

**Thunder Butte Pipeline, LLC
Thunder Butte Pipeline Project**

ENVIRONMENTAL MITIGATION PLAN

**North Dakota Public Service Commission
Case No. PU-24-086**

October 2024

Table of Contents

1.0	INTRODUCTION	1
2.0	GENERAL MITIGATION MEASURES	2
2.1	Contractor	2
2.2	List and Permits	2
2.3	Environmental Inspector	2
2.4	Rights-Of-Way	3
2.5	Dust Control.....	3
2.6	Undesirable Species Control.....	3
2.7	Non-Hazardous Wastes	3
2.8	Hazardous Wastes.....	4
2.9	Burning and Fire Prevention	4
2.10	Wet Weather.....	4
3.0	SPILL PREVENTION	5
3.1	General.....	5
3.2	Storage	5
3.3	Refueling	5
3.4	Cleanup and Emergency Notification	6
4.0	TEMPORARY EROSION AND SEDIMENT CONTROL	6
4.1	General.....	6
4.2	Sediment Barriers	6
4.3	Temporary Slope Breakers	7
4.4	Temporary Mulching	7
5.0	ROAD AND RAILROAD CROSSINGS	8
6.0	PIPELINE CONSTRUCTION PROCEDURES.....	8
6.1	Clearing	8
6.2	Grading.....	9
6.3	Topsoil Removal and Storage.....	9
6.4	Trenching.....	10
6.5	Pipe Preparation and Installation	10
6.6	Trench Backfilling.....	11
6.7	Cleanup	11

6.8 Permanent Erosion and Sediment Control 12

6.8.1 Permanent Slope Breakers 12

6.9 Reclamation and Revegetation 12

6.9.1 Soil Compaction..... 13

6.9.2 Rock Removal 13

6.9.3 Seeding and Mulching 13

6.9.4 Tree and Shrub Mitigation..... 14

6.9.5 Fences, ROW and Pipeline Markers 15

7.0 WETLAND CROSSINGS 15

7.1 General..... 15

7.2 Easement and Workspace 16

7.3 Wetland Crossing Methods 16

7.4 Restoration and Reclamation 18

8.0 SURFACE WATER AND GROUNDWATER DRAINAGE 19

9.0 HYDROSTATIC TESTING 20

9.1 General..... 20

9.2 Test Water Source 20

9.3 Water Discharge 20

10.0 AGRICULTURAL PRODUCTION, FAMILY FARMS, AND RANCHES..... 21

11.0 VEGETATION, WILDLIFE, AND LIVESTOCK..... 22

12.0 CULTURAL RESOURCES..... 25

13.0 REFERENCES 26

Appendix

Appendix A Construction Schematics

1.0 INTRODUCTION

Thunder Butte Pipeline, LLC (TBPL) has prepared this Environmental Mitigation Plan (EMP) for the Thunder Butte Pipeline Project (Project). The Project will include construction of a proposed new pipeline, conversion of an existing crude oil gathering pipeline to a crude oil transmission pipeline, and construction of a midline pump station with one permanent access road adjacent to the existing pipeline. The proposed new pipeline will commence at the existing TBPS Facility and terminate at the interconnection with the existing Enbridge pipeline approximately 2.1 miles southeast of Plaza, North Dakota. From the interconnection point, crude oil will be transported in the existing pipeline to the termination point at the existing Enbridge Storage Facility in Stanley, North Dakota.

This EMP outlines general construction-related mitigation measures that will be implemented during construction of the Project to minimize potential environmental impacts. TBPL and its construction contractors (Contractors) will comply with applicable industry-wide standards and regulatory requirements. Specific conditions associated with agency permits are not addressed herein.

TBPL is in the process of developing several Project control plans that would be utilized during construction activities to minimize and mitigate impacts to environmental resources. These plans include the following, which would be incorporated into contract documents and implementation will be enforced by TBPL:

- Stormwater Pollution Prevention Plan (SWPPP)
Construction stormwater management and erosion/sediment control measures.
- Spill Prevention, Control, and Countermeasure (SPCC) Plan
Spill prevention measures and Best Management Practices (BMPs) with details on spill response and notification procedures in the event of an inadvertent spill.
- Unanticipated Discoveries Plan
Response measures to be implemented in the event of a discovery of cultural resources or human remains.
- Weed Management Plan
A Weed Management Plan has been developed for the Project. BMPs will be implemented to prevent the spread of invasive and noxious weeds and to minimize the risk of importing or transporting any weed species. Equipment and tools will be cleaned of any plant debris before ingress and egress from the project area.
- Dust Control Plan
Measures to minimize and control fugitive dust during construction activities and soil disturbances.

- Integrity Management Plan

Measures to be implemented to comply with applicable federal regulations and outlines preventive maintenance, inspection, line patrol, leak detection systems, SCADA, and other pipeline integrity procedures to be implemented to ensure the safe operation of the project. During operations, the Project will be monitored remotely 24 hours a day, 7 days a week using a SCADA system.

Resource-specific measures will include the use of the horizontal directional drilling (HDD) method and bore methods to avoid impacts at crossings of waters of the United States (WOUS) as identified by the United States Army Corps of Engineers (USACE) Approved Jurisdictional Determination (AJD) (USACE 2024), roads, and railroad ROW, if needed. Additional resource-specific measures are described in the following subsections.

This EMP was prepared in accordance with the U.S. Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP) for Stormwater Discharges from Construction Activities, Indian country within the State of North Dakota (NDR10I000), the North Dakota Department of Environmental Quality, Division of Water Quality, NPDES General Permit for Stormwater Discharges Associated with Construction Activity (NDR11-0000).

2.0 GENERAL MITIGATION MEASURES

2.1 Contractor

The requirements of this EMP and applicable environmental permits will be contractual obligations for the Contractor. The Contractor will ensure that persons engaged in construction of the Project are informed of these construction requirements.

2.2 List and Permits

TBPL will provide the Contractor with a construction list that describes special requirements, as agreed upon with private landowners and as required through agency permitting processes (e.g., road crossing permits).

2.3 Environmental Inspector

TBPL will provide construction oversight to confirm Contractor compliance with the measures of this EMP and any landowner agreements as well as applicable federal, state, and local environmental permits. TBPL will retain one or more third-party inspectors ("Environmental Inspector") who are knowledgeable of the environmental mitigation requirements for this Project. The Environmental Inspector will have the authority to stop construction activities and order corrective mitigation for actions that are not in compliance with this EMP, any landowner agreements, or environmental permit requirements. The Environmental Inspector will maintain appropriate records to document compliance with these and other applicable environmental permit

conditions. At the end of each week, the Environmental Inspector will summarize daily reports into a weekly report that will be submitted to TBPL. In turn, the weekly reports will be summarized in a monthly report submitted to the North Dakota Public Service Commission (NDPSC).

2.4 Rights-Of-Way

Access to the pipeline construction ROW will be from public roadways and private landowner-approved access roads. The Contractor will mark access routes with signs to clearly identify approved access roads.

