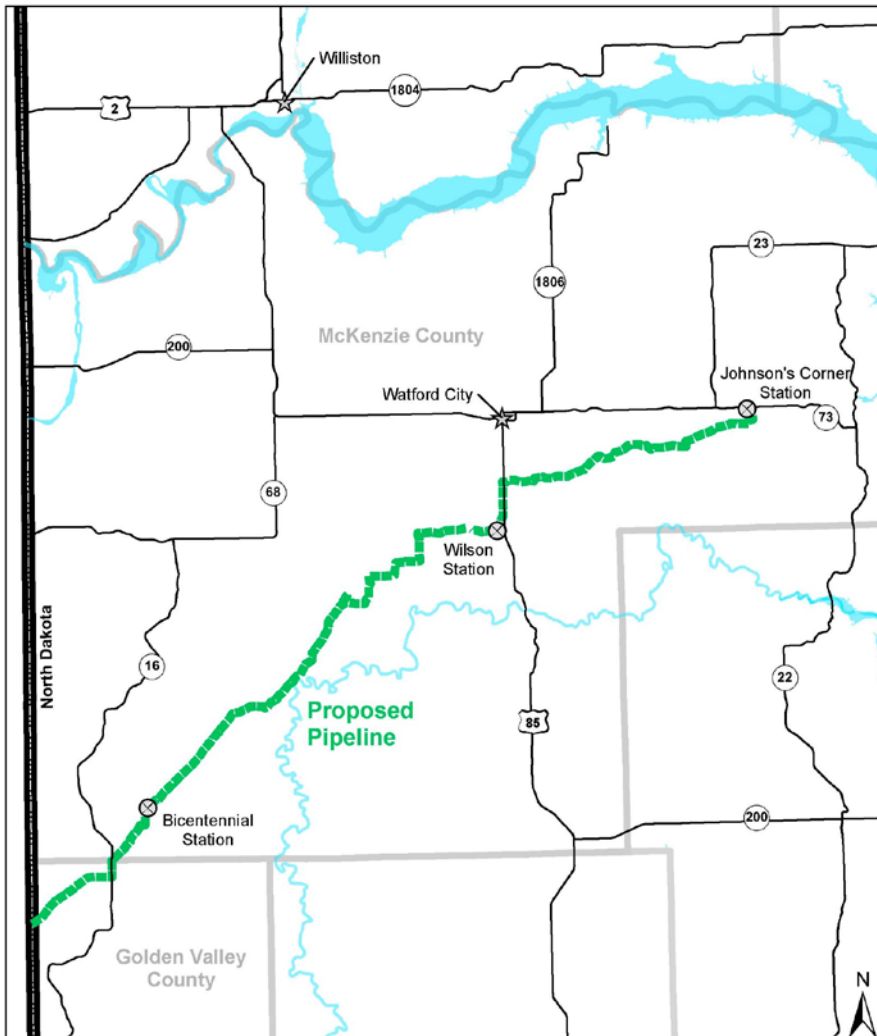


16-inch South Bend Crude Oil Pipeline

McKenzie & Golden Valley Counties

**Amended Consolidated Application for
Certificate of Corridor Compatibility & Route Permit
Case No. PU-21-048**



*Bridger Pipeline, LLC
455 North Poplar Street
Casper, Wyoming 82602*

March 2022

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1.b	Summary of any studies of environmental impacts	5.0
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1.f	Analysis of merits and detriments of facility location	4.0
1.g	Mitigating measures	8.0
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AUTHORITY	DESCRIPTION	SECTION
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- A.2: Topographic Mapbook
- A.3: Raptor Survey Corridor Map

Exhibit B: Agency Consultations

- B.1: NDIC Pipeline Authority
- B.2: ND State Water Commission
- B.3: ND Department of Environmental Quality
- B.4: ND DOT Dickinson District
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- B.25: ND Indian Affairs Commission
- B.26: ND Governor
- B.27: ND Energy Development Impact Office
- B.28: ND Department of Human Services
- B.29: ND Department of Commerce
- B.30: ND Department of Career & Technical Education
- B.31: ND Attorney General
- B.32: ND Aeronautic Commission
- B.33: Job Service of ND

- B.34: Federal Aviation Administration
- B.35: ND Transmission Authority
- B.36: ND Forest Service
- B.37: 20th Airforce 91st Missile Wing
- B.38: Grand Forks Airforce Base
- B.39: Federal Bureau of Land Management
- B.40: Military Aviation & Installation Assurance Siting Clearinghouse

Exhibit C: ESRI ArcGIS Shapefiles

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INTRODUCTION

Bridger Pipeline LLC (Bridger), submits this single amended consolidated application for a Certificate of Corridor Compatibility and Route Permit to the North Dakota Public Service Commission (NDPSC) for the construction of approximately 80 miles of an 145-mile (total length), sixteen (16)-inch crude oil transmission pipeline. The pipeline will be known as the South Bend Pipeline (Project).

Bridger is seeking approval for a Certificate of Corridor Compatibility for a Project Corridor that will align with the centerline of the pipeline route and is generally 300 feet wide. The pipeline is located within McKenzie and Golden Valley Counties in North Dakota and Fallon and Wibaux Counties in Montana. The proposed pipeline would transport crude oil from Eighty-Eight Oil, LLC (EEOLLC) existing Johnson's Corner Terminal in North Dakota to Bridger's existing Sandstone Station approximately 8.5 miles west of Baker, Montana. Approximately 80 miles of the 145 mile pipeline is located in North Dakota.

Bridger seeks NDPSC approval for construction of this Project for those portions located in North Dakota, in accordance with Chapter 49-22.1 and Section 69-06-08-02 of the North Dakota Administrative Code and the NDPSC's Energy Conversion and Transmission Facility Siting Guidelines.

As part of the requested Route Permit, Bridger seeks a route construction buffer of 20 feet on each side of the proposed Project Route to provide flexibility and account for in-field constructability constraints. Specifically, as part of the NDPSC's order for the Project, Bridger requests the NDPSC include the following language when designating the route, "The designated route includes a route construction buffer of 20 feet on each side of the designated route, contingent upon not impacting an avoidance area unless Bridger receives written authorization, from the Commission before conducting any associated construction activities, that Bridger may impact the avoidance area. Construction activities must not impact an exclusion area." This language is consistent with the language previously utilized by the NDPSC in Ordering Paragraph No. 3 of its May 19, 2021, Findings of Facts, Conclusions of Law and Order for Bridger's 8-inch crude oil pipeline in Case No. PU-20-430, Docket No. 67.

1 DESCRIPTION OF PROPOSED FACILITY

1.1 Type

The Project originates at EEOLLC's Johnson's Corner Terminal located near Johnson's Corner, North Dakota and runs 145 miles southwest to Bridger's Sandstone Station west of Baker, Montana. The pipeline would interconnect with Bridger's existing North Dakota facilities at Wilson Station, Bicentennial Station and their respective crude oil transmission network.

The steel pipe utilized for construction of the Project will meet United States Department of Transportation ("US DOT") regulations, specifically the design criteria outlined in 49 C.F.R. Subpart 195(C). The Project will be constructed per 49 C.F.R. Subpart 195(D). The Project will be pressure tested in accordance with the requirements in 49 C.F.R. Subpart 195(E). The Project will be operated and maintained per 49 C.F.R. Subpart 195(F).

1.2 Size

Construction of the Project will involve the installation of 16-inch outside diameter, steel, API-5L, FBE coated, Grade X-52 ERW Line Pipe with a nominal wall thickness of 0.312 inches. Bore pipe will have a nominal wall thickness of 0.375 inches. The maximum operating pressure (MOP) of the pipeline will be 1,440 pounds of pressure per square inch gauge (psig). Average operating pressure will be 600-800 psig.

Valves will be 16-inch ANSI 600 manufactured in accordance with American Petroleum Institute (API) Standard 6D "API Specification for Steel, Gate, Plug, Ball and Check Valves for Pipeline Service." Valves will be installed pursuant to US DOT regulations. The MOP of the valves will be 1,440 psig or greater. The pipeline will operate at or near ambient temperature not reaching over 100°F max. Temperature is not a design parameter, therefore there is no determination of maximum.

1.3 Length

The Project will involve approximately 145 miles of pipe installation with 80 miles constructed in North Dakota.

1.4 Aboveground Facilities

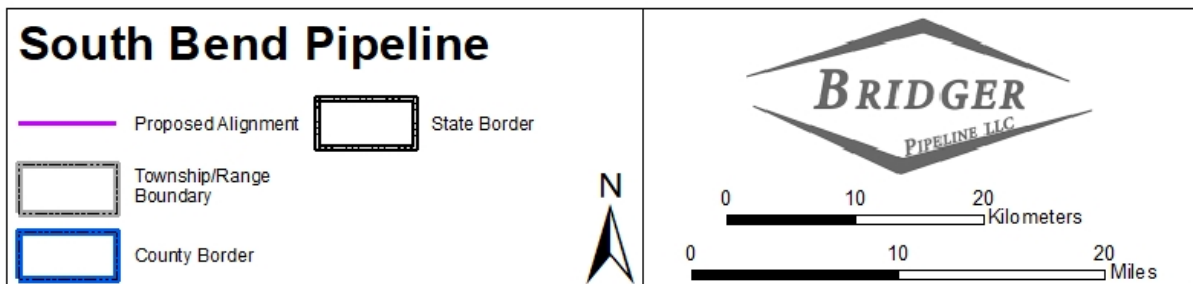
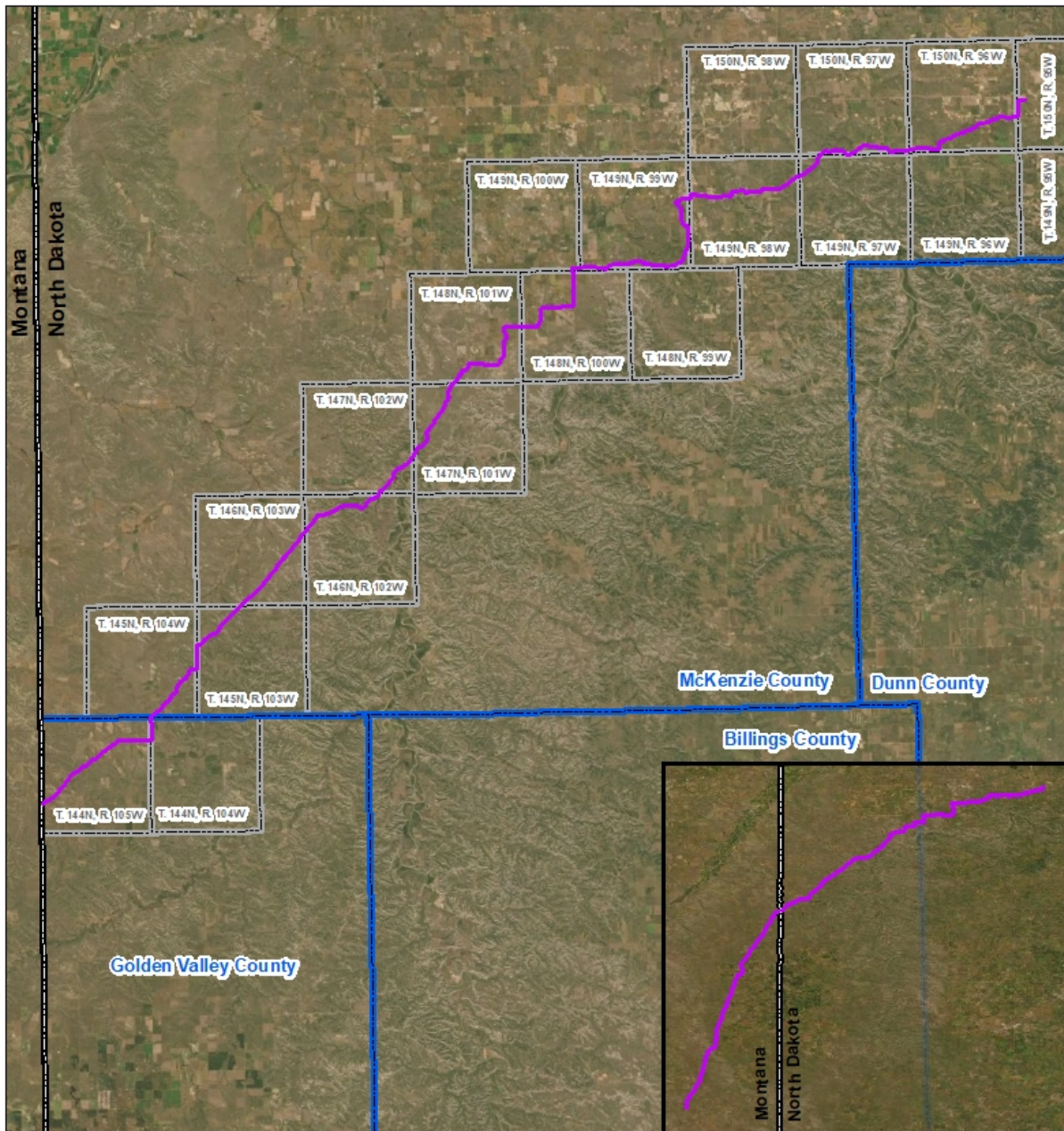
The Project's segments will be buried underground. Surface structures are limited to pipeline markers, rectifier sites, pig launchers and receivers, and block valves. Some small fenced-in enclosures will be installed along the route and within the Project Corridor to house associated power, communication, and control systems to allow valves to be operated remotely.

The installation and locations of rectifier sites will be assessed based on cathodic protection readings conducted once the pipeline is installed. It is possible that no new rectifiers will need to be installed and Bridger can utilize their existing rectifiers within their currently operating systems to provide cathodic protection for this proposed pipeline.

Two pumps and a launcher will be installed at the existing Johnson's Corner Terminal and two operational pumps, a launcher, and a receiver will be installed at the existing Bicentennial Station.

The Project will have 19 block valves located midline, eight of which will be located in North Dakota. See Exhibit A for valve locations.

