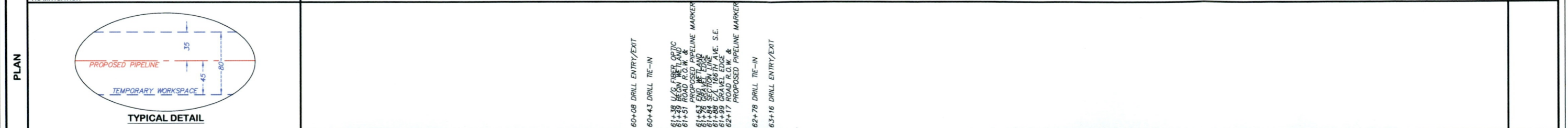
NO.	DATE	BY	DESCRIPTION	CHK	ENG	APP	CLIENT
1	4/13/20	KTB	ALIGNMENT & WORKSPACE	GKD			
2	7/22/20	KTB	HDD & STATIONING				
3	7/24/20	KTB	WORKSPACE WIDTH & ADDITIONAL WORKSPACE				
4	8/26/20	KTB	WETLANDS				
5	9/4/20	KTB	SIGNS & TEST LEADS				

ALIGNMENT SKETCH
MAPLETON DIVERSION

CASS COUNTY	DRAWN BY: KTB	CLIENT PROJECT NO.: 39039
IMAGERY DATE:	DRAWING DATE: 3/30/20	SCALE: 1" = 100'
SURVEY BY: KB, DF	APPROVED:	CHECKED BY: GKD
DWG BY: KTB		SHEET: 3 OF 6

OWNER	SURVEY/ABSTRACT			79+50
	TRACT	52+50	PARENT PIN 53000009055000 JANET WANZEK ETAL 56.61	61+84
	RODS		PARENT PIN 53000009060000 MARY ANN TINTES 107.03	

ENVIRONMENTAL	TIMING RESTRICTIONS	
	WETLAND / WATERBODY ID	
	WETLAND / WATERBODY TYPE	
	WATERBODY CLASSIFICATION	
	CONSTRUCTION METHOD	OPEN CUT
REGULATORY SPECIFICATION		
AC MITIGATION		CASS CO.



PIPE DATA	CLASSIFICATION	
	DESIGN PRESSURE	79'
	MAX ALLOWABLE OPERATING PRESSURE	①
	NORMAL OPERATING PRESSURE	② ③ ④
DESIGN FACTOR		REFER TO SHEET C2 FOR DRILL INFO

SUMMARY	BILL OF MATERIALS		REFERENCE DRAWINGS		DRAWING REVISION									
	NO.	DESCRIPTION	QUANTITY	NO.	DESCRIPTION	DWG FILE	NO.	DATE	BY	DESCRIPTION	CHK	ENG	APP	CLIENT
	1		2465'				1	4/13/20	KTB	ALIGNMENT & WORKSPACE	GKD			
	2		235'				2	7/22/20	KTB	HDD & STATIONING				
	3	PIPELINE MARKERS	1				3	7/24/20	KTB	WORKSPACE WIDTH				
	4	TEST STATION	1				4	8/26/20	KTB	WETLANDS				
							5	9/4/20	KTB	SIGNS & TEST LEADS				

