

NOTES:

- CROSSING SHALL BE IN ACCORDANCE WITH ALL CONDITIONS OF THE CROSSING AGREEMENT(S) AND ALL REQUIREMENTS OF THE AUTHORITIES HAVING JURISDICTION.
- ALL WORK SHALL BE IN ACCORDANCE WITH NNG'S GROUND DISTURBANCE PROCEDURES & SPECIFICATIONS.
- WHERE PRACTICAL, ANGLE OF CROSSING ROAD SHALL BE AS CLOSE TO PERPENDICULAR AS POSSIBLE, BUT NOT LESS THAN 45°.
- 5ft MINIMUM CLEARANCE UNDER LOWEST POINT OF ROAD ROW WIDTH, INCLUDING ANY ADDITIONAL REQUIRED SETBACKS AND BAR DITCHES.
- IF NO DEFINED ROW EXISTS, THE ENTRY AND EXIT POINTS SHALL EXTEND AT LEAST 50ft FROM THE ROAD SURFACE, MEASURED PERPENDICULAR TO THE ROAD CENTERLINE.
- PIPELINE WARNING SIGNS TO BE INSTALLED AS PER NNG REQUIREMENTS AND TO BE INSTALLED ON ROW LINE NEXT TO THE FENCE IF POSSIBLE.
- SIZE OF TEMPORARY DRIVEWAY ENTRANCES TO BE 20'-35' AS PER PERMIT SPECIFICATIONS.
- CONTRACTOR MAY SWITCH EXIT/ENTRY POINT WITH NNG APPROVAL.
- CONTRACTOR MAY ELECT TO DRILL WITH/WITHOUT CURVATURE THROUGH THE DRILL PATH WITH NNG APPROVAL.
- PIPE SPECIFICATIONS AND CORRESPONDING MINIMUM ARC RADIUS OF INSTALLED PIPE ARE BELOW:

PIPE OD	PIPE SPECIFICATION	MIN. ARC RADIUS (ft)
NPS 8	0.280 IN WT, HSAW, API SL P5L2, GR X42, FBE+PC	800

M:\NNG 2019 NL EXPANSION PROJECT\PIPELINE_TYPICALS\ROAD BORE CROSSING\ALEXANDRIA\ABL-TYP-01

INTERNAL INFORMATION
DISTRIBUTION/COPIES LIMITED TO PROJECT NEEDS

F	ISSUED FOR FERC	HD	7/23/18		
NO.	REVISION - DESCRIPTION	BY	DATE	CHK'D	APP'D

FILED WITH FERC
ANY CHANGES FROM WHAT IS SHOWN MUST BE IDENTIFIED AND REVIEWED BY REGULATORY BEFORE IMPLEMENTATION

STATUS	CHECKED		APPROVED	
	BY	DATE	BY	DATE
PRELIM				
BID				
CONST.				

FAC CODE: -	REL W.O. N/A
PL# -	CONST. YR 2018
STA# N/A	POI# N/A
DESIGN BY SS	DATE -
DRAWN BY HD	DATE 06/27/2018
ASBUILT	
FILE NO: -	
SCALE: N.T.S.	