Figure 1 – General Project Location Map



2 DESIGN OF THE PROPOSED FACILITY

2.1 Design

The Project is a 16-inch outside diameter crude oil transmission pipeline extending from the Johnson's Corner Terminal to the Sandstone Station. The steel pipe utilized for construction of the Project will meet United States Department of Transportation (US DOT) regulations, specifically the design criteria outlined in 49 C.F.R. Subpart 195(C). The Project will be constructed per 49 C.F.R. Subpart 195(D). The Project will be operated and maintained per 49 C.F.R. Subpart 195(F).

2.2 Purpose and Need of the Facility

The purpose of the Project is to transport crude oil produced in western and northwestern North Dakota to the Sandstone Station, near Baker, Montana, eventually connecting into the Guernsey, Wyoming market for further marketing and transportation nationally. This pipeline will be part of the only direct route for Bakken oil to the trading hub in Cushing, OK.

The Project will provide needed capacity to transport increased petroleum from western North Dakota where oil production is expected to increase until 2025.¹

The Project will add: (1) additional outbound pipeline capacity in North Dakota; (2) more access to liquid market options for Bridger customers; and (3) a pipeline transportation alternative to trucking or railing crude oil to other shipping points and markets.

2.3 General Area to be Served

The Project will provide needed capacity to transport increased petroleum from western North Dakota where oil production is expected to increase until 2025.

2.4 Capacity

The installed capacity of the Project is 105,000 bpd, with the potential for capacity to be expanded to 250,000 bpd.

2.5 Technology to be Deployed/Employed

The Project will be designed, constructed, maintained, and inspected to the US DOT Pipeline and Hazardous Materials Safety Administration regulations utilizing industry standards and company policies. The system will be controlled and monitored 24 hours a day, seven days a week, and 365 days a year by trained control room personnel. Additionally, the system will be equipped with a monitoring and alarm system that continuously monitors the flow and pressure of the system and readily signifies anything outside normal operating conditions.

¹ U.S. Energy Information Administration, "U.S. Crude Oil Production to 2025: Updated Projection of Crude Types," *available at* <https://www.eia.gov/analysis/petroleum/crudetypes/pdf/crudetypes.pdf> (accessed February 28, 2020).

2.6 Product

The Project will transport crude oil produced from the Bakken/Three Forks Formation.

2.7 Final Destination of Product

The Project will transport crude oil produced from western and northwestern North Dakota to the Sandstone Station, near Baker, Montana, eventually connecting into the Guernsey, Wyoming market for further marketing and transportation nationally.

Bridger does not own any of the crude petroleum transported in its pipeline system. Bridger does not determine markets or destinations for petroleum commodities. Bridger's business is to provide a service which is available to anyone tendering commodities for transportation. Bridger attempts to anticipate the need for additional pipeline capacity by relying upon forecasts for throughput generated by shippers on the system.

Bridger's system of operating pipelines provides flexibility of transporting North Dakota's crude petroleum to multiple national markets.

2.8 Width of Right-of-Way (ROW)

The Project's construction ROW will be approximately 100 feet wide. Additional temporary workspace may be necessary during construction, maintenance, and inspection in areas such as steep slopes, and areas adjacent to streams and road crossings, for safety reasons, and construction activities associated with these features.

The Project will have an approximate 50-foot permanent ROW. Bridger will notify landowners of normal operating modifications or maintenance to the Project that is carried out within the 50-foot permanent ROW. The width of the permanent ROW was established based on the need to provide adequate space and line separation for construction and future line maintenance.

2.9 Estimated Distance between Surface Structures for Pipeline Facilities

The Project is largely underground. Unlike electrical transmission lines, no major features of this system will be installed aboveground. Aboveground features will be limited to minor features such as; pipeline markers, block valves, cathodic protection test sites, pig launchers and receivers, and rectifier sites, typically miles apart based on convenient access points along a public ROW. The Project will have tie-ins at Bicentennial Station and Wilson Station. Operation and maintenance buildings are currently located at Bridger's Sandstone Station and EEOLLC's Johnson's Corner Terminal.

2.10 Maximum Design Operating Pressure and Temperature for Pipeline Facilities

The maximum allowable operating pressure of the pipeline will be 1440 psig. The pipeline will operate at or near ambient temperature. 100°F max. Temperature is not a design parameter, therefore there is no determination of maximum.

2.11 Estimated Total Cost of Construction

Installed cost of the Project will be approximately \$122 million.

2.12 Preferred Location of Facility

The North Dakota portion of the Project is located in Golden Valley and McKenzie Counties. The Project originates at the Johnson's Corner Terminal in McKenzie County, and runs 145 miles to Bridger's Sandstone Station which is located near Baker, Montana. Approximately 80 miles of pipe will be located in North Dakota. The pipeline interconnects with Bridger facilities at Bicentennial Station and Wilson Station.

Bridger requests that the NDPSC issue a route permit consistent with the Project route depicted in Exhibit A hereto and that said permit include a route deviation buffer of up to 20 feet directly adjacent to each side of the proposed route. The request provides flexibility during construction to allow for minor adjustments to accommodate landowner requests, unforeseen conditions, and general construction operations.

2.13 Preferred Location of Corridor

A majority of this Project will parallel existing utility corridors and pipelines in order to avoid or minimize potential environmental and human impacts associated with installing a new pipeline. Bridger is seeking approval for a corridor that follows the proposed Project route along a generally 300-foot-wide corridor (Project Corridor). In select instances, the Pipeline Corridor is wider than 300 feet to provide flexibility for routing and additional workspace to accommodate construction and unique areas. The requested Project Corridor aligns with the "Survey Area" more particularly depicted in Exhibit A hereto. Thirteen miles of the Project Corridor from Bicentennial Station to the MT border will be adjacent to an existing Belle Fourche Pipeline Company corridor permitted in 1978 under NDPSC Permit No. 11, Case No. 9787. The two pipelines are approximately 45-160 feet apart for ten of the thirteen miles.

Underground pipelines minimize potential impacts on human and animal welfare. Construction of the Project is expected to cause short term disruption to the environment, but will not result in long-term changes to the environment.

2.14 Description of ROW Preparation and Construction and Reclamation Procedures

The construction ROW will be cleared, grubbed, and graded to allow for pipeline construction. Soil segregation will be completed to standard operating procedures. All trenching will be performed mechanically with either an excavator or a ditching machine to a depth allowing a minimum of four feet from the top of the pipe to the top of the cover. When rock is present, an excavator with rock teeth will be used. Boring and horizontal directional drilling pipe installation will be performed if crossing under a road, railroad, pipeline/utility, waterbody, or areas where trenching is deemed unsafe or impractical. Casing of the pipelines will not be used because it leads to corrosion issues. Typically, the ROW will be continuously cleared of all construction material, uncovered rocks, and compacted areas. Holes and ruts will be filled and graded. Reclamation of the ROW will be completed at the end of the pipeline construction.

2.15 Landowner Notification, Easement Acquisition, and Compensation

Bridger has finalized easement agreements with all landowners along the Project route. Construction of the Project will minimize impacts to agriculture where feasible.

Bridger is committed to providing landowners complete information about the pipeline and associated facilities and keeping them informed throughout the lifetime of the Project. Bridger will coordinate with landowners to discuss crop loss payments, and to address any unique property concerns, as needed.

3 SCHEDULE

3.1 Obtaining Certificate of Corridor Compatibility

The Certificate of Corridor Compatibility Application was submitted in January 2021 and this Amendment is being submitted in March 2022. Bridger requests the issuance of a Certificate of Corridor Compatibility at the PSC's earliest convenience.

3.2 Obtaining Route Permit

The Route Permit Application was submitted in January 2021 and this Amendment is being submitted in March 2022. Bridger requests the issuance of a Route Permit at the PSC's earliest convenience.

3.3 Completing ROW Acquisition

Right-of-Way acquisition has been completed.

3.4 Starting Construction

Construction is expected to begin the 2nd quarter 2022, contingent on approval from the Commission.

3.5 Completing Construction

Construction for the Project is anticipated to last approximately six to eight months after construction begins.

3.6 Testing Operations

The pipeline will be hydro-tested in accordance with PHMSA part 195 regulations prior to being placed into service. Test operations will occur following construction of the Project.

3.7 Commencing Operations

Bridger anticipates placing the pipeline in service by the end of 2022 or as soon as construction and testing are complete.

4 ALTERNATIVES

The pipeline will be a permanent, ongoing system. As such, Bridger has a continuing commitment to conduct its operations in an environmentally responsible manner. Substantial, continual effort is placed on pipeline integrity, operational safeguards, emergency response, and landowner relationships, all of which reduce the impact of the pipeline on the environment. Bridger supplements the support from the existing internal environmental staff with engineering and environmental consultants as necessary to assure compliance with environmental regulations and applicable policy. A brief discussion of other possible alternatives is provided below.

4.1 No Action Alternative

The status quo could continue, supported by trucking crude oil to existing pipeline unloading facilities and/or rail trans-ship facilities. However, finding qualified cargo tank operators, which is already a critical issue, will continue to be difficult. Further, transportation via truck will result in additional wear and tear to county and state roads due to high truck traffic. Pipeline transportation has several advantages to the trucking alternative: (1) reduces truck traffic on the area's road network; (2) provides access to a wider range of markets; and (3) results in a more efficient and safer mode of transportation by reducing costs and the potential for accidents. A "no action" alternative is not preferred because it does not reasonably meet the needs of Bridger and its customers.

4.2 New Pipeline Route

The Project route is designed to parallel existing underground utilities and pipelines, and limit impacts to land and waterbodies. An alternative route is not a preferred alternative to the Project route because it would create new environmental impacts.

5 ENVIRONMENTAL STUDIES

Studies were undertaken to evaluate the Project's potential impacts on recreational, environmental, and cultural resources. Environmental data collected to date includes information on soils, land use, wetland and water body crossings, protected species, and cultural resources. Bridger will continue to work with appropriate regulatory agencies and will continue to gather comprehensive information as required during the permitting process.

Analysis of the Project entailed both desktop studies and field surveys. A one-mile-wide study corridor was utilized for the entire 80-mile Project route in North Dakota (Study Area). Desktop studies for the Study Area reviewed items such as Class I archeological file search and a wildlife database search. Field surveys were conducted along the entire route on foot within the generally 300-foot-wide Project Corridor ("Survey Area" as more particularly depicted in Exhibit A) and over larger areas as specified herein.

Bridger engaged Keitu Engineers & Consultants, Inc. (Keitu) and Beaver Creek Archaeology, Inc. (BCA) to perform the environmental and cultural resource siting studies for the Project.

BCA performed a Class I archeological file search in August of 2019 of the Study Area. A Class III field survey was performed on the Survey Area in September/October of 2019, in June/July 2020, and Spring 2021.

In total, 37 sites were located within the Survey Area /APE. Of these 37 sites, 20 are determined to be ineligible for nomination to the National Register of Historic Places (NRHP), and no avoidance measures are recommended. Four sites are unevaluated with no avoidance measures recommended. All 24 sites will be avoided by the Project. Three sites (32MZ141, 32MZ59, and 32MZ499) underwent evaluative testing and were found to be ineligible with no avoidance measures recommended. Avoidance or mitigation was recommended for the remaining 10 sites, four of which are located on USFS property and six are located private or State Trust Land.

BCA found "No Historic Properties Affected" provided all sites requiring avoidance measures are avoided. SHPO concurred with BCA's findings. See Section 5.12 for additional details.

In the summer of 2019, fall of 2019, and spring of 2020, Keitu conducted plant life field surveys within the Survey Area and wildlife and habitat field surveys within the one-mile wide Study Area to identify and assess the presence of wildlife and habitat for threatened and endangered species. An aerial raptor nest survey was conducted in January 2020 covering a two-mile-wide corridor (one mile on each side of the route). See Exhibit A.3 Raptor Survey Corridor Map. Additionally, a Sharp-tailed grouse lek survey was completed in April 2020 on United States Forest Service (USFS) lands.

Outreach with the United States Fish & Wildlife Service (USFWS), Federal DOT, State DOT, North Dakota Game & Fish, and United States Army Corps of Engineers began at a monthly interagency meeting on August 1, 2019 to discuss the Project's avoidance of impacts to sensitive areas and species including the Dakota skipper. Since the initial interagency meeting, discussion and consultation has been ongoing with the USFWS Bismarck Ecological Services Office. The USFS is the lead action agency for the Project due to a portion of the route traversing USFS property. A formal kickoff meeting with the USFS occurred on December 1, 2019. At this meeting, the main topic discussed was the potential occurrence of the Dakota skipper within the vicinity of the proposed pipeline route. The USFS requested that Bridger complete a habitat assessment and presence/absence survey for the species. Consultation remains ongoing with the USFS for the Project. The presence/absence survey was completed in July 2020, one instance of Dakota Skipper was identified and reported to the USFS and USFWS. The survey report is completed. Bridger will implement avoidance, minimization, and mitigation measures as needed and deemed necessary by the agencies. See Section 8.4 for additional discussion.

Keitu conducted a database search for all other Exclusion or Avoidance Criteria outlined in the North Dakota Administrative Code within the Study Area. Items reviewed included federal, state, & county parks, protected and sensitive plants and animals, and civil and social structures such as recreational areas, businesses, rural homes, and farmsteads.

5.1 Wetland and Waterbody Inventory

Bridger, through its consultants, conducted a desktop survey using aerial photographs, U.S. Geological Survey (USGS) topographic maps, and the USFWS National Wetland Inventory to identify wetlands within the Project Corridor. Keitu Engineers & Consultants, Inc. followed standard United States Army Corps of Engineers (USACE) offsite inspections protocol for identifying wetlands and waterbodies as described in the Corps of Engineers Wetlands Delineation Manual (Part IV, Section D, Subsection 1). A field wetland delineation was not completed because the Project does not impact any wetlands that are jurisdictional to the USACE, therefore an USACE permit is not required.

The USACE Regulatory program regulates work and structures that are located in, under or over navigable waters of the United States. Two groups of water bodies are regulated; “traditionally navigable waters” under Section 10 of the Rivers and Harbors Act of 1899 and “waters of the United States” under Section 404 of the Clean Water Act. In western North Dakota and eastern Montana “Section 10” waters include only the Missouri River and the downstream portion of the Yellowstone River. Neither of these rivers are being crossed by the proposed Project.