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land surveyors since 1872

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CASS COUNTY
ALIGNMENT SKETCH
MAPLETON DIVERSION
NORTH DAKOTA

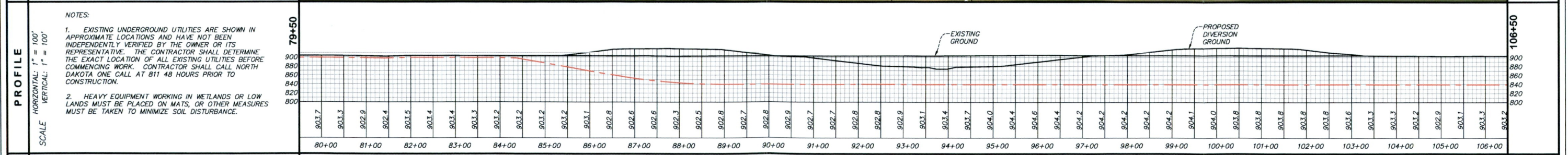
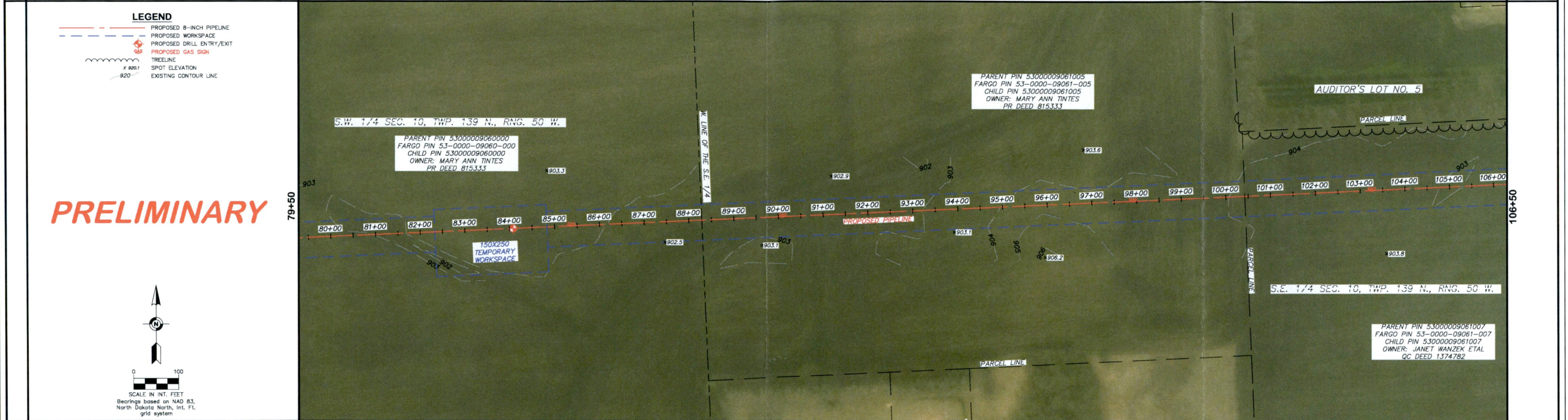
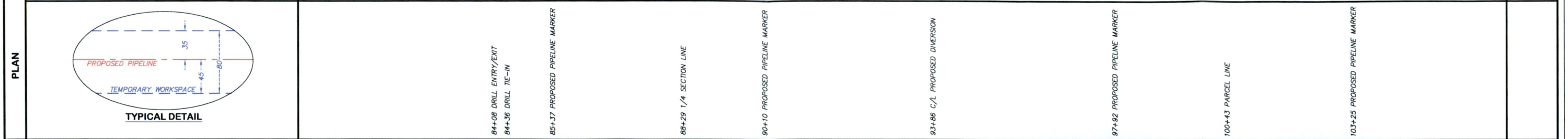
IMAGERY DATE:
SURVEY BY: KB, DF
DWG BY: KTB

DRAWN BY: KTB
DRAWING DATE: 3/30/20
APPROVED:

CLIENT PROJECT NO.:
EFN PROJECT NO.: 39039
SCALE: 1" = 100'
CHECKED BY: GKD
SHEET: 4 OF 6

OWNER	SURVEY/ABSTRACT				
	TRACT				
	RODS	79+50	85+29	100+43	106+50
		PARENT PIN 53000009060000 MARY ANN TINTES 53.27		PARENT PIN 53000009061005 MARY ANN TINTES 73.58	
				PARENT PIN 53000009061007 JANET WANZEK ETAL 36.79	

