WBI ENERGY TRANSMISSION, INC.

Wahpeton Expansion Project

Resource Report 2
Water Use and Quality

Draft

Docket No.
PF21-4-000

March 2022

WBI ENERGY TRANSMISSION, INC.
WAHPETON EXPANSION PROJECT
RESOURCE REPORT 2—WATER USE AND QUALITY

Minimum Filing Requirements for Environmental Reports:	Addressed In Section:
1. Identify and describe by milepost perennial waterbodies and municipal water supply or watershed areas, specially designated surface water protection areas and sensitive waterbodies, and wetlands that would be crossed. For each waterbody crossing, identify the approximate width, state water quality classifications, any known potential pollutants present in the water or sediments, and any potable water intake sources within 3 miles downstream. – Title 18 Code of Federal Regulations ("CFR") part 380.12(d)(1).	Section 2.2 through section 2.3; table 2.2-1 and table 2.3-1; appendix 2B
2. Compare proposed mitigation measures with the staff's current "Wetland and Waterbody Construction and Mitigation Procedures," which are available from the Commission Internet home page or the Commission staff, describe what proposed alternative mitigation would provide equivalent or greater protection to the environment, and provide a description of site- specific construction techniques that would be used at each major waterbody crossing. – 18 CFR 380.12(d)(2).	Sections 2.2.6, 2.2.7, and 2.3.4
3. Describe typical staging area requirements at waterbody and wetland crossings. Also, identify and describe waterbodies and wetlands where staging areas are likely to be more extensive. – 18 CFR 380.12(d)(3).	
4. Include National Wetlands Inventory ("NWI") maps. If NWI maps are not available, provide the appropriate state wetland maps. Identify for each crossing, the milepost, the wetland classification specified by the U.S. Fish and Wildlife Service, and the length of the crossing. Include two copies of the NWI maps (or the substitutes, if NWI maps are not available) clearly showing the proposed route and mileposts directed to the environmental staff. Describe by milepost, wetland crossings as determined by field delineations using the current Federal methodology. – 18 CFR 380.12(d)(4).	Appendices 2A and 2B
5. Identify aquifers within excavation depth in the project area, including the depth of the aquifer, current and projected use, water quality and average yield, and known or suspected contamination problems. – 18 CFR 380.12(d)(5).	Section 2.1.1
6. Describe specific locations, the quantity required, and the method and rate of withdrawal and discharge of hydrostatic test water. Describe suspended or dissolved material likely to be present in the water as a result of contact with the pipeline, particularly if an existing pipeline is being retested. Describe chemical or physical treatment of the pipeline or hydrostatic test water. Discuss waste products generated and disposal methods. – 18 CFR 380.12(d)(6).	Section 2.2.4
7. If underground storage of natural gas is proposed: i. Identify how water produced from the storage field will be disposed of, and ii. For salt caverns, identify the source locations, the quantity required, and the method and rate of withdrawal of water for creating salt cavern(s), as well as the means of disposal of brine resulting from cavern leaching. – 18 CFR 380.12(d)(7).	Not Applicable
8. Discuss proposed mitigation measures to reduce the potential for adverse impacts to surface water, wetlands, or groundwater quality to the extent they are not described in response to paragraph (d)(2) of this section. Discuss the potential for blasting to affect water wells, springs, and wetlands, and measures to be taken to detect and remedy such effects. – 18 CFR 380.12(d)(8).	Sections 2.1.4, 2.2.7, 2.2.8, 2.3.3, and 2.3.4
9. Identify the location of known public and private groundwater supply wells or springs within 150 feet of proposed construction areas. Identify locations of United States Environmental Protection Agency or state-designated sole source aquifers and wellhead protection areas crossed by the proposed pipeline facilities. – 18 CFR 380.12(d)(9).	Sections 2.1.2 and 2.1.3

WBI ENERGY TRANSMISSION, INC.
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ACRONYMS AND ABBREVIATIONS

ATWS	Additional Temporary Workspace
BMP	best management practice
CFR	Code of Federal Regulations
CWA	Clean Water Act
FERC	Federal Energy Regulatory Commission
FERC Plan	FERC's *Upland Erosion Control, Revegetation, and Maintenance Plan*
FERC Procedures	FERC's *Wetland and Waterbody Construction and Mitigation Procedures*
Guided Bore Plan	*Guided Bore Drilling Fluid Monitoring and Operations Plan*
HUC	Hydrologic Unit Code
MDU	Montana-Dakota Utilities Company
MP	milepost
NDDEQ	North Dakota Department of Environmental Quality
NDDOT	North Dakota Department of Transportation
NDSWC	North Dakota State Water Commission
NWI	National Wetland Inventory
Project	Wahpeton Expansion Project
RFFA	reasonably foreseeable future action
SPCC Plan	*Spill Prevention, Control, and Countermeasure Plan*
USACE	U.S. Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
WBI Energy	WBI Energy Transmission, Inc.
WHPA	Wellhead protection area

WBI ENERGY TRANSMISSION, INC.
WAHPETON EXPANSION PROJECT

2.0 RESOURCE REPORT 2—WATER USE AND QUALITY

WBI Energy Transmission, Inc. (WBI Energy) proposes to construct, modify, and operate the Wahpeton Expansion Project (Project). The Project will involve the construction of approximately 60.6 miles of 12-inch-diameter natural gas pipeline from WBI Energy's existing Mapleton Compressor Station near Mapleton, North Dakota to a new Montana-Dakota Utilities Company (MDU) delivery station near Wahpeton, North Dakota (MDU—Wahpeton Border Station). The Project will also include minor modifications at the Mapleton Compressor Station; a new MDU delivery station near Kindred, North Dakota (MDU—Kindred Border Station); new block valve settings; and new pig launcher/receiver settings. The Project may also include newly constructed farm taps along the pipeline route. The proposed Project facilities will be located in Cass and Richland Counties, North Dakota.

In accordance with Title 18 of the Code of Federal Regulations Part 380.12(d), Resource Report 2 describes existing water resources, including groundwater resources, watersheds, surface waters, water supplies, and wetlands potentially affected by WBI Energy's proposed Project. This report documents the potential impacts of the Project on water resources and describes the measures that will be implemented to mitigate these impacts.

2.1 GROUNDWATER RESOURCES

This section describes the existing groundwater resources in the Project area, including groundwater use and quality. It also discusses potential impacts on groundwater resources from Project construction and operation and methods to avoid, minimize, and mitigate these impacts.

2.1.1 Regional Aquifers

Groundwater resources in the Project area consist of aquifers that occur in sedimentary bedrock within the Northern Great Plains region (Sun and Johnston, 1994). The aquifer lithology occurs as two primary types: sand and/or sandstone beds in the Dakota Sandstone and sand and gravel deposits associated with glacial drift (Klausing, 1968; Baker & Paulson, 1967).

2.1.1.1 Bedrock Aquifers

Most of the water yielded from bedrock within the Project area is obtained from the Dakota Sandstone. The most significant bedrock aquifer along the Project route is the Wahpeton Buried Valley aquifer that crosses the pipeline from milepost (MP) 52.4 to MP 53.1 and from MP 55.2 to MP 56.2 and provides the majority of drinking water for the City of Wahpeton. A small amount of groundwater is also obtained from Precambrian granite located approximately 300 feet below the surface; however, most of the granite is decomposed and not water bearing. Wells within the Dakota Sandstone are typically greater than 200 feet below the land surface. Most wells within the Dakota Sandstone have relatively small yields and, due to high concentrations of chloride and sulfate, are generally not suitable for human consumption and are used for watering livestock (Baker & Paulson, 1967).

2.1.1.2 Alluvial and Glacial Aquifers

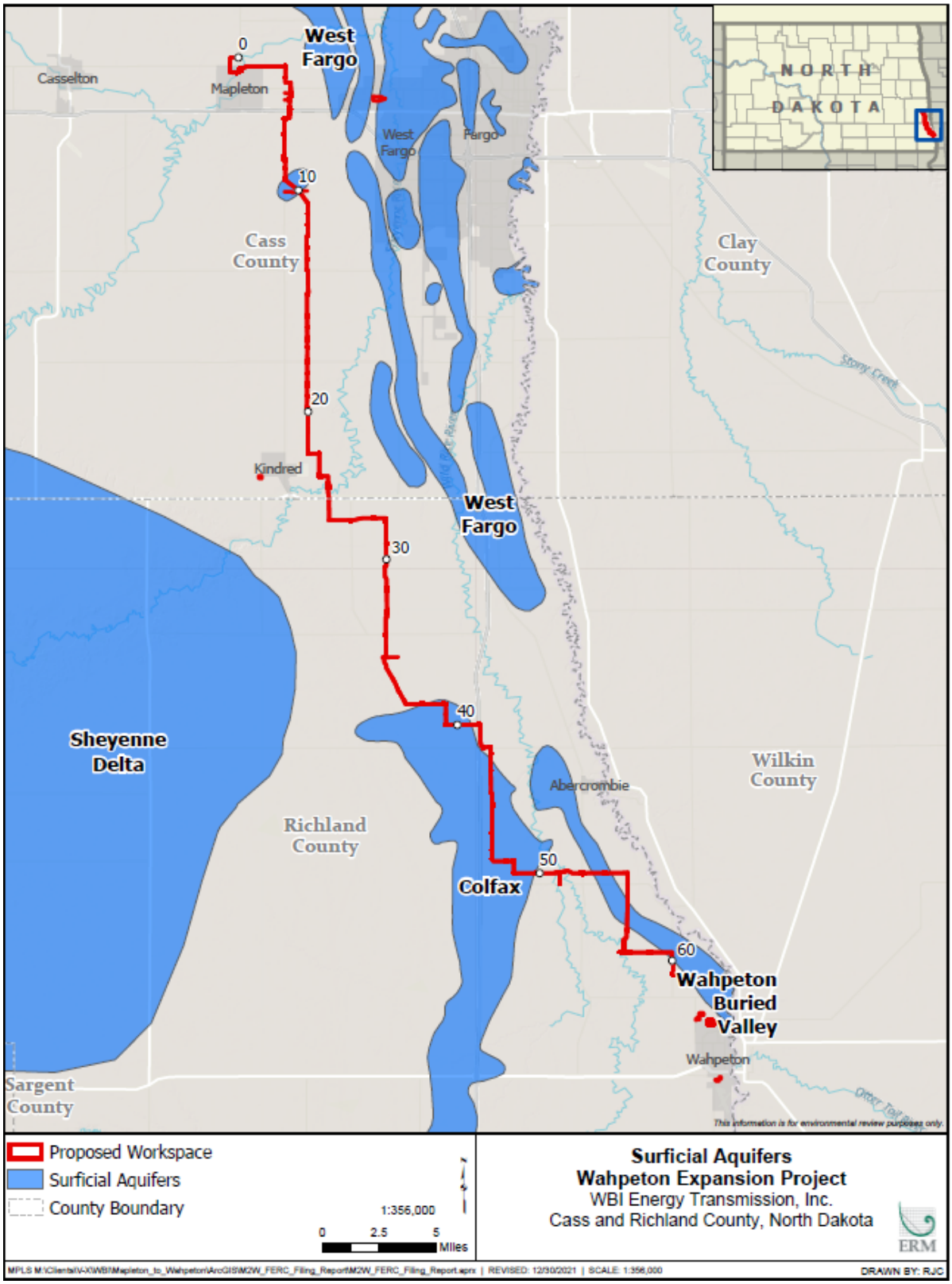
Overlying the bedrock aquifer systems are localized alluvial and glacial aquifers comprised of unconsolidated glacial deposits. Aquifers developed in alluvial and glacial deposits are more sporadically located than bedrock aquifers. Alluvial and glacial aquifers can be separated into four categories: valley-fill aquifers, blanket sand and gravel aquifers, glacial-deposit aquifers, and stream-valley aquifers (USGS, 2021). Aquifers developed in alluvial and glacial deposits are less continuous aquifers compared to bedrock aquifers. These aquifers are composed of more recent alluvial and glacial deposits comprised of loose beds of gravel, sand, silt, and/or clay resulting from glacial outwash deposits and they are generally more productive and of better water quality than aquifers found in the underlying bedrock (NDSWC, 2005; Paulson, 1983).