On April 21, 2020 the USACE in conjunction with the US Environmental Protection Agency and the US Department of Defense published a new definition of “Waters of the United States” (WOTUS) which became effective June 22, 2020. *See*, 85 Fed. Reg. 22250 (April 21, 2020) [1]. The revised definition of WOTUS is far narrower and more limited than the prior definition. "Waters of the United States" are now defined as territorial seas, traditional navigable waters and tributaries to those waters, lakes, ponds, and impoundments of jurisdictional waters, and wetlands adjacent to jurisdictional. Wetlands, unless directly adjacent to a traditional navigable water, tributary, or lake, pond or impoundment of a jurisdictional water, are no longer regulated by the USACE.

On April 21, 2020 Keitu held a telephone consultation with the USACE North Dakota Regulatory Office Program Manager Patricia McQueary to confirm the rule’s new interpretation and application. Keitu forwarded Ms. McQueary a summary of the discussion via email to confirm key points of this discussion.

The Project does not cross a navigable water i.e. Section 10 waterbody; nor does it cross a tributary to a Section 10 water or their adjacent wetlands i.e. Section 404 waterbody under the new definition of WOTUS. Therefore, USACE permitting for waterbody crossings is not required for the Project.

With respect to wetlands and waterbodies non-jurisdictional to USACE, the Project crosses 12 named creeks and 101 other wetland or waterbodies according to the USFWS National Wetland Inventory accessed in March 2020. See the mapbook in Exhibit A for the location of the wetlands and waterbodies. The table below describes the location of the 12 named creeks within the Project Corridor.

Table 5.1.1 Creeks		
Stream ID	Creek Name	Length (Feet)
STR 1	North Fork Creek	28.81
STR 2	Cherry Creek	17.56
STR 3	Seven Mile Creek	21.16
STR 4	Red Wing Creek	10.41
STR 5	Bowline Creek	12.28
STR 6	Cedar Creek	8.75
STR 7	East Hay Draw Creek	36.46
STR 8	Poker Jim Creek	3.57
STR 19	Bennie Peer Creek	41.04
STR 10	North Fork Smith Creek	18.96
STR 11	South Fork Smith Creek	11.11
STR 12	C S Creek	7.06

[1]

https://www.epa.gov/sites/production/files/202001/documents/navigable_waters_protection_rule_prepublication.pdf.

Construction of the Project will not result in the permanent drainage or filling of wetlands or waterbodies. Bridger will horizontally directionally drill (HDD) any waterbodies with standing water, including Cherry Creek, and adjacent wetlands in the Project Corridor.

Block valves will be installed on both sides of Cherry Creek and will be motor operated with a pressure transmitter.

In accordance with North Dakota Dept. of Environmental Quality (ND DEQ) requirements pertaining to North Dakota Pollutant Discharge Elimination System General Construction Stormwater Permit, a SWPPP will be completed prior to the start of construction activities. A copy of Bridger's NDPDES General Permit will be filed with the Commission when obtained.

A separate report from this Consolidated Application was not completed due to the nature of the work being redundant. This section (Wetland and Waterbody Inventory 5.1) and the wetlands and waterbody information located on the, Exhibit A, Project maps identifies features within the Project Corridor. Thus, a separate Wetlands Delineation Report was not necessary because it would duplicate information set forth herein.

5.2 Vegetation Inventory

Botany surveys were performed along the Survey Area in McKenzie and Golden Valley Counties from July to October 2019 and June/July 2020. Four surveyors conducted a thorough inspection of private land, which consisted of cropland, rangeland, and pastureland.

The Project Corridor crosses predominantly agricultural land, which is discussed in detail in Section 6.18.1. Crested wheatgrass (*Agropyron cristatum*) and smooth brome (*Bromus inermis*) were primarily found in abundance throughout the majority of the route. Other grasses that were commonly identified were: blue grama (*Bouteloua gracilis*), side oats grama (*Bouteloua curtipendula*), little bluestem (*Schizachyrium scoparium*), western wheatgrass (*Agropyron smithii*), Indian grass (*Sorghastrum nutans*), prairie junegrass (*Koeleria macrantha*), and needle and thread grass (*Hesperostipa comate*). Other vegetation often found established in the Survey Area include alfalfa (*Medicago sativa*), big sagebrush (*Artemisia tridentata*), cudweed sagewort (*Artemisia ludoviciana*), fringed sagewort (*Artemisia frigida*), curlycup gumweed (*Grindelia squarrosa*), kochia (*Kochia scoparia*), yellow sweetclover (*Melilotus officinalis*), purple prairie clover (*Dalea purpurea*), purple coneflower (*Echinacea angustifolia*), prairie coneflower (*Ratibida columnifera*), prairie rose (*Rosa arkansana*), prickly pear cactus (*Opuntia humifusa*), rubber rabbitbrush (*Ericameria nauseosa*), yucca (*Yucca glauca*), silver leaf scurfpea (*Pediomelum argophyllum*), skeletonweed (*Chondrilla juncea*), common yarrow (*Achillea millefolium*), creeping juniper (*Juniperus horizontalis*), silver buffaloberry (*Shepherdia argentea*), chokecherry (*Prunus virginiana*), cottonwood (*Populus deltoides*), and western snowberry (*Symphoricarpos occidentalis*).

No sensitive, threatened, or endangered plant species were detected in the Survey Area.

5.3 Wildlife Inventory

Investigations were conducted on potential impacts the Project could inflict upon wildlife. Prior to field surveys, information was gathered from a variety of sources to compile data on the existing status of wildlife within the Study Area. These sources included Geographic Information System (GIS) database review, literature, and personal communications with the North Dakota Game & Fish (NDGF), the USFWS,

and the North Dakota Parks and Recreational Department (NDPRD). Prior to field surveys, Keitu reviewed in-house GIS data that includes information updated annually from the USFS, USFWS, and NDGF on known locations of sensitive species. Field surveys were conducted on the Study Area via foot and via all-terrain vehicle. Field data was collected with a Trimble GEOXH 6000 GPS.

Common terrestrial wildlife identified in the Study Area included coyote (*Canis latrans*), ground squirrel (*Urocyon richardsonii*), ring-necked pheasant (*Phasianus colchicus*), sharp-tailed grouse (*Tympanuchus phasianellus*), Hungarian partridge (*Perdix perdix*), whitetail deer (*Odocoileus virginianus*), mule deer (*Odocoileus hemionus*), pronghorn (*Antilocapra americana*), various songbirds, migratory waterfowl, and raptors. Wildlife species on the North Dakota Species of Conservation Priority list that were documented during 2019 field surveys included bobolink (*Dolichonyx oryzivorus*), sharp-tailed grouse (*Tympanuchus phasianellus*), Northern harrier (*Circus cyaneus*), chestnut-collared longspur (*Calcarius ornatus*), grasshopper sparrow (*Ammodramus savannarum*), and black-tailed prairie dog (*Cynomys ludovicianus*).

Four prairie dog towns were observed while conducting the wildlife survey, two on private landowner's property and two on USFS lands. Two prairie dog towns are located within the Project Corridor on USFS property. Prairie dog towns support a large community of wildlife species and can be prone to disruption by construction projects. Prairie dogs are management indicator species and occur throughout Western North Dakota.

The black-footed ferret is listed as an endangered species under the Endangered Species Act. The black-footed ferret was historically found across the Great Plains but has since been extirpated from North Dakota primarily due to poisoning of prairie dog colonies, conversion of native prairie to tilled agriculture, and disease. Black-footed ferrets rely on prairie dogs as their main source of sustenance and a single ferret may eat over 100 prairie dogs annually. It is estimated that a minimum 9,884 acres will support a viable population of black-footed ferrets. The largest prairie dog colony located within the Study Area is approximately 250 acres on private property. None of the prairie dog towns in the Study Area are large enough to support a population of black-footed ferrets. Avoidance measures may include narrowing ROW, fencing to exclude construction traffic away from colonies, and reducing ROW vehicle speed. Bridger will work with the USFS on avoidance measures to the prairie dog colonies during construction. Disruptions of prairie dog colonies will be avoided to the extent practicable to minimize impacts. Review of the impacts to the prairie dog towns was conducted by the USFS. The USFS concurred with the BE that the Project "may impact" black-tailed prairie dog, but did not recommend or require any additional mitigation measures to be taken. The Project will not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species. No black-footed ferrets were observed during the field studies nor are their records of sightings in the Study Area.

Sharp-tailed Grouse are a state species of Conservation Priority, Level II in North Dakota. A Level II species are those having a: moderate level of conservation priority or a high level of conservation priority but a substantial level of non-state wildlife grant funding is available to them. A Sharp-tailed Grouse lek survey was completed in April 2020 and confirmed four leks were present within the Study Area but not within the Project Corridor. Bridger will not construct within one mile (line-of-sight) of an active lek from March 1 – June 15th per USFS requirements.

The North Dakota raptor species of concern detailed by the NDPRD, Natural Heritage Inventory (NHI) with potential to be located in Golden Valley and McKenzie Counties include the following: bald eagle (*Haliaeetus leucocephalus*), golden eagle (*Aquila chrysaetos*), Swainson's hawk (*Buteo swainsoni*), merlin

(*Falco columbarius*), prairie falcon (*Falco mexicanus*), turkey vulture (*Cathartes aura*), American peregrine falcon (*Falco peregrinus anatum*), and the burrowing owl (*Athene cunicularia*).

An aerial raptor and nest survey was conducted on January 20 and 21, 2020. During the aerial survey, three surveyors (seated in front-left, rear-left, and rear-right positions of the helicopter) thoroughly examined the area within a 2-mile-wide survey corridor to locate raptors and raptor nests. The survey methods were consistent with the USFWS survey protocols. Complete survey coverage was obtained by traversing the survey corridor focusing on areas likely to contain nests including woody draws and steep bluff faces while visually scanning all areas of potential nesting habitat. Locations of NDGF and USFS shapefiles depicting previously known raptor nests were also focused on. When a possible nest was discovered, the helicopter would slow to a hover, at a distance great enough to prevent flushing if the nest was occupied and in the shortest amount of time needed to determine condition, type of nest, contents, and obtain accurate GPS location coordinates. The timing of the survey was conducive to locating nests in deciduous trees as "leaf out" had not occurred at this time.

No occupied nests were found during the survey. A total of four unoccupied nests were recorded within the two mile corridor (see Exhibit A.3) but none are located within the Project Corridor. While it is impossible to say with certainty that raptors will not occupy the recorded empty nests in the near future, based on the size of three of the nests, it would be improbable. The one remaining nest, an unoccupied golden eagle nest, was recorded on a cliff in McKenzie County. Due to its location, this nest will not be directly impacted by the Project's construction. Per USFWS "Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances", short-term land use and human activities may progress near a nest or nest territory designated as unoccupied. For long-term use activities, unoccupied nests should be conserved as recommended by the USFWS (see Table 5.3). Unoccupied nests of species which are not raptors of concern should be conserved for a minimum of five years. Prior to construction unoccupied nests will be surveyed if construction takes place within nesting season.

Table 5.3		
Recommended conservation periods for unoccupied nests of Raptor Species of Concern¹		
Species		Years
Bald Eagle	<i>Haliaeetus leucocephalus</i>	5
Northern Harrier	<i>Circus cyaneus</i>	Habitat Conservation*
Northern Goshawk	<i>Accipiter gentilis</i>	3
Swainson's Hawk	<i>Buteo swainsoni</i>	3
Ferruginous Hawk	<i>Buteo regalis</i>	5
Golden Eagle	<i>Aquila chrysaetos</i>	10
Peregrine Falcon	<i>Falco peregrinus</i>	Indefinite
Flammulated Owl	<i>Otus flammeolus</i>	5*
Burrowing Owl	<i>Athene cunicularia</i>	5*
Short-Eared Owl	<i>Asio flammeus</i>	3

*Species may not return to individual nest, but may nest in aggregates in suitable habitat
¹ U.S. Fish and Wildlife Service, Region 9. 2008. Guidelines for Raptor Conservation in the Western United States.

No raptor species of concern were observed during the survey. However, if an occupied nest is spotted during construction, a construction buffer zone will be required. The length of the buffer zone will be dependent on the species identified, consistent with USFWS guidance.

The Project has been sited to avoid and minimize adverse environmental impacts. Potential impacts to avian and raptor species were evaluated as part of the Project' environmental review and adverse impacts are not anticipated. The NDGF stated the Project is not anticipated to have adverse impacts on wildlife or

wildlife habitat. Bridger is also coordinating with the USFS with review by the USFWS on avoiding and minimizing migratory bird impacts, therefore no separate migratory bird plan will be filed due to the nature of the work being redundant.

Findings are electronically presented as ESRI ArcGIS software compatible data files in Exhibit C.

5.4 Exclusion Areas

Exclusion Areas are geographic areas that must be excluded in the consideration of a route for a transmission facility. A corridor may contain an Exclusion Area; however, Exclusion Areas may not encompass more than 50 percent of the Project corridor width at any point, unless there is no reasonable alternative. Exhibit A contains maps depicting Exclusion and Avoidance Areas along the Survey Area.

Exclusion and Avoidance Areas located within the Project Corridor are shown in Tables 5.4 and 5.8 below.

Table 5.4 Exclusion Areas NDPSC Certificate of Corridor Compatibility and Route Permit			
Exclusion Area	Located within the Project Corridor	Crossed by Project Route	Description of Exclusion Area and Proposed Buffer
National Parks, Memorial Parks, Historic Sites and Landmarks, Natural Landmarks, Monuments, and Wilderness Areas	None	None	
State Parks, Historic Sites, Monuments, Historical Markers, Archaeological Sites, Nature Preserves	None	None	
County Parks and Recreation Areas, Municipal Parks, Parks Administered by other Governmental Subdivisions	None	None	
Areas Critical to the Life Stages of Threatened or Endangered Animal or Plant Species	None	None	
Areas Where Animal or Plant Species Unique or Rare to the State Would be Irreversibly Damaged	None	None	
Areas Within 1,200 Feet of an ICBM Launch or Launch Control Facility	None	None	
Areas Within 30 Feet of a Direct Line Between ICBM Launch or Launch Control Facilities to Avoid Microwave Interference	None	None	

5.5 Federally Protected Species Review

Bridger consulted with the NDGF, USFWS, and the NDPRD NHI to identify species and ecologically significant habitats within the Project Corridor. Possible areas of concern discussed were federally listed endangered, threatened, candidate, sensitive, or watch species, state-listed protected species, and critical habitat that is located on or within the Project Corridor.

