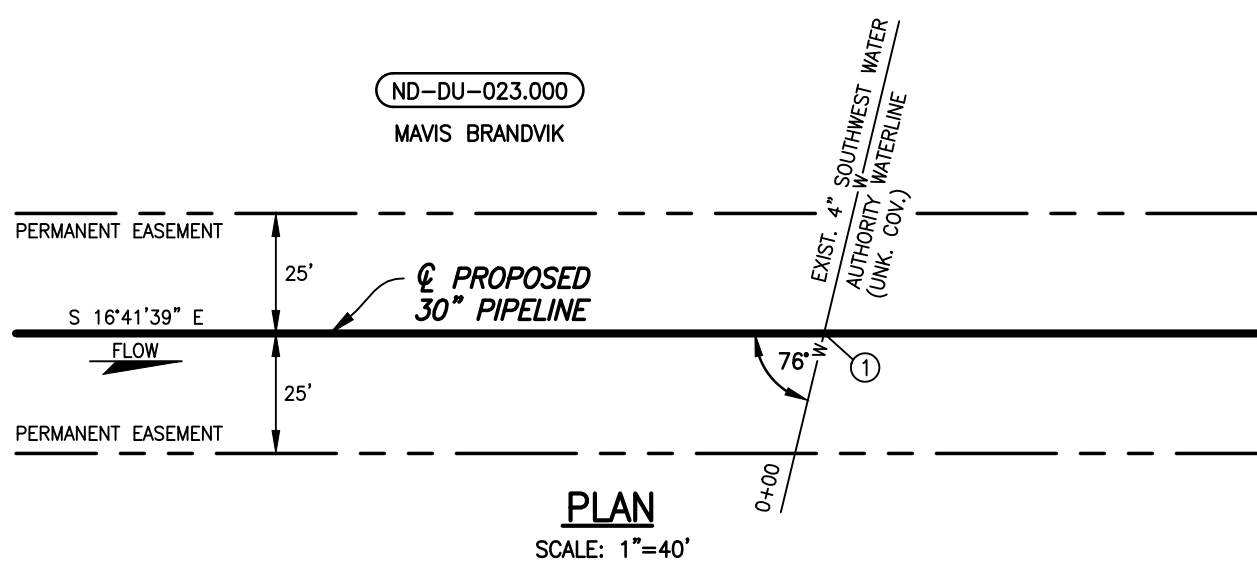
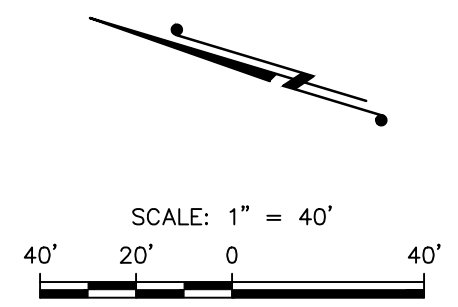


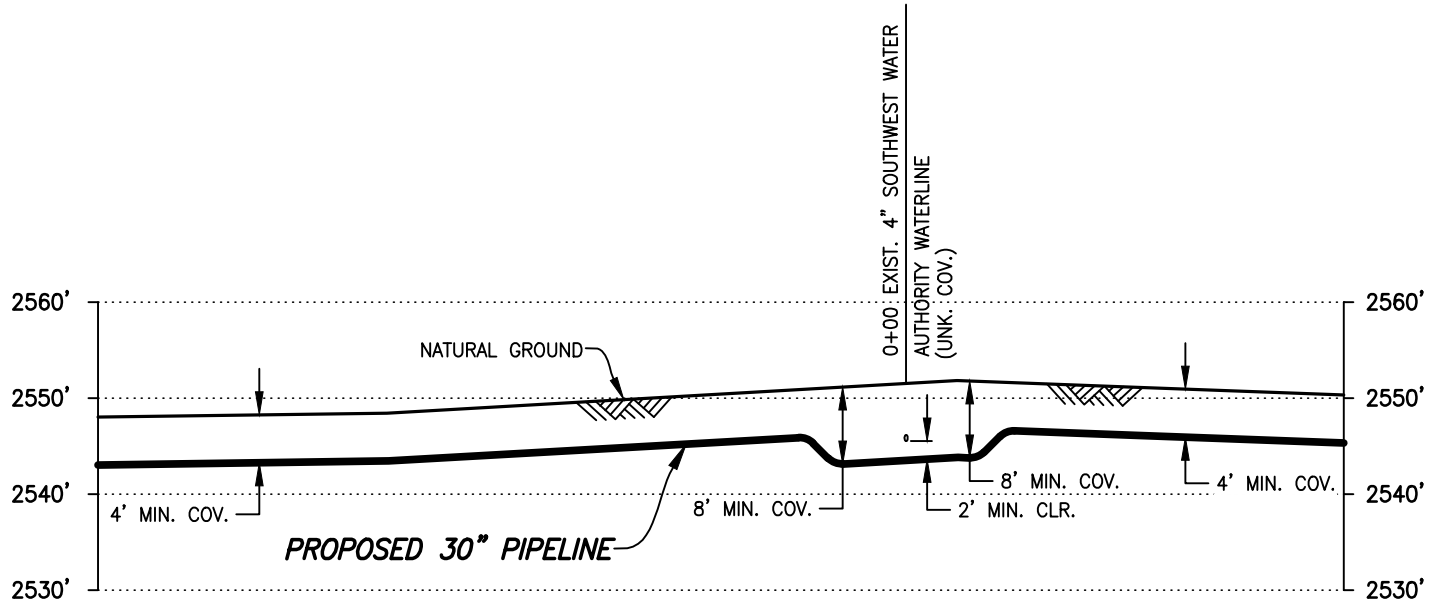
DUNN COUNTY, NORTH DAKOTA

SECTION 24, TOWNSHIP 147 NORTH, RANGE 96 WEST

ND-DU-023.000
MAVIS BRANDVIK



① TEST STATION TYPE IV
REFER TO DOCUMENT NO.
DAPL-WGM-GN000-PPL-GDL-0001
FOR INSTALLATION.
LAT: N47°31'54"
LONG: W102°51'15"
X=2170310.38
Y=17278410.39



DATUM:
ALL ELEVATIONS DERIVED FROM GPS
OBSERVATIONS (GEOID 2012, NAVD 88)
BEARINGS BASED ON UTM ZONE 13
NORTH AMERICAN DATUM 1983.
U.S. SURVEY FEET

PIPE SPECIFICATIONS
PIPE 30" O.D. x 0.429" W.T.
API 5LX-70 HSAW
COATING: 14-16 MILS FBE
SERVICE: CRUDE OIL
INSTALLATION: OPEN CUT
MIN. TEST PRESSURE: 1,800 PSIG
MOP: 1,440 PSIG
MIN. YIELD STRENGTH: 70,000 PSI

NOTE:
PIPELINE TO HAVE 2' MINIMUM CLEARANCE WALL TO WALL
WITH EXISTING UTILITIES WHILE MAINTAINING 8' MINIMUM COVER
THROUGHOUT THE SOUTHWEST WATER AUTHORITY CROSSING.

THE PIPELINE INFORMATION SHOWN ON THIS
DRAWING IS A COMPILATION OF DATA OBTAINED
FROM DRAWINGS FROM VARIOUS SOURCES. WOOD
GROUP MUSTANG, INC. DOES NOT GUARANTEE THE
ACCURACY OR COMPLETENESS OF THE
INFORMATION SHOWN.
IT IS THE CONTRACTOR'S RESPONSIBILITY TO
LOCATE AND/OR CONFIRM THE LOCATIONS OF ALL
UTILITIES AND PIPELINES PRIOR TO EXCAVATION.

REV.	DATE	BY	DESCRIPTION	CHK.
A	04/04/16	AWL	ISSUED FOR USE/PERMIT	RC

PROJECT NO. 10395700

WOOD GROUP MUSTANG, INC.
NORTH DAKOTA REGISTERED ENGINEERING FIRM 627C

DAKOTA ACCESS, LLC

PROPOSED 30" DAPL PIPELINE CROSSING
SOUTHWEST WATER AUTHORITY WATERLINE
DUNN COUNTY NORTH DAKOTA

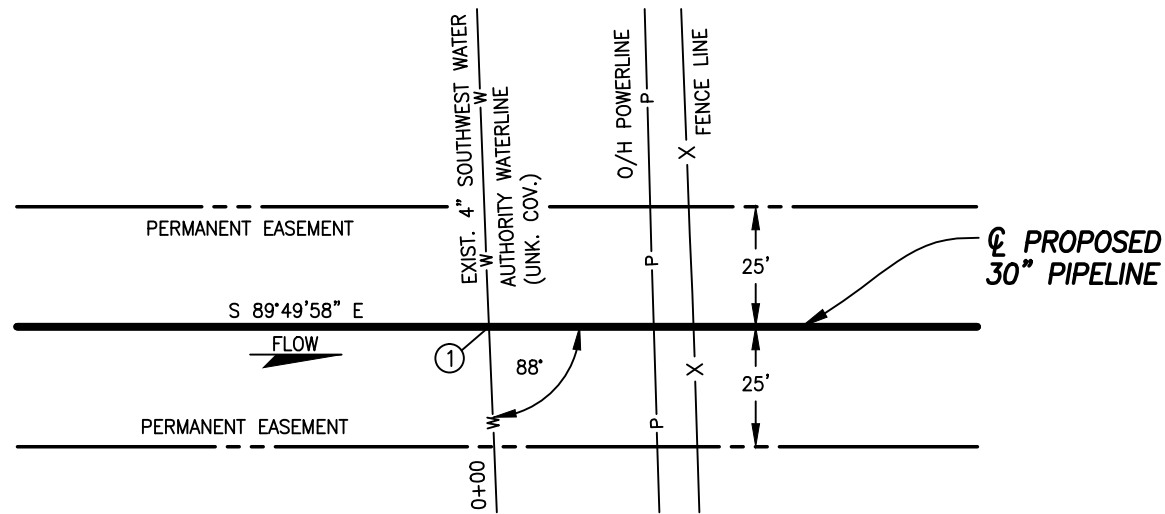
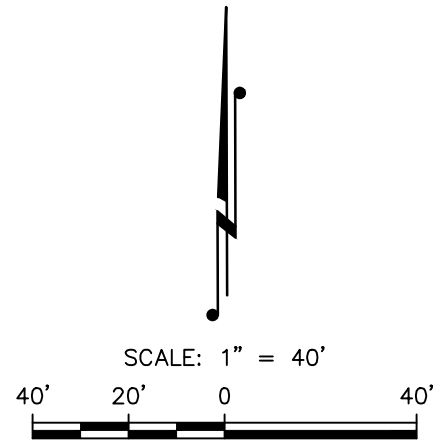
DRAWN BY: AWL	DATE: 04/04/16	DWG. NO.	REV.
CHECKED BY: EFG	DATE: 04/04/16	ND-DU-023.000-SWA-XING	A
SCALE: AS SHOWN	APP.: RC		

FILE: R:\Projects\103957\DISCIPLINE\CAD\DRAWINGS\93-PERMIT\NORTH DAKOTA\Pipeline Crossings\SW WATER AUTHORITY\ND-DU-023.000-SWA-XING.dwg PLOT DATE: 4/14/2016 BY: HUMBERSON, JEREMY

DUNN COUNTY, NORTH DAKOTA

SECTION 25, TOWNSHIP 147 NORTH, RANGE 96 WEST

ND-DU-024.000
PATRICIA HOWARD



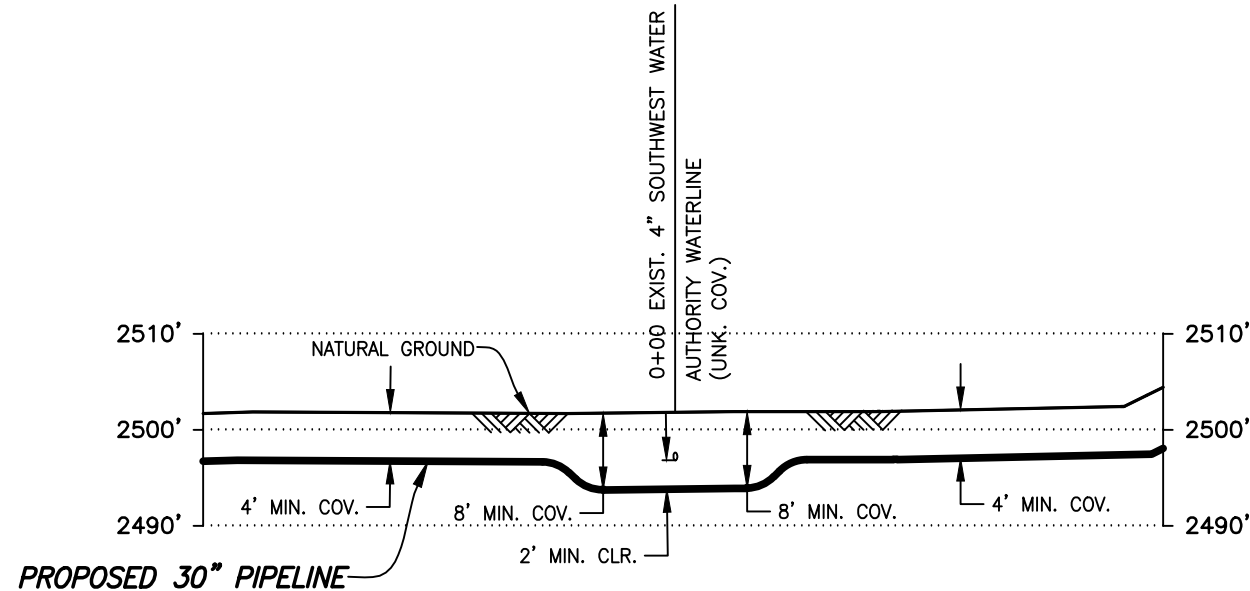
PLAN
SCALE: 1"=40'

- ① TEST STATION TYPE IV
REFER TO DOCUMENT NO.
DAPL-WGM-GN000-PPL-GDL-0001
FOR INSTALLATION.
LAT: N47°31'10"
LONG: W102°50'39"
X=2172876.38
Y=17274104.10

DATUM:
ALL ELEVATIONS DERIVED FROM GPS
OBSERVATIONS (GEOID 2012, NAVD 88)
BEARINGS BASED ON UTM ZONE 13
NORTH AMERICAN DATUM 1983.
U.S. SURVEY FEET

PIPE SPECIFICATIONS
PIPE 30" O.D. x 0.429" W.T.
API 5LX-70 HSAW
COATING: 14-16 MILS FBE
SERVICE: CRUDE OIL
INSTALLATION: OPEN CUT
MIN. TEST PRESSURE: 1,800 PSIG
MOP: 1,440 PSIG
MIN. YIELD STRENGTH: 70,000 PSI

NOTE:
PIPELINE TO HAVE 2' MINIMUM CLEARANCE WALL TO WALL
WITH EXISTING UTILITIES WHILE MAINTAINING 8' MINIMUM COVER
THROUGHOUT THE SOUTHWEST WATER AUTHORITY CROSSING.



PROFILE
SCALE: 1"=40' HORIZ.
1"=20' VERT.

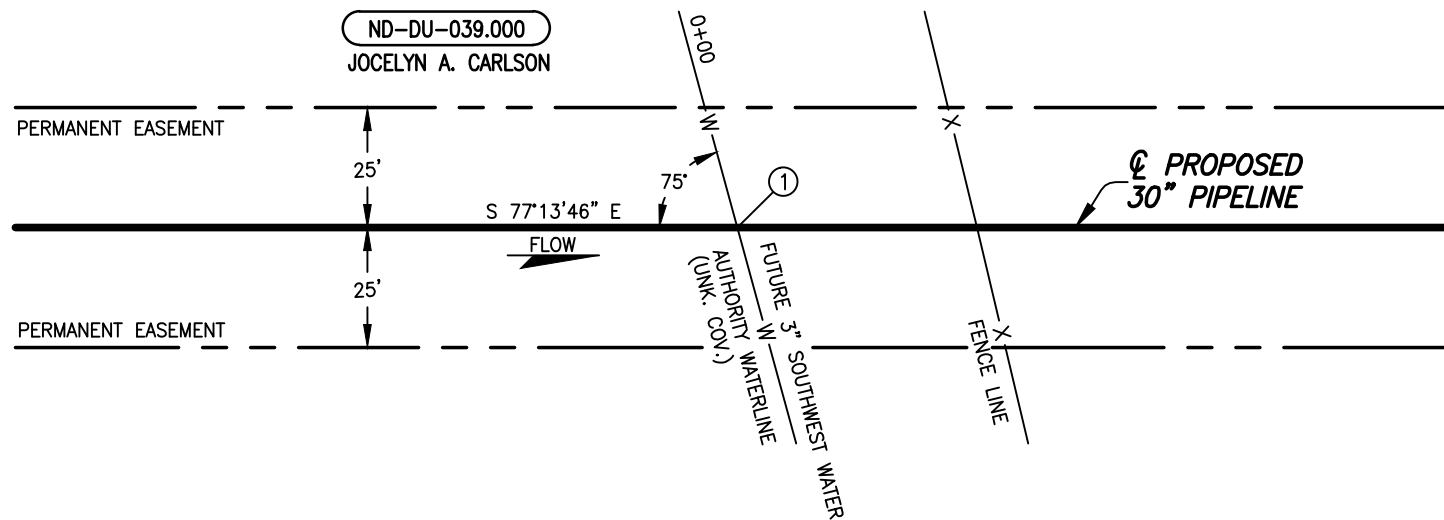
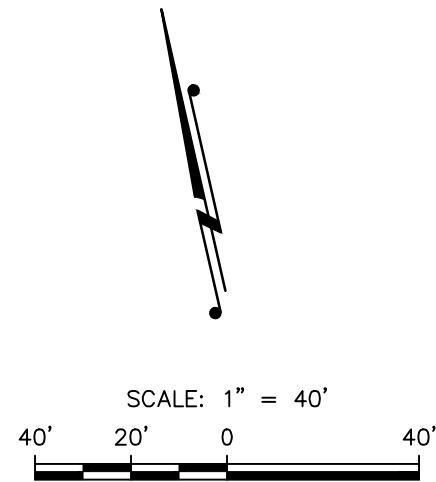
THE PIPELINE INFORMATION SHOWN ON THIS
DRAWING IS A COMPILATION OF DATA OBTAINED
FROM DRAWINGS FROM VARIOUS SOURCES. WOOD
GROUP MUSTANG, INC. DOES NOT GUARANTEE THE
ACCURACY OR COMPLETENESS OF THE
INFORMATION SHOWN.
IT IS THE CONTRACTOR'S RESPONSIBILITY TO
LOCATE AND/OR CONFIRM THE LOCATIONS OF ALL
UTILITIES AND PIPELINES PRIOR TO EXCAVATION.

DAKOTA ACCESS, LLC			
PROPOSED 30" DAPL PIPELINE CROSSING SOUTHWEST WATER AUTHORITY WATERLINE DUNN COUNTY NORTH DAKOTA			
REV.	DATE	BY	CHK.
A	04/04/16	JTM	RC
		PROJECT NO. 10395700	
		WOOD GROUP MUSTANG, INC. NORTH DAKOTA REGISTERED ENGINEERING FIRM 627C	
DRAWN BY: JTM		DATE: 04/04/16	DWG. NO.
CHECKED BY: TC		DATE: 04/04/16	REV.
SCALE: AS SHOWN		APP.: RC	ND-DU-024.000-SWA-XING A

FILE: R:\Projects\103957\DISCIPLINE\CAD\DRAWINGS\93-PERMIT\NORTH DAKOTA\Pipeline Crossings\SW WATER AUTHORITY\ND-DU-024.000-SWA-XING.dwg PLOT DATE: 4/14/2016 BY: HUMBERSON, JEREMY

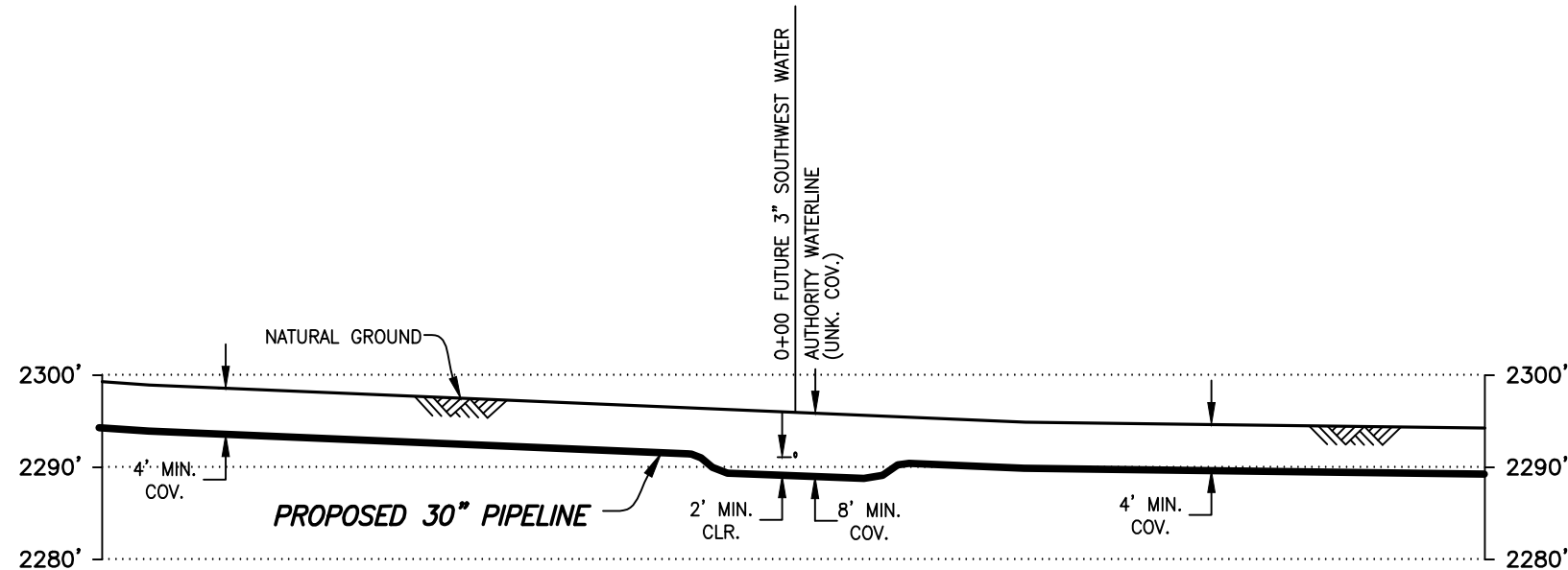
DUNN COUNTY, NORTH DAKOTA

SECTION 29, TOWNSHIP 146 NORTH, RANGE 94 WEST



PLAN

SCALE: 1"=40'



PROFILE

SCALE: 1"=40' HORIZ.
1"=20' VERT.

- ① TEST STATION TYPE IV REFER TO DOCUMENT NO. DAPL-WGM-GN000-PPL-GDL-0001 FOR INSTALLATION.
LAT: N47°26'18"
LONG: W102°41'04"
X=2213211.19
Y=17245638.00

DATUM:
ALL ELEVATIONS DERIVED FROM GPS OBSERVATIONS (GEOID 2012, NAVD 88) BEARINGS BASED ON UTM ZONE 13 NORTH AMERICAN DATUM 1983. U.S. SURVEY FEET

PIPE SPECIFICATIONS

PIPE 30" O.D. x 0.429" W.T.
API 5LX-70 HSAW
COATING: 14-16 MILS FBE
SERVICE: CRUDE OIL
INSTALLATION: OPEN CUT
MIN. TEST PRESSURE: 1,800 PSIG
MOP: 1,440 PSIG
MIN. YIELD STRENGTH: 70,000 PSI

NOTE:

PIPELINE TO HAVE 2' MINIMUM CLEARANCE WALL TO WALL WITH EXISTING UTILITIES WHILE MAINTAINING 8' MINIMUM COVER THROUGHOUT THE SOUTHWEST WATER AUTHORITY CROSSING.

THE PIPELINE INFORMATION SHOWN ON THIS DRAWING IS A COMPILATION OF DATA OBTAINED FROM DRAWINGS FROM VARIOUS SOURCES. WOOD GROUP MUSTANG, INC. DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN.
IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND/OR CONFIRM THE LOCATIONS OF ALL UTILITIES AND PIPELINES PRIOR TO EXCAVATION.