TYPICAL ROAD BORE OF PROPOSED 8" OF PROPOSED 8" ALEXANDRIA BL LOOP EXTENSION PLAN MORRISON COUNTY, MINNESOTA

Northern Natural Gas

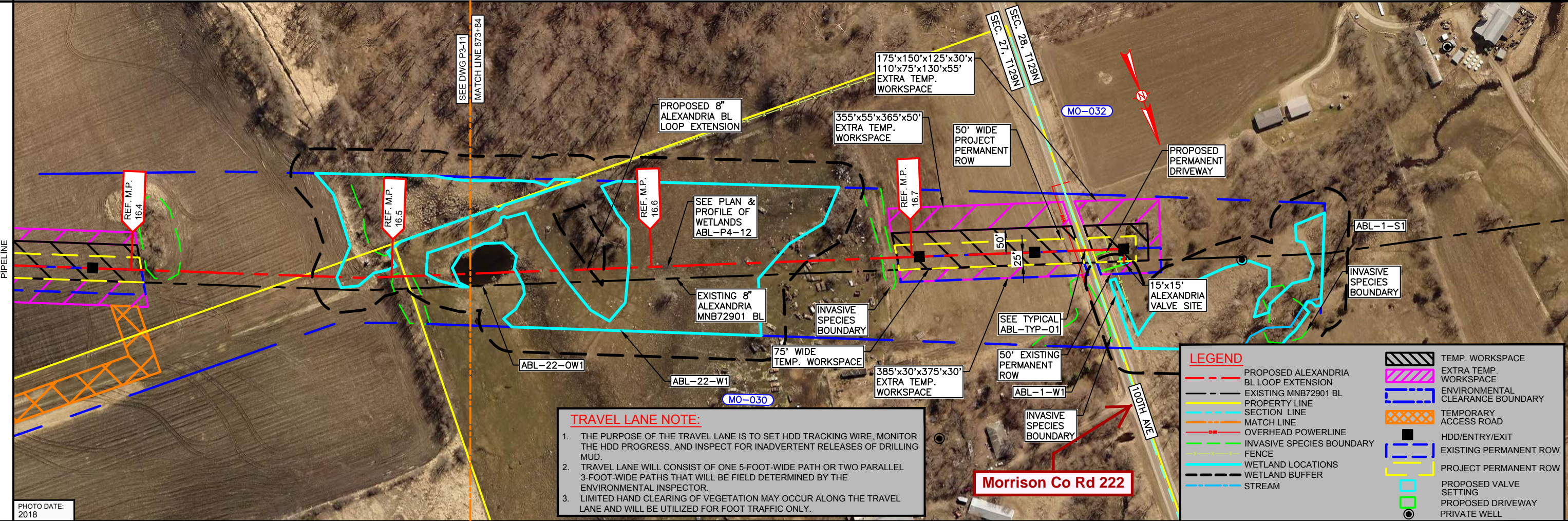
PROJECT NO. **01124367**

DWG. NO. **ABL-TYP-01**



COUNTY & STATE	MORRISON COUNTY, MINNESOTA	
TRACT NO. & OWNERSHIP	MO-030 SEC. 27, T129N, R30W	MO-032 SEC. 28, T129N, R30W
USAGE		
DEPTH OF COVER (ft)	4	4
RODDAGE	72.68	9.19
EASEMENT	BLANKET	BLANKET

STATIONING	873+84 MATCH LINE	874+65 WETLAND 874+78 WETLAND	875+66 WETLAND	877+05 WETLAND	877+52 REF MP 16.6	879+98 WETLAND	880+71 WETLAND BUFFER	882+16 TREE LINE 882+19 INVASIVE SPECIES 882+35 TREE LINE 882+40 INVASIVE SPECIES 882+60 REF MP 16.7	883+10 HDD ENTRY	885+30 HDD EXIT	886+10 O/H WIRE 886+19 CL OF 100TH AVE. 886+21 EDGE OF DRIVEWAY 886+52 SECTION LINE 886+34 PROPERTY LINE 886+47 EDGE OF DRIVEWAY 886+81 WIRE FENCE 887+10 HDD ENTRY 887+10 90'00"00"RT 887+24 WETLAND BUFFER	887+35 END PROPOSED 8" ALEXANDRIA BL LOOP EXTENSION
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TRAVEL LANE NOTE:

1. THE PURPOSE OF THE TRAVEL LANE IS TO SET HDD TRACKING WIRE, MONITOR THE HDD PROGRESS, AND INSPECT FOR INADVERTENT RELEASES OF DRILLING MUD.
2. TRAVEL LANE WILL CONSIST OF ONE 5-FOOT-WIDE PATH OR TWO PARALLEL 3-FOOT-WIDE PATHS THAT WILL BE FIELD DETERMINED BY THE ENVIRONMENTAL INSPECTOR.
3. LIMITED HAND CLEARING OF VEGETATION MAY OCCUR ALONG THE TRAVEL LANE AND WILL BE UTILIZED FOR FOOT TRAFFIC ONLY.

LEGEND	
	PROPOSED ALEXANDRIA BL LOOP EXTENSION
	EXISTING MNB72901 BL
	PROPERTY LINE
	SECTION LINE
	MATCH LINE
	OVERHEAD POWERLINE
	INVASIVE SPECIES BOUNDARY
	WETLAND LOCATIONS
	WETLAND BUFFER
	STREAM
	TEMP. WORKSPACE
	EXTRA TEMP. WORKSPACE
	ENVIRONMENTAL CLEARANCE BOUNDARY
	TEMPORARY ACCESS ROAD
	HDD/ENTRY/EXIT
	EXISTING PERMANENT ROW
	PROJECT PERMANENT ROW
	PROPOSED VALVE SETTING
	PROPOSED DRIVEWAY
	PRIVATE WELL

DESIGN FACTOR	0.50
CLASS LOCATION	I
HYDROSTATIC TEST PRESS (P.S.I.G.)	1050
M.A.O.P. (P.S.I.G.)	1050
PIPE DETAIL	873+84 1351' 8" PIPE 887+35

Figure 1-8			
F ISSUED FOR FERC	AC 02/15/19	TH	GC
NO.	REVISION - DESCRIPTION	BY	DATE

STATUS	CHECKED	APPROVED	FAC. CODE: N/A	REL. W.O. N/A
PRELIM	BY DATE	BY DATE	PL#	CONST. YR 2019
BID			STA# N/A	POI# N/A
CONSTR.			DESIGN SPS	DATE 2/23/18
			DRAWN AC	DATE 2/23/18
			ASBUILT	
			FILE NO.: P-100	
			SCALE: 1:100	

FILED WITH FERC
ANY CHANGES FROM WHAT IS SHOWN MUST BE IDENTIFIED AND REVIEWED BY REGULATORY BEFORE IMPLEMENTATION

PROPOSED 8" ALEXANDRIA BL LOOP EXTENSION ALIGNMENT SHEET	
SEC. 27 & 28, T129N, R30W MORRISON COUNTY, MINNESOTA	

Northern Natural Gas

PROJECT NO. 01124367

DWG. NO. P3-12

Crescini, Alexia/2/19 3:29 PM M:\NNG 2019 NL EXPANSION PROJECT2_ALEXANDRIA_SHEETS.DWG