The USFWS was provided with the proposed Project route with a request for comments. Consultation is ongoing. See Exhibit B for a copy of Bridger’s formal consultation letter. The USFWS has jurisdiction over issues under the authority of the Migratory Bird Treaty Act, the Endangered Species Act, and the Bald and Golden Eagle Protection Act. The following comments were provided regarding Threatened and Endangered Species (Exhibit B.13):

Dakota Skipper

The Dakota skipper (*Hesperia dacotae*) is a small prairie butterfly listed as a threatened species under the ESA. Dakota skippers are obligate residents of high quality prairie ranging from wet-mesic tallgrass prairie to dry-mesic mixed grass prairie. In Northwestern North Dakota, Dakota skippers inhabit dry-mesic hill prairies with abundant purple coneflower (*Echinacea angustifolia*), but also use mesic to wet-mesic tallgrass prairie habitats characterized by wood lily (*Lilium philadelphicum*) and mountain death camas (smooth camas; *Zigadenus elegans*). Their dispersal ability is very limited due in part to their short adult life span and single annual flight. Extirpation from a site may be permanent unless it occurs within about 0.6 miles of an inhabited site that generates a sufficient number of emigrants. Avoidance of impacts to native prairie habitat is recommended to reduce the risk of adverse effects to this species. If such areas are unavoidable, surveys for Dakota skippers are advisable. Critical habitat has been designated for this species in North Dakota (McKenzie County).

The proposed crude oil pipeline includes areas of native prairie. The disturbance of these lands could further fragment and eliminate existing native prairie habitat. Recent surveys for the Dakota skipper have identified this species in the vicinity of the proposed action. According to the USFWS response, Dakota skippers occupy native prairie habitat, thus occupancy surveys were completed in areas of suitable habitat or occupancy, in July 2020.

Northern Long-Eared Bat

The Northern long-eared bat (*Myotis septentrionalis*) is a medium-sized brown bat listed as threatened under the Endangered Species Act. The species is known to be present in North Dakota during the breeding and migration seasons. These bats primarily roost singly or in colonies underneath bark, in cavities, or in crevices of both live and dead trees in the summer. The pupping season occurs in June and July. Hibernacula have not been documented in North Dakota. Summer survey guidelines for the Northern long-eared bat are identical for those established for the Indiana bat (*Myotis sodalists*).

White-nose syndrome- a fungus affecting hibernating bats- is considered a significant threat to this species, but individuals may be harmed by other activities such as modifications to hibernacula, timber harvest, human disturbance, and collisions with wind turbines. A 4(d) rule has been published that exempts taking of Northern long-eared bats in certain circumstances.

Additional Comments

With the continued fragmentation and loss of native prairie habitat in North Dakota, the USFWS recommends Keitu Engineering and Bridger Pipeline work with willing developers to voluntarily offset any unavoidable loss of native prairie habitat that may compensate for potential impacts to endangered or migratory species that likely occupy the project corridor.

A field survey was conducted from July to October 2019 of the Survey Area for botany and wildlife. The results of this field survey are presented in Section 5 as part of this consolidated permit application.

5.5.1 Federally Listed Wildlife Species

The following are federally listed Wildlife Threatened and Endangered Species listed from the USFWS

Information and Planning Consultation tool for the proposed project area.

Pallid sturgeon are located within the Study Area as they inhabit the Missouri and Yellowstone Rivers with sand or gravel bars. However, due to a lack of suitable habitat within the Study Area, the proposed Project will likely not result in take of the pallid sturgeon. The whooping crane, interior least tern, piping plover, Dakota skipper, northern long-eared bat, and red knot have the potential to occur within the Study Area as migrants. However, due to the low probability of occurrence and only temporary disturbance during construction, adverse impacts to these species are unlikely to occur. Field surveys in the summer of 2019 indicated potential suitable habitat for the whooping crane, interior least tern, piping plover, Dakota skipper, northern long-eared bat, and red knot.

Pallid Sturgeon

Pallid sturgeons inhabit the bottoms of large, shallow, silty rivers with sand and gravel bars of the Missouri and Yellowstone Rivers in North Dakota. Pallid sturgeon detections are distributed over 11 counties in North Dakota. The proposed project does not cross any waterbodies. The Yellowstone River is 20 miles to northwest of the project and the Missouri River is 12.5 miles to the east. No pallid sturgeons were observed during the survey. The Study Area does not encompass the Missouri and/or Yellowstone Rivers or shallow rivers with sand or gravel bars, to provide suitable habitat for this species.

No adverse effects for pallid sturgeon are anticipated as a result of this Project. This Project does not cross through or near suitable habitat. The USFS and USFWS both concluded with a determination of "no effect" on the pallid sturgeon as a result of the Project.

Whooping Crane

The whooping crane migrates through the west central counties of North Dakota during the spring months of April through May and the fall months September through October. Primary breeding grounds are located at Wood Buffalo National Park in Canada's Northwest Territories and migrate to Aransas National Wildlife Refuge in Texas. Whooping crane detections are distributed over all 53 counties in North Dakota. Whooping cranes prefer shallow wetlands, such as prairie potholes, associated with cattails, bulrushes, and sedges and feed in cultivated fields. No whooping cranes were observed during the field survey. Cultivated land does exist within the survey corridor; however, wetland habitat is sparse.

No adverse impacts to the whooping crane are anticipated as a result of the Project. The USFS and USFWS concluded with a determination of "no effect" on whooping cranes as a result of the Project; however, it is possible that whooping cranes may migrate through the Project area during migration. If a whooping crane is sighted within one mile of the Project area during construction, Bridger will cease construction within one mile of that part of the Project or within line-of-sight of the crane. If a sighting occurs, the USFWS and USFS would be contacted immediately and Bridger would coordinate with the USFWS before any construction could resume after the bird(s) leave the area.

Dakota skipper

In North Dakota, Dakota skippers can be found within two general habitat types classified by the USFWS, "Type A" and "Type B". Type A consists of low-lying, wet-mesic prairie with little topographic relief that occurs on near-shore glacial lake deposits. Type A habitat does not exist within the Survey Area. Type B habitat for the Dakota skipper typically supports a high diversity and abundance of native forbs in rolling

dry prairies. These two types of native prairie habitat are important for the Dakota skipper because they provide valuable nectar sources through native forbs and are difficult to re-establish once degraded or disturbed. The Dakota skipper in western North Dakota inhabits native prairie on rolling terrain over gravelly glacial moraine dominated by little bluestem, as well as big bluestem, needlegrasses, or porcupine grasses. Dakota skipper detections are distributed over five counties in North Dakota.

Dakota skipper absence/presence surveys were conducted by USFWS permitted surveyors for North Dakota in June and July of 2020. One female Dakota skipper was observed during these surveys. The Survey Area does provide bluestem/needlegrass/coneflower habitat (Type B) in native prairielands mostly located on hill sides and hill tops, and areas that have avoided major previous disturbance.

The USFS and USFWS determined that the Project "may affect but is not likely to adversely affect" the threatened Dakota skipper. Bridger is committed to undertake conservation measures recommended by the USFS to mitigate adversely affecting the Dakota skipper to the greatest extent possible. No construction activities will take place along the pipeline ROW during the Dakota skipper flight period of June 10-July 25. Bridger has also agreed to directionally drill all suitable DASK habitats identified and depicted on the maps associated with the biological assessment. Suitable DASK habitats will be temporarily fenced and flagged to avoid impacts from vehicles, construction equipment or other habitat altering equipment traveling along the ROW. Airborne dust will be reduced during Project construction on all construction locations, including any additional haul roads and access roads whenever needed and/or determined by the USFS. A qualified monitor will remain on-site during the life of construction to ensure compliance with all design features. During reclamation activities, USFS-approved revegetation seed mixes will be used. No herbicide will be sprayed from June 1 to July 31 annually, and only spot spraying of noxious and invasive weeds will be completed. Herbicide type and spot spraying application will be completed according to label directions with the intent to avoid drift to high quality Dakota skipper habitat. The USFS has determined that there will be no adverse modification to designated Dakota skipper critical habitat as a result of the Project.

Northern Long-eared Bat

The northern long-eared bat is currently listed by the USFWS as threatened in North Dakota. On April 2, 2015, the USFWS published the final listing in the Federal Registrar with an effective date of May 4, 2015. The USFWS listed the northern long-eared bat as threatened and chose to exercise the option of issuing an interim 4(d) rule to allow for more flexible implementation of the ESA. The 4(d) rule reduces ESA conflicts by allowing some activities that do not harm the species to continue while focusing efforts on threats that make a difference in the species' recovery.

This bat species occupies a wide range of rocky and forested habitats. Summer day roosts include abandoned buildings, bridges, hollow trees, stumps, and under loose bark, and rock fissures. There are no known hibernacula for the northern long-eared bat in North Dakota. Suitable winter habitat for northern long-eared bats consists of caves and abandoned mines neither of which occur in the Project Corridor. However, nearby trees and rocky outcrops can act as suitable summer day roosts.

The USFS and USFWS concurred with the determination that the Project "may affect, but not likely to adversely affect" the northern long-eared bat, as a result, Bridger will not remove any trees greater than 3 DBH from April 1 through September 30 as recommended by the USFS.

Piping Plover

The piping plover is a small shore bird that inhabits barren sand and gravel shorelines of lakes and rivers and avoids dense vegetation. The breeding season is from late April to early August in areas in North Dakota that include the shores of the Missouri and Yellowstone Rivers and the prairie wetlands in the Missouri Coteau. Piping plovers that summer in the northern plains, winter in the Gulf of Mexico. They rarely stop during migration and may travel from breeding to wintering grounds in as little as one nonstop flight. More than three-fourths of piping plovers in North Dakota nest on prairie alkali lakes, while the remaining are found along the Missouri River. Piping plover Designated Critical Habitat consists of prairie alkali wetlands and surrounding shoreline; river channels and associated sandbars and islands; reservoirs and inland lakes and their sparsely vegetated shorelines, peninsulas and islands. Piping plover detections are distributed over 25 counties in North Dakota. The nearest Designated Critical Habitat is approximately 12.5 miles east of the Project. No piping plovers or active nesting sites were observed during the field surveys.

The USFS and USFWS concurred with the determination that the Project "may affect, but is not likely to adversely affect" piping plovers. Potential adverse effects to piping plovers are insignificant based on the conservation measures detailed in the BA.

Rufa Red Knot

The rufa red knot utilizes North Dakota as migration stopover in the spring and fall. Migration occurs over long distances annually between its breeding ground in the Canadian Arctic and several wintering regions, including the southeast United States, the northeast Gulf of Mexico, northern Brazil, and Tierra del Fuego at the southern tip of South America. The Yellowstone River is 20 miles to the northwest of the project and the Missouri River is 12.5 miles to the east. Red knot detections are distributed over 25 counties in North Dakota. In North America, the red knot is commonly found along sandy, gravel, or cobble beaches, tidal mudflats, salt marshes, shallow coastal impoundments and lagoons, peat banks. The primary food items for the red knot in non-breeding habitats include blue mussels, juvenile mussels, clams, snails, polychaete worms, insect larvae, and crustaceans. Red knots migration is sporadic and uncommon but the potential exists that they may use wetlands found in the Project Corridor for stopover habitat. Potential stopovers for Red Knot are few, small, and distant with no known records in McKenzie County.

The USFS and USFWS concurred with the determination that the Project "may affect, but is not likely to adversely affect" the rufa red knot. Potential adverse effects to rufa red knots are insignificant based on the conservation measures detailed in the BA.

5.6 Areas Where Unique or Rare Species Would Be Irreversibly Damaged

Based upon agency correspondence and field surveys, the proposed Project will not result in irreversible impacts that are detrimental to sensitive plant and animal species or their habitats.

5.7 Areas within 1,200 Ft of ICBM Facility or 30 Ft of Direct Line of IBM Launch Facility

Based on available information, the Air Force has no Intercontinental Ballistic Missile (ICBM) launch or launch control assets within the Project area. An email was sent to the U.S. Air Force on October 8, 2019 and an email response was received on October 9, 2019 that there are no assets near the Project.

5.8 Avoidance Areas

Avoidance Areas are areas that may not be considered in the routing of a transmission facility unless it is shown that there is no reasonable alternative under the circumstances. A buffer zone of a reasonable width to protect the area must be included. A corridor may contain Avoidance Areas as long as the Avoidance Areas do not encompass more than 50 percent of the Project Corridor width at any point, unless no reasonable alternative exists. The following table identifies and discusses Avoidance Areas within the Project Corridor.

Four categories of Avoidance Areas were identified within the Project Corridor (see Table 5.7 below). National Grasslands, historical resources not specifically designated as Exclusion or Avoidance Areas, and six geographically unstable areas were identified. The Avoidance Areas do not encompass more than fifty percent of the width of the corridor.

Table 5.8 Avoidance Areas			
Avoidance Area	Located within the Project Corridor	Crossed by Project Route	Description of Avoidance Area and Proposed Buffer
National Historic Districts, Wildlife Areas, Wild, Scenic, or Recreational Rivers, Wildlife Refuges, Grasslands	Yes	Yes	National Grasslands Routing in consultation with USFS
State Wild, Scenic or Recreational Rivers, Game Refuges, Game Management Areas, Management Areas, Forests, Forest Management Lands, Grasslands	None	None	
Historical Resources not specifically designated as Exclusion or Avoidance Areas	Yes	None	Impacts to sites will be avoided by the location of Project routing, and implementing the avoidance and mitigation measures recommended by BCA and approved by SHPO
Geologically Unstable Areas	Yes, Six	None	
Areas within 500 Feet of a Residence, School, or Place of Business	No	No	
Reservoirs and Municipal Water Supplies	None	None	
Water Sources for Organized Rural Water Districts	None	None	
Irrigated Land	None	None	
Areas of Recreational Significance Not Designated as Exclusion Areas	None	None	

5.9 Federal Resource Review

A review of publicly available data and field studies of the Project Corridor was conducted to confirm the presence or absence of registered historic districts, wildlife areas, wild, scenic or recreational rivers, wildlife refuges, or grasslands within the Study Area or crossed by the Project route. This review confirmed the absence of designated or registered national historic districts, wildlife areas, wild, scenic or recreational rivers, and wildlife refuges within the Project Corridor or crossed by the Project route. Nineteen (19) miles of the Little Missouri National Grasslands are located within the Project Corridor and will be crossed by the Project route. The USFS has been notified of the Project, a SF-299 Application for Transportation and Utility Systems and Facilities on Federal Lands Permit has been submitted, and an

Environmental Assessment (EA) and an updated Biological Assessment (BA) were prepared for USFS review.