All construction equipment and vehicles will be confined to approved access roads, the permitted pipeline construction ROW, and additional temporary workspaces.

2.5 Dust Control

Dust control related to construction activities will be accomplished through physical and administrative means.

All construction-related vehicles will adhere to posted speed limits on public roadways and as designated in landowner agreements on private lands. Work hours near residential areas may be limited.

The Contractor may use multiple methods to wet the ROW to control airborne dust, including water trucks and sprinklers, or additional measures as appropriate, based on site-specific conditions.

2.6 Undesirable Species Control

BMPs will be implemented to prevent the spread of noxious weeds and to minimize the risk of importing or transporting weed species. A Weed Management Plan has been developed.

For equipment known to have passed through a weed-infested area, the undercarriage will be cleaned thoroughly with high-pressure washing equipment prior to ingress and egress from the Project area.

For areas to be revegetated, seeding will be conducted in accordance with landowner agreements or as specified by the Natural Resources Conservation Service (NRCS). Only certified weed free vegetative components (e.g., mulch, straw/hay bales, seed mixes) will be used on the Project.

2.7 Non-Hazardous Wastes

The Contractor will handle and dispose of human wastes by use of portable, self-contained toilets. Wastes from these units will be collected by a licensed contractor for disposal only at licensed and approved facilities.

The Contractor will remove all trash from the construction ROW on a daily basis unless otherwise approved or directed by TBPL.

The Contractor will dispose of HDD cuttings and drilling mud. Disposal options may include spreading over the construction ROW in an upland location approved by the landowner or hauling to an approved licensed landfill. If the HDD mud is disposed on landowner-approved lands, testing of the HDD mud may be required by the landowner or state agency prior to disposal. All waste will be properly disposed of per regulatory agency requirements.

2.8 Hazardous Wastes

The Contractor will ensure that all hazardous and potentially hazardous materials are transported, stored, and handled in accordance with all applicable regulations. Workers exposed to or required to handle hazardous materials will have received proper training in use of those materials, in accordance with the applicable regulations and the manufacturer's recommendations. Hazardous wastes will be transported to licensed waste disposal facilities for disposal.

If toxic or hazardous waste materials or containers are encountered during construction, the Contractor will stop work immediately and notify TBPL. The Contractor will not restart work until clearance is granted by TBPL.

2.9 Burning and Fire Prevention

The Contractor will comply with all federal, state, county, and local fire regulations regarding prevention of uncontrolled fires.

The Contractor will maintain a contact list and information of jurisdictional fire authorities. Fire control equipment, including water and chemical fire extinguishers, will be available at construction sites and construction personnel will be properly trained in the use of such equipment.

Flammable materials kept on a construction site will be stored in approved containers away from ignition sources. All flammable wastes will be removed from construction sites on a regular basis.

Smoking will be prohibited at construction sites, except in designated areas away from flammable materials.

2.10 Wet Weather

Construction activities will be suspended, or adequate protection measures taken, during abnormally wet conditions to minimize rutting, soil compaction, and mixing of topsoil with subsurface soils. Activities may be suspended based on the following conditions:

- type of equipment and nature of construction activity planned for that day;
- potential that rutting may cause mixing of topsoil with subsoil layers;
- extent of surface ponding; and
- the potential for excessive soil compaction.

Construction work will be suspended if these conditions exist unless adequate protection measures are taken to avoid irreparable damage to roads or land, such as through equipment rerouting or the use of construction mats.

3.0 SPILL PREVENTION

3.1 General

The Contractor will ensure that all equipment is free of leaks prior to use on the construction ROW and access roads. Throughout the period of construction, the Contractor will conduct regular maintenance and inspections of the equipment to reduce the potential for spills or leaks.

All equipment parked overnight will be at least 100 feet from a watercourse or wetland, unless otherwise approved by the Environmental Inspector.

Stationary equipment will be placed within a secondary containment if it will be operated or require refueling within 100 feet of a wetland or waterbody boundary.

3.2 Storage

Fuels and lubricants will be stored only at designated staging areas. Storage of fuel and lubricants will be at least 100 feet away from the edge of any perennial watercourse, wetland, storm drain, or any high consequence area.

No bulk fuel or storage tanks will be placed in the construction ROW. Bulk fuel storage at temporary work or construction staging areas will be located in a lined, earthen-berm secondary containment structure.

3.3 Refueling

Refueling and lubrication of equipment will be restricted to upland areas at least 100 feet away from any perennial watercourse, wetland, storm drain, or any high consequence area, except where equipment is required to be within 100 feet of a waterbody (e.g., trench dewatering pump).

Rubber-tired vehicles (e.g., pickup trucks) normally will refuel at the construction staging areas or commercial gas stations. Tracked machinery (e.g., backhoes, bulldozers) will be refueled and lubricated on the construction ROW. Equipment maintenance will be conducted in staging areas when practical. When necessary and with Environmental Inspector approval, equipment repairs may be made on the construction ROW.

Each fuel truck that transports and dispenses fuel to construction equipment or Project vehicles along the construction ROW or within equipment staging areas will carry oil spill response equipment and materials onboard at all times. Truck drivers and construction crew personnel will be trained on proper use of this equipment and materials.

3.4 Cleanup and Emergency Notification

Construction activities will be conducted to allow for prompt and effective cleanup of spills of fuel and other hazardous materials. Each construction crew will have sufficient tools and material to stop leaks and supplies of absorbent and barrier materials to allow rapid containment and recovery of spilled materials. Crew members must know and follow the procedure for reporting spills.

Emergency notification procedures between the Contractor and TBPL will be established in the planning stages of construction. In the event of a spill meeting agency reporting criteria, the Contractor will immediately notify TBPL who will then promptly notify the appropriate regulatory agency.

4.0 TEMPORARY EROSION AND SEDIMENT CONTROL

4.1 General

In accordance with the Project-specific SWPPP, temporary erosion and sediment control measures will be installed prior to initial disturbance of the soil, maintained throughout construction, and reinstalled as necessary until replaced by permanent erosion control structures or restoration of the construction ROW is complete.

The Contractor will inspect all temporary erosion control measures within 24 hours of each significant rainfall event of 0.25 inches or greater. The Contractor will repair or replace all ineffective temporary erosion control measures as expediently as practicable, but prior to the next anticipated rainfall event or within 24 hours of discovery (whichever comes first) or as soon as field conditions allow.

4.2 Sediment Barriers

Sediment barriers will be constructed of silt fence, staked hay or straw bales, fiber rolls, compacted earth (e.g., drivable berms across travel lanes), sandbags, or other appropriate materials.

Sediment barriers will be installed below disturbed areas where there is hazard of offsite sedimentation. Areas where temporary sediment barriers will be placed include: the base of sloped approaches to roadways, flowing streams, and wetlands; along the edge of the construction ROW, as needed to prevent downslope siltation of adjacent waterbodies and wetlands; and as required along trench or test water discharge locations.