Water quality in the alluvial and glacial aquifers is generally less mineralized than in the underlying bedrock aquifers; generally, the deeper the aquifer results in less saline the water. The dissolved-solids concentration in the unconsolidated aquifers is commonly less than 1,000 milligrams per liter, although in some places the water is very hard and may also be high in iron and manganese. Generally, these upper aquifers are suitable for irrigation, but there are local exceptions based on water quality, soil type, and the crop being irrigated (Paulson, 1983).

The proposed Project pipeline route crosses two alluvial and glacial aquifers. The West Fargo aquifer is crossed between MPs 9.2 and 10.1 in Cass County and the Colfax aquifer is crossed between MPs 37.7 and 40.6 and between MPs 42.9 and 49.8 in Richland County.

The West Fargo aquifer consists of a glacialfluvial deposit mainly consisting of fine to coarse sand. The average aquifer thickness is approximately 60 feet. The depth to the top of the aquifer ranges from 80 to over 100 feet below the ground surface (Klausing, 1968). The West Fargo Aquifer is used for municipal, industrial, and agricultural uses. Prior to 2016, the West Fargo Aquifer was used to supply drinking water to the residents of West Fargo; however, as of June 2016, the City of West Fargo began purchasing water from the City of Fargo (City of West Fargo, 2016).

The Colfax aquifer consists of buried glacial outwash sand. The maximum aquifer thickness ranges from 50 to 80 feet. The depth to the top of the aquifer ranges from approximately 100 to 150 feet below the ground surface. There are no large users for the Colfax aquifer. A minimal amount of water is withdrawn from the aquifer for agricultural purposes (Baker & Paulson, 1967).


West Fargo
0
Casselton
Mapleton
West Fargo
Fargo
10
Cass County
Clay County
20
Kindred
West Fargo
30
40
Sheyenne Delta
Abercrombie
Wilkin County
Richland County
50
Colfax
60
Wahpeton
Buried Valley
Wahpeton
Sargent County
NORTH DAKOTA
Proposed Workspace
Surficial Aquifers
County Boundary
1:356,000
0 2.5 5
Miles
Surficial Aquifers
Wahpeton Expansion Project
WBI Energy Transmission, Inc.
Cass and Richland County, North Dakota
ERM
DRAWN BY: RJC

In addition to the named alluvial and glacial aquifers, potable and domestic use water is obtainable in some places from unnamed and unconsolidated aquifers consisting of thin beds of sand and gravel that seem to have a random distribution both vertically and laterally (Paulson, 1983). Well yields from these minor aquifers are generally less than 10 gallons per minute; however, these aquifers occur in sufficient quantities to produce adequate yields for domestic needs for many farmsteads in the area (Paulson, 1983).

2.1.2 Designated Sole Source Aquifers

The United States Environmental Protection Agency (USEPA) defines Sole or Principal Source Aquifers as those aquifers which supply at least 50 percent of the drinking water consumed in the area overlying the aquifer. These areas can have no alternative drinking water source(s) that could physically, legally, and/or economically be supplied to those who depend upon the aquifer for drinking water. There are currently no designated sole source aquifers in North Dakota (USEPA, 2021b).

2.1.3 Public and Private Water Supply Wells

Of the incorporated communities in the state, 94 percent rely on groundwater for private wells, municipal distribution systems, or rural water systems. Groundwater is effectively the sole source of all water used by farm families and residents of small communities having no public water distribution system (NDSWC, 2005). A public water system is defined as “a system that provides water via piping or other constructed conveyances for human consumption to at least 15 service connections or serves an average of at least 25 people for at least 60 days each year” (NDDEQ, 2020a).

The North Dakota Department of Environmental Quality (NDDEQ) oversees the Source Water Protection Program, which was developed in response to the 1996 Safe Drinking Water Act amendments that require all states to define and assess the source waters of public water systems (groundwater and surface water). All public water systems that have wells or intakes are participants in this program (NDDEQ, 2020a). The Source Water Protection Program has three mandatory program elements for public water systems: (1) the delineation of a wellhead protection area (WHPA) or source water protection area based on existing hydrogeologic and geologic information; (2) a contaminant source inventory that identifies the presence and location of sources or activities within the protection area that may contaminate groundwater or surface water; and (3) a susceptibility analysis that determines the susceptibility (ranking) of the public water systems’ wells or intakes to contamination by sources inventoried within the protection area (NDDEQ, 2020a).

WHPAs are delineated zones around public water well(s) based on existing hydrogeologic and geologic information to reduce the susceptibility to contamination. Further, to protect the water quality of these wells, the exact locations of the public water supply wells within WHPAs are not provided by the NDDEQ. Based on maps prepared by the NDDEQ, WBI Energy determined that no WHPAs are crossed by the Project and no WHPAs are located within 0.25 mile of the construction workspace (NDDEQ, 2020b). Therefore, no public water supply wells are located within 150 feet of the pipeline construction workspaces.

WBI Energy reviewed the North Dakota State Water Commission well permit database and online map system to evaluate the potential presence of wells within 150 feet of the Project footprint. This review determined that based on the data available, two private water supply wells

exist within 150 feet of the proposed pipeline route. One well used for domestic purposes was identified approximately 144 feet northwest of MP 9.3 and one observation well was identified approximately 135 feet northwest of MP 55.9 (NDSWC, 2021). WBI Energy will verify the locations of the two identified wells and will identify any other wells within 150 feet of the Project workspace as part of the civil survey. If any additional wells are identified, WBI Energy will notify the Federal Energy Regulatory Commission (FERC) in a supplemental filing.

2.1.4 Contaminated Groundwater

The primary potential sources of groundwater contamination in the vicinity of the Project are related to agricultural activities, including the leaching of pesticides, herbicides, and fertilizers into underlying aquifers. Other possible sources of groundwater contamination in the area include cattle feedlots, municipal landfills, septic tanks, sewage lagoons, and leaking underground storage tanks (Paulson, 1983). Based on a review of recent aerial photographs and 2021 field surveys, WBI Energy did not identify any livestock feedlots, municipal landfills, or sewage lagoons within 0.25 mile of the construction workspace. In addition, a review of the USEPA's Facility Registration System map service and the NDDEQ underground storage tank data identified no known sites of potential contamination within 500 feet of the Project area (NDDEQ, 2021c). As discussed in Resource Report 8, WBI Energy reviewed the USEPA's EnviroFacts Website and a USEPA dataset for landfills to identify hazardous waste sites, landfills, or other sites with potential for soil or groundwater contamination within 0.25 mile of the Project.

On-site septic systems are the primary form of wastewater treatment in rural North Dakota; however, it is unlikely that septic systems will be affected by the Project. WBI Energy preferentially routed the pipeline facilities to avoid residences, thereby avoiding potential impacts on septic systems. The pipeline route will pass within 500 feet of residences in 7 locations near MPs 9.8, 16.1, 17.7, 19.7, 20.2, 36.2, and 36.8. In all instances, the pipeline will be greater than 200 feet from the nearest residence. WBI Energy does not anticipate that construction activity will affect active septic systems; however, WBI Energy will coordinate with the landowners in those seven locations to determine the exact location of the wells and to ensure the wells are protected during construction. In the unforeseen instance that an active septic system is impacted by Project construction, WBI Energy will repair the system to its previous condition or better.

2.1.5 Groundwater Construction Impacts and Mitigation

The potential for impacts on groundwater resulting from construction and operation of the proposed Project facilities is a function of the degree to which the proposed facilities would cause localized changes to existing groundwater flow paths that could result from soil compaction. Permanent effects could also occur to groundwater recharge as a result of the development of impervious surfaces and structures at the proposed aboveground facility sites. The proposed new MDU Border Stations will have buildings with roofs that will reduce the area of direct infiltration and recharge below the structure, but runoff from the roofs would still eventually be conveyed to pervious surfaces that would provide groundwater recharge. Stormwater facilities will be added as necessary at new and modified aboveground facilities to comply with state and local stormwater requirements. The overall effect on groundwater recharge resulting from facility construction will not be significant due to the relatively small footprint of impervious surfaces in relation to the total potential recharge area.