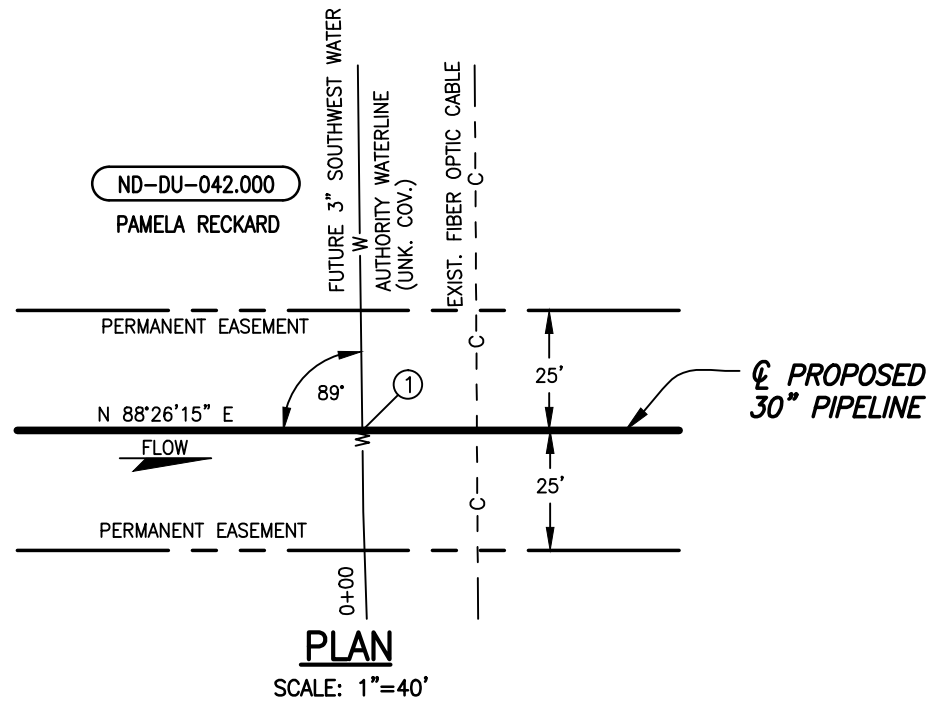
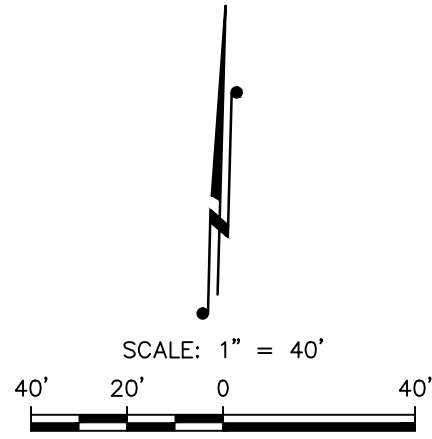
A	04/04/16	DLK	ISSUED FOR USE/PERMIT
REV.	DATE	BY	DESCRIPTION
PROJECT NO.		10395700	
WOOD GROUP MUSTANG, INC. NORTH DAKOTA REGISTERED ENGINEERING FIRM 627C			

DAKOTA ACCESS, LLC			
PROPOSED 30" DAPL PIPELINE CROSSING SOUTHWEST WATER AUTHORITY WATERLINE DUNN COUNTY NORTH DAKOTA			
DRAWN BY: DLK	DATE: 04/04/16	DWG. NO.	REV.
CHECKED BY: EFG	DATE: 04/04/16	ND-DU-039.000-SWA-XING	A
SCALE: AS SHOWN	APP.: RC		

FILE: R:\Projects\103957\DISCIPLINE\CAD\DRAWINGS\93-PERMIT\NORTH DAKOTA\Pipeline Crossings\SW WATER AUTHORITY\ND-DU-039.000-SWA-XING.dwg PLOT DATE: 4/14/2016 BY: HUMBERSON, JEREMY

DUNN COUNTY, NORTH DAKOTA

SECTION 27, TOWNSHIP 146 NORTH, RANGE 94 WEST

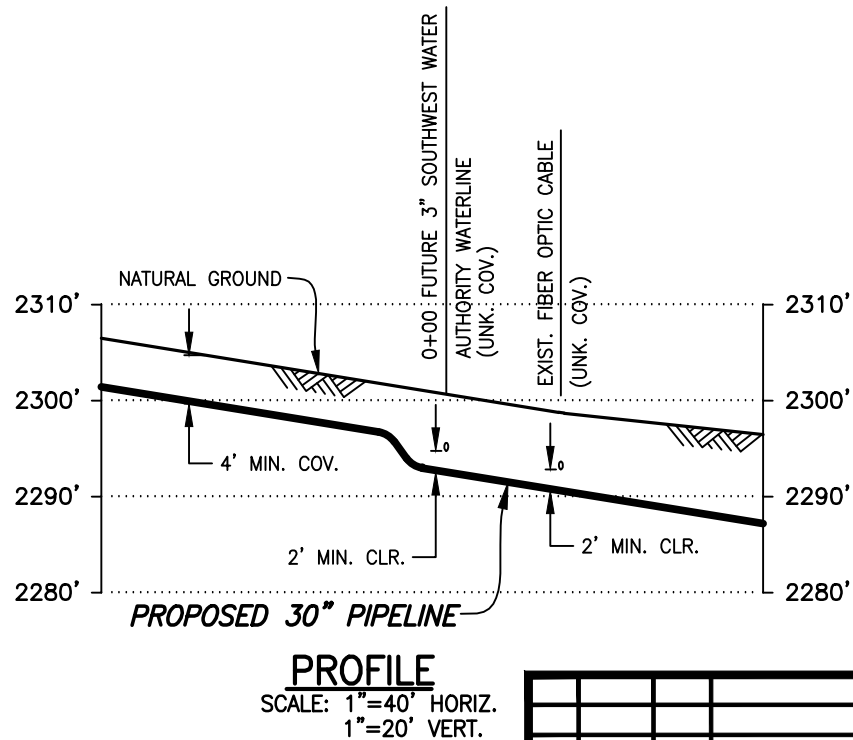


① TEST STATION TYPE IV
 REFER TO DOCUMENT NO.
 DAPL-WGM-GN000-PPL-GDL-0001
 FOR INSTALLATION.
 LAT: N47°26'00"
 LONG: W102°37'53"
 X=2226384.00
 Y=17244173.44

DATUM:
 ALL ELEVATIONS DERIVED FROM GPS
 OBSERVATIONS (GEOID 2012, NAVD 88)
 BEARINGS BASED ON UTM ZONE 13
 NORTH AMERICAN DATUM 1983.
 U.S. SURVEY FEET

PIPE SPECIFICATIONS
 PIPE 30" O.D. x 0.625" W.T.
 API 5LX-70 HSAW
 COATING: 14-16 MILS FBE
 W/40 MILS ARO
 SERVICE: CRUDE OIL
 INSTALLATION: BORE
 MIN. TEST PRESSURE: 1,800 PSIG
 MOP: 1,440 PSIG
 MIN. YIELD STRENGTH: 70,000 PSI

NOTE:
 PIPELINE TO HAVE 2' MINIMUM CLEARANCE WALL TO WALL
 WITH EXISTING UTILITIES WHILE MAINTAINING 8' MINIMUM COVER
 THROUGHOUT THE SOUTHWEST WATER AUTHORITY CROSSING.



THE PIPELINE INFORMATION SHOWN ON THIS
 DRAWING IS A COMPILATION OF DATA OBTAINED
 FROM DRAWINGS FROM VARIOUS SOURCES. WOOD
 GROUP MUSTANG, INC. DOES NOT GUARANTEE THE
 ACCURACY OR COMPLETENESS OF THE
 INFORMATION SHOWN.
 IT IS THE CONTRACTOR'S RESPONSIBILITY TO
 LOCATE AND/OR CONFIRM THE LOCATIONS OF ALL
 UTILITIES AND PIPELINES PRIOR TO EXCAVATION.

A	04/04/16	JTM	ISSUED FOR USE/PERMIT
REV.	DATE	BY	DESCRIPTION
PROJECT NO.		10395700	
WOOD GROUP MUSTANG, INC. NORTH DAKOTA REGISTERED ENGINEERING FIRM 627C			

DAKOTA ACCESS, LLC

PROPOSED 30" DAPL PIPELINE CROSSING

SOUTHWEST WATER AUTHORITY WATERLINE

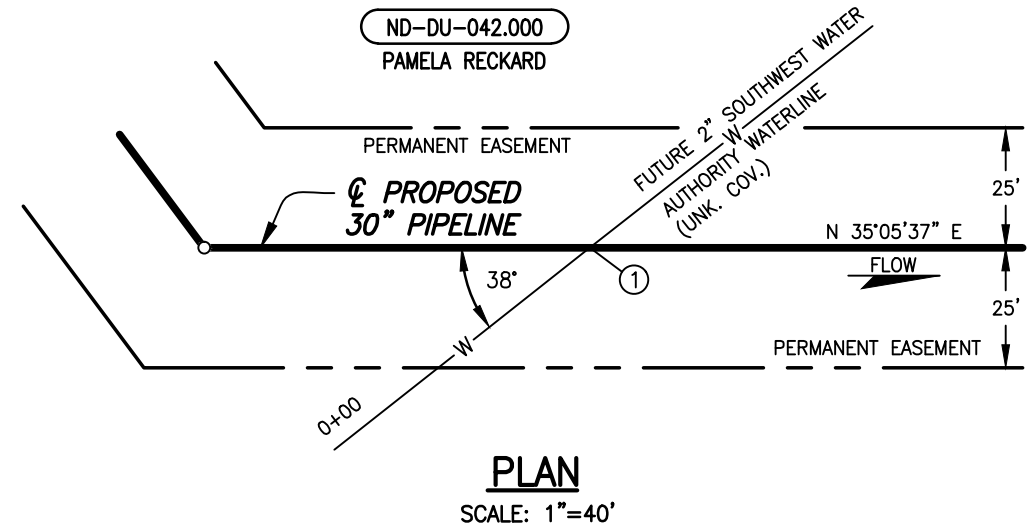
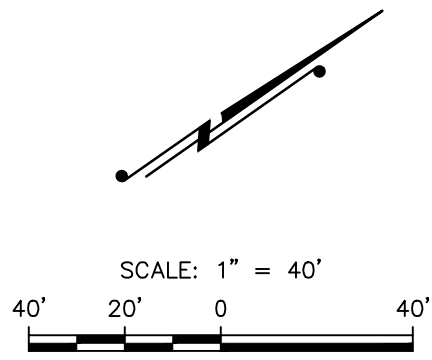
DUNN COUNTY NORTH DAKOTA

DRAWN BY: JTM	DATE: 04/04/16	DWG. NO.	REV.
CHECKED BY: TC	DATE: 04/04/16	ND-DU-042.100-SWA-XING	A
SCALE: AS SHOWN	APP.: RC		

FILE: R:\Projects\103957\DISCIPLINE\CAD\DRAWINGS\93-PERMIT\NORTH DAKOTA\Pipeline Crossings\SW WATER AUTHORITY\ND-DU-042.100-SWA-XING.dwg PLOT DATE: 4/14/2016 BY: HUMBERSON, JEREMY

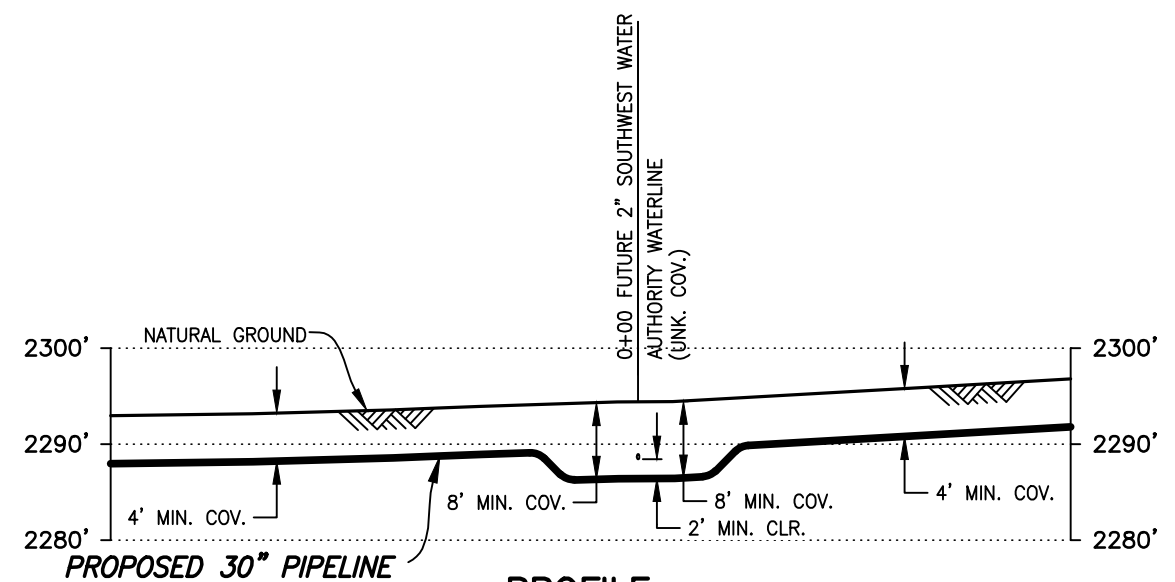
DUNN COUNTY, NORTH DAKOTA

SECTION 28, TOWNSHIP 146 NORTH, RANGE 94 WEST



PLAN
SCALE: 1"=40'

① TEST STATION TYPE IV
REFER TO DOCUMENT NO.
DAPL-WGM-GN000-PPL-GDL-0001
FOR INSTALLATION.
LAT: N47°25'51"
LONG: W102°39'10"
X=2221150.77
Y=17243078.01



PROFILE
SCALE: 1"=40' HORIZ.
1"=20' VERT.

THE PIPELINE INFORMATION SHOWN ON THIS DRAWING IS A COMPILATION OF DATA OBTAINED FROM DRAWINGS FROM VARIOUS SOURCES. WOOD GROUP MUSTANG, INC. DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND/OR CONFIRM THE LOCATIONS OF ALL UTILITIES AND PIPELINES PRIOR TO EXCAVATION.

DATUM:
ALL ELEVATIONS DERIVED FROM GPS OBSERVATIONS (GEOID 2012, NAVD 88) BEARINGS BASED ON UTM ZONE 13 NORTH AMERICAN DATUM 1983. U.S. SURVEY FEET

PIPE SPECIFICATIONS
PIPE 30" O.D. x 0.429" W.T.
API 5LX-70 HSAW
COATING: 14-16 MILS FBE
SERVICE: CRUDE OIL
INSTALLATION: OPEN CUT
MIN. TEST PRESSURE: 1,800 PSIG
MOP: 1,440 PSIG
MIN. YIELD STRENGTH: 70,000 PSI

NOTE:
PIPELINE TO HAVE 2' MINIMUM CLEARANCE WALL TO WALL WITH EXISTING UTILITIES WHILE MAINTAINING 8' MINIMUM COVER THROUGHOUT THE SOUTHWEST WATER AUTHORITY CROSSING.

A	04/08/16	AWL	ISSUED FOR USE/PERMIT	RC
REV.	DATE	BY	DESCRIPTION	CHK.
PROJECT NO.			10395700	
WOOD GROUP MUSTANG, INC. NORTH DAKOTA REGISTERED ENGINEERING FIRM 627C				

DAKOTA ACCESS, LLC			
PROPOSED 30" DAPL PIPELINE CROSSING SOUTHWEST WATER AUTHORITY WATERLINE DUNN COUNTY NORTH DAKOTA			
DRAWN BY: AWL	DATE: 04/04/16	DWG. NO.	REV.
CHECKED BY: EFG	DATE: 04/08/16	ND-DU-042.200-SWA-XING	A
SCALE: AS SHOWN	APP.: RC		

FILE: R:\Projects\103957\DISCIPLINE\CAD\DRAWINGS\93-PERMIT\NORTH DAKOTA\Pipeline Crossings\SW WATER AUTHORITY\ND-DU-042.200-SWA-XING.dwg PLOT DATE: 4/14/2016 BY: HUMBERSON, JEREMY

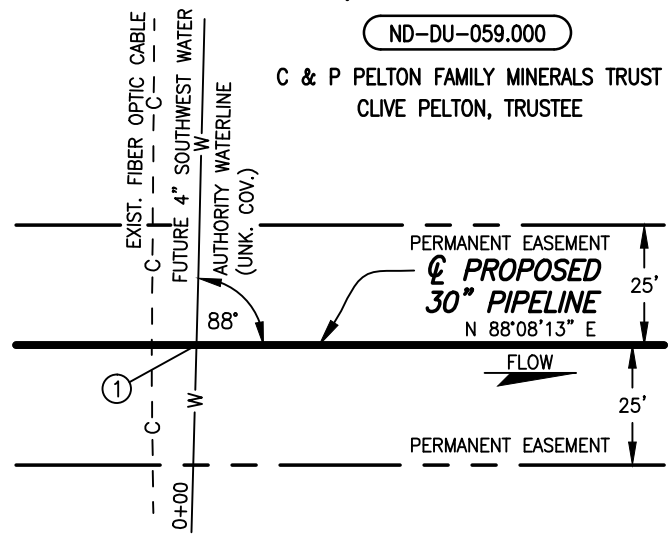
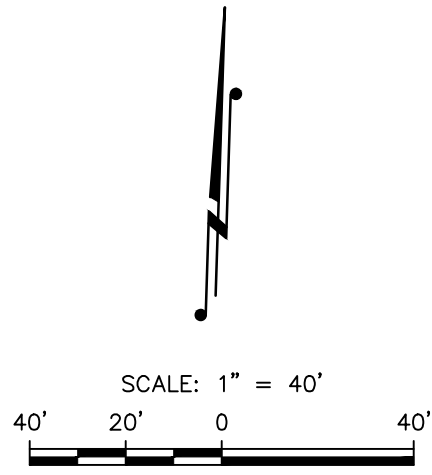
FILE: R:\Projects\103957\DISCIPLINE\CAD\DRAWINGS\93-PERMIT\NORTH DAKOTA\Pipeline Crossings\SW WATER AUTHORITY\ND-DU-059.000-SWA-XING.dwg PLOT DATE: 4/14/2016 BY: HUMBERSON, JEREMY

DUNN COUNTY, NORTH DAKOTA

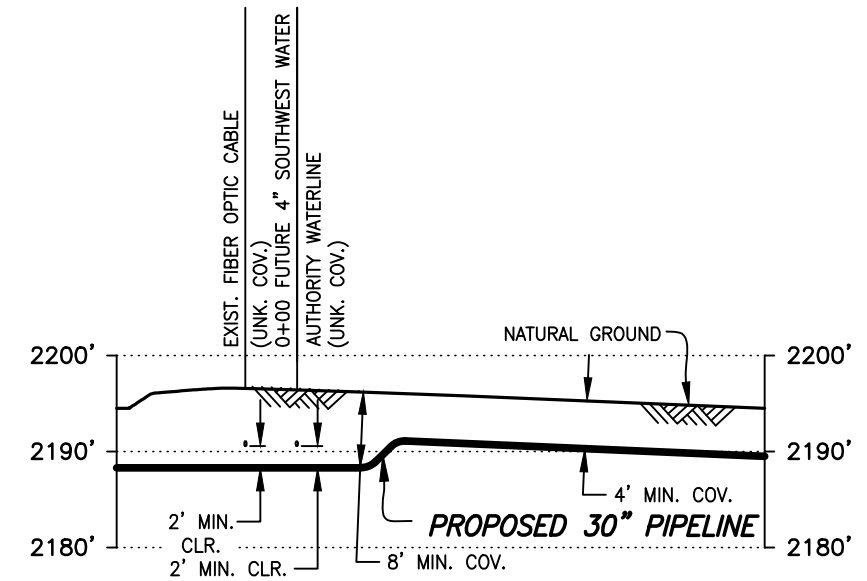
SECTION 2, TOWNSHIP 145 NORTH, RANGE 93 WEST

ND-DU-059.000

C & P PELTON FAMILY MINERALS TRUST
CLIVE PELTON, TRUSTEE



PLAN
SCALE: 1"=40'



PROFILE
SCALE: 1"=40' HORIZ.
1"=20' VERT.

① TEST STATION TYPE IV
REFER TO DOCUMENT NO.
DAPL-WGM-GN000-PPL-GDL-0001
FOR INSTALLATION.
LAT: N47°24'50"
LONG: W102°30'10"
X=2258441.78
Y=17238066.83

DATUM:
ALL ELEVATIONS DERIVED FROM GPS
OBSERVATIONS (GEOID 2012, NAVD 88)
BEARINGS BASED ON UTM ZONE 13
NORTH AMERICAN DATUM 1983.
U.S. SURVEY FEET

PIPE SPECIFICATIONS
PIPE 30" O.D. x 0.625" W.T.
API 5LX-70 HSAW
COATING: 14-16 MILS FBE
W/40 MILS ARO
SERVICE: CRUDE OIL
INSTALLATION: BORE
MIN. TEST PRESSURE: 1,800 PSIG
MOP: 1,440 PSIG
MIN. YIELD STRENGTH: 70,000 PSI

NOTE:
PIPELINE TO HAVE 2' MINIMUM CLEARANCE WALL TO WALL
WITH EXISTING UTILITIES WHILE MAINTAINING 8' MINIMUM COVER
THROUGHOUT THE SOUTHWEST WATER AUTHORITY CROSSING.

THE PIPELINE INFORMATION SHOWN ON THIS DRAWING IS A COMPILATION OF DATA OBTAINED FROM DRAWINGS FROM VARIOUS SOURCES. WOOD GROUP MUSTANG, INC. DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND/OR CONFIRM THE LOCATIONS OF ALL UTILITIES AND PIPELINES PRIOR TO EXCAVATION.

A	04/08/16	JMH	ISSUED FOR USE/PERMIT	RC
REV.	DATE	BY	DESCRIPTION	CHK.
PROJECT NO.			10395700	
WOOD GROUP MUSTANG, INC. NORTH DAKOTA REGISTERED ENGINEERING FIRM 627C				

DAKOTA ACCESS, LLC

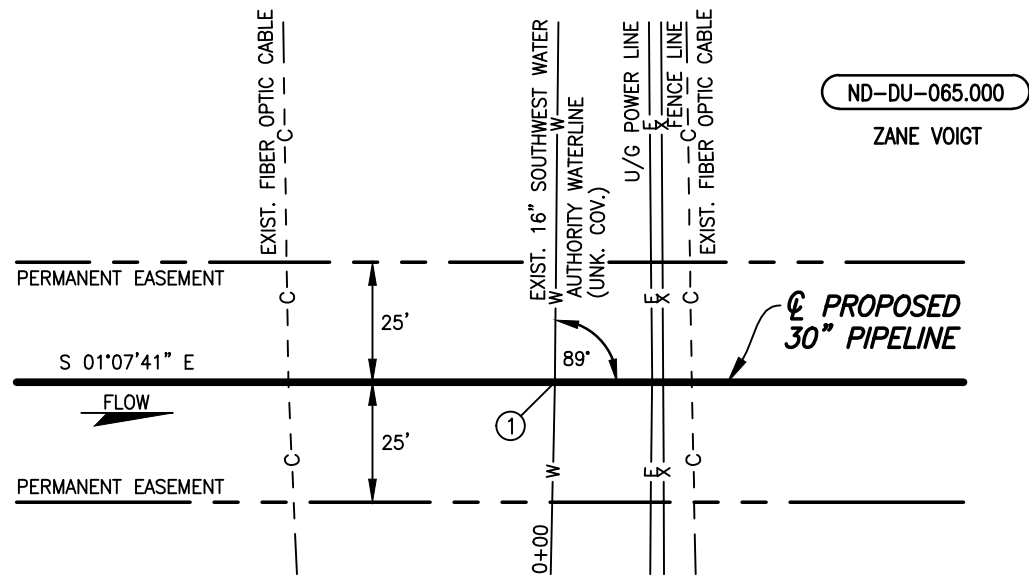
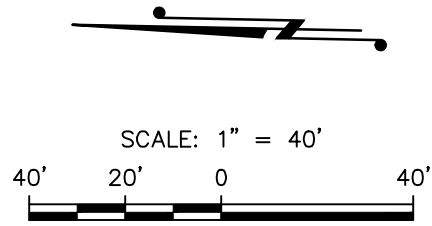
PROPOSED 30" DAPL PIPELINE CROSSING

SOUTHWEST WATER AUTHORITY WATERLINE
DUNN COUNTY NORTH DAKOTA

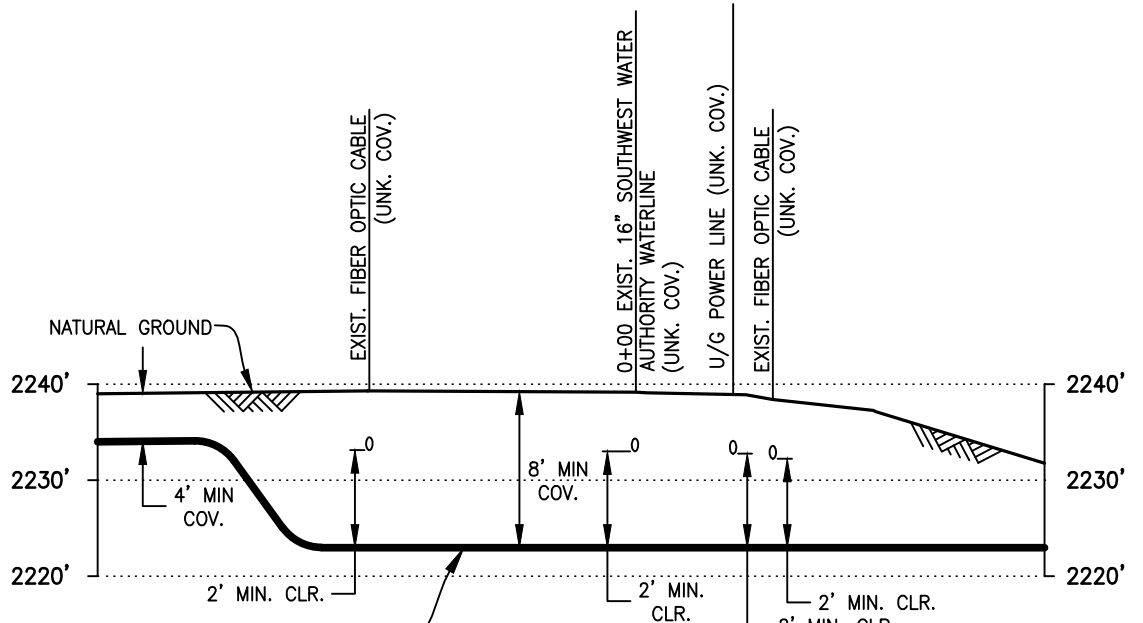
DRAWN BY: AWL	DATE: 04/04/16	DWG. NO.	REV.
CHECKED BY: EFG	DATE: 04/04/16	ND-DU-059.000-SWA-XING	A
SCALE: AS SHOWN	APP.: RC		

DUNN COUNTY, NORTH DAKOTA

SECTION 6, TOWNSHIP 145 NORTH, RANGE 92 WEST



PLAN
SCALE: 1"=40'



PROFILE
SCALE: 1"=40' HORIZ.
1"=20' VERT.

① TEST STATION TYPE IV
REFER TO DOCUMENT NO.
DAPL-WGM-GN000-PPL-GDL-0001
FOR INSTALLATION.
LAT: N47°24'03"
LONG: W102°26'24"
X=2274139.41
Y=17233884.37

DATUM:
ALL ELEVATIONS DERIVED FROM GPS
OBSERVATIONS (GEOID 2012, NAVD 88)
BEARINGS BASED ON UTM ZONE 13
NORTH AMERICAN DATUM 1983.
U.S. SURVEY FEET

PIPE SPECIFICATIONS
PIPE 30" O.D. x 0.625" W.T.
API 5LX-70 HSAW
COATING: 14-16 MILS FBE
W/40 MILS ARO
SERVICE: CRUDE OIL
INSTALLATION: BORE
MIN. TEST PRESSURE: 1,800 PSIG
MOP: 1,440 PSIG
MIN. YIELD STRENGTH: 70,000 PSI

NOTE:
PIPELINE TO HAVE 2' MINIMUM CLEARANCE WALL TO WALL
WITH EXISTING UTILITIES WHILE MAINTAINING 8' MINIMUM COVER
THROUGHOUT THE SOUTHWEST WATER AUTHORITY CROSSING.

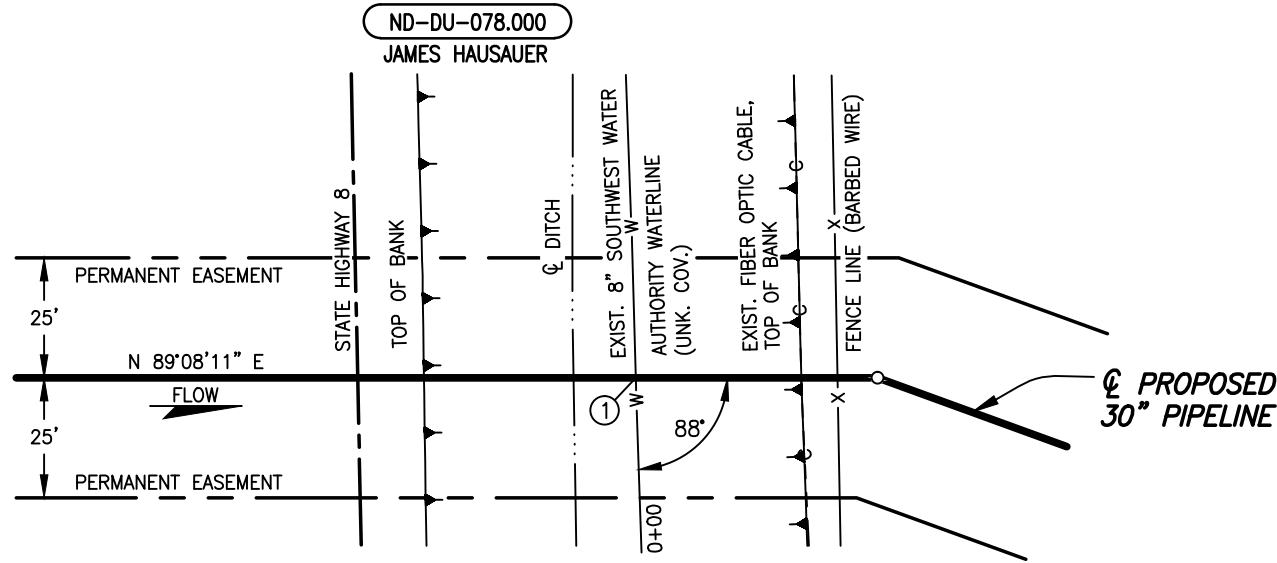
THE PIPELINE INFORMATION SHOWN ON THIS
DRAWING IS A COMPILATION OF DATA OBTAINED
FROM DRAWINGS FROM VARIOUS SOURCES. WOOD
GROUP MUSTANG, INC. DOES NOT GUARANTEE THE
ACCURACY OR COMPLETENESS OF THE
INFORMATION SHOWN.
IT IS THE CONTRACTOR'S RESPONSIBILITY TO
LOCATE AND/OR CONFIRM THE LOCATIONS OF ALL
UTILITIES AND PIPELINES PRIOR TO EXCAVATION.