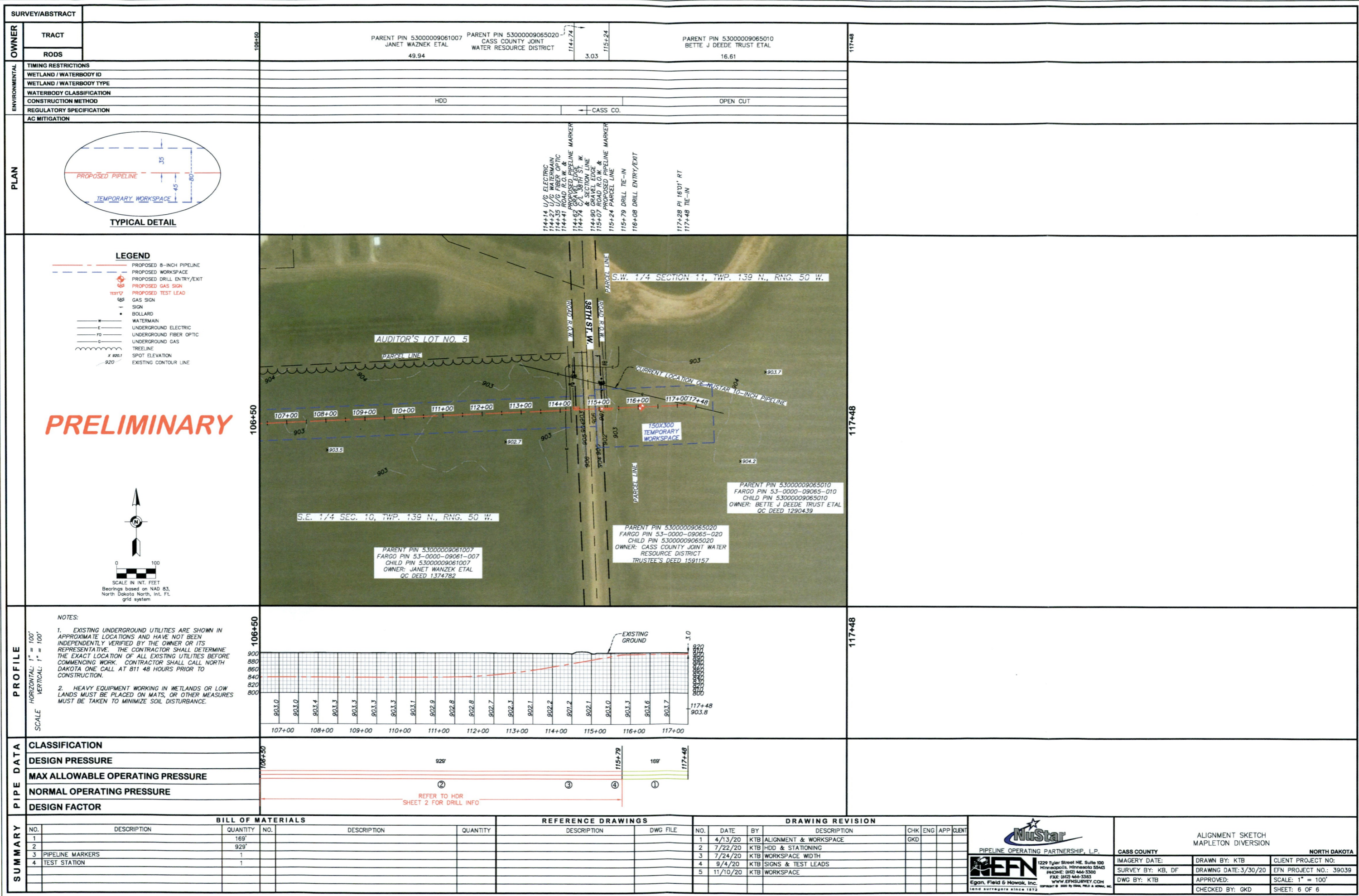
ENVIRONMENTAL	TIMING RESTRICTIONS				
	WETLAND / WATERBODY ID				
	WETLAND / WATERBODY TYPE				
	WATERBODY CLASSIFICATION				
	CONSTRUCTION METHOD	OPEN CUT	HDD		
REGULATORY SPECIFICATION					
AC MITIGATION					



PIPE DATA

CLASSIFICATION	
DESIGN PRESSURE	
MAX ALLOWABLE OPERATING PRESSURE	
NORMAL OPERATING PRESSURE	
DESIGN FACTOR	

SUMMARY	BILL OF MATERIALS		REFERENCE DRAWINGS		DRAWING REVISION				 	ALIGNMENT SKETCH MAPLETON DIVERSION NORTH DAKOTA							
	NO.	DESCRIPTION	QUANTITY	NO.	DESCRIPTION	QUANTITY	NO.	DATE		BY	DESCRIPTION	CHK	ENG	APP	CLIENT	IMAGERY DATE:	DRAWN BY:
1		486'				1	4/13/20	KTB	ALIGNMENT & WORKSPACE	GKD							EFN PROJECT NO.: 39039
2		2214'				2	7/22/20	KTB	HDD & STATIONING								SCALE: 1" = 100'
3	PIPELINE MARKERS	4				3	7/24/20	KTB	WORKSPACE WIDTH								SHEET: 5 OF 6
						4	9/4/20	KTB	SIGNS & TEST LEADS								
						5	11/10/20	KTB	WORKSPACE								