The BA was prepared in accordance with legal requirements set forth under the National Forest Management Act, the Dakota Prairie Grasslands Land and Resource Management Plan, and Endangered Species Act, Sections 4(b)(2)(16 USC 1533) and 7 (16 USC 1536 (c)), and follows the standards established in 50 CFR Part 402-Interagency Cooperation-Endangered Species Act of 1973, the Migratory Bird Treaty Act (16 U.S.C. 703 et seq.), the Bald and Golden Eagle Protection Act (16 U.S.C. 2342352353), the National Environmental Policy Act (42 U.S. 4321 et seq.), Executive Order 11990 "Protection of Wetlands" and Executive Order 13186 "Responsibilities of Federal Agencies to Protect Migratory Birds." BA's are completed to determine if the project has potential effects on ESA listed species. The species determinations were based upon evidence gathered during research and field inspections regarding the presence or absence of the species and potential habitat within the project and study area. The report is not included in this application because there are several locations of habitat that cannot be released publically.

The EA reviews the proposed projects potential impacts on resources such as: botany, cultural/heritage, engineering, fisheries, fuels, hydrology, lands/special uses, minerals, range, recreation, scenic resources, soils, special management areas, silviculture, solid waste, geology, and wildlife. Each specialist from the USFS reviews the topic of their expertise to ensure the proposed project will have no or minimal impacts to resources on the Little Missouri National Grasslands prior to providing the Finding of No Significant Impact (FONSI).

As of December 2021, the USFS and the USFWS have completed their review of the BA. The Environmental Assessment review has been completed by the USFS area specialists. The USFS issued the FONSI and the signed FONSI is located in Exhibit B.19.

5.10 State Resource Review

A review of publicly available information was conducted and confirmed the absence of designated or registered state wild, scenic, or recreational rivers, forests, forest management lands, or grasslands within the Project Corridor or crossed by the Project route.

5.11 Local Resource Review

A review of publicly available information was conducted and confirmed the absence of designated or registered local (municipal and county) parks and recreational areas within the Project Corridor or crossed by the Project route.

5.12 Historical Resources Not Designated as Exclusion/Avoidance Areas

The Project involves USFS managed property. Keitu Engineers & Consultants, Inc. has hired Beaver Creek Archaeology, Inc. (BCA) on behalf of Bridger to conduct a Class I file search, a Class III intensive cultural resource inventory, and to complete a cultural resource survey report for submittal to the USFS who, in turn, submits the report to the North Dakota State Historic Preservation Office (SHPO). This inventory covers 3,434 acres of the 3,565-acre Survey Area the remainder of which has been surveyed by BCA for different projects within the past 10 years.

In total, 37 sites were located within the Survey Area /APE. Of these 37 sites, 20 are determined to be ineligible for nomination to the National Register of Historic Places (NRHP), and no avoidance measures are recommended. Four sites are unevaluated with no avoidance measures recommended. All 24 sites will be avoided by the Project. Three sites (32MZ141, 32MZ59, and 32MZ499) underwent evaluative testing and were found to be ineligible with no avoidance measures recommended. Avoidance or mitigation was recommended for the remaining 10 sites, four of which are located on USFS property and six are located private or State Trust Land.

The four sites (32MZ120, 32MZ121, 32MZ266, and 32MZ2224) located on USFS property are either unevaluated or are ineligible for inclusion on the NRHP however, all four sites have been recommended for avoidance. Avoidance measures will include maintaining a minimum 50' to 100' avoidance buffer, defined by temporary fencing, archaeological monitoring when construction activities are within 100' of the buffered and fenced boundaries, and horizontal directional drilling in proximity to certain sites.

For the six sites (32GV27, 32MZ19, 32MZ267, 32MZ858, 32MZ2810, and 32MZ3406) located on private or State Trust Land, five sites are unevaluated, and one site is eligible for inclusion on the NRHP. All six sites are recommended for avoidance. Avoidance measures will include maintaining a 50' foot avoidance buffer, defined by temporary fencing, archaeological monitoring when construction activities are within 100' of the buffered and fenced boundaries, and horizontal directional drilling in proximity to certain sites.

BCA found "No Historic Properties Affected" provided all sites requiring avoidance measures are avoided. SHPO concurred with BCA's findings in a concurrence letter dated June 22, 2021.

A copy of BCA's report is presented in Exhibit E.

5.13 Geologically Unstable Areas

There are three major phenomena associated with seismic hazards: faults, seismicity, and ground motion. A fault is a fracture along which the blocks of crust on either side have moved relative to one another parallel to the fracture. Rapid slippage of blocks of crust past each other can cause energy to be released, resulting in an earthquake. No active faults have been identified in the Study Area, according to the USGS Geologic Hazards Science Center. An active fault is one in which movement can be demonstrated to have taken place within the last 10,000 years.

North Dakota historically contains little earthquake activity and is therefore not in an area of seismicity. The USGS ground motion hazard mapping indicates that potential ground motion hazard in the Project Study Area is low. The hazard map uses estimated peak ground acceleration expressed as a percentage of the acceleration due to Earth's gravity.

In North Dakota, most flooding occurs in the spring, when the winter snow cover melts. While flooding is generally considered a geologic hazard, the potential for a flood to negatively impact the Project is minimal. No part of this line is located in a ND floodplain.

The North Dakota Geological Survey database was reviewed to identify areas of potential geologic instability within the Study Area. A desktop review based on GIS data, NRCS soil map data and topographic information identified eight potential landslide areas within the Study Area; however, none are crossed by the Project route. See Table 5.12 and subsequent discussion of each area.

The potential for geologic hazards is reduced because the Project is located in relatively flat and stable terrain as opposed to active mountain belts or coastal area. However, six (6) areas of potential geologic instability (Areas A, B, D, E, F, & G) are located within the Project Corridor and cannot be definitively eliminated based on generalized data. Field assessments were conducted in the six areas by a geotechnical specialist at Tetra Tech in July 2020. A copy of their report which includes all the field evaluations performed for the South Bend Pipeline Segment at that time is included as Exhibit F for reference. Applicable observations and recommendations for this Project are summarized in Table 5.12, below.

Table 5.12 Landslide Prone Areas						
Area	Latitude & Longitude	Crossed by Project Route	Initial Evaluation	Risk Ranking	Recommended Actions	Planned Mitigation
A	47.785839°, -102.906472°	No	Evaluated by Tetra Tech	High	Regrade & Re-vegetate	Regrade & Re-vegetate
B	47.728725°, -103.245574°	No	Evaluated by Tetra Tech	Medium	Periodic Assessment	None
C	47.676515°, -103.397770°	No	No Further Assessment Required			
D	47.339739°, -103.901176°	No	Evaluated by Tetra Tech	Medium	None	None
E	47.336974°, -103.905431°	No	Evaluated by Tetra Tech	High	Regrade & Re-vegetate	Regrade & Re-vegetate
F	47.269246°, -104.028820°	No	Evaluated by Tetra Tech	Low	None	None
G	47.269229°, -104.029326°	No	Evaluated by Tetra Tech	Medium	Continued Observation	None
H	47.265444°, -104.036084°	No	No Further Assessment Required			

Area A: (Tetra Tech Report, Potential Slope 4)

The proposed pipeline construction disturbance corridor intersects its first landslide risk area at point 1. The proposed position of the pipeline places it 60 feet beyond the toe of the existing slope.

The estimated slope angle was calculated as 10°, well below the angle of repose for a slope made-up entirely of dry sand (which is 34°), indicating a stable slope. However, because the pipeline is to be placed at the toe of the slope, possible sliding or slumping could occur as a result of soil disturbance. While the slumping would add more soil on top of the installed line resulting as an additional depth of cover, a field assessment of this site was recommended.

Geotechnical specialists from Tetra Tech Inc. evaluated Area A. They concluded, “The risk for potential impacts to the proposed South Bend pipeline is low, however, given that the proximal distance from the proposed pipeline to the toe of the slope is 60 feet or greater.” They suggested the slope be regraded, install erosion control measures, and regular monitoring.

This area will be regraded in the course of construction of the pipeline, and revegetated with low lying forbs and grasses as recommended by the geotechnical specialists.

Area B: (Tetra Tech Report, Potential Slope 7)

The proposed route places the pipeline approximately 500 feet away from the landslide deposit area identified by the ND Geological Survey data. However, the proposed route has the pipeline intersecting a small drainage area that could be considered part of the larger "landslide risk" area. Because the pipeline is to intersect this slope, possible sliding or slumping could occur as a result of soil disturbance. This area was therefore included in the evaluation process.

The estimated slope of this drainage area was calculated as 6.1°, well below the angle of repose for a slope made-up entirely of dry sand (which is 34°), indicating slope stability. Combined with the distance from prior surface movement, the initial evaluation classified this area as stable.

Geotechnical specialists from Tetra Tech Inc. evaluated Area B. They concluded, "There is a small drainage with an intermittent stream located at the toe of the slope with has caused some historical erosion; however, the area has revegetated and appears to have stabilized at the time of the assessment. Several small slumps were also observed near the toe of the slope within the drainage channel. No recent movement was apparent at the time of assessment. Overall the slope appeared to be stable at the time of the assessment with no signs of active movement or instability." They suggest periodically assessing the slope for indications of slope movement associated with slumping and erosion near the toe of the slope.

Area C:

The distance from the nearest point of a landslide deposit area (identified by NDGS) to the proposed pipeline route is 192 feet, placing this risk area well outside of the construction corridor. Still, an estimated slope angle was calculated for the nearest feature of the landslide deposit to the route. The estimated slope was calculated as 5.7°, well below the angle of repose for a slope made-up entirely of dry sand (which is 34°) and indicates slope stability. Pipeline construction is not expected to affect slope stability at this location because the risk area lies completely outside of the construction corridor.

Area D: (Tetra Tech Report, Potential Slope 5)

The pipeline intersects two slopes (points 25 and 26) on either side of a stream bed. The estimated slope angles were calculated as 9.3° for both point 25 and 26. This angle is well below the angle of repose for a slope made-up entirely of dry sand and indicates slope stability. But, because the pipeline is to intersect this slope, possible sliding or slumping could occur as a result of soil disturbance, therefore a field assessment of these sites was conducted.

Tetra Tech evaluated Area D and concluded "The slope was stable at the time of evaluation" and suggested no further action.

Area E: (Tetra Tech Report, Potential Slope 6)

Tetra Tech evaluated Area E and ranked the area high mass failure potential due to its steep slope but identified only a possible tension crack near the top of the slope. The surface was well vegetated and showed no signs of recent movement. However, Tetra Tech recommended regrading the area to remove the steep slope areas and revegetate with low height plants.

Bridger will mitigate risks associated in this area in accordance with the Tetra Tech recommendations and in consultation with the landowner to determine the most appropriate mitigation measures at the site.

Area F: (Tetra Tech Report, Potential Slope 1)

The proposed pipeline route crosses a shallow stream bed. The estimated slope angles for point 29 were calculated for the Southwest slope as 4.3° and for the NE slope as 8.3°. For point 30 the estimated slope angle was calculated as 5.0°. All of these angles are well below the angle of repose for dry sand and indicate stable slopes. However, disturbing soil at this point may decrease slope stability and cause land sliding or slumping, therefore a field assessment of these sites was recommended.

Tetra Tech evaluated Area F and observed "No apparent indications of instabilities or erosion" and suggested no further action.

Area G: (Tetra Tech Report, Potential Slope 2)

The proposed pipeline route intersects a NDGS identified landslide deposit mid-slope (point 30). The estimated slope angles for point 29 were calculated for the Southwest slope as 4.3° and for the NE slope as 8.3°. For point 30 the estimated slope angle was calculated as 5.0°. All of these angles are well below the angle of repose for dry sand and indicate stable slopes. However, disturbing soil at either point 29 or 30 may decrease slope stability and cause land sliding or slumping, therefore a physical assessment of these sites was recommended.

Tetra Tech evaluated Area G and observed the slope is moderate, but relative short in length. While the slope is well vegetated, there is a well-defined drainage area at the toe of the slope. The Tetra Tech staff stated the slope appeared stable with no apparent signs of recent erosion at the time of assessment, and suggested that the features be observed for signs of change.

Bridger will mitigate any risks associated with this feature in accordance with the recommendations of Tetra Tech and in consultation with the landowner to determine the most appropriate mitigation measures at the site.

Area H:

The proposed route intersects a gently sloping bank on one side of a stream bed. The estimated slope angle (calculated for the steepest portion of this slope, nearest the stream) was calculated to be 7.3°, well below the angle of repose for a slope made-up entirely of dry sand which indicates slope stability. Since even the steepest area is relatively shallow and very limited in size, the initial evaluation classified this area as stable.

5.14 Areas within 500 Feet of a Residence, School, or Place of Business

There are no inhabited residences, schools, or places of business within five hundred feet of the Project route.

5.15 Reservoirs and Municipal Water Supplies

The closest North Dakota cities to the Project are Watford City and Keene located in McKenzie County. These cities water is not supplied by aquifers. McKenzie County Water Resource District purchases its water from the Western Area Water Supply Authority (WAWSA). WAWSA is fed by the Missouri River and the water is treated at the Williston Treatment Plant.

Approximately 7.5 miles of the east end of the Project crosses the Southwest Water Authority pipeline, specifically the area served by the Dickinson Water Treatment Plant.

Within the Study Area, the Fox Hills and Tongue River aquifer systems are the most common water well. These water wells are most likely used for private domestic, livestock and industrial purposes. The Study Area does overlie the Tobacco Garden, Cherry Creek and Bennie Peer glacial aquifers.

This line does not cross any reservoirs or municipal water sources. The proposed Project will not adversely affect any reservoirs or municipal water supplies.