Construction of the proposed pipeline will generally require a trench excavation of about 5 feet (or deeper at crossings of some roads, utilities, foreign pipelines, and waterbodies).

Dewatering of the pipeline trench will be necessary if shallow groundwater is encountered within the excavation zone. Water pumped from the trench or excavated areas will be discharged in accordance with FERC's *Wetland and Waterbody Construction and Mitigation Procedures* (FERC Procedures) and applicable permits. The potential impact of dewatering will be minimized by discharging the pumped water to well-vegetated areas or properly constructed temporary retention structures that will promote infiltration and minimize or eliminate runoff. Because trenching typically proceeds at a relatively rapid rate and depression of the local water table around the trench is expected to recover quickly once the trench is backfilled, it is anticipated that any impacts associated with pipeline trenching will be temporary and that surface groundwater will return to preconstruction conditions after construction.

Backfill placed within the pipeline trench may temporarily be more permeable than the surrounding soil and rock substrate until the natural pore structure of the backfilled soils is reestablished through tamping or compaction during backfill. As a result, the trench could act as a preferential pathway for groundwater flow in areas where it intersects the water table and potentially alter the existing groundwater flow patterns within shallow saturated zones. WBI Energy will install trench breakers at specified intervals where appropriate in accordance with FERC's *Upland Erosion Control, Revegetation, and Maintenance Plan* (FERC Plan) and FERC Procedures and in areas determined by WBI Energy and its environmental inspectors to reduce the potential for the trench to act as a preferential groundwater flow path.

Soil compaction from construction has the potential to affect groundwater recharge. WBI Energy will implement measures documented in the FERC Plan and the Project-specific construction plans to minimize compaction during construction and to identify and mitigate areas that may have been compacted. Measures that may be taken, as necessary, to minimize soil compaction include the use of timber mats for heavy equipment and soil ripping to increase porosity in soils that are significantly compacted due to construction activities.

Accidental spills and leaks of hazardous materials could cause impacts on groundwater resources through the introduction of contaminants, especially in highly permeable soils near wells. WBI Energy will implement the spill prevention and control measures identified in both its *Spill Prevention, Control, and Countermeasure Plan* (SPCC Plan), which is included in appendix 1F-1 of Resource Report 1 and in the FERC Procedures. In addition, WBI Energy will implement the procedures outlined in its *Guided Bore Drilling Fluid Monitoring and Operations Plan* (Guided Bore Plan)—which is included in appendix 1F-2 of Resource Report 1—to mitigate potential impacts of drilling fluid from guided bore operations. No areas containing contaminated groundwater or hazardous waste sites have been identified along the proposed Project route. If contaminated soils are encountered, WBI Energy will implement measures identified in its *Plan for Unanticipated Discovery of Contaminated Environmental Media*, which is included as appendix 2A of this resource report. The *Plan for Unanticipated Discovery of Contaminated Media* describes measures for containing and characterizing contaminated media, notifying the landowner and appropriate regulatory agencies of the contamination, and responding to the contaminated media.

As described above, for any wells identified within 150 feet of the proposed workspace, WBI Energy will—where permitted by the landowner—conduct preconstruction and post-construction water quality and yield testing and/or sampling to verify that construction of the Project does not permanently affect water wells or springs. WBI Energy will obtain landowner or municipality permission prior to testing. WBI Energy will analyze any damaged well or water supply system and perform the necessary repairs and/or modifications to return it to its former

capacity as determined by the testing and/or sampling. In the event that a private well or water supply system is damaged beyond repair due to construction-related activities, WBI Energy will provide for a temporary water source and replace the well as necessary. In addition, in the event that an active well is identified within construction work areas and must be taken out of service, WBI Energy will provide an alternate water source or negotiate a mitigation plan with the landowner to offset any adverse impacts.

No blasting activities are anticipated during construction of the proposed Project; therefore, no adverse effects due to blasting on groundwater associated with water wells, springs, and wetlands are expected.

2.2 SURFACE WATER RESOURCES

This section describes the surface water resources that are crossed by the proposed Project, regulations that apply to those resources, and measures proposed by WBI Energy to mitigate impacts on those resources.

2.2.1 Waterbodies Crossed

The Project lies within the Devils Lake-Sheyenne and Upper Red River watersheds. The Project area crosses two sub-basins within the Devils Lake-Sheyenne basin: Maple River (Hydrologic Unit Code [HUC] 09020205) and Lower Sheyenne River (HUC 09020204). The Project crosses three sub-basins within the Upper Red River watershed: the Western Wild Rice River (HUC 09020105), the Bois De Sioux River (HUC 090201101), and the Upper Red River (HUC 09020104; NDDEQ, 2021d).

Based on review of the United States Geological Survey (USGS) mapping, aerial photography, and field investigations conducted on properties where permission to survey was granted in 2021, the Project will require 23 waterbody crossings consisting of 8 perennial stream crossings and 15 ephemeral stream crossings. Eighteen of these waterbodies are crossed by the Project pipeline and the other five are crossed by access roads. Of the 18 waterbodies crossed by the pipeline, 10 will be crossed using the guided bore method and 8 will be crossed using the open cut method. The waterbody and wetland delineation report for the Project is included as appendix 2B (*to be provided as a supplement*). These 23 waterbody crossings include 3 crossings of the Wild Rice River at MPs 51.1, 57.0, and 57.6.

FERC defines waterbodies as “any natural or artificial stream, river, or drainage with perceptible flow at the time of crossing, and other permanent waterbodies such as lakes and ponds” (FERC, 2013). Perennial waterbodies are expected to contain water and flow for most of the year. Intermittent streams include those that flow seasonally and ephemeral streams include those that flow only as a result of precipitation events. FERC further categorizes surface waters as major, intermediate, or minor waterbodies based on the width of the water’s edge at the time of crossing. Major waterbodies are equal to or greater than 100 feet in width, intermediate waterbodies are greater than 10 feet but less than 100 feet in width, and minor waterbodies are 10 feet or less in width. Based on the field surveys and desktop review of areas where surveys are not yet complete, the Project crosses 9 intermediate waterbodies and 15 minor waterbodies.

None of the waterbodies crossed by the Project are considered a Section 10 navigable water under the Rivers and Harbors Act (USACE, 2012).

Table 2.2-1 provides a list of the waterbodies crossed by the proposed pipeline route and includes the field survey designation (feature ID), USGS waterbody name, water quality classification, flow regime (intermittent, ephemeral, or perennial), approximate crossing width, and proposed construction crossing method.

TABLE 2.2-1

Wahpeton Expansion Project
Waterbodies Crossed by the Project [a]

MP	Unique ID	Waterbody Name [b]	North Dakota Water Quality Classification [c]	Flow Regime [d]	Crossing width (feet) [e]	Pipeline Crossing Method [f]
1.2	scad001p	Maple River	Class II	PN	79	Bore
3.9	scaa002e	Unnamed tributary to the Maple River	Class III	E	13	Open Cut
5.9	scaa003e	Roadside ditch	Class III	E	<10	Bore
10.7	scab001e	Roadside ditch	Class III	E	<10	Open Cut
24.1	scab006p	Sheyenne River	Class IA	PN	42	Bore
29.3	sria001e	Roadside ditch	Class III	E	<10	Bore
31.3	wria003e	Roadside ditch	Class III	E	<10	Open Cut
39.9	sria002e	Unnamed ditch	Class III	E	<10	Open Cut
41.0	sric002p	Unnamed tributary to Wild Rice River	Class III	PN	23	Bore
45.0	srid002p	Pitcairn Creek	Class III	PN	15	Bore
47.4	sird001e	Roadside ditch	Class III	E	<10	Open Cut
50.9	Desktop	Antelope Creek	Class II	PN	65	Bore
51.1	sird003p	Wild Rice River	Class II	PN	56	Bore
55.4	sirb006e	Roadside ditch	Class III	E	<10	Open Cut
56.4	sirb005e	Roadside ditch	Class III	E	<10	Open Cut
57.0	sirc006p	Wild Rice River	Class II	PN	78	Bore
57.6	srib004p	Wild Rice River	Class II	PN	38	Bore
58.7	sirb003e	Roadside ditch	Class III	E	<10	Open Cut
Access Roads						
19.3	scab005e	Roadside ditch	Class III	E	<10	NA
29.3	sria001e	Roadside ditch	Class III	E	<10	NA
31.4	wria003e	Roadside ditch	Class III	E	<10	NA
56.4	srib005e	Roadside ditch	Class III	E	<10	NA
58.7	sirb003e	Roadside ditch	Class III	E	<10	NA

[a] Based on the data from Project field surveys to date, USGS mapping, National Hydrography Dataset data, the North Dakota State Water Commission's geographic information system data viewer, and review of aerial photographs.

[b] Waterbody names are based on USGS topographic maps.

[c] See section 2.2.2 below for category definitions (NDDEQ, 2020e). None of the Class III streams are specifically identified in the Stream Classifications Table located in Appendix I of the NDDEQ Standards of Quality for Waters of the State and are classified as Class III as a default based on specifications included in that appendix.

[d] Based on field surveys, National Hydrography Dataset designations, and/or aerial photography interpretation for unmapped streams:
PN = Perennial
E = Ephemeral (USACE, 2012)
NA = Not applicable

[e] Approximate width based on field surveys and/or estimated from aerial photography. Where National Hydrography Dataset data have been used to supplement areas where surveys are not complete an assumed less than 10-feet-wide has been used for all intermittent National Hydrography Dataset features.

[f] Refer to Resource Report 1 section 1.3.2.1 for detailed descriptions of each crossing method.