DAKOTA ACCESS, LLC			
PROPOSED 30" DAPL PIPELINE CROSSING SOUTHWEST WATER AUTHORITY WATERLINE DUNN COUNTY NORTH DAKOTA			
REV.	DATE	BY	CHK.
A	04/05/16	JWH	RC
PROJECT NO.		10395700	
		WOOD GROUP MUSTANG, INC. NORTH DAKOTA REGISTERED ENGINEERING FIRM 627C	
DRAWN BY: JWH		DATE: 04/05/16	
CHECKED BY: TC		DATE: 04/05/16	
SCALE: AS SHOWN		APP.: RC	
DWG. NO.		REV.	
ND-DU-065.000-SWA-XING		A	

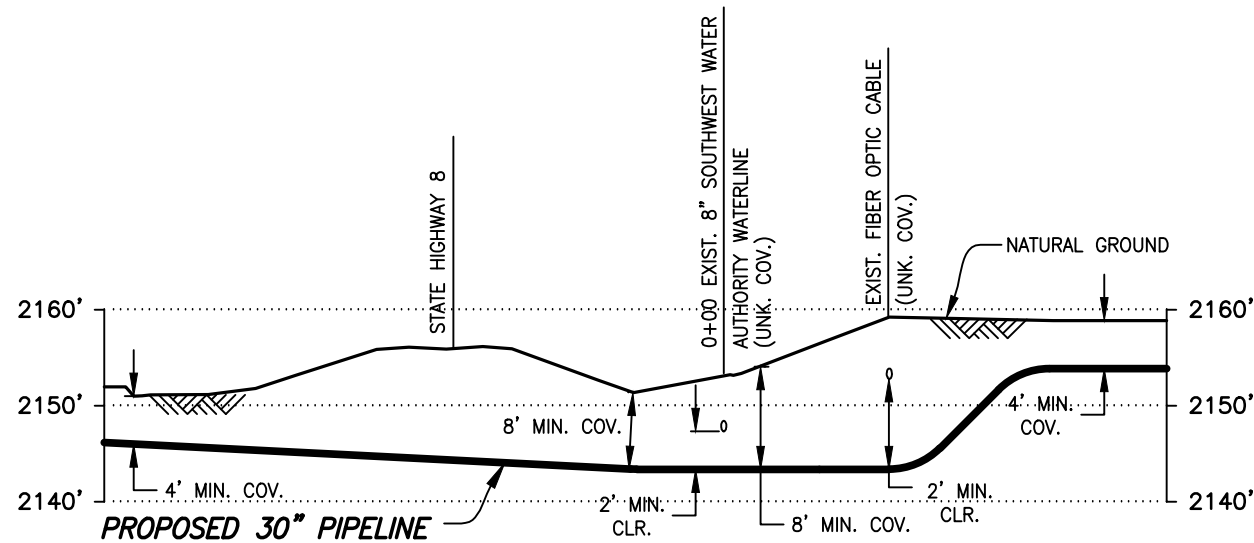
FILE: R:\Projects\103957\DISCIPLINE\CAD\DRAWINGS\93-PERMIT\NORTH DAKOTA\Pipeline Crossings\SW WATER AUTHORITY\ND-DU-065.000-SWA-XING.dwg PLOT DATE: 4/14/2016 BY: HUMBERSON, JEREMY

DUNN COUNTY, NORTH DAKOTA

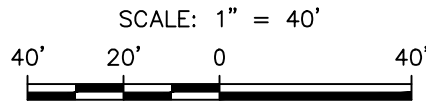
SECTION 19, TOWNSHIP 145 NORTH, RANGE 91 WEST



PLAN
SCALE: 1"=40'



PROFILE
SCALE: 1"=40' HORIZ.
1"=20' VERT.



① TEST STATION TYPE IV
REFER TO DOCUMENT NO.
DAPL-WGM-GN000-PPL-GDL-0001
FOR INSTALLATION.
LAT: N47°22'02"
LONG: W102°19'58"
X=2301109.14
Y=17222453.79

DATUM:
ALL ELEVATIONS DERIVED FROM GPS
OBSERVATIONS (GEOID 2012, NAVD 88)
BEARINGS BASED ON UTM ZONE 13
NORTH AMERICAN DATUM 1983.
U.S. SURVEY FEET

PIPE SPECIFICATIONS
PIPE 30" O.D. x 0.625" W.T.
API 5LX-70 HSAW
COATING: 14-16 MILS FBE
W/40 MILS ARO
SERVICE: CRUDE OIL
INSTALLATION: BORE
MIN. TEST PRESSURE: 1,800 PSIG
MOP: 1,440 PSIG
MIN. YIELD STRENGTH: 70,000 PSI

NOTE:
PIPELINE TO HAVE 2' MINIMUM CLEARANCE WALL TO WALL
WITH EXISTING UTILITIES WHILE MAINTAINING 8' MINIMUM COVER
THROUGHOUT THE SOUTHWEST WATER AUTHORITY CROSSING.

THE PIPELINE INFORMATION SHOWN ON THIS
DRAWING IS A COMPILATION OF DATA OBTAINED
FROM DRAWINGS FROM VARIOUS SOURCES. WOOD
GROUP MUSTANG, INC. DOES NOT GUARANTEE THE
ACCURACY OR COMPLETENESS OF THE
INFORMATION SHOWN.
IT IS THE CONTRACTOR'S RESPONSIBILITY TO
LOCATE AND/OR CONFIRM THE LOCATIONS OF ALL
UTILITIES AND PIPELINES PRIOR TO EXCAVATION.

A	04/04/16	DLK	ISSUED FOR USE/PERMIT
REV.	DATE	BY	DESCRIPTION
PROJECT NO.		10395700	
WOOD GROUP MUSTANG, INC. NORTH DAKOTA REGISTERED ENGINEERING FIRM 627C			

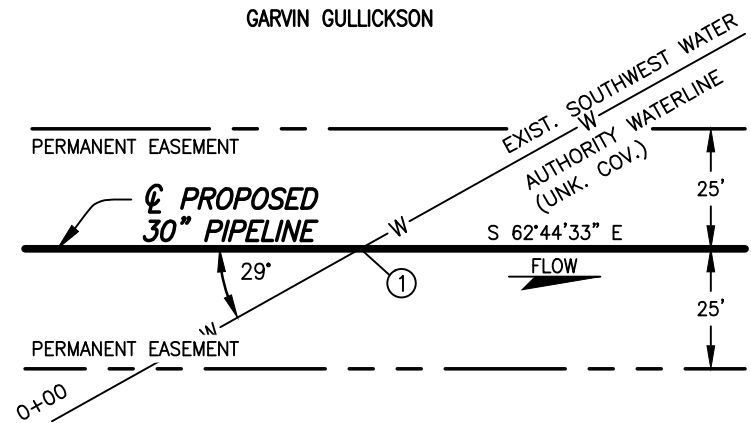
DAKOTA ACCESS, LLC			
PROPOSED 30" DAPL PIPELINE CROSSING SOUTHWEST WATER AUTHORITY WATERLINE DUNN COUNTY NORTH DAKOTA			
DRAWN BY: DLK	DATE: 04/04/16	DWG. NO.	REV.
CHECKED BY: TC	DATE: 04/04/16	ND-DU-078.000-SWA-XING	A
SCALE: AS SHOWN	APP.: RC		

DUNN COUNTY, NORTH DAKOTA

SECTION 29, TOWNSHIP 145 NORTH, RANGE 91 WEST

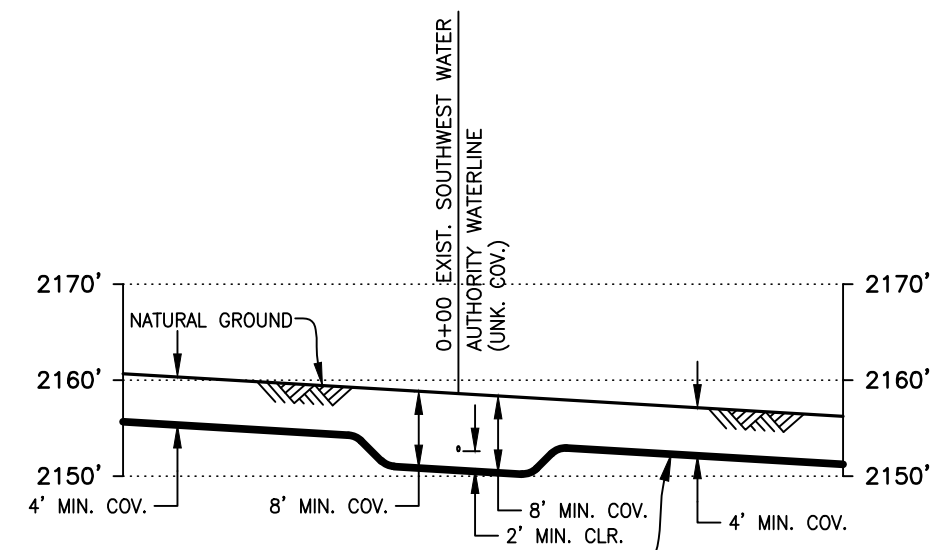
ND-DU-080.000

GARVIN GULLICKSON



PLAN

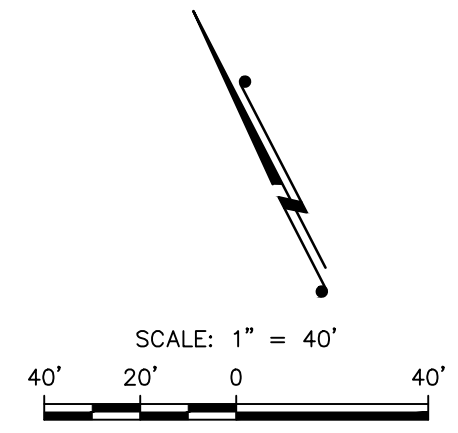
SCALE: 1"=40'



PROPOSED 30" PIPELINE

PROFILE

SCALE: 1"=40' HORIZ.
1"=20' VERT.



① TEST STATION TYPE IV
REFER TO DOCUMENT NO.
DAPL-WGM-GN000-PPL-GDL-0001
FOR INSTALLATION.
LAT: N47°21'24"
LONG: W102°17'55"
X=2309674.30
Y=17218939.25

DATUM:
ALL ELEVATIONS DERIVED FROM GPS
OBSERVATIONS (GEOID 2012, NAVD 88)
BEARINGS BASED ON UTM ZONE 13
NORTH AMERICAN DATUM 1983.
U.S. SURVEY FEET

PIPE SPECIFICATIONS
PIPE 30" O.D. x 0.429" W.T.
API 5LX-70 HSAW
COATING: 14-16 MILS FBE
SERVICE: CRUDE OIL
INSTALLATION: OPEN CUT
MIN. TEST PRESSURE: 1,800 PSIG
MOP: 1,440 PSIG
MIN. YIELD STRENGTH: 70,000 PSI

NOTE:
PIPELINE TO HAVE 2' MINIMUM CLEARANCE WALL TO WALL
WITH EXISTING UTILITIES WHILE MAINTAINING 8' MINIMUM COVER
THROUGHOUT THE SOUTHWEST WATER AUTHORITY CROSSING.

THE PIPELINE INFORMATION SHOWN ON THIS
DRAWING IS A COMPILATION OF DATA OBTAINED
FROM DRAWINGS FROM VARIOUS SOURCES. WOOD
GROUP MUSTANG, INC. DOES NOT GUARANTEE THE
ACCURACY OR COMPLETENESS OF THE
INFORMATION SHOWN.
IT IS THE CONTRACTOR'S RESPONSIBILITY TO
LOCATE AND/OR CONFIRM THE LOCATIONS OF ALL
UTILITIES AND PIPELINES PRIOR TO EXCAVATION.

A	04/04/16	AWL	ISSUED FOR USE/PERMIT	RC	
REV.	DATE	BY	DESCRIPTION	CHK.	
PROJECT NO.			10395700		
WOOD GROUP MUSTANG, INC. NORTH DAKOTA REGISTERED ENGINEERING FIRM 627C					

DAKOTA ACCESS, LLC

PROPOSED 30" DAPL PIPELINE CROSSING
SOUTHWEST WATER AUTHORITY WATERLINE
DUNN COUNTY NORTH DAKOTA

DRAWN BY: AWL	DATE: 04/04/16	DWG. NO.	REV.
CHECKED BY: TC	DATE: 04/04/16	ND-DU-080.000-SWA-XING	A
SCALE: AS SHOWN	APP.: RC		

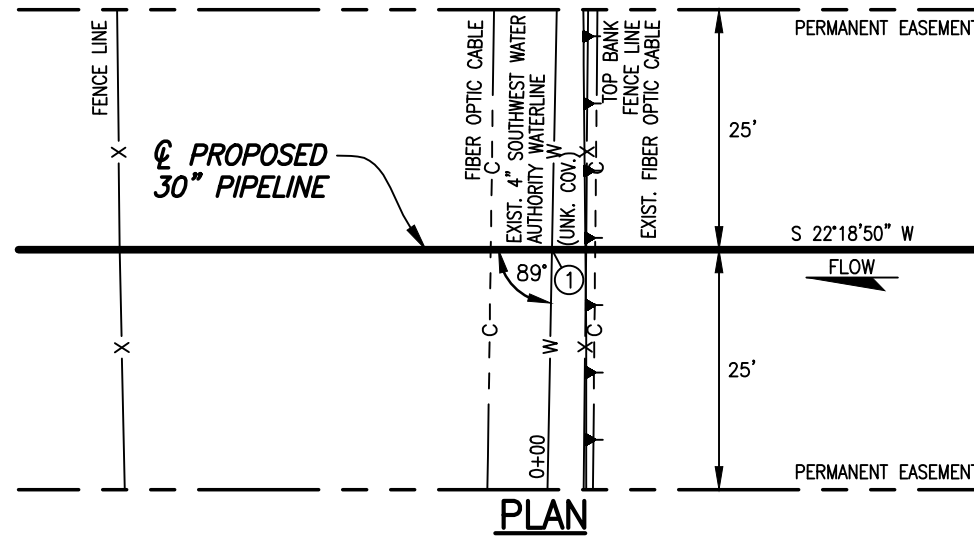
FILE: R:\Projects\103957\DISCIPLINE\CAD\DRAWINGS\93-PERMIT\NORTH DAKOTA\Pipeline Crossings\SW WATER AUTHORITY\ND-DU-080.000-SWA-XING.dwg PLOT DATE: 4/14/2016 BY: HUMBERSON, JEREMY

DUNN COUNTY, NORTH DAKOTA

SECTION 9, TOWNSHIP 144 NORTH, RANGE 91 WEST

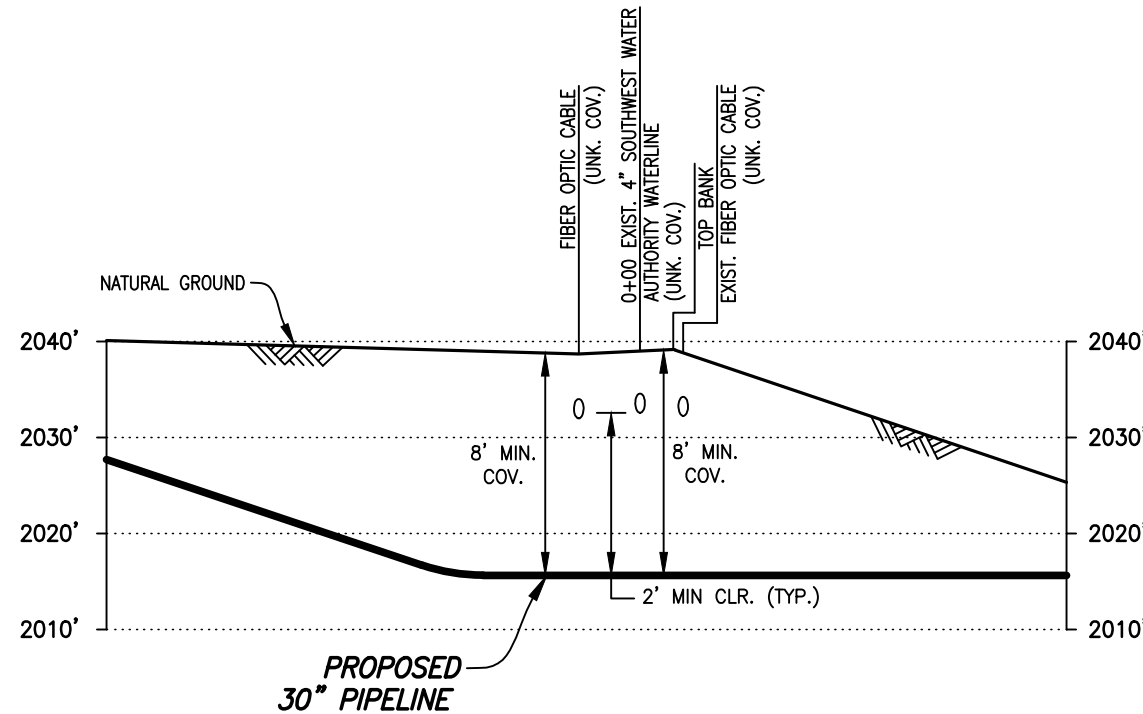
ND-DU-091.000

JANICE K. ISAAK



PLAN

SCALE: 1"=20'

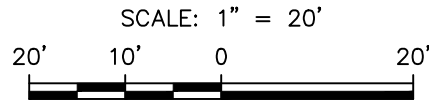


PROFILE

SCALE: 1"=20' HORIZ.
1"=20' VERT.

NOTE:

PIPELINE TO HAVE 2' MINIMUM CLEARANCE WALL TO WALL WITH EXISTING UTILITIES WHILE MAINTAINING 8' MINIMUM COVER THROUGHOUT THE SOUTHWEST WATER AUTHORITY CROSSING.



① TEST STATION TYPE IV REFER TO DOCUMENT NO. DAPL-WGM-GN000-PPL-GDL-0001 FOR INSTALLATION.
LAT: N47°18'44"
LONG: W102°13'30"
X=2328526.98
Y=17203405.47

DATUM:
ALL ELEVATIONS DERIVED FROM GPS OBSERVATIONS (GEOID 2012, NAVD 88) BEARINGS BASED ON UTM ZONE 13 NORTH AMERICAN DATUM 1983. U.S. SURVEY FEET

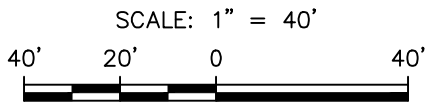
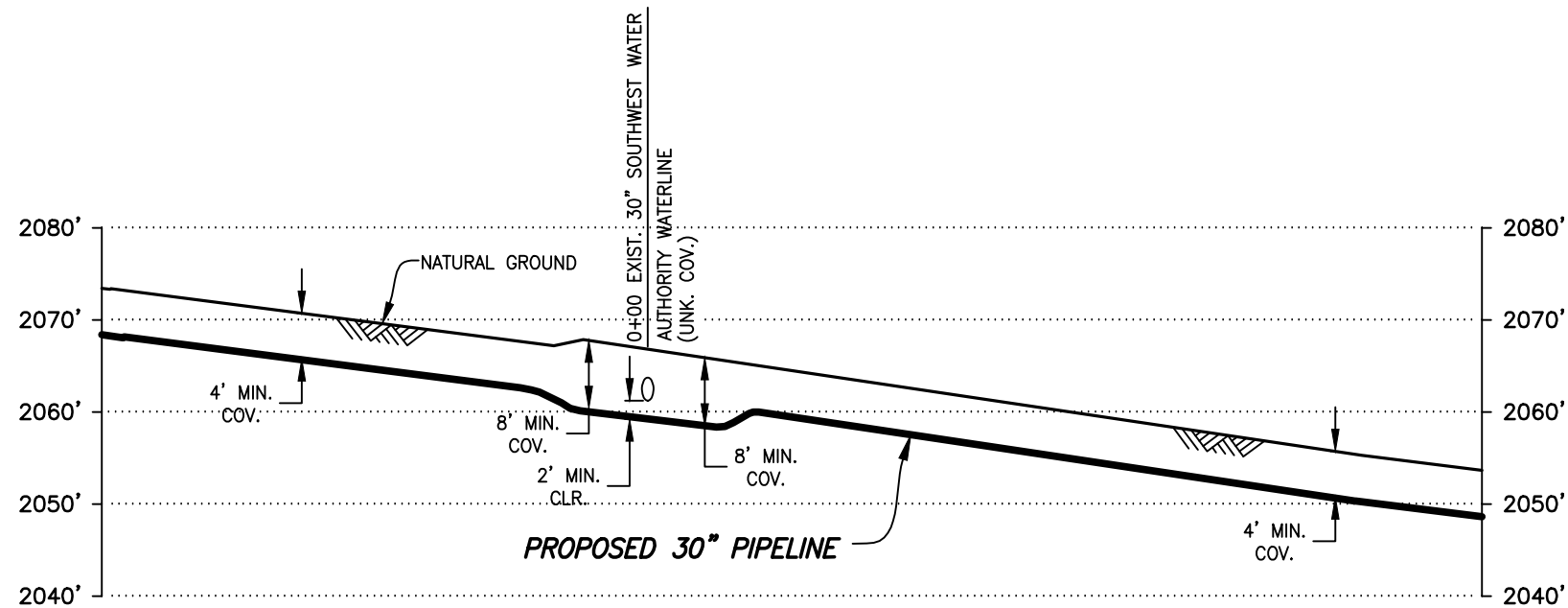
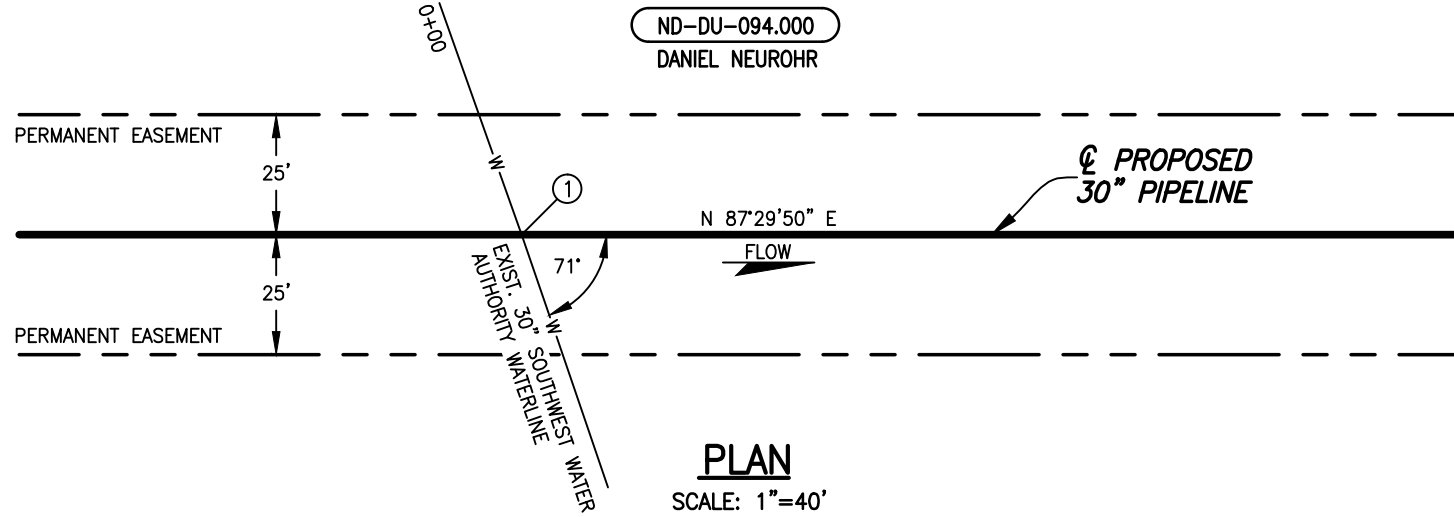
PIPE SPECIFICATIONS
PIPE 30" O.D. x 0.625" W.T.
API 5LX-70 HSAW
COATING: 14-16 MILS FBE
W/40 MILS ARO
SERVICE: CRUDE OIL
INSTALLATION: BORE
MIN. TEST PRESSURE: 1,800 PSIG
MOP: 1,440 PSIG
MIN. YIELD STRENGTH: 70,000 PSI

THE PIPELINE INFORMATION SHOWN ON THIS DRAWING IS A COMPILATION OF DATA OBTAINED FROM DRAWINGS FROM VARIOUS SOURCES. WOOD GROUP MUSTANG, INC. DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN.
IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND/OR CONFIRM THE LOCATIONS OF ALL UTILITIES AND PIPELINES PRIOR TO EXCAVATION.

DAKOTA ACCESS, LLC			
PROPOSED 30" DAPL PIPELINE CROSSING SOUTHWEST WATER AUTHORITY WATERLINE DUNN COUNTY NORTH DAKOTA			
REV.	DATE	BY	CHK.
A	04/05/16	JWH	RC
		ISSUED FOR USE/PERMIT	
PROJECT NO. 10395700			
WOOD GROUP MUSTANG, INC. NORTH DAKOTA REGISTERED ENGINEERING FIRM 627C			
DRAWN BY: JWH	DATE: 04/05/16	DWG. NO.	REV.
CHECKED BY: TC	DATE: 04/05/16	ND-DU-091.000-SWA-XING	A
SCALE: AS SHOWN	APP.: RC		

DUNN COUNTY, NORTH DAKOTA

SECTION 15, TOWNSHIP 144 NORTH, RANGE 91 WEST




① TEST STATION TYPE IV REFER TO DOCUMENT NO. DAPL-WGM-GN000-PPL-GDL-0001 FOR INSTALLATION.
 LAT: N47°17'48"
 LONG: W102°12'27"
 X=2333025.36
 Y=17197880.86


DATUM:
 ALL ELEVATIONS DERIVED FROM GPS OBSERVATIONS (GEOID 2012, NAVD 88)
 BEARINGS BASED ON UTM ZONE 13 NORTH AMERICAN DATUM 1983.
 U.S. SURVEY FEET

PIPE SPECIFICATIONS
 PIPE 30" O.D. x 0.429" W.T.
 API 5LX-70 HSAW
 COATING: 14-16 MILS FBE
 SERVICE: CRUDE OIL
 INSTALLATION: OPEN CUT
 MIN. TEST PRESSURE: 1,800 PSIG
 MOP: 1,440 PSIG
 MIN. YIELD STRENGTH: 70,000 PSI

NOTE:
 PIPELINE TO HAVE 2' MINIMUM CLEARANCE WALL TO WALL WITH EXISTING UTILITIES WHILE MAINTAINING 8' MINIMUM COVER THROUGHOUT THE SOUTHWEST WATER AUTHORITY CROSSING.