5.16 Water Sources for Organized Rural Water Districts

Within McKenzie and Golden Valley Counties, groundwater uses are intended for domestic, livestock and industrial purposes. Most groundwater is derived from precipitation. Excess water infiltrates down until it reaches the zone of saturation, at which time it becomes accessible to wells. Most aquifers occur in the Fox Hills, Tongue River, Fort Union, and Sentinel Butte Formations. Maximum potential yields of these aquifers range from around 50 gal/min to as much as 250 gal/min. The water from these aquifers are commonly soft to very hard and contain sodium bicarbonate.

Per the ND DEQ Interactive Viewer of Wellhead/Source Water Protection Areas, this Project will not affect any wellhead or source water protection areas

This Project is not expected to impact North Dakota ground water quality.

5.17 Irrigated Land

The Project will not impact irrigated lands. Land that is most efficient for irrigation is relatively level and has soils that are well drained and highly permeable. The route crosses silt and clay soils which contain low permeability, making them unsuitable for irrigated agriculture. A desktop survey of Google Earth and field survey confirms the absence of irrigated lands within the Survey Area.

5.18 Areas of Recreational Significance but Not Designated Exclusion Areas

Areas of recreational significance are not located within the Project Corridor or crossed by the Project route.

5.19 Selection Criteria

The NDPSC's rules specify Selection Criteria to be considered in designating a pipeline corridor or route. Specifically, the NDPSC considers whether adverse effects from the location, construction, and maintenance of the facility as they relate to these criteria, will be at an acceptable minimum, and whether these effects will be managed and maintained at an acceptable minimum.

The Selection Criteria that were considered for the Project include:

- Agricultural Production
- Family Farms and Ranches
- Land Suitable for Irrigation

- Surface Drainage and Groundwater Flow Patterns
- Sound Sensitive Areas
- Visual Effects
- Extractive and Storage Resources
- Wetlands, Woodlands, and Wooded Areas
- Communication or Electric Control Facilities
- Human Health and Safety
- Animal Health and Safety
- Plant Life

The following sections discuss the potential impacts and measures to avoid or minimize the impacts related to each of the Selection Criteria.

5.19.1 Agricultural Impacts

The Project will be installed within a new ROW in McKenzie and Golden Valley Counties in northwestern North Dakota. A significant portion of the Project route crosses agricultural and pasture lands where crop and livestock production are the extensive economic activity. Land use along the route is comprised of approximately 20 miles agricultural land and 50 miles pasture or rangeland. The primary crops cultivated in the area include hay fields, oats, sunflowers, and alfalfa.

Pipeline construction may result in temporary effects on agricultural land use. However, Bridger will institute appropriate management practices to restore all areas to pre-construction conditions, to the extent reasonably practicable.

Bridger will follow their Weed Management Plan as filed with McKenzie County Weed District for the whole route in North Dakota. Golden Valley Weed District has been contacted twice and to date Bridger has not received a reply therefore a county specific plan for Golden Valley was not created. See Exhibit D for filed McKenzie County Weed Plan.

Bridger will require that construction equipment be cleaned before arriving on site to prevent the introduction of undesirable species to the surrounding ROW. Bridger will implement the following mitigation measures when undesirable species are found within the construction ROW:

- Bridger will make an effort to prevent the spread of noxious weed seeds during clearing and grading activities, and will use straw mulch and seed mix that are free of noxious weed seed to re-vegetate the ROW. Contractors and construction inspectors will receive information to help them identify noxious weeds. Bridger will also utilize environmental inspectors to help identify and prevent the spread of undesirable species.
- During pre-construction walkovers, Bridger's environmentally trained inspectors may flag and document areas containing noxious weeds. The construction crews are informed of these areas. Bridger instructs the contractors to minimize the amount of construction equipment and limit the number of passes by this equipment through infested areas. Construction mats are used to minimize the transport of weed seed or plant material via construction equipment.
- Equipment and construction mats are cleaned immediately after passing through infested

areas. Cleaning consists of removing large soil clods and/or plant parts from the equipment and construction mats using shovels and brooms and, when necessary, washing the equipment with water or cleaning using compressed air. Soil and water from cleaning activities are not allowed to flow to non-infested areas.

The pipeline will be installed at a depth that exceeds the typical tillage depth. Following construction, agricultural lands will be returned to pre-construction conditions to the extent reasonably practicable. Therefore, the Project is not anticipated to interfere with normal agricultural operations on cropland after construction. Construction operations are expected to be conducted after the harvest season and prior to the growing season when feasible. Therefore, minimal disruption to agricultural production is anticipated.

Above-ground facilities on cropland are limited to line markers and cathodic protection rectifiers. Therefore, the Project will result in minimal long-term loss of farmland use. Bridger will consult with landowners to place above-ground appurtenances in areas that cause the least amount of disturbance to landowner operations. Landowners will be compensated by either long-term lease agreements or by the purchase of the land for these sites.

Bridger will ensure all fencing and gates that are being used for containing livestock will be maintained properly during construction. All livestock related facilities such as cattle fencing or gates would be repaired if damaged during construction or maintenance. Bridger employees will be made aware during construction and maintenance activities to close all fences and gates.

Private livestock water pipelines are adjacent and within the Project Corridor. Prior to construction or maintenance Bridge would identify all underground water pipelines to minimize risk of being damaged. Pipeline routed for approximately 80% of the route to be within or adjacent to Bridger's existing ROW which aids in reducing risk to utility strikes. While water pipeline impacts are not anticipated, Bridger would make necessary repairs and ensure livestock have water during repairs.

Prime farmland is not located within the Project Corridor and will not be affected by this Project.

Bridger will take appropriate precautions to protect livestock and crops affected by maintenance and inspection of this project. The Project will not generate negative effects for agricultural land use such as landscape modifications or an introduction of noxious weeds or invasive species when agricultural areas are reclaimed. Bridger will continue to implement mitigation post Project construction.

5.19.2 Family Farms and Ranches

The construction or maintenance activities will not alter the patterns of landownership or create long-term disruptions of family farming operations. The construction zone will be located partially within an existing ROW and paralleling another line. Bridger's crop loss compensation program will compensate landowners if any crop damage were to occur during construction. Crop damage resulting from future pipeline maintenance and repairs will also be addressed by Bridger. All maintenance equipment used will be limited to access routes in agreement with the landowners to minimize disruption to soil, drainage, and crops.

Once constructed the Project will require periodic maintenance activity, which could have an indirect short-term disruption to livestock operations, and inconvenience to farm activities. Bridger will work to minimize interference with these activities while the Project is in operation.

5.19.3 Land Suitable for Irrigation

Land that is most efficient for irrigation is relatively level and has soils that are well drained and highly permeable. The route crosses silt and clay soils which contain low permeability, making them unsuitable for irrigated agriculture.

Both the desktop survey using information available on the North Dakota GIS system and as confirmed by a field on-foot survey of the route confirms the absence of irrigated lands within the Survey Area. No aboveground irrigation systems were identified along the route. No Landowners identified irrigation systems on their properties.

5.19.4 Surface Drainage and Groundwater Flow Patterns

Because the Project consists almost exclusively of underground pipe, the Project will not alter surface drainage patterns. Aboveground apertures such as cathodic test stations, rectifiers and pig launchers and receivers are isolated along the route and have a minimal aboveground presence that they will not alter surface drainage. The underground depth of pipe is well above the local groundwater table elevation except in very limited areas where bored beneath standing water. Since pipe is placed well below standing water, no impact to flowing surface water that occurs relative to the minor protuberances into the topmost aquifers which intersects with streams, the overall cross section area of pipe through these areas is "de minimus" compared to the acres of hydraulic surface involved. Consequently, the Project will not have any measurable impact on the average flow rate nor pattern of groundwater flow.

In the unlikely case that streams, swales, ditches, or other natural drains were altered during the Project, they will be restored as best as practical to pre-construction conditions.

5.19.5 Sound-Sensitive Land Uses

There are no inhabited residence located within 500 feet of the Pipeline Route.

During construction, residences in close proximity to the construction may experience short-term increases in construction-related noise. The heavy construction equipment needed to construct the Project may generate short-term increases in ambient noise levels. Increases in ambient noise levels due to heavy equipment operation will be limited to the period of construction, typically during daylight hours. No significant noise is expected to be generated by the Project during normal operations.

5.19.6 Visual Effect on Adjacent Areas

The aboveground structures associated with the pipeline will be finished with "earth-toned" painted surfaces. These structures are common throughout the landscape and not considered to be obtrusive. Surface facilities to be installed along the route will be limited to valves, pig launchers and receivers, pipeline markers, and rectifiers.

Other than these permanent above-ground facilities, the Project's impacts to visual effects will be limited to periods of construction activities.

5.19.7 Extractive and Storage Resources

No extractive or storage resources were identified which would be affected by the Project. Due to the narrow and linear nature of the pipeline ROW, future extractive development will not be substantially affected by the Project.

5.19.8 Wetlands, Woodlands, and Wooded Areas

Bridger, through its consultants, conducted a desktop survey using aerial photographs and USGS topographic maps identifying wetlands along the Project Corridor.

No wetlands or waterbodies will be permanently drained or filled as part of the Project, and no future effects are anticipated. Construction of the Project will not result in the permanent drainage or filling of wetlands.

No fertilizer, lime, or mulch would be applied in wetlands as part of the Project. The long-term operation and maintenance of the pipeline will not have adverse effects on wetland function or value as all features through wetlands are underground.

During Keitu's work, 35 upland tree areas were geographically referenced within the Survey Area. Keitu recorded all trees with a diameter breast height of 1 inch or greater. It was determined that approximately 4335 trees, saplings, or shrubs are located within the Survey Area.

Impacts to trees will be avoided to the extent practicable in a manner compatible with safe operation, maintenance, and inspection of the pipeline. It may become necessary to clear some mature trees during construction; however, Bridger will work with the appropriate state agencies and private landowners to determine appropriate replacement measures following construction.

Bridger will satisfy the tree replacement requirements agreed upon by the NDPSC.

5.19.9 Radio and TV Reception and Other Communication or Electronic Facilities

No impacts on television or radio reception or communication or electronic control facilities are anticipated as a result of the Project.

5.19.10 Human Health and Safety

Bridger Pipeline LLC operates in western North Dakota, eastern Montana and Wyoming. By building and operating this extensive network, Bridger has become one of the largest pipeline companies in North Dakota and is very experienced in managing construction and operating pipeline systems that protect the public's health and safety.

5.19.11 Animal Health and Safety

Construction activity within the Project Corridor will have temporary impacts on domestic animals and wildlife. The clearing of vegetation will temporarily reduce cover, nesting, and foraging habitat for some species. However, species will generally move into adjacent habitats, away from the disturbance area. Once habitat alterations are reclaimed, wildlife is anticipated to reestablish within the area.

Project trenching activities and associated spoil piles may result in a short-term barrier restricting the movement of some wildlife species (typically two to four weeks at any one area). Except for short-term interruptions during construction and maintenance, existing public roads, farm lanes, and livestock crossings will be kept open, providing crossing access for wildlife. During construction, Bridger may erect temporary fencing, as necessary, to keep livestock and wildlife away from the pipeline trench, and will minimize the length of time the trench is left open. Short-term barriers may also be utilized to keep livestock away from active construction and maintenance. Bridger will work with landowners to ensure access to fresh water sources are not impacted.

5.19.12 Plant Life

The Project is not anticipated to permanently impact plant life, however in areas where vegetation has to be removed to perform inspection or maintenance activities, it will be reestablished to regulation standards from county agencies and the satisfaction of landowners. Permanent impacts on vegetation are not anticipated.

5.20 Policy Criteria

5.20.1 Location and Design

Bridger believes that the Project utilizes an optimal alignment. Although four types of Avoidance Areas were identified within the Project Corridor (see Table 6.8), the Project has been sited to minimize impacts to these areas, and the Project's route parallels approximately 45 miles of existing pipelines in North Dakota.

Bridger engaged consultants to conduct environmental desktop studies, field studies, and a Class I and III archeological study. The purpose of these studies is to identify environmental and cultural resources and to avoid and minimize impacts to these areas.

Construction of the Project will involve the installation of 16-inch outside diameter, steel, API-5L, PSL2, Grade X-52 ERW Line Pipe with a nominal wall thickness of 0.312 inches. Bore pipe will have a nominal wall thickness of 0.375 inches. The MOP of the pipeline will be 1,440 psig. The Average operating pressure will be 600 -800 psig.

Valves will be 16-inch ANSI 600 manufactured in accordance with API Standard 6D "API Specification for Steel, Gate, Plug, Ball and Check Valves for Pipeline Service." Valves will be installed pursuant to US DOT regulations. The MOP of the valves will be 1,440 psig.

The steel pipe utilized for construction of the Project will meet US DOT criteria outlined in 49 C.F.R. § 195.100. The Project will be constructed per 49 C.F.R. § 195.200 and will be operated and maintained per 49 C.F.R. § 195.400.

The Project is designed and will be operated in a manner that meets or exceeds state and federal engineering, safety and operational design standards.

5.20.2 Training and Utilization of In-State Labor

During construction, skilled and unskilled labor, both local and non-local, will be employed to construct the pipeline. Bridger, as operator of the Project, has established a comprehensive orientation, technical, safety, emergency, and on-the-job training program that is in compliance with the Operator Qualification rules issued by PHMSA under 49 C.F.R. Part 195. As personnel progress in pipeline operation and maintenance positions, they receive hundreds of hours of formal and on-the-job training. Demonstrations of competence are shown through reviews of job performance, periodic pipeline control system simulations, emergency exercises, welding certification tests, and other functions required to continue safe pipeline operation and maintenance.

5.20.3 Economies of Construction and Operation

The Project is believed to be the most cost-effective and operationally sound means of meeting Bridger's delivery obligations.

5.20.4 Use of Citizen Coordinating Committees

No citizen coordinating committee is anticipated as a result of the Project. Bridger does not believe such a committee is necessary given the Project is located in an area of the state where crude oil gathering and transmission pipelines already exist. As such, the public is familiar with the permitting, construction, and operation of pipeline facilities.

5.20.5 Commitment of Portion of Transmitted Product for Use In-State

Bridger does not own any of the crude petroleum transported in its pipeline system and does not determine markets or destinations for petroleum commodities.

