WBI ENERGY TRANSMISSION, INC.

North Bakken Expansion Project

Resource Report 1
General Project Description

Final

Docket No.
CP20-52-000

February 2020

WBI ENERGY TRANSMISSION, INC.
NORTH BAKKEN EXPANSION PROJECT
RESOURCE REPORT 1 – GENERAL PROJECT DESCRIPTION

Minimum Filing Requirements:	**Addressed in:**
1. Provide a detailed description and location map of the project facilities – Title 18 of the Code of Federal Regulations (CFR) Part (§) 380.12(c)(1)	Section 1.1; figure 1.1-1; appendices 1A and 1B
2. Describe any non-jurisdictional facilities that would be built in association with the project – 18 CFR § 380.12(c)(2)	Section 1.7
3. Provide current original U.S. Geological Survey 7.5-minute-series topographic maps with mileposts showing the project facilities – 18 CFR § 380.12(c)(3)	Appendix 1A
4. Provide aerial images or photographs or alignment sheets based on these sources with mileposts showing the project facilities – 18 CFR § 380.12(c)(3)	Appendix 1B; construction alignment sheets
5. Provide plot/site plans of compressor stations showing the locations of the nearest noise sensitive areas within 1 mile – 18 CFR § 380.12(c)(3,4)	Appendix 1E(filed under separate cover as Controlled Unclassified Information/Critical Energy Infrastructure Information [CUI//CEII)])
6. Describe construction and restoration methods – 18 CFR § 380.12(c)(6)	Section 1.3
7. Identify the permits required for construction across surface waters – 18 CFR § 380.12(c)(9)	Section 1.8 and table 1.8-1
8. Provide the names and address of all affected landowners and certify that all affected landowners will be notified as required in § 157.6(d) – 18 CFR § 380.12(c)(10)	Section 1.9; appendix 1H (filed under separate cover as Controlled Unclassified Information/Privileged and Confidential [CUI//PRIV])

Additional Information:	**Addressed in:**
Describe all authorizations required to complete the proposed action and the status of applications for such authorizations	Section 1.8 and table 1.8-1
Provide plot/site plans of all other aboveground facilities that are not completely within the right-of-way	Additional aboveground facility plot/site plans for the proposed delivery, receipt, and transfer stations will be provided in a supplemental filing
Provide detailed typical construction right-of-way cross-section diagrams showing information such as widths and relative locations of existing rights-of-way, new permanent right-of-way, and temporary construction right-of-way	Appendix 1C
Summarize the total acreage of land affected by construction and operation of the project	Section 1.1.3 and table 1.1.3-1

Federal Energy Regulatory Commission's January 17, 2020 Environmental Information Request:	**Addressed in:**
1. Describe how natural gas that is currently being vented or flared would be collected and used to supply the project. Provide an estimate for the volume of gas that would no longer be vented or flared once the project is in operation and describe the methods used to determine this estimate.	Section 1.1.1
2. Indicate if landowners are willing to sell or lease the land proposed to be used for the Tioga Plant, Springbrook Plant, and Norse Plant receipt stations, Northern Border Station [Northern Border Interconnect], and Norse Transfer Station, and if any negotiations have commenced.	Section 1.1.2.2
3. Identify any jurisdictional and non-jurisdictional interconnecting pipelines that may be constructed and operated between existing and proposed pipeline facilities. Additionally, describe any non-jurisdictional water, sewer, and electric services that would be required for operational use of project facilities (i.e., water utility line, water well, surface water), if any. Provide the following information for each facility: a. company/owner; b. type of facility; c. dimensions (pipe diameter, length, horsepower, etc. as appropriate for pipeline and land area for other facilities); d. maps showing locations;	Sections 1.1.2 and 1.7

Federal Energy Regulatory Commission's January 17, 2020 Environmental Information Request:	**Addressed in:**
e. federal permits required and their status; and f. status of local and state permits required.	
4. Section 1.1.3.4 states that two new access roads would be permanently maintained to provide access to the Line Section 30 Loop right-of-way and the Tioga Plant Receipt Station; however, it is unclear how WBI Energy Transmission, Inc. (WBI Energy) would access other aboveground facilities. Clarify how these facilities would be accessed during operation and ensure that all permanent access roads are identified in subsequent resource reports.	Sections 1.1.2.2, 1.1.3.4, and appendix 1A; Resource Report 8, section 8.2.4 and appendix 8B
5. Confirm that no vegetation would be cleared, and no equipment would operate between proposed horizontal directional drill (HDD) and guided bore entry and exit points other than minimal hand clearing for electric-grid guide wire placement.	Section 1.3.2.1
6. Clarify if WBI Energy would use drilling fluid additives other than fresh water and pure bentonite clay. As identified, file a list of any HDD drilling fluid additives proposed for use, as well as the safety data sheets for these additives. Confirm that any drilling fluid additives would be non-petrochemical-based, non-hazardous, and would comply with permit requirements and environmental regulations.	Section 1.3.2.1 and appendix 1F-8
7. If proposed, provide a project-specific winter construction plan.	Section 1.2
8. Identify the typical hours and days of construction (example: 7:00 am to 7:00 pm, Monday-Friday). Indicate if construction would take place on weekends and federal holidays. If night work would occur, provide a detailed list of all activities that may occur during night time hours, including HDDs.	Section 1.2
9. Identify if any existing facilities that would be replaced or disturbed have known asbestos-containing materials (ACM) and develop protocols to comply with appropriate requirements to identify ACMs that might be encountered. If facilities with ACMs would be disturbed, identify how any abandoned ACM would be properly disposed of, as well as worker protection protocols for handling ACM-contaminated materials.	Section 1.3.3.1
10. Clarify how WBI Energy's "HDD" and "guided bore" construction methods differ.	Sections 1.3.2.1 and 1.3.2.3
11. Quantify the cumulative impacts of other projects (detailed in WBI Energy's appendix 1I [now appendix 1J]) within the geographic scopes of resources affected by the Project. Quantification of impacts for all projects should also include the duration of impact (e.g., temporary or permanent). Where projects overlap with the North Bakken Expansion workspace, quantify the acreage of overlap and: a. where cumulative impacts on soils may occur, quantify impacts on erodible soils and prime farmland; and b. where cumulative impacts on floodplain storage capacity may occur, identify facilities that would contribute to the cumulative impact, including the estimated volume of permanent lost floodplain storage capacity.	Appendix 1J; Resource Report 2, section 2.4; Resource Report 3, section 3.7; Resource Report 4, section 4.8; Resource Report 5, section 5.4; Resource Report 6, section 6.8; Resource Report 7, section 7.4; Resource Report 8, section 8.14; Resource Report 9, section 9.3
12. Describe any special construction procedures for crossing oil and gas fields and their gathering pipelines.	See section 1.3.2.7 and appendix 1C

WBI ENERGY TRANSMISSION, INC.
NORTH BAKKEN EXPANSION PROJECT
RESOURCE REPORT 1 – GENERAL PROJECT DESCRIPTION

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Appendix 1H Landowner List *(filed under separate cover as CUI//PRIV in Volume IV)*
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ACRONYMS AND ABBREVIATIONS

ACM	asbestos-containing materials
APE	area of potential effects
ATWS	additional temporary workspace
Bcf	billion cubic feet
CEII	Critical Energy Infrastructure Information
Certificate	Certificate of Public Convenience and Necessity
CFR	Code of Federal Regulations
Commission	Federal Energy Regulatory Commission
CUI	Controlled Unclassified Information
EI	environmental inspector
FERC	Federal Energy Regulatory Commission
HDD	horizontal directional drill
hp	horsepower
HUC	Hydrologic Unit Code
MAOP	maximum allowable operating pressure
mcf	million cubic feet
MMBtu/hr	million British thermal units per hour
MP	milepost
Northern Border	Northern Border Pipeline Company
Plan	*Upland Erosion Control, Revegetation, and Maintenance Plan*
PRIV	Privileged and Confidential
Procedures	*Wetland and Waterbody Construction and Mitigation Procedures*
Project	North Bakken Expansion Project
psig	pounds per square inch gauge
RFFA	reasonably foreseeable future action
USDOT	U.S. Department of Transportation
USFS	U.S. Forest Service
WBI Energy	WBI Energy Transmission, Inc.

WBI ENERGY TRANSMISSION, INC.
NORTH BAKKEN EXPANSION PROJECT

1.0 RESOURCE REPORT 1 – GENERAL PROJECT DESCRIPTION

WBI Energy Transmission, Inc. (WBI Energy) proposes to construct, modify, operate, and maintain natural gas transmission facilities in Burke, McKenzie, Mountrail, and Williams Counties, all in North Dakota, and described herein as the North Bakken Expansion Project (or Project).

The Project includes:

- The Tioga-Elkhorn Creek pipeline consisting of approximately 61.9 miles of new 24-inch-diameter natural gas pipeline from new facilities at WBI Energy's Tioga Compressor Station in Williams County to the proposed Elkhorn Creek Compressor Station in McKenzie County.

- The Elkhorn Creek-Northern Border pipeline consisting of approximately 0.3 mile of new 24-inch-diameter natural gas pipeline between the proposed Elkhorn Creek Compressor Station and Northern Border Pipeline Company (Northern Border) in McKenzie County.

- The Line Section 25 Loop includes approximately 20.4 miles of new 12-inch-diameter natural gas pipeline looping along WBI Energy's Line Section 25 between the Tioga Compressor Station and the proposed Norse Transfer Station in Burke County.

- In conjunction with the Line Section 25 Loop, the existing 0.1 mile 6-inch-diameter Stoneview-Conoco Lateral will be replaced with 0.1 mile of 8-inch-diameter natural gas pipeline from Line Section 25 to the proposed Norse Transfer Station in Burke County.

- The Line Section 30 Loop includes approximately 9.4 miles of new 12-inch-diameter natural gas pipeline looping along WBI Energy's Line Section 30 between the Nesson Valve Setting and the Tioga Compressor Station in Williams County.

- The Tioga Compressor Lateral consisting of approximately 0.5 mile of new 20-inch-diameter natural gas pipeline between the new Tioga Plant Receipt Station and new facilities to be constructed at the Tioga Compressor Station in Williams County.

- The replacement of four county road crossings and one state highway crossing to allow for the uprate of approximately 28.3 miles of Line Section 25 from a maximum allowable operating pressure (MAOP) of 700 pounds per square inch gauge (psig) to an MAOP of 1,098 psig. The uprating will require replacing and rerouting approximately 0.1 mile of 8-inch-diameter pipeline from the first county road crossing east to the proposed Norse Transfer Station in Burke County. An approximately 9.6-mile segment of Line Section 25 in Burke County will require an uprate hydrotest as part of the Project.

- The new Elkhorn Creek Compressor Station will include 3,750 horsepower (hp) of natural gas-fired compression and associated equipment/facilities in McKenzie County.

- WBI Energy's Tioga Compressor Station will be modified with the installation of 22,500 hp of natural gas-fired compression and new equipment/facilities to meet the design specifications of the Project.

- The replacement of the Lignite Plant Receipt Station and the Lignite Town Border Station in Burke County and the Tioga Plant Receipt Station in Williams County. Upgrades to the Norse Plant Receipt Station in Burke County, the Robinson Lake Plant Receipt Station in Mountrail County and the Springbrook Plant Receipt Station in Williams County.

- The construction of the Norse Transfer Station in Burke County.

- The construction of a new interconnect with Northern Border west of the proposed Elkhorn Creek Compressor Station in McKenzie County.

- The installation of pig launcher/receivers, one at each end of the proposed Tioga-Elkhorn Creek pipeline and at milepost (MP) 6.1, one at each end of the proposed Line Section 25 Loop, one at each end of the proposed Line Section 30 Loop, one at each end of the proposed Tioga Compressor Lateral as well as two at the proposed Norse Transfer Station and one at the new Lignite Plant Receipt Station. WBI Energy will also install six mainline block valves, with four block valves installed along the length of the Tioga-Elkhorn Creek pipeline in McKenzie and Williams Counties and two block valves along the length of the Line Section 25 Loop in Mountrail and Burke Counties.

As required by Title 18 of the Code of Federal Regulations (CFR) Part 380.12, WBI Energy has prepared this Environmental Report in support of its application to the Federal Energy Regulatory Commission (FERC or Commission) for a Certificate of Public Convenience and Necessity (Certificate) under section 7(c) of the Natural Gas Act to construct, modify, operate and maintain the proposed facilities.

1.1 PROJECT DESCRIPTION

1.1.1 Purpose and Need

The purpose of the Project is to provide up to 350,000 million cubic feet (mcf) per day of incremental firm transportation capacity from natural gas processing plants in northwestern North Dakota to a proposed interconnect with Northern Border. The need for new pipeline infrastructure in the Williston Basin of northwest North Dakota is of critical importance to allow for the transportation of increasing levels of associated natural gas production to Midwestern markets, and to assist in meeting established state-mandated natural gas capture targets. These targets require producers to capture a certain percentage of natural gas production on an annual basis. In order to meet their continued oil production targets, producers are entering into natural gas gathering and processing agreements. The Project is designed to transport the natural gas that is being processed as a result.

The Williston Basin spans parts of North Dakota, South Dakota, and Montana as well as Manitoba and Saskatchewan in Canada. The Williston Basin is one of the most prolific oil and associated natural gas production areas within the United States due to the presence of the Bakken and Three Forks Formations (Energy of North Dakota, 2020a). Conventional hydrocarbon production began in the Bakken Formation when oil was first produced there in 1955 (UND EERC, 2020). Recent advances in horizontal drilling technologies, however, have led to a resurgence of drilling activity in the area resulting in exponential growth in the last 20 years. Although the Bakken and Three Forks Formations are primarily oil plays (Energy of North Dakota, 2020a), there is associated rich natural gas that is produced along with the oil (U.S. Energy Information Administration, 2017). Rich natural gas generally requires investments in gas processing infrastructure before it can be delivered to market (Energy of North Dakota, 2020b). As a result, some of the gas currently produced is flared because the producer focus has been on the higher value oil, and the economics have not historically supported gas processing infrastructure. According to the North Dakota Department of Mineral Resources, flaring of natural gas in the state is at approximately 17 percent as of November 2019; the historical high of gas flared (36 percent) occurred in September 2011 (North Dakota Department of Mineral Resources, 2020).

WBI Energy is unable to provide a precise estimate of the overall volume of natural gas that would no longer be vented or flared once the Project is in operation. There are multiple factors associated with the oil and natural gas production in the region, which interact with and contribute to the flaring of natural gas. These factors include the lower economic value of natural gas to producers compared to the higher economic value of oil and limited or insufficient gathering facilities and gas processing capacity. However, companies in the region have responded to the significant growth (and expected growth) in associated natural gas production and to the North Dakota Industrial Commission's Order No. 24665[1] by building out natural gas infrastructure at a rapid pace.

According to the North Dakota Department of Mineral Resources (North Dakota Department of Mineral Resources, 2020), in November 2019 natural gas production from the Bakken and Three Forks Formations was approximately 3.1 billion cubic feet (Bcf) per day; of this amount, approximately 2.6 Bcf per day was captured and processed. Conversely, approximately 0.5 Bcf per day, or approximately 17 percent, was flared due to limited or insufficient field gathering facilities, inadequate natural gas processing capacity and/or pipeline infrastructure (North Dakota Department of Mineral Resources, 2020). By 2022, the North Dakota Pipeline Authority has forecasted natural gas production will be between 3.1 and 3.7 Bcf per day (Kringstad, 2019). According to the North Dakota Pipeline Authority (North Dakota Pipeline Authority, 2020), it is estimated that by the end of 2021, the natural gas processing capacity in North Dakota will increase to nearly 4.0 Bcf per day. The six processing plants associated with this Project represent approximately 17 percent of the nearly 3.2 Bcf per day of total natural gas processing capacity available in North Dakota today (North Dakota Pipeline Authority, 2020). Although the capacity requested under the Precedent Agreements associated with the Project is

[1] In 2014, the North Dakota Industrial Commission issued Order No. 24665. This order established limits on the amount of natural gas that can be flared by oil and natural gas production companies (North Dakota Industrial Commission, 2020a). On November 20, 2018, the North Dakota Industrial Commission approved amending this Order, with updated policy goals to "increase the volume of captured gas and reduce the percentage of flared gas, in addition to encouraging investment in gas capture infrastructure (North Dakota Industrial Commission, 2020b)." The current gas capture policy requires production companies to limit flaring to 12 percent (North Dakota Department of Mineral Resources, 2020). The flaring limit drops to nine percent on November 1, 2020 (North Dakota Department of Mineral Resources, 2020).

targeting incremental natural gas volumes, the availability of this capacity may help mitigate natural gas flaring over time.

1.1.2 Location and Description of Facilities

The proposed Project facilities will be located in Burke, Mountrail, Williams, and McKenzie Counties, all in North Dakota (see figure 1.1-1). Topographic route maps depicting the location of the proposed pipeline routes and aboveground facility sites are provided in appendix 1A. The aerial-based construction alignment sheets for the Project are provided in appendix 1B. Information on existing land uses along the proposed pipelines and within the aboveground facility sites is provided in Resource Report 8.

1.1.2.1 Pipeline Facilities

The Project's proposed pipeline facilities will include the construction and operation in total of approximately 92.5 miles of new pipeline, pipeline looping, and pipeline replacement as well as replacement of an additional 0.5 mile of pipeline along a 28.3-mile segment of WBI Energy's existing Line Section 25 pipeline in order to increase the MAOP of the pipeline segment. The proposed pipeline facilities are summarized in table 1.1.2-1 and described in more detail below.

Tioga-Elkhorn Creek Pipeline

The Tioga-Elkhorn Creek pipeline will include approximately 61.9 miles of new 24-inch-diameter natural gas pipeline from new facilities installed at WBI Energy's Tioga Compressor Station near Tioga, North Dakota in Williams County to the proposed Elkhorn Creek Compressor Station southeast of Watford City, North Dakota in McKenzie County. The new pipeline will have bi-directional flow capabilities with an MAOP of 1,480 psig. This pipeline route is bisected by Lake Sakakawea at approximately the border of Williams and McKenzie Counties. A pig launcher/receiver will be installed at each end of the new pipeline and at MP 6.1. Four mainline block valve settings will be spaced throughout the length of the pipeline.

Elkhorn Creek-Northern Border Pipeline

The Elkhorn Creek-Northern Border pipeline will include approximately 0.3 mile of new 24-inch-diameter natural gas pipeline between the proposed Elkhorn Creek Compressor Station and the new interconnect with Northern Border in McKenzie County. The new pipeline will have an MAOP of 1,480 psig.

Line Section 25 Loop Pipeline

The Line Section 25 Loop will include approximately 20.4 miles of new 12-inch-diameter natural gas pipeline looping on WBI Energy's existing Line Section 25 between the Tioga Compressor Station and the proposed Norse Transfer Station in Burke County. The pipeline will have bi-directional flow capabilities with an MAOP of 1,098 psig. The new pipeline will serve to loop WBI Energy's existing 8-inch-diameter Line Section 25, which has an existing MAOP of 700 psig. A pig launcher/receiver will be installed at each end of the new pipeline with two mainline block valve settings spaced throughout the length of the pipeline.

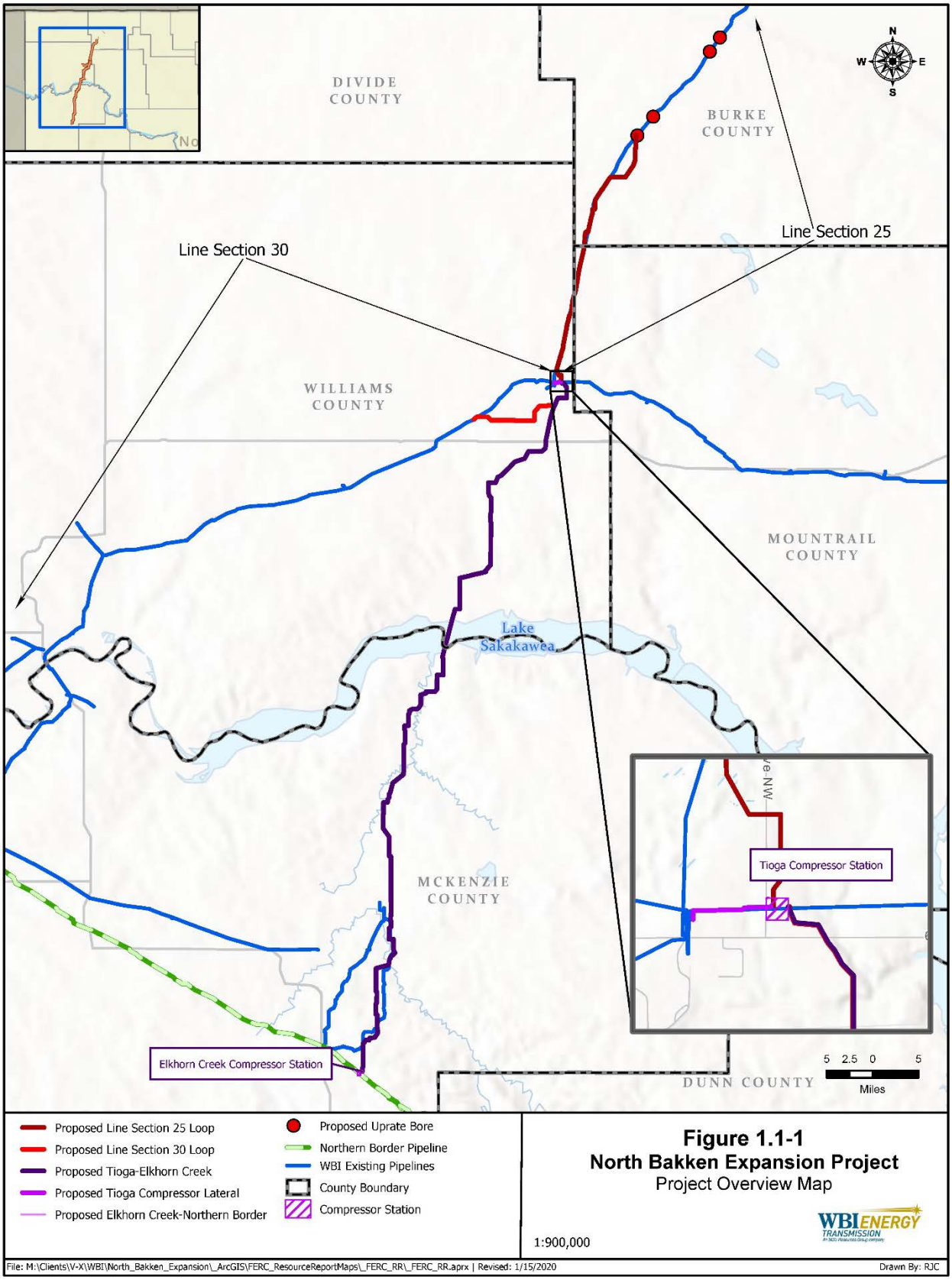


Figure 1.1-1
North Bakken Expansion Project
Project Overview Map

TABLE 1.1.2-1

North Bakken Expansion Project
Proposed Pipeline Facilities

Pipeline Facilities	County	Approximate Mileposts		Length (miles) [a]
		Begin	End	
NEW PIPELINE				
Tioga-Elkhorn Creek	Williams	0.0	25.2	25.2
	McKenzie	25.2	61.9	36.7
Subtotal				**61.9**
Elkhorn Creek-Northern Border	McKenzie	0.0	0.3	0.3
Subtotal				**0.3**
Line Section 25 Loop [b]	Williams	0.0	6.7	6.7
	Mountrail	6.7	10.4	3.7
	Burke	10.4	20.4	10.1
Subtotal				**20.5**
Line Section 30 Loop	Williams	0.0	9.4	9.4
Subtotal				**9.4**
Tioga Compressor Lateral	Williams	0.0	0.5	0.5
Subtotal				**0.5**
New Pipeline Subtotal				**92.6**
MODIFICATIONS/UPRATES TO EXISTING PIPELINE				
Uprate Line Section 25 [c]	Burke	NA	NA	0.5
Modifications/Uprates Subtotal				0.5
TOTAL PIPELINE LENGTH				**93.1**

[a] The numbers in this table have been rounded for presentation purposes; as a result, the totals may not reflect the sum of the addends.

[b] Includes 20.4 miles of new Line Section 25 Loop pipeline in Williams, Mountrail, and Burke Counties and the replacement of 676 feet of 6-inch-diameter lateral pipeline with 665 feet of 8-inch-diameter pipeline in Burke County.

[c] Includes the replacement of about 0.4 mile of existing pipeline via the guided bore method at four county road crossings and one state highway crossing (92nd Street NW; 93rd Street NW/89th Avenue NW [both crossed by the same bore]; 86th Street NW, and Highway 40) and replacing and rerouting about 0.1 mile of existing 8-inch-diameter pipeline from the 86th Street NW bore to the proposed Norse Transfer Station.

In conjunction with the Line Section 25 Loop, WBI Energy will remove approximately 0.1 mile (about 676 feet) of the existing 6-inch-diameter Stoneview-Conoco Lateral that originates at WBI Energy's existing 8-inch-diameter Line Section 25 and traverses north to the existing Norse Plant Receipt Station in Burke County. WBI Energy will construct approximately 665 feet of new 8-inch-diameter natural gas pipeline to parallel the proposed Line Section 25 Loop at about MP 20.2 and terminate at the proposed Norse Transfer Station. The new pipeline will become a continuation of the existing Line Section 25 and will be operated at the current Line Section 25 MAOP of 700 psig. The proposed Norse Transfer Station will provide the proper overpressure protection for the facilities operated at a MAOP of 700 psig from the uprated Line Section 25 MAOP of 1,098 psig north of the Norse Transfer Station.

Line Section 30 Loop Pipeline

The Line Section 30 Loop will include approximately 9.4 miles of new 12-inch-diameter natural gas pipeline looping. The Line Section 30 Loop will originate and diverge from WBI Energy's existing 12-inch-diameter Line Section 30 at the existing Nesson Valve Setting in Williams County. The pipeline will have bi-directional flow capabilities with an MAOP of 700 psig. The new pipeline will traverse east to approximately MP 4.5, then north and northeast to approximately MP 5.8, and continue east until paralleling the proposed Tioga-Elkhorn Creek pipeline (approximately MPs 6.9 to 9.4), ending at the Tioga Compressor Station. There will be a pig launcher/receiver at each end of the pipeline; no additional mainline block valves will be installed.

Tioga Compressor Lateral

The Tioga Compressor Lateral will include approximately 0.5 mile (approximately 2,495 feet) of new 20-inch-diameter natural gas pipeline between the Tioga Plant Receipt Station and the new facilities at the Tioga Compressor Station in Williams County. The pipeline will have an MAOP of 1480 psig. There will be a pig launcher/receiver at each end of the pipeline.

Uprate Line Section 25

WBI Energy will uprate 28.3 miles of its existing 8-inch-diameter Line Section 25 from an MAOP of 700 psig to an MAOP of 1,098 psig by replacing approximately 0.4 mile of existing pipeline via the guided bore method at four county road crossings and one state highway crossing. Currently, the MAOP of Line Section 25 (from the Tioga Compressor Station to WBI Energy's MIPL-Portal interconnect in Burke County) is 700 psig. The uprate will increase the MAOP to 1,098 psig from the proposed Norse Transfer Station to the MIPL-Portal interconnect. The uprate will also require replacing and re-routing 0.1 mile (approximately 700 feet) of the existing Line Section 25 from the 86th Street NW bore to the proposed Norse Transfer Station. WBI Energy will hydrotest a 9.6-mile-long segment of the uprated pipeline to establish the MAOP design of 1,098 psig from the Norse Transfer Station to the last guided bore road crossing. Two pig launcher/receivers will be installed at the Norse Transfer Station (one northbound and one southbound) and one at the new Lignite Plant Receipt Station, all in association with the uprate to Line Section 25.

1.1.2.2 Aboveground Facilities

In addition to the new pipeline facilities described above, the Project will require construction of one new compressor station (Elkhorn Creek Compressor Station); modifications to the Tioga Compressor Station; and construction of two new and replacement of or upgrades to five existing delivery, receipt, and transfer stations, and the installation of block valves, pig launcher and receiver facilities, and associated appurtenances.

Compressor Stations

Table 1.1.2-2 summarizes the Project's proposed new and modified compressor stations.

TABLE 1.1.2-2

North Bakken Expansion Project
Proposed New and Modified Compressor Stations

Facility	Approximate Location	County	Description
Tioga Compressor Station (modifications to existing compressor station)	MP 0.0 of the Tioga-Elkhorn Creek pipeline	Williams	Installation of additional 22,500 hp of compression and new equipment/ facilities at the existing compressor station
Elkhorn Creek Compressor Station (new compressor station)	MP 61.9 of the Tioga-Elkhorn Creek pipeline	McKenzie	Construction of a 3,750 hp greenfield compressor station

Modifications to Tioga Compressor Station

WBI Energy proposes to modify its Tioga Compressor Station with the installation of an additional 22,500 hp of compression, new equipment and facilities to meet design specifications of the Project. WBI Energy will install a new transfer grid to tie-in WBI Energy's existing Line Sections 7, 25, and 30 as well as the new Tioga-Elkhorn Creek pipeline, the Line Sections 25 and 30 Loop pipeline, and the Tioga Compressor Lateral. The existing station fencing will be extended to accommodate the station expansion. A new permanent access road will be constructed in the northwest corner of the existing station. All facility additions will be constructed within WBI Energy's existing parcel for the station.

New equipment and facilities include:

- six new compressor units, each consisting of a skid-mounted 3,750 hp Caterpillar G3612 natural gas-fired engine coupled to a KBZ-4 compressor unit;
- three new compressor buildings housing two units each;
- one gas cooler and one auxiliary cooler for each new compressor unit (six total);
- a 980-kilowatt backup power generator driven by a natural gas-fired 1,380 hp Waukesha L5794GSI engine;
- two 2.47 million British thermal units per hour (MMBtu/hr) gas boilers for building heating and one 0.25 MMBtu/hr building unit heater;
- one underground 3,000-gallon pipeline liquids storage tank;
- one underground 3,000-gallon waste oil storage tank;
- one underground 3,000-gallon floor drain tank to collect wastewater;
- relocation of an existing stormwater retention pond;
- one transfer building, one auxiliary building, and one scrubber building to house the new equipment; and

- four pig launcher/receivers (one 24 inches in diameter for the Tioga-Elkhorn Creek pipeline, one 20 inches in diameter for the Tioga Compressor Lateral, and two 12 inches in diameter for the Line Sections 25 and 30 Loop pipeline).

Elkhorn Creek Compressor Station

WBI Energy proposes to construct a new 3,750 hp greenfield compressor station with associated equipment and facilities on an approximately 10.9-acre site in the SE1/4 Sec. 33, T149N, R98W in McKenzie County. The new station will be tied into the new Tioga-Elkhorn Creek pipeline near MP 61.9 and the proposed Elkhorn Creek-Northern Border pipeline. WBI Energy has signed a purchase agreement to acquire the compressor station property in fee. WBI Energy will install a new permanent access road to the facility from County Road 34/18th Street NW.

The new compressor station facilities will include:

- one skid-mounted 3,750 hp Caterpillar G3612 natural gas-fired engine coupled to a KBZ-4 compressor unit within a new compressor building;
- one gas cooler and one auxiliary cooler;
- one 1.69 MMBtu/hr gas boiler for building heating, one 2.08 MMBtu/hr water heater, and one 0.25 MMBtu/hr building unit heater;
- one underground 2,000-gallon pipeline liquids storage tank;
- one underground 2,000-gallon waste oil storage tank;
- one underground 2,000-gallon floor drain tank to collect wastewater;
- one transfer building to house the transfer grid piping, gas cleaning equipment, and gas measurement and regulation equipment;
- one auxiliary building to house the motor control center (including an emergency generator electrical transfer switch), the station and fire/gas programmable logic controller and human-machine interface, and an office/shop area; and
- a 24-inch-diameter pig launcher/receiver, associated piping and valves, and septic system.

Delivery, Receipt, and Transfer Stations

Table 1.1.2-3 summarizes the Project's proposed new and modified delivery, receipt, and transfer stations.

TABLE 1.1.2-3

North Bakken Expansion Project
Proposed New and Modified Delivery, Receipt, and Transfer Stations

Facility	Approximate Location	County	Description
Lignite Plant Receipt Station and Lignite Town Border Station (replace)	Offline (along Line Section 25)	Burke	Replacement of existing Lignite Plant Receipt Station and Lignite Town Border Station at the same location to accommodate incremental volumes
Norse Plant Receipt Station (upgrade)	MP 20.4 of the Line Section 25 Loop	Burke	Upgrade meter and station piping to accommodate incremental volumes
Norse Transfer Station (new)	MP 20.4 of the Line Section 25 Loop	Burke	Construction of new transfer station to protect facilities operated at a MAOP of 700 psig from the 1,098 psig MAOP of the Line Section 25 Loop
Northern Border Interconnect (new)	Offline (west of the Elkhorn Creek Compressor Station)	McKenzie	Construction of new interconnect facilities with Northern Border west of the Elkhorn Creek Compressor Station to accommodate incremental volumes
Robinson Lake Plant Receipt Station (upgrade)	Offline (on Line Section 7)	Mountrail	Upgrade meter and station piping to accommodate incremental volumes
Springbrook Plant Receipt Station (upgrade)	Offline (along Line Section 30 pipeline)	Williams	Upgrade meter and station piping to accommodate incremental volumes
Tioga Plant Receipt Station (replace)	MP 0.0 of Tioga Compressor Lateral	Williams	Replacement of existing station to a new location to accommodate incremental volumes

Lignite Plant Receipt Station and Lignite Town Border Station

WBI Energy proposes to rebuild the existing Lignite Plant Receipt Station along Line Section 25 to accommodate incremental volumes associated with the Project. The new station will include a new building with telemetry and gas quality instruments and a second building with high-pressure metering, an odorant system, and station piping with overpressure protection equipment. An 8-inch pig launcher/receiver will be installed within the station site for Line Section 25. WBI Energy will also rebuild the existing Lignite Town Border Station to meet the uprated Line Section 25 MAOP design of 1,098 psig. The new Lignite Town Border Station will include a new building with regulation, overpressure protection, and measurement equipment. Filtration equipment as well as new valves, aboveground piping and fittings will be installed. The stations will remain at their existing locations and will be accessed via the existing access road off of 84th Avenue NW within the permanent facility workspace. WBI Energy previously obtained an easement for the existing stations and plans to purchase an adjoining easement.

Norse Plant Receipt Station

WBI Energy proposes to upgrade the meter, station piping and associated facilities at the existing Norse Plant Receipt Station to accommodate incremental volumes associated with the Project. The station is located at about MP 20.4 of the proposed Line Section 25 Loop in Section 26, Township 160 North, Range 94 West in Burke County. Access to the Norse Plant Receipt Station will be via the existing entrance off of 86th Street NW. WBI Energy previously obtained an easement for the existing station; no additional land will be required.

Norse Transfer Station

WBI Energy proposes to construct a new transfer station on a new tract adjacent to and south of the Norse Plant Receipt Station near MP 20.4 of the proposed Line Section 25 Loop.

The new station will include a new building with regulation and overpressure protection equipment to provide overpressure protection to facilities operated at a MAOP of 700 psig. The transfer station's telemetry equipment will be housed in the Norse Plant Receipt Station. WBI Energy will purchase the required land. Three pig launcher/receivers will be installed within the boundary of the proposed Norse Transfer Station and include a 12-inch-diameter pig launcher/receiver for the proposed Line Section 25 Loop and two 8-inch-diameter pig launcher/receivers for Line Section 25 (one northbound and one southbound).

Northern Border Interconnect

New facilities to interconnect with Northern Border west of the proposed Elkhorn Creek Compressor Station will be constructed to accommodate incremental transportation volumes associated with the Project. The facilities will be constructed on an approximately 1.0-acre parcel of land in the SE ¼ of Section 33, Township 149 North, Range 98 West in McKenzie County. WBI Energy has signed a purchase agreement with a third-party landowner for the Northern Border facilities. The facilities WBI Energy will construct, own, and operate include a new building with telemetry and gas quality instruments and a second building with high pressure metering, an odorant system, and station piping with overpressure protection equipment. WBI Energy will reimburse Northern Border for the cost of a tap and measurement facilities it will construct, own, and operate. Access to the interconnect will be via a new permanent access road from 18th Street NW.

Robinson Lake Plant Receipt Station

WBI Energy proposes to upgrade the meter, station piping and associated facilities at the existing Robinson Lake Plant Receipt Station to accommodate incremental volumes associated with the Project. The station is located along WBI Energy's Line Section 7 approximately 1.5 miles southeast of Stanley, North Dakota. Access to the station will be via the existing entrance/access road from 61st Street NW. WBI Energy previously obtained an easement for the existing station and plans to purchase an adjoining easement.

Springbrook Plant Receipt Station

WBI Energy proposes to upgrade the meter, station piping and associated facilities at the existing Springbrook Plant Receipt Station to accommodate incremental volumes associated with the Project. The station is located on WBI Energy's Line Section 30 about 25 miles west-southwest of Tioga, North Dakota. Access to the facility will be via the existing entrance off 131st Avenue NW. WBI Energy plans to expand its current easement for the existing station.

Tioga Plant Receipt Station

WBI Energy will remove the existing Tioga Plant Receipt Station, and a new station will be constructed near MP 0.0 of the Tioga Compressor Lateral to accommodate incremental volumes associated with the Project. The new station will include a new building with telemetry and gas quality instrumentation and a second building with high-pressure metering, an odorant system, and station piping with overpressure protection equipment. A new permanent access road will be constructed to provide access to the facility. WBI Energy has acquired an easement and executed a surface agreement with Hess Bakken Investments II, LLC to construct the new station.

Block Valves and Pig Launchers/Receivers

Table 1.1.2-4 summarizes the proposed block valves and pig launcher/receivers associated with the Project.

TABLE 1.1.2-4

North Bakken Expansion Project
Proposed Block Valves and Pig Launcher/Receivers

Pipeline Facility [a]/ Block Valve or Pig Launcher/ Receiver Name or I.D.	Approximate Location Along the Pipeline Route (milepost)	County	Description
Tioga-Elkhorn Creek			
Pig launcher/receiver 1	0.0	Williams	Install within the Tioga Compressor Station
Pig launcher/receiver 2 [b]	6.1	Williams	Install at 104th Avenue NW
56th Avenue NW Block Valve [c]	16.1	Williams	New block valve along Tioga-Elkhorn Creek pipeline.
South Lake Block Valve [b]	26.1	McKenzie	New block valve along Tioga-Elkhorn Creek pipeline
Highway 10 Block Valve [b]	36.8	McKenzie	New block valve along Tioga-Elkhorn Creek pipeline
Cherry Creek Block Valve [b]	51.2	McKenzie	New block valve along Tioga-Elkhorn Creek pipeline
Pig launcher/receiver 3	61.9	McKenzie	Install within the new Elkhorn Creek Compressor Station
Line Section 25 Loop			
Pig launcher/receiver 4	0.0	Williams	Install within the Tioga Compressor Station
Valve No. 6.8 [b]	6.9	Mountrail	New valve site east of 102nd Road along Line Section 25 Loop pipeline
Valve No. 13.6 [b]	13.7	Burke	New valve site south of 81st Street along Line Section 25 Loop pipeline
Pig launcher/receiver 5 and 6	20.4	Burke	Install at the new Norse Transfer Station (one for the Line Section 25 Loop and one for the 665 feet of 8-inch-diameter pipeline replacement)
Line Section 30 Loop			
Pig launcher/receiver 7	0.0	Williams	Install at the Nesson Valve Setting
Pig launcher/receiver 8	9.4	Williams	Install within the Tioga Compressor Station
Tioga Compressor Lateral			
Pig launcher/receiver 9	0.0	Williams	Install within the Tioga Plant Receipt Station
Pig launcher/receiver 10	0.5	Williams	Install within the Tioga Compressor Station
Uprate Line Section 25			
Pig launcher/receiver 11	N/A	Burke	Install at the new Norse Transfer Station
Pig launcher/receiver 12	N/A	Burke	Install at the Lignite Border Station

[a] No new block valves or pig launcher/receivers will be installed along the Elkhorn Creek-Northern Border pipeline.
[b] New permanent access roads will be constructed to provide access to these facilities during operation as shown in the maps in appendix 1A and the access road table in Resource Report 8, appendix 8B.
[c] 56th Street NW will be used to access this facility during operation.

1.1.3 Land Requirements

Table 1.1.3-1 summarizes the land requirements for the Project. More detailed information regarding land requirements and use are provided in Resource Report 8. Construction of the Project will affect approximately 1,405.1 acres of land, including the pipeline construction rights-of-way, additional temporary workspace (ATWS), staging areas, temporary and permanent access roads, and aboveground facilities. Following construction, approximately 816.6 acres, including the temporary construction right-of-way, ATWS, staging areas, temporary access roads, and temporary workspace at aboveground facility sites, will revert to preconstruction conditions and uses. The remaining approximately 587.8 acres, including the permanent pipeline easements, permanent aboveground facility sites, and permanent access roads, will be retained for operation of the Project facilities.

1.1.3.1 Pipeline Rights-of-Way

In total, pipeline construction will require approximately 996.4 acres, of which approximately 563.2 acres will be retained as permanent easement (see table 1.1.3-1). Appendix 1C provides typical pipeline construction right-of-way cross sections.

Construction of the proposed 12-inch-diameter Line Sections 25 and 30 Loop pipelines and the 20-inch-diameter Tioga Compressor Lateral will require a standard 75-foot-wide construction right-of-way. Except across U.S. Forest Service (USFS) land,[2] construction of the proposed 24-inch-diameter Tioga-Elkhorn Creek and Elkhorn Creek-Northern Border pipelines will require a 100-foot-wide construction right-of-way. This additional 25 feet of right-of-way width will be necessary to provide sufficient workspace to accommodate topsoil storage while allowing safe passage of construction equipment and material along the working side of the right-of-way during construction. Refer to section 1.3 for additional construction details and WBI Energy's request to use a 100-foot wide construction right-of-way for the 24-inch-diameter pipeline. As shown in the drawings provided in appendix 1C, the construction right-of-way typically will consist of a 50-foot-wide working side and a 25-foot-wide spoil side for the standard 75-foot-wide construction right-of-way and a 70-foot-wide working side and a 30-foot-wide spoil side for the 100-foot-wide construction right-of-way. Following construction, a 50-foot-wide permanent easement will be retained for pipeline operations; the remainder of the construction right-of-way will be restored to pre-existing conditions.

The Tioga-Elkhorn Creek pipeline and Line Section 30 Loop will be collocated from the Tioga Compressor Station to approximately MP 2.6 of the Tioga-Elkhorn Creek pipeline (MPs 6.8 to 9.4 of the Line Section 30 Loop). Overlapping portions of the temporary and permanent rights-of-way along the collocated distance will be used during construction and/or operation of both pipelines.

[2] The construction right-of-way width across USFS land will be reduced to 50 feet (with an additional 25 feet of ATWS).

TABLE 1.1.3-1

North Bakken Expansion Project
Summary of Land Requirements [a]

Facility	County	Land Affected During Construction (acres)	Land Affected During Operation (acres)
Pipeline Rights-of-Way [b]			
Tioga-Elkhorn Creek [c]	Williams, McKenzie	714.2	374.8
Elkhorn Creek-Northern Border	Williams	3.5	1.8
Line Section 25 Loop [d]	Williams, Mountrail, and Burke	185.1	123.5
Line Section 30 Loop [c]	Williams	85.9	57.2
Tioga Compressor Lateral	Williams	3.9	2.8
Uprates to Line Section 25 [e]	Burke	3.8	3.0
Subtotal		**996.4**	**563.2**
Additional Temporary Workspace			
Tioga-Elkhorn Creek	Williams, McKenzie	79.1	0.0
Line Section 25 Loop	Williams, Mountrail, and Burke	29.8	0.0
Line Section 30 Loop	Williams	10.1	0.0
Tioga Compressor Lateral	Williams	0.5	0.0
Uprates to Line Section 25 [f]	Burke	11.6	0.0
Subtotal		**131.1**	**0.0**
Staging Areas			
68th Street Yard	Williams	20.4	0.0
Boehm Staging Yard	McKenzie	6.2	0.0
CRS Yard	Williams	22.8	0.0
Delta Contractors Yard	McKenzie	23.6	0.0
Enget Yard	Mountrail	39.8	0.0
Flatlands Yard 1	McKenzie	4.9	0.0
Flatlands Yard 2	McKenzie	6.1	0.0
Lobell Yard	Williams	39.5	0.0
Schmidt Yard	Williams	8.4	0.0
Weflen Staging Yard	Williams	17.7	0.0
Subtotal		**189.4**	**0.0**
Access Roads			
Temporary access roads	Multiple	54.9	0.0
Permanent access roads	Williams	3.7	3.7
Subtotal		**58.6**	**3.7**

TABLE 1.1.3-1 (cont'd)

North Bakken Expansion Project
Summary of Land Requirements [a]

Facility	County	Land Affected During Construction (acres)	Land Affected During Operation (acres)
Aboveground Facilities			
Elkhorn Creek Compressor Station (new)	McKenzie	12.0	10.9
Tioga Compressor Station (existing)	Williams	8.5	4.4 [g]
Lignite Plant Receipt Station and Lignite Town Border Station (existing)	Burke	0.6	0.6
Norse Plant Receipt Station (existing)	Burke	0.6	0.6
Norse Transfer Station (new)	Burke	1.3	0.3
Northern Border Interconnect (new)	McKenzie	2.1	1.0
Robinson Lake Plant Receipt Station (existing)	Mountrail	1.4	0.6
Springbrook Plant Receipt Station (existing)	Williams	1.0	0.4
Tioga Plant Receipt Station (existing)	Williams	1.1	1.1
Block valves (new) [h]	Burke, McKenzie, Mountrail, and Williams	0.9	0.9
Pig launcher/receivers (new) [i]	Burke, McKenzie, and Williams	0.2	0.2
Subtotal		**29.6**	**21.0**
PROJECT TOTAL		**1,405.1**	**587.8**

[a] The numbers in this table have been rounded for presentation purposes. As a result, the totals may not reflect the sum of the addends.

[b] Based on a 100-foot-wide construction right-of-way for the 24-inch-diameter pipelines, a 75-foot-wide construction right-of-way for the 20-, 12-, and 8-inch-diameter pipelines, and a 50-foot-wide permanent right-of-way for all new pipeline facilities. Includes the appurtenant facilities located within the pipeline right-of-way (i.e., block valves, cathodic protection facilities).

[c] The Tioga-Elkhorn Creek and Line Section 30 Loop pipelines will be collocated from the Tioga Compressor Station to approximately MP 2.6 of the Tioga-Elkhorn Creek pipeline (MPs 6.8 to 9.4 of the Line Section 30 Loop). Portions of the temporary and permanent right-of-way that overlap along the collocated portion will be used during construction and/or operation of both pipelines.

[d] Includes the replacement of 676 feet of 6-inch-diameter lateral pipeline with 665 feet of 8-inch-diameter pipeline.

[e] Includes the road crossing replacements via guided bore and replacing and rerouting of about 0.1 mile of existing 8-inch-diameter pipeline from the 86th Street NW bore to the proposed Norse Transfer Station.

[f] Also includes temporary workspace required for removal of the existing 0.1 mile of 8-inch-diameter pipeline to be rerouted.

[g] All 4.4 acres are within WBI Energy's Tioga Compressor Station owned property boundaries; however, 2.2 acres are outside of the existing chain-linked fenced facility. The fence will be extended to encompass the compressor station expansion.

[h] Four of the six proposed block valves (Valve No. 13.6, the 56th Avenue NW Block Valve, the Highway 10 Block Valve, and the South Lake Block Valve) will be constructed entirely within the permanent pipeline rights-of-way and no additional land will be required for their construction or operation. However, the Cherry Creek Block Valve and Valve No. 6.8 will require an additional 0.9 and less than 0.1 acre of land, respectively, outside the existing permanent pipeline right-of-way for construction and operation.

[i] All but one of the pig launcher/receiver sites will be constructed and operated within a compressor, receipt and /or transfer station or valve setting sites; no additional land will be required for construction and operation of these facilities. The remaining pig launcher/receiver will affect 0.2 acre outside the existing permanent pipeline right-of-way during construction and operation.

To minimize the Project footprint, WBI Energy proposes to collocate new pipeline facilities with existing pipeline, utility, and road corridors to the extent practicable. As shown in the summary table in appendix 1D, the new pipelines will be collocated along 42.6 miles (or 46 percent) of the pipeline routes, including:

- 20.1 miles (32 percent) of the Tioga-Elkhorn Creek pipeline;
- 15.4 miles (75 percent) of the Line Section 25 Loop;
- 6.6 miles (70 percent) of the Line Section 30 Loop; and
- 0.5 mile (100 percent) of the Tioga Compressor Lateral.

1.1.3.2 Additional Temporary Workspace

ATWS outside of the construction rights-of-way will be required for certain road crossings, points of inflection along the route, areas where special construction methods will be implemented (e.g., the horizontal directional drill [HDD] or guided bore method), and areas where additional space is needed for storage of stripped topsoil. In total, use of ATWS during construction will affect approximately 131.1 acres (see table 1.1.3-1), all of which will be restored to preconstruction condition. A list of these ATWS locations is provided in appendix 8A of Resource Report 8. Locations of ATWS are also depicted on the route maps provided in appendices 1A and 1B.

Unless topographic or other factors impose constraints, ATWS will be set back at least 50 feet from the edges of waterbodies and wetlands except where the adjacent upland consists of actively cultivated or rotated cropland or other disturbed land. WBI Energy is requesting modifications to the FERC *Wetland and Waterbody Construction and Mitigation Procedures* (Procedures)[3] for the site-specific locations where less than a 50-foot setback from the edges of waterbodies and wetlands is proposed (see section 1.3).

1.1.3.3 Staging Areas

The construction contractor will require 10 staging areas for office trailers, parking, vehicle maintenance, and storage of pipe and equipment during construction of the Project (see table 1.1.3-1). These staging areas are depicted on the Project route maps provided as appendices 1A and 1B.

As shown in table 1.1.3-1, use of the staging areas will affect approximately 189.4 acres. Preparation of the staging areas will consist of topsoil segregation and minor grading and leveling; however, these impacts will be temporary. Once construction is complete, all land within the staging areas will be restored to preconstruction conditions (including topsoil replacement) in accordance with the FERC *Upland Erosion Control, Revegetation, and Maintenance Plan* (Plan)[4] and landowner agreements. There will be no permanent impacts in these areas

[3] The FERC Procedures is available online at: http://www.ferc.gov/industries/gas/enviro/guidelines.asp.

[4] The FERC Plan is available online at: http://www.ferc.gov/industries/gas/enviro/guidelines.asp.

1.1.3.4 Temporary and Permanent Access Roads

WBI Energy will use existing public and private access roads on a temporary basis to transport personnel, equipment, vehicles, and materials to the proposed Project work areas during construction. Standard-maintenance public roads will be used for access without modification or improvement. Some minimum-maintenance public roads and private roads, however, will require improvement (such as grading; placement of gravel, crushed rock, or scoria for stability and surface improvement; replacing or installing culverts; and clearing of overhead vegetation, if present) to safely accommodate Project equipment and vehicles. A list of these roads is provided in appendix 8C of Resource Report 8. Locations of access roads are depicted on the Project route maps provided as appendices 1A and 1B.

Use of temporary access roads will affect approximately 54.9 acres (see table 1.1.3-1). If any of the temporary access roads are damaged by the Project, WBI Energy will restore the roads to pre-existing condition or better. As a result, the Project will have no permanent impact on these roads.

As currently designed, WBI Energy will construct 10 new permanent access roads to provide access to the aboveground facilities. These permanent access roads will affect 3.7 acres. If additional access roads required for construction or operation of the Project are identified at a later date; WBI Energy will submit a variance request to FERC for approval to use the road and complete all appropriate federal, state, and local permitting associated with the Project change.

1.1.3.5 Aboveground Facilities

Compressor Stations

Modifications to Tioga Compressor Station

Construction and operation of the proposed modifications to WBI Energy's Tioga Compressor Station at MP 0.0 of the Tioga-Elkhorn Creek pipeline will affect about 8.5 acres. This includes 4.4 acres within the Tioga Compressor Station site property; 2.2 acres of which is outside of the existing chain-linked fenced facility but within WBI Energy's existing owned property boundaries. The fence will be extended to encompass the compressor station expansion. The remainder consists of temporary workspace, which will be restored to preconstruction condition following construction. Topsoil removed from within the fenced facility during construction will be spread over the temporary workspace during restoration of this area. A plot plan for the compressor station is provided as appendix 1E (filed under separate cover in Volume III as Controlled Unclassified Information/Critical Energy Infrastructure Information [CUI//CEII]).

Elkhorn Creek Compressor Station

Construction and operation of the Elkhorn Creek Compressor Station at MP 61.9 of the Tioga-Elkhorn Creek pipeline will affect about 12.0 acres. This includes 10.9 acres that will be fenced and maintained for operation of the compressor station. The remainder consists of temporary workspace, which will be restored to preconstruction condition following construction. Topsoil removed during construction will be spread over the temporary workspace during restoration of this area. A plot plan for the compressor station is provided in appendix 1E (filed under separate cover in Volume III as CUI//CEII).

Delivery, Receipt, and Transfer Stations

Construction of new and modifications to existing delivery, receipt, and transfer stations will affect about 8.1 acres of land, including:

- 0.6 acre for replacement of the existing Lignite Plant Receipt Station and the Lignite Town Border Station;
- 0.6 acre for upgrades to the existing Norse Plant Receipt Station;
- 1.3 acres for construction of the new Norse Transfer Station;
- 2.1 acres for construction of the new Northern Border Interconnect;
- 1.4 acres for upgrades to the existing Robinson Lake Plant Receipt Station;
- 1.0 acre for upgrades to the existing Springbrook Plant Receipt Station; and
- 1.1 acres for replacement of the Tioga Plant Receipt Station.

About 4.6 acres will be retained for operation of these stations, including:

- 0.6 acre for the Lignite Plant Receipt and Town Border Stations;
- 0.6 acre for the Norse Plant Receipt Station;
- 0.3 acre for the Norse Transfer Station;
- 1.0 acre for the Northern Border Interconnect;
- 0.6 acre for the Robinson Lake Plant Receipt Station;
- 0.4 acre for the Springbrook Plant Receipt Station; and
- 1.1 acre for the Tioga Plant Receipt Station.

The remaining 3.6 acres of temporary workspace will be restored to preconstruction condition following construction.

Block Valves and Pig Launchers/Receivers

WBI Energy will construct six block valves, four of which will be entirely within the permanent pipeline rights-of-way. The remaining two block valves (the Cherry Creek Block Valve and Valve No. 6.8) will affect 0.9 acre outside the permanent right-of-way, all of which will be retained during operations. WBI Energy will construct 12 pig launcher/receivers, 11 of which will be constructed and operated within the boundaries of a compressor station, receipt and transfer station, or valve setting sites. The remaining pig launcher/receiver (104th Avenue NW pig launcher/receiver) will affect 0.2 acre outside the permanent pipeline right-of-way, which will be retained during operations.

1.2 CONSTRUCTION SCHEDULE AND WORKFORCE

WBI Energy anticipates that construction of the Project will commence in March 2021 for aboveground facilities and May 2021 for the pipeline facilities, subject to the receipt of necessary permits and regulatory approvals. WBI Energy anticipates that construction of the Project facilities will be completed by October 2021, with all facilities being placed into service by November 1, 2021. Based on the current construction schedule, WBI Energy anticipates that construction during winter conditions will not be necessary. However, if a change in the construction schedule necessitates that construction activities occur during the winter months, WBI Energy will file a Winter Construction Plan with FERC for review/approval prior to conducting winter construction activities. Construction activities will generally occur Monday through Saturday from 7:00 a.m. to 7:00 p.m. However, certain activities will occur up to 24 hours per day, including Sundays and potentially federal holidays. These activities will include HDD and guided bore crossings, hydrostatic testing and associated activities, critical tie-ins, operation of pumps associated with a dam-and-pump crossing (if necessary), aboveground facility building construction, installation of compressor units, aboveground facility commissioning, etc. Additionally, certain unforeseen circumstances may require unplanned construction activities outside the typical work hours. These activities may include, but are not limited to, completing in-progress construction activities and wetland/waterbody crossings delayed by an unanticipated event (e.g., severe weather, constructability issues), incident response procedures/measures, and emergency equipment repairs/maintenance.

WBI Energy currently anticipates that construction of the proposed pipelines will be accomplished using a peak temporary workforce of about 450 people and an average workforce of about 350 people, including inspection crews. Pipeline construction will occur using three construction spreads and an average temporary workforce of 250 people, including inspection crews. Construction of the compressor stations will require an average of about 80 additional people. An estimated 20 additional temporary employees will be required to construct and upgrade various delivery, receipt, and transfer stations. Once construction of the Project is complete, WBI Energy anticipates hiring four new employees to assist in operation and maintenance of the new facilities. Additional information regarding construction and permanent workforce requirements is provided in Resource Report 5.

1.3 CONSTRUCTION AND RESTORATION PROCEDURES

The Project will be designed, constructed, operated, and maintained in accordance with all applicable requirements defined by U.S. Department of Transportation (USDOT) regulations in 49 CFR 192, *Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards*; by 18 CFR 380.15, *Siting and Maintenance Requirements*; and by other applicable federal and state regulations; except as otherwise specified in this application or approved by the appropriate regulatory agency.

WBI Energy proposes to conduct Project activities in accordance with the FERC Plan and Procedures with the exception of the proposed modifications to section IV.A.2 of the FERC Plan and sections V.B.2 and VI.B.I of the FERC Procedures (see table 1.3-1).

TABLE 1.3-1

North Bakken Expansion Project
Proposed Modifications to the FERC Upland Erosion Control, Revegetation, and Maintenance Plan and Wetland and Waterbody Construction and Mitigation Procedures

Plan or Procedures/ Section No.	Measure	Proposed Modification	Justification for Proposed Modification
Plan			
IV.A.2	The construction right-of-way width for a project shall not exceed 75 feet.	For the 24-inch-diameter Tioga-Elkhorn Creek and Elkhorn Creek-Northern Border pipelines, WBI Energy requests use of a 100-foot-wide construction right-of-way in non-wetland areas except across USFS land.	Additional workspace is necessary to accommodate construction of the 24-inch-diameter pipelines due to steep/rolling terrain along portions of the pipeline route, an increased amount of subsoil materials requiring additional storage space, erosive soil conditions, and to allow for efficient and safe construction.
Procedures			
V.B.2	Locate all extra work areas (such as staging areas and additional spoil storage areas) at least 50 feet away from water's edge, except where the adjacent upland consists of cultivated or rotated cropland or other disturbed land.	Locate workspace at MP 12.1 of the Tioga-Elkhorn Creek pipeline within 50 feet of the water's edge.	The workspace on the south side of 60th Street NW is necessary to cross the road by guided bore; the workspace is about 24 feet from the waterbody.
		Locate workspace at MP 27.3 of the Tioga-Elkhorn Creek pipeline within 50 feet of the water's edge.	The workspace on the east side of the drainage is necessary for the guided bore crossing of the waterbody; the workspace is about 7 feet from the waterbody. Note this area has not been field surveyed and data is currently based on the National Hydrography Dataset.
		Locate workspace at MP 44.7 of the Tioga-Elkhorn Creek pipeline within a waterbody.	This workspace on the north side of 33rd Street NW is necessary to cross this road by guided bore. Note this area has not been field surveyed and data is currently based on the National Hydrography Dataset.
VI.B.1	Locate all extra work areas (such as staging areas and additional spoil storage areas) at least 50 feet away from wetland boundaries, except where the adjacent upland consists of cultivated or rotated cropland or other disturbed land.	Locate workspace at MP 28.4 of the Tioga-Elkhorn Creek pipeline within 50 feet of an emergent wetland.	To meet right-of-way requirements for USFS land, a 25-foot-wide ATWS has been placed along the 50-foot-wide permanent right-of-way through USFS land. This 25 feet is needed for topsoil segregation, travel lanes, and equipment/ personnel safety.
		Locate workspace at MP 29.2 of the Tioga-Elkhorn Creek pipeline within an emergent wetland.	To meet right-of-way requirements for USFS land, a 25-foot-wide ATWS has been placed along the 50-foot-wide permanent right-of-way through USFS land. This 25 feet is needed for topsoil segregation, travel lanes, and equipment/ personnel safety.

TABLE 1.3-1 (cont'd)

North Bakken Expansion Project
Proposed Modifications to the FERC Upland Erosion Control, Revegetation, and Maintenance Plan and Wetland and Waterbody Construction and Mitigation Procedure

Plan or Procedures/ Section No.	Measure	Proposed Modification	Justification for Proposed Modification
		Locate workspace at MP 44.7 of the Tioga-Elkhorn Creek pipeline within a wetland	This workspace on the north side of 33rd Street NW is necessary to cross this road by guided bore. Note this area has not been field surveyed and data is currently based on National Wetlands Inventory data.
		Locate two workspaces at MP 13.4 of the Line Section 25 Loop within 50 feet of an emergent wetland.	The workspaces on the south side of White Earth Creek are necessary for the guided bore crossing of this waterbody and associated fringe wetland. The workspaces are between about 18 and 20 feet from the wetland.
		Locate workspace at MP 0.4 of the Tioga Compressor Lateral within 50 feet of an emergent wetland.	The workspace on the west side of 103rd Avenue NW is necessary to cross the road by guided bore; the workspace is about 5 feet from a waterbody.
		Locate workspace at uprate bore site 3 within 50 feet of an emergent wetland.	The workspace on the south side of 92nd Street NW is necessary to cross the road by guided bore; the workspace is about 45 feet from the wetland.
		Locate workspace at uprate bore site 4 within 50 feet of an emergent wetland.	The workspace on the north side of 93rd Street NW is necessary to cross the road by guided bore; the workspace is about 33 feet from the wetland.

FERC recommends a standard right-of-way width of 75 feet; however, WBI Energy is requesting a 100-foot-wide corridor for construction of the Tioga-Elkhorn Creek and Elkhorn Creek-Northern Border pipelines to efficiently and safely conduct construction activities.[5] The increased construction right-of-way width will be required to accommodate construction of the 24-inch-diameter pipelines due to steep/rolling terrain along portions of the pipeline route, an increased amount of subsoil materials requiring additional storage space, erosive soil conditions, and safety.

Steeper side-slopes may require two-tone or cut and fill construction methods. A 100 foot-wide construction right-of-way is needed in these steeper areas to safely operate equipment and provide adequate storage space for spoil and topsoil piles. Soil stability is anticipated to be one of the main soil limiting factors affecting proposed Project activities. Trench excavations in erosive soils have the potential to cave in, widening the trench and increasing the amount of soil materials that will be stored along the right-of-way. The 100-foot-wide right-of-way will allow adequate space for wider trench excavations in erosive soils and allow for sufficient soil stockpile storage space along the right-of-way.

Proper safety precautions have also been considered with the 100-foot-wide construction right-of-way. After trench excavation, work between the pipe and the trench will be prohibited. During lowering operations, workers will be positioned between the equipment and the pipe to

[5] The construction right-of-way width across USFS land will be reduced to 50 feet (with an additional 25 feet of ATWS).

monitor, inspect, and repair coating as needed or adjust temporary pipe supports. The 100-foot-wide construction right-of-way will ensure adequate space for workers and safer working conditions in this environment.

FERC recommends that all extra work areas (such as staging areas and additional spoil storage areas) are located at least 50 feet away from the water's edge and wetland boundaries. At several site-specific locations, WBI Energy requests that ATWS occur within 50 feet of a waterbody or wetland boundary due to topographic or other factors that preclude a standard 50-foot setback. Site-specific justification for each proposed ATWS within 50 feet of a waterbody or wetland is provided in table 1.3-1.

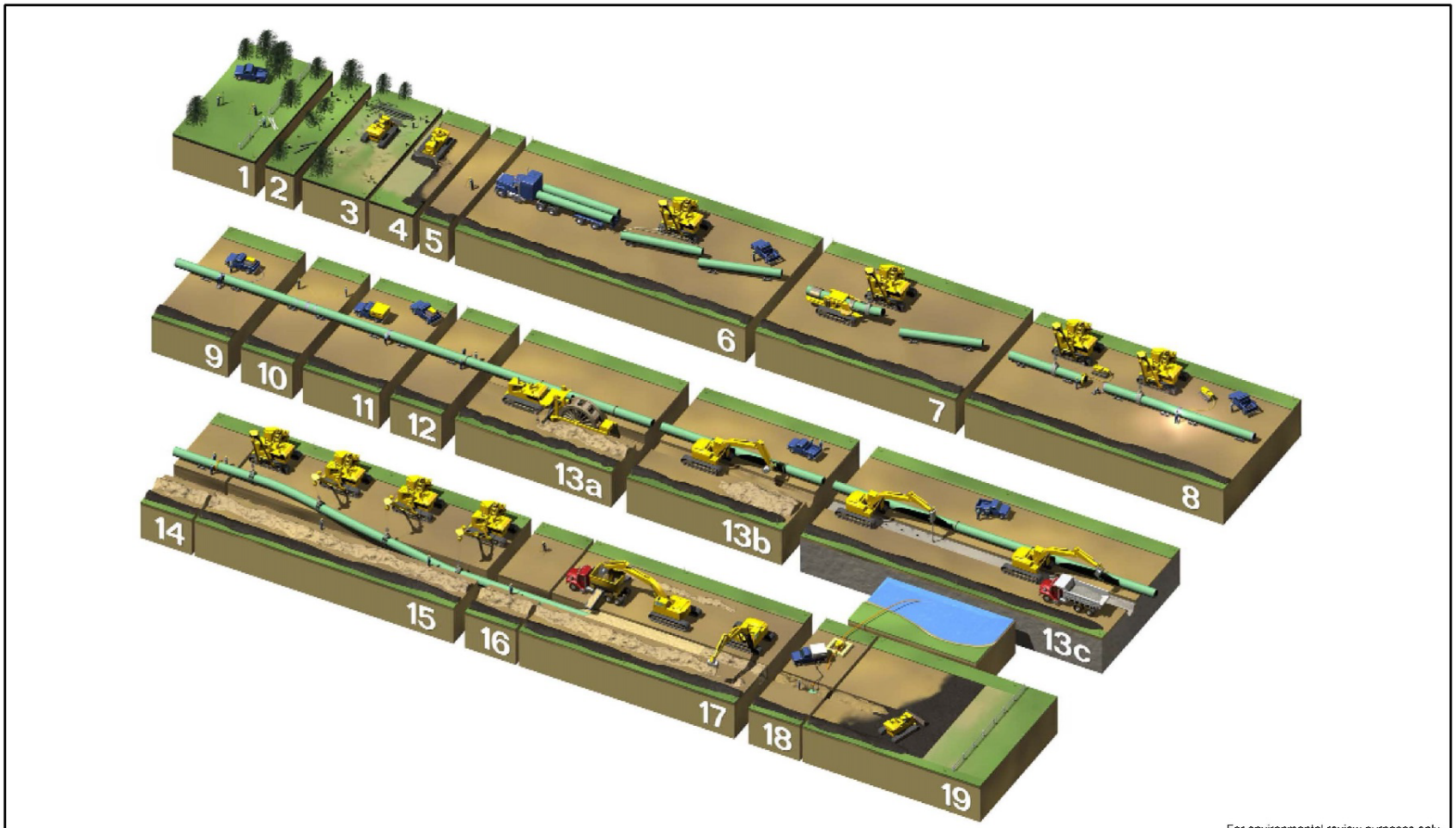
WBI Energy will implement additional construction, restoration, and mitigation plans that it prepared for the Project. These include the following:

- Spill Prevention, Control, and Countermeasure Plan;
- Plan for Unanticipated Discovery of Contaminated Environmental Media;
- Noxious Weeds Management Plan;
- Blasting Plan;
- Fugitive Dust Control Plan;
- Plan for Unanticipated Discovery of Historic Properties or Human Remains during Construction;
- Plan for Unanticipated Discovery of Paleontological Resources during Construction; and
- Horizontal Directional Drill/Guided Bore Drilling Fluid Monitoring and Operations Plan.

Copies of these plans are provided in appendix 1F.

1.3.1 General Pipeline Construction Procedures

Pipeline construction will follow industry-standard practices and procedures as described below. Conventional open-ditch construction methods will be used to install most of the proposed pipelines. In a typical scenario, construction involves a series of discrete activities conducted in a linear sequence. These include survey and staking; right-of-way clearing and grading; pipe stringing, bending, and welding; trenching; lowering-in and backfilling; hydrostatic testing; final tie-in; commissioning; and right-of-way cleanup and restoration. Figure 1.3.1-1 illustrates each of the steps in a typical construction scenario. A description of each step in the process is provided in the following sections.



1. Survey and Staking
2. Clearing
3. Front-End Grading
4. ROW Topsoil Stripping
5. Restaking Centerline of Trench
6. Stringing Pipe
7. Field Bending Pipe
8. Line-Up, Initial Weld
9. Fill & Cap, Final Weld
10. As-Built Footage
11. X-Ray Inspection, Weld Repair
12. Coating Field Welds
13a. Trenching (wheel ditcher)
13b. Trenching (backhoe)
13c. Trenching (rock)
14. Inspection & Repair of Coating
15. Lowering Pipe into Trench
16. As-Built Survey
17. Pad, Backfill, Rough Grade
18. Hydrostatic Testing, Final Tie-in
19. Replace Topsoil, Final Clean-Up, Full Restoration

Figure 1.3.1-1
Typical Pipeline Construction Sequence
North Bakken Expansion Project
WBI Energy Transmission, inc.

Environmental Resources Management
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1.3.1.1 Survey and Staking

Affected landowners will be notified before preconstruction survey and staking are conducted. After these notifications, WBI Energy's survey crews will stake the pipeline centerlines and the limits of the construction right-of-way and ATWS areas. Additionally, the survey crew will flag the location of approved access roads. Wetland boundaries and other environmentally sensitive areas will also be marked at this time.

1.3.1.2 Clearing and Grading

Prior to beginning ground-disturbing activities, WBI Energy's contractor will coordinate with the North Dakota One-Call system to have existing underground utilities (i.e., cables, conduits, and pipelines) identified and flagged. Once this process is complete, a clearing crew will clear the work area of vegetation and other obstacles, including trees (if necessary), stumps, logs, brush, and rocks. If tree removal is required, to the extent feasible, WBI Energy will minimize tree removal during construction. Cleared vegetation and stumps will be chipped (except in wetlands), put to beneficial use such as mulch for erosion control, or hauled offsite to a commercial disposal facility. As needed, snow will be plowed to the edge of the construction right-of-way and stockpiled.

Following clearing (and snow removal as necessary), the construction right-of-way and ATWS will be graded where necessary to provide a level work surface to allow safe passage of construction equipment and emergency vehicles. Topsoil will be segregated in accordance with the FERC Plan and Procedures. If the ground is relatively flat and does not require topsoil segregation or grading, rootstock will be left in the ground to facilitate restoration of the right-of-way. In areas disturbed by grading, and as required by the FERC Plan and Procedures, temporary erosion and sediment controls will be installed within the right-of-way to minimize erosion. These erosion and sediment controls will be inspected and maintained throughout the construction and restoration phases of the Project, as appropriate, and as required by the FERC Plan and Procedures.

Where portions of the temporary and permanent rights-of-way overlap along the collocated segments of the Tioga-Elkhorn Creek pipeline (MPs 0.0 to 2.6) and the Line Section 30 Loop (MPs 6.8 to 9.4), WBI Energy anticipates that topsoil will be segregated across the entire width of both rights-of-way. Construction of the pipelines will then be staggered so that one pipeline is in place and backfilled prior to construction of the other pipeline to allow sufficient workspace for construction of each pipeline.

1.3.1.3 Pipe Stringing, Bending, and Welding

Individual joints of pipe will be trucked to the construction right-of-way and strung along the trenchline in a single, continuous line. Individual sections of pipe will be bent, where necessary, to allow for a uniform fit with the contours at the bottom of the trench and horizontal points of inflection. Typically, a track-mounted, hydraulic pipe-bending machine will tailor the shape of the pipe to conform to the contours of the terrain. After the pipe sections are bent, they will be welded together into long sections and placed on temporary supports. Welding will be conducted in compliance with 49 CFR 192 and American Petroleum Institute Standard 1104 *Welding of Pipelines and Related Facilities*. Completed welds will be visually and non-

destructively inspected, and all pipe welds will be coated in accordance with required specifications. The coating will be inspected for defects and repaired, if necessary, prior to lowering the pipe into the trench.

1.3.1.4 Trenching

Trenching, which involves excavating a ditch for the pipeline, will be conducted with rotary trenching machines, track-mounted backhoes, or other similar equipment. Trench spoil will be deposited adjacent to the trench within the construction right-of-way, and adjacent to the topsoil pile. The trench will be excavated to a depth that provides sufficient cover over the pipeline after backfilling. Typically, the trench will be excavated to a depth of about 6 feet to allow for a normal depth of cover of 4 feet over the pipeline, or any appurtenances, after construction. Additional cover will be provided at road crossings for a minimum depth of cover of 5 feet. The bottom width of the trench will be sufficient to accommodate the pipeline. The width at the top of the trench will vary to allow the side slopes to be adapted to local conditions at the time of construction. If trench dewatering is required within or off the construction right-of-way, it will be conducted in a manner that will not cause erosion or result in silt-laden water flowing into any waterbody or wetland.

Based on a preliminary review of the soils present in the Project area, WBI Energy does not expect that blasting will be required to excavate the trench; however, Resource Report 6 will describe the procedures to be implemented in the event that blasting is necessary (see also section 1.3.2.6).

1.3.1.5 Lowering-in and Backfilling

Prior to lowering-in, the trench will be inspected to ensure it is free of rocks and other debris that could damage the pipe or its protective coating. It also will be checked for wildlife that may be trapped at the bottom of the trench. The pipe will then be lifted from the temporary supports and lowered into the trench using side-boom tractors. As necessary, trench breakers will be installed in the trench around the pipe in steeply sloped areas to prevent movement of subsurface water along the pipeline. After lowering-in, the trench will be backfilled with previously excavated materials using bladed equipment or backhoes. If the excavated material is rocky, the pipeline will be protected with a rock shield or covered with more suitable fill. Clean fill may be obtained by removing rock from the excavated spoil. Topsoil will not be used to pad the pipe.

1.3.1.6 Hydrostatic Testing

After backfilling, hydrostatic testing activities will occur. WBI Energy anticipates that water for hydrostatic testing will be sourced from a water depot and either trucked or piped to the right-of-way.[6] The total volume of hydrostatic test water required for the Project will be about 4.9 million gallons. After the test is complete, water will be discharged to an approved well-vegetated upland area(s) in accordance with permit conditions and the FERC's Plan. Additional information on hydrostatic testing is provided in Resource Report 2.

[6] If WBI Energy determines that it is necessary to obtain water from surface water sources for hydrostatic testing or other Project-related purposes, it will obtain any required permits or approvals in accordance with state regulations and FERC requirements.

1.3.1.7 Final Tie-in and Commissioning

After hydrostatic testing, final pipeline tie-ins will be completed and commissioning will commence. Commissioning involves activities to verify that equipment is properly installed and working, controls and communications systems are functional, and the pipeline is ready for service. The pipelines will be cleaned, dried, and inspected using in-line inspection tools (pigs) to detect anomalies in the pipe that may have been introduced during construction, and prepared for service by purging the line of air and loading the line with natural gas.

1.3.1.8 Cleanup and Restoration

Final cleanup will begin after backfilling and as soon as weather and site conditions permit. Every reasonable effort will be made to complete final cleanup (including final grading and installation of permanent erosion control devices) within timeframes required by permits, in accordance with landowner requests, or as required by the FERC Plan and Procedures.

During cleanup, construction debris will be collected and taken to a disposal facility. Project area contours will be restored to pre-existing conditions as closely as possible. Segregated topsoil will be spread over the surface of the right-of-way and permanent erosion controls will be installed. Revegetation measures will be implemented in accordance with the FERC Plan and Procedures.

Markers showing the location of the pipelines will be installed at fence crossings, road crossings, points of inflection, and other areas as necessary to identify WBI Energy as the owner of the pipelines and convey emergency information in accordance with applicable government regulations, including USDOT safety requirements.

1.3.2 Specialized Pipeline Construction Procedures

In addition to standard pipeline construction methods, WBI Energy will use special construction techniques where warranted by site-specific conditions. These special techniques will be used when constructing across waterbodies, wetlands, roads and railroads, agricultural areas, side slopes, and when blasting through rock (if necessary). Each of these specialized measures is described below.

The Project does not cross residential areas or pass within 50 feet of a residence. In the event that changes in the Project design require construction in residential areas or within 50 feet of a residence, WBI Energy will comply with Commission regulations and file the necessary information for these crossings.

1.3.2.1 Waterbody Crossings

For waterbodies that are not proposed to be crossed using the HDD or guided bore methods, WBI Energy proposes to use conventional upland techniques if no flow is present at the time of the crossing. For waterbodies currently proposed to be crossed using the open-cut method, the guided bore crossing method may be implemented based on site conditions at the time of construction. Although dry crossing methods, such as the flume and dam-and-pump methods, are not proposed for the Project, they may be considered if warranted by site-specific

conditions at the time of construction. In each case and for each method, WBI Energy will adhere to measures specified in the FERC Procedures as well as any additional requirements which may be specified in federal or state waterbody crossing permits.

A complete list of the waterbodies along the pipeline routes, and the construction method proposed for each crossing, is included in Resource Report 2.

Open-Cut Method

Crossings of most non-flowing waterbodies will be accomplished using the open-cut method. In these cases, backhoe-type excavators operating from the banks of the waterbody will be used to open a trench while flow is maintained across the channel. Spoil excavated from the trench will be placed on the bank above the high water mark for use as backfill. A prefabricated segment of pipeline will then be placed into the trench using side-boom tractors. Concrete coating or set-on weights will be utilized, as necessary, to provide negative buoyancy for the pipeline. Once the trench is backfilled, the banks will be restored as near as practicable to preconstruction contours and stabilized. Stabilization measures will include seeding, installation of erosion control blankets, or installation of riprap materials, as appropriate. Excavated material not required for backfill will be removed and disposed of at upland disposal sites.

Throughout the construction process, WBI Energy will follow the FERC Procedures to avoid or minimize impacts on water quality. Construction activities will be scheduled so that the trench is not excavated across the waterbody until immediately prior to pipe laying activities. The duration of in-stream construction activities (excluding blasting, if required) will be limited to 24 hours across minor waterbodies (those 10 feet in width or less) and 48 hours across intermediate waterbodies (those between 10 and 100 feet in width). Excavated spoil will be stockpiled at least 10 feet from the edge of the waterbody, and appropriate erosion control devices will be installed in the field.

Horizontal Directional Drill and Guided Bore Methods

The HDD and guided bore crossing methods are both trenchless methods used to install pipelines across sensitive areas such as waterbodies and wetlands, roads, and other utility crossings to avoid direct impacts on those features. The HDD method is used for crossings that are typically longer and deeper than the guided bore method, which is used for relatively short crossings (i.e., less than 1,000 feet) that are relatively shallow with a small arc bore path. HDD construction consists of much larger stationary equipment, requiring on-site assembly, whereas guided bores will be constructed with self-contained mobile equipment with a smaller footprint. Both methods consist of drilling a small-diameter pilot hole under the sensitive area and enlarging the hole through successive reaming until it is large enough to accommodate a prefabricated segment of pipe. In the process of drilling and/or reaming the hole, a slurry of drilling fluid (or drilling mud) will be circulated through the drilling tools to lubricate the drill bit, remove drill cuttings, and promote drill hole stability. Drilling fluid primarily consists of water mixed with in-situ material or bentonite, which is a non-toxic, naturally occurring sedimentary clay.

For HDD and guided bore crossings, one method to steer the drill head is to hand-lay electric-grid guide wires along the pipeline centerline to create an electromagnetic sensor grid that will help the operator control the drill head. In thickly vegetated areas, a small pathway approximately 2 to 3 feet wide may be cut using hand tools to lay the electric-grid guide wires resulting in minimal ground and vegetation disturbance. Other steering techniques may be employed, pending the selection of the drilling contractors.

To begin each crossing, a drill rig will be placed on the entry side of the HDD or guided bore and a small pilot hole will be drilled along a predetermined path beneath the feature. Electromagnetic sensors located on the tip of the drill bit will allow the operator to follow the sensor grid along the prescribed path. Once the pilot hole is completed, the sensor grid will be removed and the hole will be enlarged through a process called reaming. A reaming tool will be installed at one end of the drill string on the exit side of the pilot hole, and then pushed or drawn back to the drill rig to enlarge the hole. Several passes with progressively larger reaming tools may be required to enlarge the hole to a sufficient diameter to accommodate the pipeline. During this process, the drilling fluid is circulated through the hole to remove drill cuttings and maintain the integrity of the hole.[7] Once the reaming process is complete, a prefabricated segment of pipe will be attached to the drill string on the exit side of the crossing, and pulled back through the hole toward the drill rig. The pipe segment will generally be hydrostatically tested prior to its installation, and once installed, connected on either side of the crossing to adjoining sections of pipe. The pipe segment will be hydrostatically tested a second time with the remainder of the pipeline system.

Vegetation clearing and equipment use will typically be avoided between the HDD and guided bore entry and exit workspaces. As described above, it may be necessary to hand-clear vegetation between the entry and exit workspaces at some locations to facilitate laying the electric-grid guide wires. Additionally, a travel lane will be required between the entry and exit workspaces at several guided bore crossings.[8]

Although the HDD and guided bore methods typically avoid impacts on water quality by precluding disturbance of the waterbody bed and banks, an unintended release of drilling mud (referred to as an inadvertent return) could occur if drilling fluids escape the drill hole and are forced through the subsurface substrate to the ground surface. In order to minimize potential impacts of inadvertent releases of drilling fluids, WBI Energy will implement the measures identified in its *Horizontal Directional Drill/Guided Bore Drilling Fluid Monitoring and Operations Plan*. This plan describes procedures to be used to monitor, contain, and clean up any potential releases of drilling fluid. It also identifies contingency measures to be implemented in the event that an HDD or guided bore is unsuccessful. A copy of the plan is provided in appendix 1F.

[7] Although not currently proposed, drilling fluid additives may be used for HDD and guided bore activities associated with the Project. Contractors would be limited to use of additives that are non-petrochemical based, non-hazardous, and currently certified to the American National Standards Institute/National Sanitation Foundation International Standard 60 at the time of construction. Any additives used would comply with permit requirements and environmental regulations applicable to the Project. Additives other than those certified to the standard would not be allowed unless approval by appropriate regulatory authorities is granted. Contractors will be required to maintain safety data sheets on location for all additives used for HDD and guided bore operations and keep records of the types and amounts of additives used.

[8] A travel lane will be required between the entry and exit workspaces at the following guided bore crossings: Beaver Creek (s-wm-eb-002), Tobacco Garden Creek (s-mk-eb-002 and s-mk-ea-003), wetland w-mk-ea-004e, Northfork Creek (s-mk-eb-005), and Cherry Creek.

Flume Method

The flume method consists of installing temporary dams upstream and downstream of a proposed crossing and temporarily directing water flows through one or more flume pipes placed over the area to be excavated. This method allows for trenching activities to occur under relatively dry conditions beneath the flume pipes, avoiding disruption to water flow. WBI Energy is not currently proposing to use the flume method at any of the waterbody crossings along the pipeline routes, but may elect to do so if warranted by site-specific conditions at the time of construction.

Dam-and-Pump Method

The dam-and-pump method consists of installing temporary dams upstream and downstream of a proposed crossing. The dams are typically constructed of sandbags and plastic sheeting. Following installation of the dams, pumps are used to dewater the excavation area and to transport stream flow around the construction work area. WBI Energy is not currently proposing to use the dam-and-pump method at any of the waterbody crossings along the pipeline routes, but may elect to do so if warranted by site-specific conditions at the time of construction.

1.3.2.2 Wetland Crossings

Construction across wetlands will be conducted in accordance with the FERC Procedures, site-specific modifications to the FERC Procedures as requested by WBI Energy and approved by the FERC, and any additional requirements specified in federal or state water crossing permits. Typical methods for construction across wetlands are described below. A list of wetland crossings along the pipeline routes is included in Resource Report 2.

Wetland boundaries will be delineated and marked in the field prior to construction activities. Temporary erosion control devices will be installed as necessary after initial disturbance of wetlands or adjacent upland areas to prevent sediment flow into wetlands. These devices will be maintained until revegetation of wetlands is complete. Trench plugs will be installed as necessary to maintain wetland hydrology. Construction equipment operating in wetland areas will be limited to what is needed to clear the right-of-way, dig the trench, install the pipeline, backfill the trench, and restore the right-of-way.

The top 12 inches of topsoil will be stripped from the area directly over the trenchline (except in standing water or in saturated conditions) and stockpiled separately from the subsoil. The segregated topsoil will be restored to its original location following installation of the pipe and backfilling of the trench in accordance with the FERC Procedures. Materials such as timber mats placed in wetlands during construction will be removed during rough grading and final cleanup, and the preconstruction contours of the wetland will be restored. Permanent erosion control measures will then be installed in accordance with the FERC Procedures, and disturbed areas within wetlands will be temporarily stabilized with a cover species such as annual ryegrass as soon as weather conditions permit. Wetland areas will then be allowed to return to preconstruction conditions using the original seed stock contained in the conserved topsoil layer.

The specific crossing procedures used to install a pipeline across wetlands will depend on the level of soil stability and saturation encountered during construction. Construction across unsaturated wetlands that can support the weight of equipment will be conducted in a manner

similar to the upland construction procedures described above. In areas that are proposed for conventional open trench construction, but where soil conditions may not support the weight of equipment, timber mats will be used to minimize disturbance to wetland hydrology and maintain soil structure.

The pull method of construction may be used in inundated or saturated conditions where wetland soils and hydrology cannot support conventional pipe laying equipment, or in areas that have significant quantities of water that would allow for the pipe to be floated through the open ditch. With this method, construction and excavation equipment will work from temporary work surfaces and a prefabricated pipeline segment will be pulled or floated into position, or carried into place, then sunk with buoyancy control devices and placed in the trench.

1.3.2.3 Road and Railroad Crossings

Construction across paved roads, highways, and railroads will be conducted in accordance with the FERC Plan and requirements identified in road and railroad crossing permits or approvals. Most paved roads, highways, and railroads will be crossed by using the guided bore method. As described in section 1.3.2.1, the guided bore method is very similar to the HDD method, using smaller self-contained equipment to install the pipeline beneath the roadbed or railroad. For longer crossings, sections may be welded into a pipe string before being pulled through the bore hole. Typically, there is little or no disruption to traffic at the road, highway, or railroad crossings during boring operations. The guided bore method will also be used at the road crossing replacements associated with the uprate to WBI Energy's Line Section 25: 92nd Street NW, 93rd Street NW/89th Avenue NW (crossed at the same location/intersection), 86th Street NW, and Highway 40.

Unpaved roads, two-tracks, trails, and driveways, will be crossed using the open-cut method and then restored to preconstruction condition. Most open-cut road crossings will be completed and the road restored in a few days.

Crossings of roads and railroads will be uncased unless a casing is required by the appropriate regulatory authority with jurisdiction over the crossing. For all road and railroad crossings, the pipeline has been designed in accordance with USDOT regulations at 49 CFR 192, the American Society of Mechanical Engineers' code (B31.8) for gas transmission and distribution piping systems. Uncased crossings are preferred over cased crossings due to the increased potential for problems with installation, the cathodic protection system, and corrosion on cased crossings. A list of road and railroad crossings along the pipeline routes is included in Resource Report 8.

1.3.2.4 Agricultural Areas

In active croplands, pastures, rangeland, or hayfields, topsoil will be stripped and segregated in accordance with the FERC Plan. Typically, topsoil will be stripped over the trench plus spoil storage area. Following pipeline installation, the subsoil will be returned to the ditch and the topsoil replaced in the area from which it was stripped. As necessary, the working side of the right-of-way will be de-compacted prior to final grading and restoration.

Where livestock fences (including electric fences) need to be crossed to access the construction right-of-way, a fencing crew will cut, brace and secure the fencing prior to construction, and will repair the fences to preconstruction condition or better during the restoration phase of the Project. Temporary gates may be installed in accordance with individual landowner requests. Further, WBI Energy will work with landowners either to remove livestock to alternate fields during construction or maintain adequate fencing in grazing areas. If cattle are present during construction, WBI Energy will install temporary construction fencing around the right-of-way in areas where the pipe trench is left open overnight if requested by landowner. WBI Energy additionally will negotiate with landowners regarding a potential grazing deferment to allow vegetation to establish within the right-of-way after construction is complete.

To date, no drainage or irrigation facilities have been identified along the proposed pipeline routes as a result of landowner consultations or field surveys. Prior to construction, landowners will be contacted to determine whether the pipelines will cross any unknown permanent drainage or irrigation facilities. If any such facilities are discovered and disturbed during construction, WBI Energy will restore them to preconstruction condition or better through the disturbed area.

Drain tiles are not expected to be encountered during construction. However, if drain tiles are identified in the Project area, WBI Energy will take precautions to maintain flow during construction to avoid ponding in nearby areas. If any drain tiles are disturbed during construction, WBI Energy will restore them to preconstruction conditions through the disturbed area.

1.3.2.5 Side Slopes

Although the Project will not require construction in rugged terrain (e.g., in mountains or canyons), portions of the pipelines may cross areas of steep side slope or rolling terrain that may require the use of cut-and-fill grading to provide for safe working conditions. In these areas, grading activities will cut down the upslope side of the construction right-of-way. Material from the cutting will be used to fill the downslope side of the construction right-of-way to create a safe and level surface for travel lanes and equipment operation. Additional temporary right-of-way may be required on steep side slopes to allow for passage of construction equipment and emergency vehicles. The trench will be excavated from the newly graded right-of-way. Following pipeline installation and backfilling, the excavated material will be placed back on the area of the cut and compacted to restore the surface of the right-of-way to original contours. Stabilization of the surface will be conducted in accordance with the FERC Plan.

In areas of steep side slope or rolling terrain, temporary sediment barriers such as silt fences and straw bales will be installed to prevent the movement of disturbed soil off the right-of-way. Temporary slope breakers consisting of mounded and compacted soil will be installed across the right-of-way during construction in accordance with the FERC Plan. Permanent slope breakers will be installed during final cleanup or as soon as weather conditions permit. Following construction, restoration will be completed in accordance with the FERC Plan.

1.3.2.6 Blasting

WBI Energy does not expect that blasting will be required during construction; however, if shallow bedrock or boulders are encountered that cannot be removed by conventional methods, blasting may be necessary. WBI Energy has prepared a Blasting Plan that it will implement in

the event that blasting is necessary during construction (see appendix 1F). Strict safety precautions will be adhered to if blasting is required to clear the right-of-way and fracture the ditch. Extreme care will be exercised to avoid damage to underground structures, cables, conduits, pipelines, and underground watercourses or springs. WBI Energy will provide adequate notice to adjacent landowners or tenants in advance of blasting to protect property or livestock. Blasting activity will be performed during daylight hours and in compliance with federal, state, and local codes and ordinances, the manufacturers' prescribed safety procedures, and standard industry practices.

1.3.2.7 Oil/Gas Fields and Gathering Pipelines

WBI Energy will construct across oil and gas fields and gathering pipelines using the same general pipeline construction techniques described in section 1.3.1. Crossings of gathering pipelines will be completed as shown in the typical construction right-of-way cross-section diagrams for foreign pipeline crossings (see appendix 1C).

1.3.3 Aboveground Facility Construction Procedures

1.3.3.1 Compressor Stations and Delivery, Receipt and Transfer Stations

Construction of the proposed aboveground facilities will include a standard sequence of events. Construction will begin with clearing (or snow plowing, as necessary) and grading of the sites to establish level grades for the facilities. Subsequent construction activities will include preparing foundations, installing underground piping, erecting and installing buildings, installing aboveground piping and equipment, testing the piping, testing the control equipment, cleaning up the work area, and graveling access roads and parking areas. Once construction is complete, areas within the fence line but outside the new facilities will be covered with gravel/scoria or maintained in an herbaceous state. Each station site will be fenced for security. Safety and control devices will be installed and tested prior to operation. Pig launchers and receivers will be located within the footprints of the compressor station, receipt and transfer station, and valve setting sites.

None of the facilities to be replaced or disturbed have known asbestos-containing materials (ACM). Per Chapter 33.1-15-13 of the North Dakota Administrative Code, prior to any demolition/renovation of project facilities, a thorough asbestos inspection will be conducted by an inspector certified in North Dakota to identify all ACM. If ACM is identified, notification of asbestos removal activities will be submitted to the North Dakota Department of Environmental Quality, Asbestos Control Program, for all demolition activities involving ACM and any renovation activity that requires removal or disturbance of 160 square feet or more of regulated ACM on facility components or 260 linear feet or more of regulated ACM on pipes. All ACM will be removed by individuals trained and certified to handle ACM in accordance with applicable requirements. ACM will be transported off Project facilities in accordance with applicable regulations and disposed at a facility permitted to manage asbestos waste.

1.3.3.2 Block Valves

Construction of block valves will include grading, installing the underground assembly, testing the control equipment, cleaning up the work area, and graveling the site area. Block valve

construction will be concurrent with the construction of the pipelines, prior to hydrostatic testing. At each site, the disturbed area will be stabilized with gravel/scoria within a fenced enclosure. Outside of the fenced area, revegetation will be conducted in accordance with the FERC Plan.

1.4 ENVIRONMENTAL COMPLIANCE, TRAINING, AND INSPECTION

WBI Energy is committed to constructing and operating the Project in a manner that will minimize environmental impacts and comply with applicable permits and approvals, the FERC Plan and Procedures and other environmental plans or requirements described in this resource report. WBI Energy will train company and contractor personnel to familiarize them with environmental plans and other conditions, and provide environmental inspectors (EIs) to monitor compliance during construction. WBI Energy will be responsible for implementation of environmental requirements during construction of all Project facilities.

1.4.1 Environmental Compliance

WBI Energy will incorporate relevant environmental requirements and Project-specific environmental mitigation plans into the construction bid documents for the Project. Additionally, WBI Energy will review these requirements with prospective contractors in a pre-bid meeting. These steps notwithstanding, the contractor selected for the Project will be required to comply with all relevant requirements regardless of whether they were described in bid documents or discussed at the meeting. During construction, if the contractor does not comply with environmental requirements, WBI Energy will direct the contractor to comply and may take other corrective actions as necessary, including issuing stop-work orders, until the contractor is in compliance.

1.4.2 Environmental Training

Prior to construction, WBI Energy will conduct environmental training for company and contractor supervisory personnel. The training program will focus on the FERC Plan and Procedures; Project-specific Certificate and permit conditions; and Project-specific construction, restoration, and mitigation plans. In addition, WBI Energy will provide large-group training sessions before each work crew begins construction. Periodic follow-up training for groups of newly assigned personnel will be provided as necessary by the EIs.

1.4.3 Environmental Inspection

WBI Energy will assign EIs to the Project, with additional inspectors as necessary, to monitor environmental compliance. WBI Energy's EIs will have peer status with other inspectors and will report directly to the WBI Energy environmental personnel. The EIs' responsibilities will be as specified in the FERC Plan, and will include, but not be limited to, the following: (1) monitoring the contractor's compliance with environmental measures required by the Certificate, other permits or approvals, the FERC Plan and Procedures, and any other plans described in this resource report; (2) taking corrective actions, including issuing stop-activity orders; (3) documenting compliance with environmental requirements; and (4) preparing status reports for submittal to the Commission's environmental staff. The EIs will also act as liaisons between WBI Energy and representatives of environmental regulatory agencies that may visit the Project during construction.

1.5 OPERATIONS AND MAINTENANCE

WBI Energy will operate and maintain the new pipelines and aboveground facilities in accordance with all applicable federal and state requirements, including the minimum federal safety standards identified in 49 CFR 192 *Transportation of Natural and Other Gas by Pipeline*. Operation and maintenance of the facilities will be performed by or at the direction of WBI Energy.

The pipelines will be inspected periodically on foot, by all-terrain vehicle or other vehicle as required by applicable regulatory requirements to identify potential concerns that may affect the safety and operation of the pipelines. Pipeline markers and signs will be inspected and maintained or replaced, as necessary, to ensure that pipeline locations are clearly identified. Field personnel will advise the appropriate operations personnel of new construction along or near the pipeline system. Line patrol of highway crossings will be completed as required by the USDOT. If pipeline patrols or vegetation maintenance identify areas on the right-of-way where erosion is occurring, WBI Energy will repair existing erosion control devices or install additional devices as necessary to stabilize the area and prevent future erosion.

In order to maintain accessibility of the rights-of-way and to accommodate pipeline integrity surveys, vegetation along the pipeline rights-of-way will be cleared periodically, and as necessary, in accordance with the FERC Plan and Procedures (except in areas crossed by HDD or guided bore where vegetation maintenance will not be conducted). Active cropland will be allowed to revert to preconstruction use for the full width of the right-of-way. In non-cultivated uplands, the entire 50-foot-wide permanent easement will be maintained in an herbaceous state. In wetlands, the FERC Procedures allows for a 10-foot-wide corridor centered over the pipeline to be permanently maintained in an herbaceous state, and trees greater than 15 feet in height within 15 feet of the pipeline may be cut and removed from the right-of-way. Where necessary and when required, WBI Energy typically will use mechanical mowing or cutting along its right-of-way for normal vegetation maintenance.

WBI Energy will adhere to the operations and maintenance procedures described in the FERC Plan and Procedures, subject to any modifications approved by FERC, in the vicinity of waterbodies, wetlands, and upland areas. Further, operation and maintenance procedures, including record keeping, will be performed in accordance with USDOT requirements. Operation and maintenance of block valves will be performed in accordance with information provided by the valve manufacturers.

In addition to the pipelines, WBI Energy personnel also will perform regular operation and maintenance activities on equipment at the proposed aboveground facilities. These activities will include calibration, inspection, and scheduled and routine maintenance. Operational testing will be performed on safety equipment to ensure proper functioning, and problems will be corrected.

1.6 FUTURE EXPANSION AND ABANDONMENT PLANS

No additional future plans, beyond those described in this resource report, are currently anticipated for the Project. If future market demands warrant an expansion of the Project, WBI Energy will file an application with FERC as appropriate. WBI Energy has no future plans for abandonment of the pipelines or aboveground facilities, and will file an appropriate application with FERC if and when facilities are to be abandoned.

1.7 NON-JURISDICTIONAL FACILITIES

Because facility interconnect agreements are not yet final, WBI Energy does not have specific information regarding non-jurisdictional interconnecting pipelines or facilities between customer processing plants and the Project. This information will be provided in a supplemental filing when available.

At the Tioga Compressor Station, the existing electric supply and rural water supply will be sufficient to support the compressor station modifications, and no additional interconnects for these services will be required.

At the Elkhorn Creek Compressor Station, electric service will be obtained from McKenzie Electric Cooperative. Power will be supplied from the overhead powerline that crosses the southern portion of the tract, and all ground disturbance will be within the facility workspace. Water for potable water and cleaning needs will be provided by McKenzie County Water Resource District. The service is anticipated to come from an existing 6-inch-diameter water line. A 2-inch-diameter poly line will run from the new compressor station to the existing water line, which is located in an easement that abuts the southern portion of the station tract (see the Elkhorn Creek Compressor Station plot plan in appendix 1E and [filed under separate cover in Volume III as CUI//CEII]).

Third-party power and communication services will be required at the delivery, receipt, and transfer stations; however, these details are not yet final. This information will be provided in a supplemental filing when available.

1.8 PERMITS AND APPROVALS

WBI Energy will ensure that all necessary permits, clearances, and licenses for Project construction and operation are obtained by the time required prior to construction. Table 1.8-1 lists the federal and state environmental permits and approvals required to construct and operate the Project, along with the status of each permit or approval. In each case, WBI Energy has initiated the permitting or approval process through agency contacts and consultations. Copies of additional agency correspondence and any approvals received by WBI Energy prior to submittal of the final FERC Application will be appended to the final application. A summary of agency contacts and copies of agency correspondence to date are provided in appendix 1G. Appendix 1G-1 contains public information, and appendix 1G-2 contains sensitive information that has been filed under separate cover in Volume IV as Controlled Unclassified Information/Privileged and Confidential (CUI//PRIV).

TABLE 1.8-1

North Bakken Expansion Project
Environmental Permits, Approvals, and Consultations

Agency	Permit/Approval/Consultation	Anticipated Submittal Date	Anticipated Approval Date
Federal			
FERC	Certificate under Section 7(c) of the Natural Gas Act	February 2020	January 2021
U.S. Army Corps of Engineers – Omaha District and U.S. Army Corps of Engineers – Garrison Project Office	Issuance of a Section 404 permit for discharges of dredged or fill material into waters of the United States, including jurisdictional wetlands Issuance of a Section 408 permit for projects that impact (i.e., modify of occupy) any U.S. Army Corps of Engineers-constructed public works projects that include dams, basins, levees, channels, navigational channels, or other local flood protection works Clearance to work on any U.S. Army Corps of Engineers-controlled property Issuance of a Section 10 permit for structures or work in or affecting navigable Waters of the United States	February 2020	February 2021
U.S. Fish and Wildlife Service – Region 6 – North Dakota Field Office and U.S. Fish and Wildlife Service Crosby Wetland Management District	Consultations for impacts on federally listed threatened and endangered species and critical habitat under Section 7 of the Endangered Species Act, the Migratory Bird Treaty Act, the Bald and Gold Eagle Protection Act, and the Fish and Wildlife Coordination Act Consultation for impacts on federal conservation easements for grasslands and wetlands	February 2020	December 2020
U.S. Department of the Interior, Bureau of Land Management - Eastern Montana/Dakotas District Office	Coordination of National Environmental Policy Act process when more than one federal land management agency's lands are crossed. The U.S. Bureau of Land Management is responsible for issuing right-of-way over lands managed by two or more federal agencies	February 2020	February 2021
U.S. Forest Service – Dakota Prairie Grasslands Little Missouri National Grassland	Consultation to cross USFS Lands and issuance of a Special Use Permit	February 2020	February 2021
U.S. Department of Agriculture, Natural Resources Conservation Service – North Dakota	Consultations regarding erosion and sedimentation controls and seed mixes, and Agricultural Conservation Easement Program	February 2020	May 2020
Advisory Council on Historic Preservation	Consultation under Section 106 of the National Historic Preservation Act if the Project would affect historic properties	-	-

TABLE 1.8-1 (cont'd)

North Bakken Expansion Project
Environmental Permits, Approvals, and Consultations

Agency	Permit/Approval/Consultation	Anticipated Submittal Date	Anticipated Approval Date
North Dakota			
North Dakota Department of Health, Division of Air Quality	Permits to Construct an Air Contaminant Source – Tioga Compressor Station and Elkhorn Creek Compressor Station	February 2020	July 2020
	Permits to Operate – Tioga Compressor Station and Elkhorn Creek Compressor Station	Between October 2021 and October 2022	Between January 2022 and January 2023
North Dakota Department of Health, Division of Water Quality	General Permit for Construction Stormwater Discharge under the National Pollutant Discharge Elimination System	July 2020	October 2020
	General Permit for Construction Dewatering and Discharge of Hydrostatic Test Water under the National Pollutant Discharge Elimination System		
	Water Quality Certificate under Section 401 of the Clean Water Act	February 2020	June 2020
North Dakota State Water Commission	Navigable Water Crossing Permit under North Dakota Century Code Chapter 61-33 (Sovereign Lands)	March 2020	June 2020
	Temporary Water Permit – Water appropriation permit for withdrawals associated with hydrostatic test water and drilling mud	July 2020	October 2020
North Dakota Department of Game and Fish	Consultation for impacts on fisheries and wildlife	February 2020	March 2020
North Dakota Parks and Recreation Department	Consultation under the North Dakota Natural Heritage Program	June 2019	May 2020
State Historical Society of North Dakota	Consultation for impacts on historic properties under Section 106 of the National Historic Preservation Act	February 2020	January 2021
North Dakota State Lands Board	Right-of-Way Grant to cross state lands	June 2020	July 2020

1.9 AFFECTED LANDOWNERS AND OTHER STAKEHOLDERS

The names and addresses of all affected landowners as specified in 18 CFR 157.6(d) are listed in appendix 1H (filed under separate cover in Volume IV as CUI//PRIV). WBI Energy has notified each of the landowners identified on the list of the proposed Project. As required by section 157.6(d), WBI Energy will make a good faith effort to again notify each affected landowner once the Commission issues a notice of WBI Energy's application.

During the Project scoping period, WBI Energy received comment letters regarding the proposed pipeline route and potential Project impacts. WBI Energy has responded to these comments throughout the various resource reports as indicated in the responses to scoping comments summary table in appendix 1I.

1.10 CUMULATIVE IMPACTS

Cumulative impacts represent the incremental accumulation of past, present, and reasonably foreseeable future actions (RFFA) on the environment (40 CFR 1508.7). Cumulative impacts may result when a single action continuously impacts the environment, multiple actions impact the same resource over a period of time, or direct impacts on one resource result in indirect impacts on a different resource. Although the individual impacts of each separate action might not be significant, the additive or synergistic impacts of multiple actions could be significant.

In accordance with the requirements of the National Environmental Policy Act, cumulative impacts of the Project and other actions in the region are evaluated in Resource Reports 2 through 11. Table 1.10-1 summarizes the resource-specific geographic boundaries considered in this analysis and the justification for each. Actions occurring outside these geographical boundaries were not evaluated because their potential to contribute to a cumulative impact diminishes with increasing distance from the Project. Table 1.10-2 summarizes the resource-specific temporal boundaries for the proposed Project.

RFFAs within the geographic scope may affect the same resources as the proposed Project within the same timeframe. These include (but are not limited to) actions that are being implemented, have been funded, are under review by a regulatory agency, or are being considered by state and local planners. Actions that have not progressed beyond planning and feasibility stages of development were not included in the analysis due to the uncertainty of whether the projects will be implemented. While recent past actions that continue to contribute to discernable impacts on a resource are included (e.g., a project is operational but restoration/ revegetation is not complete), the impacts of past actions are expressed in Resource Reports 2 through 11 as baseline environmental conditions and are not included in the cumulative impact analysis. To-date, no non-jurisdictional facilities associated with the Project have been identified.

RFFAs were identified by searching publicly available information from the following sources:

- planning and zoning departments for McKenzie, Williams, Burke, and Mountrail Counties;
- planning and zoning departments for Tioga and Watford City;
- the North Dakota Public Service Commission;
- the North Dakota Department of Transportation;
- the U.S. Army Corps of Engineers;
- the U.S. Department of the Interior, Bureau of Land Management's online e-Planning portal; and
- the USFS.

Appendix 1J presents RFFAs and associated resource impacts considered in the cumulative impacts analysis for the Project. Figure 1.10-1 depicts the locations of RFFAs within the geographic scope for this analysis.

TABLE 1.10-1

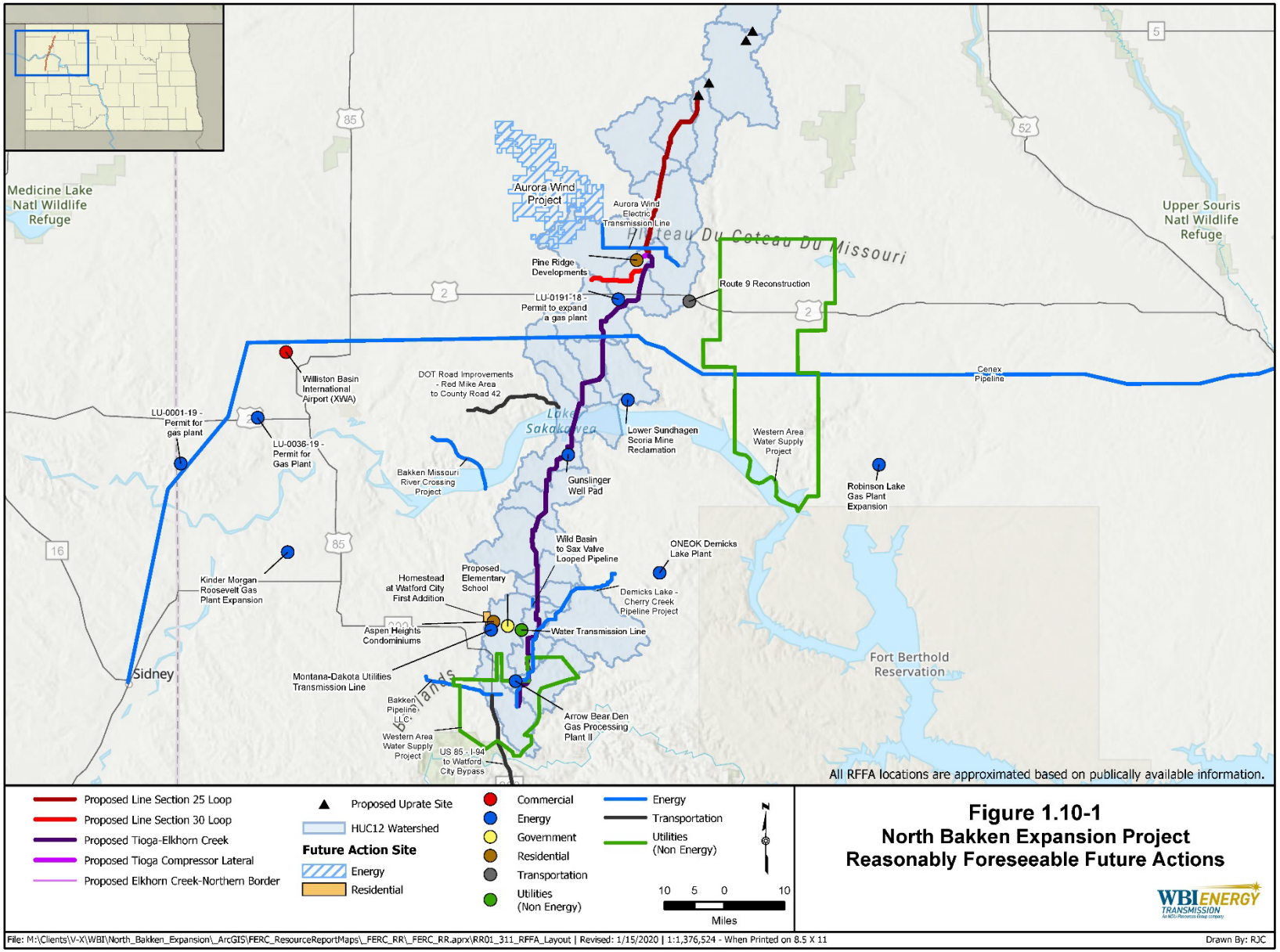
North Bakken Expansion Project
Resource-Specific Geographic Regions for the Cumulative Impacts Analysis

Environmental Resource	Geographic Scope for Cumulative Impacts	Justification for Geographic Scope
Groundwater, Surface Water, and Wetlands	Hydrologic Unit Code (HUC)-12 subwatershed	Impacts on groundwater and surface water resources could reasonably extend throughout a HUC-12 subwatershed (i.e., a detailed hydrologic unit that can accept surface water directly from upstream drainage areas, and indirectly from associated surface areas such as remnant, noncontributing, and diversions to form a drainage area with single or multiple outlet points), as could the related impacts on aquatic resources and fisheries.
Fish, Wildlife, and Vegetation	HUC-12 subwatershed	Consideration of impacts within a HUC-12 sub-watershed sufficiently accounts for impacts on vegetation and wildlife that would be directly affected by construction activities and for indirect impacts such as changes in habitat availability and displacement of transient species.
Cultural Resources	Overlapping impacts within the area of potential effects (APE)	The APE for direct effects (physical) includes areas subject to ground disturbance, while the APE for indirect effects (visual or audible) includes aboveground ancillary facilities or other Project elements that are visible from historic properties in which the setting contributes to their National Register of Historic Places eligibility.
Socioeconomics	Affected counties	Affected counties would experience the greatest impacts associated with employment, housing, public services, transportation, traffic, property values, economy and taxes, and environmental justice.
Soils and Surficial Geology	Construction workspaces	Impacts on soils and surficial geology would be highly localized and would not be expected to extend beyond the area of direct disturbance associated with the Project.
Land Use, Recreation, and Special Interest Areas	1.0 mile from the Project	Impacts on general land uses would be restricted to the construction workspaces and the immediate surrounding vicinity; therefore, the geographic scope for land use and recreation is 1.0 mile from the Project.
Visual Resources	Viewshed	Assessing the impact based on the viewshed (i.e., the distance that the tallest feature at the planned facility would be visible from neighboring communities) allows for the impact to be considered with any other feature that could have an effect on visual resources.
Noise – Construction	0.25 mile – daytime only construction 0.5 mile – nighttime and 24-hour construction	Areas in the immediate proximity of construction activities (within 0.25 mile during daytime construction and 0.5 mile during nighttime and 24-hour construction) would have the potential to be affected by construction noise.
Noise – Operation	1 mile – permanent aboveground facilities	Noise from the Project's permanent aboveground facilities is not anticipated to have an impact beyond 1.0 mile.
Air Quality – Construction	0.25 mile of construction footprint	Air emissions during construction would be limited to vehicle and construction equipment emissions and dust, and would be localized to the Project construction sites.
Air Quality - Operation	31.1 miles (50 kilometers) of Project facilities with operational emissions such as gas-fired compressor stations	Impacts on air quality beyond 31.1 miles (50 kilometers) would be *de minimis*.

TABLE 1.10-2

North Bakken Expansion Project
Resource-Specific Temporal Scope for the Cumulative Impacts Analysis

Environmental Resource	Temporal Scope for Cumulative Impacts	Justification for Temporal Scope
Water Resources, Wetlands, and Soils	Construction and restoration	Impacts on water and wetlands will be limited to the time of active construction until restoration has been achieved through successful revegetation. Impacts on soils will be limited to the time of active construction until soil stabilization has been achieved.
Vegetation	Construction and restoration, operation for forest vegetation	Impacts on herbaceous vegetation will be temporary and limited to the period of construction through successful revegetation. Vegetation impacts along the pipelines will continue through operation of the Project as the permanent right-of-way will need to be maintained.
Fish, Wildlife	Construction and restoration, operation for aquatic species in Lake Sakakawea	Impacts on wildlife and aquatic resources will primarily be temporary and limited to the period of construction through successful revegetation/restoration. Operational impacts may also occur to species in the vicinity of permanent aboveground facilities.
Cultural Resources	Construction; operation for aboveground facilities within viewshed of historic properties/ districts	Impacts on cultural resources will be limited to the time of active construction. Potential impacts on historic properties or historic districts within the Project viewshed may also extend into operations through the physical presence of the facilities.
Socioeconomics	Construction and operation	Impacts on housing, public services, traffic and transportation, and employment/workforce will primarily be limited to the time of active construction. Some impacts (e.g., property tax revenues) will extend throughout operation.
Geology	Construction	Impacts on geologic resources and hazards will be limited to the time of active construction.
Land Use	Construction and operation	Impacts to land use will occur during construction and, where a permanent conversion from one land use type to another will occur, the temporal scope is expanded to include operation.
Recreation and Special Interest Areas	Construction and operation	Impacts on recreation will primarily occur during active construction extending through operation for some permanent Project features (e.g., along the maintained right-of-way).
Visual Resources	Construction and operation	Impacts on visual resources will be limited to construction for some areas along the pipelines, and operation for areas with permanent aboveground facilities (e.g. compressor station).
Air Quality and Noise	Construction and operation	Impacts on ambient air quality are dependent on the nature of the activities (e.g., emissions from earthmoving equipment during construction and combustion emissions from gas-fired compressor engines during operation). Except at the aboveground facilities, which would have noise impacts during operation, noise impacts associated with construction of the Project would be limited to the period of active construction.


Medicine Lake Natl Wildlife Refuge
Upper Souris Natl Wildlife Refuge
Aurora Wind Project
Aurora Wind Electric Transmission Line
Pine Ridge Developments
LU-0191-18 - Permit to expand a gas plant
Route 9 Reconstruction
Coteau Du Missouri
Cenex Pipeline
Williston Basin International Airport (XWA)
DOT Road Improvements - Red Mike Area to County Road 42
LU-0001-19 - Permit for gas plant
LU-0036-19 - Permit for Gas Plant
Lake Sakakawea
Lower Sundhagen Scoria Mine Reclamation
Western Area Water Supply Project
Robinson Lake Gas Plant Expansion
Bakken Missouri River Crossing Project
Gunslinger Well Pad
Wild Basin to Sax Valve Looped Pipeline
ONEOK Demicks Lake Plant
Kinder Morgan Roosevelt Gas Plant Expansion
Homestead at Watford City First Addition
Proposed Elementary School
Demicks Lake - Cherry Creek Pipeline Project
Aspen Heights Condominiums
Water Transmission Line
Fort Berthold Reservation
Sidney
Montana-Dakota Utilities Transmission Line
Badlands
Bakken Pipeline, LLC
Western Area Water Supply Project
US 85 - I-94 to Watford City Bypass
Arrow Bear Den Gas Processing Plant II
All RFFA locations are approximated based on publically available information.
Proposed Line Section 25 Loop
Proposed Line Section 30 Loop
Proposed Tioga-Elkhorn Creek
Proposed Tioga Compressor Lateral
Proposed Elkhorn Creek-Northern Border
Proposed Uprate Site
HUC12 Watershed
Future Action Site
Energy
Residential
Commercial
Energy
Government
Residential
Transportation
Utilities (Non Energy)
Energy
Transportation
Utilities (Non Energy)
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Figure 1.10-1
North Bakken Expansion Project
Reasonably Foreseeable Future Actions
WBI ENERGY TRANSMISSION
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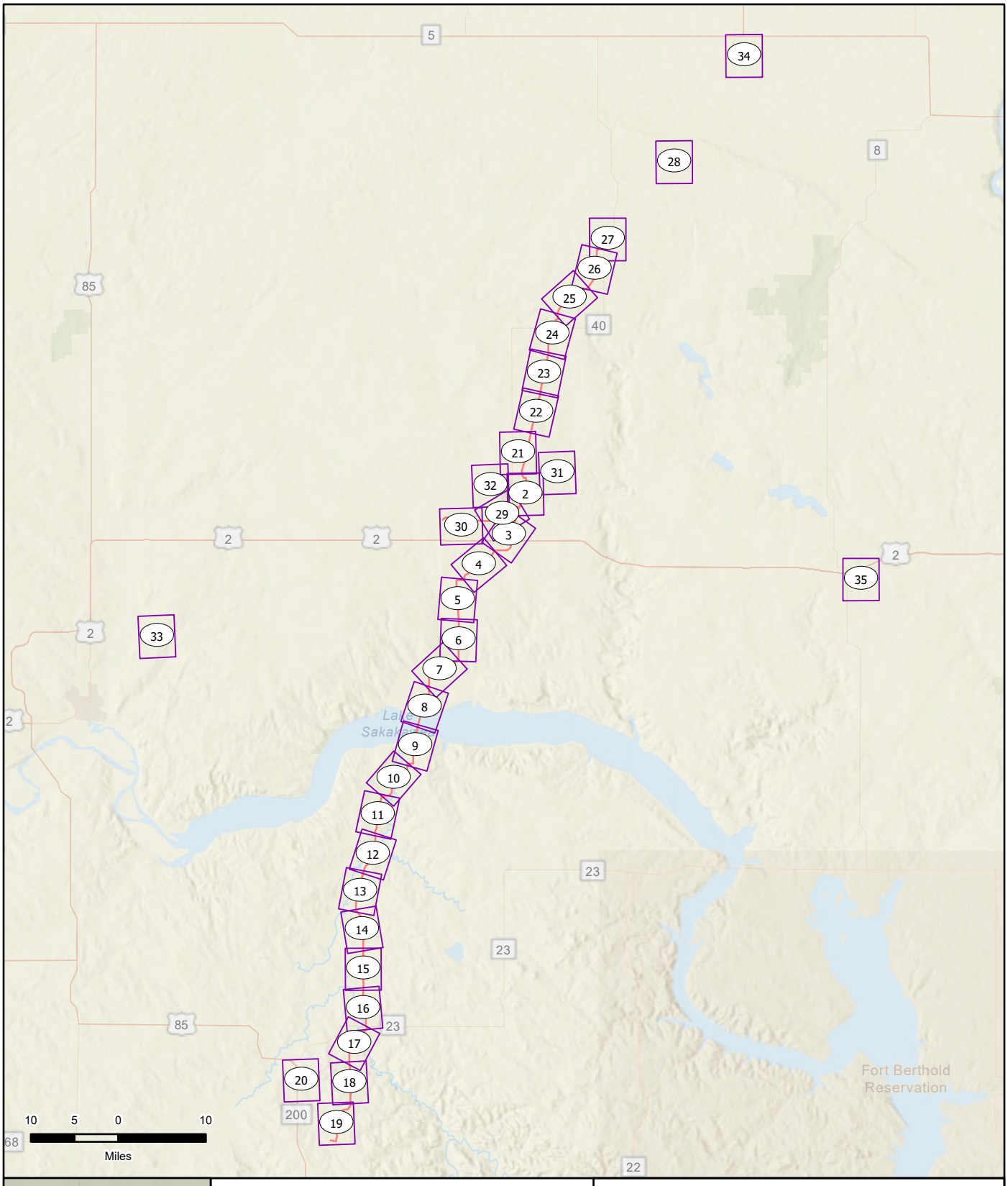
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NORTH BAKKEN EXPANSION PROJECT

Resource Report 1

APPENDIX 1A
Project Route Maps (Topographic)



Appendix A Sheet Page

Preliminary Route

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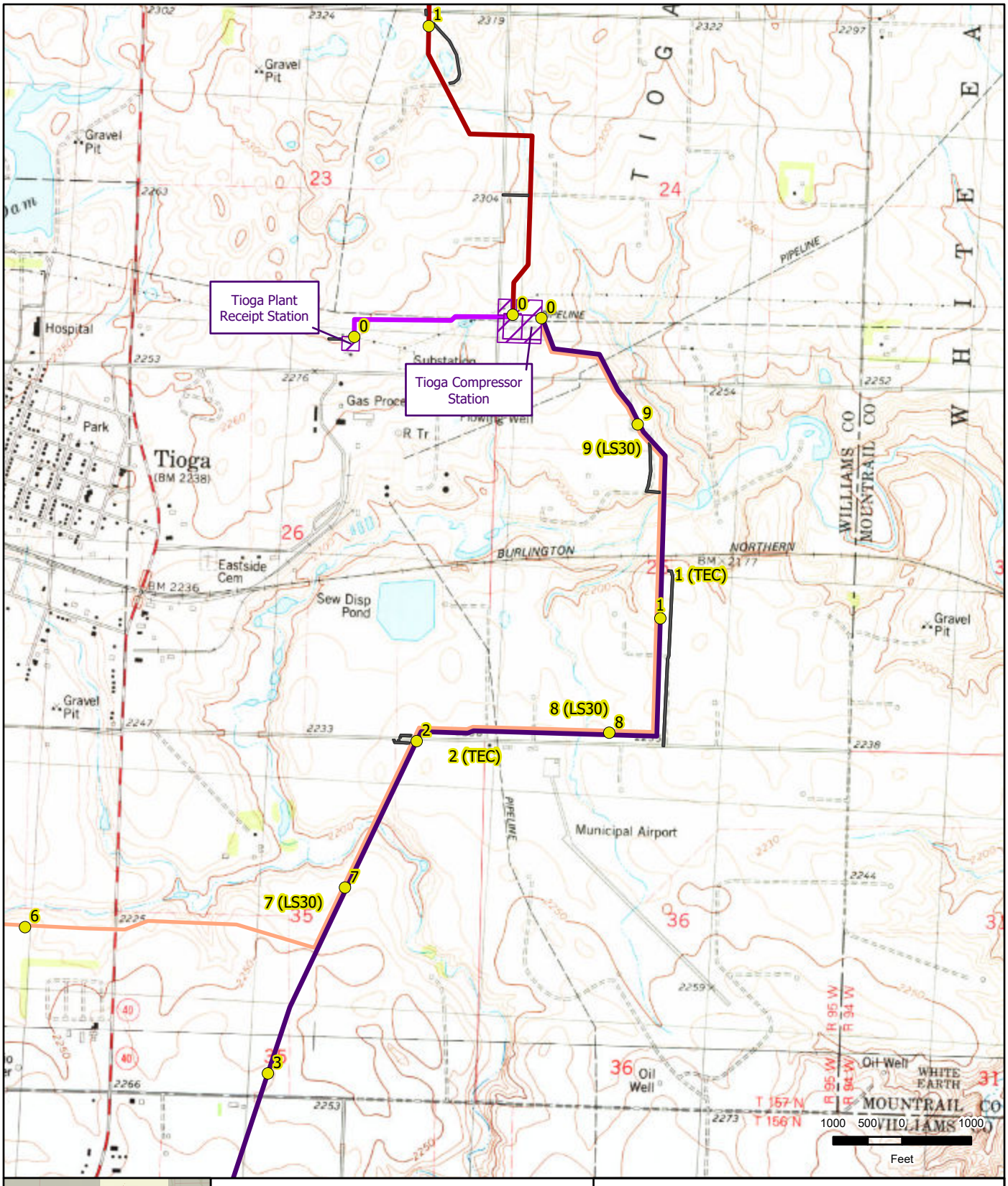
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Appendix 1A
North Bakken Expansion Project
Project Route Maps
Sheet 01 of 35

WBI ENERGY TRANSMISSION
An MDU Resources Group company

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- Milepost
- Proposed Line Section 25 Loop
- Proposed Line Section 30 Loop
- Proposed Tioga-Elkhorn Creek
- Proposed Tioga Compressor Lateral
- Aboveground Facility
- Access Road

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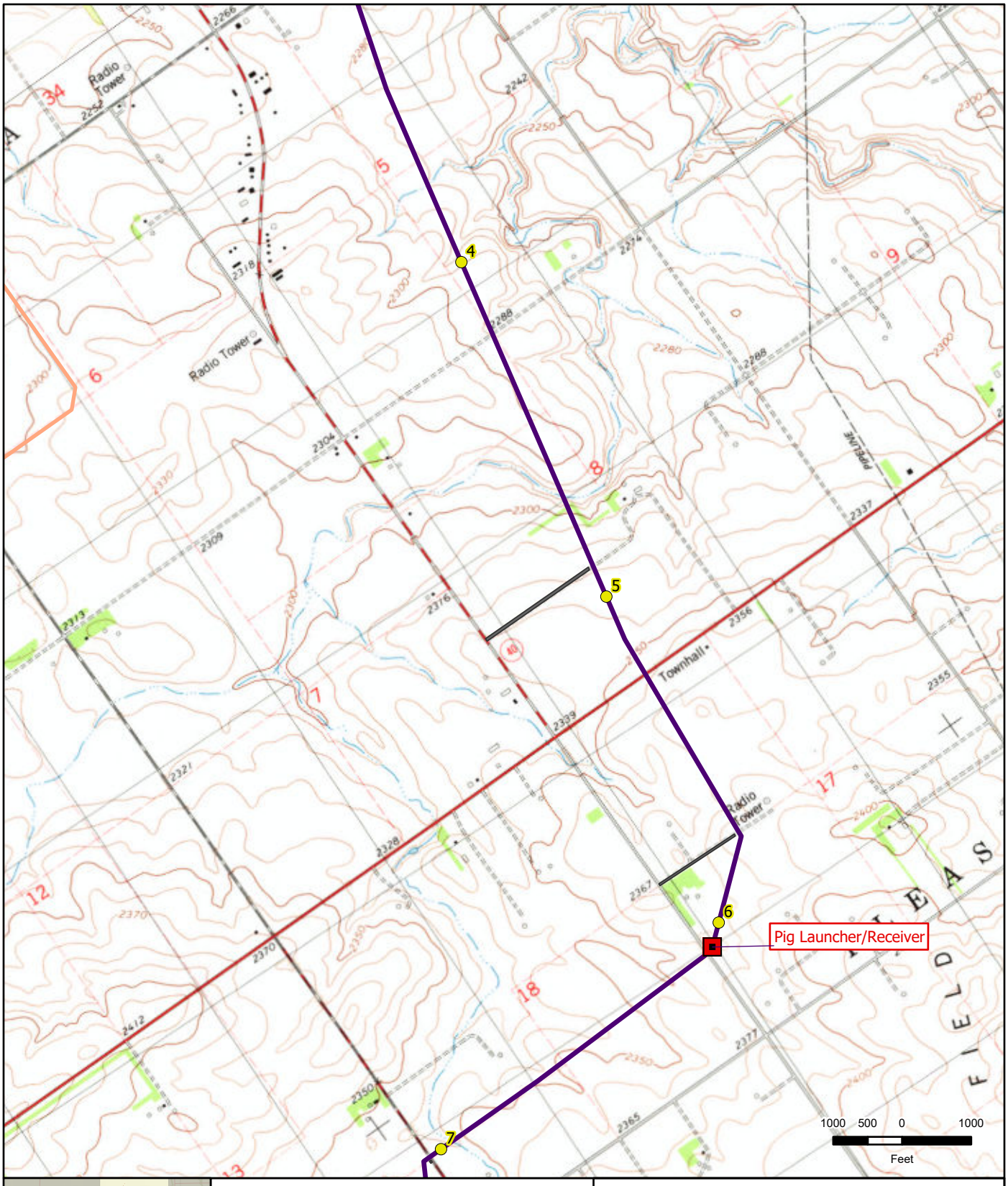
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Appendix 1A
North Bakken Expansion Project
Project Route Maps
Sheet 02 of 35

WBI ENERGY TRANSMISSION
An MDU Resources Group company

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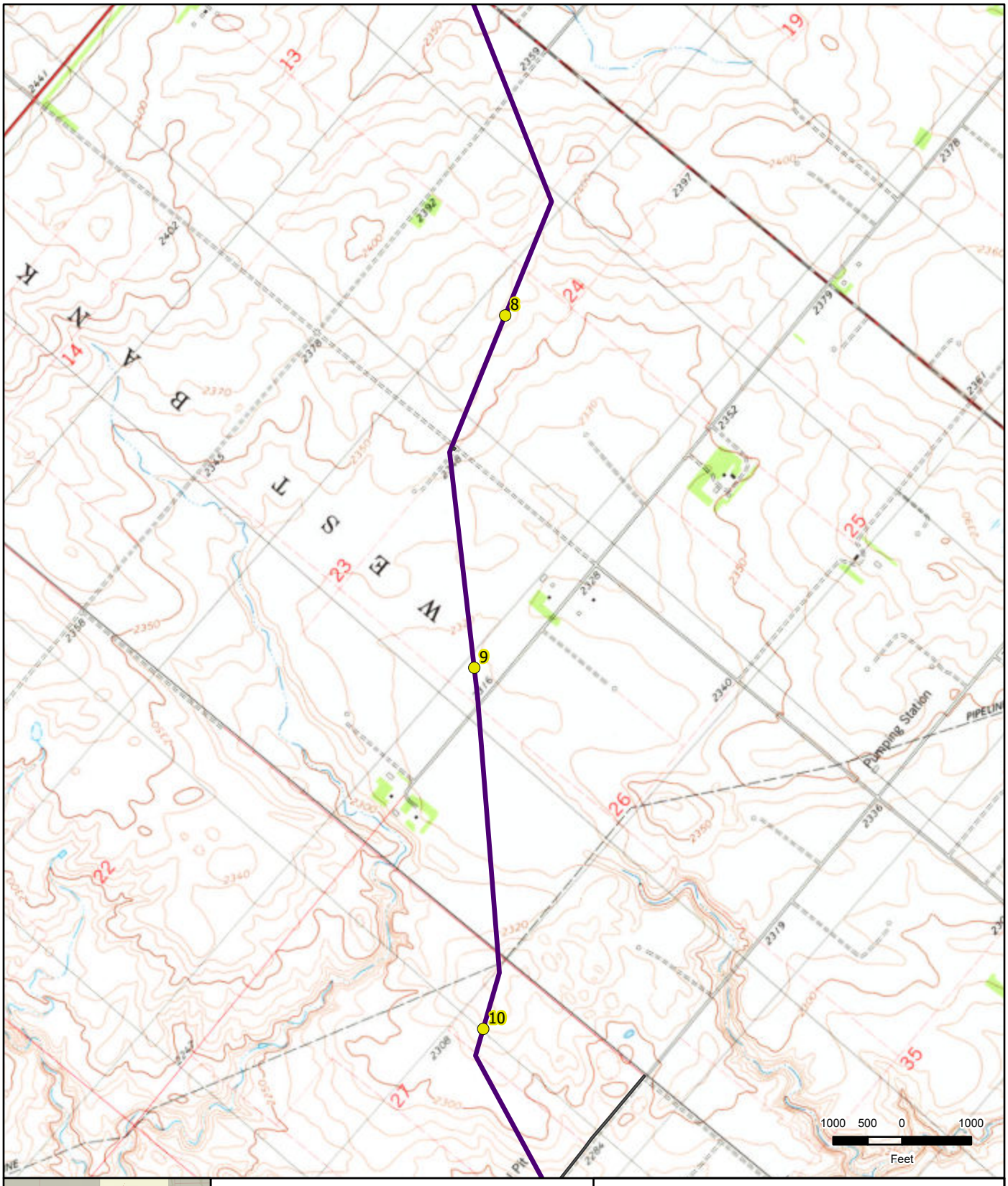


Appendix 1A
North Bakken Expansion Project
Project Route Maps
Sheet 03 of 35

WBI ENERGY TRANSMISSION
An MDU Resources Group company

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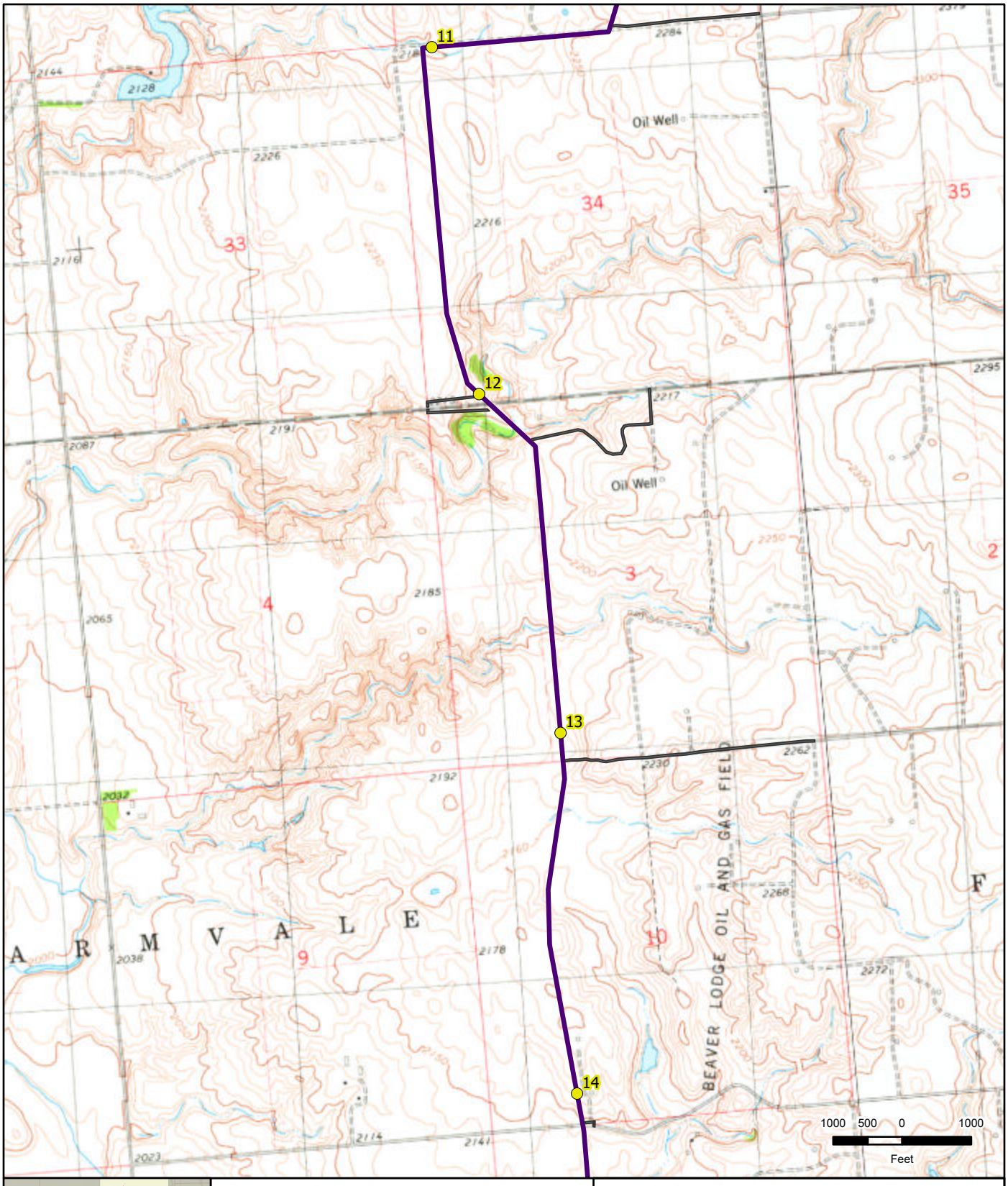


Appendix 1A
North Bakken Expansion Project
Project Route Maps
Sheet 04 of 35

WBI ENERGY TRANSMISSION
An MDU Resources Group company

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Milepost
Proposed Tioga-Elkhorn Creek
Access Road

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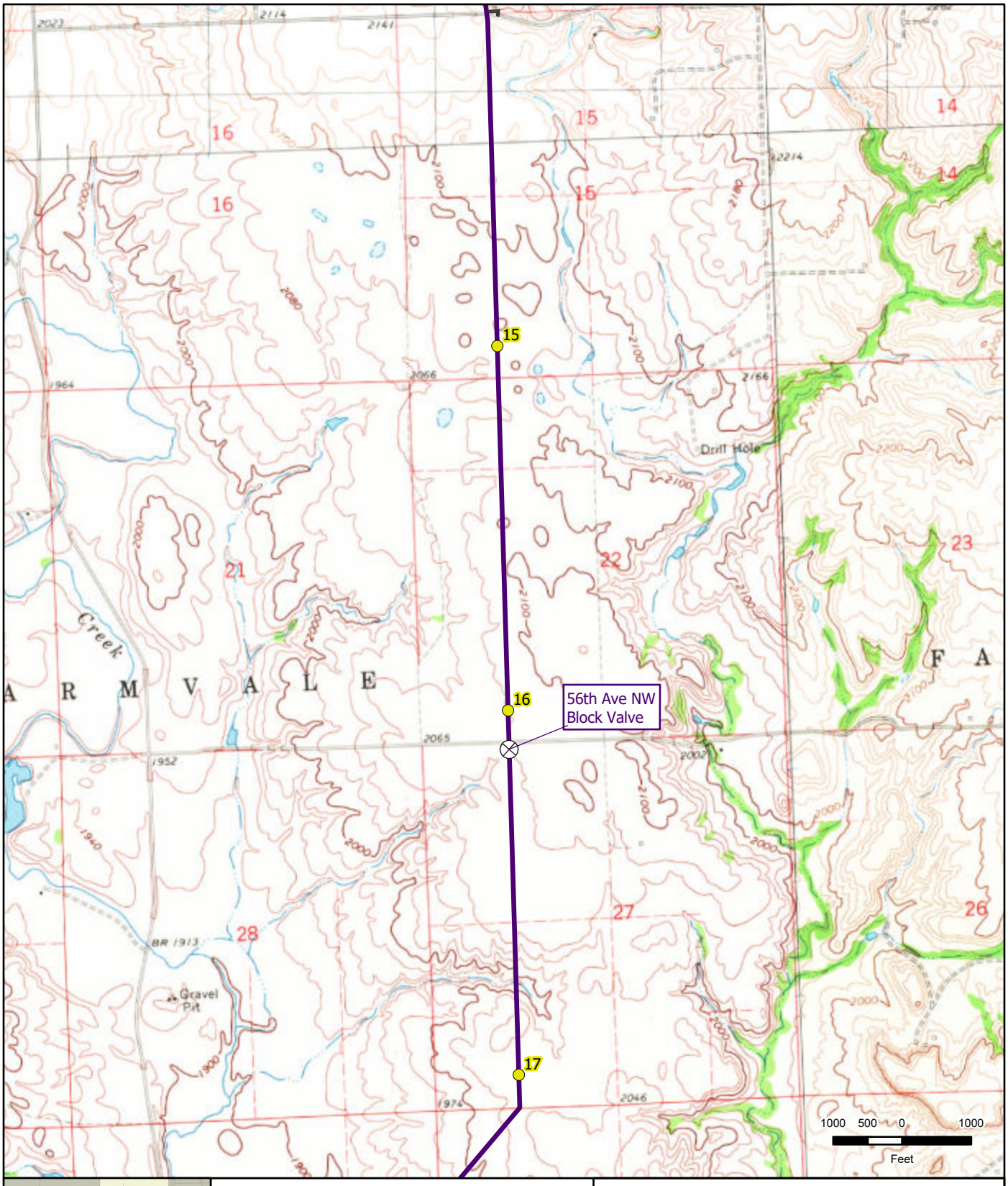
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Appendix 1A
North Bakken Expansion Project
Project Route Maps
Sheet 05 of 35

WBI ENERGY TRANSMISSION
An MDU Resources Group company

File: M:\Clients\V-X\WBI\North_Bakken_Expansion_ArcGIS\FERC_ResourceReportMaps_FERC_RR_FERC_RR.aprx | Revised: 1/7/2020

Drawn By: RJC

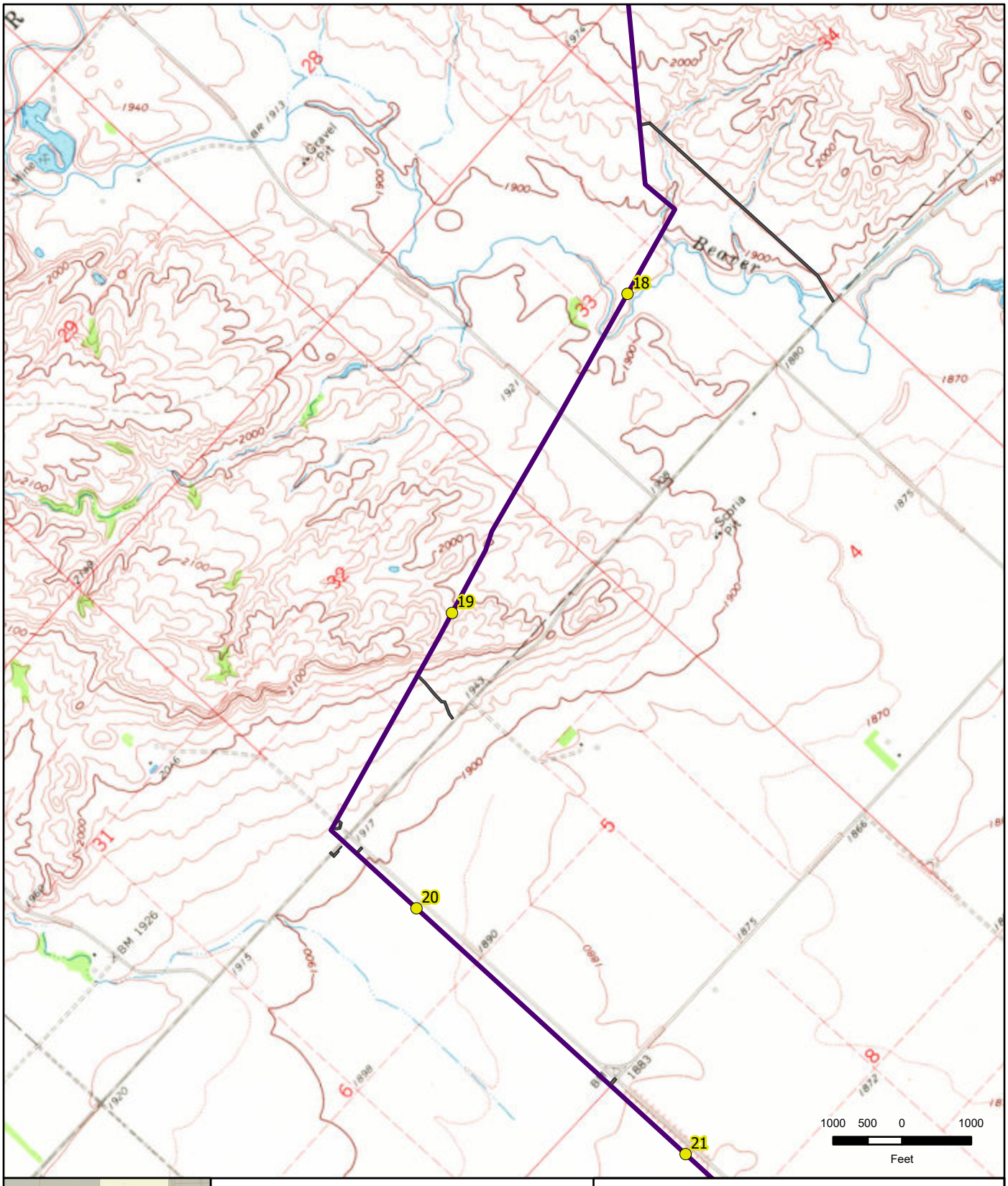


Appendix 1A
North Bakken Expansion Project
Project Route Maps
Sheet 06 of 35

WBI ENERGY TRANSMISSION
An MDU Resources Group company

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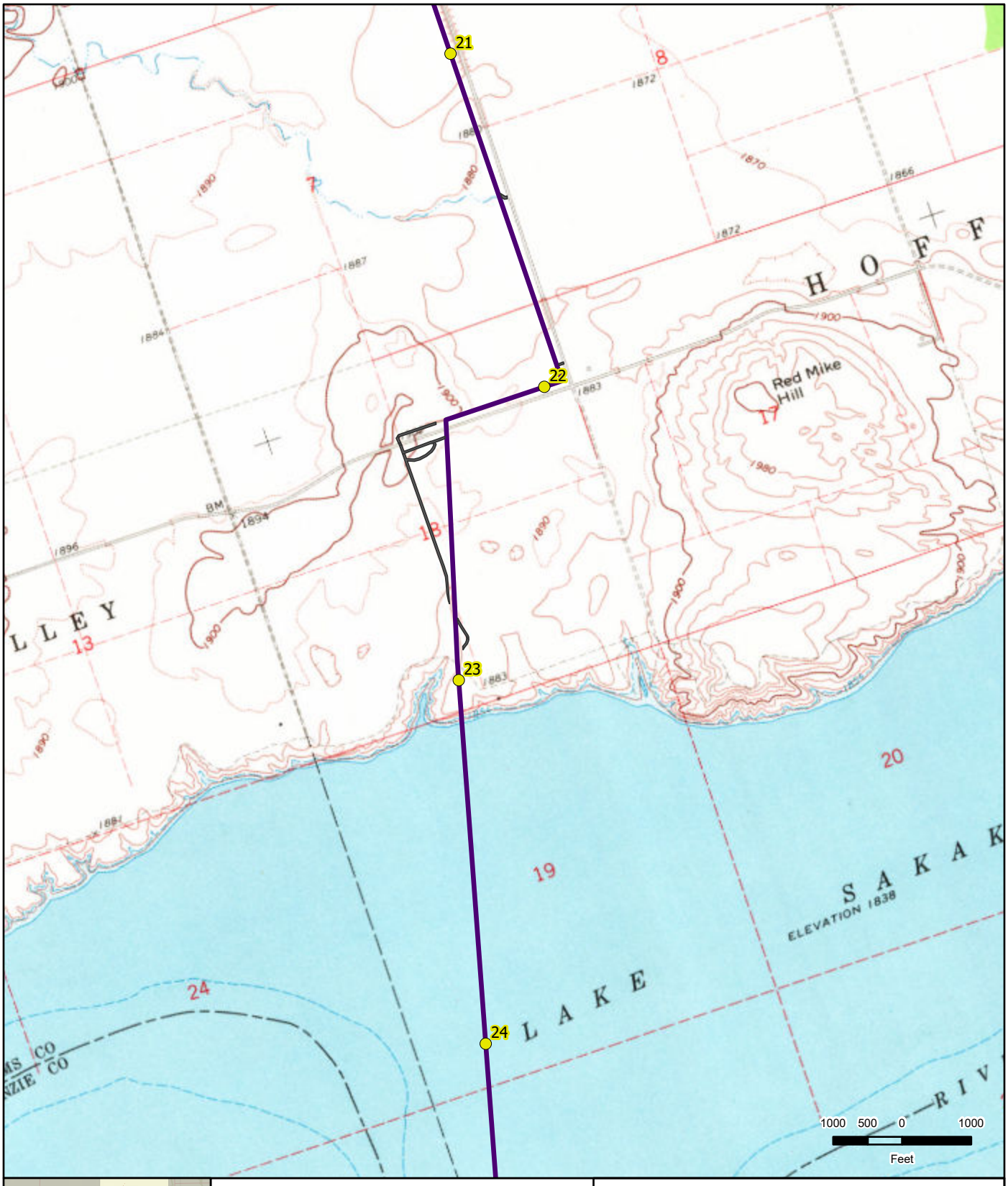


Appendix 1A
North Bakken Expansion Project
Project Route Maps
Sheet 07 of 35

WBI ENERGY TRANSMISSION
An MDU Resources Group company

File: M:\Clients\V-X\WBI\North_Bakken_Expansion_ArcGIS\FERC_ResourceReportMaps_FERC_RR_FERC_RR.aprx | Revised: 1/7/2020

Drawn By: RJC



Appendix 1A
North Bakken Expansion Project
Project Route Maps
Sheet 08 of 35

WBI ENERGY TRANSMISSION
An MDU Resources Group company

File: M:\Clients\V-X\WBI\North_Bakken_Expansion_ArcGIS\FERC_ResourceReportMaps_FERC_RR_FERC_RR.aprx | Revised: 1/7/2020

Drawn By: RJC





Milepost
Valve Site
Proposed Tioga-Elkhorn Creek
Access Road

N
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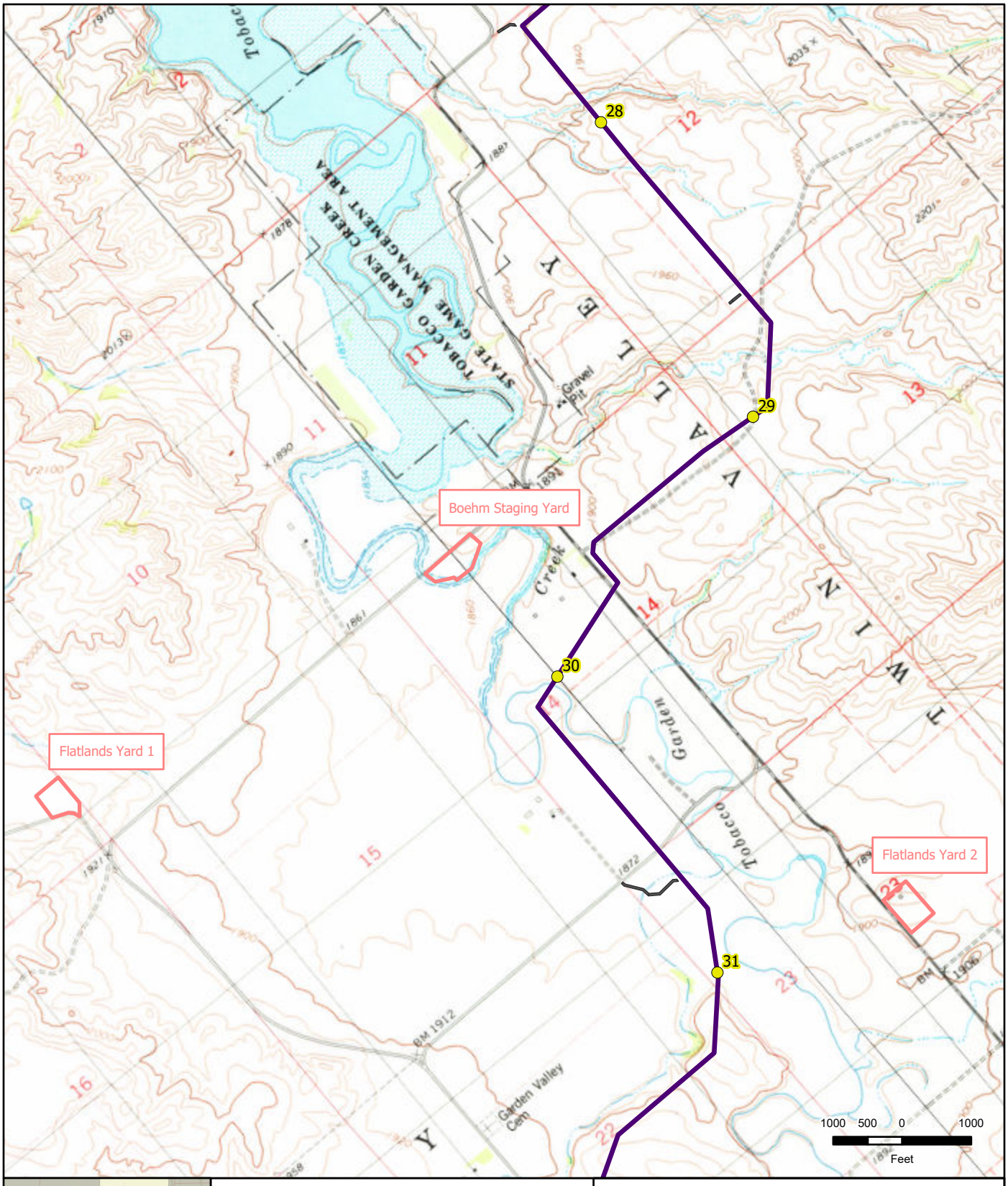
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Appendix 1A
North Bakken Expansion Project
Project Route Maps
Sheet 09 of 35

WBI ENERGY TRANSMISSION
An MDU Resources Group company

File: M:\Clients\V-X\WBI\North_Bakken_Expansion_ArcGIS\FERC_ResourceReportMaps_FERC_RR_FERC_RR.aprx | Revised: 1/7/2020

Drawn By: RJC





- Milepost
- Proposed Tioga-Elkhorn Creek
- Staging Area
- Access Road

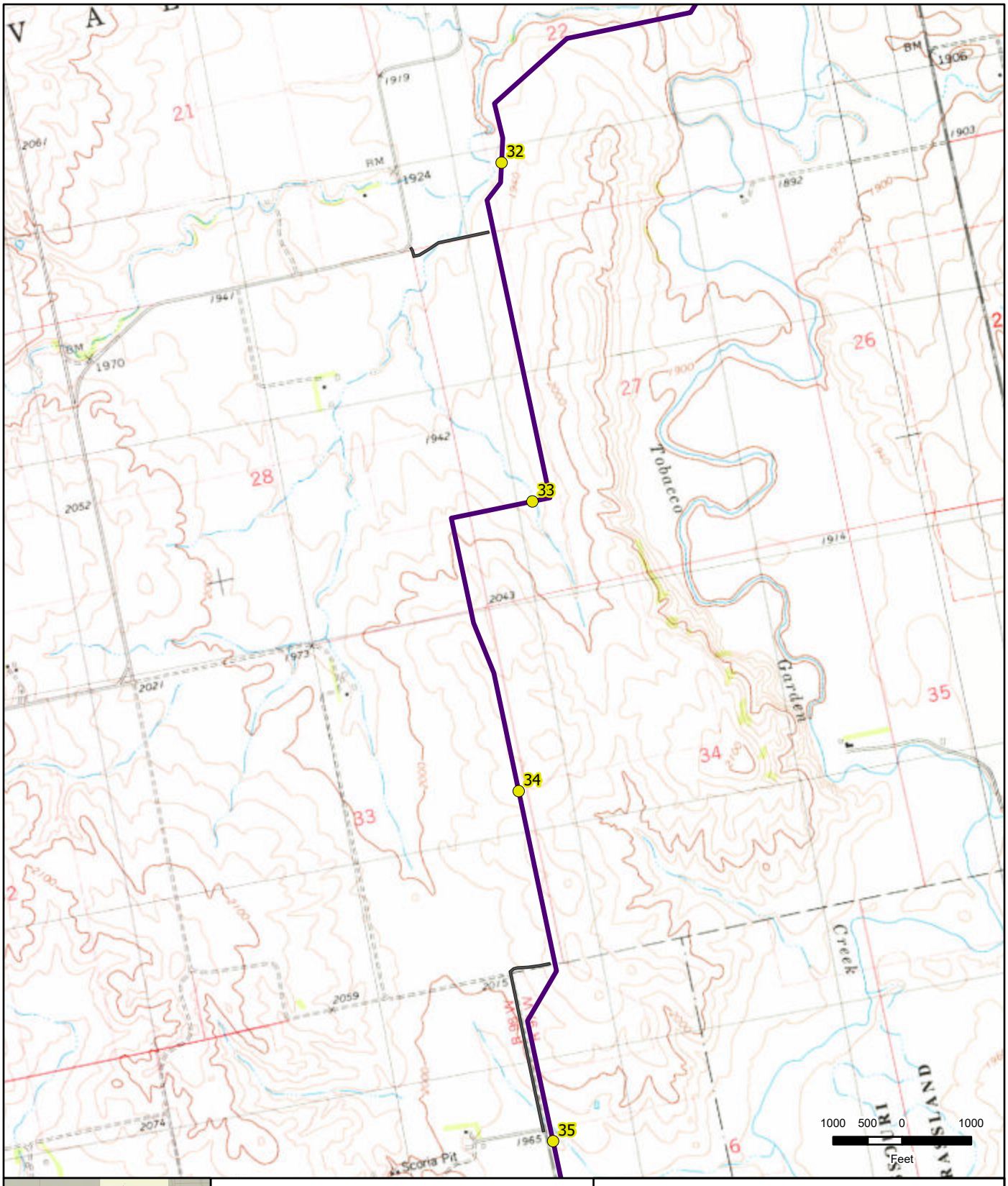
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Appendix 1A
North Bakken Expansion Project
Project Route Maps
Sheet 10 of 35

WBI ENERGY TRANSMISSION
An MDU Resources Group company

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Drawn By: RJC





Milepost
Proposed Tioga-Elkhorn Creek
Access Road

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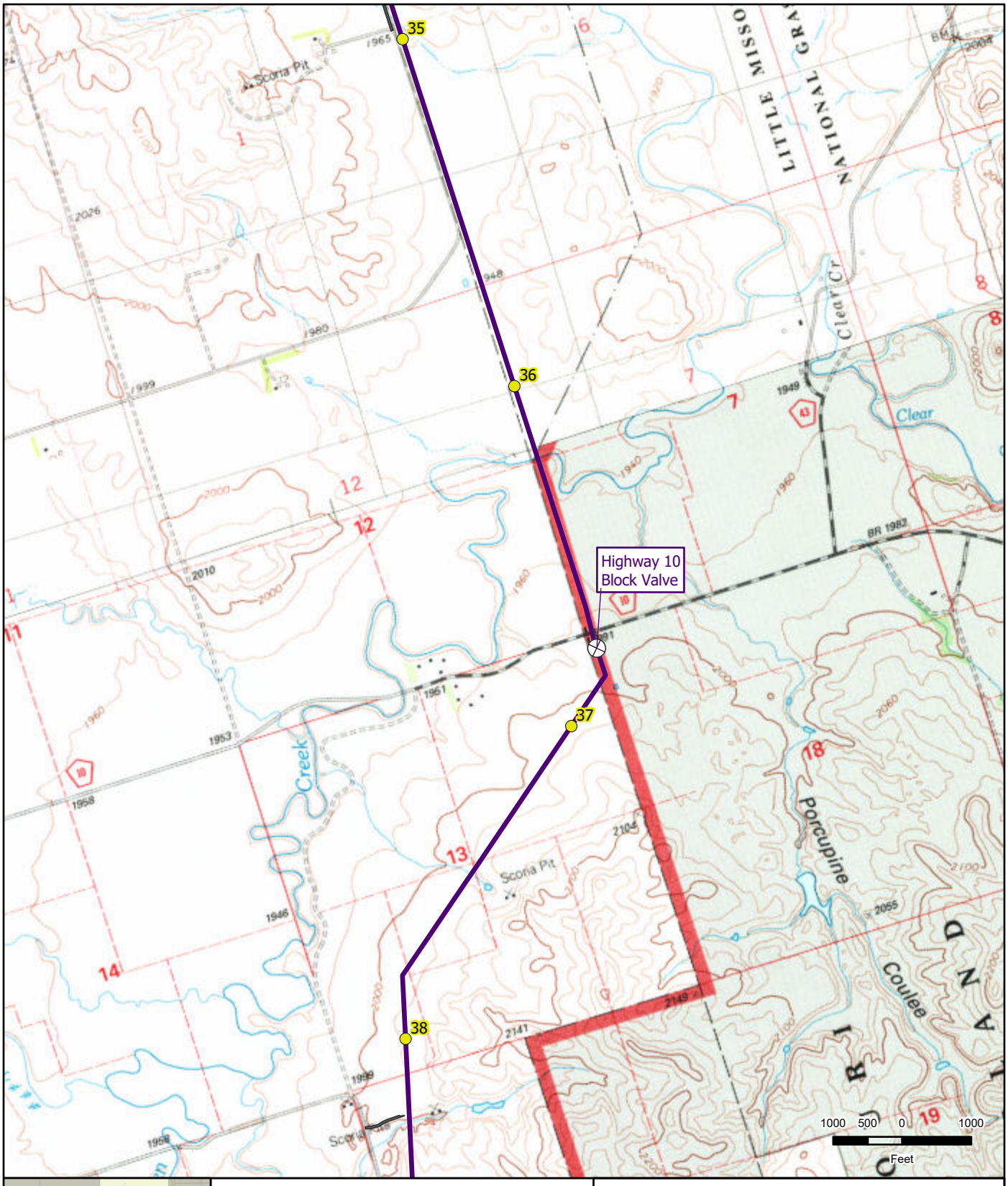
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Appendix 1A
North Bakken Expansion Project
Project Route Maps
Sheet 11 of 35

WBI ENERGY TRANSMISSION
An MDU Resources Group company

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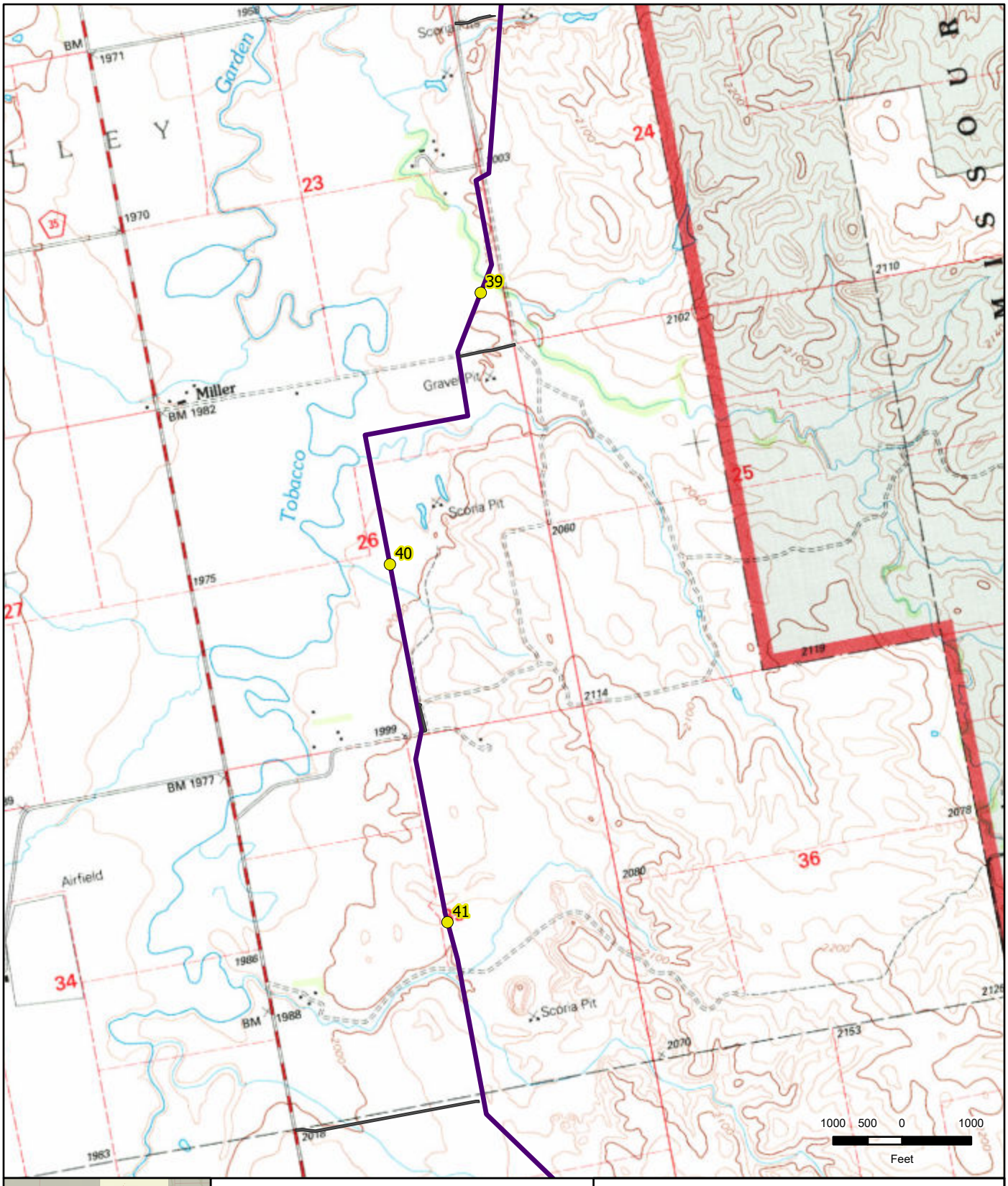


Appendix 1A
North Bakken Expansion Project
Project Route Maps
Sheet 12 of 35

WBI ENERGY TRANSMISSION
An MDU Resources Group company

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Drawn By: RJC





Milepost
Proposed Tioga-Elkhorn Creek
Access Road

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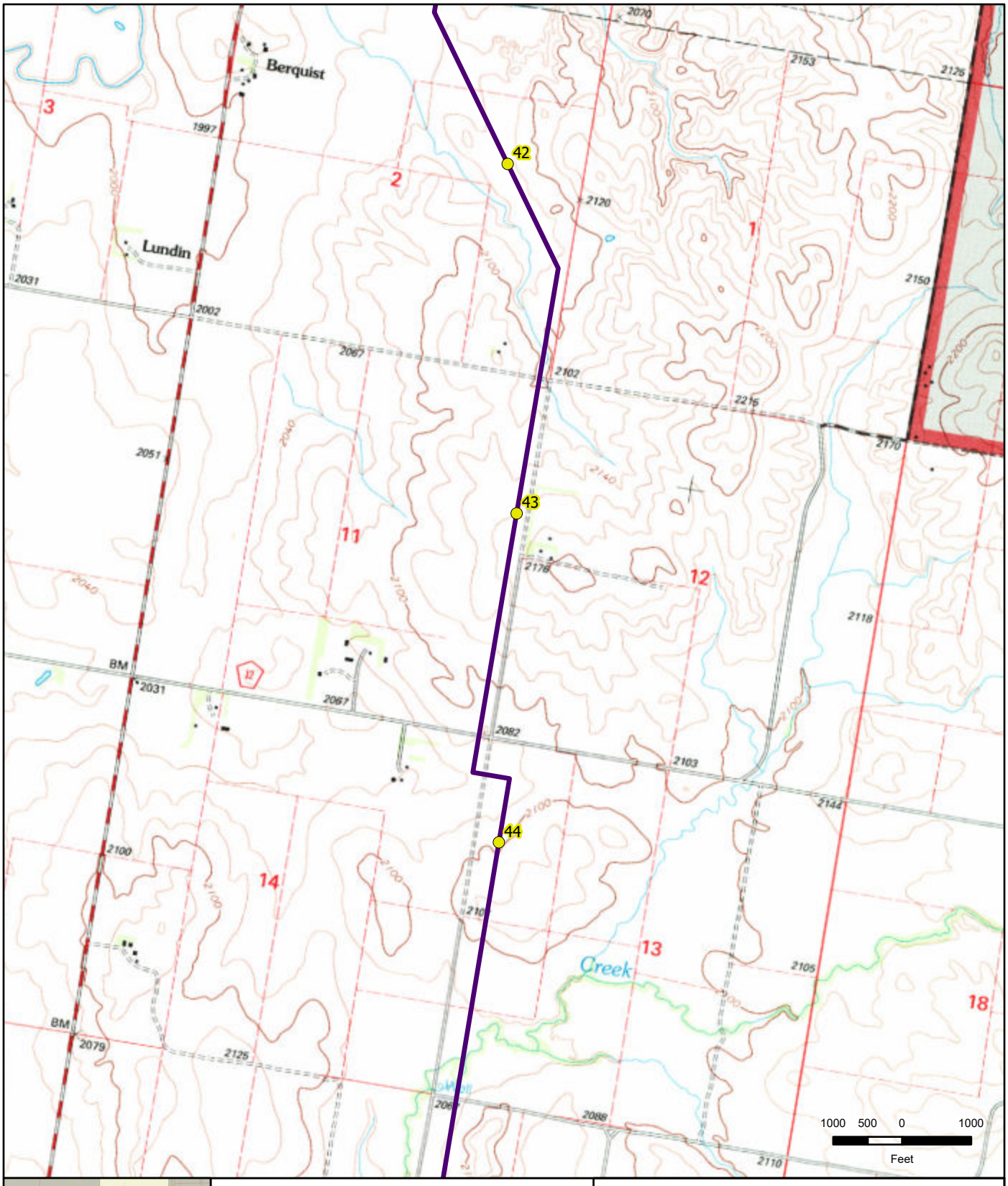
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Appendix 1A
North Bakken Expansion Project
Project Route Maps
Sheet 13 of 35

WBI ENERGY TRANSMISSION
An MDU Resources Group company

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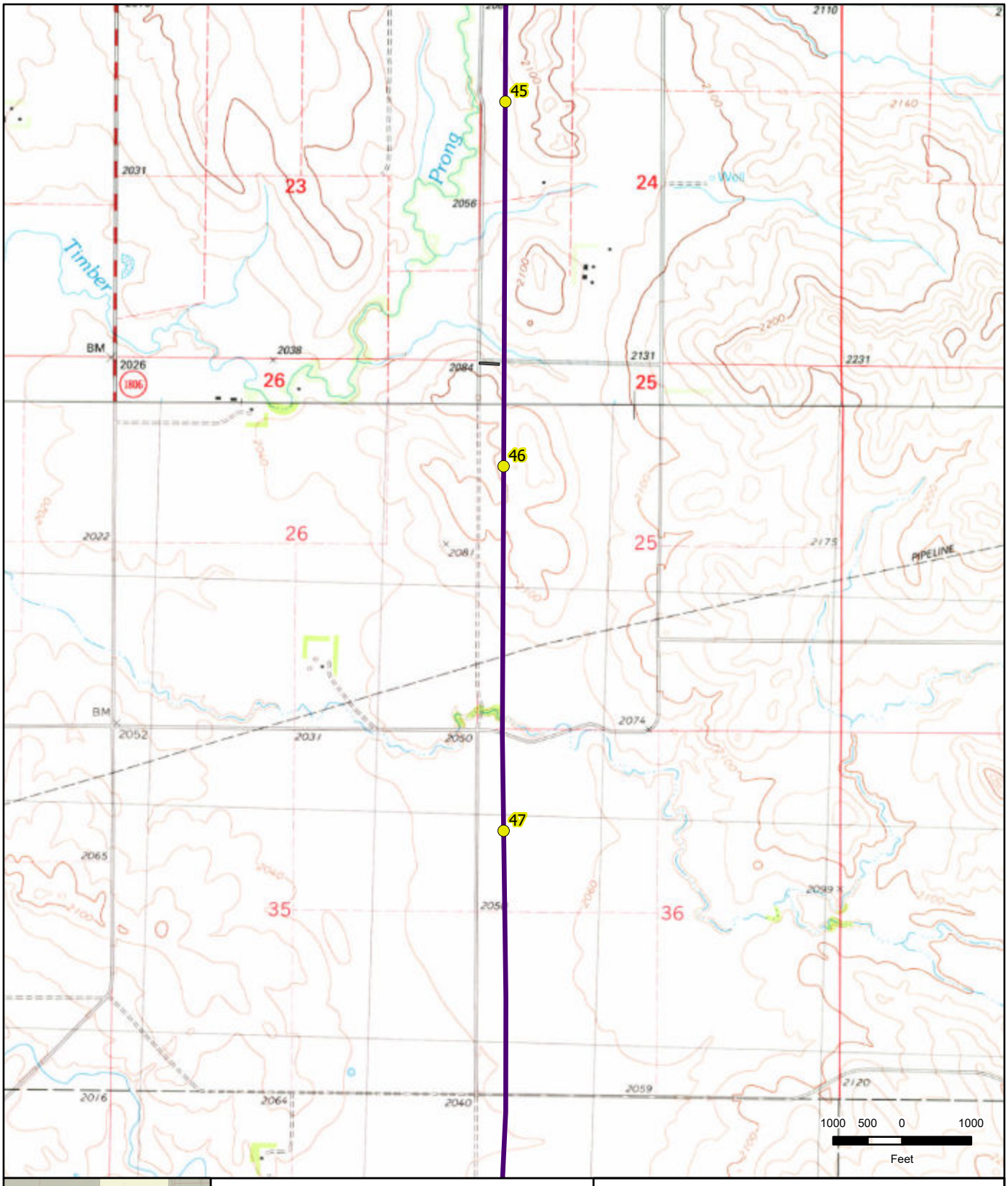


Appendix 1A
North Bakken Expansion Project
Project Route Maps
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WBI ENERGY TRANSMISSION
An MDU Resources Group company

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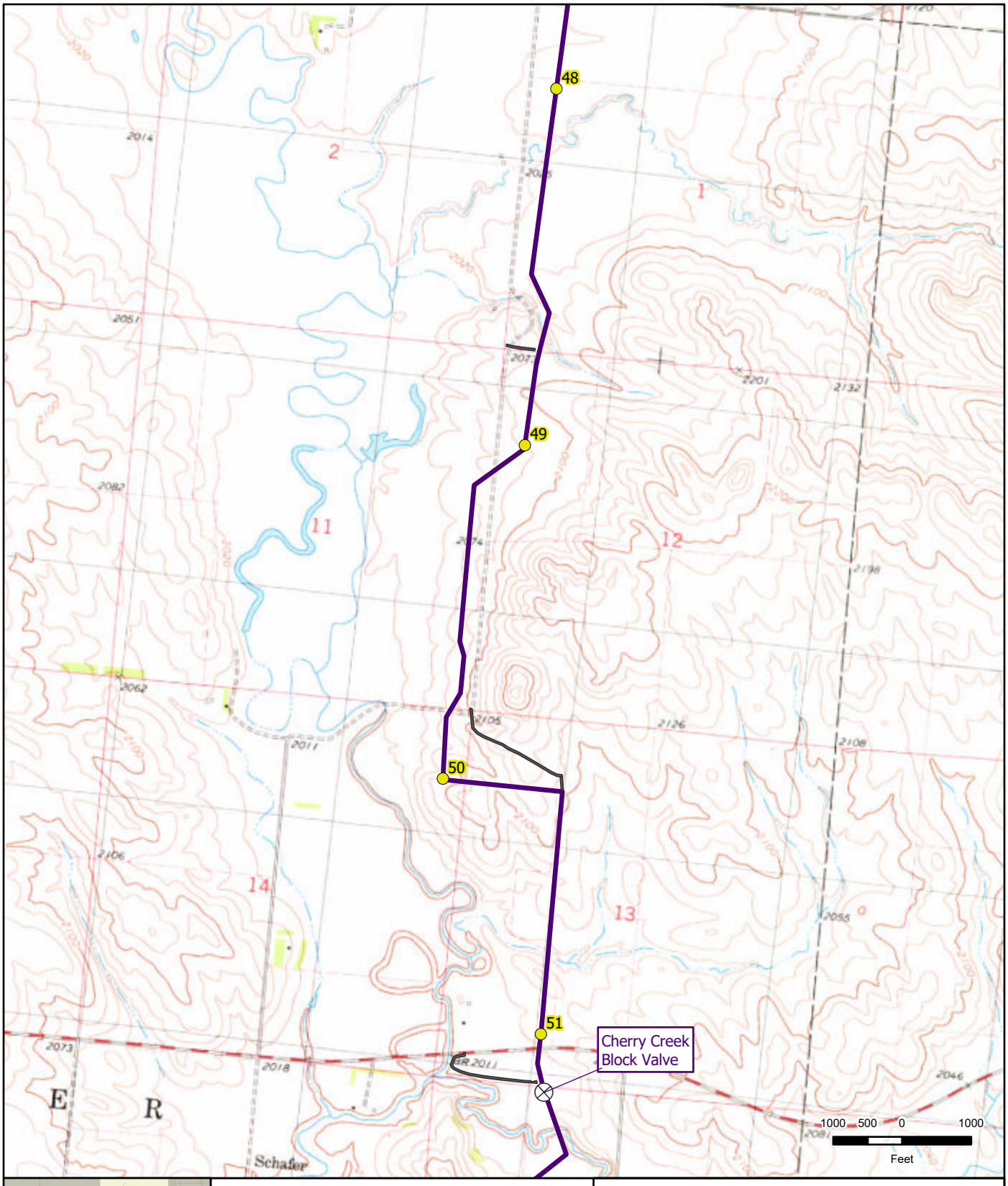


Appendix 1A
North Bakken Expansion Project
Project Route Maps
Sheet 15 of 35

WBI ENERGY TRANSMISSION
An MDU Resources Group company

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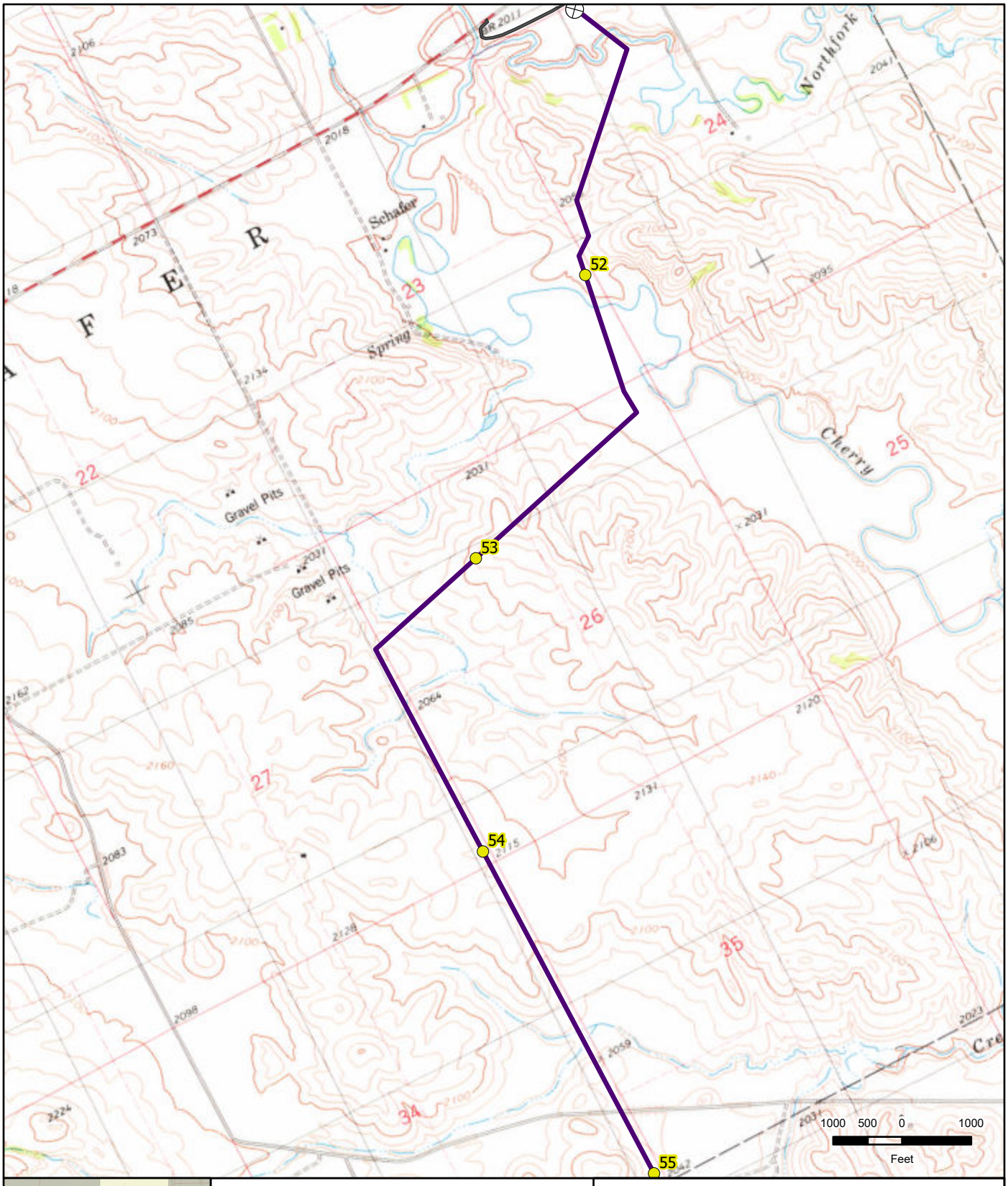


Appendix 1A
North Bakken Expansion Project
Project Route Maps
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WBI ENERGY TRANSMISSION
An MDU Resources Group company

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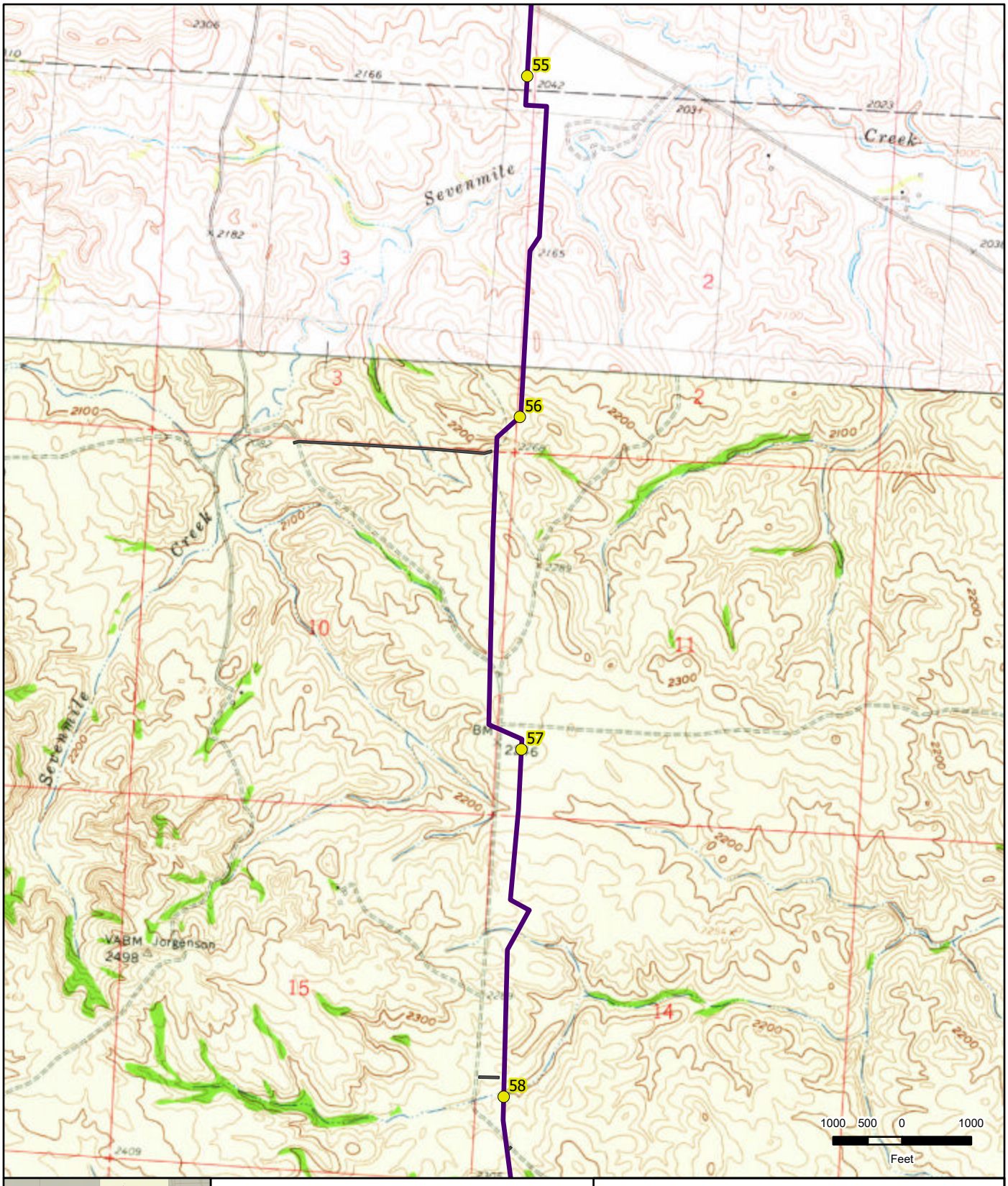


Appendix 1A
North Bakken Expansion Project
Project Route Maps
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WBI ENERGY TRANSMISSION
An MDU Resources Group company

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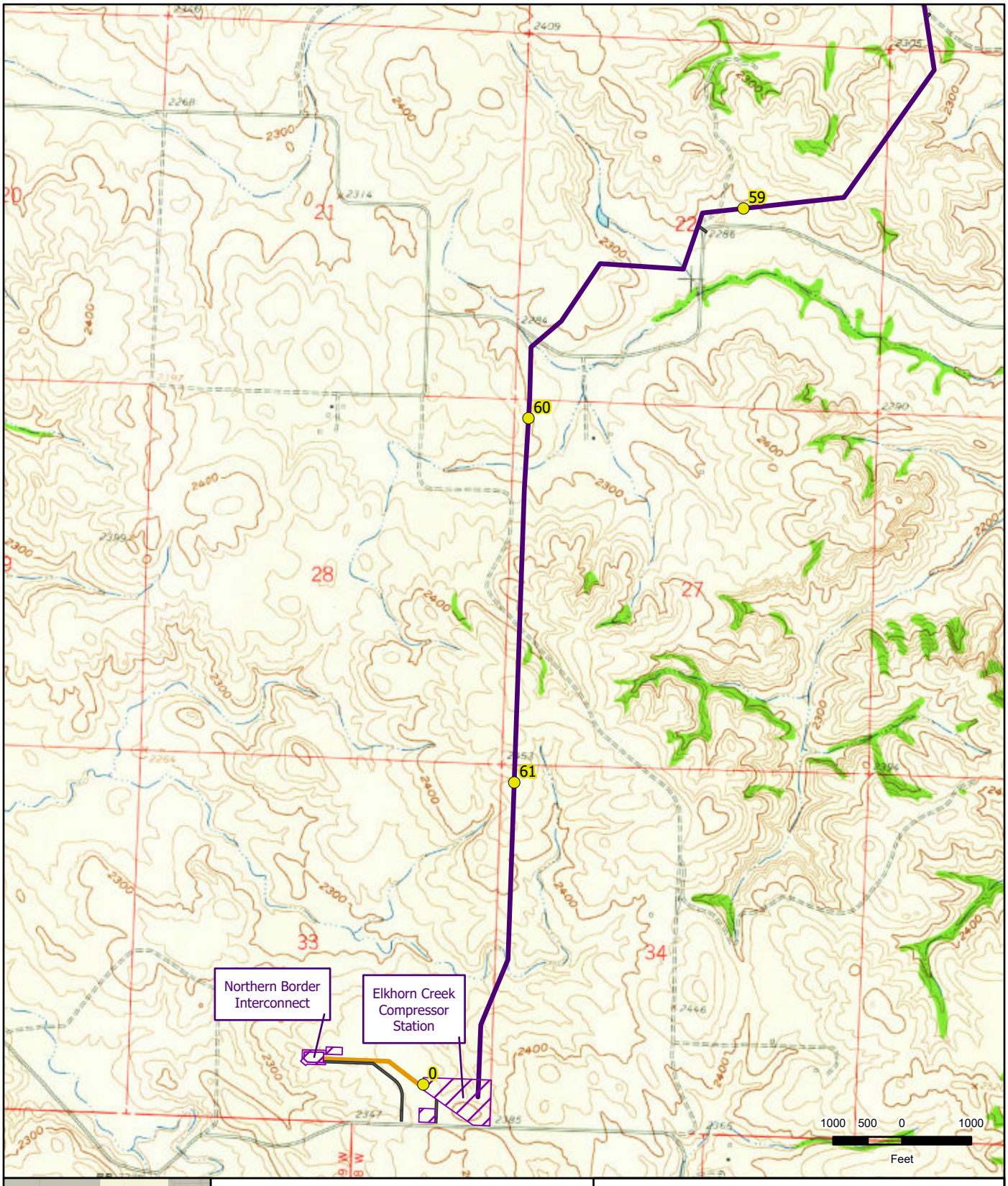


Appendix 1A
North Bakken Expansion Project
Project Route Maps
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WBI ENERGY TRANSMISSION
An MDU Resources Group company

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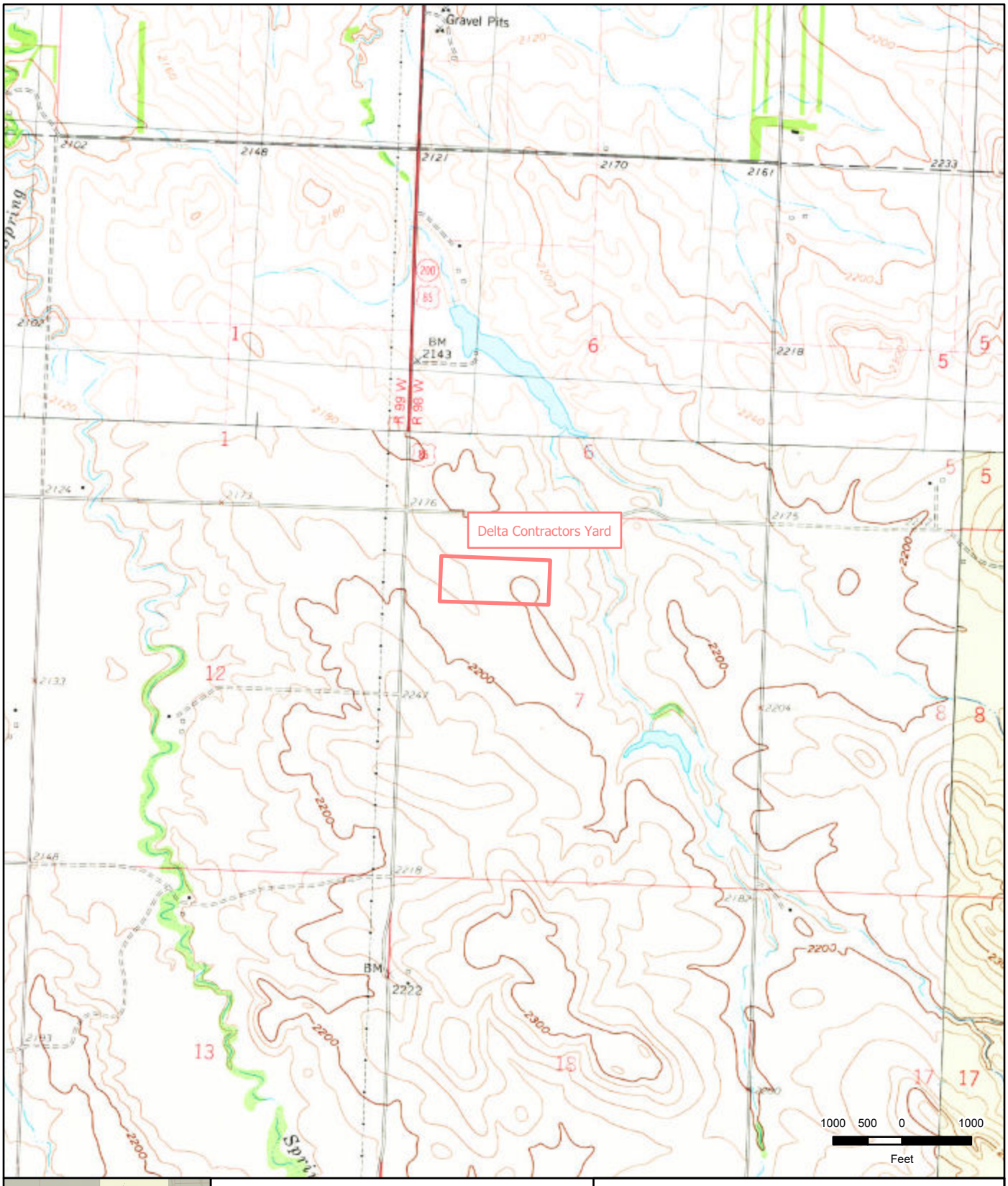


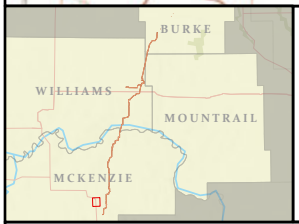
Appendix 1A
North Bakken Expansion Project
Project Route Maps
Sheet 19 of 35

WBI ENERGY TRANSMISSION
An MDU Resources Group company

File: M:\Clients\V-X\WBI\North_Bakken_Expansion_ArcGIS\FERC_ResourceReportMaps_FERC_RR_FERC_RR.aprx | Revised: 1/16/2020

Drawn By: RJC





Staging Area

N
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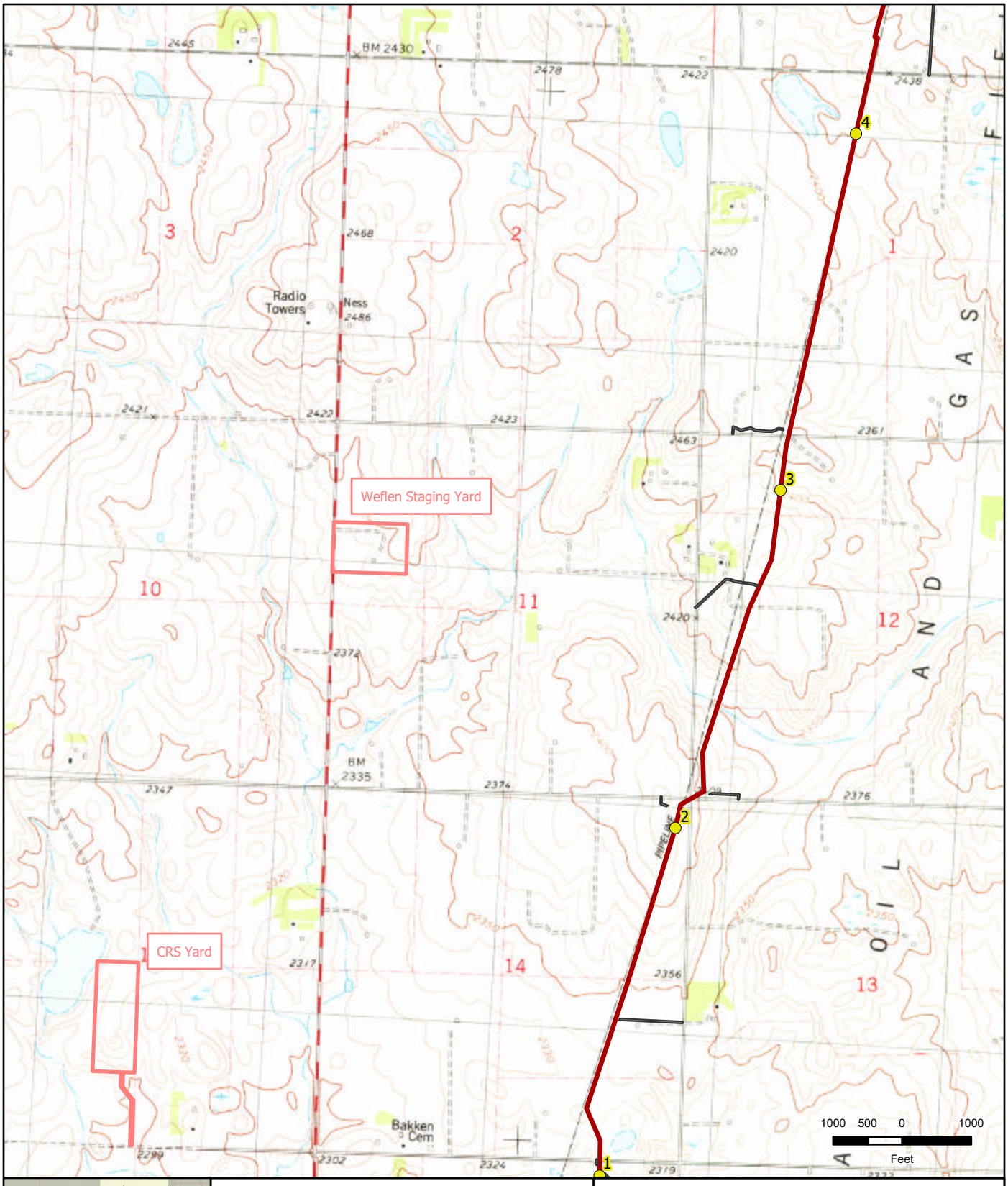
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Appendix 1A
North Bakken Expansion Project
Project Route Maps
Sheet 20 of 35

WBI ENERGY TRANSMISSION
An MDU Resources Group company

File: M:\Clients\V-X\WBI\North_Bakken_Expansion_ArcGIS\FERC_ResourceReportMaps_FERC_RR_FERC_RR.aprx | Revised: 1/7/2020

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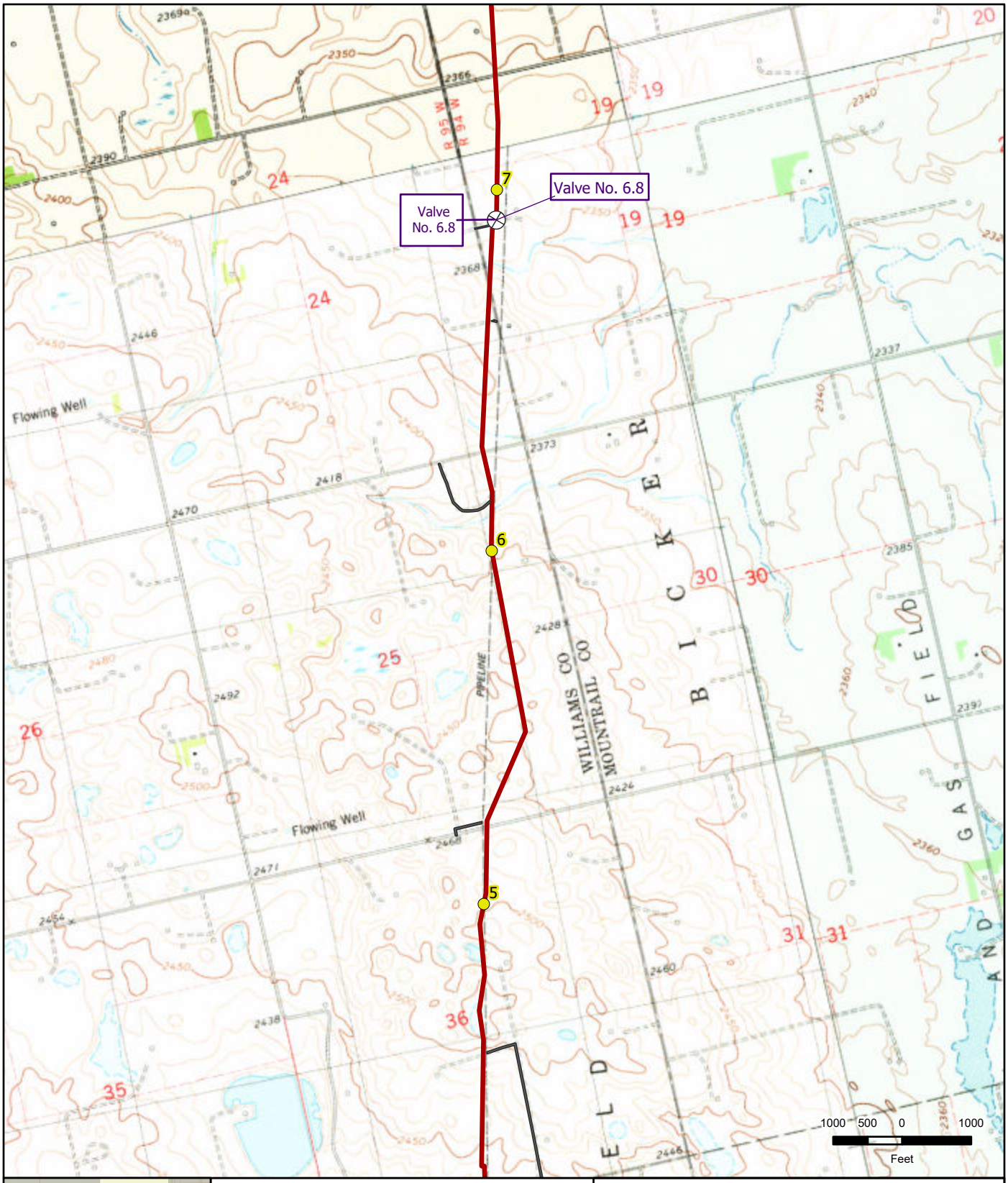


Appendix 1A
North Bakken Expansion Project
Project Route Maps
Sheet 21 of 35

WBI ENERGY TRANSMISSION
An MDU Resources Group company

File: M:\Clients\V-X\WBI\North_Bakken_Expansion_ArcGIS\FERC_ResourceReportMaps_FERC_RR_FERC_RR.aprx | Revised: 1/7/2020

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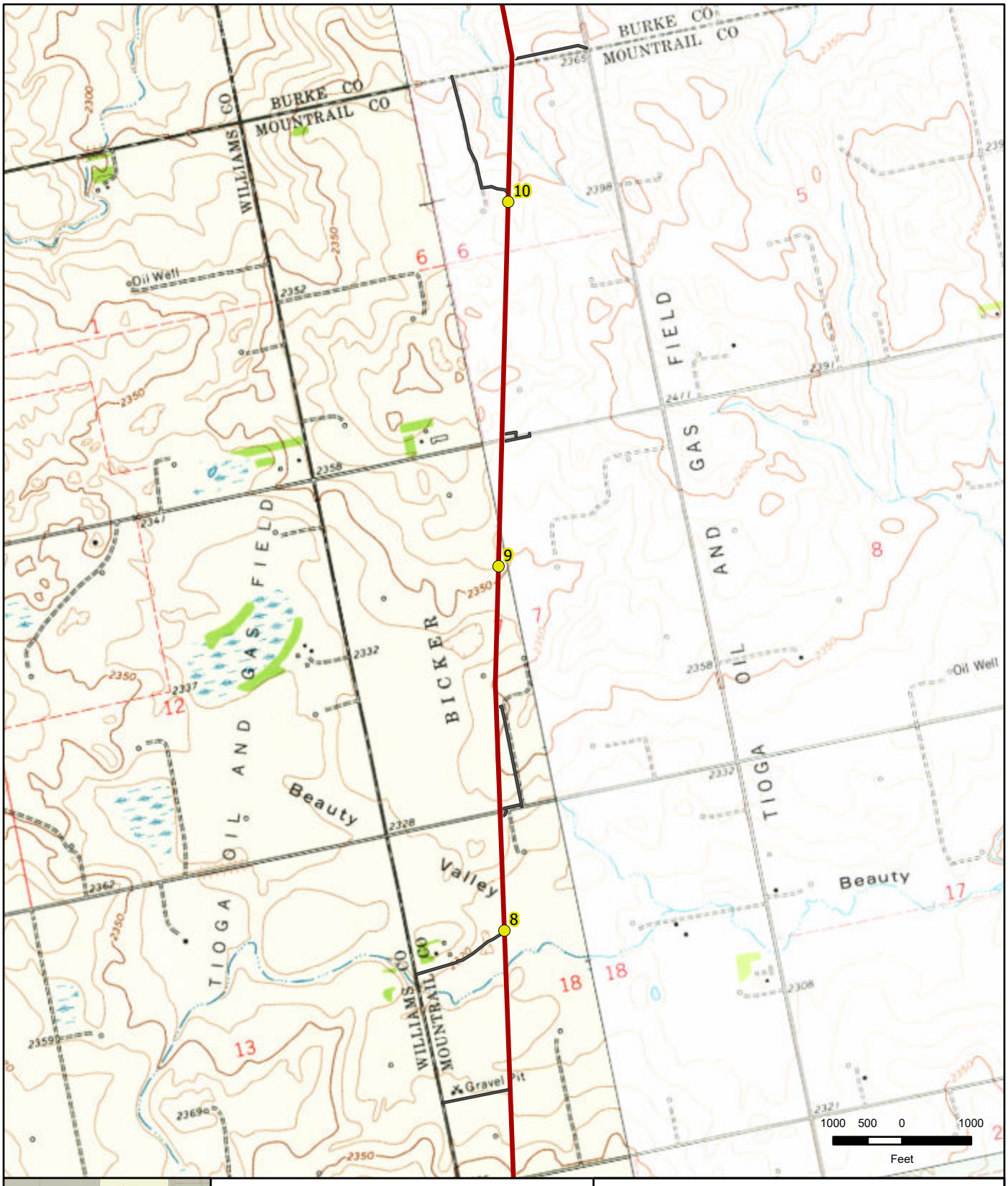


Appendix 1A
North Bakken Expansion Project
Project Route Maps
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WBI ENERGY TRANSMISSION
An MDU Resources Group company

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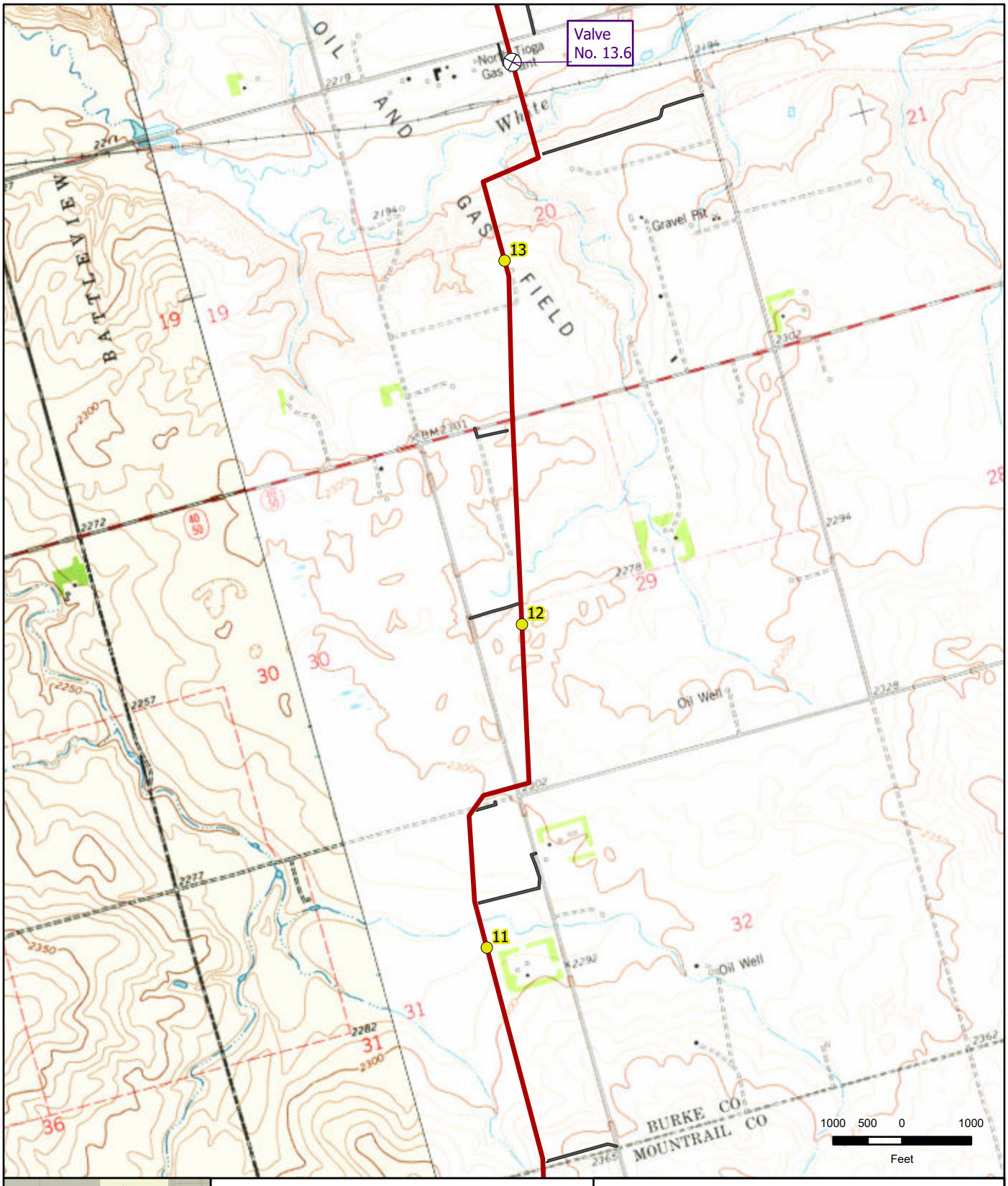
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Appendix 1A
North Bakken Expansion Project
Project Route Maps
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WBI ENERGY TRANSMISSION
An MDU Resources Group company

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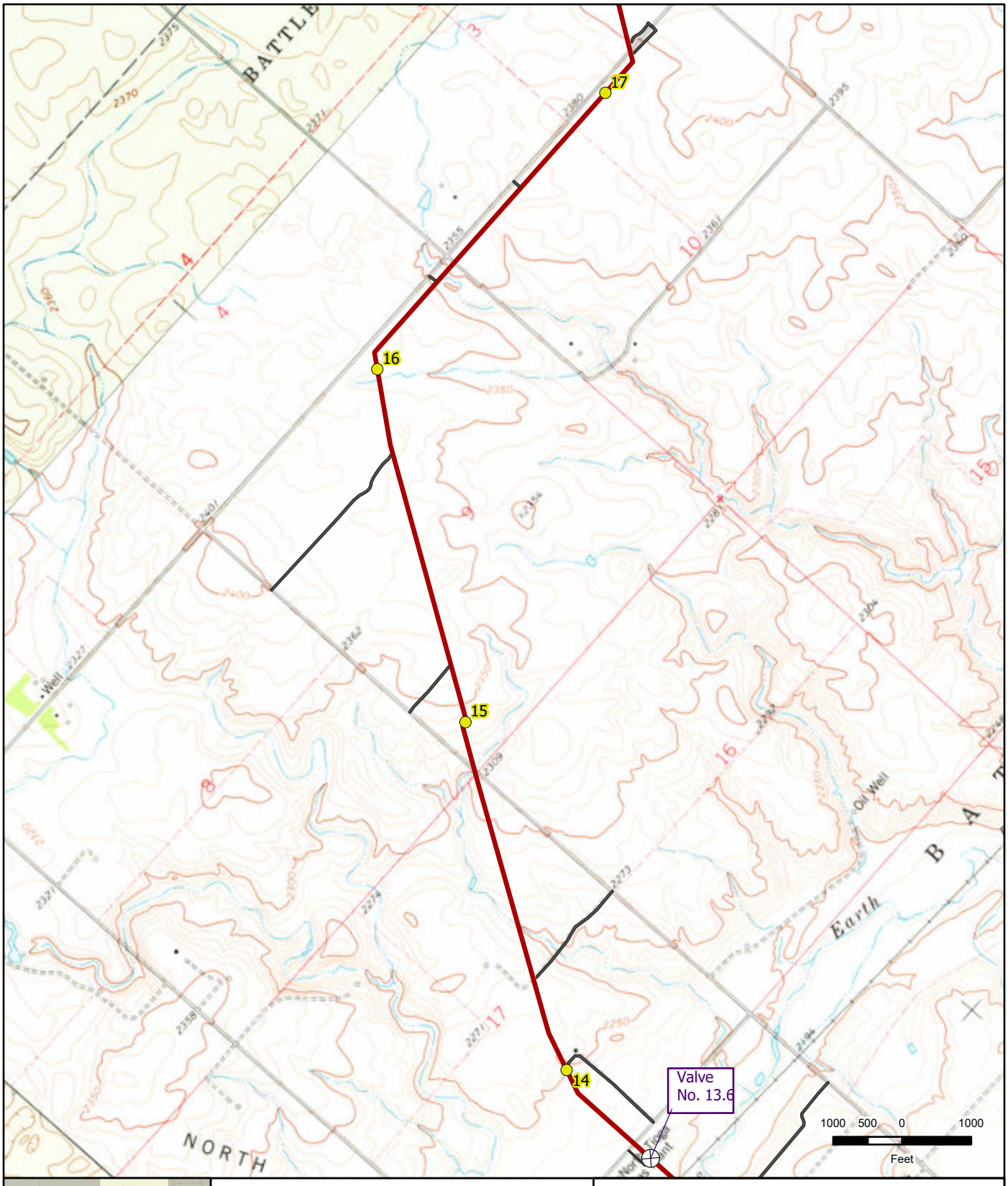
- Milepost
- Valve Site
- Proposed Line Section 25 Loop
- Access Road

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Appendix 1A
North Bakken Expansion Project
Project Route Maps
Sheet 24 of 35

WBI ENERGY TRANSMISSION
An MDU Resources Group company

File: M:\Clients\V-X\WBI\North_Bakken_Expansion_ArcGIS\FERC_ResourceReportMaps_FERC_RR_FERC_RR.aprx | Revised: 1/7/2020 Drawn By: RJC

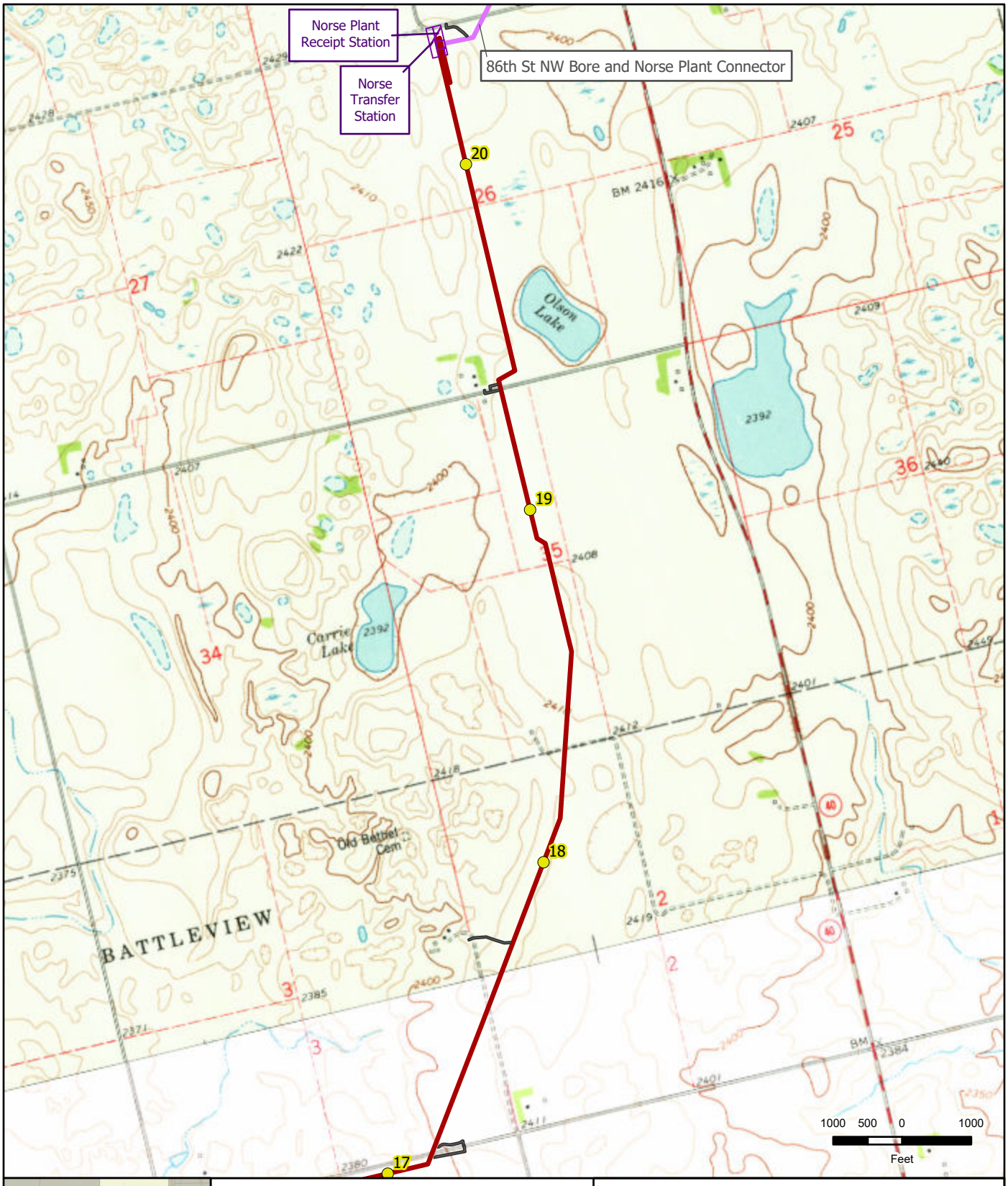


Appendix 1A
North Bakken Expansion Project
Project Route Maps
Sheet 25 of 35

WBI ENERGY TRANSMISSION
An MDU Resources Group company

File: M:\Clients\V-X\WBI\North_Bakken_Expansion_ArcGIS\FERC_ResourceReportMaps_FERC_RR_FERC_RR.aprx | Revised: 1/7/2020

Drawn By: RJC





- Milepost
- Proposed Line Section 25 Loop
- Proposed Uprating Site
- Aboveground Facility
- Access Road

N E S W

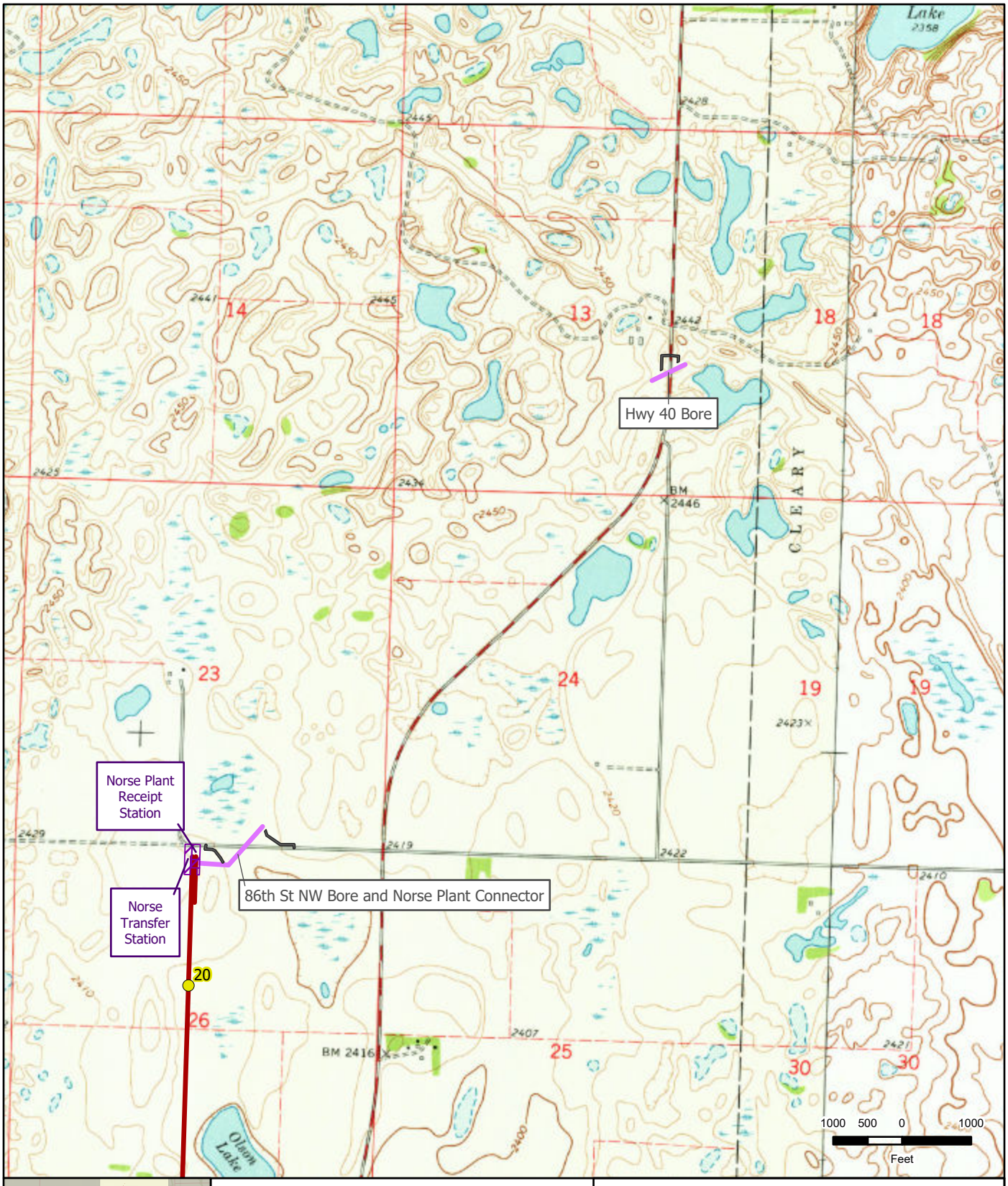
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Appendix 1A
North Bakken Expansion Project
Project Route Maps
Sheet 26 of 35

WBI ENERGY TRANSMISSION
An MDU Resources Group company

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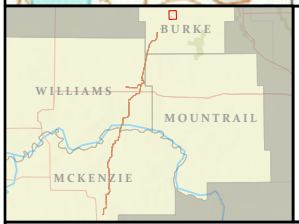


Appendix 1A
North Bakken Expansion Project
Project Route Maps
Sheet 27 of 35

WBI ENERGY TRANSMISSION
An MDU Resources Group company

File: M:\Clients\V-X\WBI\North_Bakken_Expansion_ArcGIS\FERC_ResourceReportMaps_FERC_RR_FERC_RR.aprx | Revised: 1/7/2020 Drawn By: RJC





Proposed Uprating Site

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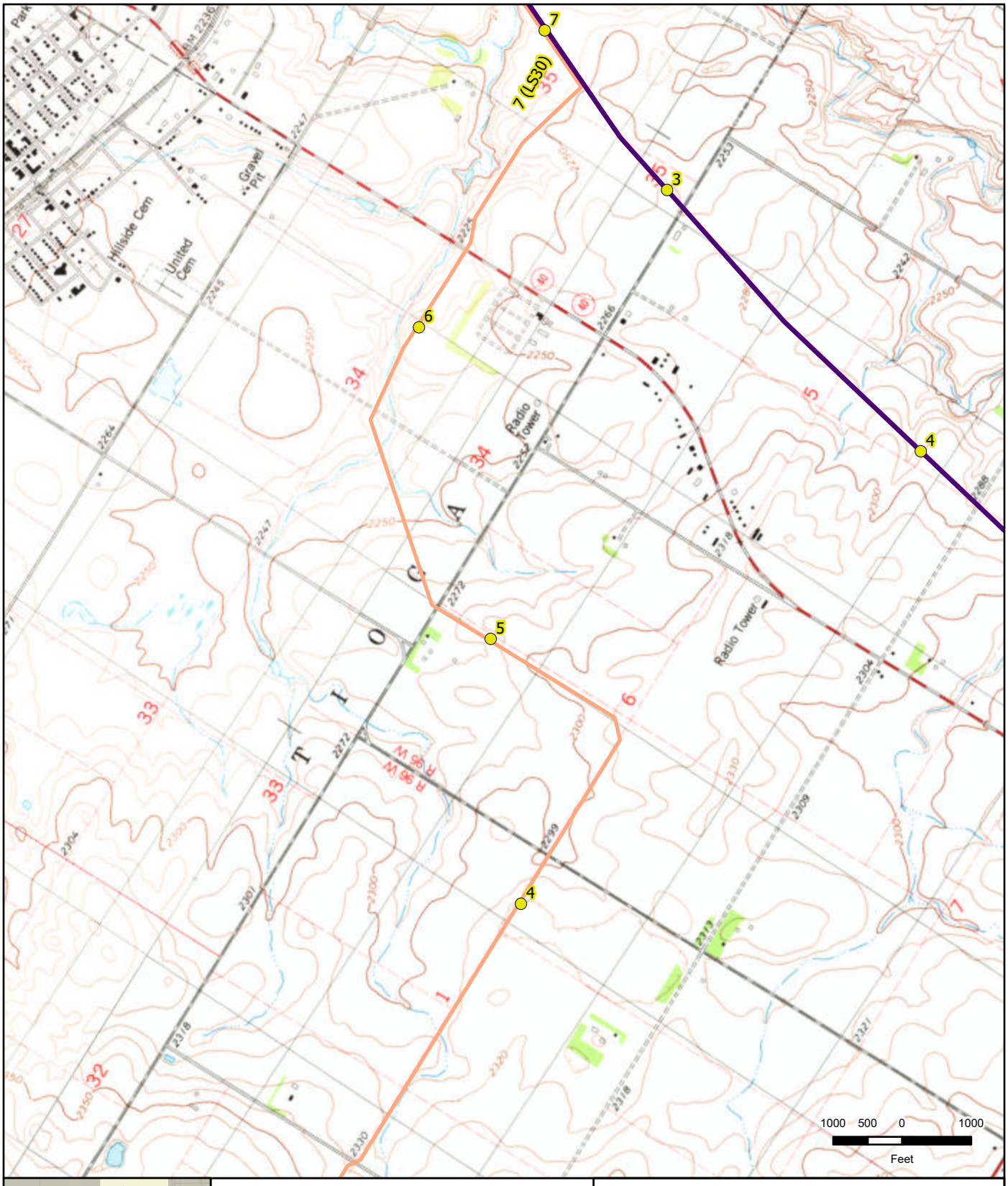
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Appendix 1A
North Bakken Expansion Project
Project Route Maps
Sheet 28 of 35

WBI ENERGY TRANSMISSION
An MDU Resources Group company

File: M:\Clients\V-X\WBI\North_Bakken_Expansion_ArcGIS\FERC_ResourceReportMaps_FERC_RR_FERC_RR.aprx | Revised: 1/7/2020

Drawn By: RJC





Milepost
Proposed Line Section 30 Loop
Proposed Tioga-Elkhorn Creek

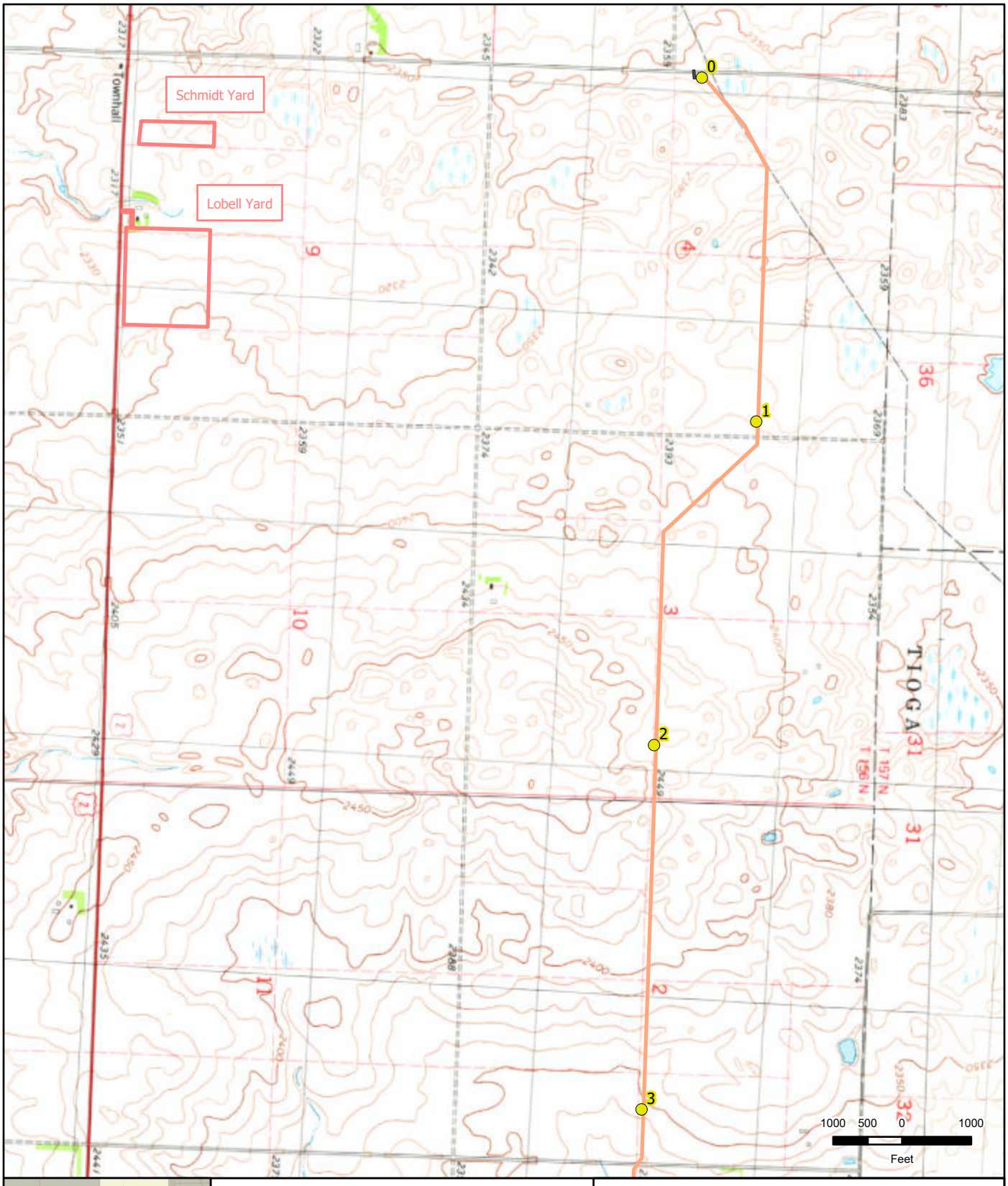
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Appendix 1A
North Bakken Expansion Project
Project Route Maps
Sheet 29 of 35

WBI ENERGY TRANSMISSION
An MDU Resources Group company

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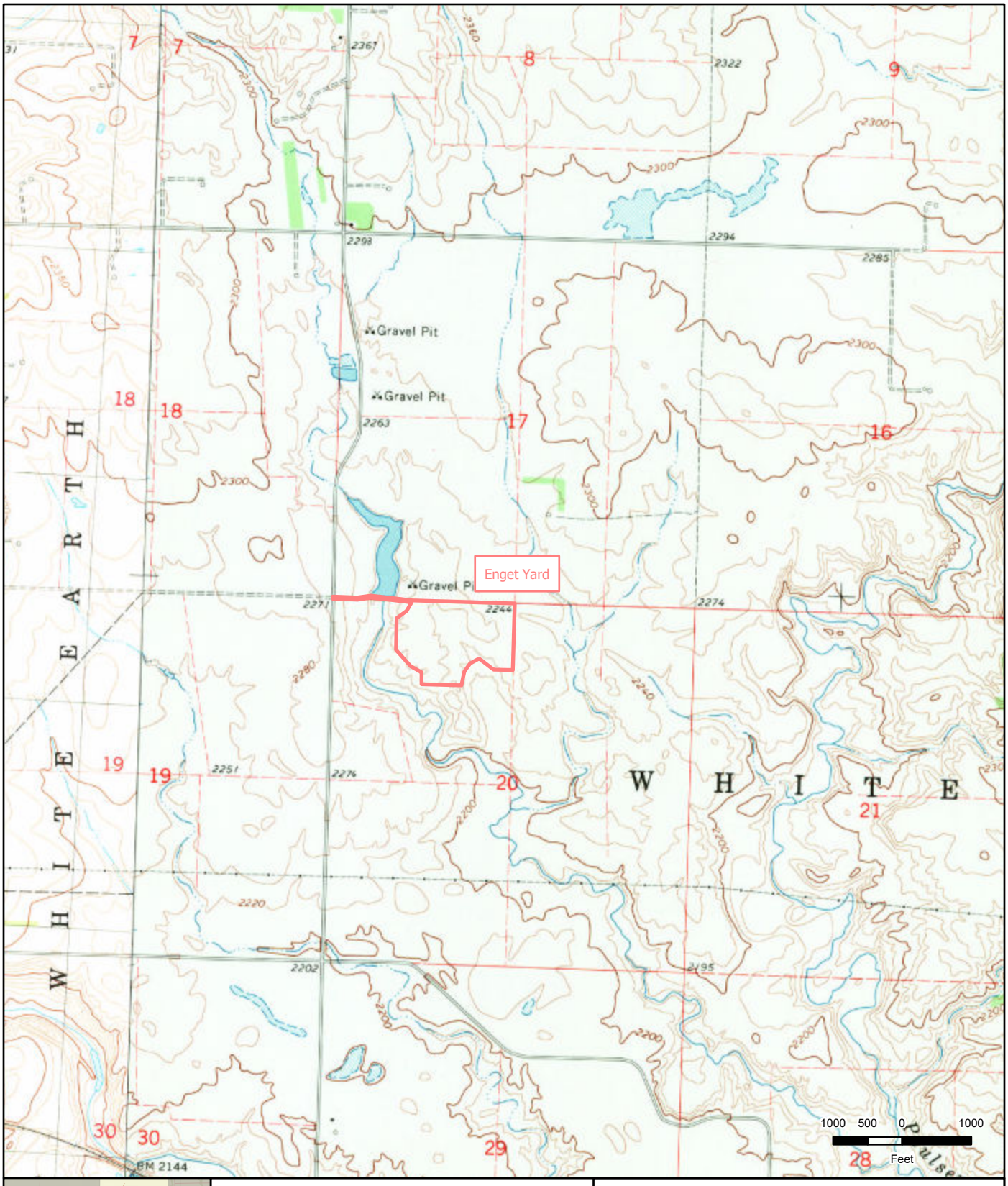


Appendix 1A
North Bakken Expansion Project
Project Route Maps
Sheet 30 of 35

WBI ENERGY TRANSMISSION
An MDU Resources Group company

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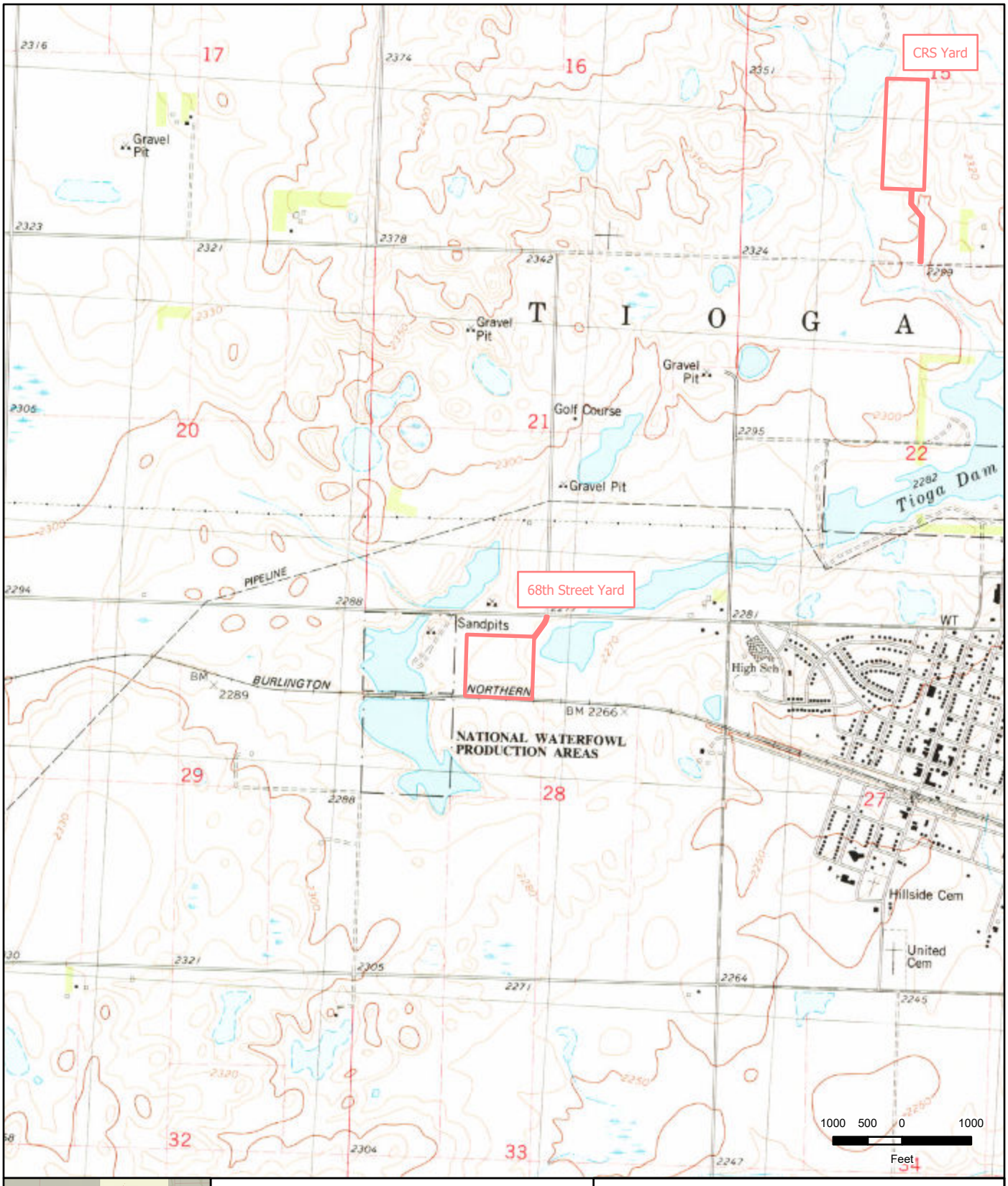
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Appendix 1A
North Bakken Expansion Project
Project Route Maps
Sheet 31 of 35

WBI ENERGY TRANSMISSION
An MDU Resources Group company

File: M:\Clients\V-X\WBI\North_Bakken_Expansion_ArcGIS\FERC_ResourceReportMaps_FERC_RR_FERC_RR.aprx | Revised: 1/7/2020 Drawn By: RJC





Staging Area

N W E S

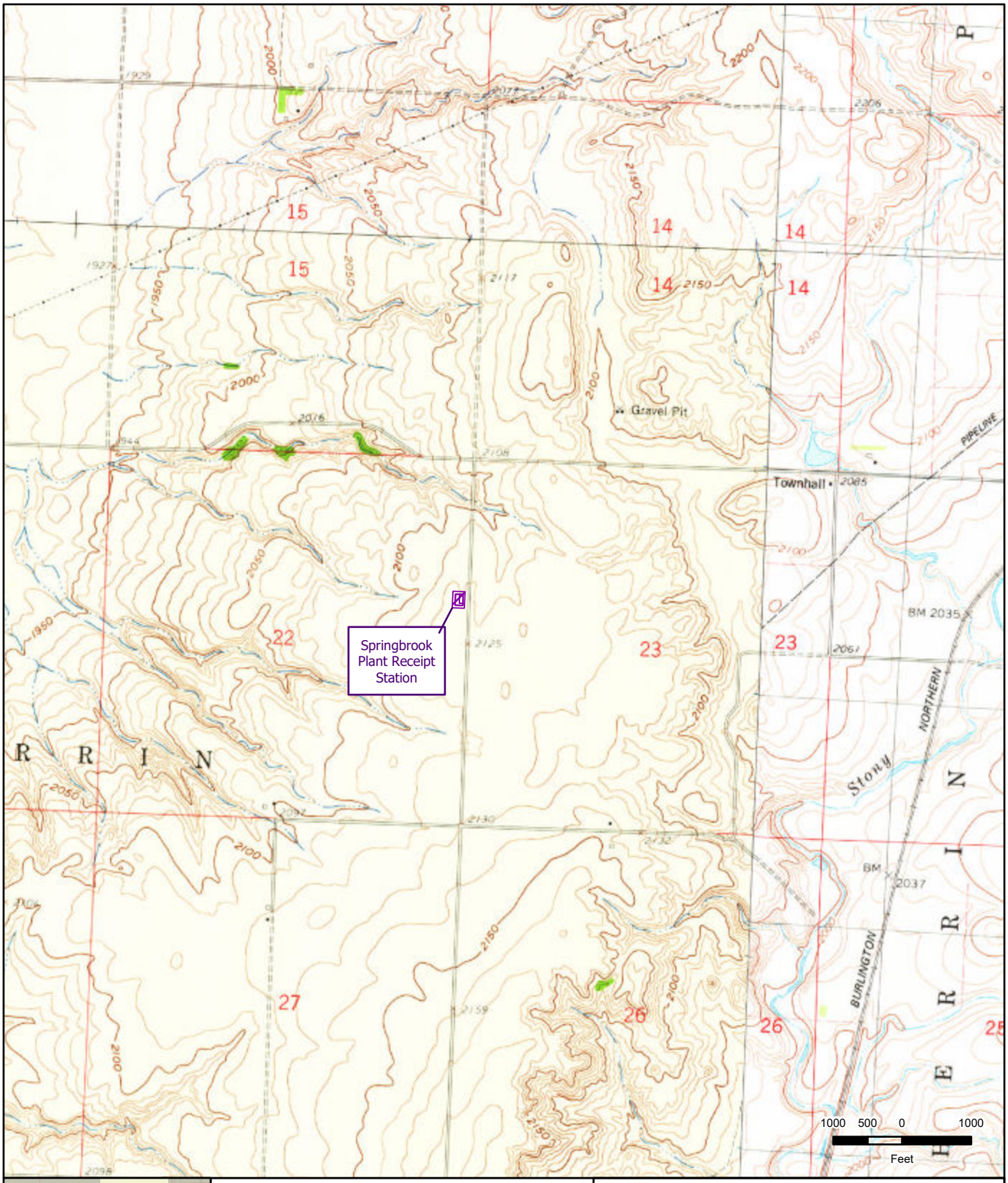
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Appendix 1A
North Bakken Expansion Project
Project Route Maps
Sheet 32 of 35

WBI ENERGY TRANSMISSION
An MDU Resources Group company

File: M:\Clients\V-X\WBI\North_Bakken_Expansion_ArcGIS\FERC_ResourceReportMaps_FERC_RR_FERC_RR.aprx | Revised: 1/7/2020

Drawn By: RJC





Aboveground Facility

N
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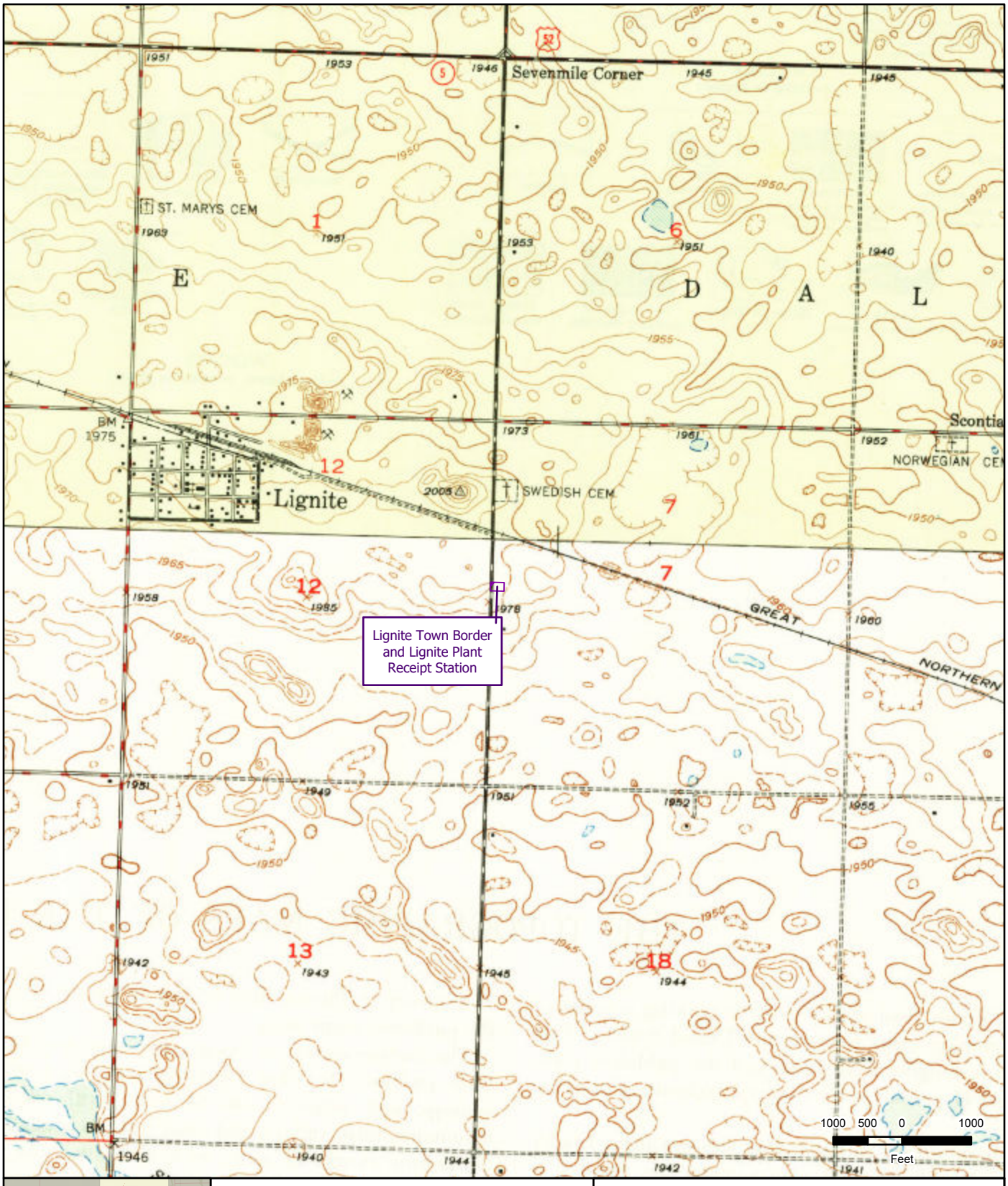
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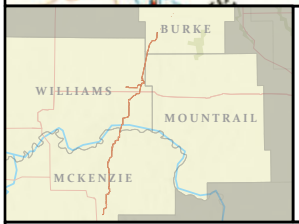
Appendix 1A
North Bakken Expansion Project
Project Route Maps
Sheet 33 of 35

WBI ENERGY TRANSMISSION
An MDU Resources Group company

File: M:\Clients\V-X\WBI\North_Bakken_Expansion_ArcGIS\FERC_ResourceReportMaps_FERC_RR_FERC_RR.aprx | Revised: 1/7/2020

Drawn By: RJC





Aboveground Facility

N
W E
S

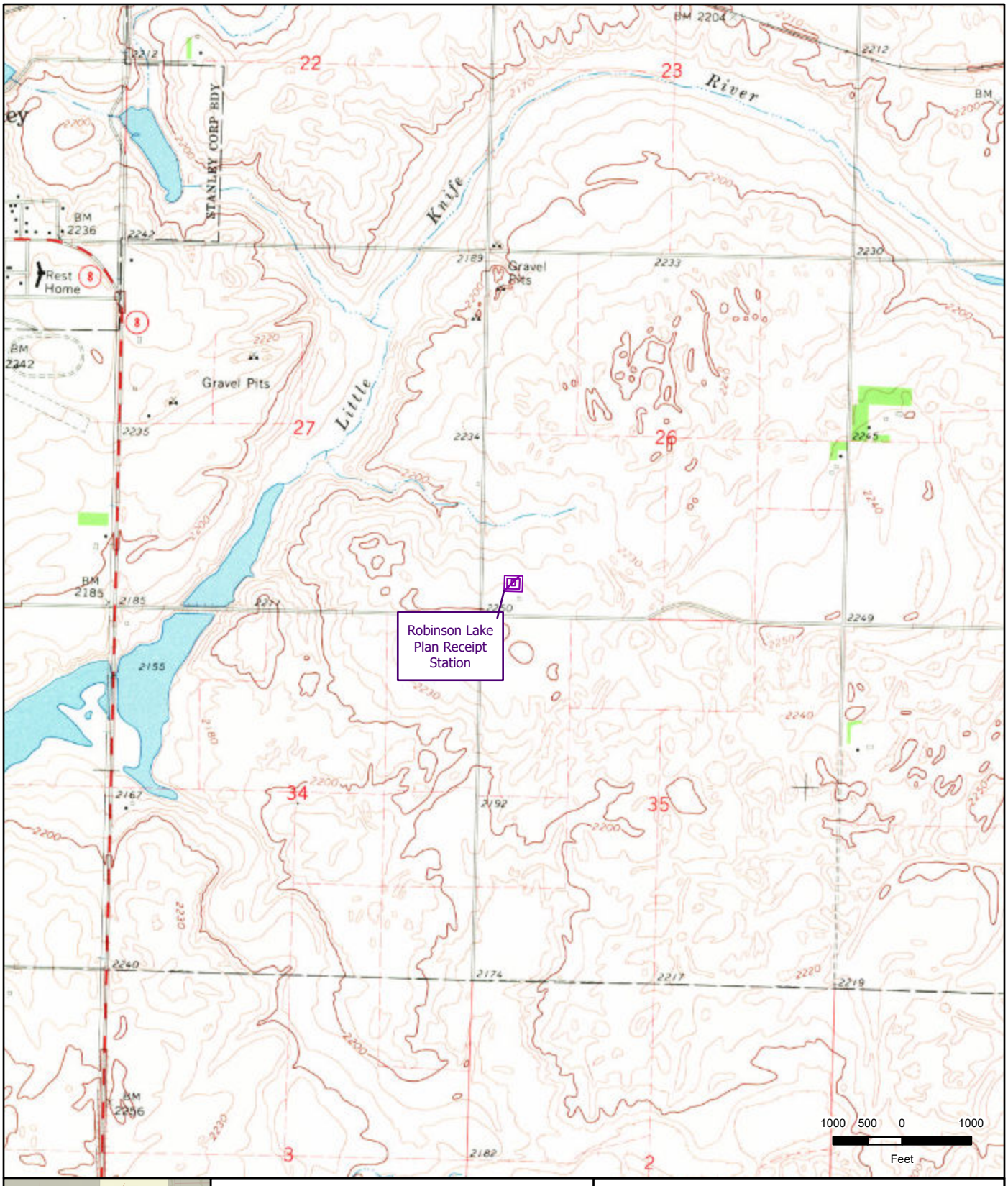
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Appendix 1A
North Bakken Expansion Project
Project Route Maps
Sheet 34 of 35

WBI ENERGY TRANSMISSION
An MDU Resources Group company

File: M:\Clients\V-X\WBI\North_Bakken_Expansion_ArcGIS\FERC_ResourceReportMaps_FERC_RR_FERC_RR.aprx | Revised: 1/7/2020

Drawn By: RJC





Aboveground Facility

N
W E
S

1:24,000

Appendix 1A
North Bakken Expansion Project
Project Route Maps
Sheet 35 of 35

WBI ENERGY TRANSMISSION
An MDU Resources Group company

File: M:\Clients\V-X\WBI\North_Bakken_Expansion_ArcGIS\FERC_ResourceReportMaps_FERC_RR_FERC_RR.aprx | Revised: 1/7/2020

Drawn By: RJC

NORTH BAKKEN EXPANSION PROJECT

Resource Report 1

APPENDIX 1B
Aerial Photo-based Alignment Sheets Mapping Supplement

WBI ENERGY TRANSMISSION, LLC
NORTH BAKKEN EXPANSION
GAS PIPELINE
TIOGA-ELKHORN CREEK LINE

Surveying & Drafting Services By:

ECS INC.

ERICKSON CONTRACT SURVEYING
333 10th Ave. SE Sidney, Montana
Office 406-482-6606 / Fax 406-482-6600

WBI ENERGY TRANSMISSION
An MDU Resources Group company

NORTH BAKKEN EXPANSION
GAS PIPELINE
TIOGA-ELKHORN CREEK LINE

Horizontal Project Length	Revision
326,708' / 61.88 mi	R1

NORTH BAKKEN EXPANSION GAS PIPELINE

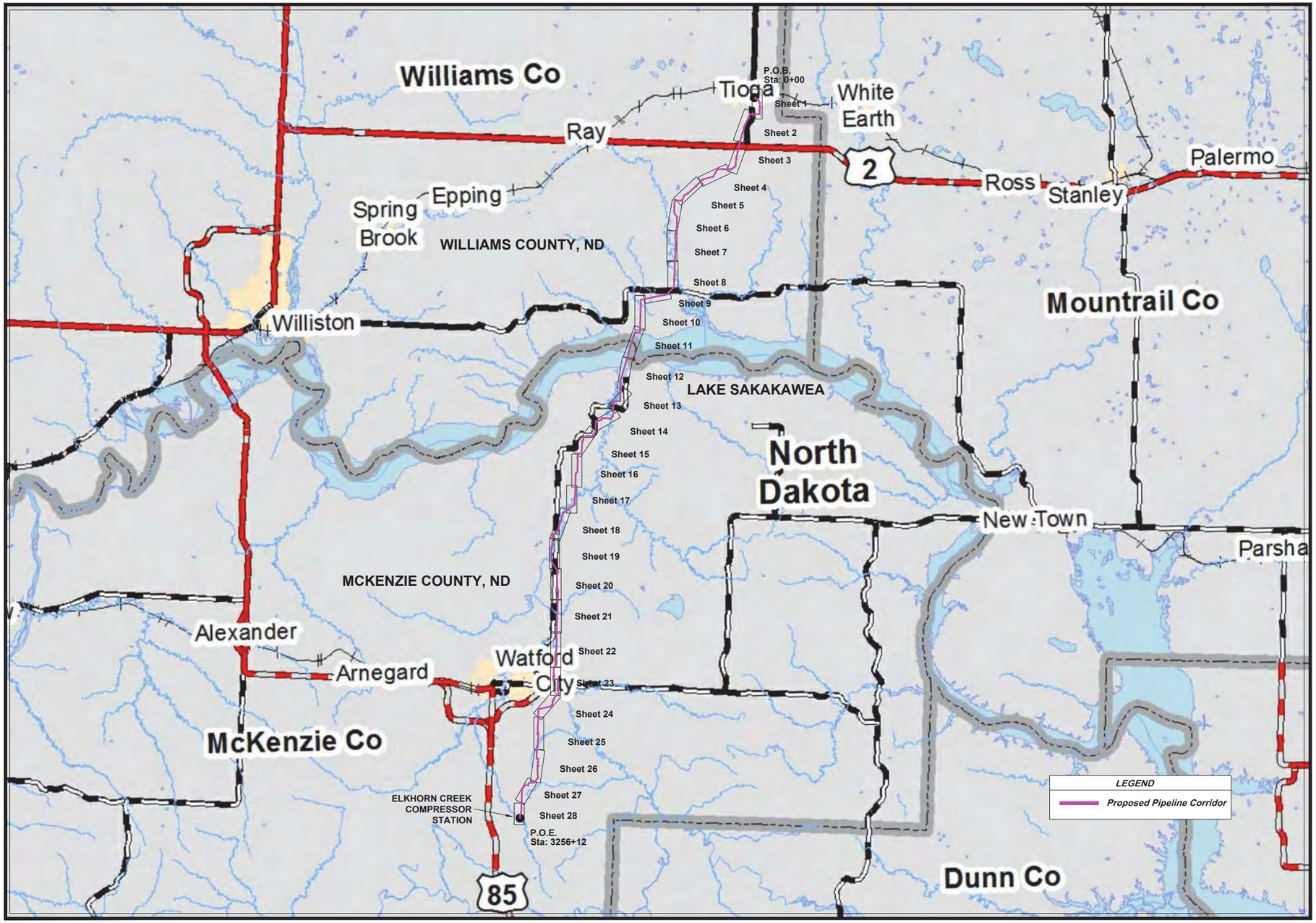
TIOGA-ELKHORN CREEK LINE

Williams county, North Dakota

Mckenzie county, North Dakota

TIOGA-ELKHORN CREEK LINE

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Sheet 1	Sta 1+00 - 100+00
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Sheet 6	Sta 580+00 - 700+00
Sheet 7	Sta 700+00 - 820+00
Sheet 8	Sta 820+00 - 930+00
Sheet 9	Sta 930+00 - 1040+00
Sheet 10	Sta 1040+00 - 1160+00
Sheet 11	Sta 1160+00 - 1280+00
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Sheet 26	Sta 2950+00 - 3070+00
Sheet 27	Sta 3070+00 - 3180+00
Sheet 28	Sta 3180+00 - 3256+12



Surveying & Drafting Services By:

ECS INC.

ERICKSON CONTRACT SURVEYING
333 10th Ave. SE Sidney, Montana
Office 406-482-6606 / Fax 406-482-6600

Date Surveyed:	Dec-Mar 2018 &19
Surveyed By:	AH, GP, JW, TW
Drawing Date:	Jan, 2019
Drawn By:	D. Smith
Checked By:	J. Harned
Revision No.:	R1
Revision Date:	01/17/20

ECS Project #
2018-23-0200

Coversheet

811
Know what's **below**
Call before you dig.
MT - 1-800-424-5555
ND - 1-800-795-0555

20,000 0 20,000 40,000
scale 1" = 20,000' feet

WBI ENERGY TRANSMISSION
An MDU Resources Group company

NORTH BAKKEN EXPANSION GAS PIPELINE
TIOGA-ELKHORN CREEK LINE

Co, State	SECTIONS 24, 25, T157N, R95W, WILLIAMS COUNTY, NORTH DAKOTA								
OWNER	157-95-26-008 E1/2 SE1/4, SE1/4 NE1/4 EX. DD PT RR SEC. 25, T157N, R95W 999' Cultivated - 66' Uncultivated 94+68	157-95-25-007 W1/2 SW1/4, SE1/4 SW1/4, & SW1/4 NW1/4 EX. RR SEC. 25, T157N, R95W 3459 Cultivated - 193' Uncultivated 58+16	157-95-25-006 NE1/4 SW1/4, EX. RR SEC. 25, T157N, R95W 1223 Cultivated - 97' Uncultivated 44+96	157-95-25-005 N1/2 NW1/4, SE1/4 NW1/4, EX. SUBLOTS 3, 4, RR & DD PT SEC. 25, T157N, R95W 12' Uncultivated 44+84	157-95-25-004 ROW IN SE1/4 NW1/4 SEC. 25, T157N, R95W 212' Uncultivated 42+84	157-95-25-003 N1/2 NW1/4, SE1/4 NW1/4, EX. SUBLOTS 3, 4, RR & DD PT SEC. 25, T157N, R95W 1759' Uncultivated 25+25	157-95-25-002A MS 13-081 & MS 13-082 SEC. 25, T157N, R95W 939' Uncultivated 15+86	157-95-24-002 MS 16-0041 IN S1/2 SW1/4 SEC. 24, T157N, R95W 1586' Uncultivated 0+00	157-95-24-001 MS 16-0042 IN SW1/4 SW1/4 SEC. 24, T157N, R95W
RODDAGE	1064.94' / 64.54 Rods	3651.84' / 221.32 Rods	1319.53' / 79.97 Rods	11.98' / 0.73 Rods	212.13' / 12.86 Rods	1759.10' / 106.61 Rods	938.84' / 56.90 Rods	1586.37' / 96.14 Rods	

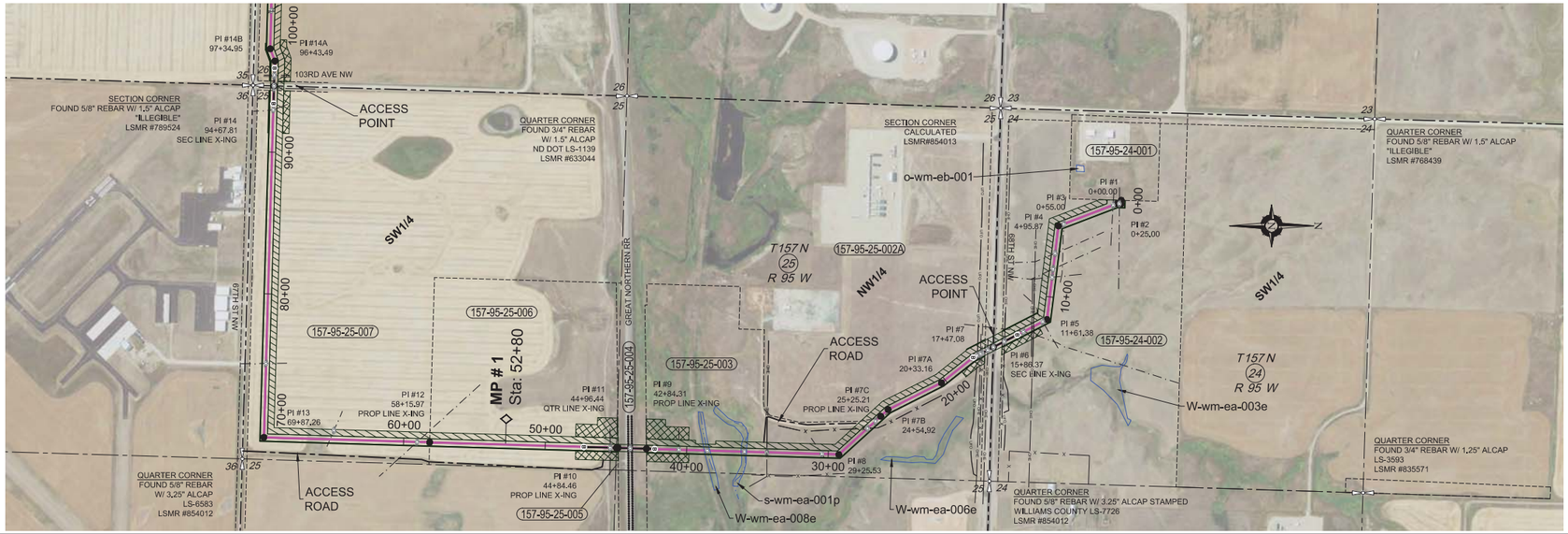
PIPE SCHMATIC



FEATURES

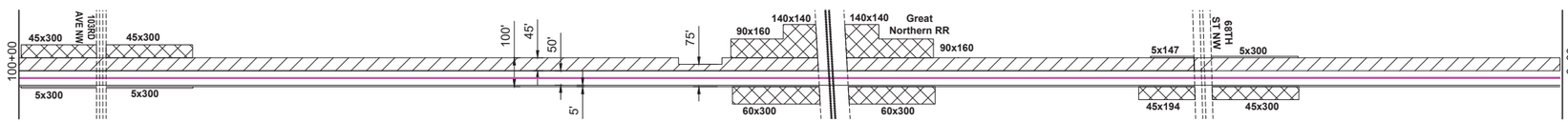
95+93 End Bore
95+44 Andeavor Line
95+34 Andeavor Line
94+68 103rd Ave NW
94+51 UGE
93+43 Begin Bore
92+99 Hess Line
75+09 Hess Line
64+94 Hess Line
59+04 Dakota Line
47+26 End Bore
45+40 FENCE
43+99 Gr. Northern RR
42+26 Begin Bore
40+55 GAS
38+54 Watercourse
35+91 Watercourse
34+33 OHE
30+45 Hess Line
26+51 Fence
25+75 Access Road
17+47 End Bore
17+15 UFO
16+89 OHE
16+77 FENCE
16+31 OHE
15+86 68th St NW
15+00 FENCE
14+97 OHE
13+97 Begin Bore
13+48 Dakota Line
11+94 Hess Line
8+60 Hess Line
8+02 Hess Line
6+91 Andeavor Line
4+56 Water Line
0+83 WBI Line
0+37 WBI Line

ALIGN



PI TABLE		
PI #	STATION	DEFLECTION
PI #1	0+00.00	00° 00'
PI #2	0+25.00	90° 00'R
PI #3	0+55.00	22° 30'L
PI #4	4+95.87	62° 00'L
PI #5	11+61.38	55° 30'R
PI #6	15+86.37	00° 00'
PI #7	17+47.08	11° 00'L
PI #7A	20+33.16	12° 00'R
PI #7B	24+54.92	15° 30'L
PI #7C	25+25.21	00° 00'
PI #8	29+25.53	44° 00'R
PI #9	42+84.31	00° 00'
PI #10	44+84.46	00° 00'
PI #11	44+96.44	00° 00'
PI #12	58+15.97	00° 00'
PI #13	69+87.26	90° 00'R
PI #14	94+67.81	00° 00'
PI #14A	96+43.49	22° 30'L
PI #14B	97+34.95	22° 30'R

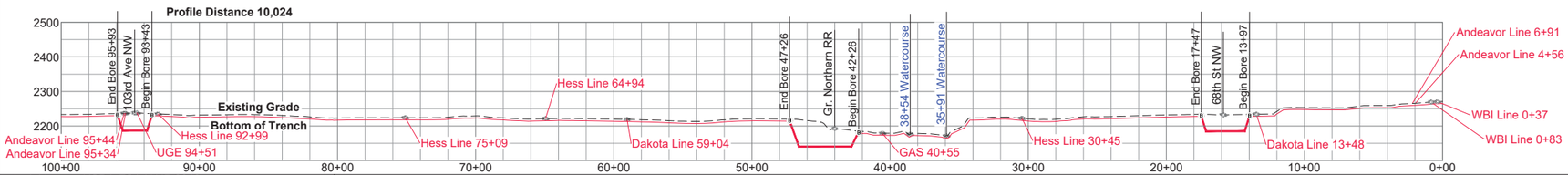
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name				s-wm-ea-001p	
	Crossing Method				Open-Cut	
	Bridge				Yes	
Wetland Crossing	Name		w-wm-ec-004e		w-wm-ea-008e	
	Survey Extent	312+53	314+15	45+14	44+78	42+26
Environmental Feature			Wetland		Wetland	Int Stream
Miscellaneous/Comments			Approx. 160' ECD Approx. 120' mats		Approx. 50' ECD Approx. 40' mats	
Seeding Mix						

PROFILE



Ref. Dwgs. Aerial Image: USDA-FSA NAIP 2018

Wetlands Waterbodies
Noxious Weeds
Dask Reproductive Habitat
Permanent Easement
Temporary Workspace
Additional Temp. Workspace

ENVIRONMENTAL NOTES:
1. Wetlands depicted on these sheets represent actual field survey data or NWI.
2. Actual wetland or stream width may vary at time of construction.

* Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction

PRELIMINARY

Surveying & Drafting Services By:
ECS INC.
ERICKSON CONTRACT SURVEYING
333 10th Ave. SE Sidney, Montana
Office 406-482-6606 / Fax 406-482-6600

ECS Project # 2018-23-0200

SURVEY DATUM

North Dakota North (NAD 83) - U.S. Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.999846363
Grid Distance x 1.000153661 = Ground Distance.

Drawing Date:	01-31-2019
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

Proposed Block Valve
Proposed Bore
CTP test station
Alignment PI
Utility Pole
Well
Valve

Alignment
Section Line
Quarter Line
Fence Line
UG Fiber Optic
UG Electric
Overhead Elec
Existing Pipeline
Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	8924	24" 0.312" W.T., API 5L-X65, ERW, w/FBE
2	1100	24" 0.375" W.T., API 5L-X65, ERW, w/FBE & ARO

REVISIONS

No.	Date	Description
1	1/17/20	Cultural / Dask Re-routes

NORTH BAKKEN EXPANSION PIPELINE
TIOGA-ELKHORN CREEK LINE

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

WBI ENERGY TRANSMISSION
An MDU Resources Group company

Sec. 24, 25, T157N, R95W, 5th P.M., Williams Co., North Dakota

Sheet 1 | R1

Co, State	SECTIONS 26, 35, T157N, R95W, SECTION 5, T156N, R95W, WILLIAMS COUNTY, NORTH DAKOTA											
OWNER	**156-95-05-013** SE1/4 EX. OUTLOT 1 SEC. 5, T156N, R95W 2610 Cultivated - 63' Uncultivated	201+64	**156-95-05-012** S1/2 NE1/4, LOTS 1-2 SEC. 5, T156N, R95W 2775 Cultivated - 553' Uncultivated	168+36	**157-95-35-011** SW 1/4 EX. ST SEC. 35, T157N, R95W 1505 Cultivated - 81' Uncultivated	152+51	**157-95-35-010** SE 1/4 SEC. 35, T157N, R95W 1233 Cultivated	140+18	**157-95-35-009** NE 1/4 SEC. 35, T157N, R95W 1160 Cultivated - 1728' Uncultivated	111+30	**157-95-26-008** E1/2 SE1/4, SE1/4 NE1/4 EX. DD PT RR SEC. 25, T157N, R95W 999' Cultivated - 66' Uncultivated	
RODDAGE	2672.88' / 161.99 Rods		3327.92' / 201.69 Rods		1585.66' / 96.10 Rods		1232.93' / 74.72 Rods		2887.93' / 175.03 Rods		1064.94' / 64.54 Rods	

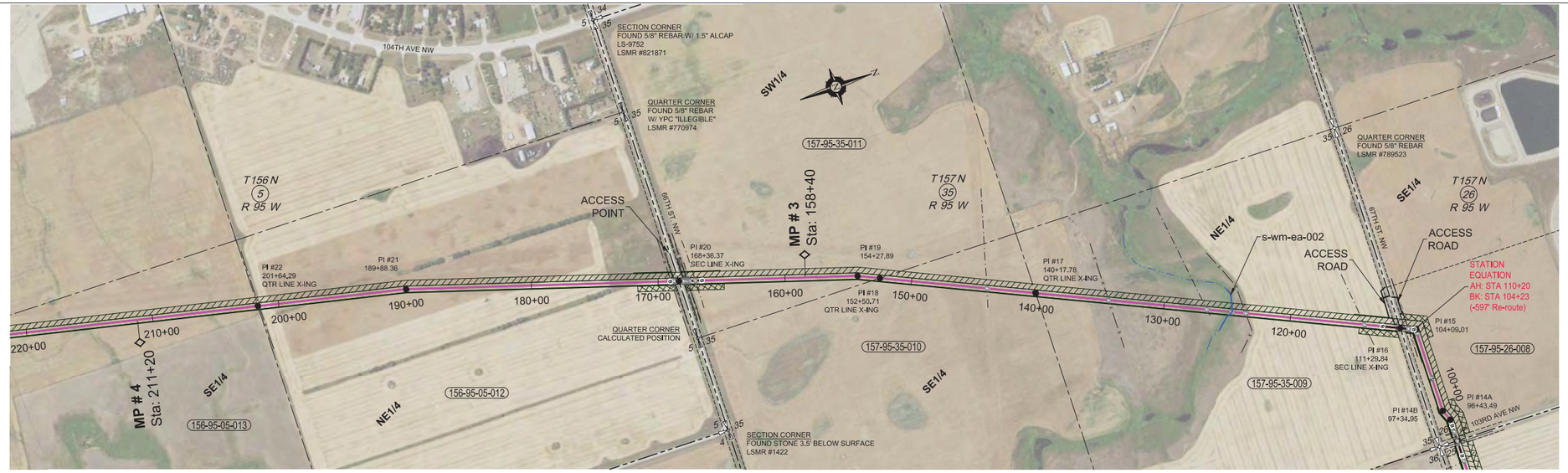
PIPE SCHMATIC



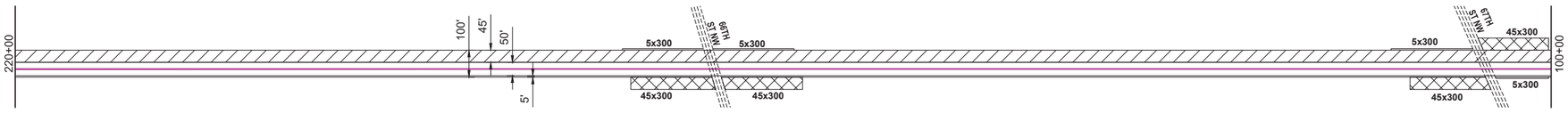
FEATURES

201+55 FENCE
169+05 End Bore
168+99 FENCE
168+75 OHE
168+36 66th St NW
167+99 Hess Line
167+93 UFO
167+82 Hess Line
167+71 FENCE
167+68 OHE
167+52 Hess Line
167+06 R&T Waterline
166+55 Begin Bore
144+02 Hess Line
134+40 FENCE
126+61 Andeavor Line
124+64 Watercourse
123+54 FENCE
114+13 Hess Line
112+71 End Bore
111+30 67th St NW
110+65 UFO
110+21 Begin Bore
103+76 Hess Line
100+05 Hess Line

ALIGN



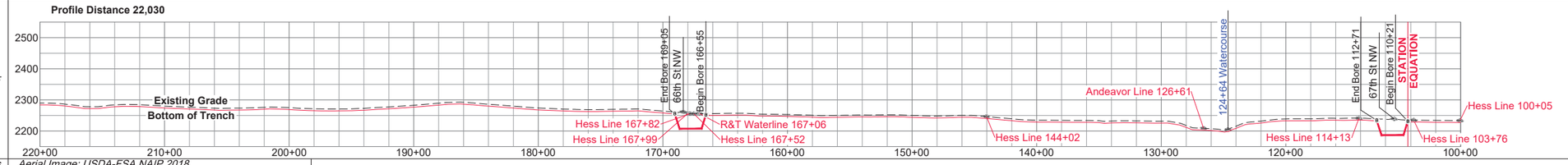
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name		s-wm-ea-002
	Crossing Method		Open-Cut
	Bridge		Yes
Wetland Crossing	Name		
	Survey Extent		385+14
Environmental Feature			Minor Stream
Miscellaneous/Comments			Approx. 50' ECD
Seeding Mix			

PROFILE



Ref. Dwgs. Aerial Image: USDA-FSA NAIP 2018

PI TABLE

PI #	STATION	DEFLECTION
PI #15	104+09.01	66° 00'L
PI #16	111+29.84	00° 00'
PI #17	140+17.78	00° 00'
PI #18	152+50.71	00° 00'
PI #19	154+27.89	07° 00'L
PI #20	168+36.37	00° 00'
PI #21	189+88.36	05° 00'L
PI #22	201+64.29	00° 00'

Wetlands Waterbodies

Noxious Weeds

Dask Reproductive Habitat

Permanent Easement

Temporary Workspace

Additional Temp. Workspace

ENVIRONMENTAL NOTES:

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ERICKSON CONTRACT SURVEYING
333 10th Ave. SE Sidney, Montana
Office 406-482-6606 / Fax 406-482-6600

ECS Project # 2018-23-0200

SURVEY DATUM

North Dakota North (NAD 83) - U.S. Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.999846363
Grid Distance x 1.000153661 = Ground Distance.

Drawing Date:	01-31-2019
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- CTP test station
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	11,506	24" 0.312" W.T., API 5L-X65, ERW, w/FBE
2	500	24" 0.375" W.T., API 5L-X65, ERW, w/FBE & ARO

REVISIONS

No.	Date	Description
1	1/17/20	Cultural / Dask Re-routes

NORTH BAKKEN EXPANSION PIPELINE
TIOGA-ELKHORN CREEK LINE

WBI ENERGY TRANSMISSION
An MDU Resources Group company

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

Sec. 26, 35, T157N, R95W,
Sec. 5, T156N, R95W,
5th P.M., Williams Co., North Dakota

Sheet 2 R1

Co, State	SECTIONS 5, 8, 17, 18, T156N, R95W, WILLIAMS COUNTY, NORTH DAKOTA									
OWNER	**156-95-18-021** SE1/4 SEC. 18, T156N, R95W 2606' Cultivated - 33' Uncultivated	327+70	**156-95-17-020** SW1/4 SEC. 17, T156N, R95W 1774' Cultivated - 103' Uncultivated	308+93	**156-95-17-019** E1/2 NW1/4 EX ST SEC. 17, T156N, R95W 2269' Cultivated - 124' Uncultivated	285+00	**156-95-17-018** HWY. ROW IN SEC. 17, T156N, R95W 251' Uncultivated	282+49	**156-95-08-017** HWY. ROW IN SEC. 8, T156N, R95W 100' Uncultivated	281+49
	156-95-08-016 SW1/4 EX ST & DD PTS SEC. 8, T156N, R95W 2248 Cultivated - 341' Uncultivated	255+59	**156-95-08-015** NW1/4 EX ST & DD PTS SEC. 8, T156N, R95W 2474 Cultivated - 224' Uncultivated	228+61	**156-95-05-014** MS16-0021 IN E1/2 SW1/4 SEC. 5, T156N, R95W 24' Uncultivated	228+37	**156-95-05-013** SE1/4 EX. OUTLOT 1 SEC. 5, T156N, R95W 2634 Cultivated - 39' Uncultivated	
RODDAGE	2639.31' / 159.96 Rods		1876.82' / 113.75 Rods		2393.32' / 145.05 Rods		250.83' / 15.20 Rods		100.34' / 6.08 Rods	
	2589.47' / 156.94 Rods		2697.65' / 163.49 Rods		24.28' / 1.47 Rods		2672.88' / 161.99 Rods	

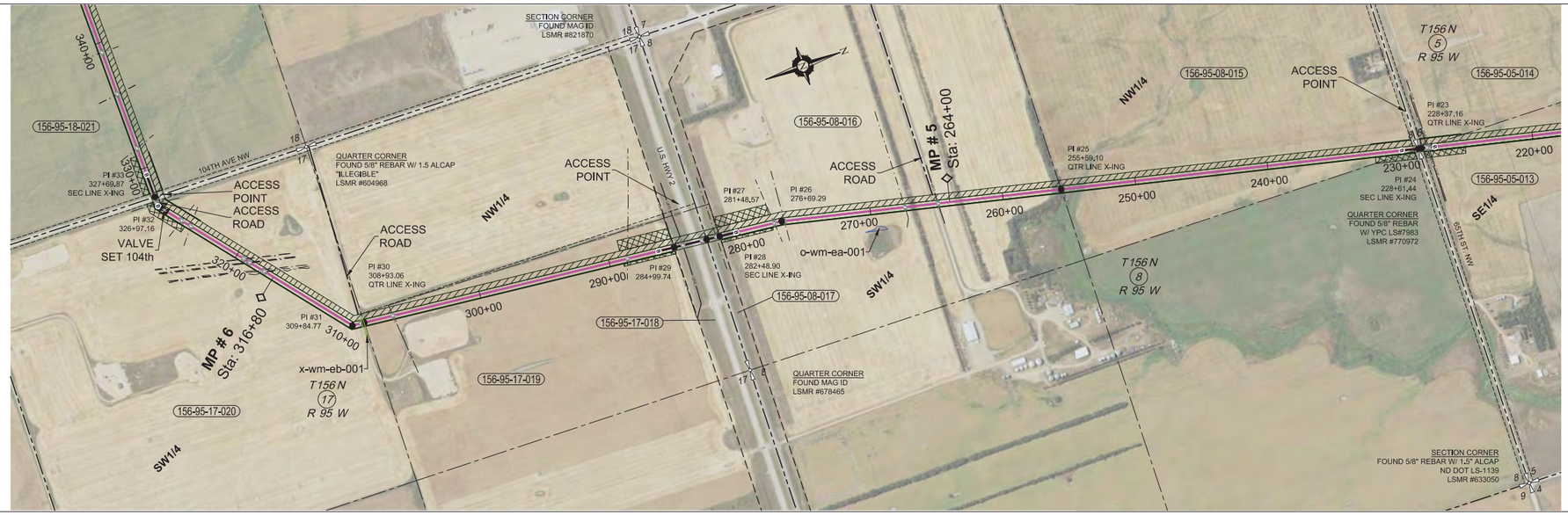
PIPE SCHMATIC



FEATURES

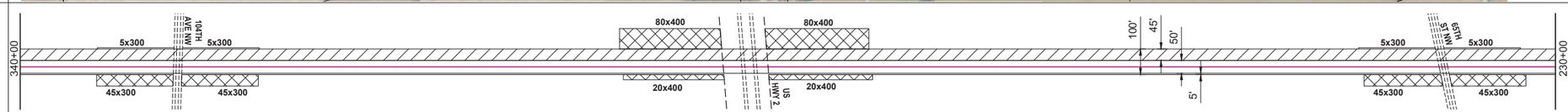
339+25 Andeavor Line | 335+91 Hess Line | 331+59 Hess Line | 329+47 End Bore | 327+70 104th Ave NW | 327+18 Hess Line | 326+97 Begin Bore | 326+42 VALVE-104th | 324+89 Hess Line | 324+08 Hess Line | 319+41 Hess Lines | 318+90 Hess Lines | 317+61 Hess Lines | 309+19 DRIVEWAY | 306+71 OHE | 288+60 Hess Line | 286+21 End Bore | 285+05 OHE | 284+32 UFO | 282+86 US HWY 2 | 281+75 R&T Waterline | 281+48 OHE | 280+21 Begin Bore | 277+27 Hess Line | 276+50 Hess Line | 267+39 Hess Line | 264+88 UFO | 229+86 End Bore | 228+61 65th St NW | 228+33 Hess Line | 227+94 UFO | 227+82 OHE | 227+36 Begin Bore

ALIGN



PI TABLE		
PI #	STATION	DEFLECTION
PI #23	228+37.16	00° 00'
PI #24	228+61.44	00° 00'
PI #25	255+59.10	00° 00'
PI #26	276+69.29	07° 00'L
PI #27	281+48.57	00° 00'
PI #28	282+48.90	00° 00'
PI #29	284+99.74	00° 00'
PI #30	308+93.06	00° 00'
PI #31	309+84.77	45° 00'R
PI #32	326+97.16	39° 00'R
PI #33	327+69.87	00° 00'

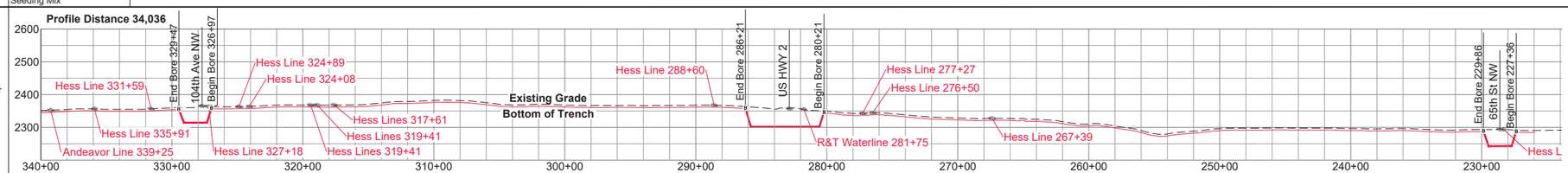
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name				
	Crossing Method				
	Bridge				
Wetland Crossing	Name		x-wm-eb-001		o-wm-ea-001
	Survey Extent	309+09		308+93	259+60
Environmental Feature			Habitat		Wetland
Miscellaneous/Comments					
Seeding Mix					

PROFILE



Ref. Dwgs. Aerial Image: USDA-FSA NAIP 2018

Wetlands
Waterbodies
Noxious Weeds
Dask Reproductive Habitat

Permanent Easement
Temporary Workspace
Additional Temp. Workspace

ENVIRONMENTAL NOTES:
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Office 406-482-6606 / Fax 406-482-6600

ECS Project # 2018-23-0200

SURVEY DATUM

North Dakota North (NAD 83) - U.S. Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.999846363
Grid Distance x 1.000153661 = Ground Distance.

Drawing Date:	01-31-2019
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- CTP test station
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	10,906	*24" 0.312" W.T., API 5L-X65, ERW, w/FBE*
2	1,100	*24" 0.375" W.T., API 5L-X65, ERW, w/FBE & ARO*

REVISIONS

No.	Date	Description
1	1/17/20	Cultural / Dask Re-routes

NORTH BAKKEN EXPANSION PIPELINE
TIOGA-ELKHORN CREEK LINE

WBI ENERGY TRANSMISSION
An MDU Resources Group company

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

Sec. 5, 8, 17, 18, T156N, R95W,
5th P.M., Williams Co., North Dakota

Sheet 3 | R1

Co, State	SECTION 18, T156N, R95W, SECTIONS 13, 23, 24, T156N, R96W, WILLIAMS COUNTY, NORTH DAKOTA						
OWNER	**156-96-23-027** SE1/4 EX DD PTS SEC. 23, T156N, R96W 3533' Cultivated - 98' Uncultivated	450+15	**156-96-23-026** NE1/4 SEC. 23, T156N, R96W 84' Cultivated - 56' Uncultivated	448+76	**156-96-24-025** NW1/4 SEC. 24, T156N, R96W	421+07	**156-96-24-024** NE1/4 EX DD PTS SEC. 24, T156N, R96W 2614' Cultivated - 74' Uncultivated
RODDAGE	3630.84' / 220.05 Rods		139.62' / 8.46 Rods		2768.78' / 167.80 Rods		2688.41' / 162.93 Rods

OWNER	394+18	**156-96-13-023** SE1/4 SEC. 13, T156N, R96W 1472' Cultivated - 185' Uncultivated	377+61	**156-95-18-022** SE1/4 NW1/4, NE1/4 SW1/4, LOTS 2-3 SEC. 18, T156N, R95W 2283' Cultivated - 69' Uncultivated	354+09	**156-95-18-021** SE1/4 SEC. 18, T156N, R95W 2606' Cultivated - 33' Uncultivated
RODDAGE		1657.29' / 100.44 Rods		2351.96' / 142.54 Rods		2639.31' / 159.96 Rods

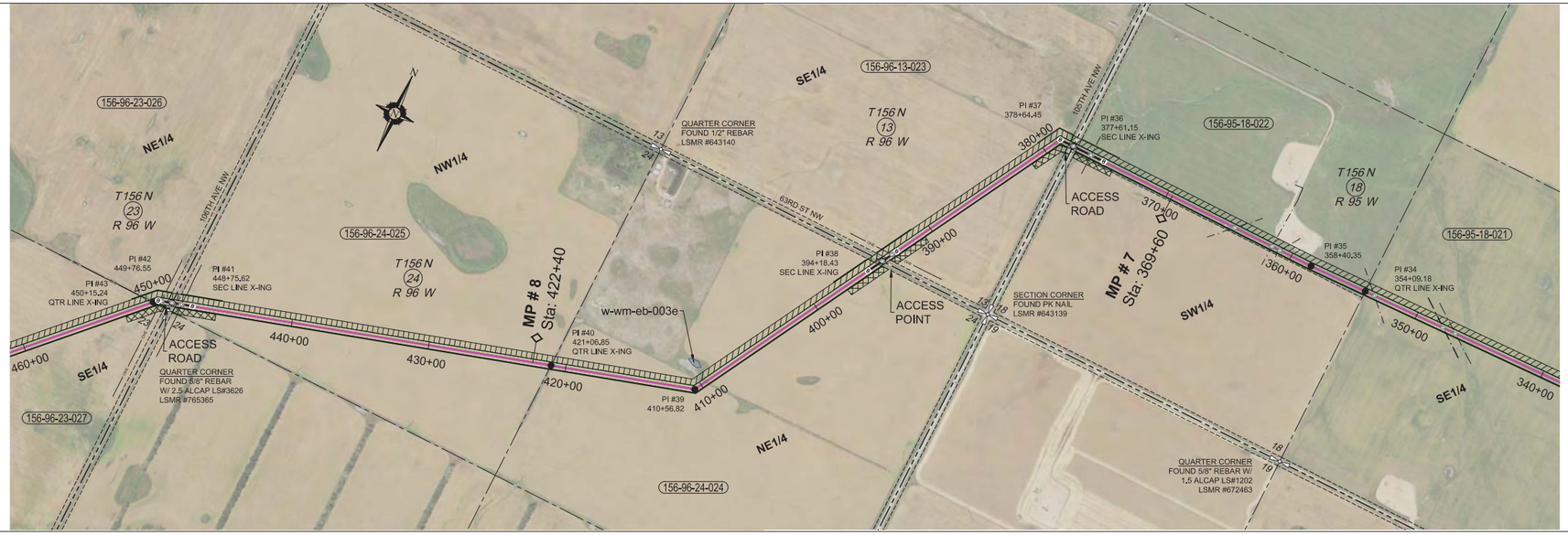
PIPE SCHMATIC

460+00 — ① — 449+77 — ② — 447+27 — ① — 395+43 — ② — 392+93 — ① — 378+64 — ② — 375+14 — ① — 340+00

FEATURES

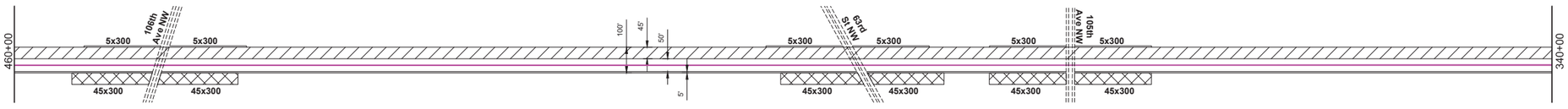
449+77 End Bore; 449+54 OHE; 448+76 106th Ave NW; 448+07 R&T Waterline; 447+27 Begin Bore; 395+43 End Bore; 394+18 63rd St NW; 393+34 OHE; 392+93 Begin Bore; 378+64 End Bore; 377+61 105th Ave NW; 376+17 Hess Line; 375+14 Begin Bore; 364+55 Hess Line; 361+56 Hess Line; 360+91 Hess Line; 353+36 Hess Line; 347+91 Hess Lines; 346+92 Hess Line

ALIGN



PI TABLE		
PI #	STATION	DEFLECTION
PI #34	354+09.18	00° 00'
PI #35	358+40.35	1° 30'R
PI #36	377+61.15	00° 00'
PI #37	378+64.45	61° 00'L
PI #38	394+18.43	00° 00'
PI #39	410+56.82	44° 00'R
PI #40	421+06.85	00° 00'
PI #41	448+75.62	00° 00'
PI #42	449+76.55	29° 00'L
PI #43	450+15.24	00° 00'

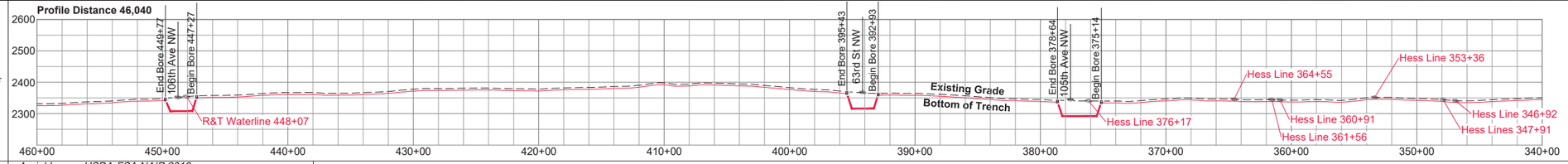
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name		
	Crossing Method		
	Bridge		
Wetland Crossing	Name	w-wm-eb-003e	
	Survey Extent	409+34	
Environmental Feature		Wetland	
Miscellaneous/Comments			
Seeding Mix			

PROFILE



Ref. Dwgs. Aerial Image: USDA-FSA NAIP 2018

Wetlands
Waterbodies
Noxious Weeds
Dask Reproductive Habitat
Permanent Easement
Temporary Workspace
Additional Temp. Workspace

ENVIRONMENTAL NOTES:
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PRELIMINARY

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ECS INC.
ERICKSON CONTRACT SURVEYING
333 10th Ave. SE Sidney, Montana
Office 406-482-6606 / Fax 406-482-6600

ECS Project # 2018-23-0200

SURVEY DATUM

North Dakota North (NAD 83) - U.S. Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.999846363
Grid Distance x 1.000153661 = Ground Distance.

Drawing Date:	01-31-2019
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- CTP test station
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	11,154	24" 0.312" W.T., API 5L-X65, ERW, w/FBE
2	850	24" 0.375" W.T., API 5L-X65, ERW, w/FBE & ARO

REVISIONS

No.	Date	Description
1	1/17/20	Cultural / Dask Re-routes

NORTH BAKKEN EXPANSION PIPELINE
TIOGA-ELKHORN CREEK LINE

WBI ENERGY TRANSMISSION
An MDU Resources Group company

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

Sec. 18, T156N, R95W,
Sec. 13, 23, 24, T156N, R96W,
5th P.M., Williams Co., North Dakota

Sheet 4 | R1

Co, State	SECTIONS 23, 26, 27, 34, T156N, R96W, WILLIAMS COUNTY, NORTH DAKOTA										
OWNER	578+98	**156-96-34-035** E1/2 NW1/4 SEC. 34, T156N, R96W 1319' Uncultivated	565+79	**156-96-34-035** W1/2 NE1/4 EX. DD PT SEC. 34, T156N, R96W 554' Uncultivated	560+25	**156-96-27-034** W1/2 SE1/4 SEC. 27, T156N, R96W 2190' Uncultivated	538+35	**157-96-24-033** W1/2 E1/2 SE1/4 SEC. 27, T156N, R96W 739' Uncultivated	530+95	**156-96-27-032** E1/2 E1/2 SE1/4 SEC. 27, T156N, R96W 648' Uncultivated	524+47	**156-96-27-031** SE1/4 NE1/4 SEC. 27, T156N, R96W 120' Uncultivated
RODDAGE		1319.22' / 79.95 Rods		553.78' / 33.56 Rods		2190.26' / 132.74 Rods		739.61' / 44.82 Rods		647.87' / 39.26 Rods	

OWNER	523+27	**156-96-26-030** NW1/4 EX. SUBLOT 1-2 SEC. 26, T156N, R96W 1963' Cultivated - 69' Uncultivated	502+96	**156-96-26-029** MS17-0032 IN NW1/4 SEC. 26, T156N, R96W 1445' Cultivated - 182' Uncultivated	486+69	**156-96-23-027A** SW1/4 EX DD PTS SEC. 23, T156N, R96W 23' Uncultivated	486+46	**156-96-23-027** SE1/4 EX DD PTS SEC. 23, T156N, R96W 3533' Cultivated - 98' Uncultivated
RODDAGE		2031.86' / 123.14 Rods		1626.68' / 98.59 Rods		22.86' / 1.39 Rods		3630.84' / 220.05 Rods

PIPE SCHMATIC



FEATURES

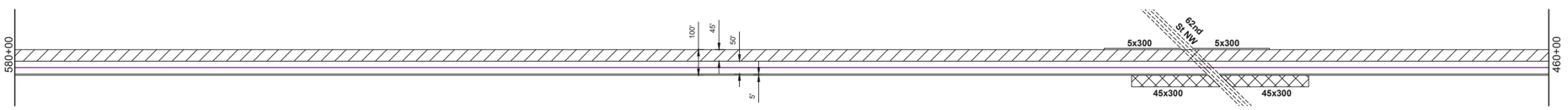
560+00 Fence
538+50 Fence
524+48 Fence
523+42 Enbridge Line
523+45 Fence
488+00 End Bore
487+78 OHE
486+69 62nd St NW
485+33 R&T Waterline
484+50 Begin Bore

ALIGN



PI TABLE		
PI #	STATION	DEFLECTION
PI #44	485+50.09	2° 00'R
PI #45	486+46.08	00° 00'
PI #46	486+68.94	00° 00'
PI #47	502+95.63	00° 00'
PI #48	523+27.48	00° 00'
PI #49	524+47.24	00° 00'
PI #50	525+51.11	20° 30'R
PI #51	530+95.10	00° 00'
PI #52	537+99.49	44° 30'L
PI #53	538+34.72	00° 00'
PI #54	560+24.98	00° 00'
PI #55	561+06.00	68° 30'R
PI #56	565+78.75	00° 00'
PI #57	578+97.98	00° 00'

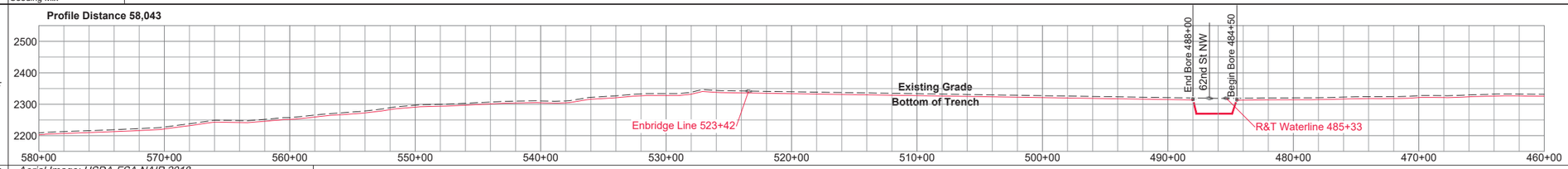
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

PROFILE



Ref. Dwgs. Aerial Image: USDA-FSA NAIP 2018

Wetlands
Waterbodies

Noxious Weeds

Dask Reproductive Habitat

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- Quarter Line
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- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	11,653	24" 0.312" W.T., API 5L-X65, ERW, w/FBE
2	350	24" 0.375" W.T., API 5L-X65, ERW, w/FBE & ARO

REVISIONS

No.	Date	Description
1	1/17/20	Cultural / Dask Re-routes

NORTH BAKKEN EXPANSION PIPELINE
TIOGA-ELKHORN CREEK LINE

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Sec. 23, 26, 27, 34, T156N, R96W,
5th P.M., Williams Co., North Dakota

Sheet 5 | R1

Co, State	SECTION 34, T156N, R96W, SECTION 3, T155N, R96W, WILLIAMS COUNTY, NORTH DAKOTA

OWNER	696+66	155-96-03-039 SW1/4 SEC. 3, T155N, R96W 2335' Cultivated - 304' Uncultivated	670+27	155-96-03-038 S1/2 NW1/4, LOTS 3-4 SEC. 3, T155N, R96W 2077' Cultivated - 807' Uncultivated	641+43	156-96-34-037 W1/2 NW1/4, NW1/4 SW1/4 SEC. 34, T156N, R96W 1118' Cultivated - 330' Uncultivated	626+95	156-96-34-036 NW1/4 SW1/4 SEC. 34, T156N, R96W 1234' Cultivated - 86' Uncultivated	613+75	156-96-34-036 W1/2 NW1/4 SEC. 34, T156N, R96W 2516' Cultivated - 961' Uncultivated
RODDAGE		2638.97' / 159.93 Rods		2883.98' / 174.79 Rods		1448.06' / 87.76 Rods		1319.98' / 80.00 Rods		3476.77' / 210.71 Rods

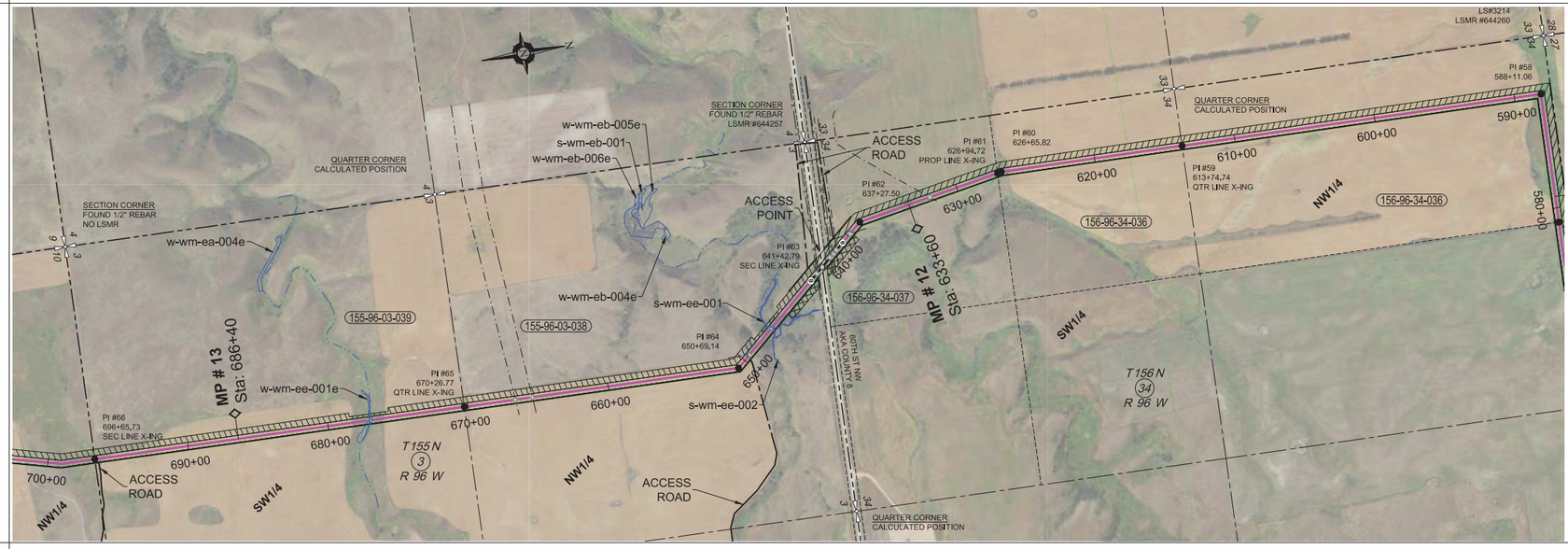
PIPE SCHMATIC



FEATURES

677+06 Watercourse
666+62 KM Line
665+41 Dakota Line
649+50 Fence
647+01 Watercourse
642+68 End Bore
642+03 Fence
641+43 60th St NW
640+56 OHE
640+44 Fence
640+22 Enbridge Line
639+87 Enbridge Line
639+18 Begin Bore
638+35 Fence
632+03 Dakota Line

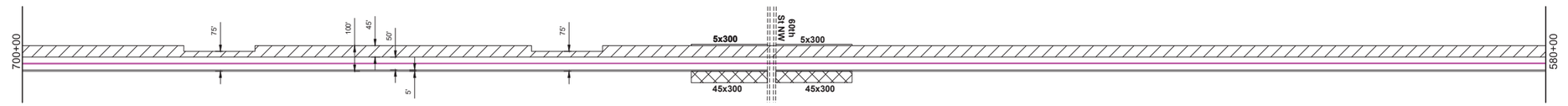
ALIGN



PI TABLE

PI #	STATION	DEFLECTION
PI #58	588+11.06	90° 00'L
PI #59	613+74.74	00° 00'
PI #60	626+65.82	11° 30'L
PI #61	626+94.72	00° 00'
PI #62	637+27.50	31° 00'L
PI #63	641+42.79	00° 00'
PI #64	650+69.14	42° 00'R
PI #65	670+26.77	00° 00'
PI #66	696+65.73	00° 00'

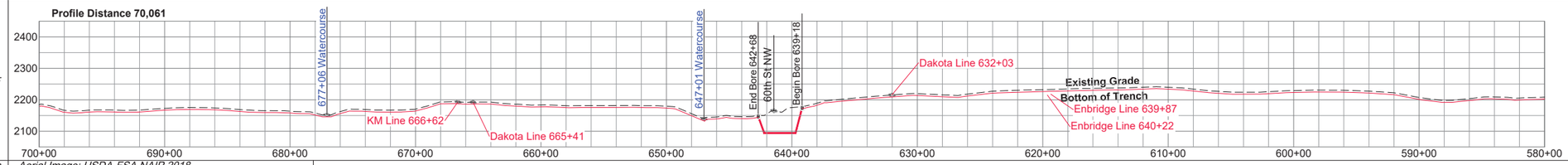
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name			s-wm-ee-001	
	Crossing Method			Open-Cut	
	Bridge			Yes	
Wetland Crossing	Name		w-wm-ee-001e		
	Survey Extent		677+16 676+98	647+34 646+89	
Environmental Feature			Wetland	Int Stream	
Miscellaneous/Comments			Approx. 50' ECD		
			Approx. 50' mats	Approx. 90' mats	
Seeding Mix					

PROFILE



Ref. Dwgs. Aerial Image: USDA-FSA NAIP 2018

Wetlands Waterbodies

Noxious Weeds

Dask Reproductive Habitat

Permanent Easement

Temporary Workspace

Additional Temp. Workspace

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Office 406-482-6606 / Fax 406-482-6600

ECS Project # 2018-23-0200

SURVEY DATUM

North Dakota North (NAD 83) - U.S. Foot
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Drawing Date:	01-31-2019
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- CTP test station
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
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- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	11,668	24" 0.312" W.T., API 5L-X65, ERW, w/FBE
2	350	24" 0.375" W.T., API 5L-X65, ERW, w/FBE & ARO

REVISIONS

No.	Date	Description
1	1/17/20	Cultural / Dask Re-routes

NORTH BAKKEN EXPANSION PIPELINE

TIOGA-ELKHORN CREEK LINE

WBI ENERGY TRANSMISSION
An MDU Resources Group company

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

Sec. 34, T156N, R96W,
Sec. 3, T155N, R96W,
5th P.M., Williams Co., North Dakota

Sheet 6 | R1

Co, State	SECTIONS 10, 15, 22, T155N, R96W, WILLIAMS COUNTY, NORTH DAKOTA									
OWNER	**155-96-22-044** W1/2 NW1/4, NE1/4 NW1/4, NW1/4 NE1/4 SEC. 22, T155N, R96W 2638 Cultivated	802+33	**155-96-15-043** SW1/4 SEC. 15, T155N, R96W 2639' Uncultivated	775+94	**155-96-15-042** NW1/4 SEC. 15, T155N, R96W 2532 Cultivated - 107' Uncultivated	749+55	**155-96-10-041** SW1/4 SEC. 10, T155N, R96W 2651' Uncultivated	723+05	**155-96-10-040** NW1/4 SEC. 10, T155N, R96W 1578' Cultivated - 1106' Uncultivated	
RODDAGE	2638.21' / 159.89 Rods		2638.84' / 159.93 Rods		2639.17' / 159.95 Rods		2650.72' / 160.65 Rods		2684.24' / 162.68 Rods	

PIPE SCHMATIC



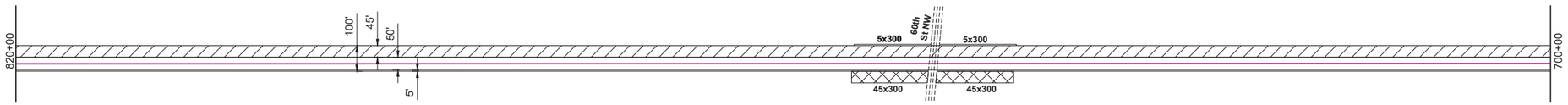
FEATURES

775+94 Fence
750+31 End Bore
749+85 Fence
749+55 58th St NW
747+81 Begin Bore

ALIGN



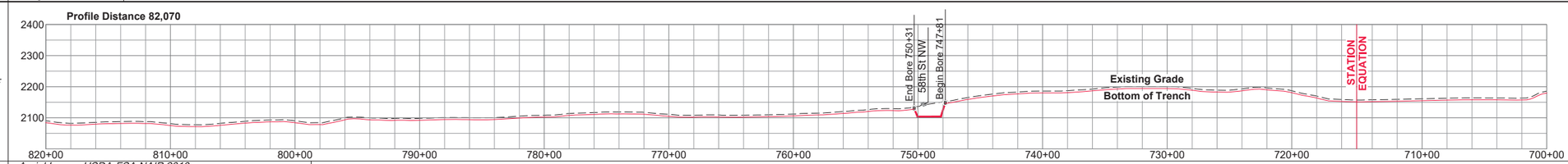
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

PROFILE



Ref. Dwgs. Aerial Image: USDA-FSA NAIP 2018

PI TABLE

PI #	STATION	DEFLECTION
PI #66B	699+05.38	13° 30'R
PI #67	714+79.87	10° 00'L
PI #68	722+70.48	9° 00'L
PI #69	723+04.59	00° 00'
PI #70	749+55.31	00° 00'
PI #71	750+31.36	6° 00'R
PI #72	775+94.48	00° 00'
PI #73	802+33.32	00° 00'

Wetlands
Waterbodies

Noxious Weeds

Dask Reproductive Habitat

Permanent Easement

Temporary Workspace

Additional Temp. Workspace

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ECS Project # 2018-23-0200

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SUMMARY of MATERIALS

Mark	Quantity	Description
1	11,759	24" 0.312" W.T., API 5L-X65, ERW, w/FBE
2	250	24" 0.375" W.T., API 5L-X65, ERW, w/FBE & ARO

REVISIONS

No.	Date	Description
1	1/17/20	Cultural / Dask Re-routes

NORTH BAKKEN EXPANSION PIPELINE
TIOGA-ELKHORN CREEK LINE

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500 0 500 1000
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1" = 500' HORIZ.
1" = 200' VERT.

Sec. 10, 15, 22, T155N, R96W, 5th P.M., Williams Co., North Dakota

Sheet 7 | R1

Co, State	SECTIONS 22, 27, 34, T155N, R96W, WILLIAMS COUNTY, NORTH DAKOTA

OWNER	925+99	155-96-34-049 W1/2 NW1/4 SEC. 34, T155N, R96W 1810' Uncultivated	907+89	155-96-27-048 S1/2 SW1/4 SEC. 27, T155N, R96W 688 Cultivated - 631' Uncultivated	894+69	155-96-27-047 N1/2 SW1/4 SEC. 27, T155N, R96W 1319' Uncultivated	881+50	155-96-22-046 NW1/2 SEC. 22, T155N, R96W 2540 Cultivated - 99' Uncultivated	855+11	155-96-22-045 W1/2 SW1/4 SEC. 22, T155N, R96W 2577 Cultivated - 62' Uncultivated	828+72	155-96-22-044 W1/2 NW1/4, NE1/4 NW1/4, NW1/4 NE1/4 SEC. 22, T155N, R96W 2638 Cultivated
RODDAGE		1810.26' / 109.71 Rods		1319.41' / 79.96 Rods		1319.43' / 79.97 Rods		2638.90' / 159.93 Rods		2639.44' / 159.97 Rods		2638.21' / 159.89 Rods

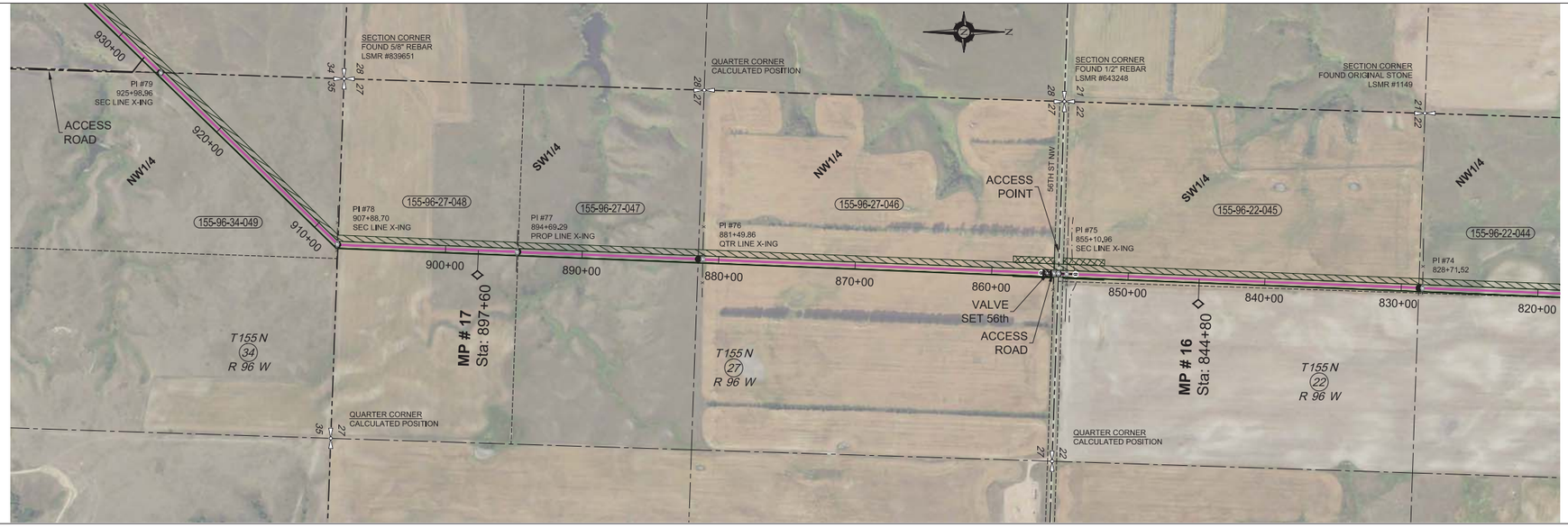
PIPE SCHMATIC



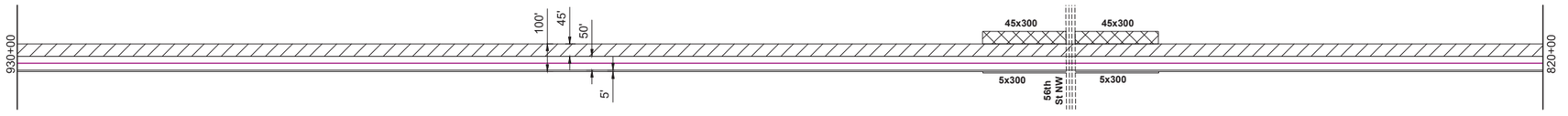
FEATURES

925+96 Fence
907+96 Fence
894+77 Fence
881+16 Fence
856+36 End Bore
855+94 VLV Set 56th
855+44 Fence
855+11 56th St NW
854+50 OHE
853+86 Begin Bore
828+44 Fence

ALIGN



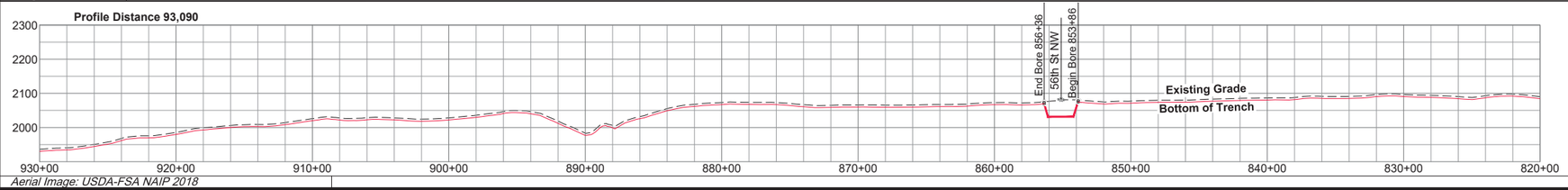
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name
	Crossing Method
	Bridge
Wetland Crossing	Name
	Survey Extent
Environmental Feature	
Miscellaneous/Comments	
Seeding Mix	

PROFILE



Ref. Dwgs. Aerial Image: USDA-FSA NAIP 2018

PI TABLE

PI #	STATION	DEFLECTION
PI #74	828+71.52	00° 00'
PI #75	855+10.96	00° 00'
PI #76	881+49.86	00° 00'
PI #77	894+69.29	00° 00'
PI #78	907+88.70	42° 00'R
PI #79	925+98.96	00° 00'

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- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	10,770	24" 0.312" W.T., API 5L-X65, ERW, w/FBE
2	250	24" 0.375" W.T., API 5L-X65, ERW, w/FBE & ARO

REVISIONS

No.	Date	Description
1	1/17/20	Cultural / Dask Re-routes

NORTH BAKKEN EXPANSION PIPELINE
TIOGA-ELKHORN CREEK LINE

WBI ENERGY TRANSMISSION
An MDU Resources Group company

500 0 500 1000 feet
scale 1" = 500' - 22 x 34
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

Sec. 22, 27, 34, T155N, R96W, 5th P.M., Williams Co., North Dakota

Sheet 8 | R1

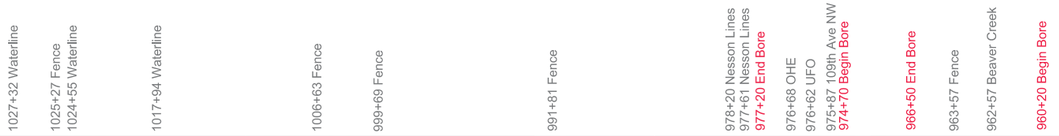
Co, State	SECTIONS 32, 33, T155N, R96W, WILLIAMS COUNTY, NORTH DAKOTA				
OWNER	**155-96-32-055** SW1/4 EX STATE SEC. 32, T155N, R96W 1813 Cultivated - 893' Uncultivated	1016+38	**155-96-32-054** SE1/4 SEC. 32, T155N, R96W 966 Cultivated - 1764' Uncultivated	989+09	**155-96-33-053** W1/2 SW1/4, W1/2 NW1/4 EX. STATE SEC. 33, T155N, R96W 1272 Cultivated - 76' Uncultivated
RODDAGE	2706.01' / 164.00 Rods		2729.82' / 165.44 Rods		1348.26' / 81.71 Rods

OWNER				
	975+60	**155-96-33-052** E1/2 SW1/4, W1/2 SE1/4 EX. STATE SEC. 33, T155N, R96W 1203 Cultivated - 1502' Uncultivated	948+55	**155-96-33-051** E1/2 NE1/4, E1/2 SE1/4 EX STATE SEC. 33, T155N, R96W 2256' Uncultivated
RODDAGE		2705.35' / 163.96 Rods		2256.10' / 136.73 Rods

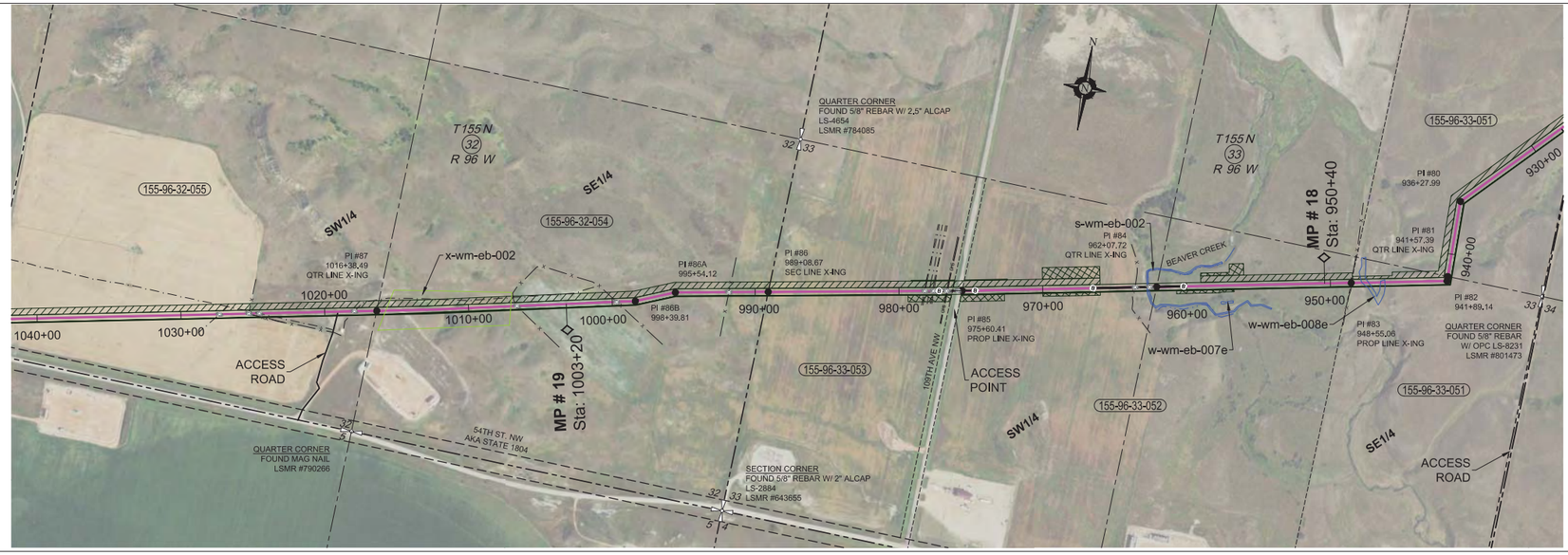
PIPE SCHMATIC



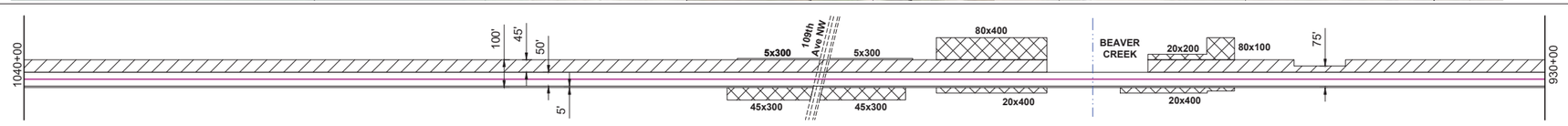
FEATURES



ALIGN



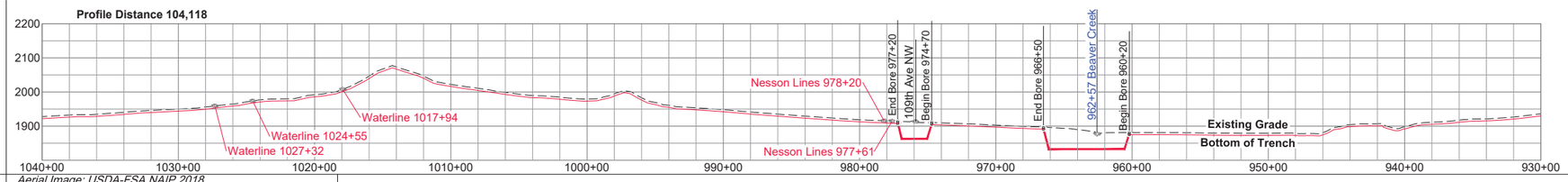
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name				s-wm-eb-002				
	Crossing Method				Bore				
	Bridge				Yes				
Wetland Crossing	Name		x-wm-eb-002				w-wm-eb-007e		w-wm-eb-008e
	Survey Extent	1015+75		1007+00	962+70		957+23	947+75	947+30
Environmental Feature			Noxious Weed		Minor Stream		Wetland		Wetland
Miscellaneous/Comments					Spoil Setback				Approx. 40' ECD
Seeding Mix					10' min. from bank				Approx. 40' mats

PROFILE



Ref. Dwgs. Aerial Image: USDA-FSA NAIP 2018

PI TABLE		
PI #	STATION	DEFLECTION
PI #80	936+27.99	44° 00'L
PI #81	941+57.39	00° 00'
PI #82	941+89.14	79° 00'R
PI #83	948+55.06	00° 00'
PI #84	962+07.72	00° 00'
PI #85	975+60.41	00° 00'
PI #86	989+08.67	00° 00'
PI #86A	995+54.12	12° 00'L
PI #86B	998+39.81	10° 00'R
PI #87	1016+38.49	00° 00'

- Wetlands Waterbodies
- Noxious Weeds Dask Reproductive Habitat
- Permanent Easement
- Temporary Workspace
- Additional Temp. Workspace

ENVIRONMENTAL NOTES:
1. Wetlands depicted on these sheets represent actual field survey data or NWI.
2. Actual wetland or stream width may vary at time of construction.

* Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction

PRELIMINARY

Surveying & Drafting Services By:
ECS INC.
ERICKSON CONTRACT SURVEYING
333 10th Ave. SE Sidney, Montana
Office 406-482-6606 / Fax 406-482-6600

ECS Project # 2018-23-0200

SURVEY DATUM

North Dakota North (NAD 83) - U.S. Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.999846363
Grid Distance x 1.000153661 = Ground Distance.

Drawing Date:	01-31-2019
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- CTP test station
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	10,148	24" 0.312" W.T., API 5L-X65, ERW, w/FBE
2	880	24" 0.375" W.T., API 5L-X65, ERW, w/FBE & ARO

REVISIONS

No.	Date	Description
1	1/17/20	Cultural / Dask Re-routes

NORTH BAKKEN EXPANSION PIPELINE
TIOGA-ELKHORN CREEK LINE

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

WBI ENERGY TRANSMISSION
An MDU Resources Group company

Sec. 32, 33, T155N, R96W,
5th P.M., Williams Co., North Dakota

Sheet 9 | R1

Co, State	SECTION 31, 32, T155N, R96W, SECTION 6, 7, T154N, R96W, WILLIAMS COUNTY, NORTH DAKOTA

OWNER	1151+91	154-96-07-061 SE1/4 SEC. 7, T154N, R96W 2637 Cultivated	1125+53	154-96-07-060 NE1/4 SEC. 7, T154N, R96W 2604 Cultivated - 33' Uncultivated	1099+16	154-96-06-059 E1/2 SE1/4, SE1/4 NE1/4, LOT 1 EX. STATE SEC. 6, T154N, R96W 5168 Cultivated - 33' Uncultivated	1047+15	154-96-06-059A HWY. ROW IN SEC. 6, T154N, R96W 75' Uncultivated	1046+40	155-96-31-059B HWY. ROW IN SEC. 31, T155N, R96W 75' Uncultivated	1045+65	155-96-31-055A SE1/4 EX STATE SEC. 31, T155N, R96W 257' Uncultivated	1043+45	155-96-32-055 SW1/4 EX STATE SEC. 32, T155N, R96W 1813 Cultivated - 893' Uncultivated
RODDAGE		2637.41' / 159.84 Rods		2637.42' / 159.84 Rods		5200.89' / 315.21 Rods		75.00' / 4.55 Rods		75.00' / 4.55 Rods		256.56' / 15.55 Rods		2706.01' / 164.00 Rods

PIPE SCHMATIC



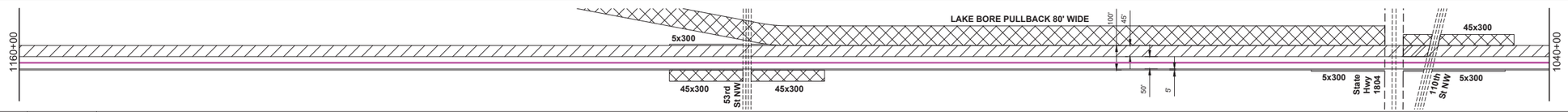
FEATURES

1100+41 End Bore
1099+16 53rd St NW
1097+91 Begin Bore
1049+17 Waterline
1048+77 Nesson Lines
1047+89 End Bore
1046+86 Nesson Line
1046+40 State Hwy 1804
1045+66 OHE
1045+05 UFO
1045+65 UFO
1044+75 Begin/End
1043+81 UFO
1043+45 110thAve NW
1043+00 Waterline
1042+25 Begin Bore

ALIGN



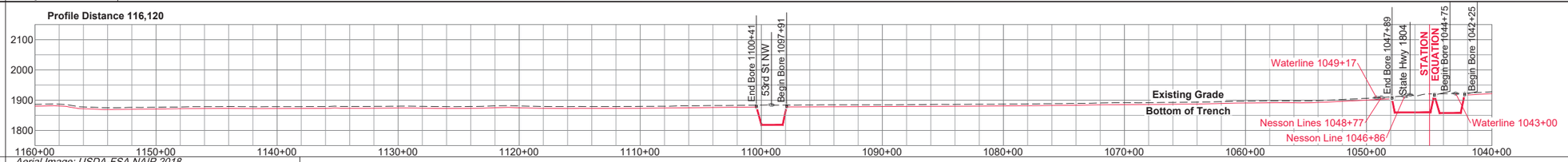
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

PROFILE



Ref. Dwgs.	Aerial Image: USDA-FSA NAIP 2018

PI TABLE		
PI #	STATION	DEFLECTION
PI #88	1043+44.50	00° 00'
PI #89	1044+75.37	77° 00'L
PI #90	1045+64.81	00° 00'
PI #91	1046+39.81	00° 00'
PI #92	1047+14.81	00° 00'
PI #93	1072+73.60	00° 00'
PI #94	1099+15.70	00° 00'
PI #95	1125+53.12	00° 00'
PI #96	1151+90.54	00° 00'

Wetlands
Waterbodies
Noxious Weeds
Dask Reproductive Habitat
Permanent Easement
Temporary Workspace
Additional Temp. Workspace

ENVIRONMENTAL NOTES:
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* Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction

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333 10th Ave. SE Sidney, Montana
Office 406-482-6606 / Fax 406-482-6600

ECS Project # 2018-23-0200

SURVEY DATUM

North Dakota North (NAD 83) - U.S. Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.999846363
Grid Distance x 1.000153661 = Ground Distance.

Drawing Date:	01-31-2019
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- CTP test station
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	11,152	24" 0.312" W.T., API 5L-X65, ERW, w/FBE
2	850	24" 0.375" W.T., API 5L-X65, ERW, w/FBE & ARO

REVISIONS

No.	Date	Description
1	1/17/20	Cultural / Dask Re-routes

NORTH BAKKEN EXPANSION PIPELINE
TIOGA-ELKHORN CREEK LINE

WBI ENERGY TRANSMISSION
An MDU Resources Group company

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

Sec. 31, 32, T155N, R96W,
Sec. 6, 7, T154N, R96W
5th P.M., Williams Co., North Dakota

Sheet 10 | R1

Co, State	SECTIONS 18, 19, T154N, R96W, WILLIAMS COUNTY, NORTH DAKOTA

OWNER	1224+12	154-96-18-066 S1/2 SE1/4 SW1/4 SEC. 18, T154N, R96W 683' Uncultivated	1217+30	154-96-18-065 E1/2 SW1/4, LOTS 3-4 EX. DD PTS SEC. 18, T154N, R96W 152 Cultivated - 748' Uncultivated	1208+30	154-96-18-064 SE1/4 SEC. 18, T154N, R96W 1158 Cultivated	1196+72	154-96-18-063 S1/2 NE1/4 EX. SUBLOT 6 SEC. 18, T154N, R96W 1264 Cultivated - 109' Uncultivated	1182+99	154-96-18-062 N 1/2 NE1/4 SEC. 18, T154N, R96W 3092 Cultivated - 17' Uncultivated
RODDAGE		682.54' / 41.37 Rods		899.88' / 54.54 Rods		1157.55' / 70.15 Rods		1372.98' / 83.21 Rods		3108.85' / 188.42 Rods

PIPE SCHMATIC



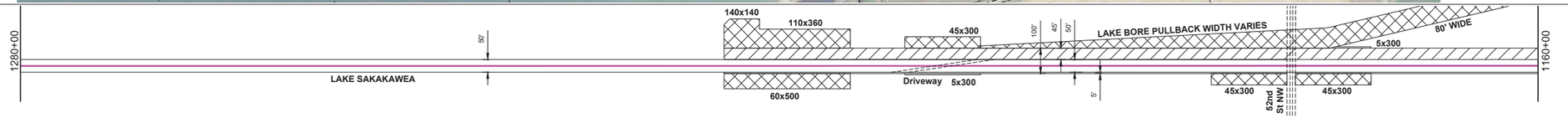
FEATURES

1216+53 End Bore
1211+36 End Bore
1210+11 Driveway
1208+86 Begin Bore
1184+30 End Bore
1183+68 Waterline
1182+99 52nd St NW
1182+47 OHE
1181+80 Begin Bore

ALIGN



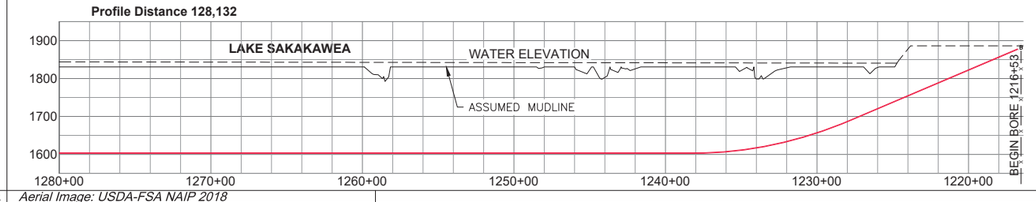
WORK SPACE N.T.S.

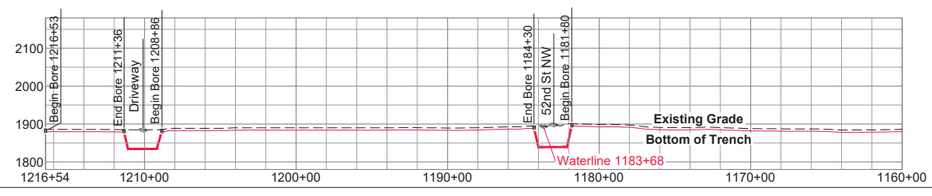


ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

PROFILE





Ref. Dwgs. Aerial Image: USDA-FSA NAIP 2018

PI TABLE		
PI #	STATION	DEFLECTION
PI #97	1164+02.20	90° 00'R
PI #98	1181+80.12	74° 00'L
PI #99	1182+99.38	00° 00'
PI #100	1196+72.36	00° 00'
PI #101	1208+29.92	00° 00'
PI #102	1216+53.32	01° 30'
PI #103	1217+29.79	00° 00'
PI #104	1224+12.33	00° 00'

Wetlands
Waterbodies

Noxious Weeds

Dask Reproductive Habitat

Permanent Easement

Temporary Workspace

Additional Temp. Workspace

ENVIRONMENTAL NOTES:
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ERICKSON CONTRACT SURVEYING
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Office 406-482-6606 / Fax 406-482-6600

ECS Project # 2018-23-0200

SURVEY DATUM

North Dakota North (NAD 83) - U.S. Foot
*Distances are Grid Distances.
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Drawing Date:	01-31-2019
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- CTP test station
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	5,165	24" 0.312" W.T., API 5L-X65, ERW, w/FBE
2	6,847	24" 0.375" W.T., API 5L-X65, ERW, w/FBE & ARO

REVISIONS

No.	Date	Description
1	1/17/20	Cultural / Dask Re-routes

NORTH BAKKEN EXPANSION PIPELINE

TIOGA-ELKHORN CREEK LINE

WBI ENERGY TRANSMISSION
An MDU Resources Group company

500 0 500 1000 feet
scale 1" = 500' - 22 x 34
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

Sec. 18, 19, T154N, R96W,
5th P.M., Williams Co., North Dakota

Sheet 11 | R1

Co, State	SECTION 30, T154N, R96W, SECTIONS 25, 36, T154N, R97W, MCKENZIE COUNTY, NORTH DAKOTA
OWNER	**154-97-36-076** SE1/4 SEC. 36, T154N, R97W — 567' Cultivated - 2142' Uncultivated (1360+29) / **154-97-36-074A** ALL LESS DEEDED PORTIONS SEC. 31, T154N, R96W — 2723' Uncultivated (1333+06)
RODDAGE	2708.75' / 164.17 Rods / 2722.58' / 165.00 Rods

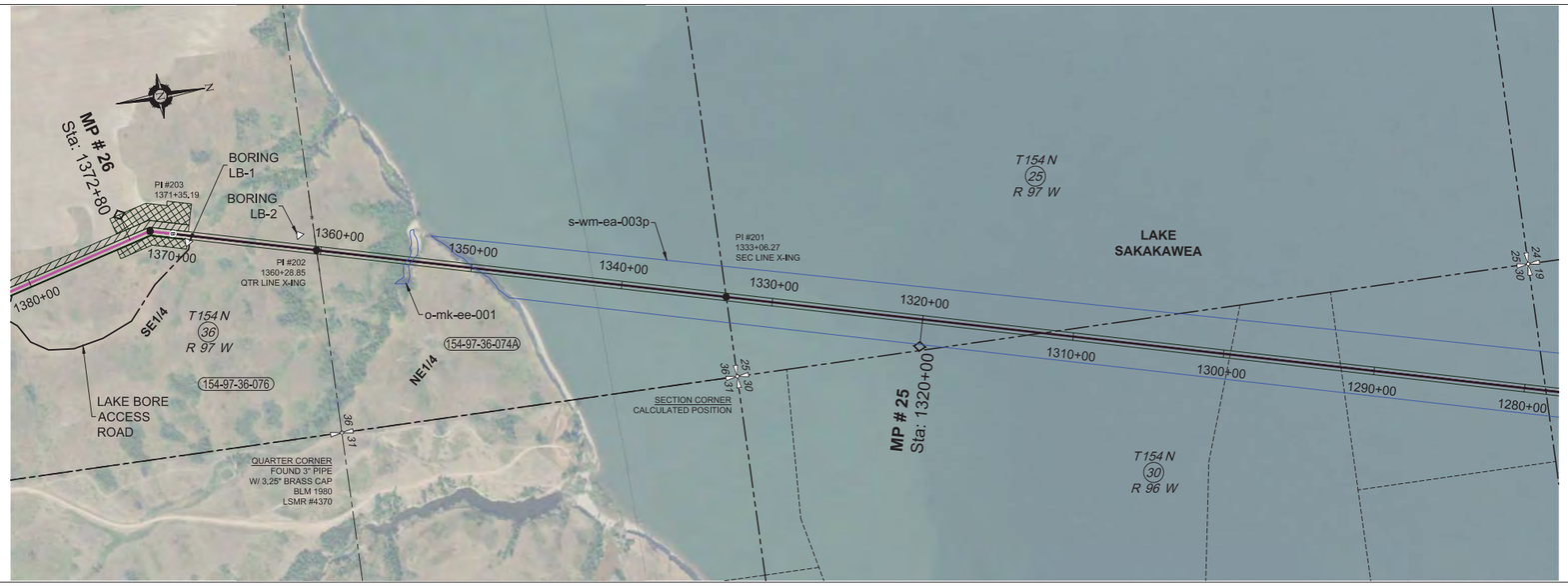
PIPE SCHMATIC



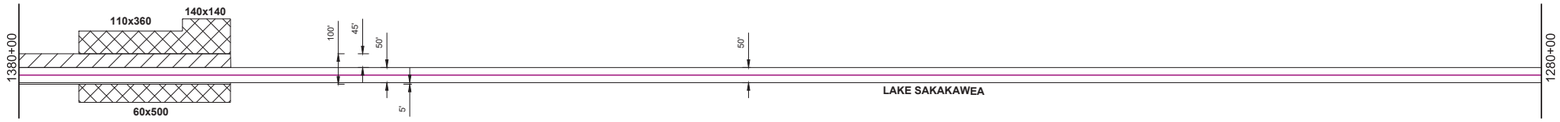
FEATURES

1369+84 Begin Bore

ALIGN



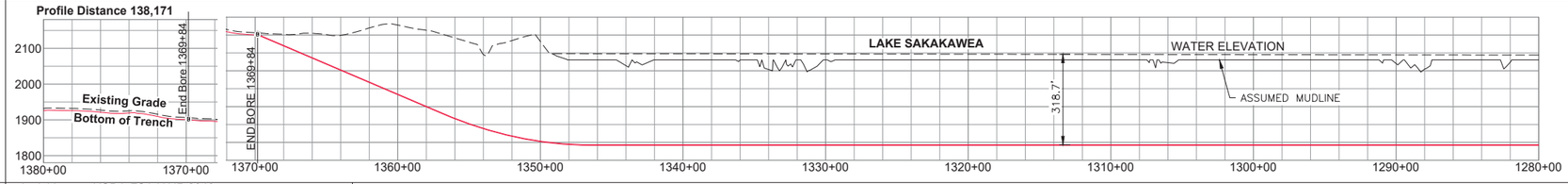
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

PROFILE



Ref. Dwgs. Aerial Image: USDA-FSA NAIP 2018

PI TABLE

PI #	STATION	DEFLECTION
PI #201	1333+06.27	00° 00'
PI #202	1360+28.85	00° 00'
PI #203	1371+35.19	30°00'L

Wetlands Waterbodies
Noxious Weeds
Dask Reproductive Habitat

Permanent Easement
Temporary Workspace
Additional Temp. Workspace

ENVIRONMENTAL NOTES:
1. *Wetlands depicted on these sheets represent actual field survey data or NWI.*
2. *Actual wetland or stream width may vary at time of construction.*

* *Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction*

PRELIMINARY

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ERICKSON CONTRACT SURVEYING
333 10th Ave. SE Sidney, Montana
Office 406-482-6606 / Fax 406-482-6600

ECS Project # 2018-23-0200

SURVEY DATUM

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Drawing Date:	01-31-2019
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
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- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
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- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	1,055	24" 0.312" W.T., API 5L-X65, ERW, w/FBE
2	8,984	24" 0.375" W.T., API 5L-X65, ERW, w/FBE & ARO

REVISIONS

No.	Date	Description
1	1/17/20	Cultural / Dask Re-routes

NORTH BAKKEN EXPANSION PIPELINE
TIOGA-ELKHORN CREEK LINE

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

WBI ENERGY TRANSMISSION
An MDU Resources Group company

Sec. 30, T154N, R96W,
Sec. 25, 36,T154N, R97W,
5th P.M., Mckenzie Co., North Dakota

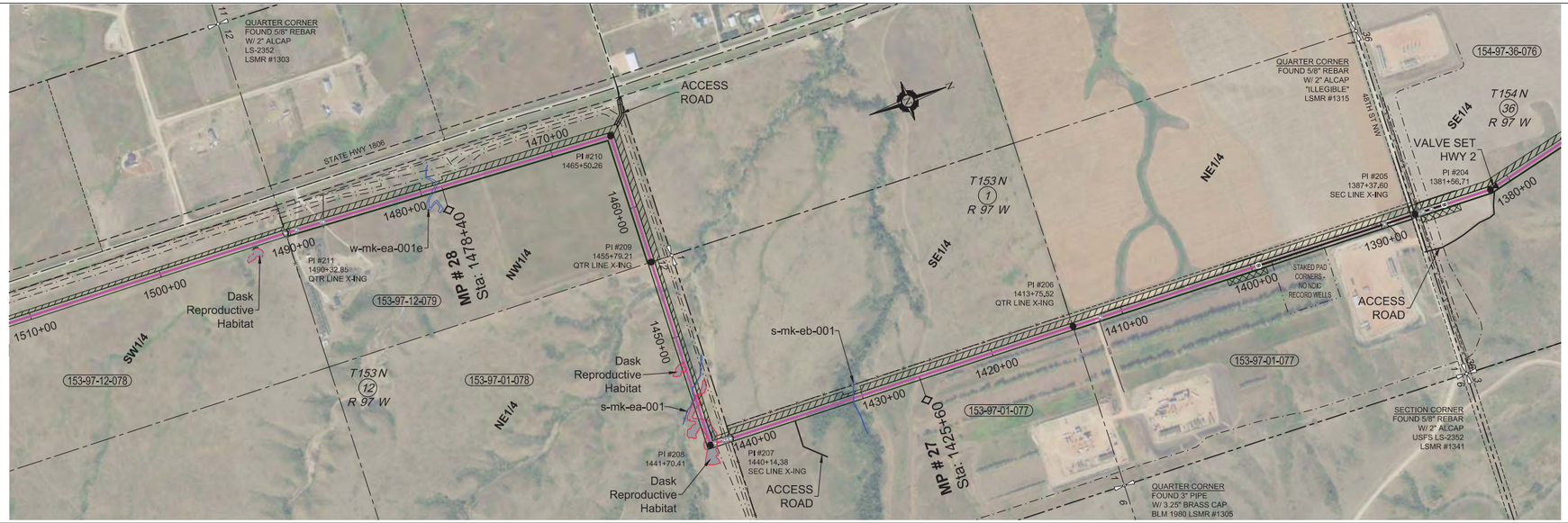
Sheet 12 | R1

Co, State	SECTION 36, T154N, R97W, SECTIONS 1, 12, T153N, R97W, MCKENZIE COUNTY, NORTH DAKOTA											
OWNER	**153-97-12-078** E1/2 SW1/4 SEC. 12, T153N, R97W 2638' Uncultivated	1490+33	**153-97-01-079** E1/2 NW1/4 EX RW, IT1388 & IT2044 SEC. 12, T153N, R97W 1554' Cultivated - 1900' Uncultivated	1455+79	**153-97-01-078** NE1/4 SEC. 12, T153N, R97W 1565' Uncultivated	1440+14	**153-97-01-077** E1/2 SE1/4 SEC. 1, T153N, R97W 2639' Uncultivated	1413+76	**153-97-01-077** SE1/4 NE1/4, GOV'T LOT 1 SEC. 1, T153N, R97W 2638' Uncultivated	1387+38	**154-97-36-076** SE1/4 SEC. 36, T154N, R97W 567' Cultivated - 2142' Uncultivated	
RODDAGE	2638.34' / 159.90 Rods		3453.64' / 209.31 Rods		1564.83' / 94.84 Rods		2638.86' / 159.93 Rods		2637.92' / 159.87 Rods		2708.75' / 164.17 Rods	

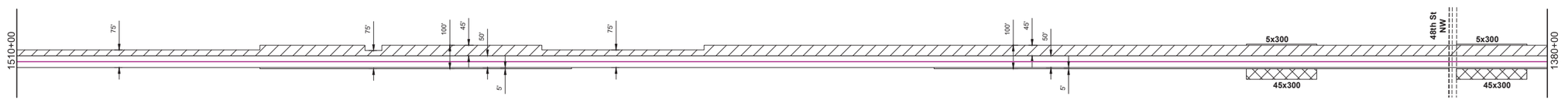
PIPE SCHMATIC: 1510+00 — ① — 1399+45 — ② — 1385+12 — ① — 1380+00

FEATURES: 1490+36 Fence; 1489+51 Driveway; 1487+58 Driveway; 1487+44 UGE; 1441+32 Waterline; 1440+43 Oneok Line; 1440+62 Oneok Line; 1440+17 Fence; 1411+63 UGE; 1399+45 End Bore; 1389+72 UGE; 1387+54 48th St NW; 1387+16 FENCE; 1387+02 UGE; 1386+76 TG Line; 1386+12 Oneok Line; 1385+12 Begin Bore

ALIGN



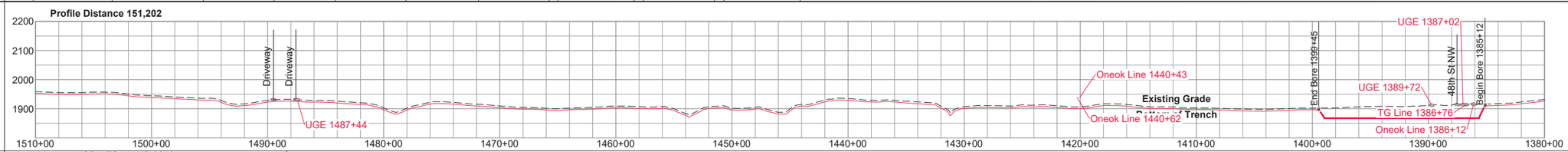
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name					s-mk-ea-001		s-mk-eb-001	
	Crossing Method					Open-Cut		Open-Cut	
	Bridge					Yes		Yes	
Wetland Crossing	Name			w-mk-ea-001e					
	Survey Extent	1492+90	1479+03	1478+85	1447+80	1445+71	1443+50	1430+67	
Environmental Feature		Dask RH	Wetland		Dask RH	Minor Stream	Dask RH	Minor Stream	
Miscellaneous/Comments		Approx. 36' LF Dask Fencing	Approx. 30' ECD Approx. 30' mats			Spoil Setback 10' min. from bank		Spoil Setback 10' min. from bank	
Seeding Mix									

PROFILE



Ref. Dwgs. Aerial Image: USDA-FSA NAIP 2018

PI TABLE		
PI #	**STATION**	DEFLECTION
PI #204	1381+56.71	15° 00'R
PI #205	1387+37.60	00° 00'
PI #206	1413+75.52	00° 00'
PI #207	1440+14.38	00° 00'
PI #208	1441+70.41	90° 00'R
PI #209	1455+79.21	00° 00'
PI #210	1465+50.26	88° 30'L
PI #211	1490+32.85	1° 30'L

Wetlands
Waterbodies
Noxious Weeds
Dask Reproductive Habitat
Permanent Easement
Temporary Workspace
Additional Temp. Workspace

ENVIRONMENTAL NOTES:
1. Wetlands depicted on these sheets represent actual field survey data or NWI.
2. Actual wetland or stream width may vary at time of construction.

* Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction

PRELIMINARY

Surveying & Drafting Services By:
ECS INC.
ERICKSON CONTRACT SURVEYING
333 10th Ave. SE Sidney, Montana
Office 406-482-6606 / Fax 406-482-6600

ECS Project # 2018-23-0200

SURVEY DATUM

North Dakota North (NAD 83) - U.S. Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.999846363
Grid Distance x 1.000153661 = Ground Distance.

Drawing Date:	01-31-2019
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- CTP test station
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	11,590	24" 0.312" W.T., API 5L-X65, ERW, w/FBE
2	1,433	24" 0.375" W.T., API 5L-X65, ERW, w/FBE & ARO

REVISIONS

No.	Date	Description
1	1/17/20	Cultural / Dask Re-routes

NORTH BAKKEN EXPANSION PIPELINE
TIOGA-ELKHORN CREEK LINE

WBI ENERGY TRANSMISSION
An MDU Resources Group company

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

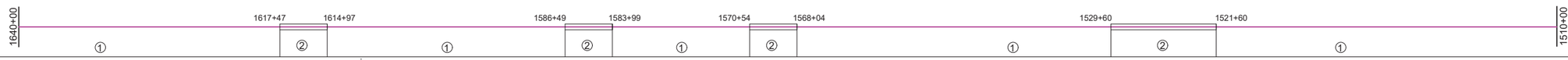
1" = 500' HORIZ.
1" = 200' VERT.

Sec. 36, T154N, R97W,
Sec. 1, 12, T153N, R97W,
5th P.M., Mckenzie Co., North Dakota

Sheet 13 | R1

Co, State	SECTIONS 13, 14, 22, 23, T153N, R97W, MCKENZIE COUNTY, NORTH DAKOTA																	
OWNER	153-97-22-087 S1/2 NE1/4 SEC. 22, T153N, R97W 761' Uncultivated	1639+14	153-97-23-086 SW1/4 NW1/4 SEC. 23, T153N, R97W 931' Uncultivated	1629+83	153-97-23-085 NW1/4NW1/4 SEC. 23, T153N, R97W 1849' Cultivated - 433' Uncultivated	1616+22	153-97-14-084 SW1/4 SEC. 14, T153N, R97W 1849' Cultivated - 791' Uncultivated	1589+82	153-97-14-083 NW1/4 SEC. 14, T153N, R97W 1588' Cultivated - 527' Uncultivated	1567+47	153-97-14-082 NE1/4 SEC. 14, T153N, R97W 3260' Uncultivated	1541+83	153-97-13-081 NW1/4 SEC. 13, T153N, R97W 2486' Uncultivated	1516+71				
RODDAGE	760.90' / 46.12 Rods		930.87' / 56.42 Rods		1360.80' / 82.47 Rods		2639.98' / 160.00 Rods		2115.20' / 128.19 Rods		3259.55' / 197.55 Rods		2486.05' / 150.67 Rods					

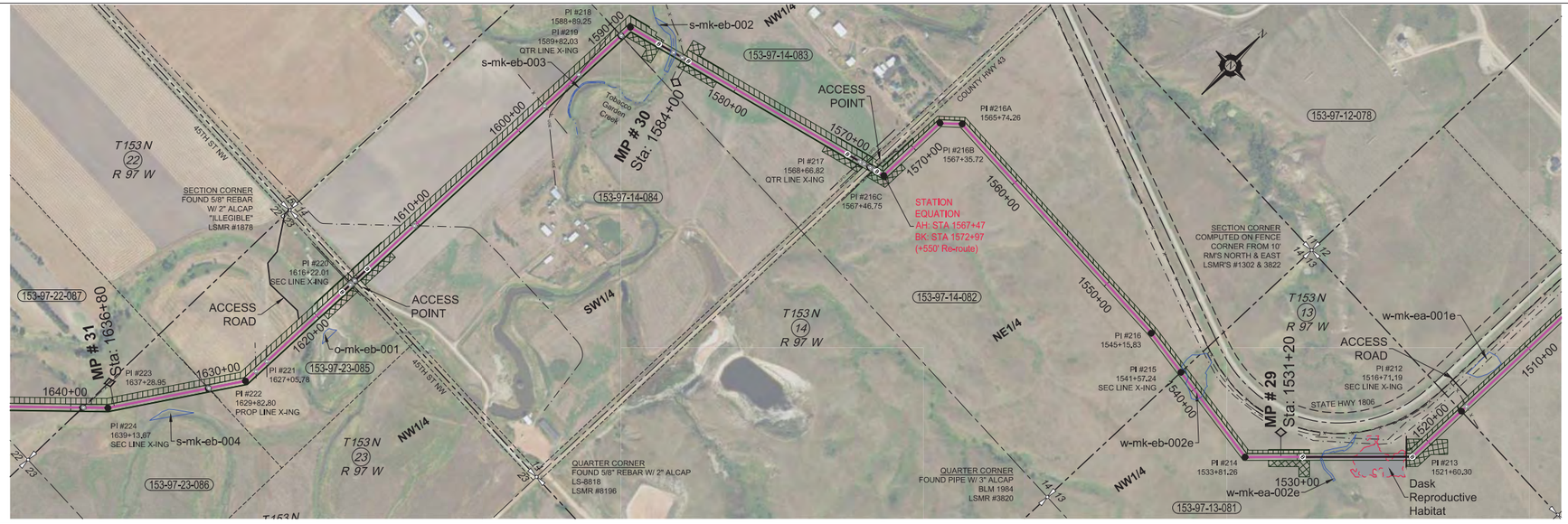
PIPE SCHMATIC



FEATURES



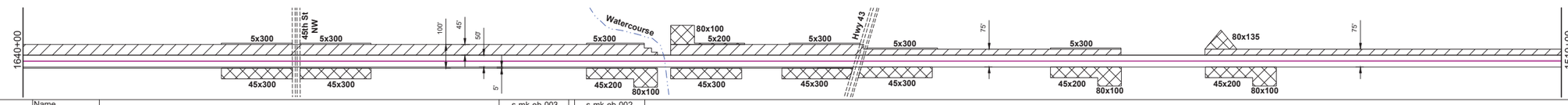
ALIGN



PI TABLE		
PI #	STATION	DEFLECTION
PI #212	1516+71.19	00° 00'
PI #213	1521+60.30	43° 00'R
PI #214	1533+81.26	41° 30'R
PI #215	1541+57.24	00° 00'
PI #216	1545+15.83	5° 00'L
PI #216A	1565+74.26	45° 30'L
PI #216B	1567+35.72	45° 30'L
PI #216C	1567+46.75	73° 30'R
PI #217	1568+66.82	00° 00'
PI #218	1588+89.25	73° 00'L
PI #219	1589+82.03	00° 00'
PI #220	1616+22.01	00° 00'
PI #221	1627+05.78	31° 30'R
PI #222	1629+82.80	00° 00'
PI #223	1637+28.95	12° 00'R
PI #224	1639+13.67	00° 00'

Wetlands
Waterbodies
Noxious Weeds
Dask Reproductive Habitat

WORK SPACE N.T.S.



Permanent Easement
Temporary Workspace
Additional Temp. Workspace

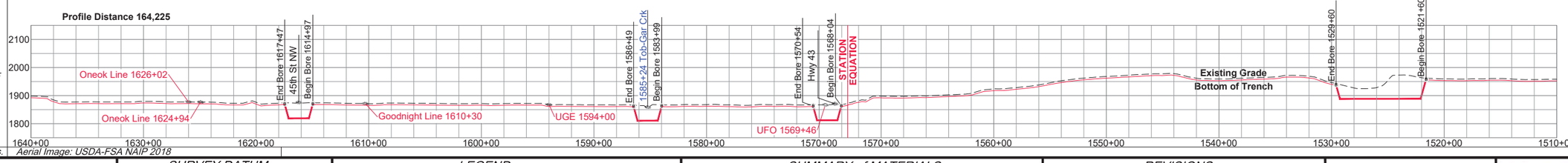
ENVIRONMENTAL NOTES:
1. Wetlands depicted on these sheets represent actual field survey data or NWI.
2. Actual wetland or stream width may vary at time of construction.

* Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction

ENVIRO

Water Crossing	Name						s-mk-eb-003		s-mk-eb-002									
	Crossing Method						Bore		Bore									
	Bridge						Yes		Yes									
Wetland Crossing	Name	s-mk-eb-004		o-mk-eb-001								w-mk-eb-002e		w-mk-ea-002e			w-mk-ea-001e	
	Survey Extent	1632+98		1620+42			1594+55		1582+24			1513+09	1528+28	1528+19	1523+95		1513+09	
Environmental Feature		Wetland		Wetland			Int Stream		Int Stream			Wetland		Wetland	Dask RH		Wetland	
Miscellaneous/Comments							Spoil Setback		Spoil Setback					Approx. 100' ECD	Approx. 225' LF			
							10' min. from bank		10' min. from bank					Approx. 100' mats	Dask Fencing			
Seeding Mix																		

PROFILE



PRELIMINARY

Ref. Dwgs. Aerial Image: USDA-FSA NAIP 2018

Surveying & Drafting Services By:
ECS INC.
ERICKSON CONTRACT SURVEYING
333 10th Ave. SE Sidney, Montana
Office 406-482-6606 / Fax 406-482-6600

ECS Project # 2018-23-0200

SURVEY DATUM

North Dakota North (NAD 83) - U.S. Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.999846363
Grid Distance x 1.000153661 = Ground Distance.

Drawing Date:	01-31-2019
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- CTP test station
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	11,473	24" 0.312" W.T., API 5L-X65, ERW, w/FBE
2	1550	24" 0.375" W.T., API 5L-X65, ERW, w/FBE & ARO

REVISIONS

No.	Date	Description
1	1/17/20	Cultural / Dask Re-routes

NORTH BAKKEN EXPANSION PIPELINE
TIOGA-ELKHORN CREEK LINE

WBI ENERGY TRANSMISSION
An MDU Resources Group company

500 0 500 1000 feet
scale 1" = 500' - 22 x 34
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

Sec. 13, 14, 22, 23, T153N, R97W,
5th P.M., Mckenzie Co., North Dakota

Sheet 14 | R1

Co, State	SECTIONS 22, 27, 28, T153N, R97W, MCKENZIE COUNTY, NORTH DAKOTA							
OWNER	**153-97-28-092** SE1/4 SE1/4 EX IT #2707 SEC. 28, T153N, R97W 963' Cultivated - 357' Uncultivated	1757+23	**153-97-28-091** NE1/4 SE1/4 SEC. 28, T153N, R97W 125' Cultivated - 175' Uncultivated	1754+22	**153-97-27-090** NW1/4 SW1/4 SEC. 27, T153N, R97W 2235' Cultivated - 243' Uncultivated	1729+45	**153-97-27-090** W1/2 NW1/4 SEC. 27, T153N, R97W 2352' Cultivated - 293' Uncultivated	1703+00
RODDAGE	1319.66' / 79.98 Rods		300.42' / 18.21 Rods		2477.52' / 150.15 Rods		2644.95' / 160.30 Rods	

OWNER	**153-97-22-089** W1/2 SW1/4 EX 9.77 A RW SEC. 22, T153N, R97W 639' Uncultivated	1696+61	**153-97-22-088** E1/2 SW1/4 SEC. 22, T153N, R97W 2522' Uncultivated	1668+62	**153-97-22-087** N1/2 SE1/4 SEC. 22, T153N, R97W 2187' Uncultivated	1646+75	**153-97-22-087** S1/2 NE1/4 SEC. 22, T153N, R97W 761' Uncultivated
RODDAGE	638.79' / 38.71 Rods		2521.91' / 152.84 Rods		2186.94' / 132.54 Rods		760.90' / 46.12 Rods

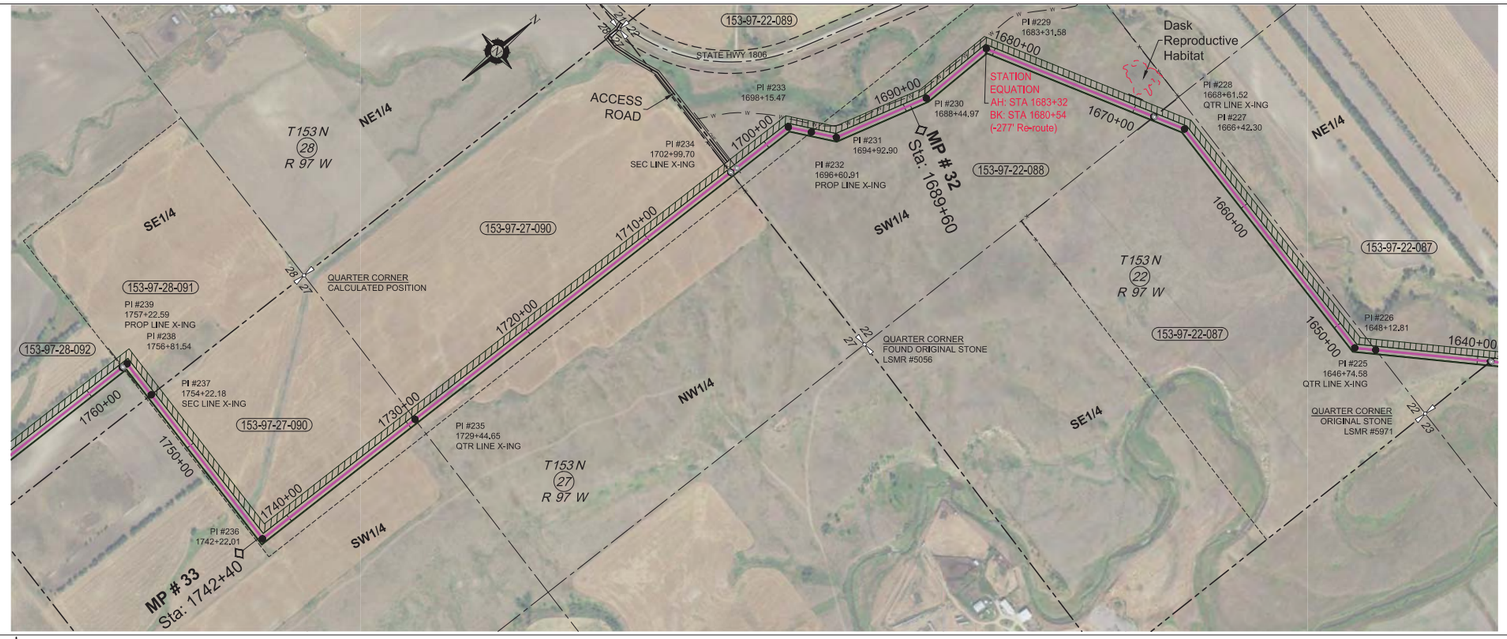
PIPE SCHMATIC

1760+00 — ① — 1640+00

FEATURES

1757+17 Fence; 1702+98 Fence; 1702+50 OHE; 1668+56 Fence

ALIGN



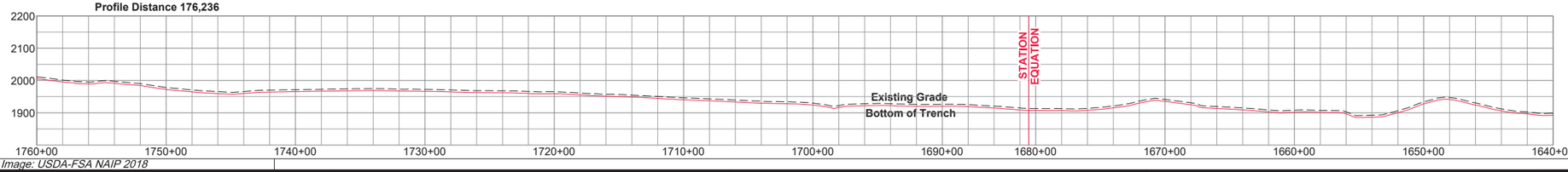
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name		
	Crossing Method	Bridge	
Wetland Crossing	Name		
	Survey Extent	1670+25	
Environmental Feature		Dask RH	
Miscellaneous/Comments		Approx. 95' LF	
Seeding Mix		Dask Fencing	

PROFILE



Ref. Dwgs. Aerial Image: USDA-FSA NAIP 2018

PI TABLE		
PI #	STATION	DEFLECTION
PI #225	1646+74.58	00° 00'
PI #226	1648+12.81	46° 30'R
PI #227	1666+42.30	30° 00'L
PI #228	1668+61.52	00° 00'
PI #229	1683+31.58	61°30'L
PI #230	1688+44.97	16° 00'R
PI #231	1694+92.90	35° 30'R
PI #232	1696+60.91	00° 00'
PI #233	1698+15.47	50° 00'L
PI #234	1702+99.70	00° 00'
PI #235	1729+44.65	00° 00'
PI #236	1742+22.01	90° 00'R
PI #237	1754+22.18	00° 00'
PI #238	1756+81.54	90° 00'L
PI #239	1757+22.59	00° 00'

Wetlands
Waterbodies
Noxious Weeds
Dask Reproductive Habitat
Permanent Easement
Temporary Workspace
Additional Temp. Workspace

ENVIRONMENTAL NOTES:
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PRELIMINARY

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ERICKSON CONTRACT SURVEYING
333 10th Ave. SE Sidney, Montana
Office 406-482-6606 / Fax 406-482-6600

ECS Project # 2018-23-0200

SURVEY DATUM

North Dakota North (NAD 83) - U.S. Foot
*Distances are Grid Distances.
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Grid Distance x 1.000153661 = Ground Distance.

Drawing Date:	01-31-2019
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- CTP test station
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	12,011	24" 0.312" W.T., API 5L-X65, ERW, w/FBE

REVISIONS

No.	Date	Description
1	1/17/20	Cultural / Dask Re-routes

NORTH BAKKEN EXPANSION PIPELINE
TIOGA-ELKHORN CREEK LINE

WBI ENERGY TRANSMISSION
An MDU Resources Group company

500 0 500 1000 feet
scale 1" = 500' - 22 x 34
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

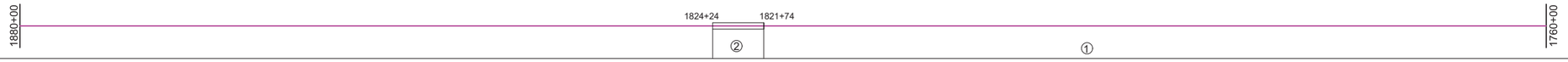
Sec. 22, 27, 28, T153N, R97W,
5th P.M., Mckenzie Co., North Dakota

Sheet 15 | R1

Co, State	SECTION 33, T153N, R97W, SECTION 6, T152N, R97W, MCKENZIE COUNTY, NORTH DAKOTA					
OWNER	**152-97-06-095** LOTS 13 & 14 SEC. 6, T152N, R97W 2139' Cultivated - 503' Uncultivated	1861+81	**152-97-06-095** LOTS 11, 12 SEC. 6, T152N, R97W 1202' Cultivated - 119' Uncultivated	1848+60	**152-97-06-094** LOTS 3, 4, 5 & 6 SEC. 6, T152N, R97W 1670' Cultivated - 859' Uncultivated	1823+31
RODDAGE	2641.70' / 160.10 Rods		1320.86' / 80.05 Rods		2529.23' / 153.29 Rods	

OWNER	**153-97-33-093** E1/2 SE1/4 SEC. 33, T153N, R97W 1974' Cultivated - 661' Uncultivated	1796+96	**153-97-33-093** E1/2 NE1/4 SEC. 33, T153N, R97W 2534' Cultivated - 119' Uncultivated	1770+42	**153-97-28-092** SE1/4 SE1/4 EX IT #2707 SEC. 28, T153N, R97W 963' Cultivated - 357' Uncultivated
RODDAGE	2635.29' / 159.71 Rods		2653.32' / 160.81 Rods		1319.66' / 79.98 Rods

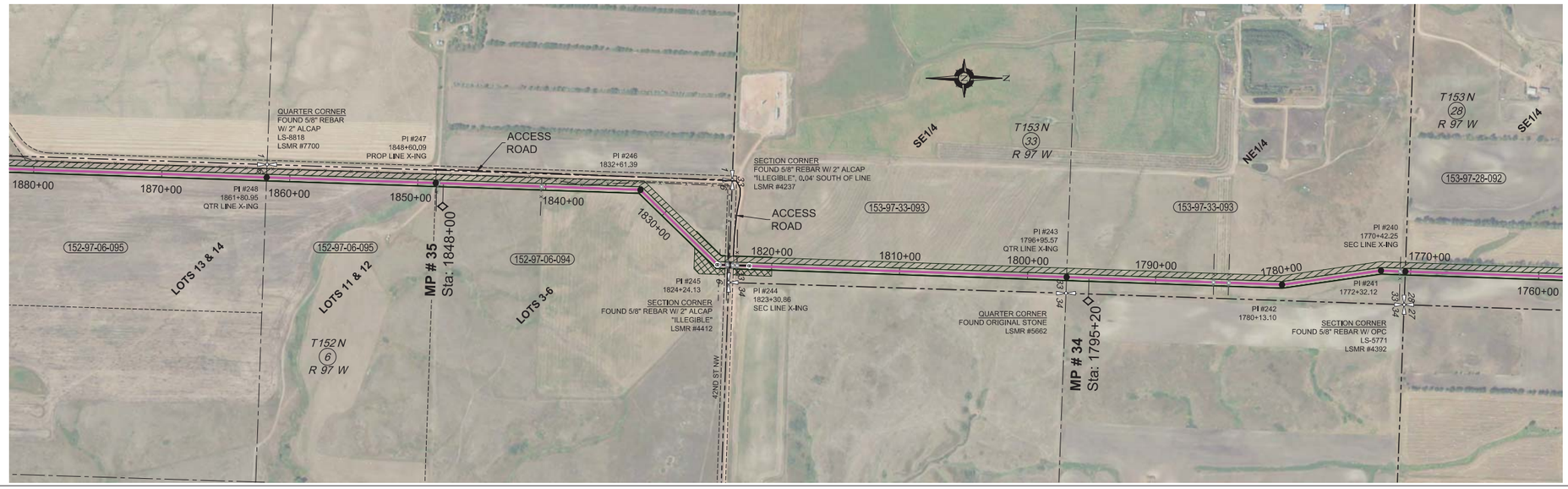
PIPE SCHMATIC



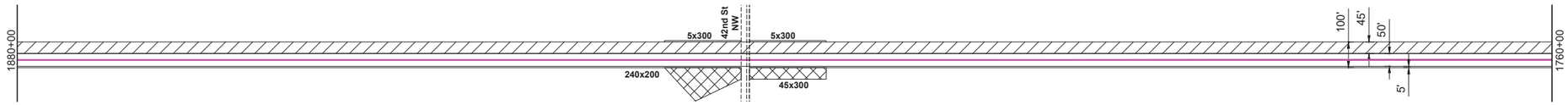
FEATURES

1848+40 Fence
1840+34 Fence
1824+24 End Bore
1824+05 Oneok Line
1823+45 Fence
1823+41 OHE
1823+03 42nd St NW
1822+69 Fence
1821+74 Begin Bore
1785+48 Fence
1784+29 Fence
1770+82 Fence

ALIGN



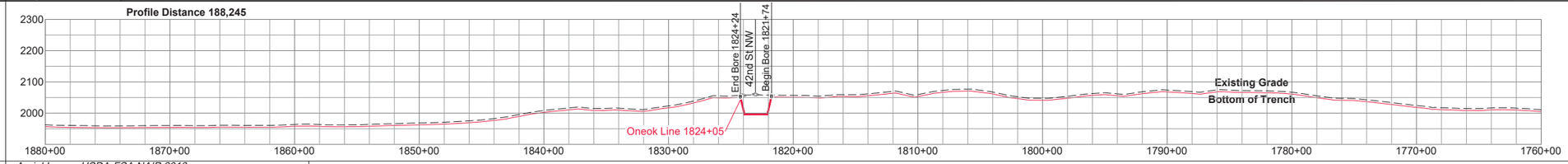
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

PROFILE



Ref. Dwgs. Aerial Image: USDA-FSA NAIP 2018

PI TABLE

PI #	STATION	DEFLECTION
PI #240	1770+42.25	00° 00'
PI #241	1772+32.12	10° 00'L
PI #242	1780+13.10	10° 00'R
PI #243	1796+95.57	00° 00'
PI #244	1823+30.86	00° 00'
PI #245	1824+24.13	42° 00'R
PI #246	1832+61.39	42° 00'L
PI #247	1848+60.09	00° 00'
PI #248	1861+80.95	00° 00'
PI #249	1888+22.65	00° 00'

Wetlands
Waterbodies

Noxious Weeds

Dask Reproductive Habitat

Permanent Easement

Temporary Workspace

Additional Temp. Workspace

ENVIRONMENTAL NOTES:
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ERICKSON CONTRACT SURVEYING
333 10th Ave. SE Sidney, Montana
Office 406-482-6606 / Fax 406-482-6600

ECS Project # 2018-23-0200

SURVEY DATUM

North Dakota North (NAD 83) - U.S. Foot
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Drawing Date:	01-31-2019
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
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- Alignment PI
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- UG Electric
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SUMMARY of MATERIALS

Mark	Quantity	Description
1	11,759	24" 0.312" W.T., API 5L-X65, ERW, w/FBE
2	250	24" 0.375" W.T., API 5L-X65, ERW, w/FBE & ARO

REVISIONS

No.	Date	Description
1	1/17/20	Cultural / Dask Re-routes

NORTH BAKKEN EXPANSION PIPELINE

TIOGA-ELKHORN CREEK LINE

WBI ENERGY TRANSMISSION
An MDU Resources Group company

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
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1" = 500' HORIZ.
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Sec. 33, T153N, R97W,
Sec. 6, T152N, R97W, 5th P.M.,
Mckenzie Co., North Dakota

Sheet 16 R1

Co, State	SECTIONS 7, 18, T152N, R97W, SECTION 13, T152N, R98W, MCKENZIE COUNTY, NORTH DAKOTA

OWNER	1981+59	152-98-13-102 NW1/4 SE1/4 SEC. 13, T152N, R98W 184' Uncultivated	1979+74	152-98-13-101 NE1/4 SEC. 13, T152N, R98W 3066' Cultivated - 103' Uncultivated	1948+06	152-97-18-099 LOTS 1, 2, 3 & 4 SEC. 18, T152N, R97W 703' Uncultivated	1941+02	152-97-07-097 LOTS 3 & 4 SEC. 7, T152N, R97W 2396' Cultivated - 244' Uncultivated	1914+62	152-97-07-096 LOTS 1 & 2 SEC. 7, T152N, R97W 2588' Cultivated - 52' Uncultivated	1888+23
RODDAGE		184.33' / 11.17 Rods		3168.59' / 192.04 Rods		703.38' / 42.63 Rods		2639.99' / 160.00 Rods		2639.63' / 159.98 Rods	

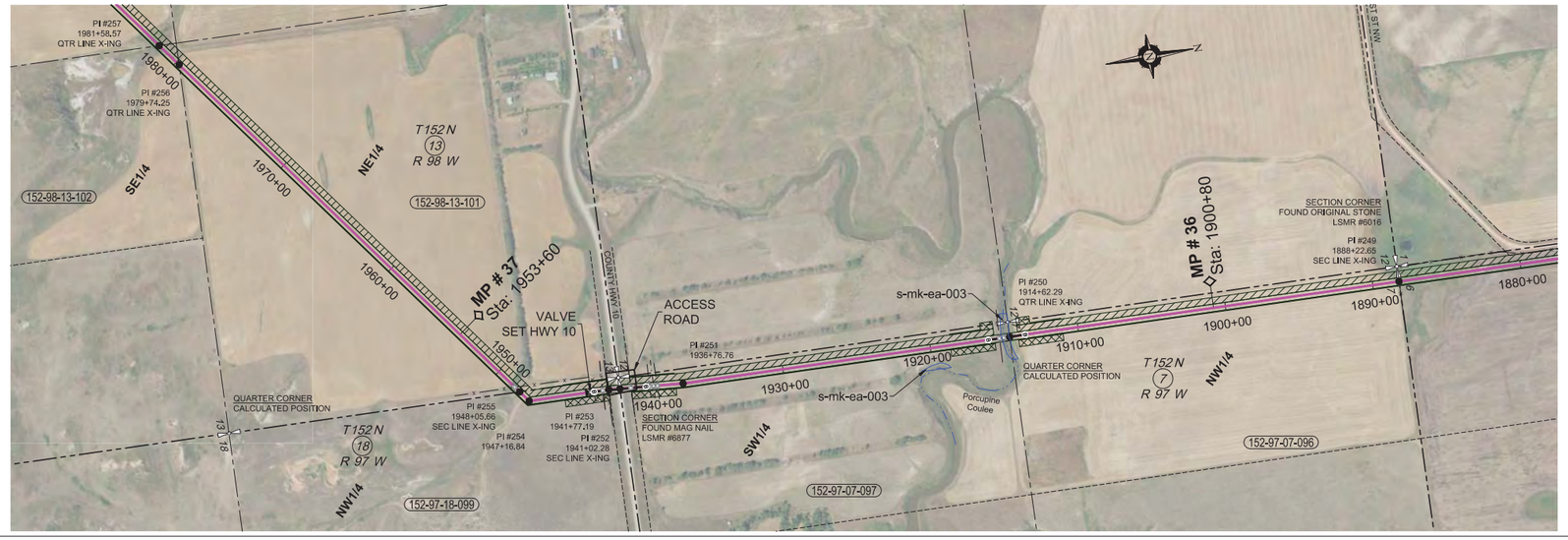
PIPE SCHMATIC



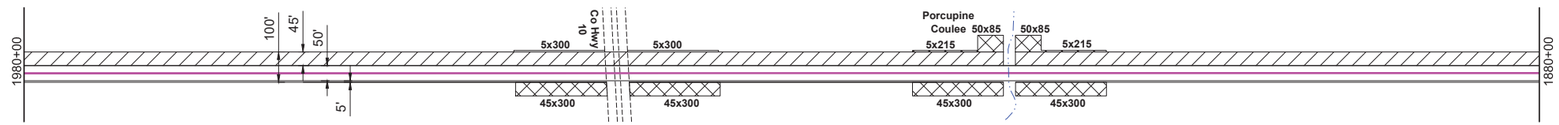
FEATURES

1948+52 Fence
1943+02 Valve-Hwy 10
1942+77 End Bore
1942+77 Fence
1942+19 UFO
1941+84 OHE
1941+02 Co Hwy 10
1940+29 Fence
1939+27 Begin Bore
1939+03 Oneok Line
1938+75 KM Line
1938+50 Oneok Line
1916+07 End Bore
1915+31 Fence
1915+03 Porcupine Cou
1913+57 Begin Bore
1888+22 Fence

ALIGN



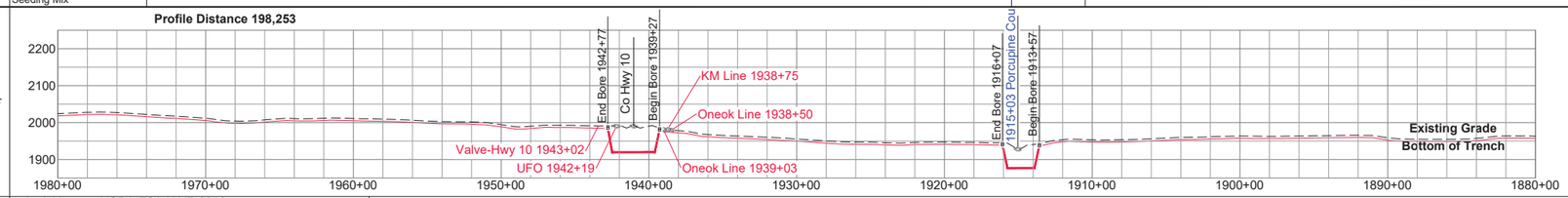
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name		s-mk-ea-003		s-mk-ea-003
	Crossing Method				Bore
	Bridge		Yes		Yes
Wetland Crossing	Name				
	Survey Extent		1920+00	1915+16	1914+65
Environmental Feature			Int Stream		Int Stream
Miscellaneous/Comments					
Seeding Mix					

PROFILE



Ref. Dwgs. Aerial Image: USDA-FSA NAIP 2018

PI TABLE		
PI #	STATION	DEFLECTION
PI #250	1914+62.29	00° 00'
PI #251	1936+76.76	3° 30'R
PI #252	1941+02.28	00° 00'
PI #253	1941+77.19	3° 30'L
PI #254	1947+16.84	52° 00'R
PI #255	1948+05.66	00° 00'
PI #256	1979+74.25	00° 00'
PI #257	1981+58.57	00° 00'

Wetlands
Waterbodies
Noxious Weeds
Dask Reproductive Habitat

Permanent Easement
Temporary Workspace
Additional Temp. Workspace

ENVIRONMENTAL NOTES:
1. Wetlands depicted on these sheets represent actual field survey data or NWI.
2. Actual wetland or stream width may vary at time of construction.

* Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction

PRELIMINARY

Surveying & Drafting Services By:
ECS INC.
ERICKSON CONTRACT SURVEYING
333 10th Ave. SE Sidney, Montana
Office 406-482-6606 / Fax 406-482-6600

ECS Project # 2018-23-0200

SURVEY DATUM

North Dakota North (NAD 83) - U.S. Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.999846363
Grid Distance x 1.000153661 = Ground Distance.

Drawing Date:	01-31-2019
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- CTP test station
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	9,408	24" 0.312" W.T., API 5L-X65, ERW, w/FBE
2	600	24" 0.375" W.T., API 5L-X65, ERW, w/FBE & ARO

REVISIONS

No.	Date	Description
1	1/17/20	Cultural / Dask Re-routes

NORTH BAKKEN EXPANSION PIPELINE
TIOGA-ELKHORN CREEK LINE

WBI ENERGY TRANSMISSION
An MDU Resources Group company

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

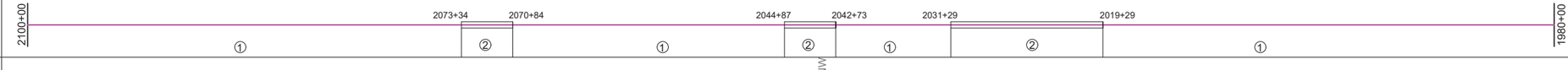
1" = 500' HORIZ.
1" = 200' VERT.