Sections of temporary sediment barriers may be designed to allow passage of construction equipment. Sediment barriers will be reinstalled to their original specifications when equipment passage is no longer required, heavy precipitation is imminent, or at the end of the workday, whichever is sooner.

The Contractor will maintain hay or straw bale/wattle and silt fence sediment barriers by

removing collected sediment when it reaches one-half the height of the barrier and replacing the damaged control. If bale filters cannot be replaced due to access problems, the Contractor will place a new row of sediment barriers upslope.

The Contractor will use hay or straw bales that are free of noxious weeds.

The Contractor will remove sediment barriers, except those needed for permanent erosion and sediment control, during cleanup of the construction ROW.

4.3 Temporary Slope Breakers

Temporary slope breakers will be installed to minimize concentrated or sheet flow runoff in disturbed areas at the following recommended spacing:

<u>Slope (%)</u>	<u>Spacing</u>
1	300 feet
2	200 feet
3-5	150 feet
>5	100 feet

Temporary slope breakers will be constructed of earthen material, silt fence, staked hay or straw bales, fiber rolls, sandbags, or similar materials.

When earthen berms are constructed, they will be constructed of subsoil material, when practical, and have a two to eight percent slope with a 4-foot base and 1.5- foot height, or as site conditions require.

Temporary slope breakers will direct outfall to a stable, well-vegetated area or an appropriate energy-dissipating device (e.g., silt fence, hay or straw bales/wattles) at the end of the slope breaker and off the construction ROW. The outfall of each temporary slope breaker will be installed to prevent sediment discharge into wetlands, waterbodies, or other sensitive resources.

A hard plug will be left in place where a slope breaker crosses an open trench.

Temporary slope breakers will not be installed on cultivated land except by landowner request.

4.4 Temporary Mulching

If a disturbed construction work area is inactive for one month or is expected to be inactive for one month or more, the Contractor will apply temporary seed and/or mulch to reduce risk of erosion. The Contractor will not apply temporary mulch in cultivated areas unless specifically requested by the landowner. The Contractor will not apply mulch within wetland boundaries.

Temporary mulch of straw or equivalent applied on slopes will be spread uniformly to cover at least 75 percent of the ground surface at an approximate rate of 2 tons per acre of straw or its equivalent. Mulch application on slopes within 100 feet of waterbodies and wetlands will be increased to an approximate rate of 3 tons per acre.

5.0 ROAD AND RAILROAD CROSSINGS

Construction across paved roads and railroads will be in accordance with the requirements of the road crossing permits and approvals obtained by TBPL. TBPL will use the HDD method to install the proposed pipeline at the crossings of Highway 23, two county roads, and paved driveways. The CPR railroad ROW will be crossed using industry standard jack and bore techniques. Typical HDD and bore schematics for the road and railroad crossings are provided in **Appendix A**.

Unimproved roads, generally minor roads with minimal traffic and natural earth material surfaces, will be crossed using the open cut method. The open cut method may require temporary road closures, reducing traffic to one lane, and traffic detours.

Temporary closures and/or detours will be conducted in accordance with applicable permits and in coordination with local road authorities and landowners. The Contractor will take measures, such as posting signs along detour routes, to ensure safety and minimize traffic disruptions.

6.0 PIPELINE CONSTRUCTION PROCEDURES

The standard pipeline construction process includes clearing and grading, trenching, pipe stringing, bending, welding, lowering the pipeline, padding and backfilling, hydrostatic testing, and ROW cleanup and restoration. Each of these activities is discussed in more detail below.

6.1 Clearing

The initial stage of construction will involve clearing the approved work area (construction ROW and temporary workspaces) to allow for a safe operating environment. Cultivated crops and noxious weeds currently growing within the construction ROW will be removed prior to the start of construction activities.

The maximum width of tree and shrub removal is 50 feet, unless otherwise approved by the Commission. Clearing of trees, brush, and other vegetation from the ROW may be accomplished with hand-held chainsaws, brush hogs, and hydraulic tree-cutting equipment. Woody material will be chipped or mulched onsite or hauled off to an appropriate disposal location, or as otherwise directed by the landowner. No burning will be conducted as part of this Project.

Once the limits of the approved work areas, pipeline centerline, access roads, aboveground facilities, and sensitive areas, such as wetland boundaries and cultural sites, have been staked and flagged, the construction area will be cleared and graded.

During construction, TBPL will avoid removal of trees and shrubs with, if practicable. Trees and shrubs within the Project Corridors were inventoried to record the location, number, and species in accordance with the Commission's Tree and Shrub Mitigation

Specifications (Arcadis U.S., Inc. 2024b):

- Trees with a diameter at breast height of 1 inch or greater (DBH >1 inch) were inventoried to record the location, number, and species.
- Shrubs and all coniferous trees of any diameter were inventoried to record the location, number, and species.

If removal of trees and shrubs cannot be avoided, trees and shrubs with DBH of 1 inch or greater will be replaced consistent with the Commission's Tree and Shrub Mitigation Specifications.

Measures will be taken during construction to maintain continuous access to pastures, grazing units, and livestock facilities. BMPs such as silt fences will be installed along the ROW adjacent to wetlands. Temporary erosion controls will be installed prior to initial disturbance of soils, where necessary, to minimize erosion. Erosion control BMPs will be maintained throughout construction.

6.2 Grading

After clearing, the construction ROW will be graded to provide a relatively level surface that is wide enough to allow for the passage of heavy construction equipment and to provide a safe working surface for equipment and meets the bending limitations of the pipe. All grading will be undertaken with the understanding that original contours and drainage patterns will be re-established to the extent practicable. All work will be conducted in accordance with applicable permits, regulations, or guidelines.

6.3 Topsoil Removal and Storage

Measures will be taken to preserve the physical and chemical property integrity of topsoil so it may be used during final reclamation of the construction ROW. Generally, these measures will segregate the topsoil from underlying subsoil layers to prevent mixing during construction and to allow for easy retrieval during reclamation. Up to a max of 12 inches of topsoil will be removed and segregated from the underlying subsoil. Topsoil will be removed from both the trench and spoil side for the entire length of the pipeline and stored on the temporary construction ROW on the spoil side of the trench for replacement in the affected area after construction. Construction will be suspended, or adequate protection measures taken, during abnormally wet conditions to prevent excessive rutting or mixing of topsoil with subsurface soils. Topsoil will not be used for construction of earthen berms, trench breakers, to fill low areas, or to backfill the trench.

After pipe has been strung, welded, coated and inspected, it will be lowered into the ditch and the dirt stockpile from excavation will be used for backfilling after sorting out and removing the rocks. After the ditch has been backfilled, the topsoil will be replaced and approximate original contours restored. Wetland edges will be stabilized and permanent erosion control measures will be installed. All timber riprap, timber mats, and prefabricated equipment mats and other construction debris will be removed.

Once construction is complete, the pipeline ROW and temporary workspace will be restored to its original contour and condition to the extent practicable, except that trees and shrubs will be regularly removed from the permanent ROW to facilitate Project inspection and maintenance.