Antelope Creek was not surveyed in 2021 as a result of route variations identified after the conclusion of the 2021 field survey season and is referred to in the Feature ID column of table 2.2-1 as Desktop; waterbody characteristics for this feature are based on the National Hydrography Dataset and/or recent aerial photography. Water quality classifications for the waterbodies along the pipeline route are described in section 2.2.2 of this resource report. Construction crossing methods and related mitigation measures are further described in sections 2.2.6 and 2.2.7. A description of fishery resources associated with the waterbodies listed in table 2.2-1 is provided in section 3.1.3 of Resource Report 3.

2.2.2 Water Quality and Contaminated Sediments

The NDDEQ classifies waterbodies into categories based on water quality, flow regime, and beneficial uses. Streams are classified according to four categories (NDDEQ, 2021e):

- Class I streams: The quality of the waters in this class shall be suitable for the propagation or protection, or both, of resident fish species and other aquatic biota and for swimming, boating, and other water recreation. The quality of the waters shall be suitable for irrigation, stock watering, and wildlife without injurious effects. After treatment consisting of coagulation, settling, filtration, and chlorination, or equivalent treatment processes, the water quality shall meet the bacteriological, physical, and chemical requirements of the department for municipal or domestic use.

- Class IA streams: The quality of the waters in this class shall be the same as the quality of class I streams, except that where natural conditions exceed class criteria for municipal and domestic use, the availability of softening or other treatment methods may be considered in determining whether ambient water quality meets the drinking water requirements of the department.

- Class II streams: The quality of waters in this class shall be the same as the quality of class I streams, except that additional treatment may be required to meet 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.

- Class III streams: The quality of the waters in this class 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.

The antidegradation policy of the Standards of Water Quality for the State of North Dakota, Rule 33-16-02 furthermore mandates the NDDEQ to classify waterbodies based on the level of water quality protection consistent with their beneficial uses. All waterbodies are classified into one of three levels under this antidegradation protection. Below are the three categories outlined in Chapter 33-16-02.1 of Standards of Quality for Waters of the State (NDDEQ, 2021e):

- Category 1: Very high level of protection that automatically applies to Class I and Class IA streams, Class I, II, and III lakes, and wetlands that are functioning at their optimal level. In addition, Category 1 is presumed to apply to Class II and Class III streams. Particular Class II and Class III streams may be excluded from Category 1 if, at the time of the antidegradation review, it is determined that one or both of the following criteria are applicable: 1) there is no remaining assimilative capacity for any of the parameters that may potentially be affected by the proposed regulated activity in the segment in question; or 2) an evaluation submitted by a project applicant demonstrates (based on adequate and representative chemical, physical, and biological data) that aquatic life and primary contact recreation uses are not currently being attained because of stressors that will require a long-term effort to remedy.

- Category 2: Class IV and Class V lakes and particular wetlands after antidegradation review and Class II and Class III streams or wetlands that meet one of the criteria identified above at the time of the antidegradation review shall be included in Category 2.

- Category 3: Highest level of protection; Outstanding State Resource Waters.

The state water quality classifications for waterbodies crossed by the Project are listed in table 2.2-1. The proposed pipeline corridor has 1 Class IA stream crossing (the Sheyenne River), 5 Class II crossings (Maple River, Antelope Creek, and 3 crossings of the Wild Rice River), 12 Class III crossings, and 1 Class IV open water body. The proposed access roads cross an additional five Class III crossings (NDDEQ, 2021e). The Project does not cross any Category 3 waterbodies designated as Outstanding State Resource Waters. By following the FERC Procedures, the Project is not expected to result in permanent changes to water quality or the water quality classifications of the waterbodies crossed.

Section 305(b) of the Clean Water Act (CWA) requires states to submit biennial water quality reports to the USEPA. These reports, referred to as 305(b) reports or Integrated Water Quality Monitoring and Assessment Reports, describe surface water and groundwater quality and trends and the extent to which waters are attaining their designated uses (such as aquatic life use). Section 303(d) of the CWA requires states to identify waters that are not attaining their designated use(s) and to develop total maximum daily loads, which represent the maximum amount of a given pollutant that a waterbody can assimilate and still meet its designated use(s). The Project crosses four waterbodies—the Maple River, the Sheyenne River, the Wild Rice River, and the Antelope Creek—that are listed as impaired waters in North Dakota's 2018 Integrated Section 305(b) Water Quality Assessment Report and Section 303(d) List of Waters needing Total Maximum Daily Loads. The segment of the Maple River crossed by the Project is listed as not supporting its designated use of fish and other aquatic biota due to sedimentation/siltation and is considered a low priority for total maximum daily loads. The segment of the Sheyenne River crossed by the Project is listed as fully supporting, but threatening to not support, the use of fish and other aquatic biota due to sedimentation/siltation and is considered a low priority for total maximum daily loads. The segments of the Wild Rice River crossed by the Project are listed as not supporting the use of fish and other aquatic biota due to sedimentation/siltation and low dissolved oxygen and are considered a low priority for total maximum daily loads. The segment of Antelope Creek crossed by the Project is listed as not supporting the use of fish and other aquatic biota and threatening to not support the designated use of recreation. The use of fish and

other aquatic biota in the segment of Antelope Creek crossed by the Project is not supported due to sedimentation/siltation and is a low priority for total maximum daily loads. The use of recreation in the segment of Antelope Creek crossed by the Project is threatened by Escherichia coli and is a high priority for total maximum daily loads (NDDEQ, 2018).

According to the USEPA's List of Sediment Sites with Substantial Contamination, there are no sites identified in North Dakota (USEPA, 2021a). The most recent (2018) Section 303(d) impaired waterbody list and 305(b) Water Quality Inventory Report for North Dakota were reviewed to determine if any of the waterbodies crossed by the Project are known to contain contaminated sediments. None of the waterbodies crossed by the Project are known to contain contaminated sediments (NDDEQ, 2018).

2.2.3 Surface Water Intakes and Surface Water Protection Areas

As discussed in section 2.1.3, the North Dakota Source Water Protection Program has the following three federally mandated program elements for public water systems: (1) the delineation of a WHPA or source water protection area based on existing hydrogeologic and geologic information; (2) a contaminant source inventory, which identifies the presence and location of sources or activities within the protection area that may contaminate groundwater or surface water; and (3) a susceptibility analysis that determines the susceptibility (ranking) of the public water system wells or intakes to contamination by sources inventoried within the protection area (NDDEQ, 2019e). Based on the review of the source water protection status list of North Dakota's public water systems, no surface water-dependent communities, non-transient non-communities, or transient non-community systems exist within the Project area (NDDEQ, 2021a).

2.2.4 Water Use

Water use for the Project will consist of hydrostatic testing of the pipe, dust control, guided bore drilling fluid, and operational water needs.

Hydrostatic testing will occur prior to placing the pipeline in service to test the integrity of the pipeline. WBI Energy anticipates construction of the proposed pipeline will be completed by November 2024. WBI Energy has not yet determined specific water sources for hydrostatic testing activities but anticipates using municipal water or water obtained from surface waters located near the Project area. WBI Energy plans to hydrostatically test the pipeline following installation and backfilling of the entire pipeline trench. Hydrostatic testing of guided bore segments may be conducted in addition to the final hydrostatic test. WBI Energy has not finalized its hydrostatic test water plan but anticipates approximately 2,175,000 gallons of water will be needed for hydrostatic testing. To complete hydrostatic testing activities, the test sections will be filled by a pump while using bi-directional pigs. The bi-directional pig is used to ensure a positive displacement of air. At each test segment, the pipe will then be pressurized to at least 125 percent of the maximum allowable operating pressure and maintained at that pressure for a minimum of 8 hours. If leaks are detected during the 8-hour test period, the line will be dewatered, the leaks will be repaired, and the test segment will again be refilled and re-pressurized until 49 Code of Federal Regulations Part 192 specifications are met. After successfully testing each segment, the pipeline will be dewatered or the test water will be moved or cascaded into the next section of the pipeline, except where prohibited by the Aquatic Nuisance Species Prevention Plan. To minimize water withdrawals, WBI Energy anticipates cascading water between test segments (where feasible) to reuse as much water from prior test segments as possible. Depending on the source water, de-chlorination products may be used to treat water prior to discharge. Dewatering

will occur in a well-vegetated upland area with appropriate erosion control devices in accordance with the requirements of the FERC Plan and FERC Procedures and the General Permit to Discharge under the North Dakota Pollutant Discharge Elimination System Permit (NDG070000). WBI Energy will utilize diffusers, sediment control devices, and other energy dissipating devices to minimize erosion. Hydrostatic test water discharges into waterbodies is not currently proposed. WBI Energy's SPCC Plan (Resource Report 1, appendix 1F-1) identifies measures to be implemented in the unlikely event of a leak of fuel, lubricants, or hydraulic fluids during the hydrostatic testing process. Following successful hydrostatic test, the pipeline will be dried by pushing foam pigs with compressed air through the test section.

Water will also be required for dust control and to control moisture levels to achieve compaction at the MDU—Kindred Border Station and the MDU—Wahpeton Border Station pads. Trucks necessary to supply water for these applications will be available on-site during construction. The designated environmental inspectors and construction staff will monitor dust conditions during construction. The amount of water needed for dust control will depend on precipitation conditions during construction but will generally be approximately 0.5 gallons of water per square yard of bare ground. It is assumed that water will only be used in areas where stringing, welding, coating, ditching, and backfilling take place. Water needed to minimize soil compaction at the MDU Border Stations will be determined based on existing conditions at the time of construction. WBI Energy anticipates using municipal water or water obtained from nearby surface waters for dust and compaction control. Dust control procedures are outlined in the Dust Control Plan included as appendix 9A in Resource Report 9.

Ten waterbody crossings will utilize the guided bore method. The pipe segments utilized for these guided bore crossings will be pre-tested prior to installation and again as part of the overall hydrostatic testing of the installed pipeline. Water will be used during hydrostatic testing of bore pipe and in the drilling mud during guided bore operations. WBI Energy anticipates using municipal water or water obtained from nearby surface waters as a water source.

2.2.5 Flood Control

The MDU—Kindred Border Station and one valve site at MP 11.6 are within the mapped floodplain. No floodplain maps are available for the existing Mapleton Compressor Station; however, the area immediately east of the compressor station is within the mapped floodplain and, thus, it is likely that the compressor station is also within the 100-year floodplain associated with the Maple River (FEMA, 2021). WBI Energy will obtain all necessary floodplain permits from Cass County prior to construction of these facilities.