Sec. 7, 18, T152N, R97W,
Sec. 13, T152N, R98W, 5th P.M.,
Mckenzie Co., North Dakota

Sheet 17 | R1

Co, State	SECTIONS 13, 23, 24, 26, T152N, R98W, MCKENZIE COUNTY, NORTH DAKOTA						
OWNER	**152-98-26-108** S1/2 NE1/4 SEC. 26, T152N, R98W 1322' Uncultivated	2099+72	**152-98-26-107** N1/2 NE1/4 SEC. 26, T152N, R98W 1033' Cultivated - 1804' Uncultivated	2071+34	**152-98-23-106** SE1/4 SEC. 23, T152N, R98W 1033' Cultivated - 1729' Uncultivated	2043+72	**152-98-24-105** W1/2NW1/4SW1/4 SEC. 24, T152N, R98W 155' Cultivated - 76' Uncultivated
	2041+41	**152-98-24-105** W1/2SW1/4NW1/4, W1/2W1/2E1/2SW1/4NW1/4, W1/2E1/2NW1/4SW1/4, SEC. 24, T152N, R98W 891' Cultivated - 474' Uncultivated	2027+76	**152-98-24-104** NW1/4NW1/4 SEC. 24, T152N, R98W 533' Cultivated - 833' Uncultivated	2014+10	**152-98-13-103** N1/2SW1/4, SW1/4SW1/4 SEC. 13, T152N, R98W 3421' Cultivated - 169' Uncultivated	1981+59
RODDAGE	1321.61' / 80.10 Rods		2837.17' / 171.95 Rods		2762.03' / 167.40 Rods		231.26' / 14.02 Rods
	1364.99' / 82.73 Rods		1365.61' / 82.76 Rods		3251.91' / 197.09 Rods		

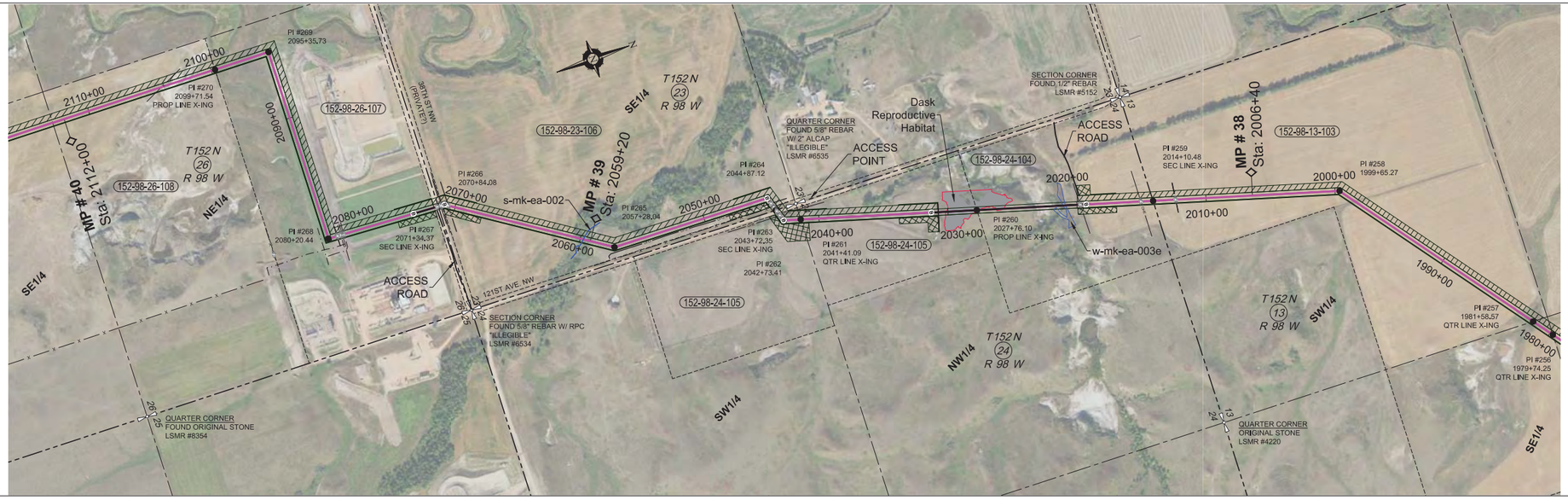
PIPE SCHMATIC



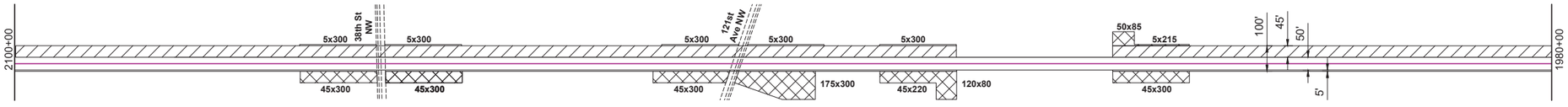
FEATURES

2080+32 Fence
2079+52 Oasis Line
2079+48 Oasis Line
2079+22 Oasis Line
2079+09 Oasis Line
2078+96 Oasis Line
2073+34 End Bore
2071+44 38th St NW
2071+15 Fence
2071+09 OHE
2070+84 Begin Bore
2070+55 UFO
2044+87 End Bore
2044+37 UFO
2044+04 Fence
2043+62 121st Ave NW
2043+21 OHE
2042+73 Begin Bore
2031+29 End Bore
2019+29 Begin Bore
2019+75 Fence
2015+05 OHE
2012+36 Pipelines

ALIGN



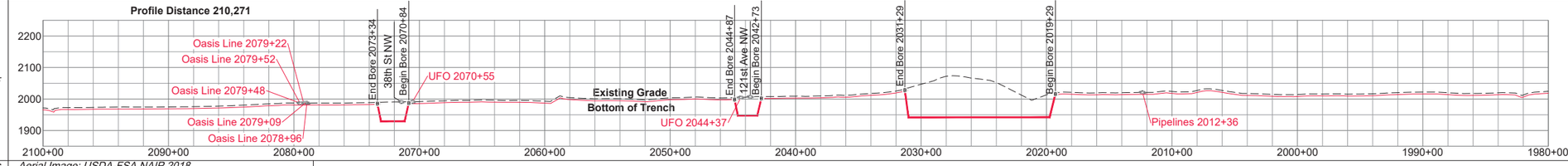
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name		s-mk-ea-002					
	Crossing Method		Open-cut					
	Bridge		Yes					
Wetland Crossing	Name						w-mk-ea-003e	
	Survey Extent		2059+76		2028+06	2021+82	2020+88	
Environmental Feature			Int Stream		Dask RH		Wetland	
Miscellaneous/Comments			Spoil Setback		Approx. 225' LF		Approx. 90' ECD	
			10' min. from bank		Dask Fencing		Approx. 90' mats	
Seeding Mix								

PROFILE



Ref. Dwgs. Aerial Image: USDA-FSA NAIP 2018

PI TABLE

PI #	STATION	DEFLECTION
PI #258	1999+65.27	37° 00'L
PI #259	2014+10.48	00° 00'
PI #260	2027+76.10	00° 00'
PI #261	2041+41.09	00° 00'
PI #262	2042+73.41	56° 00'R
PI #263	2043+72.35	00° 00'
PI #264	2044+87.12	71° 00'L
PI #265	2057+28.04	32° 00'R
PI #266	2070+84.08	30° 30'L
PI #267	2071+34.37	00° 00'
PI #268	2080+20.44	88° 30'R
PI #269	2095+35.73	90° 00'L
PI #270	2099+71.54	00° 00'

Wetlands
Waterbodies
Noxious Weeds
Dask Reproductive Habitat

Permanent Easement
Temporary Workspace
Additional Temp. Workspace

ENVIRONMENTAL NOTES:
1. Wetlands depicted on these sheets represent actual field survey data or NWI.
2. Actual wetland or stream width may vary at time of construction.

* Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction

PRELIMINARY

Surveying & Drafting Services By:
ECS INC.
ERICKSON CONTRACT SURVEYING
333 10th Ave. SE Sidney, Montana
Office 406-482-6606 / Fax 406-482-6600

ECS Project # 2018-23-0200

SURVEY DATUM

North Dakota North (NAD 83) - U.S. Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.999846363
Grid Distance x 1.000153661 = Ground Distance.

Drawing Date:	01-31-2019
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- CTP test station
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	13,354	24" 0.312" W.T., API 5L-X65, ERW, w/FBE
2	1664	24" 0.375" W.T., API 5L-X65, ERW, w/FBE & ARO

REVISIONS

No.	Date	Description
1	1/17/20	Cultural / Dask Re-routes

NORTH BAKKEN EXPANSION PIPELINE
TIOGA-ELKHORN CREEK LINE

WBI ENERGY TRANSMISSION
An MDU Resources Group company

500 0 500 1000 feet
scale 1" = 500' - 22 x 34
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

Sec. 13, 23, 24, 26 T152N, R98W,
5th P.M., Mckenzie Co., North Dakota

Sheet 18 | R1

Co, State	SECTION 26, 35, T152N, R98W, SECTION 2, T151N, R98W, MCKENZIE COUNTY, NORTH DAKOTA						
OWNER	**151-98-02-113** E1/2 SE1/4 SEC. 2, T151N, R98W 2503' Cultivated - 373' Uncultivated	2216+30	**151-98-02-113** S1/2 NE1/4 SEC. 2, T151N, R98W 1573' Cultivated - 46' Uncultivated	2200+11	**151-98-02-112** LOT 2 SEC. 2, T151N, R98W 1451' Cultivated - 81' Uncultivated	2184+79	**152-98-35-111** W1/2 SE1/4, NE1/4 SE1/4 SEC. 35, T152N, R98W 1268' Cultivated - 1371' Uncultivated
RODDAGE	2875.69' / 174.28 Rods		1619.37' / 98.14 Rods		1531.98' / 92.85 Rods		2638.91' / 159.93 Rods

OWNER		2166+04	**152-98-35-110** NE1/4, EX IT 1349 SEC. 35, T152N, R98W 2336' Cultivated - 331' Uncultivated	2139+38	**152-98-26-109** SE1/4 SEC. 26, T152N, R98W 2645' Cultivated	2112+93	
RODDAGE			2666.56' / 161.61 Rods		2644.64' / 160.28 Rods		

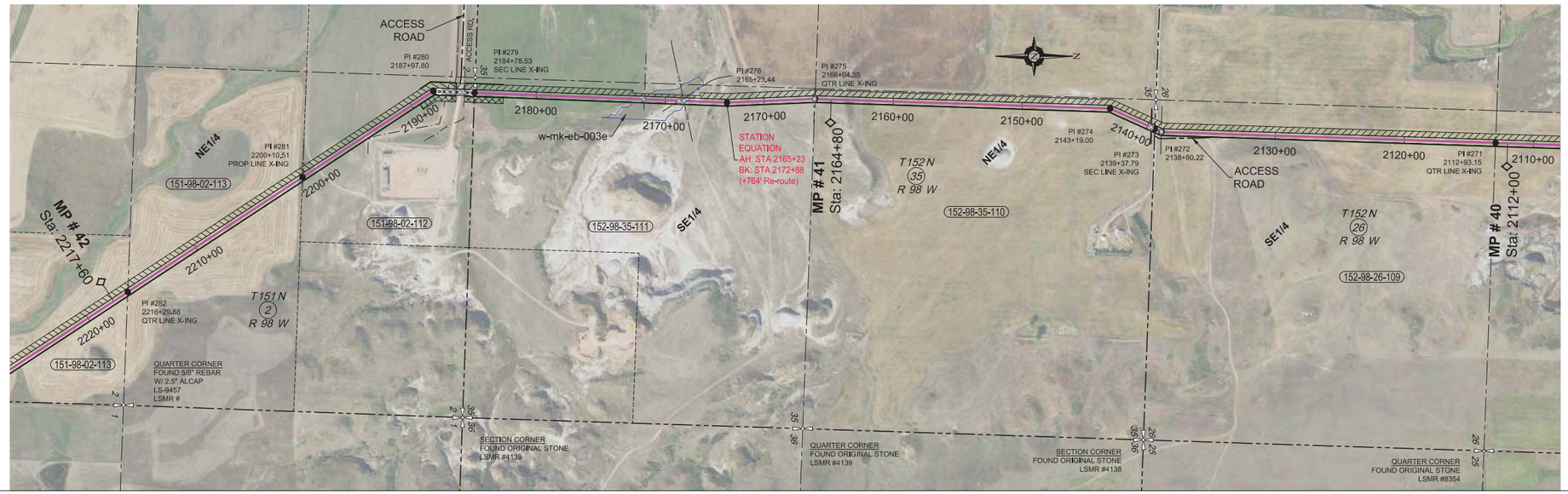
PIPE SCHMATIC



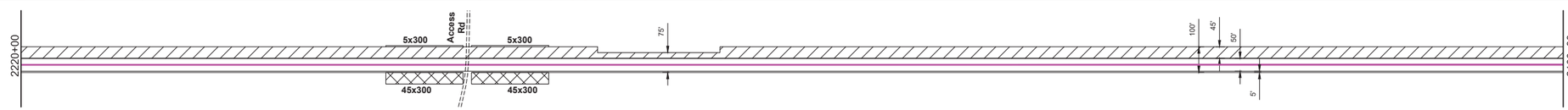
FEATURES

2200+08 Fence
2187+50 End Bore
2186+90 Water Line
2186+43 OHE
2185+92 Access Rd
2185+59 Oneok Line
2185+00 Begin Bore
2171+62 Fence
2168+92 Fence
2168+57 OHE
2166+08 Fence
2139+71 UFO
2139+66 UGE
2138+83 Fence

ALIGN



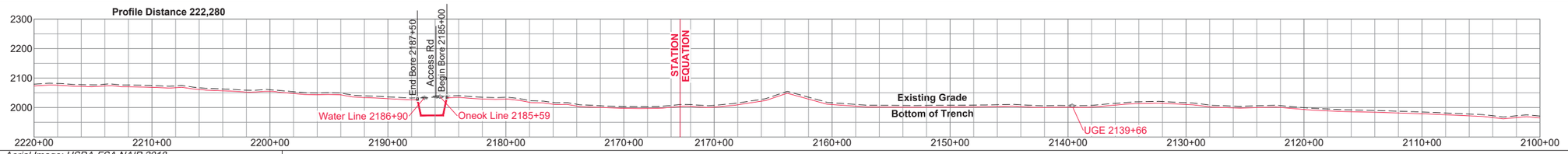
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name								
	Crossing Method								
	Bridge								
Wetland Crossing	Name				w-mk-eb-003e				
	Survey Extent			2171+62	2168+39				
Environmental Feature					Wetland				
Miscellaneous/Comments					Approx. 350' ECD				
					Approx. 350' mats				
Seeding Mix		Cultivated			Wetland	Standard	2155+10	Cultivated	2121+25 Standard

PROFILE



Ref. Dwgs. Aerial Image: USDA-FSA NAIP 2018

PI TABLE		
PI #	**STATION**	DEFLECTION
PI #271	2112+93.15	00° 00'
PI #272	2138+80.22	22° 30'R
PI #273	2139+37.79	00° 00'
PI #274	2143+19.00	22° 30'L
PI #275	2166+04.35	4° 30'L
PI #276	2165+23.44	4° 30'R
PI #279	2184+78.53	00° 00'
PI #280	2187+97.80	35° 30'L
PI #281	2200+10.51	00° 00'
PI #282	2216+29.88	00° 00'

Wetlands
Waterbodies
Noxious Weeds
Dask Reproductive Habitat
Permanent Easement
Temporary Workspace
Additional Temp. Workspace

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ERICKSON CONTRACT SURVEYING
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ECS Project # 2018-23-0200

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Drawing Date:	01-31-2019
Drawn By:	D. Smith
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- CTP test station
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- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	11,759	24" 0.312" W.T., API 5L-X65, ERW, w/FBE
2	250	24" 0.375" W.T., API 5L-X65, ERW, w/FBE & ARO

REVISIONS

No.	Date	Description
1	1/17/20	Cultural / Dask Re-routes

NORTH BAKKEN EXPANSION PIPELINE
TIOGA-ELKHORN CREEK LINE

WBI ENERGY TRANSMISSION
An MDU Resources Group company

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

Sec. 26, 35, T152N, R98W,
Sec. 2, T151N, R98W, 5th P.M.,
Mckenzie Co., North Dakota

Sheet 19 R1

Co, State	SECTIONS 2, 11, 13, 14, T151N, R98W, MCKENZIE COUNTY, NORTH DAKOTA					
OWNER	**151-98-13-122** NW1/4 SW1/4 SEC. 13, T151N, R98W 1273' Cultivated - 47' Uncultivated	2329+67	**151-98-13-121** W1/2 NW1/4 EX IT 2459, EX .89 A RW SEC. 13, T151N, R98W 2436' Cultivated - 33' Uncultivated	2304+98	**151-98-14-118** E1/2 NE1/4 NE1/4, EX .60 A RW SEC. 14, T151N, R98W 618' Cultivated - 96' Uncultivated	2297+84
RODDAGE	1319.59' / 79.98 Rods		2469.25' / 149.65 Rods		713.63' / 43.25 Rods	

OWNER		2271+42	**151-98-11-115** SE1/4 SEC. 11, T151N, R98W 2642' Uncultivated	2245+06	**151-98-11-114** NE1/4 SEC. 11, T151N, R98W 2388' Cultivated - 249' Uncultivated	**151-98-02-113** E1/2 SE1/4 SEC. 2, T151N, R98W 2503' Cultivated - 373' Uncultivated
RODDAGE			2641.80' / 160.11 Rods		2636.91' / 159.81 Rods	2875.69' / 174.28 Rods

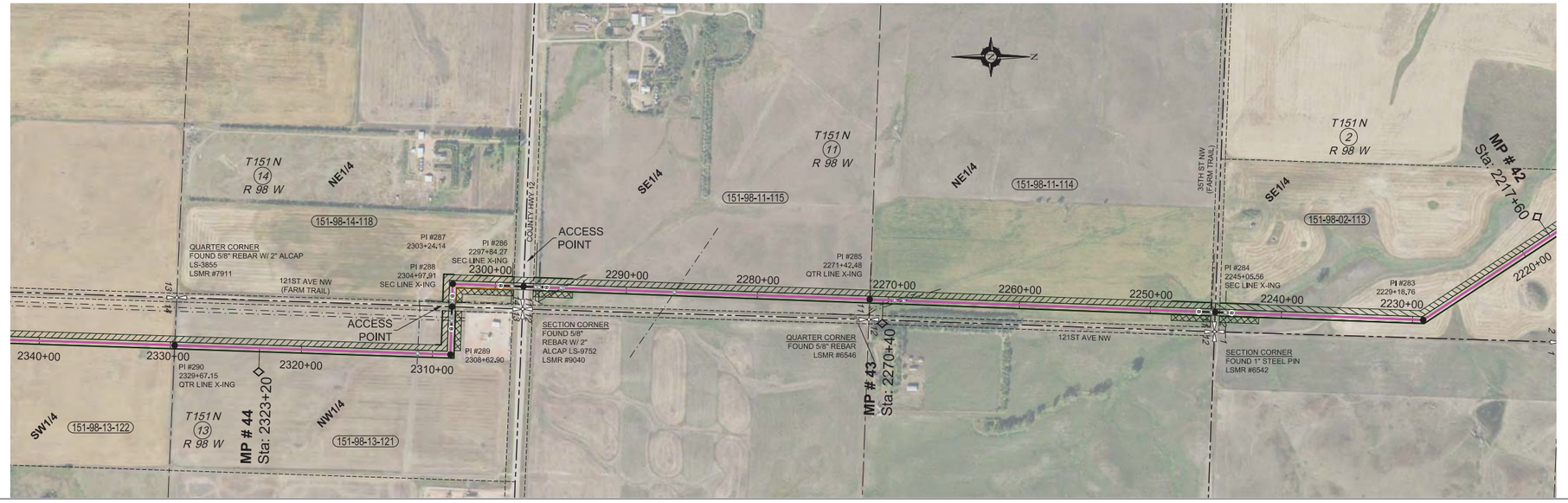
PIPE SCHMATIC

2340+00 — ① — 2306+66 — ② — 2304+16 — ① — 2299+59 — ② — 2296+09 — ① — 2246+31 — ② — 2243+81 — ① — 2220+00

FEATURES

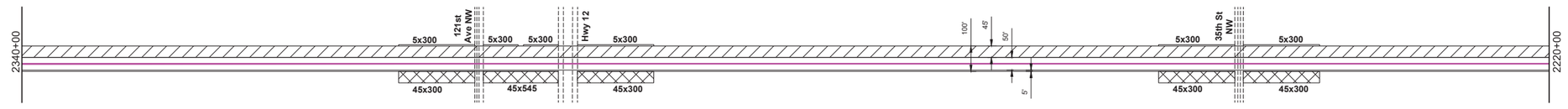
2342+91 Fence
2311+13 Banner Line
2306+66 End Bore
2306+03 KM Line
2305+79 KM Line
2304+90 121st Ave NW
2304+58 Fence
2304+16 Begin Bore
2299+59 End Bore
2298+72 Fence
2297+84 Hwy 12
2296+92 OHE
2296+65 Fence
2296+09 Begin Bore
2294+99 KM Line
2294+83 KM Line
2286+32 Andeavor Line
2271+39 Fence
2269+51 KM Line
2268+83 Banner Line
2246+31 End Bore
2245+33 Fence
2245+06 35th St NW
2244+26 Oneok Line
2243+81 Begin Bore

ALIGN



PI TABLE		
PI #	STATION	DEFLECTION
PI #283	2229+18.76	35° 30'R
PI #284	2245+05.56	00° 00'
PI #285	2271+42.48	00° 00'
PI #286	2297+84.27	00° 00'
PI #287	2303+24.14	90° 00'L
PI #288	2304+97.91	00° 00'
PI #289	2308+62.90	90° 00'R
PI #290	2329+67.15	00° 00'

WORK SPACE N.T.S.



ENVIRO

| | | | | |

Co, State: SECTIONS 13, 24, 25 T151N, R98W, MCKENZIE COUNTY, NORTH DAKOTA

OWNER	2461+64		151-98-25-127 SW1/4 SW1/4 SEC. 25, T151N, R98W 1095' Cultivated - 225' Uncultivated		2448+44	151-98-25-126 NW1/4 SW1/4, W1/2 NW1/4 SEC. 25, T151N, R98W 1296' Cultivated - 24' Uncultivated		2435+24	151-98-25-126 NW1/4 SW1/4, W1/2 NW1/4 SEC. 25, T151N, R98W 2605' Cultivated - 35' Uncultivated		2408+85	151-98-24-125 W1/2 SW1/4 SEC. 24, T151N, R98W 2623' Cultivated - 16' Uncultivated		2382+45	151-98-24-124 W1/2 NW1/4 SEC. 24, T151N, R98W 2639' Cultivated		2366+06	151-98-13-123 S1/2 SW1/4 SEC. 13, T151N, R98W 1320' Uncultivated	2342+87
RODDAGE			1319.86' / 79.99 Rods			1319.86' / 79.99 Rods			2639.78' / 159.99 Rods			2639.16' / 159.95 Rods			2639.01' / 159.94 Rods			1319.60' / 79.98 Rods		

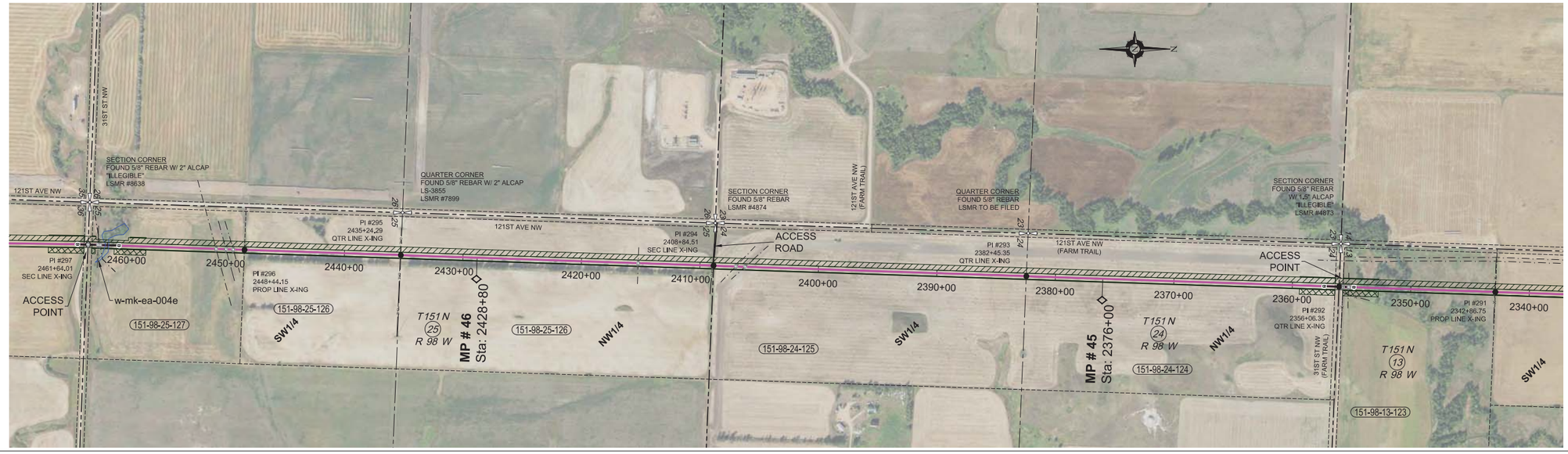
PIPE SCHMATIC



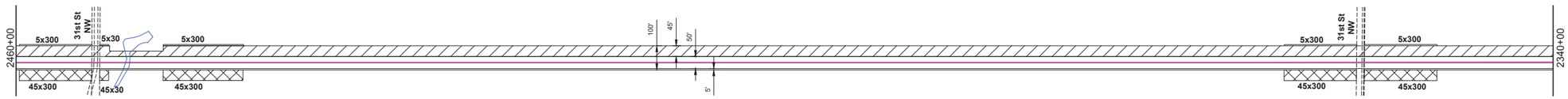
PI TABLE		
PI #	STATION	DEFLECTION
PI #291	2342+86.75	00° 00'
PI #292	2356+06.35	00° 00'
PI #293	2382+45.35	00° 00'
PI #294	2408+84.51	00° 00'
PI #295	2435+24.29	00° 00'
PI #296	2448+44.15	00° 00'
PI #297	2461+64.01	00° 00'

FEATURES: 2462+53 End Bore; 2461+64 31st St NW; 2460+80 OHE; 2460+62 Oasis Line; 2459+03 Begin Bore; 2450+83 Cenex Line; 2450+00 Pipeline; 2449+39 Pipeline; 2435+29 OHE; 2415+21 Pipeline; 2408+92 UFO; 2406+97 Pipeline; 2406+18 Oasis Line; 2357+31 End Bore; 2355+86 31st St NW; 2355+73 Fence; 2355+24 Pipeline; 2354+81 Begin Bore

ALIGN



WORK SPACE N.T.S.



ENVIRO

| | | | | | | | | | | | | | | | | | | |

Co, State	SECTIONS 36, T151N, R98W, SECTIONS 1, 11, 12, T150N, R98W, MCKENZIE COUNTY, NORTH DAKOTA

OWNER	2587+76	150-98-12-133 W1/2 NW1/4 SEC. 12, T150N, R98W 1742' Cultivated - 234' Uncultivated	2568+01	150-98-01-132 S1/2 SW1/4 SEC. 1, T150N, R98W 1182' Cultivated - 222' Uncultivated	2553+96	150-98-01-131 NW1/4 SW1/4 SEC. 1, T150N, R98W 1313' Cultivated	2540+83	150-98-01-131 S1/2 NW1/4 SEC. 1, T150N, R98W 1170' Cultivated - 152' Uncultivated	2527+62	150-98-01-130 LOTS 3 & 4 SEC. 1, T150N, R98W 1153' Cultivated - 163' Uncultivated	2514+45	151-98-36-129 SW1/4 SEC. 36, T151N, R98W 2608' Cultivated - 33' Uncultivated	2488+05	151-98-36-128 W1/2 NW1/4 SEC. 25, T151N, R98W 2478' Cultivated - 163' Uncultivated
RODDAGE		1975.62' / 119.73 Rods		1404.45' / 85.12 Rods		1313.11' / 79.58 Rods		1321.53' / 80.09 Rods		1316.42' / 79.78 Rods		2640.63' / 160.04 Rods		2640.56' / 160.03 Rods

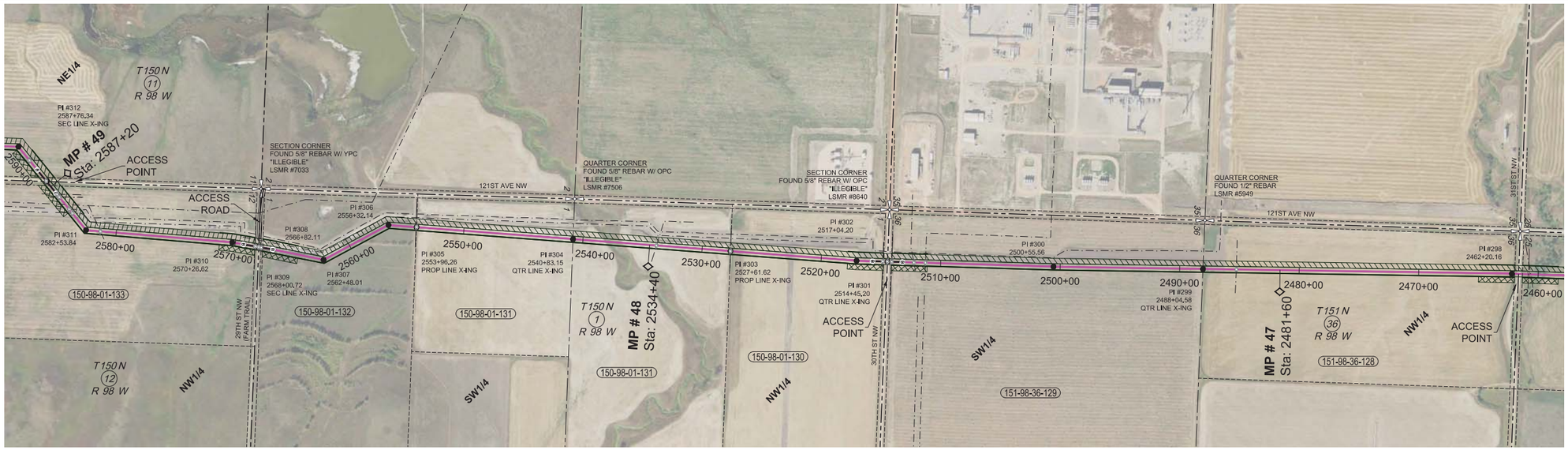
PIPE SCHMATIC

2590+00 ① 2589+01 ② 2586+51 ① 2569+32 ② 2566+82 ① 2515+70 ② 2513+20 ① 2460+00

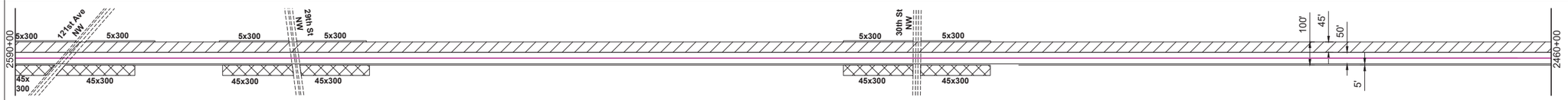
FEATURES

2589+01 End Bore
2587+84 121st Ave NW
2586+51 Begin Bore
2586+39 Oneok Line
2586+08 Oneok Line
2584+79 Andeavor Line
2584+37 KM Line
2581+33 KM Line
2569+32 End Bore
2568+31 Fence
2568+01 29th St NW
2567+80 OHE
2566+82 Begin Bore
2553+96 Fence
2533+83 Oneok Line
2527+62 Fence
2515+70 End Bore
2514+85 Fence
2514+45 30th St NW
2514+09 OHE
2513+20 Begin Bore
2512+24 KM Line
2511+27 Oneok Line
2485+25 KM Line

ALIGN



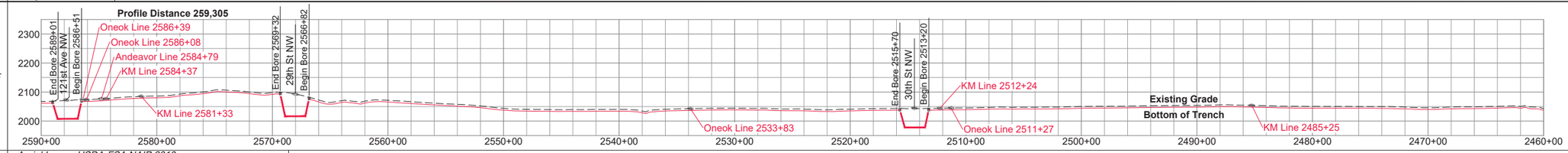
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

PROFILE



Ref. Dwgs. Aerial Image: USDA-FSA NAIP 2018

PI TABLE

PI #	STATION	DEFLECTION
PI #298	2462+20.16	1° 00'L
PI #299	2488+04.58	00° 00'
PI #300	2500+55.56	1° 00'R
PI #301	2514+45.20	00° 00'
PI #302	2517+04.20	2° 30'R
PI #303	2527+61.62	00° 00'
PI #304	2540+83.15	00° 00'
PI #305	2553+96.26	00° 00'
PI #306	2556+32.14	32° 30'L
PI #307	2562+48.01	40° 00'R
PI #308	2566+82.11	1° 30'L
PI #309	2568+00.72	00° 00'
PI #310	2570+26.62	5° 00'L
PI #311	2582+53.84	46° 00'R
PI #312	2587+76.34	00° 00'

Wetlands Waterbodies
Noxious Weeds
Dask Reproductive Habitat
Permanent Easement
Temporary Workspace
Additional Temp. Workspace

ENVIRONMENTAL NOTES:
1. Wetlands depicted on these sheets represent actual field survey data or NWI.
2. Actual wetland or stream width may vary at time of construction.

* Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction

PRELIMINARY

Surveying & Drafting Services By:
ECS INC.
ERICKSON CONTRACT SURVEYING
333 10th Ave. SE Sidney, Montana
Office 406-482-6606 / Fax 406-482-6600

ECS Project # 2018-23-0200

SURVEY DATUM

North Dakota North (NAD 83) - U.S. Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.999846363
Grid Distance x 1.000153661 = Ground Distance.

Drawing Date:	01-31-2019
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- CTP test station
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	12,256	24" 0.312" W.T., API 5L-X65, ERW, w/FBE
2	750	24" 0.375" W.T., API 5L-X65, ERW, w/FBE & ARO

REVISIONS

No.	Date	Description
1	1/17/20	Cultural / Dask Re-routes

NORTH BAKKEN EXPANSION PIPELINE
TIOGA-ELKHORN CREEK LINE

WBI ENERGY TRANSMISSION
An MDU Resources Group company

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

Sec. 36, T151N, R98W
Sec. 1, 11, 12, T150N, R98W,
5th P.M., Mckenzie Co., North Dakota

Sheet 22 | R1

Co, State	SECTIONS 11, 13, 14, 24, T150N, R98W, MCKENZIE COUNTY, NORTH DAKOTA										
OWNER	2707+44	**150-98-24-142** NE1/4 NW1/4 SEC. 24, T150N, R98W 327' Cultivated - 1222' Uncultivated	2691+95	**150-98-13-141** IT #1954, EX 10.32 AC RW SEC. 13, T150N, R98W 421' Uncultivated	2687+73	**150-98-13-140** HWY 23 RW SEC. 13, T150N, R98W 203' Uncultivated	2685+71	**150-98-13-139** IT #1955, EX 9.88 AC RW & EX IT #2099,2632 SEC. 13, T150N, R98W 1128' Cultivated	2678+64	**150-98-13-138** NE1/4SW1/4 SEC. 13, T150N, R98W 1142' Cultivated - 174' Uncultivated	2665+48
RODDAGE		1548.86' / 93.87 Rods		421.36' / 25.54 Rods		202.90' / 12.30 Rods		1127.54' / 68.34 Rods		1315.98' / 79.76 Rods	

OWNER	2651+59	**150-98-13-137** E1/2NW1/4 SEC. 13, T150N, R98W 473' Cultivated - 1181' Uncultivated	2638+39	**150-98-13-136** NW1/4NW1/4 SEC. 13, T150N, R98W 1320' Uncultivated	2624+26	**150-98-14-135** E1/2NE1/4 SEC. 14, T150N, R98W 1413' Uncultivated	2597+48	**150-98-11-134** S1/2SE1/4, NE1/4SE1/4 SEC. 11, T150N, R98W 2580' Cultivated - 98' Uncultivated	2587+76	**150-98-11-134** SE1/4NE1/4 SEC. 11, T150N, R98W 939' Cultivated - 33' Uncultivated
RODDAGE		1654.35' / 100.26 Rods		1319.63' / 79.98 Rods		1412.68' / 85.62 Rods		2678.25' / 162.32 Rods		971.65' / 58.89 Rods

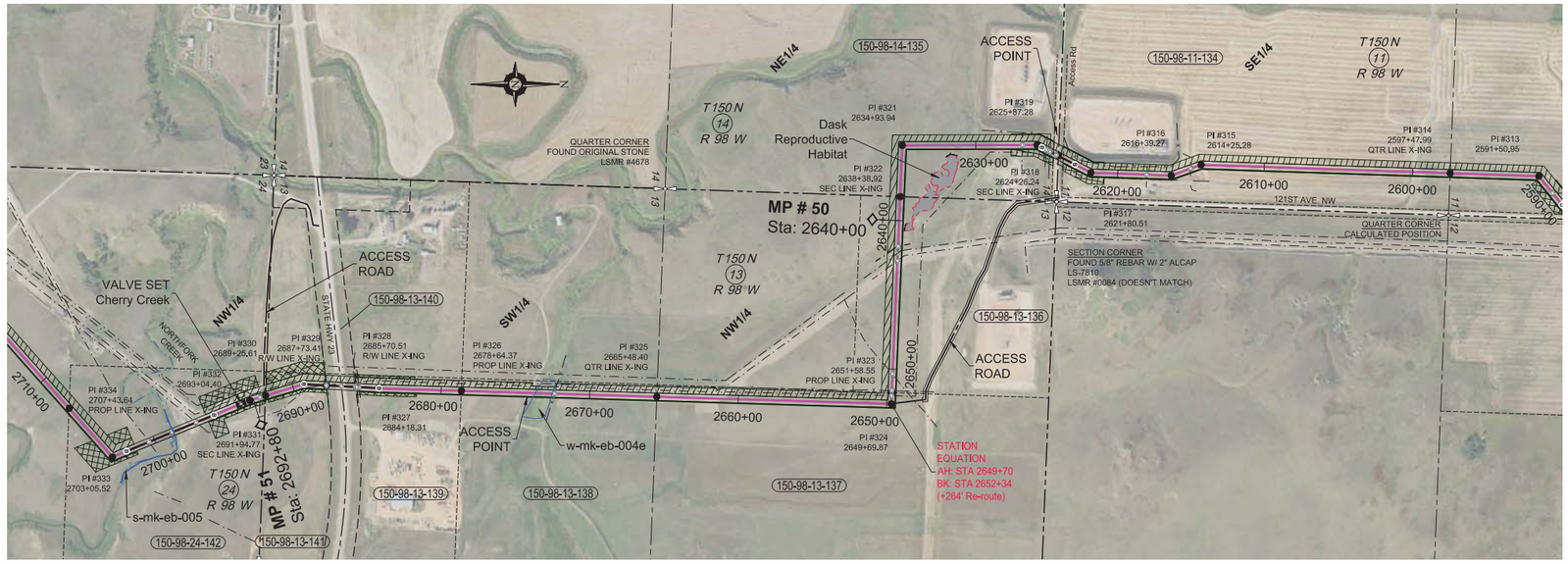
PIPE SCHMATIC



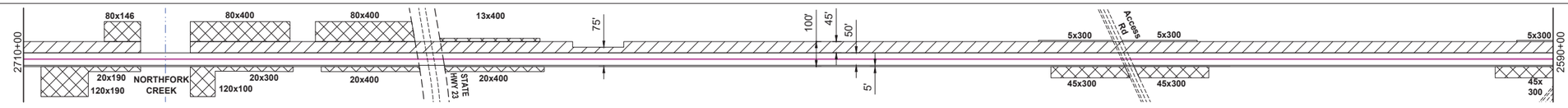
FEATURES



ALIGN



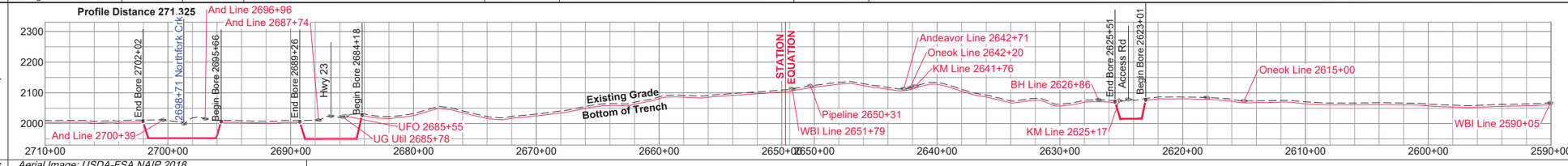
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name		s-mk-eb-005				
	Crossing Method		Bore				
	Bridge		Yes				
Wetland Crossing	Name				w-mk-eb-004e		
	Survey Extent	2698+65	2698+60	2673+66	2672+54	2634+94	
Environmental Feature			Minor Stream		Wetland	Dask RH	
Miscellaneous/Comments					Approx. 120' ECD Approx. 120' mats	Approx. 129' LF Dask Fencing	
Seeding Mix							

PROFILE



PI TABLE		
PI #	**STATION**	DEFLECTION
PI #313	2591+50.95	49° 00'L
PI #314	2597+47.99	00° 00'
PI #315	2614+25.28	22° 00'L
PI #316	2616+39.27	22° 00'R
PI #317	2621+80.51	25° 30'R
PI #318	2624+26.24	00° 00'
PI #319	2625+87.28	27° 30'L
PI #321	2634+93.94	87° 30'L
PI #322	2638+38.92	00° 00'
PI #324	2649+69.87	89° 30'R
PI #323	2651+58.55	00° 00'
PI #325	2665+48.40	00° 00'
PI #326	2678+64.37	00° 00'
PI #327	2684+18.31	1° 30'R
PI #328	2685+70.51	00° 00'
PI #329	2687+73.41	00° 00'
PI #330	2689+25.61	20° 00'L
PI #331	2691+94.77	00° 00'
PI #332	2693+04.40	6° 00'L
PI #333	2703+05.52	71° 00'R
PI #334	2707+43.64	00° 00'

Wetlands
Waterbodies
Noxious Weeds
Dask Reproductive Habitat
Permanent Easement
Temporary Workspace
Additional Temp. Workspace

ENVIRONMENTAL NOTES:
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* Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction

PRELIMINARY

Ref. Dwgs. Aerial Image: USDA-FSA NAIP 2018

Surveying & Drafting Services By:
ECS INC.
ERICKSON CONTRACT SURVEYING
333 10th Ave. SE Sidney, Montana
Office 406-482-6606 / Fax 406-482-6600

ECS Project # 2018-23-0200

SURVEY DATUM

North Dakota North (NAD 83) - U.S. Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.999846363
Grid Distance x 1.000153661 = Ground Distance.

Drawing Date:	01-31-2019
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- CTP test station
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	10,626	24" 0.312" W.T., API 5L-X65, ERW, w/FBE
2	1,394	24" 0.375" W.T., API 5L-X65, ERW, w/FBE & ARO

REVISIONS

No.	Date	Description
1	1/17/20	Cultural / Dask Re-routes

NORTH BAKKEN EXPANSION PIPELINE
TIOGA-ELKHORN CREEK LINE

WBI ENERGY TRANSMISSION
An MDU Resources Group company

500 0 500 1000 scale feet
1" = 500' - 22 x 34
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

Sec. 11, 13, 14, 24, T150N, R98W, 5th P.M., Mckenzie Co., North Dakota

Sheet 23 | R1

Co, State	SECTIONS 23, 24, 26, 27, T150N, R98W, MCKENZIE COUNTY, NORTH DAKOTA							
OWNER	**150-98-27-150** SE1/4 SEC. 27, T150N, R98W 2582' Cultivated - 55' Uncultivated	2820+03	**150-98-27-149** N1/2 EX IT 1369 & IT 2846 SEC. 27, T150N, R98W 851' Cultivated - 239' Uncultivated	2809+13	**150-98-26-148** NW1/4 SEC. 26, T150N, R98W 610' Cultivated - 2112' Uncultivated	2781+91	**150-98-26-147** NE1/4 SEC. 26, T150N, R98W 11907' Cultivated - 853' Uncultivated	2754+31
RODDAGE	2636.93' / 159.81 Rods		1089.53' / 66.03 Rods		2721.73' / 164.95 Rods		2760.24' / 167.29 Rods	

OWNER								
	150-98-23-146 S1/2 SE1/4 SEC. 23, T150N, R98W 1041' Cultivated - 293' Uncultivated	2740+97	**150-98-23-145** N1/2 SE1/4 SEC. 23, T150N, R98W 735' Uncultivated	2733+62	**150-98-24-144** SW1/4 LESS IT 2028 SEC. 24, T150N, R98W 728' Uncultivated	2726+34	**150-98-24-143** S1/2NW1/4 SEC. 24, T150N, R98W 1890' Uncultivated
RODDAGE	1334.00' / 80.85 Rods		735.13' / 44.55 Rods		728.19' / 44.13 Rods		1890.28' / 114.56 Rods	

PIPE SCHMATIC



FEATURES

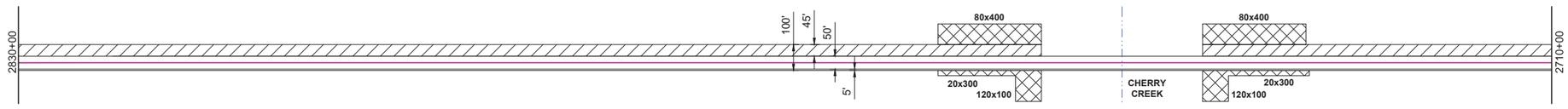
2809+48 PIPELINE
2809+03 Fence
2794+48 Fence
2782+16 UFO
2781+89 Fence
2763+53 Access Rd
2760+77 Andeavor Line
2760+57 Andeavor Line
2760+23 WBI Line
2759+69 WBI Line
2745+53 End Bore
2742+18 Cherry Crk
2738+30 Begin Bore
2733+45 KML Line
2726+35 Fence

ALIGN



PI TABLE		
PI #	STATION	DEFLECTION
PI #335	2726+17.19	37° 00'L
PI #336	2726+33.91	00° 00'
PI #337	2731+62.53	45° 00'R
PI #338	2733+62.10	00° 00'
PI #339	2734+82.53	45° 00'L
PI #340	2740+97.22	00° 00'
PI #341	2754+31.23	00° 00'
PI #342	2755+52.45	13° 00'L
PI #343	2759+07.95	79° 00'R
PI #344	2781+91.46	00° 00'
PI #345	2809+13.19	00° 00'
PI #346	2811+17.15	76° 00'L
PI #347	2820+02.73	00° 00'

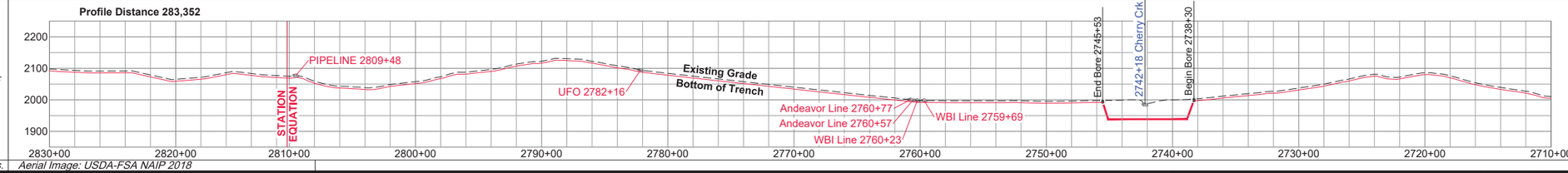
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		2720+00 Dask RH
Miscellaneous/Comments		Approx. 280' LF
Seeding Mix		Dask Fencing

PROFILE



Ref. Dwgs. Aerial Image: USDA-FSA NAIP 2018

Wetlands
Waterbodies

Noxious Weeds

Dask Reproductive Habitat

Permanent Easement

Temporary Workspace

Additional Temp. Workspace

ENVIRONMENTAL NOTES:
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2. Actual wetland or stream width may vary at time of construction.

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PRELIMINARY

Surveying & Drafting Services By:
ECS INC.
ERICKSON CONTRACT SURVEYING
333 10th Ave. SE Sidney, Montana
Office 406-482-6606 / Fax 406-482-6600

ECS Project # 2018-23-0200

SURVEY DATUM

North Dakota North (NAD 83) - U.S. Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.999846363
Grid Distance x 1.000153661 = Ground Distance.

Drawing Date:	01-31-2019
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- CTP test station
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	11,304	24" 0.312" W.T., API 5L-X65, ERW, w/FBE
2	723	24" 0.375" W.T., API 5L-X65, ERW, w/FBE & ARO

REVISIONS

No.	Date	Description
1	1/17/20	Cultural / Dask Re-routes

NORTH BAKKEN EXPANSION PIPELINE

TIOGA-ELKHORN CREEK LINE

WBI ENERGY TRANSMISSION
An MDU Resources Group company

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

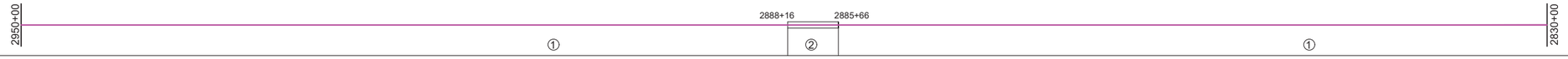
Sec. 23, 24, 26, 27, T150N, R98W,
5th P.M., Mckenzie Co., North Dakota

Sheet 24 R1

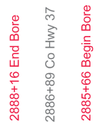
Co, State	SECTIONS 2, 3, T149N, R98W, SECTION 27, 34, T150N, R98W, MCKENZIE COUNTY, NORTH DAKOTA

OWNER	2950+88 **149-98-03-154** SE1/4 SEC. 3, T149N, R98W 618' Uncultivated	2929+04 **149-98-02-155A** W1/2SW1/4, SE1/4SW1/4 SEC. 2, T149N, R98W 443' Cultivated - 1742' Uncultivated	2915+55 **149-98-02-154A** NE1/4SW1/4, NW1/4SE1/4, S1/2NW1/4 SEC. 2, T149N, R98W 1316' Uncultivated	2902+39 **149-98-02-153A** LOT 2 & LOT 3 EXCEPT CO #37 ROW, LOT 4, S1/2NE1/4 SEC. 2, T149N, R98W 566' Cultivated - 750' Uncultivated	2899+12 **149-98-03-153** LOTS 1 & 2, S1/2 NE1/4 SEC. 3, T149N, R98W 327' Cultivated	2872+76 **150-98-34-152** SE1/4 SEC. 34, T150N, R98W 2636' Cultivated	2846+40 **150-98-34-151** NE1/4 SEC. 34, T150N, R98W 2278' Cultivated - 358' Uncultivated	**150-98-27-150** SE1/4 SEC. 27, T150N, R98W 2582' Cultivated - 55' Uncultivated
RODDAGE	617.99' / 37.45 Rods	2184.59' / 132.40 Rods	1349.22' / 81.77 Rods	1316.02' / 79.76 Rods	326.74' / 19.80 Rods	2636.10' / 159.76 Rods	2636.01' / 159.76 Rods	2636.93' / 159.81 Rods

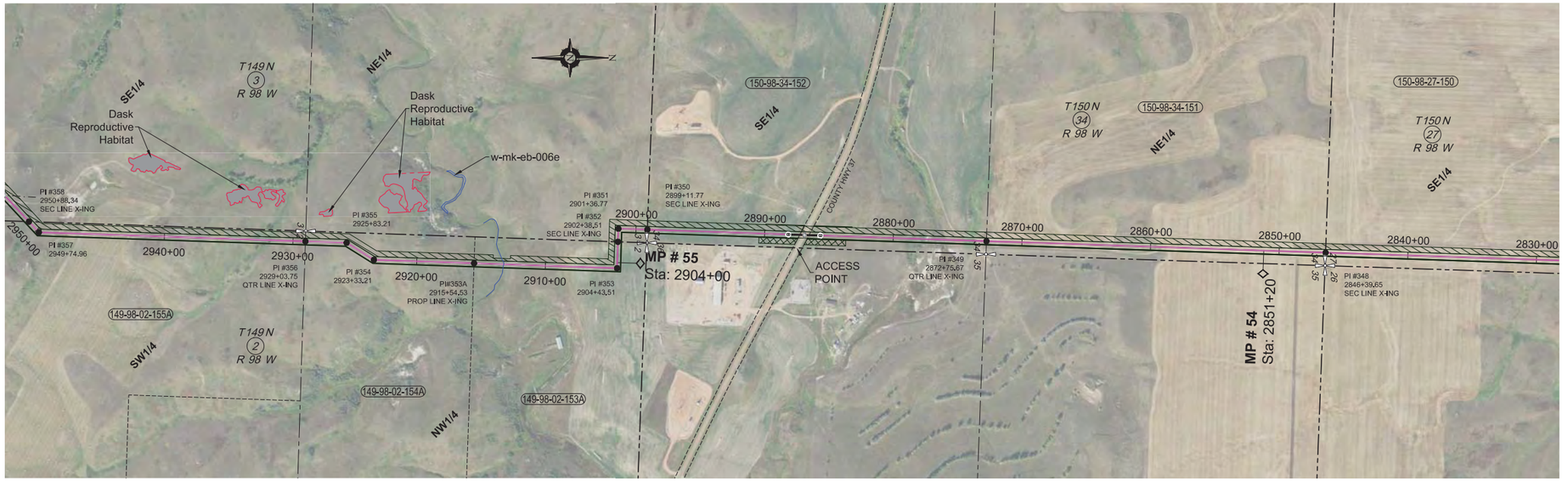
PIPE SCHMATIC



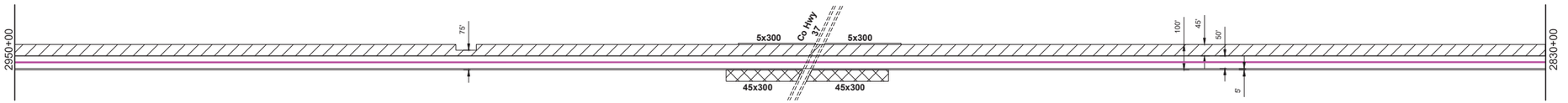
FEATURES



ALIGN



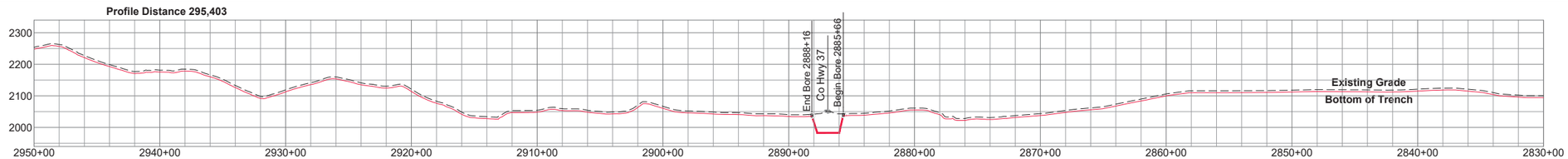
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name		
	Crossing Method		
	Bridge		
Wetland Crossing	Name	w-mk-eb-006e	
	Survey Extent	2914+39	2914+26
Environmental Feature		Wetland	
Miscellaneous/Comments		Approx. 30' ECD	
		Approx. 30' mats	
Seeding Mix			

PROFILE



Ref. Dwgs. Aerial Image: USDA-FSA NAIP 2018

PI TABLE

PI #	STATION	DEFLECTION
PI #348	2846+39.65	00° 00'
PI #349	2872+75.67	00° 00'
PI #350	2899+11.77	00° 00'
PI #351	2901+36.77	90° 00'L
PI #352	2902+38.51	00° 00'
PI #353	2904+43.51	90° 00'R
PI#353A	2915+54.53	00° 00'
PI #354	2923+33.21	30° 00'R
PI #355	2925+83.21	30° 00'L
PI #356	2929+03.75	00° 00'
PI #357	2949+74.96	45° 00'R
PI #358	2950+88.34	00° 00'

Wetlands
Waterbodies

Noxious Weeds

Dask Reproductive Habitat

Permanent Easement

Temporary Workspace

Additional Temp. Workspace

ENVIRONMENTAL NOTES:
1. Wetlands depicted on these sheets represent actual field survey data or NWI.
2. Actual wetland or stream width may vary at time of construction.

* Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction

PRELIMINARY

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ECS INC.
ERICKSON CONTRACT SURVEYING
333 10th Ave. SE Sidney, Montana
Office 406-482-6606 / Fax 406-482-6600

ECS Project # 2018-23-0200

SURVEY DATUM

North Dakota North (NAD 83) - U.S. Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.999846363
Grid Distance x 1.000153661 = Ground Distance.

Drawing Date:	01-31-2019
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- CTP test station
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	11,801	24" 0.312" W.T., API 5L-X65, ERW, w/FBE
2	250	24" 0.375" W.T., API 5L-X65, ERW, w/FBE & ARO

REVISIONS

No.	Date	Description
1	1/17/20	Cultural / Dask Re-routes

NORTH BAKKEN EXPANSION PIPELINE
TIOGA-ELKHORN CREEK LINE

WBI ENERGY TRANSMISSION
An MDU Resources Group company

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

Sec. 27, 34, T150N, R98W,
Sec. 2, 3, T149N, R98W, 5th P.M.,
Mckenzie Co., North Dakota

Sheet 25 R1

Co, State: SECTIONS 10, 11, 14, 23, T149N, R98W, MCKENZIE COUNTY, NORTH DAKOTA

OWNER	149-98-23-162 NW1/4 NW1/4 SEC. 23, T149N, R98W 1437' Uncultivated	3065+36	149-98-14-161 W1/2 SW1/4 SEC. 14, T149N, R98W 2650' Uncultivated	3038+86	149-98-14-160 S1/2 N1/2 SEC. 14, T149N, R98W 1383' Uncultivated	3025+04	149-98-14-159 N1/2 NW1/4 SEC. 14, T149N, R98W 1458' Cultivated - 36' Uncultivated	3010+09	149-98-11-158 S1/2 SW1/4 EX IT 2600 SEC. 11, T149N, R98W 1465' Cultivated - 73' Uncultivated	2994+71	149-98-10-157 S1/2 SE1/4 SEC. 10, T149N, R98W 86' Uncultivated	2993+85	149-98-10-156 S1/2 NE1/4, N1/2 SE1/4 SEC. 10, T149N, R98W 2651' Uncultivated	2970+04	149-98-10-155 N1/2 NE1/4 SEC. 10, T149N, R98W 1298' Uncultivated	2957+06	
RODDAGE	1436.63' / 87.07 Rods		2650.02' / 160.61 Rods		1382.55' / 83.79 Rods		1494.44' / 90.57 Rods		1537.81' / 93.20 Rods		86.10' / 5.22 Rods		2650.74' / 160.65 Rods		1297.83' / 78.66 Rods		

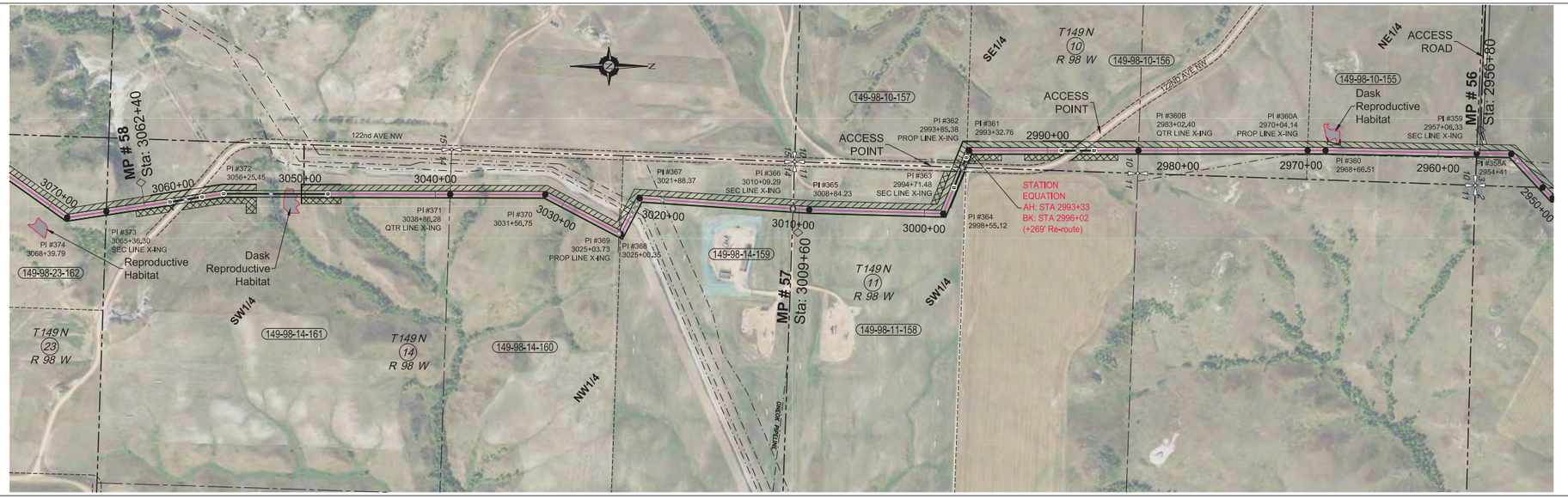
PIPE SCHMATIC



FEATURES

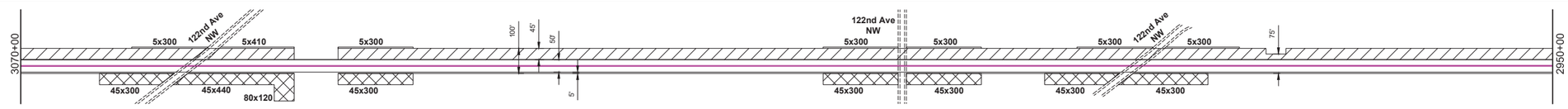


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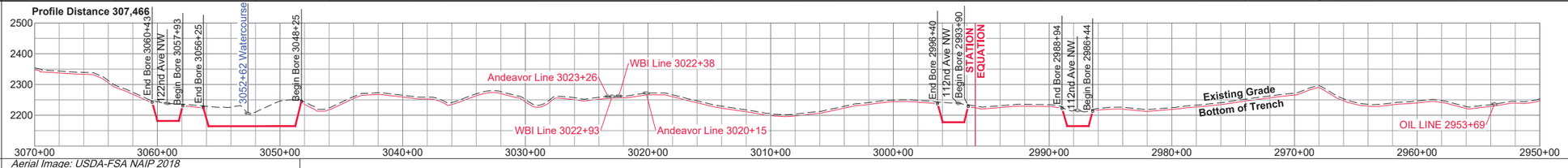


ENVIRO					
Water Crossing	Name				
	Crossing Method	Bridge			
Wetland Crossing	Name				
	Survey Extent		3051+14		2968+09
Environmental Feature			Dask RH		Dask RH
Miscellaneous/Comments			Approx. 150' LF		Approx. 146' LF
Seeding Mix			Dask Fencing		Dask Fencing

WORK SPACE N.T.S.



PROFILE



Ref. Dwgs. Aerial Image: USDA-FSA NAIP 2018

PI TABLE

PI #	STATION	DEFLECTION
PI #358A	2954+41	46° 00'L
PI #359	2957+06.33	03° 00'L
PI #360	2968+66.51	1° 00'L
PI #360A	2970+04.14	00° 00'
PI #360B	2983+02.40	00° 00'
PI #361	2993+32.76	66° 30'L
PI #362	2993+85.38	00° 00'
PI #363	2994+71.48	00° 00'
PI #364	2998+55.12	69° 30'R
PI #365	3008+84.23	02° 00'R
PI #366	3010+09.29	00° 00'
PI #367	3021+88.37	66° 00'L
PI #368	3025+00.35	90° 00'R
PI #369	3025+03.73	00° 00'
PI #370	3031+56.75	27° 30'L
PI #371	3038+86.28	00° 00'
PI #372	3056+25.45	09° 00'L
PI #373	3065+36.30	00° 00'
PI #374	3068+39.79	44° 00'R

Wetlands Waterbodies

Noxious Weeds

Dask Reproductive Habitat

Permanent Easement

Temporary Workspace

Additional Temp. Workspace

ENVIRONMENTAL NOTES:

1. Wetlands depicted on these sheets represent actual field survey data or NWI.
2. Actual wetland or stream width may vary at time of construction.

* Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction

PRELIMINARY

Surveying & Drafting Services By:
ECS INC.
ERICKSON CONTRACT SURVEYING
333 10th Ave. SE Sidney, Montana
Office 406-482-6606 / Fax 406-482-6600

ECS Project # 2018-23-0200

SURVEY DATUM

North Dakota North (NAD 83) - U.S. Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.999846363
Grid Distance x 1.000153661 = Ground Distance.

Drawing Date:	01-31-2019
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- CTP test station
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	10,513	24" 0.312" W.T., API 5L-X65, ERW, w/FBE
2	1550	24" 0.375" W.T., API 5L-X65, ERW, w/FBE & ARO

REVISIONS

No.	Date	Description
1	1/17/20	Cultural / Dask Re-routes

NORTH BAKKEN EXPANSION PIPELINE
TIOGA-ELKHORN CREEK LINE

WBI ENERGY TRANSMISSION
An MDU Resources Group company

scale 500 0 500 1000 feet
1" = 500' - 22 x 34
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

Sec. 10, 11, 14, 23, T149N, R98W, 5th P.M., Mckenzie Co., North Dakota

Sheet 26 | R1

Co, State	SECTIONS 22, 23, 27, T149N, R98W, MCKENZIE COUNTY, NORTH DAKOTA									
OWNER	3180+34	**149-98-27-166** NW1/4 SEC. 27, T149N, R98W 1564' Cultivated - 1069' Uncultivated	3154+01	**149-98-22-165** SW1/4 SEC. 22, T149N, R98W 572' Cultivated - 3675' Uncultivated	3113+07	**149-98-22-164** NW1/4 SEC. 22, T149N, R98W 175' Uncultivated	3111+40	**149-98-22-163** NE1/4 SEC. 22, T149N, R98W 3167' Uncultivated	3079+73	**149-98-23-162** NW1/4 NW1/4 SEC. 23, T149N, R98W 1437' Uncultivated
RODDAGE		2632.93' / 159.57 Rods		4246.69' / 257.38 Rods		174.82' / 10.60 Rods		3167.03' / 191.94 Rods		1436.63' / 87.07 Rods

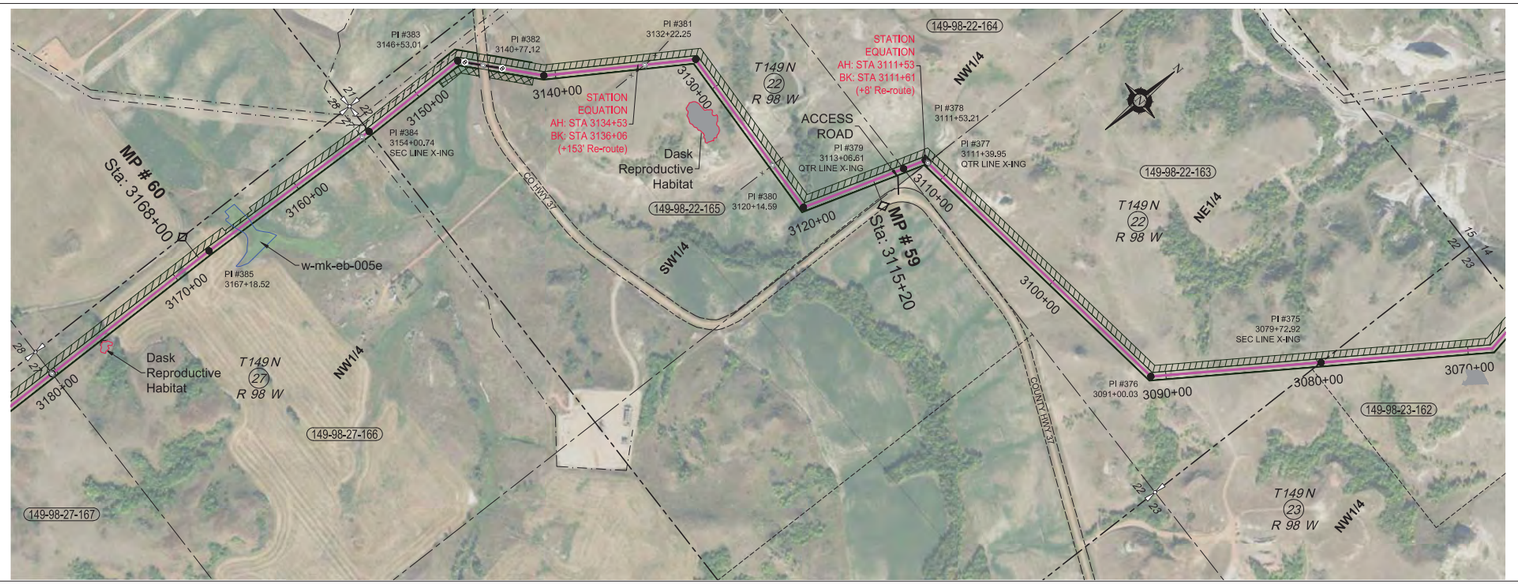
PIPE SCHMATIC



FEATURES

3154+60 FLC Line
3146+05 End Bore
3144+83 Co Hwy 37
3143+55 Begin Bore
3135+60 Fence
3123+60 Fence
3111+38 Fence

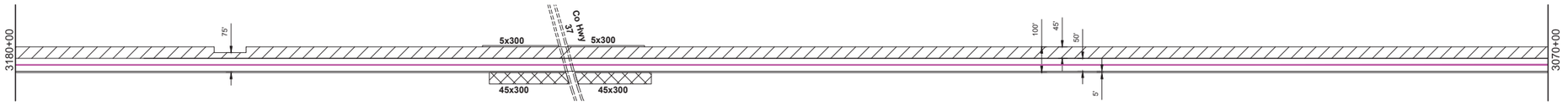
ALIGN



PI TABLE		
PI #	STATION	DEFLECTION
PI #375	3079+72.92	00° 00'
PI #376	3091+00.03	48° 30'R
PI #377	3111+39.95	00° 00'
PI #378	3111+53.21	65° 00'L
PI #379	3113+06.61	00° 00'
PI #380	3120+14.59	75° 00'R
PI #381	3132+22.25	60°00'L
PI #382	3140+77.12	15° 30'R
PI #383	3146+53.01	48° 00'L
PI #384	3154+00.74	1° 30'R
PI #385	3167+18.52	1° 30'L

Wetlands
Waterbodies
Noxious Weeds
Dask Reproductive Habitat

WORK SPACE N.T.S.



Permanent Easement
Temporary Workspace
Additional Temp. Workspace

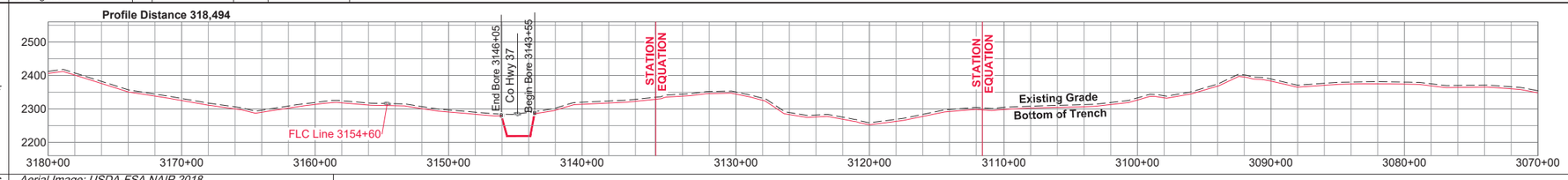
ENVIRO

Water Crossing	Name				
	Crossing Method	Bridge			
Wetland Crossing	Name				w-mk-eb-005e
	Survey Extent	2634+94	3164+70	3163+85	
Environmental Feature		Dask RH		Wetland	
Miscellaneous/Comments		Approx. 64' LF		Approx. 110' ECD	
		Dask Fencing		Approx. 110' mats	
Seeding Mix					

ENVIRONMENTAL NOTES:
1. Wetlands depicted on these sheets represent actual field survey data or NWI.
2. Actual wetland or stream width may vary at time of construction.

* Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction

PROFILE



PRELIMINARY

Ref. Dwgs. Aerial Image: USDA-FSA NAIP 2018

Surveying & Drafting Services By:
ECS INC.
ERICKSON CONTRACT SURVEYING
333 10th Ave. SE Sidney, Montana
Office 406-482-6606 / Fax 406-482-6600

ECS Project # 2018-23-0200

SURVEY DATUM

North Dakota North (NAD 83) - U.S. Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.999846363
Grid Distance x 1.000153661 = Ground Distance.

Drawing Date:	01-31-2019
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- CTP test station
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	10,778	24" 0.312" W.T., API 5L-X65, ERW, w/FBE
2	250	24" 0.375" W.T., API 5L-X65, ERW, w/FBE & ARO

REVISIONS

No.	Date	Description
1	1/17/20	Cultural / Dask Re-routes

NORTH BAKKEN EXPANSION PIPELINE
TIOGA-ELKHORN CREEK LINE

WBI ENERGY TRANSMISSION
An MDU Resources Group company

scale 500 0 500 1000 feet
1" = 500' - 22 x 34
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

Sec. 22, 23, 27, T149N, R98W, 5th P.M., Mckenzie Co., North Dakota

Sheet 27 | R1

Co, State	SECTIONS 27, 33, 34, T149N, R98W, MCKENZIE COUNTY, NORTH DAKOTA				
OWNER	**149-98-33-170** S1/2 SE1/4, NW1/4 SE1/4 SEC. 33, T149N, R98W 907' Uncultivated	**149-98-33-169** NE1/4 SE1/4 SEC. 33, T149N, R98W 469' Cultivated - 184' Uncultivated	**149-98-34-168** NW1/4 SW1/4 SEC. 34, T149N, R98W 142' Cultivated - 590' Uncultivated	**149-98-34-168** W1/2 NW1/4 SEC. 34, T149N, R98W 2609' Cultivated - 29' Uncultivated	**149-98-27-167** SW1/4 SEC. 27, T149N, R98W 2637' Uncultivated
RODDAGE	907.03' / 54.97 Rods	652.98' / 39.57 Rods	731.66' / 44.34 Rods	2638.18' / 159.89 Rods	2636.76' / 159.80 Rods

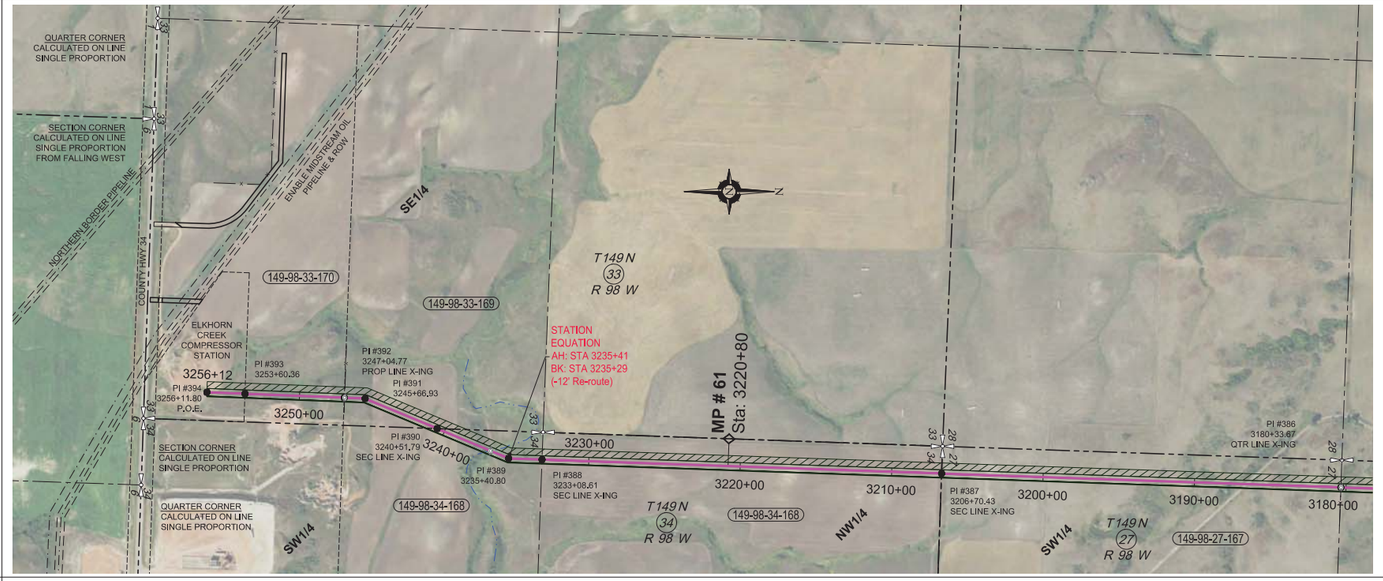
PIPE SCHMATIC



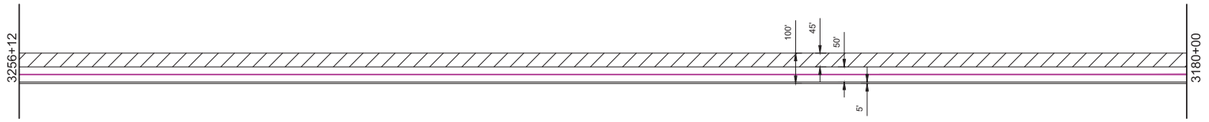
FEATURES



ALIGN



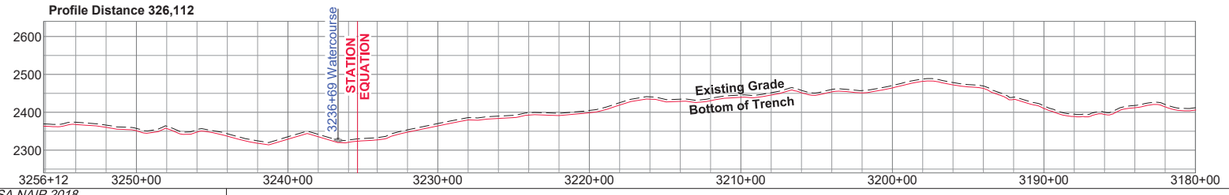
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

PROFILE



Ref. Dwgs. Aerial Image: USDA-FSA NAIP 2018

PI TABLE

PI #	STATION	DEFLECTION
PI #386	3180+33.67	00° 00'
PI #387	3206+70.43	00° 00'
PI #388	3233+08.61	00° 00'
PI #389	3235+40.80	20° 30'R
PI #390	3240+51.79	00° 00'
PI #391	3245+66.93	20° 30'R
PI #392	3247+04.77	00° 00'
PI #393	3253+60.36	00° 00'
PI #394	3256+11.80	00° 00'

- Wetlands Waterbodies
- Noxious Weeds
- Dask Reproductive Habitat
- Permanent Easement
- Temporary Workspace
- Additional Temp. Workspace

ENVIRONMENTAL NOTES:
1. Wetlands depicted on these sheets represent actual field survey data or NWI.
2. Actual wetland or stream width may vary at time of construction.

* Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction

PRELIMINARY

Surveying & Drafting Services By:
ECS INC.
ERICKSON CONTRACT SURVEYING
333 10th Ave. SE Sidney, Montana
Office 406-482-6606 / Fax 406-482-6600

ECS Project # 2018-23-0200

SURVEY DATUM

North Dakota North (NAD 83) - U.S. Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.999846363
Grid Distance x 1.000153661 = Ground Distance.

Drawing Date:	01-31-2019
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- CTP test station
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	7,618	24" 0.312" W.T., API 5L-X65, ERW, w/FBE
2		24" 0.375" W.T., API 5L-X65, ERW, w/FBE & ARO

REVISIONS

No.	Date	Description
1	1/17/20	Cultural / Dask Re-routes

NORTH BAKKEN EXPANSION PIPELINE
TIOGA-ELKHORN CREEK LINE

WBI ENERGY TRANSMISSION
An MDU Resources Group company

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

Sec. 27, 33, 34, T149N, R98W, 5th P.M., Mckenzie Co., North Dakota

Sheet 28 | R1

WBI ENERGY TRANSMISSION, LLC

NORTH BAKKEN EXPANSION

NATURAL GAS PIPELINE PROJECT

Line Section 25 Loop

WBI ENERGY TRANSMISSION
An MDU Resources Group company

NORTH BAKKEN EXPANSION PIPELINE

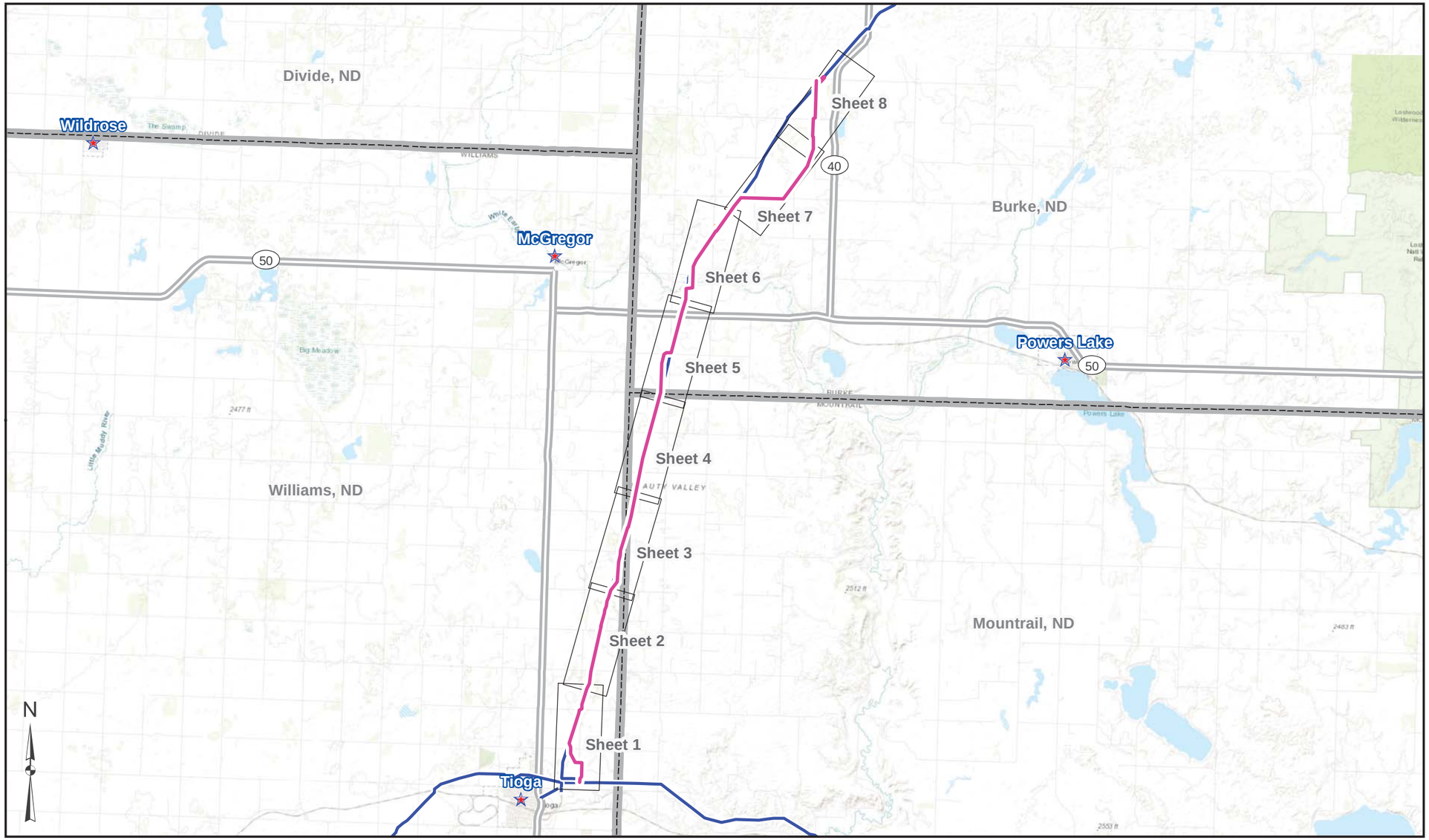
LINE SECTION 25 LOOP

Horizontal Project Length	Revision
20.354 / mi	**R0**

North Bakken Expansion Pipeline

Line Section 25 Loop

Williams County, North Dakota
Mountrail County, North Dakota
Burke County, North Dakota



Line Section 25 Loop

Sheet Index
Sheet 1 - 0+00 - 136+10
Sheet 2 - 136+10 - 270+45
Sheet 3 - 270+45 - 404+88
Sheet 4 - 404+88 - 536+83
Sheet 5 - 536+83 - 675+70
Sheet 6 - 675+70 - 817+55
Sheet 7 - 817+55 - 980+00
Sheet 8 - 980+00 - 1068+54

Legend
Proposed Pipeline Corridor

0 6,500 13,000 26,000 39,000 Feet

1 in = 14,941 feet

811 Know what's below. Call before you dig.

Cover Sheet - 11X17

WBI ENERGY TRANSMISSION
An MDU Resources Group company

North Bakken Expansion Pipeline

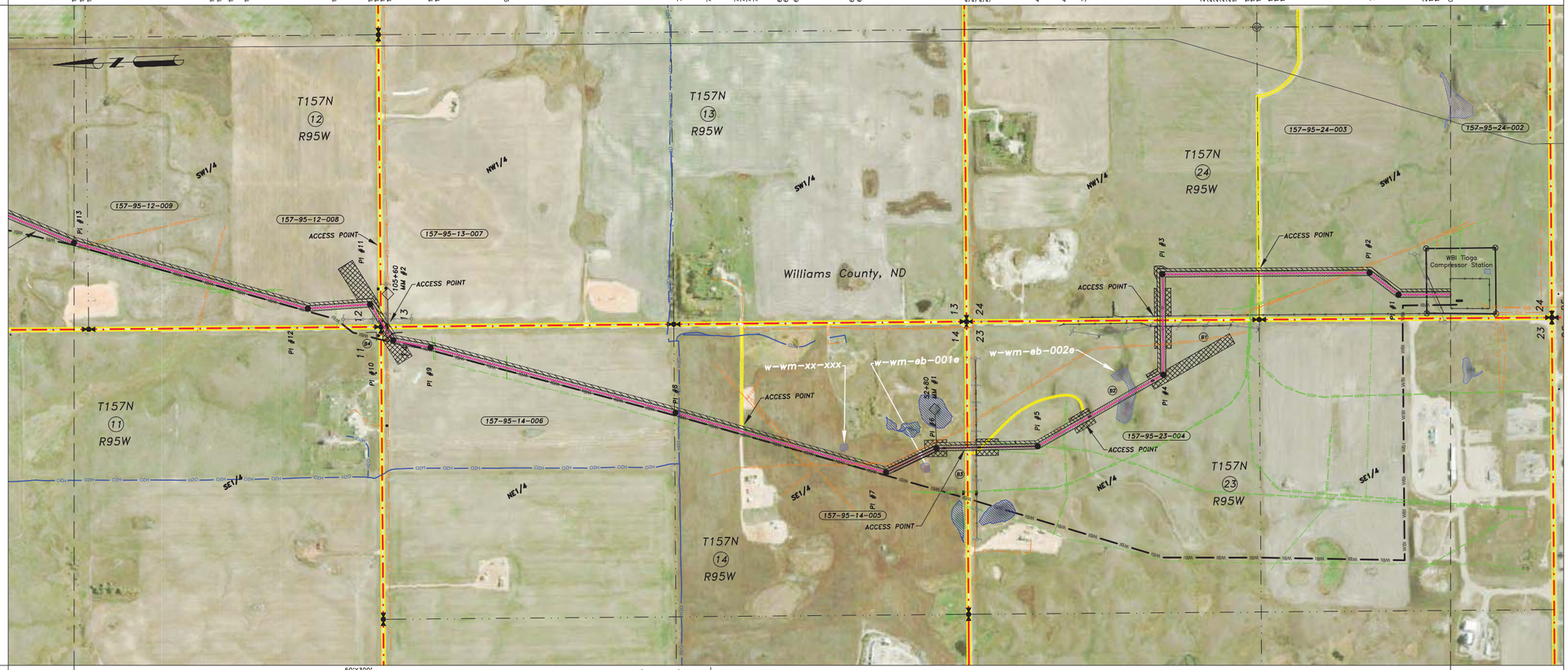
Line Section 25 Loop

CO. STATE	Sections 12, 13, 14, 23 & 24, T157N, R95W, WILLIAMS COUNTY, NORTH DAKOTA					
OWNER	**157-95-12-009 (CULTIVATED)** S1/2NW1/4 , N1/2SW1/4 Section 12, T157N R95W	**157-95-12-008 (CULTIVATED)** S1/2SW1/4 Section 12, T157N R95W	**157-95-13-007 (CULTIVATED)** N1/2NW1/4 Section 13, T157N R95W	**157-95-14-006 (CULTIVATED)** E1/2NE1/4 Section 14, T157N R95W	**157-95-23-004 (NON-CULTIVATED)** **157-95-14-005 (CULTIVATED)** NE1/4 Section 23, SE1/4 Section 14, T157N R95W	**157-95-24-002 (NON-CULTIVATED)** **157-95-24-003 (NON-CULTIVATED)** S1/2NW1/4, N1/2SW1/4 , N1/2SW1/4 Section 24, T157N R95W
RODDAGE	2792.3' / 169.2 RODS	1430.8' / 86.7 RODS	69.7' / 4.2 RODS	2785.2' / 168.8 RODS	5185.5' / 314.3 RODS	2860.0' / 179.3 RODS
PIPE SCHEMATIC	136+05 ① ② ① ② ① ② ① ② ① 0+00					

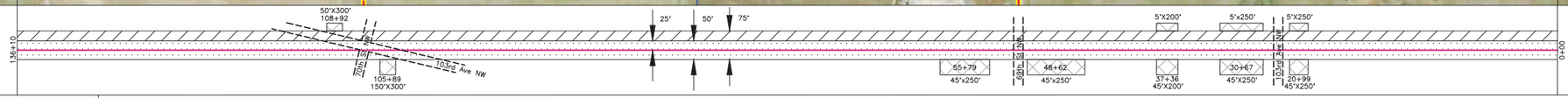
FEATURES

136+10 MATCH LINE
135+80 TESORO PIPELINE X-ING
134+98 HESS PIPELINE X-ING
123+25 TESORO PIPELINE X-ING
123+15 HESS PIPELINE X-ING
121+37 HESS PIPELINE X-ING
119+88 HESS PIPELINE X-ING
111+88 HESS PIPELINE X-ING
107+13 O.H.P.
106+85 105TH ST NW
106+29 103RD AVE NW
106+00 F.O. CABLE X-ING
101+28 HESS PIPELINE X-ING
101+04 HESS
94+38 HESS PIPELINE X-ING
78+24 WATER LINE X-ING
75+49 HESS PIPELINE X-ING
72+40 WELL PAD ACCESS
71+95 HESS PIPELINE X-ING
71+45 HESS PIPELINE X-ING
70+93 HESS PIPELINE X-ING
68+49 HESS PIPELINE X-ING
68+22 TESORO PIPELINE X-ING
67+27 TESORO PIPELINE X-ING
61+85 HESS PIPELINE X-ING
61+58 TESORO PIPELINE X-ING
51+28 69TH ST NW
50+66 F.O. CABLE X-ING
50+48 C.M. FENCE
50+40 O.H.P.
43+68 HESS PIPELINE X-ING
40+94 HESS PIPELINE X-ING
38+93 ACCESS ROAD
24+45 TESORO PIPELINE X-ING
24+15 C.M. FENCE
23+34 O.H.P.
22+43 103RD AVE NW
12+83 HESS PIPELINE X-ING
18+00 HESS PIPELINE X-ING
17+64 HESS PIPELINE X-ING
17+29 WELL PAD ACCESS
16+23 HESS PIPELINE X-ING
15+91 HESS PIPELINE X-ING
15+51 TESORO PIPELINE X-ING
7+03 HESS PIPELINE X-ING
2+15 ALLIANCE PIPELINE X-ING
1+43 C.M. FENCE
0+00 BEGIN PROJECT

ALIGNMENT
1" = 500'



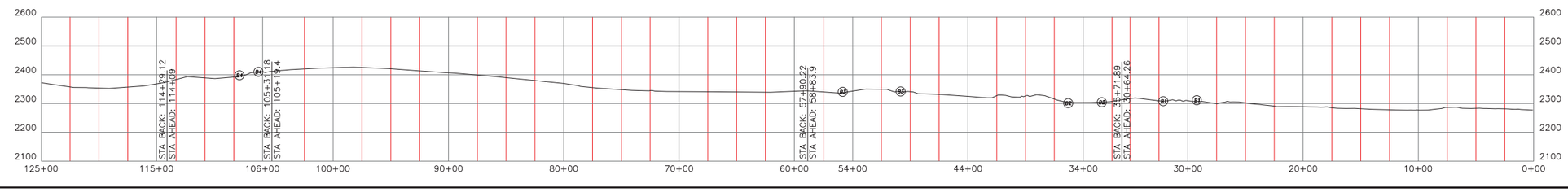
WORK SPACE
N.T.S.



ENVIRONMENTAL

DEPTH OF COVER		4' MINIMUM DEPTH, BORE & SECTION LINE EXCEPTION						
WETLAND CROSSING	UNIQUE ID		w-wm-xx-xxxx		w-wm-eb-001e		w-wm-eb-002e	
	SURVEY EXTENT		63+04		55+60	23+34		23+34
	CROSSING METHOD		OPEN TRENCH		OPEN TRENCH		BORE	
ENVIRONMENTAL FEATURE			WETLAND		WETLAND		WETLAND	
SPECIAL REQUIREMENTS								
SEEDING MIX			X MIX		X MIX		X MIX	

PROFILE
(H)1" = 500'
(V)1" = 200'



SURVEY DATUM
BASIS OF BEARING IS WGS 84 NORTH & GROUND DISTANCES

P.I. TABLE		
P.I.	Station	Deflection
1	4+70	37°33'R
2	7+98	37°33'L
3	26+66	90°00'L
4	BK: 35+72	60°42'R
	AH: 30+64	
	EQ: +508	
5	43+68	28°35'R
6	52+84	24°29'L
7	BK: 57+90	41°28'R
	AH: 58+84	
	EQ:-94	
8	78+57	00°55'L

P.I. TABLE		
P.I.	Station	Deflection
9	101+45	04°31'L
10	104+91	47°27'R
	BK: 105+31	
	AH: 105+19	
	EQN: +12	
11	108+66	61°48'L
12	BK: 114+29	19°38'R
	AH: 114+09	
	EQN: +20	
13	136+01	06°40'R

SUMMARY OF MATERALS		
MARK	QTY	DESCRIPTION
①		12", 0.250" W.T. FBE, X-65
②		12", 0.375" W.T. FBE W/ ARO, X-52

LEGEND

- PROPOSED LS 25 LOOP PIPELINE
- PROPOSED LS 25 LOOP EXTENSION
- UPRATING BORE #1
- WBI — EXISTING WBI PIPELINE
- EXISTING FENCE LINE
- OVERHEAD POWERLINE
- UNDERGROUND POWER
- FIBER OPTIC
- WATER LINE
- DAKOTA GAS PIPELINE
- ALLIANCE PIPELINE
- HESS — HESS PIPELINE
- HESS — HESS PIPELINE UNDER CONST.
- LIBERTY — LIBERTY GAS PIPELINE
- TESORO — TESORO PIPELINE
- SECTION LINE
- QUARTER LINE
- POWER POLE
- MILEAGE MARKER
- P.I. NODE
- (B) PROPOSED BORE
- (TL) TEST LEAD LOCATION
- ACCESS ROADS
- WETLAND BOUNDARY
- TREE ROW/SHELTER BELT
- ROCK PILE
- SECTION CORNER
- SECTION CORNER CALC
- QUARTER CORNER
- QUARTER CORNER CALC
- (C) CENTER QUARTER CORNER
- PROPERTY CORNERS
- PERMANENT EASEMENT
- TEMPORARY EASEMENT
- EXTRA WORK SPACE

811 Know what's below. Call before you dig.
ND – 1-800-795-0555

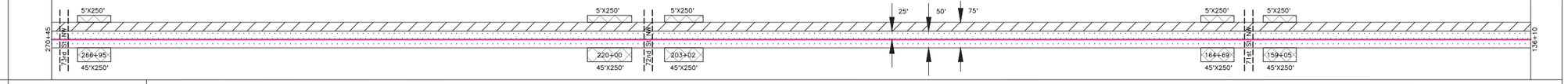
SHEET 1 OF 8

NO	DATE	BY	REVISION
4	1/16/20	RFB	MISC EDITS

WBI ENERGY TRANSMISSION
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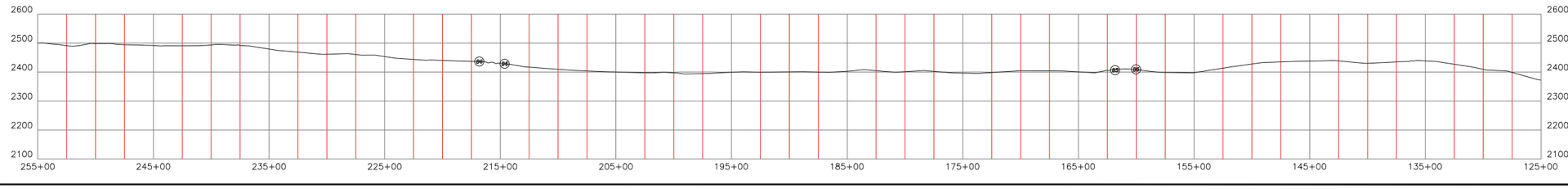
LINE SECTION 25 LOOP
NORTH BAKKEN EXPANSION PROJECT

DATE	DRAWN BY	SCALE	COMP. NO.	DRAWING NO.
11/20/19	AMO	NOTED	NRSELOOP	C-7-1775-1

CO. STATE	Sections 1 & 12, T157N, R95W, Sections 25 & 36, T158N, R95W, WILLIAMS COUNTY, NORTH DAKOTA
OWNER	**158-95-36-014 158-95-36-015 158-95-36-016 (NON-CULTIVATED)** SW1/4, SE1/4 EX DD PT, NE1/4, Section 36, T158N R95W **157-95-01-012 (CULTIVATED) 157-95-01-013 (CULTIVATED)** N1/2SW1/4, SW1/4SW1/4 EX SUBLOT 1, SE1/4NW1/4 SW1/4NE1/4, L3, L4, Section 1, T157N R95W **157-95-12-010 (CULTIVATED) 157-95-01-011 (CULTIVATED)** N1/2NW1/4 Section 12, S1/2SW1/4 Section 1, T157N R95W
RODDAGE	5494.3' / 333.0 RODS; 4043.0' / 245.0 RODS; 2636.1' / 159.8 RODS
PIPE SCHEMATIC	270+45 ② ① ② ① ② ① 136+05
FEATURES	272+06 WBI PIPELINE X-ING; 270+45 MATCH LINE; 270+45 73RD ST NW; 269+85 E-W FENCE; 269+75 HESS PIPELINE X-ING; 269+56 TESORO PIPELINE X-ING; 269+46 HESS PIPELINE X-ING; 250+20 HESS PIPELINE X-ING; 247+41 HESS PIPELINE X-ING; 243+18 E-W FENCE; 239+56 HESS PIPELINE X-ING; 239+44 HESS PIPELINE X-ING; 238+08 HESS PIPELINE X-ING; 237+72 WELL PAD ACCESS; 237+58 HESS PIPELINE X-ING; 235+80 HESS PIPELINE X-ING; 235+48 HESS PIPELINE X-ING; 233+17 O.H.P.; 232+68 N-S FENCE; 229+55 DAKOTA GAS X-ING; 221+22 WBI PIPELINE X-ING; 219+02 STEEL PIPELINE X-ING; 217+31 O.H.P.; 216+21 E-W FENCE; 215+79 72ND ST NW; 214+02 HESS PIPELINE X-ING; 213+99 HESS PIPELINE X-ING; 212+98 TESORO PIPELINE X-ING; 208+80 HESS PIPELINE X-ING; 205+28 TREE ROW/SHELTER BELT; 203+56 HESS PIPELINE X-ING; 201+69 E-W FENCE; 198+53 HESS PIPELINE X-ING; 197+88 HESS PIPELINE X-ING; 197+72 HESS PIPELINE X-ING; 197+10 HESS PIPELINE X-ING; 188+89 E-W FENCE; 182+65 HESS PIPELINE X-ING; 182+53 HESS PIPELINE X-ING; 182+37 TESORO PIPELINE X-ING; 180+73 HESS PIPELINE X-ING; 171+98 HESS PIPELINE X-ING; 169+11 HESS PIPELINE X-ING; 162+73 O.H.P.; 162+57 73RD ST NW; 161+49 F.O. CABLE X-ING; 161+20 WATER LINE CROSSING; 159+66 HESS PIPELINE X-ING; 149+41 TREE ROW/SHELTER BELT; 136+10 MATCH LINE
ALIGNMENT 1" = 500'	
WORK SPACE N.T.S.	

ENVIRONMENTAL					
DEPTH OF COVER					
WETLAND CROSSING	UNIQUE ID		w-wm-ea-001e		w-wm-ea-002e
	SURVEY EXTENT		251+89		243+18
	CROSSING METHOD		OPEN TRENCH		OPEN TRENCH
ENVIRONMENTAL FEATURE			WETLAND		WETLAND
SPECIAL REQUIREMENTS					
SEEDING MIX					

PROFILE (H)1" = 500' (V)1" = 200'



SURVEY DATUM

BASIS OF BEARING IS WGS 84 NORTH & GROUND DISTANCES

P.I. TABLE		
P.I.	Station	Deflection
14	143+83	17°20'L
15	160+01	05°18'R
16	220+98	87°04'L
17	221+38	90°02'R
18	239+66	09°19'L
19	243+98	17°02'R
20	249+18	13°57'L
21	256+57	16°17'R

P.I. TABLE		
P.I.	Station	Deflection
22	BK: 261+15	10°04'L
	AH: 260+94	
	EQ: +21	
23	271+43	22°30'R

SUMMARY OF MATERIALS

MARK	QTY	DESCRIPTION
①		12", 0.250" W.T. FBE, X-65
②		12", 0.375" W.T. FBE W/ ARO, X-52

LEGEND

- PROPOSED LS 25 LOOP PIPELINE
- PROPOSED LS 25 LOOP EXTENSION
- UPRATING BORE #1
- EXISTING WBI PIPELINE
- EXISTING FENCE LINE
- OVERHEAD POWERLINE
- UNDERGROUND POWER
- FIBER OPTIC
- WATER LINE
- DAKOTA GAS PIPELINE
- ALLIANCE PIPELINE
- HESS PIPELINE
- HESS PIPELINE UNDER CONST.
- LIBERTY GAS PIPELINE
- TESORO PIPELINE
- SECTION LINE
- QUARTER LINE
- POWER POLE
- MILEAGE MARKER
- P.I. NODE
- (B) PROPOSED BORE
- (TL) TEST LEAD LOCATION
- ACCESS ROADS
- WETLAND BOUNDARY
- TREE ROW/SHELTER BELT
- ROCK PILE
- SECTION CORNER
- SECTION CORNER CALC
- QUARTER CORNER
- QUARTER CORNER CALC
- (C) CENTER QUARTER CORNER
- PROPERTY CORNERS
- PERMANENT EASEMENT
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ND – 1-800-795-0555

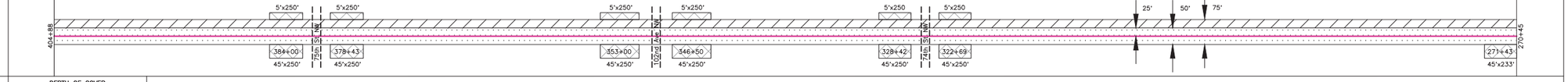
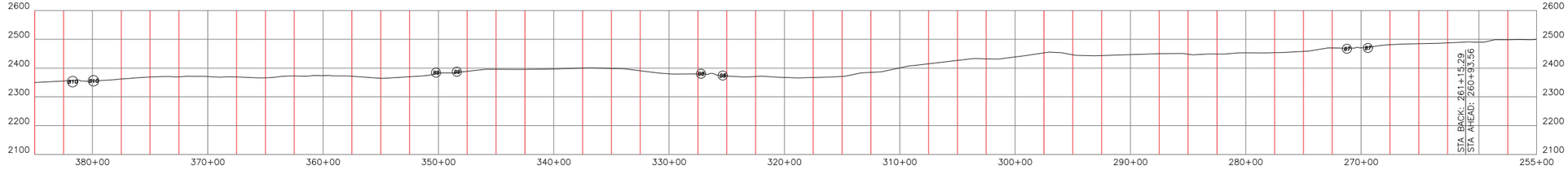
SHEET 2 OF 8

NO	DATE	BY	REVISION
4	1/16/20	RFB	MISC EDITS

WBI ENERGY TRANSMISSION
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LINE SECTION 25 LOOP
NORTH BAKKEN EXPANSION PROJECT

DATE	DRAWN BY	SCALE	COMP. NO.	DRAWING NO.
11/20/19	AMO	NOTED	NRSELOOP	C-7-1775-2

CO. STATE	Sections 24 & 25, T158N, R95W, WILLIAMS COUNTY, NORTH DAKOTA AND Sections 18 & 19, T158N, R95W, MOUNTRAIL COUNTY, NORTH DAKOTA			
OWNER		**158-94-18-021 (CULTIVATED)** S1/2SW1/4, Section 18, T158N R94W	**158-95-24-019 (CULTIVATED)** **158-95-19-020 (CULTIVATED)** SE1/4 Section 24, W1/2SW1/4, W1/4NW1/4, Section 19, T158N R95W	**158-95-25-017 (CULTIVATED)** **158-95-25-018 (CULTIVATED)** W1/2SE1/4, E1/2SW1/4, E1/2NE1/4, E1/2SE1/4 Section 25, T158N R95W
RODDAGE		1340.7' / 81.3 RODS	5493.2' / 332.9 RODS	5587.7' / 338.6 RODS
PIPE SCHEMATIC	404+88 ① 383+67 ② 381+90 ① 365+97 ② 359+58 ① 356+42 ② 352+89 ① 326+33 ② 325+69 ① 321+47 ② 318+36 ① 279+80 ② 270+45			
FEATURES	404+88 MATCH LINE; 402+38 HESS PIPELINE X-ING; 397+90 HESS PIPELINE X-ING; 394+64 ACCESS ROAD; 391+21 HESS PIPELINE X-ING; 383+67 HESS PIPELINE X-ING; 381+90 HESS PIPELINE X-ING; 381+18 75TH ST NW; 380+64 F.O. CABLE X-ING; 365+97 HESS PIPELINE X-ING; 359+58 ACCESS ROAD; 356+42 HESS PIPELINE X-ING; 356+35 TESORO PIPELINE X-ING; 352+89 HESS PIPELINE X-ING; 352+17 F.O. CABLE X-ING; 349+80 102ND AVE NW; 343+92 HESS PIPELINE X-ING; 326+33 74TH ST NW; 325+69 E-W FENCE; 325+23 F.O. CABLE X-ING; 324+12 LIBERTY PIPELINE X-ING; 323+98 E-W FENCE; 321+47 HESS PIPELINE X-ING; 318+36 HESS PIPELINE X-ING; 317+40 TESORO PIPELINE X-ING; 317+38 HESS PIPELINE X-ING; 314+72 HESS PIPELINE X-ING; 311+32 WBI PIPELINE X-ING; 309+17 E-W FENCE; 279+80 LIBERTY PIPELINE X-ING; 272+06 WBI PIPELINE X-ING; 270+45 MATCH LINE; 270+45 73RD ST NW			
ALIGNMENT 1" = 500'				
WORK SPACE N.T.S.				
ENVIRONMENTAL	DEPTH OF COVER			
	WETLAND CROSSING — UNIQUE ID			
	WETLAND CROSSING — SURVEY EXTENT			
	WETLAND CROSSING — CROSSING METHOD			
	ENVIRONMENTAL FEATURE			
	SPECIAL REQUIREMENTS			
	SEEDING MIX			
PROFILE (H)1" = 500' (V)1" = 200'				

SURVEY DATUM
BASIS OF BEARING IS WGS 84 NORTH & GROUND DISTANCES

P.I. TABLE		
P.I.	Station	Deflection
24	285+48	34°00'L
25	312+45	11°30'R
26	320+64	13°35'L
27	327+37	15°24'R
28	359+46	42°57'R
29	360+40	59°00'L
30	360+81	14°17'R
31	374+61	04°11'L

SUMMARY OF MATERALS		
MARK	QTY	DESCRIPTION
①		12", 0.250" W.T. FBE, X-65
②		12", 0.375" W.T. FBE W/ ARO, X-52

LEGEND

- PROPOSED LS 25 LOOP PIPELINE
- PROPOSED LS 25 LOOP EXTENSION
- UPRATING BORE #1
- EXISTING WBI PIPELINE
- EXISTING FENCE LINE
- OVERHEAD POWERLINE
- UNDERGROUND POWER
- FIBER OPTIC
- WATER LINE
- DAKOTA GAS PIPELINE
- ALLIANCE PIPELINE
- HESS PIPELINE
- HESS PIPELINE UNDER CONST.
- LIBERTY GAS PIPELINE
- TESORO PIPELINE
- SECTION LINE
- QUARTER LINE
- POWER POLE
- MILEAGE MARKER
- P.I. NODE
- PROPOSED BORE
- TEST LEAD LOCATION
- ACCESS ROADS
- WETLAND BOUNDARY
- TREE ROW/SHELTER BELT
- ROCK PILE
- SECTION CORNER
- SECTION CORNER CALC
- QUARTER CORNER
- QUARTER CORNER CALC
- CENTER QUARTER CORNER
- PROPERTY CORNERS
- PERMANENT EASEMENT
- TEMPORARY EASEMENT
- EXTRA WORK SPACE

811 Know what's below. Call before you dig.

ND – 1-800-795-0555

SHEET 3 OF 8

NO	DATE	BY	REVISION
4	1/16/20	RFB	MISC EDITS

WBI ENERGY TRANSMISSION
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LINE SECTION 25 LOOP
NORTH BAKKEN EXPANSION PROJECT

DATE	DRAWN BY	SCALE	COMP. NO.	DRAWING NO.
11/20/19	AMO	NOTED	NRSELOOP	C-7-1775-3

CO. STATE	Sections 6, 7 & 18, T158N, R94W, MOUNTRAIL COUNTY, NORTH DAKOTA				
OWNER	**158-94-06-027 (NON-CULTIVATED)** NE1/4 Section 6, T158N R94W	**158-94-06-026 (CULTIVATED)** SE1/4 Section 6, T158N R94W	**158-94-07-024 (CULTIVATED)** **158-94-07-025 (CULTIVATED)** E1/2NW1/4, E1/2SW1/4, NW1/4 Section 7, T158N R94W	**158-94-18-023 (CULTIVATED)** N1/2NW1/4, N1/2NE1/4, Section 18, T158N R94W	**158-94-18-022 (CULTIVATED)** S1/2NW1/4, N1/2SW1/4, N1/2NE1/4, N1/2NW1/4 Section 18, T158N R94W
RODDAGE	2716.3' / 164.6 RODS	2715.9' / 164.6 RODS	5405.8' / 327.6 RODS	1340.8' / 327.6 RODS	2681.5' / 162.5 RODS

PIPE SCHEMATIC

536+83 ① ② ① ② ① 404+88

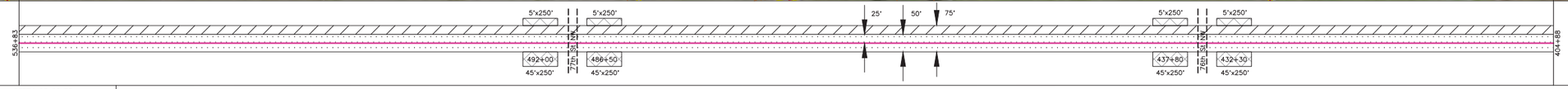
FEATURES

536+83 MATCH LINE
533+34 TESORO PIPELINE X-ING
532+81 HESS PIPELINE X-ING
530+98 TESORO PIPELINE X-ING
516+51 E-W FENCE
516+43 E-W FENCE
504+59 HESS PIPELINE X-ING
490+17 F.O. CABLE X-ING
489+24 77TH ST NW
479+21 HESS PIPELINE X-ING
465+37 HESS PIPELINE X-ING
460+17 HESS PIPELINE X-ING
459+73 UNDERGROUND POWER
457+12 HESS PIPELINE X-ING
452+08 HESS PIPELINE X-ING
451+26 HESS PIPELINE X-ING
442+30 HESS PIPELINE X-ING
435+07 76TH ST NW
428+75 HESS PIPELINE X-ING
418+24 HESS PIPELINE X-ING
414+10 HESS PIPELINE X-ING
412+79 HESS PIPELINE X-ING
409+78 TESORO PIPELINE X-ING
409+55 HESS PIPELINE X-ING
409+55 TESORO PIPELINE X-ING
408+64 HESS PIPELINE X-ING
408+56 TESORO PIPELINE X-ING
404+88 MATCH LINE

ALIGNMENT
1" = 500'



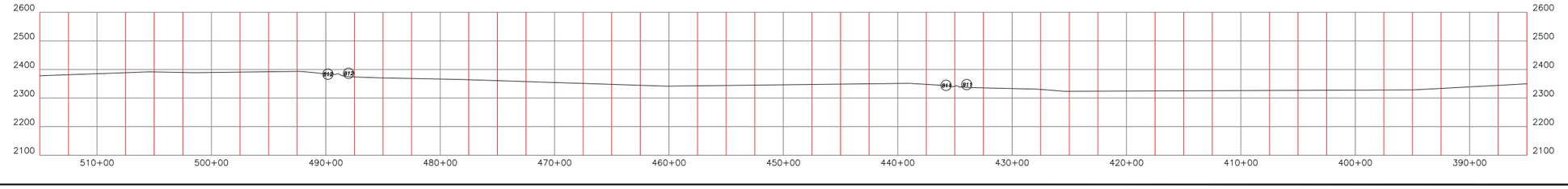
WORK SPACE
N.T.S.



ENVIRONMENTAL

DEPTH OF COVER					
WETLAND CROSSING	UNIQUE ID	w-mt-ea-002e	516+14	w-mt-ea-001e	516+68
	SURVEY EXTENT	580+53			
	CROSSING METHOD	N/A		OPEN TRENCH	
ENVIRONMENTAL FEATURE		WETLAND		WETLAND	
SPECIAL REQUIREMENTS					
SEEDING MIX				X MIX	

PROFILE
(H)1" = 500'
(V)1" = 200'



SURVEY DATUM
BASIS OF BEARING IS WGS 84 NORTH & GROUND DISTANCES

P.I. TABLE		
P.I.	Station	Deflection
32	453+52	03°36'R

SUMMARY OF MATERALS		
MARK	QTY	DESCRIPTION
①		12", 0.250" W.T. FBE, X-65
②		12", 0.375" W.T. FBE W/ ARO, X-52

LEGEND

- PROPOSED LS 25 LOOP PIPELINE
- PROPOSED LS 25 LOOP EXTENSION
- UPRATING BORE #1
- WBI EXISTING WBI PIPELINE
- EXISTING FENCE LINE
- OVERHEAD POWERLINE
- UNDERGROUND POWER
- FIBER OPTIC
- WATER LINE
- DAKOTA GAS PIPELINE
- ALLIANCE PIPELINE
- HESS PIPELINE
- HESS PIPELINE UNDER CONST.
- LIBERTY GAS PIPELINE
- TESORO PIPELINE
- SECTION LINE
- QUARTER LINE
- POWER POLE
- MILEAGE MARKER
- P.I. NODE
- (B) PROPOSED BORE
- TEST LEAD LOCATION
- ACCESS ROADS
- WETLAND BOUNDARY
- TREE ROW/SHELTER BELT
- ROCK PILE
- SECTION CORNER
- SECTION CORNER CALC
- QUARTER CORNER
- QUARTER CORNER CALC
- © CENTER QUARTER CORNER
- PROPERTY CORNERS
- PERMANENT EASEMENT
- TEMPORARY EASEMENT
- EXTRA WORK SPACE

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SHEET 4 OF 8

NO	DATE	BY	REVISION
4	1/16/20	RFB	MISC EDITS

WBI ENERGY TRANSMISSION
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LINE SECTION 25 LOOP
NORTH BAKKEN EXPANSION PROJECT

DATE	DRAWN BY	SCALE	COMP. NO.	DRAWING NO.
11/20/19	AMO	NOTED	NRSELOOP	C-7-1775-4

CO. STATE	Sections 30 & 31, T159N, R95W, Sections 20 & 29, T159N, R94W, BURKE COUNTY, NORTH DAKOTA						
OWNER		**159-94-20-035 (CULTIVATED)** W1/2SW1/4, SE1/4SW1/4, Section 20, T159N R94W	**159-94-29-033 (CULTIVATED)** NW1/4 LESS RW & LESS 5.45 A. HWY RW, Section 29, T159N R94W	**159-94-29-032 (CULTIVATED)** SW1/4 Section 29, T159N R94W	**159-94-30-031 (CULTIVATED)** SE1/4 Section 30, T159N R94W	**159-94-31-030 (CULTIVATED)** NE1/4NE1/4 Section 31, T159N R94W	**159-94-31-028 (CULTIVATED)** **159-94-31-029 (CULTIVATED)** SE1/4, SE1/4NE1/4 Section 31, T159N R94W
RODDAGE		1302.4' / 78.9 RODS	2637.1' / 159.8 RODS	2769.1' / 167.8 RODS	711.7' / 43.1 RODS	1402.8' / 85.0 RODS	3969.8' / 240.6 RODS

PIPE SCHEMATIC

675+70 ① ② ① ② ② ① ② ① ② ① 536+83

FEATURES

675+70 MATCH LINE
671+70 TESORO PIPELINE X-ING
660+37 F.O. CABLE X-ING
660+16 O.H.P.
658+23 F.O. CABLE X-ING
658+11 E-W FENCE
656+75 HESS PIPELINE X-ING
655+25 HESS PIPELINE X-ING
631+99 O.H.P.
610+77 HESS PIPELINE X-ING
606+00 WBI PIPELINE X-ING
604+39 101ST AVE NW
604+25 F.O. CABLE X-ING
603+45 O.H.P.
601+43 HESS PIPELINE X-ING
599+02 F.O. CABLE X-ING
597+30 79TH ST NW
583+22 E-W FENCE
569+60 HESS PIPELINE X-ING
552+81 HESS PIPELINE X-ING
552+51 TESORO PIPELINE X-ING
552+31 HESS PIPELINE X-ING
552+08 TESORO PIPELINE X-ING
543+56 78TH ST NW
543+11 E-W FENCE
536+83 MATCH LINE

ALIGNMENT
1" = 500'



WORK SPACE
N.T.S.

675+70 5'x250' 5'x250' 25' 50' 75' 5'X900' 78th St NW 5'x250' 5'x250' 5'x250' 5'x250' 536+83

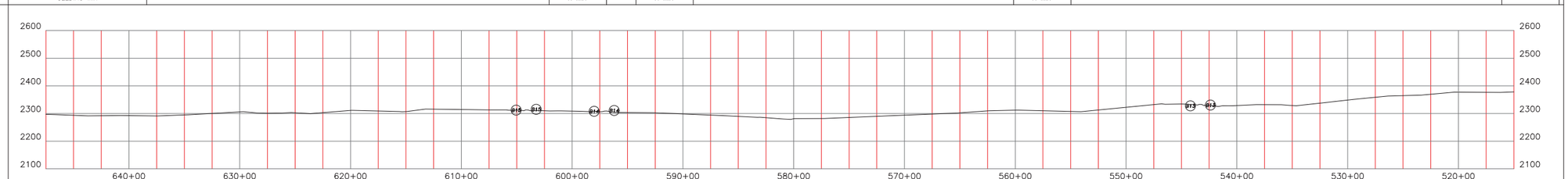
662+23 45'x250' | 656+00 45'x250' | 600+92 45'X900' | 583+34 45'x250' | 578+00 45'x250' | 545+81 45'x250' | 540+50 45'x250'

101st Ave NW

ENVIRONMENTAL

DEPTH OF COVER														
WETLAND CROSSING	UNIQUE ID			w-bk-ea-006e		w-bk-ea-005e				w-bk-ea-005e				w-mt-ea-002e
	SURVEY EXTENT		627+35		626+62	624+01		623+50	579+01		579+01			580+53
	CROSSING METHOD			OPEN TRENCH		OPEN TRENCH				OPEN TRENCH				
ENVIRONMENTAL FEATURE														
SPECIAL REQUIREMENTS				WETLAND		WETLAND				WETLAND				WETLAND
SEEDING MIX				X MIX		X MIX				X MIX				

PROFILE
(H)1" = 500'
(V)1" = 200'



SURVEY DATUM
BASIS OF BEARING IS WGS 84 NORTH & GROUND DISTANCES

P.I. TABLE		
P.I.	Station	Deflection
33	544+50	12°34'L
34	583+04	11°08'R
35	595+47	39°06'R
36	599+07	39°08'R
37	605+95	77°06'L
38	660+73	01°10'R

SUMMARY OF MATERALS		
MARK	QTY	DESCRIPTION
①		12", 0.250" W.T. FBE, X-65
②		12", 0.375" W.T. FBE W/ ARO, X-52

LEGEND

- PROPOSED LS 25 LOOP PIPELINE
- PROPOSED LS 25 LOOP EXTENSION
- UPRATING BORE #1
- WBI EXISTING WBI PIPELINE
- X EXISTING FENCE LINE
- OVERHEAD POWERLINE
- UNDERGROUND POWER
- FO FIBER OPTIC
- H2O WATER LINE
- DAKOTA GAS PIPELINE
- ALLIANCE PIPELINE
- HESS HESS PIPELINE
- HESS HESS PIPELINE UNDER CONST.
- LIBERTY LIBERTY GAS PIPELINE
- TESORO TESORO PIPELINE
- SECTION LINE
- QUARTER LINE
- POWER POLE
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ND – 1-800-795-0555

SHEET 5 OF 8

NO	DATE	BY	REVISION
4	1/16/20	RFB	MISC EDITS

WBI ENERGY TRANSMISSION
A Subsidiary of MDU Resources Group, Inc.

LINE SECTION 25 LOOP
NORTH BAKKEN EXPANSION PROJECT

DATE	DRAWN BY	SCALE	COMP. NO.	DRAWING NO.
11/20/19	AMO	NOTED	NRSELOOP	C-7-1775-5

CO. STATE	Sections 8, 9, 17 & 20, T159N, R94W, BURKE COUNTY, NORTH DAKOTA							
OWNER	**159-94-09-046** S1/2NW1/4, N1/2SW1/4, Section 09, T159N R94W	**159-94-09-045** S1/2SW1/4, S1/2SE1/4, Section 09, T159N R94W	**159-94-08-044 (CULTIVATED)** SE1/4 Section 08, T159N R94W	**159-94-17-043 (NON-CULTIVATED)** NE1/4 Section 17, T159N R94W	**159-94-20-041 (NON_CULTIVATED)** **159-94-17-042 (CULTIVATED)** N1/2NW1/4 N1/2NE1/4 LESS POR AND LESS RW, Section 20, SE1/4 Section 17, T159N R94W	**159-94-20-040 (NON-CULIVATED)** Por in NE1/4NW1/4 Por in NE1/4NE1/4 Section 20, T159N R94W	**159-94-20-038 (NON-CULTIVATED)** **159-94-20-039 (NON-CULTIVATED)** S1/2NW1/4, S1/2NE1/4, N1/2NW1/4, N1/2NE1/4 LESS POR, AND LESS RW. Section 20, T159N R94W	**159-94-20-037 (CULTIVATED)** NE1/4SW1/4 Section 20, T159N R94W
RODDAGE	1725.6' / 105.6 RODS	1572.9' / 95.3 RODS	86.2' / 5.3 RODS	3123.9' / 189.3 RODS	3587.9' / 217.4 RODS	139.7' / 8.5 RODS	2494.3' / 151.2 RODS	1337.5' / 81.1 RODS

PIPE SCHEMATIC

817+55 ① ② ① ② ① ② ① 675+70

FEATURES

817+55 MATCH LINE
816+15 TREE ROW/SHELTER BELT
804+14 TREE ROW/SHELTER BELT
794+07 ACCESS ROAD
793+99 E-W FENCE
787+00 WBI PIPELINE X-ING
780+36 O.H.P.
779+56 O.H.P.
778+55 E-W FENCE
777+95 N-S FENCE
763+64 E-W FENCE
754+62 N-S FENCE
748+42 HESS PIPELINE X-ING
747+71 E-W FENCE
747+24 ACCESS ROAD
737+16 HESS PIPELINE X-ING
728+90 WBI PIPELINE X-ING
722+81 TESORO PIPELINE X-ING
719+04 O.H.P.
718+43 81ST ST NW
711+87 O.H.P.
711+44 E-W FENCE
710+36 OLD RAILROAD GRADE
693+53 TESORO PIPELINE X-ING
686+14 E-W FENCE
679+13 TESORO PIPELINE X-ING
678+09 TESORO PIPELINE X-ING
675+70 MATCH LINE

ALIGNMENT
1" = 500'



WORK SPACE
N.T.S.

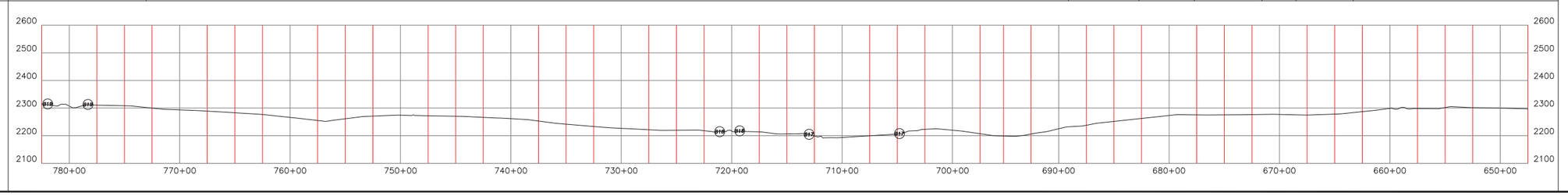
817+55 5'X250' 783+73 45'X250' | 5'X250' 774+32 45'X250' | 150'X1100' 701+11 | 5'X250' 721+31 45'X250' | 5'X250' 714+86 45'X250' | 150'X1100' 702+33 45'X250' 675+70

25' 50' 75'

ENVIRONMENTAL

DEPTH OF COVER											
WETLAND CROSSING	UNIQUE ID		w-bk-eb-001p		w-bk-eb-001e		w-bk-eb-001p		w-bk-eb-002e		
	SURVEY EXTENT	711+44		706+12		705+80		705+23		697+28	626+98
	CROSSING METHOD		BORE		BORE		BORE		OPEN TRENCH		
ENVIRONMENTAL FEATURE			WETLAND		WATERBODY		WETLAND		WETLAND		
SPECIAL REQUIREMENTS											
SEEDING MIX											

PROFILE
(H)1" = 500'
(V)1" = 200'



SURVEY DATUM
BASIS OF BEARING IS WGS 84 NORTH & GROUND DISTANCES

P.I.	Station	Deflection
39	679+37	13°48'L
40	693+58	82°02'R
41	702+33	82°09'L
42	730+77	22°16'R
43	740+49	10°06'R
44	777+64	00°44'R
45	786+52	44°43'R
46	787+55	45°02'L

SUMMARY OF MATERALS		
MARK	QTY	DESCRIPTION
①		12", 0.250" W.T. FBE, X-65
②		12", 0.375" W.T. FBE W/ ARO, X-52

LEGEND

- PROPOSED LS 25 LOOP PIPELINE
- PROPOSED LS 25 LOOP EXTENSION
- UPRATING BORE #1
- EXISTING WBI PIPELINE
- EXISTING FENCE LINE
- OVERHEAD POWERLINE
- UNDERGROUND POWER
- FIBER OPTIC
- WATER LINE
- DAKOTA GAS PIPELINE
- ALLIANCE PIPELINE
- HESS PIPELINE
- HESS PIPELINE UNDER CONST.
- LIBERTY GAS PIPELINE
- TESORO PIPELINE
- SECTION LINE
- QUARTER LINE
- POWER POLE
- MILEAGE MARKER
- P.I. NODE
- PROPOSED BORE
- TEST LEAD LOCATION
- ACCESS ROADS
- WETLAND BOUNDARY
- TREE ROW/SHELTER BELT
- ROCK PILE
- SECTION CORNER
- SECTION CORNER CALC
- QUARTER CORNER
- QUARTER CORNER CALC
- CENTER QUARTER CORNER
- PROPERTY CORNERS
- PERMANENT EASEMENT
- TEMPORARY EASEMENT
- EXTRA WORK SPACE

811 Know what's below. Call before you dig.
ND – 1-800-795-0555

SHEET 6 OF 8

NO	DATE	BY	REVISION
4	1/16/20	RFB	MISC EDITS

WBI ENERGY TRANSMISSION
A Subsidiary of MDU Resources Group, Inc.

LINE SECTION 25 LOOP
NORTH BAKKEN EXPANSION PROJECT

DATE	DRAWN BY	SCALE	COMP. NO.	DRAWING NO.
11/20/19	AMO	NOTED	NRSELOOP	C-7-1775-6

CO. STATE	Sections 3, 4 & 9, T159N, R94W, Section 34, T160N, R94W, BURKE COUNTY, NORTH DAKOTA						
OWNER	**160-94-35-049D** SW1/4 Section 35, T160N R94W	**159-94-02-049B** **159-94-02-049C** SW1/4, S1/2NW1/4, Lots 3-4 Section 2, T159N R94W	**159-94-03-049A** SW1/4NE1/4, N1/2SE1/4 Section 3, T159N R94W	**159-94-03C** **159-94-10-048B** S1/2SE1/4 Section 3, N1/2NE1/4 Section 10, T159N R94W	**159-94-10-048A** NW1/4 Section 10, T159N R94W	**159-94-09-046** **159-94-09-047** S1/2NW1/4, N1/2SW1/4, N1/2NW1/4, N1/2NE1/4 Section 9, T159N R94W	
RODDAGE	2706.7' / 164.0 RODS	3987.1' / 241.6 RODS	649.8' / 39.4 RODS	3040.0' / 184.2 RODS	2639.5' / 160.0 RODS	1725.6' / 105.6 RODS	

PIPE SCHEMATIC

978+75 — ① — ② — ① — ② — ① — ② — ① — 817+55

FEATURES

980+00 MATCH LINE; 951+53 TREE ROW/SHELTER BELT; 937+49 TREE ROW/SHELTER BELT; 923+14 F.O. CABLE X-ING; 922+45 98TH AVE NW; 921+25 O.H.P. 920+79 N-S FENCE; 915+87 E-W FENCE; 900+72 O.H.P. 900+05 F.O. CABLE X-ING; 899+76 83RD ST NW; 859+74 O.H.P. 859+45 F.O. CABLE X-ING; 859+01 99TH AVE NW; 825+81 ACCESS ROAD; 817+55 MATCH LINE

ALIGNMENT
1" = 500'



WORK SPACE
N.T.S.

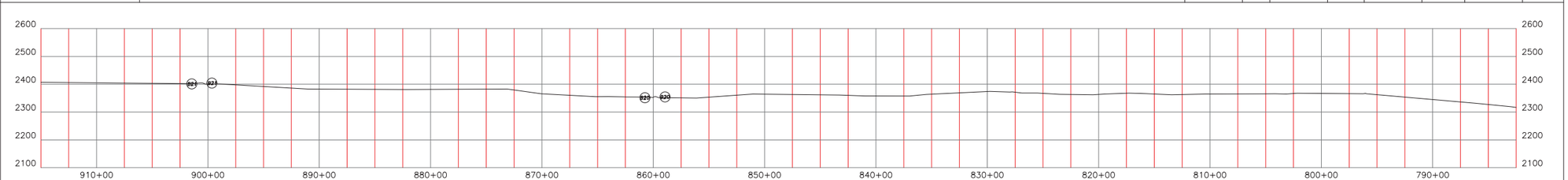
980+00 — 25' — 50' — 75' — 817+55

5'x250'	925+27	5'x250'	918+57	98th Ave NW	5'x250'	902+61	5'x250'	898+06	83rd St NW	5'x250'	863+80	5'x250'	851+00	99th Ave NW
	45'X250'		45'X250'			45'x250'		45'x250'			45'x250'		45'x250'	

ENVIRONMENTAL

		857+18	856+91					
DEPTH OF COVER								
WETLAND CROSSING — UNIQUE ID		w-bk-ea-002e		w-bk-ea-003e		w-bk-ea-004e		w-bk-ea-011e
WETLAND CROSSING — SURVEY EXTENT				843+29		833+12		823+77
WETLAND CROSSING — CROSSING METHOD		BORE		OPEN TRENCH		OPEN TRENCH		OPEN TRENCH
ENVIRONMENTAL FEATURE		WETLAND		WETLAND		WETLAND		WETLAND
SPECIAL REQUIREMENTS								
SEEDING MIX								

PROFILE
(H)1" = 500'
(V)1" = 200'



SURVEY DATUM
BASIS OF BEARING IS WGS 84 NORTH & GROUND DISTANCES

P.I. TABLE		
P.I.	Station	Deflection
47	828+98	05°40'R
48	842+60	51°26'R
49	898+89	55°30'L
50	920+63	00°21'L
51	952+50	16°53'L
52	976+73	17°34'L

SUMMARY OF MATERALS		
MARK	QTY	DESCRIPTION
①		12", 0.250" W.T. FBE, X-65
②		12", 0.375" W.T. FBE W/ ARO, X-52

LEGEND

- PROPOSED LS 25 LOOP PIPELINE
- PROPOSED LS 25 LOOP EXTENSION
- UPRATING BORE #1
- EXISTING WBI PIPELINE
- EXISTING FENCE LINE
- OVERHEAD POWERLINE
- UNDERGROUND POWER
- FIBER OPTIC
- WATER LINE
- DAKOTA GAS PIPELINE
- ALLIANCE PIPELINE
- HESS PIPELINE
- HESS PIPELINE UNDER CONST.
- LIBERTY GAS PIPELINE
- TESORO PIPELINE
- SECTION LINE
- QUARTER LINE
- POWER POLE
- MILEAGE MARKER
- P.I. NODE
- PROPOSED BORE
- TEST LEAD LOCATION
- ACCESS ROADS
- WETLAND BOUNDARY
- TREE ROW/SHELTER BELT
- ROCK PILE
- SECTION CORNER
- SECTION CORNER CALC
- QUARTER CORNER
- QUARTER CORNER CALC
- CENTER QUARTER CORNER
- PROPERTY CORNERS
- PERMANENT EASEMENT
- TEMPORARY EASEMENT
- EXTRA WORK SPACE

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SHEET 7 OF 8

NO	DATE	BY	REVISION
4	1/16/20	RFB	MISC EDITS

WBI ENERGY TRANSMISSION
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LINE SECTION 25 LOOP
NORTH BAKKEN EXPANSION PROJECT

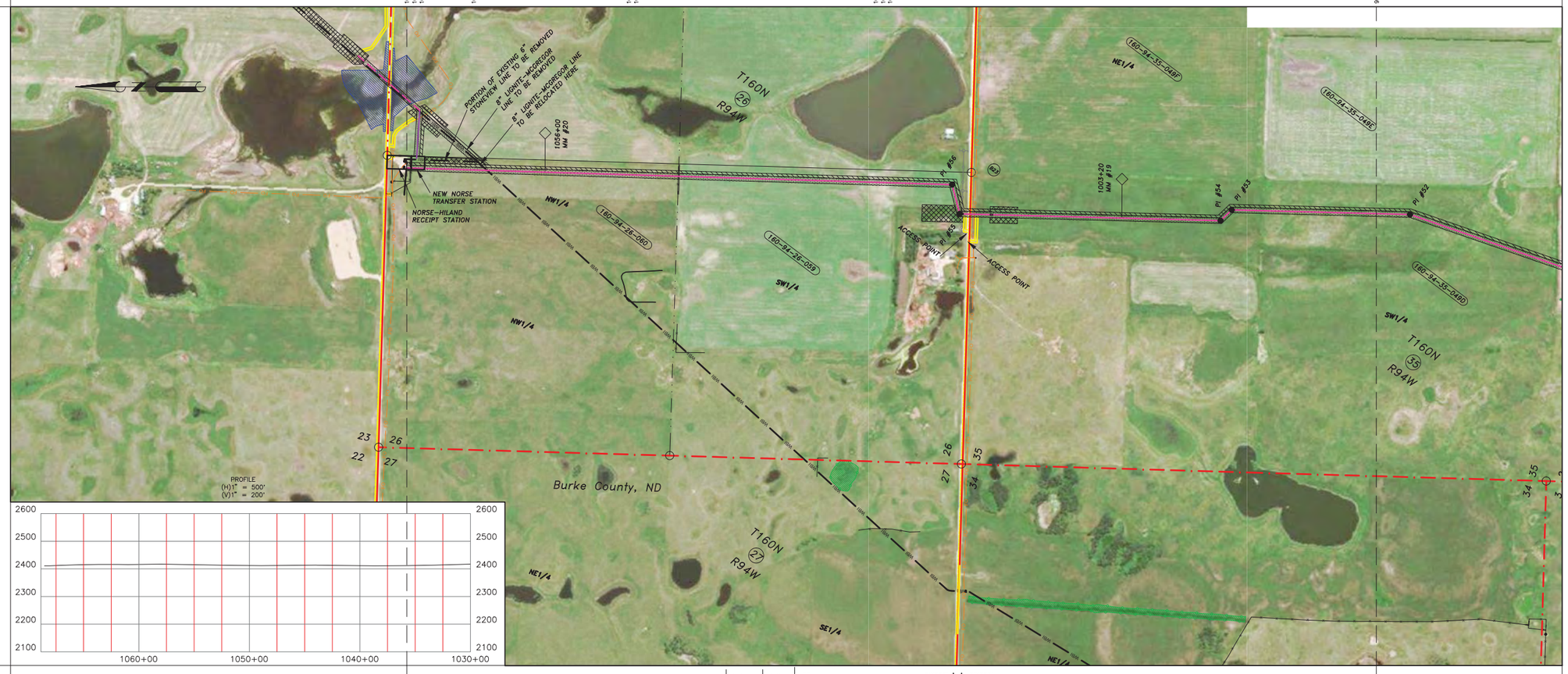
DATE	DRAWN BY	SCALE	COMP. NO.	DRAWING NO.
11/20/19	AMO	NOTED	NRSELOOP	C-7-1775-7

CO. STATE	Sections 26, 27 & 34, T160N, R94W, BURKE COUNTY, NORTH DAKOTA					
OWNER		**160-94-26-060** NW1/4 Section 26, T160N R94W	**160-94-26-059** NE1/4SW1/4, E1/2E1/2NW1/4SW1/4, N1/2SE1/4SW1/4, E1/2NE1/4, SW1/4SW1/4, E1/2SE1/4, SE1/4SW1/4 LESS .19A EASE Section 26, T160N R94W	**160-94-24-058** W/2W/2SW/4W/2E/2W/2SW/4 E/2SE/4SW/4SW/4SE/4SW/4 W/2/SE/4SE/4SW/4 LESS 1.43A NW1/4 Section 24, T160N R94W	**160-94-35-** NW1/4 Section 35, T160N R94W	**160-94-35-049D** SW1/4 Section 35, T160N R94W
RODDAGE		2432.9' / 147.4 RODS	2697.5' / 163.5 RODS	114.7' / 7.1 RODS	2657.9' / 161.1 RODS	2706.7' / 164.0 RODS
PIPE SCHEMATIC		1068+54 ①	①	②	① 978+75	

FEATURES

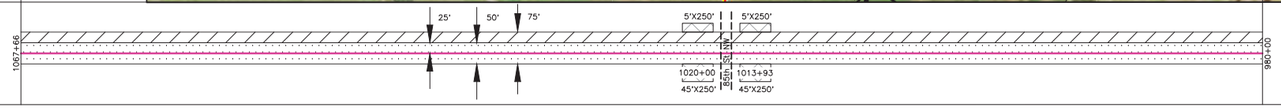
1068+54.2 END PROJECT
1060+34 E-W FENCE
1060+24 E-W FENCE
1060+36 WBI PIPELINE X-ING
1043+07 E-W FENCE
1042+97 E-W FENCE
1016+37 O.H.P. 1ST NW
1015+72 80TH ST. NW
1015+24 F.O. CABLE X-ING
980+00 MATCH LINE

ALIGNMENT
1" = 500'



PROFILE
(H)1" = 500'
(V)1" = 200'

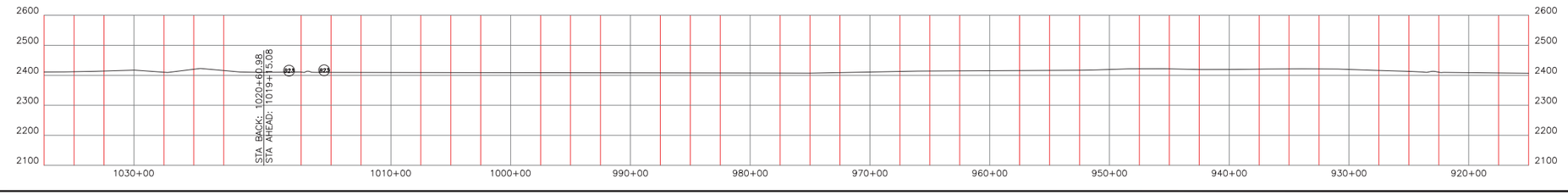
WORK SPACE
N.T.S.



ENVIRONMENTAL

DEPTH OF COVER										
WETLAND CROSSING	UNIQUE ID		1011+94	w-xx-xx-xxxx	1011+37	w-xx-xx-xxxx		w-xx-xx-xxxx		
	SURVEY EXTENT					1005+82		991+79		
	CROSSING METHOD			AVOID						
ENVIRONMENTAL FEATURE				WETLAND		WETLAND		WETLAND		
SPECIAL REQUIREMENTS										
SEEDING MIX										

PROFILE
(H)1" = 500'
(V)1" = 200'



SURVEY DATUM
BASIS OF BEARING IS WGS 84 NORTH & GROUND DISTANCES

P.I. TABLE		
P.I.	Station	Deflection
53	992+86	45°00'L
54	994+27	45°00'R
55	1017+87	73°53'R
56	BK: 1020+61	73°37'L
	AH: 1019+16	
	EQ: +145	

SUMMARY OF MATERIALS		
MARK	QTY	DESCRIPTION
①		12", 0.250" W.T. FBE, X-65
②		12", 0.375" W.T. FBE W/ ARO, X-52

LEGEND

- PROPOSED LS 25 LOOP PIPELINE
- PROPOSED LS 25 LOOP EXTENSION
- UPRATING BORE #1
- WBI — EXISTING WBI PIPELINE
- EXISTING FENCE LINE
- OVERHEAD POWERLINE
- UNDERGROUND POWER
- FO — FIBER OPTIC
- H2O — WATER LINE
- DAKOTA GAS PIPELINE
- ALLIANCE PIPELINE
- HESS — HESS PIPELINE
- HESS — HESS PIPELINE UNDER CONST.
- LIBERTY — LIBERTY GAS PIPELINE
- TESORO — TESORO PIPELINE
- SECTION LINE
- QUARTER LINE
- POWER POLE
- MILEAGE MARKER
- P.I. NODE
- (B) PROPOSED BORE
- TEST LEAD LOCATION
- ACCESS ROADS
- WETLAND BOUNDARY
- TREE ROW/SHELTER BELT
- ROCK PILE
- SECTION CORNER
- SECTION CORNER CALC
- QUARTER CORNER
- QUARTER CORNER CALC
- CENTER QUARTER CORNER
- PROPERTY CORNERS
- PERMANENT EASEMENT
- TEMPORARY EASEMENT
- EXTRA WORK SPACE

811 Know what's below. Call before you dig.
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SHEET 8 OF 8

NO	DATE	BY	REVISION
4	1/16/20	RFB	MISC EDITS

WBI ENERGY TRANSMISSION
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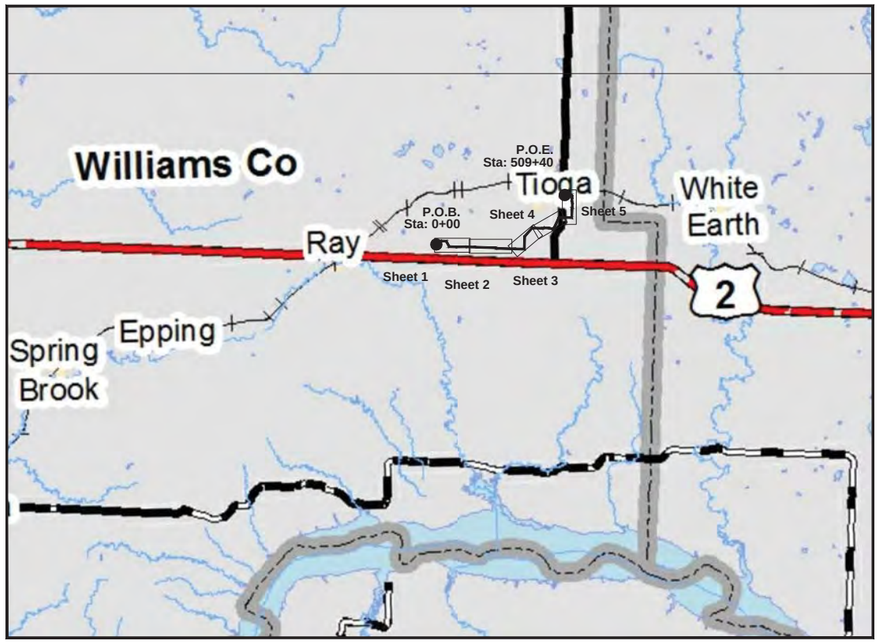
LINE SECTION 25 LOOP
NORTH BAKKEN EXPANSION PROJECT

DATE	DRAWN BY	SCALE	COMP. NO.	DRAWING NO.
11/20/19	AMO	NOTED	NRSELOOP	C-7-1775-8

WBI ENERGY TRANSMISSION, LLC

NORTH BAKKEN EXPANSION PIPELINE

LINE SECTION 30 LOOP



Sheet Index	
Sheet 1	Sta 0+00 - 100+00
Sheet 2	Sta 100+00 - 210+00
Sheet 3	Sta 210+00 - 310+00
Sheet 4	Sta 310+00 - 410+00
Sheet 5	Sta 410+00 - 509+40

LEGEND
Proposed Pipeline Corridor

Surveying & Drafting Services By:

ECS INC.

ERICKSON CONTRACT SURVEYING
333 10th Ave. SE Sidney, Montana
Office 406-482-6606 / Fax 406-482-6600

Date Surveyed: July-Sept 19
Surveyed By: AH, GP, JW, TW
Drawing Date: Sept, 2019
Drawn By: D. Smith
Checked By: J. Harned

Revision No.:
Revision Date:

ECS Project # 2019-23-2000

Coversheet

811 Know what's **below** **Call** before you dig.
MT - 1-800-424-5555
ND - 1-800-795-0555

20,000 0 20,000 40,000
scale 1" = 20,000' feet

WBI ENERGY TRANSMISSION
An MDU Resources Group company

NORTH BAKKEN
EXPANSION PIPELINE
LINE SECTION 30 LOOP

Horizontal Project Length	Revision
49,878' / 9.45 mi	R1

Co, State	SECTIONS 3, 4, T156N, R96W, WILLIAMS COUNTY, NORTH DAKOTA						
OWNER	**156-96-04-001** MS18-0053 IN NW1/4 SEC. 4, T156N, R96W 563' Uncultivated 5+63	**156-96-04-002** SUBLOT #1 IN NW1/4 SEC. 4, T156N, R96W 145' Uncultivated 7+08	**156-96-04-001** MS18-0053 IN NW1/4 SEC. 4, T156N, R96W 757' Uncultivated 14+65	**156-96-04-003** MS18-0052 IN NW1/4 SEC. 4, T156N, R96W 1395' Uncultivated 28+60	**156-96-04-004** NE1/4 SEC. 4, T156N, R96W 2571' Cultivated - 67' Uncultivated 54+99	**156-96-03-007** NW1/4 SEC. 3, T156N, R96W 3090.89' Cultivated 89+83	**156-96-03-008** NE1/4 SEC. 3, T156N, R96W 2501' Cultivated - 141' Uncultivated
RODDAGE	563.04' / 34.12 Rods	144.91' / 8.78 Rods	757.07' / 45.88 Rods	1395.47' / 84.57 Rods	2638.23' / 159.89 Rods	3090.89' / 187.33 Rods	2641.62' / 160.10 Rods

PIPE SCHMATIC



FEATURES

ALIGN

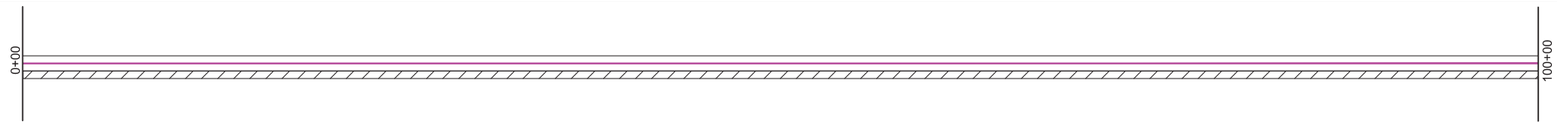


PI TABLE		
PI #	**STATION**	DEFLECTION
PI #1	0+00.00	00° 00'
PI #2	5+63.04	00° 00'
PI #3	6+38.50	00° 30'R
PI #4	7+07.95	00° 00'
PI #5	9+21.90	12° 00'R
PI #6	14+65.02	00° 00'
PI #7	16+07.64	30° 00'R
PI #8	28+60.49	00° 00'
PI #11	54+98.72	00° 00'
PI #12	55+98.72	45° 00R
PI #13	74+58.54	45° 00'L
PI #14	89+83.11	00° 00'

Wetlands
Waterbodies

Noxious
Weeds

WORK SPACE N.T.S.



Permanent Easement

Temporary Workspace

Additional Temp. Workspace

ENVIRO

| | | | | | |

Co, State	SECTIONS 1, 2, 3, T156N, R96W, WILLIAMS COUNTY, NORTH DAKOTA							
OWNER	**156-96-03-008** NE1/4 SEC. 3, T156N, R96W 2501' Cultivated - 141' Uncultivated	116+26	**156-96-02-009** LOTS 3-4 SEC. 2, T156N, R96W 1076' Cultivated - 244' Uncultivated	129+46	**156-96-02-010** SE1/4NW1/4 SEC. 2, T156N, R96W 1320' Cultivated	142+66	**156-96-02-011** PARCEL 3 IN S1/2NE1/4, LOTS 1 & 2 SEC. 2, T156N, R96W 2621' Cultivated - 33' Uncultivated	169+20
RODDAGE	2641.62' / 160.10 Rods		1319.88' / 79.99 Rods		1319.88' / 79.99 Rods		2654.34' / 160.87 Rods	

OWNER	**156-96-02-012** NW1/4 SEC. 1, T156N, R96W 48' Uncultivated	169+68	**156-96-01-013** W1/2SW1/4 SEC. 1, T156N, R96W 1187' Cultivated - 103' Uncultivated	182+58	**156-96-01-014** E1/2SW1/4 SEC. 1, T156N, R96W 988' Cultivated - 332' Uncultivated	195+77	**156-96-01-015** MS14-0087 IN W1/2SW1/4 SEC. 1, T156N, R96W 1321' Cultivated	208+98
RODDAGE	47.87' / 2.90 Rods		1290.01' / 78.18 Rods		1319.63' / 79.98 Rods		1320.98' / 80.06 Rods	

PIPE SCHMATIC



FEATURES

168+31 BEGIN BORE
168+85 STORM PIPE
169+35 106TH AVE NW
169+68 STORM PIPE
170+31 END BORE

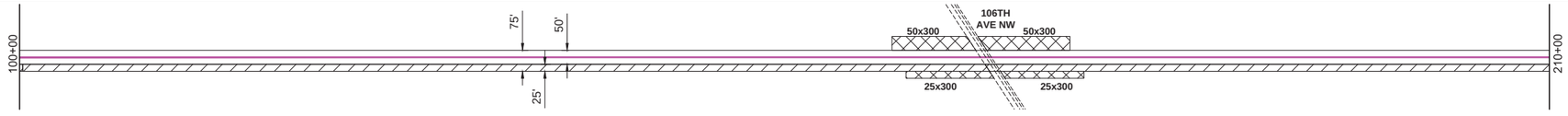
ALIGN



PI TABLE		
PI #	STATION	DEFLECTION
PI #15	116+25.88	00° 00'
PI #16	129+45.76	00° 00'
PI #17	142+65.64	00° 00'
PI #18	168+30.98	33° 00'R
PI #19	169+19.98	00° 00'
PI #20	169+67.85	00° 00'
PI #21	170+31.49	33° 00'L
PI #22	182+57.86	00° 00'
PI #23	195+77.48	00° 00'
PI #24	208+98.47	00° 00'

Wetlands
Waterbodies
Noxious Weeds

WORK SPACE N.T.S.



Permanent Easement
Temporary Workspace
Additional Temp. Workspace

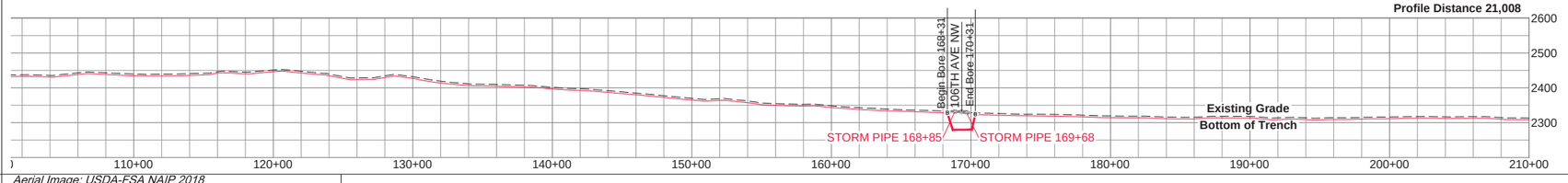
ENVIRO

Water Crossing	Name					
	Crossing Method					
	Bridge					
Wetland Crossing	Name		o-wm-ed-001		x-wm-ed-001	
	Survey Extent		108+60		106+55	110+00
Environmental Feature			Wetland		Noxious Weed	
Miscellaneous/Comments						
Seeding Mix						

ENVIRONMENTAL NOTES:
1. Wetlands depicted on these sheets represent actual field survey data or NWI.
2. Actual wetland or stream width may vary at time of construction.

* Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction

PROFILE



PRELIMINARY

Ref. Dwgs. Aerial Image: USDA-FSA NAIP 2018

Surveying & Drafting Services By:
ECS INC.
ERICKSON CONTRACT SURVEYING
333 10th Ave. SE Sidney, Montana
Office 406-482-6606 / Fax 406-482-6600

ECS Project # 2019-23-2000

SURVEY DATUM

North Dakota North (NAD 83) - U.S. Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.999846363
Grid Distance x 1.000153661 = Ground Distance.

Drawing Date:	09-06-2019
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- CTP test station
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	10,804	12.75" OD, .250" WT, X42, FBE
2	200	12.75" OD, .312" WT, X42, FBE w/ARO

REVISIONS

No.	Date	Description
1	1/17/20	Cultural / Foreign Utility Re-routes

NORTH BAKKEN EXPANSION PIPELINE
LINE SECTION 30 LOOP

WBI ENERGY TRANSMISSION
An MDU Resources Group company

500 0 500 1000 feet
scale 1" = 500' - 22 x 34
1" = 1000' - 11 x 17

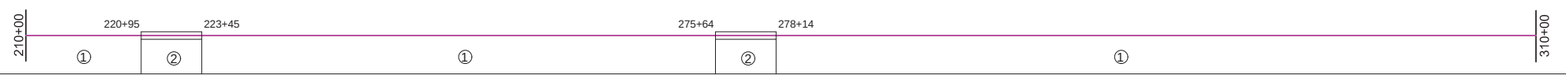
1" = 500' HORIZ.
1" = 200' VERT.

Sec. 1, 2, 3, T156N, R96W,
5th P.M., Williams Co., North Dakota

Sheet 2 | R1

Co, State	SECTION 1, T156N, R96W, SECTION 6, T156N, R95W, SECTION 34, T157N, R95W, WILLIAMS COUNTY, NORTH DAKOTA											
OWNER	**156-96-01-016** E1/2SE1/4 EX DDT PTS SEC. 1, T156N, R96W 1271' Cultivated - 50' Uncultivated	222+19	**156-95-06-017** MS18-0036 IN SW1/4 SEC. 6, T156N, R95W 1971' Cultivated - 59' Uncultivated	242+49	**156-95-06-018** SE1/4NW1/4, LOT 3, LOT 4, LOT 5, EX DD PTS SEC. 6, T156N, R95W 3280' Cultivated - 33' Uncultivated	277+09	**157-95-34-019** SW 1/4 EX. DD PTS SEC. 34, T157N, R95W 2819' Cultivated - 214' Uncultivated	307+42	**157-95-34-020** EAST 33' OF THE SW 1/4 SEC. 34, T157N, R95W 33' Uncultivated	307+76	**157-95-34-021** WEST 16.5' OF THE SE1/4 SEC. 34, T157N, R95W 20' Uncultivated	307+96
RODDAGE	1321.10' / 80.07 Rods		2029.56' / 123.00 Rods		3313.18' / 200.80 Rods		3033.49' / 183.85 Rods		33.27' / 2.02 Rods		20.09' / 1.22 Rods	

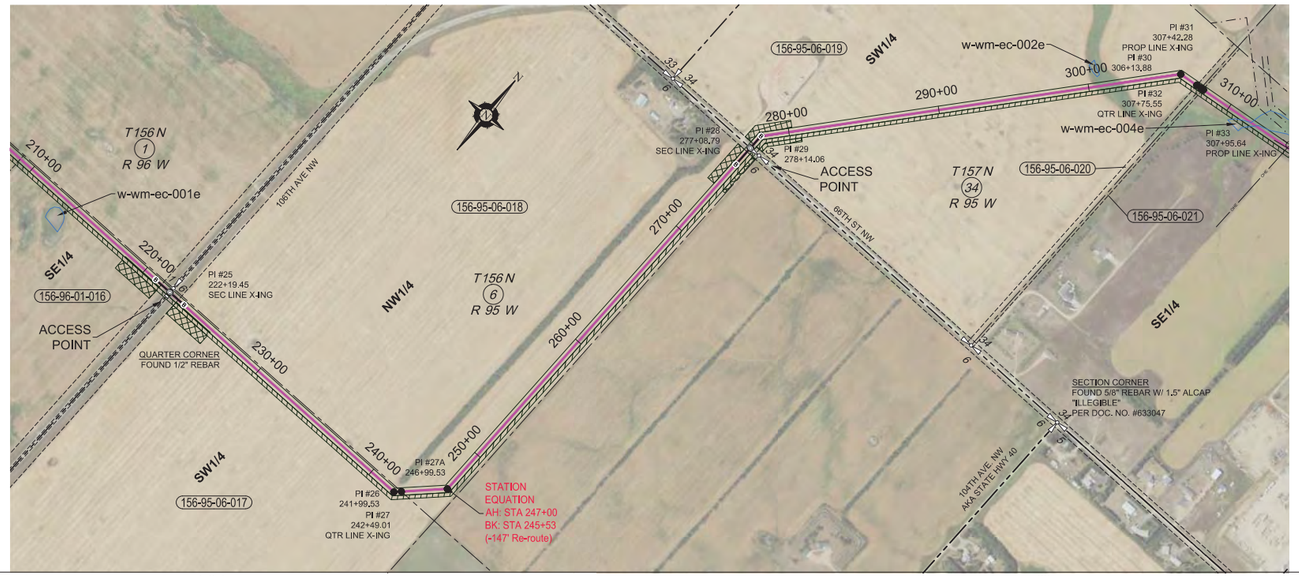
PIPE SCHMATIC



FEATURES



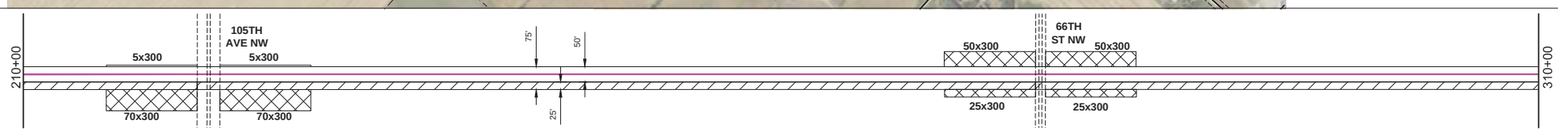
ALIGN



PI TABLE		
PI #	STATION	DEFLECTION
PI #25	222+19.45	00° 00'
PI #26	241+99.53	45° 00'L
PI #27	242+49.01	00° 00'
PI #27A	246+99.53	45° 00'L
PI #28	277+08.79	00° 00'
PI #29	278+14.06	40° 00'R
PI #30	306+13.88	43° 00'R
PI #31	307+42.28	00° 00'
PI #32	307+75.55	00° 00'
PI #33	307+95.64	00° 00'

Wetlands
Waterbodies
Noxious
Weeds

WORK SPACE N.T.S.



Permanent
Easement
Temporary
Workspace
Additional Temp.
Workspace

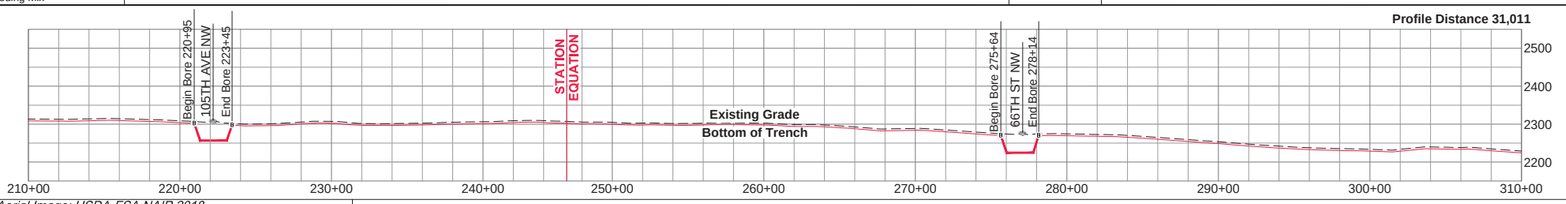
ENVIRO

Water Crossing	Name		
	Crossing Method		
	Bridge		
Wetland Crossing	Name	w-wm-ec-001e	w-wm-ec-002e
	Survey Extent	213+22	300+62
Environmental Feature		Wetland	Wetland
Miscellaneous/Comments			Approx. 160' ECD
			Approx. 160' mats
Seeding Mix			

ENVIRONMENTAL NOTES:
1. Wetlands depicted on these sheets represent actual field survey data or NWI.
2. Actual wetland or stream width may vary at time of construction.

* Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction

PROFILE



PRELIMINARY

Ref. Dwgs. Aerial Image: USDA-FSA NAIP 2018

Surveying & Drafting Services By:
ECS INC.
ERICKSON CONTRACT SURVEYING
333 10th Ave. SE Sidney, Montana
Office 406-482-6606 / Fax 406-482-6600

ECS Project # 2019-23-2000

SURVEY DATUM

North Dakota North (NAD 83) - U.S. Foot
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Drawing Date:	09-06-2019
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- CTP test station
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	9,500	12.75" OD, .250" WT, X42, FBE
2	500	12.75" OD, .312" WT, X42, FBE w/ARO

REVISIONS

No.	Date	Description
1	1/17/20	Cultural / Foreign Utility Re-routes

NORTH BAKKEN EXPANSION PIPELINE

LINE SECTION 30 LOOP

WBI ENERGY TRANSMISSION
An MDU Resources Group company

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

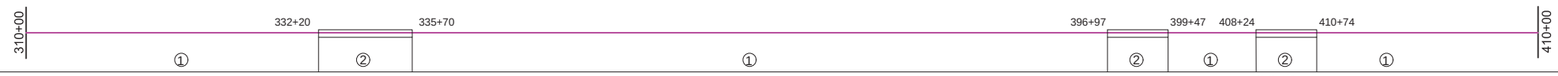
1" = 500' HORIZ.
1" = 200' VERT.

Sec. 1, T156N, R96W, Sec. 6, T156N, R95W,
Sec. 34, T157N, R95W
5th P.M., Williams Co., North Dakota

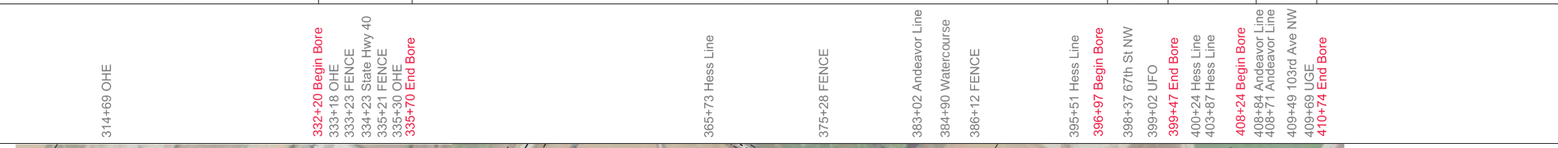
Sheet 3 | R1

Co, State	SECTIONS 26, 34, 35, T157N, WILLIAMS COUNTY, NORTH DAKOTA						
OWNER	**157-95-34-022** SE1/4 EX SIX-K SUB & DD PTS SEC. 34, T157N, R95W 2527' Uncultivated 333+23	**157-95-34-023** HWY 40 SEC. 34, T157N, R95W 100' Uncultivated 334+23	**157-95-34-023** HWY 40 SEC. 34, T157N, R95W 100' Uncultivated 335+82	**157-95-35-011** SW 1/4 EX. ST SEC. 35, T157N, R95W 2166' Cultivated - 429' Uncultivated 361+77	**157-95-35-010** SE 1/4 SEC. 35, T157N, R95W 773' Cultivated 369+49	**157-95-35-009** NE 1/4 SEC. 35, T157N, R95W 1149' Cultivated - 1739' Uncultivated 398+37	**157-95-26-008** E1/2 SE1/4, SE1/4 NE1/4 EX. DD PT RR SEC. 25, T157N, R95W 1046' Cultivated - 66' Uncultivated 409+49
RODDAGE	2527.01' / 153.15 Rods	100.00' / 6.06 Rods	100.00' / 6.06 Rods	2595.38' / 157.30 Rods	772.51' / 46.82 Rods	2887.94' / 175.03 Rods	1111.78' / 67.38 Rods

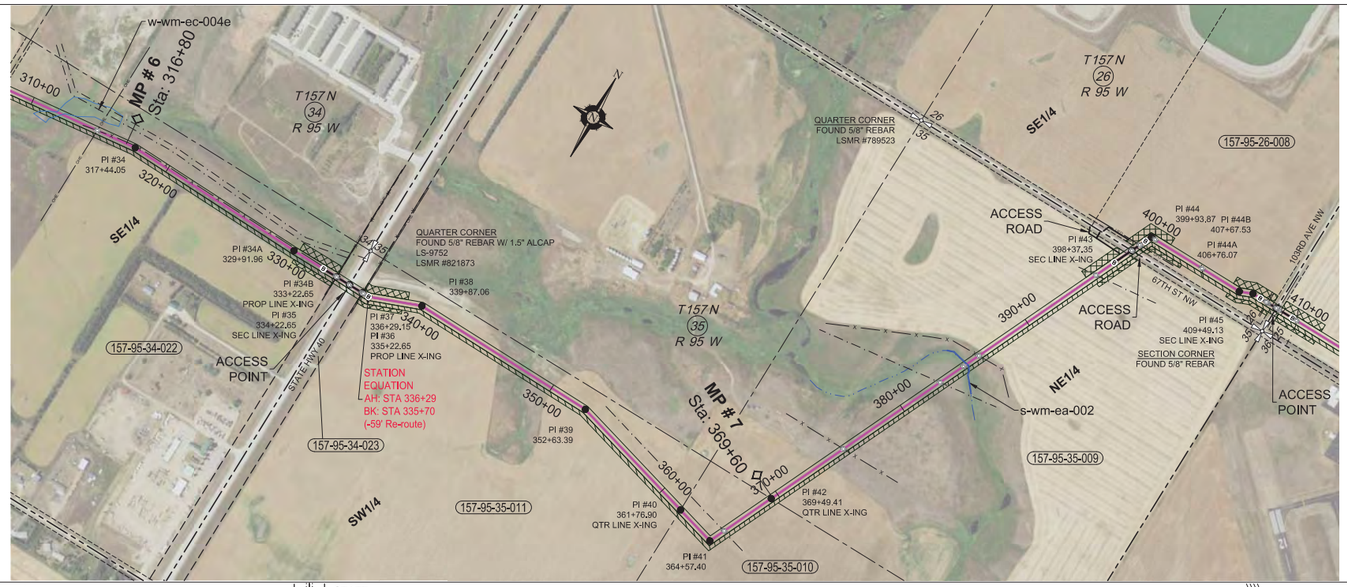
PIPE SCHMATIC



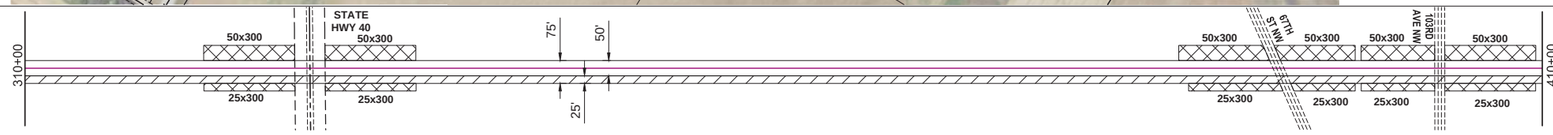
FEATURES



ALIGN



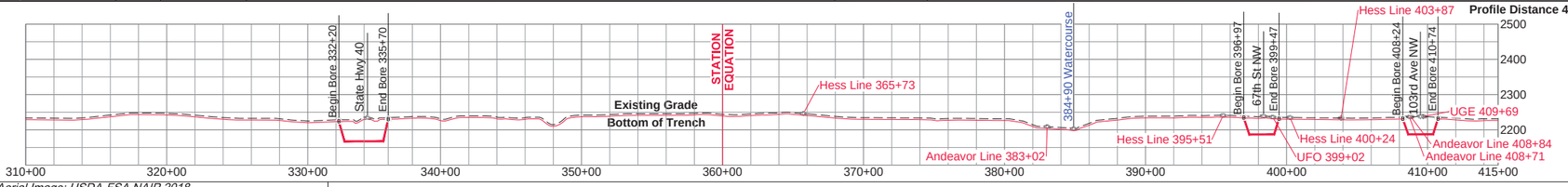
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name			s-wm-ea-002
	Crossing Method			Open-Cut
	Bridge			Yes
Wetland Crossing	Name	w-wm-ec-004e		
	Survey Extent	312+53	314+15	385+14
Environmental Feature		Wetland		Minor Stream
Miscellaneous/Comments		Approx. 160' ECD		Approx. 50' ECD
		Approx. 120' mats		
Seeding Mix				

PROFILE



Ref. Dwgs. Aerial Image: USDA-FSA NAIP 2018

PI TABLE		
PI #	STATION	DEFLECTION
PI #34	317+44.05	8° 30'R
PI #34A	329+91.96	1° 00'L
PI #34B	333+22.65	00° 00'
PI #35	334+22.65	00° 00'
PI #36	335+22.65	00° 00'
PI #37	336+29.15	22° 00'L
PI #38	339+87.06	22° 30'R
PI #39	352+63.39	14° 00'R
PI #40	361+76.90	00° 00'
PI #41	364+57.40	81° 00'L
PI #42	369+49.41	00° 00'
PI #43	398+37.35	00° 00'
PI #44	399+93.87	66° 00'R
PI #44A	406+76.07	22° 30'L
PI #44B	407+67.53	22° 30'R
PI #45	409+49.13	00° 00'

Wetlands
Waterbodies
Noxious
Weeds

Permanent
Easement
Temporary
Workspace
Additional Temp.
Workspace

ENVIRONMENTAL NOTES:
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2. Actual wetland or stream width may vary at time of construction.

* Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction

PRELIMINARY

Surveying & Drafting Services By:
ECS INC.
ERICKSON CONTRACT SURVEYING
333 10th Ave. SE Sidney, Montana
Office 406-482-6606 / Fax 406-482-6600

ECS Project # 2019-23-2000

SURVEY DATUM

North Dakota North (NAD 83) - U.S. Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.999846363
Grid Distance x 1.000153661 = Ground Distance.

Drawing Date:	09-09-2019
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- CTP test station
- Alignment PI
- Utility Pole
- Well
- Valve
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- Quarter Line
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- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	9,165	12.75" OD, .250" WT, X42, FBE
2	850	12.75" OD, .312" WT, X42, FBE w/ARO

REVISIONS

No.	Date	Description
1	1/17/20	Cultural / Foreign Utility Re-routes

NORTH BAKKEN EXPANSION PIPELINE

LINE SECTION 30 LOOP

WBI ENERGY TRANSMISSION
An MDU Resources Group company

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

Sec. 26, 34, 35, T157N, R95W,
5th P.M., Williams Co., North Dakota

Sheet 4 | R1

Co, State	SECTIONS 24, 25, T157N, R95W, WILLIAMS COUNTY, NORTH DAKOTA							
OWNER	**157-95-25-007** W1/2 SW1/4, SE1/4 SW1/4, & SW1/4 NW1/4 EX. RR SEC. 25, T157N, R95W 3449' Cultivated - 143' Uncultivated	445+41	**157-95-25-006** NE1/4 SW1/4, EX. RR SEC. 25, T157N, R95W 1234' Cultivated - 86' Uncultivated	458+61	**157-95-25-005** N1/2 NW1/4, SE1/4 NW1/4, EX. SUBLOTS 3, 4, RR & DD PT SEC. 25, T157N, R95W 10' Uncultivated	458+71	**157-95-25-004** ROW IN SE1/4 NW1/4 SEC. 25, T157N, R95W 10' Uncultivated	460+72
RODDAGE	3591.89' / 217.69 Rods		1319.54' / 79.97 Rods		9.63' / 0.58 Rods		200.32' / 12.14 Rods	
OWNER	**157-95-25-003** N1/2 NW1/4, SE1/4 NW1/4, EX. SUBLOTS 3, 4, RR & DD PT SEC. 25, T157N, R95W 1681' Uncultivated	477+53	**157-95-25-002A** MS 16-0041 IN S1/2 SW1/4 SEC. 24, T157N, R95W 1016' Uncultivated	487+69	**157-95-24-002** MS 16-0041 IN S1/2 SW1/4 SEC. 24, T157N, R95W 1608' Uncultivated	509+40	**157-95-24-001** MS 16-0042 IN SW1/4 SW1/4 SEC. 24, T157N, R95W	
RODDAGE	1681.39' / 101.90 Rods		1015.93' / 61.57 Rods		1608.18' / 97.47 Rods			

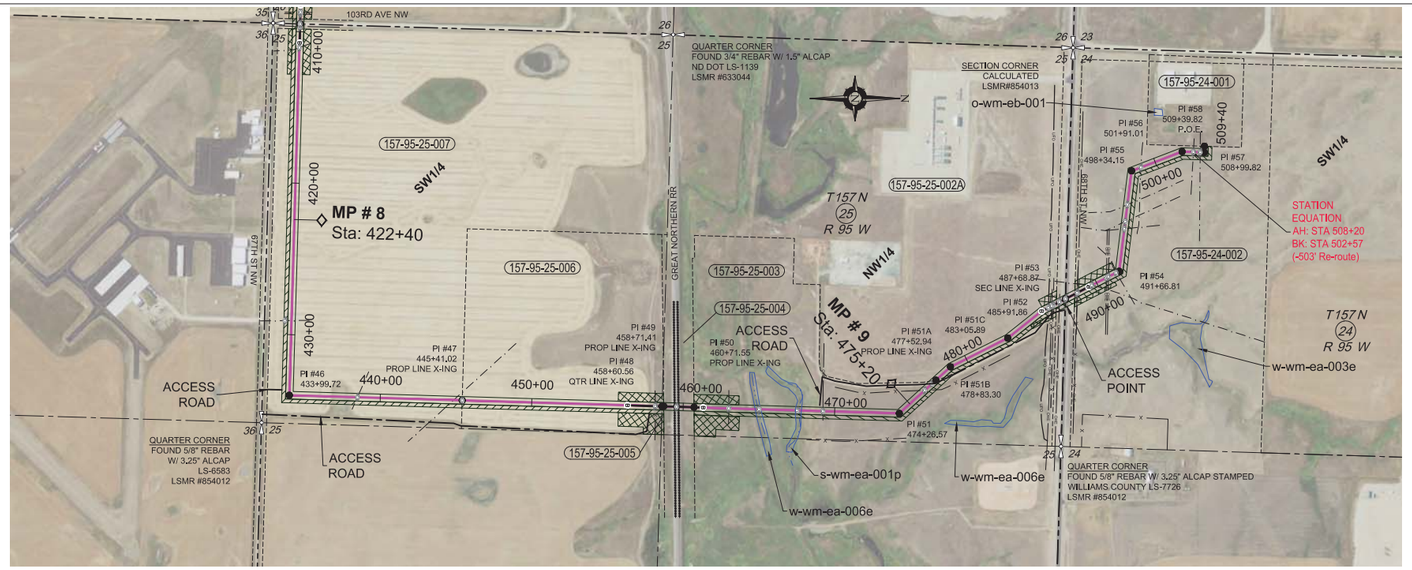
PIPE SCHMATIC



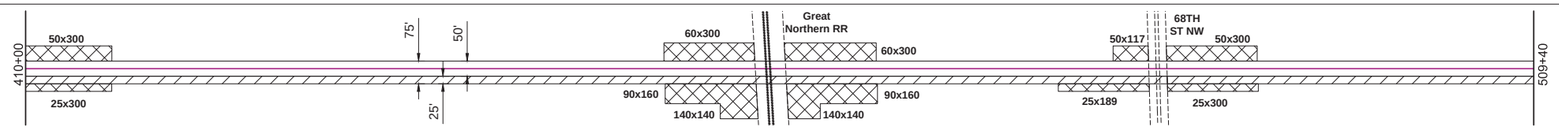
FEATURES

411+05 Hess Line
429+08 Hess Line
438+50 Hess Line
445+41 Dakota Line
456+32 Begin Bore
458+16 FENCE
459+56 Gr. Northern RR
461+32 End Bore
463+01 GAS
465+01 Watercourse
467+51 Watercourse
469+23 OHE
476+53 Fence
477+18 Access Rd
485+92 Begin Bore
486+41 UFO
486+67 OHE
486+78 FENCE
487+24 OHE
487+69 68th St NW
488+58 OHE
488+55 FENCE
489+42 End Bore
489+64 Dakota Line
490+73 OHE
491+44 Hess Line
494+49 Hess Line
494+97 Hess Line
496+10 Andeavor Line
499+00 Water Line
508+29 WBI Line
508+73 WBI Line

ALIGN



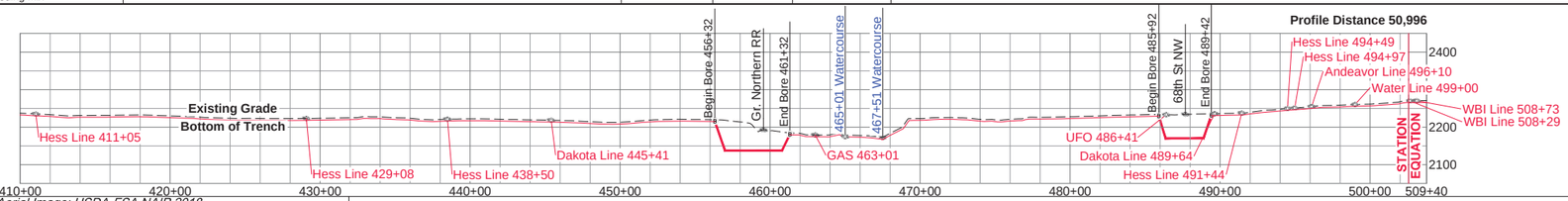
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name				s-wm-ea-001p
	Crossing Method				Open-Cut
	Bridge				Yes
Wetland Crossing	Name		w-wm-ea-006e		
	Survey Extent	464+25		464+61	467+23
Environmental Feature			Wetland		Int Stream
Miscellaneous/Comments			Approx. 50' ECD		
			Approx. 40' mats		
Seeding Mix					

PROFILE



Ref. Dwgs. Aerial Image: USDA-FSA NAIP 2018

PI TABLE		
PI #	**STATION**	DEFLECTION
PI #46	433+99.72	90° 00'L
PI #47	445+41.02	00° 00'
PI #48	458+60.56	00° 00'
PI #49	458+71.41	00° 00'
PI #50	460+71.55	00° 00'
PI #51	474+26.57	44° 00'L
PI #51A	477+52.94	00° 00'
PI #51B	478+83.30	15° 30'R
PI #51C	483+05.89	12° 00'L
PI #52	485+91.86	11° 30'R
PI #53	487+68.87	00° 00'
PI #54	491+66.81	55° 30'L
PI #55	498+34.15	62° 00'R
PI #56	501+91.01	22° 30'R
PI #57	508+99.82	90° 00'L
PI #58	509+39.82	00° 00'

Wetlands
Waterbodies
Noxious Weeds

Permanent Easement
Temporary Workspace
Additional Temp. Workspace

ENVIRONMENTAL NOTES:
1. Wetlands depicted on these sheets represent actual field survey data or NWI.
2. Actual wetland or stream width may vary at time of construction.

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ERICKSON CONTRACT SURVEYING
333 10th Ave. SE Sidney, Montana
Office 406-482-6606 / Fax 406-482-6600

ECS Project # 2019-23-2000

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- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	9,120	12.75" OD, .250" WT, X42, FBE
2	850	12.75" OD, .312" WT, X42, FBE w/ARO

REVISIONS

No.	Date	Description
1	1/17/20	Cultural / Foreign Utility Re-routes

NORTH BAKKEN EXPANSION PIPELINE

LINE SECTION 30 LOOP

WBI ENERGY TRANSMISSION
An MDU Resources Group company

500 0 500 1000
scale feet
1" = 500' - 22 x 34
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

Sec. 24, 25, T157N, R95W, 5th P.M., Williams Co., North Dakota

Sheet 5 | R1

WBI ENERGY TRANSMISSION, LLC

NORTH BAKKEN EXPANSION

NATURAL GAS PIPELINE PROJECT

Tioga Compressor Lateral

WBI ENERGY TRANSMISSION
An MDU Resources Group company

NORTH BAKKEN EXPANSION PIPELINE

Tioga Compressor Lateral

Horizontal Project Length

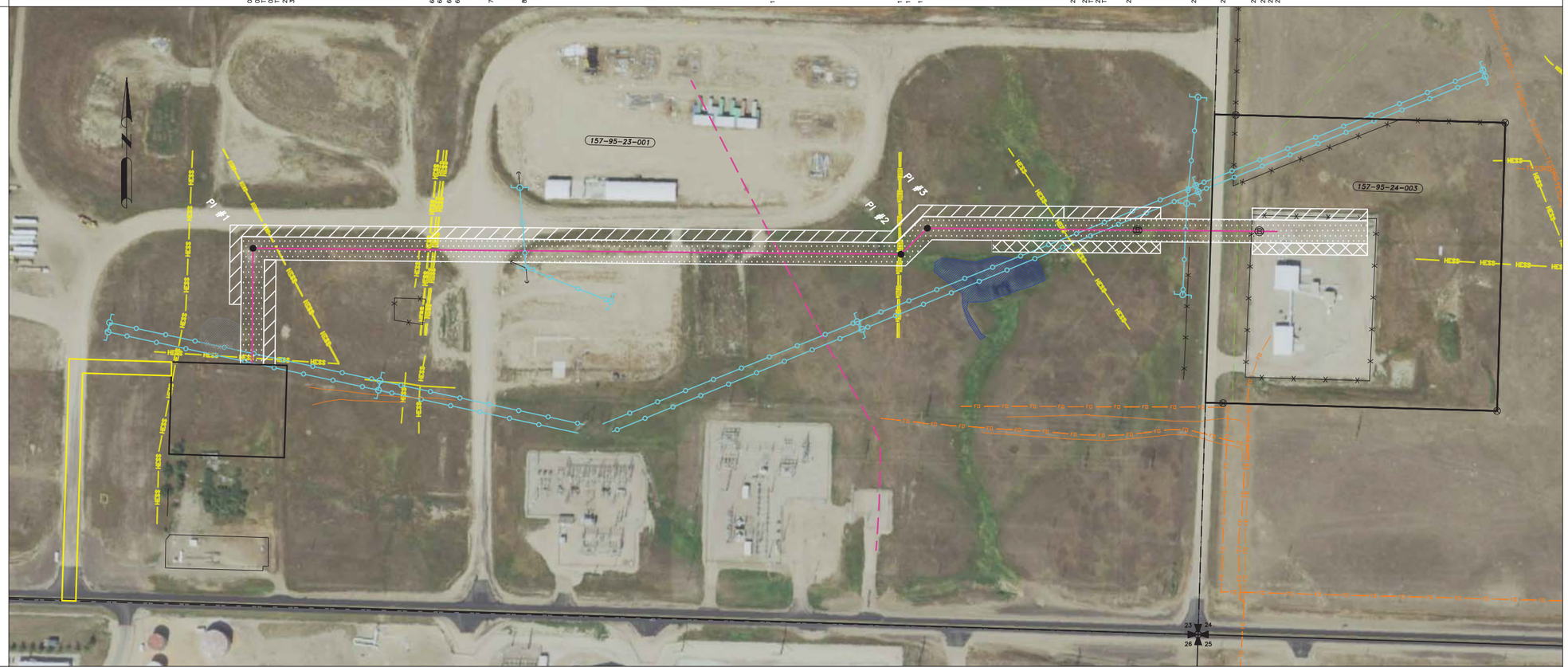
0.473 / mi

CO. STATE	Sections 23 & 24, T157N, R95W, WILLIAMS COUNTY, ND		
OWNER	0+00	**157-95-23-001 (NON-CULTIVATED)** SE 1/4 Section 23, T157N R95W	23+52.2
		157-95-24-001 (NON-CULTIVATED) SW 1/4 Section 24, T157N R95W	24+95.0
RODDAGE		2,352.2' / 142.55 RODS	142.8' / 8.96 RODS
PIPE SCHEMATIC	①	② ①	

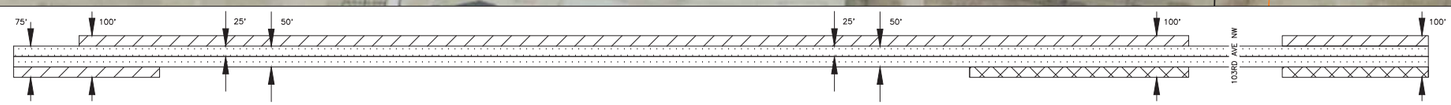
FEATURES

0+00 BEGIN PROJECT
0+03 OVERHEAD POWER
TRANSMISSION LINES
0+24 OVERHEAD POWER
TRANSMISSION LINES
2+76 CL TWO TRACK ROAD
3+03 HESS PIPELINES
6+12 HESS PIPELINE
6+32 HESS PIPELINES
6+42 HESS PIPELINES
6+48 HESS PIPELINES
7+36 CL GRAVEL ROAD
8+38 OVERHEAD POWER LINES
13+93 VANTAGE PIPELINE
16+52 HESS PIPELINES
16+56 HESS PIPELINE
16+96 WBI PIPELINE
20+31 HESS PIPELINE
20+81 OVERHEAD POWER
TRANSMISSION LINES
21+23 OVERHEAD POWER
TRANSMISSION LINES
21+93 BEGIN BORE
22+97 OVERHEAD POWER LINES
23+60 CL GRAVEL 103RD AVE NW
23+99 ALLIANCE PIPELINE
24+29 FENCELINE
24+37 END BORE
24+95 END PROJECT

ALIGNMENT
1" = 120



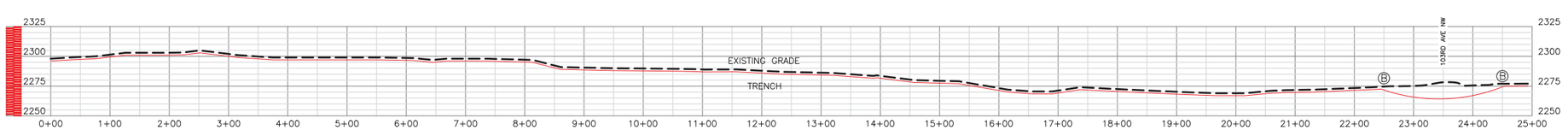
WORK SPACE
N.T.S.



ENVIRONMENTAL

DEPTH OF COVER		
CROSSING	NAME	
	CROSSING METHOD	
	BRIDGE	
WETLAND CROSSING	UNIQUE ID	
	CROSSING METHOD	
ENVIRONMENTAL FEATURE		
SPECIAL REQUIREMENTS		

PROFILE
(H)1" = 100'
(V)1" = 50'



SURVEY DATUM
BASIS OF BEARING IS NAD83 ND NORTH ZONE 3301 & GROUND DISTANCES

P.I. TABLE	
STATION	DEFLECTION
2+52	90°00' R
16+57	45°05' L
17+37	45°05' R

SUMMARY OF MATERALS		
MARK	FOOTAGE	DESCRIPTION
①	2.285	20.0" O.D. 0.500" W.T., API-5L X60
②	210'	20.0" O.D. 0.594" W.T., API-5L X60

CONSTRUCTION NOTES:
1. CONTRACTOR IS RESPONSIBLE FOR UTILITY LOCATES PRIOR TO EXCAVATION.
2. ALL ROADS, DRIVEWAYS, AND PARKING LOTS REQUIRE NEW ROAD GRAVEL MIX AND PROPER COMPACTION.
3. TEST LEADS ARE TO BE INSTALLED AT NOTED LOCATIONS.
4. ORANGE SAFETY FENCE AND SIGNAGE ARE REQUIRED FOR WORK INSIDE STATE HIGHWAY RIGHT-OF-WAYS.

LEGEND

- PROPOSED 20" PIPELINE
- EXISTING WBI PIPELINE
- EXISTING FENCE LINE
- OVERHEAD POWERLINE
- UNDERGROUND FIBER-OPTIC LINE
- UNDERGROUND TELEPHONE LINE
- VANTAGE PIPELINE
- ALLIANCE PIPELINE
- HESS PIPELINE
- SECTION LINE
- QUARTER LINE
- MILEAGE MARKER
- PROPOSED BORE
- POWER POLE
- P.I. NODE
- TEST LEAD LOCATION
- WETLAND BOUNDARY
- ROCK PILE
- SECTION CORNER
- QUARTER CORNER
- PROPERTY CORNERS
- PERMANENT EASEMENT
- TEMPORARY EASEMENT
- EXTRA WORK SPACE

811 Know what's below. Call before you dig.
ND – 1-800-795-0555

SHEET 1 OF 1

NO	DATE	BY	REVISION
1	11/19/19	RFB	EDITED BORE WORK SPACE

WBI ENERGY TRANSMISSION
A Subsidiary of MDU Resources Group, Inc.

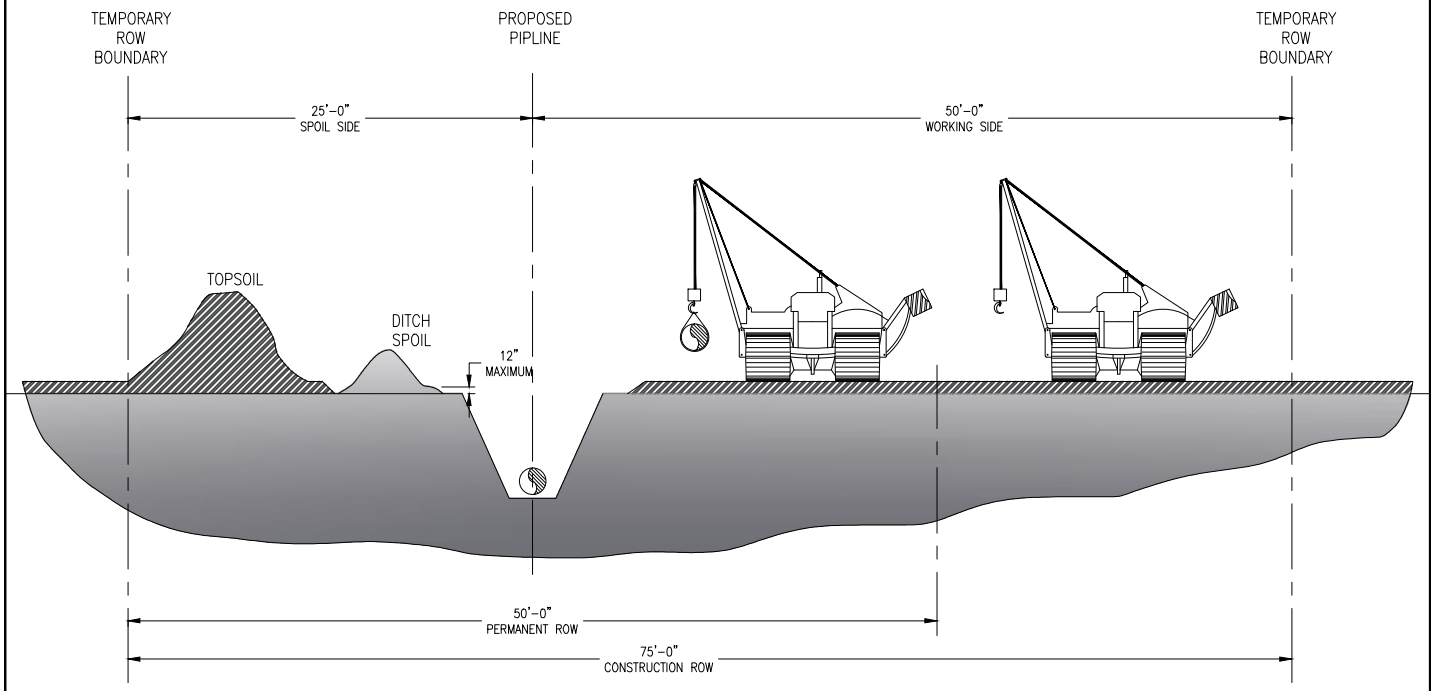
20" Tioga Compressor Lateral North Bakken Expansion

DATE	DRAWN BY	SCALE	COMP. NO.	DRAWING NO.
11/19/19	RFB	AS NOTED	20INTPLAT	C-7-1790

NORTH BAKKEN EXPANSION PROJECT

Resource Report 1

APPENDIX 1C
Typical Construction Drawings



PROFILE

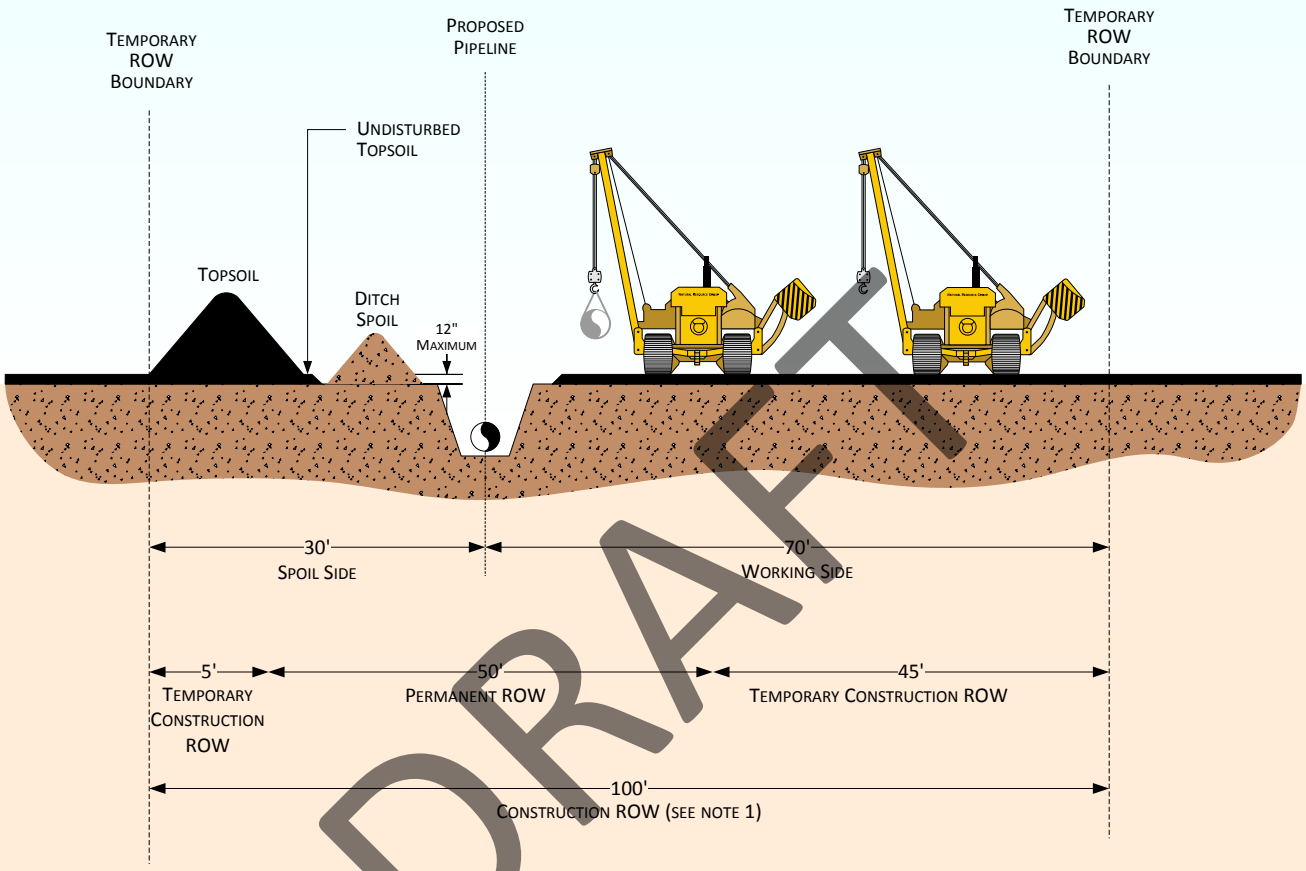
NO.	DATE	DRWN BY	DSGN BY	CHKD BY	DESCRIPTION
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WBI ENERGY TRANSMISSION
An MDU Resources Group Company

TYPICAL CONSTRUCTION ROW

W.O. #	XXXXXXX.XXXX.XXXX
DESIGNED BY	TJR
DRAWN BY	TJR
CHECKED BY	–
DATE CREATED	4/7/15

SCALE	FILE NAME	DWG. NO.	SHEET NO.
NONE	A-8-9670	A9670	1 OF 1



PROFILE

DRAFT

NOTES:

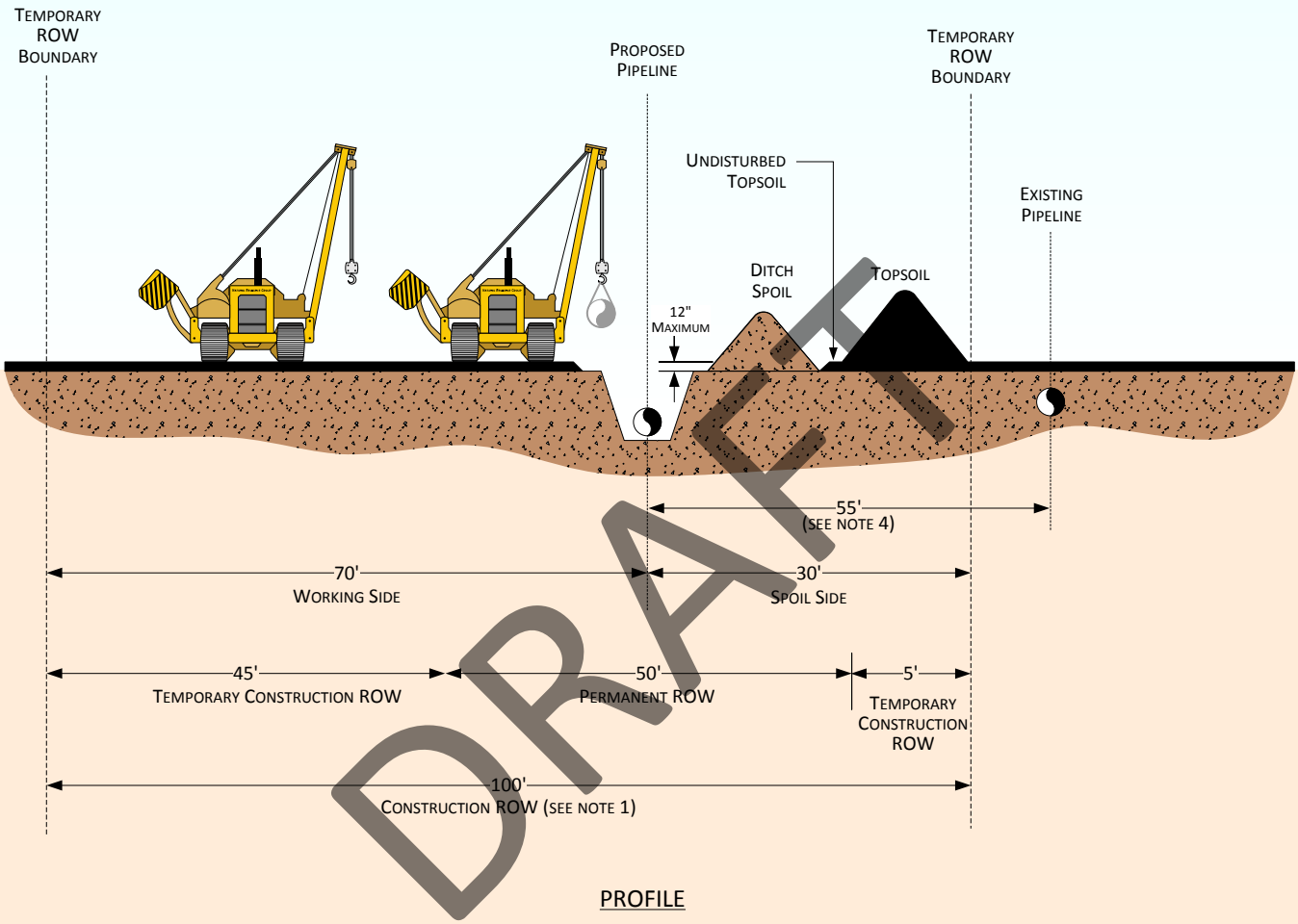
1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 100' WIDE. THE PERMANENT RIGHT-OF-WAY WILL BE 50'. ADDITIONAL TEMPORARY WORKSPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL, RIVER CROSSINGS, SIDESLOPES, WHERE FULL RIGHT-OF-WAY TOPSOIL STRIPPING IS CONDUCTED, AND OTHER SPECIAL CIRCUMSTANCES AS REQUIRED.
2. THIS DRAWING REFLECTS "TRENCH AND SPOIL SIDE" TOPSOIL STRIPPING PROCEDURE.
3. STOCKPILE TOPSOIL SEPARATELY FROM DITCH SPOIL AS SHOWN OR IN ANY CONFIGURATION APPROVED BY THE ENVIRONMENTAL INSPECTOR.

For environmental review purposes only.

WBI ENERGY TRANSMISSION
An MDU Resources Group company

North Bakken Expansion Project

Typical Construction ROW
100 foot ROW



DRAFT

PROFILE

NOTES:

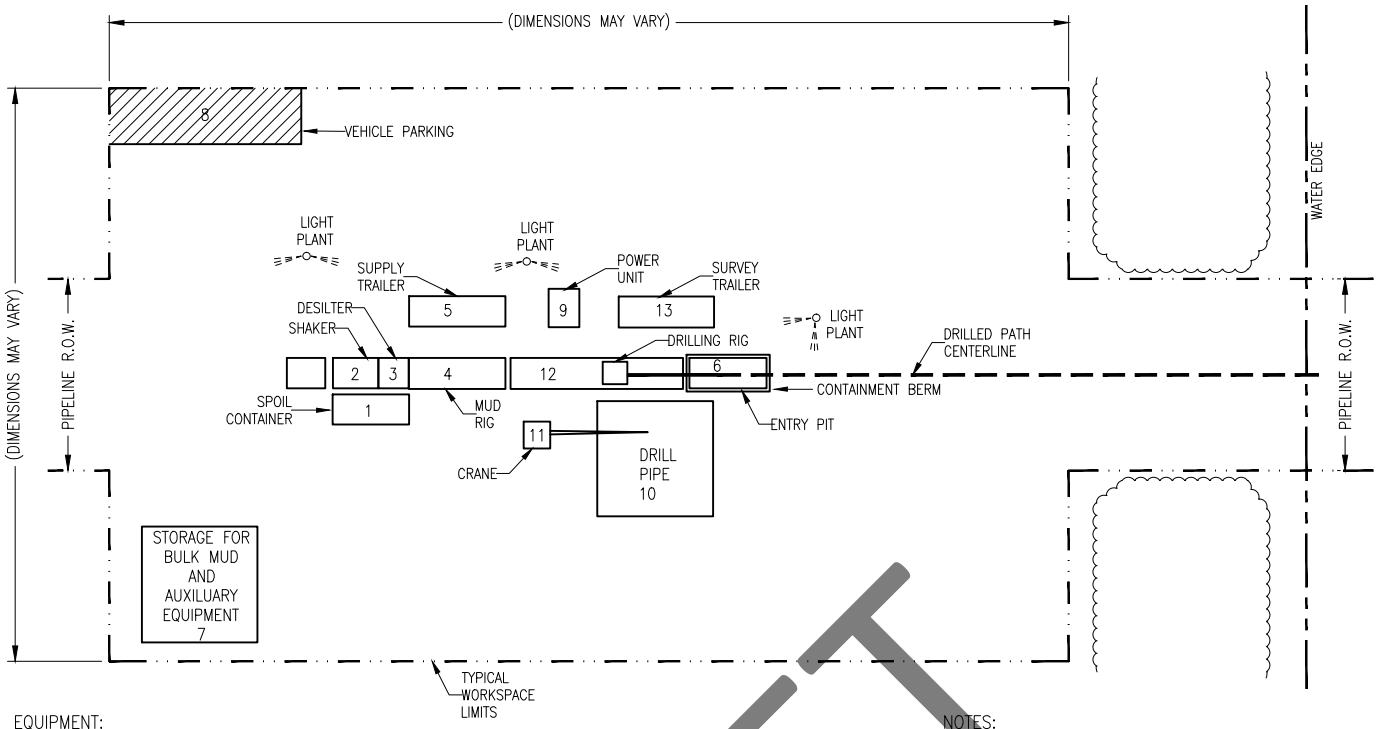
1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 100' WIDE. THE PERMANENT RIGHT-OF-WAY WILL BE 50'. ADDITIONAL TEMPORARY WORKSPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL, RIVER CROSSINGS, SIDESLOPES, WHERE FULL RIGHT-OF-WAY TOPSOIL STRIPPING IS CONDUCTED, AND OTHER SPECIAL CIRCUMSTANCES AS REQUIRED.
2. THIS DRAWING REFLECTS "TRENCH AND SPOIL SIDE" TOPSOIL STRIPPING PROCEDURE.
3. STOCKPILE TOPSOIL SEPARATELY FROM DITCH SPOIL AS SHOWN OR IN ANY CONFIGURATION APPROVED BY THE ENVIRONMENTAL INSPECTOR.
4. THE OFFSET FROM ACTIVE PIPELINE, WHERE APPLICABLE, WILL BE 55' FOR MOST LOCATIONS BUT MAY BE INCREASED OR DECREASED DEPENDING ON THE SITE SPECIFIC CONSTRUCTION REQUIREMENTS.

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WBI ENERGY TRANSMISSION
An MDU Resources Group company

North Bakken Expansion Project

Typical Construction ROW
Collocated Pipeline



EQUIPMENT:
1. SPOIL CONTAINMENT
2. SHAKER
3. DESILTER
4. MUD RIG
5. SUPPLY TRAILER
6. ENTRY PIT
7. STORAGE
8. VEHICLE PARKING
9. POWER UNIT
10. DRILL PIPE
11. CRANE
12. DRILLING RIG
13. SURVEY TRAILER

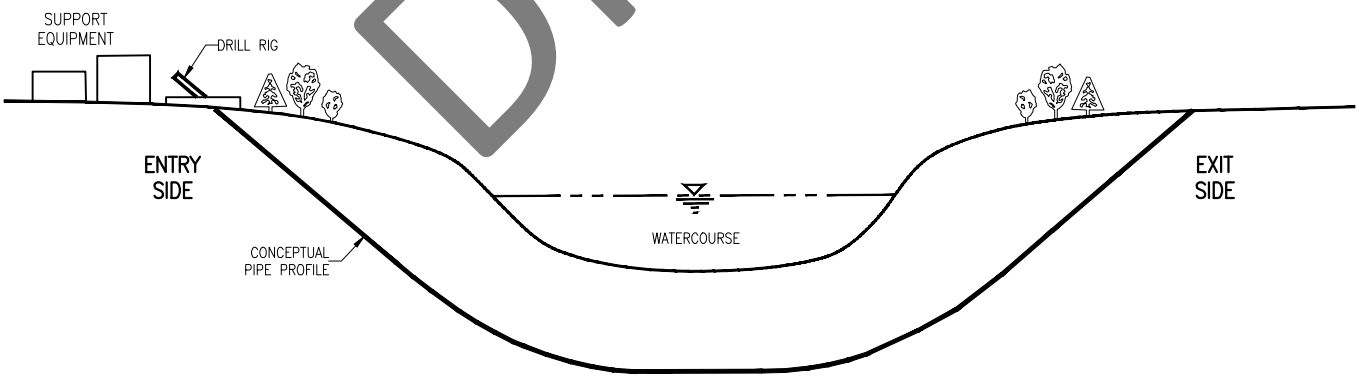
ENTRY SITE PLAN

NOTES:
1. TYPE OF EQUIPMENT AND EQUIPMENT ORIENTATION MAY VARY DEPENDING ON CONTRACTOR OR SITE CONDITIONS.

2. EQUIPMENT TO BE SUPPORTED ON THE GROUND SURFACE OR TIMBER MATS AS CONDITIONS DICTATE.

3. SILT FENCE, BERMS AND/OR STRAW BALE BARRIER TO BE USED AS REQUIRED TO PREVENT IMPACTS FROM OCCURRING OUTSIDE OF PROJECT LIMITS.

DRAFT



PROFILE

GENERAL NOTES:
1.) PIPE DEPTHS MAY VARY.

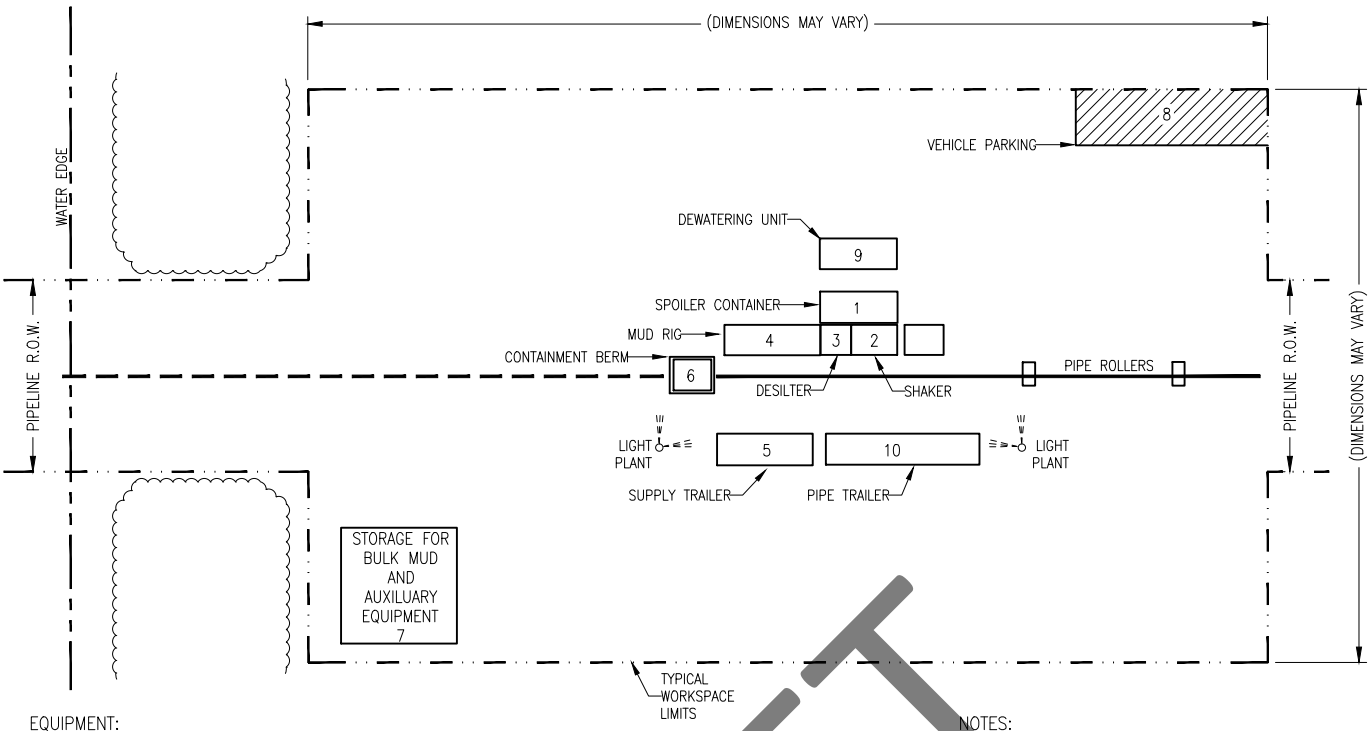
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WBI ENERGY TRANSMISSION
An MDU Resources Group Company

MAINLINE CONSTRUCTION
TYPICAL DIRECTIONAL DRILL
ENTRY SITE PLAN & PROFILE

W.O. #	XXXXXXX.XXXX.XXXX
DESIGNED BY	J.L.
DRAWN BY	TJR
CHECKED BY	–
DATE CREATED	4/8/15

SCALE	FILE NAME	DWG. NO.	SHEET NO.
NONE	A-8-9671	A9671	2 OF 2



EQUIPMENT:
1. SPOIL CONTAINMENT
2. SHAKER
3. DESILTER
4. MUD RIG
5. SUPPLY TRAILER
6. EXIT PIT
7. STORAGE
8. VEHICLE PARKING
9. DEWATERING UNIT
10. PIPE TRAILER

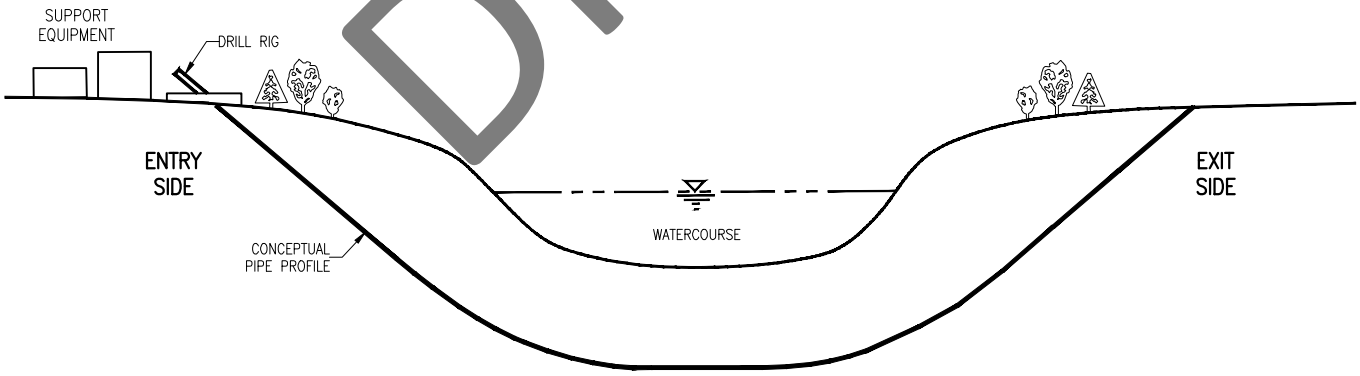
EXIT SITE PLAN

NOTES:
1. TYPE OF EQUIPMENT AND EQUIPMENT ORIENTATION MAY VARY DEPENDING ON CONTRACTOR OR SITE CONDITIONS.

2. EQUIPMENT TO BE SUPPORTED ON THE GROUND SURFACE OR TIMBER MATS AS CONDITIONS DICTATE.

3. SILT FENCE, BERMS AND/OR STRAW BALE BARRIER TO BE USED AS REQUIRED TO PREVENT IMPACTS FROM OCCURRING OUTSIDE OF PROJECT LIMITS.

DRAFT



PROFILE

GENERAL NOTES:
1.) PIPE DEPTHS MAY VARY.

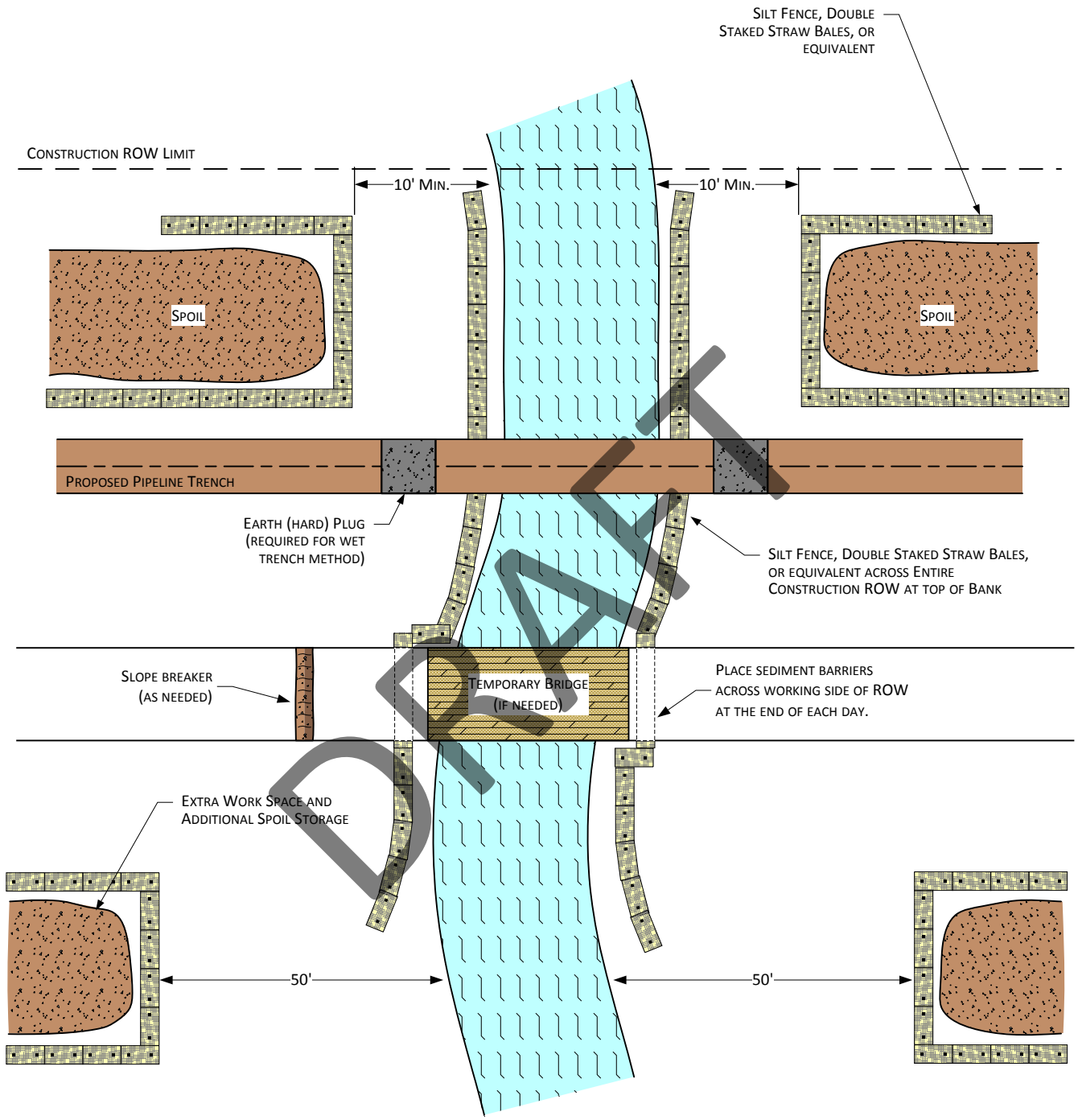
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WBI ENERGY TRANSMISSION
An MDU Resources Group Company

MAINLINE CONSTRUCTION
TYPICAL DIRECTIONAL DRILL
EXIT SITE PLAN & PROFILE

W.O. #	XXXXXXX.XXXX.XXXX
DESIGNED BY	J.L.
DRAWN BY	TJR
CHECKED BY	–
DATE CREATED	4/8/15

SCALE	FILE NAME	DWG. NO.	SHEET NO.
NONE	A-8-9671	A9671	1 OF 2



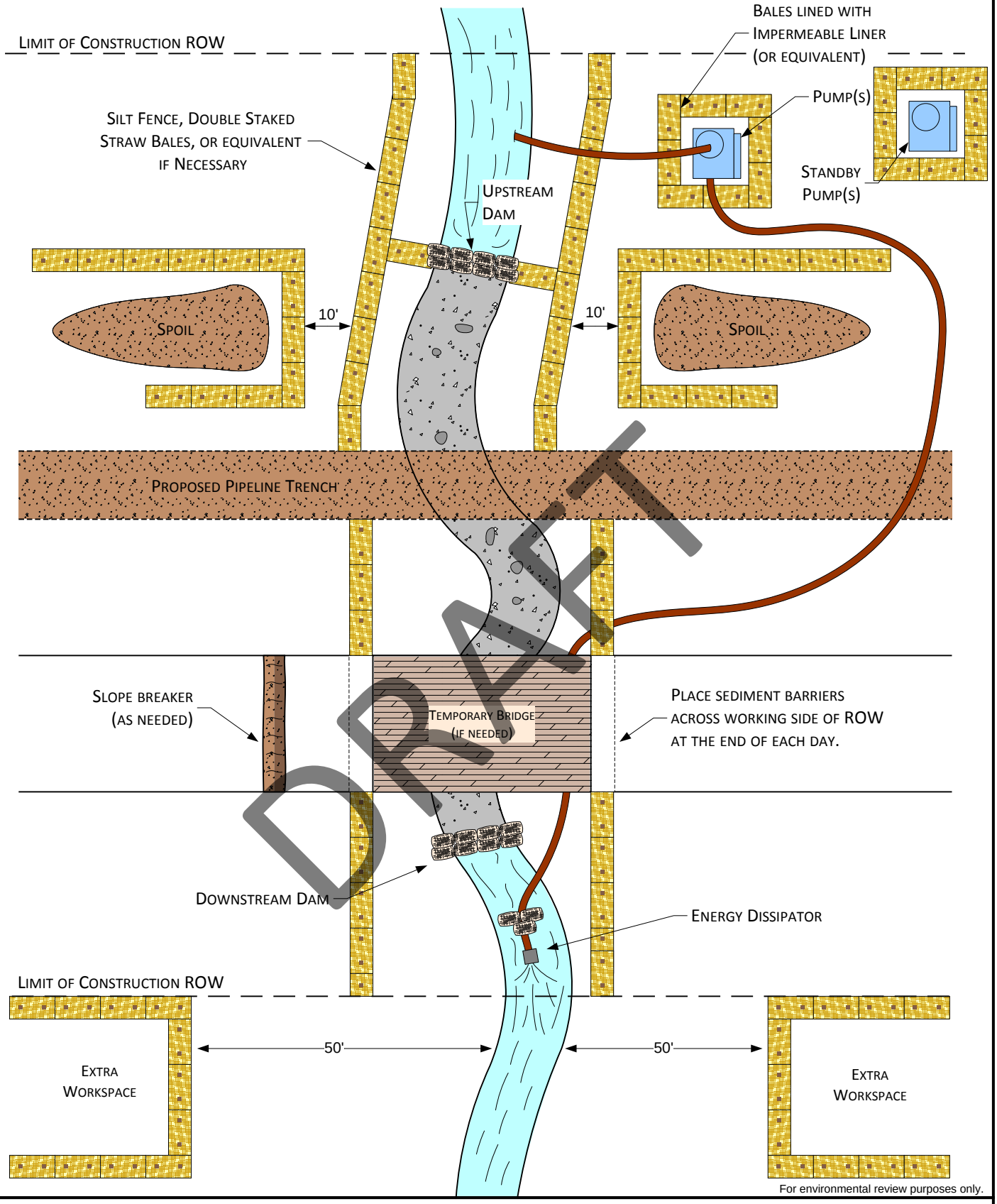
DRAFT

For environmental review purposes only.

WBI ENERGY TRANSMISSION
An MDU Resources Group company

North Bakken Expansion Project

Typical Water Body Crossing
Open Cut Method

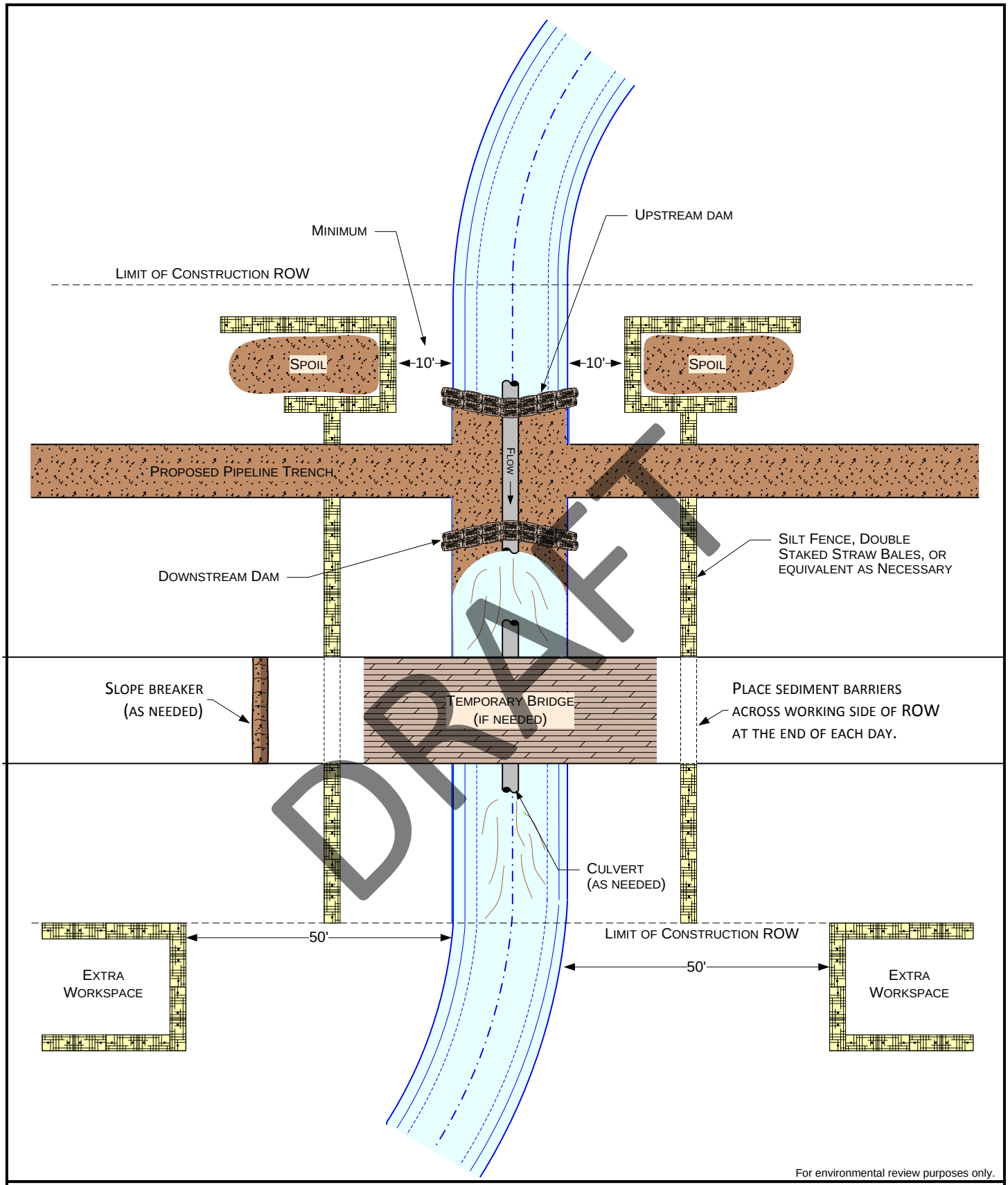


For environmental review purposes only.

WBI ENERGY TRANSMISSION
An MDU Resources Group company

North Bakken Expansion Project

Typical Water Body Crossing
Dam and Pump Method

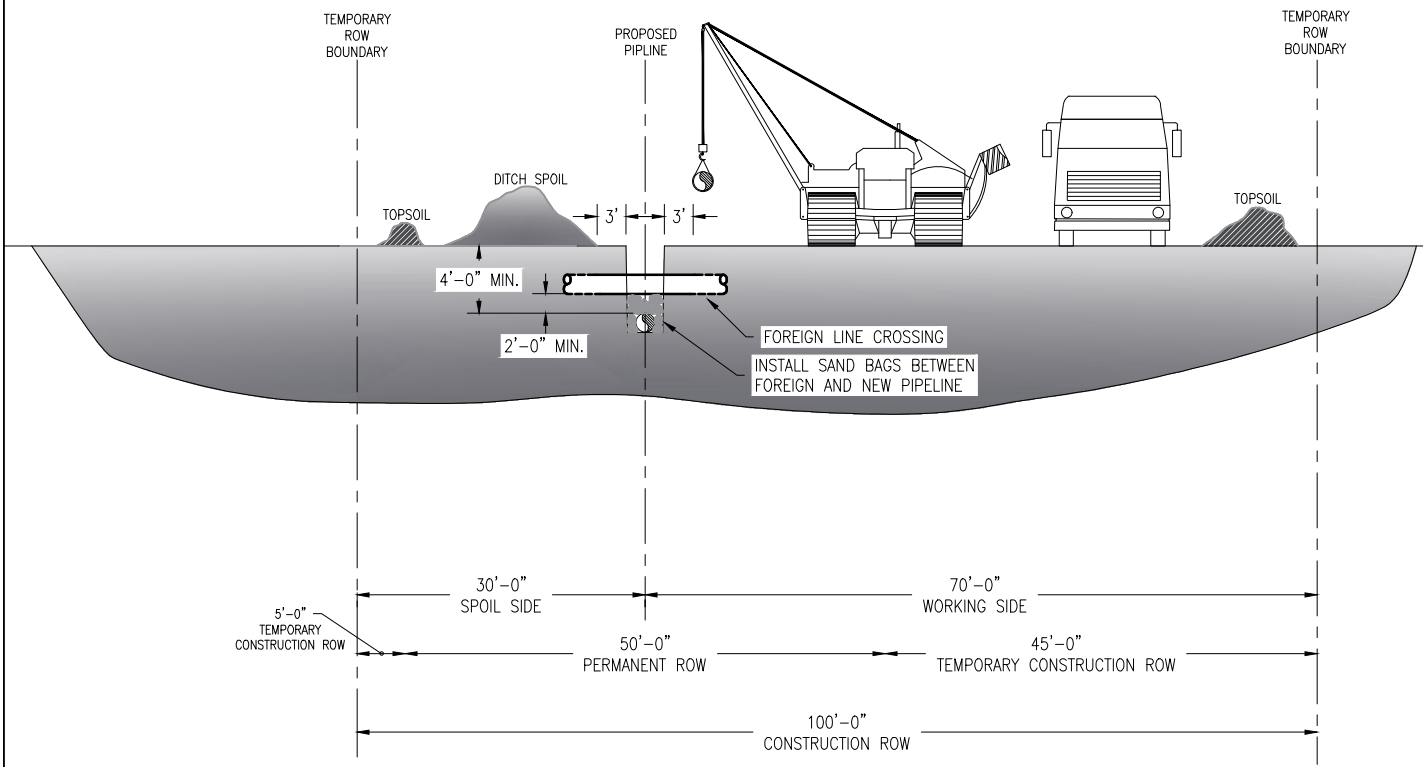


For environmental review purposes only.

WBI ENERGY TRANSMISSION
An MDU Resources Group company

North Bakken Expansion Project

Typical Water Body Crossing
Flume Method



PROFILE

NO.	DATE	DRWN BY	DSGN BY	CHKD BY	DESCRIPTION
2	11/30/18	GWH	JH	GWH	REMOVED PROJECT SPECIFIC INFO FROM TITLEBLOCK
1	1/12/18	TJR	J.H.	D.T.	DRAWN TO SCALE

APPROVED AS FINAL

BY: JOSH HELM

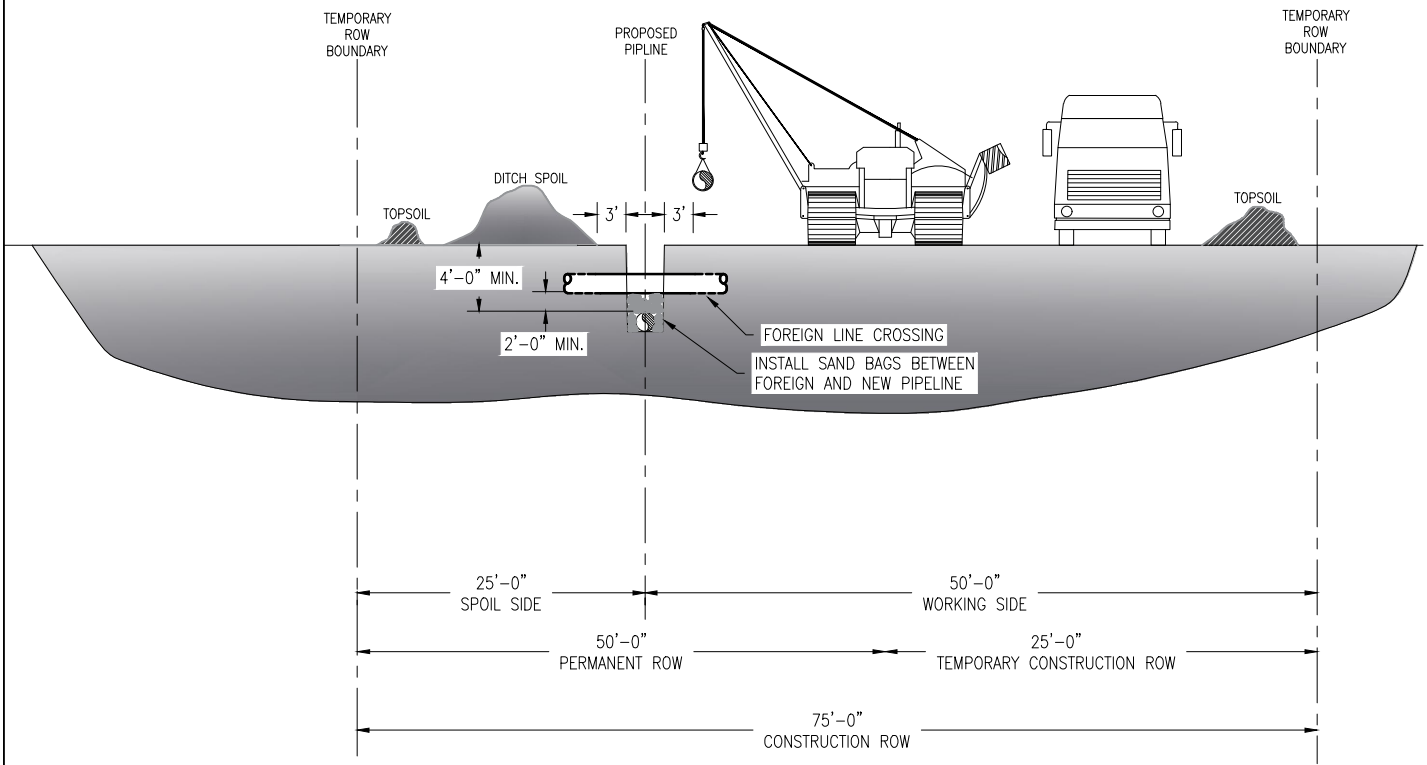
DATE: 2/7/18

WBI ENERGY TRANSMISSION
An MDU Resources Group Company

TYPICAL FOREIGN LINE CROSSING

W.O. #	XXXXXXX.XXXX.XXXX
DESIGNED BY	J.H.
DRAWN BY	TJR
CHECKED BY	D.T.
DATE CREATED	11/20/17

SCALE	FILE NAME	DWG. NO.	SHEET NO.
1"=20'-0"	A9741	A-8-9741	10 OF 11



PROFILE

NO.	DATE	DRWN BY	DSGN BY	CHKD BY	DESCRIPTION
–	–	–	–	–	–

APPROVED AS FINAL

BY: KYLE STEFKA

DATE: 1/23/20

WBI ENERGY TRANSMISSION
An MDU Resources Group Company

TYPICAL FOREIGN LINE CROSSING 75' CONSTRUCTION R.O.W.

W.O. #	XXXXXXX.XXXX.XXXX
DESIGNED BY	K.S.
DRAWN BY	TJR
CHECKED BY	J.L.
DATE CREATED	1/23/20

SCALE	FILE NAME	DWG. NO.	SHEET NO.
NONE	A9741	A-8-9741	12 OF 12

NORTH BAKKEN EXPANSION PROJECT

Resource Report 1

APPENDIX 1D
Summary of Collocated Facilities

APPENDIX 1D

North Bakken Expansion Project
Summary of Collocated Facilities

New Pipeline Facility/Collocated Utility Owner	Utility Type	Begin Milepost	End Milepost	Direction to Existing Utility/Road Right-of-Way	Paralleled Length [a]
Tioga-Elkhorn Creek					
Hess Corporation	Natural gas pipeline	5.3	5.4	West	0.2
Enable Bakken Crude Services	Crude oil pipeline	19.1	19.8	East/West	0.7
Enable Bakken Crude Services	Crude oil pipeline	19.8	21.8	East	2.0
Enable Bakken Crude Services, LLC, Mountrail-Williams Electric Cooperative	Crude oil pipeline, electric utility, road	21.8	22.4	South	0.6
ONEOK Inc.	Natural gas pipeline	27.1	28.9	West/North	1.8
Road	Road	33.1	33.5	East	0.4
ONEOK Inc.	Natural gas pipeline	34.6	35.6	West	1.0
Road	Road	38.5	39.0	East/West	0.5
ONEOK Inc.	Natural gas pipeline	39.4	39.6	South	0.3
Hiland Crude, LLC	Crude oil pipeline	42.9	45.6	East/West	2.7
Hiland Crude, LLC	Crude oil pipeline	45.6	45.9	West	0.3
Oasis Midstream Services, LLC, ONEOK Inc.	Crude oil pipeline, natural gas pipeline	47.2	48.1	East/West	0.9
ONEOK Inc.	Natural gas pipeline	48.1	48.3	North	0.2
Hiland Crude, LLC, ONEOK Inc.	Crude oil pipeline, natural gas pipeline	48.3	48.5	West	0.2
Hiland Crude, LLC, ONEOK Inc., WBI Energy Transmission	Crude oil pipeline, natural gas pipeline	48.5	48.6	West	0.1
WBI Energy Transmission	Natural gas pipeline	48.6	48.7	West	0.1
ONEOK Inc., WBI Energy Transmission	Natural gas pipeline	48.7	49.0	West	0.3
ONEOK Inc., WBI Energy Transmission	Natural gas pipeline, road	49.0	49.2	North/South	0.2
WBI Energy Transmission	Natural gas pipeline, road	49.2	49.8	East	0.6
WBI Energy Transmission	Natural gas pipeline, road	49.8	50.1	East	0.2
Hiland Crude, LLC, WBI Energy Transmission	Crude oil pipeline, natural gas pipeline	49.9	50.2	North	0.2
WBI Energy Transmission	Natural gas pipeline	50.3	50.5	West	0.2

APPENDIX 1D (cont'd)

North Bakken Expansion Project
Summary of Collocated Facilities

New Pipeline Facility/Collocated Utility Owner	Utility Type	Begin Milepost	End Milepost	Direction to Existing Utility/Road Right-of-Way	Paralleled Length
Hiland Crude, LLC, ONEOK Inc., WBI Energy Transmission	Crude oil pipeline, natural gas pipeline	50.5	51.0	West	0.5
Hess Corporation, Hiland Crude, LLC, ONEOK Inc., WBI Energy Transmission	Crude oil pipeline, natural gas pipeline	51.0	51.3	West	0.2
Hess Corporation	Natural gas pipeline	51.3	51.7	North	0.4
Hess Corporation, Hiland Crude, LLC, ONEOK Inc., WBI Energy Transmission	Crude oil pipeline, natural gas pipeline	51.7	51.9	West	0.2
Andeavor Logistics, LP, Hiland Crude, LLC, ONEOK Inc., WBI Energy Transmission	Crude oil pipeline, natural gas pipeline	51.9	52.4	East/West	0.6
Hiland Crude, LLC	Crude oil pipeline	52.4	53.1	North	0.6
Targa Midstream Services, LLC	Crude oil pipeline	53.3	53.6	East/West	0.3
Targa Midstream Services, LLC	Crude oil pipeline, road	53.6	54.0	East	0.5
Targa Midstream Services, LLC	Crude oil pipeline	54.0	55.1	East/West	1.0
Targa Midstream Services, LLC	Crude oil pipeline, road	56.1	56.1	East	<0.1
Targa Midstream Services, LLC	Crude oil pipeline	56.1	56.6	East	0.5
ONEOK Inc., Targa Midstream Services, LLC	Crude oil pipeline, natural gas pipeline, road	56.6	57.0	East/West	0.4
Targa Midstream Services, LLC	Crude oil pipeline	57.0	57.2	West	0.2
WBI Energy Transmission	Natural gas pipeline	57.3	57.9	West	0.6
Road	Road	58.0	58.2	East/West	0.2
WBI Energy Transmission	Natural gas pipeline	59.8	60.0	West	0.3
Subtotal					**20.1**
Line Section 25 Loop					
WBI Energy Transmission	Natural gas pipeline, road	0.1	0.1	West	0.1
Hess Corporation	Natural gas pipeline, road	0.1	0.5	West	0.4
Hess Corporation, WBI Energy Transmission	Crude oil pipeline, natural gas pipeline	0.9	1.3	West	0.4
WBI Energy Transmission	Natural gas pipeline	1.3	1.9	East/West	0.6
WBI Energy Transmission	Natural gas pipeline, road	1.9	2.1	East/West	0.1

APPENDIX 1D (cont'd)

North Bakken Expansion Project
Summary of Collocated Facilities

New Pipeline Facility/Collocated Utility Owner	Utility Type	Begin Milepost	End Milepost	Direction to Existing Utility/Road Right-of-Way	Paralleled Length
Hess Corporation, WBI Energy Transmission	Natural gas pipeline, road	2.1	2.3	East/West	0.3
Hess Corporation, WBI Energy Transmission	Natural gas pipeline	2.3	2.5	West	0.2
WBI Energy Transmission	Natural gas pipeline	2.5	5.4	East/Westt	2.8
WBI Energy Transmission	Natural gas pipeline	5.7	7.2	East	1.5
Hess Corporation, WBI Energy Transmission	Natural gas pipeline	7.2	7.5	East/West	0.3
Hess Corporation, WBI Energy Transmission	Natural gas pipeline	7.5	7.6	East	0.1
Hess Corporation, WBI Energy Transmission	Natural gas pipeline	7.6	8.3	East/West	0.7
WBI Energy Transmission	Natural gas pipeline	8.3	10.7	East	2.4
Hess Corporation, WBI Energy Transmission	Natural gas pipeline, road	11.3	11.6	South	0.2
Hess Corporation, WBI Energy Transmission	Natural gas pipeline	11.6	12.2	West	0.7
Hess Corporation, WBI Energy Transmission	Natural gas pipeline	12.2	13.3	East/West	1.1
WBI Energy Transmission	Natural gas pipeline	13.8	14.2	East/West	0.4
Hess Corporation, WBI Energy Transmission	Natural gas pipeline	14.2	14.8	East	0.6
WBI Energy Transmission	Natural gas pipeline	14.8	16.0	East/West	1.3
Road	Road	16.0	17.2	North	1.2
WBI Energy Transmission	Natural gas pipeline	20.1	20.3	East	0.2
Subtotal					**15.4**
Line Section 30 Loop					
WBI Energy Transmission	Natural gas pipeline	0.0	0.4	North	0.4
Road	Road	2.3	3.1	South	0.9
Hess Corporation	Crude oil pipeline, natural gas pipeline	4.5	6.8	West	2.6
Hess Corporation	Crude oil pipeline, natural gas pipeline	5.8	7.1	North	1.4
Hess Corporation	Crude oil pipeline, natural gas pipeline	6.8	7.1	West	0.3

APPENDIX 1D (cont'd)

North Bakken Expansion Project
Summary of Collocated Facilities

New Pipeline Facility/Collocated Utility Owner	Utility Type	Begin Milepost	End Milepost	Direction to Existing Utility/Road Right-of-Way	Paralleled Length
Road	Road	7.4	8.0	South	0.6
WBI Energy Transmission	Natural gas pipeline	9.2	9.4	North	0.3
WBI Energy Transmission	Natural gas pipeline	9.4	9.4	South	<0.1
Subtotal					**6.6**
Tioga Compressor Lateral					
WBI Energy Transmission	Natural gas pipeline, road	0.0	0.5	North/South	0.5
WBI Energy Transmission	Natural gas pipeline, road	0.5	0.5	West	0.1
Subtotal					**0.5**
PROJECT TOTAL					**42.6**

[a] The totals may not match the sum of addends due to rounding.

NORTH BAKKEN EXPANSION PROJECT

Resource Report 1

APPENDIX 1E
Plot Plans for Aboveground Facility Sites
(filed under separate cover as Controlled Unclassified Information/ Critical Energy Infrastructure Information [CUI//CEII] in Volume III)

NORTH BAKKEN EXPANSION PROJECT

Resource Report 1

APPENDIX 1F
Construction, Restoration, and Mitigation Plans

WBI ENERGY TRANSMISSION, INC.

North Bakken Expansion Project

Spill Prevention, Control, and Countermeasure Plan

Final

Docket No.
CP20-____-000

February 2020

WBI ENERGY TRANSMISSION, INC.
NORTH BAKKEN EXPANSION PROJECT
SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN

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1.2 ROLES AND RESPONSIBILITIES 1
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1.2.2 Contractor Work Crews 2
1.2.3 Environmental Inspectors 2
1.2.4 WBI Energy's Designated Representative 2
2.0 PREVENTATIVE MEASURES 2
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2.1.1 Staging Areas and Facility Sites: 3
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2.3 CONCRETE COATING 6
3.0 STORAGE, CONTAINMENT AND FACILITY TRANSFER 6
4.0 SPILL RESPONSE 7
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5.0 SPILL REPORTING 7
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6.1 LAND SPILL 8
6.2 WETLAND AND WATERBODY SPILL 9

LIST OF ATTACHMENTS

Attachment A Spill Report Form

ACRONYMS AND ABBREVIATIONS

EI	Environmental Inspector
Project	North Bakken Expansion Project
SPCC Plan	Spill Prevention, Control, and Countermeasure Plan
WBI Energy	WBI Energy Transmission, Inc.

WBI ENERGY TRANSMISSION, INC.
NORTH BAKKEN EXPANSION PROJECT

1.0 INTRODUCTION

This Spill Prevention, Control, and Countermeasure Plan (SPCC Plan) was prepared for WBI Energy Transmission, Inc.'s (WBI Energy) proposed North Bakken Expansion Project (Project) to be implemented during construction of the Project. This SPCC Plan outlines specific preventive measures and practices to reduce the likelihood of an accidental release of a hazardous or regulated liquid and, in the event such a release occurs, to expedite the response to and remediation of the release.

This SPCC Plan restricts the location of fuel storage, fueling activities, and construction equipment maintenance along the construction right-of-way and provides procedures for these activities. Training and lines of communication to facilitate the prevention, response, containment, and cleanup of spills during construction activities are also described.

All contractor personnel working on the Project are responsible for implementation of the measures and procedures defined in this SPCC Plan. Contractors are expected to meet or exceed WBI Energy's standards for spill response, reporting, and cleanup. Contractors whose activities could result in a spill of fuel or other regulated or hazardous materials on the right-of-way will adopt the measures identified in this SPCC Plan. All measures outlined in this SPCC Plan are consistent with the applicable requirements of the Federal Energy Regulatory Commission's *Wetland and Waterbody Construction and Mitigation Procedures*.

This SPCC Plan will be updated to include information specific to the horizontal directional drill crossing of Lake Sakakawea once a contractor has been selected for the Project. A complete copy of the SPCC Plan shall be maintained on site. A copy of the SPCC Plan will be available for a review during normal working hours. *[Note: An updated version of this plan will be filed with the Federal Energy Regulatory Commission and the U.S. Army Corps of Engineers as more detailed information is finalized.]*

1.1 TRAINING

Experienced, well-trained staff are essential for the successful implementation of the SPCC Plan. Contractors will provide spill prevention training as well as safety training to their work crews. The training program will be designed to improve awareness of safety requirements, pollution control laws, and proper operation and maintenance of equipment. Contractors will train all employees who handle fuels and other regulated substances to prevent spills and to quickly and effectively contain and clean up spills in accordance with applicable regulations and the provisions of this plan.

1.2 ROLES AND RESPONSIBILITIES

1.2.1 Spill Coordinator

Contractors will appoint a Spill Coordinator who will be responsible for coordinating Contractor Work Crews for spill cleanup, conducting site investigations, and assisting with completing spill reports. The Spill Coordinator will report all spills to an Environmental Inspector

(EI). The Spill Coordinator will be responsible for completing WBI Energy's internal Spill Report Form as soon as possible but no later than the end of the work day that the spill occurred, regardless of the size of the spill. The Spill Report Form will be submitted to the WBI Energy Designated Representative.

Spill Coordinator: [To Be Determined]
Phone Number: [To Be Determined]

1.2.2 Contractor Work Crews

Contractor Work Crews will comply with this SPCC Plan and will notify the Spill Coordinator immediately of any spill of fuel or other regulated or hazardous material, regardless of the volume of the spill. Contractor Work Crews will assist with the cleanup of the spill as directed by the Spill Coordinator, if trained to do so.

1.2.3 Environmental Inspectors

The EIs will monitor the Contractors' compliance with the provisions of the SPCC Plan to ensure that spill resources are allocated and cleanup accomplished in accordance with this plan and any applicable regulatory requirements. The EIs will work in conjunction with WBI Energy's Designated Representative to promptly report spills to appropriate federal, state, and local agencies, as required, and to coordinate with these agencies regarding contacting additional parties or agencies.

Environmental Inspector: [To Be Determined]
Phone Number: [To Be Determined]

1.2.4 WBI Energy's Designated Representative

The Designated Representative has the authority to commit resources to implement this SPCC Plan. The Designated Representative will work in conjunction with the EIs to promptly report spills to appropriate federal, state, and local agencies.

ALL SPILLS, REGARDLESS OF SIZE, MUST BE REPORTED TO THE SPILL COORDINATOR AND ENVIRONMENTAL INSPECTORS

2.0 PREVENTATIVE MEASURES

Contractors will minimize the potential for a spill during construction activities at WBI Energy's facilities and on its right-of-way by implementing appropriate measures to prevent and contain spills. Equipment and materials will be located on site to meet the provisions of this SPCC Plan. The Contractor shall supply each construction crew with a quantity of absorbent and barrier materials sufficient to contain and recover spills that could potentially occur from the equipment with the largest on-board volume of fuel and lubricant. These materials may include, but are not limited to, drip pans, buckets, absorbent pads, containment booms, straw bales, absorbent clay, saw dust, floor drying agents, spill containment barriers, plastic sheeting, skimmer pumps, covered holding tanks, and fire extinguishers.

The Contractor shall make known to all construction personnel the locations of staging areas where spill response equipment and materials are stored, and have them readily accessible during construction. Contractors will comply with applicable environmental and safety laws and regulations and will ensure that a copy of this plan is available on site to all Construction Work Crew members.

In addition, periodic discussions between construction personnel and their supervisors must be held. These are conversations where problems in field operations are discussed and solved. This SPCC Plan, together with specific techniques, will be reviewed with the appropriate employees at a safety meeting before construction starts.

The contractor will provide, maintain, and make available the appropriate Safety Data Sheets for vehicle and equipment fuel, lubricating oil, and any other regulated or hazardous materials utilized for the Project.

The following sections describe spill prevention measures to be taken on Project locations.

2.1 PETROLEUM AND HAZARDOUS LIQUID STORAGE, REFUELING, AND EQUIPMENT MAINTENANCE

2.1.1 Staging Areas and Facility Sites:

- Contractors will construct temporary liners and seamless impermeable berms, or other appropriate containment, around aboveground storage containers so that liquids will be contained and collected in specified areas isolated from waterbodies in the event of a leak or spill. Storage containers will not be placed in areas subject to periodic flooding and washout.

- Contractors will visually inspect aboveground storage containers for leaks and spills frequently and whenever containers are refilled.

- Secondary containment structures must provide a containment volume equal to a minimum of 110 percent of the maximum storage volume of the largest storage container in the containment structure.

- Secondary containment structures must be constructed so that no outlet is provided and any spill will be contained within the containment structure. Accumulated rainwater may be removed if authorized by an EI. Accumulated water with a visible sheen will be collected for proper storage, transport and disposal.

- Contractors will remove all secondary containment structures at the conclusion of the Project. Contractors also will be responsible for returning any storage impoundment areas to original contours and appearance upon completion of the Project.

- Fuels and lubricants will be stored only at designated staging areas and in appropriate service vehicles. The storage areas will be located at least 100 feet away from edges of wetlands and waterbodies, at least 100 feet away from

designated municipal watershed areas, at least 200 feet away from private water supply wells, and at least 400 feet away from municipal water-supply wells unless a larger buffer is required by regulatory agencies.

- Storage containers will display labels that identify the contents of the container and whether the contents are hazardous. Contractors will maintain and provide to WBI Energy, when requested, copies of all Safety Data Sheets.

- Contractors will conduct routine equipment maintenance such as oil changes in staging areas, or as necessary in additional temporary workspace, and will dispose of waste oil in an appropriate manner (e.g. the Contractors will collect the waste oil in labeled, sealed containers and transport the waste oil to a recycling facility).

- Contractors will correct visible leaks in storage containers as soon as possible. Leaks outside of secondary containment, regardless of volume, will be reported to an EI.

- All fuel nozzles will be equipped with functional automatic shut-off valves.

- The drivers of tank trucks will be responsible for spill prevention and secondary containment during loading and unloading operations. Procedures for loading and unloading tank trucks will meet the minimum requirements established by applicable regulations. Drivers will observe and control the fueling operations at all times to prevent overfilling. Contractors will be responsible for training drivers of tank trucks to comply with these provisions.

- Prior to departure of any tank truck, all outlets of the vehicle will be closely examined by the driver for leakage and tightened, adjusted, or replaced, as necessary, to prevent liquid leakage while in transit. Contractors will be responsible for training drivers of tank trucks to comply with these provisions.

2.1.2 Project Right-of-Way

- All machinery will arrive on the right-of-way in a clean, washed condition, and free of fluid leaks.

- Contractors will wash, refuel, and service machinery at locations well away from any wetlands and waterbodies to prevent petroleum or chemical substances from entering surface waters.

- Overnight parking of equipment, as well as refueling and lubricating of construction equipment, will be restricted to upland areas at least 100 feet away from stream channels and wetlands, at least 200 feet from private water-supply wells, and at least 400 feet from municipal water-supply wells. Where this is not possible, and where an EI finds in advance no reasonable alternative, the equipment will be fueled by designated personnel with specific training in refueling, spill containment, and cleanup, under the supervision of an EI. Prior to refueling, appropriate steps will be taken (including deployment of secondary containment structures) to prevent spills and provide for prompt cleanup in the event of a spill.

- Fuel trucks transporting fuels to construction areas will only travel on approved access roads.

- Contractors will keep a spill kit on site in case of machinery leaks or spills.

2.1.3 Restricted Refueling Areas

Restricted refueling areas include areas where the appropriate buffer (e.g., 100 feet from a wetland or waterbody) cannot be maintained. All restricted refueling areas will be identified in the field with flagging or signs. A site-specific plan and written approval from an EI will be required to refuel in restricted areas.

- Approval must be received from an EI and, where necessary, appropriate regulatory permits must be obtained, prior to refueling in restricted refueling areas.

- In large wetlands where no upland site is available for refueling, auxiliary fuel tanks may be mounted to equipment to minimize the need for refueling.

- Trained personnel must be available for refueling, and an EI must be present unless a case-specific exemption is obtained in writing from WBI Energy's Designated Representative.

- Equipment such as large, stationary pumps will be fitted with auxiliary tanks as appropriate. The auxiliary tanks will be placed within secondary containment which provides for a containment volume equal to a minimum of 110 percent of the volume of the largest tank in the containment structure.

- Refueling within restricted refueling areas will take place only in areas designated by an EI. Fuel trucks with a capacity in excess of 300 gallons will not be allowed within a restricted refueling area unless adequate secondary containment is provided.

- Refueling of dewatering pumps, generators, and other small, portable equipment will be performed using approved containers with a maximum volume of 5 gallons.

- Fuel trucks will be prohibited from traveling on temporary equipment bridges at stream crossings. An EI may waive this restriction on a site-specific basis if a reasonable refueling option is not available. Such case-specific exemptions must be approved in writing by WBI Energy's Designated Representative.

2.2 SPILL RESPONSE EQUIPMENT

2.2.1 Staging Areas and Facility Sites

- Contractors will stock a sufficient supply of sorbent and barrier materials at construction staging areas to allow the rapid containment and recovery of spilled material. Sorbent and barrier materials will also be used to contain runoff from spill areas.

- Shovels and labeled drums will be kept at each of the individual staging areas. If small quantities of soil become contaminated within the staging area, they will be collected and placed in the drums. Large quantities of contaminated soil will be collected using heavy equipment and will be stored in drums, lined bermed areas, or other suitable containment, prior to disposal. The Contractors will dispose of all contaminated soil in accordance with applicable state and federal regulations.

2.2.2 Project Right-of-Way

- Each construction crew must have adequate absorbent materials and containment booms on hand to enable the rapid and complete cleanup of spills, as well as sufficient tools and materials to stop leaks.

- Contractors must maintain spill kits containing a sufficient quantity of absorbent and barrier materials to adequately contain and recover foreseeable spills. These kits may include, but are not limited to, absorbent pads, straw bales, absorbent clay, saw dust, floor drying agents, spill containment barriers, plastic sheeting, skimmer pumps, and drums. The equipment will be located near fuel storage areas and other locations as necessary to be readily available in the event of a spill.

- All fuel, and where possible, service trucks, will carry adequate spill response materials. Spill response materials present on trucks should consist of absorbent pads, absorbent material, plastic bags, and a shovel.

- The Spill Coordinator will inform an EI, and all Contractor personnel of the location of spill control equipment and materials, and have them readily accessible while construction activities are occurring.

2.3 CONCRETE COATING

Concrete coating activities will not be performed within 100 feet of a wetland or waterbody unless the location is an existing industrial site designated for such use.

3.0 STORAGE, CONTAINMENT AND FACILITY TRANSFER

All chemical storage containers, tanks, or barrels will be made of compatible materials with the appropriate temperature and pressure rating, overpressure protection, valving, and equalization lines necessary to comply with the appropriate state and federal regulations regarding storage of regulated substances. All chemicals, regardless of container size, will be stored in secondary containment or designated storage areas when not actively in use.

Fuel valves used for the final control of flow shall be of the self-closing type and shall be manually held open except were automatic means are provided for shutting off the flow when the vehicle is full.

Contaminated liquids inside containment areas will not be allowed to be drained outside the containment structures onto the ground or into any open water course. These liquids will be pumped or wiped out of containment structures and disposed of appropriately.

4.0 SPILL RESPONSE

Any employee who detects a spill incident while it is occurring should take the necessary measures to stop the flow but only if that employee has been trained to do so. If the employee is unprepared to effectively control the spill, caution and good judgment should be used as to personal safety until a cleanup crew arrives. Immediate containment by the discovering person can reduce the extent of the spill damage.

4.1 FIRST PRIORITIES

The first priorities after discovering a spill are to protect the safety of personnel and the public, minimize damage to the environment, and control costs associated with cleanup and reclamation. Actions to be taken immediately following a spill include the following:

1. Assess the safety of the situation (including the surrounding public).
2. Sources of ignition will be removed from the area, **if safe to do so**.
3. The source of the spill will be shut off, **if safe to do so**.
4. Efforts to contain the spill immediately will be initiated, **if safe to do so**.

Cleanup activities will be initiated as soon as possible after the spill is contained using properly trained and protected personnel with adequate spill cleanup materials and equipment.

5.0 SPILL REPORTING

All spills will be reported immediately to the Spill Coordinator who will in turn work with an EI and WBI Energy's Designated Representative to address and report the spill as necessary. The Spill Coordinator will record at a minimum the following information (found on the Spill Report Form in attachment A):

1. Date, time, and location of the spill.
2. Type of material spilled.
3. Amount of material spilled.
4. Extent of spill area.
5. Whether the material has reached or has the potential to reach a waterbody.
6. Status of spill containment and cleanup.
7. Circumstances leading up to the spill.

WBI Energy's Designated Representative will report the spill to the appropriate regulatory agencies if the spill meets or exceeds a reportable threshold. Appropriate agencies include, but may not be limited to, the following:

1. North Dakota Department of Health at 1-701-328-5210 for non-emergencies or North Dakota Department of Emergency Services at 1-800-472-2121 (24 hour hotline) for emergencies. The North Dakota Department of Health also requires completion of an online "General Environmental Incident" form available at http://www.ndhealth.gov/ehs/eir/eirform.htm for any spill of any volume.

2. National Response Center (Washington D.C.) at 1-800-424-8802 (24 hours).

Contractors are responsible for assisting WBI Energy with preparing follow-up written incident reports to regulatory agencies upon request and with accommodating any inspections performed by regulatory agencies.

WBI Energy's internal Spill Report Form will be completed by the Spill Coordinator and provided to WBI Energy's Designated Representative as soon as possible but no later than the end of the day on the day the spill event occurred so agencies can be notified in a timely manner and pertinent information is available for reporting. State and federal agencies must be notified within 24 hours of a reportable spill event. Field personnel will report the spill to the state and federal agencies only if the WBI Energy's Designated Representative is unavailable to do so. All Spill Report Forms and other reporting documentation will be kept on file by WBI Energy's Designated Representative.

6.0 SPILL CONTROL AND CLEANUP

Spill control should only be done by employees trained and prepared to effectively control the spill. Good judgment should be made by employees as to their personal role in the containment actions; however, prompt action can often prevent extensive spill damage. Employees engaged in spill control will use the proper precautions and safety equipment as specified in the Safety Data Sheet(s). The Designated Representative and EI will devise a cleanup plan, as necessary, based on location, quantity, and type of substance spilled.

Upon learning of the spill, the Spill Coordinator will implement the measures in the following sections.

6.1 LAND SPILL

- As necessary, berms will be constructed with available equipment to physically contain the spill and sorbent materials will be applied to the spill area. Traffic on contaminated soils will be minimized.
- Contaminated soils and vegetation will be removed and disposed of at a licensed waste disposal facility.
- Waste materials from the spill will be disposed of according to state and federal regulatory requirements.
- The following information will be provided to the EI and the WBI Energy Designated Representative:
    - The amount of spilled material that was recovered during cleanup.
    - Proposed reclamation of remaining contaminated areas.
    - Storage method for the contaminated waste material before transport and disposal.
    - Transport and disposal documentation for the contaminated waste material.

6.2 WETLAND AND WATERBODY SPILL

Regardless of size, the following conditions apply if a spill occurs near or into a stream, wetland, or an open surface water source.

- For spills in standing water, floating booms, skimmer pumps, and holding tanks shall be used as appropriate by the contractor to recover and contain released materials on the surface of the water.

- For a spill threatening a waterbody, berms and/or trenches will be constructed to contain the spill before it reaches the waterbody. Deployment of booms, sorbent materials, and skimmers may be necessary if the spill reaches the water. The spilled product will be collected and the affected area cleaned up in accordance with appropriate state or federal regulations.

- Contaminated soils in wetlands must be excavated from the wetland. The soils must be placed on and covered by plastic sheeting in approved containment areas a minimum of 100 feet away from wetlands or waterbodies. Contaminated soil will be disposed of as soon as possible in accordance with appropriate state or federal regulations.

All cleanup activities will be conducted according to this SPCC Plan. Personnel involved in cleanup activities will meet the minimum requirements for hazardous materials training and will use approved Occupational Safety and Health Administration safety equipment.

NORTH BAKKEN EXPANSION PROJECT

Spill Prevention, Control, and Countermeasure Plan

ATTACHMENT A
Spill Report Form

WBI Energy Transmission, Inc.
Spill Report Form

Date of Spill:	Date of Spill Discovery:	
Time of Spill:	Time of Spill Discovery:	
Name and Title of Discoverer:		
Type of material spilled and manufacturer's name:		
Legal description of spill location to the quarter section:		
Directions to nearest community:		
Estimated volume of spill (gallons):		
Weather conditions:		
Topography and surface conditions of spill site:		
Spill medium (pavement, sandy soil, water, etc.)		
Proximity of spill to surface waters:		
Did the spill reach a waterbody?	Yes	No
If so, was a sheen present?	Yes	No
Describe the causes and circumstances of the spill:		
Describe the extent of observed contamination, both horizontal and vertical (i.e., spill-stained soil in a 5-foot radius to a depth of 1 inch):		
Describe immediate spill control and/or cleanup methods used and implementation schedule:		
Current status of cleanup actions:		
Name and Company of:		
Construction Superintendent:		
Spill Coordinator:		
Environmental Inspector:		
Person who reported spill:		
Form completed by:	Date:	

WBI ENERGY TRANSMISSION, INC.

North Bakken Expansion Project

Plan for Unanticipated Discovery of Contaminated Environmental Media

Final

Docket No.
CP20-____-000

February 2020

WBI ENERGY TRANSMISSION, INC.
NORTH BAKKEN EXPANSION PROJECT
PLAN FOR UNANTICIPATED DISCOVERY OF CONTAMINATED ENVIRONMENTAL MEDIA

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ACRONYMS AND ABBREVIATIONS

EI	Environmental Inspector
Project	North Bakken Expansion Project
WBI Energy	WBI Energy Transmission, Inc.

1.0 INTRODUCTION

WBI Energy Transmission, Inc. (WBI Energy) has developed this Plan for Unanticipated Discovery of Contaminated Environmental Media for its proposed North Bakken Expansion Project (Project). WBI Energy recognizes there is the potential to encounter contaminated soil or sediment during construction activities associated with the Project. This plan describes the steps that WBI Energy and its Contractors will implement in the unanticipated event that contaminated environmental media is encountered during construction.

2.0 IDENTIFICATION OF CONTAMINATED MEDIA AND INITIAL RESPONSE

During Project activities, construction personnel and WBI Energy's Environmental Inspectors (EI) will observe work areas for signs of potential contamination such as:

- discoloration of soils;
- chemical-like odors from soils or water;
- oily sheens on soils or water;
- buried drums or other waste containers; and
- buried waste such as garbage, debris, etc.

If signs of contamination are encountered, the Contractors will stop work in the vicinity of the suspected contamination, restrict access to the suspected contamination site, and immediately notify the EI and Spill Coordinator of the find. The EI will contact the WBI Energy Designated Representative as soon as possible after discovery of the site. The WBI Energy Designated Representative or Land Agent will inform the landowner of the site.

Environmental Inspector:	To Be Determined
Phone:	To Be Determined
Spill Coordinator:	To Be Determined
Phone:	To Be Determined
WBI Energy Designated Representative:	Greg Huncovsky
Office Phone:	406-359-7451
Cell Phone:	406-989-1068
Land Agent:	To Be Determined
Phone:	To Be Determined

3.0 CONTAMINATED MEDIA CONTAINMENT, TESTING, AND NOTIFICATION PROCEDURES

The EI and Contractor will initiate measures to avoid the spread of contaminants until the nature and type of contamination is properly evaluated. Work in the area will not resume until an assessment of the types and levels of contaminants has been determined by qualified personnel.

Measures to avoid the spread of potential contamination will vary depending on the situation. The following measures will be implemented as appropriate:

- If potentially contaminated soil or groundwater is exposed during excavation, work will stop in the area of contamination and the EI will take measures, if safe to do so, to flag the area.

- If potentially contaminated soil has been excavated and stockpiled, it may be transferred to a bermed area lined with a sheet of impervious plastic, with a second sheet of impervious plastic placed over the new stockpile and berm. These measures will be implemented to prevent surface water or precipitation from carrying contaminants off the site. The contaminated media will not be removed from the site unless approved to do so by the EI or WBI Energy.

- If groundwater is draining from the sides of the excavation and standing in the trench, temporary trench plugs may be installed to avoid migration of the groundwater and spread of contaminants through water.

- In the unlikely event that groundwater is to rise above the surface of the trench, berms or spill control booms will be placed around the open portion of the trench to contain the water and prevent the spread of contaminants.

- All potentially contaminated media will be handled in accordance with all federal, state, and local regulations.

Concurrent with the installation of containment measures, the potential contaminant will be characterized. Representative samples of soils or groundwater will be collected and analyzed, as necessary. Appropriate tests or analyses will be conducted by a qualified laboratory based on field observations and the suspected nature of the contaminants as well as any recommendations from qualified environmental contractors and regulatory agencies if consulted. Laboratory analyses may include: Total Petroleum Hydrocarbons, Oil & Grease, Volatile Hydrocarbons, Semi-volatile Hydrocarbons, metals, polychlorinated biphenyls, and pH.

Depending on the nature of the contamination, WBI Energy will notify the appropriate federal, state, and local regulatory agencies. Appropriate agencies include, but may not be limited to, the following:

- North Dakota Department of Health – Spill Investigation Program
  Bill Suess – Spill Investigation Program Manager
  Phone: 701-328-5216
  Email: bsuess@nd.gov

- The National Response Center (Washington, D.C.) at 1-800-424-8802 (24 hours).

4.0 AVOIDANCE OR RESPONSE PLANS

If the contaminant identified is found to be a health or safety hazard, the area of contamination will be evacuated and secured until trained personnel are on site and mitigation measures are implemented to allow the safe installation of Project facilities. Alternatively,

reroutes or new aboveground facility sites may be considered to avoid the area of contamination. Applicable permits and regulatory approvals will be obtained prior to proceeding with a reroute.

If the contaminant does not pose a health or safety concern and will not otherwise interfere with the Project, a plan for completing construction within the contaminated area will be prepared. Test pits or borings may be excavated within the right-of-way or aboveground facility site to assess the extent of the contamination. Depending on the nature and extent of the contaminated media, site-specific measures will be identified to complete construction across the contaminated area. These measures may include:

- storing excavated soil on a sheet of impervious plastic;
- avoiding water withdrawals from the trench;
- removing and properly disposing of contaminated media;
- replacing contaminated soil with clean backfill; and/or
- implementing staged withdrawal and disposal of standing trench water during backfilling to avoid overflow and runoff.

Contaminated soil will not be placed back in the trench unless approved by the appropriate regulatory agency and by WBI Energy in writing. Special construction plans developed for areas of contamination will be in compliance with environmental regulations, and approval of the plans by appropriate jurisdictional agencies will be obtained prior to implementation.

WBI ENERGY TRANSMISSION, INC.

North Bakken Expansion Project

Noxious Weeds Management Plan

Final

Docket No.
CP20-____-000

February 2020

NORTH BAKKEN EXPANSION PROJECT
WBI ENERGY TRANSMISSION, INC.
NOXIOUS WEED MANAGEMENT PLAN

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Table 2-1 Designated Noxious Weed Species within the Project Area 2

LIST OF ATTACHMENTS

Attachment A Noxious Weeds Identified During Field Surveys

ACRONYMS AND ABBREVIATIONS

EI	Environmental Inspector
NDCC	North Dakota Century Code
Project	North Bakken Expansion Project
WBI Energy	WBI Energy Transmission, Inc.

1.0 INTRODUCTION

This *Noxious Weed Management Plan* was prepared for WBI Energy Transmission, Inc.'s (WBI Energy) proposed North Bakken Expansion Project (Project) to identify noxious weed control practices that will be implemented for the Project. Pursuant to North Dakota Century Code (NDCC) § 4.1-47, North Dakota Law requires that measures be taken to control the spread of noxious weeds. Noxious weeds have the potential to invade areas disturbed by construction and may spread along the cleared areas of the pipeline rights-of-way. Soil disturbance may also allow weed seed already present to germinate and grow.

Weeds are defined as plant species that grow out of place and are "competitive, persistent, and pernicious" (James et al., 1991). Noxious weeds are plant species designated by federal, state, or county governments as injurious to public health, agriculture, recreation, wildlife, or property (Sheley et al., 1999). Under NDCC § 4.1-47, 11 plant species have been designated as noxious weeds. In addition, North Dakota law allows county and city weed boards to develop lists of additional noxious weeds.

NDCC § 4.1-47 requires "every person to do all things necessary and proper to control the spread of noxious weeds." At the state and county levels, the State Agricultural Commissioner and County Weed Control Officer respectively, are responsible for the enforcement of the weed laws. Once a noxious weed problem has been identified, it is the responsibility of the landowner to control or rectify the problems. In addition, it is a Class B misdemeanor to willfully do the following:

- transport any material that contains noxious weed seeds or propagating parts on a public road in a manner that allows for the dissemination of noxious weeds;
- drive or transport any equipment on a public road in a manner that allows for the dissemination of noxious weeds; or
- dispose of any material that contains noxious weeds or propagating parts in a manner that allows for the dissemination of noxious weeds.

1.1 PLAN PURPOSE

The purpose of this plan is to prescribe methods to prevent and control the spread of noxious weeds (hereinafter referred to as weeds) during and following construction of the Project. WBI Energy and their contractors will be responsible for carrying out the methods described in this plan.

This plan is applicable to the installation of the pipelines and aboveground facilities within the temporary construction right-of-way, permanent operational right-of-way, staging areas, access roads, and other areas disturbed by the Project's construction activities.

1.2 GOALS AND OBJECTIVES

The goals of weed control are to implement preventative measures to eliminate the spread of weeds during construction of the pipelines and to implement prescribed treatments to eliminate, to the maximum extent possible, the invasion of weeds from surrounding lands. Monitoring during construction and operation of the Project will ensure that these goals are achieved.

2.0 WEED INVENTORY

WBI Energy identified the presence of noxious weeds in the right-of-way using field surveys (attachment A) and online research to identify existing weed infestations along the pipeline rights-of-way and adjacent extra workspaces, along new or improved access roads, and within aboveground facility locations where clearing will be required. Early identification of existing infestations is intended to help minimize the spread of weeds by identifying sites where preventive measures could be implemented. Information resulting from identification before, during, and after construction, including species identified within or adjacent to the Project area, locations of infestations, and extent of infestations will be kept on file by WBI Energy.

Table 2-1 lists the weeds that have the potential to occur within the four counties crossed by each Project's facilities (as identified on agency websites).

TABLE 2-1

North Bakken Expansion Project
Designated Noxious Weed Species within the Project Area

Noxious Weed Species	McKenzie County	Williams County	Burke County	Mountrail County
Absinth wormwood (*Artemisia absinthium L.*)	X			
Baby's breath (*Gypsophila paniculata*)	X			
Black Henbane (*Hyoscyamus niger L.*)	X			
Common tansy (*Tanacetum vulgare*)			X	X
Common burdock (*Arctium minus)*	X			
Canada thistle (C*irsium arvense (L.) Scop*.)	X			
Dalmatian toadflax (*Linaria genistifolia spp. dalmatica*)	X			
Diffuse knapweed (*Centaurea diffusa Lam.*)	X			
Halogeton (*Halogeton glomeratus*)	X			
Houndstongue (*Cynoglossum officinale L.*)	X			
Leafy spurge (*Euphorbia esula L.*)	X			
Musk thistle (*Carduus nutans L.*)	X			
Narrowleaf hawksbeard (*Crepis tectorum*)		X		
Palmer amaranth (*Amaranthus palmeri*)	X	X		
Purple loosestrife (*Lythrum salicaria L., Lythrum virgatum L., and all cultivars*)	X			
Russian knapweed (*Centaurea repens L.*)	X			
Saltcedar (*Tamarisk spp*.)	X			
Spotted knapweed (*Centaurea maculosa Lam.*)	X			
Yellow toadflax (*Linaria vulgaris*)	X			

3.0 WEED MANAGEMENT

Weeds are spread by a variety of means including pedestrian vectors (e.g., hiking, recreation, etc.), construction equipment, construction and reclamation materials, livestock, and wildlife. Implementation of preventative measures to control the spread of weeds is the most cost

effective management approach. WBI Energy will implement weed control management measures that are consistent with state and county regulations.

3.1 EDUCATION

WBI Energy and the Environmental Inspectors (EI) will provide information regarding weed identification, management, and impacts on agriculture, livestock, and wildlife to their employees prior to the commencement of construction. Critical information regarding the prevention of spreading weeds in areas not infested, controlling the proliferation of weeds already present, adhering to measures to prevent the spread of weeds (e.g., not driving off the cleared right-of-way, cleaning equipment that collects soil and plant seeds, and quickly identifying new infestations of weeds) will be provided to all personnel working on the Project.

3.2 PREVENTIVE MEASURES

The following preventive measures will be used to prevent the spread of weeds along the Project right-of-way and within aboveground facilities:

- Prior to construction, the EIs will mark areas of noxious weed infestation, including additional areas identified during preconstruction inspections, by using color-coded flagging, staking, and/or signs on the construction right-of-way to alert construction personnel to implement weed control measures during construction.

- All contractor equipment will arrive at the work site clean and weed-free. Prior to being allowed access to the right-of-way or aboveground facilities, verification that all equipment will be power or high-pressure air washed will be provided. In addition, all equipment leaving an area infested with noxious weeds will first be cleaned with an air compressor to limit the spread of noxious weed seeds and propagules.

- An EI or other designated personnel will ensure that equipment is free of soil and debris capable of transporting weed seeds, roots, or rhizomes.

- In the construction right-of-way, topsoil will be segregated and will not be mixed with spoil material before or during replacement. Once the disturbed areas have been de-compacted as needed, topsoil will be re-distributed over the entire disturbed area from which it was salvaged and re-contoured. Final revegetation will occur within the approved seeding window.

- The contractor will implement reclamation of disturbed lands following construction as outlined in the Federal Energy Regulatory Commission's *Upland Erosion Control, Revegetation, and Maintenance Plan* and *Wetland and Waterbody Construction and Mitigation Pro*cedures. Continuing revegetation efforts will ensure adequate vegetative cover to prevent the invasion of weeds.

- The contractor will ensure that straw bales, used on the Project for sediment barrier installations, or mulch, are certified weed-free.

- Equipment will not be sprayed with pre-emergent chemicals as a preventive measure as these chemicals target a wide range of vegetation. As a result, the use of such chemicals could affect the success of revegetation efforts.

3.3 TREATMENT METHODS

Weed controls will be used in accordance with existing regulations and landowner or agency agreements.

Prior to clearing and grading operations, pre-treatment of noxious weed infestations may be conducted if it is determined that pre-treatment will aid in controlling the spread of weeds during construction. The weed control measures implemented at these locations may include the application of herbicide or mechanical measures. The weed control measure chosen will be the best method available for the time, location, and species of weed.

- Herbicide application is an effective means of reducing the size of weed populations. Herbicide application and handling methods are described in section 4.0 below.

- Mechanical methods such as mowing or disking are reliant on the use of equipment to disk or excavate weed populations. Because of the timing of the Project (late summer and fall construction), mechanical methods are not likely to be effective control methods. However, this method may be used during operation of the Project.

During construction, WBI Energy or their contractor will periodically monitor the Project right-of-way to allow for early detection of noxious weed species infestations. If such species are found in numbers that are significantly different from existing nearby off right-of-way locations, appropriate control measures will be implemented in an attempt to eradicate the identified weed infestations along the right-of-way and to reduce the spread or proliferation of weeds. Post-construction monitoring and control measures are discussed in section 5.0 below.

4.0 HERBICIDE APPLICATION, HANDLING, SPILLS, AND CLEANUP

Herbicide selection (if required) will be based on information gathered from local county weed control districts and/or the North Dakota Department of Agriculture.

4.1 HERBICIDE APPLICATION AND HANDLING

Prior to herbicide application, WBI Energy's contractor will obtain any required permits or approvals from the local weed district and landowner. The chemical application will be done by a licensed contractor in accordance with all applicable laws and regulations.

Herbicide label instructions and manufacturer's guidelines will be strictly adhered to. For example, manufacturer's guidelines recommend that herbicides only be applied under appropriate weather conditions (i.e., periods of low wind speeds, when precipitation is not imminent, etc.), that application sprayers be mounted low to the ground, and that sprayer booms incorporate specialized nozzles designed to produce large droplet sizes with limited drift potential. Adherence to these specifications and manufacturer label directions would minimize the potential for drift or transport of herbicides to off right-of-way areas.

Vehicle-mounted sprayers (e.g., handgun, boom, and injector) will be used primarily in open areas that are readily accessible by vehicle. Hand application methods (e.g., backpack spraying) that target individual plants will be used to treat small scattered weed populations in rough terrain. Calibration checks of equipment will be conducted at the beginning of spraying and periodically thereafter to ensure proper application rates are being achieved.

Herbicides will be transported daily to the Project site with the following provisions:

- Herbicides will be premixed and delivered in returnable/refillable containers and transferred by closed system to application tanks to limit worker and environmental exposure and eliminate the need for disposal of herbicide containers in area landfills.
- Herbicides will be transported in a manner that will prevent tipping or spilling.
- Mixing of surfactants or other additives with water or other carriers and refilling of containers will typically be conducted at road crossings, and no mixing or filling will occur within 100 feet of open or flowing water, wetlands, or other sensitive resources, greater than 200 feet from private wells, and greater than 400 feet from public wells.
- Mixing and application procedures will be supervised by a licensed commercial applicator, and monitoring will be conducted to ensure that proper mixing, application, cleanup, personal protection and safety procedures are followed.
- All herbicide equipment and containers will be inspected daily for leaks.

4.2 HERBICIDE SPILLS AND CLEANUP

WBI Energy has developed a *Spill Prevention, Control, and Countermeasure Plan* that incorporates reasonable precautions to be taken to avoid spills of potentially hazardous materials. In the event of a spill, cleanup will be immediate. Herbicide contractors will be responsible for keeping spill kits in their vehicles and in herbicide storage areas to allow for quick and effective response to spills.

Response to an herbicide spill will vary depending on the material spilled and the size/location of the spill. The order of priorities after discovering a spill are to protect the safety of personnel and the public, minimize damage to the environment, and conduct cleanup and remediation activities.

4.3 WORKER SAFETY AND SPILL REPORTING

Herbicide contractors will obtain and have readily available copies of the appropriate Safety Data Sheets and the product labels for the herbicides used. Herbicide spills will be reported in accordance with applicable laws and requirements. Further information regarding spill response and reporting is provided in the WBI Energy's *Spill Prevention, Control, and Countermeasure Plan*.

5.0 MONITORING AND OPERATION

Following construction, weed infestations will be monitored as part of the WBI Energy's restoration monitoring activities. WBI Energy's operations staff will monitor and treat noxious weeds as a part of its normal operations and maintenance activities in accordance with state regulations.

Weed control measures will be implemented at those locations where noxious weed populations are greater than the surrounding areas. WBI Energy may implement post-construction application of herbicides or mechanical measures to control noxious weeds. The weed control measure chosen will be the best method available for the time, location, and species of weed.

- Herbicide application is an effective means of reducing the size of weed populations. Herbicide application and handling methods are described in section 4.0 above.

- Mechanical methods such as mowing or disking are reliant on the use of equipment to disk or excavate weed populations. Mechanical treatments will be conducted prior to seed maturation if needed. In addition, subsequent reseeding will be conducted, if necessary, to re-establish a desirable vegetative cover that will stabilize the soils and slow the potential of reinvasion of noxious weeds.

- Where appropriate, WBI Energy will further consult with the county weed boards regarding the use of biological and other alternate noxious weed control methods. These may be implemented consultation with and approval of private landowners.

6.0 REFERENCES

James, L., J. Evans, M. Ralphs, and R. Child, editors.1991. Noxious Range Weeds. Westview Press. Boulder, CO.

Sheley, R., J. Petroff, M. Borman. 1999. Introduction to Biology and Management of Noxious Rangeland Weeds, Corvallis, OR.

NORTH BAKKEN EXPANSION PROJECT

Noxious Weeds Management Plan

ATTACHMENT A
Noxious Weeds Identified During Field Surveys

ATTACHMENT A

North Bakken Expansion Project
Noxious Weeds Identified During Field Surveys

Species	Route Identifier	Start Milepost	End Milepost [a]	Length [b] (feet)	Acres [c]
Absinth wormwood (*Artemisia absinthium L.*)	Line Section 25 Loop	19.3	19.3	52.8	0.2
Canada thistle (*Cirsium arvense* (*L.*) *Scop.*)	Tioga-Elkhorn Creek	38.1	NA	NA	NA
Leafy spurge (*Euphorbia esula L.*)	Uprate bore 5	NA	NA	NA	NA
	Line Section 25 Loop	1.0	NA	NA	NA
	Line Section 25 Loop	4.9	5.0	NA	<0.1
	Line Section 25 Loop	5.0	NA	NA	<0.1
	Line Section 25 Loop	5.1	NA	NA	NA
	Tioga Compressor Lateral	0.3	NA	NA	NA
	Tioga-Elkhorn Creek	5.7	5.7	13.2	<0.1
	Tioga-Elkhorn Creek	13.1	NA	NA	NA
	Tioga-Elkhorn Creek	19.0	19.1	869.0	5.0
	Tioga-Elkhorn Creek	22.9	NA	NA	NA
	Tioga-Elkhorn Creek	25.6	NA	NA	NA
	Tioga-Elkhorn Creek	27.2	NA	NA	NA
	Tioga-Elkhorn Creek	30.0	NA	NA	NA
	Tioga-Elkhorn Creek	51.1	NA	NA	NA
Purple loosestrife (*Lythrum salicaria* [*L.*, *Lythrum vigatum L.*], and all cultivars)	Line Section 25 Loop	4.6	NA	NA	NA
Russian knapweed (*Centaurea repens L.*)	Line Section 30 Loop	3.4	3.4	30.3	0.1

[a] Points were taken for many of these noxious weed locations, and end mileposts were not recorded; therefore, not applicable (NA) was documented.

[b] Length (feet) of proposed pipeline centerline crossed. NA = not applicable as the distance was minimal.

[c] Points were taken for many of these noxious weed locations, and acreages were not calculated; therefore, not applicable (NA) was documented.

WBI ENERGY TRANSMISSION, INC.

North Bakken Expansion Project

Blasting Plan

Final

Docket No.
CP20-____-000

February 2020

WBI ENERGY TRANSMISSION, INC.
NORTH BAKKEN EXPANSION PROJECT
BLASTING PLAN

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ACRONYMS AND ABBREVIATIONS

CFR	Code of Federal Regulations
EI	Environmental Inspector
PPV	peak particle velocity
Project	North Bakken Expansion Project
WBI Energy	WBI Energy Transmission, Inc.

1.0 INTRODUCTION

This Blasting Plan was prepared for WBI Energy Transmission, Inc.'s (WBI Energy) proposed North Bakken Expansion Project (Project). No blasting is anticipated during construction of the Project. In the unlikely event that blasting is necessary to excavate the trench, WBI Energy will conduct blasting in accordance with pertinent regulations and this Blasting Plan. This Blasting Plan outlines the procedures and safety measures that WBI Energy's construction contractor will adhere to while implementing blasting activities along the pipeline rights-of-way.

2.0 OBJECTIVE

This Blasting Plan is intended to identify blasting procedures, including safety, use, storage, and transportation of explosives that are consistent with minimum safety requirements as defined by federal (e.g., Title 27 of the Code of Federal Regulations [CFR] Part 181, Commerce in Explosives; 49 CFR 177, Carriage by Public Highway; 29 CFR 1926.900 et seq., Safety and Health Regulations for Construction – Blasting and Use of Explosives; 29 CFR 1910.109, Explosives and Blasting Agents, Occupational Safety and Health Administration), state, and local regulations. Additionally this plan is intended to address environmental aspects of blasting activities, and to identify areas of concern along the proposed pipeline routes.

3.0 GENERAL REQUIREMENTS

Blasting operations shall be conducted by or under the direct and constant supervision of experienced personnel legally licensed and certified to perform such activity in the jurisdiction where blasting occurs. Prior to any blasting activities, the contractor shall provide WBI Energy with appropriate information documenting the experience, licenses, and permits associated with blasting personnel.

Blasting-related operations including obtaining, transporting, storing, handling, loading, detonating, and disposing of blasting material; drilling; and ground-motion monitoring shall comply with applicable federal, state, and local regulations; permit conditions; and the construction contract.

Blasting for grade or trench excavation shall be used only after other reasonable means of excavation have been used and are unsuccessful in achieving the required results. WBI Energy may specify locations (e.g., foreign line crossings, nearby structures, etc.) where consolidated rock shall be removed by approved mechanical equipment such as rock-trenching machines, rock saws, hydraulic rams, or jack hammers in lieu of blasting.

Before blasting, a site-specific blasting plan must be submitted by its Contractor to WBI Energy for approval. The site-specific blasting plan will be reviewed by WBI Energy's Designated Representative. The engineer will analyze the data to determine the combined stress level of any nearby, affected pipeline and will make recommendations and/or forward approval to WBI Energy before blasting may commence.

Drilling and blasting shall be done with one of WBI Energy's Environmental Inspectors (EI) present. The EI's approval is required to proceed prior to each blast. Approval does not relieve the Contractor from responsibility or liability.

4.0 PRE-BLASTING REQUIREMENTS

Prior to the initiation of blasting operations, the Contractor shall comply with the following:

- The Contractor will obtain all required federal, state, and local permits relating to the transportation, storage, handling, loading, and detonation of explosives.
- The Contractor shall place all necessary "one calls" 48 hours prior to construction where one-call system(s) are in place.
- The Contractor shall be responsible for the protection of existing underground facilities.
- Before performing any right-of-way work, the Contractor shall verify with WBI Energy that all affected property owners have been notified of the impending construction.

5.0 SITE-SPECIFIC BLASTING PLANS

The Contractor's site-specific blasting plan shall include at a minimum the following information:

- Explosive type, product name and size, weight per unit, and density;
- Delay type, sequence, and delay;
- Use of non-electrical initiation systems for all blasting operations;
- Stemming material and tamping method;
- Hole depth, diameter, and pattern;
- Explosive depth, distribution, and maximum charge and weight per delay;
- Number of holes per delay;
- Dates and hours of conducting blasting;
- Distance and orientation to nearest aboveground structure;
- Distance and orientation to nearest underground structure, including pipeline;
- Procedures for:
    - Storing, handling, transporting, loading, and firing explosives;
    - Fire prevention;
    - Inspections after each blast;

  - Misfires, flyrock, and noise prevention;
  - Stray current accidental-detonation prevention;
  - Signs and flagmen;
  - Warning signals prior to each blast;
  - Where the pipeline route:
    - Parallels or crosses an electrical transmission corridor, cable or pipeline;
    - Parallels or crosses a highway or road;
    - Within or adjacent to treed areas;
    - Approaches within 100 feet of a water well or spring; and
    - Approaches within 1,000 feet of any residence, building, or occupied structure;
  - Notification prior to blasting; and
  - Disposal of waste blasting material;

- Seismograph company, names, equipment and sensor location;
- Copies of all required federal, state, and local permits;
- Blaster's name, company, copy of license, and statement of qualifications;
- Magazine type and locations for explosives and detonating caps;
- Typical rock type and geology structure (solid, layered, or fractured); and
- Pipeline location (milepost and stationing) and applicable alignment sheet numbers.

6.0 MONITORING

During blasting operations, the Contractor will be required to monitor operations in the following manner:

- The Contractor shall provide seismographic equipment to measure the peak particle velocity (PPV) of all blasts in the vertical, horizontal, and longitudinal directions. Seismic monitoring can only be discontinued if: a) the blasting schedule and blasting performance consistently produce PPVs at the pipeline that are lower than the maximum allowable limit; and b) WBI Energy's Designated Representative provides written authorization.

- The contractor shall measure the PPV at the adjacent pipeline, any water wells or potable springs, and any aboveground structure within 150 feet of the blasting.

- The contractor shall complete the Blasting Log Record immediately after each blast and submit a copy to WBI Energy's Designated Representative.

7.0 LIMITS ON PEAK PARTICLE VELOCITY

The contractor is limited to a specified PPV of 4 inches per second measured adjacent to an underground pipeline that will be subject to approval by WBI Energy's Designated Representative.

For any aboveground structure (including water wells), the PPV shall not exceed 2 inches per second.

For all aboveground facilities within 150 feet of the blasting, the contractor shall provide additional seismograph equipment to determine the PPV at the aboveground facility. If the measured PPV at an existing pipeline or other structure exceeds the above limits, the contractor shall stop blasting activities immediately and notify WBI Energy. The site-specific Blasting Plan must be modified to reduce the PPV prior to any further blasting.

Note: Limits on PPV for surface structures are based on studies that established the limits at which plaster in homes will crack. The primary purpose of the limit is to prevent damage to homes. WBI Energy's EI may increase the limit for other structures such as steel transmission line towers, as appropriate. WBI Energy's EI may approve higher velocities for given site-specific conditions in advance.

8.0 SAFETY

8.1 PROTECTION OF ABOVEGROUND AND UNDERGROUND STRUCTURES

The Contractor will exercise control to prevent damage to aboveground and underground structures including buildings, pipelines, utilities, springs, and water wells. The following procedures will be implemented:

- If blasting occurs within 200 feet of identified water wells or potable springs, water flow performance, and water quality testing will be conducted before blasting. If a water well or spring is damaged, either the well owner will be compensated for damages or a new well will be provided. WBI Energy will provide an alternative potable water supply to the landowner until repairs occur.

- If blasting occurs within 200 feet of any aboveground structures, the contractor and WBI Energy's Designated Representative will inspect structures before and after blasting. In the unlikely event that damage occurs to an aboveground structure, the owner will be compensated.

- The contractor shall be responsible for all damage claims resulting from blasting.

- Blasting will not be allowed within 15 feet of an existing pipeline unless authorized by WBI Energy.

- Holes which have contained explosive material shall not be re-drilled. Holes shall not be drilled where danger exists of intersecting another hole containing explosive material.

- Blasting mats or padding shall be used on all shots where necessary to prevent scattering of loose rock onto adjacent property and to prevent damage to nearby structures and overhead utilities. In cases where such a procedure is not deemed to be feasible, an alternative procedure must be submitted for review by WBI Energy's personnel and the site in question must be visited and examined by WBI Energy's Designated Representative before any approval is granted.

- Blasting shall not begin until occupants of nearby buildings, stores, residences, places of business, places of public gathering, and farms have been notified by the contractor sufficiently in advance to protect personnel, property, and livestock. The contractor shall notify all such occupants at least 48 hours prior to blasting.

- Blasting in or near environmentally sensitive areas such as streams and wildlife areas may include additional restrictions as determined by WBI Energy.

- All blasting shall be subject to the following limitations:

    - Maximum PPV of 12.0 inches per second in any of three mutually perpendicular axes, measured at the lesser distance of the nearest facility or the edge of the permanent easement.

    - Maximum drill size shall be 2.5 inches unless approved by WBI Energy.

    - Maximum quantity of explosive per delay shall be governed by the recorded measurements as influenced by work site conditions.

    - Explosive agents and ignition method shall be approved by WBI Energy. ANFO (ammonium nitrate/fuel oil) and other free-flowing explosives and blasting agents are not acceptable and shall not be used.

    - Drill holes shall not be left loaded overnight.

- The drilling pattern shall be set in a manner to achieve smaller rock fragmentation (maximum 1 foot in diameter) in order to use as much as possible of the blasted rock as backfill material after the pipe has been padded in accordance with the specifications. The proposed drilling pattern shall be submitted for approval by WBI Energy.

- Under pipeline crossings and all other areas where drilling and blasting is required within 15 feet of existing or third-party facilities:

    - Drill holes shall be reduced to a maximum of 2 inches or less in diameter.

    - The number of holes per blast shall be limited to three unless otherwise approved by WBI Energy.

8.2 PROTECTION OF PERSONNEL

The Contractor shall include in its procedures all federal, state, county, and local safety requirements for blasting. The contractor's procedures shall address, as a minimum, the following requirements:

- Only authorized, qualified, and experienced personnel shall handle explosives.
- No explosive material shall be located where it may be exposed to flame, excessive heat, sparks, or impact. Smoking, firearms, matches, open flames, and heat-and-spark-producing devices shall be prohibited in or near explosive magazines or while explosives are being handled, transported, or used.
- A code of blasting signals shall be established, posted in conspicuous places, and utilized during blasting operations. Employee training shall be conducted on the use and implementation of the code.
- The contractor shall use every reasonable precaution including, but not limited to, visual and audible warning signals, warning signs, flag person, and barricades to ensure personnel safety.
- Warning signs, with lettering a minimum of 4 inches in height on a contrasting background, will be erected and maintained at all approaches to the blast area.
- Flaggers will be stationed on all roadways passing within 1,000 feet of the blast area to stop all traffic during blasting operations.
- All personnel not involved in the actual detonation shall stand back at least 1,000 feet and workers involved in the actual detonation shall stand back at least 650 feet from the time the blast signal is given until the "ALL CLEAR" has been sounded.
- An audible blasting signal (air horn or siren) shall be sounded 5 minutes before and after each blast.
- Blasting operations shall be conducted during daylight hours.
- No loaded holes shall be left unattended or unprotected. No explosives or blasting agent shall be abandoned. No loaded holes shall be left overnight.
- In the case of a misfire, the blaster shall provide proper safeguards for personnel until the misfire has been re-blasted or safely removed.
- WBI Energy may employ two-way radios for communication between vehicles and office facilities. The contractor shall advise WBI Energy and other pipeline contractors of any need to cease use of such equipment during blasting activities.
- All loading and blasting activity shall cease and personnel in and around the blast area will retreat to a position of safety during the approach and progress of an

electrical storm irrespective of the type of explosives or initiation system used. This is a major safety precaution and will always be observed. All explosive materials, all electrical initiation systems, and all non-electric initiation systems are susceptible to premature initiation by lightning.

- Previous blast areas must be inspected to verify the absence of misfires. No drilling may commence until such inspection occurs. If a misfire occurs adjacent to a hole to be drilled, the misfire will be cleared by the blaster using whatever techniques are called for by the situation prior to commencement of drilling. If a misfire occurs at some distance from the drilling area, drilling may be stopped while clearing preparations are underway. When the misfire is to be cleared by reshooting, drilling will be shut down and personnel evacuated to a place of safety prior to detonation.

- All transportation of explosives will be in accordance with applicable federal, state, and local laws and regulations. Vehicles used to transport explosives shall be in proper working condition and equipped with tight wooden or non-sparking metal floor and sides. If explosives are carried in an open-bodied truck, they will be covered with a waterproof and flame-resistant tarpaulin. Wiring will be fully insulated to prevent short-circuiting and at least two fire extinguishers will be carried. The truck will be plainly marked to identify its cargo so that the public may be adequately warned. Metal, flammable, or corrosive substances will not be transported in the same vehicle with explosives. There will be no smoking and unauthorized or unnecessary personnel will not be allowed in the vehicle. Loading and unloading of explosives will be done carefully by competent, qualified personnel.

- No sparking metal tools will be used to open kegs or wooden cases of explosives. Metallic slitters will be used to open fiberboard cases, provided the metallic slitter does not come in contact with the metallic fasteners of the case. There will be no smoking, no matches, no open lights, or other fire or flame nearby while handling or using explosives. Explosives will not be placed where they are subject to flame, excessive heat, sparks, or impact. Partial cases or packages of explosives will be reclosed after use. No explosives will be carried in the pockets or clothing of personnel. The wires of an electric blasting cap shall not be tampered with in any way. Wires will not be uncoiled. The use of electric blasting caps will not be permitted during dust storms or near any other source of large charges of static electricity. Uncoiling of the wires or use of electric caps will not be permitted near radio-frequency transmitters. The firing circuit will be completely insulated from the ground or other conductors.

- No electric wires or cables of any kind will be permitted near electric blasting caps or other explosives except at the time and for the purpose of firing the blast. All electric blasting caps, either singly or when connected in a series circuit, will be tested using a blasting galvanometer specifically designed for the purpose. Electric blasting caps used in circuit shall be of the same style or function, and of the same manufacture, and blasting shall be carried out in accordance with the manufacturer's recommendations. No attempt will be made to fire a circuit of electric blasting caps with less than the minimum current specified by the

manufacturer. All wires to be connected will be bright and clean. All electric blasting cap wires will be short-circuited until ready to fire.

- No blast will be fired without a positive signal from the person in charge. This person will have made certain that all surplus explosives are in a safe place; all persons and vehicles are at a safe distance; and adequate warning has been given. Adequate warning of a blast will consist of but not be limited to the following:
  - Notification of the day and time given to railroads, highway departments, city engineer, county sheriff, utility owners etc., as applicable. Notification must be given at least 48 hours prior to blasting;
  - Notification of occupants of nearby buildings, stores, residences, places of business, places of public gathering, and farms. Notification must be given at least 48 hours prior to blasting;
  - Stopping vehicular and/or pedestrian traffic near the blast site; and
  - Signal given by an air horn, whistle, or similar device using standard warning signals.
- Only authorized and necessary personnel will be present where explosives are being handled or used.
- The condition of the hole will be checked with a wooden tamping pole prior to loading. Surplus explosives will not be stacked near working areas during loading. Detonating fans will be cut from spool before loading the balance of charge into the hole. No explosives will be forced into a bore hole past an obstruction. Loading will be done by a blaster holding a valid license or by personnel under his direct supervision.
- Fly-rock leaving the right-of-way shall be collected immediately and disposed of at disposal sites approved by WBI Energy. This work shall not be left to the cleanup crew.

8.3 LIGHTNING HAZARD

A risk of accidental detonation caused by lightning strikes exists at any time the workplace is experiencing an electrical storm and there are loaded holes on site. If this hazard is judged to exist, work shall discontinue at all operations and workers will be moved to secure positions away from the loaded holes when an approaching storm front is within 5 miles. Furthermore, workers shall not return to the work site until the storm has passed and the closest point of lightning activity has moved at least 5 miles beyond the drilling area.

WBI Energy shall have on site approved lightning detectors capable of measuring the degree of electrical activity as a storm approaches, and the distance to the storm front from the instrument on the right-of-way.

9.0 IN-WATER BLASTING

Underwater blasting is not anticipated to be required for the Project.

10.0 STORAGE REQUIREMENTS

All explosives, blasting agents, and initiation devices shall be stored in locked magazines that have been located, constructed, approved, and licensed in accordance with local, state, and federal regulations. Magazines shall be dry, well ventilated, reasonably cool (painting of the exterior with a reflective color) bullet and fire resistant and kept clean.

Initiation devices shall not be stored in the same box, container, or magazine with other explosives. Explosives, blasting agents or initiation devices shall not be stored in wet or damp areas; near oil, gasoline, or cleaning solvents; or near sources of heat radiators, steam pipes, stoves, etc. No metal or metal tools shall be stored in the magazine. There shall be no smoking, matches, open lights, or other fire or flame inside or within 50 feet of storage magazines or explosive materials. The loading and unloading of explosive materials into or out of the magazine shall be done in a business-like manner.

Magazines shall be kept locked at all times unless explosives are being delivered or removed by authorized personnel. Admittance shall be restricted to the magazine keeper, blasting supervisor, or licensed blaster. Magazine construction shall meet the requirements of ATF P5400.7 “Explosives Law and Regulations” (U.S. Department of Justice, Bureau of Alcohol Tobacco, Firearms and Explosives) and be in accordance with local, state, or federal regulations and the most recent edition of the Blasters Handbook.

Accurate and current records shall be kept of the explosive material inventory to ensure that oldest stocks are utilized first, regulatory requirements are satisfied, and to allow for immediate notification of any loss or theft. Magazine records shall reflect the quantity of explosives removed, the amount returned, and the net quantity used at the blasting site.

When explosive materials are taken from the storage magazine, they shall be kept in the original containers until used. Small quantities of explosive materials may be placed in day boxes, powder chests, or detonator boxes. Any explosive material not used at the blast site shall be returned to the storage magazine and replaced in the original container as soon as possible.

Magazine locations shall be in accordance with local, state, or federal regulations. Where no regulations apply, magazines shall be located in accordance with the latest edition of the Blaster’s Handbook and ATF P5400.7 “Explosives Law and Regulations” (U.S. Department of Justice, Bureau of Alcohol Tobacco, Firearms and Explosives).

Magazines shall be marked in minimum 3-inch-high letters with the words “DANGER - EXPLOSIVES” prominently displayed on all sides and roof.

11.0 GENERAL BLASTING PROCEDURE

The following lists of steps will be performed in all cases. These steps represent a minimum requirement and give a general order to the blasting procedure:

- A safety meeting will be held prior to any blasting activities. Everyone who is involved with the blasting in any form must attend. Safety rules and signaling should be reviewed.
- Warning signs should be erected.
- Lightning detectors should be set up.
- Drilled holes should be measured accurately for depth and location.
- Seismic equipment should be set up to measure velocities near the pipeline and any structures 150 feet or less from the blast.
- Distances to any nearby structure (aboveground or belowground) suspected of being less than 200 feet from the blast shall be measured.
- Clear the blasting affected zone.
- Give the warning signal.
- Give the blast signal.
- Detonate the blast.
- After the blaster has checked for misfires and given the “ALL CLEAR” signal, Inspectors will inspect any aboveground or underground facilities for damage.
- Complete the Blasting Log Record.



WBI ENERGY TRANSMISSION, INC.

North Bakken Expansion Project

Fugitive Dust Control Plan

Final

Docket No.
CP20-____-000

February 2020

NORTH BAKKEN EXPANSION PROJECT
WBI ENERGY TRANSMISSION, INC.
FUGITIVE DUST CONTROL PLAN

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ACRONYMS AND ABBREVIATIONS

BMP	best management practice
EI	Environmental Inspector
NDAC	North Dakota Administrative Code
Project	North Bakken Expansion Project
WBI Energy	WBI Energy Transmission, Inc.

1.0 INTRODUCTION

This *Fugitive Dust Plan* was prepared for WBI Energy Transmission, Inc.'s (WBI Energy) proposed North Bakken Expansion Project (Project). This *Fugitive Dust Control Plan* was developed as a guide for construction and field personnel on the implementation of appropriate measures to minimize and control the generation of fugitive dust during construction activities associated with the Project. It will be the responsibility of the Project contractors, working with WBI Energy field representatives, to identify activities that are generating dust and to at all times control airborne dust levels during construction activities to acceptable levels that are in compliance with any applicable standards, including those established by the North Dakota Department of Health, and other regulating agencies and local ordinances.

Construction of the Project will involve land disturbing activities, which can increase the susceptibility of soils to erosion caused by wind and water. Wind erosion can damage the productivity of the land by reducing soil moisture, altering soil structure, and carrying away soil nutrients and topsoil. A small amount of soil loss from wind erosion occurs naturally; however, human activity, such as pipeline construction, can dramatically increase soil loss due to wind erosion (fugitive dust) and potentially create conditions that could be detrimental to air quality and safety. Fugitive dust is a type of non-point source air pollution that can cause respiratory distress for construction workers as well as nearby residents and wildlife. Additionally, fugitive dust can create a safety hazard by obscuring visibility for equipment operators, construction personnel, and traffic on public roads near the Project.

2.0 NORTH DAKOTA REGULATORY REQUIREMENTS

Fugitive dust emissions are regulated under the North Dakota Administrative Code (NDAC) Title 33, Article 15, Chapter 17. This regulation dictates that, "No person shall cause or permit fugitive emissions from any source whatsoever, including a building, its appurtenances, or a road, to be used, constructed, altered, repaired, or demolished; or activities such as loading, unloading, storing, handling, or transporting of materials without taking reasonable precautions to prevent such emissions from causing air pollution as defined in NDAC Section 33-15-01-04."

Specifically, NDAC § 33-15-17-02 restricts emissions of fugitive particulate [dust] which:

- "Exceed the ambient air quality standards of chapter 33-15-02 at or beyond the property line of the source.
- Exceed the prevention of significant deterioration of air quality increments of chapter 33-15-15 at or beyond the property line of the source for sources subject to chapter 33-15-15.
- Exceed the restrictions on the emission of visible air contaminants of chapter 33-15-03, at or beyond the property line of the source, except as provided in section 33-15-03-04.
- Would have an adverse impact on visibility, as defined in chapter 33-15-19, on any class I federal area."

Title 33, Article 15, Chapter 17, Section 03, Subdivision 29 of the NDAC lists reasonable precautions for abating and preventing fugitive particulate [dust] emissions. Abatement and preventative fugitive particulate control measure include, but are not limited to:

(1) "Wetting down, including prewatering.
(2) Landscaping and replanting with native vegetation.
(3) Covering, shielding or enclosing the area.
(4) Paving, temporary or permanent.
(5) Treating, the use of dust palliatives and chemical stabilization.
(6) Detouring.
(7) Restricting the speed of vehicles on sites.
(8) Preventing the deposit of dirt and mud on improved streets and roads.
(9) Minimizing topsoil disturbance and reclaiming as soon as possible."

3.0 FUGITIVE DUST SOURCES

Fugitive dust is created when particulate matter is disturbed and becomes airborne. During construction of the Project, various activities have the potential to cause emissions of fugitive dust. These activities include, but may not be limited to:

- Vegetation clearing activities;
- Grading of topsoil and subsoil, including cut-and-fill areas on steep side slopes;
- Excavation, temporary side casting of spoil, and backfilling;
- Blasting;
- Grading associated with reestablishing contours and restoring segregated topsoil;
- Vehicle traffic on unpaved access roads;
- Vehicle track-out onto roads;
- Vehicle and equipment travel down the Project right-of-way;
- Loading bulk materials; and
- Open-bodied trucks hauling sand, soil, gravel, or other materials.

WBI Energy's contractors and field representatives will identify activities that are generating fugitive dust, implement feasible dust abatement techniques or best management practices (BMP) to control dust, and maintain compliance with applicable fugitive dust regulations.

4.0 BEST PRACTICAL METHODS OF FUGITIVE DUST CONTROL

Dust suppression measures will be employed as necessary to control fugitive dust emissions to maintain compliance with the regulations set forth in the NDAC. To minimize wind erosion and fugitive dust emissions during construction, WBI Energy will implement the following reasonably available control measures:

- To the extent possible, utilize existing highways, frontage roads, and secondary roads, for access to the Project's construction right-of-way;

- Keep paved access roads free of mud and soil that is tracked onto the road surface from construction vehicles;

- If soil is transported onto a public road surface or other paved area, including parking lots, by construction equipment and vehicles, it will be removed as soon as practical from the road by shoveling or sweeping, and will be transported back to a designated sediment control disposal area within the construction right-of-way;

- Use dust abatement techniques (i.e., applying water or approved nontoxic chemical dust suppressants) on unpaved or un-vegetated areas or other areas susceptible to wind erosion, including the Project's construction right-of-way, approved work areas, and unpaved roads, at least daily as needed in areas of active construction. Magnesium chloride may be used on unpaved roads as a dust suppressant, only water will be used on the right-of-way. Application of dust suppressants will be repeated as necessary and as determined by an Environmental Inspector (EI);

- Water for dust control will be obtained from municipal sources and nearby water sources where the necessary permits required by federal, state, and local agencies for the procurement of water have been secured. No unapproved water sources may be used for Project activities including dust control;

- Temporarily stockpiled soils (topsoil and spoil) will be stabilized by spraying with water to create a semi-hard protective layer to minimize wind erosion or with a temporary cover species such as oats or ryegrass, when necessary, and as determined by an EI;

- Project-related traffic speeds will be controlled on the construction right-of-way and within other Project facilities to limit the amount of disturbance from vehicle traffic;

- Speed limits will be decreased when excessive winds prevail and where sensitive areas such as public roads are adjacent to access roads or the construction right-of-way;

- Open-bodied trucks carrying sand, soil, gravel, or other materials will be covered where necessary to prevent such materials from being expelled;

- Construction entrance/exit access locations onto paved roads will be cleaned at a minimum of once every 48 hours, or as needed, if materials are observed to be accumulating on the road surface;

- In construction areas adjacent to highways where dust could cause poor visibility, WBI Energy will implement additional BMPs to minimize dust and potential safety issues. These additional BMPs may include applying water as close to earth-moving equipment as possible, slowing the speed of construction equipment, spacing equipment further apart, increased traffic control, or shutting down operations during high wind periods. WBI Energy will coordinate with the appropriate highway authorities to ensure adequate traffic control measures are in place, including the possibility of using flaggers to control traffic if extreme low visibility conditions develop;

- When opacity along dirt roads and the right-of-way exceeds 20 percent (objects partially obscured), construction activity shall cease until dust control measures are employed; and

- Other dust control measures, such as the use of wind fences or berms, may also be implemented as needed.

The frequency of water application will largely depend on weather conditions. Additionally, WBI Energy will attempt to begin cleanup and rough grading within 72 hours after backfilling and complete cleanup within 20 days after backfilling, weather and soil conditions permitting. If seasonal or other weather conditions prevent compliance with the time frames, the contractor shall stabilize the right-of-way and maintain erosion and sediment control measures until cleanup can be conducted. Disturbed areas will be permanently revegetated in accordance with applicable permit conditions and landowner requirements.

5.0 RESPONSIBLE PARTY

WBI Energy or their designated contractor will be responsible for all dust control in their respective Project areas during the construction phase of the Project (7 days a week, including weekends and holidays). WBI Energy or their designated contractor will have a copy of this *Fugitive Dust Control Plan* available on-site at all times. Problem areas or potential problem areas that are identified during construction must be controlled as soon as possible after being brought to the attention of the contractor.

6.0 PROJECT CONTACT FOR LANDOWNERS

An environmental complaint resolution process will be implemented for the Project to quickly and effectively remedy environmental issues that may be reported by landowners. Prior to construction, landowners will be provided with a Project phone number to facilitate communication regarding environmental complaints, including fugitive dust.

7.0 GENERAL CONTRACTORS

The general contractors' contact information will be incorporated into this plan prior to construction. The contractors chosen for the Project will implement the dust control measures specified in this plan, while WBI Energy's EIs will be primarily responsible for monitoring and enforcing the implementation of needed dust control measures as well as ensuring that dust control is effective and proper documentation is maintained. All construction site personnel will be educated on the measures outlined in this plan.



WBI ENERGY TRANSMISSION, INC.

North Bakken Expansion Project

Plan for Unanticipated Discovery of Historic Properties or Human Remains During Construction

Final

Docket No.
CP20-____-000

February 2020

WBI ENERGY TRANSMISSION, INC.
NORTH BAKKEN EXPANSION PROJECT
PLAN FOR UNANTICIPATED DISCOVERY OF HISTORIC PROPERTIES OR HUMAN REMAINS DURING CONSTRUCTION

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ACRONYMS AND ABBREVIATIONS

COE	U.S. Army Corps of Engineers
EI	Environmental Inspector
FERC	Federal Energy Regulatory Commission
Project	North Bakken Expansion Project
SHSND	State Historical Society of North Dakota
THPO	Tribal Historic Preservation Officer
USFS	U.S. Forest Service
WBI Energy	WBI Energy Transmission, Inc.

1.0 INTRODUCTION

This plan identifies procedures to be implemented in the event that previously unreported and unanticipated cultural materials, human remains, or paleontological remains are found during construction of WBI Energy Transmission, Inc.'s (WBI Energy) North Bakken Expansion Project (or Project).

2.0 TRAINING

Prior to the start of construction, WBI Energy will conduct environmental training, including instruction on the identification of cultural materials, unmarked burials, and human remains, for Company and Contractor personnel. WBI Energy also will provide large-group training sessions before each work crew commences construction with periodic follow-up training for groups of newly assigned personnel.

3.0 UNANTICIPATED DISCOVERY OF CULTURAL MATERIALS OR HUMAN REMAINS

The following measures will be implemented if known or suspected cultural materials, unmarked burials, or human remains are discovered during construction.

1. The Contractor will stop work in the area of the find (i.e., within 100 feet of the find or the outer perimeter of a group of finds) to protect the integrity of the find.

2. The Contractor will notify a WBI Energy Environmental Inspector (EI) of the find. The Contractor will not restart work in the area of the find until approved by an EI.

3. The EI will notify WBI Energy's Designated Representative, who will coordinate with WBI Energy's Archaeological Consultant to conduct a preliminary assessment of the find.

    a. If the find occurs on lands owned by the U.S. Army Corps of Engineers (COE), WBI Energy's Designated Representative will call the Omaha District Hotline and follow their directions. See attachment A for instructions on responding to unanticipated finds of human remains on COE lands in the Omaha District.

    b. If the find occurs on lands owned by the U.S. Forest Service (USFS), WBI Energy's Designated Representative will notify the USFS of the find by telephone and follow their directions. See attachment B for instructions on responding to finds of unanticipated cultural resources or human remains on USFS lands.

4. Following the investigation, the Archaeological Consultant will notify WBI Energy's Designated Representative by telephone regarding the preliminary assessment of the find.

5. WBI Energy's Designated Representative will notify the Federal Energy Regulatory Commission (FERC), State Historical Society of North Dakota (SHSND), COE (for finds on COE lands), USFS (for finds on USFS lands), and

federally recognized Indian tribes (as appropriate) by telephone regarding the preliminary evaluation of the find.

6. If the materials found are cultural materials (e.g., artifacts or archaeological features), the procedures in section 4.0 will be implemented. If the materials found are human remains, the procedures in section 5.0 will be implemented.

4.0 DISCOVERY OF CULTURAL MATERIALS

1. The EI will flag or fence off the site (including the area within 100 feet of the find or the outer perimeter of a group of finds).

2. WBI Energy's Designated Representative will direct the Archaeological Consultant to begin an assessment of the significance of the find and the potential effect of construction on the site.

3. The Archaeological Consultant will assess and document the find within 2 days of its discovery.

4. If the Archaeological Consultant determines the find is not significant, and the FERC, SHSND, COE (for finds on COE lands), USFS (for finds on USFS lands), and any consulting federally recognized Indian tribes concur, the Archaeological Consultant will notify WBI Energy's Designated Representative that construction may proceed across the find without additional action. The Archaeological Consultant will prepare a brief report on the find for submittal to the FERC, SHSND, COE (for finds on COE lands), USFS (for finds on USFS lands), and any consulting federally recognized Indian tribes within 7 days of discovery of the find.

5. If the Archaeological Consultant determines that the find may be significant, and the FERC, SHSND, COE (for finds on COE lands), USFS (for finds on USFS lands), and any consulting federally recognized Indian tribes concur, then the following additional steps will be implemented.

6. WBI Energy's Designated Representative will notify other parties of the find as directed by the FERC, SHSND, COE (for finds on COE lands), and/or USFS (for finds on USFS lands).

7. If the find is determined to be significant and continuing construction may damage more of the find, WBI Energy's Designated Representative will request recommendations from the FERC, SHSND, COE (for finds on COE lands), USFS (for finds on USFS lands), and any consulting federally recognized Indian tribes regarding measures for site treatment. These measures may include:

    a. a variance request to re-route the pipeline around the site;

    b. archaeological evaluation of the site;

    c. site visits by the FERC, SHSND, COE (for finds on COE lands), USFS (for finds on USFS lands), and any consulting federally recognized Indian tribes;

d. preparation of a mitigation plan by WBI Energy for approval by the FERC, SHSND, COE (for finds on COE lands), USFS (for finds on USFS lands), and any consulting federally recognized Indian tribes;

e. implementation of the mitigation plan; and

f. approval to resume construction following completion of the fieldwork component of the mitigation plan.

8. If, upon further analysis by the Archaeological Consultant, the find is determined to lack significance, WBI Energy's Designated Representative will consult with the FERC, SHSND, COE (for finds on COE lands), USFS (for finds on USFS lands), and any consulting federally recognized Indian tribes and will request approval to resume construction subject, as warranted, to further mitigation required by the FERC.

9. WBI Energy's Designated Representative will notify the EI who will grant clearance to the Contractor to start work.

5.0 DISCOVERY OF UNMARKED BURIALS OR HUMAN REMAINS

1. If an unmarked human burial or skeletal remains are encountered during construction activities, WBI Energy will comply with North Dakota's "Protection of human remains, and burial goods – Unlawful acts – Penalties - Exceptions" law (North Dakota Century Code [NDCC] 23-06-27) and its accompanying administrative rules (North Dakota Administrative Code [NDAC] 40-02-03).

2. If an unmarked human burial, skeletal remains, or associated or unassociated funerary objects or objects of cultural patrimony are discovered on federal lands, WBI Energy will comply with the requirements of the Native American Graves Protection and Repatriation Act, as directed by the COE (for finds on COE lands) or USFS (for finds on USFS lands).

3. WBI Energy's Designated Representative will direct the EI to flag or fence off the find (including the area within 100 feet of the find or the outer perimeter of a group of finds), and will notify the appropriate local law enforcement agency as required by NDCC 23-06-27.

4. WBI Energy's Designated Representative will notify the FERC, SHSND, COE (for finds on COE lands), USFS (for finds on USFS lands), and any consulting federally recognized Indian tribes of the find.

5. If the local law enforcement agency determines that the remains are not modern or do not reflect a crime scene, and/or if they otherwise relinquish their jurisdiction over the remains, the FERC, COE (for finds on COE lands), and/or USFS (for finds on USFS lands) will consult appropriate parties (e.g., WBI Energy, SHSND, federally recognized Indian tribes, and the landowner) regarding additional steps to be followed.

6. If it can be determined that the identified human remains have affinity to federally recognized Native American tribes, a reasonable effort will be made to identify, locate, and notify these tribes.

7. The parties will make a good faith effort to exclude the public from viewing Native American burial sites or associated funerary artifacts and that no photographs of Native American burial sites or associated funerary artifacts are released to the press or public.

8. The measures to protect the remains and associated artifacts will remain in effect until they have been fully evaluated, appropriate treatment of the discovery (if applicable) has been completed, and WBI Energy has received written notice from the FERC to proceed with construction at the discovery site.

9. WBI Energy's Designated Representative will notify the EI who will grant clearance to the Contractor to resume work at the discovery site.

6.0 CONTACTS FOR UNANTICIPATED DISCOVERIES

WBI ENERGY CONTACTS:

Lead Environmental Inspector
Name: To be determined
Cell: To be determined
Email: To be determined

Environmental Inspector
Name: To be determined
Cell: To be determined
Email: To be determined

WBI Energy Designated Representative
Name: Greg Huncovsky
Address: 2010 Montana Avenue, Glendive, MT 59330
Phone: 406-359-7451
Cell: 406-989-1068
Email: Greg.Huncovsky@WBIEnergy.com

Archaeological Consultant
Name: Patrick Robblee
Address: 3300 Breckinridge Boulevard, Suite 300, Duluth, GA 30096
Phone: 612-840-8976
Cell: 612-840-8976
Email: pat.robblee@erm.com

FEDERAL CONTACTS:

FERC Project Manager and Archaeologist
Name: Dawn Ramsey
Address: 888 First Street, Washington, DC 20426
Phone: 202-502-6856
Email: dawn.ramsey@ferc.gov

U.S. Forest Service
Name: Liv Fetterman
Address: 2000 Miriam Circle, Bismarck, ND 58501
Phone: 701-989-7306
Email: liv.fetterman@usda.gov

U.S. Army Corps of Engineers
Name: Omaha District Hotline
Phone: 888-761-2772

U.S. Army Corps of Engineers
Name: Richard R. Rogers
Address: 201 1st Street, RM210, Riverdale, ND 58565
Phone: 701-654-7744
Email: Richard.r.rogers@usace.army.mil

STATE CONTACTS:

State Historical Society of North Dakota, Director
Name: Claudia Berg
Address: 612 East Boulevard Avenue, Bismarck, ND 58505
Phone: 701-328-2666
Email: cberg@nd.gov

TRIBAL CONTACTS:

Northern Cheyenne Tribe, Tribal Historic Preservation Officer (THPO)
Name: Teanna Limpy
Address: PO Box 128, Lame Deer, MT 59043
Phone: 406-477-4839
Email: teanna.limpy@cheyennenation.com

Three Affiliated Tribe of the Fort Berthold Reservation, THPO
Name: Pete Coffey
Address: 404 Frontage Road, New Town, ND 5863-9404
Phone: 701-862-247
Email: pcoffey@mhanation.com

Assiniboine and Sioux Tribes of the Fort Peck Reservation, THPO

Name: Dyan Youpee
Address: PO Box 1027, Poplar, MT 59255
Phone: 406-768-2382
Email: d.youpee@fortpecktribes.net

Rosebud Sioux Tribe, THPO
Name: Ben Rhodd
Address: PO Box 809, Rosebud, SD 57570
Phone: 605-747-4255
Email: brodd1@yahoo.com

Fort Belknap Indian Community, THPO
Name: Michael Black Wolf
Address: 656 Agency Main Street, Harlem, MT 59526
Phone: 406-353-2295
Email: mblackwolf@ftbelknap.org

Oglala Sioux Tribe, THPO
Name: Tom Brings
Address: PO Box 320, Pine Ridge, SD 57770-2070
Phone: 605-867-5624
Email: To be determined

LOCAL LAW ENFORCEMENT CONTACTS:

Burke County Sheriff
Name: Shawn Brien
Address: 103 Railway Street SE, Bowbells, ND 58721
Phone: 701-377-2311
Email: To be determined

Mountrail County Sheriff
Name: Corey Bristol
Address: 101 N Main St, Stanley, ND 58784
Phone: 701-628-2975
Email: coreyb@co.mountrail.nd.us

Williams County Sheriff
Name: Verlan Kvande
Address: 223 East Broadway, Williston, ND 58801
Phone: 701-577-7700
Email: sheriff@co.williams.nd.us

McKenzie County Sheriff
Name: Matthew Johansen
Address: 1201 12th Street SE, Suite B, Watford City, ND 58854
Phone: 701-444-3654
Email: To be determined

NORTH BAKKEN EXPANSION PROJECT

Plan for Unanticipated Discovery of Historic Properties or Human Remains During Construction

Attachment A
U.S. Army Corps of Engineers, Omaha District
Discovery of Human Remains

US Army Corps
of Engineers
Omaha District

DISCOVERY OF HUMAN REMAINS

If you suspect that you have found human remains on property managed by the Corps of Engineers, please follow these steps:

1. Do not collect or move the remains.
2. Visually mark your location. The exact location is very important.
3. Take a photo or GPS point, if you have the equipment available.
4. If the remains are in danger of being damaged or removed by others, try to camouflage the remains with vegetation, sand, soil, etc.
5. Call the Omaha District Hotline at 888-761-2772. You will be asked a series of questions and your discovery will be logged. The hotline operator will contact Rick Rogers, Sandy Barnum and Julie Price. One of these individuals will contact you as soon as possible. Have maps and photos ready to email.
6. A site visit may be needed, and you may be asked to accompany an archeologist to the site.
7. The archeologist will follow the necessary steps to properly protect the remains.

HOTLINE: 888-761-2772

NORTH BAKKEN EXPANSION PROJECT

Plan for Unanticipated Discovery of Historic Properties or Human Remains During Construction

Attachment B
U.S. Forest Service, Northern Region
Unanticipated Discovery Plan and
Discovery of Human Remains Protocols

Unanticipated Discovery Plan and Discovery of Human Remains Protocols

Northern Region, USDA Forest Service

If unanticipated cultural resources or human remains are identified during project activity and construction, Northern Region forests and grasslands will ensure that the agency and its agents (contractors, cooperators) comply with the following protocols. These protocols are based on federal law, regulation and Forest Service Manual (FSM) policy and direction.

Unanticipated Discovery of Cultural Resources (see FSM 2364.13)

1. Forest Service line officer (Forest Supervisor, District Ranger) or delegated staff will:

   A. Cease all project activity within (at minimum) 100ft of the unanticipated discovery until after the affected cultural resource(s) is evaluated and adverse effects to the cultural resource have been avoided, minimized, or mitigated.

   B. Notify the Contracting Officer of work-stoppage if this discovery was caused by a contractor or cooperator. Ensure that the appropriate contracting procedures are being followed.

   C. Protect the discovery from further damage, theft, or removal. Leave all artifacts and cultural materials in place. Involve law enforcement as necessary.

   D. Follow the protocols below if the discovery involves human remains.

   E. Follow the requirements of NAGPRA if associated or unassociated funerary objects or objects of cultural patrimony are discovered.

   F. Involve FS Law Enforcement if the unanticipated discovery also involves deliberate removal or destruction of cultural resources.

   G. Allow resumption of work only following resolution of the discovery incident. In most cases, this decision will be the District Ranger, but when human remains are involved the Forest Supervisor will make this decision.

2. Forest Heritage Program Leader, or delegated heritage program staff, will:

   A. Document the unanticipated discovery using appropriate site recordation procedures and forms. This should include, but is not limited to, documenting exposed artifacts and features; mapping the extent of artifacts, features, and cultural horizons; and documenting natural and cultural stratigraphy in open trenches or pits.

   B. Notify the SHPO, tribes, and other consulting parties, including any cultural resource consultants assigned to the project as appropriate.

   C. Evaluate the cultural resources for National Register of Historic Places (NR) eligibility. Testing will be limited to a sufficient level needed to provide a recommendation of NR eligibility. Funding to support evaluation may provided by benefiting function (or the cause of unanticipated discovery).

1) If the affected cultural resource is eligible for the NR, the heritage program leader will consult with the SHPO, tribes and consulting parties about measures to avoid, minimize, or mitigate further effects to the NR eligible cultural resource. Mitigation measures will be contingent on the type and extent of the disturbed resource, the extent of the adverse effect, and whether or not it is possible to avoid any further effects.

2) If the affected cultural resource is determined to be NR-ineligible, with SHPO concurrence, work may resume with appropriate monitoring for further cultural resource disturbances.

3) If NR evaluation is not possible due to circumstances beyond control, the affected cultural resource will be treated as NR eligible in accordance with FSM 2363.22.

D. Develop an action plan, mitigation plan, or emergency treatment plan for the affected cultural resources if the cultural resource is NR eligible or is being treated as eligible absent formal evaluation. Fund the action plan and necessary emergency treatment or mitigation work via benefiting function or heritage program contingent on the cause and nature of the discovery.

E. Document the unanticipated discovery in annual reports to the SHPO under programmatic agreements, and include an Event record in Infra, as appropriate.

<u>Discovery of Human Remains (FSM 2361.3 and 2364.1)</u>

Heritage professionals are often the first point of contact when human remains are discovered on National Forest System land. Advise the appropriate line officer to follow State burial laws or and these protocols.

1. Forest Service line officer (Forest Supervisor, District Ranger) or delegated staff will:

   A. Ensure that all discovered human remains are treated with dignity and respect. Viewing and photographing exposed human remains by agency employees is generally an affront to American Indian peoples and may compromise forensic or law enforcement efforts.

   B. Ensure that the discovery area is secure the area; leave human remains in place; cease project activity as necessary until a plan of action is developed and; involve law enforcement as necessary

   C. Allow resumption of work only when the disposition of the human remains is determined and a written binding agreement is executed between the necessary parties in accordance with 43 CFR Part 10.4(e).

2. Forest Heritage Program Leader or delegated heritage program staff will:

   A. Promptly notify SHPO, the appropriate Indian tribe(s), and the County Coroner/Medical Examiner, who will officially determine the nature of the remains (forensic or archaeological).

      1) If the remains are not forensic and non-Native American, leave the remains in place and assist in the development of a plan for avoidance (in place preservation) or removal. Consult with SHPO and other interested parties as appropriate.

2) If the remains are not forensic and Native American, ensure that NAGPRA regulations at Section 10.4 of Title 43, Code of Federal Regulations, Part 10, are followed. Notify the appropriate Indian tribe(s) by telephone followed by written confirmation as soon as practicable. Develop an Action Plan for disposition of Human Remains.

3) If the remains are forensic, Forest Service law enforcement and/or the County Coroner/Medical Examiner take control of the situation.

B. Coordinate and communicate with the Line Officer, forest staff, tribes, SHPO, and consulting contractors regarding progress and status of human remains discovery incident, as necessary and appropriate. Otherwise, treat this information as confidential.

C. Document the human remains incidents in annual reports to the SHPO under programmatic agreements, and include an Event record in Infra, as appropriate. Specifics of the discovery incident may be inappropriate but a general summary is important since these incidents are important to track.

WBI ENERGY TRANSMISSION, INC.

North Bakken Expansion Project

Plan for Unanticipated Discovery of Paleontological Resources During Construction

Final

Docket No.
CP20-____-000

February 2020

WBI ENERGY TRANSMISSION, INC.
NORTH BAKKEN EXPANSION PROJECT
PLAN FOR UNANTICIPATED DISCOVERY OF PALEONTOLOGICAL RESOURCES DURING CONSTRUCTION

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ACRONYMS AND ABBREVIATIONS

EI	Environmental Inspector
Project	North Bakken Expansion Project
WBI Energy	WBI Energy Transmission, Inc.

1.0 INTRODUCTION

This Plan for Unanticipated Discovery of Paleontological Resources during Construction was prepared for WBI Energy Transmission, Inc.'s (WBI Energy) proposed North Bakken Expansion Project (Project). This plan identifies procedures to be implemented in the event that previously unreported and unanticipated paleontological resources are found during construction of the Project.

2.0 TRAINING

Prior to the commencement of construction, WBI Energy and contractor personnel will receive environmental training that will include instruction on the identification of paleontological resources and implementation of the procedures outlined in this plan.

3.0 UNANTICIPATED DISCOVERY OF PALEONTOLOGICAL RESOURCES

Paleontological resources on land owned by the State of North Dakota and its political subdivisions are protected and managed under Chapters 54-17.3 and 43-04 of the North Dakota Century Code and North Dakota Administrative Code, respectively. A permit is required to investigate, excavate, collect, or otherwise record paleontological resources on these lands (North Dakota Geological Survey, 2016). North Dakota Century Code Chapter 54-17.3-05 requires the reporting of all quaternary paleontological finds that potentially or actually contain cultural resources to the state historical society in addition to the State Geologist (State of North Dakota, 2016).

Paleontological resources on U.S. Army Corps of Engineers and U.S. Forest Service lands are protected under the Paleontological Resources Preservation Act per Title 36 of the Code of Federal Regulations Part 291.1. WBI Energy obtained an Archaeological Resources Protection Act permit, which is required to conduct paleontological surveys within U.S. Forest Service and U.S. Army Corps of Engineers lands. These surveys are anticipated to begin in November 2019.

WBI Energy will implement the following procedures if paleontological resources are discovered during construction on federal, state, or private lands:

1. The contractor will stop work in the immediate area of the find to protect the integrity of the find.

2. The contractor will notify WBI Energy's Environmental Inspector (EI) of the find. The contractor will not restart work in the area of the find until approved by the EI.

Environmental Inspector:
Name To be determined
Cell: To be determined
Email: To be determined

3. The EI will notify WBI Energy's Designated Representative. The representative will notify the Federal Energy Regulatory Commission Project Manager of the find.

WBI Energy Designated Representative:
Name: Greg Huncovsky
Address: 2010 Montana Avenue, Glendive, MT 59330
Phone: 406-359-7451
Cell: 406-989-1068
Email: Greg.Huncovsky@WBIEnergy.com

Federal Energy Regulatory Commission Project Manager:
Name: Arianne Balsam
Address: 888 First Street, Washington, DC 20426
Phone: 202-502-6856
Email: arianne.balsom@ferc.gov

4. The EI will confirm the presence of paleontological resources. Upon confirmation, the EI will photograph representative specimens of fossils identified at the site. The EI will prepare a brief written description that identifies the location of the potential fossil material along the route, the depth and apparent thickness of the stratum containing the fossil material, local topography, and other pertinent conditions or observations.

5. If the paleontological resources are identified on federally owned land, the WBI Energy Designated Representative will notify the U.S. Army Corps of Engineers or U.S. Forest Service representative in order to determine if a permit will be required to investigate, excavate, collect, or otherwise record the fossil resources.

U.S. Army Corp of Engineers:
Name: Richard Rogers
Address: 201 1st Street, Room 210
Phone: 701-654-7744
Email: richard.r.rogers@usace.army.mil

U.S. Forest Service:
Name: To be determined
Address: To be determined
Phone: To be determined
Email: To be determined

6. If the paleontological resources are identified on state-owned land, the WBI Energy Designated Representative will notify the North Dakota Geological Survey in order to determine if a North Dakota Paleontological Resource Collecting Permit will be required to investigate, excavate, collect, or otherwise record the fossil resources.

North Dakota Geological Survey:
Name: Jeff Person, Paleontologist
Phone: 701-328-8000
Email: jjperson@nd.gov

7. The WBI Energy Designated Representative will notify the State Geologist and, upon request, provide copies of the written and photographic documentation of the paleontological materials.

   State Geologist: Edward Murphy
   Phone: 701-328-8000
   Email: emurphy@nd.gov

8. Once documentation of the find is completed, WBI Energy's Designated Representative will direct the EI to grant clearance to the contractor to resume work in the vicinity of the site.



WBI ENERGY TRANSMISSION, INC.

North Bakken Expansion Project

Horizontal Directional Drill/Guided Bore Drilling Fluid Monitoring and Operations Plan

Final

Docket No.
CP20-___-000

February 2020

WBI ENERGY TRANSMISSION, INC.
NORTH BAKKEN EXPANSION PROJECT
HORIZONTAL DIRECTIONAL DRILL/GUIDED BORE
DRILLING FLUID MONITORING AND OPERATIONS PLAN

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Attachment A Lake Sakakawea 24-inch HDD [Horizontal Directional Drill] Crossing Feasibility Memo, Prepared by CCI & Associates Inc.

Attachment B Land Based Geotech Soil Boring Logs

Attachment C Draft Detailed Scaled Horizontal Directional Drill Plan and Profile Drawings (*Final to be provided with a future draft of this plan*)

Attachment D Drilling Fluid Additive Safety Datasheets (*to be provided with a future draft of this plan*)

ACRONYMS ABD ABBREVIATIONS

CCI	CCI & Associates Inc.
EI	environmental inspector
FERC	Federal Energy Regulatory Commission
HDD	horizontal directional drill
HDD Plan	Horizontal Directional Drill Monitoring, Inadvertent Return Response, and Contingency Plan
Project	North Bakken Expansion Project
WBI Energy	WBI Energy Transmission, Inc.

1.0 INTRODUCTION

This *Horizontal Directional Drill/Guided Bore Drilling Fluid Monitoring and Operations Plan* (HDD Plan) describes procedures that WBI Energy Transmission, Inc. (WBI Energy) and its contractors will follow during horizontal directional drill (HDD) and guided bore crossings associated with the proposed North Bakken Expansion Project (Project). The intent of the HDD Plan is to identify procedures to be implemented that minimize environmental impacts in the event that an inadvertent return of drilling fluids occurs during Project construction. The HDD Plan communicates the roles and responsibilities of personnel involved with the HDD/guided bores, provides monitoring procedures, and describes contingency plans in the event of an unsuccessful HDD/guided bore. *[Note: An updated version of this plan will be filed with the Federal Energy Regulatory Commission (FERC) as more detailed information is finalized.]*

1.1 DESCRIPTION OF LAKE SAKAKAWEA HORIZONTAL DIRECTIONAL DRILL

As part of the Project, WBI Energy proposes to install a 24-inch-diameter natural gas pipeline, referred to as the Tioga-Elkhorn Creek pipeline, beneath Lake Sakakawea using the HDD intersect method in Williams and McKenzie Counties, North Dakota. Table 1.1-1 provides additional details regarding the Lake Sakakawea HDD crossing.

TABLE 1.1-1

North Bakken Expansion Project
Proposed Lake Sakakawea Horizontal Directional Drill Crossing Details

Crossing Name	Estimated Stream Flow During Crossing (cubic feet per second)	Southern Entry (milepost)	Northern Entry (milepost)	Total Length (feet)	Elevation Difference (feet)	Depth of Cover (feet)	Horizontal Setback Distance (Southern Entry/Northern Entry feet)	Subsurface Material
Lake Sakakawea	*TBD*	25.8	22.9	15,371	38.5	*TBD* (estimated at approximately 300 feet)	2,100/ 800	Sand, silt, lean/fat clay, weathered shale, and coal/lignite

CCI & Associates Inc. (CCI) evaluated the feasibility of the proposed HDD crossing of Lake Sakakawea in August 2019. CCI determined that the proposed HDD crossing was feasible based on results of available land-based geotechnical borings and stress analysis. A memo summarizing the results of the feasibility analysis and a preliminary plan and profile drawing is provided in attachment A.

Three land-based geotechnical borings were completed (two near the southern entry site and one near the northern entry site) to depths of between 370 and 400 feet below ground surface. Results of the analysis indicate that the soil types in the area are associated with the Sentinel Butte formation and consist of alluvial deposits, such as poorly graded sands, silt, and clay, and layers of highly weathered shale and coal/lignite beds. Six additional water-based geotechnical borings are planned along the proposed alignment, with a target depth of at least 20 feet below the maximum drill depth. The soil boring logs results from the three land based borings are provided in attachment B.

Based on available information, two water wells are located within 0.25 mile of the southern entry location. The preliminary HDD construction plan and profile drawing provides the locations of the nearby wells (see attachment A). *[Note: The detailed scaled construction plans, crossing profile, and information regarding features that may increase the potential for an inadvertent return are currently pending and will be provided in a future draft of this plan. Draft Detailed Scaled Horizontal Directional Drill Plan and Profile Drawings are provided in attachment C*]

2.0 PERSONNEL AND RESPONSIBILITIES

This section lists the personnel that will be involved with planning and performing the HDD and guided bores, and specifies the responsibilities of WBI Energy and its contractors. Qualified contractors will be retained for completion of HDD and guided bore activities associated with the Project. The contractors (hereafter collectively referred to as "HDD Contractors") will be trained and knowledgeable of requirements and procedures outlined in this HDD Plan. Environmental inspectors (EI) will work with the HDD Contractors to monitor drilling activities and conduct inspections for potential signs of inadvertent returns. The EI will work with WBI Energy personnel to notify regulatory and/or resource agency staff of any releases that occur. More detailed descriptions of the roles and responsibilities of personnel involved in HDD/guided bore activities are described below.

- HDD Contractors – The HDD Contractors will be responsible for overall operation and monitoring of drill equipment and drilling conditions. The HDD Contractors must be trained and knowledgeable of the requirements and procedures described in this HDD Plan. The HDD Contractors will continually monitor drilling conditions and maintain the records described in this HDD Plan. The HDD Contractors are responsible for communicating loss of drilling fluid circulation and stopping or changing the drill program in the event of an observed or anticipated inadvertent return. *[Note: The HDD Contractor information is currently pending and will be provided with a future draft of this plan.]*

- Environmental Inspector – The EI, in conjunction with the HDD Contractors, will periodically visually inspect the bore alignment for signs of inadvertent returns. In the event of an inadvertent return, the EI will work with the HDD Contractors to implement the remediation activities described in this HDD Plan. The EI will report any inadvertent returns to the designated WBI Energy Representative and work with the WBI Energy Representative to notify regulatory and/or resource agencies of the inadvertent return, as required. The EI will document response and remediation actions taken for the inadvertent return.

- WBI Energy Representative – A designated WBI Energy Representative will be responsible for notifying regulatory and/or resource agencies of inadvertent returns, as required, and working with the agencies, HDD Contractors, EIs, and other Project personnel, as appropriate, to develop and implement any corrective actions associated with an inadvertent return.

3.0 PRECONSTRUCTION ACTIVITIES

3.1 TRAINING

Prior to initiation of Project activities, all contractors and WBI Energy personnel involved in Project construction will be required to attend formal environmental training. The training will include review of the elements and procedures described in this HDD Plan. The WBI Energy Representative will maintain documentation of training topics and personnel in attendance. The EI will provide subsequent training to personnel who arrive on the Project during construction. The level of training received will be commensurate with the roles and responsibilities of the individuals, and will focus on measures to be implemented to minimize risk of an inadvertent return, HDD/guided bore-specific health and safety topics, and inadvertent return containment equipment and materials.

Additional training will be completed in the event that personnel changes or conditions change that affect the implementation of the HDD/guided bore (e.g., weather, scope changes).

3.2 INSPECTION

HDD Contractor personnel and the EI will inspect the land-based portions of the drill path prior to construction to identify any conditions that would impede the visual and pedestrian field inspection and develop modifications to the inspection routine, as needed.

3.3 NOTIFICATION PROCEDURES

3.3.1 Landowner Notification

Prior to commencing the HDD/guided bore, landowners will be notified in writing of the upcoming construction, which will include the anticipated HDD start and end dates, planned access routes to the construction sites, and contact information for WBI Energy personnel. Landowner permission will be obtained prior to conducting the pedestrian survey and land-based inspection of the drill path.

3.3.2 Agency Notification

WBI Energy will notify appropriate agencies, including FERC, the U.S. Army Corps of Engineers, and state agencies, prior to the commencement of the HDD crossing of Lake Sakakawea in accordance with agency requirements. The notification will include the anticipated duration of drilling and contact information for appropriate WBI Energy personnel.

4.0 DOCUMENTATION

This HDD Plan will be available and accessible to all personnel on site during HDD and guided bore activities. Additional documentation that will be available and accessible on site is described in table 4-1.

TABLE 4-1

North Bakken Expansion Project
Documentation to Be Available/Accessible On Site

Procedure	Responsible Party	Documentation
Employee Training	WBI Energy Representative and EI	Record of employee training detailing when training was conducted, material covered, and employees in attendance.
Visual Monitoring	HDD Contractor and EI	Record name of inspector, time of inspection, and observations for each inspection.
Instrument Logs	HDD Contractor	Logs that document pilot hole progression, drill string axial and torsional loads, annulus pressures, and drilling fluid discharge rate and pressure.
Drilling Fluid Composition	HDD Contractor	Logs of drilling fluid composition and physical properties throughout drilling activities. Safety Data Sheets for drilling fluid and any additives will be maintained.
Public and Agency Correspondence	WBI Energy Representative and EI	Records of communication with the public and agencies and any response actions taken if required.

A summary of HDD/guided bore activities will be included in construction status reports provided to the FERC.

5.0 DRILLING FLUID MANAGEMENT

Drilling fluid (also referred to as drilling mud) will consist of water mixed with in-situ material and/or bentonite, a non-toxic, naturally occurring sedimentary clay. Although not currently proposed, there is potential that the HDD Contractors may propose to use drilling fluid additives. Drilling fluid additives used during construction will be limited to non-petrochemical-based, non-hazardous additives currently certified to the American National Standards Institute/National Sanitation Foundation International Standard 60. Use of additives other than those certified to the American National Standards Institute/National Sanitation Foundation International Standard 60 would not be allowed unless approved by appropriate regulatory authorities. In addition, use of any drilling fluid additive or lost circulation material that has not been previously disclosed would require advance notification to and approval by FERC. Documentation of the composition and properties of all drilling fluids to be used will be maintained at the job site and available for review by WBI Energy and the EI, as well as by any jurisdictional authorities. No fluid additives will be used that do not comply with the permit requirements and environmental regulations applicable to the Project.

[Note: Additional information regarding sources of drilling water and laboratory analysis (as applicable), drilling fluid additives and Safety Data Sheets (attachment D), anticipated volumes, and drilling fluid disposal will be provided in a future draft of this plan.]

6.0 DRILLING OPERATIONAL CONDITIONS AND MONITORING AND RESPONSE ACTIONS

Table 6-1 provides an overview of the drilling operational conditions and corresponding monitoring and response actions. Subsequent sections of this HDD Plan provide details regarding each of the three conditions identified in table 6-1. Although some of this information is specific to Lake Sakakawea, the same general procedures will apply to the proposed guided bore crossings.

TABLE 6-1

North Bakken Expansion Project
Overview of Drilling Operational Conditions and Monitoring and Response Actions

Condition	Status	Actions
Condition 1: Normal Drilling Conditions	Normal drilling fluid circulation is maintained	• Perform routine collection of drilling fluid at endpoints. • Perform routine drilling data collection. • Conduct routine visual monitoring.
Condition 2: Loss of Circulation	Loss, or significant reduction, of drilling fluid circulation	• Discontinue drilling; continue pumping and rotating, and slowly swab the drill string, if appropriate. • Notify the EI. • Adjust drilling fluid and parameters in an effort to regain circulation. • Perform focused visual monitoring. • Continue drilling if no release to surface is detected.
Condition 3: Drilling Fluid Release and Remediation	Drilling fluid release to surface or Lake Sakakawea is confirmed	• Notify EI and the WBI Energy Representative. • Notify regulatory agencies and authorities having jurisdiction. • Discontinue pumping; continue rotating and slowly swab the drill string, if appropriate. • Monitor and document the release area. • Contain and collect the release, if practical. • If the release is contained and collected, resume pumping and drilling. • If containment and collection is not practical, suspend HDD operations. • WBI Energy, in consultation with jurisdictional authorities, will issue a notice to proceed, notice to relocate, or notice to shut down.

6.1 CONDITION 1 – NORMAL DRILLING CONDITIONS

6.1.1 Drilling Operations

Documentation of the composition and properties of all drilling fluids to be used will be maintained at the job site and will be available for review by WBI Energy, its designated representative, and the EI, as well as by authorities having jurisdiction. Documentation shall include complete manufacturer's literature and Safety Data Sheets. No fluid will be used that does not comply with permit requirements and environmental regulations.

The HDD Contractor shall maximize reuse of drilling fluid surface returns by providing solids control and fluid cleaning equipment of a configuration and capacity that can process surface returns and produce drilling fluid suitable for reuse.

The HDD Contractor shall provide and maintain instrumentation that will accurately locate the pilot hole, measure drill string axial and torsional loads, and measure drilling fluid discharge rate and pressure. Drilling fluid pressure can only be monitored during drilling of the pilot hole. During reaming and swab passes, drilling fluid pressure is negligible due to the open ends of the drill path. WBI Energy and its designated representatives will have access to these instruments and readings at all times. If requested, WBI Energy will provide this information to regulatory agencies having jurisdiction. A log of all recorded readings shall be maintained at the drill rig site and will become a part of the "As-Built" information to be supplied by the HDD Contractor.

6.1.2 Routine Monitoring

Routine monitoring under Condition 1 will consist of a visual examination by HDD Contractor personnel or the EI along the drilled alignment, including observing for turbidity plumes within Lake Sakakawea. These examinations will be made periodically on a time interval not to exceed 4 hours and may be curtailed during hours of darkness. If a sudden loss in drilling fluid pressure is detected, powerboats, unmanned drones, and/or other aerial or over-water equipment will be used to observe and monitor for turbidity plumes at the surface of Lake Sakakawea during the HDD crossing. The HDD Contractor personnel or EI will have appropriate operational communication equipment (e.g., radio, cell phone) available at all times while observing the installation of the HDD crossing. The name of the examiner, time of the examination, and observations shall be kept in a log at the rig site and will be available for inspection by WBI Energy and its designated representatives. Upon request, WBI Energy will also make the logs available to the regulatory agencies having jurisdiction.

If loss of circulation and possible release of drilling fluid to the surface is detected, Condition 2 will be implemented.

6.2 CONDITION 2 – LOSS OF CIRCULATION

6.2.1 Drilling Operations

The following procedures shall be implemented if a loss, or significant reduction, of drilling fluid circulation occurs:

- Discontinue drilling or reaming activities. Continue pumping and rotating, and slowly swab the drill string, if appropriate. Swabbing involves withdrawing the drill string to mechanically clean the drilled hole and reduces chances of the drill string getting stuck.
- The HDD contractor shall immediately notify the EI. The EI will document that operations are continuing under Condition 2 in the daily report and notify the WBI Energy representative as necessary.
- The HDD contractor shall immediately take steps to restore circulation. These steps shall include, but are not limited to, the following:
    - Adjust drilling fluid properties and parameters to encourage annular flow by specifically weighting up or down, increasing viscosity, or adding lost circulation material (walnut shells, mica, or other additives to promote circulation) to plug the seam where fluid is being lost. Flow shall be maintained such that annular velocities promote returns to the drilling pits.
    - At the HDD Contractor's option, employ lost circulation material as long as such materials have been approved by WBI Energy and comply with permit requirements and environmental regulations.
- Perform focused monitoring along the drill path for drilling fluid release to surface.
- If circulation is restored or drilling fluid is not observed at surface, drilling will continue under Condition 2 for a period of not less than 8 drilling hours. If a release

is not identified and loss, or significant reduction, of drilling fluid circulation does not occur, the HDD Contractor shall notify the EI that drilling under Condition 1 has resumed. The EI will document that drilling under Condition 1 has resumed.

- If drilling fluid release is identified through focused monitoring, Condition 3 shall be implemented.
- If circulation cannot be restored, the HDD contractor shall notify the EI and WBI Energy and continue drilling under Condition 2.

6.2.2 Focused Monitoring

Focused monitoring under Condition 2 will consist of continuous visual observation along the drilled alignment by HDD Contractor personnel and/or the EI with no other jobsite responsibilities. Focused monitoring will take place over the minimum 8-hour Condition 2 drilling timeline, as indicated above. The time and results of drilled alignment observations shall be kept in a log at the rig site and shall be available for inspection by WBI Energy and its designated representatives. Upon request, WBI Energy will also make the logs available to the regulatory agencies having jurisdiction. If a drilling fluid release to the surface is detected, Condition 3 shall be implemented.

6.3 CONDITION 3 – DRILLING FLUID RELEASE AND REMEDIATION

6.3.1 Drilling Operations

The following procedures will be implemented if a drilling fluid release to the surface is detected:

- The HDD Contractor will cease drilling immediately and notify the EI. The EI will document the location of the release as well as the containment and cleanup of the release in the daily report. WBI Energy will be notified immediately of any releases into Lake Sakakawea or other sensitive areas, or if a release threatens to enter these areas.
- In the event of a release into Lake Sakakawea, WBI Energy shall immediately notify the following *[names and contact information to be provided in a future draft of this plan*]:

TABLE 6.3.1-1

North Bakken Expansion Project
Inadvertent Release Notification Information

Agency	Name	Phone Number
FERC	*TBD*	*TBD*
U.S. Army Corps of Engineers	*TBD*	*TBD*
U.S. Fish and Wildlife Service	*TBD*	*TBD*
Department of Health, Division of Water Quality	*TBD*	*TBD*
State Water Commission	*TBD*	*TBD*
Game and Fish Department	*TBD*	*TBD*

- The HDD contractor will discontinue pumping, and will rotate and slowly swab the drill string, if appropriate. Swabbing involves withdrawing the drill string to mechanically clean the drilled hole and reduces chances of the drill string getting stuck.

- If public health and safety are threatened by the inadvertent release, drilling operations will be shut down until the threat is eliminated.

- If the release occurs on land, it shall be contained with hand-placed barriers (e.g., hay bales, sand bags, silt fences) and collected for disposal or reuse. If the amount of the release exceeds that which can be contained with hand-placed barriers, small excavated collection sumps (less than 5 cubic yards) may be used. Pumping and drilling may continue under Condition 2 as long as the release is being contained and collected.

- If the amount of the release occurring on land exceeds that which can be contained and collected using small sumps, drilling operations shall be suspended until released volumes can be brought under control.

- Due to the size of Lake Sakakawea, it is considered generally ineffective and unfeasible to contain drilling fluids that may be released into the waterbody. If the release occurs directly into Lake Sakakawea, natural river currents would dissipate the drilling fluid such that, depending on the fluid volume, it is not anticipated that a release would significantly increase the natural turbidity of Lake Sakakawea. Bentonite would be suspended in the water column and then settle out downstream. However, if the EI determines that the turbidity plume would adversely affect sensitive resources or the plume is excessively large, a floating turbidity curtain or floating silt booms may be implemented over the release to contain the fluid and facilitate settling of the suspended solids. In those areas that can be contained, the underwater release will be collected using pumps.

- If the release occurs near a potable water source or water well, the HDD Contractor will test the water quality and yield for the water well owner, and will provide an alternate supply of water to affected landowners until the water source or well is repaired. Water well repairs will occur at WBI Energy's expense.

- If the amount of any drilling fluid release on land exceeds that which can be practically contained and collected, or if a turbidity plume within Lake Sakakawea is observed to be excessively large, drilling operations shall be suspended and the HDD Contractor will notify WBI Energy that drilling cannot continue without a continuous release of drilling fluid. WBI Energy, in consultation with jurisdictional authorities, will then issue a notice to proceed or issue a notice to shut down until further notice.

- If impacts are noted to be occurring to fish or wildlife due to exposure to released drilling fluids, drilling operations shall be suspended and the HDD Contractor will notify WBI Energy immediately. WBI Energy, in consultation with jurisdictional authorities, will issue a notice to proceed or issue a notice to shut down until further notice.

6.3.2 Focused Monitoring

Focused monitoring under Condition 3 will consist of continuous visual observation along the drilled alignment and at any and all release areas. Focused monitoring shall be conducted by HDD Contractor personnel and/or the EI with no other jobsite responsibilities. The time and results of the focused monitoring observations shall be kept in a written log at the jobsite and shall be available for inspection by WBI Energy and its designated representatives. Upon request, WBI Energy will also make the logs available to the regulatory agencies having jurisdiction.

7.0 RESPONDING TO INADVERTENT RETURNS

7.1 MATERIALS AND EQUIPMENT

Materials that will be stored on site in the event of an inadvertent return include the following:

- wood stakes,
- sandbags;
- plastic sheeting;
- spill sorbent pads and booms;
- certified weed-free straw bales;
- silt fence;
- corrugated plastic pipe;
- shovels; and
- push brooms.

Mechanical equipment that will be either immediately available or staged on site in case of an inadvertent return include:

- vacuum truck;
- centrifugal, trash, and sup pumps;
- rubber-tired or wide-track backhoe;
- storage tanks;
- floating turbidity curtains;
- powerboats, unmanned drones, or other means of monitoring the lake surface; and
- skidsteer, as needed.

7.2 RETURNS WITHIN CERTIFICATED WORKSPACE

Containment and cleanup of returns within uplands and wetlands within the certificated workspace will occur immediately following the discovery. Contractor personnel will utilize the materials described above to contain and control the spread of any released drilling fluid. Drilling fluid will generally be cleaned by hand using hand shovels, buckets, and soft-bristled brooms

where possible to avoid damage to existing vegetation. In heavily impacted areas, mechanized equipment may be utilized and restoration techniques will be implemented in accordance with FERC's *Upland Erosion Control, Revegetation, and Maintenance Plan* and *Wetland and Waterbody Construction and Mitigation Procedure*s. Fresh water washes will also be employed if deemed beneficial and feasible. Material will be collected in containers for temporary storage prior to removal from the site.

7.3 RETURNS OUTSIDE CERTIFICATED WORKSPACE

Should an inadvertent return be discovered outside of certificated workspace, WBI Energy will attempt to gather landowner permission, obtain all required environmental clearances, and seek a FERC variance in order to access the impacted area as soon as possible. WBI Energy plans to consult with adjacent landowners prior to construction in order to limit downtime during drilling operations and expedite the environmental response. For the Lake Sakakawea HDD, WBI Energy plans to expand its biological and cultural field survey corridor in areas adjacent to the drill rig entry locations and pre-prepare variance request forms (to be submitted to FERC, as necessary) to expedite access to potential inadvertent returns.

8.0 RESTORATION

If an inadvertent return were to occur, the HDD Plan will be implemented to contain and recover the drilling fluid. Areas that were affected by the inadvertent return will be restored to preconstruction conditions to the extent practicable in accordance with FERC's *Upland Erosion Control, Revegetation, and Maintenance Plan* and *Wetland and Waterbody Construction and Mitigation Procedures* and the proposed modifications described in table 1.3-1 of Resource Report 1, and the restoration plans prepared for the Project (appendix 1F of Resource Report 1).

9.0 CONTINGENCY PLANNING

If the actions described above do not address the issue, WBI Energy may opt to implement mitigation measures, select a new drill path, or abandon the drill and consider alternate crossing measures. Abandonment procedures and alternative crossing measures will be discussed with appropriate permitting and regulatory agencies, and required approvals will be obtained prior to implementing alternative crossing measures.

9.1 MITIGATION MEASURES

Before identifying alternative crossing locations or techniques, an attempt will be made to identify and assess the reason for the drill failure and implement measures to reduce additional inadvertent returns. Potential mitigation measures include:

- utilize surface (conductor) casing(s);
- use the intersect drill method;
- pre-grout permeable ground or fractured rock;
- install relief wells to provide a preferential pathway for drilling fluids to migrate to the surface; and/or

- plan for use of special drilling fluids, viscosity, pressure, and/or drill speed.

9.2 NEW DRILL PATH

Depending on the nature of the problem, WBI Energy may choose to select a new drill path that mitigates the cause of the problem. This would result in an altered alignment or depth of drill path, which may retain sections of the original drilled path that are not at risk to the problem. For any section of abandoned hole, the abandonment procedures identified in section 9.3 below would apply only to the abandoned section of the hole.

9.3 ABANDONMENT

In the event a drill hole is to be abandoned, the following procedures will be implemented:

- heavy drilling mud or cement mixture will be pumped into the hole as the drill assembly is extracted to seal the abandoned drill hole; and

- the drill end points will be cut and sealed within approximately 5 feet of the surface, filled with soil, and graded to the original contour.

9.4 ALTERNATIVE CROSSING METHODS

WBI Energy's preferred crossing method of Lake Sakakawea is via HDD; however, in the event that the above options have been exhausted WBI Energy is committed to completing the Project in an effective and timely manner and will consider alternative crossing options. In developing an appropriate alternative to the Lake Sakakawea HDD crossing or the proposed guided bores, consideration will be given to:

- stream bank type, flow width, depth, velocity, and flow volume;
- surrounding topography;
- lakebed substrate;
- condition of riparian areas;
- condition and extent of wetlands, if any, on each side of the crossing; and
- aquatic biota.

These and other factors will be considered and discussed with the appropriate regulatory agencies to minimize environmental impact and secure appropriate approvals. WBI Energy will conduct a site-specific analysis to select other feasible crossing methods that do not utilize the HDD method. This could include a new route alignment, trenching and backfilling the pipeline across the lake bed (using plowing, jetting, or conventional bucket dredging), direct-lay, and/or utilizing concrete coating or articulated block mattresses. Final selection of an alternative crossing method will be submitted to FERC and other jurisdictional agencies with supporting data.

NORTH BAKKEN EXPANSION PROJECT

Horizontal Directional Drill/Guided Bore Drilling Fluid Monitoring and Operations Plan

Attachment A
Lake Sakakawea 24-inch HDD [Horizontal Directional Drill] Crossing Feasibility Memo, Prepared by CCI & Associates Inc.

CCI & Associates Inc.

To:	**WBI Energy Transmission**
From:	**CCI & Associates Inc.**
Date:	August 1, 2019
Re:	**North Bakken Expansion – Lake Sakakawea 24-inch HDD Crossing**
CCI #	**2386-01-FEASIBILITY MEMO-Lake Sakakawea NPS 24 HDD-00**

Introduction:

WBI Energy Transmission, Inc. (WBI) is proposing to construct a pipeline crossing of Lake Sakakawea within North Dakota, between the cities of Tioga and Watford City. WBI is proposing that the lake crossing be completed utilizing horizontal directional drilling (HDD) methodologies, if proven technically feasible.

In response to a request from WBI, CCI & Associates Inc. (CCI) has completed a preliminary geometric design of the proposed North Bakken Lake Sakakawea NPS 24 HDD and pullback in order to determine its feasibility. The preliminary HDD and Pullback design drawings completed by CCI [Preliminary CCI HDD Design Drawing Number 2386-EG-0101-D and 2386-EG-0102] is shown in Appendix A.

This report is provided as a general feasibility assessment of site conditions for the proposed HDD, incorporating the available geologic information and geometric review of the proposed NPS 24 HDD alignment. This feasibility assessment is based on information obtained from the review of the site location and alignment, geotechnical land borings and lab analysis, Pipeline Research Council International (PRCI) PR-277-144507-R01 guidelines for calculation of installation and operating loads and stresses, and CCI annular pressure (AP) calculations which model the potential fracture pressure of the overburden formation versus the expected downhole pressures created during the pilot-hole phase. General constructability was reviewed and noted concerns are discussed within this memo.

Crossing Location and Background Information

Lake Sakakawea at the proposed HDD location is within McKenzie and Williams Counties, North Dakota. The pipeline alignment crosses Lake Sakakawea at the proposed location approximately 24 miles north of Watford City and 23 miles east of Williston, ND. The proposed HDD alignment, measuring approximately 15,340 ft in length is shown in Figure 1 below:

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Figure 1. Proposed HDD Alignment Location

The proposed entry point is located in a relatively flat area at an elevation of approximately 1,905 feet North American Vertical Datum 88 (NAVD 88) in a cultivated grass field located about 25 miles southeast of Williston, ND. From entry, the HDD alignment trends along the proposed pipeline right-of-way with the ground surface undulating down to Lake Sakakawea Reservoir. From the north bank of the reservoir, the HDD alignment trends north through the proposed pipeline right-of-way with the ground undulating gently up to the proposed exit point at an elevation of approximately 1,870 feet NAVD 88 in a maintained grass field. The pipe string staging and preparation area shown in Figure 2 is located to the north of the exit point (pipe side) within a proposed temporary workspace area. The planned pipe string and pullback alignment continues approximately 15,340 feet to the north of the exit point and will cross 52nd Street NW and continue north across multiple cultivated fields before ending near Highway 1804.

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Figure 2. Proposed HDD Pipe Stringing Location

The land near the proposed HDD consists of primarily agricultural fields and grassed areas with very few homes in the immediate vicinity of the construction site.

Geological Setting

The geology of the area consists of thin layers of glacial deposits overlying Tertiary-Aged Sentinel Butte Formation. The Sentinel Butte Formation consists of layers of silt, clay, sand, lignite, carbonaceous shale, and mudstone (Carlson, 1985). The geotechnical materials below the mudline of Lake Sakakawea consists of Holocene-Aged alluvial deposits composed of silt, clay, sand, and gravel underlain by the Sentinel Butte Formation. Based on discussions with the geotechnical consultant, it is understood that the bedrock formation of the Sentinel Butte Formation extends well below the bottom of the boreholes completed for this crossing and the depth of the proposed HDD installation. It is expected that the proposed HDD installation will encounter bedrock materials associated with the Sentinel Butte Formation for the majority of the crossing.

A summary of the subsurface materials encountered at the site is provided below. The descriptions provided below are based on the boring logs. Within these boring logs, the geotechnical descriptions given to the encountered material is reflective of soil and bedrock materials. The formation representative of bedrock materials at depth are based on the presence of coal/lignite layers identified within the boring logs, very high standard penetration test (SPT) values with little sampler advancement, and the presence of bedrock outcrops in the area one-mile east of the entry location on the southern side of Lake Sakakawea. Additionally, based on discussions with the geotechnical consultant, it is understood that

these geotechnical materials will exhibit bedrock properties as opposed to soil properties, especially where high SPT values were observed (high SPT values defined as equal to or greater than 50).

Geotechnical Investigation

CCI sub-contracted Groundwater & Environmental Services, Inc. (GES) to perform a land based, subsurface exploration and laboratory testing program at the proposed HDD site. To support the preliminary feasibility evaluation and design of the Lake Sakakawea crossing the subsurface exploration program consisted of drilling three (3) exploratory borings between April 23, 2019 and May 5, 2019. The borings were completed to nominal depths of 400 feet, 400 feet and 370 feet below ground surface (bgs), respectively. The locations of the three geotechnical borings relative to the HDD alignment are depicted in the design drawing attached. Copies of the preliminary boring logs from GES are attached for reference.

The soils encountered are consistent with the Sentinel Butte Format. Except for the coal, the soil borings did not encounter cobbles and boulders. However, there is the potential to encounter cobbles and boulders which can make drilling difficult.

Additionally, a project specific over-water geotechnical investigation along the proposed alignment is required to further characterize the project area and delineate subsurface conditions. CCI has proposed over-water geotechnical boreholes located strategically along the HDD crossing alignment to be completed in two phases: (1) land-based borings for use in an HDD crossing feasibility analysis and (2) over-water borings for use in detailed HDD design. The proposed water-based boreholes will explore to a target depth of a minimum of 20 ft below the drill path depth.

Upon determination of feasibility of an HDD crossing at this location, six (6) additional boreholes [WB-4 through WB-9], spaced roughly 2000 ft apart, have been proposed along the HDD alignment in order to obtain a more detailed model of the geologic formations for use in detailed design of the HDD. These additional boreholes will allow for a more detailed mapping of the subsurface stratigraphy as well as identify additional risks that exist for HDD construction operations and corresponding mitigative and preventative measures to avoid these risks prior to construction.

The location of the completed land based and proposed over-water boreholes for use in the feasibility analysis and detailed engineering phases, as listed above, can be seen Figure 2 below.



Figure 2. Proposed Borehole Locations

The approximate coordinates and intended depths of exploration for the proposed boreholes are shown in Table 1, below.

Borehole	Phase	Depth (ft)	Latitude	Longitude
LB -1**	Feasibility	400	48° 6' 56.32"N	103° 5' 34.23"W
LB-2**	Feasibility	400	48° 7' 4.36"N	103° 5' 33.31"W
LB-3**	Feasibility	370	48° 9'22.10"N	103° 4'39.62"W
WB-4	Detailed Design	300*	48° 7'23.33"N	103° 5'26.00"W
WB-5	Detailed Design	300*	48° 7'42.26"N	103° 5'15.51"W
WB-6	Detailed Design	300*	48° 8'2.40"N	103° 5'10.78"W
WB-7	Detailed Design	300*	48° 8'21.14"N	103° 5'0.45"W
WB-8	Detailed Design	300*	48° 8'41.44"N	103° 4'55.55"W
WB-9	Detailed Design	300*	48° 9'0.55"N	103° 4'45.03"W

Table 1. Geotechnical Boring Locations and Depths

***Depth may need to be deeper based on actual sample conditions.**

****Completed**

As mentioned above, it is highly recommended that a geotechnical investigation be performed in order for final feasibility and detailed design to be performed for the HDD crossing of Lake Sakakawea. A geotechnical investigation consisting of the land -based geotechnical borings as well as the over-water borings as listed above would likely yield enough information to greater determine feasibility and produce a final HDD design.

PRCI design guidelines (PR-277-144507-R01) and ASME B31.8-16 requirements (Gas Transmission and Distribution) were utilized to model the bending, hoop, tensile, and combined stresses for the installation and operating conditions imposed on the pipe for the proposed HDD. The calculations consider the pipe diameter, wall thickness, grade, depth, and geometric design of the crossing. The analysis was conducted utilizing the designs completed by CCI. The pipeline specifications, geometry, and operating conditions utilized that were used in the analysis are shown in Table 2, below:

Overall Length	15,340 ft
Nominal Pipe Size (NPS):	24
Wall Thickness:	0.562
Spec/Grade:	API 5L X70
Chosen Design Radius:	5,000 ft.
Minimum Allowable Design Radius (MADR) (CCI calculated):	1,600 ft.
Entry Angle:	12°
Exit Angle:	12°
Borehole Diameter:	36 in.
Maximum Operating Pressure:	1,480 psig
Maximum Operating Temperature (assumed):	100°F
Minimum Installation Temperature (assumed):	23°F
Design Factor:	0.6

Table 2. Pipeline Specifications

The analysis of the operating conditions of the HDD installation with the specified design radius of 5,000 feet determined that the maximum operational shear stress imposed on the pipe within the HDD section is 21,280 psi (67.6% of allowable as per PRCI guidelines) and is therefore acceptable. A summary of calculations can be seen in Appendix B.

The stress analysis of the installation of the product pipe completed by CCI yielded a pull force of approximately 796,000 lbs, which includes a safety factor of 1.5 and assumes the use of buoyancy control during installation. Buoyancy control is highly recommended for any HDD installation of this size and length as it will significantly reduce the required pull force and minimize the potential of pipe and pipe coating damage during installation. The stress analysis completed by CCI produced the following values for the provided design geometry with utilizing buoyancy control, as shown in Table 3:

	Installation Stresses	% of PRCI allowable
Maximum Tensile Stress	19,243 psi	30.5%
Maximum Bending Stress	8,850 psi	19.0%
Maximum Hoop Stress	5,940 psi	62.6%
Maximum Operating Stress	21,280 psi	67.6%
Maximum Combined Installation Stress (tensile and bending)	0.48	48%
Maximum Combined Installation Stress (tensile, bending, and hoop)	0.74	74%
Pull force with buoyancy control	530,600 lbs	
Pull force with buoyancy control (incl. 1.5 x S.F.)	796,000 lbs	
Pull force w/o buoyancy control	1,107,000 lbs	
Pull force w/o buoyancy control (incl. 1.5 x S.F.)	1,660,000 lbs	

Table 3. Installation Stress Analysis (5,000 ft Design Radius)

CCI recommends utilizing a safety factor of 1.5 when calculating anticipated pull force to account for variations in the field regarding drilling practices, geology, etc. and to account for the addition of the reamer and swivel in the pullback bottom hole assembly. Due to the preliminary nature of the design at the time of this report, without full geotechnical data along the full length of the crossing, additional factors have been added to the standard PRCI calculated values for anticipated tensile, bending, and hoop stress. It is anticipated that these additional factors may be removed upon receipt of geotechnical data and final design.

Based on the pipe specifications and conceptual HDD design geometry, the stress analysis completed by CCI shows that the installation and operating stresses will be maintained within allowable limits as per PRCI PR-227-144507 and ASME B31.8-16 specifications for the proposed HDD and is therefore acceptable.

Annular Pressure Analysis

The annular pressure was modeled to simulate the downhole pressure during the pilot hole phase of construction and compare it with the expected fracture pressure of the geologic formations above the drill path. The AP simulation was conducted with CCI's analysis tools which have been developed with

industry standard calculation models (Bingham Plastic, General Overburden, and USACE/Delft model) and additional modified safety factors based on our experience from over 15,000 completed HDD crossings.

The drilling parameters utilized by CCI for the analysis were as follows:

- 12 3/4" pilot hole OD
- 7 5/8" drill pipe OD
- 650 gpm (2.46 m^3/min) fluid pump rate
- 9.5 lb/gal fluid density
- 23 lb/100ft^2 yield point of fluid
- 13 cP plastic viscosity of fluid

A calculated expected annular pressure graph is produced with the above drilling parameters and is modeled in Figure 3 and Figure 4. This annular pressure graph is the basis for establishing whether a proposed HDD crossing is at risk for hydraulic fracture during pilot hole phase. This graph shows a calculated downhole pressure, as well as an *Operating Zone* above the baseline pressure, shown as 125% of the calculated pressure. According to this model, drilling pressures that exceed the overburden fracture pressure don't necessarily indicate a fracture will occur, but rather a higher risk that hydraulic fracture may occur in those areas.

CCI has used the results from the soil sample laboratory testing contained from the land-based geotechnical investigation and developed two geotechnical parameter sets for this crossing. One set represents a "Poorly graded Silt, Clay and Sand" and is modeled as a layer perched on top of the encountered bedrock. The second set represents a "Shale Bedrock" and is used through most of the crossing to conservatively model the bedrock.

The poorly graded silt, clay and sand geotechnical parameters utilized by CCI were as follows:

- 32° Internal Angle of Friction
- 0 psf Cohesion Coefficient
- 116.3 pcf Unit weight of Soil
- 1,357,553 psf Shear Modulus of the Soil
- Variable Radius of Plastic Zone based on soil parameters

The shale bedrock geotechnical parameters utilized by CCI were as follows:

- 26° Internal Angle of Friction
- 996.57 psf Cohesion Coefficient
- 132.3 pcf Bulk Unit weight of Bedrock
- 183,305.2 psf Shear Modulus of the Bedrock
- Variable Radius of Plastic Zone based on soil parameters

Because the N. Bakken Lake Sakakawea HDD is approximately 15,330 ft. in length it will require to be completed as an intersect drill. Figure 7 and Figure 8 shows what the expected annular pressure would look like for the north and south HDD portions of pilot hole, respectively, at the current designed depth utilizing the intersect method.

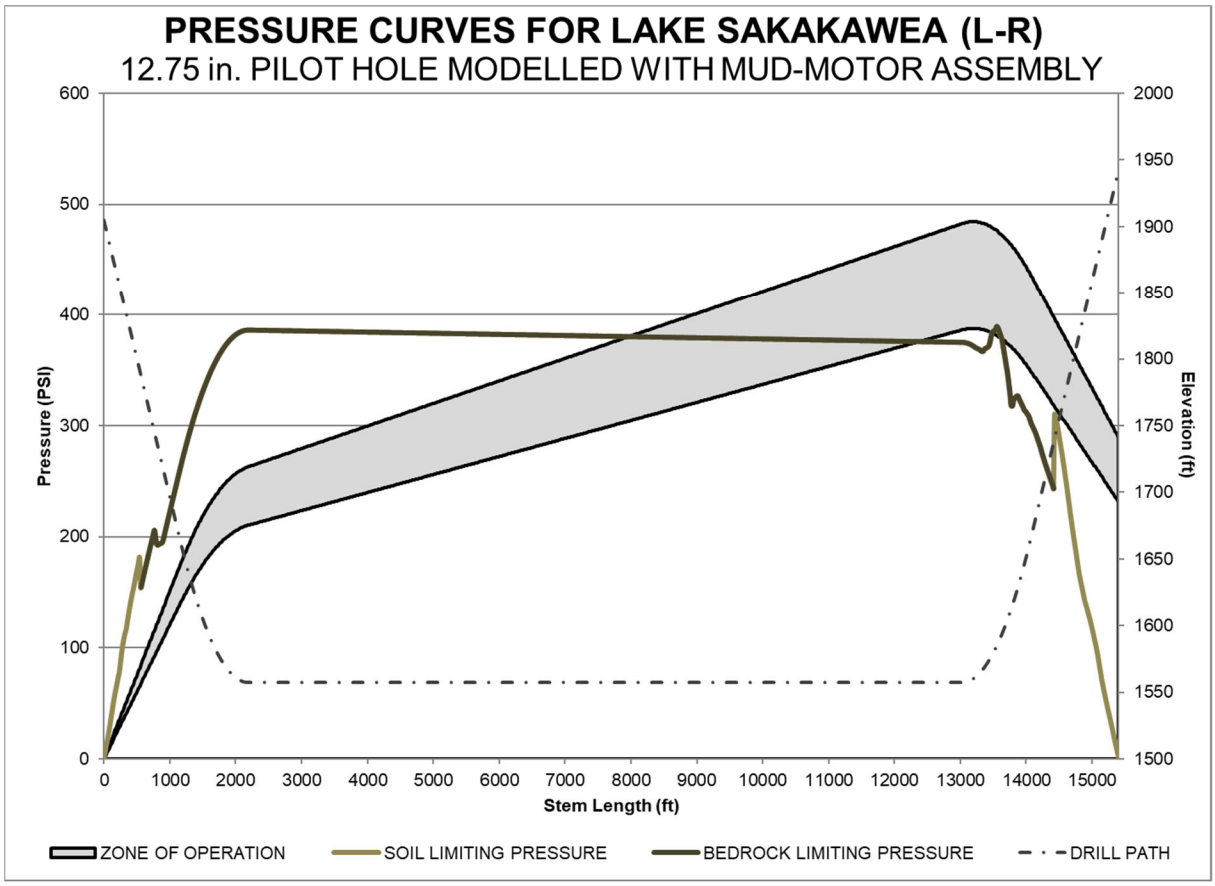


*Chart data is based on land based Geotech and regional geology.

Figure 3. Modeled Annular Pressure During South Pilot Hole

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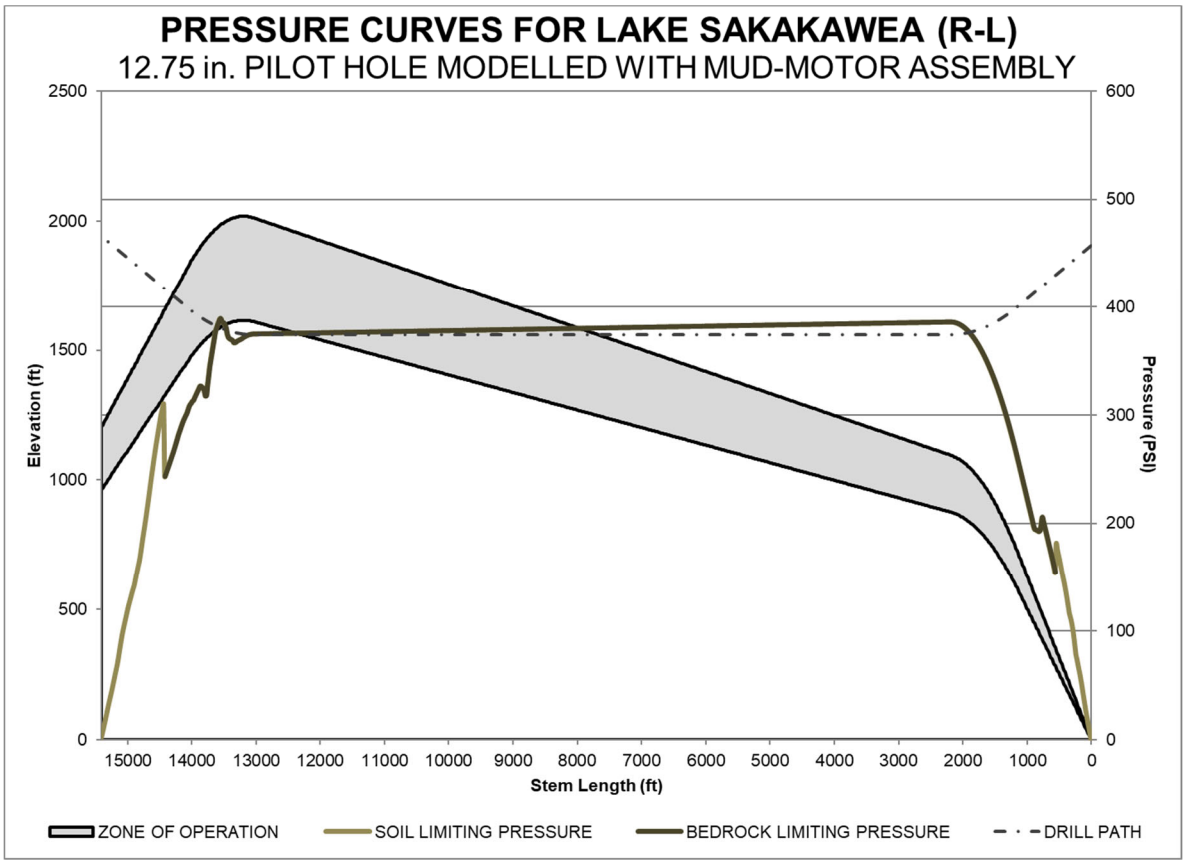


*Chart data is based on land based Geotech and regional geology.

Figure 4. Modeled Annular Pressure During North Pilot Hole

It should be noted that the validity of the annular pressure analysis results is highly dependant upon the accuracy of the geotechnical information utilized. For this reason, the recommendation that an in-depth over-water geotechnical investigation be performed is further enforced so that problematic geotechnical conditions that may be present along the drill path can be identified which could cause a higher risk of hydraulic fracture or IR during construction such as bedrock fractures, coal seams, cobbles, etc.

This is only a preliminary analysis based on the limited geotechnical information for the project owner's use. The analysis shown should not be used for any regulatory requirements as the assumptions made along the entirety of the HDD alignment are likely to change once the full geotechnical investigation is complete.

Noise Impact Analysis:

Based on available aerial images, a desktop analysis was completed for observable areas that may be impacted by noise during construction operations. Noise sensitive areas (NSAs) include residences, schools or hospitals within ½ mile radius of drilling operations.

Multiple NSAs are present within a ½ mile of the proposed Lake Sakakawea crossing. The majority of residential NSAs appear to be within the proximity of the proposed exit point, with the closest NSA located roughly 480 ft away. A single residential NSA appears to be present within a ½ mile radius near the proposed HDD entry point, which is estimated to be located roughly 2,100 ft away.

The following denotes the typical equipment at the HDD north and south side and most of the listed equipment is considered noise sources associated with the HDD operations:

- Drilling rig and engine-driven hydraulic power unit (i.e., most significant noise source);
- Engine-driven mud pump(s) and engine-driven generator set(s);
- Mud mixing/cleaning equipment and associated fluid systems shale shakers;
- Crane, backhoe, front loader, forklift and/or truck(s);
- Frac tanks (i.e., water & drilling mud storage); engine-driven light plants (nighttime operation).

CCI recommends that WBI develop an HDD noise analysis mitigation and compliance plan for both the north and south side demonstrating that noise due to HDD operations would be below required limits. Example mitigation measures are listed below:

- Employ a temporary noise barrier (e.g., 16-ft. high) around the entry site workspace;
- As an alternative to a workspace barrier, the entry side workspace could be covered with a large acoustically lined tent (i.e., "noise-reducing tent");
- Employ "residential–grade" or "hospital–grade" exhaust silencers on engines associated with any of the site HDD equipment [e.g., generators, pumps & hydraulic power unit ("HPU")];
- Partial noise barrier or enclosure around the hydraulic power unit and engine-driven pumps (e.g., cover sides of equipment with an acoustically lined plywood barrier system);
- Install a partial barrier or partial enclosure around the mud mixing/cleaning system;
- Relocation of specific equipment;
- Employ "low-noise" generators;
- As an alternative to noise mitigation at NSA(s) that are relatively close to the HDD sites (e.g., NSAs located within 200 to 300 feet of an entry site), sometimes temporary housing or equivalent monetary compensation could be discussed and/or offered to the affected landowners.