5.20.6 Labor Relations

The Project will have no anticipated effect on labor relations within North Dakota.

5.20.7 Coordination of Facilities

The 16-inch line and associated pumping, control and operating systems is used in conjunction with other segments of the Bridger pipeline network to optimize system capacity.

5.20.8 Monitoring Impacts

Any construction-related impacts will be mitigated through the use of best management practices, appropriate construction techniques, and environmental inspection during and following completion of construction. Following construction, a thorough inspection will be performed to ensure restoration efforts were successful. Monitoring and treatment of noxious weeds and/or invasive species will be conducted on an annual basis to ensure a high degree of control and maximize treatment effectiveness.

5.20.9 Using Existing and Proposed ROWs and Corridors

The Project will be constructed in a 100-foot-wide temporary construction ROW. Bridger has acquired 50-foot-wide permanent easements for the Project. Approximately 50% of the Project will be partially constructed within or next to an existing ROW.

Bridger will acquire the right to utilize additional temporary workspace from the landowners, where necessary. The use of unauthorized workspace will be prohibited without the landowner’s approval. In all cases, the amount of additional temporary workspace utilized will be kept to the minimum necessary to safely conduct work.

5.20.10 Other Existing or Proposed Transmission Facilities

No specific transmission facilities by Bridger are planned for the next 10 years. However, given the production activity in Bridger’s service area of Western North Dakota and the demand for crude oil transportation by pipeline, additional new pipeline projects by Bridger are possible.

6 AGENCY NOTIFICATIONS AND PERMITTING

Keitu contacted federal, state, and local agencies and entities designated in North Dakota Administrative Code § 69-06-01-05 regarding the Project. Letters and/or emails were submitted with an accompanying overview map of the Project. A summary of these consultations is provided in Table 6, and further details on each consultation are included in the following sections. Sample notifications and responses are located in Exhibit B.

Table 6 Agency Notifications			
Agencies Contacted	Form of Contact	Date of Contact	Date of Reply
US Army Corps of Engineers	Mailed Letter	10/4/2019 12/16/2019	1/8/2020
ND Parks and Recreation	Mailed Letter	9/30/2019	11/8/2019
ND Game and Fish Department	Mailed Letter	9/30/2019	10/28/2019
Lake Ilo National Wildlife Refuge	Mailed Letter	9/30/2019 12/16/2019	
U.S. Fish and Wildlife Service	Mailed Letter	9/27/2019 12/16/2019	12/30/2019
McKenzie County Planning Department	Mailed Letter	10/15/2019	10/29/2019
McKenzie County Commission	Mailed Letter	9/30/2019 12/16/2019	
Golden Valley County Planning Department	Mailed Letter	9/27/2019 12/16/2019	1/6/2020
Golden Valley County Commission	Mailed Letter	9/27/2019 12/16/2019	1/6/2020
Minot Air Force Base - Cable Affairs	Email	10/8/2019	10/9/2019
NDIC Pipeline Authority	Mailed Letter	9/30/2019 12/16/2019	
ND State Water Commission	Mailed Letter	9/30/2019	10/29/2019
ND Department of Env. Quality	Mailed Letter	9/30/2019 12/16/2019	12/9/2019

Table 6 Agency Notifications			
Agencies Contacted	Form of Contact	Date of Contact	Date of Reply
ND DOT Dickinson District	Mailed Letter	9/30/2019 12/16/2019	1/13/2020
ND DOT Williston District	Mailed Letter	9/30/2019 12/16/2019	1/13/2020
ND Department of Trust Lands	Mailed Letter	9/27/2019	10/2/2019
ND Soil Conservation Committee	Mailed Letter	9/30/2019 12/16/2019	
ND Department of Agriculture	Mailed Letter	9/30/2019 12/16/2019	
USFS McKenzie Ranger District	Mailed Letter	9/30/2019 12/16/2019	EA FONSI signed
McKenzie County Weed Board	Mailed Letter	9/27/2019 12/16/2019	Weed plan was approved April 2020
ND Geological Survey	Mailed Letter	9/27/2019	10/7/2019
Golden Valley County Weed Board	Mailed Letter	9/27/2019 12/16/2019	
Grail Township	Mailed Letter	3/05/2020	
ND Labor Department	Mailed Letter	1/4/2021	
ND Indian Affairs Commission	Mailed Letter	1/4/2021	
ND Governor	Mailed Letter	1/4/2021	
ND Energy Development Impact Office	Mailed Letter	1/4/2021	
ND Department of Human Services	Mailed Letter	1/4/2021	
ND Department of Commerce	Mailed Letter	1/4/2021	1/19/2021
ND Department of Career & Technical Education	Mailed Letter	1/4/2021	
ND Attorney General	Mailed Letter	1/4/2021	
ND Aeronautics Commission	Mailed Letter	1/4/2021	
Job Service of ND	Mailed Letter	1/4/2021	
Federal Aviation Administration	Mailed Letter	1/4/2021	
ND Transmission Authority	Mailed Letter	3/2/2022	
ND Forest Service	Mailed Letter	3/2/2022	
20 th Airforce 91 st Missile Wing	Mailed Letter	3/2/2022	
Grand Forks Airforce Base	Mailed Letter	3/2/2022	
Federal Bureau of Land Management	Mailed Letter	3/2/2022	
Military Aviation & Installation Assurance Siting Clearinghouse	Email	3/2/2022	
ND State Historic Preservation Office	Contacted by Beaver Creek Archaeology, Inc.		March 2021

6.1 U.S. Fish and Wildlife Service

The USFWS administers several programs designed to identify and protect plant and animal species listed under the Endangered Species Act, critical habitats for listed species, migratory birds, bald and golden eagles, as well as wetland and grassland easements. Notification letters were sent to the USFWS on

September 27, 2019 and December 16, 2019 which included a description of the project, site map, and a request for comments regarding issued under USFWS jurisdiction.

A formal written response was received from the USFWS – Bismarck Ecological Services Office, dated December 30, 2019. The letter provided comments concerning, endangered species, Dakota skipper, northern long-eared bats, and eagle guidance. The USFS also consulted with the USFWS during the approval of the BA and BE that were prepared for this project.

6.2 U.S. Army Corps of Engineers

The USACE is responsible for administering federal laws that regulate certain activities in the waters of the United States. The authority applicable to this responsibility is Section 404 of the Clean Water Act (CWA) (33 U.S.C. 1344), which prohibits the discharge of dredged or fill material into waters of the United States without authorization in the form of a USACE permit. A notification letter was sent to the USACE on October 4, 2019 and December 16, 2019 which included a description of the project, site maps, and a request for comments regarding issues under USACE jurisdiction.

A response from the USACE was received on January 8, 2020. The letter included the DA ENG Form 4345 and a Nationwide Permit Fact Sheet # 12.

6.3 Department of Defense- Air Force Cable Affairs

The United States Department of Defense possesses assets associated with intercontinental ballistic missiles and launch facilities in North Dakota. A notification email was sent to the U.S. Air Force which included a description of the project, site map, and a request for comments regarding issues under U.S. Air Force jurisdiction.

The United States Department of Defense – Air Force Cable Affairs confirmed on October 9, 2019 they have no assets near the Project.

6.4 North Dakota State Historic Preservation Office

According to the North Dakota Energy Conversion and Transmission Facility Siting Act, among the *“factors to be considered [by the Commission] in evaluating applications and designation of sites, corridors, and routes,”* is the effect of the proposed site or route on existing scenic areas, historic sites and structures, and paleontological or archaeological sites. The agency responsible for these sites is the NDSHPO. As previously mentioned, BCA was contracted to conduct a Class III Cultural Resource Inventory. The NDSHPO reviewed the project studies and the concurrence letters are located in Exhibit B

6.5 North Dakota Game and Fish Department

The NDGF has oversight of the State’s game species, State Conservation Priority Species, Wildlife Management Areas, and Private Land Open to Sportsman lands. A notification letter was sent to the NDGF on September 30, 2019 which included a description of the Project, site maps, and a request for comments regarding issues under NDGF jurisdiction.

A formal response was received on October 28, 2019. The NDGF's primary concern was disturbance of native prairie and wooded draws. It was recommended that Cherry Creek be crossed via HDD, steps be taken to protect wetlands, and that aerial raptor surveys be conducted.

6.6 Lake Ilo National Wildlife Refuge

A notification letter was sent to the Lake Ilo National Wildlife Refuge on September 30, 2019 and December 16, 2019 which included a description of the Project, site maps, and a request for comments regarding issues under Lake Ilo National Wildlife Refuge jurisdiction.

To date, no formal written response has been received from the Lake Ilo National Wildlife Refuge.

6.7 North Dakota Parks and Recreation Department

The NDPRD, Natural Resource Division has authority and expertise regarding recreation and biological resources in North Dakota, with a particular emphasis on rare species and ecological communities. The NDPRD maintains a database detailing the location and recorded occurrences of animal and plant species of special concern. The NDPRD is also responsible for the management of state park lands and Land and Water Conservation funded recreation projects. A notification letter was sent to the NDPRD on September 30, 2019 which included a description of the Project, site maps, and a request for comments regarding issues under NDPRD jurisdiction.

A formal response was received on November 8, 2019 stating the NDPRD recommends that the project be accomplished with minimal impacts and that all efforts be made to ensure that critical habitats not be disturbed in the project area to help secure rare species conservation in North Dakota. No species of concern that NDPRD noted are within the Proposed Corridor.

6.8 North Dakota Department of Trust Lands

The North Dakota Department of Trust Lands was sent a notification letter on September 27, 2019 which included a description of the Project, site map, and request for comments regarding the presence of Mineral Trust Lands and School Trust Lands in the Study Area.

An alignment was sent to Kayla Graber in October 2019. Signed Trust Land easements were received in December 2021.

6.9 North Dakota State Water Commission

The NDSWC was sent a notification letter on September 30, 2019 which included a description of the Project, site map, and a request for comments regarding issues under NDSWC jurisdiction.

A written response was received from the NDSWC on October 29, 2019 that the project has been reviewed by NDSWC staff. There were no floodplains identified where the project is located and the project does not require a conditional or temporary use permit.

6.10 McKenzie County Planning Department

A notification letter was sent to the McKenzie County Planning Department on October 15, 2019 which included a description of the Project, site map, and a request for comments regarding issues under the jurisdiction of the McKenzie County Planning Department.

An email response was received on October 29, 2019. The planning and zoning office's primary considerations would be to work with their department for land use evaluations and approvals. Bridger is currently working with McKenzie County on road crossings and temporary approach permits.

6.11 McKenzie County Commission

A notification letter was sent to the McKenzie County Commission on September 27, 2019, and December 16, 2019 which included a description of the Project, site map, and a request for comments regarding issues under the jurisdiction of the McKenzie County Commission.

To date, no formal written response has been received from McKenzie County Commission.

6.12 McKenzie County Weed Board

A notification letter was sent to the McKenzie County Weed Board on September 27, 2019, and December 16, 2019 which included a description of the Project, site map, and a request for comments regarding issues under the jurisdiction of the McKenzie County Weed Board.

A response via email was received on December 23, 2019. The McKenzie County Weed Board requires a weed management plan to be submitted and approved prior to construction. The requested weed management plan was submitted and subsequently approved on April 13, 2020.

6.13 Golden Valley County Planning Department

A notification letter was sent to the Golden Valley County Planning Department on September 27, 2019, and December 16, 2019 which included a description of the Project, site map, and a request for comments regarding issues under the jurisdiction of the Golden Valley County Planning Department.

An email response was received on January 6, 2020 discussing the County's pipeline permit process.

6.14 Golden Valley County Commission

A notification letter was sent to the Golden Valley County Commission on September 27, 2019, and December 16, 2019 which included a description of the Project, site map, and a request for comments regarding issues under the jurisdiction of the Golden Valley County Commission.

A notification was received from Henry Gerving of the Golden Valley Commission stating a pipeline permit is required for the project. A permit application was submitted and approved in August 2020.

6.15 Golden Valley Weed Board

A notification letter was sent to the Golden Valley County Weed Board on September 27, 2019, and December 16, 2019 which included a description of the Project, site map, and a request for comments regarding issues under the jurisdiction of the Golden Valley County Weed Board.

To date, no formal written response has been received from Golden Valley County Weed Board.

6.16 North Dakota Department of Agriculture

A notification letter was sent to the North Dakota Department of Agriculture on September 30, 2019 and on December 16, 2019 which included a description of the Project, site map, and a request for comments regarding issues under the jurisdiction of the North Dakota Department of Human Services.

To date, no formal written response has been received from North Dakota Department of Agriculture.

6.17 North Dakota Industrial Commission Pipeline Authority

A notification letter was sent to the North Dakota Industrial Commission Pipeline Authority on September 27, 2019, and December 16, 2019 which included a description of the Project, site map, and a request for comments regarding issues under the jurisdiction of the North Dakota Industrial Commission Pipeline Authority.

To date, no formal written response has been received from North Dakota Industrial Commission Pipeline Authority.

6.18 North Dakota Department of Environmental Quality

A notification letter was sent to the ND DEQ on September 27, 2019, and December 16, 2019 which included a description of the Project, site map, and a request for comments regarding issues under the jurisdiction of the ND DEQ.

A written response was received on December 9, 2019. The Department believes the environmental impacts will be minor and provided comments with respect to construction. Comments include: aggregate to be used for roads, care during construction near water, discharge permits, aquifers in the construction area, solid waste management, and minimizing impacts to human health.

6.19 North Dakota Department of Transportation Dickinson and Williston District

A notification letter was sent to the North Dakota DOT Dickinson and Williston District on September 27, 2019, and December 16, 2019 which included a description of the Project, site map, and a request for comments regarding issues under the jurisdiction of the North Dakota DOT Districts.

A response was received by the ND DOT Bismarck office on January 13, 2020. The letter requested a meeting to discuss right-of-way acquisition pertaining to the crossing of Highway 85.

A meeting with the ND DOT was held to discuss parallel encroachment and crossing of Hwy 85 in March 2020, attendees were Scott Besmer (KLJ), Chad Orn (NDDOT), Matt Linneman (NDDOT), Joel Wilt (NDDOT), Daniel Christenson (NDDOT), and Monte Doctor (State of ND).