6.4 Trenching

Trenches will be excavated using a trencher or backhoe to a depth sufficient to provide the minimum cover required by federal, state, and local governments, as well as landowner requirements. If areas of solid rock are encountered, special excavation equipment and/or techniques will be used.

The amount of open trench permitted at any time during the Project will be dependent on the stability of the trench and weather conditions. In areas where livestock is confined or in cultivated fields, temporary “plugs” will be installed at regular intervals along the ROW to provide safe access for livestock and farm equipment across the open trench.

The trench will be excavated to a depth that will enable the pipeline to be buried with a minimum cover of 72 inches. Excavated material will be side cast within the construction ROW with consideration for topsoil segregation, as noted in Section 6.3. Excavated material will be stored in a manner to minimize erosion and sedimentation.

TBPLs will be left in the ROW lateral spoil piles that coincide with breaks in the strung pipe to facilitate natural drainage patterns and to allow the passage of livestock or wildlife.

Trenching operations will be followed as closely as practicable by lower-in and backfill operations to minimize the length of time the ditch is open.

When pumping captured stormwater from the trench, the Contractor will ensure that adequate pumping capacity and sufficient hose is available. The discharge of pumped water will be through filter bags or other method detailed in the SWPPP and in accordance with the environmental mitigation measures outlined throughout this EMP. If shallow groundwater is encountered during trenching that requires more extensive dewatering, a separate dewatering discharge permit will be obtained. Energy dissipation devices will be used for dewatering discharges to minimize erosion.

If drain tile is encountered during construction, the Contractor will repair and/or replace the drain tile. Additionally, if any culverts are disturbed during construction the Contractor will repair and/or replace the culverts.

6.5 Pipe Preparation and Installation

Pipe will either be stored at the staging area located at the midline pump station, within the TBPS Facility, or transported directly to the pipeline ROW. Following trenching, pipe will be strung along the ROW. A stringing crew using special trailers will move the pipe along the ROW. Pipe lengths will typically be 40 to 60 feet long.

A pipe-bending machine will be used for making slight bends in the pipe to accommodate variations in the pipeline route or to conform to the topography. Using a

series of clamps and hydraulic pressure, the bending machine is used to make a smooth, controlled bend in the pipe. Bending will be in accordance with federal standards to ensure integrity of the bend. Pipe used for sharp bends are bent at the mill. The pipe will be pre-coated with a fusion-bonded epoxy external coating to provide corrosion protection. An ARO coating will also be used on pipe installed via HDD or bore.

The welding process joins the sections of pipe into one continuous length. All welders will be required to pass an approved qualification test; the test will use Project-specific weld procedures developed in accordance with federally adopted welding standards. All field welds will be nondestructively tested to ensure structural integrity and compliance with USDOT regulations. Once welds are approved, the joints will be externally coated and the entire pipeline will be visually and electronically inspected for coating defects, scratches or other damage. Any damage or defects will be repaired before lowering the pipe into the trench.

Prior to lowering into the trench, the coated and welded pipeline will be inspected to ensure it is free of defects. Several side-boom tractors will simultaneously lift the welded sections of pipe and lower them into the trench. Non-metallic slings will be used to protect the pipe and coating as it is raised and lowered into position. Sandbags or foam blocks will be placed at the bottom of the trench prior to laying the pipe in rocky areas to protect the pipe and coating from damage.

As necessary, trench breakers or water stops will be installed adjacent to wetlands and in steep topography to eliminate water migration along the trench. When required, the trench will be dewatered prior to lowering in the pipe. Dewatering effluent will pass through sediment filters, such as hay bale structures and/or filter base, to ensure compliance with applicable water quality requirements.

6.6 Trench Backfilling

Once the pipe is installed, the trench will be backfilled. Soil will be returned to the trench in the reverse order of excavation. The pipeline will be buried with a minimum cover of 72 inches. Subsoil will be returned to the trench first, followed by the topsoil. The trench line will be compacted with a wheeled-roller or other suitable construction equipment. A crown will be left over the trench line to allow for natural subsidence. If the excavated material contains rocks that could damage the pipe and/or coating, a rock shield will be used to protect the pipe. Topsoil will not be used for padding.

6.7 Cleanup

Cleanup activities to restore the ROW and other disturbed areas to the approximate pre-construction conditions will be conducted immediately following backfilling operations, as weather conditions permit. All non-hazardous and hazardous materials will be disposed of in accordance with measures outlined in Section 2.7 and Section 2.8.

The ROW will be re-contoured with spoil material to approximate pre-construction

contours and surface drainage patterns. Loading of slopes with unconsolidated spoil material will be avoided during slope re-contouring. Topsoil will be replaced after re-contouring of the grade with subsoil. The topsoil will be replaced on the subsoil storage area and over the trench so that after settling occurs, the topsoil's approximate original depth and contour (with an allowance for settling) will be achieved. Subsoil will not be placed on top of topsoil.

Temporary sediment barriers will be removed and accumulated sediment will be re-contoured with the rest of the ROW. As needed, permanent erosion controls will be installed.

6.8 Permanent Erosion and Sediment Control

After final grading and contouring of upland areas, sloped areas will be stabilized with permanent erosion control structures.

6.8.1 Permanent Slope Breakers

Permanent slope breakers will be installed to minimize concentrated or sheet flow runoff in disturbed areas. Permanent slope breakers will be constructed of earthen material. Slope breakers will divert surface runoff to adjacent stable vegetated areas or to energy-dissipating devices. In general, permanent slope breakers should be installed immediately downslope of all trench breakers. Permanent slope breakers will be installed as specified on the construction drawings or generally with a minimum spacing as shown on the following table:

<u>Slope (%)</u>	<u>Spacing</u>
<5	125 feet
5-10	100 feet
10-20	75 feet
20-30	50 feet
>30	25 feet

The gradient (fall) for each slope breaker will be two to eight percent unless otherwise modified as required by site-specific conditions.

6.9 Reclamation and Revegetation

Reclamation and revegetation activities are designed to return disturbed areas to approximately pre-construction use and capability in accordance with landowner agreements. The following mitigation measures will be utilized, unless otherwise modified to address site specific conditions or circumstances.

Once construction is complete, the pipeline ROW and temporary workspaces will be restored to its original contour and condition to the extent practicable, with the exception of trees and shrubs that must be removed from the ROW to facilitate Project inspection and maintenance. After the ditch has been backfilled, the topsoil will be replaced and

approximate original contours restored. Wetland edges will be stabilized and permanent erosion control measures will be installed. For areas to be revegetated, seeding will be conducted in accordance with landowner agreements or as specified by the NRCS. All timber riprap, timber mats, and prefabricated equipment mats and other construction debris will be removed.

6.9.1 Soil Compaction

Compacted cultivated land and any other severely compacted or rutted areas within the construction ROW will be tilled or chiseled to loosen compacted soils. If mechanical relief of compaction is unsuccessful, plowing under of organic matter, including wood chips and manure, or planting of a green crop such as alfalfa, will be considered to decrease soil bulk density and improve soil structure.