General Constructability:

Risks contributing to the unsuccessful construction of the HDD could occur during any phase of HDD construction operations. There are several risks directly associated with the site conditions near the Lake Sakakawea crossing location. The following list contains examples of failure modes and cannot be ruled out without further geotechnical information.

Elevation Differential

According to the ground surface topography of the proposed HDD obtained from publicly available LiDAR information, there is an increase in elevation of approximately 37 feet between the entry and exit locations. Though this is desirable from an annular pressure standpoint, as mentioned in the "Annular Pressure" section of the report, this does cause some concern from a general constructability standpoint. One possible risk during construction could be sudden flushing of drilling fluid from the borehole and flooding the exit pad on the north side. If the borehole were to become plugged, the hydrostatic pressure from the column of drilling fluid can burst through the plug, flushing downhole, and discharge through the exit point. This risk could be mitigated by implementing scheduled trips and adhering to an Engineered Drilling Fluid Plan (EDFP) in order to ensure that the borehole does not become plugged. As a

precautionary measure, a pit could be constructed at the exit location to store the discharged drilling fluid in the event that a flush would occur.

Additionally, change in elevation between the entry and exit points is 37-ft. This results in the pipe being pulled approximately 180-feet through a dry hole. The dry hole section would be on the proposed entry side (or high side) of the theoretical crossing. The hole is anticipated to be dry as a result of hydraulic head differential due to the 37-foot elevation difference. The term "dry hole" is defined as a portion of the hole not entirely filled with drilling fluid. This effect would significantly increase the friction between the wall of the drilled hole and the carrier pipe within this section of the borehole during the pullback phase of construction. This could present future maintenance issues if the pipeline coating is compromised by a boulder or cobble.

Pilot Hole

A possible mode of failure during pilot hole installation is the borehole collapse on the drill pipe string. This is typically caused by failure to maintain the appropriate rheological properties with the drilling fluid and/or an unfavorable drilling stratum containing glacial till, highly fractured rock, high concentrations of gravel, non-cohesive alluvial material, or cobbles. Friction on the drill pipe surface is significantly increased by such collapse or the inability to maintain an opened hole in unconsolidated materials. The torque required to rotate, and the pull/push force required to move the drill pipe will increase as the friction increases. The required torque and pulling load may exceed the capacity of the drill rig causing the drill pipe to be stuck inside the pilot hole. Or, it may exceed the strength of the drill pipe and cause the drill pipe to shear or twist into two pieces. The probability of this type of failure increases with the increase in drill length.

Water ingress could also increase the likelihood of borehole collapse, as excess water would dilute the drilling fluid, thus impairing the rheologic properties of the drilling fluid. Borehole stability could be maintained by implementing scheduled trips to ensure that borehole remains stable and open. Interruptions during pilot hole operations should be avoided, maintaining steady progression, while advancing through the overburden layer.

Based on publicly available geological and geotechnical information, project specific land-based geotechnical investigations and conservatively assumed geologic formations and stratigraphy, the proposed drill path is expected to remain within drillable subsurface strata for the entirety of the crossing. The current depth provides adequate overburden pressure to reduce the risk of hydraulic fracture during the pilot hole phase along the majority of the length of the drill path, based on CCI's modified annular pressure model. By adhering to an engineered drilling fluid plan (EDFP) and use of an annular pressure tool to constantly monitor drilling pressures, as described earlier in the report, operating pressures should be maintained within allowable limits and the likelihood and impact of any IRs can be reduced. It is recommended to have equipment available on site to contain and clean drilling fluid in the event that a fracture to surface occurs near the entry or exit point.

Reaming

In rock formations, there are two primary modes of failure: failure of hole-opening tools due to excessive wear on the tool and/or collapse of weathered rock, cobbles, unconsolidated material, etc. into the hole. Collapse or swelling of the borehole may cause downhole tooling to get stuck or lost. The use of a proper EDFP and scheduled trips would minimize the risk of cuttings buildup which could result in a stuck reamer. The tail-string (drill pipe extending out of the exit borehole) should be utilized such that in the event a

twist-off occurs, drill pipe attached to the reamer will still extend all the way to surface on one side so that the reamer can be extracted. This crossing is anticipated to be conducted as an intersect with a rig on either side, which would alleviate this concern.

It is expected that a significant volume of cuttings will be produced in the construction of this crossing and there will also be a significant amount of fluid to be managed. Disposal sites for cuttings and fluid should be identified prior to construction for this crossing.

Product Pipe Pullback

Failure of the pullback process can occur when the pipe becomes lodged within the borehole and is unable to be moved in either direction. The collapse of the borehole wall within the overburden or rock formation, as described earlier, could cause the pipe to become lodged within the borehole.

CCI recommends that the product pipe be installed as one continuous section to minimize the risk of the pipe becoming stuck within the borehole during pullback due to possible swelling clays or sloughing sands present along the shallower depths along the drill path. The sloughing or swelling of soil around the borehole produces an excess of friction on the pipe during pullback which increases the amount of required pullback force on the product pipe and can cause damage to pipe and pipe coating. Obstruction of the borehole due to sloughing soils can be addressed by completing swab passes throughout the reaming process, and a final wiper trip in the direction of pipe pullback just prior to product pipe installation. To further reduce the risk of borehole obstruction, it is recommended that the contractor avoid interruptions as much as possible during pullback to maintain steady pull on the product pipe.

Completing pullback of product pipe at the proposed exit location is considered feasible. There also appears to be sufficient workspace to allow for pullback to be performed in one continuous section, with no intermediate welds. However, pullback along the proposed alignment would require the temporary closure of an unnamed road and 52nd St NW. The proposed pullback alignment also crosses an un-named creek which would likely require two (2) additional side booms to support the pipe from either side of the creek bed. The creek may be required to be diverted, bridged, or infilled within the temporary workspace in order to support machinery traffic and equipment. From an initial desktop study, most of the designated workspace that is planned to be used during pullback will travel through cleared land, so minimal clearing will be required.

Based on CCI's stress analysis, the minimum allowable overbend radius of the pullback section is roughly 1,500 ft for the NPS 24 pipe. The stress analysis also yielded a maximum boom spacing and roller spacing of 80 ft and 40 ft respectively, assuming adequately sized supports will be used. The overbend radius and maximum support spacing was chosen so that the stress imposed on the NPS 24 product pipe during pullback will not exceed 80% of allowable stress as per PRCI allowable limits, which is more conservative than the industry standard allowable limit of 90% of SMYS. The pullback alignment described above encounters a relatively level topography, with one geographically noticeable hill approximately 2,800 ft north along the pipe stringing alignment. The hill gradually increases and decreases at a rate which is not believed to affect pullback operations. Given the 12-degree exit angle and the minimum vertical overbend radius of 1,500 ft, the height of the pullback overbend would reach approximately 20 ft above ground surface.

Workspace

The proposed entry location appears to have adequate workspace for the rig spread and equipment. There also appears to be adequate access to the site at both the entry and exit locations. It is

recommended that the contractor review the existing workspace on-site to ensure that the entry and exit points allow adequate room for setup of equipment. It is anticipated that the proposed workspaces for the proposed HDD are in line with the minimum requirements to safely operate the HDD equipment and provide adequate workspace for the rig and associated auxiliary equipment. Since the majority of each workspace appears to be located in open, maintained areas, required site preparation other than minor tree and ground cover clearing prior to construction is anticipated to be minimal. Figure 5 and 6, below, shows the proposed workspaces for the proposed HDD alignment.



Figure 5. Proposed HDD Entry Workspace (Rig Side)



Figure 6. Proposed HDD Exit Workspace (Pipe Side)

HDD Geometry

The proposed 5,000 ft design radius meets all stress analysis requirements. Due to the length of this crossing, there is a high risk that the pipe section could become stuck in the borehole and/or the pullforce could exceed the theoretical model due to the difficulty of maintaining an open borehole in such a long crossing. Excessive interruptions during the drilling process can create a risk of borehole instability and IR. Properly sized equipment, a detailed engineered drilling fluid plan, planning mechanical cleaning trips during drilling/reaming, and utilizing swab passes to condition the hole prior to pullback will all assist with the successful completion of the drill.

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Summary:

Based on our assessment of the regional geology and design basis, we anticipate Lake Sakakawea crossing to be geometrically feasible. CCI recommends that a project specific geotechnical investigation is performed before an HDD at this location can be fully considered to be technically feasible.

The results of the stress analysis performed by CCI for the proposed HDD indicates that the product pipe will not be overstressed during installation or operation as per PRCI and ASME allowable limits, assuming the designed radii are adhered to.

As mentioned previously, it is recommended to install the product pipe using buoyancy control, as this will reduce the required pull force. A minimum rig size of 1,000,000 lbs is recommended for completion of the proposed crossing. This rig is capable of the required length and ream size and will provide adequate torque, pull/push force, and flow rates, if equipped with suitable pumps and drill stem.

In order to minimize the risk of product pipe becoming stuck within the borehole, it is recommended to install the product pipe in one continuous section and to minimize interruptions during installation of product pipe.

Overall, the current HDD design meets the minimum requirements of PRCI and ASME code, and the recommendations in regards to implementing preventative and mitigative measures in regards to drilling fluid pressure monitoring, steering, groundwater management and maintaining a stable and open borehole as outlined in this report would increase the likelihood of successful installation, based on the available geotechnical information.

The proposed HDD design is considered feasible based on the preliminary evaluation, geotechnical land-based investigation and regional geology and is considered to have a high probability of successful construction.

Based on the length of the crossing, current limits of HDD technology and the results of the hydraulic fracture and inadvertent returns analysis, the pilot hole intersect method will be required for completion of this HDD. Although conventional HDDs can be accomplished for lengths greater than 8,000-feet; drilling fluid pressures can be a major challenge beyond 4,000-feet.

The list below is a non-exhaustive list of significantly long (> 6,000') HDD installations that have been completed. Although many HDD crossings of small diameter pipe (<12") have been completed at significantly longer lengths than those shown in the table, they have not been included on this list. Crossings of 12" and larger pipe have been included, and the crossings of 20"-42" are of particular relevance to the feasibility of large diameter, long distance HDDs. Additionally, this list is heavily focused towards North American installations and contractors.

Houston Office
20333 State Highway 249
Suite 480
Houston, TX 77070
P: 832-210-1032

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Project Year	Diameter	Length	Crossing	Location	Owner	Contractor
2013	28 (dual)	10,824	Yangtze River	China	China Petroleum	unknown
2008	42	7,800	Sabine Lake Shore Appr.	TX/LA	Kinder Morgan	REM Directional Drilling
2015	42	7,205	Athabasca River	Canada	TransCanada	Michels, Inc.
2009	42	6,678	Intracoastal Waterway	Louisiana	Kinder Morgan	Laney
2015	36	9,038	Mississippi River	Missouri	Enbridge	Michels, Inc.
2014	36	7,313	Trinity River	Texas	TransCanada	Laney
2017	36	7,194	Ohio River	Ohio	Energy Transfer Comp	Michels, Inc.
2012	36	6,575	St. Johns River	Florida	Jacksonville Electric	Michels, Inc.
2019	30	7,300	Nueces Bay	Texas	NuStar	Hard Rock Directional Drilling
2016	30	6,500	Illinois River	Illinois	Energy Transfer Comp	The HDD Company
2007	30	10,330	Berri Causeway	Saudi Arabia	Saudi Aramco	Al Robaya Est.
2009	24	7,352	Elizabeth River	Virginia	Virginia Natural Gas	Mears Group, Inc.
2016	20	9,899	Corpus Christi Ship Channel	Texas	Oxy Midstream	Laney
2015	18	12,459	Houston Ship Channel	Texas	Phillips 66	Michels, Inc.
2014	12	11,625	Houston Ship Channel	Texas	NuStar	Laney
2016	12	11,397	Lake Sakakawea	North Dakota	Paradigm Midstream	Michels, Inc.
2016	12	11,229	Lake Sakakawea	North Dakota	Paradigm Midstream	Michels, Inc.
2013	12	9,306	Residential Area	Missouri	Boardwalk Pipeline	REM Directional Drilling
2017	12	9,000	Barnegat Bay	New Jersey	New Jersey Natural Gas	Laney
2013	12	6,425	Willamette River	Oregon	NW Natural	The HDD Company

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20333 State Highway 249
Suite 480
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To CCI's knowledge a horizontal directional drill as long as 15,340 ft has never been completed for a 24" pipe before. Due to this consequential length, the concerns noted above hold an even higher risk than similar risks within shorter drill lengths. Although the length is exceptional, if proper design and construction practices are utilized, the crossing should be able to be completed successfully.

Regards,

Justin Taylor, P.E.
VP of Engineering

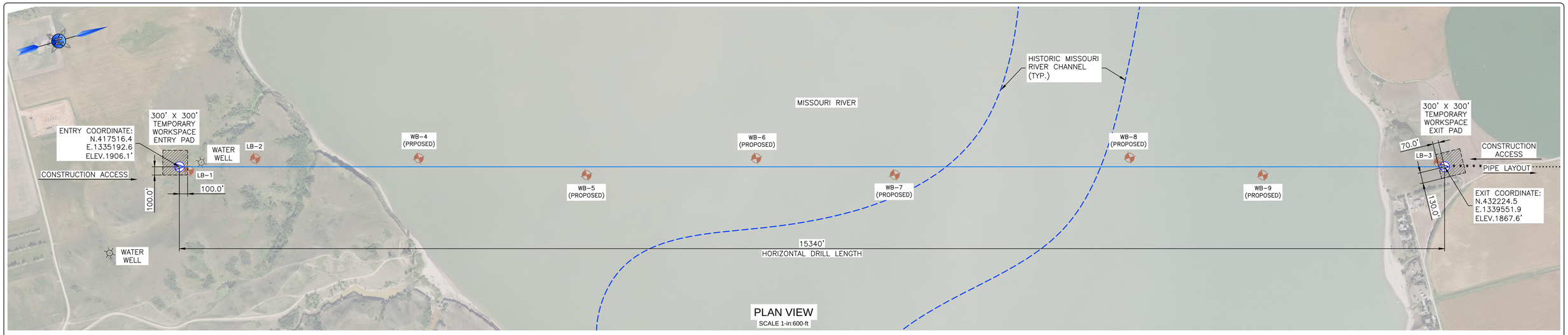
B. Kerby Primm, P.E.
Project Manager

Houston Office
20333 State Highway 249
Suite 480
Houston, TX 77070
P: 832-210-1032

CCI
& Associates Inc.

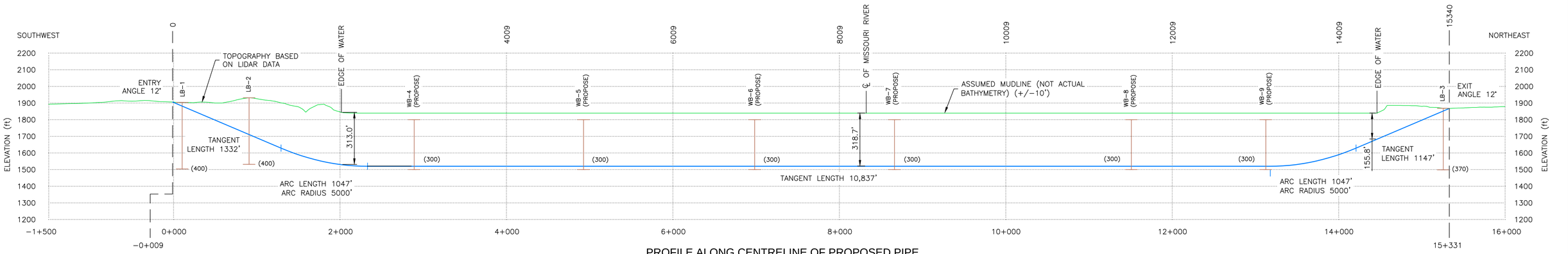
Appendix A:
HDD Design Drawings

Houston Office
20333 State Highway 249
Suite 480
Houston, TX 77070
P: 832-210-1032



PLAN VIEW

SCALE 1-in:600-ft



PROFILE ALONG CENTRELINE OF PROPOSED PIPE

SCALE 1:600 HORIZONTAL
SCALE 1:300 VERTICAL

TOTAL DRILL PIPE LENGTH 15,410'

REFERENCE DOCUMENT NO.	DATE
1.	

CCI & Associates Inc.
20333 State Highway 249, Suite 480
Houston, TX 77070
COR F-18518

ENGINEER AND PERMIT STAMPS

PRELIMINARY NOT FOR CONSTRUCTION

1:7200
FT 0 500 1000 2000

PIPELINE SPECIFICATIONS

OUTSIDE DIAMETER (OD)(in)	24
WALL THICKNESS (WT)(in)	0.562
GRADE (psi)	70,000
PRODUCT	NATURAL GAS
MATERIAL	STEEL
SPECIFICATIONS	API 5L
INTERNAL COATING	N/A
OUTER COATING	DUAL FBE
MAX. OPER. PRESSURE (psi)	1,480
MIN. TEST PRESSURE (psi)	1,850
MAX. OPER. TEMP (°F)	100
MIN. INSTALLATION TEMP (°F)	23

1:3600
FT 0 100 200 500 1000

STEERING TOLERANCES

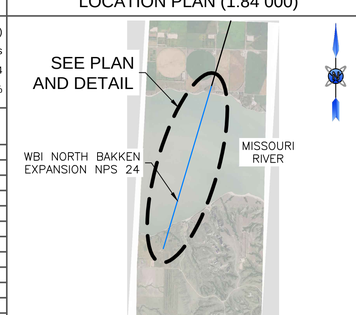
	30ft	100ft	330ft
MINIMUM RADIUS (ft)	1000	1450	4500

PULL FORCE / RIG SIZE / STRESS

PULL FORCE (w/ BUOYANCY CONTROL):	796,000 lbs (w/sf)
MINIMUM RECOMMENDED RIG SIZE:	1,000,000 lbs
COMBINED STRESS UNITY CHECK:	0.74
OPERATING STRESS	67.6%

DRAWING STATUS	DATE	DRN	CHK	DES	GEO	APR	CR
PRELIMINARY	2019-07-25	TL	MAL	KP		KP	
PRELIMINARY	2019-06-14	RL		KP		KP	
PRELIMINARY	2019-06-11	RL		KP		KP	
PRELIMINARY	2019-03-11	AN		CG		KP	

LOCATION PLAN (1:84 000)



ND83-NF

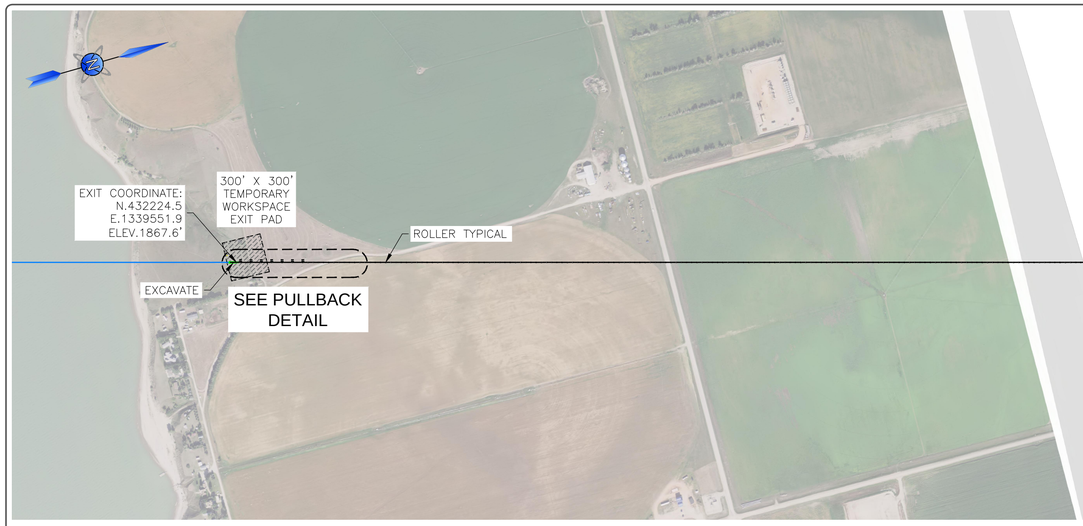
WBI NORTH BAKKEN EXPANSION PROJECT

MISSOURI RIVER HDD CROSSING
PLAN AND PROFILE

WATFORD CITY / TIOGA, NORTH DAKOTA

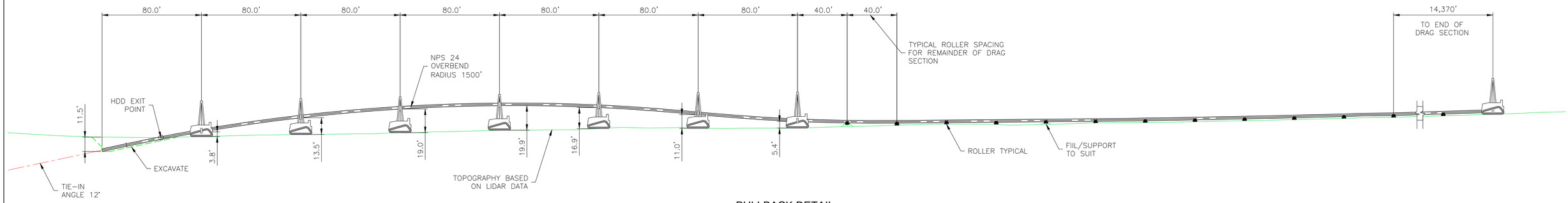
SCALE	DWG. #	REVISION	SHEET
AS SHOWN	2386-EG-0101	D	1 OF 2

File Name: S:\Current Jobs\2386-WBI-N.Bakken Expansion\Eng\Drawings\01-Lake Sakakawea\Missouri River\Preliminary\2386-EG-0101-D.dwg Date/Time: 31-Jul-19 / 6:42:49 PM Last Saved By: Kerby.Primm



PULL BACK PLAN VIEW

SCALE 1:7200



PULLBACK DETAIL

SCALE 1:480 HORIZONTAL
SCALE 1:480 VERTICAL

TOTAL PULLBACK LENGTH 15,410'

REFERENCE DOCUMENT NO.	DATE
1.	

CCI & Associates Inc.
20333 State Highway 249, Suite 480
Houston, TX 77070
COR F-18518

ENGINEER AND PERMIT STAMPS

PRELIMINARY
NOT FOR
CONSTRUCTION

1:7200
FT 0 500 1000 2000

PIPELINE SPECIFICATIONS

OUTSIDE DIAMETER (OD)(in)	24
WALL THICKNESS (WT)(in)	0.563
GRADE (psi)	70,000
PRODUCT	NATURAL GAS
MATERIAL	STEEL
SPECIFICATIONS	API 5L
INTERNAL COATING	N/A
OUTER COATING	DUAL FBE
MAX. OPER. PRESSURE (psi)	1,480
MIN. TEST PRESSURE (psi)	1,850
MAX. OPER. TEMP (°F)	100
MIN. INSTALLATION TEMP (°F)	23

1:480
FT 0 10 20 50 100 150

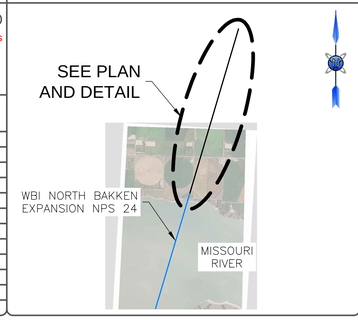
STEERING TOLERANCES

PULL FORCE / RIG SIZE / STRESS

PULL FORCE (w/ BUOYANCY CONTROL): 796,000 lbs (w/sf)
MINIMUM RECOMMENDED RIG SIZE: XXX,000 lbs

DRAWING STATUS	DATE	DRN	CHK	DES	GEO	APR	CR
PRELIMINARY	2019-07-25	TL	MAL	CG		KP	

LOCATION PLAN (1:84 000)



ND83-NF

WBI NORTH BAKKEN EXPANSION PROJECT
MISSOURI RIVER HDD CROSSING
PULLBACK PLAN AND DETAIL
WATFORD CITY / TIOGA, NORTH DAKOTA

SCALE	DWG. #	REVISION	SHEET
AS SHOWN	2386-EG-0102	A	2 OF 2

File Name: S:\Current Jobs\2386-WBI-N.Bakken Expansion\Eng\Drawings\01-Lake Sakakawea\Missouri River\Preliminary\2386-EG-0101-D.dwg Date/Time: 25-Jul-19 / 10:25:45 PM Last Saved By: thong.lam

CCI
& Associates Inc.

Appendix B:
Stress Analysis Summaries

Houston Office
20333 State Highway 249
Suite 480
Houston, TX 77070
P: 832-210-1032

Owner:	WBI Energy Transmission
Project:	North Bakken Expansion
Date:	7/23/2019
Calculation Description:	Stress Assessment NPS 24 HDD
Applicable Crossings:	Lake Sakakawea

CCI & Associates Inc.

Completed By:	KP	Reviewed By:	JT	Sheet Revision:	R19.1

Pipe Information			Design Criteria				Crossing Characteristics	
Pipe Diameter (in)	Pipe W.T. (in)	Pipe Grade (psi)	MOP (psi)	Max. Operating Temperature (°F)	Installation Temperature (°F)	Design Radius (ft)	Maximum Depth From Entry Location (ft)	HDD Length (ft)
24	0.562	70000	1,480	100	23	5000	386	15409

PRELIMINARY

The pipe section installated stresses are modelled in 5 sections (exit tangent (5), exit arc (4), bottom tangent (3), entry arc (2), entry tangent (1)) incorporating effects of buoyancy, soil friction, curvature, fluidic drag and pipe weight. The calculated stresses are evaluated using the AGA method (PRCI). Operating stresses incorporate hoop, bending, tensile, and thermal expansion.

Variable Definitions:

F_y - Specified Minimum Yield Strength
D - Outer Diameter of Product Pipe
E - Young's Modulus (Steel)
t - Wall Thickness of Product Pipe

Tensile Stress:

			% of Allowable
5	12247.4 psi	**PRCI 5.1.1, 5.5**	19.4%
4	12548.7 psi		19.9%
3	17190.7 psi	**Allowable Tensile Stress**	27.3%
2	18124.8 psi	$F_t = (0.9) * F_y$	28.8%
1	19243.4 psi	= 63000 psi	**30.5%**

Bending Stress:

			% of Allowable
5	442.5 psi	**PRCI 5.2.2**	1.0%
4	8850.0 psi	$f_b = (E/D)/(2R)$	**19.0%**
3	442.5 psi	**Allowable Bending Stress**	1.0%
2	8850.0 psi	$F_b = \{0.72 - (0.58\ F_y\ D / (E\ t)\}\ F_y$	**19.0%**
1	442.5 psi	= 46457.6 psi	1.0%

Hoop Stress:

			% of Allowable
5	4194.5 psi	**PRCI 5.2.3**	44.2%
4	5939.2 psi	$f_h = P_{ext}D/2t$	**62.6%**
3	5939.2 psi	**Allowable Hoop Stress**	**62.6%**
2	5939.2 psi	$F_{hc} = [0.88 \times E \times (t/D)^2] / 1.5$	**62.6%**
1	4194.5 psi	= 9489.9 psi	44.2%

Operating Stresses:

			% of Allowable
5	18477.1 psi	**PRCI 5.4.4.2:**	58.7%
4	21279.6 psi	**Allowable Shear Stress**	**67.6%**
3	18477.1 psi	$F(v) = 45\%$ of F_y	58.7%
2	21279.6 psi	$F(v) = 31500$ psi	**67.6%**
1	18477.1 psi		58.7%

Combined Stress (Tensile and Bending)

			% of Allowable
5	0.20	**PRCI 5.2.4**	20%
4	0.39	$f_t/0.9F_y+f_b/F_b \le 1$	39%
3	0.28		28%
2	0.48		**48%**
1	0.31		31%

Combined Stress (Tensile, Bending, and Hoop)

			% of Allowable
5	0.28	**PRCI 5.2.4**	28%
4	0.62	$A^2+B^2+2v\|A\|B \le 1$	62%
3	0.56	$A = ((f_t+f_b-0.5f_h)1.25)/F_y$	56%
2	0.74	$B = 1.5f_h/F_{hc}$	**74%**
1	0.38		38%

Estimated PullForce (with Buoyancy Control)

530,611 lbs 795,917 lbs (including 1.5x Safety Factor)

Owner:	WBI Energy Transmission
Project:	North Bakken Expansion
Date:	08/01/2019
Calculation Description:	HDD Pipe Pullback Analysis NPS 24
Applicable Crossings:	Lake Sakakawea

CCI & Associates Inc.

Completed By:	KP	Reviewed By:	JT	Sheet Revision: R19.1

Pipe Information			Design Criteria					
Pipe Diameter (in)	**Pipe W.T. (in)**	**Pipe Grade (psi)**	**Overbend Radius (ft)**	**Total Supported Weight (lbs/ft)**	**Maximum Support Spacing (ft)**	**Roller Spacing (ft)**	**Maximum Unsupported Overhang (ft)**	**Estimated Pullforce (lbs)**
24.00	0.562	70000	1,500	154.7	80	60	70	795,073

The pipe pullback is modelled such that the pipe is not over-stressed due to the combination of bending, tensile, and shear stresses throughout the pullback section, both in the spans between supports and at the support locations.
The pullback is also modelled such that the supports are not overloaded with the weight of the pipe at any point during the pipe installation, including as the tailing end passes from support to support.

Definitions:

SMYS - Specified Minimum Yield Strength
Overhang - Where Unsupported Tail End of Pipe Extends Beyond Support
Full Span - Where Pipe Is Supported Between 2 Supports at Maximum Support Spacing Shown Above

SUPPORT LOADING

Vertical Load at Each Boom/Crane Support — **% of Support Capacity ***

At Support With Full Span:
15,700 kg 34,600 lbs — **61.3%**
At Support With Overhang:
10,600 kg 23,300 lbs — 41.4%

* based on load capacity of Darby 24"-36" Rolli-Cradle

Longitudinal Load at Each Boom/Crane Support
1570.0 kg 3,460 lbs

Horizontal Load at Each Boom/Crane Support
296 kg 652 lbs

Horizontal Load at Each Roller Support
222 kg 489 lbs

PIPE STRESS

Bending Stress	**% SMYS**	**% of Allowable (PRCI)**
At Support With Full Span:		
23447.8 psi	33.5%	50.7%
At Support with Overhanging Pipe:		
34959.2 psi	49.9%	**75.5%**

Tensile Stress

10414.8 psi	14.9%	**16.5%**

Combined Stress (Tensile and Bending)

33862.6 psi	48.4%	**67%**

NORTH BAKKEN EXPANSION PROJECT

Horizontal Directional Drill/Guided Bore Drilling Fluid Monitoring and Operations Plan

Attachment B
Land Based Geotech Soil Boring Logs

SOIL BORING LOG

Groundwater & Environmental Services, Inc.

ID NO. **LB-1 (DRAFT)**

Project: **Lake Sakakwea HDD Geotechnical Investigation** Client: **CCI & Associates Inc.**

Address: **NA** GES Job #: **3502056**

County: **McKenzie** GES Project Mgr: **Rob Jenson**

Logged By: **Nick Schlagel** Date Drilled: **4/24/19 through 4/28/19** Soil Classification System: **USCS**

Drilling Company: **Interstate Drilling Services** Completion Date: **4/28/19**

Drill Operator: **Jared Zak** Drilling Method: **HSA (0 to 25 ft.), Fluid Rotary (25 to 185 ft.), NQ Rock Core (185 to 403 ft.)**

Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,908 ft. msl** Abandonment Method: **Tremie**

Total Depth: **403 ft.** Approximate Water Depth: **Not Encountered** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **4/28/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD (1 100)	Geologic Description	Qp /Qu	Atterbergs PL	Atterbergs LL	Atterbergs PI	G	S	M/C
0				SP: POORLY GRADED SAND, fine to medium grained, with trace silt, pale brown (10YR 6/3), moist, medium dense.							
5	1	11 in.	7-7-6		-						
10	2	12 in.	8-5-4	Color changes to light yellowish brown (10YR 6/4) and loose at 9.5 ft.	-						
15	3	18 in.	5-3-4	CL: LEAN CLAY, with trace silt, brownish yellow (10YR 6/6), moist, medium stiff.	0.5						
20	4	13 in.	7-5-8	SP: POORLY GRADED SAND, fine to medium grained, pale brown (10YR 6/3), moist, medium dense.	-						
25	5	17 in.	5-10-13	ML: SILT, light yellowish brown (2.5Y 6/3), moist, medium dense.	-						

Notes:

Soil Lithologies based on field observations and laboratory analysis.

NA = not applicable; fbg. = feet below grade; in. = inches; ft. = feet; msl = mean sea level

Qp/Qu = unconfined compressive strength (tons / square foot); G = Gravel Content (%)

PL = Plastic Limit (%); LL = Liquid Limit (%); PI = Plasticity Index (%); S = Sand Content (%)

M/C = Silt or Clay Content (%); Blows = blows per 6 inches; RQD = rock quality index (%)

GPS Coordinates

Lat: 48° 6' 56.33"

Lon: 103° 5' 34.23"

SOIL BORING LOG

Groundwater & Environmental Services, Inc.

ID NO. **LB-1 (DRAFT)**

Project: **Lake Sakakwea HDD Geotechnical Investigation** Client: **CCI & Associates Inc.**

Address: **NA** GES Job #: **3502056**

County: **McKenzie** GES Project Mgr: **Rob Jenson**

Logged By: **Nick Schlagel** Date Drilled: **4/24/19 through 4/28/19** Soil Classification System: **USCS**

Drilling Company: **Interstate Drilling Services** Completion Date: **4/28/19**

Drill Operator: **Jared Zak** Drilling Method: **HSA (0 to 25 ft.), Fluid Rotary (25 to 185 ft.), NQ Rock Core (185 to 403 ft.)**

Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,908 ft. msl** Abandonment Method: **Tremie**

Total Depth: **403 ft.** Approximate Water Depth: **Not Encountered** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **4/28/19**

Depth (feet)	Sample	Sample Interval	Recovery (inches)	Blows / RQD (1 100)	Geologic Description	Qp /Qu	Atterbergs PL	Atterbergs LL	Atterbergs PI	G	S	M/C
30	6		18 in.	9-10-13	CL: LEAN CLAY, with trace silt, light olive brown (2.5Y 5/3) with gray (2.5Y 5/1) mottling, moist, very stiff to hard.	4.25						
35	7		18 in.	9-13-20		4.5						
40	8		14 in.	10-16-27	CL: LEAN CLAY, light brownish gray (2.5Y 6/2), moist, hard.	1.0						
45	9		17 in.	8-10-18	ML: SILT, light olive brown (2.5Y 5/3), moist, medium dense.	4.5						
50	10		18 in.	13-33-50/6"	CL: LEAN CLAY, gray (2.5Y 5/1), moist, hard. Lignite seam at least 12 in. thick at 50 ft.	-						

Notes:

Soil Lithologies based on field observations and laboratory analysis.

NA = not applicable; fbg. = feet below grade; in. = inches; ft. = feet; msl = mean sea level

Qp/Qu = unconfined compressive strength (tons / square foot); G = Gravel Content (%)

PL = Plastic Limit (%); LL = Liquid Limit (%); PI = Plasticity Index (%); S = Sand Content (%)

M/C = Silt or Clay Content (%); Blows = blows per 6 inches; RQD = rock quality index (%)

GPS Coordinates

Lat: 48° 6' 56.33"

Lon: 103° 5' 34.23"

SOIL BORING LOG

Groundwater & Environmental Services, Inc.

ID NO. **LB-1 (DRAFT)**

Project: **Lake Sakakwea HDD Geotechnical Investigation** Client: **CCI & Associates Inc.**

Address: **NA** GES Job #: **3502056**

County: **McKenzie** GES Project Mgr: **Rob Jenson**

Logged By: **Nick Schlagel** Date Drilled: **4/24/19 through 4/28/19** Soil Classification System: **USCS**

Drilling Company: **Interstate Drilling Services** Completion Date: **4/28/19**

Drill Operator: **Jared Zak** Drilling Method: **HSA (0 to 25 ft.), Fluid Rotary (25 to 185 ft.), NQ Rock Core (185 to 403 ft.)**

Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,908 ft. msl** Abandonment Method: **Tremie**

Total Depth: **403 ft.** Approximate Water Depth: **Not Encountered** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **4/28/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD (1 100)	Geologic Description	Qp /Qu	Atterbergs PL	Atterbergs LL	Atterbergs PI	G	S	M/C
55	11	18 in.	9-16-26		4.5						
60	12	13 in.	18-20-33	CL: LEAN CLAY, with trace silt, dark gray (2.5Y 4/1), moist, hard.	4.5						
65	13	18 in.	9-13-16	CL-ML: SILTY CLAY, gray (2.5Y 5/1), moist, very stiff.	3.25						
70	14	4 in.	50/4"	Lignite seam at least 4 in. thick at 69.5 ft.	-						
75	15	18 in.	15-21-32	ML: SILT, with trace clay, gray (2.5Y 5/1), moist, very dense. Lignite seam 1 in. thick at 75 ft.	4.5						
80	16	18 in.	10-14-16	CL: LEAN CLAY, with trace silt, gray (2.5Y 5/1), moist, hard.	4.5						

Notes:

Soil Lithologies based on field observations and laboratory analysis.

NA = not applicable; fbg. = feet below grade; in. = inches; ft. = feet; msl = mean sea level

Qp/Qu = unconfined compressive strength (tons / square foot); G = Gravel Content (%)

PL = Plastic Limit (%); LL = Liquid Limit (%); PI = Plasticity Index (%); S = Sand Content (%)

M/C = Silt or Clay Content (%); Blows = blows per 6 inches; RQD = rock quality index (%)

GPS Coordinates

Lat: 48° 6' 56.33"

Lon: 103° 5' 34.23"

SOIL BORING LOG

Groundwater & Environmental Services, Inc.

ID NO. **LB-1 (DRAFT)**

Project: **Lake Sakakwea HDD Geotechnical Investigation** Client: **CCI & Associates Inc.**

Address: **NA** GES Job #: **3502056**

County: **McKenzie** GES Project Mgr: **Rob Jenson**

Logged By: **Nick Schlagel** Date Drilled: **4/24/19 through 4/28/19** Soil Classification System: **USCS**

Drilling Company: **Interstate Drilling Services** Completion Date: **4/28/19**

Drill Operator: **Jared Zak** Drilling Method: **HSA (0 to 25 ft.), Fluid Rotary (25 to 185 ft.), NQ Rock Core (185 to 403 ft.)**

Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,908 ft. msl** Abandonment Method: **Tremie**

Total Depth: **403 ft.** Approximate Water Depth: **Not Encountered** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **4/28/19**

Depth (feet)	Sample	Sample Interval	Recovery (inches)	Blows / RQD (1 100)	Geologic Description	Qp /Qu	Atterbergs PL	Atterbergs LL	Atterbergs PI	G	S	M/C
85	17		18 in.	10-13-15	With trace lignite and very stiff at 84.5 ft.	3.75						
90	18		18 in.	23-30-41	CH: FAT CLAY, consolidated, possibly highly weathered shale, gray (2.5Y 5/1) moist, hard.	4.5						
95	19		5 in.	50/5"	Lignite seam at least 5 in. thick at 94.5 ft.	-						
100	20		18 in.	17-27-40	ML: SILT, with trace clay, gray (2.5Y 6/1), moist, very dense.	4.5						
105	21		18 in.	19-28-45		4.5						

Notes:

Soil Lithologies based on field observations and laboratory analysis.

NA = not applicable; fbg. = feet below grade; in. = inches; ft. = feet; msl = mean sea level

Qp/Qu = unconfined compressive strength (tons / square foot); G = Gravel Content (%)

PL = Plastic Limit (%); LL = Liquid Limit (%); PI = Plasticity Index (%); S = Sand Content (%)

M/C = Silt or Clay Content (%); Blows = blows per 6 inches; RQD = rock quality index (%)

GPS Coordinates

Lat: 48° 6' 56.33"

Lon: 103° 5' 34.23"

SOIL BORING LOG

Groundwater & Environmental Services, Inc.

ID NO. **LB-1 (DRAFT)**

Project: **Lake Sakakwea HDD Geotechnical Investigation** Client: **CCI & Associates Inc.**

Address: **NA** GES Job #: **3502056**

County: **McKenzie** GES Project Mgr: **Rob Jenson**

Logged By: **Nick Schlagel** Date Drilled: **4/24/19 through 4/28/19** Soil Classification System: **USCS**

Drilling Company: **Interstate Drilling Services** Completion Date: **4/28/19**

Drill Operator: **Jared Zak** Drilling Method: **HSA (0 to 25 ft.), Fluid Rotary (25 to 185 ft.), NQ Rock Core (185 to 403 ft.)**

Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,908 ft. msl** Abandonment Method: **Tremie**

Total Depth: **403 ft.** Approximate Water Depth: **Not Encountered** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **4/28/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD (1 100)	Geologic Description	Qp /Qu	Atterbergs PL	Atterbergs LL	Atterbergs PI	G	S	M/C
110	22	18 in.	11-28-48	CH: FAT CLAY, with trace silt and trace coal, consolidated, possibly highly weathered shale, gray (2.5Y 5/1) moist, hard.	4.5						
115	23	18 in.	17-33-50/6"	Lignite seam at least 1 in. thick at 116 ft.	4.5						
120	24	18 in.	21-28-41	ML: SILT, with trace clay, gray (2.5Y 5/1), moist, very dense.	4.5						
125	25	18 in.	21-36-50/6"	With trace lignite at 124.5 ft.	4.5						
130	26	18 in.	16-25-36		4.5						

Notes:

Soil Lithologies based on field observations and laboratory analysis.

NA = not applicable; fbg. = feet below grade; in. = inches; ft. = feet; msl = mean sea level

Qp/Qu = unconfined compressive strength (tons / square foot); G = Gravel Content (%)

PL = Plastic Limit (%); LL = Liquid Limit (%); PI = Plasticity Index (%); S = Sand Content (%)

M/C = Silt or Clay Content (%); Blows = blows per 6 inches; RQD = rock quality index (%)

GPS Coordinates

Lat: 48° 6' 56.33"

Lon: 103° 5' 34.23"

SOIL BORING LOG

Groundwater & Environmental Services, Inc.

ID NO. **LB-1 (DRAFT)**

Project: **Lake Sakakwea HDD Geotechnical Investigation** Client: **CCI & Associates Inc.**

Address: **NA** GES Job #: **3502056**

County: **McKenzie** GES Project Mgr: **Rob Jenson**

Logged By: **Nick Schlagel** Date Drilled: **4/24/19 through 4/28/19** Soil Classification System: **USCS**

Drilling Company: **Interstate Drilling Services** Completion Date: **4/28/19**

Drill Operator: **Jared Zak** Drilling Method: **HSA (0 to 25 ft.), Fluid Rotary (25 to 185 ft.), NQ Rock Core (185 to 403 ft.)**

Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,908 ft. msl** Abandonment Method: **Tremie**

Total Depth: **403 ft.** Approximate Water Depth: **Not Encountered** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **4/28/19**

Depth (feet)	Sample	Sample Interval	Recovery (inches)	Blows / RQD (1 100)	Geologic Description	Qp /Qu	Atterbergs PL	Atterbergs LL	Atterbergs PI	G	S	M/C
135	27		15 in.	21-36-50/3"		4.5						
140	28		18 in.	22-35-43	Lignite seam at least 2 in. thick at 139.5 ft.	4.5						
145	29		17 in.	24-36-50/5"		4.5						
150	30		18 in.	24-36-50/6"	Consolidated, weakly cemented, with lignite seam at least 1 in. thick at 151 ft.	4.5						
155	31		17 in.	27-43-50/5"	CL-ML: SILTY CLAY, consolidated, highly weathered shale, gray (2.5Y 5/1), moist, hard.	4.5						
160	32		12 in.	27-33-50/6"		4.5						

Notes:

Soil Lithologies based on field observations and laboratory analysis.

NA = not applicable; fbg. = feet below grade; in. = inches; ft. = feet; msl = mean sea level

Qp/Qu = unconfined compressive strength (tons / square foot); G = Gravel Content (%)

PL = Plastic Limit (%); LL = Liquid Limit (%); PI = Plasticity Index (%); S = Sand Content (%)

M/C = Silt or Clay Content (%); Blows = blows per 6 inches; RQD = rock quality index (%)

GPS Coordinates

Lat: 48° 6' 56.33"

Lon: 103° 5' 34.23"

SOIL BORING LOG

Groundwater & Environmental Services, Inc.

ID NO. **LB-1 (DRAFT)**

Project: **Lake Sakakwea HDD Geotechnical Investigation** Client: **CCI & Associates Inc.**

Address: **NA** GES Job #: **3502056**

County: **McKenzie** GES Project Mgr: **Rob Jenson**

Logged By: **Nick Schlagel** Date Drilled: **4/24/19 through 4/28/19** Soil Classification System: **USCS**

Drilling Company: **Interstate Drilling Services** Completion Date: **4/28/19**

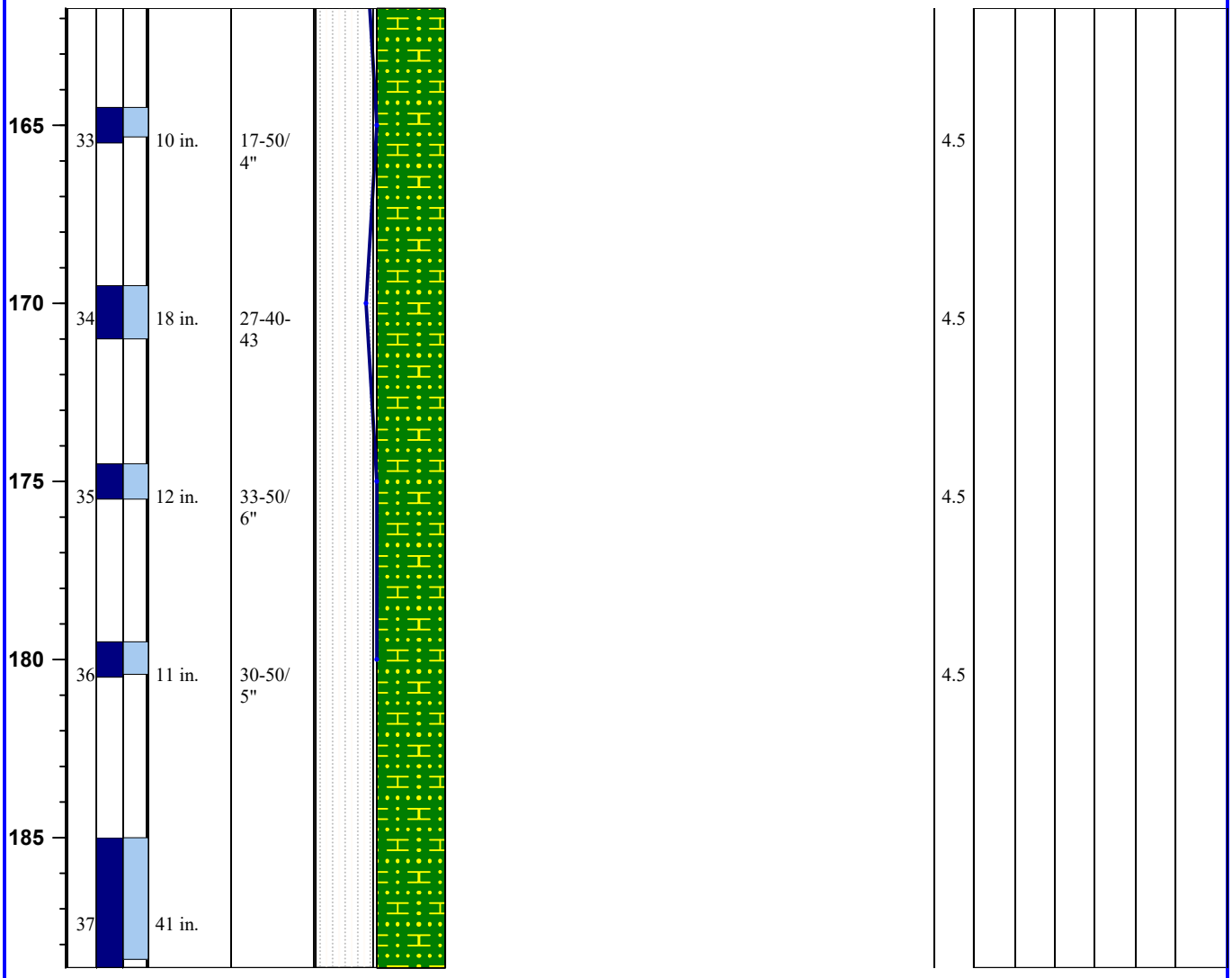
Drill Operator: **Jared Zak** Drilling Method: **HSA (0 to 25 ft.), Fluid Rotary (25 to 185 ft.), NQ Rock Core (185 to 403 ft.)**

Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,908 ft. msl** Abandonment Method: **Tremie**

Total Depth: **403 ft.** Approximate Water Depth: **Not Encountered** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **4/28/19**



Notes:

Soil Lithologies based on field observations and laboratory analysis.

NA = not applicable; fbg. = feet below grade; in. = inches; ft. = feet; msl = mean sea level

Qp/Qu = unconfined compressive strength (tons / square foot); G = Gravel Content (%)

PL = Plastic Limit (%); LL = Liquid Limit (%); PI = Plasticity Index (%); S = Sand Content (%)

M/C = Silt or Clay Content (%); Blows = blows per 6 inches; RQD = rock quality index (%)

GPS Coordinates

Lat: 48° 6' 56.33"

Lon: 103° 5' 34.23"

SOIL BORING LOG

Groundwater & Environmental Services, Inc.

ID NO. **LB-1 (DRAFT)**

Project: **Lake Sakakwea HDD Geotechnical Investigation** Client: **CCI & Associates Inc.**

Address: **NA** GES Job #: **3502056**

County: **McKenzie** GES Project Mgr: **Rob Jenson**

Logged By: **Nick Schlagel** Date Drilled: **4/24/19 through 4/28/19** Soil Classification System: **USCS**

Drilling Company: **Interstate Drilling Services** Completion Date: **4/28/19**

Drill Operator: **Jared Zak** Drilling Method: **HSA (0 to 25 ft.), Fluid Rotary (25 to 185 ft.), NQ Rock Core (185 to 403 ft.)**

Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,908 ft. msl** Abandonment Method: **Tremie**

Total Depth: **403 ft.** Approximate Water Depth: **Not Encountered** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **4/28/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD 1 100	Geologic Description	Qp /Qu	Atterbergs PL	LL	PI	G	S	M/C
190											
	38	36 in.									
195											
	39	54 in.									
200				Silt seam 4 in. thick at 200 ft.							
	40	60 in.									
205											
	41	60 in.									
210				Lignite seam 1 in. thick at 210 ft.							
	42	60 in.		Coal: Lignite coal, black (2.5Y 2.5/1).							
215	43										

Notes:

Soil Lithologies based on field observations and laboratory analysis.

NA = not applicable; fbg. = feet below grade; in. = inches; ft. = feet; msl = mean sea level

Qp/Qu = unconfined compressive strength (tons / square foot); G = Gravel Content (%)

PL = Plastic Limit (%); LL = Liquid Limit (%); PI = Plasticity Index (%); S = Sand Content (%)

M/C = Silt or Clay Content (%); Blows = blows per 6 inches; RQD = rock quality index (%)

GPS Coordinates

Lat: 48° 6' 56.33"

Lon: 103° 5' 34.23"

SOIL BORING LOG

Groundwater & Environmental Services, Inc.

ID NO. **LB-1 (DRAFT)**

Project: **Lake Sakakwea HDD Geotechnical Investigation** Client: **CCI & Associates Inc.**

Address: **NA** GES Job #: **3502056**

County: **McKenzie** GES Project Mgr: **Rob Jenson**

Logged By: **Nick Schlagel** Date Drilled: **4/24/19 through 4/28/19** Soil Classification System: **USCS**

Drilling Company: **Interstate Drilling Services** Completion Date: **4/28/19**

Drill Operator: **Jared Zak** Drilling Method: **HSA (0 to 25 ft.), Fluid Rotary (25 to 185 ft.), NQ Rock Core (185 to 403 ft.)**

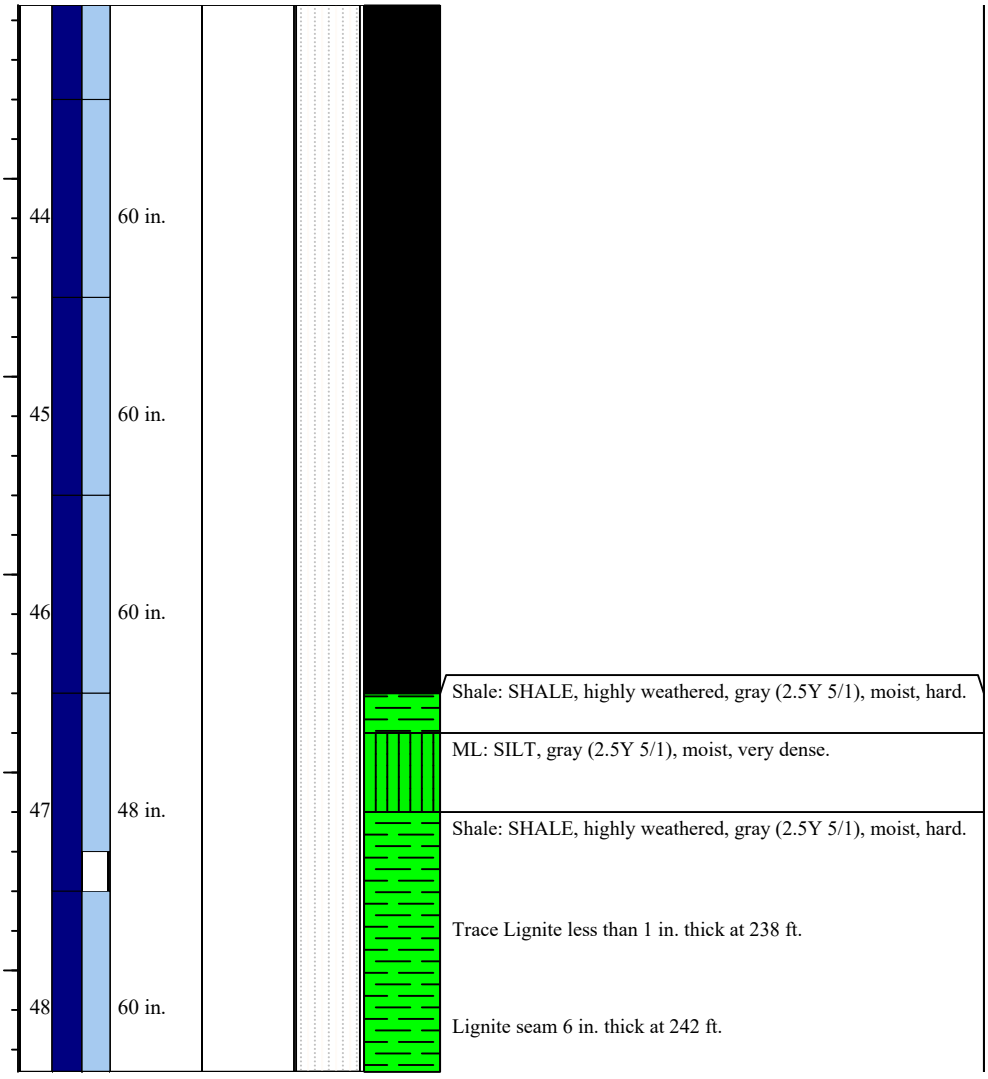
Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,908 ft. msl** Abandonment Method: **Tremie**

Total Depth: **403 ft.** Approximate Water Depth: **Not Encountered** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **4/28/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD 1 100	Geologic Description	Qp /Qu	Atterbergs PL	LL	PI	G	S	M/C
220	44	60 in.									
225	45	60 in.									
230	46	60 in.									
235	47	48 in.									
240	48	60 in.									



Notes:

Soil Lithologies based on field observations and laboratory analysis.

NA = not applicable; fbg. = feet below grade; in. = inches; ft. = feet; msl = mean sea level

Qp/Qu = unconfined compressive strength (tons / square foot); G = Gravel Content (%)

PL = Plastic Limit (%); LL = Liquid Limit (%); PI = Plasticity Index (%); S = Sand Content (%)

M/C = Silt or Clay Content (%); Blows = blows per 6 inches; RQD = rock quality index (%)

GPS Coordinates

Lat: 48° 6' 56.33"

Lon: 103° 5' 34.23"

SOIL BORING LOG

Groundwater & Environmental Services, Inc.

ID NO. **LB-1 (DRAFT)**

Project: **Lake Sakakwea HDD Geotechnical Investigation** Client: **CCI & Associates Inc.**

Address: **NA** GES Job #: **3502056**

County: **McKenzie** GES Project Mgr: **Rob Jenson**

Logged By: **Nick Schlagel** Date Drilled: **4/24/19 through 4/28/19** Soil Classification System: **USCS**

Drilling Company: **Interstate Drilling Services** Completion Date: **4/28/19**

Drill Operator: **Jared Zak** Drilling Method: **HSA (0 to 25 ft.), Fluid Rotary (25 to 185 ft.), NQ Rock Core (185 to 403 ft.)**

Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,908 ft. msl** Abandonment Method: **Tremie**

Total Depth: **403 ft.** Approximate Water Depth: **Not Encountered** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **4/28/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD 1 100	Geologic Description	Qp /Qu	Atterbergs PL	LL	PI	G	S	M/C
245	49	50 in.		ML: SANDY SILT, fine grained, gray (2.5Y 5/1), moist, very dense.							
				Shale: SHALE, highly weathered, gray (2.5Y 5/1), moist, hard.							
				Trace Lignite 1 in. thick at 248 ft.							
250	50	60 in.		ML: SANDY SILT, fine grained, gray (2.5Y 5/1), moist, very dense.							
				Shale: SHALE, highly weathered, gray (2.5Y 5/1), moist, hard.							
				Calcified layer, light gray (2.5Y 7/1), harder than surrounding shale, 6 in. thick at 251.5 ft.							
255	51	42 in.		ML: SANDY SILT, fine grained, gray (2.5Y 5/1), moist, very dense.							
260	52	60 in.									
				Shale: SHALE, highly weathered, gray (2.5Y 5/1), moist, hard.							
265	53	55 in.									
				Lignite seam 2 in. thick at 269 ft.							

Notes:

Soil Lithologies based on field observations and laboratory analysis.

NA = not applicable; fbg. = feet below grade; in. = inches; ft. = feet; msl = mean sea level

Qp/Qu = unconfined compressive strength (tons / square foot); G = Gravel Content (%)

PL = Plastic Limit (%); LL = Liquid Limit (%); PI = Plasticity Index (%); S = Sand Content (%)

M/C = Silt or Clay Content (%); Blows = blows per 6 inches; RQD = rock quality index (%)

GPS Coordinates

Lat: 48° 6' 56.33"

Lon: 103° 5' 34.23"

SOIL BORING LOG

Groundwater & Environmental Services, Inc.

ID NO. **LB-1 (DRAFT)**

Project: **Lake Sakakwea HDD Geotechnical Investigation** Client: **CCI & Associates Inc.**

Address: **NA** GES Job #: **3502056**

County: **McKenzie** GES Project Mgr: **Rob Jenson**

Logged By: **Nick Schlagel** Date Drilled: **4/24/19 through 4/28/19** Soil Classification System: **USCS**

Drilling Company: **Interstate Drilling Services** Completion Date: **4/28/19**

Drill Operator: **Jared Zak** Drilling Method: **HSA (0 to 25 ft.), Fluid Rotary (25 to 185 ft.), NQ Rock Core (185 to 403 ft.)**

Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,908 ft. msl** Abandonment Method: **Tremie**

Total Depth: **403 ft.** Approximate Water Depth: **Not Encountered** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **4/28/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD 1 100	Geologic Description	Qp /Qu	Atterbergs PL	LL	PI	G	S	M/C
270	54	60 in.		Color turns greenish gray (GLEY1 6/1) at 272 ft.							
				Shale: SHALE, highly weathered, with trace lignite, dark gray (2.5Y 4/1), moist, hard.							
275	55	60 in.		Lignite seam 5 in. thick at 276 ft.							
				Color turns to gray (2.5Y 5/1) and lignite seam 4 in. thick at 278 ft.							
280	56	60 in.		ML: SANDY SILT, fine grained, gray (2.5Y 5/1), moist, very dense.							
				Shale: SHALE, highly weathered, with trace lignite, greenish gray (GLEY1 6/1), moist, hard.							
285	57	60 in.		Color turns to gray (2.5Y 5/1) and lignite seam 1 in. thick at 285.5 ft.							
				ML: SILT, with trace clay, consolidated, weakly cemented, greenish gray (GLEY1 6/1) moist, very dense.							
290	58	60 in.		Lignite seam 1 in. thick at 288.5 ft.							
				Color turns to gray (2.5Y 5/1) at 293 ft.							
295	59	54 in.									

Notes:

Soil Lithologies based on field observations and laboratory analysis.

NA = not applicable; fbg. = feet below grade; in. = inches; ft. = feet; msl = mean sea level

Qp/Qu = unconfined compressive strength (tons / square foot); G = Gravel Content (%)

PL = Plastic Limit (%); LL = Liquid Limit (%); PI = Plasticity Index (%); S = Sand Content (%)

M/C = Silt or Clay Content (%); Blows = blows per 6 inches; RQD = rock quality index (%)

GPS Coordinates

Lat: 48° 6' 56.33"

Lon: 103° 5' 34.23"

SOIL BORING LOG

Groundwater & Environmental Services, Inc.

ID NO. **LB-1 (DRAFT)**

Project: **Lake Sakakwea HDD Geotechnical Investigation** Client: **CCI & Associates Inc.**

Address: **NA** GES Job #: **3502056**

County: **McKenzie** GES Project Mgr: **Rob Jenson**

Logged By: **Nick Schlagel** Date Drilled: **4/24/19 through 4/28/19** Soil Classification System: **USCS**

Drilling Company: **Interstate Drilling Services** Completion Date: **4/28/19**

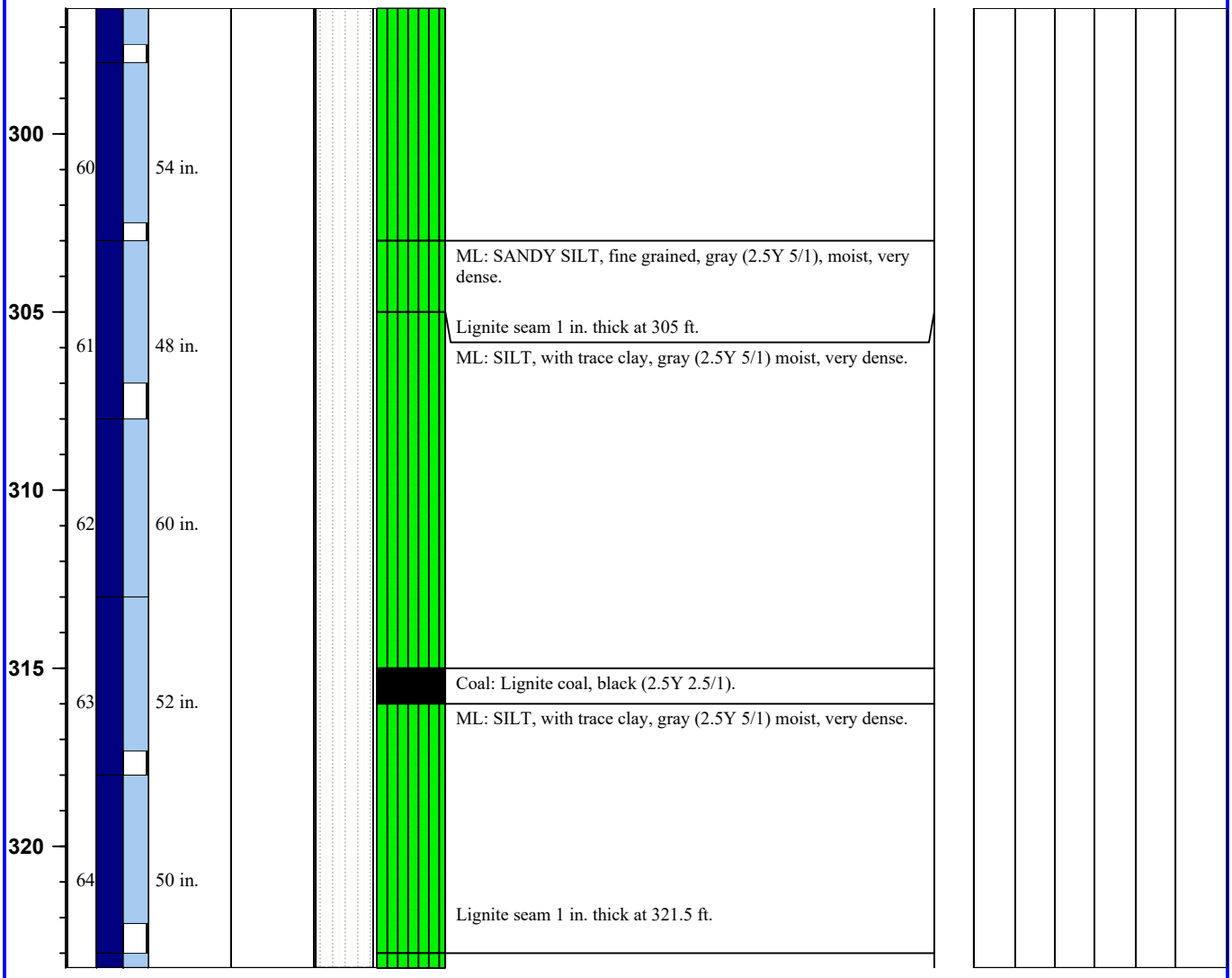
Drill Operator: **Jared Zak** Drilling Method: **HSA (0 to 25 ft.), Fluid Rotary (25 to 185 ft.), NQ Rock Core (185 to 403 ft.)**

Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,908 ft. msl** Abandonment Method: **Tremie**

Total Depth: **403 ft.** Approximate Water Depth: **Not Encountered** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **4/28/19**



Notes:

Soil Lithologies based on field observations and laboratory analysis.

NA = not applicable; fbg. = feet below grade; in. = inches; ft. = feet; msl = mean sea level

Qp/Qu = unconfined compressive strength (tons / square foot); G = Gravel Content (%)

PL = Plastic Limit (%); LL = Liquid Limit (%); PI = Plasticity Index (%); S = Sand Content (%)

M/C = Silt or Clay Content (%); Blows = blows per 6 inches; RQD = rock quality index (%)

GPS Coordinates

Lat: 48° 6' 56.33"

Lon: 103° 5' 34.23"

SOIL BORING LOG

Groundwater & Environmental Services, Inc.

ID NO. **LB-1 (DRAFT)**

Project: **Lake Sakakwea HDD Geotechnical Investigation** Client: **CCI & Associates Inc.**

Address: **NA** GES Job #: **3502056**

County: **McKenzie** GES Project Mgr: **Rob Jenson**

Logged By: **Nick Schlagel** Date Drilled: **4/24/19 through 4/28/19** Soil Classification System: **USCS**

Drilling Company: **Interstate Drilling Services** Completion Date: **4/28/19**

Drill Operator: **Jared Zak** Drilling Method: **HSA (0 to 25 ft.), Fluid Rotary (25 to 185 ft.), NQ Rock Core (185 to 403 ft.)**

Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,908 ft. msl** Abandonment Method: **Tremie**

Total Depth: **403 ft.** Approximate Water Depth: **Not Encountered** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **4/28/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD (1 100)	Geologic Description	Qp /Qu	Atterbergs PL	LL	PI	G	S	M/C
325	65	60 in.		ML: SILT, with trace clay, with fine grained sandy silt lenses throughout, gray (2.5Y 5/1) moist, very dense.							
				Coal: Lignite coal, black (2.5Y 2.5/1).							
				ML: SILT, with trace clay, with fine grained sandy silt lenses throughout, gray (2.5Y 5/1) moist, very dense.							
330	66	45 in.									
335	67	60 in.									
				Shale: SHALE, gray (2.5Y 5/1), moist, hard.							
				ML: SILT, with trace clay, with fine grained sandy silt lenses throughout, gray (2.5Y 5/1) moist, very dense.							
340	68	54 in.									
				Coal: Lignite coal, black (2.5Y 2.5/1).							
				ML: SILT, with trace clay, with fine grained sandy silt lenses throughout, gray (2.5Y 5/1) moist, very dense.							
345	69	60 in.		Lignite seam 3 in. thick at 345 ft.							
350				Coal: Lignite coal, black (2.5Y 2.5/1).							

Notes:

Soil Lithologies based on field observations and laboratory analysis.

NA = not applicable; fbg. = feet below grade; in. = inches; ft. = feet; msl = mean sea level

Qp/Qu = unconfined compressive strength (tons / square foot); G = Gravel Content (%)

PL = Plastic Limit (%); LL = Liquid Limit (%); PI = Plasticity Index (%); S = Sand Content (%)

M/C = Silt or Clay Content (%); Blows = blows per 6 inches; RQD = rock quality index (%)

GPS Coordinates

Lat: 48° 6' 56.33"

Lon: 103° 5' 34.23"

SOIL BORING LOG

Groundwater & Environmental Services, Inc.

ID NO. **LB-1 (DRAFT)**

Project: **Lake Sakakwea HDD Geotechnical Investigation** Client: **CCI & Associates Inc.**

Address: **NA** GES Job #: **3502056**

County: **McKenzie** GES Project Mgr: **Rob Jenson**

Logged By: **Nick Schlagel** Date Drilled: **4/24/19 through 4/28/19** Soil Classification System: **USCS**

Drilling Company: **Interstate Drilling Services** Completion Date: **4/28/19**

Drill Operator: **Jared Zak** Drilling Method: **HSA (0 to 25 ft.), Fluid Rotary (25 to 185 ft.), NQ Rock Core (185 to 403 ft.)**

Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,908 ft. msl** Abandonment Method: **Tremie**

Total Depth: **403 ft.** Approximate Water Depth: **Not Encountered** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **4/28/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD 1 100	Geologic Description	Qp /Qu	Atterbergs PL	LL	PI	G	S	M/C
355	70	32 in.		ML: SILT, with trace clay, with fine grained sandy silt lenses throughout, gray (2.5Y 5/1) moist, very dense.							
	71	60 in.									
360	72	60 in.		ML: SILT, with trace fine grained sand, weakly cemented, gray (2.5Y 6/1) moist, very dense.							
365	73	50 in.									
370	74	60 in.									
375	75	60 in.									

Notes:

Soil Lithologies based on field observations and laboratory analysis.

NA = not applicable; fbg. = feet below grade; in. = inches; ft. = feet; msl = mean sea level

Qp/Qu = unconfined compressive strength (tons / square foot); G = Gravel Content (%)

PL = Plastic Limit (%); LL = Liquid Limit (%); PI = Plasticity Index (%); S = Sand Content (%)

M/C = Silt or Clay Content (%); Blows = blows per 6 inches; RQD = rock quality index (%)

GPS Coordinates

Lat: 48° 6' 56.33"

Lon: 103° 5' 34.23"

SOIL BORING LOG

Groundwater & Environmental Services, Inc.

ID NO. **LB-1 (DRAFT)**

Project: **Lake Sakakwea HDD Geotechnical Investigation** Client: **CCI & Associates Inc.**

Address: **NA** GES Job #: **3502056**

County: **McKenzie** GES Project Mgr: **Rob Jenson**

Logged By: **Nick Schlagel** Date Drilled: **4/24/19 through 4/28/19** Soil Classification System: **USCS**

Drilling Company: **Interstate Drilling Services** Completion Date: **4/28/19**

Drill Operator: **Jared Zak** Drilling Method: **HSA (0 to 25 ft.), Fluid Rotary (25 to 185 ft.), NQ Rock Core (185 to 403 ft.)**

Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,908 ft. msl** Abandonment Method: **Tremie**

Total Depth: **403 ft.** Approximate Water Depth: **Not Encountered** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **4/28/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD 1 100	Geologic Description	Qp /Qu	Atterbergs PL	LL	PI	G	S	M/C
380	76	60 in.		Coal: Lignite coal, black (2.5Y 2.5/1).							
385	77	58 in.									
390	78	60 in.		ML: SILT, with trace clay, weakly cemented, gray (2.5Y 6/1) moist, very dense.							
395	79	60 in.									
400				Coal: Lignite coal, black (2.5Y 2.5/1).							
	80	58 in.		ML: SILT, with trace clay, weakly cemented, gray (2.5Y 6/1) moist, very dense.							

Notes:

Soil Lithologies based on field observations and laboratory analysis.

NA = not applicable; fbg. = feet below grade; in. = inches; ft. = feet; msl = mean sea level

Qp/Qu = unconfined compressive strength (tons / square foot); G = Gravel Content (%)

PL = Plastic Limit (%); LL = Liquid Limit (%); PI = Plasticity Index (%); S = Sand Content (%)

M/C = Silt or Clay Content (%); Blows = blows per 6 inches; RQD = rock quality index (%)

GPS Coordinates

Lat: 48° 6' 56.33"

Lon: 103° 5' 34.23"

SOIL BORING LOG

Groundwater & Environmental Services, Inc.

ID NO. **LB-2 (DRAFT)**

Project: **Lake Sakakwea HDD Geotechnical Investigation** Client: **CCI & Associates Inc.**

Address: **NA** GES Job #: **3502056**

County: **McKenzie** GES Project Mgr: **Rob Jenson**

Logged By: **Nick Schlagel** Date Drilled: **4/28/19 through 5/1/19** Soil Classification System: **USCS**

Drilling Company: **Interstate Drilling Services** Completion Date: **5/1/19**

Drill Operator: **Jared Zak** Drilling Method: **HSA (0 to 25 ft.), Fluid Rotary (25 to 153 ft.), NQ Rock Core (153 to 400 ft.)**

Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,920 ft. msl** Abandonment Method: **Tremie**

Total Depth: **400 ft.** Approximate Water Depth: **Not Encountered** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **5/1/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD (1 100)	Geologic Description	Qp /Qu	Atterbergs PL	Atterbergs LL	Atterbergs PI	G	S	M/C
0				ML: SILT, with trace clay, light brownish gray (2.5Y 6/2), moist, medium dense.							
5	1	6 in.	7-8-9		-						
10	2	11 in.	6-6-11	SM: SILTY SAND, fine grained, light olive brown (2.5Y 5/3), moist, medium dense.	-						
15	3	13 in.	7-9-9	ML: SILT, with trace clay, light olive brown (2.5Y 5/3), moist, medium dense.	-						
20	4	16 in.	6-7-10	Color turns to dark grayish brown (2.5Y 4/2) at 19.5 ft.	-						
25	5	16 in.	4-4-4	SM: SILTY SAND, fine grained, light olive brown (2.5Y 5/3), moist, loose.	-						

Notes:

Soil Lithologies based on field observations and laboratory analysis.

NA = not applicable; fbg. = feet below grade; in. = inches; ft. = feet; msl = mean sea level

Qp/Qu = unconfined compressive strength (tons / square foot); G = Gravel Content (%)

PL = Plastic Limit (%); LL = Liquid Limit (%); PI = Plasticity Index (%); S = Sand Content (%)

M/C = Silt or Clay Content (%); Blows = blows per 6 inches; RQD = rock quality index (%)

GPS Coordinates

Lat: 48° 7' 3.56"

Lon: 103° 5' 33.40"

SOIL BORING LOG

Groundwater & Environmental Services, Inc.

ID NO. **LB-2 (DRAFT)**

Project: **Lake Sakakwea HDD Geotechnical Investigation** Client: **CCI & Associates Inc.**

Address: **NA** GES Job #: **3502056**

County: **McKenzie** GES Project Mgr: **Rob Jenson**

Logged By: **Nick Schlagel** Date Drilled: **4/28/19 through 5/1/19** Soil Classification System: **USCS**

Drilling Company: **Interstate Drilling Services** Completion Date: **5/1/19**

Drill Operator: **Jared Zak** Drilling Method: **HSA (0 to 25 ft.), Fluid Rotary (25 to 153 ft.), NQ Rock Core (153 to 400 ft.)**

Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,920 ft. msl** Abandonment Method: **Tremie**

Total Depth: **400 ft.** Approximate Water Depth: **Not Encountered** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **5/1/19**

Depth (feet)	Sample	Sample Interval	Recovery (inches)	Blows / RQD (1 100)	Geologic Description	Qp /Qu	Atterbergs PL	Atterbergs LL	Atterbergs PI	G	S	M/C
30	6		15 in.	5-5-6	ML: SANDY SILT, fine grained, grayish brown (2.5Y 5/2), moist, medium dense.	-						
35	7		18 in.	4-4-8	CL: LEAN CLAY, with trace silt, gray (2.5Y 5/1), moist, very stiff.	2.25						
40	8		18 in.	4-5-8		2.75						
45	9		18 in.	4-6-7		2.75						
50	10		18 in.	5-7-8		3.0						

Notes:

Soil Lithologies based on field observations and laboratory analysis.

NA = not applicable; fbg. = feet below grade; in. = inches; ft. = feet; msl = mean sea level

Qp/Qu = unconfined compressive strength (tons / square foot); G = Gravel Content (%)

PL = Plastic Limit (%); LL = Liquid Limit (%); PI = Plasticity Index (%); S = Sand Content (%)

M/C = Silt or Clay Content (%); Blows = blows per 6 inches; RQD = rock quality index (%)

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Logged By: **Nick Schlagel** Date Drilled: **4/28/19 through 5/1/19** Soil Classification System: **USCS**

Drilling Company: **Interstate Drilling Services** Completion Date: **5/1/19**

Drill Operator: **Jared Zak** Drilling Method: **HSA (0 to 25 ft.), Fluid Rotary (25 to 153 ft.), NQ Rock Core (153 to 400 ft.)**

Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,920 ft. msl** Abandonment Method: **Tremie**

Total Depth: **400 ft.** Approximate Water Depth: **Not Encountered** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **5/1/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD (1 100)	Geologic Description	Qp /Qu	Atterbergs PL	Atterbergs LL	Atterbergs PI	G	S	M/C
55	11	12 in.	10-13-13	SP: POORLY GRADED SAND, fine grained, with trace silt, grayish brown (2.5Y 5/2) moist, medium dense.	-						
60	12	16 in.	8-10-10	SP: POORLY GRADED SAND, fine grained, grayish brown (2.5Y 5/2) moist, medium dense.	-						
65	13	18 in.	7-8-12		-						
70	14	12 in.	7-4-6	SP: POORLY GRADED SAND, fine grained with trace medium grained, with trace silt, grayish brown (2.5Y 5/2) moist, loose.	-						
75	15	14 in.	11-14-16	SP: POORLY GRADED SAND, fine to medium grained, grayish brown (2.5Y 5/2) moist, medium dense.	-						
80	16	12 in.	13-11-12		-						

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Drill Operator: **Jared Zak** Drilling Method: **HSA (0 to 25 ft.), Fluid Rotary (25 to 153 ft.), NQ Rock Core (153 to 400 ft.)**

Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,920 ft. msl** Abandonment Method: **Tremie**

Total Depth: **400 ft.** Approximate Water Depth: **Not Encountered** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **5/1/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD (1 100)	Geologic Description	Qp /Qu	Atterbergs PL	Atterbergs LL	Atterbergs PI	G	S	M/C
85	17	12 in.	13-17-19	Fine grained and dense at 84.5 ft.	-						
90	18	14 in.	6-7-9	With trace silt and medium dense at 89.5 ft.	-						
95	19	13 in.	10-14-14	Mostly fine grained with some medium grained at 94.5 ft.	-						
100	20	12 in.	9-17-17	Fine grained and dense at 99.5 ft.	-						
105	21	13 in.	8-9-9	Medium dense at 104.5 ft.	-						

Notes:

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Drilling Company: **Interstate Drilling Services** Completion Date: **5/1/19**

Drill Operator: **Jared Zak** Drilling Method: **HSA (0 to 25 ft.), Fluid Rotary (25 to 153 ft.), NQ Rock Core (153 to 400 ft.)**

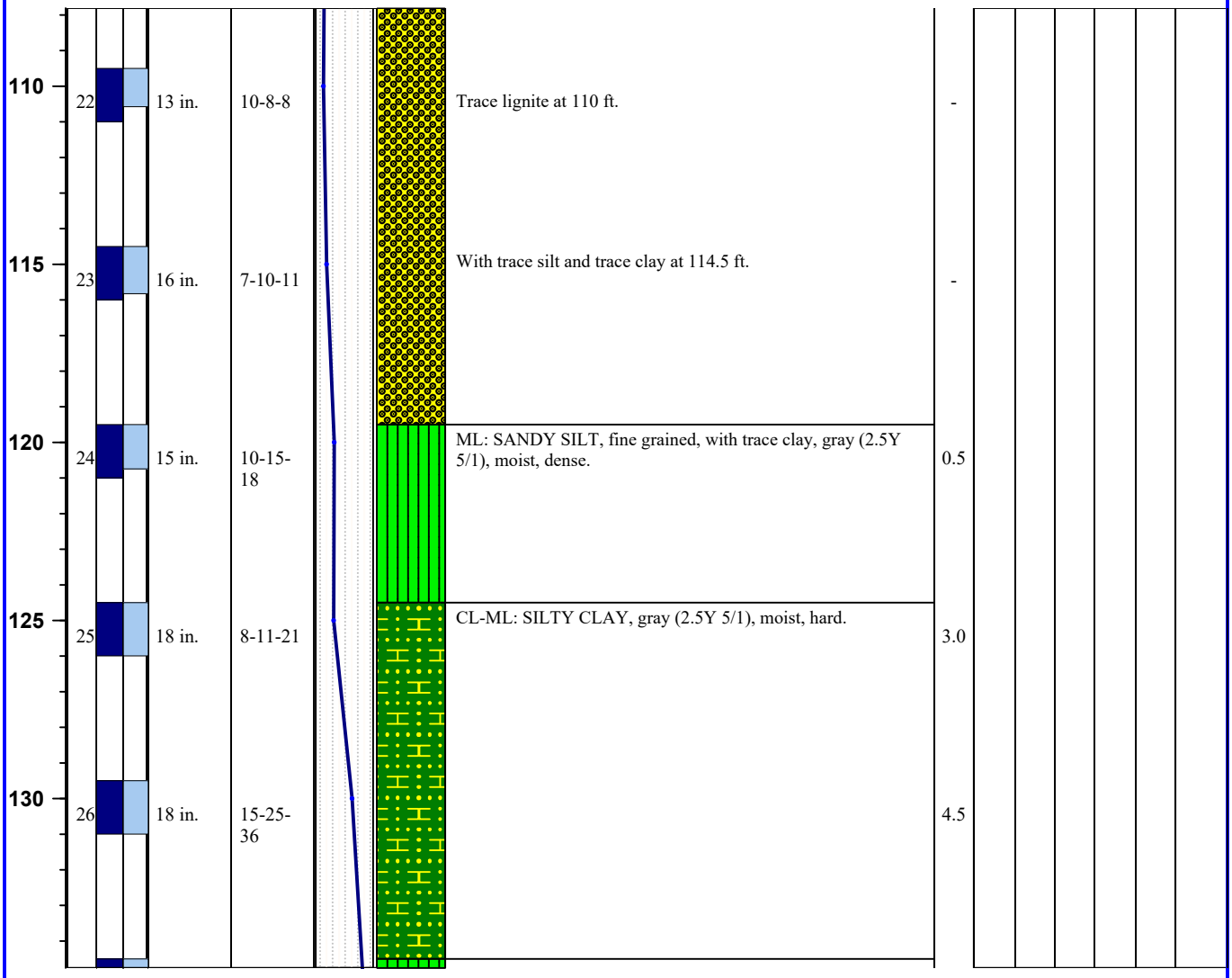
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Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,920 ft. msl** Abandonment Method: **Tremie**

Total Depth: **400 ft.** Approximate Water Depth: **Not Encountered** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **5/1/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD (1 100)	Geologic Description	Qp /Qu	Atterbergs PL	LL	PI	G	S	M/C
110	22	13 in.	10-8-8	Trace lignite at 110 ft.	-						
115	23	16 in.	7-10-11	With trace silt and trace clay at 114.5 ft.	-						
120	24	15 in.	10-15-18	ML: SANDY SILT, fine grained, with trace clay, gray (2.5Y 5/1), moist, dense.	0.5						
125	25	18 in.	8-11-21	CL-ML: SILTY CLAY, gray (2.5Y 5/1), moist, hard.	3.0						
130	26	18 in.	15-25-36		4.5						



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Drilling Company: **Interstate Drilling Services** Completion Date: **5/1/19**

Drill Operator: **Jared Zak** Drilling Method: **HSA (0 to 25 ft.), Fluid Rotary (25 to 153 ft.), NQ Rock Core (153 to 400 ft.)**

Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,920 ft. msl** Abandonment Method: **Tremie**

Total Depth: **400 ft.** Approximate Water Depth: **Not Encountered** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **5/1/19**

Depth (feet)	Sample	Sample Interval	Recovery (inches)	Blows / RQD (1 100)	Geologic Description	Qp /Qu	Atterbergs PL	Atterbergs LL	Atterbergs PI	G	S	M/C
135	27		18 in.	17-24-34	ML: SILT, with trace fine grained sand, gray (2.5Y 5/1), moist, very dense.	-						
140	28		12 in.	20-50/6"	ML: SILT, with trace clay, weakly cemented, gray (2.5Y 5/1), moist, very dense. Lignite seam at least 1 in. thick at 140.5 ft.	4.5						
145	29		12 in.	20-50/6"	With trace lignite at 144.5 ft.	4.5						
150	30		12 in.	18-50/6"		4.5						
155	31		48 in.		Shale: SHALE, highly weathered, consolidated silty clay, gray (2.5Y 5/1), moist, hard.							
160	32		24 in.		Lignite seam at least 4 in. thick at 160 ft.							

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Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,920 ft. msl** Abandonment Method: **Tremie**

Total Depth: **400 ft.** Approximate Water Depth: **Not Encountered** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **5/1/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD (1 100)	Geologic Description	Qp /Qu	Atterbergs PL	Atterbergs LL	Atterbergs PI	G	S	M/C
165	33	60 in.		Poor recovery, suspect non-cohesive sand was washed out and not collected in the core barrel from 165 to 170 ft.							
170	34	15 in.		Poor recovery, suspect non-cohesive sand was washed out and not collected in the core barrel from 170 to 175 ft.							
175	35	11 in.		No Recovery 175 to 180 ft.							
180	36	0 in.		Shale: SHALE, highly weathered, consolidated silty clay, gray (2.5Y 5/1), moist, hard. Poor recovery, suspect non-cohesive sand was washed out and not collected in the core barrel from 180 to 185 ft.							
185	37	20 in.		Fine grained silty sand seam 3 in. thick at 183 ft.							
	38	41 in.									

Notes:

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Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,920 ft. msl** Abandonment Method: **Tremie**

Total Depth: **400 ft.** Approximate Water Depth: **Not Encountered** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **5/1/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD (1 100)	Geologic Description	Qp /Qu	Atterbergs PL	Atterbergs LL	Atterbergs PI	G	S	M/C
190											
	39	54 in.		Shale: SHALE, weathered, gray (2.5Y 5/1), moist, hard.							
				Shale: SHALE, gray (2.5Y 5/1), moist, hard.							
195				Poor recovery, suspect non-cohesive sand was washed out and not collected in the core barrel from 195 to 200 ft.							
	40	17 in.									
200				Siltstone: SILTSTONE, highly weathered, consolidated silt with trace clay, gray (2.5Y 5/1), moist, hard.							
	41	54 in.									
205											
	42	47 in.									
210											
	43	54 in.									
215				Lignite seam 1 in. thick at 214.5 ft.							

Notes:

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Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,920 ft. msl** Abandonment Method: **Tremie**

Total Depth: **400 ft.** Approximate Water Depth: **Not Encountered** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **5/1/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD (1 100)	Geologic Description	Qp /Qu	Atterbergs PL	LL	PI	G	S	M/C
220	44	48 in.		Coal: Lignite coal, black (2.5Y 2.5/1).							
225	45	60 in.									
	46	58 in.									
230	47	60 in.									
235	48	48 in.		ML: SILT, with trace lignite, gray (2.5Y 5/1), moist, very dense.							
240	49			With trace fine grained sand at 240 ft. Lignite seam less than 1 in. thick at 240.5 ft.							

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Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,920 ft. msl** Abandonment Method: **Tremie**

Total Depth: **400 ft.** Approximate Water Depth: **Not Encountered** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **5/1/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD 1 100	Geologic Description	Qp /Qu	Atterbergs PL	LL	PI	G	S	M/C
245	49			Lignite seam less than 1 in. thick at 243.5 and 244 ft.							
				Poor recovery, suspect non-cohesive sand was washed out and not collected in the core barrel from 245 to 250 ft.							
	50	33 in.									
250				Poor recovery, suspect non-cohesive sand was washed out and not collected in the core barrel from 250 to 255 ft.							
	51	0 in.									
255				ML: SANDY SILT, fine grained, with trace clay, gray (2.5Y 5/1), moist, dense.							
				ML: SILT, gray (2.5Y 5/1), moist, very dense.							
	52	48 in.									
260				With trace clay at 260 ft.							
	53	60 in.									
265				Weakly cemented at 265 ft.							
	54	60 in.									

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Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,920 ft. msl** Abandonment Method: **Tremie**

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Refusal Depth: **NA** Abandonment Completion Date: **5/1/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD (1 100)	Geologic Description	Qp /Qu	Atterbergs PL	Atterbergs LL	Atterbergs PI	G	S	M/C
270				ML: SANDY SILT, fine grained, weakly cemented, gray (2.5Y 5/1), moist, dense.							
	55	57 in.									
275				ML: SILT, with trace clay, weakly cemented, gray (2.5Y 5/1), moist, very dense.							
	56	48 in.		Lignite seam 3 in. thick at 276 ft. Lignite seam 6 in. thick at 277.5 ft.							
280				With trace lignite seams throughout at 280 ft.							
	57	60 in.									
285				Lignite seam 4 in. thick at 286 ft.							
	58	45 in.		Lignite seam 4 in. thick at 288.5 ft.							
290				ML: SILT, with trace clay, weakly cemented, with trace lignite throughout, gray (2.5Y 5/1), moist, very dense.							
	59	54 in.									
295											

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Total Depth: **400 ft.** Approximate Water Depth: **Not Encountered** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **5/1/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD (1 100)	Geologic Description	Qp /Qu	Atterbergs PL	LL	PI	G	S	M/C
300	60	60 in.		Lignite seam 1 in. thick at 297.5 ft. Sandy silt seam 4 in. thick at 299 ft.							
305	61	48 in.		SM: SILTY SAND, fine grained, gray (2.5Y 5/1), moist, very dense. Silt seam with trace clay 6 in. thick at 304 ft. SP-SM: SAND WITH SILT, fine grained, gray (2.5Y 5/1), moist, very dense.							
310	62	43 in.		ML: SILT, gray (2.5Y 5/1), moist, very dense. Fine grained sand with silt seam 4 in. thick at 309 ft. Lignite seam 2 in. thick at 310 ft. ML: SILT, with trace clay, gray (2.5Y 5/1) moist, very dense.							
315	63	60 in.		Coal: Lignite coal, black (2.5Y 2.5/1). ML: SILT, with trace fine grained sand, with trace lignite throughout, gray (2.5Y 5/1) moist, very dense.							
320	64	57 in.		Coal: Lignite coal, black (2.5Y 2.5/1). ML: SILT, with trace clay, gray (2.5Y 5/1) moist, very dense.							
	65	60 in.									

Notes:

Soil Lithologies based on field observations and laboratory analysis.

NA = not applicable; fbg. = feet below grade; in. = inches; ft. = feet; msl = mean sea level

Qp/Qu = unconfined compressive strength (tons / square foot); G = Gravel Content (%)

PL = Plastic Limit (%); LL = Liquid Limit (%); PI = Plasticity Index (%); S = Sand Content (%)

M/C = Silt or Clay Content (%); Blows = blows per 6 inches; RQD = rock quality index (%)

GPS Coordinates

Lat: 48° 7' 3.56"

Lon: 103° 5' 33.40"

SOIL BORING LOG

Groundwater & Environmental Services, Inc.

ID NO. **LB-2 (DRAFT)**

Project: **Lake Sakakwea HDD Geotechnical Investigation** Client: **CCI & Associates Inc.**

Address: **NA** GES Job #: **3502056**

County: **McKenzie** GES Project Mgr: **Rob Jenson**

Logged By: **Nick Schlagel** Date Drilled: **4/28/19 through 5/1/19** Soil Classification System: **USCS**

Drilling Company: **Interstate Drilling Services** Completion Date: **5/1/19**

Drill Operator: **Jared Zak** Drilling Method: **HSA (0 to 25 ft.), Fluid Rotary (25 to 153 ft.), NQ Rock Core (153 to 400 ft.)**

Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,920 ft. msl** Abandonment Method: **Tremie**

Total Depth: **400 ft.** Approximate Water Depth: **Not Encountered** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **5/1/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD (1 100)	Geologic Description	Qp /Qu	Atterbergs PL	LL	PI	G	S	M/C
325				ML: SILT, with trace fine grained sand, gray (2.5Y 5/1) moist, very dense.							
				SP-SM: SAND WITH SILT, fine grained, gray (2.5Y 5/1), moist, very dense.							
	66	36 in.									
330											
	67	36 in.									
				Coal: Lignite coal, black (2.5Y 2.5/1).							
335				ML: SANDY SILT, fine grained, gray (2.5Y 5/1), moist, dense.							
	68	60 in.									
340				ML: SILT, with trace fine grained sand, gray (2.5Y 5/1) moist, very dense.							
	69	34 in.		Lignite seams 5 in. thick at 341 ft. and 3 in. thick at 342 ft.							
345				With trace clay and trace lignite throughout and color turns to greenish gray (GLEY1 6/1) at 345 ft.							
	70	60 in.									
350											

Notes:

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NA = not applicable; fbg. = feet below grade; in. = inches; ft. = feet; msl = mean sea level

Qp/Qu = unconfined compressive strength (tons / square foot); G = Gravel Content (%)

PL = Plastic Limit (%); LL = Liquid Limit (%); PI = Plasticity Index (%); S = Sand Content (%)

M/C = Silt or Clay Content (%); Blows = blows per 6 inches; RQD = rock quality index (%)

GPS Coordinates

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SOIL BORING LOG

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Project: **Lake Sakakwea HDD Geotechnical Investigation** Client: **CCI & Associates Inc.**

Address: **NA** GES Job #: **3502056**

County: **McKenzie** GES Project Mgr: **Rob Jenson**

Logged By: **Nick Schlagel** Date Drilled: **4/28/19 through 5/1/19** Soil Classification System: **USCS**

Drilling Company: **Interstate Drilling Services** Completion Date: **5/1/19**

Drill Operator: **Jared Zak** Drilling Method: **HSA (0 to 25 ft.), Fluid Rotary (25 to 153 ft.), NQ Rock Core (153 to 400 ft.)**

Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,920 ft. msl** Abandonment Method: **Tremie**

Total Depth: **400 ft.** Approximate Water Depth: **Not Encountered** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **5/1/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD 1 100	Geologic Description	Qp /Qu	Atterbergs PL	LL	PI	G	S	M/C
355	71	42 in.		SP: POORLY GRADED SAND, fine grained, with trace silt, weakly cemented, greenish gray (GLEY1 6/1), moist, very dense.							
360	72	59 in.									
	73	60 in.									
365	74	55 in.									
370	75	60 in.									
375				Coal: Lignite coal, black (2.5Y 2.5/1).							

Notes:

Soil Lithologies based on field observations and laboratory analysis.

NA = not applicable; fbg. = feet below grade; in. = inches; ft. = feet; msl = mean sea level

Qp/Qu = unconfined compressive strength (tons / square foot); G = Gravel Content (%)

PL = Plastic Limit (%); LL = Liquid Limit (%); PI = Plasticity Index (%); S = Sand Content (%)

M/C = Silt or Clay Content (%); Blows = blows per 6 inches; RQD = rock quality index (%)

GPS Coordinates

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Lon: 103° 5' 33.40"

SOIL BORING LOG

Groundwater & Environmental Services, Inc.

ID NO. **LB-2 (DRAFT)**

Project: **Lake Sakakwea HDD Geotechnical Investigation** Client: **CCI & Associates Inc.**

Address: **NA** GES Job #: **3502056**

County: **McKenzie** GES Project Mgr: **Rob Jenson**

Logged By: **Nick Schlagel** Date Drilled: **4/28/19 through 5/1/19** Soil Classification System: **USCS**

Drilling Company: **Interstate Drilling Services** Completion Date: **5/1/19**

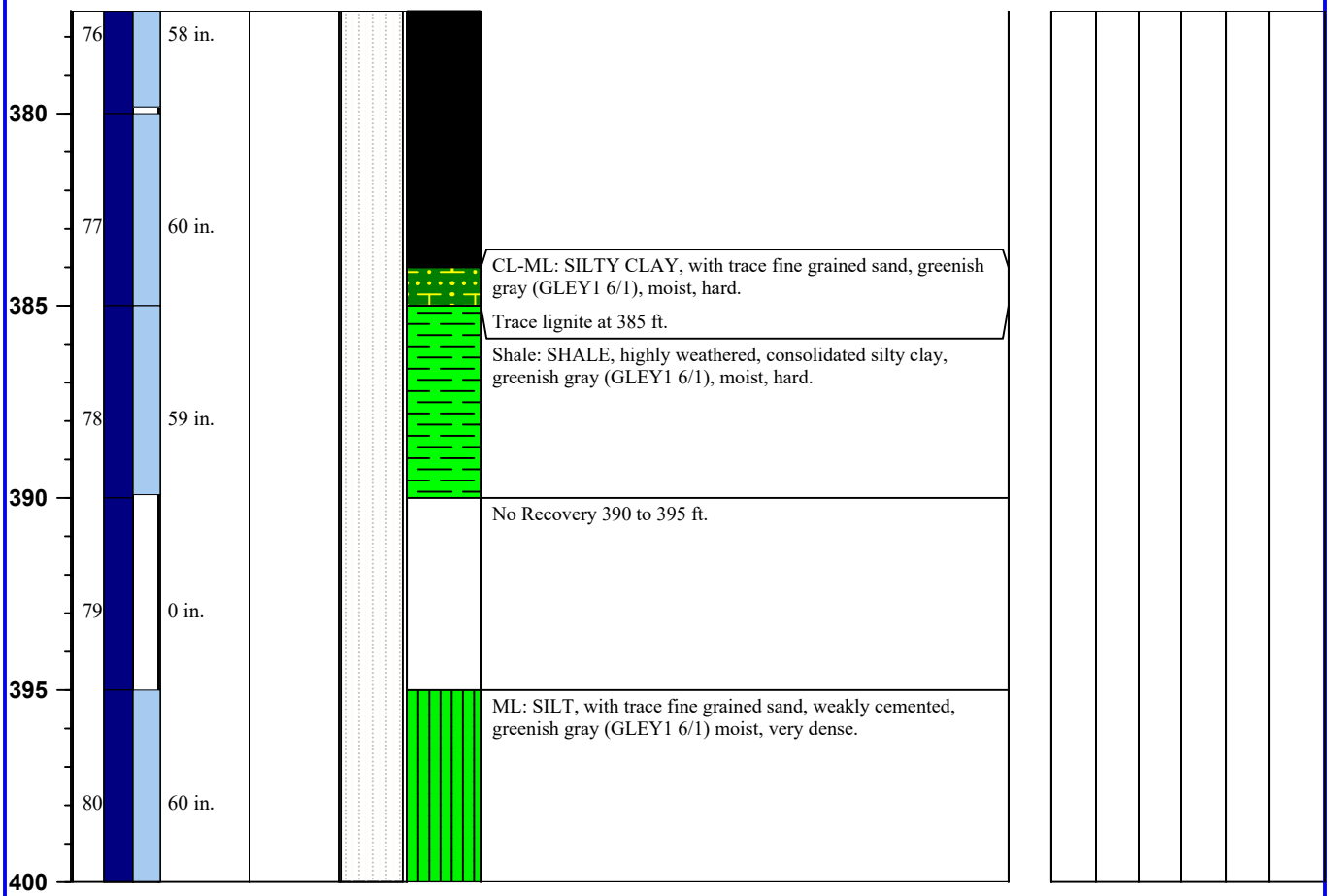
Drill Operator: **Jared Zak** Drilling Method: **HSA (0 to 25 ft.), Fluid Rotary (25 to 153 ft.), NQ Rock Core (153 to 400 ft.)**

Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,920 ft. msl** Abandonment Method: **Tremie**

Total Depth: **400 ft.** Approximate Water Depth: **Not Encountered** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **5/1/19**



Notes:

Soil Lithologies based on field observations and laboratory analysis.

NA = not applicable; fbg. = feet below grade; in. = inches; ft. = feet; msl = mean sea level

Qp/Qu = unconfined compressive strength (tons / square foot); G = Gravel Content (%)

PL = Plastic Limit (%); LL = Liquid Limit (%); PI = Plasticity Index (%); S = Sand Content (%)

M/C = Silt or Clay Content (%); Blows = blows per 6 inches; RQD = rock quality index (%)

GPS Coordinates

Lat: 48° 7' 3.56"

Lon: 103° 5' 33.40"

SOIL BORING LOG

Groundwater & Environmental Services, Inc.

ID NO. **LB-3 (DRAFT)**

Project: **Lake Sakakawea HDD Geotechnical Investigation** Client: **CCI & Associates Inc.**

Address: **NA** GES Job #: **3502056**

County: **Williams** GES Project Mgr: **Rob Jenson**

Logged By: **Nick Schlagel** Date Drilled: **5/3/19 through 5/4/19** Soil Classification System: **USCS**

Drilling Company: **Interstate Drilling Services** Completion Date: **5/5/19**

Drill Operator: **Jared Zak** Drilling Method: **HSA (0 to 65 ft.), Fluid Rotary (65 to 175 ft.), NQ Rock Core (175 to 370 ft.)**

Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,870 ft. msl** Abandonment Method: **Tremie**

Total Depth: **372 ft.** Approximate Water Depth: **24.5 ft.** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **5/5/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD (1 100)	Geologic Description	Qp /Qu	Atterbergs PL	Atterbergs LL	Atterbergs PI	G	S	M/C
0				SW: WELL GRADED SAND, fine to medium grained, brown (7.5YR 4/3) moist, loose.							
5	1	15 in.	3-3-2		-						
10	2	13 in.	4-3-3		-						
15	3	13 in.	3-2-2	Color turns to brown (7.5YR 5/4) and trace coarse grained sand, very loose at 14.5 ft. Trace lignite at 16 ft.	-						
20	4	16 in.	5-3-3	Trace lignite at 21 ft.	-						
25	5	18 in.	2-4-5	Color turns to brown (7.5YR 4/3) and wet at 24.5 ft.	-						

Notes:

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Qp/Qu = unconfined compressive strength (tons / square foot); G = Gravel Content (%)

PL = Plastic Limit (%); LL = Liquid Limit (%); PI = Plasticity Index (%); S = Sand Content (%)

M/C = Silt or Clay Content (%); Blows = blows per 6 inches; RQD = rock quality index (%)

GPS Coordinates

Lat: 48° 9' 22.10"

Lon: 103° 4' 39.62"

SOIL BORING LOG

Groundwater & Environmental Services, Inc.

ID NO. **LB-3 (DRAFT)**

Project: **Lake Sakakawea HDD Geotechnical Investigation** Client: **CCI & Associates Inc.**

Address: **NA** GES Job #: **3502056**

County: **Williams** GES Project Mgr: **Rob Jenson**

Logged By: **Nick Schlagel** Date Drilled: **5/3/19 through 5/4/19** Soil Classification System: **USCS**

Drilling Company: **Interstate Drilling Services** Completion Date: **5/5/19**

Drill Operator: **Jared Zak** Drilling Method: **HSA (0 to 65 ft.), Fluid Rotary (65 to 175 ft.), NQ Rock Core (175 to 370 ft.)**

Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,870 ft. msl** Abandonment Method: **Tremie**

Total Depth: **372 ft.** Approximate Water Depth: **24.5 ft.** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **5/5/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD (1 100)	Geologic Description	Qp /Qu	Atterbergs PL	Atterbergs LL	Atterbergs PI	G	S	M/C
30	6	18 in.	2-3-3	Color turns to brown (7.5YR 5/3) at 29.5 ft.	-						
35	7	18 in.	4-7-8	Color turns to brown (7.5YR 4/3) at 34.5 ft.	-						
40	8	18 in.	4-6-11		-						
45	9	18 in.	6-10-12	Lignite seam less than 1 in. thick at 46 ft.	-						
50	10	18 in.	3-3-5	SW: WELL GRADED SAND, fine to medium grained, dark brown (7.5YR 3/3) wet, loose. Gravel and sand seam, coarse grained, 4 in. thick at 50.5 ft. Trace lignite at 51 ft.	-						

Notes:

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Qp/Qu = unconfined compressive strength (tons / square foot); G = Gravel Content (%)

PL = Plastic Limit (%); LL = Liquid Limit (%); PI = Plasticity Index (%); S = Sand Content (%)

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SOIL BORING LOG

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Address: **NA** GES Job #: **3502056**

County: **Williams** GES Project Mgr: **Rob Jenson**

Logged By: **Nick Schlagel** Date Drilled: **5/3/19 through 5/4/19** Soil Classification System: **USCS**

Drilling Company: **Interstate Drilling Services** Completion Date: **5/5/19**

Drill Operator: **Jared Zak** Drilling Method: **HSA (0 to 65 ft.), Fluid Rotary (65 to 175 ft.), NQ Rock Core (175 to 370 ft.)**

Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,870 ft. msl** Abandonment Method: **Tremie**

Total Depth: **372 ft.** Approximate Water Depth: **24.5 ft.** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **5/5/19**

Depth (feet)	Sample	Sample Interval	Recovery (inches)	Blows / RQD (1 100)	Geologic Description	Qp /Qu	Atterbergs PL	Atterbergs LL	Atterbergs PI	G	S	M/C
55	11		18 in.	3-4-7	SW: WELL GRADED SAND, fine to medium grained, brown (7.5YR 4/3) wet, medium dense.	-						
60	12		18 in.	7-5-6	Gravel and sand seam, coarse grained, 6 in. thick at 60.5 ft.	-						
65	13		12 in.	6-10-10	GP: POORLY GRADED GRAVEL WITH SAND, coarse grained, dark brown (7.5YR 3/2), wet, medium dense.	-						
70	14		18 in.	5-8-9	CL: LEAN CLAY WITH SAND, fine grained, with silt, dark grayish brown (10YR 4/2), wet, very stiff.	2.0						
75	15		18 in.	17-24-25	SM: SILTY SAND, fine grained, grayish brown (2.5Y 5/2), wet, dense.	-						
80	16		18 in.	15-21-21		-						

Notes:

Soil Lithologies based on field observations and laboratory analysis.

NA = not applicable; fbg. = feet below grade; in. = inches; ft. = feet; msl = mean sea level

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SOIL BORING LOG

Groundwater & Environmental Services, Inc.

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Project: **Lake Sakakawea HDD Geotechnical Investigation** Client: **CCI & Associates Inc.**

Address: **NA** GES Job #: **3502056**

County: **Williams** GES Project Mgr: **Rob Jenson**

Logged By: **Nick Schlagel** Date Drilled: **5/3/19 through 5/4/19** Soil Classification System: **USCS**

Drilling Company: **Interstate Drilling Services** Completion Date: **5/5/19**

Drill Operator: **Jared Zak** Drilling Method: **HSA (0 to 65 ft.), Fluid Rotary (65 to 175 ft.), NQ Rock Core (175 to 370 ft.)**

Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,870 ft. msl** Abandonment Method: **Tremie**

Total Depth: **372 ft.** Approximate Water Depth: **24.5 ft.** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **5/5/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD (1 100)	Geologic Description	Qp /Qu	Atterbergs PL	Atterbergs LL	Atterbergs PI	G	S	M/C
85	17	8 in.	12-10-16	SW: WELL GRADED SAND, fine to medium grained, gray (2.5Y 5/1) wet, medium dense.	-						
90	18	14 in.	24-33-25	SW: WELL GRADED SAND, fine to coarse grained, gray (2.5Y 5/1) wet, very dense.	-						
95	19	18 in.	33-36-50/6"	SP: POORLY GRADED SAND, fine grained, with trace silt, dark gray (2.5Y 4/1) wet, very dense.	-						
100	20	12 in.	23-50/6"	With trace lignite at 99.5 ft. Trace silty clay at 101.5 ft.	-						
105	21	11 in.	34-50/6"	SP: POORLY GRADED SAND, fine grained, dark gray (2.5Y 4/1) moist, very dense.	-						

Notes:

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Drill Operator: **Jared Zak** Drilling Method: **HSA (0 to 65 ft.), Fluid Rotary (65 to 175 ft.), NQ Rock Core (175 to 370 ft.)**

Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,870 ft. msl** Abandonment Method: **Tremie**

Total Depth: **372 ft.** Approximate Water Depth: **24.5 ft.** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **5/5/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD (1 100)	Geologic Description	Qp /Qu	Atterbergs PL	Atterbergs LL	Atterbergs PI	G	S	M/C
110	22	14 in.	17-32-41	With trace silt at 109.5 ft.	-						
115	23	12 in.	36-50/6"	Coal: Lignite coal, black (2.5Y 2.5/1), moist, very dense.	-						
120	24	3 in.	50/3"		-						
125	25	3 in.	50/3"		-						
130	26	2 in.	50/3"		-						

Notes:

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SOIL BORING LOG

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Address: **NA** GES Job #: **3502056**

County: **Williams** GES Project Mgr: **Rob Jenson**

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Drill Operator: **Jared Zak** Drilling Method: **HSA (0 to 65 ft.), Fluid Rotary (65 to 175 ft.), NQ Rock Core (175 to 370 ft.)**

Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,870 ft. msl** Abandonment Method: **Tremie**

Total Depth: **372 ft.** Approximate Water Depth: **24.5 ft.** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **5/5/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD (1 100)	Geologic Description	Qp /Qu	Atterbergs PL	Atterbergs LL	Atterbergs PI	G	S	M/C
135	27	2 in.	50/2"		-						
140	28	18 in.	17-33-43	ML: SILT, with trace clay, gray (2.5Y 5/1), moist, very dense.	-						
145	29	18 in.	18-26-36	CL-ML: SILTY CLAY, dark gray (2.5Y 4/1), moist, hard.	4.5						
150	30	18 in.	15-20-30	SM: SILTY SAND, fine grained, gray (2.5Y 5/1), moist, very dense.	4.5						
155	31	18 in.	17-33-50/6"		-						
160	32	18 in.	16-23-28		-						

Notes:

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Logged By: **Nick Schlagel** Date Drilled: **5/3/19 through 5/4/19** Soil Classification System: **USCS**

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Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,870 ft. msl** Abandonment Method: **Tremie**

Total Depth: **372 ft.** Approximate Water Depth: **24.5 ft.** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **5/5/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD (1 100)	Geologic Description	Qp /Qu	Atterbergs PL	Atterbergs LL	Atterbergs PI	G	S	M/C
165	33	18 in.	17-24-27	CL-ML: SILTY CLAY, gray (2.5Y 5/1), moist, hard.	4.5						
170	34	18 in.	24-25-48	ML: SILT, with trace fine grained sand and trace clay, gray (2.5Y 5/1), moist, very dense.	3.5						
175	35	8.5 in.		Coal: Lignite coal, black (2.5Y 2.5/1).							
180	36	24 in.		CL: LEAN CLAY, with trace silt, gray (2.5Y 5/1). Lignite seam 2 in. thick at 182 ft. Lignite seam 2 in. thick at 184 ft.							
185	37	18 in.		SM: SILTY SAND, fine grained, gray (2.5Y 5/1), moist, very dense.							

Notes:

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SOIL BORING LOG

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Address: **NA** GES Job #: **3502056**

County: **Williams** GES Project Mgr: **Rob Jenson**

Logged By: **Nick Schlagel** Date Drilled: **5/3/19 through 5/4/19** Soil Classification System: **USCS**

Drilling Company: **Interstate Drilling Services** Completion Date: **5/5/19**

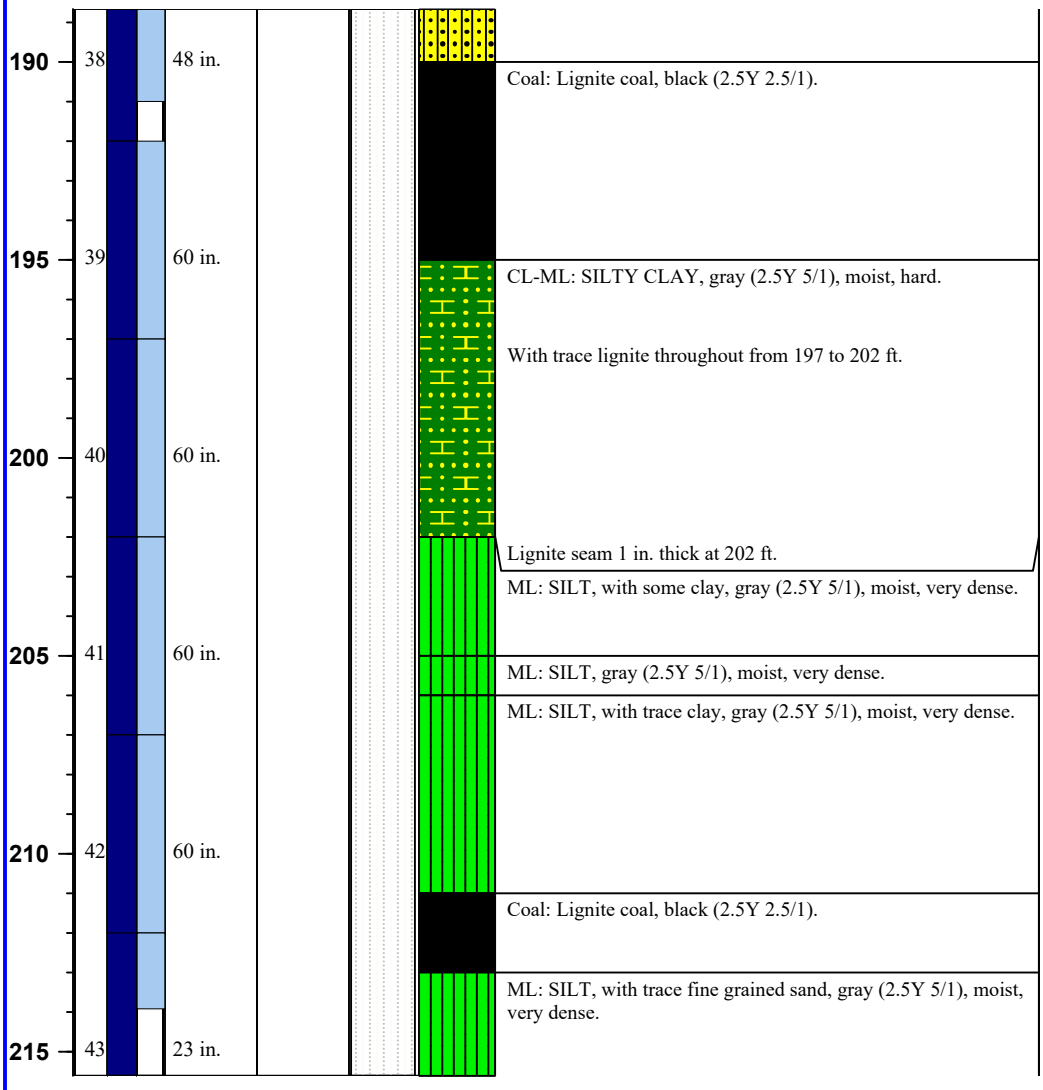
Drill Operator: **Jared Zak** Drilling Method: **HSA (0 to 65 ft.), Fluid Rotary (65 to 175 ft.), NQ Rock Core (175 to 370 ft.)**

Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,870 ft. msl** Abandonment Method: **Tremie**

Total Depth: **372 ft.** Approximate Water Depth: **24.5 ft.** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **5/5/19**



Notes:

Soil Lithologies based on field observations and laboratory analysis.

NA = not applicable; fbg. = feet below grade; in. = inches; ft. = feet; msl = mean sea level

Qp/Qu = unconfined compressive strength (tons / square foot); G = Gravel Content (%)

PL = Plastic Limit (%); LL = Liquid Limit (%); PI = Plasticity Index (%); S = Sand Content (%)

M/C = Silt or Clay Content (%); Blows = blows per 6 inches; RQD = rock quality index (%)

GPS Coordinates

Lat: 48° 9' 22.10"

Lon: 103° 4' 39.62"

SOIL BORING LOG

Groundwater & Environmental Services, Inc.

ID NO. **LB-3 (DRAFT)**

Project: **Lake Sakakawea HDD Geotechnical Investigation** Client: **CCI & Associates Inc.**

Address: **NA** GES Job #: **3502056**

County: **Williams** GES Project Mgr: **Rob Jenson**

Logged By: **Nick Schlagel** Date Drilled: **5/3/19 through 5/4/19** Soil Classification System: **USCS**

Drilling Company: **Interstate Drilling Services** Completion Date: **5/5/19**

Drill Operator: **Jared Zak** Drilling Method: **HSA (0 to 65 ft.), Fluid Rotary (65 to 175 ft.), NQ Rock Core (175 to 370 ft.)**

Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,870 ft. msl** Abandonment Method: **Tremie**

Total Depth: **372 ft.** Approximate Water Depth: **24.5 ft.** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **5/5/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD (1 100)	Geologic Description	Qp /Qu	Atterbergs PL	LL	PI	G	S	M/C
220	44	54 in.		Lignite seam 1 in. thick at 219.5 ft. ML: SILT, gray (2.5Y 5/1), moist, very dense.							
				CL-ML: SILTY CLAY, gray (2.5Y 5/1), moist, hard.							
225	45	60 in.									
				ML: SILT, with trace fine grained sand, gray (2.5Y 5/1), moist, very dense.							
230	46	57 in.									
				ML: SILT, with trace clay, gray (2.5Y 5/1), moist, very dense. Shale layer 6 in. thick at 234 ft.							
235	47	56 in.									
				Coal: Lignite coal, black (2.5Y 2.5/1).							
240	48	54 in.		ML: SILT, with trace clay and with trace lignite, gray (2.5Y 5/1), moist, very dense.							

Notes:

Soil Lithologies based on field observations and laboratory analysis.

NA = not applicable; fbg. = feet below grade; in. = inches; ft. = feet; msl = mean sea level

Qp/Qu = unconfined compressive strength (tons / square foot); G = Gravel Content (%)

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Drilling Company: **Interstate Drilling Services** Completion Date: **5/5/19**

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Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,870 ft. msl** Abandonment Method: **Tremie**

Total Depth: **372 ft.** Approximate Water Depth: **24.5 ft.** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **5/5/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD (1 100)	Geologic Description	Qp /Qu	Atterbergs PL	Atterbergs LL	Atterbergs PI	G	S	M/C
245	49	60 in.		ML: SANDY SILT, fine grained, weakly cemented, greenish gray (GLEY1 6/1), moist, very dense.							
250	50	60 in.									
255	51	60 in.		SM: SILTY SAND, fine grained, weakly cemented, greenish gray (GLEY1 6/1), moist, very dense.							
260	52	60 in.									
265	53	60 in.									
	54	60 in.		Shale seam 1 in. thick at 267 ft.							

Notes:

Soil Lithologies based on field observations and laboratory analysis.

NA = not applicable; fbg. = feet below grade; in. = inches; ft. = feet; msl = mean sea level

Qp/Qu = unconfined compressive strength (tons / square foot); G = Gravel Content (%)

PL = Plastic Limit (%); LL = Liquid Limit (%); PI = Plasticity Index (%); S = Sand Content (%)

M/C = Silt or Clay Content (%); Blows = blows per 6 inches; RQD = rock quality index (%)

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SOIL BORING LOG

Groundwater & Environmental Services, Inc.

ID NO. **LB-3 (DRAFT)**

Project: **Lake Sakakawea HDD Geotechnical Investigation** Client: **CCI & Associates Inc.**

Address: **NA** GES Job #: **3502056**

County: **Williams** GES Project Mgr: **Rob Jenson**

Logged By: **Nick Schlagel** Date Drilled: **5/3/19 through 5/4/19** Soil Classification System: **USCS**

Drilling Company: **Interstate Drilling Services** Completion Date: **5/5/19**

Drill Operator: **Jared Zak** Drilling Method: **HSA (0 to 65 ft.), Fluid Rotary (65 to 175 ft.), NQ Rock Core (175 to 370 ft.)**

Drill Rig Type: **Diedrich D50** Sampling Method: **Split Spoon & NQ Rock Core**

Borehole Diameter: **8 in. to 4 in.** Surface Elevation: **1,870 ft. msl** Abandonment Method: **Tremie**

Total Depth: **372 ft.** Approximate Water Depth: **24.5 ft.** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **5/5/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD 1 100	Geologic Description	Qp /Qu	Atterbergs PL	LL	PI	G	S	M/C
270				Coal: Lignite coal, black (2.5Y 2.5/1).							
	55	60 in.		Silty clay layer 6 in. thick at 275 ft.							
280	56	48 in.		ML: SILT, with trace fine grained sand, gray (2.5Y 5/1), moist, very dense.							
	57	60 in.		SM: SILTY SAND, fine grained, weakly cemented, greenish gray (GLEY1 6/1), moist, very dense.							
				Trace lignite less than 1 in. thick at 287 ft.							
290	58	60 in.		Trace lignite less than 1 in. thick at 289 ft.							
				Shale: SHALE, highly weathered, with trace coal, greenish gray (GLEY1 6/1), moist, hard.							
295	59	60 in.		Shale: SHALE, highly weathered, gray (2.5Y 5/1), moist, hard.							

Notes:

Soil Lithologies based on field observations and laboratory analysis.

NA = not applicable; fbg. = feet below grade; in. = inches; ft. = feet; msl = mean sea level

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County: **Williams** GES Project Mgr: **Rob Jenson**

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Total Depth: **372 ft.** Approximate Water Depth: **24.5 ft.** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **5/5/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD 1 100	Geologic Description	Qp /Qu	Atterbergs PL	LL	PI	G	S	M/C
300	60	60 in.		Shale layer, not weathered, 2 in. thick and color turns to dark gray (2.5Y 4/1) at 297 ft.							
				Sandstone layer 8 in. thick at 301 ft.							
				Color turns to gray (2.5Y 5/1) at 302 ft.							
305	61	60 in.									
				Silty sand layer, fine grained, 6 in. thick at 307 ft.							
				Shale layer, not weathered, less than1 in. thick at 307.5 ft.							
310	62	60 in.									
315	63	60 in.		Lignite seam 3 in. thick at 316 ft.							
				SM: SILTY SAND, fine grained, gray (2.5Y 5/1), moist, very dense.							
				Shale: SHALE, highly weathered, gray (2.5Y 5/1), moist, hard.							
320	64	60 in.									
				SM: SILTY SAND, fine grained, gray (2.5Y 5/1), moist, very dense.							
				Shale: SHALE, highly weathered, with trace lignite throughout, gray (2.5Y 5/1), moist, hard.							

Notes:

Soil Lithologies based on field observations and laboratory analysis.

NA = not applicable; fbg. = feet below grade; in. = inches; ft. = feet; msl = mean sea level

Qp/Qu = unconfined compressive strength (tons / square foot); G = Gravel Content (%)

PL = Plastic Limit (%); LL = Liquid Limit (%); PI = Plasticity Index (%); S = Sand Content (%)

M/C = Silt or Clay Content (%); Blows = blows per 6 inches; RQD = rock quality index (%)

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ID NO. **LB-3 (DRAFT)**

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Address: **NA** GES Job #: **3502056**

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Refusal Depth: **NA** Abandonment Completion Date: **5/5/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD 1 100	Geologic Description	Qp /Qu	Atterbergs PL	LL	PI	G	S	M/C
325	65	60 in.									
330	66	60 in.									
335	67	60 in.		SM: SILTY SAND, fine grained, gray (2.5Y 5/1), moist, very dense.							
340	68	60 in.		Coal: Lignite coal, black (2.5Y 2.5/1). Silty clay layer 6 in. thick at 339 ft.							
345	69	60 in.		Silty clay layer 6 in. thick at 344 ft.							
350	70	46 in.		SM: SILTY SAND, fine grained, weakly cemented, gray (2.5Y 5/1), moist, very dense.							

Notes:

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Qp/Qu = unconfined compressive strength (tons / square foot); G = Gravel Content (%)

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Total Depth: **372 ft.** Approximate Water Depth: **24.5 ft.** Backfill Material: **Portland Cement**

Refusal Depth: **NA** Abandonment Completion Date: **5/5/19**

Depth (feet)	Sample Interval	Recovery (inches)	Blows / RQD 1 100	Geologic Description	Qp /Qu	Atterbergs PL	LL	PI	G	S	M/C
355	71	58 in.		Shale: SHALE, highly weathered, with trace lignite, gray (2.5Y 5/1), moist, hard.							
				Coal: Lignite coal, black (2.5Y 2.5/1).							
				SM: SILTY SAND, fine grained, gray (2.5Y 5/1), moist, very dense.							
360	72	50 in.		CL-ML: SILTY CLAY, gray (2.5Y 5/1), moist, hard.							
				SM: SILTY SAND, fine grained, gray (2.5Y 5/1), moist, very dense.							
365	73	54 in.									
370	74	58 in.		EOB at 372 ft. Target depth reached.							

Notes:

Soil Lithologies based on field observations and laboratory analysis.

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Qp/Qu = unconfined compressive strength (tons / square foot); G = Gravel Content (%)

PL = Plastic Limit (%); LL = Liquid Limit (%); PI = Plasticity Index (%); S = Sand Content (%)

M/C = Silt or Clay Content (%); Blows = blows per 6 inches; RQD = rock quality index (%)

GPS Coordinates

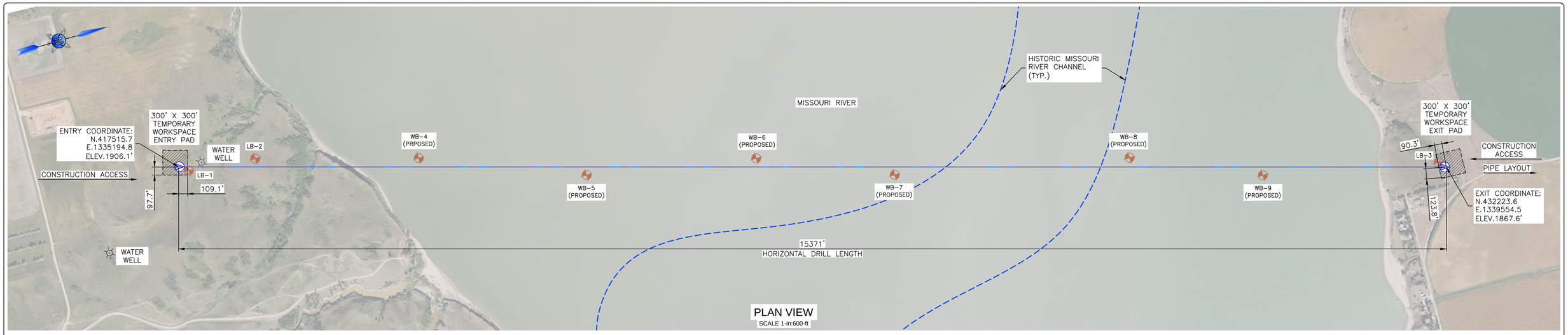
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Lon: 103° 4' 39.62"

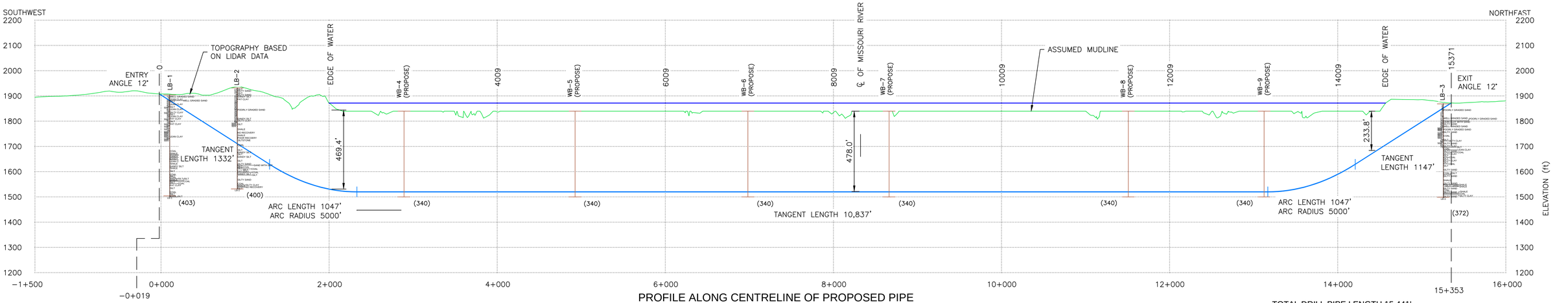
NORTH BAKKEN EXPANSION PROJECT

Horizontal Directional Drill/Guided Bore Drilling Fluid Monitoring and Operations Plan

Attachment C
Draft Detailed Scaled Horizontal Direction Drill Plan and Profile Drawings
(*Final to be provided with a future draft of this plan*)



PLAN VIEW
SCALE 1-in:600-ft



PROFILE ALONG CENTRELINE OF PROPOSED PIPE
SCALE 1:600 HORIZONTAL
SCALE 1:300 VERTICAL

TOTAL DRILL PIPE LENGTH 15,441'

REFERENCE DOCUMENT NO.	DATE
1.	

CCI & Associates Inc.
20333 State Highway 249, Suite 480
Houston, TX 77070
COR F-18518

ENGINEER AND PERMIT STAMPS

PRELIMINARY NOT FOR CONSTRUCTION

1:7200
FT 0 500 1000 2000

1:3600
FT 0 100 200 500 1000

PIPELINE SPECIFICATIONS

OUTSIDE DIAMETER (OD)(in)	24
WALL THICKNESS (WT)(in)	0.562
GRADE (psi)	70,000
PRODUCT	NATURAL GAS
MATERIAL	STEEL
SPECIFICATIONS	API 5L
INTERNAL COATING	N/A
OUTER COATING	DUAL FBE
MAX. OPER. PRESSURE (psi)	1,480
MIN. TEST PRESSURE (psi)	1,850
MAX. OPER. TEMP (°F)	100
MIN. INSTALLATION TEMP (°F)	23

STEERING TOLERANCES

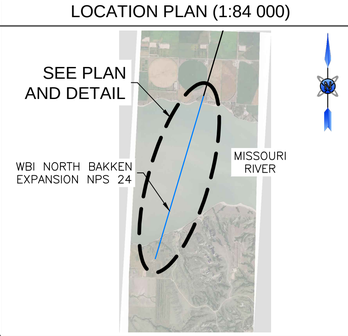
	30ft	100ft	330ft
MINIMUM RADIUS (ft)	1000	1450	4500

PULL FORCE / RIG SIZE / STRESS

PULL FORCE (w/ BUOYANCY CONTROL):	796,000 lbs (w/sf)
MINIMUM RECOMMENDED RIG SIZE:	1,000,000 lbs
COMBINED STRESS UNITY CHECK:	0.74
OPERATING STRESS	67.6%

DRAWING STATUS	DATE	DRN	CHK	DES	GEO	APR	CR
PRELIMINARY	2019-10-23	MS		KP		KP	
PRELIMINARY	2019-07-25	TL	MAL	KP		KP	
PRELIMINARY	2019-06-14	RL		KP		KP	
PRELIMINARY	2019-06-11	RL		KP		KP	
PRELIMINARY	2019-03-11	AN		CG		KP	

LOCATION PLAN (1:84 000)



ND83-NF

WBI NORTH BAKKEN EXPANSION PROJECT

MISSOURI RIVER HDD CROSSING
PLAN AND PROFILE

WATFORD CITY / TIOGA, NORTH DAKOTA

SCALE	DWG. #	REVISION	SHEET
AS SHOWN	2386-EG-0101	E	1 OF 2

File Name: S:\Current Jobs\2386-WBI-N.Bakken Expansion\Eng\Drawings\01-Lake Sakakawea\Missouri River\Preliminary\2386-EG-0101-E MS.dwg Date/Time: 30-Oct-19 / 4:42:16 PM Last Saved By: Matthew.Smith

NORTH BAKKEN EXPANSION PROJECT

Horizontal Directional Drill/Guided Bore Drilling Fluid Monitoring and Operations Plan

Attachment D
Drilling Fluid Additive Safety Datasheets
(*to be provided with a future draft of this plan*)

NORTH BAKKEN EXPANSION PROJECT

Resource Report 1

APPENDIX 1G
Summary of Agency Contacts and Copies of Agency Correspondence

APPENDIX 1G

North Bakken Expansion Project
Summary of Agency Correspondence as of February 14, 2020

Agency	Contact Name(s)	Date of Correspondence	Format	Summary
Multiple Agencies				
U.S. Bureau of Land Management (BLM), U.S. Army Corps of Engineers (USACE), U.S. Forest Service (USFS)	Jeremy Thury, Michael Morris, Richard Rogers, Seth Jackson, Kim Grotte, Cale Bickerdyke	05/24/2019	Email	Email with a link to a doodle poll to schedule a time to have a conference call with agency representatives
U.S. Fish and Wildlife Service (FWS), USACE	Jessica Johnson, Jeremy Thury, Arthur Wallace, Scott Sterling, Michael Morris, Alfred Stonesifer, Heath Kruger, Reece Nelson	05/24/2019	Email	Email confirming the non-Federal representative for ESA permitting for geotechnical boring permitting process
BLM, USACE, USFS	Kim Grotte, Jeremy Thury, Michael Morris, Richard Rogers, Seth Jackson, Cale Bickerdyke	05/28/2019	Email	Email chain coordinating an interagency conference call
BLM, USACE, USFS	Jeremy Thury, Michael Morris, Richard Rogers, Seth Jackson, Cale Bickerdyke, Kim Grotte	05/28/2019	Email	Email invitation for an interagency call to discuss the project status
BLM, USACE, USFS	Jeremy Thury, Michael Morris, Richard Rogers, Alfred Stonesifer, Kody Green, Heath Kruger, Arthur Wallace, Jonas Grundman, Seth Jackson, Cale Bickerdyke, Kim Grotte	06/07/2019	Email	Email distributing the agenda for the interagency call
BLM, USACE, USFS	Seth Jackson, Cale Bickerdyke, Kim Grotte, Jeremy Thury, Michael Morris, Richard Rogers, Alfred Stonesifer, Kody Green, Heath Robert Kruger, Arthur Wallace, Jonas Grundman, Jason Renschler, Luke Wallace	06/07/2019	Phone Log	Call with the BLM, USACE, and USFS to provide agencies with a project update and have agency representatives begin discussing the permitting process

APPENDIX 1G (cont'd)

North Bakken Expansion Project
Summary of Agency Correspondence as of February 14, 2020

Agency	Contact Name(s)	Date of Correspondence	Format	Summary
BLM, USACE, USFS	Jeremy Thury, Michael Morris, Richard Rogers, Seth Jackson, Cale Bickerdyke, Kim Grotte, Alfred Stonesifer, Kody Green, Heath Kruger, Arthur Wallace, Jonas Grundman, Jason Renschler	06/19/2019	Email	Email distributing the meeting summary to the group
BLM, USACE, USFS	Seth Jackson, Cale Bickerdyke, Kim Grotte, Jeremy Thury, Jason Renschler, Michael Morris, Richard Rogers	07/11/2019	Email	Email discussing the Federal Energy Regulatory Commission's (FERC) pre-filing process
BLM, USACE, USFS, FWS, U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS)	Jason Renschler, Jeremy Thury, Jessica Johnson, Jerry Reinisch, Seth Jackson, Cale Bickerdyke, Kim Grotte, Todd Hagel	07/25/2019	Email	Email discussing the bi-weekly conference calls for interested agencies
FWS, USACE	Jerry Reinisch, Jessica Johnson, Patrick Atwell, Arthur Wallace, Jeremy Thury	09/27/2019	Email	Email submitting the Biological Assessment with necessary permits for FWS review
FWS, USACE, North Dakota Game and Fish Department (NDGFD)	Jerry Reinisch, Michael Morris, Greg Link	10/10/2019	Email	Email to share the response to the Geotechnical Survey Work Permit Application
FWS, USACE, NDGFD	Jerry Reinisch, Michael Morris, Greg Link	10/10/2019	Email	Email to follow up on the submitted response to the Geotechnical Survey Work Permit Application
U.S. Bureau of Land Management (BLM)				
BLM	Diane Friez	04/25/2019	Letter	Introductory project letter with preliminary route map
BLM	Loren Wickstrom	04/25/2019	Letter	Introductory project letter with preliminary route map
BLM	Seth Jackson	05/03/2019	Phone Log	Call to discuss the project, any potential concerns, and the anticipated project schedule
BLM	Seth Jackson, Greg Liggett	05/15/2019	Email	Follow-up email chain to discuss paleontological survey requirements for the project
BLM	Seth Jackson	06/07/2019	Phone Log	Follow-up call to discuss questions that arose during the multi-agency call earlier in the day
BLM	Seth Jackson	06/07/2019	Email	Transmission of the BLM Manual 2884 "Applying for a MLA [Mineral Leasing Act] Grant or Temporary Use Permit"
BLM	Diane Friez	07/17/2019	Letter	Invitation to public open houses

APPENDIX 1G (cont'd)

North Bakken Expansion Project
Summary of Agency Correspondence as of February 14, 2020

Agency	Contact Name(s)	Date of Correspondence	Format	Summary
BLM	Seth Jackson	07/17/2019	Letter	Invitation to public open houses
BLM	Seth Jackson	07/25/2019	Email	Email invitation to join pre-filing calls and BLM's response expressing interest in participating
BLM	Seth Jackson	07/30/2019	Email	Email discussing the public open house process
BLM	Seth Jackson	09/20/2019	Phone Log	Phone call to discuss the BLM SF-299 form and Plan of Development (POD)
BLM	Seth Jackson	09/30/2019	Phone Log	Phone call to discuss BLM cost recovery process and the SF-299 form.
BLM	Seth Jackson, Cyndi Eide	10/22/2019	Phone Log	Phone call(s) to discuss the scope of the POD
BLM	Seth Jackson	10/22/2019	Email	Email to follow up on earlier call to share examples of previous PODs
BLM	Seth Jackson	11/07/2019	Email	Email invitation for meeting to discuss the POD
BLM	Seth Jackson	11/08/2019	Email	Email to share example of a previous POD
BLM	Seth Jackson	11/14/2019	Call	Phone call to discuss status of BLM filing the position to take over lead on the project
BLM	Seth Jackson	12/13/2019	Email	Email to update BLM on discussions with USFS about ROW width
BLM	Seth Jackson, Cindi Eide	01/14/2020	Call	Call to discuss cost recovery, POD, and schedule
BLM	Seth Jackson	02/14/2020	Letter	Letter transmitting the POD
U.S. Army Corps of Engineers (USACE)				
USACE	Casey Buechler	03/18/2019	Email	Email confirming conference call for the following week regarding the geotechnical survey permitting process
USACE	Jason Renschler	04/15/2019	Letter	Introductory project letter with preliminary route map
USACE	Casey Buechler	04/15/2019	Letter	Introductory project letter with preliminary route map
USACE	Richard Rogers	05/03/2019	Email	Email to request the Archaeological Resources Protection Act (ARPA) permit for archeological surveys
USACE	Richard Rogers	05/08/2019	Email	Email response to the request for the ARPA permit
USACE	Richard Rogers	05/08/2019	Email	Additional email sending USACE Coordinate Geometry (COGO) boundary for review
USACE	Taryn Kjelstrup	05/09/2019	Email	Email chain discussing USACE-owned lands within the project area
USACE	Richard Rogers	05/09/2019	Email	Email submitting the ARPA permit application

APPENDIX 1G (cont'd)

North Bakken Expansion Project
Summary of Agency Correspondence as of February 14, 2020

Agency	Contact Name(s)	Date of Correspondence	Format	Summary
USACE	Richard Rogers	05/09/2019	Email	ARPA permit application attachment (*filed under separate cover as Controlled Unclassified Information/Privileged and Confidential [CUI/PRIV] Volume IV*)
USACE	Richard Rogers	05/20/2019	Email	Email sharing the route centerline and shapefiles for the project
USACE	Richard Rogers	05/20/2019	Email	Email confirming receipt of the shapefiles and requesting a resubmission of the permit application
USACE	Richard Rogers, Megan Moscarello, Sandra Barnum	05/20/2019	Email	Email submitting the updated ARPA permit
USACE	Richard Rogers, Megan Moscarello, Sandra Barnum	05/20/2019	Email	Updated ARPA permit application attachment (*filed under separate cover as CUI/PRIV Volume IV*)
USACE	Jeremy Thury, Michael Morris, Richard Rogers	05/28/2019	Email	Email coordinating an agency conference call
USACE	Jeremy Thury, Michael Morris	05/29/2019	Email	Email coordinating an agency conference call
USACE	Jeremy Thury, Michael Morris, Richard Rogers	05/30/2019	Email	Email to schedule a call to discuss geotechnical permitting
USACE	Jeremy Thury, Michael Morris, Richard Rogers	05/31/2019	Email	Email coordinating schedule for a call to discuss geotechnical permitting
USACE	Jeremy Thury, Michael Morris, Richard Rogers	06/14/2019	Conference Call notes	Notes from the conference call discussing the geotechnical survey permitting
USACE	Jeremy Thury, Michael Morris, Richard Rogers	06/14/2019	Email	Email to follow up on the call from earlier, confirming permit needs
USACE	Jeremy Thury, Michael Morris	06/18/2019	Email	Email discussing the action area for the Endangered Species Act consultation
USACE	Richard Rogers	07/02/2019	Email	Email following-up on the status of the ARPA permit.
USACE	Richard Rogers	07/03/2019	Phone Log	Phone call to discuss the status of the ARPA permit application
USACE	Richard Rogers	07/11/2019	Phone Log	Phone call to discuss the ARPA permit
USACE	Jeremy Thury	07/17/2019	Letter	Invitation to public open houses
USACE	Jason Renschler	07/17/2019	Letter	Invitation to public open houses
USACE	Michael Morris, Jeremy Thury, Arthur Wallace, Scott Sterling	07/23/2019	Email	Email chain discussing the geotechnical drilling action area, including distribution of kmz files
USACE	Jason Renschler	07/25/2019	Email	Email chain discussing the bi-weekly agency calls
USACE	Jeremy Thury	07/26/2019	Phone Log	Phone call to discuss the Nationwide Permit 6, preconstruction notification process

APPENDIX 1G (cont'd)

North Bakken Expansion Project
Summary of Agency Correspondence as of February 14, 2020

Agency	Contact Name(s)	Date of Correspondence	Format	Summary
USACE	Jeremy Thury	07/29/2019	Email	Email submitting the Geotechnical Survey Work Permit Application, part 1 *[Attachments not included, can be provided to FERC on request]*
USACE	Jeremy Thury	07/29/2019	Email	Email submitting the Geotechnical Survey Work Permit Application, part 2, including shapefiles *[Attachments not included, can be provided to FERC on request]*
USACE	Jeremy Thury	08/01/2019	Email	Email chain confirming the receipt of the Geotechnical Survey Work Permit Application
USACE	Richard Rogers	08/02/2019	Email	Email confirming the filing of all tribal consultation
USACE	Richard Rogers	08/05/2019	Email	Email chain discussing the ARPA permit
USACE	Richard Rogers	08/05/2019	Email	Email discussing the ARPA permit
USACE	Jeremy Thury	08/06/2019	Email	Email discussing the NWP 6 pre-construction notification.
USACE	Richard Rogers	08/07/2019	Email	Email discussing the ARPA permit survey area, including sharing of shapefiles
USACE	Richard Rogers	08/07/2019	Email	Amended ARPA permit application attachment (*filed under separate cover as CUI/PRIV Volume IV*)
USACE	Richard Rogers, Jeremy Thury	08/08/2019	Email	Email discussing the amended ARPA permit application
USACE	Luke Wallace	08/15/2019	Email	Email invitation for bi-weekly conference calls with FERC
USACE	Jeremy Thury	08/19/2019	Email	Email to coordinate a call to discuss the section 408 review process for the project
USACE	Richard Rogers	08/19/2019	Email	Email requesting a timeline for the ARPA permit
USACE	Richard Rogers	08/20/2019	Email	Email chain discussing the status of the ARPA permit and timeline
USACE	Michael Morris, Jeremy Thury, Arthur Wallace, Scott Sterling, Patrick Atwell	08/20/2019	Email	Email chain discussing the status of comments on the geotechnical Biological Assessment
USACE	Richard Rogers	08/22/2019	Email	Email chain discussing tribal involvement for surveys on USACE lands
USACE	Patrick Atwell	08/22/2019	Phone Log	Phone call to discuss the Geotechnical Survey Work Permit Application
USACE	Jeremy Thury	08/23/2019	Email	Email chain to set up a call to discuss the North Bakken Expansion Project section 408 review schedule

APPENDIX 1G (cont'd)

North Bakken Expansion Project
Summary of Agency Correspondence as of February 14, 2020

Agency	Contact Name(s)	Date of Correspondence	Format	Summary
USACE	Richard Rogers	08/29/2019	Email	Email updating Mr. Rogers on the status of tribal outreach and consultation
USACE	Richard Rogers	09/05/2019	Phone Log	Phone call discussing the status of the ARPA permit and the status of ongoing tribal consultation and outreach
USACE	Jeremy Thury, Michael Morris, Patrick Atwell	09/09/2019	Email	Email chain discussing the Project Geotechnical Survey Work Permit Application and review process
USACE	Richard Rogers, Megan Moscarello	09/10/2019	Email	Email discussing additions to the ARPA permit
USACE	Jeremy Thury, Michael Morris, Patrick Atwell	09/13/2019	Email	Email to submit revised files based on comments received *[Attachments not included, can be provided to FERC on request]*
USACE	Jeremy Thury, Michael Morris, Patrick Atwell	09/13/2019	Email	Email to submit the revised Biological Assessment for the geotech survey *[Attachments not included, can be provided to FERC on request]*
USACE	Richard Rogers	09/13/2019	Email	Email discussing the status of the ARPA permit review
USACE	Richard Rogers	09/13/2019	Email	Email inquiring about the status of the ARPA permit
USACE	Richard Rogers	09/13/2019	Phone Log	Call discussing the status of the ARPA permit
USACE	Rick Noel	09/15/2019	Letter	Letter authorizing the start of cultural resource surveys and testing on lands within the Garrison Project
USACE	Richard Rogers	09/16/2019	Email	Email issuing the ARPA Permit
USACE	Richard Rogers	09/17/2019	Phone Log	Phone call to coordinate the archaeological surveys on USACE lands
USACE	Richard Rogers	09/19/2019	Email	Email to coordinate fieldwork scheduling for the upcoming archaeological surveys
USACE	Michael Morris	09/23/2019	Email	Email discussing the status of review for the Geotechnical Survey Work Permit Application
USACE	Richard Rogers; Todd Lindquist	09/24/2019	Email	Email to coordinate fieldwork timing for the upcoming archaeological surveys
USACE	Michael Morris, Patrick Atwell, Jeremy Thury	09/25/2019	Email	Email chain discussing back-check of submitted comments and permit applications
USACE	Patrick Atwell, Michael Morris, Arthur Wallace	09/26/2019	Email	Email to submit the revised Biological Assessment for the project *[Attachments not included, can be provided to FERC on request]*

APPENDIX 1G (cont'd)

North Bakken Expansion Project
Summary of Agency Correspondence as of February 14, 2020

Agency	Contact Name(s)	Date of Correspondence	Format	Summary
USACE	Patrick Atwell, Arthur Wallace	09/27/2019	Email	Email to submit a revised version of the Biological Assessment for the project *[Attachments not included, can be provided to FERC on request]*
USACE	Patrick Atwell, Michael Morris	10/11/2019	Email	Email discussing the status of the project geotechnical permitting
USACE	Jeremy Thury	10/17/2019	Email	Email discussing the status of the Geotechnical Survey Work Permit Application
USACE	Patrick Atwell, Jeremy Thury	10/23/2019	Email	Email to schedule a phone call to discuss the Section 408 review process
USACE	Patrick Atwell, Jeremy Thury	11/01/2019	Email	Email to follow up on prior email to schedule a phone call to discuss the Section 408 review process
USACE	Jason Renschler	11/01/2019	Email	Email sharing the wetland/waterbody survey data maps for the project
USACE	Patrick Atwell, Jonas Grundman, Luke Wallace, Jeremy Thury, Mike Morris, Rick Rogers	11/05/2019	Phone Log	Phone call to discuss the Section 408 review process
USACE	Patrick Atwell, Jonas Grundman	11/05/2019	Email	Email chain discussion the Section 408 review process and permit application
USACE	Patrick Atwell	11/05/2019	Email	Email to discuss the 1156 agreement and appropriate contact information
USACE	Patrick Atwell	11/05/2019	Email	Email to discuss the status of the project geotechnical permitting
USACE	Jason Renschler	11/06/2019	Email	Email confirming the receipt of the wetland/waterbody survey data maps
USACE	Richard Rogers	11/06/2019	Email	Email discussing the status of the ARPA permit
USACE	Patrick Atwell, Jonas Grundman	11/08/2019	Email	Email submitting the 1156 agreement paperwork and explaining the process
USACE	Patrick Atwell	11/12/2019	Email	Email discussing the status and timeline for the geotechnical permitting
USACE	Jeremy Thury, Patrick Atwell, Richard Rogers	11/14/2019	Email	Email discussing the geotechnical permitting process
USACE	Jason Renschler	11/14/2019	Email	Email scheduling a meeting to discuss the project
USACE	Patrick Atwell	11/18/2019	Email	Email discussing the status of the 1156 agreement
USACE	Jason Renschler	11/19/2019	Phone Log	Phone call to discuss jurisdictional features and the 404 permitting process
USACE	Jeremy Thury, Richard Rogers, Patrick Atwell	11/21/2019	Email	Email discussing the status of the geotechnical permit
USACE	Patrick Atwell	11/25/2019	Email	Email providing an update to the 1156 agreement process

APPENDIX 1G (cont'd)

North Bakken Expansion Project
Summary of Agency Correspondence as of February 14, 2020

Agency	Contact Name(s)	Date of Correspondence	Format	Summary
USACE	Jeremy Thury, Richard Rogers, Patrick Atwell, Jason Renschler, Alfred Stonesifer	11/26/2019	Email	Email discussing the status of the geotechnical permit for the project
USACE	Jason Renschler	11/26/2019	Email	Email sharing the North Dakota Regulatory Office Minimum Standards for Aquatic Resource Delineations
USACE	Patrick Atwell, Jeremy Thury	12/02/2019	Email	Email discussing the status of the 1156 agreement and the status of the geotechnical permit
USACE	Patrick Atwell	12/04/2019	Phone Log	Phone call to discuss the status of the geotechnical permitting package and 408/404 permitting review
USACE	Richard Rogers	12/11/2019	Email	Email to discuss the needed project reports for USACE lands.
USACE	Richard Rogers	12/16/2019	Email	Email to follow-up on project surveys discussed during phone call.
USACE	Richard Rogers	12/16/2019	Phone Log	Phone call to discuss project surveys on USACE lands
USACE	Patrick Atwell	01/03/2020	Email	Email to discuss the status of the geotechnical permitting for the project
USACE	Patrick Atwell	01/03/2020	Email	Email to confirm attendees for an upcoming call
USACE	Patrick Atwell, Jonas Grundman, Luke Wallace, Heath Kruger, Sandy Barnum, Reece Nelson	01/10/2020	Meeting Notes	In-person meeting held to discuss the project and the 408 permit process review
USACE	Jason Renschler	01/13/2020	Email	Email to schedule a phone call to discuss the 404 permit submittal for the project
USACE	Patrick Atwell	01/13/2020	Email	Email to follow up regarding action items for the 408 permit application
USACE	Jason Renschler	01/15/2020	Email	Email sharing the slides that were presented at the in-person meeting regarding the 408 permitting process
USACE	Jason Renschler	01/15/2020	Phone Log	Phone call to discuss the 404 permitting process and the pre-construction notification
USACE	Jason Renschler	01/15/2020	Email	Email following-up on the previously submitted meeting slides and sharing permit application forms
USACE	Jonas Grundman, Patrick Atwell	01/16/2020	Email	Email to follow-up on the 408 permit plan documents that would be required
USACE	Jason Renschler	01/20/2020	Email	Email discussing the pre-construction notice and components of the filing

APPENDIX 1G (cont'd)

North Bakken Expansion Project
Summary of Agency Correspondence as of February 14, 2020

Agency	Contact Name(s)	Date of Correspondence	Format	Summary
USACE	Jason Renschler	01/21/2020	Email	Email following-up to the previously submitted questions regarding the pre-construction notice and components of the filing
USACE	Richard Rogers	02/14/2020	Letter	Letter transmitting archaeological survey and historic structures survey reports.
USACE	Jason Renschler	02/14/2020	Letter	Letter transmitting the project pre-construction notification
USACE	Patrick Atwell	02/14/2020	Letter	Letter transmitting the 408 application
U.S. Department of Agriculture, Farm Service Agency (FSA)				
FSA – McKenzie County	Katelyn Cook	08/22/2019	Phone Log/ Email	Phone call to discuss Conservation Reserve Program (CRP) lands followed by an email sharing the project shapefiles
FSA – Williams County	Julie Moldenhauer	08/22/2019	Phone Log/ Email	Phone call to discuss CRP lands followed by an email sharing the project shapefiles
FSA – Mountrail County	Bernadette Lund	08/22/2019	Phone Log/ Email	Phone call to discuss the CRP lands followed by an email sharing the project shapefiles
FSA – Burke County	Ronda Ehlke	08/22/2019	Phone Log/ Email	Phone call to discuss the CRP lands followed by an email sharing the project shapefiles
FSA – McKenzie County	Katelyn Cook	10/22/2019	Email	Email chain following up on the necessary steps for CRP lands in the county
FSA – Williams County	Julie Moldenhauer	10/22/2019	Email	Email chain following up on the necessary steps for CRP lands in the county
FSA – Mountrail County	Bernadette Lund	10/22/2019	Email	Email chain following up on the necessary steps for CRP lands in the county
FSA – Burke County	Ronda Ehlke	10/22/2019	Email	Email chain following up on the previous email and discussing the necessary steps for CRP lands in the county
FSA – Burke County	Karen Awender, Mary Radermacher, Brandon Weber, Laura Heinrich	11/07/2019	Email	Email chain following up on previous emails and discussing the necessary steps for CRP lands in the county
FSA – Burke County	Karen Awender, Mary Radermacher, Brandon Weber, Laura Heinrich	11/07/2019	Email	Email chain following up on the previous email and discussing the necessary steps for CRP lands in the county
U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS)				
NRCS	Todd Hagel	04/15/2019	Letter	Introductory project letter with preliminary route map
NRCS	Todd Hagel	05/16/2019	Phone Log	Call to follow up on the project introductory letter

APPENDIX 1G (cont'd)

North Bakken Expansion Project
Summary of Agency Correspondence as of February 14, 2020

Agency	Contact Name(s)	Date of Correspondence	Format	Summary
NRCS	Todd Hagel	05/30/2019	Phone Log	Discussion about the introductory project letter and the proposed project
NRCS	Todd Hagel	05/31/2019	Email	Email to follow up a phone call to discuss project information and share project shapefiles
NRCS	Todd Hagel	07/12/2019	Email	Follow-up email on the introductory project letter and discussion of crossings of NRCS agricultural conservation easements
NRCS	Todd Hagel	07/17/2019	Letter	Invitation to public open houses
NRCS	Todd Hagel	08/15/2019	Email	Email discussing project and agricultural conservation easements, including sending the shapefiles
NRCS	Mark Crosby	10/02/2019	Email	Email chain discussing the grass seed mixes to be used during restoration of the construction work area in Burke County
NRCS	Mark Crosby	10/02/2019	Email	Email chain discussing the grass seed mixes to be used during restoration of the construction work area in Burke County
NRCS	Nicole Darrington	10/02/2019	Email	Email chain discussing the grass seed mixes to be used during restoration of the construction work area in McKenzie County
NRCS	Tighe Teets	10/02/2019	Email	Email chain discussing the grass seed mixes to be used during restoration of the construction work area in Mountrail County
NRCS	Kevin Seitz	10/02/2019	Email	Email chain discussing the grass seed mixes to be used during restoration of the construction work area in Williams County
NRCS	Todd Hagel	01/15/2020	Email	Email to discuss the project, received out of office reply
NRCS	Todd Hagel	01/15/2020	Email	Email to follow-up on previous emails and discuss agricultural conservation easements and sharing shapefiles
NRCS	Jill Howard	01/16/2020	Email	Email to discuss agricultural conservation easements and sharing shapefiles
U.S. Fish and Wildlife Service (FWS)				
FWS	Jacob Krebsbach	03/14/2019	Email	Email discussing FWS wetland easements and boundaries
FWS	Jessica Johnson	04/15/2019	Letter	Introductory project letter with preliminary route map
FWS	Jessica Johnson, Jerry Reinisch	05/13/2019	Phone Log	Phone call to discuss the Endangered Species Act consultation requirements for the project

APPENDIX 1G (cont'd)

North Bakken Expansion Project
Summary of Agency Correspondence as of February 14, 2020

Agency	Contact Name(s)	Date of Correspondence	Format	Summary
FWS	Jerry Reinisch	05/23/2019	Email	Email discussing the Lake Sakakawea crossing
FWS	Jessica Johnson	07/17/2019	Letter	Invitation to public open houses
FWS	Jacob Krebsbach	07/17/2019	Letter	Invitation to public open houses
FWS	Jerry Reinisch	07/26/2019	Email	Email discussing pallid sturgeon
FWS	Crosby Wetland Management District	08/14/2019	Phone Log	Phone call to discuss the project and crossing of wetland easements
FWS	Jerry Reinisch, Jessica Johnson, Scott Larson	08/15/2019	Email	Email conversation to coordinate scheduling a meeting to discuss the project field surveys
FWS	Scott Williams	08/15/2019	Email	Email conversation discussing grassland conservation easements in the project area
FWS	Jacob Krebsbach	08/15/2019	Email	Email sharing avoidance maps for the project
FWS	Scott Larson	08/22/2019	Email	Email following-up on previous meeting invitation to coordinate a call to discuss ESA consultation
FWS	Jerry Reinisch	08/22/2019	Email	Email following-up on a previous meeting invitation to coordinate a call to discuss ESA consultation
FWS	Scott Larson, Jerry Reinisch, Jessica Johnson	08/28/2019	Meeting notes	In-person meeting held to discuss the Dakota skipper, other listed species, and the ESA Section 7 Consultation
FWS	Jerry Reinisch	09/03/2019	Email	Email chain discussing the permitted Dakota skipper surveys
FWS	Jessica Johnson, Jerry Reinisch, Scott Larson	09/05/2019	Email	Email chain discussing survey guidelines
FWS	Jacob Krebsbach, Scott Williams	09/09/2019	Email	Email chain discussing wetlands highlighted in agency avoidance maps
FWS	Jerry Reinisch	09/16/2019	Email	Email discussing the permitted Dakota skipper surveys
FWS	Scott Williams	09/25/2019	Phone Log	Phone call to discuss wetland easements in the project area
FWS	Scott Williams	09/26/2019	Email	Email chain sharing wetland shapefiles and contract needs
FWS	Jerry Reinisch	09/30/2019	Email	Email chain to follow-up on the submitted Geotechnical Survey Work Permit Application
FWS	Scott Williams	12/04/2019	Email	Email discussing the project and wetland easements
FWS	Jerry Reinisch	12/30/2019	Email	Email discussing the project in general and the resource report filings
FWS	Jerry Reinisch	01/14/2020	Phone Log	Phone call to discuss the ESA consultation requirements and the biological assessment

APPENDIX 1G (cont'd)

North Bakken Expansion Project
Summary of Agency Correspondence as of February 14, 2020

Agency	Contact Name(s)	Date of Correspondence	Format	Summary
FWS	Jerry Reinisch	01/15/2020	Email	Email discussing the FERC bi-weekly calls
FWS	Field Supervisor	02/14/2020	Letter	Letter transmitting the Biological Assessment
U.S. Forest Service (USFS)				
USFS	Justin Hartel	04/15/2019	Letter	Introductory project letter with preliminary route map
USFS	Justin Hartel, Kim Grotte, Cale Bickerdyke	04/26/2019	Email	Email to coordinate setting up a call to discuss the project surveys and permitting process
USFS	Justin Hartel, Kim Grotte, Cale Bickerdyke	05/01/2019	Email	Email to coordinate setting up a call to discuss the project surveys
USFS	Cale Bickerdyke	05/03/2019	Phone Log	Phone call to discuss the project, survey requirements, and crossing USFS lands
USFS	Kim Grotte, Cale Bickerdyke, Sarah Bickerdyke (Wold)	05/09/2019	Phone Log	Phone call to discuss survey and documentation requirements on USFS lands
USFS	Phil Sjursen, Robert Schatz, Cale Bickerdyke, Liv Fetterman	05/13/2019	Email	Email chain to obtain shapefiles of USFS-owned parcels for permitting needs
USFS	Kim Grotte	05/17/2019	Email	Email discussing obtaining the ARPA survey permit application
USFS	Sandra Iron Road	05/21/2019	Phone Log	Call to discuss obtaining the ARPA permit for the project
USFS	Sandra Iron Road	05/21/2019	Email	Email sharing ARPA permit and additional information
USFS	Sandra Iron Road	05/21/2019	Email	Email filing the ARPA permit for the project
USFS	Sandra Iron Road	05/21/2019	Email	ARPA permit (*filed under separate cover as CUI/PRIV Volume IV*)
USFS	Kim Grotte, Cale Bickerdyke	05/23/2019	Email	Email discussing questions for the USFS and whether a call is needed
USFS	Cale Bickerdyke	05/24/2019	Phone Log	Phone call to discuss permitting needs for crossing USFS lands
USFS	Sarah Bickerdyke (Wold), Kim Grotte, Cale Bickerdyke	05/28/2019	Email	Email chain discussing project crossing of USFS lands
USFS	Liv Fetterman	05/29/2019	Phone Log	Phone call to discuss the ARPA permit and timeline
USFS	Sandra Iron Road, Liv Fetterman	05/29/2019	Email	Email chain discussing changes to the ARPA permit
USFS	Liv Fetterman	05/29/2019	Email	Email discussing changes to the ARPA permit
USFS	Sarah Bickerdyke (Wold)	05/30/2019	Email	Email sharing the Little Missouri National Grasslands biological survey

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North Bakken Expansion Project
Summary of Agency Correspondence as of February 14, 2020

Agency	Contact Name(s)	Date of Correspondence	Format	Summary
USFS	Megan Dikins	06/04/2019	Email	Email sharing the Little Missouri Biology/Botany GIS dataset
USFS	Sandra Iron Road, Liv Fetterman	06/10/2019	Email	Email containing the signed special-use application processing request
USFS	Liv Fetterman	07/03/2019	Email	Email discussing the status of the ARPA permit
USFS	Liv Fetterman, Sandra Iron Road	07/03/2019	Email	Email discussing the status of the ARPA permit
USFS	Laurie Gawin	07/10/2019	Email	Email discussing the observation of species. (*filed under separate cover as CUI/PRIV Volume IV*)
USFS	Cale Bickerdyke	07/17/2019	Letter	Invitation to public open houses
USFS	Kim Grotte	07/17/2019	Letter	Invitation to public open houses
USFS	Kim Grotte, Cale Bickerdyke	07/25/2019	Email	Email discussing the right-of-way through the project area
USFS	Kim Grotte, Cale Bickerdyke	07/25/2019	Email	Email discussing potential cumulative impacts on USFS lands
USFS	William O'Donnell	07/30/2019	Letter	Letter enclosing the Special Use Cultural Resource Permit
USFS	Cale Bickerdyke	08/07/2019	Email	Email response regarding bi-weekly pre-filing calls
USFS	Kim Grotte, Cale Bickerdyke	09/18/2019	Email	Email to set up a call to discuss the POD for the BLM Right-of-Way Grant
USFS	Liv Fetterman	09/23/2019	Email	Email to discuss the grasslands surveys for the project
USFS	Cale Bickerdyke and Kim Grotte	09/24/2019	Phone Log	Phone call to discuss the BLM review process and Right-of-Way Grant
USFS	Liv Fetterman	09/24/2019	Email	Email discussing grassland surveys and permitting for the project
USFS	Liv Fetterman	09/24/2019	Email	Email discussing changes to project route and potential needs to update permitting (*filed under separate cover as CUI/PRIV Volume IV*)
USFS	Kim Grotte	10/02/2019	Phone Log	Phone call to discuss USFS roads crossed by the project
USFS	Cale Bickerdyke	10/03/2019	Email	Email to share a map of USFS projects near the project area
USFS	Liv Fetterman, Sandra Iron Road	11/06/2019	Email	Email chain providing an update on cultural resource field survey results
USFS	Liv Fetterman, Sandra Iron Road	11/06/2019	Email	Email responding to the update on cultural resource field survey results
USFS	Cale Bickerdyke	11/19/2019	Phone Log	Call to discuss cost recovery and right-of-way width
USFS	Kim Grotte, Cale Bickerdyke	11/20/2019	Email	Email requesting the USFS right-of-way width guidance/requirement

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North Bakken Expansion Project
Summary of Agency Correspondence as of February 14, 2020

Agency	Contact Name(s)	Date of Correspondence	Format	Summary
USFS	Cale Bickerdyke	11/21/2019	Email	Email chain to schedule an in-person meeting
USFS	Kim Grotte, Cale Bickerdyke	11/27/2019	Email	Email following up to previous request for the USFS right-of-way width guidance/requirement
USFS	Cale Bickerdyke	12/02/2019	Phone Log	Call to discuss the BA and right-of-way width
USFS	Kim Grotte, Cale Bickerdyke	12/09/2019	Email	Email chain discussing Dakota skipper avoidance concerns for route change
USFS	Cale Bickerdyke	12/09/2019	Phone Log	Call to discuss BA, Dakota skipper habitat, reroutes, and right-of-way width
USFS	Kim Grotte, Cale Bickerdyke	12/10/2019	Email	Email chain discussing Dakota skipper avoidance concerns for route change
USFS	Sarah Bickerdyke (Wold)	12/12/2019	Email	Email to share the species list for the Biological Evaluation and potential meeting times
USFS	Sarah Bickerdyke	12/12/2019	Phone Log	Call to discuss the BA and BE
USFS	Cale Bickerdyke	12/13/2019	Phone Log	Call to discuss BA, BE, Dakota skipper survey results, right-of-way width, and a site visit
USFS	Liv Fetterman, Sandra Iron Road	12/16/2019	Email	Email to provide instructions for submitting the cultural resources report
USFS	Liv Fetterman	12/17/2019	Phone Log	Call to follow-up on the email regarding instructions for submitting the cultural resources report
USFS	Sarah Bickerdyke	01/14/2020	Phone Log	Call to discuss the BA
USFS	Kim Grotte, Cale Bickerdyke	01/15/2020	Email	Email to follow-up on request for information about cost recovery
USFS	Cale Bickerdyke	01/15/2020	Email	Email to provide contact information for Dawn Ramsey (FERC)
USFS	Cale Bickerdyke	01/15/2020	Phone Log	Call to follow-up about email regarding cost recovery and to discuss meeting times
USFS	Cale Bickerdyke	01/21/2020	Email	Email chain about seed mixture requirements
USFS	Liv Fetterman	02/14/2020	Letter	Letter transmitting archaeological survey and historic structures survey reports.
USFS	Oscar Knudtsen	02/05/2020	Phone Log	Phone call to discuss known coal seam fire locations; left voicemail.
USFS	Cale Bickerdyke	02/14/2020	Letter	Letter transmitting the BE
North Dakota Department of Environmental Quality (NDDEQ) and North Dakota Department of Health (NDDOH)				
NDDEQ	Peter Wax	04/15/2019	Letter	Introductory project letter with preliminary route map
NDDOH	Karl Rockeman	04/15/2019	Letter	Introductory project letter with preliminary route map

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North Bakken Expansion Project
Summary of Agency Correspondence as of February 14, 2020

Agency	Contact Name(s)	Date of Correspondence	Format	Summary
NDDEQ	James Semerad	05/29/2019	Letter	Introductory project letter with preliminary route map
NDDEQ	James Semerad	06/05/2019	Phone Log	Call to follow-up on the project introductory letter sent to the agency
NDDEQ	Peter Wax	06/05/2019	Phone Log	Call to follow-up on the project introductory letter sent to the agency
NDDEQ	Karl Rockeman	06/05/2019	Email	Follow-up email to the introductory project letter
NDDEQ	Peter Wax	06/07/2019	Phone Log	Follow-up call to discuss the project and required water quality certification
NDDEQ	Peter Wax	07/12/2019	Email	Email discussing project infrastructure and open house meeting
NDDEQ	James Semerad	07/17/2019	Letter	Invitation to public open houses
NDDEQ	Peter Wax	07/17/2019	Letter	Invitation to public open houses
NDDOH	Karl Rockeman	07/17/2019	Letter	Invitation to public open houses
NDDEQ	Karl Rockeman, Peter Wax, Jim Semerad, Ashley Persinger, Steve Dyke, Christine Dirk, Claudia Berg	07/25/2019	Email	Email to inform agency of pre-filing calls and assess interest
NDDEQ/NDDOH	Peter Wax and Karl Rockeman	07/30/2019	Email	Email stating interest to participate in pre-filing calls
NDDEQ, Division of Air Quality	Craig Thorstenson	10/15/2019	Email	Initial response email regarding flare requirements for maintenance blowdowns
NDDEQ, Division of Air Quality	Craig Thorstenson	10/16/2019	Email	Email to agency checking on clarification regarding flare requirements for maintenance blowdowns
NDDEQ, Division of Air Quality	Craig Thorstenson	10/25/2019	Email	Response from agency clarifying flare requirements
NDDEQ, Division of Air Quality	Rheanna Kautman	01/13/2020	Phone Log	Call to discuss the North Dakota Air Toxics Policy
NDDEQ, Division of Air Quality	Rheanna Kautman	01/15/2020	Phone Log	Call to discuss state inventory emissions and sources information
NDDEQ, Division of Air Quality	Rheanna Kautman	01/17/2020	Phone Log	Call to discuss recent results for acrolein modeling
NDDEQ, Division of Air Quality	Craig Thorstenson	02/14/2020	Letter	Letter transmitting the air quality permit application for the Tioga Compressor Station
NDDEQ, Division of Air Quality	Craig Thorstenson	02/14/2020	Letter	Letter transmitting the air quality permit application for the Elkhorn Creek Compressor Station
North Dakota Department of Parks and Recreation (NDDPR)				
NDDPR	Kathy Duttenhefner	04/15/2019	Letter	Introductory project letter with preliminary route map

APPENDIX 1G (cont'd)

North Bakken Expansion Project
Summary of Agency Correspondence as of February 14, 2020

Agency	Contact Name(s)	Date of Correspondence	Format	Summary
NDDPR	Chris Dirk	05/03/2019	Phone Log	Call to discuss the introductory project letter
NDDPR	Chris Dirk	05/16/2019	Phone Log	Call to discuss the introductory project letter
NDDPR	Chris Dirk	06/05/2019	Phone Log	Call to discuss the introductory project letter and the needs of the NDDPR to fully evaluate the project
NDDPR	Chris Dirk	06/05/2019	Email	Email to follow-up on phone call and sharing project shapefiles for review
NDDPR	Chris Dirk	07/11/2019	Email	Email to follow-up and confirm receipt of project shapefiles
NDDPR	Kathy Duttenhefner	07/17/2019	Letter	Invitation to public open houses
NDDPR	Chris Dirk	07/17/2019	Letter	Invitation to public open houses
NDDPR	Chris Dirk	08/15/2019	Email	Email to follow-up on past emails and share updated project shapefiles
NDDPR	Chris Dirk	10/22/2019	Email	Email to follow-up on past emails
NDDPR	Chris Dirk	01/20/2020	Email	Email to follow-up on past emails and share updated project shapefiles
North Dakota Game and Fish Department (NDGFD)				
NDGFD	Steve Dyke	04/15/2019	Letter	Introductory project letter with preliminary route map
NDGFD	John Schumacher	05/16/2019	Phone Log	Call to discuss the agency requirements for the project
NDGFD	John Schumacher	05/24/2019	Email	Follow-up email sending FERC *Upland Erosion Control, Revegetation, and Maintenance Plan* and *Wetland and Waterbody Construction and Mitigation Procedures*
NDGFD	Greg Link	05/30/2019	Letter	Response from NDGFD to project introductory letter
NDGFD	Steve Dyke	07/17/2019	Letter	Invitation to public open houses
NDGFD	Greg Link	09/12/2019	Phone Log	Call to discuss fisheries information for waterbodies crossed by the project
NDGFD	Greg Link	09/27/2019	Email	Email chain to follow-up on previous phone call discussing fisheries information for waterbodies crossed by the project
NDGFD	Bruce Keft	01/15/2020	Email	Email chain to follow-up on previous phone call and emails discussing fisheries information for waterbodies crossed by the project
State Historical Society of North Dakota (SHSND)				
SHSND	Claudia Berg	04/15/2019	Letter	Introductory project letter with preliminary route map

APPENDIX 1G (cont'd)

North Bakken Expansion Project
Summary of Agency Correspondence as of February 14, 2020

Agency	Contact Name(s)	Date of Correspondence	Format	Summary
SHSND	Claudia Berg	05/15/2019	Letter	Follow-up project letter containing the cultural resources work plan for the project (*filed under separate cover as CUI/PRIV Volume IV*)
SHSND	Claudia Berg	06/05/2019	Letter	Response to introductory project letter
SHSND	Andrew Clark	06/14/2019	Phone Log	Call to discuss the project and methodology changes to the work plan
SHSND	Andrew Clark	06/14/2019	Email	Field methodology changes to the project work plan
SHSND	Andrew Clark	06/14/2019	Email	Additional field methodology changes to the project work plan
SHSND	Andrew Clark	06/19/2019	Email	Email to agency to verify that field methodology changes are okay
SHSND	Andrew Clark	06/19/2019	Email	Follow-up email confirming the field methodology changes are acceptable
SHSND	Claudia Berg	07/17/2019	Letter	Invitation to public open houses
SHSND	Andrew Clark	07/23/2019	Phone Log	Call to discuss discovery of a newly identified site in the corridor of another pipeline project
SHSND	Andrew Clark	07/23/2019	Email	Email providing additional information about the newly identified site (*filed under separate cover as CUI/PRIV Volume IV*)
SHSND	Andrew Clark	07/23/2019	Email	Email providing additional information about the newly identified site, including shapefiles
SHSND	Andrew Clark	07/23/2019	Phone Log	Call to discuss newly identified site and plans for the other pipeline project
SHSND	Andrew Clark	07/23/2019	Email	Email providing identification number for the newly identified site
SHSND	Andrew Clark	07/25/2019	Email	Email providing updates on project surveys
SHSND	Andrew Clark	09/03/2019	Phone Log	Call to request a shapefile for mapped features within a specific plot
SHSND	Andrew Clark	09/03/2019	Email	Email providing requested shapefiles
SHSND	Andrew Clark	01/06/2020	Email	Email providing information on a potentially crossed site *(filed under separate cover as CUI/PRIV Volume IV)*
SHSND	Andrew Clark	01/08/2020	Email	Email providing an update on the review of a site *(filed under separate cover as CUI/PRIV Volume IV)*
SHSND	Andrew Clark	01/09/2020	Email	Email providing information on a potentially crossed site *(filed under separate cover as CUI/PRIV Volume IV)*
SHSND	Claudia Berg	02/14/2020	Letter	Letter transmitting archaeological survey and historic structures survey reports.

APPENDIX 1G (cont'd)

North Bakken Expansion Project
Summary of Agency Correspondence as of February 14, 2020

Agency	Contact Name(s)	Date of Correspondence	Format	Summary
North Dakota State Water Commission (SWC)				
NDSWC	Aaron Carranza	04/15/2019	Letter	Introductory project letter with preliminary route map
NDSWC	Jon Patch	04/15/2019	Letter	Introductory project letter with preliminary route map
NDSWC	Jared Huibregtse	05/15/2019	Letter	Response to introductory project letter with NDSWC staff comments on the project
NDSWC	Ashley Persinger	05/30/2019	Phone Log	Phone call to discuss the response letter as well as permit review timelines
NDSWC	Ashley Persinger	07/17/2019	Letter	Invitation to public open houses
NDSWC	Jon Patch	07/17/2019	Letter	Invitation to public open houses
NDSWC	Sovereign Lands Permit Reviewer	08/09/2019	Email	Email to submit the Sovereign Lands Permit for geotech survey work *[Attachments not included, can be provided to FERC on request]*
NDSWC	Ashley Persinger	08/09/2019	Email	Email to confirm receipt of the Sovereign Lands Permit
NDSWC	Ashley Persinger	08/12/2019	Phone Log	Phone call to continue discussions about permitting needs for the project
NDSWC	Ashley Persinger	08/12/2019	Email	Email discussing the timeline for the Sovereign Lands Permit
NDSWC	Kayla Graber	08/12/2019	Email	Email discussing the status of the Sovereign Lands Permit
NDSWC	Ashley Persinger	08/30/2019	Email	Email discussing the NDSWC's involvement in the bi-weekly calls with FERC, WBI Energy, and other agencies
NDSWC	Ashley Persinger	9/12/2019	Email	Email chain discussing the project and the Sovereign Lands permit
NDSWC	Ashley Persinger	10/15/2019	Email	Email chain discussing the timeline for the Sovereign Lands permit
NDSWC	Ashley Persinger	11/05/2019	Email	Email chain discussing the status of the review of the Sovereign Lands Permit
NDSWC	Ashley Persinger	11/12/2019	Email	Email chain discussing the status of the review of the Sovereign Lands Permit
NDSWC	Ashley Persinger	11/21/2019	Email	Email chain discussing the status of the review of the Sovereign Lands Permit
NDSWC	Ashley Persinger	11/26/2019	Email	Email chain confirming completion of the review of the Sovereign Lands Permit
NDSWC	Ashley Persinger	12/04/2019	Email	Email discussing the need for a scour analysis at Lake Sakakawea
North Dakota Trust Lands				
North Dakota Trust Lands	Kayla Graber	07/30/2019	Email	Email confirming the correct email address for permitting needs

APPENDIX 1G (cont'd)

North Bakken Expansion Project
Summary of Agency Correspondence as of February 14, 2020

Agency	Contact Name(s)	Date of Correspondence	Format	Summary
North Dakota Trust Lands	Kayla Graber	07/31/2019	Email	Email chain discussing North Dakota Trust Lands survey permitting
North Dakota Trust Lands	Kayla Graber	08/01/2019	Email	Email chain discussing the status of the filed permits
North Dakota Trust Lands	Kayla Graber	08/06/2019	Email	Email discussing the filed permits and items needed
North Dakota Trust Lands	Kayla Graber	08/12/2019	Email	Email chain discussing the status of the filed survey permits
North Dakota Trust Lands	Diane Weixel	08/13/2019	Email	Email confirming the approval of the necessary survey permits
North Dakota Department of Mineral Resources				
North Dakota Department of Mineral Resources	Clint Boyd	08/08/2019	Email	Email to confirm field surveys are not needed on state land parcel
Local Agencies				
Burke County Planning Department	Marla MacBeth	07/25/2019	Phone Log	Phone call to discuss proposed projects in the county; left a voicemail
McKenzie County Planning Department	McKenzie County Planning Department	07/25/2019	Phone Log	Phone call to discuss proposed projects in the county
Mountrail County Planning Department	Heidi Kory	07/25/2019	Phone Log	Phone call to discuss proposed projects in the county
Williams County Planning Department	Williams County Planning Department	07/25/2019	Phone Log	Phone call to discuss proposed projects in the county
Burke County Planning Department	Marla MacBeth	08/02/2019	Phone Log	Phone call to discuss proposed projects in the county; left a voicemail
North Dakota Public Service Commission	Patrick Fawn	08/08/2019	Phone Log	Phone call to the planning department to discuss proposed projects in the county; left a voicemail
North Dakota Public Service Commission	Patrick Fawn	08/09/2019	Phone Log	Phone call to discuss projects in the area and where to find information on these projects
North Dakota Public Service Commission	Matt Fischer	02/04/2020	Phone Log	Phone call to discuss locations of known coal seam fires
North Dakota Public Service Commission	Matt Fischer, Joan Breiner, Ross Edison, Esther Pick-Jochim, Dean Moos, Shawn Nixon, Bruce Beechie	02/04/2020	Email	Email to follow-up on phone call about coal seam fire projects and provide examples of past projects
North Dakota Public Service Commission	Matt Fischer	02/05/2020	Email	Email chain regarding coal seam fire projects providing another example project

APPENDIX 1G (cont'd)

North Bakken Expansion Project
Summary of Agency Correspondence as of February 14, 2020

Agency	Contact Name(s)	Date of Correspondence	Format	Summary
North Dakota Public Service Commission	Matt Fischer, Joan Breiner	02/05/2020	Email	Email chain regarding coal seam fire projects providing contact information for Oscar Knudston (USDA)

NORTH BAKKEN EXPANSION PROJECT

Resource Report 1

APPENDIX 1G-1
Agency Correspondence – Multiple Agencies

Lisa DiNicolantonio

From: Andrea Thornton
Sent: Friday, May 24, 2019 8:27 AM
To: Jeremy.J.Thury@usace.army.mil; Michael.P.Morris@usace.army.mil; Rogers, Richard R II CIV USARMY CENWO (US); Jackson, Seth; Grotte, Kim -FS; Bickerdyke, Cale E -FS; Linn, Jill; Huncovsky, Greg; Linn, Dave; Myerchin, Lori; Wade Hammer; Mark Cline; Tina Lyons
Subject: North Bakken Expansion Project Agency Call

Hello Everyone,

We would like to schedule a call with representatives from WBI Energy, the U.S Army Corps of Engineers, the U.S. Forest Service, and the Bureau of Land Management to discuss the North Bakken Expansion Project (Project) status and next steps for the project moving forward. As you are aware, the Project crosses both U.S Army Corps of Engineers and U.S. Forest Service owned land which authorizes the Bureau of Land Management to grant or renew rights-of-way or permits through the Mineral Leasing Act. With multiple federal agencies involved in the process that we want to make sure that we are capturing agencies needs and potential Project concerns as early in the process as possible.

Below is a link to a Doodle Poll to assess individuals availability for a call. We have a lot of schedules to take into account and I will do my best to pick a date/time that works for people. If you have any questions on how to fill out the Doodle Poll please let me know and I can assist. It would be helpful if individuals could fill out their availability by Wednesday May 29th. Once we have a day/time selected I will send out a meeting invitation.

North Bakken Expansion Project Call

Thank you for your time and we look forward to speaking with you soon.

-Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



Lisa DiNicolantonio

From: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Sent: Friday, May 24, 2019 9:21 AM
To: jessica_n_johnson@fws.gov
Cc: Wallace, Arthur L Jr CIV USARMY CENWO (US); Sterling, Scott T CIV USARMY CENWO (USA); Morris, Michael P CIV USARMY CENWO (USA); Stonesifer, Alfred C CIV USARMY CENWO (US); Kruger, Heath Robert CIV USARMY CENWO (USA); Nelson, Reece E CIV USARMY CENWO (USA); Andrea Thornton; Jill.Linn@wbienergy.com
Subject: WBI NORTH BAKKEN EXPANSION PROJECT NON FED REP DESIGNATION
Attachments: 20190527_WBI_NBE_FEDERAL REP LTR.pdf

Hi Jessica -

Attached is our designation of Environmental Resources Management (ERM) as the non-Federal Rep for ESA, on the WBI North Bakken Expansion Project proposed near Tobacco Gardens.

Thank you, please let me know if you have any questions or concerns.

Jeremy J. Thury
Natural Resources Specialist
US Army Corps of Engineers
Garrison Dam/ Lake Sakakawea Project
Riverdale, North Dakota Office
(701) 654-7761

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
GARRISON PROJECT OFFICE
PO BOX 527
RIVERDALE, NORTH DAKOTA 58565-0527

May 28th, 2019

U.S. Fish & Wildlife Service
Ecological Services
Mrs. Jessica Johnson, Acting Field Supervisor
3425 Miriam Avenue
Bismarck, ND 58501

Dear Mrs. Johnson,

Pursuant to 50 C.F.R. 402.08, the United States Army Corps of Engineers (USACE) formally designates Environmental Resources Management (ERM) as our non-Federal representative for the purposes of Section 7 consultation under the Endangered Species Act of 1973, as amended, for the WBI North Bakken Expansion Project. We recognize that the USACE retains ultimate responsibility for Section 7 obligations.

The non-Federal representative may be involved in the informal consultation process and may request and receive species lists, prepare a biological assessment, and provide information for a formal consultation. Accordingly, ERM is designated and authorized as our non-Federal representative to contact and work with the U.S. Fish & Wildlife Service to ensure that any effects on threatened and endangered species and their critical habitat are evaluated for the WBI North Bakken Expansion Project

ERM will provide draft copies of all consultation correspondence to the USACE for review, **prior** to submittal to your office.

Sincerely,

Jeremy J. Thury
Natural Resources Specialist
Oil & Gas Program

Cc:
CENWO-ODG-AN (Stonesifer)
WBI (Linn)
ERM (Thornton)

Lisa DiNicolantonio

From: Grotte, Kim -FS <kim.grotte@usda.gov>
Sent: Tuesday, May 28, 2019 7:13 AM
To: Andrea Thornton; Jeremy.J.Thury@usace.army.mil; Michael.P.Morris@usace.army.mil; Rogers, Richard R II CIV USARMY CENWO (US); Jackson, Seth; Bickerdyke, Cale E -FS; Linn, Jill; Huncovsky, Greg; Linn, Dave; Myerchin, Lori; Wade Hammer; Mark Cline; Tina Lyons
Subject: RE: North Bakken Expansion Project Agency Call

Follow Up Flag: Follow up
Flag Status: Completed

Yes, as I mentioned to Jeff on our last call of the BLM lead for the grant process on multi fed agency lands jurisdiction projects. I will try to make myself available with what works for Cale and the other fed agency folks, and your folks as well.

Kim Grotte
Cost Reimbursement Pipeline Specialist

Forest Service
Dakota Prairie Grassland, McKenzie Ranger District

p: 701-842-8509
f: 701-842-8544
Kim.Grotte@usda.gov

1905 S. Main St.
Watford City, ND 58854
www.fs.fed.us

From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Friday, May 24, 2019 10:27 AM
To: Jeremy.J.Thury@usace.army.mil; Michael.P.Morris@usace.army.mil; Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>; Jackson, Seth <sajackson@blm.gov>; Grotte, Kim -FS <kim.grotte@usda.gov>; Bickerdyke, Cale E -FS <cale.bickerdyke@usda.gov>; Linn, Jill <Jill.Linn@wbienergy.com>; Huncovsky, Greg <Greg.Huncovsky@WBIEnergy.com>; Linn, Dave <Dave.Linn@WBIEnergy.com>; Myerchin, Lori <Lori.Myerchin@WBIEnergy.com>; Wade Hammer <Wade.Hammer@erm.com>; Mark Cline <Mark.Cline@erm.com>; Tina Lyons <Tina.Lyons@erm.com>
Subject: North Bakken Expansion Project Agency Call

Hello Everyone,

We would like to schedule a call with representatives from WBI Energy, the U.S Army Corps of Engineers, the U.S. Forest Service, and the Bureau of Land Management to discuss the North Bakken Expansion Project (Project) status and next steps for the project moving forward. As you are aware, the Project crosses both U.S Army Corps of Engineers and U.S. Forest Service owned land which authorizes the Bureau of Land Management to grant or renew rights-of-way or permits through the Mineral Leasing Act. With multiple federal agencies involved in the process that we want to make sure that we are capturing agencies needs and potential Project concerns as early in the process as possible.

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North Bakken Expansion Project Call

Thank you for your time and we look forward to speaking with you soon.

-Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



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Please visit ERM's web site: http://www.erm.com. To find out how ERM manages personal data, please review our Privacy Policy

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Andrea Thornton

Subject: North Bakken Expansion Project
Location: Conference Call

Start: Fri 6/7/2019 11:30 AM
End: Fri 6/7/2019 1:00 PM
Show Time As: Tentative

Recurrence: (none)

Meeting Status: Not yet responded

Organizer: Andrea Thornton
Required Attendees: Thury, Jeremy J CIV USARMY CENWO (USA); Morris, Michael P CIV USARMY CENWO (USA); Rogers, Richard R II CIV USARMY CENWO (US); Jackson, Seth; Bickerdyke, Cale E -FS; Grotte, Kim -FS; Linn, Jill; Huncovsky, Greg; Linn, Dave; Myerchin, Lori; Wade Hammer; Mark Cline; Tina Lyons

Hello Everyone –

As a follow-up to my email last Friday, this is a meeting invitation to discuss the North Bakken Expansion Project status and next steps for the project moving forward. We also want to get communications going between agencies an make sure that we are capturing agencies needs and concerns as early in the process as we can. I will send out a meeting agenda next week as we get closer to the call.

Thanks,
Andrea

Conference Call Line:
(866)-668-0721

Code: 7081866047

Lisa DiNicolantonio

From: Andrea Thornton
Sent: Friday, June 7, 2019 7:03 AM
To: Thury, Jeremy J CIV USARMY CENWO (USA); Morris, Michael P CIV USARMY CENWO (USA); Rogers, Richard R II CIV USARMY CENWO (US); Jackson, Seth; Bickerdyke, Cale E -FS; Grotte, Kim -FS; Linn, Jill; Huncovsky, Greg; Linn, Dave; Myerchin, Lori; Wade Hammer; Mark Cline; Tina Lyons
Cc: Stonesifer, Alfred C CIV USARMY CENWO (US); Green, Kody L CIV USARMY CENWO (USA); Kruger, Heath Robert CIV USARMY CENWO (USA); Wallace, Arthur L Jr CIV USARMY CENWO (US); Grundman, Jonas L CIV USARMY CENWO (US)
Subject: North Bakken Expansion Project
Attachments: Interagency Call Agenda_060719.docx

Good Morning Everyone,

Attached is an agenda for our meeting later this morning. The call in information is also listed below from the meeting invitation.

Conference Call Line: (866)-668-0721
Code: 7081866047

Thank you and I look forward to speaking with you later today.

-Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



North Bakken Expansion Project

Interagency Call - Friday June 7, 2019

- **Introductions**
  - Bureau of Land Management
  - U.S. Army Corp of Engineers
  - U.S. Forest Service
  - WBI Energy
  - ERM
- **Project Updates**
  - Additional Project Facilities
  - Pre-Filing
  - Schedule
- **Permitting Discussion**
  - BLM Plan of Development - SF-299 and MS-2804 Manual
    - Information from U.S. Army Corp of Engineers and U.S. Forest Service to include:
      - Resource Values and Environmental Concerns
      - Stabilization and Rehabilitation
      - Specific project plans that agencies would be looking to be included with the Plan of Development
    - Review timeframe
  - U.S. Army Corp of Engineers and U.S. Forest Service
    - Special Use Permit
    - Section 408 Real Estate Outgrant

Andrea Thornton

Subject: North Bakken Expansion Project
Location: Conference Call

Start: Fri 6/7/2019 11:30 AM
End: Fri 6/7/2019 1:00 PM
Show Time As: Tentative

Recurrence: (none)

Meeting Status: Not yet responded

Organizer: Andrea Thornton
Required Attendees: Thury, Jeremy J CIV USARMY CENWO (USA); Morris, Michael P CIV USARMY CENWO (USA); Rogers, Richard R II CIV USARMY CENWO (US); Jackson, Seth; Bickerdyke, Cale E -FS; Grotte, Kim -FS; Linn, Jill; Huncovsky, Greg; Linn, Dave; Myerchin, Lori; Wade Hammer; Mark Cline; Tina Lyons

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Thanks,
Andrea

Conference Call Line:
(866)-668-0721

Code: 7081866047

MEETING NOTES

LOG OF CONFERENCE CALL MEETING

MEETING ATTENDEES:

Seth Jackson, Bureau of Land Management (BLM) – Realty Specialist
Cale Bickerdyke, U.S. Forest Service (USFS) - Minerals and Lands Supervisor
Kim Grotte, USFS – Oil and Gas Projects Lead
Jeremy Thury, U.S. Army Corps of Engineers (USACE) – Garrison Project Office, Project Lead
Michael Morris, USACE – Garrison Project Office, Biologist
Richard Rogers, USACE – Garrison Project Office, Cultural Resources
Alfred Stonesifer, USACE – Garrison Project Office, Natural Resource Specialist
Kody Green, USACE – Williston Resource Office, Natural Resource Specialist
Heath Robert Kruger, USACE – Williston Resource Office, Natural Resource Specialist
Arthur Wallace, USACE – Williston Resource Office, Natural Resource Specialist
Jonas Grundman, USACE – Williston Resource Office, Natural Resource Specialist
Jason Renschler, USACE – Bismarck Office Regulatory Branch
Luke Wallace – Omaha District Biologist and Planning Department
Dave Linn, WBI Energy – Project Manager
Greg Huncovsky, WBI Energy – Environmental Resources
Jill Linn, WBI Energy – Environmental Resources
Andrea Thornton, Environmental Resources Management (ERM) – Project Manager
Wade Hammer, ERM – USACE Permitting
Mark Cline, ERM – USFS Permitting

DATE:	TIME OF CONVERSATION:
June 7, 2019	9:30 am

RE:

North Bakken Expansion Project Interagency Call

SIGNATURE:

LOG OF CONVERSATION:

The purpose of this call was to provide agencies with updates to the North Bakken Expansion Project (Project) and get representatives from the three agencies on the phone together to start discussing the permitting process. After introductions were made Andrea Thornton provided Project updates.

Additional Project Facilities

- Two approximately 10 mile long laterals will be added to the Project. Laterals are in the very preliminary states of routing; however, they will not be crossing any federal lands.

Pre-Filing

- WBI Energy and ERM met with the Federal Energy Regulatory Commission (FERC) on May 22, 2019 for a pre-filing meeting.
- Initial plans were to submit the pre-filing request letter to FERC in late May.

- Due to the additional facilities being added to the Project, this submittal is now planned for mid-June.

Schedule

- Once FERC accepts the pre-filing request (which typically takes 1 to 2 weeks), it starts the clock for WBI Energy to provide some preliminary information to FERC including drafts of resource reports 1 and 10, landowner line lists, and planning for open houses.

- WBI Energy is looking to file their application with FERC in either December 2019 or January 2020.

- Under FERC Regulations, applications for major federal permits should be filed before or concurrently with the formal FERC Application.

Permitting Discussion

- The current alignment is crossing about 2 miles of lands owned by the USFS within the Little Missouri National Grasslands

- The current alignment is also crossing about 2 miles of USACE land (about 0.2 mile of which are land based). The entire 2 miles would be with the planned horizontal direction drill crossing of Lake Sakakawea. No traditional pipeline construction will occur on these lands.

- Given the crossing of two different federal land management agencies land, the BLM will be issuing the right-of-way permit for the Project.

- Mr. Jackson with the BLM noted that the BLM prefers to look at the entire project, not just the federally managed lands. ERM and WBI explained that FERC would be conducting an environmental review of the entire project and wetland/waterbody surveys and cultural resource surveys will be completed for the entire project.

- The BLM will require a Plan of Development (POD) for the Project as it is considered a major project. This document is where the detailed information on any resource values, environmental concerns, and construction and rehabilitation measures will be located, rather than in the USFS Special Use Permit or the USACE outgrant documents. Having the Project details in a single document like this can help streamline the review.

- Ms. Thornton noted that while the Project is still in the early stages, it will be helpful for the USFS and USACE to let us know of specific concerns that they may have with the land crossings so WBI Energy can work to identify mitigation measures, site-specific plans, or construction measures as needed. This will also help determine the type of information that will need to be included in the POD.

- MS. Thornton noted that WBI Energy will want to address any agency comments on a draft of the POD prior to submitting the document for formal review/processing. A round table discussion indicated that a three week review period should be adequate for agencies.

- Cost Recovery – BLM, USFS, and USACE discussed cost recovery processes.

Questions

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    - Greg Huncovsky followed-up with Jason and emailed him a copy of the Project introduction letter that mailed to his office.

Lisa DiNicolantonio

From: Andrea Thornton
Sent: Wednesday, June 19, 2019 6:45 PM
To: Thury, Jeremy J CIV USARMY CENWO (USA); Morris, Michael P CIV USARMY CENWO (USA); Rogers, Richard R II CIV USARMY CENWO (US); Jackson, Seth; Bickerdyke, Cale E -FS; Grotte, Kim -FS; Linn, Jill; Huncovsky, Greg; Linn, Dave; Myerchin, Lori; Wade Hammer; Mark Cline; Tina Lyons
Cc: Stonesifer, Alfred C CIV USARMY CENWO (US); Green, Kody L CIV USARMY CENWO (USA); Kruger, Heath Robert CIV USARMY CENWO (USA); Wallace, Arthur L Jr CIV USARMY CENWO (US); Grundman, Jonas L CIV USARMY CENWO (US); Renschler, Jason J CIV USARMY CENWO (USA)
Subject: North Bakken Expansion Project - Meeting Notes
Attachments: North Bakken Expansion Project_Agency Call_060719 Meeting Notes.pdf

Hello Everyone,

I apologize for the delay in getting this meeting summary distributed to the group. Please let me know if you have any questions or concerns.

Thanks,
Andrea

-----Original Appointment-----
From: Andrea Thornton
Sent: Wednesday, May 29, 2019 1:27 PM
To: Andrea Thornton; Thury, Jeremy J CIV USARMY CENWO (USA); Morris, Michael P CIV USARMY CENWO (USA); Rogers, Richard R II CIV USARMY CENWO (US); Jackson, Seth; Bickerdyke, Cale E -FS; Grotte, Kim -FS; Linn, Jill; Huncovsky, Greg; Linn, Dave; Myerchin, Lori; Wade Hammer; Mark Cline; Tina Lyons
Cc: Stonesifer, Alfred C CIV USARMY CENWO (US); Green, Kody L CIV USARMY CENWO (USA); Kruger, Heath Robert CIV USARMY CENWO (USA); Wallace, Arthur L Jr CIV USARMY CENWO (US); Grundman, Jonas L CIV USARMY CENWO (US); Renschler, Jason J CIV USARMY CENWO (USA)
Subject: North Bakken Expansion Project
When: Friday, June 7, 2019 9:30 AM-11:00 AM (UTC-08:00) Pacific Time (US & Canada).
Where: Conference Call

Hello Everyone –

As a follow-up to my email last Friday, this is a meeting invitation to discuss the North Bakken Expansion Project status and next steps for the project moving forward. We also want to get communications going between agencies an make sure that we are capturing agencies needs and concerns as early in the process as we can. I will send out a meeting agenda next week as we get closer to the call.

Thanks,
Andrea

Conference Call Line:
(866)-668-0721

Code: 7081866047

MEETING NOTES

LOG OF CONFERENCE CALL MEETING

MEETING ATTENDEES:

Seth Jackson, Bureau of Land Management (BLM) – Realty Specialist
Cale Bickerdyke, U.S. Forest Service (USFS) - Minerals and Lands Supervisor
Kim Grotte, USFS – Oil and Gas Projects Lead
Jeremy Thury, U.S. Army Corps of Engineers (USACE) – Garrison Project Office, Project Lead
Michael Morris, USACE – Garrison Project Office, Biologist
Richard Rogers, USACE – Garrison Project Office, Cultural Resources
Alfred Stonesifer, USACE – Garrison Project Office, Natural Resource Specialist
Kody Green, USACE – Williston Resource Office, Natural Resource Specialist
Heath Robert Kruger, USACE – Williston Resource Office, Natural Resource Specialist
Arthur Wallace, USACE – Williston Resource Office, Natural Resource Specialist
Jonas Grundman, USACE – Williston Resource Office, Natural Resource Specialist
Jason Renschler, USACE – Bismarck Office Regulatory Branch
Luke Wallace – Omaha District Biologist and Planning Department
Dave Linn, WBI Energy – Project Manager
Greg Huncovsky, WBI Energy – Environmental Resources
Jill Linn, WBI Energy – Environmental Resources
Andrea Thornton, Environmental Resources Management (ERM) – Project Manager
Wade Hammer, ERM – USACE Permitting
Mark Cline, ERM – USFS Permitting

DATE:	TIME OF CONVERSATION:
June 7, 2019	9:30 am

RE:

North Bakken Expansion Project Interagency Call

SIGNATURE:

LOG OF CONVERSATION:

The purpose of this call was to provide agencies with updates to the North Bakken Expansion Project (Project) and get representatives from the three agencies on the phone together to start discussing the permitting process. After introductions were made Andrea Thornton provided Project updates.

Additional Project Facilities

- Two approximately 10 mile long laterals will be added to the Project. Laterals are in the very preliminary states of routing; however, they will not be crossing any federal lands.

Pre-Filing

- WBI Energy and ERM met with the Federal Energy Regulatory Commission (FERC) on May 22, 2019 for a pre-filing meeting.
- Initial plans were to submit the pre-filing request letter to FERC in late May.

- Due to the additional facilities being added to the Project, this submittal is now planned for mid-June.

Schedule

- Once FERC accepts the pre-filing request (which typically takes 1 to 2 weeks), it starts the clock for WBI Energy to provide some preliminary information to FERC including drafts of resource reports 1 and 10, landowner line lists, and planning for open houses.

- WBI Energy is looking to file their application with FERC in either December 2019 or January 2020.

- Under FERC Regulations, applications for major federal permits should be filed before or concurrently with the formal FERC Application.

Permitting Discussion

- The current alignment is crossing about 2 miles of lands owned by the USFS within the Little Missouri National Grasslands

- The current alignment is also crossing about 2 miles of USACE land (about 0.2 mile of which are land based). The entire 2 miles would be with the planned horizontal direction drill crossing of Lake Sakakawea. No traditional pipeline construction will occur on these lands.

- Given the crossing of two different federal land management agencies land, the BLM will be issuing the right-of-way permit for the Project.

- Mr. Jackson with the BLM noted that the BLM prefers to look at the entire project, not just the federally managed lands. ERM and WBI explained that FERC would be conducting an environmental review of the entire project and wetland/waterbody surveys and cultural resource surveys will be completed for the entire project.

- The BLM will require a Plan of Development (POD) for the Project as it is considered a major project. This document is where the detailed information on any resource values, environmental concerns, and construction and rehabilitation measures will be located, rather than in the USFS Special Use Permit or the USACE outgrant documents. Having the Project details in a single document like this can help streamline the review.

- Ms. Thornton noted that while the Project is still in the early stages, it will be helpful for the USFS and USACE to let us know of specific concerns that they may have with the land crossings so WBI Energy can work to identify mitigation measures, site-specific plans, or construction measures as needed. This will also help determine the type of information that will need to be included in the POD.

- MS. Thornton noted that WBI Energy will want to address any agency comments on a draft of the POD prior to submitting the document for formal review/processing. A round table discussion indicated that a three week review period should be adequate for agencies.

- Cost Recovery – BLM, USFS, and USACE discussed cost recovery processes.

Questions

Question was raised by Jason Renschler regarding the timing of receiving an invitation to be a cooperating agency. Ms. Thornton indicated that those invitations would be coming from FERC and it would be after the pre-filing process letter has been accepted.

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    - Greg Huncovsky followed-up with Jason and emailed him a copy of the Project introduction letter that mailed to his office.

Lisa DiNicolantonio

From: Andrea Thornton
Sent: Thursday, July 11, 2019 12:47 PM
To: Jackson, Seth; Bickerdyke, Cale E -FS; Grotte, Kim -FS; Thury, Jeremy J CIV USARMY CENWO (USA); Renschler, Jason J CIV USARMY CENWO (USA); Morris, Michael P CIV USARMY CENWO (USA); Rogers, Richard R II CIV USARMY CENWO (US)
Cc: Huncovsky, Greg; Linn, Jill; Pat Robblee
Subject: North Bakken Expansion Project Update - FERC Pre-filing Request
Attachments: North Bakken Expansion Pre-filing Request.pdf; FERC Formal Acceptance of WBI Pre-Filing_20190703-3051(33674963).pdf

Hello Everyone,

On June 28th WBI Energy submitted their request to use the Federal Energy Regulatory Commission's (FERC) Pre-Filing process for the North Bakken Expansion Project. On July 3rd FERC accepted the request and assigned a docket number (PF19-7) and Project Manager to the project. Both of these documents are attached for your reference.

The following link provides a flow chart outlining FERC's pre-filing environmental review process (https://www.ferc.gov/resources/processes/flow/lng-1.asp). WBI Energy will be holding open houses in early August for the Project, letters inviting agencies to attend these open houses will be mailed in the coming weeks.

Thanks and please let me know if you have any questions.

Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426

OFFICE OF ENERGY PROJECTS

In Reply Refer To:
OEP/DG2E/Gas 1
WBI Energy Transmission, Inc.
North Bakken Expansion Project
Docket No. PF19-7-000

July 3, 2019

Lori Myerchin
Director, Regulatory Affairs and Transportation Services
WBI Energy Transmission, Inc.
1250 West Century Ave.
PO Box 5601
Bismarck, ND 58506-5601

Re: Approval of Pre-Filing Request

Dear Ms. Myerchin:

Thank you for your letter, filed June 28, 2019, requesting use of the Federal Energy Regulatory Commission's (FERC or Commission) pre-filing review process for WBI Energy Transmission, Inc.'s (WBI) planned North Bakken Expansion Project. We believe that beginning the Commission's review of this proposal prior to the receipt of your application will greatly improve our ability to identify issues early and address them in our environmental document.

As stated in your letter, WBI plans to construct a 60-mile-long, 20-inch-diameter natural gas pipeline from its existing compressor station near Tioga, North Dakota, to a new interconnect with Northern Border Pipeline Company's mainline near Watford City, North Dakota. WBI also plans to build three sections of 12-inch-diameter pipeline totaling 40 miles (20 miles of pipeline immediately adjacent to its existing pipeline, 10 miles of lateral, and 10 miles of interconnect pipeline), a new compressor station at the interconnect with Northern Border Pipeline Company (Elkhorn Creek Compressor Station), add horsepower at an existing compressor station (Tioga Compressor Station), uprate its existing Line Section 25, and install new and modify existing receipt and delivery points and lateral pipeline facilities along the pipeline routes. The North Bakken Expansion Project is expected to provide an additional 300 million cubic feet per day of natural gas takeaway capacity for the Bakken region of northwest North Dakota.

Your letter also stated that WBI intends to file an application no later than January 2020. When WBI files its application with the Commission, we will evaluate the

progress made during the pre-filing process, based in part on your success in resolving the issues raised during scoping. Once we determine that your application is ready for processing, we will establish a schedule for completion of the environmental document and for the issuance of all other federal authorizations.

As outlined in your request, WBI intends to file an applicant-prepared draft environmental assessment (EA) with its certificate application. The objective of the applicant-prepared draft EA is to accelerate staff review after filing an application; however, close coordination with my staff is necessary to ensure the draft EA is adequately crafted to realize the benefits of this process. Your request also describes WBI's commitment to provide a third-party contractor to assist our staff in the preparation of the environmental document should we determine it necessary. At this time, I believe that my staff can proceed with the pre-filing process without a third-party contractor; however, we note that there will be multiple cooperating agencies for this planned project, which adds to the complexity of the environmental review. We will notify you should we determine contractor assistance is necessary.

Once WBI files its application, your project may qualify as a covered project under Title 41 of the Fixing America's Surface Transportation Act (FAST Act). We encourage you to review the information regarding FAST-41 on our website, www.ferc.gov.

If you have any questions, please contact the Office of Energy Projects' Environmental Project Manager for your project, Arianne Balsom at (202) 502-8205.

Sincerely,

for
Terry L. Turpin
Director
Office of Energy Projects

WBI ENERGY TRANSMISSION, INC.
1250 West Century Ave.
P.O. Box 5601
Bismarck, ND 58506-5601
(701) 530-1600
www.wbienergy.com

June 28, 2019

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.W., Room 1 A, East
Washington, D.C. 20426

Re: WBI Energy Transmission, Inc.
North Bakken Expansion Project
Request to Initiate NEPA Pre-filing Process
Docket No. PF19- ___-000

WBI Energy Transmission, Inc. (WBI Energy) hereby requests approval from the Federal Energy Regulatory Commission (Commission or FERC) to initiate the Commission's National Environmental Policy Act (NEPA) pre-filing review process for WBI Energy's proposed North Bakken Expansion Project (Project). This request is submitted in accordance with section 157.21(b) of the Commission's regulations. Upon completion of the pre-filing review, WBI Energy will file an application with the Commission for authorization to construct and operate the Project under Section 7(c) of the Natural Gas Act (NGA). Representatives of WBI Energy held a conference call with Commission Staff on April 16, 2019 to review the Project; to discuss environmental resources along the proposed route; and, to discuss the likely regulatory review and WBI Energy's use of the pre-filing process. Representatives of WBI Energy also met with Commission Staff on May 22, 2019 to discuss the Project and the review of the pre-filing process.

The North Bakken Expansion Project is expected to provide at least an additional 300 million cubic feet per day of natural gas takeaway capacity for the Bakken region of northwest North Dakota. WBI Energy will transport natural gas from new and existing natural gas processing plants to a proposed interconnect with Northern Border Pipeline Company's (Northern Border) existing mainline located approximately eight miles southeast of Watford City, North Dakota. New pipeline infrastructure is of critical importance for the increasing levels of associated natural gas production and to reduce natural gas flaring in North Dakota. The natural gas will then be transported by Northern Border to natural gas markets in the midcontinent region of the United States. The target in-service date for the Project is November 2021.

In accordance with the Commission's pre-filing procedures, WBI Energy submits the following information regarding the Project to initiate the pre-filing process:

1. Project Schedule (18 C.F.R. § 157.21(d)(1))

The desired milestone dates for the Project are as follows:

Project Milestones WBI Energy Transmission, Inc. North Bakken Expansion Project	
WBI Energy submits pre-filing request	June 28, 2019
FERC issues Director's Notice of Pre-Filing	Week beginning July 8, 2019
WBI Energy conducts public open house	August 2019
WBI Energy files NGA Section 7 application	January 2020
FERC issues EA	October 2020
FERC issues authorization	January 2021
FERC issues Notice to Proceed	March 2021
WBI Energy places facilities in service	November 2021

2. Zoning and Availability (18 C.F.R. § 157.21(d)(2))

Not applicable. The Project does not involve a liquefied natural gas (LNG) facility.

3. Request Use of the Pre-filing Process ((18 C.F.R. § 157.21(d)(3))

WBI Energy is requesting use of the pre-filing process to allow agencies, affected landowners, and other stakeholders to work cooperatively with WBI Energy and Commission staff to identify and address environmental issues prior to the filing of the Certificate application. The open and proactive communication associated with the pre-filing process will allow WBI Energy to prepare a Certificate application that will more accurately and adequately address stakeholder concerns regarding the Project. Early stakeholder engagement is consistent with WBI Energy's commitment to building and maintaining strong relationships with the communities in which it operates.

4. Project Description (18 C.F.R. § 157.21(d)(4))

The Project consists of an approximately 60-mile-long, 20-inch diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to a new interconnect with Northern Border's mainline southeast of Watford City, North Dakota. A new compressor station, the Elkhorn Creek Compressor Station, will be constructed near this interconnect. The Project also involves construction of approximately 20 miles of 12-inch diameter natural gas pipeline between the existing Tioga Compressor Station and an existing receipt station along WBI Energy's existing Line Section 25, approximately 10 miles of 12-inch diameter natural gas pipeline along WBI Energy's existing Line Section 30, and an approximately 10 mile, 12-inch diameter natural gas pipeline lateral from WBI Energy's existing Line Section 7.

Additionally, the Project includes the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and the installation of new and modifications to receipt/delivery points and lateral pipeline facilities along the pipeline routes. An overview map depicting the proposed Project facilities is attached as Exhibit A.

Because engineering for the Project is ongoing, plot plans for the compressor stations are not available at this time. WBI Energy anticipates filing preliminary plot plans for these facilities during the pre-filing process.

5. List of Relevant Federal and State Agencies in the Project Area with Permitting Requirements (18 C.F.R. § 157.21(d)(5)).

Exhibit B contains a table listing relevant federal and state agencies with regulatory review or permitting authority over the Project. Additionally, Exhibit B lists Indian tribes that may have an interest in the Project. The table provides a contact name, address, and telephone number for each agency. Exhibit B also identifies the permit or approval required from each agency; verifies that each agency has been contacted by WBI Energy; indicates if the agency is expected to participate in the pre-filing process; and identifies the dates of agency and tribal consultation initiation, and when permits or approvals are expected to be received based on agency schedules for issuances of permits and authorizations. All major federal permits will be filed either before or concurrently with the formal FERC Application.

WBI Energy started sending introductory Project letters to the regulatory agencies on April 15, 2019, providing information on the Project. Letters to the Indian tribes also noted that the Project is subject to review under section 106 of the National Historic Preservation Act; the FERC is responsible for government-to-government consultation; and WBI Energy will begin archaeological survey along the proposed pipeline route in the summer of 2019. As a follow-up to the Project introduction letters, WBI Energy has started contacting these agencies and Indian tribes by telephone to determine their interest in participating in the pre-filing process and will continue to communicate with the interested tribes throughout the Project. All agencies and tribes were contacted by June 7, 2019.

6. List and Description of the Interest of Other Persons/Organizations Contacts about the Project (18 C.F.R. § 157.21 (d) (6)).

Exhibit C contains a table that lists federal, state, and local officials, and other interested parties identified by WBI Energy. These stakeholders are in addition to the agencies in Exhibit B. The table identifies the contact information (name, address, and telephone number) for each stakeholder. WBI Energy sent Project introductory letters to these stakeholders on April 18, 2019. A Public Participation Plan has also been developed to identify and inform stakeholders who may be affected or have an interest in the Project. The Public Participation Plan is provided in Exhibit D.

7. Project Work Already Done (18 C.F.R. § 157.21(d)(7))

Stakeholder Engagement: WBI Energy has identified stakeholders as set out in Exhibits B and C. The agencies and tribes listed in Exhibit B have each been sent introductory Project letters and the remaining stakeholders listed in Exhibit C have also been sent introductory Project letters. WBI Energy began following up with the stakeholders in April 2019 and will continue to follow up with these stakeholders in the upcoming weeks. WBI Energy has also prepared a Public Participation Plan for the Project (see Exhibit D).

Agency Engagement: WBI Energy initiated discussions with the U.S. Fish and Wildlife Service (FWS) in February 2019 regarding data acquisitions for grassland and wetland easements in the Crosby Wetland Management District. Additionally, WBI Energy initiated discussions with the U.S. Army Corps of Engineers in September 2018 and held an in-person meeting on March 27, 2019 regarding the crossing of Lake Sakakawea. Preliminary discussions with the U.S. Forest

Service and the Bureau of Land Management (BLM) regarding the project took place in May 2019. WBI Energy led an interagency call on June 7, 2019 between the U.S. Army Corps of Engineers, U.S. Forest Service, and the BLM to discuss BLM involvement and issuance of a right-of-way easement. Additional activities conducted to date to engage regulatory agencies are described in Section 5 above. Information regarding agency engagement is also provided in Exhibit B.

Tribal Engagement: In response to Project introduction letters, WBI Energy held an in person meeting with the Assiniboine and Sioux Tribes of the Fort Peck Reservation on June 13, 2019 to discuss the Project and the potential for tribal surveys. Representatives from the Fort Belknap Indian Community were also in attendance.

Land/Right-of-Way: WBI Energy has identified landowners along the proposed route through courthouse research in each of the counties crossed by Project facilities. WBI Energy began contacting landowners in October 2018 and held invitational landowner information meetings in Tioga and Watford City, North Dakota on May 8 and 9, 2019. A list of affected landowners will be included with the stakeholder mailing list to be filed with the Commission staff within 30 days of receiving Commission approval of use of the pre-filing process in accordance with §157.21 (f)(4).

Route Planning: WBI Energy evaluated a number of potential route alternatives for the Project. For the current proposed base route, WBI Energy completed a detailed review of aerial photography, topographic maps, and ground reconnaissance to identify routing constraints and opportunities. Based on environmental and engineering considerations, existing corridor collocations, and landowner discussions, WBI Energy selected the base route that has been used to initiate discussions with stakeholders. As WBI Energy begins engagement with landowners and other stakeholders, WBI Energy will continue to refine the route. Environmental and cultural survey results will help determine if additional route adjustments are needed.

Open Houses: WBI Energy plans to hold open houses along the proposed route during the month of August 2019, in Watford City and Tioga, North Dakota. Additional information on WBI Energy's open house is provided in the Public Participation Plan provided in Exhibit D.

Engineering and Environmental Subcontractors: WBI Energy is engineering the Project, is conducting centerline and civil surveys, and will prepare aerial photo-based alignment sheets for the Project. WBI Energy has contracted with Environmental Resources Management (ERM) to provide environmental and permitting support services, environmental field surveys, and to support stakeholder engagement activities.

Biological Field Surveys: WBI Energy conducted internet research to identify federally listed threatened and endangered species in the counties crossed by the Project. Based on the background research conducted and conversations with FWS, WBI Energy anticipates a need to conduct species-specific habitat surveys for Dakota Skipper in McKenzie, Burke, and Mountrail counties for the Project. WBI Energy held conference calls with FWS and the North Dakota Game and Fish Department on May 13 and 16, 2019 respectively to discuss appropriate field surveys and survey protocols. WBI Energy is performing wetland, waterbody, general habitat field surveys, and Dakota Skipper habitat surveys which all started in June 2019. Surveys for additional sensitive

species, if required, will be conducted in the summer of 2019 or in accordance with survey windows identified by the FWS.

Cultural Resources Field Surveys: In early May 2019, WBI Energy conducted research at the State Historical Society of North Dakota to identify previously recorded cultural resource sites along and near the proposed Project facilities. Additionally, WBI Energy has initiated correspondence with the North Dakota State Historic Preservation Officer to discuss field methods for cultural resources field surveys. WBI Energy prepared a scope of work for the field surveys which was approved by the State Historical Society of North Dakota and field surveys began in June 2019.

8. Third-Party Consultant Proposals (18 C.F.R. § 157.21(d)(9))

WBI Energy is requesting approval from the Commission staff to prepare an Applicant-Prepared Draft Environmental Assessment (APDEA) for the Project. WBI Energy believes that an APDEA is appropriate because the Project has a well-defined scope and is not expected to be controversial. Benefits of an APDEA include early identification of environmental issues as well as early involvement of Commission staff and cooperating agencies in the process. In particular, the use of the APDEA allows time and cost savings by having the same consultant prepare the Environmental Report for the Certificate application and the APDEA. WBI Energy's environmental contractor, ERM, has extensive experience preparing, or assisting in the preparation of, NEPA documents for Commission-regulated projects. ERM has prepared APDEAs on behalf of applicants, and assisted Commission staff as a third-party contractor in the preparation of Environmental Assessments and Environmental Impact Statements.

WBI Energy has reviewed the Commission's Guidance for Applicant-Prepared Draft Environmental Assessments for Certain Proposed Natural Gas Projects and understands that the APDEA must be filed with the Certificate application. WBI Energy also recognizes the importance of working closely with Commission staff to ensure that the APDEA meets the staff's needs and standards and addresses issues raised during the scoping process. Upon receipt of the Commission's approval to use the pre-filing process, WBI Energy will work with the FERC Project Manager to develop a realistic schedule for submittal of the draft resource reports and sections of the APDEA that allows sufficient time for review and comment by FERC staff and cooperating agencies, as well as time for incorporation of staff and agency comments. WBI Energy's proposed schedule assumes that the pre-filing period will be approximately six months long to accommodate this process. If additional time is needed to prepare an APDEA that meets staff's needs, WBI Energy will coordinate with the FERC Project Manager to modify the schedule while still allowing for an overall schedule that meets Project needs.

WBI Energy's request for an APDEA notwithstanding, WBI Energy will hire and fund a third-party environmental consultant to prepare a NEPA document for the Project if so requested by Commission staff.

9. Acknowledgment: Complete Environmental Report and Complete Application Required at the Time of Filing (18 C.F.R. § 157.21(d)(10))

WBI Energy acknowledges that a complete Environmental Report and a complete Certificate application are required at the time of filing its application.

10. Public Participation Plan Details (18. C.F.R. § 157.21(d)(11))

WBI Energy's Public Participation Plan is attached as Exhibit D.

11. Submittal to U.S. Coast Guard of Letter of Intent and Preliminary Waterways Suitability Assessment (18 C.F.R. § 157.21(d)(12))

Not applicable. The Project does not involve an LNG facility.

WBI Energy respectfully requests that the Director issue a Notice commencing the pre-filing process by no later than July 12, 2019. Should you have any questions about this request, please feel free to contact the undersigned.

Respectfully submitted,

/s/ Lori Myerchin

Lori Myerchin
Director, Regulatory Affairs and Transportation Services
WBI Energy Transmission, Inc.

Attachments:

Exhibit A:	Overview Map
Exhibit B:	Federal and State Agencies, and Indian Tribes Environmental Permits/Approvals/Consultations
Exhibit C:	Stakeholder List
Exhibit D:	Public Participation Plan

Exhibit A

Overview Map

Divide, ND
Burke, ND
McGregor
Compression to be Added @
Existing Tioga Compressor Station
Tioga
Williams, ND
Ray
Epping
Ross
Stanley
Mountrail, ND
Williston
Lake Sakakawea
Mckenzie, ND
Demicks Lake
Arnegard
Watford City
Mclean, ND
Dunn, ND
New Elkhorn Creek
Compressor Station

Miles
0 1.25 2.5 5

N

1 in = 3 miles

Project Overview Map

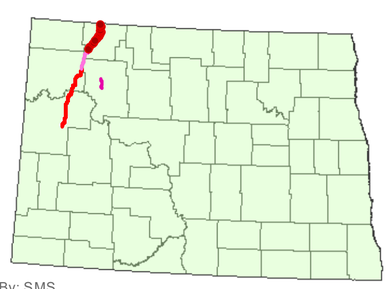
WBI ENERGY TRANSMISSION
An MDU Resources Group company

North Bakken Expansion Project
WBI Energy

Burke County
Mountrail County
Williams County
McKenzie County

North Dakota

PROJECT AREA OVERVIEW



By: SMS

Legend

- Road Bores for Uprating Existing Line
- Proposed Line Section 25 Loop Pipeline
- Proposed Receipt Lateral
- Proposed Elkhorn Creek - Tioga Pipeline
- WBI Existing Pipelines
- Proposed Line Section 30 Loop Pipeline
- Northern Border Pipeline

Exhibit B

Federal and State Agencies, and Indian Tribes Environmental Permits/Approvals/Consultations

WBI Energy Transmission, Inc.
North Bakken Expansion Project
Federal, State, and Indian Tribe Environmental Consultations/Permits/Approvals

Agency or Organization	Contact Address	Jurisdiction/Regulatory Involvement	Comments	Anticipated Permit/Approval/ Consultation Submittal	Anticipated Permit/Approval/ Consultation Receipt
FEDERAL					
U.S. Army Corps of Engineers, Omaha District and U.S. Army Corps of Engineers, Garrison Project	Jason Renschler U.S. Army Corps of Engineers Omaha District 3319 University Drive Bismarck, ND 58504 (701) 255-0015 Jason.J.Renschler@usace.army.mil Casey Buechler U.S. Army Corps of Engineers Omaha District – Garrison Project 201 1st Street Riverdale, ND 58565 (701)-654-7756 Case.r.buechler@usace.army.mil	Issuance of a Section 404 permit for discharges of dredged or fill material into waters of the United States, including jurisdictional wetlands. Issuance of a Section 408 permit for projects that impact (i.e., modify of occupy) any USACE constructed public works projects that include dams, basins, levees, channels, navigational channels, or other local flood protection works. Clearance to work on any USACE controlled property. Issuance of a Section 10 permit for structures or work in or affecting navigable waters of the United States.	• Introductory meeting with the Garrison Project Office on March 27, 2019 • Project introduction letter mailed on April 15, 2019 • Casey Buechler is no longer with the USACE, Jeremy Thury will be taking his role • Call on May 23, 2019 to discuss ESA and survey needs to geotech permitting process • Attended interagency call on June 7, 2019 to discuss BLM involvement and issuance of right-of-way easement	January 2020	January 2021
U.S. Fish and Wildlife Service, Region 6 – Ecological Services And U.S. Fish and Wildlife Service Crosby Wetland Management District	Jessica Johnson U.S. Fish and Wildlife Service North Dakota Field Office 3425 Miriam Avenue Bismarck, ND 58501-7926 701-250-4481 Jessica_n_johnson@fws.gov Jacob Krebsbach U.S. Fish and Wildlife Service Crosby Wetland Management District 10100 Hwy 42 NW Crosby, ND 58730 (701)-965-6488 x10 jacob_krebsbach@fws.gov	Consultation for Impacts on Federally Listed Threatened and Endangered Species and Critical Habitat - *Section 7 of the Endangered Species Act* Consultation for impacts on federal conservation easements for grasslands and wetlands	• Project Introduction Letter mailed on April 15, 2019 • Call on May 13, 2019 to discuss survey protocols with Jessica Johnson and Jerry Reinisch • Coordination with Crosby Wetland Management District is ongoing to avoid grassland easements and route around wetlands within wetland easements	January 2020	March 2020

WBI Energy Transmission, Inc.
North Bakken Expansion Project
Federal, State, and Indian Tribe Environmental Consultations/Permits/Approvals

Agency or Organization	Contact Address	Jurisdiction/Regulatory Involvement	Comments	Anticipated Permit/Approval/ Consultation Submittal	Anticipated Permit/Approval/ Consultation Receipt
U.S. Department of the Interior, Bureau of Land Management - Eastern Montana/Dakotas District Office	Diane Friez U.S. Department of the Interior Bureau of Land Management Eastern Montana/Dakotas District Office 111 Garryowen Road Miles City, MT 59301 Loren Wickstrom U.S. Department of the Interior Bureau of Land Management North Dakota Field Office 99 23rd Ave West, Suite A Dickinson, ND 58601	Coordination of NEPA process when more than one federal land management agencies lands are crossed. BLM is responsible for issuing right-of-way over lands managed by two or more federal agencies.	• Project Introduction Letter mailed on April 25, 2019 • Seth Jackson is currently the Project contact • Introductory call on May 3, 2019 to discuss the Project • Attended interagency call on June 7, 2019 to discuss BLM involvement and issuance of right-of-way easement	January 2020	January 2021
U.S. Forest Service Dakota Prairie Grasslands Little Missouri National Grasslands	Justin Hartel, Area Manager McKenzie Ranger District Little Missouri National Grassland 1905 S. Main Street Watford City, ND 58854-6705 (701)-842-8500	Consultation to cross Forest Service Lands and issuance of a Special Use Permit.	• Project Introduction Letter mailed on April 15, 2019 • Justin Hartel forwarded letter onto Cale Bickerdyke and Kim Grotte who are now the Project contacts • Call on May 3, 2019 to discuss Project • Call on May 9, 2019 to discuss survey protocol and requirements • Attended interagency call on June 7, 2019 to discuss BLM involvement and issuance of right-of-way easement	January 2020	January 2021
U.S. Department of Agriculture, Natural Resources Conservation Service – North Dakota	Todd Hagel Assistant State Conservationist 220 East Rosser Avenue PO Box 1458 Bismarck, ND 58502 (701)-530-2004 todd.hagel@nd.usda.gov	Consultations regarding erosion and sedimentation controls and seed mixes, and Agricultural Conservation Easement Program	• Project Introduction Letter mailed on April 15, 2019 • Introduction call attempts made in early May • Call with Todd Hagel on May 30, 2019. Transmitted copy of Introduction Letter and Project data for review via email	January 2020	April 2020
STATE					
North Dakota Department of Environmental Quality, Division of Air Quality	James L. Semerad Director, Division of Air Quality 918 E. Divide Ave Bismarck, ND 58501 (701) 328-5150	Permit to Construct an Air Contaminant Source	• Project Introduction Letter mailed on May 29, 2019 • Follow-up Project introduction call on June 5, 2019. Mr. Semerad indicated that he would not be participating in pre-filing	January 2020	June 2020

WBI Energy Transmission, Inc.
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Agency or Organization	Contact Address	Jurisdiction/Regulatory Involvement	Comments	Anticipated Permit/Approval/ Consultation Submittal	Anticipated Permit/Approval/ Consultation Receipt
North Dakota Department Environmental Quality, Division of Water Quality	Karl Rockeman North Dakota Department of Health Division of Water Quality 918 East Divide Avenue, 4th Floor Bismarck, ND 58501-1947 (701) 328-5210 krocema@nd.gov Peter Wax Water Quality Special Projects North Dakota Department of Health Division of Water Quality 918 East Divide Avenue, 4th Floor Bismarck, ND 58501-1947 (701) 328-5210 pwax@nd.gov	General Permit for Construction Stormwater Discharge - *National Pollution Discharge Elimination System* General Permit for Construction Dewatering and Discharge of Hydrostatic Test Water - *National Pollution Discharge Elimination System*	• Project Introduction Letter mailed on April 15, 2019 • Attempted call and email follow-up on June 5, 2019.	July 2020	October 2020
		Water Quality Certification - *Section 401 of Clean Water Act*	• Project Introduction Letter mailed on April 15, 2019 • Attempted call and email follow-up on June 5, 2019. • Call with Peter Wax on June 7, 2019	January 2020	June 2020
North Dakota State Water Commission	Aaron Carranza Regulatory Division North Dakota State Water Commission 900 East Boulevard Avenue, Dept. 770 Bismarck, ND 58505-0850 (701) 328-2752 acarranza@nd.gov Jon Patch Water Appropriations North Dakota State Water Commission 900 East Boulevard Ave Dept. 770 Bismarck, ND 58505-0850 701-328-2754	Navigable Water Crossing Permit – *North Dakota Century Code Chapter 61-33 (Sovereign Lands)*	• Project Introduction Letter mailed on April 15, 2019 • Received formal response letter on May 15, 2019 • Follow-up call with Ashley Persinger on May 30, 2019	January 2020	April 2020
		Temporary Water Permit	• Project Introduction Letter mailed on April 15, 2019 • Received formal response letter on May 15, 2019	July 2020	October 2020
North Dakota Department of Game and Fish	Steve Dyke Conservation Supervisor North Dakota Game and Fish Department 100 North Bismarck Expressway Bismarck, ND 58501-5095 701-328-6347	Consultation for Impacts on State Species of Conservation Concern	• Project Introduction Letter mailed on April 15, 2019 • Call with John Schumacher on May 16, 2019 to discuss survey protocols and requirements. • Received formal letter from department on May 30, 2019	January 2020	March 2020

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Agency or Organization	Contact Address	Jurisdiction/Regulatory Involvement	Comments	Anticipated Permit/Approval/ Consultation Submittal	Anticipated Permit/Approval/ Consultation Receipt
North Dakota Parks and Recreation Department	Kathy Duttenhefner Natural Resources Management Coordinator North Dakota Parks and Recreation Dept. Planning and Natural Resources Division 1600 E. Century Avenue Suite 3 Bismarck, ND 58503-0649 (701)-328-5357 kgduttenhefner@nd.gov	Consultation under the North Dakota Natural Heritage Program	• Project Introduction Letter mailed on April 15, 2019 • Missed call from Chris Dirk on May 3, 2019. Attempted to reach Ms. Dirk on May 4 and May 16, 2019. • Call with Chris Dirk on June 5, 2019, email follow-up to provide Project data for review.	June 2019	October 2019
State Historical Society of North Dakota	Claudia Berg, Director State Historic Preservation Officer North Dakota Heritage Center 612 East Boulevard Avenue Bismarck, ND 58505-0830 (701) 328-2666 cberg@nd.gov	Consultation for Impacts on Historic Properties - *Section 106 of the National Historic Preservation Act*	• Project Introduction Letter mailed on April 15, 2019 • Survey Work Plan submitted on May 15, 2019 • Received letter dated June 5, 2019, approving proposed survey methods.	January 2020	January 2021
TRIBAL					
Standing Rock Sioux Tribe	Jon Eagle Tribal Historic Preservation Officer Standing Rock Sioux Tribe P.O. Box D Fort Yates, ND 58538-0522 North Standing Rock Ave 701-854-8645 j.eagle@standingrock.org Mike Faith Chairman Standing Rock Sioux Tribe P.O. Box D Fort Yates, ND 58538-0522	Consultation for Impacts on Cultural Resources - *Section 106 of the National Historic Preservation Act*	• Project Introduction Letter mailed on April 15, 2019 • Follow-up calls attempted on May 10 and May 15, 2019 • Follow-up calls/emails attempted on June 27, 2019	N/A	N/A

WBI Energy Transmission, Inc.
North Bakken Expansion Project
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Agency or Organization	Contact Address	Jurisdiction/Regulatory Involvement	Comments	Anticipated Permit/Approval/ Consultation Submittal	Anticipated Permit/Approval/ Consultation Receipt
Sisseton-Wahpeton Oyate of the Lake Traverse Reservation	Dianne Desrosiers Tribal Historic Preservation Office Sisseton-Wahpeton Oyate PO Box 907 Sisseton, SD 57262-0907 205 Oak St. E. Ste. 121 Phone: (605) 698-3584 Fax: (605) 698-4283 DianneD@swo-nsn.gov Ella Robertson Sisseton-Wahpeton Oyate PO Box 509 Agency Village, SD 57262-0509 100 Veterans Memorial Dr. Phone: (605) 698-3911 Fax: (605) 742-0265 www.swo-nsn.gov	Consultation for Impacts on Cultural Resources - *Section 106 of the National Historic Preservation Act*	• Project Introduction Letter mailed on April 15, 2019 • Follow-up calls attempted on May 10 and May 15, 2019 • Email forwarding copy of Introduction Letter on May 10 and May 15, 2019 • Follow-up calls/emails attempted on June 27, 2019	N/A	N/A
Turtle Mountain Band of Chippewa Indians	Bruce Nadeau Tribal Historic Preservation Officer Turtle Mountain Band of Chippewa Indians P.O. Box 900 4180 Hwy 281 Belcourt, ND 58316 701-550-2023 brucefnadeau@gmail.com Richard McCloud Chairman Turtle Mountain Band of Chippewa Indians P.O. Box 900 4180 Hwy 281 Belcourt, ND 58316 701-477-2603	Consultation for Impacts on Cultural Resources - *Section 106 of the National Historic Preservation Act*	• Project Introduction Letter mailed on April 15, 2019 • Follow-up calls attempted on May 10, 2019 • Email forwarding copy of Introduction Letter on May 10, 2019 • Follow-up call attempted on June 27, 2019	N/A	N/A

WBI Energy Transmission, Inc.
North Bakken Expansion Project
Federal, State, and Indian Tribe Environmental Consultations/Permits/Approvals

Agency or Organization	Contact Address	Jurisdiction/Regulatory Involvement	Comments	Anticipated Permit/Approval/ Consultation Submittal	Anticipated Permit/Approval/ Consultation Receipt
Three Affiliated Tribes of the Fort Berthold Reservation (Mandan, Hidatsa & Arikara Nation)	Elgin Crows Breast Tribal Historic Preservation Office Three Affiliated Tribes 404 Frontage Road New Town, ND 58763-9404 Phone: (701) 862-2474 Fax: (701) 627-2490 redhawk@mhanation.com Mark Fox Three Affiliated Tribes 404 Frontage Road New Town, ND 58763-9404 Phone: (701) 627-4781 Fax: (701) 627-3503 www.mhanation.com	Consultation for Impacts on Cultural Resources - *Section 106 of the National Historic Preservation Act*	• Project Introduction Letter mailed on April 15, 2019 • Follow-up calls attempted on May 10 and May 15, 2019. • Chairman confirmed receipt of letter. • Follow-up email to THPO on May 15, 2019 forwarding copy of Introduction Letter. • Follow-up call to THPO on June 26, 2019. Spoke with THPO and emailed copy of original letter send in April.	N/A	N/A
Spirit Lake Sioux Tribe	Dr. Erich Longie Tribal Historic Preservation Office Spirit Lake Tribe PO Box 76 Fort Totten, ND 58335-0076 Phone: (701) 766-4032 Cell: (701) 230-7029 Fax: (701)766-4053 thpo@gondtc.com Myra Pearson Spirit Lake Tribe PO Box 359 Fort Totten, ND 58335-0359 Phone: (701) 766-4221 Fax: (701) 766-4126 www.spiritlakenation.com	Consultation for Impacts on Cultural Resources - *Section 106 of the National Historic Preservation Act*	• Project Introduction Letter mailed on April 15, 2019 • Follow-up calls attempted on May 10 and May 15, 2019 • Follow-up emails on May 15, 2019 forwarding copy of Introduction Letter. • Follow-up calls/emails attempted on June 27, 2019	N/A	N/A

WBI Energy Transmission, Inc.
North Bakken Expansion Project
Federal, State, and Indian Tribe Environmental Consultations/Permits/Approvals

Agency or Organization	Contact Address	Jurisdiction/Regulatory Involvement	Comments	Anticipated Permit/Approval/ Consultation Submittal	Anticipated Permit/Approval/ Consultation Receipt
Yankton Sioux Tribe	Kip Spotted Eagle Tribal Historic Preservation Office Yankton Sioux Tribe PO Box 1153 Wagner, SD 57380-1153 Phone: (605) 469-6276 Phone: (605) 384-3641 Fax: (605) 384-5687 kipspottedeagle247@gmail.com yst.thpo@gmail.com Robert Flying Hawk Yankton Sioux Tribe PO Box 1153 Wagner, SD 57380-1153 Phone: (605) 384-3641 Fax: (605) 384-5687	Consultation for Impacts on Cultural Resources - *Section 106 of the National Historic Preservation Act*	• Project Introduction Letter mailed on April 15, 2019 • Follow-up calls attempted on May 10, 2019 • Follow-up calls/emails attempted on June 26, 2019	N/A	N/A
Northern Cheyenne Tribe	James Walksalong Tribal Historic Preservation Office Northern Cheyenne Tribe PO Box 128 Lame Deer, MT 59043-0128 Phone: (406) 477-4839 Fax: (406) 477-6491 ncthpo@mail.cheyenne.net James.walksalong@cheyennenation.com Llevando Fisher Northern Cheyenne Tribe PO Box 128 Lame Deer, MT 59043-0128 Phone: (406) 477-6284 Fax: (406) 477-6210 www.cheyennenation.com	Consultation for Impacts on Cultural Resources - *Section 106 of the National Historic Preservation Act*	• Project Introduction Letter mailed on April 15, 2019 • Follow-up calls attempted on May 10, 2019 • May 14, 2019 – Letter from THPO requesting copies of survey reports • May 20, 2019 – Email sent acknowledging request	N/A	N/A

WBI Energy Transmission, Inc.
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Agency or Organization	Contact Address	Jurisdiction/Regulatory Involvement	Comments	Anticipated Permit/Approval/ Consultation Submittal	Anticipated Permit/Approval/ Consultation Receipt
Cheyenne River Sioux Tribe	Steve Vance Tribal Historic Preservation Office Cheyenne River Sioux Tribe PO Box 590 Eagle Butte, SD 57625-0590 Phone: (605) 964-7554 Fax: (605) 964-7552 stevev.crstpres@outlook.com Harold Frazier Cheyenne River Sioux Tribe PO Box 590 Eagle Butte, SD 57625-0590 Phone: (605) 964-4155 Fax: (605) 964-4151 www.sioux.org	Consultation for Impacts on Cultural Resources - *Section 106 of the National Historic Preservation Act*	• Project Introduction Letter mailed on April 15, 2019 • Follow-up calls attempted on May 10, 2019	N/A	N/A
Assiniboine and Sioux Tribes of the Fort Peck Reservation	Darrell “Curley” Youpee Tribal Historic Preservation Office Fort Peck Assiniboine & Sioux Tribes PO Box 1027 Poplar MT 59255-1027 501 Medicine Bear Rd. Phone: (406) 768-2382 Fax: (406) 768-3054 cultres@nemontel.net Floyd Azure Fort Peck Assiniboine & Sioux Tribes PO Box 1027 Poplar, MT 59255-1027 501 Medicine Bear Rd. Phone: (406) 768-2300 Fax: (406) 768-5478 www.fortpecktribes.org	Consultation for Impacts on Cultural Resources - *Section 106 of the National Historic Preservation Act*	• Project Introduction Letter mailed on April 15, 2019 • Follow-up calls and emails sent on May 10 and May 15, 2019. • Email receipt from THPO on May 16 requesting additional information • Revised letter sent to THPO on May 16, 2019 to reflect Dyan Youpee being the new THPO • In person meeting took place on June 13, 2019. Also in attendance was Michael Black Wolf (THPO from Fort Belknap)	N/A	N/A

WBI Energy Transmission, Inc.
North Bakken Expansion Project
Federal, State, and Indian Tribe Environmental Consultations/Permits/Approvals

Agency or Organization	Contact Address	Jurisdiction/Regulatory Involvement	Comments	Anticipated Permit/Approval/ Consultation Submittal	Anticipated Permit/Approval/ Consultation Receipt
Rosebud Sioux Tribe	Ben Rhodd Tribal Historic Preservation Office Rosebud Sioux Tribe PO Box 809 Rosebud, SD 57570-0809 Phone: (605) 747-4255 Fax: (605) 747-4211 rst.thpo@rst-nsn.gov brhodd1@yahoo.com Alternate: Kathy Arcoren Rodney Bordeaux Rosebud Sioux Tribe PO Box 430 Rosebud, SD 57570-0430 11 Legion Ave. Phone: (605) 747-2381 Fax: (605) 747-2243 www.rosebudsiouxtribe-nsn.gov	Consultation for Impacts on Cultural Resources - *Section 106 of the National Historic Preservation Act*	• Project Introduction Letter mailed on April 15, 2019 • Follow-up calls attempted on May 10, 2019 • Follow-up calls/emails attempted on June 27, 2019 • Email receipt from THPO on June 27, 2019 requesting to participate in any meetings and developments concerning the project	N/A	N/A
Oglala Sioux Tribe	Tom Brings Tribal Historic Preservation Office Oglala Sioux Tribe PO Box 2070 Pine Ridge, SD 57770-2070 107 W. Main St. Phone: 605-867-5624 Fax: (605) 867-1449 t.brings@oglala.org Julian Bear Runner Oglala Sioux Tribe PO Box 2070 Pine Ridge, SD 57770-2070 107 W. Main St. Phone: (605) 867-5821 Fax: (605) 867-1449 oglalalakotanation.info	Consultation for Impacts on Cultural Resources - *Section 106 of the National Historic Preservation Act*	• Project Introduction Letter mailed on April 15, 2019 • Follow-up calls and emails attempted on May 10, 2019 • Follow-up call attempted on June 27, 2019	N/A	N/A

WBI Energy Transmission, Inc.
North Bakken Expansion Project
Federal, State, and Indian Tribe Environmental Consultations/Permits/Approvals

Agency or Organization	Contact Address	Jurisdiction/Regulatory Involvement	Comments	Anticipated Permit/Approval/ Consultation Submittal	Anticipated Permit/Approval/ Consultation Receipt
Northern Arapaho Tribe of Wind River Indian Reservation	Corrine Headley Tribal Historic Preservation Office Northern Arapaho Nation PO Box 676 St. Stephens, WY 82524-0676 Phone: (307) 856-1628 Fax: (307) 856-4611 northernarapahothpo@gmail.com Dean Goggles Northern Arapaho Nation PO Box 396 Fort Washakie, WY 82514-0396 Phone: (307) 332-6120 Fax: (307) 332-7543 www.northernarapaho.com	Consultation for Impacts on Cultural Resources - *Section 106 of the National Historic Preservation Act*	• Project Introduction Letter mailed on April 15, 2019 • Follow-up calls attempted on May 10, 2019 • Follow-up calls/emails attempted on June 27, 2019	N/A	N/A

Exhibit C

Stakeholder List

Exhibit C WBI Energy Transmission, Inc. North Bakken Expansion Project Other Persons and Organizations Contacted		
Official/Agency/Organization	**Contact Information**	**Outreach Conducted**
NORTH DAKOTA - FEDERAL OFFICIALS		
North Dakota Senator John Hoeven	Cassie Bladow, Chief of Staff 338 Russell Senate Office Building Washington, DC 20510 202-224-8460 612-670-9972 cell cassie_bladow@hoeven.senate.gov	Project Introduction letter mailed 4/18/2019
North Dakota Senator John Hoeven	Jessica Lee State Director 123 Broadway N Suite 201 Fargo, ND 58102 701-239-5114 701-204-1061 cell jessica_lee@hoeven.senate.gov	Project Introduction letter mailed 4/18/2019
North Dakota Senator Kevin Cramer	Mark Gruman, Chief of Staff B40C Dirksen Senate Office Building Washington, DC 20510 202-224-2043 701-595-4448 cell Mark_gruman@cramer.sentate.gov	Project Introduction letter mailed 4/18/2019
North Dakota Senator Kevin Cramer	Jason Stverak Dept. Chief of Staff B40C Dirksen Senate Office Building Washington, DC 20510 202-224-2043 202-740-2223 cell jason_stverak@cramer.senate.gov	Project Introduction letter mailed 4/18/2019
North Dakota Senator Kevin Cramer	Randy Richards Field Representative 4200 James Ray Dr. Office 600 Grand Forks, ND 58202 701-738-4880 randy_richards@cramer.senate.gov	Project Introduction letter mailed 4/18/2019
North Dakota Congressman Kelly Armstrong	Roz Leighton, Chief of Staff 1004 Longworth House Office Building Washington, DC 20515 202-225-2611 612-877-2334 cell roz.leighton@mail.house.gov	Project Introduction letter mailed 4/18/2019
North Dakota Congressman Kelly Armstrong	Jeff Rustvang, State Director U.S. Federal Building 220 E. Rosser Ave., Room 228 Bismarck, ND 58501 jeff.rustvang@mail.house.gov	Project Introduction letter mailed 4/18/2019
North Dakota Congressman Kelly Armstrong	Darrell Nitschke, Western North Dakota Field Director U.S. Federal Building 220 E. Rosser Ave., Room 228 Bismarck, ND 58501 701-400-6929 cell	Project Introduction letter mailed 4/18/2019
NORTH DAKOTA - STATE OFFICIALS		

Exhibit C WBI Energy Transmission, Inc. North Bakken Expansion Project Other Persons and Organizations Contacted		
Official/Agency/Organization	**Contact Information**	**Outreach Conducted**
North Dakota Office of the Governor	Doug Burgum, Governor North Dakota Office of the Governor 600 East Boulevard Avenue Bismarck ND 58505 701-328-2200 701-371-4666 cell	Project Introduction letter mailed 4/18/2019
North Dakota Office of the Governor	Brent Sanford, Lt. Governor North Dakota Office of the Governor 600 East Boulevard Avenue Bismarck ND 58505 701-328-2200 701-570-4543 cell bsanford@nd.gov	Project Introduction letter mailed 4/18/2019
North Dakota Office of the Governor	Jace Beehler, Policy Advisor North Dakota Office of the Governor 600 East Boulevard Avenue Bismarck ND 58505 701-222-2200 701-610-9431 cell jbeehler@nd.gov	Project Introduction letter mailed 4/18/2019
North Dakota Office of the Attorney General	Wayne Stenehjem, Attorney General North Dakota Office of the Attorney General 600 E. Boulevard Avenue Bismarck ND 58505 701-328-3624 701-391-1615 cell wstenehjem@nd.gov	Project Introduction letter mailed 4/18/2019
North Dakota Department of Agriculture	Doug Goehring, Agriculture Commissioner North Dakota Department of Agriculture 600 E. Boulevard Avenue Bismarck ND 58505 701-328-4755 701-391-3367 cell goehring@nd.gov	Project Introduction letter mailed 4/18/2019
North Dakota Senate, District 2	David Rust, Senator North Dakota Senate, District 2 P.O. Box 1198 Tioga, ND 58852-1198 701-664-3508 home 701-216-0270 cell drust@nd.gov	Project Introduction letter forthcoming
North Dakota Senate, District 4	Jordan Kannianen, Senator North Dakota Senate, District 4 8011 51st Street NW Stanley, ND 58784-9562 701-421-8813 cell jkannianen@nd.gov	Project Introduction letter mailed 4/18/2019
North Dakota Senate, District 23	Joan Heckaman, Senator & Minority Leader North Dakota Senate, District 23 322 Second Avenue North New Rockford, ND 58356-1712 701-302-0355 cell jheckaman@nd.gov	Project Introduction letter mailed 4/18/2019

Exhibit C WBI Energy Transmission, Inc. North Bakken Expansion Project Other Persons and Organizations Contacted		
Official/Agency/Organization	**Contact Information**	**Outreach Conducted**
North Dakota Senate, District 33	Jess Unruh, Senator & Chair of Senate Natural Resources North Dakota Senate, District 33 1224 First Avenue NE Beulah, ND 58523-6301 701-891-9708 cell jkunruh@nd.gov	Project Introduction letter mailed 4/18/2019
North Dakota Senate, District 37	Rich Wardner, Senator & Majority Leader North Dakota Senate, District 37 1042 12th Avenue W. Dickinson ND 58601 701-590-1178 cell rwardner@nd.gov	Project Introduction letter mailed 4/18/2019
North Dakota Senate, District 39	Dale Patten, Senator North Dakota Senate, District 39 P.O. Box 812 Watford City, ND 58854-0812 701-570-4908 cell dpatten@nd.gov	Project Introduction letter mailed 4/18/2019
North Dakota House of Representatives, District 2	Bert Anderson, Representative North Dakota House of Representatives, District 2 P.O. Box 604 Crosby, ND 58730-0604 701-965-6973 home 701-641-1549 cell bertanderson@nd.gov	Project Introduction letter forthcoming
North Dakota House of Representatives, District 2	Don Longmuir, Representative North Dakota House of Representatives, District 2 P.O. Box 1191 Stanley, ND 58784-1191 701-628-2617 home 701-629-1632 cell dlongmuir@nd.gov	Project Introduction letter forthcoming
North Dakota House of Representatives, District 4	Clayton Fegley, Representative North Dakota House of Representatives, District 4 10801 240th Street NW Berthold, ND 58718-9619 701-263-1442 cell cfegley@nd.gov	Project Introduction letter mailed 4/18/2019
North Dakota House of Representatives, District 4	Terry Jones, Representative North Dakota House of Representatives, District 4 P.O. Box 1964 New Town, ND 58763-1964 307-272-1915 cell tbjones@nd.gov	Project Introduction letter mailed 4/18/2019

Exhibit C WBI Energy Transmission, Inc. North Bakken Expansion Project Other Persons and Organizations Contacted		
Official/Agency/Organization	**Contact Information**	**Outreach Conducted**
North Dakota House of Representatives, District 29	Chet Pollert, Representative & Majority Leader North Dakota House of Representatives, District 29 151 Crossroads Estates Drive Carrington, ND 58421-8919 701-652-5887 cpollert@nd.gov	Project Introduction letter mailed 4/18/2019
North Dakota House of Representatives, District 29	Craig Headland, Representative North Dakota House of Representatives, District 29 4950 92nd Avenue SE Montpelier, ND 58472-9630 701-269-2230 cheadland@nd.gov	Project Introduction letter mailed 4/18/2019
North Dakota House of Representatives, District 34	Todd Porter, Representative & Chair of House Natural Resources North Dakota House of Representatives, District 34 4604 Borden Harbor Drive SE Mandan, ND 58554-7961 701-220-6137 cell tkporter@nd.gov	Project Introduction letter mailed 4/18/2019
North Dakota House of Representatives, District 39	Keith Kempenich, Representative North Dakota House of Representatives, District 39 9005 151st Avenue SW Bowman, ND 58623-8857 701-523-2273 cell kkempenich@nd.gov	Project Introduction letter mailed 4/18/2019
North Dakota House of Representatives, District 39	Denton Zubke, Representative North Dakota House of Representatives, District 39 P.O. Box 927 Watford City, ND 58854-0927 701-570-4043 cell dzubke@nd.gov	Project Introduction letter mailed 4/18/2019
North Dakota House of Representatives, District 44	Josh Boschee, Representative & Minority Leader North Dakota House of Representatives, District 44 517 First Street North Fargo, ND 58102-4540 701-367-3513 cell jboschee@nd.gov	Project Introduction letter mailed 4/18/2019
NORTH DAKOTA - COUNTY OFFICIALS/OFFICES		
McKenzie County, Commission	Thomas McCabe, Commissioner, Chair 13802 Highway 85 N Alexander, ND 58831 701-828-3068 tmccabe@co.mckenzie.nd.us	Project Introduction letter mailed 4/18/2019

Exhibit C WBI Energy Transmission, Inc. North Bakken Expansion Project Other Persons and Organizations Contacted		
Official/Agency/Organization	**Contact Information**	**Outreach Conducted**
McKenzie County, Commission	Kathy L. Skarda, Commissioner, Vice Chair & Planning and Zoning 10901 28th ST NW Watford City, ND 58854 701-675-2333 kskarda@co.mckenzie.nd.us	Project Introduction letter mailed 4/18/2019
McKenzie County, Commission	Gene Veeder, Commissioner, Planning & Zoning 1914 104th Ave NW Watford City, ND 58854 701-675-2556 gveeder@co.mckenzie.nd.us	Project Introduction letter mailed 4/18/2019
McKenzie County Public Works & Engineering	Suhail Kanwar- Public Works Administrator/Engineer Road Dept/Engineer 201 5th Street NW Suite 1221 Watford City, ND 58854 701-444-7495 skanwar@co.mckenzie.nd.us	Project Introduction letter mailed 4/18/2019
McKenzie County Public Works & Engineering	Tim Pickering, Permitting Specialist/ ND Energy Trip Permits Road Dept/Engineer 201 5th Street NW Suite 1221 Watford City, ND 58854 701-444-7427 701-580-5416 cell tpickering@co.mckenzie.nd.us	Project Introduction letter mailed 4/18/2019
McKenzie County Weed Control	Amber Higgins, Weed Control Officer Weed Board 512 14th St SW PO Box 930 Watford City, ND 58854 701-842-4131 701-609-9622 cell mcweed@restel.net	Project Introduction letter mailed 4/18/2019
McKenzie County Water Resource District	Jeff Shaffer, Director Water Resource District 201 5th St NW Suite 1456 Watford City, ND 58854 701-842-2821 jshaffer@co.mckenzie.nd.us	Project Introduction letter mailed 4/18/2019
Williams County, Commission	David Montgomery, Commissioner, Chair 222 14th St E Williston, ND 58801 701-570-6882 davidm@co.williams.nd.us	Project Introduction letter mailed 4/18/2019
Williams County, Commission	Steve Kemp, Commissioner, Vice Chair 4958 141st Ave NW Williston, ND 58801 701-570-3354 stevek@co.williams.nd.us	Project Introduction letter mailed 4/18/2019

Exhibit C WBI Energy Transmission, Inc. North Bakken Expansion Project Other Persons and Organizations Contacted		
Official/Agency/Organization	**Contact Information**	**Outreach Conducted**
McKenzie County, Commission	Barry Ramberg, Commissioner, Planning & Zoning P.O. Box 854 Tioga, ND 58852 701-570-1350 barryr@co.williams.nd.us	Project Introduction letter mailed 4/18/2019
Williams County Highway Department	Dennis Nelson, Superintendent 5218 141st Ave NW PO Box 1305 Williston, ND 58802-1305 701-570-4521 cell RhondaW@co.williams.nd.us	Project Introduction letter mailed 4/18/2019
Williams County Weed Control	Corey Paryzek, Weed Control Officer 5218 141st Ave NW PO Box 2047 Williston, ND 58802-2047 701-572-4883 coreyp@co.williams.nd.us	Project Introduction letter mailed 4/18/2019
Williams County Water Resource District	Beth M. Innis, Water Resource District & Auditor PO Box 2047 Williston, ND 58802-2047 701-577-4500 bethi@co.williams.nd.us	Project Introduction letter mailed 4/18/2019
Burke County, Commission	Allen Ryberg, Burke County Commissioner, Chairman 103 Main St SE, Bowbells, ND 58721-7015 701-339-1717 altrucksales@nccray.net	Project Introduction letter mailed 4/18/2019
Burke County, Commission	Jarret Van Berkom, Burke County Commissioner 103 Main St SE, Bowbells, ND 58721-7015 701-339-1425 jvanberkom@outlook.com	Project Introduction letter mailed 4/18/2019
Burke County Commission	Rick Owings, Burke County Commissioner 103 Main St SE, Bowbells, ND 58721-7015	Project Introduction letter mailed 4/18/2019
Burke County, Highway Department	Ken Tetrault, Highway Department Superintendant P.O. Box 310 Bowbells, ND 58721 (701) 377-2312 ken100burke@gmail.com	Project Introduction letter mailed 4/18/2019
Burke County Farm Service Agency	Brandon Weber, FSA Executive Director P.O. Box 249 Bowbells, ND 58721 (701) 377-2983 brandon.weber@nd.usda.gov	Project Introduction letter mailed 4/18/2019

Exhibit C WBI Energy Transmission, Inc. North Bakken Expansion Project Other Persons and Organizations Contacted		
Official/Agency/Organization	**Contact Information**	**Outreach Conducted**
Burke County Soil Conservation District NRCS	Mark Crosby, District Conservationist 5 Roosevelt Ave P.O. Box 336 Bowbells, ND 58721 (701) 377-2831 mark.crosby@nd.usda.gov	Project Introduction letter mailed 4/18/2019
Mountrail County, Commission	Daniel Uran, Mountrail County Commissioner PO Box 1169 New Town ND 58763-0875 701-627-3511	Project Introduction letter mailed 4/18/2019
Mountrail County, Commission	Joan Hollekim, Mountrail County Commissioner PO Box 601 Stanley ND 58784-0542 701-628-3080 kjhollekim@outlook.com	Project Introduction letter mailed 4/18/2019
Mountrail County, Commission	Trudy Ruland, Mountrail County Commissioner 9380 33rd LN NW New Town, ND 58763-9536 701-627-3588 truland@restel.com	Project Introduction letter mailed 4/18/2019
Mountrail County, Commission	Wayne Olson, Mountrail County Commissioner 4510 65th Ave NW Plaza, ND 58771 701-898-4898 wolson@restel.com	Project Introduction letter mailed 4/18/2019
Mountrail County, Commission	Garry Jacobson, Mountrail County Commissioner 6090 Old Highway 2 Berthold ND 58718-9007 jakesplace@srt.com	Project Introduction letter mailed 4/18/2019
Mountrail County Planning and Zoning	Liz Hollowell, Planner, Code Enforcement PO Box 248 Stanley, ND 58784-0248 701-628-2909 lizh@co.mountrail.nd.us	Project Introduction letter mailed 4/18/2019
Mountrail County Ag Agency/Weed Control	James Hennessy, Agent PO Box 40 Stanley ND 58784-0040 701-628-2835 jimh@co.mountrail.nd.us	Project Introduction letter mailed 4/18/2019
NORTH DAKOTA – CITY AND TOWNSHIP OFFICIALS		
City of Arnegard	Virginia Elliot, Mayor Juelie M. Bancroft, Auditor April Obenour, Chair, Planning & Zoning PO Box 488 Arnegard, ND 58835 701-586-3453	Project Introduction letter mailed 4/18/2019
City of Ray	Ken Munson, President Ronda Rustad, Auditor Victor Loose, Chair, Planning & Zoning PO Box 67 Ray ND 58849-0067 701) 568-2204	Project Introduction letter mailed 4/18/2019

Exhibit C WBI Energy Transmission, Inc. North Bakken Expansion Project Other Persons and Organizations Contacted		
Official/Agency/Organization	**Contact Information**	**Outreach Conducted**
City of Tioga	Drake McClelland, President Abbie Salinas, Auditor Travis Wittman, President, Planning & Zoning City Hall PO Box 216 TIoga ND 58852 701-664-2807 presidentcommissioner@cityoftioga.com travisw34@hotmail.com	Project Introduction letter mailed 4/18/2019
City of Watford City	Philip Riely, Mayor Peni Peterson, Auditor Po Box 494 Watford City, ND 58854 701-444-2533 ppeterson@nd.gov	Project Introduction letter mailed 4/18/2019
City of Watford City	Glen Beard, Chair, Planning & Zoning PO Box 494 Watford City, ND 58854 701-444-2533 x 5 701-444-3004 basmith@nd.gov	Project Introduction letter mailed 4/18/2019
NORTH DAKOTA – OTHER INTERESTED PARTIES		
North Dakota Department of Commerce	Michelle Kommer, Commissioner North Dakota Department of Commerce 1600 E. Century Avenue Bismarck ND 58503 701-328-5300 mkommer@nd.gov	Project Introduction letter mailed 4/18/2019
North Dakota Department of Commerce	Shawn Kessel, Deputy Commissioner North Dakota Department of Commerce 1600 E. Century Avenue Bismarck ND 58503 701-328-5300 skessel@nd.gov	Project Introduction letter mailed 4/18/2019
Greater North Dakota Chamber of Commerce	Arik Peterson, President & CEO Greater North Dakota Chamber of Commerce PO Box 2639 Bismarck, ND 58502 701-222-0929 701-220-1124 cell arik@ndchamber.com	Project Introduction letter mailed 4/18/2019
Economic Development Association of North Dakota	Ellen Huber, President Economic Development Association of North Dakota PO Box 1091 Bismarck ND 58502 701-355-4458 701-400-6249 cell ehuber@cityofmandan.com	Project Introduction letter mailed 4/18/2019

Exhibit C WBI Energy Transmission, Inc. North Bakken Expansion Project Other Persons and Organizations Contacted		
Official/Agency/Organization	**Contact Information**	**Outreach Conducted**
North Dakota League of Cities	Blake Crosby, Executive Director North Dakota League of Cities 410 E. Front Avenue Bismarck ND 58504 701-223-3518 blake@ndlc.org	Project Introduction letter mailed 4/18/2019
Utility Shareholders of North Dakota	Carlee McLeod, President Utility Shareholders of North Dakota PO box 1856 Bismarck, ND 58502-1856 701-361-9473 cell carlee@usnd.org	Project Introduction letter mailed 4/18/2019
North Dakota Department of Agriculture	Doug Goehring, Agriculture Commissioner Tom Bodine, Deputy Commissioner 600 E Boulevard Ave Dept. 602 Bismarck, ND 58505-0020 701-328-4754 ndda@nd.gov 701-238-2231 tbodine@nd.gov	Project Introduction letter mailed 4/18/2019
Northwest Landowners Association	Troy Coons Chairman 6050 Old Highway 2 Berthold, ND 58718	Project Introduction letter mailed 4/18/2019
North Dakota Farm Bureau	Daryl Lies, NDFB President Kirk Olson, NDFB District 8 Director 1101 1st Ave. N., Fargo, ND 58102 Phone: 701-298-2200 Or 4900 Ottawa Street, Bismarck, ND 58503 Phone: 701-224-0330	Project Introduction letter mailed 4/18/2019
Bank of North Dakota	Eric Hardmeyer, President Bank of North Dakota 1200 Memorial Highway Bismarck ND 58506 701-328-5600 701-527-0130 cell ehardmeyer@nd.gov	Project Introduction letter mailed 4/18/2019
Bank of North Dakota	Todd Steinwand, Chief Business Development Officer Bank of North Dakota 1200 Memorial Highway Bismarck ND 58506 701-328-5600 701-319-1501 cell tsteinwand@nd.gov	Project Introduction letter mailed 4/18/2019

Exhibit C WBI Energy Transmission, Inc. North Bakken Expansion Project Other Persons and Organizations Contacted		
Official/Agency/Organization	**Contact Information**	**Outreach Conducted**
Bank of North Dakota	Kelvin Hullet, Market Manager, Economic Development, and Government Programs Bank of North Dakota 1200 Memorial Highway Bismarck ND 58506 701-328-5600 701-220-9430 cell klhullet@nd.gov	Project Introduction letter mailed 4/18/2019
Friends of Lake Sakakawea	Terry Fleck, Chairman Red River Retention Authority P.O. Box 309 Garrison, ND 58540 friends@lakesakakawea.com	Project Introduction letter mailed 4/18/2019
NORTH DAKOTA – EMERGENCY RESPONDERS		
North Dakota Department of Emergency Services	Cody Shultz, Director North Dakota Department of Emergency Services Fraine Barracks Lane, Building 35 PO Box 5511 Bismarck, ND 58504 701-328-8100 701-391-9698 cell	Project Introduction letter mailed 4/18/2019
North Dakota Department of Emergency Services	Amy Anton Operations and Planning Chief North Dakota Department of Emergency Services Bismarck ND 58504 701-328-8100 701-400-7003 cell	Project Introduction letter mailed 4/18/2019
McKenzie County Emergency Management	Karolin Jappe -McKenzie County Emergency Manager 201 5th Street NW Watford City, ND 58854 701-444-7483 701-580-6936 cell kjappe@co.mckenzie.nd.us	Project Introduction letter mailed 4/18/2019
Williams County Emergency Management	Mike Smith, Director 3300 37th St W Williston, ND 58801 701-577-7707 oemdept@co.williams.nd.us	Project Introduction letter mailed 4/18/2019
Tioga Police Department	Corey Murphy, Chief of Police Tioga Police Department 12 1st St. NE P.O. Box 2073 Tioga, ND 58852 701-664-2514	Project Introduction letter mailed 4/18/2019
Williams County Sheriff's Office	Verlan Kvande, Sheriff Williams County Sheriff's Office 223 E. Broadway, Suite 301 Williston, ND 58801 701-577-7700	Project Introduction letter mailed 4/18/2019

Exhibit C WBI Energy Transmission, Inc. North Bakken Expansion Project Other Persons and Organizations Contacted		
Official/Agency/Organization	**Contact Information**	**Outreach Conducted**
Watford City Police Department	Shawn Doble, Chief of Police Watford City Police Department 1201 12th St. SE, Suite A P.O. Box 283 Watford City, ND 58854 701-842-2280	Project Introduction letter mailed 4/18/2019
McKenzie County Sheriff's Office	Matthew Johnson, Sheriff McKenzie County Sheriff's Office 1201 12th St. SE, Suite B Watford City, ND 58854 701-444-3654	Project Introduction letter mailed 4/18/2019
Burke County Sheriff's Office	Shawn Brien, Sheriff Burke County Sheriff's Office P.O. Box 250 Bowbells, ND 58721 701-377-2311	Project Introduction letter forthcoming
Mountrail County Sheriff's Office	Corey Bristol, Sheriff Mountrail County Sheriff's Office P.O. Box 309 Stanley, ND 58784-0309	Project Introduction letter forthcoming
Stanley Police Department	Kris Halvorson, Chief Stanley Police Department P.O. Box 249 Stanley, ND 58784 701-628-2677	Project Introduction letter forthcoming
MEDIA/LIBRARIES		
Williston Daily Herald	Jamie Kelly, Managing Editor Williston Daily Herald P.O. Box 1447 Williston, ND 58802 701-572-2165	Project Introduction letter mailed 4/18/2019
Bismarck Tribune	Steve Wallick, Editor Bismarck Tribune P.O. Box 5516 Bismarck, ND 58506 701-223-2500	Project Introduction letter mailed 4/18/2019
Tioga Tribune	Cecile Wehrman, Publisher Tioga Tribune P.O. Box 700 Tioga, ND 58852 701-664-2222	Project Introduction letter mailed 4/18/2019
McKenzie County Farmer	Neil Shipman, Publisher and Editor McKenzie County Farmer P.O. Box 587 Watford City, ND 58854 701-842-2351	Project Introduction letter mailed 4/18/2019
Burke County Tribune	Kristi Bohl, Publisher Burke County Tribune P.O. Box 40 Bowbells, ND 58721 701-377-2626	Project Introduction letter forthcoming
Mountrail County Promoter	Mary Kilen, Publisher and Editor P.O. Box 99 Stanley, ND 58784 701-628-2333	Project Introduction letter forthcoming

Exhibit C WBI Energy Transmission, Inc. North Bakken Expansion Project Other Persons and Organizations Contacted		
Official/Agency/Organization	**Contact Information**	**Outreach Conducted**
Prairie Public	Dave Thompson, Director Prairie Public 1814 N. 15th St. Bismarck, ND 58501 701-224-1700	Project Introduction letter mailed 4/18/2019
McKenzie County Public Library	McKenzie County Public Library Attn: Director 112 2nd Ave. NE Watford City, ND 58854-7543 701-444-3785	Project Introduction letter mailed 4/18/2019 (NOTE: Director position currently unfilled)
Williston Community Library	Andrea Placher, Library Director Williston Community Library 1302 Davidson Dr. Williston, ND 58801 701-774-8805	Project Introduction letter mailed 4/18/2019
Linson Memorial Library	Linson Memorial Library 206 S. Main Stanley, ND 58748 701-628-2225	Project Introduction letter forthcoming

Exhibit D

Public Participation Plan

NORTH BAKKEN EXPANSION PROJECT
Public Participation Plan

WBI Energy Transmission, Inc. (WBI Energy) is committed to open and honest stakeholder engagement throughout the project. We view maintaining good relations with landowners and other stakeholders as an integral part of responsible business conduct, and recognize that stakeholder engagement requires listening and being responsive as well sharing information.

For the North Bakken Expansion Project, our Public Participation Plan (PPP) will continue through all phases of the project and will:

- Inform landowners and other stakeholders about the project through early public notification and regular communication;
- Share fact-based, accurate information;
- Communicate transparently about the proposed construction and operation of facilities, including potential impacts; and
- Provide timely opportunities for interested stakeholders to pose questions or express concerns. WBI Energy will take such input into consideration and, where feasible, let stakeholders know how their input influenced the project.

As a company, WBI Energy will work in good faith with stakeholders to identify and address issues early and proactively. The project team, (e.g. Engineering, Land, Construction, Operations, Environmental Affairs, Regulatory Affairs and Public and Government Affairs), will together plan and implement this program, supported where appropriate with the use of strategic external resources.

Elements of the program include:

1. Identify stakeholders with whom WBI Energy will communicate about the company, the proposed project and any potential impacts to the community;
2. Designate a single point of contact;
3. Establish a website presence, a project e-mail address, a toll-free project phone number and a project mailing address;
4. Conduct consultation calls and/or in-person meetings with elected officials and community leaders;
5. Host two private meetings for landowners;
6. Host two open house meetings for stakeholders and interested public;
7. Produce and distribute information materials; and
8. Support on-going outreach throughout the life of the project, including documentation of issues.

Stakeholder Identification

WBI Energy has gathered stakeholder contact information to include elected officials and staff (local, state and federal), community leaders, tribal leaders, farm bureaus and unions, landowners, state and federal agencies associated with the project, and other interested parties (Exhibits B and C of the pre-filing request contain the identified state and federal agencies and elected officials and other key stakeholders.) The contact information will be maintained in a database for use in distribution of information about the project (fact sheets, letters of invitation, newsletters, etc.).

Single Point of Contact

Dave Linn has been designated as the North Bakken Expansion Project's single point of contact. Additionally, a toll-free number, e-mail address and mailing address have been established to facilitate stakeholder communication with the project team. This ensures that stakeholders without internet access are able to reach the project team for information:

Toll-free number: 1-844-825-9397

E-mail address: info@WBIEnergy.com

Mailing Address: WBI Energy
2010 Montana Ave
Glendive, MT 59330

Website

In addition to the toll-free number, e-mail address and mailing address, WBI Energy has established a North Bakken Expansion Project area on its website, www.WBIEnergy.com/northbakken.

The project website pages will be updated throughout the duration of the project, and include:

Project Overview

- General project information
- Schedule
- Fact sheet

Project Maps

Answers to frequently asked questions (FAQ)

- Public consultations
- Description of regulatory process
- Focus on pipeline safety
- Environmental protection
- Landowner commitments

- Locations of public repositories along the proposed route where all project-related documents, including maps, will be available for viewing (most likely public libraries)
- Route selection process

Public Participation

- Open houses
- Physical displays
- Supplemental materials used at meetings

FERC information

- Link to the FERC website
- Project docket number
- FERC landowner brochure
- FERC issued environmental documents

Contact information

- Project toll-free number
- E-mail address
- Mailing address

Community Leader Outreach

WBI Energy will communicate with identified community leaders, including local, regional, and federal officials, and tribal and business leaders, along the proposed route. WBI Energy contacted these stakeholders to alert them to the proposal via a letter sent on April 15, 2019. Follow up phone calls or one-on-one meetings have and will continue to be conducted with community leaders.

WBI Energy will identify and conduct further outreach with other stakeholders, including emergency responders and community groups, throughout the pre-filing process.

Responses to Requests from Federal and State Permitting Agencies

WBI Energy has identified the federal and state agencies with regulatory review or permitting authority of the Project and will be conducting initial stakeholder consultation meetings with them. Additionally, WBI Energy will respond to requests for information from these agencies in a timely manner, providing the most up-to-date information available. (Exhibit B of the pre-filing request contains the list of agencies identified.)

Private Landowner Meetings

WBI Energy contacted landowners affected by the proposed project to provide initial information about the project and to invite them to attend a private landowner meeting via a letter sent on April 15, 2019. WBI Energy held four private meetings with landowners affected by the proposed project. The meetings were held May 8 and May 9, 2019 in Tioga and Watford

City, North Dakota, respectively. Project details were shared and input from landowners was gathered.

Open Houses

WBI Energy plans to host two open houses in the project area. The open houses will be held sometime in August 2019 in Watford City and Tioga, North Dakota during the evening hours. Structured to foster one-on-one discussions with the subject-matter experts, the open houses will provide stakeholders the opportunity to gain insight about the project, as well as share their concerns. Project maps and informational materials will be distributed. Feedback from participants will be documented and integrated into the project route selection process. The open house venues and times will be communicated in the following manner:

- Letter of invitation - stakeholders will receive a letter of invitation after the pre-filing request is made, including agency representatives, elected officials and other community groups;
- Advertisements in area newspapers that include the invitation and map; and
- Media advisories to local media and on the project website.

Informational Materials

WBI Energy will enhance outreach efforts by developing printed materials tailored to address the questions and concerns of stakeholders. Fact sheets, FAQ documents, maps and a landowner civil and environmental survey brochure will be distributed through direct mails, at the private landowner meetings, at the open houses, at individual meetings, on the project website, and by request. Updates will be sent to landowners and stakeholders at appropriate project milestones.

Ongoing Stakeholder Outreach

WBI Energy will conduct proactive outreach throughout the project with all interested stakeholders, including landowners, elected officials, tribal and community leaders and media.

Documentation

WBI Energy has established a database and tracking system to ensure stakeholder contacts and issues are documented and addressed timely and accurately.

Lisa DiNicolantonio

From: Andrea Thornton
Sent: Thursday, July 25, 2019 10:28 AM
To: Renschler, Jason J CIV USARMY CENWO (USA); Thury, Jeremy J CIV USARMY CENWO (USA); jessica_n_johnson@fws.gov; jerry_reinisch@fws.gov; sajackson@blm.com; Bickerdyke, Cale E -FS; Grotte, Kim -FS; todd.hagel@nd.usda.gov
Cc: Arianne Balsom
Subject: North Bakken Expansion Project - Bi-Weekly Calls with FERC

Good Morning,

As you know WBI Energy filed their pre-filing request letter for the North Bakken Expansion Project (Project) with FERC on June 28, 2019. FERC accepted the request on July 3, 2019 which starts the pre-filing process for the Project. As we have discussed, as part of this process, FERC will host bi-weekly conference calls with WBI Energy and any agencies interested in participating in the pre-filing process. This is a way for your agency to stay informed about the Project and ask questions as they may arise. When we spoke earlier this summer, some of you were not sure if you were interested in participating in this process.

We are looking to start these bi-weekly calls the week of August 8th. For those of you who are interested, please let me know by August 1st if there are any days of the week/times that would not work for you for a 1 hour call. We will be scheduling these calls across multiple time zones and will do our best to ensure those who are interested are able to participate.

Please feel free to reach out if you have any questions.

Thank you and we look forward to working with you on this project.

-Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



Lisa DiNicolantonio

From: Andrea Thornton
Sent: Friday, September 27, 2019 10:29 AM
To: Reinisch, Jerry
Cc: jessica_n_johnson@fws.gov; Atwell, Patrick C CIV USARMY CENWO (USA); Wallace, Arthur L Jr CIV USARMY CENWO (US); Thury, Jeremy J CIV USARMY CENWO (USA); Linn, Dave; Linn, Jill; Huncovsky, Greg; Justin Moffett
Subject: North Bakken Expansion Project - Geotech Survey Biological Assessment
Attachments: WBI Energy_BA Geotech Permitting_09-27-19.pdf

Importance: High

Hello Jerry –

WBI Energy has been working with the U.S. Army Corp of Engineers office on the permit package required for completing geotechnical surveys on Lake Sakakawea for the North Bakken Expansion Project. Attached is the Biological Assessment associated with this permit package for your review.

We look forward to hearing back from you and please do not hesitate to call myself or Justin Moffitt with any questions.

Thanks again,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



WBI ENERGY TRANSMISSION, INC.

North Bakken Expansion Project

Biological Assessment for Geotechnical Survey

Prepared by:

ERM

July 2019

Revised: September 13, 2019

WBI ENERGY TRANSMISSION, INC.
NORTH BAKKEN EXPANSION PROJECT – GEOTECHNICAL SURVEY
Biological Assessment

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Appendix A Over-Barge Boring Option, Access Road, and Staging Area Work Plan

Appendix B Site Photographs

Appendix C U.S. Fish and Wildlife Service Verification Letter for the Project under the Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-eared Bat

ACRONYMS AND ABBREVIATIONS

BA	Biological Assessment
BGEPA	Bald and Golden Eagle Protection Act
CFR	Code of Federal Regulations
DASK	Dakota skipper
ESA	Endangered Species Act
FR	Federal Register
FWS	U.S. Fish and Wildlife Service
IPaC	Information for Planning and Conservation
MBTA	Migratory Bird Treaty Act
NDGF	North Dakota Game and Fish Department
Project	North Bakken Expansion Project
Tobacco Garden	Tobacco Garden Creek Recreation Area
USACE	U.S. Army Corps of Engineers
WBI Energy	WBI Energy Transmission, Inc.

WBI ENERGY TRANSMISSION, INC.
NORTH BAKKEN EXPANSION PROJECT – GEOTECHNICAL SURVEY

1.0 INTRODUCTION

WBI Energy Transmission, Inc. (WBI Energy) proposes to install a new 60 mile-long, 20-inch-diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, Williams County, North Dakota, to a new interconnect with Northern Border's mainline southeast of Watford City, McKenzie County, North Dakota. The North Bakken Expansion Project (Project) would include a crossing of Lake Sakakawea. WBI Energy proposes the lake crossing be completed using horizontal directional drilling methodologies. To aid design of the horizontal directional drill crossing under Lake Sakakawea, WBI Energy proposes conducting six geotechnical borings within the lake to characterize the soil conditions beneath the lake bed within the crossing alignment. An overview of the proposed Project lake crossing is displayed in Figure 1. The geotechnical survey and associated borings is the focus of this biological assessment (BA).

2.0 CONSTRUCTION SPECIFICS FOR GEOTECHNICAL BORING

Geotechnical drilling operations at each of the six bore locations would be conducted using over-barge methods. Drilling operations would stage at an existing concrete boat ramp located at the Tobacco Garden Creek Recreation Area (Tobacco Garden), which is located on the southern shore of Lake Sakakawea (River Mile 1,510) about 35 miles northeast of Watford City, North Dakota. The proposed bores are located about 1.5 miles northeast of the Tobacco Garden boat ramp and staging area (see Figure 2). Heavy equipment, including barge sections, would be staged along an existing access road between Tobacco Garden boat ramp and Dakota Highway 1806. Barge sections and heavy equipment would be staged along the access road for about one day until offload. Five individual barge sections measuring 40 feet by 10 feet would be hauled to the site by semi-trucks and trailers, and would be directly offloaded from the trucks into the water with the use of a crane. Once the individual sections are assembled into a single floating barge, the crane would be used to place drilling equipment and materials onto the water at the staging area. Once offloading is complete, minimal materials and equipment would remain at the boat ramp in support of the crane. The crane placement location is contingent on Lake Sakakawea water levels. If water levels are above approximately 1,849 feet mean sea level, the crane would be positioned on level ground in the parking area near the lake shore edge. However, if water levels are below 1,849 feet mean sea level, then crane placement would occur on the northern concrete boat ramp. Crane mats and outrigger pads would be used to level the ground and displace weight for the crane outriggers in both proposed staging areas. No mats or pads would be placed in the water. Figure 2 displays proposed crane placement locations and staging areas.

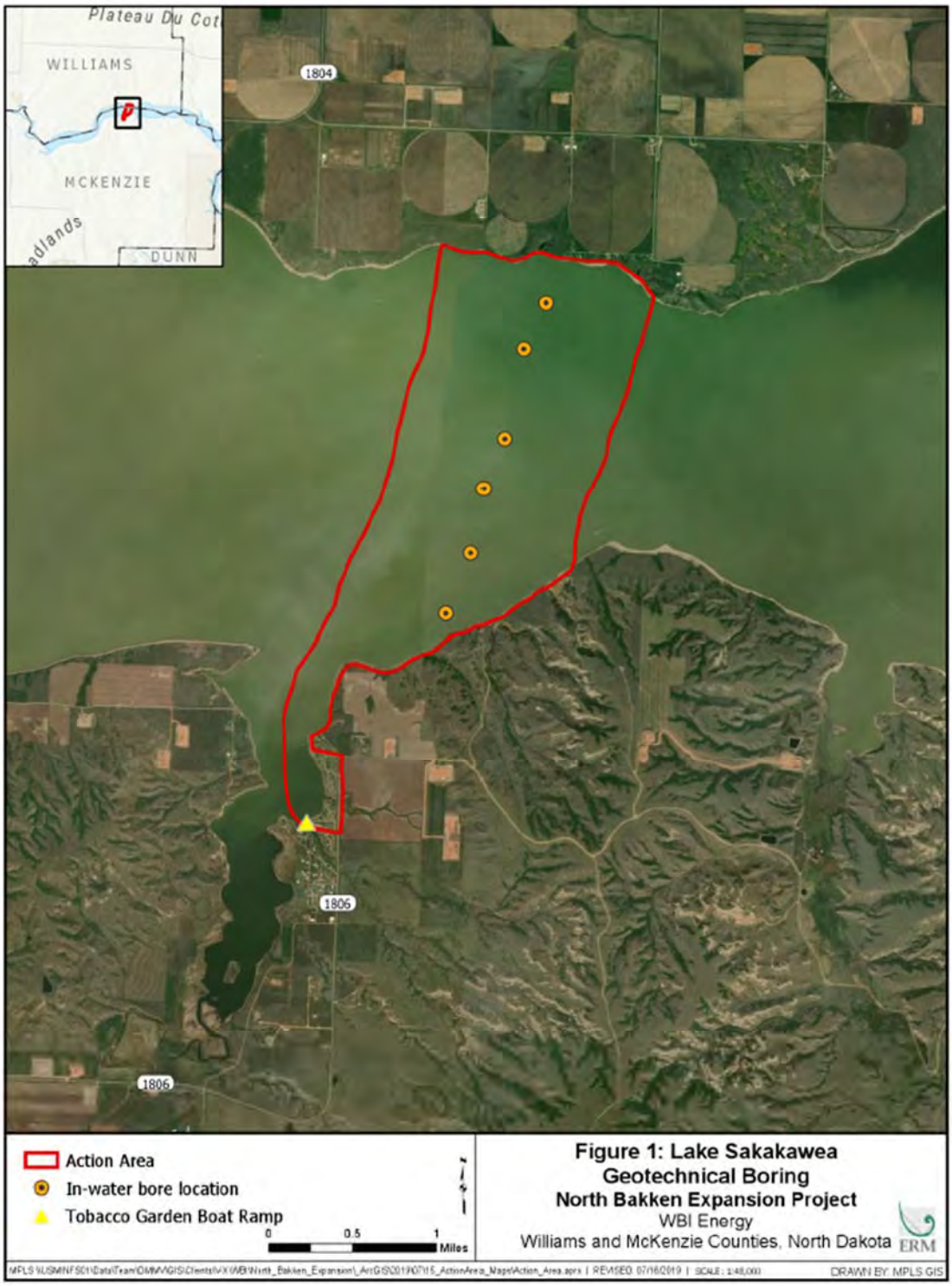
A track mounted drill rig or an all-terrain vehicle-mounted drill rig would be utilized for the over-barge drilling work. The floating barge would be pushed to the drill sites, temporarily moored, and anchored using three spuds. The spuds would consist of 12-inch square column piles with a fabricated point at the bottom. It is anticipated that the spuds are heavy enough to drive into the lake bed. If the contractor cannot achieve the desired embedded depth by lowering the spuds into the lakebed, they may elect to use a vibratory hammer to drive the spuds into place. However, an impact hammer or pile driver would not be used. Once each of the six borings is complete, the square column piles would be removed by a hydraulic spud system. The mobilization of the drill rigs to the first drilling location is expected to take 1 to 2 hours. The timing required to move

between bore locations would be dependent on weather conditions (e.g., direction and speed of wind). In the event of strong winds or if demobilization of the barge is necessary during the drilling operations the barge would seek shelter in Tobacco Garden Bay, the contractor would not moor along the shoreline.

Drilling operations would occur 24 hours a day. The barge would remain over each drill hole for about three days until completion. To illuminate the work area during low-light hours (e.g., 30 minutes prior to sunset and 30 minutes after sunrise), gas-powered portable construction lighting would be used. Crews would work between 10 and 12 hours per day and would be transported to and from the drill barge by a motorboat. As a result, about two to three motorboat trips per day would be required. Drilling operations are expected to be completed using standard auguring and mud-rotary drilling methods. In the event that the contractor encounters heaving sands, the use of advanced casing would be utilized. The advanced casing drill method requires a smooth steel pipe that includes a specially designed plug to reach through hollow stem augers. After each boring is completed, the borehole would be backfilled with a cement/bentonite grout using a tremie rod per North Dakota well code regulations (see Appendix A).

2.1 SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN

All hazardous and non-hazardous substances would be managed in a way to prevent spills and would provide sediment protection. Methods would include container management (e.g., secondary containment), and good housekeeping (e.g., labeling and clean-up). Project specific measures are provided in a Spill Prevention and Emergency Response Plan that is included in the Over-Barge Boring Option, Access Road, and Staging Area Work Plan (see Appendix A).


Plateau Du Cot
WILLIAMS
MCKENZIE
DUNN
1804
1806
1806
Action Area
In-water bore location
Tobacco Garden Boat Ramp
0
0.5
1
Miles
Figure 1: Lake Sakakawea
Geotechnical Boring
North Bakken Expansion Project
WBI Energy
Williams and McKenzie Counties, North Dakota
ERM
DRAWN BY: MPLS GIS


Crane Staging Area
Barge Staging Area
Barge and Heavy Equipment Staging
1806
1806
Notes:
1. Crane will be staged on paved area in the event of high water levels.
2. Crane will be staged on boat ramp in the event of low water levels (at or below 1,849 amsl).
Action Area
Staging Areas
Tobacco Garden Boat Ramp
In-water bore location
0 100 200
Feet
Figure 2: Lake Sakakawea
Geotechnical Boring
North Bakken Expansion Project
WBI Energy
Williams and McKenzie Counties, North Dakota
ERM
DRAWN BY: MPLS GIS

2.2 ENVIRONMENTAL COMMITMENTS

The following list summarizes WBI Energy's environmental commitments, which pertain to the prevention and minimization of stressors on federally protected resources.

- Construction vehicles and equipment would be power washed prior to entering the Tobacco Garden area to remove plant debris and prevent the potential introduction and spread of noxious and invasive plant species. Drill rigs and tools which would come into contact with water would be steam cleaned prior to drilling operations. Arrangements would be made with the North Dakota Game and Fish Department to conduct an Aquatic Nuisance Species inspection of all equipment prior to deploying equipment into the lake (North Dakota Game and Fish [NDGF], 2016a). This will include a two week prior notification to the NDGF to schedule the inspection.

- The barge would contain all necessary equipment (e.g., augers, generator, double walled diesel fuel storage tank; and portable toilet) to perform operations safely. Portable toilet waste would be pumped into a holding tank located on a secondary containment on the barge until disposal at the Tobacco Garden RV dump station.

- Navigational lighting would be provided by the push boat operator and would conform to Coast Guard Inland Navigation Rules. Lighting would consist of standard side and stern navigation lighting on the push-boat, and a gas-powered portable light bank on the barge.

- Crane mats and outrigger pads would be used to level the ground and displace weight for the crane outriggers in both proposed staging areas. It is estimated that the crane mats would be utilized for 12 hours during the mobilization and demobilization phases of the drilling operations. No mats or pads would be placed in the water.

- Drilling operations would generate little to no turbidity using a closed loop system with an auger and associated casing.

- Circulated water would be centered through an auger and collected through a MudPuppy®, which would remove cuttings and particles from drilling fluid. A dumpster within a secondary container would then collect the remaining waste materials.

- Material safety data sheets for any drilling fluid additive would be kept onsite during drilling operations.

- Final cleanup would begin as soon as the last bore is completed. During cleanup, construction debris would be collected and taken to a disposal facility. All staging areas would be restored to pre-existing conditions, and revegetation measures would be implemented in accordance with USACE requirements.

- If construction activities take place during the spring, and continue past April 15th, surveys would be conducted to ensure that no piping plover or interior least tern nesting is occurring within 0.5 mile of the proposed construction activities. If at any time, a nest, nesting behavior, and/or chicks are observed within 0.5 mile of construction activities, work would cease and the USFWS would be contacted immediately.

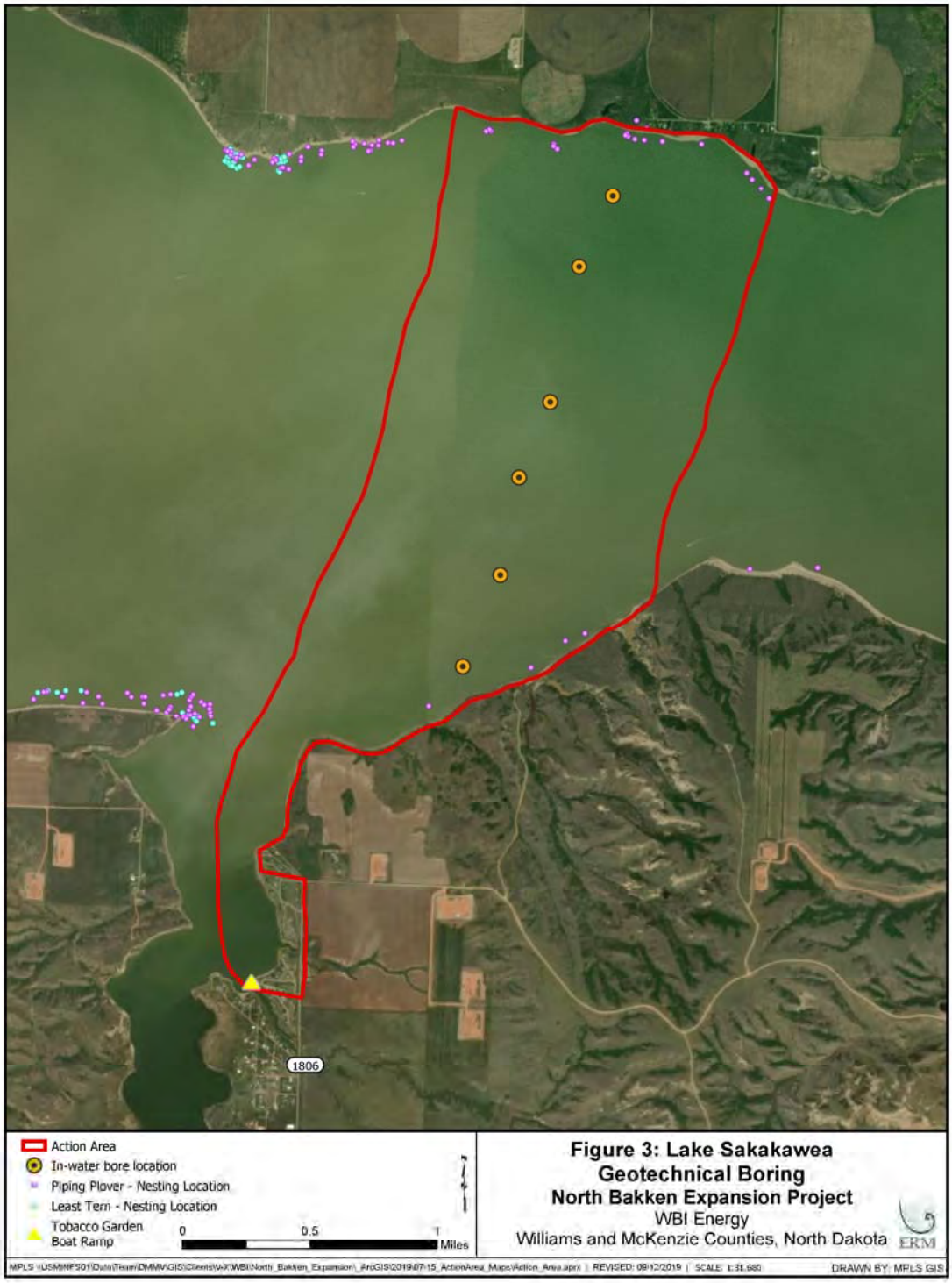
2.3 PROPOSED PROJECT SCHEDULES

Assuming receipt of authorizations and necessary permits, drilling operations are estimated to begin in fall 2019. If permits and authorizations are not received in time for work to be completed in the fall of 2019, work would commence in early spring 2020 as site conditions allow. Depending on weather and water conditions, WBI Energy anticipates drilling operations would take 3 to 4 days per bore, for a total estimated duration of 20 to 30 days.

3.0 ACTION AREA

An action area is defined by regulation as all areas that would be affected directly or indirectly by the federal action and not merely the immediate area involved in the action (50 Code of Federal Regulations [CFR] 402.02). The Project's action area for the geotechnical survey methods involve site work on Lake Sakakawea including six geotechnical borings. Each bore would be approximately 300 feet in depth. The drilling operations would stage at an existing boat ramp located at Tobacco Garden on the southern shore of Lake Sakakawea. Associated barge sections and heavy equipment would be staged along an access road as shown in Figure 2. Additionally, Figure 2 displays the boat ramp and staging areas at Tobacco Garden. The proposed barge staging area would be located about 150 feet away from the boat ramp.

The geographic extent of the action area includes those areas in which the Project geotechnical drilling operation activities have a potential to directly or indirectly affect threatened, endangered, or candidate species and their critical habitats, which includes the lake surface and the north and south shorelines extending about 0.6 mile (1,000 meters) upstream and downstream of the drill locations. A buffer measuring 0.6 mile (1,000 meters) was used around the in-water drill locations to account for potential effects to the interior least tern and piping plover that utilize surrounding habitat (see Figure 3).


1806
Action Area
In-water bore location
Piping Plover - Nesting Location
Least Tern - Nesting Location
Tobacco Garden
Boat Ramp
0
0.5
1
Miles
Figure 3: Lake Sakakawea
Geotechnical Boring
North Bakken Expansion Project
WBI Energy
Williams and McKenzie Counties, North Dakota
ERM
DRAWN BY: MPLS GIS

4.0 METHODOLOGY

4.1 ANALYSIS AREA DEFINITIONS

Two separate areas are used to define the Project and analyze its effects; these include the *project area* and *action area*. The *project area* consists of the physical limits of the Project where water, soil, and vegetation would be directly affected by construction and operation of the Project. The *project area* includes the crane and equipment staging areas at Tobacco Garden and the six drilling locations within the lake. The *action area* represents the geographical extent of anticipated direct and indirect effects of Project as described in Section 3.0. Project effects within the *action area* vary for each species and include effects such as noise, turbidity, and dust which could extend beyond the immediate location where construction activities occur. The *action area* is also used to discuss the broader landscape context of the Project and cumulative effects.

4.2 RECORDS REVIEW

The following information was reviewed to determine what habitats and species are potentially present within the *action area* and what field surveys may be required to assess Project impacts: U.S. Geological Survey topographic maps, Game and Fish Department ArcGIS.com, U.S. Fish and Wildlife Service (FWS) Information for Planning and Conservation (IPaC) data (U.S. Army Corps of Engineers [USACE], 2018a, 2019 and FWS, personal comm., 2019a, b, c).

5.0 LISTED SPECIES AND DESIGNATED CRITICAL HABITAT IN THE ACTION AREA

5.1 SPECIES CONSIDERED AND EVALUATIED

This BA analyzes the potential effects of the proposed Project on federally threatened, endangered, and proposed species and critical habitats to determine whether species or habitat are likely to be adversely affected. A list of federally threatened, endangered, candidate, and proposed resources was obtained for the *action area* from the FWS IPaC application (FWS, 2019d) (Table 5.1-1). Seven species have the potential to occur in the *action area*.

TABLE 5.1-1

Federally Listed, Proposed, and Candidate Resources within the *Action area*

Species/Critical Habitat	Status	Potential to Occur in the *Action area*	Habitat Description and Range in North Dakota
Whooping crane (*Grus americana*)	E	Yes	Uses a variety of stopover habitat along their migration route through the state including croplands, freshwater wetlands, and submerged sandbars
Interior Least Tern (*Sterna antillarum*)	E	Yes	Sparsely vegetated sandbars and shoreline flats on the Yellowstone and Missouri rivers
Pallid Sturgeon (*Scaphirhynchus albus)*	E	Yes	Large rivers with high turbidity, natural flow, and swift currents (i.e., Yellowstone and Missouri rivers)
Piping plover (*Charadrius melodus*)	T, CH	Yes	Nesting habitat including prairie alkali lakes and barren river sandbars along the Missouri and Yellowstone rivers
Dakota skipper (*Hesperia dacotae*)	T, CH	Yes	Native prairie habitat with a diversity and abundance of forb species; in northwestern North Dakota typically found in vegetative communities dominated by little bluestem (*Schizachyrium scoparium*)
Rufa Red knot (*Calidris canutus rufa)*	T	Yes	Red knot have been documented along the Northern Plains during their spring migration; through the state, they use stopover habitat including gravel/cobble beaches, marshes, and sandbars
Northern Long-eared Bat (*Myotis septentrionalis*)	T	Yes	Uses a variety of habitats including emergent wetlands; agricultural land, pastures, forested habitats, and oil fields

Source: FWS, 2019d

Notes: Status Codes: E=federally listed endangered; T=federally listed threatened; CH=designated critical habitat

5.1.1 Whooping Crane (*Grus Americana*)

Current Status

The whooping crane is listed as endangered under the Endangered Species Act (ESA); only about 505 individuals remain in the Aransas-Wood Buffalo Population (FWS, 2018a). Current threats to whooping cranes include loss or deterioration of critical wetland habitat, low genetic diversity, utility line collisions, predation, disease, disturbance at nest sites, and illegal shooting (International Crane Foundation, 2018; Meine and Archibald, 1996).

Potential Habitat Surrounding and within the Action Area

The whooping crane is a bi-annual migrant which utilizes a variety of habitats along their migration route including croplands for foraging, wetlands, and submerged sandbars (Austin and Richert, 2005; Urbanek and Lewis, 2015). Spring migration occurs from April to mid-June, with most sightings in North Dakota occurring in the western two-thirds of the state. Fall migration occurs from mid-September through February, with most birds arriving on wintering grounds by December. No designated critical habitat for whooping cranes exists at Lake Sakakawea or in the *action area* (43 Federal Register [FR] 36588), but these areas are within the migration corridor. Therefore, whooping cranes may occur in the *action area* twice per year during migration periods. Stopover habitat in the *action area* and its vicinity has been degraded by existing recreational and agricultural development, with less disturbed habitat available for use on other portions of the

Missouri River. Migrating whooping cranes would likely choose to avoid any disturbance and instead utilize more desirable nearby habitat.

5.1.2 Piping Plover (*Charadrius melodus*)

Current Status

The Northern Great Plains population of the piping plover is listed as threatened under the ESA. The recent decline in the population is attributed to the destruction of vegetated sandbars and river islands for flood control and navigation, water level regulation policies that endanger nesting habitat, direct disturbance by people, and poor breeding success, primarily because of an increase in predator abundance (FWS, 2018b).

Potential Habitat Surrounding and within the Action Area

North Dakota is the most important state within the Great Plains region for nesting piping plovers. In North Dakota, the majority of piping plovers nest on prairie alkali lakes, while others select the free-flowing stretch of the Missouri River. Piping plovers also use barren river sandbars found along the Missouri and Yellowstone rivers (FWS, 2018b). Available shoreline nesting habitat is variable, contingent upon water levels in the reservoir. Releases from Garrison Dam are modified during nesting season to accommodate nesting piping plovers (USACE, 2018a). In North Dakota, piping plovers arrive in early to mid-April to breed and remain until the end of August.

USACE has been monitoring piping plovers at Lake Sakakawea since at least 1993. Their data (years 1993-2018) show 21 occurrences of nesting plovers within the *action area.* An additional 23 occurrences have been recorded within 0.25 mile (see Figure 3) (USACE, 2018b). Aerial imagery dating from 1993 to present does not show significant changes to shoreline habitat in the *action area*. The majority of plover nests in the Project vicinity were observed along a 2.5-mile stretch of the northeast shoreline beginning about one mile east of the *action area*, between the Project and Hofflund Bay.

Human activity has been shown to cause nest failure and disrupt feeding behaviors critical for juvenile plover development (USACE, 2014). Home range distances for breeding piping plovers average approximately 0.3 mile (500 meters) (Haffner et al., 2009). Activity taking place within 0.5 mile of an active nest has the potential to adversely affect nesting plovers. Most nesting activity begins by mid to late May, with incubation following for 25 to 31 days. Eggs typically hatch between late May and late July; fledging occurs 21 to 30 days after hatching. Young plovers begin their migration a few weeks after adults, typically departing by late August. As the Project is planned to start either in the fall of 2019 or the spring of 2020, piping plovers may be present in the *action area* during Project construction.

5.1.3 Piping Plover Designated Critical Habitat

Current Status

Nineteen areas of critical habitat for the Northern Great Plains population of the piping plover (67 FR 57638) totaling about 183,422 acres have been designated by the FWS in Minnesota, Montana, Nebraska, North Dakota, and South Dakota. The entirety of Lake

Sakakawea is designated piping plover critical habitat. The habitat features present at Lake Sakakawea that are essential to the conservation of the species include islands composed of sand, gravel, or shale, and the islands interface with water, sparsely vegetated shorelines, and peninsulas.

Potential Habitat Surrounding and within the Action Area

The entirety of Lake Sakakawea is designated piping plover critical habitat, therefore critical habitat and the habitat features that are essential to the conservation of the piping plover are present within the *action area*.

5.1.4 Interior Least Tern (*Sterna antilarum*)

Current Status

The interior population of least tern is listed as an endangered species under the ESA. The population has declined due to loss of habitat from dam construction and river channelization on the major rivers they inhabit. Other factors inhibiting least tern populations include human disturbance and changes in water temperatures that may affect the quantity of forage fish available (FWS, 2013b; NDGF, 2016b).

Potential Habitat Surrounding and within the Action Area

Least terns inhabit sparsely vegetated sandbars or shoreline salt flats of lakes along the Missouri River System for breeding purposes. In McKenzie and Williams counties, known breeding areas for the least tern occur on sandbars of the Missouri and Yellowstone Rivers (FWS, 2018c). In North Dakota the least tern is found mainly on the Garrison reach of the Missouri River from the Garrison Dam – about 90 miles southeast of the *action area* – south to Lake Oahe (southeast of the Project), and on the Missouri and Yellowstone rivers upstream of Lake Sakakawea (west of the Project). Available shoreline habitat can fluctuate depending on water levels in the reservoir, and releases from Garrison Dam are regulated during the nesting season to accommodate nesting terns (USACE, 2018a).

USACE has been monitoring the least tern at Lake Sakakawea since at least 1993. Their data (years 1993-2018) shows seven occurrences of nesting terns within 0.25 mile of the *action area* (see Figure 3). The closest nest was recorded 0.12 mile from the *action area* near Tobacco Garden (USACE, 2018b). Aerial imagery of the *action area* dating from 1993 to present does not show significant changes to shoreline habitat during this time.

Least terns are present in North Dakota from mid-May through August, with peak breeding season ending in mid-July (FWS, 2013 and 2019e). Work is planned to begin in the fall of 2019 but may begin later in early spring 2020, contingent upon the receipt of all required authorizations. Therefore, least terns may be present in *the action area* during Project in-water drilling.

5.1.5 Pallid Sturgeon (*Scaphirhynchus albus*)

Current Status

Factors contributing to the decline of pallid sturgeon include habitat loss due to construction of dams, channelization of rivers, commercial fishing, and environmental contaminants (FWS, 2015; FWS, 2014a). Additionally, hybridization with the more common shovelnose sturgeon poses a threat to species stability (Tranah et al., 2004).

Potential Habitat Surrounding and within the Action Area

Habitat for the pallid sturgeon includes large rivers with high turbidity, swift currents, and natural flow. Preferred habitat has a diversity of depths and velocities formed by braided channels, islands, and mid-channel sandbars. Pallid sturgeon habitat is fragmented by dams on the Missouri River and only scarce populations remain. As of 2008, an estimated 125 pallid sturgeon remained in the Missouri River and Yellowstone rivers between Fort Peck Dam (west of the Project) and the headwaters of Lake Sakakawea (The Pallid Sturgeon Recovery Program, 2013). While pallid sturgeon have been documented in Lake Sakakawea upstream of the action area (FWS, 2019c), reservoirs are not considered to be suitable pallid sturgeon habitat due to the alteration of natural flow regimes (Guy et al., 2015). There is strong evidence that waters in the transition zone[1] of Lake Sakakawea are anoxic, greatly reducing recruitment of free embryo pallid sturgeon (Guy et al., 2015). During fall and winter pallid sturgeon reside in the Missouri River downstream from the Missouri-Yellowstone confluence. The proposed boring locations are located 66 miles downstream from this confluence. Spawning occurs from April through mid-June when increased spring flows between Fort Peck Dam and Lake Sakakawea prompt upstream migration into the Yellowstone River to spawn. As the *action area* is connected to this habitat and individuals have been documented in the lake upstream of the *action area*, pallid sturgeon have the potential to occur in the *action area.*

5.1.6 Dakota Skipper (*Hesperia dacotae*)

Current Status

The Dakota skipper (DASK) is listed as threatened under the ESA. Historically, DASK were distributed throughout dry-mesic and wet-mesic tallgrass prairie habitats of Illinois, Iowa, Minnesota, South Dakota, North Dakota, Manitoba, and Saskatchewan (Vaughan and Shepherd, 2005). Three known sites remain in McKenzie County, North Dakota (FWS, 2016a); two sites in northern McKenzie County have been designated critical habitat (80 FR 59248). No known sites exist within Williams County. McKenzie County primarily contains dry-mesic mixed grass prairie dominated by mixed bluestem (*Schizachyrium* spp.), needle grasses (N*assella* spp.), and purple coneflower (*Echinacea angustifolia*) habitat. Conversion of native prairie habitat to other land uses, use of herbicides, road construction, over-grazing, non-native plant invasion and gravel mining have historically contributed to declines in DASK populations throughout its range.

[1] The transition zone separates the riverine and lacustrine zones of a reservoir and possesses intermediate characteristics such as reduced flow, and increased width and depth.

Potential Habitat Surrounding and within the Action Area

The dry-mesic tallgrass prairie habitat which DASK require is present within McKenzie County, but not within the *action area.* Lands owned by the U.S. Forest Service associated with the Little Missouri National Grasslands are located on the eastern side of Dakota Highway 1806 adjacent to the *action area* (U.S. Forest Service, 2015), however any DASK present are not expected to disperse into the *action area* due a lack of preferred vegetation and high level of disturbance. The *action area* is limited to open water, shoreline, and developed land. The staging area for the Project, located at Tobacco Garden, contains patches of maintained ornamental grass which is unsuitable for DASK (see Appendix B). Therefore, there is no suitable habitat for DASK within the *action area.*

5.1.7 Dakota Skipper Designated Critical Habitat

Current Status

The US Fish and Wildlife Service designated critical habitat for the DASK in North Dakota in 2015. Primary constituent elements of critical habitat have been defined for both wet-mesic and dry-mesic habitats which DASK inhabit (FWS 2016b; 80 FR 59248). Designated critical habitat in western North Dakota is typically dry-mesic habitat, which occurs on rolling terrain over gravelly glacial moraine deposits and is dominated by bluestems and needle grasses.

Potential Habitat Surrounding and within the Action Area

The nearest North Dakota critical habitat unit (Unit 12) is located about 5 miles east of Tobacco Garden. Therefore, no DASK critical habitat exists within the *action area.*

5.1.8 Rufa Red Knot (*Calidris canutus rufa*)

Current Status

The red knot is a threatened species under the ESA. Red knot populations have declined due to degradation of wetland areas, reduced food availability, expanding oil and gas development that overlaps migration ranges, and contamination to alkali lakes and the Missouri River system (FWS, 2014b; NDGF, 2016c).

Potential Habitat Surrounding and within the Action Area

In North America, red knots are commonly found in marine habitats and coastal areas along sand, gravel, or cobble beaches, tidal mudflats, salt marshes, shallow coastal impoundments and lagoons, and peat banks (FWS, 2014b). Red knots have been documented along the Northern Plains during their spring migration (FWS, 2014b) and they have been tracked along the central flyway with geo-locators. The red knot is considered a rare migrant in North Dakota, but may pass through the state in mid-May and mid-September to October during spring and fall migrations. There is a lack of information on the specific noncoastal habitats used by red knots (FWS, 2014b); however, given their specialized molluscivore diet, it can be assumed they would use shallow wetlands, lake margins, and riverine habitats within North Dakota for foraging and/or roosting areas. There are no stopover sites in North Dakota that are consistently used by

red knots (FWS, 2014b), but there is potential for them to be present in the *action area* during migration.

5.1.9 Northern Long-eared Bat (*Myotis septentrionalis*)

The FWS IPaC tool was run for the *action area* and the northern long-eared bat was shown as potentially occurring in the *action area* (FWS, 2019f). Based upon the IPaC submission, the FWS determined the activities related to the geotechnical borings are consistent with those analyzed in the Service's January 5, 2016, Programmatic Biological Opinion. The activities may affect the northern long-eared bat; however, any take that may occur as a result is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). The effects determination is included as Appendix C and the species is not included in Section 6 below.

5.2 OTHER FEDERALLY PROTECTED RESOURCES

5.2.1 Eagles

The Bald and Golden Eagle Protection Act (BGEPA) provides additional protection to bald and golden eagles. The BGEPA prohibits the take, possession, sale, purchase, barter, offer to sell, purchase, transport, export, or import, of any bald or golden eagle, alive or dead, including any part, nest, or egg, unless allowed by permit. "Take" under this act is defined as "to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, or molest or disturb." Disturb is defined as "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior." If a proposed project or action would occur in areas where nesting, feeding, or roosting eagles occur, then project proponents may need to take additional conservation measures to achieve compliance with the BGEPA.

WBI Energy reviewed golden eagle nest habitat range data available from the North Dakota Game and Fish Department (NDGF, 2017) which shows there is no nest habitat for golden eagles within the *action area*. If an eagle nest is identified near the *action area*, WBI Energy would implement the measures described in the FWS' 2007 National Bald Eagle Management Guidelines (FWS, 2007) to avoid and minimize impacts on nesting eagles. The proposed Project not expected to impact bald or golden eagles.

5.2.2 Migratory Birds

Migratory raptor, game, and songbird species are protected under the Migratory Bird Treaty Act (MBTA) of 1918. The MBTA protects species or families of birds that live, reproduce, or migrate within or across international borders at some point in their life cycle. It prohibits the "take" of any migratory bird, their parts, nests, or eggs except as permitted by regulations. For purposes of the MBTA, "take" is defined as "to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, wound, kill, trap, capture, or collect" as described in 50 CFR part 10.12. The MBTA applies to migratory birds that are identified in 50 CFR 10.13 (defined hereafter as "migratory birds"). Migratory bird habitat is not protected under the MBTA, although activities that affect habitat and result in direct take of migratory birds would violate the MBTA.

A variety of migratory bird species may occur seasonally in the *project area as* it is within the Central Flyway for migratory birds (FWS, 2018d). Many species of migratory birds such as ducks, geese, doves, and pigeons, as well as sandhill and whooping cranes and tundra swans, use the flyway during spring and fall migration between the Gulf of Mexico and central Canada (Dubovsky, 2017). All of these species use open land, grasslands, agricultural areas, shorelines and/or wetland areas. Land based activities associated with the Project would occur at Tobacco Garden, which is relatively occupied and consistently hosts human activity. Work within the lake would occur with a slow moving barge, which would not impact water birds that would be able to move out of the way. Onshore staging areas contain patches of maintained ornamental grass which do not provide suitable habitat for migratory birds. No impacts are anticipated on migratory bird species not already discussed in other sections of this BA.

6.0 EFFECTS OF THE ACTION

6.1 IDENTIFIED STRESSORS AND BENEFITS

The proposed Project would temporarily alter the *action area* during over-barge drilling operations. These changes present certain stressors which could result in an exposure to threatened and endangered species that are known to occur within the *action area*. Construction of the Project would cause disturbance on the water surface, throughout the water column, and to lake bed sediments. Construction would be expected to cause disturbances including increased human presence, noise, pollution, sedimentation, increased traffic, and dust. These stressors would be expected to occur during active construction periods and would be minimized through the environmental commitments identified in section 2.2.

Project-caused stressors, if of sufficient magnitude, duration, or frequency, could significantly disrupt the normal behavior or habitat use of a species or could significantly impair essential behaviors (i.e., breeding, feeding, and sheltering). The sections below assess whether or not the seven identified species are expected to occur in the *action area*, if they would likely be exposed to Project-induced stressors, and, if so, to describe the eventual anticipated consequence of this exposure.

If exposure to a given stressor is extremely unlikely, the effect is concluded as discountable. If the analysis determines that the effect of a stressor cannot be meaningfully measured, detected, or evaluated, the effect is considered insignificant. If the analysis determines effects from stressors are either discountable or insignificant, then the analysis for that species comes to an end. If the Project would have stressors with a significant impact on a species, the analysis continues to discuss the anticipated implications that it could have on the survival of the species.

6.1.1 Whooping Crane

Direct and Indirect Effects

As Project activities are planned to occur in fall 2019 or spring 2020 the Project could cause deterrence or displacement from stopover habitat due to over-barge drilling at Lake Sakakawea during whooping crane migrations. However, the likelihood that whooping cranes would select stopover sites within the *action area* is low given the lack of foraging habitat and

existing deterrents including noise, traffic, and intermittent human presence. The *action area* is also located within a low intensity stopover use area, further reducing the likelihood that whooping cranes would be present (U.S. Geological Survey, 2015).

Given the low likelihood of whooping cranes stopping over in the *action area* and the low risk of cranes coming in contact with construction equipment, adverse effects from the proposed Project are unlikely and effects would be discountable or insignificant.

Cumulative Effects

Cumulative effects include the effects of future state, tribal, local or private actions that are reasonably certain to occur in the *action area* considered in this BA. Future federal actions that are unrelated to the Project are not considered in this section because they require separate consultation pursuant to section 7 of the ESA. There are no known actions meeting the definition of cumulative effects within the *action area*. Therefore, no cumulative effects to the whooping crane are expected.

Determination

The *action area* is in an unoccupied to low intensity stop over habitat use area for the whooping crane and Project in-water drilling would occur from a floating barge, limiting impacts to open water habitat not typically utilized by whooping cranes. Therefore, the Project would have **no effect** on the whooping crane.

6.1.2 Piping Plover

Direct and Indirect Effects

The *action area* contains appropriate habitat for the piping plover. If the Project work is completed in fall of 2019, no piping plovers would be present in the action area and no impacts to the species would be anticipated. Plovers have the potential to be present during Project construction if work occurs in the spring of 2020, as they migrate to the area from mid-May to August to breed. Off-shore activity occurring within 0.5 mile of an active nest has the potential to adversely affect nesting piping plovers. Construction activity would take place about 0.10 mile from the shoreline. Therefore, noise, visual, and physical disturbances from Project activity may affect essential mating, nesting and foraging behaviors of piping plovers at Lake Sakakawea. If construction activities take place during the spring, and continue past April 15th, surveys would be conducted by a qualified biologist to ensure that no nesting is occurring within 0.5 mile of the proposed construction activities. If at any time, a nest, nesting behavior, and/or chicks are observed within 0.5 mile of construction the Project would implement the environmental commitments outlined in section 2.2 to minimize potential impacts on piping plovers.

Cumulative Effects

Cumulative effects include the effects of future state, tribal, local or private actions that are reasonably certain to occur in the *action area* considered in this BA. Future federal actions that are unrelated to the Project are not considered in this section because they require separate consultation pursuant to section 7 of the ESA. There are no known actions meeting the definition

of cumulative effects within the *action area*. Therefore, no cumulative effects to the piping plover are expected.

Determination

Appropriate piping plover habitat is available in the *action area,* and in the event of a spring 2020 start date plovers are likely to be present in the *action area* during construction. While no impacts to shorelines are anticipated, plover nests have been documented in the *action* area and Project activity would take place within home range distance of shoreline habitat. Construction related activities that take place within 0.5 mile of an active nest or birds exhibiting nesting behavior have the potential to adversely impact piping plovers. If construction activities take place during the spring, nest surveys outlined in section 2.2 would minimize the chance that nesting piping plovers would be adversely affected. Therefore, the Project ***may affect, but is not likely to adversely affect*** the piping plover.

6.1.3 Piping Plover Designated Critical Habitat

Direct and Indirect Effects

Direct or indirect effects to piping plover critical habitat have the potential to occur as part of the proposed Project, but would be minimized to the greatest extent practicable. In-water drilling proposed for the Project is not expected to affect shoreline habitat as the existing Tobacco Garden boat launch would be used. Potential spills and releases would be prevented and mitigated through the Spill Prevention, Control, and Countermeasures Plan and Emergency Response Plan (Appendix A).

Cumulative Effects

Cumulative effects include the effects of future state, tribal, local or private actions that are reasonably certain to occur in the *action area* considered in this BA. Future federal actions that are unrelated to the Project are not considered in this section because they require separate consultation pursuant to section 7 of the ESA. There are no known actions meeting the definition of cumulative effects within the *action area*. Therefore, no cumulative effects designated critical habitat would occur.

Determination

Project in-water drilling would occur from a floating barge and would not impact shoreline habitat. Therefore, the Project ***would not adversely modify*** piping plover critical habitat.

6.1.4 Interior Least Tern

Direct and Indirect Effects

The *action area* contains appropriate habitat for the interior least tern. If the Project work is completed in fall of 2019, no terns would be present in the action area and no impacts to the species would be anticipated. Terns have the potential to be present during Project construction if work occurs in the spring of 2020, as they migrate to the area from mid-May to August with peak breeding season ending in mid-July. Potential nesting and foraging habitat for the least tern is

available in the *action area,* however no tern nests have been recorded in the *action area* since at least 1993. Non-breeding terns have been observed in several locations within the *action area.*

In-water drilling associated with the Project would occur from a floating barge and would not impact shoreline habitat. As terns feed on small fish, noise, human presence, and water disturbance from the Project could disrupt foraging behaviors. However, suitable forage is available elsewhere on the reservoir, so it is expected that terns would avoid Project disturbance and chose alternative locations to forage. Off-shore work has the potential to adversely affect terns nesting within 0.5 mile of the proposed construction activities. The nearest construction activity would take place about 0.10 mile from the shoreline. If construction activities take place during the spring, and continue past April 15th, surveys would be conducted by a trained biologist to ensure that no nesting is occurring within 0.5 mile of the proposed construction activities. If at any time, a nest, nesting behavior, and/or chicks are observed within 0.5 mile of construction the Project would implement the environmental commitments outlined in section 2.2 to minimize potential impacts on interior least terns.

Cumulative Effects

Cumulative effects include the effects of future state, tribal, local or private actions that are reasonably certain to occur in the *action area* considered in this BA. Future federal actions that are unrelated to the Project are not considered in this section because they require separate consultation pursuant to section 7 of the ESA. There are no known actions meeting the definition of cumulative effects within the *action area*. Therefore, no cumulative effects to the least tern are expected.

Determination

Appropriate least tern habitat is available in the *action area,* and in the event of a spring 2020 start date least terns are likely to be present in the area during construction. Project in-water drilling would occur from a floating barge and is not expected to result in shoreline impacts. Construction related activities that take place within 0.5 mile of an active nest or birds exhibiting nesting behavior have the potential to adversely impact least tern. If construction activities take place during the spring, nest surveys outlined in section 2.2 would minimize the chance that nesting terns would be adversely affected. Therefore, the Project ***may affect, but is not likely to adversely affect*** the interior least tern.

6.1.5 Pallid Sturgeon

Direct and Indirect Effects

With a fall 2019 start date pallid sturgeon may be present in the *action area*. They inhabit the stretch of Missouri River downstream of the Yellowstone-Missouri confluence during fall, which is about 66 miles upstream of the *action area.* However, individuals are known to migrate downstream into Lake Sakakawea (FWS, 2019c). With a spring start date pallid sturgeon are unlikely to be present in the *action area*, as they migrate upstream into the Yellowstone River to spawn during this time. Based on the drilling contractor's prior experience the proposed drilling method does not produce measureable turbidity and impacts would be minimized by

implementing measures outlined in section 2.2 and the Project Spill Prevention, Control, and Countermeasure plan (see Appendix A).

Cumulative Effects

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the *action area* considered in this BA. Future federal actions that are unrelated to the Project are not considered in this section because they require separate consultation pursuant to section 7 of the ESA. There are no known actions meeting the definition of cumulative effects within the *action area*. Therefore, no cumulative effects to the pallid sturgeon are expected.

Determination

Pallid sturgeon have the potential to be present in the *action area* if Project in-water drilling occurs in the fall of 2019. In the event of a spring 2020 start date, pallid sturgeon are unlikely to be present in the action area as they migrate upstream to spawn during this time. Additionally, it is not anticipated that drill work would require the use of a vibratory hammer, impact hammer, or pile driver. If the contractor cannot achieve the desired embedded depth by lowering the spuds into the lakebed, they may elect to use a vibratory hammer to drive the spuds into place. However, an impact hammer or pile driver would not be used. The proposed drilling method does not typically increase turbidity and the Project Spill Prevention, Control, and Countermeasure plan would minimize impacts to water quality (see Appendix A). Therefore the Project ***may affect, but is not likely to adversely affect*** the pallid sturgeon.

6.1.6 Dakota Skipper

Direct and Indirect Effects

There is no habitat suitable for DASK within the *action area* due to an absence of preferred grassland vegetation (see Appendix B). DASK may be present in the Little Missouri National Grasslands located just east of the *action area*, but these individuals would not be expected to disperse into Tobacco Garden and would therefore not be exposed to noise, visual or physical disturbance. No direct or indirect effects are expected to occur as DASK are not likely to be present in the *action area*, therefore effects are expected to be discountable or insignificant.

Cumulative Effects

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the *action area* considered in this BA. Future federal actions that are unrelated to the Project are not considered in this section because they require separate consultation pursuant to section 7 of the ESA. There are no known actions meeting the definition of cumulative effects within the *action area*. Therefore, no additional adverse effects to listed species are expected.

Determination

There is no suitable dry-mesic or wet-mesic grassland habitat within the *action area;* therefore DASK are not likely to be present and the Project would have ***no effect*** on the DASK.

6.1.7 Dakota Skipper Designated Critical Habitat

Direct and Indirect Effects

Due to the fact that no DASK North Dakota Critical Habitat exists within the *action area*, no direct or indirect effects to DASK critical habitat would occur as a result of the proposed project.

Cumulative Effects

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the *action area* considered in this BA. Future federal actions that are unrelated to the Project are not considered in this section because they require separate consultation pursuant to section 7 of the ESA. There are no known actions meeting the definition of cumulative effects within the *action area*. Therefore, no cumulative effects to designated critical habitat would occur.

Determination

The proposed Project ***would not adversely modify*** designated critical habitat for DASK as no DASK critical habitat is present within the *action area*.

6.1.8 Rufa Red Knot

Direct and Indirect Effects

The *action area* has appropriate stopover habitat for the red knot; however red knots are believed to be rare migrants through North Dakota. No recorded observations of the species have occurred within the *action area* with the closest recorded observation approximately 150 miles from the *action area* (eBird, 2019). If rufa red knots were to be in the Project vicinity during construction, it is expected that they would avoid the *action area* during work and would therefore not be disturbed by visual or noise disturbances related to the in-water barge work. No direct or indirect impacts would occur to rufa red knots, therefore effects are expected to be discountable or insignificant.

Cumulative Effects

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the *action area* considered in this BA. Future federal actions that are unrelated to the Project are not considered in this section because they require separate consultation pursuant to section 7 of the ESA. There are no known actions meeting the definition of cumulative effects within the *action area*. Therefore, no cumulative effects to the rufa red knot are expected.

Determination

There is appropriate habitat for the red knot in the *action area*; however, there are no recorded observations of the species within the *action area*. Birds are expected to avoid the *action area* during construction. The Project would implement the environmental commitments

outlined in section 2.2 to minimize any potential impacts on rufa red knot. Therefore, the proposed Project would have ***no effect*** on the species or their habitats.

6.1.9 Effects Determination Summary and Conclusion

The Project would have no effect on the whooping crane, rufa red knot, DASK or DASK critical habitat. The Project would not adversely modify piping plover critical habitat. The Project may affect, but is not likely to adversely affect the interior least tern, piping plover, and pallid sturgeon.

TABLE 6-1

Summary of Determination for Threatened and Endangered Species and Designated Critical Habitat

Species/Critical Habitat	No effect	Not likely to adversely affect	Likely to adversely affect	Beneficial effect.
Whooping crane	x			
Interior Least Tern		x		
Pallid Sturgeon		x		
Piping plover		x		
Piping plover Designated Critical Habitat	x			
Dakota skipper	x			
Dakota skipper Designated Critical Habitat	x			
Northern Long-eared Bat		x		
Rufa Red knot	x			

This BA and the findings described above are based on the most recent data and scientific information available. A new analysis and revised BA would be prepared if one or more of the following were to occur:

- New species information reveals effects to threatened, endangered, proposed species, or designated/proposed critical habitat in a manner or to an extent not considered in this assessment;
- The proposed action is modified or is not fully implemented as described in this analysis, which causes an effect that was not considered in this assessment; or
- A new species is listed or critical habitat is designated that could be affected by the action and was not previously analyzed.

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North Bakken Expansion Project – Geotechnical Survey

Biological Assessment

APPENDIX A

Over-Barge Boring Option, Access Road, and Staging Area Work Plan

Groundwater & Environmental Services, Inc.

N. Bakken Lake Sakakawea Horizontal Directional Drill (HDD)

Staging from Tobacco Garden Creek Recreational Area off FM 1806, North of Watford City, ND
Over-Barge Geotechnical Evaluation Scope of Work

Project No: 2386
Document Name: 2386 – Over Water Geotechnical SOW-02

Prepared:	**GG**
Revision:	**02**
Date:	**2019/09/12**
Reviewed:	**KP**
Approved:	**KP**

Houston Area Office
One Chasewood, Suite 480
20333 State Highway 249
Houston, TX 77070
P: 832-210-1030

Edmonton Area Office
17816-118 Ave NW
Edmonton, AB T5S 2W5
P: 780-784-1990

Calgary Area Office
9-214 Grande Blvd W
Cochrane, AB T4C 2G4
P: 403-932-0560

This document describes the site work required to perform the geotechnical evaluation required to aid in the design and construction of a pipeline across Lake Sakakawea. The site work on the lake will include six (6) geotechnical borings to an approximate depth of 300 feet. Attached as a supporting figure to this document is a plan which shows the preliminary location of the line and the proposed location of the borings, which can be seen in Figure 1. This figure was provided as support for the original Outgrant Application submittal.

Upon approval of the Outgrant Application, drilling operations will stage at the existing gravel boat ramp access located at the Tobacco Garden Creek Recreation Area (Tobacco Garden) on the southern shore of Lake Sakakawea, which is attached to this document in Figure 2. Barges and heavy equipment will be staged along access road (see Figure 5) approximately 1 day until offload. After off-loading equipment, minimal materials/equipment will remain at the boat ramp to support the crane. The Tobacco Garden is located approximately 35 miles northeast of Watford City, ND just off ND Highway FM 1806. Access to Tobacco Garden is shown in the attached Figure 2.

Crane placement locations will be dependent on water elevation at Tobacco Gardens Bay. If water elevations are above approximately 1,849 Mean Sea Level (MSL), the crane can be placed on existing level ground in the parking area proximal to the lake shore edge (see Figure 4). Crane mats will be used to limit ruts or other damage from the crane outriggers. If lake elevations are below 1,849-feet MSL, the northern concrete boat ramp (see Figure 3) will be used as the crane placement location to lift the pushboat, barge sections, and equipment. Crane mats and outrigger pads will be used to protect land surfaces in both areas. The temporary crane pad will be approximately 30’ wide and up to 50’ long using regular wood timbers. The length of the pad will be based on water elevations with lower water elevations requiring a longer pad. The south end of the pad (closest to the water) will be raised to provide a more level area for the crane to drive onto. This will be done by stacking the timbers on the south half of the pad. Also, it is possible that the crane may be able to drive directly on the concrete pad and mats would be used under the rigging only. It is estimated that the crane mats will be utilized for 12 hours during the mobilization phase and 12 hours during demobilization phase of the project. The clean fill/crane mats can be removed from the boat ramp upon completion of mobilization in order to allow public use of the ramp. The fill and/or crane mats will be used again for demobilization and will be removed upon completion of the demobilization process.

A track mounted drill rig or an ATV-mounted drill rig will be utilized for the drilling work supported by approximately five (5), 40 feet x 10 feet barge sections. A crane will be used to place barges, equipment, and drilling materials onto the water at the staging area. A portion of the existing gravel parking lot at Tobacco Garden will be utilized to stage the crane and equipment. Care will be taken to avoid any impacts to the local community during this time. Based upon site reconnaissance, there appears to be adequate surface area to stage in the Tobacco Garden parking lot. Barges will be hauled to site by semi-truck and trailer. Barges will be directly offloaded from the trucks into the water with the use of crane (see Image 2).

All equipment to be placed on the lake will be powerwashed prior to arriving at Tobacco Garden. In addition, arrangements will be made with the North Dakota Game and Fish Department to conduct an

ANS inspection of all equipment. Equipment will not be deployed in the lake until the equipment has passed the ANS inspection.



Image 1 - Barge Set-up



Image 2 - Barge Set-up

The proposed barge staging area is shown in Figure 3. Transport vehicles will be staged on FM 1806 and removed from the vicinity once unloaded. Barges will be pushed to the drill sites and anchored with three spuds, which will consist of 12-inch square column piles that will have a fabricated point at the bottom. Concrete or any other material is not anticipated to be used to fill the spuds that will anchor the barges to the lakebed. It is expected that while neither an impact hammer or vibratory hammer are needed during drilling, if conditions require it, the vibratory hammer method would be used to drive the spuds into the lake bed. Once each boring is completed, the square column piles will be removed by a hydraulic spud system.

The barge will contain all equipment needed to perform the drills safely. Barges will contain at a minimum;

- Track-mounted or ATV-mounted drill rig
- 7 feet X 20 feet tandem axle (used for storing drilling pipe)
- Augers, drilling materials and light plants
- MudPuppy® drilling fluid control unit (see Image 3)
- A generator for welding and to operate the motors which control the spuds
- Double walled diesel fuel storage tank
- A portable toilet: The portable toilet will be pumped out, as needed, using a portable RV waste pump. The waste will be pumped from the toilet into a 20-gallon portable waste-holding tank. All work will be conducted over a secondary containment. The waste-holding tank will be stored on the barge on a secondary containment until taken back to Tobacco Garden and the contents disposed of at the Tobacco Garden RV dump station.

An example photo of the barge set-up is shown in Image 1 above.

Navigational lighting will be provided by the push boat operator and will meet Coast Guard Inland Navigation Rules and requirements for navigation near the barges and tugboat. In addition to the standard side and stern navigation lighting on the push-boat, the barge will utilize a gas-powered portable light bank that will emanate white light greater than 3 miles. The proposed boring locations are approximately 1.5 miles east of the boat ramp and staging area. Proposed water access to the bore locations from the staging area across the bore locations is shown in Figure 2. To facilitate drilling the borings to a depth of 300 feet (+/- 20 feet), the crew will work 24 hours a day. This will allow the barge to remain over the drill hole for approximately 3 days until completion. Crews will be transported to and from the drill barge by motorboat. Crews will work between 10-12 hours per shift, which includes travel time. This would result in approximately 2-3 motorboat trips per day to facilitate crew changes.

Once the auger penetrates the lake bed and has entered a more competent layer, casing will be installed and this will form a closed loop system. This operation will generate little to no turbidity within the lake. Based on the contractors previous experience in this area, the contractor would likely need to penetrate between 30 - 70 feet below the mudline to reach competent soil. It is anticipated that the work can be completed using standard auguring and mud-rotary drilling

methods; however, should the contractor encounter heaving sands, the use of advanced casing drill methods will be utilized. The advanced casing method requires a smooth steel pipe with a specially designed plug to go down through hollow stem augers. This plug is removed using a wire retriever, which allows the removal of the split spoon sample to be replaced before sand heaves into the hollow stem. The drilling contractor will need to plan for this ahead of time to ensure they have enough casing available on-site. The penetration test borings will be drilled with a truck, track or ATV-mounted auger drill equipped with a 3.25-inch hollow-stem auger.

All water will be circulated to the surface through the center of the auger. At the surface all circulated water will flow into the MudPuppy®, which removes the cuttings and grit from the drilling fluid. A dumpster will be connected to the MudPuppy® and will capture the spent drilling fluids.
A 3 feet x 4 feet steel mud tank will sit on the working platform near the drillers. The mud tank shall be used to mix water with Quik-Gel® and/or Penetrol® Dry to create drilling fluid. The material safety data sheet (MSDS) for each respective drilling fluid additive can be seen in Attachment B and Attachment C.



Image 3 - MudPuppy®

The cuttings that return from the borehole will be shovelled out of the mud tank and placed into a dumpster within a secondary containment and hauled off-site for disposal. This action will be completed on the barge and as stated in the spill prevention plan, and a containment berm around

the dumpster will be installed at the filling location. The containment berm will consist of 80-mil plastic and wood timbers. It's anticipated that the dumpster will contain adequate storage for the cuttings from the 6 borings and will be safely transported to shore. The dumpster will hold approximately 500 gallons of solids. At the completion of the project, the dumpster will be cleaned one time with the use of a hydrovac truck and the solids removal will be transported off United States Army Corps of Engineers (USACE) property to be disposed of at an authorized disposal facility. A copy of the Spill Prevention and Emergency Response Plan is included with this submittal and is included as Attachment A.

Prior to the start of drilling operations, any equipment inspections will occur per the USACE Outgrant Permit conditions. Any and all endangered species in the vicinity of the borings will be identified with the North Dakota Game and Fish Department to ensure that their respective habitats are not disturbed. The barge, all drilling equipment to be placed in the river, and push boat will be inspected by the North Dakota Game and Fish Department, if required. All drill rigs and tools which will contact the water will be steam cleaned before drilling operations begin.

Drilling operations are anticipated to take 20 - 30 calendar days (3 - 4 days per boring) depending on the weather and water conditions. The hollow stem auger will create approximately an 8-inch borehole while any fluid rotary and coring will create approximately a 4-inch borehole. The anticipated drilling rate for each rig is about 5 - 10 feet an hour. After each boring is completed, the borehole will be backfilled with cement/bentonite grout using a tremie rod per North Dakota well codes. If casing or drill head failure should occur, the driller will endeavour to retrieve the equipment. If the equipment cannot be retrieved, the equipment will be seal in-place with a cement/bentonite grout using standard well sealing methods.

Mobilization of the drill rigs to the first drilling location is anticipated to take 1 - 2 hours. Time required to move between holes will depend on the weather conditions, and direction and speed of wind. If there is a strong wind or if demobilization of the barges is needed during the drilling process, barges may be moved into a cove or more sheltered area but not the shoreline. If severe weather conditions are met, the barge will drive spuds into the lake bed by using gravity.

Drilling operations are anticipated to begin October 2019 or immediately upon approval from the USACE, and pending safe conditions are present on Lake Sakakawea.

Attachments

Attachment A- Groundwater & Environmental Services, Inc.- Lake Sakakawea Crossing- HDD Geotechnical Boring Evaluation- Spill Prevention and Emergency Response Plan
Attachment B- Quik-Gel® MSDS
Attachment C- Penetrol® MSDS

Figures

Figure 1- N. Bakken Expansion Lake Sakakawea Preliminary HDD and Geotechnical boring Location
Figure 2- Tobacco Garden Creek Recreation Area Access Map
Figure 3- Barge Staging Location at Tobacco Garden Creek Recreation Area
Figure 4- Proposed Crane Pad Staging Area
Figure 5- Truck and Heavy Equipment Staging Area prior to Offload

Spill Prevention & Emergency Response Plan

Groundwater & Environmental Services. Inc.

Lake Sakakawea Crossing - HDD Geotechnical Boring Evaluation

Staging from Boat Ramp at Tobacco Garden Creek off Hwy 1806 - Barge Drilling

Emergency Contact Information

Onsite Emergency Contact(s)	To be completed by the drilling contractor.
Emergency Response Contact(s)	Fire/Paramedics/Police: 911 (Respond to Boat Ramp Access, Tobacco Gardens)
	ND Department of Health Environmental Health Section 1.701.328.5210
	ND Department of Emergency Services: 1.800.472.2121
	ND Game and Fish Kent Luttschwager 1.701.774.4320
	National Response Center: 1.800.424.8802
	US Army Corps of Engineers Hattie Payne 1.701.654.7753
	City of Williston, WTP Monte Meiers 1.701.577.6368
	Environmental Protection Agency (EPA Region 8) 1.800.227.8917
Local Emergency Medical Facility	McKenzie County Healthcare 709 4th Ave NE, Watford City, ND 58854 (701) 842-3000
Material Safety Data Sheets	**Diesel and Hydraulic Fluid in cab of Drill Rig**

Spill Prevention:

Hazardous and Non-Hazardous Substance Management: All hazardous and drilling fluids are to be managed in a way that prevents release.

- *Container Management:*
  - All cuttings will be stored in a dumpster within a secondary containmeny.
  - All hazardous substances will be labeled using the Globally Harmonizing System (GHS) of Classification and Labeling of Chemicals.
  - Any spills on the exterior of the container must be cleaned immediately.

- *Good Housekeeping:*

  All hazardous substances will be stored in double walled containers;
  All chemicals that are transferred from larger to smaller containers must be transferred by use of a funnel or spigot.
  All hazardous substance containers should be closed while not in use;
  Use drip pans or other collection devices to contain drips or leaks from dispensing containers or equipment;
  Immediately clean up and properly manage all small spills or leaks;
  Periodically inspect equipment and hazardous substance storage areas to ensure leaks or spills are not occurring;
  Keep all work areas and hazardous substance storage areas clean and in good general condition.

- *Secondary containment:*

  A 560-gallon double – walled AST will be used for diesel storage. Secondary containment systems will be checked daily, and any spills identified in secondary containment will be immediately cleaned up and removed. Barge seams will be covered with 40-mil asphalt/fiberglass sheeting.

- *Marking/labeling:*

  Ensure all hazardous substances, including drilling cuttings, are properly marked and labeled in accordance with all federal, state and local regulations.
  All hazardous substances will be labeled using the Globally Harmonizing System (GHS) of Classification and Labeling of Chemicals.

Employee Training: Training will include a review of the spill prevention and emergency response plan, and a review of location and use of emergency response equipment and spill prevention kit. Training will be documented by signing this plan.

Hazardous Substance Inventory:

- 560-gallon AST
- Drilling cutting will be processed using a mud puppy, which will allow recycling of the drilling fluids and greatly reduce waste. Spent drilling fluids will be stored in a dumpster within a secondary containment.
- Drilling rig contains approximately 30 gallons of hydraulic fluid, 6 gallons of motor oil and 30 gallons of antifreeze. The rig will be placed in a secondary containment capable of storing 110% of all liquids.

Spill Response Equipment: Spill response equipment will be located in the cab of the drill rig and absorbent booms will be located in the tug and on the barge platform.

First Aid Equipment and Fire Alarm Location(s):
There is a first aid kit with eye wash in the cab of the drill rig.

Fire extinguishers are located on the drilling platform, in the cab of the drill rig and on or near the light plant.

Emergency Response Plan:

Response actions in the event of a spill or release:
In the event of a hazardous substance spill or release, immediately take the following measures to keep the spill from entering the lake or affecting human health. In all cases caution and common sense must be maintained with the primary goal being to prevent and/or limit personal injury.

Stop, contain, and clean up the chemical spill if:

- The spilled chemical and its hazardous properties have been identified;
- The spill is small and easily contained;
- Responder is aware of the chemicals' hazardous properties.

If a spill or release cannot be controlled or injuries have occurred due to the release the following procedures should be implemented:

- Summon help or alert others of the release;
- Evacuate immediate area, and provide care to the injured- Call 911;
- If potential fire or explosion hazards exist initiate evacuation procedures to existing boat ramp on south side of river- Call 911;
- Respond defensively to any uncontrolled spills:
  Use appropriate personal protective equipment when responding to any spill;
  Attempt to shut off the source of the release (if safe to do so);
  Eliminate sources of ignition (if safe to do so);
- Coordinate response activities with local emergency personnel (fire department);
- Be prepared to provide MSDS information to fire department, EMT, hospital or physician;
- Notify appropriate agency if a release has entered the environment. Refer to Notification and Reporting section for reporting thresholds. (We must report any sheen on the river)

Reporting a Release:

If a hazardous substance spill has been released to surface water, the following notifications (within 24-hours) must be performed:

- **ND Department of Emergency Services** (any release that poses an immediate threat to human health, property or the environment):
- **ND Department of Health** (any release; notification performed within 24-hours):
- **US Army Corps of Engineers** (any release):
- **National Response Center** (release of oil or fuel to surface water, or a release of a chemical with an established Reportable Quantity-RQ) - when reporting an oil spill on navigable waters, our first call for reporting the spill will be to the NRC (National Response Center - 1.800.424.8802) per Federal Regulation 40 CFR 110.6. it is not possible to notify the NRC or the predesignated on-scene coordinator (OCS) immediately, reports will be made immediately to the nearest Coast Guard unit, provided that the person in charge of the vessel or onshore or offshore facility notifies the NRC as soon as possible. We will also contact the regional EPA office if more than 1,000 gal in a single spill or more than 42 gal in two separate spills occur within a 12-month timeframe into navigable waters per Federal Regulation 40 CFR 112.4 (EPA Region 8 - 1.800.227.8917).

When reporting a release prepare to provide the following information:

- Your name and telephone number from where you are calling;
- Latitude and Longitude of your location;
- Date, time, cause and type of incident (fire, air release, spill, etc.)
- Material and quantity of the release, to the extent known;
- Actions taken to contain the spill;
- Extent of injuries, if any; and
- Possible hazards to the public health and/or environment outside of the facility.

A sample spill report form will be provided prior to the commencement of drilling operations.

Facility Map: Once the barge is set up, we will sketch the location of the components on the barge and identify the location of all fire extinguishers, spill response equipment and first aid stations on the barge.

Good Housekeeping

Defined parking
surface vacuum cleaning
Trash receptacles
Cutting, welding, grinding containment
Tethering
Lock-out
Signage
Final waste removal (manifest)
Temporary sheeting, plywood
Material covers
Tailgate discussions



Restrict parking to designated areas, not in wetlands. Indicate off limit areas by signage, fencing, or stakes



Receptacles for trash and chemical handling during daily operations, with lockout during suspensions of work activities.







All metal cutting, welding slag etc. must not occur over barge gaps. Use plywood or other appropriate gap sealants. All waste material generated from metal process activities must be cleaned at the end of each day, or as appropriate for maintaining safe work conditions.

Equipment-tethering to prevent wind, transport or work-impact loss to river



All good housekeeping BMPs require routine maintenance to keep in a functional condition



Sweep as often as necessary to keep debris from entering the river













Concrete washout must be prevented from discharge, with posted sign.



All chemicals must be prevented from becoming a potential spill





All solid waste must be managed. Prevent loss of food wastes, cigarettes etc. to river.



All materials must be part of a disposal manifest, with maintenance of containment sized commensurate to the waste collection (stays in)

Spill Management

Secondary Containment Systems

Metal troughs
Lift dumpsters
Framed liners
Bermed plastic







Site made framed boxes or covers (no limit to creativity)



Metal troughs





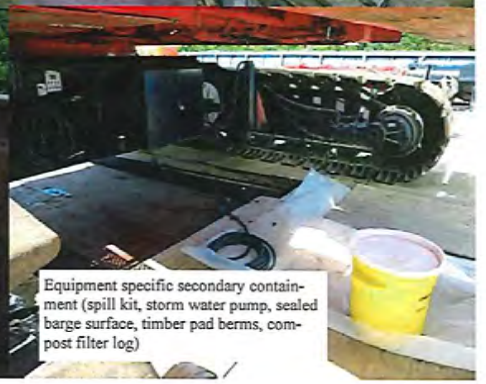


Commercial containment





Portable material dumpsters



Equipment specific secondary containment (spill kit, storm water pump, sealed barge surface, timber pad berms, compost filter log)

Working Over Waters

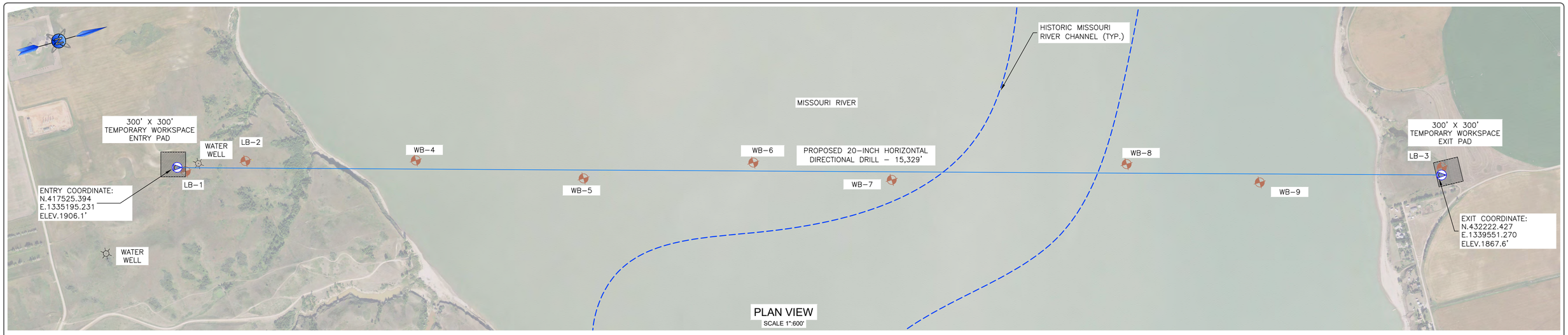
Goal: *What happens on barges, stays on barges*

Barge system surface shall be isolated from river by sealing all appropriate gaps and holes

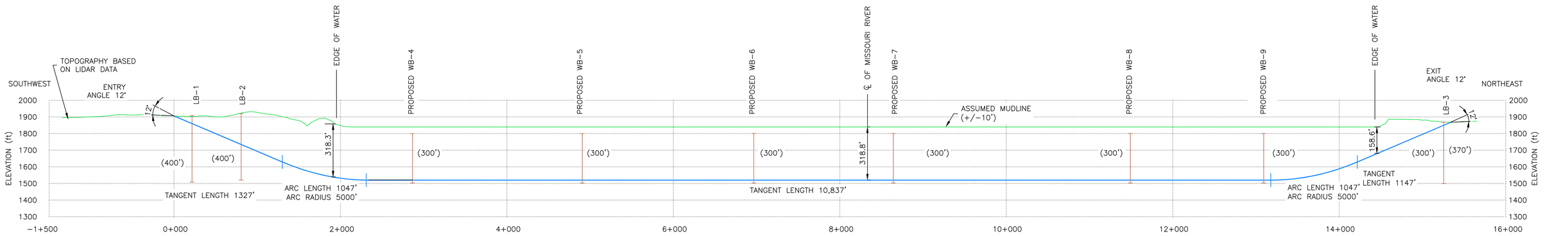
All pollution generating operations shall have appropriate containment systems to prevent loss of material to river, including, but not limited to:

Chemical lockup/lockout
Perimeter control
Primary containment
Secondary containment
Tertiary Containment
Tethering
Swing radius capture of materials
Trash management
Slag, grinding, sawing, etc. material management
Concrete/grout management
Tremie Management
Dewatering
Dust management
Refueling management
Over-night covers of pollutants
Clean deck program
Spill removals





PLAN VIEW
SCALE 1":600'



PROFILE ALONG CENTRELINE OF PROPOSED PIPE
SCALE 1":600' HORIZONTAL
SCALE 1":300' VERTICAL

TOTAL DRILL PIPE LENGTH 15,405'

REFERENCE DOCUMENT NO.	DATE
1.	

CCI & Associates Inc.
20333 State Highway 249, Suite 480
Houston, TX 77070
COR F-18518

ENGINEER AND PERMIT STAMPS

PRELIMINARY
NOT FOR
CONSTRUCTION

1:600
FT 0 10 20 50 100 200

1:300
FT 0 10 20 50 100

PIPELINE SPECIFICATIONS

OUTSIDE DIAMETER (OD)(in)	20
WALL THICKNESS (WT)(in)	0.50
GRADE (psi)	70,000
PRODUCT	NATURAL GAS
MATERIAL	STEEL
SPECIFICATIONS	API 5L
INTERNAL COATING	N/A
OUTER COATING	DUAL FBE
MAX. OPER. PRESSURE (psi)	1,480
MIN. TEST PRESSURE (psi)	1,850
MAX. OPER. TEMP (°F)	100
MIN. INSTALLATION TEMP (°F)	23

STEERING TOLERANCES

	30ft	100ft	330ft
MINIMUM RADIUS (ft)	800	1200	2000

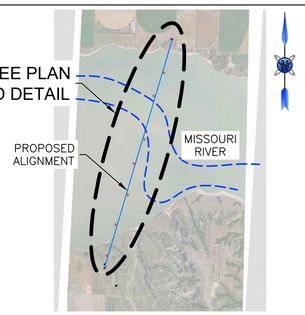
PULL FORCE / RIG SIZE / STRESS

PULL FORCE (w/ BUOYANCY CONTROL):	663,000 lbs (w/sf)
MINIMUM RECOMMENDED RIG SIZE:	750,000 lbs
COMBINED STRESS UNITY CHECK:	0.48
OPERATING STRESS	63.8%

DRAWING STATUS

	DATE	DRN	CHK	DES	GEO	APR	CR
	2019-06-14	RL		KP		KP	
PRELIMINARY	2019-06-11	RL		KP		KP	
PRELIMINARY	2019-03-11	AN		CG		KP	

LOCATION PLAN (1:60 000)



ND83-NF

WBI NORTH BAKKEN EXPANSION PROJECT
MISSOURI RIVER HDD CROSSING
PLAN AND PROFILE
WATFORD CITY / TIOGA, NORTH DAKOTA

SCALE	DWG. #	REVISION	SHEET
AS SHOWN	2386-EG-0101	C	1 OF 1

File Name: S:\Current Jobs\2386-WBI-N.Bakken Expansion\Eng\Drawings\01-Lake Sakakawea\Missouri River\Preliminary\2386-EG-0101-B.dwg Date/Time: 14-Jun-19 / 1:20:53 PM Last Saved By: Ronnie.Leviege

Figure 2 - Tobacco Garden Creek Recreation Area Access Map



Figure 3 - Barge Staging Area at Tobacco Garden Creek Recreation



Figure 4 - Crane Pad Area



Figure 5

Truck staging area prior to equipment powerwash and offload.



North Bakken Expansion Project – Geotechnical Survey

Biological Assessment

APPENDIX B

Site Photographs



Photo 1: Tobacco Garden - Boat Launch and Barge Staging Area
Photo Direction - Northwest



Photo 2: Tobacco Garden - Concrete Boat Ramp and Staging Areas
Photo Direction – Northeast



Photo 3: Tobacco Garden – Barge Staging Area
Photo Direction - East



Photo 4: Tobacco Garden – Barge Staging Area
Photo Direction – Southwest

North Bakken Expansion Project – Geotechnical Survey

Biological Assessment

APPENDIX C

U.S. Fish and Wildlife Service Verification Letter for the Project under the Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-eared Bat

United States Department of the Interior

FISH AND WILDLIFE SERVICE
North Dakota Ecological Services Field Office
3425 Miriam Avenue
Bismarck, ND 58501-7926
Phone: (701) 250-4481 Fax: (701) 355-8513
http://www.fws.gov/northdakotafieldoffice/endspecies/endangered_species.htm

In Reply Refer To: May 31, 2019
Consultation Code: 06E15000-2019-TA-0320
Event Code: 06E15000-2019-E-00671
Project Name: WBI Energy North Bakken Expansion Geotechnical Investigation

Subject: Verification letter for the 'WBI Energy North Bakken Expansion Geotechnical Investigation' project under the January 5, 2016, Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-eared Bat and Activities Excepted from Take Prohibitions.

Dear Justin Moffett:

The U.S. Fish and Wildlife Service (Service) received on May 31, 2019 your effects determination for the 'WBI Energy North Bakken Expansion Geotechnical Investigation' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. This IPaC key assists users in determining whether a Federal action is consistent with the activities analyzed in the Service's January 5, 2016, Programmatic Biological Opinion (PBO). The PBO addresses activities excepted from "take"[1] prohibitions applicable to the northern long-eared bat under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, the Action is consistent with activities analyzed in the PBO. The Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the PBO satisfies and concludes your responsibilities for this Action under ESA Section 7(a)(2) with respect to the northern long-eared bat.

Please report to our office any changes to the information about the Action that you submitted in IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation. If the Action is not completed within one year of the date of this letter, you must update and resubmit the information required in the IPaC key.

This IPaC-assisted determination allows you to rely on the PBO for compliance with ESA Section 7(a)(2) only for the northern long-eared bat. It **does not** apply to the following ESA-protected species that also may occur in the Action area:

- Dakota Skipper, *Hesperia dacotae* (Threatened)
- Least Tern, *Sterna antillarum* (Endangered)
- Pallid Sturgeon, *Scaphirhynchus albus* (Endangered)
- Piping Plover, *Charadrius melodus* (Threatened)
- Red Knot, *Calidris canutus rufa* (Threatened)
- Whooping Crane, *Grus americana* (Endangered)

If the Action may affect other federally listed species besides the northern long-eared bat, a proposed species, and/or designated critical habitat, additional consultation between you and this Service office is required. If the Action may disturb bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act is recommended.

---

[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

WBI Energy North Bakken Expansion Geotechnical Investigation

2. Description

The following description was provided for the project 'WBI Energy North Bakken Expansion Geotechnical Investigation':

> WBI Energy plans to conduct geotechnical drilling within Lake Sakakawea. The drilling is in support of designing an HDD crossing for the proposed North Bakken Expansion project. WBI proposes six geotechnical drills along the HDD route. Drilling would take place in Fall 2019. The project requires approval from the US Army Corps of Engineers, which will initiate Section 7 consultation once WBI submits it application to the Corps.

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/48.13580096450005N103.08547181499995W



Determination Key Result

This Federal Action may affect the northern long-eared bat in a manner consistent with the description of activities addressed by the Service's PBO dated January 5, 2016. Any taking that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o). Therefore, the PBO satisfies your responsibilities for this Action under ESA Section 7(a)(2) relative to the northern long-eared bat.

Determination Key Description: Northern Long-eared Bat 4(d) Rule

This key was last updated in IPaC on May 15, 2017. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for Federal actions is to assist determinations as to whether proposed actions are consistent with those analyzed in the Service's PBO dated January 5, 2016.

Federal actions that may cause prohibited take of northern long-eared bats, affect ESA-listed species other than the northern long-eared bat, or affect any designated critical habitat, require ESA Section 7(a)(2) consultation in addition to the use of this key. Federal actions that may affect species proposed for listing or critical habitat proposed for designation may require a conference under ESA Section 7(a)(4).

Determination Key Result

This project may affect the threatened Northern long-eared bat; therefore, consultation with the Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.) is required. However, based on the information you provided, this project may rely on the Service's January 5, 2016, *Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions* to fulfill its Section 7(a)(2) consultation obligation.

Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?

   Yes

2. Have you determined that the proposed action will have "no effect" on the northern long-eared bat? (If you are unsure select "No")

   No

3. Will your activity purposefully **Take** northern long-eared bats?

   No

4. Is the project action area located wholly outside the White-nose Syndrome Zone?

   Automatically answered

   Yes

Project Questionnaire

If the project includes forest conversion, report the appropriate acreages below. Otherwise, type '0' in questions 1-3.

1. Estimated total acres of forest conversion:

0

2. If known, estimated acres of forest conversion from April 1 to October 31

0

3. If known, estimated acres of forest conversion from June 1 to July 31

0

If the project includes timber harvest, report the appropriate acreages below. Otherwise, type '0' in questions 4-6.

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type '0' in questions 7-9.

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?
0

Lisa DiNicolantonio

From: Reinisch, Jerry <jerry_reinisch@fws.gov>
Sent: Thursday, October 10, 2019 1:22 PM
To: Andrea Thornton
Cc: Morris, Michael P CIV USARMY CENWO (US); glink@nd.gov
Subject: North Bakken Geotechnical
Attachments: North Bakken Geotechnical signed final 10.10.19.docx.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Andrea
Please see the attached response letter for the geotechnical portion of the North Bakken Pipeline Expansion.
Jerry

Jerry D. Reinisch
Fish & Wildlife Biologist
Ecological Services
US Fish & Wildlife Service
3425 Miriam Drive
Bismarck, North Dakota 58501

(M) 701-250-4481 Ext 8267
(D) 701-333-0267
(C) 701-425-2133

United States Department of the Interior

FISH AND WILDLIFE SERVICE
North Dakota Ecological Services
3425 Miriam Avenue
Bismarck, North Dakota 58501

IN REPLY REFER TO:
06E14000-2020-I-0018
USACE-WBI Energy
North Bakken Expansion
Geotechnical Survey BA

October 10, 2019

Ms. Andrea Thornton
Senior Regulatory Consultant
Environmental Resources Management
1050 SW 6th Avenue, Suite 1650
Portland, Oregon 97204

Dear Ms. Thornton:

This responds to your email on September 30, 2019, requesting concurrence of Environmental Resources Management (ERM) determination of effects regarding federal listed species for the proposed Geotechnical Survey for WBI Energy Transmission's North Bakken Expansion Project in McKenzie and Williams Counties, North Dakota submitted by ERM as the non-federal designated representative for the United States Army Corps of Engineers (USACE).

In accordance with section 7(c) of the Endangered Species Act (ESA), as amended, 16 U.S.C. 1531 et seq., ERM has requested Service concurrence with the determinations that the Project "may affect, but is not likely to adversely affect", the endangered interior least tern (*Sterna antillarum*), pallid sturgeon (*Scaphirhynchus albus*), threatened piping plover (*Charadrius melodus*) and northern long-eared bat (*Myotis septentronalis*). The U.S. Fish and Wildlife Service (Service) concurs with your determinations for the geotechnical portion of the Project.

In order to reduce the likelihood of disturbing nesting piping plovers, the applicant has proposed that if construction occurs during breeding season (April 1 to August 31), a qualified wildlife biologist will survey all sandbars and shoreline within a 0.5 mile or line of sight (whichever is the shorter distance) from the project area. We recommend surveys be performed during daylight hours, for minimum two hour survey periods, beginning one half-hour prior to sunrise. Evening surveys should end approximately one half-hour after sunset.

If construction commences between April 1 and July 15, surveys should be performed daily for 7 days prior to mobilization, equipment staging, and construction. Daily survey periods should occur at different 2-hr periods of each day and if no piping plovers are seen the frequency may be reduced to once a week (Monday morning) in the event that no construction activities occur during the weekend. Monday morning surveys may cease after the end of the nest initiating period (July 15). If construction will occur for 7 days per week, from sunrise to sunset, then no

further survey work is required once construction commences and if plovers were not detected during the 7-day preconstruction survey period.

If mobilization, equipment staging, and construction activities are initiated between July 15 and August 31, surveys should be performed for 3 days during the week prior to equipment staging, if no piping plovers are seen; there are no further survey requirements.

Monitoring is not required for construction activities occurring outside the April 1 to August 31 timeframe or if the sandbars and shoreline are inundated with water. If piping plovers are observed within 0.5 mile or line of sight of the Project, work must cease and the Service must be contacted immediately. Work cannot resume or commence until individuals leave the site or it is determined there is no risk for disturbance. The surveys provide assurance that adverse effects to piping plovers would avoided or minimized during construction.

The ERM has also determined that there will be "no effect" to the threatened Dakota skipper (*Hesperia dacotae*), rufa red knot (*Calidris cantus rufa*) and endangered whooping crane *(Grus americana*) and designated habitat for Dakota skipper and piping plover.

In the event that whooping cranes are sighted on the ground within one mile of the project during the fall migratory period, work should cease on the project and the Service should be notified. Once the birds leave the area, work on the project may be resumed.

There is no requirement under the implementing regulations of the Act (50 CFR Part 402) for action agencies to receive Service concurrence with "no effect" determinations, therefore the responsibility for "no effect" determinations remains with the USACE. We recommend you document your "no effect" determinations and retain the documentation in your decisional record.

The Service's concurrence is based on the information contained within the Biological Assessment for the Geotechnical Survey portion of the Project. Pursuant to the implementing regulations of the Act (50 CFR 402.13), this letter concludes informal consultation on this portion of the Project. This action should be re-analyzed if (1) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not considered in this consultation; (2) the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this consultation; or (3) a new species is listed or critical habitat is designated that may be affected by this Project.

The Service appreciates the opportunity to work with ERM and USACE to ensure the conservation of federally-listed species as part of our joint responsibilities under ESA to conserve threatened and endangered species and their habitats. If you have any questions on these comments, please contact Jerry Reinisch of this office at (701) 333-0267 or me at (605) 224-8693, extension 224.

Sincerely,

Scott V. Larson
Field Supervisor
North and South Dakota Field Office

cc: Mike Morris, United States Army Corps of Engineers, Riverdale, North Dakota
Greg Link, North Dakota Game and Fish Department

Lisa DiNicolantonio

From: Andrea Thornton
Sent: Thursday, October 10, 2019 1:32 PM
To: Reinisch, Jerry
Cc: Morris, Michael P CIV USARMY CENWO (US); glink@nd.gov
Subject: RE: North Bakken Geotechnical

Hi Jerry –

Thank you for taking the time to review and get back to us quickly. We will let you know if we have any questions.

Thanks again,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Reinisch, Jerry <jerry_reinisch@fws.gov>
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To: Andrea Thornton <Andrea.Thornton@erm.com>
Cc: Morris, Michael P CIV USARMY CENWO (US) <Michael.P.Morris@usace.army.mil>; glink@nd.gov
Subject: North Bakken Geotechnical

Andrea
Please see the attached response letter for the geotechnical portion of the North Bakken Pipeline Expansion.
Jerry

Jerry D. Reinisch
Fish & Wildlife Biologist
Ecological Services
US Fish & Wildlife Service
3425 Miriam Drive
Bismarck, North Dakota 58501

(M) 701-250-4481 Ext 8267
(D) 701-333-0267

NORTH BAKKEN EXPANSION PROJECT

Resource Report 1

APPENDIX 1G-1
Agency Correspondence – Bureau of Land Management (BLM)

WBI ENERGY TRANSMISSION
An MDU Resources Group company

WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

April 25, 2019

Diane Friez
U.S. Department of the Interior
Bureau of Land Management
Eastern Montana/Dakotas District Office
111 Garryowen Road
Miles City, MT 59301

Subject: WBI Energy Transmission, Inc.
Proposed North Bakken Expansion Project
McKenzie, Williams, Burke, and Mountrail Counties, North Dakota

Dear Diane Friez:

WBI Energy Transmission, Inc. (WBI Energy) is proposing to construct and operate the North Bakken Expansion Project (Project), which consists of an approximately 60-mile-long, 20-inch diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to an interconnect with Northern Border Pipeline Company's mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Compressor Station) will be constructed near this interconnect.

The Project also involves construction of approximately 20 miles of 12-inch diameter natural gas pipeline between the existing Tioga Compressor Station and an existing receipt station, the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and additional/modifications to certain receipt/delivery points and laterals along the pipeline routes. The attached map depicts the preliminary proposed pipeline route and the location of Project facilities.

The Project will add natural gas takeaway capacity (estimated at approximately 200,000 Mcf/day) to help meet the natural gas transportation needs in the Bakken region while reducing natural gas flaring.

The Project is regulated by the Federal Energy Regulatory Commission (FERC) under Section 7(c) of the Natural Gas Act. Under the Energy Policy Act of 2005,

FERC is the lead agency for coordinating federal authorizations and complying with the National Environmental Policy Act (NEPA) on natural gas pipeline projects subject to its jurisdiction. WBI Energy plans to submit an application with the FERC in December 2019 for a Certificate of Public Convenience and Necessity (Certificate) to construct and operate the proposed pipeline and associated facilities. Applications for other federal or state authorizations will be submitted prior to or at the same time as the FERC application or on timelines defined by the appropriate federal or state regulations. WBI Energy anticipates receiving a Certificate from the FERC by December 2020, with construction planned to begin in early 2021.

WBI Energy plans to file a request with the FERC to use the FERC's NEPA pre-filing process for the Project. This process will provide agencies, landowners, and other stakeholders the opportunity to work with WBI Energy and the FERC to identify and resolve environmental issues prior to the filing of the Certificate application. This will result in a more efficient regulatory review process, including NEPA review of the Project. Pending FERC approval, WBI Energy anticipates preparing a draft Environmental Assessment (EA) for use by FERC staff. WBI Energy looks forward to working with you throughout the pre-filing process to ensure that your concerns are identified and addressed in the draft EA.

WBI Energy has retained Environmental Resources Management (ERM) to provide environmental support services for the project. An ERM representative will be in touch with you in the near future to provide additional information and discuss specific permitting and/or consultation requirements. In the meantime, if you have questions about the project, please contact Andrea Thornton of ERM at 503-525-5159 or myself at 406-359-7332.

Thank you for your time and assistance with this project.

Sincerely,



Jill Linn
Environmental Affairs
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map

cc: Greg Huncovsky, WBI
Andrea Thornton, ERM



Miles
0 1.75 3.5 7

N

1 in = 3 miles

Project Overview Map

North Bakken Expansion Project
WBI Energy

WBI ENERGY TRANSMISSION

Legend

- Above Ground Facilities
- Road Bores for Uprating Existing Pipeline
- Proposed Tioga to Elk Creek Compressor Pipeline
- Proposed Norse to Tioga Loop Pipeline
- Northern Border Pipeline
- Existing WBI Pipeline

Burke County
Mountrail County
Williams County
McKenzie County

North Dakota

PROJECT AREA OVERVIEW



by: SMB

WBI ENERGY TRANSMISSION
An MDU Resources Group company

WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

April 25, 2019

Loren Wickstrom
U.S. Department of the Interior
Bureau of Land Management
North Dakota Field Office
99 23rd Ave West, Suite A
Dickinson, ND 58601

Subject: WBI Energy Transmission, Inc.
Proposed North Bakken Expansion Project
McKenzie, Williams, Burke, and Mountrail Counties, North Dakota

Dear Loren Wickstrom:

WBI Energy Transmission, Inc. (WBI Energy) is proposing to construct and operate the North Bakken Expansion Project (Project), which consists of an approximately 60-mile-long, 20-inch diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to an interconnect with Northern Border Pipeline Company's mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Compressor Station) will be constructed near this interconnect.

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WBI Energy plans to file a request with the FERC to use the FERC's NEPA pre-filing process for the Project. This process will provide agencies, landowners, and other stakeholders the opportunity to work with WBI Energy and the FERC to identify and resolve environmental issues prior to the filing of the Certificate application. This will result in a more efficient regulatory review process, including NEPA review of the Project. Pending FERC approval, WBI Energy anticipates preparing a draft Environmental Assessment (EA) for use by FERC staff. WBI Energy looks forward to working with you throughout the pre-filing process to ensure that your concerns are identified and addressed in the draft EA.

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Thank you for your time and assistance with this project.

Sincerely,



Jill Linn
Environmental Affairs
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map

cc: Greg Huncovsky, WBI
Andrea Thornton, ERM



0 1.75 3.5 7 Miles

N

1 in = 3 miles

Project Overview Map

North Bakken Expansion Project
WBI Energy

WBI ENERGY TRANSMISSION

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- Proposed Norse to Tioga Loop Pipeline
- Northern Border Pipeline
- Existing WBI Pipeline

Burke County
Mountrail County
Williams County
McKenzie County

North Dakota

PROJECT AREA OVERVIEW



By: SMN

Date: 4/10/2019

ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	To: Seth Jackson
Phone number	701-227-7711
Company	Bureau of Land Management
ERM Contact	Andrea Thornton
Phone number	503-459-6864
Date	May 3, 2019
Time of Conversation	11:30 am
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Mr. Jackson called Ms. Thornton in response to the project introduction letter that was mailed to his office. He indicated that he is currently the main point of contact for the project, however he will be transferring into another position this summer. Ms. Thornton gave an overview of the project and asked if there were any concerns on his end. Mr. Jackson indicated that cultural and tribal issues have caused delays on projects in the past and suggested engaging the tribes as early in the process as possible. An overview of schedule was discussed along with agency review timelines.

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Lisa DiNicolantonio

From: Andrea Thornton
Sent: Wednesday, May 15, 2019 9:32 AM
To: Jackson, Seth
Cc: Gregory Liggett
Subject: RE: [EXTERNAL] North Bakken Expansion Project - Paleontological Surveys

Hi Seth –

Thank you for the follow-up. We will work to get our contractor on board and will work with the USACE and USFS on survey permits.

-Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Jackson, Seth <sajackson@blm.gov>
Sent: Wednesday, May 15, 2019 9:22 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Cc: Gregory Liggett <gliggett@blm.gov>
Subject: Re: [EXTERNAL] North Bakken Expansion Project - Paleontological Surveys

Hi Andrea,

Yes, you are correct. I spoke with Greg Liggett and confirmed that we can only require paleontological surveys on Federal lands, and make recommendations for surveys on private land. Sorry for my confusion in my earlier statement.

Thank you.

Seth A. Jackson
Realty Specialist
Bureau of Land Management | North Dakota Field Office
Duty Station: 5001 Southgate Drive | Billings, Montana 59101
406-896-5052 (direct) | 406-896-5020 (fax)
sajackson@blm.gov

On Wed, May 15, 2019 at 9:06 AM Andrea Thornton <Andrea.Thornton@erm.com> wrote:

> Hi Seth and Gregory,
>
> Thank you for getting back to me. Yes you are correct that FERC is the lead federal agency for NEPA which includes compliance with the PRPA. The proposed route currently crosses USFS and USACE lands. No BLM lands are crossed; however, as more than one federal land management agencies lands are crossed, BLM is responsible for issuing right-of-way over lands managed by two or more federal agencies.
>
> The PRPA applies to federal lands and it is our intention to complete paleontological resource surveys on the USACE and USFS owned lands crossed by the project, and if requested a paleontological construction monitor could be present on these federal lands during construction. It is my understanding from working on past projects that there is no regulatory authority to require paleontological surveys on private land.
>
> Please let me know if you would like to have a call set up to discuss this further.
>
> Thank you,
>
> Andrea
>
> Andrea Thornton
>
> Senior Regulatory Consultant
>
> **ERM**
>
> **M** +503-459-6864
>
> **E** andrea.thornton@erm.com | **W** www.erm.com
>
> 
>

From: Jackson, Seth <sajackson@blm.gov>
Sent: Tuesday, May 14, 2019 5:40 PM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Cc: Gregory Liggett <gliggett@blm.gov>
Subject: Re: [EXTERNAL] North Bakken Expansion Project - Paleontological Surveys

Hi Andrea,

My apologies in my delay in getting back with you. As I understand the process, FERC is the lead federal agency for NEPA compliance, which would include compliance with PRPA. Each consulting agency (USFS, USACE, BLM) would provide requirements for our respective lands or permits. Generally, the BLM requires a paleo survey for the entire length of the proposed project, regardless of ownership. Likely, we would require a survey completed by a BLM-permitted contractor, and possibly a construction monitor.

Gregory Liggett is our BLM Paleontologist for the Montana/Dakotas, and is cc'd to this email. If you have any additional questions, please reply to all. Thank you.

Seth A. Jackson

Realty Specialist

Bureau of Land Management | North Dakota Field Office

Duty Station: 5001 Southgate Drive | Billings, Montana 59101

406-896-5052 (direct) | 406-896-5020 (fax)

sajackson@blm.gov

On Mon, May 6, 2019 at 3:54 PM Andrea Thornton <Andrea.Thornton@erm.com> wrote:

> Hi Seth –

Thank you for speaking with me last week about the North Bakken Expansion Project. I just left you a voicemail but wanted to follow-up with an email regarding paleontological survey requirements for the project. We have spoken with the Forest Service whose lands would fall under the Paleontological Resources Preservation Act, however we want to make sure we are on the same page with the BLM's requirements/expectations for these surveys.

I look forward to hearing from you.

-Andrea

Andrea Thornton

Senior Regulatory Consultant

ERM

M +503-459-6864

E andrea.thornton@erm.com | **W** www.erm.com



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ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	To: Seth Jackson
Phone number	701-227-7711
Company	Bureau of Land Management
ERM Contact	Andrea Thornton
Phone number	503-459-6864
Date	June 7, 2019
Time of Conversation	1:30 pm
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Ms. Thornton called the Bureau of Land Management to follow-up one a few questions that came up after our interagency call earlier in the day. Ms. Thornton inquired about the requirements that trigger a project being classified as a “major project”. Mr. Jackson explained that a portion of the classification comes from the category classification for cost recovery. If a project is expected to take more than 50 hours of staff time (which this project is) it becomes a major project. Additionally, any natural gas pipeline project is considered a major project due to the material that is being transported.

Mr. Jackson indicated that if the pipeline diameter increases to 24 inches that it triggers a public notification process on BLM’s end. Ms. Thornton explained the public notification process that occurs under FERC’s regulations (notifying landowners by mail, open houses, scoping meetings). Mr. Jackson indicated that additional process would need to occur on their end including issuing a notice in the Federal Reginser, conressional notice, and copies of determinations to the govenor, tribes, and federal agencies involved in the project.

Ms. Thornton inquired about the timing of issuing the SF-299 form to get the cost recovery process in place. Mr. Jackson stated that getting this in between 30-60 days ahead of the FERC filing would be ideal as it can sometimes take time for them to process and start being able to bill their time.

Ms. Thornton inquired about the SF-299 form and if Mr. Jackson’s office had any guidelines for his region. Mr. Jackson indicated that as we get closer to filing he can let us know which fields are required by the BLM. Some fields that the U.S. Forest Service may require are not needed on his end. Mr. Jackson stated that it is important for the POD to match what the project actually ends up

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being, and that if changes are made post FERC Application that these be relayed and updated in the POD as well.

Andrea thanked Seth for this time and would follow-up as needed.

Andrea Thornton

From: Jackson, Seth <sajackson@blm.gov>
Sent: Friday, June 07, 2019 1:42 PM
To: Andrea Thornton
Subject: BLM Manual 2884 - Applying for a MLA Grant or TUP
Attachments: 2884_Applying for a MLA Grant or TUP.pdf

Follow Up Flag: Follow up
Flag Status: Completed

Hi Andrea,

Attached is BLM Manual 2884, "Applying for a MLA Grant or Temporary Use Permit". Illustration 3 provides a sample outline of pipeline Plan of Development.

Please let me know if you have any questions or concerns.

Thanks!

Seth A. Jackson
Realty Specialist
Bureau of Land Management | North Dakota Field Office
Duty Station: 5001 Southgate Drive | Billings, Montana 59101
406-896-5052 (direct) | 406-896-5020 (fax)
sajackson@blm.gov

2884 - APPLYING FOR A MLA GRANT OR TUP

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2884 - APPLYING FOR A GRANT OR TUP

.10 Pre-Application Activities. A successful pre-application meeting requires advance preparation. This saves time later on. The checklist (Illustration 1) provides some factors for consideration.

A. Pre-Application Objectives. The objective of the pre-application meeting is to expedite the ROW granting process by fostering a mutual understanding of the process and the BLM's and the applicant's needs. It may take a combination of meetings and telephone conversations to develop an understanding of the prospective applicant's needs and to provide information on BLM policies and procedures.

B. Meeting. The BLM will encourage all prospective applicants to set aside a period of time for a pre-application meeting.

C. Participants. The BLM may invite other interested Federal/State agencies to participate in any pre-application meeting. Where a multi-agency MLA proposal is involved, the BLM must invite the other land managing agency(s).

D. Plans of Development (PODs). The proponent shall be encouraged to submit a POD with any application to expedite the review process.

1. The proponent shall be informed that PODs shall always be required at the application stage when:

a. **Toxic Substances**, as defined in the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, et seq.), are proposed for use or storage or will be generated or used during any phase of the project,

b. An **environmental impact statement** (**EIS)** is necessary, and/or,

c. The ROW proposal is a **major project** (e.g. 20 inch or larger pipeline) in scope.

2. Proponents shall be given every opportunity to use Illustration 3 "Plan of Development Outline" and the POD Handbook. This will allow the proponent to provide the BLM and any participating Federal agencies with more complete and useful application information by reviewing the descriptive outlines for PODs.

E. Processing Time and Cost. Prior to the end of the meeting, the BLM shall inform the proponent of the estimated time and complexity of processing such an application and the anticipated cost (processing and monitoring fees and rent) involved. The applicant shall also be informed of potential bonding requirements.

.10E

2884 - APPLYING FOR A MLA GRANT OR TUP

Note. For major projects this may be furnished after further review of the proposal.

No case processing work shall be done until the appropriate application processing fees have been paid.

.11 Applications and Filings.

A. Application Form. Applications are to be filed on Standard Form (SF) 299. (See Illustration 2.)

1. TUPs shall only be used for purposes in association with an application for a MLA ROW or an existing MLA ROW grant.

a. Example. A need to do soil sampling beyond casual use to provide information necessary to process an application.

b. The area of a TUP shall be limited to the smallest practicable size to produce the desired result.

c. The term of a TUP shall be limited to the duration necessary but, in no case, will it exceed 3 years. TUPs are not extendable or renewable.

B. Contents. An application is considered "complete" when the applicant has furnished all required information with the SF 299 and the non-refundable application processing fee has been paid (see 43 CFR 2884.11.) Telefaxed applications are acceptable. If the application is telefaxed to the BLM, it is recommended that the original signed application be mailed to the AO.

1. Assistance. The AO shall assist the proponent in completing the application whenever possible. When it is not possible to assist in preparing the application, mail the SF 299 and the brochure Obtaining a Right-of-Way on Public Lands, which contains background on rights-of-way and instructions for completing the form, to the proponent.

2. Authorizations with Other Federal Agencies. If the proposed use of public lands involves any other Federal license, certificate, or other authorization, the applicant must simultaneously file a ROW application with the BLM. The information filed with other Federal agencies must be attached to the BLM ROW application.

3. Project Description /POD. This information is the basis for defining the "proposed action" in the NEPA document. The applicant is encouraged to use the POD as the vehicle to provide this information. The POD should detail all design features which may mitigate potential impacts. When toxic substances are proposed for use on the project, detailed descriptions shall be provided of the proposed use and how spills, release, fire, and other contingencies will be handled by the prospective grant holder. This will expedite the entire application review process. Illustration 3 is an outline of a pipeline POD.

4. Confidentiality: The BLM will keep confidential any information in the application that the applicant has marked as "confidential" or "proprietary" to the extent allowed by law. Most of the information provided in a ROW application is public information, available to anyone filing a Freedom of Information Act (FOIA) request. Concerned applicants should discuss their particular situation with a State or Field Office FOIA coordinator prior to submitting an application.

.12 Processing Fee.

A. General: Applicants for, or holders of, ROW grants must reimburse the Government for direct and indirect costs involved in processing applications. These reimbursements also include the costs of monitoring the construction, operation, maintenance, and termination phases of a grant or project, including rehabilitation of the land involved. A letter of intent is not an approved application form.

B. Processing Fee Categories. The regulations establish a cost recovery fee schedule with six ROW cost reimbursement categories. (See Illustration 4.) Each category reflects a progressively more complex level of application processing or monitoring. Categories 1 through 4 (*minor categories*) have a non-refundable fee based on the average work time of processing typical cases covered by the category. The fees for categories 1 through 4 are adjusted annually based on an economic indicator. Applications in categories 5 and 6 (*major categories*) require an advance payment to be determined upon filing the application plus periodic advance payments of remaining processing costs and/or of anticipated costs that exceed the initial estimate.

1. Determination of Processing Category. The AO will determine the appropriate processing category and issue a decision document, with the right of appeal.

a. Change in Decision. A category 1 to 4 determination may be changed, subject to appeal, to a Category 6 at any time it is determined that preparation of an EIS is required. No other category determination changes may be made.

b. Category 5 – Master Agreements. See 2884.15 below.

c. Category 6. Development of estimated work and work costs is usually necessary prior to the applicant paying an advance processing fee.

d. Advance Payment. No additional work on the application will be undertaken before the appropriate fee has been paid.

C. TAPS. For authorizations relating to the Trans-Alaska Pipeline System (TAPS), send a written statement of reimbursement of actual costs within 30 days of the close of each quarter year – March 31, June 30, September 30, and December 31.

.13 Exemptions. Cost reimbursement procedures do not apply to State and local governments or an agency of such a government which are not municipal utilities, where:

A. Federal lands shall be used for governmental purposes, and

B. Continue to serve the general public.

.14 [Reserved]

.15 Master Agreements.

A. General. A Master Agreement (MA) is a negotiated agreement, allowing considerable flexibility between the BLM and the applicant in the areas of how grants are issued, grant terms, applicability, and cost sharing. MAs will only be used with a single applicant who is subject to cost recovery. Applicants exempt from cost recovery must pursue another type of agreement (e.g. Cooperative Agreement). An MA must be in the public interest. It usually involves either:

1. A project requiring multiple approvals from the BLM, or

2. Multiple projects within a defined geographic area each requiring approvals from the BLM.

B. Purpose. An MA is intended to streamline usual ROW processing procedures, and to reduce paperwork for multiple, similar authorizations in a limited geographic area. It could be useful to operators/developers of oil and gas fields for access roads and feeder pipelines, and the associated gathering systems and transportation pipelines of the transport companies.

C. Cost Recovery for MAs. This is a negotiated agreement, and shall be based on the concept of reimbursing the BLM for all actual costs on MLA applications.

D. Accounting Procedures.

2884 - APPLYING FOR A MLA GRANT OR TUP

1. Supporting Documentation. All costs must be supported by documentation sufficient to establish that the costs were accurately determined and properly recorded. A reimbursable project log or similar form is used to index costs for a case. The applicant/holder may audit this documentation.

2. Project/Subproject Code Assignments. Project/subproject codes are assigned to track costs associated with MAs. The National Business Center (NBC) Program Management Team (BC-612) assigns project/subproject codes from a bank of pre-assigned numbers for all deposits and expenditures.

3. Notifying the NBC. Each MA and individual ROW project established in the Federal Financial System (FFS) requires a cost recovery *Project/Subproject Number Assignment and Information Data Form* (Form 1310-20, Illustration 7.) Complete the necessary information and send all 1310-20s, approved MA, and CBS receipts and related information to the NBC (BC-612). After establishing the project, it remains open until the NBC (BC-612) receives a Project Completion Report.

4. Financial Management Information System (FMIS). Expenditures and collections are monitored by the BLM through the FMIS or its successor.