THE PIPELINE INFORMATION SHOWN ON THIS DRAWING IS A COMPILATION OF DATA OBTAINED FROM DRAWINGS FROM VARIOUS SOURCES. WOOD GROUP MUSTANG, INC. DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN.
 IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND/OR CONFIRM THE LOCATIONS OF ALL UTILITIES AND PIPELINES PRIOR TO EXCAVATION.

A	04/05/16	DLK	ISSUED FOR USE/PERMIT	RC
REV.	DATE	BY	DESCRIPTION	CHK.
PROJECT NO.		10395700		
 WOOD GROUP MUSTANG, INC. NORTH DAKOTA REGISTERED ENGINEERING FIRM 627C				



DAKOTA ACCESS, LLC

PROPOSED 30" DAPL PIPELINE CROSSING

SOUTHWEST WATER AUTHORITY WATERLINE

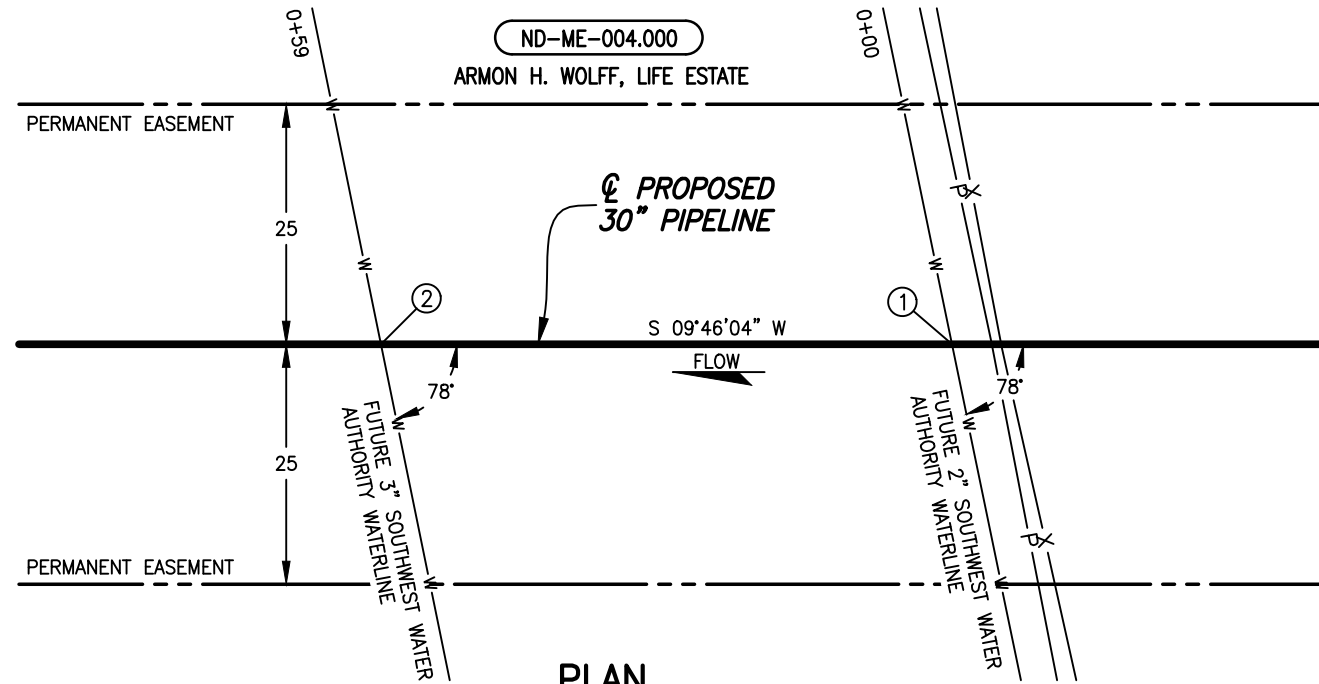
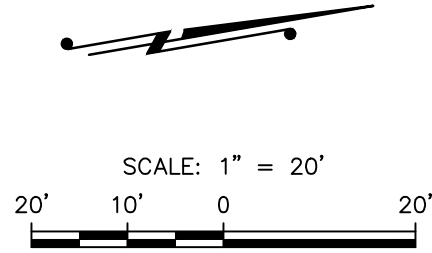
DUNN COUNTY NORTH DAKOTA

DRAWN BY: DLK	DATE: 04/05/16	DWG. NO.	REV.
CHECKED BY: TC	DATE: 04/05/16	ND-DU-094.000-SWA-XING	A
SCALE: AS SHOWN	APP.: RC		

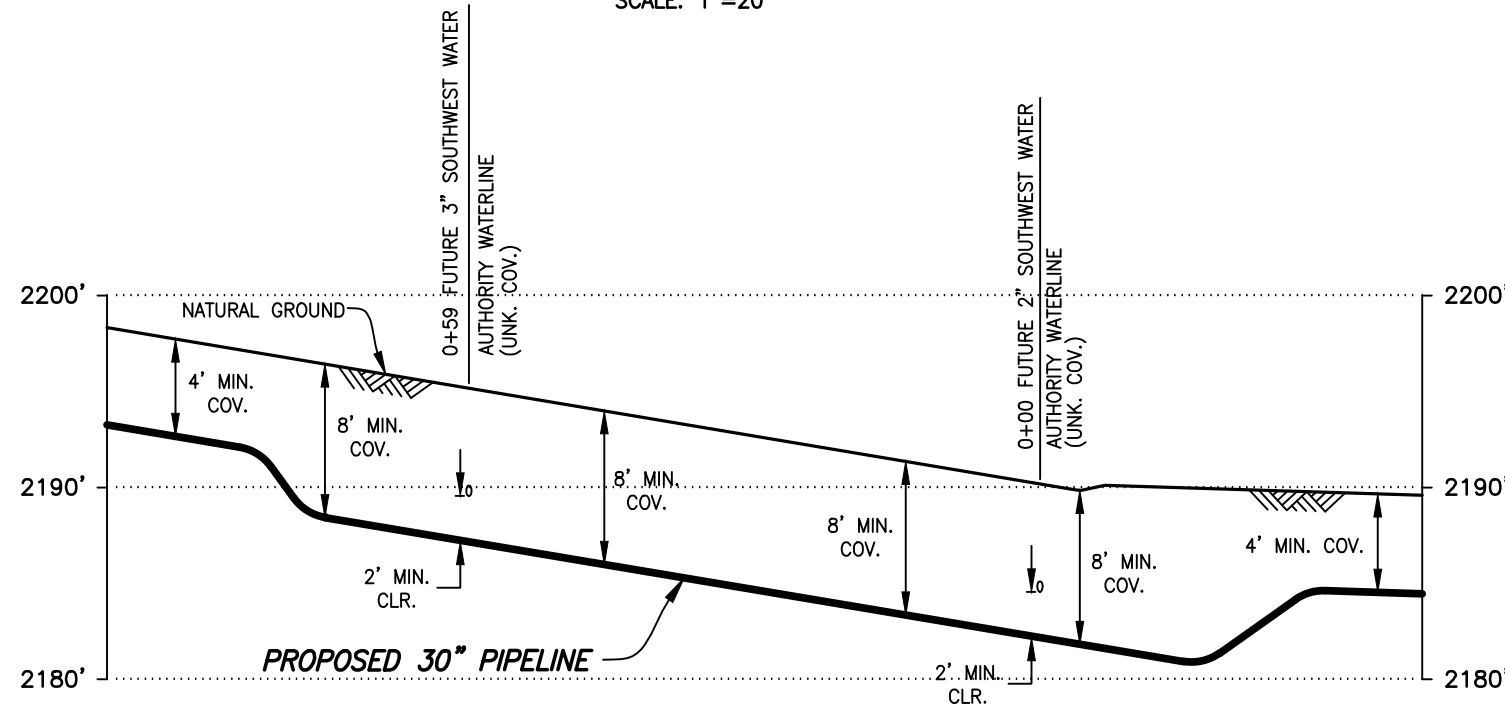
FILE: R:\Projects\103957\DISCIPLINE\CAD\DRAWINGS\93-PERMIT\NORTH DAKOTA\Pipeline Crossings\SW WATER AUTHORITY\ND-DU-094.000-SWA-XING.dwg PLOT DATE: 4/15/2016 BY: MADAMBA, JOEY

MERCER COUNTY, NORTH DAKOTA

SECTION 5, TOWNSHIP 143 NORTH, RANGE 90 WEST



PLAN
SCALE: 1"=20'



PROFILE
SCALE: 1"=20' HORIZ.
1"=10' VERT.

THE PIPELINE INFORMATION SHOWN ON THIS DRAWING IS A COMPILATION OF DATA OBTAINED FROM DRAWINGS FROM VARIOUS SOURCES. WOOD GROUP MUSTANG, INC. DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND/OR CONFIRM THE LOCATIONS OF ALL UTILITIES AND PIPELINES PRIOR TO EXCAVATION.

① TEST STATION TYPE IV
REFER TO DOCUMENT NO.
DAPL-WGM-GN000-PPL-GDL-0001
FOR INSTALLATION.

LAT: N47°14'29"
LONG: W102°07'11"
X=2355593.64
Y=17178456.93

PIPE SPECIFICATIONS

PIPE 30" O.D. x 0.625" W.T.
API 5LX-70 HSAW
COATING: 14-16 MILS FBE
W/40 MILS ARO
SERVICE: CRUDE OIL
INSTALLATION: BORE
MIN. TEST PRESSURE: 1,800 PSIG
MOP: 1,440 PSIG
MIN. YIELD STRENGTH: 70,000 PSI

② TEST STATION TYPE IV
REFER TO DOCUMENT NO.
DAPL-WGM-GN000-PPL-GDL-0001
FOR INSTALLATION.

LAT: N47°14'28"
LONG: W102°07'11"
X=2355583.54
Y=17178398.30

PIPE SPECIFICATIONS

PIPE 30" O.D. x 0.429" W.T.
API 5LX-70 HSAW
COATING: 14-16 MILS FBE
SERVICE: CRUDE OIL
INSTALLATION: OPEN CUT
MIN. TEST PRESSURE: 1,800 PSIG
MOP: 1,440 PSIG
MIN. YIELD STRENGTH: 70,000 PSI

DATUM:

ALL ELEVATIONS DERIVED FROM GPS OBSERVATIONS (GEOID 2012, NAVD 88) BEARINGS BASED ON UTM ZONE 13 NORTH AMERICAN DATUM 1983. U.S. SURVEY FEET

NOTE:

PIPELINE TO HAVE 2' MINIMUM CLEARANCE WALL TO WALL WITH EXISTING UTILITIES WHILE MAINTAINING 8' MINIMUM COVER THROUGHOUT THE SOUTHWEST WATER AUTHORITY CROSSING.

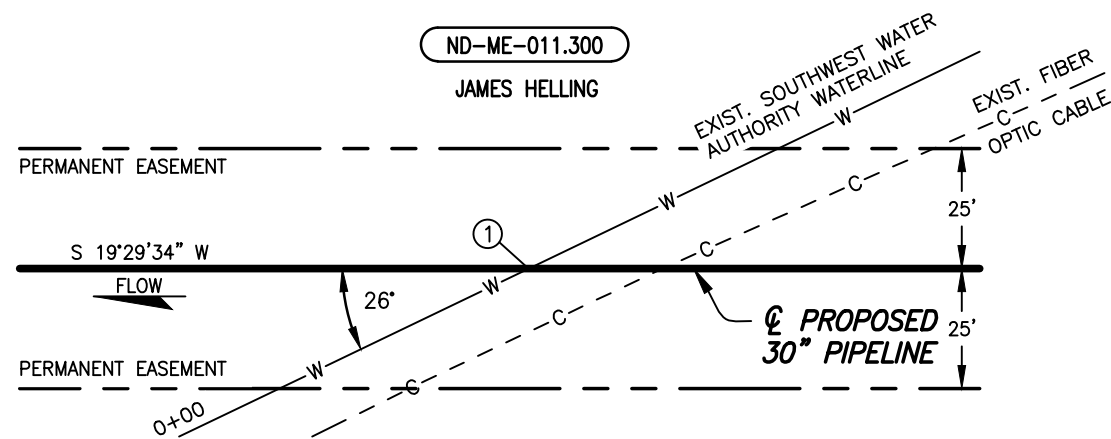
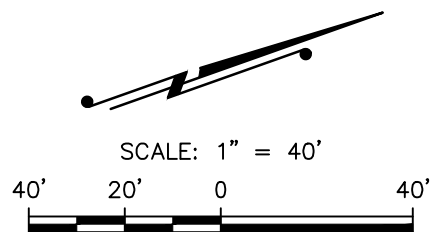
A	04/11/16	DLK	ISSUED FOR USE/PERMIT	RC
REV.	DATE	BY	DESCRIPTION	CHK.
PROJECT NO.			10395700	
WOOD GROUP MUSTANG, INC. NORTH DAKOTA REGISTERED ENGINEERING FIRM 627C				

DAKOTA ACCESS, LLC			
PROPOSED 30" DAPL PIPELINE CROSSING SOUTHWEST WATER AUTHORITY WATERLINE MERCER COUNTY NORTH DAKOTA			
DRAWN BY: DLK	DATE: 04/05/16	DWG. NO.	REV.
CHECKED BY: TC	DATE: 04/05/16	ND-ME-004.000-SWA-XING	A
SCALE: AS SHOWN	APP.: RC		

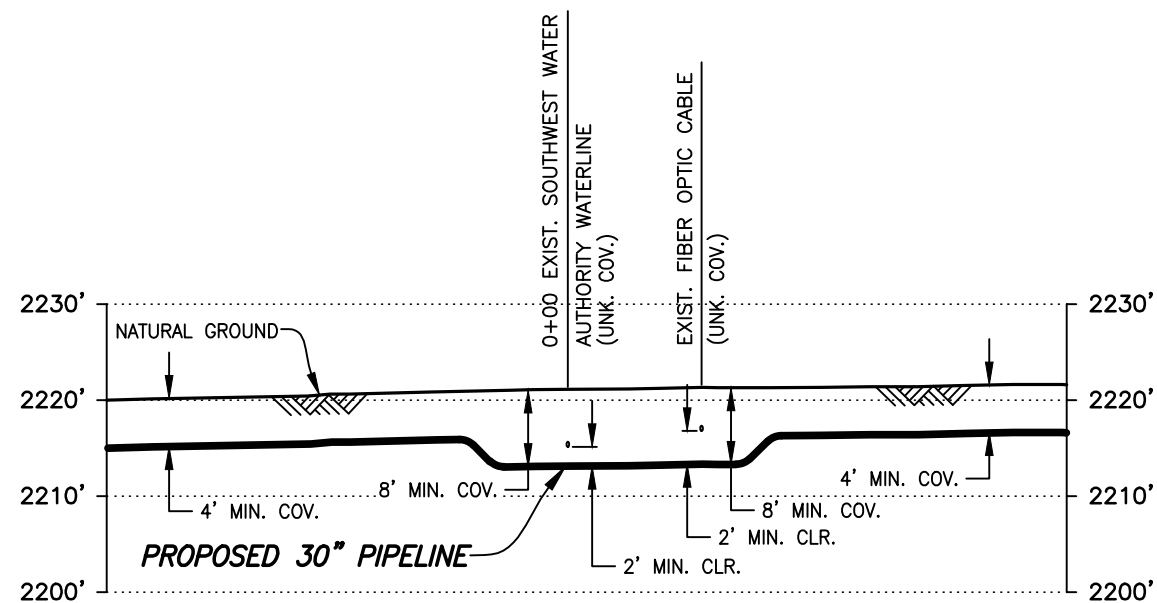
FILE: R:\Projects\103957\DISCIPLINE\CAD\DRAWINGS\93-PERMIT\NORTH DAKOTA\Pipeline Crossings\SW WATER AUTHORITY\ND-ME-004.000-SWA-XING.dwg PLOT DATE: 4/15/2016 BY: MADAMBA, JOEY

MERCER COUNTY, NORTH DAKOTA

SECTION 15, TOWNSHIP 143 NORTH, RANGE 90 WEST



PLAN
SCALE: 1"=40'



PROFILE
SCALE: 1"=40' HORIZ.
1"=20' VERT.

① TEST STATION TYPE IV
REFER TO DOCUMENT NO.
DAPL-WGM-GN000-PPL-GDL-0001
FOR INSTALLATION.
LAT: N47°12'16"
LONG: W102°03'40"
X=2370652.41
Y=17165554.68

DATUM:
ALL ELEVATIONS DERIVED FROM GPS
OBSERVATIONS (GEOID 2012, NAVD 88)
BEARINGS BASED ON UTM ZONE 13
NORTH AMERICAN DATUM 1983.
U.S. SURVEY FEET

PIPE SPECIFICATIONS
PIPE 30" O.D. x 0.429" W.T.
API 5LX-70 HSAW
COATING: 14-16 MILS FBE
SERVICE: CRUDE OIL
INSTALLATION: OPEN CUT
MIN. TEST PRESSURE: 1,800 PSIG
MOP: 1,440 PSIG
MIN. YIELD STRENGTH: 70,000 PSI

NOTE:
PIPELINE TO HAVE 2' MINIMUM CLEARANCE WALL TO WALL
WITH EXISTING UTILITIES WHILE MAINTAINING 8' MINIMUM COVER
THROUGHOUT THE SOUTHWEST WATER AUTHORITY CROSSING.

THE PIPELINE INFORMATION SHOWN ON THIS
DRAWING IS A COMPILATION OF DATA OBTAINED
FROM DRAWINGS FROM VARIOUS SOURCES. WOOD
GROUP MUSTANG, INC. DOES NOT GUARANTEE THE
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UTILITIES AND PIPELINES PRIOR TO EXCAVATION.

A	04/05/16	AWL	ISSUED FOR USE/PERMIT	RC
REV.	DATE	BY	DESCRIPTION	CHK.
PROJECT NO.			10395700	
WOOD GROUP MUSTANG, INC. NORTH DAKOTA REGISTERED ENGINEERING FIRM 627C				

DAKOTA ACCESS, LLC			
PROPOSED 30" DAPL PIPELINE CROSSING SOUTHWEST WATER AUTHORITY WATERLINE MERCER COUNTY NORTH DAKOTA			
DRAWN BY: AWL	DATE: 04/05/16	DWG. NO.	REV.
CHECKED BY: TC	DATE: 04/05/16	ND-ME-011.301-SWA-XING	A
SCALE: AS SHOWN	APP.: RC		

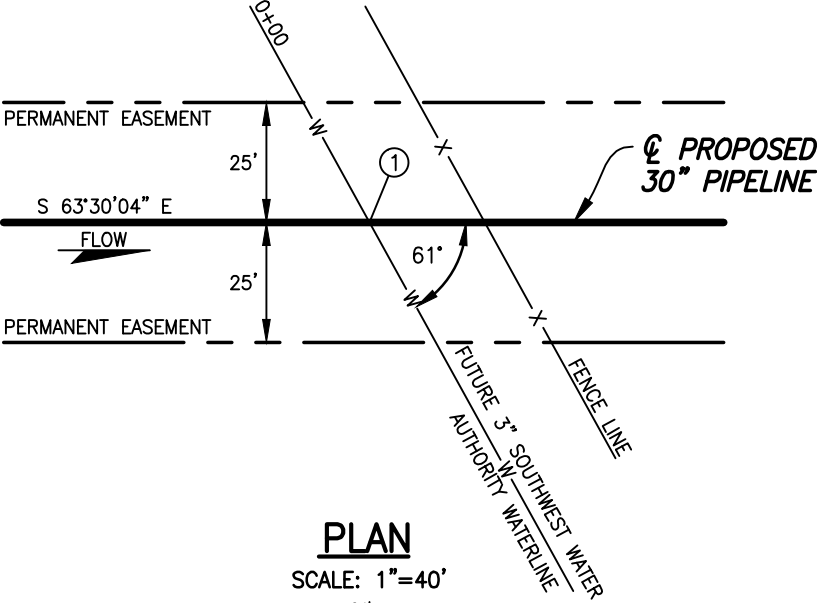
FILE: R:\Projects\103957\DISCIPLINE\CAD\DRAWINGS\93-PERMIT\NORTH DAKOTA\Pipeline Crossings\SW WATER AUTHORITY\ND-ME-011.301-SWA-XING.dwg PLOT DATE: 4/15/2016 BY: MADAMBA, JOEY

MERCER COUNTY, NORTH DAKOTA

SECTION 15, TOWNSHIP 143 NORTH, RANGE 90 WEST

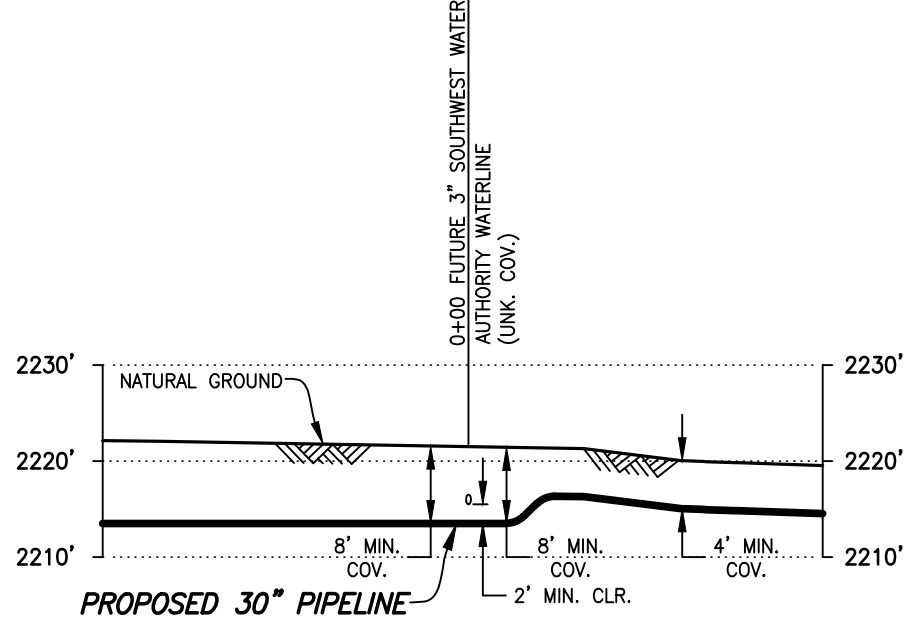
ND-ME-011.300

JAMES D. HELLING



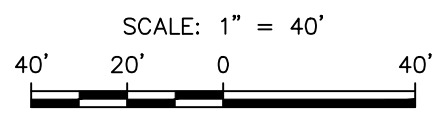
PLAN

SCALE: 1"=40'



PROFILE

SCALE: 1"=40' HORIZ.
1"=20' VERT.



- ① TEST STATION TYPE IV
REFER TO DOCUMENT NO.
DAPL-WGM-GN000-PPL-GDL-0001
FOR INSTALLATION.
LAT: N47°12'13"
LONG: W102°03'36"
X=2370937.63
Y=17165240.00

DATUM:
ALL ELEVATIONS DERIVED FROM GPS
OBSERVATIONS (GEOID 2012, NAVD 88)
BEARINGS BASED ON UTM ZONE 13
NORTH AMERICAN DATUM 1983.
U.S. SURVEY FEET

PIPE SPECIFICATIONS
PIPE 30" O.D. x 0.625" W.T.
API 5LX-70 HSAW
COATING: 14-16 MILS FBE
SERVICE: CRUDE OIL
INSTALLATION: OPEN CUT
MIN. TEST PRESSURE: 1,800 PSIG
MOP: 1,440 PSIG
MIN. YIELD STRENGTH: 70,000 PSI

NOTE:
PIPELINE TO HAVE 2' MINIMUM CLEARANCE WALL TO WALL
WITH EXISTING UTILITIES WHILE MAINTAINING 8' MINIMUM COVER
THROUGHOUT THE SOUTHWEST WATER AUTHORITY CROSSING.

THE PIPELINE INFORMATION SHOWN ON THIS
DRAWING IS A COMPILATION OF DATA OBTAINED
FROM DRAWINGS FROM VARIOUS SOURCES. WOOD
GROUP MUSTANG, INC. DOES NOT GUARANTEE THE
ACCURACY OR COMPLETENESS OF THE
INFORMATION SHOWN.
IT IS THE CONTRACTOR'S RESPONSIBILITY TO
LOCATE AND/OR CONFIRM THE LOCATIONS OF ALL
UTILITIES AND PIPELINES PRIOR TO EXCAVATION.