2.2.6 Sensitive Surface Waters

Sensitive waterbodies include those that meet the following criteria:

- are designated as National Wild and Scenic Rivers;
- are state-designated high quality or outstanding natural resource waters;
- provide habitat for threatened and/or endangered species or critical habitat;

- have potable surface water intakes located within 3.0 miles downstream of the pipeline crossing; and/or

- do not currently support designated uses.

The Project does not cross any designated National Wild and Scenic Rivers or state-designated high quality or outstanding natural resource waters (Wild and Scenic Rivers Council, 2014). As discussed in section 2.2.3, there are no potable surface water intakes within 3.0 miles downstream of the pipeline routes.

2.2.7 Waterbody Construction Procedures

Construction methods for waterbody crossings will comply with the FERC Procedures, which are designed to minimize the extent and duration of construction-related disturbance within waterbody features. WBI Energy plans to cross six perennial waterbodies (one of these six, the Wild Rice River, will be crossed three times) using the guided bore method (see section 2.2.7.1). Other streams, with or without perceptible flow at the time of construction, will be crossed using the open-cut or guided bore crossing method. Use of the flume or dam and pump methods are not currently proposed but could be used if chosen by the construction contractor. Proposed construction methods for all waterbody crossings are identified in table 2.2-1 above; detailed descriptions of construction methods are provided in section 1.3.2.1 of Resource Report 1.

2.2.7.1 Guided Bore Crossing

WBI Energy proposes to cross two roadside ditches and six perennial waterbodies (the Wild Rice River will be crossed three times) using the guided bore method. Proposed construction methods for all waterbody crossings are identified in table 2.2-1 above; a detailed description of the guided bore construction method is provided in section 1.3.2.1 of Resource Report 1.

In the unanticipated event that a guided bore crossing cannot be completed successfully, WBI Energy will implement the contingency measures identified in its Guided Bore Plan, which is provided in appendix 1F-2 of Resource Report 1.

2.2.7.2 Open-Cut Crossings

With the exception of waterbodies listed above, which will be crossed using the guided bore method, WBI Energy proposes to cross the remaining waterbodies using the open-cut method (nine crossings). The open-cut method involves the use of backhoe-type excavators operating from the banks of the waterbody to open a trench. Spoil excavated from the trench will be placed on the bank above the high water mark for use as backfill. Once the trench is backfilled, the banks will be restored as near as practical to preconstruction contours and stabilized. Stabilization measures could include seeding or installation of erosion control blankets. Excavated material that is not required for backfill will be removed and disposed of at upland disposal sites.

Throughout the open-cut 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 as necessary.

The use of the flume or dam and pump dry crossing methods is not currently proposed but may be utilized by the construction contractor in lieu of the open-cut wet method. Dry crossing methods involve the installation of flume pipe(s) and/or a dam and pump(s) prior to trenching across a waterbody to divert the stream flow over or around the construction area and allow trenching across the stream crossing in drier conditions that are isolated from the stream flow. Spoil removed during the trenching will be stored away from the water's edge and protected by sediment containment structures. Pipe strings will be fabricated on one bank and either pulled across the stream bottom to the opposite bank or carried into place by side-boom tractors and lowered into the trench, after which the trench will be backfilled with native material. Once the trench is backfilled, the banks will be restored as near as practical to preconstruction contours and stabilized. Stabilization measures could include seeding or installation of erosion control blankets. Excavated material not required for backfill will be removed and disposed of at upland disposal sites.

2.2.7.3 Workspace

Construction across waterbodies will require additional temporary workspace (ATWS) for equipment staging, pipe string fabrication, and spoil storage. ATWS will be set back 50 feet from the edges of waterbodies in compliance with the FERC Procedures except in locations where the adjacent upland consists of cultivated or rotated cropland or other disturbed land. If ATWS is required within 50 feet of a waterbody that is not bordered by cropland or disturbed land, WBI Energy will formally request a modification from the FERC Procedures, including site-specific justification. Table 1.3-1 of Resource Report 1 describes the areas where WBI Energy is requesting approval of modifications to the FERC Procedures.

2.2.7.4 Construction Timing

WBI Energy may commence certain preconstruction activities (e.g., preparing pipe and contractor yards) in the fall of 2023 and Project construction is planned to begin in April 2024. WBI Energy anticipates that construction of the Project facilities will be completed by October 2024 with all facilities being placed into service by November 2024. Therefore, waterbody crossings may occur in the spring months during periods of high flow. WBI Energy will assess flow conditions and constructability at the time of crossing. If high flow conditions impact constructability across a feature, crossings will be delayed until conditions improve or if necessary, a different crossing method will be evaluated. WBI Energy anticipates that each waterbody crossing (with the exception of guided bore waterbody crossings) will typically be completed within a 24- to 48-hour period in accordance with the FERC Procedures.

2.2.8 Waterbody Construction-Related Impacts and Mitigation

Construction of the proposed pipelines could result in short-term and localized impacts on the waterbodies crossed. These impacts could occur as a result of construction activities in stream channels and on adjacent banks. Clearing and grading of stream banks, in-stream trenching, trench dewatering, and backfilling could each result in temporary local modifications of aquatic habitat involving sedimentation, increased turbidity, and decreased dissolved oxygen concentrations. In almost all cases, these impacts are limited to the period of in-stream

construction and conditions will return to normal shortly after stream restoration activities are completed.

To minimize adverse impacts at stream crossings, WBI Energy will install the pipeline in accordance with the FERC Plan and FERC Procedures. Construction activities at waterbody crossings will also comply with other federal, state, and local regulations and permit requirements.

Clearing of vegetation, grading for construction, and soil compaction by heavy equipment near stream banks could promote erosion of the banks and result in the transport of sediment into waterbodies by stormwater runoff. To minimize these potential impacts, WBI Energy will install equipment bridges, mats, and pads at waterbody crossings. The equipment bridges will also serve as temporary travel lanes during construction. WBI Energy will also locate ATWS at least 50 feet from stream banks wherever possible and install temporary sediment barriers around disturbed areas as outlined in the FERC Plan and FERC Procedures. Upon completion of construction, WBI Energy will implement temporary and permanent erosion control measures at stream crossing locations to stabilize soil until successful restoration is achieved, providing long-term protection of water quality.

Sedimentation and increased turbidity may occur as a result of in-stream construction activities, trench dewatering, or stormwater runoff from construction areas. In slow moving waters, increases in suspended sediments (turbidity) may increase the biochemical oxygen demand and reduce levels of dissolved oxygen in localized areas during construction. Suspended sediments also may alter the chemical and physical characteristics of the water column (e.g., color and clarity) on a temporary basis. WBI Energy will use material excavated from the pipeline trench to backfill the trench once the pipe is installed to avoid introduction of foreign substances into waterbodies. Potential effects on fisheries due to increased turbidity and sedimentation resulting from in-stream construction activities are addressed in Resource Report 3.

As noted above, WBI Energy will install temporary equipment bridges across waterbodies to reduce the potential for turbidity and sedimentation resulting from construction equipment and vehicular traffic. Temporary bridges will consist of purpose-built structures as described in the FERC Procedures. For temporary bridges, a geotextile fabric will be placed under the bridge such that gravel or dirt from equipment used in the construction of the bridge or equipment crossing the bridge can be collected and removed when the bridge is dismantled.

If excessively soft soils are encountered in the streambed or if high water flows occur, portable bridges may be utilized at minor stream crossings Equipment bridges will be maintained throughout construction and removed in accordance with the FERC Procedures once construction is complete. Equipment bridges will be designed to accommodate normal to high stream flow and will be maintained to prevent restriction of flow during the period of time the bridge is in place.

In-stream construction associated with the installation of the pipeline will be completed within 24 to 48 hours at each stream crossing according to requirements in the FERC Procedures. To minimize sedimentation during construction across minor or intermediate waterbodies, trench spoil will be placed at least 10 feet from the top of the bank. Silt fence and/or straw wattles or bales will be placed around the spoil piles to prevent spoil from flowing into the waterbody. Once the pipe is placed in the trench, the excavated material will be promptly replaced and the stream banks and streambed will be restored as close as possible to their preconstruction contours. Additional measures, such as the installation of erosion control blankets, will be implemented as necessary to stabilize the bed and banks of the waterbody. During final restoration and according

to the FERC Procedures, stream banks and riparian areas will be revegetated using appropriate seed mixes to further stabilize the banks.

During construction, the open trench may accumulate water either from the seepage of groundwater or from precipitation. In accordance with the FERC Procedures and when necessary, trench water will be removed and filtered to remove sediment. The filtered water will be discharged into a well-vegetated upland area.

The Project SPCC Plan (see appendix 1F-1 of Resource Report 1) describes measures that WBI Energy personnel and contractors will implement to prevent and, if necessary, control inadvertent spill of fuels, lubricants, solvents, and other hazardous materials. As required in the FERC Procedures and WBI Energy's SPCC Plan, hazardous materials, chemicals, lubricating oils, and fuels used during construction will be stored in upland areas at least 100 feet from wetlands and waterbodies. Refueling of construction equipment will be conducted at least 100 feet from wetlands and waterbodies, whenever possible. Where refueling cannot be accomplished more than 100 feet from wetlands and waterbodies, additional precautions such as continual monitoring of fuel transfer and spill kit readiness will be employed. Implementing the SPCC Plan will limit risks of affecting water quality due to inadvertent spills.