.16 [Reserved]

.17 Category 6.

A. Cost Recovery. Under the MLA, Category 6 applications require the reimbursement of all actual processing and monitoring costs to the United States. This includes costs incurred by all involved Federal agencies.

B. Processing Category 6 Applications. Upon determination that an application meets the criteria of Category 6, the AO shall:

1. Notify the applicant in writing of the Category 6 determination, with an opportunity for appeal. (See Illustration 6.)

2. Complete a preliminary scoping of the issues involved.

3. Prepare a preliminary work plan.

4. Prepare a preliminary financial plan.

5. Meet with the applicant to discuss the scoping plan, the preliminary work plan, and the preliminary financial plan.

6. If the applicant wishes to proceed with the application, collect the initial processing fee and develop a final scoping plan, work plan, and financial plan which reflect any work the applicant agrees to perform.

C. Cost Recovery Agreement. A cost recovery agreement is a document signed by both the BLM and the applicant detailing the costs and method of payment to be used in processing a Category 6 application. This must be completed before any "on-the-ground" case work is undertaken.

D. Accounting Procedures for Category 6 Applications/Grants. The AO estimates the costs to be incurred through a work period, usually a quarter year. The applicant is billed by the local office Collection and Billing System (CBS) specialist for this amount less any prior overpayment. Advance payment requirements must be reviewed at least quarterly by the AO or project manager. The total advance payments on hand must be at least sufficient to cover the estimated total costs to be incurred before the next payment is expected.

1. Supporting Documentation. All costs must be supported by documentation sufficient to establish that the costs were accurately determined and properly recorded. A reimbursable project log or similar form is used to index costs for a case. The applicant/holder may audit this documentation.

2. Project Code Assignments. Project codes are assigned to track costs associated with major category ROWs. State offices assign major category ROW project numbers from a bank of pre-assigned numbers for the Service Charges, Deposits and Forfeitures activities.

3. Notifying the NBC. Each major category ROW project established in the Federal Financial System requires a cost recovery *Project/Subproject Number Assignment and Information Data Form* (Form 1310-20 - see Illustration 7). Complete the necessary information and send all 1310-20s, Cost Recovery Agreements, and CBS receipts and related information to the NBC (BC-612). After establishing the project, it remains open until the NBC (BC-612) receives a Project Completion Report.

4. Financial Management Information System (FMIS). Expenditures and collections are monitored by the BLM through the FMIS or its successor.

.18 Multiple, Joint, or Competing Applications.

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A. Multiple or Joint Applications. Multiple applications shall be processed under the same criteria that are used in processing individual applications to ensure that all parties receive equal consideration and the best use of the public land is achieved. In all cases, each applicant is required to make the nonrefundable application fee payment set by the appropriate ROW category.

1. Evaluating Multiple Applications. Where possible, provide space for all qualified applicants consistent with approved land use planning decisions. Provide for full site utilization through modifications of applications and grant stipulations which meet the need of the applicant.

B. Competitive Applications. The AO may determine that there is potential competitive interest in a particular project or the AO may receive two or more applications for the same project or land. Otherwise applications are generally processed in the order of receipt.

1. Cost Recovery. Generally competitive situations will be treated as Category 6 for cost recovery. Costs that cannot be identified as applying to a specific application, such as an EIS, are prorated among the applicants.

.19 Office for Filing. An application for a ROW grant or TUP is filed with the Field Manager having jurisdiction over the lands involved.

A. Multiple Offices. If the application involves lands under the jurisdiction of more than one BLM office, only one application needs to be filed. The filing office should be identified to the prospective applicant during the pre-application process. See 20.J below for determining lead State Office for interstate projects.

B. Two or More Federal Agencies. Where two or more Federal land management agencies (not including the BLM) are involved, the application should be filed with the nearest BLM office.

C. Wrong Office. Applications filed with the wrong office are not considered officially
filed.

1. If the Office can determine the correct Office, the application should be forwarded to that Office and the applicant so informed. Otherwise the application is to be returned.

.20

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.20 Public Notification. Depending on the size of the proposed pipeline and the estimated environmental impacts, formal public notification may be required.

A. Size. Proposed pipelines of 24 inch diameter or larger require publication of a notice.

1. Congressional notice is also required and is satisfied by sending a copy of the public notice to the Director (WO-350). In turn the Director (WO-350) will notify the Senate Committee on Energy and Natural Resources and the House Committee on Natural Resources.

B. Environmental Impacts. Notice shall be made for all applications unless the AO estimates that the proposal will have only minor environmental impacts.

C. Content. At a minimum the notice shall contain:

1. A description of the project.

2. When and where the file may be reviewed.

3. Environmental aspects that may be impacted.

D. Publication is to be made in the Federal Register and/or a newspaper of general circulation in the vicinity of the lands involved. For a project encompassing multiple Office/State jurisdictions, notices should be placed in sufficient newspapers to assure proper notice.

E. Hearing. The AO shall decide whether the magnitude of the project is sufficient to warrant a public hearing or hearings. Such hearing may be held separately or in conjunction with other hearings such as hearings held during the preparation of an EIS on the application/project.

F. Other. A copy of any public notice shall also be sent to:

1. The Governor of each state within which the project is proposed.

2. The head of each local or tribal government or jurisdiction within which the project is proposed.

3. Heads of Federal agencies administering land that may be involved in or impacted by the proposed project.

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.21 Application Processing. When an application is received by the AO:

A. Information Verification. The information on the application should be verified upon receipt of the application and prior to formally accepting the application.

1. Significant Deficiencies. If a significant deficiency is noted, the application, including any cost recovery fee, shall not be accepted. The proponent will be notified of the application deficiencies in writing.

B. Application Acceptance. A verified application shall be date stamped, serialized, and entered into LR2000. If processing or other fees are paid, the money will be deposited and CBS - generated receipts produced for the casefile and the applicant.

C. Administrative Scoping. An "administrative scoping" procedure shall be promptly completed. This procedure will be used to determine if the application is complete, the cost recovery category, and to schedule, coordinate, and determine the workload required for processing the application.

1. Incomplete Information. The applicant shall be requested to supply any information the AO determines is necessary to have a completed application.

2. Mining Claims present a unique problem for ROWs. Until July 23, 1955, mining claims entailed all rights in the land. In 1955 Congress enacted the Surface Management Act, commonly referred to as PL 167, and placed the management of non-interfering surface uses on new mining claims with the United States. It also provide for the "publishing out" of the limitation on surface use of existing mining claims.

a. Claims located prior to July 23, 1955. Lands within mining claims located prior to July 23, 1955, and the United States has not subsequently obtained surface management rights, do not qualify as Federal lands under the MLA. ROW grants may not be issued for land included in such mining claims.

(1) To alleviate this problem the ROW applicant may 1) seek to have the validity of the mining claim challenged or 2) may seek to obtain a relinquishment, donation or sale of sufficient interest in the mining claim to the United States.

b. Claims located subsequent to July 23, 1955 and pre-1955 claims where the United States has subsequently obtained management of the surface uses qualify as Federal lands under the MLA.

(1) If the ROW use interferes with prospecting, mining or related mining activities a non-interfering route should be sought; otherwise the ROW application should be rejected.

(2) If the ROW use does not interfere with prospecting, mining or related mining activities the ROW may be processed and the grant issued subject to the rights of the mining claimant.

3. Cost Recovery. If the application is determined to be complete, prepare and issue the Processing Category and Fee Determination Record. (See Illustration 5.)

D. Cost Recovery Considerations. Work beyond pre-application conferences shall be limited until the appropriate processing fee has been paid.

1. Categories 1-4. Work on initial verification and application scoping necessary to determine completeness of the application and to issue the cost recovery category determination may be conducted. Further action on the application must await the payment of the fee determined.

2. Category 5 - Master Agreements. Development of the MA may proceed. Actual work on any applications may not occur until the MA has been accepted and executed.

3. Category 6. Initial review and scoping may be performed in order to provide a written estimate of the time to process and the total processing cost to the applicant.

E. Customer Service Standards. In order to ensure timely service to ROW applicants, Field Offices must establish priorities for their lands and realty program which are consistent with Strategic Plan goals, Director's priorities, and State priorities. Pursuit of "discretionary" or lower priority work or assignments by Field Offices must not detract from the BLM's ability to serve its ROW customer and achieve its Strategic Plan objectives. (See Illustration 8, Customer Service Flow Chart.)

1. Time Standards by Category. From the initial processing to the offer-to-issue letter or application rejection decision, the BLM will meet established processing time standards. These time standards also apply to applications not subject to cost recovery; for which the AO will have to estimate a processing category.

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a. Category 1-4 Applications. Applications that are or would be designated as Category 1-4, should be processed within 60 calendar days. Where more than 60 days are anticipated, the applicant must be notified within the first 30 days and advised of the reason for the delay and the anticipated date of decision on the application. (See Illustration 9, "29th Day" Letter.)

b. Category 5 Applications. Applications under a MA will be processed according to the specifications contained in the Agreement.

c. Category 6 Applications. For applications that would require over 50 hours to process, the BLM will provide the applicant within the first 60 days, in writing, of the estimated time for processing the application.

2. All Categories. Anytime it appears that the processing of any application will require more than 60 working days longer than determined above, the AO shall inform the applicant in writing of this fact. A reasonable explanation for the delay and a new estimate of when the processing of the application may be completed will also be provided.

3. EIS Preparation. When an EIS is required, the AO shall include in the notice to the applicant the estimated time to complete the EIS.

4. Start of Time. The Customer Service Time Standard begins when BLM has received a "completed" application or 30 days time has passed since an application was given a serial number (see .21A above).

a. Completed Application. An application is considered "completed" when:

(1) The Processing Category and Fee Determination Record (Decision) is issued and the fee paid (see C.2 above) **or**

(2) State or local government non-cost recovery application is considered complete by the AO.

b. Time. By the 31st day following receipt, unless prior to the 31st day the AO has issued a letter requesting specific additional information and is awaiting response; **or** has issued the category determination decision and is awaiting payment of the required fee.

(1) Running of Time. The running of the time standard for the application will be stopped when either the processing fee or additional information has been requested and not yet received.

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(a) Fee. Time standards resume upon receipt of the requested fee, unless additional information was also requested and not yet received.

(b) Additional Information. When additional information is received the AO will have 15 days to determine whether the application is now complete or to issue another request for information.

(i) No more than three requests will be made for additional information.

(ii) If the requested information is not provided in response to the 3rd request, the AO shall reject the application as incomplete. The rejection decision must cite the material/information that is lacking to make a complete application.

F. Notification. The AO shall notify the applicant, and each interested party identified during the pre-application and application processing stages, as to the process and final disposition of the application. The AO shall work closely with the applicant and interested parties to resolve, to the extent possible, any conflicts which could result in a protest or appeal of the decision.

1. Publication of a notice in the Federal Register or a newspaper of general circulation in the vicinity of the lands involved is required unless the AO determines the pipeline(s) will have only minor environmental impacts.

2. Congress. If the application involves a pipeline of 24 or more inches in diameter, a copy of the publication shall be sent to the House Natural Resources Committee and the Senate Energy and Natural Resources Committee.

G. Offer-to-Issue. An offer-to-issue is used to offer the ROW grant and obtain the applicant's written acceptance of the terms and conditions. The offer/grant package shall be submitted to the applicant using the level of formality the AO deems appropriate, considering the complexity of the case and the issues involved.

H. Delayed Issuance of Grant. Only where it is in the public interest shall the AO delay issuing an otherwise ready grant. In all other instances where the applicant requests a delay, the AO shall reject the application and the applicant shall be told to reapply when ready to proceed with the project.

I. LR2000. As the application process progresses, promptly enter the appropriate data into LR2000.

J. Interstate ROW Projects.

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1. Lead State Designation. The lead State designation for all interstate ROW projects is made by the Director based upon the recommendations of the States involved, the physical length of the project in each affected State, and whether any sensitive environmental issues are present in a State. The State Director may assign this lead to one or her/his immediate staff (DSD or FO/DO Manager) or to an available Project Manager (WO350).

a. Case Serial Numbers. The lead State assigns a serial number which is used for the case file and all official correspondence. Other involved States assign a serial number for entry into LR2000. The lead State serial register page must reference the non-lead State serial numbers in remarks as should the non-lead States. All financial transactions get deposited under the lead State serial number. The lead State is also responsible for the casefile and for all casefile information input to LR2000.

b. Grant Document. The ROW grant for an interstate project is issued by the lead State and contains only the lead State serial number. Any future amendments to the grant, or decisions affecting the grant, would also be issued by the lead State.

K. MLA ROWs Crossing Lands Administered by Two or More Federal Agencies. Anytime an applicant applies for a ROW pursuant to MLA which crosses lands administered by two or more Federal agencies, regardless of whether or not lands administered by the BLM are involved, the BLM will process the application and issue all grants, temporary use permits, amendments and assignments.

> **Note:** No ROW may be issued through a Federal reservation where the AO or head of an agency determines that it would be inconsistent with the purpose of the reservation.

1. Application Filing. The ROW application (SF 299) is to be filed at any BLM office in the vicinity of the project. At the same time, a copy of the application should be sent to the appropriate office of other Federal agencies having jurisdiction over Federal lands to be crossed. Coordination between the ROW applicant, the BLM, and other involved Federal agencies should begin before the application is filed. The BLM will notify the applicant where to direct future communications about the project.

2. Case Processing. In most cases, the BLM will be the lead agency with the other involved agencies as cooperators. In situations where there are no BLM-administered Federal lands or where the majority of the lands to be crossed, or the critical areas, are on lands administered by another agency, the lead could be negotiated. In any case, some form of written agreement defining the roles of each agency is appropriate and recommended.

3. Processing and Monitoring Fees. New applications involving multiple agencies have been, and are likely to continue to be, determined to fall into Category 6. Assignments and minor amendments of existing grants are either for a grant with an "existing" cost recovery category or involve extremely old grants (pre-1973). It is expected that there will be only rare cases where a minor category will be determined.

a. The BLM processing fee schedule is to be used for determining the cost recovery category for the entire ROW. Where 2 or more Federal agencies are involved it is the Secretary's (BLM's) regulations that are controlling regardless if one or more of the other agencies have their own cost recovery procedures. To make the category determination, BLM staff must coordinate with the other involved agencies to determine their work hours. The BLM AO provides a record of the category determination, and the decision is a final decision for purposes of appeal. The BLM will make all collections of cost recovery processing fees and will be responsible for management of all processing cost recovery accounts.

4. Grant Document. The BLM is responsible for preparation and issuance of the ROW grant or TUP. While the document is to be prepared in consultation with the representatives of the other agencies, effort should be made to follow BLM procedures and handbooks. Every effort must be made to resolve differences with other agencies so that the grant is agreeable to all. Where an agency requests special stipulations for their lands, be sure that the document so specifies.

a. Agency Concurrence. Where the heads (or their delegated representative) of the other agencies concur in the proposed grant document, the BLM may issue the grant.

b. Agency Non-concurrence. Where a head of an agency withholds concurrence in the proposed grant document, the BLM AO shall summarize the issues and forward the summary, proposed document, and related material (EA/EIS etc.) through appropriate channels to the Director (WO-300) for referral to the Secretary.

.22 [Reserved]

.23 Denial or Withdrawal.

A. Denial. A decision to deny an application can be made at any time during application processing when the AO has adequate information to support such a decision.

1. Notification of Denial. An application shall be denied in writing by the AO via a decision. The decision to deny the application shall contain the following as a minimum:

a. A full explanation of the reasons for denial. Every effort shall be made to ensure the applicant understands the reasons for denial.

b. An explanation of the applicant's appeal rights. BLM Form 1842-001 shall be enclosed.

2. Amendment. An applicant may amend the ROW application. Such action, however, will require that the BLM start the review process over from the beginning. This would include a re-determination of the cost recovery processing category.

B. Withdrawn Applications. An application may be withdrawn by an applicant at any time. The notice/request to withdraw the application must be documented in the casefile.

.24 Cost Recovery processing costs for denied or withdrawn applications are handled as follows:

A. Category 1-4 Applications. The initial processing fee is retained by the BLM.

B. Category 6 Applications. The applicant remains liable for all actual costs necessary to process the grant up to the written notice of withdrawal or the finality of a rejection decision on appeal.

.25 Allowable Uses During Application Processing. The only uses of public land by the ROW applicant allowed during application processing are those that meet the definition of "casual use". Any other use requires the BLM's authorization under appropriate authority. Studies conducted by the applicant for the purpose of assisting in a decision by the AO must also meet the criteria of casual use or be approved in advance by the BLM.

.26 Two or More Agencies Involved. See .21 J above.

.27 [Reserved]

Illustration 1

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Pre-Application Checklist

Illustration 2

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SF 299 - Application For Transportation and Utility Systems and Facilities on Federal Lands

Illustration 3

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Outline – Pipeline Plan of Development

1. Purpose and Need
    a. what will be constructed
    b. commodity to be transported and for what purpose
    c. is the pipeline for a gathering system, trunk line, or distribution line
    d. will it be surface or subsurface
    e. length and width of the right-of-way and the area needed for related facilities
    f. is this ancillary to an existing right-of-way
    g. list alternative routes or locations

2. Right-of-way location
    a. legal description
    b. site specific engineering surveys for critical areas (note: in addition to normal centerline survey)
    c. maps and drawings showing river crossings
    d. acre calculation of the right-of-way by land status

3. Facility Design Factors
    a. pipeline pressure standards
        1) pipe wall thickness and pounds per square inch (psi) rating
    b. toxicity of pipeline product
    c. anticipated operating temperatures
    d. depth of the pipeline
    e. permanent width or size
    f. temporary areas needed

4. Additional Components of the Right-of-way
    a. connection to an existing Right-of-way
        1) existing components on or off public land
        2) possible future components
    b. location of pumping and/or compressor stations
    c. need for sand and gravel and where will it be obtained
    d. location of equipment storage areas

5. Government Agencies Involved
    a. FERC, USFWS
    b. copy of FERC Sec. 7c Application, if applicable
    c. state and local agencies that may be involved

6. Construction of the Facilities
    a. construction (brief description)
        1) major facilities (including vehicles and number of tons and loads)
        2) ancillary facilities (including vehicles and number of tons and loads)
    b. work force (number of people and vehicles)
    c. flagging or staking the right-of-way
    d. clearing and grading
    e. facility construction data
        1) description of construction process
    f. access to, and along, right-of-way during construction

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Outline – Pipeline Plan of Development

g. engineering drawings and specifications for site-specific problems relating to surface use or special mitigation
h. diagrams, drawings, and cross sections to help visualize the scope of the project
i. special equipment that will be utilized
j. contingency planning
    1) holder contacts
    2) BLM contacts
k. safety requirements
l. industrial wastes and toxic substances

7. Resource Values and Environmental Concerns
    a. address at level commensurate with anticipated impacts
        1) location with regard to existing corridors
    b. anticipated conflicts with resources or public health and safety
        1) air, noise, geologic hazards, mineral and energy resources, paleontological resources, soils, water, vegetation, wildlife, threatened and endangered species, cultural resources, visual resources, BLM projects, recreation activities, wilderness, etc.

8. Stabilization and Rehabilitation
    a. soil replacement and stabilization
    b. disposal of vegetation removed during construction (i.e., trees, shrubs, etc.)
    c. seeding specifications
    d. fertilizer
    e. limiting access to the right-of-way
    f. will roads built during construction be reclaimed

9. Operation and Maintenance
    a. will new or expanded access be needed for operation and maintenance
    b. will there be hydrostatic testing and subsequent release of water and what is the anticipated volume
    c. will removal and/or addition of pipe and/or pumps be required as part of pipeline maintenance
    d. will all maintenance activities be confined within the right-of-way
    e. safety
    f. will industrial wastes and toxic substances be generated or stored on right-of-way
    g. inspection and maintenance schedules
        1) will these be conducted on-the-ground and/or by aircraft
        2)if by aircraft, will the aircraft require landing strips and/or heliports
    h. work schedules
    i. fire control
    j. contingency planning

10. Termination and Restoration
    a. removal of structures
    b. will pipe be removed or cleaned and left in ground
    c. obliteration of roads
    d. stabilization and re-vegetation of disturbed areas

Illustration 4

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Sample - Processing and Monitoring Fee Schedule

Calendar Year 2007 Cost Recovery Processing and Monitoring Fee Schedule for FLPMA and MLA Rights-of-Way Actions

Processing and Monitoring Category	**Federal Work Hours Involved**	**Processing and Monitoring fee per application as of January 1, 2007. To be adjusted annually for changes in the IPD-GDP.**
1. Applications for new grants, assignments, renewals, and amendments to existing grants.	Estimated Federal work hours are $>1 \leq 8$.	$104
2. Applications for new grants, assignments, renewals, and amendments to existing grants.	Estimated Federal work hours are $> 8 \leq 24$.	$368
3. Applications for new grants, assignments, renewals, and amendments to existing grants.	Estimated Federal work hours are $> 24 \leq 36$.	$691
4. Applications for new grants, assignments, renewals, and amendments to existing grants.	Estimated Federal work hours are $> 36 \leq 50$.	$990
5. Master agreements.	Varies.	As specified in the agreement.
6. Applications for new grants, assignments, renewals, and amendments to existing grants.	Estimated Federal work hours are > 50.	Full reasonable costs (FLPMA) Full actual costs (MLA)

Illustration 5

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Sample - Cost Recovery Category Determination Record

ROW Processing or Monitoring Fee Category Determination Record
For FLPMA and MLA Rights-of-Way

Application Serial Number: _____
Applicant: _____
Address: _____
_____
Agent:_____
Address_____
_____
Application For: _____
Location: _____

Pre-Application Meeting Held: ____No ____Yes _____(date)

Land Use Plan Conformance? ____No ____Yes

Estimated Processing or Monitoring Requirements:

Type of ROW: _____ FLPMA _____ MLA

NEPA Action Required: _____ EIS _____ EA _____DNA _____CE/CX

Personnel Needed for Processing or Monitoring	**Estimated . Proc. or □ Mon. Hours**
Realty Specialist/Land Law Examiner	_____
Cultural/Paleontological Resources	_____
T&E Species	_____
Wildlife/Fisheries	_____
Air/Water/Soils	_____
Recreation/Visual	_____
Range	_____
Fluids/Minerals	_____
Administration/Contracting	_____
Manager	_____
Other _____	_____
Other _____	_____
TOTAL HOURS	_____

The appropriate □ Processing or □ Monitoring Category for this application is Category_____. The Processing or Monitoring fee for this Category is $_____. Processing fees for Categories 1-4 are non-refundable. See enclosed table for Category definitions and Fee Schedule.

Prepared By: _____ _____
Realty Specialist Date

Approved By:_____ _____
Authorized Officer Date

Attach current Cost Recovery Fee Schedule and Appeal Information

Illustration 6

2884 – APPLYING FOR A MLA GRANT OR TUP

Sample - Category 6 Cost Recovery Determination

OFFICE LETTERHEAD

AZA – 12345 (012)

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

DECISION

Mr. Jack Developer	:	
1234 Anystreet	:	Right-of-Way
Anytown, AZ 00000	:	Application AZA-12345

COST RECOVERY CATEGORY

Right-of-way application AZA-12345 for a [*describe facility*] was filed on [*date*].

Upon review of the proposal and resource information available within this Office, I have determined that it will take this Office [in excess of 50] [*actual estimated number*] work-hours to process this application. This places your application in category 6 and requires that the Bureau recover the full reasonable costs of processing the application. The method and procedures for the payment of these costs will be covered in a required cost recovery agreement (an outline of such an agreement is enclosed). You should review the regulations at 43 CFR 2804.14 through 2804.24 as to cost recovery.

Please contact this office to arrange for a meeting to discuss your application in detail, develop tentative work plans, estimated costs and the development of the cost recovery agreement. No action to process your application will be undertaken until the cost recovery agreement is in effect.

Should you not wish to proceed with this application, please inform us at your earliest convenience?

This decision may be appealed to the Interior Board of Land Appeals, Office of the Secretary, in accordance with the regulations contained in 43 CFR, Part 4 and the enclosed Form 1842-1. If an appeal is taken, your notice of appeal must be filed in this office (at the above address) within 30 days from receipt of this decision. The appellant has the burden of showing that the decision appealed from is in error.

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Sample Category 6 Cost Recovery Determination

If you wish to file a petition (request) pursuant to regulation 43 CFR 2801.10 or 43 CFR 2881.10 for a stay (suspension) of the effectiveness of this decision during the time that your appeal is being reviewed by the Board, the petition for a stay must accompany your notice of appeal. A petition for a stay is required to show sufficient justification based on the standards listed below. Copies of the notice of appeal and petition for a stay must also be submitted to each party named in this decision and to the Interior Board of Land Appeals and to the appropriate Office of the Solicitor (see 43 CFR 4.413) at the same time the original documents are filed with this office. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

Standards for Obtaining a Stay

Except as otherwise provided by law or other pertinent regulation, a petition for a stay of a decision pending appeal shall show sufficient justification based on the following standards:

(1) The relative harm to the parties if the stay is granted or denied,

(2) The likelihood of the appellant's success on the merits,

(3) The likelihood of immediate and irreparable harm if the stay is not granted, and

(4) Whether the public interest favors granting the stay.

If you have any questions, please contact Richard Egan, Realty Specialist, at (480) 555-0123.

James Jones
Field Manager

Enclosures
Cost Recovery Agreement Outline
BLM Form 1842-1

Illustration 7

2884 - APPLYING FOR A MLA GRANT OR TUP

Project/Subproject Number Assignment and Information Form 1310-20

Illustration 8

2884 - APPLYING FOR A MLA GRANT OR TUP

Customer Service Flow Chart

Illustration 9

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“29th Day” Letter.

Illustration 10

2884 – APPLYING FOR A MLA GRANT OR TUP

Case Processing Checklist

WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

July 17, 2019

0294

Diane Friez
U.S. Department of the Interior^Bureau of Land Management^Eastern Montana/D
111 Garryowen Rd
Miles City, MT 59301-7000

Subject: WBI Energy Transmission, Inc.
Invitation to Public Open House for the Proposed North Bakken Expansion Project

Dear Diane Friez:

WBI Energy Transmission, Inc. (WBI Energy) would like to cordially invite you to attend an open house meeting in your area regarding our proposed plan to build, own and operate the North Bakken Expansion Project (Project).

On June 28, 2019, WBI Energy requested use of the Federal Energy Regulatory Commission's (FERC) pre-filing review process for its proposed North Bakken Expansion Project (FERC Docket No. PF19-7-000). The FERC, the lead federal agency responsible for authorizing the Project, approved WBI Energy's pre-filing request on July 3, 2019. WBI Energy expects to file a formal application for the Project in early 2020.

The Project consists of an approximately 60 mile-long, 20-inch diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to a new interconnect with Northern Border Pipeline Company's mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Creek Compressor Station) will be constructed near this interconnect.

The Project also involves construction of approximately 20 miles of 12-inch diameter natural gas pipeline between the existing Tioga Compressor Station and an existing receipt station along WBI Energy's existing Line Section 25, approximately 10 miles of 12-inch diameter natural gas pipeline along WBI Energy's existing Line Section 30, and an approximately 10 mile, 12-inch diameter natural gas pipeline lateral from WBI Energy's existing Line Section 7.

Additionally, the Project includes the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and the installation of new and modifications to receipt/delivery points and lateral pipeline facilities along the pipeline routes. The attached map depicts the locations of the currently proposed Project facilities. Note that additional facilities have been added to the Project since WBI Energy's initial outreach for the Project earlier this year.

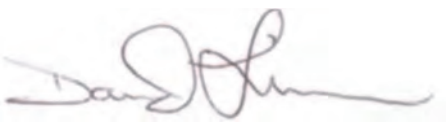
The Project will add natural gas takeaway capacity (estimated at approximately 300,000 Mcf/day) to help meet the natural gas transportation needs in the Bakken region while reducing natural gas flaring.

To provide additional information about the Project and receive stakeholder input, WBI Energy will host public open houses. This will be an informal opportunity to receive project-related materials, view detailed maps and displays, meet with the Project team experts and share your feedback before a formal application is submitted to the FERC. We welcome you to attend any one of the open houses at the dates, times and locations indicated below.

North Bakken Expansion Project Public Open Houses	
Tuesday, August 6 **Location: Tioga**	**Wednesday, August 7** **Location: Watford City**
Neset Consulting Service 6844 State Highway 40 Tioga, North Dakota 58852 11:00 am-1:00 pm and 5:00-7:00 pm	Watford City Civic Center 213 2nd St NE Watford City, North Dakota 58854 11:00 am-1:00 pm and 5:00-7:00 pm

If you have any questions regarding the North Bakken Expansion Project, please contact the Project team at the toll-free number 1-844-825-9397. We look forward to working with you on the Project and seeing you at an upcoming open house.

Sincerely,



David Linn
Project Manager
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map



Miles
0 1.25 2.5 5

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1 in = 3 miles

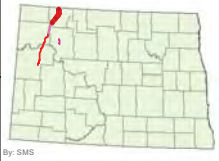
Project Overview Map

North Bakken Expansion Project
WBI Energy

Burke County
Mountrail County
Williams County
McKenzie County

North Dakota

PROJECT AREA OVERVIEW



Legend

- Proposed Line Section 25 Loop Pipeline
- Proposed Elkhorn Creek - Tioga Pipeline
- Proposed Line Section 30 Loop Pipeline
- Road Bores for Uprating Existing Line
- Proposed Receipt Lateral
- WBI Existing Pipelines
- Northern Border Pipeline

By: SMS

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Date: 6/28/2010

WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

July 17, 2019

0295

Seth Jackson
U.S. Department of the Interior^Bureau of Land Management^North Dakota Fiel
5001 Southgate Dr
Billings, MT 59101-4669

Subject: WBI Energy Transmission, Inc.
Invitation to Public Open House for the Proposed North Bakken Expansion Project

Dear Seth Jackson:

WBI Energy Transmission, Inc. (WBI Energy) would like to cordially invite you to attend an open house meeting in your area regarding our proposed plan to build, own and operate the North Bakken Expansion Project (Project).

On June 28, 2019, WBI Energy requested use of the Federal Energy Regulatory Commission's (FERC) pre-filing review process for its proposed North Bakken Expansion Project (FERC Docket No. PF19-7-000). The FERC, the lead federal agency responsible for authorizing the Project, approved WBI Energy's pre-filing request on July 3, 2019. WBI Energy expects to file a formal application for the Project in early 2020.

The Project consists of an approximately 60 mile-long, 20-inch diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to a new interconnect with Northern Border Pipeline Company's mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Creek Compressor Station) will be constructed near this interconnect.

The Project also involves construction of approximately 20 miles of 12-inch diameter natural gas pipeline between the existing Tioga Compressor Station and an existing receipt station along WBI Energy's existing Line Section 25, approximately 10 miles of 12-inch diameter natural gas pipeline along WBI Energy's existing Line Section 30, and an approximately 10 mile, 12-inch diameter natural gas pipeline lateral from WBI Energy's existing Line Section 7.

Additionally, the Project includes the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and the installation of new and modifications to receipt/delivery points and lateral pipeline facilities along the pipeline routes. The attached map depicts the locations of the currently proposed Project facilities. Note that additional facilities have been added to the Project since WBI Energy's initial outreach for the Project earlier this year.

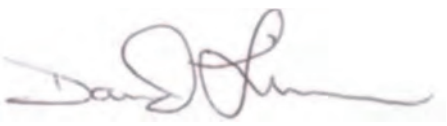
The Project will add natural gas takeaway capacity (estimated at approximately 300,000 Mcf/day) to help meet the natural gas transportation needs in the Bakken region while reducing natural gas flaring.

To provide additional information about the Project and receive stakeholder input, WBI Energy will host public open houses. This will be an informal opportunity to receive project-related materials, view detailed maps and displays, meet with the Project team experts and share your feedback before a formal application is submitted to the FERC. We welcome you to attend any one of the open houses at the dates, times and locations indicated below.

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If you have any questions regarding the North Bakken Expansion Project, please contact the Project team at the toll-free number 1-844-825-9397. We look forward to working with you on the Project and seeing you at an upcoming open house.

Sincerely,



David Linn
Project Manager
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map



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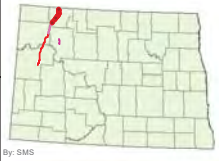
Project Overview Map

North Bakken Expansion Project
WBI Energy

Burke County
Mountrail County
Williams County
McKenzie County

North Dakota

PROJECT AREA OVERVIEW



Legend

- Proposed Line Section 25 Loop Pipeline
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- Proposed Line Section 30 Loop Pipeline
- Road Bores for Uprating Existing Line
- Proposed Receipt Lateral
- WBI Existing Pipelines
- Northern Border Pipeline

By: SMS

Path: F:\GIS\Projects_Authorized\North_Bakken_Expansion_Project\Northern_Bakken_Expansion_24X36_2.mxd

1:174,000 - when Printed on 24X36

Date: 6/28/2010

Andrea Thornton

From: Jackson, Seth <sajackson@blm.gov>
Sent: Thursday, July 25, 2019 12:37 PM
To: Andrea Thornton
Cc: Edward Kraft
Subject: Re: [EXTERNAL] FW: North Bakken Expansion Project - Bi-Weekly Calls with FERC

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Andrea,

BLM would like to participate in these calls, at least for now. We may have various BLM resource staff come and go on the calls as needed. BLM staff are generally not available Monday mornings or Tuesday afternoons (Mountain Time).

Thanks!

Seth A. Jackson
Realty Specialist
Bureau of Land Management | Billings Field Office
(also temporarily handling North Dakota Field Office realty matters)
5001 Southgate Drive | Billings, Montana 59101
406-896-5052 (direct) | 406-896-5281 (fax)
sajackson@blm.gov

On Thu, Jul 25, 2019 at 11:33 AM Andrea Thornton <Andrea.Thornton@erm.com> wrote:

> See below. Sorry about that!
>
> Andrea Thornton
>
> Senior Regulatory Consultant
>
> **ERM**
>
> **M** +503-459-6864
>
> **E** andrea.thornton@erm.com | **W** www.erm.com

From: Andrea Thornton
Sent: Thursday, July 25, 2019 10:28 AM
To: Renschler, Jason J CIV USARMY CENWO (USA) <Jason.J.Renschler@usace.army.mil>; Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>; jessica_n_johnson@fws.gov; jerry_reinisch@fws.gov; sajackson@blm.com; Bickerdyke, Cale E -FS <cale.bickerdyke@usda.gov>; Grotte, Kim -FS <kim.grotte@usda.gov>; todd.hagel@nd.usda.gov
Cc: Arianne Balsom <Arianne.Balsom@ferc.gov>
Subject: North Bakken Expansion Project - Bi-Weekly Calls with FERC

Good Morning,

As you know WBI Energy filed their pre-filing request letter for the North Bakken Expansion Project (Project) with FERC on June 28, 2019. FERC accepted the request on July 3, 2019 which starts the pre-filing process for the Project. As we have discussed, as part of this process, FERC will host bi-weekly conference calls with WBI Energy and any agencies interested in participating in the pre-filing process. This is a way for your agency to stay informed about the Project and ask questions as they may arise. When we spoke earlier this summer, some of you were not sure if you were interested in participating in this process.

We are looking to start these bi-weekly calls the week of August 8th. For those of you who are interested, please let me know by August 1st if there are any days of the week/times that would not work for you for a 1 hour call. We will be scheduling these calls across multiple time zones and will do our best to ensure those who are interested are able to participate.

Please feel free to reach out if you have any questions.

Thank you and we look forward to working with you on this project.

-Andrea

Andrea Thornton

Senior Regulatory Consultant

ERM

M +503-459-6864

E andrea.thornton@erm.com | **W** www.erm.com



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Lisa DiNicolantonio

From: Andrea Thornton
Sent: Tuesday, July 30, 2019 7:29 AM
To: Jackson, Seth
Subject: RE: WBI North Bakken Expansion Project -- Public Open House

Hi Seth –

We invited all of the federal and state agencies to the open houses but at this time I'm not sure if any will be in attendance. There is no formal presentation as part of the open house, rather there will tables set up around the room for attendees to move between to gather information on the project and ask questions. There will be tables set up (with land agents present) with D-sized alignment sheets of the current routes. Landowners tend to spend the most time at this table. FERC will also be present at the open houses and will have their own table to describe their role in the project and the FERC process. Attendees tend to come and go over the course of each two hour open house session.

We try to coordinate with FERC to set up agency meetings at the same time as the open house or the scoping meetings. FERC indicated that they wanted to have them with the scoping meetings for this project so that the Resource Reports for the project are more developed and there would be more to discuss.

I hope this is helpful, let me know if you have any questions.

-Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Jackson, Seth <sajackson@blm.gov>
Sent: Monday, July 29, 2019 9:46 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: WBI North Bakken Expansion Projeect -- Public Open House

Hi Andrea,

I received the attached letter from WBI about upcoming public open houses scheduled for next week in Tioga and Watford City. Is it beneficial for BLM to be present at these meetings? I am trying to figure out if I should plan on driving out or have someone from our office in Dickinson represent BLM. Will other affected Federal agencies be there?

Thanks.

Seth A. Jackson
Realty Specialist
Bureau of Land Management | Billings Field Office
(also temporarily handling North Dakota Field Office realty matters)
5001 Southgate Drive | Billings, Montana 59101
406-896-5052 (direct) | 406-896-5281 (fax)
sajackson@blm.gov

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1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

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Call Log

Log of Telephone Conversation

Call To/From Whom	To: Seth Jackson
Phone number	701-227-7711
Company	Bureau of Land Management
ERM Contact	Mark Cline and Andrea Thornton
Phone number	412-402-8101
Date	September 20, 2019
Time of Conversation	9:00 am PST
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

The call was schedule to discuss the BLM's data requirements to support the SF-299 form and associated Plan of Development (POD).

Mr. Cline noted an overlap in some information on the SF-299 form and in the POD outline provided in BLM's guidance (Form 2884). Mr. Jackson agreed that WBI Energy's responses on SF-299 form could include references to detailed discussions in the POD rather than providing redundant responses.

Mr. Cline stated that WBI Energy will be the applicant and ERM will function as an authorized agent. Mr. Jackson stated that the BLM will require a letter from WBI Energy stating that ERM is authorized to provide information on WBI Energy's behalf. Mr. Jackson added that the SF-299 will need WBI Energy's signature as well as on any executed agreements. Signatures from WBI Energy executive management (e.g., Vice President) would be acceptable; however, any corporate position of lesser authority would need a letter from WBI Energy board stating authority to sign documents is granted.

Mr. Jackson stated that BLM is functioning with FERC as a cooperating agency; therefore, information about the whole project, on and off federally-owned land, would be acquired through the FERC process. Mr. Cline stated that ERM could provide a filing accession number if needed. Mr. Cline asked if the SF-299 and associated POD could focus on the potential resources and land only on federally-owned land and Mr. Jackson agreed.

Mr. Jackson stated that NEPA must be completed and both the COE and USFS agree that the proposal is consistent with their requirements before BLM can issue a ROW Grant. Once that process is completed then the BLM will authorize WBI Energy to cross federal land. After that, each agency will monitor their land for compliance.

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Mr. Jackson stated that the ROW Grant is an authorization to allow a third-party to cross federal land. The ROW Grant is effective for a period up to 30 years but always expires December 31, which means it is valid 29 years and *XX* months depending on the date issued. For this project, the ROW Grant would cover construction and operation of the 50-foot-wide long-term right-of-way. The additional 50-foot-wide workspace for construction would be cover by a Temporary Use Permit. The Temporary Use Permit is valid for 3 years and construction would need to be initiated within that 3 years from issuance.

Mr. Cline asked if resource surveys must be 100 percent complete when the SF-299 is submitted. Mr. Jackson stated that they do not and for some projects surveys have not started before the SF-299 for is submitted.

Mr. Cline asked if there was a published BLM flowchart showing the review pathway and identifying timeframes (e.g., public comment periods). Mr. Jackson recommend the publication entitled *Obtaining Right-Of-Way on Public Lands* **[Mr. Jackson provided a copy via email after the call]**.

Mr. Jackson concluded that while he has been in his role as a temporary assignment, it has been extended and will continue in this role for a few more months. He was confident that when the position is filled permanently he will transition the project and provide follow-up support as needed to maintain consistency.

ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

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Call Log

Log of Telephone Conversation

Call To/From Whom	To: Seth Jackson
Phone number	701-227-7711
Company	Bureau of Land Management
ERM Contact	Mark Cline
Phone number	412-402-8108
Date	September 30, 2019
Time of Conversation	5:00 pm EST
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

[Mr. Cline left a voicemail with Mr. Jackson requesting to discuss the Bureau of Land Management (BLM) cost recovery process and the role of the SF-299 form to initiate the review. Mr. jackson returned the called later in the day.]

Mr. Jackson stated the cost recovery, at this point in BLM's review, only covers BLM staff time. However, Mr. Jackson has requested an internal meeting with his management team to determine if the U.S. Forest Service and U.S. Army Corps of Engineers staff time could be included. In either case, BLM will administer the cost recovery funds and disperse to other agencies if that option is selected.

Mr. Jackson stated the SF-299 form is needed to initiate the cost recovery process; however, final design details do not need to be included if they are still in progress. Mr. Jackson stated there are opportunities to update the application. For example, the Plan of Development will include greater detail and can be submitted after the SF-299 form. As the project is analyzed by the agency staff, the Plan of Development will need to be updated to capture construction/operation mitigation requirements in order for the ROW to be authorized. Mr. Jackson stated that he will route the SF-299 form to his resource specialists and they will estimate their projected time commitment to review the project. Therefore, the level of detail need in the SF-299 form must be accurate enough for a specialist to determine their projected input. However, if too little information is submitted in the SF-299 form it may be rejected as incomplete.

Mr. Jackson stated that contrary to our previous conversation on September 20, 2019, he is requesting an internal BLM management meeting to determine if resources on private land need to be included. Mr. Cline stated that the Federal Energy Regulatory Commission is the lead federal

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agency and will contemplate private and federal land actions (such as Sections 7 and 106). In other words resources on private and public land will be assessed before the project is approved. Mr. Jackson agreed that they may not need to review the whole project but will update WBI Energy of the outcome of his internal meeting.

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1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

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Call Log

Log of Telephone Conversation

Call To/From Whom	To: Seth Jackson (and Cyndi Eide)
Phone number	701-227-7711
Company	Bureau of Land Management
ERM Contact	Mark Cline
Phone number	412-402-8108
Date	October 22, 2019
Time of Conversation	3:30 and 5:45 pm EST
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

[Mr. Cline left a voicemail with Mr. Jackson at 8 am EST requesting to discuss the outcome of Bureau of Land Management's (BLM) internal meeting on the scope of the upcoming Plan of Development (POD). Specifically if the POD could be restricted to federal land rather than including private land. Mr. Cline followed up with an additional call at 3:30 pm EST.]

Mr. Jackson stated that the BLM held an internal meeting last week. The topic was not completely resolved as the BLM needed clarification on the Federal Energy Regulatory Commission's (FERC) National Environmental Policy Act (NEPA) role and how the BLM could use the FERC application (environmental resource reports) to fulfill their NEPA role. At this time the BLM believes the whole project, private and public land, needs to be included in the POD so that the BLM appropriately addressed their NEPA responsibility. Mr. Cline stated that as a cooperating agency the BLM would be allowed early review of the NEPA documentation. As the lead federal agency, FERC would be responsible for compliance with applicable laws and include that review/documentation in their NEPA analysis. Mr. Cline offered to talk with WBI Energy and potentially add this as an agenda topic at an upcoming FERC project call.

[Mr. Jackson called Mr. Cline at 5:45 pm EST to pass along additional information.]

Mr. Jackson and Ms. Cyndi Eide, Acting Realty Program Lead for Rights-of-Way called Mr. Cline back to clarify that the BLM typically requires a POD for the entire project (private and public land) and Mr. Jackson had an example to pass along. Ms. Eide stated that according to Cecil Werven, Acting Branch Chief for Realty, Lands, and Renewable Energy, if the POD is submitted and only focuses on the federal land crossings it will likely be rejected as incomplete. Mr. Jackson stated that including the entire project allows the public opportunity to review and comment on the BLM's

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specific land authorization in light of the larger undertaking. Mr. Jackson also referred to a BLM Instructional Memorandum distributed internally in 2003 after the Interagency Agreement between FERC and various federal agencies (including BLM) in 2002. The BLM Instructional Memorandum recommends the proponent file a preliminary SF-299 during FERC pre-filing to initiate the cost reimbursement process. Mr. Jackson stated that this will not interfere moving forward.

[Following the phone call Mr. Jackson forwarded the attached email.]

Lisa DiNicolantonio

From: Jackson, Seth <sajackson@blm.gov>
Sent: Tuesday, October 22, 2019 3:13 PM
To: Mark Cline
Subject: PODs and MOU
Attachments: 0174 Plan of Development.pdf; IM 2003-197, Interagency Agreement - Interstate Natural Gas Pipelines.pdf; im2003-197attach1.pdf; im2003-197attach2.pdf; im2003-197attach3.pdf

Hi Mark,

As follow-up to our phone call this afternoon, here are some examples of Plans of Development (PODs) from other pipeline projects here and here, and attached.

Also attached is the 2003 BLM/FERC policy, with the 2002 MOU.

Please let me know if you have any questions.

Thank you.

Seth A. Jackson
Realty Specialist
Bureau of Land Management | Billings Field Office
(also temporarily handling North Dakota Field Office realty matters)
5001 Southgate Drive | Billings, Montana 59101
406-896-5052 (direct) | 406-896-5281 (fax)
sajackson@blm.gov

CenterPoint Energy Bakken Crude Services, LLC
Bear Den Project

Plan of Development

Prepared for:

BUREAU OF LAND MANAGEMENT

Prepared by:

Natural Resource Group, LLC.
1675 Larimer Street, Suite 600
Denver, CO 80202

BLM NDM-104448

April 2013

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Appendix B Facility Plot Plans and Typical Right-of-Way Cross Sections
Appendix C Construction Typical Drawings
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Appendix E Construction Reclamation and Monitoring Plan
Appendix F Storm Water Pollution Prevention Plan
Appendix G Horizontal Directional Drill and Contingency Plan
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Appendix K Weed Management Plan
Appendix L Spill Prevention, Control, and Countermeasures Plan
Appendix M Environmental Inspection and Compliance Monitoring Plan
Appendix N Transportation Management Plan

DRAFT

Appendix O	Blasting Plan
Appendix P	Hydrostatic Test Plan

DRAFT

1.0 INTRODUCTION

This Plan of Development (POD) has been prepared in accordance with the Bureau of Land Management (BLM) *Manual 2884, Applying for a MLA Grant or TUP, section 10, part D and illustration 3, Plans of Development* and describes specific construction activities that will be undertaken by CenterPoint Energy Bakken Crude Services, LLC (CEBCS) during construction of the Bear Den Project (Project). This POD summarizes the methods and procedures to be used by CEBCS and its contractors during the construction, operation, and maintenance of the Project.

CEBCS is a wholly-owned subsidiary of CenterPoint Energy Field Services, LLC (CEFS). CEFS is a wholly-owned, indirect subsidiary of CenterPoint Energy, Inc. CEBCS was created as a subsidiary of CEFS to pursue crude oil gathering opportunities in the Bakken Shale region.

1.1 PROJECT DESCRIPTION

The proposed Project includes the construction and operation of a crude oil and produced water gathering system that will service multiple existing and/or proposed wells in Dunn and McKenzie Counties, North Dakota. The subject wells are currently serviced through a system of temporary on-site storage, with transportation accomplished by tanker truck via public and lease roads. Figure 1.1-1 depicts the general Project location. Appendix B contains the facility plot plans and typical right-of-way cross sections and Appendix C contains construction typical drawings associated with this Project.

Specifically, the Project pipeline system will receive crude oil at the subject wells and transport it to an aboveground facility for temporary storage and transfer to an outlet pipeline. Additionally, water produced at the subject wells will be transported to a third-party injection well for disposal. The project pipelines will generally be installed within a common right-of-way, with approximately 58.9 miles of right-of-way housing dual, collocated pipelines and approximately 10.2 miles of right-of-way housing a single crude or produced water pipeline.

Specifically, the project entails construction and operation of various pipeline and aboveground facilities, including:

- approximately 68.0 miles of 3- to 8-inch-diameter welded steel pipeline (i.e., the crude oil gathering pipeline system);
- approximately 0.5 mile of 8-inch-diameter welded steel pipeline (i.e., the crude oil delivery lateral pipeline; Line AR-16) that will extend from the storage/transfer facility and terminate at an interconnect with a third-party outlet pipeline (i.e., the BakkenLink Pipeline);
- approximately 59.4 miles of 3- to 6-inch diameter composite pipeline (i.e., the produced water gathering pipeline system);
- approximately 68.0 miles of fiber optic cable to be laid concurrently with the pipeline facilities and within the excavated pipeline trenches;
- a storage/transfer facility, which will entail a fenced and graveled, approximately 40-acre site that will house:

  - an office building;
  - a shop/warehouse building;
  - an operations building containing control room, motor control center, and process equipment;
  - a heater/generator building;
  - two, 20,000 barrel (bbl) crude oil storage tanks;
  - two, 500 bbl slop oil tanks;
  - two, 500 bbl tanks for storage of tank bottom water;
  - one, 10,000 bbl fire safety water storage tank;
  - metering facilities for the measurement of incoming and outgoing crude oil;
  - a pig receiver and associated filter/separators for the crude oil gathering pipeline;
  - a pig launcher and three, approximately 50-horsepower (hp) electric pumps for the crude oil delivery lateral;
  - block valves for all pipelines; and
  - yard piping;

- a pig receiver assembly at the terminus of the crude oil delivery lateral pipeline (Line AR-16), which will be sited and constructed on a lot owned and developed by the third-party outlet pipeline);
- automated wellhead facilities at each of the 31 well pad sites to be serviced by the Project, with each wellhead facility typically including:
  - a Lease Automatic Custody Transfer (LACT) unit, which consists of oil measurement/metering and an electric, 100-hp pump (with provision for the addition of a future booster pump if system hydraulics and pressures dictate);
  - produced water measurement/metering and a 25-hp electric pump (with provision for the addition of a future booster pump if system hydraulics and pressures dictate);
  - pig launchers for both the crude oil and produced water gathering pipelines;
  - block valves for each pipeline; and
  - yard piping;

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- a pig launcher and receiver site (Line AR-MP 0.0), which will entail a fenced and graveled, approximately 1.0-acre lot that will house:
    - pig launchers/receivers for the crude oil and produced water gathering pipelines;
    - automated block valves for the crude oil and produced water gathering pipelines;
- an automated block valve site (Line AR 30-MP 11.0), which will entail a fenced and graveled, approximately 1.0-acre lot that will house:
    - automated block valves for the crude oil and produced water gathering pipelines.
- 35 lateral pipeline interconnect sites at each of the gathering pipeline lateral interconnects, with each site being either fenced or barred, and including:
    - pig launchers/receivers for the crude oil and produced water gathering pipelines;
    - block and check valves for the crude oil and produced water gathering pipelines;
- intermediate block valve sites (located at Line AR-MP 7.0, Line AR 14-MP 0.4, and Line AR 30-MP 1.2), with each fenced and graveled site measuring approximately 50- by 50-feet to 100- by 100-feet, and including automated block valves for the crude oil and produced water gathering pipelines; and
- associated ancillary facilities (e.g., cathodic protection test leads and ground beds, pipeline markers, etc.).

In addition to these facilities, CEBCS will also contract with a third-party electric service provider to obtain delivery of metered electric power to the storage/transfer facility. Although existing electric power lines adjoin the western side of the facility lot, it will be necessary to construct approximately 300 feet of buried electric distribution line to provide power to the facility.

Communications between the master control center and the various automated valves and measurement points along the gathering system will be accomplished via installation of fiber optic communications equipment, which will entail the installation of approximately 68 miles of fiber optic communication line and associated infrastructure to allow for remote monitoring and control of the pipeline system. Use of fiber optic technology will eliminate the need for the installation of communications tower/s in association with the Project.

The fiber optic communication line will extend from the various well pad facilities to the control center at the storage/transfer facility. Installation of the fiber optic lines will not require additional excavation activities or land requirements, as fiber optic lines will be laid concurrent with the pipeline facilities and within the excavated pipeline trenches. An armored fiber optic line will preferentially be laid within the produced water pipeline trench, but will be laid within the crude oil pipeline trench where only a single crude oil pipeline will be installed. At horizontal

directional drill (HDD) locations a 1.5-inch-diameter PVC conduit will be pulled through the bore along with the produced water pipeline (or crude oil line where only a single pipeline will be installed). Following conduit installation, the fiber optic line will be blown into place though the conduit. Small, aboveground fiber optic junction boxes will be installed at communication and splice points in the line, and these will be located at the planned aboveground facility locations (valve sites, lateral pipeline interconnects, etc.).

Produced water will generally flow south and east, terminating at a disposal well located approximately 0.5 miles south of AR 32-MP 0.7. The injection/disposal well is wholly owned and operated by XTO Energy, Inc. and is named the Pelton 2-1 SWD and is a Class II injection well regulated by the North Dakota Industrial Commission, Department of Mineral Resources, Oil and Gas Division. The well was originally in oil and gas production service, but it was converted to an injection/disposal well on February 26, 2011.

Tables 1.1-1, 1.1-2, and 1.1-3 summarize the temporary and permanent land requirements associated with the construction and operation of the Project's pipeline, aboveground facilities, and access roads.

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TABLE 1.1-1

Bear Den Project
Temporary and Permanent Land Requirements Associated with the Project's Pipeline Facilities

	Location		Land Requirements			
Facility/Segment	Milepost In	Milepost Out	Temporary Workspace	Permanent Workspace	Additional Temporary Workspace	Landowner
Pipeline						
AR	0.0	3.9	29.6	23.5	0.2	Private
AR	3.9	4.4	1.9	1.3	0.1	USFS
AR	4.4	5.6	0.0	7.1	0.0	Private
AR	5.6	6.4	2.6	2.1	0.1	USFS
AR	6.4	6.4	0.0	0.0	0.0	Private
AR	6.4	7.0	4.2	2.2	0.0	STLND
AR	7.0	12.6	32.4	34.3	0.6	Private
AR-1	0.0	0.0	0.0	0.0	0.0	Private
AR-2	0.0	0.0	0.2	0.1	0.0	Private
AR-3	0.0	0.0	0.0	0.2	0.0	USFS
AR-4	0.0	0.1	0.6	0.4	0.0	Private
AR-5	0.0	0.1	1.2	0.8	0.0	Private
AR-6	0.0	0.2	1.0	0.9	0.0	Private
AR-7	0.0	0.2	1.2	0.9	0.0	Private
AR-8	0.0	0.2	1.0	1.0	0.0	Private
AR-9	0.0	0.2	1.5	1.0	0.0	Private
AR-10	0.0	0.2	1.7	1.2	0.0	Private
AR-11	0.0	0.2	0.7	1.2	0.0	USFS
AR-12	0.0	0.2	1.9	1.3	0.0	Private
AR-13	0.0	0.2	0.0	1.3	0.0	Private
AR-14	0.0	0.4	3.2	2.2	0.0	Private
AR-15	0.0	0.5	3.1	2.9	0.1	Private
AR-16	0.0	0.5	2.4	3.1	0.1	Private
AR-17	0.0	0.6	2.4	3.5	0.1	Private
AR-18	0.0	0.3	1.1	1.9	0.0	USFS
AR-18	0.3	0.9	5.0	3.4	0.0	Private
AR-19	0.0	1.0	7.0	5.8	0.1	Private
AR-20	0.0	0.0	0.0	0.1	0.0	Private
AR-20	0.0	0.3	0.4	1.8	0.2	BLM
AR-20	0.2	0.2	0.0	0.0	0.4	Private
AR-20	0.3	1.0	4.4	4.3	1.3	Private
AR-21	0.0	0.5	3.4	2.9	0.1	Private
AR-21	0.5	0.6	0.6	0.8	0.0	BLM
AR-21	0.6	1.1	3.7	2.6	0.0	Private
AR-22	0.0	0.3	0.3	1.3	0.4	STLND
AR-22	0.3	1.2	5.7	5.2	0.5	Private
AR-23	0.0	11.8	10.9	7.5	0.0	Private
AR-24	0.0	1.3	2.4	7.7	0.8	USFS
AR-25	0.0	0.4	3.5	2.3	0.0	Private
AR-25	0.4	0.9	1.6	3.2	0.4	USFS

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TABLE 1.1-1

Bear Den Project
Temporary and Permanent Land Requirements Associated with the Project's Pipeline Facilities

	Location		Land Requirements			
Facility/Segment	Milepost In	Milepost Out	Temporary Workspace	Permanent Workspace	Additional Temporary Workspace	Landowner
Pipeline						
AR-25	0.9	1.4	4.2	3.2	0.1	Private
AR-25	1.4	1.5	0.4	0.7	0.0	USFS
AR-25	1.5	1.5	0.1	0.0	0.0	Private
AR-25	1.5	2.1	4.4	2.3	0.1	STLND
AR-25	2.1	2.4	2.7	1.0	0.0	STLND
AR-25	2.4	2.7	4.1	1.5	0.0	STLND
AR-25	2.7	2.9	0.6	0.8	0.0	Private
AR-25	2.9	3.1	0.8	1.7	0.1	USFS
AR-26	0.0	0.7	5.3	2.9	0.0	STLND
AR-26	0.7	1.7	8.1	5.9	0.1	Private
AR-27	0.0	1.1	9.6	6.7	0.1	Private
AR-27	1.1	2.9	6.1	10.7	1.5	USFS
AR-27	1.2	1.2	0.0	0.0	0.0	Private
AR-28	0.0	4.1	35.1	24.7	0.3	Private
AR-29	0.0	0.3	2.1	1.7	0.1	Private
AR-29	0.3	0.5	0.9	1.6	0.0	BLM
AR-29	0.5	2.2	11.5	9.7	0.1	Private
AR-29	1.9	1.9	0.1	0.0	0.0	BLM
AR-30	0.0	2.1	15.4	13.0	0.2	Private
AR-30	2.1	2.8	6.6	2.6	0.1	STLND
AR-30	2.8	3.5	5.7	2.7	0.3	STLND
AR-30	3.5	6.9	19.3	20.2	0.4	Private
AR-30	3.5	3.5	0.0	0.0	0.0	BLM
AR-30	6.9	6.9	0.0	0.0	0.0	BLM
AR-30	6.9	7.0	0.0	0.2	0.0	BLM
AR-30	7.0	7.7	1.3	4.4	0.2	Private
AR-30	7.7	8.2	6.2	2.2	0.0	STLND
AR-30	7.7	7.7	0.0	0.0	0.9	STLND
AR-30	8.2	8.9	7.7	2.8	0.0	STLND
AR-30	8.9	9.0	0.3	0.2	0.0	Private
AR-30	9.0	9.3	1.2	1.8	0.0	BLM
AR-30	9.3	11.8	17.7	15.4	0.1	Private
AR-31	0.0	4.2	13.3	25.2	1.6	USFS
AR-31	4.2	4.4	0.8	1.5	0.0	Private
AR-31	4.4	4.9	1.7	3.1	0.1	USFS
AR-31	4.9	5.2	1.5	1.8	0.1	Private
AR-31	5.2	5.8	5.5	2.2	0.0	STLND
AR-31	5.8	6.3	5.4	2.0	0.0	STLND
AR-31	6.3	7.3	8.3	6.1	0.0	Private
AR-31	7.3	7.5	1.3	1.3	0.0	BLM

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TABLE 1.1-1

Bear Den Project
Temporary and Permanent Land Requirements Associated with the Project's Pipeline Facilities

	Location		Land Requirements			
Facility/Segment	Milepost In	Milepost Out	Temporary Workspace	Permanent Workspace	Additional Temporary Workspace	Landowner
Pipeline						
AR-31	7.5	8.2	5.5	4.3	0.0	Private
AR-31	8.2	9.3	7.1	6.7	0.0	Private
AR-31	9.3	9.5	1.4	1.5	0.0	BLM
AR-31	9.5	10.0	4.3	3.0	0.0	Private
AR-32	0.0	0.1	1.4	0.5	0.0	STLND
AR-32	0.1	2.9	27.3	19.7	0.1	Private
AR-33	0.0	0.0	0.1	0.2	0.0	USFS
AR-34	0.0	3.0	23.3	17.9	0.6	Private
AR-35	0.0	1.0	2.1	6.3	0.3	USFS
AR-35	1.0	2.1	9.5	6.6	0.0	Private
AR-35	2.1	2.9	2.6	4.9	0.0	USFS
Pipeline Total			**442.7**	**398.6**	**13.1**	

TABLE 1.1-2

Bear Den Project
Temporary and Permanent Land Requirements Associated with the Project's Aboveground Facilities

Lots and Yards	Location	Temporary Workspace	Permanent Workspace	Additional Temporary Workspace	Landowner
Bice Pipe Storage/Contractor Yard	N/A	5.02	0.00	0.00	Private
Dennis Pipe Storage/Contractor Yard	N/A	5.00	0.00	0.00	Private
Storage/Transfer Facility	AR 16-MP 0	0.00	39.89	0.00	Private
Pig Launcher/Receiver Site	AR-MP 2.1	0.00	0.15	0.00	Private
Line AR Intermediate Block Valve Site	AR-MP 7.0	0.00	0.03	0.00	Private
Line AR 14 Intermediate Block Valve Site	AR 14-MP 0.4	0.00	0.00	0.00	Private
Line AR 30 Intermediate Block Valve Site	AR 30-MP 1.2	0.00	0.00	0.00	Private
Block Valve Site	AR 30-MP 11.0	0.00	0.41	0.00	Private
Lots and Yards Total		**10.02**	**40.48**	**0.00**	

TABLE 1.1-3

Bear Den Project
Temporary and Permanent Land Requirements Associated with the Project's Access Roads

Segment	Location	Temporary Workspace	Permanent Workspace	Length	Landowner
CA1-AR	AR-MP 8.2	0.6	0.0	915	Private
CA2-AR	AR-MP 6.9	0.2	0.0	305	Private
PA1-AR 15	AR 15-MP 0.4	0.0	0.1	131	Private
CA1-AR 19	AR 19-MP 0.5	0.3	0.0	455	Private
CA1-AR 22	AR 22-MP 0.5	0.3	0.0	384	Private

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TABLE 1.1-3

Bear Den Project
Temporary and Permanent Land Requirements Associated with the Project's Access Roads

Segment	Location	Temporary Workspace	Permanent Workspace	Length	Landowner
PA1-AR 23	AR 23-MP 0.7	1.0	2.1	*4,491*	Private
PA1-AR 28	AR 28-MP 4.1	0.0	0.1	110	Private
PA1-AR 30	AR 30-MP 6.4	0.4	0.7	1,555	Private
PA2-AR 30	AR 30-MP 4.5	0.1	0.1	275	Private
PA3-AR 30	AR 30-MP 4.1	0.2	0.4	831	Private
PA4-AR 30	AR 30-MP 2.4	0.2	0.4	877	Private
PA5-AR 30	AR 30-MP 1.7	0.6	1.3	2,769	Private
PA1-AR 31	AR 31-MP 7.3	0.0	0.1	157	Private
CA1-AR 31	AR 31-MP 7.6	0.2	0.0	353	Private
CA1-AR 34	AR 34-MP 2.4	0.6	0.0	812	Private
CA2-AR 34	AR 34-MP 1.7	0.2	0.0	228	Private
CA3-AR 34	AR 34-MP 0.5	0.1	0.0	185	Private
CA1-AR 35	AR 35-MP 2.1	1.6	0.0	2,378	USFS
Access Roads Total		**6.7**	**5.1**		

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[Insert Figure 1.1-1 Bear Den Project Map.]

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2.0 PURPOSE AND NEED

The Secretary of the Interior is authorized to grant rights-of-way (ROW) on public lands for pipelines to transport oil and gas under the authority of Section 28 of the Mineral Leasing Act of 1920, (MLA) as amended and supplemented, (30 U.S.C. 181 et seq.) and prescribed in 43 CFR Parts 2880 and 3160. The Need for this Proposed Action is established by the Bureau of Land Management's (BLM) responsibility under MLA to respond to CEBCS' request to construct the pipeline on public lands.

The purpose and need for this action is to respond to an MLA right-of-way application submitted by CEBCS to construct, operate, maintain, and decommission crude oil and produced water pipelines and ancillary facilities on public lands administered by the U.S. Forest Service (USFS) and the BLM in North Dakota, including an environmental assessment of the proponent's proposal and a reasonable range of alternatives to the proposal.

As oil production in the Bakken Shale has exceeded 600,000 barrels a day (bbl/d), new infrastructure is required to provide safe and reliable transport of crude oil from oil wells to larger outlet pipelines. The purpose of the Project is to construct a gathering pipeline system to eliminate tanker truck activity on public and private roads in the Project area. Currently, the subject wells are serviced through a system of temporary on-site storage, with transportation of crude oil, and produced water accomplished by tanker truck via public and lease roads. Relative to continued trucking, gathering and transportation via pipeline is more efficient, reliable, economic and environmentally conscious (i.e., transport via pipeline will reduce air emissions and minimize the potential for inadvertent releases). The crude oil pipeline system would have a total capacity of approximately 14,000 bbl/d, and the produced water pipeline system would have a total capacity of approximately 3,500 bbl/d.

Although the Project is currently designed and scoped to service the transportation needs of a single production company, it is possible that connections with additional or third-party wells could also be pursued in the future, which could result in the need for expanded or additional facility components. However, should future components be added to the system, CEBCS would first consult with and obtain the necessary permits and approvals from applicable local, state and federal agencies.

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2.1 GOVERNMENT AND AGENCY INVOLVEMENT

A Right-of-Way Grant Application for the Project was submitted to the BLM, North Dakota Field Office, for transportation and utility systems and facilities on federal lands on July 17, 2012. The proposed project crosses approximately 10.7 miles of public land managed by the BLM North Dakota Field Office and the U.S. Forest Service (USFS) McKenzie Ranger District (Little Missouri National Grassland).

The Applicant-prepared Environmental Assessment (EA) for the Project is being prepared under the direction of the BLM, which is serving as the lead agency in compliance with the National Environmental Policy Act of 1969 (NEPA) per the Mineral Leasing Act (MLA) of 1920, as amended. The USFS and U.S. Fish and Wildlife Service (FWS) are cooperating agencies. The document follows the guidelines promulgated by the Council on Environmental Quality (CEQ) for implementing the procedural provisions of NEPA (40 Code of Federal Regulations [CFR] 1500-1508, BLM's NEPA Handbook [H-1790-1] U.S., Department of Interior (USDI) requirements (Department Manual 516, Environmental Quality), guidelines in the BLM NEPA handbook H-1790-1 (BLM 1988), the subsequent interim guidelines (BLM 1999a), and the BLM NEPA guidebook (BLM 1999b). Additionally, CFR 1506.3(a) allows the cooperating agency (USFS) to adopt a NEPA document prepared by the lead federal agency (BLM).

In order to issue an easement for a proposed activity, the USFS would independently evaluate and verify the information and analysis undertaken in the EA and would take full responsibility for the scope and content contained herein, even though, per the MLA, the BLM would issue the right-of-way (ROW) Grant for all federal lands crossed.

The Project would be designed, constructed, and operated in accordance with CFR 49 Part 195, Transportation of Hazardous Liquids by Pipeline. These regulations are administered by the U.S. Department of Transportation (USDOT) Pipeline and Hazardous Materials Safety Administration (PHMSA).

Within 90 days of completion, CEBCS will submit to the BLM Authorized Officer (AO), as-built drawings and a certification of construction verifying that the facility has been constructed (and tested) in accordance with the design, plans, specifications, and applicable laws and regulations.

The proposed Project will be consistent with and will comply with applicable federal, state, and local laws, regulations, and plans (see Table 1.3-1). Appendix D contains the permits and consultations for the Bear Den Project.

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TABLE 2.1-1

Bear Den Project
Environmental Permits, Approvals, and Consultations

Agency	Permit/Approval/Consultation/ Concurrence	Need
Federal		
Bureau of Land Management	Permit	Right-of-Way Grant
	Consultation and Concurrence	National Environmental Policy Act analysis, Project consistency with NDFO Resource Management Plan
	Approval	Decision Document for National Environmental Policy Act analysis
U.S. Forest Service	Consultation and Concurrence	National Environmental Policy Act analysis, Project consistency with USFS 2001 revised Land and Resource Management Plan for the Dakota Prairie Grasslands Northern Region
U.S. Army Corps of Engineers – Omaha District	Permit	Permit for the discharge of dredge or fill material into waters of the U.S. under Section 404 of the Clean Water Act, and for activities affecting navigable waters under Section 10 of the Rivers and Harbors Act
U.S. Fish and Wildlife Service – Region 6 – North Dakota Field Office	Consultation and Concurrence	Consultations for impacts on federally listed threatened and endangered species and critical habitat under Section 7 of the Endangered Species Act (ESA), the Migratory Bird Treaty Act, the Bald and Gold Eagle Protection Act, and the Fish and Wildlife Coordination Act
U.S. Department of Agriculture, Natural Resources Conservation Service – North Dakota	Consultation	Recommendations for revegetation/seed mixes on private and state lands
North Dakota		
North Dakota Department of Health, Division of Air Quality	Permit	Minor source operating permit
North Dakota Department of Health, Division of Water Quality	Permit	General Permit for Construction Stormwater Discharge under the National Pollution Discharge Elimination System
	Permit	General Permit for Construction Dewatering and Discharge of Hydrostatic Test Water under the National Pollution Discharge Elimination System
	Permit	Water Quality Certificate under Section 401 of the Clean Water Act
North Dakota State Water Commission	Permit	Navigable Water Crossing Permit under North Dakota Century Code Chapter 61-33 (Sovereign Lands)
	Permit	Water appropriation permit for any project-related surface water withdrawals
North Dakota Department of Game and Fish	Consultation	Consultation for impacts on fisheries and wildlife
State Historical Society of North Dakota	Consultation and Concurrence	Consultation for impacts on historic properties under Section 106 of the National Historic Preservation Act
North Dakota Department of Transportation	Permit	Right-of-Way Occupancy permit for State roadway crossings
North Dakota Department of Trust Lands, Board of University and School Lands	Permit	Right-of-Way Grant to cross state lands
Local		
Dunn County	Permit	Right-of-way permit to cross roads
McKenzie County	Permit	Right-of-way permit to cross roads

2.2 LANDS AND RESOURCE MANAGEMENT ISSUES AND CONCERNS

Resources considered include critical elements of the human environment (BLM 1988, 1999a), as well as those additional resources that may possibly be affected by the proposed

Project, or those that will be identified during the public scoping period. CEBCS completed biological and cultural field surveys for the proposed Project in August, September, and October 2012, and will complete Paleontological surveys prior to construction to identify and address potential environmental issues.

A summary of the project's potential to impact BLM recognized critical elements of the human environment, as well as other resource issues identified through scoping and our review is provided in Table 1.4-1.

TABLE 2.2-1

Bear Den Project
BLM Critical Elements of the Human Environment

Critical Element	No Impact	May Impact	Not Present	Comments
Air Quality		X		Construction-related combustion emissions, the construction and use of unpaved access roads, and operational and maintenance activities may affect air quality. .
Active Surface Mines	X			No effect on nearby active surface mines anticipated.
Areas of Critical Environmental Concern	X			No areas identified.
Cultural Resources		X		Historical Properties identified in the project area during a Class I and Class III Cultural Resource Inventories
Environmental Justice	X			No issues identified.
Farmlands, Prime or Unique	X			No areas identified.
Fisheries	X			No areas identified.
Floodplains		X		Floodplains associated with the Little Missouri River identified.
Paleontology		X		Paleontological surveys will be conducted in Spring 2013
Recreation		X		Pipeline construction would have little to no impacts on recreational activities.
Invasive and Non-native Weed Species		X		Invasive and non-native weed species identified along the Project route.
Native American Concerns		X		Conducted government to government consultations with 17 tribes and conducted Class 1 and Class 3 Cultural Surveys to identify cultural resource concerns.
Threatened & Endangered Flora/Fauna		X		FWS identified 5 endangered species, 1 threatened species, and candidate species; avoidance/mitigation plans to be implemented.
BLM and USFS Sensitive Species		X		BLM and USFS identified sensitive wildlife and sensitive plant species; avoidance/mitigation plans to be implemented.
Fire Management	X			BLM fire prevention plan to be implemented.
Visual Sensitive Resources	X			There are no visually sensitive resources identified in the USFS DPG LRMP for the project area.
Compatibility with BLM and USFS Resource Management Plans		X		Review of current BLM Field Office Resource Management Plans and USFS DPG LRMP indicates compatibility.
Water Quality Surface/Ground		X		56 surface waterbodies identified; No springs identified; waterbody construction Best Management Practices to be implemented.
Wastes, Hazardous or Solid		X		Project would require storage and handling of fuels and other hazardous materials; spill prevention, containment, and control plan to be implemented.
Wetlands/Riparian		X		68 wetlands identified (63 PEM, 2 PSS, 3 PFO wetlands) in the project area; wetland construction Best Management Practices to be implemented.
Wild and Scenic Rivers	X			No areas identified.

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TABLE 2.2-1

Bear Den Project
BLM Critical Elements of the Human Environment

Critical Element	No Impact	May Impact	Not Present	Comments
Wilderness Study Areas	**X**			No areas identified.
Migratory Bird Species		**X**		Potential habitat for migratory birds identified.
Raptors		**X**		Surveys for historic raptor nest locations to be performed.
National Forest System Inventoried Roadless Areas(IRA)	**X**			Project is located 4.25 to 4.5 miles northeast of an IRA where road construction or reconstruction is allowed. Project is not within an IRA where road construction is not allowed or an IRA recommended wilderness area.

2.3 RIGHT-OF-WAY LOCATION

The Project will entail the crossing of Federal lands under the management of the BLM and the USFS, McKenzie Ranger District, in the following locations:

Bureau of Land Management

- Township 148 North, Range 96 West, Section 19
- Township 148 North, Range 96 West, Section 21
- Township 148 North, Range 96 West, Section 28
- Township 148 North, Range 96 West, Section 31
- Township 148 North, Range 97 West, Section 22
- Township 148 North, Range 98 West, Section 25
- Township 148 North, Range 98 West, Section 26
- Township 148 North, Range 98 West, Section 9

U.S. Forest Service

- Township 148 North, Range 98 West, Section 15
- Township 148 North, Range 98 West, Section 23
- Township 148 North, Range 98 West, Section 24
- Township 149 North, Range 96 West, Section 19
- Township 149 North, Range 96 West, Section 20
- Township 149 North, Range 96 West, Section 30
- Township 149 North, Range 97 West, Section 11
- Township 149 North, Range 97 West, Section 12
- Township 149 North, Range 97 West, Section 13
- Township 149 North, Range 97 West, Section 14
- Township 149 North, Range 97 West, Section 15
- Township 149 North, Range 97 West, Section 17
- Township 149 North, Range 97 West, Section 20
- Township 149 North, Range 97 West, Section 23
- Township 149 North, Range 97 West, Section 24
- Township 149 North, Range 97 West, Section 26
- Township 149 North, Range 97 West, Section 29
- Township 149 North, Range 97 West, Section 8
- Township 149 North, Range 97 West, Section 9

3.0 RESOURCE VALUES AND ENVIRONMENTAL CONCERNS

3.1 LAND USE PLANS

The document directing management of USFS-administered lands within the Project area is the Land and Resource Management Plan (LRMP) for the Dakota Prairie Grasslands (DPG), amended 2001, and management of BLM-administered lands is the North Dakota Resource Management Plan (1988). The 1988 North Dakota Resource Management Plan provides land use guidance for development of oil and gas reserves, including transmission of products to distribution points by pipelines. The 2001 LRMP consists of goals, objectives and management requirements (standards and guidelines) for all resource management activities on the DPG and were taken into consideration for this project (LRMP, 2001). The DPG were newly organized in 1998 from National Forest System lands formerly administered by the Custer National Forest (LRMP, 2001). The lands administered by the DPG include the Grand River National Grasslands in South Dakota and Cedar River National Grassland, the Little Missouri National Grassland (LMNG), and the Sheyenne National Grassland in North Dakota. The project crosses the LMNG within the McKenzie District; the Project does not cross any other lands administered by the DPG. The LMNG encompasses about 1.0 million acres in the western region of North Dakota (LRMP, 2001).

3.2 RESOURCE VALUES, ENVIRONMENTAL CONCERNS, AND PUBLIC NEEDS

3.2.1 Waterbodies, Wetlands, and Riparian Areas

CEBCS conducted field surveys for waterbodies and wetlands in September and October 2012. The pipeline was routed to avoid waterbody and wetland crossings where feasible. Waterbodies and wetlands that cannot be avoided would be crossed using open cut methods or Horizontal Directional Drill (HDD) methods. Standard wetland construction mitigation measures will include reducing the construction right-of-way to 75 feet (60 feet where a single pipeline is proposed) and limiting equipment working in wetlands to that essential for clearing, excavating the trench, fabricating and installing the pipeline, backfilling the trench, and reclaiming the right-of-way. In areas where access to the right-of-way is only available through the wetland area, non-essential equipment would be allowed to travel through wetlands only if the ground is firm enough, or has been stabilized, to avoid rutting. If rutting is anticipated prefabricated mats would be utilized.

Refer to Appendix E, *Construction, Reclamation, and Monitoring Plan* (CRMP) for specific mitigation proposed for wetland and riparian areas. Appendix F contains the *Storm Water Pollution Prevention Plan*. Appendix G contains the *Horizontal Directional Drill and Contingency Plan*.

3.2.2 Rangeland Standards / Livestock Management

CEBCS, in constructing and operating the proposed pipeline, will adhere to practices that will not degrade rangelands. This will include practices to prevent soil erosion; to encourage water infiltration to provide for optimal plant growth and minimal surface runoff; to protect riparian areas; to encourage diverse plant communities in upland habitats; to contribute to a balanced and diverse economy; to manage natural resources in harmony with history, culture, and social development; to maintain water quality; and to maintain air quality.

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Refer to the CRMP for specific mitigation proposed for rangelands such as seed mixes and restoration timing.

3.2.3 Wildlife Resources

The vegetation communities in the project area support wildlife resources including big game, raptors, upland game birds, migratory and non-migratory bird species, and other vertebrate species. Only minor impacts on wildlife species in the proposed Project area are expected, and no impacts on wildlife at a community or regional level are anticipated as a result of the proposed project. Impacts to wildlife resources may include temporary and long-term impacts to habitat along the proposed right-of-way and human disturbance during construction. Although individuals of some wildlife species could be affected, the proposed project would not result in a major alteration to ecosystems or biodiversity, or impact the composition of the wildlife communities in the general project area.

No general wildlife specific restoration methods are planned.

3.2.4 Migratory Birds and Raptors

Migratory raptor, game, and songbird species are protected under the Migratory Bird Treaty Act of 1918, as amended (MBTA). The MBTA protects species or families of birds that live, reproduce, or migrate within or across international borders at some point in their life cycle. It prohibits the taking of any migratory bird, their parts, nests, or eggs except as permitted by regulation. Further, sage grouse, burrowing owls, several songbirds, bald eagles and other raptors are afforded additional protections due to their federal or BLM/USFS sensitive status.

Conservation and mitigation measures to protect migratory birds and raptors can be found in CEBCS' *Migratory Bird Impact Assessment, Mitigation, and Compliance Plan* (Appendix H).

3.2.5 Big Game Crucial Game Ranges

The Project will directly impact designated bighorn sheep lambing habitats on USFS and BLM lands. Project construction is anticipated to begin June 2013 and be completed and in-service by October 2013; this schedule partially overlaps the lambing schedule for bighorn sheep (April 1 – June 15). Direct impacts resulting from construction activity may include mortality to individuals due to construction traffic on roads through portions or bighorn sheep habitat on federal and non-federal land.

Efforts to reduce disturbance near lambing areas in order to prevent a change in bighorn distribution, abandonment of suitable habitat, or alterations in activity patterns include:

- CEBCS will avoid the majority of bighorn sheep habitat on federal land, or has co-located their pipeline with other infrastructure (primarily roads) within bighorn sheep habitat on federal lands;

- CEBCS will maintain a 220 yard buffer (the minimum threshold at which human disturbance becomes significant) between construction activities and known lambing areas on federal land during the lambing season; these areas will be determined prior to construction;

- CEBCS will conduct aerial surveys to assess pipeline integrity outside the lambing period from April – June; and

- the right-of-way will be promptly reclaimed within bighorn sheep habitat on federal land as outlined in the CRMP.

3.2.6 Threatened, Endangered, and Sensitive Species

Federally Listed Species

The USFWS has identified six federally protected species and four candidate species that could occur within the Project area. The interior least tern (*Sterna antillarum*), the whooping crane (*Grus americana*), the pallid sturgeon (*Scaphirhynchus albus*), and the gray wolf (*Canis lupus*) are federally listed as endangered. The piping plover (*Charadrius melodus*) is listed as federally threatened. The black-footed ferret (*Mustela nigripes*) is listed as an experimental population, non-essential. The Sprague's pipit (*Anthus spragueii*), greater sage-grouse (*Centrocercus urophasianus*), Dakota skipper (*Hesperia dacotiae*), and the Poweshiek skipperling (*Oarisma poweshiek*) are federally listed as candidate species and USFS/BLM Sensitive Species.

A Biological Assessment (BA) will be prepared to address potential impacts to endangered, threatened, and two candidate species, Sprague's pipit and Dakota skipper, because suitable habitat for these two candidate species occurs within the Project area. Two federal candidate species, the greater sage-grouse and Poweshiek skipperling, were eliminated from analysis in the BA because the Project is located outside of their known range and suitable habitat. The BA will also include any species specific mitigation measures that may be required by the USFWS to minimize or avoid impacts to these species.

BLM/USFS Sensitive Species

A Biological Evaluation (BE) will be prepared to address potential impacts to the February 2011 Region 1 USFS Regional Forester's Sensitive Species List for those species known to occur within the DPG and that may occur within or adjacent to the Project (USFS, 2011; 2011a; 2011b). During a pre-survey meeting held in Dickinson, North Dakota on February 12, 2013 the BLM agreed with using the USFS Sensitive Species lists on BLM lands. Therefore, the USFS Sensitive Species identified for review and analysis for the Project area were reviewed for potential impacts on BLM lands and will be referred to as USFS Sensitive Species. Two federal candidate species, the greater sage-grouse (*Centrocercus urophhasianus*) and Poweshiek skipperling (*Oarisma Poweshiek*), which were eliminated from analysis in the BA, will be covered in the BE, as well as a single watch list plant species that was identified during botanical project surveys. The BE will address the potential impacts to 33 USFS sensitive species (19 USFS sensitive animals and 14 USFS sensitive plants) and one watch list plant species that was identified for this Project. The BE will also include any species specific mitigation measures that may be required by the BLM/USFS to avoid or minimize impacts to these species.

3.2.7 Air Quality

The primary pollutant in the vicinity of the proposed pipeline route is particulate matter, occurring as fugitive dust from natural sources, paved and unpaved roads, and surface disturbances associated with construction, recreation, and livestock grazing. The proposed

project will generate air emissions through short-term construction, operation, and maintenance activities. All vehicles and construction equipment will be properly maintained to minimize exhaust emissions and will be properly muffled to minimize noise. Emissions from operations at the storage/transfer facility (e.g., tanks and backup generators) will be subject to applicable state and federal air regulations. Additional aboveground facilities will not have any permitted emissions associated with their operation.

Fugitive dust from both access roads and the construction right-of-way itself will be controlled during construction. Water application, using a rear spraying water truck or other suitable means, will be the primary method of controlling dust on the access roads and right-of-way. Every effort will be made to complete initial reclamation and cleanup of a disturbed area within 20 days after backfilling. Seeding will typically occur within 6 days following restoration. If project completion and reclamation is completed outside of the seeding window, temporary soil stabilization may need to be employed until seeding can be accomplished during the approved time period(s).

All visibly dry disturbed access roads and disturbed soil surface areas shall be watered as necessary to control dust emissions. The frequency of water application will largely depend on weather conditions. The Environmental Inspector will direct application of additional dust controls as necessary. The quantities of water used for dust suppression will be documented and made available to the BLM upon request.

3.2.8 Cultural Resources

In the fall of 2012, a Class I file search and Class III cultural resources inventory was conducted of the area of potential effect (APE) to identify and evaluate the National Register of Historic Places (NRHP)-eligibility of all cultural resources that could be impacted by Project construction. The Class I file search involved a review at the North Dakota State Historic Preservation Office (SHPO) of site files and survey reports within a 1-mile-wide corridor centered on the proposed pipeline centerline. The file search identified a total of 107 previously recorded cultural resources, including 27 prehistoric sites, 24 historic sites (18 of which are farm/farmsteads and other site types suggesting architecture), 41 prehistoric isolated finds (IFs), 6 historic IFs, and nine IFs of unknown cultural or temporal affiliation.

The Class III cultural resources inventory involved an intensive-level pedestrian survey of the proposed pipeline and facilities. The inventory resulted in the identification of 11 newly recorded cultural resources, including two sites and nine IFs. The newly recorded cultural resources include a historic homestead (Site No. 32MZ718 and 32MZ1102.), a newly recorded segment of a railroad grade (Site No. 32MZ416), and nine historic IFs. All newly recorded cultural resources are recommended as not eligible for inclusion in the NRHP. The Class III survey report was reviewed by BLM and forwarded to the North Dakota SHPO for comment on DATE.

Nine cultural resources were identified within the APE, consisting of five archaeological sites and four isolated finds. Two archaeological sites, one historic homestead (32MZ718) and one prehistoric site (32MZ487/32DU1285), are historic properties recommended as eligible for listing in the NRHP. One isolated find is a rock cairn of undetermined age which will be avoided by the project. The Class III survey report was reviewed by the BLM and forwarded to the North Dakota SHPO for comment on March 7, 2013. In a letter dated April 5, 2013, the SHPO concurred with the BLM's determination and recommendations.

The Project has adopted a *Plan for Unanticipated Discovery of Cultural Resources or Human Remains During Construction* (Appendix I), which will be implemented during construction. The plan discusses the procedures to be implemented for monitoring onsite areas and for discoveries found during the construction of the Project. The plan contains procedures for mitigating cultural resource discoveries identified by the Project archaeologists during construction. The plan also includes procedures for the initial treatment of discoveries, the evaluation and treatment of eligible discoveries, and the treatment of human remains.

3.2.9 Paleontological Resources

The BLM has adopted the Potential Fossil Yield Classification (PFYC) system to identify and classify fossil resources on federal lands (BLM 2011). Paleontological resources are closely tied to the geologic units (i.e., formations, members, or beds) that contain them. The probability for finding paleontological resources can be broadly predicted from the geologic units present at or near the surface. Therefore, geologic mapping can be used for assessing the potential for the occurrence of paleontological resources.

Utilizing the PFYC system, the CEBCS will conduct pre-construction paleontological surveys of sensitive formations (PFYC 3, 4 and 5) and report findings to the BLM. Additionally, the Project has developed a *Plan for Unanticipated Discovery of Paleontological Resources During Construction,* (Appendix J) that identifies by MP and geologic formation areas where monitoring is required during construction.

3.2.10 Floodplains

The Bear Den Project crosses the Little Missouri River floodplain. No floodplain specific mitigation measures are proposed.

3.2.11 Native American Concerns

As the lead federal agency, BLM has conducted government to government consultation with Native American tribes that requested to consult on the project to determine the Project's effect on traditional cultural properties, sacred sites, or other sites of religious or cultural importance, as well as other resources, such as water. On October 29, 2012, the BLM sent letters of invitation to participate in consultation to 17 Tribes who have tribal treaty interests in, and/or traditional connections to, western North Dakota.

Ten tribes expressed interest in consulting about the project and on February 13, 2013, a tribal coordination meeting was held in Dickinson, ND. Participants included representatives of the BLM, USFS, Sisseton-Wahpeton Oyate Tribe, Standing Rock Sioux Tribe, Rosebud Sioux Tribe of Indians, Three Affiliated Tribes: Mandan, Hidatsa, Arikara, Yankton Sioux Tribe, and Oglala Sioux Tribe. An additional tribal consultation and coordination meeting was held in Spearfish, SD, on March 26 and 27, 2013. Participants included representatives of the BLM, USFS, SHPO, Cheyenne River Sioux Tribe, Crow Creek Sioux Tribe, Fort Peck Assiniboine and Sioux Tribe, Northern Cheyenne Tribe, Oglala Sioux Tribe, Rosebud Sioux Tribe, Sisseton-Wahpeton Oyate Tribe, Standing Rock Sioux Tribe, Three Affiliated Tribes: Mandan, Hidatsa, Arikara, Turtle Mountain Band of Chippewa, and Yankton Sioux Tribe.

The BLM has also included the SHPO, and the USFS in these consultations.

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3.2.12 Noxious Weeds and Non-Native Invasive Species

The North Dakota Century Code (NDCC) §4.1-47-01(6) defines noxious weeds as any plant propagated by either seed or vegetative parts which is determined by the commissioner, a county weed board, or a city weed board, after consulting with the North Dakota State University Extension Service, to be injurious to public health, crops, livestock, land, or other property. Currently, there are eleven species or species groups (some include more than one species and/or cultivars) in North Dakota (North Dakota Administrative Code §7-06-01-02). Pursuant to NDCC 4.1-47 the control and the spread of noxious and invasive weeds is mandatory, and dissemination of noxious weeds must be prevented.

As part of the initial environmental survey effort, CEBCS conducted weed surveys along the Bear Den Project corridor in September and October 2012. Noxious and invasive weed species were identified along the Project and are likely to invade and become established on disturbed portions of the right-of-way. Sources of invasive and noxious weeds are existing pipeline rights-of-way, roadsides, reclaimed well pads, and other disturbed areas in the vicinity of the proposed project that have established populations of invasive species and noxious weeds. To limit the success of invasive species, CEBCS will re-contour, stabilize, and revegetate the construction right-of-way immediately after pipeline construction. CEBCS' CRMP requires all disturbed soils to be seeded within 6 working days of final grading, weather and soil conditions permitting. If project completion and reclamation is completed outside of the seeding window, temporary soil stabilization may need to be employed until seeding can be accomplished during the approved time period(s).

Consistent with EO 13112 and state laws, CEBCS will also minimize the spread of noxious and invasive weeds by adhering to the measures identified in CEBCS' CRMP, and will comply with local weed ordinances, if applicable. CEBCS will also require that all equipment be free of soil, debris, and plant matter before traveling to the Project area. To assist in identification and control of noxious and invasive weeds during construction, CEBCS will include information regarding noxious and invasive weeds as a part of the environmental training given to all contractors.

CEBCS' *Weed Management Plan* (Appendix K) identifies the specific location of weed populations and specific measures that will be implemented to manage noxious and invasive weeds during and after construction based on recommendations from the BLM, USFS, NRCS, and local weed control authorities. Herbicides, if used, will be applied in accordance with CEBCS' CRMP and *Weed Management Plan* in compliance with applicable regulations and manufacturer recommendations.

3.2.13 Hazardous or Solid Wastes

Hazardous materials used during pipeline construction will include petroleum products typically required for heavy equipment operations (e.g., gasoline, diesel fuel, lubricants, and coolants) that contain several hazardous and extremely hazardous materials identified in the Environmental Protection Agency's *Consolidated List of Chemicals Subject to Reporting Under Title III of the Superfund Amendments and Reauthorization Act of 1986* and 40 CFR 355. Project construction and maintenance operations will comply with all relevant federal and state laws regarding hazardous materials.

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CEBCS will hire a contractor to provide an adequate number of portable toilets at the construction site and will ensure that sanitary wastes are removed and disposed of at an approved facility in accordance with state and local laws.

Waste materials such as pipe coating, spent welding rods, containers, cans, lunch wrappers, used engine oil, and other wastes from construction activities will be collected daily, placed in containers, properly accumulated, and disposed of at an approved landfill and/or waste disposal site. Contractors will also provide trash barrels or dumpsters to collect construction site trash (e.g., lunch wrappers), and solid wastes will routinely be removed and disposed of at an approved facility.

3.2.14 Water Quality

Surface Water Resources

The Project conducted waterbody and wetland surveys from August until October 2012. Sixty-eight wetlands and 56 waterbodies were identified along the proposed Project route. The primary perennial streams along the proposed Project route include Bear Creek, the Little Missouri River, Cherry Creek, and Spring Creek. A number of named and unnamed intermittent streams also would be crossed by the proposed Project route. The majority of wetlands were palustrine emergent wetlands.

Water quality reporting requirements under Sections 305(b) and 303(d) of the CWA require states to assess the extent to which lakes, reservoirs, rivers, and streams are meeting water quality standards applicable to their waters, including beneficial uses as defined in their state water quality standards. North Dakota's water quality standards provide for four stream classes: I, IA, II, and III, but excludes wetlands. The North Dakota Department of Health (NDDH) collects water quality data on major water bodies including the Lower Little Missouri River which is designated a Class II stream (NDDH 2011). The water quality for this class of use "shall be the same as the quality of Class I streams, except that additional treatment may be required to meet the drinking water requirements of the department. Streams in this classification may be intermittent in nature, which would make these waters of limited value for beneficial uses such as municipal water, fish life, irrigation, bathing, or swimming" (North Dakota Administrative Code 33-16-02.1-09).

The other tributaries along the proposed Project route are designated as Class III streams (NDDH 2011). The water quality for this class of use "shall be suitable for agricultural and industrial uses. Streams in this class generally have low average flows with prolonged periods of no flow. During periods of no flow, they are of limited value for recreation and fish and aquatic biota. The quality of these waters must be maintained to protect secondary contact recreation uses" (e.g., wading), fish and aquatic biota, and wildlife uses" (North Dakota Administrative Code 33-16-02.1-09).

In compliance with the United States Environmental Protection Agency (USEPA) requirements promulgated through the CWA, the NDDH issues a bi-annual integrated report on surface water quality in the state. Under Section 303(b) of the act, waterbodies with known water quality characteristics that fail to support designated uses are listed as impaired. Within the Project area, impaired waters and those with water quality characteristics that threaten the support of designated uses include the Little Missouri River from U.S. Highway 85 downstream to its confluence with Cherry Creek in McKenzie and Dunn counties (due to fecal coliform) (McCain and Associates, Inc. 2011a; NDDH 2010).

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Groundwater Resources

An evaluation of hydrogeologic resources in the Project area was conducted by CEBCS through review of publications and public Geographic Information System databases provided by the USEPA, the USGS, the NRCS, and the NDDH.

There are three glacial drift aquifers (Little Missouri River, Cherry Creek, and Tobacco Garden,) underlying the Lower Little Missouri River sub-basin. Thirteen production areas are located in the sub-basin; two in Dunn County and eleven in McKenzie County.

No sole-source aquifers have been designated in North Dakota. Aquifers in or near the Project Area occur within unconsolidated glacial and alluvial deposits and porous sedimentary bedrock. Major ancient alluvial or glacial outwash aquifers potentially crossed or adjacent to the proposed Project route include the Little Missouri River aquifer in southeastern McKenzie County. In addition to these features, less extensive surficial aquifer zones occur in recent alluvial deposits along the wider streams and rivers.

In McKenzie County, the Little Missouri River Aquifer is a narrow deposit consisting mainly of glacial outwash in the river valley. The aquifer consists of buried sand and gravel deposits approximately 0.75 mile wide. Thickness of the water bearing zone generally is 150 feet. The aquifer generally is considered to be approximately 22 feet deep under surficial silt loams, silts, and clays.

Deeper bedrock aquifers in McKenzie County include the Late Cretaceous Fox Hills and basal Hell Creek system, which underlies all of McKenzie County and extends into adjoining counties. This aquifer system generally is 1,100 to 1,800 feet below land surface.

Spills of hazardous materials during construction could affect water quality. To protect surface and groundwater resources from inadvertent releases of fuel and other mechanical fluids, CEBCS will adhere to its *Spill Prevention, Control and Countermeasures Plan* (SPCC Plan) (Appendix L). The SPCC Plan describes measures to be implemented by CEBCS personnel and contractors to prevent and, if necessary, control any inadvertent spill of hazardous materials such as fuels, lubricants and solvents that could affect water quality. By implementing the SPCC Plan, the project's short- and long-term impact on groundwater and surface water resources will be greatly reduced or eliminated.

3.2.15 Visual Resources

Currently the Little Missouri National Grasslands does not have visual quality objectives and the BLM's Resource Management Plan does not address Visual Resource Management for North Dakota lands.

Effects on visual resources from construction of the proposed Project facilities will be limited primarily to alteration of the vegetation and the temporary use of heavy construction equipment on the ROW. During construction, open trenches and spoil piles will result in color changes to the landscape and heavy equipment will create tracks, compress vegetation, and expose soil within the authorized construction corridor. Such effects will be limited to the duration of construction and therefore will be temporary.

CEBCS will minimize visual impacts where feasible by locating portions of the new ROW directly adjacent to existing permanent ROWs. Additionally, due to the lack of vegetation that

often requires clearing for operation (e.g., forest) the potential impacts on rangeland will be brief because these areas will be restored to pre-construction conditions after construction and not require long-term vegetative maintenance.

The only long-term visual impacts would be those associated with permanent aboveground facilities, which with the exception of the storage/transfer facilities, will be minor in scope. To help minimize the visual impact, facilities on federal lands will be painted to blend into the existing landscape per the BLM's Gold Book 2007 guidance. Otherwise, existing land uses of oil and gas development, grazing, utility corridors, and wildlife habitat will continue with negligible impacts, generally limited to the time of construction.

3.2.16 Vegetation

The Project area is located entirely within the Northwestern Great Plains ecoregion encompassing the Missouri Plateau section of the Great Plains of west-central North Dakota. The landscape consists of a semi-arid rolling plain of shale, siltstone, and sandstone, punctuated by agriculture and rolling plains topography with isolated sandstone buttes and badland formations and minimal wetland basins. The Project is situated within the Badlands Geographic Area and the Rolling Prairie Geographic Area (LRMP, 2011). The dominant vegetation within the Badlands Geographic Area includes riparian cottonwood (*Populus spp.*) forests along the Little Missouri River, hardwood draws of green ash (*Fraxinus pennsylvanica*) and chokecherry ((*Prunus virginiana*), uplands of western wheatgrass (*Pascopyrum smithii*) and needle and thread grass (*Hesperostipa comata*), rolling grasslands of western wheatgrass and prairie Junegrass (*Koeleria macrantha*), rocklands of common juniper (*Juniperus communis*) and creeping juniper also known as creeping cedar (*Juniperus horizontalis*), terraces of wolfberry also known as matrimony vine (*Lycium barbarum*) and silver sagebrush (*Artemisia cana)*, savanna of ponderosa pine (*Pinus ponderosa*) and green needlegrass (*Stipa viridula*), upland breaks of big sage (*Artemisia tridentata*) and skunkbrush (*Rhus trilobata*), river breaks of Rocky Mountain juniper (*Juniperus scopulorum*) and silver sagebrush , and toe slopes of western wheatgrass and prickly pear (*Opuntia spp.*)(LRMP, 2011). The dominant vegetation within the Rolling Prairie Geographic Area includes hardwood draws of green ash and chokecherry, uplands of blue grama (*Bouteloua gracilis*) and little bluestem (*Schizachyrium scoparium*), rolling grasslands of western wheatgrass and prairie Junegrass, and terraces of wolfberry and silver sagebrush (LRMP, 2011)..

Within the Project Area, the six dominant vegetation communities that occur along the proposed pipeline right-of-way and associated infrastructure include grassland, agriculture, shrubland, woodland, wetland/waterbody, and developed lands. Native prairie is of special concern where crossed by the Project. Revegetation and right-of-way reclamation plans are included in the CRMP.

3.2.17 Soil

Water erosion is the detachment and movement of soil by water. Natural erosion rates depend on inherent soil properties, slope, soil cover, and climate. Approximately 68 percent of the soils crossed by the Project route are highly erodible to water. Wind erosion is the physical wearing of the earth's surface by wind. Wind erosion removes and redistributes soil. Small blowout areas may be associated with adjacent areas of deposition at the base of plants or behind obstacles, such as rocks, shrubs, fence rows, and roadbanks (Soil Quality Institute 2001). Wind erodible soils comprise approximately 4 percent of the soils crossed by the Project route.

Soil compaction occurs when soil particles are pressed together and the pore spaces between them are reduced and bulk density is increased. Moist fine textured soils are most susceptible to severe compaction. Approximately 2 percent of the soils crossed by the Project route are compaction prone.

Soils that are droughty have physical characteristics that may limit plant growth due to low water holding capacity. In addition, the success of stabilization and restoration efforts in these areas may be limited unless additional treatments and practices are employed to offset the adverse physical characteristics of the soils. Approximately 4 percent of the soils crossed by the Project route are considered droughty.

Hydric soils are soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part of the soil profile. These soils are commonly associated with floodplains, lake plains, basin plains, riparian areas, wetlands, springs, and seeps. Approximately one percent of the soils crossed by the Project route have at least one component of the map unit that is hydric. Smaller areas of hydric soils may exist but may not be captured due to the scale of mapping.

Soils with a shallow depth to bedrock include those that have lithic (hard) unweathered bedrock and paralithic (soft) weathered bedrock less than 60 inches from the soil surface. These conditions can be an important consideration for trenching techniques and/or the need for blasting. Approximately 54 percent of the soils crossed by the Project route have a shallow depth to bedrock, primarily of the paralithic type.

During construction, the effectiveness of temporary erosion control devices, including pocks, interceptor diversions, and sediment filter devices (e.g., hay bales and silt fences), will be monitored by CEBCS' Environmental Inspectors (EIs). The effectiveness of revegetation and permanent erosion control devices will be monitored by CEBCS' operating personnel during the long-term operation and maintenance of the pipeline system. Erosion control devices will be maintained until the right-of-way is revegetated successfully. Following successful revegetation of construction areas, temporary erosion control devices will be removed. An *Environmental Inspection and Compliance Monitoring Plan* is included as Appendix M.

4.0 CONSTRUCTION OF THE FACILITY

4.1 MAJOR FACILITIES

Pipeline construction will begin as soon as all permits and rights-of-way have been secured and Notices to Proceed (NTPs) have been issued by the BLM, weather conditions permitting. Construction is expected to start by July 2013, with all Project facilities completed and in-service by October 2013. Construction will occur in a planned and orderly sequence of operations along the right-of-way. CEBCS will conduct all activities associated with the construction, operation, and reclamation within the authorized limits of the right-of-way, facility sites, and additional temporary workspaces. CEBCS will notify BLM's AO and all other surface owners 24 hours prior to commencing construction. Construction will involve the following steps (see Figure 1 of Appendix C):

One of CEBCS' objectives during pipeline route selection was to collocate the Project route to the maximum extent practicable with existing road and utility rights-of-way; however few existing pipeline, utility or road corridors exist that connect the well pad locations efficiently.

Approximately 58 percent of the 68.5 miles of pipeline to be constructed will be collocated with existing pipeline, utility, or road rights-of-way.

4.1.1 Construction and Permanent Rights-of-Way

The construction and permanent right-of-way configurations for the pipeline route are summarized in Table 3.1.1-1. Locations where a single pipeline is proposed will be 50 feet wide on federal land, 100 feet on state and private lands and 60 feet through wetlands and waterbodies. Where two pipelines are proposed, the typical construction right-of-way will be 80 feet on federal land, 125 feet on state and private lands, and 75 feet through wetlands. Additional temporary workspaces (ATWS) along, but outside, the nominal right-of-way will be needed to facilitate equipment turnarounds, equipment parking areas, pipe and pipe fitting storage, and steep slope construction. CEBCS considers the proposed nominal construction right-of-way width and proposed additional temporary workspace locations to be the minimum necessary to construct the project in an efficient and safe manner. Both the typical right-of-way and extra workspaces are needed to provide adequate space for segregating topsoil and assuring the safe handling of materials and operation of equipment. CEBCS anticipates stripping topsoil over the full right-of-way width through most of the project, which will require significant space for segregation of soils especially through steep, rocky terrain and across 'sidehills.' CEBCS will obtain landowner/land managing agency approval for all construction right-of-way workspace identified for the Bear Den Project prior to their use. CEBCS will also confirm cultural resource and special status species clearances for these areas.

Table 4.1.1-1
Bear Den Project
CEBCS Proposed Construction Right-of-Way (CROW) and Permanent Right-of-Way (PROW) by Land Owner or Habitat Type Where There is a Single or Double Pipeline.

Land Owner/ Habitat Type	Federal	ND Department Trust Lands	Privately Owned	Wetlands and Waterbodies
Single Pipeline:				
CROW (ft. wide)	50	100	100	60
PROW (ft. wide)	20	33	50	50
Two Pipelines				
CROW (ft. wide)	80	125	125	75
PROW (ft. wide)	50	33	50	50

Drawings that depict the typical temporary construction and permanent right-of-way widths, pipeline offsets and associated configurations for this Project are provided as Figures XX through XX of Appendix B. These figures represent the following typical pipeline installation scenarios:

- single Pipeline Installation (10.2 miles of right-of-way) 100-foot-wide construction right-of-way and 50-foot-wide permanent right-of-way on Privately Owned Lands (Figure XX of Appendix B);
- 100-foot-wide construction right-of-way and 33-foot-wide permanent right-of-way on North Dakota Department of Trust Lands (Figure XX of Appendix B);
- 50-foot-wide construction right-of-way and 20-foot-wide permanent right-of-way on Federal lands (Figure XX of Appendix B);

- within wetlands and waterbodies, an 60-foot-wide construction right-of-way and a 50-foot-wide permanent right-of-way will be used (Figure XX of Appendix B);

- dual Pipeline Installation (58.9 miles of right-of-way) 125-foot-wide construction right-of-way and 50-foot-wide permanent right-of-way on Privately Owned Lands (Figure XX of Appendix B);

- 125-foot-wide construction right-of-way and 33-foot-wide permanent right-of-way on North Dakota Department Trust Lands (Figure XX of Appendix B);

- 80-foot-wide construction right-of-way and 50-foot-wide permanent right-of-way on Federal lands (Figure XX of Appendix B);

- 75-foot-wide construction right-of-way and 50-foot-wide permanent right-of-way within wetlands and waterbodies (Figure XX of Appendix B); and

- where the pipeline traverses rugged terrain, a wider width construction right-of-way will be required based on site-specific conditions (Figure XX of Appendix B).

4.1.2 Temporary Workspaces and Contractor Yards

CEBCS will utilize additional temporary workspace (ATWS) and two contractor yards for construction, laydown, and parking during construction of the Project. ATWS (outside the typical construction right-of-way) will be needed at selected road, wash, and wetland or waterbody crossings; pipeline crossings; pipeline valve locations; pipe laydown areas; and in special situations where required such as near existing pipe or power lines and at the beginning and end of the project to tie the proposed new facilities into existing facilities. Extra workspace is intended to provide additional room for safe working, for long radius truck turns, for stockpiling trenched and graded materials, for safe trenching and installation of the pipeline, and where CEBCS has identified particularly rugged terrain, side slopes, deep wash crossings, foreign pipeline crossings, or access approaches. Table 4.1.2-1 lists the ATWS locations and their dimensions outside the typical construction right-of-way required for the project.

TABLE 4.1.2-1

Bear Den Project
Proposed Extra Temporary Workspaces Along the Project Corridor

Milepost Begin (MP)	Width (feet)	Length (feet)	Temporary Area Affected (acres)*	Reason**	Land Ownership
AR-MP 0.2	25	50	0.028	Constructability (Steep Slope)	Private
AR-MP 0.4	25	50	0.028	Constructability (Steep Slope)	Private
AR-MP 2.2	25	50	0.028	Road Crossing	Private
AR-MP 2.2	25	50	0.028	Road Crossing	Private
AR-MP 2.4	25	50	0.028	Road Crossing	Private
AR-MP 3.6	25	50	0.028	Road Crossing	Private
AR-MP 3.6	25	50	0.028	Road Crossing	Private
AR-MP 4.0	25	50	0.028	Pipeline Crossing	USFS
AR-MP 4.0	25	70	0.080	Pipeline Crossing	USFS
AR-MP 5.9	25	50	0.028	Waterbody Crossing and Constructability (Steep Slopes)	USFS

TABLE 4.1.2-1

Bear Den Project
Proposed Extra Temporary Workspaces Along the Project Corridor

Milepost Begin (MP)	Width (feet)	Length (feet)	Temporary Area Affected (acres)*	Reason**	Land Ownership
AR-MP 6.1	25	50	0.028	Waterbody Crossing and Constructability (Steep Slopes)	USFS
AR-MP 6.9	25	50	0.028	Road Crossing	STLND
AR-MP 7.0	25	50	0.028	Road Crossing	Private
AR-MP 7.4	25	50	0.028	Pipeline Crossing	Private
AR-MP 7.4	25	50	0.028	Pipeline Crossing	Private
AR-MP 7.4	45	90	0.150	Pipeline Crossing	Private
AR-MP 8.2	25	50	0.028	Constructability (Woody Draw)	Private
AR-MP 8.2	25	50	0.028	Constructability (Woody Draw)	Private
AR-MP 8.5	25	50	0.028	Road Crossing	Private
AR-MP 8.5	25	50	0.028	Road Crossing	Private
AR-MP 8.8	25	50	0.028	Constructability (Woody Draw)	Private
AR-MP 8.8	25	50	0.028	Constructability (Woody Draw)	Private
AR-MP 9.5	25	50	0.028	Road Crossing	Private
AR-MP 9.5	25	50	0.028	Road Crossing	Private
AR-MP 10.6	25	50	0.028	Pipeline Crossing	Private
AR-MP 10.6	25	50	0.028	Pipeline Crossing	Private
AR-MP 10.8	25	50	0.028	Road Crossing	Private
AR-MP 10.9	25	50	0.028	Road Crossing	Private
AR-MP 11.9	25	50	0.028	Pipeline Crossing	Private
AR-MP 12.0	25	50	0.028	Pipeline Crossing	Private
AR 06-MP 0.0	25	50	0.026	Road Crossing	Private
AR 07-MP 0.1	25	50	0.023	Road Crossing	Private
AR 07-MP 0.1	25	50	0.026	Road Crossing	Private
AR 08-MP 0.0	25	50	0.026	Road Crossing	Private
AR 15-MP 0.1	25	50	0.028	Road Crossing	Private
AR 15-MP 0.2	25	50	0.028	Road Crossing	Private
AR 16-MP 0.0	25	50	0.028	Road Crossing	Private
AR 16-MP 0.0	25	50	0.028	Wetland/Waterbody Crossing	Private
AR 16-MP 0.1	25	50	0.028	Wetland/Waterbody Crossing	Private
AR 16-MP 0.3	25	50	0.028	Pipeline Crossing	Private
AR 16-MP 0.4	25	50	0.028	Pipeline Crossing	Private
AR 17-MP 0.1	25	50	0.023	Road Crossing	Private
AR 17-MP 0.1	25	50	0.023	Road Crossing	Private
AR 19-MP 0.0	25	50	0.028	Wetland and Road Crossing	Private
AR 19-MP 0.3	25	50	0.028	Bore: Constructability (Steep Wooded Slope)	Private
AR 19-MP 0.4	25	50	0.028	Bore: Constructability (Steep Wooded Slope)	Private
AR 20-MP 0.2	25	50	0.026	Bore Location: Constructability (Waterbody Crossing; Steep Slopes into a Drill Pad Location)	BLM
AR 20-MP 0.2	50	480	0.550	Pipe Stringing Location for HDD	BLM/Private
AR 20-MP 0.4	140	635	1.244	Pipe Stringing Location for HDD of AR 13	Private
AR 20-MP 0.6	25	50	0.028	Road Crossing	Private
AR 20-MP 0.7	25	50	0.028	Road Crossing	Private
AR 20-MP 0.7	25	50	0.028	Two Wetalnd/Waterbody Crossings	Private
AR 20-MP 0.9	25	50	0.028	Two Wetland/Waterbody Crossings	Private
AR 21-MP 0.0	25	50	0.028	Wetland and Road Crossing	Private

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TABLE 4.1.2-1

Bear Den Project
Proposed Extra Temporary Workspaces Along the Project Corridor

Milepost Begin (MP)	Width (feet)	Length (feet)	Temporary Area Affected (acres)*	Reason**	Land Ownership
AR 21-MP 0.1	25	50	0.028	Wetland and Road Crossing	Private
AR 21-MP 1.0	25	50	0.028	Road Crossing	Private
AR 22-MP 0.0	33	477	0.362	Pipe Stringing Location for HDD	STLND
AR 22-MP 0.1	25	50	0.028	Constructability (Steep Side Slope and Road Constraints)	STLND
AR 22-MP 0.2	25	50	0.028	Constructability (Steep Side Slope and Road Constraints)	STLND
AR 22-MP 0.3	33	437	0.331	Pipe Stringing Locations for HDD	Private
AR 22-MP 0.3	25	50	0.028	Waterbody and Road Crossing	Private
AR 22-MP 0.4	25	50	0.028	Waterbody and Road Crossing	Private
AR 22-MP 0.7	25	50	0.028	Wetland and Road Crossing	Private
AR 22-MP 0.8	25	50	0.028	Wetland and Road Crossing	Private
AR 22-MP 1.0	25	50	0.028	Road Crossing	Private
AR 24-MP 0.0	50	517	0.594	Pipe Stringing Location for HDD	USFS
AR 24-MP 0.1	25	50	0.028	Constructability	USFS
AR 24-MP 0.3	25	50	0.028	Constructability	USFS
AR 24-MP 0.6	25	50	0.028	Road Crossing	USFS
AR 24-MP 0.6	25	50	0.028	Road Crossing	USFS
AR 24-MP 0.8	25	50	0.028	Constructability and Multiple Wetland/Waterbody Crossings	USFS
AR 24-MP 1.1	25	50	0.028	Constructability and Multiple Wetland/Waterbody Crossings	USFS
AR 24-MP 1.2	25	50	0.028	Constructability	USFS
AR 24-MP 1.2	25	50	0.028	Constructability	USFS
AR 25-MP 0.4	25	590	0.339	Constructability (Steep Side Slope)	USFS
AR 25-MP 0.5	25	50	0.028	Wetland Crossing	USFS
AR 25-MP 0.8	25	50	0.028	Wetland Crossing	USFS
AR 25-MP 0.8	25	50	0.028	Wetland Crossing	USFS
AR 25-MP 1.2	25	50	0.028	Wetalnd/Waterbody Crossing	Private
AR 25-MP 1.2	25	50	0.028	Wetland/Waterbody Crossing	Private
AR 25-MP 1.8	25	50	0.028	Constructability	STLND
AR 25-MP 1.9	25	50	0.028	Constructability	STLND
AR 25-MP 3.0	25	50	0.028	Waterbody Crossing	USFS
AR 25-MP 3.1	25	50	0.028	Waterbody Crossing	USFS
AR 26-MP 1.0	25	50	0.028	Road Crossing	Private
AR 26-MP 1.0	25	50	0.028	Road Crossing	Private
AR 26-MP 1.0	42	113	0.110	Pipe Stringing Location for HDD	Private
AR 27-MP 0.7	25	50	0.028	Road Crossing	Private
AR 27-MP 0.7	25	50	0.028	Road Crossing	Private
AR 27-MP 1.1	25	1,971	1.131	Constructability (Steep Side Slope)	USFS
AR 27-MP 1.8	25	360	0.206	Constructability (Steep Side Slope)	USFS
AR 27-MP 2.2	25	50	0.028	Wetland/Waterbody Crossing	Private
AR 27-MP 2.3	25	50	0.028	Wetland/Waterbody Crossing	Private
AR 27-MP 2.8	25	50	0.028	Wetland/Waterbody Crossing	Private
AR 27-MP 2.8	25	50	0.028	Wetland/Waterbody Crossing	Private
AR 28-MP 0.0	25	50	0.028	Drill to Well Pad	Private
AR 28-MP 0.0	25	50	0.028	Road Crossing	Private

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TABLE 4.1.2-1

Bear Den Project
Proposed Extra Temporary Workspaces Along the Project Corridor

Milepost Begin (MP)	Width (feet)	Length (feet)	Temporary Area Affected (acres)*	Reason**	Land Ownership
AR 28-MP 0.1	25	50	0.028	Road Crossing	Private
AR 28-MP 1.1	25	50	0.028	Road Crossing	Private
AR 28-MP 2.2	25	50	0.028	Road Crossing	Private
AR 28-MP 2.2	25	50	0.028	Road Crossing	Private
AR 28-MP 2.5	25	50	0.028	Road Crossing	Private
AR 28-MP 2.5	25	50	0.028	Road Crossing	Private
AR 28-MP 2.9	25	50	0.028	Road Crossing	Private
AR 28-MP 2.9	25	50	0.028	Road Crossing	Private
AR 28-MP 2.9	25	50	0.028	Road Crossing	Private
AR 28-MP 3.0	25	50	0.028	Road Crossing	Private
AR 29-MP 0.0	25	50	0.028	Road Crossing	Private
AR 29-MP 0.1	25	50	0.028	Road Crossing	Private
AR 29-MP 1.6	25	50	0.028	Wetland Crossing	Private
AR 29-MP 1.6	25	50	0.028	Wetland Crossing	Private
AR 29-MP 2.1	25	50	0.028	Road Crossing	Private
AR 30-MP 0.0	25	50	0.028	Pipeline Interconnect; Waterbody and Two Road Crossings	Private
AR 30-MP 0.0	25	50	0.028	Pipeline Interconnect; Waterbody and Two Road Crossings	Private
AR 30-MP 0.5	25	50	0.028	Road Crossing	Private
AR 30-MP 0.5	25	50	0.028	Road Crossing	Private
AR 30-MP 1.1	25	50	0.028	Road Crossing	Private
AR 30-MP 1.1	25	50	0.028	Road Crossing	Private
AR 30-MP 1.8	25	50	0.028	Constructability (Steep Slopes)	Private
AR 30-MP 2.1	25	50	0.028	Constructability (Steep Slopes)	Private
AR 30-MP 2.3	30	70	0.051	Pipe Stringing Location for HDD	STLAND
AR 30-MP 2.4	25	50	0.028	Waterbody Crossing	STLAND
AR 30-MP 2.4	25	50	0.028	Waterbody Crossing	STLAND
AR 30-MP 3.2	33	47	0.035	Pipe Stringing Location for HDD	STLAND
AR 30-MP 3.2	28	370	0.239	Pipe Stringing Location for HDD	STLAND
AR 30-MP 3.3	25	50	0.028	Waterbody Crossing	STLAND
AR 30-MP 3.5	25	50	0.028	Waterbody Crossing	Private
AR 30-MP 4.1	25	50	0.028	Road Crossing	Private
AR 30-MP 4.2	25	50	0.028	Road Crossing	Private
AR 30-MP 4.5	25	50	0.028	Side Slope Constraints, Waterbody Crossing and Road Crossing	Private
AR 30-MP 4.7	25	50	0.028	Side Slope Constraints, Waterbody Crossing and Road Crossing	Private
AR 30-MP 4.8	25	50	0.028	Waterbody Crossing	Private
AR 30-MP 4.8	25	50	0.028	Waterbody Crossing	Private
AR 30-MP 5.2	25	50	0.028	Waterbody Crossing	Private
AR 30-MP 5.3	25	50	0.028	Waterbody Crossing	Private
AR 30-MP 5.6	25	50	0.028	Waterbody Crossing	Private
AR 30-MP 5.7	25	50	0.028	Waterbody Crossing	Private
AR 30-MP 5.9	25	50	0.028	Waterbody Crossing	Private
AR 30-MP 6.0	25	50	0.028	Waterbody Crossing	Private
AR 30-MP 6.4	25	50	0.028	Waterbody Crossing	Private

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TABLE 4.1.2-1

Bear Den Project
Proposed Extra Temporary Workspaces Along the Project Corridor

Milepost Begin (MP)	Width (feet)	Length (feet)	Temporary Area Affected (acres)*	Reason**	Land Ownership
AR 30-MP 6.4	25	50	0.028	Waterbody Crossing	Private
AR 30-MP 7.0	25	90	0.057	Staging for Two Drills: Constructability (Steep Slopes)	Private
AR 30-MP 7.5	25	50	0.028	Staging for Drill: Constructability (Steep Slopes)	Private
AR 30-MP 7.6	75	615	1.061	Pipe Stringing Location for HDD	Private/STLAND
AR 30-MP 11.2	25	50	0.028	Waterbody Crossing – Little Missouri River	Private
AR 30-MP 11.7	25	50	0.028	Waterbody Crossing – Little Missouri River	Private
AR 31-MP 0.0	25	50	0.028	Wetland Crossing	USFS
AR 31-MP 0.1	25	50	0.028	Wetland Crossing and Avoid Sensitive Resource	USFS
AR 31-MP 0.8	25	50	0.028	Waterbody Crossing	USFS
AR 31-MP 0.9	25	50	0.028	Waterbody Crossing	USFS
AR 31-MP 3.2	25	650	0.373	Constructability (Steep Side Slopes and Road Constraints)	USFS
AR 31-MP 2.4	25	50	0.028	Road Crossing	USFS
AR 31-MP 2.5	25	50	0.028	Constructability (Side Slope)	USFS
AR 31-MP 2.6	25	50	0.028	Constructability (side slope)	USFS
AR 31-MP 2.8	25	50	0.028	Road Crossing	USFS
AR 31-MP 2.9	25	50	0.028	Road Crossing	USFS
AR 31-MP 3.4	25	50	0.028	Constructability and Road Crossing	USFS
AR 31-MP 3.6	25	50	0.028	Road Crossing	USFS
AR 31-MP 3.6	250	25	0.145	Constructability (Steep Side Slope and Road)	USFS
AR 31-MP 3.6	25	50	0.028	Road Crossing	USFS
AR 31-MP 3.6	25	50	0.028	Road Crossing	USFS
AR 31-MP 3.6	25	1,155	0.663	Constructability (Steep Slope, Waterbody and Road Constraints)	USFS
AR 31-MP 4.1	25	50	0.028	Waterbody Crossing	USFS
AR 31-MP 4.2	25	50	0.028	Waterbody Crossing	Private
AR 31-MP 4.6	25	50	0.028	Waterbody Crossing	USFS
AR 31-MP 4.6	25	50	0.028	Waterbody Crossing	USFS
AR 31-MP 4.9	25	50	0.028	Constructability	Private
AR 31-MP 5.0	25	50	0.028	Avoid Sensitive Resource	Private
AR 31-MP 7.5	25	50	0.028	Constructability	Private
AR 31-MP 8.9	25	50	0.028	Multiple Waterbody and Wetland Crossings and Avoid a Sensitive Resource	Private
AR 31-MP 9.3	25	50	0.028	Multiple Waterbody and Wetland Crossings	BLM
AR 32-MP 2.3	25	50	0.028	Road Crossing	Private
AR 32-MP 2.4	25	50	0.028	Road Crossing	Private
AR 32-MP 2.6	25	50	0.028	Road Crossing	Private
AR 32-MP 2.7	25	50	0.028	Road Crossing	Private
AR 34-MP 1.0	75	175	0.303	Pipe Stringing Location for HDD	Private
AR 34-MP 1.0	25	50	0.028	Road Crossing	Private
AR 34-MP 1.0	25	50	0.028	Road Crossing	Private
AR 34-MP 1.7	25	50	0.028	Road Crossing	Private

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TABLE 4.1.2-1

Bear Den Project
Proposed Extra Temporary Workspaces Along the Project Corridor

Milepost Begin (MP)	Width (feet)	Length (feet)	Temporary Area Affected (acres)*	Reason**	Land Ownership
AR 34-MP 1.8	25	50	0.028	Road Crossing	Private
AR 34-MP 1.9	25	50	0.028	Constructability (Steep Slope)	Private
AR 34-MP 2.0	25	50	0.028	Constructability (Steep Slope)	Private
AR 34-MP 2.5	25	50	0.028	Constructability (Steep Slope and Wetland/Waterbody Crossing)	Private
AR 34-MP 2.6	25	50	0.028	Constructability (Steep Slope and Wetland/Waterbody Crossing)	Private
AR 34-MP 2.7	25	50	0.028	Road Crossing	Private
AR 34-MP 2.8	25	50	0.028	Road Crossing	Private
AR 35-MP 0.1	25	50	0.028	Road Crossing	USFS
AR 35-MP 0.1	25	50	0.028	Road Crossing	USFS
AR 35-MP 0.2	25	50	0.028	Wetland Crossing and Constructability (Steep Slopes)	USFS
AR 35-MP 0.4	25	50	0.028	Wetland Crossing and Constructability (Steep Slopes)	USFS
AR 35-MP 0.4	25	50	0.028	Road Crossing	USFS
AR 35-MP 0.5	25	50	0.028	Road Crossing	USFS
AR 35-MP 0.5	25	50	0.028	Wetland/Waterbody/Woody Drawing Crossing	USFS
AR 35-MP 0.6	25	50	0.028	Wetland/Waterbody/Woody Drawing Crossing	USFS
AR 35-MP 0.7	25	50	0.028	Constructability (Steep Slope)	USFS
AR 35-MP 0.8	25	50	0.028	Constructability (Steep Slope)	USFS
AR 35-MP 2.1	25	50	0.028	Constructability (Steep Slope)	Private
AR 35-MP 2.2	25	50	0.028	Constructability (Steep Slope)	USFS
Total Acreage:			**12.985**		

* Only includes temporary workspaces beyond the typical construction ROW.
** All 25' x 50' locations are associated with a HDD entry/exit location.

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All equipment and vehicular access to the pipeline will be confined to existing and temporary, approved access roads (see Table 3.1.2-2 and *Transportation Management Plan,* Appendix N) and established rights-of-way. All roads used for project access will be returned to their original condition after pipeline construction is completed, unless other agreements are made in writing with the appropriate land management agency office or landowner. Equipment used for construction will include trenchers, tractor-trailers, 2-ton trucks, pickup trucks, ditch-padding machines, seed drills, tractors, backhoes, side-boom, welding trucks, water trucks, or other similar equipment as needed. Dust generated during construction activities will be controlled by water spraying as necessary. Water used for dust control on roads will be obtained from municipal sources.

TABLE 4.1.2-2

Bear Den Project
Roads and Crossing Method

Road Name	Segment and Mile Post	Crossing Method	Bore Length (FT)	Condition
Private Road	Main AR-MP 4.6	HDD	150'	Improved Scoria
CO. Road 34	Main AR-MP 4.8	HDD	275'	Improved Gravel
CO. Road 34	Main AR-MP 6.0	HDD	150'	Improved Gravel
CO. Road 34	Main AR-MP 7.6	HDD	175'	Improved Gravel
Private Road	Main AR-MP 9.4	HDD	500'	Improved Scoria
Private Road	Main AR-MP 10.9	HDD	150'	Gravel
CO. Road 34	Main AR-MP 11.9	HDD	250'	Improved Gravel
CO. Road 34	Main AR-MP 13.2	HDD	250'	Improved Gravel
Forest Service Rd #856	AR 03-MP0.1	HDD	150'	Improved Scoria
Private Road	AR 06-MP 0.1	HDD	200'	Improved Scoria
Private Road	AR 07-MP 0.1	HDD	150'	Improved Scoria
Private Road	AR 08-MP 0.1	HDD	150'	Improved Scoria
Private Road	AR 08-MP 0.1	HDD	1200'	Improved Scoria
Private Road	AR 15-MP 0.1	HDD	165'	Improved Scoria
Private Road	AR 15-MP 0.2	HDD	150'	Improved Scoria
125th Ave NW	AR 16-MP 0.1	HDD	150'	Improved Gravel
Private Road	AR 17-MP 0.1	HDD	300'	Improved Scoria
Private Road	AR 19-MP 0.1	HDD	300'	Improved Scoria
Private Road	AR 20-MP 0.1	HDD	1000'	Improved Scoria
112th Ave NW	AR 20-MP 0.7	HDD	150'	Improved Scoria
23rd ST NW	AR 21-MP 0.1	HDD	400'	Improved Gravel
107th NW	AR 22-MP 0.1	HDD	800'	Improved Scoria
107th NW	AR 22-MP 0.4	HDD	700'	Improved Scoria
107th NW	AR 22-MP 0.8	HDD	150'	Improved Scoria
Private Road	AR 22-MP 1.1	HDD	200'	Improved Scoria
Forest Service Rd #856	AR 24-MP 0.7	HDD	150'	Improved Scoria
Private Road	AR 26-MP 1.0	HDD	150'	Improved Scoria
Private Road	AR 28-MP 0.1	HDD	150'	Improved Scoria
117th Ave SW	AR 28-MP 1.1	HDD	100'	Improved Scoria
Private Road	AR 28-MP 2.3	HDD	175'	Improved Scoria
Private Road	AR 28-MP 2.5	HDD	100'	Improved Gravel
Private Road	AR 28-MP 2.9	HDD	150'	Improved Gravel
16th ST NW	AR 28-MP 3.0	HDD	250'	Improved Gravel
Private Rd	AR 29-MP 2.4	HDD	175'	Improved Gravel
Private Rd	AR 29-MP 2.7	HDD	200'	Improved Gravel
Private Rd	AR 29-MP 3.0	HDD	150	Improved Gravel

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TABLE 4.1.2-2

Bear Den Project
Roads and Crossing Method

Road Name	Segment and Mile Post	Crossing Method	Bore Length (FT)	Condition
112th Ave SW	AR 29-MP 5.0	HDD	100'	Improved Gravel
Private Road	AR 30-MP 1.0	HDD	175'	Improved Scoria
Private Road	AR 30-MP 1.8	HDD	300'	Improved Scoria
Private Road	AR 30-MP 2.8	HDD	325'	Improved Scoria
111th Ave NW	AR 30-MP 3	HDD	400'	Improved Scoria
111th Ave NW	AR 30-MP 3.5	HDD	160'	Improved Scoria
Private Road	AR 30-MP 4.1	HDD	100'	Improved Scoria
Private Road	AR 30-MP 7.2	HDD	425'	Improved Scoria
112th Ave SW	AR 30-MP 7.6	HDD	150'	Improved Gravel
120th Ave NW	AR 31-MP 0.1	HDD	200'	Improved Gravel
120th Ave NW	AR 31-MP 0.5	HDD	150'	Improved Gravel
Forest Service Rd #856	AR 31-MP 7.0	HDD	175'	Improved Gravel
Forest Service Rd #856	AR 31-MP 7.4	HDD	175'	Improved Gravel
Forest Service Rd #856	AR 31-MP 8.1	HDD	900'	Improved Gravel
Forest Service Rd #856	AR 31-MP 8.2	HDD	200'	Improved Gravel
Private Road	AR 31-MP 12.7	HDD	150'	Improved Scoria

4.1.3 Surveying and Staking

In preparation for surveying and staking, CEBCS will coordinate with local utilities within and adjacent to the proposed right-of-way utilizing the One Call system. The pipeline construction right-of-way will be offset from existing parallel facilities by at least 20 feet from their centerlines, with centerlines being generally separated by 50 feet to allow adequate right-of-way area for safe construction and maintenance. Prior to construction, the final pipeline alignment and support facility locations will be surveyed. During “one calls” the contractor will pot-hole as necessary. The right-of-way centerline and boundaries will be staked, as will be staging areas, environmental avoidance areas, and construction control points. Boundary stakes will be maintained until final cleanup and reclamation are complete. Permission from landowners will be obtained, as necessary, prior to entering property to conduct any alignment or property surveys.

Minor realignments may be required during construction to avoid unforeseen geotechnical, topographical, archaeological, utility encroachment, or other sensitive areas. However, all realignments will be authorized by the BLM prior to disturbance and will remain within cultural, paleontological and biological/physical resource survey corridors. If realignment must deviate from the previously surveyed corridor, new surveys and reports will be completed prior to a realignment approval.

CEBCS will protect all survey monuments, witness corners, reference monuments, and bearing trees within the right-of-way against disturbance during construction, operation, maintenance, and reclamation. Survey monuments include, but are not limited to, General Land Office and Bureau of Land Management Cadastral Survey Corners, reference corners, witness points, U.S. Coastal and Geodetic benchmarks and triangulation stations, military control monuments, and recognizable civil (both public and private) survey monuments. If any monument, corner, or accessory is destroyed, or damaged, CEBCS will arrange for a registered land surveyor to restore the monument according to guidance found in the *Manual of Surveying Instruction for the Survey of Public Lands of the United States,* 1973 edition. CEBCS will record

the survey, as applicable, and send a copy to the BLM AO. CEBCS will notify other authorized federal right-of-way and/or leaseholders of any pipeline crossings or overlaps. Any associated building or zoning permits on river, creek, or utility crossings will be secured from the appropriate regulatory agency or private entity prior to pipeline construction and copies of associated permits will be submitted to BLM, if applicable.

4.1.4 Clearing and Topsoil Salvage

The temporary construction right-of-way will be cleared of trees and obstructions and graded to provide a relatively flat surface to accommodate construction equipment, while preserving natural drainage to the extent possible. Clearing on the spoil side will be limited to that which is necessary for the installation of the facilities. Soil, brush, roots, and rocks removed from the working side of the right-of-way will be windrowed on the outer edge of the temporary right-of-way during construction. Vegetation buffers of appropriate width will be left between additional temporary workspace and waterbodies and wetlands.

Fences that require cutting during clearing activities will be braced during construction. Temporary fence sections or gates will be installed to prevent livestock from drifting into adjacent areas. Fences will be repaired at the conclusion of construction to specifications of the BLM and/or the affected landowner.

CEBCS will perform topsoil segregation in actively cultivated agricultural lands, which include permanent or rotated croplands, hayfields, or improved pastures, and in other areas at the request of resource agencies or landowners. Where the pipeline traverses rugged terrain, a wider width construction right-of-way will be required, based on site-specific conditions. CEBCS anticipates stripping topsoil over the full right-of-way width through most of the project, which will require significant space for segregation of soils. Any conserved topsoil and excavated soils will be stockpiled along one side of the right-of-way (the spoil side), allowing the other side (the working side) to be used for access, material transport, and pipe assembly. In limited instances, topsoil may be stockpiled along the edge of both sides of the construction right-of-way.

4.1.5 Grading and Trenching

The construction area will be graded as necessary to create a relatively flat working surface for the heavy equipment and vehicles used in subsequent construction activities. During grading, topsoil will typically be stripped from over the entire construction right-of-way and placed in a discrete row along the edge of the temporary right-of-way to be kept segregated from subsoil that is excavated from the trench. Existing permanent survey monuments and reference monuments within the pipeline right-of-way will be protected against disturbance during construction. In sloping areas, conventional single-cut grading will be used. Specialized side slope construction techniques (i.e., making the work and trenching areas with two cuts on steep slopes) may be used.

After grading, the two pipeline trenches will be dug in sequence with a wheel ditcher or trencher where feasible. The steel, crude oil and the composite, produced water pipeline will be constructed by separate construction crews working independently of one another, with the steel pipeline construction spread preceding the composite pipeline construction spread. In rocky areas or where the pipeline changes direction, a backhoe may be used to dig each trench. The pipelines will be buried in an approximately 5- to 10-foot-wide and 7-foot deep trench. At stream and wash crossings, the trench will be a minimum of 7 feet below the streambed or, if

not viable, at a depth deep enough to minimize environmental impacts to the streambed and a depth that is also satisfactory to those charged with construction and regulatory oversight. Though unanticipated, if bedrock is encountered, the trench depth will be at least 7 feet deep, sufficient to bury and cover the pipe.

Spoil and topsoil will be windrowed separately along the trench. Gaps will be left in the windrows as necessary to permit natural drainage and to prevent excessive water erosion in the event that the construction segment receives storm runoff. No spoil or topsoil will be placed outside the approved right-of-way. Periodic gaps would be left in the topsoil and subsoil windrows to allow livestock and wildlife movement (if applicable) and periodic trench plugs or ramps would be maintained to prevent livestock or wildlife trappings in the excavated trench.

In areas of loose rock, a large bulldozer equipped with a single-shank ripper will precede backhoes. Trenching will be performed by mechanical rock breaking or drilling. No blasting is anticipated during construction of the Project. In the unlikely event that blasting is necessary to excavate the trench; CEBCS will conduct blasting in accordance with pertinent regulations and the *Blasting Plan* (Appendix O).

4.1.6 Pipeline Stringing, Bending, Welding, and Coating

The pipelines will be installed sequentially. The steel, crude oil and the composite, produced water pipeline will be constructed by separate construction crews working independently of one another, with the steel pipeline construction spread preceding the composite pipeline construction spread. In essence, the proposed work can be viewed as requiring two separate construction rights-of-way, which will partially overlap one another.

Steel pipe for the crude oil pipeline and other construction materials will be hauled to the construction site by truck and stored along the right-of-way. Pipe will be strung along the trench within the right-of-way. Stringing, bending, welding, and lowering-in of the pipeline will typically occur on the working side of the trench. In rocky areas, the trench will be padded by screening trench spoil to create finer bedding material or using a layer of rock-free soil that will be imported from a borrow pit; topsoil will not be used for ditch padding. A pipe-bending machine or equivalent technique will be used to bend the pipe to fit the trench. Sections of the steel pipe will be aligned with the trench and welded. A certified contractor will utilize visual, radiographic, sonic or other approved-equivalent inspection methods of welds. Any defects will be repaired or removed as required by DOT regulations. After welding, field joints will be coated with either a tape wrap or shrinkable sleeve wrap, and the pipeline coating will be visually and/or electronically inspected (jeeped), and any faults, scratches, or other coating defects will be repaired before the pipeline is lowered in. The trench will be backfilled after the pipeline has been lowered in the trench.

A separate crew would follow the crude oil pipeline construction crew and excavate the second trench for the produced water line. The waterline will be made of a high pressure composite material rather than steel. This line will be delivered to the right-of-way on spools, and deployed from the reel into the trench. The segments of pipe will be fastened using a swaged system of midline fittings that do not require welding or x-ray inspection. Once the pipe is positioned in the trench, the trench would be backfilled, and right-of-way reclamation would commence.

The same crews for the produced water line or crude oil pipeline would concurrently install an armored fiber optic line for communications from the various well pads facilities to the

control center at the storage/transfer facility. Installation of the fiber optic lines will not require any additional excavation activities or land requirements, as fiber optic lines will be laid concurrent with the pipeline facilities and within the excavated pipeline trenches. Specifically, the armored fiber optic line will preferentially be laid within the produced water pipeline trench, but will be laid within the crude oil pipeline trench where only the single crude oil pipeline will be installed. At HDD locations a 1.5-inch-diameter PVC conduit will be pulled through the bore along with the produced water pipeline (or crude oil line where only a single pipeline will be installed). Following conduit installation, the fiber optic line will be blown into place though the conduit. Small, aboveground fiber optic junction boxes will be installed at communication and splice points in the line, and these will be located at the planned aboveground facility locations (valve sites, lateral pipeline interconnects, etc.).

4.1.7 Backfilling and Erosion Control

The trench will then be backfilled using a bulldozer in combination with a moldboard, rotary auger back-filler, pipeline-padder, or other appropriate machine(s). Pipe trench backfill will generally consist of the material originally excavated from the trench. Soils will be replaced from the horizon in which they occur. First, subsoil will be returned to the trenched area. Topsoil will be replaced last at the ground level. In some cases, commercially available backfill material may be used. If encountered, cobble- and boulder-sized material will not be backfilled directly onto the pipe. As needed, select backfill (i.e., backfill that meets CEBCS' specifications) will be imported from off-site (e.g., commercial gravel pit). Rock shields may also be used as an alternative to pipeline padding.

Any excavated material, such as rock, that is not suitable for backfill may be redistributed on the right-of-way as agreed to by BLM or the landowner, or hauled away to a rock disposal area. All rock larger then 6-inches in diameter will be removed from the right-of-way. During back-filling, procedures will be implemented to minimize erosion, to restore the natural contour of the ground, and to allow normal surface drainage. To slow the flow of subsurface water along the trench in sloping terrain, burlap-type sacks filled with sand or foam-type or bentonite breakers will be placed within and across the trench. Installation and spacing of the trench breakers will be determined on a site-specific basis by the construction contractor in consultation with the Environmental Inspector. Where the trench intersects streams or ground water and where site conditions may affect the area's hydrology, the trench will be sealed with impervious materials such as trench breakers or clay.

After construction of the pipeline is completed, the work areas will be graded and restored, as nearly as practicable, to the original surface contours. The original topsoil will be evenly spread over the disturbed area. Soil will be mounded over the trench only to allow for normal soil settling. No crown will be installed over the trench line. Permanent soil stabilization efforts may include construction of water bars and/or silt barriers along surface contours of disturbed area, which will direct runoff into areas of low erosion potential.

Aboveground Pipeline Facilities

The construction of aboveground pipeline facilities, such as the storage/transfer facility, pig launchers/receivers, and block valves, will generally occur at the same time as the construction of the pipeline facilities. Therefore, activities such as clearing, grading, trenching, testing, and cleanup and restoration will generally occur as part of a single construction effort. Upon completion of construction, the aboveground components of these facilities will be painted a natural color, as specified by the BLM and the USFS, which will blend in with surrounding

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vegetation and soils. Aboveground facilities will be fenced and maintained to allow permanent access for operation and maintenance by CEBCS. The fenced areas require the conversion of rangeland to industrial/commercial land.

After pipeline construction is complete, markers will be installed at line-of-sight intervals and at road crossings to identify the pipeline location within the approved right-of-way. The steel pipeline will be protected from corrosion through use of external pipeline coating and cathodic protection. The cathodic protection system will include impressed current rectifiers and buried anodes. Cathodic protection devices will be installed at aboveground facilities concurrent with pipeline construction, or once the pipeline is installed and the proper tests conducted. Test leads will be attached to the pipe at intervals based on the recommendations of a corrosion engineer near fence lines, roads, and pipeline crossings, as necessary, to monitor cathodic protection. Each set of test leads will be brought to a junction box mounted on a short (approximately 4 feet tall) post that will be installed where it will not interfere with existing land uses The cathodic protection test leads, which appear similar to pipeline markers, will be the only visible portion of the cathodic protection facilities after construction.

4.1.8 Special Construction Techniques

Rugged and Steep Topography

In areas of side-slopes and rolling terrain, construction of some portions of the proposed Project may require specialized side slope construction techniques to establish safe working conditions (see Figure X of Appendix B). Under the side slope construction technique, the uphill side of the construction right-of-way will be cut during grading. The material removed from the cut will be used to fill the downhill side of the construction right-of-way to provide a safe and level surface from which to operate heavy equipment. The pipeline trench will then be excavated along the newly graded right-of-way. If required, the right-of-way may also be “two-toned.” For two-toned rights-of-way, the height of the construction (side) tone is usually as close to the height of the ditch as possible and the travel tone will be higher or lower than the height of the construction tone, depending on the area’s natural grade. Following backfill and final grading, the original contours will be restored as near as practicable and stabilized.

Wetland and Waterbody Construction

Construction across wetlands and waterbodies will be in accordance with applicable permit requirements and CEBCS’ CRMP (Appendix E). Overall, the wetland and waterbody crossing methods and mitigation measures identified in the CMRP are designed to minimize the extent and duration of construction-related disturbance within these features. The waterbody and wetland crossings required for the Project are listed in Tables 3.1.8-1 and 3.1.8-2.

The specific crossing procedures used to install the pipeline across wetlands will depend on the level of soil stability and saturation encountered during construction. Where not crossed via HDD, construction across unsaturated wetlands (those wetlands without standing water or saturated soils) that can support construction equipment will be conducted in a manner similar to the upland construction procedures described above. Where site-specific soil and saturation may not support construction equipment, construction mats will be used to minimize disturbance to wetland hydrology and maintain soil structure.

A total of 61 waterbodies occur within the construction right-of-way of the Bear Den Project: 1 spring, 24 perennial waterbodies, 35 intermittent waterbodies, and 1 ephemeral

waterbody. If the waterbodies are dry when crossed, CEBCS proposes to use conventional upland cross-country construction techniques. If the waterbodies are flowing when crossed, CEBCS proposes to use the open-cut crossing method. Additionally, CEBCS plans to cross a total of 40 waterbodies including the 1 spring using the HDD crossing technique, which will generally avoid surface disturbance and direct impacts to those waterbody features. Of these planned HDD crossings, 11 waterbodies will require a 15-foot-wide access path/temporary crossing to allow for construction equipment access to remote portions of the construction right-of-way that cannot be accessed by any other reasonable means. If the intermittent waterbodies not included in the HDDs are dry when crossed, CEBCS proposes to use conventional upland cross-country construction techniques. If these waterbodies are flowing when crossed, CEBCS proposes to use the open-cut crossing method.

A total of 69 wetlands occur within the construction right-of-way for the Bear Den Project: 64 palustrine emergent wetlands (PEM), 2 palustrine shrub-scrub wetlands, and 3 palustrine forested wetlands). CEBCS plans to cross a total of 45 wetlands using the HDD crossing technique and 24 wetlands using modified conventional upland cross-country technique to reduce the potential for pipeline construction to affect wetland hydrology and soil structure. A 15-foot-wide access path will be required through 13 of the HDD locations to allow for construction equipment access to remote portions of the right-of-way that cannot be accessed by any other reasonable means. These paths will be cleared of vegetation as necessary to allow safe passage of equipment and personnel. In addition, there are wetlands present along some of the proposed access roads; however, these are existing roads that will not require improvements, thus no impacts are anticipated to these wetlands.

Although dry crossing methods are not proposed for this Project, they may be considered if warranted by site-specific conditions at the time of construction. Dry crossing methods may include the flume and the dam and pump methods.

TABLE 4.1.8-1

Bear Ben Project
Waterbody Crossing Table

Line	MP	Waterbody ID	Waterbody Type	Waterbody Name	Crossing Method
AR	6	s-mc-c-007	Intermittent	Rough Creek	HDD
AR 15	0.3	s-du-b-009	Intermittent	unnamed drainage	HDD*
AR 16	0.2	s-mc-b-012	Perennial	Spring Creek	HDD
AR 17	0.1	s-du-b-019	Intermittent	unnamed drainage	Open-cut
AR 17	0.3	s-du-b-018	Perennial	unnamed drainage	Open-cut
AR 19	0.4	sp-du-b-001	Spring	unnamed drainage	HDD
AR 19	0.5	s-du-b-015b	Intermittent	unnamed drainage	Open-cut
AR 20	0.2	s-du-b-038	Intermittent	unnamed drainage	HDD
AR 20	0.5	s-du-b-037	Intermittent	unnamed drainage	Open-cut
AR 20	0.8	s-du-b-029	Perennial	Bear Creek	HDD
AR 20	0.9	s-du-b-030	Perennial	Bear Creek	HDD
AR 20	0.9	s-du-b-030	Perennial	Bear Creek	HDD
AR 21	0.1	s-du-b-042	Perennial	unnamed drainage	HDD*
AR 22	0.4	s-du-b-013	Perennial	unnamed drainage	HDD
AR 24	0.9	s-mc-c-001a	Intermittent	Lone Beaver Creek	HDD
AR 24	0.9	s-mc-c-001a	Intermittent	Lone Beaver Creek	HDD
AR 24	0.9	s-mc-c-001a	Intermittent	Lone Beaver Creek	HDD
AR 24	1	s-mc-c-001a	Intermittent	Lone Beaver Creek	HDD
AR 25	1.2	s-mc-c-009	Perennial	Cherry Creek	HDD

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TABLE 4.1.8-1

Bear Ben Project
Waterbody Crossing Table

Line	MP	Waterbody ID	Waterbody Type	Waterbody Name	Crossing Method
AR 25	3.1	s-mc-c-004	Perennial	Cherry Creek	HDD*
AR 26	0.9	s-du-b-016a	Perennial	unnamed drainage	Open-cut
AR 26	1.7	s-du-b-020	Perennial	unnamed drainage	Open-cut
AR 27	2.8	s-mc-c-001b	Intermittent	Lone Beaver Creek	HDD
AR 30	0.04	s-du-b-014	Intermittent	unnamed drainage	HDD
AR 30	2.5	s-du-b-040	Intermittent	Tributary to LMR	HDD
AR 30	3.4	s-du-b-039a/b	Perennial	Little Missouri River	HDD
AR 30	4.6	s-du-b-031	Perennial	unnamed drainage	HDD
AR 30	4.7	s-du-b-032	Intermittent	Tributary to Bear Creek	HDD
AR 30	4.8	s-du-b-033a	Intermittent	Bear Creek	Open-cut
AR 30	4.8	s-du-b-033a	Intermittent	Bear Creek	Open-cut
AR 30	4.9	s-du-b-034	Perennial	Bear Creek	HDD*
AR 30	5.3	s-du-b-036	Intermittent	Tributary to Bear Creek	HDD*
AR 30	5.3	s-du-b-035	Perennial	Bear Creek	HDD*
AR 30	5.4	s-du-b-036	Intermittent	Tributary to Bear Creek	Open-cut
AR 30	5.7	s-du-b-026	Perennial	Bear Creek	HDD*
AR 30	6	s-du-b-045	Perennial	Bear Creek	HDD
AR 30	6.1	s-du-b-045	Perennial	Bear Creek	HDD
AR 30	6.3	s-du-b-028	Intermittent	Tributary to Bear Creek	Open-cut
AR 30	6.5	s-du-b-022	Intermittent	unnamed drainage	HDD*
AR 30	6.8	s-du-b-023	Intermittent	unnamed drainage	HDD*
AR 30	6.8	s-du-b-023	Intermittent	unnamed drainage	HDD*
AR 30	6.9	s-du-b-024	Perennial	unnamed drainage	Open-cut
AR 30	7.2	s-du-b-025	Intermittent	unnamed drainage	HDD
AR 30	11.5	s-du-b-007a/b	Perennial	Little Missouri River	HDD
AR 31	0.1	s-mc-c-005	Intermittent	tributary to Cherry Creek	HDD
AR 31	0.9	s-mc-c-006	Intermittent	unnamed drainage	HDD
AR 31	4.2	s-mc-b-008a/b	Perennial	Cherry Creek	HDD
AR 31	4.6	s-mc-c-011	Intermittent	Rough Creek	HDD*
AR 31	5.3	s-mc-c-010	Ephemeral	tributary to Cherry Creek	Open-cut
AR 31	7.9	s-du-b-001	Perennial	unnamed drainage	Open-cut
AR 31	9	s-du-b-002	Intermittent	Tributary to LMR	HDD
AR 31	9.1	s-du-b-003	Intermittent	tributary to LMR	HDD
AR 31	9.2	s-du-b-004	Perennial	tributary to LMR	HDD
AR 31	9.7	s-du-b-005	Perennial	unnamed drainage	Open-cut
AR 34	0.5	s-du-b-008	Intermittent	unnamed drainage	Open-cut
AR 34	1.2	s-du-b-010	Intermittent	unnamed drainage	Open-cut
AR 34	1.9	s-du-b-012	Intermittent	unnamed drainage	Open-cut
AR 34	2.6	s-du-b-011	Intermittent	unnamed drainage	HDD
PA1-AR-23	NA	s-du-b-006	Intermittent	unnamed drainage	Access Road Crossing
PA1-AR-30	NA	s-du-b-021	Perennial	Bear Creek	Access Road Crossing
PA4-AR-30	NA	s-du-b-040	Intermittent	unnamed drainage	Access Road Crossing

* HDD with temporary 15-foot travel lane

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TABLE 4.1.8-2

Bear Den Project
Wetland Crossing Method and Construction Impacts

Line	MP In	MP Out	Wetland ID	Wetland Type	Crossing Method[b]	Area within the Temporary Construction Right-of-Way (acres)	Area within the Permanent Easement (acres)	Total Construction Disturbance (acres)
AR	9.9	9.9	w-mc-b-011	PEM	Open-cut	0.01	0.04	0.05
AR	12.2	12.2	w-mc-b-012	PEM	Open-cut	0.01	0.04	0.05
AR 15	0.4	0.4	w-du-b-008	PEM	HDD	0.00	0.00	0.00
AR 16	0.1	0.2	w-mc-b-013b	PEM	HDD	0.00	0.00	0.00
AR 17	0.3	0.4	w-du-b-014[a]	PEM	Open-cut	0.01	0.00	0.01
AR 19	0.1	0.2	w-du-b-011	PEM	HDD	0.00	0.00	0.00
AR 20	0.8	0.8	w-du-b-018a	PEM	HDD	0.00	0.00	0.00
AR 20	0.8	0.8	w-du-b-018b	PEM	HDD	0.00	0.00	0.00
AR 20	0.8	0.8	w-du-b-018c	PEM	HDD	0.00	0.00	0.00
AR 20	0.9	0.9	w-du-b-018d	PEM	HDD	0.00	0.00	0.00
AR 20	0.9	0.9	w-du-b-018e	PEM	HDD	0.00	0.00	0.00
AR 20	0.9	0.9	w-du-b-018f	PEM	HDD	0.00	0.00	0.00
AR 21	0.1	0.1	w-du-b-021a	PEM	HDD[b]	0.01	0.00	0.01
AR 21	0.1	0.1	w-du-b-021b	PEM	HDD[b]	0.01	0.00	0.01
AR 22	0.8	0.8	w-du-b-010	PEM	HDD	0.00	0.00	0.00
AR 23	0.5	0.5	w-du-b-006	PEM	Open-cut	0.02	0.03	0.05
AR 24	0.9	0.9	w-mc-c-001a	PEM	HDD	0.00	0.00	0.00
AR 24	0.9	0.9	w-mc-c-001b	PEM	HDD	0.00	0.00	0.00
AR 24	0.9	0.9	w-mc-c-001c	PEM	HDD	0.00	0.00	0.00
AR 24	0.9	0.9	w-mc-c-001d	PEM	HDD	0.00	0.00	0.00
AR 24	0.9	1	w-mc-c-001f	PEM	HDD	0.00	0.00	0.00
AR 24	0.9	1	w-mc-c-001g	PEM	HDD	0.00	0.00	0.00
AR 24	1	1	w-mc-c-001h	PEM	HDD	0.00	0.00	0.00
AR 24	1.1	1.1	w-mc-c-006c	PEM	HDD	0.00	0.00	0.00
AR 25	1.6	1.7	w-mc-b-005	PEM	Open-cut	0.21	0.18	0.39
AR 25	3	3	w-mc-c-007	PEM	HDD	0.00	0.00	0.00
AR 25	0.5	0.5	w-mc-c-011a	PEM	HDD[b]	0.02	0.00	0.02
AR 25	0.8	0.8	w-mc-c-012a	PEM	HDD[b]	0.02	0.00	0.02
AR 25	1	1	w-mc-c-012b	PEM	Open-cut	0.02	0.02	0.04
AR 25	1.2	1.2	w-mc-c-013a	PEM	HDD	0.00	0.00	0.00
AR 25	1.2	1.2	w-mc-c-013b	PEM	HDD	0.00	0.00	0.00
AR 26	0.2	0.6	w-du-b-013a	PEM	Open-cut	1.23	0.91	2.14
AR 26	0.9	0.9	w-du-b-013b	PEM	Open-cut	0.01	0.06	0.07
AR 26	1	1	w-du-b-014[a]	PEM	Open-cut	0.01	0.01	0.02
AR 29	2	2	w-du-b-023a	PEM	Open-cut	0.00	0.04	0.04
AR 29	1.9	1.9	w-du-b-023b	PEM	Open-cut	0.00	0.00	0.00
AR 29	1.8	1.8	w-du-b-024	PEM	Open-cut	0.00	0.05	0.05
AR 29	1.6	1.7	w-du-b-025	PEM	HDD[b]	0.08	0.00	0.08
AR 30	9.4	9.4	w-du-b-015a	PEM	Open-cut	0.12	0.21	0.33
AR 30	6.8	6.8	w-du-b-016a	PEM	HDD[b]	0.01	0.00	0.01
AR 30	6.9	6.9	w-du-b-016b	PEM	Open-cut	0.01	0.00	0.01
AR 30	7.2	7.2	w-du-b-017	PEM	HDD	0.00	0.00	0.00
AR 30	5.1	5.1	w-du-b-019a	PEM	Open-cut	0.02	0.06	0.08
AR 30	5.1	5.1	w-du-b-019b	PEM	Open-cut	0.00	0.00	0.00
AR 30	4.8	4.8	w-du-b-018g	PEM	HDD[b]	0.01	0.00	0.01
AR 30	3.7	3.7	w-du-c-003a	PEM	HDD[b]	0.11	0.00	0.11

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TABLE 4.1.8-2

Bear Den Project
Wetland Crossing Method and Construction Impacts

Line	MP In	MP Out	Wetland ID	Wetland Type	Crossing Method[b]	Area within the Temporary Construction Right-of-Way (acres)	Area within the Permanent Easement (acres)	Total Construction Disturbance (acres)
AR 30	3.7	3.8	w-du-c-003b	PEM	HDD[b]	0.02	0.00	0.02
AR 30	3.8	3.8	w-du-c-003c	PEM	HDD[b]	0.05	0.00	0.05
AR 31	6.7	6.7	w-du-b-001	PEM	Open-cut	0.04	0.10	0.14
AR 31	6.4	6.5	w-du-b-002	PEM	Open-cut	0.03	0.12	0.15
AR 31	4.2	4.2	w-mc-b-004g	PEM	HDD	0.00	0.00	0.00
AR 31	4.2	4.2	w-mc-b-004h	PEM	HDD	0.00	0.00	0.00
AR 31	4.3	4.4	w-mc-b-010a	PEM	Open-cut	0.01	0.01	0.02
AR 31	2.6	2.6	w-mc-c-002b	PEM	HDD	0.00	0.00	0.00
AR 31	0.1	0.1	w-mc-c-008	PEM	HDD	0.00	0.00	0.00
AR 31	2.3	2.3	w-mc-c-009	PEM	Open-cut	0.01	0.00	0.01
AR 31	2.3	2.3	w-mc-c-010a	PEM	Open-cut	0.01	0.01	0.02
AR 31	2.3	2.3	w-mc-c-010b	PEM	Open-cut	0.01	0.00	0.01
AR 34	2.6	2.6	w-du-b-009a	PEM	HDD	0.00	0.00	0.00
AR 34	2.6	2.6	w-du-b-009b	PEM	HDD	0.00	0.00	0.00
AR 34	2.6	2.6	w-du-b-009c	PEM	HDD	0.00	0.00	0.00
AR 34	2.5	2.5	w-du-b-009d	PEM	Open-cut	0.01	0.02	0.03
AR 35	0.3	0.4	w-mc-b-007	PEM	HDD	0.00	0.00	0.00
AR 35	0.6	0.6	w-mc-b-008	PEM	HDD[b]	0.05	0.00	0.05
AR 30	11.4	11.4	w-du-b-012	PFO	HDD	0.00	0.00	0.00
AR 30	3.7	3.7	w-du-c-004a	PFO	HDD[b]	0.02	0.00	0.02
AR 30	3.8	3.8	w-du-c-004b	PFO	HDD[b]	0.02	0.00	0.02
AR 31	6.2	6.3	w-du-b-003	PSS	Open-cut	0.27	0.28	0.55
AR 31	9.2	9.3	w-du-b-005	PSS	HDD	0.00	0.00	0.00
					Total (acres)	**2.5**	**2.2**	**4.7**

[a] Wetland crossed by two pipelines, Lines AR 17 and AR 26

[b] HDD requires temporary 15-ft travel lane

Road and Railroad Crossings

Generally paved road crossings will use the HDD method in compliance with crossing permit requirements. Minor or rarely traveled gravel or dirt roads may be open-cut. A list of road crossing methods is provided in Table 4.1.2-2. Where roads are open-cut, proper barricades, lights, or warning signs will be in place. Road crossings will be installed in a manner so as not to impede traffic flow. Roads will not be open-cut until the pipe is ready to be placed in the trench. Excavation depth and pipeline cover for each crossing will vary depending on the terrain, length of crossing, and other safety factors. Following placement, the trench will be backfilled and the roadbed returned to original or better condition. The Project does not cross any railroads.

4.1.9 Hydrostatic Testing

After the trench is backfilled, the pipeline will be pressure-tested with water according to DOT specifications, as applicable, to ensure structural integrity. Each pipeline segment to be installed by HDD will also be pre-tested prior to installation. Test segments of the pipeline will

be capped, filled with water, and pressurized. Any loss of pressure that cannot be attributed to other factors such as temperature changes will be investigated. Any leaks detected will be repaired and the segment retested. Upon completion of the test, the water may be discharged, or it may be pumped to the next segment for testing. It is anticipated that hydrostatic test water will be discharged overland along the edges of the construction right-of-way using energy dissipation devices to minimize erosion and sedimentation. Sources, volumes, and discharge locations of hydrostatic test water are provided in CEBCS' *Hydrostatic Test Plan* (Appendix P).

Hydrostatic test water will contact only new pipe, and no chemicals or biocides are proposed for addition to the test water. Additionally, all test water will be sampled prior to discharge and tested in accordance with permit requirements to determine suitability for discharge. If treatment of hydrostatic test water is found to be required, treatment procedures will be developed and implemented prior to discharge.

In addition to hydrostatic testing, CEBCS will use water for dust control on roads. This water will be obtained from municipal water supplies.

4.1.10 Cleanup and Reclamation

Depending upon weather conditions, cleanup and reclamation will occur as soon as practical. CEBCS will implement a "no litter policy" in all work areas during all phases of construction. Trash, surplus materials, or other waste debris will be removed from the construction area and disposed of at an off-site approved disposal facility in accordance with federal, state, and local requirements and landowner preference. Both temporary and permanent erosion control structures will be installed during construction to minimize potential for soil loss due to wind and water erosion. Temporary structures will include sediment barriers, silt fences, culvert installation, water bars, and erosion control matting and will be utilized until permanent revegetation is deemed successful or other permanent structures have been installed. Permanent structures may include slope breakers, water bars, culverts, rock check dams or other flow-energy dissipaters, and riprap.

Reclamation practices will include measures to achieve the following goals:

- to construct the pipeline and to reclaim disturbed areas in accordance with the requirements and conditions of applicable permits and approvals along the entire right-of-way;
- to restore approximate original contours (unless otherwise directed by the BLM AO) to blend with the adjacent landscape;
- to provide erosion and sediment control, as required; and
- to encourage revegetation while discouraging noxious weeds and invasive species.

4.2 APPLICANT-COMMITTED ENVIRONMENTAL PROTECTION MEASURES

CEBCS will implement the following applicant-committed environmental protection practices. In addition, other environmental protection measures that will be implemented during construction and operation of the project as specified in stipulations included in the final Right-Of-Way Grant issued by the BLM AO.

4.2.1 Storm Water Pollution Prevention Plan

CEBCS has developed a *Storm Water Pollution Prevention Plan* (SWPPP; Appendix F) for this project to ensure that erosion from disturbed lands is minimized during all phases of pipeline construction and operation. CEBCS and its contractors will follow the guidelines in the SWPPP, and copies of the plan will be kept at the construction site.

4.2.2 Environmental Inspection

CEBCS will provide at least one full-time EI per construction spread to monitor construction activities and construction in sensitive areas. The EIs will be responsible for coordinating various permit and mitigation measures' requirements with the construction contractor and CEBCS. The EIs will be responsible for preparing daily and weekly reports that document the progress of construction activities and associated environmental mitigation measures.

During construction, unforeseen or unavoidable site conditions can result in the need for changes from approved mitigation measures and construction procedures. Additionally, the need for route realignments, additional temporary workspaces, or access roads outside of the previously approved construction work area may arise. Changes to previously approved mitigation measures, construction procedures, and construction work areas will be handled in the form of variance requests to be submitted by CEBCS for review and approval by the BLM and the USFS (if on National Forest land).

The environmental inspection and monitoring program for the Project, as well as the variance request process, is more fully described in CEBCS' *Environmental Inspection and Compliance Monitoring Plan* (Appendix M).

4.3 WORK FORCE REQUIREMENTS

CEBCS anticipates that a peak work force of approximately 250 construction personnel will be required to construct the Project, and approximately 15 permanent employees will be utilized to operate the facilities. Construction personnel will consist of CEBCS' employees, contractor employees, construction inspection staff, and environmental inspection staff. CEBCS anticipates that the Project will be constructed in two spreads, and each spread would be comprised of two separate crews responsible for the respective installation of the steel and composite pipelines. The contractor will utilize the 40-acre storage/transfer site and two contractors yard for its base of command. Most contractor personal vehicles will be parked at the construction contractor yard except in special circumstances for supervisory agency or inspection personnel. The construction contractor will provide buses for transporting workers that do not require personal vehicles to the work site from the yard. CEBCS will restrict non-essential foot traffic in off-right-of-way areas. The proposed pipeline will be operated and maintained by CEBCS personnel or contractors under CEBCS' supervision.

4.4 PUBLIC ACCESS AND SAFETY DURING CONSTRUCTION

The proposed pipeline facilities will be designed, constructed, operated, and maintained in accordance with DOT regulations, as applicable. In addition, the proposed project will comply with all other applicable federal, state, and local laws and regulations. Adherence to these standards and regulations will minimize the potential hazards and dangers to the public during

construction and operation of the proposed pipeline and from failure of project components, thus maintaining a high level of system reliability.

4.5 INDUSTRIAL WASTES AND TOXIC SUBSTANCES

Hazardous materials used during pipeline construction will include petroleum products typically required for heavy equipment operations (e.g., gasoline, diesel fuel, lubricants, and coolants) that contain several hazardous and extremely hazardous materials identified in the Environmental Protection Agency's *Consolidated List of Chemicals Subject to Reporting Under Title III of the Superfund Amendments and Reauthorization Act of 1986* and 40 CFR 355. Project construction and maintenance operations will comply with all relevant federal and state laws regarding hazardous materials.

CEBCS will conform with provisions of the *Toxic Substances Control Act of 1976,* as amended (15 *United States Code* [U.S.C.] 2601, et seq.) with regard to any toxic substances that are used, generated, or stored on the right-of-way or on facilities authorized under right-of-way grants (see 40 CFR 702-799 and especially provisions on polychlorinated biphenyl--40 CFR 761.1-761.193). Any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity as established by 40 CFR 117.3 will be reported as required by the *Comprehensive Environmental Response, Compensation, and Liability Act of 1980,* as amended, Section 102 B. Copies of reports required by federal or state agencies for the release or spill of any hazardous material will be furnished to the BLM AO within 5 working days of occurrence.

Per the Project's SPCC Plan, vehicles will be maintained and operated so as to prevent accidental leaks or spills. To minimize adverse environmental impacts from spills, the following measures will be taken:

- All spills will be reported immediately to the construction foreman or inspector who will direct cleanup efforts. The Project's SPCC Plan, Appendix L, further discusses protocol associated with spill reporting.
- Some construction equipment and all refueling trucks will be equipped with spill control kits (e.g., shovels, plastic bags, portable bags, portable dams, absorbent material, etc.).
- Accidental leaks will be cleaned up immediately, and contaminated material will be disposed of at an approved facility.
- Servicing, refueling, and storing of fuels and lubricants will occur in the right-of-way, staging areas, or off-site at an appropriate facility and will not occur within 100 feet of any ephemeral or perennial streams. Used oil or unused lubricants will be stored in appropriate containers, removed from the site regularly, and disposed of at an approved facility. Service truck operators will not allow residual fuels or lubricants to drain onto the ground.
- When not in use, construction equipment will be stored in staging areas or off-site at appropriate facilities.

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4.6 FIRE PLAN

CEBCS will notify the appropriate landowner or land managing agency of any fires during construction of the pipeline. CEBCS and its contractors will comply with all rules and regulations administered by the AO concerning the use, prevention, and suppression of fires on federal lands. In the event of a fire, the following actions will be taken:

1. The Contractor will take the initial fire suppression action in the work area.

2. The Contractor will direct the fire suppression activities, contact CEBCS and appropriate AO and fire dispatch center, and determine whether or not to request assistance from the local fire emergency response agency. CEBCS or the AO may also determine to contact a fire emergency response agency.

3. Suppression actions will continue until the fire is out or until the crew is relieved by a fire emergency response agency or authorized representative of the agency on whose land the fire occurs.

4. Heavy equipment will not be used for fire suppression outside the limits of the approved ROW without prior approval of the AO or private landowner, unless there is imminent danger to life or property.

Fire extinguishers that are rated at a minimum as ABC-5 pound will be available on all vehicles or equipment used for construction or maintenance of the pipeline. In the event of a fire, personal safety will be the first priority. If a fire spreads beyond the suppression capability of workers with fire extinguishers, all will cease fire suppression action and leave the area immediately via pre-identified escape routes. The General Office of the North Dakota Fire Marshall (Raymond Lambert 701-328-5555) will be notified immediately of the location and status of the escaped fire. In the case of an emergency the first call will be to 911.

4.7 STABILIZATION

CEBCS will implement a *Construction, Reclamation, and Monitoring Plan* during construction to minimize the possibility of erosion (see Appendix E). Additionally, both temporary and permanent erosion control structures will be installed during construction to minimize potential for soil loss due to wind and water erosion. Temporary structures will include windrows of topsoil and subsoil, silt fences, culvert installations, water bars, and erosion control matting and will be installed immediately following initial ground disturbance and utilized until permanent revegetation is deemed successful by BLM or other permanent structures have been installed. Permanent structures may include slope breakers/water bars, pocks (identified as more effective than water bars by the BLM (2012)), culverts, rock check dams or other flow-energy dissipaters, and riprap.

4.8 RECLAMATION OBJECTIVES

Reclamation objectives will be met by implementing practices developed in consultation with BLM, USFS, and other landowners. Post-construction monitoring will be conducted by CEBCS operating personnel during the long-term operation and maintenance of the pipeline system to ensure that the objectives are met, and revegetation efforts will be repeated, and modified if necessary, until revegetation is deemed successful by the BLM AO.

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Reclamation practices will include measures to achieve the following goals:

- construct the pipeline and reclaim disturbed areas in accordance with the requirements and conditions of applicable permits and approvals along the entire right-of-way;
- restore approximate original contours (unless otherwise directed by the BLM AO or other landowner) to blend with the adjacent landscape;
- provide erosion and sediment control as required;
- discourage noxious weed growth and control other invasive species and pests;
- utilize adapted native species for revegetation (unless otherwise directed by the BLM AO or other landowner) to reduce the visual effect of the corridor and provide a self-sustaining cover compatible with post-construction land uses;
- implement site-specific and comprehensive erosion control and reclamation procedures on sites with lower reclamation potential including steep slopes, areas subject to water erosion, or other sites where additional measures are necessary to achieve reclamation objectives;
- restore affected stream channels;
- discourage unauthorized use of the right-of-way by off-highway vehicles;
- maintain and monitor revegetation and erosion/sediment control structures and practices; and
- remediate any areas where revegetation is deemed by BLM, the USFS or CEBCS to be unsuccessful.

4.9 RECONTOURING

After backfilling, all disturbed areas (including the permanent easement, ATWS areas, vehicle turnarounds, and stockpile sites) will be returned to pre-excavation grades with allowance for settling. The criteria for determining potential settling will be based on soil texture, coarse fragment content, and type of equipment used for regrading. If settling results in topographic discontinuity between natural and regraded ground, CEBCS will regrade the area such that the right-of-way will be approximately level. Any excessively steep cuts will be graded to approximately 3:1 (horizontal/vertical) slope or less. Waterbody banks will be returned to approximate pre-construction contours or to a stable angle of repose, and banks will be stabilized as appropriate with vegetation, erosion control fabric, or other means.

Rock excavated during pipeline construction may be redistributed on the right-of-way as agreed to by BLM or the landowner, or hauled away to a rock disposal area. All remaining trash, brush, or debris will be disposed of in accordance with federal, state, and local laws and ordinances and organic refuse not suitable for spreading over the right-of-way will be disposed of at an authorized facility.

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4.10 SEEDBED PREPARATION

Seedbed preparation will be performed in accordance with the CRMP (Appendix E). In general, after the trench has been backfilled and the right-of-way has been recontoured, compacted soils will be decompacted, if necessary, based on field evaluation by an EI. Any conserved topsoil will then be uniformly spread over the disturbed areas. Areas to be revegetated will be worked to loosen soils and break soil clods; surfaces will be roughened to reduce potential for wind and water erosion and to facilitate moisture capture. The use of fertilizers or other soil amendments is not anticipated because they may tend to promote weed growth. If reclamation were unsuccessful, the need for fertilizers will be re-evaluated in consultation with BLM or other landowners.

4.11 REVEGETATION

All seed would be State of North Dakota Certified or Registered seed (or certified/registered by the state of origin), and certification tags shall be made available to the BLM AO or environmental inspector before seed is planted to prevent the introduction of noxious weeds and invasive or non-native species. Seed would be applied at the rate recommended by the land management agency or soil conservation authority. Seeding rates will be based on Pure Live Seed (PLS). The seed mixture will be evenly and uniformly planted over the disturbed area. Seed will be planted using a seed drill equipped with a depth regulator to ensure proper depth of planting where seed drilling is possible. Where seed drilling is not possible, seed will be broadcast using a cyclone-type broadcast seeder and the seeding rate doubled. On steep slopes, seeded areas may be imprinted using a tracked bulldozer to provide small depressions to collect moisture and stimulate seed germination. Areas that are not accessible with revegetation equipment will be broadcast-seeded and hand-raked to cover the seed. In areas where vegetation was only scalped during construction, seed will be broadcast and raked.

4.11.1 Revegetation Seed Mixes

The final seed mix(s) would be based on written recommendations for seed mixes obtained from the local soil conservation authority, or as requested by applicable land management agencies (BLM and USFS). Additionally, landowners may request specific seeding requirements during easement negotiations. On federally managed lands crossed by the Project, seed mixtures used to revegetate the right-of-way will be based on consultations with the BLM and USFS. If the supply of a specific seed is limited or unavailable at the time of ordering, CEBCS will consider alternative species subject to agency approval.

4.12 RECLAMATION MONITORING

4.12.1 Goals of Reclamation Monitoring

To assess the effectiveness of the reclamation treatments and to evaluate the condition of right-of-way, CEBCS will implement a monitoring program consisting of field inspections and vegetative analysis. A report of the condition of the right-of-way and the status of sensitive resources affected during construction will be submitted to the BLM by the end of the respective year of the monitoring. The monitoring program will also identify remedial measures that will be considered by CEBCS to mitigate environmental degradation if the initial treatments were not effective in achieving the objectives of the reclamation program.

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4.12.2 Reclamation Performance Criteria

CEBCS' effort to reclaim areas disturbed during construction will be evaluated for a minimum period of three years. Successful reclamation performance will be based on revegetation success (e.g., cover, frequency, and diversity), the absence of weeds or invasive plants, stability of the construction right-of-way, waterbody bed and bank stability; and visual aesthetics. Additional detail on reclamation performance criteria is provided in the CRMP (Appendix E).

4.12.3 Vegetation Monitoring

Monitoring and reporting, as required, will occur following the growing season during the first three growing seasons after final reclamation. Plant diversity, frequency, and percent cover data will be collected. Data obtained from the reclaimed right-of-way will be compared to vegetative data obtained from the undisturbed, naturally occurring vegetative populations adjacent to the right-of-way. Variation between the right-of-way and off right-of-way areas will provide an indication of the relative success of reclamation.

4.12.4 Erosion and Runoff Control

Periodic ground and aerial inspections of the route by CEBCS Operations and Maintenance (O&M) personnel should detect areas of erosion (i.e., formation of gullies, deposition of sediment) and uncontrolled runoff (i.e., berm washouts) before significant impacts occur. In addition to O&M reconnaissance, reclamation specialists will conduct annual inspections during the summer of the first three years following reclamation to assess the condition of the right-of-way and the effectiveness of erosion control measures. This ground inspection will concentrate on steep slopes, erodible soils, and sensitive areas identified during construction by the EIs and agency representatives.

4.12.5 Waterbody Stabilization

In association with erosion control and runoff inspections, CEBCS representatives will visually assess the condition of bed and bank stabilization measures installed during restoration at waterbodies. This assessment will occur with the same frequency as the erosion and runoff control inspections. In addition, a number of dry washes that drain into high quality streams off-site will also be assessed for bed and bank stability.

5.0 OPERATION AND MAINTENANCE OF THE FACILITY

After pipeline construction has been completed, CEBCS will be responsible for monitoring and inspecting the operation of the pipeline system, as well as maintenance and repair. CEBCS will operate and maintain the proposed Project facilities in compliance with the DOT regulations provided at 49 CFR 195, as well as other applicable regulations and standards.

Operational activity on the pipeline will be limited primarily to maintenance of the right-of-way and inspection, repair, and cleaning of the pipeline facilities. Periodic aerial inspections, supplemented by ground inspection based on results of aerial patrols by pipeline personnel will identify soil erosion that may expose the pipe, conditions of the vegetative cover and erosion control measures, unauthorized encroachment on the right-of-way such as buildings and other substantial structures, and other conditions which could present a safety hazard or require preventative maintenance or repairs. Specifically, patrol frequency could vary slightly, but would

occur approximately ever other week (biweekly) at a frequency not to exceed three weeks. The pipeline cathodic protection system will also be monitored and inspected periodically to ensure adequate corrosion protection. Appropriate responses to conditions observed during inspection will be taken as necessary.

The pipeline facilities will be clearly marked at crossings of roads, railroads, and other key points. The markers will clearly indicate the presence of the pipeline facilities and provide a telephone number and address where a company representative could be reached in the event of an emergency or prior to any excavation in the area by a third party. CEBCS is a member of the One-Call and related pre-excavation notification organizations in the states in which it operates.

The following measures will be implemented to prevent or mitigate any adverse effects resulting from the Project operations:

- Per federal regulations, CEBCS would have an established maintenance, inspection, and repair program that ensures the integrity of the pipeline during operations. CEBCS's pipeline maintenance program would be designed to maintain the safe and reliable operation of the pipeline. Data collected during maintenance would be fed back into the decision-making process for the development of the ongoing maintenance program.

- CEBCS also would mitigate third-party excavation risk by implementing comprehensive Public Awareness and Damage Prevention programs focused on education and awareness in accordance with 49 CFR Section 195.440 and API RP1162. Further, CEBCS would complete regular visual inspections (ground or aerial) of the ROW as per 49 CFR Section 195.412 and monitor activity in the area to prevent unauthorized trespass or access.

- To mitigate the effects of corrosion on the pipeline, CEBCS will construct the produced water system out of a reinforced high-density polyethylene (HDPE) pipeline material that is resistant to corrosion. In addition, CEBCS would apply a FBE or other type of protective pipeline coating to the external surface of steel pipe to prevent corrosion. A cathodic protection system would be installed on the steel pipeline, composed of engineered metal alloys or anodes, which would be connected to the pipeline. A low voltage direct current would be applied to the pipeline; the process corrodes the anodes rather than the pipeline. During operations, the pipeline would be routinely cleaned. The steel pipeline segments 4-inch and greater are designed to be inspected utilizing one of a variety of inspections methods including internal inspection tools, pressure testing, direct assessment; or other technologies which are demonstrated to be equivalent to the previous three methods. These inspection methods may be interchanged or used in combination, thereby allowing CEBCS the ability to proactively detect corrosion and third party damage.

- The pipeline would be monitored 24 hours a day, 365 days a year from the Operational Control Center (OCC) using a sophisticated supervisory control and data acquisition (SCADA) system. CEBCS would implement multiple leak detection methods and systems that are overlapping in nature and progress through a series of leak detection thresholds. The leak detection methods are as follows:

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  - Remote monitoring performed by the OCC Operator, which would consist of monitoring pressure and flow data received from pump stations and valve sites fed back to the OCC by the CEBCS SCADA system. This system will provide the real time data used to detect leaks and allow Operators to initiate system shutdowns.

  - Computer-based, non-real time accumulated gain/loss volume trending that would assist in identifying low rate or seepage.

  - Direct observation methods, which include aerial patrols, ground patrols, and public and landowner awareness programs that would be designed to encourage and facilitate the reporting of suspected leaks and events that may suggest a threat to the integrity of the pipeline.

  - The system would be configured in a manner capable of alarming the OCC operators through the SCADA system and also would provide the OCC operators with a comprehensive assortment of display screens for incident analysis and investigation.

- CEBCS would follow a written manual of procedures for conducting normal operations and maintenance activities and for handling abnormal operations and emergencies. The manual would delineate the responsibilities of both management and operating personnel and would be reviewed each calendar year to insure it remains effective. The manual would include provisions that address the following:

  - Retention of important construction, operation and maintenance records, including records of pipeline and equipment inspections.

  - Procedures for reporting spills, accidents, and safety related conditions.

  - Identification of sensitive areas along the Project route that would require an immediate response to prevent hazards to the public if the facilities failed or malfunctioned.

  - Procedures for receiving, identifying and classifying notices of events which need immediate response by Project personnel or notice to fire, police or other appropriate public officials.

  - Establishing and maintaining liaison with fire, police and other appropriate public officials. Procedures would be included for notifying these officials of pipeline emergencies and coordinating with them pre-planned and actual responses during such emergency.

  - Maintaining a list and contact information of area contractors that may be used to respond to a spill or emergency.

- A continuing training program would be implemented to instruct personnel in safely carrying out the operations, maintenance and emergency procedures related to their assignments. This would include instruction on the characteristics and hazards of the crude oil being transported, the recognition of conditions that

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are likely to cause emergencies, and the steps necessary to control or minimize the impacts of an accidental release.

6.0 TERMINATION AND RESTORATION

At the end of the pipeline's useful life, CEBCS will obtain the necessary authorizations from the BLM AO and other applicable local, state, and federal agencies to abandon the facilities. CEBCS will contact the BLM AO to arrange a pre-termination conference and joint inspection of the right-of-way to agree on an acceptable abandonment plan. Pipeline abandonment will be in accordance with the policies and standards employed by BLM at the time of abandonment.

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UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
WASHINGTON, D.C. 20240

June 25, 2003

In Reply Refer To:
2880 (WO 350) P

EMS TRANSMISSION 06/26/2003
Instruction Memorandum No. 2003-197
Expires: 09/30/2004

To: All Field Officials

From: Assistant Director, Minerals, Realty and Resource Protection

Subject: Interagency Agreement - Interstate Natural Gas Pipelines

Program Area: Right-of-Way Management, Interstate Natural Gas Pipeline Projects

Issue: This Instruction Memorandum (IM) provides BLM guidance on implementing the "Interagency Agreement (Agreement) on Early Coordination of Required Environmental and Historic Preservation Reviews Conducted in Conjunction with the Issuance of Authorizations to Construct and Operate Interstate Natural Gas Pipelines Certified by the Federal Energy Regulatory Commission (FERC)." The Agreement, dated May 2002, is signed by ten Federal agencies including the Department of the Interior. A copy of the Agreement is attached (Attachment 1).

Background: Executive Order (EO) 13212 issued on May 18, 2001, directed federal agencies to expedite their review of applications for energy related projects, while maintaining safety, public health and environmental protections. Consistent with the EO and in recognition of the fact that the timely authorization of new interstate natural gas pipeline projects are essential to the nations ability to meet the goal of sufficient availability and increased use of natural gas, the BLM and the other participating agencies have entered into this Agreement.

The FERC is responsible for authorizing the construction and operation of interstate natural gas pipelines. It issues certificates of public convenience and necessity for such pipelines under Section 7 of the Natural Gas Act of 1938 (NGA), as amended, and authorizes the construction and siting of facilities for the import or export of natural gas under Section 3 of the NGA. It also authorizes the construction and operation of natural gas pipelines pursuant to the Natural Gas Policy Act. Typically, FERC has the overall responsibility for determining whether projects are consistent with the public convenience and necessity. FERC makes this determination in part through the NEPA analysis process. For projects covered by the Agreement, the FERC will also be the lead agency for preparation of the NEPA document unless, at the request of BLM or another participating agency, FERC, in consultation with that agency, determines that another agency better meets CEQ lead agency requirements. FERC, acting as lead agency for NEPA review, will be the lead agency for all required consultation activities with the U.S. Fish and Wildlife Service and National Marine Fisheries Service for compliance with the Endangered Species Act and the Magnuson-Stevens Act, and for compliance with Section 106 of the National Historic Preservation Act through consultation with the appropriate State Historic Preservation Officer and Indian tribes.

As an additional streamlining effort, the FERC has recently offered an option to natural gas pipeline companies whereby the FERC would commence the NEPA analysis of pipeline projects prior to the filing of a complete application with the FERC. Prospective project proponents must meet certain criteria to be eligible to participate in FERC's NEPA Pre-Filing Process, including contacting other Federal and State agencies in the project area with relevant permitting requirements to determine their willingness and ability to work within the timeframe of the NEPA Pre-Filing Process. Therefore, project proponents proposing to use this option would be contacting the BLM at an earlier point than might normally occur.

Policy/Action: The primary objective of the Agreement is to encourage the concurrent review and to minimize the duplication of process and thereby shorten the cumulative processing time in evaluating applications and making permitting decisions for interstate natural gas pipeline projects. The Agreement is intended to accomplish the objective by establishing an interagency approach to processing proposals and applications. Participating agencies will commit to early and active engagement in the

review of a project proposal to identify and mitigate project specific issues, concerns, barriers and environmental effects with the proponent and the FERC, while ensuring that the responsibilities of each agency are met.

The Agreement emphasizes the importance for the FERC to receive timely information from the participating agencies at mutually agreed to times during project development and analysis. Essentially the Agreement requires all participating agencies to commit to early involvement in project review and analysis. By conducting an early initial review of a prospective project, the participating agencies will be able to identify their needs and requirements to the FERC as part of the NEPA Pre-Filing Process.

Recognizing the FERC Filing Procedures: A reference paper (Attachment 1) has been prepared by the FERC, describing the two processing options available to interstate natural gas pipeline project proponents. Proponents have the discretion to use one of these two procedures for any given project. However, note that use of the NEPA Pre-Filing Process must be requested by the proponent and approved in advance by the FERC. The two processing options are the FERC's:

A. "Traditional Filing process"; or

B. The recently adopted "NEPA Pre-Filing Process"

The FERC strongly encourages project proponents to utilize the NEPA Pre-Filing Process because of the benefits and efficiencies potentially gained from increased public and agency involvement. To demonstrate the difference between the two processing procedures, the FERC prepared a timeline illustrating the traditional process vs. NEPA Pre-Filing Process. The FERC timeline is attached as Attachment 2. Additional information regarding the FERC's Pre-Filing Process can be found at the following website locations:

http://www.ferc.gov/gas/gas_prefiling.pdf

http://www.ferc.gov/gas/stakeholder.pdf

As soon as a project proponent either files an application with the FERC, or submits to the FERC a request to use the NEPA Pre-Filing Process, the FERC will assign an Environmental Project Manager (PM). The FERC PM will coordinate with the BLM as soon as possible to ensure that the BLM requirements for processing a right-of-way application are addressed at the early stages of an interstate gas pipeline project. The BLM will work with the FERC, the lead agency, and with the other participating agencies to establish the requirements, responsibilities and schedule for the NEPA document.

Most interstate natural gas pipeline project proposals will result in the filing of a right-of-way application for a major cost recovery category project. A major objective for BLM field offices should be to initiate cost recovery procedures early in the process. To the extent possible, BLM should be reimbursed by the proponent, for the up-front costs for providing information and input to FERC and other participating agencies. When a project is identified, BLM needs to initiate application filing discussions with the project proponent. The proponent should file a preliminary SF-299 at the beginning of the process. The application must contain enough information for BLM to serialize a case and establish the case in LR2000 but may not contain a detailed project proposal. Under current procedures established by the National Business Center, a signed Cost Recovery Agreement (CRA), a CBS receipt for the initial deposit, a completed Form 1380-10, Cost Recovery Project Number Assignment and Information Data Form, is required in order to establish a reimbursable account in the Federal Financial System (FFS). It will be difficult to make accurate processing cost estimates in the CRA without the benefit of a detailed project proposal. Therefore, the CRA should contain provisions to easily amend cost estimates as project details become available.

When contacted by the FERC regarding a proposed project that includes the use and occupancy of public lands, the BLM will respond in a letter to the FERC, signed by the appropriate BLM line officer which will include the following:

1) The BLM's commitment to be a cooperating agency in the project, including a commitment to work closely with the FERC and other participating agencies in:

   a) Developing a single environmental analysis that will be broad enough in scope to address issues and concerns associated with the public lands and resources in order to approve, or deny the right-of-way application; and

   b) Developing a detailed schedule for the project that will allocate time needed to:

      i) collect information, conduct studies and complete surveys;

      ii) solicit, review and evaluate internal and external comments and concerns;

iii) conduct an environmental analysis of the potential impacts associated with the construction, operation, maintenance and if appropriate the termination of all proposed right-of-way facilities, including location of temporary use areas and ancillary facilities;

iv) write and review reports;

v) if necessary to accommodate the proposed project, make the decision to amend a BLM resource management plan; and

vi) preparation of authorizations, congressional notifications, plans of development, etc., to authorize the project.

2) Identification of key contacts to coordinate internal review procedures: lead field office, lead state, Authorized Officer for grant authorization and BLM project manager.

3) Identification of readily available land and resource information relative to the proposed project. Including for example: land use allocations, corridor designations in the proximity of the proposed route, exclusionary areas, existing studies, data and information concerning the lands and resources along the proposed route.

4) Locating other authorized or proposed facilities that might be impacted by the proposed project.

5) Identification of known or anticipated concerns of the BLM, landowners, the public, or others regarding the proposed project and if appropriate, possible means of mitigating such concerns.

6) Determining the roles and responsibilities of all the participating agencies during the construction and restoration stages of the project. This should include selection and use of compliance/monitoring inspectors (both internal and third party compliance inspectors), variance procedures, and jurisdictional responsibilities.

Budget Impact: Budget impacts should be minimal as long as reimbursable accounts can be established early in the Pre-Filing Process. The BLM currently encourages pre-application meetings and discussions with right-of-way applicants and works cooperatively with FERC in the processing of interstate natural gas pipeline rights-of-way.

Manual/Handbook Sections Impacted: This IM and policy affect BLM Manual 2880 Oil and Natural Gas Pipelines.

Coordination/Contacts: This IM has been coordinated through the BLM Planning, Assessment and Community Support Group, BLM National Energy Team, and the signatory agencies of the Agreement.

Any questions concerning the content of this IM should be directed to the Washington Office, Lands and Realty Group (WO-350) and the attention of Rick Stamm at (202) 452-5185 or by Email at rick_stamm@blm.gov.

Signed by:
Bob Anderson
Acting Assistant Director
Minerals, Realty and Resource Protection

Authenticated by:
Barbara J. Brown
Policy & Records Group, WO-560

3 Attachments
1-Interagency Agreement (10 pp)
2- FERC Reference paper (6 pp)
3- FERC Timeline for processing (1 p)

FEDERAL ENERGY REGULATORY COMMISSION
Office of Energy Projects
Division of Gas – Environment and Engineering

PROCESSES FOR THE ENVIRONMENTAL AND HISTORIC PRESERVATION REVIEW OF PROPOSED INTERSTATE NATURAL GAS FACILITIES

In May 2002, the "Interagency Agreement (IA) on Early Coordination of Required Environmental and Historic Preservation Reviews Conducted in Conjunction with the Issuance of Authorizations to Construct and Operate Interstate Natural Gas Pipelines Certificated by the Federal Energy Regulatory Commission (FERC)" was signed by the FERC and other nine other federal agencies (signatory agencies).

In order to facilitate the coordination between the FERC and the other agencies, the FERC staff developed this document to:

- Inform federal, state, and local agencies (participating agencies) about the basic procedures for the two processing options available to project proponents for the types of projects covered by the IA, with the FERC as the lead federal agency;

- Serve as a supplement to each signatory agency's internal direction on implementing the IA;

- Ensure that all participating agencies have a clear and common understanding of the applicable FERC procedures, and the FERC's expectations of project proponents and each participating agency; and

- Describe how each of the participating agencies can become engaged in the environmental and historic preservation reviews of proposals and applications for interstate natural gas projects.

The FERC is responsible for authorizing the siting, construction, and operation of interstate natural gas pipelines, natural gas storage fields, and the liquefied natural gas (LNG) facilities pursuant to sections 3 and 7 of the Natural Gas Act of 1938 (NGA), as amended. Virtually all applications to the FERC for interstate natural gas projects require some level of coordination with one or more federal agencies to satisfy the FERC's requirements for environmental review under the National Environmental Policy Act (NEPA), the Endangered Species Act, the National Historic Preservation Act, and the Magnuson-Stevens Act.

The May 2002 Interagency Agreement (IA) applies to those projects where the FERC would normally prepare an environmental assessment (EA) or an environmental impact statement (EIS) pursuant to its siting authority under the NGA. The IA provides a framework designed to expedite and streamline environmental and historic preservation reviews that must be conducted in conjunction with the processing of proposals and applications for these projects.

Smaller projects can be constructed under blanket-type or automatic authority, or may qualify as categorical exclusions which do not require the FERC to prepare an EA or an EIS.[1]

PROPOSALS AND APPLICATIONS FOR NEW FACILITIES

Project proponents seeking authorizations from the FERC under sections 3 or 7 of the NGA have a choice, subject to the FERC's approval, of one of two procedures:

A. The "Traditional Filing Process"; or

B. The recently-adopted "NEPA Pre-Filing Process"

Both processes require the project proponent to begin working as soon as possible with the relevant participating agencies to enable them to identify resources and begin their analysis of the project, including identifying any cost recovery procedures.

A. The Traditional Filing Process

In the Traditional Filing Process, the project proponent, not the FERC, makes the first contacts with the participating agencies. The project proponent normally contacts the relevant agencies seeking information to determine the feasibility of building and operating the proposed facilities within an identified project area. The project proponent may contact agency staff informally by phone, or make contact in a written request for information. It is also common for the project proponent to file right-of-way applications with other participating agencies prior to filing an application with the FERC. Some participating agencies may spend considerable time providing data to the project proponent, reviewing possible corridors and alternatives, and

[1] Most existing interstate natural gas companies hold Blanket Certificates from the FERC that allow them to construct facilities if they meet certain environmental standards and project cost limitations (see CFR 18, sections 157.203 and 157.205) without further Commission review or approval. Consultation with agencies is still required for land use authorizations and environmental consultations because other agencies may have their own permit requirements and may require separate NEPA analysis. Although these types of projects are not covered by the IA, the companies may approach signatory agencies seeking input for environmental review and approval.

working with the project proponent to select a route that avoids or minimizes known resource conflicts.

For most large projects, project proponents hold one or more pre-filing meetings with the FERC staff to obtain guidance regarding the required information to meet the FERC's filing requirements, as well as advice on what the project proponent can do to help ensure efficient processing of the application by the FERC. The project proponent may or may not have already contacted the appropriate participating agencies to discuss potential issues prior to a pre-filing meeting with the FERC.

Regardless of whether or not the project proponent contacts the FERC prior to filing its application, under the Traditional Filing Process, the FERC establishes contact with other participating agencies after the application is filed. This first contact generally occurs in conjunction with the FERC's issuance of a Notice of Intent (NOI) to prepare an EA or EIS, and may be oral or written. The NOI constitutes the beginning of the environmental review process; it contains a brief description of the proposal; a request for participating agencies to identify ("scope") issues and comment on the proposal; a request for cooperating agencies; and contact information with details regarding phone numbers, mail and website addresses. The scoping process is conducted to identify issues, and to identify means of resolving conflicts, and avoiding or mitigating adverse effects. As discussed in the IA, this early point in the process is where the signatory agencies begin to work collaboratively to complete the required review process as expeditiously as feasible.

The key difference between the Traditional Filing Process and the NEPA Pre-Filing Process (described below) is that in the Traditional process the environmental analysis, including scoping, does not begin until after the project proponent files its application with the FERC. Thus, there is often little interaction between the FERC, the project proponent, and other relevant agencies. The result of this is that interagency coordination is deferred until later in the process.

B. The NEPA Pre-Filing Process

The FERC developed the NEPA Pre-Filing Process as a mechanism to identify and resolve issues at the earliest stages of project development by involving the participating agencies and the public earlier in the process. While the NEPA Pre-Filing Process is a voluntary process, available at the request of the project proponent, it is subject to the FERC's approval. The FERC strongly encourages project proponents to avail themselves of the benefits and efficiencies to be gained from increased public involvement and early issue resolution.

Not unlike the Traditional Filing Process, in the NEPA Pre-Filing Process, a participating agency may first become aware of a project through a contact by the project proponent. The project proponent is responsible for asking agencies, other than the FERC, to participate in the NEPA Pre-filing Process. When asked to participate, each participating agency reviews of the project, examines its resources and program goals, and then determines whether it is willing and available to participate in the NEPA Pre-Filing Process. A key consideration for some federal land management agencies' participation in the NEPA Pre-Filing Process is the project

proponent's willingness to file a preliminary right-of-way application and establish a cost recovery account to fund agency participation (for example, the Bureau of Land Management and the Forest Service). After the project proponent ascertains the willingness of the other agencies to participate in the NEPA Pre-filing Process, it must send a request to the FERC describing why the project proponent wants to use the process, any work done to date, and plans for public involvement. Based on this information, the FERC must then determine whether pre-filing coordination is likely to be successful.

If the FERC approves a project proponent's request to use the NEPA Pre-Filing Process, the project is assigned a Docket Number with a "PF" prefix (e.g., PF01-01) which serves as the identifier for placing all relevant correspondence in the FERC's public record for that project. The FERC then notifies the participating agencies by telephone or in writing that the project proponent's NEPA Pre-Filing request has been approved. The FERC will also discuss the agencies' participation in a planning or informational meeting with the project proponent to discuss land and resource issues and concerns. The FERC and the participating agencies may consult regarding the agencies' ability to commit to a pre-filing time frame and a schedule established by the FERC. Most of the activities described in the IA regarding the NEPA Pre-Filing Process take place much sooner than they would otherwise be conducted in the Traditional Filing Process.

The FERC asks each participating agency to designate a primary contact for the project, and to devote the resources needed to commit to the schedule for processing the proposal. Similarly, the FERC identifies a project manager for each case. The reviews and schedules of all the agencies participating in the NEPA Pre-Filing Process will run concurrently, rather than sequentially, as is often the case in the Traditional Filing Process.

The signatory agencies have agreed in the IA to work with each other, and with other entities as appropriate, to ensure that timely decisions are made and that the responsibilities of each agency are met. The signatory agencies are also expected to provide the information and expertise to conduct the reviews in a timely manner, consistent with the established schedule. Other responsibilities of the signatory agencies in the IA include:

- Identifying each agency's role and responsibilities;
- Identifying significant issues, or other administrative or land use/land designation barriers;
- Providing available data and recommendations; and
- Assisting in the drafting of NEPA documents, and related activities.

TIMELINE COMPARISON

The following discusses the typical timeline for a proposed project, highlighting some of the differences in activity and timing that might occur during the Traditional Filing Process, in comparison to what might occur during those same blocks of time during the NEPA Pre-Filing Process.

Months 0 - 5:

During this initial stage of any project, the project proponent is actively developing and marketing its proposal. Exploratory requests and planning activities are initiated solely by the project proponent. There is little difference between the Traditional and the NEPA Pre-Filing Processes during this time period.

The FERC staff has only very limited knowledge of the project at this stage, based on articles in the trade press, or through informal meetings with the project proponent. At this point, the FERC would not assign any resources to review or evaluate the project proponent's proposal.

As the project proponent develops a study of potential rights-of-way, the participating agencies, landowners, and the general public may be contacted by the project proponent to inform all interested parties of its plans. A project proponent may contact a participating agency with requests for information, such as land ownership patterns, land status, and other available resource data or studies, including requests for copies of documents such as land management plans, existing studies, corridor designations, etc.

It is near the end of this phase that the project proponent may contact federal land management agencies about filing right-of-way applications with and establish cost recovery accounts.

Months 5 - 12:

During this stage, in the Traditional Filing Process, a project proponent is continuing to develop its project plans, and is beginning to identify a preferred route (and alternatives). As required surveys are started, federal, state and local land management agencies, and landowners are contacted. The FERC staff becomes much more aware of the project at this point, but there is no requirement that the project proponent notify the FERC prior to filing an application. The FERC typically does not devote significant resources to the project during this time. Likewise, other participating agencies with permitting authority would not be expected to devote significant time or resources toward evaluating or addressing a proposal during this phase.

With the NEPA Pre-Filing Process, the FERC staff would begin to devote significant resources to addressing the proposal and working with the project proponent as much as 8 months prior to the filing of an application at the FERC. The FERC staff will make contact with the project proponent and the participating agencies at the earliest possible point to initiate scoping activities and begin the environmental analysis.

It is during this early period of early notification and contact with the interested parties, the development of shortened timelines and schedules, that the benefits of the NEPA Pre-Filing Process are most evident. However, participating agencies should be aware that at this point the project proponent may not have as much specific information about its proposal as it would have

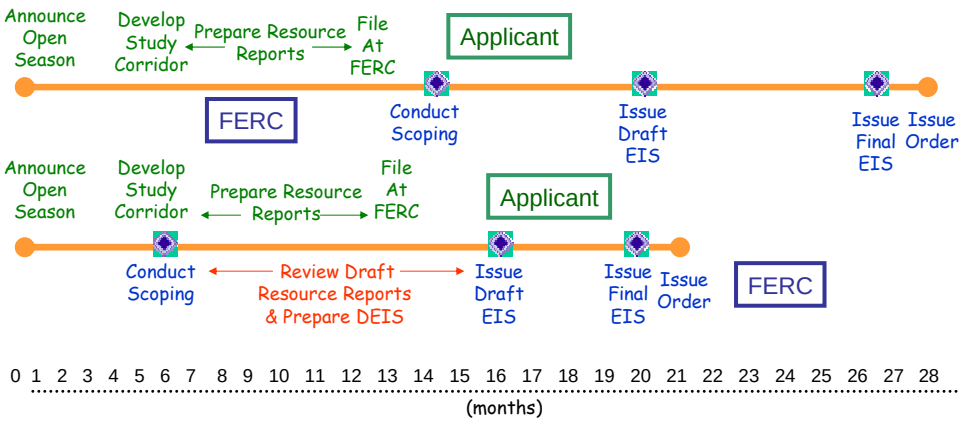
under the Traditional Filing Process, after an application has already been submitted to the FERC.

Months 12 - 20:

Using the Traditional Filing Process, the project proponent prepares its environmental reports and assembles its application for filing with the FERC during this period. After the filing of the application, the FERC notifies the public of the receipt of the application, conducts the necessary scoping, identifies and resolves issues, prepares and issues the NEPA document, then issues an Order (equivalent to a Record of Decision) approving the project. For a project requiring an EIS, this process can take 14 to 16 months.

With the NEPA Pre-Filing Process, the frontloading of the scoping, environmental analysis, and initial documentation of that analysis, makes it possible for the FERC staff, in cooperation with the participating agencies, to finalize and issue a Draft EIS shortly after an application is filed (approximately 2 to 3 months after filing of the application). As a result, a final environmental document and Order can be issued by the FERC 5 to 7 months sooner than under the Traditional Filing Process.

FERC Timelines
Traditional vs. Pre-filing NEPA Process



Attachment 3

INTERAGENCY AGREEMENT ON EARLY COORDINATION OF REQUIRED ENVIRONMENTAL AND HISTORIC PRESERVATION REVIEWS CONDUCTED IN CONJUNCTION WITH THE ISSUANCE OF AUTHORIZATIONS TO CONSTRUCT AND OPERATE INTERSTATE NATURAL GAS PIPELINES CERTIFICATED BY THE FEDERAL ENERGY REGULATORY COMMISSION

June 2002

The Department of the Army

The Department of Agriculture

The Department of Commerce

The Department of the Interior

The Department of Transportation

The Department of Energy

The Advisory Council on Historic Preservation

The Federal Energy Regulatory Commission

The Council on Environmental Quality

The Environmental Protection Agency

I. PURPOSE

The purpose of this Agreement is to establish a framework for early cooperation and participation among the signatories to this Agreement (the "Participating Agencies") that will enhance coordination of the processes through which their environmental and historic preservation review responsibilities under the National Environmental Policy Act of 1969, as amended, ("NEPA") and other related statutes are met in connection with the authorizations that are required to construct and operate interstate natural gas pipeline projects certificated by the Federal Energy Regulatory Commission ("FERC").

NEPA requires federal agencies to evaluate the environmental impact of major federal actions significantly affecting the quality of the human environment. The issuance by the FERC of a certificate of public convenience and necessity for a major pipeline construction project using a right-of-way in which there is no existing natural gas pipeline is an action that normally requires the preparation of an environmental impact statement ("EIS"). 18 C.F.R. § 380.6(a)(3). Pipeline projects that do not require an EIS require the preparation of an Environmental Assessment ("EA"). Consistent with NEPA and the Council on Environmental Quality's (the "CEQ") regulations, this Agreement encourages early involvement with the public and relevant government agencies in project development activities.

This Agreement emphasizes the importance for the lead agency to receive specific information from the other Participating Agencies at key stages of project development to foster an efficient procedure to develop documentation to meet all agencies' requirements. Specifically, the intent of this Agreement is to establish a process to facilitate the timely development of needed natural gas pipeline projects, whereby participating agencies will:

- Work together and with applicants and other stakeholders, as appropriate, including before complete applications for the necessary authorizations are filed;
- Identify and resolve issues as quickly as possible;
- Attempt to build a consensus among governmental agencies and their stakeholders;
- Expedite the environmental permitting and review for natural gas pipeline projects.

II. BACKGROUND

Through Executive Order 13212 issued on May 18, 2001, (the "Executive Order") the President declared that it is the policy of his Administration that executive departments and agencies shall take appropriate actions, to the extent consistent with applicable law, to expedite projects that will increase the production, transmission, or conservation of energy. In the Executive Order, the President directed federal agencies to

expedite their reviews of authorizations for energy-related projects and to take other action necessary to accelerate the completion of such projects, while maintaining safety, public health and environmental protections. Consistent with the Executive Order, and in recognition of the fact that the timely authorization of new interstate natural gas pipeline projects is essential to facilitate the nation's ability to meet the goal of sufficient availability and use of natural gas, the Participating Agencies enter into this Agreement.

The FERC is responsible for authorizing the construction and operation of interstate natural gas pipelines. It issues certificates of public convenience and necessity for such pipelines under section 7 of the Natural Gas Act of 1938, as amended (the "NGA"), and authorizes the construction and siting of facilities for the import or export of natural gas under section 3 of the NGA. It also authorizes the construction and operation of natural gas pipelines pursuant to the Natural Gas Policy Act.

The Bureau of Land Management ("BLM"), within the Department of the Interior, is responsible for the management of public lands. The BLM is principally responsible for issuing right-of-way permits authorizing natural gas pipelines to cross federal lands. Section 28 of the Mineral Leasing Act of 1920, as amended, gives BLM the authority to issue right-of-way permits for natural gas pipelines through lands held by the United States, except lands in the National Park System, lands held in trust for an Indian or Indian tribe, and lands on the Outer Continental Shelf.

The National Park Service ("NPS"), within the Department of the Interior, may issue right-of-way permits only for those uses or activities specifically authorized by Congress and only if there is no practicable alternative to such use of NPS lands. There are no general authorities for issuance of right-of-way permits for gas or other petroleum product pipelines across units of the National Park System. However, in individual instances, park- specific legislation may provide for such authorizations.

The Minerals Management Service ("MMS"), within the Department of the Interior, is responsible for issuing and enforcing regulations to promote safe operations, environmental protection, and resource conservation on the Outer Continental Shelf ("OCS"). The MMS is responsible for granting rights-of-way through submerged lands of the OCS. In addition, the MMS establishes and enforces pipeline safety requirements for those OCS pipelines within the jurisdiction of Department of the Interior. 30 C.F.R. § 250.1001.

The Bureau of Reclamation ("Reclamation"), within the Department of the Interior, is responsible for managing, developing, and protecting water and related resources in an environmentally and economically sound manner in the interest of the public. Reclamation may grant rights-of-way for natural gas pipelines and other uses where compatible with project purposes as authorized in section 10 of the Act of August 4, 1939, and section 28 of the Mineral Leasing Act of 1920, as amended.

The Bureau of Indian Affairs ("BIA"), within the Department of the Interior, is charged with responsibility to administer federal Indian policy and to discharge the federal trust for American Indian Tribes, Alaska Native villages and tribal organizations.

BIA is responsible for, among other things, approving rights-of-way across lands held in trust for an Indian or Indian Tribe. In addition, regarding natural gas and all rights-of-way for energy resource transport, BIA must consult and coordinate through Government-to-Government relations with any affected Tribe.

The Forest Service ("FS"), within the Department of Agriculture, is responsible for the management of 192 million acres of National Forest System ("NFS") lands. Many hundreds of miles of natural gas pipelines cross NFS lands. Most of these pipelines are permitted by a BLM-issued right-of-way grant, pursuant the authority granted to the Secretary of the Interior in section 28 of the Mineral Leasing Act.

The Army Corps of Engineers ("COE") is responsible for the administration of laws for the protection and preservation of waters of the United States, including wetlands. Pursuant to the requirements of section 10 of the Rivers and Harbors Act of 1899, and section 404 of the Clean Water Act ("CWA"), the COE may issue authorizations for the discharge of dredged or fill material into navigable waters, including wetlands.

The Research and Special Programs Administration ("RSPA"), within the Department of Transportation, is responsible for establishing safety standards for the nation's pipeline transportation system. RSPA carries out this responsibility through its Office of Pipeline Safety ("OPS"). OPS establishes and enforces minimum safety standards for the design, construction, operation and maintenance of pipeline facilities. 49 U.S.C. § 60101 et seq.

The Environmental Protection Agency ("EPA") is responsible for administering a wide variety of environmental laws. The responsibilities of EPA relevant to the pipeline permitting process include commenting on Environmental Impact Statements under section 309 of the Clean Air Act (the "CAA"), the authority to participate in the Section 404 permit process and to restrict, in certain circumstances, the use of specific areas as disposal sites for dredged or fill material pursuant to section 404, and the authority to issue permits for pipeline-related activities that involve discharges of pollutants subject to the requirements of the National Pollutant Discharge Elimination System or emissions that may be subject to permitting requirements under the CAA (unless the programs are being administered by a state authorized or approved by EPA).

The Fish and Wildlife Service ("FWS"), within the Department of the Interior, is responsible for the conservation, protection and enhancement of fish, wildlife, plants and their habitats. The FWS has principal trust responsibility to protect and conserve migratory birds, threatened and endangered species, certain marine mammals, and interjurisdictional fish. The FWS manages the National Wildlife Refuge System ("NWRS"). Applicants for pipeline construction projects are required to consult with the FWS on projects potentially affecting any of these resources. The FWS also consults on projects potentially affecting fresh water or marine resources and water quality. In addition, the FWS may authorize use by permit for areas within the NWRS.

The National Oceanic and Atmospheric Administration ("NOAA"), within the Department of Commerce and through offices such as the National Marine Fisheries Service and the National Ocean Service, is responsible for a variety of activities in marine and coastal ecosystems as mandated by several statutes and authorities. These activities include managing protected species; managing commercial and recreational fisheries; protecting marine and coastal habitats; working with states to develop and implement comprehensive coastal zone management plans; and protecting and managing designated Marine Sanctuaries. Pipeline project construction in coastal and/or ocean areas may overlap with several NOAA responsibilities depending on the location and type of project.

The Advisory Council on Historic Preservation ("ACHP") reviews and provides comments with regard to actions by federal agencies that may affect properties listed or eligible to be listed on the National Register of Historic Places pursuant to the National Historic Preservation Act.

The Department of Energy ("DOE") is charged with developing and coordinating national energy policy.

The CEQ was established within the Executive Office of the President in 1969 by NEPA. Its purpose is to formulate and recommend national policies to promote the improvement of the quality of the environment. CEQ has issued regulations applicable to federal agencies implementing NEPA. 40 C.F.R. Parts 1500 through 1508.

III. THE PARTICIPATING AGENCIES AGREE TO THE FOLLOWING:

The Participating Agencies hereby agree to work with each other, and with other entities as appropriate, to ensure that timely decisions are made and that the responsibilities of each agency are met. Specifically, each Participating Agency agrees to:

A. Commit to Early Involvement.

1. Conduct an Early Initial Review. As soon as practicable when a prospective applicant, or a Participating Agency, makes a request for involvement in connection with a project under development, each Participating Agency will assess its potential role in the review and issuance of approvals for the project. If a Participating Agency determines it has a role, it will:

a. Identify agency contacts for the proposed project. If a prospective applicant or Participating Agency needs assistance in determining regional, local or project specific contacts, then the identified contacts will assist in identifying additional contacts The initial agency contacts for each Participating Agency for the purposes of this Agreement are identified in Section V below.

b. Meet with prospective applicants and other agencies when requested by the prospective applicant, the lead agency, or at its own initiative, to identify areas

of potential concern to other agencies and to assess the need for and availability of agency resources to address issues related to the proposed project.

2. Consult with the Lead Agency In Establishing a Schedule. The lead agency will notify other relevant Participating Agencies as early as possible of upcoming projects for construction and operation of interstate natural gas pipelines and, in consultation with other involved Participating Agencies, identify those projects that will be subject to this Agreement. The lead agency will then, taking into consideration the relative priorities of other projects subject to this Agreement, establish a commensurate schedule for the project review process, including key times for consultation. Such schedule shall be as expeditious as possible and consistent with the periods for analysis and response that are required by the statutes and regulations applicable to the proposed project. In establishing this schedule, the relevant Participating Agencies will strive to ensure that individual permitting processes and related permit review activities occur on a concurrent, rather than sequential, basis with the objective of avoiding unnecessary delays in the process and the schedule established by the lead agency. If at any point during the consultation process a relevant Participating Agency anticipates an inability to comply with the agreed-upon schedule, it will communicate the reason for this inability as soon as possible to the lead agency. The lead agency will then work with that agency to help avoid the anticipated delay if possible.

a. In light of its overall responsibility for determining whether projects are consistent with the public convenience and necessity, FERC will be the lead agency for preparation of an EIS or EA on major interstate natural gas pipeline projects, unless, at the request of another Participating Agency (or after FERC's own review), FERC, in consultation with that agency, determines that another agency better meets the CEQ lead agency requirements.

b. The lead agency will encourage prospective applicants to establish and maintain an electronic web-based repository in which all filings by the applicants for authorizations, including filings with local, state and federal agencies, are made available to all Participating Agencies involved in their project. The repository should also include orders, requests and other pertinent documents. Such repository will be completely at the expense of the applicant.

c. The lead agency will include in any Notice of Intent to Prepare an EIS or EA guidance to the public regarding the process set forth in this Agreement.

3. Consult with FERC on FERC's Pre-Filing Process.

a. For those projects where a prospective applicant is proposing to use FERC's pre-filing environmental review process, the other Participating Agencies will, as appropriate, indicate their willingness and ability to work in the pre-filing timeframe along with the lead agency and other stakeholders to study the project. FERC's pre-filing process is described in the FERC's website.

b. When requested by a prospective applicant, FERC will make a determination as to whether the proposed project would benefit from the opening of a pre-filing docket to undergo a FERC pre-filing environmental review, including NEPA and related environmental statutes. If a pre-filing FERC docket is opened, the other relevant Participating Agencies will participate in the pre-filing review process.

B. Proactive Participation. Each Participating Agency will, as soon as possible after notification by a prospective applicant, an applicant, the lead agency, or otherwise:

1. Identify the applicable statutory, regulatory and policy responsibilities of each agency.

2. Identify the issues and concerns related to the proposed project that need to be addressed in order for the agency to meet its obligations.

3. Provide to the prospective applicant, an applicant, and/or the lead agency, relevant studies, data (such as maps showing features over which the agency may have jurisdiction), and any other information concerning the status of matters the agency considers relevant (including matters that may be under consideration, such as proposing a species for listing as endangered or threatened, or proposing an area for wilderness status).

4. During the pre-filing stage, identify issues and concerns and attempt to resolve them while the draft documentation is being developed.

C. Sharing of Data. The Participating Agencies will share the information gathered, considered and relied upon by each of them with all other relevant Participating Agencies. Specifically, the Participating Agencies agree to:

1. Cooperate in the preparation of requests for additional studies or data, to avoid duplicative requests and to compile a consistent set of information on which all of the Participating Agencies will rely.

2. Cooperate in identifying and developing the information at the level of detail required to complete environmental and cultural resources project review.

3. Cooperate in developing alternative routes and/or actions.

4. Cooperate in developing mitigation measures.

D. Communicate Informally. The Participating Agencies agree to informally communicate with the lead agency early and throughout the process to ensure that issues are raised as soon as possible and shared among all agencies. The lead agency

will coordinate and share information with and among other Participating Agencies.

E. Resolve Disputes**.** While retaining ultimate responsibility for making determinations and exercising their individual responsibilities in accordance with existing statutory responsibilities**,** the Participating Agencies will consult with each other to resolve disputes using existing dispute resolution methods and in accordance with existing statutory authorities. With respect to disputes regarding the procedures set forth in this Agreement, the Participating Agencies will consult with the CEQ. If a Participating Agency identifies such a dispute, it shall notify all other Participating Agencies and attempt to resolve the issue. If the dispute is not resolved within thirty (30) days of the notification of the dispute:

1. Any of the Participating Agencies involved in the dispute may forward the matter to the CEQ.

2. CEQ will make a written recommendation on resolution of the dispute within thirty (30) days of receiving the documentation from Participating Agencies, unless there is an agreement among all relevant Participating Agencies that the period should be extended for a particular reason;

3. Recommendations received from CEQ will be taken into account by the lead agency in consultation with the relevant Participating Agencies, in a manner consistent with applicable law, when determining further actions regarding the subject of the dispute. Any recommendation not accepted by the lead or Participating Agencies will have to be fully explained in writing to the Chairman of the CEQ.

4. This opportunity to consult with the CEQ shall be separate and apart from the opportunity to do so provided for in the CEQ's regulations at 40 C.F.R. Part 1504.

IV. IT IS MUTUALLY AGREED AND UNDERSTOOD THAT:

A. Nothing in this Agreement obligates the Participating Agencies to expend appropriations or enter into any contract or other obligation.

B. This Agreement may be modified or amended upon written request of any party hereto and the subsequent written concurrence of all of the Participating Agencies. Participation in this Agreement may be terminated sixty (60) days after providing written notice of such termination to the other Participating Agencies.

C. This Agreement is intended only to improve the working relationships of the Participating Agencies in connection with expeditious decisions with regard to interstate natural gas pipeline project authorizations and is not intended to, nor does it create any right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity by a any person or party against the United States, its agencies, its officers, or any other person.

D. This Agreement is to be construed in a manner consistent with all effective existing laws and regulations.

E. This Agreement neither expands nor is in derogation of those powers and authorities vested in the Participating Agencies by applicable law, statutes or regulations.

F. The terms of this Agreement are not intended to be enforceable by any party other than the signatories hereto.

G. The Participating Agencies intend to fully carry out the terms of this Agreement. All provisions in this Agreement, however, are subject to available resources. In addition, this Agreement does not limit the ability of any of the Participating Agencies to review and respond to final applications.

H. If a prospective applicant, applicant, or other person requests a correction of information disseminated pursuant to this Agreement, as authorized by Section 515 of the Treasury and General Government Appropriations Act for FY 2001 (P.L. 106-554), the process by which such request will be addressed will be that established by the agency that disseminated the information.

V. PRINCIPAL CONTACTS

Each Participating Agency hereby designates at least two contacts as the principal initial contacts for the agency. These contacts may be changed at the Participating Agency's discretion upon notice to the other Participating Agencies.

SIGNATORIES
May 2002

R.L. Brownlee
Acting Assistant Secretary
of the Army (Civil Works)

Robert G. Card
Under Secretary
Department of Energy

Mark Rey
Under Secretary
Natural Resources and Environment
U.S. Department of Agriculture

John L. Nau, III
Chairman
Advisory Council on Historic Preservation

Samuel W. Bodman
Deputy Secretary
Department of Commerce

Patrick Wood, III
Chairman
FERC

J. Steven Griles
Deputy Secretary
Department of the Interior

James L. Connaughton
Chairman
Council on Environmental Quality

Michael P. Jackson
Deputy Secretary
Department of Transportation

Linda J. Fisher
Deputy Administrator
Environmental Protection Agency

From: Andrea Thornton
To: Jackson, Seth; Arianne Balsom; Mark Cline; Linn, Jill; Huncovsky, Greg; Linn, Dave
Subject: Plan of Development - North Bakken Expansion Project

---

Hello Everyone –

This invitation is to discuss the Plan of Development for the North Bakken Expansion Project.

Thanks,

Andrea

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From:	Andrea Thornton
To:	Jackson, Seth; Arianne Balsom
Cc:	Huncovsky, Greg; Linn, Jill; Mark Cline
Subject:	Plan of Development Example
Date:	Friday, November 8, 2019 12:28:00 PM
Attachments:	image001.png MVP_POD_102017.pdf

Hi Seth and Ari –

Ahead of our call next week I wanted to send around this example Plan of Development that was completed for the Mountain Valley Pipeline Project. This was a FERC regulated project and akin to the North Bakken Expansion Project no BLM land was crossed. The two federal land management agencies lands that were crossed were the USFS and USACE. Much like the North Bakken Expansion Project, all of the USACE lands were crossed with a bore and no conventional pipeline construction was required on their land.

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



Plan of Development

Mountain Valley Pipeline Project

Prepared by:

Mountain Valley PIPELINE LLC

October 20, 2017

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ACRONYMS AND ABBREVIATIONS

ANST	Appalachian National Scenic Trail
API	American Petroleum Institute
ATWS	additional temporary workspace
Bcf/d	billion cubic feet per day
BLM	U.S. Department of the Interior, Bureau of Land Management
BMP	best management practice
Certificate	Certificate of Public Convenience and Necessity
CFR	Code of Federal Regulations
CIC	Compliance Inspection Contractor
E&SCP	Erosion and Sediment Control Plan
ECM	erosion control matting
EIA	Energy Information Administration
EPA	U.S. Environmental Protection Agency
FERC	Federal Energy Regulatory Commission
JNF	Jefferson National Forest[1]
MP	milepost
MVP	Mountain Valley Pipeline, LLC
NFS	National Forest System
NPDES	National Pollutant Discharge Elimination System
OHV	off-highway vehicle[2]
PHMSA	U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration
Plan	FERC's May 2013 version of the Upland Erosion Control, Revegetation, and Maintenance Plan
POD	Plan of Development
Procedures	FERC's May 2013 version of the Wetland and Waterbody Construction and Mitigation Procedures
Project	Mountain Valley Pipeline Project
ROW	right-of-way
SHPO	State Historic Preservation Office
SPCC	Spill Prevention, Control, and Countermeasure
SSEAP	Site-Specific Emergency Action Plan
Tcf	trillion cubic feet
Transco	Transcontinental Gas Pipe Line Company, LLC
USACE	U.S. Army Corps of Engineers

[1] Jefferson National Forest refers to the southern portion of the current George Washington & Jefferson National Forests throughout this document. Originally two separate national forests, the JNF and the George Washington National Forest were administratively combined in 1995 and are administered as a single national forest unit.

[2] OHV in this document refers generally to all types of motorized off-highway vehicles, including both street-legal and non-street-legal full-size vehicles, motorcycles, all-terrain vehicles, utility terrain vehicles, etc.

USDOT	U.S. Department of Transportation
USFS	U.S. Department of Agriculture, Forest Service
VDEQ	Virginia Department of Environmental Quality
WVDEP	West Virginia Department of Environmental Protection

1.0 PURPOSE AND NEED

1.1 Project Overview

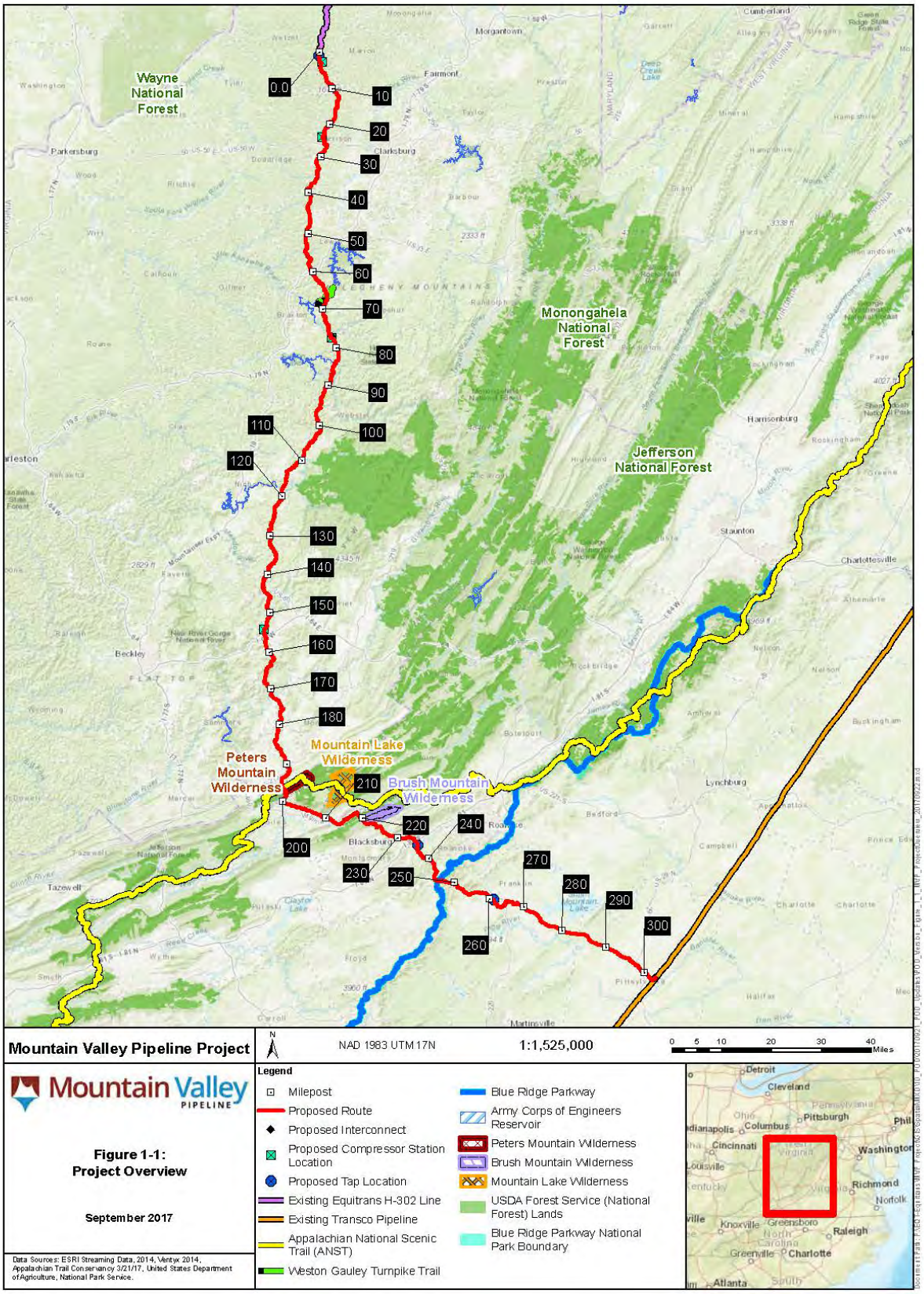
Mountain Valley Pipeline, LLC (MVP or Mountain Valley), a joint venture between EQT Midstream Partners, LP and affiliates of NextEra Energy, Inc.; Con Edison Gas Midstream LLC; WGL Holdings, Inc.; and RGC Midstream, LLC is seeking a Certificate of Public Convenience and Necessity (Certificate) from the Federal Energy Regulatory Commission (FERC) pursuant to Section 7(c) of the Natural Gas Act authorizing it to construct and operate the proposed Mountain Valley Pipeline Project (Project) located in 17 counties in West Virginia and Virginia. MVP plans to construct an approximately 303-mile, 42-inch-diameter natural gas pipeline. Per the definitions of 49 Code of Federal Regulations (CFR) § 192.3, the pipeline is considered to be a transmission line, which is also referred to as a trunk line.

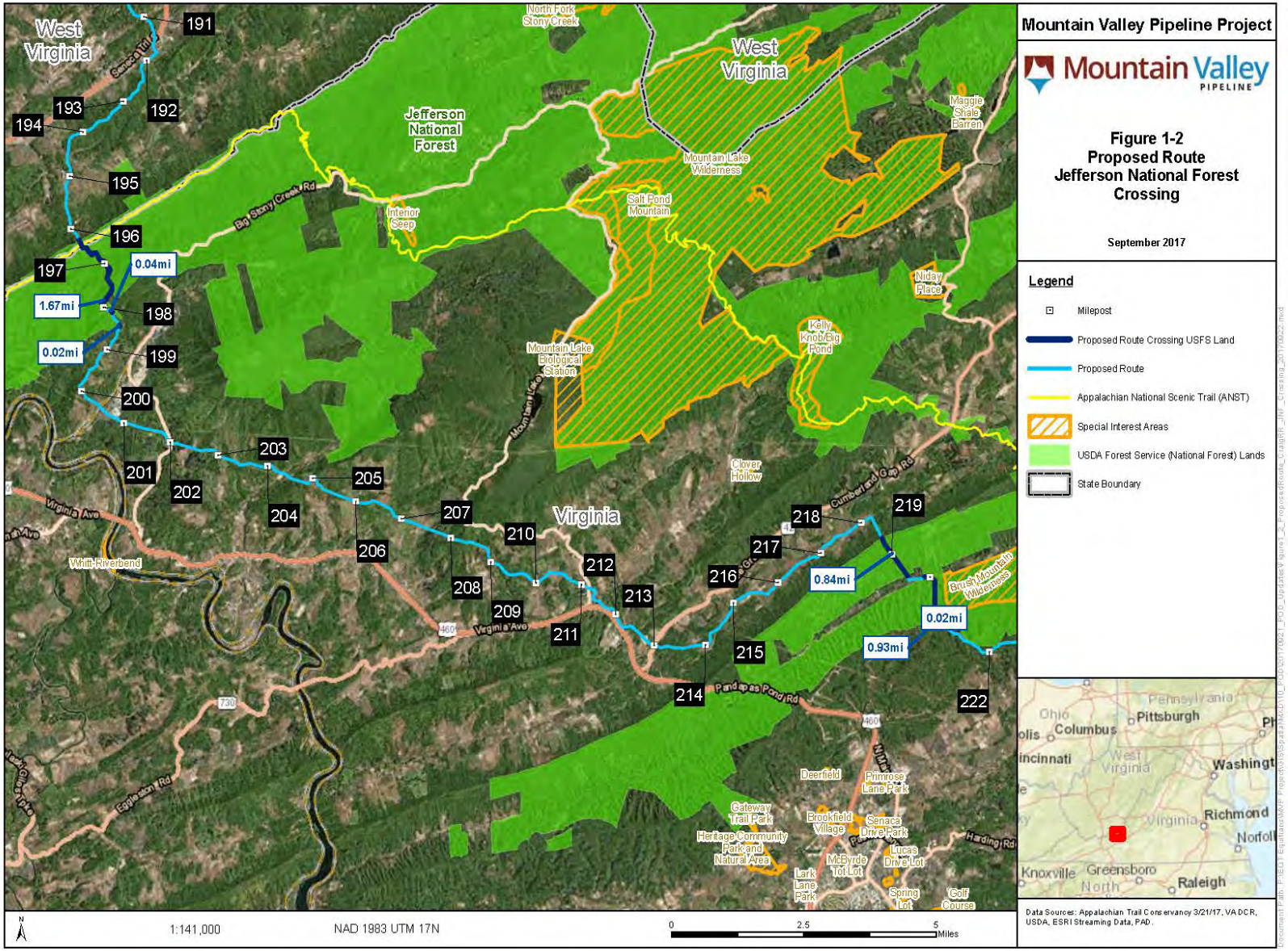
The proposed pipeline will extend from the existing Equitrans, L.P. transmission system and other natural gas facilities in Wetzel County, West Virginia to Transcontinental Gas Pipe Line Company, LLC's (Transco) Zone 5 compressor station 165 in Pittsylvania County, Virginia. In addition to the pipeline, the Project will include approximately 171,600 horsepower of compression at three compressor stations currently planned along the route, as well as measurement, regulation, and other ancillary facilities required for the safe and reliable operation of the pipeline.

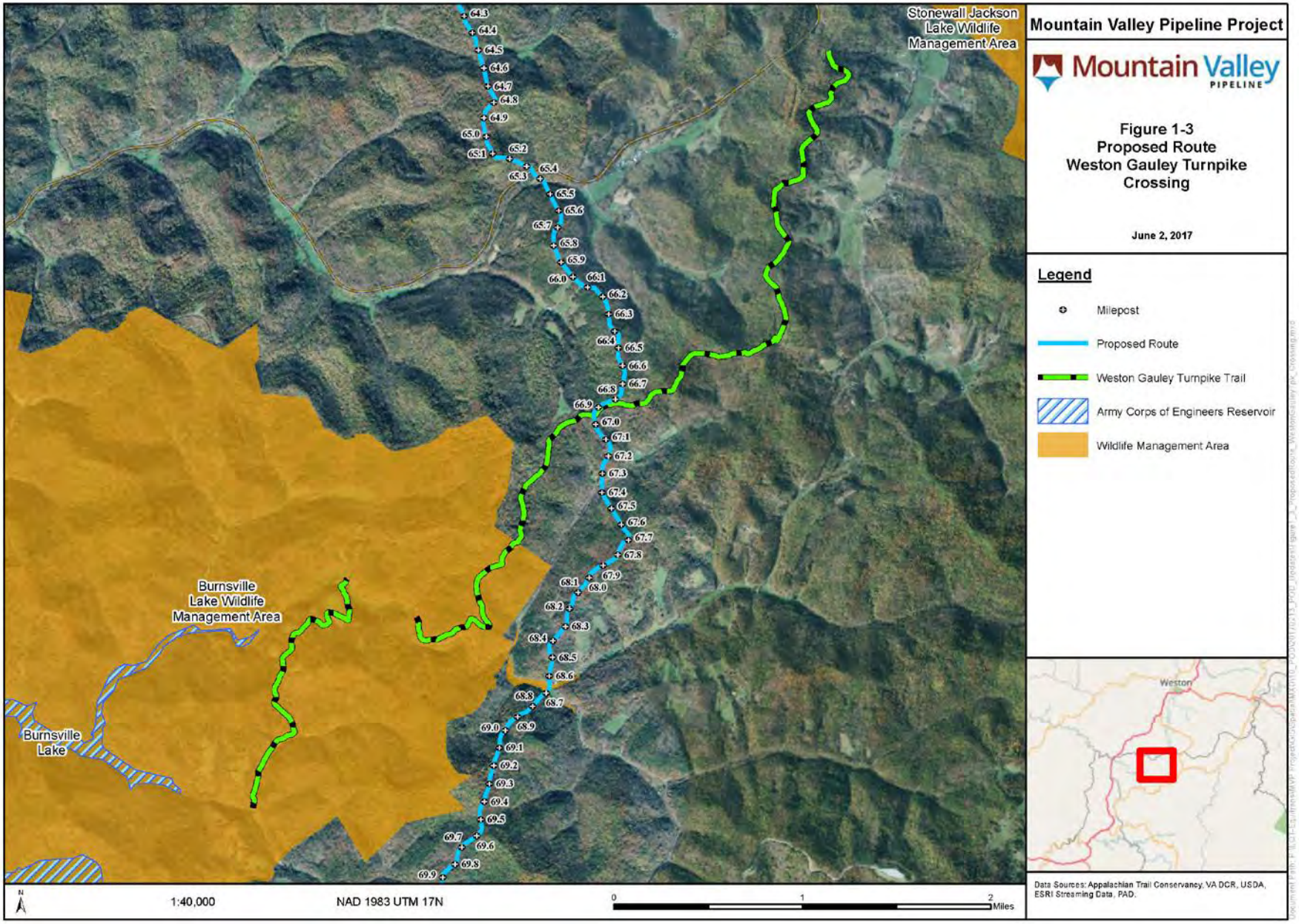
A 3.5-mile-long segment of the Project will cross portions of the Jefferson National Forest (JNF) in Monroe County in southern West Virginia and in Giles, Craig, and Montgomery counties in southwestern Virginia. The JNF is managed by the U.S. Forest Service (USFS) within the U.S. Department of Agriculture. Another 60-foot-long segment of the Project will cross the Weston and Gauley Bridge Turnpike Trail (Weston and Gauley Turnpike) in Braxton County, West Virginia, which is a historic, unpaved trail administered by the U.S. Army Corps of Engineers (USACE). Construction of the Project segments that cross the JNF and the Weston and Gauley Turnpike are anticipated to occur in 2018. (Figures 1-1 through 1-3). Under the Mineral Leasing Act, approval to cross land managed by two or more federal agencies is the responsibility of the U.S. Department of the Interior, Bureau of Land Management (BLM) through issuance of a Right-of-Way Grant.

The pipeline will be buried at a depth of three feet, per the requirements of the U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) regulations, 49 CFR Part 192. There will not be any aboveground appurtenances within the JNF or USACE property such as compressor stations, measuring stations, valve settings, rectifiers/anode beds, etc. However, there will be minor appurtenances within the JNF that include test stations and line markers, which will be entirely contained within the 50-foot operational right-of-way (ROW) as required by PHMSA's regulations.

This Plan of Development (POD) replaces all of the Draft POD's that have been submitted to date and outlines the steps that must be followed during construction and operation of the Project on federal lands. The POD is an iterative document that will evolve throughout the design and implementation process. All versions of the POD, appendices to the POD, and supporting documents will contain the date of issuance on each page.


Wayne National Forest
Monongahela National Forest
Jefferson National Forest
Peters Mountain Wilderness
Mountain Lake Wilderness
Brush Mountain Wilderness
0.0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
200
210
220
230
240
250
260
270
280
290
300
Mountain Valley Pipeline Project
NAD 1983 UTM 17N
1:1,525,000
0 5 10 20 30 40 Miles
Mountain Valley PIPELINE
Figure 1-1:
Project Overview
September 2017
Data Sources: ESRI Streaming Data, 2014, Ventyx 2014, Appalachian Trail Conservancy 3/21/17, United States Department of Agriculture, National Park Service.
Legend
Milepost
Proposed Route
Proposed Interconnect
Proposed Compressor Station Location
Proposed Tap Location
Existing Equitrans H-302 Line
Existing Transco Pipeline
Appalachian National Scenic Trail (ANST)
Weston Gauley Turnpike Trail
Blue Ridge Parkway
Army Corps of Engineers Reservoir
Peters Mountain Wilderness
Brush Mountain Wilderness
Mountain Lake Wilderness
USDA Forest Service (National Forest) Lands
Blue Ridge Parkway National Park Boundary


Mountain Valley Pipeline Project
Mountain Valley PIPELINE
Figure 1-2
Proposed Route
Jefferson National Forest
Crossing
September 2017
Legend
Milepost
Proposed Route Crossing USFS Land
Proposed Route
Appalachian National Scenic Trail (ANST)
Special Interest Areas
USDA Forest Service (National Forest) Lands
State Boundary
West Virginia
Virginia
Jefferson National Forest
Mountain Lake Wilderness
Salt Pond Mountain
Interior Seep
Maggie Shale Barren
Niday Place
Kelly Knob/Big Pond
Mountain Lake Biological Station
Clover Hollow
Brush Mountain Wilderness
Big Stony Creek Rd
Cumberland Gap Rd
Virginia Ave
Whitt-Riverbend
Pandapas Pond Rd
Eggleston Rd
Harding Rd
Deerfield
Primrose Lane Park
Gateway Trail Park
Heritage Community Park and Natural Area
Brookfield Village
Senaca Drive Park
McByrde Tot Lot
Lucas Drive Tot
Lark Lane Park
Spring Lot
Golf Course
191
192
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215
216
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218
219
222
0.04mi
1.67mi
0.02mi
0.84mi
0.02mi
0.93mi
1:141,000
NAD 1983 UTM 17N
0
2.5
5
Miles
Data Sources: Appalachian Trail Conservancy 3/21/17, VA DCR, USDA, ESRI Streaming Data, PAD.


Stonewall Jackson Lake Wildlife Management Area
Burnsville Lake Wildlife Management Area
Burnsville Lake
Mountain Valley Pipeline Project
Mountain Valley PIPELINE
Figure 1-3
Proposed Route
Weston Gauley Turnpike Crossing
June 2, 2017
Legend
Milepost
Proposed Route
Weston Gauley Turnpike Trail
Army Corps of Engineers Reservoir
Wildlife Management Area
Weston
Data Sources: Appalachian Trail Conservancy, VA DCR, USDA, ESRI Streaming Data, PAD.
N
1:40,000
NAD 1983 UTM 17N
0
1
2
Miles

An electronic index of current appendices and supporting documents will be kept up-to-date by MVP and housed on the Project Web site to be established prior to the start of construction. It is the responsibility of all involved personnel from all parties to ensure that they are utilizing the current version of all documents. Should a Right-of-Way Grant be issued for the Project, the final POD will be incorporated into the Grant.

1.2 Project Purpose

The pipeline will transport up to 2.0 million dekatherms per day of natural gas from the Appalachian Basin to growing markets in the mid-Atlantic and southeastern United States. The purpose of the Project is to provide timely, cost-effective access to supplies to meet the growing demand for natural gas for use by local distribution companies, industrial users, and power generation facilities in the mid-Atlantic, southeastern, and Appalachian markets. The Project will also provide the opportunity for unserved and underserved markets along the route to access natural gas supplies. For example, the routing of the project through the southwest Virginia area resulted in Roanoke Gas Company becoming a Project shipper and requesting a specific tap location to support its local distribution company system's growth and expansion. Roanoke Gas Company's involvement as a shipper and its site-specific delivery point are concrete evidence of MVP's purpose and need to provide opportunities for economic growth and development along the route of the Project.

In recent years, the North American natural gas market has seen enormous growth in production and demand. The United States Energy Information Administration (EIA) estimates that total natural gas consumption in the United States will increase from 26.2 trillion cubic feet (Tcf) in 2013 to between 29.7 Tcf and 37.4 Tcf in 2040 (EIA 2015). The largest portion of this growth in gas demand is expected to occur in the electric generation sector, where natural gas consumption is expected to increase from 8.2 Tcf in 2013 to 9.4 Tcf in 2040 (EIA 2015).

In addition to increased demand for electricity due to steady population growth, a major driver behind this increase is the retirement of 40.1 gigawatts of coal-fired electric generation by 2025 due to stricter environmental rules (EIA 2015). On August 3, 2015, the U.S. Environmental Protection Agency (EPA) announced the *Clean Power Plan*, which is designed to reduce carbon pollution from power plants (EPA 2015). Additionally, the EPA issued its *Final Carbon Pollution Standards for New, Modified, and Reconstructed Power Plants* and proposed a Federal Plan and model rule to assist states in implementing the *Clean Power Plan*. In the final *Clean Power Plan*, the EPA identifies substituting increased electricity generation from lower-emitting existing natural gas plants for reduced generation from higher-emitting coal-fired power plants as one of the building blocks necessary to achieve the required emission reductions for affected power plants. In particular, it is expected that replacing coal-fired electric generation with natural-gas-fired generation will be higher in the southeast because southeastern power markets include some of the most expensive delivered coal prices in the United States. The Project will provide the Mid-Atlantic and southeastern markets with direct access to new gas supplies to meet this increased demand for natural gas and thereby help lower emissions.

A sizable portion of natural gas production growth is occurring in the Appalachian Basin shale region. Appalachian Basin shale gas production has increased from 2 billion cubic feet per day (Bcf/d) in 2010 to over 15 Bcf/d in July 2014. The Project will provide for transportation of these prolific natural gas supplies to Station 165, the pooling point for natural gas in Transco Zone 5, where this natural gas can serve the growing demand for natural gas for use by LDCs, industrial users, and power generation facilities all along the Eastern seaboard.

1.3 Dimensions of the Right-of-Way and Related Facilities on Federal Lands

The ROW on the JNF will be approximately 3.5 miles long. The construction ROW will be generally 125 feet wide; however, the width has been reduced in some areas. The construction ROW will include approximately 52 acres (Table 1-1). There be also will be approximately one acre of additional temporary workspace (ATWS) on the JNF, which will be used for the temporary staging of equipment for special construction techniques, and 33.7 acres of existing USFS roads for access during construction. ATWS and access roads that will support construction are shown on figures included in Appendix A-1. The operational ROW will be 50 feet wide, covering an area of approximately 22 acres. No equipment storage areas will be required in the JNF during operation. Access roads are expected to utilize approximately 21 acres during operation.

Table 1-1. Land Requirements for the Mountain Valley Pipeline Project on Federal Land

Facility	Land Required for Construction (acres)	Land Required for Operation (acres)
JNF Crossing		
Pipeline a/	51.7	21.5
Additional Temporary Workspace	0.9	0.0
Access Roads	33.7	21.3
ANST Bore	0.0	0.0
Weston and Gauley Turnpike		
Pipeline b/	0.0	0.0
Additional Temporary Workspace	0.0	0.0
Access Roads	0.0	0.0

a/ Acreage based on maximum 125-foot-wide construction ROW and 50-foot-wide permanent ROW.

b/ MVP will bore under the approximate 60-foot USACE Weston and Gauley Turnpike property. The total bore length will be approximately 130 feet.

The Weston and Gauley Turnpike crossing will be conducted via conventional bore resulting in no disturbance to USACE property. MVP will complete an approximate 130-foot bore that will retain an approximate 20-foot vegetative buffer on each side of the USACE property boundary. Crossing the Weston and Gauley Turnpike by bore and retaining a 20-foot vegetation buffer on each side will avoid short-term and long-term impacts to users of the Weston and Gauley Turnpike.

In accordance with JNF-FW-158,[3] for the crossing of the Appalachian National Scenic Trail (ANST) on JNF lands, MVP will install the pipe via conventional bore under the ANST, leaving an approximate area of no disturbance of 307 feet on the south side of the trail and 273 feet on the north side of the trail where tree clearing and land disturbance will not occur. The areas of no disturbance of 307 feet on the south side and 273 feet on the north side of the ANST refer to those between the safety fence that will be installed in front of the bore pits and the ANST. These barriers will be set up approximately ten feet in front of each bore pit to provide for the safety of workers and visitors to the ANST during construction activities. Thus, there is approximately 600 feet between the bore pits.

Bore plan drawings for both the Weston and Gauley Turnpike and the ANST can be found in Appendix A-2.

1.4 Existing Rights-of-Way

This Project is not an ancillary facility to any existing ROW; it is independent of any other action currently taking place on USACE or JNF property. However, where feasible, MVP has co-located the Project with existing infrastructure. Table 1-2 identifies areas where MVP is co-locating with other infrastructure and a description of that infrastructure.

Table 1-2. Existing Corridors Adjacent to the Proposed Project

Name	Type	Mile Post Begin	Mile Post End	Distance (feet)	Offset between Pipe and Edge of ROW (feet)	Construction ROW Overlap (feet)
JNF Crossing						
Mystery Ridge Road (FR #11080)	Forest Road	196.75	197.8	6071	0 to 137.7	0 to 15

1.5 Alternative Routes or Locations

MVP has attempted to avoid or minimize impacts on a number of environmental resources, particularly the significant natural resources of the public, federally managed lands in the area, including the National Forests, National Parks, Wilderness Areas, and the ANST, while also allowing for a constructible route. MVP evaluated several route alternatives and variations to accomplish this goal, including a conceptual straight-line alternative, which would have resulted in the pipeline crossing approximately 77 miles of National Forest System (NFS) lands.

[3] This POD uses "JNF-FW-XX" to refer to management standards in the JNF LRMP.

2.0 RIGHT-OF-WAY LOCATION

2.1 Legal Description

A legal description of federal lands on the JNF and USACE-managed lands crossed by the Project is presented in Table 2.1.

Table 2-1. Legal Description of the Federal Lands on the JNF and USACE-Managed Lands

Parcel Number	Main Contact	Legal Description	Title Comments
n/a	Corps of Engineers, Huntington, West Virginia	A certain tract of land situated in the State of West Virginia, Braxton County, Salt Lick District, on the ridge between Barbecue Run and Clover Fork, tributaries of Knawl Creek and Oil Creek, respectively. Said tract is located entirely within a sixty (60) foot strip of land surveyed by the Corps of Engineers, Huntington, West Virginia, for a trail along the general alignment of the old Weston and Gauley Bridge Turnpike. Being the lands described in that certain Warranty Deed dated June 9, 1981, recorded in Deed Book 387 Page 778 of the records in the office of the County Clerk of Braxton County, West Virginia	No Assessor's Parcel Number (APN) assigned
WV-MO-074	U.S Forest Service, George Washington & Jefferson National Forests, 5162 Valleypointe Parkway, Roanoke, VA 24019	Being the southern portion of that tract of land located near the top of Peters Mountain, in the Red Sulphur Magisterial District, of Monroe County, West Virginia. Being the lands described in that certain Warranty Deed dated October 10, 1988, recorded in Deed Book 183 Page 793 of the records of the office of the County Clerk of Monroe County, West Virginia	USA Forest Service Tract 1426. APN 03-35-7.1
VA-GI-002	U.S Forest Service, George Washington & Jefferson National Forests, 5162 Valleypointe Parkway, Roanoke, VA 24019	480.48 acres, more or less, Eastern District, in Giles County, Virginia, being the same lands described in that certain deed dated December 28, 1984, from National Gypsum Company to United States of America and recorded in Deed Book 187, Page 528 of the records in the office of the Circuit Court Clerk of Giles County, Virginia and further described in the plat dated July 27, 1983, and recorded in Deed Book 187, Page 533	USA Forest Service Tract 1130a. APN - 16-2
VA-GI-001	U.S Forest Service, George Washington & Jefferson National Forests, 5162 Valleypointe Parkway, Roanoke, VA 24019	102.83 acres, more or less, Pembroke Magisterial District, Giles County, Virginia, being the same lands described in that certain Warranty Deed dated December 5, 1983, from American Resources, Inc. to the United States of America and recorded in Deed Book 182, Page 717 of the records in the office of the Circuit Court Clerk, Giles County, Virginia	USA Forest Service Tract 1169a APN - 16-3B

Table 2-1. Legal Description of the Federal Lands on the JNF and USACE-Managed Lands (continued)

Parcel Number	Main Contact	Legal Description	Title Comments
VA-GI-002.02 (AR MO-232)	U.S Forest Service, George Washington & Jefferson National Forests, 5162 Valleypointe Parkway, Roanoke, VA 24019	4,477.68 acres, more or less, in the Pembroke, Pearisburg, and Narrows Magisterial Districts, in Giles County, Virginia, being described in that certain deed, dated July 8, 1968, from Pocahontas Land Corporation to the United States of America, and recorded in Deed Book 118, Page 458 of the records in the office of the Circuit Court Clerk of Giles County, Virginia.	USA Forest Service Tract 968 This is both an access road and an easement tract. NO APN
VA-MO-001	U.S Forest Service, George Washington & Jefferson National Forests, 5162 Valleypointe Parkway, Roanoke, VA 24019	2,840.4 acres, more or less, in the Mt. Tabor Magisterial District, in Montgomery County, Virginia, being described as Tract 527 in that certain deed, dated March 11, 1940, from The American Security & Trust Company, Trustee of the Estate of Basil B. Gordon, Deceased, The Safe Deposit & Trust Company of Baltimore, Trustee of the Estate of Douglas H. Gordon, Deceased, and Elizabeth Clarke Gordon, to the United States of America, and recorded in Deed Book 115, Page 385 of the records in the office of the Circuit Court Clerk of Montgomery County, Virginia; and 4,284.7 acres in the Mt. Tabor Magisterial District, In Montgomery County, Virginia, being described in that certain deed, dated February 19, 1937, from Max N. Manbeck and Lydia V. Manbeck to the United States of America and recorded in Deed Book 105, Page 256 of the records in the office of the Circuit Court Clerk of Montgomery County, Virginia.	USA Forest Service Tracts 527 and 201 APN – 070756

2.2 Site-Specific Engineering Surveys for Critical Areas

MVP has completed land boundary and monument surveys in locations identified to cross or be close to USFS property. Surveys depict the property boundary, any relevant property corners, monuments, and the proposed disturbance footprint of the Project in relation to the boundary and corners. The information collected is included on the Alignment Sheets and Exhibit Maps in Appendix A. Surveys were conducted by a professional land surveyor licensed in Virginia and West Virginia. The Exhibit Maps show the Project footprint, delineating centerline of the route, the permanent ROW, the temporary workspace, the centerline of the access roads, and the ATWS areas with acreages (metes and bounds shown thereon) to be encumbered on NFS lands. The Exhibit Maps also show boundary and monument information related to USFS property boundaries that will be affected. Following construction of the Pipeline, Mountain Valley will reestablish any boundary lines, corners, and monuments necessary and provide as-built drawings to the USFS and USACE depicting the location of the pipeline on each property.

Maps and drawings are presented in Appendix A and Appendix B.

2.3 Acre Calculation of the Right-of-way by Land Status

Table 2-2 lists the acres within the construction ROW and ATWS by management prescription area identified in the Revised JNF Land and Resource Management Plan for the Jefferson National Forest (2004).

Table 2-2. Acre Calculation of the Project Facilities (Access Road, Work Spaces, and the ROW) by Land Status Management Prescription Area

Management Prescription Area[1]	Access Road	ATWS	Construction ROW
4.A Appalachian National Scenic Trail	0.0	0.0	2.7[2]
4.J Urban-Suburban Interface Area	0.0	0.0	14.1
6.C Old-Growth Forest	2.3	0.6	4.6
8.A.1 Mix of Successional Habitats	28.6	0.4	29.9
Total	**30.9**	**1.0**	**51.3**

Notes:

1. The acres shown in this table are GIS estimates. Numbers are not exact and columns may not sum correctly due to rounding.
2. Construction ROW in the area of 4.A does not include the acreage between the ANST bore pits.

3.0 FACILITY DESIGN FACTORS

The pipeline and aboveground facilities described in this POD will be designed, constructed, tested, operated, and maintained in accordance with the requirements of 49 CFR Part 192, Transportation of Natural Gas and Other Gas by Pipeline; Minimum Safety Standards; 18 CFR § 380.15, Site and Maintenance Requirements; and other applicable federal and state regulations.

The pipe specifications for the Project are identified in Table 3-1.

Table 3-1. Pipe Specifications

Design Parameter	Specification
Maximum Allowable Operating Pressure (pounds per square inch gauge)	1,480
Wall Thickness (inches) a/	0.617 – 0.888
Grade of Steel	X-70

Note: a/ Wall thickness depends on the class of pipe installed (either class 1, 2, or 3)

MVP will install Class 2 pipe buried at least 36 inches below the ground surface within the JNF. The product transported by the Project will be natural gas. The pipeline operating temperature is expected to be that of the ground temperature. Slight temperature variations may occur immediately downstream of compression, but the pipeline temperature will equilibrate with the surrounding soils within a relatively short distance.

The operational ROW will be 50 feet wide.

4.0 ADDITIONAL COMPONENTS OF THE RIGHT-OF-WAY

The pipeline will not connect to any existing pipeline ROW on the JNF or on USACE managed lands. Table 1-2 shows other corridors adjacent to the proposed pipeline ROW. No additional components are proposed for future development on either the JNF or USACE-managed lands. There will be no pumping, metering, compressor stations, mainline valves, or cathodic protection sites on either the JNF or USACE-managed lands. ATWS that will be utilized for equipment staging areas and other construction-supporting activities are shown on the Alignment Sheets included as Appendix A-1. There will be no ATWS required during operation. Mountain Valley also intends to utilize both Pocahontas (FR #972) and Mystery Ridge (FR #11080) roads during construction and operation of the Pipeline. MVP will not use Brush Mountain Road (FR #188) for construction or operation traffic. Signage will be posted during construction letting construction traffic know that Brush Mountain Road cannot be utilized. A discussion of road upgrades and maintenance can be found in Section 6.5.

5.0 GOVERNMENT AGENCIES INVOLVED

Table 5-1 lists the agencies that are involved with the permitting and regulatory process for the Project. Mountain Valley has provided the USFS, BLM, and USACE with copies of all relevant filings, including the 7c FERC application. In addition, copies of these materials have also been provided to the JNF and BLM contractor, Galileo Project, to add to the administrative record for the Project. Mountain Valley will continue to provide copies of relevant filings to the USACE, BLM, USFS, and Galileo Project.

Table 5-1. Agencies with Relevant Permit or Consultation Requirements

Agency	Permit/ Approval/ Consultation a/	Consultation Initiated	Application Filed	Anticipated Authorization Receipt Date	Contact Information
Federal					
Federal Energy Regulatory Commission	NGA Section 7; Certificate for construction and operation of interstate natural gas pipeline	October 16, 2014	October 23, 2015	October 13, 2017	Paul Friedman 202-502-8059
Bureau of Land Management	Right-of-way grants for USACE Weston and Gauley Turnpike and NFS lands. Plan of Development submittal	February 2016	April 5, 2016	4th Quarter 2017	Victoria Craft 601-919-4655
Bureau of Indian Affairs, Eastern Regional Office	Consultation regarding which tribes may have potential interest in project area or presence of traditional cultural properties, and contact tribes as appropriate	October 13, 2014	N/A	N/A	Bruce Maytubby 615-564-6500
U.S. Department of Transportation (USDOT), Office of Safety, Energy, and the Environment	Introductory consultation to the project	October 13, 2014	N/A	N/A	Barbara McCann 202-366-4540
USDOT, Office of Pipeline Safety	Pre-construction notification	90-days prior to the start of construction	4th Quarter 2017	N/A	N/A

Table 5-1. Agencies with Relevant Permit or Consultation Requirements (continued)

Agency	Permit/ Approval/ Consultation a/	Consultation Initiated	Application Filed	Anticipated Authorization Receipt Date	Contact Information
National Park Service (NPS) Southeast Region Blue Ridge Parkway	Consultation regarding potential impacts to the Blue Ridge Parkway	October 13, 2014	N/A	N/A	Bambi Teague 828-348-3439
	Cultural Resource Survey Permission on NPS Lands		March 20, 2015; November 13, 2015; June 2, 2016; October 17, 2016	May 27, 2016; June 14, 2016	
	Survey Permission on NPS lands		April 24, 2015; November 13, 2015; January 13, 2016; June 1, 2016; October 17, 2016	May 25, 2016	
	ROW through NPS lands		November 10, 2016	4th Quarter 2017	
NPS, Northeast Region, Appalachian Trail Park Office (NPS-APPA) for the ANST b/	Consultation regarding potential impacts to the ANST	October 13, 2014	N/A	N/A	Wendy Janssen 304-535-6279
USACE, Huntington District	Section 404 Permit for impacts on waters of the U.S., including wetlands Section 10 Permit for activities affecting navigation	October 13, 2014	February 21, 2016; update February 17, 2017	4th Quarter 2017	Christopher Carson 304-399-5819
USACE, Norfolk District	Same as USACE, Huntington District	October 13, 2014	February 21, 2016; Anticipated update July 28, 2017	4th Quarter 2017	Todd Miller 804-323-3782
USACE, Pittsburgh District	Same as USACE, Huntington District	October 13, 2014	February 21, 2016; update February 17, 2017	4th Quarter 2017	Josh Shaffer 412-395-7121
U.S. Department of Agriculture (USDA), Virginia	Consultation regarding organic farmland	October 13, 2014	N/A	N/A	John David Harper 804-287-1736

Table 5-1. Agencies with Relevant Permit or Consultation Requirements (continued)

Agency	Permit/ Approval/ Consultation a/	Consultation Initiated	Application Filed	Anticipated Authorization Receipt Date	Contact Information
USDA, West Virginia	Same as USDA, Virginia	October 13, 2014	N/A	N/A	Joe Hatton 304-284-7564
EPA, Region 3 Air Protection Division	Project introduction and air permitting requirements	October 13, 2014	N/A	N/A	Diana Esher 215-814-2900
USFS – Jefferson National Forest	Survey Permission on NFS lands	September 11, 2014	March 10, 2015; September 23, 2015; September 22, 2016; April 5, 2017	May 12, 2015; September 30, 2015; October 12, 2016; May 2, 2017	Jennifer Adams 540-265-5114
	Cultural Resource Survey Permission on NFS lands		February 4, 2016; September 21, 2016; December 8, 2016	February 16, 2016; January 11, 2016	
	USFS Plan Amendments and ROW Concurrence to the BLM		February 28, 2017	4th Quarter 2017	
U.S. Fish and Wildlife Service, Virginia and West Virginia Field Offices	Consultation under Section 7 of ESA for potential impacts on federally protected species	September 24, 2014	N/A	N/A	Troy Andersen 804-824-2428 and Tiernan Lennon 304-636-6586 X12
	Consultation regarding impacts on migratory birds and fish and wildlife	March 2015	N/A	N/A	
	Biological Assessment/ Biological Opinion	March 2015	January 21,2016, June 2016, March 2016	4th Quarter 2017	
Virginia					
Virginia Department of Forestry	Consultation regarding potential impacts to state-managed forests	October 13, 2014	N/A	N/A	Brad Williams 434-997-6555

Table 5-1. Agencies with Relevant Permit or Consultation Requirements (continued)

Agency	Permit/ Approval/ Consultation a/	Consultation Initiated	Application Filed	Anticipated Authorization Receipt Date	Contact Information
Virginia Department of Game and Inland Fisheries (VDGIF)	Consultation regarding potential impacts to state-managed lands; Consultation for state threatened and endangered species	October 13, 2014	N/A	N/A	Ernie Aschenbach 804-367-2733
Virginia Department of Mines, Minerals, and Energy – Division of Gas and Oil	Introductory consultation to the project	October 13, 2014	N/A	N/A	Rick Reynolds 540-248-9360
Virginia Department of Transportation (VDOT)	Road bonds and crossing permits	October 13, 2014	4th Quarter 2016	4th Quarter 2017	Ashley Smith 504-387-5423
Virginia Department of Historic Resources (VDHR), Division of Review and Compliance (SHPO)	Consultation and clearance regarding potential impacts on pre-historic and historic resources eligible for listing on the National Register of Historic Places	October 21, 2015	N/A	N/A	Roger Kirchen 804-482-6091
Virginia Department of Conservation and Recreation (VDCR), Natural Heritage	Consultation on potential impacts to wildlife species and habitat	October 3, 2014	N/A	N/A	Robbie Rhur 804-371-2594
VDCR, Division of Natural Heritage	Consultation for state-managed lands	October 13, 2014	N/A	N/A	Rene Hypes 804-371-2708
Virginia Department of Environmental Quality (VDEQ), Water Division	Water Quality Certification for construction and operation impacts on water and wetlands	October 13, 2014	N/A, conditional certification of USACE NWP already issued	N/A, conditional certification of USACE NWP already issued	Melanie Davenport 804-698-4038
VDEQ, Office of Stormwater Management	Annual Plan Holder Specifications	October 13, 2014	February 11, 2016	June 20, 2017	Ben Leach (804) 698-4037

Table 5-1. Agencies with Relevant Permit or Consultation Requirements (continued)

Agency	Permit/ Approval/ Consultation a/	Consultation Initiated	Application Filed	Anticipated Authorization Receipt Date	Contact Information
VDEQ Office of Water Supply	General Permit No. VAG83 for water discharge	January 13, 2016	March 22, 2016	N/A	Anthony Cario 804-698-4089
VDEQ Office of Water Permitting	General Permit 9VAC25-200-10 for water withdraw	January 13, 2016	March 22, 2016	N/A	Kip Foster 540 562-6782
Virginia Marine Resource Commission	Submerged Lands License	December 3, 2015	February 24, 2016	4th Quarter 2017	Randy Owen 757-247-2251
VDEQ, Office of Environmental Impact Review	Introductory consultation to the project	October 13, 2014	N/A	N/A	Julia Wellman 804-698-4326
Virginia Outdoors Foundation	Access or Utility Easement Application	June 2014	January 2016	4th Quarter 2017	Martha Little and Harry Hibbitts 504-332-8906
West Virginia					
West Virginia Department of Environmental Protection (WVDEP), Division of Air Quality	Air Quality permit for air emissions	October 10, 2014	N/A	N/A	Roy Kees 304-926-0499
	Bradshaw Compressor Station	N/A	October 21, 2015	March 14, 2016	
	Harris Compressor Station	N/A	October 21, 2015	March 4, 2016	
	Stallworth Compressor Station	N/A	October 21, 2015	April 11, 2016	
WVDEP, Division of Water and Waste Management	401 Water Quality Certification for construction and operation impacts on water and wetlands	October 10, 2014	February 25, 2016; December 1, 2016	March 23, 2017; Anticipated reissuance November 2017	Nancy Dickson (304) 926-0440
WVDEP Division of Water and Waste Management	Natural Streams Preservation Act Authorization for Greenbrier River	June 27, 2016	January 23, 2017; January 30, 2017	July 21,2017	Nancy Dickson (304) 926-0440
WVDEP, Division of Water and Waste Management	National Pollutant Discharge Elimination System (NPDES) Permit – Construction Stormwater General Permit for Construction Activities	October 13, 2014	February 23, 2016; update filed December 23, 2016	July 14, 2017; ; Anticipated reissuance November 2017	Joseph Cochran (304) 926-0440

Table 5-1. Agencies with Relevant Permit or Consultation Requirements (continued)

Agency	Permit/ Approval/ Consultation a/	Consultation Initiated	Application Filed	Anticipated Authorization Receipt Date	Contact Information
WVDEP, Division of Water and Waste Management	NPDES Hydrostatic Test Discharge Permit	October 13, 2014	March 21, 2016	September 12 and 13, 2017	John Perkins (304) 926-0499
West Virginia Department of Highways	Road bonds and crossing permits	July 28, 2015	2nd Quarter 2016	4th Quarter 2017	Gary Clayton 304-476-4496

Notes:
a/ Consultations will occur continuously throughout the development of the Project.
b/ The National Trails System Act (NTSA) of 1968 (Public Law 90-543) designated the Appalachian Trail as the first National Scenic Trail and designated the National Park Service as the lead federal agency for the administration and management of the ANST. The Appalachian Trail Park Office (NPS-APPA) is the specific NPS administrative entity. The NTSA also stipulates that the NPS must work cooperatively with the USFS, other public land-managing agencies, the Appalachian Trail Conservancy (ATC), and ATC-affiliated Local A.T. Clubs in the unique Cooperative Management System for the ANST.

6.0 CONSTRUCTION OF THE FACILITIES

6.1 Construction

MVP intends to implement all conditions outlined in the FERC Certificate, BLM Right-of-Way Grant, Revised JNF Land and Resource Management Plan for the Jefferson National Forest (2004), United States Army Corps of Engineers Nationwide Permit, and the WV and VA Erosion and Sediment Control Plans (E&SCP) (Appendix C) as minimum standards during construction. Construction is anticipated to begin in the fourth quarter 2017. MVP will provide a written request to proceed with construction to the BLM and FERC prior to the start of construction. The notice to proceed will be evaluated by the BLM (in coordination with the USACE and USFS) and FERC. Construction will begin only after receipt of the notice to proceed from both BLM and FERC. MVP will ensure that construction personnel are adequately trained in the environmental restrictions and/or requirements applicable to their particular job duties. Anyone that will be on-site during construction of the Project will be required to have construction management and environmental training specific to the Project. Prior to the start of construction, the training presentation will be provided to the USFS and BLM for review and comment. A log will be kept in the construction trailer documenting that everyone on-site during construction has participated in the necessary training sessions. It is not anticipated that hazardous waste will be generated or stored during construction of the Project. However, if for any reason hazardous waste is created or uncovered during construction or operation of the Project, the Spill Prevention, Control and Countermeasure (SPCC) Plan and the Unanticipated Discovery of Contamination Plan (Appendix D) would identify methods for handling the waste. All waste would be disposed of pursuant to state and federal requirements.

Construction of the pipeline will generate noise from heavy machinery and equipment as construction moves in phases along the ROW. Sound from pipeline construction will generally be temporary, sporadic, and short term in any one location along the pipeline route. Because of the temporary and daytime-only nature of pipeline construction activities, no special noise mitigation or noise monitoring is recommended during the construction phase.

MVP anticipates that it will employ the following procedures and standard equipment to construct the Project; however, deviations are possible based on actual field conditions or to comply with regulatory requirements. Mountain Valley does not intend to use any specialized equipment to construct the pipeline within NFS lands with the exception of a conventional auger bore machine. This piece of equipment will be utilized to bore under the ANST.

For the crossing of the ANST, MVP will install the pipe via conventional bore under the ANST, leaving an approximate area of no disturbance of 307 feet on the south side of the trail and 273 feet on the north side of the trail where tree clearing and land disturbance will not occur. The areas of no disturbance of 307 feet on the south side and 273 feet on the north side of the ANST refer to those between the safety fence that will be installed in front of the bore pits and the ANST. These barriers will be set up approximately ten feet

in front of each bore pit to provide for the safety of workers and visitors to the ANST during construction activities. Thus, there is approximately 600 feet between the bore pits.

MVP hired Rummel, Klepper and Kahl LLP, a design engineering firm that has expertise in trenchless crossing methods, to assess the different trenchless crossing options for the ANST. The two trenchless crossing methods considered were conventional bore and horizontal directional drill. The conventional bore method was determined to be feasible and the horizontal directional drill method was determined not to be feasible due to site-specific engineering constraints. MVP asked Rummel, Klepper and Kahl to further assess the specifics (such as location, length, route change, etc.) of the conventional bore options for the ANST. MVP examined the feasible conventional bore options and weighed the environmental impact, viewshed impact, and installation risks associated with each option. The selected conventional bore option is included in the updated alignment sheets and bore profile in Appendix A. The alignment sheet updates include aerial imagery; the buffer of 307 feet on the north side and 273 feet on the south side, totaling 580 feet for no vegetation clearing on either side of the trail; and conventional bore as the proposed construction crossing methodology for the ANST. No ATWS outside of the construction ROW will be needed for the conventional bore of the ANST. The portion of the ANST not included in the bore buffer (described above) will be marked as off-limits to all Project motorized use. However, Project personnel may walk between the bore pits during construction. Should the conventional bore under the ANST fail, MVP will utilize the methods described in the Conventional Bore Contingency Plan for the Proposed Crossing of the Appalachian National Scenic Trail (Appendix E).

The crossing of the Weston and Gauley Turnpike will require an approximate 130-foot conventional bore outside of the USACE property boundary.

Construction of the Project will follow industry-accepted practices and procedures, as further described below. Generally, construction of the proposed pipeline will follow a set of sequential operations as shown in Figure 6-1. In this typical pipeline construction scenario, the construction spread proceeds along the pipeline ROW in one continuous operation. The entire process will be coordinated in such a manner as to minimize the total time a tract of land is disturbed and therefore be exposed to erosion and temporarily precluded from normal use. Alignment sheets showing facility locations are in Appendix A-1. MVP has created a set of scaled, typical drawings representative of terrain encountered within the JNF and are included as Attachment B. Drawings depict plans, profiles, and cross sections for flat to gently sloping terrain, wide ridges, sidehill construction with side slopes ranging from 3H:1V to 1.5H:1V, and narrow ridges with sideslopes ranging from 3H:1V to 1.5H:1V.

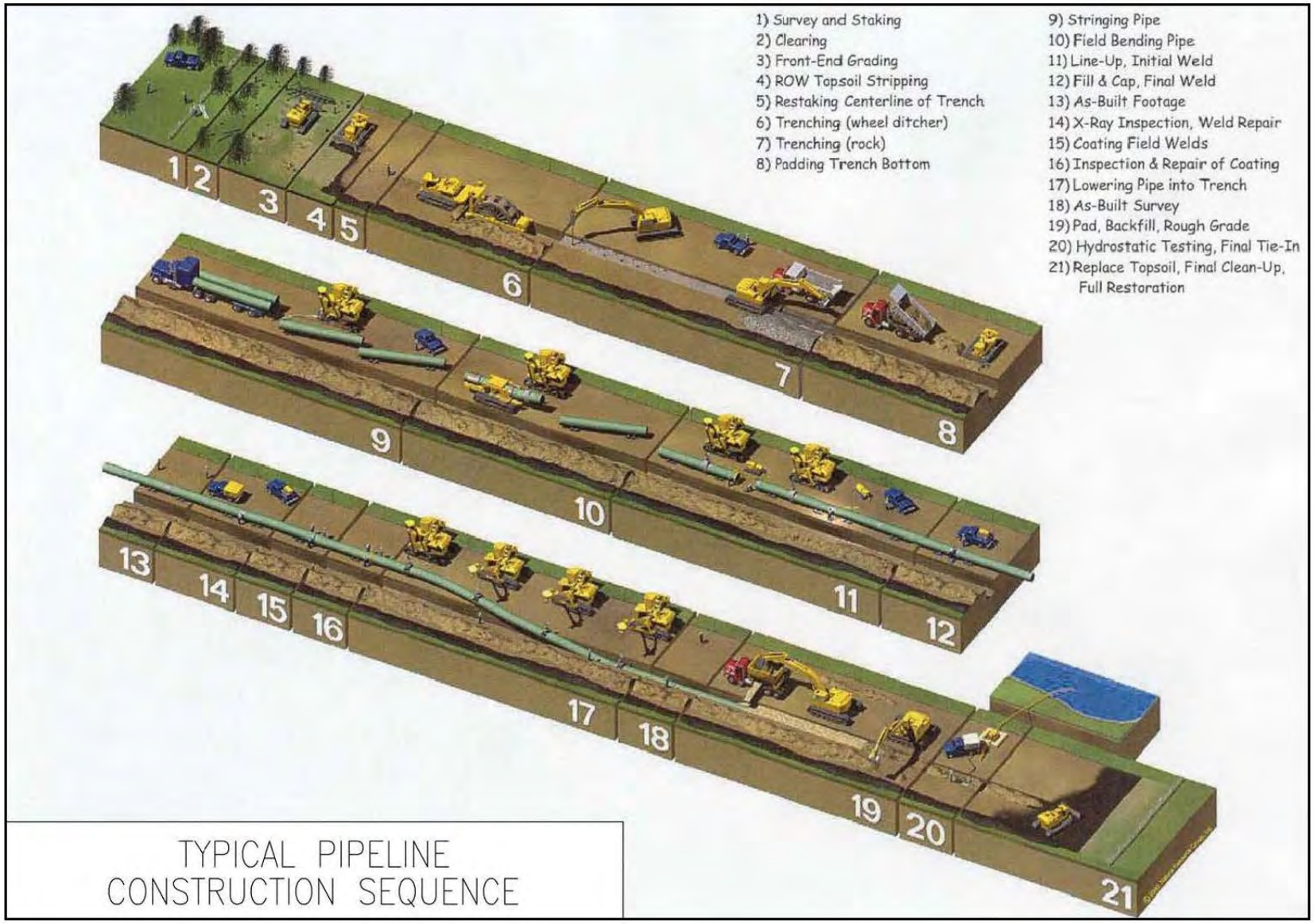


Figure 6-1. Typical Pipeline Construction Sequence

In practice, ridgetop construction will not require substantial excavation. Some material excavated from the ridgetop will be spread across the temporary ROW and some of the material will be stockpiled along the temporary ROW and replaced following construction. Following construction, the ridge will be recontoured as close to the original conditions as practicable. MVP will incorporate erosion and sediment control measures such as super silt fence, silt fence, sock filtration, erosion control socks, temporary and permanent water bars, ditch breakers, temporary mulch, and erosion control blankets as per Project design specifications based on slope. This is consistent with JNF-FW-10, which requires management activities that cause bare mineral soil on slopes greater than 5 percent to have erosion control planned and implemented.

Where stability issues have been identified, mitigation measures have been considered that include realignment of the pipeline to avoid areas of instability, deepening the pipeline below surface instability, buttressing, surface and subsurface drainage, rock bolting/soil anchors, surface stabilization matting, and regrading slopes to stable configurations as described in the *Landslide Mitigation Plan*, Appendix F and the Site Specific Design of Stabilization Measures in Selected High Hazard Portions of the Route of the Proposed Mountain Valley Pipeline Project in the Jefferson National Forest, Appendix G. In addition, maintaining proper drainage during construction and operation will help to maintain slope stability. The construction erosion and sediment control measures will be designed to avoid concentration of runoff onto or into steep areas prone to slope instability. Concentration of surface water will be discouraged through restoring the original grade as closely as practical and through use of water bars where necessary to divert surface flow off the ROW. These measures are consistent with JNF-FW-6, which requires management activities to be located and designed to avoid, minimize, or mitigate potential erosion. They are also consistent with JNF-FW-216, which requires that facilities be located, designed, and maintained to avoid, minimize, or mitigate potential geologic hazards. The anticipated location of different construction techniques along the Proposed route through the JNF are shown in Appendix B.

Also to minimize the impacts of construction disturbance, MVP will utilize FERC's Plan and Procedures. The intent of FERC's Plan and Procedures is to identify baseline mitigation measures for minimizing the extent and duration of Project-related disturbance on wetlands and waterbodies and enhancing revegetation. FERC's Plan and Procedures are used as the "industry standard" and adherence to them is required unless a variance is requested by a state or federal land management agency. In addition, MVP will utilize its Project-specific E&SCP (Appendix C), as well as measures outlined in the POD. Equipment problems, terrain and soil conditions, and weather can affect the timing and consistency of the operation. The following sections provide detailed descriptions of each proposed construction method.

6.1.1 Standard Construction and Restoration Techniques

MVP will conduct all construction activities in accordance with the conditions outlined in the FERC Certificate, BLM Right-of-Way Grant, JNF Land and Resource Management Plan, and WV and VA Erosion and Sediment Control Plans (Appendix C).

Following construction, the property will be returned to original contours except at those locations where permanent changes in drainage will be required to prevent erosion,

scour, and possible exposure of the pipeline. Property boundary and monument markers that are removed will be replaced and remarked via civil survey based on the boundary surveys conducted and marked on the Alignment Sheets in Appendix A-1. The disturbed areas will be stabilized as outlined in the Restoration Plan included in Appendix H, which is consistent with JNF-FW-22, which requires the stabilization of all disturbed soil.

Those portions of the Project located primarily in upland terrain will employ conventional overland construction techniques for large-diameter pipelines. In the typical pipeline construction scenario, the construction contractor will construct the pipeline along the construction ROW using sequential pipeline construction techniques, including survey, staking, and fence crossing; clearing and grading; trenching; pipe stringing, bending, and welding; lowering-in and backfilling; hydrostatic testing; clean-up and restoration; and commissioning.

MVP will utilize 11 construction spreads to construct the pipeline. Of these, two will be located on JNF lands. Table 6-1 provides the beginning and ending mileposts, length, and construction year for each of these spreads. The majority of the pipeline construction process will be accomplished using conventional open-cut methods, which typically include the steps described in the following paragraphs. The proposed methods for accomplishing pipeline installation across wetlands and waterbodies, as well as other specialized construction procedures, are also described in the following paragraphs regarding special construction procedures.

Table 6-1. Proposed Pipeline Construction Spreads within the JNF and at the Weston and Gauley Turnpike Crossing

Spread	Begin Milepost	Ending Milepost	JNF Begin Milepost	JNF End Milepost	Construction Year
3	66.9		Weston and Gauley Turnpike Crossing		2018
8	181.8	204.8	196.23	198.48	2018
9	204.8	234.0	218.6	220.9	2018

6.1.1.1 Surveying and Staking

The initial step in preparing the ROW for construction will be the civil survey. A civil survey crew will stake the outside limits of the construction ROW, the centerline location of the pipeline, elevations, highway and railroad crossings, access roads, and any temporary extra workspace. Environmentally sensitive areas (e.g., waterbodies and wetlands, special status species habitat, and historic properties) where the construction ROW may be constricted will be fenced and erosion and sedimentation measures will be put into place. The “One Call” system of each state will be contacted, and underground utilities (e.g., cables, conduits, and pipelines) will be located and flagged. The USFS and USACE will be notified prior to surveying and staking of the proposed route on the lands they manage.

6.1.1.2 Clearing and Grading

After the ROW has been surveyed and easements have been secured (for the permanent and temporary construction ROW and any existing ROW if necessary), the timber sale boundary will be marked and the USFS will cruise the timber. The ROW will then be

cleared of obstructions (i.e., trees and stumps, brush, logs, and large rocks) according to the FERC Plan, as outlined in MVP's Project-specific E&SCP, in the Timber Removal Plan (Appendix I), and as directed in the timber sale contract. The ROW will be cleared to the width required for construction, but not more than specified on the pipeline alignment sheets and marked with paint in the field. These ROW widths indicate the maximum width necessary for construction, operation, and maintenance of the pipeline. At no time will MVP or its contractor clear or alter any areas outside of the boundaries of the pipeline ROW area, including ATWS areas, shown on the pipeline alignment sheets.

Merchantable timber will be cut into lengths and stacked as described in the Timber Removal Plan in Appendix I on the edge of the ROW. Non-merchantable brush and slash will be retained on site to provide a level of erosion control until actual pipeline construction begins, at which time it will be windrowed to the edge of the right-of-way. Windrowing of non-merchantable brush and slash along the right-of-way will result in habitat for many types of wildlife including: rabbits and other small mammals, ruffed grouse, song birds and reptiles and provide food for insects. The windrows can also serve as escape cover from predators as well as locations for nesting and shelter from inclement weather. The windrows should be restricted to 8 feet tall, 20 feet wide, and 100 feet long with a 50-foot break between piles in order to provide fire breaks and wildlife crossings. Non-merchantable brush and slash can be utilized in downslope areas of the right-of-way and access roads to aide in soil stabilization and erosion control. Layering the brush and slash at the toe of a low-side slope along an access road provides soil stabilization, and erosion and sediment control. Layering of brush and slash can promote physical protection to the downslope areas of the right-of-way. Additionally, the layering can provide long-term support for revegetation in downslope areas of the right-of-way. Any remaining non-merchantable timber that cannot be windrowed will be chipped into trucks and removed from the site.

If fences (barbed wire, chain link, or other) occur along the construction ROW, then a fence crew will install temporary gates. The contractor's fence crew will install new posts to brace the areas on either side of the proposed cut to ensure that no damage occurs to other portions of the fence or wall. Temporary gates will be installed, if necessary, to prohibit or otherwise control public access across the ROW. These temporary fences and/or gates will remain closed at all times except as required for construction purposes. Following construction, all original gates and fences will be repaired or replaced as necessary.

Where needed for erosion control, and in accordance with JNF-FW-6, the FERC Plan, Project E&SCP, and the Restoration Plan included as Appendix H will be implemented along the construction ROW. Best management practices (BMPs), found in the Erosion and Sediment control plans in Appendix C, will be properly maintained throughout construction and will remain in place until permanent erosion controls are installed and restoration is completed.

6.1.1.3 Trenching

To bury the pipeline underground, it will be necessary to excavate a trench. The trench will be excavated with a track-mounted backhoe or similar equipment. Explosives will only be used when necessary in areas where rock substrates are found at depths that interfere

with conventional excavation or rock-trenching methods. A General Blasting Plan is included as Appendix J. Blasting is also further discussed in Section 6.1.2.1 below. Soils removed during trenching will be stockpiled in accordance with USFS's requirement to segregate topsoil along the entire length of the ROW throughout the JNF.

Generally, the trench will be excavated at least 12 inches wider than the diameter of the pipe. The sides of the trench will be sloped with the top of the trench up to 12 feet across, or more, depending upon the stability of the native soils. The trench will be excavated to a sufficient depth to allow a minimum of three feet of soil cover between the top of the pipe and the final land surface after backfilling (minimum of 24 inches of cover will be provided in consolidated rock or in ditches). Wildlife fences will be used in coordination with escape ramps approximately every 50 feet as a deterrent on the edges of both sides of the ROW. Mountain Valley environmental inspectors will check the trench each morning prior to the start of work to ensure that any animals that are trapped in the trench are removed.

MVP will also follow the eagle guidelines set out in the USFWS Bald Eagle Management Guidelines and the Migratory Bird Conservation Plan, such as not conduct any clearing or construction activities within 660 feet of active eagle nests, and avoid blasting or use of explosives within 0.5 mile of active nests or communal concentration areas. Any biologists utilized to inspect for Eagle nest on the JNF will be approve by the USFS.

Excavated soils will typically be stockpiled along the ROW on the side of the trench (the "spoil" side) away from the construction traffic and pipe assembly area (the "working" side). Where the route is co-located with Mystery Ridge Road, the spoil generally will be placed on the same side of the trench as the existing infrastructure. Following the backfilling of a trench, MVP will complete final grading, topsoil replacement, and mulch the disturbed areas within seven days as directed by the revegetation discussed in the Erosion and Sediment Control Plans (Appendices C-1 and C-2) and the restoration plan in Appendix H.

6.1.1.4 Pipe Assembly

Steel pipe for the pipeline will be procured in nominal double random and/or triple random lengths, or "joints," protected with an epoxy coating applied at the factory or at a coating yard (the beveled ends will be left uncoated for welding) and shipped to strategically located materials storage areas, or "pipe yards." The individual joints will be transported to the ROW by truck and placed along the excavated trench in a single, continuous line, easily accessible to the construction personnel on the working side of the trench, typically opposite the spoil side. This will allow the subsequent lineup and welding operations to proceed efficiently. At stream crossings, the amount of pipe required to span the stream will be stockpiled in the workspace on one or both banks of the stream.

The pipe will be delivered to the job site in straight joints. The use of field controlled internal diameter fittings, in addition to the bending of pipe, will be required to allow the pipeline to follow natural grade changes and directional changes of the ROW. Prior to welding, selected joints will be bent in the field by track-mounted hydraulic bending machines.

Following stringing and bending, the joints of pipe will be placed on temporary supports, adjacent to the trench. The ends will be carefully aligned and welded together using multiple passes for a full penetration weld. Only qualified welders will be allowed to perform the welding. Automated welding techniques may be used in flatter areas if the terrain is suitable. Welders and welding procedures will be qualified according to applicable American Society for Mechanical Engineers, American Petroleum Institute (API), and 49 CFR Part 192 Standards.

To ensure that the assembled pipe will meet or exceed the design strength requirements, the completed welds will be visually inspected and tested for integrity using non-destructive examination methods, such as radiography (X-ray) or ultrasound, in accordance with API standards. Welds displaying unacceptable slag inclusions, void spaces, or other defects will be repaired or cut out and re-welded.

Following welding, the previously uncoated ends of the pipe at the joints will be sandblasted to a near-white finish and epoxy coated. The coating on the completed pipe section will be inspected, and damaged areas will be repaired. Coating will be inspected prior to lowering in accordance with applicable industry standards. Defects discovered in the coating will be repaired prior to lowering.

The completed section of pipe will be lifted off temporary supports and lowered into the trench by side-boom tractors or equivalent equipment. Prior to lowering the pipe, the trench will be inspected to ensure that it is free of rocks and other debris that could damage the pipe or the coating. Before the pipe is lowered into the trench, the pipe and trench will be inspected to ensure that the pipe and trench configurations are compatible. In rocky areas, if the bottom is not smooth, a layer of soil or sand may be placed on the bottom of the trench to protect the pipe using a padding machine or excavator with a "shaker bucket," which separates rocks from satisfactory padding materials. Concrete-coated pipe or aggregate filled sacks will be used if required for negative buoyancy in areas of saturated soils.

After the pipe is lowered into the trench, the trench will be backfilled. Previously excavated materials will be pushed back into the trench using equipment or backhoes. Where the previously excavated material contains large rocks or other materials that could damage the pipe or coating, clean fill will be used to protect the pipe. Limestone dust or sand, which is typically basic and will often aid in the cathodic protection of the pipeline, may be used as backfill material. The first 12 inches above the top of the pipe will be clean fill free of rocks from the excavation. The remaining fill of the trench will be the aggregate of the excavation material removed at the time of the excavation. MVP does not anticipate there being a need for imported backfill material in the JNF. However, if fill is necessary, it will be sand or limestone dust provided by local vendors as approved by MVP and the USFS. Prior to replacing topsoil, excess soil will be distributed evenly on the ROW, only in upland areas, while maintaining existing contours. As noted above, topsoil will be segregated along the entire length of the ROW within the JNF and will be placed after backfilling the trench above the subsoil. Compaction during the backfilling process will be achieved by using excavators and bulldozers to track in the material. Following backfilling in agricultural land, grassland, and open land, a small crown may be left to account for any

future soil settling that might occur. In wetlands, a crown will not be left in order to restore hydrology to pre-existing conditions.

6.1.1.5 Hydrostatic Test and Final Tie-In

Following backfilling of the trench, the pipeline will be hydrostatically tested to ensure that it is capable of safely operating at the design pressure. Baseline water samples will be taken at the source prior to water-up and prior to discharge. Test segments of the pipeline will be capped with test manifolds and filled with water and pressurized to a minimum of 1.1 to 1.25 times (based on location class) the designed operating pressure for a minimum of eight hours in accordance with USDOT requirements identified in 49 CFR Part 192 prior to being placed in service. Loss of pressure that cannot be attributed to other factors, such as temperature changes, will be investigated. Leaks detected will be repaired, and the segment will be retested.

Upon completion of the test, the water may be pumped to the next segment for testing. Test water will contact only new pipe. If chlorinated water is used for testing, a de-chlorinating agent will be required prior to discharge.

Once a segment of pipe has been successfully tested and dried, the test manifold will be removed, and the pipe will be connected to the remainder of the pipeline. Desiccant will not be used to dry the pipe. MVP will implement Section VII of the FERC Procedures (Appendix H) regarding hydrostatic testing, as well as any specifications in individual state permit guidelines. No water from resources within the JNF will be used for hydrostatic testing, and no waters used during hydrostatic testing will be discharged on USFS or USACE managed lands. Water used for hydrostatic tests that occur on the JNF will be obtained from municipal sources.

6.1.1.6 Cleanup and Restoration

Post-construction restoration activities will be undertaken in accordance with the measures specified in the Restoration Plan (Appendix H). After a segment of pipe has been installed, backfilled, and successfully tested, the ROW, ATWS, and other disturbed areas will be finish-graded, and the construction debris will be disposed of properly. The surface of the ROW disturbed by construction activities will be graded to match original contours and to be compatible with surrounding drainage patterns, except at those locations where permanent changes in drainage will be required to prevent erosion, scour, and possible exposure of the pipeline. Temporary and permanent erosion and sediment control measures, including silt fencing, diversion terraces, and vegetation, will be installed at that time. Fences, gates, driveways, and roads that have been disturbed by the pipeline construction will be restored to original or better condition. More information on restoration is provided in Section 8.

During construction, Mountain Valley will gather and dispose of trash created as a result of Project construction or by Mountain Valley employees and contractors each day.

6.1.1.7 Construction in Rugged Terrain

In mountainous areas where the pipeline will encounter slopes that typically exceed 30 degrees, MVP will employ special construction techniques. Appendix B includes

figures that detail average slopes within the JNF. The elevation data were found using 3-meter digital elevation model files generated from flown LiDAR. Average slopes were calculated for each 0.1-mile interval along the pipeline centerline, and every 0.25-mile interval along the access road. In each 0.1-mile interval, the steepest data point was taken as the maximum slope.

ATWS located outside the 125-foot construction ROW for the pipeline on JNF may be utilized for staging equipment necessary for special construction techniques. Approximately one acre of ATWS will be utilized within the JNF for construction in rugged terrain, located along the pipeline alignment.

In rugged terrain, temporary sediment barriers, such as silt sock and reinforced silt fences, will be installed during clearing to prevent movement of sediment off the ROW. In addition, temporary slope breakers will be installed during grading in accordance with the E&SCP to reduce water runoff or divert water to vegetated areas. Spoil piles adjacent to the trench will be protected by temporary sediment barriers to keep excavated soils on the ROW.

Construction activities on rugged terrain will be similar to the typical construction; however, equipment will be tethered via winch lines to other equipment at the top of the slopes to ensure the safety of the construction personnel and surrounding areas. Equipment used for the construction activity will be suspended from a series of winch tractors to maintain control of the equipment and provide an additional level of safety (Figure 6-2). All construction equipment and their winch lines will be inspected prior to operation to ensure the equipment is operable and sound.

Pipe joints will be stockpiled at the top or bottom of each slope. A side-boom tractor will be suspended from a winch that will carry one joint at a time up or down the slope and place the joint along the trenchline. The joint will then be lowered into the ditch by a tractor. Welders will connect the joint to the previous joint within the trench to assemble the pipeline. Once welding is complete, the welds will be visually and radiographically inspected. The weld joints will be hand coated with fusion-bonded epoxy coatings in accordance with required specifications. The coating on the pipe and at the weld will be inspected for defects and repaired, if necessary. Sand trench breakers will be installed in the trench along the pipeline to prevent or slow the movement of water along the trench. The pipeline will be padded and the trench will be backfilled by equipment tethered to the winch tractors. The surface of the ROW will be restored to original contours to the extent practical, and permanent slope breakers will be installed in accordance with the E&SCP. Erosion control blankets or hydroseed, in lieu of mulch, will be installed on steep slopes to provide stabilization for vegetation to help control sediment and water runoff. In areas where the Project route crosses laterally across the face of a slope (side-hill construction), cut-and-fill grading may be required to establish a safe, flat work terrace which will be reclaimed as close as practical to original contours.

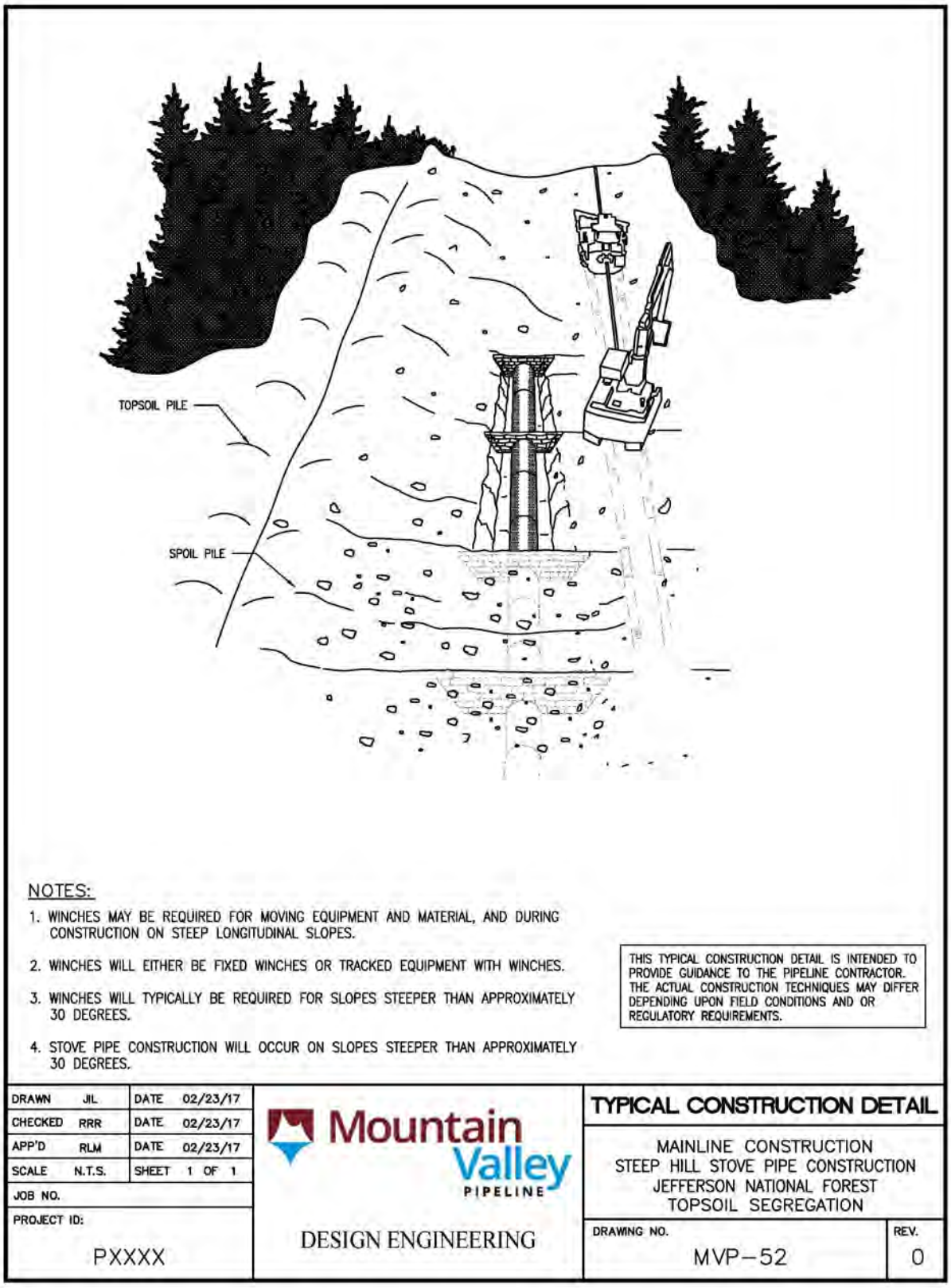


Figure 6-2. Stove-Pipe Construction

MVP will incorporate erosion and sediment control measures such as super silt fence, silt fence, sock filtration, erosion control socks, temporary and permanent water bars, ditch breakers, temporary mulch, and erosion control blankets as per Project design specifications based on slope as described in the Erosion and Sediment Control Plans (Appendix C, the Landslide Mitigation Plan (Appendix F), and the JNF Priority Site Plan (Appendix G).

On steep slopes, various measures will be taken in order to properly control erosion and sedimentation on the ROW. Spoil piles from trenching operations will be staged along the side of the ROW and will be compacted via rolling with dozers on site as additional material is added. Once a spoil pile is completed, it will be temporarily mulched to control washouts. Additionally, spoil piles will be separated at intervals of 50 feet by temporary water bars, which will serve to slow the flow of runoff down the ROW and divert it into No. 3 aggregate. Measures such as erosion control blankets and sock filtration may be used to stop rocks from rolling off of the ROW.

Within the trench, sand-filled sacks will be stacked across the width of the trench as necessary based on field conditions. This will permit water to slowly filter through without carrying large amounts of soil with it. Similarly, permeable trench breakers constructed of sand- or aggregate-filled sacks will be installed along the open ditch. Rock-fall protection measures such as rock fences, placement of concrete barriers, or creating catchment areas may be added where excavation is planned subjacent to steep slopes, as determined by the contractor. Once the area is stabilized, following construction, MVP will remove any temporary stabilization methods. Contours will be returned to pre-existing conditions to the extent practicable.

In addition to the measures taken on slopes to control erosion and sedimentation, trench drains will be installed on side slopes and steep slopes before the pipe is placed in order to channel water away from the ditch, and these drains will not be removed after construction is complete. These permanent drains will consist of perforated tile or pipe surrounded with rock (1-inch stone or similar, which may be taken from excavated spoils) that will terminate at a riprap pad near the edge of the ROW. Geotechnical inspectors will evaluate the need for additional engineering controls based on the subsurface conditions exposed in the pipeline excavation; such engineering controls could include regrading adjacent areas, embedding the pipeline in a bedrock trench, installing drains, buttressing unstable slopes, reinforcing fill slopes with geosynthetics, or other stabilization measures as appropriate.

On side-hill construction, tree stumps and other organic material will be removed from backfill material along the ROW, as decomposing organic materials and organic soils tend to exhibit low shear strengths and may accumulate water, increasing the likelihood of a landslide. Special attention will be paid to ensure that natural drains alongside slopes are properly restored after construction activities are complete. In order to accomplish this, additional French drains or rock-lined channels may be constructed to efficiently convey water across or around the ROW. Where seeps and springs are observed in the cut slope, cutoff drains and/or transverse trench drains will be installed to prevent saturation of the backfilled material. Where possible, compaction on side-cut sections should be completed in 12-inch lifts using a sheep’s foot roller.

Specific slope-stability considerations and construction measures are included in the October 13, 2017 *Landslide Mitigation Plan* as well as the *October 20, 2017 Site-Specific Design of Stabilization Measures in Selected High-Hazard Portions of the Route of the Proposed Mountain Valley Pipeline Project in the Jefferson National Forest* (Appendix F and G respectively). Additional landslide mitigation measures will be prescribed by geotechnical inspectors as subsurface conditions are revealed during construction.

Should topsoil be present on slopes that are greater than 50 percent, it will be segregated and replaced on these slopes unless site conditions require a variance. Regardless, these areas will be treated as soon possible to minimize erosion potential. This may be accomplished by hydro-seeding the slope or covering the slope with jute erosion control matting (ECM). All rolled ECM products installed on USFS lands will not contain monofilament mesh backing. As an alternative measure, hydraulically applied ECM (Earthguard Fiber Matrix, Flexterra Flexible Growth Medium, or equivalent) may be used in place of rolled ECM products. Should a variance be requested, a soil amendment will be added to prevent additional topsoil loss.

6.1.1.8 Proposed Wetland and Waterbody Pipeline Construction

Crossing of jurisdictional wetlands will be done in accordance with state and federal permits and the FERC Procedures. Based on the currently available information, one wetland will be affected by the Project within JNF lands. Table 6-2 below describes the proposed wetland impact. MVP will temporarily impact one wetland, W-HH15, which has developed along Pocahontas Road (FR #972). Permanent impacts to this wetland are not expected. No wetlands are anticipated to be disturbed on USACE lands.

Table 6-2. Proposed Wetland Impacts within the JNF

Wetland ID	County	Cowardin Class a/	HGM b/	Water Type c/	Impact Type	Temporary Impacts (Acres) d/	Permanent Impacts (Acres)
W-HH15	Giles	PEM	Depressional	NRPWW	Existing Perm. Access Road	0.0015	-

Notes:
a/ Field classification based on Cowardin et al. 1979. See wetland delineation report for more details. PEM – Palustrine Emergent
b/ Field classification based on Brinson, M.M. 1993.
c/ NRPWW – Adjacent to non-relatively permanent waterbody
d/ Temporary impacts to PEM wetlands in the temporary limit-of-disturbance

Crossing of jurisdictional waterbodies will be done in accordance with state and federal permits and the FERC Procedures. Table 6-3 below describes the proposed stream impacts. Permanent impacts to several streams are expected due to long term use and maintenance of access roads, including the replacement of existing culverts and the installation of scour protection at the outlets of all newly replaced culverts along Pocahontas Road (FR#972). Existing culverts that are damaged or rusted through will be replaced to meet USFS road standards. Additionally undersized culverts shall be replaced to meet USFS standards, and all perennial streams will be fit-appropriately to ensure for

aquatic organism passage. Scour protection within stream channels will be sized to withstand the tailwater velocity and shear corresponding to the 25-year design flow event. No streams are anticipated to be disturbed on USACE lands.

Construction across waterbodies will be performed to minimize the time that the trenches for the pipeline crossings of flowing streams and rivers will be left open. The normal trenching operation will skip the waterbody crossing, stopping on each side near the top of bank. The waterbody section of the pipeline will be installed by one of the methods described below. In general, pipe will be bent and fabricated as the work progresses along the ROW so that the excavation of the waterbody crossing is only completed immediately prior to pipe installation by the tie-in crew.

Site-specific water crossing monitoring and mitigation plans specific to the JNF are included in Appendix K.

Table 6-3. Proposed Waterbody Impacts within the JNF

Stream ID	NHD Stream Name a/	County	Flow Regime	Water Type b/	Impact Type	Top of Bank Width (ft)	Temp. Linear Feet Impact (ft)	Perm. Linear Feet Impact (ft)	Designation c/	Water Quality d/
S-PP14	Kimballton Branch	Giles	Perennial	RPW	Perm. Access Road	14	50	11	-	3A
S-PP15	UNT to Kimballton Branch	Giles	Perennial	RPW	Perm. Access Road	6	15	11	-	3A
S-PP17	UNT to New River	Giles	Intermittent	RPW	Perm. Access Road	2	-	14	-	3A
S-PP18	Curve Branch	Giles	Perennial	RPW	Perm. Access Road	4	-	19	-	3B
S-PP19	UNT to Curve Branch	Giles	Intermittent	RPW	Perm. Access Road	3	-	16	-	3A
S-UU9	Clendennin Creek	Giles	Perennial	RPW	Perm. Access Road	5	-	11	-	3A
S-HH16	UNT to Clendennin Creek	Giles	Intermittent	RPW	Perm. Access Road	5	55	-	-	3A
S-MN17	UNT to Clendennin Creek	Giles	Intermittent	RPW	Perm. Access Road	3	42	-	-	3A
S-MN20	UNT to Clendennin Creek	Giles	Intermittent	RPW	Perm. Access Road	4	-	11	-	N/A
S-HH15	UNT to Clendennin Creek	Giles	Perennial	RPW	Perm. Access Road	5	-	14	-	N/A
S-HH14	UNT to Clendennin Creek	Giles	Intermittent	RPW	Perm. Access Road	3	-	14	-	N/A
S-HH12	UNT to Clendennin Creek	Giles	Ephemeral	NRPW	Perm. Access Road	3	-	11	-	N/A

Stream ID	NHD Stream Name a/	County	Flow Regime	Water Type b/	Impact Type	Top of Bank Width (ft)	Temp. Linear Feet Impact (ft)	Perm. Linear Feet Impact (ft)	Designation c/	Water Quality d/
S-SS2	UNT to Clendennin Creek	Giles	Ephemeral	NRPW	Perm. Access Road	3	-	11	-	N/A
S-HH13	UNT to Clendennin Creek	Giles	Perennial	RPW	Perm. Access Road	8	-	11	-	N/A
S-PP22	UNT to Craig Creek	Montgomery	Intermittent	RPW	Pipeline ROW	2.5	83	-	-	N/A
S-PP21	UNT to Craig Creek	Montgomery	Perennial	RPW	Pipeline ROW	4	97	-	-	N/A
S-PP20	UNT to Craig Creek	Montgomery	Perennial	RPW	Pipeline ROW	6	89	-	-	3A
S-HH18	UNT to Craig Creek	Montgomery	Perennial	RPW	Pipeline ROW	6	78	-	-	3A
S-RR14 e/	UNT to Craig Creek	Montgomery	Ephemeral	NRPW	Pipeline ROW	7	78	-	-	3A

Notes:
a/ For identified streams without a NHD name, the identified stream was given the name, "Unnamed Tributary (UNT)", of the first named receiving waterbody.
b/ RPW = Relatively Permanent Waters; NRPW = Non-Relatively Permanent Waters
c/ Trout Waters - Cold Water Streams Survey (CWSS) - trout streams as determined by Virginia Department of Game and Inland Fish available at:
https://www.dgif.virginia.gov/gis/data/download/;
Anadromous Fish Use Areas - as determined by Virginia Department of Game and Inland Fish available at:
https://www.dgif.virginia.gov/gis/data/download/;
Tier 3 - Exceptional State Waters (Tier III) list available at:
http://www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs/WaterQualityStandards/ExceptionalStateWaters(TierIII).aspx
d/ Water Quality/Quantity data are taken from existing sources including: EPA Storet (https://www.epa.gov/waterdata/storage-and-retrieval-and-water-quality-exchange) and VA DEQ Final 2014 305(b)/303(d) Water Quality Assessment Integrated Report available at - http://www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs/WaterQualityAssessments/2014305(b)303(d)IntegratedReport.aspx
- 3A - Category 3A (Indeterminate - Waters needing additional information, water was not previously listed as impaired) from VA DEQ Final 2014 305(b)/303(d) Water Quality Assessment Integrated Report
- 3B - Category 3B (Indeterminate - Waters needing additional information, waters will be prioritized for follow-up monitoring as resources allow) from VA DEQ Final 2014 305(b)/303(d) Water Quality Assessment Integrated Report
-N/A - Publically available water quality/quantity data was not available from the sources listed above
e/ While the stream crosses JNF lands, impacts to the stream will occur on private land outside of the JNF

F

Intermediate waterbodies (between 10 and 100 feet wide at water's edge) and minor waterbodies (less than 10 feet wide at water's edge) will be crossed by the dry open-cut/conventional crossing methods (either dam and pump around or flume), unless otherwise required. Pipe will be installed to provide a minimum of four feet of cover from the waterbody bottom to the top of the pipeline, except in consolidated rock, where a minimum of two feet of cover will be required. Waterbody crossings consisting of consolidated rock will be backfilled with active material and will require a minimum two-foot depth of cover. If scour is a concern, an armoring layer with a given minimum stone size would restrict potential scour. The backfill will then consist of riprap stone equal to or greater than the minimum armor particle size. Pipeline burial depth would be determined after the size of the armoring layer is finalized. Trench spoil will be placed on the bank above the high water mark for use as backfill.

A prefabricated segment of pipeline will be laid horizontally across the waterbody bed and continue 10 feet past the high banks on each side of the waterbody before raising in elevation to the normal trench level.

Normal backfill cover requirements will be met. Compaction percentage of backfill will be equal to or above that of the adjacent undisturbed areas. Ditch plugs of crushed stone, sandbags, or dry soil may also be used to keep backfill from sloughing in toward the center of the waterbody. All waterbody banks will be restored to their original grades, and foreign objects will be removed from the waterbody. Excavated material not required for backfill will be removed and disposed of at an upland site.

MVP will follow state and federal permits and FERC Procedures to limit water quality and aquatic resource impacts during and following construction. Construction activities will be scheduled so that the pipeline trench is excavated immediately prior to pipe laying activities. In accordance with FERC's Procedures, the duration of construction will be limited to 24 hours across minor waterbodies (10 feet wide or less) and 48 hours across intermediate waterbodies (between 10 and 100 feet wide) when blasting or extensive rock excavation is not required.

Crossings of minor perennial and intermittent streams will be accomplished in accordance with state and federal permits and the FERC Procedures. Dry-ditch waterbody crossing methods include dam and pump or flume. Where a dry-ditch crossing method is not specifically required by FERC's Procedures, the waterbody may be crossed using the open-cut crossing method. The crossing method is subject to change depending upon the actual conditions encountered at the time of construction. Crossing methods are described below. There are no waterbodies that would be affected by the pipeline crossing at the Weston and Gauley Turnpike.

Dam-and-Pump Crossing Method

The dam-and-pump method involves installation of temporary dams upstream and downstream of the proposed waterbody crossing. The temporary dams will typically be constructed using sandbags and plastic sheeting. Following dam installation, appropriately sized pumps will be used to dewater and transport the stream flow around the construction work area and trench. Intake screens will be installed at the pump inlets to prevent entrainment of aquatic life, and energy-dissipating devices will be installed at

the pump discharge point to minimize erosion and stream bed scour. Trench excavation and pipeline installation will then commence through the dewatered portion of the waterbody channel. Following completion of pipeline installation, backfill of the trench, and restoration of stream banks, the temporary dams will be removed, and flow through the construction work area will be restored. This method is generally only appropriate for those waterbody crossings where pumps can adequately transfer the stream flow volume around the work area and there are no concerns about the passage of sensitive species.

Flume Crossing Method

The flume crossing method will consist of temporarily directing the flow of water through one or more flume pipes placed over the area to be excavated. This method will allow excavation of the pipe trench across the waterbody completely underneath the flume pipes without disruption of water flow in the stream. Stream flow will be diverted through the flumes by constructing two bulkheads and using sand bags or plastic dams to direct the stream flow through the flume pipes. Following completion of pipeline installation, backfill of the trench, and restoration of stream banks, the bulkheads and flume pipes will be removed. This crossing method generally minimizes the duration of downstream turbidity by allowing excavation of the pipeline trench under relatively dry conditions.

Following construction, MVP will monitor and record the success of revegetation on USFS-managed lands for up to five growing seasons or until the area is 80 percent revegetated. Inspection will be completed as least annually. MVP will submit a status report to the USFS following each inspection. Should a stream bank's vegetation not reestablish following five growing seasons, MVP will work with USFS personnel to develop a plan for re-establishment, including monitoring requirements.

6.1.1.9 Typical Road Crossings

During construction on USFS Property, motorized access will be maintained along Pocahontas (FR #972), Mystery Ridge (FR #11080), and Brush Mountain (FR #188) Roads at all times to USFS personnel, other personnel authorized by the FS, and emergency response officials. The pipeline will be parallel to Mystery Ridge Road and cross the road one time. Mountain Valley will also cross Brush Mountain Road. While Mountain Valley open cuts and crosses Mystery Ridge and Brush Mountain Roads, the roads will be closed to all through traffic for approximately five days. Should access for the USFS or emergency purposes be necessary during those five days, the disturbed area will be covered with a steel plate. Following construction each day, the open trench across Brush Mountain Road (FR #188) will be covered over with a steel plate to allow for passage as necessary. At points of access to the ROW from hard-surfaced roads, a stone pad will be installed as a construction entrance to control mud and dirt tracking onto the highway. Most of the smaller unpaved roads and drives will be crossed by open trenching and then restored to pre-construction conditions or better. If an open-cut road requires extensive construction time, provisions will be made for temporary detours or other measures to allow safe traffic flow during construction. The pipeline will be buried to a depth of at least three feet below the road surface and will be designed to withstand anticipated external loadings such as logging trucks and other heavy equipment. Following construction each day, any open trench will be covered over with a steel plate to allow for passage as necessary.

6.1.1.10 Trail Crossings

The Weston and Gauley Turnpike and the ANST will be crossed using a conventional bore crossing method. For the crossing of the ANST and Weston and Gauley Turnpike, if the first attempt to cross by conventional bore is unsuccessful, an offset will be made to the bore and a second attempt will be made with a conventional bore within the approved temporary construction ROW. In the unlikely situation that two conventional bores are not successful, additional attempts to cross the Weston and Gauley Turnpike by conventional bore within the approved construction ROW will be made. Should a failure occur during the bore of the ANST, the Conventional Bore Contingency Plan (Appendix E) would be utilized.

To complete a conventional bore, two pits will be excavated, one on each side of the feature to be bored. A boring machine will be lowered into one pit, and a horizontal hole will be bored to a diameter equal to the diameter of the pipe at the depth of the pipeline installation. The pipeline section will then be pushed through the bore to the opposite pit. If additional pipeline sections are required to span the length of the bore, they will be welded to the first section of the pipeline in the bore pit before being pushed through the bore.

6.1.1.11 Typical Topsoil Segregation

MVP will segregate topsoil along the entire length of the ROW throughout the JNF. Should topsoil be present on slopes that are greater than 50 percent, it will be segregated and replaced on these slopes unless site conditions require a variance. Regardless, these areas will be treated as soon possible to minimize erosion potential. This may be accomplished by hydro-seeding the slope or covering the slope with jute ECM. All rolled ECM products installed on USFS lands will not contain monofilament mesh backing. As an alternative measure, hydraulically applied ECM (Earthguard Fiber Matrix, Flexterra Flexible Growth Medium, or equivalent) may be used in place of rolled ECM products. Should a variance be requested, a soil amendment will be added to prevent additional topsoil and organic matter loss.

6.1.2 Special Construction Procedures

6.1.2.1 Blasting

MVP will minimize the amount of blasting required to the extent practicable. Where unrippable subsurface rock is encountered, blasting for ditch excavation and the conventional bore pit on the southeast slope of Peters Mountain may be necessary. Where competent sandstone bedrock occurs in the stream bed, blasting may be used to reduce bedrock so that the trench can be excavated. However, MVP has extensive experience with pipeline installation in the Dunkard, Monongahela, and Conemaugh formations (Permian to Pennsylvanian Age clastic sedimentary bedrock) found in the Appalachian Plateau geologic province of northern West Virginia (e.g., Wetzel County). These geologic formations consist of cyclic sequences of shale, siltstone, sandstone, thin limestone beds, nonpersistent coal, and other accessory rock types. These formations are similar in nature to the Ordovician to Mississippian clastic formations found in the Valley and Ridge geologic province of southwestern Virginia. MVP routinely rips these

clastic sedimentary formations without the need for blasting. This suggests that mechanical ripping should be sufficient for bedrock trenching on NFS property without the use of blasting. However, Table 6-4 below lists areas within the JNF where blasting may be necessary.

Table 6-4. Bedrock Rippability and Possible Extent of Blasting on JNF

Between Mile Posts		Discussion	Rippability Assessment	Likely to require blasting?
196.35	-	Enter NFS property	n/a	n/a
196.35	196.4	Peters Mountain ridgeline. Steeply dipping (southeast) thin-to-medium bedded sandstones outcrops, highly jointed.	Rippable due to outcrop orientation and jointing.	Possible
196.4	196.45	Bore pit	Bore pit staging will require more rock excavation than trenching. May encounter unweathered hard rock that requires blasting to support excavation.	Possible
196.45	197.0	Alignment primarily underlain by unconsolidated colluvial and ancient debris flow deposits	Rippable due to unconsolidated deposits overlying the upper reaches of weathered bedrock.	No
197.0	197.8	Thin overburden mantle overlying highly jointed sandstone bedrock.	Rippable due to outcrop orientation and jointing.	No
197.8	198.2	Leave NFS property	n/a	n/a
198.2	198.35	Re-enter NFS property. Underlain by unconsolidated colluvial and ancient debris flow deposits	Rippable due to unconsolidated deposits overlying the upper reaches of weathered bedrock.	No
198.35	218.53	Leave NFS property	n/a	n/a
218.53	218.65	Re-enter NFS property. Sinking Creek Mountain ridgeline. Steeply dipping (southeast) thin-to-medium bedded sandstones outcrops, highly jointed.	Rippable due to outcrop orientation and jointing.	Possible
218.65	218.8	Sandstone rock-block slump covered by overburden mantle.	Rippable due to unconsolidated deposits overlying the upper reaches of weathered bedrock.	Possible
218.8	219.35	Alignment underlain by unconsolidated colluvial and ancient debris flow deposits	Rippable due to unconsolidated deposits overlying the upper reaches of weathered bedrock.	No
219.35	219.7	Leave NFS property	n/a	n/a
219.7	220.72	Re-enter NFS property. Steeply dipping, highly jointed Brallier formation fine sandstone, siltstone, shale observed at stream crossing near Mile Post 219.7.	Rippable due to outcrop orientation and jointing, and rock character.	No
219.72	220.7	Alignment ascends north slope of Brush Mountain crossing overburden mantle that overlying Brallier siliciclastic bedrock to the ridge line where Price Formation sandstone outcrops.	Rippable due to unconsolidated deposits overlying the upper reaches of weathered bedrock. Thin-to-medium-bedded ridge-forming sandstones are steeply dipping and highly jointed and considered rippable.	No
-	220.7	Leave NFS property	n/a	n/a

If blasting is required on the JNF, MVP is committed to taking measures to prevent damage to underground structures (e.g., cables, conduits, and pipelines) or to springs, water wells, or other water sources. Blasting mats or padding will be used as necessary to prevent the scattering of loose rock. All blasting will be conducted during daylight hours and will not begin until occupants of nearby buildings, stores, residences, places of business, and farms have been notified.

MVP will utilize blasting sirens, post warning signs near blasting zones, and post public announcements on USFS-JNF existing information kiosks, any new information kiosks determined necessary by the USFS, and the USFS-JNF website (Alerts & Warnings), as permitted by the USFS. MVP will also provide the blasting notices to the BLM and USACE to post on their public notification sites as appropriate. All blasting will be conducted in accordance with the General Blasting Plan (Appendix J), which includes providing notifications to the USFS and BLM 24 hours prior to any blasting activities on federal lands. Pre- and post- blasting structural surveys will be conducted of occupied structures, water supply wells, and water supply springs that will be specified in the Blasting Plan. Avian survey teams will search for nests prior to blasting activities during nesting season (April 1 – August 31). If an active nest is located within the blasting area, a 100-foot buffer area will be marked, and blasting will not occur within the 100-foot buffer until the nest is no longer active. Most nesting habitat will have already been cleared prior to the need to blast.

6.1.2.2 Stove-Pipe Construction

On slopes steeper than 30 degrees (approximately 58 percent slope), the pipeline will be installed via a “stovepiping” method (see Figure 6-2). The stove-pipe method entails excavating a trench long enough to install two joints of pipe (approximately 40 feet long),lowering the pipe into the trench, and then welding the pipe in the trench. Following welding, inspection, and coating, the welded joint of pipe is backfilled before moving on to the next two joints of pipe. This process is performed for each successive joint of pipe up the slope. This construction technique will reduce the length of pipe that will be handled at any one time and minimize the amount of open trench on steep slopes. The general construction and restoration methods that will be applied during stove-pipe construction will be similar to those described above for rugged terrain.

6.1.2.3 Karst Area

The Mountain Valley Karst Specialist Team (KST), comprised of experts with decades of experience studying karst hydrogeology of Virginia and West Virginia, completed a Karst Hazards Assessment (KHA) (Resource Report #6; most recently updated February 2017) that included a desktop review of mapping from the United States Geological Survey, West Virginia Department of Environmental Protection, and Virginia Department of Mines, Minerals, and Energy and other sources. The KHA also included field verification in known karst areas underlying the proposed alignment and related construction components.

No karst terrain was observed in the vicinity of the Weston and Gauley Turnpike crossing.

The Geologic Map of Giles County, Virginia (Rader and Gathright; 1986) published by the Virginia Department of Mines, Minerals, and Energy, indicated the Silurian age

Tonoloway Limestone and Keefer Sandstone (undivided) are present in the JNF where traversed by the proposed alignment. The Tonoloway Limestone is a laminated limestone with thin interbedded calcareous shale and siltstone. Being comprised of carbonate mineralogy, the Tonoloway Limestone has the potential for karst formation. However, literature review conducted for the KHA (referenced above) and field investigation conducted by the KST did not identify surficial karst features on JNF lands. Nonetheless, Mountain Valley will employ safeguards during construction in potential karst areas in the event that subsurface karst features are encountered.

The Mountain Valley Karst Mitigation Plan (KMP) (Resource Report #6; most recently updated February 2017) includes inspection and mitigation measures to be enacted if a subsurface karst feature is encountered during construction. As part of the KMP, the Mountain Valley KST will be on-site during all phases of construction in karst terrain to document the protection of known karst features, and to monitor for and mitigate if necessary newly observed karst features. The KMP is included herein as Attachment L.

6.1.2.4 Trench Dewatering

In most cases, trench dewatering will be limited to the removal of storm water and shallow ground water in the pipe trench excavated in upland locations. In saturated wetlands, it would not be practical to attempt to dewater the trench, since the groundwater level is at or near the ground surface. In those locations, the pipe may be concrete-coated or weighted with aggregate filled sacks to overcome buoyancy in the flooded trench.

In uplands, storm water will typically be removed from the trench prior to lowering the pipe into place. The storm water will be pumped from the trench to a location downgradient of the trench. The trench will be dewatered in a manner that does not cause erosion and does not result in silt-laden water flowing into any waterbody or wetland. The storm water will be discharged to an energy dissipation/filtration dewatering device, such as a straw bale structure. Heavily silt-laden water may first be passed through a filter bag. The dewatering structure will be removed as soon as possible after completion of the dewatering activities. Trench breakers (ditch plugs) will be used where necessary to separate the upland trench from adjacent wetlands or waterbodies to prevent the inadvertent draining of the wetland or diversion of water from the waterbody into the pipe trench.

6.1.2.5 Winter Construction

MVP has developed a Winter Construction Plan (Appendix M), which identifies BMPs for construction activities during snow accumulation. MVP will stop working in winter if weather conditions occur that are deemed unsafe to perform pipeline construction. Inspections will occur within 24 hours of each 0.5 inch of rainfall or snow melt. MVP will ensure the repair of all ineffective temporary erosion control measures within 24 hours of identification, or as soon as conditions allow if compliance with this time frame would result in the greater environmental impacts.

As necessary during snow accumulation, snow will be removed from construction work areas to expose soils for grading and excavation. Snow removal will be limited to active construction areas and areas needed to maintain access to the construction ROW. Snow

will be bladed or pushed to the edges of the ROW with a motor-grader, snowplow, or bulldozer fitted with a "shoe" to minimize impacts on underlying soils and vegetation and stockpiled within the ROW. Snow will not be bladed off the ROW. Snow removal equipment will access the Project areas from approved access roads and will operate from within the construction ROW. When snow accumulation is more than one foot, it will be removed from the working and spoil sides of the construction ROW and the trench prior to topsoil segregation and grading to prevent mixing of snow with excavated spoil. If topsoil is saturated with water or frozen during excavation, it will not be segregated. Erosion and sediment control devices and diversion berms will be installed where needed to control snow and melting runoff.

Pickup trucks with front-mounted blades will plow access roads. Removed snow will not mix with sidecast stored soils. No additional temporary work space has been identified for snow storage.

6.2 Work Force

Based on current discussions with qualified construction contractors, MVP estimates that local workers will account for approximately 25 percent of construction jobs for each spread for the duration of the Project. The remaining 75 percent of the construction workforce will consist of non-local workers. Local workers are defined here as those who normally reside within daily commuting distance of the work sites. The portion of the Project that crosses the JNF occurs along Spreads 8 and 9, which MVP anticipates will have an average employment level of 289 non-local workers and a 96 local workers, for a total average of 385 workers, and a peak employment of 536 non-local workers and 179 local workers, for a total of 715 workers, during construction for both Spreads.

The number of vehicles that will be used to move construction personnel to the Project site on the JNF is not known at this time. This will be determined by the construction contractor at the time of construction. The contractors will be encouraged to utilize buses and/or multi-passenger vehicles to limit the amount of traffic to a minimum.

6.3 Communication Procedures and Notification Protocols

Timely, clear, and effective communication between Mountain Valley, USFS, BLM, FERC, and contractors on-site is a critical component to the success of the Project. Communication protocols related to environmental inspection, compliance monitoring, reporting requirements, and Project variance requests are described further in Appendix N – Environmental Compliance Management Plan to this POD.

6.4 Roles and Responsibilities

During construction, MVP will provide contractors with all Project design documents, including environmental alignment sheets, and copies of all applicable federal, state, and local permits. Construction will be supervised by a company Chief Inspector. MVP will file weekly status reports with FERC and the USFS that address construction and restoration activities on the JNF and to the USACE when activity is occurring in the area of Burnsville Lake and the Weston and Gauley Turnpike. These weekly reports will be available to the public on the FERC eLibrary system.

MVP will fund a FERC third-party compliance monitoring program during Project construction phase. Under this program, a contractor is selected by, managed by, and reports solely to the FERC staff to provide environmental compliance monitoring services. The FERC Compliance Monitor will provide daily reports to FERC and the USFS on compliance issues and make recommendations to the FERC Project Manager on how to deal with compliance issues and construction changes, should they arise. In addition to this program, FERC staff will also conduct periodic compliance inspections during all phases of construction and throughout restoration, as necessary.

This section describes the roles and responsibilities of each party. See Appendix N, the Environmental Compliance and Monitoring Plan for additional information including variance approval, notices to proceed, and stop-work authority.

6.4.1 Federal Energy Regulatory Commission

FERC has jurisdiction for the construction and operation of the Project pursuant to Section 7(c) of the Natural Gas Act, 15 United States Code § 717f(c), and 18 CFR Parts 157 and 284 (2015). If authorized, FERC will issue the Certificate and oversee the construction and operation of approximately 303 miles of new interstate natural gas pipeline, three new compressor stations, and other facilities located in 17 counties in West Virginia and Virginia. MVP will be required to comply with the environmental conditions contained in the FERC Certificate. FERC will assign a project manager to oversee construction of the Project. The project manager will rely on the Compliance Inspection Contractor (CIC) (discussed further in Section 6.4.1.3 below) for day-to-day compliance review.

6.4.2 U.S. Forest Service and U.S. Army Corps of Engineers

There are 3.5 miles of the pipeline route that cross the JNF managed by the USFS and 60 feet that cross the Weston and Gauley Turnpike administered by the USACE. The agency-designated Authorized Officers will provide oversight for the Project on NFS and USACE lands. The Authorized Officers will be responsible for administering and enforcing ROW Grant provisions. The Authorized Officers' designated representatives will be responsible to ensure stipulations and mitigation measures included in the POD are adhered to during Project construction, operation, and maintenance. The Authorized Officers' representatives also will be responsible for resolving any conflicts that arise relating to the Project. On the JNF, compliance will be monitored by the compliance monitors designated by the Authorized Officer. If a potential cultural resource is discovered, the USFS compliance monitor will report the discovery to the MVP Environmental Inspector and implement the protocols in the Project's Plan for Unanticipated Historic Properties and Human Remains for West Virginia and Virginia (Appendix O) and Plan for Unanticipated Discovery of Paleontological Resources for West Virginia and Virginia (Appendix P).

6.4.3 Compliance Inspection Contractor

The CIC will represent the FERC. The USFS will designate an Authorized Officer to oversee the Project within the JNF. The CIC is designated during the construction and restoration phases of the Project to ensure (1) compliance with permit requirements and (2) that environmental impacts associated with the Project do not exceed estimates disclosed in the Environmental Impact Statement and approved by FERC and BLM in

their authorizing documents. The USFS will designate its own Authorized Officer who will have authority over the Project activities on JNF lands.

The CIC will be selected by and work under the direct supervision and control of FERC. FERC and the CIC will coordinate with the USFS. The CIC will not take any direction with respect to the manner of conducting monitoring from MVP or its construction contractor or Environmental Inspector. The CIC's primary role is to observe work activities; verify, document, and monitor compliance; and bring non-compliant situations to the attention of the appropriate party and offer recommendations on how to prevent non-compliance prior to commencement of work. The CIC will not direct activities of the MVP construction contractor, but will notify MVP's Environmental Inspector or Chief Inspector, who will then direct MVP's construction contractor.

The CIC will provide a team that will consist of full-time on-site field inspectors and office-based support. There will be one full-time inspector per construction spread, which will include one inspector for the portion of the project within JNF. The CIC field inspectors will have appropriate experience and training related to FERC-regulated natural gas pipeline construction. The CIC will provide daily and weekly reports to FERC on compliance issues and make recommendations to the FERC Project Manager on how to deal with compliance issues and construction changes, should they arise, and will provide a copy to the USFS of reports applicable to NFS lands and a copy to the USACE of reports applicable to USACE lands. If minor variances to the FERC Certificate are required due to field conditions, as the field representative to FERC, the CIC will have limited authority to review and approve minor variances to the FERC Certificate in the field. Within the JNF, the CIC will coordinate with the USFS designated Authorized Officer regarding any minor variances to the FERC Certificate to ensure consistency with all requirements applicable on NFS lands. The CIC will not have authority to approve field variances to the ROW Grant Authorization on NFS lands.

The CIC will be in place full time during active construction and active ROW restoration. Once the ROW and all construction work space is regraded, stabilized, seeded, and permanent erosion controls installed, all restoration punch-list items are completed, and the construction equipment and crews are removed from the Project, the CIC contract will be terminated. Post-construction inspections to monitor revegetation and ensure restoration success on JNF lands will be conducted by the USFS Authorized Officer as frequently as deemed necessary by the USFS.

6.4.4 Mountain Valley Pipeline

MVP is responsible for the administration of the ROW and coordination between the Project Engineer and construction contractor. MVP and its construction contractor will be responsible for all activities associated with the construction, operation, and maintenance of the pipeline and ancillary facilities in a manner that complies with the conditions outlined in the FERC Certificate, BLM Right-of-Way Grant, and other authorizations listed in Table 6-5, as applicable. MVP will be the ultimate authority for their contractors.

The Project Construction Manager will be responsible for ensuring that MVP's approved plans, procedures, and designs, and all applicable health, safety, and environmental regulations are implemented and followed during all phases of construction of the pipeline

and ancillary facilities. The Project Construction Manager will coordinate with contractors to answer technical questions and respond to requests for information that arise during these activities. The Project Construction Manager will also be responsible for maintaining accurate as-built information, auditing field reports, and completing all required reports and summaries for the Project.

An electronic index of current appendices and supporting documents will be kept up-to-date by MVP and housed on the Project SharePoint site managed by MVP. It is the responsibility of all involved personnel from all involved parties to ensure that they are utilizing the current versions of all documents. The POD and all appendices and supporting documents will be dated on each page with at least month and date of development.

To help ensure construction activities are conducted in a manner that complies with all federal, state, and local regulations, MVP will contract a multidisciplinary team of environmental inspectors and specialists (i.e., the environmental inspection contractor) to work jointly and cooperatively with the USFS Authorized Officer, the construction contractor, and the CIC.

6.4.5 Construction Contractor

MVP will retain one prime construction contractor who will be responsible for the construction, testing, and restoration of the pipeline right-or-way on JNF Lands. A second prime contractor will be responsible for construction, testing, and restoration activities on the ROW adjacent to and boring under USACE managed lands. They will construct the pipeline, improvements to Pocahontas Road (FR #972), Mystery Ridge Road (FR #11080), and temporary work areas associated with construction activities. The construction contractor will be responsible for addressing restoration activities, as well as agreed upon environmental protection stipulations.

6.4.6 Environmental Inspection

At least one Environmental Inspector will be hired for the portion of the Project on the JNF, who will work with the CIC, and whose duties will be consistent with Section II.B of FERC Plan, MVP's Environmental Compliance Management Plan (Appendix N), and the requirements of the BLM Right-of-Way Grant. The Environmental Inspector will be a full-time position, separate from other activity inspectors. The Environmental Inspector will be responsible for ensuring that MVP complies with its construction and environmental mitigation plans, all environmental conditions of the FERC Order, the BLM Right-of-Way Grant, the POD, and the environmental conditions of other relevant federal and state authorizations. The Environmental Inspector will have "stop-work" authority and will be empowered to take corrective actions to remedy instances of non-compliance. In addition, the Environmental Inspector will conduct environmental and cultural resource training for company employees, maintain records, and write reports.

Specific Environmental Inspector responsibilities include:

- Inspecting construction activities for compliance with the requirements of the Plan of Development, the FERC Procedures, the environmental conditions of the FERC

Order, the BLM Right-of-Way Grant, other environmental authorizations, and environmental requirements.

- Identifying, documenting, and overseeing corrective actions, as necessary to bring an activity back into compliance;
- Verifying that the limits of authorized construction work areas and locations of access roads are visibly marked before clearing and maintained throughout construction;
- Verifying the location of signs and highly visible flagging marking the boundaries of sensitive resource areas, waterbodies, wetlands, or areas with special requirements along the construction work area;
- Identifying erosion/sediment control and soil stabilization needs in all areas;
- Ensuring that the design of slope breakers will not cause erosion or direct water into sensitive environmental resource areas, including cultural resource sites, wetlands, waterbodies, and sensitive species habitats;
- Verifying that dewatering activities are properly monitored and do not result in the deposition of sand, silt, and/or sediment into sensitive environmental resource areas, including wetlands, waterbodies, cultural resource sites, and sensitive species habitats; stopping dewatering activities if such deposition is occurring and ensuring the design of the discharge is changed to prevent reoccurrence; and verifying that dewatering structures are removed after completion of dewatering activities;
- Ensuring that subsoil and topsoil are tested in USFS, agricultural, and residential areas to measure compaction and determine the need for corrective action;
- Advising the Chief Inspector when environmental conditions (such as wet weather or frozen soils) make it advisable to restrict or delay construction activities to avoid topsoil mixing or excessive compaction;
- Ensuring restoration of contours and topsoil;
- Ensuring that erosion control devices are properly installed to prevent sediment flow into sensitive environmental resource areas (e.g., wetlands, waterbodies, cultural resource sites, and sensitive species habitats) and onto roads, and determining the need for additional erosion control devices;
- Inspecting and ensuring the maintenance of temporary erosion control measures at least:
  - on a daily basis in areas of active construction or equipment operation;
  - on a weekly basis in areas with no construction or equipment operation; and
  - within 24 hours of each 0.5 inch of rainfall or snow melt;
- Ensuring the repair of all ineffective temporary erosion control measures within 24 hours of identification, or as soon as conditions allow if compliance with this time frame would result in greater environmental impacts;

- Keeping records of compliance with the environmental conditions of the FERC Order, the BLM Right-of-Way Grant, and other federal or state environmental authorizations during active construction and restoration;
- Identifying areas that should be given special attention to ensure stabilization and restoration after the construction phase; and
- Verifying that locations for any disposal of excess construction materials for beneficial reuse comply with FERC and USFS requirements.

The Environmental Inspector will be supported in the field by geological, cultural, and biological resource specialists, as necessary, to ensure compliance with permit conditions related to protected and sensitive biological and cultural resources. The relationship of roles and responsibilities of the various parties involved in the construction, operation, and maintenance of the Project is summarized in Table 6-5.

Table 6-5. Relationship of Roles and Responsibilities of Various Parties

Party(ies)	Responsibilities
FERC, USACE, and BLM	Monitoring compliance with the provisions of the FERC Certificate and BLM Right-of-Way Grant
CIC	On-site compliance inspection and monitoring for FERC and the USACE
USFS Authorized Officer	Administering and enforcing Right-of-Way Grant provisions on NFS lands
MVP	Upholding, documenting, and managing environmental compliance with the terms specified in the FERC Certificate and the BLM Right-of-Way Grant; the POD; agency agreements; and all federal, state, and local authorizations
Construction Contractor	Implementation of and compliance with the POD, the FERC Certificate, the BLM Right-of-Way Grant, and all other permit requirements during construction and restoration
Environmental Inspector	Ensuring permit compliance, ordering corrective actions, and protecting sensitive biological and cultural resources, under the direction of MVP

6.5 Access to and Along Right-of-way during Construction

MVP does not intend to build any new roads on USFS property. The Project will utilize two existing access roads and cross a third road within the JNF. Construction and operations traffic will not be permitted to use FR#188 Brush Mountain Road. Traffic and transportation management activities on these lands will conform to the standards and guidelines contained within the LRMP of the JNF for road use, maintenance, and construction. USFS roads serve a variety of needs including recreation access, fire protection, vegetation and wildlife management, adjacent private land access, and energy and mineral development. The Project's traffic and transportation management activities, and their compliance with the LRMP, are discussed below and in the Project Framework Flagging, Fencing, and Signage Plan (Appendix Z).

6.5.1 Road Closures

During construction on USFS property, motorized access will be maintained along Pocahontas (FR #972), Mystery Ridge (FR #11080), and Brush Mountain (FR #188) roads at all times to USFS personnel, other personnel authorized by the FS, and emergency response officials. The pipeline will be parallel to Mystery Ridge Road and

cross the road one time. Mountain Valley will also cross Brush Mountain Road. Should access for USFS or emergency purposes be necessary during crossing of the roads, the disturbed area will be covered with a steel plate. Following construction each day, the open trench across Mystery Ridge and Brush Mountain Roads will be covered over with a steel plate to allow for passage as necessary. Currently, all three roads are not available for motorized public use, with the exception of Brush Mt, which is open to public motorized use seasonally. Mountain Valley does not anticipate that a closure order will be necessary for these roads. In the area of Pocahontas Road where the ANST utilizes the road, Mountain Valley will ensure the safety of hikers by employing traffic flaggers to coordinate truck and hiker traffic. Hikers will be stopped in 10 minute intervals to allow for trucks to pass before continuing on Pocahontas Road.

6.5.2 Road Improvements

Prior to the start of construction, MVP will complete road upgrades as described below. See the construction alignment sheets in Attachment A for the stationing.

6.5.2.1 Pocahontas Road (FR #972) Construction Plan

Overview

- MVP will utilize minor road grading to remove ruts, fill potholes, and ensure proper drainage areas along the road. Ensuring proper drainage would include crowning the road at approximately 2 percent slope from the center of the road to the shoulder. Additional areas may be identified as needing grading during construction. Any additional repairs will need to be approved by the FS; and
- MVP will temporarily widen the roadway bed in approximately eighteen areas. Widening will include expanding the road surface and could include tree clearing, brush/limb removal, and minor cutting into the upslope side or adding fill downslope. No road cuts or additional fill will be conducted within the stream channels.
- Existing ditch relief culverts and stream culverts will be spanned.

Table 6-6. Pocahontas Road Temporary Widening

Station From	Station to	Maximum Road Width (ft)	Maximum Grading Width (ft)[1]
9+00	11+00	13	20
15+00	23+00	18	20
48+50	50+50	17	20
54+50	57+50	19	25
63+50	64+50	13	17
75+00	79+00	19	27
85+50	87+00	15	17
97+50	104+00	20	25
109+00	117+50	17	25
129+00	134+00	16	20

Station From	Station to	Maximum Road Width (ft)	Maximum Grading Width (ft)[1]
152+00	154+50	17	30
177+50	180+00	18	20
207+00	209+00	15	20
219+50	226+00	15	20
251+00	266+00	18	20
276+50	279+00	17	22
288+00	293+00	12	14
302+50	310+00	16	20
end of Pocahontas Rd			
start of Mystery Ridge Rd			
311+50	317+00	16	22
325+00	327+50	30	32
end at pipeline			

[1] - No fill or cut into stream bed proposed for temporary widening, stream will be spanned per detail

6.5.2.2 Crossing Brush Mountain (FR #188)

MVP will not use Brush Mountain Road for construction or operations but will be crossed by the Project. MVP intends to open-cut the road. The road surface will be returned to original conditions post installation of the pipeline. Should access for the USFS or emergency purposes be necessary during the crossing, the disturbed area will be covered with a steel plate. Following construction each day, the open trench across Mystery Ridge and Brush Mountain Roads will be covered over with a steel plate to allow for passage as necessary.

6.5.2.3 Road Reconstruction

Under JNF LRMP FW-237, road reconstruction is allowed to a higher standard to reduce environmental damage or improve user safety. Consistent with this provision, following construction, Pocahontas (FR #972) and Mystery Ridge (FR #11080) roads will be left in place in the same condition or better than they were prior to the start of construction according to the management prescription desired conditions and to ensure public safety. Consistent with JNF LRMP FW-235, changes to these roads are not expected to alter how they currently blend into landscape.

Following construction on USFS lands in the area of Peters Mountain, MVP will replace/upgrade 13 existing stream culvert along Pocahontas Road to be fish-friendly, upgrade/replace 48 existing ditch relief drainage culverts, and upgrade existing road-side ditches. Upgrades are depicted on the MVP restoration drawings included in Appendix C-3. Culverts were evaluated in the field following maintenance activities by MVP on Pocahontas Road. MVP then conducted an analysis and designed the replacement culverts to carry flows associated with a 25-year 24-hour storm event using SCS/TR-55 methodology in accordance with Virginia Department of Environmental Quality Standards. Ditch relief culverts will all be 24 inches in diameter.

Table 6-7. Pocahontas Road Culvert

Stream/Culvert ID	Pocahontas Road Station	Status: Existing/ Proposed	Replacement Culvert Type	Replacement Culvert Material	Culvert Dimension (span/Rise or Diameter)
Drainage Culvert	3+13	Existing	Pipe Culvert	Aluminum	2'
S-SS2	4+20	Existing	Arch - Open Bottom	Corrugated Aluminum	6'/1.79'
Drainage Culvert	9+35	Existing	Pipe Culvert	Aluminum	2'
S-HH12	13+32	Existing	Box Culvert	Precast concrete	3'/3'
Drainage Culvert	15+68	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	17+97	Existing	Pipe Culvert	Aluminum	2'
S-HH13	18+56	Existing	Arch - Open Bottom	Corrugated Aluminum	8'/3.33'
Drainage Culvert	26+59	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	28+77	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	32+32	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	36+78	Existing	Pipe Culvert	Aluminum	2'
S-HH14	50+36	Existing	Box Culvert	Precast concrete	3'/3'
S-HH15	52+77	Existing	Arch - Open Bottom	Corrugated Aluminum	6'/1.79'
Drainage Culvert	56+62	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	59+85	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	63+15	Existing	Pipe Culvert	Aluminum	2'
S-MN20	77+51		Ford - to be spanned		
Drainage Culvert	93+33	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	94+24	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	96+05	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	98+00	Existing	Pipe Culvert	Aluminum	2'
S-HH16	101+40		Ford - to be spanned		
Drainage Culvert	103+20	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	105+22	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	109+26	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	110+40	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	112+19	Existing	Pipe Culvert	Aluminum	2'
S-UU11	114+90	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	118+19	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	121+29	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	124+11	Existing	Pipe Culvert	Aluminum	2'

Stream/Culvert ID	Pocahontas Road Station	Status: Existing/ Proposed	Replacement Culvert Type	Replacement Culvert Material	Culvert Dimension (span/Rise or Diameter)
Drainage Culvert	126+55	Existing	Pipe Culvert	Aluminum	2'
S-UU9	130+00	Existing	Box Culvert	Precast concrete	12'/6'
Drainage Culvert	133+12	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	135+45	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	138+27	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	140+97	Existing	Pipe Culvert	Aluminum	2'
S-PP19	152+60	Existing	Box Culvert	Precast concrete	8'/4'
Drainage Culvert	157+10	Existing	Pipe Culvert	Aluminum	2'
S-PP18	178+59	Existing	Box Culvert	Precast concrete	9'/4'
Drainage Culvert	183+91	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	187+88	Proposed	Pipe Culvert	Aluminum	2'
Drainage Culvert	191+64	Proposed	Pipe Culvert	Aluminum	2'
Drainage Culvert	194+89	Proposed	Pipe Culvert	Aluminum	2'
Drainage Culvert	198+14	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	200+24	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	204+02	Proposed	Pipe Culvert	Aluminum	2'
Drainage Culvert	205+99	Proposed	Pipe Culvert	Aluminum	2'
Drainage Culvert	212+05	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	216+27	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	218+79	Proposed	Pipe Culvert	Aluminum	2'
Drainage Culvert	221+16	Existing	Pipe Culvert	Aluminum	1.5'
S-PP17	222+21	Existing	Box Culvert	Precast concrete	3'/3'
Drainage Culvert	225+31	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	228+52	Proposed	Pipe Culvert	Aluminum	2'
Drainage Culvert	231+84	Proposed	Pipe Culvert	Aluminum	2'
Drainage Culvert	234+78	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	237+74	Proposed	Pipe Culvert	Aluminum	2'
Drainage Culvert	240+52	Proposed	Pipe Culvert	Aluminum	2'
Drainage Culvert	243+54	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	247+83	Proposed	Pipe Culvert	Aluminum	2'
Drainage Culvert	251+68	Proposed	Pipe Culvert	Aluminum	2'
Drainage Culvert	254+30	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	255+64	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	259+64	Existing	Pipe Culvert	Aluminum	2'

Stream/Culvert ID	Pocahontas Road Station	Status: Existing/ Proposed	Replacement Culvert Type	Replacement Culvert Material	Culvert Dimension (span/Rise or Diameter)
S-PP14	264+47	Existing	Box Culvert	Precast concrete	10'/4'
Drainage Culvert	268+19	Proposed	Pipe Culvert	Aluminum	2'
Drainage Culvert	271+75	Proposed	Pipe Culvert	Aluminum	2'
Drainage Culvert	275+44	Proposed	Pipe Culvert	Aluminum	2'
S-PP15	278+25	Existing	Box Culvert	Precast concrete	10'/4'
Drainage Culvert	281+32	Proposed	Pipe Culvert	Aluminum	2'
Drainage Culvert	284+33	Proposed	Pipe Culvert	Aluminum	2'
Drainage Culvert	287+43	Proposed	Pipe Culvert	Aluminum	2'
Drainage Culvert	290+47	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	293+40	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	297+24	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	297+78	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	300+26	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	301+52	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	302+62	Existing	Pipe Culvert	Aluminum	2'
Drainage Culvert	306+63	Proposed	Pipe Culvert	Aluminum	2'

6.6 Contingency Planning

MVP will maintain constant oversight of the ANST boring operation. Should the conventional bore under the ANST fail as described in the Contingency Plan for the Proposed Crossing of the Appalachian National Scenic Trail (Appendix E), MVP will utilize the alternative bore methods described in Appendix E. No motorized vehicle traffic is permitted between the Appalachian National Scenic Trail bore pits. However, construction and operations personnel may walk between the pits as needed to complete inspections.

6.7 Safety Requirements

MVP construction contractors are required to develop and submit Site-Specific Emergency Action Plans (SSEAP) prior to the start of construction activities. The SSEAP will identify potential hazards including detailed plans to prevent, mitigate and/or eliminate the hazards as well as emergency response procedures for potential event. The plan will also identify potential hazard scenarios. Construction contractors will be responsible for training all employees, and agency representatives that will be present on site during construction. SSEAP's will be thoroughly vetted by MVP and shared with the USFS Project Manager and CIC as discussed in the Framework Construction Emergency Preparedness and Response Plan in Appendix Q.

At all locations where the general public can access the construction perimeter, such as roads and trails, high-visibility warning signs will be installed before and at the point of entry. Warning signs are typically no smaller than two feet by two feet and come in various high-visibility colors. The construction perimeter will also be flagged in high-visibility colors, and if needed, safety fencing. Mountain Valley will also post public announcement on USFS-JNF existing information kiosks, any new information kiosks determined necessary by the USFS, and the USFS-JNF website (Alerts & Warnings), as permitted by the USFS. MVP will also place construction notifications related to federal properties in the local papers in Giles, Craig, and Montgomery counties. MVP will also provide the construction notices to the BLM and USACE to post on their public notification sites.

While construction vehicles are using Pocahontas Road (FR #972), MVP will take precautions to protect hikers utilizing the ANST in the area where the ROW bores under the ANST and where a small section of Pocahontas Road near Clendennin Road is utilized by hikers as part of the ANST. In this area of Pocahontas Road, Mountain Valley will ensure the safety of hikers by employing traffic flaggers to coordinate truck and hiker traffic. Hikers will be stopped in 10 minute intervals to allow for trucks to pass before continuing on Pocahontas Road.

MVP will post warning signs at these locations, will have safety and security personnel monitoring traffic on Pocahontas Road, and will implement a speed limit of 10 miles per hour.

MVP will provide security staffing during construction of the Project. This will include an officer at an offsite construction lay down area to provide security outside of the JNF and a second mobile officer at the construction site. A mobile security supervisor will be in the area and available to monitor and assist as needed. Construction contractors will be required to provide their own security officers to monitor their equipment and assist with construction activities such as safety over watch, off road traffic control, and visitor monitoring.

Safety during operations and maintenance is discussed in Section 9 and Appendix R.

7.0 RESOURCE VALUES AND ENVIRONMENTAL CONCERNS

This section provides a brief summary of the procedures proposed in the Environmental Protection Plans included as appendices to this POD that MVP will use to ensure environmental protection during construction, operation, and maintenance. The Environmental Protection Plans are stand-alone documents that contain complete lists of all environmental protection measures and other specific stipulations and methods for that environmental resource. MVP will ensure their contractors and employees implement these measures.

The Environmental Compliance Management Plan, included as Appendix N to this POD, is the primary guidance document that states how MVP will uphold, document, and manage compliance with the Right-of-Way Grant, the POD, and all federal, state, and local permits. It is a centralized Project environmental compliance reference and is intended to facilitate environmental compliance. It describes the following essential elements:

- Roles and responsibilities of the participants;
- Comprehensive inspection and monitoring program;
- Corrective procedures in the event of non-compliance;
- Standard protocol for variance requests, exceptions, and other deviations;
- Communication plan;
- Reporting process; and
- Comprehensive Project-specific environmental compliance training program.

The Environmental Compliance Management Plan is intended to be revised as needed throughout the construction process.

7.1 Soils and Vegetation

The Project has potential to impact soils and vegetation; as a result, environmental protection measures have been developed to minimize potential impacts on these resources and will be applied, as applicable, to the Project.

The Project Restoration Plan (Appendix H to the POD) focuses on the stabilization and protection of existing vegetation and soils, minimizing disturbance of the environment to the extent practical, and establishing vegetation communities that are consistent and compatible with adjacent land uses. The goal of this draft plan is to provide a structure for developing and implementing the Project's restoration process on the JNF, which will be designed to restore impacted areas to meet the following objectives:

- Topsoil segregation and stockpiling;
- ROW stabilization and restoration;
- Seedbed preparation and re-seeding;
- Noxious- and invasive-weed control; and

- Road reclamation.

7.2 Exotic and Invasive Species Control

The USFS developed a National Strategic Framework for Invasive Species Management in 2013 to guide the USFS in responding to the invasive species problem in the United States. This guidance document identifies the most significant strategic actions that should be undertaken to reduce the threat of invasive species (USFS 2013). The USFS's national strategy encompasses four program elements:

- Prevention;
- Detection;
- Control and management; and
- Restoration and rehabilitation.

The Exotic and Invasive Species Control Plan (Appendix S to this POD) is based on this guidance document, as well as the procedures and measures identified in FERC's Plan, and was prepared with the support of the Wildlife Habitat Council. The Exotic and Invasive Species Control Plan presents methods to control the potential occurrence/infestation of noxious and invasive weeds, including herbicides, during and following construction of the Project. The purpose of the plan is to ensure noxious weeds are identified and controlled during the construction of Project facilities and all federal, state, and county requirements are satisfied. Pursuant to the USFS's request, MVP has also developed an Herbicide Usage Plan (Appendix T).

7.3 Water Quality

7.3.1 Stormwater Pollution Prevention

The Stormwater Pollution Prevention Plan for Virginia (Appendix U to this POD) will serve as a guidance document to be used during development of the site-specific erosion and sedimentation control plans and stormwater management plan in Virginia in an effort to reduce stormwater discharge associated with construction of the Project. This document is currently in review with the Virginia Department of Environmental Quality and will be provided once approved. The Stormwater Pollution Prevention Plan for West Virginia is included within the Erosion and Sedimentation Control Plan (Attachment C-1).

7.3.2 Spill Prevention, Containment, and Countermeasures

The SPCC Plan and Unanticipated Discovery of Contamination Plan (Appendix D to this POD) describes preventive measures, such as personnel training, equipment inspection, and refueling procedures, to reduce the likelihood of spills. It also describes mitigation measures, such as containment and cleanup, to minimize potential impacts if a spill occurs.

7.3.3 Impact Avoidance and Minimization

To minimize impacts to water resources, Mountain Valley reduced the temporary construction ROW at waterbody and wetland crossings from 125 feet to 75 feet. Clearing activities within riparian buffer areas will also be restricted to the 75-foot temporary

construction ROW. Buffer areas for each waterbody and wetland will extend approximately 50 feet, where possible, from where the pipeline trench enters the waterbody or wetland area. The resource crossing and associated buffer areas will be treated as separate construction entities, except during clearing activities, and efforts will be made to cross these areas during low-flow conditions to the extent practicable. All Project waterbody crossings will be conducted using open-cut dry-ditch methods (flume pipe, dam and pump, or combination thereof) so that no in-stream work will be conducted in a flowing watercourse. Temporary equipment crossings will be completed via timber mat or equipment bridges to avoid impacts if no existing culvert is present. The spoils from the crossing will be required to be outside of the riparian corridor where the distance varies by flow type and slope. Spoil will be required to be 100 feet from a perennial stream, 50 feet from an intermittent stream and 25 feet from an ephemeral channel.

Once grubbing and grading starts at a waterbody or wetland crossing, it will be actively conducted for consecutive days until the crossing is completed and the work area is restored. In general, the same measures utilized for upland construction also apply to waterbody and wetland crossings. Sediment barriers will be installed immediately after initial disturbance of the waterbody or adjacent upland area in accordance with the Annual Standards and Specifications (Appendix C-2 to this POD). Sediment barriers will be properly maintained throughout construction and reinstalled as necessary (such as after backfilling of the trench) until replaced by permanent erosion controls or restoration of adjacent upland areas is complete. Sediment barriers will be installed across the entire construction ROW at all waterbody crossings. Where waterbodies are adjacent to the construction ROW, sediment barriers will be installed along the edge of the construction ROW as necessary to contain spoil and sediment within the ROW. Trench plugs will be used at all waterbody crossings to prevent diversion of water into upland portions of the pipeline trench and to keep any accumulated trench water out of the waterbody. Trench plugs will be of sufficient size to limit water flow along the trench. Permanent slope breakers will be installed in all areas of the Project including 25 feet from all waterbody boundaries to minimize potential for erosion to occur within the riparian buffer areas. Should any erosion and sediment control measures be found to be ineffective, Mountain Valley will revise the BMP installation or implement additional controls to correct the deficiency.

During project activities on National Forest lands, Mountain Valley will conduct project construction activities in a manner that minimizes duration of disturbance in all areas including steep slopes. Construction will be completed in streams during low-flow and within the regulatory timeframes.

7.4 Plant and Wildlife Conservation

The Plant and Wildlife Conservation Measures Plan (Appendix V to this POD) presents the measures proposed by the MVP for avoidance and minimization of impacts to plant and wildlife species as related to construction activities for the Project and outlines specific conservation measures to be implemented in the event that state or federally listed species, USFS special status species, or their habitats are identified within or adjacent to the Project ROW.

The plan includes information on (1) regulatory requirements and agency concerns pertaining to biological resources, (2) avoidance and minimization conducted during siting and routing of the Project to avoid impacts to biological resources, and (3) specific environmental protection measures to be implemented if state- or federally listed species, BLM sensitive species, or USFS sensitive species or their habitats are identified within, or adjacent to, the Project ROW. In addition, the plan addresses general wildlife including big game, raptors, and migratory birds.

MVP will monitor and record the success of revegetation on USFS-managed lands for up to five growing seasons or until the area is 80 percent revegetated. Inspection will be completed as least annually. MVP will submit a status report to the USFS following each inspection. Should a stream bank's vegetation not reestablish following five growing seasons, MVP will work with USFS personnel to develop a plan for re-establishment, including monitoring requirements.

7.5 Health and Safety

7.5.1 Blasting

The Blasting Plan (Appendix J to this POD) outlines the procedures and safety measures that the contractor will adhere to while implementing blasting activities during the construction of the Project. The need for blasting and the methods utilized are largely determined by type of rock encountered along the route. Blasting is likely to be needed in areas with hard and intact sedimentary bedrock (sandstones, limestones, and shales). Soft bedrock, such as weathered sandstones, limestones, and shales, may possibly be removed by ripping or mechanical means. Table 6-4 lists areas within the JNF where blasting may be necessary.

The Blasting Plan discusses the regulatory requirements, plans for pre- and post-blasting inspections, and monitoring and mitigation measures.

7.5.2 Fugitive Dust Control

The Fugitive Dust Control Plan (Appendix W to this POD) provides measures to ensure protection of the air quality that will be affected by the Project. This plan will be implemented during the construction, operation, and maintenance phases of the Project. These measures are intended to minimize dust and emissions from construction-related activities.

7.5.3 Fire Prevention and Suppression

The Fire Prevention and Suppression Plan (Appendix X to this POD) includes measures to be taken by the MVP and its contractors to ensure that fire prevention and suppression measures are carried out in accordance with federal, state, and local regulations. The plan will address the specific requirements of the USFS and provides BMPs for fire management on privately owned lands.

On the JNF, the use of dozers for fire line construction over the pipeline would present no hazards, but would require a post-wildfire inspection of the remaining depth of cover above the pipeline. Construction of fire lines with explosives within 200 feet of the pipeline

would be prohibited if 24-hours' notice cannot be not given and/or if other precautionary measures cannot be met.

Prescribed fires in the JNF would not affect pipeline integrity. When a prescribed fire is being planned by the USFS, communication with MVP should occur so the plastic surface line markers can be removed during the event and replaced when completed. In the event a fire, planned or unplanned, was to occur on the surface in the vicinity of the pipeline, the presence of the pipeline would not increase fire hazards. Fires on the surface are not a direct threat to underground natural gas pipelines because of the insulating effects of soil cover over the pipeline.

7.5.4 Hazardous Materials Management

The Hazardous Materials Management Plan (Appendix Y to this POD) includes measures to reduce the risks associated with the use, storage, transportation, production, and disposal of hazardous materials (including hazardous substances and wastes). This plan identifies Project-specific mitigation measures and other specific stipulations and methods to address spill prevention, response, and cleanup procedures for the Project.

7.5.5 Construction Emergency Preparedness and Response

The Framework for Construction Emergency Preparedness and Response Plan (Appendix Q to this POD) provides an overview of methods to be implemented if the need for emergency management is imminent. This framework describes the existing support structure, chain of command, and emergency communications protocols.

7.5.6 Operations, Maintenance, and Emergency Response

The Operations, Maintenance, and Emergency Response Plan (Appendix R) includes measures to be employed while conducting routine, corrective, and emergency operations and maintenance activities. Measures identified will be in compliance with applicable state and federal laws and policies allowing for the MVP to access the pipeline ROW in a timely, cost effective, and safe manner.

7.5.7 Framework Flagging, Fencing, and Signage

The Framework Flagging, Fencing, and Signage Plan (Appendix Z to this POD) describes the methods that will be used in the field to delineate the Project limits of disturbance and protect sensitive environmental and cultural resources during Project construction. These methods are intended to ensure MVP personnel, the construction contractor(s), the BLM, USFS, USACE, CIC, and other monitors and visitors to the Project construction sites stay on approved access routes and within approved work areas. The measures described in this plan are an integral part of the environmental compliance program for avoiding and minimizing impacts to sensitive resources. The objective of this plan is to provide information on the field markings (i.e., flagging, fencing, and signage) that will be used to identify approved Project travel and work areas, as well as sensitive resource areas where construction or travel is to be excluded.

7.6 Cultural and Historic Resources

The Plan for Unanticipated Historic Properties and Human Remains (Appendix O to this POD) identifies the protocols MVP will implement if historic properties or human remains (an unanticipated discovery) are discovered during construction activities. Also see the Framework Flagging, Fencing, and Signage Plan (Appendix Z to this POD), which describes the methods that will be used in the field to delineate limits of disturbance and protect sensitive cultural resources during Project construction.

7.7 Unanticipated Discovery of Paleontological Resources

The Plan for Unanticipated Discovery of Paleontological Resources (Appendix P to this POD) identifies the protocols MVP will implement if paleontological resources (an unanticipated discovery) are discovered during construction activities. Also see the Framework Flagging, Fencing, and Signage Plan (Appendix Z to this POD), which describes the methods that will be used in the field to delineate limits of disturbance and protect sensitive cultural resources during Project construction.

7.8 Off-Highway Vehicle Control and Access

The Off-Highway Vehicle Management Plan (Appendix AA to this POD) discusses methods to limit off-highway vehicle (OHV) use within the ROW in order to avert user conflicts in adjacent areas, as well as to avoid problems with revegetation efforts and prevent potential erosion within the ROW. To minimize OHV access within the ROW, MVP will install barriers at appropriate locations in coordination with the JNF. The proposed OHV barriers will be designed and constructed in a manner that attempts to prevent unauthorized motor vehicle/OHV use of and along the ROW, but will still allow the passage of wheelchairs or any device that meets the legal definition of a wheelchair in areas where a gate, barrier, or berm is installed on a road to close it to motorized traffic, but foot travel is encouraged beyond the gate or barrier.

7.9 Scenery Mitigation

The results of the Visual Impact Assessment indicate that construction and operation of the Project will have mostly low or no significant visual impacts to the ANST, including from managed vistas. To ensure compliance with Scenic Integrity Objectives in the Jefferson National Forest, MVP will implement the following mitigation measures and BMPs, which MVP developed in consultation with USFS, to lower potential visual impacts from the Project identified during the analysis.

- In High Scenic Integrity Objective areas, MVP will feather the ROW as exhibited in figure 7.1 to ensure that vegetative openings appear more natural and conform to the natural form, line, color, and texture of the existing landscape. Temporary work spaces within forested areas would include some level of shrub plantings or shrub seed mixes to soften the hard edge formed between the existing/undisturbed forest and the maintained ROW. MVP intends to include woody seed mixes within temporary areas where forest regeneration is desired.
- Road or trail crossings will be done at a right angle, where feasible, to ensure the shortest duration of view for the crossing (USFS 1975).

The ANST will be crossed by the Project by using a conventional bore method to ensure there will be no disruptions to hikers on the ANST.

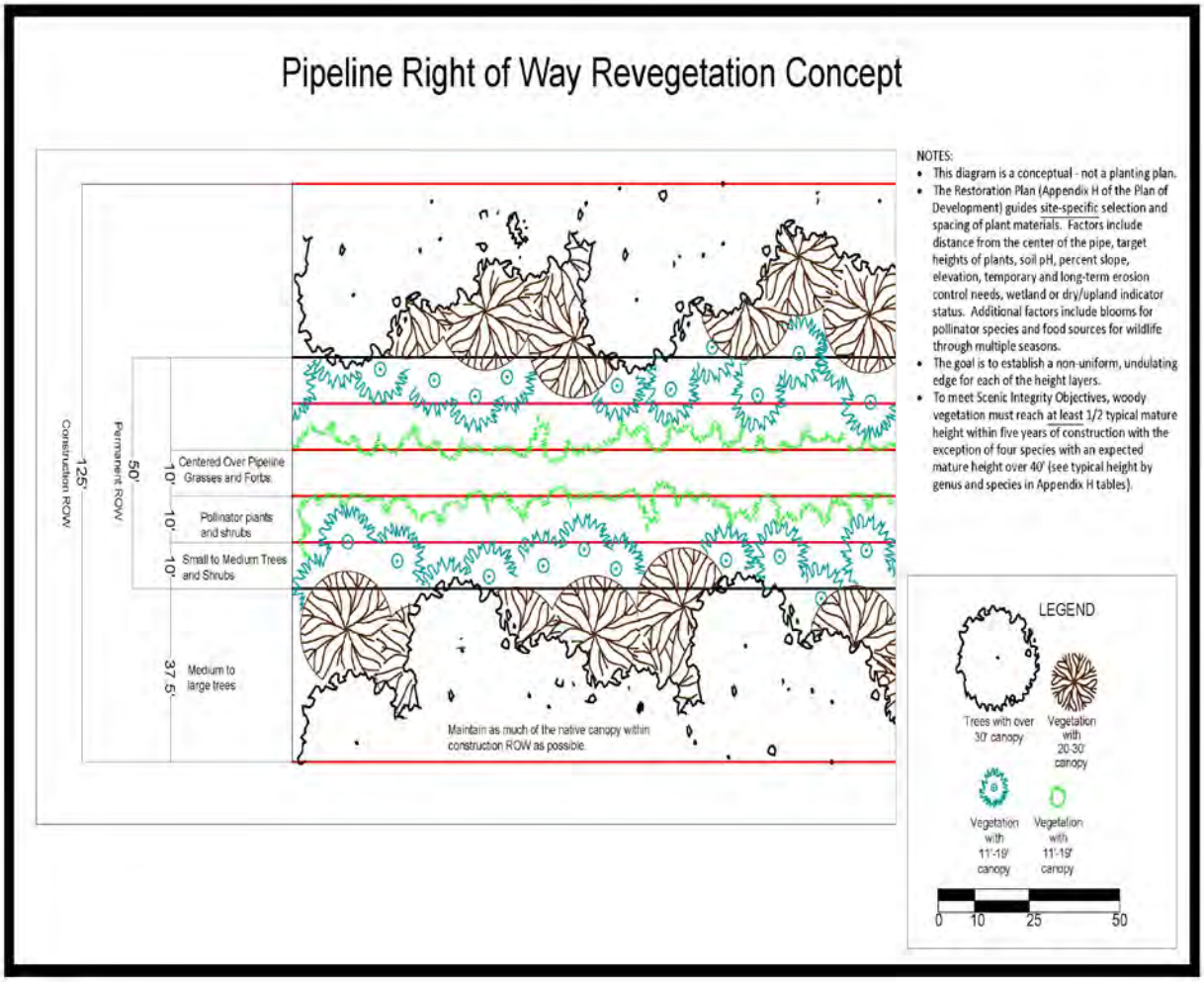


Figure 7-1. ROW Clearing Pattern for Vegetation Feathering Technique

MVP will install the pipe via conventional bore under the ANST, leaving an approximate area of no disturbance of 307 feet on the south side of the trail and 273 feet on the north side of the trail where tree clearing and land disturbance will not occur. The areas of no disturbance of 307 feet on the south side and 273 feet on the north side of the ANST refer to those between the safety fence that will be installed in front of the bore pits and the ANST. These barriers will be set up approximately ten feet in front of each bore pit to provide for the safety of workers and visitors to the ANST during construction activities. Thus, there is approximately 600 feet between the bore pits, eliminating visibility of the ROW to trail users at the crossing location.

- MVP has sited the alignment to conform to the natural lines in the landscape and followed existing ROWs, where feasible.

Short-term impacts will include the visible evidence of temporary construction activities, such as vegetation clearing; color contrast of soil in the cleared ROW or along other ancillary structures such as roads; and the presence of vehicles and workers. With low or no visual impacts as well as the implementation of the mitigation measures and BMPs listed above, the Project will not result in any significant permanent visual impacts to visual resources on the Jefferson National Forest or popular ANST viewpoints.

8.0 STABILIZATION AND REHABILITATION

8.1 Restoration (Soil Replacement and Stabilization)

As requested by the USFS, topsoil within the ROW and construction disturbance footprint on the JNF will be segregated from subsoils. This segregated topsoil will be replaced over the subsoils after the trench is backfilled and prior to restoration and revegetation effort. Soils that have been compacted by construction equipment traffic will be decompacted via disking. No additional soil materials will be brought onto the JNF from outside the NFS lands.

Soils will be initially stabilized during construction through the use of temporary erosion control devices. Following construction, the surface of the ROW disturbed by construction will be graded to match original contours to the greatest extent practicable and to be compatible with surrounding drainage patterns, except at those locations where permanent changes in drainage will be required to prevent erosion, scour, and possible exposure of the pipeline. Soils will then be decompacted (as described above), and permanent erosion control measures will be installed at this time. Temporary construction erosion control measures may also be left in place following construction until sufficient vegetative cover is re-established to prevent significant erosion and sedimentation (see Appendix C for more details regarding erosion control devices).

Successful restoration and revegetation of disturbed areas is a critical component of soil stabilization. Restoration and soil stabilization will be considered successful if construction debris is removed (unless requested otherwise by the USFS), revegetation is successful, proper drainage has been restored, and the appropriate federal and state agencies agree that the restoration efforts were successful (see Appendix H for more details regarding restoration and revegetation). Following construction, MVP will monitor and record the success of revegetation on USFS-managed lands for up to five growing seasons or until the area is 80 percent revegetated. Inspection frequency will be at least annually. MVP will submit a status report to the USFS following each inspection. Should the vegetation in an area not reestablish following five growing seasons, MVP will work with USFS personnel to develop a plan for re-establishment, including monitoring requirements.

All soil stabilization and restoration activities located on NFS lands shall be completed to accepted federal, state, and local BMPs and to the satisfaction of the USFS Authorizing Officer in charge. In addition, as-built drawings of the segments crossing NFS lands will be provided to the USFS, and all National Forest boundary monuments disturbed or damaged within the Project area will be re-established upon completion of installing the pipe and establishing the ROW corridor.

8.2 Disposal of Vegetation Removed During Construction

Once removal has begun, timber will be cut into usable lengths and stacked adjacent to the ROW in accordance with the USFS requirements (Appendix I). Stumps will be cut as close to the ground as feasible and left in place, except for in areas directly over the trenchline. Merchantable timber will be hauled away and sold. All non-merchantable

brush and slash will remain on the right-of-way until pipeline construction activities begin, utilized in downslope areas of the ROW and/or removed from the area in accordance with USFS requirements.

Non-merchantable brush and slash will be retained on site to provide a level of erosion control until actual pipeline construction begins, at which time it will be windrowed to the edge of the right-of-way. Windrowing of non-merchantable brush and slash along the ROW will result in habitat for many types of wildlife including: rabbits and other small mammals, ruffed grouse, song birds and reptiles and provide food for insects. The windrows can also serve as escape cover from predators as well as locations for nesting and shelter from inclement weather. The windrows should be restricted to 8 feet tall, 20 feet wide, and 100 feet long with a 50-foot break between piles in order to provide fire breaks and wildlife crossings. Non-merchantable brush and slash can be utilized in downslope areas of the ROW and access roads to aide in soil stabilization and erosion control. Layering the brush and slash at the toe of a low-side slope along an access road provides soil stabilization, and erosion and sediment control. Layering of brush and slash can promote physical protection to the downslope areas of the ROW. Additionally, the layering can provide long-term support for revegetation in downslope areas of the ROW.

8.3 Seeding Specifications

MVP consulted with the USFS regarding appropriate seed mixtures for use within the JNF. The USFS indicated that the initial goal of seeding on the JNF is to establish vegetative cover to minimize surface erosion and sedimentation, while the secondary goal is to establish an assortment of native species congruent with local ecological communities and beneficial for wildlife and pollinators. Native plants that provide structural diversity and wildlife/pollinator benefits often do not germinate or grow fast enough to provide initial erosion control; therefore, these goals will be accomplished through the use of seed mixes that include both fast growing, annual/short-lived perennial non-native grass species provided by the USFS on November 21, 2016, as well as some perennial native species. Specifics regarding the seed mixes that would be used as well as the preparation of seed beds and seeding methods that would be used are described in the Restoration Plan (Appendix H to the POD).

8.4 Fertilizer

Dry fertilizer and lime will be incorporated into the top two to five inches of soil by disking or other means. The following are guidelines for fertilizer and lime application rates recommended by the USFS:

- Fertilizer:
  - 600 – 800 lbs/acre of 10-20-10 (Nitrogen [N], Phosphorous [P], Potassium [K]) fertilizer);
  - 400 lbs/acre of 15-30-15 (N-P-K) fertilizer; or
  - 800-1,000 lbs/acre of 10-10-10 (N-P-K)
- Lime:
  - 1,500-4,000 lbs/acre (pelletized or dust); or

– 4,000 lbs/acre of Hydro Lime (2.5 gal container is equivalent to 1000 lbs limestone; 5-10 containers/acre).

Soil chemistry tests will be conducted during construction and the fertilizer and liming rates described above will be adjusted accordingly based on the results of site-specific soil tests. Soil chemistry data will be submitted to the USFS following testing and any modifications to the fertilizer or lime application rates described above will be provided to the USFS for approval prior to use (see the Restoration Plan; Appendix H to the POD).

8.5 Limiting Access to the ROW and Law Enforcement

Appendix AA discusses the measures MVP proposes to control access to the ROW during operation. USFS Law Enforcement concerns involve poaching, illegal ATV-OHV usage, violations of the Archaeological Resources Protection Act, dumping, and other illegal activities that may increase by utilizing the pipeline corridor. A plan for monitoring involving both USFS Law Enforcement and Heritage Program personnel will be provided to MVP. Once agreed upon, the plan for monitoring will be included in the communication plan.The Heritage Program will require an incremental or phased monitoring plan of the archaeological resources located adjacent to the proposed corridor and will be implemented by USFS archaeologists to meet SHPO and Tribal Historic Preservation Office programmatic agreement demands. USFS Law Enforcement concerns covering a constant monitoring of the areas will need to be implemented to ensure public safety and protection of forest resources. Monitoring of forest and cultural resources will be conducted by the USFS and funded through cost recovery.

8.6 Access Road Reclamation

No new roads will be built on the JNF for this Project. Two existing USFS roads, Pocahontas Road (FR #972) and Mystery Ridge Road (FR #11080), will be improved for use during construction. MVP has included Pocahontas and Mystery Ridge Road in the alignment sheets and erosion and sedimentation control sheets (Appendix C-3). The alignment sheets show areas in which roads are expected to be improved or extended. Improved means that MVP will expand, widen, or grade the access road. MVP does not intend to utilize or perform any work on the northwestern portion of Mystery Ridge Road (FR #11080) west of pipeline milepost 196.9 where the pipeline ROW first intersects with this road from the west. These roads will be returned to original or better condition upon completion of the pipeline construction as discussed in section 6.5. Temporary erosion control measures will be removed upon final stabilization and approval from applicable federal and state agencies and installation of permanent erosion control measures. MVP will not use Brush Mountain Road (FR #188) for construction or operation traffic. Signage will be posted during construction letting construction traffic know that Brush Mountain Road cannot be utilized.

9.0 OPERATION AND MAINTENANCE

Following construction of the Project facilities, certain areas along the pipeline alignment will comprise permanent ROW or facility sites. For pipeline facilities, MVP will maintain a typical permanent ROW easement of 50 feet in width. In some locations, it will be necessary to retain access roads used for construction to support ongoing pipeline operations as discussed in Section 9.1.

MVP will operate and maintain the Project in compliance with PHMSA regulations provided at 49 CFR Part 192, FERC regulations at 18 CFR § 380.15, and maintenance provisions of FERC's Plan and Procedures (FERC 2013a, 2013b). In correspondence with the USFS, MVP will use herbicides and pesticides to maintain the ROW or any of its Project facilities. Appendix X contains MVP's Herbicide Use Plan, which identifies how herbicide used to control noxious weed and invasive species will be implemented on the JNF.

Pipeline

Operational activity on the pipeline will be limited primarily to maintenance of the ROW and inspection, repair, and cleaning of the pipeline. All maintenance activities will be confined to the ROW. Periodic aerial and ground inspections by pipeline personnel will identify soil erosion that may expose the pipe; dead vegetation that may indicate a leak in the line; conditions of the vegetation cover and erosion control measures; encroachment on the ROW, such as buildings and other substantial structures; and other conditions that could present a safety hazard or require preventive maintenance or repairs.

A schedule for the maximum intervals between inspections/patrols by class area is provided in Table 9-1. The pipeline's cathodic protection system will also be monitored and inspected in accordance with 49 CFR Part 192 requirements to ensure proper and adequate corrosion protection. The pipeline will be designed for internal inspection technology. Appropriate responses to conditions observed during internal inspections will be taken as necessary. In addition, class change studies will also occur to identify areas of development.

Vegetation on the permanent ROW will be maintained by mowing, cutting, and trimming. The permanent ROW will be allowed to revegetate; however, large brush and trees will be periodically removed in accordance with the FERC's Plan and Procedures. In uplands, trees or deep-rooted shrubs could damage the pipeline's protective coating, obscure periodic surveillance, or interfere with potential repairs and would not be allowed to grow within the permanent ROW. Along the length of the pipeline, including wetlands, MVP will maintain a 10-foot-wide strip over the pipeline in a herbaceous state but will mow the entire 50-foot permanent corridor no more frequently than once every three years to ensure that woody vegetation and their roots do not encroach on the pipeline infrastructure.

Table 9-1. Inspection Schedule for Major Components of the Project

Pipe Class a/	Inspection/Patrol Interval b/
Highway and Railroad Crossings	
Class 1 and 2	7.5 months but at least twice each calendar year
Class 3	4.5 months but at least four times each calendar year
All Other Locations	
Class 1 and 2	15 months but at least once each calendar year
Class 3	7.5 months but at least twice each calendar year

a/ MVP will be installing Class 2 pipe on NFS lands
b/ Intervals comply with 49 CFR § 192.705. Regulations include intervals for Class 4 pipe; however, there will be no Class 4 pipe locations on the MVP Project, and it was therefore not included.

During operation of the Project, the pipeline ROW would not restrict potential future timber operations and would not isolate currently manageable timber tracts. MVP would, however, require that operation of heavy equipment within the ROW, such as log skidders, be coordinated with MVP to ensure the integrity of the pipeline is maintained. Mountain Valley also indicated that with plans to install Class 2 pipe buried at least 36 inches below the ground surface within the JNF, there would be no restrictions on the use of heavy firefighting equipment by the FS.

The pipeline facilities will be clearly marked at line-of-sight intervals and at crossings of roads, railroads, waterbodies, USFS trails, and other key points, in accordance with PHMSA regulations. The markers will clearly indicate the presence of the pipeline and provide a telephone number and address where a company representative can be reached in the event of an emergency or prior to any excavation in the area of the pipeline by a third party. MVP will participate in “One Call” systems in West Virginia and Virginia.

Aboveground Facilities

There are no compressor stations, metering stations, pig launcher and receiver sites, or mainline valve sites on the JNF or at the Weston and Gauley Turnpike crossing.

9.1 Access Needed for Operation and Maintenance

Pocahontas Road (FR #972) and Mystery Ridge Road (FR #11080), existing access roads on the JNF, will be improved during construction. These roads will be returned to original or better condition upon completion of the pipeline construction as discussed in section 6.5. MVP will not use Brush Mountain Road (FR #188) for operation traffic.

New or expanded access for operation and maintenance will not be required on the JNF for the Project. However, MVP will require access during operation and maintenance. MVP intends to utilize pick-up trucks to access the established pipeline corridor via Pocahontas Road (FR #972) and Mystery Ridge Road (FR #11080). Access for emergency response use and USFS administrative use of those roads will be unobstructed at all times.

9.2 Hydrostatic Testing During Operation

Hydrostatic testing will be performed along the portion of the pipe on the USFS and USACE managed lands; however, no water will be withdrawn or released on USFS or

USACE managed lands. Should hydrostatic testing be necessary during operations of the Pipeline, no water will be withdrawn or released on USFS or USACE managed lands.

9.3 Removal or Addition of Infrastructure during Pipeline Maintenance

No pumps will be located on the USFS or USACE managed lands. At this time, it is not expected that any replacement of pipe sections will be required on USFS or USACE managed lands during operations. However, if any repairs are necessary, MVP would consult with the USFS and USACE prior to the pipe repair.

9.4 Safety

MVP and/or its designated contractor perform a number of activities to keep pipelines operational and in good repair. Most of these activities, such as routine patrols, inspections, and scheduled maintenance, are planned in advance. However, there could be an occasional need for emergency response in cases where public safety and property are threatened, to prevent imminent damage to the pipeline and ancillary facilities.

Routine, corrective, and emergency response activities will be conducted in accordance with this Operations, Maintenance, and Emergency Response Plan (Appendix R).

Mountain Valley will continue to coordinate with the USFS to establish long-term monitoring of sensitive areas within, adjacent to, or in the vicinity of the Pipeline ROW.

9.5 Will Industrial Wastes and Toxic Substances be Generated or Stored on ROW

It is not anticipated that hazardous waste will be generated or stored during construction of the Project. However, if for any reason hazardous waste is created or uncovered during construction or operation of the Project, the SPCC Plan and the Unanticipated Discovery of Contamination Plan would identify methods for handling the waste. All waste would be disposed of per state and federal requirements (see Appendix Y).

9.6 Inspection and Maintenance Schedules

An inspection and maintenance schedule is provided as Table 9-1. Additional information about Operations, Maintenance, and Emergency Response Plan (Appendix R).

9.7 Work Schedules

Work schedules during operation and maintenance will be determined based on the necessary activity. An inspection and maintenance schedule is provided as Table 9-1.

9.8 Fire Control

The construction and operations contractors working on the Project will be required to implement the provisions of the Fire Plan (Appendix X). Additionally, each contractor will be required to prepare and implement an individual fire control plan, which will identify responsibilities and describe actions to be implemented by the contractor in the event of an inadvertent fire. Copies of each fire control plan will be appended to this Fire Plan and provided to the USFS for its review. The key persons responsible for fire prevention

and suppression during construction of the Project are Chief Inspectors, Spread Superintendents, Field Safety Officers, Facility Superintendents, Environmental Inspectors, and Authorized Officers. Contact information for these persons will be appended to the "issued-for-construction" Fire Plan prior to the start of construction. At a minimum, each construction spread for the pipeline and each aboveground facility site will have one Field Safety Officer trained in accordance with National Fire Protection Standards 1521, Chapter 4, Responsibilities for a Health and Safety Officer.

9.9 Contingency Planning

Contingency Planning has been developed to the greatest extent possible to account for potential landslides, karst features, the ANST conventional bore failures, unanticipated discoveries, exotic and invasive species, spills, and fires. Should a need for additional contingency plans become necessary prior to or during construction, MVP will work with the USFS to complete the required plans.

10.0 TERMINATION AND RESTORATION

10.1 Removal of Structures

The expected useful lifespan of the Project would be about 50 years. While there is no termination date for a FERC Certificate, at the end of the 50-year period, MVP may need to repair, replace, or abandon facilities. Any of those actions would require permission from FERC in response to new applications. MVP would also coordinate with BLM and USFS. Abandonment activities would require an application to the FERC under Section 7(b) of the Natural Gas Act. Facilities could either be abandoned in place or by removal. Typically, the agencies would conduct a separate environmental review under the National Environmental Policy Act for a new application. The public would have the opportunity to comment on these applications.

10.2 Obliteration of Roads

No new access roads will be built to access the pipeline ROW on the JNF during operations. Hence, MVP does not plan to obliterate any roads upon abandonment of the pipeline.

10.3 Stabilization and Revegetation of Disturbed Areas

The stabilization and revegetation of disturbed areas associated with abandonment will comply with the FERC's Plan and Procedures, all requirements outlined in the BLM Right-of-Way Grant, and MVP's Restoration Plan (see Appendix H) or according to the equivalent or more advanced standards the agencies have adopted by the time abandonment occurs.

ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	Seth Jackson, Bureau of Land Management Cyndi Eide, Bureau of Land Management Arianne Balsom, Federal Energy Regulatory Commission Dawn Ramsey, Federal Energy Regulatory Commission Jill Linn, WBI Energy Greg Huncovsky, WBI Energy Lori Myerchin, WBI Energy Andrea Thornton, ERM Mark Cline, ERM
Phone number	Conference call
Company	Bureau of Land Management Federal Energy Regulatory Commission WBI Energy
ERM Contact	Andrea Thornton
Phone number	503-459-6864
Date	November 14, 2109
Time of Conversation	3:00 pm EST
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Cost Recovery

Mr. Jackson stated that the Bureau of Land Management (BLM) has contacted the U.S. Forest Service (USFS) to discuss if the BLM should manage the cost recovery process for the USFS as well as the BLM. So far the agencies have been able to discuss the issue further. Mr. Jackson stated that based on past experience there are many reasons why the BLM should not collect funds for the USFS. Unfortunately, if collected, the BLM lacks clear policy parameters for distributing the funds to other agencies. That said, Mr. Jackson stated that most federal agencies have established guidance to collect cost recovery for themselves. Ms. Thornton agreed to contact the USFS to determine if cost recovery could be initiated directly between WBI Energy and the USFS.