REV.	DATE	BY	DESCRIPTION	CHK.
A	04/05/16	JWH	ISSUED FOR USE/PERMIT	RC
PROJECT NO.			10395700	
WOOD GROUP MUSTANG, INC. NORTH DAKOTA REGISTERED ENGINEERING FIRM 627C				

DAKOTA ACCESS, LLC			
PROPOSED 30" DAPL PIPELINE CROSSING SOUTHWEST WATER AUTHORITY WATERLINE MERCER COUNTY NORTH DAKOTA			
DRAWN BY: JWH	DATE: 04/05/16	DWG. NO.	REV.
CHECKED BY: TC	DATE: 04/06/16	ND-ME-011.302-SWA-XING	A
SCALE: AS SHOWN	APP.: RC		

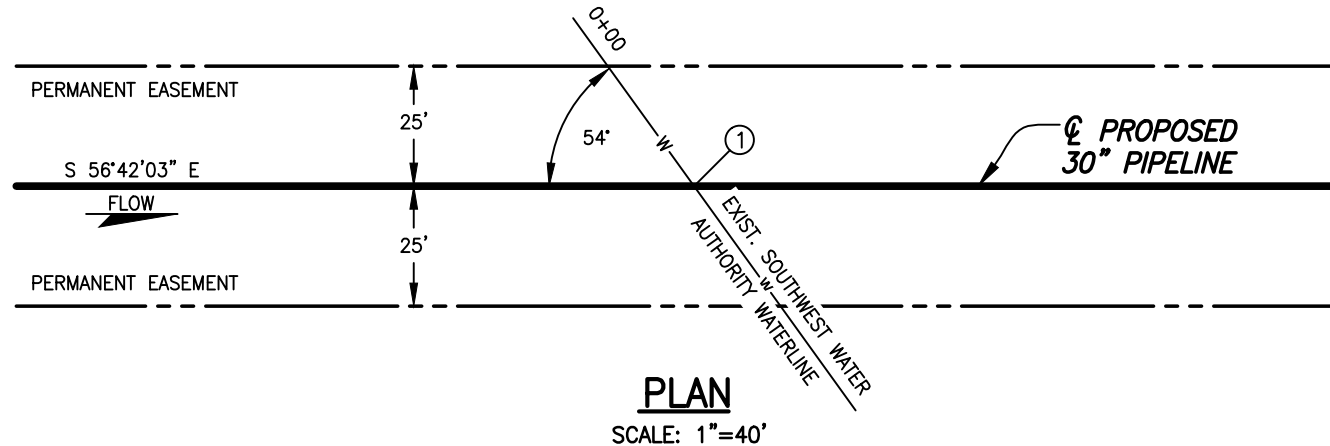
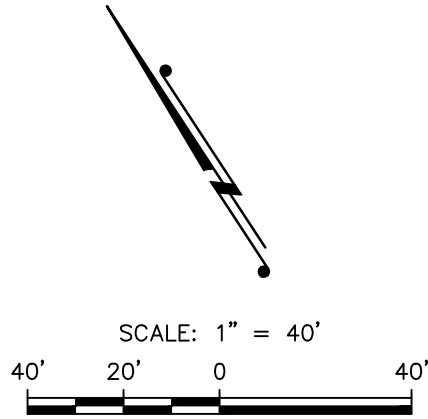
FILE: R:\Projects\103957\DISCIPLINE\CAD\DRAWINGS\93-PERMIT\NORTH DAKOTA\Pipeline Crossings\SW WATER AUTHORITY\ND-ME-011.302-SWA-XING.dwg PLOT DATE: 4/15/2016 BY: MADAMBA, JOEY

MERCER COUNTY, NORTH DAKOTA

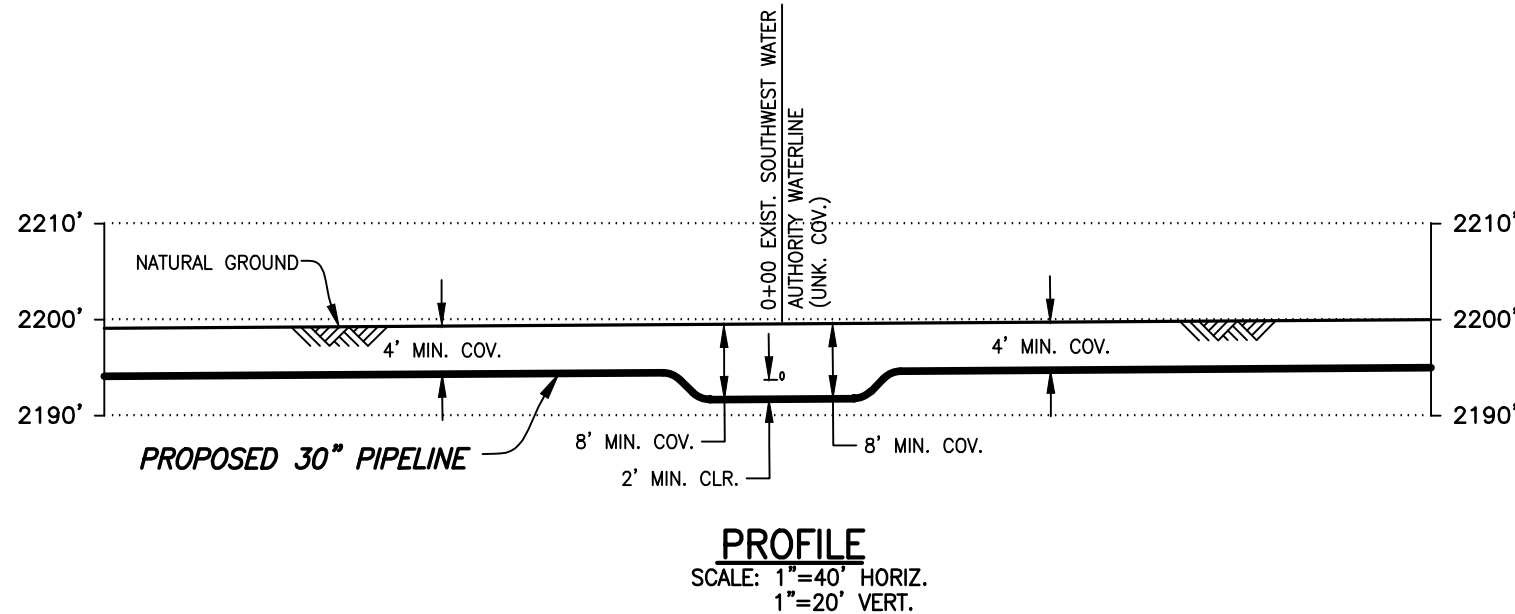
SECTION 14, TOWNSHIP 143 NORTH, RANGE 90 WEST

ND-ME-013.000

ADAM J. WANNER



- ① TEST STATION TYPE IV REFER TO DOCUMENT NO. DAPL-WGM-GN000-PPL-GDL-0001 FOR INSTALLATION.
LAT: N47°12'05"
LONG: W102°03'23"
X=2371862.15
Y=17164526.66





DATUM:
ALL ELEVATIONS DERIVED FROM GPS OBSERVATIONS (GEOID 2012, NAVD 88) BEARINGS BASED ON UTM ZONE 13 NORTH AMERICAN DATUM 1983. U.S. SURVEY FEET

PIPE SPECIFICATIONS
PIPE 30" O.D. x 0.429" W.T.
API 5LX-70 HSAW
COATING: 14-16 MILS FBE
SERVICE: CRUDE OIL
INSTALLATION: OPEN CUT
MIN. TEST PRESSURE: 1,800 PSIG
MOP: 1,440 PSIG
MIN. YIELD STRENGTH: 70,000 PSI

NOTE:
PIPELINE TO HAVE 2' MINIMUM CLEARANCE WALL TO WALL WITH EXISTING UTILITIES WHILE MAINTAINING 8' MINIMUM COVER THROUGHOUT THE SOUTHWEST WATER AUTHORITY CROSSING.

THE PIPELINE INFORMATION SHOWN ON THIS DRAWING IS A COMPILATION OF DATA OBTAINED FROM DRAWINGS FROM VARIOUS SOURCES. WOOD GROUP MUSTANG, INC. DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN.
IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND/OR CONFIRM THE LOCATIONS OF ALL UTILITIES AND PIPELINES PRIOR TO EXCAVATION.

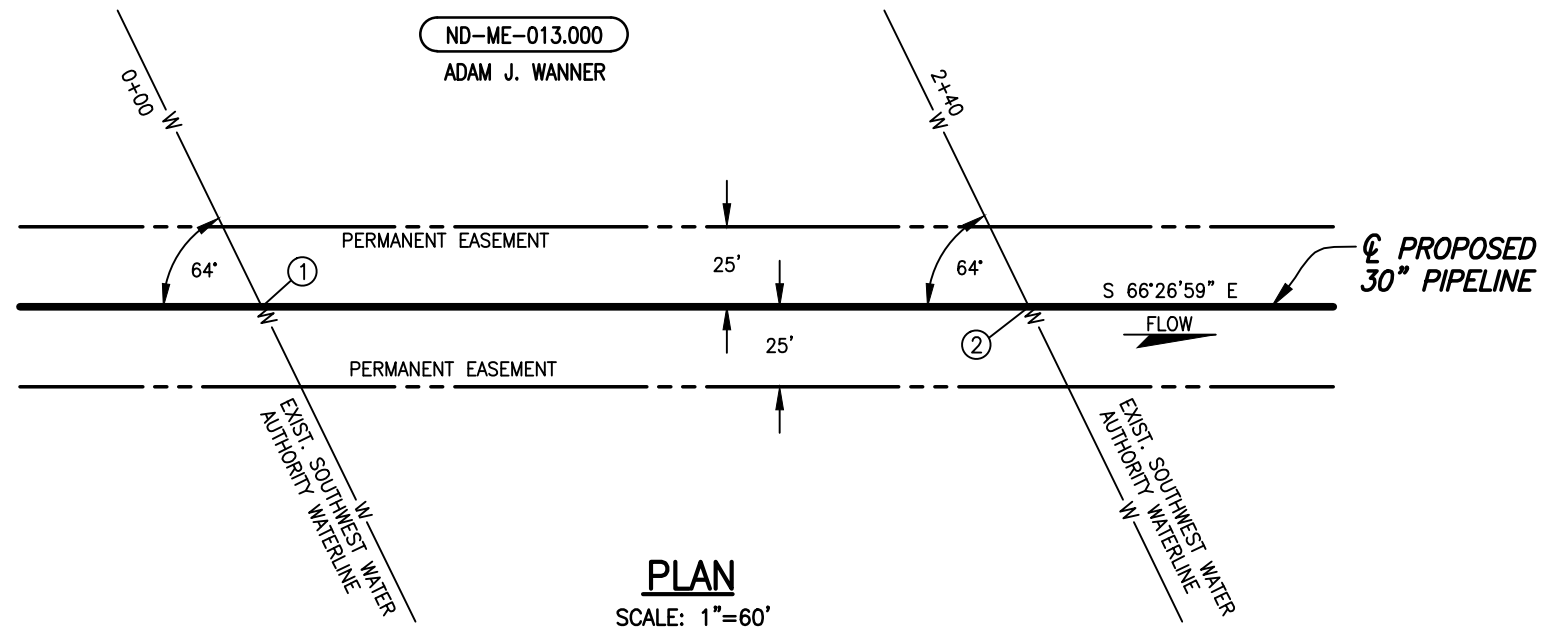
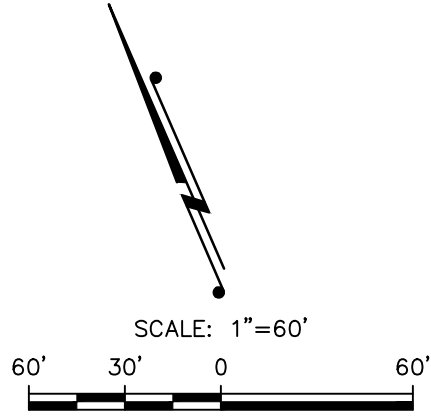
A	04/06/16	JTM	ISSUED FOR USE/PERMIT
REV.	DATE	BY	DESCRIPTION
PROJECT NO.		10395700	
 WOOD GROUP MUSTANG, INC. NORTH DAKOTA REGISTERED ENGINEERING FIRM 627C			

 DAKOTA ACCESS, LLC			
PROPOSED 30" DAPL PIPELINE CROSSING SOUTHWEST WATER AUTHORITY WATERLINE MERCER COUNTY NORTH DAKOTA			
DRAWN BY: JTM	DATE: 04/06/16	DWG. NO.	REV.
CHECKED BY: TC	DATE: 04/06/16	ND-ME-013.100-SWA-XING	A
SCALE: AS SHOWN	APP.: RC		

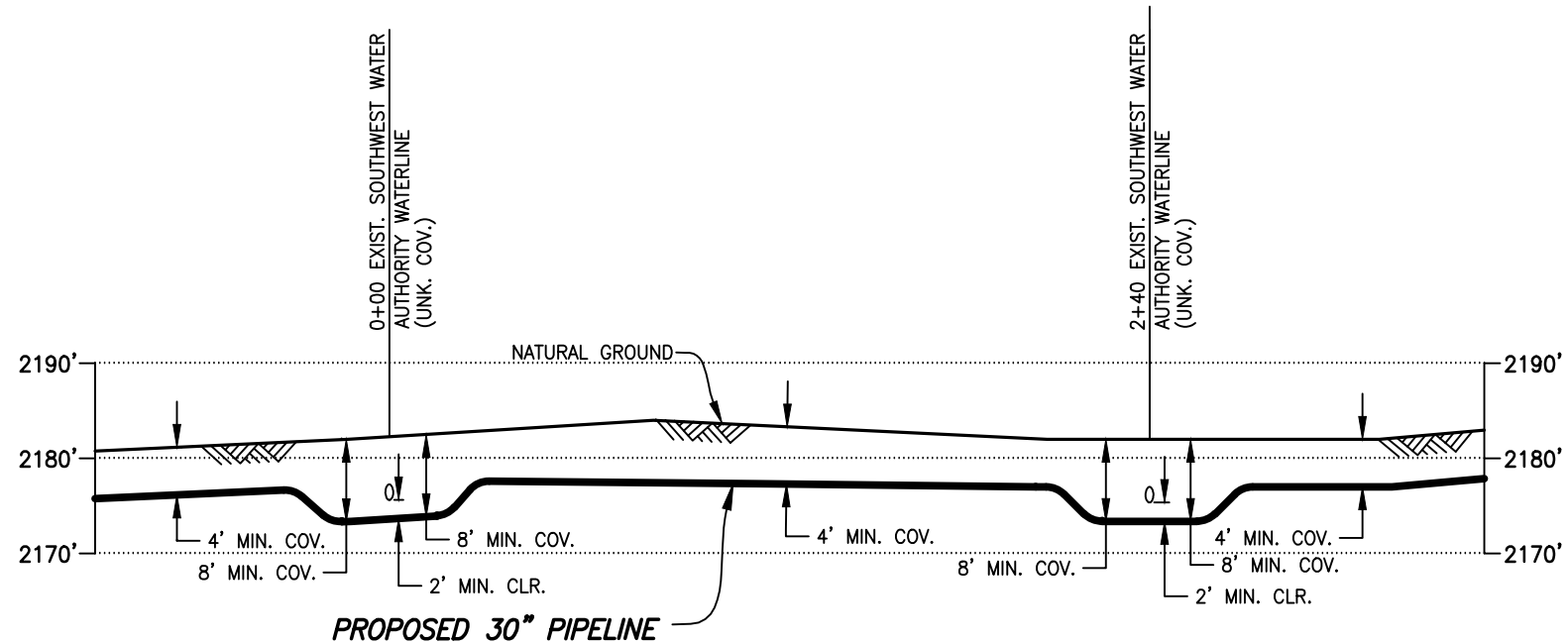
MERCER COUNTY, NORTH DAKOTA

SECTION 14, TOWNSHIP 143 NORTH, RANGE 90 WEST

ND-ME-013.000
ADAM J. WANNER



PLAN
SCALE: 1"=60'



PROFILE
SCALE: 1"=60' HORIZ.
1"=20' VERT.

- ① TEST STATION TYPE IV
REFER TO DOCUMENT NO.
DAPL-WGM-GN000-PPL-GDL-0001
FOR INSTALLATION.
LAT: N47°11'58"
LONG: W102°03'06"
X=2373057.67
Y=17163818.58
- ② TEST STATION TYPE IV
REFER TO DOCUMENT NO.
DAPL-WGM-GN000-PPL-GDL-0001
FOR INSTALLATION.
LAT: N47°11'57"
LONG: W102°03'03"
X=2373277.38
Y=17163722.81

DATUM:
ALL ELEVATIONS DERIVED FROM GPS
OBSERVATIONS (GEOID 2012, NAVD 88)
BEARINGS BASED ON UTM ZONE 13
NORTH AMERICAN DATUM 1983.
U.S. SURVEY FEET

PIPE SPECIFICATIONS
PIPE 30" O.D. x 0.429" W.T.
API 5LX-70 HSAW
COATING: 14-16 MILS FBE
SERVICE: CRUDE OIL
INSTALLATION: OPEN CUT
MIN. TEST PRESSURE: 1,800 PSIG
MOP: 1,440 PSIG
MIN. YIELD STRENGTH: 70,000 PSI

NOTE:
PIPELINE TO HAVE 2' MINIMUM CLEARANCE WALL TO WALL
WITH EXISTING UTILITIES WHILE MAINTAINING 8' MINIMUM COVER
THROUGHOUT THE SOUTHWEST WATER AUTHORITY CROSSING.

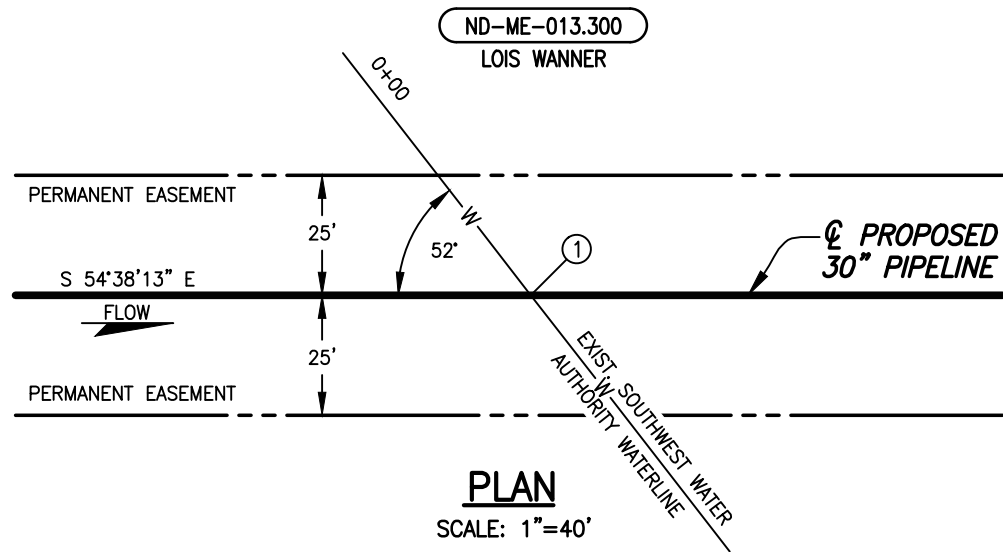
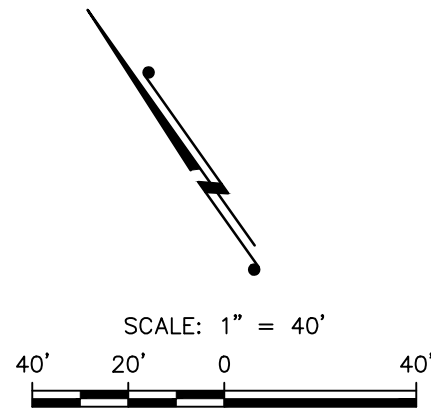
THE PIPELINE INFORMATION SHOWN ON THIS
DRAWING IS A COMPILATION OF DATA OBTAINED
FROM DRAWINGS FROM VARIOUS SOURCES. WOOD
GROUP MUSTANG, INC. DOES NOT GUARANTEE THE
ACCURACY OR COMPLETENESS OF THE
INFORMATION SHOWN.
IT IS THE CONTRACTOR'S RESPONSIBILITY TO
LOCATE AND/OR CONFIRM THE LOCATIONS OF ALL
UTILITIES AND PIPELINES PRIOR TO EXCAVATION.

A	04/05/16	JTM	ISSUED FOR USE/PERMIT	RC
REV.	DATE	BY	DESCRIPTION	CHK.
PROJECT NO.		10395700		
WOOD GROUP MUSTANG, INC. NORTH DAKOTA REGISTERED ENGINEERING FIRM 627C				

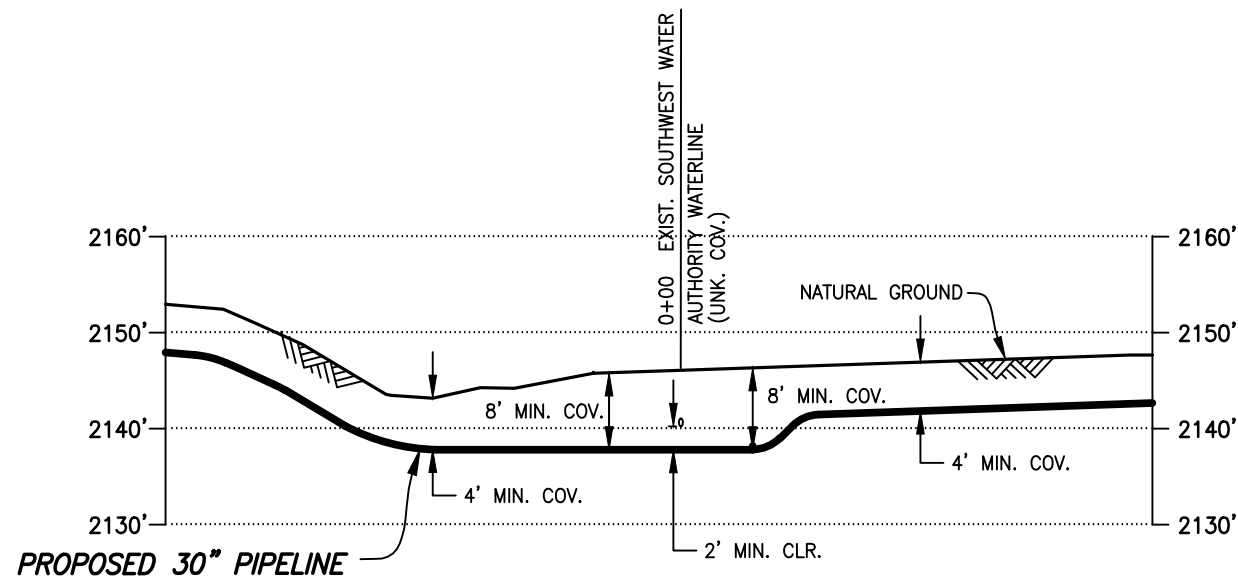
DAKOTA ACCESS, LLC			
PROPOSED 30" DAPL PIPELINE CROSSING SOUTHWEST WATER AUTHORITY WATERLINE MERCER COUNTY NORTH DAKOTA			
DRAWN BY: JTM	DATE: 04/05/16	DWG. NO.	REV.
CHECKED BY: TC	DATE: 04/05/16	ND-ME-013.200-SWA-XING	A
SCALE: AS SHOWN	APP.: RC		

MERCER COUNTY, NORTH DAKOTA

SECTION 23, TOWNSHIP 143 NORTH, RANGE 90 WEST



- ① TEST STATION TYPE IV
REFER TO DOCUMENT NO.
DAPL-WGM-GN000-PPL-GDL-0001
FOR INSTALLATION.
LAT: N47°11'52"
LONG: W102°02'51"
X=2374072.84
Y=17163259.64



THE PIPELINE INFORMATION SHOWN ON THIS DRAWING IS A COMPILATION OF DATA OBTAINED FROM DRAWINGS FROM VARIOUS SOURCES. WOOD GROUP MUSTANG, INC. DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND/OR CONFIRM THE LOCATIONS OF ALL UTILITIES AND PIPELINES PRIOR TO EXCAVATION.

DATUM:
ALL ELEVATIONS DERIVED FROM GPS OBSERVATIONS (GEOID 2012, NAVD 88) BEARINGS BASED ON UTM ZONE 13 NORTH AMERICAN DATUM 1983. U.S. SURVEY FEET

PIPE SPECIFICATIONS
PIPE 30" O.D. x 0.429" W.T.
API 5LX-70 HSAW
COATING: 14-16 MILS FBE
SERVICE: CRUDE OIL
INSTALLATION: OPEN CUT
MIN. TEST PRESSURE: 1,800 PSIG
MOP: 1,440 PSIG
MIN. YIELD STRENGTH: 70,000 PSI

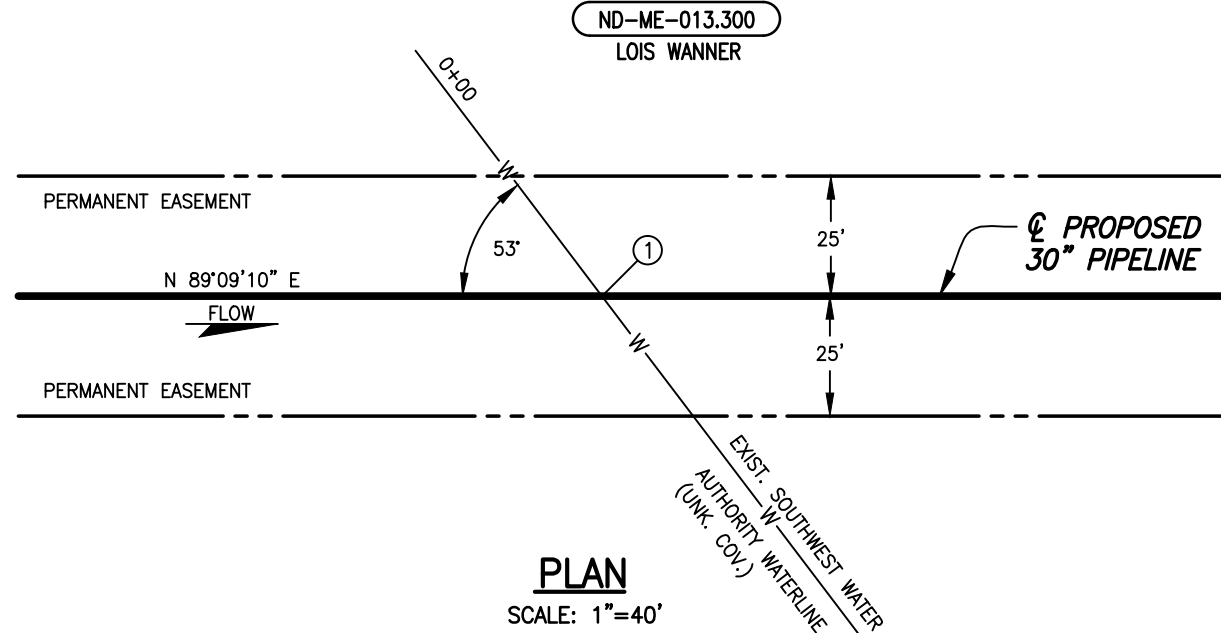
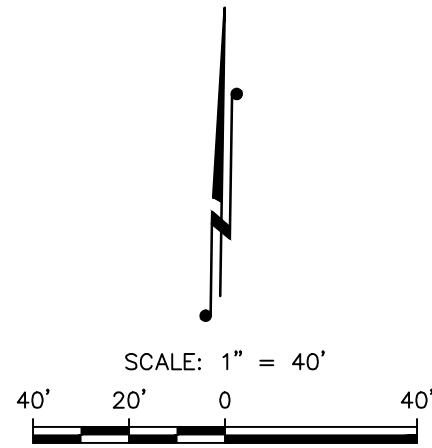
NOTE:
PIPELINE TO HAVE 2' MINIMUM CLEARANCE WALL TO WALL WITH EXISTING UTILITIES WHILE MAINTAINING 8' MINIMUM COVER THROUGHOUT THE SOUTHWEST WATER AUTHORITY CROSSING.