6.9.2 Rock Removal

On agricultural land, rocks greater than 4 inches in diameter that are exposed on the surface due to construction activity will be removed from the ROW prior to and after topsoil replacement.

Clearing of rocks may be conducted with a mechanical rock picker or by manual means, provided that preservation of topsoil is assured. Rock removed from the ROW will be hauled off the landowner's premises or disposed of on the landowner's premises at a location that is mutually acceptable to the landowner and to TBPL.

6.9.3 Seeding and Mulching

Revegetation will be implemented in accordance with landowner agreements. For areas to be seeded, the final seed mixture will be based on recommendations from the local NRCS or otherwise specified by the landowner.

Certificates of seed analysis are required for all seed mixes to restrict the introduction of noxious weeds. Seed will be used within 12 months of testing.

Seeding will follow cleanup, re-grading, and topsoil replacement as closely as possible. Seed will be applied to all disturbed surfaces, except cultivated fields unless requested by the landowner.

If mulch was applied for temporary erosion control during construction activities, the Contractor will remove and dispose of the excess mulch prior to seedbed preparation to ensure that seedbed preparation equipment and seed drills do not become plugged with mulch. After seeding, the Contractor may evenly re-apply and anchor (straw crimp) the removed temporary mulch on the construction ROW.

Seeding will be completed at a rate appropriate for the region and stability of the reclaimed surface. Seeding rates will be based on pure live seed specifications for the seed mix. The Contractor will plant seed at depths consistent with the local or regional agricultural practices.

The Contractor will use a drill seeder equipped with a cultipacker designed and equipped

to apply grass and grass-legume seed mixtures. Equipment will include mechanisms (e.g., seed box agitator) to allow even distribution of all species in each seed mix, an adjustable metering mechanism to accurately deliver the specified seeding rate, and with a mechanism (e.g., depth bands) to accurately place the seed at the specified depth.

Broadcast or hydro seeding, used in lieu of drilling, will require double the recommended seeding rates. Where seed is broadcast, a cultipacker or other equipment will be used immediately following broadcasting to incorporate the seed to the specified depth and to firm the seedbed. Areas that are too steep or otherwise cannot be safely harrowed or cultipacked will be hand-raked in order to incorporate the broadcast seed to the specified depth.

Immediately after seeding, the Contractor will apply certified weed free mulch on all areas with high erosion potential and on slopes greater than 5 percent. The Contractor will spread mulch uniformly over the area to cover at least 75 percent of the ground surface at an approximate rate of 2 tons per acre of hay or straw or their equivalent. The Contractor will not apply mulch in cultivated areas unless requested by the landowner.

If a mulch blower is used, the majority of strands of the mulching material will not be shredded to less than 8 inches in length to allow anchoring. The Contractor will anchor mulch immediately after application to minimize loss by wind and water. Depending upon the length of straw mulch, a soil tackifier may be applied to the soil before the mulch is blown onto help anchor the mulch.

When anchoring (straw crimping) by mechanical means, the Contractor will ensure that the straw stalks are a minimum of 12 inches in length and will use a tool specifically designed for mulch anchoring with flat, notched disks to properly crimp the mulch to a depth of 2 to 3 inches.

6.9.4 Tree and Shrub Mitigation

TBPL will address mitigation, reclamation and remediation measures with individual landowners and comply with any applicable state requirements, including the Commission's Tree and Shrub Mitigation Specifications.

TBPL has inventoried all trees and shrubs in the Project Corridors, including those that are considered invasive species or noxious weeds. The inventory recorded the location, number, and species of trees and shrubs.

Except in the case of invasive or noxious species, trees and shrubs will be replaced by the same species or similar species, suitable for North Dakota growing conditions, as recommended by the local office of the NRCS. Invasive or noxious species will be replaced by similar non-invasive or non-noxious species suitable for North Dakota growing conditions as recommended by the NRCS.

Trees and shrubs will be replaced consistent with the Commission's Tree and Shrub Mitigation Specifications. Two 2-year-old saplings will be planted for every one tree removed. Two shrubs (stem cuttings) will be planted for every one shrub removed.

Landowners will be given the option of having replacement trees and shrubs planted on the landowner's property off the permanent ROW. The landowner will also be given the opportunity to waive those options, in writing, to have replacement trees and shrubs planted off the landowner's property.

To facilitate visual inspections of the ROW in accordance with USDOT safety regulations, tree and shrub replacement will not be conducted within the pipeline ROW.

6.9.5 Fences, ROW and Pipeline Markers

Upon completion of all backfilling, cleanup, and restoration, including mulching and seeding of the construction ROW, permanent repairs will be made to all fences by using either the original material or good quality new material similar to existing fences.

Historic fences will be carefully reassembled by hand from the original material. Where the original material has deteriorated to a state that makes it unsalvageable, replacement material similar to the original will be used if possible.

Upon completion of all cleanup and restoration activities and during the time when the Contractor is making permanent repairs to fences, the Contractor will install pipeline markers on each side of all roads, section line crossings, fence lines, and other areas where the pipeline markers do not conflict with intended land use.

7.0 WETLAND CROSSINGS

7.1 General

A total of 10 palustrine emergent wetlands (PEM) wetlands were identified within the Proposed Pipeline Project Corridor for the proposed pipeline in (Arcadis 2018). The previously delineated wetlands totaled a combined 8.47-acres. Out of the 10 PEM wetlands, the USACE determined that only four wetlands and one perennial stream (East Fork of Shell Creek) were jurisdictional WOUS (USACE 2024).

A total of 34 PEM wetlands and 11 potential farmed wetlands were delineated within the Existing Pipeline Project Corridor in 2024 (Arcadis 2024a); these wetlands have not been reviewed or determined as WOUS by the USACE, and jurisdictional status is pending. No wetlands were identified within the Midline Pump Station area. The delineated wetlands within the Project Corridor for the existing pipeline totaled a combined 6.31-acres. The combined total from both wetland delineation surveys was 14.78 acres encompassing 44 PEM wetlands and 11 potential farmed wetlands; many of these wetlands appeared to be wetland drainage or prairie pothole wetlands.

No wetlands were identified within the 2-acre site for the proposed midline pump station.

During construction of the proposed pipeline, the HDD method will be used for WOUS crossings to avoid impact or disturbance to the streams and jurisdictional wetlands. USACE issued an Approved Jurisdictional AJD identifying WOUS within the Project

Corridor for the proposed pipeline is the 200-foot-wide area (100 feet on either side of the pipeline centerline).

WOUS and the boundaries of jurisdictional wetlands will be clearly marked in the field with signs and/or highly visible flagging during construction. Typical HDD schematics for the WOUS crossings are provided in **Appendix A**. Any unanticipated impacts to wetlands that may occur will be authorized under USACE Nationwide Permit 33.