Sample Plan of Development (POD)

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Prior to this conference call, Ms. Thornton forwarded a sample POD for the MVP Project to Mr. Jackson and Ms. Balsom **[see email dated November 8, 2019]**. Mr. Jackson stated he reviewed it and agrees it is an appropriate template. Mr. Jackson stated that the POD development would be iterative and would be acceptable if the design was at least 30 percent complete. For the initial draft the BLM would focus on the description to meet National Environmental Policy Act (NEPA) requirements. Since FERC is the lead federal agency to complete NEPA, they would set the schedule. As for content, the POD would need to describe the whole project but focus on the federal land crossings as long as the critical components of the FERC application was also included as an appendix to the POD.

Schedule

Mr. Jackson asked what the FERC's review schedule was. Ms. Balsom stated about 18 months. The analysis typically takes about 8 to 9 months after the application is submitted but depends on data requests. The Commission will vote about 2 months after the Environmental Assessment is finished.

From: Andrea Thornton
To: Jackson, Seth; Mark Cline
Subject: RE: WBI North Bakken Pipeline -- ROW Width
Date: Friday, December 13, 2019 12:32:00 PM
Attachments: image001.png

Hi Seth,

I had a call with Cale at the Forest Service earlier today to discuss the right-of-way width topic. I will be going back to WBI with his suggestions and we will amend the ROW Application as needed based on those discussions.

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Jackson, Seth <sajackson@blm.gov>
Sent: Friday, December 13, 2019 12:07 PM
To: Andrea Thornton <Andrea.Thornton@erm.com>; Mark Cline <Mark.Cline@erm.com>
Subject: WBI North Bakken Pipeline -- ROW Width

Hi Andrea and Mark,

I received the BLM ROW Application for the above project. Thank you.

Just to confirm, the requested ROW width is 50 feet across USACE and USFS lands, and an additional 50-foot width for construction, is that correct?

The 100-foot ROW isn't sitting well with the USFS. Is there an opportunity to bring that width down tighter, particularly in the bored segments? Could we do a 50-foot ROW with a 30-foot construction permit?

Thank you.

Seth A. Jackson
Realty Specialist
Bureau of Land Management | Billings Field Office
(also temporarily handling North Dakota Field Office realty matters)

5001 Southgate Drive | Billings, Montana 59101
406-896-5052 (direct) | 406-896-5281 (fax)
sajackson@blm.gov

ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	Seth Jackson, Bureau of Land Management
Phone number	701-227-7711
Company	Bureau of Land Management
ERM Contact	Andrea Thornton
Phone number	503-459-6864
Date	January 14, 2020
Time of Conversation	8:45 am PST
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Ms. Thornton called Mr. Jackson to check in on the status of the BLM filing the position to take over the lead on the North Bakken Expansion Project. Mr. Jackson indicated that the position has yet to be filled and that he will continue to work on the project for the time being. Ms. Thornton inquired about the status of Cost Recovery paperwork and Mr. Jackson indicated that he had not processed the paper work yet but should be able to yet this week. Lastly Ms. Thornton and Mr. Jackson discussed the project being classified as a “Major Project” by the BLM given the pipeline diameter crossing federal lands is 24 inches. Mr. Jackson noted that we will get more information on the implications of this for the upcoming FERC bi-weekly call.

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WBI ENERGY TRANSMISSION, INC.
1250 West Century Ave.
P.O. Box 5601
Bismarck, ND 58506-5601
(701) 530-1600
www.wbienergy.com

February 14, 2020

Seth Jackson
Bureau of Land Management
Billings Field Office
5001 Southgate Drive
Billings, Montana 59101

Re: WBI Energy Transmission, Inc.
North Bakken Expansion Project
Bureau of Land Management Right-of-Way Grant

Mr. Jackson,

Enclosed is a Plan of Development being submitted by WBI Energy Transmission Inc. (WBI Energy) for the North Bakken Expansion Project (Project). This Plan of Development supports WBI Energy's SF-299 application submitted on November 22, 2019 for a Right-of-Way Grant to cross two federal lands:

- U.S. Army Corps of Engineers (USACE) Garrison Project - Lake Sakakawea and;
- U.S. Forest Service (USFS) Little Missouri National Grassland.

The enclosed Plan of Development conforms to the outline described in the Bureau of Land Management's regulations (43 CFR Subpart 2884) and identified potential Project impacts and proposed mitigation on federal lands. Additional information related to the Project off federal lands is provided in WBI Energy's application to Federal Energy Regulatory Commission.

We look forward to working with you as the Project moves forward. WBI Energy appreciates your assistance and review of the enclosed materials and should you have questions or require additional information during your review, please contact Jill Linn (406) 359-7332 or Mark Cline of Environmental Resources Management at (412) 402-8101 or mark.cline@erm.com.

Respectfully submitted,

Jill Linn
Environmental Manager
WBI Energy Transmission, Inc.

Enclosure:
Bureau of Land Management Plan of Development

Cc:

Greg Huncovsky, WBI
Andrea Thornton, ERM
Mark Cline, ERM

NORTH BAKKEN EXPANSION PROJECT

Resource Report 1

APPENDIX 1G-1
Agency Correspondence – U.S. Army Corps of Engineers (USACE)

Lisa DiNicolantonio

From: Andrea Thornton
Sent: Monday, March 18, 2019 8:55 AM
To: Buechler, Casey R CIV USARMY CENWO (US)
Subject: RE: NEW Project - WBI Energy - Geotech (UNCLASSIFIED)

Hi Casey –

I wanted to confirm that we are still on for our meeting next week on March 27th to discuss the geotechnical survey permitting process for the North Bakken Expansion Project. Additionally, is there anything specific that you need from us for the meeting, either logistically or content wise?

I look forward to discussing the project more next week.

Thanks again,
Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



-----Original Appointment-----
From: Buechler, Casey R CIV USARMY CENWO (US) <Casey.R.Buechler@usace.army.mil>
Sent: Monday, March 11, 2019 1:28 PM
To: Andrea Thornton; Linn, Jill; Nielsen, Wade; Atwell, Patrick C CIV USARMY CENWO (US); Kruger, Heath Robert CIV USARMY CENWO (US); Shelman, Johnathan A CIV USARMY CENWO (US); Podkowka, Rebecca L CIV USARMY CENWO (USA); Renschler, Jason J CIV USARMY CENWO (US); McQueary, Patricia L CIV USARMY CENWO (US); Stonesifer, Alfred C CIV USARMY CENWO (US); Thury, Jeremy J CIV USARMY CENWO (US); Morris, Michael P CIV USARMY CENWO (US); Rogers, Richard R II CIV USARMY CENWO (US); Kjelstrup, Taryn L CIV USARMY CENWO (US)
Subject: NEW Project - WBI Energy - Geotech (UNCLASSIFIED)
When: Wednesday, March 27, 2019 1:00 PM-2:00 PM (UTC-06:00) Central Time (US & Canada).
Where: Riverdale Conf Room

CLASSIFICATION: UNCLASSIFIED
I was contacted by Andrea Thornton of Environmental Resources Mgt. ERM is the firm assisting WBI Energy with the North Bakken Expansion Project (HDD under Lake Sakakawea) near Tobacco Gardens. The geotechnical investigation is now in the planning stages, and this kick off meeting will give us a better understanding of the geotechnical scope and the USACE will outline the permitting process.

Attached is the correspondence I have received thus far from WBI Energy.

Conference Call Phone Number	8 7 7 4 0 2 9 7 5 7
Access Code	5 6 4 4 5 2 7
Host Code	7 1 1 1
Security Code	1 2 3 4

CLASSIFICATION: UNCLASSIFIED

WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

April 15, 2019

Jason Renschler
U.S. Army Corps of Engineers, Omaha District
3319 University Drive
Bismarck, ND 58504

Subject: WBI Energy Transmission, Inc.
Proposed North Bakken Expansion Project
McKenzie, Williams, Burke, and Mountrail Counties, North Dakota

Dear Jason Renschler:

WBI Energy Transmission, Inc. (WBI Energy) is proposing to construct and operate the North Bakken Expansion Project (Project), which consists of an approximately 60-mile-long, 20-inch diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to an interconnect with Northern Border Pipeline Company's mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Compressor Station) will be constructed near this interconnect.

The Project also involves construction of approximately 20 miles of 12-inch diameter natural gas pipeline between the existing Tioga Compressor Station and an existing receipt station, the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and additional/modifications to certain receipt/delivery points and laterals along the pipeline routes. The attached map depicts the preliminary proposed pipeline route and the location of Project facilities.

The Project will add natural gas takeaway capacity (estimated at approximately 200,000 Mcf/day) to help meet the natural gas transportation needs in the Bakken region while reducing natural gas flaring.

The Project is regulated by the Federal Energy Regulatory Commission (FERC) under Section 7(c) of the Natural Gas Act. Under the Energy Policy Act of 2005, FERC is the lead agency for coordinating federal authorizations and complying with the National Environmental Policy Act (NEPA) on natural gas pipeline

projects subject to its jurisdiction. WBI Energy plans to submit an application with the FERC in December 2019 for a Certificate of Public Convenience and Necessity (Certificate) to construct and operate the proposed pipeline and associated facilities. Applications for other federal or state authorizations will be submitted prior to or at the same time as the FERC application or on timelines defined by the appropriate federal or state regulations. WBI Energy anticipates receiving a Certificate from the FERC by December 2020, with construction planned to begin in early 2021.

WBI Energy plans to file a request with the FERC to use the FERC's NEPA pre-filing process for the Project. This process will provide agencies, landowners, and other stakeholders the opportunity to work with WBI Energy and the FERC to identify and resolve environmental issues prior to the filing of the Certificate application. This will result in a more efficient regulatory review process, including NEPA review of the Project. Pending FERC approval, WBI Energy anticipates preparing a draft Environmental Assessment (EA) for use by FERC staff. WBI Energy looks forward to working with you throughout the pre-filing process to ensure that your concerns are identified and addressed in the draft EA.

WBI Energy has retained Environmental Resources Management (ERM) to provide environmental support services for the project. An ERM representative will be in touch with you in the near future to provide additional information and discuss specific permitting and/or consultation requirements. In the meantime, if you have questions about the project, please contact Andrea Thornton of ERM at 503-525-5159 or myself at 406-359-7332.

Thank you for your time and assistance with this project.

Sincerely,



Jill Linn
Environmental Affairs
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map

cc: Greg Huncovsky, WBI
Andrea Thornton, ERM



Miles
0 1.75 3.5 7

N

1 in = 3 miles

Project Overview Map

North Bakken Expansion Project
WBI Energy

WBI ENERGY TRANSMISSION

Legend

- Above Ground Facilities
- Road Bores for Uprating Existing Pipeline
- Proposed Tioga to Elk Creek Compressor Pipeline
- Proposed Norse to Tioga Loop Pipeline
- Northern Border Pipeline
- Existing WBI Pipeline

Burke County
Mountrail County
Williams County
McKenzie County

North Dakota

PROJECT AREA OVERVIEW



By: SMS

Path: F:\GIS\Projects_Authorized\North_Bakken_Expansion_Project\Northern_Bakken_Expansion_24X36_2.mxd

1:214,000 - when Printed on 24X36

Date: 4/10/2019

WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

April 15, 2019

Casey Buechler
U.S. Army Corps of Engineers Omaha District – Garrison Project
201 1st Street
Riverdale, ND 58565

Subject: WBI Energy Transmission, Inc.
Proposed North Bakken Expansion Project
McKenzie, Williams, Burke, and Mountrail Counties, North Dakota

Dear Casey Buechler:

WBI Energy Transmission, Inc. (WBI Energy) is proposing to construct and operate the North Bakken Expansion Project (Project), which consists of an approximately 60-mile-long, 20-inch diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to an interconnect with Northern Border Pipeline Company's mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Compressor Station) will be constructed near this interconnect.

The Project also involves construction of approximately 20 miles of 12-inch diameter natural gas pipeline between the existing Tioga Compressor Station and an existing receipt station, the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and additional/modifications to certain receipt/delivery points and laterals along the pipeline routes. The attached map depicts the preliminary proposed pipeline route and the location of Project facilities.

The Project will add natural gas takeaway capacity (estimated at approximately 200,000 Mcf/day) to help meet the natural gas transportation needs in the Bakken region while reducing natural gas flaring.

The Project is regulated by the Federal Energy Regulatory Commission (FERC) under Section 7(c) of the Natural Gas Act. Under the Energy Policy Act of 2005, FERC is the lead agency for coordinating federal authorizations and complying with the National Environmental Policy Act (NEPA) on natural gas pipeline

projects subject to its jurisdiction. WBI Energy plans to submit an application with the FERC in December 2019 for a Certificate of Public Convenience and Necessity (Certificate) to construct and operate the proposed pipeline and associated facilities. Applications for other federal or state authorizations will be submitted prior to or at the same time as the FERC application or on timelines defined by the appropriate federal or state regulations. WBI Energy anticipates receiving a Certificate from the FERC by December 2020, with construction planned to begin in early 2021.

WBI Energy plans to file a request with the FERC to use the FERC's NEPA pre-filing process for the Project. This process will provide agencies, landowners, and other stakeholders the opportunity to work with WBI Energy and the FERC to identify and resolve environmental issues prior to the filing of the Certificate application. This will result in a more efficient regulatory review process, including NEPA review of the Project. Pending FERC approval, WBI Energy anticipates preparing a draft Environmental Assessment (EA) for use by FERC staff. WBI Energy looks forward to working with you throughout the pre-filing process to ensure that your concerns are identified and addressed in the draft EA.

WBI Energy has retained Environmental Resources Management (ERM) to provide environmental support services for the project. An ERM representative will be in touch with you in the near future to provide additional information and discuss specific permitting and/or consultation requirements. In the meantime, if you have questions about the project, please contact Andrea Thornton of ERM at 503-525-5159 or myself at 406-359-7332.

Thank you for your time and assistance with this project.

Sincerely,



Jill Linn
Environmental Affairs
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map

cc: Greg Huncovsky, WBI
Andrea Thornton, ERM



Miles
0 1.75 3.5 7

N

1 in = 3 miles

Project Overview Map

North Bakken Expansion Project
WBI Energy

WBI ENERGY TRANSMISSION
An MDU Resources Group company

Legend

- Above Ground Facilities
- Road Bores for Uprating Existing Pipeline
- Proposed Tioga to Elk Creek Compressor Pipeline
- Proposed Norse to Tioga Loop Pipeline
- Northern Border Pipeline
- Existing WBI Pipeline

Burke County
Mountrail County
Williams County
McKenzie County

North Dakota

PROJECT AREA OVERVIEW



By: SMS

Path: F:\GIS\Projects_Authorized\North_Bakken_Expansion_Project\Northern_Bakken_Expansion_24X36_2.mxd

1:214,000 - when Printed on 24X36

Date: 4/10/2019

From: Ed Schneider
To: Richard.R.Rogers@usace.army.mil
Cc: Pat Robblee
Subject: WBI Northern Bakken Expansion Pipeline
Date: Friday, May 3, 2019 3:45:00 PM
Attachments: image001.png

Mr. Rogers,

ERM will be conducting archaeological investigations on behalf of WBI Energy Transmission, Inc.. The Northern Bakken Expansion pipeline is approximately 85 miles long in Burke, McKenzie, Mountrail, and Williams Counties, North Dakota, and the lead federal agency is FERC. The USACE is the landowner of about 2.2 miles in McKenzie County on the south side of the Missouri River. I would like to submit an ARPA permit for the pipeline route on those lands. The permit will not include the geotechnical drilling process for the HDD under the river.

I would appreciate it if you please email me the ARPA permit you would like me to use, and any additional information I might need in order to complete it.

Thank you.

Ed Schneider
Senior Archaeologist

ERM
3300 Breckinridge Blvd., Suite 300, Duluth, GA 30096
T +1 (678) 781-1370 | **M** (307) 399-6724
ed.schneider@erm.com

ERM *The business of sustainability*

From: Rogers, Richard R II CIV USARMY CENWO (US)
Sent: Wednesday, May 8, 2019 9:37 AM
To: 'Ed Schneider' <Ed.Schneider@erm.com>
Cc: Moscarello, Megan J CIV USARMY CENWO (US) <Megan.J.Moscarello@usace.army.mil>; Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Subject: RE: WBI Northern Bakken Expansion Pipeline (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Good morning,

Attached is an electronic copy of the USACE ARPA permit application. In reference to our conversation earlier, item 9 on the blank permit identifies the "proposed time of performance" - I would recommend that you identify Dec 31, 2021 in this section.

Best,

Rick Rogers

Richard R. Rogers
USACE NWO, Garrison Project
Archeologist
201 1st Street, Rm 210
Riverdale, ND 58565
Richard.R.Rogers@usace.army.mil
Office: (701) 654-7744
Cell: (701) 301-0018

From:	Rogers, Richard R II CIV USARMY CENWO (US)
To:	Ed Schneider
Cc:	Moscarello, Megan J CIV USARMY CENWO (US); Thury, Jeremy J CIV USARMY CENWO (USA)
Subject:	RE: WBI Northern Bakken Expansion Pipeline (UNCLASSIFIED)
Date:	Wednesday, May 8, 2019 11:09:34 AM
Attachments:	Garrison_COGO_bndy.zip Garrison_COGO_Boundary.shp.kmz

---

CLASSIFICATION: UNCLASSIFIED

FYI I have attached the USACE COGO boundary for your reference. There is a 70' variance with this dataset, but it should give you an idea of where the USACE land is in relation to your project area.

Best,

Rick Rogers

Richard R. Rogers
USACE NWO, Garrison Project
Archeologist
201 1st Street, Rm 210
Riverdale, ND 58565
Richard.R.Rogers@usace.army.mil
Office: (701) 654-7744
Cell: (701) 301-0018

Lisa DiNicolantonio

From: Kjelstrup, Taryn L CIV USARMY CENWO (US) <Taryn.L.Kjelstrup@usace.army.mil>
Sent: Thursday, May 9, 2019 8:51 AM
To: Andrea Thornton
Subject: RE: North Bakken Expansion Project - USACE Owned Lands (UNCLASSIFIED)

Hi Andrea,
No part of Section 12 is located on USACE property.
Taryn

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Thursday, May 9, 2019 7:48 AM
To: Kjelstrup, Taryn L CIV USARMY CENWO (US) <Taryn.L.Kjelstrup@usace.army.mil>
Cc: Ed Schneider <Ed.Schneider@erm.com>
Subject: [Non-DoD Source] RE: North Bakken Expansion Project - USACE Owned Lands (UNCLASSIFIED)

Hi Taryn,

Can you confirm if parcel 153-97-12-078 is owned by the COE. It was not included in the shapefile that you sent earlier this week.

Thanks,
Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | W Blockedwww.erm.com

-----Original Message-----
From: Kjelstrup, Taryn L CIV USARMY CENWO (US) <Taryn.L.Kjelstrup@usace.army.mil>
Sent: Monday, May 06, 2019 12:10 PM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: FW: North Bakken Expansion Project - USACE Owned Lands (UNCLASSIFIED)

Andrea,

Hopefully this is helpful. See attached.

Taryn

-----Original Message-----

From: Rogers, Richard R II CIV USARMY CENWO (US)
Sent: Monday, May 6, 2019 12:02 PM
To: Kjelstrup, Taryn L CIV USARMY CENWO (US) <Taryn.L.Kjelstrup@usace.army.mil>
Cc: Stonesifer, Alfred C CIV USARMY CENWO (US) <Alfred.C.Stonesifer@usace.army.mil>
Subject: RE: North Bakken Expansion Project - USACE Owned Lands (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Hey Taryn,

You can send them the attached file, it's our COGO boundary so there may be up to 70 feet variance FYI.

Best,

Rick

_____

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From:	Ed Schneider
To:	Richard.R.Rogers@usace.army.mil
Cc:	Andrea Thornton; Pat Robblee
Subject:	ARPA Permit Application
Date:	Thursday, May 9, 2019 1:13:00 PM
Attachments:	ERM ARPA Permit Application WBI NB Expansion Project.pdf image002.png

---

Rick,

Attached is the pdf copy of ERM's ARPA permit application for the proposed WBI Northern Bakken Expansion project. A hard copy of the application is being sent out to you today. Please let me know if you need anything from me.

Thanks.

Ed

Ed Schneider
Senior Archaeologist

ERM
3300 Breckinridge Blvd., Suite 300, Duluth, GA 30096
T +1 (678) 781-1370 | **M** (307) 399-6724
ed.schneider@erm.com



-----Original Message-----
From: Ed Schneider [mailto:Ed.Schneider@erm.com]
Sent: Monday, May 20, 2019 13:09
To: Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>
Subject: [Non-DoD Source] WBI Northern Bakken Expansion

Attached is the current centerline route for the WBI Northern Bakken Expansion project. Mileposts and the 300 ft wide survey corridor are also in the zip file. Please let me know if you need anything else.

Ed

_____

Ed Schneider
Senior Archaeologist

ERM
3300 Breckinridge Blvd., Suite 300, Duluth, GA 30096
T +1 (678) 781-1370 | M (307) 399-6724
ed.schneider@erm.com <mailto:ed.schneider@erm.com>

-----Original Message-----
From: Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>
Sent: Monday, May 20, 2019 3:03 PM
To: Ed Schneider <Ed.Schneider@erm.com>
Cc: Moscarello, Megan J CIV USARMY CENWO (US) <Megan.J.Moscarello@usace.army.mil>; Barnum, Sandra V CIV USARMY CENWO (US) <Sandra.V.Barnum@usace.army.mil>
Subject: RE: WBI Northern Bakken Expansion (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Good afternoon Ed,

Thanks for getting the shapefiles to me so quickly! I gave your ARPA permit application a quick review this morning and I noticed you have a couple of caveats about collection, lab analysis, and curation. The Omaha District does not generally permit collection of artifacts on Corps Land during Class III survey work, so if you could please resubmit your permit application and identify a "no collection without permission" caveat I will continue to process this application. Of course considerations to the collection rule can be made in rare circumstances, but that would occur on a case-by case basis.

If you have any questions about the permitting process, or need to get ahold of me for other questions, feel free to contact me by phone or email.

Cheers,

Rick

Richard R. Rogers
USACE NWO, Garrison Project
Archeologist
201 1st Street, Rm 210
Riverdale, ND 58565
Richard.R.Rogers@usace.army.mil
Office: (701) 654-7744
Cell: (701) 301-0018

From: Ed Schneider
To: Rogers, Richard R II CIV USARMY CENWO (US)
Cc: Moscarello, Megan J CIV USARMY CENWO (US); Barnum, Sandra V CIV USARMY CENWO (US)
Subject: RE: WBI Northern Bakken Expansion (UNCLASSIFIED)
Date: Monday, May 20, 2019 3:40:00 PM
Attachments: ERM ARPA Permit Application WBI NB Expansion Project 5-20-19.pdf

Rick,

Attached is the edited ARPA permit to state that "No collection of artifacts will occur without the permission of USACE". I'll get the hard copy sent out to you today. Thanks.

Ed

_____
Ed Schneider
Senior Archaeologist
ERM
Ed.schneider@erm.com
Mobile: (307) 399-6724
_____

Lisa DiNicolantonio

From: Andrea Thornton
Sent: Tuesday, May 28, 2019 7:53 AM
To: Thury, Jeremy J CIV USARMY CENWO (USA); Morris, Michael P CIV USARMY CENWO (USA)
Cc: Rogers, Richard R II CIV USARMY CENWO (US)
Subject: RE: North Bakken Expansion Project Agency Call

Hi Jeremy –

Thank you for letting me know that the Doodle Poll link is not working on your end. Here are the days/times (in Central time) that were presented in the poll.

Monday June 3	Tuesday June 4	Wednesday June 5	Thursday June 6	Friday June 7
10 to 11:30	10 to 11:30	10 to 11:30	10 to 11:30	10 to 11:30
11:30 to 1	11:30 to 1	11:30 to 1	11:30 to 1	11:30 to 1
1 to 2:30	1 to 2:30	1 to 2:30	1 to 2:30	1 to 2:30
3 to 4:30	3 to 4:30	3 to 4:30	3 to 4:30	3 to 4:30

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



Lisa DiNicolantonio

From: Andrea Thornton
Sent: Wednesday, May 29, 2019 7:38 AM
To: Thury, Jeremy J CIV USARMY CENWO (USA); Morris, Michael P CIV USARMY CENWO (USA)
Subject: RE: RE: North Bakken Expansion Project Agency Call

Thanks Jeremy -

I will be sending the meeting invitation out later today. If I schedule the call for the 7th do you think yourself or someone from your office will be able to attend?

Thanks,
Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | W www.erm.com

-----Original Message-----
From: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Sent: Tuesday, May 28, 2019 8:01 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>; Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>
Subject: RE: RE: North Bakken Expansion Project Agency Call

Thanks Andrea,

I am out from 05/30-06/06 and tentatively back on the 7th.

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Tuesday, May 28, 2019 9:53 AM
To: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>; Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>
Cc: Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>
Subject: [Non-DoD Source] RE: North Bakken Expansion Project Agency Call

Hi Jeremy -

Thank you for letting me know that the Doodle Poll link is not working on your end. Here are the days/times (in Central time) that were presented in the poll.

Monday June 3

Tuesday June 4

Wednesday June 5

Thursday June 6

Friday June 7

10 to 11:30

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1 to 2:30

1 to 2:30

3 to 4:30

3 to 4:30

3 to 4:30

3 to 4:30

3 to 4:30

Andrea Thornton

Senior Regulatory Consultant

ERM

M +503-459-6864

E andrea.thornton@erm.com <mailto:andrea.thornton@erm.com> | W Blockedwww.erm.com <Blockedhttp://www.erm.com/>

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Lisa DiNicolantonio

From: Andrea Thornton
Sent: Thursday, May 30, 2019 9:16 AM
To: Thury, Jeremy J CIV USARMY CENWO (USA); Morris, Michael P CIV USARMY CENWO (USA); Rogers, Richard R II CIV USARMY CENWO (US)
Subject: North Bakken Expansion Project - Geotech Permitting Call

Good Morning,

After ERM's discussion with Jeremy and Michael last week on the ESA requirements for the Geotech Permitting we would like to follow-up with a broader team call to discuss project status and schedule for the on water geotech permitting. We should be receiving some preliminary information from CCI late next week and would like to have the call on Friday June 14th if that works for people's schedules.

Please let me know if you would be available on the 14th for a call.

Thank you,
Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



Lisa DiNicolantonio

From: Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>
Sent: Friday, May 31, 2019 1:18 PM
To: Andrea Thornton; Thury, Jeremy J CIV USARMY CENWO (USA); Rogers, Richard R II CIV USARMY CENWO (US)
Subject: RE: North Bakken Expansion Project - Geotech Permitting Call

Follow Up Flag: Follow up
Flag Status: Completed

Good Afternoon Andrea,
My schedule is currently open on the 14th. Jeremy is on leave next week, however his electronic calendar shows he is available. Rick is gone for the week, but will return Monday. Thank-you and have a good weekend!

Mike

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Thursday, May 30, 2019 11:16 AM
To: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>; Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>; Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>
Subject: [Non-DoD Source] North Bakken Expansion Project - Geotech Permitting Call

Good Morning,

After ERM's discussion with Jeremy and Michael last week on the ESA requirements for the Geotech Permitting we would like to follow-up with a broader team call to discuss project status and schedule for the on water geotech permitting. We should be receiving some preliminary information from CCI late next week and would like to have the call on Friday June 14th if that works for people's schedules.

Please let me know if you would be available on the 14th for a call.

Thank you,

Andrea

Andrea Thornton

Senior Regulatory Consultant

ERM

M +503-459-6864

E andrea.thornton@erm.com <mailto:andrea.thornton@erm.com> | W Blockedwww.erm.com <Blockedhttp://www.erm.com/>

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NORTH BAKKEN EXPANSION PROJECT
CONFERENCE CALL NOTES

MEETING TOPIC:
Geotechnical Survey Permitting

DATE OF MEETING:
June 14, 2019 at 11:00 a.m. CST (9:00 a.m. PST) – Project Conference Call

ATTENDEES:

WBI Energy Transmission, LLC (WBI)
Dave Linn
Jill Linn
Greg Huncovsky
Kyle Stefka

Environmental Resources Management (ERM)
Andrea Thornton
Wade Hammer
Tina Lyons

U.S. Army Corps of Engineers (USACE)
Michael Morris
Richard Rogers
Jeremy Thury

MEETING NOTES:

- ERM provided an update on the current status of CCI & Associates Inc.'s (CCI) Geotechnical Drilling Plan for the Lake Sakakawea horizontal directional drill. ERM has received the locations of the in-water bore. It is anticipated that CCI will provide the final plan sometime the following week. ERM estimates that the entire permit package will be ready approximately 2 weeks after receipt of CCI's plan (currently estimating submitting the permit package by mid-July).

- ERM inquired about whether an Archaeological Resource Protection Act (ARPA) Permit would be required for the staging areas within the tobacco gardens (on state land). The USACE confirmed no ARPA Permit is required for state lands but WBI/ERM would still need to ensure no cultural resources are present in those areas.

- ERM confirmed the anticipated contents of the upcoming permit package that would be uploaded to the website and inquired whether any other forms would be required. The permit package is currently anticipated to include the following (re-confirmed via email after the call):

    - Project Plans and Designs (CCI)
        - Geotechnical Drilling Plan
        - Spill Response Plan
    - Maps and GIS data in shapefile format (CCI for shapefiles, ERM for maps)
    - Engineering Form 4345 (ERM)
    - Biological Assessment (ERM)
    - Cultural resource survey results (ERM)

- The USACE provided an initial review/approval timeline for the permit package of 90 to 180 days (30 to 60 days for PA process, 30 to 60 days for district and section 408 review, and 30 to 60 days for real estate license). The USACE will confirm the permit package requirements/contents and will take a closer look at the review/approval timeline accordingly.

- ERM confirmed that both an over-ice option and a non-over ice option will be considered due to the timeline and possible winter construction. The USACE cautioned that no previous inquiries to its office to do the over-ice option have worked (due to the ice thickness requirement [30 inches minimum]).

Lisa DiNicolantonio

From: Andrea Thornton
Sent: Friday, June 14, 2019 9:25 AM
To: Thury, Jeremy J CIV USARMY CENWO (USA); Morris, Michael P CIV USARMY CENWO (USA); Rogers, Richard R II CIV USARMY CENWO (US)
Subject: Permit Package List

Good Morning,

As a follow-up to our call this morning here is the list of items that I have for inclusion in the permit package. Let me know if there is anything else that needs to be added.

- Project Plans and Designs
  - Geotech Drilling Plan
  - Spill Response Plan
- Maps and GIS data in shapefile format
- Engineering form 4345
- Biological Assessment
- Cultural Resource Survey Results (did not mention this on the phone, but these would also be included)

Thanks,
Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



Lisa DiNicolantonio

From: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Sent: Tuesday, June 18, 2019 10:50 AM
To: Justin Moffett; Morris, Michael P CIV USARMY CENWO (USA)
Cc: Andrea Thornton; Leslie Rodman-Jaramillo
Subject: RE: WBI Energy: Proposed North Bakken Expansion Project

Justin,

Yes, please we will do a quick review to make sure there are no immediate concerns.

-----Original Message-----
From: Justin Moffett [mailto:Justin.Moffett@erm.com]
Sent: Monday, June 17, 2019 5:01 PM
To: Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>; Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>; Leslie Rodman-Jaramillo <leslie.rodmanjaramillo@erm.com>
Subject: [Non-DoD Source] RE: WBI Energy: Proposed North Bakken Expansion Project

Mike and Jeremy,
We've starting to get some information from WBI's consultant about the location, timing, etc. of the geotech borings. Once we have all the pertinent information we'll be able to develop an Action Area (AA) for the ESA consultation. Jerry Reinisch asked that we send him the AA to so he can check it against USFWS records for pallid sturgeon occurrences in the reservoir. Would you like to review the AA before we share it with the USFWS?
Thanks.

Justin T. Moffett, PWS
Principal Consultant

Environmental Resources Management (ERM) M 971-645-9941 E Justin.Moffett@erm.com | W Blockedwww.erm.com

-----Original Message-----
From: Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>
Sent: Tuesday, May 28, 2019 6:22 AM
To: Justin Moffett <Justin.Moffett@erm.com>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>; Leslie Rodman-Jaramillo <leslie.rodmanjaramillo@erm.com>
Subject: RE: WBI Energy: Proposed North Bakken Expansion Project

Morning Justin, et al,
Looks like I accidently cut a letter off the link when I cut and pasted. Try this...
Blockedhttps://clicktime.symantec.com/3Rr5BrgRF1YXmfqCDXLvap36H2?u=https%3A%2F%2Frsgisias.crrel.usace.army.mil%2Ftpdms

Thanks,
Mike

-----Original Message-----
From: Justin Moffett [mailto:Justin.Moffett@erm.com]
Sent: Friday, May 24, 2019 4:47 PM

To: Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>; Leslie Rodman-Jaramillo <leslie.rodmanjaramillo@erm.com>
Subject: [Non-DoD Source] RE: WBI Energy: Proposed North Bakken Expansion Project

Thanks Mike.
We're unable to access the link you provided. We get a "404 Page not found" message when we click the link. Can you double check the link?
Thanks.

Justin T. Moffett, PWS
Principal Consultant

Environmental Resources Management (ERM) M 971-645-9941 E Justin.Moffett@erm.com | W BlockedBlockedwww.erm.com

-----Original Message-----
From: Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>
Sent: Friday, May 24, 2019 11:20 AM
To: Justin Moffett <Justin.Moffett@erm.com>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>; Leslie Rodman-Jaramillo <leslie.rodmanjaramillo@erm.com>; Sterling, Scott T CIV USARMY CENWO (USA) <Scott.T.Sterling@usace.army.mil>; Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>; Hofer, Chantel M CIV USARMY CENWO (USA) <Chantel.M.Hofer@usace.army.mil>; Wallace, Arthur L Jr CIV USARMY CENWO (US) <A.Luke.Wallace@usace.army.mil>
Subject: RE: WBI Energy: Proposed North Bakken Expansion Project

Justin,
Attached please find an example of a table of contents we agreed to forward in our conference call earlier this week. You can request access to the tern and plover data management system through the link below.

BlockedBlockedhttps://clicktime.symantec.com/3WRGZuJZkjxw9PaKRqEuoAN6H2?u=https%3A%2F%2Frsgisias.crrel.usace.army.mil%2Ftpdm

If you have any additional questions, feel free to contact our office. Thank-you...

Mike

-----Original Message-----
From: Justin Moffett [mailto:Justin.Moffett@erm.com]
Sent: Monday, May 20, 2019 6:11 PM
To: Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>; Leslie Rodman-Jaramillo <leslie.rodmanjaramillo@erm.com>; Sterling, Scott T CIV USARMY CENWO (USA) <Scott.T.Sterling@usace.army.mil>; Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Subject: [Non-DoD Source] RE: WBI Energy: Proposed North Bakken Expansion Project

Hi Mike,
I'll send you, Scott, and Jeremy a meeting invite for Thursday (5/23) at 11am CST (9am PST).
Thanks.

Justin T. Moffett, PWS

Principal Consultant

Environmental Resources Management (ERM) M 971-645-9941 E Justin.Moffett@erm.com | W BlockedBlockedBlockedwww.erm.com

-----Original Message-----
From: Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>
Sent: Monday, May 20, 2019 8:04 AM
To: Justin Moffett <Justin.Moffett@erm.com>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>; Leslie Rodman-Jaramillo <leslie.rodmanjaramillo@erm.com>; Sterling, Scott T CIV USARMY CENWO (USA) <Scott.T.Sterling@usace.army.mil>; Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Subject: RE: WBI Energy: Proposed North Bakken Expansion Project

Good Morning Justin,
Let's try and schedule a call for Thursday please. I currently have a 1 pm and we have a two hour time difference between our offices, so anytime between 10-12 am CST or after 2 pm would work on this end. Let me know what works best for you and your crew. Thanks!

Mike

-----Original Message-----
From: Justin Moffett [mailto:Justin.Moffett@erm.com]
Sent: Friday, May 17, 2019 11:58 AM
To: Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>; Leslie Rodman-Jaramillo <leslie.rodmanjaramillo@erm.com>
Subject: [Non-DoD Source] WBI Energy: Proposed North Bakken Expansion Project

Good morning Mike,

My name is Justin Moffett and my company ERM is assisting WBI Energy with its FERC application for the proposed North Bakken Expansion Project. In March you participated in a meeting with WBI staff and ERM's project manager Andrea Thornton (cc'd) regarding the proposed geotechnical investigation (drilling) for the Lake Sakakawea crossing. Andrea and I would like to follow up with you regarding the ESA consultation requirements for that permit application. We've been in touch with Jerry Reinisch at the USFWS regarding the overall project and he stated USFWS does have data for pallid sturgeon, piping plover, and least tern occurrences along the reservoir. However, we'd also like to discuss with you any additional listed-species occurrence data the Corps may have for the reservoir.

Are you available next Thursday (5/23) or Friday (5/24) for a phone call to discuss the geotechnical drilling permit and ESA consultation? If so send me a few time slots that work for you. I estimate we'd need 30-45 minutes for the call.

Feel free to call me if you have any questions.

Thanks and have a nice weekend.

Justin T. Moffett, PWS

Principal Consultant

Environmental Resources Management (ERM)

1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204

M 971-645-9941

E Justin.Moffett@erm.com <mailto:Justin.Moffett@erm.com> | W BlockedBlockedBlockedBlockedwww.erm.com <BlockedBlockedBlockedBlockedhttp://www.erm.com/>

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This message contains information which may be confidential, proprietary, privileged, or otherwise protected by law from disclosure or use by a third party. If you have received this message in error, please contact us immediately at (303) 741-5050 and take the steps necessary to delete the message completely from your computer system. Thank you.

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-----Original Message-----
From: Ed Schneider [mailto:Ed.Schneider@erm.com]
Sent: Tuesday, July 2, 2019 15:43
To: Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>
Subject: [Non-DoD Source] FW: WBI Northern Bakken Expansion

Rick,

I wanted to check in with you about ERM's pending ARPA permit for the WBI Northern Bakken Expansion project. Please let me know if you need anything from me.

Ed

_____
Ed Schneider
Senior Archaeologist

ERM
Ed.schneider@erm.com <mailto:Ed.schneider@erm.com>
Mobile: (307) 399-6724

ERM

1000 IDS Center
80 South Eighth Street
Minneapolis, MN 55402

Telephone: +1 612 347 6789
Fax: +1 612 347 6780

www.erm.com

Call Log

Log of Telephone Conversation

ERM

Call To/From Whom	Rick Rogers
Phone number	701-654-7744
Company	USACE
ERM Contact	Ed Schneider
Phone number	307-399-6724
Date	July 3, 2019
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Ed Schneider called USACE archaeologist Rick Rogers on July 3, 2019 to discuss the status of USACE review of ERM's ARPA permit application. Rick said he has no questions or concerns with the application, but is holding off on issuing the permit for two reasons. First, he said the USACE previously requested information on the project from WBI and is awaiting a response. Second, Rick said he's waiting for a notification from FERC as lead federal agency for the project prior to issuing the permit.

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ERM

1000 IDS Center
80 South Eighth Street
Minneapolis, MN 55402

Telephone: +1 612 347 6789
Fax: +1 612 347 6780

www.erm.com

Call Log

Log of Telephone Conversation

ERM

Call To/From Whom	Rick Rogers
Phone number	701-654-7744
Company	USACE
ERM Contact	Pat Robblee
Phone number	612-840-8976
Date	July 11, 2019
Time of Conversation	Morning
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

I called Mr. Rogers to discuss USACE review of ERM's application for an ARPA survey permit for the WBI Energy North Bakken Expansion Project.

- Rick said the USACE has insufficient information with which to open a file for the project. He said that all the USACE has received from WBI so far is an introductory project letter. Rick said he can't issue an ARPA permit until he can tie it to an actual project, which could be the pipeline project as a whole or the in-water geotech work needed by WBI Energy to design the HDD beneath Lake Sakakawea.
- I advised Rick that WBI Energy is planning to submit an application to the USACE for the in-water geotech work under NWP 6, and that the onshore workspace needed to support the in-water geotech is in an area that was previously surveyed for archaeological sites and previously used as staging for other projects.
- Prior to issuing an ARPA permit, Rick said he will send a letter to other federal and state agencies and tribes describing the proposed project and the purpose of the archaeological survey to be completed on federal lands.
- Rick said he has spoken with other agencies about the project, specifically mentioning the BLM. He said that other agencies are either unaware or only generally aware of the project.
- Prior to issuing an ARPA perm, Rick said he needs a description of the proposed project (or for the geotech, a description of the proposed boring activities).
- Rick asked about the status of tribal consultation on the project. I provided Rick with a brief overview of WBI Energy's communications with tribes to date (including WBI Energy's discussions with two tribes regarding tribal participation in surveys). Rick expressed concern that government-to-government consultation with tribes has not started. He said several tribes will be interested in the project, specifically mentioning the Cheyenne River Sioux and Rosebud Sioux. I let Rick know that the Cheyenne River Sioux sent a letter to

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FERC, and that WBI received a letter from the Rosebud Sioux. Rick said several tribes will probably ask to participate in the surveys, specifically mentioning the Cheyenne River Sioux.

- I let Rick know that FERC has formally started its review of the project and opened a docket. I told him he can expect to hear from FERC soon. Rick said that he needs notification from the lead federal agency before he can issue an ARPA permit for the project.
- Rick said has no comments or questions on ERM's ARPA permit application. He said he can issue the permit once the outstanding issues noted above are resolved.
- Rick asked if the two new laterals will cross any federal lands. I told him I was not aware of any crossings of federal lands on the laterals at this time.

WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

July 17, 2019

0279

Jeremy Thury
U.S. Army Corps of Engineers Omaha District – Garrison Project
201 1st Street
Riverdale, ND 58565

Subject: WBI Energy Transmission, Inc.
Invitation to Public Open House for the Proposed North Bakken Expansion Project

Dear Jeremy Thury:

WBI Energy Transmission, Inc. (WBI Energy) would like to cordially invite you to attend an open house meeting in your area regarding our proposed plan to build, own and operate the North Bakken Expansion Project (Project).

On June 28, 2019, WBI Energy requested use of the Federal Energy Regulatory Commission's (FERC) pre-filing review process for its proposed North Bakken Expansion Project (FERC Docket No. PF19-7-000). The FERC, the lead federal agency responsible for authorizing the Project, approved WBI Energy's pre-filing request on July 3, 2019. WBI Energy expects to file a formal application for the Project in early 2020.

The Project consists of an approximately 60 mile-long, 20-inch diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to a new interconnect with Northern Border Pipeline Company's mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Creek Compressor Station) will be constructed near this interconnect.

The Project also involves construction of approximately 20 miles of 12-inch diameter natural gas pipeline between the existing Tioga Compressor Station and an existing receipt station along WBI Energy's existing Line Section 25, approximately 10 miles of 12-inch diameter natural gas pipeline along WBI Energy's existing Line Section 30, and an approximately 10 mile, 12-inch diameter natural gas pipeline lateral from WBI Energy's existing Line Section 7.

Additionally, the Project includes the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and the installation of new and modifications to receipt/delivery points and lateral pipeline facilities along the pipeline routes. The attached map depicts the locations of the currently proposed Project facilities. Note that additional facilities have been added to the Project since WBI Energy's initial outreach for the Project earlier this year.

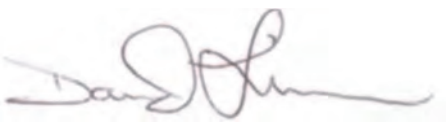
The Project will add natural gas takeaway capacity (estimated at approximately 300,000 Mcf/day) to help meet the natural gas transportation needs in the Bakken region while reducing natural gas flaring.

To provide additional information about the Project and receive stakeholder input, WBI Energy will host public open houses. This will be an informal opportunity to receive project-related materials, view detailed maps and displays, meet with the Project team experts and share your feedback before a formal application is submitted to the FERC. We welcome you to attend any one of the open houses at the dates, times and locations indicated below.

North Bakken Expansion Project Public Open Houses	
Tuesday, August 6 **Location: Tioga**	**Wednesday, August 7** **Location: Watford City**
Neset Consulting Service 6844 State Highway 40 Tioga, North Dakota 58852 11:00 am-1:00 pm and 5:00-7:00 pm	Watford City Civic Center 213 2nd St NE Watford City, North Dakota 58854 11:00 am-1:00 pm and 5:00-7:00 pm

If you have any questions regarding the North Bakken Expansion Project, please contact the Project team at the toll-free number 1-844-825-9397. We look forward to working with you on the Project and seeing you at an upcoming open house.

Sincerely,



David Linn
Project Manager
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map

WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

July 17, 2019

0278

Jason Renschler
U.S. Army Corps of Engineers, Omaha District
3319 University Dr
Bismarck, ND 58504-7565

Subject: WBI Energy Transmission, Inc.
Invitation to Public Open House for the Proposed North Bakken Expansion Project

Dear Jason Renschler:

WBI Energy Transmission, Inc. (WBI Energy) would like to cordially invite you to attend an open house meeting in your area regarding our proposed plan to build, own and operate the North Bakken Expansion Project (Project).

On June 28, 2019, WBI Energy requested use of the Federal Energy Regulatory Commission's (FERC) pre-filing review process for its proposed North Bakken Expansion Project (FERC Docket No. PF19-7-000). The FERC, the lead federal agency responsible for authorizing the Project, approved WBI Energy's pre-filing request on July 3, 2019. WBI Energy expects to file a formal application for the Project in early 2020.

The Project consists of an approximately 60 mile-long, 20-inch diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to a new interconnect with Northern Border Pipeline Company's mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Creek Compressor Station) will be constructed near this interconnect.

The Project also involves construction of approximately 20 miles of 12-inch diameter natural gas pipeline between the existing Tioga Compressor Station and an existing receipt station along WBI Energy's existing Line Section 25, approximately 10 miles of 12-inch diameter natural gas pipeline along WBI Energy's existing Line Section 30, and an approximately 10 mile, 12-inch diameter natural gas pipeline lateral from WBI Energy's existing Line Section 7.

Additionally, the Project includes the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and the installation of new and modifications to receipt/delivery points and lateral pipeline facilities along the pipeline routes. The attached map depicts the locations of the currently proposed Project facilities. Note that additional facilities have been added to the Project since WBI Energy's initial outreach for the Project earlier this year.

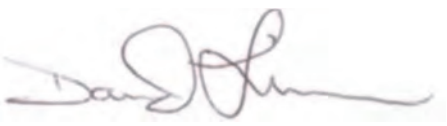
The Project will add natural gas takeaway capacity (estimated at approximately 300,000 Mcf/day) to help meet the natural gas transportation needs in the Bakken region while reducing natural gas flaring.

To provide additional information about the Project and receive stakeholder input, WBI Energy will host public open houses. This will be an informal opportunity to receive project-related materials, view detailed maps and displays, meet with the Project team experts and share your feedback before a formal application is submitted to the FERC. We welcome you to attend any one of the open houses at the dates, times and locations indicated below.

North Bakken Expansion Project Public Open Houses	
Tuesday, August 6 **Location: Tioga**	**Wednesday, August 7** **Location: Watford City**
Neset Consulting Service 6844 State Highway 40 Tioga, North Dakota 58852 11:00 am-1:00 pm and 5:00-7:00 pm	Watford City Civic Center 213 2nd St NE Watford City, North Dakota 58854 11:00 am-1:00 pm and 5:00-7:00 pm

If you have any questions regarding the North Bakken Expansion Project, please contact the Project team at the toll-free number 1-844-825-9397. We look forward to working with you on the Project and seeing you at an upcoming open house.

Sincerely,



David Linn
Project Manager
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map

Lisa DiNicolantonio

From: Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>
Sent: Tuesday, July 23, 2019 10:29 AM
To: Justin Moffett; Reinisch, Jerry
Cc: Andrea Thornton; Leslie Rodman-Jaramillo; Linn, Jill (Jill.Linn@wbienergy.com); Huncovsky, Greg; Wade Hammer; Marc Cottingham; Thury, Jeremy J CIV USARMY CENWO (USA); Wallace, Arthur L Jr CIV USARMY CENWO (US); Sterling, Scott T CIV USARMY CENWO (USA)
Subject: RE: WBI Energy: Proposed North Bakken Expansion Project Geotech Drilling Action Area

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: Blue Category

Morning Justin, et al,
I received an update this week from Luke down in our District Office on a source for possible example documents. "Examples of documents, including biological assessments, can be found on the Corps' Planning website at the following link
https://eur01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.nwo.usace.army.mil%2FMissions%2FCivil-Works%2FPlanning%2FProject-Reports%2F&data=02%7C01%7CAndrea.Thornton%40erm.com%7C349ac090b88d4118092808d70f937023%7Cf2fe6bd39c4a485bae69e18820a88130%7C0%7C1%7C636994998262311111&sdata=hgHcZB6aIXDaD9lRLTDIb6yfnQfwq4WZa5%2Fpw%2FHzZtI%3D&reserved=0 ." Use the search function to find examples of similar projects. Biological assessments can typically be found in one of the appendices of the main documents." Please let us know if you have any additional questions. Thank-you...

Mike

-----Original Message-----
From: Justin Moffett [mailto:Justin.Moffett@erm.com]
Sent: Wednesday, July 17, 2019 4:47 PM
To: Reinisch, Jerry <jerry_reinisch@fws.gov>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>; Leslie Rodman-Jaramillo <leslie.rodmanjaramillo@erm.com>; Linn, Jill (Jill.Linn@wbienergy.com) <Jill.Linn@wbienergy.com>; Huncovsky, Greg <Greg.Huncovsky@WBIEnergy.com>; Wade Hammer <Wade.Hammer@erm.com>; Marc Cottingham <Marc.Cottingham@erm.com>; Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>; Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Subject: [Non-DoD Source] RE: WBI Energy: Proposed North Bakken Expansion Project Geotech Drilling Action Area

Hi Jerry,
Per your conversation with Mike Morris earlier today, please find the attached Google Earth kmz file containing the draft Action Area (AA) and location for the six proposed geotechnical drillings. Can you please review this action area against your Pallid sturgeon occurrence data and let us know if the species is present?
I understand from your voicemail today that you will be out of the office starting tomorrow through next Wednesday so I'll follow up with you next week.
Thanks.

Justin T. Moffett, PWS
Principal Consultant

Environmental Resources Management (ERM) M 971-645-9941 E Justin.Moffett@erm.com | W Blockedwww.erm.com

-----Original Message-----
From: Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>
Sent: Wednesday, July 17, 2019 11:43 AM
To: Justin Moffett <Justin.Moffett@erm.com>; Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>; Wallace, Arthur L Jr CIV USARMY CENWO (US) <A.Luke.Wallace@usace.army.mil>; Sterling, Scott T CIV USARMY CENWO (USA) <Scott.T.Sterling@usace.army.mil>; Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>; Reinisch, Jerry <jerry_reinisch@fws.gov>; Stonesifer, Alfred C CIV USARMY CENWO (US) <Alfred.C.Stonesifer@usace.army.mil>; Grundman, Jonas L CIV USARMY CENWO (US) <Jonas.Grundman@usace.army.mil>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>; Leslie Rodman-Jaramillo <leslie.rodmanjaramillo@erm.com>; Linn, Jill (Jill.Linn@wbienergy.com) <Jill.Linn@wbienergy.com>; Huncovsky, Greg <Greg.Huncovsky@WBIEnergy.com>; Wade Hammer <Wade.Hammer@erm.com>; Marc Cottingham <Marc.Cottingham@erm.com>
Subject: RE: WBI Energy: Proposed North Bakken Expansion Project Geotech Drilling Action Area

Justin, et al,
Thank-you for sending the draft Action Area and the update on the schedule for the draft BA and geotechnical drilling application and other supporting materials. We do not have any comments on the draft Action Area at this time. Please forward to Jerry so he can advise on any potential pallid sturgeon concerns. I spoke with him earlier today and copied him on this e-mail chain. Feel free to forward the draft BA. We will review as time permits. Add Luke Wallace and Scott Sterling to the distribution. Please note we typically do not provide example BAs from previous customers without their consent. If anyone has any questions, feel free to contact our office. Thank-you...

Mike

-----Original Message-----
From: Justin Moffett [mailto:Justin.Moffett@erm.com]
Sent: Monday, July 15, 2019 5:21 PM
To: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>; Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>; Leslie Rodman-Jaramillo <leslie.rodmanjaramillo@erm.com>; Linn, Jill (Jill.Linn@wbienergy.com) <Jill.Linn@wbienergy.com>; Huncovsky, Greg <Greg.Huncovsky@WBIEnergy.com>; Wade Hammer <Wade.Hammer@erm.com>; Marc Cottingham <Marc.Cottingham@erm.com>
Subject: [Non-DoD Source] RE: WBI Energy: Proposed North Bakken Expansion Project Geotech Drilling Action Area

Hi Jeremy & Mike,
I just wanted to check back in with you and lay out our schedule for submitting WBI's geotechnical drilling application and biological assessment (BA). We plan to submit the draft application and BA to WBI for their review on Monday (7/22). In order to complete the draft BA we need to submit the Action Area to Jerry Reinisch at USFWS so he can determine presence/absence of Pallid sturgeon within the AA. So at your earliest convenience please let us know if you have any questions or concerns about the Action Area we submitted to you last Thursday. Once we've addressed WBI's comments we'll formally submit to you the geotechnical drilling application (Engineering form 4345), BA, and other supporting materials, likely by the middle to end of next week. Please let us know if you'd like to review a draft of the BA before we formally submit it with the application.

Jeremy and I spoke on Friday and he requested that WBI schedule a meeting with the Corps and Peggy, the owner of the Tobacco Garden Marina. I checked the marina webpage and it looks like Peg Hellendsass is the owner (701-842-4199). I assume this is the same Peg (Peggy) to whom Jeremy referred? If so we'll work to schedule that meeting ASAP.

Lastly I'll be out of the office July 18-24 so Andrea Thornton (ERM's Project Manager, 503-525-5159) will likely be the one to email you the application and BA. While I'm out please contact her if you have any questions and cc all those included on this email.
Thank you.

Justin T. Moffett, PWS
Principal Consultant

Environmental Resources Management (ERM) M 971-645-9941 E Justin.Moffett@erm.com | W BlockedBlockedwww.erm.com

-----Original Message-----
From: Justin Moffett
Sent: Thursday, July 11, 2019 12:17 PM
To: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>; Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>; Leslie Rodman-Jaramillo <leslie.rodmanjaramillo@erm.com>; Linn, Jill (Jill.Linn@wbienergy.com) <Jill.Linn@wbienergy.com>; Huncovsky, Greg <Greg.Huncovsky@WBIEnergy.com>
Subject: WBI Energy: Proposed North Bakken Expansion Project Geotech Drilling Action Area

Hi Mike and Jeremy,
Please find the attached Google Earth kmz file containing the draft Action Area (AA) and location for the six proposed geotechnical drilling locations. For a bit of context on how we created the AA, WBI's contractor plans to stage equipment and assemble their modular drilling barge at the Tobacco Gardens boat ramp. From there the barge would be floated out to each of the six drill locations. The barge would be temporarily moored at each drill location using three temporary spuds/piles. The barge would remain on the water for the duration of the drilling (estimated to be 20-30 calendar days). Crews would work 24 hours/day in 10-12 hour shifts so there would be two to three motorboat trips/day between Tobacco Gardens and the drill locations to swap out the crews. The exact schedule will be determined once all permits are obtained, but drilling would likely occur in fall 2019 or spring 2020.

To account for potential noise related disturbance to terns & plovers we extended the AA 1,000 meters upstream and downstream of the drill locations. This distance is based on literature review in recent USFWS BOs. The USFWS recommended a time of year restriction for construction activities near piping plover nesting habitat and included a 1,000-m buffer between work activities and plovers exhibiting breeding behaviors when they needed to work for an unspecified amount of time at beginning, or end, of breeding season. The 1,000 meter distance also seemed adequate for potential effects to pallid sturgeon from drilling vibration/noise and turbidity.

Please let us know if you have any questions or comments on this AA. Also, in the interest of meeting FWS and USACE's expectations on the BA, please let me know if you have any example BA's your agency has submitted for similar permits that you are able to share with us.
Thanks.

Justin T. Moffett, PWS
Principal Consultant

Environmental Resources Management (ERM) M 971-645-9941 E Justin.Moffett@erm.com | W BlockedBlockedwww.erm.com

-----Original Message-----
From: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Sent: Tuesday, June 18, 2019 10:50 AM
To: Justin Moffett <Justin.Moffett@erm.com>; Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>; Leslie Rodman-Jaramillo <leslie.rodmanjaramillo@erm.com>
Subject: RE: WBI Energy: Proposed North Bakken Expansion Project

Justin,

Yes, please we will do a quick review to make sure there are no immediate concerns.

-----Original Message-----
From: Justin Moffett [mailto:Justin.Moffett@erm.com]
Sent: Monday, June 17, 2019 5:01 PM
To: Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>; Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>; Leslie Rodman-Jaramillo <leslie.rodmanjaramillo@erm.com>
Subject: [Non-DoD Source] RE: WBI Energy: Proposed North Bakken Expansion Project

Mike and Jeremy,
We've starting to get some information from WBI's consultant about the location, timing, etc. of the geotech borings. Once we have all the pertinent information we'll be able to develop an Action Area (AA) for the ESA consultation. Jerry Reinisch asked that we send him the AA to so he can check it against USFWS records for pallid sturgeon occurrences in the reservoir. Would you like to review the AA before we share it with the USFWS?
Thanks.

Justin T. Moffett, PWS
Principal Consultant

Environmental Resources Management (ERM) M 971-645-9941 E Justin.Moffett@erm.com | W BlockedBlockedBlockedwww.erm.com

-----Original Message-----
From: Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>
Sent: Tuesday, May 28, 2019 6:22 AM
To: Justin Moffett <Justin.Moffett@erm.com>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>; Leslie Rodman-Jaramillo <leslie.rodmanjaramillo@erm.com>
Subject: RE: WBI Energy: Proposed North Bakken Expansion Project

Morning Justin, et al,
Looks like I accidently cut a letter off the link when I cut and pasted. Try this...
BlockedBlockedBlockedhttps://clicktime.symantec.com/3Rr5BrgRF1YXmfqCDXLvap36H2?u=https%3A%2F%2Frsgisias.crrel.usace.army.mil%2Ftpdms

Thanks,
Mike

-----Original Message-----
From: Justin Moffett [mailto:Justin.Moffett@erm.com]
Sent: Friday, May 24, 2019 4:47 PM
To: Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>

Cc: Andrea Thornton <Andrea.Thornton@erm.com>; Leslie Rodman-Jaramillo <leslie.rodmanjaramillo@erm.com>
Subject: [Non-DoD Source] RE: WBI Energy: Proposed North Bakken Expansion Project

Thanks Mike.
We're unable to access the link you provided. We get a "404 Page not found" message when we click the link. Can you double check the link?
Thanks.

Justin T. Moffett, PWS
Principal Consultant

Environmental Resources Management (ERM) M 971-645-9941 E Justin.Moffett@erm.com | W BlockedBlockedBlockedBlockedwww.erm.com

-----Original Message-----
From: Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>
Sent: Friday, May 24, 2019 11:20 AM
To: Justin Moffett <Justin.Moffett@erm.com>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>; Leslie Rodman-Jaramillo <leslie.rodmanjaramillo@erm.com>; Sterling, Scott T CIV USARMY CENWO (USA) <Scott.T.Sterling@usace.army.mil>; Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>; Hofer, Chantel M CIV USARMY CENWO (USA) <Chantel.M.Hofer@usace.army.mil>; Wallace, Arthur L Jr CIV USARMY CENWO (US) <A.Luke.Wallace@usace.army.mil>
Subject: RE: WBI Energy: Proposed North Bakken Expansion Project

Justin,
Attached please find an example of a table of contents we agreed to forward in our conference call earlier this week. You can request access to the tern and plover data management system through the link below.

BlockedBlockedBlockedBlockedhttps://clicktime.symantec.com/3WRGZuJZkjxw9PaKRqEuoAN6H2?u=https%3A%2F%2Frsgisias.crrel.usace.army.mil%2Ftpdm

If you have any additional questions, feel free to contact our office. Thank-you...

Mike

-----Original Message-----
From: Justin Moffett [mailto:Justin.Moffett@erm.com]
Sent: Monday, May 20, 2019 6:11 PM
To: Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>; Leslie Rodman-Jaramillo <leslie.rodmanjaramillo@erm.com>; Sterling, Scott T CIV USARMY CENWO (USA) <Scott.T.Sterling@usace.army.mil>; Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Subject: [Non-DoD Source] RE: WBI Energy: Proposed North Bakken Expansion Project

Hi Mike,
I'll send you, Scott, and Jeremy a meeting invite for Thursday (5/23) at 11am CST (9am PST).
Thanks.

Justin T. Moffett, PWS
Principal Consultant

Environmental Resources Management (ERM) M 971-645-9941 E Justin.Moffett@erm.com | W BlockedBlockedBlockedBlockedBlockedwww.erm.com

-----Original Message-----
From: Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>
Sent: Monday, May 20, 2019 8:04 AM
To: Justin Moffett <Justin.Moffett@erm.com>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>; Leslie Rodman-Jaramillo <leslie.rodmanjaramillo@erm.com>; Sterling, Scott T CIV USARMY CENWO (USA) <Scott.T.Sterling@usace.army.mil>; Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Subject: RE: WBI Energy: Proposed North Bakken Expansion Project

Good Morning Justin,
Let's try and schedule a call for Thursday please. I currently have a 1 pm and we have a two hour time difference between our offices, so anytime between 10-12 am CST or after 2 pm would work on this end. Let me know what works best for you and your crew. Thanks!

Mike

-----Original Message-----
From: Justin Moffett [mailto:Justin.Moffett@erm.com]
Sent: Friday, May 17, 2019 11:58 AM
To: Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>; Leslie Rodman-Jaramillo <leslie.rodmanjaramillo@erm.com>
Subject: [Non-DoD Source] WBI Energy: Proposed North Bakken Expansion Project

Good morning Mike,

My name is Justin Moffett and my company ERM is assisting WBI Energy with its FERC application for the proposed North Bakken Expansion Project. In March you participated in a meeting with WBI staff and ERM's project manager Andrea Thornton (cc'd) regarding the proposed geotechnical investigation (drilling) for the Lake Sakakawea crossing. Andrea and I would like to follow up with you regarding the ESA consultation requirements for that permit application. We've been in touch with Jerry Reinisch at the USFWS regarding the overall project and he stated USFWS does have data for pallid sturgeon, piping plover, and least tern occurrences along the reservoir. However, we'd also like to discuss with you any additional listed-species occurrence data the Corps may have for the reservoir.

Are you available next Thursday (5/23) or Friday (5/24) for a phone call to discuss the geotechnical drilling permit and ESA consultation? If so send me a few time slots that work for you. I estimate we'd need 30-45 minutes for the call.

Feel free to call me if you have any questions.

Thanks and have a nice weekend.

Justin T. Moffett, PWS

Principal Consultant

Environmental Resources Management (ERM)

1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204

M 971-645-9941

E Justin.Moffett@erm.com <mailto:Justin.Moffett@erm.com> | W BlockedBlockedBlockedBlockedBlockedBlockedwww.erm.com <BlockedBlockedBlockedBlockedBlockedBlockedhttp://www.erm.com/>

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Lisa DiNicolantonio

From: Renschler, Jason J CIV USARMY CENWO (USA) <Jason.J.Renschler@usace.army.mil>
Sent: Thursday, July 25, 2019 3:09 PM
To: Andrea Thornton
Subject: RE: North Bakken Expansion Project - Bi-Weekly Calls with FERC

Follow Up Flag: Follow up
Flag Status: Flagged

Afternoon Andrea – please include me as a regular attendee on the bi-weekly calls for the project. Once there is a schedule established, I will adjust my schedule and block those days/times out in order to attend. I may not be able to make all of them but they will be prioritized in my schedule, as with numerous other FERC projects that I was POC for. Thanks, Jason.

701-255-0015 ext.2010.

From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Thursday, July 25, 2019 12:28 PM
To: Renschler, Jason J CIV USARMY CENWO (USA) <Jason.J.Renschler@usace.army.mil>; Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>; jessica_n_johnson@fws.gov; jerry_reinisch@fws.gov; sajackson@blm.com; Bickerdyke, Cale E -FS <cale.bickerdyke@usda.gov>; Grotte, Kim -FS <kim.grotte@usda.gov>; todd.hagel@nd.usda.gov
Cc: Arianne Balsom <Arianne.balsom@ferc.gov>
Subject: [Non-DoD Source] North Bakken Expansion Project - Bi-Weekly Calls with FERC

Good Morning,

As you know WBI Energy filed their pre-filing request letter for the North Bakken Expansion Project (Project) with FERC on June 28, 2019. FERC accepted the request on July 3, 2019 which starts the pre-filing process for the Project. As we have discussed, as part of this process, FERC will host bi-weekly conference calls with WBI Energy and any agencies interested in participating in the pre-filing process. This is a way for your agency to stay informed about the Project and ask questions as they may arise. When we spoke earlier this summer, some of you were not sure if you were interested in participating in this process.

We are looking to start these bi-weekly calls the week of August 8th. For those of you who are interested, please let me know by August 1st if there are any days of the week/times that would not work for you for a 1 hour call. We will be scheduling these calls across multiple time zones and will do our best to ensure those who are interested are able to participate.

Please feel free to reach out if you have any questions.

Thank you and we look forward to working with you on this project.

-Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** Blockedwww.erm.com



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ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	To: Jeremy Thury
Phone number	701-654-7761
Company	U.S. Army Corps of Engineers – Garrison Office
ERM Contact	Wade Hammer
Phone number	612-359-5684
Date	July 26, 2019
Time of Conversation	12:30 p.m.
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Mr. Hammer called Mr. Thury to discuss the the Nationwide Permit 6, pre-construction notification (PCN) that WBI Energy was preparing to submit. Mr. Hammer inquired about general condition 31 pertaining to Section 408 and U.S. Army Corps Civil Works projects. Mr. Hammer indicated that he had reviewed the national levee database and there were none in the area of the proposed geotechnical work within Lake Sakakawea. Mr. Hammer also noted that the geotechnical work was being planned to avoid the historic Missouri River channel, which should prevent perceived impacts on navigation impacts. With these two review considerations, and given the scope of the in-water geotechnical work that WBI Energy was proposing was going to occur over the water within Lake Sakakawea, Mr. Hammer asked if Mr. Thury saw and need to consider a Section 408 review. Mr. Thury stated that he thought that based on the scope of work regarding the geotechnical work within the lake that had been previously discussed there would be no need to do a formal Section 408 review. Mr. Thury said that for the full pipeline project it would be required, but in reference to only the geotechnical work he did not see a need for a formal Section 408 review. Mr. Thury indicated that generally the threshold for requesting a formal Section 408 review was generally when an Environmental Assessment or greater triggered impact threshold is met. He said this was a general rule of thumb. Mr. Hammer thanked Mr. Thury for his time and the helpful discussion, and indicated that the PCN would likely be submitted very soon, and the call ended.

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Lisa DiNicolantonio

From: Andrea Thornton
Sent: Monday, July 29, 2019 12:48 PM
To: Thury, Jeremy J CIV USARMY CENWO (USA)
Cc: Linn, Dave; Huncovsky, Greg; Linn, Jill; Stefka, Kyle; Wade Hammer
Subject: North Bakken Expansion Geotech Survey Work Permit Application - Part 1
Attachments: Part1_North Bakken Expansion_NWP 6 Permit Application_072919.pdf

Good Afternoon –

Per our conversation on July 26 regarding the submittal of WBI Energy's permit application files for the proposed geotechnical survey work on Lake Sakakawea I am submitted the files via email. The combined permit application is too large to email all at once so I will be sending it in two separate emails. The file attached includes the following:

- Cover Letter
- Signed Eng. Form 4345
- Figures
- Attachment 1 – Geotechnical Boring Work Plan
- Attachment 2 – Nationwide Permit General and Regional Conditions Summary Tables

The files in the second email will include:

- Attachment 3 – Biological Assessment
- Attachment 4 – Cultural Resource Report Summary
- Shapefiles

We look forward to your review of the enclosed documents and please let me know if you have any questions or concerns.

Thank you,
Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



WBI ENERGY TRANSMISSION, INC.
1250 West Century Ave.
P.O. Box 5601
Bismarck, ND 58506-5601
(701) 530-1600
www.wbienergy.com

July 29, 2019

Jeremy Thury
U.S. Army Corps of Engineers
Garrison Project
201 1st Street
Riverdale, ND 58565

Re: WBI Energy Transmission, Inc.
North Bakken Expansion Project
Nationwide Permit 6 Application

Mr. Thury,

WBI Energy Transmission, Inc. (WBI Energy) proposes to install a new 60-mile-long, 20-inch-diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, Williams County, North Dakota, to a new interconnect with Northern Border's mainline southeast of Watford City, McKenzie County, North Dakota. The North Bakken Expansion Project (Project) would include the crossing of Lake Sakakawea and WBI Energy proposes the lake crossing be completed using horizontal directional drilling (HDD) methodologies. To aid design of the HDD crossing under Lake Sakakawea, WBI proposes conducting geotechnical borings within the lake to characterize the soil conditions beneath the lake bed within the crossing alignment. An overview of the proposed Project lake crossing is displayed in Figure 1. WBI is working toward a schedule to complete the geotechnical work during the fall of 2019 (Attachment 1, Geotechnical Boring Work Plan). In the event seasonality or review schedules are delayed, WBI would complete the work during the spring of 2020.

WBI is submitting the enclosed pre-construction notification (PCN) and supporting materials in accordance with Nationwide Permit 6 – Survey Activities, as required in Regional Condition 4 for work within Lake Sakakawea. The materials included in this PCN submittal conform to the general NWP requirements, as well as all regional conditions. Compliance with each of the Nationwide Permit general conditions is presented in table 1, included in Attachment 2. In addition, table 2 in Attachment 2 provides a review of compliance with the applicable regional conditions for NWP 6.

The following attachments are included in this submittal:

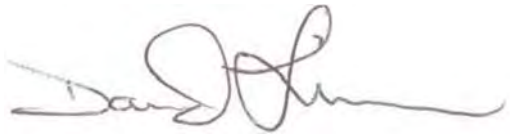
ATTACHMENTS:

- U.S. Army Corps of Engineers Form ENG4345
- Figures – Figure 1 (Overview Map), Figure 2 (Boat Ramp Detail)
- Attachment 1 – Geotechnical Boring Work Plan
- Attachment 2 – Nationwide Permit General and Regional Requirement Summary Tables (Tables 1 and 2)

- Attachment 3 – Biological Assessment
- Attachment 4 – Cultural Resource Survey Summary (General Condition 20)

WBI Energy appreciates your assistance and review of the enclosed materials and should you have questions or require additional information during your review, please contact Dave Linn (406) 359-7333.

Respectfully submitted,



Dave Linn
Senior Engineering and Projects Manager
WBI Energy Transmission, Inc.

Cc:

Greg Huncovsky, WBI

Andrea Thornton, ERM

Lisa DiNicolantonio

From: Andrea Thornton
Sent: Monday, July 29, 2019 12:52 PM
To: Thury, Jeremy J CIV USARMY CENWO (USA)
Cc: Linn, Dave; Huncovsky, Greg; Linn, Jill; Stefka, Kyle; Wade Hammer
Subject: North Bakken Expansion Geotech Survey Work Permit Application - Part 2
Attachments: Part2_North Bakken Expansion_NWP 6 Permit Application_072919.pdf; North Bakken Expansion Geotech_Shapefile_1of2.zip; North Bakken Expanion Geotech_Shapefile_2of2.zip

Hello again,

Per my earlier email, I am submitting WBI Energy's permit application files for the proposed geotechnical survey work on Lake Sakakawea. The attached pdf includes the Biological Assessment and Cultural Resource Report Summary. Two shapefiles are also attached depicting the proposed in water bore locations and associated staging areas.

Again, we look forward to your review of the permit application and please let us know if you have any questions or concerns.

Thank you,
Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



Lisa DiNicolantonio

From: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Sent: Thursday, August 1, 2019 5:00 AM
To: Andrea Thornton
Subject: RE: North Bakken Expansion Geotech Survey Work Permit Application - Part 2

Follow Up Flag: Flag for follow up
Flag Status: Completed

Sorry I missed your call Andrea,

Yes we did receive the 2 emails with the geotech application. I forwarded them yesterday to the district staff and project staff that will be included in the review.

At this time I have not had a chance to review this, I will try to do an initial review early next week and provide and comments or questions that arise.

Thanks

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Wednesday, July 31, 2019 5:57 PM
To: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Subject: [Non-DoD Source] RE: North Bakken Expansion Geotech Survey Work Permit Application - Part 2

Hi Jeremy -

I tried calling yesterday to confirm that you received the permit application files that we submitted on Monday for the North Bakken Expansion Project. If you could please let me know that the files were received it would be greatly appreciated.

Thanks,

Andrea

Andrea Thornton

Senior Regulatory Consultant

ERM

M +503-459-6864

E andrea.thornton@erm.com <mailto:andrea.thornton@erm.com> | W Blockedwww.erm.com <Blockedhttp://www.erm.com/>

From: Andrea Thornton
Sent: Monday, July 29, 2019 12:52 PM
To: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Cc: Linn, Dave <Dave.Linn@WBIEnergy.com>; Huncovsky, Greg <Greg.Huncovsky@WBIEnergy.com>; Linn, Jill <Jill.Linn@wbienergy.com>; Stefka, Kyle <Kyle.Stefka@WBIEnergy.com>; Wade Hammer <Wade.Hammer@erm.com>
Subject: North Bakken Expansion Geotech Survey Work Permit Application - Part 2

Hello again,

Per my earlier email, I am submitting WBI Energy's permit application files for the proposed geotechnical survey work on Lake Sakakawea. The attached pdf includes the Biological Assessment and Cultural Resource Report Summary. Two shapefiles are also attached depicting the proposed in water bore locations and associated staging areas.

Again, we look forward to your review of the permit application and please let us know if you have any questions or concerns.

Thank you,

Andrea

Andrea Thornton

Senior Regulatory Consultant

ERM

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Pat Robblee

From: Pat Robblee
Sent: Friday, August 02, 2019 8:10 AM
To: Richard.R.Rogers@usace.army.mil
Subject: WBI Energy - North Bakken Expansion Project

Mr. Rogers,

To follow-up on our previous call on 7-11-19 regarding WBI Energy's North Bakken Expansion Project, I wanted to let you know that WBI Energy filed with the Federal Energy Regulatory Commission (FERC) copies of its correspondence to date with federally-recognized Indian tribes. The filing package includes a summary table, copies of letters and emails, phone logs, and meeting minutes. The package can be downloaded from FERC's eLibrary website at the link below. I could also email the file to you, probably split into three or four emails due to file size. If you prefer, I could mail you copy.

Pat

Filer: WBI Energy Transmission, Inc.
WBI Energy Transmission, Inc. (as Agent)

Docket(s): PF19-7-000
Lead Applicant: WBI Energy Transmission, Inc.
Filing Type: Supplemental/Additional Information
Description: WBI Energy Transmission, Inc. submits correspondences with Native American Tribes for the North Bakken Expansion Project under PF19-7.

To view the document for this Filing, click here
https://eur01.safelinks.protection.outlook.com/?url=http%3A%2F%2Felibrary.FERC.gov%2Fidmws%2Ffile_list.asp%3Faccession_num%3D20190731-5217&data=02%7C01%7Cpat.robblee%40erm.com%7C96273e50850e4491d64e08d7167cb976%7Cf2fe6bd39c4a485bae69e18820a88130%7C0%7C0%7C637002597251275847&sdata=V18tWDwtoH9HvnXow6NmCp%2B%2FzW00zb%2FjZ9ovre9LRSM%3D&reserved=0

Patrick Robblee, R.P.A.
Project Manager

ERM
T+612 840 8976
E pat.robblee@erm.com I W www.erm.com

-----Original Message-----
From: Ed Schneider [mailto:Ed.Schneider@erm.com]
Sent: Monday, August 5, 2019 14:36
To: Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>

Subject: [Non-DoD Source] RE: WBI Northern Bakken Expansion (UNCLASSIFIED)

Rick,

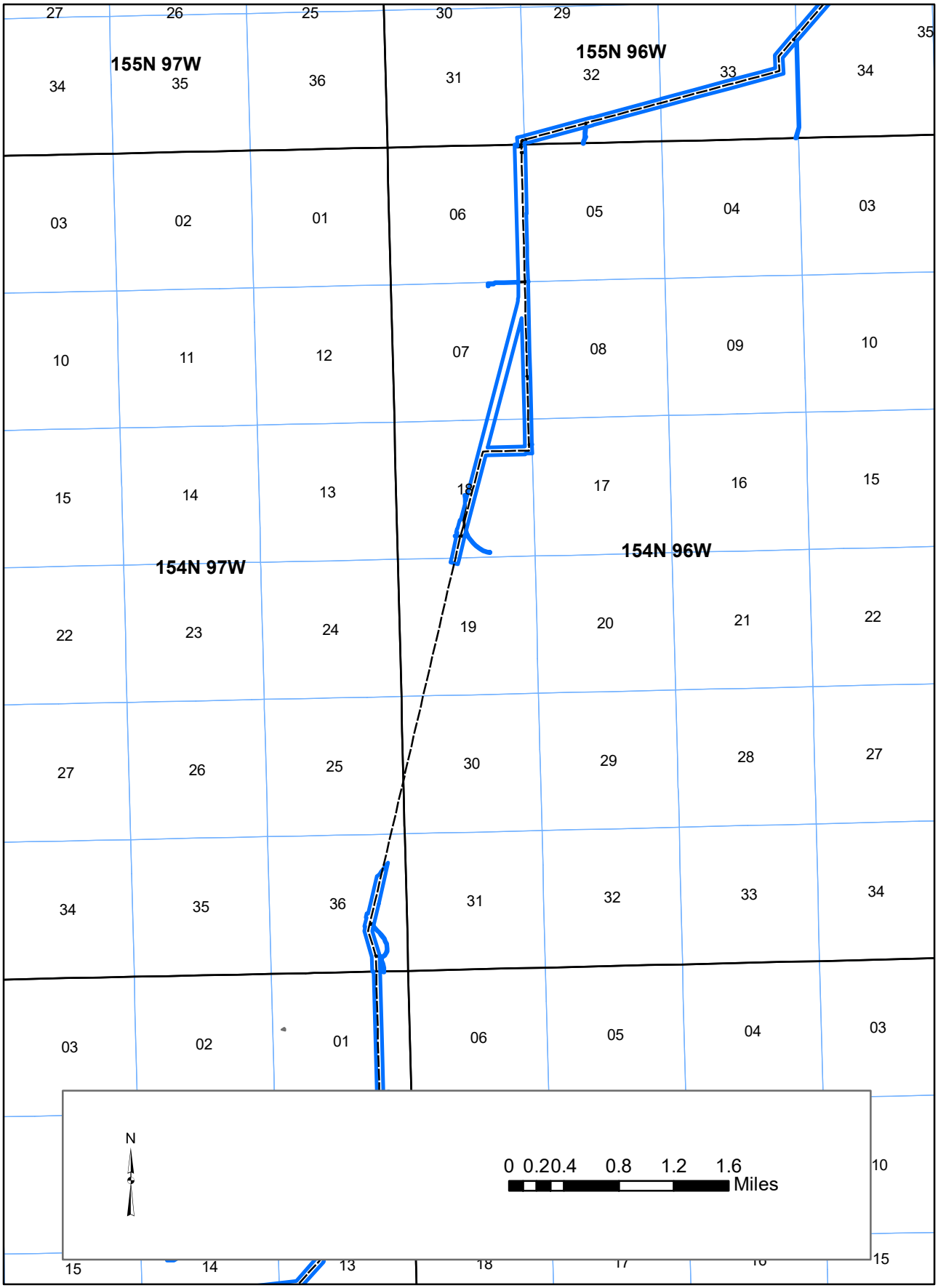
I agree about T154N 97W S 25. That is in the lake and can be removed from the permit. But, T154N R97W S 13, 24; and T 154N R96W S 31, are not within our survey area (see attached).

_____

Ed Schneider
Senior Archaeologist

ERM
Ed.schneider@erm.com
Mobile: (307) 399-6724

_____


155N 97W
155N 96W
154N 97W
154N 96W
N
0 0.20.4 0.8 1.2 1.6
Miles

Wade Hammer

From: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Sent: Tuesday, August 06, 2019 6:57 AM
To: Wade Hammer
Cc: Andrea Thornton
Subject: RE: North Bakken Expansion Project
Attachments: RE: North Bakken Expansion Project

Wade,

Thank you the log looks good and accurate.

-----Original Message-----
From: Wade Hammer [mailto:Wade.Hammer@erm.com]
Sent: Friday, August 2, 2019 5:13 PM
To: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: [Non-DoD Source] North Bakken Expansion Project

Jeremy,

Thank you again for taking time to discuss the NWP 6 pre-construction notification and the General Condition 31 considerations. Since the North Bakken Expansion Project is a FERC regulated project, we are making efforts to document our discussions around the project for filing in the FERC record. I've attempted to capt ure our call in brief summary. I compiled a call log of our conversation about Section 408 review as it pertains to the geotechnical scope of work, under NWP 6. Please review and let me know if you have any comment or requested edits before I file it away.

Thank you, and have a nice weekend.

Wade

Wade Hammer
ERM
1000 IDS Center, 80 S. 8th St l Minneapolis l MN l 55402
T+612-359-5684 l M+612-554-1970
E wade.hammer@erm.com <mailto:wade.hammer@erm.com> l W Blockedwww.erm.com <Blockedhttp://www.erm.com/>

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From: Rogers, Richard R II CIV USARMY CENWO (US)
To: Ed Schneider
Cc: Thury, Jeremy J CIV USARMY CENWO (USA); Andrea Thornton
Subject: RE: WBI Northern Bakken Expansion (UNCLASSIFIED)
Date: Wednesday, August 7, 2019 2:47:00 PM
Attachments: ERM ARPA Permit Application WBI NB Expansion Project 5-20-19.pdf
Survey_Area.cpg
Survey_Area.prj
Survey_Area.shp
Survey_Area.shx
Survey_Area.dbf
Survey_Area.sbn
Survey_Area.sbx
WBI Bakken Expansion ARPA permit map.pdf

CLASSIFICATION: UNCLASSIFIED

CLASSIFICATION: UNCLASSIFIED

Good afternoon Ed,

Attached is a shapefile, amended ARPA permit and Permit area map. I see a need for additional survey for this project that would include shoreline access should this project develop to include shoreline activity.

The total area, (including your original survey corridor), amounts to about 24 acres of USACE land within:

T154N R96 W Sections 18-19, 31; and

T154N R 97W S 36

FYI: To date I have received comments from the Rosebud Sioux Tribe, Northern Cheyenne Tribe, Spirit Lake Sioux Tribe, and the MHA Nation expressing an interest in participating in this survey work.

In addition, site 32WI0976 locates within the proposed survey corridor on the north shore. That being said, I would like to see some subsurface testing at the location of the site to determine if the site contains any intact subsurface materials given previous assessments did not include such testing.

If you have any questions, or need to get ahold of me please call my cell number listed below.

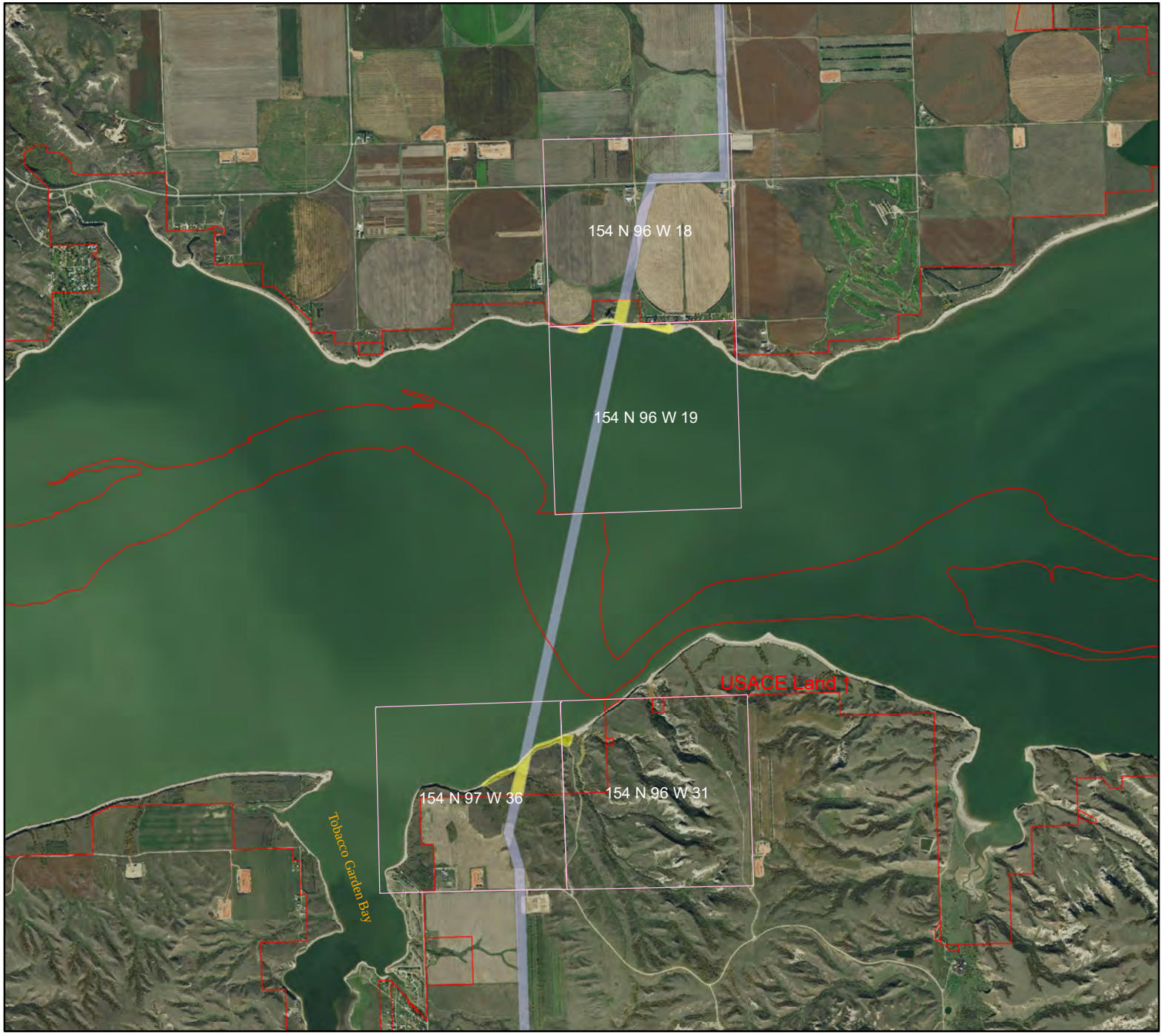
Best,

Rick Rogers

Richard R. Rogers
USACE NWO, Garrison Project
Archeologist
201 1st Street, Rm 210
Riverdale, ND 58565
Richard.R.Rogers@usace.army.mil
Office: (701) 654-7744
Cell: (701) 301-0018

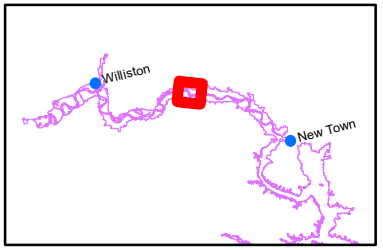
ERM ARPA Permit WBI Energy North Bakken Expansion

1:48,000



Legend

- USACE Boundary
- Additional Survey Area
- Survey Corridor



N

0.5 0 0.5

Miles

1 inch = 4,000 feet

Disclaimer: The United States government and USACE furnishes this data and the recipient accepts and uses it with the express understanding that the government makes no warranties, expressed, or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the information and data furnished. The United States shall be under no liability whatsoever to any person by reason of any use made thereof. Data displayed on this map are approximations derived from GIS layers and should not be used in place of survey data or legal land descriptions.

USACE	
OD-GA	
Produced By: Richard Rogers	US Army Corps of Engineers Omaha District
Production Date: 07 August 2019	
Revised By:	
Revision Date:	
File Location:	

2017 NAIP Imagery

From: Ed Schneider
To: Rogers, Richard R II CIV USARMY CENWO (US)
Cc: Thury, Jeremy J CIV USARMY CENWO (USA); Andrea Thornton
Subject: RE: WBI Northern Bakken Expansion (UNCLASSIFIED)
Date: Thursday, August 8, 2019 4:22:00 PM

Rick,

It all looks good to ERM and WBI. Please proceed with issuing the permit. Thanks.

Ed

Ed Schneider
Senior Archaeologist

ERM
Ed.schneider@erm.com
Mobile: (307) 399-6724

Andrea Thornton

Subject: FW: North Bakken Expansion Project - FERC Pre-Filing Bi-Weekly Call
Location: Microsoft Teams Meeting

Start: Wed 8/14/2019 10:00 AM
End: Wed 8/14/2019 11:00 AM
Show Time As: Tentative

Recurrence: Weekly
Recurrence Pattern: every 2 week(s) on Wednesday from 8:00 AM to 9:00 AM

Meeting Status: Not yet responded

Organizer: Andrea Thornton

Hi Luke –

I apologize for not including you on the original meeting invitation for the FERC bi-weekly calls that will be occurring for the North Bakken Expansion Project. If you or anyone else in your office are interested in attending our next call will be on Wednesday August 28th.

Thanks,
Andrea

-----Original Appointment-----
From: Andrea Thornton
Sent: Wednesday, August 07, 2019 5:36 AM
To: Andrea Thornton; Arianne Balsom; Renschler, Jason J CIV USARMY CENWO (USA); Thury, Jeremy J CIV USARMY CENWO (USA); jessica_n_johnson@fws.gov; jerry_reinisch@fws.gov; Jackson, Seth; Bickerdyke, Cale E -FS; Grotte, Kim -FS; krockema@nd.gov; Wax, Peter N.; Tina Lyons; Linn, Dave; Linn, Jill; Huncovsky, Greg; Myerchin, Lori; Lueder, Gay Lynn; Stennes, David; Stefka, Kyle
Cc: Dawn Ramsey; Morris, Michael P CIV USARMY CENWO (USA)
Subject: North Bakken Expansion Project - FERC Pre-Filing Bi-Weekly Call
When: Occurs every 2 week(s) on Wednesday effective 8/14/2019 until 1/1/2020 from 8:00 AM to 9:00 AM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

Good Morning –

This meeting invitation is to invite interested agencies to participate in bi-weekly calls with the Federal Energy Regulatory Commission and WBI Energy. The meetings will help interested agencies stay informed about the North Bakken Expansion Project during the pre-filing process and ask any questions that you may have about the process and project. Calls will occur every other Wednesday starting Wednesday August 14th. An agenda for the call will be sent out early next week ahead of the first meeting.

I did not hear back from everyone regarding interest in participation in the bi-weekly calls. If you are not interested, please decline the meeting invitation and I can remove you from the list.
Please let myself or Arianne Balsom (FERC Project Manager) know if you have any questions.

Thanks,
Andrea Thornton

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Conference ID: 528 436 51#

Local numbers | Reset PIN | Learn more about Teams | Meeting options



If you do not have the Teams App please use Chrome or Edge Browser. Right click and copy the Join link and paste if these are not your default browser.

Lisa DiNicolantonio

From: Andrea Thornton
Sent: Monday, August 19, 2019 1:58 PM
To: Thury, Jeremy J CIV USARMY CENWO (USA)
Subject: Permit Review Check-In

Hi Jeremy –

Do you have any availability this week to have a call with myself and Greg Huncovsky and Jill Linn with WBI Energy to discuss the geotech permit review timeline and the overall North Bakken Expansion Project 408 review process and timeline? Please let me know if there is a day/time that works well for you and we can make it work on our end.

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Ed Schneider [mailto:Ed.Schneider@erm.com]
Sent: Monday, August 19, 2019 09:59
To: Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>
Subject: [Non-DoD Source] RE: WBI Northern Bakken Expansion (UNCLASSIFIED)

Hi Rick,

I was just checking in to see when the permit will be issued so we can start coordinating field time with you and the tribes. Thanks.

Ed

_____
Ed Schneider
Senior Archaeologist

ERM
Ed.schneider@erm.com
Mobile: (307) 399-6724
_____

CLASSIFICATION: UNCLASSIFIED

Lisa DiNicolantonio

From: Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>
Sent: Tuesday, August 20, 2019 1:26 PM
To: Andrea Thornton; Ed Schneider
Cc: Moscarello, Megan J CIV USARMY CENWO (US)
Subject: RE: ARPA Permit (UNCLASSIFIED)

Follow Up Flag: Follow up
Flag Status: Flagged

CLASSIFICATION: UNCLASSIFIED

Good afternoon,

The comment period on ERM ARPA permit application is open until Aug 30 in which time I will release the permit to the real estate department for processing (anticipate mid-September for the permit). In the meantime, I have spoken to the Rosebud THPOs Ben Rhodd and Ben Young and they do want to participate in the survey work. I will be touching base with a few more THPOs this week and will be sure to pass along any comments I receive regarding the permit application to you and Ed.

Best,

Rick Rogers

Richard R. Rogers
USACE NWO, Garrison Project
Archeologist
201 1st Street, Rm 210
Riverdale, ND 58565
Richard.R.Rogers@usace.army.mil
Office: (701) 654-7744
Cell: (701) 301-0018

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Tuesday, August 20, 2019 14:09
To: Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>
Cc: Ed Schneider <Ed.Schneider@erm.com>
Subject: [Non-DoD Source] ARPA Permit

Hi Richard -

I wanted to check in regarding the ARPA permit. ERM has not seen anything come through yet after our discussions the week of the open houses and Ed's email . Is there anything you are waiting for on our end to get this processed? We know that there is going to be a lot of planning/logistics that will go into the survey so we would like to get ahead of it if possible.

Let me know if you'd like to discuss.

Thanks,

Andrea

Andrea Thornton

Principal Consultant

Environmental Resources Management (ERM)

1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204

M 503-459-6864

E andrea.thornton@erm.com <mailto:andrea.thornton@erm.com> | W Blockedwww.erm.com <Blockedhttps://eur01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.erm.com%2F&data=02%7C01%7Candrea.Thornton%40erm.com%7C9e181b8f851349c1ab4908d721a5aac4%7Cf2fe6bd39c4a485bae69e18820a88130%7C0%7C0%7C637014867736039651&sdata=Ucf8UWMabe3uu9VEj%2ByuuC2I54mWjGONr1GEhqz9AD0%3D&reserved=0>

_____

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CLASSIFICATION: UNCLASSIFIED

Lisa DiNicolantonio

From: Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>
Sent: Tuesday, August 20, 2019 3:16 PM
To: Justin Moffett
Cc: Andrea Thornton; Leslie Rodman-Jaramillo; Thury, Jeremy J CIV USARMY CENWO (USA); Wallace, Arthur L Jr CIV USARMY CENWO (US); Sterling, Scott T CIV USARMY CENWO (USA); Atwell, Patrick C CIV USARMY CENWO (USA)
Subject: RE: North Bakken Expansion Geotech Survey: Biological Assessment comments

Afternoon Justin, et al,
Jeremy and I are out of the office this week. We will provide an update, once we have a chance to visit with our colleagues from our District Office. We are working on consolidating comments. Thanks...

Mike

-----Original Message-----
From: Justin Moffett [mailto:Justin.Moffett@erm.com]
Sent: Tuesday, August 20, 2019 10:19 AM
To: Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>; Leslie Rodman-Jaramillo <leslie.rodmanjaramillo@erm.com>; Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>; Wallace, Arthur L Jr CIV USARMY CENWO (US) <A.Luke.Wallace@usace.army.mil>; Sterling, Scott T CIV USARMY CENWO (USA) <Scott.T.Sterling@usace.army.mil>
Subject: [Non-DoD Source] North Bakken Expansion Geotech Survey: Biological Assessment comments

Hi Mike,

I'm following up on couple items from our conversation last week regarding WBI's geotech BA.

1. You were hoping to complete your review of the BA and send your comment by last Friday. Can we expect your comments sometime this week?

2. Were you able to coordinate with Luke in the USACE's planning office re: his comments on the BA and anticipated schedule for submitting the BA to USFWS?

I'm around this week if you want to connect on the phone. Or you can just email me an update when you get the chance.

Thanks.

Justin T. Moffett, PWS

Principal Consultant

Environmental Resources Management (ERM)

M 971-645-9941

E Justin.Moffett@erm.com <mailto:Justin.Moffett@erm.com> | W Blockedwww.erm.com
<Blockedhttp://www.erm.com/>

From: Andrea Thornton <Andrea.Thornton@erm.com>
Sent: Monday, August 12, 2019 12:13 PM
To: Justin Moffett <Justin.Moffett@erm.com>
Subject: FW: North Bakken Expansion Geotech Survey Work Permit Application - Part 1

Andrea Thornton

Senior Regulatory Consultant

ERM

M +503-459-6864

E andrea.thornton@erm.com <mailto:andrea.thornton@erm.com> | W Blockedwww.erm.com
<Blockedhttps://eur01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.erm.com%2F&data=02%7C01%7CJustin.Moffett%40erm.com%7Cdb8862ca3eb841485b2008d71f591c3d%7Cf2fe6bd39c4a485bae69e18820a88130%7C0%7C0%7C637012340998637899&sdata=uHYqdc575yMod2Yfu9WIagEauUCJzfkJxsPqBJnfkG4%3D&reserved=0>

From: Andrea Thornton
Sent: Monday, July 29, 2019 12:48 PM
To: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil
<mailto:Jeremy.J.Thury@usace.army.mil> >
Cc: Linn, Dave <Dave.Linn@WBIEnergy.com <mailto:Dave.Linn@WBIEnergy.com> >; Huncovsky, Greg
<Greg.Huncovsky@WBIEnergy.com <mailto:Greg.Huncovsky@WBIEnergy.com> >; Linn, Jill <Jill.Linn@wbienergy.com
<mailto:Jill.Linn@wbienergy.com> >; Stefka, Kyle <Kyle.Stefka@WBIEnergy.com <mailto:Kyle.Stefka@WBIEnergy.com>
>; Wade Hammer <Wade.Hammer@erm.com <mailto:Wade.Hammer@erm.com> >

Subject: North Bakken Expansion Geotech Survey Work Permit Application - Part 1

Good Afternoon -

Per our conversation on July 26 regarding the submittal of WBI Energy's permit application files for the proposed geotechnical survey work on Lake Sakakawea I am submitted the files via email. The combined permit application is too large to email all at once so I will be sending it in two separate emails. The file attached includes the following:

* Cover Letter
* Signed Eng. Form 4345
* Figures
* Attachment 1 - Geotechnical Boring Work Plan
* Attachment 2 - Nationwide Permit General and Regional Conditions Summary Tables

The files in the second email will include:

* Attachment 3 - Biological Assessment
* Attachment 4 - Cultural Resource Report Summary
* Shapefiles

We look forward to your review of the enclosed documents and please let me know if you have any questions or concerns.

Thank you,

Andrea

Andrea Thornton

Senior Regulatory Consultant

ERM

M +503-459-6864

E andrea.thornton@erm.com <mailto:andrea.thornton@erm.com> | W Blockedwww.erm.com <Blockedhttps://eur01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.erm.com%2F&data=02%7C01%7CJustin.Moffett%40erm.com%7Cdb8862ca3eb841485b2008d71f591c3d%7Cf2fe6bd39c4a485bae69e18820a88130%7C0%7C0%7C637012340998647892&sdata=AAnv5tOH8eQk%2BZPquVWWGTZHO58N5W4UPzJZoab7Tn0%3D&reserved=0>

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Lisa DiNicolantonio

From: Andrea Thornton
Sent: Thursday, August 22, 2019 9:31 AM
To: Rogers, Richard R II CIV USARMY CENWO (US); Ed Schneider
Cc: Ben Rhodd; Ben Young; Pete Coffey
Subject: RE: WBI Northern Bakken Expansion (UNCLASSIFIED)

Thank you Rick -

I will share this information with WBI so we can get the process started for Tribal involvement for surveys on USACE lands.

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W www.erm.com

-----Original Message-----
From: Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>
Sent: Thursday, August 22, 2019 9:27 AM
To: Ed Schneider <Ed.Schneider@erm.com>
Cc: Ben Rhodd <brhodd1@yahoo.com>; Ben Young <benjamin1011young@gmail.com>; Andrea Thornton <Andrea.Thornton@erm.com>; Pete Coffey <pcoffey@mhanation.com>
Subject: RE: WBI Northern Bakken Expansion (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Good morning,

I just wanted to pass along the contact info for Ben Rhodd (Rosebud THPO). Mr. Rhodd has expressed that the Rosebud THPO office is interested in participating in the Class III survey work for the WBI project.

Mr. Ben Rhodd:
O:(605)747-4255
C:(605) 393-7329
E: brhodd1@yahoo.com

I have also CC'd Ben Young (Rosebud THPO/TCS Coordinator) and Pete Coffey (MHA THPO) on this email).

The ARPA permit for this project is still a few weeks out, but I'm sure you would agree that it would be a good get things in order for Tribal involvement in this survey now instead of down the road a ways.

FYI, Mr. Rhodd will be out of the office for the next few days, but he may be within cellular range if you try his mobile number.

Sincerely,

Rick Rogers

Richard R. Rogers
USACE NWO, Garrison Project
Archeologist
201 1st Street, Rm 210
Riverdale, ND 58565
Richard.R.Rogers@usace.army.mil
Office: (701) 654-7744
Cell: (701) 301-0018

-----Original Message-----
From: Ed Schneider [mailto:Ed.Schneider@erm.com]
Sent: Monday, August 19, 2019 09:59
To: Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>
Subject: [Non-DoD Source] RE: WBI Northern Bakken Expansion (UNCLASSIFIED)

Hi Rick,

I was just checking in to see when the permit will be issued so we can start coordinating field time with you and the tribes. Thanks.

Ed

_____
Ed Schneider
Senior Archaeologist

ERM
Ed.schneider@erm.com
Mobile: (307) 399-6724
_____

CLASSIFICATION: UNCLASSIFIED

ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

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Call Log

Log of Telephone Conversation

Call To/From Whom	To: Patrick Atwell
Phone number	402-995-2087
Company	U.S. Army Corps of Engineers – Omaha District Office
ERM Contact	Andrea Thornton
Phone number	503-459-6864
Date	August 22, 2019
Time of Conversation	11:00 a.m. PST
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Ms. Thornton received a call from Ptrick Atwell at the Omaha District Office of the U.S. Army Corps of Engineers (USACE). Mr. Atwell had met with the Garrison Office USACE team today regarding the North Bakken Expansion Project Geotech Survey Permit Application. Mr. Atwell called to give Ms. Thornton an update on the review schedule, outlined below.

- Starting Monday August 26th there will be a 2 week internal review period for the Omaha District Office and Garrison Office to provide comments on the permit application and Biological Assessment. He indicated he should have all comments to us by end of day September 6th. They will be using ProjNet to provide comments and Mr. Atwell will work to get ERM and WBI Energy access.

- Once all comments have been addressed, USACE will send the BA to the U.S. Fish and Wildlife Service for review. They have up to 30 days to review and issue concurrence with our findings.

- Once USACE gets approval from the U.S. Fish and Wildlife Service they will send the permit package up to the USACE Real Estate Department for review. Mr. Atwell indicated that their review time really depends on workload but it is typically 2- 4 weeks.

Ms. Thornton thanked Mr. Atwell for the overview and update.

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Lisa DiNicolantonio

From: Andrea Thornton
Sent: Friday, August 23, 2019 1:22 PM
To: 'Thury, Jeremy J CIV USARMY CENWO (USA)'
Cc: Linn, Jill; Wade Hammer; Huncovsky, Greg
Subject: 408 Schedule North Bakken Expansion

Hi Jeremy -

I left you a voicemail but wanted to follow-up with an email as well. I would like to set up a call for next week to discuss the overall North Bakken Expansion Project 408 review schedule. Are you available on Thursday August 29th for a conference call meeting? I will send out a tentative meeting invite to get something on our calendars. If the proposed time does not work for you please let me know and we can reschedule.

Thanks and have a good weekend,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W www.erm.com

-----Original Message-----
From: Andrea Thornton
Sent: Tuesday, August 20, 2019 8:27 AM
To: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Cc: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>; Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>; Justin Moffett <Justin.Moffett@erm.com>; Linn, Jill <Jill.Linn@wbienergy.com>; Huncovsky, Greg <Greg.Huncovsky@WBIEnergy.com>; Wade Hammer <Wade.Hammer@erm.com>
Subject: RE: Permit Review Check-In

Thanks for the update Jeremy. If you could give us an update as soon as you can on Thursday/Friday that would be helpful. We would still like to get a call set up for early next week to discuss permitting for the project as a whole as well.

I'm going to be out of the office next Monday - Wednesday but think we should move forward as soon as possible with a call. I can coordinate to have some other ERM folks sit in on the call with WBI next week. Would you be available on Tuesday?

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W www.erm.com

-----Original Message-----
From: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Sent: Tuesday, August 20, 2019 7:52 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Cc: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Subject: RE: Permit Review Check-In

Andrea,

I am out of the office all week for training. We have a meeting with the district office regarding the geotech and BA this Thursday. We can set up a call for early next week or I can provide an update as soon as I can Thursday/Friday.

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Monday, August 19, 2019 3:58 PM
To: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Subject: [Non-DoD Source] Permit Review Check-In

Hi Jeremy -

Do you have any availability this week to have a call with myself and Greg Huncovsky and Jill Linn with WBI Energy to discuss the geotech permit review timeline and the overall North Bakken Expansion Project 408 review process and timeline? Please let me know if there is a day/time that works well for you and we can make it work on our end.

Thanks,

Andrea

Andrea Thornton

Principal Consultant

Environmental Resources Management (ERM)

1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204

M 503-459-6864

E andrea.thornton@erm.com <mailto:andrea.thornton@erm.com> | W Blockedwww.erm.com <Blockedhttps://eur01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.erm.com%2F&data=02%7C01%7Candrea.Thornton%40erm.com%7C9e181b8f851349c1ab4908d721a5aac4%7Cf2fe6bd39c4a485bae69e18820a88130%7C0%7C0%7C637014867736039651&sdata=Ucf8UWMabe3uu9VEj%2ByuuC2I54mWjGONr1GEhqz9AD0%3D&reserved=0>

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Pat Robblee

From: Pat Robblee
Sent: Thursday, August 29, 2019 6:42 PM
To: Richard.R.Rogers@usace.army.mil
Cc: Andrea Thornton
Subject: FW: WBI Northern Bakken Expansion (UNCLASSIFIED)
Attachments: 082319a RST - Call - Survey.pdf; 082319b RST - Call - Survey.pdf; 082919 RST - Email - Survey.pdf; 082319a TATFBR - Call - Survey.pdf; 082319c TABFBR - Email - Survey.pdf

Good evening, Rick.

I wanted to share with you the status of WBI Energy's outreach to the Rosebud Sioux Tribe and Three Affiliated Tribes regarding the upcoming survey on USACE lands for the North Bakken Expansion Project (Project).

With regard to the Rosebud Sioux, I called and left voice mail messages for Mr. Rhodd and Mr. Young on August 23, 2019 (see the attached call logs). I did not receive a call back. I sent a follow-up email to Mr. Rhodd and Mr. Young earlier today regarding the survey. You were copied on this email.

With regard to the Three Affiliated Tribes, I called and spoke with Mr. Coffey on August 23, 2019 (see attached call log). Per my discussion with Mr. Coffey, I sent him an email after the call with copies of previous Project correspondence as attachments (a copy of this email is attached). Mr. Coffey said he would reply to the email with his response. As of this evening, I have not received a response to the email.

WBI Energy will continue to keep you up to date on the status of our outreach to the Rosebud Sioux Tribe and Three Affiliated Tribes regarding the survey on USACE lands, and will follow-up with you soon on a path forward in the event that the tribes do not respond to WBI Energy's communications.

Patrick Robblee, R.P.A.
Project Manager

ERM
T+612 840 8976
E pat.robblee@erm.com l W www.erm.com

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-----Original Message-----
From: Andrea Thornton
Sent: Thursday, August 22, 2019 9:31 AM
To: Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>; Ed Schneider <Ed.Schneider@erm.com>
Cc: Ben Rhodd <brhodd1@yahoo.com>; Ben Young <benjamin1011young@gmail.com>; Pete Coffey <pcoffey@mhanation.com>
Subject: RE: WBI Northern Bakken Expansion (UNCLASSIFIED)

Thank you Rick -

I will share this information with WBI so we can get the process started for Tribal involvement for surveys on USACE lands.

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W
https://eur01.safelinks.protection.outlook.com/?url=www.erm.com&data=02%7C01%7CPat.Robblee%40erm.com%7C68b388288e19446aec1508d727240518%7Cf2fe6bd39c4a485bae69e18820a88130%7C0%7C0%7C637020908272744792&sdata=bguPxBpQ39uBU4mYW1eTSLQtpkCvSPmK2r0%2BuWkv2m8%3D&reserved=0

-----Original Message-----
From: Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>
Sent: Thursday, August 22, 2019 9:27 AM
To: Ed Schneider <Ed.Schneider@erm.com>
Cc: Ben Rhodd <brhodd1@yahoo.com>; Ben Young <benjamin1011young@gmail.com>; Andrea Thornton <Andrea.Thornton@erm.com>; Pete Coffey <pcoffey@mhanation.com>
Subject: RE: WBI Northern Bakken Expansion (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Good morning,

I just wanted to pass along the contact info for Ben Rhodd (Rosebud THPO). Mr. Rhodd has expressed that the Rosebud THPO office is interested in participating in the Class III survey work for the WBI project.

Mr. Ben Rhodd:
O:(605)747-4255
C:(605) 393-7329
E: brhodd1@yahoo.com

I have also CC'd Ben Young (Rosebud THPO/TCS Coordinator) and Pete Coffey (MHA THPO) on this email).

The ARPA permit for this project is still a few weeks out, but I'm sure you would agree that it would be a good get things in order for Tribal involvement in this survey now instead of down the road a ways.

FYI, Mr. Rhodd will be out of the office for the next few days, but he may be within cellular range if you try his mobile number.

Sincerely,

Rick Rogers

Richard R. Rogers
USACE NWO, Garrison Project
Archeologist
201 1st Street, Rm 210
Riverdale, ND 58565
Richard.R.Rogers@usace.army.mil
Office: (701) 654-7744
Cell: (701) 301-0018

CLASSIFICATION: UNCLASSIFIED

ERM

1000 IDS Center
80 South Eighth Street
Minneapolis, MN 55402

Telephone: +1 612 347 6789
Fax: +1 612 347 6780

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	Rick Rogers
Phone number	701-654-7744
Company	USACE
ERM Contact	Pat Robblee
Phone number	612-840-8976
Date	September 5, 2019
Time of Conversation	9:30 a.m.
Reference	North Bakken Expansion Project (Project)
Signature	

LOG OF CONVERSATION

Mr. Rogers returned a voice mail message I left for him on Wednesday, September 4, 2019, regarding the Project. Below is a summary of the call:

- The ARPA permit has been sent to the USACE's real estate division for processing and signature. Mr. Rogers expects that the permit will be signed and issued to ERM in about two weeks. Assuming there are no problems in processing and issuing the permit, this will allow the survey on USACE lands to begin the week of 9-23-19.
- Mr. Rogers confirmed that he received my previous email from 8-29-19 regarding tribal participation in surveys, specifically participation of the Three Affiliated Tribes and Rosebud Sioux Tribe. I told Mr. Rogers I haven't heard back from the Three Affiliated Tribes but have been in touch with the Rosebud Sioux Tribe, who confirmed they will participate in the survey.
- I asked Mr. Rogers if he has been in touch with any other tribes regarding their participation in the survey on USACE lands. The only tribe he mentioned was the Northern Cheyenne Tribe. He said he recently discussed the Project and upcoming survey with the Northern Cheyenne THPO, but the THPO did not ask about participation in the survey. Mr. Rogers said so long as one tribe is involved in a survey, the others typically will defer to that tribe.
- I let Mr. Rogers know that the Northern Cheyenne Tribe had sent an email to FERC asking about tribal participation in surveys for the Project.
- I told Mr. Rogers that the Assiniboine and Sioux Tribes of the Fort Peck Reservation had expressed interest in participating in surveys of the Project area earlier in the summer, but ultimately decided not to do so. Mr. Rogers concurred that it would be appropriate for WBI Energy to invite the Assiniboine and Sioux Tribes of the Fort Peck Reservation to participate in the survey on USACE lands. He asked that we copy him on any emails or

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correspondence with the tribe so he can add that to his file. Mr. Rogers mentioned that he recently spoke with the Fort Peck THPO and the THPO did not bring up the Project.

- Mr. Rogers confirmed that he (or someone from his office) will participate in the survey on USACE lands.
- Mr. Rogers asked if ERM plans to test the terrace on the north side of Lake Sakakawea. I told him ERM is planning to excavate shovel tests in this area.

Lisa DiNicolantonio

From: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Sent: Monday, September 9, 2019 7:39 AM
To: Andrea Thornton
Cc: Linn, Dave; Thury, Jeremy J CIV USARMY CENWO (USA); Morris, Michael P CIV USARMY CENWO (USA); Justin Moffett
Subject: RE: ProjNet Review

Follow Up Flag: Follow up
Flag Status: Flagged

Andrea,

Please provide both a clean copy and a track change copy of any documents.

Thank you,

Patrick Atwell
Natural Resource Specialist
Omaha District
402-995-2087

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Monday, September 09, 2019 9:35 AM
To: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Cc: Linn, Dave <Dave.Linn@WBIEnergy.com>; Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>; Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>; Justin Moffett <Justin.Moffett@erm.com>
Subject: [Non-DoD Source] RE: ProjNet Review

Hi Patrick -

Per our conversation two weeks ago, Friday September 6th was the end of the internal review period for the North Bakken Expansion Geotech Permit package. We will be reviewing the 28 comments received on ProjNet, providing responses in ProjNet, and then providing updated permit package documents to you.

As most of the comments were on the BA, is there a preference to receive just a clean copy of the revised BA, or would it be helpful to also see a track changes version so you can more easily see the edits made?

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)

1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W Blockedwww.erm.com

-----Original Message-----
From: Andrea Thornton
Sent: Thursday, September 05, 2019 4:05 PM
To: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Cc: Linn, Dave <Dave.Linn@WBIEnergy.com>
Subject: RE: ProjNet Review

Hi Patrick -

I believe Dave Linn and others at WBI have registered for ProjNet today. Would you be able to add them to the project so they can view comments? Also do you know if any additional comments are anticipated to come through tomorrow?

Thank you,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W Blockedwww.erm.com

-----Original Message-----
From: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Sent: Wednesday, September 04, 2019 8:16 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Cc: Justin Moffett <Justin.Moffett@erm.com>
Subject: RE: ProjNet Review

Andrea,

I have added yourself and Justin to the project in ProjNet. I cannot find Dave Linn nor the others, so it may be that they haven't completed their registration yet.

Thank you,

Patrick Atwell
Natural Resource Specialist
Omaha District
402-995-2087

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]

Sent: Tuesday, September 03, 2019 9:42 AM
To: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Cc: Justin Moffett <Justin.Moffett@erm.com>
Subject: [Non-DoD Source] ProjNet Review

Hi Patrick -

When I login to ProjNet I can see the following, however for both myself and Justin Moffett we are not showing up as being assigned to review. Mike Morris had called Justin on Friday to let him know that his comments were done and that Justin could start working on them. Will the review be switched on for ERM and WBI once all comments are entered (Friday September 6th)?

Thanks,

Andrea

Andrea Thornton

Principal Consultant

Environmental Resources Management (ERM)

1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204

M 503-459-6864

E andrea.thornton@erm.com <mailto:andrea.thornton@erm.com> | W BlockedBlockedwww.erm.com <BlockedBlockedhttps://eur01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.erm.com%2F&data=02%7C01%7CAndrea.Thornton%40erm.com%7C9e181b8f851349c1ab4908d721a5aac4%7Cf2fe6bd39c4a485bae69e18820a88130%7C0%7C0%7C637014867736039651&sdata=Ucf8UWMabe3uu9VEj%2ByuuC2I54mWjGONr1GEhqz9AD0%3D&reserved=0>

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Lisa DiNicolantonio

From: Andrea Thornton
Sent: Friday, September 13, 2019 10:37 AM
To: Atwell, Patrick C CIV USARMY CENWO (USA); Thury, Jeremy J CIV USARMY CENWO (USA); Morris, Michael P CIV USARMY CENWO (USA)
Cc: Huncovsky, Greg; Linn, Jill; Linn, Dave; Justin Moffett; Wade Hammer
Subject: Revised North Bakken Expansion Geotech Permit Files (Part 1)
Attachments: 01_NWP6_4345_Signed 091319.pdf; 04_Attch1_WorkPlan_Over Water Geotechnical_Clean_091319.pdf; 04_Attch1_Work Plan_Over Water Geotechnical_TC_091319.pdf; 05_Attch2a_NWP6_Gen Conditions Table_TC_091319.pdf; 05_Attch2a_NWP6_Gen Conditions Table_Clean_091319.pdf

Good Morning,

We have gone through and provided evaluation for the 28 comments that were entered into ProjNet for the North Bakken Expansion Geotech Permit Application. I have attached both track change and clean versions of the revised files listed below. Please let me know if you have any questions or issues with the files. Given the file size I will be sending the BA files in a separate email.

- NWP6 Eng Form 4345 Signed by WBI
- Attachment 1 – Work Plan (2 files) Track Changes PDF and Clean PDF
- Attachment 2a – NWP6 General Conditions Table (2 files) Track Changes PDF and Clean PDF
- Attachment 3 – Biological Assessment Main Text (2 files) Track Changes PDF and Clean PDF. Appendix A of the BA is the Work Plan which is already included in the list of files above.

Please let me know if you need us to send a revised compiled permit application package. We are currently only resubmitting the revised files.

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



Lisa DiNicolantonio

From: Andrea Thornton
Sent: Friday, September 13, 2019 10:42 AM
To: Atwell, Patrick C CIV USARMY CENWO (USA); Thury, Jeremy J CIV USARMY CENWO (USA); Morris, Michael P CIV USARMY CENWO (USA)
Cc: Huncovsky, Greg; Linn, Jill; Linn, Dave; Justin Moffett; Wade Hammer
Subject: Revised North Bakken Expansion Geotech Permit Files (Part 2)
Attachments: BA Geotech Permitting_09-13-19_TC.pdf; BA Geotech Permitting_09-13-19_Clean.pdf

Good Morning again,

Per my previous email, attached you will find both a clean and track changes version of the main text of the Biological Assessment. Please reach out if you have any questions or issues with the files or if you need a new compiled version of the Biological Assessment.

Thanks and have a good weekend!

Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



Lisa DiNicolantonio

From: Andrea Thornton
Sent: Friday, September 13, 2019 7:31 AM
To: Rogers, Richard R II CIV USARMY CENWO (US)
Cc: Ed Schneider; Pat Robblee; Linn, Jill
Subject: RE: ARPA Permit (UNCLASSIFIED)

Good Morning Rick -

I wanted to check in on the status of the ARPA permit. You had anticipated real estate would take up to two weeks two issue the permit which would be either today or Monday.

If you could provide us with an update it would be greatly appreciated.

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W www.erm.com

-----Original Message-----
From: Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>
Sent: Tuesday, August 20, 2019 1:26 PM
To: Andrea Thornton <Andrea.Thornton@erm.com>; Ed Schneider <Ed.Schneider@erm.com>
Cc: Moscarello, Megan J CIV USARMY CENWO (US) <Megan.J.Moscarello@usace.army.mil>
Subject: RE: ARPA Permit (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Good afternoon,

The comment period on ERM ARPA permit application is open until Aug 30 in which time I will release the permit to the real estate department for processing (anticipate mid-September for the permit). In the meantime, I have spoken to the Rosebud THPOs Ben Rhodd and Ben Young and they do want to participate in the survey work. I will be touching base with a few more THPOs this week and will be sure to pass along any comments I receive regarding the permit application to you and Ed.

Best,

Rick Rogers

Richard R. Rogers
USACE NWO, Garrison Project
Archeologist
201 1st Street, Rm 210
Riverdale, ND 58565
Richard.R.Rogers@usace.army.mil
Office: (701) 654-7744
Cell: (701) 301-0018

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Tuesday, August 20, 2019 14:09
To: Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>
Cc: Ed Schneider <Ed.Schneider@erm.com>
Subject: [Non-DoD Source] ARPA Permit

Hi Richard -

I wanted to check in regarding the ARPA permit. ERM has not seen anything come through yet after our discussions the week of the open houses and Ed's email . Is there anything you are waiting for on our end to get this processed? We know that there is going to be a lot of planning/logistics that will go into the survey so we would like to get ahead of it if possible.

Let me know if you'd like to discuss.

Thanks,

Andrea

Andrea Thornton

Principal Consultant

Environmental Resources Management (ERM)

1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204

M 503-459-6864

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CLASSIFICATION: UNCLASSIFIED

-----Original Message-----
From: Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>
Sent: Tuesday, September 10, 2019 4:09 PM
To: Ed Schneider <Ed.Schneider@erm.com>
Cc: Moscarello, Megan J CIV USARMY CENWO (US) <Megan.J.Moscarello@usace.army.mil>
Subject: RE: WBI ARPA Permit (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Sorry for the delayed response (I am out of the office until Monday 9/16).

I forwarded the amendment to the real estate division, and they should be able to make the addition without any significant delay to the processing of the permit.

Best,

Rick

-----Original Message-----
From: Andrea Thornton <Andrea.Thornton@erm.com>
Sent: Friday, September 13, 2019 10:31 AM
To: Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>
Cc: Ed Schneider <Ed.Schneider@erm.com>; Pat Robblee <Pat.Robblee@erm.com>; Linn, Jill <Jill.Linn@wbienergy.com>
Subject: RE: ARPA Permit (UNCLASSIFIED)

Good Morning Rick -

I wanted to check in on the status of the ARPA permit. You had anticipated real estate would take up to two weeks two issue the permit which would be either today or Monday.

If you could provide us with an update it would be greatly appreciated.

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E
andrea.thornton@erm.com

ERM

1000 IDS Center
80 South Eighth Street
Minneapolis, MN 55402

Telephone: +1 612 347 6789
Fax: +1 612 347 6780

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Call Log

Log of Telephone Conversation

Call To/From Whom	Rick Rogers
Phone number	701-654-7744
Company	USACE
ERM Contact	Ed Schneider
Phone number	307-399-6724
Date	September 13, 2019
Time of Conversation	3:45 p.m.
Reference	North Bakken Expansion Project (Project)
Signature	

LOG OF CONVERSATION

Mr. Rogers called to let me know that the ARPA permit should be ready next week. Mr. Rogers will call Pat Robblee of ERM next week to discuss tribal participation in the survey.

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DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
1616 CAPITOL AVENUE
OMAHA NE 68102-4901

REPLY TO
ATTENTION OF
REAL ESTATE DIVISION

September 15, 2019

Subject: Garrison Project, North Dakota, ERM, License No. DACW45-3-20-8009

Edward Schneider
ERM
3300 Breckinridge Blvd, Suite 300
Duluth, GA 30096

Dear Mr. Schneider:

Enclosed is a fully executed copy of Archaeological Resources Protection Act Permit No. DACW45-3-20-8009. The permit authorizes ERM to conduct cultural resource surveys and limited testing on certain lands within the Garrison Project, North Dakota. This area is more specifically described in the enclosed permit.

In accordance with Special Conditions h. and j. of the Permit, it is required that the Garrison Operations Project Manager, Mr. Todd Lindquist, and the Garrison Project Archeologist, Mr. Richard Rogers, be contacted prior to commencement of any fieldwork being conducted. You may contact them in writing at the Garrison Project Office, P.O. Box 527, Riverdale, North Dakota 58565, or call or email them at (701) 654-7702, todd.j.lindquist@usace.army.mil and (701) 654-7744, Richard.r.rogers@usace.army.mil. Please ensure that individuals conducting the field work carry a copy of the permit, a copy of this letter and any subsequent amendments to the permit while working on Garrison Project lands.

If you have any questions, please write to me at the above address or telephone Taryn Kjelstrup of my staff at (701) 654-7709.

Sincerely,

Rick L. Noel
Chief, Civil Branch, Real Estate Division
Real Estate Contracting Officer

Enclosure

DEPARTMENT OF THE ARMY

ARCHAEOLOGICAL RESOURCES
PROTECTION ACT PERMIT

NAME OF PROJECT OR INSTALLATION: WBI Northern Bakken Expansion Project, Garrison Project, North Dakota

(Please use this number when referring to this permit.)
NO. DACW45-3-20-8009

To conduct monitoring work upon public lands owned or controlled by the Department of the Army under the United States Code Annotated 54 U.S.C.A § 320302, effective December 19, 2014.

1. PERMIT ISSUED TO: ERM.

   DATE: September 15, 2019

2. NAME, ADDRESS AND OFFICIAL STATUS OF PERSON:

   a. In general charge: Edward Schneider
   ERM
   3300 Breckinridge Blvd, Suite 300
   Duluth, GA 30096

   b. In actual charge: William Eichmann, Kevin Malloy

3. USER APPLICATION DATE: May 8, 2019

4. AUTHORIZES: Class III surveys and limited testing of lands described below in No. 5 and shown on the attached map.

5. ON LANDS DESCRIBED AS FOLLOWS: Those portions of Sections 18, 19, and 31, Township 154 North, Range 96 West, and Section 36, Township 154 North, Range 97 West of the 5th Principle Meridian, Williams and McKenzie Counties, North Dakota, situated within the Garrison Project Boundary (shown on Exhibit "A").

6. FOR PERIOD: September 15, 2019 – December 31, 2021

7. MATERIALS COLLECTED UNDER THIS PERMIT WILL BE DEPOSITED FOR PERMANENT PERSERVATION IN THE: No artifact or fossil collection will be conducted – surface inventory only.

OR IN OTHER ACCREDITED INSTITUTIONS UNDER SUITABLE LOAN AGREEMENTS. A COPY OF CURRENT, VALID CURATION AGREEMENT MUST BE KEPT ON FILE WITH DISTRICT COMMANDER.

8. CONDITIONS

This permit is subject to the provisions of the United States Code Annotated 54 U.S.C.A § 320302, effective December 19, 2014, and the following conditions:

a. Archaeological resources shall be analyzed and recorded in the field. Collection and laboratory analysis of cultural resource material is prohibited, except where as

authorized by the Omaha District Commander in consultation with affected parties. In such a case, the permittee will specify in the application when laboratory analysis is anticipated.

b. Collection of archaeological resources, artifacts and other material removed from public lands under the provisions of this permit remain the property of the United States Government and may be recalled at any time for use by the Department of the Army or other agencies of the Federal Government.

c. The following individual(s) are authorized to be in direct charge of field work conducted under this permit:

(1) William Eichmann, Kevin Malloy

d. The person(s) in direct charge of field work shall be on-site at all times when work is in progress. Failure to comply with all permit stipulations will result in the removal of a person's name(s) from the approved list of persons-in-direct charge.

e. During the course of the activities conducted under this permit, the District Commander, or his representative and/or affected tribes shall have access to the study area of this permit, and during or after completion of this work, shall have the right to inspect all data that is recovered.

f. The use of any information (including but not limited to: press releases, videotaping, articles, reports) obtained as a result of this permit must be coordinated with, and approved by, the Omaha District Commander in advance, after consultation with affected parties. This restriction is in effect both during and after this permit expires. Invitations to the public to participate in activities conducted on USACE lands are prohibited.

g. All field notes, records, photographs, maps and other data related to this permit will be made accessible to the USACE Archaeologist for review.

h. Temporary stakes and/or flagging used to identify sites shall be removed upon completion of the project unless otherwise authorized.

i. Vehicular activity shall be restricted to existing roads and trails unless otherwise authorized by the appropriate land manager(s) and/or affected tribes.

j. Disturbed areas shall be kept to a minimum size consistent with the purpose of the scope of work and/or work plan.

k. Permittee shall take adequate precautions to prevent livestock, wildlife, and the public from injury in any excavated pit or trench.

l. All test holes shall be backfilled.

m. Living trees shall not be cut or otherwise damaged, unless authorized by the appropriate land manager(s) and/or affected tribes.

n. No burning shall be allowed without specific permission.

o. All lands and improvements disturbed by the permittee's activities shall be reclaimed to as close to original condition as possible, as determined by the appropriate land manager(s) and/or affected tribes.

p. No littering or pollution will be allowed on public lands or on adjoining properties.

q. In the event that the land in question is under lease or outgrant to a third party, the permittee shall obtain approval and permission from the third party and shall fully compensate the third party for damages caused by the activities of the permittee.

r. The District Commander reserves the right to terminate this permit at any time.

s. Possession or use of firearms on the permit area is prohibited.

t. The United States shall not be responsible for damages to property or injuries to persons which may arise from or be incident to the use and occupation of the said premises or for damages to the property of the permittee or for injuries to the person of the permittee (if an individual) or for damages to the property or injuries to the person of the permittee's officers, agents, servants or employees or others who may be on said premises at the invitation of any one of them, arising from governmental activities and the permittee shall hold the United States harmless from any and all such claims except for claims arising out of the negligence or willful misconduct of the Government's officers, agents, servants or employees.

u. Special Conditions a. through l. as shown on the attached sheet.

9. PRELIMINARY REPORT: Within 3 months of the conclusion of field work, a preliminary report of work performed under this permit, illustrated with representative photographs and maps and listing new and significant sites and collected materials, shall be furnished to the District Commander.

IN WITNESS WHEREOF: I have hereunto set my hand by the authority of the Secretary of the Army.

RICK L. NOEL
Chief, Civil Branch, Real Estate Division
Real Estate Contracting Officer

SPECIAL CONDITIONS

a. This permit shall not be exclusive in character, and there is hereby reserved unto the Government the right to use, lease or permit the use of said land or any part thereof for any purpose.

b. All costs to obtain this permit shall be borne by the permittee.

c. Under no circumstances will Indian grave(s) or burial ground(s) under the jurisdiction of the Omaha District be investigated. In the event that an inadvertent discovery is made, all fieldwork shall cease immediately, the site shall be secured and the remains protected. The notification procedures found in the attached contact list shall be followed immediately.

d. All excavated areas shall be restored by filling in the excavation and otherwise left as close to original condition as possible.

e. The permittee shall conduct all operations in such a manner that will prevent the erosion of the land, pollution of the water resources, and damage to the watershed, and implement measures necessary to prevent or reduce to the fullest extent the scarring of the lands.

f. Any findings of mined or processed precious metals or other treasure trove in the area covered by this permit are the exclusive property of the Government, and shall not be removed from the site without specific written permission from the Department of the Army.

g. Copies of the final report will be submitted to the District Commander.

h. Before undertaking any work on lands administered by the Department of Army, clearances shall be obtained from the official in charge of the area. Clearance requirements for any future work shall include a work plan or research design. At a minimum, clearance will require the permittee to notify the local project manager and the appropriate land manager(s) in writing or email of any activity that will be performed, obtain prior approval for any excavation that will take place, and identify the times and dates that personnel will be on-site.

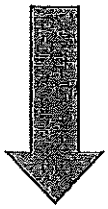
i. Before undertaking any work on Omaha District lands within the exterior boundaries of any Indian Reservation, clearance shall be obtained first from the respective tribe, THPO (Tribal Historical Preservation Office)/CPO (Cultural Preservation Office) offices, tribal cultural resource office and then from the Bureau of Indian Affairs official having immediate jurisdiction over the property.

j. The permittee is responsible for notifying all affected parties in writing (letter or email) of any activity that will be performed, obtain prior approval for any fieldwork that will be performed, and identify the times and dates that personnel will be on-site.

k. The permittee is required to have on-site at all times, a copy of their permit and scope of work or work plan.

l. Non-compliance with any condition of this permit, may result in the permittee being prosecuted under United States Code Annotated 54 U.S.C.A § 320302.

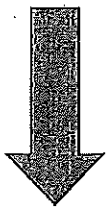
Immediately Cease Work & Secure Site
Contact the Corps EOC
(402) 995-2674



Contact Operations Project Manager

Garrison Project Office

Todd Lindquist, (701) 654-7702



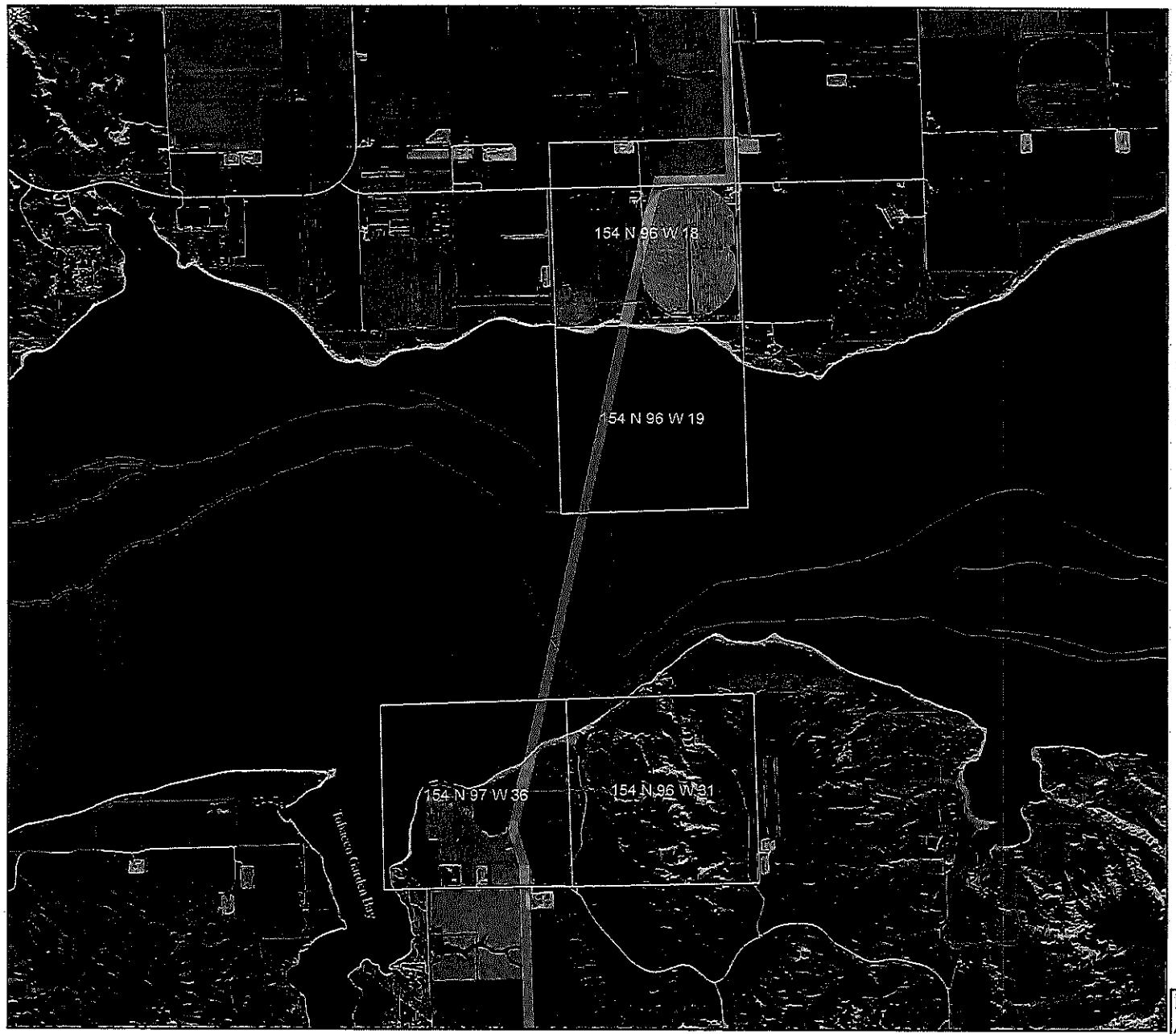
Contact Appropriate Archeologist

Garrison Project Office

Richard Rogers
Office; (701) 654-7744
Cell: (701) 301-0018

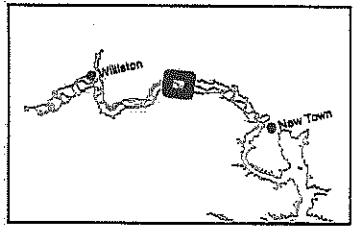
ERM ARPA Permit WBI Energy North Bakken Expansion

1:48,000



Legend

- USACE Boundary
- Additional Survey Area
- Survey Corridor



N

0.5 0 0.5

Miles

1 inch = 4,000 feet

Disclaimer: The United States government and USACE furnishes this data and the recipient accepts and uses it with the express understanding that the government makes no warranties, expressed, or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the information and data furnished. The United States shall be under no liability whatsoever to any person by reason of any use made thereof. Data displayed on this map are approximations derived from GIS layers and should not be used in place of survey data or legal land description.

USACE	
OD-GA	
Produced By: Richard Rogers	US Army Corps of Engineers ® Omaha District
Production Date: 07 August 2010	
Revised By:	
Revision Date:	
File Location:	

EXHIBIT "A" MADE A PART OF AND ATTACHED TO LICENSE NO. DACW45-3-20-8009

ERM

1000 IDS Center
80 South Eighth Street
Minneapolis, MN 55402

Telephone: +1 612 347 6789
Fax: +1 612 347 6780

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	Rick Rogers
Phone number	701-654-7744
Company	USACE
ERM Contact	Pat Robblee
Phone number	612-840-8976
Date	September 17, 2019
Time of Conversation	10:30 p.m.
Reference	North Bakken Expansion Project (Project)
Signature	

LOG OF CONVERSATION

I called Mr. Rogers to coordinate with him on an upcoming archaeological survey on USACE lands and tribal participation in the survey. Here is a summary of the call:

- I let Mr. Rogers know that ERM plans to begin the archaeological survey on USACE lands on September 25, 2019 with Kevin Malloy as field director. Mr. Rogers said he is ok with this start date and will probably join our survey team for part of the work. Mr. Rogers said he will note our call as advance notice of the start of survey (which is required under the ARPA permit). I told Mr. Rogers that Dr. Malloy will coordinate directly with him regarding logistics for the survey.
- Mr. Rogers said he spoke with Mr. Ben Rhodd and Mr. Ben Young of the Rosebud Sioux Tribe, who debriefed him on the plan for a monitor from the tribe to participate in the survey.
- I told Mr. Rogers that I never heard back from the THPO with the Three Affiliated Tribes regarding their interest in participating in the field survey.
- I told Mr. Rogers that the THPO with the Northern Cheyenne Tribe did not respond to an email or call from WBI Energy inviting the tribe to participate in the survey.
- I advised Mr. Rogers that WBI Energy sent an email to the Fort Peck Sioux that mentioned the upcoming survey on USACE lands, but the THPO did not comment on or otherwise respond to this email.
- Mr. Rogers said he has been in touch with the Three Affiliated Tribes, Northern Cheyenne Tribe, and Fort Peck Sioux at one point or another regarding the Project and that he will reach out to each tribe again before our survey. He also said it's unlikely that these tribes will participate given that a monitor from the Rosebud Sioux Tribe will be present during the survey.

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From: Kevin Malloy <Kevin.Malloy@erm.com>
Sent: Thursday, September 19, 2019 1:54 PM
To: benjamin1011young@gmail.com; Richard.R.Rogers@usace.army.mil
Cc: Pat Robblee <Pat.Robblee@erm.com>
Subject: Fieldwork Coordination

Hello,

I'm going to be the field lead for the upcoming archaeological survey on USACE lands for the WBI Energy North Bakken Project. I was hoping to arrange our meeting location and time for the morning of Wednesday, September 25th. We could either meet at the Hampton Inn and Suites in Williston where my crew and I will be staying, or we could meet out in the field at the location of the work. If we are to meet at the hotel I would suggest meeting at 0700 in the lobby of the Hampton. The address is 1515 14th St. W, Williston, ND 58801.

If you'd rather meet in the field, I would suggest between 0815 and 0830. I've attached an image of where we can park during the course of field work on the north side of the river. If you go just past the tree line on 51st St NW, we can pull off over there and us that as a staging area.

Looking forward to working together!

Kind regards,
Kevin



Kevin Malloy
Archaeologist

ERM
1000 IDS Center
80 S. Eighth Street | Minneapolis | MN | 55402
T 612.347.7138 | **M** 906.285.0361
E kevin.malloy@erm.com | **W** www.erm.com

ERM *The business of sustainability*

Lisa DiNicolantonio

From: Andrea Thornton
Sent: Monday, September 23, 2019 8:04 AM
To: Morris, Michael P CIV USARMY CENWO (USA)
Subject: RE: Revised North Bakken Expansion Geotech Permit Files (Part 2)

Hi Mike -

I've been keeping an eye on ProjNet and noticed that all of the comment responses we provided are still pending. I'm checking in to see if there are any questions/concerns with the information that we provided.

We want to make sure we can get ahead of any questions so as to not delay the submittal of the BA to FWS.

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W www.erm.com

-----Original Message-----
From: Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>
Sent: Tuesday, September 17, 2019 7:35 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Cc: Justin Moffett <Justin.Moffett@erm.com>
Subject: RE: Revised North Bakken Expansion Geotech Permit Files (Part 2)

Good Morning Andrea & Justin,
Thank-you both for all your hard work, getting these revised documents back to us. If I have any questions, I will let you know. Thanks again...

Mike

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Monday, September 16, 2019 1:18 PM
To: Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>
Cc: Justin Moffett <Justin.Moffett@erm.com>
Subject: [Non-DoD Source] RE: Revised North Bakken Expansion Geotech Permit Files (Part 2)

Hi Mike -

Please do not hesitate to reach out if you have any questions/comments when reviewing WBI's comment responses on ProjNet or any of the revised project files.

Thanks,

Andrea

Andrea Thornton

Principal Consultant

Environmental Resources Management (ERM)

1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204

M 503-459-6864

E andrea.thornton@erm.com <mailto:andrea.thornton@erm.com> | W Blockedwww.erm.com <Blockedhttps://eur01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.erm.com%2F&data=02%7C01%7Candrea.Thornton%40erm.com%7C9e181b8f851349c1ab4908d721a5aac4%7Cf2fe6bd39c4a485bae69e18820a88130%7C0%7C0%7C637014867736039651&sdata=Ucf8UWMabe3uu9VEj%2ByuuC2I54mWjGONr1GEhqz9AD0%3D&reserved=0>

From: Andrea Thornton
Sent: Friday, September 13, 2019 10:42 AM
To: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>; Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>; Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>
Cc: Huncovsky, Greg <Greg.Huncovsky@WBIEnergy.com>; Linn, Jill <Jill.Linn@wbienergy.com>; Linn, Dave <Dave.Linn@wbienergy.com>; Justin Moffett <Justin.Moffett@erm.com>; Wade Hammer <Wade.Hammer@erm.com>
Subject: Revised North Bakken Expansion Geotech Permit Files (Part 2)

Good Morning again,

Per my previous email, attached you will find both a clean and track changes version of the main text of the Biological Assessment. Please reach out if you have any questions or issues with the files or if you need a new compiled version of the Biological Assessment.

Thanks and have a good weekend!

Andrea

Andrea Thornton

Principal Consultant

Environmental Resources Management (ERM)

1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204

M 503-459-6864

E andrea.thornton@erm.com <mailto:andrea.thornton@erm.com> | W Blockedwww.erm.com <Blockedhttps://eur01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.erm.com%2F&data=02%7C01%7Candrea.Thornton%40erm.com%7C9e181b8f851349c1ab4908d721a5aac4%7Cf2fe6bd39c4a485bae69e18820a88130%7C0%7C0%7C637014867736039651&sdata=Ucf8UWMabe3uu9VEj%2ByuuC2I54mWjGONr1GEhqz9AD0%3D&reserved=0>

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From: Pat Robblee
Sent: Tuesday, September 24, 2019 1:33 PM
To: Richard.R.Rogers@usace.army.mil
Cc: Kevin Malloy <Kevin.Malloy@erm.com>; todd.j.lindquist@usace.army.mil
Subject: FW: Fieldwork Coordination

Hi Rick.

To follow-up on our call on 9-17, and Kevin's email below from 9-19, our survey will begin tomorrow. Christopher Makes Room For Them from the Rosebud Sioux Tribe will be joining our survey team as tribal monitor. Please let us know if you think you'll make it out for the survey. Kevin's mobile number is 906-285-0361.

Pat

Patrick Robblee, R.P.A.
Project Manager

ERM
T+612 840 8976
E pat.robblee@erm.com I W www.erm.com



The world's leading sustainability consultancy

Lisa DiNicolantonio

From: Andrea Thornton
Sent: Wednesday, September 25, 2019 10:45 AM
To: 'Morris, Michael P CIV USARMY CENWO (USA)'; Atwell, Patrick C CIV USARMY CENWO (USA)
Cc: Thury, Jeremy J CIV USARMY CENWO (USA)
Subject: RE: North Bakken Expansion Geotech - ProjNet BackCheck

Thanks for the follow-up Mike -

Will that internal meeting be occurring this week? From my conversation with Patrick it sounded like this Friday was the end of the 2 week review period to backcheck the information that ERM/WBI had provided.

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W www.erm.com

-----Original Message-----
From: Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>
Sent: Wednesday, September 25, 2019 10:18 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>; Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Cc: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Subject: RE: North Bakken Expansion Geotech - ProjNet BackCheck

Good morning Andrea,
Thank-you for your follow up e-mail, below. I did receive your e-mail Monday, however I was on leave and backchecked/closed some of my comments in ProjNet when I returned, yesterday. Please note, I have requested an internal conference call to discuss a path forward on our remaining comments to address your concern below. We will provide additional information, once that discussion occurs. Thank-you...

Mike

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Wednesday, September 25, 2019 9:19 AM
To: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>; Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>
Subject: [Non-DoD Source] North Bakken Expansion Geotech - ProjNet BackCheck

Hi Patrick and Mike -

I'm writing as I've noticed that a handful of the comment responses have been reviewed in ProjNet. It looks like there is currently one item marked as "open". Are any additional edits going to be needed to our permit documents to address comments like these? We would like to minimize additional back and forth on these documents if possible and get a head of any comments where additional follow-up may be needed.

Thanks,

Andrea

Andrea Thornton

Principal Consultant

Environmental Resources Management (ERM)

1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204

M 503-459-6864

E andrea.thornton@erm.com <mailto:andrea.thornton@erm.com> | W Blockedwww.erm.com <Blockedhttps://eur01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.erm.com%2F&data=02%7C01%7CAndrea.Thornton%40erm.com%7C9e181b8f851349c1ab4908d721a5aac4%7Cf2fe6bd39c4a485bae69e18820a88130%7C0%7C0%7C637014867736039651&sdata=Ucf8UWMabe3uu9VEj%2ByuuC2I54mWjGONr1GEhqz9AD0%3D&reserved=0>

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Lisa DiNicolantonio

From: Andrea Thornton
Sent: Thursday, September 26, 2019 9:49 AM
To: Atwell, Patrick C CIV USARMY CENWO (USA)
Cc: Morris, Michael P CIV USARMY CENWO (USA); Wallace, Arthur L Jr CIV USARMY CENWO (US); Linn, Dave; Linn, Jill; Huncovsky, Greg; Justin Moffett
Subject: North Bakken Expansion Project Revised BA Documents
Attachments: BA Geotech Permitting_09-26-19_TC.pdf; BA Geotech Permitting_09-26-19_CLEAN.pdf

Good Morning Patrick –

Per our conversation earlier this morning, I have attached both clean and track changed versions of the updated BA text associated with the North Bakken Expansion Project. I have also gone through on ProjNet and responded to the 6 comments that had been pending additional evaluation.

Please let me know if there is anything else that you need from us prior to the BA being submitted to FWS for review.

Thanks again,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



Lisa DiNicolantonio

From: Andrea Thornton
Sent: Friday, September 27, 2019 8:13 AM
To: Atwell, Patrick C CIV USARMY CENWO (USA)
Cc: Wallace, Arthur L Jr CIV USARMY CENWO (US)
Subject: RE: North Bakken Expansion Project Revised BA Documents
Attachments: BA Geotech Permitting_09-27-19_TC.pdf; BA Geotech Permitting_09-27-19_Clean.pdf

Hi Patrick -

The updated clean and track changed versions of the BA are attached with all (Wallace, 2019) references removed. Please let me know if there is anything additional needed on our end.

Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W www.erm.com

-----Original Message-----
From: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Sent: Friday, September 27, 2019 7:36 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Cc: Wallace, Arthur L Jr CIV USARMY CENWO (US) <A.Luke.Wallace@usace.army.mil>
Subject: RE: North Bakken Expansion Project Revised BA Documents

Andrea,

The last correction to be made on the geotech BA is to remove the (Wallace, 2019) citation in section 6.1.2 Direct and Indirect Effects

Thank you,

Patrick Atwell
Natural Resource Specialist
Omaha District
402-995-2087

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Thursday, September 26, 2019 11:49 AM

To: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Cc: Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>; Wallace, Arthur L Jr CIV USARMY CENWO (US) <A.Luke.Wallace@usace.army.mil>; Linn, Dave <Dave.Linn@WBIEnergy.com>; Linn, Jill <Jill.Linn@wbienergy.com>; Huncovsky, Greg <Greg.Huncovsky@WBIEnergy.com>; Justin Moffett <Justin.Moffett@erm.com>
Subject: [Non-DoD Source] North Bakken Expansion Project Revised BA Documents

Good Morning Patrick -

Per our conversation earlier this morning, I have attached both clean and track changed versions of the updated BA text associated with the North Bakken Expansion Project. I have also gone through on ProjNet and responded to the 6 comments that had been pending additional evaluation.

Please let me know if there is anything else that you need from us prior to the BA being submitted to FWS for review.

Thanks again,

Andrea

Andrea Thornton

Principal Consultant

Environmental Resources Management (ERM)

1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204

M 503-459-6864

E andrea.thornton@erm.com <mailto:andrea.thornton@erm.com> | W Blockedwww.erm.com <Blockedhttps://eur01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.erm.com%2F&data=02%7C01%7Candrea.Thornton%40erm.com%7C9e181b8f851349c1ab4908d721a5aac4%7Cf2fe6bd39c4a485bae69e18820a88130%7C0%7C0%7C637014867736039651&sdata=Ucf8UWMabe3uu9VEj%2ByuuC2I54mWjGONr1GEhqz9AD0%3D&reserved=0>

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Lisa DiNicolantonio

From: Andrea Thornton
Sent: Friday, October 11, 2019 11:42 AM
To: Atwell, Patrick C CIV USARMY CENWO (USA); Morris, Michael P CIV USARMY CENWO (US)
Subject: FW: North Bakken Geotechnical
Attachments: North Bakken Geotechnical signed final 10.10.19.docx.pdf

Hi Patrick –

We received the attached letter from FWS yesterday for the geotech permitting. Based on our past conversations, will this package now be sent to real estate for final review and approval?

Mike – Per Jerry's letter, with you be providing documentation of the "no effect" determinations?

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com

From: Reinisch, Jerry <jerry_reinisch@fws.gov>
Sent: Thursday, October 10, 2019 1:22 PM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Cc: Morris, Michael P CIV USARMY CENWO (US) <Michael.P.Morris@usace.army.mil>; glink@nd.gov
Subject: North Bakken Geotechnical

Andrea
Please see the attached response letter for the geotechnical portion of the North Bakken Pipeline Expansion.
Jerry

Jerry D. Reinisch
Fish & Wildlife Biologist
Ecological Services
US Fish & Wildlife Service
3425 Miriam Drive

Bismarck, North Dakota 58501

(M) 701-250-4481 Ext 8267
(D) 701-333-0267
(C) 701-425-2133

United States Department of the Interior

FISH AND WILDLIFE SERVICE
North Dakota Ecological Services
3425 Miriam Avenue
Bismarck, North Dakota 58501

IN REPLY REFER TO:
06E14000-2020-I-0018
USACE-WBI Energy
North Bakken Expansion
Geotechnical Survey BA

October 10, 2019

Ms. Andrea Thornton
Senior Regulatory Consultant
Environmental Resources Management
1050 SW 6th Avenue, Suite 1650
Portland, Oregon 97204

Dear Ms. Thornton:

This responds to your email on September 30, 2019, requesting concurrence of Environmental Resources Management (ERM) determination of effects regarding federal listed species for the proposed Geotechnical Survey for WBI Energy Transmission's North Bakken Expansion Project in McKenzie and Williams Counties, North Dakota submitted by ERM as the non-federal designated representative for the United States Army Corps of Engineers (USACE).

In accordance with section 7(c) of the Endangered Species Act (ESA), as amended, 16 U.S.C. 1531 et seq., ERM has requested Service concurrence with the determinations that the Project "may affect, but is not likely to adversely affect", the endangered interior least tern (*Sterna antillarum*), pallid sturgeon (*Scaphirhynchus albus*), threatened piping plover (*Charadrius melodus*) and northern long-eared bat (*Myotis septentronalis*). The U.S. Fish and Wildlife Service (Service) concurs with your determinations for the geotechnical portion of the Project.

In order to reduce the likelihood of disturbing nesting piping plovers, the applicant has proposed that if construction occurs during breeding season (April 1 to August 31), a qualified wildlife biologist will survey all sandbars and shoreline within a 0.5 mile or line of sight (whichever is the shorter distance) from the project area. We recommend surveys be performed during daylight hours, for minimum two hour survey periods, beginning one half-hour prior to sunrise. Evening surveys should end approximately one half-hour after sunset.

If construction commences between April 1 and July 15, surveys should be performed daily for 7 days prior to mobilization, equipment staging, and construction. Daily survey periods should occur at different 2-hr periods of each day and if no piping plovers are seen the frequency may be reduced to once a week (Monday morning) in the event that no construction activities occur during the weekend. Monday morning surveys may cease after the end of the nest initiating period (July 15). If construction will occur for 7 days per week, from sunrise to sunset, then no

further survey work is required once construction commences and if plovers were not detected during the 7-day preconstruction survey period.

If mobilization, equipment staging, and construction activities are initiated between July 15 and August 31, surveys should be performed for 3 days during the week prior to equipment staging, if no piping plovers are seen; there are no further survey requirements.

Monitoring is not required for construction activities occurring outside the April 1 to August 31 timeframe or if the sandbars and shoreline are inundated with water. If piping plovers are observed within 0.5 mile or line of sight of the Project, work must cease and the Service must be contacted immediately. Work cannot resume or commence until individuals leave the site or it is determined there is no risk for disturbance. The surveys provide assurance that adverse effects to piping plovers would avoided or minimized during construction.

The ERM has also determined that there will be "no effect" to the threatened Dakota skipper (*Hesperia dacotae*), rufa red knot (*Calidris cantus rufa*) and endangered whooping crane *(Grus americana*) and designated habitat for Dakota skipper and piping plover.

In the event that whooping cranes are sighted on the ground within one mile of the project during the fall migratory period, work should cease on the project and the Service should be notified. Once the birds leave the area, work on the project may be resumed.

There is no requirement under the implementing regulations of the Act (50 CFR Part 402) for action agencies to receive Service concurrence with "no effect" determinations, therefore the responsibility for "no effect" determinations remains with the USACE. We recommend you document your "no effect" determinations and retain the documentation in your decisional record.

The Service's concurrence is based on the information contained within the Biological Assessment for the Geotechnical Survey portion of the Project. Pursuant to the implementing regulations of the Act (50 CFR 402.13), this letter concludes informal consultation on this portion of the Project. This action should be re-analyzed if (1) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not considered in this consultation; (2) the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this consultation; or (3) a new species is listed or critical habitat is designated that may be affected by this Project.

The Service appreciates the opportunity to work with ERM and USACE to ensure the conservation of federally-listed species as part of our joint responsibilities under ESA to conserve threatened and endangered species and their habitats. If you have any questions on these comments, please contact Jerry Reinisch of this office at (701) 333-0267 or me at (605) 224-8693, extension 224.

Sincerely,

Scott V. Larson
Field Supervisor
North and South Dakota Field Office

cc: Mike Morris, United States Army Corps of Engineers, Riverdale, North Dakota
Greg Link, North Dakota Game and Fish Department

Lisa DiNicolantonio

From: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Sent: Thursday, October 17, 2019 7:34 AM
To: Andrea Thornton
Subject: RE: North Bakken Geotechnical

Andrea,

We reached out to Jerry with USFWS, and are awaiting a response. I am unsure when we will hear back.

Thanks

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Thursday, October 17, 2019 9:29 AM
To: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Subject: [Non-DoD Source] RE: North Bakken Geotechnical

Thanks Jeremy -

I have a call with WBI this afternoon, is there any chance that you will have answers by then?

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W Blockedwww.erm.com

-----Original Message-----
From: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Sent: Wednesday, October 16, 2019 9:21 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: RE: North Bakken Geotechnical

Andrea,

I am getting a couple questions answered and will replay ASAP.

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Wednesday, October 16, 2019 10:34 AM
To: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>

Cc: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>; Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>; Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>
Subject: [Non-DoD Source] RE: North Bakken Geotechnical

Thanks Jeremy -

With the information we received yesterday on the review timeline it is looking likely that the work will not be able to be able to be completed this year. As Dave Linn chatted with you at the Scoping Meetings, WBI is interested in looking into the over ice option and I'm hoping to get some information from the group as far as what that would look like for the permit package. We do not want to stop the review of the current permit (in case the ice does not get thick enough this winter and the work needs to occur in the spring).

Would an entirely new permit package need to be submitted (and all of the timelines started over again) for an over ice option, or would we be able to provide an updated Work Plan and BA and amend the current package? I will be in the office today if it is easier to talk through this on the phone.

Thanks again,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W BlockedBlockedwww.erm.com

-----Original Message-----
From: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Sent: Tuesday, October 15, 2019 11:55 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Cc: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>; Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>; Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>; Lillejord, Shenille A NWO <Shenille.A.Lillejord@usace.army.mil>
Subject: FW: North Bakken Geotechnical

Andrea,

Sorry if this is late but the following timeline is what remains for the review process.

- State and tribal concurrence to no effect - 30 days
- District review - 30 days
- Real Estate - 30-45 days.

Please let me know if you have any questions.

Thanks

Jeremy J. Thury

Natural Resources Specialist
US Army Corps of Engineers
Garrison Dam/ Lake Sakakawea Project
Riverdale, North Dakota Office
(701) 654-7761

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Monday, October 14, 2019 10:35 AM
To: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>; Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>; Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>
Subject: [Non-DoD Source] RE: North Bakken Geotechnical

Hi Patrick, Mike, and Rick -

I know today is a federal holiday, but I'm hoping we can catch-up tomorrow morning to discuss the status of the permit application. WBI would like for me to provide an update to them tomorrow afternoon.

Thanks!

Andrea

Andrea Thornton

Principal Consultant

Environmental Resources Management (ERM)

1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204

M 503-459-6864

E andrea.thornton@erm.com <mailto:andrea.thornton@erm.com> | W BlockedBlockedBlockedwww.erm.com <BlockedBlockedBlockedhttps://eur01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.erm.com%2F&data=02%7C01%7CAndrea.Thornton%40erm.com%7C9e181b8f851349c1ab4908d721a5aac4%7Cf2fe6bd39c4a485bae69e18820a88130%7C0%7C0%7C637014867736039651&sdata=Ucf8UWMabe3uu9VEj%2ByuuC2I54mWjGONr1GEhqz9AD0%3D&reserved=0>

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Lisa DiNicolantonio

From: Andrea Thornton
Sent: Wednesday, October 23, 2019 8:36 AM
To: Atwell, Patrick C CIV USARMY CENWO (USA); Thury, Jeremy J CIV USARMY CENWO (USA)
Subject: North Bakken Expansion Project 408 Process

Hi Patrick and Jeremy –

I would like to get another call set up to discuss the overall North Bakken Expansion Project's 408 review schedule/process. I believe that you have had some conversations with FERC which have hopefully clarified a few things since our last conversation. Do you have any availability next Thursday or Friday (October 31st or November 1st) for a call?

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



Lisa DiNicolantonio

From: Andrea Thornton
Sent: Friday, November 1, 2019 9:46 AM
To: 'Atwell, Patrick C CIV USARMY CENWO (USA)'; 'Thury, Jeremy J CIV USARMY CENWO (USA)'
Subject: RE: North Bakken Expansion Project 408 Process

Hi Patrick and Jeremy –

I'm following up on the email that I sent you last week. Please let me know if you have availability next week to get a call scheduled to discuss the North Bakken Expansion Project's 408 review schedule/process.

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Andrea Thornton
Sent: Wednesday, October 23, 2019 8:36 AM
To: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>; Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Subject: North Bakken Expansion Project 408 Process

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Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)

1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



Lisa DiNicolantonio

From: Andrea Thornton
Sent: Friday, November 1, 2019 9:37 AM
To: Renschler, Jason J CIV USARMY CENWO (USA)
Cc: Wade Hammer
Subject: North Bakken Expansion Project Preliminary Survey Maps
Attachments: Appendix A Survey Results 102819_Part1.pdf

Hi Jason –

My apologies for the delay in getting these to you, but attached are the preliminary wetland/waterbody survey data maps for the North Bakken Expansion Project. The map set is large so I've broken it up into multiple files (3) and will send follow-up emails shortly. This map set will continue to be updated as the route is refined. Please note that Line Section 7 Lateral (portion in Mountrail County to the east of the rest of the pipelines) is no longer part of the proposed Project, however has been included in this map set as it was surveyed.

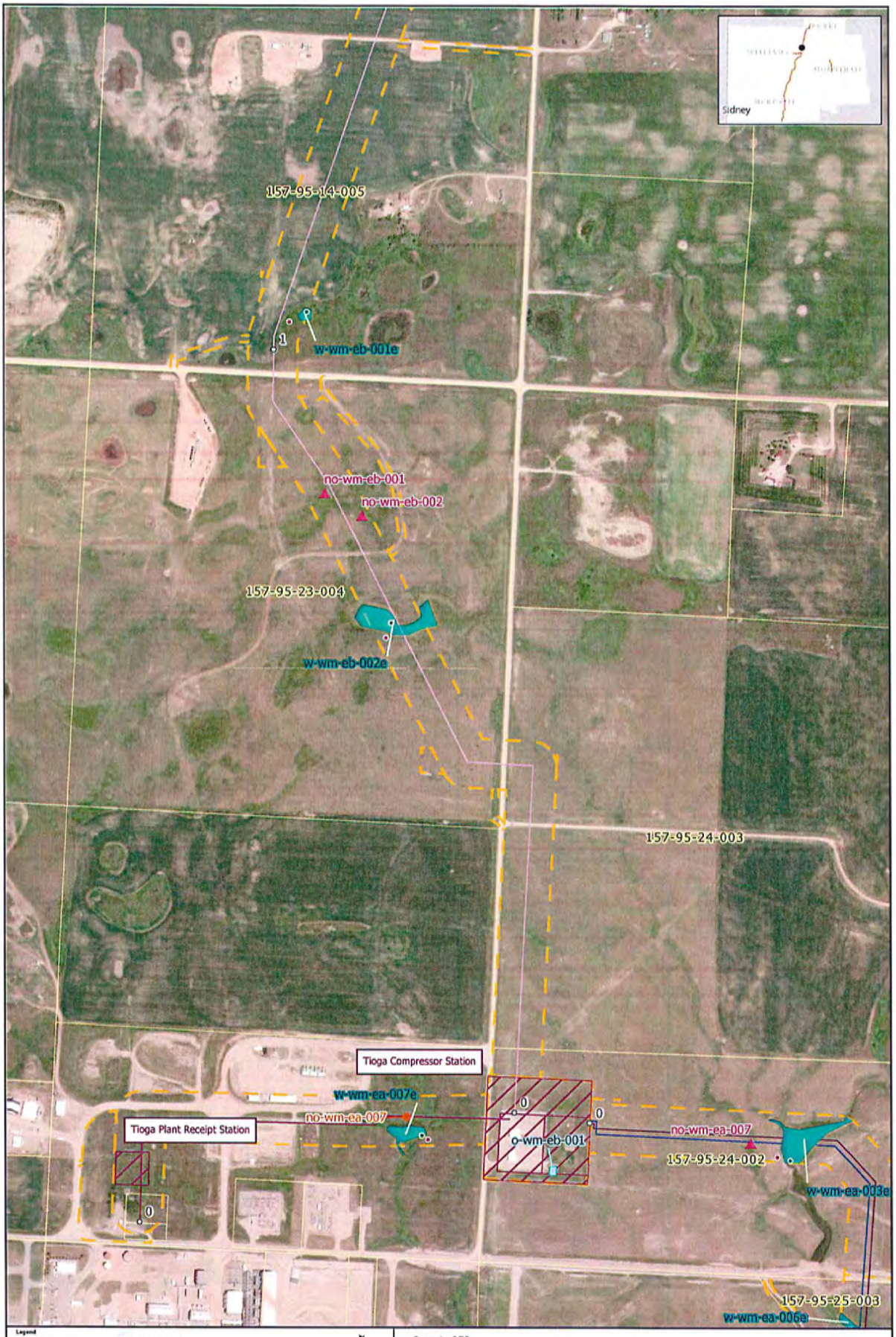
Let us know if you have any questions as you take a look at the maps.

-Andrea

Andrea Thornton
Principal Consultant

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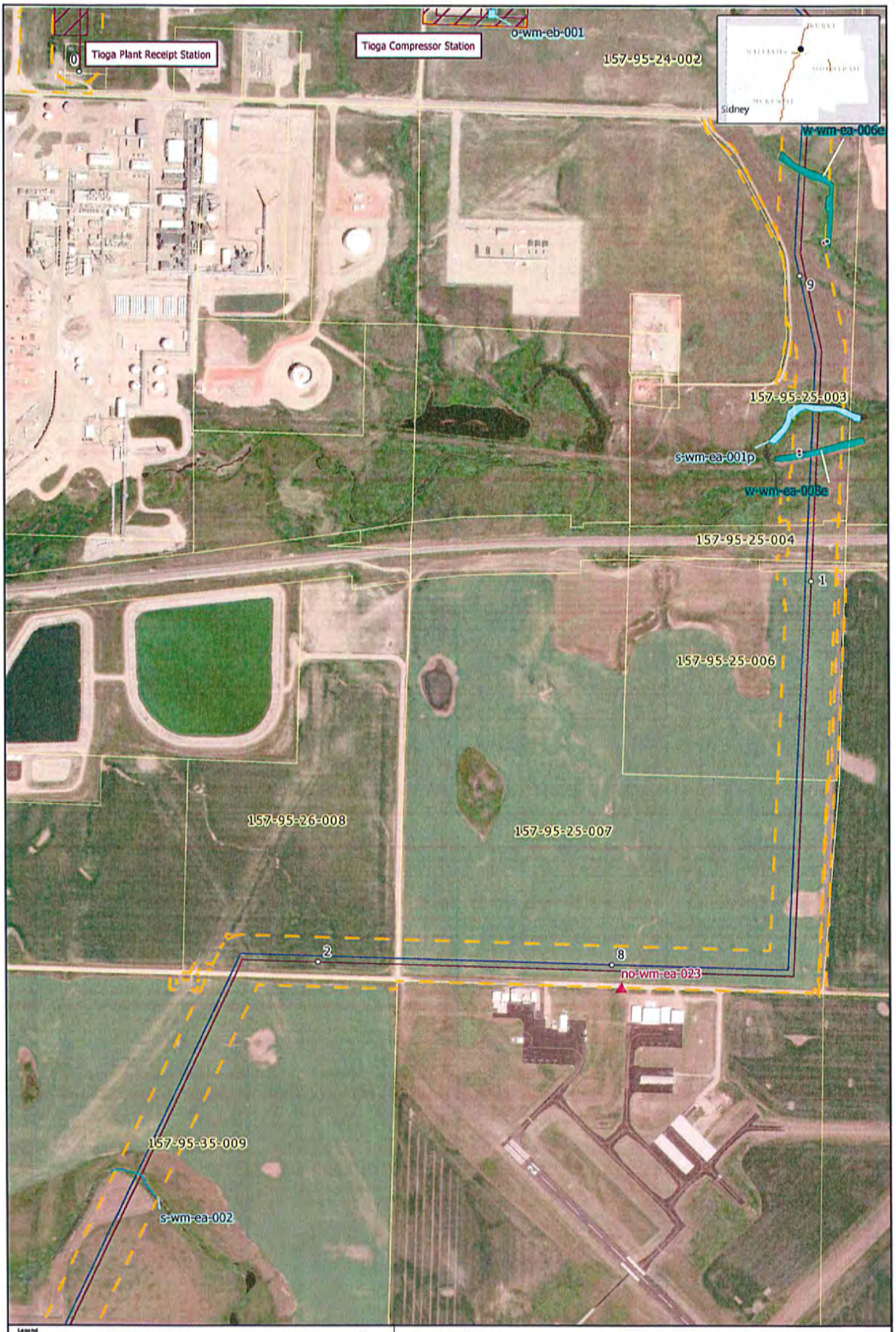


Aquatic Resource Delineation Map Set
North Bakken Expansion Project

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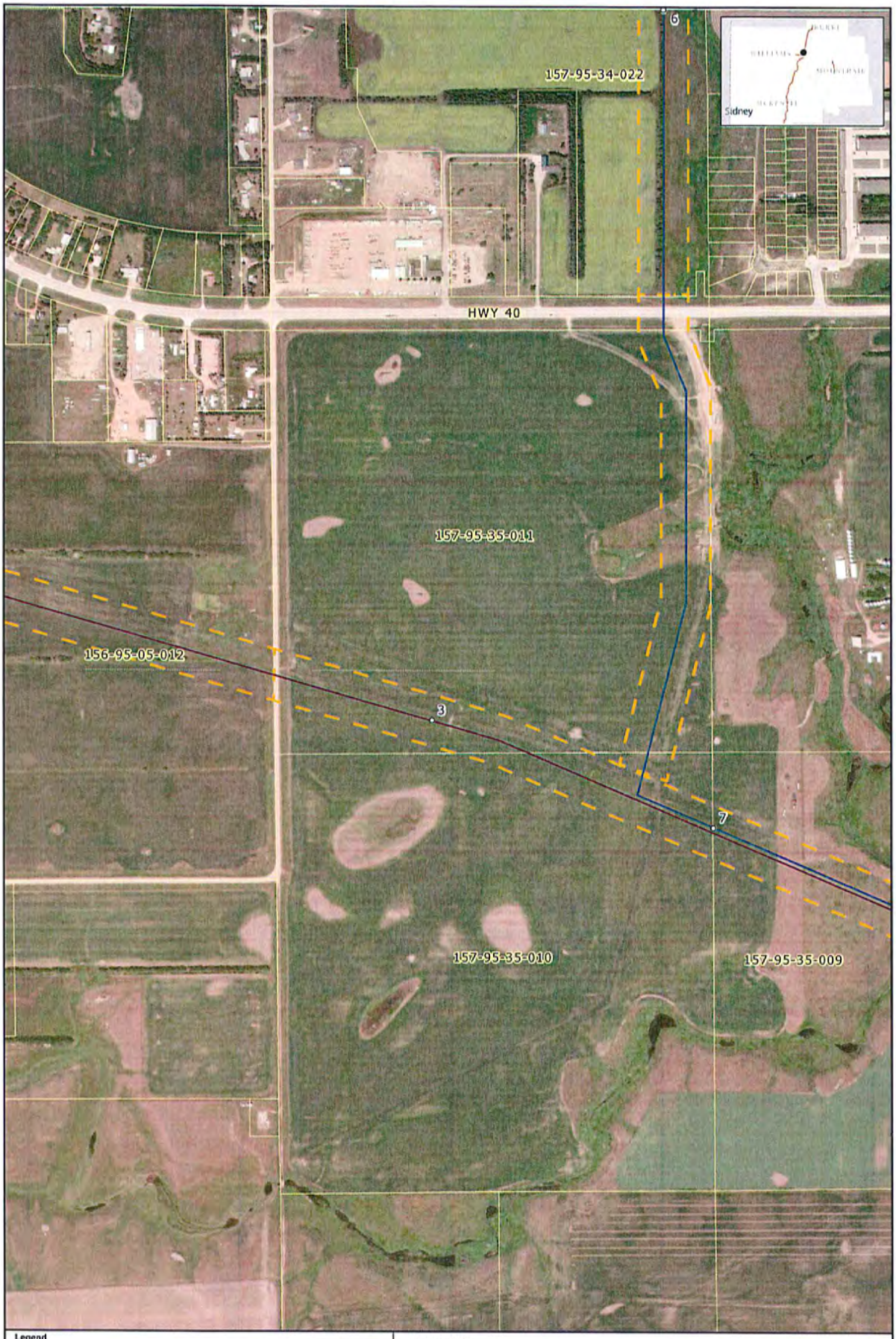


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Legend

- Milepost
- Line Section 30 Loop
- Proposed Elkhorn Creek to Tioga
- Environmental Survey Corridor
- Parcel Boundary

**All surveys were conducted by ERM.

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North Bakken Expansion Project

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Legend

- Milepost
- Proposed Elkhorn Creek to Tioga
- Environmental Survey Corridor
- Non-Water Data Point
- Parcel Boundary

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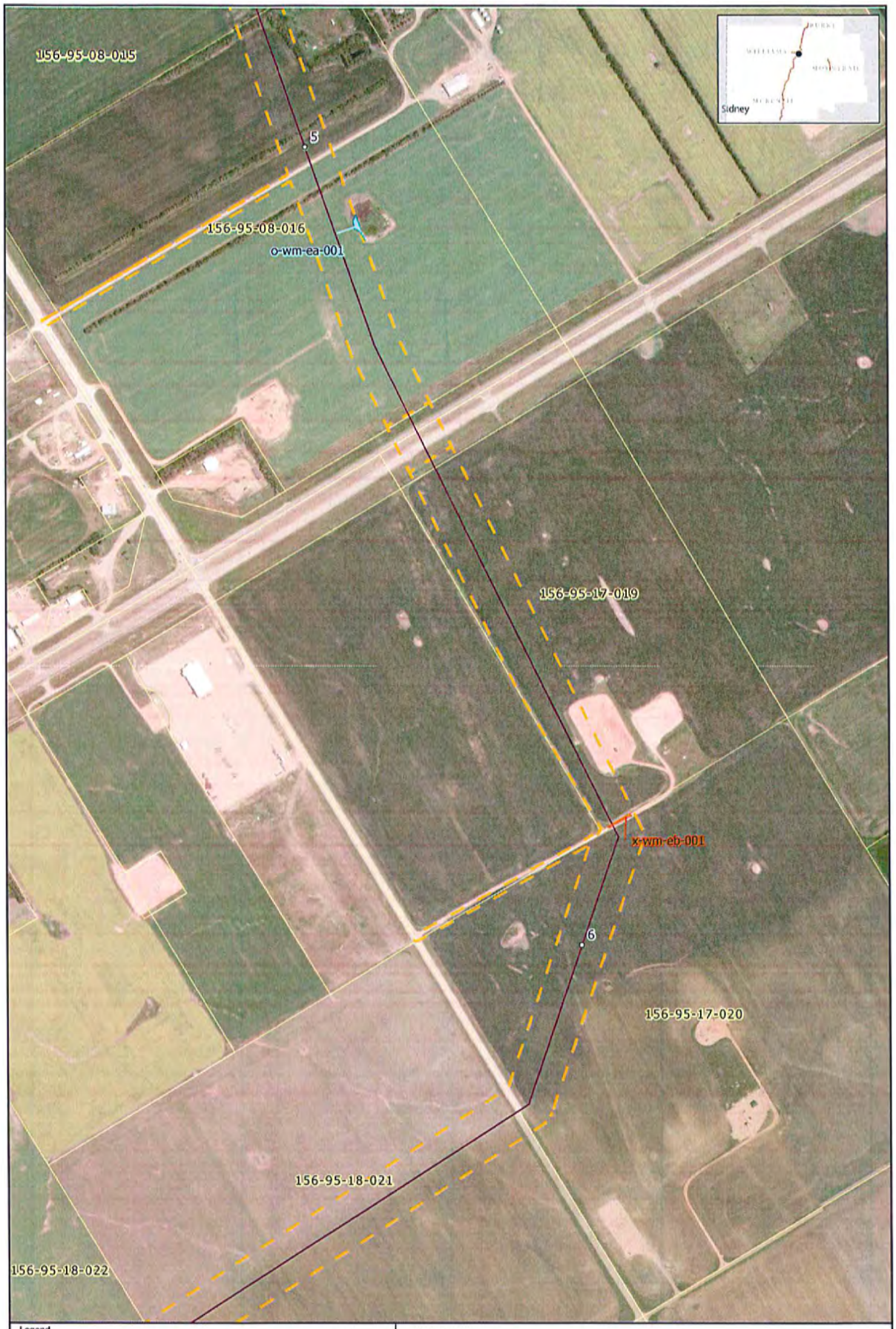
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Legend

- Milepost
- Proposed Elkhorn Creek to Tioga
- Environmental Survey Corridor
- Surveyed Waterbody
- **All surveys were conducted by ERM.
- Non-Water Data Point
- Surveyed Noxious Weed Parcel Boundary

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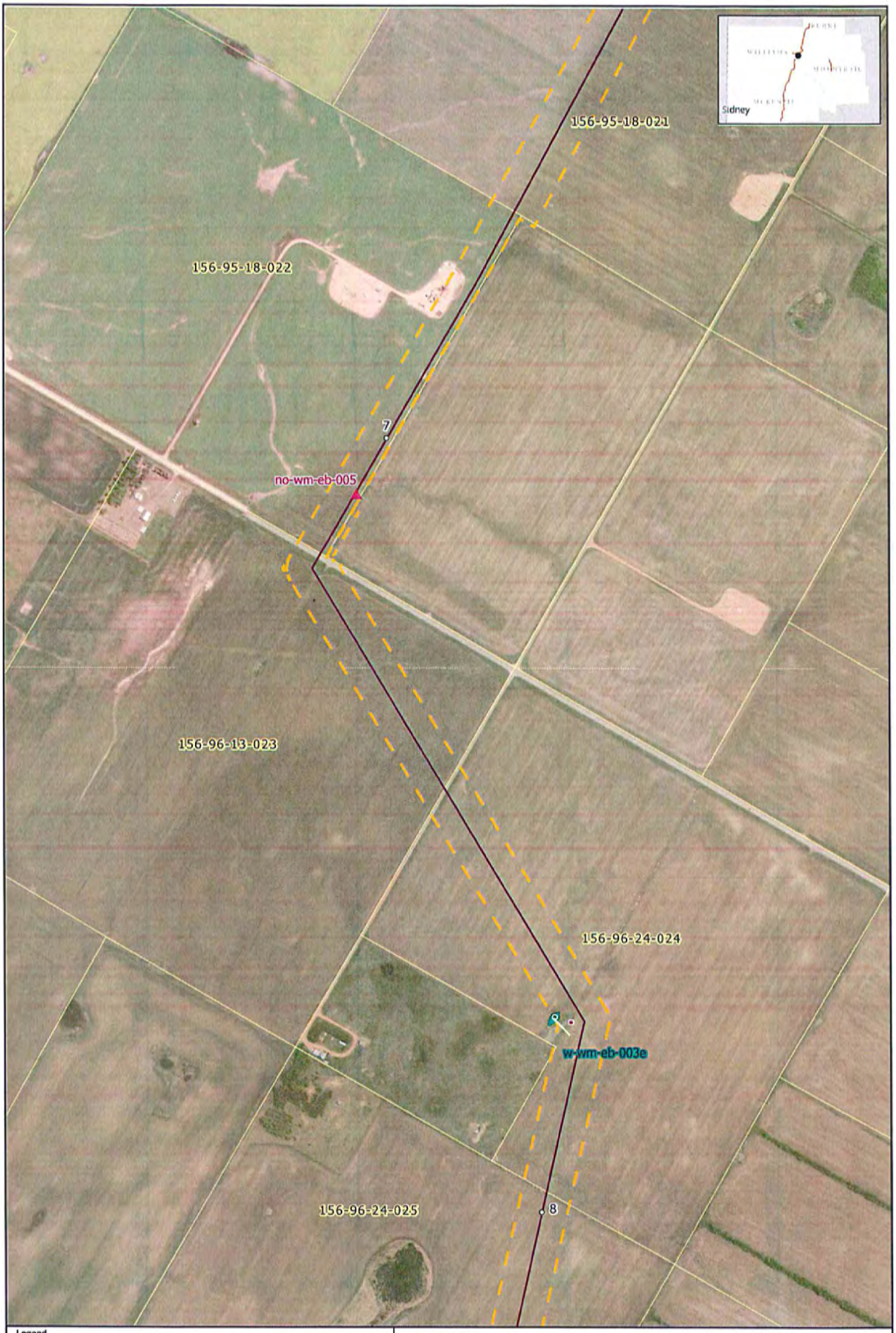
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Legend

- Milepost
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- Wetland Data Point
- Parcel Boundary

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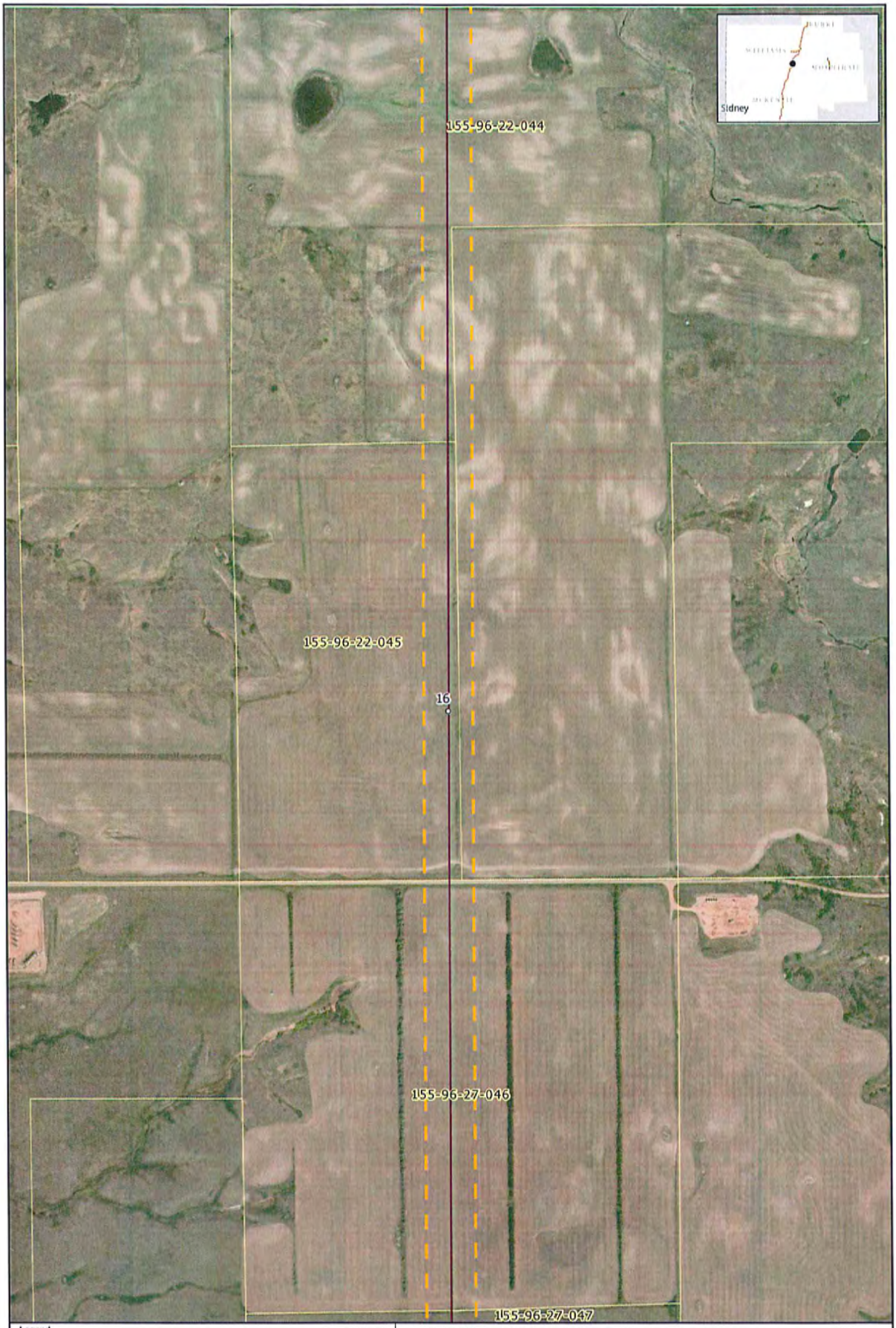
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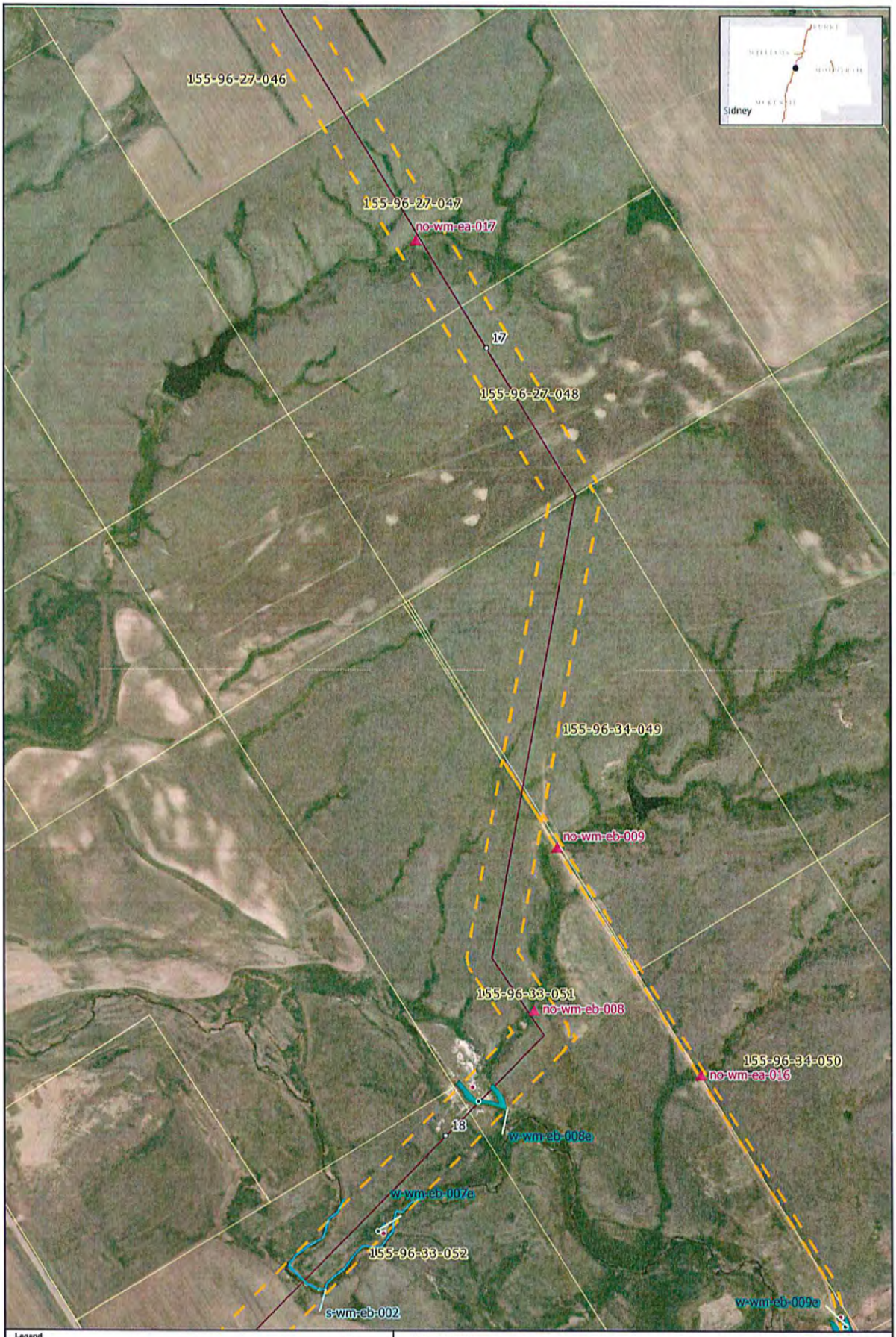
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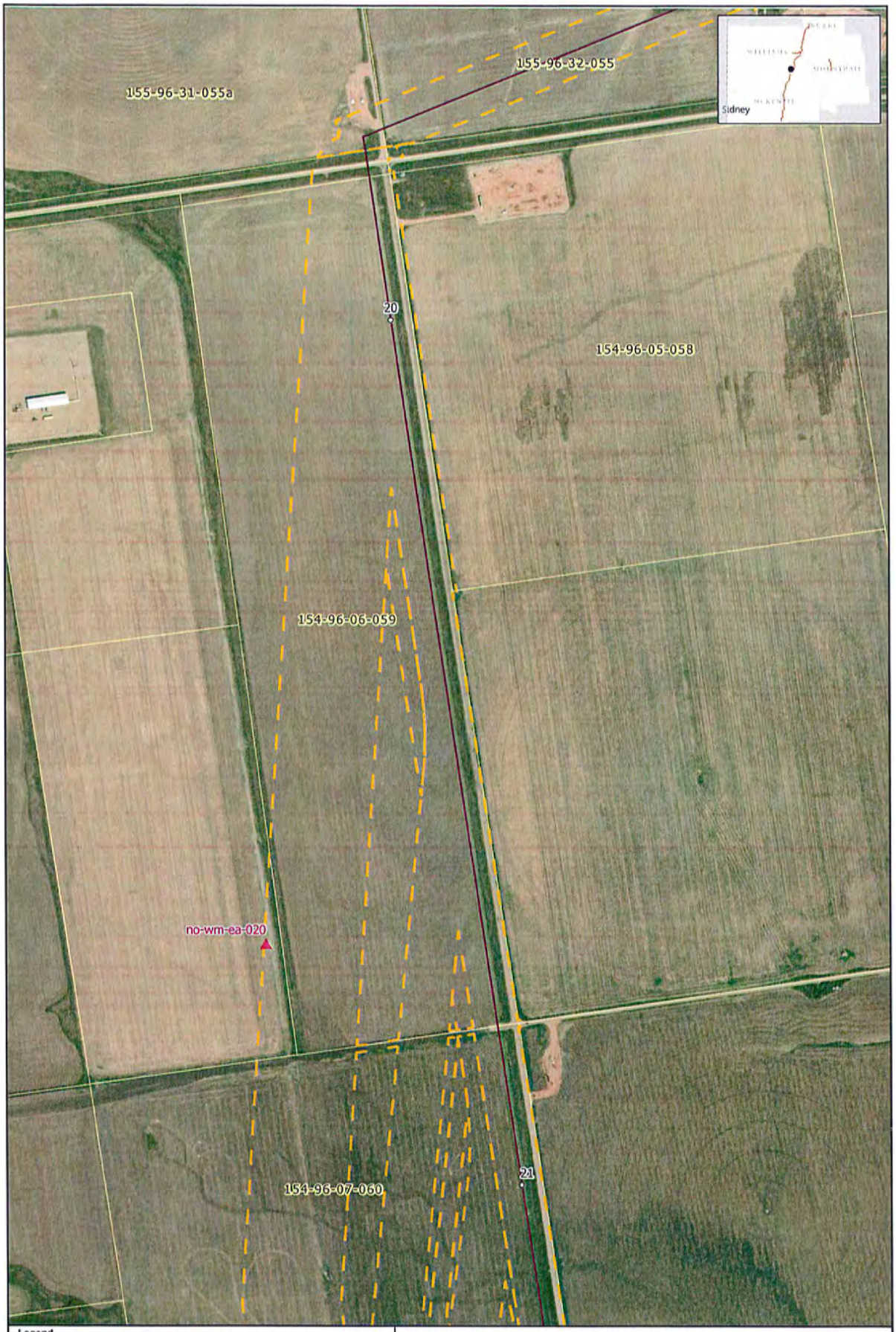
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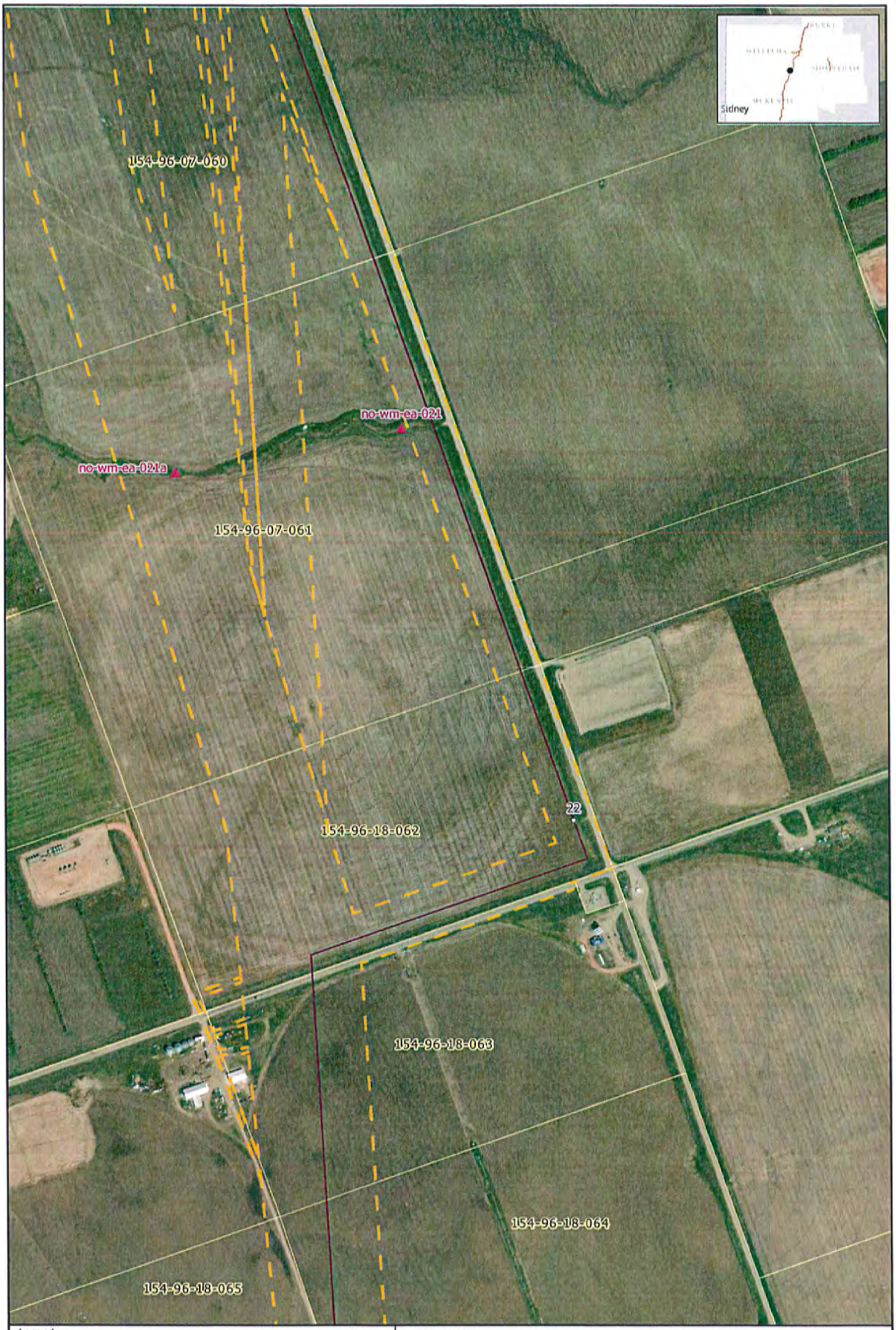
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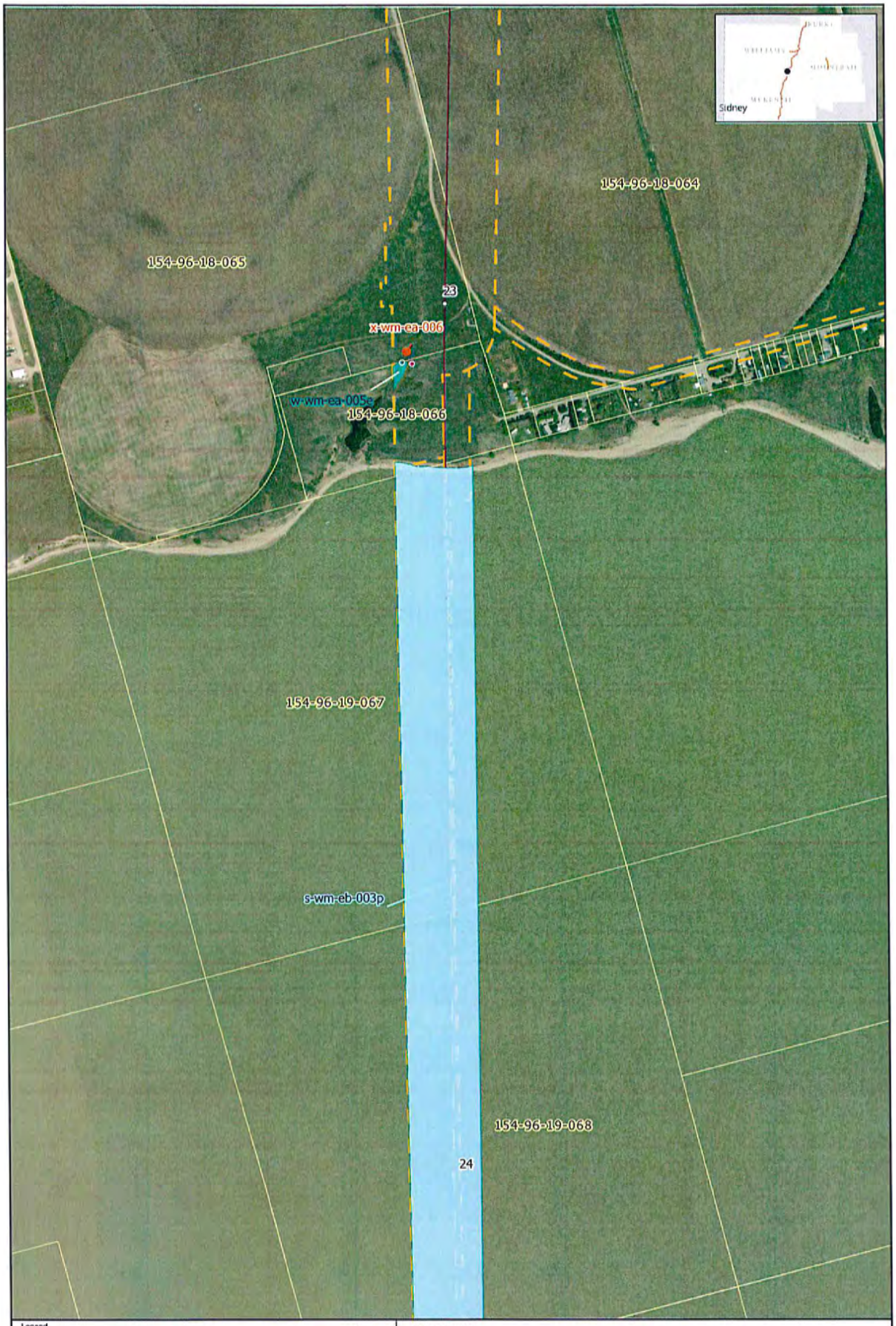
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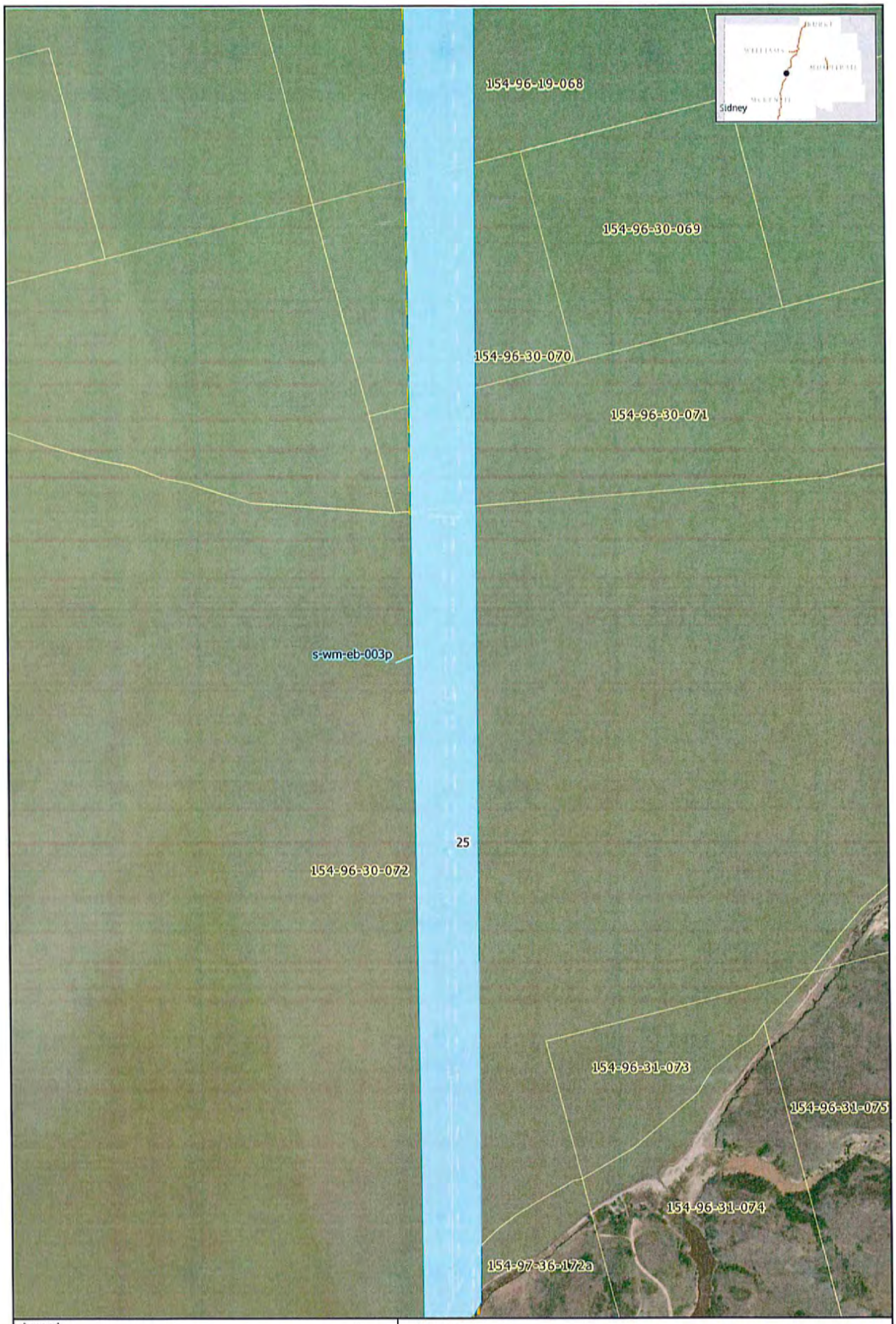
0 500 1,000 Feet

Aquatic Resource Delineation Map Set
North Bakken Expansion Project

WBI ENERGY TRANSMISSION

ERM

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Legend

- Milepost
- Proposed Elkhorn Creek to Tioga
- Environmental Survey Corridor
- Surveyed Waterbody
- Parcel Boundary

1:6,500

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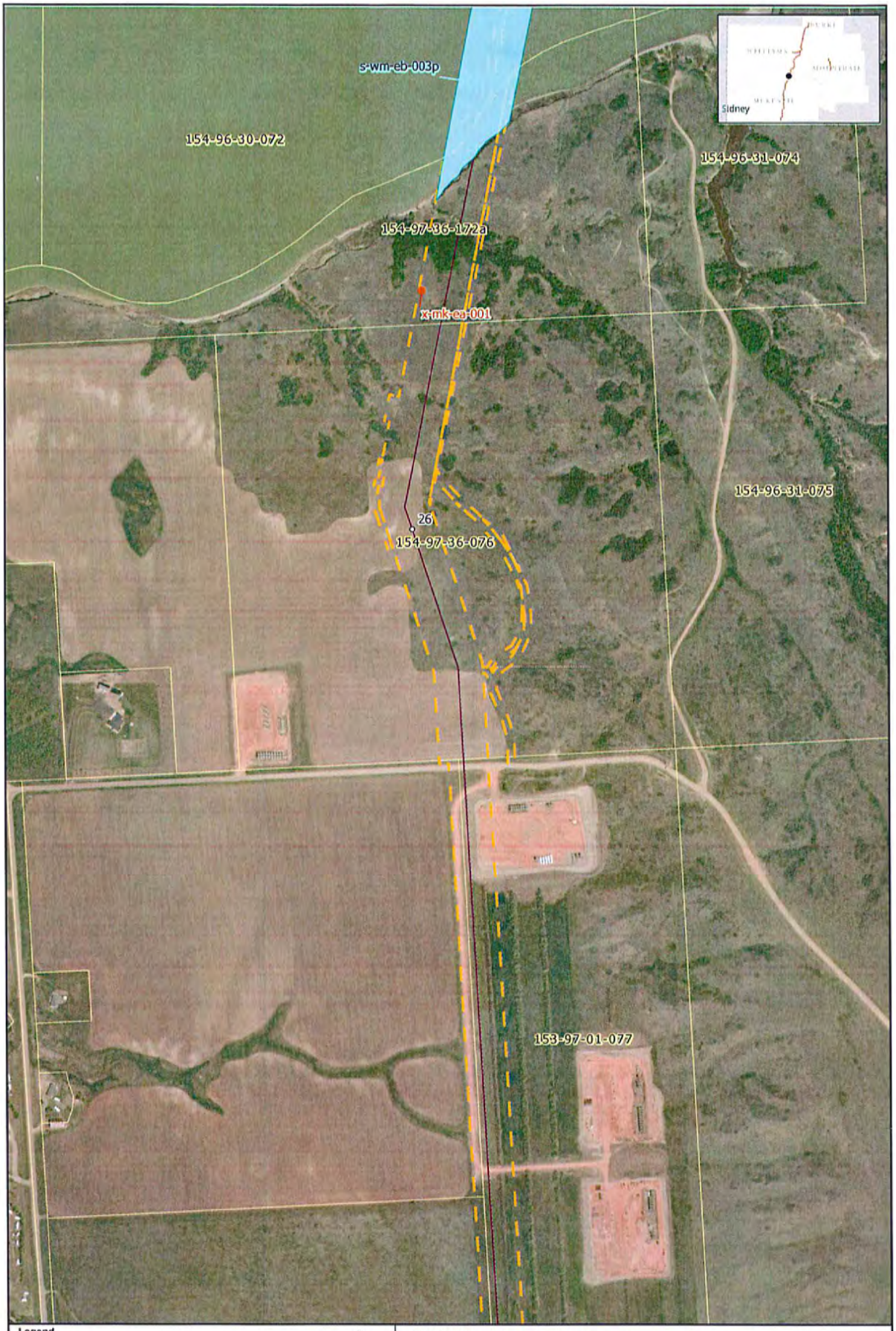
**All surveys were conducted by ERM.

Aquatic Resource Delineation Map Set
North Bakken Expansion Project

WBI ENERGY TRANSMISSION

ERM

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Legend

- Milepost
- Proposed Elkhorn Creek to Tioga
- Environmental Survey Corridor
- Surveyed Waterbody
- Noxious Weed Point
- Parcel Boundary

1:6,500

0 500 1,000 Feet

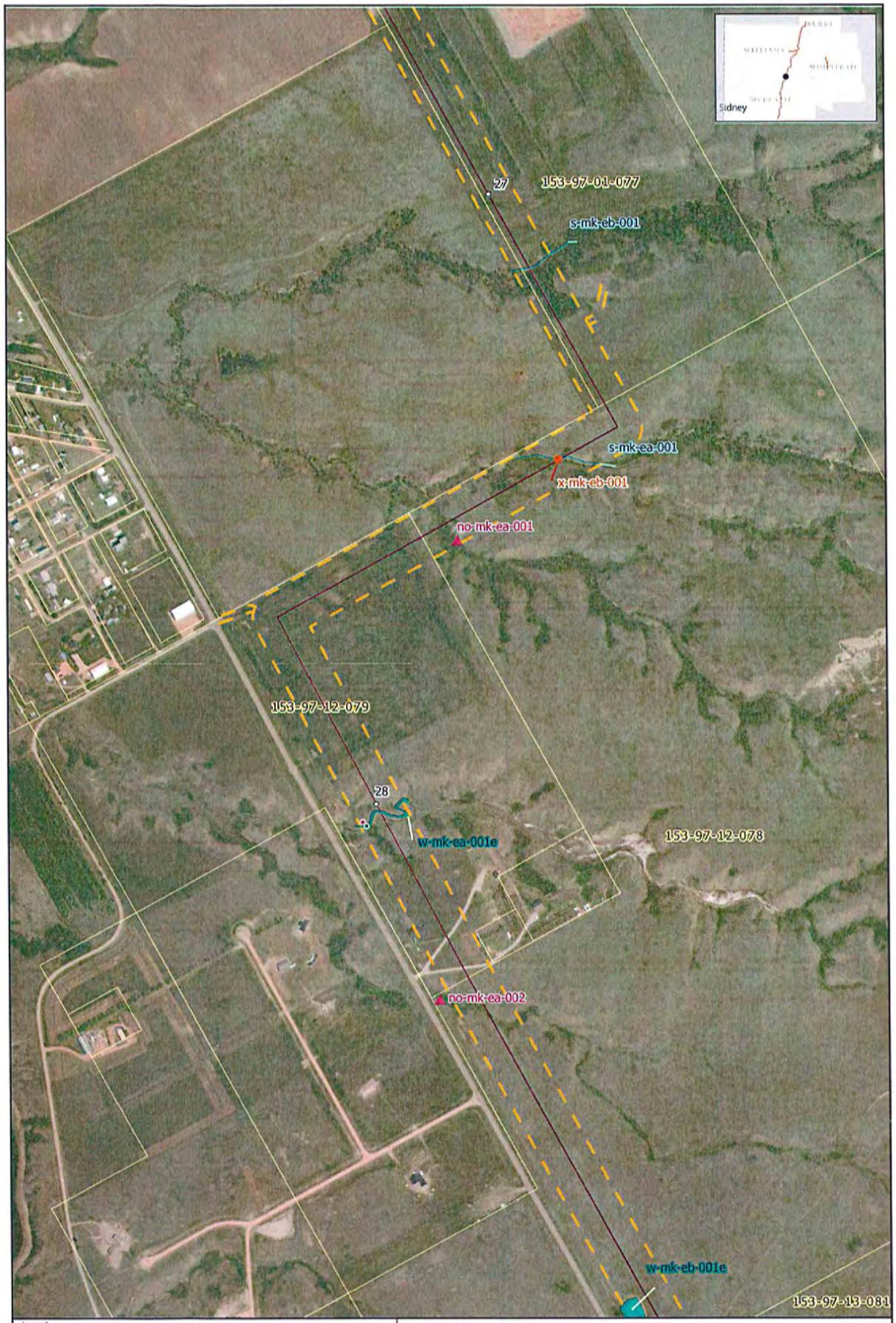
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Aquatic Resource Delineation Map Set
North Bakken Expansion Project

WBI ENERGY TRANSMISSION

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Legend

- Milepost
- Proposed Elkhorn Creek to Tioga
- Environmental Survey Corridor
- Surveyed Waterbody
- Non-Water Data Point
- Surveyed Wetland
- Upland Data Point
- Wetland Data Point
- Noxious Weed Point
- Parcel Boundary

**All surveys were conducted by ERM.

1:6,500

0 500 1,000 Feet

Aquatic Resource Delineation Map Set
North Bakken Expansion Project

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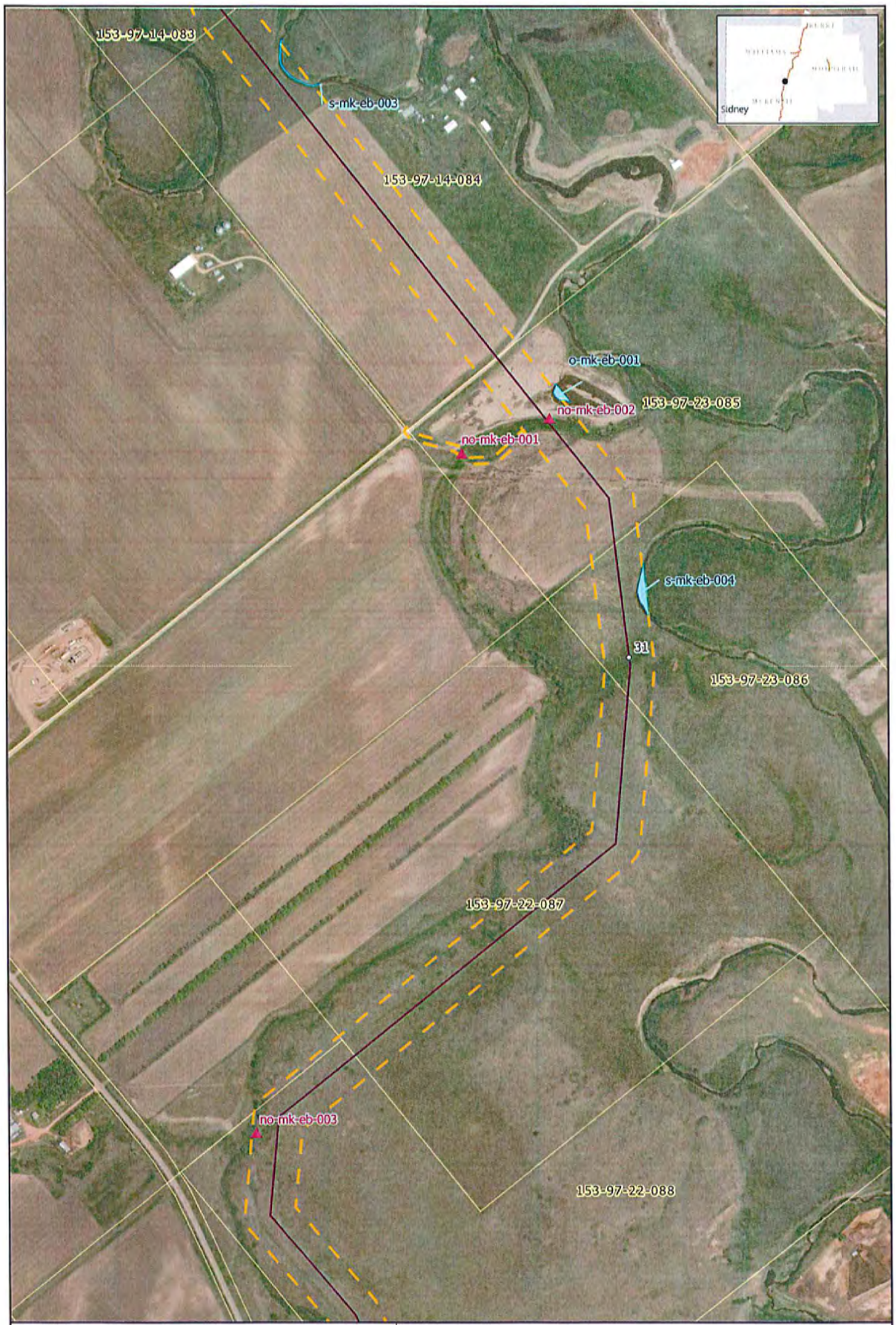


Aquatic Resource Delineation Map Set
North Bakken Expansion Project

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Legend

- Milepost
- Proposed Elkhorn Creek to Tioga
- Environmental Survey Corridor
- Surveyed Waterbody
- Non-Water Data Point
- Parcel Boundary

1:6,500

0 500 1,000 Feet

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Aquatic Resource Delineation Map Set
North Bakken Expansion Project

WBI ENERGY TRANSMISSION

ERM

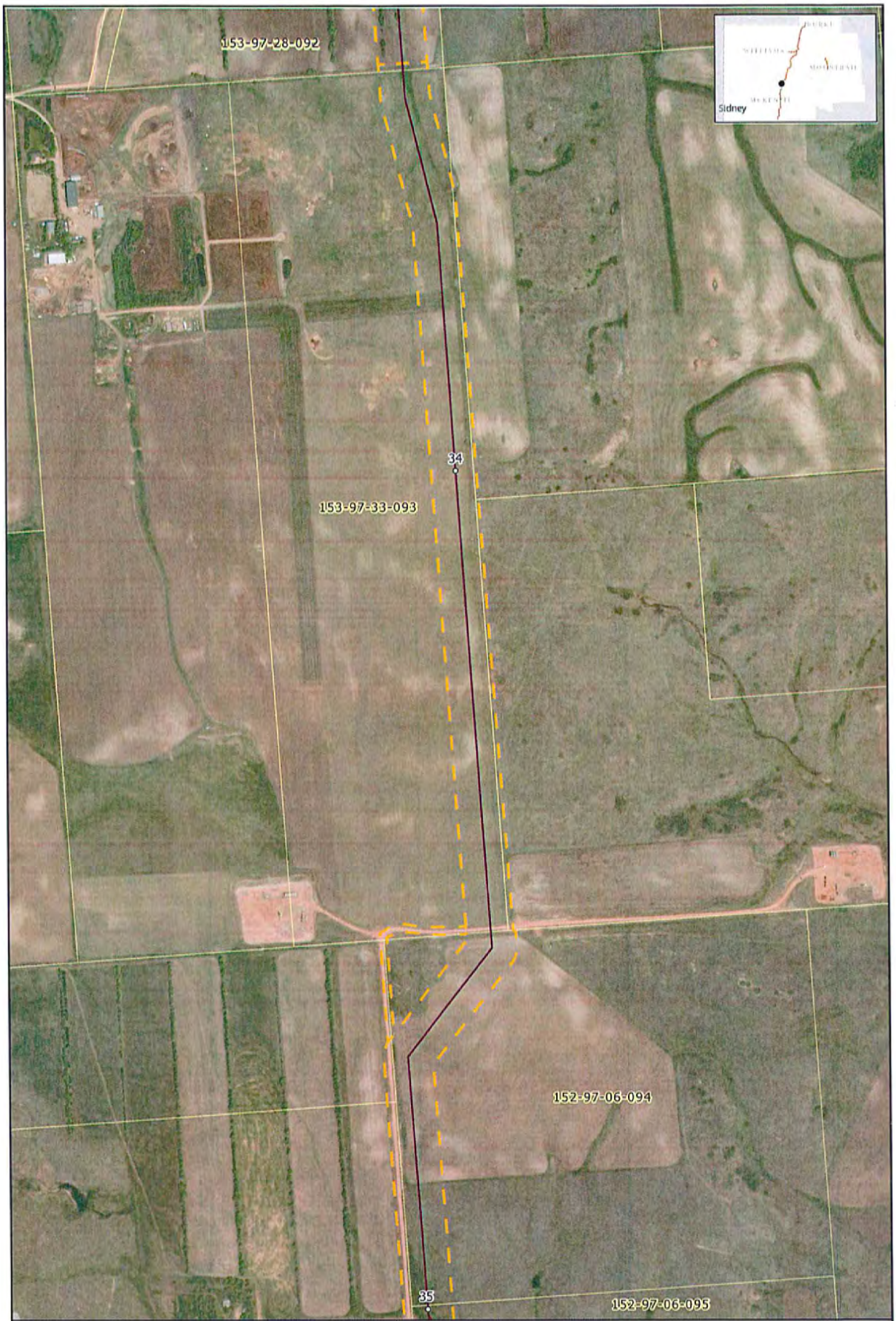


Aquatic Resource Delineation Map Set
North Bakken Expansion Project

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Legend

- Milepost
- Proposed Elkhorn Creek to Tioga
- Environmental Survey Corridor
- Non-Water Data Point
- Parcel Boundary

**All surveys were conducted by ERM.

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Aquatic Resource Delineation Map Set
North Bakken Expansion Project

WBI ENERGY TRANSMISSION

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Legend

- Milepost
- Proposed Elkhorn Creek to Tioga
- Environmental Survey Corridor
- Surveyed Waterbody
- Non-Water Data Point
- Parcel Boundary

1:6,500

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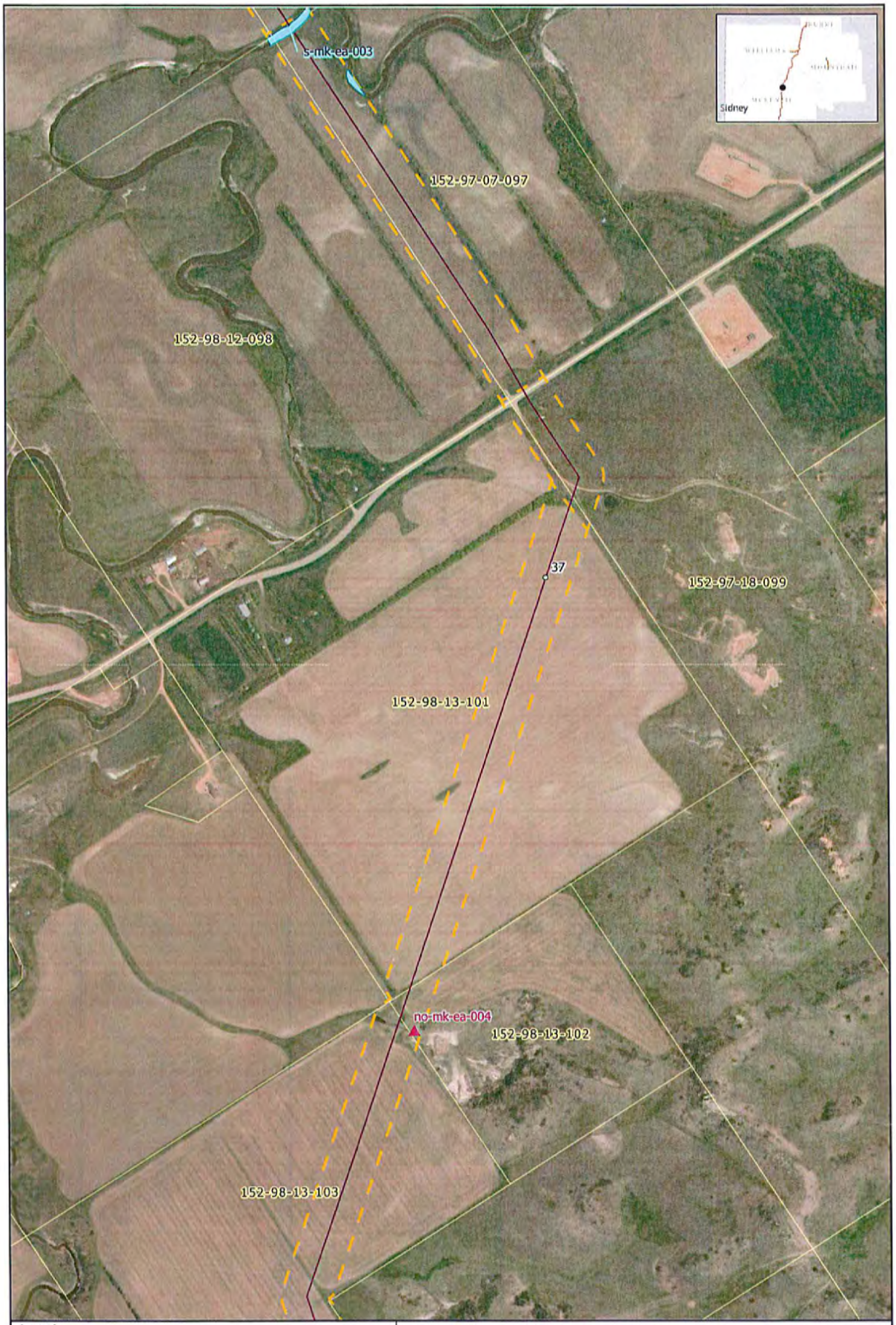
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Aquatic Resource Delineation Map Set
North Bakken Expansion Project

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Legend

- Milepost
- Proposed Elkhorn Creek to Tioga
- Environmental Survey Corridor
- Surveyed Waterbody
- Non-Water Data Point
- Parcel Boundary

1:6,500

0 500 1,000 Feet

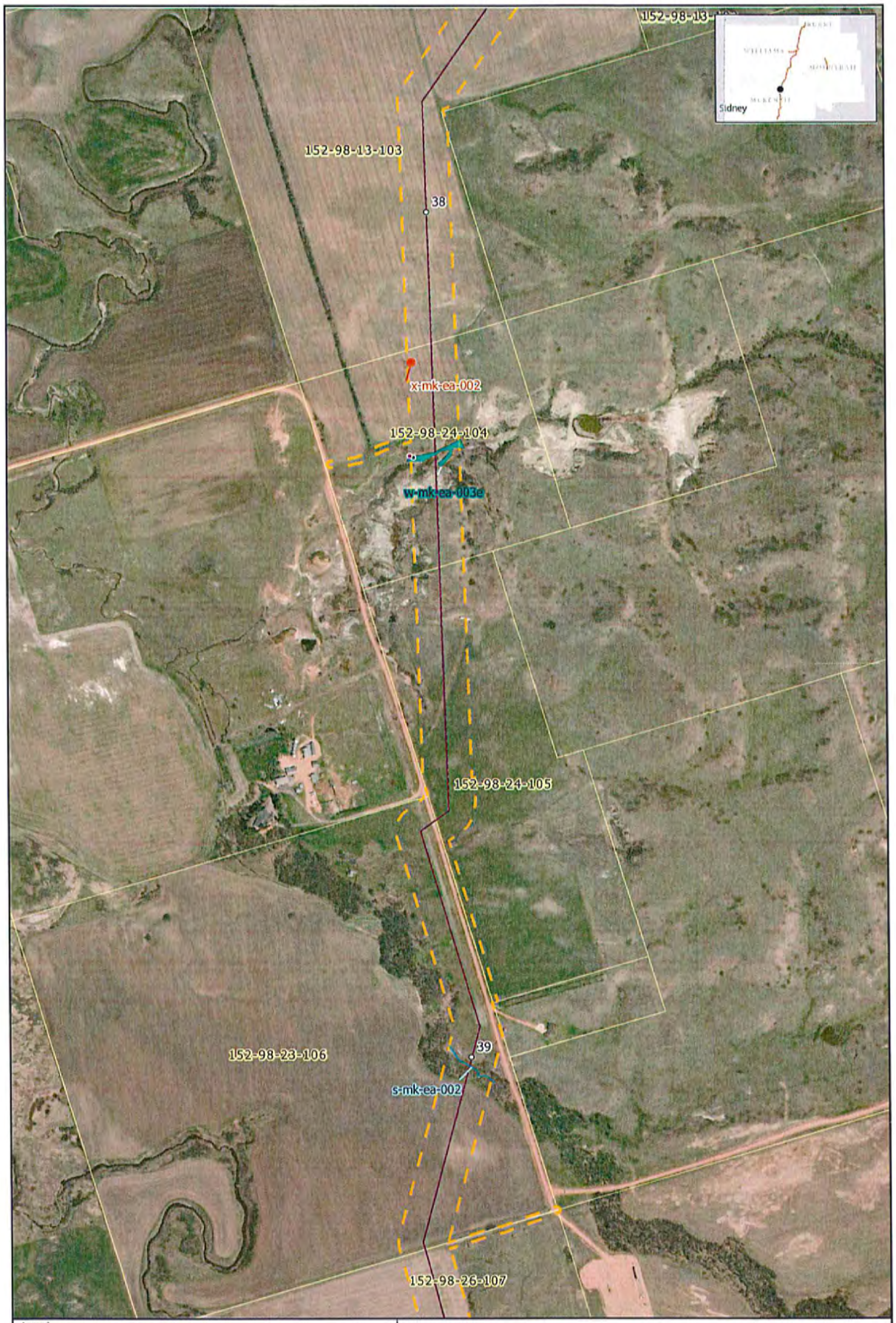
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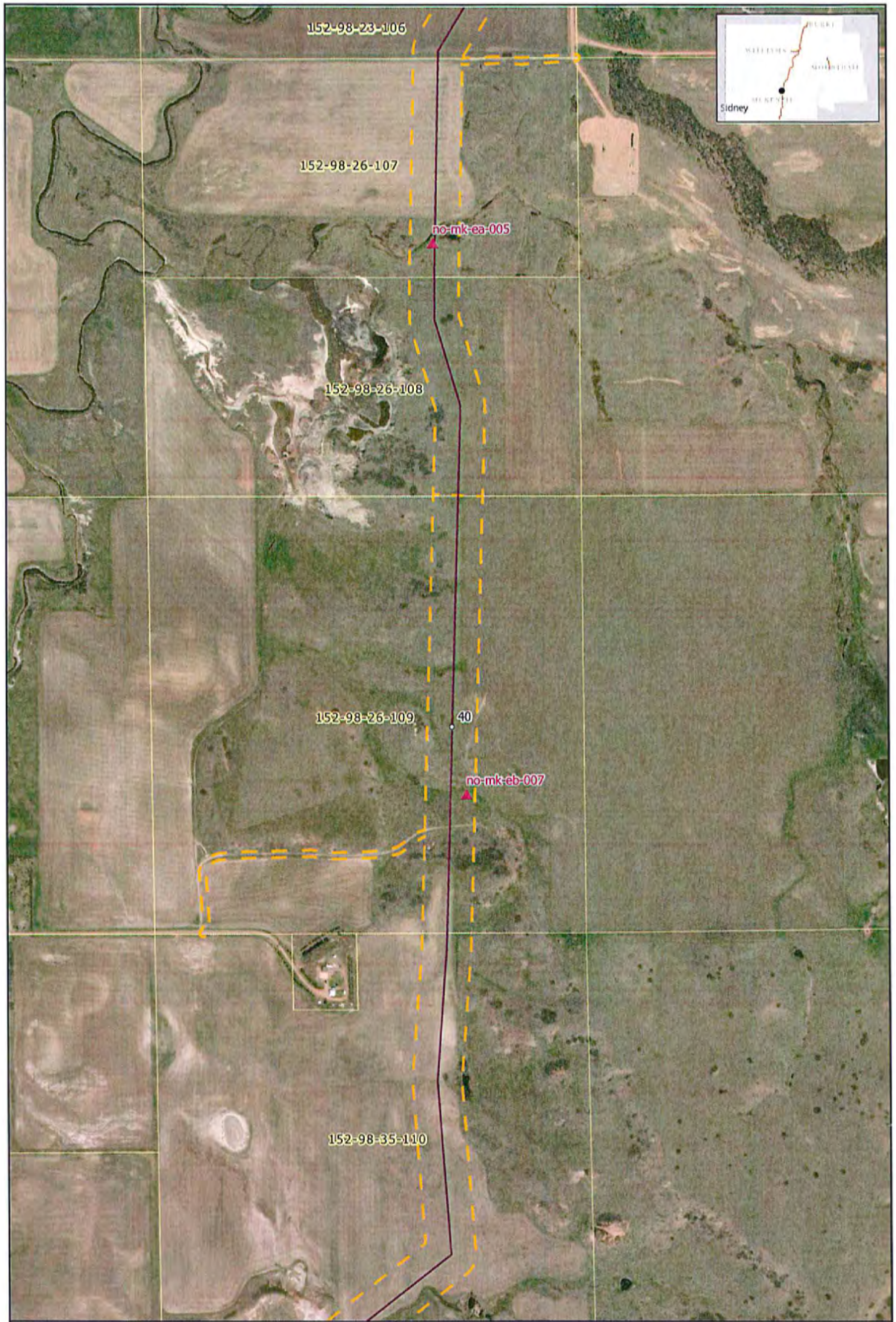
Aquatic Resource Delineation Map Set
North Bakken Expansion Project

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152-98-13-
Sidney
152-98-13-103
38
x-mk-ea-002
152-98-24-104
w-mk-ea-003e
152-98-24-105
152-98-23-106
39
s-mk-ea-002
152-98-26-107
Legend
Milepost
Proposed Elkhorn Creek to Tioga
Environmental Survey Corridor
Surveyed Waterbody
Surveyed Wetland
Upland Data Point
Wetland Data Point
Noxious Weed Point
Parcel Boundary
**All surveys were conducted by ERM.
0
500
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Feet
1:6,500
Page 27 of 78
Aquatic Resource Delineation Map Set
North Bakken Expansion Project
WBI ENERGY TRANSMISSION
ERM
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Legend

- Milepost
- Proposed Elkhorn Creek to Tioga
- Environmental Survey Corridor
- Non-Water Data Point
- Parcel Boundary

1:6,500

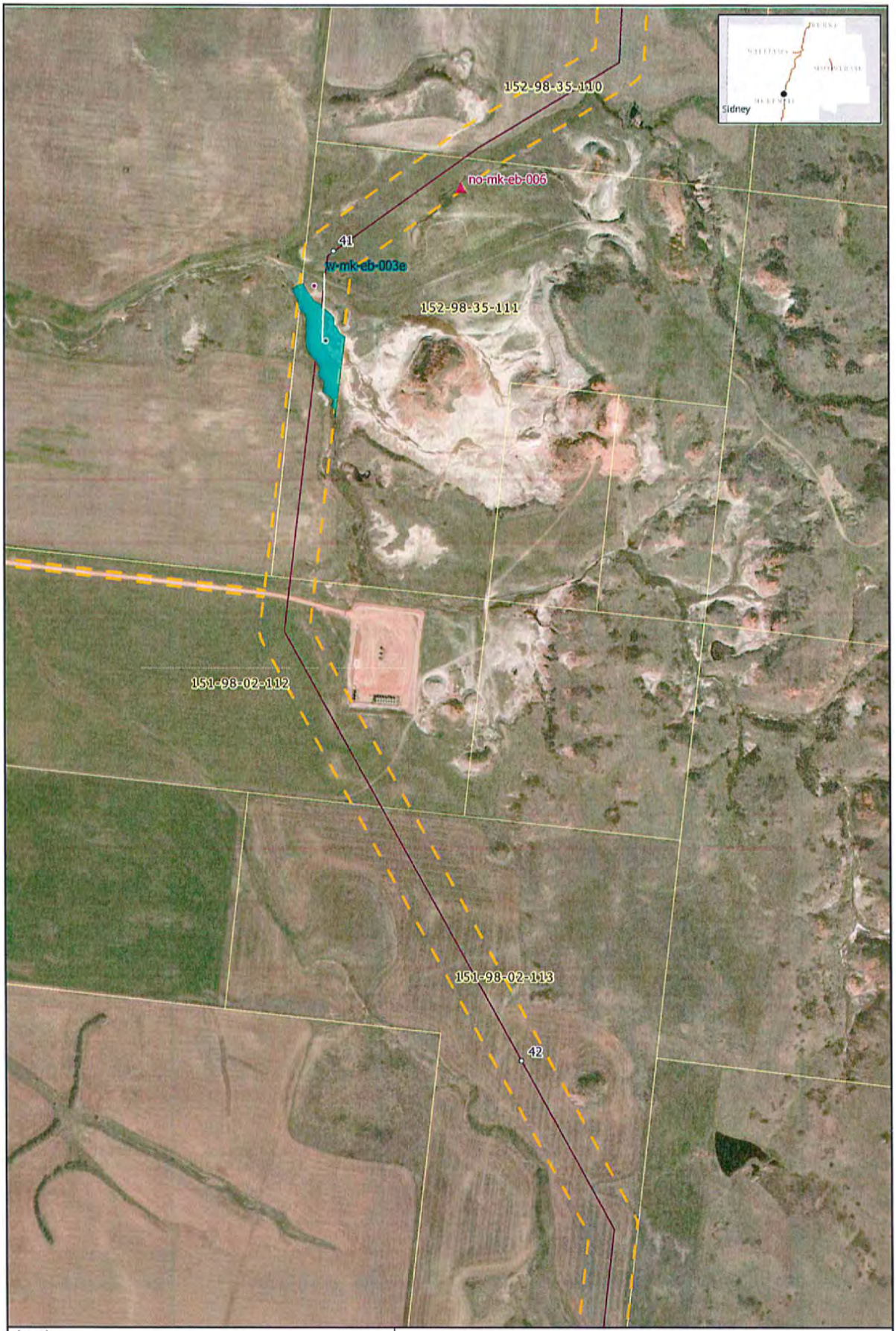
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**All surveys were conducted by ERM.

Aquatic Resource Delineation Map Set
North Bakken Expansion Project

WBI ENERGY TRANSMISSION

ERM



Legend

- Milepost
- Proposed Elkhorn Creek to Tioga
- Environmental Survey Corridor
- Non-Water Data Point
- **All surveys were conducted by ERM.
- Surveyed Wetland
- Upland Data Point
- Wetland Data Point
- Parcel Boundary

1:6,500

0 500 1,000 Feet

Aquatic Resource Delineation Map Set
North Bakken Expansion Project

WBI ENERGY TRANSMISSION

ERM



Legend

- Milepost
- Proposed Elkhorn Creek to Tioga
- Environmental Survey Corridor
- Not Surveyed
- Non-Water Data Point
- Parcel Boundary

1:6,500

0 500 1,000 Feet

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Aquatic Resource Delineation Map Set
North Bakken Expansion Project

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Legend

- Milepost
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- Environmental Survey Corridor
- Not Surveyed
- Parcel Boundary

1:6,500

0 500 1,000 Feet

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North Bakken Expansion Project

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Legend

- Milepost
- Proposed Elkhorn Creek to Tioga
- Environmental Survey Corridor
- Non-Water Data Point
- Parcel Boundary

1:6,500

0 500 1,000 Feet

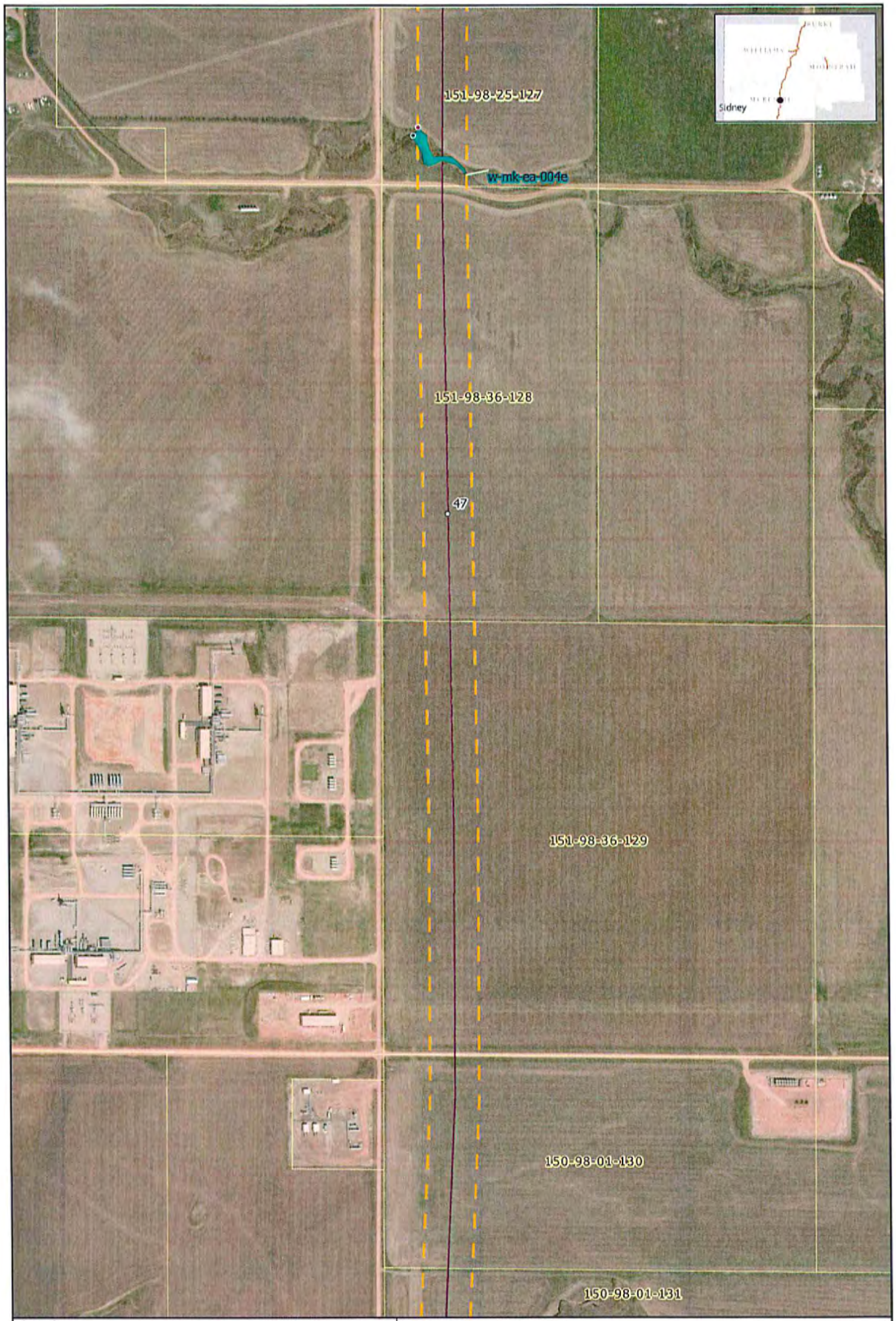
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Aquatic Resource Delineation Map Set
North Bakken Expansion Project

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Legend

- Milepost
- Proposed Elkhorn Creek to Tioga
- Environmental Survey Corridor
- Surveyed Wetland
- Upland Data Point
- Wetland Data Point
- Parcel Boundary

1:6,500

0 500 1,000 Feet

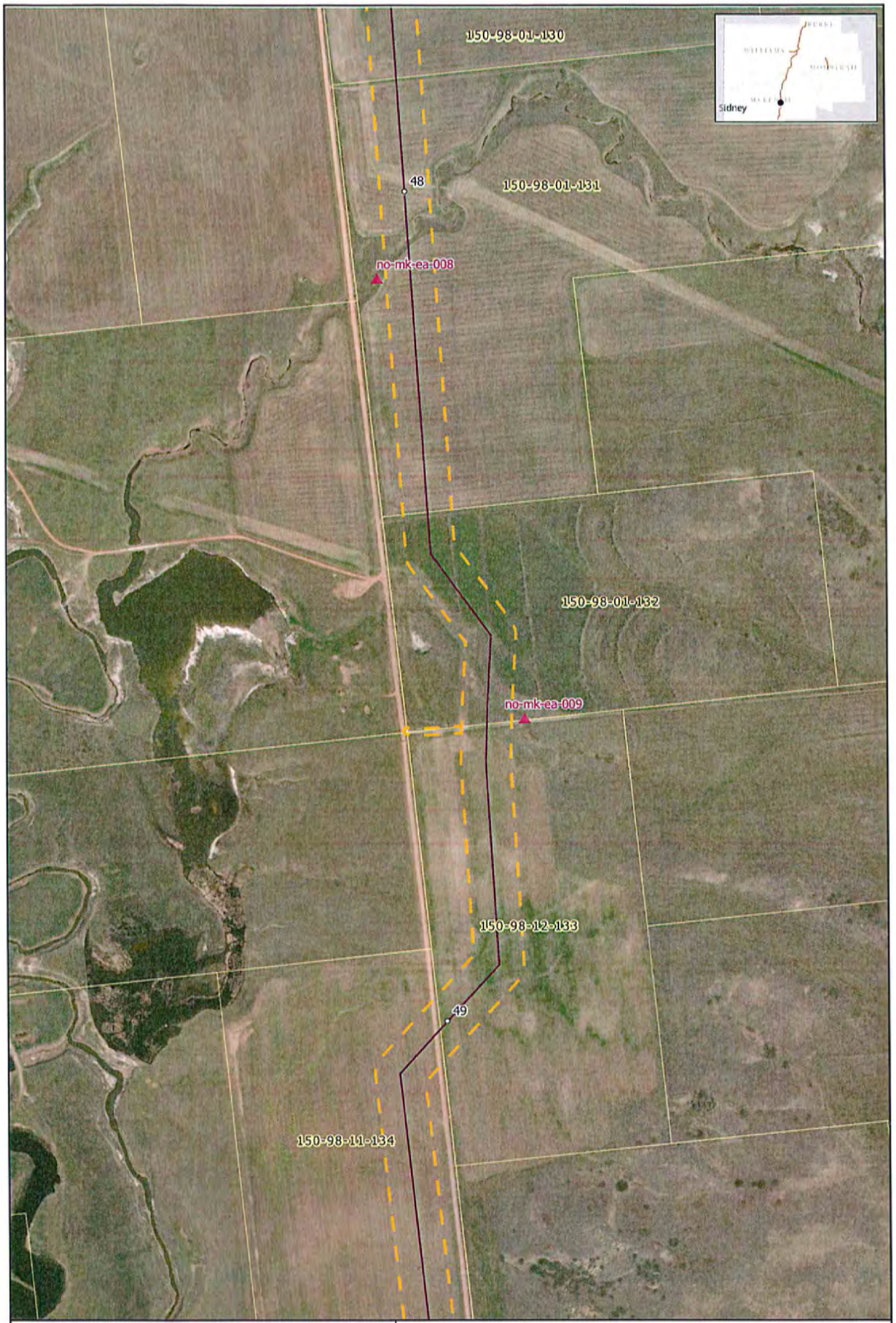
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Aquatic Resource Delineation Map Set
North Bakken Expansion Project

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Legend

- Milepost
- Proposed Elkhorn Creek to Tioga
- Environmental Survey Corridor
- Non-Water Data Point
- Parcel Boundary

1:6,500

0 500 1,000 Feet

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Aquatic Resource Delineation Map Set
North Bakken Expansion Project

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Legend

- Milepost
- Proposed Elkhorn Creek to Tioga
- Environmental Survey Corridor
- Not Surveyed
- **All surveys were conducted by ERM.
- Surveyed Wetland
- Upland Data Point
- Wetland Data Point
- Parcel Boundary

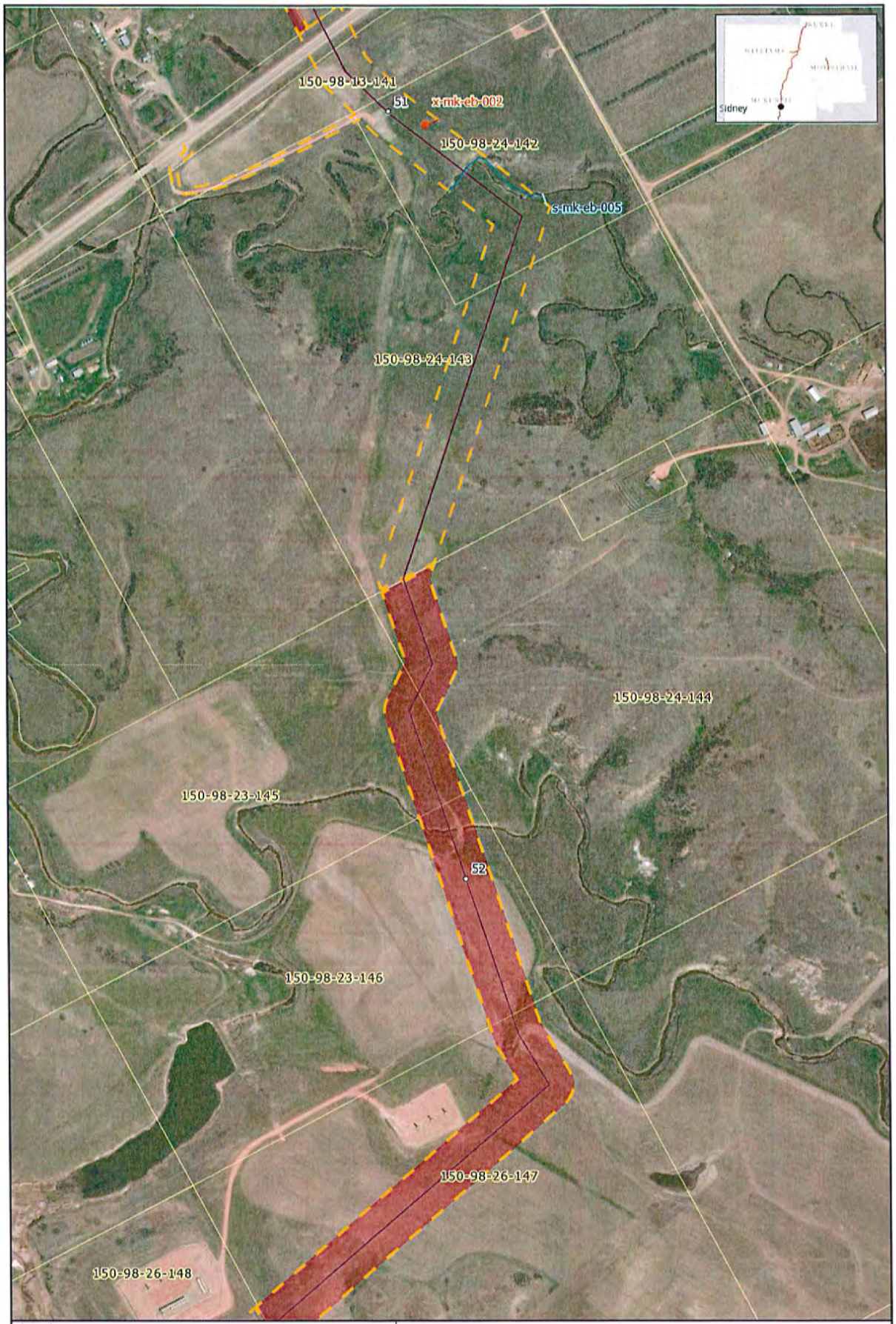
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Aquatic Resource Delineation Map Set
North Bakken Expansion Project

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Aquatic Resource Delineation Map Set
North Bakken Expansion Project

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Legend

- Milepost
- Proposed Elkhorn Creek to Tioga
- Environmental Survey Corridor
- Not Surveyed
- Parcel Boundary

**All surveys were conducted by ERM.

1:6,500

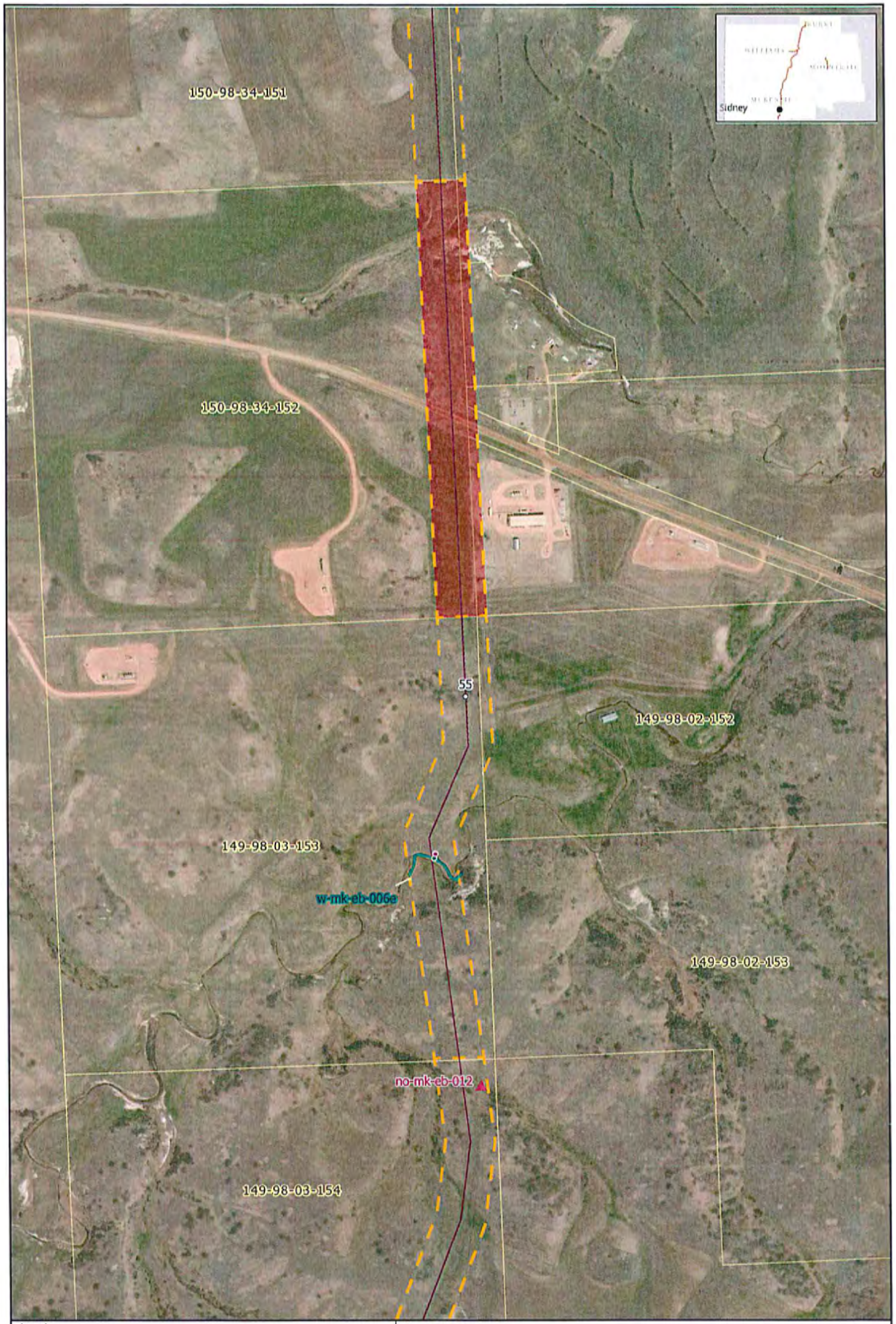
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Aquatic Resource Delineation Map Set
North Bakken Expansion Project

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Aquatic Resource Delineation Map Set
North Bakken Expansion Project

WBI ENERGY TRANSMISSION

ERM



Legend

- Milepost
- Proposed Elkhorn Creek to Tioga
- Environmental Survey Corridor
- Non-Water Data Point
- Parcel Boundary

1:6,500

0 500 1,000 Feet

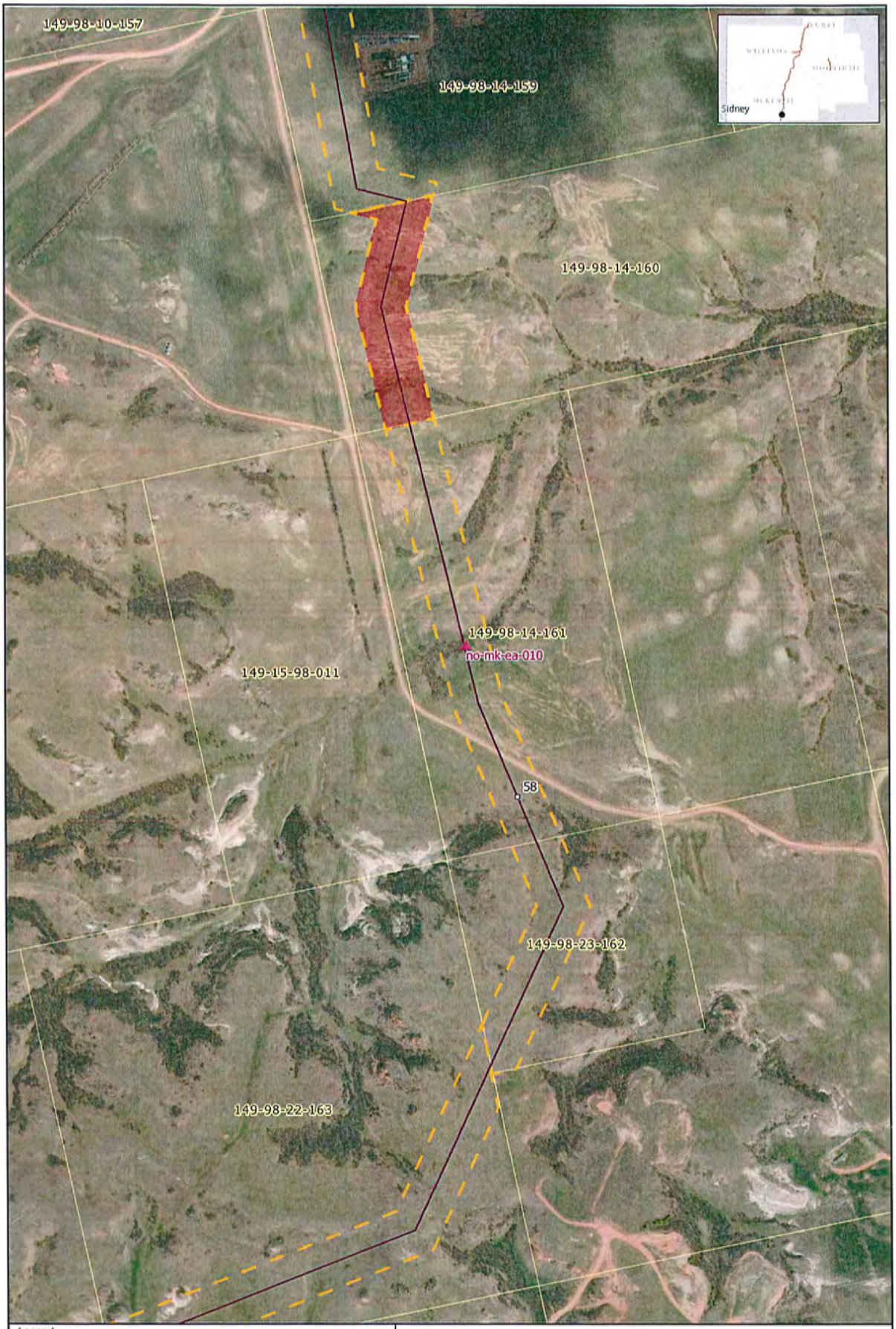
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Aquatic Resource Delineation Map Set
North Bakken Expansion Project

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Legend

- Milepost
- Proposed Elkhorn Creek to Tioga
- Environmental Survey Corridor
- Not Surveyed
- Non-Water Data Point
- Parcel Boundary

1:6,500

0 500 1,000 Feet

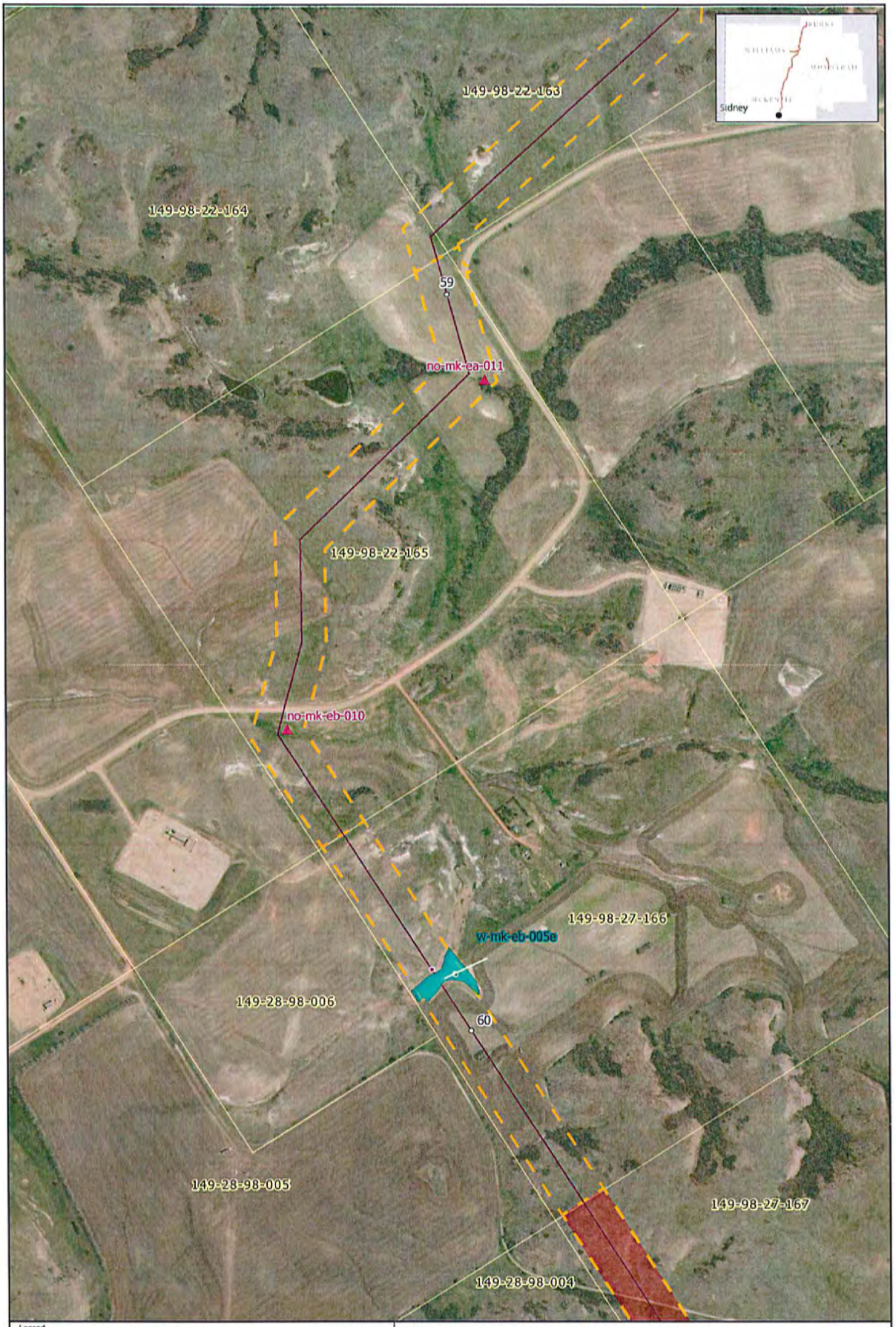
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Aquatic Resource Delineation Map Set
North Bakken Expansion Project

WBI ENERGY TRANSMISSION

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North Bakken Expansion Project

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Aquatic Resource Delineation Map Set
North Bakken Expansion Project

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Legend

Proposed Elkhorn Creek to Tioga

Aboveground Facility

Environmental Survey Corridor

Parcel Boundary

1:6,500

0 500 1,000 Feet

**All surveys were conducted by ERM.

Aquatic Resource Delineation Map Set
North Bakken Expansion Project

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North Bakken Expansion Project

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North Bakken Expansion Project

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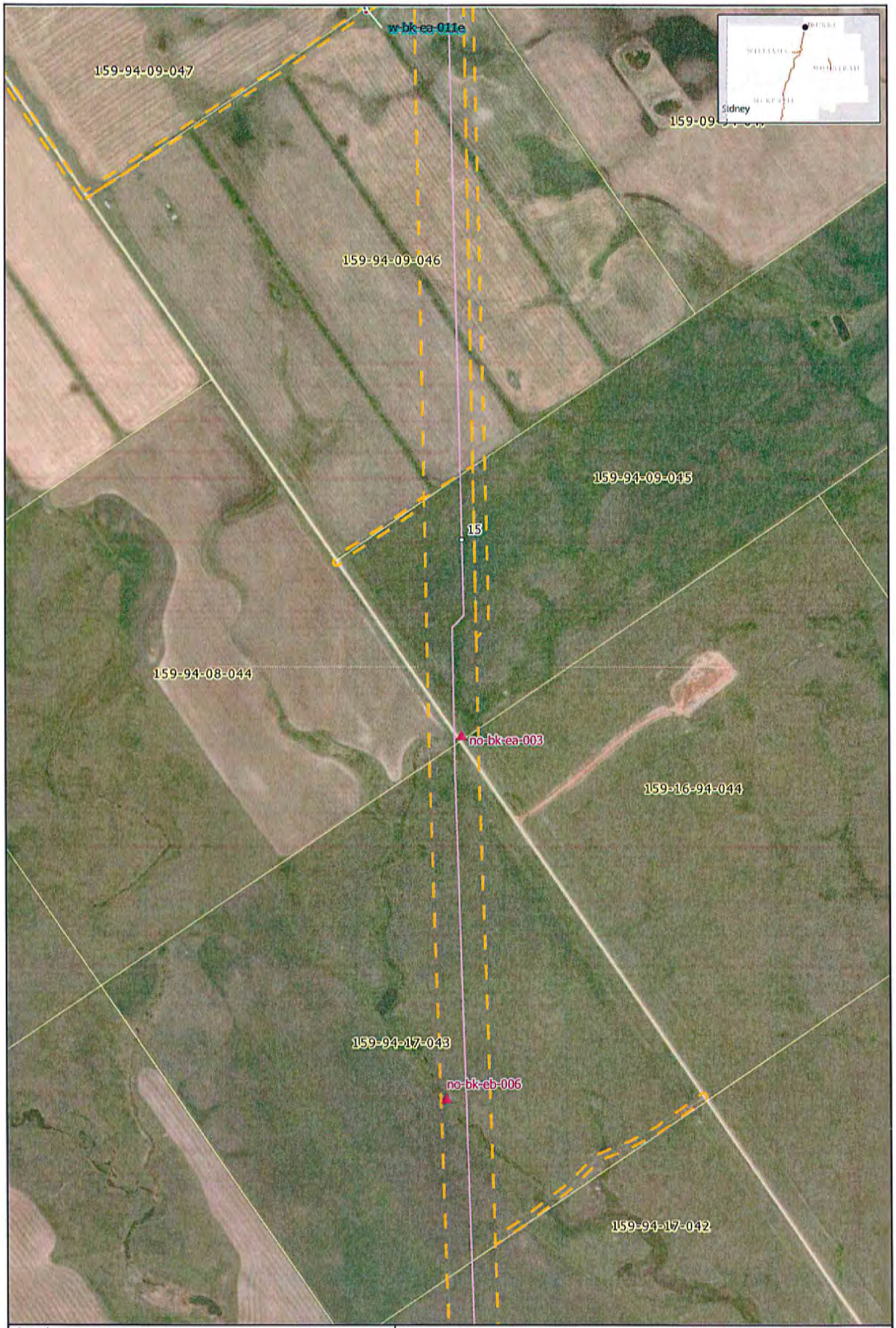


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North Bakken Expansion Project

WBI ENERGY TRANSMISSION

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Legend

- Milepost
- Tioga Norse Loop
- Environmental Survey Corridor
- Non-Water Data Point
- **All surveys were conducted by ERM.
- Surveyed Wetland
- Upland Data Point
- Wetland Data Point
- Parcel Boundary

1:6,500

0 500 1,000 Feet

Aquatic Resource Delineation Map Set
North Bakken Expansion Project

WBI ENERGY TRANSMISSION

ERM



Legend

- Milepost
- Tioga Norse Loop
- Environmental Survey Corridor
- Not Surveyed
- Surveyed Waterbody
- Surveyed Wetland
- Upland Data Point
- Wetland Data Point
- Parcel Boundary

**All surveys were conducted by ERM.

1:6,500

0 500 1,000 Feet

Aquatic Resource Delineation Map Set
North Bakken Expansion Project

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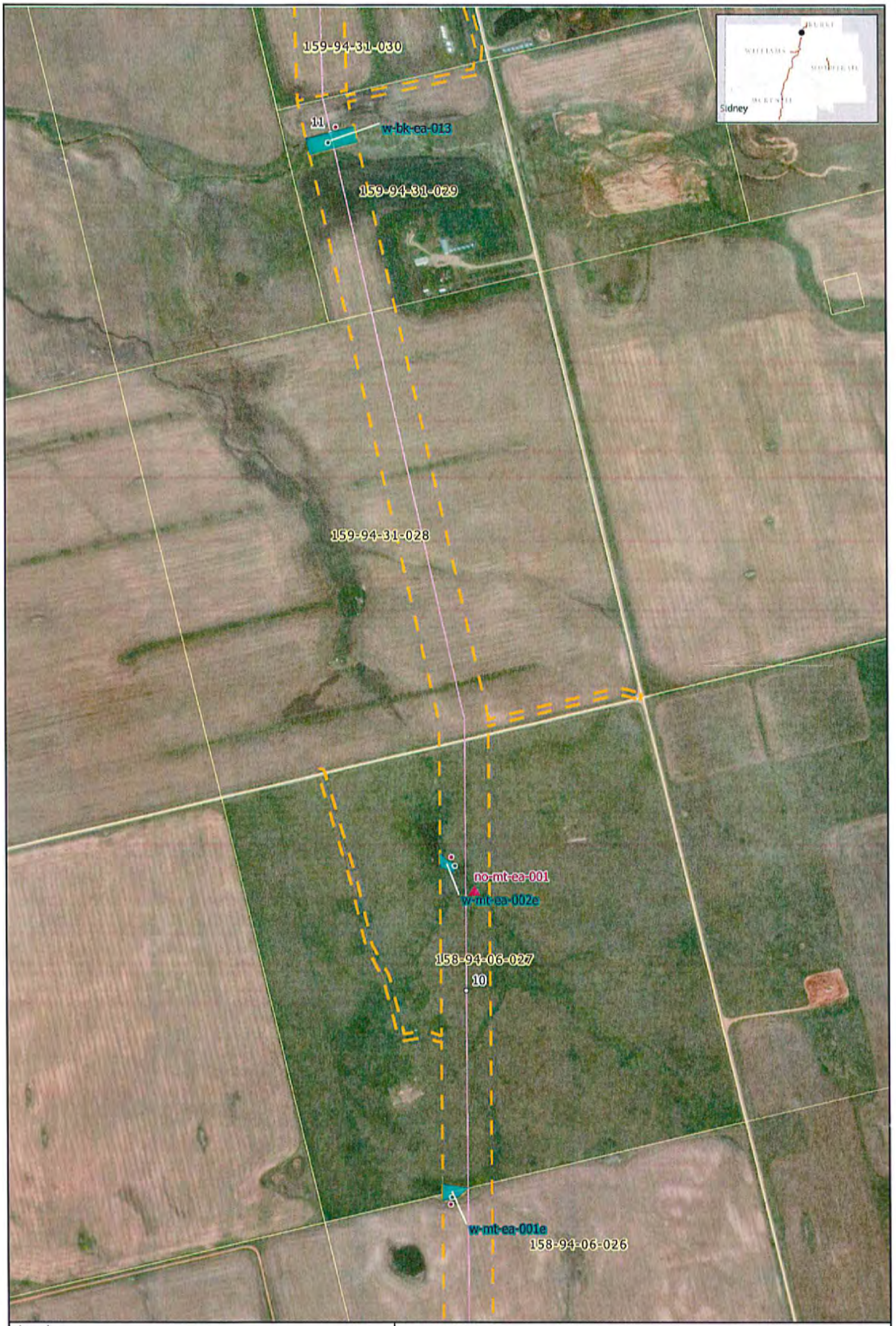


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North Bakken Expansion Project

WBI ENERGY TRANSMISSION

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Legend

- Milepost
- Tioga Norse Loop
- Environmental Survey Corridor
- Non-Water Data Point
- **All surveys were conducted by ERM.
- Surveyed Wetland
- Upland Data Point
- Wetland Data Point
- Parcel Boundary

1:6,500

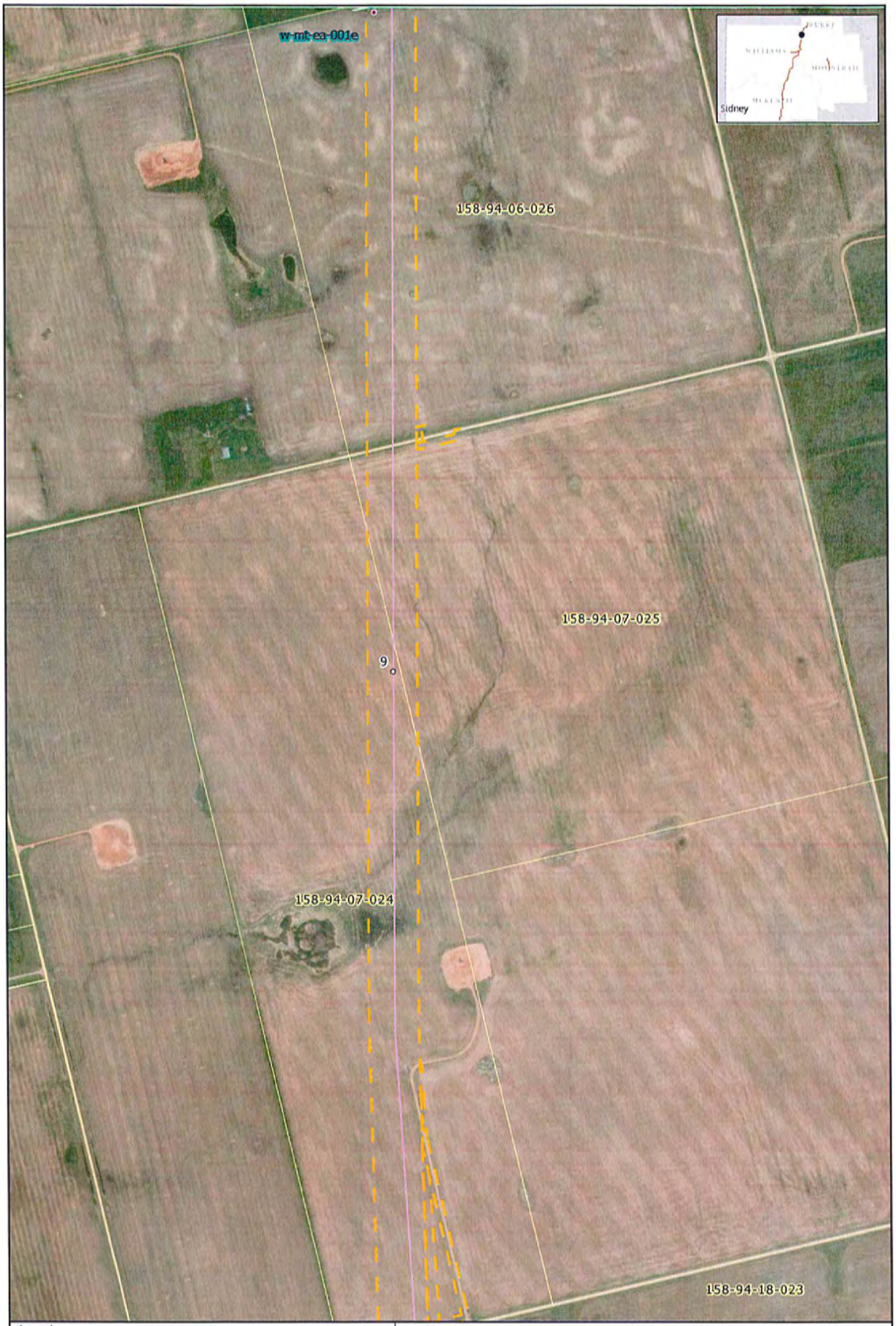
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Aquatic Resource Delineation Map Set
North Bakken Expansion Project

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ERM

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North Bakken Expansion Project

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Legend

- Milepost
- Tioga Norse Loop
- Environmental Survey Corridor
- Not Surveyed
- Parcel Boundary

1:6,500

0 500 1,000 Feet

**All surveys were conducted by ERM.

Aquatic Resource Delineation Map Set
North Bakken Expansion Project

WBI ENERGY TRANSMISSION

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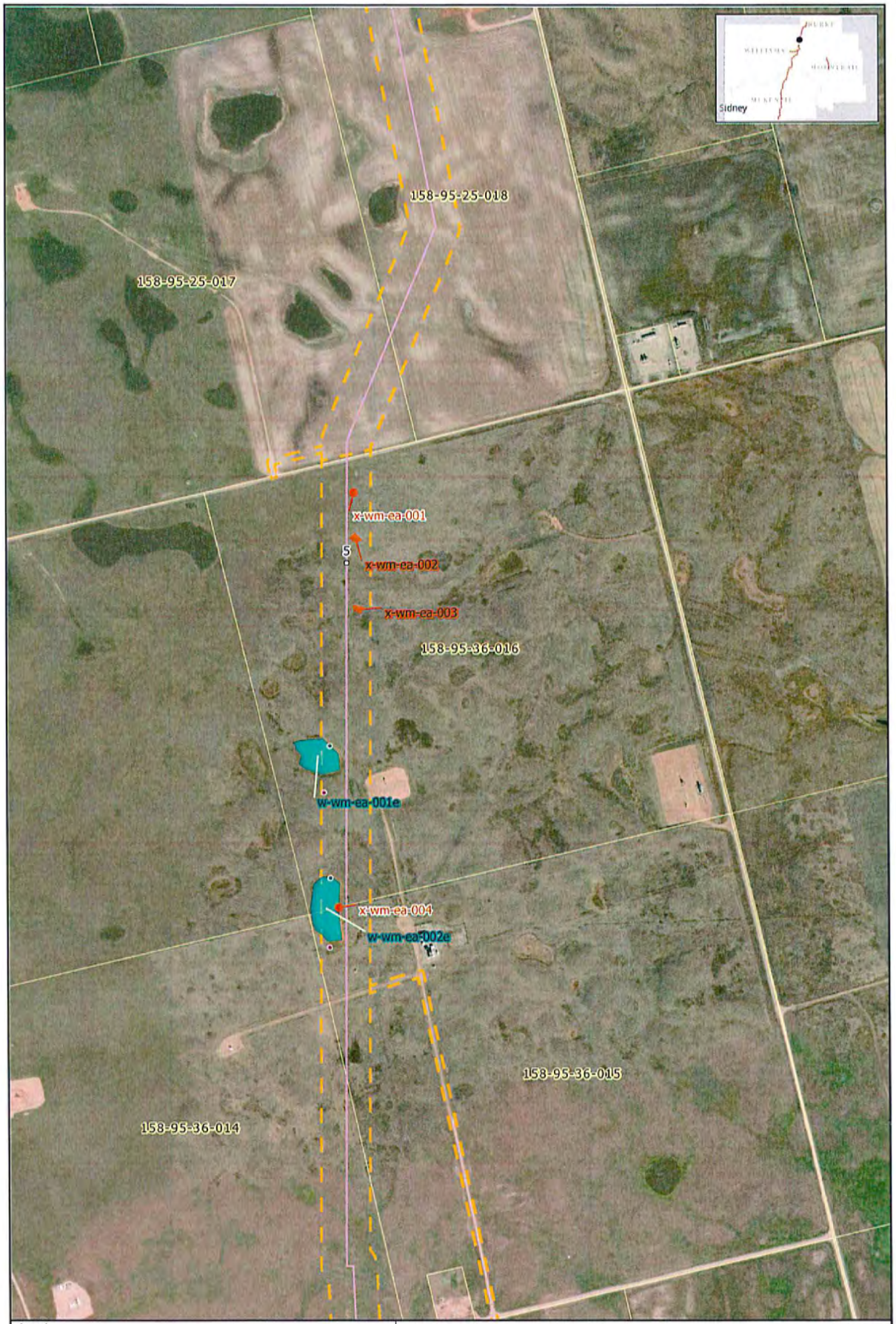
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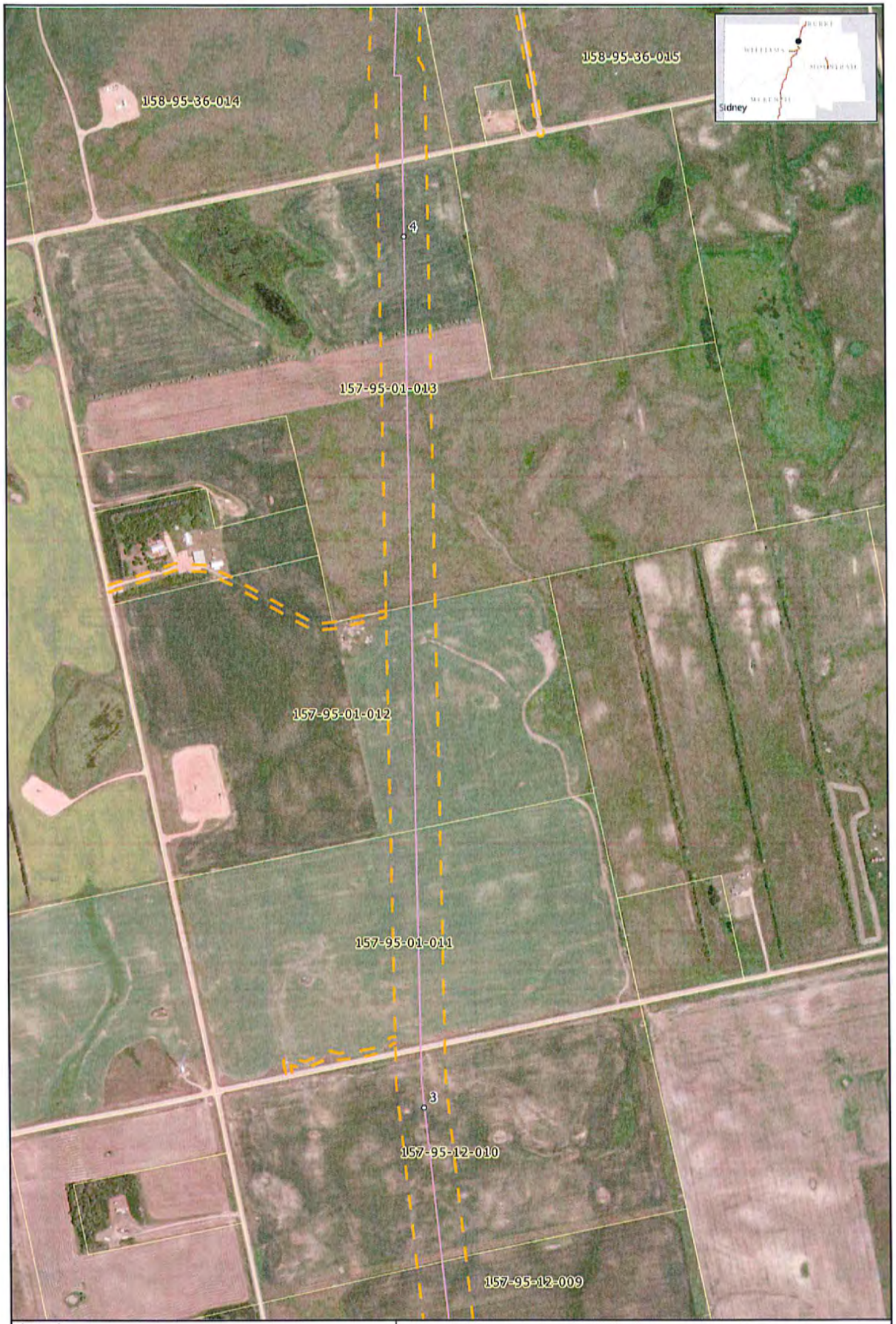


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Legend

- Milepost
- Tioga Norse Loop
- Environmental Survey Corridor
- Parcel Boundary

1:6,500

0 500 1,000 Feet

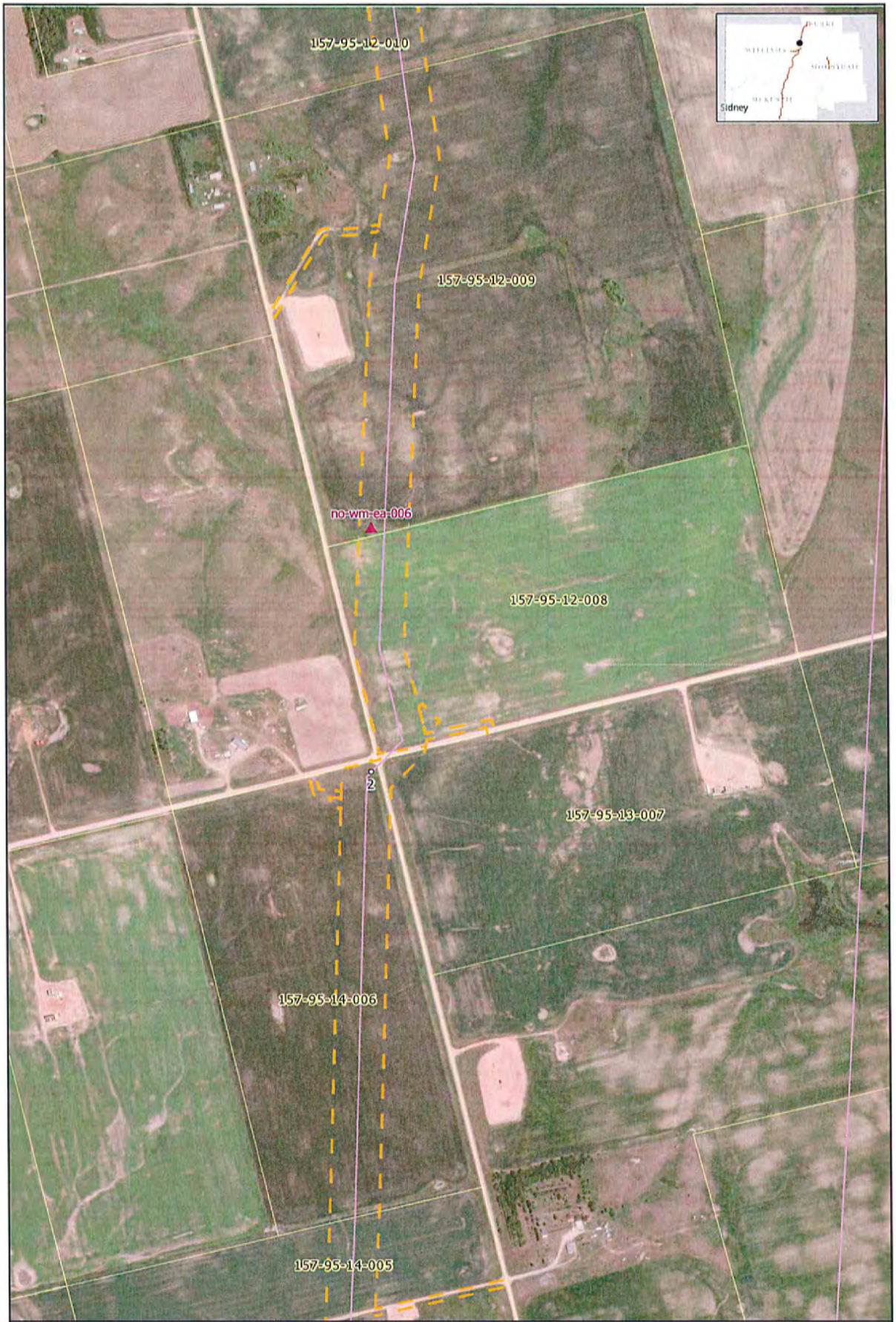
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Legend

- Milepost
- Tioga Norse Loop
- Environmental Survey Corridor
- Non-Water Data Point
- Parcel Boundary

1:6,500

0 500 1,000 Feet

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Legend

Proposed Uprate Bore 5
Environmental Survey Corridor
Not Surveyed
Surveyed Wetland
**All surveys were conducted by ERM.

Upland Data Point
Wetland Data Point
Noxious Weed Point
Parcel Boundary

N

1:6,500

0 500 1,000 Feet

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Legend

Proposed Uprate Bore 2
Environmental Survey Corridor
Not Surveyed
Surveyed Wetland
Upland Data Point
Wetland Data Point
Parcel Boundary

1:6,500

0 500 1,000 Feet

**All surveys were conducted by ERM.

Aquatic Resource Delineation Map Set
North Bakken Expansion Project

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Legend

- Milepost
- KRL Lateral
- Surveyed Waterbody
- Surveyed Wetland
- Upland Data Point
- Wetland Data Point
- Noxious Weed Point
- Parcel Boundary

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N

1:6,500

0 500 1,000 Feet

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Legend

- Milepost
- KRL Lateral
- Surveyed Wetland
- Wetland Data Point
- Parcel Boundary

1:6,500

0 500 1,000 Feet

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Aquatic Resource Delineation Map Set
North Bakken Expansion Project

WBI ENERGY TRANSMISSION

ERM



Legend

- Milepost
- KRL Lateral
- Surveyed Wetland
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- Wetland Data Point
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1:6,500

0 500 1,000 Feet

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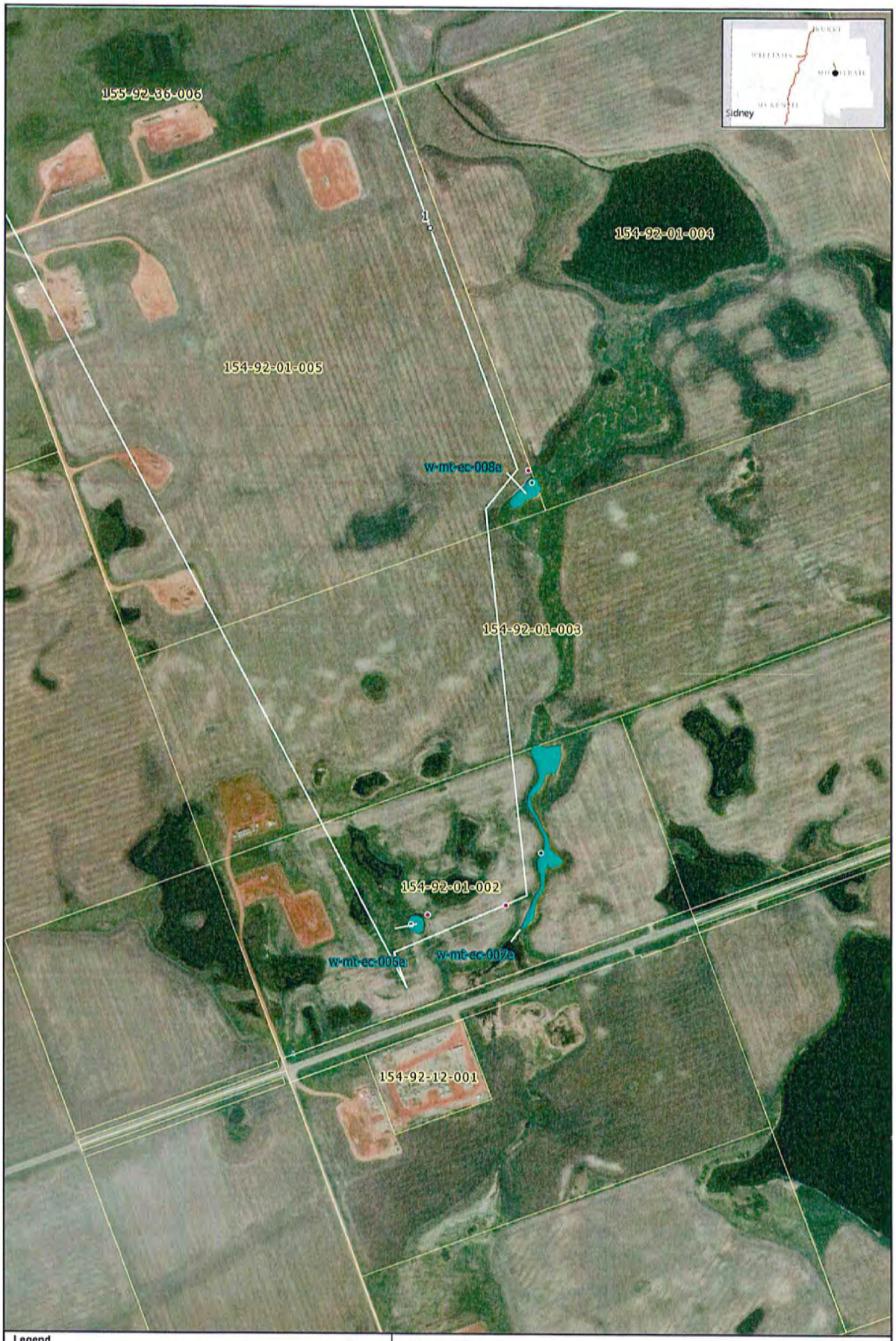
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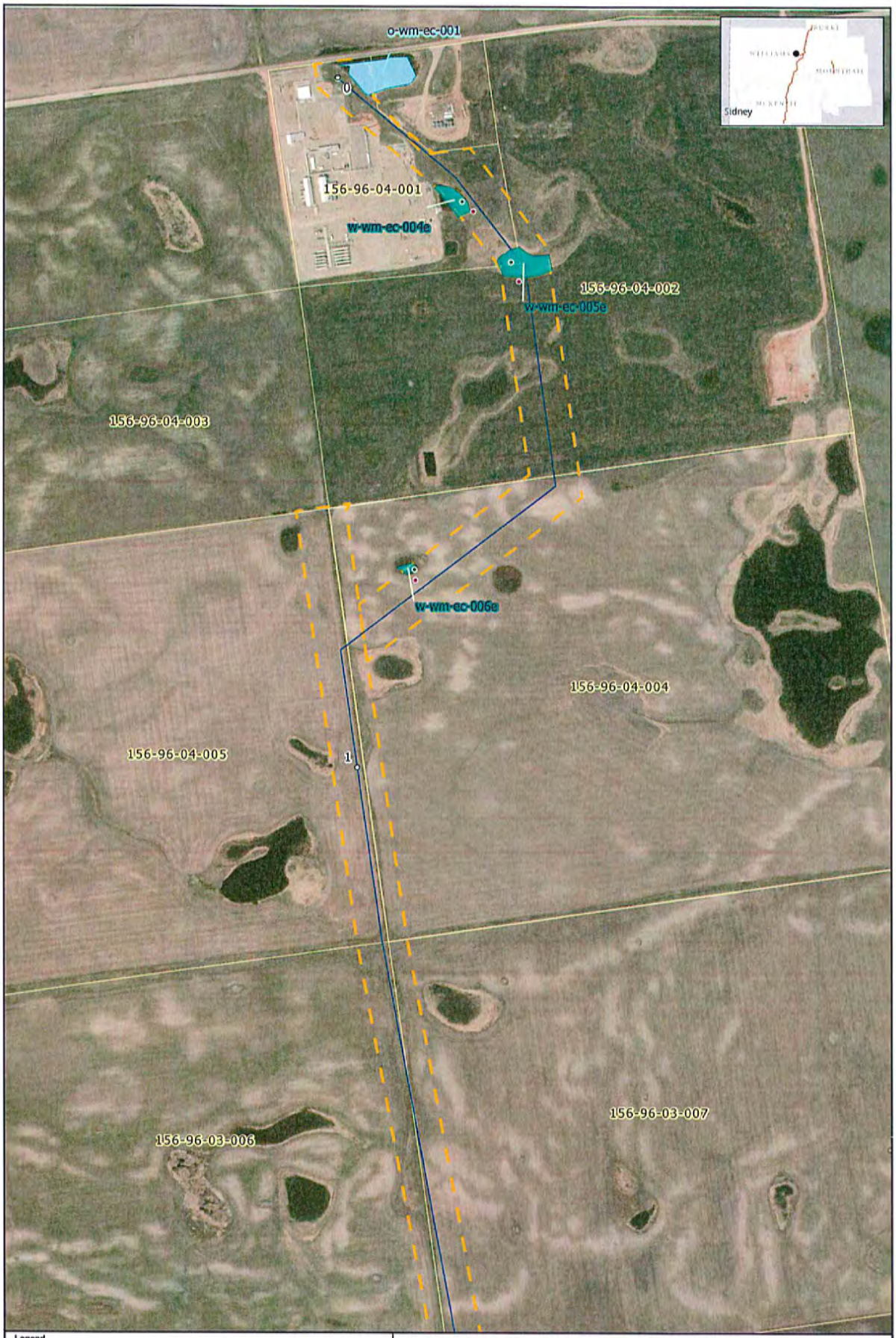


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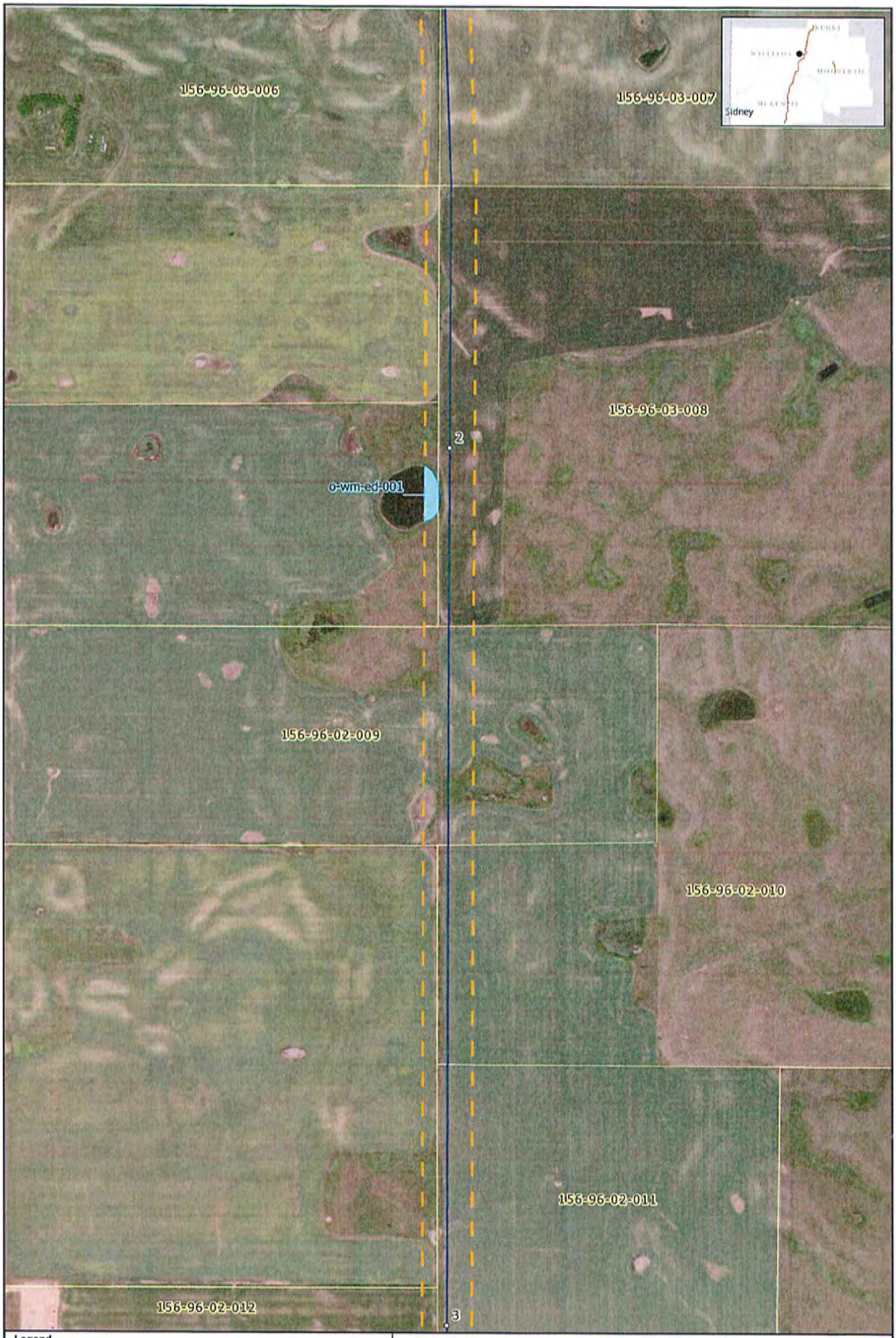


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Legend

- Milepost
- Line Section 30 Loop
- Environmental Survey Corridor
- Surveyed Waterbody
- Parcel Boundary

1:6,500

0 500 1,000 Feet

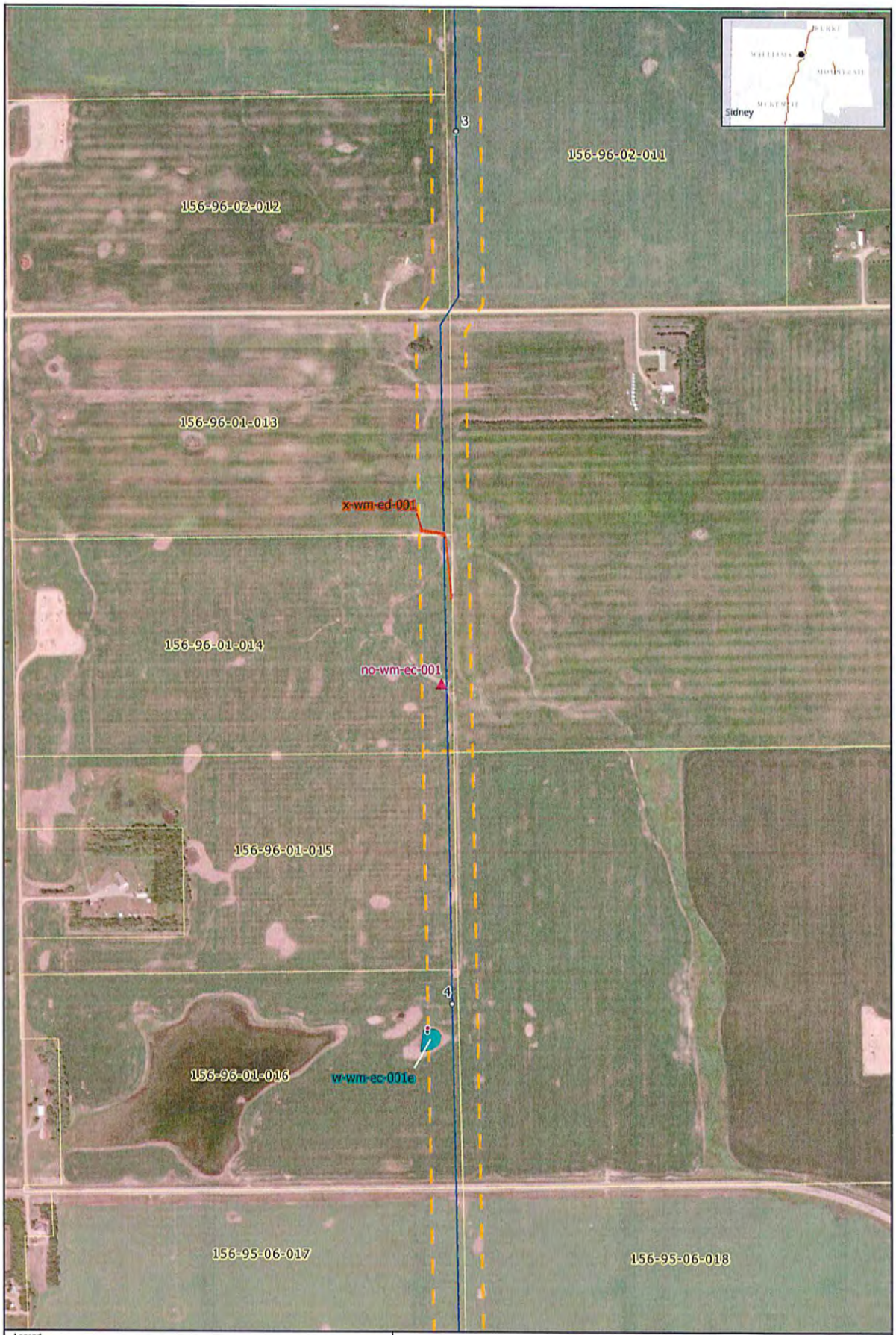
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- Milepost
- Line Section 30 Loop
- Environmental Survey Corridor
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- Surveyed Wetland
- Upland Data Point
- Wetland Data Point
- Surveyed Noxious Weed
- Parcel Boundary

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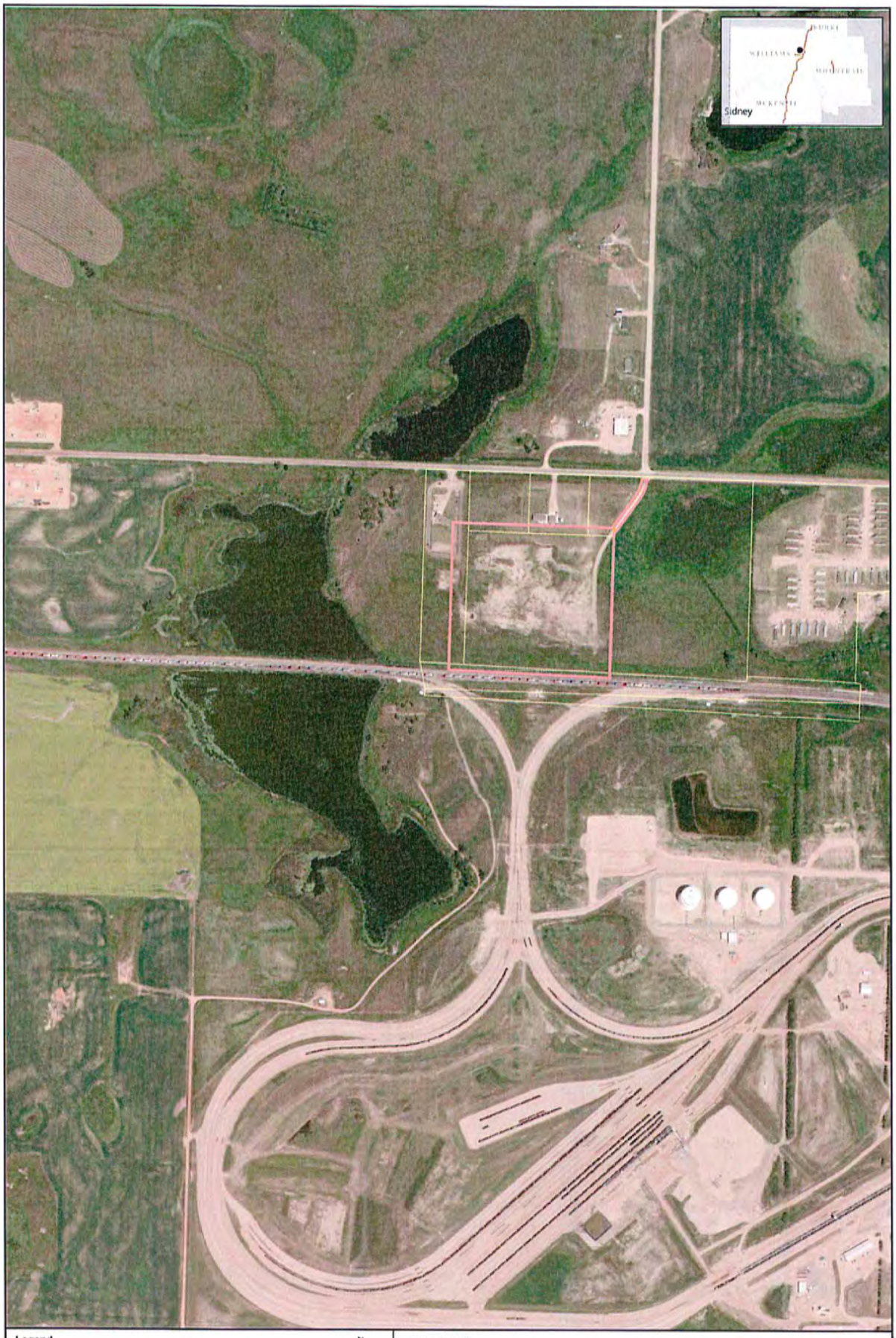


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Legend

Environmental Survey Corridor

Staging Area

Parcel Boundary

**All surveys were conducted by ERM.

N

1:6,500

0 500 1,000 Feet

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Legend

Staging Area

Parcel Boundary

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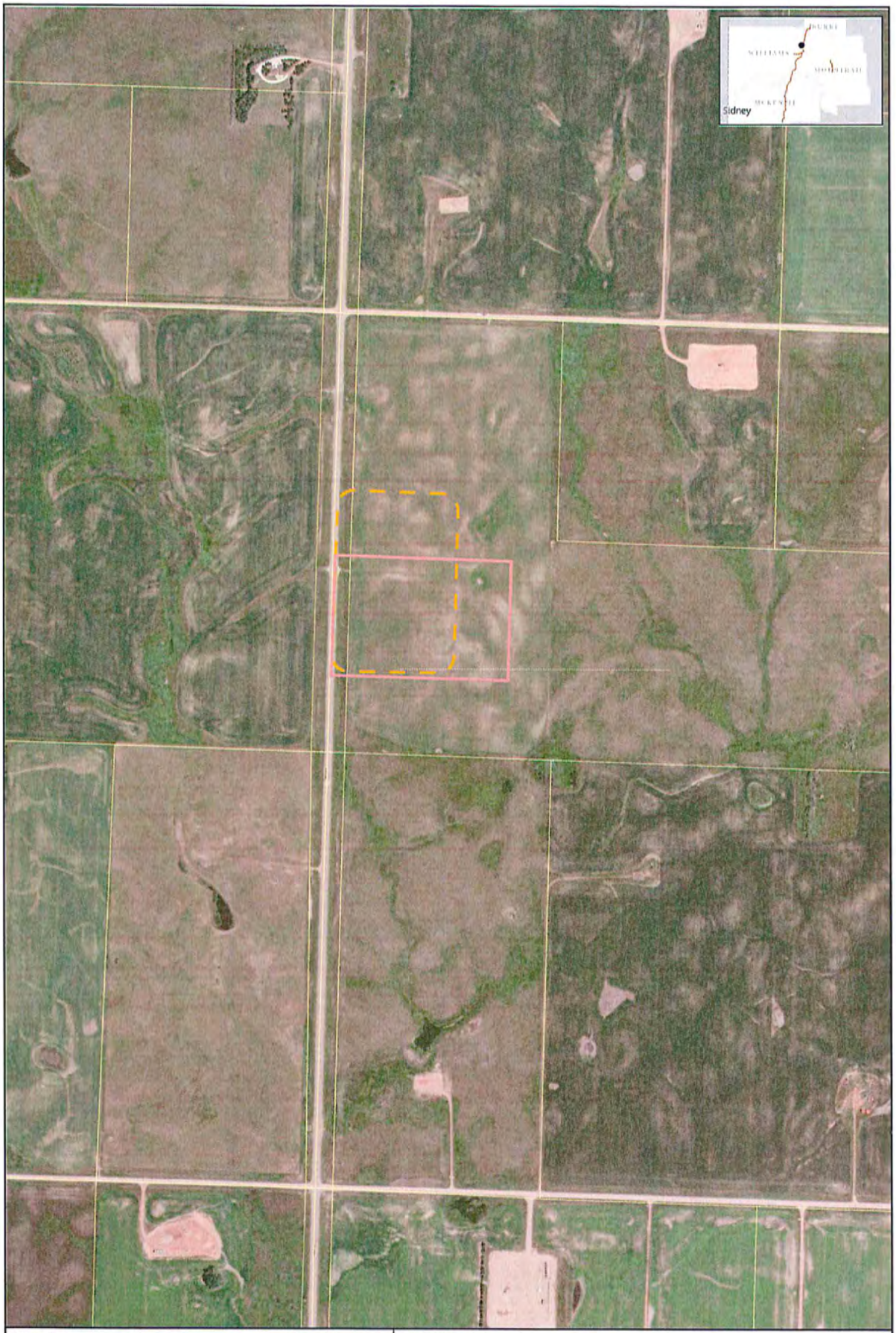


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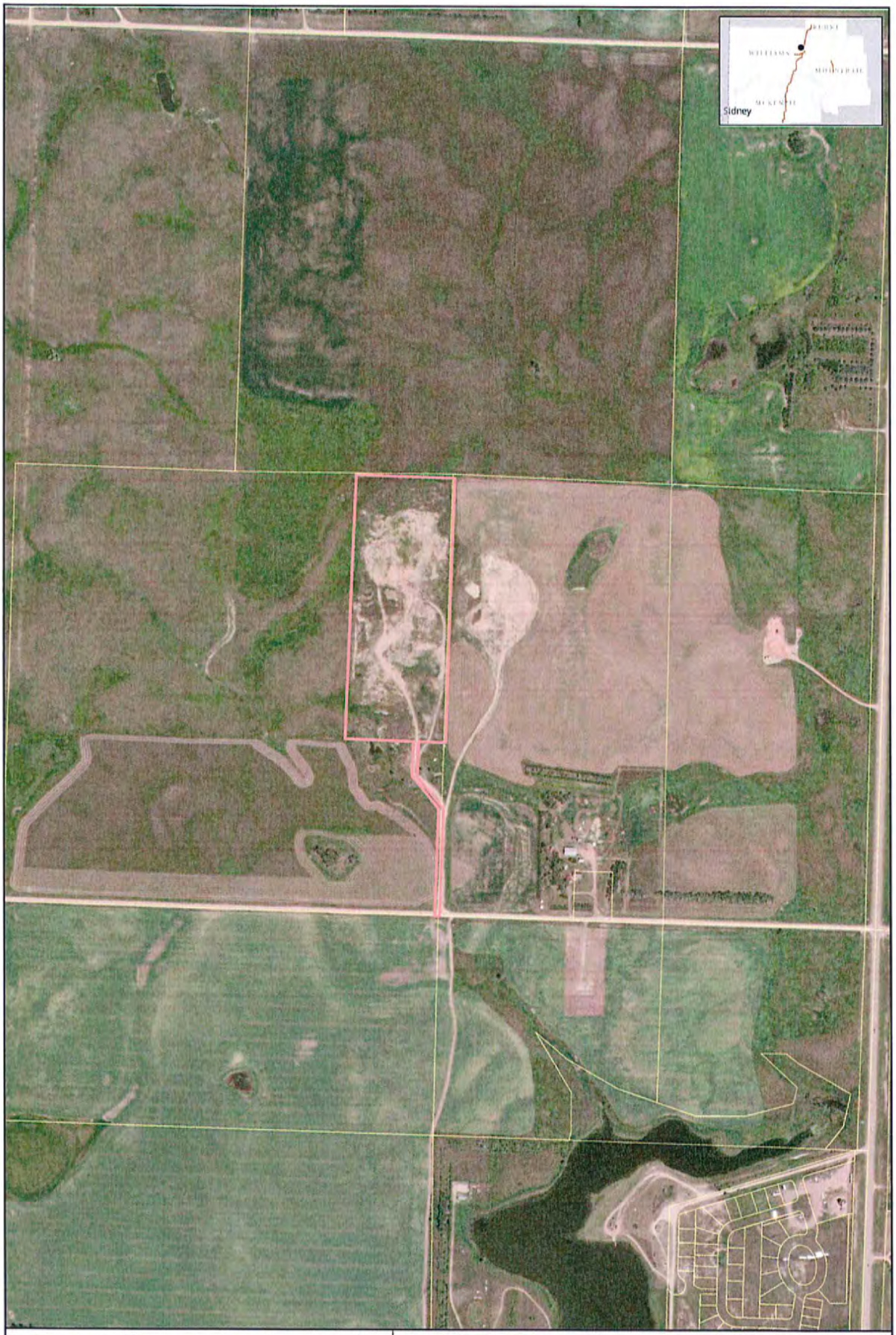
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Staging Area

Parcel Boundary

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Legend

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Aquatic Resource Delineation Map Set
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NORTH BAKKEN EXPANSION PROJECT
CONFERENCE CALL NOTES

MEETING TOPIC:
Section 408 Review Process Call

DATE OF MEETING:
November 5, 2019 at 2:00 p.m. CST (12:00 p.m. PST) – Project Conference Call

ATTENDEES:

WBI Energy Transmission, LLC (WBI)
Greg Huncovsky

Environmental Resources Management (ERM)
Andrea Thornton
Wade Hammer

U.S. Army Corps of Engineers (USACE)
Patrick Atwell
Jonas Grundman
Luke Wallace
Jeremy Thury
Mike Morris
Rick Rogers

MEETING NOTES:

- ERM opened the call and noted the purpose was to further discuss and better understand the process of the Section 408 review process in light of conversations with FERC.
    - The FERC process involves simultaneous submittals of federal permits with the FERC application. Under EPACT 2005, federal agencies have 90 days after FERC issues the Environmental Assessment (EA) for the project to finalize their permit authorizations.
- The USACE outlined the general Section 408 process, focusing on 6 components.
    - No objection statement – out grant process,
    - narrative request that provides details on the USACE project involved and alternatives,
    - technical analysis and design,
    - environmental documentation, regulatory permits and NEPA documents,
    - legal description for real estate and if there are any non-USACE, and
    - a description of operations and maintenance for the proposed project.

- The USACE stated that these materials are routed to various departments within the USACE (legal, real estate, etc.) and a decision is made based on two key elements:

    1) whether the proposed project impairs the usefulness of the USACE project, and

    2) if the proposed project injures the public interest.

- The USACE stated that the general estimate for timeline to complete the 408 review is approximately 1 year. The USACE acknowledged that the quality of the submittal, thoroughness of the materials provided affect the turnaround time and the amount of back and forth required. The 1 year assumes some back and forth required.

- Once the USACE receives a complete application a 30 day completeness review is conducted. This is often where a technical review will result in notes with comments or feedback requesting additional materials with a "soft denial" and a requirement for resubmittal of the application. A resubmittal would reinitiate the 30 day completeness review.

- The NEPA process was discussed briefly, and a question was asked of the USACE as to whether the project EA for the project would be adopted. The USACE acknowledged since FERC is the federal lead there may be further coordination needed with other federal agencies, this process was unfamiliar to the USACE staff on the call. ERM stated that the FERC project manager would be sending out cooperating agency letters very soon, which would invite other agency involvement and allow review of the EA in advance.

- The USACE added that the project will involve fee title land, which requires a real estate permit also.

- The FERC schedule was discussed, and FERC is the lead for setting the NEPA document schedule. The USACE asked if FERC has published a schedule, and ERM stated that the FERC project manager was planning to send out the schedule for review very soon. ERM also informed the USACE that WBI filed draft resource reports the previous week.

- ERM reminded the USACE that both USACE and U.S. Forest Service (USFS) land is crossed by the project, which requires the Bureau of Land Management to be the agency that will issue the out grant for the project right-of-way under the Mineral Leasing Act. The USACE stated that they were unsure how this process worked.

- ERM solicited feedback from the USACE on how realistic or common it was for the review to take 1 year, or if this was generally longer than what was typical. The USACE stated that during a recent pipeline review there was 6 months of back-and-forth with the applicant, primarily as a result of the HDD safety, which required that the applicant resubmit. The USACE commented that there are many moving parts, with technical review, real estate review, and the technical review components, including review of:

  - the horizontal directional drill plan,
  - risk assessment plan,
  - restoration plan,
  - floodplain review, and
  - engineering review.

- ERM requested a list of the technical review documents listed above to confirm that WBI has a clear understanding of the plans required.

- ERM provided a high level review of the schedule, stating that the project construction schedule is targeting a spring 2021 start. ERM stated that the goal with planning ahead with the USACE in this manner is to minimize the required back and forth and limit the completeness review to just the 30 days with the following 90 day decision timeline given the early coordination.

- The USACE state that they have started a Microsoft Project schedule for this project and would be willing to share this with WBI when it is finished. In addition, the USACE stated that they are working with the Office of Counsel to coordinate scope and funding for a work arrangement with the USACE for the project as well.

- The meeting closed with no further questions.

Please provide the US Army Corps of Engineers (USACE) with following information:

1. Environmental Assessment (full NEPA compliance)
2. Surface Use Plan
3. Erosion Sedimentation Control/Storm Water Management Plan
4. Spill Prevention Control Countermeasure Plan
5. Emergency Response Plan, Facility Response Plan, Geographical Response Plan
6. Horizontal Directional Drilling Plan
7. Operation and Maintenance Plan
8. Reclamation and Monitoring Plan
9. Risk Assessment
    a. The modeling should be incorporated within this document as well as the Geographical Response Plan.
10. Provide a list and map of ancillary features on USACE property such as valves, lift stations, etc.
11. Provide copies of plans and documents that are provided to other regulatory agencies (e.g. the North Dakota Public Service Commission (PSC), Pipeline and Hazardous Materials Safety Administration (PHMSA), Federal Energy Regulatory Commission (FERC), etc.).
12. Provide USACE with names, phone numbers, addresses of contacts that will need entry into USACE comment system ProjNet.

Lisa DiNicolantonio

From: Andrea Thornton
Sent: Tuesday, November 5, 2019 2:03 PM
To: Atwell, Patrick C CIV USARMY CENWO (USA); Grundman, Jonas L CIV USARMY CENWO (US)
Subject: RE: Section 408 EC 1165-2-220 (UNCLASSIFIED)

Thanks!

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W www.erm.com

-----Original Message-----
From: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Sent: Tuesday, November 05, 2019 2:00 PM
To: Andrea Thornton <Andrea.Thornton@erm.com>; Grundman, Jonas L CIV USARMY CENWO (US) <Jonas.Grundman@usace.army.mil>
Subject: RE: Section 408 EC 1165-2-220 (UNCLASSIFIED)

See attached

Thank you,

Patrick Atwell
Natural Resource Specialist
Omaha District
402-995-2087

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Tuesday, November 05, 2019 3:55 PM
To: Grundman, Jonas L CIV USARMY CENWO (US) <Jonas.Grundman@usace.army.mil>
Cc: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Subject: [Non-DoD Source] RE: Section 408 EC 1165-2-220 (UNCLASSIFIED)

Thanks Jonas -

Will you or Patrick also be following up with the list of the technical reports that will be needed for the permit application?

Thanks again,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W Blockedwww.erm.com

-----Original Message-----
From: Grundman, Jonas L CIV USARMY CENWO (US) <Jonas.Grundman@usace.army.mil>
Sent: Tuesday, November 05, 2019 12:17 PM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Section 408 EC 1165-2-220 (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

As discussed on today's call.

Respectfully,

Jonas Grundman
Section 408 Program Coordinator

Jonas.Grundman@usace.army.mil
Office: 402-995-2195
Cell: 402-670-1880

U.S. Army Corps of Engineers-Omaha District Natural Resources Section
1616 Capitol Avenue, Suite 9000
Omaha Nebraska, 68102

CLASSIFICATION: UNCLASSIFIED

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Please provide the US Army Corps of Engineers (USACE) with following information:

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4. Spill Prevention Control Countermeasure Plan
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DEPARTMENT OF THE ARMY
US Army Corps of Engineers
Washington, DC 20314-1000

EC 1165-2-220

CECW-ZB

Circular
No. 1165-2-220

10 September 2018

EXPIRES 30 SEPTEMBER 2020

Water Resource Policies and Authorities

POLICY AND PROCEDURAL GUIDANCE FOR PROCESSING REQUESTS TO ALTER US ARMY CORPS OF ENGINEERS CIVIL WORKS PROJECTS PURSUANT TO 33 USC 408

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Appendix L – Terms and Abbreviations..... L-1

DEPARTMENT OF THE ARMY
US Army Corps of Engineers
Washington, DC 20314-1000

EC 1165-2-220

CECW-ZB

Circular
No. 1165-2-220

10 September 2018

EXPIRES 30 SEPTEMBER 2020

Water Resource Policies and Authorities
POLICY AND PROCEDURAL GUIDANCE FOR PROCESSING REQUESTS TO ALTER US ARMY CORPS OF ENGINEERS CIVIL WORKS PROJECTS PURSUANT TO 33 USC 408

1. Purpose. The purpose of this Engineer Circular (EC) is to provide policy and procedural guidance for processing requests by private, public, tribal, or other federal entities to make alterations to, or temporarily or permanently occupy or use, any US Army Corps of Engineers (USACE) federally authorized Civil Works project under 33 USC 408 (Section 408). Proposed alterations must not be injurious to the public interest or impair the usefulness of the USACE project.

a. This EC contains guidance applicable to all types of USACE projects that can be tailored to the appropriate level of detail for a specific Section 408 request. Supplemental guidance for specific infrastructure types (i.e., dams, hydropower, levee systems, and navigation) and other procedures can be found in the appendices.

b. This EC will serve as the most current comprehensive guidance for Section 408 reviews until it is supplemented, replaced, or expires. This EC applies to requests for alterations received by districts on or after the date of issuance. All requests submitted prior to the effective date of this EC can be processed consistent with the previous policy or this EC, at the requester's discretion.

c. This EC contains guidance related to interaction between USACE Section 408 decisions and other USACE processes, such as real estate decisions and permits under the USACE Regulatory Program.

2. Applicability. This EC is applicable to all headquarters USACE elements, divisions, districts, laboratories, and field operating activities related to USACE Civil Works projects.

3. Distribution Statement. Approved for public release; distribution is unlimited.

4. References. References for the main EC are in Appendix A. Other references are specified in specific appendices as appropriate.

5. Authority. See Appendix B.

6. Basic Definitions. For the purposes of this EC, the following terms are used:

a. "District" refers to a USACE district office and "division" refers to a USACE division office.

b. "USACE project" refers to a USACE federally authorized Civil Works project, including those operated and/or maintained by USACE and those operated and maintained by a non-federal sponsor.

c. "Alteration" refers to any action by any entity other than USACE that builds upon, alters, improves, moves, obstructs, or occupies an existing USACE project. Unless otherwise stated, for ease of reference, the use of the term "alteration" in this document also includes "occupation" and "use."

d. "Requester" refers to an entity other than USACE that is requesting permission to alter a USACE project. A request for Section 408 permission can originate from a non-federal sponsor (see definition in next paragraph) or an independent requester.

e. "Non-federal sponsor" refers to a non-federal interest, as defined in the Flood Control Act of 1970, as amended (42 USC 1962d-5b(b)), that has provided assurances or executed a binding agreement for the provision of items of local cooperation for a USACE project, including, as applicable, operation and maintenance.

f. "Regulatory Program" or "Regulatory" is the USACE program responsible for oversight and implementation of permits under Section 10 of the Rivers and Harbors Act of 1899, Section 404 of the Clean Water Act, and Section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972 (Section 10/404/103).

g. "Shoreline use permit" refers to the written permission issued by USACE under Part 327 of Title 36 of the Code of Federal Regulations to authorize certain structures, facilities, and uses in or adjacent to waters that are managed by USACE at Civil Works projects.

h. "Outgrant" refers to a real estate instrument which conveys or grants the right to use real property and is usually in the form of a lease, license, or easement. A consent is not an outgrant.

i. "Consent" refers to a written agreement between the holder of an easement and the owner of the underlying fee estate, that allows the owner of the underlying fee estate to use (or authorize another to use) their land in a manner that the easement holder has determined will not interfere with the easement holder's rights. A consent does not grant an interest in real estate and is not an outgrant.

j. "Real property" refers to any interest in land, including leaseholds, easements, and rights-of-way, together with the improvements, structures, and fixtures located thereon.

k. "Real property of the United States" refers to real property owned by the United States that is under the administrative jurisdiction of USACE.

7. Program Governance. USACE will maintain a three-level decentralized organization to implement this EC, comprising Headquarters USACE (HQUSACE), division, and district levels. The Commanders at each level – HQUSACE, division, and district – have ultimate responsibility for ensuring that Section 408 decisions comply with current policy and procedures. Each level is required to establish and maintain personnel and procedures to implement this EC.

a. Program Oversight. HQUSACE will designate a HQUSACE proponent to oversee the execution of this EC and monitor progress. Each fiscal year, HQUSACE will lead an audit. The audit will be coordinated through appropriate Division and District Commanders and will result in an audit report to be submitted to the Director of Civil Works. At a minimum, the audit report will include a review of a sampling of district and division Section 408 decisions, an assessment of the consistency of documentation of decisions and compliance with policy agency-wide, use of streamlining processes (e.g., categorical exclusions, categorical permissions, and procedural review plans), and lessons learned and corrective actions needed in order to improve the process agency-wide. The audit will also evaluate the timeliness of decisions.

b. Section 408 Coordinator. Each District and Division Commander will designate a Section 408 Coordinator with the appropriate professional expertise and experience to manage and coordinate (both internally and externally to USACE) Section 408 activities. Section 408 Coordinators must have management and communication abilities and have knowledge and experience with the Section 408 procedures. District Section 408 Coordinators will ensure proper coordination occurs among all the necessary elements internally and externally, including but not limited to regulatory, tribal liaisons, real estate, counsel, planning, engineering and construction, programs and project management, and operations. Division Section 408 Coordinators will ensure proper coordination among other districts if the USACE project or proposed alteration crosses more than one district's area of responsibility, reference paragraph 7.h.(3), and consistency in implementation within the divisions' areas of responsibility. In addition, Section 408 Coordinators are responsible for data management in the Section 408 database, reference paragraph 7.d, and appropriate webpages, reference paragraph 7.e, to ensure information and status of Section 408 requests are current. Section 408 Coordinators will ensure budgetary information and resource needs to accomplish USACE Section 408 activities are coordinated and submitted during the budgeting process.

c. Administrative Record. The district will be responsible for maintaining an administrative record for each Section 408 request in their area of responsibility. The administrative record should include all documents and materials directly or indirectly considered by the decision-maker. It should include documents, materials, and a record of the offices and staff that are pertinent to the merits of the decision, as well as those that are relevant to the decision-making process. Record documents will be uploaded to the Section 408 database, reference paragraph

7.d, as appropriate.

d. Section 408 Database. HQUSACE will establish and maintain a Section 408 database to serve as the database system of record for all Section 408 requests. The database system will be created in a manner to ensure information can be shared and synchronized with other USACE database systems as appropriate. The database will adhere to standards established for the Civil Works Business Intelligence (CWBI) and be managed under the CWBI Automated Information System, which is part of the Civil Works information technology portfolio. Database entry and quality control/quality assurance of entered data is the responsibility of districts and divisions. A subset of fields from this database will be made publicly available to provide information on the current status of Section 408 requests received.

e. Public Webpages. HQUSACE will establish and maintain a publicly available Section 408 webpage to provide basic information on Section 408, and viewable access to a subset of the Section 408 database fields related to status of requests. Each USACE district, and division if necessary, will ensure information on how a requester can submit a Section 408 request to the district is available on district-specific public webpages. District webpages will include contact information and a link to the HQUSACE Section 408 public webpage and database.

f. Funding for USACE Section 408 Responsibilities. USACE-led Section 408 activities that require funding include those on a programmatic level (e.g., data management, program management, coordination, generating categorical permissions, developing procedural review plans, and creating funding agreements) and those activities related to processing Section 408 requests (e.g., reviewing requests, development of environmental and cultural resource final documents, construction oversight, approving updates to Operation and Maintenance manuals related to the alteration, and alteration-specific review plans).

(1) See guidance on funding for Section 408 in the current Civil Works Program Development Guidance.

(2) Districts will ensure requesters are aware of the opportunity to use funding agreements to expedite activities related to processing Section 408 requests, see paragraph 7.g.

(3) Enforcement activities, reference paragraph 18, associated with completed and in-place Section 408 alterations or unapproved encroachments, will be funded from the appropriate source associated with the inspection and oversight procedures for that specific USACE project.

(4) Regulatory Program funds can only be used for a Section 10/404/103 action, which may include those actions with an associated Section 408 request. Regulatory staff can use Regulatory funds to participate in joint meetings and internally coordinate portions of shared documents when a Section 408 request also requires a Section 10/404/103 action.

g. Funding Agreements. The following are the three main authorities through which

USACE may accept and expend funds to expedite the review and evaluation of a Section 408 request. Districts should choose the funding agreement option that is most appropriate to provide the most efficiency. See Appendix I for detailed procedures.

(1) Section 1156(a)(2) of the Water Resources Development Act (WRDA) 2016 amended Section 14 of the Rivers and Harbors Act of 1899 (33 USC 408) to authorize the acceptance and expenditure of funds received from non-federal public or private entities to evaluate requests under Section 408. This authority is the most flexible and streamlined authority for accepting funding for Section 408 reviews.

(2) Funds may be accepted under the authority of Section 214 of WRDA 2000, as amended, (33 USC 2352) to expedite the review and evaluation of a Section 408 request for a public purpose. Funds may be accepted from non-federal public entities; public utility companies; natural gas companies; or railroad carriers. This authority requires a public notice before receipt of funds and has other limitations.

(3) Funds may be accepted under the authority of 23 USC 139(j) to expedite the review and evaluation of a Section 408 request associated with a federal-aid transportation project. Funds may be accepted from certain public entities that receive financial assistance from the U.S. Department of Transportation (USDOT). This authority requires USDOT approval of the agreement and has other restrictions and requirements. This authority may be more appropriate for projects for which the Federal Highway Administration (FHWA) and/or Federal Transit Administration (FTA) are the lead agency and the transportation project sponsor is seeking or receiving financial assistance from USDOT for permitting.

(4) To accept funds from another federal agency, a specific statutory authority must be identified that authorizes the transfer of funds for such a purpose.

h. Coordination.

(1) Effective communication and coordination, both internally and externally, is critical to achieve efficient decision-making on Section 408 requests. Districts will ensure that internal and external coordination is conducted as necessary to ensure timely and efficient reviews and decision-making. In addition, districts will seek opportunities to integrate or align internal procedures, leverage information between processes, and eliminate redundancy, while ensuring appropriate laws and policies are being met. Early and frequent coordination between USACE, the requester, and/or non-federal sponsor, if applicable, is strongly recommended. Coordination, notification and subsequent tribal government-to-government consultation should occur at the earliest stages and should be pre-decisional with interested federally recognized tribes, including tribes whose aboriginal territories extend into the lands where the proposed activity may occur. Coordination with tribes should happen prior to or concurrent with coordination with State Historic Preservation Officers. The most effective way to determine whether an area has tribal cultural, historic or spiritual significance is to work with representatives from each tribal nation

that either resides or has ancestral ties to the area proposed for the Section 408 request. Coordination will aid in early identification of potential issues and help to focus efforts, thereby minimizing costs to the requester and USACE.

(2) Districts will provide a copy of this EC to non-federal sponsors of USACE projects. This EC is not intended to replace existing coordination processes districts may have with non-federal sponsors for efficient reviews of alterations to the USACE project. Districts are encouraged to adapt existing coordination processes or develop new standard operating procedures to reflect requirements in this EC and to support effective and efficient reviews.

(3) One lead district, and its' associated division office, will be designated for any single non-USACE project that crosses district or state boundaries (e.g., pipelines, highway projects, electrical transmission projects) and requires either Section 10/404/103 review(s), Section 408 review(s), or a combination of both consistent with reference A.41. The lead district will be responsible for maintaining situational awareness on the status of all Section 10/404/103 and Section 408 reviews; serving as a primary point of contact for the requester; and coordinating schedules and requirements to meet review and decision milestones.

(4) In cases in which a Section 408 permission (except for Section 408 decisions that must be made by the Division Commander, per paragraph 8.c.) and a Regulatory standard individual permit are both required for the same proposed alteration/activity, the district will conduct these evaluations in a coordinated and concurrent manner resulting in a single decision document. Although each mission area (between Section 408 and Regulatory) is responsible for the review requirements specific to its respective authorities, the environmental compliance to cover both the Section 408 permission and Regulatory permit decisions will be coordinated by a single office. Consideration should be given to the scale and scope of the activities subject to each authority when designating the lead office for environmental compliance. The district Regulatory Chief and the Section 408 Coordinator will jointly decide which office will be the lead for environmental compliance. If agreement cannot be reached, then the District Commander will decide. The single decision document will contain documentation for the final decisions for both the Section 408 permission and the Regulatory permit. Note that implementing regulations and policies for the Regulatory permit require the evaluation of proposed activities and their compatibility with the purposes of a federal project. The Section 408 analysis informs the compatibility with the purposes of a federal project for Regulatory purposes. In addition, there will be a single transmittal letter to the requester that includes as attachments both the Section 408 decision letter and the Regulatory permit. The District Commander is the deciding official for the single decision document for these cases, although he or she may further delegate these combined decisions following the same requirements as in paragraph 8.d. As a result, in these cases, the Section 408 permission and Regulatory individual permit will be reviewed and finalized at the same decision level and by the same deciding official. See Appendix G for alternative procedures related to Section 10 and Section 408.

(5) In cases in which an alteration requiring a Section 408 permission and a Regulatory

permit decision other than a standard individual permit, the district will conduct these evaluations in a coordinated and concurrent manner to the maximum extent practicable. For these cases, there will be a single transmittal letter to the requester that includes as attachments both the Section 408 decision letter and the Regulatory permit. A single decision document, single office lead for environmental compliance, or the same deciding official is not required. However, the Section 408 decision must be finalized before or concurrent with, but not after, the Regulatory decision. Implementing regulations and policies for the Regulatory decisions require the evaluation of proposed activities and their compatibility with the purposes of a federal project. The Section 408 decision informs the compatibility with the purposes of a federal project for Regulatory purposes.

(6) In cases in which a proposed Section 408 alteration may affect the formulation, evaluation, or selection of alternatives for a current Investigation or other USACE study, (for example, when approval or denial of a proposed alteration would materially affect the completeness, effectiveness, efficiency, and/or acceptability of one or more alternatives being evaluated as part of a feasibility study), district staff reviewing the Section 408 request will coordinate with the district study team to identify, track, and ensure vertical awareness of the interdependencies between the Section 408 request and the USACE study. Study and implementation risks associated with the decision (approval or denial) on the Section 408 request will be managed and discussed with the vertical team through the study milestones.

(7) In cases in which a proposed Section 408 alteration changes how the USACE project will meet its authorized purpose, district staff reviewing the Section 408 request will coordinate vertically with the division to the appropriate Regional Integration Team (RIT) and Office of Counsel to confirm that Section 408 is being appropriately applied. An example is a proposed alteration to permanently breach a levee system for ecosystem restoration purposes and raise all structures behind the levee to achieve the same flood risk management benefits. This USACE project still meets the authorized flood risk management purpose but in a different manner.

(8) A proposed alteration may also be subject to other laws or requirements that involve additional coordination, prioritization, and/or transparency (e.g., Title 41 of the Fixing America's Surface Transportation Act (FAST-41), Federal-aid highway and transit projects subject to 23 USC 139, priority projects under an existing Executive Order, etc.). Districts should be aware of, and actively participate in, any additional coordination required for the Section 408 request, including supporting development of schedules and updating any non-USACE databases (e.g., FAST-41 Coordinated Project Plans and Dashboard), if required. Districts should coordinate vertically, through the division, to the appropriate Regional Integration Team (RIT), if upward reporting on status is required for these Section 408 requests. Reporting for Section 408 should be accomplished in a concurrent and coordinated manner with any other required USACE actions for that project (e.g., pending Regulatory permit decisions or real estate decisions, etc.).

(9) Requesters seeking sensitive information about an existing USACE project to develop a proposed alteration will submit requests for that information in writing to the district. Sensitive

information includes information that could pose a security risk or aid those intending to do harm to a USACE project. Examples include, but are not limited to, design analyses, as-builts or other drawings, specifications, location of deficiencies, operational information, and contingency plans. The district office that generated or is responsible for the information requested will review the request in coordination with the district operational security officer to determine whether it is sensitive. Districts should limit the distribution of sensitive information to only the information that is necessary for the proposed alteration. Districts will advise requesters that the information to be provided is sensitive and direct requesters to provide a list of individuals with whom the information will be shared. Districts will advise requesters that the sensitive information will not be shared with individuals not on the list. Reviewers should work with their District Office of Counsel to determine if a non-disclosure statement is needed. In some cases, districts may have to withhold sensitive information regardless of its necessity for the development of a proposed alteration. Requests to USACE for other agency data will be referred to the other agency for a release determination. Information provided by federally recognized tribes during consultation may be sensitive and not publicly available. Districts must ensure sensitive information provided by federally recognized tribes is not disclosed to the extent allowable by law and that the administrative record pertaining to this sensitive information is general in nature.

(10) Vertical coordination among district, division, and HQUSACE must occur when there is any question related to the appropriate course of action; the nature of the Section 408 request is without precedent; or the review of the Section 408 request requires deviation from policy.

8. Decision Authority. All final Section 408 decisions will comply with the following:

a. All Section 408 decision-makers must ensure accountability and consistency with federal law and policy. Section 408 decision-makers must also ensure the appropriate and requisite expertise has reviewed each Section 408 request.

b. A categorical permission may be created at the district, division, or HQUSACE level, but must be approved and signed by a District Commander, Division Commander, or the Director of Civil Works, depending upon the region in which it is applicable. Validation that a Section 408 request is consistent with the terms and conditions of a categorical permission and subsequent authorization of the activity under the categorical permission may be delegated. The delegation should be established through the process used to create the categorical permission. Reference Appendix C for additional information for categorical permissions.

c. Division Review and Decision. The following are the Section 408 requests that will require a final decision by the Division Commander and cannot be further delegated. Division Commander decisions will consider the analysis and recommendation by the District Commander. For Section 408 requests that require approval by the Division Commander and uses the multi-phased review option (reference paragraph 10.c.), Division Commanders have discretion to render a decision on any or all milestones, but must render the decision for the final

milestone. Districts will keep divisions informed of the progress throughout the multi-phased review process, including any issues and concerns that would be pertinent to the Division Commander's decision for level of involvement and rendering the final decision. The Division Commander can delegate milestone decisions, except for the final milestone, to District Commanders or the District Commanders' designee.

(1) Proposed alterations that require a Safety Assurance Review (SAR), see paragraph 12.c.(4).

(2) Proposed alterations for the installation of hydropower facilities. Coordination and concurrence with the division Dam Safety Officer and the division Hydropower Coordinator is required prior to the final Section 408 decision.

(3) Proposed alterations for which the non-federal sponsor for a USACE project is seeking potential credit under Section 221 of the Flood Control Act of 1970, as amended. A decision on a Section 408 request is separate from any decision on potential credit for in-kind contributions. See paragraph 9.g.

(4) Proposed alterations that affect the formulation, evaluation, or selection of alternatives for a current study under the Investigations account or other USACE study. Coordination with the division Chief of Planning is required prior to the final Section 408 decision. See paragraph 7.h.(6).

(5) Proposed alterations that change how the USACE project will meet its authorized purpose. See paragraph 7.h.(7).

(6) Proposed navigation alterations for which federal assumption of operation and maintenance under Section 204(f) of Water Resources Development Act of 1986, as amended, is also being sought. See paragraph 9.f.(5).

d. District Review and Decision. All other decisions for Section 408 requests not included in paragraphs 8.c.(1) through 8.c.(6) may be rendered by the District Commander. A District Commander may further delegate authority for such decisions to his or her designees. The delegation must be in writing and signed by the District Commander, with the delegation identifying the name and title of the individual to whom authority is being delegated and what limitations, if any, are being imposed. District Commanders may not delegate Section 408 decisions below a supervisory Division Chief level. No further re-delegation by a designee is authorized. A copy of the delegation must be maintained in the office where the authority is held.

e. At any time, the Director of Civil Works, Division Commanders, and District Commanders have discretion to elevate decision-making authority for the final decision for a specific Section 408 request based on the unique or special circumstances involved. The

following are examples of the types of considerations for elevating a Section 408 decision level:

(1) The nature of the Section 408 request is without precedent;

(2) The review of the Section 408 request may require variation from regional or national policy; or,

(3) A proposed alteration of a USACE project crosses more than one district's or division's area of responsibility.

f. The appropriate National Environmental Policy Act (NEPA) decision document (Record of Decision or Finding of No Significant Impact) will be signed by the USACE official making the decision for the corresponding Section 408 request, if it is not already integrated into the Summary of Findings document reference paragraph 15.b. Documentation of the applicability of a categorical exclusion may be signed by the Section 408 decision-maker or other appropriate district staff.

9. Determining When Procedures in this EC Apply. The following describes when the procedures in this EC apply, along with exceptions. The following does not affect the requirement for a Regulatory permit or any other applicable permits. Note, however, paragraphs 7.h.(4) and 7.h.(5) and Appendix G outline how Regulatory and Section 408 reviews must be either consolidated or effectively aligned depending on certain circumstances.

a. Geographical Limitations.

(1) This EC must be applied to alterations proposed within the real property identified and acquired for the USACE project, with exceptions further described in this section. An activity affecting a USACE project not yet constructed or under construction is considered to be an alteration, occupation, or use of a USACE project requiring permission under Section 408 if the activity will occur on real property that the Federal Government has acquired for the USACE project or that the non-federal sponsor has provided for the USACE project under the terms of a Project Partnership Agreement (PPA).

(2) This EC must be applied to alterations proposed to submerged lands occupied or used by a USACE project.

(3) This EC must be applied to alterations that cross over or under a federal navigation channel when the alteration is also subject to either Section 9 or 10 of the Rivers and Harbors Act of 1899.

(4) At the USACE district office's discretion, this EC may be applied to alterations to submerged lands proposed in the vicinity of a USACE project that occur in an area subject to the navigation servitude, when it is determined that the alterations have the potential to impair the

usefulness of the USACE project. Navigation servitude is defined as the dominant right of the Government under the Commerce Clause of the U.S. Constitution (U.S. Const. art. I, sec. 8, cl. 3) to use, control, and regulate the navigable waters of the United States and the submerged lands thereunder for various commerce-related purposes, including navigation and flood control. In tidal areas, the servitude extends to all lands below the mean high water mark. In non-tidal areas, the servitude extends to all lands within the beds and banks of a navigable stream that lie below the ordinary high water mark.

(5) This EC should not be applied to proposed alterations occurring outside of the areas specified in paragraphs 9.a.(1) to 9.a.(4). If there is a case in which a proposed alteration occurring outside of the areas specified could impair the usefulness of a USACE project, such cases should be coordinated vertically through the appropriate Regional Integration Team (RIT) to determine the course of action.

b. Emergency alterations or emergency activities performed by USACE on USACE projects under Public Law (PL) 84-99, reference A.29, do not require Section 408 permission. Alterations by others that are considered an emergency and/or urgent, which may include interim risk reduction measures, but not implemented under PL 84-99, may require Section 408 permission and this EC would apply. Districts will consider if the alteration meets other criteria defined under this paragraph 9. If this EC applies, districts can reprioritize and expedite reviews as appropriate given the urgency required for each specific situation. Reference Appendix D on expediting environmental compliance in emergency situations.

c. Non-federal Sponsor Maintenance and Repair Activities. Maintenance and repair activities conducted by non-federal sponsors on the USACE project for which they have operation and maintenance responsibilities do not require Section 408 permission, but may require coordination or concurrence from the USACE district, as further specified below.

(1) Operations and Maintenance (O&M) activities, including any floodfighting and/or other emergency activities, specified in a USACE-issued O&M manual do not require Section 408 permission.

(2) Activities to restore the USACE project to the physical dimensions and design of the constructed project, without any changes to the real property, existing design features, or physical dimensions or performance of the USACE project do not require Section 408 permission. USACE districts may at any time require the non-federal sponsor to coordinate with the district to verify the design or construction approach of such activities based on scope and scale. USACE districts should proactively coordinate with the non-federal sponsor to identify, if any, the types of activities that may need this verification.

(3) Geotechnical exploration drilling by the non-federal sponsor associated with activities described in paragraphs 9.c.(1) and (2) does not require Section 408 permission. However, drilling in embankment dams and levees must comply with requirements in reference A.31,

including a drilling plan. Districts will coordinate with non-federal sponsors to develop the drilling plan.

d. Improvements, excavations, construction, or changes to local flood protection works referenced in 33 Code of Federal Regulations (CFR) 208.10(a)(4) and (5) do not negate nor replace the requirement for approval from USACE under Section 408 as specified for such activities in this EC.

e. When a proposed alteration will be carried out entirely within the boundaries of real property of the United States or reservoirs managed by USACE, a separate evaluation under the procedures in this EC is not required, so long as the alteration is either consistent with an approved project master plan developed according to references A.34 and A.39, or subject to a Report and Determination of Availability under chapter 8 of reference A.28. In such cases, the project master planning process or the procedure for preparing the Report and Determination of Availability satisfies the requirements for Section 408 for the proposed alteration. No separate Section 408 permission is required to support issuance of the associated shoreline use permit or outgrant. Note, in these instances, Regulatory can render a permit decision before USACE issues the shoreline use permits or outgrants, as long as Regulatory has received the Determination of Availability or confirmation of consistency with the approved project master plan, whichever is applicable to the proposed alteration.

(1) When a federal agency other than USACE is responsible for issuing the permit or outgrant authorizing a proposed alteration that will be carried out within the boundaries of real property of the United States or reservoirs managed by the USACE (e.g., pipeline rights-of-way issued by the Bureau of Land Management under 30 USC 185, or hydropower licenses issued by the Federal Energy Regulatory Commission (FERC) under the Federal Power Act), a separate Section 408 permission is not required if USACE provides the other federal agency with a Report and Determination of Availability or confirmation of consistency with the approved project master plan prior to the other federal agency's issuance of the permit or outgrant. In cases where a Report or Determination of Availability is not required by chapter 8 of reference A.28, and the proposed alteration has not been evaluated during the project master planning process, a Section 408 permission is required prior and in addition to, the permit or outgrant issued by the other federal agency. In all cases, USACE will advise the other agency of any special conditions that must be incorporated into the permit or outgrant issued by the other federal agency.

(2) If a proposed alteration requires use of both real property of the United States and real property owned by other entities or non-federal sponsors, then the processes in this EC will apply. In these cases, USACE will incorporate the decisions associated with the USACE required shoreline use permit, outgrant, or consent as part of the comprehensive Section 408 evaluation and decision.

(3) In cases in which a USACE real estate decision and Section 408 decision are both

needed, the district will conduct these evaluations in a coordinated and concurrent manner to the maximum extent practicable. Although reviews for both Section 408 and the real estate decisions can be conducted concurrently, final decision-making requires that the Section 408 decision be rendered before or concurrent with, but not after, the USACE real estate decisions. Implementing regulations and policies for the real estate decisions require the evaluation of proposed activities and their compatibility with the purposes of a federal project. The Section 408 decision informs this element of the evaluation for shoreline use permits, outgrants, and consents. The required shoreline use permit, outgrant, or consent must still be issued before the alteration can be carried out on real property of the United States.

(4) Fees for administrative processing of outgrants issued by USACE will be determined by applicable regulations and policy promulgated under the authority of 10 USC 2695 and 30 USC 185(l). Evaluation of a USACE project alteration requiring the issuance of a permit or outgrant by another federal agency will be funded using Operation and Maintenance funds provided for the USACE project or appropriate funding associated for coordination for non-federal hydropower development, if applicable. If a Section 408 permission is required refer to paragraph 7.f. for funding related to Section 408 reviews.

f. Non-Federal Construction of a Water Resources Development Project.

(1) Section 204 of WRDA 1986, as amended, authorizes non-federal interests to undertake construction of certain water resources development projects, or separable elements, with potential credit or reimbursement of the federal share of that construction, subject to several requirements, including obtaining all necessary permits. If the proposed work under Section 204 would alter an existing USACE project, then the non-federal interest must obtain Section 408 permission under this EC, unless the proposed work has been authorized for construction by Congress, or the USACE real estate policies and process applies (reference paragraph 9.e). Further guidance on Section 204 of WRDA 1986 is included in reference A.38.

(2) If a Section 408 permission is needed to implement work under Section 204, conducted consistent with a feasibility study, the procedures and process in reference A.38 will be followed in lieu of the review and decision process in this EC, and the district report that is required for approval for construction will also serve as the documentation and basis for the Section 408 permission decision. The Section 204 report will specifically address any impacts to the usefulness of the existing USACE project and the public interest.

(3) Districts should ensure that, to the maximum extent practicable, information from the feasibility study, including technical analyses, NEPA documentation, National Historic Preservation Act (NHPA) documentation, and other environmental and cultural resources compliance is used for the Section 204 report. Districts must determine whether physical or environmental circumstances have changed since the feasibility study was completed and supplement those analyses if necessary.

(4) If the Section 204 report is approved by the Assistant Secretary of the Army for Civil Works (ASA(CW)), this approval will also constitute approval of the Section 408 permission. The District Commander will document that the Section 408 permission is granted and reference the Section 204 report approval.

(5) For alterations for which the non-federal interest is seeking federal assumption of maintenance under Section 204(f) of WRDA 1986, as amended, Section 408 permission will be required unless the modification to the USACE navigation project has already been specifically authorized by Congress. In order to avoid duplication of documentation for these two authorities, districts should ensure that requirements for both are coordinated and leveraged to the maximum extent practicable. Reference A.37 for the approval process and requirements for a Section 204(f) request. In general, the Section 204(f) report will not be submitted to the ASA(CW) for approval unless and until the Section 408 permission and any Section 10/404/103 permits have been approved.

g. In-kind Contribution Credit under Section 221 of the Flood Control Act of 1970, as amended (Section 221). There may be cases in which a non-federal sponsor wishes to undertake alterations to an existing USACE project for which there is an ongoing USACE feasibility study and the non-federal sponsor seeks credit eligibility for those alterations toward its cost share for the USACE project that is not yet authorized for construction. In such cases, any proposed alteration for which the non-federal sponsor is seeking credit cannot be initiated until the draft feasibility report is released for public review, an in-kind Memorandum of Understanding (MOU) for the work is executed, and Section 408 permission is issued.

(1) In those cases where a non-federal sponsor is undertaking work as an in-kind contribution on an authorized USACE project per an executed project partnership agreement that provides credit for such work, Section 408 permission is not required.

(2) Detailed guidance on crediting can be found in reference A.36.

h. Actions conducted under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The portions of any removal or remedial action conducted entirely onsite (as that term is used in CERCLA) in a manner consistent with CERCLA and the National Contingency Plan (40 CFR Part 300) are not subject to the procedural requirements in this EC. USACE will work with the United States Environmental Protection Agency (EPA) or other federal agency undertaking or overseeing the CERCLA response during the investigation and during the process of developing the removal or remedial action to ensure that the remedy implemented does not impair the usefulness of the USACE project and is not injurious to the public interest.

10. Options for Seeking Section 408 Permission. Early coordination between USACE, the requester, and/or non-federal sponsor, if applicable, is recommended in order to determine the optimal option below. All information must be submitted in writing to USACE.

a. Categorical Permission. The district, division, and/or HQUSACE have the ability to create a "categorical permission" in order to expedite and streamline the review and decisions of Section 408 requests that are similar in nature and that have similar impacts to the USACE project and environment. An assessment of impacts to the usefulness of the USACE project, environmental compliance, and a public interest determination is conducted ahead of time for a common category of activities. For those individual Section 408 requests that are consistent with the terms and conditions of an established categorical permission, the Section 408 request can be granted with a simplified validation process. See Appendix C for details.

b. Single-Phased Review. Requesters may submit all information needed for a Section 408 request, reference paragraph 11, at one time for USACE to review and render a decision.

c. Multi-Phased Review. This option provides a formalized process for requesters to pursue Section 408 permission in milestones. In other words, there is a proposed alteration in which interim reviews are conducted as the level of detail of the information is progressively developed. However, the multi-phased review approach cannot be used to piecemeal the evaluation of effects of the proposed alteration. Assessing effects to the environment, public interest, and the USACE project must consider the proposed alteration as a whole. This approach will require the district, the requester, and non-federal sponsor, if applicable, to establish pre-determined milestones at which the requester will submit specified information to the district. The district will review the information at each milestone to identify any concerns. Based on the information provided at each milestone, the district will provide a written response providing feedback and a determination as to whether or not the requester can proceed to the next milestone. This approval to the next milestone means that USACE has not identified any critical items that would preclude the eventual approval of the Section 408 based on the information reviewed, but does not guarantee an approval of the final Section 408 request. Information submitted for a specific milestone is not required to meet all of the basic requirements for a complete Section 408 request; however, information for each milestone will be cumulative and result in a complete Section 408 request with the information submitted for the final milestone. The following are additional considerations for this multi-phased review approach:

(1) Submittal for the initial milestone must contain enough information at a conceptual or master plan level for USACE to understand the scope and scale of the complete Section 408 alteration. The initial submittal must also have the Statement of No Objection, if one is required, reference paragraph 11.a.

(2) For the multi-phased review approach, the district must develop an alteration-specific review plan for the complete alteration, reference paragraph 12.c., and is encouraged to initiate development of the review plan, as soon as possible, including determining if a SAR is required. Milestones will be managed, monitored, and adapted, if necessary, in the district review plan. If a SAR is required, there may be additional review milestones required for design and

construction activities.

d. If there is a situation that involves a long-term or large-scale plan, such as a watershed-based master plan, comprised of the construction of multiple alterations occurring over time, this case should be coordinated vertically through the appropriate RIT to the HQUSACE Section 408 proponent to determine the most efficient process to manage such a request.

11. Basic Requirements for a Complete Section 408 Request. All costs associated with information required for obtaining a Section 408 permission, constructing the alteration if approved, and complying with any conditions associated with the Section 408 permission is at 100 percent cost to the requester. This does not include costs for USACE to conduct the review of the request. Costs associated with USACE review is addressed paragraph 7.f. If submitting information for a categorical permission, reference the process in Appendix C. If the multi-phased review approach is used, then the information needed for a complete Section 408 request may be provided at different milestones for review. Because proposed alterations vary in size, level of complexity, and potential impacts, the procedures and required information to make such a determination are intended to be scalable. Requirements for data, analyses, and documentation may be subject to change as additional information about the Section 408 proposal is developed and reviewed. Determination for the required information for each Section 408 submittal is led by the district. Supplemental information specific to dams, levees, hydropower, and navigation can be found in the appendix appropriate to the type of infrastructure (Appendices E-G). Note, identification of whether or not the proposed alteration also requires Section 10/103/404 authorization should be done up front, and districts should encourage requesters to submit any required Section 10/103/404 request in a manner to facilitate concurrent and efficient reviews with the Section 408 permission request, to the maximum extent practicable. Basic requirements for a complete Section 408 request include the following:

a. Statement of No Objection. For USACE projects with a non-federal sponsor, a written "Statement of No Objection" from the non-federal sponsor is required if the requester is not the non-federal sponsor. Non-federal sponsors typically have operation and maintenance responsibilities; have a cost-share investment in the USACE project; and/or hold the real property for the USACE project. The purpose of the Statement of No Objection is to document that the non-federal sponsor is aware of the scope of the Section 408 request and does not object to the request being submitted to USACE to initiate the evaluation of the request. Districts must coordinate with non-federal sponsors throughout the review process and ensure feedback from non-federal sponsors is considered prior to USACE rendering a final decision on the Section 408 request. Requesters can ask the USACE district office to facilitate coordination with, and seek to obtain the Statement of No Objection from, the non-federal sponsor. If a Statement of No Objection cannot be obtained, the district will not proceed with the Section 408 review with the following exceptions:

(1) A Statement of No Objection is not required if the requester is the non-federal sponsor.

(2) A Statement of No Objection is not required when USACE has all operation and maintenance responsibilities for the portion of the USACE project proposed to be altered.

(3) If a USACE project has multiple non-federal sponsors and potential impacts of the proposed alteration are limited to the location of the alteration, Statements of No Objection are required only from the non-federal sponsors associated with the locations with potential impacts. However, if the proposed alteration may impact the usefulness of the USACE project as a whole, Statements of No Objection must be obtained from all non-federal sponsors.

(4) A Statement of No Objection from the non-federal sponsor is not required if the requester could obtain the real property necessary to undertake the alteration through eminent domain without the consent of the non-federal sponsor, and the alteration will not be integral to the functioning of the USACE project. An alteration would be considered integral to the USACE project if the alteration must be complete, functional, and in-place in order for the USACE project to function and meet its authorized purpose. In cases in which the alteration is not considered integral to the USACE project, if the requester makes reasonable efforts, but is unable to obtain a Statement of No Objection from the non-federal sponsor, the requester may submit a Section 408 request with a written statement documenting the efforts to obtain a Statement of No Objection, and cite the authority and process through which the requester will have the sufficient authority to condemn all real property required for the alteration in the event the Section 408 request is approved by USACE. For these cases, USACE will independently seek input from the non-federal sponsor on the potential impacts of the proposed alteration relative to the non-federal sponsor's responsibilities, and will take that input into consideration in making the Section 408 decision. Within 30 days of notification by USACE, the non-federal sponsor must provide its input or may propose a timeline for providing feedback commensurate with the complexity of the proposed alteration. If the non-federal sponsor provides no response within 30 days of USACE's notification, USACE may proceed with the review of the alteration request without such input. Throughout the USACE review phase, USACE will continue to provide the non-federal sponsor opportunities to provide input on the Section 408 request up until and just before USACE renders a final decision. For these subsequent opportunities for input, districts can use judgment as to the appropriate time in which to provide non-federal sponsors to respond. Approval of the Section 408 under these circumstances does not negate the process the requester must follow in order to obtain the real property needed to construct the alteration, nor provides the requester with eminent domain authority.

(5) A Statement of No Objection is not required if, after a good faith effort, neither the requester nor USACE can locate the non-federal sponsor or the non-federal sponsor's successor. If a requester is able to secure the necessary real property to execute the alteration but cannot identify the non-federal sponsor or successor, the requester should document the measures taken to locate the non-federal sponsor or successor and request that USACE determine if there is a viable non-federal sponsor or successor. USACE should document their efforts and decision for the administrative record and notify the requester.

b. USACE Project and Alteration Description. Basic requirements for a complete Section 408 submittal include the identification of the USACE project and a complete description of the proposed alteration(s), including necessary drawings, sketches, maps, and plans.

c. Technical Analysis and Design.

(1) The requester is responsible for ensuring a proposed alteration meets current USACE design and construction standards. However, a requester is not required to bring those portions or features of the existing USACE project that are not impacted by the alteration up to current USACE design standards. The district will work closely with the requester to determine the applicable USACE standards to be applied and the specific level of detail necessary to be provided in order for USACE to make a decision for a particular alteration request. The district determination of the appropriate level of detail will be risk-informed and documented in the USACE review plan.

(2) Districts will inform the requester if a hydrologic and hydraulic system analysis is required. The purpose of a hydrologic and hydraulics system analysis is to determine the potential hydrologic and hydraulic changes of proposed alterations. Districts will determine if such an analysis is needed and, if so, the appropriate scope of analysis based on the complexity of the proposed alteration. See Appendix H for more details regarding the requirements of a hydrologic and hydraulics system analysis.

(3) For alterations involving professional design services, the requester will be required to submit a certification that the design underwent a quality control process.

(4) If the district determines a SAR is required, a SAR review plan must be developed by the requester and the requester will be required to cover the costs of the SAR. A SAR is required for design and construction activities where potential hazards pose a significant threat to life safety. Districts will work with requesters to coordinate the development of the SAR review plan. See paragraph 12.c.(4).

d. Environmental and Cultural Resources Compliance. A decision on a Section 408 request is a federal action subject to NEPA and other federal environmental and cultural resources compliance requirements, such as Section 7 of the Endangered Species Act (ESA), Section 106 of the NHPA, essential fish habitat (EFH) consultation, tribal consultation, etc. When applicable, government-to-government tribal consultation is inherently a federal obligation and must be conducted in a meaningful, collaborative and effective communication process working toward mutual consensus, to the extent practicable and permitted by law, and begins at the earliest planning stages. Ensuring and conducting environmental and cultural resources compliance for a Section 408 request is the responsibility of USACE. However, the requester is responsible for providing all supporting information and documentation that the district identifies as necessary to assess compliance, such as species surveys, habitat assessments, and/or cultural resource surveys. Requesters may, but are not required to, draft the NEPA environmental

assessment or fund a contractor to prepare an environmental impact statement for a Section 408 request consistent with 40 CFR 1506.5. However, the district must ensure that any NEPA documentation drafted by a requester or contractor is accurate and compliant with USACE and Council on Environmental Quality (CEQ) requirements prior to accepting it for use with the Section 408 request. A final Section 408 request cannot be rendered until the requester has provided all information necessary for the district to complete its assessment for environmental and cultural resources compliance. The district will work with the requester to determine the requirements for the information the requester is required to submit to constitute a complete request. The information required of the requester to facilitate the completion of environmental compliance will be scaled to be commensurate with the degree of potential environmental effects of the activity within the scope of the Section 408 analysis. Environmental and cultural resources compliance for Section 408 requests will typically not require the same level of detailed analysis as needed for feasibility reports or other planning studies. See Appendix D for further information.

(1) Alterations that are expected to not result in significant effects to the environment, both individually and cumulatively, should be evaluated for applicability with the approved categorical exclusions at 33 CFR 230.9. However, activities that qualify for a NEPA categorical exclusion must still satisfy compliance requirements under other statutes such as NHPA and ESA, and must fulfill consultation obligations with federally recognized tribes. Documentation of applicability of a categorical exclusion may be signed by the Section 408 decision-maker or other appropriate district staff.

(2) For categorical permissions, the district will inform the requester if additional documentation is necessary to complete environmental compliance.

(3) Districts are strongly encouraged to adopt and/or incorporate by reference any NEPA documentation that may already exist for the USACE project.

(4) For those alterations in which another federal agency is the NEPA lead agency (e.g. such as when FERC is the lead agency for private hydropower licensing, reference Appendix F), districts will participate in the NEPA review as a cooperating agency to the maximum extent practicable. Districts will typically adopt or incorporate by reference that federal agency's Environmental Impact Statement (EIS) or Environmental Assessment (EA) and consider it to be adequate for NEPA compliance for a Section 408 permission, unless the district finds substantial doubt as to the technical or procedural adequacy or omission of factors important to the Section 408 permission decision. Districts also have discretion to adopt/use another lead federal agency's environmental compliance documentation (ESA, NHPA, EFH, etc.) as allowable and appropriate for the Section 408 permission decision. Districts should ensure that the lead agency is informed of all needs to determine technical adequacy and environmental and cultural resources compliance for the purposes of Section 408 early in the process.

(5) Districts have discretion and are encouraged to develop new or use existing

programmatic NEPA documents (consistent with 40 CFR Part 1500.4(i)) and/or programmatic environmental consultations for Section 408 requests, when appropriate.

(6) Clean Water Act, Section 401 Water Quality Certification. If the requirement for a state water quality certification (33 USC 1341) applies to the alteration that is subject to a Section 408 review, as determined by USACE, then Section 408 authorization cannot be granted until the certification has been obtained or waived, as provided for by statute.

(7) Per USACE tribal consultation policy, federally recognized tribes have the right to request government-to-government consultation with the district. All requests by a tribe for government-to-government consultation with USACE will be honored.

e. Real Estate Requirements. A description of the real property required to support the proposed alteration must be provided. Non-federal sponsors issuing permits, outgrants, or consents for alterations undertaken by others will ensure that the terms of the instrument or agreement are consistent with the terms and conditions of the Section 408 permission, if applicable. If additional real property is required for an alteration that will be integral to the functioning of the USACE project, the district must follow the normal procedures to request approval of any non-standard estates under the guidance in chapter 12 of reference A.28. Maps clearly depicting both existing real property and the additional real property required must also be provided.

f. Operation, Maintenance, Repair, Replacement, and Rehabilitation (OMRR&R). Requesters must identify any projected requirements for OMRR&R needed throughout the life of the proposed alteration and the responsible entity. For instances when there may be a desire for USACE to assume or incorporate operations and maintenance of the proposed alteration as part of its responsibilities for the USACE project being modified, a justification must be provided. See paragraph 9.f.(5) for federal assumption of maintenance associated with navigation features. If operation and maintenance of the USACE project is affected by the alteration, the requester, if not the non-federal sponsor, must provide written documentation that the non-federal sponsor agrees to assume responsibility for the changed OMRR&R of the USACE project at no cost to the federal government. This written documentation must be received prior to USACE issuing the Section 408 decision. If the Section 408 request is approved and an update to the USACE issued O&M manual is needed as the result of the alteration, the requester will be required to provide the district with sufficient information to update the portion of the O&M manual related to the approved alteration. As part of this update, as-builts may be required. See paragraph 17.

g. If applicable, a written statement regarding whether credit under Section 221 of the Flood Control Act of 1970, as amended, or other law or whether approval under Section 204 of WRDA 1986, as amended is being or will be sought must be provided.

12. USACE Review Requirements. In general, each Section 408 request will be reviewed by USACE consistent with the following:

a. Main Determinations.

(1) Impacts to the Usefulness of the USACE Project. The objective of this determination is to ensure that the proposed alteration will not limit the ability of the USACE project to function as authorized and will not compromise or change any authorized project conditions, purposes or outputs. All appropriate technical analyses including geotechnical, structural, hydraulic and hydrologic, real estate, construction, and operations and maintenance requirements, must be conducted, and the technical adequacy of the design must be reviewed. In addition, the district will determine whether or not the alteration is an integral component of the USACE project and therefore, will be treated as a federal component of the USACE project once constructed, including for purposes of the USACE Rehabilitation Program, reference A.29. An alteration would be considered integral to the USACE project if the alteration must be complete, functional, and in-place in order for the USACE project function and meet its authorized purpose. If at any time it is concluded that the usefulness of the authorized project will be negatively impacted, any further evaluation should be terminated and the requester notified. Section 408 permission will not be granted for a proposed alteration that would have an effect of deauthorizing a USACE project or eliminating an authorized project purpose.

(2) Injurious to the Public Interest. Proposed alterations will be reviewed to determine the probable impacts, including cumulative impacts, on the public interest. Evaluation of the probable impacts that the proposed alteration to the USACE project may have on the public interest requires a careful weighing of all those factors that are relevant in each particular case. The benefits that reasonably may be expected to accrue from the proposal must be compared against its reasonably foreseeable detriments. The decision whether to approve an alteration will be determined by the consideration of whether benefits are commensurate with risks. If the potential detriments are found to outweigh the potential benefits, then it may be determined that the proposed alteration is injurious to the public interest. Factors that may be relevant to the public interest depend upon the type of USACE project being altered and may include, but are not limited to, such things as conservation, economic development, historic properties, cultural resources, environmental impacts, water supply, water quality, flood hazards, floodplains, residual risk, induced damages, navigation, shore erosion or accretion, and recreation. This evaluation should consider information received from key stakeholders, interested parties, tribes, agencies, and the public. As a general rule, proposed alterations that will result in substantial adverse changes in water surface profiles will not be approved. The Regulatory Program also conducts a public interest review and cannot authorize activities that are “contrary to the public interest.” When an activity requires both a Regulatory review and Section 408 review, Regulatory and the office conducting the Section 408 review should closely coordinate and leverage any information to inform their respective analyses to ensure efficiency and consistency, to the extent appropriate.

(3) Legal and Policy Compliance. A determination will be made by the appropriate Office of Counsel as to whether the request meets all legal and policy requirements.

b. Public Notice. Districts must make diligent efforts to solicit public input as part of the decision-making process for a Section 408 request. Except for requests that meet an established categorical permission (where a public notice is issued as part of the establishment of the categorical permission), districts should issue a public notice for all Section 408 requests advising interested parties of the proposed alteration for which permission is sought and soliciting information necessary to inform USACE's evaluation and review. At a minimum, public notices should contain the requester, a description of the alteration being proposed, and the location of the alteration. As such, this public notice must be circulated to the public by methods deemed appropriate by the district (e.g., websites, email, social media, or media outlets) as early in the evaluation of a proposed alteration as possible to generate meaningful public and agency input to inform the evaluation and decision-making processes. Because input solicited through the public notice process can inform various aspects of the Section 408 review, such as the public interest determination, environmental compliance, Executive Order 11988, informing navigation stakeholders of alterations located in inland and intracoastal waterways, Section 214 funding agreements, and corresponding Regulatory standard individual permit applications, all effort should be made to ensure the public notice is developed and coordinated in a manner that helps maximize the value and use of the input received, and reduces the potential for issuing multiple public notices for different purposes. Likewise, for those Section 408 requests in which another federal agency is the lead federal agency, districts should coordinate with the lead agency to issue concurrent or joint public notices, when feasible and appropriate. The comment period associated with the public notice should generally be no more than 30 calendar days, but the comment period may deviate from this guideline in order to satisfy multiple purposes (i.e., 60-day comment period for a draft EIS) or to facilitate a joint public notice with another federal agency. Section 408 requests for which an environmental assessment (EA) is prepared or a categorical exclusion is used, draft NEPA compliance documents should not be circulated for public comment, except in rare circumstances. Instead, this public notice soliciting input will serve as the method of involving the public in the NEPA process that is required by 40 CFR 1501.4(e)(1). Environmental compliance may require other consultation and public engagement activities beyond a basic public notice. See Appendix D for more information on environmental compliance.

c. USACE Review Plan. The review of each Section 408 request will be conducted in conjunction with a review plan. Districts should ensure requesters understand the review requirements as early in the process as possible. A review plan will define the USACE resource requirements and procedures of how the review and decision for the Section 408 request will be conducted and rendered, respectively. The USACE review team will be subject matter experts based on expertise, experience, and skills, from multiple disciplines as necessary to ensure a comprehensive review. If the requester is not the non-federal sponsor, the review plan must also include opportunities for the non-federal sponsor to provide input on potential impacts to their responsibilities throughout the review process. Districts are encouraged to review information submitted by requesters as the review plan is being finalized, but no final Section 408 decision will be rendered without an approved review plan in place. Section 408 review plans do not

have to be posted on the internet. If a SAR is required, districts and divisions may use discretion to post the SAR report on the district or division website. If the decision is made to post the SAR report, districts and/or divisions will ensure appropriate protection of sensitive or security related information when posting the SAR report.

(1) For categorical permissions, the review and validation process is established and documented as part of the creation of the categorical permission; therefore, no separate review plan is needed. Reference Appendix C for additional information for categorical permissions.

(2) Districts have the option to develop an overarching review plan, called a Procedural Review Plan, that establishes the review procedures to be used for Section 408 requests similar in nature and that have similar impacts and do not require a Safety Assurance Review (SAR), reference paragraph 12.c.(4). Procedural Review Plans are approved by the Division Commander; however, the Division Commander may delegate signature authority for the Procedural Review Plan to either the Division Regional Programs Director or the Division Regional Business Director. Districts must review and update approved Procedural Review Plans on an annual basis. The division must reapprove the Procedural Review Plans if there are any significant changes in scope or process.

(3) Districts must develop alteration-specific review plans for Section 408 requests that are not covered by a categorical permission or Procedural Review Plan. Section 408 requests using the multi-phased review approach, reference paragraph 10.c., or requiring a SAR, must have an alteration-specific review plan. If the multi-phased review approach is being used, documentation of established milestones will be managed in the district's review plan for the Section 408 request. Milestones can be adjusted as part of the process for updating the review plan. The decision-maker for the Section 408 request, reference paragraph 8, will be the approver of alteration-specific review plans. For example, if the decision-maker is the Division Commander, the Division Commander or the Division Commander's designee must approve the review plan. The Division Commander may delegate signature authority for the review plan to either the Division Programs Director or the Division Regional Business Director. If the Section 408 is to be approved by the District Commander, the District Commander must approve the review plan and so on. The division may choose to approve alteration-specific review plans that could be approved at the district level. Approved alteration-specific review plans must be updated as needed; however, if there are any significant changes in scope or process of the review, then the review plan must be reapproved at the appropriate approval level. The Review Management Organization (RMO) responsibilities can be at the level in which the Section 408 decision is made, with the exception of Section 408 requests that require a SAR, reference paragraph 12.c.(4). See reference A.40 for RMO responsibilities.

(4) The district Chief of Engineering will refer to reference A.40, or subsequent policy, to determine if a SAR is required for a proposed alteration. For alterations involving a levee or dam, this decision will be made in consultation with the district Dam Safety Officer or Levee Safety Officer when they are not the same person as the Chief of Engineering. If the district

determines a SAR is required, an alteration-specific review plan must be developed and the Risk Management Center (RMC) will be assigned as the RMO for the entire Section 408 review including the SAR. The final alteration-specific review plan and SAR review plan must be endorsed by the RMC and approved by the Division Commander or the Division Commander's designee. The Division Commander may delegate signature authority for the review plan to either the Division Regional Programs Director or the Division Regional Business Director. The district will work with the requester in the development of the review plan for the SAR. The district will include the requester's SAR review plan as an appendix to the USACE alteration-specific review plan.

13. Overall Process. The overall USACE review process for Section 408 requests involves four main steps: completeness determination (reference paragraph 14); review and decision (reference paragraph 15); final decision notification (reference paragraph 16); and construction oversight (reference paragraph 17). All information submitted by the requesters should be transmitted to the appropriate USACE district office having jurisdiction over the USACE project being altered.

a. The first submittal of information to the USACE district office should have a cover letter signed by the entity requesting the Section 408 permission.

b. Submittals may be accepted electronically (such as by email or file transfer) or by hard copy. When the initial submittal is received, the district will create a database entry for that request, including the assignment of a unique identifier (to be automatically generated by the Section 408 database). The unique identifier will be used for tracking purposes throughout the entire Section 408 request process and will be referenced in all correspondence with the requester.

c. USACE will provide timely responses to requesters regardless of the type of Section 408 request or the stage of the review. Districts and divisions should prioritize work in a manner to support timely responses and decisions (and within the timelines specified in paragraphs 14 and 15) to the maximum extent practicable.

d. Written notifications by districts to requesters can be provided by the district electronically or by hardcopy, depending on the preference of the requester. Districts will tailor content of the written notifications to each given situation. See Appendix J for example letters to requesters.

e. At any time in the process, a requester may choose to withdraw their Section 408 request in writing. In this case, the district will record the date of withdrawal in the Section 408 database.

f. For Section 408 requests involving funding agreements, the time required to develop and execute funding agreements, reference paragraph 7.g., themselves will not be subject to the

notification timelines referenced in paragraphs 14 and 15. The districts will ensure timely responses and engagement in developing and executing funding agreements.

g. The written notifications to requesters may be issued and signed by the Section 408 Coordinator or other signatory designated by the District Commander, except for final decision notifications. Final decision notifications for validation of categorical permissions, single-phased decisions, or multi-phased review decisions will follow appropriate decision processes as specified in paragraph 8.

14. Step 1: Completeness Determination. This first part of the process involves the requester providing information to the district in one or more submittals in order to satisfy all the basic requirements of a complete Section 408 request as indicated in paragraph 11. When a requester submits information to a district office, districts are expected to provide a written completeness determination within 30 days of receipt. If the district determines a submittal is not complete, the district will provide the requester a written notification within 30 days of receipt, providing a description of what information is required in order for the submittal to be complete. The 30 day timeline for a completeness determination is then restarted upon any subsequent submittals of information. A submittal will be determined complete and therefore initiating the 90-day review and decision step (reference paragraph 15) when it meets one of the following scenarios:

a. For categorical permissions, information submitted by the requester will be considered complete when the information provided demonstrates the proposed alteration appears to meet the conditions of an established categorical permission. If the district can validate the use of the categorical permission based on the information in the submittal of information within 30 days of receipt, then the district can proceed and grant permission under the categorical permission and notify the requester in lieu of providing a completeness determination letter. If not, then the 90-day review and decision step will be initiated with the district providing a written notification that the submittal seeking authorization under a categorical permission is complete.

b. For requests using the multi-phased review approach, a completeness determination will be done on each milestone submittal. The requirements to determine what information is required for each milestone should be pre-determined and planned by agreement between the district and requester. When a district issues a written notification that a milestone is complete, that will initiate the 90-day review and decision step for that milestone.

c. For requests intended for a single-phased review, a submittal will be determined complete when all the basic requirements, reference paragraph 11, has been submitted. When a district issues a written notification that all basic requirements have been submitted, that will initiate the 90-day review and decision step for that Section 408 request.

d. If after evaluating the information provided by a requester the district determines that processes in this EC do not apply, the district will provide the requester a written notification within 30 days of receipt of the information with a description of why this EC would not apply

and any other recommendations for the requester's next course of action, if needed.

15. Step 2: USACE Review and Decision. During this step, USACE will evaluate the information provided for the completeness determination following the review requirements in paragraph 12. This second step of the process results in USACE providing a final decision for either validating use of a categorical permission; a specific milestone; or a complete Section 408 request. Approval of the use of a categorical permission or a complete single-phase Section 408 request means that the requester can proceed to construction of the alteration, subject to specified conditions. Approval of a specific milestone results in the requester proceeding to the next milestone, unless the submittal is the final milestone. Approval of the final milestone constitutes approval of the entire Section 408 request; must be render by the appropriate Section 408 decision-maker (reference paragraph 8); and results in the requester being able to proceed to construction of the alteration, subject to specified conditions. Approved alterations for construction must result in a fully functional element once construction is complete.

a. Timeline for Review and Final Decision. A final decision will be provided by USACE to the requester within 90 days from the date the completeness determination was made by the district, unless one of the following stipulations apply. This 90-day timeframe is inclusive of the time needed for division review and decision, if required, and issuance of the final notification (reference paragraph 16).

(1) If a final decision cannot be made within 90 days, the district will provide a written notification to the requester with an estimated decision date. If the decision date extends beyond 120 days from a completeness determination, the district will send a memorandum through the Division Commander to the Director of Civil Works with a description of the Section 408 request and a justification for the decision extending beyond 120 days. HQUSACE will provide this information to the Committee on Environment and Public Works of the Senate and the Committee on Transportation and Infrastructure of the House of Representatives.

(2) There may be cases during the USACE review and decision phase in which it is identified that more information is needed to render a final decision. If the additional information is needed to support or clarify the pending Section 408 request, the coordination for obtaining the additional information can be done informally between the district and requester. The 90-day timeframe for the final decision is not paused during this informal coordination. If this coordination causes the USACE review and decision timeframe to extend beyond 90 days, follow procedures in paragraph 15.a.(1). If the need for additional information is triggered by a change in the scope or scale of the alteration to the extent that it would require significant new information, such as new technical analyses, development of supplemental/re-initiation of environmental compliance, and/or additional real estate review, the USACE review should stop and the request should be withdrawn. This action will cease the 90-day review and decision timeline. The district then must provide written notification to the requester that a new request should be submitted to reflect the change in scope of the alteration. When the requester submits all of the required information, a new completeness determination will be made (subject to the

30-day timeline in paragraph 14) and the 90-day timeline will be restarted from the date of the new completeness determination.

b. Summary of Findings. The district will create a Summary of Findings (content and format scalable to the request) to serve as the decision document to summarize the administrative record, including the review findings and the basis for the final Section 408 decision. A Summary of Findings does not have to be developed for each individual milestone for the multi-phased review approach, but is required when the final milestone is reviewed and must summarize the entire Section 408 decision collectively. The Summary of Findings must include the following, as a minimum:

(1) USACE project description and authorization;

(2) Brief description of the request;

(3) Description and reference to the review plan process followed, including SAR determination;

(4) Summary of rationale and conclusions for recommending approval or denial, including determinations for the impact to the usefulness of the USACE project; whether or not the alteration is considered integral to the USACE project; and impacts to the public interest;

(5) Certification of legal sufficiency by Office of Counsel;

(6) Certification by the District Chief of Real Estate Division that all real property required for the proposed alteration has been identified; the identified real property is sufficient to support the alteration; and the proposed alteration will not adversely affect the USACE project's real property. If the proposed alteration will be integral to the functioning of the USACE project, the District Chief of Real Estate Division must also certify that standard estates are being used for the acquisition of any new real property that will become or may become a part of the USACE project, or that the requester is seeking approval to use non-standard estates (see paragraph 11.e.);

(7) Description of any related, ongoing USACE studies (if applicable), including how the proposed alteration may impact those studies;

(8) Summary of input from the non-federal sponsor, if the non-federal sponsor is not the requester demonstrating that the district provided opportunity for the non-federal sponsor to review and evaluate the proposed alteration along with the technical analysis and design, environmental effects, real estate requirements, and potential O&M effects and that the district sought to incorporate the non-federal sponsors feedback and concerns into the decision-making process;

(9) Summary of any changes to the O&M manual;

(10) If the district has determined that USACE would assume O&M responsibilities as part of its responsibilities for the USACE project, include the rationale and any anticipated increase in USACE O&M costs or if changes to O&M requirements would have to be implemented by the non-federal sponsor, documentation that the non-federal sponsor has agreed to those changes to their responsibilities;

(11) The NEPA Finding of No Significant Impact or Record of Decision, if the NEPA decision has not already been documented (such as applicability of a categorical exclusion, validation of a categorical permission, or an EIS led by another federal agency); and,

(12) Any additional final conclusions or information, including any associated controversial issues.

16. Step 3: Final Decision Notification. The district is responsible for providing a written decision signed by the USACE deciding official to the requester for all final Section 408 decisions, regardless of the decision level. This written decision must be issued within the 90-day review and decision timeline.

a. For those requests in which the non-federal sponsor is not the requester, USACE will coordinate the final decision with the non-federal sponsor.

b. If the final decision is to deny the request, the requester will be advised in writing as to the reason(s) for denial.

c. If the final decision is to approve the Section 408 request, the district will provide a written approval document. For cases involving a categorical permission, the written approval will be validation that the categorical permission is applicable.

d. In situations in which the district is evaluating a Regulatory standard individual permit application and Section 408 combined, reference paragraph 7.h.(4) and 7.h.(5), the district will ensure the final Section 408 decision letter and associated conditions be part of the single transmittal letter with the Regulatory permit.

e. Standard Terms and Conditions. At a minimum, the standard terms and conditions in Appendix K, except where noted as optional, must be included in all Section 408 approval notifications, including validation of use of a categorical permission. Districts and divisions may include any necessary special conditions as requirements for approval.