A	04/05/16	JTM	ISSUED FOR USE/PERMIT	RC
REV.	DATE	BY	DESCRIPTION	CHK.
PROJECT NO.		10395700		
WOOD GROUP MUSTANG, INC. NORTH DAKOTA REGISTERED ENGINEERING FIRM 627C				

DAKOTA ACCESS, LLC			
PROPOSED 30" DAPL PIPELINE CROSSING SOUTHWEST WATER AUTHORITY WATERLINE MERCER COUNTY NORTH DAKOTA			
DRAWN BY: JTM	DATE: 04/05/16	DWG. NO.	REV.
CHECKED BY: TC	DATE: 04/05/16	ND-ME-013.301-SWA-XING	A
SCALE: AS SHOWN	APP.: RC		

MERCER COUNTY, NORTH DAKOTA

SECTION 23, TOWNSHIP 143 NORTH, RANGE 90 WEST



PLAN
SCALE: 1"=40'

- ① TEST STATION TYPE IV
REFER TO DOCUMENT NO.
DAPL-WGM-GN000-PPL-GDL-0001
FOR INSTALLATION.
LAT: N47°11'49"
LONG: W102°02'42"
X=2374710.95
Y=17163006.59

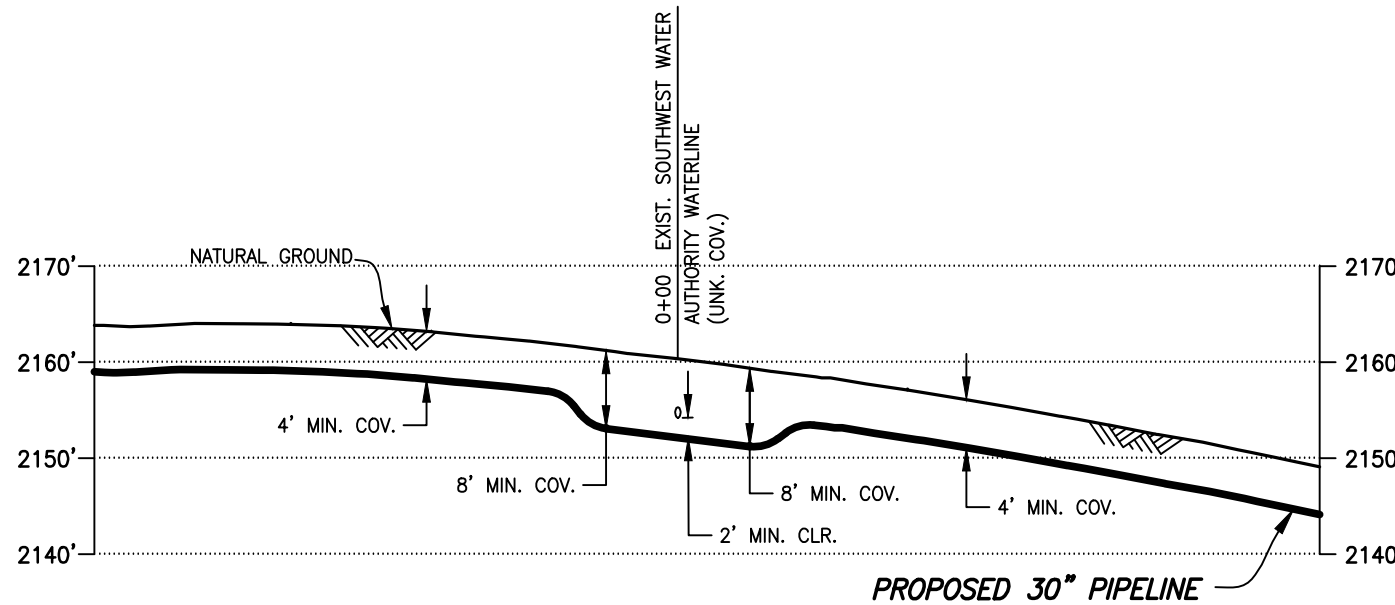
DATUM:
ALL ELEVATIONS DERIVED FROM GPS
OBSERVATIONS (GEOID 2012, NAVD 88)
BEARINGS BASED ON UTM ZONE 13
NORTH AMERICAN DATUM 1983.
U.S. SURVEY FEET

PIPE SPECIFICATIONS

PIPE 30" O.D. x 0.429" W.T.
API 5LX-70 HSAW
COATING: 14-16 MILS FBE
SERVICE: CRUDE OIL
INSTALLATION: OPEN CUT
MIN. TEST PRESSURE: 1,800 PSIG
MOP: 1,440 PSIG
MIN. YIELD STRENGTH: 70,000 PSI

NOTE:

PIPELINE TO HAVE 2' MINIMUM CLEARANCE WALL TO WALL
WITH EXISTING UTILITIES WHILE MAINTAINING 8' MINIMUM COVER
THROUGHOUT THE SOUTHWEST WATER AUTHORITY CROSSING.



PROFILE

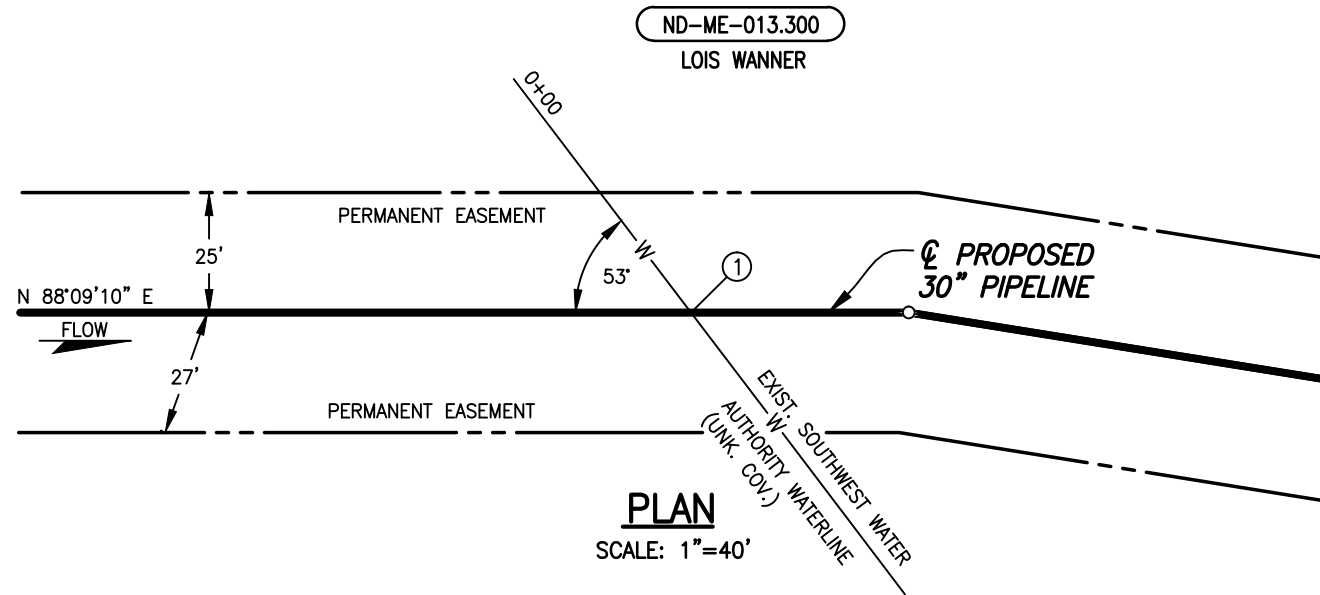
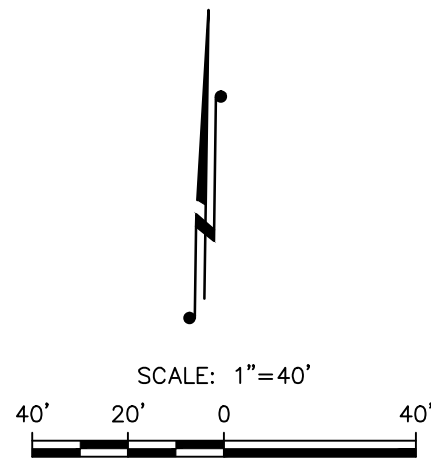
SCALE: 1"=40' HORIZ.
1"=20' VERT.

THE PIPELINE INFORMATION SHOWN ON THIS
DRAWING IS A COMPILATION OF DATA OBTAINED
FROM DRAWINGS FROM VARIOUS SOURCES. WOOD
GROUP MUSTANG, INC. DOES NOT GUARANTEE THE
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INFORMATION SHOWN.
IT IS THE CONTRACTOR'S RESPONSIBILITY TO
LOCATE AND/OR CONFIRM THE LOCATIONS OF ALL
UTILITIES AND PIPELINES PRIOR TO EXCAVATION.

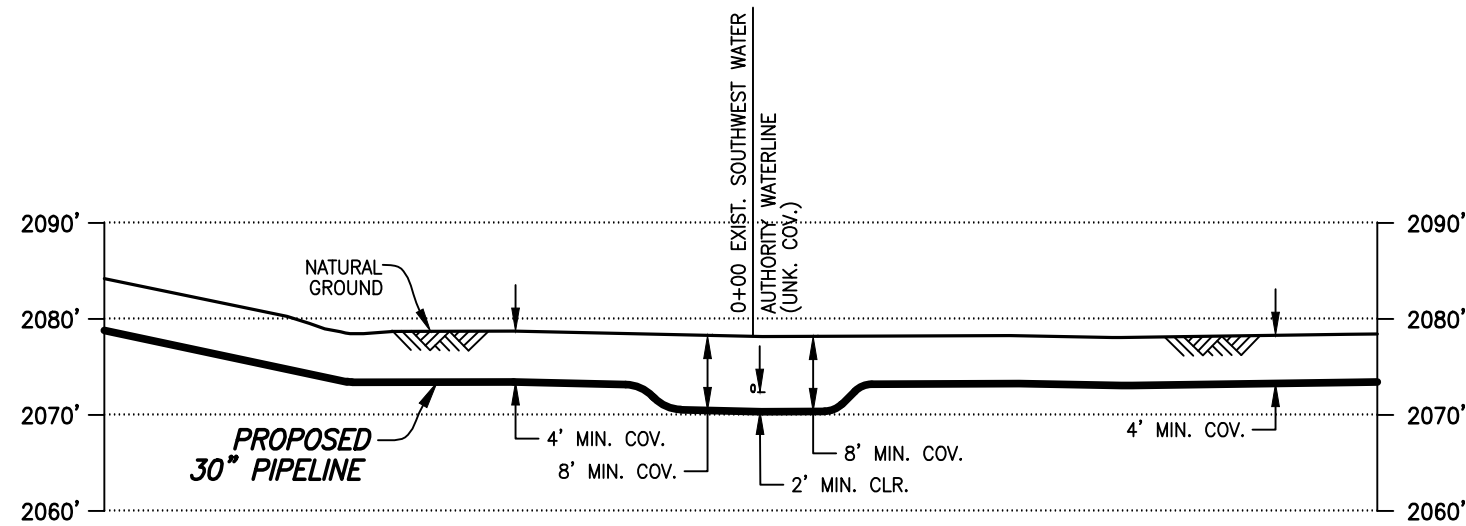
A	04/05/16	JTM	ISSUED FOR USE/PERMIT	RC
REV.	DATE	BY	DESCRIPTION	CHK.
PROJECT NO.			10395700	
WOOD GROUP MUSTANG, INC. NORTH DAKOTA REGISTERED ENGINEERING FIRM 627C				

DAKOTA ACCESS, LLC			
PROPOSED 30" DAPL PIPELINE CROSSING SOUTHWEST WATER AUTHORITY WATERLINE MERCER COUNTY NORTH DAKOTA			
DRAWN BY: JTM	DATE: 04/05/16	DWG. NO.	REV.
CHECKED BY: TC	DATE: 04/05/16	ND-ME-013.302-SWA-XING	A
SCALE: AS SHOWN	APP.: RC		

MERCER COUNTY, NORTH DAKOTA
SECTION 23, TOWNSHIP 143 NORTH, RANGE 90 WEST



- ① TEST STATION TYPE IV
REFER TO DOCUMENT NO.
DAPL-WGM-GN000-PPL-GDL-0001
FOR INSTALLATION.
LAT: N47°11'49"
LONG: W102°02'22"
X=2376097.95
Y=17163027.10



DATUM:
ALL ELEVATIONS DERIVED FROM GPS
OBSERVATIONS (GEOID 2012, NAVD 88)
BEARINGS BASED ON UTM ZONE 13
NORTH AMERICAN DATUM 1983.
U.S. SURVEY FEET

PIPE SPECIFICATIONS
PIPE 30" O.D. x 0.429" W.T.
API 5LX-70 HSAW
COATING: 14-16 MILS FBE
SERVICE: CRUDE OIL
INSTALLATION: OPEN CUT
MIN. TEST PRESSURE: 1,800 PSIG
MOP: 1,440 PSIG
MIN. YIELD STRENGTH: 70,000 PSI

NOTE:
PIPELINE TO HAVE 2' MINIMUM CLEARANCE WALL TO WALL
WITH EXISTING UTILITIES WHILE MAINTAINING 8' MINIMUM COVER
THROUGHOUT THE SOUTHWEST WATER AUTHORITY CROSSING.

THE PIPELINE INFORMATION SHOWN ON THIS
DRAWING IS A COMPILATION OF DATA OBTAINED
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UTILITIES AND PIPELINES PRIOR TO EXCAVATION.

A	04/04/16	JTM	ISSUED FOR USE/PERMIT	RC
REV.	DATE	BY	DESCRIPTION	CHK.
PROJECT NO.		10395700		
WOOD GROUP MUSTANG, INC. NORTH DAKOTA REGISTERED ENGINEERING FIRM 627C				

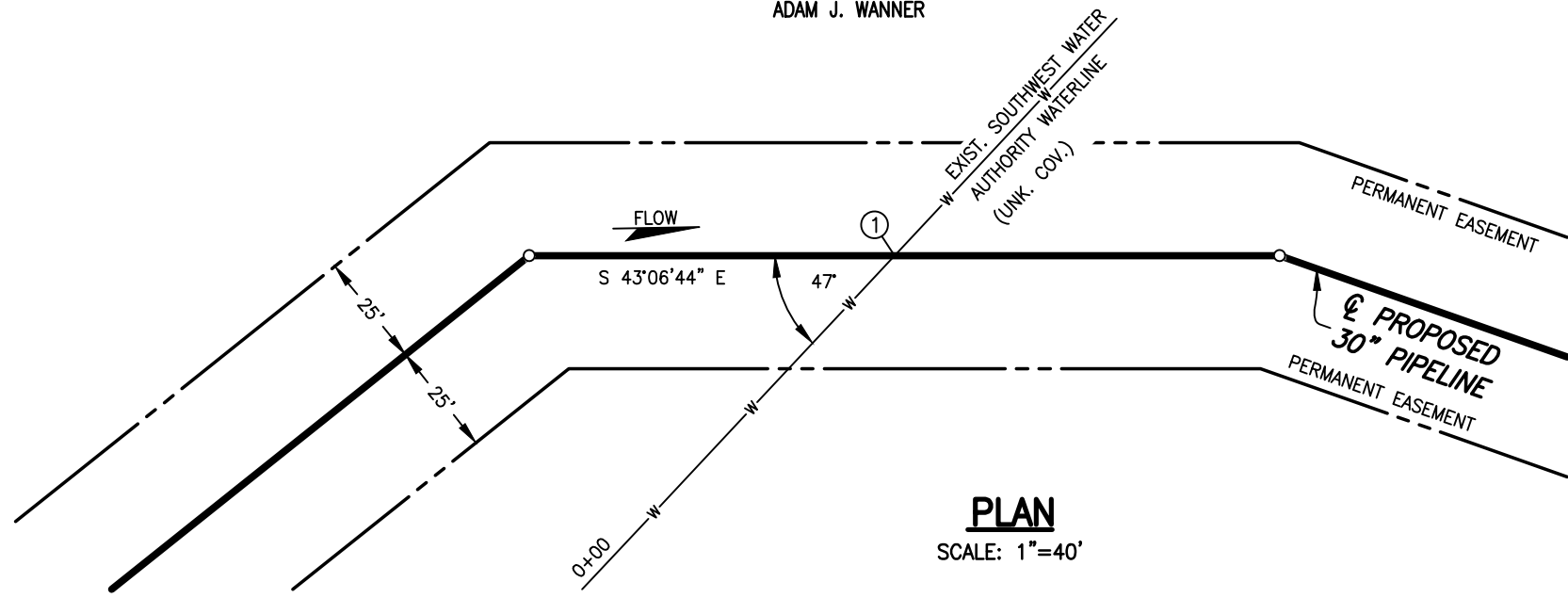
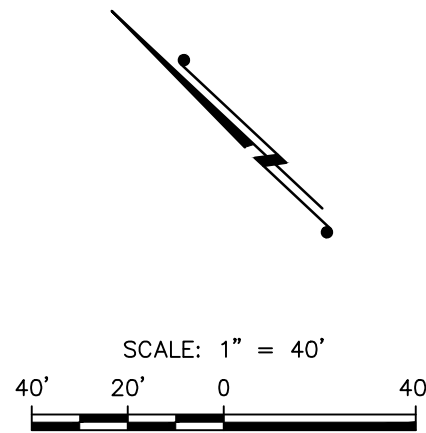
DAKOTA ACCESS, LLC			
PROPOSED 30" DAPL PIPELINE CROSSING SOUTHWEST WATER AUTHORITY WATERLINE MERCER COUNTY NORTH DAKOTA			
DRAWN BY: JTM	DATE: 04/04/16	DWG. NO.	REV.
CHECKED BY: TC	DATE: 04/04/16	ND-ME-013.303-SWA-XING	A
SCALE: AS SHOWN	APP.: RC		

MERCER COUNTY, NORTH DAKOTA

SECTION 24, TOWNSHIP 143 NORTH, RANGE 90 WEST

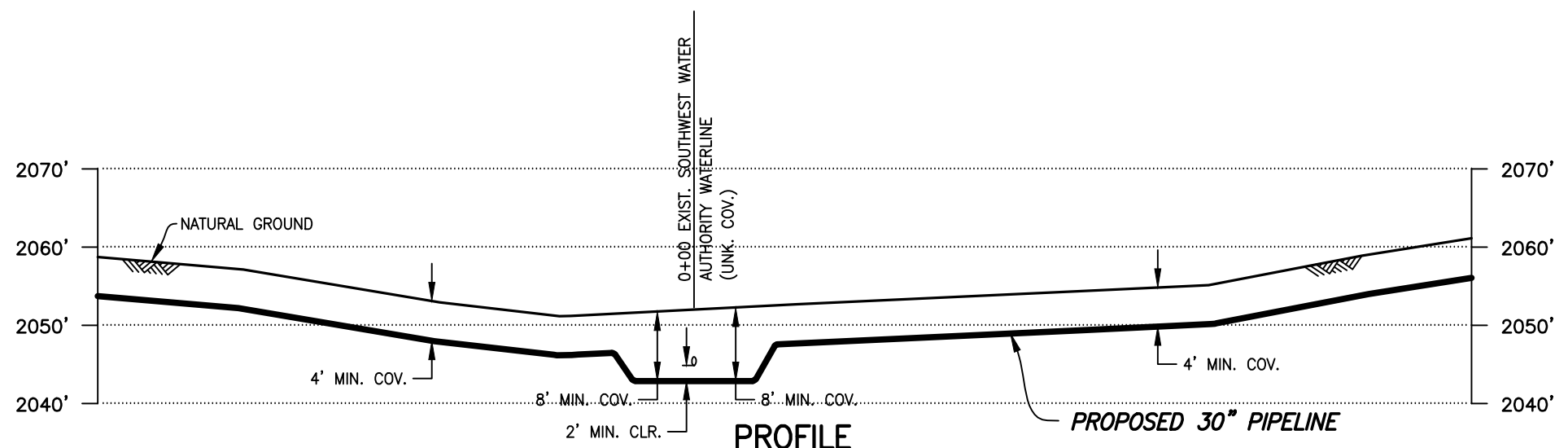
ND-ME-015.000

ADAM J. WANNER



PLAN
SCALE: 1"=40'

① TEST STATION TYPE IV
REFER TO DOCUMENT NO.
DAPL-WGM-GN000-PPL-GDL-0001
FOR INSTALLATION.
LAT: N47°11'47"
LONG: W102°02'09"
X=2377011.35
Y=17162850.90



PROFILE
SCALE: 1"=40' HORIZ.
1"=20' VERT.

DATUM:
ALL ELEVATIONS DERIVED FROM GPS
OBSERVATIONS (GEOID 2012, NAVD 88)
BEARINGS BASED ON UTM ZONE 13
NORTH AMERICAN DATUM 1983.
U.S. SURVEY FEET

PIPE SPECIFICATIONS
PIPE 30" O.D. x 0.429" W.T.
API 5LX-70 HSAW
COATING: 14-16 MILS FBE
SERVICE: CRUDE OIL
INSTALLATION: OPEN CUT
MIN TEST PRESSURE: 1,800 PSIG
MOP: 1,440 PSIG
MIN. YIELD STRENGTH: 70,000 PSI

THE PIPELINE INFORMATION SHOWN ON THIS
DRAWING IS A COMPILATION OF DATA OBTAINED
FROM DRAWINGS FROM VARIOUS SOURCES. WOOD
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UTILITIES AND PIPELINES PRIOR TO EXCAVATION.

NOTE:
PIPELINE TO HAVE 2' MINIMUM CLEARANCE WALL TO WALL
WITH EXISTING UTILITIES WHILE MAINTAINING 8' MINIMUM COVER
THROUGHOUT THE SOUTHWEST WATER AUTHORITY CROSSING.

A	04/04/16	MSM	ISSUED FOR USE/PERMIT	RC			
REV.	DATE	BY	DESCRIPTION	CHK.			
PROJECT NO.			10395700				
WOOD GROUP MUSTANG, INC. NORTH DAKOTA REGISTERED ENGINEERING FIRM 627C							

DAKOTA ACCESS, LLC

PROPOSED 30" DAPL PIPELINE CROSSING

SOUTHWEST WATER AUTHORITY WATERLINE

MERCER COUNTY NORTH DAKOTA

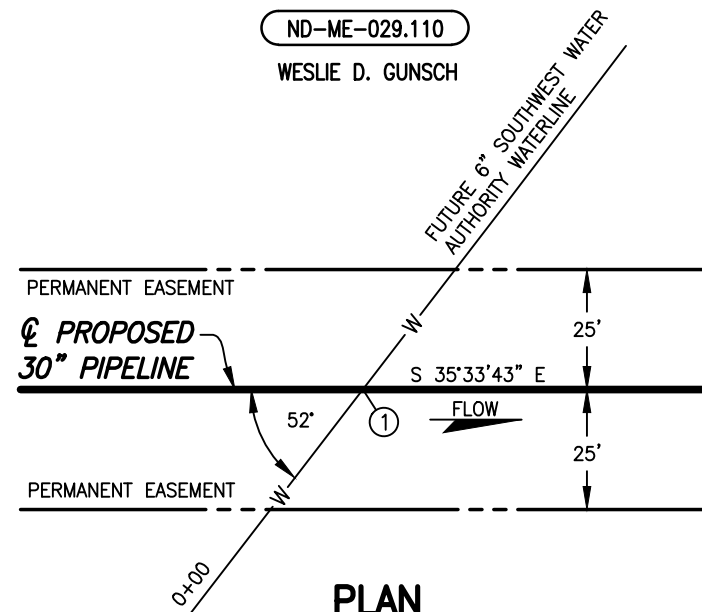
DRAWN BY: MSM	DATE: 04/04/16	DWG. NO.	REV.
CHECKED BY: TC	DATE: 04/04/16	ND-ME-015.000-SWA-XING	A
SCALE: AS SHOWN	APP.: RC		

FILE: R:\Projects\103957\DISCIPLINE\CAD\DRAWINGS\93-PERMIT\NORTH DAKOTA\Pipeline Crossings\SW WATER AUTHORITY\ND-ME-015.000-SWA-XING.dwg PLOT DATE: 4/15/2016 BY: HUMBERSON, JEREMY

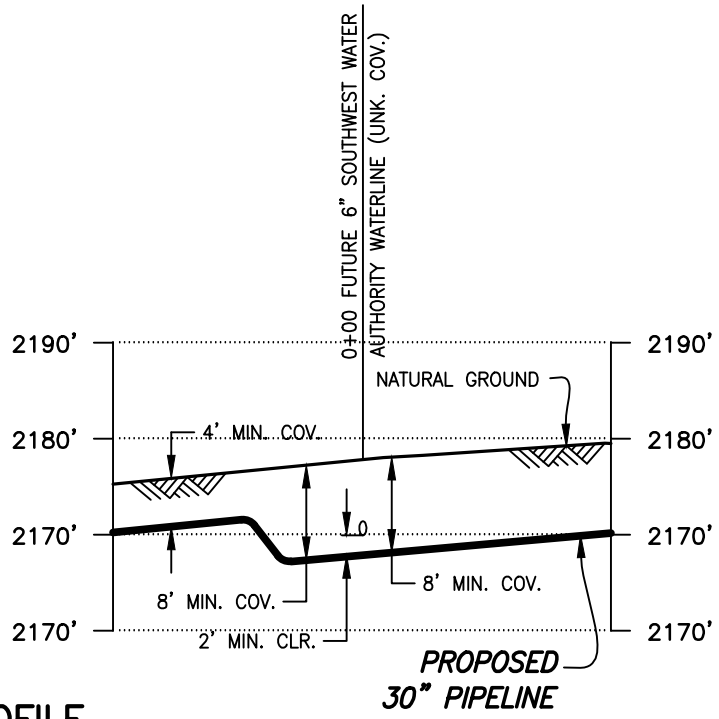
MERCER COUNTY, NORTH DAKOTA

SECTION 25, TOWNSHIP 142 NORTH, RANGE 89 WEST

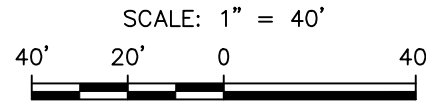
ND-ME-029.110
WESLIE D. GUNSCH



PLAN
SCALE: 1"=40'



PROFILE
SCALE: 1"=40' HORIZ.
1"=20' VERT.




① TEST STATION TYPE IV
REFER TO DOCUMENT NO.
DAPL-WGM-GN000-PPL-GDL-0001
FOR INSTALLATION.
LAT: N47°04'57"
LONG: W101°53'42"
X=919428.61
Y=17120742.12


THE PIPELINE INFORMATION SHOWN ON THIS DRAWING IS A COMPILATION OF DATA OBTAINED FROM DRAWINGS FROM VARIOUS SOURCES. WOOD GROUP MUSTANG, INC. DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND/OR CONFIRM THE LOCATIONS OF ALL UTILITIES AND PIPELINES PRIOR TO EXCAVATION.

DATUM:
ALL ELEVATIONS DERIVED FROM GPS OBSERVATIONS (GEOID 2012, NAVD 88) BEARINGS BASED ON UTM ZONE 14 NORTH AMERICAN DATUM 1983. U.S. SURVEY FEET

PIPE SPECIFICATIONS
PIPE 30" O.D. x 0.429" W.T.
API 5LX-70 HSAW
COATING: 14-16 MILS FBE
SERVICE: CRUDE OIL
INSTALLATION: OPEN CUT
MIN TEST PRESSURE: 1,800 PSIG
MOP: 1,440 PSIG
MIN. YIELD STRENGTH: 70,000 PSI

NOTE:
PIPELINE TO HAVE 2' MINIMUM CLEARANCE WALL TO WALL WITH EXISTING UTILITIES WHILE MAINTAINING 8' MINIMUM COVER THROUGHOUT THE SOUTHWEST WATER AUTHORITY CROSSING.