Conventional construction methods will be used to cross wetlands identified as not WOUS per the USACE AJD. Where conventional construction methods are used, and as applicable where the HDD method is used, the general mitigation procedures of this section of the EMP will be followed by the Contractor. The Contractor will comply with requirements of all permits issued for the wetland crossings by federal, state or local agencies. Any unanticipated impacts to WOUS will be authorized under USACE Nationwide Permit 33.

No stream or wetland crossings will be required for conversion of the existing pipeline.

7.2 Easement and Workspace

The Contractor will maintain wetland boundary markers during construction in all areas and until permanent seeding is complete in non-cultivated areas.

The Contractor will locate extra work areas (such as staging areas and additional spoil storage areas) at least 100 feet away from wetland boundaries, where topographic conditions permit.

The Contractor will limit clearing of vegetation between extra work areas and the edge of the wetland to the construction ROW and limit the size of extra work areas to the minimum needed to construct the wetland crossing.

7.3 Wetland Crossing Methods

The following general mitigation procedures will be followed by the Contractor in all wetland areas, unless otherwise approved or directed by TBPL, based on site-specific conditions. All work will be conducted in accordance with applicable permits.

- limit the duration of construction-related disturbance within wetlands to the extent practicable;
- use no more than two layers of timber riprap to stabilize the construction ROW;
- cut vegetation off at ground level leaving existing root systems in place and remove it from the wetland for disposal;
- limit pulling of tree stumps and grading activities to directly over the trench line unless safety concerns require the removal of stumps from the working-side of the construction ROW;

- segregate a maximum of 12 inches of topsoil from the area disturbed by trenching in dry wetlands, where practicable;
- restore topsoil to its approximate original stratum, after backfilling is complete;
- dewater the trench in a manner to prevent erosion and heavily silt-laden flowing directly into any wetland or waterbody;
- remove all timber riprap and prefabricated equipment mats upon completion of construction;
- locate hydrostatic test manifolds outside wetlands and riparian areas to the maximum extent practicable;
- prohibit storing hazardous materials, chemicals, fuels, lubricating oils, or perform concrete coating activities in a wetland, or within 100 feet of any wetland boundary;
- perform all equipment maintenance and repairs upland locations at least 100 feet from waterbodies and wetlands;
- avoid parking equipment overnight within 100 feet of a watercourse or wetland;
- prohibit washing equipment in streams or wetlands;
- install trench breakers and/or seal the trench to maintain the original wetland hydrology, where the pipeline trench may drain a wetland;
- attempt to refuel all construction equipment in an upland area at least 100 feet from a wetland boundary (otherwise follow the procedures outlined in Section 3); and,
- avoid sand blasting in wetlands to the extent practicable. If sandblasting is performed within a wetland, the Contractor shall place a tarp or suitable material in such a way as to collect as much waste shot as possible and dispose of the collected waste. The Contractor shall clean up all visible deposits of wastes and dispose of the waste at an approved disposal facility.

Specific procedures for each type of wetland crossing method are listed below and shall be designated on the construction drawings but may be modified depending on site conditions at the time of construction. All work shall be conducted in accordance with applicable permits.

7.3.1.1 Dry Wetland Crossing Method

Topsoil shall be segregated. Pipe stringing and fabrication may occur within the wetland adjacent to the trench line or adjacent to the wetland in a designated extra workspace.

The dry wetland crossing procedure shall be used where this type of wetland is identified on the construction drawings. The following are exceptions to standard wetland crossing methods:

- the width of the construction ROW for upland construction is maintained through the wetland.

- where extra work areas (such as staging areas and additional spoil storage areas) are designated on the construction drawings, they may be placed no closer than 100 feet from the wetland's edge.
- if the wetland is cultivated, the topsoil shall be stripped using the trench and spoil side method at the same depth as the adjacent upland areas.
- seeding requirements for agricultural lands shall be applied to farmed wetlands.

7.3.1.2 *Standard Wetland Crossing Method*

Topsoil stripping is impracticable due to the saturated nature of the soil. Pipe stringing and fabrication may occur within the wetland adjacent to the trench line or adjacent to the wetland in a designated extra workspace. Based upon the length of a standard wetland crossing and presence of sufficient water to float the pipe, the Contractor may elect to install a standard wetland crossing utilizing the "push/pull" method.

The standard wetland crossing procedure shall be used where this type of wetland is identified on the construction drawings. Procedures unique to standard wetlands include:

- limiting construction ROW width to a maximum of 75 feet unless site conditions warrant a wider width;
- utilizing low-ground-pressure construction equipment or support equipment on timber riprap or timber mats; and,
- installing sediment barriers across the entire ROW where the ROW enters and exits the wetland.

7.4 **Restoration and Reclamation**

All timber riprap, timber mats, and prefabricated equipment mats and other construction debris shall be removed upon completion of construction. As much as is feasible, the Contractor shall replace topsoil and restore original contours with no crown over the trench. Any excess spoil shall be removed from the wetland. The Contractor shall stabilize wetland edges and adjacent upland areas by establishing permanent erosion control measures and revegetation, as applicable, during final clean up.

In the absence of detailed revegetation plans or until the appropriate seeding season for permanent wetland vegetation in standard wetlands, the Contractor shall apply a temporary cover crop on the construction ROW at a rate adequate for germination and ground cover unless standing water is present. The Contractor shall apply the temporary cover crop during final cleanup. For farmed wetlands, the Contractor shall apply seeding requirements for agricultural lands or as required by the landowner.

The Contractor shall not use fertilizer, lime, or mulch in wetlands unless required in writing by the appropriate land management agency.

8.0 SURFACE WATER AND GROUNDWATER DRAINAGE

Within the construction ROW for the proposed pipeline, four wetlands and one perennial stream (East Fork Shell Creek) have been determined as by the USACE as WOUS. To minimize disturbances to surface water during construction, the HDD method will be used at the crossings of East Fork Shell Creek and wetlands determined by the USACE to be WOUS. Typical HDD schematics for the WOUS crossings are provided in **Appendix A**.

Intermittent drainages will be crossed using open-cut construction. These drainages are expected to be dry during construction of the proposed pipeline; therefore, no changes to surface drainage patterns are anticipated. If these drainages are flowing, then the open cut method of construction will not be used and the HDD method will be utilized instead to avoid disturbance of the flowing drainage. After construction, disturbed areas will be restored to approximate pre-construction contours, allowing drainage patterns to remain unchanged.

TBPL will implement the following mitigation measures to minimize the potential for impacts to surface water and drainages:

- Develop and implement a Project-specific SWPPP to minimize erosion and potential effects associated with stormwater runoff and sediment transport to surface waters during construction. The SWPPP will include BMPs that will be implemented until final reclamation has been achieved to minimize changes to the existing surface drainage patterns and avoid alteration of existing groundwater flow patterns.
- Implement temporary erosion control BMPs (e.g., slope breakers, sediment barriers, and mulch) to minimize the potential for soil loss due to wind or water erosion during construction.
- Restore the work area to approximate pre-construction contours.
- Develop and implement a Project-specific SPCC Plan will be prepared for the Project if oil storage will exceed 1,320 gallons. The SWPPP and SPCC Plan will describe response, containment, reporting, and cleanup procedures. TBPL will implement measures to prevent accidental discharges of fuels or other hazardous substances as outlined in the SPCC Plan including specific storage and handling requirements.