17. Step 4: Construction Oversight. District costs for construction oversight and closeout should be incorporated as part of review costs for the Section 408 request.

a. Construction oversight. The district should develop procedures for monitoring construction activities, including reviewing construction documentation at different phases if necessary, for the approved Section 408 request scaled to the complexity of the alteration to ensure the alteration is constructed in a manner consistent with the permission conditions. If a SAR was required, there may be SAR activities that carry through during construction. Any concerns regarding construction should be directed to the Section 408 requester (and the non-federal sponsor if applicable) for resolution.

b. As-builts. Plans and specifications with amendments during construction showing alterations as finally constructed will be furnished by the Section 408 requester after completion of the work if required by the district. As-builts must be provided to the district and the non-federal sponsor (if the requester is not the non-federal sponsor) within 180 days of construction completion.

c. O&M Manual Updates. The Section 408 requester is required to provide the district with sufficient information to update the portions of the USACE issued O&M manual to reflect changes as a result of the constructed alteration if necessary. If the requester was not the non-federal sponsor, the non-federal sponsor must be given must an opportunity to review all proposed changes to the O&M manual. O&M manual updates may range from simple removal and replacement of paragraphs or entirely new manuals depending on the scope and complexity of the alteration. The district is responsible for reviewing and approving any updates needed to the O&M manual as a result of the alteration. At a minimum, the update should include a description of the new features, reference to the Section 408 approvals, as-builts, and instructions regarding O&M of any new features not included in the existing manual. Reference A.32 and A.34 for information on O&M manuals.

d. Post Construction Closeout. District may need to conduct a post construction on-site inspection of the completed alteration to document final condition of the USACE project.

18. Enforcement.

a. Inspection and monitoring of approved and in-place alterations will be incorporated into the inspection and oversight procedures for that specific USACE project.

b. The policy of USACE is to pursue enforcement and correction of unauthorized alterations. If an unauthorized alteration is discovered, the district, after consulting with the Offices of Counsel and Real Estate, will take the appropriate steps to remedy the unauthorized alteration. Coordination with the district Regulatory office should also occur so it can be determined if any action should be taken with respect to Section 10/404/103. Regulatory funds cannot be used for enforcement and correction of unauthorized alterations. Specific enforcement steps the district takes will depend on the particular nature of the unauthorized alteration and whether the unauthorized alteration is located on project boundaries where a non-federal sponsor holds the land rights for operations and maintenance. Non-federal sponsors with operations and

maintenance responsibilities for the USACE project remain responsible for ensuring no unauthorized alterations are occurring within the project boundaries.

FOR THE COMMANDER:

JAMES C. DALTON, P.E.
Director of Civil Works

APPENDIX A

References*
*Other appendices in this EC have additional references listed.

A.1. Rivers and Harbors Act of 1899, https://www.gpo.gov
A.2. Federal Power Act of 1920, https://www.gpo.gov
A.3. Section 106 of the National Historic Preservation Act of 1966, https://www.gpo.gov
A.4. Flood Control Act of 1970, as amended, https://www.gpo.gov
A.5. National Environmental Policy Act of 1970, https://www.gpo.gov
A.6. Section 103 of the Marine Protection, Research, and Sanctuaries Act, https://www.gpo.gov
A.7. Section 404 of the Clean Water Act of 1972, https://www.gpo.gov
A.8. Section 7 of the Endangered Species Act of 1973, https://www.gpo.gov
A.9. Section 204 of Water Resources Development Act of 1986, as amended, https://www.gpo.gov
A.10. Section 214 of Water Resources Development Act of 2000, as amended, https://www.gpo.gov
A.11. Section 2036 of Water Resources Development Act of 2007, https://www.gpo.gov
A.12. Section 1005(b) of Water Resources Reform and Development Act of 2014, https://www.gpo.gov
A.13. Title 41 of the Fixing America's Surface Transportation Act (FAST-41), https://www.gpo.gov
A.14. Section 1156(a)(2) of Water Resources Development Act of 2016, https://www.gpo.gov
A.15. 10 USC 2695 - Acceptance of funds to cover administrative expenses relating to certain real property transactions, https://www.gpo.gov
A.16. 23 USC 139 - Efficient environmental reviews for project decision making, https://www.gpo.gov
A.17. 30 USC 185 - Rights-of-way for pipelines through federal lands, https://www.gpo.gov
A.18. 33 USC 408 - Taking possession of, use of, or injury to harbor or river improvements, https://www.gpo.gov
A.19. 33 CFR 208.10 - Local Flood Protection Works; Maintenance and Operation of Structures and Facilities, https://www.gpo.gov
A.20. 33 CFR 230 - Procedures for Implementing NEPA, https://www.gpo.gov
A.21. 33 CFR 329 - Definition of Navigable Waters of the United States, https://www.gpo.gov
A.22. 36 CFR 327 - Rules and Regulations Governing Public Use of Water Resources Development Projects Administered by the Chief of Engineers, https://www.gpo.gov
A.23. 36 CFR 800 - Protection of Historic Properties, https://www.gpo.gov
A.24. 40 CFR 1500-1508 - CEQ Regulations for Implementing the Procedural Provisions of NEPA, https://www.gpo.gov
A.25. 50 CFR 402 - Interagency Cooperation - Endangered Species Act of 1973, as amended, https://www.gpo.gov

A.26. Executive Order 11988 - Floodplain management, https://www.archives.gov
A.27. AR 405-80, Management of Title and Granting Use of Real Property, http://www.aschq.army.mil
A.28. ER 405-1-12, Real Estate Handbook, https://www.publications.usace.army.mil
A.29. ER 500-1-1, Emergency Employment of Army and Other Resources - Civil Emergency Management Program, https://www.publications.usace.army.mil
A.30. ER 1105-2-100, Planning Guidance Notebook, https://www.publications.usace.army.mil
A.31. ER 1110-1-1807, Drilling in Earth Embankment Dams and Levees, https://www.publications.usace.army.mil
A.32. ER 1110-2-401, Operation, Maintenance, Repair, Replacement, and Rehabilitation Manual for Projects and Separable Elements Managed by Project Sponsors, https://www.publications.usace.army.mil
A.33. ER 1130-2-500, Partners and Support (Work Management Policies), https://www.publications.usace.army.mil
A.34. ER 1130-2-550, Recreation Operations and Maintenance Policies, https://www.publications.usace.army.mil
A.35. ER 1165-2-26, Implementation of Executive Order 11988 on Floodplain Management, https://www.publications.usace.army.mil
A.36. ER 1165-2-208, In-Kind Contribution Credit Provisions of Section 221(a)(4) of the Flood Control Act of 1970, as amended, https://www.publications.usace.army.mil
A.37. ER 1165-2-211, Operation and Maintenance of Improvements Carried Out by Non-Federal Interests to Authorized Harbor or Inland Harbor Projects, https://www.publications.usace.army.mil
A.38. ER 1165-2-504, Construction of Water Resource Development Projects by Non-Federal Interests, https://www.publications.usace.army.mil
A.39. EP 1130-2-550, Recreation Operations and Maintenance Guidance and Procedures, https://www.publications.usace.army.mil
A.40. EC 1165-2-217, Review Policy for Civil Works, https://www.publications.usace.army.mil
A.41. Director’s Policy Memorandum, Civil Works Programs, No. DPM CW 2018-06, Designation of a Lead USACE District for Permitting of Non-USACE Projects Crossing Multiple Districts or States, dated 15 May 2018
A.42. Council on Environmental Quality, *Improving the Process for Preparing Efficient and Timely Environmental Reviews under the National Environmental Policy Act*, dated 6 March 2012, https://ceq.doe.gov
A.43. Council on Environmental Quality, *Establishing, Applying and Revising Categorical Exclusions under the National Environmental Policy Act*, dated 23 November 2010, https://ceq.doe.gov

APPENDIX B

33 USC 408

Below is the direct language of 33 USC 408.

§408. Taking possession of, use of, or injury to harbor or river improvements

(a) Prohibitions and permissions
It shall not be lawful for any person or persons to take possession of or make use of for any purpose, or build upon, alter, deface, destroy, move, injure, obstruct by fastening vessels thereto or otherwise, or in any manner whatever impair the usefulness of any sea wall, bulkhead, jetty, dike, levee, wharf, pier, or other work built by the United States, or any piece of plant, floating or otherwise, used in the construction of such work under the control of the United States, in whole or in part, for the preservation and improvement of any of its navigable waters or to prevent floods, or as boundary marks, tide gauges, surveying stations, buoys, or other established marks, nor remove for ballast or other purposes any stone or other material composing such works: *Provided*, That the Secretary of the Army may, on the recommendation of the Chief of Engineers, grant permission for the temporary occupation or use of any of the aforementioned public works when in his judgment such occupation or use will not be injurious to the public interest: *Provided further*, That the Secretary may, on the recommendation of the Chief of Engineers, grant permission for the alteration or permanent occupation or use of any of the aforementioned public works when in the judgment of the Secretary such occupation or use will not be injurious to the public interest and will not impair the usefulness of such work.

(b) Concurrent review

(1) NEPA review

(A) In general
In any case in which an activity subject to this section requires a review under the National Environmental Policy Act of 1969 (42 USC 4321 et seq.), review and approval of the activity under this section shall, to the maximum extent practicable, occur concurrently with any review and decisions made under that Act.

(B) Corps of Engineers as a cooperating agency
If the Corps of Engineers is not the lead Federal agency for an environmental review described in subparagraph (A), the Corps of Engineers shall, to the maximum extent practicable and consistent with Federal laws-

(i) participate in the review as a cooperating agency (unless the Corps of Engineers does not intend to submit comments on the project); and

(ii) adopt and use any environmental document prepared under the National Environmental Policy Act of 1969 (42 USC 4321 et seq.) by the lead agency to the same extent that a Federal agency could adopt or use a document prepared by another Federal agency under-

(I) the National Environmental Policy Act of 1969 (42 USC 4321 et seq.); and

(II) parts 1500 through 1508 of title 40, Code of Federal Regulations (or successor regulations).

(2) Reviews by Secretary
In any case in which the Secretary must approve an action under this section and under another authority, including sections 401 and 403 of this title, section 1344 of this title, and section 1413 of this title, the Secretary shall-

(A) coordinate applicable reviews and, to the maximum extent practicable, carry out the reviews concurrently; and

(B) adopt and use any document prepared by the Corps of Engineers for the purpose of complying with the same law and that addresses the same types of impacts in the same geographic area if such document, as determined by the Secretary, is current and applicable.

(3) Contributed funds
The Secretary may accept and expend funds received from non-Federal public or private entities to evaluate under this section an alteration or permanent occupation or use of a work built by the United States.

(c) Timely review

(1) Complete application
On or before the date that is 30 days after the date on which the Secretary receives an application for permission to take action affecting public projects pursuant to subsection (a), the Secretary shall inform the applicant whether the application is complete and, if it is not, what items are needed for the application to be complete.

(2) Decision
On or before the date that is 90 days after the date on which the Secretary receives a complete application for permission under subsection (a), the Secretary shall-

(A) make a decision on the application; or

(B) provide a schedule to the applicant identifying when the Secretary will make a decision on the application.

(3) Notification to Congress

In any case in which a schedule provided under paragraph (2)(B) extends beyond 120 days from the date of receipt of a complete application, the Secretary shall provide to the Committee on Environment and Public Works of the Senate and the Committee on Transportation and Infrastructure of the House of Representatives an explanation justifying the extended timeframe for review.

APPENDIX C

Categorical Permissions

C-1. Purpose. The purpose of this appendix is to provide supplemental information on categorical permissions including the process to establish categorical permissions and the use of a categorical permission with a Section 408 request. This appendix should be used in conjunction with the guidance in the main EC.

C-2. References. See Appendix A for a list of relevant references.

C-3. Policy. Categorical permissions are intended to be a flexible tool for districts, divisions, and HQUSACE to use in order to streamline the approval of "categories" of alterations that are similar in nature and that have similar effects to a USACE Civil Works project and impacts to the environment. The premise behind a categorical permission is that a USACE office identifies a specific and commonly occurring set of activities that require Section 408 permissions within a specified geographic area that, both individually and cumulatively, have been determined not to impact the usefulness of the USACE project(s); associated environmental impacts are less than significant; and the activities would not be injurious to the public interest.

a. A categorical permission is not the same as a NEPA categorical exclusion. The analysis of potential effects to the USACE project, public interest, and NEPA and other environmental and cultural resources compliance for the identified activities is done in advance to establish the categorical permission, and then individual Section 408 requests are reviewed for compliance with the established categorical permission. For those individual Section 408 requests that are consistent with the terms and conditions of a categorical permission, Section 408 permission can be granted with an abbreviated validation process to determine that the terms and conditions are met. The decision letter used to document the use of a categorical permission can include any additional clarifying environmental documentation necessary, likely avoiding the need for a separate NEPA document.

b. A categorical permission may be created at the district, division, or HQUSACE level, but must be approved by a District Commander, Division Commander, or the Director of Civil Works depending upon the region in which it is applicable. Validation that a Section 408 request is consistent with the terms and conditions of a categorical permission and subsequent authorization of the activity under the categorical permission may be delegated. The delegation should be established through the process used to create the categorical permission.

c. A categorical permission can be developed at any geographic scale so long as the effects can be meaningfully generalized across that scale. The use of terms and conditions to limit what activities can proceed under a categorical permission may be essential to successfully establishing a categorical permission. For example, it may be necessary to limit a categorical permission to actions that occur outside of areas designated under the Endangered Species Act

(ESA) as critical habitat or outside of areas subject to tribal treaty rights. Categorical permissions can be limited to not apply at all in those circumstances, or they can require the resolution of ESA consultation requirements or tribal coordination on a project-specific basis before validation of the categorical permission can be granted.

d. Potential categorical permissions should be coordinated with those non-federal sponsors with responsibility for the USACE projects that would be covered. Non-federal sponsors should be given opportunity to provide input on all aspects of the proposed categorical permission, with specific attention to concerns regarding impacts on their O&M responsibilities and public interest considerations. The categorical permission may include terms and conditions to address issues associated with the non-federal sponsor O&M responsibility. For example, a categorical permission could require requesters, if the requester is not the non-federal sponsor, to obtain a Statement of No Objection and/or require review by the non-federal sponsor prior to submitting the request to USACE.

C-4. Establishing Categorical Permissions.

a. Categorical permission development follows similar steps as the process to develop a programmatic NEPA document, but requires an evaluation of the potential effects to the USACE Civil Works project (such as structural and operational effects), public interest, and the potential environmental and cultural resources effects of the covered activities. The basic process will include:

(1) scoping;

(2) conducting an initial assessment of potential impacts to the USACE project to ensure the scope is appropriate for a categorical permission;

(3) development of the draft categorical permission with special conditions;

(4) soliciting non-federal sponsor input;

(5) making the draft categorical permission available for public comment and tribal government-to-government consultation. In addition, there will be opportunities for a public hearing afforded;

(6) developing a final categorical permission and decision document after taking into consideration all input and making necessary revisions; and

(7) making the final categorical permission publicly available on appropriate USACE websites.

b. All proposed and final categorical permissions should explicitly state that a categorical

permission satisfies the Section 408 requirements only and that landowner permission and any other applicable federal, state, or local permits need to be secured before work can begin, including any applicable and required Regulatory Program authorization. Appropriate district staff should ensure the categorical permission decision is coordinated with the Section 10/404/103 permit decision if both are required.

c. When establishing a categorical permission, the district, division, or HQUSACE should develop:

(1) the detailed description and scope of the activities that are proposed to be covered by the categorical permission;

(2) the geographic area in which the categorical permission applies;

(3) the specific USACE project(s) or types of USACE projects to which the categorical permission applies;

(4) a list of circumstances that, if present, would disqualify an otherwise in-scope activity from using the categorical permission (such as the possibility for adverse effects to endangered species in the area);

(5) a summary of findings that supports the determination that all activities within the defined parameters of the categorical permission do not impair the usefulness of the applicable USACE project(s) and are not injurious to the public interest, as well as the NEPA decision document (categorical exclusion, finding of no significant impact (FONSI), or ROD, as appropriate) for the categorical permission;

(6) a description of what documentation is to be submitted to USACE by the entity requesting Section 408 permission in order to validate the applicability of the categorical permission for a specific activity;

(7) an appropriate period of validity for the categorical permission (i.e., expiration date), if appropriate; and

(8) the process for USACE staff to use to validate the applicability of the categorical permission and inform the requester of whether the activity is authorized under the categorical permission, including the identification of the decision level for the validation.

C-5. Implementing Categorical Permissions.

a. For individual Section 408 requests involving the validation of use of a categorical permission, a written decision will be provided to the requester. The written approval should attach or include any terms and conditions of the categorical permission with the approval letter.

b. The organizational level that developed the categorical permission should also develop a process to periodically conduct a review or audit of the categorical permission itself to ensure that its use continues to meet its intended purpose to not impair the usefulness of the applicable USACE project(s) and not be injurious to the public interest. Should the review or audit demonstrate that the categorical permission is not meeting its intended purpose, the District Commander, Division Commander, or Director of Civil Works, as appropriate, has the authority to suspend or revoke the categorical permission.

APPENDIX D

Environmental and Cultural Resources Compliance

D-1. Purpose. The purpose of this appendix is to provide supplemental policy guidance on conducting environmental and cultural resources compliance inclusive of NEPA compliance for Section 408 permission requests. This appendix should be used in conjunction with the guidance in the main EC.

D-2. References. The following are the primary references that are most relevant to environmental and cultural resources compliance for Section 408 permissions. There are multiple other federal statutes, Executive Orders, and regulations that potentially may be applicable to a specific Section 408 permission request. Districts should consult with environmental staff and/or counsel to determine which laws and regulations are applicable to a given request.

a. Rivers and Harbors Act of 1899

b. National Environmental Policy Act

c. Endangered Species Act of 1973

d. National Historic Preservation Act

e. Clean Water Act of 1972

f. 33 CFR Part 230 Procedures for Implementing NEPA

g. 40 CFR Part 1500-1508 Council on Environmental Quality (NEPA)

h. Establishing, Applying and Revising Categorical Exclusions under the National Environmental Policy Act, Council on Environmental Quality (2010)

i. Improving the Process for Preparing Efficient and Timely Environmental Reviews under the National Environmental Policy Act, Council on Environmental Quality (2012)

j. Council on Environmental Quality CEQ Information Memorandum to Agencies Containing Answers to 40 Most Asked Question on NEPA Regulations (46 FR 34263-68, July 28, 1983)

D-3. Policy.

a. A decision on a Section 408 request is a federal action subject to NEPA and other federal environmental and cultural resources compliance requirements such as Section 7 of the Endangered Species Act, Section 106 of the National Historic Preservation Act, essential fish habitat consultation, and tribal consultation, etc. Environmental and cultural resources compliance efforts should be conducted concurrently with the Section 408 review process to the maximum extent practicable. Environmental and cultural resources compliance, except those prepared for Regulatory permit decisions, must be completed prior to rendering a Section 408 permission decision.[1] Environmental and cultural resources compliance efforts should be commensurate with the degree of potential environmental and cultural effects of the activity within the scope of the Section 408 analysis.

b. Ensuring and conducting environmental and cultural resources compliance for a Section 408 request is the responsibility of USACE. However, the requester is responsible for providing all supporting information and documentation that the district identifies as necessary to assess compliance, such as species surveys, habitat assessments, and/or cultural resource surveys. Requesters may, but are not required to, draft the NEPA environmental assessment or fund a contractor to prepare an environmental impact statement for a Section 408 request consistent with 40 CFR 1506.5. The district must ensure that any NEPA documentation drafted by a requester or contractor is accurate and compliant with USACE and CEQ requirements prior to accepting it for use with the Section 408 request. A final Section 408 decision cannot be rendered until the requester has provided all information necessary for the district to complete its assessment for environmental and cultural resources compliance. The district will work with the requester to determine the requirements, which will be scaled to be commensurate with the degree of potential environmental effects of the activity within the scope of the Section 408 analysis.

c. USACE has jurisdiction under Section 408 only over the specific activities or portions of activities that have the potential to alter, occupy, or use a USACE project. Therefore, if a proposed alteration is part of a larger project that extends beyond the USACE project boundaries, the district should focus its analysis for environmental and cultural resources compliance on only those portions or features of the larger project that USACE has sufficient federal control and responsibility to review. The scope of analysis for environmental and cultural resources compliance for the Section 408 review should be limited to the area of the alteration and those adjacent areas that are directly or indirectly affected by the alteration. For example, a pipeline or highway can extend for many miles on either side of a USACE project boundary. In this example, the scope of analysis for Section 408 review should be limited to the effects of the pipeline or highway construction within the USACE project boundary and limited adjacent area to the extent that the location of the impacts are determined by the route within the USACE project boundary, but would not address those portions of the pipeline or highway construction that are sufficiently removed from the USACE project boundary. In contrast, a proposed

[1] Compliance and decision-making under Regulatory authorities (Section 10/404/103) is conducted by the Regulatory component within the applicable district. All final Regulatory permit decisions will be made concurrent with or after the corresponding Section 408 decision.

alteration that would increase the design level throughout a federally authorized levee system would likely significantly overlap the footprint of the USACE project such that the scope of analysis for environmental and cultural resources compliance would include all of the requester's activities. As a general rule, if there are features of a larger project occurring outside of the USACE project boundaries that are integral to the features of the larger project altering a USACE project that they cannot be meaningfully distinguished (e.g., a setback levee that is located outside of the original project boundary of the levee being replaced), the USACE Section 408 scope of analysis should be broad enough to address all those features/activities. Generally, elements of the larger project that are not integral to the features that would alter the USACE project should not be included in the USACE environmental and cultural resources compliance analysis. The scope of analysis should generally be similarly limited to include operations and maintenance of a proposed alteration only to the extent that the operation and maintenance of the alteration would affect the USACE project. However, in some cases the scope of analysis for operational effects may be broader than the scope of analysis for construction effects and may extend beyond the USACE project boundary. Note that the scope of analysis for a Section 408 request may be different than the scope of analysis for a Regulatory permit review (Sections 10/404/103) for the same proposal because the geographic extent of jurisdiction under each authority may be different.

d. Programmatic Compliance. Districts have discretion and are encouraged to develop new or use existing programmatic NEPA documents and/or programmatic environmental consultations for Section 408 permission requests, when appropriate. Programmatic NEPA documents and other environmental consultations (e.g., Programmatic or Regional Biological Opinions, Section 106 Programmatic Agreements, and Standard Local Operating Procedures for Endangered Species [SLOPES]) provide a way to efficiently conduct environmental compliance for categories of activities that have similar environmental effects.

e. Historic, Cultural, and Archaeological Resources. Districts should follow the regulations within 36 CFR 800 for complying with Section 106 of the NHPA when acting as the lead agency as outlined in 36 CFR 800.2(a)(2) for Section 106 compliance. The undertaking within the context of 36 CFR 800.16(y) is limited to the activity within the jurisdiction of USACE that requires permission under Section 408 (see paragraph D-3.c. above). The area of potential effects for a Section 408 request should therefore, be limited to the areas directly or indirectly affected by the limited scope of the undertaking. Section 106 compliance will be satisfied using Regulatory's compliance when the Regulatory element is the lead for environmental compliance on an action that requires both Section 408 and Regulatory authorization and activities and impacts within the scope of each review are the same. For Section 408 requests, the section on cultural resources within Appendix C of reference A.30 does not apply.

f. Tribal Consultation.

(1) USACE recognizes the sovereign status of federally recognized tribes and its obligations for pre-decisional government-to-government consultation. USACE also recognizes that

working with representatives from tribal nations, it can determine whether an area has tribal cultural, historic or spiritual significance. USACE further recognizes that tribes possess their own individual culture, histories, languages, customs and that tribal traditional knowledge is unique to each tribe and it will be used to inform the Section 408 review process. As a result, consultation may occur with individual tribes in bi-lateral engagement or with multiple tribes that have consented to consult in a multi-lateral engagement.

(2) Districts are required to ensure that meaningful government-to-government consultation occurs early in the review process of a Section 408 request. Consistent with the USACE tribal consultation policy, districts should involve the tribes in open, timely, meaningful, collaborative, and deliberative communication process that emphasizes trust and respect throughout review and decision-making process. During consultation districts should, to the extent practicable and permitted by law, work toward mutual consensus during consultation in an active and respectful dialogue concerning actions that may significantly affect tribal resources, tribal rights (including Treaty rights) or Indian lands. Tribal consultation is not bound nor limited to specific timelines. Districts must ensure early coordination with district tribal liaisons to identify any tribal issues (i.e., tribal holidays, timing of Tribal Council meetings, etc.) that could impact timelines prescribed in this EC. Per the USACE tribal consultation policy, federally recognized tribes have the right to request government-to-government consultation with the district. All requests by a tribe for government-to-government consultation with USACE will be honored.

g. Fish and Wildlife Coordination Act. If the proposed alteration would impound, divert, or otherwise control or modify any stream or other body of water (including channel deepening), consultation under the Fish and Wildlife Coordination Act is required. Districts must ensure that the US Fish and Wildlife Service (USFWS) and applicable state wildlife resources agency have an opportunity to provide input and recommendations regarding the impact of the action on wildlife resources. Districts should document the outreach to the wildlife resource agencies. Districts must integrate any reports or recommendations received in the documentation for the Section 408 decision along with an explanation of how that input was considered. However, districts should not be providing funds to USFWS to conduct this consultation for Section 408 requests.

h. Mitigation. Mitigation may include avoiding, minimizing, rectifying, reducing, and/or compensating for adverse impacts to resources and may include, but is not limited to, fish and wildlife mitigation, cultural resources mitigation, noise mitigation, and air quality mitigation.

(1) Districts have discretion to require mitigation for a Section 408 request for a mitigated FONSI for NEPA purposes, to ensure the proposed alteration is not injurious to the public interest, or as required under other applicable federal environmental law.

(2) Mitigation associated with Section 408 requests does not need to be incrementally cost justified and does not need to comply with requirements in Section 2036 of WRDA 2007, as amended.

(3) If the proposed alteration also requires Regulatory authorization, the review conducted by the Regulatory element within the district will determine if compensatory mitigation for losses to aquatic resources is appropriate under its applicable authorities. Therefore, the Section 408 request will not include an evaluation of mitigation for those resources subject to Regulatory's jurisdiction.

i. Emergency Situations. The district has discretion to use the emergency procedures provided for in environmental statutes to process Section 408 requests.

(1) NEPA. The regulations implementing NEPA provide for flexibility in the NEPA compliance process in circumstances of an emergency after coordination with CEQ.[2] NEPA documentation should be accomplished prior to initiation of emergency work if time constraints render this practicable. Such documentation may also be accomplished concurrent with or after the completion of emergency work, if appropriate.[3] Districts should be aware of categorical exclusions, including the categorical exclusion for emergencies at Section 1005(b) of Water Resources Reform and Development Act of 2014, to expedite NEPA compliance in these situations.

(2) Endangered Species. The regulations implementing ESA provide that where emergency circumstances mandate the need to consult in an expedited manner, consultation may be conducted informally through alternative procedures that the Service(s) determine to be consistent with the requirements of Section 7(a)-(d) of the Endangered Species Act.[4] Formal consultation, if required, should be initiated as soon as practicable after the emergency is under control.

(3) Historic and Cultural Resources. Specific procedures to comply with Section 106 of the NHPA during a disaster or emergency are located at 36 CFR 800.12, "Emergency Situations." Districts and divisions may develop, in consultation with the Advisory Council on Historic Preservation and others, standard procedures during a disaster and/or emergency; they may follow provisions of programmatic agreements that contain specific provisions for addressing historic properties in emergencies; or, in the absence of specific procedures, provide opportunities to comment as specified in 36 CFR 800.12(b)(2).

D-4. NEPA.

a. The NEPA compliance process should be completed in an efficient, effective and timely manner consistent with guidance issued by CEQ on March 6, 2012 entitled *Improving the Process for Preparing Efficient and Timely Environmental Reviews under the National Environmental Policy Act.* Controlling guidance for NEPA compliance is set forth in CEQ's

[2] 40 CFR 1506.11
[3] 33 CFR 230.8
[4] 50 CFR 402.05

regulations at 40 CFR Parts 1500-1508 and the USACE Civil Works NEPA implementing regulations found at 33 CFR Part 230.

b. NEPA documentation for Section 408 requests will typically not require the same level of detailed analysis as needed for feasibility reports or other planning studies. In addition, portions of 33 CFR 230, such as Appendix A, that are applicable to feasibility, continuing authority, and/or special planning reports are not applicable to Section 408 permissions. However, districts are expected to comply with all basic requirements of NEPA.

c. Alternatives Analysis. For NEPA compliance for Section 408 requests, reasonable alternatives required by 40 CFR Part 1502.14 should focus on two scenarios: 1) no action (i.e., no proposed alteration in place) and 2) action (i.e., proposed alteration in place). Only reasonable alternatives need to be considered in detail. Reasonable alternatives must be those that are feasible, considering those that satisfy the underlying purpose and need (of the requester) that would be satisfied by the proposed federal action (granting of permission for the alteration). Thus, examination of alternative forms of a proposed alteration that the requester has not proposed should only be included to the extent necessary to allow a complete and objective evaluation of the public interest and informed decision regarding the alteration request.

(1) Because USACE is not the proponent for the alteration requested under Section 408, all environmental compliance documentation will refer to the requester's proposal as the "requester's preferred alternative."

(2) For NEPA compliance led by another entity such as another federal agency, that agency may include additional alternatives to comply with their specific requirements. District should be actively coordinating with the lead agency as a cooperating agency to ensure any information needed for NEPA compliance for the Section 408 request is included in the lead agency's NEPA document to maximize the ability to fully adopt that NEPA document.

(3) For NEPA compliance for Section 408 requests that also require Regulatory authorization, additional alternatives and additional detail may be included the NEPA document to comply with Section 404(b)(1) guidelines for the Clean Water Act (CWA). The various offices within the district should be coordinating to ensure appropriate alternatives and detail are included in any NEPA document to maximize the ability for one NEPA document to be prepared to satisfy NEPA compliance for both purposes.

(4) When Regulatory is conducting its alternatives analysis under the CWA Section 404(b)(1) guidelines, an alternative cannot be considered practicable if Section 408 permission cannot be granted. However, the need to seek a Section 408 permission does not make an alternative impracticable.

d. Public Involvement. Involving the public is a critical component to NEPA compliance. For Section 408 alteration requests that are expected to have a significant effect on the human or

natural environment, the district must make diligent efforts to involve the public throughout the NEPA scoping and EIS process including the required comment periods. For those Section 408 requests for which an environmental assessment (EA) is prepared or a categorical exclusion is used, draft NEPA compliance documents should not be circulated for public comment, except for in rare circumstances. Instead, a public notice soliciting input will serve as the method of involving the public in the NEPA process required by 40 CFR 1501.4(e)(1). See paragraph 12.b. of the main EC for information on public notices. In circumstances where a proposed alteration is associated with a current study or other uncommon circumstances, a decision to circulate the draft Section 408 EA may be approved by the Division Commander or the Division Commander's designee. Any decision to circulate draft EA and/or draft FONSI for a Section 408 request that also requires a Section 10/404/103 permit decision must be coordinated with the Regulatory Program to ensure that no pre-decisional or deliberative information related to Regulatory decision making (e.g., Section 404(b)(1) guidelines analysis) is included in the document to be circulated.

e. Categorical Exclusions. Alterations that are expected to not result in significant effects on the environment, both individually and cumulatively should be evaluated to determine if an approved categorical exclusion at 33 CFR 230.9 applies. For example, the categorical exclusions at 33 CFR 230.9(b) and (i) may have applicability to some of the smaller scale alterations that may be in a Section 408 request. Real estate grants for rights-of-way as referenced in 33 CFR 230.9(i) should be broadly interpreted to include grants of rights-of-way by either USACE or the non-federal sponsor. Prior to using a categorical exclusion, the district must ensure that the proposed alteration is within the intended scope of the specific categorical exclusion and that no extraordinary circumstances exist that would merit the preparation of an EIS or EA. Applicability and use of approved USACE categorical exclusions for Section 408 permissions should be documented in a manner consistent with the CEQ guidance memorandum titled, *Establishing, Applying and Revising Categorical Exclusions under the National Environmental Policy Act,* dated 23 November 2010.

f. Adoption and Incorporation by Reference. Districts are strongly encouraged to adopt and/or incorporate by reference any NEPA documentation that may already exist or may already be in development for the federal project, or other relevant NEPA documentation. This may include recent NEPA documents from a feasibility study, operations study, dam safety modification study, and/or Regulatory actions. Districts must ensure that the information contained in these other NEPA documents is appropriate and applicable to the anticipated effects of the alteration, paying particular attention to re-evaluate information that is greater than 5 years old, prior to adoption or incorporation by reference for the Section 408 permission decision. Districts should provide supplemental NEPA documentation, to only cover those environmental impacts associated with the Section 408 alteration that were not considered in these previous NEPA documents. Districts may also adopt another agency's EA. When adopting all or portions of another agency's EIS or EA, the district is still responsible for developing a Record of Decision (ROD) or FONSI, as applicable, to document NEPA compliance for the Section 408

permission decision. The ROD or FONSI may be integrated with the Summary of Findings for purposes of efficiency.

g. Cooperating Agencies.

(1) As provided for in 40 CFR 1501.6, upon request of another federal agency that is the lead agency for NEPA, any other federal agency that has jurisdiction by law shall be a cooperating agency. This may include USACE when a Section 408 permission is required. For those alterations in which another Federal agency is the NEPA lead agency, districts will participate in the NEPA review as a cooperating agency to the maximum extent practicable.[5] When USACE is a cooperating agency, USACE will provide comments on another federal agency's draft EIS even if the response is no comment.[6] Districts will normally adopt that federal agency's EIS and consider it to be adequate for NEPA compliance for a Section 408 permission unless the district finds substantial doubt as to the technical or procedural adequacy or omission of factors important to the Section 408 permission decision,[7] particularly those that were raised by USACE during the development of the EA or EIS but rejected by the lead agency for inclusion. Districts may also adopt portions of an EIS under 40 CFR 1506.3, and supplement with any information necessary to comply with NEPA for the Section 408 permission decision. For hydropower alterations, USACE and FERC have entered into an MOU for meeting NEPA requirements (see Appendix F).

(2) Tribal governments may have special expertise with respect to alternatives and can participate as a cooperating agency. Meaningful coordination with tribal entities, and analysis of a proposed action's potential effect on tribal lands, resources, or areas of historic significance is an important part of federal agency decision-making. In addition to provisions in 40 CFR 1501.2 and 1501.7 which call for the involvement of tribes that may be affected by a federal proposal, CEQ issued a Memorandum to the Heads of Federal agencies (July 28, 1999) encouraging more active solicitation of tribal entities for participation as cooperating agencies in NEPA documents. Per the CEQ Memorandum, the benefits of granting cooperating agency status include "disclosure of relevant information early in the analytical process, receipt of technical expertise" which is consistent with the USACE tribal consultation policy.

h. Multi-phase Reviews and Tiering. Districts have discretion to use tiering to efficiently conduct NEPA compliance for a multi-phased review of a Section 408 request. In this case, a broad or programmatic EIS or EA, as appropriate, would be completed in the first milestone of a multi-phased review of a Section 408 request. The district may then supplement, or tier off of, the original NEPA document, as appropriate, for each subsequent milestone of the Section 408 request. When tiering, the initial broad or programmatic EIS or EA must present sufficient information regarding overall impacts of the proposed alteration so that decision-makers can make a reasoned judgment on the merits of the action at the present stage of planning or

[5] 33 USC 408(b)(1)(B)
[6] 33 CFR 230.19(e)
[7] 33 CFR 230.21

development and exclude from consideration issues already decided or not ready for decision. The initial broad EIS or EA should also identify data gaps and discuss future plans to supplement the data and prepare and circulate phase-specific NEPA documents.[8]

[8] 33 CFR 230.13(c)

APPENDIX E

Dams and Levees

E-1. Purpose. The purpose of this appendix is to provide supplemental guidance to be used in conjunction with guidance in the main EC for proposed alterations by others to federally authorized dams and reservoirs, (including dams associated with navigation locks) and levee systems.

E-2. Applicability.

a. Dams and Reservoirs (including Navigation Dams). A dam is an artificial barrier, usually crossing a watercourse and including appurtenant structures, constructed for the purpose of storage, control, or diversion of water. This definition applies whether the dam has a permanent reservoir or is a detention dam for temporary storage of floodwaters. This appendix is applicable to federally authorized dams, and associated appurtenant structures, operated and maintained by USACE or those constructed by USACE, but which are operated and maintained by non-federal sponsors and may also be included under the jurisdiction of a State Dam Safety Agency defined by the National Dam Safety Program. This appendix may also be applicable to lands required to ensure reservoir integrity up to the project maximum flood (PMF), in addition to structures and canals where breach would release pool. See Appendix F for additional information concerning hydropower facilities. Below further describes applicability related to water supply at USACE dams and reservoirs.

(1) Water supply users entering into an agreement under Section 6 of the Flood Control Act (FCA) of 1944 (33 USC 708) or the Water Supply Act (WSA) of 1958, as amended (43 USC 390b) generally will not need a separate Section 408 permission.

(2) For currently authorized Municipal and Industrial (M&I) water supply storage, Section 408 considerations will be taken into account in the drafting of an M&I water storage agreement and associated outgrants or consents. Any requirements related to the user's facilities (intake structures, etc.) will be included in the agreement and related outgrants or consents.

(3) For reallocated M&I water supply storage under the 1958 WSA authority, the water supply user must be advised that the reallocation study itself will not specifically address the Section 408 considerations but that Section 408 considerations will be taken into account in the drafting of a water storage agreement and associated outgrants or consents. Any requirements for water supply user's facilities (intake structures, etc.) will be included in the agreement and associated outgrants or consents.

(4) For surplus water under the authority of Section 6 of the 1944 FCA, Section 408 considerations will be taken into account in the drafting of the surplus water agreement and

associated outgrants or consents and any requirements for water supply user's facilities (intake structures, etc.) will be included in the agreement and associated outgrants or consents.

(5) For M&I water supply intakes of any size to be placed in USACE-operated projects that do not fall within the scope of either Section 6 of the 1944 FCA or of the1958 WSA, e.g., intakes placed at projects not meeting the definition of "reservoir" projects for purposes of those two statutes, the guidance in paragraph 9.e. must be followed to determine if a separate Section 408 permission is required.

b. Levee Systems. A levee system (or sometimes referred to as "levee" in this document), is comprised of one or more components which collectively provide flood risk reduction to a defined area, referred to as a leveed area. A levee is inclusive of all components that are interconnected and necessary to exclude floods from the leveed area. Levees do not usually cross a watercourse. Common components and associated features for levee systems include sheetpile walls, berms, relief wells, cutoff walls, foundation, drainage structures, ponding areas, channels, closure structures, pump stations, transitions, and erosion protection. This appendix applies to federally authorized levee systems including those operated and/or maintained by USACE and those federally authorized levee systems operated and maintained by a non-federal sponsor.

E-3. References. The following is a list of references containing evaluation processes, design standards, and operations and maintenance procedures that may be relevant to consider for alterations to dams and levees.

a. Section 6 of the Flood Control Act (FCA) of 1944 (P.L. 78-534), Contracts for safe of surplus water at Army projects – Disposition of revenues

b. Water Supply Act (WSA) of 1958 (P.L. 85-500, as amended)

c. 44 CFR 65.10, Mapping of areas protected by levee systems

d. ER 1110-2-1150, Engineering and Design for Civil Works Projects

e. ER 1110-2-1156, Safety of Dams, Policy, and Procedures

f. ER 1110-2-1806, Earthquake Design and Evaluation of Civil Works Projects

g. ER 1110-2-1942, Inspection, Monitoring, and Maintenance of Relief Wells

h. EM 1110-1-1005, Control and Topographic Surveying

i. EM 1110-1-1804, Geotechnical Investigations

j. EM 1110-1-1904, Settlement Analysis

k. EM 1110-1-2908, Rock Foundations

l. EM 1110-2-1418, Channel Stability Assessment for Flood Control Projects

m. EM 1110-2-1601, Hydraulic Design of Flood Control Channels

n. EM 1110-2-1902, Slope Stability

o. EM 1110-2-1906, Laboratory Soils Testing

p. EM 1110-2-1913, Design and Construction of Levees

q. EM 1110-2-1914, Design, Construction, and Maintenance of Relief Wells

r. EM 1110-2-2002, Evaluation and Repair of Concrete Structures

s. EM 1110-2-2007, Structural Design of Concrete-Lined Flood Control Channels

t. EM 1110-2-2100, Stability Analysis of Concrete Structures

u. EM 1110-2-2104, Strength Design for Reinforced-Concrete Hydraulic Structures

v. EM 1110-2-2200, Gravity Dam Design

w. EM 1110-2-2502, Retaining and Flood Walls

x. EM 1110-2-2504, Sheet Pile Walls

y. EM 1110-2-2902, Conduits, Culverts, and Pipes

z. EC 1110-2-6066, Design of I-Wall

aa. ETL 1110-2-583, Engineering and Design: Guidelines for Landscape Planting and Vegetation Management at Levees, Floodwalls, Embankment Dams, and Appurtenant Structures

bb. ETL 1110-2-575, Evaluation of I-Walls

cc. U.S. Army Corps of Engineers, Policy for Development and Implementation of System-Wide Improvement Frameworks (SWIFs), CECW-HS memorandum, 29 November 2011

dd. U.S. Department of Interior Bureau of Reclamation and US Army Corps of Engineers, Best Practices in Dam and Levee Safety Risk Analysis, 1 July 2015 (or most recent version)

ee. See Appendix A for other applicable references.

E-4. Coordination.

a. For levee alterations, ensure involvement of the district Levee Safety Officer (LSO) and Levee Safety Program Manager (LSPM). For dam and reservoir alterations, ensure involvement of the district Dam Safety Officer (DSO) and Dam Safety Program Manager (DSPM). In addition, the district should inform the requester of any current USACE assessments, modifications, or other studies that are ongoing or are being considered that may have compatible objectives with the potential proposed alteration. These may include semi-quantitative or quantitative risk assessments, dam safety modification studies, interim risk reduction measures, or cost-shared studies.

b. Coordination with State Dam Safety Agencies. When the request is for the alteration of a dam operated by a non-federal sponsor, the alteration will be reviewed by the State Dam Safety Agency. In these cases, the requester must obtain written concurrence of the proposed alteration from the State Dam Safety Agency prior to USACE issuing the final Section 408 decision.

c. DSOG/LSOG Review. If the district determines a Safety Assurance Review (SAR) is required for a proposed alteration to a dam or levee, the RMC will determine if the Dam Senior Oversight Group (DSOG) or Levee Senior Oversight Group (LSOG) will review the proposed alteration. If it is determined that the DSOG or LSOG review is required, the RMC will inform the division and district and it will be documented in the review plan. If the DSOG review is required, the district should contact the HQUSACE DSPM to schedule a briefing with the DSOG as soon as possible. If the LSOG review is required, the district should contact the HQUSACE LSPM to schedule a briefing with the LSOG as soon as possible. Information to be presented should include available risk assessment (screening-level or higher-level risk assessments) information and a description of the proposed alteration. DSOG or LSOG will provide feedback, recommendations and concurrence or non-concurrence with proceeding with the Section 408 to the division and district safety officers. The DSOG or LSOG will consider the following when reviewing the Section 408 proposed alteration:

(1) whether the benefits of the alteration are generally commensurate with the risks

(2) whether the alteration potentially worsens or creates new failure modes or risk drivers for the USACE project; and

(3) whether the alteration is exceptionally complex or high risk.

E-5. Potential Considerations for Section 408 Submittals. The information below supplements the main EC. The list below is only a guide for information and/or analyses that may be needed to review alterations to dams and levees. It is not intended to list every analysis or design consideration that may be needed for all proposals.

a. Risk Assessment. Depending on the complexity and associated impacts of the proposed alternation on life safety as determined by the district DSO or LSO, the requester may be required to provide a risk assessment showing risk estimates associated potential failure modes with and without the proposed alteration in place. The district must also inform the requester if there is a change in the risk characterization of the dam or levee during the Section 408 review process and how or if the change in risk will require changes to the alteration being requested.

b. Discussion of Executive Order 11988 Considerations. The district may require the requester to submit sufficient data in order that the district may conduct its analysis required by reference A.35 to ensure that the proposed alteration is compliant with Executive Order (EO)11988. The request should be assessed as to whether there would be induced development in the floodplain, as defined in A.35, as a result of the proposed alteration and address the positive and negative impacts to the natural floodplain functions.

c. Civil. Each request should clearly identify the existing condition of the portion of the USACE project being altered and include plan, profile, and design details of the proposed alteration in relation to the existing USACE project. Below are examples of information that may be necessary to understand the existing and proposed conditions:

(1) Alteration location (Vicinity map and specific alteration location in station or river mile and/or decimal degrees)

(2) Applicable datum

(3) Real property, existing and to be acquired, needed for the proposed alteration

(4) Grading plans

(5) Layout plan, profiles, and cross-sections of proposed alteration

(6) Previous inspection reports to assist in identifying existing deficiencies and their proximity to the proposed alteration.

(7) Temporary measures required during construction (bypasses, cofferdams, etc.)

d. Geotechnical. The following is a list of analyses or information that may be necessary to consider for geotechnical considerations and assessing their impacts if proposed alterations alter the USACE project cross-section or penetrate the natural blanket or foundation.

(1) Erosion control (changes in erosive forces on a slope)

(2) Material usage/borrow/waste/transport/hauling

(3) Liquefaction susceptibility

(4) Placement of stockpiles, heavy equipment, or other surcharges

(5) Drilling plan, reference A.31

(5) Results of subsurface investigation – boring logs, test pit logs, laboratory test results, etc.

(6) Seepage analysis

(7) Settlement analysis

(8) Stability analysis

(9) Vegetation

e. Structural. The following is a list of analyses or information that may be necessary to evaluate the impacts of proposed alterations to concrete, floodwalls, or drainage structures:

(1) Bridges and related abutments

(2) Design analysis for retaining walls and excavation support system

(3) Design of shallow or deep foundations, including bearing capacity and settlement analysis if the construction is located within the line of protection or right-of-way and creates potential seepage problems

(4) Design recommendations for foundations on expansive soils

(5) Diaphragm walls

(6) Gates or other operable features

(7) Other structural components integral to the USACE project

(8) Pier penetrations of embankments

(9) Stability analysis including sliding, overturning, bearing, flotation, uplift and any seismic load effects for any alteration to the channel walls and/or flood walls

(10) Structural drainage control methods

(11) Water stops and contraction/expansion joints

f. Hydrology and Hydraulics. Refer to Appendix H for details on when and how a hydrology and hydraulic system analysis should be conducted. Refer to the list below for examples of factors that should be considered when evaluating hydrology and hydraulics impacts.

(1) Changes in inflow

(2) Changes in velocity

(3) Changes in water surface profiles and flow distribution

(4) Consideration of impacts to energy dissipation measures; hydropower generation; sedimentation; or navigation

(5) Scour analysis

(6) Sediment transport analysis

g. Water Control Management Plan. Alterations may have impacts on how water control structures are operated. In these cases, the alterations should consider any impacts or changes to water control plans that may be necessary. If a change to a water control manual is required, the NEPA document developed for the Section 408 alteration should incorporate appropriate analysis for updating the water control manual. Alterations that will work in conjunction with an existing Federal Water Control Manual (WCM) should be documented and incorporated into that WCM. Items to be considered are:

(1) Effects on existing Biological Opinions, Water Quality Certifications, Coastal Zone Management Concurrences, etc. should evaluate project impacts on any legal document, agreement, or requirement that informs water control management by the USACE

(2) Impacts/revisions to the operation of USACE facilities or other projects within the basin

h. Operations, Maintenance and Flood Fighting. Alterations may change how a dam, levee, floodwall, or channel project is to be operated or maintained. They may also require special

flood fighting procedures. Reviews should consider the factors below to determine potential effects.

(1) Project and maintenance access

(2) Special inspection requirements

(3) Maintenance practices

(4) Flood fighting requirements and practices

(5) Flood contingency plan during construction, measures proposed to protect area under construction, monitoring of river level, river stage at which plan will be activated, materials and equipment to be used to activate plan, and personnel contact and telephone number to activate plan

E-6. USACE Review Considerations.

a. The district (and division, if applicable) LSO is required to review any Section 408 request that modifies a levee system. The district (and division, if applicable) DSO is required to review any Section 408 request that modifies a dam.

b. Risk. Districts will consider the effects of the proposed alteration on the risk associated with the USACE project as part of the review process.

c. National Flood Insurance Program (NFIP). The criteria related to NFIP mapping purposes (44 CFR 65.10, Mapping of areas protected by levee systems) are not USACE design standards and should not be a consideration in the technical analysis or design review. However, the impacts associated with mapping dams and levee systems for the NFIP, such as influences on floodplain management, should be discussed as part of compliance with EO 11988 and considered when discussing potential impacts to associated risks. For Section 408 requests that include an objective of achieving levee accreditation for the NFIP, if the Section 408 is approved, a statement in the written approval document will specify that approval does not constitute, nor should it be construed as, an evaluation to determine if NFIP criteria have been met.

d. Rehabilitation Program. Proposed alterations to federally authorized dams, levees, and floodwalls must also be evaluated to determine whether the alteration will become an integral component of the USACE project. If it is determined that the proposed alteration will become an integral component of the USACE project that is necessary for proper functioning of the USACE project for its authorized purpose, the completed alteration will be included as a USACE project feature eligible for rehabilitation assistance and treated as a federal project component under PL 84-99. The district is responsible for making a determination as to whether or not a proposed

alteration will become an integral component of the USACE project. Factors to consider will vary depending on the type of infrastructure and the proposed alteration. This determination must be made for all proposed alterations to federally authorized dams and levees , regardless of their status in the Rehabilitation Program at the time of the Section 408 request, to ensure that the proposed alteration is appropriately considered in future decisions about project eligibility for rehabilitation assistance. Examples of such alterations include stability or seepage berms, and changes to the structure type or geometry. In addition, districts should identify if the alteration is part of an approved System Wide Improvement Framework (SWIF), see reference E-3.bb, and consider any information specified for the alteration in the SWIF. For more information on USACE emergency activities and the Rehabilitation Program, see reference A.29.

e. Alterations Within the Reservoir Area. These proposed alterations require the same level of technical review as alterations to dams. Generally, alterations within the reservoir areas will be requested by the water supply non-federal sponsor for intake facilities. These alterations should be reviewed for impacts to life safety, inundation, and intake levels. When reviewing the intake levels, consideration will be given to drought conditions and also to lake level drawdowns for dam safety water control purposes. When alterations are proposed along the reservoir, the alteration will be reviewed for constructability and for potential failure modes related to misoperation, overtopping, foundation failures, alteration-induced subsidence, and other possible incidents that could cause the uncontrolled loss of pool.

E-7. Post-Permission Oversight.

a. Inspections. Inspections conducted by USACE should document whether approved alterations are being operated and maintained consistent with the approved Section 408 and/or updated O&M manual.

b. National Levee Database (NLD). Districts should ensure that the NLD is updated to capture new or changed features of a levee system constructed as part of a Section 408 permission. The district will provide the requester with the requirements for any needed surveys, including updated centerline information and cross sections, in order to update the project information in the NLD to capture the alterations.

c. National Inventory of Dams (NID). Districts should ensure that the NID is updated to capture new or changed features of a dam, including appurtenant structures, constructed as part of a Section 408 permission. The district will provide the requester with the requirements to update the project information in the NID to capture the alterations.

APPENDIX F

Non-federal Hydropower Development at USACE Facilities

F-1. Purpose. The purpose of this appendix is to provide supplemental guidance to be used in conjunction with guidance in the main EC and Appendix E for requests for alterations of USACE projects by adding hydroelectric power generation and requiring a preliminary permit or license by the Federal Energy Regulatory Commission (FERC). In these cases, the main EC, this appendix, and the current Memorandum of Understanding (MOU) between the FERC and USACE, reference F-2.h (or most current version), will govern the Section 408 review process. The MOU contains the process to be used for the environmental and cultural resources compliance where FERC is the lead federal agency and USACE would be a cooperating agency. USACE is responsible for developing an understanding of the concept proposal and for responding to FERC inquiries regarding jurisdiction and conflict with USACE project purposes. USACE will also share, as appropriate, information regarding risks to the USACE project.

F-2. References.

a. Federal Power Act, as amended

b. ER 1110-2-401, Operation, Maintenance, Repair, Replacement, and Rehabilitation Manual for Projects and Separable Elements Managed by Project Sponsors

c. ER 1110-2-1150, Engineering and Design for Civil Works Projects

d. ER 1110-2-1454, Corps Responsibilities for Non-Federal Hydroelectric Power Development under the Federal Power Act

e. ER 1110-2-1462, Water Quality and Water Control Considerations for Non-Federal Hydropower Development at Corps of Engineers Projects

f. ECB 2008-8, Sharing Technical Information in Support of Non-Federal Hydropower Development

g. US Army Corps of Engineers, Charging and Retaining Fees Charged to FERC Licensees, CECC-G memorandum, 6 June 2006

h. Memorandum of Understanding Between the United States Army Corps of Engineers and the Federal Energy Regulatory Commission on Non-Federal Hydropower Projects, 20 July 2016, with attachments.

i. See Appendix A of this EC for other applicable references.

F-3. USACE and FERC Coordination.

a. Under the default two-phase process established under reference F-2.h, USACE and FERC have agreed to work with each other and with other participating agencies or entities, as appropriate, to ensure that timely decisions are made and that the responsibilities of each agency are met. Specifically, subject to the availability of resources and consistent with applicable laws, regulations, Army policies and FERC policies, each agency agrees to: commit to early involvement; participate proactively; share data; communicate informally; attend public meetings; and coordinate on studies of hydropower potential.

b. Each district and division that operates non-powered dams or other facilities with the potential for generating hydroelectric power has a FERC Coordinator for coordination with FERC regarding the licensing process and all aspects of non-federal hydropower development on a USACE dam or facility. The FERC Coordinator will be responsible for working with the Section 408 Coordinator to ensure timely completion of the Section 408 review process consistent with reference F-2.h. The FERC Coordinator should also ensure coordination occurs with Regulatory, as appropriate.

c. When a USACE district receives a written request to alter a USACE project for the addition of hydroelectric generation, the district will confirm that the requester has applied or intends to apply for a FERC preliminary permit to investigate the potential for adding hydroelectric power facilities to the USACE project. Initial coordination should consist of a meeting to discuss the proposed project and inform the requester of any known issues that would impact their proposal, such as any dam safety or water supply issues.

d. For projects with an existing FERC permit or license, reference F-2.h should be utilized to the greatest extent possible.

e. USACE will seek to streamline processes to the maximum extent possible, such as through programmatic approaches or adoption of reviews conducted by others (Appendix D) or use of categorical permissions as described in Appendix C.

f. The public notice requirements for non-federal hydropower Section 408 requests must be closely coordinated with FERC's public notice requirements for the licensing process, and where feasible the FERC public notice process must be relied upon if sufficient to reduce redundancy.

g. Design documentation within the FERC license application Exhibit F generally satisfies the design and information requirements for environmental reviews for phase I when addressing non-federal hydropower proposals.

h. Where FERC license requirements are duplicative with Section 408 permission requirements in the EC, if feasible, the FERC requirements must be relied upon to inform the

USACE Section 408 permission and other related USACE decisions as encouraged by reference F-2.h to ensure streamlining and reduction of duplicative efforts.

i. Phase II of reference F-2.h allows for requesters to employ either the single-phased or multi-phased Section 408 process, as best suits the technical nature of the proposed project.

APPENDIX G

Navigation Channels, Harbors, Locks, Jetties, Bridges, and Features

G-1. Purpose. The purpose of this appendix is to provide supplemental information to be used in conjunction with guidance in the main EC for alterations proposed by others to USACE navigation projects, including channels, harbors, locks, jetties, bridges, and other associated features (upland dredged material containment facilities). The mission of the USACE navigation program is to provide safe, reliable, efficient, effective, and environmentally sustainable waterborne transportation systems for movement of commerce, national security needs, and recreation. This mission is accomplished by ensuring adequate project dimensions to provide safe passage of commercial navigation through the federally authorized navigation project, while minimizing environmental impacts. Accordingly, any proposed alterations to an authorized USACE navigation project must be evaluated to determine that such alteration will not impair the usefulness of the project and will not be injurious to the public interest. Refer to Appendix E for proposed alterations to navigation dams.

G-2. References. The following is a list of references that may be relevant to consider for alterations to navigation features.

a. Section 204 of Water Resources Development Act of 1986, Public Law (PL) 99-662

b. 33 USC 565, River and Harbor Improvement by Private or Municipal Enterprise

c. ER 1110-2-1403, Studies by Coastal, Hydraulic, and Hydrologic Facilities and Others

d. ER 1110-2-1404, Hydraulic Design of Deep Draft Navigation Projects

e. ER 1130-2-520, Navigation and Dredging Operations and Maintenance Policies

f. ER 1140-1-211, Non-Department of Defense Reimbursable Services

g. ER 1165-2-211, Water Resource Policies and Authorities – Operation and Maintenance of Improvements Carried Out By Non-Federal Interests to Authorized Harbor or Inland Harbor Projects

h. EM 1110-2-1611, Layout and Design of Shallow-Draft Waterways

i. EM 1110-2-1613, Hydraulic Design of Deep Draft Navigation Projects

j. EP 1130-2-520, Navigation and Dredging Operations and Maintenance Guidance and Procedures

k. COMDTPUB P16591.3D, Office of Bridge Programs, U.S. Coast Guard Bridge Permit Application Guide, July 2016

l. See Appendix A for other applicable references.

G-3. Project Specific Setbacks. Once it has been determined that Section 408 permission is required, districts are encouraged to use any project-specific setbacks as a guideline in evaluating whether a structure or activity is at a sufficient distance from the USACE project so not to impact the usefulness of the USACE navigation project. For those USACE navigation projects that do not have established setbacks, districts may elect to establish setbacks to delineate the minimum distances a structure or feature should be located from a navigation feature (adjacent, over, and/or below) to avoid impacting the usefulness of the project. Districts may consider project specific setbacks as a criterion when establishing a categorical permission. At a minimum, the following should be considered when developing setbacks:

a. Maximum dredging depth and width, to include advanced maintenance, allowable over-depth, and non-pay overdepth

b. Top edge of the navigation channel, including appropriate side slopes and overdepth

c. Sufficient clearances of equipment needed for dredging the navigation channel to its full depth and width, including side slopes

d. Minimum low sag clearance required for lines or structures crossing above the channel

e. Weather, tides, flow rates, velocities, and other factors related to the region

f. Dredged Material Placement Facility availability

G-4. Proposed Alterations in which the Scope of Analysis Completely Aligns Between Section 10 and Section 14 (33 USC 408) of the Rivers and Harbors Act of 1899. Activities proposed in, over, or under navigable waters within a USACE Navigation project typically require authorization under both Section 10 and Section 408. The scope of what USACE must evaluate to make a decision under each authority will be different for many activities due to the different nature of the jurisdiction of each authority. The scope of analysis for Section 10 is generally limited to jurisdictional waters (see 33 CFR Part 325 Appendix B Paragraph 7.b.), whereas the scope of analysis for Section 408 is defined in relation to the limits of the Civil Works project and can include operations and maintenance and/or emergency response considerations to the extent those activities have an effect on the USACE project. In cases in which there are different scopes of analysis for Section 10 and Section 408, USACE will issue separate authorizations under each authority after sharing and levering information and analysis to the maximum extent practicable. However, for many activities altering navigation projects, the scope of analysis for Section 10 and Section 408 will be identical. In those cases where the scope of analysis for

Section 10 and Section 408 is identical, a single authorization will be issued following the following procedures.

a. The district will use information provided by the applicant/requester for activities occurring within navigable waters and within the boundaries of a USACE Navigation project and make a determination as to whether or not the scope and information needs would be the same for both a Section 10 and Section 408 decision. The typical type of proposed activities within USACE Navigation projects in which it may be likely that the jurisdiction and scope would be the same for both Section 10 and Section 408 include proposals for electric transmission lines, boat docks, boat lifts, bulkheads, revetments, minor dredging, mooring buoys, mooring pilings, and other similar activities. In cases when the scope and jurisdiction of Section 10 and Section 408 do not completely align, separate authorizations under Section 10 and Section 408 are required. In addition, proposed activities that also would require authorization under Section 404 of the Clean Water Act outside the boundary of the activity that triggers Section 10 jurisdiction will require a separate Section 408 permission if one is needed. Districts should coordinate with the appropriate Regulatory office and Section 408 staff for clarification on jurisdiction.

b. For cases in which the scope and jurisdiction between Section 10 and Section 408 align, appropriate district staff for Regulatory will review the information submitted for the purposes of environmental compliance and the public interest review. Appropriate district staff for the USACE Navigation project will review the information for the purposes of determining impacts to the usefulness of the USACE Navigation project (e.g., compare the proposal to approved setback policies and/or overdepths). The district will ensure there is coordination between the Regulatory and Navigation staff in cases in which additional information may be needed from the requester to promote efficiency and reduce the burden on the requester.

c. The district staff evaluating impacts to the usefulness of the USACE Navigation project will document their findings in a Memorandum for Record (MFR) that will be provided to the district Regulatory staff for their use in the Section 10 permit evaluation and determination. The MFR will contain the rationale and basis for the impacts to the usefulness determination of the proposed activity on the USACE Navigation project, including any conditions that the applicant would be required to adhere to in order to ensure the continuance of no impacts to the usefulness of the USACE Navigation project. A determination that the alteration will not impair the usefulness of the project satisfies the requirement to ensure that the alteration is “compatible” with the purposes of the project set forth at 33 CFR 320.4(g)(5). Funding for district staff for the impact to the usefulness of the project determination and development of the MFR should come from project appropriated funds associated with the specific USACE Navigation project. Regulatory funds cannot be used for the development of the MFR. The USACE Navigation office is responsible for determining that the conditions in the MFR are enforceable and for enforcing such conditions in the Section 10 permit.

d. If the Section 10 authorization is approved, the Regulatory staff will ensure that any conditions specified in the MFR are included as conditions in the Section 10 permit document.

Note, the required standard terms and conditions in Appendix K will be the minimum conditions that will need to be included in the MFR and incorporated into the Section 10 permit. Also, Regulatory staff must include in the Section 10 permit document that is provided to the applicant the following statement: "It has been determined that the activities authorized do not impair the usefulness of the USACE Navigation project and is not injurious to the public interest."

G-5. Construction or Modification of Bridges over USACE Navigation Projects.

a. Federal law prohibits the construction of bridges over navigable waters of the United States unless first authorized by the U.S. Coast Guard (USCG) under one of its authorities within Title 33 of the U.S. Code, including Section 9 of the Rivers and Harbors Act of 1899. As part of its permit review process, the USCG will evaluate whether the construction or modification of a bridge will obstruct commercial and recreational navigation within the waterway. For bridges that cross a USACE navigation channel, the USCG bridge permit decision will be informed by USACE's determination under Section 408 whether the bridge will impact the usefulness of the navigation project.

b. In order to minimize duplication of effort among USACE and USCG's authorities, USACE districts should coordinate closely with the appropriate USCG personnel throughout the respective reviews, including issuance of concurrent or joint public notices (see paragraph 12.b) when feasible, and sharing information when a Navigation Impact Analysis is required for the USCG bridge permit review. USACE districts may use information provided to USCG as part of the bridge permit application package (see reference G-2.k.) to satisfy the basic requirements of a complete Section 408 request. When additional information is required from the requester to evaluate the Section 408 request, USACE districts should coordinate with the USCG to align, and not duplicate, those information needs.

c. For environmental compliance for bridges crossing USACE navigation channel, there is often another federal agency other than USACE or USCG that is the federal lead agency (such as the Federal Highway Administration). In those situations, USACE will assume a cooperating agency role as indicated in paragraph D-4.g. For situations in which either USCG or USACE is the lead agency, USACE and USCG will coordinate to conduct joint environmental compliance to the extent allowable, including the preparation of one NEPA document to inform both the USCG permit decision and the USACE Section 408 permission decision.

APPENDIX H

Hydrologic and Hydraulic System Analysis

H-1. Purpose. This appendix is intended to outline the requirements for a hydrologic and hydraulic (H&H) system analysis as referenced in paragraph 11.c.(2) of the main EC. The purpose of an H&H system analysis is to determine the potential hydrologic and hydraulic changes resulting from proposed Section 408 alterations. In general, these procedures focus on riverine situations, but analysis requirements can be tailored appropriately for interior systems, navigation systems, and coastal situations. Districts will determine whether an H&H system analysis is needed and, if so, the appropriate scope of analysis based on the complexity of the proposed alteration. The requester will be responsible for the analysis. This appendix describes how to perform an analysis and display the results when it has been determined that an H&H analysis is required.

H-2. References.

a. ER 1105-2-101, Risk Analysis for Flood Damage Reduction Studies.

b. EM 1110-2-1619, Risk-Based Analysis for Flood Damage Reduction Studies.

c. U.S. Army Corps of Engineers (USACE) Hydrologic Engineering Center (HEC), Hydrologic Modeling System HEC-HMS User’s Manual, CPD-74A, Hydrologic Engineering Center, Davis, CA.

d. U.S. Army Corps of Engineers (USACE) Hydrologic Engineering Center (HEC), HEC-RAS River Analysis System User's Manual, CPD-68, Hydrologic Engineering Center, Davis, CA.

e. U.S. Army Corps of Engineers (USACE) Hydrologic Engineering Center (HEC), *HEC-ResSim Reservoir System Simulation, User's Manual*, CPD-82, Hydrologic Engineering Center, Davis, CA.

f. U.S. Army Corps of Engineers (USACE) Hydrologic Engineering Center (HEC), *HEC-FDA Flood Damage Reduction Analysis, User's Manual*, CPD-72, Hydrologic Engineering Center, Davis, CA.

g. U.S. Army Corps of Engineers (USACE) Hydrologic Engineering Center (HEC), *HEC-WAT Watershed Analysis Tool, User's Manual*, CPD-88, Hydrologic Engineering Center, Davis, CA.

H-3. Basic Requirements and Assumptions.

a. For the purposes of this appendix, the word “system” is an integrated combination of features, property, and environment that are influenced by the proposed alteration due to changes in the frequency, depth, duration, or extent of flooding. This includes hydrologic and hydraulic connections upstream, downstream, within a navigation system, or along the coast.

b. H&H system analyses will be applied to proposed alterations of federally authorized USACE projects that change the hydrologic and/or hydraulic conditions (e.g., changing the location or dimensions of levees or channels, changing reservoir operations, constructing bridges or roadways, etc.). Districts will determine the appropriate scope of the H&H analysis based on the complexity of the proposed alteration.

c. The H&H system analysis will consider flood events and hydraulic loading only. Infrastructure measures (dams, levee and floodwall systems, jetties, and channels) will be assumed to be stable and functional up to the top of containment, and no breaching will be assumed. Based on this assumption, system response curves are not required. Other factors such as changes in performance and consequences due to the H&H changes identified by this analysis will be determined based on other information and analyses beyond this H&H system analysis. All factors and information will be considered comprehensively to make the final Section 408 decision.

d. The hydraulic analysis will consider the full range of hydrologic loading conditions.

e. For loading conditions where flood waters exceed the system capacity, the analysis must include overtopping.

f. System impacts will be determined by comparing H&H results for the existing, authorized purpose, and with proposed alteration conditions. The district should try to identify and ensure that the analysis considers the effects of reasonably foreseeable and known future alterations and/or projects throughout the system in conjunction with the proposed alteration.

H-4. Evaluation Metrics. Results of the H&H system analysis must be presented in a way to assist the Section 408 decision-makers in understanding the impacts (i.e., consequences) of the H&H changes as a result of the proposed alteration. Results can be evaluated using either changes in median or expected values of various hydrologic and hydraulic parameters, or changes in assurance (i.e., uncertainty) about those values. To improve the understanding of the H&H changes of the proposed alteration, floodplain inundation maps showing flood depths and extent should be provided. The following are various H&H outputs that may be useful to display and determine H&H changes. Specific requirements will vary depending on the particular project and proposed modification.

a. Changes in water surface elevation.

b. Changes in Annual Exceedance Probability (AEP), where AEP is defined as the likelihood of a target water surface elevation being exceeded in any given year, based on the full range of possible flood events.

c. Changes in flow, velocity, frequency, and duration.

d. Changes in flood depth and flooding extent displayed on inundation maps.

H-5. Process.

a. The H&H system analysis will assess changes at the proposed alteration site and at all locations reasonably considered to be affected by the proposed alteration. The procedures described in this appendix are, in general, appropriate, with some adaptation to reflect the effects of hydraulic connectivity. Pre-approved software for analyses can be used, which include HEC-HMS (Ref. H-2.c), HEC-RAS (Ref. H-2.d), HEC-ResSim (Ref. H-2.e), HEC-FDA (Ref. H-2.f) and HEC-WAT (Ref. H-2.g). Use of any other software must be approved prior to application.

b. Methods for performing the H&H system analysis are flexible. One possible approach is described here, and follows the procedures outlined in EM 1110-2-1619 (Ref. H-2b).

(1) Step 1: Define the spatial extent of the system for which potential hydrologic and hydraulic changes must be assessed and select index locations within that extent for the H&H system analysis.

(a) The extent of the hydraulically interconnected system must be defined as the first step in an H&H system analysis. This extent must be broad enough to include channel reaches and floodplains downstream and upstream of the proposed alteration site that a reasonable analyst would expect to be influenced by changes in discharge or corresponding water surface elevation at the proposed alteration site. Within that extent, impact areas should be identified and index locations selected to allow assessment and reporting of changes. If initial findings show significant change at the outer extents represented by the selection of index locations, additional index points may be required out to the locations showing no change. Guidance for identifying impact areas and selecting index locations is included in the user's manual for the HEC-FDA (Ref. H-2.f) software and in EM 1110-2-1619 (Ref. H-2.b).

(b) Review of hydraulic model results will aid in determining the appropriate extent. For example, examination of computed water surface profiles will identify locations upstream or downstream of a proposed alteration site at which changes in the geometry at the site will have an impact on water surface elevations. Care must be exercised and results scrutinized to judge if changes in computed elevations are logically related to the changes in the geometry, or if changes seen in the model results are artifacts of computational precision limits or model instabilities. In some cases, downstream flows at a confluence will increase for a proposed

alteration, but the increase will be due to a change in timing between contributing hydrographs. Consideration should be given to whether the change in timing would be expected to be reflected in historical events, or whether the change in timing is an artifact of the synthetic hydrology developed.

(2) Step 2: Identify the existing, authorized purpose, and with proposed alteration conditions for all features (e.g. levee, floodwall, channel, jetties, and/or dams) of that system to serve as the basis for assessing H&H changes of proposed alterations.

(3) Step 3: Collect or develop the necessary functions and transforms to compute existing, authorized purpose, and with proposed alteration conditions all index locations within the system. In addition to the various functions required for the H&H system analysis, the uncertainty about each function must be described. This task is completed following the general guidance presented in this appendix and EM 1110-2-1619 (Ref. H-2.b). However, current policy does not cover how to describe the uncertainty about functions that represent accumulated impacts. For example, the uncertainty about the unregulated to regulated discharge transform at a location downstream of multiple reservoirs must reflect the accumulated uncertainty about joint operation of those reservoirs. If the district needs assistance in determining accumulated impacts, districts should consult experts at Engineer and Research Development Center Hydrologic Engineering Center (HEC), or engage the division and HQUSACE. All three conditions should be evaluated as part of the H&H system analysis.

(4) Step 4: Assess the H&H results, reference paragraph H-3.f, of the existing, authorized purpose, and with proposed alteration conditions at all index locations. H&H results are computed location by location within the extent of the system. Analysis needed in this step will depend upon the proposed alteration. For example, if the alteration includes the addition of flood storage or changes to the manner in which available storage is operated, a reservoir system simulation model such as HEC-ResSim (reference H-2.e) may be developed and run with a period of record or selected hypothetical events. Through this model, a new unregulated to regulated discharge transform can be developed. Similarly, if the proposed alteration includes changes to the project geometry, for example through levee setbacks, these changes must be simulated to derive new transforms for downstream locations. Those transforms may change as a result of the project geometry changes. Results may be reported as described in paragraph H-4.

(5) Step 5: Determine the changes in H&H conditions by comparing hydrologic and hydraulic results system-wide for the existing, authorized, and with proposed alteration cases. Once various results of hydrologic and hydraulic conditions are computed and reported, system-wide H&H changes of a proposed alteration can be assessed. For proposed alterations that reduce the likelihood of inundation, the AEP will be less and confidence in reduction in likelihood of inundation will be greater. However, outcomes may vary across all index locations within the system; therefore, all index locations must be assessed.

APPENDIX I

Funding Agreements

I-1. Purpose. The purpose of this appendix is to provide guidance on the establishment, management, and oversight of funding agreements under applicable statutory authorities that allow the US Army Corps of Engineers (USACE) to accept and expend funds to expedite requests to alter USACE Civil Works projects pursuant Section 408. This appendix describes the specific requirements applicable to acceptance of contributed funds and development of funding agreements under each authority.

I-2. References.

a. 25 USC 479a, Publications of List of Recognized Tribes

b. Section 1156(a)(2) of WRDA 2016, Contributed Funds (33 USC 408(b)(3))

c. 23 USC 139(j), Efficient Environmental Reviews for Project Decision-Making

d. Section 214 of WRDA 2000 (Public Law 106-541), as amended (33 USC 2352)

e. Section 404 of the Clean Water Act, Permits for Dredged or Fill Material (33 USC 1344)

f. Section 10 of the Rivers and Harbors Act of 1899, Obstruction of Navigable Waters, Generally; Wharves, Piers, and Excavations and Filling In (33 USC 403)

g. 10 USC 2695, Acceptance of Funds to Cover Administrative Expenses Relating to Certain Real Property Transactions

h. US Army Corps of Engineers, Implementation Guidance for Section 1125 of the Water Resources Development Act of 2016 - Use of Funding Agreements within the Regulatory Program, Memorandum, 19 January 2018.

I-3. Policies for All Authorities.

a. The provision of funds for a Section 408 review by USACE under any of these authorities is voluntary, and all requesters will receive a fair and timely review of their Section 408 request regardless of whether they have contributed funds to USACE for the evaluation or not.

b. The acceptance and expenditure of funds will not impact impartial decision making at any level with respect to the evaluation and any final decision, either substantively or procedurally. The USACE review of the Section 408 request must comply with all applicable

laws, regulations, and procedures.

c. In general, funds should be accepted under one authority only. In the event that funds will be accepted under more than one authority, separate agreements should be executed and there should be no duplication of activities to be funded between the agreements.

d. Acceptable Uses of Funds. In general, except as noted in paragraph I-3.e., the funds can be used for all activities related to the USACE review of a Section 408 request, including pre-coordination and review activities. Prior to expending funds on any activity, the district must determine that the activity contributes to meeting the specific purpose of the appropriate authority as indicated in this appendix.

e. General Limitations for Funds Accepted for Reviews Under 33 USC 408.

(1) In order to preserve impartial decision making, the funds cannot be used by the final decision-maker for his or her review, recommendations, or decision concerning a Section 408 request.

(2) The funds cannot be used for compliance and enforcement activities. Enforcement activities must be charged to the applicable appropriations account based on the USACE Civil Works project.

(3) The funds cannot be used for Section 408 review activities related to non-federal hydropower development.

(4) The funds cannot be used to cover the administrative expenses incurred in processing a Covered Transaction (such as an easement, or a lease or a license of real property of the United States) under 10 USC 2695 or cost incurred for activities outlined in 30 USC 185(1). Costs associated with these administrative expenses will be recovered under 10 USC 2695 and 30 USC 185(1).

(5) The funds cannot be used to prepare documents or products for the Section 408 requester.

f. Acceptance of Contributed Funds and Accountability.

(1) The funds accepted and expended under a funding agreement, regardless of authority, must be accounted for and tracked to ensure that they are expended for their intended purpose. Receipt and expenditure of funds will be tracked by a separate account in the Corps of Engineers Financial Management System.

(2) Contributed funds will be recorded in 096X8862 as a cost-share control record (CSCR) and collect type code LCSA. The cost share advance account will cite AMSCO 190093 and CCS 408. The cost share control record must link to a zero dollar federal funding account citing

appropriation 096X3123 and CCS 408. Funding agreements for Regulatory permits are processed differently. There may be cases when there is one funding agreement that covers Section 408 and Regulatory actions. In these cases, the two different processes should still be followed for the funding amount pertaining to each program. In other words, the funding associated with Section 408 activities will use the process described above, and the funding associated with Regulatory permit actions will be processed using different procedures.

(3) Section 408 Coordinators must maintain copies of all funding agreements in the Section 408 database even after completion or closure.

(4) Section 408 Coordinators will be accountable for reporting to HQUSACE annually on the status of any active funding agreements within their area of responsibility when requested. Requirements for reporting are specific to the authority for the funding agreement and are outlined in the paragraphs below for each authority.

I-4. Section 1156(a)(2) of WRDA 2016.

a. Section 1156(a)(2) of WRDA 2016, among other things, further amends Section 14 of the Rivers and Harbors Act of 1899 (33 USC 408; referred to as Section 408) to authorize the Secretary of the Army to accept and expend funds received from non-federal public or private entities to evaluate requests under Section 408 for an alteration or permanent occupation or use of a work built by the United States.

b. Following the process in this appendix, District and Division Commanders may accept and expend funds from non-federal public or private entities to expedite the evaluation of Section 408 requests. Expediting the review process could include generally shorter review times as compared to prior to the agreement and the facilitation of a smoother review process through improved coordination and communication or through the development or use of programmatic agreements or standard operating procedures.

c. The template agreement for the acceptance of funds for the evaluation of Section 408 requests is posted on the USACE agreements website, under “Agreement Templates.” The template agreement may be modified as appropriate to address case-specific circumstances. In addition, it may be modified to cover multiple Section 408 requests by a single requester. Following district counsel or division counsel review and concurrence that the negotiated agreement is acceptable, the District Commander or Division Commander, respectively, may approve and sign the agreement.

d. Authority under Section 1156(a)(2) is limited to the acceptance of funds from non-federal public and private entities. Other federal agencies cannot provide USACE with funding under this authority. If the non-federal public or private entity is providing funds that it received from another federal agency, it must provide written confirmation from that federal agency that the funds are authorized to be used for the Section 408 evaluation.

e. Funds accepted under Section 1156(a)(2) cannot be used to cover the review of related Section 10/404/103 permit decisions.

f. Section 408 Coordinators will be accountable for reporting to HQUSACE when requested on the status of any active Section 1156(a)(2) agreements within their area of responsibility.

I-5. Section 214 of WRDA 2000.

a. Section 214, as amended (33 USC 2352) provides that the Secretary of the Army, after public notice, may accept and expend funds contributed by a non-federal public entity, natural gas company, public utility company, or railroad carrier to expedite the permit review process for that entity, company, or carrier for projects or activities that have a public purpose. The authority to accept and expend funds from non-federal public entities does not expire, unless modified by law. The authority to accept and expend funds from public-utility companies, natural gas companies, and railroad carriers expires on June 10, 2024, unless otherwise extended or revoked by law.

b. District and Division Commanders have delegated authority to accept and expend funds under Section 214. These delegations of authority remain in effect until 10 June 2024, unless revoked or superseded.

c. Acceptable Entities. Funding agreements under to Section 214 may be executed with the following entities. Further information on acceptable entities under Section 214 is available in reference I-2.h.

(1) Non-Federal Public Entities. The term “non-federal public entity” is limited to governmental agencies or governmental public authorities, including governments of federally recognized Indian tribes, i.e., any Indian or Alaska Native Tribe, band, nation, pueblo, village, or community that the Secretary of the Interior acknowledges to exist as an Indian tribe under the Federally Recognized Indian Tribe List Act of 1994 [25 USC 479(a)].

(2) Public-Utility Companies. Public-utility companies include the following two subcategories: (i) electric utility companies, which are companies that own or operate facilities used for the generation, transmission, or distribution of electric energy for sale; and (ii) gas utility companies, which are companies that own or operate facilities used for distribution at retail of natural or manufactured gas for heat, light, or power (other than the distribution only in enclosed portable containers or distribution to tenants or employees of the company operating such facilities for their own use and not for resale.

(3) Natural Gas Companies. Section 214 also allows for funding agreements to be entered into with a natural gas company. A natural gas company is a company engaged in the

transportation of natural gas in intrastate or interstate commerce or the sale of such gas in interstate commerce for resale.

(4) Railroad Carriers. The term "railroad carriers," is defined at Title 49 USC 20102 as a person providing railroad transportation, or, as approved by the Secretary of Transportation, a group of commonly controlled railroad carriers operating within the United States as a single, integrated rail system. "Railroad" means any form of non-highway ground transportation that runs on rails or electromagnetic guideways, including: a) commuter or other short-haul railroad passenger service in a metropolitan or suburban area; and b) high speed ground transportation systems that connect metropolitan areas, without regard to the technologies used for the system; but c) does not include rapid transit operations in an urban area that are not connected to the general railroad system of transportation. Districts may consult with the regional Federal Railroad Administration office if there is uncertainty as to whether a particular entity qualifies as a railroad carrier.

(5) There is no expiration of the authority to accept and expend funding from entities that meet the definition of non-federal public entity, unless modified by law. The authority to accept and expend funding from entities that meet the definition of public utility company, natural gas company, and railroad carrier expires on June 10, 2024, unless otherwise extended or revoked by law.

d. General Guidance. Activities conducted under a Section 214 agreement must expedite the Section 408 review process. Expediting the review process could include generally shorter review times as compared to prior to the agreement and the facilitation of a smoother review process through improved coordination and communication or through the development or use of programmatic agreements or standard operating procedures. The expedited review cannot result in an adverse effect on the timeframes for review of other Section 408 requests within the same district, when considered collectively.

e. Public Purpose. Funding can only be accepted and expended through Section 214 funding agreements to expedite a Section 408 review if the proposed alteration serves a public purpose. Districts must evaluate proposed agreements from non-federal public entities to ensure that the proposed activities needing Section 408 permission serve a public purpose, and districts have discretion in making that determination. It is recognized and allowable that funds provided under a Section 214 agreement with a non-federal public entity may potentially originate from a private entity or a combination of public and private entities, so long as it is verified that the proposed alteration would serve a public purpose.

f. Agreement Development and Decision.

(1) Initial Public Notice for Intent to Accept Funds.

i. Prior to accepting and expending funds, the division or district must issue a public notice,

post the public notice in a clearly identified and easily accessible area (e.g., “Acceptance of Funds for Expediting Section 408 Requests”) on its webpage, and distribute the notice to concerned agencies, organizations, and the interested public. Further information on public purpose within the context of Section 214 is available in reference I-2.h. The district or division should consider if the purpose of this public notice can be combined with the purposes of other public notices that may be also be required, reference paragraph 12.b. of the main EC.

ii. The public notice will describe the entity providing such funds, the USACE authority to accept and expend such funds, the reason for such contributions, how acceptance of the funds is expected to expedite the Section 408 review process, what types of activities the funds will be expended on, what procedures will be in place to ensure that the funds will not impact the division or district’s impartial decision making, and information on the impacts, if any, to the review process for Section 408 requests within that division or district. Further, if funds are also intended to be accepted or have been accepted to expedite the evaluation of Section 10/404/103 permit applications for the same proposed alteration and/or by the same non-federal public entity, such intention should be clearly stated in the public notice or a joint public notice developed, if feasible. The public notice must also include information on the impacts of the proposed funding agreement on the division or district’s ability to review other Section 408 requests.

(2) Basis for Acceptance of Funds.

i. Following the review of the comments received in response to the public notice, the Division or District Commander will determine if the acceptance and expenditure of funds is appropriate in consideration of the requirements under the applicable statutory authority, if the division or district will be able to preserve impartial decision making, and if the acceptance and expenditure of funds will not adversely affect review timeframes for other Section 408 requests. A final draft of a funding agreement, see paragraph I-5.f.(3), must be completed to inform this decision.

ii. If the Division or District Commander determines, after considering public comments, that the acceptance and expenditure of the funds is appropriate, the funds may be accepted and expended. This decision will be documented in a Memorandum for Record (MFR). An informational public notice will be issued regarding the Division or District Commander's decision. The division or district will post the informational public notice on its webpage in the same, easily identifiable and accessible area used for the initial public notice and distribute the notice to concerned agencies, organizations, and the interested public.

(3) Acceptance of Funds.

i. Funds may only be accepted after the finalization of the decision MFR and issuance of the public notice of the execution of the funding agreement. Funding agreements will typically be executed in the format of a Memorandum of Agreement (MOA). At a minimum, the

agreement must include a scope of work and an itemized budget estimate, address the provision of additional funds if needed, as well as the return of unused funds, and must identify the total annual cost for each federal fiscal year covered by the term of the MOA. The itemized budget estimate must include identification of personnel, hourly rates, indirect labor costs, estimated hours of work, and travel costs related to the MOA scope of work.

ii. Issuance of a new public notice is not required for renewal or modification of a funding agreement if the purpose of the agreement remains the same. For example, a new public notice would not be required if the MOA is amended to extend the term of the agreement, modify the proposed alteration identified in the MOA, or adjust the terms of the advance payment contemplated under the MOA. The decision and basis for the renewal or modification should be documented in the MFR described in paragraph I-5.f.(2).

g. No funds provided by a federal agency to a non-federal public entity may be accepted by USACE under Section 214 unless the non-federal public entity forwards to USACE a written confirmation from the federal agency that the use of the funds to expedite the review of the Section 408 request is acceptable.

h. Transparency. Legal requirements under Section 214 require making certain information publicly available on the internet including final decisions and copies of funding agreements. Section 408 Coordinators must ensure timely data entry on Section 408 decisions and maintain copies of all funding agreements in the Section 408 database, even after completion or closure, to facilitate these transparency requirements.

i. Annual Reporting. On an annual basis, HQUSACE will provide an annual report to the Assistant Secretary of the Army for Civil Works (ASA(CW)), including a summary of the use of funding agreements executed under Section 214 and 22 USC 139(j), see paragraph I-6. The ASA(CW) will submit the combined annual report to the specified Congressional committees. Within 30 calendar days of the conclusion of each fiscal year, district and division Section 408 Coordinators will provide to the HQUSACE Section 408 proponent the following:

(1) A list of all active Section 214 and Section 139(j) funding agreements during the subject fiscal year, including the date in which the agreement was initiated and whether Section 214 or Section 139(j)was used;

(2) An accounting of the total funds accepted and total funds expended per funding agreement; and,

(3) A list of all Section 408 decisions issued for the subject fiscal year under each funding agreement.

(4)

I-6. 23 USC 139(j).

a. Section 139(j) provides that the Secretary of Transportation may approve a request by certain public entities that receive financial assistance from the USDOT to provide funds to affected federal agencies participating in the environmental review process to support activities that directly and meaningfully contribute to expediting and improving permitting and review processes.

b. Acceptable Entities. Section 139(j) allows USACE to enter into agreements with public entities receiving financial assistance from the Department of Transportation under Title 23 or chapter 53 of Title 49, which are typically administered by the FHWA and the Federal Transit Administration (FTA), respectively. Section 139(j) agreements require approval by the Secretary of Transportation, as public entities are eligible to receive reimbursement with federal aid funds for these agreements. The Secretary of Transportation has delegated approval of funding agreements down to the division level of FHWA and FTA. The USDOT has not interpreted Section 139(j) as allowing other modal administrations (such as Federal Aviation Administration or Maritime Administration) to support agreements with public entities. If there is any uncertainty regarding whether an entity is eligible for a funding agreement under Section 139(j), the entity and/or the district should consult the USDOT operating administration from which the entity receives financial assistance.

c. General Guidance. Activities conducted under a Section 139(j) agreement must directly and meaningfully contribute to expediting and improving permitting and review processes, including planning, approval, and consultation processes, for the transportation project or program. In addition, Section 139(j) funds may only be used for activities beyond USACE's normal and ordinary capabilities under its general appropriations. Because transportation project planning and delivery encompasses a variety of activities and reviews, participation in the transportation planning (pre-NEPA) process and streamlining initiatives such as NEPA/Section 408 synchronization efforts are encouraged under Section 139(j), so long as those activities result in review times that are less than the customary time necessary for such a review. FHWA has provided guidance that the development of programmatic agreements and initiatives satisfies the requirement to reduce time limits as long as the results of those efforts are designed to provide a reduction in review time. Section 139(j) puts the onus on FHWA and FTA to interpret allowable activities under the statute. Districts will consider FHWA or FTA's approval of a funding agreement as certification that the agreement is compliant with Section 139(j). Section 139(j) agreements must also meet USACE's standards and requirements contained in this appendix.

(1) FHWA or FTA may require documentation of the "customary time" necessary for a review and/or establishment of performance metrics for the agreement to demonstrate it is contributing to expediting and improving transportation project planning and delivery. Districts have discretion on the number and type of performance metrics within an agreement, including which milestones to use to determine time in review (receipt of request, date determined complete, etc.). When considering the quantity and content of any performance metrics for an

agreement, the district must consider the potential effect of those metrics on performance management within the whole district. Districts must be cautious to not agree to any performance metrics that would be so onerous or stringent that achieving them comes at the cost of decreased performance for other Section 408 requests in the district.

(2) A Section 139(j) funding agreement between the district(s) or division(s) and the funding transportation agency must include the projects and priorities to be addressed by the agreement. If the funding transportation agency does not know a list of projects and/or priorities at the time of the agreement, then the funding agreement should describe the process to identify or change projects and/or priorities for the agreement.

d. Agreement Development and Decision. Districts will follow the same policy and procedures for establishing agreements under Section 139(j) as what is used for agreements under Section 214.

e. Annual Reporting. Districts will follow the same procedures for annual reporting for funding agreements under Section 139(j) as what is used for agreements under Section 214, reference paragraph I-5.i.

APPENDIX J

Example Letters

J-1. Purpose. This appendix contains example response letters and an example decision letter. These letters can be modified as necessary to fit each Section 408 request.

J-2. Completeness Determination Letter. This letter is sent to a requester no later than 30 days of receipt of a submittal of information supporting a Section 408 request to inform the requester whether the Section 408 request or a specific milestone for the Section 408 request (for multi-phased reviews) is complete or not. This letter can also be used and modified as necessary to inform the requester of completeness for validation under a categorical permission.

(District Letterhead)
(Date here)

(*Name and address of requester here*)
[Mr./Ms.] *(Full Name of Requester)*
(Title of Requester)
(Requester Address)
(City, State Abbreviation, and Zip Code)

Section 408 Request Number: ___*(Database ID)*___

Dear [Mr./Ms.] *(Last Name of Requester),*

The ___(*district name here*)_____ District ("District") of the U.S. Army Corps of Engineers (USACE) has received your request to __(*brief description of proposed alteration*) the ___(*name of USACE project to be altered*)__ operated and maintained by _(*name (s) of non-federal sponsor (s) and/or USACE*)___ under Section 14 of the Rivers and Harbors Act of 1899, 33 USC 408 (Section 408).

(*If incomplete include the following.)* The District has reviewed your submittal consistent with Engineer Circular (EC) 1165-2-220, to determine whether the Section 408 *(insert "milestone" for multi-phased reviews)* request is complete and is ready for USACE review and decision. We have determined that your Section 408 *(insert "milestone" for multi-phased reviews)* request is incomplete and request that you submit the following additional information:

(Describe required information needed in bullet point format using the below basic requirements

from paragraph 11 of this EC as a framework. Districts can delete those bullet point categories that have been satisfied or are not applicable. Districts can add supplemental information as enclosures if needed to help clarify what information is needed.)

- Statement of No Objection –
- USACE Project and Alteration Description –
- Technical Analysis and Design –
- Environmental and Cultural Resource Compliance –
- Real Estate Requirements –
- Operation, Maintenance, Repair, Replacement and Rehabilitation (OMRR&R) –
- Crediting

Please submit the above information to *(Insert appropriate contact information such as organization code and address)* and include the Section 408 Request Number: *(Insert Database ID for this request)* with your information. For questions regarding your Section 408 request, please contact *(name and title of district Section 408 point of contact here)* at *(contact information here)*.

(*If complete, include the following.)* The District has reviewed your submittal consistent with Engineer Circular (EC) 1165-2-220 and has determine that you your Section 408 *(insert "milestone" for multi-phased reviews)* request is complete and will proceed to USACE review and decision. The District expects to render a decision on your Section 408 *(insert "milestone" for multi-phased reviews)* request within 90 days *(provide new timeline and explanation if 90 days cannot be met)* of the date on this letter. You will be notified if additional information is needed to complete the review and decision and/or if the review and decision to exceed the 90 day timeline. If you have questions regarding your Section 408 request, please contact (*name and title of district Section 408 point of contact here*) at (*contact information here*).

Sincerely,
(Name of signatory)

(*district name here*)
U.S. Army Corps of Engineers

Enclosures (*Attach supplemental documentation as needed).*

J-3. Potential Multi-phased Review Option. This letter is sent to a requester no later than 30 days of receipt of a submittal of information supporting a Section 408 request that would benefit from the multi-phased review option. This response letter is to inform the requester that they will be contacted for further discussion and planning.

(District Letterhead)
(*Date here*)

(*Name and address of requester here*)
[Mr./Ms.] *(Full Name of Requester)*
(Title of Requester)
(Requester Address)
(City, State Abbreviation, and Zip Code)

Section 408 Request Number: ___*(Database ID)*___

Dear [Mr./Ms.] *(Last Name of Requester)*,

The __(*district name here*)_____ District ("District") of the U.S. Army Corps of Engineers (USACE) has received your request to __(*brief description of proposed alteration*) the __(*name of federal project to be altered*)__ operated and maintained by _(*name (s) of non-federal sponsor (s) and/or USACE*)__ under Section 14 of the Rivers and Harbors Act of 1899, 33 USC 408 (Section 408).

Based on the scope, scale, or complexity of the proposed alteration, the District recommends a multi-phased review approach for processing your request. This option allows for information to be submitted with different levels of detail at pre-determined milestones progressing to a Section 408 decision. You will be contacted by *(insert anticipated timeframe)* to further discuss this option.

For any questions regarding this letter, please contact (*name and title of district Section 408 point of contact here*) at (*contact information here*).

Sincerely,
(Name of signatory)

(*district name here*)
U.S. Army Corps of Engineers

J-4. Multi-Phased Review Milestone Approval Letter. This letter is used to communicate a conditional approval of a milestone within a multi-phased review proves with the exception of the final decision milestone. Note that the language in boldface is needed for legal sufficiency of a conditional approval and should not be substantively modified or deleted. If the decision is to deny a milestone, then a Section 408 final decision letter expressing denial of permission may be used.

(District Letterhead)
(*Date here*)

(*Name and address of requester here*)
[Mr./Ms.] *(Full Name of Requester)*
(Title of Requester)
(Requester Address)
(City, State Abbreviation, and Zip Code)

Section 408 Request Number: *(Database ID)*

Dear [Mr./Ms.] *(Last Name of Requester)*,

The (*district name here*) District ("District") of the U.S. Army Corps of Engineers (USACE) has completed an evaluation of the milestone of your request to (*brief description of proposed alteration*) to (*name of USACE project to be altered*) operated and maintained by (*name (s) of non-federal sponsor (s) and/or USACE* under Section 14 of the Rivers and Harbors Act of 1899, 33 USC 408 (Section 408).

The District has reviewed your submittal consistent with Engineer Circular (EC) 1165-2-220. Based on the information provided to date, it appears that (*describe the work that is being conditionally approved*) is consistent with the requirements under Section 408. The District hereby grants conditional approval to advance to the next milestone of the Section 408 request. (*Insert any special conditions or additional requirements the requester needs to comply with to*

proceed to the next milestone.)

Note that this milestone approval is based on the information you provided for this milestone submittal. If the information you provided in support of this milestone proves to have been false, incomplete, or inaccurate, or if significant new information surfaces which USACE did not consider in reaching this milestone decision, USACE reserves the right to reevaluate, and potentially revoke, this conditional approval. Further, this conditional approval does not comprise permission under Section 408 to alter the USACE project. USACE reserves the right to approve or deny future milestones of this Section 408 request based on further evaluation.

For any questions regarding this decision, please contact (*name and title of district Section 408 point of contact here*) at (*contact information here*).

Sincerely,
(Name of signatory)

(*district name here*)
U.S. Army Corps of Engineers

Enclosures (*Attach supplemental documentation as needed).*

J-5. Decision Delay Letter. This letter is used to communicate to the requester when USACE will be unable to render a decision on the Section 408 request within 90 days of the completeness determination. This letter can be used with single-phase reviews, multi-phase reviews, and categorical permissions, and should be sent as soon as the District anticipates that the 90-day timeline cannot be achieved and has determined an alternate target date for rendering a decision. If the district knows at the time of the completion determination that the 90-day timeline cannot be met, then notifications should be combined versus sending multiple letters. For those Section 408 requests that require division level review and decision, the letter can be modified accordingly.

(District Letterhead)
(*Date here*)

(*Name and address of requester here*)
[Mr./Ms.] *(Full Name of Requester)*
(Title of Requester)
(Requester Address)

(City, State Abbreviation, and Zip Code)

Section 408 Request Number: ___*(Database ID)*___

Dear [Mr./Ms.] *(Last Name of Requester)*,

The ___(*district name here*)_____ District ("District") of the U.S. Army Corps of Engineers (USACE) is reviewing your request to ___(*brief description of proposed alteration*) to (*name of federal project to be altered*) operated and maintained by (*name (s) of non-federal sponsor (s) and/or USACE*) under Section 14 of the Rivers and Harbors Act of 1899, 33 USC 408 (Section 408). This evaluation is being performed according to Engineer Circular (EC) 1165-2-220.

The District anticipates it will be unable to render a decision on your Section 408 request within 90 days of receipt of the completion determination dated *(insert date of the completion determination)*. Additional time is needed to ____(*summarize rationale for exceeding 90 day decision timeline*)_____. The District anticipates rendering a decision *(insert either "*within xx days of this letter*" or "*by date*").*

For any questions regarding your Section 408 request, please contact (*name and title of district Section 408 point of contact here*) at (*contact information here*).

Sincerely,
(Name of signatory)

_____(*district name here*)_____
U.S. Army Corps of Engineers

Enclosures (*Attach supplemental documentation as needed).*

J-6. Section 408 Final Decision Letter. This letter is used to communicate the decision to grant or deny permission under Section 408. It can be used with a single-phase review or for the final milestone of a multi-phased review.

(District Letterhead or Division Letter)
(*Date here*)

(*Name and address of requester here*)
[Mr./Ms.] *(Full Name of Requester)*
(Title of Requester)
(Requester Address)
(City, State Abbreviation, and Zip Code)

Section 408 Request Number: ___*(Database ID)*___

Dear [Mr./Ms.] *(Last Name of Requester),*

The __(*district or division name here*)_____ [District or Division] of the U.S. Army Corps of Engineers (USACE) has completed its review of your request to __(*brief description of proposed alteration*) to (*name of federal project to be altered*) ___operated and maintained by (*name (s) of non-federal sponsor (s) and/or USACE*) __under Section 14 of the Rivers and Harbors Act of 1899, 33 U.S.C. 408 (Section 408). This evaluation was performed consistent with Engineer Circular (EC) 1165-2-220.

(*If granting permission, use the following)* Based on this evaluation, the [District or Division] is granting permission to (*describe the approved alteration work in detail*) as specified in your request and subject to compliance with the terms and conditions below and attached.

(*Insert any additional special conditions necessary to ensure the alteration is not injurious to the public interest; does not impair the usefulness of the authorized project; and/or for environmental compliance purposes. Also attach a copy of the standard terms and conditions in Appendix K.)*

(If denying permission, use the following). Based on this evaluation, the District or Division is denying your request to (*describe the rejected alteration work in detail*). Your request cannot be approved at this time because *(Simply describe the main reason(s) why we are unable to grant permission. If appropriate, indicate the ability for the requester to revise his/her proposal and submit a new request for Section 408 permission.)*

For any questions regarding your Section 408 permission decision, please contact (*name and title of district Section 408 point of contact here*) at (*contact information here*).

Sincerely,
(Name of District or Division Commander or

other decision-maker with delegated authority)

(*district name here*)
U.S. Army Corps of Engineers

Enclosures (*Attach supplemental documentation as needed).*

J-7. Categorical Permission Validation Letter. This letter is used to communicate validation (approval) of use of a categorical permission to the requester. Districts should attach a copy of the standard terms and conditions for the categorical permission to this letter.

(District Letterhead or Division Letter)
(Date here)

(*Name and address of requester here*)
[Mr./Ms.] *(Full Name of Requester)*
(Title of Requester)
(Requester Address)
(City, State Abbreviation, and Zip Code)

Section 408 Request Number: *(Database ID)*

Dear [Mr./Ms.] *(Last Name of Requester)*,

The (*district or division name here*) [District or Division] of the U.S. Army Corps of Engineers (USACE) has completed its evaluation of your request to (*brief description of proposed alteration*) to (*name of federal project to be altered*) operated and maintained by (*name (s) of non-federal sponsor (s) and/or USACE*) under Section 14 of the Rivers and Harbors Act of 1899, 33 U.S.C. 408 (Section 408). This evaluation was performed consistent with Engineer Circular (EC) 1165-2-220.

Your request to (*describe the approved alteration work in detail*) has been validated for use with *(Insert name of District and/or title of the categorical permission)* Categorical Permission, subject to compliance with the terms and conditions below and attached.

(*Insert any additional special conditions necessary to ensure the alteration is not injurious to the public interest; does not impair the usefulness of the authorized project; and/or for*

environmental compliance purposes. Also attach a copy of the standard terms and conditions in Appendix K and the terms and conditions specific to the categorical permission.)

For any questions regarding your Section 408 permission decision, please contact (*name and title of district Section 408 point of contact here*) at (*contact information here*).

Sincerely,
(Name of District Commander or other decision-maker with delegated authority)

(*district name here*)
U.S. Army Corps of Engineers

Enclosures (*Attach a copy of the standard terms and conditions in Appendix K and the terms and conditions of the categorical permission).*

APPENDIX K

Standard Terms and Conditions

This appendix includes the standard conditions that must be included in all Section 408 approval notifications, except where marked as optional. Use of optional conditions should be based on scope and scale of the approved activity:

LIMITS OF THE AUTHORIZATION

1. This permission only authorizes you, the requester, to undertake the activity described herein under the authority provided in Section 14 of the Rivers and Harbors Act of 1899, as amended (33 USC 408). This permission does not obviate the need to obtain other federal, state, or local authorizations required by law. This permission does not grant any property rights or exclusive privileges, and you must have appropriate real estate instruments in place prior to construction and/or installation.
2. The time limit for completing the work authorized ends on _____. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
3. Without prior written approval of the USACE, you must neither transfer nor assign this permission nor sublet the premises or any part thereof, nor grant any interest, privilege or license whatsoever in connection with this permission. Failure to comply with this condition will constitute noncompliance for which the permission may be revoked immediately by USACE.
4. The requester understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration of the work herein authorized, or if, in the opinion of the Secretary of the Army or an authorized representative, said work will cause unreasonable conditions and/or obstruction of USACE project authorized design, the requester will be required upon due notice from the USACE, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim can be made against the United States on account of any such removal or alteration.

INDEMNIFICATION AND HOLD HARMLESS

5. The United States will in no case be liable for:
    a. any damage or injury to the structures or work authorized by this permission that may be caused or result from future operations undertaken by the United States, and no claim or right to compensation will accrue from any damage; or
    b. damage claims associated with any future modification, suspension, or revocation

of this permission.

6. The United States will not be responsible for damages or injuries which may arise from or be incident to the construction, maintenance, and use of the project requested by you, nor for damages to the property or injuries to your officers, agents, servants, or employees, or others who may be on your premises or project work areas or the federal project(s) rights-of-way. By accepting this permission, you hereby agree to fully defend, **indemnify,** and **hold harmless** the United States and USACE from any and all such claims, subject to any limitations in law.
7. Any damage to the water resources development project or other portions of any federal project(s) resulting from your activities must be repaired at your expense.

REEVALUATION OF PERMISSION

8. The determination that the activity authorized by this permission would not impair the usefulness of the federal project and would not be injurious to the public interest was made in reliance on the information you provided.
9. This office, at its sole discretion, may reevaluate its decision to issue this permission at any time circumstances warrant, which may result in a determination that it is appropriate or necessary to modify or revoke this permission. Circumstances that could require a reevaluation include, but are not limited to, the following:
    a. you fail to comply with the terms and conditions of this permission;
    b. the information provided in support of your application for permission proves to have been inaccurate or incomplete; or
    c. significant new information surfaces which this office did not consider in reaching the original decision that the activity would not impair the usefulness of the water resources development project and would not be injurious to the public interest.

CONDUCT OF WORK UNDER THIS PERMISSION

10. You are responsible for implementing any requirements for mitigation, reasonable and prudent alternatives, or other conditions or requirements imposed as a result of environmental compliance.
11. Work/usage allowed under this permission must proceed in a manner that avoids interference with the inspection, operation, and maintenance of the federal project.
12. In the event of any deficiency in the design or construction of the requested activity, you are solely responsible for taking remedial action to correct the deficiency.
13. The right is reserved to the USACE to enter upon the premises at any time and for any purpose necessary or convenient in connection with government purposes, to make inspections, to operate and/or to make any other use of the lands as may be necessary in connection with government purposes, and you will have no claim for damages on

account thereof against the United States or any officer, agent or employee thereof.

14. You must provide copies of pertinent design, construction, and/or usage submittals/documents. USACE may request that survey and photographic documentation of the alteration work and the impacted project area be provided before, during, and after construction and/or installation.
15. You may be required to perform an inspection of the federal project with the USACE, prior to your use of the structure, to document existing conditions.
16. USACE shall not be responsible for the technical sufficiency of the alteration design nor for the construction and/or installation work.
17. (optional, at the discretion of the district) Once permission is granted, you must notify the USACE District at least _____ (__) days before work/usage is started so that post-permission over sight can be performed by USACE.
18. (optional, at the discretion of the district) You must schedule a final inspection with the USACE within _____ (__) days after completion of the work/usage.
19. (optional, at the discretion of the district) You must submit a copy of "as-built" drawings within _____ (__) days of completion of work showing the new work as it relates to identifiable features of the federal project.

APPENDIX L

Terms and Abbreviations

AEP	Annual Exceedance Probability
ASA(CW)	Assistant Secretary of the Army for Civil Works
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CWBI	Civil Works Business Intelligence
DSO	Dam Safety Officer
DSOG	Dam Safety Oversight Group
EA	Environmental Assessment
EC	Engineer Circular
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Environmental Protection Agency
ERDC	Engineer and Research Development Center
ESA	Endangered Species Act
FAST-41	Title 41 of the Fixing America's Surface Transportation Act
FCA	Flood Control Act
FERC	Federal Energy Regulatory Commission
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
FTA	Federal Transit Administration
H&H	Hydrology and Hydraulics
HEC	Hydrologic Engineering Center
HQUSACE	Headquarters USACE
LSO	Levee Safety Officer
LSOG	Levee Safety Oversight Group
LSPM	Levee Safety Program Manager
M&I	Municipal and Industrial
MFR	Memorandum for Record
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program

NHPA	National Historic Preservation Act
NID	National Inventory of Dams
NLD	National Levee Database
NOAA	National Oceanic and Atmospheric Administration
O&M	Operation and Maintenance
OMRR&R	Operation, Maintenance, Repair, Replacement, and Rehabilitation
PL	Public Law
QCP	Quality Control Plan
RIT	Regional Integration Team
RMC	Risk Management Center
RMO	Review Management Organization
ROD	Record of Decision
SAR	Safety Assurance Review
SLOPES	Standard Local Operating Procedures for Endangered Species
USACE	U.S. Army Corps of Engineers
USC	United States Code
USCG	U.S. Coast Guard
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service
WCM	Water Control Manual
WRDA	Water Resources and Development Act
WRRDA	Water Resources Reform and Development Act
WSA	Water Supply Act

Lisa DiNicolantonio

From: Andrea Thornton
Sent: Tuesday, November 5, 2019 8:28 AM
To: Atwell, Patrick C CIV USARMY CENWO (USA)
Subject: RE: 1156 agreement

Hi Patrick -

WBI's full name and address is:

WBI Energy Transmission, Inc.
2010 Montana Avenue
Glendive, MT 59330

Marc Dempewolf (Director of Pipeline Operations) should be the one signing the agreement.

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W www.erm.com

-----Original Message-----
From: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Sent: Monday, November 04, 2019 11:59 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: 1156 agreement

Andrea,

Can you please provide me with the "full name" of WBI as well as their mailing address and the name and title of the individual who will be signing the 1156 agreement?

Thank you,

Patrick Atwell
Natural Resource Specialist
Omaha District
402-995-2087

Lisa DiNicolantonio

From: Andrea Thornton
Sent: Tuesday, November 5, 2019 6:44 AM
To: Atwell, Patrick C CIV USARMY CENWO (USA)
Subject: RE: North Bakken Geotechnical

Hi Patrick-

How is the district review coming along? Per Jeremy's email below is it still on track to go to real estate next week?

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W www.erm.com

-----Original Message-----
From: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Sent: Tuesday, October 15, 2019 11:55 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Cc: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>; Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>; Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>; Lillejord, Shenille A NWO <Shenille.A.Lillejord@usace.army.mil>
Subject: FW: North Bakken Geotechnical

Andrea,

Sorry if this is late but the following timeline is what remains for the review process.

- State and tribal concurrence to no effect - 30 days
- District review - 30 days
- Real Estate - 30-45 days.

Please let me know if you have any questions.

Thanks

Jeremy J. Thury
Natural Resources Specialist
US Army Corps of Engineers
Garrison Dam/ Lake Sakakawea Project
Riverdale, North Dakota Office
(701) 654-7761

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Monday, October 14, 2019 10:35 AM
To: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>; Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>; Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>
Subject: [Non-DoD Source] RE: North Bakken Geotechnical

Hi Patrick, Mike, and Rick -

I know today is a federal holiday, but I'm hoping we can catch-up tomorrow morning to discuss the status of the permit application. WBI would like for me to provide an update to them tomorrow afternoon.

Thanks!

Andrea

Andrea Thornton

Principal Consultant

Environmental Resources Management (ERM)

1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204

M 503-459-6864

E andrea.thornton@erm.com <mailto:andrea.thornton@erm.com> | W Blockedwww.erm.com <Blockedhttps://eur01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.erm.com%2F&data=02%7C01%7Candrea.Thornton%40erm.com%7C9e181b8f851349c1ab4908d721a5aac4%7Cf2fe6bd39c4a485bae69e18820a88130%7C0%7C0%7C637014867736039651&sdata=Ucf8UWMabe3uu9VEj%2ByuuC2I54mWjGONr1GEhqz9AD0%3D&reserved=0>

Lisa DiNicolantonio

From: Renschler, Jason J CIV USARMY CENWO (USA) <Jason.J.Renschler@usace.army.mil>
Sent: Wednesday, November 6, 2019 9:54 AM
To: Andrea Thornton
Subject: RE: North Bakken Expansion Project Preliminary Survey Maps

Follow Up Flag: Follow up
Flag Status: Completed

Hi Andrea – Yes, received 3-emails with attachments from you. I was going to mention it on the call but decided against it. I just got back in the office, so I did not print or have a chance to look at them. If I have any questions, I'll give you a call. Thanks, Jason.

From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Wednesday, November 6, 2019 11:46 AM
To: Renschler, Jason J CIV USARMY CENWO (USA) <Jason.J.Renschler@usace.army.mil>
Subject: [Non-DoD Source] RE: North Bakken Expansion Project Preliminary Survey Maps

Hi Jason –

I wanted to confirm that you received the maps I sent over last week. Let me know if you have any issues with the files.

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** Blockedwww.erm.com



From: Andrea Thornton
Sent: Friday, November 01, 2019 9:44 AM
To: Renschler, Jason J CIV USARMY CENWO (USA) <Jason.J.Renschler@usace.army.mil>
Cc: Wade Hammer <Wade.Hammer@erm.com>
Subject: RE: North Bakken Expansion Project Preliminary Survey Maps

And part 3.

Thanks and I hope you have a good weekend.

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** Blockedwww.erm.com



From: Andrea Thornton
Sent: Friday, November 01, 2019 9:40 AM
To: 'Renschler, Jason J CIV USARMY CENWO (USA)' <Jason.J.Renschler@usace.army.mil>
Cc: Wade Hammer <Wade.Hammer@erm.com>
Subject: RE: North Bakken Expansion Project Preliminary Survey Maps

Here is part 2 of the map set

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** Blockedwww.erm.com



From: Andrea Thornton
Sent: Friday, November 01, 2019 9:37 AM
To: Renschler, Jason J CIV USARMY CENWO (USA) <Jason.J.Renschler@usace.army.mil>
Cc: Wade Hammer <Wade.Hammer@erm.com>
Subject: North Bakken Expansion Project Preliminary Survey Maps

Hi Jason –

My apologies for the delay in getting these to you, but attached are the preliminary wetland/waterbody survey data maps for the North Bakken Expansion Project. The map set is large so I've broken it up into multiple files (3) and will send follow-up emails shortly. This map set will continue to be updated as the route is refined. Please note that Line

Section 7 Lateral (portion in Mountrail County to the east of the rest of the pipelines) is no longer part of the proposed Project, however has been included in this map set as it was surveyed.

Let us know if you have any questions as you take a look at the maps.

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** Blockedwww.erm.com



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Pat Robblee

From: Ed Schneider
Sent: Wednesday, November 06, 2019 10:38 AM
To: Rogers, Richard R II CIV USARMY CENWO (US)
Cc: Pat Robblee
Subject: RE: ERM ARPA Permit No. DACW45-3-20-8009 (UNCLASSIFIED)

Hi Rick,
I just wanted to update you and let you know that we are working on the Class III report for the WBI Northern Bakken Expansion project, and will have a draft report to you by the end of the month. Thanks.

Ed

_____
Ed Schneider
Senior Archaeologist

ERM
Ed.schneider@erm.com
Mobile: (307) 399-6724
_____

Lisa DiNicolantonio

From: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Sent: Friday, November 8, 2019 9:15 AM
To: Andrea Thornton
Cc: Grundman, Jonas L CIV USARMY CENWO (US)
Subject: 1156 Agreement
Attachments: WBI Section 1156 Agreement.pdf; WBI Non-Fed Private_Scope_Estimate.pdf

Andrea,

Attached are the 1156 agreement and the scope/estimate for USACE review.

All that we need is for WBI to review both documents and sign two copies of the 1156 agreement and both copies back to us.

It is VERY important that the agreement is ONLY signed, no dates inserted nor changes to the language of the agreement.

Once we receive the copies in the mail, they will be routed to our District Commander, where we will add in the date on page 1.

We will then mail one copy back to WBI for their records and provide instructions for EFT deposit.

Thank you,

Patrick Atwell
Natural Resource Specialist
Omaha District
402-995-2087

AGREEMENT BETWEEN
THE DEPARTMENT OF THE ARMY
AND
WBI Energy Transmission, Inc.

THIS AGREEMENT is entered into this ____ day of _____, 20__, by and between the Department of the Army (hereinafter the "Government"), represented by the U.S. Army Engineer, Omaha District, (hereinafter "District Engineer") and the WBI Energy Transmission, Inc. (hereinafter the "Contributor"), together ("the Parties").

WITNESSETH, THAT:

WHEREAS, the Contributor considers it to be in its own interest to contribute funds voluntarily to be used by the Government to evaluate a request under 33 U.S.C 408 (hereinafter "Section 408") for the placement of a natural gas pipeline across lands at Lake Sakakawea, ND.

WHEREAS, the Government is authorized pursuant to Section 408 to accept and expend funds to evaluate such requests;

NOW, THEREFORE, the Government and Contributor agree as follows:

1. The Contributor plans to contribute funds to the Government to pay costs associated with evaluation of engineering plans and other information prepared by Contributor related to a request under Section 408. The Contributor shall provide funds in accordance with the provisions of this paragraph:

a. The Government and Contributor shall develop a scope of work for activities that will be undertaken with funds provided by the Contributor. The scope of work shall provide a detailed description of activities to be undertaken, including a detailed estimate of cost for each activity and schedules, and identification of travel by Government personnel that may be necessary to the activities covered under this Agreement, with such travel to be undertaken in accordance with the Federal Travel Regulations and estimated separately. The Government and Contributor shall review and update, as necessary, the scope of work.

b. Prior to the Government initiating any activities identified in the scope of work, the Contributor shall provide to the Government funds to cover the estimated cost of activities under the scope of work through the current and next fiscal year quarter of the Government. No later than fifteen calendar days before the beginning of each subsequent fiscal year quarter, the Contributor shall provide to the Government funds for all estimated costs of activities to be accomplished during that quarter.

c. If at any time the Government determines that additional funds are needed, the Government shall notify the Contributor in writing and no later than fifteen calendar days from receipt of such notice, the Contributor shall provide to the Government the full amount of such additional funds.

d. The Contributor shall provide funds to the Government by providing an Electronic Funds Transfer of such funds in accordance with procedures established by the Government.

2. The Government shall provide the Contributor with quarterly reports of obligations for the activities under this Agreement. The Government shall provide the first report within thirty calendar days after the final day of the first full fiscal year quarter following initial receipt of funds pursuant to this Agreement. The Government shall provide subsequent reports within thirty calendar days after the final day of each succeeding quarter until the Government concludes work under this Agreement.

3. Upon conclusion of all work under this Agreement, the Government shall complete a final accounting and furnish the Contributor with written notice of the results of such final accounting. If the costs of the activities under this Agreement exceed the amount of funds provided by the Contributor, the Contributor shall provide the required additional funds within thirty calendar days of such written notice. If any funds provided by the Contributor were not obligated for activities under this Agreement, the Government shall refund those funds to the Contributor within thirty calendar days of completion of the final accounting.

4. No credit or repayment is authorized, nor shall be provided, for any funds provided by the Contributor and obligated by the Government for activities under this Agreement

5. Nothing herein shall constitute, represent, or imply any commitment regarding the Government's consideration of the Section 408 request. The acceptance and expenditure of funds will not impact impartial decision making at any level of the Government with respect to the review and any final decision, either substantively or procedurally. The review must comply with all applicable laws, regulations and procedures. None of the funds provided under this Agreement will be used by the decision maker in his or her review, recommendations, or decision concerning a Section 408 request.

6. The Parties agree to use their best efforts to resolve any dispute in an informal fashion through consultation and communication. If the Parties cannot resolve the dispute through negotiation, they may agree to a mutually acceptable method of non-binding alternative dispute resolution with a qualified third party acceptable to the Parties. Each party shall pay an equal share of any costs for the services provided by such a third party as such costs are incurred. The existence of a dispute shall not excuse the parties from performance pursuant to this Agreement.

7. This Agreement may be modified only by a written amendment to this Agreement signed by both Parties. Either party may terminate further performance under this Agreement by providing 60 calendar days advance written notice to the other party. In the event of termination, the Contributor remains responsible for all costs incurred by the Government pursuant to this Agreement.

8. Any notice, request, demand, or other communication required or permitted to be given under this Agreement shall be deemed to have been duly given if in writing and delivered personally or mailed by registered or certified mail, with return receipt, as follows:

If to the Contributor:

Marc Dempewolf
Director of Pipeline Operations
WBI Energy Transmission, Inc.
2010 Montana Avenue
Glendive, MT 59330

If to the Government:

District Engineer
U.S. Army Corps of Engineers
Omaha District
1616 Capitol Avenue
Omaha, NE 68102

A party may change the recipient or address to which such communications are to be directed by giving written notice to the other party in the manner provided in this paragraph.

9. In the exercise of their respective rights and obligations under this Agreement, the Government and the Contributor each act in an independent capacity, and neither is to be considered the officer, agent, or employee of the other.

10. To the extent permitted by the laws governing each party, the parties agree to maintain the confidentiality of exchanged information when requested to do so by the providing party.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement, which shall become effective upon the date it is signed by District Engineer.

DEPARTMENT OF THE ARMY	CONTRIBUTOR
BY: _____	BY: _____
John L. Hudson	**Marc Dempewolf**
COL, Commanding	**Director of Pipeline Operations**
DATE: _____	DATE: _____

U.S. Army Corps of Engineers, Omaha District
WBI Energy Pipeline

1. INTRODUCTION

The general scope of this effort is to complete the review of all necessary permits, documents, plans, authorizations, projects, and other activities that may be required or associated with the easement action for a natural gas pipeline that crosses lands of Lake Sakakawea.

The costs to complete this effort are provided in Section 2.0.

Please note the accompanying scope and cost estimates assume labor performed at current pay rates and only includes tasks known to be essential at this time. Some deviation may occur over the duration of the project's development.

2. SUMMARY OF COSTS.

Below is a breakdown of project costs. Descriptions of the work are located in the sections following the cost estimate.

Corps Office / Division	Budget
Operations Division	
Natural Resources (OD-TN)	$ 16000
Management Support (OD-SS)	$ 4000
Natural Resources (ODG-AN) & Technical Support (ODG-AT) & Management Support (ODG-A) – Garrison Project	$ 28500
Planning Division	
Environmental Planning (PM-AE)	$ 20000
Economic and Cultural (PM-AB)	$ 10000
Engineering Division	
Flood Plain (ED-HB)	$ 1000
Geotech (ED-G)	$ 10000
Geology (ED-GG)	$ 3000
Mechanical Engineering (ED-DA)	$ 3600
Real Estate Division	
Real Estate Civil Works (RE)	$ 13000
Real Estate Civil Branch (REM) – Garrison Project	$ 3000
TOTAL	$ 112,100

2.1 NATURAL RESOURCES (CENWO-OD-TN)

Operations Division will be responsible for lead project management (PM). The Civil Works operation and maintenance program requires that all those that request use of government property comply with the environmental regulations applicable to such a project. The personnel in Natural Resources will review documents to ensure that Clean Water Act, Clean Air Act, National Pollution Discharge Elimination System, Resource Conservation and Recovery Act and other pertinent laws are followed. Other

PM tasks include the necessary upward reporting, coordination, and quality management.

2.2 NATURAL RESOURCES SECTION and TECHNICAL SUPPORT SECTION (CENWO-ODG-AN,CENWO-ODG-AT, and CENWO-ODG-A) – GARRISON PROJECT

Natural Resources Section, Technical Support Section, and Management will technically review all environmental, design, construction, and permitting documentation. The documentation includes, but not limited to the draft and final versions of the following: Biological Assessment; Environmental Assessment; Cultural Resource Surveys, Construction Design, Surface Use Plan; Erosion Sedimentation Control/Storm Water Management Plan; Spill Prevention Control Countermeasure Plan; Emergency Response Plan; Facility Response Plan; Geographical Response Plan; Horizontal Directional Drilling Plan; Operation and Maintenance Plan; Reclamation and Monitoring Plan; and the Risk Assessment.

2.3 MANAGEMENT SUPPORT (CENWO-OD-SS)

Management support includes the receipt, set-up and expenditure tracking of all funds received. To ensure the process is compliance with federal law and meets the expectations of the requestor, management support will work with the PM and technical disciplines to provide funding needed for review, monitor expenditures, and provide reporting for accountability purposes.

2.4 ENVIRONMENTAL PLANNING (CENWO-PM-AE)

Planning Division will technically review all environmental documentation to include but not limited to a biological and environmental assessment. If appropriate, a decision document consistent with NEPA will be drafted. Other tasks include the necessary upward reporting and coordination.

2.5 ECONOMIC and CULTURAL PLANNING (CENWO-PM-AB)

The Economic and Cultural Planning Section will assist in drafting letters and execute the Missouri River Programmatic Agreement with the Tribes in Omaha District. They will assist with addressing comments and organizing any consultation meetings. They will also technically review cultural resource surveys and the environmental assessment. Other tasks include the necessary upward reporting and coordination.

2.6 FLOOD PLAIN (CENWO-ED-HB)

Corps Flood Plain will review compliance with EO11988 and in accordance with ER 1165-2-26.

2.5 MECHANICAL ENGINEERING (CENWO-ED-DA)

Work to be performed will include the review of leak detection system documentation, in-line inspection reports, and other mechanical features of the system being implemented.

2.6 GEOTECH and GEOLOGY (CENWO-ED-G, CENWO-ED-GG)
Work to be performed will include the review components as it relates to the geotech borings, drilling operations, and horizontal directional drilling plan.

2.7 REAL ESTATE CIVIL WORKS (CENWO-RE)
Real Estate Civil Works Branch will be responsible for coordinating and developing the real estate outgrant to include an appraisal.

2.7 REAL ESTATE CIVIL BRANCH (CENWO-REG) – GARRISON PROJECT
Review all submitted outgrant documentation, issue outgrant and temporary construction License, and conduct field inspections.

Lisa DiNicolantonio

From: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Sent: Tuesday, November 12, 2019 7:07 AM
To: Andrea Thornton
Subject: RE: Geotech Permit Review

Follow Up Flag: Follow up
Flag Status: Completed

Andrea,

It looks like we're going to be delayed on that front. I am still waiting on documents from the Garrison office

Thank you,

Patrick Atwell
Natural Resource Specialist
Omaha District
402-995-2087

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Monday, November 11, 2019 5:09 PM
To: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Subject: [Non-DoD Source] Geotech Permit Review

Hi Patrick -

I'm checking in to see if the geotech permit will be moving over to real estate this week for their review.

Thanks,

Andrea

Andrea Thornton

Principal Consultant

Environmental Resources Management (ERM)

1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204

M 503-459-6864

E andrea.thornton@erm.com <mailto:andrea.thornton@erm.com> | W Blockedwww.erm.com <Blockedhttps://eur01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.erm.com%2F&data=02%7C01%7Candrea.Thornton%40erm.com%7C9e181b8f851349c1ab4908d721a5aac4%7Cf2fe6bd39c4a485bae69e18820a88130%7C0%7C0%7C637014867736039651&sdata=Ucf8UWMabe3uu9VEj%2ByuuC2I54mWjGONr1GEhqz9AD0%3D&reserved=0>

_____

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Lisa DiNicolantonio

From: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Sent: Thursday, November 14, 2019 10:43 AM
To: Andrea Thornton
Cc: Rogers, Richard R II CIV USARMY CENWO (US); Atwell, Patrick C CIV USARMY CENWO (USA)
Subject: RE: North Bakken Geotechnical

Follow Up Flag: Follow up
Flag Status: Flagged

Andrea,

As you are aware, the USACE actively involves public interest groups as well as many Sovereign Nations in a reasonable and good faith effort to ensure the fulfillment of environmental and historic preservation laws.

Please note that the amount of time required for any review depends on the successful resolution of comments raised during the process, and that estimated timelines are subject to the complexity of the issues identified in the comments we receive during the review process.

This process begins at the operations level in order to identify issues early on, and to ensure that information presented is accurate and reliable. The Garrison project office has coordinated this effort with district personnel to ensure a thorough and efficient review of the proposed action. I apologize if the time required for this review has exceeded the preliminary estimates, but the USACE must take into account the needs of all of its customers in a fair and balanced manner.

That being said, the Corps is actively working on the review of your project, and staff are currently addressing comments regarding Section 106 as well as other laws pertaining to the environment for the proposed geotechnical work for the WBI North Bakken Expansion project. Resolutions to comments received from Tribal offices are being addressed currently, and I will provide you with updates regarding this effort as soon as I receive them.

Respectfully,

Jeremy J. Thury
Natural Resources Specialist
US Army Corps of Engineers
Garrison Dam/ Lake Sakakawea Project
Riverdale, North Dakota Office
(701) 654-7761

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Thursday, November 14, 2019 10:07 AM
To: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>

Cc: Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>; Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Subject: [Non-DoD Source] RE: North Bakken Geotechnical

Hi Jeremey -

Yes I do have some questions. When we spoke previously you had noted that the cultural/tribal review would occur in the same review track as the district review. I'm not sure why this is no longer the case?

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W Blockedwww.erm.com

-----Original Message-----
From: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Sent: Thursday, November 14, 2019 8:03 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Cc: Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>; Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Subject: RE: North Bakken Geotechnical

Andrea,

I spoke to Rick and he is addressing the comment that was received from Flandreau and the tribal concurrence portion of the review. When complete, I will finalize the application packet to be sent to the District office early next week. This will end the 30 day identified for the tribal concurrence and initiate the district review.

Please let me know if you have any questions.

Jeremy J. Thury
Natural Resources Specialist
US Army Corps of Engineers
Garrison Dam/ Lake Sakakawea Project
Riverdale, North Dakota Office
(701) 654-7761

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Thursday, November 14, 2019 9:27 AM
To: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>

Subject: [Non-DoD Source] RE: North Bakken Geotechnical

Hi Jeremy -

I just chatted with Rick and he mentioned that he would be checking in with you later today on the status of the geotech permit. I've been in contact with Patrick Atwell and he informed me that they are waiting for information from your office to complete the district review. Based on our discussions last month it sounded like the state/tribal concurrence and the district review were going to occur at the same time, which puts us right at the 30 day mark outlined in your email below.

Any updates that you have would be appreciated.

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W BlockedBlockedwww.erm.com

-----Original Message-----
From: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Sent: Tuesday, October 15, 2019 11:55 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Cc: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>; Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>; Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>; Lillejord, Shenille A NWO <Shenille.A.Lillejord@usace.army.mil>
Subject: FW: North Bakken Geotechnical

Andrea,

Sorry if this is late but the following timeline is what remains for the review process.

- State and tribal concurrence to no effect - 30 days
- District review - 30 days
- Real Estate - 30-45 days.

Please let me know if you have any questions.

Thanks

Jeremy J. Thury
Natural Resources Specialist
US Army Corps of Engineers
Garrison Dam/ Lake Sakakawea Project
Riverdale, North Dakota Office
(701) 654-7761

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Monday, October 14, 2019 10:35 AM
To: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>; Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>; Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>
Subject: [Non-DoD Source] RE: North Bakken Geotechnical

Hi Patrick, Mike, and Rick -

I know today is a federal holiday, but I'm hoping we can catch-up tomorrow morning to discuss the status of the permit application. WBI would like for me to provide an update to them tomorrow afternoon.

Thanks!

Andrea

Andrea Thornton

Principal Consultant

Environmental Resources Management (ERM)

1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204

M 503-459-6864

E andrea.thornton@erm.com <mailto:andrea.thornton@erm.com> | W BlockedBlockedBlockedwww.erm.com <BlockedBlockedBlockedhttps://eur01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.erm.com%2F&data=02%7C01%7CAndrea.Thornton%40erm.com%7C9e181b8f851349c1ab4908d721a5aac4%7Cf2fe6bd39c4a485bae69e18820a88130%7C0%7C0%7C637014867736039651&sdata=Ucf8UWMabe3uu9VEj%2ByuuC2I54mWjGONr1GEhqz9AD0%3D&reserved=0>

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Please visit ERM's web site: Blockedhttp://www.erm.com. To find out how ERM manages personal data, please review our Privacy Policy<Blockedhttps://www.erm.com/privacy>

From: Andrea Thornton
To: Renschler, Jason J CIV USARMY CENWO (USA); Wade Hammer
Subject: North Bakken Expansion Project

Hi Jason –

I was hoping you might have some time early next week to chat about the North Bakken Expansion Project. I've tentatively scheduled a call for Monday but please let me know if there is a day/time that is better for you.

Thanks,

Andrea

Join Microsoft Teams Meeting <https://teams.microsoft.com/l/meetup-join/19%3ameeting_ZDQwMjJmZTYtNjE0Yy00ZjAxLTkzYjAtM2YzMjIyMTQ3MmQx%40thread.v2/0?context=%7b%22Tid%22%3a%22f2fe6bd3-9c4a-485b-ae69-e18820a88130%22%2c%22Oid%22%3a%22a469a6e4-4ee7-4096-ae66-4c925db5696f%22%7d>

+1 469-423-0864 <tel:+1%20469-423-0864,,689881526#> United States, Dallas (Toll)

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<https://www.erm.com/static/images/logo-erm.gif>

If you do not have the Teams App please use Chrome or Edge Browser. Right click and copy the Join link and paste if these are not your default browser. NOTE: It will not work with Internet Explorer

---

Lisa DiNicolantonio

From: Andrea Thornton
Sent: Monday, November 18, 2019 12:44 PM
To: Atwell, Patrick C CIV USARMY CENWO (USA)
Subject: RE: 1156 Agreement

Thanks for the update Patrick.

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W www.erm.com

-----Original Message-----
From: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Sent: Monday, November 18, 2019 12:41 PM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: RE: 1156 Agreement

FYI,

I received the signed 1156 agreements today and have them routing to the District Commander for signature.

I would imagine that I will have them by early next week to send back with EFT instructions.

Thank you,

Patrick Atwell
Natural Resource Specialist
Omaha District
402-995-2087

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Wednesday, November 13, 2019 12:27 PM
To: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Subject: [Non-DoD Source] RE: 1156 Agreement

Thanks!

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W Blockedwww.erm.com

-----Original Message-----
From: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Sent: Wednesday, November 13, 2019 9:45 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: RE: 1156 Agreement

That is the correct address.

The envelope can be addressed to me.

Thank you,

Patrick Atwell
Natural Resource Specialist
Omaha District
402-995-2087

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Wednesday, November 13, 2019 11:41 AM
To: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Subject: [Non-DoD Source] RE: 1156 Agreement

Hi Patrick -

Can you confirm the address that WBI should be mailing the hard copies to, I'm assuming it is 1616 Capitol Ave address listed in the agreement? Should they address the envelope to you or to the District Engineer?

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W BlockedBlockedwww.erm.com

-----Original Message-----
From: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Sent: Friday, November 08, 2019 9:35 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Cc: Grundman, Jonas L CIV USARMY CENWO (US) <Jonas.Grundman@usace.army.mil>
Subject: RE: 1156 Agreement

Thank you for catching that!

I have corrected the typo

Thank you,

Patrick Atwell
Natural Resource Specialist
Omaha District
402-995-2087

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Friday, November 08, 2019 11:21 AM
To: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Cc: Grundman, Jonas L CIV USARMY CENWO (US) <Jonas.Grundman@usace.army.mil>
Subject: [Non-DoD Source] RE: 1156 Agreement

Hi Patrick -

It looks like there is a typo in the Total amount for the budget breakdown. I think there is an extra 0. When I add everything up it comes to "$112,100". Would you be able to make this change before I pass it along to WBI?

Thanks,
Andrea

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Cc: Grundman, Jonas L CIV USARMY CENWO (US) <Jonas.Grundman@usace.army.mil>
Subject: RE: 1156 Agreement

Thanks Patrick - I will forward this on to WBI.

I hope you have a nice weekend!

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W BlockedBlockedBlockedwww.erm.com

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Sent: Friday, November 08, 2019 9:15 AM
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Cc: Grundman, Jonas L CIV USARMY CENWO (US) <Jonas.Grundman@usace.army.mil>
Subject: 1156 Agreement

Andrea,

Attached are the 1156 agreement and the scope/estimate for USACE review.

All that we need is for WBI to review both documents and sign two copies of the 1156 agreement and both copies back to us.

It is VERY important that the agreement is ONLY signed, no dates inserted nor changes to the language of the agreement.

Once we receive the copies in the mail, they will be routed to our District Commander, where we will add in the date on page 1.

We will then mail one copy back to WBI for their records and provide instructions for EFT deposit.

Thank you,

Patrick Atwell
Natural Resource Specialist
Omaha District
402-995-2087

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NORTH BAKKEN EXPANSION PROJECT
CONFERENCE CALL NOTES

MEETING TOPIC:
404 Permitting and Jurisdictional Determination Discussion

DATE OF MEETING:
November 19, 2019 at 1:00 p.m. CST (11:00 a.m. PST) – Project Conference Call

ATTENDEES:

Environmental Resources Management (ERM)
Andrea Thornton
Wade Hammer

U.S. Army Corps of Engineers (USACE)
Jason Renschler

MEETING NOTES:

- ERM opened the call and noted the purpose was to discuss the process for helping identify jurisdictional features on the North Bakken Expansion Project (Project). The USACE indicated the timing was good if approved jurisdictional determinations (AJD) would be required, due to the seasonality of workload.

- The USACE provided an overview of general types of water resources (wetlands or waterbodies) that would likely be jurisdictional, versus water features that are typically not jurisdictional. Generally speaking the USACE indicated that linear waterbodies that flow to the Missouri River and are in close proximity to the river will be jurisdictional. Whereas wetlands in closed basins, prairie potholes, up closer to Burke, ND would not likely be jurisdictional. The USACE suggested that sending a good set of maps would allow for a review to start.

- The group discussed merits of AJD versus preliminary jurisdictional determinations (PJD), and agreed that ERM would need to discuss the approaches with WBI Energy Transmission, LLC (WBI) and determine the favored approach for the Project.

- The USACE indicated that having an AJD provides more certainty, but since the Project crosses the Missouri River, which is a Section 10 water, the USACE anticipated that all crossings would need to be submitted with the pre-construction notification under Nationwide Permit 12.

- ERM provided a rough estimate of the total water resources expected and stated it would be roughly between 60 and 75 features. Based on this estimate the USACE did not anticipate the need for support in filling in the USACE upload sheet (ORM form) for the Project.

Lisa DiNicolantonio

From: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Sent: Thursday, November 21, 2019 5:33 AM
To: Andrea Thornton
Cc: Rogers, Richard R II CIV USARMY CENWO (US); Atwell, Patrick C CIV USARMY CENWO (USA)
Subject: RE: North Bakken Geotechnical

Follow Up Flag: Follow up
Flag Status: Completed

Andrea,

I am finalizing the last of the signatures I need to send this to district. Due to availability this will not get complete until early next week. I will let you know ASAP when things are signed, scanned, and delivered to district and regulatory offices.

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Wednesday, November 20, 2019 5:04 PM
To: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Cc: Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>; Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Subject: [Non-DoD Source] RE: North Bakken Geotechnical

Thanks Jeremy -

Are there any updates regarding the Tribal office comments? In your emails from last week you thought the permit application would be sent to start the district review early this week.

Thanks again,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W Blockedwww.erm.com

-----Original Message-----
From: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Sent: Thursday, November 14, 2019 10:43 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>

Cc: Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>; Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Subject: RE: North Bakken Geotechnical

Andrea,

As you are aware, the USACE actively involves public interest groups as well as many Sovereign Nations in a reasonable and good faith effort to ensure the fulfillment of environmental and historic preservation laws.

Please note that the amount of time required for any review depends on the successful resolution of comments raised during the process, and that estimated timelines are subject to the complexity of the issues identified in the comments we receive during the review process.

This process begins at the operations level in order to identify issues early on, and to ensure that information presented is accurate and reliable. The Garrison project office has coordinated this effort with district personnel to ensure a thorough and efficient review of the proposed action. I apologize if the time required for this review has exceeded the preliminary estimates, but the USACE must take into account the needs of all of its customers in a fair and balanced manner.

That being said, the Corps is actively working on the review of your project, and staff are currently addressing comments regarding Section 106 as well as other laws pertaining to the environment for the proposed geotechnical work for the WBI North Bakken Expansion project. Resolutions to comments received from Tribal offices are being addressed currently, and I will provide you with updates regarding this effort as soon as I receive them.

Respectfully,

Jeremy J. Thury
Natural Resources Specialist
US Army Corps of Engineers
Garrison Dam/ Lake Sakakawea Project
Riverdale, North Dakota Office
(701) 654-7761

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Thursday, November 14, 2019 10:07 AM
To: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Cc: Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>; Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Subject: [Non-DoD Source] RE: North Bakken Geotechnical

Hi Jeremey -

Yes I do have some questions. When we spoke previously you had noted that the cultural/tribal review would occur in the same review track as the district review. I'm not sure why this is no longer the case?

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W BlockedBlockedwww.erm.com

-----Original Message-----
From: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Sent: Thursday, November 14, 2019 8:03 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Cc: Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>; Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Subject: RE: North Bakken Geotechnical

Andrea,

I spoke to Rick and he is addressing the comment that was received from Flandreau and the tribal concurrence portion of the review. When complete, I will finalize the application packet to be sent to the District office early next week. This will end the 30 day identified for the tribal concurrence and initiate the district review.

Please let me know if you have any questions.

Jeremy J. Thury
Natural Resources Specialist
US Army Corps of Engineers
Garrison Dam/ Lake Sakakawea Project
Riverdale, North Dakota Office
(701) 654-7761

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Thursday, November 14, 2019 9:27 AM
To: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Subject: [Non-DoD Source] RE: North Bakken Geotechnical

Hi Jeremy -

I just chatted with Rick and he mentioned that he would be checking in with you later today on the status of the geotech permit. I've been in contact with Patrick Atwell and he informed me that they are waiting for information from your office to complete the district review. Based on our discussions last month it sounded like the state/tribal concurrence and the district review were going to occur at the same time, which puts us right at the 30 day mark outlined in your email below.

Any updates that you have would be appreciated.

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W BlockedBlockedBlockedwww.erm.com

-----Original Message-----
From: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Sent: Tuesday, October 15, 2019 11:55 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Cc: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>; Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>; Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>; Lillejord, Shenille A NWO <Shenille.A.Lillejord@usace.army.mil>
Subject: FW: North Bakken Geotechnical

Andrea,

Sorry if this is late but the following timeline is what remains for the review process.

- State and tribal concurrence to no effect - 30 days
- District review - 30 days
- Real Estate - 30-45 days.

Please let me know if you have any questions.

Thanks

Jeremy J. Thury
Natural Resources Specialist
US Army Corps of Engineers
Garrison Dam/ Lake Sakakawea Project
Riverdale, North Dakota Office
(701) 654-7761

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Monday, October 14, 2019 10:35 AM
To: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>; Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>; Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>
Subject: [Non-DoD Source] RE: North Bakken Geotechnical

Hi Patrick, Mike, and Rick -

I know today is a federal holiday, but I'm hoping we can catch-up tomorrow morning to discuss the status of the permit application. WBI would like for me to provide an update to them tomorrow afternoon.

Thanks!

Andrea

Andrea Thornton

Principal Consultant

Environmental Resources Management (ERM)

1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204

M 503-459-6864

E andrea.thornton@erm.com <mailto:andrea.thornton@erm.com> | W BlockedBlockedBlockedBlockedwww.erm.com <BlockedBlockedBlockedBlockedhttps://eur01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.erm.com%2F&data=02%7C01%7CAndrea.Thornton%40erm.com%7C9e181b8f851349c1ab4908d721a5aac4%7Cf2fe6bd39c4a485bae69e18820a88130%7C0%7C0%7C637014867736039651&sdata=Ucf8UWMabe3uu9VEj%2ByuuC2I54mWjGONr1GEhqz9AD0%3D&reserved=0>

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Lisa DiNicolantonio

From: Andrea Thornton
Sent: Monday, November 25, 2019 12:22 PM
To: Atwell, Patrick C CIV USARMY CENWO (USA)
Subject: RE: 1156 Agreement

Thanks for keeping me in the loop Patrick.

I hope you have a nice holiday this week.

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W www.erm.com

-----Original Message-----
From: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Sent: Monday, November 25, 2019 12:20 PM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: RE: 1156 Agreement

Andrea,

Another update on the 1156 Agreement. I am still waiting for signatures from the Division Commander, but he has been out all last week and more this week, plus the fact that I had an internal document sitting on the Operations Division Chief's desk for 10 days before being signed by him and the deputy commander, we might have this thing wrapped up before Christmas.

More seriously, if I don't have any progress on the 1156 by next week, I'll make sure I get the right people to do the right things.

Bureaucracy is a beast...

Thank you,

Patrick Atwell
Natural Resource Specialist
Omaha District
402-995-2087

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]

Sent: Monday, November 18, 2019 2:44 PM
To: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Subject: [Non-DoD Source] RE: 1156 Agreement

Thanks for the update Patrick.

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W Blockedwww.erm.com

-----Original Message-----
From: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Sent: Monday, November 18, 2019 12:41 PM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: RE: 1156 Agreement

FYI,

I received the signed 1156 agreements today and have them routing to the District Commander for signature.

I would imagine that I will have them by early next week to send back with EFT instructions.

Thank you,

Patrick Atwell
Natural Resource Specialist
Omaha District
402-995-2087

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Wednesday, November 13, 2019 12:27 PM
To: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Subject: [Non-DoD Source] RE: 1156 Agreement

Thanks!

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)

1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W BlockedBlockedwww.erm.com

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Subject: RE: 1156 Agreement

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Natural Resource Specialist
Omaha District
402-995-2087

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Thanks,
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Principal Consultant

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Sent: Friday, November 08, 2019 9:35 AM

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Cc: Grundman, Jonas L CIV USARMY CENWO (US) <Jonas.Grundman@usace.army.mil>
Subject: RE: 1156 Agreement

Thank you for catching that!

I have corrected the typo

Thank you,

Patrick Atwell
Natural Resource Specialist
Omaha District
402-995-2087

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Cc: Grundman, Jonas L CIV USARMY CENWO (US) <Jonas.Grundman@usace.army.mil>
Subject: [Non-DoD Source] RE: 1156 Agreement

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Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W BlockedBlockedBlockedBlockedwww.erm.com

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Cc: Grundman, Jonas L CIV USARMY CENWO (US) <Jonas.Grundman@usace.army.mil>
Subject: RE: 1156 Agreement

Thanks Patrick - I will forward this on to WBI.

I hope you have a nice weekend!

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W BlockedBlockedBlockedBlockedwww.erm.com

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Sent: Friday, November 08, 2019 9:15 AM
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Cc: Grundman, Jonas L CIV USARMY CENWO (US) <Jonas.Grundman@usace.army.mil>
Subject: 1156 Agreement

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We will then mail one copy back to WBI for their records and provide instructions for EFT deposit.

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Patrick Atwell
Natural Resource Specialist
Omaha District
402-995-2087

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Lisa DiNicolantonio

From: Andrea Thornton
Sent: Tuesday, November 26, 2019 11:19 AM
To: Thury, Jeremy J CIV USARMY CENWO (USA)
Cc: Rogers, Richard R II CIV USARMY CENWO (US); Atwell, Patrick C CIV USARMY CENWO (USA); Renschler, Jason J CIV USARMY CENWO (USA); Stonesifer, Alfred C CIV USARMY CENWO (US)
Subject: RE: North Bakken Geotechnical

Great Jeremy, thank you for the update.

I hope everyone has a good holiday.

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W www.erm.com

-----Original Message-----
From: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Sent: Tuesday, November 26, 2019 11:18 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Cc: Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>; Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>; Renschler, Jason J CIV USARMY CENWO (USA) <Jason.J.Renschler@usace.army.mil>; Stonesifer, Alfred C CIV USARMY CENWO (US) <Alfred.C.Stonesifer@usace.army.mil>
Subject: RE: North Bakken Geotechnical

Andrea,

The Garrison Project has finalized review of the Geotech and it has been forwarded to the district and regulatory offices for their review.

Thanks.

Jeremy J. Thury
Natural Resources Specialist
US Army Corps of Engineers
Garrison Dam/ Lake Sakakawea Project
Riverdale, North Dakota Office
(701) 654-7761

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Wednesday, November 20, 2019 5:04 PM
To: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Cc: Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>; Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Subject: [Non-DoD Source] RE: North Bakken Geotechnical

Thanks Jeremy -

Are there any updates regarding the Tribal office comments? In your emails from last week you thought the permit application would be sent to start the district review early this week.

Thanks again,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W Blockedwww.erm.com

-----Original Message-----
From: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Sent: Thursday, November 14, 2019 10:43 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Cc: Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>; Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Subject: RE: North Bakken Geotechnical

Andrea,

As you are aware, the USACE actively involves public interest groups as well as many Sovereign Nations in a reasonable and good faith effort to ensure the fulfillment of environmental and historic preservation laws.

Please note that the amount of time required for any review depends on the successful resolution of comments raised during the process, and that estimated timelines are subject to the complexity of the issues identified in the comments we receive during the review process.

This process begins at the operations level in order to identify issues early on, and to ensure that information presented is accurate and reliable. The Garrison project office has coordinated this effort with district personnel to ensure a thorough and efficient review of the proposed action. I apologize if the time required for this review has exceeded the

preliminary estimates, but the USACE must take into account the needs of all of its customers in a fair and balanced manner.

That being said, the Corps is actively working on the review of your project, and staff are currently addressing comments regarding Section 106 as well as other laws pertaining to the environment for the proposed geotechnical work for the WBI North Bakken Expansion project. Resolutions to comments received from Tribal offices are being addressed currently, and I will provide you with updates regarding this effort as soon as I receive them.

Respectfully,

Jeremy J. Thury
Natural Resources Specialist
US Army Corps of Engineers
Garrison Dam/ Lake Sakakawea Project
Riverdale, North Dakota Office
(701) 654-7761

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Thursday, November 14, 2019 10:07 AM
To: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Cc: Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>; Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Subject: [Non-DoD Source] RE: North Bakken Geotechnical

Hi Jeremey -

Yes I do have some questions. When we spoke previously you had noted that the cultural/tribal review would occur in the same review track as the district review. I'm not sure why this is no longer the case?

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W BlockedBlockedwww.erm.com

-----Original Message-----
From: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Sent: Thursday, November 14, 2019 8:03 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Cc: Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>; Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>

Subject: RE: North Bakken Geotechnical

Andrea,

I spoke to Rick and he is addressing the comment that was received from Flandreau and the tribal concurrence portion of the review. When complete, I will finalize the application packet to be sent to the District office early next week. This will end the 30 day identified for the tribal concurrence and initiate the district review.

Please let me know if you have any questions.

Jeremy J. Thury
Natural Resources Specialist
US Army Corps of Engineers
Garrison Dam/ Lake Sakakawea Project
Riverdale, North Dakota Office
(701) 654-7761

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Thursday, November 14, 2019 9:27 AM
To: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>
Subject: [Non-DoD Source] RE: North Bakken Geotechnical

Hi Jeremy -

I just chatted with Rick and he mentioned that he would be checking in with you later today on the status of the geotech permit. I've been in contact with Patrick Atwell and he informed me that they are waiting for information from your office to complete the district review. Based on our discussions last month it sounded like the state/tribal concurrence and the district review were going to occur at the same time, which puts us right at the 30 day mark outlined in your email below.

Any updates that you have would be appreciated.

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204 M 503-459-6864 E andrea.thornton@erm.com | W BlockedBlockedBlockedwww.erm.com

-----Original Message-----
From: Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>

Sent: Tuesday, October 15, 2019 11:55 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Cc: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>; Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>; Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>; Lillejord, Shenille A NWO <Shenille.A.Lillejord@usace.army.mil>
Subject: FW: North Bakken Geotechnical

Andrea,

Sorry if this is late but the following timeline is what remains for the review process.

- State and tribal concurrence to no effect - 30 days
- District review - 30 days
- Real Estate - 30-45 days.

Please let me know if you have any questions.

Thanks

Jeremy J. Thury
Natural Resources Specialist
US Army Corps of Engineers
Garrison Dam/ Lake Sakakawea Project
Riverdale, North Dakota Office
(701) 654-7761

-----Original Message-----
From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Monday, October 14, 2019 10:35 AM
To: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>; Morris, Michael P CIV USARMY CENWO (USA) <Michael.P.Morris@usace.army.mil>; Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>
Subject: [Non-DoD Source] RE: North Bakken Geotechnical

Hi Patrick, Mike, and Rick -

I know today is a federal holiday, but I'm hoping we can catch-up tomorrow morning to discuss the status of the permit application. WBI would like for me to provide an update to them tomorrow afternoon.

Thanks!

Andrea

Andrea Thornton

Principal Consultant

Environmental Resources Management (ERM)

1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204

M 503-459-6864

E andrea.thornton@erm.com <mailto:andrea.thornton@erm.com> | W BlockedBlockedBlockedBlockedwww.erm.com <BlockedBlockedBlockedBlockedhttps://eur01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.erm.com%2F&data=02%7C01%7CAndrea.Thornton%40erm.com%7C9e181b8f851349c1ab4908d721a5aac4%7Cf2fe6bd39c4a485bae69e18820a88130%7C0%7C0%7C637014867736039651&sdata=Ucf8UWMabe3uu9VEj%2ByuuC2I54mWjGONr1GEhqz9AD0%3D&reserved=0>

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Andrea Thornton

From: Renschler, Jason J CIV USARMY CENWO (USA) <Jason.J.Renschler@usace.army.mil>
Sent: Tuesday, November 26, 2019 11:30 AM
To: Andrea Thornton
Subject: FW: North Dakota Regulatory Office revised Minimum Standards for Aquatic Resource Delineations and template, complete application checklist, New mapping standards
Attachments: NDRO_Revised_Guidance_1_Nov_19.pdf

Afternoon Andrea - this is just FYI. Pat wants to get it out to our consult contacts, don't think you're on the 'to' listing below, but if you are than you have two copies! Any questions regarding the attached please let me know. Thanks, Jason.

-----Original Message-----
From: McQueary, Patricia L CIV USARMY CENWO (USA)
Sent: Monday, November 25, 2019 3:02 PM
To: Nick Anderson <nick.anderson@kljeng.com>; dackerman@wenck.com; aahmed@nd.gov; Derek Anderson <Derek.Anderson@apexenggroup.com>; Alex Ausk <Alex.Ausk@apexenggroup.com>; Sarah Baer <SBaer@swca.com>; Jason Bivens <JBivens@swca.com>; William.Bott@interstateeng.com; Curt Cady <Curt.Cady@kljeng.com>; Cannon, John <John.Cannon@aecom.com>; Carpenter, Glenn <glenn.carpenter@aecom.com>; Aaron Carranza <acarranza@nd.gov>; antonio.conti@ackerman-estvold.com; Nic Cullen <ncullen@houstoneng.com>; Steve Czeczok <Steve.Czeczok@kljeng.com>; Karen Dunlap <kdunlap@fs.fed.us>; mdwyer@ndwaterlaw.com; Eckroth, Jeremy J <jeremy.eckroth@nacoal.com>; Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>; Erhardt, Toni R CIV USARMY CENWO (US) <Toni.R.Erhardt@usace.army.mil>; Ferguson, Leslie - FS <leslieferguson@fs.fed.us>; Nikki Frank <Nikki.Frank@Ulteig.com>; 'Fricke, Tina' <Tina.Fricke@hdrinc.com>; Frye, Jason J <jason.frye@nacoal.com>; Godel, Kalle <Kalle.Godel@mdu.com>; Connie Gulleson <cgulleson@houstoneng.com>; Donna Jacob <djacob@houstoneng.com>; Michael Gunsch <mgunsch@houstoneng.com>; Hammond, Swade D CIV USARMY CENWO (USA) <Swade.D.Hammond@usace.army.mil>; Nygard, Jeremy S CIV USARMY CENWO (USA) <Jeremy.S.Nygard@usace.army.mil>; Renschler, Jason J CIV USARMY CENWO (USA) <Jason.J.Renschler@usace.army.mil>; Reile, Benjamin D CIV USARMY CENWO (USA) <Benjamin.D.Reile@usace.army.mil>; Joshua Hassell <JHassell@mooreengineeringinc.com>; Dionne Haynes <dfhaynes@nd.gov>; JanaH@co.mountrail.nd.us; Heiser, Gerald R. <gheiser@nd.gov>; Mike Huffington <mike.huffington@kljeng.com>; Travis Johnson <tjohnson@houstoneng.com>; Kessler, Steven E. <skessler@nd.gov>; Krebsbach, Abbie <Abbie.Krebsbach@mdu.com>; Cory Lawson <colawson@nd.gov>; Kent Leben <khleben@nd.gov>; Lindsay, Matthew J. <mlindsay@nd.gov>; Jonathan Lowry <jlowry@lowryeng.com>; KLysne@mooreengineeringinc.com; Mager, Brian R. <bmager@nd.gov>; Jennifer Malloy <Jennifer.Malloy@apexenggroup.com>; Martin, Jason <Jason.Martin2@BNSF.com>; Jon Martin <jonmartin@woldengr.com>; Jason Mayfield <jmayfield@srt.com>; Dawn Michel <Dawn.Michel@apexenggroup.com>; josh.olson@apexenggroup.com; Pederson, Michael <Michael.Pederson@stantec.com>; 'Persinger, Ashley C.' <apersinger@nd.gov>; ddpfeifer@nd.gov; Kevin Ploof <Kevin.Ploof@ackerman-estvold.com>; A.Sheldon_Portwine@xtoenergy.com; 'Reep, Dennis' <Dennis.Reep@hdrinc.com>; Nicholas.Reynolds@nd.usda.gov; Karl Rockeman <krockema@nd.gov>; Roger Kluck <rkluck@cityoffargo.com>; Rosey Sand <rosey@baumstarkbraaten.com>; Sander, Joseph <Joseph.Sander@stantec.com>; Schuh, Bill M. <bschuh@nd.gov>; dscott@mooreengineeringinc.com; Jesse Sedler <Jesse.Sedler@interstateeng.com>; Sheff, Levi J <Levi.Sheff@terracon.com>; ksperry@nd.gov; kspilman@keitu.com; sswanberg@wenck.com; Jessica Tagestad <jessicat@woldengr.com>; Dave Thompson <Davet@tomanengineering.com>; Steve.Thompson@interstateeng.com; Kayla.Torgerson@nacoal.com; ctucker@carlsonmccain.com; Eric Urness <Eric.Urness@interstateeng.com>; Jon.Wahlgren@mdu.com; Jamie Wark <JWark@srfconsulting.com>; Wax, Peter N. <pwax@nd.gov>; Sean.Weeks@ackerman-estvold.com;

Jacob.Wick@interstateeng.com; Steve.Windish@ulteig.com; Grady Wolf <Grady.Wolf@kljeng.com>; gyoung@ene.com; Doug Crow Ghost <dcrowghost@standingrock.org>; zpeterson@keitu.com; sswanberg@wenck.com; ctucker@carlsonmccain.com
Cc: Gaydos, Mark S. <mgaydos@nd.gov>; Gangness, Matt L. (mgangness@nd.gov) <mgangness@nd.gov>; Sperry, Matthew J. (msperry@nd.gov) <msperry@nd.gov>; Senske, Russell L. <rsenske@nd.gov>
Subject: North Dakota Regulatory Office revised Minimum Standards for Aquatic Resource Delineations and template, complete application checklist, New mapping standards

Please see the attached public notice for the revised Minimum Standards for Aquatic Resource Delineations, along with the Aquatic Resource Delineation Report Template; complete application checklist; new mapping standards and what is considered acceptable fill.

These were discussed at the 30 October 2019 Public Workshop.

Patricia L. McQueary

U.S. Army Corps of Engineers

North Dakota State Program Manager

3319 University Drive

Bismarck, North Dakota 58504

Office: (701) 255-0015 extension 2001

Cell: (701) 204-3443

Patricia.l.mcqueary@usace.army.mil

Special Public Notice

U.S. ARMY CORPS OF ENGINEERS BUILDING STRONG®

EFFECTIVE DATE: NOVEMBER 1, 2019

INFORMATIONAL NOTICE PROVIDING GUIDANCE AND/OR STANDARDS FOR SUBMITTALS TO THE NORTH DAKOTA REGULATORY OFFICE:

1. **REVISED MINIMUM STANDARDS FOR ACCEPTANCE OF AQUATIC RESOURCES DELINEATION REPORTS**
2. **NEW MAP AND DRAWING STANDARDS**
3. **REVISED COMPLETE APPLICATION CHECKLIST**
4. **CONTINUATION OF PROHIBITION AND RESTRICTION OF DISCHARGES OF SPECIFIED MATERIALS**

COPIES OF THE ABOVE ARE ATTACHED FOR YOUR REFERENCE AND WILL BE AVAILABLE ON OUR WEBSITE IN THE NEAR FUTURE.

U.S. ARMY CORPS OF ENGINEERS – Omaha District
North Dakota Regulatory Office, 3319 University Drive, Bismarck, North Dakota 58504-7565
Telephone No. (701) 255-0015
http://www.nwo.usace.army.mil/Missions/Regulatory-Program/North-Dakota/

MINIMUM STANDARDS FOR ACCEPTANCE OF AQUATIC RESOURCES DELINEATION REPORTS

30 October 2019

The U.S Army Corps of Engineers, through its Regulatory Program, regulates certain activities in waters of the United States. Waters of the United States are defined under 33 CFR Part 328. In order for the Corps to determine the amount and extent of waters of the United States at a site, aquatic resources must first be delineated in accordance with established regulatory standards, guidance and protocol, such as the 1987 Corps of Engineers Wetlands Delineation Manual and appropriate regional supplements. Before making any permit decision, the Corps is responsible for conducting or verifying the delineation and determining which of the aquatic resources have the potential to fall under federal jurisdiction.

Due to limited staffing and resources, the North Dakota State Regulatory Office recommends permit applicants employ the services of individuals experienced in delineating aquatic resources. Permit applicants are encouraged early in the project planning stages to contact the Corps to determine what level of documentation is required for their project. A permit applicant should submit their aquatic resources delineation, along with a request for a preliminary or approved jurisdictional determination. Early consultation may help identify potential concerns and could result in a quicker permit decision.

The North Dakota Regulatory Office has established minimum standards for delineation reports to insure consistency and accuracy in aquatic resources delineations, which will minimize potential delays. The standards are based on years of experience conducting and verifying delineations, as well as the best practices of environmental consultants. **Delineations submitted for verification must follow the standards, unless determined to not be practical on a case-by-case basis. The Corps may determine that a desktop delineation may be appropriate instead of a full field aquatic resource delineation**. Please contact the State Program Manager for approval for desktop evaluations. A desktop delineation includes analysis of an area using current and historical aerial photographs, NRCS Soils Mapping, and NWI maps. We will not accept desktop evaluations where the only reference is NWI maps. These are only to be used as a tool to determine the potential for wetlands on-site and should not replace the use of good aerial photography. Situations where adherence to the standards may not be practical include activities with small permanent or temporary impacts to aquatic resources (under 0.10 acre), applicants with limited financial resources, and emergencies. The ND State Office will notify the requestor for delineation submittals

that do not contain enough information to accurately identify the limits of waters of the United States.

It should be noted that the Corps does not accept any variations of these standards as provided by other agencies. It is the Corps that determines whether a water is jurisdictional. **THERE SHOULD BE NO REFERENCE IN THE REPORT REGARDING THE JURISDICTION OF ANY WATER. THIS INCLUDES NO REFERENCES TO ARTIFICIAL WETLANDS**. **THIS IS A CORPS DECISION.**

U.S. Army Corps of Engineers
North Dakota Regulatory Office
Minimum Standards for Aquatic Resource Delineation Reports

ORM #/Project Title_____

Reviewer_____ Date _____

An aquatic resources delineation report submitted to the North Dakota Regulatory Office must include the following:

☐ (Mandatory) A cover letter requesting a jurisdictional determination. The letter must specify whether a preliminary and/or approved jurisdiction determination is requested. The RGL 16-01 Appendix 1 form can be used.

☐ (Mandatory) A signed statement from the property owner(s) allowing Corps personnel to enter the property and to collect samples during normal business hours. If the property is land-locked, the owner or proponent must obtain permission from the adjacent property owner(s) to provide access for Corps personnel. The RGL 16-01 Appendix 1 form can be used.

☐ (Mandatory) A statement that the delineation has been conducted in accordance with the 1987 Corps of Engineers Wetlands Delineation Manual and appropriate regional supplement(s). The regional supplement(s) used must be identified. **For ordinary high water mark (OHWM) delineations, a statement identifying the use of the OHWM field guide must be included**. "**Arid West Ephemeral and Intermittent Streams OHWM Datasheet"**

☐ (Mandatory) Directions to the survey area, and the location of the Access Point of Entry. **The directions should be detailed enough that a regulator can drive to the site**. Google Maps can be used to provide directions and included in the Appendices.

☐ (Mandatory) Contact information for the applicant(s), property owner(s), and agent(s). Must include the applicant/property owner as the JD is issued to the property owner.

☐ (Mandatory) The total acreage of the survey area.

☐ (Mandatory) Date(s) field work was completed.

☐ (Mandatory) A site location map on a 7.5-minute USGS quadrangle. The map must provide the name of the USGS quadrangle, Section, Township, Range, and the latitude and longitude **(in decimal degrees).**

☐ (Mandatory) A map of all delineated aquatic resources ("Aquatic Resources Delineation Map") showing the following:

- ☐ (Mandatory) All aquatic resources delineated must be clearly shown on the map. Because only the Corps determines the regulatory status of each aquatic resource, the map must not include any labeling about jurisdiction.
- ☐ (Mandatory) At least one set of paired data points, documented in data forms, for each aquatic resource or complex. The paired data points must be located close to the delineated boundary. Additional data points may be necessary, depending on various factors including the size and shape of the aquatic resource, changes in vegetation communities, and slope. **The location of all data points should be shown on the wetland delineation map.**
- ☐ (Mandatory) A reference block that identifies the survey or project name, individual(s) who conducted the delineation, date of the map, and date(s) of any revisions or the company or agency that created the maps.
- ☐ (Mandatory) The orientation of the map on the page (as it is read) must be the same for all maps submitted.
- ☐ By convention, North will normally be toward the top of the page.

☐ Digital data for the site, aquatic resource boundaries, and data point locations must be provided in a geographic information system (GIS) format, with ESRI Shape-files being the preferred format. Each GIS data file must be accompanied by a metadata file containing the appropriate geographic coordinate system, projection, and datum. If GIS data is unavailable or otherwise cannot be produced and the Corps determines a site visit is necessary, the aquatic resource boundaries must be physically marked with numbered flags or stakes before the North Dakota Regulatory Office can complete a delineation verification. **This is optional depending on the size of the proposed project.**

☐ (Mandatory) A table listing all aquatic resources. The table shall include the name of each aquatic resource, its Cowardin type, acreage, and location (**latitude/longitude, in decimal degrees**). For linear features, the table must show both acreage and linear feet. **THE TABLE SHOULD NOT INCLUDE REFERENCES TO ARTIFICIAL WETLANDS!**

☐ If remote sensing was used in the delineation, provide an explanation of how it was used and include the name, date and source of the tools used and copies of applicable maps/photographs. Typically for desktop evaluations.

☐ (Mandatory) A narrative describing all aquatic resources at the site and an explanation for the mapped boundaries, especially for resources containing complex transition zones. On large projects, the narrative can combine similar resources into one descriptive paragraph. THIS SHOULD NOT INCLUDE REFERENCE TO ARTIFICIAL WETLANDS OR ARTIFICIAL DITCHES. THIS HAS NO BEARING ON WHETHER A

WATER IS JURISDICTIONAL. A description of a "ditch" wetland does not need a qualifier that it is artificial. The narrative must include the following:

☐ **(Mandatory) A description of existing field conditions. The field condition description must include current land use, flood/drought conditions, irrigation practices, and any characteristics considered atypical. The Existing Conditions describes the region in which the project will occur. A clear description of the setting helps to explain the context and intensity of impacts. The setting discussion gives the reader a concise description of the area's topography, soils, habitat, watercourses and level of human or natural disturbance.**

- ☐ Current Land use addressed
- ☐ What are the functions of the wetlands or other waters
- ☐ Flood/drought conditions
- ☐ Irrigation practices
- ☐ Geographic Position
- ☐ Geology
- ☐ Climate, in particular, mean annual rainfall and snowfall
- ☐ Level of human or natural disturbance discussed?

☐ (Mandatory) **A discussion of the hydrology at the site, including all known surface or subsurface sources, drainage gradients, surface water connections to the nearest traditional navigable waterway or interstate water, and any potential influence for manmade water sources, such as irrigation. The discussion should also identify the nearest "blue-line" waterway or other feature found on the most recent USGS map.**

- ☐ **Surface or subsurface sources**
- ☐ **Drainage gradients**
- ☐ **Surface water connections to the nearest traditional navigable waterway or interstate water**
- ☐ **Potential influence for manmade water sources**
- ☐ **Nearest "blue-line" waterway or other feature found on the most recent USGS map**
- ☐ What watershed is the project located in?
- ☐ What is the size of the drainage basin?
- ☐ Direction of flow should be clearly shown on the delineation map.

☐ (Mandatory) **A discussion of plant communities and habitat types present at the site and a list of the scientific name, common name, and wetland indicator status of all plants.**

- ☐ **Plant communities**
- ☐ **Habitat types**
- ☐ **List of the scientific names, common name, and wetland indicator status of all plants.**

☐ (Mandatory) Soil descriptions, soil map(s), and a discussion of hydric soils or soils with hydric inclusions at the site. **The NRCS soils map should only be included with the delineation if the soils are being discussed within the delineation report. If the report does not identify the actual soils observed on the site, then soils reports should not be included.**

- ☐ Soil descriptions
- ☐ Discussion of hydric soils
- ☐ Discussion on Field Indicators

☐ (Mandatory) Any observed or documented interstate or foreign commerce associated with aquatic resources found on the site, specifically recreation or other use by interstate or foreign travelers, sale of fish or shellfish in interstate or foreign commerce, and use by industries operating in interstate or foreign commerce.

- ☐ Identify any recreational use of the site by interstate or foreign visitors
- ☐ Identify any commercial uses that may be used in interstate commerce
- ☐ Identify any potential industries that may be using the water on site

☐ A completed copy of the *Aquatic Resources Excel* spreadsheet must be submitted. For delineations that include greater than 25 separate waters, the spreadsheet will be required by the ND Regulatory Office.

☐ (Mandatory) Completed data forms for each sample point including all essential information to make a decision.

☐ For long linear projects, such as pipelines and road projects, similarly situated waters can be assessed as a group and not as individual waters. This applies especially to road projects that may include linear roadside ditches that may be assessed as a man-made tributary. For these situations, a pre-application meeting should be scheduled with the Corps for further clarification.

Often, additional information can expedite the verification of a delineation. Particularly helpful data includes site specific topographic maps, Light Detection and Ranging (LIDAR), satellite, aerial and ground photographs, floodplain maps, and related reports.

More information regarding aquatic resource delineation, including reference materials, can be found on our website at:
http://www.nwo.usace.army.mil/Missions/RegulatoryProgram/NorthDakota.aspx

DRAFT/FINAL AQUATIC RESOURCE DELINEATION REPORT

Survey Name

Date

Prepared By:
Author's Name, Title
Consulting Company /Region/Cooperating Agency Name
Address
Phone Number
Email

Prepared For:
Name (Role)
Company
Address
Phone Number
email

Executive Summary

THIS DOCUMENT SHOULD NOT INCLUDE REFERENCE TO ARTIFICIAL WETLANDS OR ARTIFICIAL DITCHES. THIS HAS NO BEARING ON WHETHER A WATER IS JURISDICTIONAL. THERE SHOULD BE NO REFERENCE TO WHETHER A WATER IS JURISDICTIONAL OR NON-JURISDICTIONAL. <u>THAT IS A CORPS DECISION.</u>

Provide the following information:

- A statement that the delineation has been conducted in accordance with the 1987 "Corps of Engineers Wetland Delineation Manual" and appropriate regional supplement(s), with the identification of what supplement was used.
  AND/OR
- A statement that the delineation has been conducted in accordance with the 2008 “A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States” and the Corps OHWM Delineation Cover Sheet should be used.
- One paragraph summary of aquatic resource findings including:
  - Number and total area of aquatic resources within project area.
  - Total acreage of the survey area
  - Dominant aquatic resource classifications and general condition of aquatic resources.

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Acronyms and Abbreviations

BMP best management practice
cfs cubic feet per second
LIDAR Light Detection and Ranging
LWD large woody debris
MP Mile Post
NRCS Natural Resources Conservation Service
NWI National Wetland Inventory
NWPL National Wetland Plant List
OHWM ordinary high water mark
PEM palustrine emergent
PFO palustrine forested
PSS palustrine scrub-shrub
ROW right-of-way
SR State Route
USACE U.S. Army Corps of Engineers
USFWS U.S. Fish and Wildlife Service
UTM Universal Transverse Mercator coordinate system
WRIA Water Resource Inventory Area

[add or delete acronyms and abbreviations as needed]

Chapter 1. Introduction

- Identify contact information for the applicant(s), property owner(s), and agent(s).
- Survey area description
- The purpose of this report is to identify and describe aquatic resources and, to identify known possible sensitive plant, fish, wildlife species, and cultural/historic properties in the survey area. This report facilitates efforts to:

  1. **Avoid or minimize impacts to aquatic resources during the design process.**

  2. Document aquatic resource boundary determinations for review by regulatory authorities.

  3. Provide early indications of known sensitive species and historic/cultural properties within the survey area.

  4. Provide background information.

Chapter 2. Location

Identify the county and state where the project is located. Also include nearest town, as well as the street address or nearest intersection, and the Section, Township and Range, the UTM or latitude and longitude (in **DECIMAL DEGREES**). Provide driving directions to the survey area. Google maps is a great reference for providing specific driving instructions from the Bismarck Regulatory Office.

Chapter 3. Methods

- Describe all methods used to delineate and survey aquatic resources.
- Include any deviations from standard methods. Make sure methods comply with appropriate U.S. Army Corps of Engineers Guidelines.
- If remote sensing tools were used to aid in delineation, list what tools were used and provide a copy of the maps if possible.

Chapter 4. Existing Conditions

4.1 Landscape Setting

Describe in 1-2 paragraphs the topography, geological features, major water bodies, surface water flow, natural climax community, existing vegetation, current land use and major historical disturbances – such as logging, mining and farming.

Include:

- The total acreage of the survey area.
- A description of existing field conditions including current land use, time of season the site visit(s) were conducted, flood/drought conditions, irrigation practices, modifications to the site, and any characteristics considered atypical.
- A discussion of whether the entire survey area was field verified. If entire survey area was not visited, identify which areas were visited and a rationale for why the entire site was not visited. Provide dates that the field work was completed. Was it within the growing season? **If not, you must provide an email from the ND Regulatory Office State Program Manager that you had prior permission to perform a delineation outside of the growing season.**

4.2 Aquatic Resources

4.2.1 Overview

Provide brief overview of the existing aquatic resource conditions:
Include the following information:

- Describe all aquatic resources depicted on the Aquatic Resources Delineation Map within the survey site (Appendix A). Provide an explanation for the mapped boundaries, especially for resources containing complex transition zones. If the site contains resources that meet one or two wetland criteria or do not exhibit a clear OHWM, describe the rationale for not delineating these features. Examples include erosional features, upland swales, and other upland areas that appear "wet" on satellite or aerial imagery.
- Provide a table listing all Aquatic Resources (Table 1). The table will include the name of each aquatic resource, its Cowardin type, acreage and location (latitude/longitude). For linear features, such as stream channels and ditches, the table must show both acreage and linear feet.

- Discuss site hydrology, including any surface or subsurface sources, drainage gradients, surface water connections to the nearest traditional navigable waterway or interstate water, and any potential influence for manmade water sources, such as irrigation. The discussion should also identify the nearest "blue-line" waterway or other feature found on the most recent USGS map.
- Describe soils including a discussion of hydric soils and soils with hydric inclusions (Appendix B).
- Provide a general discussion of plant communities and habitat types, including both scientific and common names, and the wetland indicator status of all plants (Appendix D).
- Describe any observed or documented interstate or foreign commerce associated with aquatic resources found on the site, specifically recreation or other use by interstate or foreign travelers, sale of fish or shellfish in interstate or foreign commerce, and use by industries operating in interstate or foreign commerce.

Table 1. Aquatic Resources within the Survey Area.

THE TABLE SHOULD NOT INCLUDE REFERENCES TO ARTIFICIAL WETLANDS!

THIS SHOULD NOT INCLUDE REFERENCE TO ARTIFICIAL WETLANDS OR ARTIFICIAL DITCHES. THIS HAS NO BEARING ON WHETHER A WATER IS JURISDICTIONAL.

Aquatic Resource Name	Aquatic Resources Classification		**Aquatic Resource Size (acre) Required for all resources**	**Aquatic Resource Size (linear feet) Required for only stream channels**
	Cowardin	Location (Lat/Long)		
Total				

Chapter 5. References

Books, Journal Articles, Reports: [Author(s). YEAR Title. Publisher/Source. Volume: Page
begin-Page end].

Correspondence: [Author(s). Date. Subject. Agency/Company. Pp. (pages)].

Phone: [Contact Name. Date. Subject. Agency/Company. Phone Number. Result/Action].

Email: [Contact name. Date. Subject. Agency/Company. Email address. Result/Action].

Appendix A — Aquatic Resource Delineation Maps

- A map of all delineated aquatic resources (“Aquatic Resources Delineation Map”) showing the following:
- All aquatic resources delineated must be clearly shown on the map. Because only the Corps determines the regulatory status of each aquatic resource, the map must not include any labeling about jurisdiction. If the requestor believes one or more aquatic resources are not jurisdictional, the rationale should be included in the delineation report and the resource(s) should be identified on the map.
- Location of all data and photo points.
- A reference block that identifies the site or project name, individual(s) who conducted the delineation, date of the map, and date(s) of any revisions.
- Also include historical aerials if available.
- Refer to the North Dakota Regulatory Office Mapping Standards.

Appendix B — Supporting Maps

This appendix must include a 7.5 USGS quadrangle location map and a soil survey map. Other helpful data should be included, such as a NWI map, site specific topographic maps, LIDAR map, satellite/aerial/ground photographs, floodplain maps, and other related maps. The survey area should be identified on all maps.

Appendix C — Photographs

All photographs should be referenced with the location and the direction the photograph was taken, along with identifying the resources present within the photograph.

Appendix D — Plant List

Plant species found within the survey area.

Use USDA Plants Database and National Wetland Plant List for the most up-to-date scientific name and Wetland Indicator Status.

Genus	Species	Common Name	WIS*

* Wetland Indicator Status (WIS):
OBL = occurs in aquatic resources > 99% of time
FACW = occurs in aquatic resources 67-99% of time
FAC = occurs in aquatic resources 34-66% of time
FACU = occurs in aquatic resources 1-33% of time
UPL = occurs in uplands > 99% of time
NI = indicator status not known in this region
~ = unsure as to FAC or FACU

Appendix E — Wetland Data Sheets

This appendix must contain at least one set of paired data points, documented in data forms, for each aquatic resource or complex. The paired data points must be located close to the delineated boundary. Additional data points may be necessary, and should be shown on the map, depending on various factors including the size and shape of the aquatic resource, changes in vegetation communities, and slope.

Data forms may be modified from the Corps' standard form but must contain all essential information to make a decision.

Appendix F — OHWM Data Sheets (if applicable)

This appendix includes the OHWM data sheets. Please insure to include a map identifying the location of the data points. Data forms may be modified from the Corps' standard form but must contain all essential information to make a decision.

Appendix G — A signed statement from the property owner(s) allowing access

This appendix must contain a signed statement from the property owner(s) allowing Corps personnel to enter the property and collect samples during normal business hours. If the property is land-locked, the owner or proponent must obtain permission from the adjacent property owner(s) in order to provide access.

Appendix H — Aquatic Resource Excel Sheet

The completion and submittal of the *Aquatic Resources Excel* spreadsheet is recommended as a supplement to the Aquatic Resource Delineation Report. A copy may be requested from the Project Manager if there are more than 20 aquatic features within the survey area. This spreadsheet will assist the Corps' in efficient and accurate data entry of the aquatic resources into the Corps' database.

The *Aquatic Resources Excel* spreadsheet contains a validation tool to ensure accuracy of the data. To run the validation tool, first enter all data in the appropriate columns and tabs. Once you have completed entering the data and have saved the document in a .csv format, click the gold shield at the top of the workbook window. The tool has a tooltip showing "Validate Worksheets." After clicking this button, validation of data is performed and any possible errors are added to the Validation tab. This tab is opened after the process is complete to allow the user to see the output. The validation output includes the tab (data type), column, and cell for where the possible error was found and a brief explanation of the issue.

Appendix H — Aquatic Resource Functional Assessment Forms (If applicable)

If a functional assessment was completed, this appendix includes the aquatic resources functional assessment form of each aquatic resource delineated along with a description of the results of the assessment.

OHWM Delineation Cover Sheet Page ____ of ____

Project: _____ **Date: _____**

Location: _____ **Investigator(s): _____**

Project Description:

Describe the river or stream's condition (disturbances, in-stream structures, etc.):

Off-site Information

Remotely sensed image(s) acquired? ☐ **Yes** ☐ **No** [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description:

Hydrologic/hydraulic information acquired? ☐ **Yes** ☐ **No** [If yes, attach information to datasheet(s) and describe below.] Description:

List and describe any other supporting information received/acquired:

Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their GPS coordinates noted on the datasheet.

Datasheet # _____ **OHWM Delineation Datasheet** Page ____ of ____

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)

Break in Slope at OHWM: ☐ Sharp (> 60°) | ☐ Moderate (30–60°) | ☐ Gentle (< 30°) | ☐ None

Notes/Description:

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM						
Below OHWM						

Notes/Description:

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM				
Below OHWM				

Notes/Description:

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

Special Public Notice

U.S. ARMY CORPS OF ENGINEERS BUILDING STRONG®

Date: 01 November 2019

Subject: Map and Drawing Standards for the North Dakota Regulatory Office

Introduction: This notice establishes standards and guidelines for maps and drawings submitted as part of delineations and applications for U.S. Army permits and jurisdictional determinations. The intent of these standards is to improve the quality and consistency of maps and drawings and simplify and improve review and processing by Corps Regulatory project managers. By adhering to a single standard for maps and drawings, applicants and consultants should have a clear and concise product, and project managers should be able to provide permit decisions and jurisdictional determinations in a more consistent and timely manner. In addition, electronic mapping of permit related maps and drawings will enable data sharing with other resource agencies for coordination of mitigation decision making.

Applicability: These standards apply to all submittals to North Dakota Regulatory Office. At the Corps' discretion, these standards may be modified or waived on a case by case basis, for example, projects or activities with small or temporary impacts to waters of the U.S. (for example, less than a tenth of an acre of permanent impact), projects where the applicant possesses limited financial resources (for example, private homeowners and small land owners), emergencies, and restoration projects with limited grant funding. Additional examples where these standards may be modified or waived include reauthorization of previously-authorized work and maintenance, repair, and/or rehabilitation projects where the original authorization included adequate drawings that are available. In general, compensatory mitigation plans must adhere to these standards, regardless of whether the standards are waived for the overall project.

Standards:

1) General:

a. Documents must include at a minimum: location (vicinity) map(s) and plan view map(s). Mitigation plans and construction drawings should also include representative cross-sectional views. Delineation maps must be provided for the project area, staging areas, disposal sites, access routes, and proposed mitigation sites, etc.

b. The orientation of the map on the page (as it is read) must be the same for all maps submitted.

c. By convention, North will normally be toward the top of the page.

d. For plan view maps where specific elevations are shown, and for all cross sections, the reference
elevation datum (e.g. North American Vertical Datum of 1988, National Geodetic Vertical Datum of 1929, etc.) must be indicated.

e. Procedure: The Corps will review submitted maps and drawings for conformance with these standards. Documents not meeting the standards may be returned for revision.

f. Base maps:

1. If aerial photographs are used, these must be orthorectified, date-stamped, and with the imagery source identified on the map.
2. Date of imagery must be chosen such that aquatic resources have maximum visibility (e.g., during wet season).
3. At least one map showing topography must be included.

g. Format:

1. Both paper and electronic versions of documents are required; however, submittal of electronic documents may be waived on a project-specific basis for applicants without access to the appropriate software. For electronic documents, Adobe PDF format is preferred.
2. Size: If larger than 11 x 17 inches, documents must be folded to fit within a 8.5 x 11 inch binder.

c. GIS: All GIS data and associated metadata shall be provided on a digital medium (for example, CD or DVD), preferably using the Environmental Systems Research Institute (ESRI) shapefile format or Google Earth kmz files. Other data types may be accepted at the Corps project manager's discretion.

h. Plan view :

1. At least two control points on opposite corners with latitude and longitude clearly annotated.
2. North arrow.
3. Bar scale and text scale (e.g., "1 inch = 250 ft") not to exceed 1 inch = 400 feet.
4. Legend for any relevant items shown (e.g., wetlands and/or other water types), including the area (acres or square feet) in parenthesis for all relevant items shown on the map (e.g. project boundary, project construction footprint, waters of the U.S., impacts to waters of the U.S., etc.). Such items must be clearly identified in the legend. Annotate clearly showing the location of cross-sectional views (e.g., "A-A' ")
5. Date prepared/revised.
6. Name and organization of map preparer.
7. Appropriate landmarks (on-site and nearby roads, prominent structures and/or topographic features, etc.).

i. Cross-sectional view:

1. Must include a bar scale and text scale (e.g., "1 inch = 100 ft") for horizontal and vertical dimensions.

2) Location (vicinity) map(s):

a. One or more vicinity maps must be submitted, at least one of which must use a USGS 7.5- minute quadrangle sheet as its base-map (if no USGS quadrangle is available, another accurate local map may be used as a base-map) with the

project study boundary clearly outlined and the quadrangle name included on the map.
b. Does not need to be to scale but must include commonly recognizable landmark(s).
c. Must include north arrow.
d. Project location must be clearly marked and annotated.
e. Must include adjacent local roadways.

3) Proposed projects:
a. Show all proposed fills, structures, and /or limits of work within and adjacent to potential waters of the U.S., including wetlands.
b. Show the location of delineated waters of the U.S. within the project area.
c. All impact areas within waters of the United States must be labeled with a unique name (For example, RSP1, RSP2, Cofferdam1, BoxCulvert1, AccessRoad1, etc.).
d. Clearly annotate all fills, structures, and /or limits of work as either permanent or temporary.
e. Pre-construction drawings (grading plans) and post-construction drawings (as-built plans) must include name, company/agency, and signature of preparer, date signed, drawing title, and total number of sheets.
f. Both plan view and cross-sectional view maps must be provided.
g. The proposed project drawing(s) must also be accompanied by a completed copy of the Impacts sheet in the Consolidated ORM Upload Workbook available through request from project manager.

4) Post-construction drawings (as-built plans):
a. Both plan view and cross-sectional view maps must be provided.
b. Must be the same size and alignment (spatial) as authorized grading plans (i.e., grading plans and as-built plans must overlay such that structures, boundaries, etc. align).
c. Show any deviations from the fills and/or structures authorized as part of an approved pre-construction drawing in red.

5) Delineations of waters of the United States (see **attached example map**):
a. Plan view maps must be provided.
b. Cross-sectional view drawings must be provided at the Corps project manager's discretion. Examples of when cross-sectional view drawings would be appropriate include stream or wetland restorations, stream crossings, proposed structures, and delineations of tidal areas.
c. The survey area boundary must be clearly annotated and/or symbolized. The survey area boundary encloses the spatial area for which a Corps jurisdictional determination is being requested.
d. **Clearly show location and extent of all areas within the survey area potentially meeting the criteria for waters of the U.S., including special aquatic sites (e.g., wetlands, sanctuaries and refuges, mudflats, vegetated shallows, and riffle and pool complexes), and/or navigable waters.** Each type of boundary (for example, ordinary high-water mark, mean high water, wetlands or other special aquatic sites) must be clearly annotated and/or symbolized to ensure they are differentiable on the map.

e. Show locations of any wetland delineation or ordinary high-water mark data points, labeled according to the number of the corresponding wetland delineation form or ordinary high-water mark data sheet. Generally, a wetland boundary must be based on at least one set of paired wetland delineation data points, with one within the proposed wetland boundary and one immediately outside it.
f. Include representative ordinary high-water mark (OHWM) widths where measured in the field (averages may be acceptable for uniform channel reaches). OHWM widths must be shown with a transect/profile line (e.g., A-A') labeled with the corresponding width measurement in feet. In some cases, a corresponding cross section may be required, in which case the cross section must include the corresponding OHWM elevations.
g. Include information not directly related to a delineation of waters of the U.S. on a separate map(s).
h. For non-tidal zones, identify the Ordinary High-Water Mark.
i. Each line or polygon representing a water of the U.S. must be labeled with a unique name (For example, WL1, WL2, VP1, VP2, STR1, STR2, etc.). Multi-geometry features, such as streams split by a culvert crossing, shall be separated into individual sections, each with their own unique names (For Example, STR1a, STR1b, etc.).
j. The delineation report must be accompanied by a completed copy of the Aquatic Resources sheet in the Consolidated ORM Upload Workbook available through request from project manager.
k. If submitted, delineation-related GIS data must use the same unique names as on the map and the Consolidated ORM Upload Workbook, and must include a text file of metadata, including datum, projection, and mapper contact information.

6) Mitigation plans and long-term preservation (LTP) maps (see **attached example map**):

a. Both plan view and cross-sectional view maps must be provided.
b. Mitigation areas must be clearly differentiable based on both the type of aquatic resource and the type of mitigation. Aquatic resource types must be differentiated by color, and mitigation types must be differentiated using different fill symbols, as described below and shown in the example ArcMap layer package. This can be requested through the project manager. Establishment areas must use a line fill symbol with lines at 45° and 315° angles. Re-establishment areas must use a line fill symbol with lines at a 0° angle. Rehabilitation areas must use a line fill symbol with lines at a 45° angle. Enhancement areas must use a line fill symbol with lines at a 90° angle. Aquatic resources preserved as compensatory mitigation (preservation) must use a simple fill symbol. For a definition of mitigation terms, see 2008 Mitigation Rule (33 CFR Part 332).
c. All mitigation sites and LTP boundaries must be clearly labeled with a unique name (for example, LTP1, WetEstab1, WetEstab2, StrmEnhance1, etc.).
d. Locations of mitigation sites must be shown relative to other landscape features and habitat types (e.g., riparian corridor, wetland complex, etc.).

e. The mitigation plan must be accompanied by a completed copy of the Permittee Responsible Mitigation sheet of the Consolidated ORM Upload Workbook available upon request from the project manager.
f. If submitted, GIS data for mitigation projects must use the unique names as described above, conform to the data dictionary below, and must include a text file of metadata, including datum, projection, and mapper contact information.

7) Mitigation monitoring report maps:
a. Each discrete mitigation site must be shown on a map as indicated in Section 6 above.
b. Any sampling presented in the monitoring report must be shown on a map, including locations and extent of sampling points, transects, quadrats, etc.

8) Ground photograph Maps:
a. Any ground photographs included with proposed project, post-construction (as-built), delineation, mitigation plan, or mitigation monitoring maps or reports must be accompanied by a map of photo-points.
b. Each photo-point must be labeled with a unique name and the compass direction in which the photograph was taken (e.g., a dot with an arrow or labels such as P1-NW and P1-315°).
c. A table must be provided either on the map or as a separate attachment, which lists each uniquely named photograph, its geographic coordinates (latitude, longitude), the compass direction in which the photograph was taken (e.g., N, NW, 45°, 270°, etc.), and a brief explanation of the photograph's relevance.

Updates: These standards may be updated periodically. The most current version will be posted on the North Dakota Regulatory Office website.

North Dakota Regulatory Office
3319 University Drive
Bismarck, North Dakota 58504
CENWO-OD-RND@usace.army.mil
701-255-0015

Attachments: 2 drawings

North Dakota Regulatory Office

Complete Application Checklist

30 October 2019

Applicant _____ Date_____

ORM # _____ Reviewer _____

1. ☐ (Block 5) **Applicant's name**. The application must include the name and email address of the responsible party or parties. If the responsible party is an agency, company, corporation, or other organization, the responsible officer and title should be included. If more than one party is associated with the pre-construction notification (PCN), an additional sheet of paper can be included.

2. ☐ (Block 6) **The full address of the party or parties responsible for the PCN must be provided.**

3. ☐ (Block 7) **Applicant phone number must be provided**. It should be a number that is reachable during normal business hours.

4. ☐ (Block 8-11) **If the applicant is using an agent, the authorized agent's name and title must be included.**

5. ☐ (Block 8-11) **The agent's address and phone number where they can be reached during normal business hours.**

6. ☐ (Block 11) **If an agent is used, the applicant must complete the Statement of Authorization.**

7. ☐ (Block 12) **The name of the proposed NWP activity must be included in Block 12**. Examples include Windward Marina, Rolling Hills Subdivision, or Smith Commercial Center.

8. ☐ (Block 13) **Identify the nearest named stream, lake, marsh, coulee, or other waterway to be directly impacted by the NWP activity.** If it is a minor (no named stream), identify the nearest waterbody that is connected by a surface water connection.

9. ☐ (Block 14) **Provide a street address, if one is available, to the proposed activity.**

10. ☐ (Block 15) **Location of the proposed activity must be provided.** The latitude and longitude of where the proposed NWP activity is proposed is mandatory and should be in decimal degrees. It should be clearly stated that the latitude and longitude provided is either the center of the project location or for each corner of the project area

requiring evaluation. If there are multiple sites, a list of latitude and longitude of each site, either center or corners must be provided on a separate sheet of paper and marked as Block 15.

11. ☐ (Block 16) **Other location descriptions should be provided in Block 16 and include Tax Parcel Identification if available, Section, Township and Range and local municipality.**

12. ☐ (Block 17) **Directions to the site must be included.** Provide directions from a known location or landmark. Include highway and street numbers as well as names. Also provide distances from known locations and any other information that would assist in locating the site. You may also provide a description of the location of the proposed NWP activity, such as lot numbers, tract numbers, or you may choose to locate the proposed NWP activity from a known point (such as the right descending bank of Smith Creek, one mile downstream from Highway 14 Bridge). If a large river or stream, include the river mile of the proposed NWP activity site if known. If there are multiple locations, please indicate directions to each location on a separate sheet of paper and mark as Block 17.

13. ☐ (Block 18) **The specific NWP that is being requested should be identified in Block 18.** The Corps will decide whether your activity meets the terms and conditions of the specified NWP.

14. ☐ (Block 19) **Description of the Proposed Nationwide Permit Activity is MANDATORY!**

a. ☐ Describe direct and indirect adverse environmental effects the activity would cause.
b. ☐ The description of the proposed activity **must be sufficient to allow a project manager to determine that the adverse effects of the proposed activity would result in no more than minimal impacts to the aquatic resource.**
c. ☐ Provide sketches when necessary to show that the proposed NWP activity complies with the terms and conditions of the applicable NWP(s). These do not need to be engineered drawings or plans.
d. ☐ The written descriptions and illustrations are an important part of the application. Please describe, in detail, what you wish to do. If more space is needed, attach an extra sheet of paper marked Block 19.
e. ☐ The project description should be in sufficient detail to understand what the project entails. The following information is required to process a permit application:

***Structures**:*

☐ Describe the need and intended use of the structure.

☐ Describe the plans for sewage pump-out facilities, fueling facilities and contingency plans for oil spills.

- ☐ Describe and give dimensions of adjoining structures.
- ☐ Provide the width of the waterway and the distance to Federal or other navigation channels.
- ☐ Provide the dimensions of the proposed structure and that area that would be below the OHWM.
- ☐ For some projects, the Corps may require a de-watering plan.

Fill Projects:

- ☐ State the project's purpose to include the intended use and the structures proposed to be erected on the fill.
- ☐ Give appropriate dimensions of structures such as wing walls, dikes (identify the materials to be used in construction, as well as the methods by which the work is to be done), or excavations (length, width, and height). Indicate whether discharge of dredged or fill material is involved.
- ☐ Describe the impact area, i.e. wetlands or open water and give the area's dimensions in SF and/or acres.
- ☐ Describe the quantity of dredged material in cubic yards.
- ☐ Describe the type and composition of the fill material and its source.
- ☐ Describe any temporary construction or access fills possibly required to complete the proposed project.

Dredging Projects*:* Information accompanying sampling plan or suitability determination requests may be submitted before the application, and should include the following:

- ☐ State the purpose of the proposed dredging.
- ☐ Date the area was last dredged
- ☐ Volume (CY) and area (SF) for each dredge location
- ☐ Character of the dredge area, including the type of existing bottom material, biota and vegetation.
- ☐ Existing or nearby test results. Don't perform new testing without Corps input. Bulk sediment analysis, elutriate and bioassay tests may be required. We will provide detailed instructions should a

review of the submitted information indicate further testing is required.

☐ Describe the dredging purpose – new, maintenance or both

☐ Describe the dredging method (e.g. mechanical or hydraulic) and what equipment will be used.

☐ Method of handling/transporting

☐ Information on any recent spills of oil and/or other hazardous materials and on nearby outfalls. Document the information source. A good source is the harbormaster or fire chief.

☐ Describe methods to retain or prevent dredged material from running back into the wetland or waterway.

☐ Describe the area to be dredged, i.e. open water, existing channel, wetlands, uplands, etc. and indicate the surface area to be dredged in square feet and the volume of material to be removed in cubic yards.

☐ Provide information on any wetland, intertidal or submerged aquatic vegetation that may be affected.

☐ Plans (sketches are acceptable for this preapplication request) must accompany the sampling plan or suitability determination request, and must include the following:

☐ Plan and cross-section views Dredge boundaries

☐ Bathymetry: existing, proposed and historical (include dates and Corps permits) dredge depths

☐ Dewatering methods and areas

Sampling locations for existing or nearby test results Outfall locations

☐ Proposed detention levees, weirs, and/or other devices for retaining hydraulically placed materials.

☐ Capacity and the points of runback into the aquatic system.

15. ☐ (Block 20) Description of Proposed Mitigation Measures. Describe any proposed mitigation measures intended to reduce the adverse environmental effects caused by

the proposed NWP activity. The description of any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity would be no more than minimal and to determine the need for compensatory mitigation or additional mitigation measures.

- ☐ If your are asking for a waiver – you must provide a functional assessment of the impacted wetlands/waters and why impacts to those waters should not require mitigation. The Corps will not accept "request to waive mitigation".

16. ☐ (Block 21) **Purpose of Nationwide Permit Activity. Describe the purpose and need for the proposed NWP activity.** What will it be used for and why? Also include a brief description of any related activities associated with the proposed project. Provide the approximate dates you plan to begin and complete all work.

17. ☐ (Block 22) **Quantity of wetlands, streams, or other types of waters directly affected by the proposed Nationwide Permit Activity.** For discharges of dredged or fill material into waters of the United States, provide the amount of wetlands, streams, or other types of waters filled, flooded, excavated, or drained by the proposed NWP activity. For structures or work in navigable waters of the United States subject to Section 10 of the Rivers and Harbors Act of 1899, provide the amount of navigable waters filled, dredged, or occupied by one or more structures (e.g., aids to navigation, mooring buoys) by the proposed NWP activity.

☐ **For multiple NWPs, or for separate and distant crossings of waters of the United States authorized by NWPs 12 or 14, attach an extra sheet of paper marked Block 21 to provide the quantities of wetlands, streams, or other types of waters filled, flooded, excavated, or drained (or dredged or occupied by structures, if in waters subject to Section 10 of the Rivers and Harbors Act of 1899) for each NWP**. For NWPs 12 and 14, include the amount of wetlands, streams, or other types of waters filled, flooded, excavated, or drained for each separate and distant crossing of waters or wetlands. If more space is needed, attach an extra sheet of paper and mark Block 22.

Clarification on NWP 14 and SEPARATE and DISTANT Crossings. This is a case-by-case evaluation taking into consideration site and regional characteristics (e.g., topography, geology, hydrology, climate). It is not possible to establish a specific distance that could be effectively applied across the country. The distance between crossings of waters of the United States that reduces the potential for synergistic interactions among regulated activities. In order to qualify for a NWP 14 crossing, it must be culverted, bridged or designed to allow for normal flows to pass (no restrictions) and a road widening project would not be considered eligible for a NWP 14. The activity must be for constructing, expanding, modifying or improving a crossing. Expanding of a roadway along a lakeshore or parallel river shoreline does not qualify for a NWP 14.

18. ☐ (Block 23) **Identify any other Nationwide Permit(s), Regional General Permit(s), or Individual Permit(s) used to authorize any part of proposed activity or any related activity**. List any other NWP(s), RGP(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. For linear projects, list other separate and distant crossings of waters and wetlands authorized by NWPs 12 or 14 that do not require PCNs. If more space is needed, attach an extra sheet of paper marked Block 23.

19. ☐ (Block 24) **Compensatory Mitigation statement for losses of greater than 1/10-acre of wetlands when pre-construction notification is required.** Paragraph (c) of NWP general condition 23 requires compensatory mitigation at a minimum of one-to-one replacement ratio will be required for all wetlands losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation is more environmentally appropriate or the adverse environmental effects of the proposed NWP activity are no more than minimal without compensatory mitigation, and provides an activity-specific waiver of this requirement. Describe the proposed compensatory mitigation for wetland losses greater than 1/10-acre, or provide an explanation of why the district engineer should not require wetland compensatory mitigation for the proposed NWP activity. If more space is needed, attach an extra sheet of paper marked Block 24.

20. ☐ (Block 25) **Is any portion of the Nationwide Permit activity already completed?** Describe any work that has already been completed for the NWP activity.

21. ☐ (Block 26) **List the name(s) of any species listed as Endangered or Threatened under the Endangered Species Act that might be affected by the Nationwide Permit Activity.** If you are not a federal agency, and if any listed species or designated critical habitat might be affected or is in the vicinity of the proposed NWP activity, or if the proposed NWP activity is located in designated critical habitat, list the name(s) of those endangered or threatened species that might be affected by the proposed NWP activity or utilize the designated critical habitat that

22. ☐ (Block 27) **List any historic properties that have the potential to be affected by the Nationwide Permit Activity.** If you are not a federal agency, and if any historic properties have the potential to be affected by the proposed NWP activity, list the name(s) of those historic properties that have the potential to be affected by the proposed activity. If you are a Federal agency, and the proposed NWP activity requires a PCN, you must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act (NHPA).

It is the Corps responsibility to ensure that permit verifications are in compliance with the NHPA. We may require a Class 3 survey on any project that we believe may impact historic properties.

23. ☐ (Block 28) **List the Wild and Scenic River or Congressionally Designated study river if the Nationwide Permit Activity would occur in such a river**. Currently, there are no listed rivers in North Dakota.

24. ☐ (Block 29) **Nationwide Permit activities that also require permission from the Corps under 33 U.S.C. 408.** If the proposed NWP activity also requires permission from the Corps under 33 U.S.C. 408 because it will temporarily or permanently alter, occupy, or use a Corps federal authorized civil works project, indicate whether you have submitted a written request for section 408 permission from the Corps district having jurisdiction over that project.

25. ☐ (Block 30) **Other information required for Nationwide Permit Pre-Construction Notifications.** The terms of some of the Nationwide permits include additional information requirements for preconstruction notifications:

- NWP 3, Maintenance – information regarding the original design capacities and configurations of the outfalls, intakes, small impoundments, and canals.
- NWP 31, Maintenance of existing flood control facilities – a description of the maintenance baseline and the dredged material disposal site.
- NWP 33, Temporary construction, access, and dewatering – a restoration plan showing how all of the temporary fills and structures will be removed and the area restored to pre-project conditions.
- NWP 44, Mining Activities – if reclamation is required by other statutes, then a copy of the final reclamation plan must be submitted with the pre-construction notification
- NWP 45, Repair of uplands damaged by discrete events – documentation, such as recent topographic survey or photographs, to justify the extent of the proposed restoration.
- NWP 48, Commercial Shellfish Aquaculture Activities – Not applicable to North Dakota.
- NWP 49, Coal Remining Activities – a document describing how the overall mining plan will result in a net increase in aquatic resource functions to the district engineer and receive written authorization prior to commencing the activity.
- NWP 50, Underground Coal Mining Activities – if reclamation is required by other statutes, then a copy of the reclamation plan must be submitted with the pre-construction notification.

If more space is needed, attach an extra sheet of paper marked Block 29.

26. ☐ (Block 31 and 32) For bank stabilization activities, we are collecting information on the use of living shorelines in coastal waters and lakes to inform future NWP rule-making efforts. If the PCN is for a proposed NWP 13 activity, and it is located in coastal waters or a lake, please check the appropriate box in Block 31 to indicate whether you considered the use of a living shoreline to protect your property from erosion. If the PCN is for a proposed NWP 13 activity, and it is located in coastal waters or a lake,

please check the appropriate box in block 32 to indicate whether there are contractors in your area that construct living shorelines.

27. ☐ (Block 33) **Signature of Applicant or Agent.** The PCN must be signed by the person proposing to undertake the NWP activity, and if applicable, the authorized party (agent) that prepared the PCN. The signature of the person proposing to undertake the NWP activity shall be an affirmation that the party submitting the PCN possesses the requisite property rights to undertake the NWP activity (including compliance with special conditions, mitigation, etc.).

Additional Information:

Delineation of Wetlands, Other Special Aquatic Sites, and Other Waters

Each PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current wetland delineation manual and regional supplement published by the Corps**. It is Mandatory in North Dakota that you adhere to the "Minimum Standards for Aquatic Delineations", which has been developed over the past 30 years and will help expedite the process.** The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites and other waters. The 45-day PCN review period will not start until the delineation is submitted or has been completed by the Corps.

Drawings and Illustrations

General Information

Three types of illustrations are needed to properly depict the work to be undertaken. These illustrations or drawings are identified as a vicinity map, a plan view or a typical cross-section map. Identify each illustration with a figure or attachment number. For linear projects (e.g. roads, subsurface utility lines, etc.) gradient drawings should also be included. Please submit one original, or good quality copy, of all drawings on 8 ½ x 11 inch plain white paper (electronic media may be substituted). Use the fewest number of sheets necessary for your drawings or illustrations. Each illustration should identify the project, the applicant, and the type of illustration (vicinity map, plan view or cross-section). While illustrations need not be professional (may

small, private project illustrations are prepared by hand), they should be clear, accurate and contain all of the necessary information.

North Dakota Regulatory Office has Mapping Standards that should be used for all submittals.

US Army Corps
Of Engineers
Omaha District

SPECIAL PUBLIC NOTICE

CONTINUATION OF PROHIBITION AND RESTRICTION OF DISCHARGES OF SPECIFIED MATERIALS INTO WATERS OF THE UNITED STATES WITHIN THE REGULATORY BOUNDARIES OF THE OMAHA DISTRICT

Issue Date: October 20, 2011(Corrected April 2013)
Corps of Engineers No: 2011-015

On January 28, 2011 and July 1, 2011, the U.S. Army Corps of Engineers, Omaha District issued public notices notifying interested parties that the Omaha District was considering continuing the 2003 prohibition/restriction regarding discharges of specified materials into waters of the United States under Section 404 of the Clean Water Act within the Omaha District. The public notices requested comments on proposed changes to the Corps' 2003 prohibited/restricted materials.

Based on our evaluation of the comments received, both from the regulated public and from within the Omaha District, the prohibitions, with modifications, is not contrary to the public interest and was issued by Public Notice October 20, 2011. A recent review of the October 2011 Public Notice identified a need for some minor clarifications and corrections. The clarifications and corrections have been incorporated below. The prohibitions and restrictions described below become effective upon issuance of this public notice.

PROHIBITED / RESTRICTED MATERIALS

1. Vehicle bodies, farm machinery and metal junk, including appliances and metal containers, are prohibited.

2. The use of asphalt or asphalt coated material as a fill is prohibited.

3. The use of organic debris as fill material is prohibited. Properly anchored trees, treetops, root wads, logs, and hay bales may be allowed on a case-by-case basis.

4. Any material subject to leaching when in an aquatic environment is prohibited, including but not limited to, chemically-treated material, roofing material, and wood debris.

5. Individual or unanchored tires are prohibited. Tires may be allowed on a case-by-case basis when placed in the form of a mat or grid with redundant anchoring points to reduce the risk of design failure.

6. Small aggregate with a maximum dimension less than 6 inches may not be placed below the ordinary high water mark (OHWM) of a water body for the purpose of bank stabilization or

erosion control when such aggregate will be unstable or subject to frequent failure. Small aggregate however, may be placed below the OHWM if its purpose is to fill the core of a structure, the interstices of a well graded riprap structure, or other channel lining.

7. Slab material, regardless of source, must be broken before placement so that the maximum dimension of an individual piece of material is no more than 3.5 times its minimum dimension unless otherwise justified by a qualified engineer. All material must be free of exposed rebar, wire and wire mesh.

8. The use of clean brick, broken concrete and cinder block for erosion control or bank stabilization will be considered on a case-by-case basis. If allowed, the broken concrete must be free of exposed rebar, wire, wire mesh, asphalt paving material, paint, and other erodible materials. Broken concrete must range in size from 6 to 36 inches unless otherwise justified by a qualified engineer.

*Other Federal or State agencies may have additional prohibitions or restrictions for materials placed in a Water of the U.S.

This Special Public Notice does not negate the requirement to obtain proper authorization for any discharge of dredged or fill material into a water of the United States. Anyone considering such work is encouraged to contact the nearest field office listed below for information and assistance.

COLORADO
Denver Regulatory Office
9307 South Wadsworth
Blvd. Littleton, CO
80128-6901
(303) 979-4120

MONTANA
Helena Regulatory Office
10 West 15th Street, Suite
2200
Helena, MT
59626 (406)
441-1375

WYOMING
Wyoming Regulatory Office
2232 Dell Range Blvd., Suite 210
Cheyenne, WY 82009-
4942 (307) 772-2300

SOUTH DAKOTA
Pierre Regulatory Office
28563 Powerhouse Road, Room 118
Pierre, SD
57501 (605)
224-8531

NORTH DAKOTA
Bismarck Regulatory Office
1513 South 12th
Street Bismarck,
ND 58504 (701)
255-0015

NEBRASKA
Wehrspann Regulatory Office
8901 South 154th
Street Omaha, NE
68138-3621 (402)
896-0723

_____

Martha S. Chieply
Chief, Regulatory Branch
Operations Division

Lisa DiNicolantonio

From: Atwell, Patrick C CIV USARMY CENWO (USA) <Patrick.C.Atwell@usace.army.mil>
Sent: Monday, December 2, 2019 9:15 AM
To: Andrea Thornton
Cc: Thury, Jeremy J CIV USARMY CENWO (USA)
Subject: WBI Status Update
Attachments: WBI 1156 Agreement SIGNED.PDF; EFT Instructions.pdf; Form W-9.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Andrea,

Just wanted to let you know a few things.

1) I have submit the geotech ROA Package for concurrence. As soon as I have all of my signatures, I will get it moving up the chain to Real Estate.

2) I received the signed 1156 agreement from our front office. I have attached a copy for reference, but a hard copy will be in the mail to WBI this week. There are also EFT instructions for WBI to follow when they receive the hard copy agreement and a W-9 form for tax information.

Thank you,

Patrick Atwell
Natural Resource Specialist
Omaha District
402-995-2087

AGREEMENT BETWEEN
THE DEPARTMENT OF THE ARMY
AND
WBI Energy Transmission, Inc.

THIS AGREEMENT is entered into this 22 day of November, 20 19, by and between the Department of the Army (hereinafter the "Government"), represented by the U.S. Army Engineer, Omaha District, (hereinafter "District Engineer") and the WBI Energy Transmission, Inc. (hereinafter the "Contributor"), together ("the Parties").

WITNESSETH, THAT:

WHEREAS, the Contributor considers it to be in its own interest to contribute funds voluntarily to be used by the Government to evaluate a request under 33 U.S.C 408 (hereinafter "Section 408") for the placement of a natural gas pipeline across lands at Lake Sakakawea, ND.

WHEREAS, the Government is authorized pursuant to Section 408 to accept and expend funds to evaluate such requests;

NOW, THEREFORE, the Government and Contributor agree as follows:

1. The Contributor plans to contribute funds to the Government to pay costs associated with evaluation of engineering plans and other information prepared by Contributor related to a request under Section 408. The Contributor shall provide funds in accordance with the provisions of this paragraph:

a. The Government and Contributor shall develop a scope of work for activities that will be undertaken with funds provided by the Contributor. The scope of work shall provide a detailed description of activities to be undertaken, including a detailed estimate of cost for each activity and schedules, and identification of travel by Government personnel that may be necessary to the activities covered under this Agreement, with such travel to be undertaken in accordance with the Federal Travel Regulations and estimated separately. The Government and Contributor shall review and update, as necessary, the scope of work.

b. Prior to the Government initiating any activities identified in the scope of work, the Contributor shall provide to the Government funds to cover the estimated cost of activities under the scope of work through the current and next fiscal year quarter of the Government. No later than fifteen calendar days before the beginning of each subsequent fiscal year quarter, the Contributor shall provide to the Government funds for all estimated costs of activities to be accomplished during that quarter.

c. If at any time the Government determines that additional funds are needed, the Government shall notify the Contributor in writing and no later than fifteen calendar days from receipt of such notice, the Contributor shall provide to the Government the full amount of such additional funds.

d. The Contributor shall provide funds to the Government by providing an Electronic Funds Transfer of such funds in accordance with procedures established by the Government.

2. The Government shall provide the Contributor with quarterly reports of obligations for the activities under this Agreement. The Government shall provide the first report within thirty calendar days after the final day of the first full fiscal year quarter following initial receipt of funds pursuant to this Agreement. The Government shall provide subsequent reports within thirty calendar days after the final day of each succeeding quarter until the Government concludes work under this Agreement.

3. Upon conclusion of all work under this Agreement, the Government shall complete a final accounting and furnish the Contributor with written notice of the results of such final accounting. If the costs of the activities under this Agreement exceed the amount of funds provided by the Contributor, the Contributor shall provide the required additional funds within thirty calendar days of such written notice. If any funds provided by the Contributor were not obligated for activities under this Agreement, the Government shall refund those funds to the Contributor within thirty calendar days of completion of the final accounting.

4. No credit or repayment is authorized, nor shall be provided, for any funds provided by the Contributor and obligated by the Government for activities under this Agreement

5. Nothing herein shall constitute, represent, or imply any commitment regarding the Government's consideration of the Section 408 request. The acceptance and expenditure of funds will not impact impartial decision making at any level of the Government with respect to the review and any final decision, either substantively or procedurally. The review must comply with all applicable laws, regulations and procedures. None of the funds provided under this Agreement will be used by the decision maker in his or her review, recommendations, or decision concerning a Section 408 request.

6. The Parties agree to use their best efforts to resolve any dispute in an informal fashion through consultation and communication. If the Parties cannot resolve the dispute through negotiation, they may agree to a mutually acceptable method of non-binding alternative dispute resolution with a qualified third party acceptable to the Parties. Each party shall pay an equal share of any costs for the services provided by such a third party as such costs are incurred. The existence of a dispute shall not excuse the parties from performance pursuant to this Agreement.

7. This Agreement may be modified only by a written amendment to this Agreement signed by both Parties. Either party may terminate further performance under this Agreement by providing 60 calendar days advance written notice to the other party. In the event of termination, the Contributor remains responsible for all costs incurred by the Government pursuant to this Agreement.

8. Any notice, request, demand, or other communication required or permitted to be given under this Agreement shall be deemed to have been duly given if in writing and delivered personally or mailed by registered or certified mail, with return receipt, as follows:

If to the Contributor:

Marc Dempewolf
Director of Pipeline Operations
WBI Energy Transmission, Inc.
2010 Montana Avenue
Glendive, MT 59330

If to the Government:

District Engineer
U.S. Army Corps of Engineers
Omaha District
1616 Capitol Avenue
Omaha, NE 68102

A party may change the recipient or address to which such communications are to be directed by giving written notice to the other party in the manner provided in this paragraph.

9. In the exercise of their respective rights and obligations under this Agreement, the Government and the Contributor each act in an independent capacity, and neither is to be considered the officer, agent, or employee of the other.

10. To the extent permitted by the laws governing each party, the parties agree to maintain the confidentiality of exchanged information when requested to do so by the providing party.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement, which shall become effective upon the date it is signed by District Engineer.

DEPARTMENT OF THE ARMY	CONTRIBUTOR
BY: _____	BY: _____
John L. Hudson	**Marc Dempewolf**
COL, Commanding	**Director of Pipeline Operations**
DATE: 22 Nov 19	DATE: _____

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS
FINANCE CENTER
5722 INTEGRITY DRIVE
MILLINGTON TENNESSEE 38054-5005

CEFC-FD

November 4, 2014

To Whom It May Concern:

U.S. Army Corps of Engineers can receive funds via ACH/EFT using the following:

Bank Name: Cash Link-ACH Receiver
Account Name: USACE Finance Center
Bank ABA Number: 051036706
Account Number: 220025
Bank Address: Riverdale MD
Account Type: Checking

U.S. Army Corps of Engineers can receive funds via Wire Transfer using the following:

Bank Name: Treas NYC/Funds Transfer Division
Account Name: Treas NYC/CTR/BNF=/AC-00008736
Bank ABA Number: 021030004
Account Number: 00008736
Bank Address: Federal Reserve Bank New York City, NY

When funds are being transferred electronically, please let me know in advance so we can be on the lookout for the payment.

If you have any questions or concerns, please contact me at Kevin.J.Heath@usace.army.mil or 901-873-9135.

Sincerely,

Shirley Lee Autry
Principle Deputy Director
US Army Corp of Engineers
Finance Center

Kevin J Heath
Disbursing Officer
US Army Corps of Engineers
Finance Center

Form **W-9**
(Rev. December 2014)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

Give Form to the requester. Do not send to the IRS.

Print or type
See Specific Instructions on page 2.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.
US Army Corps of Engineers

2 Business name/disregarded entity name, if different from above
DBA USACE Finance Center

3 Check appropriate box for federal tax classification; check only **one** of the following seven boxes:
☐ Individual/sole proprietor or single-member LLC ☐ C Corporation ☐ S Corporation ☐ Partnership ☐ Trust/estate
☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶
Note. For a single-member LLC that is disregarded, do not check LLC; check the appropriate box in the line above for the tax classification of the single-member owner.
☑ Other (see instructions) ▶

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):
Exempt payee code (if any)
Exemption from FATCA reporting code (if any)
(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.)
5722 Integrity Drive

Requester's name and address (optional)

6 City, state, and ZIP code
Millington, TN 38054-5005

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the instructions for line 1 and the chart on page 4 for guidelines on whose number to enter.

Social security number
[ ][ ][ ] – [ ][ ] – [ ][ ][ ][ ]

or

Employer identification number
6 2 – 1 6 4 2 1 4 2

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

Sign Here Signature of U.S. person ▶ Michael J Ryan Date ▶ 08/05/15

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. Information about developments affecting Form W-9 (such as legislation enacted after we release it) is at *www.irs.gov/fw9*.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following:

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See *What is backup withholding?* on page 2.

By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting?* on page 2 for further information.

ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	To: Patrick Atwell
Phone number	701-842-8509
Company	U.S. Army Corps of Engineers
ERM Contact	Andrea Thornton
Phone number	503-459-6864
Date	December 4, 2019
Time of Conversation	8:00 am PST
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Andrea Thornton of ERM left a voicemail with Patrick Atwell of the U.S. Army Corps of Engineers to follow-up on the status of the geotech permitting package, the 408/404 review schedule for the project as a whole moving forward, and scheduling an in person meeting in Omaha.

CONFIDENTIALITY NOTICE This Call Log contains information which may be confidential, proprietary, privileged, or otherwise protected by law from disclosure or use by a third party. If you have received this facsimile transmission in error, please contact us immediately at the number listed above and take the steps necessary to dispose of this information. Thank you.

ERM

1000 IDS Center
80 South Eighth Street
Minneapolis, MN 55402

Telephone: +1 612 347 6789
Fax: +1 612 347 6780

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	Rick Rogers
Phone number	701-301-0018
Company	USACE
ERM Contact	Kevin Malloy
Phone number	906-285-0361
Date	December 16, 2019
Time of Conversation	10:46 a.m.
Reference	North Bakken Expansion Project (Project)
Signature	

LOG OF CONVERSATION

I called Mr. Rogers to follow up on an email response received from him this morning, 12/16/2019. Here is a summary of the call:

I confirmed with him that he did not want us to submit a separate report detailing our investigations undertaken for the Project on USACE lands. He confirmed that a copy of the full report, detailing the results from the entire alignment of the Project would be sufficient and that there was no need to submit a separate USACE report.

I also confirmed with him that we would provide this report to him at the time we submitted it to the FERC and SHSND.

I also followed up in an email as further confirmation of this conversation.

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Lisa DiNicolantonio

From: Andrea Thornton
Sent: Friday, January 3, 2020 8:25 AM
To: Atwell, Patrick C CIV USARMY CENWO (USA)
Subject: Overwater Geotech Permit - North Bakken Expansion

Hi Patrick –

Are there any updates on the status of the overwater geotech permit for the North Bakken Expansion Project?

Thanks and I hope you had a nice holiday!

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



Lisa DiNicolantonio

From: Andrea Thornton
Sent: Friday, January 3, 2020 9:54 AM
To: Atwell, Patrick C CIV USARMY CENWO (USA)
Subject: Meeting Next Friday

Hi Patrick –

Was Jason Renschler invited to participate in out meeting next Friday via phone? He has been our main point of contact for the project regarding the Section 404 permit.

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



NORTH BAKKEN EXPANSION PROJECT
MEETING NOTES

MEETING TOPIC:
North Bakken Expansion Project Introduction, Pre-Permit Meeting, 408 Process Review

DATE OF MEETING:
January 10, 2020 at 1:00 p.m. CST – Omaha District Office, Omaha, NE

ATTENDEES:

WBI Energy Transmission, Inc. (WBI)
Dave Linn
Greg Huncovsky
Kyle Stefka
General Robert Crear (The CREAR Group, LLC)

Environmental Resources Management (ERM)
Andrea Thornton
Wade Hammer

U.S. Army Corps of Engineers (USACE)
Patrick Atwell (Project Manager)
Jonas Grundman (408 specialist)
Luke Wallace (NEPA specialist)
Heath Kruger (Natural Resources Specialist)
Sandy Barnum (Cultural Resources Specialist)
Reece Nelson (Natural Resources Specialist)

MEETING NOTES:

- The meeting opened with introductions by everyone in attendance. Patrick informed the group that he would be the project manager until mid-year, when he is going overseas for an assignment and the project management responsibilities will be handed over to someone else a the U.S. Army Corps of Engineers – Omaha District (USACE).

- The meeting followed an agenda and PowerPoint slides displayed in the room (PowerPoint slides are included as Attachment 1). The initial portion of the meeting focused on providing the USACE staff an introduction to the North Bakken Expansion Project (Project).

    - Andrea Thornton provided an overview of the project, describing the project facilities that would be newly constructed and differentiating these facilities from the upgrades and modifications also planned.

    - Andrea also provided a summary of the project Purpose. Dave Linn added further details regarding the emphasis at the state level in North Dakota to minimize flaring of natural gas.

- Andrea provided a summary of the status of the Federal Energy Regulatory Commission (FERC), including that draft resource reports were submitted to FERC in late October, WBI was submitting a draft of the Applicant prepared Environmental Assessment (EA) the day of the meeting (January 10, 2020). In addition, WBI intends to file the final FERC Application in mid-February 2020. There was a recent minor reroute and a few landowners that have not allowed survey access which leaves field surveys at approximately 90 percent complete. Eventually all project areas will be surveyed.

- Wade Hammer provided an overview of pipeline construction, describing the assembly line fashion in which the mainline pipeline is constructed. Additional information provided included how waterbody and road crossings are typically done with a smaller separate pipeline crew that focuses on quick and specialized construction methods at these crossings to minimize the time to construct across these features. No waterbody crossings will be constructed as an open cut crossing where water is flowing.

- The second part of the presentation focused on the Nationwide Permit 12 (NWP 12 for Utility Lines) and WBI's intention to utilize NWP 12 for the Project. A summary of the water resources that would be impacted and summary of pre-construction notification (PCN) materials was described.

  - Wade summarized that 28 waterbodies and 31 wetlands are currently within the Project footprint. The WBI team advised that these numbers are preliminary and could change slightly after all surveys are complete on land parcels where survey permission has not been granted and the small reroute area. A summary of the resources crossed and construction methods is included in the PowerPoint slides in Attachment 1.

  - Wade further discussed that the Project would cross under Lake Sakakawea via horizontal directional drill (HDD), and since it is a Section 10 water, a PCN will be required. All water resources impacted will be included in with the PCN, although to date, the Lake Sakakawea crossing is the only water resource crossing that triggers a PCN.

  - Jonas Grundman noted that the information related to NWP 12 and the associated PCN should be addressed to a USACE regulatory staff member. Wade and Andrea noted that Jason Renschler (USACE Regulatory staff in Bismarck, ND) had been contacted and a follow-up call would occur with Jason to summarize this same information.

  - Wade further described that the Project team's goal was to work in close coordination with the USACE, providing as much information with the PCN in mid-February as possible, which would coincide with the FERC application submittal, while following up with the USACE to provide details as consultations (e.g., State Historic Preservation Office/Section 106, and U.S. Fish and Wildlife Service/Endangered Species) were completed between FERC as the lead federal agency and these other agencies.

- If adjustments are required to impact numbers due to minor changes in the project based on FERC review, WBI would promptly provide updates of materials within the PCN to allow for page swaps or section swaps to keep the PCN materials current.

- The USACE staff present acknowledged that Jason Renschler in the Bismarck, ND office would be the point of contact for the PCN submittal.

- The final segment of the meeting focused on the Section 408, USACE Civil Works Project review. The group discussed various aspects of the application submittal and review process and reviewed a draft schedule.

  - Wade summarized that there were two aspects of the project for which WBI understood a Section 408 review and approval or determination of no significant impact would be required. First for the in-water geotechnical work, and secondly for the pipeline installation under Lake Sakakawea.

  - First, the group discussed the status of the over-water geotechnical work application that was submitted during the summer of 2019. The USACE staff present indicated that the application had been moved along, but that there was some in-kind work that had been discussed at the Tobacco Garden Recreational Area that needed to be clearly outlined. USACE staff indicated that an approval by early April 2020 seemed to be reasonable and there was not an expectation that this would delay WBI's geotechnical work.

  - The group watched a video that highlighted the intersect HDD method being proposed, and for which a recent project successfully used to cross Lake Sakakawea.

  - The group the moved on to the second 408 review submittal for the pipeline installation and reviewed each of the application components listed on slide 11 in Attachment 1 (Contents of 408 Application Submittal).

    - The USACE staff stated that the factor of safety associated with the mud pressure for the drill was a key criteria for a smooth Section 408 review by the USACE. Project engineer, Kyle Stefka noted that the HDD profile was approximately 300 feet below Lake Sakakawea. The WBI team also described additional measure that were being planned (e.g., heavy wall pipe) to minimize or mitigate risks associated with the lake crossing.

    - The group reviewed the list of plans that would be submitted with the Section 408 application and distinguished between plans that were specific to the Lake Sakakawea crossing and USACE interests, versus plans that had been developed for the project as a whole. WBI asked if these broader project plans could be submitted instead of making a separate plan for just the lake crossing. USACE staff stated that this would be fine as long as there as a section or specific

acknowledgement that the plan applied to USACE interest lands and details specific to the Lake Sakakawea crossing were clearly outlined.

- Dave commented that the Emergency Response Plan (ER Plan) that WBI has is for the entire project, and that there are some items included that are privileged and confidential. The USACE acknowledged that materials can be submitted and kept separate as privileged and confidential, not for public release. The USACE stated that the ER Plan needed to have information specific to response associated with the lake crossing activities separated. Dave acknowledged that he could work with staff in the operations group within WBI to update the ER Plan to include a section or an appendix to address the Lake Sakakawea crossing.

- Patrick noted that it would also be possible to submit an Integrated Response Plan that included the Emergency Response Plan, Facilities Response Plan, and Geographical Response Plan as one document. Dave and Andrea noted that there really is not a facility associated specifically with the lake crossing and USACE interest land, so they asked if a separate Facilities Response Plan was required, or would it be sufficient to include a section that simply states there are no facilities associated with the lake crossing. The USACE staff indicated that clearly outlining what was not included or required would be important, as well as making sure to note what parts of each plan were relevant to the USACE project crossing would streamline their review, and prevent the need to search for information.

- Andrea asked about the Turbidity Curtain Plan that had been submitted with a recent project that crossed Lake Sakakawea. Patrick noted that this was a late add to the review of the other project, and that depending on the factor of safety that resulted from the WBI analysis of the HDD, the USACE may not require this plan. WBI acknowledged that preparing one in advance could be a strategy that would save time, and Patrick stated that the inclusion of this plan for the last project did not result in any delays.

- WBI asked if there were any specific details or items out of the ordinary that the USACE might be looking for in the HDD Plan. Jonas indicated that the USACE has a list of information they could provide via email. Dave noted that FERC has a new HDD Plan required for projects they review that is new as of October 2019. The USACE stated that clearly stating the factor of safety and all other measures taken to minimize risks with the Lake Sakakawea crossing in all of their documents (e.g., the EA and other Project plans) would help the USACE assemble their review document.

- The USACE noted that the Section 408 review document requires all other environmental review, just like the Section 404 (NWP 12)

process. The USACE will need all of the Section 106 and USFWS consultation materials from FERC, so helping to provide this information would also be beneficial. Patrick noted that the USACE has discussed the EA with FERC and has been attending some of the bi-monthly calls that FERC has been holding for cooperating agencies.

- The group discussed the land grant process, noting that since there is both U.S. Forest Service (National Grassland) and USACE land crossed, the Bureau of Land Management (BLM) would issue the right-of-way grant (ROW), under the Mineral Leasing Act. The USACE talked this process out and confirmed that the USACE would have to issue their approval to BLM first, which would then work with WBI to provide the ROW grant.

- The group discussed that since there would not be any surface disturbance on USACE land, there may not be need for a robust Reclamation Plan.

- Finally, the group reviewed a preliminary schedule for the Section 408 review that Patrick had developed. The group walked through the schedule and noted that it currently has the Section 408 review completion around the end of April 2021, which Dave noted was very tight with the Project construction schedule. The group acknowledged there were numerous factors that could either help move the review forward fluidly (e.g., providing information necessary the first time, cost recovery agreement) and other unknowns that could cause the timeline to be extended. General Robert Crear raised the question as to whether the pipeline diameter at 24-inch diameter would trigger the need for Congressional Approval. The USACE acknowledge that they needed to look at this more closely to determine if that was necessary.

- Other items discussed during the meeting included the following.

  - The group discussed the status of the cost recovery agreement. Patrick Atwell indicated it was very close to being completed and thought it could be processed over the next few days. Dave stressed that the Project is fully funded and moving ahead, so he was eager to finalize the agreement with the USACE.

  - USACE staff asked about the status of tribal engagement. Andrea summarized the steps taken by WBI and FERC to send letters to all recognized tribes and follow-up with phone calls and emails. The USACE staff stated they were determining if the USACE would want to send out their own letters.

- The meeting concluded just prior to 3 p.m. Central.

Attachment 1

PowerPoint Slides

WBI ENERGY TRANSMISSION
An MDU Resources Group company

North Bakken Expansion Project

U.S. Army Corps of Engineers Pre-Permitting Meeting

January 10, 2020

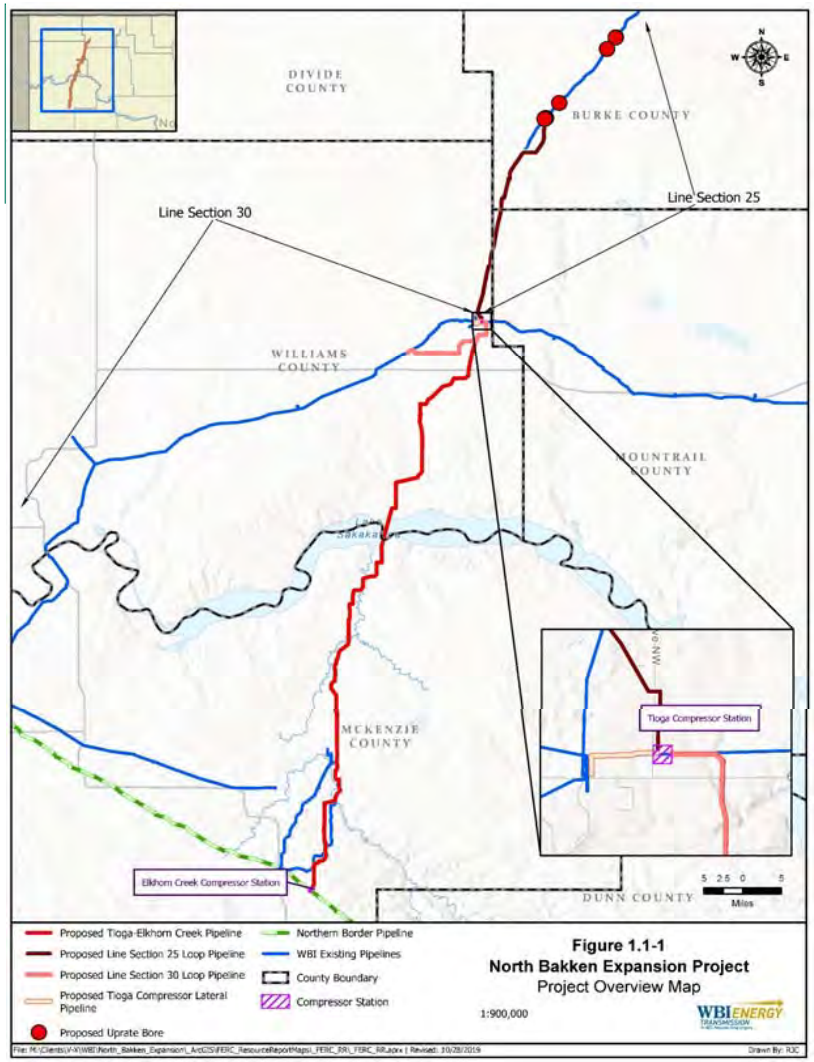
Project Website: https://www.wbienergy.com/wbienergy/transmission/north-bakken-expansion-project



ERM

Meeting Agenda

- Introductions
- Project Overview and Purpose
- FERC Project Update & Schedule
- Pipeline Construction Overview
- Wetland and Waterbody Crossings
- Nationwide Permit 12 – Notification Materials and Conditions
- Nationwide Permit Condition 31 - Section 408 Review Process
- Lake Sakakawea Crossing
- Real Estate/Out-Grant Process (USFS/USACE = BLM)



Project Overview

New Facilities:

- *Tioga-Elkhorn Creek – new pipeline ~62 miles of 24-inch*
- *Line Section 25 Loop – new pipeline ~20 miles of 12-inch*
- *Line Section 30 Loop – new pipeline ~10 miles of 12-inch*
- *Elkhorn Creek-Northern Border – new pipeline <1 mile of 24-inch*
- *Elkhorn Creek Compressor Station – new*
- *Tioga Plant Receipt Station, Norse Plant Receipt Station, Lignite Town Border Station and Lignite Plant Receipt Station – replace existing stations*
- *Northern Border Interconnect, and Norse Transfer Station– new*

Modifications and Upgrades:

- *Uprating Existing Line – 0.2 mile*
- *Tioga Compressor Station – modify existing facility add compression*
- *Robinson Lake Plant Receipt Station – modify existing station*
- *Springbrook Plant Receipt – modify existing station*

Project Purpose

- *Provide 350 million cubic feet per day of natural gas transportation capacity from the Bakken producing region of northwest North Dakota to Northern Border Pipeline Company's existing mainline for transit to the midcontinent region of the United States.*
- *Respond to market demand for additional firm take-away capacity for the increasing natural gas production from the Bakken and Three Forks Formations in the Williston Basin.*
- *Connect associated natural gas production from the Bakken and Three Forks Formations to Midwest markets.*
- *Assist with the reduction of flaring in order to meet established state mandated natural gas capture targets.*

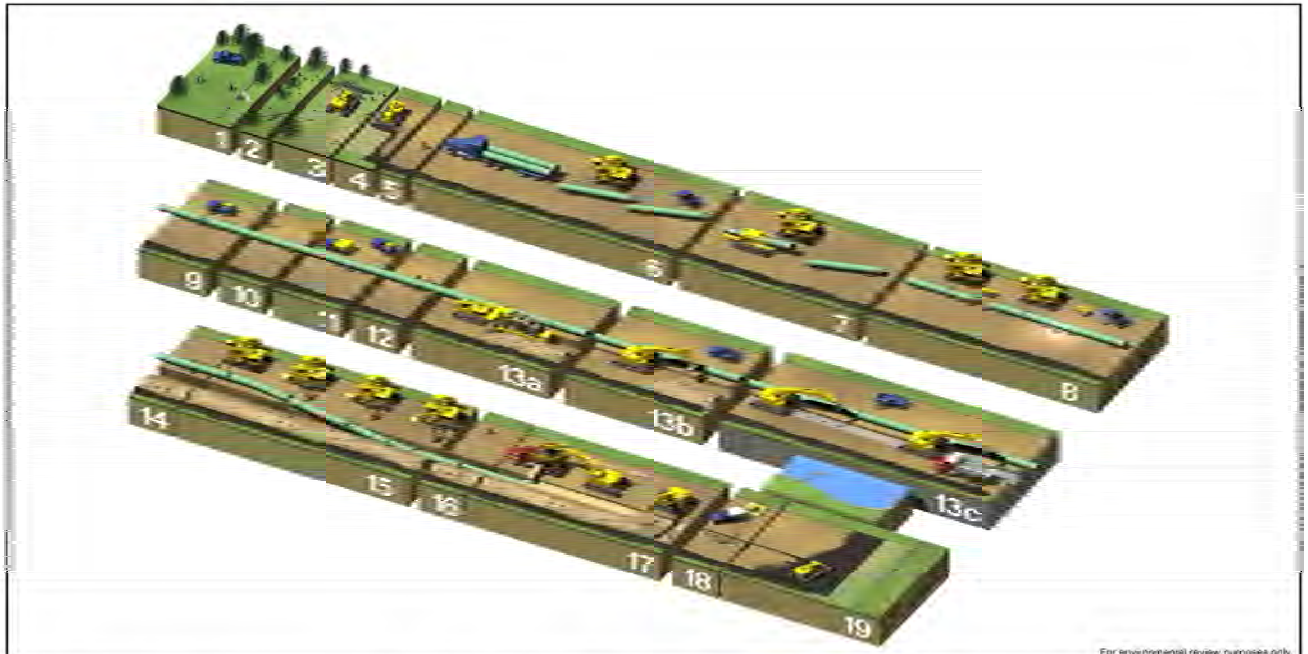


Project Status – FERC Project

- *Draft Resource Reports submitted to FERC late October 2019*
- *Submitting a preliminary draft of the Applicant prepared EA to FERC on January 10, 2020*
- *Plan to submitting the final FERC Application in mid February 2020*
- *Field Surveys are approximately 90 percent complete. Remaining surveys where landowner permission has been granted will occur in spring of 2020.*

Pipeline Construction Overview

- *Project construction will involve conventional pipeline construction.*



For environmental review purposes only.

1. Survey and Staking
2. Clearing
3. Front-End Grading
4. ROW Topsoil Stripping
5. Restaking Centerline of Trench
6. Stringing Pipe
7. Field Bending Pipe
8. Line-Up, Initial Weld
9. Fill & Cap, Final Weld
10. As-Built Footage
11. X-Ray Inspection, Weld Repair
12. Coating Field Welds
13a. Trenching (wheel ditcher)
13b. Trenching (backhoe)
13c. Trenching (rock)
14. Inspection & Repair of Coating
15. Lowering Pipe into Trench
16. As-Built Survey
17. Pad, Backfill, Rough Grade
18. Hydrostatic Testing, Final Tie-in
19. Replace Topsoil, Final Clean-Up, Full Restoration

Figure 1.3.1-1
Typical Pipeline Construction Sequence
North Bakken Expansion Project
WBI Energy Transmission, inc.

Environmental Resources Management
www.erm.com

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Wetland and Waterbody Crossings

- *28 waterbody crossings*
  - *11 perennial streams; 12 intermittent streams; 1 ephemeral stream; 4 open water ponds*
  - *17 proposed open-cut and 8 HDD/guided bore crossings. 2 ponds located in staging areas which would be avoided and 1 man-made stormwater pond at the existing Tioga Compressor Station which would be relocated*
- *31 wetland crossings*
  - *All palustrine emergent wetlands*
  - *Approximately 5 acres of temporary impacts and no permanent impacts*

USACE – Nationwide Permit 12

- *Submittal of pre-construction notification (PCN) required with Lake Sakakawea crossing (Section 10)*
- *Other Waters of U.S. crossings will be included in the notification as required, however there are no other crossings that trigger PCN that have been identified to date*
- *The PCN will include Single and complete crossings of water resources associated with the linear project will each be included in tables and maps along with supporting project information*
- *General Conditions – Section 7, Section 106, 408 process, etc. Supporting copies of documentation developed by FERC as lead federal agency to be provided to USACE.*
- *Regional Conditions – no significant concerns*

USACE – Review of NWP 12

- *Timing of submittal will coincide with FERC requirement to submit federal permits simultaneous with the FERC application*
- *Timing of various elements of FERC process that will support USACE permitting (e.g., Section 7 and Section 106 documentation/consultations)*
- *Anticipated open coordination throughout FERC review. Minor adjustments due to FERC review may be necessary, minor adjustments may occur to tables and maps*
- *USACE review process for NWP 12, point of contact, and forecasted workload*

General Condition 31 – Section 408

- *408 review is required for two aspects of project*
  - *Geotechnical work, over-water work on Lake Sakakawea*
  - *Pipeline project and corresponding NWP 12 (General Condition 31)*
- *Submittals have been made for over-water work to do geotechnical investigations after ice-out during spring 2020 (status of review?)*
- *Section 408 process for overall pipeline project, to be coordinated parallel with NWP 12, similar to other consultations (e.g. USFWS, SHPO)*
- *Cost recovery process coordination between WBI and USACE, next steps and timing*
- *Intersect HDD Video:Kinder Morgan - Bakken Missouri River Crossing Project - YouTube*



Section 408 Application Requirements for Pipeline Crossing of Lake Sakakawea

Contents of 408 Application Submittal – Review and Discuss Contents of Each:

- *Surface Use Plan*
- *Erosion Sedimentation Control/Stormwater Management Plan*
- *Spill Prevention Control Countermeasure Plan*
- *Emergency Response Plan, Facility Response Plan, Geographical Response Plan*
- *HDD Plan*
- *Operation and Maintenance Plan*
- *Reclamation and Monitoring Plan*
- *Risk Assessment*
- *Turbidity Curtain Plan*

USACE – 408 Review Process and Schedule for Pipeline Crossing of Lake Sakakawea

- *NWP 12 PCN materials submitted will include available information for 408 review at the time of submittal in February 2020*
- *Once over-water geotechnical work is complete during spring 2020, WBI would submit detailed information pertaining to the design crossing and associated plans for the 408 permit application*
- *Discuss benefits of providing available information for 408 review in February, followed by updated submitted after over-water geotechnical information and design details are available*
- *Anticipated open coordination throughout FERC review*
- *Steps for 408 review, schedule of steps, point of contact, and anticipated workload for 2020*

Thank You

Lisa DiNicolantonio

From: Andrea Thornton
Sent: Monday, January 13, 2020 3:03 PM
To: Renschler, Jason J CIV USARMY CENWO (USA)
Cc: Wade Hammer
Subject: North Bakken Expansion 404 Follow-up

Hi Jason –

I hope you had a nice holiday season. Would you happen to have any availability this week for a call with myself and Wade Hammer to discuss the upcoming 404 permit submittal? I will be in the office Tuesday –Thursday this week. You had mentioned having a couple of comments on RR2 that you also wanted to discuss.

Please let me know if there is a day/time that works for you.

Thanks,
Andrea

Lisa DiNicolantonio

From: Andrea Thornton
Sent: Monday, January 13, 2020 8:56 AM
To: Atwell, Patrick C CIV USARMY CENWO (USA)
Subject: Meeting Action Items

Hi Patrick –

Thanks again for taking the time to meet with myself and WBI last week. I think it was helpful to have everyone in the same room. One of the action items that I have in my notes from the meeting is that someone from your team would be following up with a list of requirements needed in each of the plans that are to be submitted with the 408 application. Is this something that you will be able to send along this week?

Thanks,
Andrea

Lisa DiNicolantonio

From: Wade Hammer
Sent: Wednesday, January 15, 2020 12:43 PM
To: Jason Renschler (Jason.J.Renschler@usace.army.mil)
Cc: Andrea Thornton
Subject: WBI - North Bakken Expansion Project - January 10, 2020 Meeting Slides
Attachments: 011020_Attachment1_PowerPointSlides.pdf

Jason,

For your information and as promised, attached are the slides that were presented during the meeting with the USACE – Omaha District 408 permitting team last Friday.

Thank you for your time today, it was helpful to discuss the up-coming pre-construction notification submittal for the project.

As always, reach out to Andrea or me if you have questions.

Sincerely,
Wade

Wade Hammer
ERM
1000 IDS Center, 80 S. 8th St I Minneapolis I MN I 55402
T+612-359-5684 I M+612-554-1970
E wade.hammer@erm.com I W www.erm.com

WBI ENERGY TRANSMISSION
An MDU Resources Group company

North Bakken Expansion Project

U.S. Army Corps of Engineers Pre-Permitting Meeting

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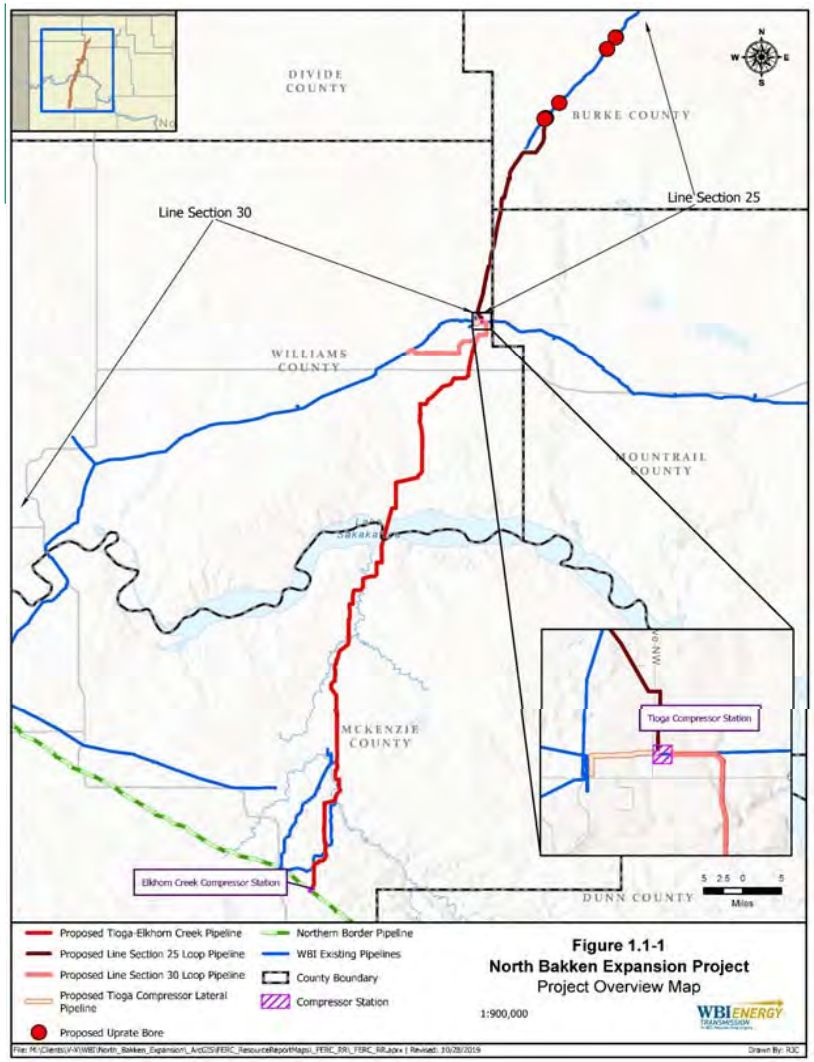
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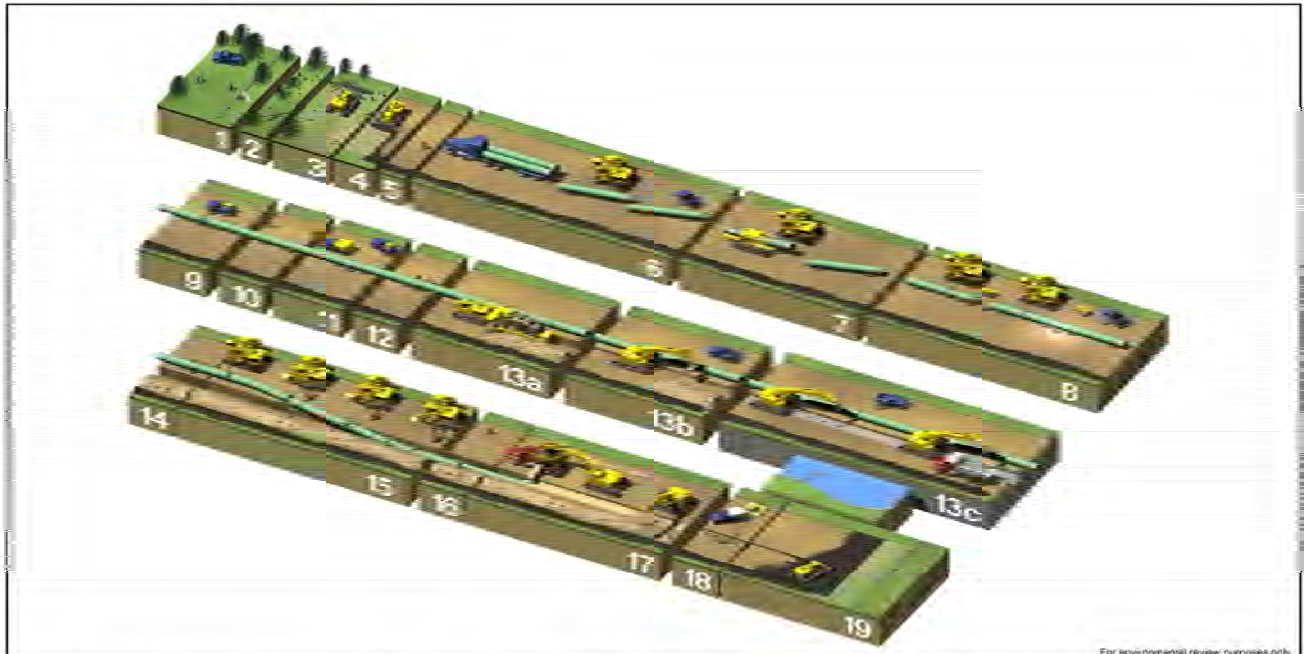


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USACE – 408 Review Process and Schedule for Pipeline Crossing of Lake Sakakawea

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Thank You

NORTH BAKKEN EXPANSION PROJECT
CONFERENCE CALL NOTES

MEETING TOPIC:
404 Permitting and PCN Submittal Discussion

DATE OF MEETING:
January 15, 2020 at 1:00 p.m. CST – Project Conference Call

ATTENDEES:

Environmental Resources Management (ERM)
Andrea Thornton
Wade Hammer

U.S. Army Corps of Engineers (USACE)
Jason Renschler

MEETING NOTES:

- The purpose of the call with Mr. Renschler, who will be the regulatory lead for the USACE for the North Bakken Expansion Project (Project), was to provide an overview of what was discussed during a Friday January 10, 2020 meeting in Omaha with several other USACE staff to discuss Section 408 permitting and to also clarify a few questions about the pre-construction notification (PCN) that WBI Energy Transmission, Inc. (WBI) intended to submit under Nationwide Permit 12 (NWP) in February 2020.

- A brief summary of topics discussed during the January 10th meeting were summarized by ERM staff, and ERM stated that a copy of the PowerPoint slides used during the meeting could be provided to Mr. Renschler, which he then requested. *(subsequent to the call a PDF of the PowerPoint slides were provided via email to Mr. Renschler on 1/15/2020)*

- The preferred approach to jurisdictional determinations was then discussed. Andrea Thornton stated that after coordinating further with WBI the Project team determined that the preliminary jurisdictional determination approach (PJD) would be utilized (this approach assumes all water resources delineated and submitted with the pre-construction notification under NWP 12 will be jurisdictional).

- ERM staff then asked Mr. Renschler how he preferred to receive any minor updates that may be required after the initial submittal. It was noted that the PCN would be submitted in mid-February to coincide with the FERC application submittal and the requirement for all federal permit applications to be submitted coincidentally with the FERC application. Therefore, with a small amount of additional surveys to occur during the 2020 field season, ERM staff noted there could be a small number of changes. Mr. Renschler acknowledged that small updates to tables and maps could be submitted to replace original materials without requiring submittal of all materials or restarting the application process. Mr. Renschler noted that he was familiar with infrastructure projects that require adjustments during permitting, and he was able to coordinate with the Project team. The group acknowledged that the intention was to

maintain a current and up-to-date permit package to allow the USACE to remain abreast of Project changes and to help him review materials in an efficient manner.

- Wade Hammer asked a couple of questions, about the PCN submittal. First, Wade confirmed that Mr. Renschler would prefer to utilize Form 4345, which is a standard USACE permit application form. In addition, Wade confirmed that the PCN would include a summary of the status of consultations between FERC, the lead federal agency, and the State Historic Preservation Office and U.S. Fish and Wildlife Service of these consultation efforts, and that the PCN would also acknowledge that final documentation of these consultations could be provided for the USACE record once complete. Mr. Renschler stated that this approach was how he expected the PCN to be developed.

- Finally, Mr. Renschler provided a requested a minor edit to the Wetland Delineation Report attached to draft Resource Report 2, which Andrea acknowledge would be addressed.

Lisa DiNicolantonio

From: Renschler, Jason J CIV USARMY CENWO (USA) <Jason.J.Renschler@usace.army.mil>
Sent: Wednesday, January 15, 2020 1:09 PM
To: Wade Hammer
Cc: Andrea Thornton
Subject: RE: WBI - North Bakken Expansion Project - January 10, 2020 Meeting Slides
Attachments: Eng. Form 4345.pdf; Request for JD.PDF

Thanks. I attached two docs for your use/reference as things move forward. Jason.

From: Wade Hammer [mailto:Wade.Hammer@erm.com]
Sent: Wednesday, January 15, 2020 2:43 PM
To: Renschler, Jason J CIV USARMY CENWO (USA) <Jason.J.Renschler@usace.army.mil>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: [Non-DoD Source] WBI - North Bakken Expansion Project - January 10, 2020 Meeting Slides

Jason,

For your information and as promised, attached are the slides that were presented during the meeting with the USACE – Omaha District 408 permitting team last Friday.

Thank you for your time today, it was helpful to discuss the up-coming pre-construction notification submittal for the project.

As always, reach out to Andrea or me if you have questions.

Sincerely,
Wade

Wade Hammer
ERM
1000 IDS Center, 80 S. 8th St I Minneapolis I MN I 55402
T+612-359-5684 I M+612-554-1970
E wade.hammer@erm.com I W Blockedwww.erm.com

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REQUEST FOR CORPS JURISDICTIONAL DETERMINATION (JD)

U.S. ARMY CORPS OF ENGINEERS, OMAHA DISTRICT

The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the project area subject to federal jurisdiction under the regulatory authorities referenced below. **Note**: Submission of requested information is voluntary; however, if information is not provided, the request for an AJD cannot be evaluated nor can an AJD be issued.

CORPS USE ONLY:
DATE RECEIVED:

PROJECT NO.:

1. PROPERTY LOCATION:

Street Address:

City/Township/Parish:

County: State:

Acreage of Parcel/Review Area for JD:

Section: Township: Range:

Latitude: Longitude:

(For linear projects, please include the center point of the proposed alignment.)

2. REQUESTOR CONTACT INFORMATION:

Typed or printed name:

Company name:

Street Address:

City: State: Zip:

Daytime phone no.:

Email address:

3. MAP: Please attach a survey/plat map and vicinity map identifying location and review area for the JD.

4. REASON FOR REQUEST (check as many as applicable):

- ☐ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps, and the JD would be used to avoid and minimize impacts to jurisdictional aquatic resources and as an initial step in a future permitting process.
- ☐ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps; this request is accompanied by my permit application and the JD is to be used in the permitting process.
- ☐ I intend to construct/develop a project or perform activities in a navigable water of the U.S. which is included on the district Section 10 list and/or is subject to the ebb and flow of the tide.
- ☐ A Corps JD is required in order to obtain my local/state authorization.
- ☐ I intend to contest jurisdiction over a particular aquatic resource and request the Corps confirm that jurisdiction does/does not exist over the aquatic resource on the parcel.
- ☐ I believe that the site may be comprised entirely of dry land/upland.
- ☐ Other:

5. TYPE OF DETERMINATION BEING REQUESTED:

- ☐ I am requesting an approved JD
- ☐ I am requesting a preliminary JD
- ☐ I am requesting a “no permit required” letter as I believe my proposed activity is not regulated.
- ☐ I am unclear as to which JD I would like to request and require additional information.

6. OWNERSHIP DETAILS:

- ☐ I currently own this property.
- ☐ I plan to purchase this property.
- ☐ I am an agent/consultant acting on behalf of the requestor.
- ☐ Other (please explain):

*__Authorities__: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Program of the U.S. Army Corps of Engineers; Final Rule for 33 CFR Parts 320-332. **Uses**: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in the approved jurisdictional determination (AJD), which will be made available to the public on the District's website and on the Headquarters USACE website.

By signing below, you are indicating that you have the authority, or are acting as the duly authorized agent of a person or entity with such authority, to and do hereby grant Corps personnel right of entry to legally access the site if needed to perform the JD. Your signature shall be an affirmation that you possess the requisite property rights to request a JD on the subject property.

Signature: Date:

U.S. Army Corps of Engineers (USACE)

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT

33 CFR 325. The proponent agency is CECW-CO-R.

Form Approved - OMB No. 0710-0003 Expires: 02-28-2022

The public reporting burden for this collection of information, OMB Control Number 0710-0003, is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR APPLICATION TO THE ABOVE EMAIL.

PRIVACY ACT STATEMENT

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and/or instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned. System of Record Notice (SORN). The information received is entered into our permit tracking database and a SORN has been completed (SORN #A1145b) and may be accessed at the following website: http://dpcld.defense.gov/Privacy/SORNsIndex/DOD-wide-SORN-Article-View/Article/570115/a1145b-ce.aspx

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME	8. AUTHORIZED AGENT'S NAME AND TITLE (agent is not required)
First - Middle - Last -	First - Middle - Last -
Company -	Company -
E-mail Address -	E-mail Address -
6. APPLICANT'S ADDRESS:	9. AGENT'S ADDRESS:
Address-	Address-
City - State - Zip - Country -	City - State - Zip - Country -
7. APPLICANT'S PHONE NOs. w/AREA CODE	10. AGENTS PHONE NOs. w/AREA CODE
a. Residence b. Business c. Fax	a. Residence b. Business c. Fax

STATEMENT OF AUTHORIZATION

11. I hereby authorize, _____ to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

_____ _____
SIGNATURE OF APPLICANT DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions)

13. NAME OF WATERBODY, IF KNOWN (if applicable)	14. PROJECT STREET ADDRESS (if applicable)
	Address
15. LOCATION OF PROJECT	City - State- Zip-
Latitude: ◦N Longitude: ◦W	

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions)

State Tax Parcel ID Municipality

Section - Township - Range -

17. DIRECTIONS TO THE SITE

18. Nature of Activity (Description of project, include all features)

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards:

Type Amount in Cubic Yards	Type Amount in Cubic Yards	Type Amount in Cubic Yards

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Acres

or

Linear Feet

23. Description of Avoidance, Minimization, and Compensation (see instructions)

24. Is Any Portion of the Work Already Complete? ☐ Yes ☐ No IF YES, DESCRIBE THE COMPLETED WORK

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list).

a. Address-

City - State - Zip -

b. Address-

City - State - Zip -

c. Address-

City - State - Zip -

d. Address-

City - State - Zip -

e. Address-

City - State - Zip -

26. List of Other Certificates or Approvals/Denials received from other Federal, State, or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED

* Would include but is not restricted to zoning, building, and flood plain permits

27. Application is hereby made for permit or permits to authorize the work described in this application. I certify that this information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

SIGNATURE OF APPLICANT DATE SIGNATURE OF AGENT DATE

The Application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than $10,000 or imprisoned not more than five years or both.

Lisa DiNicolantonio

From: Andrea Thornton
Sent: Thursday, January 16, 2020 9:53 AM
To: Grundman, Jonas L CIV USARMY CENWO (US); Atwell, Patrick C CIV USARMY CENWO (USA)
Cc: Wade Hammer
Subject: Plan Requirements

Hi Jonas and Patrick –

At our meeting last week it was mentioned that there was a list of requirements for the various 408 plan documents that you would be able to share with us. Is this something that you will be able to send our way?

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com

Lisa DiNicolantonio

From: Wade Hammer
Sent: Monday, January 20, 2020 12:26 PM
To: Renschler, Jason J CIV USARMY CENWO (USA)
Cc: Andrea Thornton
Subject: RE: WBI - North Bakken Expansion Project - January 10, 2020 Meeting Slides

Jason,

A couple of follow-up question I have regarding the PCN submittal are listed below. When you have a chance, could you please let me know how best to proceed on these few items?

As we prepare for submittals in a month or so, it would be helpful to know answers to the following logistics questions in advance.

1. For supporting maps submitted with the PCN, is there a size requirement (e.g., they must be 8.5”x11”, or can they be 11”x17”)? In my experience some districts prefer to keep everything on 8.5”x11” for filing purposes. Do you have a requirement or preference?
2. Do you require or would you like to have the PCN materials electronically, via a DVD, or is a hard copy all you require?
3. How many copies of the PCN would you like sent?

Thank you for your help.
Wade

Wade Hammer
wade.hammer@erm.com
(612) 359-5684 Direct
(612) 554-1970 Cell
(612) 347-6780 Fax

From: Renschler, Jason J CIV USARMY CENWO (USA) <Jason.J.Renschler@usace.army.mil>
Sent: Wednesday, January 15, 2020 3:09 PM
To: Wade Hammer <Wade.Hammer@erm.com>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: RE: WBI - North Bakken Expansion Project - January 10, 2020 Meeting Slides

Thanks. I attached two docs for your use/reference as things move forward. Jason.

From: Wade Hammer [mailto:Wade.Hammer@erm.com]
Sent: Wednesday, January 15, 2020 2:43 PM
To: Renschler, Jason J CIV USARMY CENWO (USA) <Jason.J.Renschler@usace.army.mil>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: [Non-DoD Source] WBI - North Bakken Expansion Project - January 10, 2020 Meeting Slides

Jason,

For your information and as promised, attached are the slides that were presented during the meeting with the USACE – Omaha District 408 permitting team last Friday.

Thank you for your time today, it was helpful to discuss the up-coming pre-construction notification submittal for the project.

As always, reach out to Andrea or me if you have questions.

Sincerely,
Wade

Wade Hammer
ERM
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T+612-359-5684 I M+612-554-1970
E wade.hammer@erm.com I W Blockedwww.erm.com

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Lisa DiNicolantonio

From: Wade Hammer
Sent: Tuesday, January 21, 2020 8:28 AM
To: Renschler, Jason J CIV USARMY CENWO (USA)
Cc: Andrea Thornton
Subject: RE: WBI - North Bakken Expansion Project - January 10, 2020 Meeting Slides

Follow Up Flag: Follow up
Flag Status: Flagged

Very good. Thanks for the quick reply Jason!

Wade Hammer
wade.hammer@erm.com
(612) 359-5684 Direct
(612) 554-1970 Cell
(612) 347-6780 Fax

From: Renschler, Jason J CIV USARMY CENWO (USA) <Jason.J.Renschler@usace.army.mil>
Sent: Tuesday, January 21, 2020 10:25 AM
To: Wade Hammer <Wade.Hammer@erm.com>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: RE: WBI - North Bakken Expansion Project - January 10, 2020 Meeting Slides

Morning Wade – short answers to your questions below:

1. No size requirement. 11x17's are good, especially for looking at details.
2. Electronic direct to me is preferred. If they are huge files, may prefer hard copy. There is a limit on email attachments, so may have to send multiple emails (not sure what number is).
3. 1-copy is fine.

Let me know if you have any additional questions. Thanks, Jason.

From: Wade Hammer [mailto:Wade.Hammer@erm.com]
Sent: Monday, January 20, 2020 2:26 PM
To: Renschler, Jason J CIV USARMY CENWO (USA) <Jason.J.Renschler@usace.army.mil>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: [Non-DoD Source] RE: WBI - North Bakken Expansion Project - January 10, 2020 Meeting Slides

Jason,

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From: Renschler, Jason J CIV USARMY CENWO (USA) <Jason.J.Renschler@usace.army.mil>
Sent: Wednesday, January 15, 2020 3:09 PM
To: Wade Hammer <Wade.Hammer@erm.com>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: RE: WBI - North Bakken Expansion Project - January 10, 2020 Meeting Slides

Thanks. I attached two docs for your use/reference as things move forward. Jason.

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Sent: Wednesday, January 15, 2020 2:43 PM
To: Renschler, Jason J CIV USARMY CENWO (USA) <Jason.J.Renschler@usace.army.mil>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: [Non-DoD Source] WBI - North Bakken Expansion Project - January 10, 2020 Meeting Slides

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As always, reach out to Andrea or me if you have questions.

Sincerely,
Wade

Wade Hammer
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E wade.hammer@erm.com I W BlockedBlockedwww.erm.com

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Kevin Malloy

From: Kevin Malloy
Sent: Wednesday, December 11, 2019 7:38 AM
To: Richard.R.Rogers@usace.army.mil
Cc: Andrea Thornton; Pat Robblee
Subject: WBI North Bakken Expansion USACE Report

Hi Rick,

I hope this email finds you well. We are in the process of preparing and finalizing the report regarding our work on the USACE lands crossed by the WBI North Bakken Project corridor. I wanted to touch base with you about how you would prefer we proceed with submitting the report to you and subsequently the SHSND.

I also wanted to check with you to see if you had a preferred format for an unanticipated finds plan.

It was a pleasure to meet you back in September. Please let me know if you have any questions.

Kind regards,
Kevin

Kevin Malloy
Archaeologist

ERM
1000 IDS Center
80 S. Eighth Street | Minneapolis | MN | 55402
T 612.347.7138 | **M** 906.285.0361
E kevin.malloy@erm.com | **W** www.erm.com



Kevin Malloy

From: Kevin Malloy
Sent: Monday, December 16, 2019 11:30 AM
To: Rogers, Richard R II CIV USARMY CENWO (US)
Cc: Dawn Ramsey; Barnum, Sandra V CIV USARMY CENWO (US); Moscarello, Megan J CIV USARMY CENWO (US); Pat Robblee; Andrea Thornton; Ed Schneider
Subject: RE: WBI North Bakken Expansion USACE Report (UNCLASSIFIED)

Hi Rick,

It was good to speak with you this morning. As per our conversation, I will send you a copy of the full report and the shapefiles that includes the archaeological results for the entire alignment of the Project when we submit it to the FERC and the SHSND. This report will also include the results of the investigation of the USACE lands crossed by the Project.

All the best,

Kevin

-----Original Message-----
From: Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>
Sent: Monday, December 16, 2019 10:19 AM
To: Kevin Malloy <Kevin.Malloy@erm.com>
Cc: Dawn Ramsey <Dawn.Ramsey@ferc.gov>; Barnum, Sandra V CIV USARMY CENWO (US) <Sandra.V.Barnum@usace.army.mil>; Moscarello, Megan J CIV USARMY CENWO (US) <Megan.J.Moscarello@usace.army.mil>
Subject: RE: WBI North Bakken Expansion USACE Report (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Good morning Kevin,

Thank you for reaching out to me regarding the status of the report. As you know this proposed infrastructure is a federalized action that includes lands across a few different federal agencies, and to my knowledge the lead federal agency will be the FERC once an application has been submitted.

So as not to create confusion with other agencies I would recommend that you coordinate the submission of the Class III report with the lead federal agency for this project. FYI the SHSND reference number for this project is "19-5593".

As for the draft copy and review of the Class III report if you would send me the electronic copy along with the shapefiles for the project that would be great. I am assuming you are covering the entire alignment and laterals in one report, if so I know the SHSND would prefer it that way.

As for the unanticipated finds / inadvertent discovery plan the USACE does have a notification protocol for any finds involving human remains on USACE lands (see attachment).

Best,

Rick

Richard R. Rogers
USACE NWO, Garrison Project
Archeologist
201 1st Street, Rm 210
Riverdale, ND 58565
Richard.R.Rogers@usace.army.mil
Office: (701) 654-7744
Cell: (701) 301-0018

-----Original Message-----
From: Kevin Malloy [mailto:Kevin.Malloy@erm.com]
Sent: Wednesday, December 11, 2019 07:38
To: Rogers, Richard R II CIV USARMY CENWO (US) <Richard.R.Rogers@usace.army.mil>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>; Pat Robblee <Pat.Robblee@erm.com>
Subject: [Non-DoD Source] WBI North Bakken Expansion USACE Report

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Kind regards,

Kevin

Kevin Malloy

Archaeologist

ERM

1000 IDS Center

80 S. Eighth Street | Minneapolis | MN | 55402

T 612.347.7138 | M 906.285.0361

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CLASSIFICATION: UNCLASSIFIED

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1000 IDS Center
80 South Eighth Street
Minneapolis, MN 55402

Telephone: +1 612 347 6789
Fax: +1 612 347 6780

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February 14, 2020

Richard Rogers, Archaeologist
USACE NWO, Garrison Project
201 1st Street, Rm 210
Riverdale, ND 58565

Subject: WBI Energy Transmission, Inc.
North Bakken Expansion Project – Class III Survey Reports
McKenzie, Williams, Burke, and Mountrail Counties, North Dakota
ND SHPO Ref.: 19-5593

Dear Mr. Rogers:

Please reference WBI Energy Transmission, Inc.'s (WBI Energy's) previous correspondence regarding the above referenced project. WBI Energy proposes to construct and operate the North Bakken Expansion Project (Project) in McKenzie, Williams, Burke, and Mountrail Counties, North Dakota. The Project consists of a new, approximately 61.9-mile-long, 24-inch-diameter, natural gas transmission pipeline (referred to as the Tioga-Elkhorn Creek Pipeline) from new facilities at WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to a new compressor station (Elkhorn Creek Compressor Station) southeast of Watford City, North Dakota. The Project also includes:

- approximately 0.3 mile of new, 24-inch-diameter natural gas pipeline (referred to as the Elkhorn Creek-Northern Border Pipeline) between the proposed Elkhorn Creek Compressor Station and a new interconnect with Northern Border Pipeline Company's mainline;
- approximately 20.4 miles of new 12-inch-diameter natural gas pipeline looping (referred to as the Line Section 25 Loop) along WBI Energy's Line Section 25;
- approximately 9.4 miles of new 12-inch-diameter natural gas pipeline looping (referred to as the Line Section 30 Loop) along WBI Energy's Line Section 30;
- approximately 0.5 mile of new 20-inch-diameter natural gas receipt lateral (referred to as the Tioga Compressor Lateral) between the Tioga Plant Receipt Station and the new facilities at the existing Tioga Compressor Station;
- modifications/uprates to the existing Line Section 25; and
- installation of new and modifications to existing measurement, delivery, receipt, and transfer stations along WBI Energy's pipeline routes.

The Project is regulated by the Federal Energy Regulatory Commission (FERC) under Section 7(c) of the Natural Gas Act. Under the Energy Policy Act of 2005, FERC is the lead agency for coordinating federal authorizations and complying with the National Environmental Policy Act on natural gas pipeline projects subject to its jurisdiction. FERC similarly is the lead federal agency for complying with Section 106 of the National Historic Preservation Act (NHPA) on natural gas pipeline projects under its jurisdiction. In accordance with 36 CFR 800.2(c)(4), WBI Energy is assisting the FERC in meeting its obligations under Section 106 of the NHPA by coordinating with agencies and tribes and conducting surveys to identify historic properties that may be affected by the Project.

WBI Energy retained Environmental Resources Management (ERM) to conduct a Class III survey of the Project area for archaeological sites and historic structures. ERM conducted field surveys of the Project area between June and October 2019. Approximately 90 percent of the Project area was examined for archaeological resources; the entire Project area was examined for historic structures.

Approximately 2.8 miles of the proposed Tioga-Elkhorn Creek Pipeline crosses federal lands managed by the U.S. Army Corps of Engineers (COE). These lands, which include 2.4 miles under Lake Sakakawea and 0.3 mile along the lakeshore, will be crossed by horizontal directional drill. Another 1.8 miles of the proposed Tioga-Elkhorn Creek Pipeline crosses federal lands managed by the U.S. Forest Service (USFS). Archaeological survey of these federal lands was completed in accordance with Archaeological Resources Protection Act permits issued by the COE and USFS to ERM.

WBI Energy and ERM contacted 13 federally recognized Indian tribes to solicit input on the Project. A monitor from one tribe, the Rosebud Sioux Tribe, participated in the archaeological survey beginning on September 25 and continuing through the end of the survey season. The monitor was present for the survey completed on COE lands.

To date, archaeological survey of the proposed Project facilities identified or relocated 61 sites and 12 isolated finds. Of these, 44 sites and all 12 isolated finds contain prehistoric materials, four sites contain prehistoric and historic materials, and 13 sites contain historic materials. Thirty-one sites with prehistoric components contain stone surface features such as stone circles or cairns.

Twenty-four sites and all 12 isolated finds are recommended not eligible for listing in the National Register of Historic Places (NRHP). The NRHP-eligibility of the remaining 37 sites is undetermined. Of these, 19 sites (all of which contain prehistoric stone surface features) are located greater than 25 feet from the construction footprint for the Project. Because these sites will not be affected by Project construction activities, no additional work at the sites is recommended. Thirteen unevaluated sites (including 11 that contain prehistoric stone surface features) are located outside of the construction footprint for the Project, but within 25 feet of construction workspace. While these sites will not be affected by Project construction activities, fencing of the edge of the construction right-of-way in areas adjacent to these sites is recommended to ensure they are adequately protected during construction. Five unevaluated sites (including one with prehistoric stone surface features) are located within the construction footprint of the Project; avoidance or additional testing of these sites is recommended.

Specific to COE lands, the survey relocated one prehistoric site (32WI976). This site is recommended not eligible for listing in the NRHP. A small portion of previously recorded site 32MZ598 extends into the survey area on COE lands, but no evidence of this site was identified in the survey area. The area of this site will not be affected by the Project.

The historic structures survey documented or revisited 16 resources. Of these, six resources are recommended not eligible for listing in the NRHP; no further work at these resources is recommended. The NRHP-eligibility of 10 resources is undetermined, but the Project would not result in an adverse impact on these resources assuming they are or could be eligible. No additional work at these sites is recommended. Of the historic structures documented by the survey, none are located on COE lands.

Enclosed for your review please find Class III survey reports for the archaeological and historic structures surveys, which include results for COE lands. In discussions with ERM, the USFS requested a separate standalone report for the archaeological survey on USFS lands. Although our

main report includes the survey results for USFS lands, we are also providing you a copy of the separate standalone report (abstracted from the main report) which we prepared for USFS lands so you have a complete record of the reports prepared to date for the Project.

Fieldwork for the outstanding archaeological survey is planned for the 2020 field season. An addendum Class III archaeological survey report will be prepared for these areas when survey is complete.

WBI Energy would appreciate your comments on the attached reports specific to the surveys and results for COE lands. If you have any questions or comments on the Project or the reports, please contact me at 612-840-8976 or pat.robblee@erm.com, or Dr. Kevin Malloy at 906-285-0361 or kevin.malloy@erm.com. Please direct written correspondence to Dr. Malloy's attention at:

Environmental Resources Management
1000 IDS Center
80 South 8th Street
Minneapolis, MN 55402

Sincerely,



Patrick Robblee
Program Director

Enclosures: Class III Archaeological Survey Report
Class III Archaeological Survey Report for USFS Lands
Class III Historic Structures Survey Report

cc: Jill Linn, WBI Energy
Andrea Thornton, ERM
Kevin Malloy, ERM
Emily Laird, ERM

WBI ENERGY TRANSMISSION, INC.
1250 West Century Ave.
P.O. Box 5601
Bismarck, ND 58506-5601
(701) 530-1600
www.wbienergy.com

February 14, 2020

Patrick Atwell
U.S. Army Corps of Engineers
1616 Capitol Ave., Suite 9000
Omaha, NE 68102 (P: 402-995-2229)

Re: WBI Energy Transmission, Inc. – North Bakken Expansion Project
Section 408 Application - Crossing of Lake Sakakawea and
Adjacent Army Corps Real Estate

Mr. Atwell,

WBI Energy Transmission, Inc. (WBI Energy) proposes to install approximately 93 miles of pipeline, including new pipeline, pipeline looping and upgrades to existing pipelines, as well as construction and upgrades to compressor stations and other appurtenances to transport natural gas from WBI Energy's existing Tioga Compressor Station near Tioga, Williams County, North Dakota, to a new interconnect with Northern Border's mainline southeast of Watford City, McKenzie County, North Dakota. The North Bakken Expansion Project (Project) would include the crossing of Lake Sakakawea and adjacent U.S. Army Corps of Engineers (USACE) land. WBI Energy is proposing to cross both the lake and the USACE property using horizontal directional drilling (HDD) methodologies to avoid surface disturbance of both.

WBI Energy is submitting a pre-construction notification to the Bismarck, North Dakota Regulatory office coincidental with this section 408 application for review of the Project under Nationwide Permit 12 (NWP 12). In addition, the Project is being reviewed according to the National Environmental Policy Act by the Federal Energy Regulatory Commission (FERC), under section 7(c) of the Natural Gas Act. The timing of submittals to all federal agencies simultaneously in the FERC review process requires the coordination of these submittals. Environmental review materials necessary to support the section 408 review will be available as the NWP 12 and FERC reviews are completed, and copies of supporting documentation can be provided upon request.

WBI Energy is submitting the enclosed application to provide materials discussed during pre-application meetings with USACE staff during the fall of 2019 and during a meeting in Omaha, Nebraska on January 10, 2020. WBI previously provided a section 408 application for USACE review during fall 2019, seeking authorization to complete geotechnical work within Lake Sakakawea. Pending approval by the USACE, the geotechnical work will be completed during spring 2020 and materials associated with this submittal will be updated based on the findings of the geotechnical work and any resulting changes to the HDD design. WBI Energy is providing the enclosed application both as a means to coordinate federal submittals along with the FERC application submittal, as well as a means to facilitate early coordination with the USACE section 408 review team.

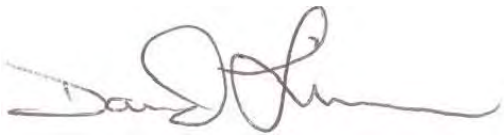
The following attachments are included in this submittal:

ATTACHMENTS:

- U.S. Army Corps of Engineers Form ENG4345
- Figure 1 – Lake Sakakawea HDD Extent and Associated USACE Owned Lands Crossing
- Attachment 1 – Surface Use Plan
- Attachment 2 – Erosion and Sedimentation Control Plan
- Attachment 3 – Spill Prevention Control Countermeasure Plan
- Attachment 4 – Emergency Response Plan, Facility Response Plan, and Geographical Response Plan
- Attachment 5 – HDD Plan
- Attachment 6 – Operation and Maintenance Plan
- Attachment 7 – Reclamation and Monitoring Plan
- Attachment 8 – Risk Assessment

WBI Energy appreciates your assistance and review of the enclosed materials and should you have questions or require additional information during your review, please contact Dave Linn (406) 359-7333.

Respectfully submitted,



Dave Linn
Senior Engineering and Projects Manager
WBI Energy Transmission, Inc.

Cc:

Greg Huncovsky, WBI

Andrea Thornton, ERM

WBI ENERGY TRANSMISSION, INC.
1250 West Century Ave.
P.O. Box 5601
Bismarck, ND 58506-5601
(701) 530-1600
www.wbienergy.com

February 14, 2020

Jason Renschler
U.S. Army Corps of Engineers – Regulatory
3319 University Drive
Bismarck, ND 58504 (P: 701-255-0015)

Re: WBI Energy Transmission, Inc.
North Bakken Expansion Project
Nationwide Permit 12 – Pre-Construction Notification

Mr. Renschler,

WBI Energy Transmission, Inc. (WBI Energy) proposes to install approximately 93 miles of pipeline, including new pipeline, pipeline looping and upgrades to existing pipelines, as well as construction and upgrades to compressor stations and other appurtenances to transport natural gas from WBI Energy's existing Tioga Compressor Station near Tioga, Williams County, North Dakota, to a new interconnect with Northern Border's mainline southeast of Watford City, McKenzie County, North Dakota. The North Bakken Expansion Project (Project) would require crossing wetlands and waterbodies that would require Clean Water Act, Section 404, permits for dredge and fill, as well as a Section 10 of the Rivers and Harbors Act permit for a proposed crossing of Lake Sakakawea.

WBI Energy is submitting the enclosed pre-construction notification (PCN) with project details and supporting materials to provide the necessary information to facilitate U.S. Army Corps of Engineers (USACE) review in accordance with Nationwide Permit 12 (NWP 12) – Utility Lines. The PCN is required according to both NWP 12 and regional conditions that require a PCN for crossing of Lake Sakakawea (Section 10, navigable waterbody). According to NWP requirements, WBI Energy has included information for all Project crossings of water resources. WBI Energy requests use of the preliminary jurisdictional determination process for review of the Project. Given the Project crosses numerous landowners, access to the Project site would need to be coordinated with WBI Energy.

As noted in the enclosed PCN materials, the Project is under review by the Federal Energy Regulatory Commission (FERC) under section 7(c) of the Natural Gas Act. In coordination with the overall National Environmental Policy Act review that FERC is completing, WBI Energy is working closely with the U.S. Fish and Wildlife Service as they consult with FERC, as the lead federal agency for the Project, to complete consultation under Section 7 of the Endangered Species Act. Similarly, WBI Energy is coordinating with the North Dakota State Historic Preservation Office to facilitate review and consultation with FERC under Section 106 of the National Historic Preservation Act. WBI Energy has also met and is coordinating with staff from the USACE – Omaha District office to coordinate Section 408 review of the Lake Sakakawea and adjacent USACE-owned land crossings proposed for the Project. WBI Energy anticipates keeping you

appraised of developments related to these parallel review efforts to help facilitate your completion of review under NWP 12.

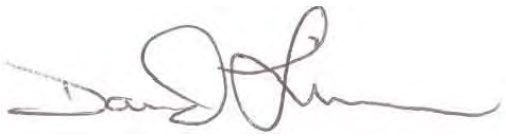
The materials included in the enclosed PCN conform to the general NWP requirements, as well as all regional conditions. The following attachments are included in this submittal:

ATTACHMENTS:

- U.S. Army Corps of Engineers Form ENG4345
- Supporting Information document, including appendices, as follows:
  - Appendix A – Aerial Route Maps
  - Appendix B – SPCC Plan
  - Appendix C – HDD Plan
  - Appendix D – Construction Typical Drawings
  - Appendix E – Wetland and Waterbody Delineation Report
  - Appendix F – Site-Specific Design Drawing for Lake Sakakawea HDD

WBI Energy appreciates your assistance and review of the enclosed materials and should you have questions or require additional information during your review, please contact Dave Linn (406) 359-7333.

Respectfully submitted,



Dave Linn
Senior Engineering and Projects Manager
WBI Energy Transmission, Inc.

Cc:

Greg Huncovsky, WBI

Andrea Thornton, ERM

[PLACEHOLDER FOR:]

[U.S. Army Corps of Engineers Form ENG4345]

NORTH BAKKEN EXPANSION PROJECT

Resource Report 1

APPENDIX 1G-1
Agency Correspondence – U.S. Department of Agriculture, Farm Service Agency (FSA)

ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

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Call Log

Log of Telephone Conversation

Call To/From Whom	To: Katelyn Cook
Phone number	701-842-3628
Company	U.S. Department of Agriculture Farm Service Agency – McKenzie County
ERM Contact	Andrea Thornton
Phone number	503-459-6864
Date	August 22, 2019
Time of Conversation	8:15 am
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Ms. Thornton called the McKenzie county U.S. Department of Agriculture Farm Service Agency office to speak with someone regarding Conservation Reserve Program (CRP) lands. Ms. Thornton was forwarded to Katelyn Cook who informed Ms. Thornton that she could submit shapefiles via email to determine if any CRP lands are crossed. If CRP lands are crossed, a release form would need to be filled out before the Farm Service Agency would be able to release any specific information. Ms. Cook noted that a few could be associated with that process. Ms. Thornton thanked Ms. Cook and let her know that she would follow-up with shapefiles later in the day.

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Andrea Thornton

From: Andrea Thornton
Sent: Thursday, August 22, 2019 9:04 AM
To: katelyn.cook@usda.gov
Subject: WBI Energy - Proposed Natural Gas Pipeline
Attachments: NBE_Centerlines_20190815.zip

Good Morning,

Thank you for speaking with me today regarding Farm Service Agency CRP lands in McKenzie County. Per our conversation I'm submitting shapefiles of the current proposed pipeline route to determine if any CRP lands are crossed by the line within McKenzie County. If any lands are crossed, we understand that a release form would be required prior to any specific information being shared. We also understand that CRP lands could require a specific seed mix to be used during restoration after construction.

Thanks again and please let me know if you have any questions or need any additional information from me.

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	To: Julie Moldenhauer
Phone number	701-572-6729
Company	U.S. Department of Agriculture Farm Service Agency –Williams County
ERM Contact	Andrea Thornton
Phone number	503-459-6864
Date	August 22, 2019
Time of Conversation	8:20 am
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Ms. Thornton called the Williams County U.S. Department of Agriculture Farm Service Agency to speak with someone regarding Conservation Reserve Program (CRP) lands. Ms. Thornton was forwarded to Julie Moldenhauer who informed Ms. Thornton that she could submit shapefiles via email to determine if any CRP lands are crossed. If CRP lands are crossed, a release form would need to be filled out before the Farm Service Agency would be able to release any specific information. Ms. Moldenhaur also noted that there would be specific reseeding requirements on CRP land. Ms. Thornton thanked Ms. Moldenhaur and let her know that she would follow-up with shapefiles later in the day.

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Andrea Thornton

From: Andrea Thornton
Sent: Thursday, August 22, 2019 9:05 AM
To: julie.moldenhauer@usda.gov
Subject: WBI Energy - Proposed Natural Gas Pipeline
Attachments: NBE_Centerlines_20190815.zip

Good Morning,

Thank you for speaking with me today regarding Farm Service Agency CRP lands in Williams County. Per our conversation I'm submitting shapefiles of the current proposed pipeline route to determine if any CRP lands are crossed by the line within Williams County. If any lands are crossed, we understand that a release form would be required prior to any specific information being shared. We also understand that CRP lands could require a specific seed mix to be used during restoration after construction.

Thanks again and please let me know if you have any questions or need any additional information from me.

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	To: Bernadette Lund
Phone number	701-628-2151
Company	U.S. Department of Agriculture Farm Service Agency –Mountrail County
ERM Contact	Andrea Thornton
Phone number	503-459-6864
Date	August 22, 2019
Time of Conversation	8:35 am
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Ms. Thornton called the Mountrail County U.S. Department of Agriculture Farm Service Agency to speak with someone regarding Conservation Reserve Program (CRP) lands. Ms. Thornton was forwarded to Bernadette Lund who informed Ms. Thornton that she could submit shapefiles via email to determine if any CRP lands are crossed. If CRP lands are crossed, a release form would need to be filled out before the Farm Service Agency would be able to release any specific information. Ms. Thornton thanked Ms. Lund and let her know that she would follow-up with shapefiles later in the day.

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Andrea Thornton

From: Andrea Thornton
Sent: Thursday, August 22, 2019 9:07 AM
To: 'bernadette.lund@nd.usda.gov'
Subject: WBI Energy - Proposed Natural Gas Pipeline
Attachments: NBE_Centerlines_20190815.zip

Good Morning,

Thank you for speaking with me today regarding Farm Service Agency CRP lands in Mountrail County. Per our conversation I'm submitting shapefiles of the current proposed pipeline route to determine if any CRP lands are crossed by the line in Mountrail County. If any lands are crossed, we understand that a release form would be required prior to any specific information being shared. We also understand that CRP lands could require a specific seed mix to be used during restoration after construction.

Thanks again and please let me know if you have any questions or need any additional information from me.

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	To: Ronda Ehlke
Phone number	701-377-2983
Company	U.S. Department of Agriculture Farm Service Agency –Burke County
ERM Contact	Andrea Thornton
Phone number	503-459-6864
Date	August 22, 2019
Time of Conversation	8:35 am
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Ms. Thornton called the Burke County U.S. Department of Agriculture Farm Service Agency to speak with someone regarding Conservation Reserve Program (CRP) lands. Ms. Thornton was forwarded to Ronda Ehlke who confirmed with Ms. Thornton that she could submit shapefiles via email to determine if any CRP lands are crossed. If CRP lands are crossed, a release form would need to be filled out before the Farm Service Agency would be able to release any specific information. Ms. Thornton thanked Ms. Ehlke and let her know that she would follow-up with shapefiles later in the day.

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Andrea Thornton

From: Andrea Thornton
Sent: Thursday, August 22, 2019 9:06 AM
To: ronda.ehlke@usda.gov
Subject: WBI Energy - Proposed Natural Gas Pipeline
Attachments: NBE_Centerlines_20190815.zip

Good Morning,

Thank you for speaking with me today regarding Farm Service Agency CRP lands in Burke County. Per our conversation I'm submitting shapefiles of the current proposed pipeline route to determine if any CRP lands are crossed by the line within Burke County. If any lands are crossed, we understand that a release form would be required prior to any specific information being shared. We also understand that CRP lands could require a specific seed mix to be used during restoration after construction.

Thanks again and please let me know if you have any questions or need any additional information from me.

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



Lisa DiNicolantonio

From: Andrea Thornton
Sent: Tuesday, October 22, 2019 7:57 AM
To: Cook, Katelyn - FSA, Watford City, ND
Subject: RE: WBI Energy - Proposed Natural Gas Pipeline

Hi Katelyn –

Thank you for getting back to me so quickly today. I will let WBI Energy know about this and make sure that the land agents working on the project have been asking about CRP lands with the landowners.

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Cook, Katelyn - FSA, Watford City, ND <katelyn.cook@usda.gov>
Sent: Tuesday, October 22, 2019 7:54 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: RE: WBI Energy - Proposed Natural Gas Pipeline

Hello Andrea,

Firstly let me apologize for not getting back to you. I was out for an extended period of time for major surgery. I only recently returned to the office and have been playing catch up.

Right now I am unable to determine if CRP lines will be crossed. What WBI needs to do is get in touch with the land owners, speak to them about these plans and if they should have a CRP contract with us then the land owners will have to provide us a written notice addressed to our county committee, requesting relief for a temporary line to cross their land enrolled under the program.

My apologies again both for the delay and the inconvenience but I have been instructed that these are the proper steps that must be taken.

Thank you!

Katelyn Cook
Program Technician

McKenzie County FSA Office
USDA - Farm Service Agency
PO Box 604
Watford City, ND 58854
701-842-3628

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Sent: Tuesday, October 22, 2019 9:38 AM
To: Cook, Katelyn - FSA, Watford City, ND <katelyn.cook@usda.gov>
Subject: RE: WBI Energy - Proposed Natural Gas Pipeline

Good Morning –

I wanted to follow-up on the phone call we had back in August and the email below that I sent with preliminary shapefiles for the proposed WBI Energy natural gas pipeline project. Per our earlier conversation I'm trying to determine if any CRP lands are crossed by the line in McKenzie County.

Thanks again and please let me know if you have any questions or need any additional information from me.

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Andrea Thornton
Sent: Thursday, August 22, 2019 9:04 AM
To: katelyn.cook@usda.gov
Subject: WBI Energy - Proposed Natural Gas Pipeline

Good Morning,

Thank you for speaking with me today regarding Farm Service Agency CRP lands in McKenzie County. Per our conversation I'm submitting shapefiles of the current proposed pipeline route to determine if any CRP lands are crossed by the line within McKenzie County. If any lands are crossed, we understand that a release form would be required prior

to any specific information being shared. We also understand that CRP lands could require a specific seed mix to be used during restoration after construction.

Thanks again and please let me know if you have any questions or need any additional information from me.

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



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Lisa DiNicolantonio

From: Andrea Thornton
Sent: Tuesday, October 22, 2019 7:38 AM
To: 'julie.moldenhauer@usda.gov'
Subject: RE: WBI Energy - Proposed Natural Gas Pipeline

Good Morning –

I wanted to follow-up on the phone call we had back in August and the email below that I sent with preliminary shapefiles for the proposed WBI Energy natural gas pipeline project. Per our earlier conversation I'm trying to determine if any CRP lands are crossed by the line in Williams County.

Thanks again and please let me know if you have any questions or need any additional information from me.

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Andrea Thornton
Sent: Thursday, August 22, 2019 9:05 AM
To: julie.moldenhauer@usda.gov
Subject: WBI Energy - Proposed Natural Gas Pipeline

Good Morning,

Thank you for speaking with me today regarding Farm Service Agency CRP lands in Williams County. Per our conversation I'm submitting shapefiles of the current proposed pipeline route to determine if any CRP lands are crossed by the line within Williams County. If any lands are crossed, we understand that a release form would be required prior to any specific information being shared. We also understand that CRP lands could require a specific seed mix to be used during restoration after construction.

Thanks again and please let me know if you have any questions or need any additional information from me.

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



Lisa DiNicolantonio

From: Andrea Thornton
Sent: Tuesday, October 22, 2019 7:38 AM
To: 'bernadette.lund@nd.usda.gov'
Subject: RE: WBI Energy - Proposed Natural Gas Pipeline

Good Morning –

I wanted to follow-up on the phone call we had back in August and the email below that I sent with preliminary shapefiles for the proposed WBI Energy natural gas pipeline project. Per our earlier conversation I'm trying to determine if any CRP lands are crossed by the line in Mountrail County.

Thanks again and please let me know if you have any questions or need any additional information from me.

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Andrea Thornton
Sent: Thursday, August 22, 2019 9:07 AM
To: bernadette.lund@nd.usda.gov
Subject: WBI Energy - Proposed Natural Gas Pipeline

Good Morning,

Thank you for speaking with me today regarding Farm Service Agency CRP lands in Mountrail County. Per our conversation I'm submitting shapefiles of the current proposed pipeline route to determine if any CRP lands are crossed by the line in Mountrail County. If any lands are crossed, we understand that a release form would be required prior to any specific information being shared. We also understand that CRP lands could require a specific seed mix to be used during restoration after construction.

Thanks again and please let me know if you have any questions or need any additional information from me.

-Andrea

Andrea Thornton
Principal Consultant

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E andrea.thornton@erm.com | **W** www.erm.com



Lisa DiNicolantonio

From: Andrea Thornton
Sent: Tuesday, October 22, 2019 7:52 AM
To: Ehlke, Ronda - FSA, Bowbells, ND
Subject: RE: WBI Energy - Proposed Natural Gas Pipeline

Thank you for the quick reply Ronda! Yes if you are able to forward the email on that would be great. When we spoke back in August it sounded like each county office was going to need to process these requests individually (I have similar emails out to McKenzie, Williams, and Mountrail Counties), but if the state office is able to process it is that would be great.

Thanks again,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com

From: Ehlke, Ronda - FSA, Bowbells, ND <ronda.ehlke@usda.gov>
Sent: Tuesday, October 22, 2019 7:49 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: RE: WBI Energy - Proposed Natural Gas Pipeline

I am sorry….I thought I had replied to you but I guess I didn't!! That is something that would need to be done out of our state office, if it can. I can forward your email to our specialist to see if that can be done and let you know.

Ronda Ehlke
Program Technician
Burke County Farm Service Agency
PO Box 249
Bowbells, ND 58721
701-377-2983
855-353-9070 - fax
ronda.ehlke@usda.gov

From: Andrea Thornton <Andrea.Thornton@erm.com>
Sent: Tuesday, October 22, 2019 9:38 AM
To: Ehlke, Ronda - FSA, Bowbells, ND <ronda.ehlke@usda.gov>
Subject: RE: WBI Energy - Proposed Natural Gas Pipeline

Good Morning –

I wanted to follow-up on the phone call we had back in August and the email below that I sent with preliminary shapefiles for the proposed WBI Energy natural gas pipeline project. Per our earlier conversation I'm trying to determine if any CRP lands are crossed by the line in Burke County.

Thanks again and please let me know if you have any questions or need any additional information from me.

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Andrea Thornton
Sent: Thursday, August 22, 2019 9:06 AM
To: ronda.ehlke@usda.gov
Subject: WBI Energy - Proposed Natural Gas Pipeline

Good Morning,

Thank you for speaking with me today regarding Farm Service Agency CRP lands in Burke County. Per our conversation I'm submitting shapefiles of the current proposed pipeline route to determine if any CRP lands are crossed by the line within Burke County. If any lands are crossed, we understand that a release form would be required prior to any specific information being shared. We also understand that CRP lands could require a specific seed mix to be used during restoration after construction.

Thanks again and please let me know if you have any questions or need any additional information from me.

-Andrea

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Ashley Bromberg

From: Andrea Thornton
Sent: Thursday, November 7, 2019 9:29 AM
To: Awender, Karen - FSA, Fargo, ND
Cc: Radermacher, Mary - FSA, Fargo, ND; Weber, Brandon - FSA, Bowbells, ND; Heinrich, Laura - FSA, Fargo, ND
Subject: RE: WBI Energy - Proposed Natural Gas Pipeline

Hi Karen –

Thank you for the reply. The land agents for the project are working to gather information directly from the landowners on if their land is registered as part of the CRP.

Thanks again,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Awender, Karen - FSA, Fargo, ND <karen.awender@usda.gov>
Sent: Thursday, November 07, 2019 8:46 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Cc: Radermacher, Mary - FSA, Fargo, ND <mary.radermacher@usda.gov>; Weber, Brandon - FSA, Bowbells, ND <brandon.weber@usda.gov>; Heinrich, Laura - FSA, Fargo, ND <laura.heinrich@usda.gov>
Subject: FW: WBI Energy - Proposed Natural Gas Pipeline

Hi Andrea,

I am writing in response to your request below for location of CRP acreage in Burke County. Location of CRP acres is not available to the public without authorization for release from the CRP Contract participants(land owners). A formal FOIA request may be filed by email to **FSA.FOIA@wdc.usda.gov**. You may also file electronically with https://www.fsa.usda.gov/FSA/eFOIARequest?area=newsroom&subject=landing&topic=efoia.

If you have any questions, feel free to our state FOIA officer Mary Radermacher, Mary.Radermacher@usda.gov.

Karen Awender
GIS Management Analyst

ND State FSA Office
USDA - Farm Service Agency
1025 28th St S.
Fargo, ND 58103
701-893-2233
karen.awender@usda.gov

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"Far and away the best prize that life offers is the chance to work hard at work worth doing."
-- *Theodore Roosevelt*

From: Andrea Thornton <Andrea.Thornton@erm.com>
Sent: Thursday, August 22, 2019 11:06 AM
To: Ehlke, Ronda - FSA, Bowbells, ND <ronda.ehlke@usda.gov>
Subject: WBI Energy - Proposed Natural Gas Pipeline

Good Morning,

Thank you for speaking with me today regarding Farm Service Agency CRP lands in Burke County. Per our conversation I'm submitting shapefiles of the current proposed pipeline route to determine if any CRP lands are crossed by the line within Burke County. If any lands are crossed, we understand that a release form would be required prior to any specific information being shared. We also understand that CRP lands could require a specific seed mix to be used during restoration after construction.

Thanks again and please let me know if you have any questions or need any additional information from me.

-Andrea

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Principal Consultant

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Ashley Bromberg

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Sent: Thursday, November 7, 2019 9:29 AM
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Cc: Radermacher, Mary - FSA, Fargo, ND; Weber, Brandon - FSA, Bowbells, ND; Heinrich, Laura - FSA, Fargo, ND
Subject: RE: WBI Energy - Proposed Natural Gas Pipeline

Hi Karen –

Thank you for the reply. The land agents for the project are working to gather information directly from the landowners on if their land is registered as part of the CRP.

Thanks again,
Andrea

Andrea Thornton
Principal Consultant

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1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
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E andrea.thornton@erm.com | **W** www.erm.com



From: Awender, Karen - FSA, Fargo, ND <karen.awender@usda.gov>
Sent: Thursday, November 07, 2019 8:46 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Cc: Radermacher, Mary - FSA, Fargo, ND <mary.radermacher@usda.gov>; Weber, Brandon - FSA, Bowbells, ND <brandon.weber@usda.gov>; Heinrich, Laura - FSA, Fargo, ND <laura.heinrich@usda.gov>
Subject: FW: WBI Energy - Proposed Natural Gas Pipeline

Hi Andrea,

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If you have any questions, feel free to our state FOIA officer Mary Radermacher, Mary.Radermacher@usda.gov.

Karen Awender
GIS Management Analyst

ND State FSA Office
USDA - Farm Service Agency
1025 28th St S.
Fargo, ND 58103
701-893-2233
karen.awender@usda.gov

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-- *Theodore Roosevelt*

From: Andrea Thornton <Andrea.Thornton@erm.com>
Sent: Thursday, August 22, 2019 11:06 AM
To: Ehlke, Ronda - FSA, Bowbells, ND <ronda.ehlke@usda.gov>
Subject: WBI Energy - Proposed Natural Gas Pipeline

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Thank you for speaking with me today regarding Farm Service Agency CRP lands in Burke County. Per our conversation I'm submitting shapefiles of the current proposed pipeline route to determine if any CRP lands are crossed by the line within Burke County. If any lands are crossed, we understand that a release form would be required prior to any specific information being shared. We also understand that CRP lands could require a specific seed mix to be used during restoration after construction.

Thanks again and please let me know if you have any questions or need any additional information from me.

-Andrea

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NORTH BAKKEN EXPANSION PROJECT

Resource Report 1

APPENDIX 1G
Agency Correspondence – U.S. Department Of Agriculture, Natural Resource Conservation Service (NRCS)

WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

April 15, 2019

Todd Hagel
Assistant State Conservationist
US Department of Agriculture, Natural Resources Conservation Service
220 East Rosser Avenue
PO Box 1458
Bismarck, ND 58502

Subject: WBI Energy Transmission, Inc.
Proposed North Bakken Expansion Project
McKenzie, Williams, Burke, and Mountrail Counties, North Dakota

Dear Todd Hagel:

WBI Energy Transmission, Inc. (WBI Energy) is proposing to construct and operate the North Bakken Expansion Project (Project), which consists of an approximately 60-mile-long, 20-inch diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to an interconnect with Northern Border Pipeline Company's mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Compressor Station) will be constructed near this interconnect.

The Project also involves construction of approximately 20 miles of 12-inch diameter natural gas pipeline between the existing Tioga Compressor Station and an existing receipt station, the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and additional/modifications to certain receipt/delivery points and laterals along the pipeline routes. The attached map depicts the preliminary proposed pipeline route and the location of Project facilities.

The Project will add natural gas takeaway capacity (estimated at approximately 200,000 Mcf/day) to help meet the natural gas transportation needs in the Bakken region while reducing natural gas flaring.

The Project is regulated by the Federal Energy Regulatory Commission (FERC) under Section 7(c) of the Natural Gas Act. Under the Energy Policy Act of 2005,

FERC is the lead agency for coordinating federal authorizations and complying with the National Environmental Policy Act (NEPA) on natural gas pipeline projects subject to its jurisdiction. WBI Energy plans to submit an application with the FERC in December 2019 for a Certificate of Public Convenience and Necessity (Certificate) to construct and operate the proposed pipeline and associated facilities. Applications for other federal or state authorizations will be submitted prior to or at the same time as the FERC application or on timelines defined by the appropriate federal or state regulations. WBI Energy anticipates receiving a Certificate from the FERC by December 2020, with construction planned to begin in early 2021.

WBI Energy plans to file a request with the FERC to use the FERC's NEPA pre-filing process for the Project. This process will provide agencies, landowners, and other stakeholders the opportunity to work with WBI Energy and the FERC to identify and resolve environmental issues prior to the filing of the Certificate application. This will result in a more efficient regulatory review process, including NEPA review of the Project. Pending FERC approval, WBI Energy anticipates preparing a draft Environmental Assessment (EA) for use by FERC staff. WBI Energy looks forward to working with you throughout the pre-filing process to ensure that your concerns are identified and addressed in the draft EA.

WBI Energy has retained Environmental Resources Management (ERM) to provide environmental support services for the project. An ERM representative will be in touch with you in the near future to provide additional information and discuss specific permitting and/or consultation requirements. In the meantime, if you have questions about the project, please contact Andrea Thornton of ERM at 503-525-5159 or myself at 406-359-7332.

Thank you for your time and assistance with this project.

Sincerely,



Jill Linn
Environmental Affairs
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map

cc: Greg Huncovsky, WBI
Andrea Thornton, ERM



Miles
0 1.75 3.5 7

N

1 in = 3 miles

Project Overview Map

North Bakken Expansion Project
WBI Energy

WBI ENERGY TRANSMISSION

Legend

- Above Ground Facilities
- Road Bores for Uprating Existing Pipeline
- Proposed Tioga to Elk Creek Compressor Pipeline
- Proposed Norse to Tioga Loop Pipeline
- Northern Border Pipeline
- Existing WBI Pipeline

Burke County
Mountrail County
Williams County
McKenzie County

North Dakota

PROJECT AREA OVERVIEW



By: SMS

Path: F:\GIS\Projects_Authorized\North_Bakken_Expansion_Project\Northern_Bakken_Expansion_24X36_2.mxd

1:214,000 - when Printed on 24X36

Date: 4/10/2019

ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	To: Todd Hagel
Phone number	701-530-2004
Company	U.S. Department of Agriculture Natural Resources Conservation Service
ERM Contact	Andrea Thornton
Phone number	503-459-6864
Date	May 16, 2019
Time of Conversation	9:00 am
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Ms. Thornton called the U.S. Department of Agriculture to speak with Todd Hagel regarding the North Bakken Expansion Project as a follow-up to the project intorduction letter that was sent to his office. Ms. Thornton left a message with Todd.

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ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	To: Todd Hagel
Phone number	701-530-2004
Company	U.S. Department of Agriculture Natural Resources Conservation Service
ERM Contact	Andrea Thornton
Phone number	503-459-6864
Date	May 30, 2019
Time of Conversation	10:15 am
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Ms. Thornton called the U.S. Department of Agriculture to speak with Todd Hagel regarding the North Bakken Expansion Project as a follow-up to the project intorduction letter that was sent to his office. Mr. Hagel indicated that he did not receive the letter. Ms. Thornton gave an overview of the proposed project and the counties that it crosses. Mr. Hagel noted that there are som easements in those counties and he would need a shapefile to determine if any easements are crossed.

Ms. Thornton gave an overview of the FERC pre-filing process and asked if Mr. Hagel would be interested in particiapting in the process. At this time Mr. Hagel did not think he would be interested in participating.

Ms. Thornton thanked Todd for his time and indicated that she would follow-up with an email to send a copy of the introduction letter and shapefiles of the current routes.

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Lisa DiNicolantonio

From: Andrea Thornton
Sent: Friday, May 31, 2019 9:49 AM
To: todd.hagel@nd.usda.gov
Subject: North Bakken Expansion Project
Attachments: Hagel_North Bakken_Agency Intro Letter_041519.pdf; WBI_NBE-CL_190513.zip; Tioga Norse Loop Proposed centerline 4-8-19.zip

Hi Todd –

As a follow-up to our phone conversation, attached is a copy of the letter that was sent on April 15th. I've also attached copies of the current project shapefiles, however please note that some route adjustments are still being made and potential additional facilities being added to the project. Any information that you can provide on Agricultural Conservation Easements would be greatly appreciated. We will also be looking for seed mix recommendations as the project progresses.

Thank you for your time and I look forward to working with you.

--Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
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E andrea.thornton@erm.com | **W** www.erm.com



WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

April 15, 2019

Todd Hagel
Assistant State Conservationist
US Department of Agriculture, Natural Resources Conservation Service
220 East Rosser Avenue
PO Box 1458
Bismarck, ND 58502

Subject: WBI Energy Transmission, Inc.
Proposed North Bakken Expansion Project
McKenzie, Williams, Burke, and Mountrail Counties, North Dakota

Dear Todd Hagel:

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WBI Energy plans to file a request with the FERC to use the FERC's NEPA pre-filing process for the Project. This process will provide agencies, landowners, and other stakeholders the opportunity to work with WBI Energy and the FERC to identify and resolve environmental issues prior to the filing of the Certificate application. This will result in a more efficient regulatory review process, including NEPA review of the Project. Pending FERC approval, WBI Energy anticipates preparing a draft Environmental Assessment (EA) for use by FERC staff. WBI Energy looks forward to working with you throughout the pre-filing process to ensure that your concerns are identified and addressed in the draft EA.

WBI Energy has retained Environmental Resources Management (ERM) to provide environmental support services for the project. An ERM representative will be in touch with you in the near future to provide additional information and discuss specific permitting and/or consultation requirements. In the meantime, if you have questions about the project, please contact Andrea Thornton of ERM at 503-525-5159 or myself at 406-359-7332.

Thank you for your time and assistance with this project.

Sincerely,



Jill Linn
Environmental Affairs
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map

cc: Greg Huncovsky, WBI
Andrea Thornton, ERM



Miles
0 1.75 3.5 7

N

1 in = 3 miles

Project Overview Map

North Bakken Expansion Project
WBI Energy

WBI ENERGY TRANSMISSION

Legend

- Above Ground Facilities
- Road Bores for Uprating Existing Pipeline
- Proposed Tioga to Elk Creek Compressor Pipeline
- Proposed Norse to Tioga Loop Pipeline
- Northern Border Pipeline
- Existing WBI Pipeline

Burke County
Mountrail County
Williams County
McKenzie County

North Dakota

PROJECT AREA OVERVIEW



By: SMS

Path: F:\GIS\Projects_Authorized\North_Bakken_Expansion_Project\Northern_Bakken_Expansion_24X36_2.mxd

1:214,000 - when Printed on 24X36

Date: 4/10/2019

Lisa DiNicolantonio

From: Hagel, Todd - NRCS, Bismarck, ND <todd.hagel@usda.gov>
Sent: Friday, July 12, 2019 5:26 AM
To: Andrea Thornton
Subject: RE: North Bakken Expansion Project

Follow Up Flag: Flag for follow up
Flag Status: Flagged

Hi Andrea. We have reviewed the project shapefiles. Based on our assessment there are no NRCS Easements identified. Thanks for the opportunity to review.

Todd Hagel
Assistant State Conservationist-Programs
USDA-NRCS
701-530-2004

From: Andrea Thornton <Andrea.Thornton@erm.com>
Sent: Thursday, July 11, 2019 2:49 PM
To: Hagel, Todd - NRCS, Bismarck, ND <todd.hagel@usda.gov>
Subject: RE: North Bakken Expansion Project

Hi Todd –

I'm following up on the email I had sent to you back in the end of May regarding the North Bakken Expansion Project. Have you had an opportunity to review the shapefiles for the potential for Agricultural Conservation Easements? Any information that you are able to share would be greatly appreciated.

Thanks,
Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com

From: Andrea Thornton
Sent: Friday, May 31, 2019 9:49 AM
To: todd.hagel@nd.usda.gov
Subject: North Bakken Expansion Project

Hi Todd –

As a follow-up to our phone conversation, attached is a copy of the letter that was sent on April 15th. I've also attached copies of the current project shapefiles, however please note that some route adjustments are still being made and potential additional facilities being added to the project. Any information that you can provide on Agricultural Conservation Easements would be greatly appreciated. We will also be looking for seed mix recommendations as the project progresses.

Thank you for your time and I look forward to working with you.

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WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

July 17, 2019

0284

Todd Hagel
Assistant State Conservationist
US Department of Agriculture, Natural Resources Conservation Service
PO Box 1458
Bismarck, ND 58502-1458

Subject: WBI Energy Transmission, Inc.
Invitation to Public Open House for the Proposed North Bakken Expansion Project

Dear Assistant State Conservationist Todd Hagel:

WBI Energy Transmission, Inc. (WBI Energy) would like to cordially invite you to attend an open house meeting in your area regarding our proposed plan to build, own and operate the North Bakken Expansion Project (Project).

On June 28, 2019, WBI Energy requested use of the Federal Energy Regulatory Commission's (FERC) pre-filing review process for its proposed North Bakken Expansion Project (FERC Docket No. PF19-7-000). The FERC, the lead federal agency responsible for authorizing the Project, approved WBI Energy's pre-filing request on July 3, 2019. WBI Energy expects to file a formal application for the Project in early 2020.

The Project consists of an approximately 60 mile-long, 20-inch diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to a new interconnect with Northern Border Pipeline Company's mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Creek Compressor Station) will be constructed near this interconnect.

The Project also involves construction of approximately 20 miles of 12-inch diameter natural gas pipeline between the existing Tioga Compressor Station and an existing receipt station along WBI Energy's existing Line Section 25, approximately 10 miles of 12-inch diameter natural gas pipeline along WBI Energy's existing Line Section 30, and an approximately 10 mile, 12-inch diameter natural gas pipeline lateral from WBI Energy's existing Line Section 7.

Additionally, the Project includes the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and the installation of new and modifications to receipt/delivery points and lateral pipeline facilities along the pipeline routes. The attached map depicts the locations of the currently proposed Project facilities. Note that additional facilities have been added to the Project since WBI Energy's initial outreach for the Project earlier this year.

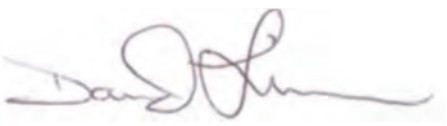
The Project will add natural gas takeaway capacity (estimated at approximately 300,000 Mcf/day) to help meet the natural gas transportation needs in the Bakken region while reducing natural gas flaring.

To provide additional information about the Project and receive stakeholder input, WBI Energy will host public open houses. This will be an informal opportunity to receive project-related materials, view detailed maps and displays, meet with the Project team experts and share your feedback before a formal application is submitted to the FERC. We welcome you to attend any one of the open houses at the dates, times and locations indicated below.

North Bakken Expansion Project Public Open Houses	
Tuesday, August 6 **Location: Tioga**	**Wednesday, August 7** **Location: Watford City**
Neset Consulting Service 6844 State Highway 40 Tioga, North Dakota 58852 11:00 am-1:00 pm and 5:00-7:00 pm	Watford City Civic Center 213 2nd St NE Watford City, North Dakota 58854 11:00 am-1:00 pm and 5:00-7:00 pm

If you have any questions regarding the North Bakken Expansion Project, please contact the Project team at the toll-free number 1-844-825-9397. We look forward to working with you on the Project and seeing you at an upcoming open house.

Sincerely,



David Linn
Project Manager
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map



Miles
0 1.25 2.5 5

N

1 in = 3 miles

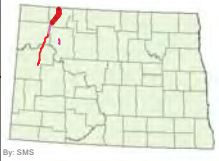
Project Overview Map

North Bakken Expansion Project
WBI Energy

Burke County
Mountrail County
Williams County
McKenzie County

North Dakota

PROJECT AREA OVERVIEW



Legend

- Proposed Line Section 25 Loop Pipeline
- Proposed Elkhorn Creek - Tioga Pipeline
- Proposed Line Section 30 Loop Pipeline
- Road Bores for Uprating Existing Line
- Proposed Receipt Lateral
- WBI Existing Pipelines
- Northern Border Pipeline

By: SMS

Path: F:\GIS\Projects_Authorized\North_Bakken_Expansion_Project\Northern_Bakken_Expansion_24X36_2.mxd

1:174,000 - when Printed on 24X36

Date: 6/28/2010

Lisa DiNicolantonio

From: Andrea Thornton
Sent: Thursday, August 15, 2019 9:10 AM
To: Hagel, Todd - NRCS, Bismarck, ND
Subject: RE: North Bakken Expansion Project
Attachments: NBE_Centerlines_20190815.zip

Hi Todd –

Thank you again for providing information on NRCS easements for the North Bakken Expansion Project. Some additional facilities have been added to the project (two new laterals) along with some reroutes. Would you be able to provide another review? It would be helpful to know if there are any easements in close proximity to the current lines that we should be aware of as reroutes will continue to occur and we would want to avoid these areas.

Thanks,
Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Hagel, Todd - NRCS, Bismarck, ND <todd.hagel@usda.gov>
Sent: Friday, July 12, 2019 5:26 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: RE: North Bakken Expansion Project

Hi Andrea. We have reviewed the project shapefiles. Based on our assessment there are no NRCS Easements identified. Thanks for the opportunity to review.

Todd Hagel
Assistant State Conservationist-Programs
USDA-NRCS
701-530-2004

From: Andrea Thornton <Andrea.Thornton@erm.com>
Sent: Thursday, July 11, 2019 2:49 PM
To: Hagel, Todd - NRCS, Bismarck, ND <todd.hagel@usda.gov>
Subject: RE: North Bakken Expansion Project

Hi Todd –

I'm following up on the email I had sent to you back in the end of May regarding the North Bakken Expansion Project. Have you had an opportunity to review the shapefiles for the potential for Agricultural Conservation Easements? Any information that you are able to share would be greatly appreciated.

Thanks,
Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Andrea Thornton
Sent: Friday, May 31, 2019 9:49 AM
To: todd.hagel@nd.usda.gov
Subject: North Bakken Expansion Project

Hi Todd –

As a follow-up to our phone conversation, attached is a copy of the letter that was sent on April 15th. I've also attached copies of the current project shapefiles, however please note that some route adjustments are still being made and potential additional facilities being added to the project. Any information that you can provide on Agricultural Conservation Easements would be greatly appreciated. We will also be looking for seed mix recommendations as the project progresses.

Thank you for your time and I look forward to working with you.

--Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



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Lisa DiNicolantonio

From: Mike Buckless
Sent: Wednesday, October 2, 2019 5:56 AM
To: mark.crosby@nd.usda.gov
Cc: Andrea Thornton; Destiny Kerr
Subject: WBI Energy Seed Mix Review - Burke County
Attachments: NRCS_Burke_County_Office_Letter_20190927.pdf

Good morning Mr. Crosby,

ERM is preparing environmental review documents on behalf of WBI Energy Transmission, Inc. for a development project affecting land in Burke County, ND. We respectfully request your review and comments on the proposed seed-mixes for use during restoration of the construction work area. Please see the attached document for the proposed seed-mixes and additional background information.

Your time and assistance is greatly appreciated. Please feel free to reach out to myself or Andrea Thornton (cc'd) if you have any questions.

Mike Buckless

ERM
15 Park Row West | Suite 104 | Providence, RI 02903
M +1 (401) 447-5391
E mike.buckless@erm.com | **W** www.erm.com



Environmental Resources Management

15 Park Row West, Suite 104
Providence, RI 02903
+1 401 415 9600
+1 401 415 9601 (fax)

http://www.erm.com

27 September 2019
Reference: North Bakken Expansion Project

Mark D. Crosby
Natural Resources Conservation Service
5 Roosevelt Ave SE
Bowbells, ND 58721

Dear Mark Crosby:

WBI Energy Transmission, Inc. (WBI Energy) proposes to construct and operate the North Bakken Expansion Project (or Project), which consists of an approximately 62-mile-long, 24-inch-diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to a new interconnect with Northern Border Pipeline Company's (Northern Border) mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Creek Compressor Station) will be constructed near this interconnect.

The Project also involves construction of approximately 20 miles of 12-inch-diameter natural gas pipeline between the existing Tioga Compressor Station and an existing receipt station along WBI Energy's existing Line Section 25, approximately 10 miles of 12-inch-diameter natural gas pipeline along WBI Energy's existing Line Section 30, and less than one mile of 20-inch-diameter receipt lateral at the Tioga Compressor Station. Additionally, the Project includes the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and the installation of new and modifications to existing receipt/delivery points and lateral pipeline facilities along the pipeline routes. The planned Project facilities are depicted in the enclosed Overview Map.

Environmental Resources Management (ERM), on behalf of WBI Energy, is preparing environmental review documents for the Project. As part of ERM's review, we are requesting the following information for the proposed Project:

- your review and any associated comments on the following proposed seed-mixes for use during revegetation and restoration of the right-of-way.

Final cleanup will begin after backfilling the pipeline trench is complete, and as soon as weather and site conditions permit. Every reasonable effort will be made to complete final cleanup (including final grading and installation of permanent erosion control devices) within timeframes required by permits, in accordance with landowner requests. During clean-up, construction debris will be collected and taken to a disposal facility. Contours will be restored to pre-existing conditions as closely as possible. Segregated topsoil will be spread over the surface of the right-of-way and permanent erosion controls will be installed.

The following seed-mixes have been designed for reseeding private land based on observations during field surveys and in accordance with the North

Dakota Natural Resources Conservation Service's (NRCS) Field Office Technical Guide (FOTG) sections *Critical Area Planting* and the *Herbaceous Vegetation Establishment Guide*, and the North Dakota Department of Transportation (NDDOT) *2014 Standards and Specifications for Road and Bridge Construction*. Three seed mixes have been developed; one for higher quality grasslands (Grassland Mix), one for grazed pastures (Pasture Mix), and one for road rights-of-way or other non-grassland habitats (NDDOT Mix). These seed mixes are presented below in Table 1. Federally managed land affected by the Project will be restored in accordance with recommendations provided by the U.S. Forest Service.

TABLE 1

North Bakken Expansion Project
Proposed Seed Mixes for Lands Crossed by the Project

Species	PLS Lbs/Acre [a]	Percent of Mix
Grassland Mix		
Little Bluestem	1.2	20
Big Bluestem	1.8	20
Sideoats grama	1.8	20
Crested Wheatgrass	1.4	15
Kentucky Bluegrass	3.5	10
Purple Praireclover	0.3	5
Praire (yellow) coneflower	0.1	5
Maximilian sunflower	0.1	5
Total	**10.2**	**100**
Pasture Mix		
Kentucky Bluegrass	10.5	30
Smooth Bromegrass	2.9	30
Crested Wheatgrass	2.7	30
Praire (yellow) coneflower	0.1	5
Purple Praireclover	0.3	5
Total	**16.5**	**100**
NDDOT Mix		
Western Wheatgrass	9.6	20
Switchgrass	1.6	20
Green Needlegrass	3.6	20
Canada Wild-rye	5.2	20
Slender Wheatgrass	5.0	20
Total	**25.0**	**100**

[a] PLS=Pure live seed: seeding rates are 1.5 times the normal seeding rate based on Table 1 (MLRA 53A/B and 54) of the *Herbaceous Vegetation Establishment Guide*. Kentucky Bluegrass seeding rates have been adopted from the Kentucky FOTG *Critical Area Planting* section.

Restoration and revegetation is expected to occur in late fall 2021, and will follow seedbed preparation, equipment, drill calibration, seed requirements, and seeding depth as outlined in the *Herbaceous Vegetation Establishment Guide* found in the FOTG. Any areas that cannot be restored before conditions prevent adequate seedbed preparation and seeding will be planted the following spring. Temporary erosion controls will be installed and maintained over the winter in areas that cannot be seeded in 2021.

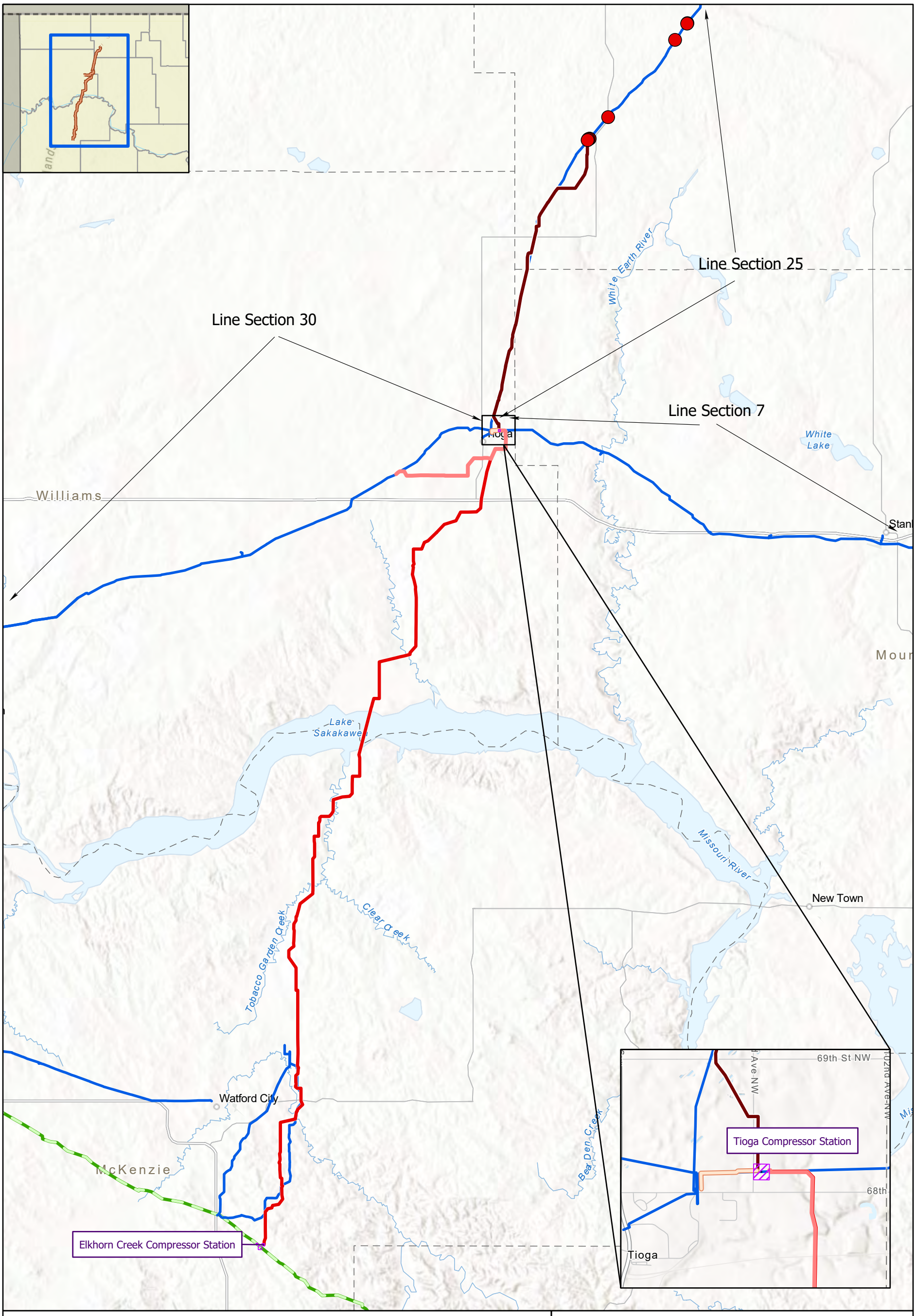
WBI Energy appreciates your assistance with this matter. If you have any questions about the project or this request, please contact me by telephone at (401)-447-5391 or email at mike.buckless@erm.com. Additionally, the project manager, Andrea Thornton, can be reached by telephone at (503)-525-5159 or email at andrea.thornton@erm.com.

Sincerely,



Mike Buckless
Senior Scientist

enclosures: Overview Map



North Bakken Expansion Project
Project Overview Map

File: M:\Clients\V-X\WBI\North_Bakken_Expansion_ArcGIS\FERC_ResourceReportMaps_FERC_RR_FERC_RR.aprx | Revised: 9/24/2019 | 1:545,333 - When Printed on 8.5 X 11

Drawn By: RJC

Lisa DiNicolantonio

From: Crosby, Mark - NRCS, Bowbells, ND <mark.crosby@usda.gov>
Sent: Wednesday, October 2, 2019 7:14 AM
To: Mike Buckless
Cc: Andrea Thornton; Destiny Kerr
Subject: RE: WBI Energy Seed Mix Review - Burke County
Attachments: ND_CPA_9_WBI_Grassand.xlsm; ND_CPA_9_WBI_Pasture.xlsm

Follow Up Flag: Follow up
Flag Status: Flagged

Hello Mike,

I've modified the Grassland and Pasture mixes to species that are proven in Burke County, see attached. We are dominated by cool season species in this region, so I removed the warm season grasses like the bluestems, sideoats grama, and switchgrass. Our specifications don't recommend seeding warm season grasses in the fall/dormant windows. If your plans changed, and seeding took place in May or June, you could add the warm season grasses into the mix.

I also removed Smooth Bromegrass, Crested Wheatgrass, and Kentucky Bluegrass from the mixes. These species are considered invasive. If present adjacent to the restoration area, these species will eventually encroach on to the disturbed sites.

I would recommend including a nurse crop, up to ten pounds per acre of oats or barley with the grass seed. If possible, drill the seed rather than broadcast. It is cheap insurance putting the seed in the soil rather than hoping it stays in place with a broadcast operation. Ensure the seedbed is firm, packed so that an adult footprint is barely visible. Loose soil creates poor seed to soil contact and will reduce germination and establishment of the small seeded grasses.

For the DOT mix, I recommend removing the switchgrass and adding 3 lbs of green wheatgrass. Again, if restoration took place in the spring, the switchgrass could be added.

Let me know if you have any other questions.

Thanks,
Mark Crosby
District Conservationist
NRCS - Bowbells FO
701-377-2831, ext. 110

From: Mike Buckless <Mike.Buckless@erm.com>
Sent: Wednesday, October 2, 2019 7:56 AM
To: Crosby, Mark - NRCS, Bowbells, ND <mark.crosby@usda.gov>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>; Destiny Kerr <Destiny.Kerr@erm.com>
Subject: WBI Energy Seed Mix Review - Burke County

Good morning Mr. Crosby,

ERM is preparing environmental review documents on behalf of WBI Energy Transmission, Inc. for a development project affecting land in Burke County, ND. We respectfully request your review and comments on the proposed seed-

mixes for use during restoration of the construction work area. Please see the attached document for the proposed seed-mixes and additional background information.

Your time and assistance is greatly appreciated. Please feel free to reach out to myself or Andrea Thornton (cc'd) if you have any questions.

Mike Buckless

ERM
15 Park Row West | Suite 104 | Providence, RI 02903
M +1 (401) 447-5391
E mike.buckless@erm.com | **W** www.erm.com



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US Department of Agriculture
Natural Resources Conservation Service
North Dakota

HERBACEOUS PLANTING WORKBOOK

ND-CPA-9
October 2003
Revised - April 2018

Yellow indicates required entry, blue optional entry.

Section		Township		Range	

Help to insert an image on the area above.

Name: WBI Energy | Acres: 1 | Tract / Field: | Date: 10/02/19

Address: | Planned Use: Critical Area Planting

County: Burke (53B) | MLRA 53B | Design By: M. Crosby

Program: | Ecological Site: multiple | Forage Suitability Group:

NRCS Practice: | Contract Number: | CIN :

Planned Establishment Activities

Companion Crop, If used: Crop | Rate #/Ac.

Planned Seeding Date: COOL SEASON SPECIES

Seeding Method: Broadcast

Broadcast Method - Broadcasting may only be used on plantings of 5 acres or less. Broadcast plantings exceeding 5 acres require a variance. All areas to be broadcast will have properly prepared seedbed (minimal residue cover with a smooth, firmly packed surface). Following the broadcast operation, an additional operation will incorporate the seed into the soil at the proper depth. This can include the use of a drag or harrow, cultipacker, roller packer, or other suitable implement to cover and press the seed into the soil surface to attain the goal of good seed to soil contact. All broadcast plantings will utilize 150% of full seeding rates, except pollinator forbs which are planned up to 150% rate. Whether increased for pollinators or broadcasting, total forb seed will not exceed 150% of the normal rate when the broadcast method is planned.

Planned Pest Management Activities

Clip or use approved herbicides to control undesireable plants, clipping shoud be delayed until after July 15 to prevent damage to nesting birds. Clipping height should be adjusted to a minimum of 12 inches to minimize damage to permanent seedlings. Clipping should be completed prior to weed seed formation.

Notes

For additional planting design information, refer to NRCS Field Office Technical Guide (FOTG), Section 4, for practice specifications and the ND Herbaceous Vegetation Establishment Guide, found in the FOTG, Section I, Reference Subjects.

	(1) Species	(2) Percent Increase of Planned Seeding Rate (101 to 150%)	(2a) A / B List	(2b) Bloom Period	(3) Seeding Rate PLS Lbs / Acre	(4) Percent in Seed Mix	(5) Planned PLS Lbs / Acre Columns (3) X (4)	(6) Acres to be Seeded	(7) Planned Total PLS Lbs Columns (5) X (6)	(8) Percent Purity or Pure Seed	(9) Percent Germination + % Hard Seed	(10) Total Lbs. Bulk Seed Planted	(11) Total PLS Lbs Seeded (8) X (9) X (10)
1	Wildrye, Canada		NR	NR	9.75	10.00%	0.98	1.0	0.98				
2	Green needlegrass		NR	NR	9.00	15.00%	1.35	1.0	1.4				
3	Wheatgrass, Slender awned & bearded		NR	NR	7.50	10.00%	0.75	1.0	0.75				
4	Wheatgrass, Streambank/Thickspike		NR	NR	10.50	15.00%	1.58	1.0	1.6				
5	Wheatgrass, Western		NR	NR	12.00	20.00%	2.40	1.0	2.4				
6	Needle and thread		NR	NR	14.25	10.00%	1.43	1.0	1.4				
7	Prairieclover, Purple		A	Mid-season	5.70	5.00%	0.29	1.0	0.29				
8	Coneflower, Prairie (Yellow)		A	Mid-season	2.25	5.00%	0.11	1.0	0.11				
9	Lewis flax		A	Early	5.70	5.00%	0.29	1.0	0.29				
10	Sunflower, Maximilian		A	Mid, Late	1.50	5.00%	0.08	1.0	0.08				
11													
12													
13													
14													
15													
						100.00%	Total Planned PLS Pounds =		9.2	Total Seeded PLS Pounds =			

CERTIFICATION: Seed Tags Available?

Total PLS seeded (col. 11) will be within +/- 10% of planned PLS (col. 7)

- Was the planting completed in the required seeding window? Enter planting date:
- Is the germ test date for all species within 12 months of when it was planted (not including the month of the test)?
- Are the seeded species approved named varieties? If not, document where the seeded species were grown / produced.
- Does the seeded mix match what was planned? If not, are species suitable to the site and meet specifciations?

Notes/Remarks:

Title of Certifying Official - NRCS

Date

US Department of Agriculture
Natural Resources Conservation Service
North Dakota

HERBACEOUS PLANTING WORKBOOK

ND-CPA-9
October 2003
Revised - April 2018

Yellow indicates required entry, blue optional entry.

Section		Township		Range	

Help to insert an image on the area above.

Name: WBI Energy **Acres:** 1 **Tract / Field:** **Date:** 10/02/19

Address: **Planned Use:** Critical Area Planting

County: Burke (53B) **MLRA** 53B **Design By:** M. Crosby

Program: **Ecological Site:** **Forage Suitability Group:** multiple

NRCS Practice: **Contract Number:** **CIN :**

Companion Crop, If used: Crop / Rate #/Ac.

Planned Seeding Date: COOL SEASON SPECIES

Seeding Method: Broadcast

Planned Establishment Activities: Broadcast Method - Broadcasting may only be used on plantings of 5 acres or less. Broadcast plantings exceeding 5 acres require a variance. All areas to be broadcast will have properly prepared seedbed (minimal residue cover with a smooth, firmly packed surface). Following the broadcast operation, an additional operation will incorporate the seed into the soil at the proper depth. This can include the use of a drag or harrow, cultipacker, roller packer, or other suitable implement to cover and press the seed into the soil surface to attain the goal of good seed to soil contact. All broadcast plantings will utilize 150% of full seeding rates, except pollinator forbs which are planned up to 150% rate. Whether increased for pollinators or broadcasting, total forb seed will not exceed 150% of the normal rate when the broadcast method is planned.

Planned Pest Management Activities: Clip or use approved herbicides to control undesireable plants, clipping shoud be delayed until after July 15 to prevent damage to nesting birds. Clipping height should be adjusted to a minimum of 12 inches to minimize damage to permanent seedlings. Clipping should be completed prior to weed seed formation.

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1	Wildrye, Canada		NR	NR	9.75	10.00%	0.98	1.0	0.98				
2	Wheatgrass, Intermediate		NR	NR	12.75	15.00%	1.91	1.0	1.9				
3	Wheatgrass, Slender awned & bearded		NR	NR	7.50	10.00%	0.75	1.0	0.75				
4	Wheatgrass, Pubescent		NR	NR	12.75	15.00%	1.91	1.0	1.9				
5	Cicer Milkvetch		A	Mid-season	12.00	20.00%	2.40	1.0	2.4				
6	Wheatgrass, Green		NR	NR	15.00	30.00%	4.50	1.0	4.5				
7													
8													
9													
10													
11													
12													
13													
14													
15													
						100.00%	Total Planned PLS Pounds =		12.5	Total Seeded PLS Pounds =			

CERTIFICATION: **Seed Tags Available?**

Total PLS seeded (col. 11) will be within +/- 10% of planned PLS (col. 7)

- Was the planting completed in the required seeding window? **Enter planting date:**
- Is the germ test date for all species within 12 months of when it was planted (not including the month of the test)?
- Are the seeded species approved named varieties? If not, document where the seeded species were grown / produced.
- Does the seeded mix match what was planned? If not, are species suitable to the site and meet specifciations?

Notes/Remarks:

Title of Certifying Official - NRCS

Date

Lisa DiNicolantonio

From: Mike Buckless
Sent: Wednesday, October 2, 2019 5:57 AM
To: nicole.darrington@nd.usda.gov
Cc: Andrea Thornton; Destiny Kerr
Subject: WBI Energy Seed Mix Review - McKenzie County
Attachments: NRCS_McKenzie_County_Office_Letter_20190927.pdf

Good morning Ms. Darrington,

ERM is preparing environmental review documents on behalf of WBI Energy Transmission, Inc. for a development project affecting land in McKenzie County, ND. We respectfully request your review and comments on the proposed seed-mixes for use during restoration of the construction work area. Please see the attached document for the proposed seed-mixes and additional background information.

Your time and assistance is greatly appreciated. Please feel free to reach out to myself or Andrea Thornton (cc'd) if you have any questions.

Mike Buckless

ERM
15 Park Row West | Suite 104 | Providence, RI 02903
M +1 (401) 447-5391
E mike.buckless@erm.com | **W** www.erm.com



Environmental Resources Management

15 Park Row West, Suite 104
Providence, RI 02903
+1 401 415 9600
+1 401 415 9601 (fax)

http://www.erm.com

27 September 2019
Reference: North Bakken Expansion Project

Nicole L. Darrington
Natural Resources Conservation Service
109 5th St. SW
Watford, ND 58854-7135

Dear Nicole Darrington:

WBI Energy Transmission, Inc. (WBI Energy) proposes to construct and operate the North Bakken Expansion Project (or Project), which consists of an approximately 62-mile-long, 24-inch-diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to a new interconnect with Northern Border Pipeline Company's (Northern Border) mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Creek Compressor Station) will be constructed near this interconnect.

The Project also involves construction of approximately 20 miles of 12-inch-diameter natural gas pipeline between the existing Tioga Compressor Station and an existing receipt station along WBI Energy's existing Line Section 25, approximately 10 miles of 12-inch-diameter natural gas pipeline along WBI Energy's existing Line Section 30, and less than one mile of 20-inch-diameter receipt lateral at the Tioga Compressor Station. Additionally, the Project includes the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and the installation of new and modifications to existing receipt/delivery points and lateral pipeline facilities along the pipeline routes. The planned Project facilities are depicted in the enclosed Overview Map.

Environmental Resources Management (ERM), on behalf of WBI Energy, is preparing environmental review documents for the Project. As part of ERM's review, we are requesting the following information for the proposed Project:

- your review and any associated comments on the following proposed seed-mixes for use during revegetation and restoration of the right-of-way.

Final cleanup will begin after backfilling the pipeline trench is complete, and as soon as weather and site conditions permit. Every reasonable effort will be made to complete final cleanup (including final grading and installation of permanent erosion control devices) within timeframes required by permits, in accordance with landowner requests. During clean-up, construction debris will be collected and taken to a disposal facility. Contours will be restored to pre-existing conditions as closely as possible. Segregated topsoil will be spread over the surface of the right-of-way and permanent erosion controls will be installed.

The following seed-mixes have been designed for reseeding private land based on observations during field surveys and in accordance with the North

Dakota Natural Resources Conservation Service's (NRCS) Field Office Technical Guide (FOTG) sections *Critical Area Planting* and the *Herbaceous Vegetation Establishment Guide*, and the North Dakota Department of Transportation (NDDOT) *2014 Standards and Specifications for Road and Bridge Construction*. Three seed mixes have been developed; one for higher quality grasslands (Grassland Mix), one for grazed pastures (Pasture Mix), and one for road rights-of-way or other non-grassland habitats (NDDOT Mix). These seed mixes are presented below in Table 1. Federally managed land affected by the Project will be restored in accordance with recommendations provided by the U.S. Forest Service.

TABLE 1

North Bakken Expansion Project
Proposed Seed Mixes for Lands Crossed by the Project

Species	PLS Lbs/Acre [a]	Percent of Mix
Grassland Mix		
Little Bluestem	1.2	20
Big Bluestem	1.8	20
Sideoats grama	1.8	20
Crested Wheatgrass	1.4	15
Kentucky Bluegrass	3.5	10
Purple Praireclover	0.3	5
Praire (yellow) coneflower	0.1	5
Maximilian sunflower	0.1	5
Total	**10.2**	**100**
Pasture Mix		
Kentucky Bluegrass	10.5	30
Smooth Bromegrass	2.9	30
Crested Wheatgrass	2.7	30
Praire (yellow) coneflower	0.1	5
Purple Praireclover	0.3	5
Total	**16.5**	**100**
NDDOT Mix		
Western Wheatgrass	9.6	20
Switchgrass	1.6	20
Green Needlegrass	3.6	20
Canada Wild-rye	5.2	20
Slender Wheatgrass	5.0	20
Total	**25.0**	**100**

[a] PLS=Pure live seed: seeding rates are 1.5 times the normal seeding rate based on Table 1 (MLRA 53A/B and 54) of the *Herbaceous Vegetation Establishment Guide*. Kentucky Bluegrass seeding rates have been adopted from the Kentucky FOTG *Critical Area Planting* section.

Restoration and revegetation is expected to occur in late fall 2021, and will follow seedbed preparation, equipment, drill calibration, seed requirements, and seeding depth as outlined in the *Herbaceous Vegetation Establishment Guide* found in the FOTG. Any areas that cannot be restored before conditions prevent adequate seedbed preparation and seeding will be planted the following spring. Temporary erosion controls will be installed and maintained over the winter in areas that cannot be seeded in 2021.

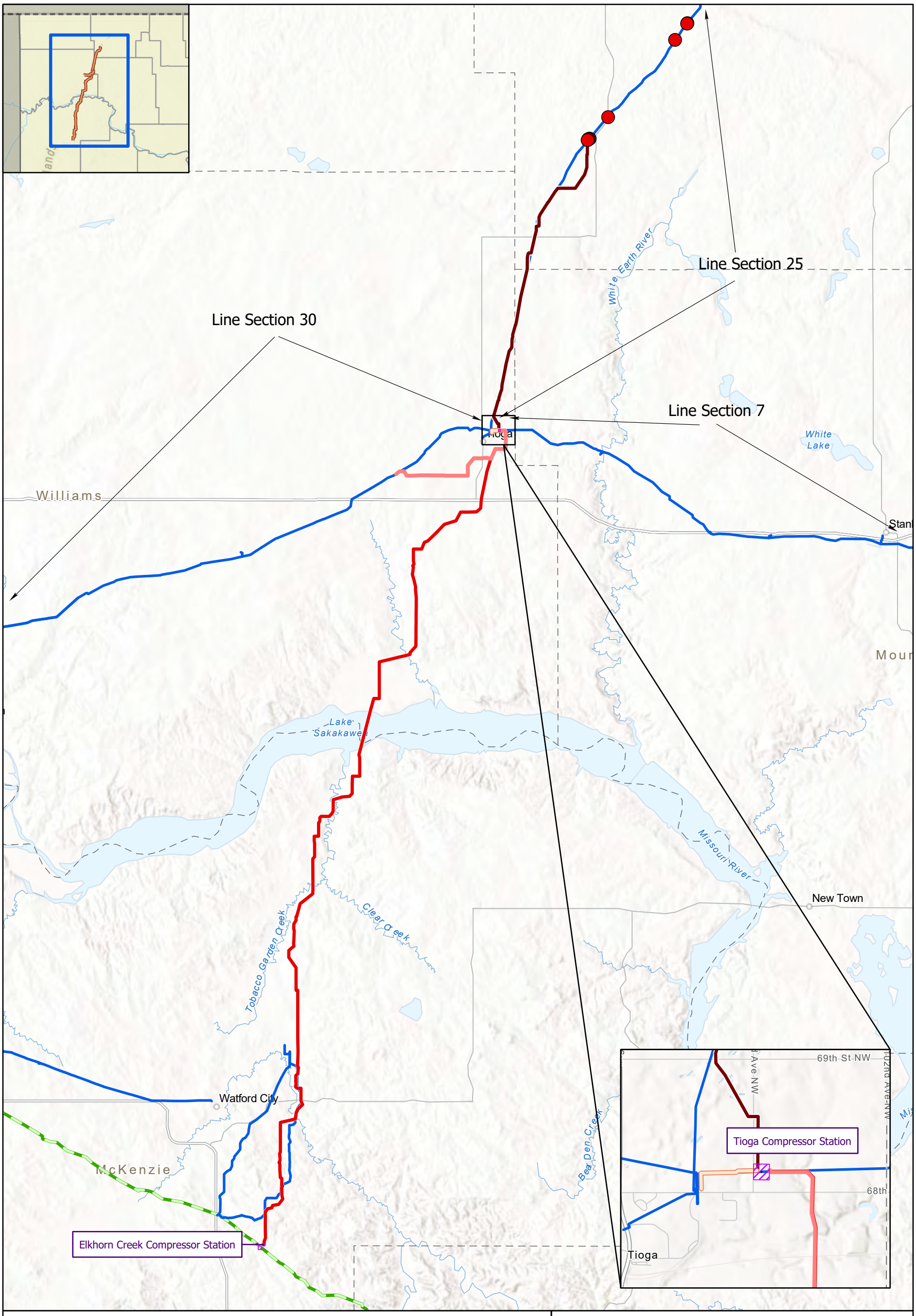
WBI Energy appreciates your assistance with this matter. If you have any questions about the project or this request, please contact me by telephone at (401)-447-5391 or email at mike.buckless@erm.com. Additionally, the project manager, Andrea Thornton, can be reached by telephone at (503)-525-5159 or email at andrea.thornton@erm.com.

Sincerely,



Mike Buckless
Senior Scientist

enclosures: Overview Map



North Bakken Expansion Project
Project Overview Map

File: M:\Clients\V-X\WBI\North_Bakken_Expansion_ArcGIS\FERC_ResourceReportMaps_FERC_RR_FERC_RR.aprx | Revised: 9/24/2019 | 1:545,333 - When Printed on 8.5 X 11

Drawn By: RJC

Lisa DiNicolantonio

From: Mike Buckless
Sent: Wednesday, October 2, 2019 6:01 AM
To: tighe.teets@nd.usda.gov
Cc: Andrea Thornton; Destiny Kerr
Subject: WBI Energy Seed Mix Review - Mountrail County
Attachments: NRCS_Mountrail_County_Office_Letter_20190927.pdf

Good morning Mr. Teets,

ERM is preparing environmental review documents on behalf of WBI Energy Transmission, Inc. for a development project affecting land in Mountrail County, ND. We respectfully request your review and comments on the proposed seed-mixes for use during restoration of the construction work area. Please see the attached document for the proposed seed-mixes and additional background information.

Your time and assistance is greatly appreciated. Please feel free to reach out to myself or Andrea Thornton (cc'd) if you have any questions.

Mike Buckless

ERM
15 Park Row West | Suite 104 | Providence, RI 02903
M +1 (401) 447-5391
E mike.buckless@erm.com | **W** www.erm.com



Environmental Resources Management

15 Park Row West, Suite 104
Providence, RI 02903
+1 401 415 9600
+1 401 415 9601 (fax)

http://www.erm.com

27 September 2019
Reference: North Bakken Expansion Project

Tighe L. Teets
Natural Resources Conservation Service
21 1st St. SE
Stanley, ND 58784-4000

Dear Tighe Teets:

WBI Energy Transmission, Inc. (WBI Energy) proposes to construct and operate the North Bakken Expansion Project (or Project), which consists of an approximately 62-mile-long, 24-inch-diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to a new interconnect with Northern Border Pipeline Company's (Northern Border) mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Creek Compressor Station) will be constructed near this interconnect.

The Project also involves construction of approximately 20 miles of 12-inch-diameter natural gas pipeline between the existing Tioga Compressor Station and an existing receipt station along WBI Energy's existing Line Section 25, approximately 10 miles of 12-inch-diameter natural gas pipeline along WBI Energy's existing Line Section 30, and less than one mile of 20-inch-diameter receipt lateral at the Tioga Compressor Station. Additionally, the Project includes the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and the installation of new and modifications to existing receipt/delivery points and lateral pipeline facilities along the pipeline routes. The planned Project facilities are depicted in the enclosed Overview Map.

Environmental Resources Management (ERM), on behalf of WBI Energy, is preparing environmental review documents for the Project. As part of ERM's review, we are requesting the following information for the proposed Project:

- your review and any associated comments on the following proposed seed-mixes for use during revegetation and restoration of the right-of-way.

Final cleanup will begin after backfilling the pipeline trench is complete, and as soon as weather and site conditions permit. Every reasonable effort will be made to complete final cleanup (including final grading and installation of permanent erosion control devices) within timeframes required by permits, in accordance with landowner requests. During clean-up, construction debris will be collected and taken to a disposal facility. Contours will be restored to pre-existing conditions as closely as possible. Segregated topsoil will be spread over the surface of the right-of-way and permanent erosion controls will be installed.

The following seed-mixes have been designed for reseeding private land based on observations during field surveys and in accordance with the North

Dakota Natural Resources Conservation Service's (NRCS) Field Office Technical Guide (FOTG) sections *Critical Area Planting* and the *Herbaceous Vegetation Establishment Guide*, and the North Dakota Department of Transportation (NDDOT) *2014 Standards and Specifications for Road and Bridge Construction*. Three seed mixes have been developed; one for higher quality grasslands (Grassland Mix), one for grazed pastures (Pasture Mix), and one for road rights-of-way or other non-grassland habitats (NDDOT Mix). These seed mixes are presented below in Table 1. Federally managed land affected by the Project will be restored in accordance with recommendations provided by the U.S. Forest Service.

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Species	PLS Lbs/Acre [a]	Percent of Mix
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Kentucky Bluegrass	3.5	10
Purple Praireclover	0.3	5
Praire (yellow) coneflower	0.1	5
Maximilian sunflower	0.1	5
Total	**10.2**	**100**
Pasture Mix		
Kentucky Bluegrass	10.5	30
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Total	**25.0**	**100**

[a] PLS=Pure live seed: seeding rates are 1.5 times the normal seeding rate based on Table 1 (MLRA 53A/B and 54) of the *Herbaceous Vegetation Establishment Guide*. Kentucky Bluegrass seeding rates have been adopted from the Kentucky FOTG *Critical Area Planting* section.

Restoration and revegetation is expected to occur in late fall 2021, and will follow seedbed preparation, equipment, drill calibration, seed requirements, and seeding depth as outlined in the *Herbaceous Vegetation Establishment Guide* found in the FOTG. Any areas that cannot be restored before conditions prevent adequate seedbed preparation and seeding will be planted the following spring. Temporary erosion controls will be installed and maintained over the winter in areas that cannot be seeded in 2021.

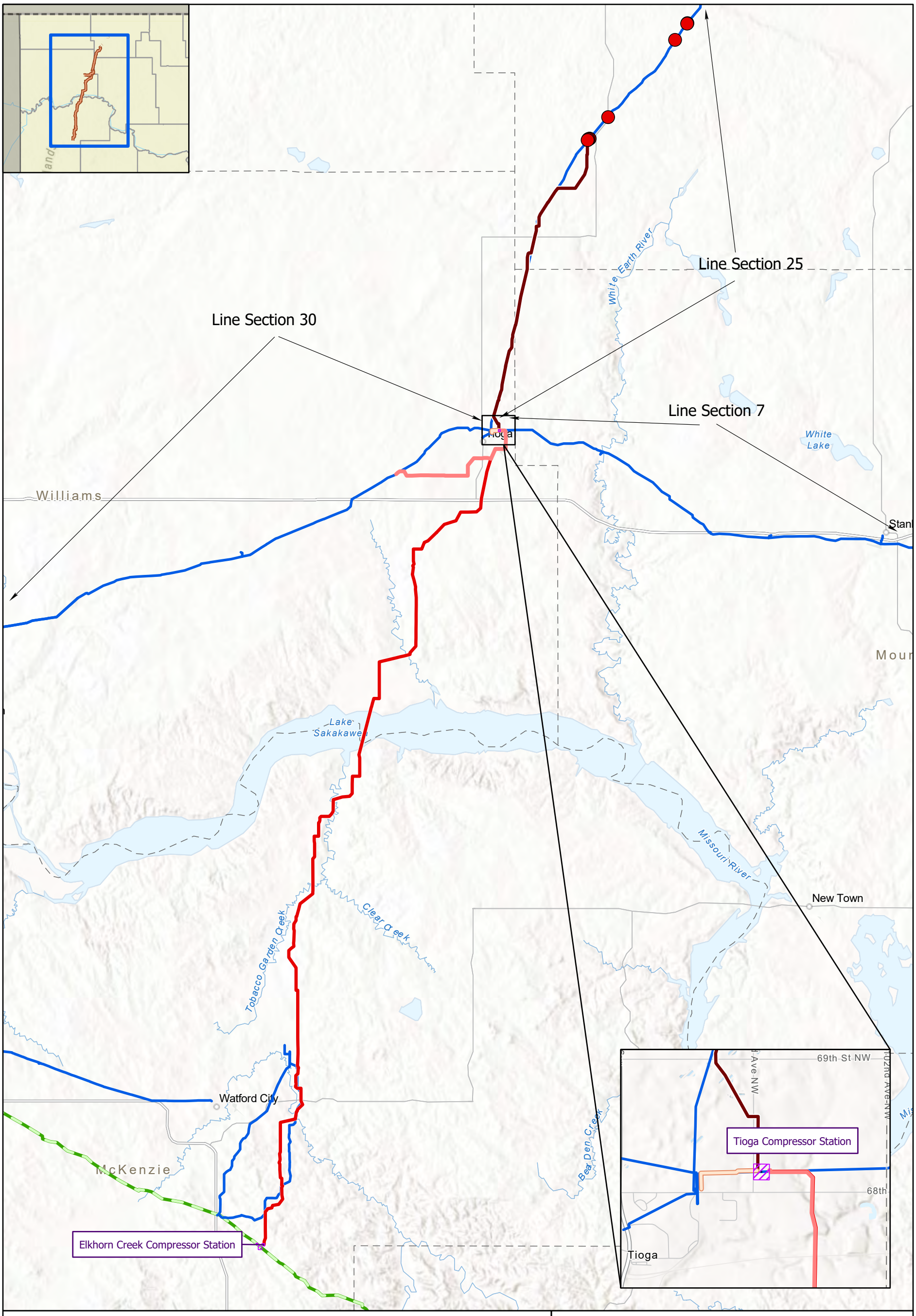
WBI Energy appreciates your assistance with this matter. If you have any questions about the project or this request, please contact me by telephone at (401)-447-5391 or email at mike.buckless@erm.com. Additionally, the project manager, Andrea Thornton, can be reached by telephone at (503)-525-5159 or email at andrea.thornton@erm.com.

Sincerely,



Mike Buckless
Senior Scientist

enclosures: Overview Map



North Bakken Expansion Project
Project Overview Map

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Drawn By: RJC

Lisa DiNicolantonio

From: Mike Buckless
Sent: Wednesday, October 2, 2019 5:54 AM
To: kevin.seitz@nd.usda.gov
Cc: Andrea Thornton; Destiny Kerr
Subject: WBI Energy Seed Mix Review
Attachments: NRCS_Williams_County_Office_Letter_20190927.pdf

Good morning Mr. Seitz,

ERM is preparing environmental review documents on behalf of WBI Energy Transmission, Inc. for a development project affecting land in Williams County, ND. We respectfully request your review and comments on the proposed seed-mixes for use during restoration of the construction work area. Please see the attached document for the proposed seed-mixes and additional background information.

Your time and assistance is greatly appreciated. Please feel free to reach out to myself or Andrea Thornton (cc'd) if you have any questions.

Mike Buckless

ERM
15 Park Row West | Suite 104 | Providence, RI 02903
M +1 (401) 447-5391
E mike.buckless@erm.com | **W** www.erm.com



Environmental Resources Management

15 Park Row West, Suite 104
Providence, RI 02903
+1 401 415 9600
+1 401 415 9601 (fax)

http://www.erm.com

27 September 2019
Reference: North Bakken Expansion Project

Kevin H. Seitz
Natural Resources Conservation Service
1106 West 2nd St
Williston, ND 58801-5804

Dear Kevin Seitz:

WBI Energy Transmission, Inc. (WBI Energy) proposes to construct and operate the North Bakken Expansion Project (or Project), which consists of an approximately 62-mile-long, 24-inch-diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to a new interconnect with Northern Border Pipeline Company's (Northern Border) mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Creek Compressor Station) will be constructed near this interconnect.

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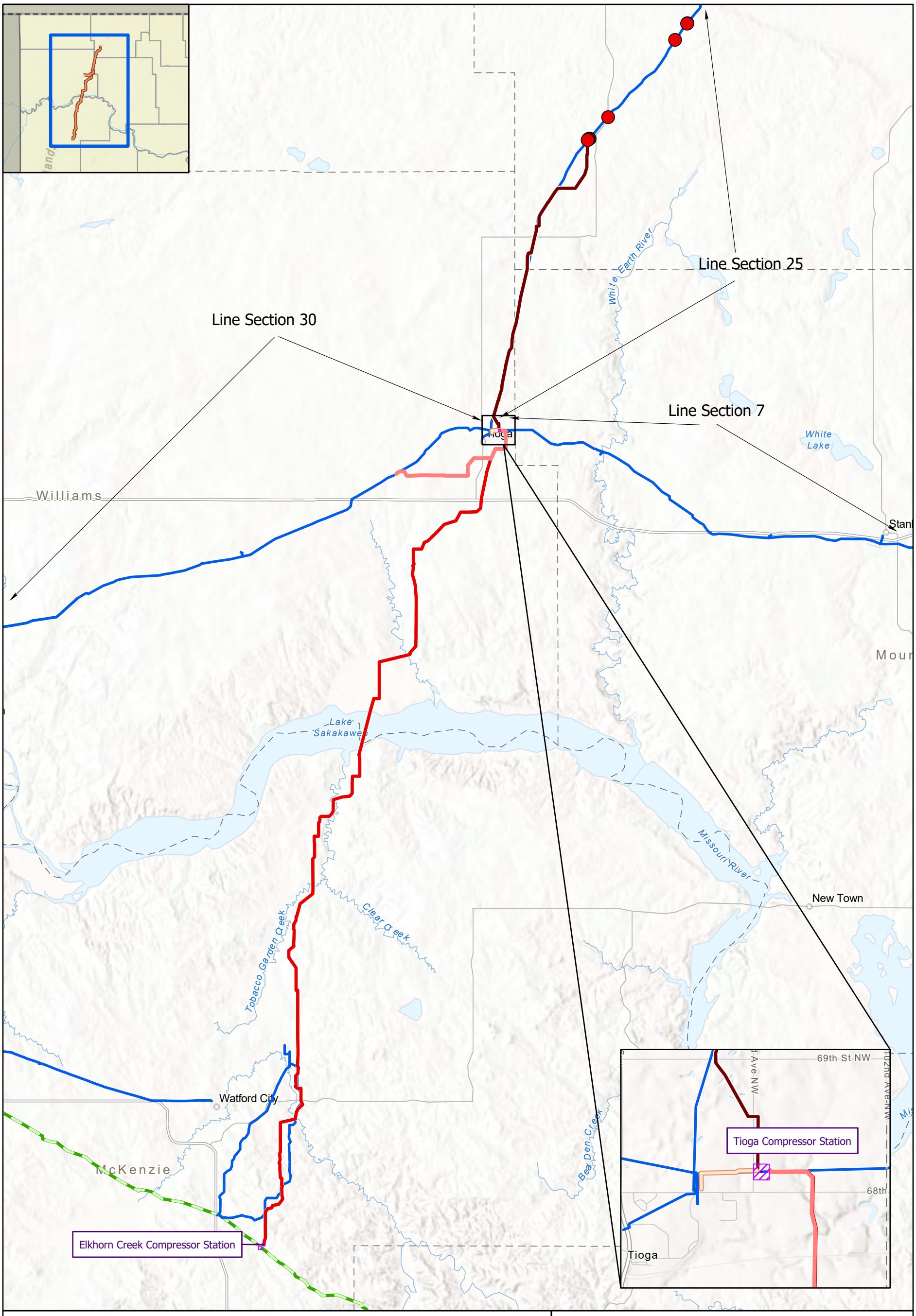
WBI Energy appreciates your assistance with this matter. If you have any questions about the project or this request, please contact me by telephone at (401)-447-5391 or email at mike.buckless@erm.com. Additionally, the project manager, Andrea Thornton, can be reached by telephone at (503)-525-5159 or email at andrea.thornton@erm.com.

Sincerely,



Mike Buckless
Senior Scientist

enclosures: Overview Map



North Bakken Expansion Project
Project Overview Map

File: M:\Clients\V-X\WBI\North_Bakken_Expansion_ArcGIS\FERC_ResourceReportMaps_FERC_RR_FERC_RR.aprx | Revised: 9/24/2019 | 1:545,333 - When Printed on 8.5 X 11

Drawn By: RJC

Lisa DiNicolantonio

From: Hagel, Todd - NRCS, Bismarck, ND <todd.hagel@usda.gov>
Sent: Wednesday, January 15, 2020 3:16 PM
To: Andrea Thornton
Subject: Automatic reply: North Bakken Expansion Project

Categories: Blue Category

Thank you for your message.

I am not in the office at this time. I am out of the office until February 3, 2020. Please direct all correspondence to JoDean Nichols (Easements) (701-530-2093) or Tracy Dove (Financial Assistance) (701-530-2002) from December 20 thru January 6.

Jill Howard, will serve as the Acting Assistant State Conservationist-Programs(Ph: 701-530-2073) for the period of January 6, 2020 to February 3, 2020. Thank you.

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Lisa DiNicolantonio

From: Andrea Thornton
Sent: Wednesday, January 15, 2020 3:13 PM
To: 'Hagel, Todd - NRCS, Bismarck, ND'
Subject: FW: North Bakken Expansion Project
Attachments: NBE_System_Update_20200102.zip

Hi Todd –

I'm following up on an email that I sent you back in August regarding the North Bakken Expansion Project. You had provided a preliminary review of the project back in July. I've attached the most up to date version of project shapefiles. Would you be able to provide another review?

Thanks again,
Andrea

From: Andrea Thornton
Sent: Thursday, August 15, 2019 9:10 AM
To: Hagel, Todd - NRCS, Bismarck, ND <todd.hagel@usda.gov>
Subject: RE: North Bakken Expansion Project

Hi Todd –

Thank you again for providing information on NRCS easements for the North Bakken Expansion Project. Some additional facilities have been added to the project (two new laterals) along with some reroutes. Would you be able to provide another review? It would be helpful to know if there are any easements in close proximity to the current lines that we should be aware of as reroutes will continue to occur and we would want to avoid these areas.

Thanks,
Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Hagel, Todd - NRCS, Bismarck, ND <todd.hagel@usda.gov>
Sent: Friday, July 12, 2019 5:26 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: RE: North Bakken Expansion Project

Hi Andrea. We have reviewed the project shapefiles. Based on our assessment there are no NRCS Easements identified. Thanks for the opportunity to review.

Todd Hagel
Assistant State Conservationist-Programs
USDA-NRCS
701-530-2004

From: Andrea Thornton <Andrea.Thornton@erm.com>
Sent: Thursday, July 11, 2019 2:49 PM
To: Hagel, Todd - NRCS, Bismarck, ND <todd.hagel@usda.gov>
Subject: RE: North Bakken Expansion Project

Hi Todd –

I'm following up on the email I had sent to you back in the end of May regarding the North Bakken Expansion Project. Have you had an opportunity to review the shapefiles for the potential for Agricultural Conservation Easements? Any information that you are able to share would be greatly appreciated.

Thanks,
Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Andrea Thornton
Sent: Friday, May 31, 2019 9:49 AM
To: todd.hagel@nd.usda.gov
Subject: North Bakken Expansion Project

Hi Todd –

As a follow-up to our phone conversation, attached is a copy of the letter that was sent on April 15th. I've also attached copies of the current project shapefiles, however please note that some route adjustments are still being made and potential additional facilities being added to the project. Any information that you can provide on Agricultural Conservation Easements would be greatly appreciated. We will also be looking for seed mix recommendations as the project progresses.

Thank you for your time and I look forward to working with you.

--Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



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Lisa DiNicolantonio

From: Howard, Jill - NRCS, Bismarck, ND <jill.howard@usda.gov>
Sent: Thursday, January 16, 2020 7:47 AM
To: Andrea Thornton
Subject: RE: North Bakken Expansion Project

Follow Up Flag: Follow up
Flag Status: Flagged

Good morning,
Todd is planning to be back next Tuesday. I'll talk to him about it then. Thanks

Jill Howard | Assistant State Conservationist – Partnership Coordinator
Acting ASTC-Programs
Natural Resources Conservation Service | USDA
Jill.Howard@nd.usda.gov | 701.530.2073 office|701.214.8874 cell

---

From: Andrea Thornton <Andrea.Thornton@erm.com>
Sent: Thursday, January 16, 2020 9:39 AM
To: Howard, Jill - NRCS, Bismarck, ND <jill.howard@usda.gov>
Subject: FW: North Bakken Expansion Project

Good Morning –

My name is Andrea Thornton and I work for ERM, the environmental consultant working with WBI Energy on the North Bakken Expansion Project. I had been working on and off with Todd Hagel on his of review of NRCS easements. Yesterday I sent him the attached updated project shapefiles for review and received the automatic reply email below. Are you able to assist with this review, or let me know if there is someone else that I should be reaching out to? For your reference I've also attached an email chain between myself and Todd.

Please let me know if you have any questions.

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com

From: Hagel, Todd - NRCS, Bismarck, ND <todd.hagel@usda.gov>
Sent: Wednesday, January 15, 2020 3:16 PM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Automatic reply: North Bakken Expansion Project

Thank you for your message.

I am not in the office at this time. I am out of the office until February 3, 2020. Please direct all correspondence to JoDean Nichols (Easements) (701-530-2093) or Tracy Dove (Financial Assistance) (701-530-2002) from December 20 thru January 6.

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NORTH BAKKEN EXPANSION PROJECT

Resource Report 1

APPENDIX 1G-1
Agency Correspondence – U.S. Fish and Wildlife Service (FWS)

Lisa DiNicolantonio

From: Huncovsky, Greg <Greg.Huncovsky@WBIEnergy.com>
Sent: Thursday, March 14, 2019 7:02 AM
To: Andrea Thornton
Subject: FW: [EXTERNAL] Fwd: FW: Fish and Wildlife Conservation Ares
Attachments: 15709514.pdf; 15709523.pdf; 15809525.pdf; 15909403.pdf; 16009426NW.pdf; 16009426SW.pdf; 16009427.pdf; 16009434NE.pdf; 16009434SE.pdf

FYI

From: Nielsen, Wade
Sent: Thursday, March 14, 2019 7:59 AM
To: Stefka, Kyle <Kyle.Stefka@WBIEnergy.com>; Stanhope, Bob <Bob.Stanhope@WBIEnergy.com>; Linn, Jill <Jill.Linn@wbienergy.com>; Huncovsky, Greg <Greg.Huncovsky@WBIEnergy.com>; Linn, Dave <Dave.Linn@WBIEnergy.com>
Subject: FW: [EXTERNAL] Fwd: FW: Fish and Wildlife Conservation Ares

Here is what JD heard back from FWS on the North Bakken loop line.

From: James Waggener <jwaggener.salemland@gmail.com>
Sent: Thursday, March 14, 2019 7:30 AM
To: Nielsen, Wade <Wade.Nielsen@WBIEnergy.com>
Subject: Fwd: [EXTERNAL] Fwd: FW: Fish and Wildlife Conservation Ares

** WARNING: EXTERNAL SENDER. NEVER click links or open attachments without positive sender verification of purpose. DO NOT provide your user ID or password on sites or forms linked from this email. **

Wade,

Below is the response from North Dakota Fish and Wildlife. It is highly advised by them to avoid these areas due to the lengthy process involved to acquire a permit to cross.

Let me know how you prefer to proceed

Thanks
JD

---------- Forwarded message ---------
From: **Krebsbach, Jacob** <jacob_krebsbach@fws.gov>
Date: Tue, Mar 12, 2019 at 3:35 PM
Subject: Re: [EXTERNAL] Fwd: FW: Fish and Wildlife Conservation Ares
To: James Waggener <jwaggener.salemland@gmail.com>

JD,

Attached you'll find maps that show identified wetland basins along the route of the transmission line. Wetland basins within the immediate vicinity of the line are marked, however, more could be impacted depending on the width of the right-of-way. You'll also notice that the proposed line crosses several grassland easements as well.

Since this is a transmission line, the FWS would have jurisdiction regarding our interests. Before impacting any protected wetland basins or grasslands, WBI Energy would have to go through the compatibility process and permits would have to be issued from our regional office. If the FWS interests are not impacted, either by boring underneath the surface, or avoiding entirely, compatibility will not be necessary. This is typically not a very speedy process, and is avoided by most industrial companies whenever possible.

If you have any questions, shoot me an email or give me a call.

Jacob Krebsbach
NAWCA Technician
Crosby Wetland Management District
U.S. Fish & Wildlife Service
10100 Hwy 42 NW
Crosby, ND 58730
701-965-6488 x10

On Thu, Mar 7, 2019 at 9:11 AM Krebsbach, Jacob <jacob_krebsbach@fws.gov> wrote:

> Received, thank you.
>
> Jacob Krebsbach
> NAWCA Technician
> Crosby Wetland Management District
> U.S. Fish & Wildlife Service
> 10100 Hwy 42 NW
> Crosby, ND 58730
> 701-965-6488 x10
>
> On Thu, Mar 7, 2019 at 9:05 AM James Waggener <jwaggener.salemland@gmail.com> wrote:
>
> > Jacob,
> >
> > Attached is a KMZ file showing the proposed pipeline route through Williams, Mountrail, and Burke Counties.
> > Please review and send me information on the wetland boundaries that may be impacted.
> >
> > Thank you
> > JD Waggener
> >
> > **Salem Land**

JD Waggener
Project Manager
307-752-4871

---------- Forwarded message ---------
From: **Nielsen, Wade** <Wade.Nielsen@wbienergy.com>
Date: Tue, Feb 26, 2019 at 10:30 AM
Subject: FW: Fish and Wildlife Conservation Ares
To: James Waggener <jwaggener.salemland@gmail.com>

From: ODell, Aaron <Aaron.ODell@wbienergy.com>
Sent: Tuesday, February 26, 2019 8:25 AM
To: Nielsen, Wade <Wade.Nielsen@WBIEnergy.com>
Cc: Bain, Robert <Robert.Bain@WBIEnergy.com>
Subject: Fish and Wildlife Conservation Ares

Wade,

Here is the CL with FWS Special Interest Areas in KMZ format.

Thanks

Aaron O'Dell

Survey Technician II

307-763-6696 | Cell

406-359-7411 | Office

--

Salem Land

JD Waggener

Project Manager

307-752-4871

--

Salem Land

JD Waggener

Project Manager

307-752-4871

WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

April 15, 2019

Jessica Johnson
US Fish and Wildlife Service North Dakota Field Office
3425 Miriam Avenue
Bismarck, ND 58501-7926

Subject: WBI Energy Transmission, Inc.
Proposed North Bakken Expansion Project
McKenzie, Williams, Burke, and Mountrail Counties, North Dakota

Dear Jessica Johnson:

WBI Energy Transmission, Inc. (WBI Energy) is proposing to construct and operate the North Bakken Expansion Project (Project), which consists of an approximately 60-mile-long, 20-inch diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to an interconnect with Northern Border Pipeline Company's mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Compressor Station) will be constructed near this interconnect.

The Project also involves construction of approximately 20 miles of 12-inch diameter natural gas pipeline between the existing Tioga Compressor Station and an existing receipt station, the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and additional/modifications to certain receipt/delivery points and laterals along the pipeline routes. The attached map depicts the preliminary proposed pipeline route and the location of Project facilities.

The Project will add natural gas takeaway capacity (estimated at approximately 200,000 Mcf/day) to help meet the natural gas transportation needs in the Bakken region while reducing natural gas flaring.

The Project is regulated by the Federal Energy Regulatory Commission (FERC) under Section 7(c) of the Natural Gas Act. Under the Energy Policy Act of 2005, FERC is the lead agency for coordinating federal authorizations and complying with the National Environmental Policy Act (NEPA) on natural gas pipeline

projects subject to its jurisdiction. WBI Energy plans to submit an application with the FERC in December 2019 for a Certificate of Public Convenience and Necessity (Certificate) to construct and operate the proposed pipeline and associated facilities. Applications for other federal or state authorizations will be submitted prior to or at the same time as the FERC application or on timelines defined by the appropriate federal or state regulations. WBI Energy anticipates receiving a Certificate from the FERC by December 2020, with construction planned to begin in early 2021.

WBI Energy plans to file a request with the FERC to use the FERC's NEPA pre-filing process for the Project. This process will provide agencies, landowners, and other stakeholders the opportunity to work with WBI Energy and the FERC to identify and resolve environmental issues prior to the filing of the Certificate application. This will result in a more efficient regulatory review process, including NEPA review of the Project. Pending FERC approval, WBI Energy anticipates preparing a draft Environmental Assessment (EA) for use by FERC staff. WBI Energy looks forward to working with you throughout the pre-filing process to ensure that your concerns are identified and addressed in the draft EA.

WBI Energy has retained Environmental Resources Management (ERM) to provide environmental support services for the project. An ERM representative will be in touch with you in the near future to provide additional information and discuss specific permitting and/or consultation requirements. In the meantime, if you have questions about the project, please contact Andrea Thornton of ERM at 503-525-5159 or myself at 406-359-7332.

Thank you for your time and assistance with this project.

Sincerely,



Jill Linn
Environmental Affairs
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map

cc: Greg Huncovsky, WBI
Andrea Thornton, ERM



Miles
0 1.75 3.5 7

N

1 in = 3 miles

Project Overview Map

North Bakken Expansion Project
WBI Energy

WBI ENERGY TRANSMISSION

Legend

- Above Ground Facilities
- Road Bores for Uprating Existing Pipeline
- Proposed Tioga to Elk Creek Compressor Pipeline
- Proposed Norse to Tioga Loop Pipeline
- Northern Border Pipeline
- Existing WBI Pipeline

Burke County
Mountrail County
Williams County
McKenzie County

North Dakota

PROJECT AREA OVERVIEW



By: SMS

Path: F:\GIS\Projects_Authorized\North_Bakken_Expansion_Project\Northern_Bakken_Expansion_24X36_2.mxd

1:214,000 - when Printed on 24X36

Date: 4/10/2019

LOG

LOG OF TELEPHONE CONVERSATION

CALL TO/FROM WHOM:	PHONE NO.:
Jessica Johnson Jerry Reinisch, Biologist	
COMPANY: U.S. Fish and Wildlife Service	
ERM CONTACT: Andrea Thornton, Justin Moffett, Leslie Rodman-Jaramillo	PHONE NO.:
DATE: May 13, 2019	TIME OF CONVERSATION: 7:00 am
RE: North Bakken Expansion: ESA consultation requirements	
SIGNATURE:	

LOG OF CONVERSATION:

The purpose of this call was to discuss Endangered Species Act consultation requirements for the North Bakken Expansion project.

- Northern Long-eared Bat – USFWS agreed that no species specific survey are required for this species. Noting general habitat and any mitigation measures in the BA will suffice.
- Grey Wolf – USFWS agreed that no species specific survey are required for this species. Noting general habitat and any mitigation measures in the BA will suffice.
- Whooping Crane – USFWS agreed that no species specific surveys are required for this species. Noting general habitat and avoidance/mitigation measures will suffice.
- Least Tern, Piping Plover, Red Knot – We informed USFWS that our plan for these species is to conduct general habitat surveys. They asked about the setback distance of the entry/exit holes and noted that they further away the better for any noise disturbance. Given that the amount of habitat present during surveys vs. during construction could differ depending on the level of the lake, they noted that they will likely require presence/absence surveys 48 hours before the drill work is to commence. If birds are found in that survey we would have to notify the a USFS/USACE representative to see if the bird may abandon its nest due to activity and could require waiting until the bird has left the nest prior to drill work starting. **This will be a continued discussion throughout the Project to work through possible mitigation measures and prior to construction survey requirements.**
- Dakota Skipper – We informed the USFWS that our plan is to conduct habitat surveys for the Dakota Skipper similar to those completed for the Demicks Lake Project. The need for potential presence/absence surveys would depend on the results of the habitat surveys and if habitat can be adequately avoided. **This will be a continued discussion throughout the Project to work through possible mitigation measures.**

- Pallid Sturgeon - USFWS agreed that no species specific survey are required for this species. Noting general habitat and potential impacts (potential for inadvertent release, noise/vibration) in the BA will suffice. They did request a shapefile of the lake crossing alignment so they could provide us with historical data on pallid sturgeon and the shore bird species.

Lisa DiNicolantonio

From: Reinisch, Jerry <jerry_reinisch@fws.gov>
Sent: Thursday, May 23, 2019 1:02 PM
To: Justin Moffett
Subject: Re: [EXTERNAL] WBI Energy: North Bakken Expansion Lake Sakakawea crossing

Justin
After review of the HHD planned alignment there are numerous PIPL nesting areas along the north shore within 0.5 miles of the drilling set-up location.
Surveys would be recommended in these areas prior to construction to determine occupancy of PIPL. On the south end, the exit point and surrounding area
should be surveyed for suitable habitat for DASK. If areas are determined to be suitable habitat, then occupancy surveys are recommended by permitted surveyors.
Please call if you need additional guidance.
Thanks and I look forward to further consultation.
Jerry

Jerry D. Reinisch
Fish & Wildlife Biologist
Ecological Services
US Fish & Wildlife Service
3425 Miriam Drive
Bismarck, North Dakota 58501

(M) 701-250-4481 Ext 8267
(D) 701-333-0267
(C) 701-425-2133

On Thu, May 16, 2019 at 1:56 PM Reinisch, Jerry <jerry_reinisch@fws.gov> wrote:

> Justin
> I have data for PIPL, Least tern and Pallid sturgeon. Thank you for the data.
> Jerry
>
> Jerry D. Reinisch
> Fish & Wildlife Biologist
> Ecological Services
> US Fish & Wildlife Service
> 3425 Miriam Drive
> Bismarck, North Dakota 58501
>
> (M) 701-250-4481 Ext 8267
> (D) 701-333-0267
> (C) 701-425-2133

On Thu, May 16, 2019 at 12:32 PM Justin Moffett <Justin.Moffett@erm.com> wrote:

> Hi Jessica and Jerry,
>
> Per our meeting on Monday I'm sending you WBI's current alignment of the North Bakken Expansion crossing at Lake Sakakawea. The ends of the line represent the entry/exits points for the proposed HDD.
>
> Jerry you mentioned you could compare this crossing to known occurrences of pallid sturgeon, but do you also have occurrence data for piping plover and least tern? Or do we need to contact the Corps of Engineers for that data?
> Let us know if you have any questions.
>
> Thanks.

Justin T. Moffett, PWS

Principal Consultant

Environmental Resources Management (ERM)

1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204

M 971-645-9941

E Justin.Moffett@erm.com | **W** www.erm.com



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WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

July 17, 2019

0280

Jessica Johnson
US Fish and Wildlife Service North Dakota Field Office
3425 Miriam Ave
Bismarck, ND 58501-7926

Subject: WBI Energy Transmission, Inc.
Invitation to Public Open House for the Proposed North Bakken Expansion Project

Dear Jessica Johnson:

WBI Energy Transmission, Inc. (WBI Energy) would like to cordially invite you to attend an open house meeting in your area regarding our proposed plan to build, own and operate the North Bakken Expansion Project (Project).

On June 28, 2019, WBI Energy requested use of the Federal Energy Regulatory Commission's (FERC) pre-filing review process for its proposed North Bakken Expansion Project (FERC Docket No. PF19-7-000). The FERC, the lead federal agency responsible for authorizing the Project, approved WBI Energy's pre-filing request on July 3, 2019. WBI Energy expects to file a formal application for the Project in early 2020.

The Project consists of an approximately 60 mile-long, 20-inch diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to a new interconnect with Northern Border Pipeline Company's mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Creek Compressor Station) will be constructed near this interconnect.

The Project also involves construction of approximately 20 miles of 12-inch diameter natural gas pipeline between the existing Tioga Compressor Station and an existing receipt station along WBI Energy's existing Line Section 25, approximately 10 miles of 12-inch diameter natural gas pipeline along WBI Energy's existing Line Section 30, and an approximately 10 mile, 12-inch diameter natural gas pipeline lateral from WBI Energy's existing Line Section 7.

Additionally, the Project includes the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and the installation of new and modifications to receipt/delivery points and lateral pipeline facilities along the pipeline routes. The attached map depicts the locations of the currently proposed Project facilities. Note that additional facilities have been added to the Project since WBI Energy's initial outreach for the Project earlier this year.

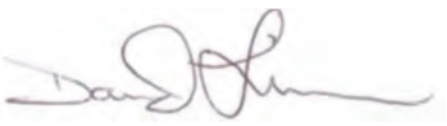
The Project will add natural gas takeaway capacity (estimated at approximately 300,000 Mcf/day) to help meet the natural gas transportation needs in the Bakken region while reducing natural gas flaring.

To provide additional information about the Project and receive stakeholder input, WBI Energy will host public open houses. This will be an informal opportunity to receive project-related materials, view detailed maps and displays, meet with the Project team experts and share your feedback before a formal application is submitted to the FERC. We welcome you to attend any one of the open houses at the dates, times and locations indicated below.

North Bakken Expansion Project Public Open Houses	
Tuesday, August 6 **Location: Tioga**	**Wednesday, August 7** **Location: Watford City**
Neset Consulting Service 6844 State Highway 40 Tioga, North Dakota 58852 11:00 am-1:00 pm and 5:00-7:00 pm	Watford City Civic Center 213 2nd St NE Watford City, North Dakota 58854 11:00 am-1:00 pm and 5:00-7:00 pm

If you have any questions regarding the North Bakken Expansion Project, please contact the Project team at the toll-free number 1-844-825-9397. We look forward to working with you on the Project and seeing you at an upcoming open house.

Sincerely,



David Linn
Project Manager
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map



Miles
0 1.25 2.5 5

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1 in = 3 miles

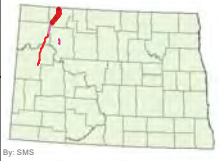
Project Overview Map

North Bakken Expansion Project
WBI Energy

Burke County
Mountrail County
Williams County
McKenzie County

North Dakota

PROJECT AREA OVERVIEW



Legend

- Proposed Line Section 25 Loop Pipeline
- Proposed Elkhorn Creek - Tioga Pipeline
- Proposed Line Section 30 Loop Pipeline
- Road Bores for Uprating Existing Line
- Proposed Receipt Lateral
- WBI Existing Pipelines
- Northern Border Pipeline

By: SMS

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1:174,000 - when Printed on 24X36

Date: 6/28/2010

WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

July 17, 2019

0281

Jacob Krebsbach
US Fish and Wildlife Service Crosby Wetland Management District
10100 Highway 42 NW
Crosby, ND 58730-9399

Subject: WBI Energy Transmission, Inc.
Invitation to Public Open House for the Proposed North Bakken Expansion Project

Dear Jacob Krebsbach:

WBI Energy Transmission, Inc. (WBI Energy) would like to cordially invite you to attend an open house meeting in your area regarding our proposed plan to build, own and operate the North Bakken Expansion Project (Project).

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Additionally, the Project includes the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and the installation of new and modifications to receipt/delivery points and lateral pipeline facilities along the pipeline routes. The attached map depicts the locations of the currently proposed Project facilities. Note that additional facilities have been added to the Project since WBI Energy's initial outreach for the Project earlier this year.

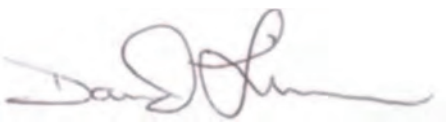
The Project will add natural gas takeaway capacity (estimated at approximately 300,000 Mcf/day) to help meet the natural gas transportation needs in the Bakken region while reducing natural gas flaring.