A	04/04/16	MSM	ISSUED FOR USE/PERMIT
REV.	DATE	BY	DESCRIPTION
PROJECT NO.		10395700	
 WOOD GROUP MUSTANG, INC. NORTH DAKOTA REGISTERED ENGINEERING FIRM 627C			

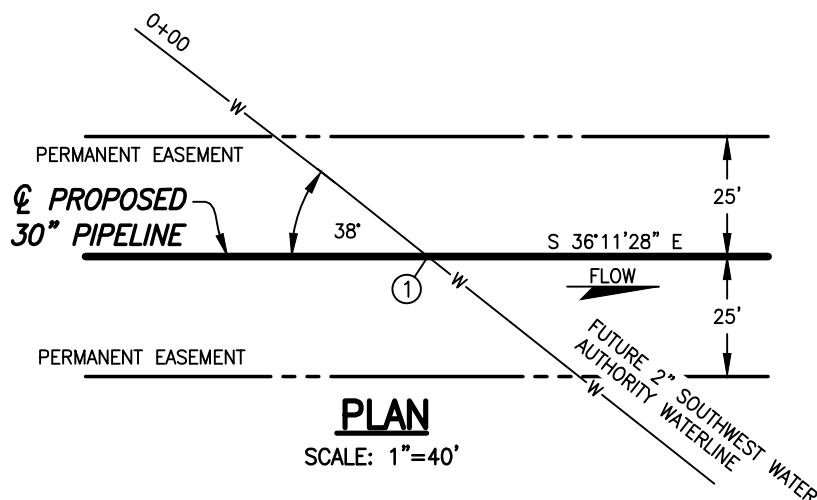
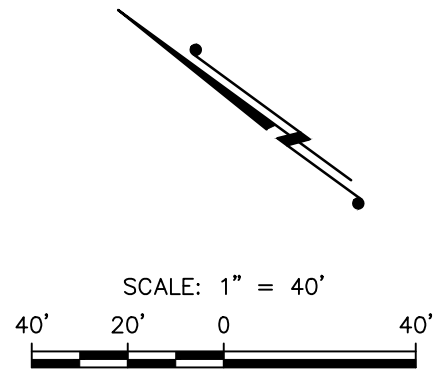
 DAKOTA ACCESS, LLC			
PROPOSED 30" DAPL PIPELINE CROSSING SOUTHWEST WATER AUTHORITY WATERLINE MERCER COUNTY NORTH DAKOTA			
DRAWN BY: MSM	DATE: 04/04/16	DWG. NO.	REV.
CHECKED BY: EFG	DATE: 04/04/16	ND-ME-029.110-SWA-XING	A
SCALE: AS SHOWN	APP.: RC		

FILE: R:\Projects\103957\DISCIPLINE\CAD\DRAWINGS\93-PERMIT\NORTH DAKOTA\Pipeline Crossings\SW WATER AUTHORITY\ND-ME-029.110-SWA-XING.dwg PLOT DATE: 4/20/2016 BY: MADAMBA, JOEY

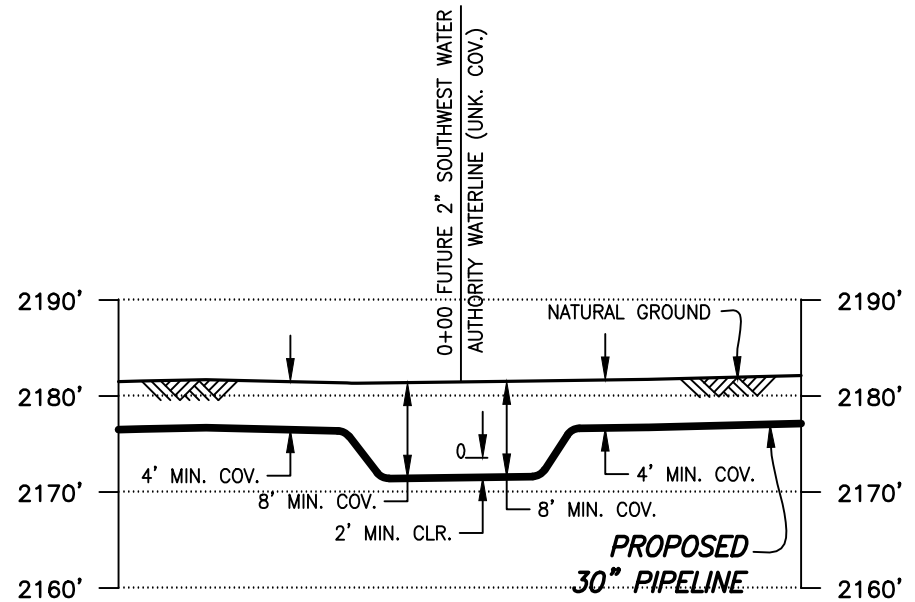
MERCER COUNTY, NORTH DAKOTA

SECTION 22, TOWNSHIP 141 NORTH, RANGE 88 WEST

ND-ME-048.000
BETTY SCHILLING



PLAN
SCALE: 1"=40'



PROFILE
SCALE: 1"=40' HORIZ.
1"=20' VERT.

- ① TEST STATION TYPE IV
REFER TO DOCUMENT NO.
DAPL-WGM-GN000-PPL-GDL-0001
FOR INSTALLATION.
LAT: N47°01'03"
LONG: W101°49'02"
X=937983.98
Y=17096263.71

DATUM:
ALL ELEVATIONS DERIVED FROM GPS
OBSERVATIONS (GEOID 2012, NAVD 88)
BEARINGS BASED ON UTM ZONE 14
NORTH AMERICAN DATUM 1983.
U.S. SURVEY FEET

PIPE SPECIFICATIONS
PIPE 30" O.D. x 0.429" W.T.
API 5LX-70 HSAW
COATING: 14-16 MILS FBE
SERVICE: CRUDE OIL
INSTALLATION: OPEN CUT
MIN TEST PRESSURE: 1,800 PSIG
MOP: 1,440 PSIG
MIN. YIELD STRENGTH: 70,000 PSI

NOTE:
PIPELINE TO HAVE 2' MINIMUM CLEARANCE WALL TO WALL
WITH EXISTING UTILITIES WHILE MAINTAINING 8' MINIMUM COVER
THROUGHOUT THE SOUTHWEST WATER AUTHORITY CROSSING.

THE PIPELINE INFORMATION SHOWN ON THIS
DRAWING IS A COMPILATION OF DATA OBTAINED
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UTILITIES AND PIPELINES PRIOR TO EXCAVATION.

A	04/05/16	MSM	ISSUED FOR USE/PERMIT	RC	
REV.	DATE	BY	DESCRIPTION	CHK.	
PROJECT NO.			10395700		
WOOD GROUP MUSTANG, INC. NORTH DAKOTA REGISTERED ENGINEERING FIRM 627C					

DAKOTA ACCESS, LLC			
PROPOSED 30" DAPL PIPELINE CROSSING SOUTHWEST WATER AUTHORITY WATERLINE MERCER COUNTY NORTH DAKOTA			
DRAWN BY: MSM	DATE: 04/05/16	DWG. NO.	REV.
CHECKED BY: EFG	DATE: 04/05/16	ND-ME-048.000-SWA-XING	A
SCALE: AS SHOWN	APP.: RC		

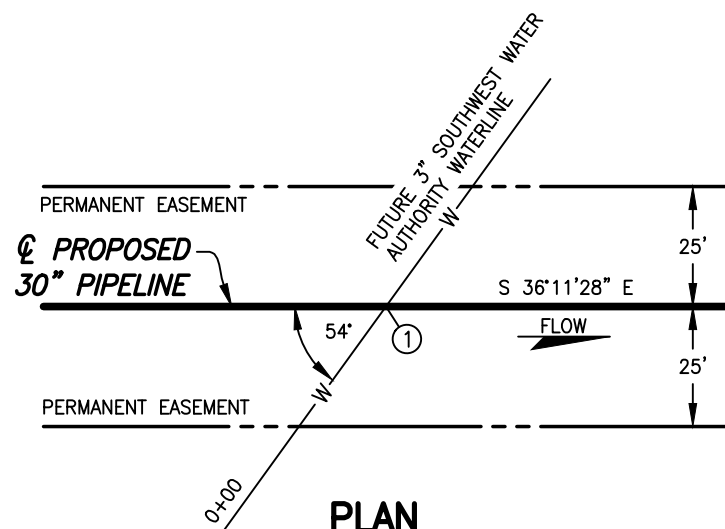
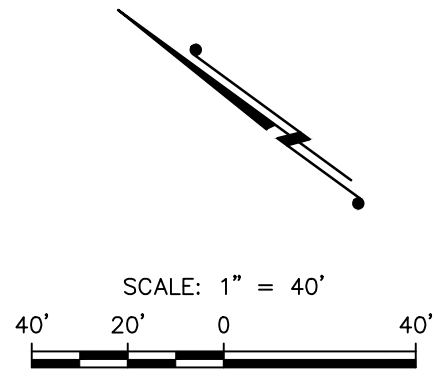
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MERCER COUNTY, NORTH DAKOTA

SECTION 27, TOWNSHIP 141 NORTH, RANGE 88 WEST

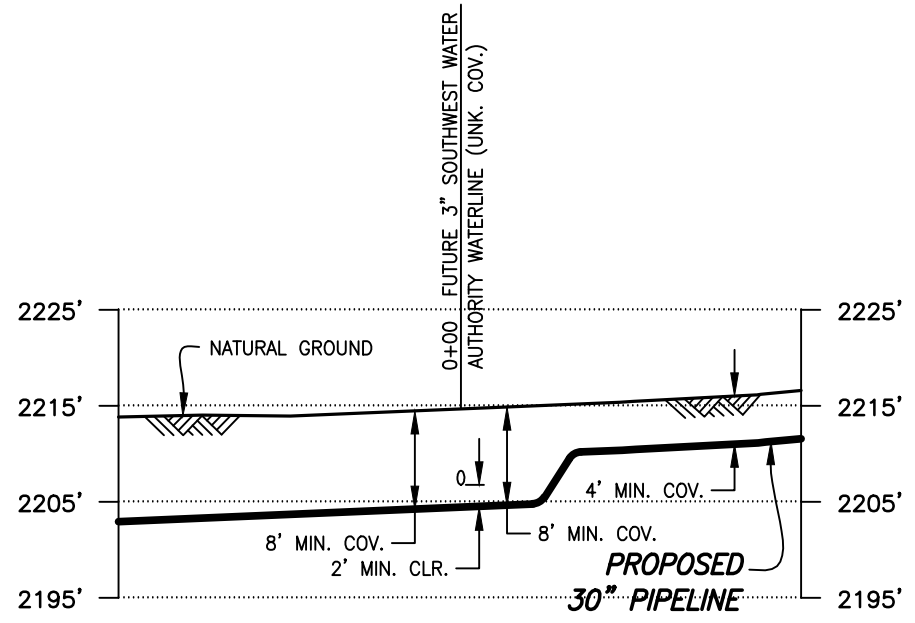
ND-ME-049.000

JEROME VOEGELE



PLAN

SCALE: 1"=40'



PROFILE

SCALE: 1"=40' HORIZ.
1"=20' VERT.


- ① TEST STATION TYPE IV REFER TO DOCUMENT NO. DAPL-WGM-GN000-PPL-GDL-0001 FOR INSTALLATION.
LAT: N47°00'36"
LONG: W101°48'31"
X=940035.23
Y=17093460.14


THE PIPELINE INFORMATION SHOWN ON THIS DRAWING IS A COMPILATION OF DATA OBTAINED FROM DRAWINGS FROM VARIOUS SOURCES. WOOD GROUP MUSTANG, INC. DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN.
IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND/OR CONFIRM THE LOCATIONS OF ALL UTILITIES AND PIPELINES PRIOR TO EXCAVATION.

DATUM:
ALL ELEVATIONS DERIVED FROM GPS OBSERVATIONS (GEOID 2012, NAVD 88) BEARINGS BASED ON UTM ZONE 14 NORTH AMERICAN DATUM 1983. U.S. SURVEY FEET

PIPE SPECIFICATIONS
PIPE 30" O.D. x 0.429" W.T.
API 5LX-70 HSAW
COATING: 14-16 MILS FBE
SERVICE: CRUDE OIL
INSTALLATION: OPEN CUT
MIN TEST PRESSURE: 1,800 PSIG
MOP: 1,440 PSIG
MIN. YIELD STRENGTH: 70,000 PSI

NOTE:
PIPELINE TO HAVE 2' MINIMUM CLEARANCE WALL TO WALL WITH EXISTING UTILITIES WHILE MAINTAINING 8' MINIMUM COVER THROUGHOUT THE SOUTHWEST WATER AUTHORITY CROSSING.

A	04/05/16	MSM	ISSUED FOR USE/PERMIT	RC
REV.	DATE	BY	DESCRIPTION	CHK.
PROJECT NO.		10395700		
 WOOD GROUP MUSTANG, INC. NORTH DAKOTA REGISTERED ENGINEERING FIRM 627C				

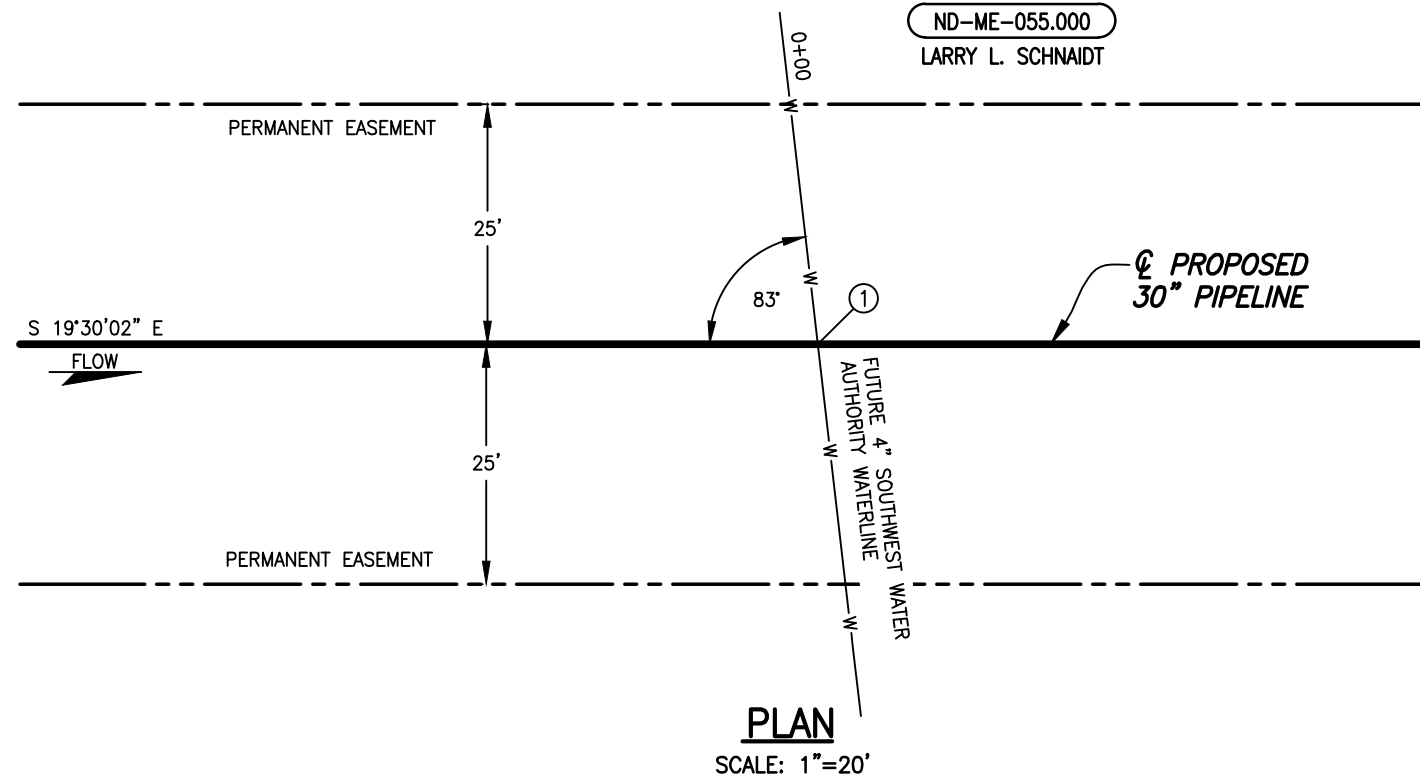
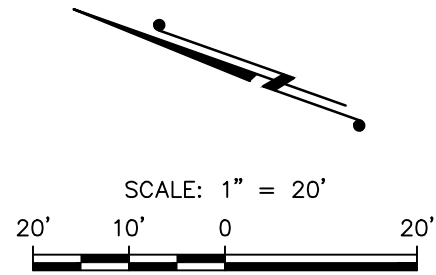
 DAKOTA ACCESS, LLC			
PROPOSED 30" DAPL PIPELINE CROSSING SOUTHWEST WATER AUTHORITY WATERLINE MERCER COUNTY NORTH DAKOTA			
DRAWN BY: MSM	DATE: 04/05/16	DWG. NO.	REV.
CHECKED BY: EFG	DATE: 04/05/16	ND-ME-049.000-SWA-XING	A
SCALE: AS SHOWN	APP.: RC		

FILE: R:\Projects\103957\DISCIPLINE\CAD\DRAWINGS\93-PERMIT\NORTH DAKOTA\Pipeline Crossings\SW WATER AUTHORITY\ND-ME-049.000-SWA-XING.dwg PLOT DATE: 4/20/2016 BY: MADAMBA, JOEY

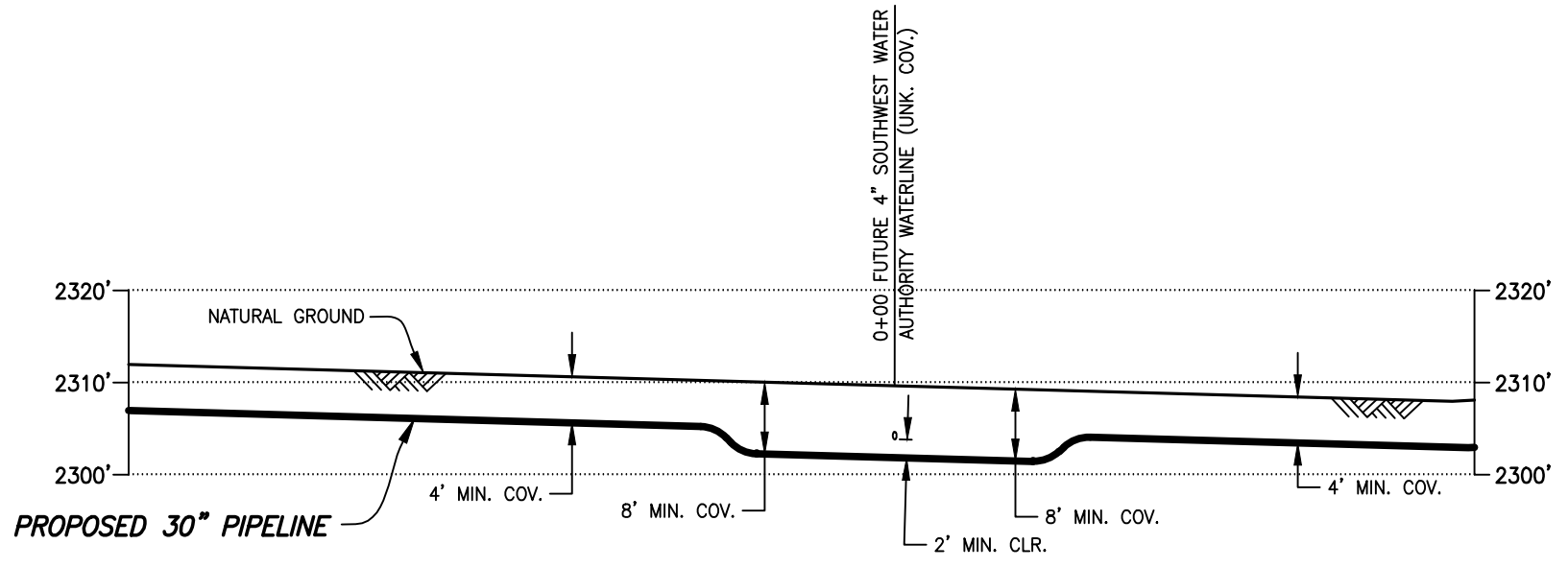
MERCER COUNTY, NORTH DAKOTA

SECTION 35, TOWNSHIP 141 NORTH, RANGE 88 WEST

ND-ME-055.000
LARRY L. SCHNAIDT



① TEST STATION TYPE IV
REFER TO DOCUMENT NO.
DAPL-WGM-GN000-PPL-GDL-0001
FOR INSTALLATION.
LAT: N46°59'22"
LONG: W101°47'27"
X=944188.58
Y=17085799.41



THE PIPELINE INFORMATION SHOWN ON THIS DRAWING IS A COMPILATION OF DATA OBTAINED FROM DRAWINGS FROM VARIOUS SOURCES. WOOD GROUP MUSTANG, INC. DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND/OR CONFIRM THE LOCATIONS OF ALL UTILITIES AND PIPELINES PRIOR TO EXCAVATION.

DATUM:
ALL ELEVATIONS DERIVED FROM GPS OBSERVATIONS (GEOID 2012, NAVD 88) BEARINGS BASED ON UTM ZONE 14 NORTH AMERICAN DATUM 1983. U.S. SURVEY FEET

PIPE SPECIFICATIONS
PIPE 30" O.D. x 0.429" W.T.
API 5LX-70 HSAW
COATING: 14-16 MILS FBE
SERVICE: CRUDE OIL
INSTALLATION: OPEN CUT
MIN. TEST PRESSURE: 1,800 PSIG
MOP: 1,440 PSIG
MIN. YIELD STRENGTH: 70,000 PSI

NOTE:
PIPELINE TO HAVE 2' MINIMUM CLEARANCE WALL TO WALL WITH EXISTING UTILITIES WHILE MAINTAINING 8' MINIMUM COVER THROUGHOUT THE SOUTHWEST WATER AUTHORITY CROSSING.

A	04/06/16	JTM	ISSUED FOR USE/PERMIT
REV.	DATE	BY	DESCRIPTION
PROJECT NO.		10395700	
WOOD GROUP MUSTANG, INC. NORTH DAKOTA REGISTERED ENGINEERING FIRM 627C			

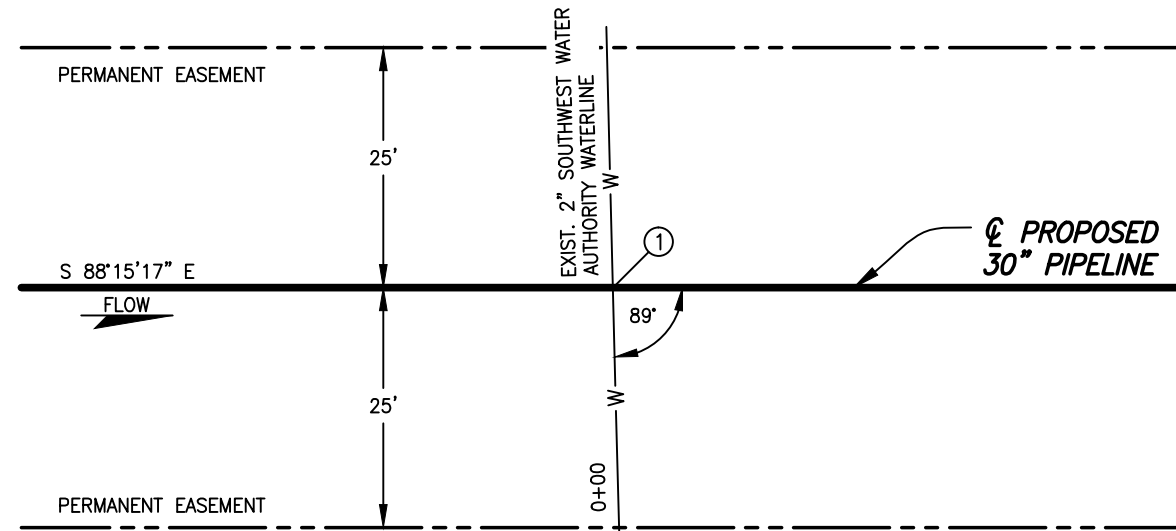
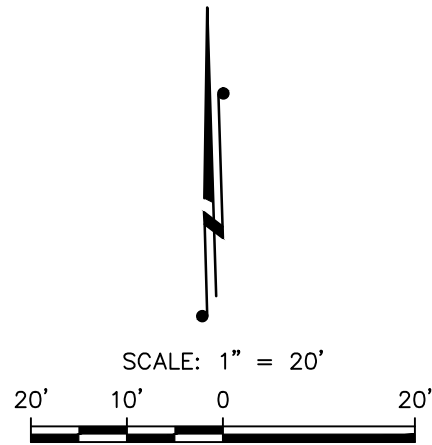
DAKOTA ACCESS, LLC			
PROPOSED 30" DAPL PIPELINE CROSSING SOUTHWEST WATER AUTHORITY WATERLINE MERCER COUNTY NORTH DAKOTA			
DRAWN BY: JTM	DATE: 04/06/16	DWG. NO.	REV.
CHECKED BY: TC	DATE: 04/06/16	ND-ME-055.000-SWA-XING	A
SCALE: AS SHOWN	APP.: RC		

FILE: R:\Projects\103957\DISCIPLINE\CAD\DRAWINGS\93-PERMIT\NORTH DAKOTA\Pipeline Crossings\SW WATER AUTHORITY\ND-ME-055.000-SWA-XING.dwg PLOT DATE: 4/20/2016 BY: MADAMBA, JOEY

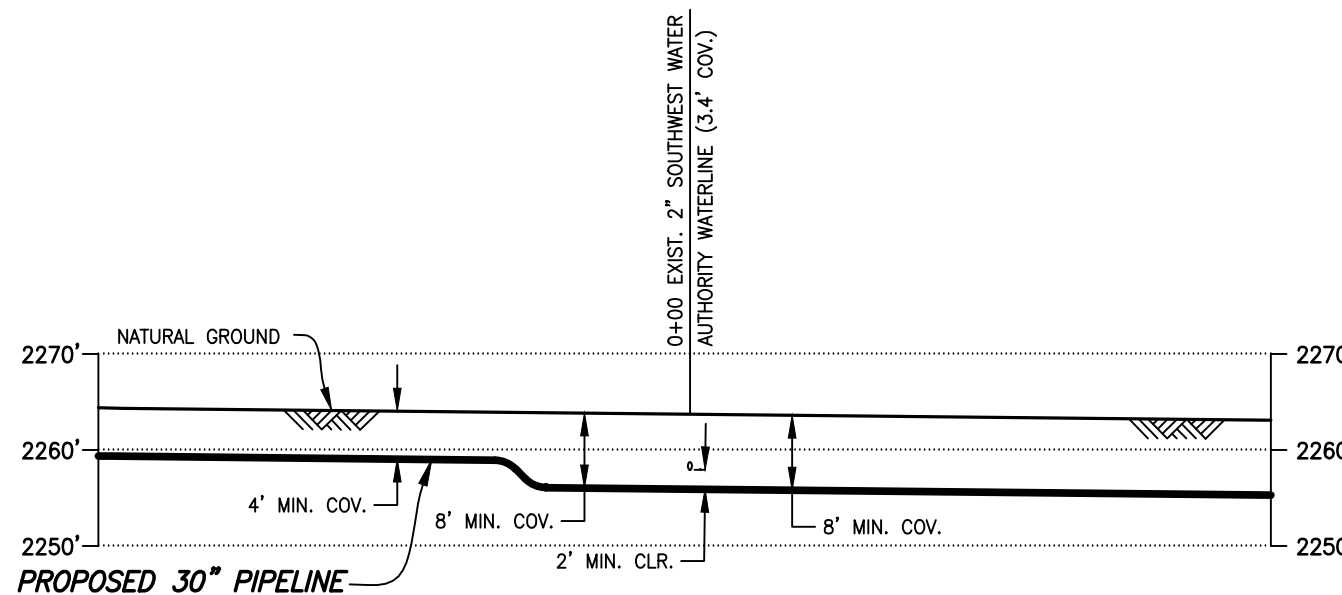
MORTON COUNTY, NORTH DAKOTA

SECTION 18, TOWNSHIP 140 NORTH, RANGE 87 WEST

ND-MO-014.000
PELTZ REVOCABLE LIVING TRUST



PLAN
SCALE: 1"=20'



PROFILE
SCALE: 1"=20' HORIZ.
1"=20' VERT.