SURVEY/ABSTRACT

OWNER

TRACT

RODS

ENVIRONMENTAL

PLAN

PROFILE

PIPE DATA

SUMMARY

106+50 117+48

PARENT PIN 53000009061007 JANET WAZNEK ETAL 49.94

PARENT PIN 53000009065020 CASS COUNTY JOINT WATER RESOURCE DISTRICT 3.03

PARENT PIN 53000009065010 BETTE J DEEDE TRUST ETAL 16.61

114+14 U/G ELECTRIC

114+27 U/G WATERMAIN

114+35 U/G FIBER OPTIC

114+41 ROAD R.O.W. & 114+62 GRAVEL DEED LINE MARKER

114+74 C/L 38TH ST. W. & SECTION LINE

114+80 ROAD R.O.W. & 115+07 PROPOSED PIPELINE MARKER

115+24 PARCEL LINE

115+79 DRILL TIE-IN

116+08 DRILL ENTRY/EXIT

117+28 PI 16' RT

117+48 TIE-IN

HDD OPEN CUT

← CASS CO.

PROPOSED PIPELINE

TEMPORARY WORKSPACE

35

4.5

80

TYPICAL DETAIL

LEGEND

- PROPOSED 8-INCH PIPELINE
- PROPOSED WORKSPACE
- PROPOSED DRILL ENTRY/EXIT
- PROPOSED GAS SIGN
- PROPOSED TEST LEAD
- GAS SIGN
- SIGN
- BOLLARD
- WATERMAIN
- UNDERGROUND ELECTRIC
- UNDERGROUND FIBER OPTIC
- UNDERGROUND GAS
- TREELINE
- SPOT ELEVATION
- EXISTING CONTOUR LINE

PRELIMINARY

AUDITOR'S LOT NO. 5

107+00 108+00 109+00 110+00 111+00 112+00 113+00 114+00 115+00 116+00 117+00

903.0 903.0 903.4 903.3 903.3 903.3 903.1 902.9 902.8 902.8 902.7 902.3 902.1 902.2 902.2 902.1 902.0 903.3 903.6 903.7

150X300 TEMPORARY WORKSPACE

CURRENT LOCATION OF MUSTAR 10-INCH PIPELINE

S.W. 1/4 SECTION 11, TWP. 136 N., RNG. 50 W.

S.E. 1/4 SEC. 10, TWP. 139 N., RNG. 50 W.

PARENT PIN 53000009065010 FARGO PIN 53-0000-09065-010 CHILD PIN 53000009065010 OWNER: BETTE J DEEDE TRUST ETAL QC DEED 1290439

PARENT PIN 53000009065020 FARGO PIN 53-0000-09065-020 CHILD PIN 53000009065020 OWNER: CASS COUNTY JOINT WATER RESOURCE DISTRICT TRUSTEE'S DEED 1591157

PARENT PIN 53000009061007 FARGO PIN 53-0000-09061-007 CHILD PIN 53000009061007 OWNER: JANET WAZNEK ETAL QC DEED 1374782

NOTES:

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SCALE: HORIZONTAL: 1" = 100' VERTICAL: 1" = 100'

EXISTING GROUND

900 880 860 840 820 800

117+48 903.8

929'

115+79

169'

117+48

REFER TO HDR SHEET 2 FOR DRILL INFO

BILL OF MATERIALS

NO.	DESCRIPTION	QUANTITY	NO.	DESCRIPTION	QUANTITY
1		169'			
2		929'			
3	PIPELINE MARKERS	1			
4	TEST STATION	1			

REFERENCE DRAWINGS

NO.	DATE	BY	DESCRIPTION	CHK	ENG	APP	CLIENT
1	4/13/20	KTB	ALIGNMENT & WORKSPACE	GKD			
2	7/22/20	KTB	HDD & STATIONING				
3	7/24/20	KTB	WORKSPACE WIDTH				
4	9/4/20	KTB	SIGNS & TEST LEADS				
5	11/10/20	KTB	WORKSPACE				

DRAWING REVISION

ALIGNMENT SKETCH

MAPLETON DIVERSION

CASS COUNTY

NORTH DAKOTA

IMAGERY DATE: DRAWN BY: KTB CLIENT PROJECT NO:

SURVEY BY: KB, DF DRAWING DATE: 3/30/20 EFN PROJECT NO.: 39039

DWG BY: KTB APPROVED: SCALE: 1" = 100'

CHECKED BY: GKD SHEET: 6 OF 6

NuStar

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EFN

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