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If you have any questions regarding the North Bakken Expansion Project, please contact the Project team at the toll-free number 1-844-825-9397. We look forward to working with you on the Project and seeing you at an upcoming open house.

Sincerely,



David Linn
Project Manager
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map



Miles
0 1.25 2.5 5

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1 in = 3 miles

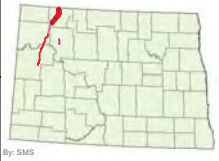
Project Overview Map

North Bakken Expansion Project
WBI Energy

Burke County
Mountrail County
Williams County
McKenzie County

North Dakota

PROJECT AREA OVERVIEW



Legend

- Proposed Line Section 25 Loop Pipeline
- Proposed Elkhorn Creek - Tioga Pipeline
- Proposed Line Section 30 Loop Pipeline
- Road Bores for Uprating Existing Line
- Proposed Receipt Lateral
- WBI Existing Pipelines
- Northern Border Pipeline

By: SMS

Path: F:\GIS\Projects_Authorized\North_Bakken_Expansion_Project\Northern_Bakken_Expansion_24X36_2.mxd

1:174,000 - when Printed on 24X36

Date: 6/28/2010

Lisa DiNicolantonio

From: Reinisch, Jerry <jerry_reinisch@fws.gov>
Sent: Friday, July 26, 2019 11:51 AM
To: Justin Moffett
Subject: Re: [EXTERNAL] RE: North Bakken-Pallid Sturgeon

Justin
The entries are upstream, but does not rule out migration either way.
Jerry

Jerry D. Reinisch
Fish & Wildlife Biologist
Ecological Services
US Fish & Wildlife Service
3425 Miriam Drive
Bismarck, North Dakota 58501

(M) 701-250-4481 Ext 8267
(D) 701-333-0267
(C) 701-425-2133

On Fri, Jul 26, 2019 at 1:26 PM Justin Moffett <Justin.Moffett@erm.com> wrote:

> Hi Jerry,
>
> Are there any entries for sturgeon further downstream, i.e., suggesting they migrate through the action area? Or are all the entries upstream of the action area?
>
> Thanks.
>
> **Justin T. Moffett, PWS**
>
> Principal Consultant
>
> **Environmental Resources Management (ERM)**
>
> **M** 971-645-9941
>
> **E** Justin.Moffett@erm.com | **W** www.erm.com

From: Reinisch, Jerry <jerry_reinisch@fws.gov>
Sent: Friday, July 26, 2019 11:19 AM
To: Justin Moffett <Justin.Moffett@erm.com>
Subject: North Bakken-Pallid Sturgeon

Justin

After checking the database I did not find entries for that portion of the lake, but they still may be occupying that portion of the reservoir.

Jerry

Jerry D. Reinisch

Fish & Wildlife Biologist

Ecological Services

US Fish & Wildlife Service

3425 Miriam Drive

Bismarck, North Dakota 58501

(M) 701-250-4481 Ext 8267

(D) 701-333-0267

(C) 701-425-2133

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ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	To: Crosby Wetland Management District
Phone number	(701) 965-6488
Company	U.S. Fish and Wildlife Service (USFWS)
ERM Contact	Leslie Rodman-Jaramillo
Phone number	(503) 984-6609
Date	08/14/2019
Time of Conversation	1600 PST
Reference	North Bakken Expansion Project – wetland easements
Signature	

LOG OF CONVERSATION

Results from the USFWS Information for Planning and Consultation (IPaC) query indicated that the Project would cross USFWS Crosby and Lostwood Wetland Management Districts, so I contacted the first office and was forwarded to Scott Williams, Wetland District Manager at the Crosby Wetland Management District office in Crosby, ND.

We discussed the proposed Project and IPaC results specific to crossing wetland easements. IPaC had indicated USFWS would need to make a compatibility determination. Scott explained that this was really focused around grassland easements, and he encouraged avoiding these altogether. We reviewed the potential wetland easement crossings, and he forwarded me the USFWS web application here, https://www.arcgis.com/apps/webappviewer/index.html?id=e379b7e1fff54f00b826ce18183458bd&extent=-18139024.5238%2C2047562.8107%2C-5615581.8096%2C8377771.7452%2C102100. Scott requested that I send him a shapefile of the proposed Project and he can go through the line and let us know of any areas to avoid. Rob (ERM GIS) packaged up the latest proposed pipeline centerlines, and I sent the shapefile to Scott the evening of 8/14.

Jacob Krebsbach, NAWCA technician with the USFWS, got back to us the morning of 8/15 with avoidance maps around USFWS areas of interest (wetlands/grassland).

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Lisa DiNicolantonio

From: Justin Moffett
Sent: Thursday, August 15, 2019 2:46 PM
To: Jerry D. Reinisch (jerry_reinisch@fws.gov); Jessica Johnson (jessica_n_johnson@fws.gov); Scott Larson (scott_larson@fws.gov)
Cc: Linn, Jill (Jill.Linn@wbienergy.com); Huncovsky, Greg; Andrea Thornton; Leslie Rodman-Jaramillo
Subject: North Bakken Expansion Project ESA consultation

Jerry,
I'm following up with you regarding our recent conversation about WBI's North Bakken Expansion project and the results of our field surveys. We would like to schedule a meeting with you, Jessica, and Scott to discuss the current project alignment, anticipated impacts, proposed avoidance & minimization measures as they relate to the Dakota skipper and other federally listed species we plan to address in Project's consultation with USFWS.
Specifically we'd like to discuss the following:

1. Dakota skipper (DASK) habitat assessment and potential need for presence/absence (P/A) surveys. To date we've surveyed about 85% of the project areas outside Williams County (data provided to you in mid-July 2019) and anticipate surveying the remaining project area, where we have landowner permission, by the end of August. Similar to our approach on WBI's Demicks Lake project which we consulted with your office in Fall 2018, we've classified the habitats into three categories- Dispersal, Foraging, and Reproductive. Again, similar to the Demicks Lake consultation WBI planned to assume presence of DASK in all Reproductive habitats, in lieu of conducting P/A surveys. However, in our recent discussions you've indicated that P/A surveys are needed in all suitable DASK habitat. Therefore we'd like to discuss your request to better understand the Service's position on P/A surveys since it seems to have changed since last Fall.
    a. Related to this matter you mentioned you have data regarding locations of recent P/A surveys and the results of those surveys. Can the Service share that data with us as so that we may incorporate it into our assessment of existing conditions?
2. Preliminary assessment of project impacts to DASK habitat and avoidance and minimization measures.
3. Implications of the recent changes to ESA implementing regulations.
4. Overall status of FERC review process and project schedule.

While we could conduct this meeting via video conference it may be beneficial to have an in-person meeting at a local USFWS or WBI office. Please let me know if you are amenable to such a meeting and potential dates you all are available to meet.
Feel free to contact me if you have any questions.
We look forward to hearing from you.
Thank you.

Justin T. Moffett, PWS
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 971-645-9941
E Justin.Moffett@erm.com | **W** www.erm.com

Lisa DiNicolantonio

From: Andrea Thornton
Sent: Thursday, August 15, 2019 7:09 AM
To: Williams, Scott; Leslie Rodman-Jaramillo
Cc: Justin Moffett
Subject: RE: [EXTERNAL] Centerline shapefile - WBI Energy North Bakken Expansion Project

Thank you Scott,

I will work with the WBI Energy folks to confirm that the grassland easement is either being routed around or bored under. We look forward to receiving maps of the bore/avoid areas within the wetland easements.

-Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Williams, Scott <scott_a_williams@fws.gov>
Sent: Thursday, August 15, 2019 5:19 AM
To: Leslie Rodman-Jaramillo <leslie.rodmanjaramillo@erm.com>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>; Justin Moffett <Justin.Moffett@erm.com>
Subject: Re: [EXTERNAL] Centerline shapefile - WBI Energy North Bakken Expansion Project

Hi Folks,

Guess first obvious thing that comes to mind it why can't the line move approximately 35 feet NW to avoid that corner of grassland easement, or just bore under that small stretch, this would save a lot of paperwork and time from our office completing a Compatibility Determination etc...

As far as the wetland easements that the line crosses, our office will follow up with some maps on bore/avoid areas where we have interests.

Thanks again,

S

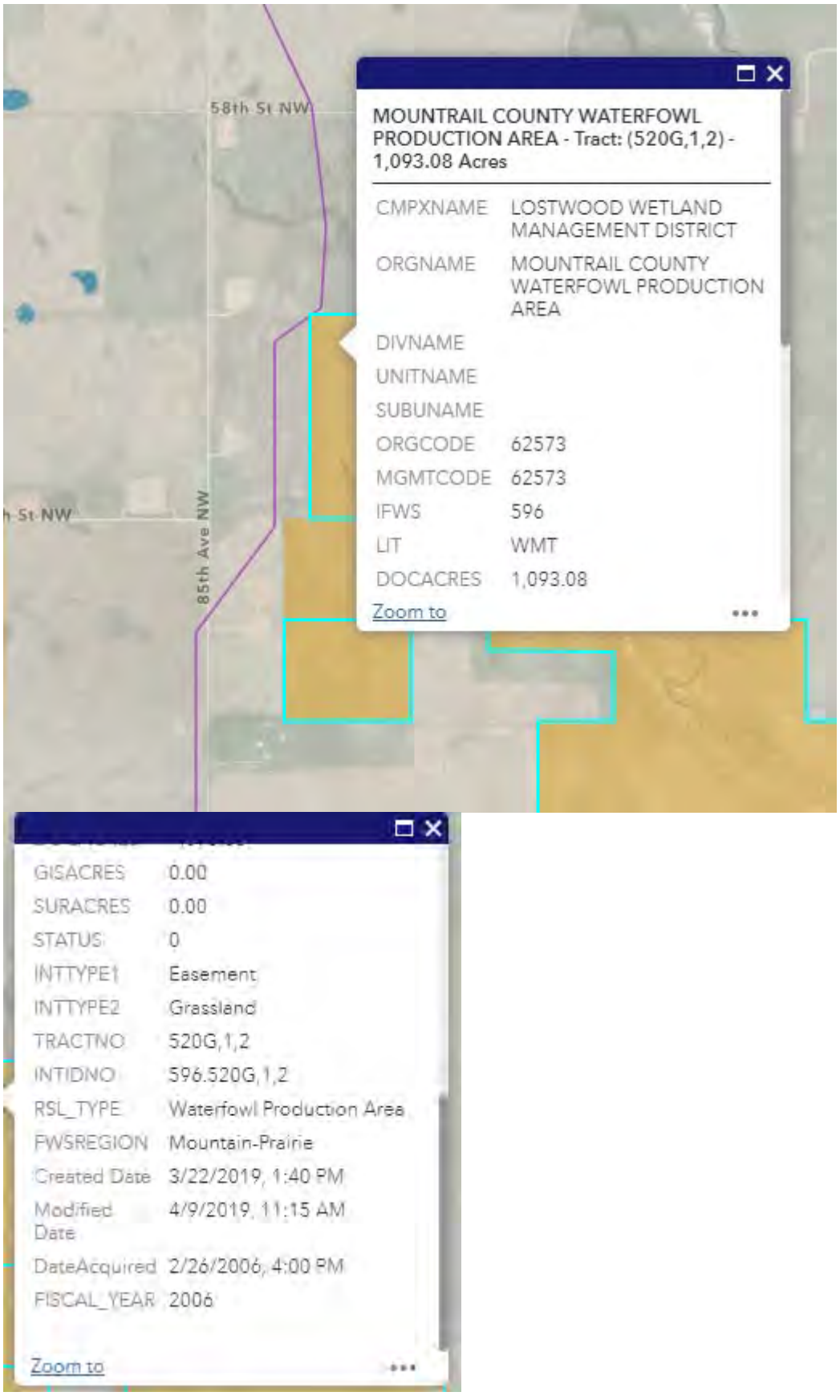
Scott A. Williams
Wetland District Manager

Crosby Wetland Management District
United States Fish and Wildlife Service
10100 HWY 42 NW
Crosby, ND 58730

701.965.6488 Office
701.339.1450 Cell
701.965.6487 Fax

On Wed, Aug 14, 2019 at 10:22 PM Leslie Rodman-Jaramillo <leslie.rodmanjaramillo@erm.com> wrote:

> Hi Scott,
>
> Thanks again for chatting with me this afternoon regarding the proposed project and potential wetland easement crossings.
>
> Per your request, attached is the shapefile including all of the pipeline facilities (including two laterals that we reviewed in Williams and Mountrail Counties). As we discussed, the IPaC results indicate that the lines overlap lands within the Crosby and Lostwood Wetland Management Districts.
>
> I was successful at adding the attached shapefile into the web app link you sent [https://www.arcgis.com/apps/webappviewer/index.html?id=e379b7e1fff54f00b826ce18183458bd&extent=-18139024.5238%2C2047562.8107%2C-5615581.8096%2C8377771.7452%2C102100], which appears to provide additional metadata than the individual web mappers for Crosby and Lostwood NWRs. It looks like all of the easements crossed are wetlands, specifically waterfowl production areas. There is one exception that I see for the Knife River Lateral in Mountrail Co. that just barely clips a grassland easement. See below snip. Please review and let us know if there are further steps (e.g., compatibility determination) that IPaC advises. I know you mentioned having time tomorrow morning to review; I will be in the field tomorrow, but you can contact Andrea or Justin cc'd on this email (contact info below as well). Thank you!


58th St NW
85th Ave NW
MOUNTRAIL COUNTY WATERFOWL PRODUCTION AREA - Tract: (520G,1,2) - 1,093.08 Acres
CMPXNAME LOSTWOOD WETLAND MANAGEMENT DISTRICT
ORGNAME MOUNTRAIL COUNTY WATERFOWL PRODUCTION AREA
DIVNAME
UNITNAME
SUBUNAME
ORGCODE 62573
MGMTCODE 62573
IFWS 596
LIT WMT
DOCACRES 1,093.08
Zoom to
GISACRES 0.00
SURACRES 0.00
STATUS 0
INTTYPE1 Easement
INTTYPE2 Grassland
TRACTNO 520G,1,2
INTIDNO 596.520G,1,2
RSL_TYPE Waterfowl Production Area
FWSREGION Mountain-Prairie
Created Date 3/22/2019, 1:40 PM
Modified Date 4/9/2019, 11:15 AM
DateAcquired 2/26/2006, 4:00 PM
FISCAL_YEAR 2006
Zoom to

Andrea Thornton 503.459.6864

Justin Moffett 971.645.9941

Leslie Rodman-Jaramillo
Project Scientist

Environmental Resources Management (ERM)

1050 SW 6th Ave Suite 1650 | Portland, OR | 97204

M+503 984 6609

E leslie.rodmanjaramillo@erm.com | W www.erm.com

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Lisa DiNicolantonio

From: Andrea Thornton
Sent: Thursday, August 15, 2019 12:24 PM
To: Krebsbach, Jacob; Leslie Rodman-Jaramillo
Cc: Justin Moffett; Scott Williams
Subject: RE: WBI Energy North Bakken Expansion Project Maps

Hi Jacob –

Thank you for this information. I will pass it along to the folks working on routing.

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Krebsbach, Jacob <jacob_krebsbach@fws.gov>
Sent: Thursday, August 15, 2019 12:20 PM
To: Leslie Rodman-Jaramillo <leslie.rodmanjaramillo@erm.com>
Cc: Justin Moffett <Justin.Moffett@erm.com>; Andrea Thornton <Andrea.Thornton@erm.com>; Scott Williams <scott_a_williams@fws.gov>
Subject: WBI Energy North Bakken Expansion Project Maps

Leslie,

Scott asked if I could send you some avoidance maps for this pipeline project you're working on. You'll find them attached below. I think I got all of them. Let me know if you have any questions. Thanks.

Jacob

Jacob Krebsbach
NAWCA Technician
Crosby Wetland Management District
U.S. Fish & Wildlife Service
10100 Hwy 42 NW
Crosby, ND 58730

Lisa DiNicolantonio

From: Justin Moffett
Sent: Thursday, August 22, 2019 8:57 AM
To: Scott Larson (scott_larson@fws.gov)
Subject: RE: North Bakken Expansion Project ESA consultation

Good morning Scott,
I realize you may still be playing catch up from being out of the office last week, but I just wanted to check in and see if you think it may be possible for us to connect today or tomorrow.
Thanks.

Justin T. Moffett, PWS
Principal Consultant

Environmental Resources Management (ERM)
M 971-645-9941
E Justin.Moffett@erm.com | **W** www.erm.com

From: Justin Moffett
Sent: Thursday, August 15, 2019 2:46 PM
To: Jerry D. Reinisch (jerry_reinisch@fws.gov) <jerry_reinisch@fws.gov>; Jessica Johnson (jessica_n_johnson@fws.gov) <jessica_n_johnson@fws.gov>; Scott Larson (scott_larson@fws.gov) <scott_larson@fws.gov>
Cc: Linn, Jill (Jill.Linn@wbienergy.com) <Jill.Linn@wbienergy.com>; Huncovsky, Greg <Greg.Huncovsky@WBIEnergy.com>; Andrea Thornton <Andrea.Thornton@erm.com>; Leslie Rodman-Jaramillo <leslie.rodmanjaramillo@erm.com>
Subject: North Bakken Expansion Project ESA consultation

Jerry,
I'm following up with you regarding our recent conversation about WBI's North Bakken Expansion project and the results of our field surveys. We would like to schedule a meeting with you, Jessica, and Scott to discuss the current project alignment, anticipated impacts, proposed avoidance & minimization measures as they relate to the Dakota skipper and other federally listed species we plan to address in Project's consultation with USFWS. Specifically we'd like to discuss the following:

1. Dakota skipper (DASK) habitat assessment and potential need for presence/absence (P/A) surveys. To date we've surveyed about 85% of the project areas outside Williams County (data provided to you in mid-July 2019) and anticipate surveying the remaining project area, where we have landowner permission, by the end of August. Similar to our approach on WBI's Demicks Lake project which we consulted with your office in Fall 2018, we've classified the habitats into three categories- Dispersal, Foraging, and Reproductive. Again, similar to the Demicks Lake consultation WBI planned to assume presence of DASK in all Reproductive habitats, in lieu of conducting P/A surveys. However, in our recent discussions you've indicated that P/A surveys are needed in all suitable DASK habitat. Therefore we'd like to discuss your request to better understand the Service's position on P/A surveys since it seems to have changed since last Fall.
    a. Related to this matter you mentioned you have data regarding locations of recent P/A surveys and the results of those surveys. Can the Service share that data with us as so that we may incorporate it into our assessment of existing conditions?

2. Preliminary assessment of project impacts to DASK habitat and avoidance and minimization measures.
3. Implications of the recent changes to ESA implementing regulations.
4. Overall status of FERC review process and project schedule.

While we could conduct this meeting via video conference it may be beneficial to have an in-person meeting at a local USFWS or WBI office. Please let me know if you are amenable to such a meeting and potential dates you all are available to meet.
Feel free to contact me if you have any questions.
We look forward to hearing from you.
Thank you.

Justin T. Moffett, PWS
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 971-645-9941
E Justin.Moffett@erm.com | **W** www.erm.com



Lisa DiNicolantonio

From: Justin Moffett
Sent: Thursday, August 22, 2019 9:06 AM
To: Jerry D. Reinisch (jerry_reinisch@fws.gov)
Cc: Andrea Thornton; Leslie Rodman-Jaramillo
Subject: RE: North Bakken Expansion Project ESA consultation

Hi Jerry,
I'm just following up on my email below. Have you, Jessica, and Scott had any opportunity to discuss your availability to meet with ERM and WBI about the North Bakken consultation?
Thanks.

Justin T. Moffett, PWS
Principal Consultant

Environmental Resources Management (ERM)
M 971-645-9941
E Justin.Moffett@erm.com | **W** www.erm.com

From: Justin Moffett
Sent: Thursday, August 15, 2019 2:46 PM
To: Jerry D. Reinisch (jerry_reinisch@fws.gov) <jerry_reinisch@fws.gov>; Jessica Johnson (jessica_n_johnson@fws.gov) <jessica_n_johnson@fws.gov>; Scott Larson (scott_larson@fws.gov) <scott_larson@fws.gov>
Cc: Linn, Jill (Jill.Linn@wbienergy.com) <Jill.Linn@wbienergy.com>; Huncovsky, Greg <Greg.Huncovsky@WBIEnergy.com>; Andrea Thornton <Andrea.Thornton@erm.com>; Leslie Rodman-Jaramillo <leslie.rodmanjaramillo@erm.com>
Subject: North Bakken Expansion Project ESA consultation

Jerry,
I'm following up with you regarding our recent conversation about WBI's North Bakken Expansion project and the results of our field surveys. We would like to schedule a meeting with you, Jessica, and Scott to discuss the current project alignment, anticipated impacts, proposed avoidance & minimization measures as they relate to the Dakota skipper and other federally listed species we plan to address in Project's consultation with USFWS. Specifically we'd like to discuss the following:

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2. Preliminary assessment of project impacts to DASK habitat and avoidance and minimization measures.
3. Implications of the recent changes to ESA implementing regulations.
4. Overall status of FERC review process and project schedule.

While we could conduct this meeting via video conference it may be beneficial to have an in-person meeting at a local USFWS or WBI office. Please let me know if you are amenable to such a meeting and potential dates you all are available to meet.
Feel free to contact me if you have any questions.
We look forward to hearing from you.
Thank you.

Justin T. Moffett, PWS
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 971-645-9941
E Justin.Moffett@erm.com | **W** www.erm.com



ERM

1050 SW 6th Avenue
Suite 1650
Portland, OR 97204

Telephone: +1 503 488 5282
Fax: +1 503 488 5142

www.erm.com

Meeting Notes

Attendees	Scot Larson, USFWS Jerry Reinisch, USFWS Jessica Johnson, USFWS	Jill Linn, WBI Energy Justin Moffett, ERM
Location	USFWS Ecological Services Field Office, Bismarck ND	
Date	28 August 2019	
Reference	North Bakken Expansion Project	
Subject	ESA Section 7 Consultation	

Dakota skipper (DASK)

- USFWS agreed WBI can assume DASK reproductive habitat is occupied rather than conduct surveys to confirm presence/absence of DASK. If reproductive habitat is assumed occupied, then any disturbance of the habitat is presumed to result in take (i.e., formal consultation). Therefore to avoid formal consultation, WBI must avoid direct impacts to reproductive habitat by either boring beneath the habitat, routing the pipeline away from the habitat, or necking down the workspace. Reproductive habitat should be fenced or otherwise marked to exclude construction equipment and personnel.

- If reproductive habitat is assumed occupied, DASK may be present within foraging habitat during their annual flight period. The flight period varies annually, but generally occurs between June 15 and July 15; note the 2019 flight period did not begin until July 5. Therefore any construction occurring within foraging habitat during the flight period could result in take. To avoid take (and formal consultation) clearing and grading within foraging habitat must occur outside of the flight period. Foraging habitat not cleared & graded prior to the flight period must be fenced or otherwise marked to exclude construction equipment and personnel until the flight period has ended.

- The annual flight period must be verified during project construction at a local reference site populated by DASK. “Pasture 12” an area within the US Forest Service Dakota National Grassland which is a known reference site populated by DASK which any USFWS permitted biologist can use to document beginning/end of the flight period.

- WBI plans to submit the Biological Assessment (BA) in January 2020 when it submits its project application to FERC. WBI will note in the BA that any areas not surveyed for DASK habitat due to lack of landowner permission will be survey prior to construction. WBI will employ the same avoidance and minimization strategy (e.g., reroute, bore, timing restrictions) for all additional reproductive and foraging habitat identified in the project area.

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Piping Plover & Least Tern

- Any construction activities occurring within ½ mile of the Lake Sakakawea shoreline (e.g., lake HDD entry/exit workspace locations) after April 1 may affect piping plover and least tern. If potential nesting habitat is exposed along the lake shoreline, WBI will need to conduct surveys for plover and terns starting 1 week before the start of construction. If lakeshore is submerged then surveys are not required. Any plovers or terns observed along the lakeshore must be reported to USFWS
    - Clarification needed: We did not discuss what happens if the birds are present. i.e., Does construction cease? If so for how long.

Grey wolf

- We noted that ERM biologists had observed what they believed to be a wolf and wolf tracks within the survey corridor near Tioga. Jerry stated that it could have been wolf/coyote hybrid as wolves have not been observed in the area for many years. Regardless, these observations should not have any substantive bearing on the ESA consultation as the species is transitory and not likely to be present during construction.

Whooping Crane

- Construction personnel and environmental inspectors will need watch for whooping crane during construction. Jessica stated that if whooping crane are observed within 1 mile of the project then construction must cease until the birds disperse.
    - Clarification needed: On previous projects we've used 0.25 mile as the buffer distance for construction shut downs. Is this distance no longer sufficient?

Northern long-eared bat

- For a no effect determination any trees >3-inches DBH must be cleared outside the NLEB active season April 1-October 31. If tree clearing must occur within the active season consultation for NLEB can be addressed either in the BA or through USFWS IPaC 4(d) Rule determination key.

Action Items:

1. Jerry will provide a list of USFWS permitted biologists who are authorized to conduct DASK surveys.
2. Jerry will provide information on recent DASK survey results near the North Bakken project area.
3. Jessica will provide guidance document on piping plover and least tern survey requirements.
4. WBI will provide a shapefile of the project area to inform Jerry's search for DASK survey results.

Lisa DiNicolantonio

From: Reinisch, Jerry <jerry_reinisch@fws.gov>
Sent: Tuesday, September 3, 2019 11:10 AM
To: Justin Moffett
Subject: Permitted DASK Surveyors

Justin
Please see below the list of permitted DASK surveyors.
Jerry

2019 Dakota skipper Permitted Surveyors List

- Dennis Skadsen: cell 605-880-2406; diskadsen@venturecomm.net
- Jim Reiser: 402-676-0599; jimreiser@cox.net
- Neil Dankert: 308-440-7096; neildankert@q.com
- Gerald Selby: 515-961-0718; jselby@mchsi.com
- Scott Krych (HDR): 612-247-5218; Scott.Krych@hdrinc.com
- SWCA - Jake Powell and Ken Kingsley: (701) 258-6622/307-673-4303; jpowwell@swca.com

Jerry D. Reinisch
Fish & Wildlife Biologist
Ecological Services
US Fish & Wildlife Service
3425 Miriam Drive*2019 Dakota skipper Permitted Surveyors List*

Bismarck, North Dakota 58501

(M) 701-250-4481 Ext 8267
(D) 701-333-0267
(C) 701-425-2133

Lisa DiNicolantonio

From: Jessica Johnson <jessica_n_johnson@fws.gov>
Sent: Thursday, September 5, 2019 8:10 AM
To: Justin Moffett; Jerry Reinisch; Scott Larson
Cc: Linn, Jill; Huncovsky, Greg; Andrea Thornton; Leslie Rodman-Jaramillo
Subject: RE: [EXTERNAL] WBI Energy: North Bakken Expansion ESA Consultation Mtg Notes
Attachments: new survey language_KS final.docx

Follow Up Flag: Follow up
Flag Status: Flagged

Hello,
Attached are our piping plover survey guidelines.
-Jessica

Jessica Johnson
Environmental Contaminants Specialist
U.S. Fish and Wildlife Service
3425 Miriam Avenue
Bismarck, ND 58501
Phone: 701-355-8507
Cell: 720-626-5250

From: Justin Moffett <Justin.Moffett@erm.com>
Sent: Tuesday, September 03, 2019 12:53 PM
To: Jerry D. Reinisch (jerry_reinisch@fws.gov) <jerry_reinisch@fws.gov>; Jessica Johnson (jessica_n_johnson@fws.gov) <jessica_n_johnson@fws.gov>; Scott Larson (scott_larson@fws.gov) <scott_larson@fws.gov>
Cc: Linn, Jill (Jill.Linn@wbienergy.com) <Jill.Linn@wbienergy.com>; Huncovsky, Greg <Greg.Huncovsky@WBIEnergy.com>; Andrea Thornton <Andrea.Thornton@erm.com>; Leslie Rodman-Jaramillo <leslie.rodmanjaramillo@erm.com>
Subject: [EXTERNAL] WBI Energy: North Bakken Expansion ESA Consultation Mtg Notes

Jerry, Jessica, and Scott,
Attached are Jill's and my notes from our meeting last Wednesday (8/28). Please review them and let us know if you have any comments or additional information to add.
Thank you.

Justin T. Moffett, PWS
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 971-645-9941
E Justin.Moffett@erm.com | **W** www.erm.com

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Lisa DiNicolantonio

From: Krebsbach, Jacob <jacob_krebsbach@fws.gov>
Sent: Monday, September 9, 2019 2:28 PM
To: Andrea Thornton
Cc: Scott Williams
Subject: Re: [EXTERNAL] RE: WBI Energy North Bakken Expansion Project Maps

I'll look into this and get back to you.

Jacob Krebsbach
NAWCA Technician
Crosby Wetland Management District
U.S. Fish & Wildlife Service
10100 Hwy 42 NW
Crosby, ND 58730
701-965-6488 x10

On Mon, Sep 9, 2019 at 3:57 PM Andrea Thornton <Andrea.Thornton@erm.com> wrote:

> Hi Jacob and Scott –
>
> We have a couple of questions regarding some of the basins identified on the easements attached maps. Our civil and environmental survey crews did not notice any wetland basins in these areas during surveys this summer, and aerial photography that we have in our GIS database is not showing the basins like they are depicted on the maps you sent. Do you have shapefiles of the extend of the basins (rather than just point data) so we can design workspaces appropriately to avoid these areas?
>
> Thanks,
>
> Andrea
>
> **Andrea Thornton**
>
> Principal Consultant

Environmental Resources Management (ERM)

1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204

M 503-459-6864

E andrea.thornton@erm.com | **W** www.erm.com



From: Krebsbach, Jacob <jacob_krebsbach@fws.gov>
Sent: Thursday, August 15, 2019 12:20 PM
To: Leslie Rodman-Jaramillo <leslie.rodmanjaramillo@erm.com>
Cc: Justin Moffett <Justin.Moffett@erm.com>; Andrea Thornton <Andrea.Thornton@erm.com>; Scott Williams <scott_a_williams@fws.gov>
Subject: WBI Energy North Bakken Expansion Project Maps

Leslie,

Scott asked if I could send you some avoidance maps for this pipeline project you're working on. You'll find them attached below. I think I got all of them. Let me know if you have any questions. Thanks.

Jacob

Jacob Krebsbach

NAWCA Technician

Crosby Wetland Management District

U.S. Fish & Wildlife Service

10100 Hwy 42 NW

Crosby, ND 58730

701-965-6488 x10

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Lisa DiNicolantonio

From: Reinisch, Jerry <jerry_reinisch@fws.gov>
Sent: Monday, September 16, 2019 8:40 AM
To: Justin Moffett
Subject: Re: [EXTERNAL] North Bakken shapefiles for DASK survey results

Justin
In checking the new shape file I really don't see any new problem areas to this point, but again as mentioned earlier I will not have 2019 survey reports until the end of the year. Then I will be able to update my review. Did you check with the Wetland District Manager as I am seeing several wetland easements along the route.
Thank
Jerry

Jerry D. Reinisch
Fish & Wildlife Biologist
Ecological Services
US Fish & Wildlife Service
3425 Miriam Drive
Bismarck, North Dakota 58501

(M) 701-250-4481 Ext 8267
(D) 701-333-0267
(C) 701-425-2133

On Fri, Sep 13, 2019 at 11:08 AM Justin Moffett <Justin.Moffett@erm.com> wrote:

> Hi Jerry,
>
> As discussed at our mtg on 8/28 here are the current shapefiles for the North Bakken Expansion project. Can you please review your DASK survey data and let us know where you have documented occurrence?
>
> Thanks.
>
> **Justin T. Moffett, PWS**
>
> Principal Consultant
>
> **Environmental Resources Management (ERM)**
>
> **M** 971-645-9941

E Justin.Moffett@erm.com | **W** www.erm.com

From: Rob Cahalan <Rob.Cahalan@erm.com>
Sent: Friday, September 13, 2019 8:25 AM
To: Justin Moffett <Justin.Moffett@erm.com>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: RE: North Bakken shapefiles

Justin,

I have attached shapefiles and a kmz with the following:

1. Mileposts
2. Centerlines
3. Facilities (Compressor Stations, Receipt Stations, Access Roads (not KRL, still waiting on workspace), Transfer Station, Pipe yards (buffers, not footprint)

Please let me know if I am missing something or if you want me to add in any additional data such as the PERM/TEMP/EWS workspace for each route.

Rob Cahalan

GIS Consultant

T 612-347-6789 | **M** 760-902-8367

E Rob.Cahalan@erm.com | **W** www.erm.com

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In order to reduce the likelihood of disturbing nesting piping plovers, the applicant has proposed that if construction occurs during breeding season (April 1 to August 31), a qualified wildlife biologist will survey all sandbars and shoreline within a ½ mile or line of sight (whichever is the shorter distance) from the project area. We recommend surveys be performed during daylight hours, for minimum two hour survey periods, beginning one half-hour prior to sunrise. Evening surveys should end approximately one half-hour after sunset.

If construction commences between April 1 and July 15, surveys should be performed daily for 7 days prior to mobilization, equipment staging, and construction. Daily survey periods should occur at different 2-hr periods of each day and if no piping plovers are seen the frequency may be reduced to once a week (Monday morning) in the event that no construction activities occur during the weekend. Monday morning surveys may cease after the end of the nest initiating period (July 15). If construction will occur for 7 days per week, from sunrise to sunset, then no further survey work is required once construction commences and if plovers were not detected during the 7-day preconstruction survey period.

If mobilization, equipment staging, and construction activities are initiated between July 15 and August 31, surveys should be performed for 3 days during the week prior to equipment staging, if no piping plovers are seen; there are no further survey requirements.

Monitoring is not required for construction activities occurring outside the April 1 to August 31 timeframe or if the sandbars and shoreline are inundated with water. If piping plovers are observed within ½ mile or line of sight of the Project, work must cease and the Service must be contacted immediately. Work cannot resume or commence until individuals leave the site **or** it is determined there is no risk for disturbance. The surveys provide assurance that adverse effects to piping plovers would avoided or minimized during construction.

ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	To: Scott Williams
Phone number	(701) 965-6488
Company	U.S. Fish and Wildlife Service (USFWS)
ERM Contact	Andrea Thornton
Phone number	(503) 459-6864
Date	09/25/2019
Time of Conversation	7:15 am PST
Reference	North Bakken Expansion Project – wetland easements
Signature	

LOG OF CONVERSATION

Ms. Thornton called Scott Williams with the USFWS Crosby Wetland Management District to discuss some of the wetland easement areas along the proposed North Bakken Expansion Project route. Mr. Williams had previously sent wetland easement maps to Ms. Thornton which were used in reference on this phone call. Mr. Williams indicated that he will follow-up with shapefiles of the wetland basins in question for WBI Energy to use for their routing and engineering needs.

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Lisa DiNicolantonio

From: Andrea Thornton
Sent: Thursday, September 26, 2019 2:17 PM
To: Williams, Scott
Subject: RE: Wetland Shapefiles

Great thank you for taking the time to review the basins in question. I will pass this information on to WBI so they can make workspace adjustments as needed.

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Williams, Scott <scott_a_williams@fws.gov>
Sent: Thursday, September 26, 2019 2:02 PM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Wetland Shapefiles

Andrea,

Reviewing several of the easement files on these locations left many of the areas in discussion off the contracts. Please review this shapefile and let me know what you think. Thanks for your patience,

S

Scott A. Williams
Wetland District Manager

Crosby Wetland Management District
United States Fish and Wildlife Service
10100 HWY 42 NW
Crosby, ND 58730

701.965.6488 Office
701.339.1450 Cell

Lisa DiNicolantonio

From: Andrea Thornton
Sent: Monday, September 30, 2019 12:12 PM
To: Reinisch, Jerry
Cc: Justin Moffett
Subject: Re: [EXTERNAL] North Bakken Expansion Project - Geotech Survey Biological Assessment

Thanks for the reply Jerry.

I'll try checking in again at the end of the week when I'm back in the office to see if any questions have come up.

Andrea

From: Reinisch, Jerry <jerry_reinisch@fws.gov>
Sent: Monday, September 30, 2019 12:00:35 PM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: [EXTERNAL] North Bakken Expansion Project - Geotech Survey Biological Assessment

Andrea
Received your email and phone call today. Have been out of the office for a week so really playing catch-up. Will be out some in the field this week and most of next week.
Jerry

Jerry D. Reinisch
Fish & Wildlife Biologist
Ecological Services
US Fish & Wildlife Service
3425 Miriam Drive
Bismarck, North Dakota 58501

(M) 701-250-4481 Ext 8267
(D) 701-333-0267
(C) 701-425-2133

On Fri, Sep 27, 2019 at 12:31 PM Andrea Thornton <Andrea.Thornton@erm.com> wrote:

> Hello Jerry –
>
> WBI Energy has been working with the U.S. Army Corp of Engineers office on the permit package required for completing geotechnical surveys on Lake Sakakawea for the North Bakken Expansion Project. Attached is the Biological Assessment associated with this permit package for your review.

We look forward to hearing back from you and please do not hesitate to call myself or Justin Moffitt with any questions.

Thanks again,

Andrea

Andrea Thornton

Principal Consultant

Environmental Resources Management (ERM)

1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204

M 503-459-6864

E andrea.thornton@erm.com | **W** www.erm.com



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Lisa DiNicolantonio

From: Andrea Thornton
Sent: Wednesday, December 4, 2019 12:18 PM
To: Williams, Scott
Subject: RE: [EXTERNAL] North Bakken Expansion Project - Additional Questions

Thanks for getting back to me so quickly Scott!

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Williams, Scott <scott_a_williams@fws.gov>
Sent: Wednesday, December 04, 2019 11:58 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: [EXTERNAL] North Bakken Expansion Project - Additional Questions

Hi Andrea,

Bores 1 & 2 look good to me, bore 3 seems to have a wetlands within the workspace but if no digging is to occur in the wetland basins then there is no issue. If you feel digging will occur within the wetland basin then we can investigate further? Based on your description I don't see any issue...Let me know you thoughts,

S

Scott A. Williams
Wetland District Manager

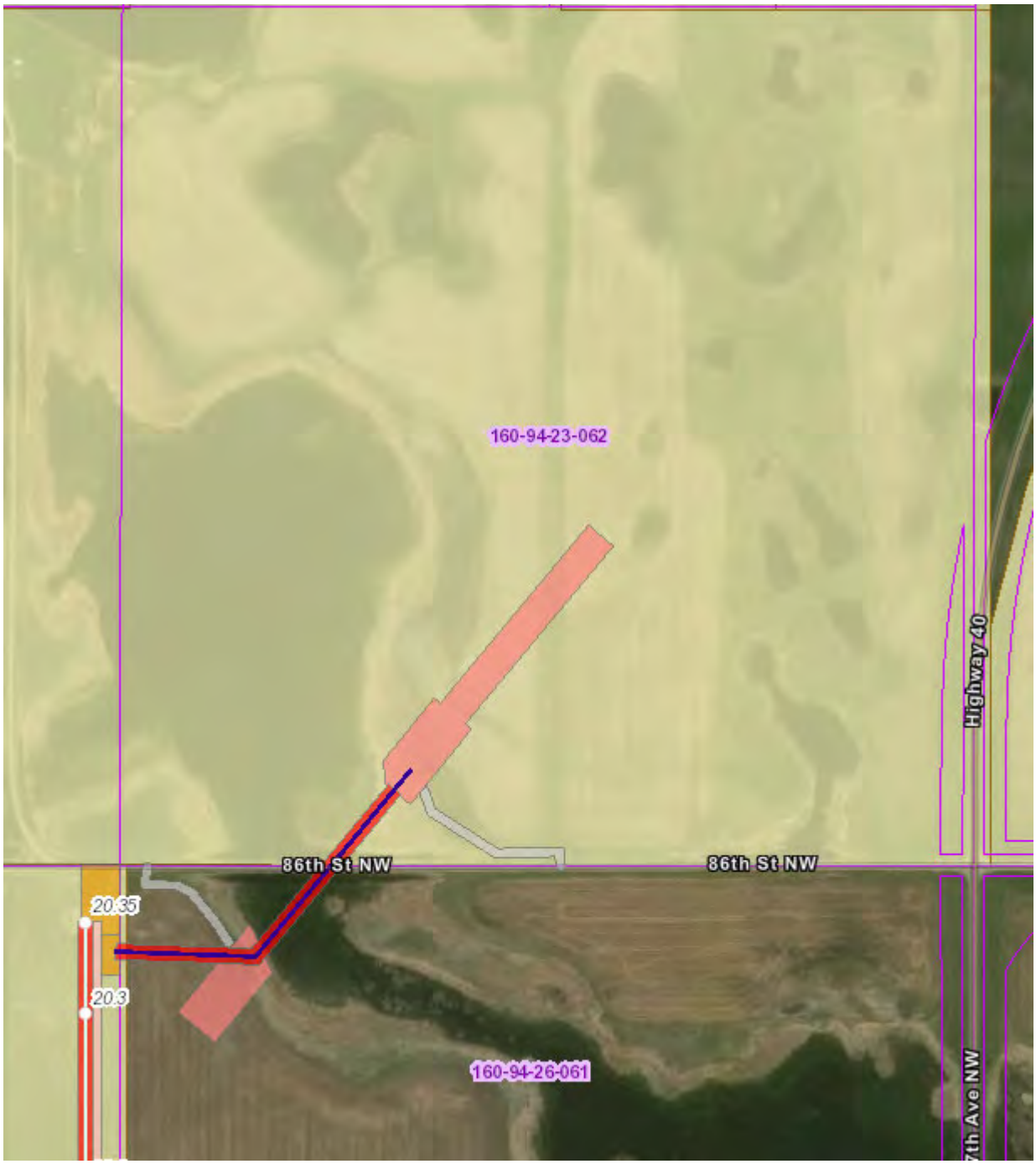
Crosby Wetland Management District
United States Fish and Wildlife Service
10100 HWY 42 NW
Crosby, ND 58730

701.965.6488 Office
701.339.1450 Cell

701.965.6487 Fax

On Wed, Dec 4, 2019 at 9:31 AM Andrea Thornton <Andrea.Thornton@erm.com> wrote:

> Hi Scott –
>
> I have a few more wetland easement/basin questions for you regarding the North Bakken Expansion Project. Part of the Project is that WBI Energy will be replacing portions of their existing line at 4 road crossings. A few of these crossings are in wetland easements (see screenshots below). In these shots the workspace would all be for laying the pipe, and no digging would occur. The pipe will be installed under the road using a conventional bore crossing method. Are there any concerns or protected basins in these areas? I have parcel numbers turned on in the screenshots to show the section/range information. In the screenshots the yellow shading is showing the FWS easement parcels.
>
> Thank you again for your assistance an please feel free to call with questions.
>
> -Andrea
>
> Bore #1


160-94-23-062
Highway 40
86th St NW
86th St NW
20.35
20.3
160-94-26-061

Bore #2



Bore #3



Andrea Thornton

Principal Consultant

Environmental Resources Management (ERM)

1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204

M 503-459-6864

E andrea.thornton@erm.com | **W** www.erm.com

From: Williams, Scott <scott_a_williams@fws.gov>
Sent: Thursday, September 26, 2019 2:02 PM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Wetland Shapefiles

Andrea,

Reviewing several of the easement files on these locations left many of the areas in discussion off the contracts. Please review this shapefile and let me know what you think. Thanks for your patience,

S

Scott A. Williams

Wetland District Manager

Crosby Wetland Management District

United States Fish and Wildlife Service

10100 HWY 42 NW

Crosby, ND 58730

701.965.6488 Office

701.339.1450 Cell

701.965.6487 Fax

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Lisa DiNicolantonio

From: Andrea Thornton
Sent: Monday, December 30, 2019 12:51 PM
To: Reinisch, Jerry
Cc: Justin Moffett; Arianne Balsom; Tina Lyons
Subject: RE: [EXTERNAL] FW: Certificate of Compliance Report submitted in FERC PF19-7-000 by WBI Energy Transmission, Inc.,et al.

Hi Jerry –

FERC's Plan and Procedures are guidance documents issued by FERC that provide industry standard mitigation measures and available here: https://www.ferc.gov/industries/gas/enviro/plan.pdf and here: https://www.ferc.gov/industries/gas/enviro/procedures.pdf

Comments on the Draft Resource Reports should be provided to Ari Balsom at FERC who I've Cc'd on this email.

Thanks!
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Reinisch, Jerry <jerry_reinisch@fws.gov>
Sent: Monday, December 30, 2019 12:43 PM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Cc: Justin Moffett <Justin.Moffett@erm.com>
Subject: Re: [EXTERNAL] FW: Certificate of Compliance Report submitted in FERC PF19-7-000 by WBI Energy Transmission, Inc.,et al.

Andrea
Thank you for your assistance and quick response. USFWS has a 30-day turn-around on projects if the workload allows. In the Draft Resource Report FERC's Plan and Procedures are cited---what are they? I am working on this report now and should have some other comments once I get clarification..
Thank you
Jerry

Jerry D. Reinisch
Fish & Wildlife Biologist
Ecological Services
US Fish & Wildlife Service
3425 Miriam Drive
Bismarck, North Dakota 58501

(M) 701-250-4481 Ext 8267
(D) 701-333-0267
(C) 701-425-2133

On Mon, Dec 30, 2019 at 2:29 PM Andrea Thornton <Andrea.Thornton@erm.com> wrote:

> Hi Jerry -
>
> Please see the email below which provides a link where you can find the Draft RR filing from November 1st.
>
> Thanks,
> Andrea
>
> Andrea Thornton
> Principal Consultant
>
> Environmental Resources Management (ERM)
> 1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
> M 503-459-6864
> E andrea.thornton@erm.com | W www.erm.com
>
> -----Original Message-----
> From: 'FERC eSubscription' <eSubscription@ferc.gov>
> Sent: Friday, November 01, 2019 1:08 PM
> Subject: Certificate of Compliance Report submitted in FERC PF19-7-000 by WBI Energy Transmission, Inc.,et al.
>
> On 11/1/2019, the following Filing was submitted to the Federal Energy Regulatory Commission (FERC), Washington D.C.:
>
> Filer: WBI Energy Transmission, Inc.
> WBI Energy Transmission, Inc. (as Agent)
>
> Docket(s): PF19-7-000
> Lead Applicant: WBI Energy Transmission, Inc.
> Filing Type: Certificate of Compliance Report
> Description: WBI Energy Transmission, Inc. submits North Bakken Expansion Project Draft Resource Reports

1 through 12 Volume I (Public), Volume II (CEII) and Volume III (Privileged) under PF19-7.

To view the document for this Filing, click here
https://eur01.safelinks.protection.outlook.com/?url=http%3A%2F%2Felibrary.FERC.gov%2Fidmws%2Ffile_list.asp%3Faccession_num%3D20191101-5243&data=02%7C01%7Candrea.thornton%40erm.com%7Ce4cb1f5812ce4e1ee66a08d75f0732ee%7Cf2fe6bd39c4a485bae69e18820a88130%7C0%7C0%7C637082356835197019&sdata=wpKLhV6gn1W7TBdDW%2Flz84snJhRmA5%2B7NK2W%2B1uAawA%3D&reserved=0

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Please do not respond to this email.
Online help is available here:
https://eur01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.ferc.gov%2Fefiling-help.asp&data=02%7C01%7Candrea.thornton%40erm.com%7Ce4cb1f5812ce4e1ee66a08d75f0732ee%7Cf2fe6bd39c4a485bae69e18820a88130%7C0%7C0%7C637082356835197019&sdata=9Uq%2FAsYDyr2qM%2FJkjgQlb9jLPo7ClzqEJcsR3E1iZic%3D&reserved=0
or for phone support, call 866-208-3676.

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LOG

LOG OF TELEPHONE CONVERSATION

CALL TO/FROM WHOM:	PHONE NO.:
Jerry Reinisch, Biologist	701-333-0267
COMPANY: U.S. Fish and Wildlife Service	
ERM CONTACT: Justin Moffett	PHONE NO.: 971-645-9941
DATE: January 14, 2020	TIME OF CONVERSATION: 12:20 pm
RE: North Bakken Expansion: ESA consultation requirements	
SIGNATURE:	

LOG OF CONVERSATION:

The purpose of this call was to solicit Jerry's response to some feedback Sarah Bickerdyke (USFS biologist) provided on the project wide biological assessment.

- Whooping crane work stoppage- Jerry stated a confirmed that when whooping cranes observed within 1 mile (not ¼ mile) construction activities must cease until the birds have left the area. The 1 mile distance has been the standard for some time and is not negotiable.
- Jerry stated the general "book end" dates for the DASK flight period are now June 10 (not June 15 as he previously stated at our October mtg) through July 15 (not July 25 as Sarah B. mentioned in a separate call this morning). The USFWS (and USFS according to Jerry) wants no work to occur in "suitable habitat" during this period. This is fairly consistent with what Jill and I heard from the USFWS this summer (no work in reproductive and foraging habitats during flight period), except during that mtg the USFWS staed we could coordinate with them annually to determine the exact start/end dates of the flight period.
- Jerry says the USFS will require DASK occupancy surveys prior to construction. Sarah did not mention this, we need to follow up w/ Sarah to confirm this is correct.

Other comments from Jerry re: FERC process (FYI- for Andrea)

- FERC response time of 10 days for comments on RR3 is too short. USFWS typically needs 30-60 days to review and comment on the document.
- Jerry cannot access the bi-weekly calls via the conference call number he currently has. So lately he's been getting updates from Mike Morris at USACE.
- Asked how the geotech drilling/permitting was coming along.

Lisa DiNicolantonio

From: Reinisch, Jerry <jerry_reinisch@fws.gov>
Sent: Wednesday, January 15, 2020 11:19 AM
To: Andrea Thornton
Subject: Re: [EXTERNAL] FERC Bi-Weekly Calls

Thank you!

Jerry D. Reinisch
Fish & Wildlife Biologist
Ecological Services
US Fish & Wildlife Service
3425 Miriam Drive
Bismarck, North Dakota 58501

(M) 701-250-4481 Ext 8267
(D) 701-333-0267
(C) 701-425-2133

On Wed, Jan 15, 2020 at 9:07 AM Andrea Thornton <Andrea.Thornton@erm.com> wrote:

> Hi Jerry –
>
> Justin Moffett mentioned that you have been having issues calling into the FERC bi-weekly call. I'm not sure how much help I can be as others are not having issues, but I would recommend trying to call in with the dial in number rather than using the Teams link. I've copied the dial in number below.
>
> 469-423-0864
>
> Conference ID – 52843651 #
>
> There will be a pause when you enter the information as I have to admit callers to the meeting, so please give it a couple of seconds.
>
> I hope this helps!
>
> -Andrea

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WBI ENERGY TRANSMISSION, INC.
1250 West Century Ave.
P.O. Box 5601
Bismarck, ND 58506-5601
(701) 530-1600
www.wbienergy.com

February 14, 2020

Field Supervisor
U.S. Fish and Wildlife Service
North Dakota Field Office
3425 Miriam Avenue
Bismarck, ND 58501-7926 (P: 701-250-4402)

Re: WBI Energy Transmission, Inc. – North Bakken Expansion Project
Biological Assessment

Dear Field Supervisor,

As required by Title 18 Code of Federal Regulations §380.12, WBI Energy Transmission Inc. (WBI Energy) are preparing Environmental Reports in support of their applications to the Federal Energy Regulatory Commission (FERC or Commission) for a Certificate of Public Convenience and Necessity under section 7(c) of the Natural Gas Act to construct and operate the proposed facilities. WBI Energy is the Project Applicant and is also acting as FERC's non-federal representative for the purpose of complying with Section 7(a) of the Endangered Species Act of 1973 (ESA). WBI Energy and WBI Transmission have retained Environmental Resources Management (ERM) to assist with aspects of the proposed Projects including consultations with the U.S. Fish and Wildlife Service (FWS) under the ESA.

WBI Energy wishes to informally consult with your office concerning the impacts of the Project. WBI Energy requests your comments if you agree or disagree with WBI Energy's evaluation of the effects of the proposed action on the following:

- Endangered, threatened, or candidate species, or their designated critical habitats as identified in the ESA;
- Bald and Golden Eagles; and
- Migratory Birds

WBI Energy proposes to install approximately 93 miles of pipeline, including new pipeline, pipeline looping and upgrades to existing pipelines, as well as construction and upgrades to compressor stations and other appurtenances to transport natural gas from WBI Energy's existing Tioga Compressor Station near Tioga, Williams County, North Dakota, to a new interconnect with Northern Border's mainline southeast of Watford City, McKenzie County, North Dakota. Pipeline construction is currently planned to begin in May of 2021. The Project would include the crossing of Lake Sakakawea and adjacent U.S. Army Corps of Engineers (USACE) land, as well as the crossing of approximately 1.8 miles of U.S. Forest Service (USFS)-managed lands within the Little Missouri National Grassland.

The purpose of the Project is to provide additional capacity necessary for the transportation of incremental natural gas volumes from the Bakken region of northwest North Dakota to Northern Border's existing mainline for transit on that system. The Project would help to satisfy natural gas demand in the midcontinent region of the United States, and the proposed transportation capacity of the Project is at least an additional 350 million cubic feet per day.

Construction of the proposed 12-inch-diameter Line Section 25 and Line Section 30 Loops and the 20-inch-diameter Tioga Compressor Lateral would require a standard 75-foot-wide construction right-of-way. Except across USFS lands, construction of the proposed Elkhorn Creek-Northern Border pipelines would require a 100-foot-wide construction right-of-way. The USFS land crossing would require a 50-foot wide construction right-of-way with an additional 25 feet of additional temporary workspace (ATWS). Construction of the Project would affect approximately 1,405.1 acres of land, including the pipeline construction rights-of-way, ATWS, staging areas, temporary and permanent access roads, and aboveground facilities. Following construction, approximately 816.6 acres, including the temporary construction right-of-way, ATWS, staging areas, temporary access roads, and temporary workspace at aboveground facility sites, will revert to preconstruction conditions and uses. The remaining approximately 587.8 acres, including the permanent pipeline easements, permanent aboveground facility sites, and permanent access roads, would be retained for operation of the Project facilities.

On behalf of WBI Energy, ERM conducted a species determination based on the results of habitat surveys conducted by Western Ecosystems Technology, Inc. (WEST). As a result of this survey and subsequent reports, WBI Energy has reached the following determinations:

North Bakken Expansion Project
Summary of Determination for Threatened and Endangered Species and Designated Critical Habitat

		Effects Determinations		
			Action area within Federal Lands	
Species/Critical Habitat	Federal Status [a]	Entire Action area [b]	USACE Areas [b]	USFS Areas [b]
Gray wolf (*Canis lupus*)	E	NE	NE [c]	NE [c]
Interior least tern (*Sterna antillarum athalassos*)	E	NLAA	NLAA	NE
Pallid sturgeon (*Scaphirhynchus albus)*	E	NLAA	NLAA	NE
Whooping crane (*Grus americana*)	E	NLAA	NE	NLAA
Dakota skipper (*Hesperia dacotae*)/DCH	T	NLAA/NE	NE/NE	NLAA/NE
Northern long-eared bat (*Myotis septentrionalis*)	T	NLAA	NLAA	NLAA
Piping plover (*Charadrius melodus*)/DCH	T	NLAA/NAM	NLAA/NAM	NE/NE
Rufa red knot (*Calidris canutus rufa*)	T	NE	NE	NE

[a] Federal Status Codes: E = federally listed endangered; T = federally listed threatened; DCH = designated critical habitat; NAM=Not adversely modify

[b] Effects Determination Codes: NE = No Effect; NLAA = Not Likely to Adversely Affect; LAA = Likely to Adversely Affect

[c] Species was not listed in FWS IPaC report, and is not considered to be present within the *action area* on USACE or USFS-managed lands.

Additionally, no eagles or eagle nests were identified during Project surveys. If an eagle nest is identified near the Project during construction, WBI Energy would implement the measures described in the FWS' 2007 National Bald Eagle Management Guidelines to avoid and minimize impacts on nesting eagles. The proposed Project is not expected to affect bald or golden eagles.

The Biological Assessment also states that by implementing certain proposed mitigation and restoration measures, no substantial changes in migratory bird habitat availability or suitability are anticipated as a result of the Project. As such, the Project is not expected to result in adverse permanent or cumulative impacts on migratory birds; however, temporary impacts on migratory bird habitat could occur.

WBI Energy appreciates your assistance and review of the enclosed materials and should you have questions or require additional information during your review, please contact Jill Linn (406) 359-7332.

Respectfully submitted,



Jill Linn
Environmental Manager
WBI Energy Transmission, Inc.

Enclosure: Biological Assessment

Cc: Greg Huncovsky, WBI Energy Transmission, Inc.

Andrea Thornton, Environmental Resources Management

NORTH BAKKEN EXPANSION PROJECT

Resource Report 1

APPENDIX 1G-1
Agency Correspondence – U.S. Forest Service (USFS)

WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

April 15, 2019

Justin Hartel
Area Manager, McKenzie Ranger District
US Forest Service Dakota Prairie Grasslands Little Missouri National Grasslands
1905 S Main Street
Watford City, ND 58854-6705

Subject: WBI Energy Transmission, Inc.
Proposed North Bakken Expansion Project
McKenzie, Williams, Burke, and Mountrail Counties, North Dakota

Dear Justin Hartel:

WBI Energy Transmission, Inc. (WBI Energy) is proposing to construct and operate the North Bakken Expansion Project (Project), which consists of an approximately 60-mile-long, 20-inch diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to an interconnect with Northern Border Pipeline Company's mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Compressor Station) will be constructed near this interconnect.

The Project also involves construction of approximately 20 miles of 12-inch diameter natural gas pipeline between the existing Tioga Compressor Station and an existing receipt station, the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and additional/modifications to certain receipt/delivery points and laterals along the pipeline routes. The attached map depicts the preliminary proposed pipeline route and the location of Project facilities.

The Project will add natural gas takeaway capacity (estimated at approximately 200,000 Mcf/day) to help meet the natural gas transportation needs in the Bakken region while reducing natural gas flaring.

The Project is regulated by the Federal Energy Regulatory Commission (FERC) under Section 7(c) of the Natural Gas Act. Under the Energy Policy Act of 2005, FERC is the lead agency for coordinating federal authorizations and complying

with the National Environmental Policy Act (NEPA) on natural gas pipeline projects subject to its jurisdiction. WBI Energy plans to submit an application with the FERC in December 2019 for a Certificate of Public Convenience and Necessity (Certificate) to construct and operate the proposed pipeline and associated facilities. Applications for other federal or state authorizations will be submitted prior to or at the same time as the FERC application or on timelines defined by the appropriate federal or state regulations. WBI Energy anticipates receiving a Certificate from the FERC by December 2020, with construction planned to begin in early 2021.

WBI Energy plans to file a request with the FERC to use the FERC's NEPA pre-filing process for the Project. This process will provide agencies, landowners, and other stakeholders the opportunity to work with WBI Energy and the FERC to identify and resolve environmental issues prior to the filing of the Certificate application. This will result in a more efficient regulatory review process, including NEPA review of the Project. Pending FERC approval, WBI Energy anticipates preparing a draft Environmental Assessment (EA) for use by FERC staff. WBI Energy looks forward to working with you throughout the pre-filing process to ensure that your concerns are identified and addressed in the draft EA.

WBI Energy has retained Environmental Resources Management (ERM) to provide environmental support services for the project. An ERM representative will be in touch with you in the near future to provide additional information and discuss specific permitting and/or consultation requirements. In the meantime, if you have questions about the project, please contact Andrea Thornton of ERM at 503-525-5159 or myself at 406-359-7332.

Thank you for your time and assistance with this project.

Sincerely,



Jill Linn
Environmental Affairs
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map

cc: Greg Huncovsky, WBI
Andrea Thornton, ERM



Miles
0 1.75 3.5 7

N

1 in = 3 miles

Project Overview Map

North Bakken Expansion Project
WBI Energy

WBI ENERGY TRANSMISSION

Legend

- Above Ground Facilities
- Road Bores for Uprating Existing Pipeline
- Proposed Tioga to Elk Creek Compressor Pipeline
- Proposed Norse to Tioga Loop Pipeline
- Northern Border Pipeline
- Existing WBI Pipeline

Burke County
Mountrail County
Williams County
McKenzie County

North Dakota

PROJECT AREA OVERVIEW



By: SMS

Path: F:\GIS\Projects_Authorized\North_Bakken_Expansion_Project\Northern_Bakken_Expansion_24X36_2.mxd

1:214,000 - when Printed on 24X36

Date: 4/10/2019

Lisa DiNicolantonio

From: Hartel, Justin -FS <justin.hartel@usda.gov>
Sent: Friday, April 26, 2019 7:12 AM
To: Andrea Thornton
Cc: Grotte, Kim -FS; Bickerdyke, Cale E -FS
Subject: RE: North Bakken Expansion Project

Follow Up Flag: Follow up
Flag Status: Flagged

Andrea,

I will send your email on to Kim Grotte who works directly with pipeline proposals on Forest Service lands in McKenzie County and he will be in contact with you to get something scheduled.

Thank you,

Justin Hartel
Minerals Area Manager

Forest Service
Dakota Prairie Grasslands, McKenzie Ranger District

p: 701-842-8510
f: 701-842-8544
justin.hartel@USDA.gov

1905 South Main St.
Watford City, ND 58854
www.fs.fed.us

Caring for the land and serving people

From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Thursday, April 25, 2019 2:02 PM
To: Hartel, Justin -FS <justin.hartel@usda.gov>
Subject: North Bakken Expansion Project

Good Afternoon,

My name is Andrea Thornton and I am an environmental consultant at ERM working with WBI Energy on the North Bakken Expansion Project. We sent you a project introduction letter last week (attached) and I was hoping to set up a time to chat more about the project, survey requirements, and the permitting process for crossing the Little Missouri National Grasslands. Please let me know what your availability is and I will schedule a call. I am out of the office tomorrow and next Monday, but will then be in the office the rest of next week.

Thanks and I look forward to speaking with you,

Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



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Lisa DiNicolantonio

From: Andrea Thornton
Sent: Wednesday, May 1, 2019 7:19 AM
To: Hartel, Justin -FS
Cc: Leslie Rodman-Jaramillo; Bickerdyke, Cale E -FS; Grotte, Kim -FS; Justin Moffett
Subject: RE: Proposed North Bakken Expansion Project

Hi Justin –

Thank you for getting back to us and sending us in the right direction with contacts at the McKenzie Ranger District. I apologize for the duplicate introduction emails that were sent on our end. We look forward to speaking with Kim and Cale and working together on this project.

If you have any questions please reach out.

-Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Hartel, Justin -FS <justin.hartel@usda.gov>
Sent: Wednesday, May 01, 2019 5:28 AM
To: Justin Moffett <Justin.Moffett@erm.com>
Cc: Leslie Rodman-Jaramillo <leslie.rodmanjaramillo@erm.com>; Andrea Thornton <Andrea.Thornton@erm.com>; Bickerdyke, Cale E -FS <cale.bickerdyke@usda.gov>; Grotte, Kim -FS <kim.grotte@usda.gov>
Subject: RE: Proposed North Bakken Expansion Project

Hello Justin,

Andrea had emailed me last week about this project. I work on the oil and gas well side and do not deal with the pipelines so I have passed on your information to those in our office who work on these projects and they will be contacting you when they are available.



Justin Hartel
Minerals Area Manager
Forest Service
Dakota Prairie Grasslands, McKenzie Ranger District
p: 701-842-8510
f: 701-842-8544
justin.hartel@USDA.gov

1905 South Main St.
Watford City, ND 58854
www.fs.fed.us

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From: Justin Moffett [mailto:Justin.Moffett@erm.com]
Sent: Monday, April 29, 2019 5:17 PM
To: Hartel, Justin -FS <justin.hartel@usda.gov>
Cc: Leslie Rodman-Jaramillo <leslie.rodmanjaramillo@erm.com>; Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Proposed North Bakken Expansion Project

Hi Justin,
My name is Justin Moffett and my company ERM is assisting WBI Energy with its FERC application for the proposed North Bakken Expansion Project. Earlier this month I believe you received a copy of the attached letter which briefly explains the project and WBI's anticipated schedule. With the field season fast approaching I would like to schedule a call with you to discuss the Forest Service's expectations regarding species specific habitat and presence/absence surveys on lands under its management.
Below are a series of dates and times our staff and I area available to have a conference call with you. I expect the call would last somewhere between 30-60 minutes; the time blocks are just meant to help narrow down our collective availability. All times listed are Pacific Standard time zone. Please let me know if any of these times work for you and any other FS staff that should attend. I can also set up a Doodle Poll if you think that might be more helpful.
Feel free to call me if you have any questions.
I look forward to hearing from you.
Thank you.

Justin T. Moffett, PWS
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 971-645-9941
E Justin.Moffett@erm.com | **W** www.erm.com

ERM The business of sustainability

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ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	To: Cale Bickerdyke
Phone number	701-842-8502
Company	U.S Forest Service
ERM Contact	Andrea Thornton
Phone number	503-459-6864
Date	May 3, 2019
Time of Conversation	11:45 am
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Mr. Bickerdyke called Ms. Thornton in response to the project introduction letter that was mailed to his office. The letter addressed to Justin Hartel was forwarded to him. Andrea gave Cale and overview of the project. Cale indicated that Kim Grottee is the oil and gas project lead but that he is currently out of the office. Ms. Thornton inquired about paleotonlogical survey requirements for Forest Service lands and Mr. Bickerdyke indicated that they are only required for Forest Service owned lands within the management area. Mr. Bickerdyke requested a zoomed in map or shapefile of the project area within the Little Missouri National Grasslands. Ms. Thornton indicated that she would follow-up with this information when the route is more refined. Ms. Thornton requested contact information for submittal of the ARPA permit for cultural surveys and Mr. Bickerdyke provided information for Liv Fetterman and Adam Russel.

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LOG

LOG OF TELEPHONE CONVERSATION

CALL TO/FROM WHOM:	PHONE NO.:
Cale Bickerdyke, Minerals and Lands Supervisor Sara Wold, Biologist Kim Grotte, Right-of-Way permitting	

COMPANY:
U.S. Forest Service, Dakota Prairie Grassland, McKenzie Ranger District

ERM CONTACT:	PHONE NO.:
Andrea Thornton, Leslie Rodman-Jaramillo, Justin Moffett	

DATE:	TIME OF CONVERSATION:
May 9, 2019	7:00 am

RE:
North Bakken Expansion: Survey needs on Little Missouri National Grassland

SIGNATURE:

LOG OF CONVERSATION:

The purpose of this call was to discuss survey and documentation requirements on USFS lands within the Little Missouri National Grassland.

Sarah informed us that the USFS's survey and documentation needs are outlined in a 2018 letter and guidance document the agency sends out to all new oil & gas applicants. Sarah will email these documents to us following the meeting.

DASK habitat surveys will be required. Presence/absence surveys may also be needed depending upon location of the pipeline to habitat. Timing restrictions during the DASK flight period will likely be required.

No streams crossed that support pallid sturgeon.

Piping plover and least tern likely not a concern for USFS since USACE lands located between USFS and habitat on Lake Sakakawea shoreline. Contact USACE re: plover and tern nesting data.

Noxious weeds surveys should focus on species listed by McKenzie County weed board, the USFS is not concerned with any additional species.

There are no known roost trees or hibernacula for northern long-eared bat (NLEB) on LMNG. However, the USFS does enforce a seasonal timing restriction for clearing trees >3 inches DBH. Sarah referred us to pages 1-17 in the USFS Land and Resource Management Plan for seasonal timing restrictions and construction buffers for NLEB and other wildlife species of concern.

NBE pipeline should follow existing pipelines & broken lands where feasible.

Lisa DiNicolantonio

From: Sjursen, Phil -FS <phil.sjursen@usda.gov>
Sent: Monday, May 13, 2019 10:21 AM
To: Schatz, Robert K -FS
Cc: Andrea Thornton; Bickerdyke, Cale E -FS; Fetterman, Liv K -FS
Subject: RE: Archaeologist Contact Information
Attachments: LMNG_USFSLands_05132019.sbn; LMNG_USFSLands_05132019.sbx; LMNG_USFSLands_05132019.shp; LMNG_USFSLands_05132019.shp.xml; LMNG_USFSLands_05132019.shx; LMNG_USFSLands_05132019.cpg; LMNG_USFSLands_05132019.dbf; LMNG_USFSLands_05132019.prj; LMNG_USFSLands_ALP_05132019.sbn; LMNG_USFSLands_ALP_05132019.sbx; LMNG_USFSLands_ALP_05132019.shp; LMNG_USFSLands_ALP_05132019.shp.xml; LMNG_USFSLands_ALP_05132019.shx; LMNG_USFSLands_ALP_05132019.CPG; LMNG_USFSLands_ALP_05132019.dbf; LMNG_USFSLands_ALP_05132019.prj

Follow Up Flag: Flag for follow up
Flag Status: Completed

Andrea,

Here are two shapefiles showing USFS lands that are administered by the McKenzie and Medora Ranger District on the Little Missouri Grasslands.

I am including two shapefiles. One that we use as a local dataset called: “LMNG_USFSLands_05132019.shp” which is maintained locally and another that is maintained at the national level. This is called “LMNG_USFSLands_ALP_05132019.shp”

The one we manage locally attempts to be vertically aligned with older USGS topo maps, while the other shapefile with “ALP” (Automated Lands Program) in the file name is maintained by our lands group using original township plats and recent surveys as a reference.

Phil Sjursen
GIS Coordinator

Forest Service
Dakota Prairie Grasslands

p: 701-989-7324
f: 701-989-7299
psjursen@fs.fed.us

2000 Miriam Circle
Bismarck, ND 58501
www.fs.fed.us

Caring for the land and serving people

From: Schatz, Robert K -FS
Sent: Thursday, May 9, 2019 8:34 AM
To: Sjursen, Phil -FS <phil.sjursen@usda.gov>
Subject: FW: Archaeologist Contact Information

Robert K. Schatz
GIS Specialist

Forest Service
Dakota Prairie Grasslands

p: 701-989-7318
f: 701-989-7299
rkschatz@usda.gov

2000 Miriam Circle
Bismarck, ND 58501
www.fs.fed.us

Caring for the land and serving people

From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Thursday, May 9, 2019 7:43 AM
To: Bickerdyke, Cale E -FS <cale.bickerdyke@usda.gov>; Schatz, Robert K -FS <robert.schatz@usda.gov>
Subject: RE: Archaeologist Contact Information

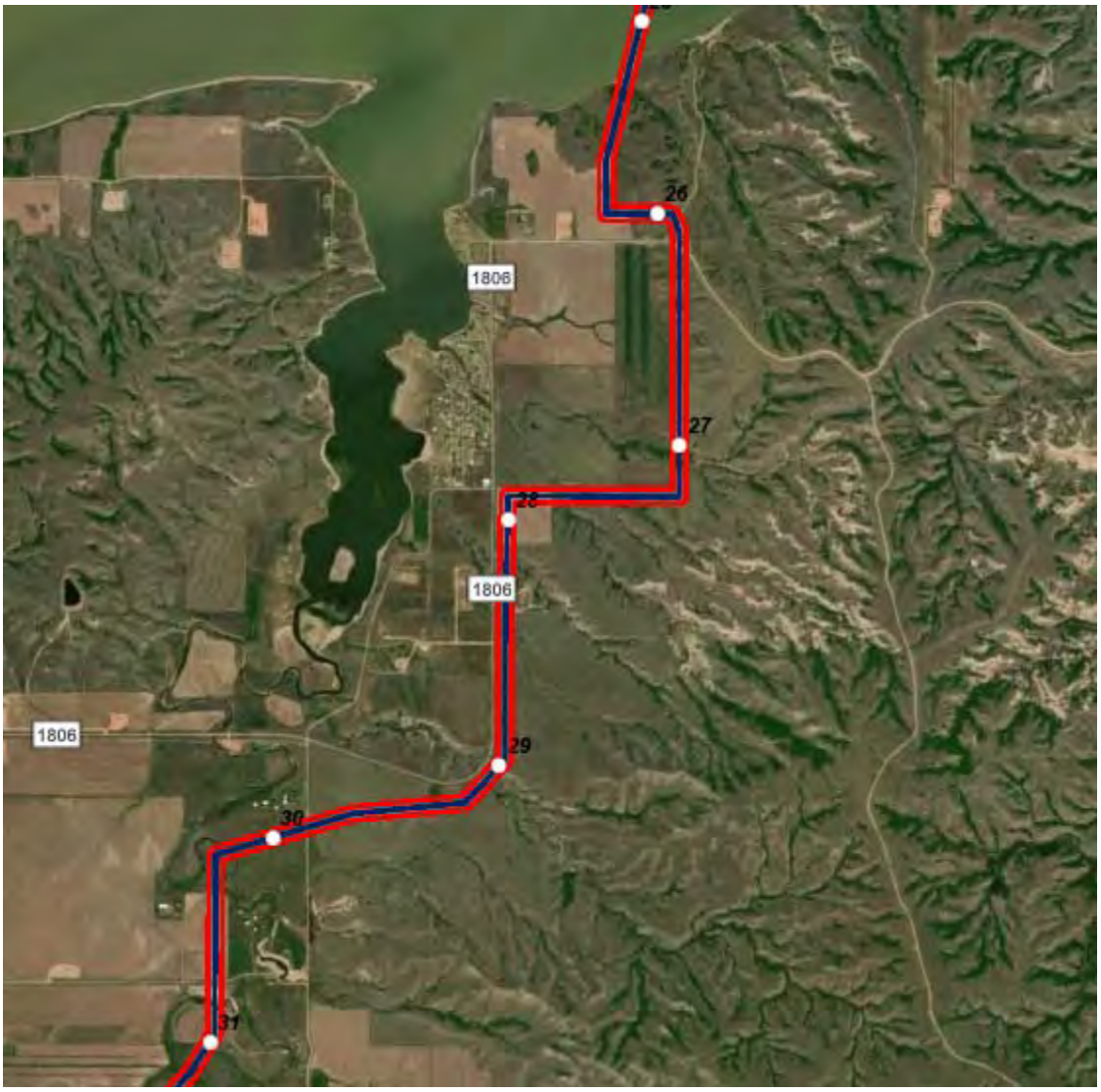
Thanks Cale –

Robert, would you be able to provide ERM with a shapefile showing the USFS owned parcels within the Little Missouri National Grasslands? We are working on our ARPA permit for cultural resource surveys and would like to confirm the parcel data that we have on file is accurately depicting these lands.

The proposed Northern Bakken Expansion Project would cross the northern unit of the grasslands near Tobacco Gardens. I've included a screenshot of the area below.

Thank you –

Andrea



Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com

From: Bickerdyke, Cale E -FS <cale.bickerdyke@usda.gov>
Sent: Monday, May 06, 2019 11:31 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Cc: Schatz, Robert K -FS <robert.schatz@usda.gov>
Subject: RE: Archaeologist Contact Information

You can get the shapefiles from Phil Sjursen or Rob Schatz out of our supervisors office. psjursen@fs.fed.us

rkschatz@fs.fed.us

Cale Bickerdyke
Minerals and Lands Supervisor
Forest Service
Dakota Prairie Grassland, McKenzie Ranger District
p: 701-842-8502
f: 701-842-8544
cale.bickerdyke@usda.gov
1905 South Main Street
Watford City, ND 58854
www.fs.fed.us

Caring for the land and serving people

From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Monday, May 6, 2019 9:22 AM
To: Bickerdyke, Cale E -FS <cale.bickerdyke@usda.gov>
Subject: RE: Archaeologist Contact Information

Thank you Cale.

Would you be able to provide us with a shapefile of the USFS owned parcels within the Little Missouri National Grasslands? As we are working on preparing our ARPA permit for survey we would like to confirm the areas we are showing as owned by the FS are correct.

Thank you,
Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Bickerdyke, Cale E -FS <cale.bickerdyke@usda.gov>
Sent: Friday, May 03, 2019 2:16 PM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: RE: Archaeologist Contact Information

Here you go.

lfetterman@fs.fed.us

adamrussell@fs.fed.us

Cale Bickerdyke
Minerals and Lands Supervisor

Forest Service
Dakota Prairie Grassland, McKenzie Ranger District

p: 701-842-8502
f: 701-842-8544
cale.bickerdyke@usda.gov

1905 South Main Street
Watford City, ND 58854
www.fs.fed.us

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From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Friday, May 3, 2019 4:11 PM
To: Bickerdyke, Cale E -FS <cale.bickerdyke@usda.gov>
Subject: Archaeologist Contact Information

Hi Cale –

Thank you for speaking with me today about the North Bakken Expansion Project. Would you be able to send me Adam Russell and Liv Fetterman's contact information?

Thanks,
Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com

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Lisa DiNicolantonio

From: Grotte, Kim -FS <kim.grotte@usda.gov>
Sent: Friday, May 17, 2019 5:11 AM
To: Andrea Thornton
Subject: RE: ARPA Permit Application

Follow Up Flag: Flag for follow up
Flag Status: Completed

Sandra Iron Road at the Bismarck office will help you get this permit. 701-989-7309.

Kim

From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Thursday, May 16, 2019 9:35 AM
To: Grotte, Kim -FS <kim.grotte@usda.gov>
Subject: ARPA Permit Application

Hi Kim –

Our archeologists are attempting to coordinate with Adam Russell and Liv Fetterman regarding our ARPA survey permit application but had not heard back from them. Do you know if there are any special instructions needed for the application (we are using the standard Form DI-1926), and specifically who we should send the permit application to?

Thank you,
Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



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WBI North Bakken Expansion Project
PROJECT CALL LOG

CALL TO/FROM WHOM:	PHONE NO.:
Sandra Iron Road	701-989-7309

COMPANY:
U.S. Forest Service – Dakota Grasslands Field Office

PROJECT CONTACT:	PHONE NO.:
Ed Schneider	307-399-6724
DATE:	TIME OF CONVERSATION:
May 21, 2019	11:30 Eastern

RE:
Information about obtaining ARPA permit for project

LOG OF CONVERSATION:

Ed Schneider called Sandra Iron Road to ask about obtaining an ARPA permit for the WBI NBE project. I asked if she had a particular form she wanted me to use, and briefly described the project. Sandra agreed to email me the form.

cc: Project Files

ACTION ITEMS

ACTION REQUIRED:	BY WHOM:

From:	Ed Schneider
To:	IronRoad, Sandra -FS
Cc:	Fetterman, Liv K -FS; Pat Robblee; Andrea Thornton
Subject:	RE: ARPA Permit Application
Date:	Tuesday, May 21, 2019 4:38:00 PM
Attachments:	NBE_Centerline_20190514.zip image001.png image002.png image003.png image004.png ERM ARPA Permit Application WBI NB Expansion Project.pdf

---

Sandra,

Thanks for the information concerning the ARPA permit for the WBI Northern Bakken Expansion Project. Attached is a pdf copy of our ARPA permit application. Two hard copies have been sent to you at the address below. Also attached for your reference are GIS shapefiles of the current centerline route for the WBI Northern Bakken Expansion project. Mileposts and the 300 ft wide survey corridor are also in the zip file. Please let me know if you need anything else.

Ed

Ed Schneider
Senior Archaeologist

ERM
Ed.schneider@erm.com
Mobile: (307) 399-6724

From:	IronRoad, Sandra -FS
To:	Ed Schneider
Cc:	Fetterman, Liv K -FS
Subject:	ARPA Permit Application
Date:	Tuesday, May 21, 2019 3:24:42 PM
Attachments:	image001.png image002.png image003.png image004.png Blank FS-2700-30blanketPermitForm.docx fs_2700_30.pdf

---

Good afternoon Ed,

It was nice talking to you today. I have attached the forest service application and some additional information from our archaeologist below about the permitting process.

Our standard permit for archaeological investigations is issued for one-year only and runs by the calendar year, January 01 to December 31. The standard permit authorizes survey, recordation, and limited subsurface testing to determine the absence or presence of cultural resources in low ground surface visibility. The project specific permit authorizes formal testing and excavation of identified cultural resources and is issued for the duration of the entire individual project.

Our physical address is in the signature block below.

Please let me know if you have any other questions.

Thank you

Sandra Iron Road
Resource Assistant

Forest Service
Dakota Prairie Grasslands

p: 701-989-7309
f: 701-989-7299
sandra.ironroad@usda.gov

2000 Miriam Circle
Bismarck, ND 58501
www.fs.fed.us

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Lisa DiNicolantonio

From: Andrea Thornton
Sent: Thursday, May 23, 2019 12:54 PM
To: Grotte, Kim -FS; Bickerdyke, Cale E -FS
Subject: North Bakken Expansion Project

Hi Kim and Cale –

WBI Energy had their pre-filing meeting with FERC yesterday in DC and a couple of questions came up regarding the Forest Service. Please let me know if you'd like to have a call sometime tomorrow to run through any of these questions.

- Will a separate Biological Evaluation or COM Plan be required for issuing the SUP for the crossing of the grasslands, or will you be able to adopt the FERC Application/BA for the project as a whole?
- Does your group have approval to work on the project without cost recovery, or are there some processes we should get started on as to not slow down your involvement in the project?

Thanks,
Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 503 488 5282

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	To: Cale Bickerdyke
Phone number	701-842-8502
Company	U.S. Forest Service
ERM Contact	Andrea Thornton
Phone number	503-459-6864
Date	May 24, 2019
Time of Conversation	8:30 am
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Mr. Bickerdyke called Ms. Thornton to follow-up on an email that Ms. Thornton had sent on May 23, 2019. Mr. Bickerdyke indicated that they will require a separate Biological Evaluation for the Forest Service lands. He also noted that he will need to check with Kim Grotte reguarding the COM Plan need, however he doesn't think they typically do this. Mr. Bickerdyle also noted that he will need to follow-up with Kim Grotte on Cost Reimbursement for the project.

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Lisa DiNicolantonio

From: Wold, Sarah R -FS <sarah.r.wold@usda.gov>
Sent: Tuesday, May 28, 2019 12:58 PM
To: Justin Moffett
Cc: Grotte, Kim -FS; Bickerdyke, Cale E -FS; Andrea Thornton; Leslie Rodman-Jaramillo; Gawin, Laurie - FS
Subject: RE: WBI Energy: North Bakken Expansion Project
Attachments: Copy of DPG_NRIS_PlantFieldDataSheet20180403Protected.xlsx; DPG_NRIS_WildlifeFieldDataSheet04102018.xlsx

Follow Up Flag: Flag for follow up
Flag Status: Completed

Hi Justin,

Apologies for the delay. I was out of the office from the 15-23 for various trainings.

1. Can you provide a copy of the DPG TES Plant Survey form and DPG Wildlife Survey Field form described on page 5 of the survey guidelines document?
2. See attached
3. Can you provide the 24 species on the botanical watch list and Sensitive/watch Plant Populations Survey form described on page 11 of the survey guidelines document?
4. Listed on the attached survey forms.
5. Are surveys required within the broader limits of the national grasslands administrative boundary? Or just on USFS land within the administrative boundary?
6. Just on USFS lands within the administrative boundary.
7. Do you know what changes we can anticipate for the forthcoming 2019 guidance you mentioned on the call?
8. Any changes are minor. The document should be coming out shortly. If I recall correctly, there will be less of a focus on watch species (though we still want any identified species included on the field data sheets), but I may be misspeaking. I haven't been super involved in the process of updating that document this year aside from providing my recommendations for edits.

Let me know if you have any further questions.

Best,

Sarah Wold
Wildlife Biologist
Forest Service
Dakota Prairie Grasslands, McKenzie Ranger District
p: 701-842-8524
f: 701-842-8544
sarah.r.wold@usda.gov
1905 South Main Street
Watford City, ND 58854
www.fs.fed.us

From: Justin Moffett [mailto:Justin.Moffett@erm.com]
Sent: Friday, May 24, 2019 2:53 PM
To: Wold, Sarah R -FS <sarah.r.wold@usda.gov>
Cc: Grotte, Kim -FS <kim.grotte@usda.gov>; Bickerdyke, Cale E -FS <cale.bickerdyke@usda.gov>; Andrea Thornton <Andrea.Thornton@erm.com>; Leslie Rodman-Jaramillo <leslie.rodmanjaramillo@erm.com>
Subject: RE: WBI Energy: North Bakken Expansion Project

Hi Sarah,
I'm just following up on my email below. Any chance you can get back to me by early next week?
Thanks and have a nice weekend.

Justin T. Moffett, PWS
Principal Consultant

Environmental Resources Management (ERM)
M 971-645-9941
E Justin.Moffett@erm.com | **W** www.erm.com

From: Justin Moffett
Sent: Thursday, May 16, 2019 10:36 AM
To: Wold, Sarah R -FS <sarah.r.wold@usda.gov>
Cc: Grotte, Kim -FS <kim.grotte@usda.gov>; Bickerdyke, Cale E -FS <cale.bickerdyke@usda.gov>; Andrea Thornton <Andrea.Thornton@erm.com>; Leslie Rodman-Jaramillo <leslie.rodmanjaramillo@erm.com>
Subject: RE: WBI Energy: North Bakken Expansion Project

Hi Sara,
Thank you for providing the GIS data and survey guidelines. Having reviewed the guidelines I have a few follow up questions for you. Feel free to reply with your responses below, or give me a call to discuss.
Thanks again for your assistance.

1. Can you provide a copy of the DPG TES Plant Survey form and DPG Wildlife Survey Field form described on page 5 of the survey guidelines document?
2. Can you provide the 24 species on the botanical watch list and Sensitive/watch Plant Populations Survey form described on page 11 of the survey guidelines document?
3. Are surveys required within the broader limits of the national grasslands administrative boundary? Or just on USFS land within the administrative boundary?
4. Do you know what changes we can anticipate for the forthcoming 2019 guidance you mentioned on the call?

Justin T. Moffett, PWS
Principal Consultant

Environmental Resources Management (ERM)
M 971-645-9941
E Justin.Moffett@erm.com | **W** www.erm.com

From: Wold, Sarah R -FS <sarah.r.wold@usda.gov>
Sent: Thursday, May 9, 2019 7:34 AM
To: Justin Moffett <Justin.Moffett@erm.com>; Grotte, Kim -FS <kim.grotte@usda.gov>; Bickerdyke, Cale E -FS <cale.bickerdyke@usda.gov>; Andrea Thornton <Andrea.Thornton@erm.com>; Leslie Rodman-Jaramillo <leslie.rodmanjaramillo@erm.com>
Subject: RE: WBI Energy: North Bakken Expansion Project

Please see the attached GIS files, biology letter, & FWS Dakota skipper survey guidelines. Let me know if you have any questions.

<< File: 2018 Biology Letter signedltr 2018-04-10.pdf >> Best, << File: 2018_Biology_Letter.pdf >> << File: DPG_Contractor_Files_WBI.zip >> << File: 2018_FINAL DASK Survey Protocol_4202018.pdf >>

Sarah Wold
Wildlife Biologist
Forest Service
Dakota Prairie Grasslands, McKenzie Ranger District
p: 701-842-8524
f: 701-842-8544
sarah.r.wold@usda.gov
1905 South Main Street
Watford City, ND 58854
www.fs.fed.us

Caring for the land and serving people

-----Original Appointment-----
From: Bickerdyke, Cale E -FS **On Behalf Of** Justin Moffett
Sent: Thursday, May 9, 2019 6:24 AM
To: Wold, Sarah R -FS; Grotte, Kim -FS
Subject: FW: WBI Energy: North Bakken Expansion Project
When: Thursday, May 9, 2019 7:00 AM-8:00 AM (UTC-08:00) Pacific Time (US & Canada).
Where: Conference call (515) 604-9958 Access Code 400640

-----Original Appointment-----
From: Justin Moffett [mailto:Justin.Moffett@erm.com]
Sent: Monday, May 6, 2019 4:34 PM
To: Justin Moffett; Bickerdyke, Cale E -FS; Wold, Sarah R -FS; Grotte, Kim -FS; Andrea Thornton; Leslie Rodman-Jaramillo
Subject: WBI Energy: North Bakken Expansion Project
When: Thursday, May 9, 2019 7:00 AM-8:00 AM (UTC-08:00) Pacific Time (US & Canada).
Where: Conference call (515) 604-9958 Access Code 400640

Cale,

The attached map shows the current Bakken alignment through the Little Missouri National Grassland (LMNG). We sourced the LMNG layer from the North Data GIS data portal, so I'm not sure if it matches your agency's records.

Let me know if you need anything else for Thursday's call.

Thanks.

Justin

Hi Cale,

Per our conversation just now this meeting is to discuss WBI's proposed North Bakken Expansion Project. The purpose of this call is to discuss Forest Service's expectations regarding species specific presence/absence and/or habitat surveys on grasslands under its management.

Per your conversation with Andrea, she is working with our GIS staff to provide you a larger scale map of the project alignment on USFS lands. I'll forward that map to you as soon as it's ready. In the meantime please let me know if there is any other information we can provide that would assist you, Sarah, or Kim on our call.

We look forward to speaking with you.

Thank you.

Justin T. Moffett, PWS

Principal Consultant

Environmental Resources Management (ERM)

1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204

M 971-645-9941

E Justin.Moffett@erm.com | **W** www.erm.com

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<< File: image001.png >> << File: Hartel_North Bakken_Agency Intro Letter_041519.pdf >> << File: NBakken_LMNG_190507.pdf >>

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WBI North Bakken Expansion Project
PROJECT CALL LOG

CALL TO/FROM WHOM:	PHONE NO.:
Liv Fetterman	701-989-7306

COMPANY:
U.S. Forest Service – Dakota Grasslands Field Office

PROJECT CONTACT:	PHONE NO.:
Ed Schneider	307-399-6724
DATE: May 29, 2019	TIME OF CONVERSATION: 4:30 pm Eastern

RE:
Information about obtaining ARPA permit for project

LOG OF CONVERSATION:

Liv Fetterman called Ed Schneider to explain that she is the one that will be issuing ARPA permit. She was out of the office for a month for a family emergency. She said she would start on the permit, but wanted me to edit it to include limited shovel testing.

cc: Project Files

ACTION ITEMS

ACTION REQUIRED:	BY WHOM:

From: Fetterman, Liv K -FS
To: Ed Schneider
Subject: RE: ARPA Permit Application
Date: Wednesday, May 29, 2019 3:49:16 PM
Attachments: image001.png
image002.png
image003.png
image004.png

Thank you, Ed, for your prompt message.
Best,
Liv

From: Ed Schneider [mailto:Ed.Schneider@erm.com]
Sent: Wednesday, May 29, 2019 2:36 PM
To: IronRoad, Sandra -FS <sandra.ironroad@usda.gov>
Cc: Fetterman, Liv K -FS <liv.fetterman@usda.gov>; Pat Robblee <Pat.Robblee@erm.com>; Andrea Thornton <Andrea.Thornton@erm.com>
Subject: FW: ARPA Permit Application

Since shovel testing may be required due to surface visibility conditions, please add limited testing to our ARPA permit application. Please let me know if you need additional information.

Ed

Ed Schneider
Senior Archaeologist
ERM
Ed.schneider@erm.com
Mobile: (307) 399-6724

From: Ed Schneider [mailto:Ed.Schneider@erm.com]
Sent: Wednesday, May 29, 2019 2:36 PM
To: IronRoad, Sandra -FS <sandra.ironroad@usda.gov>
Cc: Fetterman, Liv K -FS <liv.fetterman@usda.gov>; Pat Robblee <Pat.Robblee@erm.com>; Andrea Thornton <Andrea.Thornton@erm.com>
Subject: FW: ARPA Permit Application

Since shovel testing may be required due to surface visibility conditions, please add limited testing to our ARPA permit application. Please let me know if you need additional information.

Ed

Ed Schneider
Senior Archaeologist
ERM
Ed.schneider@erm.com
Mobile: (307) 399-6724

Lisa DiNicolantonio

From: Wold, Sarah R -FS <sarah.r.wold@usda.gov>
Sent: Thursday, May 30, 2019 1:07 PM
To: Justin Moffett
Subject: FW: Little Missouri National Grasslands Biological Survey and Reporting Guidelines
Attachments: 2019 LMNG Biology Letter w Cover Letter Final (003).pdf; DPG_NRIS_PlantFieldDataSheet20190529Protected.xlsx; DPG_NRIS_WildlifeFieldDataSheet20180604.xlsx

Importance: High

Hi Justin,

Below is the 2019 Biology Letter we discussed earlier. Could I grab your mailing address to add to our list for future edits of this letter as well, please? Otherwise, please feel free to reach out with any questions.

Best,

Sarah Wold
Wildlife Biologist
Forest Service
Dakota Prairie Grasslands, McKenzie Ranger District
p: 701-842-8524
f: 701-842-8544
sarah.r.wold@usda.gov
1905 South Main Street
Watford City, ND 58854
www.fs.fed.us

Caring for the land and serving people

From: Dinkins, Meghan F -FS
Sent: Thursday, May 30, 2019 9:37 AM
To: gneale@garciaandassociates.com; accbiocons@vtc.net; gyrfalcon74@hotmail.com; BSchladweiler@bksenvironmental.com; pcallahan@burnsmcd.com; apwoehler@burnsmcd.com; kkjar@carlsonmccain.com; ctucker@carlsonmccain.com; jselby@mchsi.com; wmccarthy@go2e3.com; jknudesen@go2e3.com; faunawest@gmail.com; Russell_Senske@golder.com; jill.rust@hdrinc.com; Scott.Krych@hdrinc.com; info@houstoneng.com; jimreiser@cox.net; Corie.Ereth@kljeng.com; kellykrabbenhoft@gmail.com; info@keitu.com; kfinken@keitu.com; info@NRG-LLC.com; kevin.sedivec@ndsu.edu; dskad1017@gmail.com; peggy.harter@stantec.com; Sbaer@swca.com; JPowell@swca.com; ryan.klute@AECOM.com; Schonert, Gregory P. (gschonert@nd.gov) <gschonert@nd.gov>; mlarson@kcharvey.com; david@biologicalsurveys.com; Manderson@wpc.nd.com; cderby@west-inc.com; ssimmers@wenck.com; Justin.Davis@westernls.com; Travis_Beakley@kindermorgan.com; Reinisch, Jerry <jerry_reinisch@fws.gov>; 'Scott_larson@fws.gov' <Scott_larson@fws.gov>; jessica_n_johnson@fws.gov; mwirth@westech-env.com; mkrumwiede@merjent.com; dmartin@kleinfelder.com; erik.runquist@state.mn.us; cale.nordmeyer@state.mn.us
Cc: Boehm, Shannon - FS <shannon.boehm@usda.gov>; Warm, Arden A -FS <arden.warm@usda.gov>; Dahl, Jack D -FS <jack.dahl@usda.gov>; Gawin, Laurie - FS <laurie.gawin@usda.gov>; Nelson, Josiah - FS <josiah.nelson@usda.gov>;

Wold, Sarah R -FS <sarah.r.wold@usda.gov>; O'Donnell, William P - FS <william.odonnell@usda.gov>; Johnson, Casey D - FS <casey.johnson@usda.gov>; Sjursen, Phil -FS <phil.sjursen@usda.gov>; Hays, Misty A -FS <misty.hays@usda.gov>; Veres, Nancy - FS <nancy.veres@usda.gov>; Stone, Kathy - FS <kathy.stone@usda.gov>; Herrera, Macario -FS <macario.herrera@usda.gov>
Subject: Little Missouri National Grasslands Biological Survey and Reporting Guidelines
Importance: High

Hello:
The attached .pdf document summarizes 2019 biology survey, reporting guidelines, protocols, datasheets, species lists and Endangered Species Act (ESA) Information for use concerning new project proposals planned for or located on the Little Missouri National Grasslands in western ND. Furthermore, please refer to the attached Excel spreadsheets which are survey forms to assist in collecting data. Updated GIS shapefiles of known sensitive plant locations will be sent electronically soon to you.
If you have any questions, please contact the appropriate District Biologist in the Important Contacts section of the attached .pdf document.
Thanks,

Meghan Dinkins
USDA Forest Service
Dakota Prairie Grasslands
2000 Miriam Circle
Bismarck, ND 58501
(701) 989-7320
meghan.f.dinkins@usda.gov

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USDA United States Department of Agriculture | Forest Service | Dakota Prairie Grasslands

2000 Miriam Circle
Bismarck, ND 58501
701-989-7300
Fax: 701-989-7299

File Code: 2600
Date: May 25, 2019

Dear Interested Party,

The enclosed document summarizes 2019 biology survey, reporting guidelines, protocols, datasheets, species lists and Endangered Species Act (ESA) Information for use concerning new project proposals planned for or located on the Little Missouri National Grasslands in western ND. Please contact the Dakota Prairie Grasslands (DPG) Supervisor's Office (SO) for related procedures on the Sheyenne and Grand Ranger Districts. Surveys and reports that do not follow these requirements may be rejected or returned for edits.

As an additional resource, you can refer to the United States Fish and Wildlife Service (USFWS) Planning and Consultation (IPaC) (https://ecos.fws.gov/ipac) for a listing of ESA endangered, threatened, proposed species; as well as critical habitat locations within/near the project/analysis area.

A mandatory requirement is that Biology Surveyors report new Threatened and Endangered Species locations found on (or near) a proposed project to the USFS District Wildlife Biology staff in a timely manner in accordance to specifications in the enclosed document. The most frequently analyzed ESA species is Dakota skipper, which occurs in McKenzie County. As of May, 2019, the most current DASK protocol is the "2018 Dakota Skipper (*Hesperia dacotae*) North Dakota Survey Protocol." This protocol supersedes the "DRAFT Dakota Skipper (*Hesperia dacotae*) Survey Protocol North Dakota, June 2017" and has some key differences; including recommendations to increase the number for survey seasons (from 1 to 2 seasons) or, if 1 year is preferred, to increase the search area to increase the chances of encountering individuals.

Also located within the document are the USFS Region 1 sensitive plant and wildlife species lists from 2011. All 2019 surveys, BEs (completed for sensitive species), and Biological Assessments (completed for ESA listed species) should address these species, noting that Biological Evaluations for sensitive species may be exempt for proposed projects that have been covered by surveys within the last 3-5 years. Any waivers of plant and wildlife surveys based on this criteria must be approved in writing by the appropriate District Botanist and Biologist.

- The 2019 survey season for sensitive plants on the LMNG commences on May 15 and extends through September 15, weather and growth conditions permitting. Updated GIS shapefiles of known sensitive plant locations will be sent electronically

to botanical consultants. If you do not receive an email with the electronic information soon, please contact the DPG SO.

- Please note that the only sensitive fish species occurring on the DPG is the Northern red-bellied dace (*Chrosomus eos*).
- Geographic Information System (GIS) data for several wildlife species within LMNG are also available upon request.

We appreciate your efforts to aid us in better managing the biological resources occurring on the LMNG. If you have any questions, please contact the appropriate District Biologist (Arden Warm [701-227-7815] or JJ Nelson [701-227-7848] at Medora Ranger District;, Sarah Wold [701-842-8524] at McKenzie Ranger District; or Meghan Dinkins [701-989-7320] at the SO, who provides direct support to the Grande and Sheyenne River Ranger Districts.

Sincerely,

STEPHEN BOEHM
RESOURCE STAFF OFFICER

WILLIAM O'DONNELL
Grasslands Supervisor

Encl, 2019 DPG Biology Letter

Biological Survey and Reporting Guidelines

Little Missouri National Grassland

McKenzie Ranger District &
Medora Ranger District,
Dakota Prairie Grasslands,
U.S. Forest Service

2019

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General Introduction

Information listed below is for the Little Missouri National Grassland (LMNG), which includes the McKenzie Ranger District and the Medora Ranger District. For survey protocols on other grasslands within the Dakota Prairie Grasslands (DPG) please contact Meghan Dinkins (Contacts list on page 1). Furthermore, please refer to the excel spreadsheets sent with this letter which include the "DPG TES Plant Survey Form", "DPG Sensitive Plant Field Form, and "DPG Wildlife Survey Field Form" in concert with this letter for information on how to collect data on DPG.

Survey and Biological Evaluation Protocols apply to LMNG as a whole. **Notify DPG staff prior to conducting surveys on the LMNG. A survey report including all biological survey data must be submitted to the DPG for all surveys conducted on the LMNG by December 15th of the survey year.**

Updated GIS shapefiles of known sensitive species locations will be distributed by email after this document is sent out If you do not receive the updated GIS information, please contact DPG staff. Digital survey data for the DPG are updated annually. Prior to beginning surveys for a new proposed project, contractors may consider contacting district botanists and wildlife biologists to determine whether additional data may be available for the project area. Please stay up-to-date on topics relating to biology survey, such as Dakota skipper protocol/distribution and White-Nose Syndrome spread.

Information about ESA listed species sightings and locations must be turned in as soon as possible after sighting; this information can be transferred through a brief e-mail or phone message to at least one person at the district office and Meghan Dinkins.

Important Contacts

Note: all phone numbers are land lines.

McKenzie Ranger District, Watford City ND

- Laurie Gawin, Botanist: (701)842-8516; laurie.gawin@usda.gov
- Sarah Wold, Wildlife Biologist: 701-842-8524; sarah.r.wold@usda.gov

Medora Ranger District, Dickinson ND

- Jack Dahl, Botanist: (701)227-7832; jack.dahl@usda.gov
- J.J. Nelson, Wildlife Biologist: (701)227-7848; josiah.nelson@usda.gov
- Arden Warm, Supervisory Wildlife Biologist: (701)227-7815; arden.warm@usda.gov

Dakota Prairie Grasslands Supervisor's Office, Bismarck ND

- Meghan Dinkins, Biology Program Manager; Zone Sheyenne/Grand River Biologist: (701)989-7320; meghan.f.dinkins@usda.gov
- Phil Sjursen, GIS Coordinator: (701)989-7324; phil.sjursen@usda.gov

Rules & Regulations

All activities on National Forest System (NFS) lands are required to conform to the Federal Code of Regulations and applicable laws. It is the responsibility of surveyors to be aware of any special orders in effect for the DPG, or individual Ranger Districts. Contact the local Ranger Station for information on special orders, or to obtain any required permits.

Off-road permits and collection permits, if traveling off-road or collecting materials, must be retained at all times while on NFS lands.

Any collections of sensitive or watch plant species must be approved by a FS permit. 36CFR261.9(d) prohibits "removing any plant that is classified as a threatened, endangered, sensitive, rare, or unique species"; with a fine in ND of $100. Details of collection will be outlined in the permit that can be obtained at a local FS office. If there is a question about possible identification of a sensitive species, surveyor should contact the local FS Botanist.

Collection of any plant species for personal use (not for resale) and not covered under 36CFR261.9(d) also requires a FS permit. A Forest Products Free Use Permit to collect plant specimens for personal use or species identification can be obtained at no charge from a local FS office.

Survey Report Requirements

Survey reports are required for all surveys conducted on the LMNG by December 15th of the survey year even if a project does not move forward and a biological evaluation and assessment is no longer required. Reports should be submitted electronically and should include the following information:

1. Survey dates
2. Locations (latitude and longitude; legal designations) and GPS/GIS files
3. Project description
4. Survey area descriptions (ecological sites, plant communities, terrain, etc.)
5. Species inventoried
6. Photographs of the survey area, notable plant species, and wildlife (if feasible)
7. Copies of field data sheets
8. Project maps with locations of any federally (ESA) listed, sensitive species, and noxious weed occurrences.

Note: Considerable inconsistencies exist among federal, state, and non-government agencies in regards to the definitions and usages of descriptive terms delineating project, action, and analysis areas. Regardless of usage, these terms should be clearly defined in any survey reports and biological evaluations or assessments. See the Glossary of Terms for FS recognized definitions of these terms.

Biological Assessments and Biological Evaluations

Note: For the purposes of this document, biological evaluations are not the same as biological assessments. Biological assessments need to be done if the project has potential impacts on federally (ESA) listed species. Per current communication from the ND USFWS Ecological Services office, Biological Assessments need only include information about ESA listed species.

See FSM 2670.5 for definitions of these terms and how they may apply to the project at hand.

"Once a "may affect" determination is made, the Federal agency must either request our concurrence with a "may affect, but not likely to adversely affect" finding or request initiation of formal consultation. Both require a written analysis to be submitted to us. This analysis is typically transmitted in a document referred to as a Biological Assessment or Biological Evaluation. The former is defined in regulation and is required under specific circumstances. The latter is a generic term used to document analyses and Section 7 determinations when a Biological Assessment is not required. Both documents are for the same purpose.

Available: https://www.fws.gov/midwest/endangered/section7/ba_guide.html#2

Biological Assessments

Under section 7(a)(2) of the ESA, federal agencies or their designated non-federal representatives must consult with FWS on any action that **may affect** any species listed as threatened or endangered or its critical habitat. For more information on ESA consultation, please see: https://www.fws.gov/midwest/endangered/section7/pdf/BAGuidance.pdf.

Part of consulting with the USFWS is writing a Biological Assessment (distinct from Biological Evaluation). General information about writing a Biological Assessment may be seen at: https://www.fws.gov/midwest/endangered/section7/pdf/BAGuidance.pdf.

Please defer from any direct communications with USFWS in reference to projects involving USFS and NFS lands. The Forest Service District Biologist is the initial point of contact for any company with TES survey concerns or questions. The Little Missouri Grassland Biologists will coordinate with zoned LMNG Supervisory Biologist and, as necessary, with the Wildlife PM and USFWS in routing concerns that they cannot address from the Little Missouri Grassland perspective.

Biological Evaluations

Referenced from Forest Service Manual (FSM) 2672.4.

Review all FS planned, funded, executed, or permitted programs and activities for possible effects on endangered, threatened, proposed, or sensitive species. The biological evaluation is the means of conducting the review and of documenting the findings.

Biological evaluations are needed for new projects, or project additions but are not needed for existing developments, infrastructure, and/or maintenance activities. Surveys may also be exempted for proposed projects that have been covered by previous surveys within the last 3-5 years. Any waivers of surveys must be approved by the appropriate FS specialist.

Objectives of the Biological Evaluation

1. To ensure that Forest Service actions do not contribute to loss of viability of any native or desired non-native plant or contribute to animal species or trends toward Federal listing of any species.

2. To comply with requirements of the Endangered Species Act that actions of Federal agencies not jeopardize or adversely modify critical habitat of federally listed species.

3. To provide a process and standard by which to ensure that threatened, endangered, proposed, and sensitive species receive full consideration in the decision making process.

Minimum Requirements for Biological Evaluation

Please include the following in the biological evaluations:

1) An identification of all listed, proposed, and sensitive species known or expected to be in the project area or that the project potentially affects. Use the Information for Planning and Consultation (IPaC) project planning tool to get a list of endangered, threatened, and proposed species that could be present in the project area: https://ecos.fws.gov/ipac. An identification and description of all occupied and unoccupied habitat recognized as essential for listed or proposed species recovery, or to meet Forest Service objectives for sensitive species. See Appendix B for the current Sensitive species list for the DPG/LMNG.

2) An analysis of effects of the proposed action on species, their occupied habitat, or on any unoccupied habitat required for recovery.

3) A discussion of cumulative effects resulting from the planned project in relationship to existing conditions and other related projects.

   A cumulative effects analysis is used to determine the temporal and spatial extent to which the proposed project's direct/indirect effects contribute to other effects on the species in question, whether habitat or population. If there are no direct or indirect effects to the species or habitat, then there would be no contribution to cumulative effects and an analysis is not necessary. Conversely, it is incorrect to necessarily conclude that the individual project "would not result in cumulative effects due to its small size of a few acres", or that when viewed on its own the project would have negligible impacts on the landscape. An analysis of the cumulative effects must be addressed with respect to past, present, and reasonably foreseeable future effects whenever there are any direct/indirect effects to sensitive plant species or native plant resources. For plant species, a one-half mile radius around the project site should be used as a Cumulative Effects analysis area unless a more logical and defendable area can be identified. For wildlife sensitive species, the Cumulative Effects analysis area would differ depending on the species life histories for example, bighorn sheep could encompass a larger area (100+'s of acres) than a Baird's sparrow (10+'s of acres).

   Items to consider (not exhaustive):

   a) Species being analyzed: population and potential habitat being impacted;

   b) Number of discrete disturbances over the past number of years;

   c) Total acres of disturbance, such as roads, and pads;

   d) Other management activities such as cattle grazing, recreational activities, oil and gas, etc.;

e) Activities on adjacent private and state lands should be calculated in as well.

4) A **determination** of no impact, may impact, will impact, or beneficial impact (see below) on the species with the process and rationale for determination. These are documented in the environmental analysis document for the public.

Effects to sensitive plant and wildlife species fall into the following categories. Region 1 direction is to specifically use the language to make a determination. Please adhere to these.

a) **No Impact**: A determination of "No Impact" for sensitive species occurs when a project or activity will have no environmental effects on habitat, individuals, a population or a species. If any effects are listed for a sensitive species, then a "No Impact" conclusion is not appropriate.

b) **May Impact:** Individuals Or Habitat, But Will Not Likely Contribute To A Trend Towards Federal Listing Or Cause a Loss of Viability To the Population or Species:

Impacts to individuals or habitat of sensitive species should be given **careful** consideration. Loss of populations or meta-populations is often the basis for eventual species extinction. Rationale should be provided regarding **why** the effects would not contribute to federal listing or cause a loss of viability to the population or species.

c) **Will Impact**: Individuals Or Habitat With A Consequence That The Action Will Contribute To A Trend Towards Federal Listing Or Cause a Loss of Viability To the Population or Species:

Loss of individuals or habitat can be considered significant when the potential effect may contribute to a trend toward federal listing. The loss of individuals is significant when there are few populations and/or few individuals within populations. For these situations, any effects to the species may lead to a loss of viability and contribute towards federal listing.

Projects or activities that adversely affect many individuals of a species with limited population numbers, or even a few individuals with a limited number of small populations should probably receive this conclusion.

d) **Beneficial Impact**: Projects or activities that are designed or happen to benefit sensitive species should receive this conclusion.

5) Recommendations for removing, avoiding, or compensating for any adverse effects.

Design Criteria/Mitigation Measures, otherwise known as Off-setting impacts: The report should include suggested design criteria or mitigation measures, to alleviate adverse effects and avoid unnecessary disturbances to sensitive plant species, native plant communities, and wildlife species or habitat. Examples include recommendations for avoiding impacts to certain plant communities or species, or incorporating the control of exotic invasive species within the scope of project development and design. Be as specific as possible with design criteria. For example, if herbicide treatments or infested soil containment are warranted, specify where they should be conducted. Rationale for invasive species treatments decreases when areas surrounding the project area are increasingly dominated by invasive species. For instance, it would not be very effective to pre-treat a well site for crested wheatgrass if the surrounding area is overwhelmingly dominated by the same species with a certainty of re-invading the site.

6) A reference of any informal communication with the USFWS as well as a list of contacts, contributors, sources of data, and literature references used in developing the biological evaluation.

Botany Surveys

General Information

See Table 1 in Appendix A for a list of sensitive plant species that occur on the LMNG. The sensitive plant survey season for the LMNG begins on May 15[1] and extends through September 15, weather and growth conditions permitting. Plant surveys must be conducted at the appropriate period(s) to identify sensitive and watch plant species with potential to occur in the survey area, as well as to accurately describe the vegetation community. When populations of sensitive species are found, consultants must contact and coordinate with District botanists within seven days. See the protocol below for details.

Contractor Qualifications

a) A degree in Botany or Plant Ecology, or thoroughly demonstrated botanical experience and knowledge to accurately inventory and document plant species and vegetation conditions.

b) Demonstrated skill in plant identification, use of plant taxonomic keys, and rare plant surveys. Knowledge of flora and plant habitat of the northern Great Plains.

c) Ability to analyze effects of a proposed project on botanical resources through knowledge of ecological theory and plant community dynamics in response to disturbance.

d) Ability to prepare technical reports and apply FS procedures and directives in preparation of Biological Evaluations (BE).

e) Ability to apply Standards and Guidelines identified in the DPG Land and Resource Management Plan (2001) to proposed projects.

Survey Protocol

Sensitive plant species surveys must be conducted in a manner that provides a high probability of locating any sensitive plants that may be present. Survey botanist must obtain an accurate map of the site and proposed areas of disturbance from the permit applicant. All habitats likely to be disturbed by the proposed project must be surveyed.

The following guidelines must be followed when conducting plant surveys on the LMNG:

a) Plant surveys should be conducted when sensitive species are most identifiable, such as during periods of flowering or in phenological stages that facilitate their discovery. Survey dates of **May 15 through September 15** span a period of active growth or identifiable litter for most sensitive plant species on the LMNG. These dates encompass the acceptable survey season unless otherwise specified by FS District staff botanists. Compromises inevitably occur because there are 14 sensitive plant species on the LMNG, all with different periods of growth and flowering. Sensitive plant surveys should be delayed or discontinued during adverse weather conditions such

[1] On the LMNG, two sensitive *Townsendia* species are found across the LMNG. Flowering for these species typically begins in mid spring before this date. While surveys can be conducted for these species in vegetative form during the official survey season, the most effective time to locate and identify populations of these plants begins prior to 15 May. To the extent that other populations of these species are known and therefore likely in a proposed project area, surveys may be conducted for them prior to 15 May. However, if contractors choose to conduct field work in late April or early May for these particular species, surveys will also need to be conducted later in the growing season for other sensitive plant species in the proposed project areas.

as drought, delayed spring growth, or plant-killing frost. When these situations occur, reasonable effort must be given to revisiting sites at a more appropriate time. If in doubt, contact the District botanist.

If potential occurrences of a sensitive species are noted, but cannot be ascertained due to the growth stage, it may be necessary for the contractor to revisit the site during another season, or perhaps the following year, to verify/identify the species. Exceptions may occur if the proposed development is relocated to avoid the suspected population. In such cases, Forest Service (FS) District botanist(s) must be notified of the suspected occurrence and the actions taken to avoid them.

When a sensitive plant species is discovered within the area that would be adversely affected by the project, surveyors should contact the FS **within seven days** (preferably via email with photographs). This provides DPG district botanists the opportunity to verify species' occurrence in a timely manner. If the occurrence is not reported within seven days, it may result in delaying concurrence of the survey and biological evaluation until the next year's survey season. Prompt notification may also help facilitate inclusion of mitigation measures earlier in the planning process.

When a sensitive plant population is identified within the area that would be directly disturbed by the proposed project, it is the contractor's responsibility to find acceptable alternatives to the project by coordinating adjustments with FS staff and company representatives.

b) Developments, such as roadways, pipelines, and utility lines will be surveyed at a minimum distance of 125 ft. on each side of the centerline of disturbance. However, survey widths can be decreased to 50 ft. on either side of electric lines, fiber optic cables, or other utilities that are plowed into place with low degrees of disturbance if the entire route is accurately and clearly flagged prior to the survey. If the route is not marked the survey corridor will remain at 250 ft. A minimum of 10 acres will be surveyed around well sites where one bore hole is anticipated, but the survey area should be increased for sites where multiple bore holes and larger well pads are expected. **The total area of survey is referenced as the *project area***.

c) Two forms, a *Site and Setting Field Form* and *Plant Survey Form* (see excel spreadsheets for "TES Plant Survey Field Form-2019", and "DPG Sensitive Plant Field Form-2019") will be completed for every proposed project for which a field survey is conducted and sensitive species are known or newly identified. For each site, record latitude and longitude in degrees, minutes, and seconds, in NAD83 datum. For negative surveys, only the Site and Setting Field Form (TES Plant Survey Field Form) needs to be completed. See Table 2 in Appendix B for a list of codes for completing the Sensitive/Watch Plant Population Survey Form.

Provide maps of plant communities (Ecological Sites), sensitive plant occurrences and suitable habitat, and noxious weed locations within the surveyed area.

Plant communities dominated by exotic invasive plants within the project area also must be graphically delineated. Further, plant communities dominated by native species, with consistent inclusions of invasive species must be described, including the extent and location delineated on site maps.

d) Watch species have the potential to occur on the LMNG. These species are not currently documented and/or have not been substantiated on either district. Survey botanists should familiarize themselves with characteristics of the twenty-four watch species, and document any

occurrences in the same manner as sensitive plant species. Effects analyses on watch plant species habitat are not required within the BE. However, when populations of watch plants are discovered, complete an effects analysis for any found within the surveyed area.

If a watch plant species is discovered within the area that would be adversely affected by the project, the surveyor will contact the FS **within seven days**. If the occurrence is not reported within seven days, it may result in delaying concurrence of the survey and BE until the next year's survey season. Please do not collect these species without DPG approval.

e) Topographic maps or aerial photographs delineating the plant population should be included. Photographs, and any additional notes on the occurrence, must be included. See the Survey GIS and GPS Protocols section below for more details regarding ArcMap GIS shape files.

Wildlife Surveys

Gaining access to the North Dakota Game and Fish GIS hub will provide a key piece of information to bighorn sheep lambing concerns. The layer of interest, in particular, is the one where an approximate line of sight zone is drawn around bighorn sheep lambing areas. Of note: the zone around Mikes Creek Area does not currently have any bighorn sheep within the polygon. The area is a future desired reintroduction site for the agency. Contact NDGF in Bismarck (701-328-6300) for further information.

Also, available as a guide to species occurrences, golden eagle nest sites, grouse leks, and known or historical locations for other raptors (e.g. prairie falcons and ferruginous hawks), are GIS layers that can be obtained from the DPG Supervisor's Office in Bismarck or contact Meghan Dinkins or Phil Sjursen (see the Contacts list on page 1). As a friendly reminder, contractors need to update the GIS layers they receive from us annually with the most current available information.

Wildlife Surveyor Contractor Qualifications

Surveys should be conducted by qualified individuals with a combination of education, training, and/or experience in conducting surveys of wildlife and habitats. More specialized experience is needed for Northern long-eared at and Dakota skipper surveyors; please see Dakota Skipper and Northern Long-eared Bat sections for more information.

General Survey Guidelines

Surveys should evaluate habitat potential for Forest Service designated sensitive species, raptor species (see Raptors section below), threatened/endangered species, and migratory birds. The scale of potential project impacts, as well as the ecology of various wildlife species must be considered when determining buffer distances for wildlife surveys. Assessments of species occurrence should also consider survey timing in relation to migratory species as well as survey effort in relation to occurrence of more cryptic wildlife species. The DPG provides and encourages use of an electronic wildlife survey form.

Observations of Forest Service designated sensitive species, raptor species (including GPS locations of any previously unknown active or unoccupied nests), threatened/endangered species, and migratory birds must be recorded and submitted in a survey report to the DPG by December 15th of the survey year. Further, the DPG has developed a list of wildlife watch species that are of interest on the LMNG (see Appendix C, Table 4). Please include any observations of wildlife watch species as well as dates and GPS locations in survey reports.

Threatened & Endangered Species

Use the Information for Planning and Consultation (IPaC) project planning tool to get a list of endangered, threatened, and proposed species that could be present in the project area: https://ecos.fws.gov/ipac.

For permit and authorization requirements related to listed species, see: http://www.fws.gov/Midwest/endangered/permits/index.html

Dakota Skipper (*Hesperia dacotae*)

General Information

Dakota skipper was listed under the Endangered Species Act (ESA) as "Threatened" in October, 2014. As of March, 2018, McKenzie County is the only county on the Little Missouri National Grassland with Dakota skipper sightings.

Additionally, Dakota Skipper Critical Habitat occurs on the McKenzie Ranger District. For information about Dakota skipper critical habitat, please see: https://www.federalregister.gov/articles/2015/10/01/2015-24184/endangered-and-threatened-wildlife-and-plants-designation-of-critical-habitat-for-the-dakota-skipper and https://www.fws.gov/midwest/endangered/insects/dask/faqfinalchsept2015.html.

Please refer to the following for information on Consultation requirements for Dakota skipper: https://www.fws.gov/midwest/endangered/insects/dask/pdf/DakotaSkipperS7GuidanceV1.1.pdf

Dakota Skipper Analysis

Reconnaissance of an action area before the flight season could identify whether or not the area contains Dakota skipper habitat. Reconnaissance should consist of a combination of Desktop GIS analysis verified by on-the-ground observation. An **initial desktop survey** should be conducted to assess and map the extent of the proposed project disturbance, and to assess and map the habitat potential for Dakota skipper. Depending on the results of the desktop survey, a **qualitative and/or quantitative** survey may be required. Results of subsequent vegetation surveys conducted onsite need to be submitted in report form to the DPG upon survey completion and should also be included in an appendix to subsequent biological evaluations/assessments.

Dakota Skipper Habitat Assessment

See Appendix C for a description of Dakota skipper habitat, key habitat characteristics, and lists of requisite plant species.

When assessing potential Dakota skipper habitat, it is also important to look at the landscape context and how the native prairie habitats may be connected by “dispersal habitat” that the skippers may fly over to get to higher quality native prairie patches. According to the Federal Register, dispersal habitat consists of “undeveloped open areas dominated by perennial grassland with limited or no barriers to dispersal including tree or shrub cover less than 25 percent of the area and no row crops such as corn, beans, potatoes, or sunflowers.”

When determining the area that needs to be surveyed for Dakota skipper habitat and/or presence/absence surveys, consider the landscape context above, as well of the dispersal distance of Dakota Skipper (0.62 miles [1 km]). In the case of linear projects with suitable dispersal habitat on each side of the centerline; this is 0.62 miles on each side of the centerline.

Habitat Assessment Contractor Qualifications

Refer to Contractor Qualifications for botany surveys.

Desktop Analysis

Previous Dakota skipper Habitat and Occurrence Surveys: It is recommended that the DPG (see Important Contacts) be contacted for further assistance. The USFS will give the most current information available concerning whether there is data available from previous surveys that may have occurred within or near the action area and may help identify if additional Dakota skipper surveys are necessary.

Dakota skipper GIS Tools: DPG has a GIS tool to help identify potential Dakota skipper habitat. This GIS tool is just a general screening of various data inputs that should be used in addition to ground truthing, to get a general idea of what areas may be more likely to contain Dakota skipper habitat; the GIS tool is available upon request from DPG. There are also other GIS tools available that a contractor may use that may be more recent or detailed; with proper explanation, these models may be used. GIS tools are a desktop screening tool; each area will also be field-verified with different levels of survey requirements (qualitative, quantitative), depending upon habitat suitability as determined in the field. In areas where desktop and/or field verification suggest that possible habitat is present, field survey requirements will be more comprehensive (quantitative).

Broken Lands Layer, Aerial Imagery, Tree/Shrub Layers: Dakota skipper is not likely to be present in broken lands (i.e. previously disturbed lands) during their larval stage, or in areas where trees or shrubs predominate (greater than 50% total plant cover). There is a broken lands GIS layer for DPG, however, they should be ground truthed.

Ecological Site: See Glossary of Terms section**.** Some information about soils can be extrapolated from the Ecological Site Descriptions. Past Dakota skipper observations appear to be correlated with areas that are characterized by loamy and sandy soils. Ecological site mapping or information may not be fine scale enough or mapped properly to give a definitive answer about habitat characteristics.

Dakota Skipper Habitat Field Survey

Qualitative Survey

Note: A quantitative survey may be conducted in lieu of a qualitative survey. Qualitative surveys are intended to be ocular estimates that verify results from the desktop screening approach or, alternatively, reveal the need for follow-up quantitative surveys.

- Ocular estimates of percent plant cover (see Glossary of Terms section) and percent cover of each requisite plant species (Appendix C).
- Use Landscape Appearance Protocol in to estimate general cattle forage utilization. Forms and instructions for this protocol (ND-CPA-415) can be found at: https://efotg.sc.egov.usda.gov/references/public/ND/forms.pdf
- Photographic documentation of the action area (landscape setting, dominant vegetation components)
- General observations about non-native invasive plants (percentage of invasive plant cover), site condition, and other disturbances seen in the survey area.

Quantitative Survey

A quantitative point intercept survey must be conducted if potential Dakota skipper habitat is present within the action area. It is recommended that surveys be done May 15th through July 19th (ideally in late June based on forb abundance). Please talk to USFS biologists if timeline cannot be met, some exceptions could be made if snow cover is absent, the majority of vegetation in the area is woody vegetation or non-native invasive exotic species that can be confidently identified when senesced.

- Delineate and conduct stratified sampling focused on all areas of potential habitat in the action area. We recommend one 75 meter transect (measurements at 1 meter increments) per 5 acres of sampled habitat. Use this data to determine if it contains Dakota skipper habitat:
    - Report the percent cover all plant species.
        - Calculate Dominance (mean cover of Type B Habitat requisite species [see Table 5] vs other species).
            - Mean cover by a single Type B Habitat requisite species >50%
            - >50% of the dominant species are Type B Habitat requisite species
                - ✓ Use the 50/20 rule to identify dominant species
                    - ❖ Rank all species from most to least abundant
                    - ❖ Select species from the ranked list until cumulative cover >50%. These species are dominant.
                    - ❖ Select any other species with cover >20%
                - ✓ Site contains potential Dakota skipper habitat if both bullets below are met:
                    - ❖ If the % Type B Habitat dominant requisite species ≥50% **(**calculated by [dominant habitat requisite species count/by dominant other species count] x 100%)
                    - ❖ Habitat contains > one of the requisite grass species and ≥ one of the requisite forb species both marked by a "*" in Table 5
- Use Landscape Appearance Protocol to estimate general cattle forage utilization. This work may be done in tandem with the point intercept survey. Forms and instructions for this protocol (ND-CPA-415) can be found at: https://efotg.sc.egov.usda.gov/references/public/ND/forms.pdf
- Record general observations about non-native plants, site condition, and other disturbances seen in the survey area. Include photographic documentation of the action area, survey transects, and representative vegetation cover.
- Provide maps and GIS data depicting the location and extent of Dakota skipper potential habitat and non-habitat.

Dakota Skipper Occurrence Surveys

If features of Dakota skipper habitat are present in at least part of the project area, and the habitat with Dakota skipper features cannot be avoided, a presence/absence survey must be conducted (see Contractor Qualifications section below). Surveys should be conducted during the flight period and limited to habitat patches that contain features or conditions typical of Dakota skipper habitat. To ensure that the results are robust to support reliable conclusions with regard to the Dakota skipper's presence or absence at a site, we request close coordination with the USFS.

Contractor Qualifications

The reliability of a proper Dakota skipper survey depends on the abilities and expertise of the observer. The species is not readily identified in the field without very specialized training and experience; the

species is very hard to tell apart from some other skipper species in western North Dakota. In order to determine whether or not Dakota skipper are present in an area, the assistance of individuals who have 10 (a)(1) (A) permits to carry out scientifically credible surveys is highly advised. Advanced planning is required to obtain the services of a permitted Dakota skipper surveyor. Without a survey by a 10(a)(1)(A) Dakota skipper permitted individual that follows the survey protocol (see below), the USFWS will not be able to support a presumption of Dakota skipper absence.

Occurrence Survey Methods

As of March, 2019, the most current survey protocol is the "2018 Dakota Skipper (*Hesperia dacotae*) North Dakota Survey Protocol":
https://www.fws.gov/midwest/endangered/insects/dask/pdf/2018DASKSurveyProtocol4202018.pdf

Survey Reporting

It is important to keep clear lines of communication between the surveyors and the DPG about planning/carrying out Dakota skipper surveys. If a Dakota skipper is observed, the McKenzie District Wildlife Biologist (Sarah Wold); McKenzie District Botanist, (Laurie Gawin); and the DPG biology program manager (Meghan Dinkins) must be contacted within one day of the observation through phone message or simple e-mail with location information (see Important Contacts section).

Submit completed survey reports in electronic format (Microsoft Word and/or searchable .pdf, electronic format via email/flash drive) and include a summary of the survey in the appendices of any Biological Assessment.

Northern Long-eared Bat (*Myotis septentrionalis*)

General Information

The Northern long-eared bat (NLEB) is federally listed as a threatened species under the Endangered Species Act as of April 2, 2015, due to population decline from white-nose syndrome (WNS). More information can be found at: http://www.fws.gov/midwest/endangered/mammals/nleb/.

The U.S. Fish and Wildlife Service has published a final 4(d) rule for areas within, and outside of, the known WNS range. As of October 2018, the Little Missouri National Grassland is outside of the WNS areas and have not had known occurrences of WNS. White-nose syndrome has been known, however, to spread quickly across vast geographic distances (900 km/year), and Minnesota, Manitoba, South Dakota, northeastern Wyoming, southeastern Montana, and much of North Dakota are in the WNS range. Further, the badlands region of North Dakota, which includes the DPG, offers the only known *natural* bat (any species) hibernacula in the state. Therefore, the LMNG is at risk for WNS invasion. Please refer to the above website when planning projects.

Currently, there are no known hibernacula on the DPG for NLEB. However, due to the inaccessibility and obscurity of potential hibernacula in the badlands, hibernacula are not easily identifiable. The NLEB are not known to migrate long-distances, typically less than 100 miles. Therefore, occurrences of NLEB in summer months suggest the possibility of hibernacula on the DPG.

There are no *recorded* maternity roosts on the LMNG. However, occurrence records, including captures of three post-lactating females on the LMNG, indicates that maternity colonies are present during the summer months. For more information on the locations of this capture data, or if you are interested in doing capture or acoustical bat surveys, please contact J.J. Nelson, Sarah Wold, Arden Warm, or Meghan Dinkins. See contacts list on page 1.

If any activities that potentially impact NLEB or NLEB habitat (tree cutting, bridge work, and large culvert work, etc.) are scheduled between April 1st and October 31st, please contact DPG wildlife biologists to determine if the activity might impact NLEB. Any tree cutting on NFS lands must have DPG approval, regardless of time of year. In the absence of data for bats, in areas with suitable habitat characteristics, communication with the USFWS may be necessary.

Contractor Qualifications

Habitat Assessments

Habitat assessments should be done by individuals with a natural resources or related degree. Additional work experience or training, especially related to bat ecology and survey methodology, is preferred.

Acoustic Surveys

Acoustic surveys must be carried out by an individual(s) with sufficient experience conducting such acoustic surveys. Specialized experience is required for interpreting results from automated classifiers of species identification, or manual identification of species identification from echolocation calls.

Mist Net Surveys

Any survey that includes the physical capture of bats (i.e. mist netting) must be carried out by a qualified biologist. A qualified biologist is an individual that has obtained a USFWS Recovery Permit (Federal Fish and Wildlife Permit) for NLEB relevant to the state/region in which the survey is to be conducted and has been authorized by the appropriate state agency to net and handle NLEB. Several USFWS offices maintain lists of qualified bat surveyors, and if working in one of those states with authorizations in lieu of a Recovery Permits, the individual will either need to be on that list or submit qualifications to receive USFWS approval prior to conducting any field work.

A qualified biologist(s) must (1) select/approve mist-net set-ups in areas that are most suitable for capturing Northern long-eared bats, (2) be physically present at each mist-net site throughout the survey period, and (3) confirm all bat species identifications. This biologist may oversee other biological technicians and manage mist-net set-ups in close proximity to one another as long as the net-check timing (i.e., every 10 minutes) can be maintained while walking between nets.

Survey Methods

For general survey methods and guidelines, the recommends following the Range-wide Indian Bat Summer Survey Guidelines for conducting NLEB surveys: https://www.fws.gov/Midwest/endangered/mammals/inba/surveys/pdf/2017INBASummerSurveyGuidelines9May2017.pdf

To minimize potential for disease transmission, any equipment that comes in contact with bats should be kept clean and disinfected, following approved protocols; this is particularly a concern relative to white-nose syndrome (WNS). Disinfection of equipment to avoid disease transmission (e.g., WNS) is required; protocols are posted at http://www.whitenosesyndrome.org/. Federal and state permits may also have specific equipment restrictions and disinfection requirements.

If unusual bat (all species) morbidity or mortality is encountered during surveys, notify FS wildlife biologists as soon as possible. Please review and follow the USGS National Wildlife Health Center Bat White-Nose Syndrome (WNS)/*Pd* Surveillance Submission Guidelines for submission of carcasses to aid in national WNS surveillance efforts: https://www.usgs.gov/media/files/winter-20172018-bat-submission-guidelines

Survey Reporting

A report must be submitted to the DPG upon survey completion for all acoustic or mist net surveys conducted on FS land no later than December 15th of the survey year. If NLEB are physically observed during surveys, please notify FS wildlife biologists (email/phone call) during the next working day. For physical captures under USFWS permits, refer to permit requirements for reporting NLEB occurrences.

Submit reports in electronic format (Microsoft Word and/or searchable .pdf, electronic format via email/flash drive) and include a summary of the survey in the appendices of any biological evaluations.

Forest Service Sensitive Species

See Appendix B for a list of Forest Service designated species that occur on the LMNG.

Raptors

General Information

Raptors are protected under the Migratory Bird Treaty Act (16 U.S.C. 702-712) and are often sensitive to human disturbance. Presence of nests or species occurrences for any raptor species encountered during surveys should be reported and impacts to nesting sites from project activities must be addressed. Bald and Golden eagles are also given further protections under the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c). Therefore, nests and winter roosts for select raptor species are afforded special protections (not comprehensive) in the DPG Land and Resource Management Plan (LRMP; link below). To assess potential impacts to raptors for biological evaluations, it is only required to determine if known nests or potential nesting habitat occurs within a minimum distance of the project area. If a historic nest is located within the minimum distance or an undocumented nest is discovered during an initial survey, subsequent nest surveys may be required to determine the status of the nest if project activities are expected to occur during the nesting season and during the same year project activities are to be conducted. The responsible party for conducting nest surveys will be determined on an individual case basis in coordination with the DPG. Either ground-based or aerial surveys may be used. Ground-based surveys are conducted at ground level by traversing through an area to observe potential nesting habitat or by visiting pre-identified points to assess the presence of raptors or nesting sites through direct observation. Contact DPG biologists for any questions regarding impacts/mitigation for raptor species not specifically addressed in the LRMP.

Land and Resource Management Plan for the Dakota Prairie Grasslands:
https://www.fs.usda.gov/detailfull/dpg/landmanagement/?cid=stelprdb5340280&width=full

Survey Methods

CAUTION: Several raptor species are sensitive to human disturbance. Care must be taken to not disturb nesting raptors to prevent site abandonment and nest failure. Disturbance of Bald or Golden Eagles that results in nest failure or site abandonment constitutes take and is prohibited under the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c).

Refer to the USFWS Interim Golden Eagle Inventory and Monitoring Protocols; and Other Recommendations for general survey guidelines which can also be adapted to other raptor species:
https://www.fws.gov/southwest/es/oklahoma/documents/te_species/wind%20power/usfws_interim_goea_monitoring_protocol_10march2010.pdf

Note: While this survey protocol is specific to cliff, tree, or high structure nesting raptor species, for ferruginous hawk (which may nest at ground level) and burrowing owl surveys, apply the same general methodology.

If a nest is determined to be active, please notify DPG district biologists within 7 days. All survey data should be included in a survey report and submitted to the DPG by December 15th of the survey year. Survey data should also subsequently be included in an appendix in the project biological evaluation.

Migratory Birds

The Migratory Bird Treaty Act (MBTA) prohibits the purposeful killing or taking of migratory birds, their nests or eggs. Currently MBTA does not prohibit the incidental or accidental take or killing of migratory birds. Potential impacts to migratory birds and habitat should be addressed in biological evaluations.

Use the Information for Planning and Consultation (IPaC) project planning tool to get a list of migratory bird species that could be present in the project area: https://ecos.fws.gov/ipac.

Birds of Conservation Concern 2008:

https://www.fws.gov/migratorybirds/pdf/grants/BirdsofConservationConcern2008.pdf

Survey GIS and GPS Protocols

GIS Shapefiles and GPS Files for All Surveys

1) Data from biological surveys done on USFS lands must be shared with the USFS. Contractors must submit spatial data (GIS shapefiles/feature layers; GPS point data) for **all** areas surveyed during the field season by December 15 of that year, **even for alternatives/projects not brought forward.**

2) Shapefiles/feature layers and any GPS point data needs to be submitted (in NAD83 datum) **with the biological evaluation** for the biological evaluation to be accepted.

3) Ensure files names easily reference back to the project surveyed

4) Submit files via email or flash drive with the biological evaluation.

Sensitive Plants

Where more than one or a few plants occur within a population, please use a polygon to GPS the extent of the population, noting the estimated number of individuals within the area. As field GPS units are not adequate to consistently relocate or differentiate a specific plant from an adjacent plant located 10 or even 30 ft. away, note that it is not necessary to GPS each sensitive plant in a small area and record the lat/long for each. If LMNG staff monitor any of the populations, we will use polygons with estimates of population size. Individual plants or new polygons should be delineated only when they are appreciably distant from other plants or subpopulations. Examples on the ground that merit separate spatial data include: excessive distance, crossing prominent landforms, or changes in aspect, slope, or topographic position.

To facilitate annual updating of FS sensitive plant GIS shapefiles, please ensure that each sensitive plant population described on a sensitive plant form can be easily matched to its location on associated maps and shapefiles. Use the “Local ID” field on the sensitive plant form to provide a unique ID for each

population in the survey (for example, TOHO A, TOHO B, etc.), and use the same ID on maps and shapefiles.

Wildlife

Locations for all ESA listed, Forest Service Sensitive, Raptors, and Wildlife Watch Species (See Appendix B) seen during the survey need to be recorded using GPS. This is to facilitate updating of the Forest Service wildlife GIS shapefiles. Please ensure that every survey can be easily matched to its associated maps and shapefiles.

Glossary of Terms

Action: "all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies in the United States or upon the high seas. Examples include, but are not limited to: (a) actions intended to conserve listed species or their habitat; (b) the promulgation of regulations;(c) the granting of licenses, contracts, leases, easements, rights-of-way, permits, or grants-in-aid; or (d) actions directly or indirectly causing modifications to the land, water, or air." Origin: Regulations (1986) codified as 50 CFR 402.02

Areas:

Action Area: All areas to be affected *directly or indirectly* by the Federal action and not merely the immediate area involved in the action. Origin: Regulations (1986) codified as 50 CFR 402.02 Note: the action area may be different for various resources.

Analysis Area: One or more capability areas combined for the purpose of analysis in formulating alternatives and establishing various impacts and effects. The analysis area can be defined by resource and should be bounded by something that makes sense for the particular resources, such as watershed boundary or habitat area. Depending on the species or resource in question this area may be larger than the action area but often may also be synonymous with the action area.

Project Area: The area associated with a project wherein *direct* changes to the environment will result from the action. Depending on the species or resource in question, this area may be synonymous with the action area.

Biological Assessment: (FSM 2670.5) A "biological evaluation" conducted for major federal construction projects requiring an environmental impact statement, in accordance with legal requirements under section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1536(c)). The purpose of the assessment and resulting document is to determine whether the proposed action is likely to affect an endangered, threatened, or proposed species.

Biological Assessment – "…information prepared by, or under the direction of, a Federal agency concerning listed and proposed species and designated and proposed critical habitat that may be present in the action area and the evaluation [of] potential effects of the action on such species and habitat." Origin: Regulations (1986) codified as 50 CFR 402.02 Additional information: The phrase first appears in the Act, but is defined in the regulations. Biological assessments must be prepared for "major construction activities." See 50 CFR 402.02. The outcome of this biological assessment determines whether formal consultation or a conference is necessary. [50 CFR 402.02 and 402.12]. Biological Assessments are required for projects seeking exemption from 7(a)(2) of the Act through the Endangered Species Committee [Act, Section 7(c)(2)].

Biological Evaluation: A documented Forest Service review of Forest Service programs or activities in sufficient detail to determine how an action or proposed action may affect any threatened, endangered, proposed, or sensitive species.

Critical Habitat: Areas with specific biological and physical features that USFWS designates through a formal rule-making process and not merely habitat that is important for the species. Specifically

"the term "critical habitat" for a threatened or endangered species means - (i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of the Act, on which are found those physical or biological features and (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of the Act, upon a determination by the Secretary that such areas are essential for the conservation of the species." In some cases not all areas occupied by a species are designated as critical habitat.

Ecological Site: A distinctive kind of land with specific soil and physical characteristics that differ from other kinds of land in its ability to produce a distinctive kind and amount of vegetation and its ability to respond similarly to management actions and natural disturbances.

Foliar Cover: The percentage of ground covered by the vertical projection of the aerial portion of plants. Small openings in the canopy and intraspecific overlap are excluded. Foliar cover is always less than canopy cover.

Ocular Cover: A visual estimate of a plant species' percent cover in an area.

Appendix A. Sensitive Plant Species List and Survey Codes

Table 1.Sensitive Plant Species and Habitat of the Little Missouri National Grassland

NRCS Code	Scientific Name	Common Name	Ranking	Documented Habitat on the LMNG
CHSU2	*Chenopodium subglabrum*	Smooth goosefoot	G2G4/S1	Sandbars, terraces, & dune complexes along rivers & creeks. Exposed sandy substrates in uplands, blowouts, outcrops, colluvium, etc.
COPA3	*Collinsia parviflora*	Blue lips	G5/S2	Woody understories, including green ash/elm draws, Rocky Mountain juniper, mesic shrub communities, & occasional xeric shrub communities.
CRTO4	*Cryptantha torreyana*	Torrey's cryptantha	G5/S1	Two population sites discovered during 2013 were located along scoria ridgelines, Also reported from dry plains, rock outcrops, escarpments, pine slopes.
ERCE2	*Eriogonum cernuum*	Nodding buckwheat	G5/S1	Exposed sand substrates w/ low plant cover in grasslands, hillsides, sandstone outcrops.
ERVI14	*Eriogonum visheri*	Dakota buckwheat	G3/S2S3	Relatively exposed clay/silt substrates with low plant cover such as outwash zones around eroding buttes, saddles, steep convex slopes, erosional breaks on prairie slopes. Occasional populations among dense saltgrass communities.
LEMO4	*Leucocrinum montanum*	Sand lily	G5/S2	Generally shortgrass communities w/ fine textured substrates but also found in crested wheatgrass communities. Reported from open coniferous woodlands & hillsides, sagebrush scrub, & sandy flats, but common name seems to be a misnomer.
MEPU3	*Mentzelia pumila*	Dwarf mentzelia	G4/S1	Scoria exposures & colluvium w/low plant cover. Also reported on slopes & sandy plains; occasionally on hard clays & rocky soils.
PHAL3	*Phlox alyssifolia*	Alyssum-leaved phlox	G5/S1S2	Sandy or gravelly soil on & around Bullion Butte. Also reported on clay banks & limestone ridges of open prairie.
PIFL2	*Pinus flexillis*	Limber pine	G5/S1	Semi-arid exposed rocky ridges & foothills in the Limber Pines RNA, likely of native-American origin.
POAC5	*Populus x acuminate*	Lanceleaf cottonwood	HYB/S2	Mesic woody draws, often w/springs/seeps, occasional near springs on open hillsides. Floodplains & stream banks.
SPAI	*Sporobolus airoides*	Alkali sacaton	G5/S2	Secondary succession on clay outwash where tolerant of saline conditions, also on dry to moist sandy or gravelly soil.
TOHO	*Townsendia hookeri*	Hooker's Townsendia	G5/S1	Low to moderate plant cover on dry plains, hillsides, gravelly benches & weathered scoria, but often clay matrix subsoil.
TOEX2	*Townsendia exscapa*	Easter daisy	G5/SNR	Dry plains & hillsides, often w/ loamy or increased soil development & increased plant cover relative to *T. hookeri*.

Table 2. Codes for Sensitive/Watch Plant Population Survey Form

Light Exposure Code	Name	Description
SUN	Full Sun	Full Sun characterizes the predominant light exposure condition across the EO (element occurrence).
PSH	Partial Shade	Partial Shade characterizes the predominant light exposure condition across the EO.
FSH	Full Shade	Full Shade characterizes the predominant light exposure condition across the EO.
Slope Position Code	**Name**	**Description**
BS	Backslope	The steepest portion of the slope where material is generally in transit.
FS	Footslope	The lower portion of the slope where material is generally re-deposited.
SH	Shoulder	The upper slope where material generally moves through creep processes.
SU	Summit	The uppermost slope.
TS	Toeslope	The lowermost slope position where material moves generally through alluvial processes.
Soil Moisture Code	**Name**	**Meaning**
D	Dry	No moisture observed, at the wilting point (>15 bars of tension, realizing that various perennials, shrubs, trees & other native vegetation have wilting points up to 66 bars of tension).
M	Moist	Moisture state is between the wilting point & field capacity.
W	Wet	The moisture state is at field capacity or wetter.
Soil Texture Code	**Name**	**Description**
C	Clay	A term used in the U.S. & by the International Society of Soil Science for a rock or mineral particle in the soil, having a diameter less than 0.002 mm (2 microns)
CL	Clay Loam	A soil containing 27-40% clay, 20-45% sand, & the remainder silt.
L	Loam	A rich, permeable soil composed of a friable mixture of relatively equal & moderate proportions of clay, silt, & sand particles, & usually containing organic matter
S	Sand	A term used in the U.S. for a rock or mineral particle in the soil, having a diameter in the range of 0.05-2 mm.
SI	Silt	A rock or mineral particle in the soil, having a diameter in the range of 0.002-0.05 mm.
SIL	Silt Loam	A soil containing 50-88% silt, 0-27% clay, & 0-50% sand; e.g. one with at least 50% silt & 12-27% clay, or one with 50-88% silt & less than 12% clay.
SL	Sandy Loam	A soil containing 43-85% sand, 0-50% silt, & 0-20% clay, or containing at least 52% sand & no more than 20% clay & having the percentage of silt plus twice the percentage of clay exceeding 30, or containing 43-52% sand, less than 50% silt, & less than 7% clay.
GR	Gravel	Rock fragments between 2 & 75 mm in diameter.

Appendix B. Forest Service Sensitive and Wildlife Watch Species of Interest

Table 3. Forest Service Sensitive Wildlife Species for the Little Missouri National Grassland.

Birds	**Species Name**
Baird's sparrow	*Ammodramus bairdii*
Bald eagle	*Haliaeetus leucocephalus*
Burrowing owl	*Athene cunicularia*
Greater sage-grouse	*Centrocercus urophasianus*
Loggerhead shrike	*Lanius ludovicianus*
Long-billed curlew	*Numenius americanus*
Sprague's pipit	*Anthus spragueii*
Mammals	
Black-tailed prairie dog	*Cynomys ludovicianus*
Bighorn sheep	*Ovis canadensis*
Insects	
Ottoe skipper	*Hesperia ottoe*
Regal fritillary	*Speyeria idalia*
Tawny crescent	*Phyciodes batessi*
Fish	
Red-bellied dace	*Chrosomus (Phoxinus) eos*

Table 4. Wildlife watch species of interest for the Little Missouri National Grassland.

Amphibians	***Species***
Great Plains Toad	*Bufo cognatus*
Northern Leopard Frog	*Rana pipiens*
Plains Spadefoot	*Spea bombifrons*
Birds	***Species***
American Bittern	*Botaurus lentiginosus*
Black-billed Cuckoo	*Coccyzus erythropthalmus*
Brewer's Sparrow	*Spizella breweri*
Chestnut-collared Longspur	*Calcarius ornatus*
Dickcissel	*Spiza americana*
Grasshopper Sparrow	*Ammodramus savannarum*
Lark Bunting	*Calamospiza melanocorys*
McCown's Longspur	*Calcarius mccownii*
Red-headed Woodpecker	*Melanerpes erythrocephalus*
Sage Thrasher	*Oreoscoptes montanus*
Insects	***Species***
Monarch Butterfly	*Danaus plexippus*
Mammals	***Species***
Hispid Pocket Mouse	*Chaetodipus hispidus*
Merriam's Shrew	*Sorex merriami*
Sagebrush Vole	*Lemmiscus curtatus*
Swift Fox	*Vulpes velox*
Reptiles	***Species***
Plains Hog-nosed Snake	*Heterodon nasicus*
Sagebrush Lizard	*Sceloporus graciosus*
Short-horned Lizard	*Phrynosoma hernandesi*
Smooth Green Snake	*Opheodrys vernalis*

Appendix C. Dakota skipper Habitat Description and Requisite Plants for Type B Habitat [2]

Habitat Description

In western North Dakota, Dakota skippers inhabit a variant of 'Type B' habitats on rolling terrain over gravelly glacial moraine dominated by most commonly by little bluestem (*Schizachyrium scoparium*), as well as big bluestem, needlegrasses, or porcupine grasses (*Hesperostipa spp.*) (Royer et al. 2008). Western wheatgrass (*Pascopyrum smithii*) is also typical of a variant of 'Type B' habitat in western North Dakota (Royer et al. 2014).These habitats are often invaded by Kentucky bluegrass (*Poa pratensis*) (Royer and Marrone 1992). Reference Table 5 for plant species associated with Dakota Skipper habitat.

Requisite Plant Species

Native grasses and native flowering forbs for larval and adult food and shelter, specifically:

1) One or more of the following native grasses to provide larval food and shelter: little bluestem (*Schizachyrium scoparium*), Prairie dropseed (*Sporobolus heterolepis*)

2) One or more of the following forbs in bloom to provide nectar and water sources during the flight period: Purple coneflower *(Echinacea angustifolia),* bluebell bellflower (aka harebell, *Campanula rotundifolia),* white prairie clover (*Dalea candida),* upright prairie coneflower (aka yellow coneflower, *Ratibida columnifera),*fleabane *(Erigeron* spp.), blanket flower *(Gaillardia* spp., including common gaillardia *G. aristata*), black-eyed Susan *(Rudbeckia hirta),* yellow sun drops *(Calylophus serrulatus),* prairie milkvetch *(Astragalus adsurgens).*

References Cited

Royer, R. A., and G. M. Marrone 1992. Conservation status of the Dakota skipper (Hesperia dacotae) in North and South Dakota. Unpublished report, US Fish and Wildlife Service, Denver, CO. 15.

Royer, R. A., R. A. McKenney, and W. E. Newton. 2008. A characterization of non-biotic environmental features of prairies hosting the Dakota skipper (Hesperia dacotae, Hesperiidae) across its remaining U.S. range. Journal of the Lepidopterists Society 62:1-17.

Royer, R. A., M. R. Royer, and E. A. Royer. 2014. Dakota skipper field survey and habitat assessment at twelve North Dakota sites during the 2014 season. A final report submitted to Twin Cities Field Office, U.S. Fish and Wildlife Service, Bloomington, MN. Minot State University, Minot, ND. 53 p.

[2] The following was adapted from information found in the USFWS Guidance for Interagency Cooperation under Section 7(a)(2) of the Endangered Species Act for the Dakota skipper, Dakota skipper Critical Habitat, and Poweshiek Skipperling Critical Habitat:
https://www.fws.gov/midwest/endangered/insects/dask/pdf/DakotaSkipperS7GuidanceV1.1.pdf

Table 5. Plant Requisite Plant Species for Type B Dakota Skipper Habitat.

Key Plant Species	Common Name	Forb or Grass
Amorpha canescens	Leadplant	Forb
Andropogon gerardii	Big bluestem	Grass
Artemisia frigida	Prairie sagewort	Forb
*Astragalus adsurgens**	Prairie milkvetch	Forb
Astragalus crassicarpus	Groundplum milkvetch	Forb
Bouteloua curtipendula	Sideoats grama	Grass
*Calylophus serrulatus**	Yellow sundrops	Forb
*Campanula rotundifolia**	Bluebell bellflower (Harebell)	Forb
*Dalea candida**	White prairie clover	Forb
Dalea purpurea	Purple prairie clover	Forb
*Echinacea angustifolia**	Purple coneflower	Forb
*Erigeron spp.**	Fleabane	Forb
*Gaillardia aristata**	Common gaillardia/Blanketflower	Forb
Geum triflorum	Old man's whiskers/Prairie smoke	Forb
Hesperostipa comata	Needle-and-thread grass	Grass
Hesperostipa spartea	Porcupine grasses	Grass
Liatris aspera	Tall blazing star	Forb
Liatris punctate	Dotted blazing star	Forb
*Lilium philadelphicum**	Prairie Lily/Wood Lily	Forb
Packera plattensis	Prairie groundsel	Forb
Pascopyrum smithii	Western wheatgrass	Grass
Pulsatilla patens	Eastern pasqueflower	Forb
*Ratibida columnifera**	Upright prairie coneflower (Yellow coneflower)	Forb
*Rudbeckia hirta**	Black-eyed Susan	Forb
*Schizachyrium scoparium**	Little bluestem	Grass
Sorghastrum nutans	Indiangrass	Grass
*Sporobolus heterolepis**	Prairie dropseed	Grass
Symphyotrichum sericeum	Western silver aster	Forb
Zigadenus elegans	Mountain deathcamas (smooth camas)	Forb
Zizia aptera	Meadow zizia/Heartleaf golden alexanders	Forb
Requisite plant species (*) must include at least one grass species (Little bluestem and/or Prairie dropseed) in addition to one or more forb species with a "* " meet Dakota skipper habitat requirements.		

DPG Wildlife Survey Field Form - 2018 Version

- Data/comments entered in gray outlined cells, formulas in white outlined cells **Revised 6/4/2018**

General Information

Survey ID:		Survey Name:	
Local ID:		Survey Purpose:	
Survey Type:		Project Type:	

Date/Time:	Start					End					
	Year	Mon	Day	Date	24hr Time (hh:mm)	Year	Mon	Day	Date	24hr Time (hh:mm)	Length Min
				//					//		

Survey Agency:					
Surveyor Last Name 1:		First Name 1:		Quals:	
Surveyor Last Name 2:		First Name 2:		Quals:	

Survey Method:??		Survey Protocol:		Survey Status:	
Spatial Feature:					
If Point, Buffer distance from pt center:		Unit of Measure:			
If Line, Buffer distance from line center:		Unit of Measure:			

Target Species

Common Name	Class	TE Status	Srank	R1 Status	Suitable Habitat	Present	Site ID's
Great Plains Toad	Amphibian		SU				
Northern Leopard Frog	Amphibian		SU				
Plains Spadefoot	Amphibian		SU				
American Bittern	Bird		SU				
Baird's sparrow	Bird		SU	Sensitive - R1 2011			
Bald eagle	Bird		S1	Sensitive - R1 2011			
Black-billed Cuckoo	Bird		SU				
Brewer's Sparrow	Bird		S3				
Burrowing owl	Bird		SU	Sensitive - R1 2011			
Chestnut-collared Longspur	Bird		SU				
Dickcissel	Bird		SU				
Grasshopper Sparrow	Bird		SU				
Greater sage-grouse	Bird		SU	Sensitive - R1 2011			
Interior least tern	Bird	Endangered (Mck)	SU				
Lark Bunting	Bird		SU				
Loggerhead shrike	Bird		SU	Sensitive - R1 2011			
Long-billed curlew	Bird		S2	Sensitive - R1 2011			
McCown's Longspur	Bird		S2				
Piping plover	Bird	Threatened (Mck)	S1				
Red-headed Woodpecker	Bird		SU				
Rufa Red knot	Bird	Threatened (Mck)					
Sage Thrasher	Bird						
Sprague's pipit	Bird		S3	Sensitive - R1 2011			
Whooping Crane	Bird	Endangered	SX				
Pallid sturgeon	Fish	Endangered (Mck)	S1				
Red-bellied dace	Fish		S2	Sensitive - R1 2011			

Target Species - continued

Common Name	Class	TE Status	Srank	R1 Status	Suitable Habitat	Present	Site ID's
Dakota skipper Critical Habitat	Habitat	Designated (Mck)					
Piping plover Critical Habitat	Habitat	Designated (Mck)					
Dakota skipper	Insect	Threatened (Mck)	S2				
Monarch Butterfly	Insect		S5				
Ottoe skipper	Insect		SU	Sensitive - R1 2011			
Regal fritillary	Insect		S2	Sensitive - R1 2011			
Tawny crescent	Insect		S3	Sensitive - R1 2011			
Bighorn sheep	Mammal		S2	Sensitive - R1 2011			
Black-footed ferret	Mammal	Endangered	S1				
Black-tailed prairie dog	Mammal		SU	Sensitive - R1 2011			
Gray Wolf	Mammal	Endangered	SX				
Hispid Pocket Mouse	Mammal		S4				
Merriam's Shrew	Mammal		SU				
Northern long-eared bat	Mammal	Threatened	SU				
Sagebrush Vole	Mammal		S4				
Swift Fox	Mammal		S1				
Plains Hog-nosed Snake	Reptile		SU				
Sagebrush Lizard	Reptile		S4				
Short-horned Lizard	Reptile		SU				
Smooth Green Snake	Reptile		SU				
End of List	NA						

Survey Comments: 0 *- characters (try to limit to 255)*

Survey Protocol

Survey Protocol:		*from first page*	Protocol Date:
Protocol Name:			
Protocol Author:			
Protocol Description:			
Protocol Reference:			

- if Basic Protocol is used the author is "NRIS Wildlife" and description is "A search for animal species or animal group within a defined area, where the data elements are standardized, but the information collected cannot be tied to a defined survey protocol or survey methodology."

Location Information

State	County	Region	Natl Forest/Grassland	District
		1	Dakota Prairie Grasslands	

Legal Description:

Township	Range	Section	Qsec	QQSec	QQQSec	QQQQSec	Principle Meridian

GPS Info

GPS Model Used: | GPS filename:

Survey Datum: | Differentially Corrected?

Lat/Long for point feature:

Buffer Distance - report on first page

	Degree	Minutes	Seconds	Decimal Degree
Latitude				0.000000000
Longitude				0.000000000

Lat/Long for two point line transect:

Buffer Distance - report on first page

Begin	Degree	Minutes	Seconds	Decimal Degree
Latitude				0.000000000
Longitude				0.000000000

End	Degree	Minutes	Seconds	Decimal Degree
Latitude				0.000000000
Longitude				0.000000000

Preferred minimum average number of positions for each GPS point (1 position/sec) 30-60

Preferred distance between positions/vertices for gps line or polygon: 5-10 feet

Preference is to transfer GPS information directly from GPS unit to computer to reduce data entry errors

Location Comments: 0 *- characters (try to limit to 255)*

- Keyboard shortcut to activate drop down lists is Alt - Arrow down key

DPG Plant Survey Field Form - 2019 Version

- Data/comments entered in gray outlined cells, lookup formulas in white outlined cells **Revised 4/23/19**

General Information

1) Survey ID:		2) Survey Name:			
3) Survey Status:		4) Source of Work:			
5a) Survey Type:		Survey Agency:			
5b) Survey Type:		Target Focus:			
5c) Survey Type:		Survey Purpose:			
		Project Type:			
6) Survey Focus:	Terrestrial	Riparian	Aquatic	Features	
7) Estimate of Survey Area Size (Acres):					
Spatial Feature					
If Point, Buffer distance from pt center:			Unit of Meas		
If Line, Buffer distance from line center:			Unit of Meas		

10) Survey Parameters:

11) Survey Comments:

Survey Visits

12) Visit Date:	13) Examiner			
	Last Name 1		First Name 1	
	Last Name 2		First Name 2	
	Last Name 3		First Name 3	
	Last Name 4		First Name 4	
	Last Name 5		First Name 5	

Target Species

List all targeted species (R1 Sensitive List)

14) NRCS Code	15) Scientific Name	16) Suitable Hab	17) Plant Found	Determination	FS Site ID's for EO's
CHSU2	*Chenopodium subglabrum*				
COPA3	*Collinsia parviflora*				
CRTO4	*Cryptantha torreyana*				
ERCE2	*Eriogonum cernuum*				
ERVI14	*Eriogonum visheri*				
LEMO4	*Leucocrinum montanum*				
MEPU3	*Mentzelia pumila*				
PHAL3	*Phlox alyssifolia*				
PIFL2	*Pinus flexillis*				
POAC5	*Populus x acuminata*				
SPAI	*Sporobolus airoides*				
TOEX2	*Townsendia exscapa*				
TOHO	*Townsendia hookeri*				

List all targeted species (DPG Watch List)

Target Species Continued

NRCS Code	15) Scientific Name	16) Suit Hab	17) Plant Found	FS Site ID's for EO's
AGEX	*Agrostis exarata*			
ASAU4	*Astragalus australis (Astragalus aboriginum)*			
ASDR3	*Astragalus drummondii*			
ASVE5	*Astragalus vexilliflexus*			
BRCA5	*Bromus carinatus*			
CASCS8	*Carex scirpoidea (Carex scirpiformi)*			
CASI12	*Carex siccata (Carex feonea)*			
CLCOT	*Clematis columbiana var. tenuiloba (Clematis tenuiloba)*			
EPPY4	*Epilobium pygmaeum (Boisduvalia glabella)*			
ERDI4	*Erigeron divergens*			
ERRA2	*Erigeron radicatus*			
FRPU2	*Fritillaria pudica*			
MYAPM	*Myosurus apetalus var. montanus*			
OELA	*Oenothera laciniata*			
ORLUM	*Orobanche. ludoviciana, ssp. multiflora*			
OXSE	*Oxytropis sericea*			
PHPA29	*Phemeranthus parviflorus (Talinum parviflorum)*			
PODI	*Potamogeton diversifolius*			
PODI2	*Potentilla diversifolia*			
POJA2	*Populus x jackii*			
RACA4	*Ranunculus cardiophyllus*			
ROCA	*Rorippa calycina*			
SITR3	*Sibbaldiopsis tridentata (Potentilla tridentata)*			
SMEC	*Smilax ecirrhata*			

Existing Dominant Vegetation: (Enter NRCS plant code)

Upper Level		Middle Level		Lower Level		Est %
Dom	CoDom	Dom	CoDom	Dom	CoDom	Of Area
					Total	0

Ecological Site Name:	Est %
Total	0

List all other species found during survey

18) Species list completeness:

19) Cover Method: CVRPCT

20) General Comments:

Species List of Surveyed Area

- Enter either the old 6/7 code or NRCS Code (Entering NRCS code will over write the lookup formula)

**Est extent only for non-nat & nox*

Old 6/7 Code:	21) NRCS Short Code	22) NRCS Scientific Name	23) Life Form	Common Name	Life Cycle	non native	*Est Acres Extent

Species List of Surveyed Area Continued

Old 6/7 Code:	21) NRCS Short Code	22) NRCS Scientific Name	23) Life Form	Common Name	Life Cycle	non native	*Est Acres Extent

Species List of Surveyed Area Continued

Old 6/7 Code:	21) NRCS Short Code	22) NRCS Scientific Name	23) Life Form	Common Name	Life Cycle	non native	*Est Acres Extent

Species List of Surveyed Area Continued

Old 6/7 Code:	21) NRCS Short Code	22) NRCS Scientific Name	23) Life Form	Common Name	*Est extent only for non-nat & nox: Life Cycle	non native	*Est Acres Extent

Species List of Surveyed Area Continued

Old 6/7 Code:	21) NRCS Short Code	22) NRCS Scientific Name	23) Life Form	Common Name	Life Cycle	non native	*Est Acres Extent

Location Information

26) State:	27) County:	28) Region:	29) Forest:	30) District:

35) Legal Description: Principle Meridian:

Township	Range	Section	Qsec	QQSec	QQQSec	QQQQSec

GPS Info

37) GPS Model Used:

Survey Datum:

GPS Filename:

Differentially Corrected?

- Lat/Longs in item 36 are not necessary if provide GPS file or GIS feature (incorporate survey id on spatial feature)

36) Lat / Long for point feature:

Buffer Distance: Report on first page

	Degree	Minutes	Seconds	Decimal Degree
Latitude				0.000000000
Longitude				0.000000000

36a) Lat / Long for two point line transect:

Buffer Distance: Report on first page

Begin	Degree	Minutes	Seconds	Decimal Degree
Latitude				0.000000000
Longitude				0.000000000
End				
Latitude				0.000000000
Longitude				0.000000000

Preferred minimum average number of positions for each GPS point: (1 position/sec) 30-60

Preferred distance between positions/vertices for gps line or polygon: 5-10 feet

Preference is to transfer GPS information directly from GPS unit to computer to reduce data entry errors

- Keyboard shortcut to activate drop down lists is Alt - Arrow down key

38) General Directions to Survey Area:

Bibliography

Bibliography Continued

Lisa DiNicolantonio

From: Dinkins, Meghan F -FS <meghan.f.dinkins@usda.gov>
Sent: Tuesday, June 4, 2019 8:55 AM
To: spinelli@garciaandassociates.com; accbiocons@vtc.net; BSchladweiler@bksenvironmental.com; pcallahan@burnsmcd.com; apwoehler@burnsmcd.com; kkjar@carlsonmccain.com; ctucker@carlsonmccain.com; jselby@mchsi.com; wmccarthy@go2e3.com; jknudsen@go2e3.com; faunawest@gmail.com; Meg_Claypool@golder.com; jill.rust@hdrinc.com; Scott.Krych@hdrinc.com; info@houstoneng.com; jimreiser@cox.net; Corie.Ereth@kljeng.com; kellykrabbenhoft@gmail.com; info@keitu.com; kfinken@keitu.com; Kathleen Spilman; info@NRG-LLC.com; kevin.sedivec@ndsu.edu; dskad1017@gmail.com; peggy.harter@stantec.com; mkrumwiede@merjent.com; Sarah Sappington; JPowell@swca.com; ryan.klute@AECOM.com; ssimmers@wenck.com; cderby@west-inc.com; Justin.Davis@westernls.com; Manderson@wpcnd.com; david@biologicalsurveys.com; Travis_Beakley@kindermorgan.com; mlarson@kcharvey.com; gschonert@nd.gov; jerry_reinisch@fws.gov; Scott_larson@fws.gov; jessica_n_johnson@fws.gov; mwirth@westech-env.com; dmartin@kleinfelder.com; erik.runquist@state.mn.us; cale.nordmeyer@state.mn.us; Justin Moffett
Cc: Sjursen, Phil -FS; Warm, Arden A -FS; Gawin, Laurie - FS; Dahl, Jack D -FS; Nelson, Josiah - FS; Wold, Sarah R -FS; Boehm, Shannon - FS; Veres, Nancy - FS; Hays, Misty A - FS; Herrera, Macario -FS
Subject: Biology/Botany Contractor GIS dataset for Little Missouri National Grasslands
Attachments: FS_GISLibrary06042019.tzip; FW: Little Missouri National Grasslands Biological Survey and Reporting Guidelines

Importance: High

Hello:
With the assistance of Phil Sjursen, DPG GIS coordinator & the Little Missouri National Grassland wildlife biologists/botanists, I am sending you the updated Little Missouri Biology/
Botany GIS dataset. This is to be used in concert with the Little Missouri National Grasslands Biological & Survey Report guidelines (see attached) that was sent to you last week.
"Attached are GIS shapeflies of known sensitive plant locations (there are a few wildlife layers in here, too, however, please contact a DPG wildlife biologist if you need other layers).

The attachment is a renamed zipped file that contains a file geodatabase & layer files which may be helpful to biology/botany cooperators as they prepare to conduct surveys this field season. Once saved to computer, rename the .tzip file to .zip & unzip the file. The data covers the entire DPG & has the following feature classes:

- Botany – PlantPoint
- Botany – PlantPoly
- Botany – PlantsOfInterestPoint
- Botany –PlantsOfInterestPoly
- Botany – PlantSurveyLine
- Botany – PlantSurveyPoint
- Botany – PlantSurveyPoly
- Botany – Tables reflecting Associated plant species for more recent surveys
- Lands – AdminBoundary – District BDY
- Lands – Land Ownership
- Lands – NonMotorizedAreas

- Minerals – OilGasWells as of 4/2017
- Range – RangeLines showing fences and natural barriers
- Transportation – RoadLinearEvents
- Wildlife – BirdPoints
- Wildlife – PrairieDogPoints2018
- Wildlife – PrairieDogInventory2018

There are some layer files included that can be imported in the symbology of a feature class. Or add the layer file & redirect the source to the feature class of this file geodatabase."

If you have questions about downloading the GIS attachment, please contact Phil Sjursen, if you have questions about information in the attached e-mail, please contact the district biologists; these contacts are in the Important Contacts section in the .pdf document contained in the attached e-mail.
Thanks,

Meghan Dinkins
USDA Forest Service
Dakota Prairie Grasslands
2000 Miriam Circle
Bismarck, ND 58501
(701) 989-7320
meghan.f.dinkins@usda.gov

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From:	Ed Schneider
To:	IronRoad, Sandra -FS
Cc:	lfetterman@fs.fed.us; Pat Robblee; Andrea Thornton
Subject:	ARPA Permit Special Use Application Processing Request
Date:	Monday, June 10, 2019 12:55:00 PM
Attachments:	Signed Application Processing Request Application ID MCK19018.pdf image003.png

Attached please find the signed Special-Use Application Processing Request to authorize the processing of ERM's ARPA permit associated with WBI's Northern Bakken Expansion Project. Please forward to whoever else might need this signed form, and please let me know if you need anything else. Thanks.

Ed

Ed Schneider
Senior Archaeologist

ERM
3300 Breckinridge Blvd., Suite 300, Duluth, GA 30096
T +1 (678) 781-1370 | **M** (307) 399-6724
ed.schneider@erm.com



SPECIAL-USE APPLICATION PROCESSING REQUEST

Edward Schneider (ERM)

(Name(s))

3300 Breckinridge Blvd., Suite 300

(P.O. Box or Street Address)

Duluth	GA	30096	307-399-6724
(City)	(State)	(Zip)	(Phone No.)

I/we do hereby request the Forest Service to take the following action regarding my/our special-use application, described in the accompanying letter:

1. X **Please Process** my/our application for the requested use(s) and improvement(s) described in the accompanying letter. I/we also hereby agree to pay the required cost recovery processing fee in the amount of $ 128.00 .
I/we understand that this processing fee shall be due when billed by the Forest Service, and must be paid before the Forest Service will begin processing my/our application. I/we further understand that, in processing the application, the Forest Service cannot provide any guarantee or assurance that the requested use(s) will be authorized.

2. ____ **Do Not Process** my/our application.
I/we understand that by withdrawing our application at this time, the Forest Service will not begin processing the application, will stop any activities in progress regarding my/our application, and will return our proposal and application materials. I/we further understand that I/we will not be subject to any cost recovery processing fee.

Ed Schneider — 6/10/2019

Signature — Date

Signature — Date

Please return this request to:
Dakota Prairie Grasslands
Attn: William O'Donnell, Grasslands Supervisor
2000 Miriam Circle
Bismarck, ND 58501
Phone Number: 701-989-7300

From: Ed Schneider [mailto:Ed.Schneider@erm.com]
Sent: Wednesday, July 3, 2019 9:35 AM
To: Fetterman, Liv K -FS <liv.fetterman@usda.gov>
Subject: RE: ARPA Permit Application

Hi Liv,

I wanted to check in with you about ERM's pending ARPA permit for the WBI Northern Bakken Expansion project. Please let me know if you need anything from me.

Ed

_____

Ed Schneider
Senior Archaeologist
ERM
Ed.schneider@erm.com
Mobile: (307) 399-6724

_____

From:	Fetterman, Liv K -FS
To:	Ed Schneider
Cc:	IronRoad, Sandra -FS
Subject:	RE: ARPA Permit Application
Date:	Wednesday, July 3, 2019 4:13:17 PM
Attachments:	image001.png image002.png image003.png image004.png

---

Hi Ed,

Thanks for your message. We received your permit application on May 21st and we are still processing it. We do not need any additional information from you, thank you. ERM's permit will likely be ready in two weeks. It unfortunately can take some time to process the permits. There are several factors that affect the timing, most over which we have little to no control. This is why we encourage people to send in their applications six months prior to needing the permit.

If your project timing is in conflict with the projected timeline outlined above, please let me know.
Best,
Liv

From: Ed Schneider [mailto:Ed.Schneider@erm.com]
Sent: Wednesday, July 3, 2019 9:35 AM
To: Fetterman, Liv K -FS <liv.fetterman@usda.gov>
Subject: RE: ARPA Permit Application

Hi Liv,

I wanted to check in with you about ERM's pending ARPA permit for the WBI Northern Bakken Expansion project. Please let me know if you need anything from me.

Ed

Ed Schneider
Senior Archaeologist

ERM
Ed.schneider@erm.com
Mobile: (307) 399-6724

WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

0282

July 17, 2019

Cale Bickerdyke
Minerals and Lands Supervisor Dakota Prairie Grass
McKenzie Ranger District
1905 S Main St
Watford City, ND 58854-6705

Subject: WBI Energy Transmission, Inc.
Invitation to Public Open House for the Proposed North Bakken Expansion Project

Dear Minerals and Lands Supervisor Dakota Prairie Grass Cale Bickerdyke:

WBI Energy Transmission, Inc. (WBI Energy) would like to cordially invite you to attend an open house meeting in your area regarding our proposed plan to build, own and operate the North Bakken Expansion Project (Project).

On June 28, 2019, WBI Energy requested use of the Federal Energy Regulatory Commission's (FERC) pre-filing review process for its proposed North Bakken Expansion Project (FERC Docket No. PF19-7-000). The FERC, the lead federal agency responsible for authorizing the Project, approved WBI Energy's pre-filing request on July 3, 2019. WBI Energy expects to file a formal application for the Project in early 2020.

The Project consists of an approximately 60 mile-long, 20-inch diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to a new interconnect with Northern Border Pipeline Company's mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Creek Compressor Station) will be constructed near this interconnect.

The Project also involves construction of approximately 20 miles of 12-inch diameter natural gas pipeline between the existing Tioga Compressor Station and an existing receipt station along WBI Energy's existing Line Section 25, approximately 10 miles of 12-inch diameter natural gas pipeline along WBI Energy's existing Line Section 30, and an approximately 10 mile, 12-inch diameter natural gas pipeline lateral from WBI Energy's existing Line Section 7.

Additionally, the Project includes the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and the installation of new and modifications to receipt/delivery points and lateral pipeline facilities along the pipeline routes. The attached map depicts the locations of the currently proposed Project facilities. Note that additional facilities have been added to the Project since WBI Energy's initial outreach for the Project earlier this year.

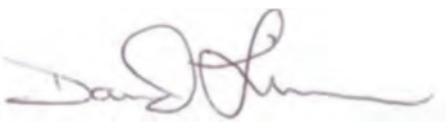
The Project will add natural gas takeaway capacity (estimated at approximately 300,000 Mcf/day) to help meet the natural gas transportation needs in the Bakken region while reducing natural gas flaring.

To provide additional information about the Project and receive stakeholder input, WBI Energy will host public open houses. This will be an informal opportunity to receive project-related materials, view detailed maps and displays, meet with the Project team experts and share your feedback before a formal application is submitted to the FERC. We welcome you to attend any one of the open houses at the dates, times and locations indicated below.

North Bakken Expansion Project Public Open Houses	
Tuesday, August 6 **Location: Tioga**	**Wednesday, August 7** **Location: Watford City**
Neset Consulting Service 6844 State Highway 40 Tioga, North Dakota 58852 11:00 am-1:00 pm and 5:00-7:00 pm	Watford City Civic Center 213 2nd St NE Watford City, North Dakota 58854 11:00 am-1:00 pm and 5:00-7:00 pm

If you have any questions regarding the North Bakken Expansion Project, please contact the Project team at the toll-free number 1-844-825-9397. We look forward to working with you on the Project and seeing you at an upcoming open house.

Sincerely,



David Linn
Project Manager
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map

WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

July 17, 2019

0283

Kim Grotte
Cost Reimbursement Pipeline Specialist Dakota Prai
McKenzie Ranger District
1905 S Main St
Watford City, ND 58854-6705

Subject: WBI Energy Transmission, Inc.
Invitation to Public Open House for the Proposed North Bakken Expansion Project

Dear Cost Reimbursement Pipeline Specialist Dakota Prai Kim Grotte:

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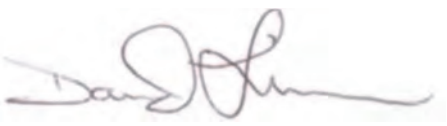
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If you have any questions regarding the North Bakken Expansion Project, please contact the Project team at the toll-free number 1-844-825-9397. We look forward to working with you on the Project and seeing you at an upcoming open house.

Sincerely,



David Linn
Project Manager
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map

Lisa DiNicolantonio

From: Andrea Thornton
Sent: Thursday, July 25, 2019 1:55 PM
To: Grotte, Kim -FS
Cc: Bickerdyke, Cale E -FS
Subject: RE: North Bakken Expansion Project - Bi-Weekly Calls with FERC

Thank you Kim – This is helpful and I will pass along to WBI.

-Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Grotte, Kim -FS <kim.grotte@usda.gov>
Sent: Thursday, July 25, 2019 1:53 PM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Cc: Bickerdyke, Cale E -FS <cale.bickerdyke@usda.gov>
Subject: RE: North Bakken Expansion Project - Bi-Weekly Calls with FERC

Andrea,

Cale asked me to get you a map showing the existing pipeline/utility right-0f-way routing through the Tobacco Garden area. I attached a map from an existing permit that shows that linear on USFS lands there.

Kim Grotte
Cost Reimbursement Pipeline Specialist

Forest Service
Dakota Prairie Grassland, McKenzie Ranger District

p: 701-842-8509
f: 701-842-8544
Kim.Grotte@usda.gov

1905 S. Main St.
Watford City, ND 58854
www.fs.fed.us

From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Thursday, July 25, 2019 12:28 PM
To: Renschler, Jason J CIV USARMY CENWO (USA) <Jason.J.Renschler@usace.army.mil>; Thury, Jeremy J CIV USARMY CENWO (USA) <Jeremy.J.Thury@usace.army.mil>; jessica_n_johnson@fws.gov; jerry_reinisch@fws.gov; sajackson@blm.com; Bickerdyke, Cale E -FS <cale.bickerdyke@usda.gov>; Grotte, Kim -FS <kim.grotte@usda.gov>; Hagel, Todd - NRCS, Bismarck, ND <todd.hagel@usda.gov>
Cc: Arianne Balsom <Arianne.balsom@ferc.gov>
Subject: North Bakken Expansion Project - Bi-Weekly Calls with FERC

Good Morning,

As you know WBI Energy filed their pre-filing request letter for the North Bakken Expansion Project (Project) with FERC on June 28, 2019. FERC accepted the request on July 3, 2019 which starts the pre-filing process for the Project. As we have discussed, as part of this process, FERC will host bi-weekly conference calls with WBI Energy and any agencies interested in participating in the pre-filing process. This is a way for your agency to stay informed about the Project and ask questions as they may arise. When we spoke earlier this summer, some of you were not sure if you were interested in participating in this process.

We are looking to start these bi-weekly calls the week of August 8th. For those of you who are interested, please let me know by August 1st if there are any days of the week/times that would not work for you for a 1 hour call. We will be scheduling these calls across multiple time zones and will do our best to ensure those who are interested are able to participate.

Please feel free to reach out if you have any questions.

Thank you and we look forward to working with you on this project.

-Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com

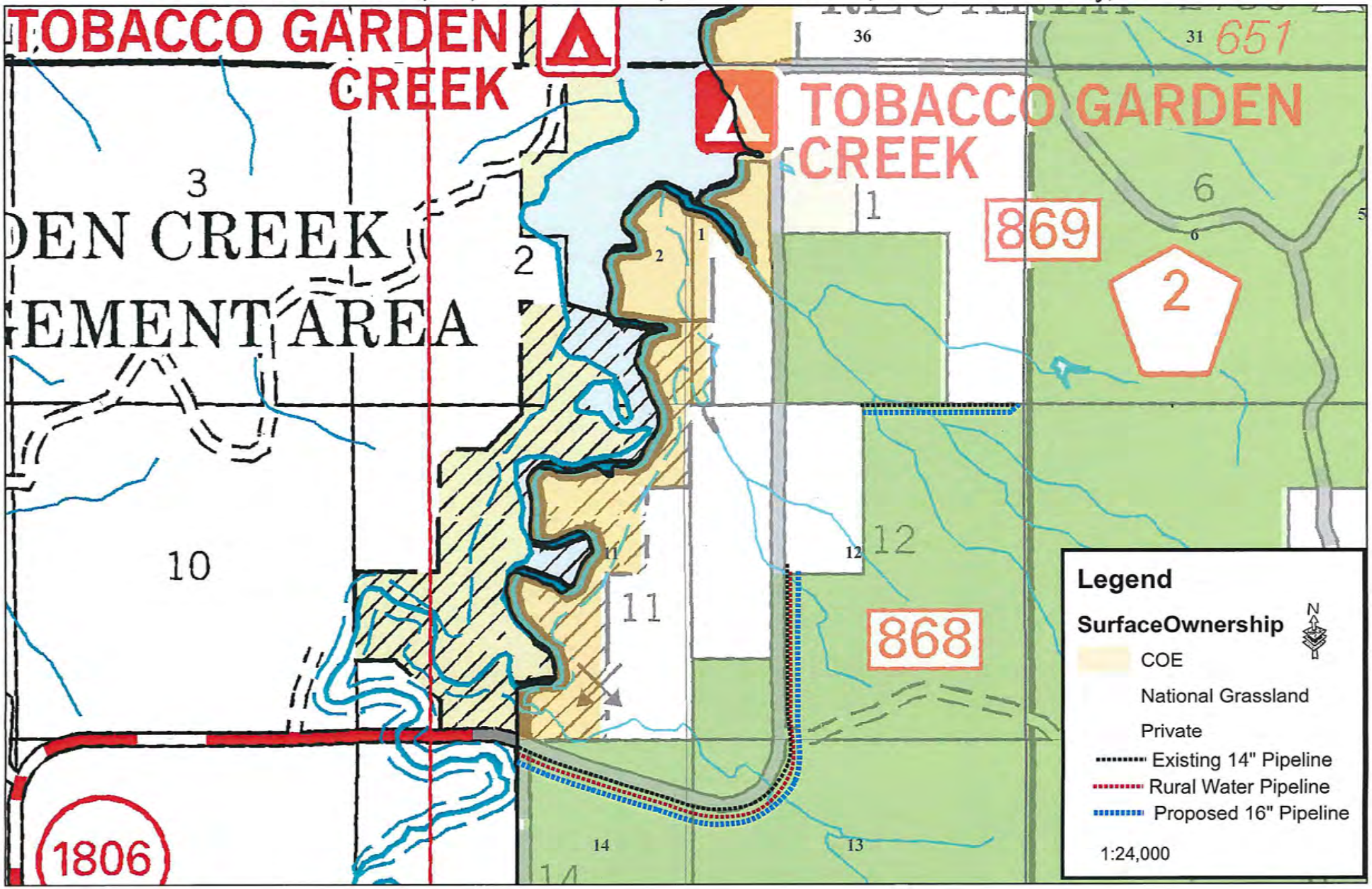


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Exhibit C
S. U Permit #MCK17020
Oneok Rockies Midstream, L.L.C.
Flatland Northeast 16" Steel Natural Gas Pipeline
NFS lands in Section 12, 13, & 14. T.153N., R.97W. 5th PM, McKenzie County, North Dakota



Lisa DiNicolantonio

From: Grotte, Kim -FS <kim.grotte@usda.gov>
Sent: Thursday, July 25, 2019 5:25 AM
To: Andrea Thornton; Bickerdyke, Cale E -FS
Cc: Lisa DiNicolantonio
Subject: RE: North Bakken Expansion Project - Cumulative Impact Analysis

Follow Up Flag: Flag for follow up
Flag Status: Completed

Yes, we do have a linear area that recent pipelines and utilities have followed that mostly paralelled road 1806 on it easterd side through there. The Section 1 segment (Nearest the lake) has been redirected as to avoid the NW ¼ by private the landowners wants. It may be a good thing with your land folks, surveyors, and route selection folks to visit about this sometime sooner than later so it is all brought up and known of, thanks.

Kim Grotte
Cost Reimbursement Pipeline Specialist

Forest Service
Dakota Prairie Grassland, McKenzie Ranger District

p: 701-842-8509
f: 701-842-8544
Kim.Grotte@usda.gov

1905 S. Main St.
Watford City, ND 58854
www.fs.fed.us

From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Wednesday, July 24, 2019 4:24 PM
To: Bickerdyke, Cale E -FS <cale.bickerdyke@usda.gov>; Grotte, Kim -FS <kim.grotte@usda.gov>
Cc: Lisa DiNicolantonio <Lisa.DiNicolantonio@erm.com>
Subject: North Bakken Expansion Project - Cumulative Impact Analysis

Hi Cale and Kim –

As we are starting our review of data for the North Bakken Expansion FERC Application we are looking to gather information on proposed projects to include in the cumulative impact analysis for the project. We are interested in projects within the McKenzie County portion of the grasslands. Are the SOPA Reports that are included on the grasslands website comprehensive of projects proposed? I've attached the most recent report for reference. It looks like these are quarterly reports, will there be another one issued in the fall?

Any information you may have would be greatly appreciated.

Thanks!
Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com

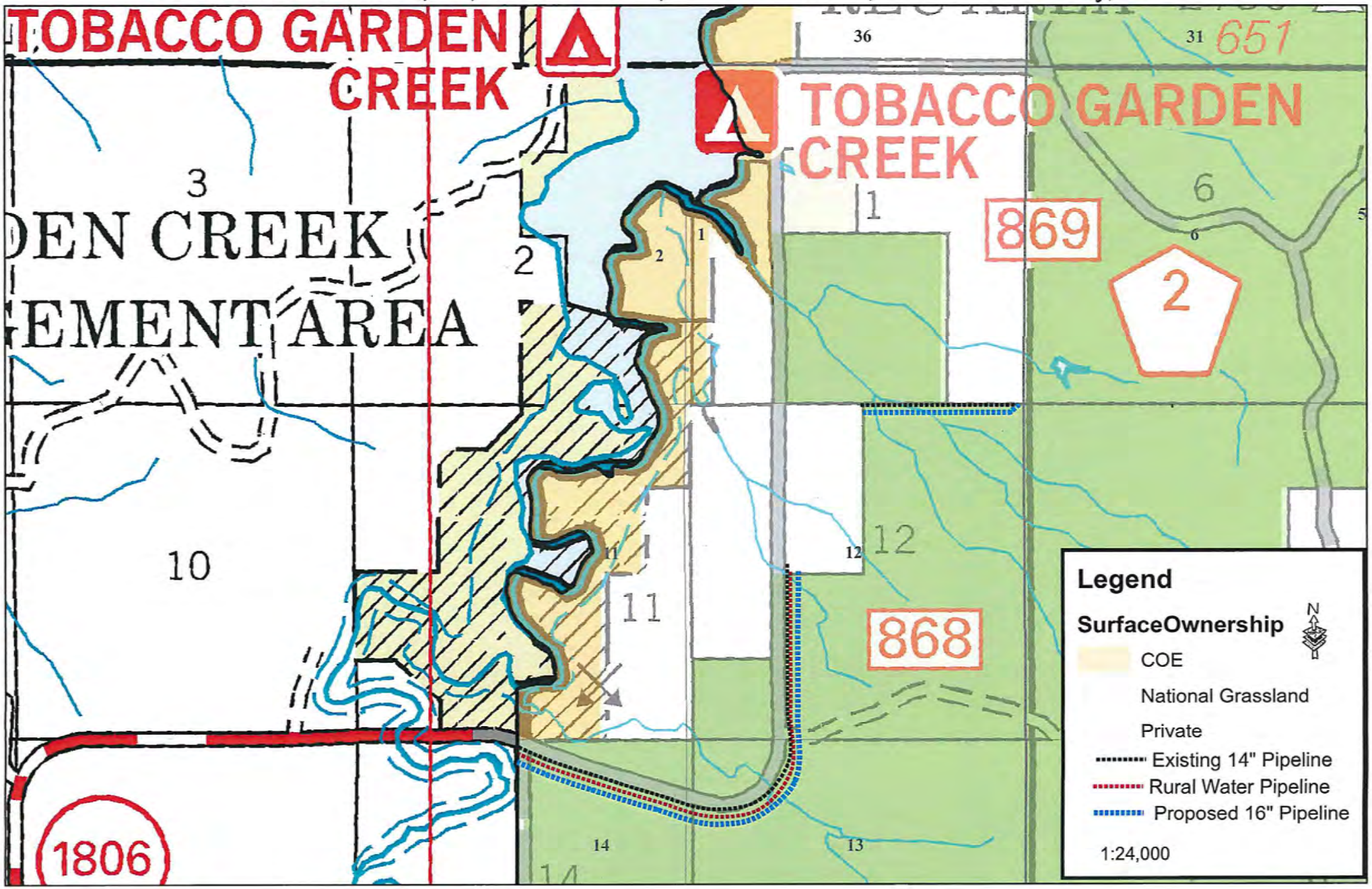


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Flatland Northeast 16" Steel Natural Gas Pipeline
NFS lands in Section 12, 13, & 14. T.153N., R.97W. 5th PM, McKenzie County, North Dakota



USDA United States Department of Agriculture

Forest Service

Dakota Prairie Grasslands
2000 Miriam Circle
Bismarck, ND 58501

File Code: 2720
Date: July 30, 2019

ERM
3300 Breckinridge Blvd.
Suite 300
Duluth, GA 30096

Dear Mr. Schneider:

Enclosed are three copies of the Special Use Cultural Resource Permit. The approved principal investigators and field directors should closely familiarize themselves with all provisions of the permit. Please review the permit, sign the three signature pages and return all copies to the Dakota Prairie Grasslands for Grasslands Supervisor's approval at the above address.

Please submit the enclosed Bill for Collection and payment to the Portland address. DO NOT send the permit or correspondence with your payment. This Bill for Collection must be deposited before the Authorized Officer can sign a new permit.

If you have any questions please call Liv Fetterman at 701-989-7306.

Sincerely,

WILLIAM O'DONNELL
Grasslands Supervisor

Enclosures

Authorization ID: MCK19018
Contact ID: 822141010602
Expiration Date: 12/31/2019

FS-2700-32 (V.07/2012)
OMB No. 0596-0082

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
PERMIT FOR ARCHAEOLOGICAL INVESTIGATIONS

AUTHORITY

The Archaeological Resources Protection Act of 1979, 16 U.S.C. 470aa-mm
The Antiquities Act of 1906, 16 U.S.C. 431-433
The Organic Act of 1897, 16 U.S.C. 551

<table>
<tr><td>1. Holder

ERM</td><td>2. Date of corresponding application

5/212019</td></tr>
<tr><td rowspan="2">3. Address

3300 Breckinridge Blvd.
Suite 300
Duluth, GA 30096</td><td>4. Telephone numbers

678-781-1370 (office)
307-399-6724 (cell)</td></tr>
<tr><td>5. Email addresses

ed.schneider@erm.com</td></tr>
<tr><td>6. Name of authorized officer

Edward Schneider

Telephone numbers

307-399-6724 (cell)

Email addresses

ed.schneider@erm.com</td><td>7. Name of principal investigators

Edward Schneider

Telephone numbers

307-399-6724 (cell)

Email addresses

ed.schneider@erm.com</td></tr>
<tr><td>8. Name of field directors authorized to carry out field projects

William Eichmann</td><td>Telephone numbers

262-422-2260 (cell)

Email addresses

William.Eichmann@erm.com</td></tr>
<tr><td colspan="2">9. Activities authorized

• Consulting: Blanket (non-ground-disturbing survey only)
• Non-ground-disturbing activities (such as surveys)
• Non-ground-disturbing activities that include limited testing (e.g., shovel tests or scrapes)</td></tr>
</table>

10. Description of National Forest System lands authorized for use (hereinafter referred to as "the permit area") McKenzie Ranger District
11. Permit term From 7/30/2019 To 12/31/2019
12. Name and address of the curatorial facility in which collections, records, data, photographs, and other documents resulting from activities conducted under this permit shall be deposited for permanent preservation on behalf of the United States Government. The North Dakota Historical Society, 612 East Boulevard Avenue, Bismarck, ND 58505

TERMS AND CONDITIONS

I. GENERAL TERMS

A. AUTHORITY. This permit is issued pursuant to The Archaeological Resources Protection Act of 1979, 16 U.S.C. 470aa-mm, The Antiquities Act of 1906, 16 U.S.C. 431-433, The Organic Act of 1897, 16 U.S.C. 551, 36 CFR Part 251, Subpart B, 36 CFR Part 296, the Uniform Rules and Regulations of the Antiquities Act of 1906, 43 CFR Part 3, and applicable Forest Service policies and procedures and is subject to their provisions.

B. AUTHORIZED OFFICER. The authorized officer for this permit is the Grasslands Supervisor or a subordinate officer with delegated authority.

C. ANNUAL REVIEW. If this permit is issued for more than one year, it shall be reviewed annually by the authorized officer.

D. RENEWAL AND EXTENSION. This permit is not renewable. The holder may request an extension of this permit for a limited, specified period to complete activities authorized under this permit. Requests for an extension must be submitted in writing at least one month before expiration of this permit.

E. AMENDMENT. This permit may be amended in whole or in part by the Forest Service when, at the discretion of the authorized officer, such action is deemed necessary or desirable to incorporate new terms that may be required by law, regulation, the applicable land management plan, or projects and activities implementing a land management plan pursuant to 36 CFR Part 215. Any amendments to individuals named in or activities authorized by this permit that are needed by the holder must be approved by the authorized officer in writing.

F. COMPLIANCE WITH LAWS, REGULATIONS, AND OTHER LEGAL REQUIREMENTS. In exercising the privileges granted by this permit, the holder shall comply with all present and future federal laws and regulations and all present and future state, county, and municipal laws, regulations, and other legal requirements that apply to the permit area, to the extent they do not conflict with federal law, regulations, or policy. The Forest Service assumes no responsibility for enforcing laws, regulations, and other legal requirements that fall under the jurisdiction of other governmental entities.

G. NON-EXCLUSIVE USE. The use and occupancy authorized by this permit are not exclusive. The Forest Service reserves the right of access to the permit area, including a continuing right of physical entry to the permit area for inspection, monitoring, or any other purpose consistent with any right or obligation of the United States under any law or regulation. The holder shall allow the authorized officer or the authorized officer's representative full access to the permit area at any time the holder is in the field for purposes of examining the permit area and any recovered materials and related records. The Forest Service reserves the right to allow others to use the permit area in any way that is not inconsistent with the holder's rights and privileges under this permit, after consultation with all parties involved.

H. ASSIGNABILITY. This permit is not assignable or transferable.

II. OPERATIONS

A. OPERATING PLAN. The application corresponding to this permit is incorporated as the operating plan for this permit and is attached as Appendix A. The authorized officer may supplement the information contained in the application as appropriate or necessary.

B. REQUIRED PERMITS. The holder shall obtain all other permits required for conducting the activities authorized by this permit.

C. QUALIFIED INDIVIDUALS. Archaeological project design, literature review, development of regional historical contexts, site evaluation, conservation and protection measures, and recommendations for subsequent investigations shall be developed with direct involvement of an individual who meets the Secretary of the Interior's Standards for Archaeology and Historic Preservation. Fieldwork shall be overseen by an individual who meets the Secretary of the Interior's Standards for Archaeology and Historic Preservation.

D. CONDITION OF OPERATIONS. The holder shall maintain the authorized improvements and permit area to standards of repair, orderliness, neatness, sanitation, and safety acceptable to the authorized officer and consistent with other provisions of this permit. Standards are subject to periodic change by the authorized officer.

E. PROHIBITION ON USE OF MECHANIZED EQUIPMENT IN WILDERNESS AREAS. The holder shall not use mechanized equipment in wilderness areas and shall not use mechanized equipment in proposed or potential wilderness areas without prior written approval from the authorized officer.

F. PROHIBITION ON FLINT KNAPPING AND LITHIC REPLICATION EXPERIMENTS. The holder shall not conduct any flint knapping or lithic replication experiments at any archaeological site, aboriginal quarry source, or non-archaeological site that might be mistaken for an archaeological site as a result of such experiments.

G. PROHIBITION ON IMPEDING OR INTERFERING WITH OTHER USES. The holder shall perform the activities authorized by this permit so as not to impede or interfere with administrative or other authorized uses of National Forest System lands.

H. RESTRICTION ON MOTOR VEHICLE USE. The holder shall restrict motor vehicle use to designated roads, trails, and areas, unless specifically provided otherwise in the operating plan.

I. MINIMIZING GROUND DISTURBANCE. The holder shall keep ground disturbance to a minimum consistent with the nature and purpose of the authorized fieldwork.

J. RESOURCE PROTECTION. The holder shall conduct all activities so as to prevent or minimize scarring, erosion, littering, and pollution of National Forest System lands, water pollution, and damage to watersheds. In addition, the holder shall take precautions at all times to prevent wildfire. The holder may not burn debris without prior written approval from the authorized officer.

K. PREVENTION OF INJURY. The holder shall take precautions to protect livestock, wildlife, the public, and other users of National Forest System lands from accidental injury at any excavation site.

L. DESTRUCTION AND REMOVAL OF TREES. The holder shall not destroy or remove any trees on National Forest System lands without prior written approval from the authorized officer.

M. RESOURCE MANAGEMENT FACILITIES. The holder shall not disturb resource management facilities, such as fences, reservoirs, and other improvements, within the permit area without prior written approval from the authorized officer. Where disturbance of a resource management facility is necessary, the holder shall return it to its prior location and condition.

N. BACKFILLING. The holder shall backfill all subsurface test and excavation sites as soon as possible after recording the results and shall restore subsurface test and excavation sites as closely as possible to their original contour.

O. REMOVAL OF STAKES AND FLAGGING. The holder shall remove temporary stakes and flagging installed by the holder upon completion of fieldwork.

P. SITE RESTORATION. The holder shall restore all camp and work areas to their original condition before vacating the permit area. Refuse shall be carried out and deposited in disposal areas approved by the authorized officer.

Q. TITLE TO ARTIFACTS AND ASSOCIATED DOCUMENTATION. Archaeological and historical artifacts excavated or removed from National Forest System lands and any associated documentation shall remain the property of the United States.

R. NATIVE AMERICAN GRAVES PROTECTION AND REPATRIATION (NAGPRA). In accordance with 25 U.S.C. 3002 (d) and 43 CFR 10.4, if the holder inadvertently discovers human remains, funerary objects, sacred objects, or objects of cultural patrimony on National Forest System lands, the holder shall immediately cease work in the area of the discovery and shall make a reasonable effort to protect and secure the items. The holder shall immediately notify the authorized officer by telephone of the discovery and shall follow up with written confirmation of the discovery. The activity that resulted in the inadvertent discovery may not resume until 30 days after the authorized officer certifies receipt of the written confirmation, if resumption of the activity is otherwise lawful, or at any time if a binding written agreement has been executed between the Forest Service and the affiliated Indian tribes that adopts a recovery plan for the human remains and objects.

S. ADDITIONAL REQUIREMENTS. Prior to beginning any fieldwork under the authority of this permit, the holder shall contact the authorized officer responsible for administering the lands involved to obtain further instructions regarding current land and resource conditions.

III. REPORTING REQUIREMENTS

A. PRELIMINARY REPORT. NONE REQUIRED

B. DRAFT FINAL REPORT. Within one month of completion of fieldwork, the holder shall submit an edited draft final report to the authorized officer for review to ensure conformance with applicable laws, regulations, policies, and procedures and the terms and conditions of this permit.

C. FINAL REPORT. The holder shall submit the original final report and at least two copies to the authorized officer within two months after completion of fieldwork.

D. BLANKET SURVEY CONSULTING PERMIT. If this is a multi-year survey consulting permit, at the end of each calendar year, the holder shall submit to the authorized officer a report enumerating all activities conducted under this permit.

E. DEPOSIT OF MATERIALS AND DOCUMENTS WITH A CURATORIAL FACILITY. Within 90 days of the date the final report is submitted to the authorized officer, the holder shall deposit all artifacts, samples, and collections and original or clear copies of all records, data, photographs, and other documents resulting from activities authorized by this permit with the curatorial facility named in block 12.

F. CATALOGUE AND EVALUATION OF DEPOSITED MATERIALS. The holder shall provide the authorized officer with a catalogue and evaluation of all materials deposited with the curatorial facility named in block 12, including the facility's accession or catalogue numbers, and confirmation, signed by an authorized curatorial facility official, that artifacts, samples, and collections were deposited with the approved curatorial facility. The confirmation shall include the date the materials were deposited and the type, number, and condition of the deposited materials.

G. CONFIDENTIALITY OF SENSITIVE RESOURCES. The holder agrees to keep the specific location of sensitive resources confidential. Sensitive resources include but are not limited to threatened, endangered, and rare species; archaeological sites; caves; fossil sites; minerals; commercially valuable resources; and traditional cultural properties.

H. CONFIDENTIALITY OF INFORMATION IDENTIFYING ARCHAEOLOGICAL SITES. Without the authorized officer's prior written approval, the holder shall not publish any locational or other information identifying archaeological sites that could compromise their protection and management by the federal government.

I. IDENTIFICATION OF FOREST SERVICE PERMIT. Any published article, paper, or book containing results of work conducted under this permit shall specify that the work was performed in the Dakota Prairie Grasslands under a Forest Service permit.

J. SUBMISSION OF WRITTEN MATERIALS. The holder shall submit a copy of any published or unpublished report, article, paper, or book resulting from the authorized activities (other than reports required by clauses III.A, B, and C) to the authorized officer and the appropriate official of the curatorial facility named in block 12. The holder shall submit tabular and spatial data to the authorized officer in the format specified in Appendix A.

IV. RIGHTS AND LIABILITIES

A. LEGAL EFFECT OF THE PERMIT. This permit, which is revocable and terminable, is not a contract or a lease, but rather a federal license. The benefits and requirements conferred by this authorization are reviewable solely under the procedures set forth in 36 CFR Part 251, Subpart C, and 5 U.S.C. 704. This permit does not constitute a contract for purposes of the Contract Disputes Act, 41 U.S.C. 601. The permit is not real property, does not convey any interest in real property, and may not be used as collateral for a loan.

B. VALID OUTSTANDING RIGHTS. This permit is subject to all valid outstanding rights. Valid outstanding rights include those derived from mining and mineral leasing laws of the United States. The United States is not liable to the holder for the exercise of any such right.

C. ABSENCE OF THIRD-PARTY BENEFICIARY RIGHTS. The signatories of this permit do not intend to confer any rights on any third party as a beneficiary under this permit.

D. DAMAGE TO UNITED STATES PROPERTY. The holder has an affirmative duty to protect from damage the land, property, and other interests of the United States. Damage includes but is not limited to fire suppression costs, and all costs and damages associated with or resulting from the release or threatened release of a hazardous material occurring during or as a result of activities of the holder or the holder's heirs, assigns, agents, employees, contractors, or lessees on, or related to, the lands, property, and other interests covered by this permit. For purposes of clause IV.F, "hazardous material" shall mean any hazardous substance, pollutant, contaminant, hazardous waste, oil, and/or petroleum product, as those terms are defined under any federal, state, or local laws or regulations.

E. INDEMNIFICATION. The holder shall indemnify, defend, and hold harmless the United States for any costs, damages, claims, liabilities, and judgments arising from past, present, and future acts or omissions of the holder in connection with the use and occupancy authorized by this permit. This indemnification and hold harmless provision includes but is not limited to acts and omissions of the holder or the holder's family, guests, invitees, heirs, assignees, agents, employees, contractors, or lessees in connection with the use and occupancy authorized by this permit which result in (1) violations of any laws and regulations which are now or which may become applicable; (2) judgments, claims, demands, penalties, or fees assessed against the United States; (3) costs, expenses, and damages incurred by the United States; or (4) the release or threatened release of any solid waste, hazardous waste, hazardous materials, pollutant, contaminant, oil in any form, or petroleum product into the environment. The authorized officer may prescribe terms that allow the holder to replace, repair, restore, or otherwise undertake necessary curative actions to mitigate damages in addition to or as an alternative to monetary indemnification.

F. CONTINUATION OF LIABLITY BEYOND EXPIRATION. The holder shall not be released from requirements of this permit until all outstanding obligations have been satisfied, regardless of whether the permit has expired.

V. PERMIT FEES

A. <u>CULTURAL RESOURCE AUTHORIZATIONS</u> (R1-A1). The holder shall pay to the Forest Service, $2 (two dollars) per estimated professional field day, but no less than the current Regional minimum annual land use fee. The holder shall submit a record of the actual professional days to the District Ranger immediately upon completion of field operations. The holder shall pay any additional fees due the United States in accordance with the due date specified in the billing document.

B. MODIFICATION OF THE LAND USE FEE. The land use fee may be revised whenever necessary to reflect the market value of the authorized use or when the fee system used to calculate the land use fee is modified or replaced.

C. TERMINATION FOR NONPAYMENT. This permit shall terminate without the necessity of prior notice and opportunity to comply when any permit fee payment is 90 calendar days from the due date in arrears. The holder shall be responsible for the delinquent fees, as well as any other costs of restoring the site to its original condition, including hazardous waste cleanup.

VI. REVOCATION, SUSPENSION, AND TERMINATION

A. REVOCATION AND SUSPENSION. The authorized officer may revoke or suspend this permit in whole or in part:

1. For noncompliance with federal, state or local law.
2. For noncompliance with the terms and conditions of this permit.
3. For abandonment or other failure of the holder to exercise the privileges granted.
4. With the consent of the holder.
5. For specific and compelling reasons in the public interest.

Prior to revocation or suspension, other than immediate suspension under clause C, the authorized officer shall give the holder written notice of the grounds for revocation or suspension. In the case of revocation or suspension based on clause VI.A.1, 2, or 3, the authorized officer shall give the holder a reasonable period, not to exceed 90 days, to cure any noncompliance.

B. RELINQUISHMENT OF ARTIFACTS AND DOCUMENTS. Within 30 days of revocation or suspension of this permit, the holder shall deliver to the Forest Service all artifacts and originals of all photographs, negatives, catalogues, field notes, analysis sheets, reports in any stage of preparation, computer files, and any other records resulting from any activity conducted under this permit.

C. IMMEDIATE SUSPENSION. The authorized officer may immediately suspend this permit in whole or in part when necessary to protect public health or safety or the environment. The suspension decision shall be in writing. The holder may request an on-site review with the authorized officer's supervisor of the adverse conditions prompting the suspension. The authorized officer's supervisor shall grant this request within 48 hours. Following the on-site review, the authorized officer's supervisor shall promptly affirm, modify, or cancel the suspension.

D. APPEALS AND REMEDIES. Written decisions made by the authorized officer relating to administration of this permit are subject to appeal pursuant to 36 CFR Part 214. Revocation or suspension of this permit shall not give rise to any claim for damages by the holder against the Forest Service.

E. TERMINATION. This permit shall terminate when by its terms a fixed or agreed upon condition, event, or time occurs without any action by the authorized officer. Examples include but are not limited to expiration of the permit by its terms on a specified date. Termination of this permit is not subject to administrative appeal and shall not give rise to any claim for damages by the holder against the Forest Service.

VII. MISCELLANEOUS PROVISIONS

A. MEMBERS OF CONGRESS. No member of or delegate to Congress or Resident Commissioner shall benefit from this permit either directly or indirectly, except to the extent the authorized use provides a general benefit to a corporation.

B. SUPERIOR CLAUSES. If there is any conflict between any of the preceding clauses and any subsequent clauses or appendices, the preceding clauses shall control.

C. NONDISCRIMINATION (B-1).
1. The holder and its employees shall not discriminate against any person on the basis of race, color, sex (in educational activities), national origin, age, or disability or by curtailing or refusing to furnish accommodations, facilities, services, or use privileges offered to the public generally. In addition, the holder and its employees shall comply with the provisions of Title VI of the Civil Rights Act of 1964 as amended, Section 504 of the Rehabilitation Act of 1973, as amended, Title IX of the Education Amendments of 1972, as amended, and the Age Discrimination Act of 1975, as amended.

2. The holder shall include and require compliance with the above nondiscrimination provisions in any third-party agreement made with respect to the operations authorized under this permit.

3. The Forest Service shall furnish signs setting forth this policy of nondiscrimination. These signs shall be conspicuously displayed at the public entrance to the premises and at other exterior or interior locations, as directed by the Forest Service.

4. The Forest Service shall have the right to enforce the foregoing nondiscrimination provisions by suit for specific performance or by any other available remedy under the laws of the United States or the State in which the violation occurs.

D. APPLICATION, PART OF AUTHORIZATION (X-82).
The holder agrees to comply with all commitments made in the application dated 5/21/2019.

Plans of work for specific projects will be considered as part of the original application once they are approved by the Forest Service.

E. 1906 UNIFORM RULES AND REGULATIONS, PART OF AUTHORIZATION (X-83).
The holder agrees to abide by, and observe the provisions of, the Uniform Rules and Regulations of the Secretaries of the Interior, Agriculture, and Defense, approved December 28, 1906, which are attached here to and made a part hereof.

F. ACADEMIC WORK NOT AUTHORIZED (X-85).
Academic research projects shall not be conducted under this authorization. Such work may be done only under the terms of a separate authorization which authorizes specific research.

G. SUBMIT REPORTS (X-87).
The holder shall provide the Authorized Officer with a copy of all reports and publications resulting from the project including theses, dissertations, articles, monographs, and so forth. The final report on work performed shall be submitted in two copies to the Forest Service no later than 1 year following the completion of the research.

H. APPROVAL TO INITIATE WORK (X-88).
Before actively initiating work under this authorization, the holder's or holder's representative shall advise the Authorized Officer of the date upon which active field work will be initiated. Approval for the work shall be issued in writing by the Authorized Officer. The approval shall list local restrictions pertaining to fire hazard, off-road vehicles, camp locations, and so forth.

I. DISPOSITION OF SPECIMENS (X-89).
All specimens or material of scientific or historical interest shall be deposited in The North Dakota Historical Society, and thereafter be subject to the provisions of regulations at 36 CFR 296 or such additional provisions as are provided herein.

J. AUTHORIZED CONSULTING SERVICES (X-90).
This authorization permits a full range of consulting services to Forest users and to the Forest Service. However, such services shall be carried out only as provided herein.

K. YEAREND REPORT (X-93).
At the end of each calendar year, a report shall be submitted to the Regional Forester listing all work conducted under this authorization. The report shall also include a schedule for reports to be published.

L. SURVEY REPORT REQUIRED (X-94).
A written survey report shall be prepared for each examination conducted under this authorization. Reports shall provide:

1. A description of examination methods including the type of work, the names of individuals employed in actual field work, and the dates of field work (if any).

2. An assessment of the significance of the identified resources and their potential for contributing information about the cultural heritage of the project area including, when appropriate, descriptions and maps showing the relationship to the site of the proposed project. Resources which may merit listing on the National Register of Historic Places should be so identified.

3. A recommended program of measures to realistically mitigate adverse effects which may result from the project, including research designs.

4. Identification of the cultural resources authorization under which all actions resulting in the excavation of sites or the gathering of objects of antiquity are to be performed.

5. Inventory forms resulting from any surveys (such forms should be included with the report but should not be bound with it).

The report shall be furnished to the Forest Service for review. The holder shall be notified in writing if the report is acceptable or if there are deficiencies which must be corrected. Any deficiencies noted shall be corrected promptly.

M. AUTHORIZES SURVEY AND TESTING (R1-X6). This permit authorizes survey and testing, as necessary, for the location, inventory and evaluation of cultural resource sites, artifacts and features, and authorizes collection of cultural resource objects.

Excavation, other than "limited testing," is not authorized. Excavation may be authorized by separate permit after the survey report, with its recommendations and excavation plan of work, is accepted by the Forest Service.

Limited testing is defined as subsurface sampling technique done randomly without horizontal and vertical control utilizing soil coring, systematic augering, or shovel probes (excavation of small pits the width and depth of a shovel blade) to rapidly assess soil characteristics and the presence or absence of stratigraphy and buried cultural material.

Restrictions on limited testing, if any, shall be specified by the authorized officer in the plan for each project and made part of this permit.

N. SURVEY MONITORING (R1-X7). The Forest Service, in accordance with Secretary of Agriculture's regulation 36 CFR 296.8, reserves the right to

1. Review and approve the qualifications of the holder, and holder's field leaders, for designation as Principal Investigators. Principal Investigators, when approved by the authorized officer, shall be listed in each particular project plan and made part of this permit,

and to

2. Monitor the archeological investigations of the holder to insure compliance with the professional standards as designated in 36 CFR 296.8.

The holder will be notified in writing of any deficiencies. The holder shall correct said deficiencies as directed by the authorized officer.

O. HISTORICAL-ARCHEOLOGICAL-PALEONTOLOGICAL DISCOVERIES (R1-X8). If during activities conducted under this authorization, items of significant historical, archaeological or paleontological interest, or human skeletal remains are discovered, or a known or unknown deposit of such items may be or is disturbed, the holder will immediately cease activities in the area so affected. The holder will then notify the Forest Service and will not resume activities until written approval is given by the authorized officer.

P. FOREST SERVICE REPRESENTATIVE (R1-X16). The District Ranger, McKenzie Ranger District, Telephone No. 701-842-8500, is responsible for administering this special-use authorization. The holder should contact the District Ranger regarding any questions concerning the occupancy and use authorized and the provisions of this authorization.

Q. INFORMATION FROM HOLDERS (R1-X17). As a condition of this authorization, the holder is responsible for providing the authorized officer with any information in possession necessary for determining annual rental fees, ownership, or other matters concerning the administration of the authorized use by the Forest Service.

Regarding the submission of such information, the holder understands that it is a crime for any person to knowingly and willfully make false, fictitious, or fraudulent statements to matters under the jurisdiction of the United States Government (Title 18, U.S.C. Section 1001).

THIS PERMIT IS ACCEPTED SUBJECT TO ALL ITS TERMS AND CONDITIONS.

BEFORE ANY PERMIT IS ISSUED TO AN ENTITY, DOCUMENTATION MUST BE PROVIDED TO THE AUTHORIZED OFFICER OF THE AUTHORITY OF THE SIGNATORY FOR THE ENTITY TO BIND IT TO THE TERMS AND CONDITIONS OF THE PERMIT.

ACCEPTED:

EDWARD SCHNEIDER
ERM

Edward Schneider 8/8/19

SIGNATURE DATE

APPROVED:

WILLIAM O'DONNELL
GRASSLANDS SUPERVISOR

SIGNATURE DATE

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond, to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0596-0082. The time required to complete this information collection is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and, where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, 1400 Independence Avenue, SW, Washington, DC 20250-9410 or call toll free (866) 632-9992 (voice). TDD users can contact USDA through local relay or the Federal relay at (800) 877-8339 (TDD) or (866) 377-8642 (relay voice). USDA is an equal opportunity provider and employer.

The Privacy Act of 1974 (5 U.S.C. 552a) and the Freedom of Information Act (5 U.S.C. 552) govern the confidentiality to be provided for information received by the Forest Service.

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GRASSLANDS SUPERVISOR

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Lisa DiNicolantonio

From: Bickerdyke, Cale E -FS <cale.bickerdyke@usda.gov>
Sent: Wednesday, August 7, 2019 6:37 AM
To: Andrea Thornton
Subject: Accepted: North Bakken Expansion Project - FERC Pre-Filing Bi-Weekly Call

Andrea, we will jump in when we can but will not likely be in on all meetings.

Cale

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Lisa DiNicolantonio

From: Andrea Thornton
Sent: Wednesday, September 18, 2019 7:54 AM
To: Bickerdyke, Cale E -FS; Grotte, Kim -FS
Cc: Mark Cline
Subject: North Bakken Expansion - Call Next Week

Hi Cale and Kim –

I'm writing to see if you have any availability next Tuesday for a call for me to introduce Mark Cline to you (who will be assisting with the permitting for North Bakken Expansion), and to run through any questions or concerns that may have come up since we last spoke. We will be starting on the Plan of Development for the BLM ROW Grant and want to make sure we capture any potential concerns.

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Ed Schneider
Sent: Monday, September 23, 2019 12:42 PM
To: Fetterman, Liv K -FS <liv.fetterman@usda.gov>
Cc: Pat Robblee <Pat.Robblee@erm.com>
Subject: ERM Completion of Grasslands Survey - WBI NBE Project

Liv,

ERM completed the Class III survey on USFS lands for the WBI Northern Bakken Expansion Project on August 27. Eight sites (two previously recorded and six newly recorded) were identified within the Grasslands survey areas. We are currently submitting information to SHPO to obtain site numbers, and we are working on the Class III report to submit to you. Please let me know if you have any questions. Thanks.

Site Number	Site Description	NRHP Recommendation
32MZ144	Tollefson Homestead	Not eligible
32MZ2346	Historic foundations and artifact scatter	Not eligible
PHS-WE-33	Historic features, artifact scatter (late 1800s - 1950s), prehistoric stone feature (cairn); depressions, foundation, privy, car (Ford); surface, subsurface	Unevaluated
HS-WE-34	Historic features, artifact scatter (late 19th, early 20th c.); foundation domestic midden; surface	Unevaluated
PS-WE-35	Stone features (cairns)	Unevaluated
PS-WE-36	Stone feature (cairn)	Unevaluated
PHS-WE-37	Historic features, prehistoric stone features (cairns); surface	Unevaluated
PS-WE-39	Stone feature (stone circle)	Unevaluated

Ed Schneider
Senior Archaeologist

ERM
3300 Breckinridge Blvd., Suite 300, Duluth, GA 30096
T +1 (678) 781-1370 | **M** (307) 399-6724
ed.schneider@erm.com



ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	To: Cale Bickerdyke and Kim Grotte
Phone number	701-842-8509
Company	U.S. Forest Service
ERM Contact	Mark Cline and Andrea Thornton
Phone number	412-402-8101
Date	September 24, 2019
Time of Conversation	8:00 am PST
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Call was scheduled to introduce Mr. Cline to Mr. Bickerdyke and Mr. Grotte and to discuss the Bureau of Land Management (BLM) review process.

Mr. Cline asked for clarification on how the BLM and U.S. Forest Service (USFS) will integrate their review and permit decision. Specifically, if the BLM issues a ROW Grant, does the USFS issue an actual Special Use Permit (SUP)? Mr. Bickerdyke stated that the USFS will participate in the FERC process as a cooperating agency to fulfill NEPA and complete their substantive SUP review; however, a SUP letter will not be issued by the USFS. Instead the authorization is carried in the BLM's ROW Grant.

Mr. Cline asked if the USFS was familiar with FERC's Upland Erosion Control, Revegetation, and Maintenance Plan (Plan) and Wetland and Waterbody Construction and Mitigation Procedures (Procedures). Mr. Bickerdyke indicated that they were not familiar with the Plan and Procedures and Ms. Thornton noted that ERM would email the USFS copies of the documents. ERM requested that if the USFS would require any construction/restoration measures above those identified in the Plan and Procedures to let ERM know so WBI Energy is aware sooner rather than later.

Mr. Bickerdyke stated that there are typical pipeline requirements for crossings on the Dakota National Grassland, including conventional bore methods for all waterbody crossings, which could be expected for this project. Ms. Thornton asked a clarifying question if all waterbodies regardless of size required the conventional bore method and Mr. Bickerdyke concurred that previously authorized pipeline projects had this requirement. Mr. Bickerdyke stated that WBI Energy's route alignment has been reviewed and approved previously for a rural waterline, Oneok pipeline project, and the Slawson Exploration Company, Inc. and Burlington Resources Oil and Gas Company LP gas well project.

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Mr. Cline asked what scale of analysis would be needed to adequately address the Land and Resource Management Plan (LRMP) (Geographic Area vs Management Area). Mr. Bickerdyke indicated that the LRMP Rolling Prairie Geographic Area and the LRMP Management Area 6.1 Rangeland with Broad Resource Emphasis cover the project. Mr. Bickerdyke recommended focusing on Management Area 6.1 as it provides the framework to allow utility projects.

Mr. Bickerdyke stated that USFS authorizations typically include mitigation measures and best management practices similar to BLM authorization. Ms. Thornton clarified that since the project doesn't cross BLM land, WBI Energy has not received specific recommendations from BLM – those will come from the respective federal land management agency. Mr. Bickerdyke offered to send an example executed SUP, which identifies noxious weed control and seeding requirements. Mr. Cline requested any published or recommended seed mix information specific to the Dakota National Grassland and Mr. Bickerdyke agreed to send it. Mr. Grotte asked if there would be additional areas needed for Operation and Management of the pipeline – if so they should be addressed now to streamline the approval. Mr. Grotte also stated that the USFS has consistently approved a 25-foot-wide operation right-of-way and a 50-foot-wide construction right-of-way. Ms. Thornton explained that FERC commonly approves a 50-foot-wide right-of-way for operation. Since the proposed pipe is 24-inch diameter it would require a 100-foot-wide construction right-of-way. Mr. Bickerdyke said the USFS has not approved rights-of-way that large.

Ms. Thornton asked a final clarification, would WBI Energy be able to include one Biological Evaluation in the Plan of Development that covers all federal land? Mr. Bickerdyke indicated that he would prefer separate Biological Evaluation for USFS land only.

From: Fetterman, Liv K -FS <liv.fetterman@usda.gov>
Sent: Tuesday, September 24, 2019 4:36 PM
To: Ed Schneider <Ed.Schneider@erm.com>
Cc: Pat Robblee <Pat.Robblee@erm.com>; IronRoad, Sandra -FS <sandra.ironroad@usda.gov>
Subject: RE: ERM Completion of Grasslands Survey - WBI NBE Project

Good afternoon, Ed,
Thanks for your emails. Your permit authorizes survey, recordation, and limited testing to determine the absence and presence of cultural resources throughout the Dakota Prairie Grasslands, so you are authorized to conduct survey on this re-route as well as any other locations within the Dakota Prairie Grasslands. As listed under the provisions of your permit, we appreciate notification in advance of your surveys specifying where you will be and when as mostly safety precautions; thank you for keeping us informed.
Bets,
Liv

Liv K. Fetterman
Grasslands Archaeologist,
Heritage Program Manager,
Tribal Relations Program Manager

Forest Service
Dakota Prairie Grasslands

p: 701-989-7306
f: 701-989-7299
liv.fetterman@usda.gov

2000 Miriam Circle
Bismarck, ND 58501
www.fs.fed.us

Caring for the land and serving people

ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	Kim Grotte
Phone number	701-842-8509
Company	U.S. Forest Service
ERM Contact	Mark Cline
Phone number	412-402-8101
Date	October 2, 2019
Time of Conversation	4:00 pm EST
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Mr. Cline called Mr. Grotte to discuss the process to request use of and to cross mapped U.S. Forest Service (USFS) system roads.

Mr. Cline identified two mapped USFS system roads along the route; #868 and #8698.

- National Forest System Road #868 is mapped as a Forest Development Road. It appears on aerial photography to be an unimproved "two-track" road. WBI's is proposing to use about 200 feet to access the construction right-of-way from Highway 1806W. It would be a temporary access road.
- National Forest System Road #8698 is also mapped as a Forest Development Road. It also appears on aerial photography to be an unimproved "two-track" road. WBI's route would only cross this road; not be used for access.

Mr. Grotte stated that improved USFS roads would need to be crossed via the bore method but unimproved "two-track" roads can be crossed via open cut. Mr. Grotte requested a GIS file (or map) showing these roads in relation to the WBI route and he will determine what construction mitigation is necessary.

Mr. Cline asked if the Bureau of Land Management's ROW Grant would authorize temporary construction use as an access road without additional USFS approval and Mr. Grotte agreed. Mr. Grotte stated that WBI's request (use as access road and to cross with pipeline) should be addressed in the Plan of Development. Once Mr. Grotte understands the USFS road locations he will comment on the level of data needed in the Plan of Development.

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Lisa DiNicolantonio

From: Andrea Thornton
Sent: Thursday, October 3, 2019 8:05 AM
To: Bickerdyke, Cale E -FS
Subject: Re: well pads near WBI route

Thanks Cale -

I'll get this over to the WBI team. Thanks for coming out to the scoping meeting last night, it is always nice to put a face to a voice.

Andrea

From: Bickerdyke, Cale E -FS <cale.bickerdyke@usda.gov>
Sent: Thursday, October 3, 2019 4:57:29 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: well pads near WBI route

Andrea,

Attached is a map of where the Gladstone and Gunslinger pads are proposed and were approved on Monday.

Cale

Cale Bickerdyke
Minerals and Lands Supervisor

Forest Service
Dakota Prairie Grassland, McKenzie Ranger District

p: 701-842-8502
f: 701-842-8544
cale.bickerdyke@usda.gov

1905 South Main Street
Watford City, ND 58854
www.fs.fed.us

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Pat Robblee

From: Ed Schneider
Sent: Wednesday, November 06, 2019 9:39 AM
To: Fetterman, Liv K -FS
Cc: Pat Robblee; IronRoad, Sandra -FS
Subject: RE: ERM Completion of Grasslands Survey - WBI NBE Project

Hi Liv,
We were able to complete the reroute surveys on the Grasslands before winter, and we are currently working on the report. Although two additional stone feature sites were recorded, a subsequent reroute was able to avoid the two newly recorded sites. A Class III report will be submitted for your review by the end of the month. Thanks.

Ed

Ed Schneider
Senior Archaeologist

ERM
Ed.schneider@erm.com
Mobile: (307) 399-6724

Pat Robblee

From: Fetterman, Liv K -FS <liv.fetterman@usda.gov>
Sent: Wednesday, November 06, 2019 4:46 PM
To: Ed Schneider
Cc: Pat Robblee; IronRoad, Sandra -FS
Subject: RE: ERM Completion of Grasslands Survey - WBI NBE Project

Good afternoon, Ed,
Thanks for your email, I appreciate the information. We will look forward to receiving your Class III report.
Best,
Liv

From: Ed Schneider [mailto:Ed.Schneider@erm.com]
Sent: Wednesday, November 6, 2019 8:39 AM
To: Fetterman, Liv K -FS <liv.fetterman@usda.gov>
Cc: Pat Robblee <Pat.Robblee@erm.com>; IronRoad, Sandra -FS <sandra.ironroad@usda.gov>
Subject: RE: ERM Completion of Grasslands Survey - WBI NBE Project

Hi Liv,
We were able to complete the reroute surveys on the Grasslands before winter, and we are currently working on the report. Although two additional stone feature sites were recorded, a subsequent reroute was able to avoid the two newly recorded sites. A Class III report will be submitted for your review by the end of the month. Thanks.

Ed

Ed Schneider
Senior Archaeologist

ERM
Ed.schneider@erm.com
Mobile: (307) 399-6724

From: Fetterman, Liv K -FS <liv.fetterman@usda.gov>
Sent: Tuesday, September 24, 2019 4:36 PM

To: Ed Schneider <Ed.Schneider@erm.com>
Cc: Pat Robblee <Pat.Robblee@erm.com>; IronRoad, Sandra -FS <sandra.ironroad@usda.gov>
Subject: RE: ERM Completion of Grasslands Survey - WBI NBE Project

Good afternoon, Ed,
Thanks for your emails. Your permit authorizes survey, recordation, and limited testing to determine the absence and presence of cultural resources throughout the Dakota Prairie Grasslands, so you are authorized to conduct survey on this re-route as well as any other locations within the Dakota Prairie Grasslands. As listed under the provisions of your permit, we appreciate notification in advance of your surveys specifying where you will be and when as mostly safety precautions; thank you for keeping us informed.
Bets,
Liv

Liv K. Fetterman
Grasslands Archaeologist,
Heritage Program Manager,
Tribal Relations Program Manager

Forest Service
Dakota Prairie Grasslands

p: 701-989-7306
f: 701-989-7299
liv.fetterman@usda.gov

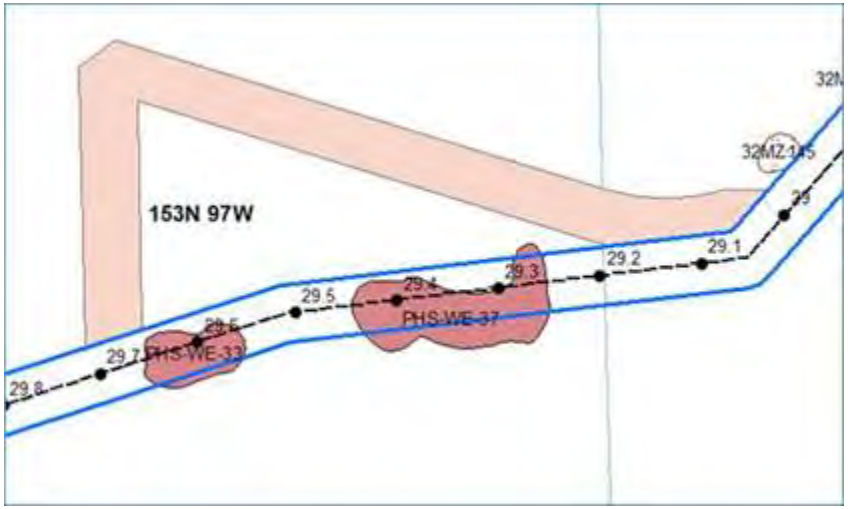
2000 Miriam Circle
Bismarck, ND 58501
www.fs.fed.us

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From: Ed Schneider [mailto:Ed.Schneider@erm.com]
Sent: Tuesday, September 24, 2019 2:26 PM
To: Fetterman, Liv K -FS <liv.fetterman@usda.gov>
Cc: Pat Robblee <Pat.Robblee@erm.com>
Subject: FW: ERM Completion of Grasslands Survey - WBI NBE Project

Liv,
WBI just sent us a reroute on the Grasslands portion of the project (see attached shapefile). It's in the same sections as depicted on the ARPA permit (T153N, R97W, Sections 13 and 14). No previously recorded sites are within this proposed reroute. We have a crew out on the project now conducting the survey on the USACE portion, and some privately owned tracts, so we have the ability to complete this reroute within the next week. Does this require a modification of our permit, or are we ok to complete the work now? Thanks.

Ed



Ed Schneider
Senior Archaeologist

ERM
Ed.schneider@erm.com
Mobile: (307) 399-6724

From: Ed Schneider
Sent: Monday, September 23, 2019 12:42 PM
To: Fetterman, Liv K -FS <liv.fetterman@usda.gov>
Cc: Pat Robblee <Pat.Robblee@erm.com>
Subject: ERM Completion of Grasslands Survey - WBI NBE Project

Liv,

ERM completed the Class III survey on USFS lands for the WBI Northern Bakken Expansion Project on August 27. Eight sites (two previously recorded and six newly recorded) were identified within the Grasslands survey areas. We are currently submitting information to SHPO to obtain site numbers, and we are working on the Class III report to submit to you. Please let me know if you have any questions. Thanks.

Site Number	Site Description	NRHP Recommendation
32MZ144	Tollefson Homestead	Not eligible
32MZ2346	Historic foundations and artifact scatter	Not eligible

PHS-WE-33	Historic features, artifact scatter (late 1800s - 1950s), prehistoric stone feature (cairn); depressions, foundation, privy, car (Ford); surface, subsurface	Unevaluated
HS-WE-34	Historic features, artifact scatter (late 19th, early 20th c.); foundation domestic midden; surface	Unevaluated
PS-WE-35	Stone features (cairns)	Unevaluated
PS-WE-36	Stone feature (cairn)	Unevaluated
PHS-WE-37	Historic features, prehistoric stone features (cairns); surface	Unevaluated
PS-WE-39	Stone feature (stone circle)	Unevaluated

Ed Schneider
Senior Archaeologist

ERM
3300 Breckinridge Blvd., Suite 300, Duluth, GA 30096
T +1 (678) 781-1370 | **M** (307) 399-6724
ed.schneider@erm.com



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ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 503 488 5282

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	To: Cale Bickerdyke
Phone number	701-842-8502
Company	U.S. Forest Service
ERM Contact	Andrea Thornton
Phone number	503-459-6864
Date	November 19, 2019
Time of Conversation	8:00 am PST
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Call between Cale Bickerdyke (USFS) and Andrea Thornton (ERM) to discuss cost recovery and proposed construction right-of-way width. Cale indicated that he would follow-up with ERM on additional information to get the Cost Recovery process started for the project. Andrea and Cale also discussed the construction right-of-way width for the project.

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Ashley Bromberg

From: Andrea Thornton
Sent: Wednesday, November 20, 2019 12:01 PM
To: Grotte, Kim -FS; Bickerdyke, Cale E -FS
Cc: Mark Cline
Subject: 50-Foot Construction Right-of-Way

Hi Kim and Cale –

Would you be able to provide me with the location for the guidance/requirement of a 50 foot construction right-of-way and 20 foot operational right-of-way on Forest Service Lands? I'm seeing the following in the 2018 amended 2720 USFS Handbook, however it is specific to operation and maintenance and acknowledges that more room may be needed for construction.

""Pipeline rights-of-way shall be only wide enough for efficient operation and maintenance of the pipeline after construction. They shall not exceed 50 feet plus the ground occupied by the pipeline or its related facilities, unless the issuing officer records the reasons why a wider right-of-way is necessary for operation and maintenance after construction, or to protect the environment or public safety. Approve temporary additional widths as necessary during the construction phase of the pipeline."

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



Ashley Bromberg

From: Andrea Thornton
Sent: Thursday, November 21, 2019 3:25 PM
To: Bickerdyke, Cale E -FS
Subject: RE: In-Person Meeting - North Bakken Expansion Project

Thanks Cale –

I'm still waiting to hear back from WBI on if the 13th works on their end. I'm going to be out of the office tomorrow but will get back to you as soon as I can.

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Bickerdyke, Cale E -FS <cale.bickerdyke@usda.gov>
Sent: Wednesday, November 20, 2019 7:22 AM
To: Grotte, Kim -FS <kim.grotte@usda.gov>; Andrea Thornton <Andrea.Thornton@erm.com>
Subject: RE: In-Person Meeting - North Bakken Expansion Project

The next day I have available is December 13th.

Cale Bickerdyke
Minerals and Lands Supervisor
Forest Service
Dakota Prairie Grassland, McKenzie Ranger District
p: 701-842-8502
f: 701-842-8544
cale.bickerdyke@usda.gov
1905 South Main Street
Watford City, ND 58854
www.fs.fed.us

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From: Grotte, Kim -FS
Sent: Wednesday, November 20, 2019 8:45 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>; Bickerdyke, Cale E -FS <cale.bickerdyke@usda.gov>
Subject: RE: In-Person Meeting - North Bakken Expansion Project

I'm sorry as I'm on annual leave that whole week.

Kim

From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Wednesday, November 20, 2019 8:41 AM
To: Bickerdyke, Cale E -FS <cale.bickerdyke@usda.gov>; Grotte, Kim -FS <kim.grotte@usda.gov>
Subject: RE: In-Person Meeting - North Bakken Expansion Project

Hi Kim and Cale –

After some back and forth with WBI it looks like the construction crew will not be working on the 27th. Are there any days the first week of December that you would be available for a meeting and site visit?

Thanks again,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Bickerdyke, Cale E -FS <cale.bickerdyke@usda.gov>
Sent: Tuesday, November 19, 2019 10:17 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: RE: In-Person Meeting - North Bakken Expansion Project

Kim who is the project lead and our pipelines person is not available. I am available the 27th of November..all day.

Cale



Cale Bickerdyke
Minerals and Lands Supervisor
Forest Service
Dakota Prairie Grassland, McKenzie Ranger District

p: 701-842-8502
f: 701-842-8544
cale.bickerdyke@usda.gov

1905 South Main Street
Watford City, ND 58854
www.fs.fed.us

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From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Tuesday, November 19, 2019 12:00 PM
To: Bickerdyke, Cale E -FS <cale.bickerdyke@usda.gov>
Subject: In-Person Meeting - North Bakken Expansion Project

Hi Cale –

I was wondering if you had any availability yet this month to get an in person meeting and potential site visit set up with WBI.

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



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Ashley Bromberg

From: Andrea Thornton
Sent: Wednesday, November 27, 2019 10:05 AM
To: 'Grotte, Kim -FS'; 'Bickerdyke, Cale E -FS'
Subject: RE: 50-Foot Construction Right-of-Way

Hi Kim and Cale –

I'm checking in to see if you are able to provide the right-of-way width guidance/requirement that I mentioned in my email last week.

Thanks and I hope you both have a great long holiday weekend.

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Andrea Thornton
Sent: Wednesday, November 20, 2019 12:01 PM
To: Grotte, Kim -FS <kim.grotte@usda.gov>; Bickerdyke, Cale E -FS <cale.bickerdyke@usda.gov>
Cc: Mark Cline <Mark.Cline@erm.com>
Subject: 50-Foot Construction Right-of-Way

Hi Kim and Cale –

Would you be able to provide me with the location for the guidance/requirement of a 50 foot construction right-of-way and 20 foot operational right-of-way on Forest Service Lands? I'm seeing the following in the 2018 amended 2720 USFS Handbook, however it is specific to operation and maintenance and acknowledges that more room may be needed for construction.

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Thanks,

Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 503 488 5282

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	To: Cale Bickerdyke
Phone number	701-842-8502
Company	U.S. Forest Service
ERM Contact	Andrea Thornton
Phone number	503-459-6864
Date	December 2, 2019
Time of Conversation	9:00 am PST
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Call between Cale Bickerdyke (USFS) and Andrea Thornton (ERM) to discuss the Biological Assessment and right-of-way width for the project. Cale provided additional contact information for ERM to reach out to for discussions on the Biological Assessment. Andrea and Cal continued their discussion of the proposed right-of-way width and discussed a potential site visit.

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Ashley Bromberg

From: Grotte, Kim -FS <kim.grotte@usda.gov>
Sent: Monday, December 9, 2019 9:54 AM
To: Andrea Thornton; Bickerdyke, Cale E -FS
Cc: Justin Moffett
Subject: RE: Dakota Skipper Habitat USFS Lands and Route Adjustment

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: Blue Category

Andrea,

Yes, the reports for utility and pipelines for the Gunslinger needs should be good to go on FS lands as for Dakota skipper avoidance concerns. I will let Cale direct any needed BA/BE report follow ups from our specialists and/or concurrences if so needed as to deal with items like needed extra work space, linear route adjustments and such.

I will be gone after this week until January 6th.

Kim Grotte
Cost Reimbursement Pipeline Specialist

Forest Service
Dakota Prairie Grassland, McKenzie Ranger District

p: 701-842-8509
f: 701-842-8544
Kim.Grotte@usda.gov

1905 S. Main St.
Watford City, ND 58854
www.fs.fed.us

From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Friday, December 6, 2019 4:53 PM
To: Bickerdyke, Cale E -FS <cale.bickerdyke@usda.gov>; Grotte, Kim -FS <kim.grotte@usda.gov>
Cc: Justin Moffett <Justin.Moffett@erm.com>
Subject: Dakota Skipper Habitat USFS Lands and Route Adjustment

Hi Cale and Kim –

I was hoping you may have some time early next week to chat about Dakota skipper habitat on the grasslands that were identified during our field survey effort for the North Bakken Expansion Project. We have reviewed the EA for the Gunslinger Well Pad Project and see that there is the finding of "no impact" on Dakota skipper. Were habitat surveys completed for the utility corridor portion of that project? Based on the results of WBI's field surveys and their approach of avoidance of reproductive habitat, WBI is looking to move the line from the northern edge of 153-97-12-078 north

onto 153-97-01-077 (see screenshot). I'd like to discuss if there are any concerns on your end with moving the line to the north. I will be in the office all day Monday and Tuesday. Please let me know if you have time to chat.

Thanks and I hope you have a good weekend.

-Andrea



Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com

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Call Log

Log of Telephone Conversation

Call To/From Whom	To: Cale Bickerdyke
Phone number	701-842-8502
Company	U.S. Forest Service
ERM Contact	Andrea Thornton
Phone number	503-459-6864
Date	December 9, 2019
Time of Conversation	8:30 am PST
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Andrea Thornton of ERM left a voicemail for Cale Bickerdyke of the U.S. Forest Service to follow-up on a few project items including Dakota skipper habitat, a reroute on the grasslands, the right-of-way width, and the project Biological Assessment.

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Ashley Bromberg

From: Bickerdyke, Cale E -FS <cale.bickerdyke@usda.gov>
Sent: Tuesday, December 10, 2019 3:57 AM
To: Andrea Thornton; Grotte, Kim -FS
Cc: Justin Moffett
Subject: RE: Dakota Skipper Habitat USFS Lands and Route Adjustment

Andrea,

Sorry for the delay on getting back to you. The other projects did find a "no impact" on the skipper. Is there any way we could see what they have written up for that portion or if they have pictures. I would say I could send some folks out there but Winter is here. I have meetings again the next two days but I will be in Friday. You can give me a call.

Cale

Cale Bickerdyke
Minerals and Lands Supervisor
Forest Service
Dakota Prairie Grassland, McKenzie Ranger District
p: 701-842-8502
f: 701-842-8544
cale.bickerdyke@usda.gov
1905 South Main Street
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From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Friday, December 6, 2019 4:53 PM
To: Bickerdyke, Cale E -FS <cale.bickerdyke@usda.gov>; Grotte, Kim -FS <kim.grotte@usda.gov>
Cc: Justin Moffett <Justin.Moffett@erm.com>
Subject: Dakota Skipper Habitat USFS Lands and Route Adjustment

Hi Cale and Kim –

I was hoping you may have some time early next week to chat about Dakota skipper habitat on the grasslands that were identified during our field survey effort for the North Bakken Expansion Project. We have reviewed the EA for the Gunslinger Well Pad Project and see that there is the finding of "no impact" on Dakota skipper. Were habitat surveys completed for the utility corridor portion of that project? Based on the results of WBI's field surveys and their approach of avoidance of reproductive habitat, WBI is looking to move the line from the northern edge of 153-97-12-078 north onto 153-97-01-077 (see screenshot). I'd like to discuss if there are any concerns on your end with moving the line to the north. I will be in the office all day Monday and Tuesday. Please let me know if you have time to chat.

Thanks and I hope you have a good weekend.

-Andrea



Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com

ERM The business of sustainability

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From:	Justin Moffett
To:	Wold, Sarah R -FS
Cc:	Andrea Thornton; Leslie Rodman-Jaramillo
Subject:	North Bakken Expansion: Biological Evaluation Species List
Date:	Thursday, December 12, 2019 4:03:53 PM
Attachments:	image001.png USFS species list for North Bakken Expansion BE_191212.xlsx

Hi Sarah,

Per our conversation this morning please find the attached species list we plan to use for the North Bakken Expansion BE. Can you please confirm that we have not omitted any species, or unnecessarily included any additional species?

Also, I've included some potential dates/times (PST) for us to discuss our effect determinations for the project Biological Assessment. Please let me know which ones might work for you.

- Monday January 6, 2020: 9am-3pm
- Tuesday January 7, 2020: 9-10am, 11am-1pm, 2-3pm
- Wednesday January 8, 2020: 8-11am, 12-1pm, 2-3pm
- Thursday January 9, 2020: 8-9am, 10am-12pm, 1:30-3pm
- Friday January 10, 2020: 8am-12pm, 1-3pm

Thanks.

Justin T. Moffett, PWS
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 971-645-9941
E Justin.Moffett@erm.com | **W** www.erm.com

Sensitive Plants

Scientific Name	*Common Name*
Chenopodium subglabrum	smooth goosefoot
Collinsia parviflora	blue lips
Cryptantha torreyana	Torrey's cryptantha
Eriogonum cernuum	nodding buckwheat
Eriogonum visheri	Dakota buckwheat
Escobaria missouriensis	Missouri foxtail cactus
Leucocrinum montanum	sand lily
Mentzelia pumila	dwarf mentzelia
Phlox alyssifolia	alyssum-leaved phlox
Pinus flexillis	limber pine
Populus x acuminata	lanceleaf cottonwood
Sporobolus airoides	alkali sacaton
Townsendia exscapa	Easter daisy
Townsendia hookeri	Hooker's Townsendia

Watch List Plants

Scientific Name	*Common Name*
Agrostis exarata	spike bentgrass
Astragalus australis (Astragalus aboriginum)	Indian milkvetch
Astragalus drummondii	Drummond's milkvetch
Astragalus vexilliflexus	bentflower milkvetch
Bromus carinatus	mountain brome
Carex scirpoidea (Carex scirpiformi)	bulrush sedge
Carex siccata (Carex feonea)	dry spike sedge
Clematis columbiana var. tenuiloba (Clematis tenuiloba)	rock clematis
Epilobium pygmaeum (Boisduvalia glabella)	smooth spike-primrose
Erigeron divergens	spreading fleabane
Erigeron radicatus	taproot fleabane
Fritillaria pudica	yellow fritillary
Myosurus apetalus var. montanus	bristly mousetail
Oenothera laciniata	cutleaf evening primrose
Orobanche. ludoviciana, ssp. multiflora	manyflowered broomrape
Oxytropis sericea	white locoweed
Phemeranthus parviflorus (Talinum parviflorum)	prairie fameflower
Potamogeton diversifolius	pondweed
Potentilla diversifolia	varileaf potentilla
Populus x jackii	Balm-of-Gilead
Ranunculus cardiophyllus	heartleaf buttercup
Rorippa calycina	persistent sepal yellowcress
Sibbaldiopsis tridentata (Potentilla tridentata)	shrubby fivefingers
Smilax ecirrhata	upright carrionflower

Sensitive Animals

Scientific Name	*Common Name*
Ammodramus bairdii	Baird's sparrow
Haliaeetus leucocephalus	Bald eagle
Athene cunicularia	Burrowing owl
Centrocercus urophasianus	Greater sage-grouse
Lanius ludovicianus	Loggerhead shrike
Numenius americanus	Long-billed curlew
Anthus spragueii	Sprague's pipit
Chrosomus eos	Red-bellied dace
Hesperia ottoe	Ottoe skipper
Speyeria idalia	Regal fritillary
Phyciodes batessii	Tawny crescent
Ovis canadensis	Bighorn sheep
Cynomys ludovicianus	Black-tailed prairie dog

Watch List Animals

Scientific Name	*Common Name*
Bufo cognatus	Great Plains Toad
Rana pipiens	Northern Leopard Frog
Spea bombifrons	Plains Spadefoot
Botaurus lentiginosus	American Bittern
Coccyzus erythropthalmus	Black-billed Cuckoo
Spizella breweri	Brewer's Sparrow
Calcarius ornatus	Chestnut-collared Longspur
Spiza americana	Dickcissel
Ammodramus savannarum	Grasshopper Sparrow
Strena antillarum	Interior least tern (FE)*
Calamospiza melanocorys	Lark Bunting
Calcarius mccownii	McCown's Longspur
Charadrius melodus	Piping plover (FT/DCH)*
Melanerpes erythrocephalus	Red-headed Woodpecker
Calidris canutus rufa	Rufa Red knot (FT)*
Oreoscoptes montanus	Sage Thrasher
Grus americana	Whooping Crane (FE)*
Scaphirychus albus	Pallid sturgeon (FE)*
Hesperia dacotae	Dakota skipper (FT/DCH)*
Danaus plexippus	Monarch Butterfly
Mustela nigripes	Black-footed ferret
Canis lupus	Gray Wolf (FE)*
Chaetodipus hispidus	Hispid Pocket Mouse
Sorex merriami	Merriam’s Shrew
Myotis septentrionalis	Northern long-eared bat (FT)*
Lemmiscus curtatus	Sagebrush Vole
Vulpes velox	Swift Fox
Heterodon nasicus	Plains Hog-nosed Snake
Sceloporus graciosus	Sagebrush Lizard
Phrynosoma hernandesi	Short-horned Lizard
Opheodrys vernalis	Smooth Green Snake

FE = federally endangered
FT = federally threatened
DCH= designated critical habitat
* Species/habitat will be addressed in BA, not in BE

Raptors

Scientific Name	*Common Name*
Athene cunicularia	burrowing owl
Aquila chrysaetos	golden eagle
Buteo regalis	ferruginous hawk
Falco mexicanus	prairie falcon
Falco columbarius	merlin
Haliaeetus leucocephalus	bald eagle

ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 503 488 5282

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	To: Sarah Bickerdyke
Phone number	701-842-8524
Company	U.S. Forest Service
ERM Contact	Justin Moffett
Phone number	971-645-9941
Date	December 12, 2019
Time of Conversation	10:30 am PST
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Call between Sarah Bickerdyke (USFS) and Justin Moffett (ERM) to discuss the North Bakken Expansion Project biological assessment (BA) and biological evaluation (BE). Ms. Bickerdyke stated ERM does not need to prepare a separate standalone BA so long as the document discusses project actions and impacts specific to USFS lands. Ms. Bickerdyke thinks the USFS may be able to use the Project's BA and Letter of Concurrence to complete its Section 7 consultation w/ US Fish and Wildlife Service (USFWS), but she was not 100% sure if that is correct; USFS may need to conduct a separate consultation with USFWS. Ms. Bickerdyke would like to have a call the week of January 6 to discuss ERM's preliminary effects determinations to confirm that the USFS agrees with them.

Regarding the BE, Ms. Bickerdyke stated the USFS does not have a set template and that the document should follow the same format/outline as the BA. The BE must address all USFS sensitive species and Management Indicator Species related to the Little Missouri National Grassland, not just those likely to occur within the portion affected by the North Bakken Project. She indicated there have been some recent changes to the species lists. I offered to send her a list of the species she had provided to date which we planned to address in the BE so she could verify it is correct.

Ms. Bickerdyke indicated she was aware of Andrea Thornton's and Cale Bickerdyke's conversation regarding the Dakota skipper habitat survey results and the reroute on USFS lands that came out of those surveys. She had not had a chance to review all the information but state she would and would weigh in as needed.

Follow-up items

- Justin Moffett email Ms. Bickerdyke a list of species to be included in the BE (list sent 12/13/2019)

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- Justin Moffett to schedule call the week of January 6 to discuss BA effect determinations (email w/ potential dates/times sent on 12/13/2019).

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1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 503 488 5282

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Call Log

Log of Telephone Conversation

Call To/From Whom	To: Cale Bickerdyke
Phone number	701-842-8502
Company	U.S. Forest Service
ERM Contact	Andrea Thornton
Phone number	503-459-6864
Date	December 13, 2019
Time of Conversation	12:00 pm PST
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Call between Cale Bickerdyke (USFS) and Andrea Thornton (ERM) to catch up on a few outstanding items on the North Bakken Expansion Project. Ms. Thornton indicated that ERM was able to speak with Sarah Bickerdyke at the USFS to discuss the Biological Assessment and that a separate Biological Evaluation will be completed for the USFS indicator/management species.

Ms. Thornton and Mr. Bickerdyke discussed Dakota skipper habitat survey results and the reroute on USFS lands that came out of those surveys. WBI Energy and the USFS will follow-up on this topic in the spring when the habitat locations can be visited and verified.

Ms. Thornton and Mr. Bickerdyke discussed the proposed right-of-way width for the project. Mr. Bickerdyke restated that a 100 foot construction right-of-way would not be permitted on USFS lands. He indicated that a 50-foot right-of-way with a 25 foot extra work space for topsoil segregation would be possible. Ms. Thornton asked if additional extra work space (outside of the 25 feet for topsoil segregation) would be permissible at bore crossing locations. Mr. Bickerdyke indicated that this could be possible.

Ms. Thornton and Mr. Bickerdyke discussed getting a site visit of field meeting schedule to run through the space requirements for construction of the 24-inch-dimater pipeline. Ms. Thornton indicated that she would follow-up with WBI Energy to coordinate this meeting.

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Kevin Malloy

From: Fetterman, Liv K -FS <liv.fetterman@usda.gov>
Sent: Monday, December 16, 2019 11:19 AM
To: Kevin Malloy
Cc: Andrea Thornton; Pat Robblee; IronRoad, Sandra -FS
Subject: RE: WBI North Bakken Expansion USFS Report
Attachments: Discovery Plan Northern Region.pdf

Good morning, Kevin,
Thanks for your message. Apologies for my delayed response, I've been out on sick leave with my little girls. Regarding final reports, we prefer to have USFS lands clearly identified in the report, including a map, number of acres/miles surveyed, sites inventoried, etc. It can be difficult to discern effects on heritage resources by a proposed undertaking when USFS lands and cultural resources are lumped in with other jurisdictions. Please send four copies of the report to the McKenzie Ranger District, attention Adam Russell, 1905 Main Street South, Watford City, ND 58854. Adam is in the process of transitioning off of the Dakota Prairie Grasslands in mid-January. Kindly also include either an electronic or hard copy to me in Bismarck at the address in my signature block.

The USFS Dakota Prairie Grasslands will submit the report with recommendation to ND SHPO for concurrence with findings. As some contractors choose to, you are more than welcome to provide the report and shapefiles to ND SHPO; kindly be clear in your cover letter that the USFS Dakota Prairie Grasslands will submit the report with our recommendation and request for concurrence.

I've attached our unanticipated discovery plan for your information.
Kindly contact me with any questions, concerns or for further clarification.
Best,
Liv

Liv K. Fetterman
Grasslands Archaeologist,
Heritage Program Manager,
Tribal Relations Program Manager

Forest Service
Dakota Prairie Grasslands

p: 701-989-7306
f: 701-989-7299
liv.fetterman@usda.gov

2000 Miriam Circle
Bismarck, ND 58501
www.fs.fed.us

Caring for the land and serving people

From: Kevin Malloy [mailto:Kevin.Malloy@erm.com]
Sent: Wednesday, December 11, 2019 7:42 AM
To: Fetterman, Liv K -FS <liv.fetterman@usda.gov>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>; Pat Robblee <Pat.Robblee@erm.com>
Subject: WBI North Bakken Expansion USFS Report

Hi Liv,

I hope this email finds you well. We are in the process of preparing and finalizing the report regarding our work on the USFS lands crossed by the WBI North Bakken Project corridor. I wanted to touch base with you about how you would prefer we proceed with submitting the report to you and subsequently the SHSND.

I also wanted to check with you to see if you had a preferred format for an unanticipated finds plan.

Please let me know if you have any questions.

Kind regards,
Kevin

Kevin Malloy
Archaeologist

ERM
1000 IDS Center
80 S. Eighth Street | Minneapolis | MN | 55402
T 612.347.7138 | **M** 906.285.0361
E kevin.malloy@erm.com | **W** www.erm.com



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80 South Eighth Street
Minneapolis, MN 55402

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Fax: +1 612 347 6780

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Call Log

Log of Telephone Conversation

Call To/From Whom	Liv Fetterman
Phone number	701-989-7306
Company	USFS
ERM Contact	Kevin Malloy
Phone number	906-285-0361
Date	December 17, 2019
Time of Conversation	9:15 am; 10:00 a.m.
Reference	North Bakken Expansion Project (Project)
Signature	

LOG OF CONVERSATION

9:15 am – I called USFS archaeologist to ask for clarification about an email she sent. There was no answer so I left a message.

10:00 am – I received a call from Liv Fetterman, archaeologist with the USFS, returning my initial call earlier in the morning. Below is a summary of the call:

I confirmed with her the manner in which she wanted us to submit reports. We will submit a standalone report on the results of the work conducted on the USFS lands. We will also send them the full report when completed. She confirmed that the USFS Dakota Grasslands will submit the report with their recommendation and request for concurrence to the SHSND.

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LOG

LOG OF TELEPHONE CONVERSATION

CALL TO/FROM WHOM:	PHONE NO.:
Sarah Bickerdyke, Biologist	701-842-8524
COMPANY: U.S. Forest Service	
ERM CONTACT: Justin Moffett, Andrea Thornton, Leslie Rodman Jaramillo, Jill Linn (WBI Energy)	PHONE NO.: 971-645-9941
DATE: January 14, 2020	TIME OF CONVERSATION: 9:00 am
RE: North Bakken Expansion: ESA consultation coordination	
SIGNATURE:	

LOG OF CONVERSATION:

The purpose of this call was to solicit Sarah's comments and feedback on the draft biological assessment (BA), specifically as they relate to the effect determination and proposed mitigation measures.

- Sarah stated she had completed a cursory review of the report and was generally comfortable with the effects analysis and determinations.
- She recommended we "incorporate by reference" as much as possible to eliminate redundant text which should help shorten the document.
- She stated that the standard mitigation for whooping crane is to stop construction when the bird is observed within 1 mile of active construction, not ¼ mile as ERM stated in the document. NOTE: ERM subsequently confirmed the 1 mile buffer w/ Jerry Reinisch at USFWS.
- Sarah stated that the flight period for Dakota skipper (DASK) is June 10 to July 25, not June 15 to July 15 as ERM states in the BA. She state that the USFS typically does not allow construction within DASK habitat during the flight period. NOTE: ERM subsequently confirmed w/ Jerry Reinisch at USFWS that the DASK flight period is June 10 to July 15.
- Sarah would like the BA to include minimum qualifications for the environmental inspector or biologist tasked with conducting preconstruction habitat and nesting surveys for piping plover and interior least tern.
- USFS would like to see speed limits imposed during construction and would like herbicide application limited to spot spraying vs/ boom/broadcast spraying.
- Sarah agreed to have her full comments back to ERM by January 27 or 28.

Ashley Bromberg

From: Andrea Thornton
Sent: Wednesday, January 15, 2020 9:39 AM
To: Grotte, Kim -FS; Bickerdyke, Cale E -FS
Cc: Myerchin, Lori; Linn, Jill; Huncovsky, Greg
Subject: Cost Recovery - North Bakken Expansion Project

Importance: High

Hi Kim and Cale –

I have been trying to follow-up on cost recovery for the WBI Energy North Bakken Expansion Project. We are still on target for filing the FERC application in February and want to make sure cost recovery is in place so it does not impede your ability to review project documents. If you could please advise us on how to get this process started it would be greatly appreciated.

Thanks,
Andrea

Ashley Bromberg

From: Andrea Thornton
Sent: Wednesday, January 15, 2020 1:58 PM
To: Bickerdyke, Cale E -FS
Subject: Dawn Ramsey Contact Info

Hi Cale –

Dawn's contact information is below.

Dawn Ramsey
Environmental Project Manager/Cultural Resources Specialist
Office of Energy Projects
Federal Energy Regulatory Commission
Dawn.Ramsey@ferc.gov
202-502-6856

Thanks!
Andrea

ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 503 488 5282

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Call Log

Log of Telephone Conversation

ERM

Call To/From Whom	From: Cale Bickerdyke
Phone number	701-842-8502
Company	U.S. Forest Service
ERM Contact	Andrea Thornton
Phone number	503-459-6864
Date	January 15, 2020
Time of Conversation	2:00 pm PST
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Mr. Bickerdyke called Ms. Thornton to follow-up on the email that she sent earlier in the day. Mr. Bickerdyke indicated that cost recovery has been sorted out and processed. There are no concerns about cost recovery impeding their ability to review documents as they are filed in February. Additionally Ms. Thornton inquired about Mr. Bickerdyke's availability for an in person meeting later in January. Mr. Bickerdyke indicated that he is available on January 30th. Ms. Thornton noted that she will follow-up with WBI Energy staff to try to get a meeting scheduled for that day.

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Ashley Bromberg

From: Bickerdyke, Cale E -FS <cale.bickerdyke@usda.gov>
Sent: Tuesday, January 21, 2020 4:58 AM
To: Andrea Thornton
Subject: RE: Seed Mix for FS Land
Attachments: 3728A.SeedMixture.2013.0718 - Copy.doc

Follow Up Flag: Flag for follow up
Flag Status: Flagged

Here you go

Cale Bickerdyke
Minerals and Lands Supervisor
Forest Service
Dakota Prairie Grassland, McKenzie Ranger District
p: 701-842-8502
f: 701-842-8544
cale.bickerdyke@usda.gov
1905 South Main Street
Watford City, ND 58854
www.fs.fed.us

Caring for the land and serving people

From: Andrea Thornton [mailto:Andrea.Thornton@erm.com]
Sent: Monday, January 20, 2020 12:16 PM
To: Bickerdyke, Cale E -FS <cale.bickerdyke@usda.gov>
Subject: Seed Mix for FS Land

Hi Cale –

I apologize if you have already sent your seed mix requirements but I'm unable to find it in my emails. Would you be able to pass this information along this week?

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com

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#37-28A Seed Mixture (Revised 07/18/2013)

Company:
Well ID:
Date:

Seeding Rate Guidelines
Scenario #13 All Sites

			A	B	C	D	E
Species	**Preferred Cultivar, Ecotype, or Germplasm**	**Common Name**	**% of Mix**	**Number Seed per lb.**	**Number Seed per ft²**	**Number Seed per acre**	**Drilled PLS lb./acre**
Cool Season Grasses:							
Elymus canadensis	Mandan	Canada wildrye	0.15	115,000	7.5	326,700	2.8
Nassella viridula	Lodorm	Green needlegrass	0.20	180,000	10.0	435,600	2.4
Pascopyrum smithii	Rodan	Western wheatgrass	0.25	112,000	12.5	544,500	4.9
Warm Season Grasses							
Bouteloua gracilis	Bad River	Blue grama	0.10	750,000	5.0	217,800	0.3
Calamovilfa longifolia	Goshen	Prairie sandreed	0.10	275,000	5.0	217,800	0.8
Schizachyrium scoparium	Badlands	Little bluestem	0.10	286,000	5.0	217,800	0.8
Alternate Warm Season (for one of above species)							
Bouteloua curtipendula	Pierre	Sideoats grama	0.10	180,000	5.0	217,800	1.2
Forbs							
Dalea purpurea	Local[1]	Purple prairieclover	0.04	290,000	1.8	78,408	0.25
OR							
Dalea candida	Antelope[1]	White prairieclover	0.04	278,000	1.8	78,408	0.3
Helianthus pauciflorus	Bismarck[1]	Stiff sunflower	0.03	85,000	1.4	60,984	0.7
OR							
Solidago rigida	Local[1]	Stiff goldenrod	0.03	656,000	1.4	60,984	0.1
Echinacea angustifolia	Bismarck[1]	Purple coneflower	0.03	120,000	1.4	60,984	0.5
OR							
Ratibida columnifera	Local[1]	Prairie coneflower	0.03	737,000	1.4	60,984	0.1
Totals			100%		49.6	Forbs Alternate Forbs	13.4 (12.5)

Seeding Rates Formulas

A - % of Mix
B - Number of seeds per lb.
C - Number of seeds per ft² (C = A x 50)
D - Number of seeds per acre (D = C x 43560)
E - Drilled Pure Live Seed (PLS) lb./acre (E = D / B)

(See page 2 for additional information)

- Use of Pure Live Seed (PLS) for calculating seed mixtures.
  - Planting is based on approximately 50 seed per square foot and/or 12-16 pounds PLS per acre.
  - All of the seed mixtures in this guide give the rate of PLS for each species per acre. These rates were derived using three basic figures: percent of each species desired by composition, number of seeds per pound according to species, and total number of PLS per square foot.
  - The following equation should be used to calculate how much seed is needed to provide the required pounds of PLS needed.

    % Purity x Germination Rate % = % PLS
    Pounds of PLS Desired divided by %PLS = Pounds of Seed Required

    An example of this is: 10 lbs. of PLS is required. The given seed lot for this species has a purity of 95% and a germination rate of 85%. How many pounds of seed will be necessary to have 10 PLS?

    .95 (Purity) x .85 (germination rate) = .81 (% PLS)
    10 (required poundage) divided by .81 (%PLS) = 12.3
    12.3 pounds of seed will be necessary to provide 10 lbs PLS of seed.

- Cultivars listed in the second column are preferred, but local seed collections grown for harvest are acceptable if performance and origin are certified or documented. All seed sources should be derived from loal collections or a general area extening 300 miles north and 200 miles south of the area to be reclaimed, and within similar elevation and precipatuion zones as western North Dakota, ie from Jamestown on the east to Billings, MT on the west.

- A local source for forbs is Prairies Diversified located in Bismarck, ND (Roger Rostvet, 701-258-0181). Other sources may be used but they must be verified as local collections and not obtained from a distant source that are distributed by a local dealer.

- Seeding depth should be one-half inch or less for drilled seed.

- For broadcast seeding, multiply pounds of each species seeded by 1.5. Seed bed should be thoroughly worked and firm.

- Best average seeding dates for cool and warm season mixes is May – June. Earlier of later (fall dormant) seeding is likely to result in poor establishment of warm season species and is therefore discouraged.

- Seed mix may need to be adjusted due to site characteristics and/or lack of available seed for some species. In the latter case, adjust species seeding rates by formulas below table to obtain approximately 50 seed per square foot and/or 12-16 lbs. of PLS per acre for drilled seed and 18-24 lbs. per acre for broadcast seeding.

- Note: The following are required as per Conditions of Approval #28 B, Certification & Reporting
  1. Report of Seeding (#37-28B)
  2. Certification of Seed Mixture from Seed Company and seed tags from bags or copy of seed tags for all planted material must be submitted to the appropriate Medora or McKenzie Ranger Districts.

- Call the appropriate Medora or McKenzie Ranger Districts if there are any questions.
  - Medora Ranger District: 701-227-7800.
  - McKenzie Ranger District: 701-842-2393.

ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	To: Oscar Knudtson
Phone number	(701) 842-8517
Company	United States Department of Agriculture, Little Missouri National Grasslands
ERM Contact	Lauren Colwell
Phone number	(612) 359-5681
Date	2/5/2020
Time of Conversation	12:30pm
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Based on correspondence from the North Dakota Public Service Commission on February 5, I called Oscar Knudston with the USDA, National Grasslands to ask if he could provide locations of known coal seam fires in McKenzie County. I left a voicemail message.

CONFIDENTIALITY NOTICE This Call Log contains information which may be confidential, proprietary, privileged, or otherwise protected by law from disclosure or use by a third party. If you have received this facsimile transmission in error, please contact us immediately at the number listed above and take the steps necessary to dispose of this information. Thank you.

ERM

1000 IDS Center
80 South Eighth Street
Minneapolis, MN 55402

Telephone: +1 612 347 6789
Fax: +1 612 347 6780

www.erm.com

February 14, 2020

Liv Fetterman
Grasslands Archaeologist
Forest Service, Dakota Prairie Grasslands
2000 Miriam Circle
Bismarck, ND 58501

Subject: WBI Energy Transmission, Inc.
North Bakken Expansion Project – Class III Survey Reports
McKenzie, Williams, Burke, and Mountrail Counties, North Dakota
ND SHPO Ref.: 19-5593

Dear Ms. Fetterman:

Please reference WBI Energy Transmission, Inc.'s (WBI Energy's) previous correspondence regarding the above referenced project. WBI Energy proposes to construct and operate the North Bakken Expansion Project (Project) in McKenzie, Williams, Burke, and Mountrail Counties, North Dakota. The Project consists of a new, approximately 61.9-mile-long, 24-inch-diameter, natural gas transmission pipeline (referred to as the Tioga-Elkhorn Creek Pipeline) from new facilities at WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to a new compressor station (Elkhorn Creek Compressor Station) southeast of Watford City, North Dakota. The Project also includes:

- approximately 0.3 mile of new, 24-inch-diameter natural gas pipeline (referred to as the Elkhorn Creek-Northern Border Pipeline) between the proposed Elkhorn Creek Compressor Station and a new interconnect with Northern Border Pipeline Company's mainline;
- approximately 20.4 miles of new 12-inch-diameter natural gas pipeline looping (referred to as the Line Section 25 Loop) along WBI Energy's Line Section 25;
- approximately 9.4 miles of new 12-inch-diameter natural gas pipeline looping (referred to as the Line Section 30 Loop) along WBI Energy's Line Section 30;
- approximately 0.5 mile of new 20-inch-diameter natural gas receipt lateral (referred to as the Tioga Compressor Lateral) between the Tioga Plant Receipt Station and the new facilities at the existing Tioga Compressor Station;
- modifications/uprates to the existing Line Section 25; and
- installation of new and modifications to existing measurement, delivery, receipt, and transfer stations along WBI Energy's pipeline routes.

The Project is regulated by the Federal Energy Regulatory Commission (FERC) under Section 7(c) of the Natural Gas Act. Under the Energy Policy Act of 2005, FERC is the lead agency for coordinating federal authorizations and complying with the National Environmental Policy Act on natural gas pipeline projects subject to its jurisdiction. FERC similarly is the lead federal agency for complying with Section 106 of the National Historic Preservation Act (NHPA) on natural gas pipeline projects under its jurisdiction. In accordance with 36 CFR 800.2(c)(4), WBI Energy is assisting the FERC in meeting its obligations under Section 106 of the NHPA by coordinating with agencies and tribes and conducting surveys to identify historic properties that may be affected by the Project.

WBI Energy retained Environmental Resources Management (ERM) to conduct a Class III survey of the Project area for archaeological sites and historic structures. ERM conducted field surveys of the Project area between June and October 2019. Approximately 90 percent of the Project area was examined for archaeological resources; the entire Project area was examined for historic structures.

Approximately 1.8 miles of the proposed Tioga-Elkhorn Creek Pipeline crosses federal lands managed by the U.S. Forest Service (USFS). Another approximately 2.8 miles of the proposed Tioga-Elkhorn Creek Pipeline crosses federal lands managed by the U.S. Army Corps of Engineers (COE). Archaeological survey of these federal lands was completed in accordance with survey permits issued by the USFS and COE to ERM.

WBI Energy and ERM contacted 13 federally recognized Indian tribes to solicit input on the Project. A monitor from one tribe, the Rosebud Sioux Tribe, participated in the archaeological survey beginning on September 25 and continuing through the end of the survey season. The monitor was present for part of the survey completed on USFS lands.

Twenty-four sites and all 12 isolated finds are recommended not eligible for listing in the National Register of Historic Places (NRHP). The NRHP-eligibility of the remaining 37 sites is undetermined. Of these, 19 sites (all of which contain prehistoric stone surface features) are located greater than 25 feet from the construction footprint for the Project. Because these sites will not be affected by Project construction activities, no additional work at the sites is recommended. Thirteen unevaluated sites (including 11 that contain prehistoric stone surface features) are located outside of the construction footprint for the Project, but within 25 feet of construction workspace. While these sites will not be affected by Project construction activities, fencing of the edge of the construction right-of-way in areas adjacent to these sites is recommended to ensure they are adequately protected during construction. Five unevaluated sites (including one with prehistoric stone surface features) are located within the construction footprint of the Project; avoidance or additional testing of these sites is recommended.

Specific to USFS lands, the survey identified or relocated ten sites. Of these, two are previously recorded sites (32MZ144 and 32MZ2346) recommended not eligible for listing on the NRHP; no additional testing of these sites is recommended. The NRHP eligibility of the remaining eight sites is undetermined. Two of the newly discovered sites (32MZ3319 and 32MZ3324) are located outside of the construction footprint for the Project, but within 25 feet of construction workspace. While these sites will not be affected by Project construction activities, fencing of the edge of the construction right-of-way in areas adjacent to these sites is recommended to ensure they are adequately protected during construction. The remaining six sites (32MZ3301, 32MZ3315, 32MZ3320, 32MZ3314, 32MZ3321, and 32MZ3322) are located greater than 25 feet from the construction footprint for the Project. Because these sites will not be affected by Project construction activities, no additional work at the sites is recommended. A small portion of previously recorded site 32MZ145 extends into the survey area on USFS lands, but no evidence of this site was identified in the survey area. The area of this site will not be affected by the Project.

The historic structures survey documented or revisited 16 resources. Of these, six resources are recommended not eligible for listing in the NRHP; no further work at these resources is recommended. The NRHP-eligibility of 10 resources is undetermined, but the Project would not result in an adverse impact on these resources assuming they are or could be eligible. No additional work at these sites is recommended. Of the historic structures documented by the survey, none are located on USFS lands.

Enclosed for your review please find Class III survey reports for the archaeological and historic structures surveys, which include survey results for USFS lands. Per your previous discussions with Dr. Kevin Malloy, we have also prepared a separate standalone report (abstracted from the main report) for the archaeological survey on USFS lands. We are providing you with copies of all three reports so you have a complete record of the reports prepared to date for the Project.

Fieldwork for the outstanding archaeological survey (all located on private lands) is planned for the 2020 field season. An addendum Class III archaeological survey report will be prepared for these areas when survey is complete.

WBI Energy would appreciate your comments on the attached reports specific to the surveys and results for USFS lands. If you have any questions or comments on the Project or the reports, please contact me at 612-840-8976 or pat.robblee@erm.com, or Dr. Kevin Malloy at 906-285-0361 or kevin.malloy@erm.com. Please direct written correspondence to Dr. Malloy's attention at:

Environmental Resources Management
1000 IDS Center
80 South 8th Street
Minneapolis, MN 55402

Sincerely,



Patrick Robblee
Program Director

Enclosures: Class III Archaeological Survey Report
Class III Archaeological Survey Report for USFS Lands
Class III Historic Structures Survey Report

cc: Jill Linn, WBI Energy
Andrea Thornton, ERM
Kevin Malloy, ERM
Emily Laird, ERM

WBI ENERGY TRANSMISSION, INC.
1250 West Century Ave.
P.O. Box 5601
Bismarck, ND 58506-5601
(701) 530-1600
www.wbienergy.com

February 14, 2020

Cale Bickerdyke
U.S. Department of Agriculture
Forest Service
Dakota Prairie, Grasslands, McKenzie Ranger District
1905 South Main Street
Watford City, ND 58854 (P: 701-842-8500)

Re: WBI Energy Transmission, Inc. – North Bakken Expansion Project
Biological Evaluation

Dear Mr. Bickerdyke,

WBI Energy Transmission, Inc. (WBI Energy) is seeking authorization from the Federal Energy Regulatory Commission (FERC) under Title 18 Code of Federal Regulations Sections 157.205 and 157.210 to construct, own, operate, and maintain the North Bakken Expansion Project (Project). The U.S. Forest Service (USFS) Manual Section 2672.41 requires a Biological Evaluation (BE) be conducted for all USFS planned, funded, executed, or permitted programs and activities. Environmental Resources Management (ERM) prepared this BE on behalf of WBI Energy at the request of the USFS to assist with the overall permitting requirements for the Project. The BE was prepared in accordance with legal requirements set forth under the National Forest Management Act, and the Dakota Prairie Grasslands Land and Resource Management Plan.

WBI Energy wishes to consult with your office concerning the impacts of the Project. WBI Energy requests your comments if you agree or disagree with WBI Energy's evaluation of the effects of the proposed action on the following:

- USFS sensitive and watch list animals and plants;
- Raptor species of concern; and
- Management Indicator Species

WBI Energy proposes to install approximately 93 miles of pipeline, including new pipeline, pipeline looping and upgrades to existing pipelines, as well as construction and upgrades to compressor stations and other appurtenances to transport natural gas from WBI Energy's existing Tioga Compressor Station near Tioga, Williams County, North Dakota, to a new interconnect with Northern Border's mainline southeast of Watford City, McKenzie County, North Dakota. Pipeline construction is currently planned to begin in May of 2021. The Project would include the crossing of approximately 1.8 miles of USFS-managed lands within the Little Missouri National Grassland.

The purpose of the Project is to provide additional capacity necessary for the transportation of incremental natural gas volumes from the Bakken region of northwest North Dakota to Northern Border's existing mainline for transit on that system. The Project would help to satisfy natural gas

demand in the midcontinent region of the United States, and the proposed transportation capacity of the Project is at least an additional 350 million cubic feet per day.

Within USFS-managed lands construction of the proposed pipeline would require a 50-foot wide construction right-of-way with an additional 25 feet of additional temporary workspace (ATWS). Approximately 18 acres of USFS land would be impacted by the Project, which includes the temporary and permanent right-of-way, ATWS, and access roads.

On behalf of WBI Energy, ERM conducted a species determination based on the results of habitat surveys conducted by Western Ecosystems Technology, Inc. (WEST) and ERM. As a result of these surveys and subsequent reports, WBI Energy has reached the following determinations:

North Bakken Expansion Project
Summary of Determination for USFS Species of Concern

	Impact [a]	
Species	None [b]	May [c]
Sensitive Plants		
Alkali sacaton (*Sporobolus airoides*)	X	
Alyssum-leaved phlox (*Phlox alyssifolia*)	X	
Blue lips (*Collinsia parviflora*)	X	
Dakota buckwheat (*Eriogonum visheri*)	X	
Dwarf mentzelia (*Mentzelia pumila*)	X	
Easter daisy (*Townsendia exscapa*)		X
Hooker's Townsendia (*Townsendia hookeri*)		X
Lanceleaf cottonwood (*Populus x acuminata*)		X
Limber pine (*Pinus flexillis*)	X	
Nodding buckwheat (*Eriogonum cernuum*)	X	
Sand lily (*Leucocrinum montanum*)		X
Smooth goosefoot (*Chenopodium subglabrum*)	X	
Torrey's cryptantha (*Cryptantha torreyana*)	X	
Sensitive Animals		
Baird's sparrow (*Ammodramus bairdii*)		X
Bald eagle (*Haliaeetus leucocephalus*)	X	
Bighorn sheep (*Ovis canadensis*)	X	
Black-tailed prairie dog (*Cynomys ludovicianus*)	X	
Burrowing owl (*Athene cunicularia*)	X	
Greater sage-grouse (*Centrocercus urophasianus*)	X	
Loggerhead shrike (*Lanius ludovicianus*)		X
Long-billed curlew (*Numenius americanus*)		X
Ottoe skipper (*Hesperia ottoe*)		X
Red-bellied dace (*Chrosomus eos*)	X	
Regal fritillary (*Speyeria idalia*)		X
Sprague's pipit (*Anthus spragueii*)		X
Tawny crescent (*Phyciodes batessii*)		X

North Bakken Expansion Project
Summary of Determination for USFS Species of Concern

Species	Impact [a] None [b]	Impact [a] May [c]
Management Indicator Species		
Sharp-tailed grouse (*Tympanuchus phasianellus*)		X
Raptors		
Ferruginous hawk (*Buteo regalis*)		X
Golden eagle (*Aquila chrysaetos*)		X
Merlin (*Falco columbarius*)	X	
Prairie falcon (*Falco mexicanus*)		X
Peregrine falcon (*Falco peregrinus*)	X	
Watch List Species		
None observed		

[a] Effects determinations including Will Impact, defined as individuals with a consequence that the action may contribute to a trend towards elevated federal listing or cause a loss of viability to the population or species; or Beneficial Impact, defined as benefiting a species and/or habitat and requiring written concurrence from the FWS were not applicable in the analysis.
[b] No impact
[c] May impact individuals or habitat, but will not likely contribute to a trend towards elevated federal listing or cause a loss of viability to the population or species.

Additionally, no eagles or eagle nests were identified during Project surveys. If an eagle nest is identified near the Project during construction, WBI Energy would implement the measures described in sections 4.3.2 (bald eagle) and 4.5.2 (golden eagle) to avoid and minimize impacts on nesting eagles. The proposed Project is not expected to affect bald or golden eagles.

WBI Energy appreciates your assistance and review of the enclosed materials and should you have questions or require additional information during your review, please contact Jill Linn (406) 359-7332.

Respectfully submitted,



Jill Linn
Environmental Manager
WBI Energy Transmission, Inc.

Enclosure: Biological Evaluation

Cc: Greg Huncovsky, WBI Energy Transmission, Inc.
Andrea Thornton, Environmental Resources Management
Sarah Bickerdyke, U.S. Forest Service
Kim Grotte, U.S. Forest Service

NORTH BAKKEN EXPANSION PROJECT

Resource Report 1

APPENDIX 1G-1
Agency Correspondence – North Dakota Department of Environmental Quality (NDDEQ) and North Dakota Department of Health (NDDOH)

WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

April 15, 2019

Peter Wax
Water Quality Special Projects
North Dakota Department of Health
Division of Water Quality
918 East Divide Avenue, 4th Floor
Bismarck, ND 58501-1947

Subject: WBI Energy Transmission, Inc.
Proposed North Bakken Expansion Project
McKenzie, Williams, Burke, and Mountrail Counties, North Dakota

Dear Peter Wax:

WBI Energy Transmission, Inc. (WBI Energy) is proposing to construct and operate the North Bakken Expansion Project (Project), which consists of an approximately 60-mile-long, 20-inch diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to an interconnect with Northern Border Pipeline Company's mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Compressor Station) will be constructed near this interconnect.

The Project also involves construction of approximately 20 miles of 12-inch diameter natural gas pipeline between the existing Tioga Compressor Station and an existing receipt station, the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and additional/modifications to certain receipt/delivery points and laterals along the pipeline routes. The attached map depicts the preliminary proposed pipeline route and the location of Project facilities.

The Project will add natural gas takeaway capacity (estimated at approximately 200,000 Mcf/day) to help meet the natural gas transportation needs in the Bakken region while reducing natural gas flaring.

The Project is regulated by the Federal Energy Regulatory Commission (FERC) under Section 7(c) of the Natural Gas Act. Under the Energy Policy Act of 2005,

FERC is the lead agency for coordinating federal authorizations and complying with the National Environmental Policy Act (NEPA) on natural gas pipeline projects subject to its jurisdiction. WBI Energy plans to submit an application with the FERC in December 2019 for a Certificate of Public Convenience and Necessity (Certificate) to construct and operate the proposed pipeline and associated facilities. Applications for other federal or state authorizations will be submitted prior to or at the same time as the FERC application or on timelines defined by the appropriate federal or state regulations. WBI Energy anticipates receiving a Certificate from the FERC by December 2020, with construction planned to begin in early 2021.

WBI Energy plans to file a request with the FERC to use the FERC's NEPA pre-filing process for the Project. This process will provide agencies, landowners, and other stakeholders the opportunity to work with WBI Energy and the FERC to identify and resolve environmental issues prior to the filing of the Certificate application. This will result in a more efficient regulatory review process, including NEPA review of the Project. Pending FERC approval, WBI Energy anticipates preparing a draft Environmental Assessment (EA) for use by FERC staff. WBI Energy looks forward to working with you throughout the pre-filing process to ensure that your concerns are identified and addressed in the draft EA.

WBI Energy has retained Environmental Resources Management (ERM) to provide environmental support services for the project. An ERM representative will be in touch with you in the near future to provide additional information and discuss specific permitting and/or consultation requirements. In the meantime, if you have questions about the project, please contact Andrea Thornton of ERM at 503-525-5159 or myself at 406-359-7332.

Thank you for your time and assistance with this project.

Sincerely,



Jill Linn
Environmental Affairs
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map

cc: Greg Huncovsky, WBI
Andrea Thornton, ERM



Miles
0 1.75 3.5 7

N

1 in = 3 miles

Project Overview Map

North Bakken Expansion Project
WBI Energy

WBI ENERGY TRANSMISSION

Legend

- Above Ground Facilities
- Road Bores for Uprating Existing Pipeline
- Proposed Tioga to Elk Creek Compressor Pipeline
- Proposed Norse to Tioga Loop Pipeline
- Northern Border Pipeline
- Existing WBI Pipeline

Burke County
Mountrail County
Williams County
McKenzie County

North Dakota

PROJECT AREA OVERVIEW



By: SMS

Path: F:\GIS\Projects_Authorized\North_Bakken_Expansion_Project\Northern_Bakken_Expansion_24X36_2.mxd

1:214,000 - when Printed on 24X36

Date: 4/10/2019

WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

April 15, 2019

Karl Rockeman
North Dakota Department of Health, Division of Water Quality
918 East Divide Avenue, 4th Floor
Bismarck, ND 58501-1947

Subject: WBI Energy Transmission, Inc.
Proposed North Bakken Expansion Project
McKenzie, Williams, Burke, and Mountrail Counties, North Dakota

Dear Karl Rockeman:

WBI Energy Transmission, Inc. (WBI Energy) is proposing to construct and operate the North Bakken Expansion Project (Project), which consists of an approximately 60-mile-long, 20-inch diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to an interconnect with Northern Border Pipeline Company's mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Compressor Station) will be constructed near this interconnect.

The Project also involves construction of approximately 20 miles of 12-inch diameter natural gas pipeline between the existing Tioga Compressor Station and an existing receipt station, the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and additional/modifications to certain receipt/delivery points and laterals along the pipeline routes. The attached map depicts the preliminary proposed pipeline route and the location of Project facilities.

The Project will add natural gas takeaway capacity (estimated at approximately 200,000 Mcf/day) to help meet the natural gas transportation needs in the Bakken region while reducing natural gas flaring.

The Project is regulated by the Federal Energy Regulatory Commission (FERC) under Section 7(c) of the Natural Gas Act. Under the Energy Policy Act of 2005, FERC is the lead agency for coordinating federal authorizations and complying with the National Environmental Policy Act (NEPA) on natural gas pipeline

projects subject to its jurisdiction. WBI Energy plans to submit an application with the FERC in December 2019 for a Certificate of Public Convenience and Necessity (Certificate) to construct and operate the proposed pipeline and associated facilities. Applications for other federal or state authorizations will be submitted prior to or at the same time as the FERC application or on timelines defined by the appropriate federal or state regulations. WBI Energy anticipates receiving a Certificate from the FERC by December 2020, with construction planned to begin in early 2021.

WBI Energy plans to file a request with the FERC to use the FERC's NEPA pre-filing process for the Project. This process will provide agencies, landowners, and other stakeholders the opportunity to work with WBI Energy and the FERC to identify and resolve environmental issues prior to the filing of the Certificate application. This will result in a more efficient regulatory review process, including NEPA review of the Project. Pending FERC approval, WBI Energy anticipates preparing a draft Environmental Assessment (EA) for use by FERC staff. WBI Energy looks forward to working with you throughout the pre-filing process to ensure that your concerns are identified and addressed in the draft EA.

WBI Energy has retained Environmental Resources Management (ERM) to provide environmental support services for the project. An ERM representative will be in touch with you in the near future to provide additional information and discuss specific permitting and/or consultation requirements. In the meantime, if you have questions about the project, please contact Andrea Thornton of ERM at 503-525-5159 or myself at 406-359-7332.

Thank you for your time and assistance with this project.

Sincerely,



Jill Linn
Environmental Affairs
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map

cc: Greg Huncovsky, WBI
Andrea Thornton, ERM



Miles
0 1.75 3.5 7

N

1 in = 3 miles

Project Overview Map

North Bakken Expansion Project
WBI Energy

WBI ENERGY TRANSMISSION

Legend

- Above Ground Facilities
- Road Bores for Uprating Existing Pipeline
- Proposed Tioga to Elk Creek Compressor Pipeline
- Proposed Norse to Tioga Loop Pipeline
- Northern Border Pipeline
- Existing WBI Pipeline

Burke County
Mountrail County
Williams County
McKenzie County

North Dakota

PROJECT AREA OVERVIEW



By: SMS

Path: F:\GIS\Projects_Authorized\North_Bakken_Expansion_Project\Northern_Bakken_Expansion_24X36_2.mxd

1:214,000 - when Printed on 24X36

Date: 4/10/2019

WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

May 29, 2019

James Semerad
Director, Division of Air Quality
North Dakota Department of Environmental Quality
918 E. Divide Ave
Bismarck, ND 58501

Subject: WBI Energy Transmission, Inc.
Proposed North Bakken Expansion Project
McKenzie, Williams, Burke, and Mountrail Counties, North Dakota

Dear Mr. Semerad

WBI Energy Transmission, Inc. (WBI Energy) is proposing to construct and operate the North Bakken Expansion Project (Project), which consists of an approximately 60-mile-long, 20-inch diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to an interconnect with Northern Border Pipeline Company's mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Compressor Station) will be constructed near this interconnect.

The Project also involves construction of approximately 20 miles of 12-inch diameter natural gas pipeline between the existing Tioga Compressor Station and an existing receipt station, the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and additional/modifications to certain receipt/delivery points and laterals along the pipeline routes. The attached map depicts the preliminary proposed pipeline route and the location of Project facilities.

The Project will add natural gas takeaway capacity (estimated at approximately 200,000 Mcf/day) to help meet the natural gas transportation needs in the Bakken region while reducing natural gas flaring.

The Project is regulated by the Federal Energy Regulatory Commission (FERC) under Section 7(c) of the Natural Gas Act. Under the Energy Policy Act of 2005, FERC is the lead agency for coordinating federal authorizations and complying

with the National Environmental Policy Act (NEPA) on natural gas pipeline projects subject to its jurisdiction. WBI Energy plans to submit an application with the FERC in December 2019 for a Certificate of Public Convenience and Necessity (Certificate) to construct and operate the proposed pipeline and associated facilities. Applications for other federal or state authorizations will be submitted prior to or at the same time as the FERC application or on timelines defined by the appropriate federal or state regulations. WBI Energy anticipates receiving a Certificate from the FERC by December 2020, with construction planned to begin in early 2021.

WBI Energy plans to file a request with the FERC to use the FERC's NEPA pre-filing process for the Project. This process will provide agencies, landowners, and other stakeholders the opportunity to work with WBI Energy and the FERC to identify and resolve environmental issues prior to the filing of the Certificate application. This will result in a more efficient regulatory review process, including NEPA review of the Project. Pending FERC approval, WBI Energy anticipates preparing a draft Environmental Assessment (EA) for use by FERC staff. WBI Energy looks forward to working with you throughout the pre-filing process to ensure that your concerns are identified and addressed in the draft EA.

WBI Energy has retained Environmental Resources Management (ERM) to provide environmental support services for the project. An ERM representative will be in touch with you in the near future to provide additional information and discuss specific permitting and/or consultation requirements. In the meantime, if you have questions about the project, please contact Andrea Thornton of ERM at 503-525-5159 or myself at 406-359-7332.

Thank you for your time and assistance with this project.

Sincerely,



Jill Linn
Environmental Affairs
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map

cc: Greg Huncovsky, WBI
Andrea Thornton, ERM

ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	To: James Semerad
Phone number	701-328-5188
Company	North Dakota Department of Environmental Quality
ERM Contact	Andrea Thornton
Phone number	503-459-6864
Date	June 5, 2019
Time of Conversation	7:15 am
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Ms. Thornton called the North Dakota Department of Environmental Quality's Division of Air Quality to speak with James Semerad regarding the North Bakken Expansion Project as a follow-up to the project intorduction letter that was sent to his office.

Ms. Thornton inquired on permit review timelines and indicated that we are currently anticipating minor source permit applications. Mr. Smerad said that minor source applications for natural gas pipelines and compressor stations are their top priority as they consider it a benefit and reduction in air quality impacts as it would lead to a reduction in flaring. Ms. Thornton explained FERC's pre-filing process to Mr. Smerad and asked if he would be interested in participating in pre-filing. He indicated that he wouldn't.

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ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	To: Peter Wax
Phone number	701-328-5210
Company	North Dakota Department of Environmental Quality
ERM Contact	Andrea Thornton
Phone number	503-459-6864
Date	June 5, 2019
Time of Conversation	8:00 am
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Ms. Thornton called the North Dakota Department of Environmental Quality's Division of Water Quality to speak with Peter Wax regarding the North Bakken Expansion Project as a follow-up to the project intorduction letter that was sent to his office. Ms. Thornton left a voicemail and followed-up with an email to Mr. Wax.

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Lisa DiNicolantonio

From: Andrea Thornton
Sent: Wednesday, June 5, 2019 8:44 AM
To: krockema@nd.gov
Subject: WBI Energy North Bakken Expansion Project
Attachments: Rockeman_North Bakken_Agency Intro Letter_041519.pdf

Good Morning,

My name is Andrea Thornton and I work for ERM, an environmental consulting firm that is working with WBI Energy on their proposed North Bakken Expansion Project. A project introduction letter was sent to your office in mid-April (attached). I wanted to follow-up to see if you had any questions regarding the project and to get information on the permitting review timeframes for your office for both the General Permit NDR10-0000 and General Permit NDG07-0000.

Thank you and ERM looks forward to working with you on this project.

-Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

April 15, 2019

Karl Rockeman
North Dakota Department of Health, Division of Water Quality
918 East Divide Avenue, 4th Floor
Bismarck, ND 58501-1947

Subject: WBI Energy Transmission, Inc.
Proposed North Bakken Expansion Project
McKenzie, Williams, Burke, and Mountrail Counties, North Dakota

Dear Karl Rockeman:

WBI Energy Transmission, Inc. (WBI Energy) is proposing to construct and operate the North Bakken Expansion Project (Project), which consists of an approximately 60-mile-long, 20-inch diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to an interconnect with Northern Border Pipeline Company's mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Compressor Station) will be constructed near this interconnect.

The Project also involves construction of approximately 20 miles of 12-inch diameter natural gas pipeline between the existing Tioga Compressor Station and an existing receipt station, the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and additional/modifications to certain receipt/delivery points and laterals along the pipeline routes. The attached map depicts the preliminary proposed pipeline route and the location of Project facilities.

The Project will add natural gas takeaway capacity (estimated at approximately 200,000 Mcf/day) to help meet the natural gas transportation needs in the Bakken region while reducing natural gas flaring.

The Project is regulated by the Federal Energy Regulatory Commission (FERC) under Section 7(c) of the Natural Gas Act. Under the Energy Policy Act of 2005, FERC is the lead agency for coordinating federal authorizations and complying with the National Environmental Policy Act (NEPA) on natural gas pipeline

projects subject to its jurisdiction. WBI Energy plans to submit an application with the FERC in December 2019 for a Certificate of Public Convenience and Necessity (Certificate) to construct and operate the proposed pipeline and associated facilities. Applications for other federal or state authorizations will be submitted prior to or at the same time as the FERC application or on timelines defined by the appropriate federal or state regulations. WBI Energy anticipates receiving a Certificate from the FERC by December 2020, with construction planned to begin in early 2021.

WBI Energy plans to file a request with the FERC to use the FERC's NEPA pre-filing process for the Project. This process will provide agencies, landowners, and other stakeholders the opportunity to work with WBI Energy and the FERC to identify and resolve environmental issues prior to the filing of the Certificate application. This will result in a more efficient regulatory review process, including NEPA review of the Project. Pending FERC approval, WBI Energy anticipates preparing a draft Environmental Assessment (EA) for use by FERC staff. WBI Energy looks forward to working with you throughout the pre-filing process to ensure that your concerns are identified and addressed in the draft EA.

WBI Energy has retained Environmental Resources Management (ERM) to provide environmental support services for the project. An ERM representative will be in touch with you in the near future to provide additional information and discuss specific permitting and/or consultation requirements. In the meantime, if you have questions about the project, please contact Andrea Thornton of ERM at 503-525-5159 or myself at 406-359-7332.

Thank you for your time and assistance with this project.

Sincerely,



Jill Linn
Environmental Affairs
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map

cc: Greg Huncovsky, WBI
Andrea Thornton, ERM



Miles
0 1.75 3.5 7

N

1 in = 3 miles

Project Overview Map

North Bakken Expansion Project
WBI Energy

WBI ENERGY TRANSMISSION

Legend

- Above Ground Facilities
- Road Bores for Uprating Existing Pipeline
- Proposed Tioga to Elk Creek Compressor Pipeline
- Proposed Norse to Tioga Loop Pipeline
- Northern Border Pipeline
- Existing WBI Pipeline

Burke County
Mountrail County
Williams County
McKenzie County

North Dakota

PROJECT AREA OVERVIEW



By: SMS

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Date: 4/10/2019

ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	To: Peter Wax
Phone number	701-328-5210
Company	North Dakota Department of Environmental Quality
ERM Contact	Andrea Thornton
Phone number	503-459-6864
Date	June 7, 2019
Time of Conversation	1:00 pm
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Mr. Wax returned Ms. Thornton's call from earlier in the week. Mr. Wax answered Andrea's questions regarding the 401 process for the North Bakken Expansion Project and confirmed that a conditional Water Quality Certification would be used. The only waterbody crossed along the route that would trigger a non-conditional certification would be the Missouri River, however since the river would be crossed using the horizontal directional drill crossing method and no dredge and fill would be require, therefore no 404 permit would be triggered, and no 401 would be needed.

Ms. Thornton thanked Mr. Wax for his time and let him know she would be in touch if there were any changes to the project or additional waterbodies crossed that could trigger 401.

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Lisa DiNicolantonio

From: Andrea Thornton
Sent: Friday, July 12, 2019 12:18 PM
To: Wax, Peter N.
Subject: RE: WBI Energy North Bakken Expansion Project

Hi Pete –

I apologize for the delay in getting back to you. WBI will be hosting open houses for the project in early August (invitation letters will be sent out in the coming weeks). WBI representatives will be available at these meeting to answer the questions you posed in your email below. Two laterals are being added to the project, each approximately 10 miles in length. The locations for all block valves and meter stations have not been determined at this point.

Thanks and again I apologize for my delayed response.

-Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Wax, Peter N. <pwax@nd.gov>
Sent: Wednesday, June 12, 2019 9:12 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: RE: WBI Energy North Bakken Expansion Project

Dear Andrea:

The need to collect and move natural gas is a vital component of the E & O development and the environment in North Dakota, so this is welcomed infrastructure.

After contemplating putting together some comments, I have a few questions.

1) Has WBI contemplated building it larger than 20”? Seems like there is a substantial lack of infrastructure to collect natural gas.
2) Are the construction specifications rigid enough that repurposing for other materials (oil, gas liquids) could be an option?
3) How many lateral lines will be connected to the pipeline?
4) Where are Block Valves and meters proposed?
    a. At all lateral lines?
    b. Automatic?

I am not sure, at this time, if you would have this information, however if you door even have some general idea and could provide it that would be appreciated.

Pete

Peter N. Wax
Environmental Scientist

701.328.5268 • pwax@nd.gov • ndhealth.gov • Provide Feedback

From: Andrea Thornton <Andrea.Thornton@erm.com>
Sent: Wednesday, June 5, 2019 11:00 AM
To: Wax, Peter N. <pwax@nd.gov>
Subject: WBI Energy North Bakken Expansion Project

CAUTION: This email originated from an outside source. Do not click links or open attachments unless you know they are safe.

Good Morning,

My name is Andrea Thornton and I work for ERM, an environmental consulting firm that is working with WBI Energy on their proposed North Bakken Expansion Project. A project introduction letter was sent to your office in mid-April (attached). I called and left you a voicemail this morning but wanted to follow-up with an email as well.

I wanted to discuss the Section 401 CWA permitting requirements for the proposed project. We understand that in North Dakota, conditional water quality certificates have previously been approved by the state for projects authorized under NWP 12. However, the conditional water quality certification excludes Class I, I!, II, and III rivers and streams. The project will cross the Missouri River at Lake Sakakawea (Class I) where a Section 10 permit will be required. It is anticipated that a Section 404 permit would not be required due to the avoidance of dredge and fill activities as the crossing would be conducted by HDD. Therefore, with all other crossing falling under the conditional Section 401 Water Quality Certification, and avoidance of Section 404 impacts at Lake Sakakawea, we would like to confirm that a conditional Section 401 Water Quality Certification would be used for the project.

Please let me know what additional information you would need from WBI Energy moving forward. I am in the office the rest of the week this week. I will be in the office Monday, Tuesday, and Friday of next week.

Thank you and we look forward to working with you on this project.

-Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



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WBI ENERGY TRANSMISSION
An MDU Resources Group company

WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

0285

July 17, 2019

James L Semerad
Director, Division of Air Quality
North Dakota Department of Environmental Quality, Division of Air Quality
918 E Divide Ave
Bismarck, ND 58501-1947

Subject: WBI Energy Transmission, Inc.
Invitation to Public Open House for the Proposed North Bakken Expansion Project

Dear Director, Division of Air Quality James L Semerad:

WBI Energy Transmission, Inc. (WBI Energy) would like to cordially invite you to attend an open house meeting in your area regarding our proposed plan to build, own and operate the North Bakken Expansion Project (Project).

On June 28, 2019, WBI Energy requested use of the Federal Energy Regulatory Commission's (FERC) pre-filing review process for its proposed North Bakken Expansion Project (FERC Docket No. PF19-7-000). The FERC, the lead federal agency responsible for authorizing the Project, approved WBI Energy's pre-filing request on July 3, 2019. WBI Energy expects to file a formal application for the Project in early 2020.

The Project consists of an approximately 60 mile-long, 20-inch diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to a new interconnect with Northern Border Pipeline Company's mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Creek Compressor Station) will be constructed near this interconnect.

The Project also involves construction of approximately 20 miles of 12-inch diameter natural gas pipeline between the existing Tioga Compressor Station and an existing receipt station along WBI Energy's existing Line Section 25, approximately 10 miles of 12-inch diameter natural gas pipeline along WBI Energy's existing Line Section 30, and an approximately 10 mile, 12-inch diameter natural gas pipeline lateral from WBI Energy's existing Line Section 7.

Additionally, the Project includes the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and the installation of new and modifications to receipt/delivery points and lateral pipeline facilities along the pipeline routes. The attached map depicts the locations of the currently proposed Project facilities. Note that additional facilities have been added to the Project since WBI Energy's initial outreach for the Project earlier this year.

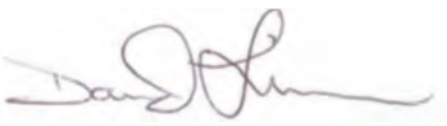
The Project will add natural gas takeaway capacity (estimated at approximately 300,000 Mcf/day) to help meet the natural gas transportation needs in the Bakken region while reducing natural gas flaring.

To provide additional information about the Project and receive stakeholder input, WBI Energy will host public open houses. This will be an informal opportunity to receive project-related materials, view detailed maps and displays, meet with the Project team experts and share your feedback before a formal application is submitted to the FERC. We welcome you to attend any one of the open houses at the dates, times and locations indicated below.

North Bakken Expansion Project Public Open Houses	
Tuesday, August 6 **Location: Tioga**	**Wednesday, August 7** **Location: Watford City**
Neset Consulting Service 6844 State Highway 40 Tioga, North Dakota 58852 11:00 am-1:00 pm and 5:00-7:00 pm	Watford City Civic Center 213 2nd St NE Watford City, North Dakota 58854 11:00 am-1:00 pm and 5:00-7:00 pm

If you have any questions regarding the North Bakken Expansion Project, please contact the Project team at the toll-free number 1-844-825-9397. We look forward to working with you on the Project and seeing you at an upcoming open house.

Sincerely,



David Linn
Project Manager
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map



Miles
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1 in = 3 miles

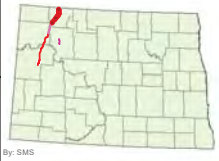
Project Overview Map

North Bakken Expansion Project
WBI Energy

Burke County
Mountrail County
Williams County
McKenzie County

North Dakota

PROJECT AREA OVERVIEW



Legend

- Proposed Line Section 25 Loop Pipeline
- Proposed Elkhorn Creek - Tioga Pipeline
- Proposed Line Section 30 Loop Pipeline
- Road Bores for Uprating Existing Line
- Proposed Receipt Lateral
- WBI Existing Pipelines
- Northern Border Pipeline

By: SMS

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1:174,000 - when Printed on 24X36

Date: 6/28/2010

WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

July 17, 2019

0287

Peter Wax
North Dakota Department of Health, Division of Water Quality
918 E Divide Ave Fl 4TH
Bismarck, ND 58501-1947

Subject: WBI Energy Transmission, Inc.
Invitation to Public Open House for the Proposed North Bakken Expansion Project

Dear Peter Wax:

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The Project consists of an approximately 60 mile-long, 20-inch diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to a new interconnect with Northern Border Pipeline Company's mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Creek Compressor Station) will be constructed near this interconnect.

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Additionally, the Project includes the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and the installation of new and modifications to receipt/delivery points and lateral pipeline facilities along the pipeline routes. The attached map depicts the locations of the currently proposed Project facilities. Note that additional facilities have been added to the Project since WBI Energy's initial outreach for the Project earlier this year.

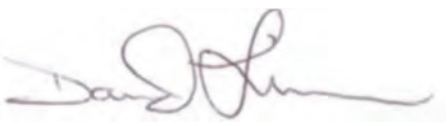
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If you have any questions regarding the North Bakken Expansion Project, please contact the Project team at the toll-free number 1-844-825-9397. We look forward to working with you on the Project and seeing you at an upcoming open house.

Sincerely,



David Linn
Project Manager
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map



Miles
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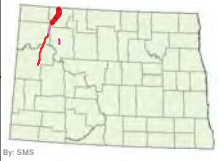
Project Overview Map

North Bakken Expansion Project
WBI Energy

Burke County
Mountrail County
Williams County
McKenzie County

North Dakota

PROJECT AREA OVERVIEW



Legend

- Proposed Line Section 25 Loop Pipeline
- Proposed Elkhorn Creek - Tioga Pipeline
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- Proposed Receipt Lateral
- WBI Existing Pipelines
- Northern Border Pipeline

By: SMS

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Date: 6/28/2010

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(406) 359-7200
www.wbienergy.com

July 17, 2019

0286

Karl Rockeman
North Dakota Department of Health, Division of Water Quality
918 E Divide Ave Fl 4TH
Bismarck, ND 58501-1947

Subject: WBI Energy Transmission, Inc.
Invitation to Public Open House for the Proposed North Bakken Expansion Project

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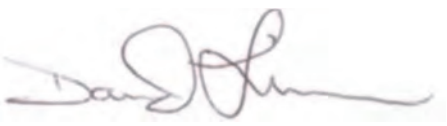
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Sincerely,



David Linn
Project Manager
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map



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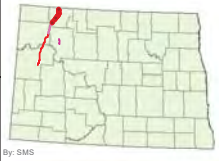
Project Overview Map

North Bakken Expansion Project
WBI Energy

Burke County
Mountrail County
Williams County
McKenzie County

North Dakota

PROJECT AREA OVERVIEW



Legend

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By: SMS

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1:174,000 - when Printed on 24X36

Date: 6/28/2010

Lisa DiNicolantonio

From: Andrea Thornton
Sent: Thursday, July 25, 2019 10:28 AM
To: krockema@nd.gov; Wax, Peter N.; jsemerad@nd.gov; apersinger@nd.gov; sdyke@nd.gov; cdirk@nd.gov; cberg@nd.gov
Cc: Arianne Balsom
Subject: North Bakken Expansion Project - Bi-Weekly Calls with FERC

Good Morning,

As some of you know WBI Energy filed their pre-filing request letter for the North Bakken Expansion Project (Project) with FERC on June 28, 2019. FERC accepted the request on July 3, 2019 which starts the pre-filing process for the Project. As we have discussed, as part of this process, FERC will host bi-weekly conference calls with WBI Energy and any agencies interested in participating in the pre-filing process. This is a way for your agency to stay informed about the Project and ask questions as they may arise. When we spoke earlier this summer, the majority of you indicated that you were not interested in participating in these calls. If this is still the case, no further information is needed from you at this time.

If you are interested in participating, we are looking to start these bi-weekly calls the week of August 8th. For those of you who are interested, please let me know by August 1st if there are any days of the week/times that would not work for you for a 1 hour call. We will be scheduling these calls across multiple time zones and will do our best to ensure those who are interested are able to participate.

Please feel free to reach out if you have any questions.

Thank you and we look forward to working with you on this project.

-Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



Lisa DiNicolantonio

From: Wax, Peter N. <pwax@nd.gov>
Sent: Tuesday, July 30, 2019 7:19 AM
To: Andrea Thornton
Cc: Rockeman, Karl H.
Subject: RE: North Bakken Expansion Project - Bi-Weekly Calls with FERC

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Ms. Thornton:

I and Karl Rockeman would appreciate being included in the calls.

Pete

Peter N. Wax
Special Projects
Division of Water Quality

701.328.5268 • pwax@nd.gov • https://deq.nd.gov/

NORTH Dakota | Environmental Quality
Be Legendary.

From: Andrea Thornton
Sent: Thursday, July 25, 2019 12:28 PM
To: Rockeman, Karl H. <krockema@nd.gov>; Wax, Peter N. <pwax@nd.gov>; Semerad, Jim L. <jsemerad@nd.gov>; Persinger, Ashley C. <apersinger@nd.gov>; Dyke, Steve R. <sdyke@nd.gov>; Dirk, Christine N. G. <cdirk@nd.gov>; Berg, Claudia J. <cberg@nd.gov>
Cc: Arianne Balsom <Arianne.balsom@ferc.gov>
Subject: North Bakken Expansion Project - Bi-Weekly Calls with FERC

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-Andrea

Andrea Thornton
Senior Regulatory Consultant

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E andrea.thornton@erm.com | **W** www.erm.com



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Ann Curnow

From: Thorstenson, Craig D. <cthorstenson@nd.gov>
Sent: Tuesday, October 15, 2019 5:19 PM
To: Ann Curnow
Subject: RE: Question on applicability

Ann,

There's been some confusion on this internally. The staff I need to discuss this with will be in tomorrow and I will discuss this issue with them and get back to you.

Craig

Craig Thorstenson
Manager, Permitting Program
Division of Air Quality

701.328.5198 • cthorstenson@nd.gov • https://deq.nd.gov/AQ/

Dakota | Environmental Quality

918 E. Divide Avenue, 2nd Floor • Bismarck, ND 58501

From: Ann Curnow <Ann.Curnow@erm.com>
Sent: Tuesday, October 15, 2019 4:30 PM
To: Thorstenson, Craig D. <cthorstenson@nd.gov>
Subject: Question on applicability

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Craig,

Last week I fielded a call from someone asking why the ND permit engineer is telling them they need a flare for a new compressor station to handle maintenance blowdowns when their other compressor stations did not need that. I looked at the rule and thought it was because the effective date was January 1, 2019. Now I know all your regulations are that date because they had to be re authorized with the name change.

I need to get back to them to clear this up. Also, I just started working on two applications for compressor stations in ND. Neither of the equipment lists contain flares. Before I tell them they need to add flares I would like to confirm that my understanding is correct. Can you call me at 763-913-2057 so I understand this better. Thanks

33.1-15-07-02. Requirements for organic compounds gas disposal.
1. No person may cause or permit the emission of organic compounds gases and vapors, except from an emergency vapor blowdown system or emergency relief system, unless these gases

and vapors are burned by flares, or an equally effective control device as approved by the department. Minor sources, as determined by the department and not subject to New Source Performance Standards (NSPS), may be granted exemptions to this subsection.

Ann M. Curnow
Senior Air Quality Project Manager

ERM
1000 IDS Center
80 South Eighth Street
Minneapolis I MN I 55402
T+612-347-7112 I M+763-913-2057
E ann.curnow@erm.com I W www.erm.com



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Ann Curnow

From: Ann Curnow
Sent: Wednesday, October 16, 2019 2:23 PM
To: 'Thorstenson, Craig D.'
Subject: RE: Question on applicability

Craig,

Wondering if you have any direction for me on if compressor stations need flares or not based on **33.1-15-07-02. Requirements for organic compounds gas disposal.**

This would be for blowdown for maintenance on compressors. Same questions for pigging natural gas lines.

Thanks

Ann M. Curnow
Senior Air Quality Project Manager
T+612 347 7112 I M+763 913 2057
E ann.curnow@erm.com I W www.erm.com

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The business of sustainability

From: Thorstenson, Craig D. <cthorstenson@nd.gov>
Sent: Tuesday, October 15, 2019 5:19 PM
To: Ann Curnow <Ann.Curnow@erm.com>
Subject: RE: Question on applicability

Ann,

There's been some confusion on this internally. The staff I need to discuss this with will be in tomorrow and I will discuss this issue with them and get back to you.

Craig

Craig Thorstenson
Manager, Permitting Program
Division of Air Quality

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ERM
1000 IDS Center
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Ann Curnow

From: Thorstenson, Craig D. <cthorstenson@nd.gov>
Sent: Friday, October 25, 2019 5:31:02 PM
To: Ann Curnow <Ann.Curnow@erm.com>
Subject: RE: Question on applicability

Ann,

From what we've seen, VOC emissions from pigging are generally low and don't require a flare.

We're in discussion with some companies to determine what their VOC emissions are from blowdowns, etc. If VOC emissions are of minor significance, then controls aren't required under our Chapter 7. A minor source is not defined under Chapter 7; however, we've developed a minor source level by policy of 20 tpy for storage tanks and this level would be a good starting point when determining if VOC emissions from blowdowns are significant.

We expect to hear back from one of the companies sometime next week and I will keep you informed.

Craig

From: Ann Curnow <Ann.Curnow@erm.com>
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To: Thorstenson, Craig D. <cthorstenson@nd.gov>
Subject: RE: Question on applicability

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Ann M. Curnow
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T+612 347 7112 I M+763 913 2057
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Sent: Tuesday, October 15, 2019 5:19 PM
To: Ann Curnow <Ann.Curnow@erm.com>
Subject: RE: Question on applicability

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Craig

Craig Thorstenson
Manager, Permitting Program
Division of Air Quality

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Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

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Call Log

Log of Telephone Conversation

Call To/From Whom	To: Rheanna Kautman
Phone number	701-328-5188
Company	North Dakota Department of Environmental Quality, Air Permitting
ERM Contact	Dan Guido
Phone number	317-249-4737
Date	January 13, 2020
Time of Conversation	5:05 pm Eastern
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Mr. Dan Guido called Ms. Kautman clarify the procedure to advance from Tier 1 to higher tier analyss when evaluating air toxis pursuant to the ND Air Tocs Policy. The discussion was generic and not specific to any facility.

I explained that I could have a case where I have a dozen air toxics compounds, and after completing the Tier I analysis, I might have two or three compounds that are actually driving the hazard. I asked if the next step can focus on just those specific higher compounds.

Ms. Kautman stated that was exactly what was intended by the policy. She stated that one would calculate a total Hazard Index across all compounds, and if less than 1.0 – the assessment is complete. If greater than one, those specific compounds are then taken to Tier 2 or Tier 3 level assessment – and then those compounds are evaluated INDIVIDUALLY. She further stated (although I noted that this was not found in the policy or other guidance) that the Tier 3 analysis should use guidance concentrations found in Minnesota Dept. of Health guideline documents. She stated that we could find such guideline concentrations on MN DPH or MPCA websites

The proper 'steps' would include:

1. Total Hazard Index (HI) for all compounds under Tier 1 analysis. If greater than 1.0, go to step 2.
2. Remove "high" compounds, and then re-calculate Total HI for 'remainder' of compounds. If less than 1.0, go to step 3. If higher than 1.0, repeat by removing highest of remaining compounds, until total less than 1.0

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3. Take the 'high' compounds (from step 2) into Tier 2 or Tier 3 analysis; evaluate each compound INDIVIDUALLY.
   Find updated more accurate guideline concentrations for each compound in Step 3 from Minnesota Dept. Public Health documents.
   Complete Tier 2 or Tier 3 evaluation and document individual HI for each compound at less than 1.0. Find updated more accurate guideline concentrations for each compound in Step 3 from Minnesota Dept. Public Health documents.
   Complete Tier 2 or Tier 3 evaluation and document individual HI for each compound at less than 1.0

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1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

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Call Log

Log of Telephone Conversation

Call To/From Whom	To: Rheanna Kautzman
Phone number	701-328-5186
Company	North Dakota Department of Environmental Quality, Air Permitting
ERM Contact	Kim Tarde
Phone number	317-249-4739
Date	January 15, 2020
Time of Conversation	4:40 pm Eastern
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Ms. Kim Tarde called Ms. Rheanna Kautzman to obtain the state inventories for the emissions and source parameters of nearby facilities in order to conduct cumulative modeling for the Tioga Compressor Station. Due to the location-based data required in the request, we discussed both that the facility is located in Tioga and that it is a compressor station.

Ms. Kautzman stated that since the project is not PSD, she did not expect ND DEQ would require modeling for the facility as long as the stack heights are at least 1.5 times higher than the nearest buildings. I explained that there is a natural-gas fired generator with a stack height that does not fulfill this requirement. We discussed the size and low emission rate of the generator, and Mr. Kautzman stated that she did not expect an emission unit of that size to have any impact on modeling. She said that in ND DEQ's permit review process, they would generally not be concerned if the stack for a unit of that size was not 1.5 times higher than the nearest buildings. She then stated that we could model air toxics and 1-hour NO2 without the nearby sources included, and then ND DEQ would then evaluate these results during their permit review and determine if the nearby sources should be included in further modeling analysis. Through discussions about the state inventory, it sounds as though this is a highly unlikely option unless there are concerns about the model results. She explained that the state inventory of nearby sources has some issues that they are trying to solve before updating their modeling guidance documents .

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Call Log

Log of Telephone Conversation

Call To/From Whom	To: Rheanna Kautzman
Phone number	701-328-5186
Company	North Dakota Department of Environmental Quality, Air Permitting
ERM Contact	Kim Tarde
Phone number	317-249-4739
Date	January 17, 2020
Time of Conversation	2:00 pm Eastern
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Ms. Kim Tarde called Ms. Rheanna Kautzman to enquire about recent results for acrolein modeling. In the latest results, acrolein did not pass the Tier 3 air toxics analysis, but the Hazard Index (HI) for acrolein is significantly less than 1 at the nearest residence. I asked if that would still be considered a passing result for the project. Ms. Kautzman stated that it's likely that the modeling would pass in NDDEQ review, but that extra review steps would need to be taken to ensure that there is no expected environmental impact, and therefore more time would be needed to review before the permit could be issued.

I also asked about the different modeling analyses that would be required for stacks less than and greater than 1.5 times higher than the nearby buildings. Specifically we talked about which pollutants would need to be looked at for the modeling in each scenario. Ms. Kautzman was surprised that the PM emissions were high enough to warrant a modeling analysis with either option, and suggested we look into the emission factor used to make sure it wasn't too conservative. She stated that the review time would be shorter if the stack heights were greater than 1.5 times higher than the nearest buildings, and that it's likely that any modeling issues with acrolein and with 1-hour NO_2 would be solved if this condition was reached.

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ERM

1000 IDS Center
80 South Eighth Street
Minneapolis, MN 55402

Telephone: +1 612 347 6789
Fax: +1 612 347 6780

www.erm.com

February 14, 2020

Craig Thorstenson
Environmental Engineer
North Dakota Department of Environmental Quality
Division of Air Quality
918 East Divide Avenue, 2nd Floor
Bismarck, ND 58501-1947

Subject: North Bakken Expansion Project - Tioga Compressor Station
Williams County, North Dakota

Dear Mr. Thorstenson,

Enclosed is a permit to construct application being submitted by Environmental Resource Management, Inc. (ERM) on behalf of WBI Energy Transmission, Inc. (WBI). The application for a permit to construct is to modify the existing Tioga Compressor Station in Williams County, North Dakota. The existing Tioga compressor station is considered a facility of minor significance for air pollution and a permit to construct was not previously required. The modification will make the existing facility a major source subject to Title V permitting requirements.

The proposed expansion to the Tioga Compressor Station will involve the installation of the following equipment:

- six (6) Caterpillar 3612 natural gas-fired engines [3,750 horsepower (hp) each] coupled to a KBZ-4 compressor unit;
- one (1) Waukesha natural gas-fired generator (1,380 hp);
- two (2) natural gas-fired boilers and unit heater for comfort heating (5.19 MMBtu/hour);
- one (1) pig launcher and receiver;
- one (1) underground 3,000 gallon pipeline liquids storage tank;
- one (1) underground 3,000 gallon waste oil storage tank; and
- one (1) underground 3,000 gallon floor drain tank to collect wastewater.

In addition to the above listed equipment the compressor station will have emissions associated with compressor blowdowns and leaking components. The expansion of the Tioga Compressor Station will require a permit to construct and subsequently a Title V permit to operate from the North Dakota Department of Environmental Quality (NDDEQ). Under the North Dakota Administrative Code (NDAQ) 33.1-15-14-02.13, the tanks and comfort heating unit are exempt from permitting requirements.

The enclosed permit application includes a narrative of the project, regulatory review, air dispersion modeling and an air toxics review. Detailed emission calculations are attached as well as a site location map, site plot plan, NDDEQ required forms and additional detail to support the air toxics review. Executable emission calculations and electronic modeling files are available upon request.

A check for $325 payable to the NDDEQ for the nonrefundable filing fee is being submitted with the application. WBI understands that the NDDEQ will charge an additional processing fee to cover costs of actual processing time incurred above the initial filing fee.

If you have any questions or need additional information please contact Jill Linn, Environmental Manager, WBI at (406) 359-7332 or Ann Curnow of ERM at (612) 347-7112 or ann.curnow@erm.com.

Sincerely,

Ann M. Curnow
Senior Consultant

Enclosure:
Permit to construct application – Tioga Compressor Station
Filing fee check #115576

cc: Jill Linn, WBI
Andrea Thornton, ERM

ERM

1000 IDS Center
80 South Eighth Street
Minneapolis, MN 55402

Telephone: +1 612 347 6789
Fax: +1 612 347 6780

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February 14, 2020

Craig Thorstenson
Environmental Engineer
North Dakota Department of Environmental Quality
Division of Air Quality
918 East Divide Avenue, 2nd Floor
Bismarck, ND 58501-1947

Subject: North Bakken Expansion Project - Elkhorn Creek Compressor Station
McKenzie County, North Dakota

Dear Mr. Thorstenson,

Enclosed is a permit to construct application being submitted by Environmental Resource Management, Inc. (ERM) on behalf of WBI Energy Transmission, Inc. (WBI). The application for a permit to construct is for the proposed Elkhorn Creek Compressor Station in McKenzie County, North Dakota. The proposed facility will be considered a synthetic minor source and will require a minor source operating permit.

The proposed Elkhorn Creek Compressor Station will involve the installation of the following equipment:

- one (1) Caterpillar 3612 natural gas-fired engine [3,750 horsepower (hp) each] coupled to a KBZ-4 compressor unit;
- one (1) natural gas fired boiler for comfort heating, water heater and one building unit heater (combined 4.02 MMBtu/hour);
- one (1) pig launcher and receiver;
- one (1) underground 2,000 gallon pipeline liquids storage tank;
- one (1) underground 2,000 gallon waste oil storage tank; and
- one (1) underground 2,000 gallon floor drain tank to collect wastewater.

In addition to the above listed equipment the compressor station will have emissions associated with compressor blowdown and leaking components. The proposed Elkhorn Creek Compressor Station will require a permit to construct and minor source permit to operate from the North Dakota Department of Environmental Quality (NDDEQ). Under the North Dakota Administrative Code (NDAQ) 33.1-15-14-02.13, the tanks and comfort heating unit are exempt from permitting requirements.

The enclosed permit application includes a narrative of the project, regulatory review, air dispersion modeling and an air toxics review. Detailed emission calculations are attached as well as a site location map, site plot plan, NDDEQ required forms and additional detail to support the air toxics review. Executable emission calculations and electronic modeling files are available upon request.

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Sincerely,

Ann M. Curnow
Senior Consultant

Enclosure:
Permit to construct application – Elkhorn Cree Compressor Station
Filing fee check #115577

cc: Jill Linn, WBI
Andrea Thornton, ERM

NORTH BAKKEN EXPANSION PROJECT

Resource Report 1

APPENDIX 1G-1
Agency Correspondence – North Dakota Department of Parks and Recreation (NDDPR)

WBI ENERGY TRANSMISSION
An MDU Resources Group company

WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

April 15, 2019

Kathy Duttenhefner
Natural Resources Management Coordinator
North Dakota Parks and Recreation Department
Planning and Natural Resources Division
1600 E. Century Avenue, Suite 3
Bismarck, ND 58503-0649

Subject: WBI Energy Transmission, Inc.
Proposed North Bakken Expansion Project
McKenzie, Williams, Burke, and Mountrail Counties, North Dakota

Dear Kathy Duttenhefner:

WBI Energy Transmission, Inc. (WBI Energy) is proposing to construct and operate the North Bakken Expansion Project (Project), which consists of an approximately 60-mile-long, 20-inch diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to an interconnect with Northern Border Pipeline Company's mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Compressor Station) will be constructed near this interconnect.

The Project also involves construction of approximately 20 miles of 12-inch diameter natural gas pipeline between the existing Tioga Compressor Station and an existing receipt station, the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and additional/modifications to certain receipt/delivery points and laterals along the pipeline routes. The attached map depicts the preliminary proposed pipeline route and the location of Project facilities.

The Project will add natural gas takeaway capacity (estimated at approximately 200,000 Mcf/day) to help meet the natural gas transportation needs in the Bakken region while reducing natural gas flaring.

The Project is regulated by the Federal Energy Regulatory Commission (FERC) under Section 7(c) of the Natural Gas Act. Under the Energy Policy Act of 2005,

FERC is the lead agency for coordinating federal authorizations and complying with the National Environmental Policy Act (NEPA) on natural gas pipeline projects subject to its jurisdiction. WBI Energy plans to submit an application with the FERC in December 2019 for a Certificate of Public Convenience and Necessity (Certificate) to construct and operate the proposed pipeline and associated facilities. Applications for other federal or state authorizations will be submitted prior to or at the same time as the FERC application or on timelines defined by the appropriate federal or state regulations. WBI Energy anticipates receiving a Certificate from the FERC by December 2020, with construction planned to begin in early 2021.

WBI Energy plans to file a request with the FERC to use the FERC's NEPA pre-filing process for the Project. This process will provide agencies, landowners, and other stakeholders the opportunity to work with WBI Energy and the FERC to identify and resolve environmental issues prior to the filing of the Certificate application. This will result in a more efficient regulatory review process, including NEPA review of the Project. Pending FERC approval, WBI Energy anticipates preparing a draft Environmental Assessment (EA) for use by FERC staff. WBI Energy looks forward to working with you throughout the pre-filing process to ensure that your concerns are identified and addressed in the draft EA.

WBI Energy has retained Environmental Resources Management (ERM) to provide environmental support services for the project. An ERM representative will be in touch with you in the near future to provide additional information and discuss specific permitting and/or consultation requirements. In the meantime, if you have questions about the project, please contact Andrea Thornton of ERM at 503-525-5159 or myself at 406-359-7332.

Thank you for your time and assistance with this project.

Sincerely,



Jill Linn
Environmental Affairs
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map

cc: Greg Huncovsky, WBI
Andrea Thornton, ERM



Miles
0 1.75 3.5 7

N

1 in = 3 miles

Project Overview Map

North Bakken Expansion Project
WBI Energy

WBI ENERGY TRANSMISSION

Legend

- Above Ground Facilities
- Road Bores for Uprating Existing Pipeline
- Proposed Tioga to Elk Creek Compressor Pipeline
- Proposed Norse to Tioga Loop Pipeline
- Northern Border Pipeline
- Existing WBI Pipeline

Burke County
Mountrail County
Williams County
McKenzie County

North Dakota

PROJECT AREA OVERVIEW



By: SMS

Path: F:\GIS\Projects_Authorized\North_Bakken_Expansion_Project\Northern_Bakken_Expansion_24X36_2.mxd

1:214,000 - when Printed on 24X36

Date: 4/10/2019

ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

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Call Log

Log of Telephone Conversation

Call To/From Whom	To: Chris Dirk
Phone number	701-328-5368
Company	North Dakota Department of Parks and Recreation
ERM Contact	Andrea Thornton
Phone number	503-459-6864
Date	May 03, 2019
Time of Conversation	1:30 pm
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Ms. Thornton called the North Dakota Department of Parks and Recreation with Chris Dirk regarding the North Bakken Expansion Project as a follow-up to the project intorduction letter that was sent to their office, and the voicemail that Ms. Dirk left with Jill Linn of WBI Energy. Ms. Thornton left a message with Chris.

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Call Log

Log of Telephone Conversation

Call To/From Whom	To: Chris Dirk
Phone number	701-328-5368
Company	North Dakota Department of Parks and Recreation
ERM Contact	Andrea Thornton
Phone number	503-459-6864
Date	May 16, 2019
Time of Conversation	10:30 am
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Ms. Thornton called the North Dakota Department of Parks and Recreation with Chris Dirk regarding the North Bakken Expansion Project as a follow-up to the project intorduction letter that was sent to their office, and the voicemail that Ms. Dirk left with Jill Linn of WBI Energy. Ms. Thornton left a message with Chris.

CONFIDENTIALITY NOTICE This Call Log contains information which may be confidential, proprietary, privileged, or otherwise protected by law from disclosure or use by a third party. If you have received this facsimile transmission in error, please contact us immediately at the number listed above and take the steps necessary to dispose of this information. Thank you.

ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	To: Chris Dirk
Phone number	701-328-5368
Company	North Dakota Department of Parks and Recreation
ERM Contact	Andrea Thornton
Phone number	503-459-6864
Date	June 05, 2019
Time of Conversation	10:00 am
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Ms. Thornton called the North Dakota Department of Parks and Recreation with Chris Dirk regarding the North Bakken Expansion Project as a follow-up to the project intorduction letter that was sent to their office, and the voicemail that Ms. Dirk left with Jill Linn of WBI Energy.

Ms. Thornton confirmed that Ms. Dirk will required either shapefiles or more detailed maps for their review. Ms. Thornton mentioned to Chris that additional facilities are in the process of being added to the project, and asked if it would be easier for her department to complete their review all at once, or to start with the facilities that we currently have. Ms. Dirk indicated that it did not make a difference on her end, and if we want to start the review process of the current facilities it would speed things up. Ms. Thornton told Ms. Dirk that she would follow-up with an email later today with shapefiles.

Ms. Thornton gave Ms. Dirk and overview of the FERC pre-filing process and asked if her department would be interested in participating in the process. At this time Ms. Dirk does not think that they will need to be that involved in the process.

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Lisa DiNicolantonio

From: Andrea Thornton
Sent: Wednesday, June 5, 2019 1:20 PM
To: cdirk@nd.gov
Subject: WBI Energy North Bakken Expansion Project Shapefiles
Attachments: WBI_NBE-CL_190529.zip; Tioga Norse Loop Proposed centerline 4-8-19.zip

Hi Chris,

Thanks for chatting today regarding the WBI Energy's proposed North Bakken Expansion Project. Per our conversation, attached are the current centerline files for the project. As I mentioned WBI Energy is looking at potentially adding some additional facilities to the project, once I have more information on those I will send them your way for review.

Thank you and I look forward to working with you on this project.

-Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



Lisa DiNicolantonio

From: Andrea Thornton
Sent: Thursday, July 11, 2019 1:16 PM
To: cdirk@nd.gov
Subject: RE: WBI Energy North Bakken Expansion Project Shapefiles

Hi Chris –

I'm following up on the email I had sent to you back in early June regarding the North Bakken Expansion Project. Have you had an opportunity to review the shapefiles? Any information that you are able to share would be greatly appreciated.

Thanks,
Andrea

Andrea Thornton
Senior Regulatory Consultant

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E andrea.thornton@erm.com | **W** www.erm.com



From: Andrea Thornton
Sent: Wednesday, June 05, 2019 1:20 PM
To: cdirk@nd.gov
Subject: WBI Energy North Bakken Expansion Project Shapefiles

Hi Chris,

Thanks for chatting today regarding the WBI Energy's proposed North Bakken Expansion Project. Per our conversation, attached are the current centerline files for the project. As I mentioned WBI Energy is looking at potentially adding some additional facilities to the project, once I have more information on those I will send them your way for review.

Thank you and I look forward to working with you on this project.

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Senior Regulatory Consultant

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WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

0291

July 17, 2019

Kathy Duttenhefner
Natural Resources Management Coodinator
North Dakota Parks and Recreation Department Planning and Natural Resources
1600 E Century Ave Suite 3
Bismarck, ND 58503-0649

Subject: WBI Energy Transmission, Inc.
Invitation to Public Open House for the Proposed North Bakken Expansion Project

Dear Natural Resources Management Coodinator Kathy Duttenhefner:

WBI Energy Transmission, Inc. (WBI Energy) would like to cordially invite you to attend an open house meeting in your area regarding our proposed plan to build, own and operate the North Bakken Expansion Project (Project).

On June 28, 2019, WBI Energy requested use of the Federal Energy Regulatory Commission's (FERC) pre-filing review process for its proposed North Bakken Expansion Project (FERC Docket No. PF19-7-000). The FERC, the lead federal agency responsible for authorizing the Project, approved WBI Energy's pre-filing request on July 3, 2019. WBI Energy expects to file a formal application for the Project in early 2020.

The Project consists of an approximately 60 mile-long, 20-inch diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to a new interconnect with Northern Border Pipeline Company's mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Creek Compressor Station) will be constructed near this interconnect.

The Project also involves construction of approximately 20 miles of 12-inch diameter natural gas pipeline between the existing Tioga Compressor Station and an existing receipt station along WBI Energy's existing Line Section 25, approximately 10 miles of 12-inch diameter natural gas pipeline along WBI Energy's existing Line Section 30, and an approximately 10 mile, 12-inch diameter natural gas pipeline lateral from WBI Energy's existing Line Section 7.

Additionally, the Project includes the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and the installation of new and modifications to receipt/delivery points and lateral pipeline facilities along the pipeline routes. The attached map depicts the locations of the currently proposed Project facilities. Note that additional facilities have been added to the Project since WBI Energy's initial outreach for the Project earlier this year.

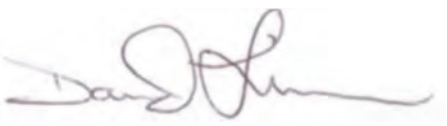
The Project will add natural gas takeaway capacity (estimated at approximately 300,000 Mcf/day) to help meet the natural gas transportation needs in the Bakken region while reducing natural gas flaring.

To provide additional information about the Project and receive stakeholder input, WBI Energy will host public open houses. This will be an informal opportunity to receive project-related materials, view detailed maps and displays, meet with the Project team experts and share your feedback before a formal application is submitted to the FERC. We welcome you to attend any one of the open houses at the dates, times and locations indicated below.

North Bakken Expansion Project Public Open Houses	
Tuesday, August 6 **Location: Tioga**	**Wednesday, August 7** **Location: Watford City**
Neset Consulting Service 6844 State Highway 40 Tioga, North Dakota 58852 11:00 am-1:00 pm and 5:00-7:00 pm	Watford City Civic Center 213 2nd St NE Watford City, North Dakota 58854 11:00 am-1:00 pm and 5:00-7:00 pm

If you have any questions regarding the North Bakken Expansion Project, please contact the Project team at the toll-free number 1-844-825-9397. We look forward to working with you on the Project and seeing you at an upcoming open house.

Sincerely,



David Linn
Project Manager
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map



Miles
0 1.25 2.5 5

N

1 in = 3 miles

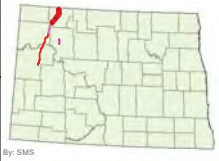
Project Overview Map

North Bakken Expansion Project
WBI Energy

Burke County
Mountrail County
Williams County
McKenzie County

North Dakota

PROJECT AREA OVERVIEW



Legend

- Proposed Line Section 25 Loop Pipeline
- Proposed Elkhorn Creek - Tioga Pipeline
- Proposed Line Section 30 Loop Pipeline
- Road Bores for Uprating Existing Line
- Proposed Receipt Lateral
- WBI Existing Pipelines
- Northern Border Pipeline

By: SMS

Path: F:\GIS\Projects_Authorized\North_Bakken_Expansion_Project\Northern_Bakken_Expansion_24X36_2.mxd

1:174,000 - when Printed on 24X36

Date: 6/28/2010

WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

July 17, 2019

0292

Christine Dirk
North Dakota Parks and Recreation Department Planning and Natural Resources
1600 E Century Ave Suite 3
Bismarck, ND 58503-0649

Subject: WBI Energy Transmission, Inc.
Invitation to Public Open House for the Proposed North Bakken Expansion Project

Dear Christine Dirk:

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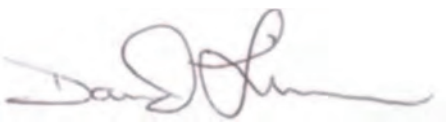
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Sincerely,



David Linn
Project Manager
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map



Miles
0 1.25 2.5 5

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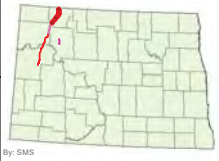
Project Overview Map

North Bakken Expansion Project
WBI Energy

Burke County
Mountrail County
Williams County
McKenzie County

North Dakota

PROJECT AREA OVERVIEW



Legend

- Proposed Line Section 25 Loop Pipeline
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- Proposed Line Section 30 Loop Pipeline
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- Proposed Receipt Lateral
- WBI Existing Pipelines
- Northern Border Pipeline

By: SMS

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1:174,000 - when Printed on 24X36

Date: 6/28/2010

Lisa DiNicolantonio

From: Andrea Thornton
Sent: Thursday, August 15, 2019 3:53 PM
To: 'cdirk@nd.gov'
Subject: RE: WBI Energy North Bakken Expansion Project Shapefiles
Attachments: NBE_Centerlines_20190815.zip

Hi Chris –

Following up again regarding your review of the North Bakken Expansion Project. I do have updated shapefiles (attached) where WBI has added two laterals to the project along with making some small route changes on the previous lines.

As before, any information you are able to share regarding land of interest crossed or near the proposed project would be helpful.

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Andrea Thornton
Sent: Thursday, July 11, 2019 1:16 PM
To: cdirk@nd.gov
Subject: RE: WBI Energy North Bakken Expansion Project Shapefiles

Hi Chris –

I'm following up on the email I had sent to you back in early June regarding the North Bakken Expansion Project. Have you had an opportunity to review the shapefiles? Any information that you are able to share would be greatly appreciated.

Thanks,
Andrea

Andrea Thornton
Senior Regulatory Consultant

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From: Andrea Thornton
Sent: Wednesday, June 05, 2019 1:20 PM
To: cdirk@nd.gov
Subject: WBI Energy North Bakken Expansion Project Shapefiles

Hi Chris,

Thanks for chatting today regarding the WBI Energy's proposed North Bakken Expansion Project. Per our conversation, attached are the current centerline files for the project. As I mentioned WBI Energy is looking at potentially adding some additional facilities to the project, once I have more information on those I will send them your way for review.

Thank you and I look forward to working with you on this project.

-Andrea

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Senior Regulatory Consultant

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Lisa DiNicolantonio

From: Andrea Thornton
Sent: Tuesday, October 22, 2019 7:40 AM
To: 'cdirk@nd.gov'
Subject: RE: WBI Energy North Bakken Expansion Project Shapefiles

Hi Chris –

I'm writing to follow-up on the email that I sent you back in august (below). As we have discussed, any information that you are able to share land of interested crossed or near the proposed project would be helpful.

Thanks again,
Andrea

Andrea Thornton
Principal Consultant

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E andrea.thornton@erm.com | **W** www.erm.com



From:	Andrea Thornton
To:	"cdirk@nd.gov"
Subject:	RE: WBI Energy North Bakken Expansion Project Shapefiles
Date:	Monday, January 20, 2020 3:09:00 PM
Attachments:	NBE_System_Update_20200102.zip image001.png
Importance:	High

Hi Chris –

I'm writing to follow-up on the email chain below. I have attached the most up to date version of the project shapefiles for your review. Any information you are able to share regarding land of interest crossed or near the proposed project would be very helpful. Please let me know if I should be reaching outto someone else regarding these requests.

Thanks again,
Andrea

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Principal Consultant

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E andrea.thornton@erm.com | **W** www.erm.com

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NORTH BAKKEN EXPANSION PROJECT

Resource Report 1

APPENDIX 1G-1
Agency Correspondence – North Dakota Game and Fish Department (NDGFD)

WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

April 15, 2019

Steve Dyke
Conservation Supervisor
North Dakota Game and Fish Department
100 North Bismarck Expressway
Bismarck, ND 58501-5095

Subject: WBI Energy Transmission, Inc.
Proposed North Bakken Expansion Project
McKenzie, Williams, Burke, and Mountrail Counties, North Dakota

Dear Steve Dyke:

WBI Energy Transmission, Inc. (WBI Energy) is proposing to construct and operate the North Bakken Expansion Project (Project), which consists of an approximately 60-mile-long, 20-inch diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to an interconnect with Northern Border Pipeline Company's mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Compressor Station) will be constructed near this interconnect.

The Project also involves construction of approximately 20 miles of 12-inch diameter natural gas pipeline between the existing Tioga Compressor Station and an existing receipt station, the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and additional/modifications to certain receipt/delivery points and laterals along the pipeline routes. The attached map depicts the preliminary proposed pipeline route and the location of Project facilities.

The Project will add natural gas takeaway capacity (estimated at approximately 200,000 Mcf/day) to help meet the natural gas transportation needs in the Bakken region while reducing natural gas flaring.

The Project is regulated by the Federal Energy Regulatory Commission (FERC) under Section 7(c) of the Natural Gas Act. Under the Energy Policy Act of 2005, FERC is the lead agency for coordinating federal authorizations and complying

with the National Environmental Policy Act (NEPA) on natural gas pipeline projects subject to its jurisdiction. WBI Energy plans to submit an application with the FERC in December 2019 for a Certificate of Public Convenience and Necessity (Certificate) to construct and operate the proposed pipeline and associated facilities. Applications for other federal or state authorizations will be submitted prior to or at the same time as the FERC application or on timelines defined by the appropriate federal or state regulations. WBI Energy anticipates receiving a Certificate from the FERC by December 2020, with construction planned to begin in early 2021.

WBI Energy plans to file a request with the FERC to use the FERC's NEPA pre-filing process for the Project. This process will provide agencies, landowners, and other stakeholders the opportunity to work with WBI Energy and the FERC to identify and resolve environmental issues prior to the filing of the Certificate application. This will result in a more efficient regulatory review process, including NEPA review of the Project. Pending FERC approval, WBI Energy anticipates preparing a draft Environmental Assessment (EA) for use by FERC staff. WBI Energy looks forward to working with you throughout the pre-filing process to ensure that your concerns are identified and addressed in the draft EA.

WBI Energy has retained Environmental Resources Management (ERM) to provide environmental support services for the project. An ERM representative will be in touch with you in the near future to provide additional information and discuss specific permitting and/or consultation requirements. In the meantime, if you have questions about the project, please contact Andrea Thornton of ERM at 503-525-5159 or myself at 406-359-7332.

Thank you for your time and assistance with this project.

Sincerely,



Jill Linn
Environmental Affairs
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map

cc: Greg Huncovsky, WBI
Andrea Thornton, ERM



Miles
0 1.75 3.5 7

N

1 in = 3 miles

Project Overview Map

North Bakken Expansion Project
WBI Energy

WBI ENERGY TRANSMISSION

Legend

- Above Ground Facilities
- Road Bores for Uprating Existing Pipeline
- Proposed Tioga to Elk Creek Compressor Pipeline
- Proposed Norse to Tioga Loop Pipeline
- Northern Border Pipeline
- Existing WBI Pipeline

Burke County
Mountrail County
Williams County
McKenzie County

North Dakota

PROJECT AREA OVERVIEW



By: SMS

Path: F:\GIS\Projects_Authorized\North_Bakken_Expansion_Project\Northern_Bakken_Expansion_24X36_2.mxd

1:214,000 - when Printed on 24X36

Date: 4/10/2019

LOG

LOG OF TELEPHONE CONVERSATION

CALL TO/FROM WHOM:	PHONE NO.:
John Schumaker, Resource Biologist	701-328-6321 jdschumacher@nd.gov
COMPANY: North Dakota Game and Fish Department	
ERM CONTACT: Andrea Thornton, Justin Moffett	PHONE NO.:
DATE: May 16, 2019	TIME OF CONVERSATION: 11:00 am
RE: North Bakken Expansion: State wildlife consultation requirements	
SIGNATURE:	

LOG OF CONVERSATION:

The purpose of this call was to discuss state game and fish consultation requirements for the North Bakken Expansion project.

- NDGF's primary concern is impacts to unbroken native prairie.
- Presence of native prairie is pass/fail (it's present or it's not), it is not quality dependent
- NDGF does not have any specific avoidance or minimization measures, they just require that the project proponent restore disturbed areas to their pre-existing condition.
- NRCS and NDGF can provide requirements for native seed mixture used in site restoration.
- Any crossings of White Earth River (outside project area), Cherry Creek, Tobacco Garden Creek and Beaver Creek must be HDD'd, not open cut.
- GIS data and memo describing native prairie
- NDGF will provide information on spawning season dates in which WBI must avoid in-water construction activities.

Lisa DiNicolantonio

From: Andrea Thornton
Sent: Friday, May 24, 2019 1:43 PM
To: jdschumacher@nd.gov
Cc: Justin Moffett
Subject: North Bakken Expansion Project - FERC Plan and Procedures
Attachments: FERC Plan.pdf; FERC Procedures.pdf

Hi John –

I apologize for the delay in getting these to you, but as a follow- to our discussion last week attached are copies of FERC's Plan and Procedures.

Thanks,
Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com







Office of
Energy Projects

May 2013

UPLAND EROSION CONTROL, REVEGETATION, AND MAINTENANCE PLAN

Washington, DC 20426

MAY 2013 VERSION

UPLAND EROSION CONTROL, REVEGETATION, AND MAINTENANCE PLAN

TABLE OF CONTENTS

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UPLAND EROSION CONTROL, REVEGETATION, AND MAINTENANCE PLAN (PLAN)

I. APPLICABILITY

A. The intent of this Plan is to assist project sponsors by identifying baseline mitigation measures for minimizing erosion and enhancing revegetation. Project sponsors shall specify in their applications for a new FERC authorization and in prior notice and advance notice filings, any individual measures in this Plan they consider unnecessary, technically infeasible, or unsuitable due to local conditions and fully describe any alternative measures they would use. Project sponsors shall also explain how those alternative measures would achieve a comparable level of mitigation.

Once a project is authorized, project sponsors can request further changes as variances to the measures in this Plan (or the applicant's approved plan). The Director of the Office of Energy Projects (Director) will consider approval of variances upon the project sponsor's written request, if the Director agrees that a variance:

1. provides equal or better environmental protection;

2. is necessary because a portion of this Plan is infeasible or unworkable based on project-specific conditions; or

3. is specifically required in writing by another federal, state, or Native American land management agency for the portion of the project on its land or under its jurisdiction.

Sponsors of projects planned for construction under the automatic authorization provisions in the FERC's regulations must receive written approval for any variances in advance of construction.

Project-related impacts on wetland and waterbody systems are addressed in the staff's Wetland and Waterbody Construction and Mitigation Procedures (Procedures).

II. SUPERVISION AND INSPECTION

A. ENVIRONMENTAL INSPECTION

1. At least one Environmental Inspector is required for each construction spread during construction and restoration (as defined by section V). The number and experience of Environmental Inspectors assigned to each construction spread shall be appropriate for the length of the construction spread and the number/significance of resources affected.

2. Environmental Inspectors shall have peer status with all other activity inspectors.

3. Environmental Inspectors shall have the authority to stop activities that violate the environmental conditions of the FERC's Orders, stipulations of other environmental permits or approvals, or landowner easement agreements; and to order appropriate corrective action.

B. RESPONSIBILITIES OF ENVIRONMENTAL INSPECTORS

At a minimum, the Environmental Inspector(s) shall be responsible for:

1. Inspecting construction activities for compliance with the requirements of this Plan, the Procedures, the environmental conditions of the FERC's Orders, the mitigation measures proposed by the project sponsor (as approved and/or modified by the Order), other environmental permits and approvals, and environmental requirements in landowner easement agreements.

2. Identifying, documenting, and overseeing corrective actions, as necessary to bring an activity back into compliance;

3. Verifying that the limits of authorized construction work areas and locations of access roads are visibly marked before clearing, and maintained throughout construction;

4. Verifying the location of signs and highly visible flagging marking the boundaries of sensitive resource areas, waterbodies, wetlands, or areas with special requirements along the construction work area;

5. Identifying erosion/sediment control and soil stabilization needs in all areas;

6. Ensuring that the design of slope breakers will not cause erosion or direct water into sensitive environmental resource areas, including cultural resource sites, wetlands, waterbodies, and sensitive species habitats;

7. Verifying that dewatering activities are properly monitored and do not result in the deposition of sand, silt, and/or sediment into sensitive environmental resource areas, including wetlands, waterbodies, cultural resource sites, and sensitive species habitats; stopping dewatering activities if such deposition is occurring and ensuring the design of the discharge is changed to prevent reoccurrence; and verifying that dewatering structures are removed after completion of dewatering activities;

8. Ensuring that subsoil and topsoil are tested in agricultural and residential areas to measure compaction and determine the need for corrective action;

9. Advising the Chief Construction Inspector when environmental conditions (such as wet weather or frozen soils) make it advisable to restrict or delay construction activities to avoid topsoil mixing or excessive compaction;

10. Ensuring restoration of contours and topsoil;

11. Verifying that the soils imported for agricultural or residential use are certified as free of noxious weeds and soil pests, unless otherwise approved by the landowner;

12. Ensuring that erosion control devices are properly installed to prevent sediment flow into sensitive environmental resource areas (e.g., wetlands, waterbodies, cultural resource sites, and sensitive species habitats) and onto roads, and determining the need for additional erosion control devices;

13. Inspecting and ensuring the maintenance of temporary erosion control measures at least:

    a. on a daily basis in areas of active construction or equipment operation;

    b. on a weekly basis in areas with no construction or equipment operation; and

    c. within 24 hours of each 0.5 inch of rainfall;

14. Ensuring the repair of all ineffective temporary erosion control measures within 24 hours of identification, or as soon as conditions allow if compliance with this time frame would result in greater environmental impacts;

15. Keeping records of compliance with the environmental conditions of the FERC's Orders, and the mitigation measures proposed by the project sponsor in the application submitted to the FERC, and other federal or state environmental permits during active construction and restoration;

16. Identifying areas that should be given special attention to ensure stabilization and restoration after the construction phase; and

17. Verifying that locations for any disposal of excess construction materials for beneficial reuse comply with section III.E.

III. PRECONSTRUCTION PLANNING

The project sponsor shall do the following before construction:

A. CONSTRUCTION WORK AREAS

1. Identify all construction work areas (e.g., construction right-of-way, extra work space areas, pipe storage and contractor yards, borrow and disposal areas, access roads) that would be needed for safe construction. The project sponsor must ensure that appropriate cultural resources and biological surveys are conducted, as determined necessary by the appropriate federal and state agencies.

2. Project sponsors are encouraged to consider expanding any required cultural resources and endangered species surveys in anticipation of the need for activities outside of authorized work areas.

3. Plan construction sequencing to limit the amount and duration of open trench sections, as necessary, to prevent excessive erosion or sediment flow into sensitive environmental resource areas.

B. DRAIN TILE AND IRRIGATION SYSTEMS

1. Attempt to locate existing drain tiles and irrigation systems.

2. Contact landowners and local soil conservation authorities to determine the locations of future drain tiles that are likely to be installed within 3 years of the authorized construction.

3. Develop procedures for constructing through drain-tiled areas, maintaining irrigation systems during construction, and repairing drain tiles and irrigation systems after construction.

4. Engage qualified drain tile specialists, as needed to conduct or monitor repairs to drain tile systems affected by construction. Use drain tile specialists from the project area, if available.

C. GRAZING DEFERMENT

Develop grazing deferment plans with willing landowners, grazing permittees, and land management agencies to minimize grazing disturbance of revegetation efforts.

D. ROAD CROSSINGS AND ACCESS POINTS

Plan for safe and accessible conditions at all roadway crossings and access points during construction and restoration.

E. DISPOSAL PLANNING

Determine methods and locations for the regular collection, containment, and disposal of excess construction materials and debris (e.g., timber, slash, mats, garbage, drill cuttings and fluids, excess rock) throughout the construction process. Disposal of materials for beneficial reuse must not result in adverse environmental impact and is subject to compliance with all applicable survey, landowner or land management agency approval, and permit requirements.

F. AGENCY COORDINATION

The project sponsor must coordinate with the appropriate local, state, and federal agencies as outlined in this Plan and/or required by the FERC's Orders.

1. Obtain written recommendations from the local soil conservation authorities or land management agencies regarding permanent erosion control and revegetation specifications.

2. Develop specific procedures in coordination with the appropriate agencies to prevent the introduction or spread of invasive species, noxious weeds, and soil pests resulting from construction and restoration activities.

3. Develop specific procedures in coordination with the appropriate agencies and landowners, as necessary, to allow for livestock and wildlife movement and protection during construction.

4. Develop specific blasting procedures in coordination with the appropriate agencies that address pre- and post-blast inspections; advanced public notification; and mitigation measures for building foundations, groundwater wells, and springs. Use appropriate methods (e.g., blasting mats) to prevent damage to nearby structures and to prevent debris from entering sensitive environmental resource areas.

G. SPILL PREVENTION AND RESPONSE PROCEDURES

The project sponsor shall develop project-specific Spill Prevention and Response Procedures, as specified in section IV of the staff's Procedures. A copy must be filed with the Secretary of the FERC (Secretary) prior to construction and made available in the field on each construction spread. The filing requirement does not apply to projects constructed under the automatic authorization provisions in the FERC's regulations.

H. RESIDENTIAL CONSTRUCTION

For all properties with residences located within 50 feet of construction work areas, project sponsors shall: avoid removal of mature trees and landscaping within the construction work area unless necessary for safe operation of construction equipment, or as specified in landowner agreements; fence the edge of the construction work area for a distance of 100 feet on either side of the residence; and restore all lawn areas and landscaping immediately following clean up operations, or as specified in landowner agreements. If seasonal or other weather conditions prevent compliance with these time frames, maintain and monitor temporary erosion controls (sediment barriers and mulch) until conditions allow completion of restoration.

I. WINTER CONSTRUCTION PLANS

If construction is planned to occur during winter weather conditions, project sponsors shall develop and file a project-specific winter construction plan with the FERC application. This filing requirement does not apply to projects constructed under the automatic authorization provisions of the FERC's regulations.

The plan shall address:

1. winter construction procedures (e.g., snow handling and removal, access road construction and maintenance, soil handling under saturated or frozen conditions, topsoil stripping);

2. stabilization and monitoring procedures if ground conditions will delay restoration until the following spring (e.g., mulching and erosion controls, inspection and reporting, stormwater control during spring thaw conditions); and

3. final restoration procedures (e.g., subsidence and compaction repair, topsoil replacement, seeding).

IV. INSTALLATION

A. APPROVED AREAS OF DISTURBANCE

1. Project-related ground disturbance shall be limited to the construction right-of-way, extra work space areas, pipe storage yards, borrow and disposal areas, access roads, and other areas approved in the FERC's Orders. Any project-related ground disturbing activities outside these areas will require prior Director approval. This requirement does not apply to activities needed to comply with the Plan and Procedures (i.e., slope breakers, energy-dissipating devices, dewatering structures, drain tile system repairs) or minor field realignments and workspace shifts per landowner needs and requirements that do not affect other landowners or sensitive environmental resource areas. All construction or restoration activities outside of authorized areas are subject to all applicable survey and permit requirements, and landowner easement agreements.

2. The construction right-of-way width for a project shall not exceed 75 feet or that described in the FERC application unless otherwise modified by a FERC Order. However, in limited, non-wetland areas, this construction right-of-way width may be expanded by up to 25 feet without Director approval to accommodate full construction right-of-way topsoil segregation and to ensure safe construction where topographic conditions (e.g., side-slopes) or soil limitations require it. Twenty-five feet of extra construction right-of-way width may also be used in limited, non-wetland or non-forested areas for truck turn-arounds where no reasonable alternative access exists.

   Project use of these additional limited areas is subject to landowner or land management agency approval and compliance with all applicable survey and permit requirements. When additional areas are used, each one shall be identified and the need explained in the weekly or biweekly construction reports to the FERC, if required. The following material shall be included in the reports:

   a. the location of each additional area by station number and reference to previously filed alignment sheets, or updated alignment sheets showing the additional areas;

   b. identification of the filing at FERC containing evidence that the additional areas were previously surveyed; and

c. a statement that landowner approval has been obtained and is available in project files.

Prior written approval of the Director is required when the authorized construction right-of-way width would be expanded by more than 25 feet.

B. TOPSOIL SEGREGATION

1. Unless the landowner or land management agency specifically approves otherwise, prevent the mixing of topsoil with subsoil by stripping topsoil from either the full work area or from the trench and subsoil storage area (ditch plus spoil side method) in:

   a. cultivated or rotated croplands, and managed pastures;

   b. residential areas;

   c. hayfields; and

   d. other areas at the landowner's or land managing agency's request.

2. In residential areas, importation of topsoil is an acceptable alternative to topsoil segregation.

3. Where topsoil segregation is required, the project sponsor must:

   a. segregate at least 12 inches of topsoil in deep soils (more than 12 inches of topsoil); and

   b. make every effort to segregate the entire topsoil layer in soils with less than 12 inches of topsoil.

4. Maintain separation of salvaged topsoil and subsoil throughout all construction activities.

5. Segregated topsoil may not be used for padding the pipe, constructing temporary slope breakers or trench plugs, improving or maintaining roads, or as a fill material.

6. Stabilize topsoil piles and minimize loss due to wind and water erosion with use of sediment barriers, mulch, temporary seeding, tackifiers, or functional equivalents, where necessary.

C. DRAIN TILES

1. Mark locations of drain tiles damaged during construction.

2. Probe all drainage tile systems within the area of disturbance to check for damage.

3. Repair damaged drain tiles to their original or better condition. Do not use filter-covered drain tiles unless the local soil conservation authorities and the landowner agree. Use qualified specialists for testing and repairs.

4. For new pipelines in areas where drain tiles exist or are planned, ensure that the depth of cover over the pipeline is sufficient to avoid interference with drain tile systems. For adjacent pipeline loops in agricultural areas, install the new pipeline with at least the same depth of cover as the existing pipeline(s).

D. IRRIGATION

Maintain water flow in crop irrigation systems, unless shutoff is coordinated with affected parties.

E. ROAD CROSSINGS AND ACCESS POINTS

1. Maintain safe and accessible conditions at all road crossings and access points during construction.

2. If crushed stone access pads are used in residential or agricultural areas, place the stone on synthetic fabric to facilitate removal.

3. Minimize the use of tracked equipment on public roadways. Remove any soil or gravel spilled or tracked onto roadways daily or more frequent as necessary to maintain safe road conditions. Repair any damages to roadway surfaces, shoulders, and bar ditches.

F. TEMPORARY EROSION CONTROL

Install temporary erosion controls immediately after initial disturbance of the soil. Temporary erosion controls must be properly maintained throughout construction (on a daily basis) and reinstalled as necessary (such as after backfilling of the trench) until replaced by permanent erosion controls or restoration is complete.

1. Temporary Slope Breakers

   a. Temporary slope breakers are intended to reduce runoff velocity and divert water off the construction right-of-way. Temporary slope

breakers may be constructed of materials such as soil, silt fence, staked hay or straw bales, or sand bags.

b. Install temporary slope breakers on all disturbed areas, as necessary to avoid excessive erosion. Temporary slope breakers must be installed on slopes greater than 5 percent where the base of the slope is less than 50 feet from waterbody, wetland, and road crossings at the following spacing (closer spacing shall be used if necessary):

Slope (%)	Spacing (feet)
5 - 15	300
>15 - 30	200
>30	100

c. Direct the outfall of each temporary slope breaker to a stable, well vegetated area or construct an energy-dissipating device at the end of the slope breaker and off the construction right-of-way.

d. Position the outfall of each temporary slope breaker to prevent sediment discharge into wetlands, waterbodies, or other sensitive environmental resource areas.

2. Temporary Trench Plugs

Temporary trench plugs are intended to segment a continuous open trench prior to backfill.

a. Temporary trench plugs may consist of unexcavated portions of the trench, compacted subsoil, sandbags, or some functional equivalent.

b. Position temporary trench plugs, as necessary, to reduce trenchline erosion and minimize the volume and velocity of trench water flow at the base of slopes.

3. Sediment Barriers

Sediment barriers are intended to stop the flow of sediments and to prevent the deposition of sediments beyond approved workspaces or into sensitive resources.

a. Sediment barriers may be constructed of materials such as silt fence, staked hay or straw bales, compacted earth (e.g., driveable berms across travelways), sand bags, or other appropriate materials.

b. At a minimum, install and maintain temporary sediment barriers across the entire construction right-of-way at the base of slopes greater than 5 percent where the base of the slope is less than 50 feet from a waterbody, wetland, or road crossing until revegetation is successful as defined in this Plan. Leave adequate room between the base of the slope and the sediment barrier to accommodate ponding of water and sediment deposition.

c. Where wetlands or waterbodies are adjacent to and downslope of construction work areas, install sediment barriers along the edge of these areas, as necessary to prevent sediment flow into the wetland or waterbody.

4. Mulch

a. Apply mulch on all slopes (except in cultivated cropland) concurrent with or immediately after seeding, where necessary to stabilize the soil surface and to reduce wind and water erosion. Spread mulch uniformly over the area to cover at least 75 percent of the ground surface at a rate of 2 tons/acre of straw or its equivalent, unless the local soil conservation authority, landowner, or land managing agency approves otherwise in writing.

b. Mulch can consist of weed-free straw or hay, wood fiber hydromulch, erosion control fabric, or some functional equivalent.

c. Mulch all disturbed upland areas (except cultivated cropland) before seeding if:

(1) final grading and installation of permanent erosion control measures will not be completed in an area within 20 days after the trench in that area is backfilled (10 days in residential areas), as required in section V.A.1; or

(2) construction or restoration activity is interrupted for extended periods, such as when seeding cannot be completed due to seeding period restrictions.

d. If mulching before seeding, increase mulch application on all slopes within 100 feet of waterbodies and wetlands to a rate of 3 tons/acre of straw or equivalent.

e. If wood chips are used as mulch, do not use more than 1 ton/acre and add the equivalent of 11 lbs/acre available nitrogen (at least 50 percent of which is slow release).

f. Ensure that mulch is adequately anchored to minimize loss due to wind and water.

g. When anchoring with liquid mulch binders, use rates recommended by the manufacturer. Do not use liquid mulch binders within 100 feet of wetlands or waterbodies, except where the product is certified environmentally non-toxic by the appropriate state or federal agency or independent standards-setting organization.

h. Do not use synthetic monofilament mesh/netted erosion control materials in areas designated as sensitive wildlife habitat, unless the product is specifically designed to minimize harm to wildlife. Anchor erosion control fabric with staples or other appropriate devices.

V. RESTORATION

A. CLEANUP

1. Commence cleanup operations immediately following backfill operations. Complete final grading, topsoil replacement, and installation of permanent erosion control structures within 20 days after backfilling the trench (10 days in residential areas). If seasonal or other weather conditions prevent compliance with these time frames, maintain temporary erosion controls (i.e., temporary slope breakers, sediment barriers, and mulch) until conditions allow completion of cleanup.

   If construction or restoration unexpectedly continues into the winter season when conditions could delay successful decompaction, topsoil replacement, or seeding until the following spring, file with the Secretary for the review and written approval of the Director, a winter construction plan (as specified in section III.I). This filing requirement does not apply to projects constructed under the automatic authorization provisions of the FERC's regulations.

2. A travel lane may be left open temporarily to allow access by construction traffic if the temporary erosion control structures are installed as specified in section IV.F. and inspected and maintained as specified in sections II.B.12 through 14. When access is no longer required the travel lane must be removed and the right-of-way restored.

3. Rock excavated from the trench may be used to backfill the trench only to the top of the existing bedrock profile. Rock that is not returned to the trench shall be considered construction debris, unless approved for use as mulch or for some other use on the construction work areas by the landowner or land managing agency.

4. Remove excess rock from at least the top 12 inches of soil in all cultivated or rotated cropland, managed pastures, hayfields, and residential areas, as well as other areas at the landowner's request. The size, density, and distribution of rock on the construction work area shall be similar to adjacent areas not disturbed by construction. The landowner or land management agency may approve other provisions in writing.

5. Grade the construction right-of-way to restore pre-construction contours and leave the soil in the proper condition for planting.

6. Remove construction debris from all construction work areas unless the landowner or land managing agency approves leaving materials onsite for beneficial reuse, stabilization, or habitat restoration.

7. Remove temporary sediment barriers when replaced by permanent erosion control measures or when revegetation is successful.

B. PERMANENT EROSION CONTROL DEVICES

1. Trench Breakers

a. Trench breakers are intended to slow the flow of subsurface water along the trench. Trench breakers may be constructed of materials such as sand bags or polyurethane foam. Do not use topsoil in trench breakers.

b. An engineer or similarly qualified professional shall determine the need for and spacing of trench breakers. Otherwise, trench breakers shall be installed at the same spacing as and upslope of permanent slope breakers.

c. In agricultural fields and residential areas where slope breakers are not typically required, install trench breakers at the same spacing as if permanent slope breakers were required.

d. At a minimum, install a trench breaker at the base of slopes greater than 5 percent where the base of the slope is less than 50 feet from a waterbody or wetland and where needed to avoid draining a waterbody or wetland. Install trench breakers at wetland boundaries, as specified in the Procedures. Do not install trench breakers within a wetland.

2. Permanent Slope Breakers

a. Permanent slope breakers are intended to reduce runoff velocity, divert water off the construction right-of-way, and prevent sediment deposition into sensitive resources. Permanent slope breakers may be constructed of materials such as soil, stone, or some functional equivalent.

b. Construct and maintain permanent slope breakers in all areas, except cultivated areas and lawns, unless requested by the landowner, using spacing recommendations obtained from the local soil conservation authority or land managing agency.

In the absence of written recommendations, use the following spacing unless closer spacing is necessary to avoid excessive erosion on the construction right-of-way:

Slope (%)	Spacing (feet)
5 - 15	300
>15 - 30	200
>30	100

c. Construct slope breakers to divert surface flow to a stable area without causing water to pool or erode behind the breaker. In the absence of a stable area, construct appropriate energy-dissipating devices at the end of the breaker.

d. Slope breakers may extend slightly (about 4 feet) beyond the edge of the construction right-of-way to effectively drain water off the disturbed area. Where slope breakers extend beyond the edge of the construction right-of-way, they are subject to compliance with all applicable survey requirements.

C. SOIL COMPACTION MITIGATION

1. Test topsoil and subsoil for compaction at regular intervals in agricultural and residential areas disturbed by construction activities. Conduct tests on the same soil type under similar moisture conditions in undisturbed areas to approximate preconstruction conditions. Use penetrometers or other appropriate devices to conduct tests.

2. Plow severely compacted agricultural areas with a paraplow or other deep tillage implement. In areas where topsoil has been segregated, plow the subsoil before replacing the segregated topsoil.

If subsequent construction and cleanup activities result in further compaction, conduct additional tilling.

3. Perform appropriate soil compaction mitigation in severely compacted residential areas.

D. REVEGETATION

1. General

a. The project sponsor is responsible for ensuring successful revegetation of soils disturbed by project-related activities, except as noted in section V.D.1.b.

b. Restore all turf, ornamental shrubs, and specialized landscaping in accordance with the landowner's request, or compensate the landowner. Restoration work must be performed by personnel familiar with local horticultural and turf establishment practices.

2. Soil Additives

Fertilize and add soil pH modifiers in accordance with written recommendations obtained from the local soil conservation authority, land management agencies, or landowner. Incorporate recommended soil pH modifier and fertilizer into the top 2 inches of soil as soon as practicable after application.

3. Seeding Requirements

a. Prepare a seedbed in disturbed areas to a depth of 3 to 4 inches using appropriate equipment to provide a firm seedbed. When hydroseeding, scarify the seedbed to facilitate lodging and germination of seed.

b. Seed disturbed areas in accordance with written recommendations for seed mixes, rates, and dates obtained from the local soil conservation authority or the request of the landowner or land management agency. Seeding is not required in cultivated croplands unless requested by the landowner.

c. Perform seeding of permanent vegetation within the recommended seeding dates. If seeding cannot be done within those dates, use appropriate temporary erosion control measures discussed in section IV.F and perform seeding of permanent vegetation at the beginning of the next recommended seeding season. Dormant seeding or temporary

seeding of annual species may also be used, if necessary, to establish cover, as approved by the Environmental Inspector. Lawns may be seeded on a schedule established with the landowner.

d. In the absence of written recommendations from the local soil conservation authorities, seed all disturbed soils within 6 working days of final grading, weather and soil conditions permitting, subject to the specifications in section V.D.3.a through V.D.3.c.

e. Base seeding rates on Pure Live Seed. Use seed within 12 months of seed testing.

f. Treat legume seed with an inoculant specific to the species using the manufacturer's recommended rate of inoculant appropriate for the seeding method (broadcast, drill, or hydro).

g. In the absence of written recommendations from the local soil conservation authorities, landowner, or land managing agency to the contrary, a seed drill equipped with a cultipacker is preferred for seed application.

Broadcast or hydroseeding can be used in lieu of drilling at double the recommended seeding rates. Where seed is broadcast, firm the seedbed with a cultipacker or roller after seeding. In rocky soils or where site conditions may limit the effectiveness of this equipment, other alternatives may be appropriate (e.g., use of a chain drag) to lightly cover seed after application, as approved by the Environmental Inspector.

VI. OFF-ROAD VEHICLE CONTROL

To each owner or manager of forested lands, offer to install and maintain measures to control unauthorized vehicle access to the right-of-way. These measures may include:

A. signs;

B. fences with locking gates;

C. slash and timber barriers, pipe barriers, or a line of boulders across the right-of-way; and

D. conifers or other appropriate trees or shrubs across the right-of-way.

VII. POST-CONSTRUCTION ACTIVITIES AND REPORTING

A. MONITORING AND MAINTENANCE

1. Conduct follow-up inspections of all disturbed areas, as necessary, to determine the success of revegetation and address landowner concerns. At a minimum, conduct inspections after the first and second growing seasons.

2. Revegetation in non-agricultural areas shall be considered successful if upon visual survey the density and cover of non-nuisance vegetation are similar in density and cover to adjacent undisturbed lands. In agricultural areas, revegetation shall be considered successful when upon visual survey, crop growth and vigor are similar to adjacent undisturbed portions of the same field, unless the easement agreement specifies otherwise.

   Continue revegetation efforts until revegetation is successful.

3. Monitor and correct problems with drainage and irrigation systems resulting from pipeline construction in agricultural areas until restoration is successful.

4. Restoration shall be considered successful if the right-of-way surface condition is similar to adjacent undisturbed lands, construction debris is removed (unless otherwise approved by the landowner or land managing agency per section V.A.6), revegetation is successful, and proper drainage has been restored.

5. Routine vegetation mowing or clearing over the full width of the permanent right-of-way in uplands shall not be done more frequently than every 3 years. However, to facilitate periodic corrosion/leak surveys, a corridor not exceeding 10 feet in width centered on the pipeline may be cleared at a frequency necessary to maintain the 10-foot corridor in an herbaceous state. In no case shall routine vegetation mowing or clearing occur during the migratory bird nesting season between April 15 and August 1 of any year unless specifically approved in writing by the responsible land management agency or the U.S. Fish and Wildlife Service.

6. Efforts to control unauthorized off-road vehicle use, in cooperation with the landowner, shall continue throughout the life of the project. Maintain signs, gates, and permanent access roads as necessary.

B. REPORTING

1. The project sponsor shall maintain records that identify by milepost:

   a. method of application, application rate, and type of fertilizer, pH modifying agent, seed, and mulch used;

   b. acreage treated;

   c. dates of backfilling and seeding;

   d. names of landowners requesting special seeding treatment and a description of the follow-up actions;

   e. the location of any subsurface drainage repairs or improvements made during restoration; and

   f. any problem areas and how they were addressed.

2. The project sponsor shall file with the Secretary quarterly activity reports documenting the results of follow-up inspections required by section VII.A.1; any problem areas, including those identified by the landowner; and corrective actions taken for at least 2 years following construction.

   The requirement to file quarterly activity reports with the Secretary does not apply to projects constructed under the automatic authorization, prior notice, or advanced notice provisions in the FERC's regulations.



Federal Energy Regulatory Commission

Office of Energy Projects

May 2013

WETLAND AND WATERBODY CONSTRUCTION AND MITIGATION PROCEDURES

Washington, DC 20426

MAY 2013 VERSION

WETLAND AND WATERBODY CONSTRUCTION AND MITIGATION PROCEDURES

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WETLAND AND WATERBODY
CONSTRUCTION AND MITIGATION PROCEDURES (PROCEDURES)

I. APPLICABILITY

A. The intent of these Procedures is to assist project sponsors by identifying baseline mitigation measures for minimizing the extent and duration of project-related disturbance on wetlands and waterbodies. Project sponsors shall specify in their applications for a new FERC authorization, and in prior notice and advance notice filings, any individual measures in these Procedures they consider unnecessary, technically infeasible, or unsuitable due to local conditions and fully describe any alternative measures they would use. Project sponsors shall also explain how those alternative measures would achieve a comparable level of mitigation.

Once a project is authorized, project sponsors can request further changes as variances to the measures in these Procedures (or the applicant's approved procedures). The Director of the Office of Energy Projects (Director) will consider approval of variances upon the project sponsor's written request, if the Director agrees that a variance:

1. provides equal or better environmental protection;

2. is necessary because a portion of these Procedures is infeasible or unworkable based on project-specific conditions; or

3. is specifically required in writing by another federal, state, or Native American land management agency for the portion of the project on its land or under its jurisdiction.

Sponsors of projects planned for construction under the automatic authorization provisions in the FERC's regulations must receive written approval for any variances in advance of construction.

Project-related impacts on non-wetland areas are addressed in the staff's Upland Erosion Control, Revegetation, and Maintenance Plan (Plan).

B. DEFINITIONS

1. "Waterbody" includes any natural or artificial stream, river, or drainage with perceptible flow at the time of crossing, and other permanent waterbodies such as ponds and lakes:

   a. "minor waterbody" includes all waterbodies less than or equal to 10 feet wide at the water's edge at the time of crossing;

   b. "intermediate waterbody" includes all waterbodies greater than 10 feet wide but less than or equal to 100 feet wide at the water's edge at the time of crossing; and

   c. "major waterbody" includes all waterbodies greater than 100 feet wide at the water's edge at the time of crossing.

2. "Wetland" includes any area that is not in actively cultivated or rotated cropland and that satisfies the requirements of the current federal methodology for identifying and delineating wetlands.

II. PRECONSTRUCTION FILING

A. The following information must be filed with the Secretary of the FERC (Secretary) prior to the beginning of construction, for the review and written approval by the Director:

1. site-specific justifications for extra work areas that would be closer than 50 feet from a waterbody or wetland; and

2. site-specific justifications for the use of a construction right-of-way greater than 75-feet-wide in wetlands.

B. The following information must be filed with the Secretary prior to the beginning of construction. These filing requirements do not apply to projects constructed under the automatic authorization provisions in the FERC's regulations:

1. Spill Prevention and Response Procedures specified in section IV.A;

2. a schedule identifying when trenching or blasting will occur within each waterbody greater than 10 feet wide, within any designated coldwater fishery, and within any waterbody identified as habitat for federally-listed threatened or endangered species. The project sponsor will revise the schedule as necessary to provide FERC staff at least 14 days advance notice. Changes within this last 14-day period must provide for at least 48 hours advance notice;

3. plans for horizontal directional drills (HDD) under wetlands or waterbodies, specified in section V.B.6.d;

4. site-specific plans for major waterbody crossings, described in section V.B.9;

5. a wetland delineation report as described in section VI.A.1, if applicable; and

6. the hydrostatic testing information specified in section VII.B.3.

III. ENVIRONMENTAL INSPECTORS

A. At least one Environmental Inspector having knowledge of the wetland and waterbody conditions in the project area is required for each construction spread. The number and experience of Environmental Inspectors assigned to each construction spread shall be appropriate for the length of the construction spread and the number/significance of resources affected.

B. The Environmental Inspector's responsibilities are outlined in the Upland Erosion Control, Revegetation, and Maintenance Plan (Plan).

IV. PRECONSTRUCTION PLANNING

A. The project sponsor shall develop project-specific Spill Prevention and Response Procedures that meet applicable requirements of state and federal agencies. A copy must be filed with the Secretary prior to construction and made available in the field on each construction spread. This filing requirement does not apply to projects constructed under the automatic authorization provisions in the FERC's regulations.

1. It shall be the responsibility of the project sponsor and its contractors to structure their operations in a manner that reduces the risk of spills or the accidental exposure of fuels or hazardous materials to waterbodies or wetlands. The project sponsor and its contractors must, at a minimum, ensure that:

a. all employees handling fuels and other hazardous materials are properly trained;

b. all equipment is in good operating order and inspected on a regular basis;

c. fuel trucks transporting fuel to on-site equipment travel only on approved access roads;

d. all equipment is parked overnight and/or fueled at least 100 feet from a waterbody or in an upland area at least 100 feet from a wetland boundary. These activities can occur closer only if the Environmental Inspector determines that there is no reasonable alternative, and the

project sponsor and its contractors have taken appropriate steps (including secondary containment structures) to prevent spills and provide for prompt cleanup in the event of a spill;

e. hazardous materials, including chemicals, fuels, and lubricating oils, are not stored within 100 feet of a wetland, waterbody, or designated municipal watershed area, unless the location is designated for such use by an appropriate governmental authority. This applies to storage of these materials and does not apply to normal operation or use of equipment in these areas;

f. concrete coating activities are not performed within 100 feet of a wetland or waterbody boundary, unless the location is an existing industrial site designated for such use. These activities can occur closer only if the Environmental Inspector determines that there is no reasonable alternative, and the project sponsor and its contractors have taken appropriate steps (including secondary containment structures) to prevent spills and provide for prompt cleanup in the event of a spill;

g. pumps operating within 100 feet of a waterbody or wetland boundary utilize appropriate secondary containment systems to prevent spills; and

h. bulk storage of hazardous materials, including chemicals, fuels, and lubricating oils have appropriate secondary containment systems to prevent spills.

2. The project sponsor and its contractors must structure their operations in a manner that provides for the prompt and effective cleanup of spills of fuel and other hazardous materials. At a minimum, the project sponsor and its contractors must:

a. ensure that each construction crew (including cleanup crews) has on hand sufficient supplies of absorbent and barrier materials to allow the rapid containment and recovery of spilled materials and knows the procedure for reporting spills and unanticipated discoveries of contamination;

b. ensure that each construction crew has on hand sufficient tools and material to stop leaks;

c. know the contact names and telephone numbers for all local, state, and federal agencies (including, if necessary, the U. S. Coast Guard and the National Response Center) that must be notified of a spill; and

d. follow the requirements of those agencies in cleaning up the spill, in excavating and disposing of soils or other materials contaminated by a spill, and in collecting and disposing of waste generated during spill cleanup.

B. AGENCY COORDINATION

The project sponsor must coordinate with the appropriate local, state, and federal agencies as outlined in these Procedures and in the FERC's Orders.

V. WATERBODY CROSSINGS

A. NOTIFICATION PROCEDURES AND PERMITS

1. Apply to the U.S. Army Corps of Engineers (COE), or its delegated agency, for the appropriate wetland and waterbody crossing permits.

2. Provide written notification to authorities responsible for potable surface water supply intakes located within 3 miles downstream of the crossing at least 1 week before beginning work in the waterbody, or as otherwise specified by that authority.

3. Apply for state-issued waterbody crossing permits and obtain individual or generic section 401 water quality certification or waiver.

4. Notify appropriate federal and state authorities at least 48 hours before beginning trenching or blasting within the waterbody, or as specified in applicable permits.

B. INSTALLATION

1. Time Window for Construction

Unless expressly permitted or further restricted by the appropriate federal or state agency in writing on a site-specific basis, instream work, except that required to install or remove equipment bridges, must occur during the following time windows:

a. coldwater fisheries - June 1 through September 30; and

b. coolwater and warmwater fisheries - June 1 through November 30.

2. Extra Work Areas

a. Locate all extra work areas (such as staging areas and additional spoil storage areas) at least 50 feet away from water's edge, except where

the adjacent upland consists of cultivated or rotated cropland or other disturbed land.

b. The project sponsor shall file with the Secretary for review and written approval by the Director, site-specific justification for each extra work area with a less than 50-foot setback from the water's edge, except where the adjacent upland consists of cultivated or rotated cropland or other disturbed land. The justification must specify the conditions that will not permit a 50-foot setback and measures to ensure the waterbody is adequately protected.

c. Limit the size of extra work areas to the minimum needed to construct the waterbody crossing.

3. General Crossing Procedures

a. Comply with the COE, or its delegated agency, permit terms and conditions.

b. Construct crossings as close to perpendicular to the axis of the waterbody channel as engineering and routing conditions permit.

c. Where pipelines parallel a waterbody, maintain at least 15 feet of undisturbed vegetation between the waterbody (and any adjacent wetland) and the construction right-of-way, except where maintaining this offset will result in greater environmental impact.

d. Where waterbodies meander or have multiple channels, route the pipeline to minimize the number of waterbody crossings.

e. Maintain adequate waterbody flow rates to protect aquatic life, and prevent the interruption of existing downstream uses.

f. Waterbody buffers (e.g., extra work area setbacks, refueling restrictions) must be clearly marked in the field with signs and/or highly visible flagging until construction-related ground disturbing activities are complete.

g. Crossing of waterbodies when they are dry or frozen and not flowing may proceed using standard upland construction techniques in accordance with the Plan, provided that the Environmental Inspector verifies that water is unlikely to flow between initial disturbance and final stabilization of the feature. In the event of perceptible flow, the project sponsor must comply with all applicable Procedure requirements for "waterbodies" as defined in section I.B.1.

4. Spoil Pile Placement and Control

   a. All spoil from minor and intermediate waterbody crossings, and upland spoil from major waterbody crossings, must be placed in the construction right-of-way at least 10 feet from the water's edge or in additional extra work areas as described in section V.B.2.

   b. Use sediment barriers to prevent the flow of spoil or silt-laden water into any waterbody.

5. Equipment Bridges

   a. Only clearing equipment and equipment necessary for installation of equipment bridges may cross waterbodies prior to bridge installation. Limit the number of such crossings of each waterbody to one per piece of clearing equipment.

   b. Construct and maintain equipment bridges to allow unrestricted flow and to prevent soil from entering the waterbody. Examples of such bridges include:

      (1) equipment pads and culvert(s);
      (2) equipment pads or railroad car bridges without culverts;
      (3) clean rock fill and culvert(s); and
      (4) flexi-float or portable bridges.

      Additional options for equipment bridges may be utilized that achieve the performance objectives noted above. Do not use soil to construct or stabilize equipment bridges.

   c. Design and maintain each equipment bridge to withstand and pass the highest flow expected to occur while the bridge is in place. Align culverts to prevent bank erosion or streambed scour. If necessary, install energy dissipating devices downstream of the culverts.

   d. Design and maintain equipment bridges to prevent soil from entering the waterbody.

   e. Remove temporary equipment bridges as soon as practicable after permanent seeding.

   f. If there will be more than 1 month between final cleanup and the beginning of permanent seeding and reasonable alternative access to the right-of-way is available, remove temporary equipment bridges as soon as practicable after final cleanup.

g. Obtain any necessary approval from the COE, or the appropriate state agency for permanent bridges.

6. Dry-Ditch Crossing Methods

a. Unless approved otherwise by the appropriate federal or state agency, install the pipeline using one of the dry-ditch methods outlined below for crossings of waterbodies up to 30 feet wide (at the water's edge at the time of construction) that are state-designated as either coldwater or significant coolwater or warmwater fisheries, or federally-designated as critical habitat.

b. Dam and Pump

(1) The dam-and-pump method may be used without prior approval for crossings of waterbodies where pumps can adequately transfer streamflow volumes around the work area, and there are no concerns about sensitive species passage.

(2) Implementation of the dam-and-pump crossing method must meet the following performance criteria:

(i) use sufficient pumps, including on-site backup pumps, to maintain downstream flows;
(ii) construct dams with materials that prevent sediment and other pollutants from entering the waterbody (e.g., sandbags or clean gravel with plastic liner);
(iii) screen pump intakes to minimize entrainment of fish;
(iv) prevent streambed scour at pump discharge; and
(v) continuously monitor the dam and pumps to ensure proper operation throughout the waterbody crossing.

c. Flume Crossing

The flume crossing method requires implementation of the following steps:

(1) install flume pipe after blasting (if necessary), but before any trenching;

(2) use sand bag or sand bag and plastic sheeting diversion structure or equivalent to develop an effective seal and to divert stream flow through the flume pipe (some modifications to the stream bottom may be required to achieve an effective seal);

(3) properly align flume pipe(s) to prevent bank erosion and streambed scour;

(4) do not remove flume pipe during trenching, pipelaying, or backfilling activities, or initial streambed restoration efforts; and

(5) remove all flume pipes and dams that are not also part of the equipment bridge as soon as final cleanup of the stream bed and bank is complete.

d. Horizontal Directional Drill

For each waterbody or wetland that would be crossed using the HDD method, file with the Secretary for the review and written approval by the Director, a plan that includes:

(1) site-specific construction diagrams that show the location of mud pits, pipe assembly areas, and all areas to be disturbed or cleared for construction;

(2) justification that disturbed areas are limited to the minimum needed to construct the crossing;

(3) identification of any aboveground disturbance or clearing between the HDD entry and exit workspaces during construction;

(4) a description of how an inadvertent release of drilling mud would be contained and cleaned up; and

(5) a contingency plan for crossing the waterbody or wetland in the event the HDD is unsuccessful and how the abandoned drill hole would be sealed, if necessary.

The requirement to file HDD plans does not apply to projects constructed under the automatic authorization provisions in the FERC's regulations.

7. Crossings of Minor Waterbodies

Where a dry-ditch crossing is not required, minor waterbodies may be crossed using the open-cut crossing method, with the following restrictions:

a. except for blasting and other rock breaking measures, complete instream construction activities (including trenching, pipe installation, backfill, and restoration of the streambed contours) within 24 hours.

Streambanks and unconsolidated streambeds may require additional restoration after this period;

b. limit use of equipment operating in the waterbody to that needed to construct the crossing; and

c. equipment bridges are not required at minor waterbodies that do not have a state-designated fishery classification or protected status (e.g., agricultural or intermittent drainage ditches). However, if an equipment bridge is used it must be constructed as described in section V.B.5.

8. Crossings of Intermediate Waterbodies

Where a dry-ditch crossing is not required, intermediate waterbodies may be crossed using the open-cut crossing method, with the following restrictions:

a. complete instream construction activities (not including blasting and other rock breaking measures) within 48 hours, unless site-specific conditions make completion within 48 hours infeasible;

b. limit use of equipment operating in the waterbody to that needed to construct the crossing; and

c. all other construction equipment must cross on an equipment bridge as specified in section V.B.5.