The project will not affect sloughs, ponds, lakes (i.e., wetlands) outside of the Project Corridor; therefore, no surface drain permits are anticipated to be required. In addition, the project will have no direct impacts to surface drain permits Taylor Slough Drain (DR-661) and Wild Willow Drain (DR-4495). In the unlikely event that either DR-661 or DR-4495 will be modified, the DWR will be notified.

No North Dakota Department of Water Resources (DWR) observation wells were

identified within the Project Corridor; therefore, no direct impacts to water wells are anticipated. If an observation well is encountered during project activities and must be removed, the DWR Water Appropriation Division will be notified. If the functionality of a well is impacted, a replacement well(s) will be installed.

With the implementation of these protection measures, no adverse effects on surface water or groundwater are anticipated. No additional mitigation measures to protect surface water and groundwater are anticipated to be required.

9.0 HYDROSTATIC TESTING

9.1 General

The Contractor will provide for the safety of all pipeline construction personnel and the general public during hydrostatic test operations by placing warning signs in populated areas.

Staging and work areas for filling the pipeline with water will be located a minimum of 100 feet from a waterbody or wetland boundary if topographic conditions permit.

The Contractor will locate hydrostatic test manifolds 100 feet outside wetlands and riparian areas to the extent practicable.

9.2 Test Water Source

TBPL will provide the Contractor with a copy of the appropriate withdrawal/discharge permits for hydrostatic test water. The Contractor will keep water withdrawal/discharge permits on site at all times during testing operations. No chemicals will be used in the test water.

In some instances sufficient quantities of water may not be available from the permitted water sources at the time of testing. Withdrawal rates may be limited as stated by the permit. If the quantity of water from the permitted source is insufficient to allow for hydrostatic testing of the pipeline, an alternative source will be identified and permit authorization sought by TBPL.

The Contractor will be responsible for obtaining any required water analyses from each source to be used in sufficient time to have a lab analysis performed prior to any filling operations. The analysis will determine the pH value and total suspended solids and other parameters that may be required by the North Dakota Department of Health, Division of Water Quality.

9.3 Water Discharge

The Contractor will comply with state issued NPDES permits for discharging test water.

The Contractor will not discharge any water containing oil or other substances that are in sufficient amounts as to create a visible color film ("sheen") on the surface of the

receiving water.

The Contractor will not discharge into state-designated exceptional value waters, waterbodies which provide habitat for federally listed threatened or endangered species, or waterbodies designated as public water supplies, unless appropriate federal, state, and local permitting agencies grant written permission. To avoid impacts from introduced species, no inter-basin transfers (discharge) of hydrostatic test water will occur.

Discharge operations will be monitored and water samples will be collected and analyzed prior to the beginning of the discharge to ensure that it complies with the Project and permit requirements. If required by state permits, additional water quality testing will be conducted during discharge, in accordance with permit conditions.

The Contractor will regulate the hydrostatic discharge velocity rate (3,000 gallons per minute maximum), use energy dissipation devices, and install sediment barriers, as necessary, to prevent erosion, streambed scour, suspension of sediments, or excessive stream flow. Water must be disposed of using good engineering judgment so that all federal, state, and local environmental standards are met. Dewatering lines will be of sufficient strength and be securely supported and tied down at the discharge end to prevent whipping during this operation.

Selected road crossing pipe sections may be specified to be pre-tested for a minimum of 4 hours. The water for pre-testing of any road and railroad crossings will be hauled by a tanker truck from an approved water source. Since the volume of water utilized in these pre-tests will be relatively small, the water will be discharged overland along the construction ROW and allowed to soak into the ground utilizing erosion and sediment control measures.

10.0 AGRICULTURAL PRODUCTION, FAMILY FARMS, AND RANCHES

TBPL will implement the following mitigation measures to minimize potential impacts to agriculture productivity, family farms, and ranches:

- Bury the pipeline with a minimum cover of 72 inches.
- Suspend construction or implement adequate protection measures during periods of prolonged, heavy rainfall, and abnormally wet conditions to prevent excessive rutting or mixing of topsoil with subsurface soils, and to minimize the potential for soil compaction and reduced soil productivity.
- Alleviate soil compaction caused by construction by deep tilling or chisel-plowing soils (or by using other methods approved by the landowner) where compaction has been shown to have been caused by construction.

- To prevent soil mixing, topsoil will be stripped down to a maximum depth of 12 inches, segregated from the underlying subsoil, and topsoil and subsoil will be stored in a manner that prevents mixing to allow topsoil to be returns to its original horizon during backfilling.
- Rocks greater than 4 inches in diameter that are exposed on the surface due to construction activity will be removed from the ROW prior to and after topsoil replacement.
- Implement temporary erosion control BMPs (e.g., slope breakers, sediment barriers, and mulch) to minimize the potential for soil loss due to wind or water erosion during construction.
- Following construction, topsoil will be replaced, original contours restored to approximate pre-construction contours, and farming and ranching operations will be allowed to resume within the permanent ROW.
- Compensate landowners for crop losses during construction.
- Coordinate with landowners to assess crop productivity following construction and provide compensation where crop yields show decline.
- Compensate landowners for a permanent easement on their property.

11.0 VEGETATION, WILDLIFE, AND LIVESTOCK

Trees and woody vegetation within the Project Corridors have been identified (Arcadis 2024b). During construction of the proposed pipeline and aboveground facilities, TBPL will avoid removal of trees and shrubs, if practicable. If removal of trees and shrubs cannot be avoided, they will be enumerated by direct count per the Commission's Tree and Shrub Mitigation Specifications as previously described in Section 6.1. Trees and shrubs will be replaced consistent with the Commission's Tree and Shrub Mitigation Specifications.

No trees or woody vegetation will be removed for conversion of the existing pipeline or construction of the midline pump station and associated permanent access road.

Weed infestation areas within the Project Corridors have also been identified (Arcadis 2024b). A Weed Management Plan has been developed for the Project. BMPs will be implemented to prevent the spread of noxious weeds and to minimize the risk of importing, transporting, or spreading of noxious weeds during construction. Measures will be taken during construction in these areas to prevent the spread of seeds including cleaning all equipment before leaving the site and treating all disturbed soils with herbicides as approved by the landowner(s) of the participating properties.

To allow the movement of livestock and wildlife, temporary access routes will be maintained across the ROW. Trenches will also be regularly sloped to allow any trapped wildlife to escape.

Disturbed areas will be restored in accordance with the landowner agreements. For those areas to be reseeded, a native weed-free seed mix will be used as approved by the landowner(s). In areas with suitable habitat for Dakota skipper and monarch butterfly, temporary disturbance areas will be revegetated using seed mixtures that incorporate vegetation that supports prairie butterfly species, if practicable.