WBI Energy's use of guided bore methods will allow the pipe to be installed underneath the ground surface, avoiding direct impacts to the stream bed and bank of each waterbody crossing. However, a temporary and localized increase in turbidity could occur in the event of an inadvertent release of drilling fluid to the waterbody during guided bore operations (i.e., an inadvertent return). Additionally, equipment bridges used as temporary travel lanes will be required at some guided bore waterbody crossing locations. Drilling fluid to be used on this Project will be primarily composed of water and bentonite clay to achieve the properties necessary to facilitate guided bore operations. 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 (see the Guided Bore Plan in appendix 1F-2 for additional details on drilling fluid additives and Safety Data Sheets). The USEPA does not list bentonite as a hazardous substance and no long-term adverse environmental impacts would be expected should an inadvertent return occur. Similarly, while native soils may mix with the drilling fluid as a result of the drilling process, no adverse environmental impacts from these materials would be expected should an inadvertent return occur. WBI Energy will only use non-petrochemical based, non-hazardous drilling fluid additives.

Due to the possibility of drilling fluid loss during guided bore operations, WBI Energy has developed a Guided Bore Plan, which is provided in appendix 1F-2 of Resource Report 1. This plan describes measures to prevent, detect, and respond to inadvertent returns including, but not limited to, the following: monitoring during drilling operations, equipment, and materials that must be readily available to contain and clean up drilling mud; containment and mitigation measures; notification requirements; and guidelines for abandoning the directional drill, if necessary.

2.2.9 Proposed Facility Operations

Operation of the new pipeline and aboveground facilities is not expected to result in any impacts on surface water use or quality unless maintenance activities involving pipe excavation and/or repair are required in proximity to waterbodies. If excavation of the pipeline within or adjacent to a waterbody is required during operations, WBI Energy would mitigate impacts by

obtaining the appropriate permits and employing mitigation similar to that previously described for pipeline construction activities.

2.3 WETLANDS

2.3.1 Existing Wetland Resources

Wetlands are communities situated in the transition zone between upland and aquatic communities where vegetation and soil characteristics are influenced by intermittent to permanent saturation or flooding.

Glaciation in North Dakota created a unique landscape characterized by isolated depressions, which catch runoff from localized watersheds. The wide-ranging area defined by this type of topography is commonly referred to as the "prairie potholes" region. These depressions are saturated or inundated during the wetter spring and early summer months, but frequently dry out during the summer and fall months as precipitation decreases. During drier months, or when low rainfall conditions are present throughout the year, many of these prairie potholes are dry enough that they can be cultivated and farmed along with the surrounding upland areas.

WBI Energy conducted field surveys during the 2021 field survey season to identify and delineate wetlands within the proposed pipeline construction corridor and other workspace areas. In total, the field surveys examined approximately 53.6 miles (89 percent) of the proposed pipeline route and the proposed aboveground facilities, access roads, and contractor yards. Approximately 6.9 miles (11 percent) of the pipeline route and some additional access roads and contractor yards were not field surveyed as a result of route variations identified after the conclusion of the 2021 field survey season or frozen conditions late in the survey season. All delineated wetlands were delineated in accordance with the 1987 *Corps of Engineers Wetlands Delineation Manual* and the Regional Supplement to the 1987 Manual, *Great Plains Region* (USACE, 1987; 2010). Delineated wetlands were classified according to methodologies set forth in *Wetlands and Deepwater Habitats of the United States* (Cowardin et al., 1979). A copy of the Project's wetland and waterbody delineation report is provided in appendix 2B of this report. In addition, appendix 2B (*to be filed as a supplement*) includes a map of the National Wetland Inventory (NWI) wetlands for the Project area.

The proposed Project area crosses 54 wetlands. Table 2.3-1 provides a summary of wetland impacts by wetland type along the proposed pipeline route. Appendix 2C provides a complete list of wetlands identified along the proposed pipeline route with MP locations, classification, crossing length, and area affected by construction and operation of the proposed facilities. Data provided in table 2.3-1 and appendix 2C are based on WBI Energy's 2021 field surveys. WBI Energy reviewed the NWI in areas that were not surveyed in 2021. No additional NWI wetlands were identified. Additional field survey data will be provided after completion of the 2022 field survey season.

TABLE 2.3-1

Wahpeton Expansion Project
Wetland Types Crossed by the Project [a]

NWI Classification [b]	Approximate Crossing Length (feet) [c]	Acreage Affected During Construction (acres) [d]	Acreage Affected During Operation
PEM	4,488	11.4	0.0[e]
PSS	NA	0.8	0.0
PFO	178	0.4	<0.1[f]
Project TOTAL	**4,666**	**12.6**	**<0.1**

[a] Wetland crossings are based on WBI Energy's field survey data as of the end of the 2021 field season.

[b] Types listed are those occurring within the 75-foot-wide construction corridor based on Cowardin classifications.
PEM = Palustrine emergent; may be temporarily, seasonally, or semi-permanently flooded
PSS = Palustrine scrub shrub
PFO = Palustrine forested

[c] The length of the centerline crossing was calculated from field-delineated or NWI polygons, rounded to the nearest foot, and summed for each type. Values are rounded to the nearest tenth of an acre.

[d] Based on the construction corridor and additional workspace areas associated with the construction corridor.

[e] All palustrine emergent wetlands crossed by the Project will be restored to their original contour and re-seeded with a native emergent seed mix after construction; therefore, no permanent impacts will occur for the palustrine emergent wetlands crossed by the Project.

[f] Woody vegetation will likely be permanently removed in the forested wetlands identified within the 10-foot wide permanent easement along the pipeline route. The vegetation removal will constitute a wetland conversion from palustrine forested to palustrine emergent and, therefore, is considered an operational impact.

2.3.2 Wetland Crossing Methods

WBI Energy will construct wetland crossings in accordance with the FERC Procedures, approved site-specific modifications to the FERC Procedures and/or other applicable federal, and state permit requirements such as the conditions included in the United States Army Corps of Engineers (USACE) authorization under Section 404 of the CWA. Section 1.3.2.2 of Resource Report 1 describes wetland crossing methods in detail.

2.3.3 Wetland Impacts and Mitigation

As shown in table 2.3-1 above and appendix 2C, the proposed pipeline route will temporarily affect approximately 12.6 acres of wetlands and will result in the conversion of less than 0.1 acre of palustrine forested wetland to emergent wetland. No wetlands will be permanently drained or filled as a result of Project construction.

Pipeline construction will result in temporary alterations of the vegetative cover in wetlands along the proposed right-of-way. In the short-term, construction activities have the potential to diminish the recreational and aesthetic value of wetlands through clearing, trenching, spoil placement, vehicle traffic, and related construction disturbances. Wetland functions such as erosion control, buffering, flood flow attenuation, sediment retention, and nutrient retention will be affected by construction. These effects typically will be greatest during and immediately following construction through the short term. Impacts on palustrine emergent wetlands will likely be of short duration as these types of wetlands can regenerate relatively rapidly. Revegetation will typically occur during the growing season following construction and the disturbed wetland will likely become re-established to preconstruction conditions in two or three growing seasons after construction. Impacts on palustrine forested and scrub shrub wetlands will be longer term.

Moreover, pipeline construction is likely to permanently alter the vegetation within a portion of the affected palustrine forested wetlands as the regrowth of trees and shrubs will likely be prevented by WBI Energy's vegetation maintenance on the permanent right-of-way. In wetlands, this may include maintaining a corridor centered on the pipeline up to 10 feet wide in a herbaceous state and selective cutting and removal of trees within 15 feet of the pipeline with roots that could compromise the integrity of pipeline coating.

Other types of impacts associated with construction of the pipeline facilities could include temporary changes to wetland hydrology and water quality. During construction, failure to segregate topsoil over the trench in wetlands could result in the mixing of the topsoil with subsoil material. This could result in reduced fertility and limit the success of revegetation efforts after construction. In addition, inadvertent compaction and furrowing of soils during construction could result from the temporary stockpiling of soil and the movement of heavy machinery. This could alter the natural hydrologic patterns of the wetlands, inhibit seed germination, or increase seedling mortality. Altered surface drainage patterns and hydrology could increase the potential for siltation and turbidity could result from construction and trenching activities.

WBI Energy will minimize impacts on wetlands by using the construction techniques described in section 1.3 of Resource Report 1 by implementing measures identified in the FERC Procedures and by complying with the conditions of applicable permits. The primary means to minimize impacts on wetlands during construction are limiting the width of the construction right-of-way in wetlands; limiting the amount of equipment and use of extra workspace in and adjacent to wetlands; using equipment stabilization measures such as timber mats, which help minimize compaction; limiting grading in wetlands; and segregating topsoil over the trenchline (but not in saturated conditions in accordance with the FERC Procedures).

WBI Energy proposes to utilize a 75-foot-wide construction right-of-way through wetlands consistent with the FERC Procedures and will request site-specific modifications if it identifies any wetland areas where there is a need for additional right-of-way width. Within wetlands, herbaceous vegetation will generally be left intact except for the trenchline. Tree clearing will be necessary in the forested wetlands within the proposed workspace. WBI Energy will also take precautionary measures outside wetlands to prevent construction in uplands from having impacts on wetlands. These measures are outlined in the FERC Plan and include the following:

- installing sediment barriers across the entire construction right-of-way immediately upslope of the wetland boundary at unfarmed wetland crossings, where necessary, to prevent sediment flow into wetlands; and

- installing sediment barriers along the edge of the construction workspace where unfarmed wetlands are adjacent to the construction right-of-way and the ground surface slopes toward the unfarmed wetlands—this will minimize the risk of sediment flowing into unfarmed wetlands.

In addition to the protective measures described above, WBI Energy will locate ATWS areas a minimum of 50 feet from the edge of wetlands, except in locations where the adjacent upland consists of cultivated or rotated cropland or other disturbed land. If ATWS is required within 50 feet of a wetland, WBI Energy will formally request a modification from the FERC Procedures including site-specific justification (see section 1.3 of Resource Report 1). In both

wetland and upland workspace, original topographic conditions and contours will be restored to the maximum extent practicable after completion of construction.

WBI Energy plans to complete pipe bending and welding prior to excavating the trench in wetlands. Once the trench is excavated, the pipe will be installed and the trench will be backfilled as quickly as possible. For wetlands that could be inadvertently drained as a result of trenching activities, trench plugs will be left in place until immediately prior to pipe installation. Drag sections and tie-ins may be utilized outside of the wetland for wetlands where trench plugs are not practical and where a minimum section of trench is open each day and a prefabricated section of pipe is installed and backfilled in the same day. To prevent affecting hydrology of wetlands that may be subject to drainage as a result of water following from the pipeline along the trench, permanent trench breakers will be installed at the boundaries of wetlands to maintain wetland hydrology.