9. Crossings of Major Waterbodies

Before construction, the project sponsor shall file with the Secretary for the review and written approval by the Director a detailed, site-specific construction plan and scaled drawings identifying all areas to be disturbed by construction for each major waterbody crossing (the scaled drawings are not required for any offshore portions of pipeline projects). This plan must be developed in consultation with the appropriate state and federal agencies and shall include extra work areas, spoil storage areas, sediment control structures, etc., as well as mitigation for navigational issues. The requirement to file major waterbody crossing plans does not apply to projects constructed under the automatic authorization provisions of the FERC's regulations.

The Environmental Inspector may adjust the final placement of the erosion and sediment control structures in the field to maximize effectiveness.

10. Temporary Erosion and Sediment Control

Install sediment barriers (as defined in section IV.F.3.a of the Plan) immediately after initial disturbance of the waterbody or adjacent upland.

Sediment barriers must be properly maintained throughout construction and reinstalled as necessary (such as after backfilling of the trench) until replaced by permanent erosion controls or restoration of adjacent upland areas is complete. Temporary erosion and sediment control measures are addressed in more detail in the Plan; however, the following specific measures must be implemented at stream crossings:

a. install sediment barriers across the entire construction right-of-way at all waterbody crossings, where necessary to prevent the flow of sediments into the waterbody. Removable sediment barriers (or driveable berms) must be installed across the travel lane. These removable sediment barriers can be removed during the construction day, but must be re-installed after construction has stopped for the day and/or when heavy precipitation is imminent;

b. where waterbodies are adjacent to the construction right-of-way and the right-of-way slopes toward the waterbody, install sediment barriers along the edge of the construction right-of-way as necessary to contain spoil within the construction right-of-way and prevent sediment flow into the waterbody; and

c. use temporary trench plugs at all waterbody crossings, as necessary, to prevent diversion of water into upland portions of the pipeline trench and to keep any accumulated trench water out of the waterbody.

11. Trench Dewatering

Dewater the trench (either on or off the construction right-of-way) in a manner that does not cause erosion and does not result in silt-laden water flowing into any waterbody. Remove the dewatering structures as soon as practicable after the completion of dewatering activities.

C. RESTORATION

1. Use clean gravel or native cobbles for the upper 1 foot of trench backfill in all waterbodies that contain coldwater fisheries.

2. For open-cut crossings, stabilize waterbody banks and install temporary sediment barriers within 24 hours of completing instream construction activities. For dry-ditch crossings, complete streambed and bank stabilization before returning flow to the waterbody channel.

3. Return all waterbody banks to preconstruction contours or to a stable angle of repose as approved by the Environmental Inspector.

4. Install erosion control fabric or a functional equivalent on waterbody banks at the time of final bank recontouring. Do not use synthetic monofilament

mesh/netted erosion control materials in areas designated as sensitive wildlife habitat unless the product is specifically designed to minimize harm to wildlife. Anchor erosion control fabric with staples or other appropriate devices.

5. Application of riprap for bank stabilization must comply with COE, or its delegated agency, permit terms and conditions.

6. Unless otherwise specified by state permit, limit the use of riprap to areas where flow conditions preclude effective vegetative stabilization techniques such as seeding and erosion control fabric.

7. Revegetate disturbed riparian areas with native species of conservation grasses, legumes, and woody species, similar in density to adjacent undisturbed lands.

8. Install a permanent slope breaker across the construction right-of-way at the base of slopes greater than 5 percent that are less than 50 feet from the waterbody, or as needed to prevent sediment transport into the waterbody. In addition, install sediment barriers as outlined in the Plan.

   In some areas, with the approval of the Environmental Inspector, an earthen berm may be suitable as a sediment barrier adjacent to the waterbody.

9. Sections V.C.3 through V.C.7 above also apply to those perennial or intermittent streams not flowing at the time of construction.

D. POST-CONSTRUCTION MAINTENANCE

1. Limit routine vegetation mowing or clearing adjacent to waterbodies to allow a riparian strip at least 25 feet wide, as measured from the waterbody's mean high water mark, to permanently revegetate with native plant species across the entire construction right-of-way. However, to facilitate periodic corrosion/leak surveys, a corridor centered on the pipeline and up to 10 feet wide may be cleared at a frequency necessary to maintain the 10-foot corridor in an herbaceous state. In addition, trees that are located within 15 feet of the pipeline that have roots that could compromise the integrity of the pipeline coating may be cut and removed from the permanent right-of-way. Do not conduct any routine vegetation mowing or clearing in riparian areas that are between HDD entry and exit points.

2. Do not use herbicides or pesticides in or within 100 feet of a waterbody except as allowed by the appropriate land management or state agency.

3. Time of year restrictions specified in section VII.A.5 of the Plan (April 15 – August 1 of any year) apply to routine mowing and clearing of riparian areas.

VI. WETLAND CROSSINGS

A. GENERAL

1. The project sponsor shall conduct a wetland delineation using the current federal methodology and file a wetland delineation report with the Secretary before construction. The requirement to file a wetland delineation report does not apply to projects constructed under the automatic authorization provisions in the FERC's regulations.

   This report shall identify:

   a. by milepost all wetlands that would be affected;

   b. the National Wetlands Inventory (NWI) classification for each wetland;

   c. the crossing length of each wetland in feet; and

   d. the area of permanent and temporary disturbance that would occur in each wetland by NWI classification type.

   The requirements outlined in this section do not apply to wetlands in actively cultivated or rotated cropland. Standard upland protective measures, including workspace and topsoiling requirements, apply to these agricultural wetlands.

2. Route the pipeline to avoid wetland areas to the maximum extent possible. If a wetland cannot be avoided or crossed by following an existing right-of-way, route the new pipeline in a manner that minimizes disturbance to wetlands. Where looping an existing pipeline, overlap the existing pipeline right-of-way with the new construction right-of-way. In addition, locate the loop line no more than 25 feet away from the existing pipeline unless site-specific constraints would adversely affect the stability of the existing pipeline.

3. Limit the width of the construction right-of-way to 75 feet or less. Prior written approval of the Director is required where topographic conditions or soil limitations require that the construction right-of-way width within the boundaries of a federally delineated wetland be expanded beyond 75 feet. Early in the planning process the project sponsor is encouraged to identify site-specific areas where excessively wide trenches could occur and/or where spoil piles could be difficult to maintain because existing soils lack adequate unconfined compressive strength.

4. Wetland boundaries and buffers must be clearly marked in the field with signs and/or highly visible flagging until construction-related ground disturbing activities are complete.

5. Implement the measures of sections V and VI in the event a waterbody crossing is located within or adjacent to a wetland crossing. If all measures of sections V and VI cannot be met, the project sponsor must file with the Secretary a site-specific crossing plan for review and written approval by the Director before construction. This crossing plan shall address at a minimum:

   a. spoil control;

   b. equipment bridges;

   c. restoration of waterbody banks and wetland hydrology;

   d. timing of the waterbody crossing;

   e. method of crossing; and

   f. size and location of all extra work areas.

6. Do not locate aboveground facilities in any wetland, except where the location of such facilities outside of wetlands would prohibit compliance with U.S. Department of Transportation regulations.

B. INSTALLATION

1. Extra Work Areas and Access Roads

   a. Locate all extra work areas (such as staging areas and additional spoil storage areas) at least 50 feet away from wetland boundaries, except where the adjacent upland consists of cultivated or rotated cropland or other disturbed land.

   b. The project sponsor shall file with the Secretary for review and written approval by the Director, site-specific justification for each extra work area with a less than 50-foot setback from wetland boundaries, except where adjacent upland consists of cultivated or rotated cropland or other disturbed land. The justification must specify the site-specific conditions that will not permit a 50-foot setback and measures to ensure the wetland is adequately protected.

   c. The construction right-of-way may be used for access when the wetland soil is firm enough to avoid rutting or the construction right-of-way has been appropriately stabilized to avoid rutting (e.g., with timber riprap, prefabricated equipment mats, or terra mats).

      In wetlands that cannot be appropriately stabilized, all construction equipment other than that needed to install the wetland crossing shall

use access roads located in upland areas. Where access roads in upland areas do not provide reasonable access, limit all other construction equipment to one pass through the wetland using the construction right-of-way.

d. The only access roads, other than the construction right-of-way, that can be used in wetlands are those existing roads that can be used with no modifications or improvements, other than routine repair, and no impact on the wetland.

2. Crossing Procedures

a. Comply with COE, or its delegated agency, permit terms and conditions.

b. Assemble the pipeline in an upland area unless the wetland is dry enough to adequately support skids and pipe.

c. Use "push-pull" or "float" techniques to place the pipe in the trench where water and other site conditions allow.

d. Minimize the length of time that topsoil is segregated and the trench is open. Do not trench the wetland until the pipeline is assembled and ready for lowering in.

e. Limit construction equipment operating in wetland areas to that needed to clear the construction right-of-way, dig the trench, fabricate and install the pipeline, backfill the trench, and restore the construction right-of-way.

f. Cut vegetation just above ground level, leaving existing root systems in place, and remove it from the wetland for disposal.

The project sponsor can burn woody debris in wetlands, if approved by the COE and in accordance with state and local regulations, ensuring that all remaining woody debris is removed for disposal.

g. Limit pulling of tree stumps and grading activities to directly over the trenchline. Do not grade or remove stumps or root systems from the rest of the construction right-of-way in wetlands unless the Chief Inspector and Environmental Inspector determine that safety-related construction constraints require grading or the removal of tree stumps from under the working side of the construction right-of-way.

h. Segregate the top 1 foot of topsoil from the area disturbed by trenching, except in areas where standing water is present or soils are

saturated. Immediately after backfilling is complete, restore the segregated topsoil to its original location.

i. Do not use rock, soil imported from outside the wetland, tree stumps, or brush riprap to support equipment on the construction right-of-way.

j. If standing water or saturated soils are present, or if construction equipment causes ruts or mixing of the topsoil and subsoil in wetlands, use low-ground-weight construction equipment, or operate normal equipment on timber riprap, prefabricated equipment mats, or terra mats.

k. Remove all project-related material used to support equipment on the construction right-of-way upon completion of construction.

3. Temporary Sediment Control

Install sediment barriers (as defined in section IV.F.3.a of the Plan) immediately after initial disturbance of the wetland or adjacent upland. Sediment barriers must be properly maintained throughout construction and reinstalled as necessary (such as after backfilling of the trench). Except as noted below in section VI.B.3.c, maintain sediment barriers until replaced by permanent erosion controls or restoration of adjacent upland areas is complete. Temporary erosion and sediment control measures are addressed in more detail in the Plan.

a. Install sediment barriers across the entire construction right-of-way immediately upslope of the wetland boundary at all wetland crossings where necessary to prevent sediment flow into the wetland.

b. Where wetlands are adjacent to the construction right-of-way and the right-of-way slopes toward the wetland, install sediment barriers along the edge of the construction right-of-way as necessary to contain spoil within the construction right-of-way and prevent sediment flow into the wetland.

c. Install sediment barriers along the edge of the construction right-of-way as necessary to contain spoil and sediment within the construction right-of-way through wetlands. Remove these sediment barriers during right-of-way cleanup.

4. Trench Dewatering

Dewater the trench (either on or off the construction right-of-way) in a manner that does not cause erosion and does not result in silt-laden water flowing into any wetland. Remove the dewatering structures as soon as practicable after the completion of dewatering activities.

C. RESTORATION

1. Where the pipeline trench may drain a wetland, construct trench breakers at the wetland boundaries and/or seal the trench bottom as necessary to maintain the original wetland hydrology.

2. Restore pre-construction wetland contours to maintain the original wetland hydrology.

3. For each wetland crossed, install a trench breaker at the base of slopes near the boundary between the wetland and adjacent upland areas. Install a permanent slope breaker across the construction right-of-way at the base of slopes greater than 5 percent where the base of the slope is less than 50 feet from the wetland, or as needed to prevent sediment transport into the wetland. In addition, install sediment barriers as outlined in the Plan. In some areas, with the approval of the Environmental Inspector, an earthen berm may be suitable as a sediment barrier adjacent to the wetland.

4. Do not use fertilizer, lime, or mulch unless required in writing by the appropriate federal or state agency.

5. Consult with the appropriate federal or state agencies to develop a project-specific wetland restoration plan. The restoration plan shall include measures for re-establishing herbaceous and/or woody species, controlling the invasion and spread of invasive species and noxious weeds (e.g., purple loosestrife and phragmites), and monitoring the success of the revegetation and weed control efforts. Provide this plan to the FERC staff upon request.

6. Until a project-specific wetland restoration plan is developed and/or implemented, temporarily revegetate the construction right-of-way with annual ryegrass at a rate of 40 pounds/acre (unless standing water is present).

7. Ensure that all disturbed areas successfully revegetate with wetland herbaceous and/or woody plant species.

8. Remove temporary sediment barriers located at the boundary between wetland and adjacent upland areas after revegetation and stabilization of adjacent upland areas are judged to be successful as specified in section VII.A.4 of the Plan.

D. POST-CONSTRUCTION MAINTENANCE AND REPORTING

1. Do not conduct routine vegetation mowing or clearing over the full width of the permanent right-of-way in wetlands. However, to facilitate periodic corrosion/leak surveys, a corridor centered on the pipeline and up to 10 feet wide may be cleared at a frequency necessary to maintain the 10-foot corridor in an herbaceous state. In addition, trees within 15 feet of the pipeline with roots that could compromise the integrity of pipeline coating may be selectively cut and removed from the permanent right-of-way. Do not conduct any routine vegetation mowing or clearing in wetlands that are between HDD entry and exit points.

2. Do not use herbicides or pesticides in or within 100 feet of a wetland, except as allowed by the appropriate federal or state agency.

3. Time of year restrictions specified in section VII.A.5 of the Plan (April 15 – August 1 of any year) apply to routine mowing and clearing of wetland areas.

4. Monitor and record the success of wetland revegetation annually until wetland revegetation is successful.

5. Wetland revegetation shall be considered successful if all of the following criteria are satisfied:

   a. the affected wetland satisfies the current federal definition for a wetland (i.e., soils, hydrology, and vegetation);

   b. vegetation is at least 80 percent of either the cover documented for the wetland prior to construction, or at least 80 percent of the cover in adjacent wetland areas that were not disturbed by construction;

   c. if natural rather than active revegetation was used, the plant species composition is consistent with early successional wetland plant communities in the affected ecoregion; and

   d. invasive species and noxious weeds are absent, unless they are abundant in adjacent areas that were not disturbed by construction.

6. Within 3 years after construction, file a report with the Secretary identifying the status of the wetland revegetation efforts and documenting success as defined in section VI.D.5, above. The requirement to file wetland restoration reports with the Secretary does not apply to projects constructed under the automatic authorization, prior notice, or advance notice provisions in the FERC's regulations.

   For any wetland where revegetation is not successful at the end of 3 years after construction, develop and implement (in consultation with a

professional wetland ecologist) a remedial revegetation plan to actively revegetate wetlands. Continue revegetation efforts and file a report annually documenting progress in these wetlands until wetland revegetation is successful.

VII. HYDROSTATIC TESTING

A. NOTIFICATION PROCEDURES AND PERMITS

1. Apply for state-issued water withdrawal permits, as required.

2. Apply for National Pollutant Discharge Elimination System (NPDES) or state-issued discharge permits, as required.

3. Notify appropriate state agencies of intent to use specific sources at least 48 hours before testing activities unless they waive this requirement in writing.

B. GENERAL

1. Perform 100 percent radiographic inspection of all pipeline section welds or hydrotest the pipeline sections, before installation under waterbodies or wetlands.

2. If pumps used for hydrostatic testing are within 100 feet of any waterbody or wetland, address secondary containment and refueling of these pumps in the project's Spill Prevention and Response Procedures.

3. The project sponsor shall file with the Secretary before construction a list identifying the location of all waterbodies proposed for use as a hydrostatic test water source or discharge location. This filing requirement does not apply to projects constructed under the automatic authorization provisions of the FERC's regulations.

C. INTAKE SOURCE AND RATE

1. Screen the intake hose to minimize the potential for entrainment of fish.

2. Do not use state-designated exceptional value waters, waterbodies which provide habitat for federally listed threatened or endangered species, or waterbodies designated as public water supplies, unless appropriate federal, state, and/or local permitting agencies grant written permission.

3. Maintain adequate flow rates to protect aquatic life, provide for all waterbody uses, and provide for downstream withdrawals of water by existing users.

4. Locate hydrostatic test manifolds outside wetlands and riparian areas to the maximum extent practicable.

D. DISCHARGE LOCATION, METHOD, AND RATE

1. Regulate discharge rate, use energy dissipation device(s), and install sediment barriers, as necessary, to prevent erosion, streambed scour, suspension of sediments, or excessive streamflow.

2. Do not discharge into state-designated exceptional value waters, waterbodies which provide habitat for federally listed threatened or endangered species, or waterbodies designated as public water supplies, unless appropriate federal, state, and local permitting agencies grant written permission.

GOVERNOR, Doug Burgum
DIRECTOR, Terry Steinwand
DEPUTY, Scott A. Peterson

"VARIETY IN HUNTING AND FISHING"

NORTH DAKOTA GAME AND FISH DEPARTMENT
100 NORTH BISMARCK EXPRESSWAY BISMARCK, NORTH DAKOTA 58501-5095 PHONE 701-328-6300 FAX 701-328-6352

May 30, 2019

Jill Linn
Environmental Affairs
WBI Energy Transmission, Inc.
2010 Montana Avenue
Glendive, MT 59330

Dear Ms. Linn:

RE: Proposed North Bakken Expansion Project

WBI Energy Transmission, Inc. (WBI Energy) is proposing to construct and operate an approximately 60-mile-long, 20-inch diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to an interconnect with the Northern Border Company's mainline south of Watford City, North Dakota. A new compressor station will be constructed near this interconnect. The North Dakota Game and Fish Department (NDGF) has reviewed this project for wildlife concerns.

A primary concern with pipeline projects is the possible disturbance of native prairie and wooded draws associated with construction of the pipeline and access roads. Avoidance of native prairie areas reduces impacts to a number of grassland species including many of the species of conservation priority. We ask that work within these areas be avoided to the extent possible, every effort be made to prevent destruction of woody vegetation, and disturbed areas be reclaimed to pre-project conditions.

The pipeline route crosses the Missouri River / Lake Sakakawea, a high-valued fishery resource, as well as Beaver, Tobacco Garden, and Cherry Creeks, all Classified fisheries. We recommend that these streams be crossed by directional boring to protect the resource. If this method is not feasible, construction should not take place within the waterway between April 15 and June 1, and controls should be implemented to minimize erosion and sedimentation.

The Department also recommends that additional precautions be implemented into the design of pipes crossing under the State's waterways. One means of minimizing a potentially large pipeline failure is to incorporate pressure sensing valves on both sides of the waterway. These

valves should be placed as close to the waterway as possible while staying out of the floodplain to reduce potential damage from ice and other floating debris. A maintenance schedule should be developed to ensure the integrity of the pipe for the life of the project.

Aquatic nuisance species (ANS) are a major concern in North Dakota. State law requires that the contractor, including any and all subcontractors involved in this project, take appropriate precautions to prevent the introduction or movement of ANS within the state. The contractor should provide the department a reasonable opportunity to inspect any equipment prior to these items being launched or placed into waters of the state. The Department's Aquatic Nuisance Species Coordinator, Ms. Jessica Howell, can be contacted at 701-368-8368 for equipment inspections or additional information regarding ANS prevention protocols.

The National Wetland Inventory indicates a variety of wetlands within the proposed project corridor. Steps should be taken to protect any wetlands that cannot be avoided, no alterations should be made to existing drainage patterns, and above-ground appurtenances should not be placed in wetland areas. Unavoidable destruction or degradation of wetland acres should be mitigated in kind.

Aerial surveys should be conducted for raptor nests before construction begins. We recommend that a ½-mile construction buffer be implemented around active eagle nest sites (known occupied within the past 5 years). Ms. Sandra Johnson, Conservation Biologist, may be contacted at 701-328-6327 for additional information on golden eagle nest sites in the state.

Information regarding the presence of Private Lands Open to Sportsmen (PLOTS) is available at: https://gf.nd.gov/plots/guide. This page is updated to reflect changes as tracts are added or removed. PLOTS is a public access program which cost-shares with private landowners to help conserve fish and wildlife habitat. PLOTS lands are not owned or managed by the NDGF.

We do not believe this project will have significant adverse effects on wildlife or wildlife habitat provided these recommendations are implemented where appropriate during project construction.

Sincerely,

Steven Dyke

(for) Greg Link
Chief
Conservation & Communication Division

cc: Andrea Thornton, ERM

WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

July 17, 2019

0290

Steve Dyke
Conservation Supervisor
North Dakota Department of Game and Fish
100 N Bismarck Expy
Bismarck, ND 58501-5086

Subject: WBI Energy Transmission, Inc.
Invitation to Public Open House for the Proposed North Bakken Expansion Project

Dear Conservation Supervisor Steve Dyke:

WBI Energy Transmission, Inc. (WBI Energy) would like to cordially invite you to attend an open house meeting in your area regarding our proposed plan to build, own and operate the North Bakken Expansion Project (Project).

On June 28, 2019, WBI Energy requested use of the Federal Energy Regulatory Commission's (FERC) pre-filing review process for its proposed North Bakken Expansion Project (FERC Docket No. PF19-7-000). The FERC, the lead federal agency responsible for authorizing the Project, approved WBI Energy's pre-filing request on July 3, 2019. WBI Energy expects to file a formal application for the Project in early 2020.

The Project consists of an approximately 60 mile-long, 20-inch diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to a new interconnect with Northern Border Pipeline Company's mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Creek Compressor Station) will be constructed near this interconnect.

The Project also involves construction of approximately 20 miles of 12-inch diameter natural gas pipeline between the existing Tioga Compressor Station and an existing receipt station along WBI Energy's existing Line Section 25, approximately 10 miles of 12-inch diameter natural gas pipeline along WBI Energy's existing Line Section 30, and an approximately 10 mile, 12-inch diameter natural gas pipeline lateral from WBI Energy's existing Line Section 7.

Additionally, the Project includes the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and the installation of new and modifications to receipt/delivery points and lateral pipeline facilities along the pipeline routes. The attached map depicts the locations of the currently proposed Project facilities. Note that additional facilities have been added to the Project since WBI Energy's initial outreach for the Project earlier this year.

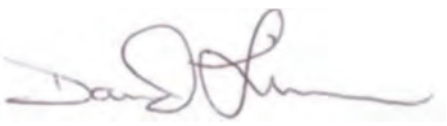
The Project will add natural gas takeaway capacity (estimated at approximately 300,000 Mcf/day) to help meet the natural gas transportation needs in the Bakken region while reducing natural gas flaring.

To provide additional information about the Project and receive stakeholder input, WBI Energy will host public open houses. This will be an informal opportunity to receive project-related materials, view detailed maps and displays, meet with the Project team experts and share your feedback before a formal application is submitted to the FERC. We welcome you to attend any one of the open houses at the dates, times and locations indicated below.

North Bakken Expansion Project Public Open Houses	
Tuesday, August 6 **Location: Tioga**	**Wednesday, August 7** **Location: Watford City**
Neset Consulting Service 6844 State Highway 40 Tioga, North Dakota 58852 11:00 am-1:00 pm and 5:00-7:00 pm	Watford City Civic Center 213 2nd St NE Watford City, North Dakota 58854 11:00 am-1:00 pm and 5:00-7:00 pm

If you have any questions regarding the North Bakken Expansion Project, please contact the Project team at the toll-free number 1-844-825-9397. We look forward to working with you on the Project and seeing you at an upcoming open house.

Sincerely,



David Linn
Project Manager
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map



Miles
0 1.25 2.5 5

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1 in = 3 miles

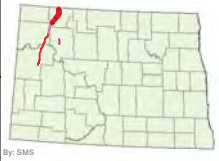
Project Overview Map

North Bakken Expansion Project
WBI Energy

Burke County
Mountrail County
Williams County
McKenzie County

North Dakota

PROJECT AREA OVERVIEW



Legend

- Proposed Line Section 25 Loop Pipeline
- Proposed Elkhorn Creek - Tioga Pipeline
- Proposed Line Section 30 Loop Pipeline
- Road Bores for Uprating Existing Line
- Proposed Receipt Lateral
- WBI Existing Pipelines
- Northern Border Pipeline

By: SMS

Path: F:\GIS\Projects_Authorized\North_Bakken_Expansion_Project\Northern_Bakken_Expansion_24X36_2.mxd

1:174,000 - when Printed on 24X36

Date: 6/28/2010

ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	To: Greg Link
Phone number	(701) 328-633
Company	North Dakota Game and Fish
ERM Contact	Ashley Bromberg
Phone number	(253) 229-4255
Date	09/12/2019
Time of Conversation	1400
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

I called Greg Link to discuss fisheries information for waterbodies crossed by the project. He indicated that he would reach out to others in the department who would have this information and get back to me. I followed up with a summary email after the phone conversation.

CONFIDENTIALITY NOTICE This Call Log contains information which may be confidential, proprietary, privileged, or otherwise protected by law from disclosure or use by a third party. If you have received this facsimile transmission in error, please contact us immediately at the number listed above and take the steps necessary to dispose of this information. Thank you.

Lisa DiNicolantonio

From: Ashley Bromberg
Sent: Friday, September 27, 2019 10:26 AM
To: 'glink@nd.gov'
Cc: Andrea Thornton; Leslie Rodman-Jaramillo
Subject: RE: Re: phone communication regarding environmental impacts in NW ND

Hi Greg,

Have you had a chance to review the fisheries information for the waterbodies we discussed?

Thanks!

Ashley Bromberg
Staff Scientist

ERM
1050 SW 6th Ave Suite 1650 | Portland, OR | 97204
M +1 253-229-4255 | **T** +1 503-488-5282

From: Ashley Bromberg
Sent: Thursday, September 12, 2019 11:52 AM
To: glink@nd.gov
Cc: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: phone communication regarding environmental impacts in NW ND

Hi Greg,

Per our earlier conversation, I am evaluating environmental impacts of a proposed pipeline project which would occur in Burke, Mountail, McKenzie, and Williams counties. Major waterbodies crossed by the project include an HDD crossing of Lake Sakakawea near Tobacco Garden Bay, Cherry Creek (HDD), Northfork Creek (HDD), Sevenmile Creek, Timberprong Creek, Tobacco Garden Creek (HDD), Nelson Creek, Beaver Creek (HDD), and White Earth Creek (HDD).

Can you please provide information available to you regarding the following points:

- Is any commercial fishing currently taking place in these counties/waterbodies?
- Are there any significant spawning aggregations for commercial and recreational fisheries in these counties/waterbodies?

Thank you for your help,

Ashley Bromberg
Staff Scientist

ERM
1050 SW 6th Ave Suite 1650 | Portland, OR | 97204
M +1 253-229-4255 | **T** +1 503-488-5282

Ashley Bromberg

From: Kreft, Bruce L. <bkreft@nd.gov>
Sent: Wednesday, January 15, 2020 9:31 AM
To: Ashley Bromberg
Subject: RE: phone communication regarding environmental impacts in NW ND

Ashley,
We do not have commercial fishing occurring in these areas but we treat them all virtually the same unless we are given specific locations. From a project standpoint, we would put on our standardized spawning restriction timeframe of April 15-June 1. Within this time frame, no work in the water could occur unless issued a waiver due to location, timing, or permitted activity. We also have specific Aquatic Nuisance Species (ANS) regulations that must be followed including a 72-hour notice for equipment inspections.
BK

From: Ashley Bromberg <Ashley.Bromberg@erm.com>
Sent: Wednesday, January 15, 2020 10:10 AM
To: Kreft, Bruce L. <bkreft@nd.gov>
Subject: RE: phone communication regarding environmental impacts in NW ND

CAUTION: This email originated from an outside source. Do not click links or open attachments unless you know they are safe.

Hi Bruce,

Thanks for following up. I spoke with Greg on the phone a while back about some fisheries questions and he requested I email him. We don't need very extensive information, a confirmation of presence/absence (and locations if present would be helpful). Please see below message from September 12. Let me know if you need more information.

Best,

Ashley Bromberg
M/T +1 253-229-4255
W www.erm.com

From: Kreft, Bruce L. <bkreft@nd.gov>
Sent: Wednesday, January 15, 2020 7:23 AM
To: Ashley Bromberg <Ashley.Bromberg@erm.com>
Subject: FW: phone communication regarding environmental impacts in NW ND

Hello Ashley,
I received your recent email regarding spawning areas in several areas. Did you send us a paper solicitation for this project? I apologize if there has been some miscommunication in our agency but I will be the one following up this project. Thanks,
Bruce

From: Link, Greg W. <glink@nd.gov>
Sent: Thursday, September 12, 2019 12:56 PM

To: Ashley Bromberg <Ashley.Bromberg@erm.com>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: RE: phone communication regarding environmental impacts in NW ND

Thank you, Ashley. We will get your project review solicitation in our hopper and get back to you with answers to your specific questions, as well as comments/recommendations concerning other trust resources in the area.

G.Link

From: Ashley Bromberg <Ashley.Bromberg@erm.com>
Sent: Thursday, September 12, 2019 1:52 PM
To: Link, Greg W. <glink@nd.gov>
Cc: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: phone communication regarding environmental impacts in NW ND

CAUTION: This email originated from an outside source. Do not click links or open attachments unless you know they are safe.

Hi Greg,

Per our earlier conversation, I am evaluating environmental impacts of a proposed pipeline project which would occur in Burke, Mountail, McKenzie, and Williams counties. Major waterbodies crossed by the project include an HDD crossing of Lake Sakakawea near Tobacco Garden Bay, Cherry Creek (HDD), Northfork Creek (HDD), Sevenmile Creek, Timberprong Creek, Tobacco Garden Creek (HDD), Nelson Creek, Beaver Creek (HDD), and White Earth Creek (HDD).

Can you please provide information available to you regarding the following points:

- Is any commercial fishing currently taking place in these counties/waterbodies?
- Are there any significant spawning aggregations for commercial and recreational fisheries in these counties/waterbodies?

Thank you for your help,

Ashley Bromberg
Staff Scientist

ERM
1050 SW 6th Ave Suite 1650 | Portland, OR | 97204
M +1 253-229-4255 | **T** +1 503-488-5282



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NORTH BAKKEN EXPANSION PROJECT

Resource Report 1

APPENDIX 1G-1
Agency Correspondence – State Historical Society of North Dakota (SHSND)

WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

April 15, 2019

Claudia Berg, Director
State Historic Preservation Officer
North Dakota Heritage Center
612 East Boulevard Avenue
Bismarck, ND 58505-0830

Subject: WBI Energy Transmission, Inc.
Proposed North Bakken Expansion Project
McKenzie, Williams, Burke, and Mountrail Counties, North Dakota

Dear Claudia Berg:

WBI Energy Transmission, Inc. (WBI Energy) is proposing to construct and operate the North Bakken Expansion Project (Project), which consists of an approximately 60-mile-long, 20-inch diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to an interconnect with Northern Border Pipeline Company's mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Compressor Station) will be constructed near this interconnect.

The Project also involves construction of approximately 20 miles of 12-inch diameter natural gas pipeline between the existing Tioga Compressor Station and an existing receipt station, the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and additional/modifications to certain receipt/delivery points and laterals along the pipeline routes. The attached map depicts the preliminary proposed pipeline route and the location of Project facilities.

The Project will add natural gas takeaway capacity (estimated at approximately 200,000 Mcf/day) to help meet the natural gas transportation needs in the Bakken region while reducing natural gas flaring.

The Project is regulated by the Federal Energy Regulatory Commission (FERC) under Section 7(c) of the Natural Gas Act. Under the Energy Policy Act of 2005, FERC is the lead agency for coordinating federal authorizations and complying

with the National Environmental Policy Act (NEPA) on natural gas pipeline projects subject to its jurisdiction. WBI Energy plans to submit an application with the FERC in December 2019 for a Certificate of Public Convenience and Necessity (Certificate) to construct and operate the proposed pipeline and associated facilities. Applications for other federal or state authorizations will be submitted prior to or at the same time as the FERC application or on timelines defined by the appropriate federal or state regulations. WBI Energy anticipates receiving a Certificate from the FERC by December 2020, with construction planned to begin in early 2021.

WBI Energy plans to file a request with the FERC to use the FERC's NEPA pre-filing process for the Project. This process will provide agencies, landowners, and other stakeholders the opportunity to work with WBI Energy and the FERC to identify and resolve environmental issues prior to the filing of the Certificate application. This will result in a more efficient regulatory review process, including NEPA review of the Project. Pending FERC approval, WBI Energy anticipates preparing a draft Environmental Assessment (EA) for use by FERC staff. WBI Energy looks forward to working with you throughout the pre-filing process to ensure that your concerns are identified and addressed in the draft EA.

WBI Energy has retained Environmental Resources Management (ERM) to provide environmental support services for the project. An ERM representative will be in touch with you in the near future to provide additional information and discuss specific permitting and/or consultation requirements. In the meantime, if you have questions about the project, please contact Andrea Thornton of ERM at 503-525-5159 or myself at 406-359-7332.

Thank you for your time and assistance with this project.

Sincerely,



Jill Linn
Environmental Affairs
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map

cc: Greg Huncovsky, WBI
Andrea Thornton, ERM



Miles
0 1.75 3.5 7

N

1 in = 3 miles

Project Overview Map

North Bakken Expansion Project
WBI Energy

WBI ENERGY TRANSMISSION

Legend

- Above Ground Facilities
- Road Bores for Uprating Existing Pipeline
- Proposed Tioga to Elk Creek Compressor Pipeline
- Proposed Norse to Tioga Loop Pipeline
- Northern Border Pipeline
- Existing WBI Pipeline

Burke County
Mountrail County
Williams County
McKenzie County

North Dakota

PROJECT AREA OVERVIEW



By: SMS

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Date: 4/10/2019

STATE HISTORICAL SOCIETY OF NORTH DAKOTA

Doug Burgum
Governor of North Dakota

North Dakota State Historical Board

Terrance Rockstad
Bismarck - President

H. Patrick Weir
Medora - Vice President

Steve C. Martens
Fargo - Secretary

Albert I. Berger
Grand Forks

Daniel Stenberg
Watford City

Calvin Grinnell
Bismarck

Allan Demaray
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Sara Otte Coleman
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Tourism Division

Kelly Schmidt
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Secretary of State

Melissa Baker
Director
Parks and Recreation Department

Sondra Goebel
Representative
Department of Transportation

Claudia J. Berg
Director

Accredited by the American Alliance of Museums since 1986

June 5, 2019

Mr. Patrick Robblee
ERM
1000 IDS Center
80 South 8th Street
Minneapolis, MN 55402

ND SHPO Ref.: 19-5593, WBI Energy Transmission, Inc., North Bakken Expansion Project-Class III Work Plan, McKenzie, Williams, Burke, and Mountrail Counties, North Dakota

Dear Mr. Robblee,

We reviewed ND SHPO Ref.: 19-5593, WBI Energy Transmission, Inc., North Bakken Expansion Project-Class III Work Plan, McKenzie, Williams, Burke, and Mountrail Counties, North Dakota and we find the work plan acceptable. Please keep us up to date on any changes to the proposed work plan or any additions or changes in federal agency participation.

Thank you for the opportunity to review this project. Please include the ND SHPO Reference number listed above in further correspondence for this specific project. If you have any questions please contact Lisa Steckler, Historic Preservation Planner at (701) 328-3577 or lsteckler@nd.gov

Sincerely,

Claudia J. Berg
State Historic Preservation Officer
(North Dakota)

19-5593

WBI North Bakken Expansion Project
PROJECT CALL LOG

CALL TO/FROM WHOM:	PHONE NO.:
Andrew Clark	701-328-3574

COMPANY:
North Dakota State Historic Preservation Office

PROJECT CONTACT:	PHONE NO.:
Ed Schneider	307-399-6724

DATE:	TIME OF CONVERSATION:
June 14, 2019	11:30 Eastern

RE:
Changes to WBI NBE Work Plan

LOG OF CONVERSATION:

Ed Schneider called Andrew Clark to discuss methodology changes to work plan. Andrew appreciated the call and was fine with the changes proposed. He asked to send him an email with the proposed changes. No need to resend the entire document.

cc: Project Files

ACTION ITEMS

ACTION REQUIRED:	BY WHOM:

Pat Robblee

From: Ed Schneider
Sent: Friday, June 14, 2019 1:07 PM
To: Clark, Andrew
Cc: Pat Robblee
Subject: WBI N Bakken Expansion Work Plan Changes
Attachments: WBI N Bakken Expansion Work Plan 5-10-19.pdf; T3ST42.jpg; T2ST43.jpg; T4ST44.jpg

Follow Up Flag: Follow up
Flag Status: Flagged

Andy,

Thanks for taking the time to chat for a few minutes about our project field methodology. Attached is the project work plan as submitted to your office.

The deposition has generally been glacial till, with ag field plow zones down to about 20 cm below surface. Our shovel tests have been excavated to about 40 cm below surface.

Photo T3ST42 shows a fairly typical stratigraphy from ag fields in southwest Burke County, with shallow deposition below the plow zone.
Photo T3ST43 shows a similar soil profile
Photo T4ST44 shows a somewhat thicker AB and B horizon below the plow zone

Here are the changes we propose for shovel testing during the survey. The shovel test methodology used for delineating sites will remain as written in the plan:

- In native prairie areas (i.e., grasslands where the soils have not previously been turned), we would continue with pedestrian survey on transects spaced 15 meters apart and systematic shovel testing on the transects at 15-meter intervals.
- In previously disturbed areas with good surface visibility, we will employ pedestrian survey on transects spaced 15 meters apart with judgmental shovel testing.
- In previously disturbed areas with poor surface visibility (e.g., areas with evidence of previous plowing), we will employ pedestrian survey on transects spaced 15 meters apart, with systematic shovel testing on two of those transects with staggered shovel tests at 100 meters, and judgmental and/or systematic shovel testing at 15 meter intervals in high probability areas, including previously recorded sites, and high probability landforms (e.g., waterbodies, ridges, large wetlands).

Thanks.

Ed

Ed Schneider
Senior Archaeologist

ERM
3300 Breckinridge Blvd., Suite 300, Duluth, GA 30096
T +1 (678) 781-1370 | **M** (307) 399-6724
ed.schneider@erm.com









Pat Robblee

From: Ed Schneider
Sent: Friday, June 14, 2019 3:35 PM
To: Clark, Andrew
Cc: Pat Robblee
Subject: FW: WBI N Bakken Expansion Work Plan Changes

Follow Up Flag: Follow up
Flag Status: Flagged

Please see revised bullet point below. Thanks.

Ed

Ed Schneider
Senior Archaeologist

ERM
Ed.schneider@erm.com
Mobile: (307) 399-6724

From: Ed Schneider
Sent: Friday, June 14, 2019 1:07 PM
To: Clark, Andrew <andrewclark@nd.gov>
Cc: Pat Robblee <Pat.Robblee@erm.com>
Subject: WBI N Bakken Expansion Work Plan Changes

Andy,

Thanks for taking the time to chat for a few minutes about our project field methodology. Attached is the project work plan as submitted to your office.

The deposition has generally been glacial till, with ag field plow zones down to about 20 cm below surface. Our shovel tests have been excavated to about 40 cm below surface.

Photo T3ST42 shows a fairly typical stratigraphy from ag fields in southwest Burke County, with shallow deposition below the plow zone.
Photo T3ST43 shows a similar soil profile
Photo T4ST44 shows a somewhat thicker AB and B horizon below the plow zone

Here are the changes we propose for shovel testing during the survey. The shovel test methodology used for delineating sites will remain as written in the plan:

- In native prairie areas (i.e., grasslands where the soils have not previously been turned), we would continue with pedestrian survey on transects spaced 15 meters apart and systematic shovel testing on the transects at 15-meter intervals.
- In previously disturbed areas with good surface visibility, we will employ pedestrian survey on transects spaced 15 meters apart with judgmental shovel testing.
- In previously disturbed areas with poor surface visibility (e.g., areas with evidence of previous plowing), we will employ pedestrian survey on transects spaced 15 meters apart, with systematic shovel testing on two of those transects with staggered shovel tests at 100 meters, and judgmental and/or systematic shovel testing at 15 meter intervals in high probability areas, including previously recorded sites, and high probability landforms (e.g., waterbodies, ridges, large wetlands). Due to the fact that some agricultural fields may possess intact strata below the plow zone, additional shovel test transects, close interval shovel testing, and/or additional judgmentally placed shovel tests will be excavated based on specific geomorphological properties within the project survey corridor, and at the discretion of the project field director.

Thanks.
Ed

Ed Schneider
Senior Archaeologist

ERM
3300 Breckinridge Blvd., Suite 300, Duluth, GA 30096
T +1 (678) 781-1370 | **M** (307) 399-6724
ed.schneider@erm.com



From: Clark, Andrew <andrewclark@nd.gov>
Sent: Wednesday, June 19, 2019 5:00 PM
To: Ed Schneider <Ed.Schneider@erm.com>
Subject: RE: WBI N Bakken Expansion Work Plan Changes

Hi Ed,

My apologies for the delay and thank you for your patience. The strategy is acceptable. If you need anything else, please feel free to reach out.

Andy

Andrew Clark
Chief Archaeologist
Archaeology and Historic Preservation Division
State Historical Society of North Dakota
612 East Boulevard Avenue
Bismarck, North Dakota 58505-0830
701-328-3574

From: Ed Schneider <Ed.Schneider@erm.com>
Sent: Wednesday, June 19, 2019 3:17 PM
To: Clark, Andrew <andrewclark@nd.gov>
Subject: FW: WBI N Bakken Expansion Work Plan Changes

Andy,

I wanted to follow up and make sure the edits to the survey strategy below are ok with you. Thanks.

Ed

Ed Schneider
Senior Archaeologist

ERM
Ed.schneider@erm.com
Mobile: (307) 399-6724

From: Ed Schneider <Ed.Schneider@erm.com>
Sent: Wednesday, June 19, 2019 3:17 PM
To: Clark, Andrew <andrewclark@nd.gov>
Subject: FW: WBI N Bakken Expansion Work Plan Changes

Andy,

I wanted to follow up and make sure the edits to the survey strategy below are ok with you. Thanks.

Ed

Ed Schneider
Senior Archaeologist

ERM
Ed.schneider@erm.com
Mobile: (307) 399-6724

WBI ENERGY TRANSMISSION
An MDU Resources Group company

WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

0293

July 17, 2019

Claudia Berg
Director, State Historic Preservation Officer
North Dakota Heritage Center
612 E Boulevard Ave
Bismarck, ND 58505-0612

Subject: WBI Energy Transmission, Inc.
Invitation to Public Open House for the Proposed North Bakken Expansion Project

Dear Director, State Historic Preservation Officer Claudia Berg:

WBI Energy Transmission, Inc. (WBI Energy) would like to cordially invite you to attend an open house meeting in your area regarding our proposed plan to build, own and operate the North Bakken Expansion Project (Project).

On June 28, 2019, WBI Energy requested use of the Federal Energy Regulatory Commission's (FERC) pre-filing review process for its proposed North Bakken Expansion Project (FERC Docket No. PF19-7-000). The FERC, the lead federal agency responsible for authorizing the Project, approved WBI Energy's pre-filing request on July 3, 2019. WBI Energy expects to file a formal application for the Project in early 2020.

The Project consists of an approximately 60 mile-long, 20-inch diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to a new interconnect with Northern Border Pipeline Company's mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Creek Compressor Station) will be constructed near this interconnect.

The Project also involves construction of approximately 20 miles of 12-inch diameter natural gas pipeline between the existing Tioga Compressor Station and an existing receipt station along WBI Energy's existing Line Section 25, approximately 10 miles of 12-inch diameter natural gas pipeline along WBI Energy's existing Line Section 30, and an approximately 10 mile, 12-inch diameter natural gas pipeline lateral from WBI Energy's existing Line Section 7.

Additionally, the Project includes the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and the installation of new and modifications to receipt/delivery points and lateral pipeline facilities along the pipeline routes. The attached map depicts the locations of the currently proposed Project facilities. Note that additional facilities have been added to the Project since WBI Energy's initial outreach for the Project earlier this year.

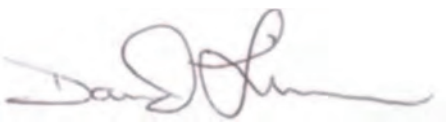
The Project will add natural gas takeaway capacity (estimated at approximately 300,000 Mcf/day) to help meet the natural gas transportation needs in the Bakken region while reducing natural gas flaring.

To provide additional information about the Project and receive stakeholder input, WBI Energy will host public open houses. This will be an informal opportunity to receive project-related materials, view detailed maps and displays, meet with the Project team experts and share your feedback before a formal application is submitted to the FERC. We welcome you to attend any one of the open houses at the dates, times and locations indicated below.

North Bakken Expansion Project Public Open Houses	
Tuesday, August 6 **Location: Tioga**	**Wednesday, August 7** **Location: Watford City**
Neset Consulting Service 6844 State Highway 40 Tioga, North Dakota 58852 11:00 am-1:00 pm and 5:00-7:00 pm	Watford City Civic Center 213 2nd St NE Watford City, North Dakota 58854 11:00 am-1:00 pm and 5:00-7:00 pm

If you have any questions regarding the North Bakken Expansion Project, please contact the Project team at the toll-free number 1-844-825-9397. We look forward to working with you on the Project and seeing you at an upcoming open house.

Sincerely,



David Linn
Project Manager
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map

ERM

1000 IDS Center
80 South Eighth Street
Minneapolis, MN 55402

Telephone: +1 612 347 6789
Fax: +1 612 347 6780

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	To: Andrew Clark, Chief Archaeologist
Phone number	701-328-3574
Company	State Historical Society of North Dakota
ERM Contact	Pat Robblee
Phone number	612-840-8976
Date	July 23, 2019
Time of Conversation	Morning
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Andrew Clark returned a voice message I had left for him earlier in the day to report the discovery of a newly identified site (PS-DOP-010; stone circles and cairns) in a previously surveyed corridor for a pipeline project (not FERC regulated) currently under construction. I provided Andrew with the location of the site, a description of the site, and the manuscript number for the previous survey. Andrew asked me to email him information on the site and provide a map and shape file of the site boundaries if possible. He said he would check to see if the other project has any agreements in place with the SHPO regarding site discoveries during construction.

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Pat Robblee

From: Pat Robblee
Sent: Tuesday, July 23, 2019 10:03 AM
To: andrewclark@nd.gov
Subject: RE: Site in Williams County
Attachments: NBE_Site_PS-DOP-10.shx; NBE_Site_PS-DOP-10.cpg; NBE_Site_PS-DOP-10.dbf; NBE_Site_PS-DOP-10.prj; NBE_Site_PS-DOP-10.sbn; NBE_Site_PS-DOP-10.sbx; NBE_Site_PS-DOP-10.shp

Attached is the shape file.

Pat

Patrick Robblee, R.P.A.
Project Manager

ERM
T+612 840 8976
E pat.robblee@erm.com I W www.erm.com



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ERM

1000 IDS Center
80 South Eighth Street
Minneapolis, MN 55402

Telephone: +1 612 347 6789
Fax: +1 612 347 6780

www.erm.com

Call Log

Log of Telephone Conversation

ERM

Call To/From Whom	To: Andrew Clark, Chief Archaeologist
Phone number	701-328-3574
Company	State Historical Society of North Dakota
ERM Contact	Pat Robblee
Phone number	612-840-8976
Date	July 23, 2019
Time of Conversation	11:00 a.m.
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Andrew Clark called to let me know that the other project has a finds plan in place which they have implemented for PS-DOP-010. He said archaeological monitors for that project will be out today to document the site as an unanticipated discovery.

Andy asked us to expedite preparation of a site form for PS-DOP-010 as soon as our delineation is complete. Andy provided a site number – 32WI2352 – for use on the form.

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Pat Robblee

From: Clark, Andrew <andrewclark@nd.gov>
Sent: Tuesday, July 23, 2019 11:42 AM
To: Pat Robblee
Subject: RE: Site in Williams County

Hi Pat,

Thank you for contacting me. As I mentioned on the phone just now, please use SITS number 32WI2352 for this site.

If you need anything else, please feel free to reach-out.

Andy

Andrew Clark, PhD
Chief Archaeologist
Archaeology and Historic Preservation Division
State Historical Society of North Dakota
612 East Boulevard Avenue
Bismarck, North Dakota 58505-0830
701-328-3574

Pat Robblee

From: Pat Robblee
Sent: Thursday, July 25, 2019 8:46 AM
To: Clark, Andrew
Subject: RE: Site in Williams County

Hi Andy.

We completed our delineation and should have the site form submitted today.

Pat

Patrick Robblee, R.P.A.
Project Manager

ERM
T+612 840 8976
E pat.robblee@erm.com I W www.erm.com



The world's leading sustainability consultancy

ERM

1000 IDS Center
80 South Eighth Street
Minneapolis, MN 55402

Telephone: +1 612 347 6789
Fax: +1 612 347 6780

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	To: Andrew Clark, Chief Archaeologist
Phone number	701-328-3574
Company	State Historical Society of North Dakota
ERM Contact	Pat Robblee
Phone number	612-840-8976
Date	September 3, 2019
Time of Conversation	3:30 p.m.
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Andrew Clark called to request a shapefile for mapped features within 32WI2352. I agreed to email Andy the shapefile in a day or so.

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Pat Robblee

From: Pat Robblee
Sent: Tuesday, September 03, 2019 6:03 PM
To: Clark, Andrew
Subject: feature shapefile
Attachments: PS-DOP-10_Features_polys.shx; PS-DOP-10_Features_polys.cpg; PS-DOP-10_Features_polys.dbf; PS-DOP-10_Features_polys.prj; PS-DOP-10_Features_polys.sbn; PS-DOP-10_Features_polys.sbx; PS-DOP-10_Features_polys.shp; PS-DOP-10_Features_polys.shp.xml

Hi Andy.

Please see attached.

Pat

Patrick Robblee, R.P.A.
Project Manager

ERM
T+612 840 8976
E pat.robblee@erm.com I W www.erm.com



The world's leading sustainability consultancy

ERM

1000 IDS Center
80 South Eighth Street
Minneapolis, MN 55402

Telephone: +1 612 347 6789
Fax: +1 612 347 6780

www.erm.com

February 14, 2020

Claudia Berg, Director
State Historic Preservation Officer
North Dakota Heritage Center
612 East Boulevard Avenue
Bismarck, ND 58505-0830

Subject: WBI Energy Transmission, Inc.
North Bakken Expansion Project – Class III Survey Reports
McKenzie, Williams, Burke, and Mountrail Counties, North Dakota
ND SHPO Ref.: 19-5593

Dear Director Berg:

Please reference WBI Energy Transmission, Inc.'s (WBI Energy's) previous correspondence regarding the above referenced project. WBI Energy proposes to construct and operate the North Bakken Expansion Project (Project) in McKenzie, Williams, Burke, and Mountrail Counties, North Dakota. The Project consists of a new, approximately 61.9-mile-long, 24-inch-diameter, natural gas transmission pipeline (referred to as the Tioga-Elkhorn Creek Pipeline) from new facilities at WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to a new compressor station (Elkhorn Creek Compressor Station) southeast of Watford City, North Dakota. The Project also includes:

- approximately 0.3 mile of new, 24-inch-diameter natural gas pipeline (referred to as the Elkhorn Creek-Northern Border Pipeline) between the proposed Elkhorn Creek Compressor Station and a new interconnect with Northern Border Pipeline Company's mainline;
- approximately 20.4 miles of new 12-inch-diameter natural gas pipeline looping (referred to as the Line Section 25 Loop) along WBI Energy's Line Section 25;
- approximately 9.4 miles of new 12-inch-diameter natural gas pipeline looping (referred to as the Line Section 30 Loop) along WBI Energy's Line Section 30;
- approximately 0.5 mile of new 20-inch-diameter natural gas receipt lateral (referred to as the Tioga Compressor Lateral) between the Tioga Plant Receipt Station and the new facilities at the existing Tioga Compressor Station;
- modifications/uprates to the existing Line Section 25; and
- installation of new and modifications to existing measurement, delivery, receipt, and transfer stations along WBI Energy's pipeline routes.

The Project is regulated by the Federal Energy Regulatory Commission (FERC) under Section 7(c) of the Natural Gas Act. Under the Energy Policy Act of 2005, FERC is the lead agency for coordinating federal authorizations and complying with the National Environmental Policy Act on natural gas pipeline projects subject to its jurisdiction. FERC similarly is the lead federal agency for complying with Section 106 of the National Historic Preservation Act (NHPA) on natural gas pipeline projects under its jurisdiction. In accordance with 36 CFR 800.2(c)(4), WBI Energy is assisting the FERC in meeting its obligations under Section 106 of the NHPA by coordinating with agencies and tribes and conducting surveys to identify historic properties that may be affected by the Project.

WBI Energy retained Environmental Resources Management (ERM) to conduct a Class III survey of the Project area for archaeological sites and historic structures. ERM conducted field surveys of the Project area between June and October 2019. Approximately 90 percent of the Project area was examined for archaeological resources; the entire Project area was examined for historic structures.

Portions of the Project cross federal lands managed by the U.S. Army Corps of Engineers (COE) and U.S. Forest Service (USFS). Archaeological survey of these lands was completed in accordance with Archaeological Resources Protection Act permits issued by the COE and USFS to ERM.

WBI Energy and ERM contacted 13 federally recognized Indian tribes to solicit input on the Project. A monitor from one tribe, the Rosebud Sioux Tribe, participated in the archaeological survey beginning on September 23 and continuing through the end of the survey season.

To date, archaeological survey of the proposed Project facilities identified or relocated 61 sites and 12 isolated finds. Of these, 44 sites and all 12 isolated finds contain prehistoric materials, four sites contain prehistoric and historic materials, and 13 sites contain historic materials. Thirty-one sites with prehistoric components contain stone surface features such as stone circles or cairns.

Twenty-four sites and all 12 isolated finds are recommended not eligible for listing in the National Register of Historic Places (NRHP). The NRHP-eligibility of the remaining 37 sites is undetermined. Of these, 19 sites (all of which contain prehistoric stone surface features) are located greater than 25 feet from the construction footprint for the Project. Because these sites will not be affected by Project construction activities, no additional work at the sites is recommended. Thirteen unevaluated sites (including 11 that contain prehistoric stone surface features) are located outside of the construction footprint for the Project, but within 25 feet of construction workspace. While these sites will not be affected by Project construction activities, fencing of the edge of the construction right-of-way in areas adjacent to these sites is recommended to ensure they are adequately protected during construction. Five unevaluated sites (including one with prehistoric stone surface features) are located within the construction footprint of the Project; avoidance or additional testing of these sites is recommended.

The historic structures survey documented or revisited 16 resources. Of these, six resources are recommended not eligible for listing in the NRHP; no further work at these resources is recommended. The NRHP-eligibility of 10 resources is undetermined, but the Project would not result in an adverse impact on these resources assuming they are or could be eligible. No additional work at these sites is recommended.

Enclosed for your review please find Class III survey reports for the archaeological and historic structures surveys. In discussions with ERM, the USFS requested a separate standalone report for the archaeological survey on USFS lands. Although our main report includes the survey results for USFS lands, we are also providing you with the separate standalone report (abstracted from the main report) which we prepared for USFS lands.

Fieldwork for the outstanding archaeological survey is planned for the 2020 field season. An addendum Class III archaeological survey report will be prepared for these areas when survey is complete.

WBI Energy would appreciate your comments on the attached reports. If you have any questions or comments on the Project or the reports, please contact me at 612-840-8976 or

pat.robblee@erm.com, or Dr. Kevin Malloy at 906-285-0361 or kevin.malloy@erm.com. Please direct written correspondence to Dr. Malloy's attention at:

Environmental Resources Management
1000 IDS Center
80 South 8th Street
Minneapolis, MN 55402

Sincerely,



Patrick Robblee
Program Director

Enclosures: Class III Archaeological Survey Report
Class III Archaeological Survey Report for USFS Lands
Class III Historic Structures Survey Report
Report Processing Fee

cc: Jill Linn, WBI Energy
Andrea Thornton, ERM
Kevin Malloy, ERM
Emily Laird, ERM

NORTH BAKKEN EXPANSION PROJECT

Resource Report 1

APPENDIX 1G-1
Agency Correspondence – North Dakota State Water Commission (SWC)

WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

April 15, 2019

Aaron Carranza
Regulatory Division
North Dakota State Water Commission
900 East Boulevard Avenue,
Dept. 770
Bismarck, ND 58505-0850

Subject: WBI Energy Transmission, Inc.
Proposed North Bakken Expansion Project
McKenzie, Williams, Burke, and Mountrail Counties, North Dakota

Dear Aaron Carranza:

WBI Energy Transmission, Inc. (WBI Energy) is proposing to construct and operate the North Bakken Expansion Project (Project), which consists of an approximately 60-mile-long, 20-inch diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to an interconnect with Northern Border Pipeline Company's mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Compressor Station) will be constructed near this interconnect.

The Project also involves construction of approximately 20 miles of 12-inch diameter natural gas pipeline between the existing Tioga Compressor Station and an existing receipt station, the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and additional/modifications to certain receipt/delivery points and laterals along the pipeline routes. The attached map depicts the preliminary proposed pipeline route and the location of Project facilities.

The Project will add natural gas takeaway capacity (estimated at approximately 200,000 Mcf/day) to help meet the natural gas transportation needs in the Bakken region while reducing natural gas flaring.

The Project is regulated by the Federal Energy Regulatory Commission (FERC) under Section 7(c) of the Natural Gas Act. Under the Energy Policy Act of 2005,

FERC is the lead agency for coordinating federal authorizations and complying with the National Environmental Policy Act (NEPA) on natural gas pipeline projects subject to its jurisdiction. WBI Energy plans to submit an application with the FERC in December 2019 for a Certificate of Public Convenience and Necessity (Certificate) to construct and operate the proposed pipeline and associated facilities. Applications for other federal or state authorizations will be submitted prior to or at the same time as the FERC application or on timelines defined by the appropriate federal or state regulations. WBI Energy anticipates receiving a Certificate from the FERC by December 2020, with construction planned to begin in early 2021.

WBI Energy plans to file a request with the FERC to use the FERC's NEPA pre-filing process for the Project. This process will provide agencies, landowners, and other stakeholders the opportunity to work with WBI Energy and the FERC to identify and resolve environmental issues prior to the filing of the Certificate application. This will result in a more efficient regulatory review process, including NEPA review of the Project. Pending FERC approval, WBI Energy anticipates preparing a draft Environmental Assessment (EA) for use by FERC staff. WBI Energy looks forward to working with you throughout the pre-filing process to ensure that your concerns are identified and addressed in the draft EA.

WBI Energy has retained Environmental Resources Management (ERM) to provide environmental support services for the project. An ERM representative will be in touch with you in the near future to provide additional information and discuss specific permitting and/or consultation requirements. In the meantime, if you have questions about the project, please contact Andrea Thornton of ERM at 503-525-5159 or myself at 406-359-7332.

Thank you for your time and assistance with this project.

Sincerely,



Jill Linn
Environmental Affairs
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map

cc: Greg Huncovsky, WBI
Andrea Thornton, ERM



Miles
0 1.75 3.5 7

N

1 in = 3 miles

Project Overview Map

North Bakken Expansion Project
WBI Energy

WBI ENERGY TRANSMISSION

Legend

- Above Ground Facilities
- Road Bores for Uprating Existing Pipeline
- Proposed Tioga to Elk Creek Compressor Pipeline
- Proposed Norse to Tioga Loop Pipeline
- Northern Border Pipeline
- Existing WBI Pipeline

Burke County
Mountrail County
Williams County
McKenzie County

North Dakota

PROJECT AREA OVERVIEW



By: SMS

Path: F:\GIS\Projects_Authorized\North_Bakken_Expansion_Project\Northern_Bakken_Expansion_24X36_2.mxd

1:214,000 - when Printed on 24X36

Date: 4/10/2019

WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

April 15, 2019

Jon Patch
Water Appropriations
North Dakota State Water Commission
900 East Boulevard Ave
Dept. 770
Bismarck, ND 58505-0850

Subject: WBI Energy Transmission, Inc.
Proposed North Bakken Expansion Project
McKenzie, Williams, Burke, and Mountrail Counties, North Dakota

Dear Jon Patch:

WBI Energy Transmission, Inc. (WBI Energy) is proposing to construct and operate the North Bakken Expansion Project (Project), which consists of an approximately 60-mile-long, 20-inch diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to an interconnect with Northern Border Pipeline Company's mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Compressor Station) will be constructed near this interconnect.

The Project also involves construction of approximately 20 miles of 12-inch diameter natural gas pipeline between the existing Tioga Compressor Station and an existing receipt station, the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and additional/modifications to certain receipt/delivery points and laterals along the pipeline routes. The attached map depicts the preliminary proposed pipeline route and the location of Project facilities.

The Project will add natural gas takeaway capacity (estimated at approximately 200,000 Mcf/day) to help meet the natural gas transportation needs in the Bakken region while reducing natural gas flaring.

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WBI Energy plans to file a request with the FERC to use the FERC's NEPA pre-filing process for the Project. This process will provide agencies, landowners, and other stakeholders the opportunity to work with WBI Energy and the FERC to identify and resolve environmental issues prior to the filing of the Certificate application. This will result in a more efficient regulatory review process, including NEPA review of the Project. Pending FERC approval, WBI Energy anticipates preparing a draft Environmental Assessment (EA) for use by FERC staff. WBI Energy looks forward to working with you throughout the pre-filing process to ensure that your concerns are identified and addressed in the draft EA.

WBI Energy has retained Environmental Resources Management (ERM) to provide environmental support services for the project. An ERM representative will be in touch with you in the near future to provide additional information and discuss specific permitting and/or consultation requirements. In the meantime, if you have questions about the project, please contact Andrea Thornton of ERM at 503-525-5159 or myself at 406-359-7332.

Thank you for your time and assistance with this project.

Sincerely,



Jill Linn
Environmental Affairs
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map

cc: Greg Huncovsky, WBI
Andrea Thornton, ERM



Miles
0 1.75 3.5 7

N

1 in = 3 miles

Project Overview Map

North Bakken Expansion Project
WBI Energy

WBI ENERGY TRANSMISSION

Legend

- Above Ground Facilities
- Road Bores for Uprating Existing Pipeline
- Proposed Tioga to Elk Creek Compressor Pipeline
- Proposed Norse to Tioga Loop Pipeline
- Northern Border Pipeline
- Existing WBI Pipeline

Burke County
Mountrail County
Williams County
McKenzie County

North Dakota

PROJECT AREA OVERVIEW



By: SMS

Path: F:\GIS\Projects_Authorized\North_Bakken_Expansion_Project\Northern_Bakken_Expansion_24X36_2.mxd

1:214,000 - when Printed on 24X36

Date: 4/10/2019

North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
(701) 328-2750 • TTY 1-800-366-6888 or 711 • FAX (701) 328-3696 • http://swc.nd.gov

May15, 2019

Jill Linn
WBI Energy Transmission
2010 Montana Avenue
Glendive, MT 59330

Dear Ms. Linn:

This is in response to your request for a review of the environmental impacts associated with the Proposed North Bakken Expansion Project located in McKenzie, Williams, Burke, and Mountrail Counties, ND.

The proposed projects have been reviewed by State Water Commission staff, and the following comments are provided:

- Initial review indicates the project does not require a conditional or temporary permit for water appropriation. However, if surface water or groundwater will be diverted for construction of the project, a water permit will be required per North Dakota Century Code (NDCC) § 61-04-02. Please consult with the Water Appropriations Division of the Office of the State Engineer (OSE) if you have any questions regarding this comment at 701-328-2754 or waterpermits@nd.gov.

- The proposed project would cross the historical bed of the Missouri River and will require a sovereign land permit. Please contact Ashley Persinger at apersinger@nd.gov or 701-328-4988 regarding this comment.

- There are floodplains identified and/or mapped where this proposed project is to take place. Areas are designated as a Zone A. North Dakota has no formal permitting authority as a state entity in NFIP identified floodplain areas. The permitting is always done by the local entity, which has jurisdiction in the area in question. Please work closely with the local Floodplain Administrators.

Thank you for the opportunity to provide review comments. Should you have further questions, please contact me at 701-328-4967 or jjhuibregtse@nd.gov.

Sincerely,

Jared Huibregtse
Water Resource Planner IV

JH:dm/1570

DOUG BURGUM, GOVERNOR
CHAIRMAN

GARLAND ERBELE, P.E.
CHIEF ENGINEER-SECRETARY

ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	To: Ashley Persinger
Phone number	701-328-4988
Company	North Dakota State Water Commission
ERM Contact	Andrea Thornton
Phone number	503-459-6864
Date	May 30, 2019
Time of Conversation	8:00 am
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Ms. Thornton called the North Dakota State Water Commission to speak with Ashley Persinger regarding the North Bakken Expansion Project as a follow-up to the project intorduction letter and agency response letter that WBI Energy received. Ms. Persinger was identified as the point of contact for Sovereign Land Permits.

Ms. Thornton inquired on permit review timelines and that currently the Missouri River is the only waterbody crossing identified as needing a Soverign Land Permit. Ms. Persinger indicated that natural gas pipelines do not need a scour analysis, which can speed up the process. A typical permit review is 90 days which includes a 30 day solicitation period, however she indicated that some permit reviews can take longer. Ms. Persinger indicated that the permit package would include a plan and profile of the crossing, timeframe of construction, depth of crossing, and specific pipe construction methods. Ms. Thornton thanked Ms. Persinger for her time and said that she would be in touch if there were any changes to the project or questions as the process moves forward.

CONFIDENTIALITY NOTICE This Call Log contains information which may be confidential, proprietary, privileged, or otherwise protected by law from disclosure or use by a third party. If you have received this facsimile transmission in error, please contact us immediately at the number listed above and take the steps necessary to dispose of this information. Thank you.

WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

July 17, 2019

0288

Ashley Persinger
North Dakota State Water Commission
900 E Boulevard Ave
Dept 770
Bismarck, ND 58505-0607

Subject: WBI Energy Transmission, Inc.
Invitation to Public Open House for the Proposed North Bakken Expansion Project

Dear Ashley Persinger:

WBI Energy Transmission, Inc. (WBI Energy) would like to cordially invite you to attend an open house meeting in your area regarding our proposed plan to build, own and operate the North Bakken Expansion Project (Project).

On June 28, 2019, WBI Energy requested use of the Federal Energy Regulatory Commission's (FERC) pre-filing review process for its proposed North Bakken Expansion Project (FERC Docket No. PF19-7-000). The FERC, the lead federal agency responsible for authorizing the Project, approved WBI Energy's pre-filing request on July 3, 2019. WBI Energy expects to file a formal application for the Project in early 2020.

The Project consists of an approximately 60 mile-long, 20-inch diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to a new interconnect with Northern Border Pipeline Company's mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Creek Compressor Station) will be constructed near this interconnect.

The Project also involves construction of approximately 20 miles of 12-inch diameter natural gas pipeline between the existing Tioga Compressor Station and an existing receipt station along WBI Energy's existing Line Section 25, approximately 10 miles of 12-inch diameter natural gas pipeline along WBI Energy's existing Line Section 30, and an approximately 10 mile, 12-inch diameter natural gas pipeline lateral from WBI Energy's existing Line Section 7.

Additionally, the Project includes the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and the installation of new and modifications to receipt/delivery points and lateral pipeline facilities along the pipeline routes. The attached map depicts the locations of the currently proposed Project facilities. Note that additional facilities have been added to the Project since WBI Energy's initial outreach for the Project earlier this year.

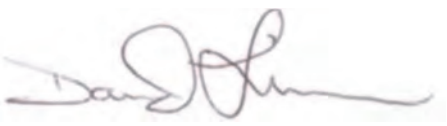
The Project will add natural gas takeaway capacity (estimated at approximately 300,000 Mcf/day) to help meet the natural gas transportation needs in the Bakken region while reducing natural gas flaring.

To provide additional information about the Project and receive stakeholder input, WBI Energy will host public open houses. This will be an informal opportunity to receive project-related materials, view detailed maps and displays, meet with the Project team experts and share your feedback before a formal application is submitted to the FERC. We welcome you to attend any one of the open houses at the dates, times and locations indicated below.

North Bakken Expansion Project Public Open Houses	
Tuesday, August 6 **Location: Tioga**	**Wednesday, August 7** **Location: Watford City**
Neset Consulting Service 6844 State Highway 40 Tioga, North Dakota 58852 11:00 am-1:00 pm and 5:00-7:00 pm	Watford City Civic Center 213 2nd St NE Watford City, North Dakota 58854 11:00 am-1:00 pm and 5:00-7:00 pm

If you have any questions regarding the North Bakken Expansion Project, please contact the Project team at the toll-free number 1-844-825-9397. We look forward to working with you on the Project and seeing you at an upcoming open house.

Sincerely,



David Linn
Project Manager
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map



Miles
0 1.25 2.5 5

N

1 in = 3 miles

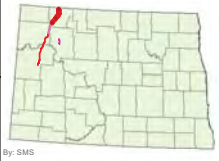
Project Overview Map

North Bakken Expansion Project
WBI Energy

Burke County
Mountrail County
Williams County
McKenzie County

North Dakota

PROJECT AREA OVERVIEW



Legend

- Proposed Line Section 25 Loop Pipeline
- Proposed Elkhorn Creek - Tioga Pipeline
- Proposed Line Section 30 Loop Pipeline
- Road Bores for Uprating Existing Line
- Proposed Receipt Lateral
- WBI Existing Pipelines
- Northern Border Pipeline

By: SMS

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Date: 6/28/2010

WBI ENERGY TRANSMISSION
An MDU Resources Group company

WBI ENERGY TRANSMISSION, INC.
2010 Montana Avenue
Glendive, MT 59330
(406) 359-7200
www.wbienergy.com

0289

July 17, 2019

Jon Patch
Water Appropriations
North Dakota State Water Commission
900 E Boulevard Ave
Dept 770
Bismarck, ND 58505-0607

Subject: WBI Energy Transmission, Inc.
Invitation to Public Open House for the Proposed North Bakken Expansion Project

Dear Water Appropriations Jon Patch:

WBI Energy Transmission, Inc. (WBI Energy) would like to cordially invite you to attend an open house meeting in your area regarding our proposed plan to build, own and operate the North Bakken Expansion Project (Project).

On June 28, 2019, WBI Energy requested use of the Federal Energy Regulatory Commission's (FERC) pre-filing review process for its proposed North Bakken Expansion Project (FERC Docket No. PF19-7-000). The FERC, the lead federal agency responsible for authorizing the Project, approved WBI Energy's pre-filing request on July 3, 2019. WBI Energy expects to file a formal application for the Project in early 2020.

The Project consists of an approximately 60 mile-long, 20-inch diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, North Dakota, to a new interconnect with Northern Border Pipeline Company's mainline south of Watford City, North Dakota. A new compressor station (Elkhorn Creek Compressor Station) will be constructed near this interconnect.

The Project also involves construction of approximately 20 miles of 12-inch diameter natural gas pipeline between the existing Tioga Compressor Station and an existing receipt station along WBI Energy's existing Line Section 25, approximately 10 miles of 12-inch diameter natural gas pipeline along WBI Energy's existing Line Section 30, and an approximately 10 mile, 12-inch diameter natural gas pipeline lateral from WBI Energy's existing Line Section 7.

Additionally, the Project includes the addition of horsepower at the existing Tioga Compressor Station, uprates to WBI Energy's existing Line Section 25, and the installation of new and modifications to receipt/delivery points and lateral pipeline facilities along the pipeline routes. The attached map depicts the locations of the currently proposed Project facilities. Note that additional facilities have been added to the Project since WBI Energy's initial outreach for the Project earlier this year.

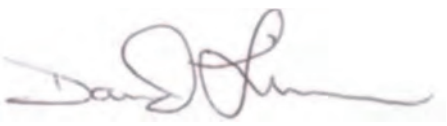
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To provide additional information about the Project and receive stakeholder input, WBI Energy will host public open houses. This will be an informal opportunity to receive project-related materials, view detailed maps and displays, meet with the Project team experts and share your feedback before a formal application is submitted to the FERC. We welcome you to attend any one of the open houses at the dates, times and locations indicated below.

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If you have any questions regarding the North Bakken Expansion Project, please contact the Project team at the toll-free number 1-844-825-9397. We look forward to working with you on the Project and seeing you at an upcoming open house.

Sincerely,



David Linn
Project Manager
WBI Energy Transmission, Inc.

Enclosures: Project Overview Map



Miles
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1 in = 3 miles

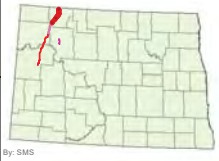
Project Overview Map

North Bakken Expansion Project
WBI Energy

Burke County
Mountrail County
Williams County
McKenzie County

North Dakota

PROJECT AREA OVERVIEW



Legend

- Proposed Line Section 25 Loop Pipeline
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- WBI Existing Pipelines
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By: SMS

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1:174,000 - when Printed on 24X36

Date: 6/28/2010

Lisa DiNicolantonio

From: Andrea Thornton
Sent: Friday, August 9, 2019 8:41 AM
To: sovereignlands@nd.gov
Cc: Huncovsky, Greg; Linn, Jill
Subject: North Bakken Expansion Project Geotech Survey Sovereign Lands Permit
Attachments: WBI_NBakkenExp_GeoTech_SovLndsApp_080919.pdf

To: Sovereign Lands Permit Reviewer

From: WBI Energy Transmission, Inc.

WBI Energy Transmission, Inc. (WBI Energy) proposes to install a new 60-mile-long, 20-inch-diameter natural gas pipeline from WBI Energy's existing Tioga Compressor Station near Tioga, Williams County, North Dakota, to a new interconnect with Northern Border's mainline southeast of Watford City, McKenzie County, North Dakota. The North Bakken Expansion Project (Project) would include the crossing of Lake Sakakawea and WBI Energy proposes the lake crossing be completed using horizontal directional drilling (HDD) methodologies. To aid design of the HDD crossing under Lake Sakakawea, WBI proposes conducting geotechnical borings within the lake to characterize the soil conditions beneath the lake bed within the crossing alignment. An overview of the proposed Project lake crossing is displayed in Figure 1. WBI is working toward a schedule to complete the geotechnical work during the fall of 2019 (Attachment 1, Geotechnical Boring Work Plan). In the event seasonality or review schedules are delayed, WBI would complete the work during the spring of 2020. This application only applies to the geotechnical scope of work to complete borings within Lake Sakakawea. WBI Energy will submit an application for the pipeline crossing at a future date, once the geotechnical investigation has been evaluated.

WBI is submitting the enclosed Application to Construct A Project Within Sovereign Lands for your review along with required supporting materials as outlined in the application instructions. The project does not involve permanent placement of structures, and only temporary impacts within Lake Sakakawea as outlined in the application materials are proposed. WBI Energy is coordinating permitting of this project with other applicable agencies (e.g., U.S. Army Corps of Engineers).

The following attachments are included in this submittal:

- Application To Construct A Project Within Sovereign Lands
- Figures – Figure 1 (Overview Map), Figure 2 (Boat Ramp Detail)
- Attachment 1 – Geotechnical Boring Work Plan

WBI Energy appreciates your assistance and review of the enclosed materials and should you have questions or require additional information during your review, please contact myself or Greg Huncovsky (406) 359-7451.

Respectfully,

Andrea Thornton

Andrea Thornton
Senior Regulatory Consultant

ERM

M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



Lisa DiNicolantonio

From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Friday, August 9, 2019 12:46 PM
To: Andrea Thornton
Subject: Re: North Bakken Expansion Project

Hey Andrea,
Thanks for the application. It looks good and will be able to kick off that review period I mentioned on Monday.

Ashley C. Persinger
Sovereign Land Specialist

701.328.4988 • 701.328.3696 (fax) • apersinger@nd.gov • www.swc.nd.gov

NORTH Dakota | Water Commission & State Engineer
Be Legendary.

701.328.2750 • swc@nd.gov • mapservice.swc.nd.gov • 900 East Boulevard Avenue • Bismarck, ND 58505

From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Friday, August 9, 2019 at 10:54 AM
To: Ashley Persinger <apersinger@nd.gov>
Subject: North Bakken Expansion Project

CAUTION: This email originated from an outside source. Do not click links or open attachments unless you know they are safe.

Hi Ashley –

Thank you for stopping in at the North Bakken Expansion Project open house on Wednesday. It is always nice to put faces to names ☺

I submitted the Sovereign Lands Permit for the proposed geotech survey work this morning via email (sovereignlands@nd.gov). Please reach out if you have any questions or concerns.

Thanks,
Andrea

Andrea Thornton
Senior Regulatory Consultant

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E andrea.thornton@erm.com | **W** www.erm.com



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ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	To: Ashley Persinger
Phone number	701-328-4988
Company	North Dakota State Water Commission
ERM Contact	Andrea Thornton
Phone number	503-459-6864
Date	August 12, 2019
Time of Conversation	9:00 am
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Ms. Thornton called the North Dakota State Water Commission to speak with Ashley Persinger regarding the North Bakken Expansion Project as a follow-up to an email Ms. Thornton received on August 12, 2019

Ms. Thornton provided Ms. Persinger with an update on the status of U.S. Army Corps or Engineers permit application and the proposed timing of the geotechnical survey work on Lake Sakakawea.

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Lisa DiNicolantonio

From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Monday, August 12, 2019 8:21 AM
To: Andrea Thornton
Subject: Re: North Bakken Expansion Project

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: Blue Category

Morning Andrea,
Discussed your project today in our Monday meeting. So the State Engineer and all the upper ups will be aware today on the geowork proposal. Is late September going to be ok for the geotech work? If I get your 30 days kicked off today, the comment period would end Sept 12. Also, where are you guys at with any BA/EA docs and corps permits? Just getting a feel for where our permit timeline stands within the maze of other federal permits and NEPA.

Thanks a bunch,

Ashley C. Persinger
Sovereign Land Specialist

701.328.4988 • 701.328.3696 (fax) • apersinger@nd.gov • www.swc.nd.gov

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701.328.2750 • swc@nd.gov • mapservice.swc.nd.gov • 900 East Boulevard Avenue • Bismarck, ND 58505

From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Friday, August 9, 2019 at 10:54 AM
To: Ashley Persinger <apersinger@nd.gov>
Subject: North Bakken Expansion Project

CAUTION: This email originated from an outside source. Do not click links or open attachments unless you know they are safe.

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I submitted the Sovereign Lands Permit for the proposed geotech survey work this morning via email (sovereignlands@nd.gov). Please reach out if you have any questions or concerns.

Thanks,
Andrea

Andrea Thornton
Senior Regulatory Consultant

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Lisa DiNicolantonio

From: Andrea Thornton
Sent: Monday, August 12, 2019 1:15 PM
To: 'Graber, Kayla M.'
Subject: RE: ROW#8568 Planning and Preconstruction Survey Permit; ENVIRONMENTAL RESOURCES MANAGEMENT

Hi Kayla –

I just left you a voicemail but wanted to follow-up with an email as well. Please let me know if my email blow provided the information that you need from us to get the permit issued. We have record that the check was received last Friday. We have a crew that is ready to go so any information you are able to provide would be helpful.

Thanks,
Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Andrea Thornton
Sent: Thursday, August 08, 2019 11:58 AM
To: Graber, Kayla M. <kgraber@nd.gov>
Subject: RE: ROW#8568 Planning and Preconstruction Survey Permit; ENVIRONMENTAL RESOURCES MANAGEMENT

Hi Kayla –

The company name is Environmental Resources Management. The Portland office (where I sit) is ERM-West Inc, but since the permit is good for all of ERM (and the application said not to use acronyms) I spelled out the full name. I'm not sure what you need for the business address, we have offices all over the world. I used the Portland office since that is where I sit and where the permit should be sent.

-Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com

From: Graber, Kayla M. <kgraber@nd.gov>
Sent: Wednesday, August 07, 2019 9:09 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: RE: ROW#8568 Planning and Preconstruction Survey Permit; ENVIRONMENTAL RESOURCES MANAGEMENT

Good morning Andrea,

Can you please add some clarification to ERM's full business name (LLC? INC?) and business address.

Thank you,

Kayla

From: Graber, Kayla M.
Sent: Tuesday, August 6, 2019 10:16 AM
To: 'Andrea.Thornton@erm.com' <Andrea.Thornton@erm.com>
Subject: ROW#8568 Planning and Preconstruction Survey Permit; ENVIRONMENTAL RESOURCES MANAGEMENT

Hello!

For tracking purposes this project has been assigned **ROW#8568** - please refer to this number in future correspondence and on payments.

The application fee is $100.00 and permit consideration is $500.00. Checks can be made payable (payments can be received on the same check) to the ND Department of Trust Lands (State Fed Tax ID #: 45-6002470) and mailed to:

North Dakota Department of Trust Lands
1707 North 9th St.
Bismarck, ND 58501

The permit will be issued once payment has been received. The permit is valid for five years and covers ERM survey crews on all ND School Trust Land, granted the company who is requesting a ROW has applied for a ROW and received a project specific ROW# from the Department. This permit has been in place since 2012 and allows NDDTL to be informed and involved with proposed ROW projects while reducing liabilities and trespass issues.

Please let me know if you have any questions.

Kayla Graber
Land Management Professional
701.328.1916 • kgraber@nd.gov • land.nd.gov • 1707 N 9th St • Bismarck, ND 58501

Andrea Thornton

From: Andrea Thornton
Sent: Friday, August 30, 2019 7:31 AM
To: Persinger, Ashley C.
Subject: RE: North Bakken Expansion Project - Bi-Weekly Calls with FERC

Hi Ashley –

Sorry for the delay in getting back to you. You are more than welcome to join our bi-weekly calls. We leave participation up to the agencies and there is no pressure to attend every meeting if you happen to have a conflict one week. Let me know if you would like me to resend the meeting invitation to you.

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Wednesday, August 28, 2019 8:17 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project - Bi-Weekly Calls with FERC

Hey Andrea,
Would you like me to join your bi-weekly calls?

Ashley C. Persinger
Sovereign Land Specialist

701.328.4988 • 701.328.3696 (fax) • apersinger@nd.gov • www.swc.nd.gov

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Thursday, July 25, 2019 at 12:28 PM
To: "Rockeman, Karl H." <krockema@nd.gov>, "Wax, Peter N." <pwax@nd.gov>, "Semerad, Jim L." <jsemerad@nd.gov>, Ashley Persinger <apersinger@nd.gov>, "Dyke, Steve R." <sdyke@nd.gov>, "Dirk, Christine N. G." <cdirk@nd.gov>, "Berg, Claudia J." <cberg@nd.gov>
Cc: Arianne Balsom <Arianne.balsom@ferc.gov>
Subject: North Bakken Expansion Project - Bi-Weekly Calls with FERC

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Good Morning,

As some of you know WBI Energy filed their pre-filing request letter for the North Bakken Expansion Project (Project) with FERC on June 28, 2019. FERC accepted the request on July 3, 2019 which starts the pre-filing process for the Project. As we have discussed, as part of this process, FERC will host bi-weekly conference calls with WBI Energy and any agencies interested in participating in the pre-filing process. This is a way for your agency to stay informed about the Project and ask questions as they may arise. When we spoke earlier this summer, the majority of you indicated that you were not interested in participating in these calls. If this is still the case, no further information is needed from you at this time.

If you are interested in participating, we are looking to start these bi-weekly calls the week of August 8th. For those of you who are interested, please let me know by August 1st if there are any days of the week/times that would not work for you for a 1 hour call. We will be scheduling these calls across multiple time zones and will do our best to ensure those who are interested are able to participate.

Please feel free to reach out if you have any questions.

Thank you and we look forward to working with you on this project.

-Andrea

Andrea Thornton
Senior Regulatory Consultant

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E andrea.thornton@erm.com | **W** www.erm.com

The business of sustainability

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Lisa DiNicolantonio

From: Andrea Thornton
Sent: Thursday, September 12, 2019 10:01 AM
To: Persinger, Ashley C.
Subject: RE: North Bakken Expansion Project

Hi Ashley –

Thank you for the update. No it is not official that the work is being completed in the spring of 2020. We are still hoping to get approval for work to occur in the late fall, which will be weather dependent.

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Thursday, September 12, 2019 9:57 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

Hi Andrea,
Thanks for the update. Yes the comment period ends at the end of the week here. I only have comments from the ND Game and Fish to date; nothing out of the ordinary there. I will eventually require comment from SHPO before I complete the permit. I heard the geotech is being completed in the spring of 2020 is this official?

Ashley C. Persinger
Sovereign Land Specialist

701.328.4988 • 701.328.3696 (fax) • apersinger@nd.gov • www.swc.nd.gov

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Wednesday, September 11, 2019 at 4:18 PM
To: Ashley Persinger <apersinger@nd.gov>
Cc: "Huncovsky, Greg" <Greg.Huncovsky@WBIEnergy.com>, "Linn, Jill" <Jill.Linn@wbienergy.com>
Subject: RE: North Bakken Expansion Project

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Hi Ashley –

I wanted to check in regarding the Sovereign Lands permit for the North Bakken Expansion Project geotech survey work proposed on Lake Sakakawea. Per your email below it sounded like the comment period would be ending tomorrow, is that still the case? Based on USACE comments that we received on the permit application we are adding some clarification language to the Work Plan. These clarification items include:

- That crane mats an outrigger pads will be used to protect surfaces at both proposed crane locations.
- That all equipment to be placed in the lake will be power washed prior to arriving at Tobacco Garden. In addition, arrangements will be made with the North Dakota Game and Fish Department to conduct an ANS inspection of all equipment. Equipment will not be deployed in the lake until the equipment has passed the ANS inspection
- The portable toilet will be pumped out, as needed, using a portable RV waste pump. The waste will be pumped from the toilet into a 20-gallon portable waste-holding tank. All work will be conducted over a secondary containment. The waste-holding tank will be stored on the barge on a secondary containment until taken back to Tobacco Garden and the contents disposed of at the Tobacco Garden RV dump station.
- Lighting will conform to Coast Guard Inland Navigation Rules. In addition to the standard side and stern navigation lighting on the push-boat, the barge will utilize a gas-powered portable light bank that will emanate white light greater than 3 miles.
- Water elevations approaching 1849 a.m.s.l. may require moving the crane closer to the water's edge during placement of the barge sections and push boat in the lake. In the low water elevation scenario, it is proposed that the north concrete boat ramp be used as a platform for the crane. Crane mats will be used to provide a level platform for the crane and to also displace weight for the crane outriggers. Because the crane and fully-extended outriggers will fit within the width of the concrete boat ramp, the use of aggregate or other fill material is not proposed. Crane mats and outrigger pads will not be placed in the water. Crane mats will be removed from the boat ramp upon completion of barge placement so that the boat ramp can be used by the public. The crane mats will be reused for the demobilization phase of the project and removed once the barge sections and push boat have been removed from the lake.

Please let me know if you have any questions or if any comments were received during your internal comment period that we need to address.

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Monday, August 12, 2019 8:21 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

Morning Andrea,
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Thanks a bunch,

Ashley C. Persinger
Sovereign Land Specialist

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Friday, August 9, 2019 at 10:54 AM
To: Ashley Persinger <apersinger@nd.gov>
Subject: North Bakken Expansion Project

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Hi Ashley –

Thank you for stopping in at the North Bakken Expansion Project open house on Wednesday. It is always nice to put faces to names ☺

I submitted the Sovereign Lands Permit for the proposed geotech survey work this morning via email (sovereignlands@nd.gov). Please reach out if you have any questions or concerns.

Thanks,
Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



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Lisa DiNicolantonio

From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Tuesday, October 15, 2019 8:58 AM
To: Andrea Thornton
Subject: Re: North Bakken Expansion Project

Hey Andrea,
I was just told the State Engineer is out for the next two weeks. I will have it ready and waiting when he has returned.

Ashley C. Persinger
Sovereign Land Specialist

701.328.4988 • 701.328.3696 (fax) • apersinger@nd.gov • www.swc.nd.gov

NORTH Dakota | Water Commission & State Engineer
Be Legendary.

701.328.2750 • swc@nd.gov • mapservice.swc.nd.gov • 900 East Boulevard Avenue • Bismarck, ND 58505

From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Monday, October 14, 2019 at 9:49 AM
To: Ashley Persinger <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

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Thanks for the update Ashley –

Is there an estimate timeframe of when we can expect to receive the permit once your supervisor has finished his review?

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
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From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Wednesday, October 09, 2019 8:51 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

Still in review with my supervisor. He was working on it Monday, off yesterday, and in the field this morning. He should have it reviewed by the end of the week.

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Tuesday, October 8, 2019 at 4:56 PM
To: Ashley Persinger <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

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Do you have any updates on the review of the Sovereign Lands Permit?

Thanks again,
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From: Andrea Thornton
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Subject: RE: North Bakken Expansion Project

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Friday, September 27, 2019 at 10:10 AM
To: Ashley Persinger <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

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From: Persinger, Ashley C. <apersinger@nd.gov>
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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Wednesday, September 18, 2019 at 9:09 AM
To: Ashley Persinger <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

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From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Wednesday, September 18, 2019 7:05 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

I received the SHPO letter today.

Ashley C. Persinger
Sovereign Land Specialist

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Thursday, September 12, 2019 at 12:00 PM
To: Ashley Persinger <apersinger@nd.gov>
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From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Thursday, September 12, 2019 9:57 AM

To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

Hi Andrea,
Thanks for the update. Yes the comment period ends at the end of the week here. I only have comments from the ND Game and Fish to date; nothing out of the ordinary there. I will eventually require comment from SHPO before I complete the permit. I heard the geotech is being completed in the spring of 2020 is this official?

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Wednesday, September 11, 2019 at 4:18 PM
To: Ashley Persinger <apersinger@nd.gov>
Cc: "Huncovsky, Greg" <Greg.Huncovsky@WBIEnergy.com>, "Linn, Jill" <Jill.Linn@wbienergy.com>
Subject: RE: North Bakken Expansion Project

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Hi Ashley –

I wanted to check in regarding the Sovereign Lands permit for the North Bakken Expansion Project geotech survey work proposed on Lake Sakakawea. Per your email below it sounded like the comment period would be ending tomorrow, is that still the case? Based on USACE comments that we received on the permit application we are adding some clarification language to the Work Plan. These clarification items include:

- That crane mats an outrigger pads will be used to protect surfaces at both proposed crane locations.
- That all equipment to be placed in the lake will be power washed prior to arriving at Tobacco Garden. In addition, arrangements will be made with the North Dakota Game and Fish Department to conduct an ANS inspection of all equipment. Equipment will not be deployed in the lake until the equipment has passed the ANS inspection
- The portable toilet will be pumped out, as needed, using a portable RV waste pump. The waste will be pumped from the toilet into a 20-gallon portable waste-holding tank. All work will be conducted over a secondary

containment. The waste-holding tank will be stored on the barge on a secondary containment until taken back to Tobacco Garden and the contents disposed of at the Tobacco Garden RV dump station.

- Lighting will conform to Coast Guard Inland Navigation Rules. In addition to the standard side and stern navigation lighting on the push-boat, the barge will utilize a gas-powered portable light bank that will emanate white light greater than 3 miles.
- Water elevations approaching 1849 a.m.s.l. may require moving the crane closer to the water's edge during placement of the barge sections and push boat in the lake. In the low water elevation scenario, it is proposed that the north concrete boat ramp be used as a platform for the crane. Crane mats will be used to provide a level platform for the crane and to also displace weight for the crane outriggers. Because the crane and fully-extended outriggers will fit within the width of the concrete boat ramp, the use of aggregate or other fill material is not proposed. Crane mats and outrigger pads will not be placed in the water. Crane mats will be removed from the boat ramp upon completion of barge placement so that the boat ramp can be used by the public. The crane mats will be reused for the demobilization phase of the project and removed once the barge sections and push boat have been removed from the lake.

Please let me know if you have any questions or if any comments were received during your internal comment period that we need to address.

Thanks,
Andrea

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Principal Consultant

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From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Monday, August 12, 2019 8:21 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

Morning Andrea,
Discussed your project today in our Monday meeting. So the State Engineer and all the upper ups will be aware today on the geowork proposal. Is late September going to be ok for the geotech work? If I get your 30 days kicked off today, the comment period would end Sept 12. Also, where are you guys at with any BA/EA docs and corps permits? Just getting a feel for where our permit timeline stands within the maze of other federal permits and NEPA.

Thanks a bunch,

Ashley C. Persinger
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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Friday, August 9, 2019 at 10:54 AM
To: Ashley Persinger <apersinger@nd.gov>
Subject: North Bakken Expansion Project

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Hi Ashley –

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Thanks,
Andrea

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Ashley Bromberg

From: Andrea Thornton
Sent: Tuesday, November 5, 2019 2:04 PM
To: Persinger, Ashley C.
Subject: RE: North Bakken Expansion Project

Thanks for the update Ashley!

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
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From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Tuesday, November 05, 2019 2:00 PM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

Talked to Jerry about fast tracking this. He is going to finish going through it tomorrow and move it onto the division director. I will speak with him tomorrow to get it on his priority list again.

Ashley C. Persinger
Sovereign Land Specialist

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Tuesday, November 5, 2019 at 9:11 AM
To: Ashley Persinger <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

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Hi Ashley –

Are you able to provide any updates on the status of the State Engineer review?

-Andrea

Andrea Thornton
Principal Consultant

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From: Persinger, Ashley C. <apersinger@nd.gov>
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To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Monday, October 14, 2019 at 9:49 AM
To: Ashley Persinger <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

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To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

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From: Andrea Thornton
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To: Persinger, Ashley C. <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Wednesday, September 11, 2019 at 4:18 PM

To: Ashley Persinger <apersinger@nd.gov>
Cc: "Huncovsky, Greg" <Greg.Huncovsky@WBIEnergy.com>, "Linn, Jill" <Jill.Linn@wbienergy.com>
Subject: RE: North Bakken Expansion Project

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Hi Ashley –

I wanted to check in regarding the Sovereign Lands permit for the North Bakken Expansion Project geotech survey work proposed on Lake Sakakawea. Per your email below it sounded like the comment period would be ending tomorrow, is that still the case? Based on USACE comments that we received on the permit application we are adding some clarification language to the Work Plan. These clarification items include:

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Hi Ashley –

Thank you for stopping in at the North Bakken Expansion Project open house on Wednesday. It is always nice to put faces to names ☺

I submitted the Sovereign Lands Permit for the proposed geotech survey work this morning via email (sovereignlands@nd.gov). Please reach out if you have any questions or concerns.

Thanks,
Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



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Ashley Bromberg

From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Tuesday, November 12, 2019 6:36 AM
To: Andrea Thornton
Subject: Re: North Bakken Expansion Project

Follow Up Flag: Follow up
Flag Status: Completed

Good morning Andrea,
I hope to have it reviewed by the Director of Regulatory this week. I bring it up in every update meeting and will again today.

Ashley C. Persinger
Sovereign Land Specialist

701.328.4988 • 701.328.3696 (fax) • apersinger@nd.gov • www.swc.nd.gov

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Monday, November 11, 2019 at 5:11 PM
To: Ashley Persinger <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

CAUTION: This email originated from an outside source. Do not click links or open attachments unless you know they are safe.

Hi Ashley –

I'm checking in again to see if there are updates on the review of the Sovereign Lands Permit for the geotech work.

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Andrea Thornton
Sent: Tuesday, November 05, 2019 2:04 PM
To: Persinger, Ashley C. <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

Thanks for the update Ashley!

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Tuesday, November 05, 2019 2:00 PM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

Talked to Jerry about fast tracking this. He is going to finish going through it tomorrow and move it onto the division director. I will speak with him tomorrow to get it on his priority list again.

Ashley C. Persinger
Sovereign Land Specialist

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Tuesday, November 5, 2019 at 9:11 AM
To: Ashley Persinger <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

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Hi Ashley –

Are you able to provide any updates on the status of the State Engineer review?

-Andrea

Andrea Thornton
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From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Tuesday, October 15, 2019 8:58 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

Hey Andrea,
I was just told the State Engineer is out for the next two weeks. I will have it ready and waiting when he has returned.

Ashley C. Persinger
Sovereign Land Specialist

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Monday, October 14, 2019 at 9:49 AM
To: Ashley Persinger <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

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Thanks for the update Ashley –

Is there an estimate timeframe of when we can expect to receive the permit once your supervisor has finished his review?

-Andrea

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M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com

ERM The business of sustainability

From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Wednesday, October 09, 2019 8:51 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

Still in review with my supervisor. He was working on it Monday, off yesterday, and in the field this morning. He should have it reviewed by the end of the week.

Ashley C. Persinger

Sovereign Land Specialist

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Tuesday, October 8, 2019 at 4:56 PM
To: Ashley Persinger <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

CAUTION: This email originated from an outside source. Do not click links or open attachments unless you know they are safe.

Hi Ashley –

Do you have any updates on the review of the Sovereign Lands Permit?

Thanks again,
Andrea

Andrea Thornton
Principal Consultant

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M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com

ERM The business of sustainability

From: Andrea Thornton
Sent: Friday, September 27, 2019 9:37 AM
To: Persinger, Ashley C. <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

Hi Ashley –

Thanks for the update I appreciate it!

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Friday, September 27, 2019 9:35 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

Hey Andrea. It is with my supervisor still. I would bet it will be 2 weeks for sure.

Ashley C. Persinger
Sovereign Land Specialist

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Friday, September 27, 2019 at 10:10 AM
To: Ashley Persinger <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

CAUTION: This email originated from an outside source. Do not click links or open attachments unless you know they are safe.

Hi Ashley –

Are there any updates on the review of the Sovereign Lands Permit? You mentioned in your email below that there were two more desks to go through after your supervisors review, is there an estimated timeline on how long those reviews will take?

Thanks and I hope you have a nice weekend!

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Wednesday, September 18, 2019 7:30 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

Yes I think I should have it finished by Friday. Supervisor should review next week. Two more desks to go through after his review.

Ashley C. Persinger
Sovereign Land Specialist

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Wednesday, September 18, 2019 at 9:09 AM

To: Ashley Persinger <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

CAUTION: This email originated from an outside source. Do not click links or open attachments unless you know they are safe.

Great, thank you for the update! Do you anticipate the memo being issued sometime this week?

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
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M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com

From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Wednesday, September 18, 2019 7:05 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

I received the SHPO letter today.

Ashley C. Persinger
Sovereign Land Specialist

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Thursday, September 12, 2019 at 12:00 PM

To: Ashley Persinger <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

CAUTION: This email originated from an outside source. Do not click links or open attachments unless you know they are safe.

Hi Ashley –

Thank you for the update. No it is not official that the work is being completed in the spring of 2020. We are still hoping to get approval for work to occur in the late fall, which will be weather dependent.

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com

From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Thursday, September 12, 2019 9:57 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

Hi Andrea,
Thanks for the update. Yes the comment period ends at the end of the week here. I only have comments from the ND Game and Fish to date; nothing out of the ordinary there. I will eventually require comment from SHPO before I complete the permit. I heard the geotech is being completed in the spring of 2020 is this official?

Ashley C. Persinger
Sovereign Land Specialist

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Wednesday, September 11, 2019 at 4:18 PM
To: Ashley Persinger <apersinger@nd.gov>
Cc: "Huncovsky, Greg" <Greg.Huncovsky@WBIEnergy.com>, "Linn, Jill" <Jill.Linn@wbienergy.com>
Subject: RE: North Bakken Expansion Project

CAUTION: This email originated from an outside source. Do not click links or open attachments unless you know they are safe.

Hi Ashley –

I wanted to check in regarding the Sovereign Lands permit for the North Bakken Expansion Project geotech survey work proposed on Lake Sakakawea. Per your email below it sounded like the comment period would be ending tomorrow, is that still the case? Based on USACE comments that we received on the permit application we are adding some clarification language to the Work Plan. These clarification items include:

- That crane mats an outrigger pads will be used to protect surfaces at both proposed crane locations.
- That all equipment to be placed in the lake will be power washed prior to arriving at Tobacco Garden. In addition, arrangements will be made with the North Dakota Game and Fish Department to conduct an ANS inspection of all equipment. Equipment will not be deployed in the lake until the equipment has passed the ANS inspection
- The portable toilet will be pumped out, as needed, using a portable RV waste pump. The waste will be pumped from the toilet into a 20-gallon portable waste-holding tank. All work will be conducted over a secondary containment. The waste-holding tank will be stored on the barge on a secondary containment until taken back to Tobacco Garden and the contents disposed of at the Tobacco Garden RV dump station.
- Lighting will conform to Coast Guard Inland Navigation Rules. In addition to the standard side and stern navigation lighting on the push-boat, the barge will utilize a gas-powered portable light bank that will emanate white light greater than 3 miles.
- Water elevations approaching 1849 a.m.s.l. may require moving the crane closer to the water's edge during placement of the barge sections and push boat in the lake. In the low water elevation scenario, it is proposed that the north concrete boat ramp be used as a platform for the crane. Crane mats will be used to provide a level platform for the crane and to also displace weight for the crane outriggers. Because the crane and fully-extended outriggers will fit within the width of the concrete boat ramp, the use of aggregate or other fill material is not proposed. Crane mats and outrigger pads will not be placed in the water. Crane mats will be removed from the boat ramp upon completion of barge placement so that the boat ramp can be used by the public. The crane mats will be reused for the demobilization phase of the project and removed once the barge sections and push boat have been removed from the lake.

Please let me know if you have any questions or if any comments were received during your internal comment period that we need to address.

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Monday, August 12, 2019 8:21 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

Morning Andrea,
Discussed your project today in our Monday meeting. So the State Engineer and all the upper ups will be aware today on the geowork proposal. Is late September going to be ok for the geotech work? If I get your 30 days kicked off today, the comment period would end Sept 12. Also, where are you guys at with any BA/EA docs and corps permits? Just getting a feel for where our permit timeline stands within the maze of other federal permits and NEPA.

Thanks a bunch,

Ashley C. Persinger
Sovereign Land Specialist

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Friday, August 9, 2019 at 10:54 AM
To: Ashley Persinger <apersinger@nd.gov>
Subject: North Bakken Expansion Project

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Hi Ashley –

Thank you for stopping in at the North Bakken Expansion Project open house on Wednesday. It is always nice to put faces to names ☺

I submitted the Sovereign Lands Permit for the proposed geotech survey work this morning via email (sovereignlands@nd.gov). Please reach out if you have any questions or concerns.

Thanks,
Andrea

Andrea Thornton
Senior Regulatory Consultant

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Ashley Bromberg

From: Andrea Thornton
Sent: Thursday, November 21, 2019 2:27 PM
To: Persinger, Ashley C.
Subject: RE: North Bakken Expansion Project

Great thanks Ashley!

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Thursday, November 21, 2019 2:22 PM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

It's finally been sent downstairs to the assistant state engineer! We may see the permit next week.

Ashley C. Persinger
Sovereign Land Specialist

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Thursday, November 21, 2019 at 4:21 PM
To: Ashley Persinger <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

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Hi Ashely –

Do you have any updates on the status of the permit review?

Thanks,
Andrea

Andrea Thornton
Principal Consultant

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M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Tuesday, November 12, 2019 6:36 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

Good morning Andrea,
I hope to have it reviewed by the Director of Regulatory this week. I bring it up in every update meeting and will again today.

Ashley C. Persinger
Sovereign Land Specialist

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Monday, November 11, 2019 at 5:11 PM
To: Ashley Persinger <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

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Hi Ashley –

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Thanks,
Andrea

Andrea Thornton
Principal Consultant

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1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
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E andrea.thornton@erm.com | **W** www.erm.com

From: Andrea Thornton
Sent: Tuesday, November 05, 2019 2:04 PM
To: Persinger, Ashley C. <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

Thanks for the update Ashley!

-Andrea

Andrea Thornton
Principal Consultant

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E andrea.thornton@erm.com | **W** www.erm.com

From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Tuesday, November 05, 2019 2:00 PM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

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Sovereign Land Specialist

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To: Ashley Persinger <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

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Hi Ashley –

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-Andrea

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Principal Consultant

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E andrea.thornton@erm.com | **W** www.erm.com

From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Tuesday, October 15, 2019 8:58 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

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Ashley C. Persinger
Sovereign Land Specialist

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Monday, October 14, 2019 at 9:49 AM
To: Ashley Persinger <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

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Thanks for the update Ashley –

Is there an estimate timeframe of when we can expect to receive the permit once your supervisor has finished his review?

-Andrea

Andrea Thornton
Principal Consultant

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1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Wednesday, October 09, 2019 8:51 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

Still in review with my supervisor. He was working on it Monday, off yesterday, and in the field this morning. He should have it reviewed by the end of the week.

Ashley C. Persinger
Sovereign Land Specialist

701.328.4988 • 701.328.3696 (fax) • apersinger@nd.gov • www.swc.nd.gov

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Tuesday, October 8, 2019 at 4:56 PM
To: Ashley Persinger <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

CAUTION: This email originated from an outside source. Do not click links or open attachments unless you know they are safe.

Hi Ashley –

Do you have any updates on the review of the Sovereign Lands Permit?

Thanks again,

Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Andrea Thornton
Sent: Friday, September 27, 2019 9:37 AM
To: Persinger, Ashley C. <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

Hi Ashley –

Thanks for the update I appreciate it!

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Friday, September 27, 2019 9:35 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

Hey Andrea. It is with my supervisor still. I would bet it will be 2 weeks for sure.

Ashley C. Persinger
Sovereign Land Specialist

701.328.4988 • 701.328.3696 (fax) • apersinger@nd.gov • www.swc.nd.gov

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Friday, September 27, 2019 at 10:10 AM
To: Ashley Persinger <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

CAUTION: This email originated from an outside source. Do not click links or open attachments unless you know they are safe.

Hi Ashley –

Are there any updates on the review of the Sovereign Lands Permit? You mentioned in your email below that there were two more desks to go through after your supervisors review, is there an estimated timeline on how long those reviews will take?

Thanks and I hope you have a nice weekend!

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com

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From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Wednesday, September 18, 2019 7:30 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

Yes I think I should have it finished by Friday. Supervisor should review next week. Two more desks to go through after his review.

Ashley C. Persinger
Sovereign Land Specialist

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701.328.2750 • swc@nd.gov • mapservice.swc.nd.gov • 900 East Boulevard Avenue • Bismarck, ND 58505

From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Wednesday, September 18, 2019 at 9:09 AM
To: Ashley Persinger <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

CAUTION: This email originated from an outside source. Do not click links or open attachments unless you know they are safe.

Great, thank you for the update! Do you anticipate the memo being issued sometime this week?

-Andrea

Andrea Thornton
Principal Consultant

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1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com

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From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Wednesday, September 18, 2019 7:05 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

I received the SHPO letter today.

Ashley C. Persinger
Sovereign Land Specialist

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701.328.2750 • swc@nd.gov • mapservice.swc.nd.gov • 900 East Boulevard Avenue • Bismarck, ND 58505

From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Thursday, September 12, 2019 at 12:00 PM
To: Ashley Persinger <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

CAUTION: This email originated from an outside source. Do not click links or open attachments unless you know they are safe.

Hi Ashley –

Thank you for the update. No it is not official that the work is being completed in the spring of 2020. We are still hoping to get approval for work to occur in the late fall, which will be weather dependent.

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com

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From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Thursday, September 12, 2019 9:57 AM

To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

Hi Andrea,
Thanks for the update. Yes the comment period ends at the end of the week here. I only have comments from the ND Game and Fish to date; nothing out of the ordinary there. I will eventually require comment from SHPO before I complete the permit. I heard the geotech is being completed in the spring of 2020 is this official?

Ashley C. Persinger
Sovereign Land Specialist

701.328.4988 • 701.328.3696 (fax) • apersinger@nd.gov • www.swc.nd.gov

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701.328.2750 • swc@nd.gov • mapservice.swc.nd.gov • 900 East Boulevard Avenue • Bismarck, ND 58505

From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Wednesday, September 11, 2019 at 4:18 PM
To: Ashley Persinger <apersinger@nd.gov>
Cc: "Huncovsky, Greg" <Greg.Huncovsky@WBIEnergy.com>, "Linn, Jill" <Jill.Linn@wbienergy.com>
Subject: RE: North Bakken Expansion Project

CAUTION: This email originated from an outside source. Do not click links or open attachments unless you know they are safe.

Hi Ashley –

I wanted to check in regarding the Sovereign Lands permit for the North Bakken Expansion Project geotech survey work proposed on Lake Sakakawea. Per your email below it sounded like the comment period would be ending tomorrow, is that still the case? Based on USACE comments that we received on the permit application we are adding some clarification language to the Work Plan. These clarification items include:

- That crane mats an outrigger pads will be used to protect surfaces at both proposed crane locations.
- That all equipment to be placed in the lake will be power washed prior to arriving at Tobacco Garden. In addition, arrangements will be made with the North Dakota Game and Fish Department to conduct an ANS inspection of all equipment. Equipment will not be deployed in the lake until the equipment has passed the ANS inspection
- The portable toilet will be pumped out, as needed, using a portable RV waste pump. The waste will be pumped from the toilet into a 20-gallon portable waste-holding tank. All work will be conducted over a secondary

containment. The waste-holding tank will be stored on the barge on a secondary containment until taken back to Tobacco Garden and the contents disposed of at the Tobacco Garden RV dump station.

- Lighting will conform to Coast Guard Inland Navigation Rules. In addition to the standard side and stern navigation lighting on the push-boat, the barge will utilize a gas-powered portable light bank that will emanate white light greater than 3 miles.
- Water elevations approaching 1849 a.m.s.l. may require moving the crane closer to the water's edge during placement of the barge sections and push boat in the lake. In the low water elevation scenario, it is proposed that the north concrete boat ramp be used as a platform for the crane. Crane mats will be used to provide a level platform for the crane and to also displace weight for the crane outriggers. Because the crane and fully-extended outriggers will fit within the width of the concrete boat ramp, the use of aggregate or other fill material is not proposed. Crane mats and outrigger pads will not be placed in the water. Crane mats will be removed from the boat ramp upon completion of barge placement so that the boat ramp can be used by the public. The crane mats will be reused for the demobilization phase of the project and removed once the barge sections and push boat have been removed from the lake.

Please let me know if you have any questions or if any comments were received during your internal comment period that we need to address.

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Monday, August 12, 2019 8:21 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

Morning Andrea,
Discussed your project today in our Monday meeting. So the State Engineer and all the upper ups will be aware today on the geowork proposal. Is late September going to be ok for the geotech work? If I get your 30 days kicked off today, the comment period would end Sept 12. Also, where are you guys at with any BA/EA docs and corps permits? Just getting a feel for where our permit timeline stands within the maze of other federal permits and NEPA.

Thanks a bunch,

Ashley C. Persinger
Sovereign Land Specialist

701.328.4988 • 701.328.3696 (fax) • apersinger@nd.gov • www.swc.nd.gov

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Friday, August 9, 2019 at 10:54 AM
To: Ashley Persinger <apersinger@nd.gov>
Subject: North Bakken Expansion Project

CAUTION: This email originated from an outside source. Do not click links or open attachments unless you know they are safe.

Hi Ashley –

Thank you for stopping in at the North Bakken Expansion Project open house on Wednesday. It is always nice to put faces to names ☺

I submitted the Sovereign Lands Permit for the proposed geotech survey work this morning via email (sovereignlands@nd.gov). Please reach out if you have any questions or concerns.

Thanks,
Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com

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Ashley Bromberg

From: Andrea Thornton
Sent: Tuesday, November 26, 2019 7:11 AM
To: Persinger, Ashley C.
Subject: RE: North Bakken Expansion Project

Thanks Ashley! I hope you have a great holiday as well.

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Tuesday, November 26, 2019 7:07 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

Good morning Andrea,
Please see the attached sovereign land authorization from the state engineer for the geotechnical boring on Lake Sakakawea. The original was sent to the WBI office in Glendive. Let me know if you have any questions. Have a nice holiday!

Ashley C. Persinger
Sovereign Land Specialist

701.328.4988 • 701.328.3696 (fax) • apersinger@nd.gov • www.swc.nd.gov

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Thursday, November 21, 2019 at 4:30 PM
To: Ashley Persinger <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

CAUTION: This email originated from an outside source. Do not click links or open attachments unless you know they are safe.

Great thanks Ashley!

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Thursday, November 21, 2019 2:22 PM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

It's finally been sent downstairs to the assistant state engineer! We may see the permit next week.

Ashley C. Persinger
Sovereign Land Specialist

701.328.4988 • 701.328.3696 (fax) • apersinger@nd.gov • www.swc.nd.gov

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Thursday, November 21, 2019 at 4:21 PM
To: Ashley Persinger <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

CAUTION: This email originated from an outside source. Do not click links or open attachments unless you know they are safe.

Hi Ashely –

Do you have any updates on the status of the permit review?

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com

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From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Tuesday, November 12, 2019 6:36 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

Good morning Andrea,
I hope to have it reviewed by the Director of Regulatory this week. I bring it up in every update meeting and will again today.

Ashley C. Persinger
Sovereign Land Specialist

701.328.4988 • 701.328.3696 (fax) • apersinger@nd.gov • www.swc.nd.gov

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Monday, November 11, 2019 at 5:11 PM
To: Ashley Persinger <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

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Hi Ashley –

I'm checking in again to see if there are updates on the review of the Sovereign Lands Permit for the geotech work.

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com

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From: Andrea Thornton
Sent: Tuesday, November 05, 2019 2:04 PM
To: Persinger, Ashley C. <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

Thanks for the update Ashley!

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204

M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com

From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Tuesday, November 05, 2019 2:00 PM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

Talked to Jerry about fast tracking this. He is going to finish going through it tomorrow and move it onto the division director. I will speak with him tomorrow to get it on his priority list again.

Ashley C. Persinger
Sovereign Land Specialist

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701.328.2750 • swc@nd.gov • mapservice.swc.nd.gov • 900 East Boulevard Avenue • Bismarck, ND 58505

From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Tuesday, November 5, 2019 at 9:11 AM
To: Ashley Persinger <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

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Hi Ashley –

Are you able to provide any updates on the status of the State Engineer review?

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Tuesday, October 15, 2019 8:58 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

Hey Andrea,
I was just told the State Engineer is out for the next two weeks. I will have it ready and waiting when he has returned.

Ashley C. Persinger
Sovereign Land Specialist

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Monday, October 14, 2019 at 9:49 AM
To: Ashley Persinger <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

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Thanks for the update Ashley –

Is there an estimate timeframe of when we can expect to receive the permit once your supervisor has finished his review?

-Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Wednesday, October 09, 2019 8:51 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

Still in review with my supervisor. He was working on it Monday, off yesterday, and in the field this morning. He should have it reviewed by the end of the week.

Ashley C. Persinger
Sovereign Land Specialist

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Tuesday, October 8, 2019 at 4:56 PM
To: Ashley Persinger <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

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Hi Ashley –

Do you have any updates on the review of the Sovereign Lands Permit?

Thanks again,
Andrea

Andrea Thornton
Principal Consultant

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E andrea.thornton@erm.com | **W** www.erm.com



From: Andrea Thornton
Sent: Friday, September 27, 2019 9:37 AM
To: Persinger, Ashley C. <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

Hi Ashley –

Thanks for the update I appreciate it!

-Andrea

Andrea Thornton
Principal Consultant

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1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
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E andrea.thornton@erm.com | **W** www.erm.com



From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Friday, September 27, 2019 9:35 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

Hey Andrea. It is with my supervisor still. I would bet it will be 2 weeks for sure.

Ashley C. Persinger

Sovereign Land Specialist

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Friday, September 27, 2019 at 10:10 AM
To: Ashley Persinger <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

CAUTION: This email originated from an outside source. Do not click links or open attachments unless you know they are safe.

Hi Ashley –

Are there any updates on the review of the Sovereign Lands Permit? You mentioned in your email below that there were two more desks to go through after your supervisors review, is there an estimated timeline on how long those reviews will take?

Thanks and I hope you have a nice weekend!

-Andrea

Andrea Thornton
Principal Consultant

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From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Wednesday, September 18, 2019 7:30 AM

To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

Yes I think I should have it finished by Friday. Supervisor should review next week. Two more desks to go through after his review.

Ashley C. Persinger
Sovereign Land Specialist

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Wednesday, September 18, 2019 at 9:09 AM
To: Ashley Persinger <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

CAUTION: This email originated from an outside source. Do not click links or open attachments unless you know they are safe.

Great, thank you for the update! Do you anticipate the memo being issued sometime this week?

-Andrea

Andrea Thornton
Principal Consultant

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1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
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E andrea.thornton@erm.com | **W** www.erm.com

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From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Wednesday, September 18, 2019 7:05 AM

To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

I received the SHPO letter today.

Ashley C. Persinger
Sovereign Land Specialist

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Thursday, September 12, 2019 at 12:00 PM
To: Ashley Persinger <apersinger@nd.gov>
Subject: RE: North Bakken Expansion Project

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Hi Ashley –

Thank you for the update. No it is not official that the work is being completed in the spring of 2020. We are still hoping to get approval for work to occur in the late fall, which will be weather dependent.

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com

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From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Thursday, September 12, 2019 9:57 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

Hi Andrea,
Thanks for the update. Yes the comment period ends at the end of the week here. I only have comments from the ND Game and Fish to date; nothing out of the ordinary there. I will eventually require comment from SHPO before I complete the permit. I heard the geotech is being completed in the spring of 2020 is this official?

Ashley C. Persinger
Sovereign Land Specialist

701.328.4988 • 701.328.3696 (fax) • apersinger@nd.gov • www.swc.nd.gov

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Wednesday, September 11, 2019 at 4:18 PM
To: Ashley Persinger <apersinger@nd.gov>
Cc: "Huncovsky, Greg" <Greg.Huncovsky@WBIEnergy.com>, "Linn, Jill" <Jill.Linn@wbienergy.com>
Subject: RE: North Bakken Expansion Project

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Hi Ashley –

I wanted to check in regarding the Sovereign Lands permit for the North Bakken Expansion Project geotech survey work proposed on Lake Sakakawea. Per your email below it sounded like the comment period would be ending tomorrow, is that still the case? Based on USACE comments that we received on the permit application we are adding some clarification language to the Work Plan. These clarification items include:

- That crane mats an outrigger pads will be used to protect surfaces at both proposed crane locations.
- That all equipment to be placed in the lake will be power washed prior to arriving at Tobacco Garden. In addition, arrangements will be made with the North Dakota Game and Fish Department to conduct an ANS

inspection of all equipment. Equipment will not be deployed in the lake until the equipment has passed the ANS inspection

- The portable toilet will be pumped out, as needed, using a portable RV waste pump. The waste will be pumped from the toilet into a 20-gallon portable waste-holding tank. All work will be conducted over a secondary containment. The waste-holding tank will be stored on the barge on a secondary containment until taken back to Tobacco Garden and the contents disposed of at the Tobacco Garden RV dump station.
- Lighting will conform to Coast Guard Inland Navigation Rules. In addition to the standard side and stern navigation lighting on the push-boat, the barge will utilize a gas-powered portable light bank that will emanate white light greater than 3 miles.
- Water elevations approaching 1849 a.m.s.l. may require moving the crane closer to the water's edge during placement of the barge sections and push boat in the lake. In the low water elevation scenario, it is proposed that the north concrete boat ramp be used as a platform for the crane. Crane mats will be used to provide a level platform for the crane and to also displace weight for the crane outriggers. Because the crane and fully-extended outriggers will fit within the width of the concrete boat ramp, the use of aggregate or other fill material is not proposed. Crane mats and outrigger pads will not be placed in the water. Crane mats will be removed from the boat ramp upon completion of barge placement so that the boat ramp can be used by the public. The crane mats will be reused for the demobilization phase of the project and removed once the barge sections and push boat have been removed from the lake.

Please let me know if you have any questions or if any comments were received during your internal comment period that we need to address.

Thanks,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Monday, August 12, 2019 8:21 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: Re: North Bakken Expansion Project

Morning Andrea,
Discussed your project today in our Monday meeting. So the State Engineer and all the upper ups will be aware today on the geowork proposal. Is late September going to be ok for the geotech work? If I get your 30 days kicked off today, the comment period would end Sept 12. Also, where are you guys at with any BA/EA docs and corps permits? Just getting a feel for where our permit timeline stands within the maze of other federal permits and NEPA.

Thanks a bunch,

Ashley C. Persinger
Sovereign Land Specialist

701.328.4988 • 701.328.3696 (fax) • apersinger@nd.gov • www.swc.nd.gov

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Friday, August 9, 2019 at 10:54 AM
To: Ashley Persinger <apersinger@nd.gov>
Subject: North Bakken Expansion Project

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Hi Ashley –

Thank you for stopping in at the North Bakken Expansion Project open house on Wednesday. It is always nice to put faces to names ☺

I submitted the Sovereign Lands Permit for the proposed geotech survey work this morning via email (sovereignlands@nd.gov). Please reach out if you have any questions or concerns.

Thanks,
Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com

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Ashley Bromberg

From: Persinger, Ashley C. <apersinger@nd.gov>
Sent: Wednesday, December 4, 2019 12:23 PM
To: Andrea Thornton
Subject: Re: Scour Analysis - North Bakken Expansion Project

Follow Up Flag: Follow up
Flag Status: Flagged

Hey Andrea,

Thanks for getting me on that call. The Depth of Burial Policy (Policy) for pipelines was still a work in progress when Paradigm was working on the Sacagawea Pipe; the Policy was fully effective in May of 2017. We have acquired scour data from I believe two or three pipelines under L. Sak since, and are working towards getting more coverage.

We will need to look at nearby datasets to decide if scour potential has already been determined near your crossing area. If so, I believe that is a strong scenario in which there would be no need to put you through that expense. In the end, we take the decision, application, and information to the State Engineer. He decides if we will hold the Project to the Policy or not.

I also believe that eventually, we will have enough scour data for the entire L. Sak. The Policy also really helps make sure pipe goes in adequately and deters Applicants from proposing jet-sled installation techniques and 4-foot deep pipe. Scour can be is a real concern in flooding rivers and yes even reservoirs in lower water years. As evident in the Bridger and Silvertip releases, both as a result of flooding river scour.

Actions items for me are to look at the your crossing location, and other pipe we have scour data on, discuss what data distances are appropriate with these engineers, and bring it all to the State Engineer. We also should have your Application in hand before we make our case.

I know it's not a yes or no answer, but at least it's what to expect as we enter the next phase of your project!

Ashley C. Persinger
Sovereign Land Specialist

701.328.4988 • 701.328.3696 (fax) • apersinger@nd.gov • www.swc.nd.gov

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From: Andrea Thornton <Andrea.Thornton@erm.com>
Date: Wednesday, December 4, 2019 at 12:07 PM
To: Ashley Persinger <apersinger@nd.gov>
Subject: Scour Analysis - North Bakken Expansion Project

CAUTION: This email originated from an outside source. Do not click links or open attachments unless you know they are safe.

Hi Ashley –

A while back we had discussed the potential need for a scour analysis for the North Bakken Expansion Project as a whole. While the project is a natural gas pipeline (which do not require scour analyses) you indicated that there is the potential that the project could be abandoned, and eventually become an oil or liquids line. The proposed North Bakken Expansion Project would be installed by the HDD construction method at an approximate depth of 200 feet below the lake bed. I found the attached EA Addendum for the Sacagawea Pipeline completed in 2016 which indicated that "*Sacagawea Pipeline will be installed using Horizontal Directional Drilling and installed at a minimum depth of 100' below the lake bed. Therefore, there is no technical reason for a scour analysis to be completed as no part of the lake bed will be disturbed during the installation of the pipeline nor will the pipeline be exposed to the body of water once installation is complete*."

Given the proposed depth of the pipeline beneath Lake Sakakawea, is a scour analysis needed for this project?

Thanks again,
Andrea

Andrea Thornton
Principal Consultant

Environmental Resources Management (ERM)
1050 SW 6th Avenue, Suite 1650 | Portland, Oregon | 97204
M 503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



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NORTH BAKKEN EXPANSION PROJECT

Resource Report 1

APPENDIX 1G-1
Agency Correspondence – North Dakota Trust Lands

Lisa DiNicolantonio

From: Andrea Thornton
Sent: Tuesday, July 30, 2019 2:01 PM
To: kgraber@nd.gov
Subject: WBI Energy North Bakken Expansion State Land Permit

Hi Kayla –

We spoke last Friday about ERM needing a permit for environmental and cultural resource surveys on North Dakota State Trust Lands. You mentioned that you were going to email me some documents on Monday. I wanted to check in in case you got my email address wrong when I gave it to you over the phone.

Thank you for your help!

-Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



Lisa DiNicolantonio

From: Graber, Kayla M. <kgraber@nd.gov>
Sent: Wednesday, July 31, 2019 6:26 AM
To: Andrea Thornton
Subject: FW: NDDTL Survey Permits
Attachments: West NDDTL survey permit.PDF

Follow Up Flag: Follow up
Flag Status: Flagged

Andrea,

I apologize, I was out in the field yesterday. An email was sent out on Monday but it appears that I did misspell your last name. Please see below. The message was also sent to Bob, Wade, and DTL's listed contact for WEST. We did not have a contact with SWCA.

Please let me know if you have any questions.

Kayla

From: Graber, Kayla M.
Sent: Monday, July 29, 2019 8:37 AM
To: 'Stanhope, Bob' <Bob.Stanhope@WBIEnergy.com>; 'Nielsen, Wade' <Wade.Nielsen@WBIEnergy.com>
Cc: 'andrea.thorton@erm.com' <andrea.thorton@erm.com>; 'Clayton Derby' <cderby@west-inc.com>
Subject: NDDTL Survey Permits

Hello,

You are receiving this message as ERM/SWCA/WEST were listed as a contracted surveyor for upcoming survey work on NDDTL managed property (WBI (ROW#8561): MOU-155-92-36).

Surveying/engineering companies completing surveys on Trust property must possess a valid planning and preconstruction survey permit and the entity requesting the right of way must have applied for a right of way and received a ROW tracking number from NDDTL prior to surveying on Trust property. In the future, once a contracted company has received a NDDTL permit, if an entity is unable to furnish the project NDDTL ROW#, the contracted company should prompt the company to fill out NDDTL online application to receive a ROW tracking number prior to completing survey work or contracted company could complete the online ROW application on behalf of the interested entity if they know all the requested information.

This permit has been in place since 2012 and allows NDDTL to be informed and involved with proposed ROW projects while reducing liabilities and trespass issues. The online application fee is $100 and the permit consideration is $500. The permit is valid for five years. Please complete an online application for this permit:
https://land.nd.gov/SurfaceROW/RowApplicationForm

ERM – no active permit; NDDTL spoke with Andrea Thorton last week.

WEST – permit expires 12/31/2019 (attached); listed contact was Clayton Derby

SWCA – no active permit; no known contact, please forward this email.

Please let me know if you have any questions.

Thank you,

Kayla Graber
Land Management Professional
701.328.1916 • kgraber@nd.gov • land.nd.gov • 1707 N 9th St • Bismarck, ND 58501



Lisa DiNicolantonio

From: Graber, Kayla M. <kgraber@nd.gov>
Sent: Thursday, August 1, 2019 9:17 AM
To: 'Peter Cassan'
Cc: Andrea Thornton
Subject: RE: Update

Follow Up Flag: Follow up
Flag Status: Flagged

Peter, I apologize. Things have gotten a little hectic since the last time we spoke. I was able to get a contact for you from Liberty (see below). I have been struggling to take phone calls today, I apologize if you and ERM are unable to connect with me. Andrea Thornton received an email from me earlier this week with more details on the permit. I don't believe I have heard from libertys environmental team? I know the civil survey was completed by Uintah.

Justin Kuchta
LIBERTY MIDSTREAM SOLUTIONS
Manager, Projects
1200 17th Street, Suite 2200
Denver, CO 80202
Office 303-951-2821
Cell 203-300-9073
(justin.kuchta@lmsllc.com)

As we discussed, in section 16, Alliance is planning to parallel the Liberty line 20 feet and parallel. The Liberty line is to be built 20 feet and parallel to the existing Alliance pipeline in the SW4. The Alliance pipeline in section 36 will the 20 feet and parallel to the existing line on the west and north side.

Thank you,

Kayla

From: Peter Cassan <Peter.Cassan@enbridge.com>
Sent: Thursday, August 1, 2019 10:52 AM
To: Graber, Kayla M. <kgraber@nd.gov>
Subject: Update

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Kayla:

I haven't seen an update from you following our call yesterday. I did speak with Sara at ERM and expressed urgency to complete the process with ND Trust Lands for their permit process and spoke with Sara this AM. She is going to have a call with her counterpart who I understand is doing the environmental for Liberty Pipeline. In any event if you have the contact information for Liberty let me know if you can pass it along.

Thanks

Peter C Cassan
SR ROW Project Manager
ROW South Team
ENBRIDGE
Peter.Cassan@Enbridge.com
CELL: 865-804-0972|
1575 Downtown West Blvd.
Knoxville, TN. 37919
enbridge.com
Integrity. Safety. Respect.

Lisa DiNicolantonio

From: Graber, Kayla M. <kgraber@nd.gov>
Sent: Tuesday, August 6, 2019 8:16 AM
To: Andrea Thornton
Subject: ROW#8568 Planning and Preconstruction Survey Permit; ENVIRONMENTAL RESOURCES MANAGEMENT

Follow Up Flag: Flag for follow up
Flag Status: Completed

Hello!

For tracking purposes this project has been assigned **ROW#8568** - please refer to this number in future correspondence and on payments.

The application fee is $100.00 and permit consideration is $500.00. Checks can be made payable (payments can be received on the same check) to the ND Department of Trust Lands (State Fed Tax ID #: 45-6002470) and mailed to:

North Dakota Department of Trust Lands
1707 North 9th St.
Bismarck, ND 58501

The permit will be issued once payment has been received. The permit is valid for five years and covers ERM survey crews on all ND School Trust Land, granted the company who is requesting a ROW has applied for a ROW and received a project specific ROW# from the Department. This permit has been in place since 2012 and allows NDDTL to be informed and involved with proposed ROW projects while reducing liabilities and trespass issues.

Please let me know if you have any questions.

Kayla Graber
Land Management Professional
701.328.1916 • kgraber@nd.gov • land.nd.gov • 1707 N 9th St • Bismarck, ND 58501

Lisa DiNicolantonio

From: Andrea Thornton
Sent: Monday, August 12, 2019 1:15 PM
To: 'Graber, Kayla M.'
Subject: RE: ROW#8568 Planning and Preconstruction Survey Permit; ENVIRONMENTAL RESOURCES MANAGEMENT

Hi Kayla –

I just left you a voicemail but wanted to follow-up with an email as well. Please let me know if my email blow provided the information that you need from us to get the permit issued. We have record that the check was received last Friday. We have a crew that is ready to go so any information you are able to provide would be helpful.

Thanks,
Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com



From: Andrea Thornton
Sent: Thursday, August 08, 2019 11:58 AM
To: Graber, Kayla M. <kgraber@nd.gov>
Subject: RE: ROW#8568 Planning and Preconstruction Survey Permit; ENVIRONMENTAL RESOURCES MANAGEMENT

Hi Kayla –

The company name is Environmental Resources Management. The Portland office (where I sit) is ERM-West Inc, but since the permit is good for all of ERM (and the application said not to use acronyms) I spelled out the full name. I'm not sure what you need for the business address, we have offices all over the world. I used the Portland office since that is where I sit and where the permit should be sent.

-Andrea

Andrea Thornton
Senior Regulatory Consultant

ERM
M +503-459-6864
E andrea.thornton@erm.com | **W** www.erm.com

From: Graber, Kayla M. <kgraber@nd.gov>
Sent: Wednesday, August 07, 2019 9:09 AM
To: Andrea Thornton <Andrea.Thornton@erm.com>
Subject: RE: ROW#8568 Planning and Preconstruction Survey Permit; ENVIRONMENTAL RESOURCES MANAGEMENT

Good morning Andrea,

Can you please add some clarification to ERM's full business name (LLC? INC?) and business address.

Thank you,

Kayla

From: Graber, Kayla M.
Sent: Tuesday, August 6, 2019 10:16 AM
To: 'Andrea.Thornton@erm.com' <Andrea.Thornton@erm.com>
Subject: ROW#8568 Planning and Preconstruction Survey Permit; ENVIRONMENTAL RESOURCES MANAGEMENT

Hello!

For tracking purposes this project has been assigned **ROW#8568** - please refer to this number in future correspondence and on payments.

The application fee is $100.00 and permit consideration is $500.00. Checks can be made payable (payments can be received on the same check) to the ND Department of Trust Lands (State Fed Tax ID #: 45-6002470) and mailed to:

North Dakota Department of Trust Lands
1707 North 9th St.
Bismarck, ND 58501

The permit will be issued once payment has been received. The permit is valid for five years and covers ERM survey crews on all ND School Trust Land, granted the company who is requesting a ROW has applied for a ROW and received a project specific ROW# from the Department. This permit has been in place since 2012 and allows NDDTL to be informed and involved with proposed ROW projects while reducing liabilities and trespass issues.

Please let me know if you have any questions.

Kayla Graber
Land Management Professional
701.328.1916 • kgraber@nd.gov • land.nd.gov • 1707 N 9th St • Bismarck, ND 58501

Lisa DiNicolantonio

From: Weixel, Diane M. <dmweixel@nd.gov>
Sent: Tuesday, August 13, 2019 2:50 PM
To: Andrea Thornton
Subject: ROW #8568 - ENVIRONMENTAL RESOURCES MANAGEMENT - Planning & Preconstruction Survey
Attachments: Message from KM_C458

Follow Up Flag: Follow up
Flag Status: Flagged

(IT IS IMPERATIVE THAT YOU READ THIS ENTIRE EMAIL.)

Subject: **ROW #8568** - ENVIRONMENTAL RESOURCES MANAGEMENT - Planning & Preconstruction Survey
Ward County
Township 155 North, Range 84 West
Section 1: NW

Greetings,

Two original approved and signed documents are being mailed (via regular mail) to ANDREA THORNTON, Environmental Resources Management, Portland, OR, to obtain the appropriate grantee/permittee signature - **one of the original documents MUST BE RETURNED to NDDTL IMMEDIATELY after grantee/permittee signature.**

Attached is a scanned copy of the approved and signed document for your records and to be shared with those involved in construction, reclamation, and maintenance of the project. The conveyance document contains a map and/or survey of the location where the project must be constructed, soil reservation requirements, and native grass seeding specifications (if applicable). Deviation from the survey/granted area as shown in the conveyance document or grass seed other than the listed specifications are not allowed. If there is an unforeseen reason to change the location, approval must first be obtained in writing from the ND Department of Trust Lands before construction can proceed.

Communicate and coordinate with all parties involved to ensure that everyone is aware of and understand the terms and conditions of the approved project and document. NDDTL will inspect the project upon completion for compliance with the terms and conditions of the conveyance document. We hope that by sending you this information that we can improve communication and reduce the potential project violations which may be costly for your company to correct or hinder future projects on Trust Lands.

If you have any questions concerning rights-of-way construction please contact Kayla Graber by phone at 701-328-1916 or email at LandROWgrp@nd.gov.

Sincerely,

North Dakota Department of Trust Lands

NORTH BAKKEN EXPANSION PROJECT

Resource Report 1

APPENDIX 1G-1
Agency Correspondence – North Dakota Department of Mineral Resources

From: Boyd, Clint A.
To: Georgia Knauss
Subject: RE: ND Pipeline Route - State Land Parcels
Date: Thursday, August 8, 2019 7:07:16 AM
Attachments: image001.png

EXTERNAL: This email originated from outside SWCA. Please use caution when replying.

Georgia,

I agree that the surficial deposits in both of those sites consist of glacial sediments. I have no record of any paleontological localities within several miles of those sections. I see no need for a field reconnaissance of those sections.

Best,

-Clint

Clint Boyd, Ph.D.
Senior Paleontologist: Geological Survey

701.328.8163 (o) • caboyd@nd.gov • https://www.dmr.nd.gov/ndfossil/

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From: Georgia Knauss <gknauss@swca.com>
Sent: Tuesday, August 06, 2019 6:59 PM
To: Boyd, Clint A. <caboyd@nd.gov>
Subject: RE: ND Pipeline Route - State Land Parcels

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Thanks again for providing this information.

They added a couple laterals to this; and one has a bit of state land. Like the last state land parcels it is primarily in an area of glacial sediments. I assume no field work will be needed, but wanted to

confirm. Also, any known localities in or around this area?

Sections 25, 36 T155N R92W

Georgia Knauss
Paleontology Lead - Project Manager

SWCA Environmental Consultants
1892 S. Sheridan Ave.
Sheridan, WY, 82801
P 307.673.4303 ext. 4503| F 307.673.4505 | C 307.461.1676

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From: Boyd, Clint A. <caboyd@nd.gov>
Sent: Thursday, June 27, 2019 8:53 AM
To: Georgia Knauss <gknauss@swca.com>
Subject: RE: ND Pipeline Route - State Land Parcels

EXTERNAL: This email originated from outside SWCA. Please use caution when replying.

Georgia,

I see no need for a field reconnaissance of state managed lands in the area you specified. As you note, the surficial exposure on all those lands are Quaternary sediments and there are no known localities in those areas according to our records.

Additionally, I have no records of known paleontological localities on the Federal lands in the list you provide.

In terms of the broader inquiry, covering the whole project area from T160N, R94W to T149N, R98W (I am assuming it was R98W, as the email listed R8W), there are known paleontological localities in the following townships:

T160N, R94W, Section 24 (Quaternary)
T160N, R96W, Section 34 (Quaternary)
T155N, R95W, Section 6 (Quaternary)
T154N, R94W, Sections 3, 14, and 20 (Paleocene)
T154N, R95W, Sections 7, 13, and 17 (Paleocene)
T154N, R96W, Section 12 (Paleocene)
T149N, R96W, Section 32 (Paleocene)
T149N, R97W, Section 13 (Paleocene)

Please note that these areas have not be intensively surveyed for paleontological resources so it is likely that many more paleontological localities are present within the project area and are simply undocumented at this time, especially in areas where Paleocene rocks are exposed on the surface.

If you have any additional questions please don't hesitate to ask.

Best,

-Clint

Clint Boyd, Ph.D.
Senior Paleontologist: Geological Survey

701.328.8163 (o) • caboyd@nd.gov • https://www.dmr.nd.gov/ndfossil/

NORTH Dakota | Mineral Resources
Be Legendary.™

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From: Georgia Knauss <gknauss@swca.com>
Sent: Wednesday, June 26, 2019 2:17 PM
To: Boyd, Clint A. <caboyd@nd.gov>
Subject: RE: ND Pipeline Route - State Land Parcels

CAUTION: This email originated from an outside source. Do not click links or open attachments unless you know they are safe.

Afternoon Clint –

Hope all is well. Realize you maybe in the field, but am curious if you received my email a couple weeks back – see below. Also if you are going to be in and reviewing, I can get a permit application to you.

I am in my office the next couple days; or available by cell if you have questions.

Thanks,

Georgia Knauss

Paleontology Lead - Project Manager

SWCA Environmental Consultants
1892 S. Sheridan Ave.
Sheridan, WY, 82801
P 307.673.4303 ext. 4503| F 307.673.4505 | C 307.461.1676

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From: Georgia Knauss
Sent: Saturday, June 15, 2019 7:46 AM
To: Boyd, Clint A. <caboyd@nd.gov>
Subject: ND Pipeline Route - State Land Parcels

Morning Clint

We are working on a project in ND that as typical travels N – S and crosses a number of different ownerships including ND State land, USFS, USACE, and private land; and thus in addition to these agencies has some oversite from the BLM.

I am writing to you to see if you have already provided feedback on these parcels, and **if field reconnaissance is needed/if I should move forward with a permit application with you** to do any required field reconnaissance. Aerial images do not show much, if anything, exposure/s – the area is quite vegetated; and mapped as glacial deposits.

Williams County Sections 24 and 36, T158 N, R95W
Mountrail County Section 6, T157N, R94W; and Sections 19 and 31, T158 N, T94 W

In addition to determining if there is need for any field work on state land in these areas; I would also **ask if there are any known localities along the project route** (specifically where there is federal land). Also if you have anything in this general area it would be helpful to know; they have shifted the line around a bit; since fieldwork is starting I assume this is nearly completed – but you never know. The project as a whole extends from T160N, R94W to T149N, R8W over all; but very little is on public land.

Full Legal information is listed here for Sections with Federal Land:

Section 36, T154N, R97W
Sections 18 and 19, T154N, R96W
Sections 12, 13, and 14, T153N, R97W

Thanks for your time,

Georgia Knauss

Paleontology Lead - Project Manager

SWCA Environmental Consultants
1892 S. Sheridan Ave.
Sheridan, WY, 82801
P 307.673.4303 ext. 4503| F 307.673.4505 | C 307.461.1676

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NORTH BAKKEN EXPANSION PROJECT

Resource Report 1

APPENDIX 1G-1
Agency Correspondence – Local Agencies

ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

www.erm.com

Call Log

Log of Telephone Conversation

ERM

Call To/From Whom	To: Marla MacBeth
Phone number	(701) 377-6242
Company	Burke County Planning Department
ERM Contact	Lisa DiNicolantonio
Phone number	(925)658-2336
Date	07/25/2019
Time of Conversation	9:30 am
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

I called the main line for the planning department and Marla was unavailable. I left a voicemail and am waiting for a callback.

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Call Log

Log of Telephone Conversation

ERM

Call To/From Whom	To: Dana
Phone number	(701) 444-6494
Company	McKenzie County Planning Department
ERM Contact	Lisa DiNicolantonio
Phone number	(925)658-2336
Date	07/25/2019
Time of Conversation	9:10 am
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

I called and spoke with Dana and asked her if there were any planned developments, utility or road projects currently planned to occur within the county. She said there is nothing on the table at this time.

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Call Log

Log of Telephone Conversation

ERM

Call To/From Whom	To: Heidi Kory
Phone number	(701) 628-2909
Company	Mountrail County Planning Department
ERM Contact	Lisa DiNicolantonio
Phone number	(925)658-2336
Date	07/25/2019
Time of Conversation	9:40 am
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

I called the main line for the planning department and spoke with Heidi. She said she has not heard about anything at this time.

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Call Log

Log of Telephone Conversation

Call To/From Whom	To: Melissa
Phone number	(701) 577-4567
Company	Williams County Planning Department
ERM Contact	Lisa DiNicolantonio
Phone number	(925)658-2336
Date	07/25/2019
Time of Conversation	9:20 am
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

I called the main line for the planning department and spoke with Melissa and asked if there were any planned developments in the county. She put me on hold for a minute, then came back and said that I should go to the website and look at the agendas for their meetings to see what was being brought to the commission.

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Portland, OR 97204

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Call Log

Log of Telephone Conversation

ERM

Call To/From Whom	To: Marla MacBeth
Phone number	(701) 377-6242
Company	Burke County Planning Department
ERM Contact	Lisa DiNicolantonio
Phone number	(925)658-2336
Date	08/02/2019
Time of Conversation	9:45 am
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

I called the main line for the planning department and Marla was unavailable. I left a voicemail and am waiting for a callback.

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Suite 1650
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Call Log

Log of Telephone Conversation

Call To/From Whom	To: Patrick Fawn
Phone number	(701) 328-2400
Company	North Dakota Public Service Commission
ERM Contact	Kate Acker
Phone number	(763) 607-4249
Date	8/8/2019
Time of Conversation	12:35pm
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

I called the main line for the planning department and Patrick was unavailable. I left a voicemail and am waiting for a callback.

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Call Log

Log of Telephone Conversation

ERM

Call To/From Whom	To: Patrick Fawn
Phone number	(701) 328-2400
Company	North Dakota Public Service Commission
ERM Contact	Kate Acker
Phone number	(763) 607-4249
Date	8/9/2019
Time of Conversation	11:19am
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

Patrick called me back and said that the information is available online. He suggested calling him on Monday so he could direct me to where to find it.

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Call Log

Log of Telephone Conversation

Call To/From Whom	To: Matthew Fischer
Phone number	(701) 328-4779
Company	North Dakota Public Service Commission
ERM Contact	Lauren Colwell
Phone number	(612) 359-5681
Date	2/4/2020
Time of Conversation	2:30pm
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

I called the Public Service Commission and was directed to Mr. Fischer from the Abandoned Mine Lands Division. I asked if Mr. Fischer was aware of any resources, databases, or online records that would provide the locations of known coal seam fires in North Dakota for an environmental review of a proposed project. Mr. Fischer indicated that there were no databases or online resources available, and the last coal seam fire that the AML Division was involved with was over 10 years ago. Mr. Fischer indicated that the AML Division is no longer allowed to use federal funds to suppress coal seam fires unless the fires were associated directly with an abandoned mine. I asked if Mr. Fischer would provide any available summaries regarding coal seam fires from the older projects, and Mr. Fischer replied that he would.

Mr. Fischer emailed two summaries of coal seam fire projects from 2003 and 2007 in McKenzie and Slopes counties on February 4 at 3:55pm, and followed up with another coal seam fire project in McKenzie County from 2012 on February 5 at 8:07am. The 2003 and 2012 fires in McKenzie County were located in western North Dakota near Sathers Lake.

Mr. Fischer emailed again on February 5 at 9:30am and indicated that Oscar Knudston with the USDA, National Grasslands (701-842-8517) may know more about coal seam fires in the area.

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From:	Fischer, Matthew J.
To:	Lauren Colwell
Cc:	Breiner, Joan M.; Edison, Ross W.; Jochim-Peck, Esther A.; Moos, Dean K.; Nixon, Shawn; Beechie, Bruce E.
Subject:	Coal Seam Fire Projects
Date:	Tuesday, February 4, 2020 1:55:59 PM
Attachments:	2003_Coal_Fire_Suppression_Contract_473_03.pdf 2007_Coal_Fires_Contract AM_537_07.pdf

Hi Lauren,

Today you called looking for GIS data on coal seam fires. As I said, we do not have any of that information in a GIS format, nor do we keep records of coal seam fires. Attached are project summaries for two coal seam fire projects. To my knowledge, these are the only coal seam fire projects that the Public Service Commission (PSC) has conducted. The PSC is no longer able to use Abandoned Mine Lands (AML) funds to extinguish coal seam fires unless they are part of an abandoned mine. Let me know if you have any questions.

Thanks,

Matt Fischer
GIS Specialist
Abandoned Mine Lands Division
North Dakota Public Service Commission
600 E Boulevard Ave, Dept 408
Bismarck, ND 58505-0480
(701)328-4779
mjfischer@nd.gov

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Project Summary

2003 Coal Fire Suppression Project

Contract AM-473-03



Abandoned Mine Lands Division
North Dakota Public Service Commission
State Capitol, Department 408
600 East Boulevard Avenue
Bismarck, North Dakota 58505-0480

December 2003

Public Service Commission
State of North Dakota

COMMISSIONERS

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Susan E. Wefald
Kevin Cramer

Executive Secretary
Jon H. Mielke

600 E Boulevard Ave. Dept. 408
Bismarck, North Dakota 58505-0480
web: www.psc.state.nd.us
e-mail: ndpsc@psc.state.nd.us
TDD 800-366-6888
Fax 701-328-2410
Phone 701-328-2400

December 31, 2003

Mr. Guy Padgett, Director
Office of Surface Mining
Casper Field Office
Federal Building
100 East "B" Street
Casper, WY 82601-1918

Re: North Dakota 2003 Coal Fire Suppression Project

Dear Mr. Padgett:

Enclosed for your review is close out documentation for the 2003 Coal Fire Suppression Project. The project summary book contains the complete project history and includes the following:

- Executive Summary
- Chronology of Events
- Contract Procurement documents
- Contract Administration documents
- Newspaper Articles and Publications
- Project Maps and Photographs

The North Dakota Public Service Commission wishes to thank the Casper Field Office for the generous grant of $37,000, which has allowed us to complete this important work. Our hope is to receive additional grant money in 2004 for additional coal fire suppression work that is much needed.

If you have any questions concerning this project or the close out documents, please feel free to call.

Sincerely,

Bruce Beechie

Bruce Beechie, Project Manager
Abandoned Mine Lands Division
North Dakota Public Service Commission

NORTH DAKOTA PUBLIC SERVICE COMMISSION
ABANDONED MINE LANDS DIVISION
2003 COAL FIRE SUPPRESSION PROJECT

EXECUTIVE SUMMARY

The Public Service Commission (PSC) administers the Abandoned Mine Lands (AML) Program on behalf of the State of North Dakota. The AML program is charged with reducing and eliminating existing and potential public hazards resulting from adverse affects of abandoned surface mines, underground mines and coal processing facilities.

This report describes a project conducted by the AML Division during the winter of 2003. The objective of the project was to extinguish coal seam outcrop fires located on U.S. Forest Service lands. Coal outcrop fire suppression normally falls outside of AML jurisdiction, and authority to conduct this project was obtained as a result of a cooperative agreement between the U.S. Forest Service and the U.S. Department of the Interior, Office of Surface Mining. Funding for the project was provided through a grant received by the PSC from the Office of Surface Mining, Casper Wyoming.

An estimated 30 coal seam outcrop fires were ignited in the North Dakota Badlands as a result of a grass fire that burned a reported 70,000 acres on October 31, 1999. A majority of the coal seam fires are located within a 25 mile radius of Sather Dam, southwest of Watford City in McKenzie County, North Dakota.

The initial site investigation on September 16, 2003 indicated the burning coal seam areas to vary in size from about 1/10 acre up to 1 acre or more in size. The U.S. Forest Service has been conducting maintenance and monitoring of these sites for years. Maintenance work has included scraping of vegetation away from the burn front, water dousing and chemical application to kill vegetation within close proximity. A couple of small-scale intercept trenching projects were also conducted.

A primary concern is the possibility of additional grass fires igniting as a result of the burning coal seams. At least four grass fires have already been attributed to the burning coal seams. Left alone, underground lignite coal fires have been documented to burn for decades.

Coal fire suppression project work began on November 14, 2003 and was completed by December 10, 2003. Suppression activities were conducted on eight of the highest priority sites. One site, Wambach 25 was considered to be too big for complete excavation, based on available funding. A 2-tiered series of intercept trenches were excavated around all burning portions of this site. The remaining seven sites (Wambach 26A, Sather-Hanson 10, Severson 19, Severson 29, Kiandl 20, Burns Big Johnson and Sheep Creek 35 were reclaimed by complete excavation of all burning materials and enclosure in a burial trench.

Representatives of the U.S. Forest Service were on-site at all times and provided assistance and expertise in the discipline of fire suppression. A local contractor was hired to provide the required suppression services for this project.

The AML Division wishes to extend a special note of thanks to Mr. Oscar Knudtson, Fire Manager for the McKenzie Ranger District and also to Mr. Kurt Hanson and Mr. Robert Wirtz of Hanson's Excavating, Inc., Des Lacs, North Dakota.

Total contractual and administrative costs required to complete the 2003 Coal Fire Emergency Project was $37,000.

2003 Coal Fire Suppression Project
Chronology of Events

70,000 acres burned on October 31, 1999. Approximately 30 coal seam outcrop fires ignited as a result. Monitoring and some treatment have been ongoing by the U.S. Forest Service. Of major concern is the possibility of reignition of fires by the burning coal seams.

August 19, 2003	Commissioner Clark receives letter from the U.S. Department of the Interior, Office of Surface Mining (OSM) Director, Guy Padgett indicating $100,000 is available to western states for coal seam fire projects on U.S. Forest Service lands.
August 20, 2003	PSC contacts Maure Sand, U.S. Forest Service inquiring about the status of coal seam fires in North Dakota, and if they would be interested in our assistance.
September 4, 2003	AML Division receives phone call from Oscar Knudtson concerning coal fires on Forest Service Lands. Site investigation is scheduled.
September 11, 2003	PSC submits grant application to OSM for $100,000.
September 16, 2003	Commissioner Cramer and AML staff members inspect 10 coal seam outcrop fire sites.
September 23, 2003	PSC is notified by OSM of grant award of $37,000 for coal seam fire abatement work-their highest award to any of the states.
October 3, 2003	AML Division sends out project specifications and bid packages to 43 contractors.
October 13, 2003	Pre-bid, on-site meeting held for interested contractors.
October 15, 2003	PSC receives written "Authorization to Proceed" from OSM.
October 21, 2003	Bid opening conducted. Low bidder is Hanson's Excavating of Des Lacs, ND. Other bidders included Basaraba's Excavating of Wilton, Quality Construction of Sawyer, Unlimited Excavating of Washburn and Onsite Improvements of Dickinson.
October 22, 2003	PSC awards contract to Hanson's Excavating, Inc.
October 27, 2003	Bill Powell and Neil Jacquot of OSM inspect coal fire sites in North Dakota and Montana. They will submit their inspection report to OSM in determining if additional grant money will be made available for future work.
November 3, 2003	Requisite paperwork received from Hanson's Excavating (signed cootract, insurance certificate and contractor's license).
November 14, 2003	Project work begins
December 10, 2003	Project work is completed

Contract Procurement

- **Letter to Comm. Clark, PSC from Guy Padgett, OSM**
- **AML Internal Memorandum**
- **Letter to Neal Jacquot, OSM from Frank V. Guzman, U.S. Forest Service**
- **Letter to Lou Ogaard, PSC from Guy Padgett, OSM**
- **Project Specifications , bidder mailing list and bid form**
- **On-site public meeting attendance sheet**
- **Award of contract and bid summary**

B1

IN REPLY REFER TO

United States Department of the Interior

OFFICE OF SURFACE MINING

Reclamation and Enforcement
Casper, Field Office
100 East "B" Street
Casper, Wyoming 82601-1918

August 19, 2003

Lou
Ogaard
PSC
AML Division

Mr. Tony Clark
President
Public Service Commission
State of North Dakota
600 E. Boulevard Ave. Dept 408
Bismarck, North Dakota

Dear Mr. Clark:

In recent discussions with the U. S. Forest Service – Dakota Prairie Grasslands in Bismarck, we learned that there are coal outcrop fires on their lands in western North Dakota. The Forest Service has been monitoring them for some time and recently several fires have become more extensive and it appears more control measures will be necessary.

Federal regulation at 30 CFR 880.12 authorizes OSM to enter into agreements with either other Federal agencies or states to control or extinguish fires in coal formations on Federal lands. States must have an abandoned mine land program. These same regulations allow OSM to construct fire control measures if either of these parties choose not to participate.

OSM received modest funding for coal outcrop fires in FY2003. These funds may be made available to western state fire control activity.

In light of the possibility of developing cooperative agreements and utilizing OSM Federal coal outcrop funding, the Public Service Commission may choose to be the lead agency for such fire controls. If not, OSM could either opt to control those fires themselves or enter into an agreement with the U S Forest Service for such services.

We would appreciate knowing of your interest or if you would prefer to have this function performed by someone else.

I will look forward to your response and if you need any other information, please contact me or Mr. Neal Jacquot of my staff.

[redacted]
Casper Field Office

CC: Lou Ogaard, Director
AML Division

Beechie, Bruce E.

From: Dodd, William E.

Sent: Thursday, September 04, 2003 9:39 AM

To: Ogaard, Lou A.

Cc: Geiger, Gloria A.; Beechie, Bruce E.

Subject: Call from Oscar Knutson, USFS - Watford City

Oscar Knutson, Watford City Fire Management Office, called this morning. We discussed the fires on USFS lands in McKenzie County and agreed to meet on September 16th and take a look at them. He said it would only be possible to look at a sampling of them (perhaps 6-8 sites) in one day. I asked him questions regarding the cost to extinguish the fires, prioritization, and the need for action.

He couldn't speculate on the cost to reclaim all the fires. They've done some limited excavation on a few but mostly just scraping off dry grass and building fire breaks. Some were on steeply sloping hills and creek beds where major excavation would be needed to remove overburden. I guess we will just have to come up with some average projected cost per fire.

He said he hadn't ranked the fires with regard to priority other than with regard to the activity level. He said the activity was high on two or three of the fires and a few were out or nearly out, the rest fell between and are average.

The need for action is to prevent the outcrop fires from igniting grass fires that easily could burn thousands of acres. This federal property is interspersed with private property. Private landowners use this rangeland for cattle grazing as their livelihood. In the 1999 fire, the homestead of Ed Burns was lost. There are several roads in this area that are used as school bus routes, fire routes and for local residents to get to towns for shopping, medical needs, etc.

United States Department of Agriculture | Forest Service | Dakota Prairie Grasslands | McKenzie Ranger District
1901 South Main Street
Watford City, ND 58854

File Code: 5130

Date: October 2, 2003

Neal Jacquot
Office of Surface Mining
100 East B Street, Room 2128
Casper, WY 82601-1918

RE: Grant to treat burning coal vein fires in McKenzie County, North Dakota

Dean Neal,

I am pleased that you are supporting the North Dakota Public Service Commission with a grant to treat burning coal vein fires on the McKenzie Ranger District of the Dakota Prairie Grasslands. These fires are an unusual predicament and have been problematic for us. I would like to provide you with a brief history of the fires, and an explanation of how the Forest Service views them.

The fires originated on Halloween night, 1999. A grass fire, carried by 70 mile per hour winds, swept across 53,000 acres of McKenzie County, North Dakota. The fire burned primarily on National Forest Service lands. The grass fire was controlled within 6 days, but it was soon realized that another fuel source had been ignited and was burning – underground coal veins. We learned of 4 burning coal veins within the first few months of the fire start. At least 12 more were discovered and reported to us by June of 2002. In the past 15 months another 12 have been identified. We treated 10 of these fires to put them out by trenching around the burning area, or digging up the burning coal. The rest have been monitored and/or prevention tactics such as burning off the fuels, digging hand line, or scraping off the vegetation have been applied. The latter have only been temporary stopgap measures to hopefully prevent any grass wildfire starts.

We believe that all but one of these burning coal seams were started by the 1999 Halloween grass fire.

The burning coal veins are unusual because of their fuel source and location...coal underneath the ground. But they are still wildfires, uncontrolled, and potential threats to property and human safety. The actual fire on most sites is below ground surface, but cracks in the ground and slumping that occurs as the coal burns both expose the surface to hot gases. Fine vegetative fuels on the surface can be ignited from these hot gases and result in grass fires. Burning coal veins in 2003 started three such fires. This illustrates that the fires are still active and can be hazardous. Of course, some of the fires are of more immediate concern than others. Location, associated aboveground fuels, and current size are all considerations as we prioritize which fires to put out first. We may actually choose to simply continue monitoring some fires at this time.

Because these fires have never been completely extinguished, the Forest Service still considers them wildfires. In addition, we consider the coal vein fires to pose an impending emergency situation, because they may act as a source of ignition for aboveground wildfires. Wildfire suppression activities do not require that National Environmental Policy Act procedures be completed because wildfires are considered emergencies.

I do not anticipate that suppression activities will cause more damage than the fires themselves are causing as the ground slumps and soil is sterilized. No road construction or reconstruction to access sites will be required on any of the currently burning fires. Our resource specialists are involved with the fire suppression activities, and will be available to consult on issues such as archeological concerns (so far there are none), potential disturbance to sensitive plants and anirnals (again, no concerns at this point), and rehabilitation efforts.

The local public is very concerned that the burning coal veins will ignite more aboveground fires, and would like to see them extinguished. Local ranchers and permittees are especially anxious about the fires because of intermingled private and Forest Service land ownership in the vicinity of the fires.

Again, I greatly appreciate your monetary support of these fire suppression activities. Current fire danger is still high in western North Dakota, and so the sooner we can act on high priority coal vein fires, the better. I look forward to working with the Public Service Commission to accomplish our objectives.

Sincerely,

FRANK V. GUZMAN
District Ranger

cc: Bruce Beechie, North Dakota Public Service Commission

IN REPLY REFER TO:

United States Department of the Interior

OFFICE OF SURFACE MINING
Reclamation and Enforcement
Casper, Field Office
100 East "B" Street
Casper, Wyoming 82601-1918

October 15, 2003

Dr. Louis A. Ogaard, Director
Abandoned Mine Lands Division
Public Service Commission
Capitol Building
Bismarck, North Dakota 59505-0480

Dear Dr. Ogaard;

The Office of Surface Mining (OSM) has reviewed the environmental information presented by the U.S. Forest Service for the Coal Outcrop Fire Projects on Forest Service land in McKenzie County, near Watford City, North Dakota. Since the Forest Service has jurisdiction on the lands within the project area, and have agreed to provide the necessary environmental clearances, we have determined that the reclamation of these outcrop fires will not have any significant effect on the quality of the human environment. We therefore conclude that no environmental impact statement is necessary for this reclamation.

Accordingly, pursuant to section 5-11-20D.3 of the Federal Assistance Manual, you are hereby authorized to proceed with the reclamation of this project.

Sincerely,

[illegible], Director
Casper Field Office

Public Service Commission
State of North Dakota

COMMISSIONERS

Tony Clark, President
Susan E. Wefald
Kevin Cramer

Executive Secretary
Jon H. Mielke

600 E Boulevard Ave. Dept. 408
Bismarck, North Dakota 58505-0480
web: www.psc.state.nd.us
e-mail: ndpsc@psc.state.nd.us
TDD 800-366-6888
Fax 701-328-2410
Phone 701-328-2400

To: Prospective Bidders

From: Abandoned Mine Lands Division, NDPSC

Date: October 3, 2003

Subject: **2003 Coal Outcrop Fire Suppression Project**

Enclosed for your consideration is an invitation for bids to extinguish burning coal seam outcrop fires at various U.S. Forest Service, Little Missouri National Grassland sites in western North Dakota. This project will entail excavation, backfilling and grading of actively burning lignite coal seams. Areas included are generally located within a 100 square mile area, ranging between 2-15 miles from Sather Dam which is approximately 20 miles southwest of Alexander in McKenzie County, North Dakota (refer to site maps). Fire suppression efforts will be conducted upon as many sites as possible depending upon access, weather conditions and project funding.

The Abandoned Mine Lands Division (AML) of the North Dakota Public Service Commission (PSC) is interested in receiving bids from qualified construction firms to achieve reclamation on sites within this general project area. This solicitation is being mailed to those contractors that have been placed on an AML Compiled Bidders List for dirt work contracting, and U.S. Forest Service contractors list.

Contractors are required to understand that project work will be conducted over inherently dangerous burning coal seams, fractured and collapsing overburden. All precautionary measures shall be taken by the contractor to adequately protect his work force and equipment, and to minimize the potential for ignition of grass fires during excavation and suppression efforts.

Project location maps, work specification sheet, site information spreadsheet, contractor mailing list and the bid form is included in the following pages. The contractor's price/cubic yard bid and mobilization shall cover all costs associated with project work. No additional payment will be made for fuel, recontouring, utility location, cleanup or anything else. Prior to beginning work, the successful bidder shall provide a valid North Dakota Contractors License within the classification value of the project bid amount, and a liability insurance policy of no less than $250,000 per person and $1,000,000 per occurrence.

If interested, please submit your bid for the project (on the bid form provided) by **1:00 PM Central Time, Tuesday, October 21, 2003.** Mailed bids should be sent to; North Dakota Public Service Commission, Abandoned Mine Lands Division, 600 East Boulevard Ave., Dept. 408, Bismarck, North Dakota 58505-0480. The successful bidder is expected to submit the required documents, sign a contract and begin work as directed by the Commission Project Manager. The performance period for this project will be 45 consecutive calendar days from approximately October 23, 2003 to December 6, 2003. If contract work is indefinitely delayed due to extreme weather conditions, the Commission reserves the right to close out the contract, or carry over the contract to the following spring. The Commission reserves the right to reject any or all bids or waive any irregularities in bids received. Contractors will be required to comply with all terms, conditions and requirements contained in the "Sample Contract" attached to this invitation for bids. Out of State bidders are required by law to provide the Commission with a "Certificate of Authority" from the Secretary of State's office to be included with the bidding documents. Questions regarding project work may be directed to Bruce Beechie or Bill Dodd of the Abandoned Mine Lands Division at (701) 328-4096.

2003 Coal Fire Suppression Project
Work Specification Sheet

Project Objective: To extinguish all burning materials within selected project sites.

Scope of Work: This project will entail excavation and burial of burning lignite coal within the Little Missouri National Grasslands. There are approximately 25 actively burning coal seam outcrop fires ranging in size from 1/10 acre to 1 acre and extinguishment efforts will be conducted on as many sites as possible. Overburden depth to the burning coal seam(s) is expected to range from 2-20 feet, pending site specific conditions. Average coal seam thickness is expected to be from 1-5 feet. Multiple burning layers are possible. The U.S. Forest Service will provide a water truck and personnel for quenching of burning materials. Seeding of reclaimed sites will be completed by the U.S. Forest Service.

Standard Requirements

1. Remove and stockpile topsoil or suitable plant growth material from around/within the defined project area.

2. Excavate intercept trench or burial trenches at prescribed depths for burial of competent overburden and/or burning materials.

3. Excavate and emplace burning materials into the burial trenches. Blend or intermix the burning/hot materials with clay or approved overburden in lifts as directed. Excavation of the active burn face is considered complete when the coal seam is cool to the touch. Water quenching (as required) will be performed by U.S. Forest Service personnel.

4. Cover the backfilled trenches with approved material. Ensure that all buried materials are isolated from other combustible materials. Any combustible material removed from trenches or borrow areas must be covered or mixed with inert soil material.

5. Grade area to blend with surrounding topography and re-establish drainage.

6. Re-spread salvaged topsoil (where available) over disturbed areas.

7. Drag the graded area with a spike-tooth harrow or equivalent and clean up the site.

    - Topsoil salvage, grading, topsoil respreading and dragging are also required if material borrow areas are excavated.

At a minimum, the contractor is required to provide **an excavator and dozer.** The contractor must have at least two fully-charged fire extinguishers on site at all times. The Commission Project Manager and U.S. Forest Service representatives will direct the location and order in which project sites will be reclaimed.

Bid quantities are estimated and will be based on the successful contractor's price/cubic yard bid and mobilization. Payment will be based on measured cut volumes of intercept and/or burial trenches and measured volumes of material excavation required for complete extinguishment. The Commission reserves the right to estimate volumes based on negotiated hourly equipment rates if deemed necessary. **A pre-bid/on-site conference is scheduled for October 13, 2003 to afford an opportunity to prospective bidders to receive clarification related to this solicitation, inspect selected site locations and access. This conference will be held at 11:00 AM CT, meeting at Sather Dam camping ground (intersection of State Highways 16 & 68) and proceeding from there to representative project sites.** Bidders are charged with knowledge of all information made available at this forum.

Underground utility location responsibilities rest with the contractor. The North Dakota "One Call" Utility hotline is: 1-800-795-0555. Any site access work undertaken by the contractor must be reclaimed to its previous condition.

U.S. Forest Service - National Grasslands Burning Coal Seam Information

Site (size)	Legal Description	Lat.	Long.	Previous Action	Activity Level	Recommendation	Comments
Old Highway 25 (1/10 acre)	145-98, Sec. 25, SE, NW	47 21 17	103 06 05	Mechanical	Low	None Listed	
Crighton (1/4 acre)	147-102, Sec. 26, NW, NE	47 31 38	103 38 45	Monitor	None	Monitor	
Sheep Creek Leland 3A (1 acre)	147-103, Sec. 3, NW, SE	47 35 05	103 47 14	Monitor	Medium	Evaluation	Priority #11
Sheep Creek Leland 3B (1/4 acre)	147-103, Sec. 3, NW, SE	47 35 07	103 47 13	Monitor	Medium?	Evaluation	Priority #12
Horseshoe 20 (1/4 acre)	148-102, Sec. 20, SW, SE	47 37 19	103 42 36	Burn/Monitor	High	Monitor	
Sather 10 (1/10 acre)	148-103, Sec. 10, SW, NE	47 39 11	103 47 31	Mechanical	None	Monitor	
Sather/Hanson/10 (1/4 acre)	148-103, Sec. 10, SE, NE	47 39 32	103 47 50	Scraped around	High	Try Mechanical	Priority #3
Severson 19 (1/10 acre)	148-103, Sec. 19, NE, NE	47 37 54	103 50 51	Scraped around	Medium	None Listed	Priority #4
Severson 29 (1/10 acre)	148-103, Sec. 29, NE, NE	47 37 00	103 49 40	Monitor	Low	None Listed	Priority #5
Big Buck 29 (1/4 acre)	148-103, Sec. 29, NE, SW	47 36 49	103 49 43	Mech. / Monitor	Low	Monitor	
Hart Draw 30 (1/4 acre)	148-103, Sec. 30, SW, NE	47 36 44	103 50 53	Scraped around	High	Monitor/Burn/Chem	
Cummings A (1/4 acre)	148-103, Sec. 30, NW, SE	47 36 53	103 51 14	Mech. / Scraped	Medium	Retreat Mechanical	Priority #8
Cummings B (1/10 acre)	148-103, Sec. 30, NW, SE	47 36 54	103 41 15	Monitor	None	Monitor	
Sheep Creek 35 (1/4 acre)	148-103, Sec. 35, NW, SE	47 35 43	103 46 13	Scraped around	Medium	Try Mechanical	Priority #9
Roedeseke 4 (1/4 acre)	148-104, Sec. 4, SW, SW	47 39 49	103 56 37	Monitor	Low	Monitor	
Burns 9 (1/4 acre)	148-104, Sec. 9, NW, NE	47 39 33	103 56 22	Mechanical	Low	Retreat Mechanical	Priority #10
Burns 10	148-104, Sec. 10, SE, NW	47 39 19	103 54 18	None	High	Monitor/Burn	
Burns Big Johnson 10 (1/10 acre)	148-104, Sec. 10, NE, SW	47 39 19	103 54 40	Scraped around	Medium	None Listed	Priority #7
Wambach 13 (1/10 acre)	148-104, Sec. 13, NE, SW	47 38 01	103 52 24	Scratchline/Monitor	High	Monitor/Burn/Chem	
Klandl 20 (1/4 acre)	148-104, Sec. 20, NE, NW	47 39 44	103 56 29	None	Low	Mechanical	Priority #6
Wambach 25	148-104, Sec. 25, NW, SE	47 36 40	103 52 29	None	High		Priority #1
Wambach 26-A (1/10 acre)	148-104, Sec. 26, NE, NE	47 37 02	103 52 57	Found/Lined	Medium	None Listed	Priority #2
Wambach 26-B (1/10 acre)	148-104, Sec. 26, NE, SW	47 36 47	103 53 30	Scraped around	None	None Listed	
McPeak/Klandl 27 (1/4 acre)	148-104, Sec. 27, NE, SW	47 36 49	103 54 46	Mechanical	Medium	Monitor/Retreat	
McPeak/Klandl 27 NE (1/4 acre)	148-104, Sec. 27, NE, NE	47 36 56	103 54 27	Mechanical	Low	Monitor	
McPeak 27C (1/10 acre)	148-104, Sec. 27, NW, SE	47 36 42	103 55 03	Monitor	Low	None Listed	Priority #14
Cross Benie Piere A				Try to find	Unknown		
Cross Benie Piere B				Try to find	Unknown		
Benni Peer-Cross 24	148-105, Sec. 24, NE, SW	47 37	103 59				Priority #13

NORTH DAKOTA PUBLIC SERVICE COMMISSION

Qualified Bidders List - Dirt-work Contractors
(Revised September 2003)

American Contracting, Inc.
PO Box 2100
Dickinson, ND 58602-2100
ph. 225-8188, fax 225-8188

Arnie Osland
RR 1
Mayville, ND 58257
ph. 786-2071

B G Excavation
#11 435 Hwy. 10 West
Dickinson, ND 58601
ph. 225-8098, fax 227-1988

Baranko Bros., Inc
PO Box 820
Dickinson, NO 58602-0820
ph. 483-5868, fax 483-5960

Basaraba Excavating and Dirt Work
PO Box 125
Wilton, ND 58579
ph. 734-6143, fax 734-674e

Bruce Livingston
22000 Hwy. 1804 NW
Baldwin, ND 58521
ph. 734-8172

Carl Heger
RR 1 Box 69
Washburn, ND 58577
ph. 462-8696

Close Construction Co., Inc.
PO Box 96
Milton, ND 58260
739-1000

Curley's Dozer Service
PO Box 262
Halliday, ND 58636
ph. 938-4447

Des Lacs Sand and Gravel
PO Box 66
Des Lacs, ND 58733-0066
ph. 725-4903, fax 725-4403

Donn Brown Construction
PO Box 58
Des Lacs, ND 58733-0058
ph. 725-4905

Earth Energy and Water Systems
3690 Judson Street
New Salem, ND 58563-4802
ph. 843-8479, fax

Edward Schwartz Construction
PO Box 160
New England, ND 58647-0160
ph. 579-4204, fax 579-4854

Ernie Nelson Company
PO Box 166
Velva, ND 58790-0166
ph. 338-2038

Excavating, Inc.
5820 Hwy. 2 East
Minot, ND 58701
ph. 839-1817, fax 852-4257

Franz Construction
PO Box 1046
Sidney, MT 59270
ph. 406-482-4760

Gary Mortock Construction
5180 57th Street SE
Bismarck, ND 58504
ph. 223-8326

Gratech Company, Ltd.
Highway 28 North
Berthold, ND 58718-9702
ph. 453-3434, fax 453-3334

Hanson's Excavating, inc
9515 198th St. SW
Des Lacs, ND 58733

Hisbechuk Construction
Box 738
Belfield, ND 58622
ph. 575-4259, fax 575-4259

Hulstrand Construction, Inc.
Box 8
Lakota, ND 58344
ph. 247-2621, fax 247-2921

Kingdom Construction, Inc.
221 4th St. West
Hurdsfield, ND 58451
ph./fax 962-3499

Larson Construction
RR1 Box 1
Reeder, ND 58649
ph. 853-2345

Lee's Construction
PO Box 200
Kensal, ND 58455
ph. 435-2754

Mariner Construction
750 119th Street NE
Menoken, ND 58558
ph. 258-3925, fax 258-8987

Martin Construction
PO Box 17
Gladstone, ND 58630-0017
ph. 483-3478, fax 483-3479

Morris Holen Construction
Box 125
Bantry, NO 58713
ph. 768-2625

Northern Improvement Company
PO Box 1254
Bismarck, ND 58502-1254
ph. 223-6695, fax 224-0937

Onsite Improvements, Inc
PO Box 489
Dickinson, ND 58601
ph 225-0725, fax 225-0725

Orrin A. Helen Construction
PO Box 126
McClusky, ND 58463-0126
ph. 363-2244, fax 363-2315

Perreault Construction
PO Box 127
Golden Valley, ND 58541
ph. 870-4516

Pioneer Construction
4025 Co. Rd. 82
Mandan, ND 58554
ph. 663-0834, fax 663-9000

Powell Construction
HC1 Box 16A
Amidon, ND 58820
ph. 275-8743

Quality Construction
PO Box 287
Sawyer, ND 58781
ph. 624-5173, fax 624-5180

Resource Planning and Management
PO Box 303
Fort Peck, Montana 59223
ph. 406-367-5405

Steve Seyfund Construction
RR 2 Box 125
Bowman, ND 58623
ph. 523-5380

Ted's Excavation
6750 331st Ave. NE
Wilton, ND 58579
ph. 734-6449, fax 734-8177

Thomas and Sons Construction
PO Box 31
Driscoll, ND 58532
ph. 387-4703, fax 387-4747

Travis Bohl dba Dig It Up Backhoe
800 163rd Ave SE
Minot, ND 58701
852-5357, 721-9742

Trotter Construction, Inc.
12651 2nd. St. SW
Grassy Butte, ND 58634

Unlimited Excavating
1107 Pleasant Ln.
Washburn, ND 58577
ph 462-8666

Weisz & Sons, Inc.
PO Box 1756
Bismarck, ND 58502-1756
ph. 258-9770, fax 258-2194

Wilson Construction
PO Box 133
Scranton, ND 58653-0133
ph. 275-8840, fax 275-6840

Coal Fire Suppression Work Plan Narrative

Work will not be allowed to begin until the fire danger index is out of the extreme category for the National Grasslands area. The U.S. Forest Service will determine that status and advise. As a precautionary measure, work will not be allowed on excessively windy days (the U.S. Forest Service site representative will make that determination). Any weather-related loss of work days will not be charged against the contractor's performance period.

Use the dozer and excavator to strip topsoil from around/within the work area. Strip a buffer zone of at least 20 feet around the periphery to eliminate fuel sources and the potential for starting a grass fire. Stockpile topsoil up-gradient of the burning face and/or around the edges of the designated work zone. The dozer can strip the outside edges of the work area and the excavator can strip inside the sloughed (previously burned) area. Payment for topsoil stripping is coincidental to the project and not paid as a cut measurement.

The dozer can begin digging the burial trench while the excavator is still stripping topsoil. Construct the trench as close to the burning face as possible-close enough to be within the swing radius of the excavator (if possible) that will be pulling out the burning materials. Most trenches are expected to be about 3 feet deep, but at least as deep as required to get below the target coal seam. Some exploratory excavator work may be required to determine depth to the coal seam and elevation of the trench cut. The trench could be up to 20 feet wide and should run the length of the anticipated burn face. The trench overburden material may be stockpiled by the dozer at the two far ends of the trench and/or adjacent to the down-gradient cut of the trench.

The excavator will start pulling out burning material and backfilling the far end of the trench (down gradient). The dozer will spread the cast burning materials at the bottom of the trench and will intermix the stockpiled overburden material with the excavated burning/hot material between lifts. As the excavator digs farther into the burning coal seam, the trench cut will keep moving towards the coal face (into the hill), which will probably be mostly dozer work. Water quenching (as required) will be conducted in the burial trench during mixing of the burning material and overburden. The dozer can also be used at this time to help daylight/excavate the burning coal seam between lifts.

Continue the above-listed process until the coal face is cool to the touch and all parties agree that complete excavation and suppression of the burning materials is complete. Backfill the trench or trenches, grade the site to its approximate original contour, respread the topsoil and drag all disturbed areas.

Due to funding limitations, intercept trenches are expected to be excavated only on those sites that are considered too big or the coal seam is considered too deep for complete extinguishment. The above-listed work plan for burial trench fire suppression is expected to be the standard method for suppression activities. Payment for all work will be as noted in the bid proposal.

BID FORM

North Dakota Public Service Commission
2003 Abandoned Mine Lands Division
Coal Fire Suppression Project

Bid Item	Unit	Quantity		Unit Price		Total
Mobilization*	Site	1	X	_____	=	_____
Material Handling And Excavation	Cubic Yard	5,000	X	_____	=	_____

Total (In Numbers) _____

* **This bid item shall not exceed 10% of the total contract bid**

I agree to perform the work as described at the specified project sites for the price I have submitted.

Name of Bidder (Print) _____

Mailing Address _____

Tax ID Number (If not Incorporated) _____

Phone and Fax Number _____

Signed and Dated _____

***** **Please detach this form and submit with any other required bidding documents** *****

PUBLIC MEETING ATTENDANCE RECORD
PUBLIC SERVICE COMMISSION
ABANDONED MINE LANDS DIVISION
SFN 16757 (3-94)

Date: 10-13-03

Description: 2003 Coal Fire Suppression Project

Location: Sather Dam & Site Locations

NAME	ADDRESS	REPRESENTING
JAY HOLEN	McCLUSKY ND	HOLEN CONST
Brent Beede	Bowbells ND	Quality Const
Dennis Beeter	Sawyer ND	Quality Const,
Scott Holen	McClusky ND	HCI
Randy Schwartz	New England ND	Ed Schwartz Const
LYNDON L. JOHNSON	WATFORD CITY ND	USDA - FOREST SERVICE
Jim Cuss	Alexander	Cuss Bulma M.C.G.A
Don Anderson	Alexander N.D	MCGA
Les Hoogen	Alexander, N.D.	M.C.G.A.
Loren Filkowski	Dickinson N.D.	Onsite Improvements
Brian Boschee	Bismarck	NDPSC

PUBLIC SERVICE COMMISSION

State of North Dakota

Memorandum

TO: Commissioners Clark, Wefald, and Cramer
Jon Mielke, Executive Secretary

FR: Lou Ogaard, Director - AML Division

DATE: October 21, 2003

RE: Award of contract for construction services for coal fire suppression

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The Commission, by motion on September 24, 2003, authorized procurement of construction services to reclaim coal outcrop fires in McKenzie County using competitive sealed bidding procedures with bids solicited by mail to qualified bidders.

Five bids were received. The low bidder was Hanson's Excavating, Inc. of Des Lacs, North Dakota in the amount of $21,165. The second low bidder was Basaraba's Excavating & Dirt Works, LLC of Wilton, North Dakota in the amount of $27,000. I have attached a bid summary sheet. I recommend the Commission award a contract in the amount of $21,165 to Hanson's Excavating, Inc., 9515 198th Street SW, Des Lacs, North Dakota 58733 for reclamation of coal outcrop fires in McKenzie County.

Motion Attached

MOTION

October 22, 2003

AML Coal Fire Suppression Construction Services Project

Case No. AM-2919-03-510

I move the Commission award a contract to Hanson's Excavating, Inc., 9515 198th Street SW, Des Lacs, North Dakota 58733 in the amount of $21,165 for construction services to reclaim coal outcrop fires in McKenzie County.

Caselib\030510\1.doc

Bid Summary
2003 Coal Outcrop Fire Suppression Project

Contractor	Mobilization Lump Sum	Material Handling 5,000 cu.yd.	Total	
Hanson's Excavating, Inc. 9515 198th. St. SW Des Lacs, ND 58733 ph, 701-725-4361, fax 701-725-4365 Kurt Hanson cell, 701-721-2737	$415 $415	$4.15 $20,750	**$21,165**	
Basarabe's Excavating & Dirt Works, LLC 37610 12th. St. NE Wilton, ND 58579 ph, 701-734-8143, fax 701-734-6965	$2,000 $2,000	$5.00 $25,000	**$27,000**	
Quality Construction, Inc. Box 287 Sawyer, ND 58781 ph, 701-624-5173, fax 701-624-5763	$4,000 $4,000	$7.70 $38,500	**$42,500**	
Unlimited Excavating 1107 Pleasant Ln. Washburn, ND 58577 Jason Schuler ph. 201-462-8666	$800 $800	$9.50 $47,500	**$48,300**	*bid error - his bid reads ($47,500)
Onsite Improvements, Inc. PO Box 489 Dickinson, ND 58601 Mark Amann, ph & fax, 701-225-0725	$4,500 $4,500	$9.00 $45,000	**$49,500**	

Contract Administration

- **Contract with Hanson's Excavating, Inc.**
- **Contractor's license and insurance certificate**
- **Notice to Proceed**
- **Commission meeting minutes, change order**
- **Forest Service lands travel permit**
- **Copy of seed mixture**
- **Close out memorandum**
- **Commission meeting minutes, contract close out**

CONTRACT

RECEIVED
NOV - 3 2003
NO PUBLIC SERVICE COMMISSION
AML DIVISION

Administrator: State of North Dakota
Public Service Commission
State Capitol - 12th Floor
Bismarck, ND 58505-0480
(701) 328-2400

Date: October 22, 2003

Susan E. Wefald	Anthony T. Clark	Kevin Cramer
Commissioner	**President**	**Commissioner**

Contractor

Hanson's Excavating, Inc.
Name

9515 198th Street, SW	Des Lacs, ND 58733	701-725-4361
Address	**City/State/Zip**	**Phone**

Kurt Hanson
Typed Name — **Title**

Kurt Hanson — 10-30-03
Signature — **Date**

Agreement Information

Contract No.: AM-473-03

Start Date: November 3, 2003

End Date: December 17, 2003

Program Title:

Type of Contract: (X) Fixed Price
( ) Cost Reimb. ( ) Unit Price
( ) Other

Budget Information

Cost Center: 9000

Services:

Optional on-site review: $21,165

Expenses: 0

ID

Type of Contractor: ( ) Individual
(X) Corporation ( ) Partnership
( ) Public Agency
( ) Nonprofit Organization
( ) Other

This contract is entered into between the State of North Dakota acting through the Public Service Commission (State) and Hanson's Excavating, Inc. (Contractor). This contract consists of this sheet, general provisions and specific provisions.

GENERAL PROVISIONS

CONTRACTUAL FEATURES

LEGAL AUTHORITY

The Contractor assures that it possesses legal authority to participate in this contract.

ASSIGNMENT/SUBCONTRACTING

The Contractor may not assign this contract or any part thereof, or assign any of the monies to be paid hereunder, nor shall any part of the work done or material furnished under this contract be sublet without the State's express written consent.

The Contractor may not enter into subcontracts for any of the work contemplated under this contract unless included in the specific provisions of this contract. Any such subcontract must acknowledge the binding nature of the contract and must incorporate this contract, including any attachments. Contractor is solely responsible for the performance of any subcontractor. Contractor shall not have the authority to contract for or incur obligations on behalf of the State.

TERMINATION

The State, by written notice of default listing causes and reasons, may terminate this contract in whole or in part if (1) the Contractor fails to provide services required by this contract within the time specified or any extension agreed to by the State; or (2) the Contractor fails to perform any of the other conditions or provisions of this contract, or so fails to pursue the work so as to endanger performance of this contract in accordance with its terms. The State will be liable only for payment provisions of this contract for services satisfactorily rendered prior to the effective date of termination.

Significant deviation from performance standards in this contract may result in reduced or terminated financial participation of the Contractor, subsequent to negotiations with the State.

This contract may be terminated in whole or in part without cause by mutual consent of the Contractor and the State. The parties shall agree upon the termination conditions including effective date and in the case of partial terminations, that portion to be terminated.

The State may terminate this contract effective upon delivery of written notice to the Contractor or on any later date stated in the notice in the event (1) funding from federal, state or other sources is not obtained and continued et levels sufficient to allow for work performed or purchases of the services or supplies in the indicated quantities or term; (2) federal or state laws or rules are modified or interpreted in a way that the services are no longer allowable or appropriate for purchase under this contract or are no longer eligible for the funding proposed for payments authorized by this contract; or (3) any license, permit or certificete required by law or rule, or by the terms of this contract, is for any reason denied, revoked, suspended or not renewed.

Any contract that extends beyond the current biennium may be terminated by the State if sufficient funds are unavailable, if the law regarding the contract is changed, or without cause at any time.

The rights and remedies of the State provided in the termination provisions related to defaults by the Contractor are not exclusive and are in addition to any other tights and remedies provided by law or under this contract.

FORCE MAJUEURE

Contractor will not be held responsible for delay or default caused by fire, riot, acts of God or war if the event is beyond the Contractor's reasonable control and the Contractor gives notice to the State immediately upon occurrence of the event causing the delay or default or which is reasonably expected to cause a delay or default.

RENEWAL

This contract will not automatically renew. State will provide written notice to Contractor of its intent to renew this contract

at least sixty days before the scheduled termination date.

DISPUTES

The Contractor agrees to attempt to resolve disputes arising from this contract by informal administrative process and negotiations in lieu of litigation. Continued performance by the Contractor during disputes is assured.

Any dispute concerning a question of fact arising under this contract which is not settled by tha informal means shall be decided by the authorized representative of the Commission who shall reduce the decision to writing and mail or otherwise furnish a copy thereof to the Contractor.

The Contractor shall be afforded an opportunity to be heard and to offer evidence in support of an appeal. Pending final decision of a dispute, the Contractor shall proceed diligently with the performance of the contract and in accordance with the decision of the Commission.

The State does not agree to any form of binding arbitration, mediation, or other forms of mandatory alternative dispute resolutions. The parties have the right to enforce their rights and remedies in judicial proceedings. The State does not waive any right to a jury trial.

MERGER AND MODIFICATION

This contract constitutes the entire agreement between the parties. There are no understandings, agreements, or representations, oral or written, not specified within this contract. This contract may not be modified, supplemented or amended, in any manner, except by written agreement signed by both parties.

SEVERABILITY

If any term of this contract is declared by a court having jurisdiction to be illegal or unanforceable, the validity of the remaining terms shall not be affected, and if possible, the rights and obligations of the parties are to be construed and enforced as if the contract did not contain that term.

NOTICE

All notices or other communications required under this contract shall be given by registered or certified mail and are complete on the date mailed when addressed to the parties at the following addresses:

State
Public Service Commission
600 E. Boulevard Avenue
State Capitol
Bismarck, ND 58505-0408

Contractor
Hanson's Excavating, Inc.
9515 198th Street, SW
Des Lacs, ND 58733

APPLICABLE LAW AND VENUE

This contract is governed by and construed in accordance with the laws of the State of North Dakota. Any action to enforce this contract must be brought in the District Court of Burleigh County, North Dakota.

SPOILIATION – NOTICE OF POTENTIAL CLAIMS

Contractor shall promptly notify State of all potential claims that arise or result from this contract. Contractor shall also take all reasonable steps to preserve all physical evidence and information that may be relevant to the circumstances surrounding a potential claim, while maintaining public safety, and grants to the State the opportunity to review and inspect the evidence, including the scene of an accident.

INDEMNITY

Contractor shall defend, indemnify, and hold harmless the State of North Dakota, its agencies, officers and employees, from any and all claims of any nature including all costs, expenses and attorneys' fees, that may in any manner *result from or arise out of this agreement*, except for claims resulting from or arising out of the State's sole negligence. The legal

defense provided by Contractor to the State under this provision must be free of any conflicts of interest, even if retention of separate legal counsel for the State is necessary. Contractor also agrees to defend, indemnify, and hold the State harmless for all costs, expenses and attorneys' fees incurred in establishing and litigating the indemnification coverage provided herein. This obligation shall continue after the termination of this agreement.

CONFIDENTIALITY

Contractor agrees not to use or disclose any information it receives from the State under this contract that the State has previously identified as confidential or exempt from mandatory public disclosure except as necessary to carry out the purposes of this contract or as authorized in advance by the State. The State agrees not to disclose any information it receives from Contractor that the Contractor has previously identified as confidential and which the State determines in its sole discretion is protected from mandatory public disclosure under a specific exception to the North Dekota *open* records law, N.D.C.C. §44-04-18. The duty of the State and Contractor to maintain confidentiality of information under this section continues beyond the term of this contract, or any extensions or renewals of it.

Contractor understands that, except for disclosures prohibited in N.D.C.C. Chapter 47-25.1, the State must disclose to the public upon request any records it receives from Contractor. Contractor further understands that any records that are obtained or genarated by the Contractor under this contract, except for records that are confidential under N.D.C.C. Chapter 47-25.1, may, under certain circumstances, be open to tha public upon request under North Dakota open records law. Contractor agrees to contact the State immediately upon raceiving a request for information under the open records law and to comply with the State's instructions on how to respond to the request.

INSURANCE

a. Required Coverages.

Contractor shall secure and keep in force during the term of this contract, from an insurance company, government self-insurance pool or government self-retention fund authorized to do business in North Dakota, the following insurance coverages covering the Contractor for any and all claims of any nature which may in any manner arise out of or result from this contract:

(1) Commercial general liability, including products or completed operations coverage (if applicable), with minimum liability limits of $250,000 per person and $1,000,000 per occurrence.
(2) Automobile liability, with minimum liability limits of $250,000 per person and $1,000,000 per occurrence.
(3) Workers compensation coverage meeting all North Dakota statutory requirements. The policy shall provide coverage for all states of operation that apply to the performance of this contract.
(4) Employer's liability or "stop gap" insurance of not less than $1,000,000 as an endorsement on the workers compensation or commercial general liability insurance if Contractor is domiciled outside the State of North Dakota.

b. General Insurance Requirements.

The insurance coverages listed above must meet the following additional requirements:

(1) Any deductible or self insured retention amount or similar obligation under tha policies shall be the sole rasponsibility of the Contractor. The amount of any deductible or self-retention is subject to approval by the State.
(2) This insurance may be in policy or policies of insurance, primary and excess, including the so-called umbrella or catastrophe form and must be placed with insurars rated "A" or better by

A.M. Best Company, Inc., provided any excess policy follows form for coverage. Less than an "A" rating must be approved by the Stata. The policies shall be in for and terms approved by the State.

(3) The State will be defended, indemnified, and held harmless to the full extent of any coverage actually secured by the Contractor in excess of the minimum requirements set forth above. The duty to indemnify the State under this agreement shall not be limited by the insurance required in this contract.

(4) The State of North Dakota and its agencies, officers, and employees (State) shall be endorsed on the commercial general liability policy, including any excess policies (to the extent applicable), as additional insured. The State shall have all the rights and coverages as Contractor under said policies. The additional Insured endorsement for the commercial general liability policy shall be written on a form equivalent to ISO 1985 CG 20 10-form, or such other form as approved by the State, and shall not limit or delete State's coverage in any way based upon State's acts or omissions.

(5) The insurance required in this agreement, through a policy or endorsement, shall include:

a. a "Waiver of Subrogation" waiving any right to recovery the insurance company may have against the State;

b. a provision that the policy and endorsements may not be canceled of modified without thirty (30) days' prior notice to the undersigned State representative;

c. c. a provision that any attorney who represents the State under this policy must first qualify as and be appointed by the North Dakota Attorney General as a Special Assistant Attorney General as required under N.D.C.C. § 54-12-08;

d. a provision that Contractor's insurance coverage shall be primary (i.e., pay first) as respects any insurance, self-insurance or self-retention maintained by the State, and that any insurance, self-insurance or self-retention maintained by the State shall be in excess of the Contractor's insurance and shall not contribute with it;

e. cross liability/saverability of interest for all policies and endorsements.

(6) The legal defense provided to the State under the policy and any endorsements must be free of any conflicts of interest, even if retention of separate legal counsel for the State is necessary.

(7) The Contractor shall furnish a certificate of insurance and all endorsements to the undersigned State representative prior to commencement of this agreement.

(8) Failure to provide insurance as required in this agreement is a material breach of contract entitling the State to terminate this agreement immediately.

ATTORNEY FEES

In the event a lawsuit is instituted by the State to obtain performance due of any kind under this contract, and the State is the

prevailing party, Contractor shall, except when prohibited by N.D.C.C. § 28-26-04, pay the State's reasonable attorney fees and costs in connection with the lawsuit.

INDEPENDENT ENTITY

Contractor is an independent entity under this contract and is not a State employee for any purpose, including but not limited to the application of the Social Security Act, the Fair Labor Standards Act, the Federal Insurance Contribution Act, the North Dakota Unemployment Compensation Law and the North Dakota Workers' Compensation Act. The Contractor retains sole and absolute discretion in the manner and means of carrying out the Contractor's activities and responsibilities under this contract, except to the extent specified in the contract.

FISCAL RESPONSIBILITIES

RECORDS

All records, regardless of physical form, and the accounting practices and procedures of the Contractor relevant to this contract are subject to examination by the North Dakota State Auditor or the Auditor's designee. The Contractor shall maintain and retain all books, records, and other documents required by the State and to produce program narrative and statistical data at times prescribed by the State relevant to this agreement for four years after final payment. Records shall be retained beyond four years if audit findings have not been resolved.

NO CLAIM FOR ADDITIONAL WORK

No claim for additional services not specifically herein provided, done, or furnished by the Contractor will be allowed, nor shall the Contractor do any work or furnish any material not covered by the contract, unless such work is ordered in writing by the State.

TIME KEEPING PROCEDURES

The Contractor shall require employees and subcontractors, if applicable, whose positions are funded under this contract or included as match, to maintain adequate documentation for services provided. For positions that are funded from more than one source, an analysis of duties performed by program shall also be prepared.

MONITORING, EVALUATION AND AUDIT

The Contractor agrees to cooperate with any monitoring, evaluating and/or audit conducted by the State, or their designees who shall have full access to and the right to examine all books, records and other relevant documents.

The Contractor agrees to take immediate corrective action on deficiencies disclosed through program monitoring of costs disallowed in the course of an audit, review, or monitoring.

PREPAYMENT

The State will not make any advance payments before performance by the Contractor under this contract. The Contractor will be compensated based on periodic submittal of progress reports.

TAXPAYER ID

Contractor's North Dakota tax ID number is: _____.
Contractor's federal employer ID number is: 45-0444581.

PROGRAM REQUIREMENTS

COMPLIANCE WITH LAWS

Contractor agrees to comply with all applicable laws, rules, regulations and policies, including but not limited to those relating to nondiscrimination, accessibility and civil rights. Contractor agrees to timely file all required reports, make required payroll deductions, and timely pay all taxes and premiums owed, including but not limited to sales and use taxes and unemployment compensation and workers' compensation premiums. Contractor shall have and keep current at all times during the term of this contract all licenses, registrations and permits required by law.

EQUAL OPPORTUNITY

No individual shall be excluded from participation in, denied the benefits of,

subjected to discrimination under, or denied employment in the administration of or in connection with this contract because of race, color, disability, or political affiliation or belief.

The Contractor will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, color, religion, national origin, disability, age, sex, political affiliation or belief or citizenship.

NONDISCRIMINATION

This contract and any subcontract hereunder is subject to the Age Discrimination Act of 1975, Section 504 of the Rehabilitation Act, Title VI of the Civil Rights of 1964 and the Americans with Disabilities Act of 1990.

WORK PRODUCT, EQUIPMENT AND MATERIALS

All work product, equipment or materials created or purchased under this contract belong to the State and must be delivered to the State at the State's request upon termination of this contract. Contractor agrees that all materials prepared under this contract are "works for hire" within the meaning of copyright laws of the United States and assigns to State all rights and interests Contractor may have in the materials it prepares under this contract, including any right to derivative use of the material. Contractor shall execute all necessary documents to enable State to protect its rights under this section. Contractor shall include provisions appropriate to effectuate the purposes of this condition in all subcontracts entered into relating to this project.

Buy American Act

The contractor agrees to comply with sections 2 through 4 of the Act of March 3, 1933 (41U.S.C. 10a-10c, popularly known as the "Buy American Act".) This applies to all subcontractors and suppliers of the contractor. The contractor will include this clause in all agreements and contracts.

EFFECTIVENESS OF CONTRACT

This contract is not effective until fully executed by both parties.

SPECIFIC PROVISIONS

Solicitation letter and attachments, dated October 3, 2003, to "Prospective Bidders", subject "2003 Coal Outcrop Fire Suppression Project."

State of North Dakota

SECRETARY OF STATE

CONTRACTORS LICENSE RENEWAL

NO: **23813** CLASS **B**

I, Alvin A. Jaeger, Secretary of State of the State of North Dakota, and as Registrar of Contractors, certify that **HANSON'S EXCAVATING, INC.** whose address is Des Lacs, ND has filed in this office proper application for Renewal of Class B Contractor's License valid to March 1, 2004, and has paid the required fee, and has complied with all requirements of Chapter 43-07, North Dakota Century Code.

HANSON'S EXCAVATING, INC. therefore, is entitled to bid on and accept contracts as authorized by law, under this license, provided that such contracts may not exceed in value the sum of $250,000.00 for any single contract.

Dated March 3, 2003.

Alvin A. Jaeger
Secretary of State

ACORD. CERTIFICATE OF LIABILITY INSURANCE

OP ID BV HANSO-2 | DATE (MM/DD/YYYY) 11/03/03

PRODUCER

Western Agency, Inc.
408 20th Ave. SW, Ste. 101
Minot ND 58701
Phone: 701-852-5383 Fax: 701-852-6272

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURED

Hanson's Excavating Inc
Kurt Hanson
9515 198th St Sw
Des Lacs ND 58733-9467

INSURERS AFFORDING COVERAGE	NAIC #
INSURER A: Continental Western Insuranc	10804
INSURER B:	
INSURER C:	
INSURER D:	
INSURER E:	

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	ADD'L INSRD	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
A		GENERAL LIABILITY [X] COMMERCIAL GENERAL LIABILITY [ ] CLAIMS MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: [X] POLICY [ ] PRO-JECT [ ] LOC	CNP2333004-22	06/11/03	06/11/04	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurance) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$1,000,000 $250,800 $5,000 $1,000,000 $2,000,000 $2,000,000
A		AUTOMOBILE LIABILITY [ ] ANY AUTO [ ] ALL OWNED AUTOS [X] SCHEDULED AUTOS [X] HIRED AUTOS [X] NON-OWNED AUTOS	CNP2333004-22	06/11/03	06/11/04	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$1,000,000 $ $ $
		GARAGE LIABILITY [ ] ANY AUTO				AUTO ONLY - EA ACCIDENT OTHER THAN AUTO ONLY: EA ACC AGG	$ $ $
		EXCESS/UMBRELLA LIABILITY [ ] OCCUR [ ] CLAIMS MADE [ ] DEDUCTIBLE [ ] RETENTION $				EACH OCCURRENCE AGGREGATE	$ $ $ $ $
		WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? If yes, describe under SPECIAL PROVISIONS below				WC STATUTORY LIMITS [ ] OTHER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ $ $
		OTHER					

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS

CERTIFICATE HOLDER

PUBLICS

Public Service Commission

Bismarck ND 58501

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 10 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE
Casey [illegible] Brenda Ullman

© ACORD CORPORATION 1988

AML Form 240

NORTH DAKOTA PUBLIC SERVICE COMMISSION
NOTICE TO PROCEED

TO: Hanson's Excavating, Inc.

9515 198th St. SW

Des Lacs, ND 58733

Project Description: 2003 Coal Fire Suppression Project, Contract No. AM-473-03

You are hereby notified to commence WORK in accordance with the CONTRACT dated October 30, 2003 on or after November 12, 2003, and you are to complete the WORK within 45 consecutive calendar days thereafter. The date of completion of all WORK is therefore December 26, 2003.

You are required to return an acknowledged copy of this NOTICE TO PROCEED to the OWNER.

Dated this 12th day of November 2003.

OWNER
NORTH DAKOTA PUBLIC SERVICE COMMISSION

By: Louis A. Oquard

Title: Director - AML Division

ACKNOWLEDGMENT OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by Hanson's Excavating, Inc. this

the 12th day of November, 2003.

By: Kurt Hanson

Title: Pres. Owner

Bruce Beachie
Witness to Signature

Case No. AM-2933-03-541
AML Maintenance
2003-2006 AML Construction Project
Close Contract

Mr. Cramer: I move the Commission close Contract No. AM-474-03 with Basaraba's Excavating & Dirt Works, LLC of Wilton for maintenance services on abandoned mine sites near Scranton, Washburn, Wilton and Beulah, North Dakota.

Mr. Clark: I second the motion.

Roll Call: All voting "Aye."

Case No. AM-2919-03-510
AML Coal Fire Suppression Grant
Application

Mr. Cramer: I move the Commission authorize a change order to Contract No. AM-473-03 to increase the contract amount by $8,086.25 for additional coal fire suppression work in McKenzie County, North Dakota.

Mr. Clark: I second the motion.

Roll Call: All voting "Aye."

Case No. PU-439-03-303
Public Service Commission vs.
S & S Communications
Complaint

Mr. Wefald: I move the Commission turn this case over to a collection agency for recovery.

Motion died for lack of a second

ATTEST

THE COMMISSION ADJOURNED AT 11:35 A.M.

Executive Secretary

TONY T. CLARK, PRESIDENT

CHANGE ORDER
NORTH DAKOTA PUBLIC SERVICE COMMISSION
ABANDONED MINE LANDS
SFN 19942 (5-93)

RECEIVED
DEC 23 2003
NO PUBLIC SERVICE COMMISSION
AML DIVISION

CHANGE ORDER NUMBER: 0006

Project: 2003 Coal Fire Suppression
Contractor: Hanson's Exc. Inc.
Original Contract Amount: $21,165
Date: Oct 15, 2003

NO.	ITEM OF WORK	UNIT	ORIG. QUAN.	QUAN. + OR -	UNIT PRICE	INCREASE AMOUNT	DECREASE AMOUNTS
1.	Conversion of Cu. yd. / Unit Amount to hourly - Loader - $75/hour Excavator - $150/hour Harrow - $45/hour						
2.	Increase Contract work amount from orig bid as approved by Commission action on 12-18-03		21,165			8086.25	
					TOTALS:	8086.25	

Explanation and/or sketch of change:

Net Increase or Decrease to Date: 8086.25
Projected Contract Final Cost to Date: $29251.25

AML Project Manager: Bruce Bueler
Date: 12-15-03
Contractor: Hanson's Exc Inc By Kent Hanson President
Date: 12-19-03

NOTE: No increase or decrease of work is authorized unless this change order is signed by both parties prior to start or elimination of such work.

WHITE - Contractor PINK - Administrative BLUE - Project Manager CANARY - Agency

MOTORIZED CROSS-COUNTRY TRAVEL PERMIT

Ranger District: ____ McKenzie RD X

Permit Number: D8-00080

Issued To: (Name, Address, Phone #)

Bruce Beechie
Bill Dodd
Lou Oggard

State Capitol Bldg
Bismarck, ND
58505

Company Name: ND Public Service Commission

Beginning Date: 11/12/03 Time: 13:30

Ending Date: 12/31/03 Time: 11:59

Reason For Travel:

Supervise excavation and extinguishment of burning coal seams

Location Of Travel:

Sather Lake Area / SW corner of ND

(List legal description for short duration, site specific work. For longer term, broad area work, describe by district block planning areas, allotments, or district wide.)

Type Of Vehicle:

ATV____, Pickup X, Motorcycle____, Work Truck____, Other X

Permit Holder: Bruce Beechie Date: 11-12-03
Permittee Signature

Approved By: [signature] Date: 11/12/03
District Ranger Signature

FARMER PRINT – WATFORD CITY, ND

AGASSIZ
SEED & SUPPLY
West Fargo, ND 58078

TYPE OF SEED MIXTURE LOT 10932

KIND		PURITY	GERM	HS TOTAL GERM	ORIGIN
OATS	*	26.71%	90%	90%	MN
ROSANA WESTERN WHEATGRASS		21.38%	93%	93%	WA
GOSHEN PRAIRIE SANDREED		9.45%	92%	92%	MT
LODORM GREEN NEEDLEGRASS		9.39%	90%	90%	WA
BAD RIVER BLUE GRAMA		8.81%	89%	89%	MN
ITASCA LITTLE BLUESTEM		8.54%	89%	89%	MN
APPAR LEWIS BLUE FLAX		4.75%	87%	87%	WA
PRAIRE CONEFLOWER		3.15%	90%	90%	MN
PRAIRIE JUNEGRASS		2.94%	85%	85%	CAN
BLACK SAMPSON		1.56%	94%	94%	MN

CROP 0.06% INERT 3.19% WEEDS 0.07%

TESTED FEBRUARY 2016 NOXIOUS WEEDS 0.00%

SOLD VIA FEDEX FREIGHT

WARRANTY: Agassiz Seed & Supply, Inc. of West Fargo, ND, and Dealer warrants to the purchaser that the seeds described on the tag are sold within recognized tolerances. Agassiz Seed & Supply, Inc. gives no further warranties in the seed, express or implied, (including fitness and/or fitness for any particular purpose, nor any other warranty against loss of yield or for any reason or cause, including environmental conditions. The parties agree the buyer's sole and exclusive remedy against Agassiz Seed & Supply, Inc. is the purchase price of the seed, and that no other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available to the purchaser. The parties further agree the purchaser may return seed within fifteen (15) days after purchase for a refund of the purchase price and, unless this seed is returned within (15) days, the purchaser accepts these terms.

PUBLIC SERVICE COMMISSION

State of North Dakota

Memorandum

To: Lou Ogaard, Director – AML Division

From: Bruce Beechie, Project Manager BB

Date: December 15, 2003

Re: Close out of Coal Fire Suppression Contract

On October 30, 2003 the Commission entered into Contract No. AM-473-03 with Hanson's Excavating, Inc. of Des Lacs, ND. The scope of work under this contract provided for reclamation services to extinguish and suppress coal seam outcrop fires within the Little Missouri National Grasslands, in the Badlands of North Dakota.

Procedures to accomplish this project included excavation of intercept and burial trenches, excavation, mixing and burial of burning materials, surface grading, harrowing and related reclamation services. A total of 8 coal outcrop fire site projects were completed during this contract. Work began on November 14, 2003 and was completed on December 11, 2003. Contract work by Hanson's Excavating, Inc. was completed in a timely and professional manner.

The final project invoice of $13,548.75 has been submitted. The first invoice of $15,702.50 was paid on the Commission meeting of December 3, 2003. The final contract amount for this project is $29,251.25, which combined with the total administrative costs of $7748.60 covering project design, project management, vehicle expenses and all per diem costs total $36,999.85, which leaves $.15 unspent of the total OSM grant amount of $37,000.

I recommend final payment in the amount of $13,548.75 be made and that Contract No. AM-473-03 with Hanson's Excavating, Inc. be closed out.

Case No. AM-2919-03-510
AML Coal Fire Suppression
Grant
Application
Close Contract

Mr. Cramer: I move the Commission close Contract No. AM-473-03 with Hanson's Excavating, Inc., Des Lacs, North Dakota for construction services to address coal outcrop fires in McKenzie County.

Mrs. Wefald: I second the motion.

Roll Call: All voting "Aye."

Response Letter to the
Office of Pipeline Safety

Mr. Cramer: I move the Commission approve the response letter to the Office of Pipeline Safety regarding the 2003 pipeline safety program evaluation.

Mr. Cramer: I second the motion.

Roll Call: All voting "Aye."

Case No. PU-439-03-295
Public Service Commission
Local Competition
Investigation

Mr. Cramer: I move the Commission extend by ten days, to January 15, 2004, the time for responding to the first set of discovery questions in Case No. PU-439-03-295, Public Service Commission, Local Competition Investigation.

Mr. Clark: I second the motion.

Roll Call: All voting "Aye."

ATTEST

THE COMMISSION ADJOURNED AT 11:35 A.M.

Executive Secretary

TONY T. CLARK, PRESIDENT

Newspaper Articles

and

Publications

Vol. 96 — No. 8 • Wednesday, September 24, 2003

PSC tours burning coal veins

Forest Service seeks help in extinguishing fires

By Dale A. Swenson
Farmer Staff Writer



INSPECTIING BURNING COAL VEINS ..... Oscar Knudtson, assistant fire management officer with the U.S. Forest Service's McKenzie Ranger District leads a delegation from the North Dakota Public Service Commission on a tour of burning coal veins in McKenzie County. The Forest Service is requesting the PSC to assist in extinguishing the fires.

Burning coal veins in McKenzie County, which could pose health and safety concerns for area residents, has prompted the U.S. Forest Service to request state assistance in extinguishing those fires.

About 28 coal outcrop fires are burning on U.S. Forest Service properties in McKenzie County. The clinker and scoria outcroppings offer proof of their existence in the area for thousands of years. More were started by the Halloween fires of 1999 and are creating areas of clinker today.

Although clinker as crushed scoria is useful as gravel surface on roads, the burning coal seams could create possible hazards to travelers, due to subsistence or slumping. The chance of a burning coal seam setting off prairie fires is a proven recent fact as well and could threaten livelihoods as well as life. Such a fire has the potential of burning thousands of acres in this extremely dry time. That would endanger the public safety and threaten the livelihood of farmers/ranchers in the area.

On Tuesday, Sept. 16 North Dakota Public Service Commissioner Kevin Cramer and two staff members, including Bill Dodd who has experience in controlling coal outcrop fires in distant Indonesia, toured 10 of the burning coal seams with Assistant Fire Management Officer Oscar Knudtson of the local U.S. Forest Service.

"You usually smell the telltale sign burning coal before you ever see smoke," points out Knudtson, who is year-round to locate and monitor these fires, noting differences in and topography. "If you see e, it is usually not a very big volume. The coal outcrop fires are not located where people are, though if you were to drive a vehicle near it could drop into the ground. There are no roads, trails or pipelines near these burning seams."

"The main problem is the chance of starting grassland fires," states Knudtson, who led the group tour across an area mainly west of the North Unit of Theodore Roosevelt National Park, near the Montana border, spread out over an area of about 100 square miles. Cities nearest the burning coal outcrops are Alexander, which is about 10 miles to the fires' northeast, and Watford City, which is also about 25 miles to the northeast.

Since Aug. 8 the area has been under Governor Hoeven's Declaration of Fire Danger Emergency. On Sept. 11 the Public Service Commission approved the grant proposal to the Office of Surface Mining in Casper, WY, looking for $100,000, or a portion of that, to aid in extinguishing some of the coal outcrop fires deemed more hazardous.

"By the end of September we should know the amount of the grant," states Director of Abandoned Mine Land Division for the Public Service Commission Lou Ogaard. "We look for limited funds to allow us only a portion of what we have requested. The grant would be spent in the new fiscal year, starting Oct. 1. But we do hope to get some work done this fall. If we don't get it done in the fall, then work may be done when winter breaks. We plan to have bids let to contractors carrying North Dakota licensing and procure services from the private sector to extinguish certain fires."

Ogaard considers his division of Abandoned Land Mines to be doing some unusual work in this area. The division does not normally do this kind of work with burning coal seams, working instead with mines.

Dodd's work in distinguishing which fires are to be dug up and extinguished will be dependent upon the amount of grant money delivered.

"We'll design the project as we go," comments Dodd. "Until we dig into the ground, we don't know the extent of the coal seam. We hope to hire contractor(s) and put out as many fires as we can with whatever supply of funding we get."

Two basic approaches are used in curbing coal outcrop fires. An interception ditch may be dug, and possibly backfilled with clay, in order to contain the fire to a certain area and wait for it to burn itself out. The other approach is to dig the fire out, hauling in a mixture of water and cold dirt to smother and block access to flammable materials.

Burning vein of fire







Fires: Leaving them alone is not an option

FROM 1A

[illegible] the Forest Service has known about the burning coal veins since just after the big fire.

Several ranchers wanted to dig them out right away but were told not to. Now, however, the Forest Service is taking steps to snuff out the coal fires that cause real damage to property or livestock. It's working with the state Public Service Commission to allocate $10,000 in federal funds for the effort. The studies will come from a special fire prevention fund with the Office of Surface Mining.

OSM's Knudtson is a fire manager for the forest service. Knudtson said it's taken awhile to find all the coal fires — three were discovered when they caused grass fires this summer [illegible] Severson's.

He hopes to [illegible] every couple of acres of hills that takes a good, long truck-bouncing day in itself.

Where possible, in the remote and rugged terrain, he plows fire breaks around some and trenches others to cut off the burning coal from the surrounding coal, with mixed results.

Knudtson said he believes five coal fires have burned out by themselves.

It's hard to know exactly how the beds of coal scattered around the grasslands were ignited; in some cases, Knudtson says he thinks root systems torched in the Halloween fire burned down into the coal and set it to smoldering.

Some of the coal fires seem to be growing exponentially, taking over two to three times the area they did just a year [illegible] be caused [illegible] smothered with dirt.

The only way to extinguish them is to dig them up and mix the smoldering material with water and cool dirt.

Each is different. Part of the challenge is that there's no way to X-ray the underground coal and know just how deep excavation will have to go.

One coal fire on Seversons pasture is moving up a wide draw and now consumes nearly an acre with gaping cracks more than 12 feet deep. It has tapped into a sizable source of coal, and extinguishing this grandaddy of a coal fire won't be easy.

They are a force of nature.

"I've got a love-hate relationship with these things," Knudtson said. "Someone calls and I go, 'No, not another one.' Yet these things change, and the [illegible] and unique.

I'd like to see it left [illegible] burn as an educational tool and possible tourist draw.

For years, there was a coal fire in the Forest Service's Burning Coal Vein Campground near Amidon. That coal fire burned itself out some 15 years ago, and Knudtson says he thinks there could be some value in leaving one for the public to observe.

Left alone and under enough heat, the coal fires would bake the clay soil into red klinker, mistakenly called scoria and widely mined to pave road surfaces throughout the west.

Buttes and hills all around the grasslands wear the distinctive red klinker tops, created by coal that burned 50 million years ago.

Today, leaving the coal [illegible] not an option. [illegible] environmental [illegible] with the Public Service Commission, said there's concern for safety of humans and property.

Without the [illegible] of those ancient coal fires, he agrees the landscape wouldn't have the same appeal.

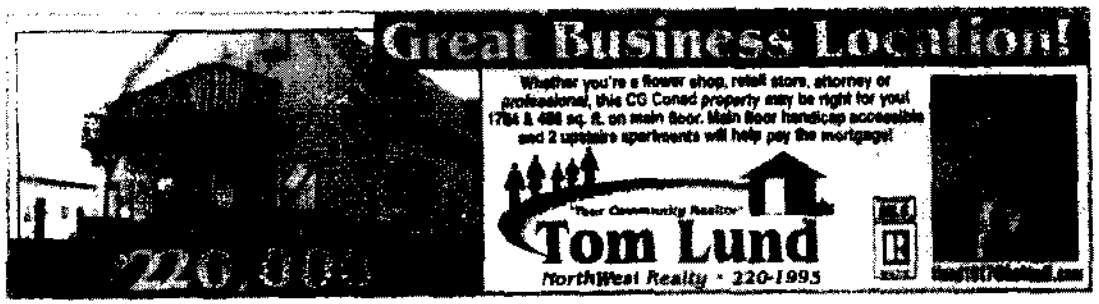
"The Badlands wouldn't be near as pretty," Beerbhe said.

For now, there's no shortage of red klinker and ranchers like Severson would just as soon the coal fires were removed as a threat.

"I'm skeptical that this [illegible] will be successful, though.

What's $10,000 going to do [illegible] them?" he wonders. "They've let them go out for [illegible] long."

Reach reporter [illegible] Donovan at 888-80[illegible] or [illegible] scoop@nationline.com.



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THE BISMARCK TRIBUNE

Print Page

Where it stinks, there are coal fires

By LAUREN DONOVAN, Bismarck Tribune

Little Missouri National Grasslands -- Kirk Wambach smelled sulfur out in the pasture and figured he'd better investigate.

The smell means one thing -- coal's on fire.

Trouble is, there are so many coal seam fires in western McKenzie County, Wambach didn't know if his nose was following a new fire downwind or one already located.

The grasslands rancher hiked the open range where his cattle graze and found a granddaddy of a coal seam fire up on a ridge.

He's got a good nose.

The fires smolder underground and send puffs of stinky coal smoke up to the surface where the baked ground sloughs away in open cracks.

Turns out, Wambach's is the biggest and most active of 30 coal seam fires that were ignited in 1999 when a gigantic prairie blaze swept from the Montana line clear across 70,000 acres of grass.

For the four years since, the underground coal fires had been quietly burning, undetected until this summer.

Friday, a contractor strained up steep hills into Wambach's pasture with an excavator and a loader, planning to contain the coal fire within a day or two. The size of the Wambach coal seam fire immediately made it a No. 1 priority.

"I'm glad they're (workers) up there," Wambach said. "The coal fires are definitely a hazard."

He said a hunter, or a cow, for that matter, could stumble into the hot cracks.

The Public Service Commission's reclamation division hired the contractor last month.

The commission received $37,000 in federal Abandoned Mine Land funds to extinguish the fires before another summer fire season comes and goes.

Wambach's right about them being a fire hazard.

It wasn't until this summer when volunteer firefighters and ranchers tracked the source of several grass fires to smoldering coal fires that anyone realized the big fire of four years ago hadn't gone completely out. It had just disappeared underground.

The contractor has 45 days to extinguish the 30 coal seam fires that are scattered in compass points all directions from the Wambach's.

Wambach's pasture is property of the U.S. Forest Service and fire manager Oscar Knudtson is monitoring and inventorying the fires.

Knudtson was frustrated Monday afternoon because the contractor had some technical problems and work was temporarily delayed.

He's anxious for the project to get done.

At Wambach's, the ground is quickly caving away as the underground fire moves up the ridge.

"All of a sudden, it kicked back 70 feet," Knudtson said. "We blew this one up to No. 1 (priority) with a bullet."

Originally, ths plan was to dig up the Wambach coal seam fire, but Knudtson said it's gotten too big.

Instead, the contractor will dig a deep trench around ite perimeter, remove any coai in the trench and backfill the trench with dirt.

Depending on their size and depth, some of the coal firas will be dug up, the hot material cooled with water and mixed with dirt.

Knudtson said the processs will make s mess st isolated spots out in the grasslands.

"But it was going to be a mess anywsy," he said.

All around Wambach's pasture are bssutiful red-topped buttes, where ancient coal seam fires bumed clay to klnkers the color of red-orange lipstick.

Those date to a time whan there was either no man, or no man so inclinad to do anything but let them bum themselvss out.

Today, with lives, property and legal liability on the line, no such inclination is possible. The coel seem fires will ba subdued by man and machine.

"We don't went to see sny wildfires start off these things," Knudtson said.

(Reach reporter Lauren Donovan at 888-303-5511 or scoop@ndonline.com.)

Half of coal vein fires extinguished

By LAUREN DONOVAN
Bismarck Tribune

Eight underground coal vein fires in the Little Missouri National Grasslands have been snuffed out, hopefully for good.

These fires, which make red-hued scoria when left unattended, were dug up and extinguished in a project paid for with $37,000 in federal coal tax money.

The project started in mid-November and concluded last week, with more success than anticipated.

Officials had hoped to put out five or six of the 16 active fires this year, but the contractor was able to dig out eight of them with the funds available.

The remaining eight still burning will be dug up when more federal money is available, possibly next spring or fall.

The smoldering coal fires were ignited when a wildfire swept through the grasslands four years ago.

Most of them weren't detected until this summer. A combination of the coal fires, which create red-hot open cracks at the surface, and dry conditions, sparked off several grass fires and local firefighters traced them back to the sources.

The Public Service Commission's Abandoned Mine Lands Division applied for funds to help the Forest Service protect livestock and property from being damaged in any more fires set off by the burning coal.

Bruce Beechie, an engineer with the Abandoned Mine Lands Division, said the Forest Service organized the work by priority and the biggest coal vein fires were dug up first.

"The contractor became efficient and got into a rhythm," Beechie said. "I think it turned out pretty good."

U.S. Forest Service - - Dakota Prairie Grasslands

The History - and Future - of Currently Burning Coal Veins on the Little Missouri National Grassland

Story by: Kathy Bushnell, Dakota Prairie Grasslands

Four years ago, on October 31, 1999 the Gap Fire burned more than 50,000 acres on the Little Missouri National Grassland, along with one ranch home, several outbuildings, pastures, hay bales, and many miles of fences. Mother Nature's Halloween "trick" of a sudden onset of 70 mile-per-hour winds caused embers from a fall burn to scatter across the prairie and spark the dry vegetation, which ignited one of North Dakota's largest wildfires in the past 100 years.

The ripples of the 1999 Gap Fire are still evident today. Numerous underground lignite coal beds – coal veins – are burning as a result of the fire. Coal beds are ignited when a wildfire burns over exposed lignite coal sites. These coal veins may burn slowly and steadily for many years. Several active burning coal veins are believed to be from major fires that burned in 1988.

"Burning coal veins have been a factor in shaping the landscape of the Badlands for eons," Dakota Prairie Grasslands Assistant Fire Management Officer Oscar Knudtson said. "The coal veins turn sediment into scoria, which is used for road surfacing and other decorative purposes throughout the state of North Dakota."

About 28 burning coal veins have been currently identified on the Little Missouri National Grassland. The main concern of U.S. Forest Service fire personnel and local ranchers is the possibility that vegetation surrounding the burning coal veins may ignite and start a wildfire.

Four wildfires have originated from undetected burning coal veins; three in the past year, and one in 2002. Although this is a concern, it is uncommon for it to happen; most coal veins burn themselves out. To help prevent the occurrence of wildfires from coal seam fires, the U.S. Forest Service has scraped vegetation from the perimeter of various coal vein sites, and interception trenches have been dug around others that were accessible to a backhoe.

"Even though the Gap Fire occurred in 1999, we're still discovering coal seam fires that have been undetected for four years," Knudtson said. "Some of these haven't grown in the past several years and some have grown considerably. They are all different shapes and forms, and they grow at different rates."

-more-

The North Dakota Public Service Commission (PSC) awarded a contract to Hanson's Excavating, Inc. to begin excavating and extinguishing various burning coal veins. The PSC received funding from the U.S. Office of Surface Mines for this project. The U.S. Forest Service will assist the PSC by providing a fire engine and personnel to accompany the contractor, Jay Hanson, for safety purposes.

"We've contracted the job to Hanson Excavating, Inc. out of Des Lacs, ND. The contractors have gone through training on how to put these coal veins out, and will work closely with the Forest Service to do the best job possible," Director of Abandoned Mines, Land Division of the PSC Lou Ogaard said. "Excavation is scheduled to begin the second week of November, but it all depends on the weather. I am optimistic that he'll be able to get in there and start working as intended."

Burning coal veins offer more than the potential for innovative management methods; they also serve as tourist attractions and educational opportunities for people to witness the natural process of landscape formation.

The Burning Coal Vein Campground, west of Amidon, ND, offered visitors a chance to see a burning coal vein - until recently when it burned itself out. Visitors can still see how some Rocky Mountain juniper trees, adjacent to the burning coal veins, grew in abnormal shapes and sizes presumably due to the heat and gases.

There is also potential for students, at any educational level, to study this process and learn first-hand about some of the intricacies of physical science.

"Often times students turn to books for research material, but now they can turn to the Badlands to witness history in the making," Knudtson said. "Although burning coal seams helped to shape the country in the Badlands, they are still a rather rare phenomena. The currently burning coal seams offer us the opportunity to educate people on every aspect of this natural process."

For more information on burning coal veins contact Oscar Knudtson at the U.S. Forest Service-McKenzie Ranger District at 701-701-842-2393, or Bruce Breechie at the North Dakota Public Service Commission at 701-328-2400.

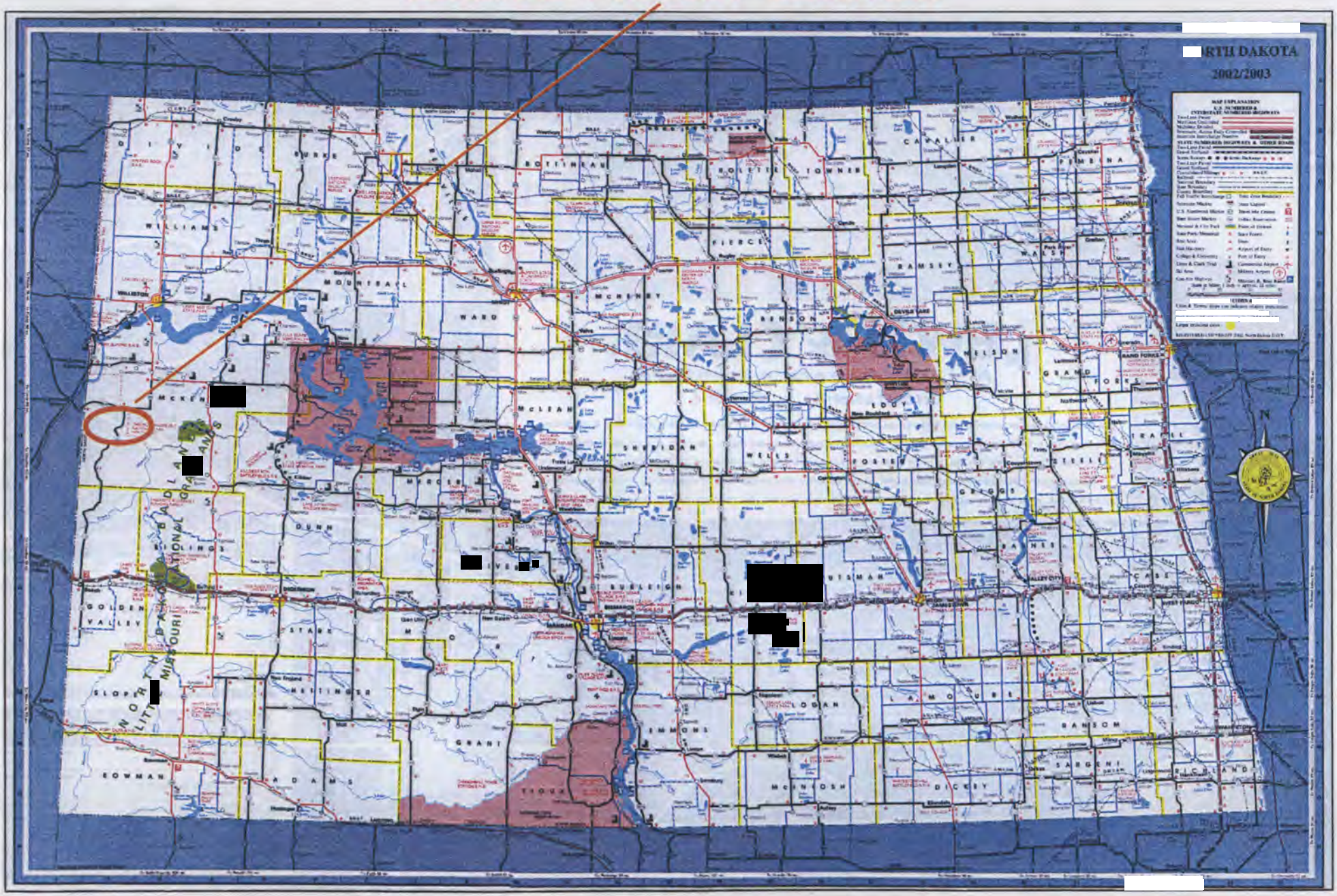
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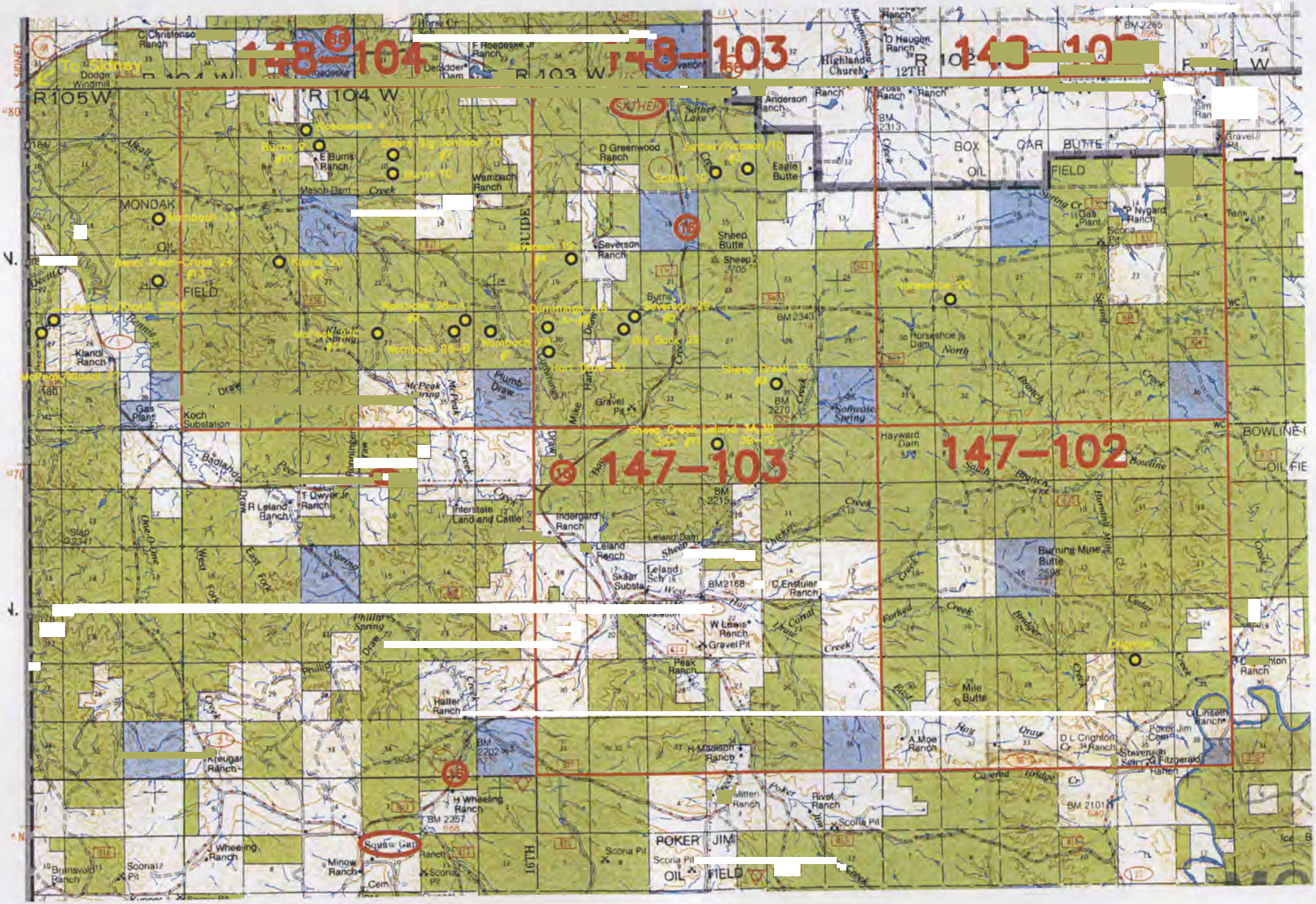
Project Maps

and

Photographs

2003 COAL OUTCROP FIRE SUPPRESSION PROJECT
GENERAL PROJECT LOCATION




148–104
148–103
147–103
147–102
R105W
R104W
R103W
MONDAK FIELD
BOX CAR BUTTE OIL FIELD
POKER JIM OIL FIELD
Sheep Butte
Eagle Butte
Burns Ranch
Severson Ranch
Wambach Ranch
Gas Plant
Koch Substation
Interstate Land and Cattle
Leland Ranch
Leland Dam
Leland Sch
Skaar Substation
Hayward Dam
Burning Mine Butte
Mile Butte
Peak Ranch
Halter Ranch
H Wheeling Ranch
Squaw Gap
Minow Ranch
Scoria Pit
Gravel Pit
Cem
To Sidney
Dodge Windmill
Christenso Ranch
Anderson Ranch
D Greenwood Ranch
Nygard Ranch
Horseshoe Dam
Indergard Ranch
T Dwyer Jr Ranch
R Leland Ranch
W Lewis Ranch
C Enstuen Ranch
A Moe Ranch
D L Crighton Ranch
Stevenson Fitzgerald Ranch
Mitten Ranch
Rivet Ranch
Brunswold Ranch
Wheeling Ranch
Kreugar Ranch
Highland Church
Sather Lake
Sheep 2
2705
BM 2313
BM 2343
BM 2270
BM 2215
BM 2168
BM 2202
BM 2257
BM 2101
BM 2265
Slap 2341
Burns Dam
Wambach Dam
Dunnings Dam
Big Buck Dam
Sheep Draw Dam
Leland Dam
Horseshoe Dam
Sather/Hansen Dam
Mesch Dam
Burns Spring
Wambach Spring
McPeek Spring
Phillips Spring
Softwater Spring
Dunnings Spring
Sheep Draw Spring
Big Buck Spring
Hart Peak Spring
Mesch Spring
Sather Spring
Burns Big Canyon Dam
Burns Dam
Wambach Dam
Dunnings Dam
Big Buck Dam
Hart Peak



Initial site inspection of some of the coal fire sites was conducted by representatives of the Abandoned Mine Lands Division of the North Dakota Public Service Commission on September 16, 2003. Pictured (from left to right) are Commissioner Cramer, Oscar Knudtson of the U.S. Forest Service, Bruce Beechie and Mark Knell.



The fireplace and chimney is all that remains of the Ed Burns home. The Burns family lost their house to a grass fire on October 31, 1999. In addition to the loss of valuable grass for wildlife and cattle, fences, power poles and untold personal property, the ignition and burning of dozens of underground coal seams was the result of that 70,000 acre fire. It is the goal of the Public Service Commission to extinguish as many coal seam fires as possible to eliminate the potential for additional disasters such as this in the North Dakota Badlands.



On September 23rd, the Public Service Commission received a $37,000 grant from the U.S. Interior Department's Office of Surface Mining to conduct coal fire suppression projects on U.S. Forest Service lands. Project work began on November 14 and was completed by December 10. Although snow cover did not inhibit work, it did provide for precarious access to some sites with the heavy equipment.



Fractured and slumping overburden at the Wambach 25 site. The coal seam at this site is 7 feet thick and the overburden is 4 feet thick. As the coal fire progresses farther into the hill, this fracturing and slumping process allows combustion gasses to escape and a new supply of oxygen to feed the burning underground coal.



An eerie sight at sundown. Steam and smoke venting from the burning coal seam at the Wambach 25 site.



A hot "runner" at Sather-Hanson 10. This fumarole surfaced 60 feet east of the burning coal face, less than a week before reclamation was started. These "runners" were typical, although most of them were not observable from surface. Runners, typically 3-6 feet in diameter shoot out in front of the burn face following fractures in the coal seam. Note the clumps of grass in the subsidence hole and steam venting. A large percentage of work time at all of the sites was dedicated to chasing down and eliminating these runners.



Construction of an intercept trench at Wambach 25. This was the only site in which complete excavation and suppression was not attempted due to the size of the project, thickness of the coal seam and limited funds. Excavation was completed to 1 foot below the bottom of the coal seam into the blue underclay and backfilled with inert, noncombustible material. In time, the burn front will come into contact with the intercept trench and extinguish the fire due to removal of the fuel supply. Note the "runner" to the left of the bucket.



Backfilling of a lower terrace intercept trench at Wambach 25. Note the scoria (clinker) directly behind the pay loader and scoria-capped buttes on the horizon. Much of the scoria now visible in the Badlands resulted from burning coal seams dating back to about 600,000 years ago when the path of the Little Missouri River was redirected by advancing glaciers from Canada. This process resulted in rapid erosion of the soft Fort Union formation sediments and exposing the Paleocene-age coal seams. Those ancient fires likely resulted from lightning strikes igniting grass fires, or spontaneous combustion of the coal seam outcrop.



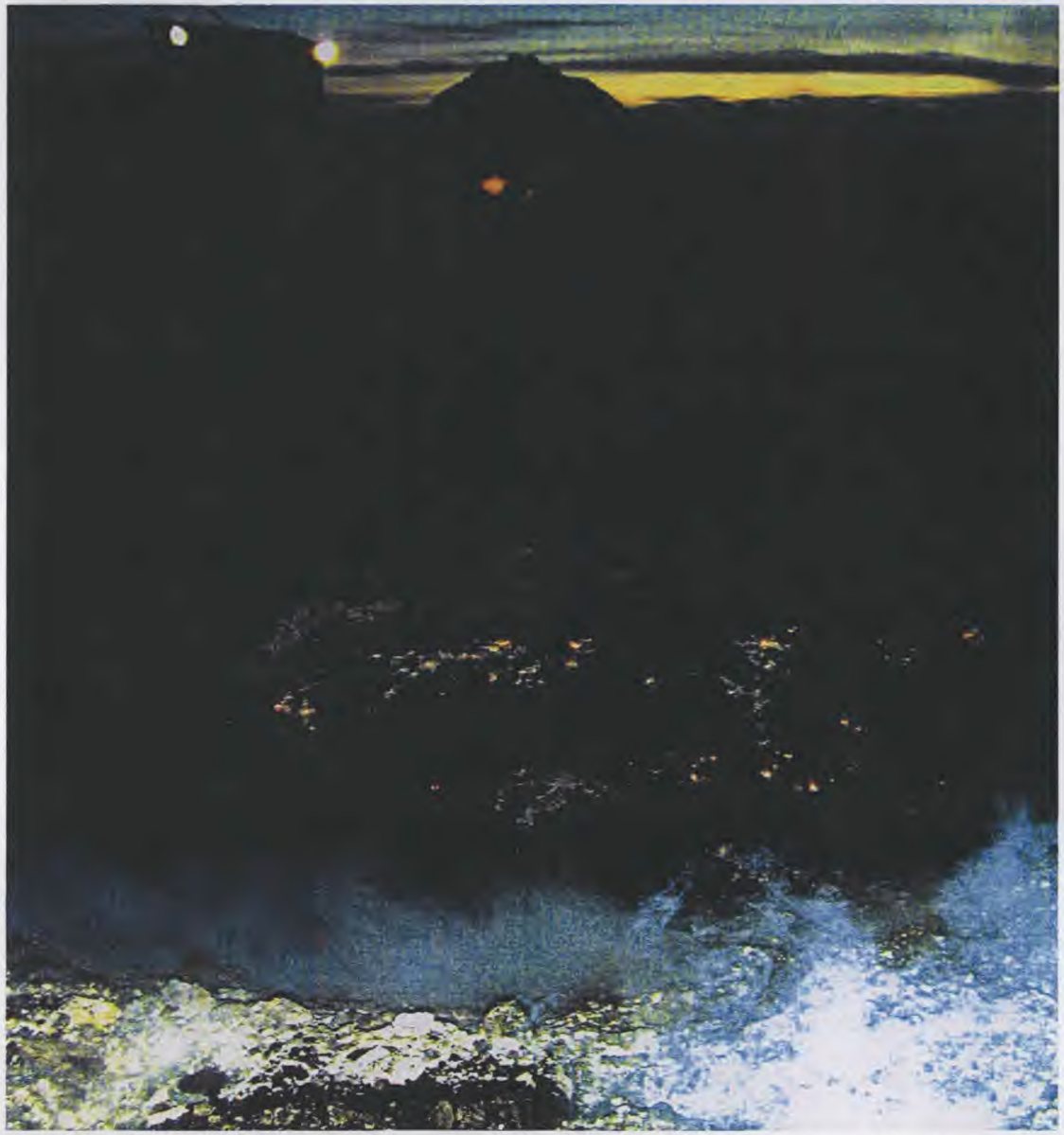
Condensation is formed by steam venting from the coal fire at the Wambach 26A site. The coal seam at this site was 9 feet thick with only 6 feet of overburden. Wambach 26A proved to be one of the most aggressive and hottest coal fire suppression project sites completed.



Close-up picture of burning coal mixed with ash. Coal seams at the various sites were found to be burning at all levels, although it appeared that most burning began at the top of the seams and worked down to the bottom. Sulfur and iron pyrite were common in the coal seams at most all of the sites.



The excavator digging out burning coal at Wambach 26A. The steam produced by the hot coal coming into contact with cold air made visibility a factor at some of the sites. The hot coal is excavated, mixed with non-combustible material and respread after extinguishment.



Although difficult to see, this picture shows the exposed and burning 9 foot thick coal seam at Wambach 26A, with a pile of burning coal in the background and steam venting in the foreground. The two visible lights (top left) are from the pay loader. Short working days in the winter required starting work well before daylight and finishing after sundown. Lignite coal can burn at temperatures up to 1000 degrees Fahrenheit.



Burned and charred grass at the Sather - Hanson 10 site. Most of the coal seam fires were started by a grass fire in October 1999 that burned 70,000 acres of Badlands. Looking at this picture, it is easy to see how grass fires can reignite due to the burning coal seam fires. To date, at least four grass fires have reignited in the Badlands. The source of the fires were traced back to burning coal seams.



Waiting for the steam to clear at Sather - Hanson 10. The plume of smoke and steam from this site was visible for miles. Much of the work conducted by the contractor was by feel for hours on end, while steam and smoke roared out of the fire.



The excavator slinging hot coal at Sather- Hanson 10. Once the burning coal seam is exposed, excavation continues until all burning and hot material has been separated from the rest of the coal seam. Final inspection of the excavated coal seams were generally conducted in the morning. Backfilling commenced when all portions of the exposed coal face were cool to the touch.



This picture shows the exposed 6 foot thick coal seam at Sather - Hanson 10. The first order of business at all sites was to dig an exploratory hole with the excavator to determine overburden and coal seam thickness, and design the project based on that information. The windrow of dirt on top is the clay that will be the capping/separation material between the exposed coal seam and the burning material that was mixed with other overburden.



Backfilling the exposed coal face with clay. The burning portions of the coal seam have already been removed, mixed with other materials and will be used as backfill material over the rest of the site.



Close-up of excavated burning coal and embers at Klandl 20. Only a couple of slowly venting fumaroles were observable at this site prior to work commencing. The 4 foot thick burning seam proved to be as active and hot as all of the others.



This picture shows the Severson 19 project site after extinguishment. All of the sites were backfilled and graded to their approximate original contour, with positive drainage required. The areas were then finish graded, back-dragged, harrowed and seeded. Oscar Knudtson, Fire Manager of the McKenzie Ranger District of the U.S. Forest Service is broadcasting a seed mixture consisting of native plant species.



Overview of the Severson 29 project site. This picture was taken from an adjacent coal outcrop fire located across a drainage and known as the Big Buck site. The U.S. Forest Service has been conducting maintenance and monitoring of about 30 coal seam fire sites for several years. Several new sites have been discovered within the past couple of months. It is expected that additional sites will be discovered over the next couple of years. This is one of the sites in which a grass fire was ignited in 2003 as a result of the burning coal seam.



A fumarole venting at the Sheep Creek 35 site. All of the coal outcrop fire sites demonstrated a typical slumped appearance where the coal seam has previously burned leaving nothing but ash and scoria. The thickness of the coal seam can be generally determined by the depth of the slumped area compared to the unburned area.



A foggy ending. This picture shows the finished product after extinguishment at the Burns Big Johnson site. Available topsoil was stripped, stockpiled and later respread at all of the coal fire locations. Most areas averaged about 1-4 inches of topsoil. Fire suppression work in the winter substantially reduces the risk of fires being caused by construction activities, although a drawback is the occasional frozen "chunks" of topsoil that could not be broken up with heavy equipment. We expect that once thawed, most of the chunks should break up with time.



Scoria "fresh from the oven" is produced by the baking and fusing of clay above the burning coal seam. More accurately described as clinker, the baked materials have a predominantly reddish appearance attributed to the mineral hematite. The large specimen on the right was located directly above the burning coal seam and the intense heat in contact with the nearest competent overburden materials produce a glassy, black slag. These specimens were pulled out of the Wambach 26A site by equipment and needed to cool down a couple of hours before being handled.



In the foreground is a remnant of the geologic past - a 7 ½ foot diameter petrified stump, located near the Burns Big Johnson site. Petrification occurs from rapid burial, allowing a tree to escape natural decaying processes. Mineral enriched groundwater provided for cell by cell replacement of plant tissue with silica. This large Paleocene age specimen (about 60 million years old) is believed to be the remains of a Dawn Redwood (Metasequoia) or Bald Cypress.



A total of 17 working days were required to complete suppression activities at 8 project sites. Kurt Hanson and Robert Wirtz of Hanson's Excavating, Inc. used a pay loader and excavator to complete the work. The North Dakota Public Service Commission will submit another grant application to the Office of Surface Mining - Casper, Wyoming in the hopes of receiving additional grant money to continue coal fire suppression projects at other burning coal seam sites throughout the Badlands of McKenzie County in northwest North Dakota in 2004.

Project Summary

2007 Coal Fire Suppression Project

Contract AM-537-07



North Dakota Public Service Commission

Abandoned Mine Lands Division

State Capitol, Department 408

600 East Boulevard Avenue

Bismarck, North Dakota 58505-0480

May 2007

2007 Coal Fire Suppression Project

An estimated 30 coal seam outcrop fires were ignited as a result of a 1999 grass fire that burned approximately 70,000 acres of grasslands in North Dakota, near the Montana border. A primary concern was the possibility of additional grass fires igniting as a result of the burning coal seams. Since the 1999 fire, at least four subsequent grass fires have already been attributed to the burning coal seams. Left alone, underground lignite coal fires have been documented to burn for decades in North Dakota.

The U.S. Forest Service contacted representatives of the Abandoned Mine Lands Division of the North Dakota Public Service Commission and inquired if they would be amenable to assist in fire suppression efforts. Coal outcrop fire suppression normally falls outside of Abandoned Mine Lands Division jurisdiction, and authority to conduct this project was obtained as a result of a cooperative agreement between the U.S. Forest Service and the U.S. Department of the Interior, Office of Surface Mining.

The Abandoned Mine Lands Division of the North Dakota Public Service Commission conducted its first coal outcrop fire suppression project during the winter of 2003. A second suppression project was conducted in 2004.

This third coal outcrop fire suppression project was conducted during the spring of 2007. The objective was to extinguish three coal seam outcrop fires actively burning in the badlands of southwestern North Dakota. The Jacobson Ranch Site is located in Section 19, T136N, and R102W. The Bennie Pier Cross 24 Site is located in Section 24, T148N, and R105W. The Burns 10 Site is located in Section 10, T148N, and R104W Approximately 2000 cubic yards of material was moved at the three sites to completely excavate and bury all burning/hot coal and combustible materials. All three sites were backfilled and graded to their approximate original contour, with positive drainage. Topsoil was respread and the areas were then finish-graded and back-dragged.

Subsequent site inspections of the reclaimed coal fire sites indicate that all burning materials have been sufficiently extinguished during project work. No indications of continued burning are evident such as visible venting, sulfurous smell, fracturing or slumping of overburden.

A total of 7 working days were required to complete suppression activities at the 3 project sites at a cost of $10,000. Additional work remains to be done on the remaining 13 or so sites. Additional coal outcrop fire sites may be discovered. The PSC will submit additional grant applications to the Office of Surface Mining for additional grant money to continue coal fire suppression efforts at the other sites in the coming years.

Correspondence, Contract Procurement and Administration

- Authorization to proceed letter
- Signed right-of entry form
- Memorandum to prospective bidders
- Project specifications
- Bid form
- Work plan narrative
- Sample contract
- Public bid opening attendance sheet
- Project bid summary
- Intent to award and award of contract
- Signed contract
- Certification of liability insurance
- Notice to proceed
- Change order
- Billing
- Invoice
- Close out memorandum

IN REPLY REFER TO:

United States Department of the Interior

OFFICE OF SURFACE MINING
Reclamation and Enforcement
Casper Field Office
150 East "B" Street, Rm 1018
Casper, Wyoming 82601

RECEIVED
JAN 29 2007
29
NO PUBLIC SERVICE COMMISSION
AML DIVISION

January 22, 2007

Mr. James R. Deutsch, Director
Abandoned Mine Lands Division
North Dakota Public Service Commission
600 E. Boulevard Ave. Dept. 408
Bismarck, North Dakota 58505-0480

Dear Mr. Deutsch:

The Office of Surface Mining (OSM) has reviewed the Environmental Assessment and associated documentation for the Jacobson Ranch Coal Outcrop Fire Reclamation Project which is located on private lands in Slope County, near Amidon, North Dakota. We have determined that the documentation adequately discusses the environmental issues and impacts associated with the project. Based on the analysis of these documents, I have determined that the reclamation of this coal outcrop fire would not have significant effects on the quality of the human environment, and therefore conclude that no environmental impact statement (EIS) is necessary.

Accordingly, pursuant to section 5-11-20D.3 of the Federal Assistance Manual, you are hereby authorized to proceed with this project.

Sincerely,

for Jeffrey Fleischman, Director
Casper Field Office

FINDING OF NO SIGNIFICANT IMPACTS

Jacobson Ranch Coal Fire
Coal Outcrop Fire Project
Slope County, North Dakota

OSM has thoroughly reviewed the environmental assessment and associated documentation for the above referenced project, which was prepared by the North Dakota Public Service Commission, Abandoned Mine Lands Division. The Casper Field Office has determined that this documentation adequately discusses the environmental issues and impacts for OSM coal outcrop fire reclamation construction activities authorization purposes.

Based on the analysis of this documentation, I find that reclamation of this project will not have significant effects on the quality of the human environment. I therefore conclude that no detailed statement (EIS) is necessary.

My specific reasons are as follows:

Inherent dangerous problems are associated with the burning coal seam located on private land utilized for grazing/pasture. The site covers approximately one acre of surface. Reclamation will involve excavating all burning coal and combustible materials, mixing the materials with inert (noncombustible) overburden, and enclosing the materials in a burial trench.

Cultural resource and threatened or endangered species clearances have been properly obtained. The project area is not within any identified flood plain, and wetlands will not be affected by reclamation activities. The integrity or utility of prime farmlands will not be destroyed. There are no wilderness areas, National Parks, Wild and Scenic Rivers or other recreational resources that will be impacted. The short term impacts of the reclamation activities will be far outweighed by the long term safety, health and environmental benefits for post reclamation use of the site and downstream water resources.

Allan Bollman — 1/22/2007
OSM Environmental Reviewer — Date

AML Program Specialist
Title

Mark R. Humphrey — 1/23/2007
OSM FOD — Date
Casper Field Office

CONSENT FOR RIGHT OF ENTRY
(LIEN-PRIVATE OWNERS)
PUBLIC SERVICE COMMISSION
ABANDONED MINE LANDS DIVISION
SFN 19719 (Rev. 12-99)

RECEIVED
DEC 11 2006
NO PUBLIC SERVICE COMMISSION
AML DIVISION

Project number	
Name	Coal Fire Suppression Project
State	North Dakota

Under Title IV of the Surface Mining Control and Reclamation Act of 1977 (SMCRA), 30 U.S.C. 1231, et seq., the Public Service Commission (PSC), Abandoned Mine Lands (AML) Division proposes to undertake reclamation work necessitated by abandoned coal mining activity to protect the public health, safety and general welfare from the adverse effects of past coal mining.

To achieve this objective, it will be necessary for officers, agents, employees and contractors of the PSC to enter upon property owned by _____

Loren Jacobson acquired by virtue of a deed dated _____

in the Slope County, North Dakota records (and more particularly described as:)

T136N, R102W, Section 19, NE, SW

NOW, THEREFORE, in consideration of the benefits which will inure to the Owner and to the general public, the Owner does hereby grant to the PSC, its employees, agents, contractors and subcontractors a right of entry into, over and upon the above described property, including all necessary and convenient rights of *ingress, egress* and *regress*, with all materials and *equipment* to *conduct* the *proposed reclamation activities*, and to do any and all things necessary and convenient to effectively carry on said activities, in a good and workmanlike manner, including but not limited to the temporary storage of equipment and materials and the construction of temporary roadways on the property. Said right of entry is granted for the time required to complete the reclamation activities subject to the Owners continued ownership and use of the property.

It is understood a lien may be placed against the property if the reclamation work performed results in a significant increase in the market value of the property. The lien, if appropriate, will be determined and filed in accordance with Section 409 of SMCRA, and 30 CFR 882 of the Regulations. The PSC shall obtain an appraisal, at no expense to the Owner, to determine if there has been an increase in the property's value.

The Owner understands and acknowledges that the success of the project cannot be warranted and the proposed work may not accomplish the intended result. The Owner also acknowledges that the PSC has no responsibility or liability for any mine related damage to the Owner's property which occurred prior to or which might occur during or after the abatement work.

It is understood the work performed in the project area shall be done by contractors for the PSC, and the PSC is without authority to assume the risk of injury to persons or damage to persons or property resulting from the action of the contractors, but the PSC shall require contractors performing the work on the property to obtain and keep in force liability insurance in the minimum amount of $500,000 per person and $1,000,000 per occurrence.

It is further understood that the PSC is unable to make repairs to structures for any mine related damages.

Execution of this Consent for Right-of-Entry does not obligate the PSC to perform any part of the contemplated or proposed reclamation work.

By executing this consent for right of entry neither the Owner nor the PSC waive any rights conferred by operation of Title IV of the SMCRA. This agreement is binding on the parties hereto and their heirs, legal representatives, successors and assigns.

IN WITNESS WHEREOF, the Owner(s) or authorized representative caused this Consent for Right of Entry to be executed this X 12 day of X 8, 2006.

Witness	Owner X Loren Jacobson
Witness	Owner

Address: 5710 153rd. Ave. SW			
City: Bowman	State: ND	Zip Code: 58623	Telephone Number: (701) 279-5797

To: Prospective Bidders

From: North Dakota Public Service Commission
Abandoned Mine Lands Division

Date: January 23, 2007

Subject: **2007 Coal Outcrop Fire Suppression Project**

Enclosed for your consideration is an invitation for bids to extinguish burning coal seam outcrop fires at the Jacobson Ranch and one or more sites on U.S. Forest Service land, Little Missouri National Grassland in western North Dakota. This project will entail excavation, backfilling and grading of actively burning lignite coal seams. Areas included are generally located at the Jacobson Ranch 12 miles northwest of the town of Amidon and within the Little Missouri National Grasslands near Sather Dam which is approximately 20 miles southwest of Alexander in McKenzie County, North Dakota. **Project funding is limited to $10,000.**

The successful bidder must be an approved vendor on the State's Vendor Database **prior to contract award** in accordance with N.D.C.C. 54-44.4-09. Please note the section, **"Registration – Vendors Must be Approved Before Contract Award"** in the Invitation for Bid.

Contractors are required to understand that project work will be conducted over inherently dangerous burning coal seams, fractured and collapsing overburden. All precautionary measures shall be taken by the contractor to adequately protect his work force and equipment, and to minimize the potential for ignition of grass fires during excavation and suppression efforts.

If interested, please submit your bid for the project (on the bid form provided) by **1:00 PM Central Time, Tuesday, February 6, 2007.** The successful bidder is expected to submit the required documents, sign a contract and begin work as directed by the Commission Project Manager. The performance period for this project will be 30 consecutive calendar days beginning approximately March 1, 2007.

Bid quantities are estimated and will be based on the successful contractor's price/cubic yard bid and mobilization. Payment will be based on measured cut volumes of intercept and/or burial trenches and measured volumes of material excavation required for complete extinguishment. The Commission reserves the right to estimate volumes based on negotiated hourly equipment rates if deemed necessary.

Contractors will be required to comply with all terms, conditions and requirements contained in the "Sample Contract" attached to this invitation for bids. Out of State bidders are required by law to provide the Commission with a "Certificate of Authority" from the Secretary of State's office to be included with the bidding documents.

Important Dates:

- Bid opening — February 6, 2007
- Intent to award — February 7, 2007
- Award of contract — February 23, 2007
- Performance period — March 1, 2007 to March 30, 2007
- Contract period — March 1, 2007 to June 1, 2007

2007 Coal Fire Suppression Project
Specifications

Project Objective: To extinguish all burning materials within selected project sites.

Scope of Work: This project will entail excavation and burial of burning lignite coal within the Jacobson Ranch and one or more sites within Little Missouri National Grasslands. The Jacobson Ranch site is approximately ½ acre in size. There are approximately 15 actively burning coal seam outcrop fires ranging in size from 1/10 acre to 1 acre or more within the Little Missouri National Grasslands and extinguishment efforts will be conducted on one are more these sites if possible.

Overburden depth to the burning coal seam(s) is expected to range from 2-20 feet, pending site conditions. Average coal seam thickness is expected to be from 1-8 feet. Multiple burning layers are possible. If deemed necessary, the U.S. Forest Service will provide a water truck and personnel for quenching of burning materials on the Little Missouri National Grasslands area. No water truck will be provided for the Jacobson Ranch site. . No seeding will be required at the Jacobson Ranch site. Seeding of Little Missouri National Grassland reclaimed sites will be completed by the U.S. Forest Service.

Standard Requirements

1. Remove and stockpile topsoil or suitable plant growth material from around/within the defined project area.

2. Excavate intercept trench or burial trenches at prescribed depths for burial of competent overburden and/or burning materials.

3. Excavate and emplace burning materials into the burial trenches. Blend or intermix the burning/hot materials with clay or approved overburden in lifts as directed. Excavation of the active burn face is considered complete when the coal seam is cool to the touch. Water quenching (as required) will be performed by U.S. Forest Service personnel on the Little Missouri National Grassland site or sites.

4. Cover the backfilled trenches with approved material. Ensure that all buried materials are isolated from other combustible materials. Any combustible material removed from trenches or borrow areas must be covered or mixed with inert soil material.

5. Grade area to blend with surrounding topography and re-establish drainage.

6. Re-spread salvaged topsoil (where available) over disturbed areas. Drag the topsoil area with a spike-tooth harrow or equivalent and clean up the site.

At a minimum, the contractor is required to provide **an excavator. A dozer and/or front end loader is also required.** The contractor must have at least two fully-charged fire extinguishers on site at all times. The Jacobson Ranch site will be completed first. The Commission Project Manager and U.S. Forest Service representatives will direct the location of the remaining project sites to be reclaimed.

Underground utility location responsibilities rest with the contractor. The North Dakota "One Call" Utility *hotline is 1-800-795-0555. Any site access work undertaken by the contractor must be reclaimed to its* previous condition.

BID FORM

North Dakota Public Service Commission
Abandoned Mine Lands Division
2007 Coal Fire Suppression Project

Bid Item	Unit	Quantity		Unit Price		Total
Mobilization*	Lump Sum	1	X	_____	=	_____
Material Handling And Excavation	Cubic Yard	1,800	X	_____	=	_____

Total (In Numbers) _____

*** This bid item shall not exceed 10% of the total contract bid**

I agree to perform the work as described at the specified project sites for the price I have submitted.

Signed and Dated _____

****** Please detach this form and submit with any other required bidding documents ******

Coal Fire Suppression
Supplemental Work Plan Narrative

Work will not be allowed if the fire danger index is in the extreme category for the Jacobson Ranch and National Grasslands areas. The U.S. Forest Service will determine that status and advise. As a precautionary measure, work will not be allowed on excessively windy days (the U.S. Forest Service site representative will make that determination within the National Grasslands area). Any weather-related loss of work days will not be charged against the contractor's performance period.

Use the dozer and excavator to strip topsoil from around/within the work area. Strip a buffer zone of at least 20 feet around the periphery to eliminate fuel sources and the potential for starting a grass fire. Stockpile topsoil up-gradient of the burning face and/or around the edges of the designated work zone. The dozer can strip the outside edges of the work area and the excavator can strip inside the sloughed (previously burned) area. Payment for topsoil stripping is coincidental to the project and not paid as a cut measurement.

The dozer can begin digging the burial trench while the excavator is still stripping topsoil. Construct the trench as close to the burning face as possible-close enough to be within the swing radius of the excavator (if possible) that will be pulling out the burning materials. Most trenches are expected to be about 3-8 feet deep depending on the coal seam thickness, but at least as deep as required to get below the target coal seam. Some exploratory excavator work may be required to determine depth to the coal seam, overburden thickness and elevation of the trench cut. The trench could be up to 20 feet wide and should run the length of the anticipated burn face. The trench overburden material may be stockpiled by the dozer at the two far ends of the trench and/or adjacent to the down-gradient cut of the trench.

The excavator will start pulling out burning material and backfilling the far end of the trench (down gradient). The dozer will spread the cast burning materials at the bottom of the trench and will inter-mix the stockpiled overburden material with the excavated burning/hot material between lifts. As the excavator digs farther into the burning coal seam, the trench cut will keep moving towards the coal face (into the hill), which will probably be mostly dozer work. Water quenching (as required) will be conducted in the burial trench during mixing of the burning material and overburden. The dozer can also be used at this time to help daylight/excavate the burning coal seam between lifts.

Continue the above-listed process until the coal face is cool to the touch and the Commission or U.S. Forest Service personnel indicate that complete excavation and suppression of the burning materials is complete. Backfill the trench or trenches, grade the site to its approximate original contour, respread the topsoil and drag all disturbed areas.

Due to funding limitations, intercept trenches are expected to be excavated only on those sites that are considered too big or the coal seam is considered too deep for complete extinguishment. The above-listed work plan for burial trench fire suppression is expected to be the standard method for suppression activities. Payment for all work will be as noted in the bid proposal.

INVITATION FOR BID

Public Service Commission
600 E Boulevard Avenue, 13th Floor
Bismarck, ND 58505-0480

Bid Number: 2007 Coal Fire Suppression	**Commodity:** 912 Construction Services Gen Sub Class 23
Bids will be publicly opened: February 6, 2007, 1:00 P.M. Central Time	**Refer All Inquiries to:** Mark Knell 701-328-4095 **E-Mail:** meknell@nd.gov
Contract No.: To be Assigned	**Contract Period:** March 1, 2007 to June 1, 2007 (approximate)

In compliance with this invitation for bid and subject to all the conditions specified in the invitation for bid, the vendor agrees and promises to sell, furnish, and deliver to the State all commodities and services contained in the invitation for bid and for which the vendor has been awarded by this contract with the State. The vendor shall fully perform this contract in accordance with the terms and conditions contained in the invitation for bid and shall comply with all applicable provisions of the North Dakota Century Code and North Dakota Administrative Code Chapter 4-12.

Upon execution of the attached service contract, a contract will be made and entered into by and between the State of North Dakota through the agency named above and:

Bidder:			**Federal ID or Social Security No.**
Street Address:			
P.O. Box	**City**	**Telephone Number:**	**Toll Free Tel. No.**
State	**Zip Code**	**Fax Number:**	**E-Mail:**

Type or Print Name & Title of Person Signing:

Authorized Signature:

For State Use Only

Bid response accepted and contract awarded this _____ day of _____ as indicated on the attached letter.

By _____ Title _____

Mailing Instructions

Mail one completed and signed invitation for bid document to the address indicated below. Invitation for bid documents received after the date and time specified in the invitation for bid, will be rejected.

Address the envelope containing your response in the following manner:

PUBLIC SERVICE COMMISSION
BID NUMBER – **2007 Coal Fire Suppression**
BID OPENING DATE – **February 6, 2007, 11:00 AM CDT**
PUBLIC SERVICE COMMISSION
13th FLOOR DEPT 408
600 EAST BOULEVARD AVE
BISMARCK ND 58505-0480

Bidder's Instructions

Acceptance/Resection. The right is reserved to accept or reject any or all bid responses wholly or in part.

Addition of Terms and Conditions. No alternations or variations of the terms and conditions of the solicitation by the bidder will be valid and binding upon the state, unless made in writing and accepted by the purchasing agency in accordance with N.D.A.C. 4-12-11-06. Bids subject to conditions imposed by the bidder may be rejected as being nnnresponsive, as determined by the purchasing agency.

Affirmative Action. The contractor will take affirmative action in complying with all Federal and State requirements concerning fair employment and employment of the handicapped, and concerning the treatment of all employees without regard to discrimination by reason of race, color, religion, sex, national origin or physical handicap.

Award. Award will be made to the bidder whose bid meets the specifications and other requirements of the bid, and is the lowest, responsive bid considering price, responsibility of bidder, and compliance with all other relevant factors stated in the solicitation.

Award, Preference Laws The preference given to a resident North Dakota bidder will be equal to the preference given or required by the state of the nonresident bidder, in accordance with N.D.C.C. 44-08-01. A "resident" North Dakota bidder, offeror, seller, or contractor is defined in N.D.C.C. 44-08-02 as a bidder, seller, or contractor who has maintained a bona fide place of business within this State for at least one year prior to the date on which a contract was awarded. For a listing of state preference laws, visit the following website: http://tpps.das.state.or.us/purchasing/pref-law/reciprocal_detail.php or contact the North Dakota State Procurement Office at 701-328-2683.

Bid Held Firm. Bids are not awarded at the bid opening. Bid responses will be firm for 30 days, unless stated otherwise.

Bid Summary. Bid summaries will bc mailed to those bidders who supply a self-addressed, stamped, envelope with their bid response. Bid summaries are not mailed until the bid has been awarded. Bid summaries may be viewed and a copy obtained by contacting the Procurement Officer during normal working hours.

Bidder's Instructions

Bidder Checklist. HAVE YOU REMEMBERED TO:

- Bid F.O.B. Destination (Ship To: Address) Freight Prepaid
- Mark envelope as indicated.
- Review Standard Terms and Conditions contained in this solicitation.
- Sign your bid on the cover sheet.
- Initial all bid/pricing changes you made.
- Prepare your bid response in ink or typewriting.
- Review and complete all requirements contaioed in this solicitation to ensure compliance.

Bidder's Responsibility. It is the bidder' s responsibility to ensure that a bid response is physically deposited with the Commission prior to the date and time specified for the opening. Late bid responses will not be opened and will be rejected regardless of the degree of lateness or the reasons. It is the bidder responsibility to comply with of the State of North Dakota's laws and regulations.

Clarifications/Interpretations. Any and all questions regarding this document must be addressed to the Procurement Officer referenced on the first page of this document. The bidder is cautioned that the requirements of this solicitation can be altered only by written addendum and that verbal communications from whatever source are of no effect.

Definitions:

- Bidder - any person or firm submitting a competitive bid in response to a solicitation.
- Bid summary - a summary of all bid responses received by the Purchasing Agency.
- Bid response - the executed document submitted by a bidder in response to a solicitation.
- Contract - a deliberate written agreement between two or more competent persons to perform a specific act or acts.
- Contractor - any person or firm having a contract with a governmental body.
- Solicitation - the process of notifying prospective bidders that the state wishes to receive bids for furnishing goods or services.

Deviation from Specifications Supplied by the State. Any deviation from specifications indicated herein must be clearly pointed out; otherwise, it will be considered that the goods and services offered are in strict compliance with these specifications, and the bidder will be held responsible.

Facsimile Bids. Bid responses are not to be faxed to the Commission. BID RESPONSES FAXED TO THIS OFFICE WILL BE REJECTED. Faxed bid responses are accepted only, if the bid proposal is faxed to a third party, who will put it in an envelope and deliver it before the date and time specified in the solicitation.

Award, Preference Laws: The preference given to a resident North Dakota bidder will be equal to the preference given or required by the state of the nonresident bidder, in accordance with N.D.C.C. 44-08-01. A "resident" North Dakota bidder, offeror, seller, or contractor is defined in N.D.C.C. 44-08-02 as a bidder, seller, or contractor who has maintained a bona fide place of business within this State for at least one year prior to the date on which a contract was awarded. For a listing of state preference laws, visit the following website: http://tpps.das.state.or.us/purchasing/pref-law/reciprocal_detail.php or contact the North Dakota State Procurement Office at 701-328-2683

Indemnification and Insurance Requirements. Bidders must review the Indemnification and insurance requirements as stated in the Service Contract attached to this solicitation. The indemnification and insurance provisions will be incorporated into the final contract. Objections to any provisions of the Indemnification and Insurance Requirements must be made in writing to the attention of the procurement officer by the deadline set for receipt of questions. No alterations of these provisions will be permitted without prior written approval from the purchasing agency in consultation with the North Dakota Risk Management Division. Upon receipt of the Notice of Intent to Award, the successful bidder must obtain the required insurance coverage and provide the procurement officer with proof of coverage prior to contract approval. The coverage must be satisfactory to the purchasing agency.

Investigation. The State reserves the right to make an investigation or investigations of the materials, equipment, supplies, qualifications, or facilities offered by the apparent low bidder or bidders. This investigation would be to determine whether or not the apparent low bidder or bidders could meet the requirements set forth in the solicitation.

Minor Informalities. The state reserves the right to waive minor informalities. Minor informalities are insignificant omissions or nonjudgmental mistakes that are matters of form rather than substance, evident from the bid document, with a negligible effect on price, quantity, quality, delivery, or contractual conditions that can be waived or corrected without prejudice to other bidders, in accordance with N.D.A.C. 4-12-10-01.

Pricing (Unit and Total Prices). Only one unit price is to he quoted for each item. The unit price is to be according to the unit of measurement specified in the solicitation. In the event of mathematical differences between the unit price and extended total, the unit price will prevail.

Protests. An interested party may protest the solicitation within seven days before the bid opening or protest the notice of intent to award or award within seven days after receiving notice in accordance with N.D.C.C. 54-44.4-09 and N.D.A.C. 4-12-14.

Review of the Bids. Those interested in reviewing the bid file are to make arrangements, with the ND Public Service Commission. Office hours are between 8:00 a.m. 12:00 pm and 1:00 pm and 5:00 pm, Monday through Friday.

Receipt of Bids. All sealed bids received by the Commission will be opened and read at the place, date, and hour specified in the solicitation.

Registration. Vendors Must Be Approved Before Contract Award. Proposals will be accepted from vendors who are not currently approved vendors on the State's Vendor Database; however, the successful bidder or offeror will be required to become approved prior to award, in accordance with N.D.C.C. 54-44.4-09. To become an approved vendor, you must: 1) be registered with the North Dakota Secretary of State (fees apply), and 2) submit a completed Bidders List Application to the ND State Procurement Office. Registration instructions and forms are available on-line at: http://www.state.nd.us/csd/spo/vendor-resources.htm. Contact the ND State Procurement Office at 701-328-2683 or infospo@nd.gov for assistance. The successful bidder or offeror must register and become approved within thirty calendar days from the date of the Notice of Intent to Award. The bid or proposal may be rejected if the vendor fails to register within the specified time period.

Rejection. The state reserves the right to reject any and all bids in whole or in part. Bid responses will be rejected if:

- the bid response is not legible.
- the bid response is not completed as requested.
- the bid response is faxed to the procurement office
- the bid response does not meet the required specifications of the solicitation.
- the bid response is received after the time and date specified.
- the bid response is from an inactive or unregistered vendor, unless waived in the solicitation.
- Or a combination of above.

Signature. The bidder submitting the bid response or that bidder's duly authorized agent or representative must sign the bid response manually in ink. The name and title of the person signing the bid response must be typed or printed below the signature.

Specifications. Unless otherwise indicated by the bidder, it will be assumed that specifications will be met in all respects. Designation of brand names and catalog numbers in lieu of more detailed specifications are for illustrative purposes only and not intended to prevent bidders from offering alternate products, unless otherwise specified in this solicitation.

Taxes. The State does not pay sales tax or federal excise tax. The state sales tax exemption number is E-2001. The federal tax-free transaction number is 45-70-0010K.

Withdrawal or changes to a bid response prior to the bid opening date and time. A bidder may withdraw or make a change to his bid response prior to the bid opening date and time. The request to make a change or withdraw must be in writing by a representative of the firm. The request to withdraw or change must be signed by the bidder or his designated representatives.

Withdrawals after the bid opening date and time. Withdrawals after the bid opening may be permitted in accordance with N.D.A.C. 4-12-10-05.

General Terms and Conditions

Assignments, Transfers, Etc. Contracts as a result of this solicitation are not to be assigned, transferred, conveyed, sublet, or otherwise disposed of without previous consent, in writing, of the Procurement Officer, in accordance with N.D.A.C. 4-12-13-02.

Attempt tn Influence an Award. Any vendor or contractor is prohibited from giving or nffering to give, and any employee and official of the Office of Management and Budget or a purchasing agency involved in any aspect of the procurement process is prohibited from soliciting, accepting, or agreeing to accept money, loans, credits, prejudicial discounts, subscriptions, offers nf employment, gifts, entertainment, favors, or services that might influence, or appear to influence, procurement decisions. Any person or business entity that attempts to influence an award will be reported to the state procurement manager in accordance with N.D.A.C. 4-12-04-05.

Contract. The successful bidder will be required to sign and submit the contract attached to this solicitation (Sample Contract). The cnntractor must comply with the cnntract prnvisions set out in this attachment. Any objections to the contract provisions must be brought to the attention of the Procurement Officer by the deadline set for receipt of questinns. No alterations of these contract provisions will be permitted without prior written approval from the purchasing agency. Any nral agreement or arrangement by a bidder with the purchasing agency or procurement nfficer will have no force or effect unless reduced to writing.

Cnntract Approval. The Invitation for Bid does not, by itself, obligate the State. The State's obligation will commence when the purchasing agency approves the contract. Upon written notice to the contractnr, the State may set a different starting date fnr the contract. The State will not be responsible for any work done by the contractor, even work done in good faith, if it nccurs prior to the contract start date set by the State.

Cnntract Changes. After a binding contract has been entered into, no changes (i.e. substitution of product or a price adjustment) may be made, unless prior written approval has been obtained from the Commission. Any changes must be within the general scope nf the initial cnntract. The Contractor will not commence additional wnrk until the project director has secured any required State approvals necessary for the amendment and issued a written contract amendment, approved by the purchasing agency.

Compliance with Laws. The contractor must, in performance of work under this contract, fully cnmply with all applicable federal, state, or local laws, rules and regulations. The contractor must comply with the provisinns nf all appropriate federal laws, including Title VI of the Civil Rights Act of 1964. Any subletting or subcontracting by the contractor subject subcontractors to the same provision.

Cancellatinn of Contract. If the Commission cancels the contract for cause, the contractor is responsible for delivery of all items and services ordered prior tn the cancellation, unless those orders had been canceled by the ordering agency.

Contract Period. Contract or contracts issued as a result of this solicitation will be for the period from approximately March 1, 2006 to June 1, 2007.

Currency. (Required). All prices must be in United States currency.

Descriptive Literature. Complete manufacturer's descriptive literature sufficient to establish quality must be submitted with each bid. Failure to comply with the requirements may invalidate a bidder's quotation for any or all items.

Estimated Volume. The volumes expressed in this IFB are estimated. Estimates are not to be considered as either a minimum or maximum, but rather an estimate based upon past and anticipated usage.

Funding-out Clause. This contract shall become null and void, in total or in part, should the Legislature of the State of North Dakota fail to appropriate funds for any or all agencies, which are committed to the terms of this contract. Any such contract termination shall be at no cost to the state.

Material and Workmanship All material and workmanship sball be subject to inspection and testing by the state either at: (1) the point of manufacturer, or; (2) place nf storage, or; (3) upon receipt.

Pricing. The total bid price is to include all discounts aod deductions, and is to be less federal and state taxes, for which exemption certificates will be furnished upon request. Pricing shall be firm for the period of the contract.

Service Representative:

NAME OF SERVICE REPRESENTATIVE: _____
ADDRESS OF SERVICE REP: _____
CITY & STATE & ZIP CODE: _____
PHONE NUMBER: _____
TOLL FREE NUMBER: _____
FAX NUMBER: _____
E-MAIL ADDRESS: _____

SAMPLE CONTRACT

Administrator: State of North Dakota
Public Service Commission
State Capitol - 12th Floor
Bismarck, ND 58505-0480
(701) 328-2400

Date:

Tony T. Clark	**Susan E. Wefald**	**Kevin Cramer**
Commissioner	**President**	**Commissioner**

Contractor

Name

Address **City/State/Zip** **Phone**

Typed Name **Title**

Signature **Date**

Agreement Information

Contract No.: _____

Start Date: _____

End Date: _____

Program Title: _____

Type of Contract: ( ) Fixed Price
( ) Cost Reimb. ( ) Unit Price
( ) Other

Budget Information

Cost Center: 9000

Services: _____
Optional on-site review: _____
Expenses: _____

ID

Type of Contractor: ( ) Individual
( ) Corporation ( ) Partnership
( ) Public Agency
( ) Nonprofit Organization
( ) Other

This contract is entered into between the State of North Dakota acting through the Public Service Commission (State) and XXX (Contractor). This contract consists of this sheet, general provisions and specific provisions.

GENERAL PROVISIONS

CONTRACTUAL FEATURES

LEGAL AUTHORITY

The Contractor assures that it possesses legal authority to participate in this contract.

ASSIGNMENT/SUBCONTRACTING

The Contractor may not assign this contract or any part thereof, or assign any of the monies to be paid hereunder, nor shall any part of the work done or material furnished under this contract be sublet without the State's express written consent.

The Contractor may not enter into subcontracts for any of the work contemplated under this contract unless included in the specific provisions of this contract. Any such subcontract must acknowledge the binding nature of the contract and must incorporate this contract, including any attachments. Contractor is solely responsible for the performance of any subcontractor. Contractor shall not have the authority to contract for or incur obligations on behalf of the State.

TERMINATION

The State, by written notice of default listing causes and reasons, may terminate this contract in whole or in part if (1) the Contractor fails to provide services required by this contract within the time specified or any extension agreed to by the State; or (2) the Contractor fails to perform any of the other conditions or provisions of this contract, or so fails to pursue the work so as to endanger performance of this contract in accordance with its terms. The State will be liable only for payment provisions of this contract for services satisfactorily rendered prior to the effective date of termination.

Significant deviation from performance standards in this contract may result in reduced or terminated financial participation of the Contractor, subsequent to negotiations with the State.

This contract may be terminated in whole or in part without cause by mutual consent of the Contractor and the State. The parties shall agree upon the termination conditions including effective date and in the case of partial terminations, that portion to be terminated.

The State may terminate this contract effective upon delivery of written notice to the Contractor or on any later date stated in the notice in the event (1) funding from federal, state or other sources is not obtained and continued at levels sufficient to allow for work performed or purchases of the services or supplies in the indicated quantities or term; (2) federal or state laws or rules are modified or interpreted in a way that the services are no longer allowable or appropriate for purchase under this contract or are no longer eligible for the funding proposed for payments authorized by this contract; or (3) any license, permit or certificate required by law or rule, or by the terms of this contract, is for any reason denied, revoked, suspended or not renewed.

Any contract that extends beyond the current biennium may be terminated by the State if sufficient funds are unavailable, if the law regarding the contract is changed or without cause at any time.

The rights and remedies of the State provided in the termination provisions related to defaults by the Contractor are not exclusive and are in addition to any other rights and remedies provided by law or under this contract.

FORCE MAJUEURE

Contractor will not be held responsible for delay or default caused by fire, riot, acts of God or war if the event is beyond the Contractor's reasonable control and the Contractor gives notice to the State immediately upon occurrence of the event causing the delay or default or which is reasonably expected to cause a delay or default.

RENEWAL

This contract will not automatically renew. State will provide written notice to Contractor of its intent to renew this contract

at least sixty days before the scheduled termination date.

DISPUTES

The Contractor agrees to attempt to resolve disputes arising from this contract by informal administrative process and negotiations in lieu of litigation. Continued performance by the Contractor during disputes is assured.

Any dispute concerning a question of fact arising under this contract which is not settled by the informal means shall be decided by the authorized representative of the Commission who shall reduce the decision to writing and mail or otherwise furnish a copy thereof to the Contractor.

The Contractor shall be afforded an opportunity to be heard and to offer evidence in support of an appeal. Pending final decision of a dispute, the Contractor shall proceed diligently with the performance of the contract and in accordance with the decision of the Commission.

The State does not agree to any form of binding arbitration, mediation, or other forms of mandatory alternative dispute resolutions. The parties have the right to enforce their rights and remedies in judicial proceedings. The State does not waive any right to a jury trial.

MERGER AND MODIFICATION

This contract constitutes the entire agreement between the parties. There are no understandings, agreements, or representations, oral or written, not specified within this contract. This contract may not be modified, supplemented or amended, in any manner, except by written agreement signed by both parties.

SEVERABILITY

If any term of this contract is declared by a court having jurisdiction to be illegal or unenforceable, the validity of the remaining terms shall not be affected, and if possible, the rights and obligations of the parties are to be construed and enforced as if the contract did not contain that term.

NOTICE

All notices or other communications required under this contract shall be given by registered or certified mail and are complete on the date mailed when addressed to the parties at the following addresses:

State

illona Jeffcoat-Sacco, Executive Secretary
Public Service Commission
600 E. Boulevard Avenue, Department 408
Bismarck, ND 58505-0480

Contractor

APPLICABLE LAW AND VENUE

This contract is governed by and construed in accordance with the laws of the State of North Dakota. Any action to enforce this contract must be brought in the District Court of Burleigh County, North Dakota.

SPOLIATION – NOTICE OF POTENTIAL CLAIMS

Contractor shall promptly notify State of all potential claims that arise or result from this contract. Contractor shall also take all reasonable steps to preserve all physical evidence and information that may be relevant to the circumstances surrounding a potential claim, while maintaining public safety, and grants to the State the opportunity to review and inspect the evidence, including the scene of an accident.

INDEMNITY

Contractor agrees to defend, indemnify, and hold harmless the State of North Dakota, its agencies, officers and employees (State), from claims resulting from the performance of the Contractor or its agent, including all costs, expenses and attorneys' fees, which may in any manner result from or arise out of this agreement. The legal defense provided by Contractor to the State under this provision must be free of any conflicts of interest, even if retention

of separate legal counsel for the State is necessary. Contractor also agrees to defend, indemnify, and hold the State harmless for all costs, expenses and attorneys' fees incurred in establishing and litigating the indemnification coverage provided herein. This obligation shall continue after the termination of this agreement.

CONFIDENTIALITY

Contractor agrees not to use or disclose any information it receives from the State under this contract that the State has previously identified as confidential or exempt from mandatory public disclosure except as necessary to carry out the purposes of this contract or as authorized in advance by the State. The State agrees not to disclose any information it receives from Contractor that the Contractor has previously identified as confidential and which the State determines in its sole discretion is protected from mandatory public disclosure under a specific exception to the North Dakota open records law, N.D.C.C. §44-04-18. The duty of the State and Contractor to maintain confidentiality of information under this section continues beyond the term of this contract, or any extensions or renewals of it.

Contractor understands that, except for disclosures prohibited in N.D.C.C. Chapter 47-25.1, the State must disclose to the public upon request any records it receives from Contractor. Contractor further understands that any records that are obtained or generated by the Contractor under this contract, except for records that are confidential under N.D.C.C. Chapter 47-25.1, may, under certain circumstances, be open to the public upon request under North Dakota open records law. Contractor agrees to contact the State immediately upon receiving a request for information under the open records law and to comply with the State's instructions on how to respond to the request.

INSURANCE

a. Required Coverages. Contractor shall secure and keep in force during the term of this agreement and Contractor shall require all subcontractors, prior to commencement of an agreement between Contractor and the subcontractor, to secure and keep in force during the term of this agreement, from insurance companies, government self-insurance pools or government self-retention funds authorized to do business in North Dakota, the following insurance coverages:

(1) Commercial general liability, including premises or operations, contractual, and products or completed operations coverage (if applicable), with minimum liability limits of $250,000 per person and $1,000,000 per occurrence.
(2) Automobile liability, including Owned (if any), Hired and Non-Owned automobiles, with minimum liability limits of $250,000 per person and $1,000,000 per occurrence.
(3) Workers compensation coverage meeting all statutory requirements. The policy shall provide coverage for all states of operation that apply to the performance of this contract.
(4) Employer's liability or "stop gap" insurance of not less than $1,000,000 as an endorsement on the workers compensation or commercial general liability insurance if Contractor is domiciled outside the State of North Dakota.

b. General Insurance Requirements. The insurance coverages listed above must meet the following additional requirements:

(1) Any deductible or self insured retention amount or similar obligation under the policies shall be the sole responsibility of the Contractor. The amount of any deductible or self-retention is subject to approval by the State.
(2) This insurance may be in policy or policies of insurance, primary and excess, including the so-called umbrella or catastrophe form and must be placed with insurers rated "A-" or better by

A.M. Best Company, inc., provided any excess policy follows form for coverage. Less than an "A-" rating must be approved by the State. The policies shall be in for and terms approved by the State.

(3) The State will be defended, indemnified, and held harmless to the full extent of any coverage actually secured by the Contractor in excess of the minimum requirements set forth above. The duty to indemnify the State under this agreement shall not be limited by the insurance required in this contract.

(4) The State of North Dakota and its agencies, officers, and employees (State) shall be endorsed on the commercial general liability policy, including any excess policies (to the extent applicable), as additional insured. The State shall have all the benefits, rights and coverages of an additional insured under these policies.

(5) The insurance required in this agreement, through a policy or endorsement, shall include:
   a. a "Waiver of Subrogation" waiving any right to recovery the insurance company may have against the State;
   b. a provision that the policy and endorsements may not be canceled or modified without thirty (30) days' prior notice to the undersigned State representative;
   c. c. a provision that any attorney who represents the State under this policy must first qualify as and be appointed by the North Dakota Attorney General as a Special Assistant Attorney General as required under N.D.C.C. § 54-12-08;
   d. a provision that Contractor's insurance coverage shall be primary (i.e., pay first) as respects any insurance, self-insurance or self-retention maintained by the State, and that any insurance, self-insurance or self-retention maintained by the State shall be in excess of the Contractor's insurance and shall not contribute with it;
   e. cross liability/severability of interest for all policies and endorsements.

(6) The legal defense provided to the State under the policy and any endorsements must be free of any conflicts of interest, even if retention of separate legal counsel for the State is necessary.

(7) The Contractor shall furnish a certificate of insurance and all endorsements to the undersigned State representative prior to commencement of this agreement. All endorsements shall be provided as soon as practicable.

(8) Failure to provide insurance as required in this agreement is a material breach of contract entitling the State to terminate this agreement immediately.

SAFETY REQUIREMENTS

The Contractor shall keep informed of and comply with all federal, state, and local laws, regulations, and other legal requirements
governing the safety, health, sanitation, and performance of the contract in general. In

addition, the Contractor shall provide, inspect and maintain all safeguards, safety devices, protective equipment, safety programs and other needed actions the Contractor determines necessary to reasonably protect the life, health and property of the Contractor, subcontractors, the State, the public and each of the employees, officers, assigns and agents of the Contractor, subcontractors and the State, in connection with the performance of work resulting from or arising out of the contract.

The Contractor shall submit to the State a copy of the written safety program to be used as guidelines and direction for the Contractor's and subcontractors' activities. This program must meet all federal, state and local laws, regulations and other legal requirements and include the following minimum provisions: (1) a worksite safety policy and mission statement; (2) assigned responsibilities among management, supervisors and employees; (3) a system for periodic self-inspections, including inspections of job sites, materials, work performance and equipment; (4) a thorough accident and injury reporting and investigation process; (5) e safety orientation *prog*ram including first aid, medical attention, emergency facilities, fire protection and prevention, housekeeping, illumination, sanitation, personal protective equipment, and occupational noise exposure; and (6) a safety training program including safety "tool box" meetings and other systems for ongoing training and also including training for employees on the recognition, avoidance and prevention of unsafe conditions.

It will be a condition of the contract, and shall be made a condition of each subcontract entered into pursuant to that contract, that the State is assuming no liability relating to its receipt and review of the Contractor's safety plan or activities. Safety remains the responsibility of the Contractor. Furthermore, the right of the State to receive and review the safety plan or activities shall not give rise to a duty on the part of the State to exercise this right for the benefit of the Contractor or any other person or entity.

ATTORNEY FEES

In the event a lawsuit is instituted by the State to obtain performance due of any kind under this contract, and the State is the prevailing party, Contractor shall, except when prohibited by N.D.C.C. § 28-26-04, pay the State's reasonable attorney fees and costs in connection with the lawsuit.

INDEPENDENT ENTITY

Contractor is an independent entity under this contract and is not a State employee for any purpose, including but not limited to the application of the Social Security Act, the Fair Labor Standards Act, the Federal Insurance Contribution Act, the North Dakota Unemployment Compensation Law and the North Dakota Workers' Compensation Act. The Contractor retains sole and absolute discretion in the manner and means of carrying out the Contractor's activities and responsibilities under this contract, except to the extent specified in the contract.

FISCAL RESPONSIBILITIES

RECORDS

All records, regardless of physical form, and the accounting practices and procedures of the Contractor relevant to this contract are subject to examination by the North Dakota State Auditor or the Auditor's designee. The Contractor shall maintain and retain all books, records, and other documents required by the State and to produce program narrative and statistical data at times prescribed by the State relevant to this agreement for four years after final payment. Records shall be retained beyond four years if audit findings have not been resolved.

NO CLAIM FOR ADDITIONAL WORK

No claim for additional services not specifically herein provided, done, or furnished by the Contractor will be allowed, nor shall the Contractor do any work or furnish any material not covered by the

contract, unless such work is ordered in writing by the State.

TIME KEEPING PROCEDURES

The Contractor shall require employees and subcontractors, if applicable, whose positions are funded under this contract or included as match, to maintain adequate documentation for services provided. For positions that are funded from more than one source, an analysis of duties performed by program shall also be prepared.

MONITORING, EVALUATION AND AUDIT

The Contractor agrees to cooperate with any monitoring, evaluating and/or audit conducted by the State, or their designees who shall have full access to and the right to examine all books, records and other relevant documents.

The Contractor agrees to take immediate corrective action on deficiencies disclosed through program monitoring of costs disallowed in the course of an audit, review, or monitoring.

PREPAYMENT

The State will not make any advance payments before performance by the Contractor under this contract. The Contractor will be compensated based on periodic submittal of progress reports.

TAXPAYER ID

Contractor's North Dakota tax ID number is: _____.
Contractor's federal employer ID number is:.

PROGRAM REQUIREMENTS

COMPLIANCE WITH LAWS

Contractor agrees to comply with all applicable laws, rules, regulations and policies, including but not limited to those relating to nondiscrimination, accessibility and civil rights. Contractor agrees to timely file all required reports, make required payroll deductions, and timely pay all taxes and premiums owed, including but not limited to sales and use taxes and unemployment compensation and workers' compensation premiums. Contractor shall have and keep current at all times during the term of this contract all licenses, registrations and permits required by law and shall be authorized to do business in the State of North Dakota.

EQUAL OPPORTUNITY

No individual shall be excluded from participation in, denied the benefits of, subjected to discrimination under, or denied employment in the administration of or in connection with this contract because of race, color, disability, or political affiliation or belief.

The Contractor will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, color, religion, national origin, disability, age, sex, political affiliation or belief or citizenship.

NONDISCRIMINATION

This contract and any subcontract hereunder are subject to the Age Discrimination Act of 1975, Section 504 of the Rehabilitation Act, Title VI of the Civil Rights of 1964 and the Americans with Disabilities Act of 1990.

WORK PROOUCT, EQUIPMENT AND MATERIALS

All work product, equipment or materials created or purchased under this contract belong to the State and must be delivered to the State at the State's request upon termination of this contract. Contractor agrees that all materials prepared under this contract are "works for hire" within the meaning of copyright laws of the United States and assigns to State all rights and interests Contractor may have in the materials it prepares under this contract, including any right to derivative use of the material. Contractor shall execute all necessary documents to enable State to protect its rights under this section. Contractor shall include provisions appropriate to effectuate the purposes of this condition in all subcontracts entered into relating to this project.

Buy American Act

The contractor agrees to comply with sections 2 through 4 of the Act of March 3, 1933 (41U.S.C. 10a-10c, popularly known as the "Buy American Act".) This applies to all subcontractors and suppliers of the contractor. The contractor will include this clause in all agreements and contracts.

EFFECTIVENESS OF CONTRACT

This contract is not effective until fully executed by both parties.

SPECIFIC PROVISIONS

PUBLIC MEETING ATTENDANCE RECORD
PUBLIC SERVICE COMMISSION
ABANDONED MINE LANDS DIVISION
SFN 16757 (3-94)

Date: 2-6-09

Description: 2006-7 Coal Fire Project

Location: 13th Fl Jim's office

NAME	ADDRESS	REPRESENTING
Bill Dodd	State Capitol	PSC
Mark Knell	"	PSC
WAYNE Mollohan	GARY Mollohan CONST	518 57th ST SE Auburn
Jim Deutsch	State Capitol	PSC
Shirley Stutler	state capitol	PSC

INVITATION FOR BID

Public Service Commission
600 E Boulevard 13th Floor
Bismarck, ND 58505-0480

Bid Number: 2007 Coal Fire Suppression	**Commodity:** 912 Construction Services Gen Sub Class 23
Bids will be publicly opened: February 6, 2007, 11:00 A.M. CDT	**Refer All Inquiries to:** Mark Knell 701-328-4095 **E-Mail:** meknell@nd.gov
Contract No.: To be Assigned	**Contract Period:** March 1, 2007 to June 1, 2007 (approximate)

In compliance with this invitation for bid and subject to all the conditions specified in the invitation for bid, the vendor agrees and promises to sell, furnish, and deliver to the State all commodities and services contained in the invitation for bid and for which the vendor has been awarded by this contract with the State. The vendor shall fully perform this contract in accordance with the terms and conditions contained in the invitation for bid and shall comply with all applicable provisions of the North Dakota Century Code and North Dakota Administrative Code Chapter 4-12.

Upon execution of the attached service contract, a contract will be made and entered into by and between the State of North Dakota through the agency named above and:

Bidder: Gary Morlock Const Inc		**Federal ID or Social Security No.** 81-0388052	
Street Address: 580 57th St SE Bismarck ND 58504			
P.O. Box	**City** Bismarck	**Telephone Number:** 701-223-8326	**Toll Free Tel. No.**
State ND	**Zip Code** 58504	**Fax Number:** 223-9422	**E-Mail:** wmorlock@bis.midco.net

Type or Print Name & Title of Person Signing: Wayne Morlock - Secretary / Treasurer

Authorized Signature: Wayne Morlock

For State Use Only

Bid response accepted and contract awarded this _____ day of _____ as indicated on the attached letter.

By _____ Title _____

BID FORM

North Dakota Public Service Commission
Abandoned Mine Lands Division
2007 Coal Fire Suppression Project

Bid Item	Unit	Quantity		Unit Price		Total
Mobilization*	Lump Sum	1	X	1,000.00	=	1000.00
Material Handling And Excavation	Cubic Yard	1,800	X	5.00	=	9,000.00

Total (In Numbers) $ 10,000.00

*** This bid item shall not exceed 10% of the total contract bid**

I agree to perform the work as described at the specified project sites for the price I have submitted.

Signed and Dated W Wayne Morford

****** Please detach this form and submit with any other required bidding documents ******

Descriptive Literature. Complete manufacturer's descriptive literature sufficient to establish quality must be submitted with each bid. Failure to comply with the requirements may invalidate a bidder's quotation for any or all items.

Estimated Volume. The volumes expressed in this IFB are estimated. Estimates are not to be considered as either a minimum or maximum, but rather an estimate based upon past and anticipated usage.

Funding-out Clause. This contract shall become null and void, in total or in part, should the Legislature of the State of North Dakota fail to appropriate funds for any or all agencies, which are committed to the terms of this contract. Any such contract termination shall be at no cost to the state.

Material and Workmanship All material and workmanship shall be subject to inspection and testing by the state either at: (1) the point of manufacturer, or; (2) place of storage, or; (3) upon receipt.

Pricing. The total bid price is to include all discounts and deductions, and is to be less federal and state taxes, for which exemption certificates will be furnished upon request. Pricing shall be firm for the period of the contract.

Service Representative:

NAME OF SERVICE REPRESENTATIVE: Gary Mallak Const. Inc.
ADDRESS OF SERVICE REP: 5180 57th St SE Bismarck ND 58504
CITY & STATE & ZIP CODE:
PHONE NUMBER: 701-223-8326
TOLL FREE NUMBER:
FAX NUMBER: 701-223-9427
E-MAIL ADDRESS: gwmallak@bis.midco.net

BID FORM

North Dakota Public Service Commission
Abandoned Mine Lands Division
2007 Coal Fire Suppression Project

Bid Item	Unit	Quantity		Unit Price		Total
Mobilization*	Lump Sum	1	X	$800.00	=	$800.00
Material Handling And Excavation	Cubic Yard	1,800	X	$4.33	=	7794.00

Total (In Numbers) $8,594.00

*** This bid item shall not exceed 10% of the total contract bid**

I agree to perform the work as described at the specified project sites for the price I have submitted.

Signed and Dated Kurt Hanson 2-1-07

****** Please detach this form and submit with any other required bidding documents ******

INVITATION FOR BID

Public Service Commission
600 E Boulevard Avenue, 13th Floor
Bismarck, ND 58505-0480

Bid Number: 2007 Coal Fire Suppression	**Commodity:** 912 Construction Services Gen Sub Class 23
Bids will be publicly opened: February 6, 2007, 1:00 P.M. Central Time	**Refer All Inquiries to:** Mark Knell 701-328-4095 **E-Mail:** meknell@nd.gov
Contract No.: To be Assigned	**Contract Period:** March 1, 2007 to June 1, 2007 (approximate)

In compliance with this invitation for bid and subject to all the conditions specified in the invitation for bid, the vendor agrees and promises to sell, furnish, end deliver to the State all commodities and services contained in the invitation for bid and for which the vendor has been awarded by this contract with the State. The vendor shall fully perform this contract in accordance with the terms and conditions contained in the invitation for bid and shall comply with all applicable provisions of the North Dakota Century Code and North Dakota Administrative Code Chapter 4-12.

Upon execution of the attached service contract, a contract will be made and entered into by and between the State of North Dakota through the agency named above and:

Bidder: Basaraba's Excavating		**Federal ID or Social Security No.** 41-1973497	
Street Address: 37610 12th St NE			
P.O. Box	**City** Wilton	**Telephone Number:** 734-2143	**Toll Free Tel. No.**
State N.D.	**Zip Code** 58579	**Fax Number:** 734-6965	**E-Mail:**

Type or Print Name & Title of Person Signing: Brent Basaraba Partner

Authorized Signature: Brent Basaraba

For State Use Only

Bid response accepted and contract awarded this _____ day of _____ as indicated on the attached letter.

By _____ Title _____

BID FORM

North Dakota Public Service Commission
Abandoned Mine Lands Division
2007 Coal Fire Suppression Project

Bid Item	Unit	Quantity		Unit Price		Total
Mobilization*	Lump Sum	1	X	750.00	=	750.00
Material Handling And Excavation	Cubic Yard	1,800	X	5.00	=	9000.00

Total (In Numbers) 9,750.00

*** This bid item shall not exceed 10% of the total contract bid**

I agree to perform the work as described at the specified project sites for the price I have submitted.

Signed and Dated Brent Boske 2-6-7

****** Please detach this form and submit with any other required bidding documents ******

Descriptive Literature. Complete manufacturer's descriptive literature sufficient to establish quality must be submitted with each bid. Failure to comply with the requirements may invalidate a bidder's quotation for any or all items.

Estimated Volume. The volumes expressed in this IFB are estimated. Estimates are not to be considered as either a minimum or maximum, but rather aa estimate based upon past and anticipated usage.

Funding-out Clause. This contract shall become null and void, in total or in part, should the Legislature of the State of North Dakota fail to appropriate funds for any nr all agencies, which are committed to the terms of this contract. Any such contract termination shall be at no cnst tn the state.

Material and Workmanship All material and workmanship shall be subject to inspection and testing by the state either at: (1) the point of manufacturer, or; (2) place af storage, or; (3) upon receipt.

Pricing. The total bid price is to include all discounts and deductions, and is to be less federal and state taxes, for which exemption certificates will be furnished upon request. Pricing shall be firm for the period of the contract.

Service Representative:

NAME OF SERVICE REPRESENTATIVE: Brent Basaraba
ADDRESS OF SERVICE REP: 37600 12th St NE
CITY & STATE & ZIP CODE: Wilton N.D. 58579
PHONE NUMBER: 319-4861 cell 739-8143 Office
TOLL FREE NUMBER:
FAX NUMBER: 734-8417
E-MAIL ADDRESS:

MOTION

February 7, 2007

AML Coal Fire Suppression
2006 Grant
Application

Case No. AM-06-271

I move the Commission issue an Intent to Award a Contract to Hanson's Excavating, Inc. in the amount of $8,594.00 for construction work at two or more coal outcrop fires in western North Dakota.

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PUBLIC SERVICE COMMISSION

Abandoned Mine Lands Division

Memorandum

TO: Commissioners Wefald, Cramer and Clark
Illona Jeffcoat-Sacco

From: Jim Deutsch, Director - AML Division

Date: February 6, 2007

Subject: Intent to Award a contract for construction services for coal outcrop fires in western North Dakota

The AML Division solicited bids for construction services for extinguishing coal outcrop fires at a location on private land northwest of Amidon and at one or more locations on Forest Service land southwest of Alexander. Last summer we received a $10,000 grant from OSM for suppressing coal outcrop fires. Competitive sealed bidding procedures were used with solicitations sent to qualified bidders. Three bids were received and they were publicly opened February 6.

The low bid came from Hanson's Excavating, Inc. of Des Lacs, ND in the amount of $8,594. The second and third bids came from Basaraba's Excavating of Wilton, ND and Gary Morlock Construction of Bismarck, ND in the amounts of $9,750 and $10,000, respectively.

I recommend the Commission issue an Intent to Award a Contract to Hanson's Excavating, Inc. in the amount of $8,594 for construction services for extinguishing coal outcrop fires at two or more sites in western North Dakota. Attached is a motion for the February 7 Commission meeting to issue the Intent to Award.

Attachment

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APPROVED
DATE: 2-23-07

MOTION

February 23, 2007

AML Coal Fire Suppression
2006 Grant
Application

Case No. AM-06-271

I move the Commission award a Contract to Hanson's Excavating, Inc. in the amount of $8,594.00 for construction work at two or more coal outcrop fires in western North Dakota.

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PUBLIC SERVICE COMMISSION

Abandoned Mine Lands Division

Memorandum

TO: Commissioners Wefald, Cramer and Clark
Illona Jeffcoat-Sacco

From: Jim Deutsch, Director - AML Division

Date: February 15, 2007

Subject: Contract award for construction services for coal fire suppression project at sites in western North Dakota

The AML Division solicited bids for construction services for extinguishing coal outcrop fires at a location on private land northwest of Amidon and at one or more locations on Forest Service land southwest of Alexander. Last summer we received a $10,000 grant from OSM for suppressing coal outcrop fires. Competitive sealed bidding procedures were used with solicitations sent to qualified bidders. Three bids were received and they were publicly opened February 6.

The low bid came from Hanson's Excavating, Inc. of Des Lacs, ND in the amount of $8,594 and the Commission approved issuing an Intent to Award a Contract to Hanson's Excavating, Inc. on February 7. The other two bidders were also notified of the Intent to Award and they did not appeal it.

Since the 7-day appeal has ended, I recommend that a contract be awarded to Hanson's Excavating, Inc. for construction services associated with the coal fire suppression project. Attached is the motion for the February 23rd Commission meeting to award a contract and two copies of the contract that need to be signed.

Attachments

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12 AM-06-271 Pages: 1

Staff memo

by Public Service Commission by J. Deutsch
02/15/2007

CONTRACT

Administrator: State of North Dakota
Public Service Commission
State Capitol - 12th Floor
Bismarck, ND 58505-0480
(701) 328-2400

Date:

Tony Clark	Susan E. Wefald	Kevin Cramer
Commissioner	**President**	**Commissioner**

Contractor

Hanson's Excavating, Inc.
Name

9515 198th St SW	Des Lacs, ND 58733	701-725-4364
Address	**City/State/Zip**	**Phone**

Kurt Hanson	President
Typed Name	**Title**

Kurt Hanson 2-26-07
Signature **Date**

Agreement Information

Contract No.: AM-537-07
Start Date: March 1, 2007
End Date: June 1, 2007
Program Title:

Type of Contract: ( ) Fixed Price
( ) Cost Reimb. (X) Unit Price
( ) Other

Budget Information

Cost Center: 9000
Services: Coal fire suppression
Optional on-site review:
Expenses: $8,594.00
ID

Type of Contractor: ( ) Individual
(X) Corporation ( ) Partnership
( ) Public Agency
( ) Nonprofit Organization
( ) Other

This contract is entered into between the State of North Dakota acting through the Public Service Commission (State) and Hanson's Excavating, Inc. (Contractor). This contract consists of this sheet, general provisions and specific provisions. **14 AM-06-271** Pages: 9

Contract with Hanson's Excavating for $8594 00
by Public Service Commission
02/28/2007

GENERAL PROVISIONS

CONTRACTUAL FEATURES

LEGAL AUTHORITY

The Contractor assures that it possesses legal authority to participate in this contract.

ASSIGNMENT/SUBCONTRACTING

The Contractor may not assign this contract or any part thereof, or assign any of the monies to be paid hereunder, nor shall any part of the work done or material furnished under this contract be sublet without the State's express written consent.

The Contractor may not enter into subcontracts for any of the work contemplated under this contract unless included in the specific provisions of this contract. Any such subcontract must acknowledge the binding nature of the contract and must incorporate this contract, including any attachments. Contractor is solely responsible for the performance of any subcontractor. Contractor shall not have the authority to contract for or incur obligations on behalf of the State.

TERMINATION

The State, by written notice of default listing causes and reasons, may terminate this contract in whole or in part if (1) the Contractor fails to provide services required by this contract within the time specified or any extension agreed to by the State; or (2) the Contractor fails to perform any of the other conditions or provisions of this contract, or so fails to pursue the work so as to endanger performance of this contract in accordance with its terms. The State will be liable only for payment provisions of this contract for services satisfactorily rendered prior to the effective date of termination.

Significant deviation from performance standards in this contract may result in reduced or terminated financial participation of the Contractor, subsequent to negotiations with the State.

This contract may be terminated in whole or in part without cause by mutual consent of the Contractor and the State. The parties shall agree upon the termination conditions including effective date and in the case of partial terminations, that portion to be terminated.

The State may terminate this contract effective upon delivery of written notice to the Contractor or on any later date stated in the notice in the event (1) funding from federal, state or other sources is not obtained and continued at levels sufficient to allow for work performed or purchases of the services or supplies in the indicated quantities or term; (2) federal or state laws or rules are modified or interpreted in a way that the services are no longer allowable or appropriate for purchase under this contract or are no longer eligible for the funding proposed for payments authorized by this contract; or (3) any license, permit or certificate required by law or rule, or by the terms of this contract, is for any reason denied, revoked, suspended or not renewed.

Any contract that extends beyond the current biennium may be terminated by the State if sufficient funds are unavailable, if the law regarding the contract is changed, or without cause at any time.

The rights and remedies of the State provided in the termination provisions related to defaults by the Contractor are not exclusive and are in addition to any other rights and remedies provided by law or under this contract.

FORCE MAJUEURE

Contractor will not be held responsible for delay or default caused by fire, riot, acts of God or war if the event is beyond the Contractor's reasonable control and the Contractor gives notice to the State immediately upon occurrence of the event causing the delay or default or which is reasonably expected to cause a delay or default.

RENEWAL

This contract will not automatically renew. State will provide written notice to Contractor of its intent to renew this contract

at least sixty days before the scheduled termination date.

DISPUTES

The Contractor agrees to attempt to resolve disputes arising from this contract by informal administrative process and negotiations in lieu of litigation. Continued performance by the Contractor during disputes is assured.

Any dispute concerning a question of fact arising under this contract which is not settled by the informal means shall be decided by the authorized representative of the Commission who shall reduce the decision to writing and mail or otherwise furnish a copy thereof to the Contractor.

The Contractor shall be afforded an opportunity to be heard and to offer evidence in support of an appeal. Pending final decision of a dispute, the Contractor shall proceed diligently with the performance of the contract and in accordance with the decision of the Commission.

The State does not agree to any form of binding arbitration, mediation, or other forms of mandatory alternative dispute resolutions. The parties have the right to enforce their rights and remedies in judicial proceedings. The State does not waive any right to a jury trial.

MERGER AND MODIFICATION

This contract constitutes the entire agreement between the parties. There are no understandings, agreements, or representations, oral or written, not specified within this contract. This contract may not be modified, supplemented or amended, in any manner, except by written agreement signed by both parties.

SEVERABILITY

If any term of this contract is declared by a court having jurisdiction to be illegal or unenforceable, the validity of the remaining terms shall not be affected, and if possible, the rights and obligations of the parties are to be construed and enforced as if the contract did not contain that term.

NOTICE

All notices or other communications required under this contract shall be given by registered or certified mail and are complete on the date mailed when addressed to the parties at the following addresses:

State

Illona Jeffcoat-Sacco, Executive Secretary
Public Service Commission
600 E. Boulevard Avenue, Department 408
Bismarck, ND 58505-0408

Contractor

Hanson's Excavating, Inc.
9515 198th St SW
Des Lacs, ND 58733

APPLICABLE LAW AND VENUE

This contract is governed by and construed in accordance with the laws of the State of North Dakota. Any action to enforce this contract must be brought in the District Court of Burleigh County, North Dakota.

SPOILIATION – NOTICE OF POTENTIAL CLAIMS

Contractor shall promptly notify State of all potential claims that arise or result from this contract. Contractor shall also take all reasonable steps to preserve all physical evidence and information that may be relevant to the circumstances surrounding a potential claim, while maintaining public safety, and grants to the State the opportunity to review and inspect the evidence, including the scene of an accident.

INDEMNITY

Contractor agrees to defend, indemnify, and hold harmless the State of North Dakota, its agencies, officers and employees (State), from claims resulting from the performance of the Contractor or its agent, including all costs, expenses and attorneys' fees, which may in any manner result from or arise out of this agreement. The legal defense provided by Contractor to

the State under this provision must be free of any conflicts of interest, even if retention of separate legal counsel for the State is necessary. Contractor also agrees to defend, indemnify, and hold the State harmless for all costs, expenses and attorneys' fees incurred in establishing and litigating the indemnification coverage provided herein. This obligation shall continue after the termination of this agreement.

CONFIDENTIALITY

Contractor agrees not to use or disclose any information it receives from the State under this contract that the State has previously identified as confidential or exempt from mandatory public disclosure except as necessary to carry out the purposes of this contract or as authorized in advance by the State. The State agrees not to disclose any information it receives from Contractor that the Contractor has previously identified as confidential and which the State determines in its sole discretion is protected from mandatory public disclosure under a specific exception to the North Dakota open records law, N.D.C.C. §44-04-18. The duty of the State and Contractor to maintain confidentiality of information under this section continues beyond the term of this contract, or any extensions or renewals of it.

Contractor understands that, except for disclosures prohibited in N.D.C.C. Chapter 47-25.1, the State must disclose to the public upon request any records it receives from Contractor. Contractor further understands that any records that are obtained or generated by the Contractor under this contract, except for records that are confidential under N.D.C.C. Chapter 47-25.1, may, under certain circumstances, be open to the public upon request under North Dakota open records law. Contractor agrees to contact the State immediately upon receiving a request for information under the open records law and to comply with the State's instructions on how to respond to the request.

INSURANCE

a. Required Coverages.

Contractor shall secure and keep in force during the term of this agreement and Contractor shall require all subcontractors, prior to commencement of an agreement between Contractor and the subcontractor, to secure and keep in force during the term of this agreement, from insurance companies, government self-insurance pools or government self-retention funds authorized to do business in North Dakota, the following insurance coverages:

(1) Commercial general liability, including premises or operations, contractual, and products or completed operations coverage (if applicable), with minimum liability limits of $250,000 per person and $1,000,000 per occurrence.
(2) Automobile liability, including Owned (if any), Hired and Non-Owned automobiles, with minimum liability limits of $250,000 per person and $1,000,000 per occurrence.
(3) Workers compensation coverage meeting all statutory requirements. The policy shall provide coverage for all states of operation that apply to the performance of this contract.
(4) Employer's liability or "stop gap" insurance of not less than $1,000,000 as an endorsement on the workers compensation or commercial general liability insurance if Contractor is domiciled outside the State of North Dakota.

b. General Insurance Requirements.

The insurance coverages listed above must meet the following additional requirements:

(1) Any deductible or self insured retention amount or similar obligation under the policies shall be the sole responsibility of the Contractor. The amount of any deductible or self-retention is subject to approval by the State.
(2) This insurance may be in policy or policies of insurance, primary and excess, including the so-

called umbrella or catastrophe form and must be placed with insurers rated "A-" or better by A.M. Best Company, Inc., provided any excess policy follows form for coverage. Less than an "A-" rating must be approved by the State. The policies shall be in for and terms approved by the State.

(3) The State will be defended, indemnified, and held harmless to the full extent of any coverage actually secured by the Contractor in excess of the minimum requirements set forth above. The duty to indemnify the State under this agreement shall not be limited by the insurance required in this contract.

(4) The State of North Dakota and its agencies, officers, and employees (State) shall be endorsed on the commercial general liability policy, including any excess policies (to the extent applicable), as additional insured. The State shall have all the benefits, rights and coverages of an additional insured under these policies.

(5) The insurance required in this agreement, through a policy or endorsement, shall include:
   a. a "Waiver of Subrogation" waiving any right to recovery the insurance company may have against the State;
   b. a provision that the policy and endorsements may not be canceled or modified without thirty (30) days' prior notice to the undersigned State representative;
   c. c. a provision that any attorney who represents the State under this policy must first qualify as and be appointed by the North Dakota Attorney General as a Special Assistant Attorney General as required under N.D.C.C. § 54-12-08;
   d. a provision that Contractor's insurance coverage shall be primary (i.e., pay first) as respects any insurance, self-insurance or self-retention maintained by the State, and that any insurance, self-insurance or self-retention maintained by the State shall be in excess of the Contractor's insurance and shall not contribute with it;
   e. cross liability/severability of interest for all policies and endorsements.

(6) The legal defense provided to the State under the policy and any endorsements must be free of any conflicts of interest, even if retention of separate legal counsel for the State is necessary.

(7) The Contractor shall furnish a certificate of insurance and all endorsements to the undersigned State representative prior to commencement of this agreement. All endorsements shall be provided as soon as practicable.

(8) Failure to provide insurance as required in this agreement is a material breach of contract entitling the State to terminate this agreement immediately.

SAFETY REQUIREMENTS

The Contractor shall keep informed of and comply with all federal, state, and local

laws, regulations, and other legal requirements
governing the safety, health, sanitation, and performance of the contract in general. In addition, the Contractor shall provide, inspect and maintain all safeguards, safety devices, protective equipment, safety programs and other needed actions the Contractor determines necessary to reasonably protect the life, health and property of the Contractor, subcontractors, the State, the public and
each of the employees, officers, assigns and agents of the Contractor, subcontractors and the State, in connection with the performance of work resulting from or arising out of the contract.

The Contractor shall submit to the State a copy of the written safety program to be used as guidelines and direction for the Contractor's and subcontractors' activities. This program must meet all federal, state and local laws, regulations and other legal requirements and include the following minimum provisions: (1) a worksite safety policy and mission statement; (2) assigned responsibilities among management, supervisors and employees; (3) a system for periodic self-inspections, including inspections of job sites, materials, work performance and equipment; (4) a thorough accident and injury reporting and investigation process; (5) a safety orientation program including first aid, medical attention, emergency facilities, fire protection and prevention, housekeeping, illumination, sanitation, personal protective equipment, and occupational noise exposure; and (6) a safety training program including safety "tool box" meetings and other systems for ongoing training and also including training for employees on the recognition, avoidance and prevention of unsafe conditions.

It will be a condition of the contract, and shall be made a condition of each subcontract entered into pursuant to that contract, that the State is assuming no liability relating to its receipt and review of the Contractor's safety plan or activities. Safety remains the responsibility of the Contractor. Furthermore, the right of the State to receive and review the safety plan or activities shall not give rise to a duty on the part of the State to exercise this right for the benefit of the Contractor or any other person or entity.

ATTORNEY FEES

In the event a lawsuit is instituted by the State to obtain performance due of any kind under this contract, and the State is the prevailing party, Contractor shall, except when prohibited by N.D.C.C. § 28-26-04, pay the State's reasonable attorney fees and costs in connection with the lawsuit.

INDEPENDENT ENTITY

Contractor is an independent entity under this contract and is not a State employee for any purpose, including but not limited to the application of the Social Security Act, the Fair Labor Standards Act, the Federal Insurance Contribution Act, the North Dakota Unemployment Compensation Law and the North Dakota Workers' Compensation Act. The Contractor retains sole and absolute discretion in the manner and means of carrying out the Contractor's activities and responsibilities under this contract, except to the extent specified in the contract.

FISCAL RESPONSIBILITIES

RECORDS

All records, regardless of physical form, and the accounting practices and procedures of the Contractor relevant to this contract are subject to examination by the North Dakota State Auditor or the Auditor's designee. The Contractor shall maintain and retain all books, records, and other documents required by the State and to produce program narrative and statistical data at times prescribed by the State relevant to this agreement for four years after final payment. Records shall be retained beyond four years if audit findings have not been resolved.

NO CLAIM FOR ADDITIONAL WORK

No claim for additional services not specifically herein provided, done, or

furnished by the Contractor will be allowed, nor shall the Contractor do any work or furnish any material not covered by the contract, unless such work is ordered in writing by the State.

TIME KEEPING PROCEDURES

The Contractor shall require employees and subcontractors, if applicable, whose positions are funded under this contract or included as match, to maintain adequate documentation for services provided. For positions that are funded from more than one source, an analysis of duties performed by program shall also be prepared.

MONITORING, EVALUATION AND AUDIT

The Contractor agrees to cooperate with any monitoring, evaluating and/or audit conducted by the State, or their designees who shall have full access to and the right to examine all books, records and other relevant documents.

The Contractor agrees to take immediate corrective action on deficiencies disclosed through program monitoring of costs disallowed in the course of an audit, review, or monitoring.

PREPAYMENT

The State will not make any advance payments before performance by the Contractor under this contract. The Contractor will be compensated based on periodic submittal of progress reports.

TAXPAYER ID

Contractor's North Dakota tax ID number is: _____. Contractor's federal employer ID number is: 45-0444581.

PROGRAM REQUIREMENTS

COMPLIANCE WITH LAWS

Contractor agrees to comply with all applicable laws, rules, regulations and policies, including but not limited to those relating to nondiscrimination, accessibility and civil rights. Contractor agrees to timely file all required reports, make required payroll deductions, and timely pay all taxes and premiums owed, including but not limited to sales and use taxes and unemployment compensation and workers' compensation premiums. Contractor shall have and keep current at all times during the term of this contract all licenses, registrations and permits required by law and shall be authorized to do business in the State of North Dakota.

EQUAL OPPORTUNITY

No individual shall be excluded from participation in, denied the benefits of, subjected to discrimination under, or denied employment in the administration of or in connection with this contract because of race, color, disability, or political affiliation or belief.

The Contractor will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, color, religion, national origin, disability, age, sex, political affiliation or belief or citizenship.

NONDISCRIMINATION

This contract and any subcontract hereunder is subject to the Age Discrimination Act of 1975, Section 504 of the Rehabilitation Act, Title VI of the Civil Rights of 1964 and the Americans with Disabilities Act of 1990.

WORK PRODUCT, EQUIPMENT AND MATERIALS

All work product, equipment or materials created or purchased under this contract belong to the State and must be delivered to the State at the State's request upon termination of this contract. Contractor agrees that all materials prepared under this contract are "works for hire" within the meaning of copyright laws of the United States and assigns to State all rights and interests Contractor may have in the materials it prepares under this contract, including any right to derivative use of the material. Contractor shall execute all necessary documents to enable State to protect its rights under this section. Contractor shall include provisions appropriate to effectuate the purposes of

this condition in all subcontracts entered into relating to this project.

Buy American Act

The contractor agrees to comply with sections 2 through 4 of the Act of March 3, 1933 (41U.S.C. 10a-10c, popularly known as the "Buy American Act".) This applies to all subcontractors and suppliers of the contractor. The contractor will include this clause in all agreements and contracts.

EFFECTIVENESS OF CONTRACT

This contract is not effective until fully executed by both parties.

SPECIFIC PROVISIONS

Scope of Work: This project will entail excavation and burial of burning lignite coal within the Jacobson Ranch and one or more sites within Little Missouri National Grasslands. The Jacobson Ranch site is approximately ½ acre in size. There are approximately 15 actively burning coal seam outcrop fires ranging in size from 1/10 acre to 1 acre or more within the Little Missouri National Grasslands and extinguishment efforts will be conducted on one are more these sites if possible.

Overburden depth to the burning coal seam(s) is expected to range from 2-20 feet, pending site conditions. Average coal seam thickness is expected to be from 1-8 feet. Multiple burning layers are possible. If deemed necessary, the U.S. Forest Service will provide a water truck and personnel for quenching of burning materials on the Little Missouri National Grasslands area. No water truck will be provided for the Jacobson Ranch site. No seeding will be required at the Jacobson Ranch site. Seeding of Little Missouri National Grassland reclaimed sites will be completed by the U.S. Forest Service.

Standard Requirements

1. Remove and stockpile topsoil or suitable plant growth material from around/within the defined project area.

2. Excavate intercept trench or burial trenches at prescribed depths for burial of competent overburden and/or burning materials.

3. Excavate and emplace burning materials into the burial trenches. Blend or intermix the burning/hot materials with clay or approved overburden in lifts as directed. Excavation of the active burn face is considered complete when the coal seam is cool to the touch. Water quenching (as required) will be performed by U.S. Forest Service personnel on the Little Missouri National Grassland site or sites.

4. Cover the backfilled trenches with approved material. Ensure that all buried materials are isolated from other combustible materials. Any combustible material removed from trenches or borrow areas must be covered or mixed with inert soil material.

5. Grade area to blend with surrounding topography and re-establish drainage.

6. Re-spread salvaged topsoil (where available) over disturbed areas. Drag the topsoil area with a spike-tooth harrow or equivalent and clean up the site.

At a minimum, the contractor is required to provide an excavator. A dozer and/or front end loader is also required. The contractor must have at least two fully-charged fire extinguishers on site at all times. The Jacobson Ranch site will be completed first. The Commission Project Manager and U.S. Forest Service representatives will direct the location of the remaining project sites to be reclaimed.

Underground utility location responsibilities rest with the contractor. The North Dakota "One Call" Utility hotline is 1-800-795-0555. Any site access work undertaken by the contractor must be reclaimed to its previous condition.

ACORD CERTIFICATE OF LIABILITY INSURANCE

OP ID DS HANSO-9 | DATE (MM/DD/YYYY) 12/01/06

RECEIVED DEC 13 2006 NO PUBLIC SERVICE COMMISSION ANL DIVISION

PRODUCER

Humphreys Insurance & Surety
P.O. Box 1486
Minot ND 58702-1486
Phone: 701-852-1093 Fax: 701-852-9475

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURED

Hanson's Excavating, Inc.
9515 198th St SW
Des Lacs ND 58733-9467

INSURERS AFFORDING COVERAGE	NAIC #
INSURER A: Barleysville Insurance	
INSURER B:	
INSURER C:	
INSURER D:	
INSURER E:	

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	ADD'L INSRD	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
A		GENERAL LIABILITY X COMMERCIAL GENERAL LIABILITY CLAIMS MADE X OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY PRO-JECT LOC	TBD	12/04/06	12/04/07	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 250,000 $ 5,000 $ 1,000,000 $ 2,000,000 $ 2,000,000
A		AUTOMOBILE LIABILITY X ANY AUTO X ALL OWNED AUTOS X SCHEDULED AUTOS X HIRED AUTOS X NON-OWNED AUTOS	TBD	12/04/06	12/04/07	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $
		GARAGE LIABILITY ANY AUTO				AUTO ONLY - EA ACCIDENT OTHER THAN AUTO ONLY: EA ACC AGG	$ $ $
		EXCESS/UMBRELLA LIABILITY OCCUR CLAIMS MADE DEDUCTIBLE RETENTION $				EACH OCCURRENCE AGGREGATE	$ $
		WORKERS COMPENSATION AND EMPLOYER'S LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? If yes, describe under SPECIAL PROVISIONS below				WC STATU-TORY LIMITS / OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ $ $
		OTHER					

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS

Certificate Holder has been added as Additional Insured & Waiver of Subrogation.

CERTIFICATE HOLDER

North Dakota State Land Dept
State of ND, It's Agencies,
Officiers & Employees
PO Box 5523
Bismarck ND 58506-5523

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

Dan Peterson

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AML Form 240

NORTH DAKOTA PUBLIC SERVICE COMMISSION
NOTICE TO PROCEED

TO: Hanson's Excavating, Inc

9515 198th St. SW

Des Lacs, ND 58733

Project Description: 2006-07 Coal Fire Suppression Project, Contract No. AM-537-07

You are hereby notified to commence WORK in accordance with the CONTRACT dated February 26, 2007 on or after March 20, 2005.

You are required to return an acknowledged copy of this NOTICE TO PROCEED to the OWNER.

Dated this 20th day of March 2007.

OWNER
NORTH DAKOTA PUBLIC SERVICE COMMISSION

By: William E. Dodd

Title: Assistant Director - AML Division

ACKNOWLEDGMENT OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by Hanson's Excavating, Inc. this

the 21st day of March, 2007.

By: Kurt Hanson

Title: President

William E Dodd
Witness to Signature

CHANGE ORDER
NORTH DAKOTA PUBLIC SERVICE COMMISSION
ABANDONED MINE LANDS
SFN 19942 (5-93)

CHANGE ORDER NUMBER: 0003

Project: 2007 Coal Fires
Contractor: Hanson's Excavating, Inc
Original Contract Amount: $ 8,594.00
Date: March 28, 2007

NO.	ITEM OF WORK	UNIT	ORIG. QUAN.	QUAN. + OR -	UNIT PRICE	INCREASE AMOUNT	DECREASE AMOUNTS
1.	Mobilization	L.S.	1	+1/4	$800.00	$200.00	
2.	Material Handling	Yds.	1,500	+278.52	$4.33	$1206.00	
					TOTALS:	$1406.00	

Explanation and/or sketch of change:
Additional volume on additional coal fire site.

Net Increase or Decrease to Date: + $ 1,406.00
Projected Contract Final Cost to Date: $ 10,000.00

AML Project Manager: Mark E. Krell
Date: 3-28-07
Contractor: Kurt Hanson
Date: 3-28-07

NOTE: No increase or decrease of work is authorized unless this change order is signed by both parties prior to start or elimination of such work.

WHITE - Contractor PINK - Administrative BLUE - Project Manager CANARY - Agency

Billing

To: N.D. Public Service Commission
AML Division
State Capitol
Bismarck, ND 58505-0480

From: Hanson's Excavating, Inc.
9515 198th St. SW
Des Lacs, N.D. 58733

Project: 2007 Coal Fires

Service Date: March 20, 2007 to March 28, 2007

Mobilization = 1.0 ($800.00) + ¼($200.00)	=	$1000.00
Excavator = 48 hrs. X $150/hr.	=	$7200.00
Loader = 24 hrs. X $75/hr.	=	$1800.00
TOTAL	=	$10,000.00

Contractor: Kurt Hanson

Date: March 28, 2007

INVOICE: 001(FINAL)

Project: COAL FIRE SUPPRESSION 2006-2007
Project No.: R0926

Contractor: HANSON'S EXCAVATING, INC.
9515 198th ST.SW
DES LACS, ND 58733

Contract No.: AM-537-07
Date of Invoice: 01/30/07
Dates Service Rendered: 3/20/07 to 3/30/07

Spec No.	Description	Orig. Quantity	Unit	Unit Price	Bid Amount	Previous Invoices Quantity	Previous Invoices Amount	Current Invoice Quantity	Current Invoice Amount	Total To Date Quantity	Total To Date Amount
(1)	MOBILIZATION	1	L. Sum	$$$$.00	$800.00		$0.00	1	$800.00	1	$800.00
03)	MATERIAL HANDLING	1808	Cubic Yd.	$4.770	$7,794.00		$0.00	1800	$7,794.00	1808	$7,794.00
				Change Order(s)	$0.00		$0.00		$8,594.00		$8,594.00
				Percent Completed	10$.$0%	Change Order(s)	$0.00	Change Order(s)	$1,486.90	Total CO.	$1,486.90
				Grand Total	$8,594.00						
				Contract Balance	($8,405.00)	Amount Paid	$0.00	AMOUNT DUE	$10,080.00	Total Amt.	$10,080.90

Project Manager: 2/1/07

AML Dicaster:

Grant & Contracts:

9000
40870
Pgm R&9206 (01)
(R0926) fund.

REFERENCE DOCUMENT
NUMBER PS #1399

PUBLIC SERVICE COMMISSION

STATE OF NORTH DAKOTA

MEMORANDUM

TO: Jim Deutsch, Director - AML Division

FROM: Mark Knell, Project Manager - AML Division

DATE: March 30, 2007

RE: Close Coal Fire Suppression Project, Contract No. AM-537-07

On February 26, 2007 the Commission entered into the Contract No. AM-537-07 with Hanson's Excavating, Inc. to perform construction services for extinguishing coal outcrop fires located in western North Dakota. This contract required Hanson's Excavating, Inc. to extinguish coal fires on private land northwest of Amidon and on Forest Service land southwest of Alexander. The original contract amount was $8,594.00.

Construction services at the coal fire sites started on March 20, 2007 and were completed on March 28, 2007. I have inspected this project work, and all conditions of the contract have been completed by Hanson's Excavating, Inc.

The contracted work has been completed for a total cost of $10,000.00. Based upon the completed work, I recommend that Contract No. AM-537-07 be closed.

Project Photographs



Notice the exposed coal seam at the Jacobson Ranch Site.



Smoke and steam from the burning coal seam at the Jacobson Ranch Site.



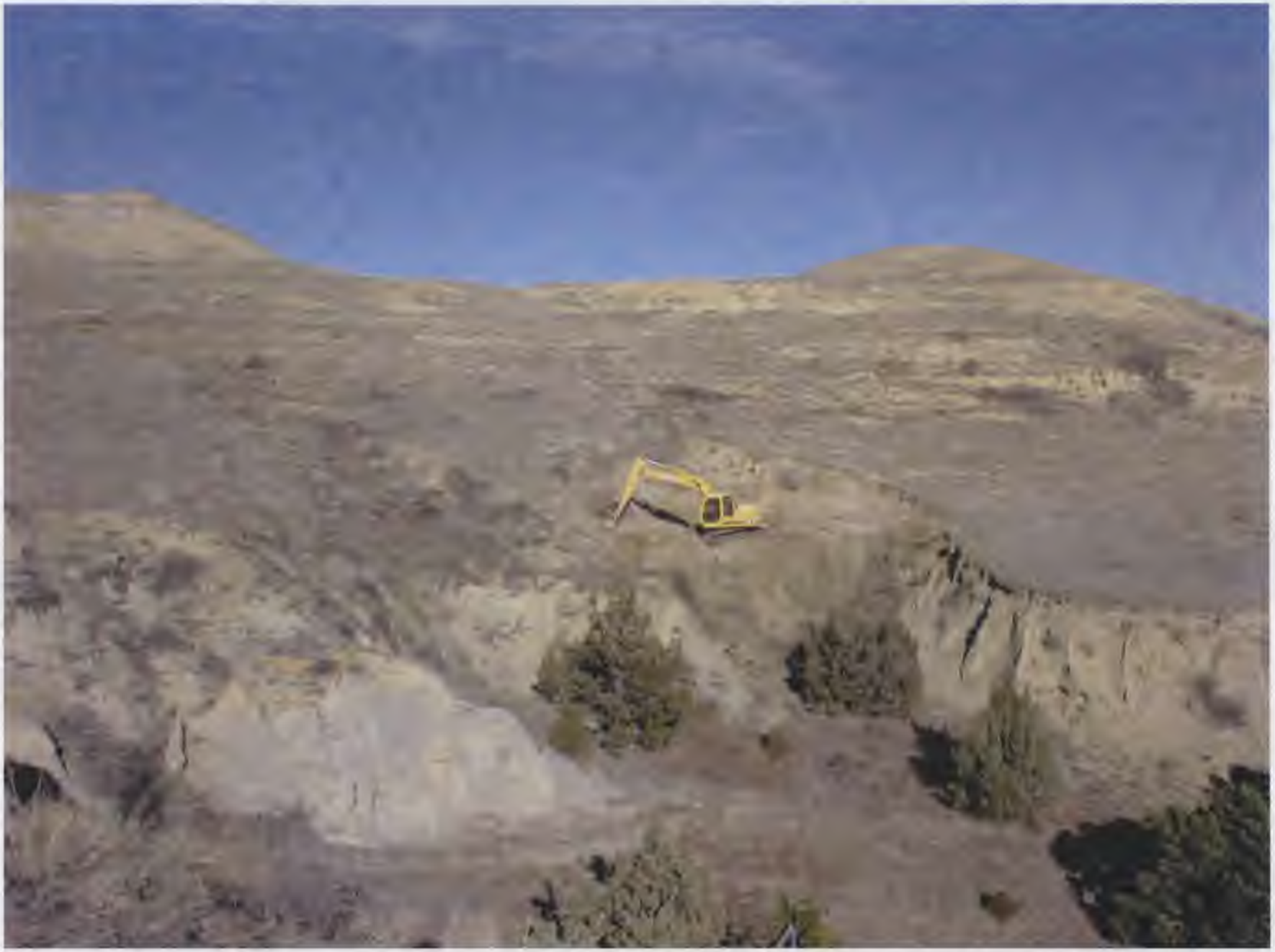
Notice the small amount of scoria produced by the baking and fusing of the clay above the burning coal seam.



The excavator being utilized to dig out the burning coal at the Jacobson Ranch Site.



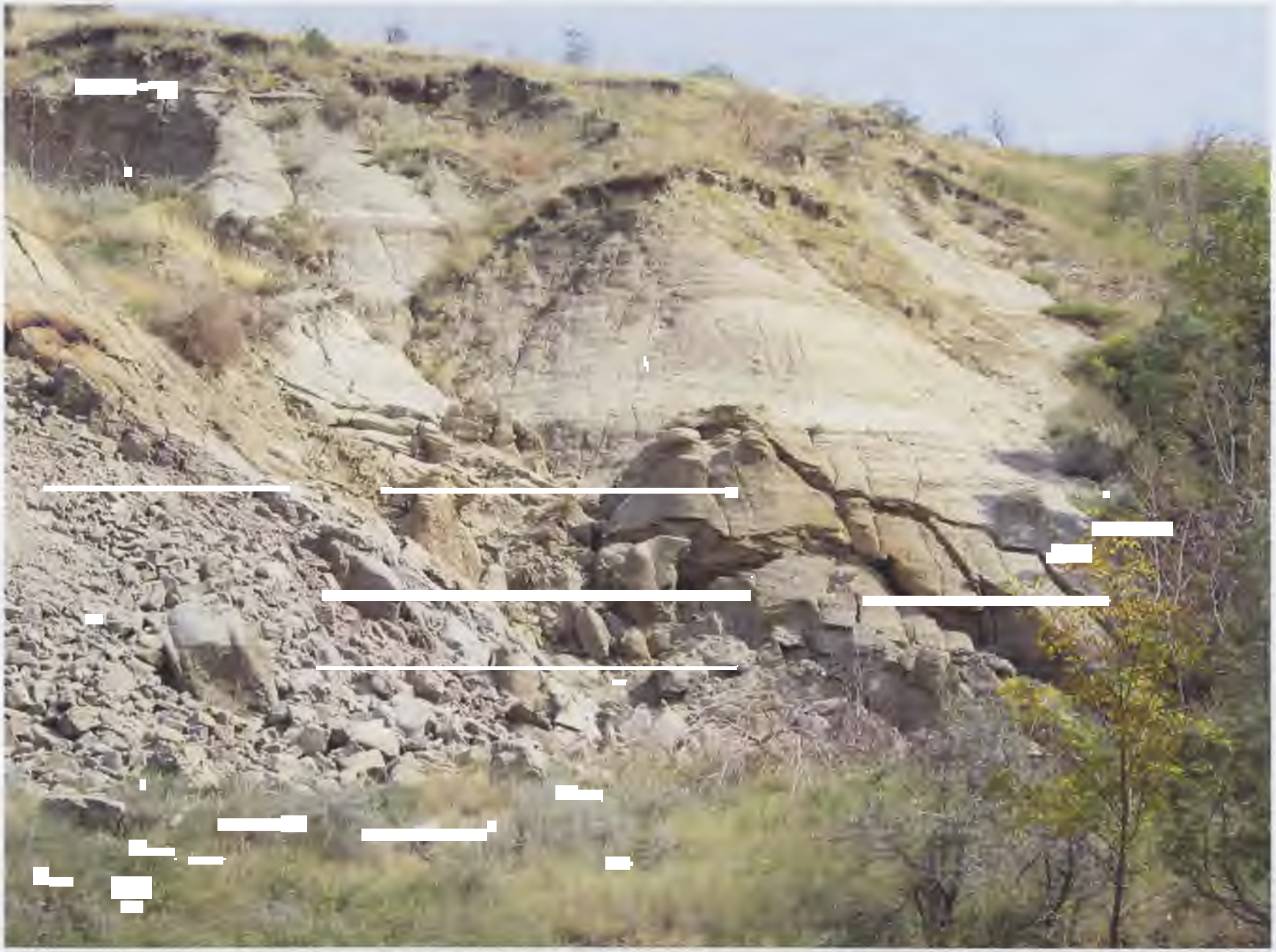
The finish grading is complete at the Jacobson Ranch Site.



The contractor, Hanson's Excavating Inc., starting the work at the Bennie Pier Cross 24 Site.



JD 120 excavator is being utilized to dig out burning coal at the Bennie Pier Cross 24 Site.



The fractured and slumping overburden at the Burns 10 Site



The excavator removing overburden above the coal seam at the Burns 10 Site.



Smoke from the burning coal seam at the Burns 10 Site.



The exposed burning coal seam at the Burns 10 Site.



The excavator is being utilized to dig out burning coal at the Burns 10 Site.

Remaining Burning Coal Seam Sites

U.S. Forest Service - National Grasslands Burning Coal Seam Information
North Dakota Public Service Commission - 2007 Remaining Sites
Updated in May 2007

Site (size)	Legal Description	Lat.	Long.	Previous Action	Comments
Burns 9 (1/4 acre)	148-104, Sec. 9, NW, NE	47 39 33	103 56 22	Mechanical	
Wambach 13 (1/10 acre)	148-104, Sec. 13, NE, SW	47 38 01	103 52 24	Scratchline/Monitor	
Roedeseke 4 (1/4 acre)	148-104, Sec. 4, SW, SW	47 39 49	103 56 37	Monitor	
Horseshoe 20 (1/4 acre)	148-102, Sec. 20, SW, SE	47 37 19	103 42 36	Burn/Monitor	
Wambach 26-B (1/10 acre)	148-104, Sec. 26, NE, SW	47 36 47	103 53 30	Scraped around	
Big Buck 29 (1/4 acre)	148-103, Sec. 29, NE, SW	47 36 49	103 49 43	Mech. / Monitor	
Sather 10 (1/10 acre)	148-103, Sec. 10, SW, NE	47 39 11	103 47 31	Mechanical	
Old Highway 25 (1/10 acre)	145-98, Sec. 25, SE, NW	47 21 17	103 06 05	Mechanical	
Crighton (1/4 acre)	147-102, Sec. 26, NW, NE	47 31 38	103 38 45	Monitor	
McPeak/Klandl 27 (1/4 acre)	148-104, Sec. 27, NE, SW	47 36 49	103 54 46	Mechanical	
McPeak/Klandl 27 NE (1/4 acre)	148-104, Sec. 27, NE, NE	47 36 56	103 54 27	Mechanical	
Cummings B (1/10 acre)	148-103, Sec. 30, NW, SE	47 36 54	103 51 15	Monitor	
Hart Draw 30 (1/4 acre)	148-103, Sec. 30, SW, NE	47 36 44	103 50 53	Scraped around	

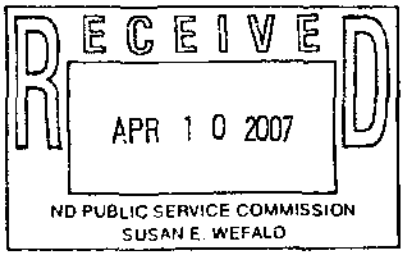
*** Additional sites are expected to be discovered**

Project Appreciation

USDA United States Department of Agriculture | Forest Service | Dakota Prairie Grasslands | 240 W. Century Ave. Bismarck, ND 58503

File Code: 5130/1600
Date: April 5, 2007

Susan Wefald
Public Service Commission
State of North Dakota
600 E. Boulevard Ave. Dept. 408
Bismarck, ND 58505



Dear Ms. Wefald:

On behalf of the U.S. Forest Service-Dakota Prairie Grasslands, I would like to express my appreciation for the work and assistance the Public Service Commission has provided in suppressing coal seam fires on the national grasslands in western North Dakota. This spring, personnel from the Abandoned Mine Lands Division of the Public Service Commission administered the OSM funding for coal fire suppression, awarded the contract, and oversaw excavation and extinguishment of coal fires in Slope and McKenzie Counties. I would like to personally recognize the help, support and leadership of Jim Deutsch, Bill Dodd, Mark Knell and Bruce Beechie on this project.

The local public is very concerned about these fires and their potential to ignite above ground fires. Largely through the efforts of the Public Service Commission, there are currently only 8 actively burning coal seam fires out of 32 coal seam fires on the National Grasslands that have been discovered over the past eight years. Again, thank you for your support and assistance and we look forward to continued future cooperative efforts to mitigate burning coal seam hazards.

Sincerely,

David M. Pieper

DAVID M. PIEPER
Grasslands Supervisor

Cc: Region One Regional Forester, ND Governor Hoeven, ND Forest Service

From:	Fischer, Matthew J.
To:	Lauren Colwell
Subject:	RE: Coal Seam Fire Projects
Date:	Wednesday, February 5, 2020 6:07:21 AM
Attachments:	image001.jpg 2012 Coal Fire Summary .pdf

Your welcome. I was in error and missed our final coal seam project in 2012.

Matt

From: Lauren Colwell <Lauren.Colwell@erm.com>
Sent: Tuesday, February 4, 2020 4:32 PM
To: Fischer, Matthew J. <mjfischer@nd.gov>
Subject: RE: Coal Seam Fire Projects

CAUTION: This email originated from an outside source. Do not click links or open attachments unless you know they are safe.

Matt,

Thank you for providing the coal seam fire reports and confirming that there are no other resources available to identify coal seam fires. I appreciate your help.

Thanks,
Lauren

Lauren Colwell
Senior Consultant, Geology

ERM
T 612.359.5681 I M 612.986.5422
E lauren.colwell@erm.com I W www.erm.com



From: Fischer, Matthew J. <mjfischer@nd.gov>
Sent: Tuesday, February 04, 2020 3:55 PM
To: Lauren Colwell <Lauren.Colwell@erm.com>
Cc: Breiner, Joan M. <jobreiner@nd.gov>; Edison, Ross W. <redison@nd.gov>; Jochim-Peck, Esther A. <ejochimpeck@nd.gov>; Moos, Dean K. <dmoos@nd.gov>; Nixon, Shawn <snixon@nd.gov>; Beechie, Bruce E. <bebeechie@nd.gov>
Subject: Coal Seam Fire Projects

Hi Lauren,

Today you called looking for GIS data on coal seam fires. As I said, we do not have any of that information in a GIS format, nor do we keep records of coal seam fires. Attached are project summaries for two coal seam fire projects. To my knowledge, these are the only coal seam fire projects that the Public Service Commission (PSC) has conducted. The PSC is no longer able to use Abandoned Mine Lands (AML) funds to extinguish coal seam fires unless they are part of an abandoned mine. Let me know if you have any questions.

Thanks,

Matt Fischer
GIS Specialist
Abandoned Mine Lands Division
North Dakota Public Service Commission
600 E Boulevard Ave, Dept 408
Bismarck, ND 58505-0480
(701)328-4779
mjfischer@nd.gov

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Project Summary
2012 Coal Fire Suppression Project
Contract AM-642-12



North Dakota Public Service Commission
Abandoned Mine Lands Division
600 East Boulevard Avenue, Department 408
Bismarck, ND 58505-0480

February 2013

North Dakota Public Service Commission
2012 Coal Fire Suppression Project Summary

Project Type:	Coal Fire Suppression
Primary Locations:	SE¼SE¼ Section 9, T135N, R105W, Slope County SE¼SW¼ Section 20, T148N, R102W, McKenzie County SW¼NE¼ Section 29, T148N, R103W, McKenzie County N½SE¼ Section 3, T148N, R104W, McKenzie County
Project Dates:	December 5-23, 2012
Contractor:	Baranko Bros. Inc., of Dickinson, ND
Project Cost:	$35,000

The Public Service Commission administers the Abandoned Mine Lands (AML) Program on behalf of the State of North Dakota. The AML program is charged with eliminating existing and potential public hazards resulting from abandoned surface and underground coal mines. It is funded by a production fee on lignite coal mined in the state.

The objective of the 2012 Coal Fire Suppression Project was to extinguish or suppress dangerous coal seam fires on the US Forest Service Little Missouri National Grasslands in western North Dakota. Upon request by US Forest Service personnel, special designated funds for coal outcrop fire suppression were requested on July 6, 2012, from the U.S. Department of Interior, Office of Surface Mining, Reclamation and Enforcement (OSM). A grant for $35,000 was approved by OSM on July 30, 2012. A public bid opening was held in Bismarck on September 6, 2012. The low bidder was Baranko Bros., Inc., of Dickinson, ND and a contract was issued September 27, 2012. Work began December 5 and was completed December 23, 2012.

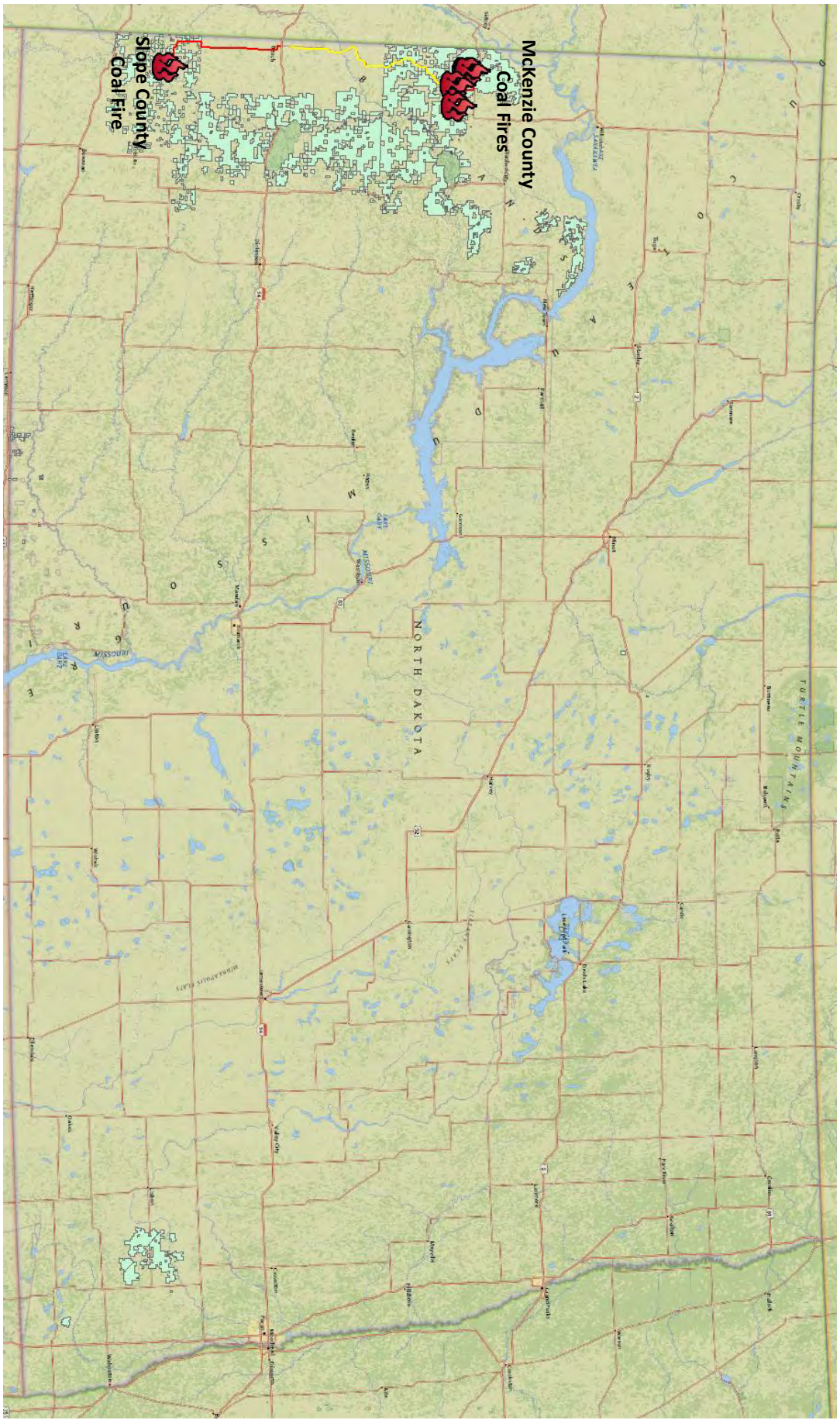
This was the sixth coal outcrop fire suppression project completed by the AML Division since 2003 and brings the total to 58 coal fires extinguished or suppressed, in McKenzie, Billings and Slope Counties, at a total cost of $169,975. Standard requirements for coal fire suppression and extinguishment were as follows:

1. Remove and stockpile topsoil or suitable plant growth material (if any) from around the fire site.
2. Excavate intercept trench or burial trenches at prescribed depths for burial of burning materials.
3. Excavate and emplace burning materials into the burial trenches. Blend or intermix the burning/hot materials with clay or approved overburden in lifts as directed.
4. Cover the backfilled trenches with approved material. Ensure that all buried materials are isolated from other combustible materials.
5. Grade area to blend with surrounding topography and reestablish drainage.
6. Respread salvaged topsoil (if available) and drag the topsoiled areas with a spike-tooth harrow or equivalent and clean up the site.

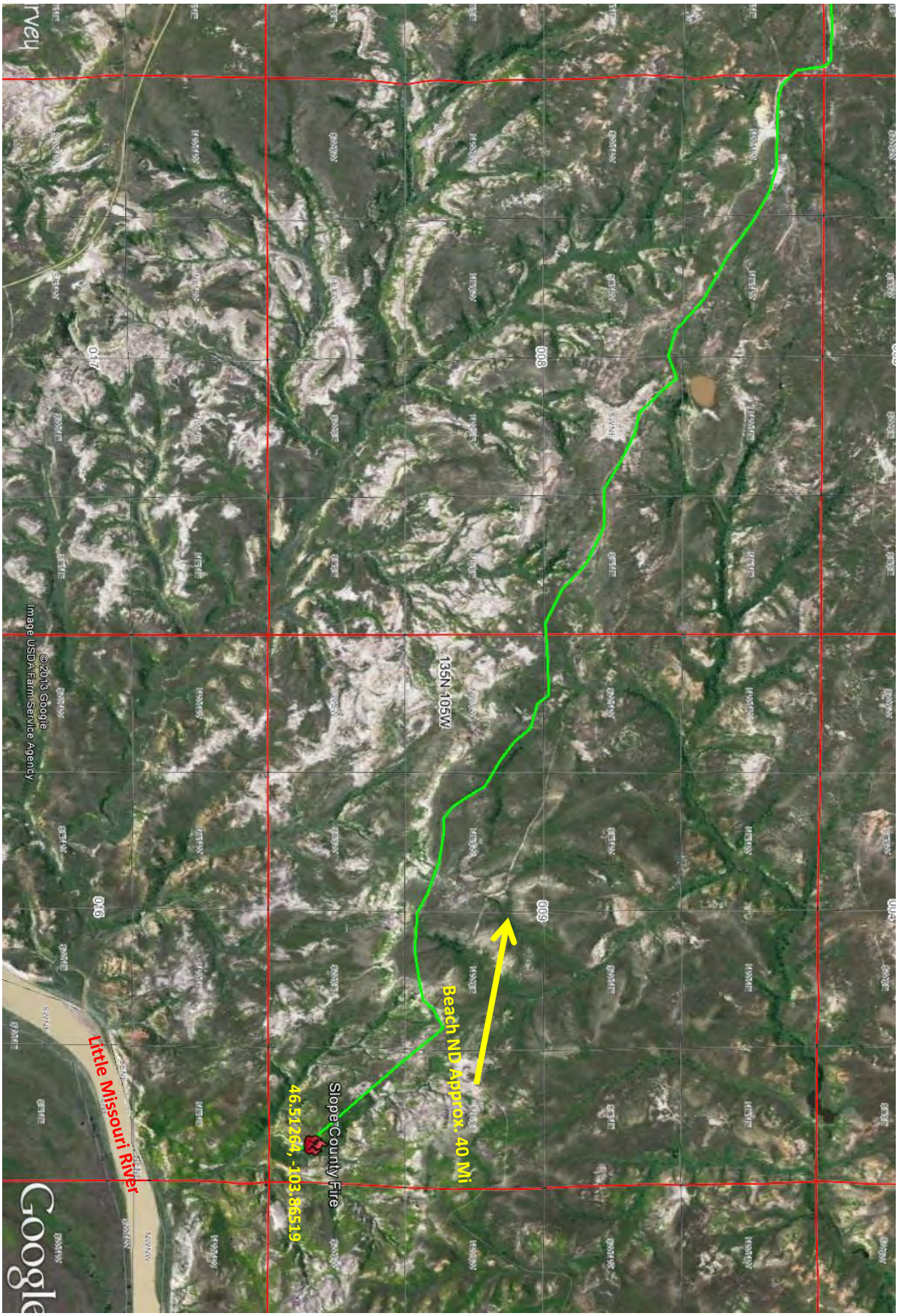
This project resulted in the extinguishment of four coal seam fires. Because all grant money was spent, a fifth nearby coal seam fire was left burning. Coal seam fires are a serious hazard to ranchers and the public in western North Dakota, primarily because they can potentially ignite wildfires that threaten people, destroy property and damage the environment.

Cover Photo*: The cover photo shows Baranko Bros., Inc. of Dickinson working to extinguish the Horseshoe Creek 3 Coal Seam Fire in McKenzie County on December 21, 2012. The burning coal seam was about 6 feet thick and up to 40 feet of overburden was removed to uncover it.*

2012 Coal Fire Project, General Project Location Map



2012 Coal Fire Project, Project Location Map
Slope County Coal Seam Fire, SE¼SE¼ Section 9, T135N, R105W, Slope County



2013 Coal Fire Project, Slope County Fire

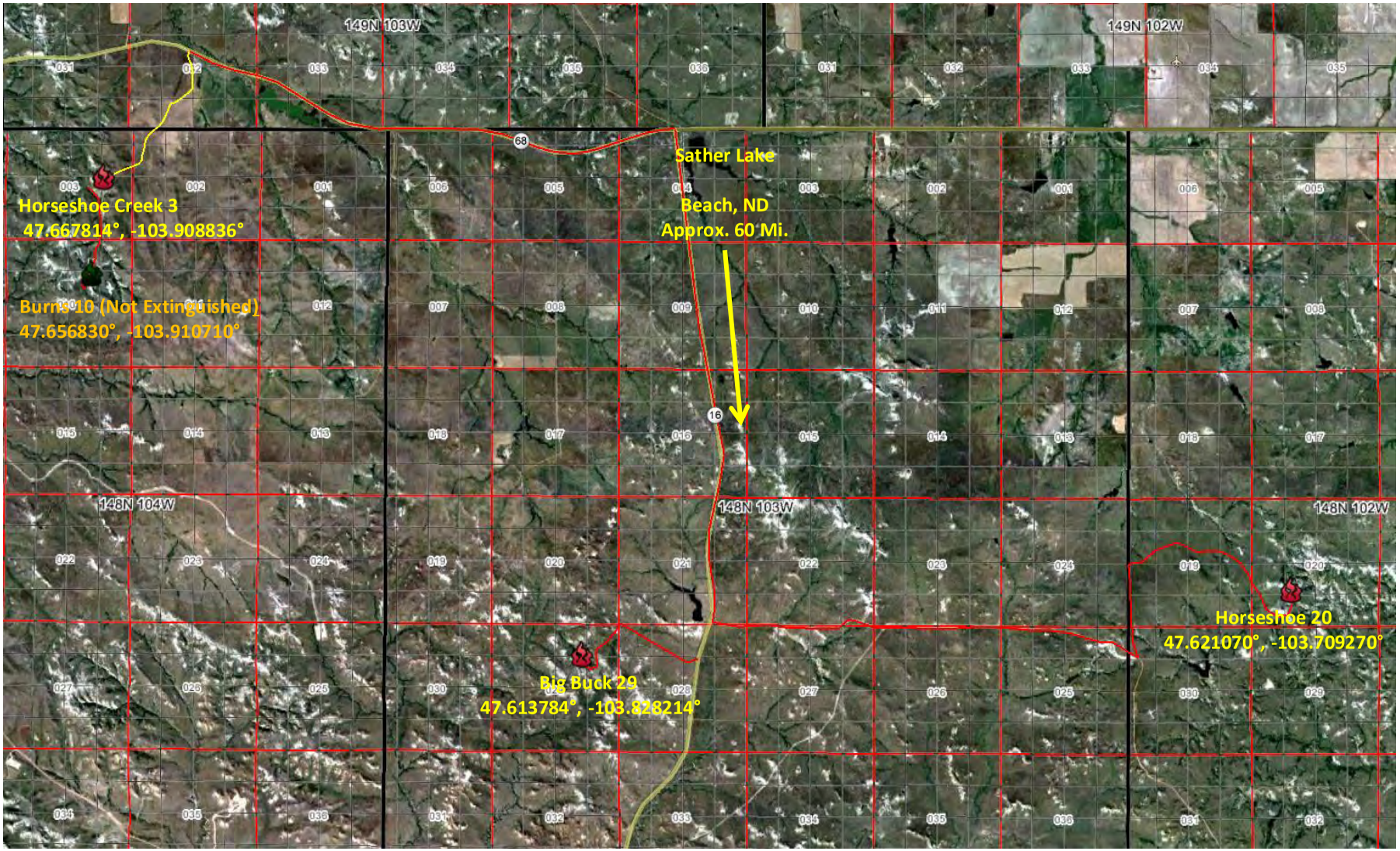


This coal seam fire was burning on USFS property in the SE¼SE¼ Section 9, T135N, R105W, Slope County, about 20 miles southeast of Golva, ND. It was characterized by cracking, sloughing and venting along the side of a coulee



This photo shows Construction Inspector, Thomas Vigesaa, measuring the temperature of the coal seam (about 225°). This seam was about 4' thick and burning along a front about 100' long. This fire required about 640 cubic yards of excavation and burial. It was extinguished December 5-7, 2012, and the cost was approximately $8650.

2012 Coal Fire Project, Project Location Map
McKenzie County Coal Seam Fires



2012 Coal Fire Project, Horseshoe 20 Fire



This shows an excavator and dozer excavating and burying burning materials at the 2013 Horseshoe 20 Coal Seam Fire in the SE¼SW¼ Section 20, T148N, R102W, McKenzie County on December 7, 2012.



This is a photo taken when all work was completed on December 10, 2012. An estimated 360 cubic yards of materials were excavated and buried and the cost for this site was $4350.

2012 Coal Fire Project, Big Buck 29 Fire



The Big Buck 29 Fire was burning on US Forest Service property in SW¼NE¼ Section 29, T148N, R103W. The burn face on this fire was fairly small but hot and active. It had previously ignited a small grass fire.



Work on the Big Buck 29 Fire was conducted December 10-11, 2012. Baranko used a Komatsu PC220 excavator and a Komatsu D65PX bulldozer on this project. An estimated 400 cubic yards of materials were excavated and buried and the cost for this site was $4750.

2012 Coal Fire Project, Horseshoe Creek 3 Fire



The Horseshoe Creek 3 Coal Seam Fire was characterized by subsidence, cracking and venting near the top of a slope in the N½SE¼ Section 3, T148N, R104W. It had been burning for years but the activity level appeared low.



This fire was much larger and deeper than expected and, when excavated, was burning at temperatures up to 1000°F. The coal seam was about 6 feet thick and was burning laterally about 25 feet into the slope. It was covered by 15 to 40 feet of overburden, and excavation was required on most of the slope.

2012 Coal Fire Project, Horseshoe Creek 3 Fire



This photo, taken December 21, 2012, shows the extent of work on the Horseshoe Creek 3 Coal Seam Fire.



This photo, taken December 23, 2012, shows the Horseshoe Creek 3 Coal Seam Fire after completion. Work was conducted December 18-23, 2013. An estimated 1650 cubic yards of materials were excavated and buried and the cost for this site was $17,250.

2012 Coal Fire Project, Burns 10 Fire (Not Extinguished)



The Burns 10 Coal Seam Fire was near the top of a butte in the SW¼NE¼ Section 10, T148N, R104W, about ¾ miles south of the Horseshoe Creek 3 Fire. All funds had been spent and no work was conducted at this site



This shows a spot where snow was melted and ash was exposed on the northernmost outcrop of this coal seam fire. Several inches below surface, the coal seam was burning at about 500°F. Fires like this one continue to burn in the Little Missouri National Grasslands in western North Dakota.

From:	Fischer, Matthew J.
To:	Lauren Colwell
Cc:	Breiner, Joan M.
Subject:	RE: Coal Seam Fire Projects
Date:	Wednesday, February 5, 2020 7:30:00 AM
Attachments:	image001.jpg

Hi Lauren,

I just talked to another colleague that worked on a couple of the coal seam fire projects. He said to contact Oscar Knudston (701-842-8517) with the USDA, National Grasslands. He might have the information you are seeking.

Thanks,
Matt

From: Lauren Colwell <Lauren.Colwell@erm.com>
Sent: Wednesday, February 5, 2020 8:30 AM
To: Fischer, Matthew J. <mjfischer@nd.gov>
Subject: RE: Coal Seam Fire Projects

CAUTION: This email originated from an outside source. Do not click links or open attachments unless you know they are safe.

Good morning Matt,

Thank you for following up and providing the 2012 report.

Thanks again,
Lauren

Lauren Colwell
Senior Consultant, Geology

ERM
T 612.359.5681 I M 612.986.5422
E lauren.colwell@erm.com I W www.erm.com



From: Fischer, Matthew J. <mjfischer@nd.gov>
Sent: Wednesday, February 05, 2020 8:07 AM
To: Lauren Colwell <Lauren.Colwell@erm.com>
Subject: RE: Coal Seam Fire Projects

Your welcome. I was in error and missed our final coal seam project in 2012.

Matt

From: Lauren Colwell <Lauren.Colwell@erm.com>
Sent: Tuesday, February 4, 2020 4:32 PM
To: Fischer, Matthew J. <mjfischer@nd.gov>
Subject: RE: Coal Seam Fire Projects

CAUTION: This email originated from an outside source. Do not click links or open attachments unless you know they are safe.

Matt,

Thank you for providing the coal seam fire reports and confirming that there are no other resources available to identify coal seam fires. I appreciate your help.

Thanks,
Lauren

Lauren Colwell
Senior Consultant, Geology

ERM
T 612.359.5681 I M 612.986.5422
E lauren.colwell@erm.com I W www.erm.com

From: Fischer, Matthew J. <mjfischer@nd.gov>
Sent: Tuesday, February 04, 2020 3:55 PM
To: Lauren Colwell <Lauren.Colwell@erm.com>
Cc: Breiner, Joan M. <jobreiner@nd.gov>; Edison, Ross W. <redison@nd.gov>; Jochim-Peck, Esther A. <ejochimpeck@nd.gov>; Moos, Dean K. <dmoos@nd.gov>; Nixon, Shawn <snixon@nd.gov>; Beechie, Bruce E. <bebeechie@nd.gov>
Subject: Coal Seam Fire Projects

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Abandoned Mine Lands (AML) funds to extinguish coal seam fires unless they are part of an abandoned mine. Let me know if you have any questions.

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NORTH BAKKEN EXPANSION PROJECT

Resource Report 1

APPENDIX 1G-2
Agency Correspondence – U.S. Army Corps of Engineers (USACE)
(filed under separate cover as
Controlled Unclassified Information/
Privileged and Confidential [CUI//PRIV] in Volume IV)

NORTH BAKKEN EXPANSION PROJECT

Resource Report 1

APPENDIX 1H
Landowner List
(filed under separate cover as Controlled Unclassified Information/ Privileged and Confidential [CUI//PRIV] in Volume IV)

NORTH BAKKEN EXPANSION PROJECT

Resource Report 1

APPENDIX 1I
Index to WBI Energy Transmission, Inc.'s Responses to Issues Identified During the Scoping Period

APPENDIX 1I

North Bakken Expansion Project
Index to WBI Energy Transmission, Inc.'s Responses to Issues Identified During the Scoping Period

Scoping Issue Identified	Where Addressed
Access roads	Resource Report 1, section 1.1.3.4
Alternatives	Resource Report 10, section 10.6.2
Construction traffic	Resource Report 5, section 5.2.7
Cumulative impacts	Cumulative Impacts subsection of each resource report
Dakota skipper habitat	Resource Report 3, sections 3.6.1 and 3.6.2.7
Dust control	Resource Report 7, section 7.3.1 and 7.3.4
Environmental Assessment versus environmental impact statement	To be addressed by the Federal Energy Regulatory Commission staff
Eminent domain	Resource Report 8, section 8.5
Erosion and sediment control	Resource Report 1, section 1.3 (general construction procedures)/ Resource Report 6, section 6.7/ Resource Report 7, section 7.3.1
Fence/gate repair	Resource Report 8, section 8.5
Land values	Resource Report 8, section 8.5
Little Missouri National Grassland/Dakota Prairie Grasslands	Resource Report 3, sections 3.2.2 and 3.5 Resource Report 8, section 8.9
Maintaining access to property	Resource Report 8, section 8.5
Noxious weeds	Resource Report 3, section 3.5.4
Pipeline engineering/placement	Resource Report 1, section 1.1.3.1 (facility collocation)/ Resource Report 10, section 10.6.2 (alternatives)
Placement of pipeline markers	Resource Report 11, section 11.2.5
Potential effects on Cherry Creek	Resource Report 2, section 2.2.7
Potential topsoil loss	Resource Report 7, section 7.3.1
Restoration/seeding	Resource Report 1, section 1.3 (restoration procedures)
Right-of-way easement terms	Resource Report 8, section 8.5
Stormwater pollution prevention	Resource Report 1, section 1.3 (general construction procedures)/ Resource Report 6, section 6.7/ Resource Report 7, section 7.3.1
Wildlife	Resource Report 3, section 3.2

NORTH BAKKEN EXPANSION PROJECT

Resource Report 1

APPENDIX 1J
Past, Present, and Reasonably Foreseeable Future Projects Evaluated for Potential Cumulative Impacts with the North Bakken Expansion Project

APPENDIX 1J

North Bakken Expansion Project
Past, Present, and Reasonably Foreseeable Future Projects Evaluated for Potential Cumulative Impacts with the North Bakken Expansion Project [a,b]

Project Name	Category	Project Description	Status	Construction Commences	Operation Commences	County(ies)	Distance from Project (miles)	Approximate Acres of Overlap	Resources with Potential for Cumulative Impacts	Citation
Montana-Dakota Utilities Transmission Line	Energy	Montana-Dakota Utilities is seeking to purchase a 50' wide strip of land from Stenehjem Holdings for the purpose of constructing an overhead electric transmission line in or near Watford City.	Early permitting phases	Unknown	Unknown	Williams	1	0	WW, VG, WF, TE, SO, LU, VS	(Watford City Planning and Zoning Commission, 2015)
Aurora Wind Electric Transmission Line	Energy	The Aurora Wind electric transmission line is an approximately 20-mile-long 345-kilovolt aboveground transmission line. It would extend from the proposed Aurora Wind Project substation in Williams County to the existing Basin Electric Power Cooperative Tande Substation located in Mountrail County.	PSC Application submitted	2Q 2019	4Q 2019	Mountrail, Williams	0	<1	WW, VG, WF, TE, CR, GS, N-con, N-op, SO, LU, RS, VS	(Burns & McDonnell, 2018a)
Aurora Wind Project	Energy	The Aurora Wind Project is a proposed wind energy development that would generate up to 300 megawatts of electricity at rated capacity. It would include construction of up to 121 wind turbines located on a 48,000 acre site approximately 5 miles northwest of Tioga.	Permit obtained	2Q 2019	4Q 2019	Williams, Mountrail	5.2	0	N-op, SO, LU, VS	(Burns & McDonnell, 2018b)

APPENDIX 1J (cont'd)

North Bakken Expansion Project
Past, Present, and Reasonably Foreseeable Future Projects Evaluated for Potential Cumulative Impacts with the North Bakken Expansion Project [a,b]

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Demicks Lake Plant II	Energy	ONEOK is constructing the Demicks Lake Plant II, a 200-million cubic feet per day natural gas processing facility northeast of Watford City and about 14 miles east of the proposed Tioga-Elkhorn Creek pipeline MP 45.	Under construction	Under construction	1Q 2020	McKenzie	14	0	AQ-op, SO	(ONEOK, 2019)
Nesson Gathering Gas Plant (LU-0036-19)	Energy	Nesson Gathering Inc. proposes to construct a natural gas gathering plant on 76 acres and located in the SE/4 of section 35, T154N R102W.	Permit obtained	Unknown	Unknown	Williams	36	0	AQ-op, SO	(Williams County Planning and Zoning Commission, 2019b)
Nesson Gathering Gas Plant (LU-0001-19)	Energy	Nesson Gathering Inc. proposes to construct a natural gas gathering plant on a 158 acre property, located NE/4 of Section 1, T153N R104W.	Permit obtained	Unknown	Unknown	Williams	40	0	AQ-op, SO	(Williams County Planning and Zoning Commission, 2019b)
Natural Gas Plant Expansion (LU-0191-18)	Energy	An existing gas plant located about 5 miles south-southwest of Tioga will expand to include additional laydown space. The property is 73 acres and located in NW/4 of Section 4.	Permit obtained	Unknown	Unknown	Williams	1	0	WW, VG, SO	(Williams County Planning and Zoning Commission, 2019c)

APPENDIX 1J (cont'd)

North Bakken Expansion Project
Past, Present, and Reasonably Foreseeable Future Projects Evaluated for Potential Cumulative Impacts with the North Bakken Expansion Project [a,b]

Project Name	Category	Project Description	Status	Construction Commences	Operation Commences	County(ies)	Distance from Project (miles)	Approximate Acres of Overlap	Resources with Potential for Cumulative Impacts	Citation
Kinder Morgan Roosevelt Gas Plant Expansion	Energy	The expansion would increase the capacity to process 150 million cubic feet per day; located about 7 miles south of Watford City and about 10 miles west of proposed project MP 37.	Approved by ND PSC 4Q 2018	Unknown	4Q 2019	McKenzie	10	0	WW, AQ-op, SO	(Hilland Partners, 2018a)
Arrow Bear Den Gas Processing Plant II	Energy	McKenzie Arrow Field Services, LLC proposes to construct the Arrow Bear Den Gas Processing Plant II, a 200mcfd capacity processing plant. The proposed site is within 1 mile of MP 59 of the proposed Tioga-Elkhorn Creek pipeline.	Under construction	3Q 2018	4Q 2019	McKenzie	Under 1	0	AQ-op, SO, LU, RS, VS	(Arrow Field Services, LLC, 2017)
Robinson Lake Gas Plant	Energy	The Robinson Lake Gas Plant Expansion is located 30 miles west of the proposed Tioga-Elkhorn Creek pipeline MP 30.	Under construction	3Q 2019	Unknown	Mountrail	30	0	AQ-op, SO	(Whiting Oil and Gas Corporation, 2013)

APPENDIX 1J (cont'd)

North Bakken Expansion Project
Past, Present, and Reasonably Foreseeable Future Projects Evaluated for Potential Cumulative Impacts with the North Bakken Expansion Project [a,b]

Project Name	Category	Project Description	Status	Construction Commences	Operation Commences	County(ies)	Distance from Project (miles)	Approximate Acres of Overlap	Resources with Potential for Cumulative Impacts	Citation
Demicks Lake - Cherry Creek Pipeline Project	Energy	WBI Energy's Demicks Lake - Cherry Creek Pipeline Project will carry gas from ONEOK Rockies Midstream LLC's Demicks Lake gas processing plant near Keene, North Dakota, to an interconnect with Northern Border Pipeline Co.'s mainline outside of Watford City, North Dakota. The proposed Tioga-Elkhorn Creek pipeline would cross the 12.2 mile pipeline near MP 47.	Completed	1Q 2019	3Q 2019	McKenzie	0	2	WW, VG, WF, TE, CR, SO, LU	(WBI Energy Transmission, Inc., 2018)
Wild Basin to Sax Valve Looped Pipeline	Energy	WBI Energy's Wild Basin to Sax Valve Looped Pipeline consists of approximately 2 miles of 20-inch-diameter natural gas pipeline in McKenzie County, North Dakota. Project falls under WBI Energy's Blanket Authorization.	Under Construction	4Q 2019	1Q 2020	McKenzie	1	0	WW, VG, WF, TE, CR, GS, SO, LU, VS	(WBI Energy Transmission, Inc. 2019)

APPENDIX 1J (cont'd)

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Past, Present, and Reasonably Foreseeable Future Projects Evaluated for Potential Cumulative Impacts with the North Bakken Expansion Project [a,b]

Project Name	Category	Project Description	Status	Construction Commences	Operation Commences	County(ies)	Distance from Project (miles)	Approximate Acres of Overlap	Resources with Potential for Cumulative Impacts	Citation
Bakken Pipeline LLC	Energy	The ONEOK Bakken Pipeline Project is a 10.8-mile, 12-inch-diameter steel natural gas liquids pipeline that would originate at the Targa Badlands, LLC. Little Missouri Gas Processing Plant and terminate at an interconnection with ONEOK's Demicks Lake Plant. The Project would be located in McKenzie County, and is approximately 2 miles west of the proposed Tioga-Elkhorn Creek pipeline MP 60.	PSC Approved 2Q 2019	2Q 2019	4Q 2019	McKenzie, Richland	2	0	WW, VG, WF, TE, CR, GS, AR-con, N-con, SO	(ONEOK Bakken Pipeline, LLC, 2019)
Bakken Missouri River Crossing Project	Energy	Kinder Morgan's Bakken Missouri River Crossing Project plans to connect the existing Kinder Morgan Brogger compressor station located in Williams County, North Dakota, to a Kinder Morgan natural gas gathering system located in McKenzie County, North Dakota. The project will include the installation of approximately 10 miles of 20-inch diameter pipeline between the Brogger compressor station and Kinder Morgan natural gas gathering system.	Unknown	2Q 2019	Unknown	Williams	7	0	SO	(Hilland Partners, 2018b)

APPENDIX 1J (cont'd)

North Bakken Expansion Project
Past, Present, and Reasonably Foreseeable Future Projects Evaluated for Potential Cumulative Impacts with the North Bakken Expansion Project [a,b]

Project Name	Category	Project Description	Status	Construction Commences	Operation Commences	County(ies)	Distance from Project (miles)	Approximate Acres of Overlap	Resources with Potential for Cumulative Impacts	Citation
Gunslinger Federal and Gladstone Oil and Gas Well Pads	Energy	The Gunslinger Federal well pad would have 10 wells and be operated by Slawson. The Gladstone well pad would have seven wells and be operated by Burlington. The proposed project also includes construction of a new access road and associated oil and gas equipment and utilities. The well pads would be constructed on the Little Missouri National Grasslands (LMNG), which are part of the Dakota Prairie Grasslands (DPG) managed by the USFS in the Tobacco Gardens Area of McKenzie County, North Dakota.	Decision Notice and Finding of No Significant Impacts received	Unknown	Unknown	McKenzie	0	3	WW, VG, WF, CR, LU	(U.S. Forest Service, 2019)
Other Oil and Gas Well Developments (various)	Energy	Various oil and gas developments including well pads, directional drill (horizontal) wells, and access roads are planned throughout McKenzie county.	Analysis and document preparation	Unknown	Unknown	McKenzie	3 to 25	0	WW, VG, AQ-con, SO	(U.S. Bureau of Land Management, 2019)
North Bakken Expansion Project Customer Tie-In Facilities	Energy	Customer tie-in facilities at the proposed transfer/receipt/delivery stations that are part of the proposed North Bakken Expansion Project.	Under Development	2020-2021	2021	Various	0.0	Unknown	WW, VG, WF, CR, LU	N/A

APPENDIX 1J (cont'd)

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Project Name	Category	Project Description	Status	Construction Commences	Operation Commences	County(ies)	Distance from Project (miles)	Approximate Acres of Overlap	Resources with Potential for Cumulative Impacts	Citation
Lower Sundhagen Scoria Mine Reclamation	Energy	Reclamation of scoria (clinker) pits in Williams County would require backfill of 6,300 cubic yards of soil and revegetation of 3 acres.	Decision and Appeal	Unknown	Unknown	Williams	5	0	N/A	(U.S. Bureau of Land Management, 2016)
Williston Basin International Airport	Commercial	The Williston Basin International Airport will have 2 runways and 110,000 square foot terminal building and will be located about 10 miles NW of Williston.	Under construction	2018	4Q 2019	Williams	33	0	AQ-op, N-op, SO	(KLJ, 2015)
Cenex Pipeline	Energy	Cenex Pipeline, LLC plans to construct a 10" refined fuels pipeline from Sidney, Montana, to Minot, North Dakota, to replace a portion of an existing 8-inch pipeline system, while adding throughput capacity. The proposed route is in the early permitting phase and would intersect the proposed Tioga-Elkhorn Creek pipeline near MP 10.	Unknown	Unknown	Unknown	Williams, Mountrail	0	<1	WW, VG, WF, CR, GS, N-con, SO, LU, RS, VS	(KLJ, 2017)
Water transmission line in Watford City	Utilities (Non Energy)	A proposed water transmission line in Watford City pipeline would furnish water to "The Crossings at Watford City" and to support the oil industry.	Early permitting phases	Unknown	Unknown	McKenzie	2	0	WW, VG, WF, TE, CR, GS, AR-con, N-con, SO	(Watford City Planning and Zoning Commission, 2019)

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Past, Present, and Reasonably Foreseeable Future Projects Evaluated for Potential Cumulative Impacts with the North Bakken Expansion Project [a,b]

Project Name	Category	Project Description	Status	Construction Commences	Operation Commences	County(ies)	Distance from Project (miles)	Approximate Acres of Overlap	Resources with Potential for Cumulative Impacts	Citation
Western Area Water Supply Project	Utilities (Non Energy)	The Western Area Water Supply Project (WAWSP) was developed to supply drinking water from the Missouri River supplemented with groundwater from the R&T Water Supply Commerce Authority (WSCA) to meet the municipal, rural, and industrial water needs for all or parts of McKenzie, Williams, Divide, Burke, and Mountrail Counties. Two of the development areas, East White Earth and System I Spring Creek, intersect the proposed Tioga-Elkhorn Creek pipeline near MP 61.9.	Under construction	Under construction	Unknown	Mountrail, McKenzie	0	Unknown – Exact locations of projects are not known, only the development areas.	WW, VG, WF, TE, CR, GS, AR-con, N-con, SO, LU	(Western Area Water Supply Authority, 2019)
Route 9 Reconstruction	Transportation	USACE has issued a permit for reconstruction of Route 9 approximately 6 miles east of the proposed Tioga-Elkhorn Creek pipeline MP 6.	Permit issued by USACE 4Q 2018	Unknown	Unknown	Mountrail	6	0	WW, TE	(U.S. Army Corps of Engineers, 2018)
DOT Road Improvements - Red Mike Area to County Road 42	Transportation	Improvements are planned along ND 1804 from Red Mike Area to CR 42 (Epping Road). Improvements include increasing structural capacity, widening the shoulders, improving the road surface and installing a stop light.	Unknown	2020	2020	Williams	2	0	WW, VG, AQ-op, SO, VS	(North Dakota Department of Transportation, 2019a)

APPENDIX 1J (cont'd)

North Bakken Expansion Project
Past, Present, and Reasonably Foreseeable Future Projects Evaluated for Potential Cumulative Impacts with the North Bakken Expansion Project [a,b]

Project Name	Category	Project Description	Status	Construction Commences	Operation Commences	County(ies)	Distance from Project (miles)	Approximate Acres of Overlap	Resources with Potential for Cumulative Impacts	Citation
US 85 - I-94 to Watford City Bypass	Transportation	The U.S. Highway 85 Project encompasses approximately 62 miles of roadway in Stark, Billings, and McKenzie counties, North Dakota. The project begins at the Interstate 94 (I-94) interchange and extends north to the Watford City Bypass (McKenzie County Road 30). The proposed action is to expand this segment of U.S. Highway 85 from a two-lane highway to a four-lane highway. The north end of the improvements are approximately 3 miles west of the south end of the proposed Tioga-Elkhorn pipeline.	Record of Decision 2Q 2019	2019	2020	McKenzie	3	0	WW, VG, WF, TE, AQ-op, SO, VS	(North Dakota Department of Transportation, 2019b)
Pine Ridge Development	Residential	The Pine Ridge Development would include curbs, gutters, paved streets, and the addition of single-family homes and additional duplexes and a four-plex in Tioga.	Unknown	Unknown	2019	Williams	1	0	WW, VG, WF, TE, CR, GS, N-con, SO, VS	(Landgrid, 2016)
Homestead at Watford City First Addition	Residential	Homestead at Watford City First Addition is a development of six single family homes in Watford City.	Unknown	Unknown	Unknown	McKenzie	5	0	VG, SO	(Homestead at Watford City, 2015)

APPENDIX 1J (cont'd)

North Bakken Expansion Project
Past, Present, and Reasonably Foreseeable Future Projects Evaluated for Potential Cumulative Impacts with the North Bakken Expansion Project [a,b]

Project Name	Category	Project Description	Status	Construction Commences	Operation Commences	County(ies)	Distance from Project (miles)	Approximate Acres of Overlap	Resources with Potential for Cumulative Impacts	Citation
Aspen Heights Condominiums	Residential	Aspen Heights Condominiums would include 48 new apartment units at 1000 South Pheasant Ridge Street.	Early permitting phases	Unknown	Unknown	McKenzie	5	0	VG, SO	(Orange Property Management, 2019)
Elementary School	Government	McKenzie County School District is proposes to build a new elementary school in Watford City, in the Fox Hills Village Subdivision.	Rezoning process	Unknown	Unknown	McKenzie	3	0	WW, VG, CR, GS, N-con, VS	(McKenzie County, 2019)

AQ-con = air quality (construction); AQ-op = air quality (operations); CR = cultural resources; GS = geology and soils; LU = land use; N/A = Not available; N-con = noise (construction); N-op = noise (operation); RS = recreation and special interest areas; SO = socioeconomics; TE = threatened and endangered species; VG = vegetation; VS = visual resources; WF = wildlife, fish; WW = wetlands, water resources

[a] The impacts of past actions are expressed as the baseline environmental conditions and are not included in this table, although recent past actions that continue to contribute to discernable impacts on a resource are included.

[b] A description of the geographic and temporal scope of the analysis for each resource is provided tables 1.10-1 and 1.10-2 of Resource Report 1.

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