- ① TEST STATION TYPE IV REFER TO DOCUMENT NO. DAPL-WGM-GN000-PPL-GDL-0001 FOR INSTALLATION.
LAT: N46°56'07"
LONG: W101°42'08"
X=965645.01
Y=17065288.48

DATUM:
ALL ELEVATIONS DERIVED FROM GPS OBSERVATIONS (GEOID 2012, NAVD 88) BEARINGS BASED ON UTM ZONE 14 NORTH AMERICAN DATUM 1983. U.S. SURVEY FEET

PIPE SPECIFICATIONS
PIPE 30" O.D. x 0.625" W.T.
API 5LX-70 HSAW
COATING: 14-16 MILS FBE W/40 MILS ARO
SERVICE: CRUDE OIL
INSTALLATION: BORE
MIN. TEST PRESSURE: 1,800 PSIG
MOP: 1,440 PSIG
MIN. YIELD STRENGTH: 70,000 PSI

NOTE:
PIPELINE TO HAVE 2' MINIMUM CLEARANCE WALL TO WALL WITH EXISTING UTILITIES WHILE MAINTAINING 8' MINIMUM COVER THROUGHOUT THE SOUTHWEST WATER AUTHORITY CROSSING.

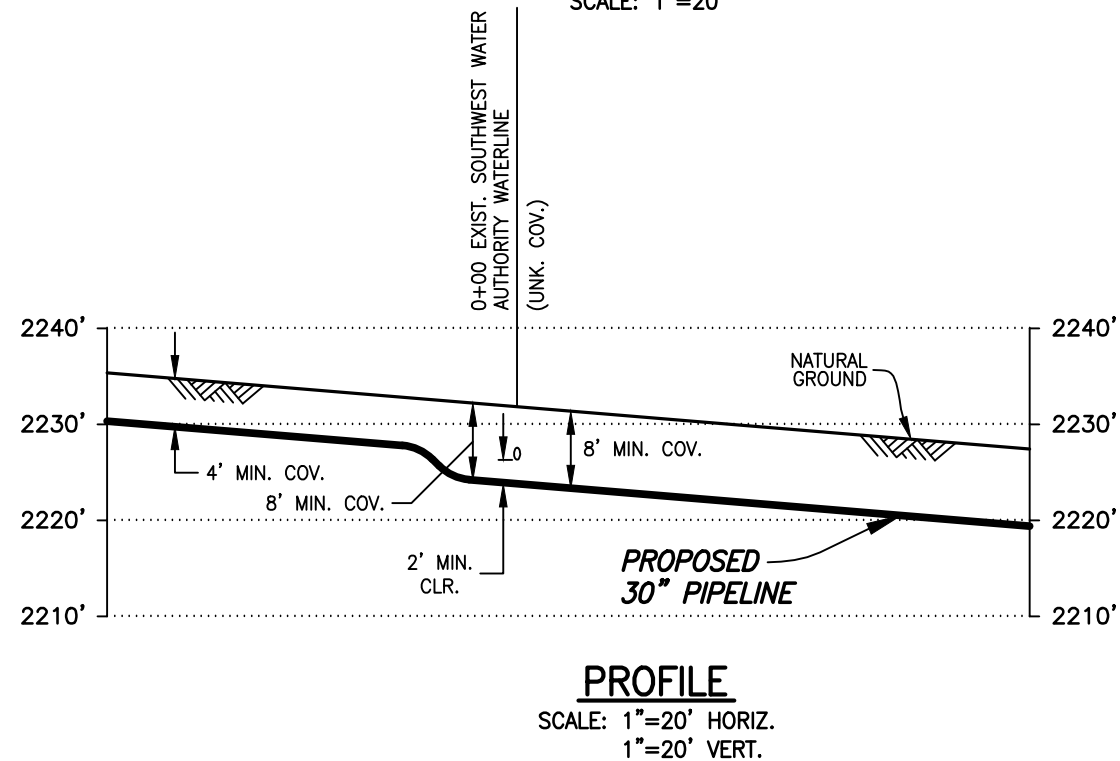
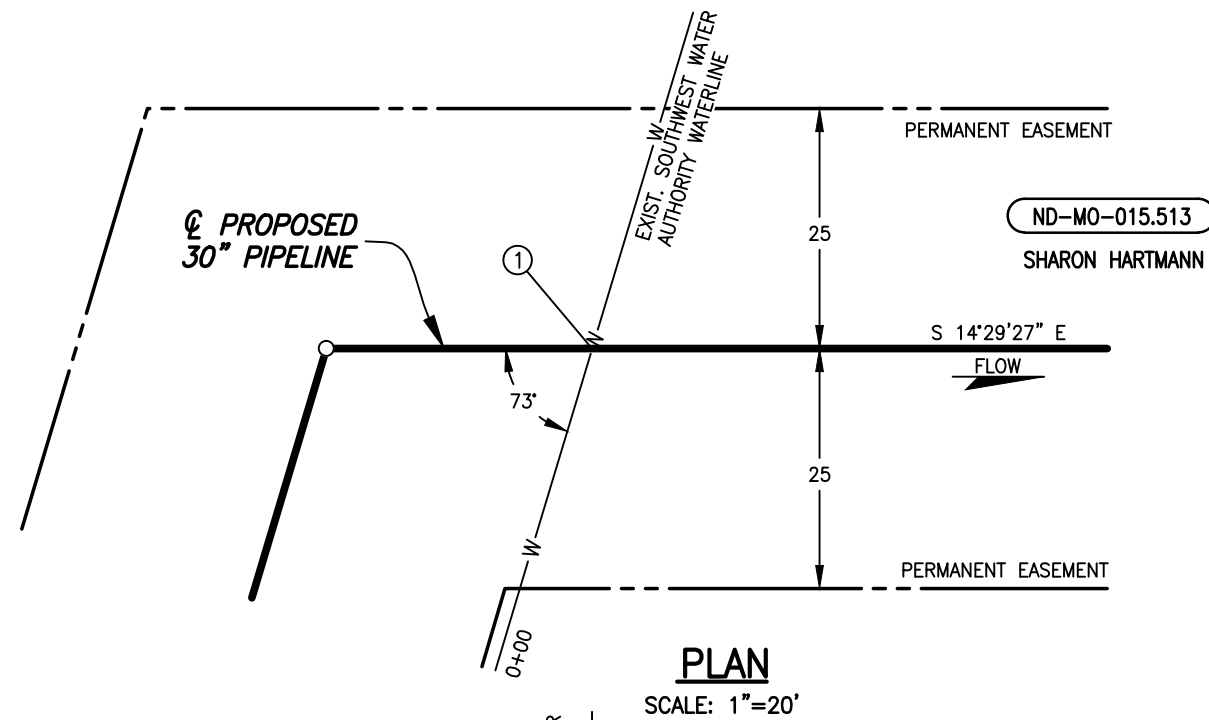
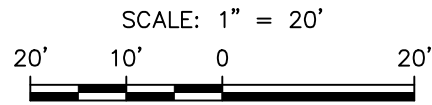
THE PIPELINE INFORMATION SHOWN ON THIS DRAWING IS A COMPILATION OF DATA OBTAINED FROM DRAWINGS FROM VARIOUS SOURCES. WOOD GROUP MUSTANG, INC. DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND/OR CONFIRM THE LOCATIONS OF ALL UTILITIES AND PIPELINES PRIOR TO EXCAVATION.

A	04/06/16	JTM	ISSUED FOR USE/PERMIT	RC
REV.	DATE	BY	DESCRIPTION	CHK.
PROJECT NO. 10395700				
WOOD GROUP MUSTANG, INC. NORTH DAKOTA REGISTERED ENGINEERING FIRM 627C				

DAKOTA ACCESS, LLC			
PROPOSED 30" DAPL PIPELINE CROSSING SOUTHWEST WATER AUTHORITY WATERLINE MORTON COUNTY NORTH DAKOTA			
DRAWN BY: JTM	DATE: 04/06/16	DWG. NO.	REV.
CHECKED BY: TC	DATE: 04/06/16	ND-MO-014.000-SWA-XING	A
SCALE: AS SHOWN	APP.: RC		

MORTON COUNTY, NORTH DAKOTA

SECTION 17, TOWNSHIP 140 NORTH, RANGE 87 WEST



① TEST STATION TYPE IV
 REFER TO DOCUMENT NO.
 DAPL-WGM-GN000-PPL-GDL-0001
 FOR INSTALLATION.
 LAT: N46°56'06"
 LONG: W101°41'16"
 X=969192.83
 Y=17065129.92

DATUM:
 ALL ELEVATIONS DERIVED FROM GPS
 OBSERVATIONS (GEOID 2012, NAVD 88)
 BEARINGS BASED ON UTM ZONE 14
 NORTH AMERICAN DATUM 1983.
 U.S. SURVEY FEET

PIPE SPECIFICATIONS
 PIPE 30" O.D. x 0.429" W.T.
 API 5LX-70 HSAW
 COATING: 14-16 MILS FBE
 SERVICE: CRUDE OIL
 INSTALLATION: OPEN CUT
 MIN. TEST PRESSURE: 1,800 PSIG
 MOP: 1,440 PSIG
 MIN. YIELD STRENGTH: 70,000 PSI

NOTE:
 PIPELINE TO HAVE 2' MINIMUM CLEARANCE WALL TO WALL
 WITH EXISTING UTILITIES WHILE MAINTAINING 8' MINIMUM COVER
 THROUGHOUT THE SOUTHWEST WATER AUTHORITY CROSSING.

THE PIPELINE INFORMATION SHOWN ON THIS
 DRAWING IS A COMPILATION OF DATA OBTAINED
 FROM DRAWINGS FROM VARIOUS SOURCES. WOOD
 GROUP MUSTANG, INC. DOES NOT GUARANTEE THE
 ACCURACY OR COMPLETENESS OF THE
 INFORMATION SHOWN.
 IT IS THE CONTRACTOR'S RESPONSIBILITY TO
 LOCATE AND/OR CONFIRM THE LOCATIONS OF ALL
 UTILITIES AND PIPELINES PRIOR TO EXCAVATION.

A	04/06/16	DLK	ISSUED FOR USE/PERMIT	RC
REV.	DATE	BY	DESCRIPTION	CHK.
PROJECT NO.		10395700		
WOOD GROUP MUSTANG, INC. NORTH DAKOTA REGISTERED ENGINEERING FIRM 627C				

DAKOTA ACCESS, LLC

PROPOSED 30" DAPL PIPELINE CROSSING

SOUTHWEST WATER AUTHORITY WATERLINE

MORTON COUNTY NORTH DAKOTA

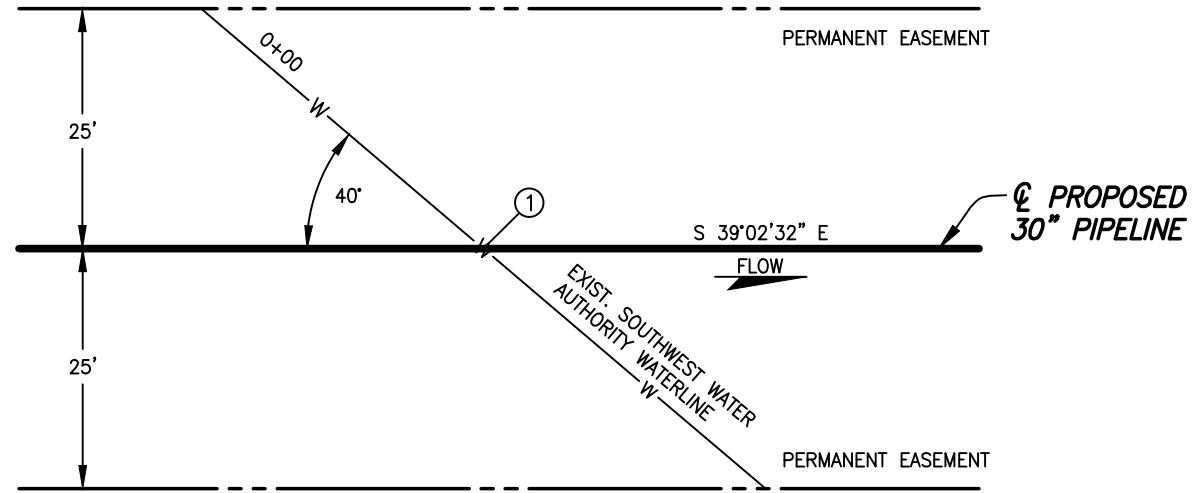
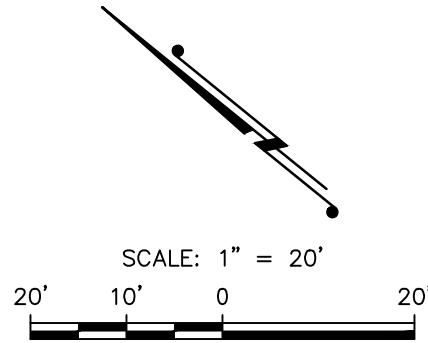
DRAWN BY: DLK	DATE: 04/06/16	DWG. NO.	REV.
CHECKED BY: TC	DATE: 04/06/16	ND-MO-015.513-SWA-XING	A
SCALE: AS SHOWN	APP.: RC		

FILE: R:\Projects\103957\DISCIPLINE\CAD\DRAWINGS\93-PERMIT\NORTH DAKOTA\Pipeline Crossings\SW WATER AUTHORITY\ND-MO-020.000-SWA-XING.dwg PLOT DATE: 4/20/2016 BY: MADAMBA, JOEY

MORTON COUNTY, NORTH DAKOTA

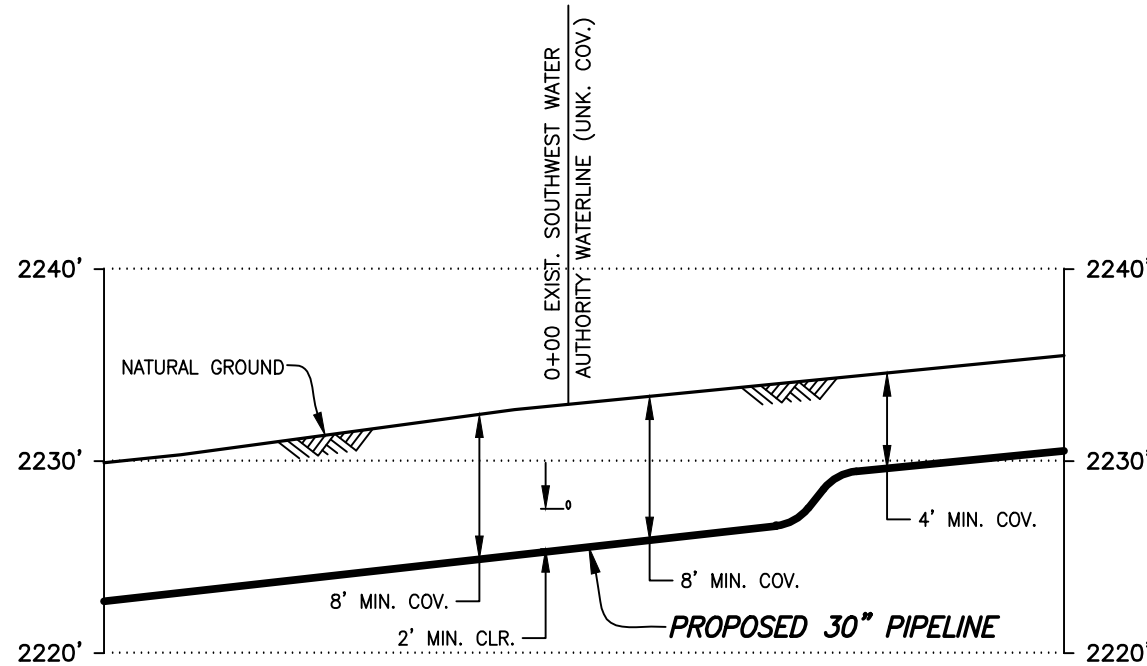
SECTION 21, TOWNSHIP 140 NORTH, RANGE 87 WEST

ND-MO-020.000
GORDON KROH, LIFE ESTATE



PLAN
SCALE: 1"=20'

① TEST STATION TYPE IV
REFER TO DOCUMENT NO.
DAPL-WGM-GN000-PPL-GDL-0001
FOR INSTALLATION.
LAT: N46°55'16"
LONG: W101°40'48"
X=970976.20
Y=17059972.33



PROFILE
SCALE: 1"=20' HORIZ.
1"=10' VERT.

THE PIPELINE INFORMATION SHOWN ON THIS DRAWING IS A COMPILATION OF DATA OBTAINED FROM DRAWINGS FROM VARIOUS SOURCES. WOOD GROUP MUSTANG, INC. DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND/OR CONFIRM THE LOCATIONS OF ALL UTILITIES AND PIPELINES PRIOR TO EXCAVATION.

DATUM:
ALL ELEVATIONS DERIVED FROM GPS OBSERVATIONS (GEOID 2012, NAVD 88) BEARINGS BASED ON UTM ZONE 14 NORTH AMERICAN DATUM 1983. U.S. SURVEY FEET

PIPE SPECIFICATIONS
PIPE 30" O.D. x 0.625" W.T.
API 5LX-70 HSAW
COATING: 14-16 MILS FBE
W/40 MILS ARO
SERVICE: CRUDE OIL
INSTALLATION: BORE
MIN. TEST PRESSURE: 1,800 PSIG
MOP: 1,440 PSIG
MIN. YIELD STRENGTH: 70,000 PSI

NOTE:
PIPELINE TO HAVE 2' MINIMUM CLEARANCE WALL TO WALL WITH EXISTING UTILITIES WHILE MAINTAINING 8' MINIMUM COVER THROUGHOUT THE SOUTHWEST WATER AUTHORITY CROSSING.

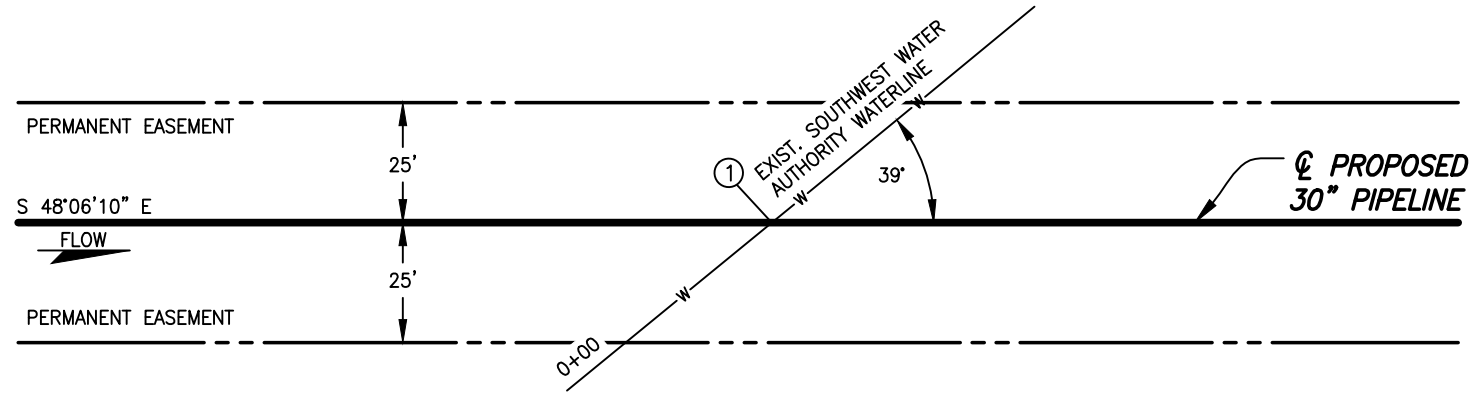
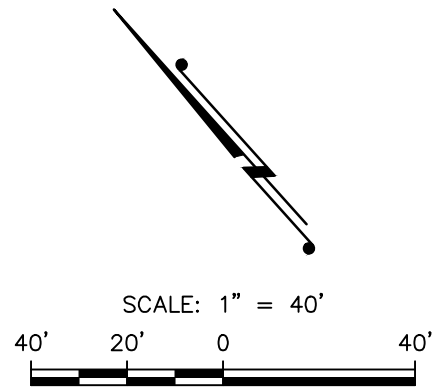
A	04/06/16	JTM	ISSUED FOR USE/PERMIT	RC
REV.	DATE	BY	DESCRIPTION	CHK.
PROJECT NO.		10395700		
WOOD GROUP MUSTANG, INC. NORTH DAKOTA REGISTERED ENGINEERING FIRM 627C				

DAKOTA ACCESS, LLC			
PROPOSED 30" DAPL PIPELINE CROSSING SOUTHWEST WATER AUTHORITY WATERLINE MORTON COUNTY NORTH DAKOTA			
DRAWN BY: JTM	DATE: 04/06/16	DWG. NO.	REV.
CHECKED BY: TC	DATE: 04/06/16	ND-MO-020.000-SWA-XING	A
SCALE: AS SHOWN	APP.: RC		

MORTON COUNTY, NORTH DAKOTA

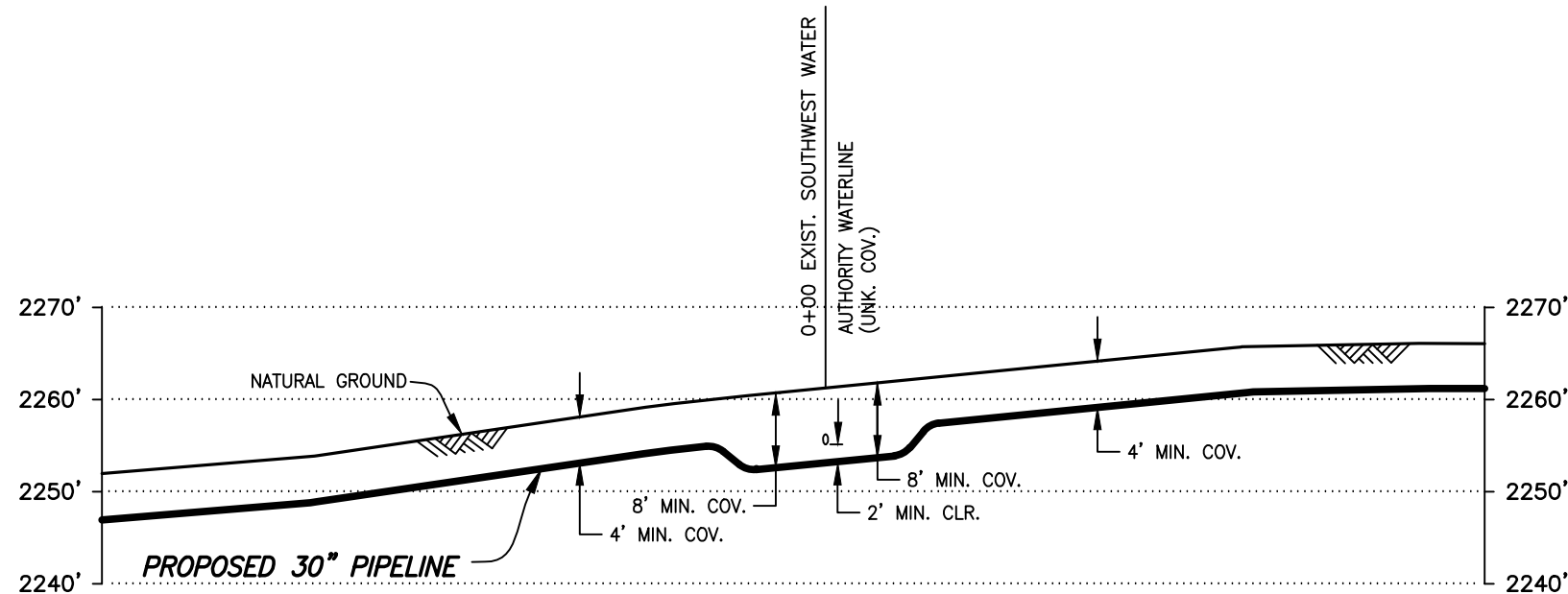
SECTION 28, TOWNSHIP 140 NORTH, RANGE 87 WEST

ND-MO-021.000
GORDON KROH, LIFE ESTATE



PLAN
SCALE: 1"=40'

- ① TEST STATION TYPE IV
REFER TO DOCUMENT NO.
DAPL-WGM-GN000-PPL-GDL-0001
FOR INSTALLATION.
LAT: N46°55'11"
LONG: W101°40'40"
X=971537.83
Y=17059394.02



PROFILE
SCALE: 1"=40' HORIZ.
1"=20' VERT.

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DATUM:
ALL ELEVATIONS DERIVED FROM GPS OBSERVATIONS (GEOID 2012, NAVD 88) BEARINGS BASED ON UTM ZONE 14 NORTH AMERICAN DATUM 1983. U.S. SURVEY FEET

PIPE SPECIFICATIONS
PIPE 30" O.D. x 0.429" W.T.
API 5LX-70 HSAW
COATING: 14-16 MILS FBE
SERVICE: CRUDE OIL
INSTALLATION: OPEN CUT
MIN. TEST PRESSURE: 1,800 PSIG
MOP: 1,440 PSIG
MIN. YIELD STRENGTH: 70,000 PSI

NOTE:
PIPELINE TO HAVE 2' MINIMUM CLEARANCE WALL TO WALL WITH EXISTING UTILITIES WHILE MAINTAINING 8' MINIMUM COVER THROUGHOUT THE SOUTHWEST WATER AUTHORITY CROSSING.

A	04/07/16	JTM	ISSUED FOR USE/PERMIT	RC
REV.	DATE	BY	DESCRIPTION	CHK.
PROJECT NO.		10395700		
WOOD GROUP MUSTANG, INC. NORTH DAKOTA REGISTERED ENGINEERING FIRM 627C				

DAKOTA ACCESS, LLC			
PROPOSED 30" DAPL PIPELINE CROSSING SOUTHWEST WATER AUTHORITY WATERLINE MORTON COUNTY NORTH DAKOTA			
DRAWN BY: JTM	DATE: 04/07/16	DWG. NO.	REV.
CHECKED BY: EFG	DATE: 04/07/16	ND-MO-021.000-SWA-XING	A
SCALE: AS SHOWN	APP.: RC		