In unfarmed wetlands that are not saturated at the time of construction, WBI Energy will segregate topsoil from the trenchline in order to protect its integrity and help preserve the seed bank. Segregating the topsoil should preserve the potential for natural revegetation of the right-of-way to its preconstruction plant community. In most cases, trench spoil excavated in wetlands will be stored in the construction corridor adjacent to where it was excavated. In areas where excavated trench spoil may flow into undisturbed areas of the wetland, silt fence, straw bales, or other appropriate sedimentation control devices will be installed at the edges of the construction right-of-way to prevent sediment migration.

Following pipeline installation, the trench will be backfilled with material excavated within the wetland and preconstruction contours will be restored to the maximum extent practicable. Additionally, WBI Energy will replace segregated topsoil to the surface layer of the trench during backfilling. Replacing the wetland topsoil and restoring preconstruction hydrology will promote re-establishment of wetland vegetation. Following construction, WBI Energy will conduct three years of follow-up monitoring and reporting to monitor restoration of unfarmed wetland plant communities in accordance with the FERC Procedures.

In saturated wetlands where soils are unable to support equipment and safely excavate the trench, temporary work surfaces of timber mats or travel pads will be installed adjacent to the pipeline trench. Construction will proceed as in unsaturated wetlands, except topsoil will not be segregated due to the saturated conditions where these conditions are present. Pipe stringing and fabrication may occur within the wetland adjacent to the trench or in a designated extra workspace adjacent to the wetland.

In accordance with the FERC Procedures, WBI Energy will construct the pipeline facilities across farmed wetlands using the same methods as adjacent farmed uplands. Most seasonally saturated farmed wetlands are used for crop production and topsoil will be segregated in the same manner as topsoil in upland agricultural lands. Pipe stringing and fabrication will generally occur within the farmed wetland adjacent to the trench or adjacent to the farmed wetland in a designated ATWS.

Inadvertent spills of fluids used during construction,—such as fuels, lubricants, and solvents—may contaminate wetland soils during construction. To minimize the potential for spills in wetlands and any impacts from such spills, WBI Energy will implement the measures identified in its SPCC Plan (see appendix 1F-1 of Resource Report 1) as described above in section 2.2.7.

During construction, erosion controls will be placed where necessary along the pipeline right-of-way and extra workspaces to minimize impacts on adjacent unfarmed wetlands in accordance with the FERC Plan, FERC Procedures, and applicable permits. Erosion and sedimentation barriers will be installed and maintained throughout the construction period to prevent disturbed soils and sediment from migrating into adjacent undisturbed wetland areas. During trench-dewatering activities, trench water will be removed and filtered to remove sediments and dewatering will occur outside of wetlands within well vegetated upland areas.

2.3.4 Compensatory Wetland Mitigation

As noted earlier, no wetlands will be permanently drained or filled as a result of Project construction. The Project may result in less than 0.1 acre of wetland conversion of palustrine forested to palustrine emergent wetlands in the permanent pipeline easement. Therefore, the permanent conversion of palustrine-forested wetland will likely not require compensatory mitigation under the CWA Section 404 permitting process with the Omaha District USACE.

2.4 CUMULATIVE IMPACTS

Section 1.10 of Resource Report 1 defines a cumulative impact and describes the general scope of the cumulative impact analysis. This section describes the potential cumulative impacts on groundwater, surface water, and wetlands from the Project combined with the reasonably foreseeable future actions (RFFA) identified in appendix 1I and figure 1.10-1 of Resource Report 1. The location, proposed schedule, and a description of each RFFA are provided in appendix 1I.

The cumulative impact assessment for groundwater, surface water, and wetlands focuses on impacts from RRFAs that could reasonably extend throughout an HUC-12 subwatershed that will also be affected by the proposed Project during the time of active construction until successful revegetation has been achieved.

2.4.1 Groundwater Resources

The potential for impacts on groundwater resulting from construction and operation of the Project facilities could cause localized changes to existing groundwater flow paths. Permanent impacts on groundwater recharge could also occur from development of impervious surfaces and structures at the proposed aboveground facility sites.

The following RFFAs fall within the HUC-12 subwatersheds crossed by the Project and the Project's temporal scope for surface water resources (time of active construction through successful revegetation of disturbed areas):

- Meridian Grove 2nd Addition and Asmoor Glen Projects and Flickertail Solar Project: The two housing developments in Cass County and the construction of the Flickertail Solar Project could result in temporary localized impacts to existing groundwater flow paths during construction and permanent impacts on groundwater recharge from the additional impervious surfaces resulting from the new structures.

- NuStar Pipeline Operating Partnership's Pipeline Relocation Project: The NuStar Pipeline Operating Partnership, L.P. is proposing to relocate approximately 2 miles of 10-inch diameter pipeline in Cass County. Impacts on existing groundwater flow

paths will likely be temporary during construction as the area of disturbance will be restored to pre-construction conditions after replacement of the pipeline The pipeline project will be required to implement measures to minimize the risk of groundwater contamination.

- MDU—Kindred Border Station and MDU—Wahpeton Border Station: MDU is proposing a non-jurisdictional distribution system to provide natural gas to industrial and residential customers in Kindred and Wahpeton, North Dakota. The distribution project footprints are anticipated to overlap with the Project footprint by approximately 1 acre at each site and will result in increased impervious surface that will have a slight impact on groundwater recharge. The distribution systems will consist of underground distribution lines that distribute natural gas from the MDU—Kindred Border Station to industrial and residential customers in Kindred and from the MDU—Wahpeton Border Station to customers in Wahpeton, distribution facilities to provide natural gas to landowners from farm taps along the mainline, and power lines to serve non-jurisdictional facilities at the proposed border stations. These appurtenances will likely have only minimal impact to groundwater recharge and will likely result in temporary localized impacts to groundwater flow paths during construction. The MDU Distribution System project will be required to implement best management practices (BMP) to address potential impacts from groundwater contamination.

- Kindred Airport Runway Expansion Project: The Kindred Airport is planning to expand its existing runway and departure surface. This project will result in additional impervious surface that will permanently impact groundwater recharge and there will be temporary localized impacts to groundwater flow paths during construction.

- North Dakota Department of Transportation (NDDOT) Projects: The NDDOT has numerous projects to improve existing road surfaces. There is the potential to have temporary localized impacts to groundwater recharge during construction; however, there will be no increase in impervious surface and, thus, there should be no long-term permanent impacts to groundwater.

- Ongoing agricultural activities: The majority of the Project is located within agricultural land that will continue to be utilized for the production of row crops. There will continue to be alterations in drainage to maintain fields and areas of compaction from the use of farm equipment, which will impact groundwater recharge. There is also the potential for fertilizers and pesticides to leach into the groundwater.

- Fargo Moorhead Area Diversion Project: The diversion project is designed to control flooding, which would ultimately decrease the amount of contaminants that could migrate to groundwater during flood events. There will be no significant increase in impervious surface as part of this project that would reduce groundwater recharge (MNDNR, 2016).

As described in section 2.1.5, WBI Energy will use several mitigation measures to minimize modifications to preferential groundwater flow paths. These include BMPs to reduce

erosion from trench dewatering, trench breakers to reduce erosion within the trench, and minimizing compaction during construction. WBI Energy will implement the SPCC Plan to minimize the potential for discharge of hazardous materials that could affect groundwater. WBI Energy will develop plans to mitigate the potential spread of contamination or discharges of hazardous materials. The overall effect on groundwater recharge resulting from facility construction will not be significant due to the relatively small footprint of impervious surfaces in relation to the total potential recharge area. Additionally, the footprint of each RFFA that falls within the geographic scope for impacts on groundwater is relatively small compared to the size of the subwatershed. Project impacts, when combined with the RFFAs, are not expected to have a significant cumulative impact on groundwater resources as a result.

2.4.2 Surface Water Resources

Small-scale, short-term impacts on waterbodies could occur as a result of construction activities in stream channels within waterbodies and on their adjacent banks. Clearing and grading of stream banks, blasting (if required), in-stream trenching, trench dewatering, and backfilling could each result in temporary local modifications of aquatic habitat involving sedimentation, increased turbidity, and decreased dissolved oxygen concentrations. There is a possibility of drilling fluid loss during guided bore operations. In most cases, these impacts are limited to the period of in-stream construction and conditions will return to normal shortly after stream restoration activities are completed. Operation of the new pipeline and aboveground facilities is not expected to result in any impacts on surface water use or quality.

The following RFFAs fall within the HUC-12 subwatersheds crossed by the Project and the Project's temporal scope for surface water resources:

- Numerous Projects: The two housing developments in Cass County, the Flickertail Solar Project, the MDU Border Stations, the Kindred Airport expansion, the NuStar pipeline relocation, and various road improvement projects could affect surface water resources by increasing sedimentation in surface waters primarily due to vegetation removal and ground-disturbing construction activities. The projects could potentially result in permanent impacts on surface waters from construction of permanent structures and access roads.

- Ongoing agricultural activities: The continuing agricultural activities could result in increased sedimentation and surface runoff of fertilizers and pesticides to surface waters.

- Fargo Moorhead Area Diversion Project: The diversion project is designed to control flooding, which should ultimately improve water quality in the subwatershed (MNDNR, 2016).

Mitigation measures for surface water impacts are described in section 2.2.7. Equipment bridges, mats, and pads will be used at stream crossings to minimize stormwater runoff. Fencing or straw bales will be placed around spoil piles at least 10 feet from the top of the bank. WBI Energy will implement its Guided Bore Plan (see appendix 1F of Resource Report 1). It is expected that all RFFAs will comply with applicable local, state, and federal water quality requirements. The majority of Project impacts will be limited to the relatively brief period of in-stream construction and stream restoration, which will not be expected to coincide with the

known construction schedules for the RFFAs described above. As a result, significant cumulative impacts on surface waters are not expected.