The United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation Tool (IPaC) was queried for listings of federally listed species with the potential to occur within the Study Area. The following species were identified: NLEB, piping plover, rufa red knot, whooping crane, Dakota skipper, and monarch butterfly (**Table 1**); however, no designated critical habitat was identified within the Study Area (USFWS 2024). TBPS is committed to the integration of and adherence to avoidance and minimization measures during the Project construction activities to comply with the Endangered Species Act. The avoidance and minimization measures to be implemented during construction to avoid and minimize potential impacts to special status species potentially present within the Project Corridors are listed in **Table 1**.

Table 1 Avoidance and Minimization Measures for Potentially Affected Special Status Species

Common Name	Conservation Measure(s)
Northern long-eared bat	Not Applicable – Suitable habitat not found within the Project Corridors or the Midline Pump Station area. In addition, per the IPaC Official Species List (USFWS 2024a; Appendix A), the NLEB only needs to be considered if the project includes wind turbine operations.
Piping plover	<p>During construction of the proposed pipeline, disturbances to wetland habitat will be minimized by the use of the HDD method for the crossings of WOUS.</p> <p>TBPL will provide an identification guide for on-site personnel and training on protocols to follow to minimize impacts in the event that this bird is seen within the active construction area.</p>
Rufa red knot	<p>During construction of the proposed pipeline, disturbances to wetland habitat will be minimized by the use of the HDD method for the crossings of WOUS.</p> <p>TBPL will provide an identification guide for on-site personnel and training on protocols to follow to minimize impacts in the event that this bird is seen within the active construction area.</p> <p>If piping plovers are sighted within active construction areas, all construction activities would be modified or curtailed until the bird(s) have left the area, USFWS would be contacted on how to proceed, and the TAT Fish and Wildlife Division would be notified.</p>
Whooping crane	<p>During construction of the proposed pipeline, disturbances to wetland habitat will be minimized by the use of the HDD method for the crossings of WOUS.</p> <p>TBPL will provide an identification guide for on-site personnel and training on protocols to follow to minimize impacts in the event that this bird is seen within the active construction area.</p> <p>If whooping cranes are sighted within 1-mile (2 km) radius of any work site, all construction activities would be modified or curtailed until the bird(s) have left the area, USFWS would be contacted on how to proceed, and the TAT Fish and Wildlife Division would be notified.</p>
Dakota skipper	<p>If Dakota skippers are sighted within active construction areas, all construction activities would be modified or curtailed until the butterfly(ies) have left the area, USFWS would be contacted on how to proceed, and the TAT Fish and Wildlife Division would be notified.</p> <p>TBPL will provide an identification guide for on-site personnel and training on protocols to follow to minimize impacts in the event that this butterfly is seen within the active construction area.</p> <p>In areas with suitable habitat for Dakota skipper, temporary disturbance areas will be revegetated using seed mixtures that incorporate vegetation that supports prairie butterfly species, if practicable.</p>
Monarch butterfly	<p>TBPL will provide an identification guide for on-site personnel and training on protocols to follow to minimize impacts in the event that this butterfly is seen within the active construction area.</p> <p>In areas with suitable habitat for monarch butterfly, temporary disturbance areas will be revegetated using seed mixtures that incorporate vegetation that supports prairie butterfly species, if practicable.</p>
Raptors/ Eagles	<p>If construction will occur between February 1 and July 15, an aerial raptor survey must be performed extending 0.5 mile from the construction ROW before construction begins.</p> <p>During construction, TBPL will implement a 0.5-mile buffer around active eagle nest sites (known occupied within the past 5 years).</p> <p>If eagles are observed within 1.0 mile of an active work area, all construction within 1.0 mile of the sighting will be modified or curtailed until the bird(s) have left the area, USFWS will be consulted on how to proceed, and the NDGF and the TAT Fish and Wildlife Division will be notified</p>

12.0 CULTURAL RESOURCES

Metcalf Archaeological Consultants, Inc. (Metcalf) completed a Class I File Search for the Project Corridor for both the proposed pipeline and the existing pipeline to determine if any portion of the Project Corridors had been previously surveyed and to identify any previously recorded cultural resources (Metcalf 2023 and 2024a).

Metcalf also conducted Class III resource surveys for the proposed pipeline, existing pipeline, and 2-acre site for the proposed midline pump station. During the Class III cultural surveys, no cultural resources were identified within the Field Survey Areas for the proposed pipeline, existing pipeline, or the 2-acre site; therefore, Metcalf recommended a finding of *No Historic Properties Affected* (36 CFR 800.4[d][1]) for this undertaking (Metcalf 2023 and 2024a). There is always the possibility of inadvertent discoveries of archaeological and cultural resources during the construction phase of the project. The TBPL Unanticipated Discovery Plan (Metcalf 2024b) will be implemented in the event of inadvertent discoveries.

In the event that undiscovered, unreported cultural resource or human remains are found during construction, TBPL will implement the following measures:

- Stop all work in the immediate area of the find,
- Immediately notify SHSND, BIA, and THPO,
- Work cannot commence near the find until the NRHP eligibility of the discovery has been determined and the effects of the undertaking mitigated if appropriate, and
- All sensitive sites will be marked for avoidance.

If the discovery involves human remains, the Native American Graves Protection and Repatriation Act (25 United States Code [USC] Ch. 32) and its implementing regulations at 43 CFR Part 10 will apply. With implementation of these measures, no impacts to these sites are anticipated as a result of the Project.

13.0 REFERENCES

- Arcadis. 2018. Wetland and Waterbody Delineation Report. Thunder Butte Pipeline Project.
- Arcadis. 2024a. Thunder Butte Pipeline, LLC. Aquatic Resource Delineation Report. Thunder Butte Pipeline Project. Mountrail County, North Dakota. August.
- Arcadis. 2024b. Project Biological Habitat Assessment Report, Thunder Butte Pipeline Project, Ward and Mountrail Counties, North Dakota. October.
- NDDA. 2023. North Dakota Department of Agriculture. Noxious Weeds. Available at <https://www.ndda.nd.gov/divisions/plant-industries/noxious-weeds>. Accessed: August.
- Metcalf. 2023. A Class III Cultural Resource Inventory for the Thunder Butte Pipeline, Mountrail and Ward Counties, North Dakota, Revised. November.
- Metcalf. 2024a. A Class III Cultural Resource Inventory of the Existing Enbridge Pipeline for the Thunder Butte Pipeline, Mountrail County, North Dakota. September.
- Metcalf. 2024b. Unanticipated Discovery and Treatment Plan. October.
- USACE. 2024. Subject: NWO-2018-01825-BIS – Thunder Butte Pipeline – Approved Jurisdictional Determination. April.
- USFWS. 2024. IPaC Tool. Available at <https://ecos.fws.gov/ipac/>. Accessed: July 8, 2024.

APPENDIX A

Construction Schematics