2.4.3 Wetlands

Pipeline construction will result in temporary impacts on wetlands, primarily involving soil disturbance and potential for soil compaction, vegetation removal, and potential spills during construction activities. The Project will result in approximately 12.6 acres of temporary wetland impacts and less than 0.1 acre of wetland conversion.

The following RFFAs fall within the two HUC-12 subwatersheds crossed by the Project and the Project's temporal scope for wetland resources:

- Flickertail Solar Project: The Flickertail Solar Project could result in permanent impacts on wetlands associated with the solar panel structures and permanent access roads. Each of the solar panel structures are assumed to affect less than 0.1 acre at each location and the project will be required to comply with all applicable local, state, and federal wetland impact permitting requirements.

- Meridian Grove 2nd Addition and Asmoor Glen Projects, MDU—Kindred Border Station and MDU—Wahpeton Border Station, and Kindred Airport Runway Expansion Project: The two housing developments, MDU Border Stations, and the Kindred Airport expansion could also result in temporary and permanent impacts on wetlands; however, the projects would be required to comply with all applicable local, state, and federal wetland impact permitting requirements, which include mitigation requirements to offset any potential wetland impacts.

- NuStar Pipeline Operating Partnership's Pipeline Relocation Project: The NuStar pipeline relocation project will likely result only in temporary wetland impacts during construction as the workspace will be restored to its original contour after the pipeline is installed. There is the potential for permanent wetland conversion for scrub shrub or forested wetlands.

- Ongoing Agricultural Activities: The National Food Security Act prohibits the draining of farmed wetlands for agricultural activity; therefore, there should be no permanent impacts to wetlands resulting from the continued production of row crops throughout the Project area and surrounding HUC-12 watershed.

- NDDOT Projects: The proposed road improvement projects are on existing roadway surfaces and should not result in any permanent wetland impacts.

- Fargo Moorhead Area Diversion Project: The diversion project is designed to control flooding. No permanent wetland impacts are proposed as part of this project (MNDNR, 2016).

It is assumed that RFFAs would comply with federal wetlands regulations, which require mitigation measures for impacts on USACE-jurisdictional wetlands. Stormwater pollution prevention regulations require the use of BMPs to prevent runoff from the construction corridor from entering waters of the United States. Additionally, the footprint of each RFFA that falls within

the geographic scope for impacts on wetlands is relatively small compared to the size of the subwatershed. As a result, Project impacts when combined with the RFFAs are not expected to have a significant cumulative impact on wetlands.

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APPENDIX 2A PLAN FOR UNANTICIPATED DISCOVERY OF CONTAMINATED MEDIA

WBI ENERGY TRANSMISSION, INC.

Wahpeton Expansion Project

Appendix 2A

Plan for Unanticipated Discovery of Contaminated Environmental Media

Draft

Docket No.
PF21-4-000

March 2022

WBI ENERGY TRANSMISSION, INC.
WAHPETON EXPANSION PROJECT
PLAN FOR UNANTICIPATED DISCOVERY OF CONTAMINATED ENVIRONMENTAL MEDIA

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ACRONYMS AND ABBREVIATIONS

EI	Environmental Inspector
Project	Wahpeton 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 Wahpeton Expansion Project (Project). WBI Energy recognizes that 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 the following:

- 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 and debris.

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:	To Be Determined
Office Phone:	To Be Determined
Cell Phone:	To Be Determined
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 have 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 it is 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 by 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 the 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.

The potential contaminant will be characterized concurrently with the installation of containment measures. 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, the suspected nature of the contaminants, and 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: 1-701-328-5216
  Email: bsuess@nd.gov

- The National Response Center (Washington, D.C.)
  Phone: 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 the following:

- 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 in writing by the appropriate regulatory agency and by WBI Energy. 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.

APPENDIX 2B WETLANDS/WATERBODY DELINEATION REPORT (TO BE FILED AS A SUPPLEMENT)

APPENDIX 2C WETLANDS CROSSED OR OTHERWISE AFFECTED BY THE PROJECT

APPENDIX 2C
Wahpeton Expansion Project
Wetlands Crossed or Otherwise Affected by the Project [a, b]

Wetland ID	Cowardin Classification	Milepost	Centerline Distance Crossed (feet)	Construction Impact (acres)	Operation Impact[c] (acres)	Proposed Crossing Method
PIPELINE FACILITIES						
DSK_WL_05	PEM	2.6	9.4	0.0	0.0	Guided Bore
wcaa002e	PEM	4.9	54.1	0.0	0.0	Guided Bore
wcaa010e	PEM	5.1	11.6	0.0	0.0	Guided Bore
wcaa011e	PEM	5.2	10.5	0.0	0.0	Guided Bore
wcaa003e	PEM	5.9	32.0	0.0	0.0	Guided Bore
wcaa004e	PEM	6.0	24.0	0.0	0.0	Guided Bore
wcaa001e	PEM	6.6	14.7	<0.1	0.0	Open Cut
wcaa005e	PEM	8.9	48.4	0.0	0.0	Guided Bore
DSK_WL_04	PEM	10.0	88.4	0.2	0.0	Open Cut
wcaa006e	PEM	10.0	0.0	<0.1	0.0	Open Cut
wcab001e	PEM	13.7	0.0	<0.1	0.0	Open Cut
wcab003e	PEM	13.7	0.0	0.0	0.0	Guided Bore
wcab002e	PEM	13.9	0.0	0.0	0.0	Guided Bore
wcab004e	PEM	14.7	21.5	0.0	0.0	Guided Bore
wcab005e	PEM	15.7	12.0	0.0	0.0	Guided Bore
wcab008e	PEM	18.8	29.1	0.0	0.0	Guided Bore
wria002e	PEM	28.3	17.2	0.0	0.0	Guided Bore
wria004e	PEM	31.4	14.6	0.0	0.0	Guided Bore
wrib001e	PEM	32.1	164.8	0.3	0.0	Open Cut
wrib003e	PEM	32.6	385.6	0.6	0.0	Open Cut
wrib005e	PEM	32.9	88.1	0.1	0.0	Open Cut
wrib006e	PEM	33.2	38.2	<0.1	0.0	Open Cut
wrib006e	PEM	33.4	38.2	0.0	0.0	Guided Bore
wrib007e	PEM	33.5	376.9	0.9	0.0	Open Cut
wrib013e	PEM	34.1	103.3	0.2	0.0	Open Cut
wrib014f	PFO	34.3	178.3	0.2	<0.1[d]	Open Cut
wrib014e	PEM	34.3	214.7	0.4	0.0	Open Cut
wrib021e	PEM	34.5	821.3	2.4	0.0	Open Cut
wrib015e	PEM	35.6	14.4	0.0	0.0	Guided Bore
wrib016e	PEM	35.6	22.7	0.0	0.0	Guided Bore
wrib017e	PEM	35.7	368.0	0.0	0.0	Guided Bore
wrib018e	PEM	35.8	245.1	0.4	0.0	Open Cut
wrib020f	PFO	36.0	0.0	0.1	<0.1[d]	Open Cut
wrib020e	PEM	36.0	96.3	<0.1	0.0	Open Cut
wrib019e	PEM	36.1	586.2	0.0	0.0	Guided Bore
wria006e	PEM	36.3	463.4	0.8	0.0	Open Cut
wria005e	PEM	37.8	12.4	<0.1	0.0	Open Cut
wria009e	PEM	42.3	10.8	0.0	0.0	Guided Bore
wria008e	PEM	42.4	15.7	0.0	0.0	Guided Bore
wrid004e	PEM	51.9	23.3	0.0	0.0	Guided Bore
DSK_WL_01	PEM	60.1	21.5	0.1	0.0	Open Cut
DSK_WL_02	PEM	60.2	0.0	<0.1	0.0	Open Cut

APPENDIX 2C
Wahpeton Expansion Project
Wetlands Crossed or Otherwise Affected by the Project [a, b]

Wetland ID	Cowardin Classification	Milepost	Centerline Distance Crossed (feet)	Construction Impact (acres)	Operation Impact[c] (acres)	Proposed Crossing Method
SUBTOTAL				**7.2**	**<0.1**	
ACCESS ROADS						
Wrid003e	PEM	NA	NA	<0.1	0.0	NA
Wcab004e	PEM	NA	NA	0.0	0.0	NA
Wcaa007e	PEM	NA	NA	<0.1	0.0	NA
Wcaa009e	PEM	NA	NA	<0.1	0.0	NA
SUBTOTAL				**0.2**	**0.0**	
ABOVEGROUND FACILITIES						
WHAPETON BORDER STATION						
DSK_WL_03	PEM	NA	NA	0.1	0.0	Open Cut
PIPE YARDS						
WAHPETON YARD						
Wrib022e	PEM	NA	NA	<0.1	0.0	NA
Wrib022f	PFO	NA	NA	0.1	0.0	NA
Wrib023s	PSS	NA	NA	0.6	0.0	NA
COMSTOCK YARD						
Wrib026e	PEM	NA	NA	0.3	0.0	NA
Wrob024s	PSS	NA	NA	0.2	0.0	NA
Wrib025e	PEM	NA	NA	<0.1	0.0	NA
KOST YARD						
Wcab009e	PEM	NA	NA	1.9	0.0	NA
Wcab010e	PEM	NA	NA	1.6	0.0	NA
Wcaa008e	PEM	NA	NA	0.3	0.0	NA
SUBTOTAL				**5.2**	**<0.1**	
TOTAL				**12.6**	**<0.1**	

[a] The numbers in this table have been rounded for presentation purposes. As a result, the subtotals and totals may not reflect the exact sum of the addends in all cases.
NA = not applicable
PEM = Palustrine emergent wetland
PFO = Palustrine forested wetland
PSS = Palustrine scrub shrub wetland
[c] All PEM wetlands will be restored to their herbaceous state; therefore, no permanent impacts will occur
[d] Permanent woody vegetation removal in PFO will occur in the 10-foot wide permanent pipeline easement. The permanent removal of woody vegetation will constitute a wetland conversion of PFO to PEM wetland.