6.20 USFS McKenzie Range District

A notification letter was sent to the USFS McKenzie Range District on September 27, 2019, and December 16, 2019 which included a description of the Project, site map, and a request for comments regarding issues under the jurisdiction of the North Dakota Soil Conservation Committee.

Close contact has been maintained pertaining to an Environmental Assessment that was written for the South Bend project. Biological Assessment was submitted to the USFS on August 31, 2020 and was approved. The EA was submitted for public comment in December 2021 and a FONSI has been signed.

6.21 North Dakota Soil Conservation Committee

A notification letter was sent to the North Dakota Soil Conservation Committee on September 27, 2019, and December 16, 2019 which included a description of the Project, site map, and a request for comments regarding issues under the jurisdiction of the North Dakota Soil Conservation Committee.

To date, no formal written response has been received from North Dakota Soil Conservation Committee.

6.22 North Dakota Geological Society

A notification letter was sent to the North Dakota Geological Society on September 27, 2019, which included a description of the Project, site map, and a request for comments regarding issues under the jurisdiction of the North Dakota Geological Society.

A written response was received on October 7, 2019. The letter provided landslide area mapping near the pipeline route.

6.23 North Dakota Labor Department

A notification letter was sent to the North Dakota Labor Department on January 4, 2021 which included a description of the Project, site map, and a request for comments regarding issues under the jurisdiction of the North Dakota Labor Department.

To date, no formal written response has been received from North Dakota Labor Department.

6.24 Grail Township

A notification letter was sent to Grail Township on March 5, 2020 which included a description of the Project, site map, and a request for comments regarding issues under the jurisdiction of the Township.

To date, no formal written response has been received from Grail Township.

6.25 North Dakota Indian Affairs Commission

A notification letter was sent to the North Dakota Indian Affairs Commission on January 4, 2021 which included a description of the Project, site map, and a request for comments regarding issues under the jurisdiction of the North Dakota Indian Affairs Commission.

To date, no formal written response has been received from North Dakota Indian Affairs Commission.

6.26 North Dakota Governor

A notification letter was sent to the North Dakota Governor on January 4, 2021 which included a description of the Project, site map, and a request for comments regarding issues under the jurisdiction of the North Dakota Governor.

To date, no formal written response has been received from North Dakota Governor.

6.27 North Dakota Energy Impact Office

A notification letter was sent to the North Dakota Energy Impact Office on January 4, 2021 which included a description of the Project, site map, and a request for comments regarding issues under the jurisdiction of the North Dakota Energy Impact Office.

To date, no formal written response has been received from North Dakota Energy Impact Office.

6.28 North Dakota Department of Human Services

A notification letter was sent to the North Dakota Department of Human Services on January 4, 2021 which included a description of the Project, site map, and a request for comments regarding issues under the jurisdiction of the North Dakota Department of Human Services.

To date, no formal written response has been received from North Dakota Department of Human Services.

6.29 North Dakota Department of Commerce

A notification letter was sent to the North Dakota Department of Commerce on January 4, 2021 which included a description of the Project, site map, and a request for comments regarding issues under the jurisdiction of the North Dakota Department of Commerce.

A telephone call with a follow-up email response was received from North Dakota Department of Commerce. They requested additional information about the project, a subsequent email was sent to provide the requested information.

6.30 North Dakota Department of Career & Technical Education

A notification letter was sent to the North Dakota Department of Career & Technical Education on January 4, 2021 which included a description of the Project, site map, and a request for comments regarding issues under the jurisdiction of the North Dakota Department of Career & Technical Education.

To date, no formal written response has been received from North Dakota Department of Career & Technical Education.

6.31 North Dakota Attorney General

A notification letter was sent to the North Dakota Attorney General on January 4, 2021 which included a description of the Project, site map, and a request for comments regarding issues under the jurisdiction of the North Dakota Attorney General.

To date, no formal written response has been received from the North Dakota Attorney General.

6.32 North Dakota Aeronautics Commission

A notification letter was sent to the North Dakota Aeronautics Commission on January 4, 2021 which included a description of the Project, site map, and a request for comments regarding issues under the jurisdiction of the North Dakota Aeronautics Commission.

To date, no formal written response has been received from North Dakota Aeronautics Commission.

6.33 Job Service of ND

A notification letter was sent to the Job Service of ND on January 4, 2021 which included a description of the Project, site map, and a request for comments regarding issues under the jurisdiction of Job Service of ND.

To date, no formal written response has been received from Job Service of ND.

6.34 Federal Aviation Administration

A notification letter was sent to the Federal Aviation Administration on January 4, 2021 which included a description of the Project, site map, and a request for comments regarding issues under the jurisdiction of the Federal Aviation Administration.

To date, no formal written response has been received from the Federal Aviation Administration.

6.35 ND Transmission Authority

A notification letter was sent to the ND Transmission Authority on March 3, 2022 which included a description of the Project, site map, and a request for comments regarding issues under the jurisdiction of the ND Transmission Authority.

To date, no formal written response has been received from the ND Transmission Authority.

6.36 ND Forest Service

A notification letter was sent to the ND Forest Service on March 3, 2022 which included a description of the Project, site map, and a request for comments regarding issues under the jurisdiction of the ND Forest Service.

To date, no formal written response has been received from the ND Forest Service.

6.37 20th Airforce 91st Missile Wing

A notification letter was sent to the 20th Airforce 91st Missile Wing on March 3, 2022 which included a description of the Project, site map, and a request for comments regarding issues under the jurisdiction of the 20th Airforce 91st Missile Wing.

To date, no formal written response has been received from the 20th Airforce 91st Missile Wing.

6.38 Grand Forks Airforce Base

A notification letter was sent to the Grand Forks Airforce Base on March 3, 2022 which included a description of the Project, site map, and a request for comments regarding issues under the jurisdiction of the Grand Forks Airforce.

To date, no formal written response has been received from the Grand Forks Airforce.

6.39 Federal Bureau of Land Management

A notification letter was sent to the Federal Bureau of Land Management on March 3, 2022 which included a description of the Project, site map, and a request for comments regarding issues under the jurisdiction of the Federal Bureau of Land Management.

To date, no formal written response has been received from the Federal Bureau of Land Management.

6.40 Military Aviation & Installation Assurance Siting Clearinghouse

A notification email was sent to the Military Aviation & Installation Assurance Siting Clearinghouse on March 3, 2022 which included a description of the Project, shapefiles, and a request for comments regarding issues under the jurisdiction of the Military Aviation & Installation Assurance Siting Clearinghouse.

To date, no formal written response has been received from the Military Aviation & Installation Assurance Siting Clearinghouse.

7 OTHER FACTORS CONSIDERED

7.1 Public Health, Welfare, Natural Resources, and the Environment

A discussion of the studies conducted for the Project and anticipated effects of the location, construction, and operation of the pipeline on public health and welfare, natural resources, and the environment is included in Sections 5, 6, and 7.

7.2 New Transmission Tech to Minimize Adverse Environmental Effects

The Project does not include new energy conversion or transmission technologies. The pipeline design is consistent with existing pipeline technologies. However, Bridger is constantly evaluating new energy conservation technologies to reduce the energy consumed in its operations.

Pipeline Control Center

Bridger control center operators are trained in applied hydraulics and pipeline control. They are trained to operate the pipeline at a natural flow rate using efficient combinations of pumps, thereby minimizing energy consumption. Operators have the capability to start and stop pumps and monitor pipeline operating conditions to assist in achieving an energy efficient operation.

Energy Efficient Pumps and Motors

For new installations, Bridger purchases high efficiency pumps, motors and variable frequency/speed drives at a premium initial cost in an effort to conserve long range energy requirements. Pumps are hydraulically designed and selected to obtain a high best efficiency point (BEP) at the desired flow rates. The forecasts are continually being evaluated and if the flow rate is outside the BEP range, operational changes are typically implemented to improve efficiency. Installation of variable speed/frequency drives is used to minimize starting current and maximize pump efficiency in all operating conditions.

Drag Reducing Agents (DRA)

Bridger currently uses drag reducing agents in selected segments of its pipeline system. Injection of DRA reduces flow turbulence of liquid hydrocarbons which results in reduced pressure loss between stations. This allows a high flow rate (increased throughput) at the same operating pressure, or a decrease in operating pressure while maintaining flow rate. These two scenarios allow increased throughput or decreased power use. The flexibility furthers opportunities to shift power use to improve economics or accommodate the utilities. In these cases, the economic benefits realized with the implementation of the DRA program have outweighed the material cost of the DRA. As a result, lower unit energy costs and greater efficiency have occurred.

7.3 Beneficial Uses of Waste Energy from a Proposed Energy Conversion Facility

The Project does not involve new energy conversion facilities; no usable waste energy will result from the Project.

7.4 Unavoidable Adverse Direct and Indirect Environmental Effects

Unavoidable adverse direct and indirect environmental effects for construction of the Project are minimal and include temporary construction-related effects on vegetation, wildlife, agricultural operations, transportation, and noise levels as described throughout the Application. Impacts to agricultural

operations are anticipated to be minimal and impacts to transportation are anticipated to be short-term. Impacts on vegetation and wildlife will also be minimal. Vegetation will be removed from the ROW prior to construction, and the area will be restored and re-seeded following construction. Wildlife may temporarily avoid the ROW during construction, but no long-term impacts are anticipated. Noise level increases are associated only with construction. In addition, Bridger implements thorough mitigation measures to minimize construction-related impacts.

7.5 Corridor or Route Alternatives Developed During the Hearing that Minimize Adverse Effects

The route was selected based on avoidance and minimization of impacts to environmental resources. The route is described in Section 1. Keitu conducted field surveys within the generally 300-foot-wide Survey Area to determine the potential presence and extent of wetlands and water bodies, including potentially jurisdictional waters of the U.S., within the Survey Area for the proposed Project. Concurrently with the wetland/water-body determinations, Keitu conducted a wildlife survey and habitat assessment that covered threatened and endangered species; a tree, sapling, and shrub enumeration survey; and a noxious weed survey. All studies were done to select the route which would minimize adverse effects.

7.6 Irreversible and Irrecoverable Commitments of Natural Resources if Designated

Bridger is not aware of any irreversible or irretrievable commitments of natural resources that would result from the requested approvals.

7.7 Direct and Indirect Economic Impacts of the Facility

Upon construction, the Project will present an optimization of new and existing pipeline capacity to meet the need for additional liquid petroleum transportation to the region.

Crude oil produced in North Dakota is generally shipped by pipeline to one of three market hubs: (1) Tesoro's Mandan, North Dakota refinery; (2) the Guernsey, Wyoming interconnection hub; and/or (3) the Clearbrook, Minnesota interconnection hub. Crude oil can also be transported by truck to Canada, and by rail directly to refineries, or to East, West, and Gulf Coast markets.

The "geographical market risk" of limited transportation options suffered by oil producers in the rapidly expanding crude oil production market in northwestern North Dakota has caused millions of dollars per year in lost revenue. With constrained export capacity, local production lacks access to alternative markets, making it vulnerable to regional price swings.

Over the past several years, the North Dakota Pipeline Authority has been working with producers and regional pipeline companies to address the issues surrounding the safe transportation of the surge in crude oil volume.

The purpose of the Project is to provide "midstream" transportation alternatives for the expanding volumes of crude oil being produced in North Dakota and to facilitate efficient access to downstream takeaway markets. The pipeline system will be constructed to allow crude to flow in either direction. This feature allows for greater flexibility and access to more sales points depending on market conditions, and acts as a balancing point allowing the best price for North Dakota crude producers. The Project will also serve to displace trucking operations that seek to move barrels of crude oil. The Project will ultimately

help bring North Dakota sweet crude to more markets in the United States, therefore allowing for a more competitive price.

In addition to increasing the crude oil transmission capacity within North Dakota, the Project will provide other benefits. For example, operation of the Project has the potential to increase the tax base of McKenzie and Golden Valley Counties. Construction of the Project will offer job opportunities during construction, which will be partially filled with local contractors and/or personnel. Pipeline construction workers are hired from pipeline contractors, equipment contractors, suppliers, and regional testing firms.

In addition, environmental consultants and construction inspectors will be employed during construction and restoration. North Dakota-based consulting firms were selected to assist with the site selection and permitting process. Wages paid to non-local contractors and/or personnel benefit the regional economy through expenditures for supplies, lodging, fuel, and other services.

7.8 Existing Plans for Other Developments in the Vicinity

Bridger is not aware of any other development by state, local or governmental entities at or in the vicinity of the Project Corridor.

7.9 Effect of the Proposed Route on Existing Scenic Areas, Historic Sites, Structures, & etc.

The SHPO has reviewed the Class I and Class III Inventory Reports upon BCA's completion of the reports. Significant adverse impacts to historic and cultural resources are not anticipated.

7.10 Effect of the Proposed Route on Areas Unique Because of Biological Wealth or Rare/Endangered Species Habitat

Bridger has consulted with the NDGF, the USFWS, and the NDPRD to identify species and ecologically significant habitats within the ROW and the Project Corridor. Possible areas of concern discussed were federally listed endangered, threatened, candidate, sensitive, or watch species, state-listed protected species, and critical habitat that is located on or within the pipeline route.

The NDGF was provided with the proposed route and after review stated, "We do not believe this project will have significant adverse effects on wildlife or wildlife habitat, including species of conservation priority, provided these recommendations were implemented where appropriate during project construction."

The USFWS was provided with the proposed route and it is currently under review. Areas that are analyzed by the USFWS include federally listed endangered, threatened, candidate species, and designated critical habitat in North Dakota.

A field survey was conducted in July - October 2019 using a generally 300-foot-wide corridor for botany and wildlife. No sensitive wildlife or botany issues were identified within the Project Corridor. Dakota Skipper habitat was identified with the Project Corridor, absence/presence survey was completed in the summer of 2020. The results of this field study are presented in Section 5 submitted as part of this consolidated application.

The ND state listed Species of Concern that have been identified within the Study Area are discussed in Section 5.3. Based on the conclusions of the field studies, the Project is not anticipated to adversely affect the listed species or their habitat.

7.11 Problems Raised by Federal, State, and Local Agencies

No concerns other than those identified in Section 7.10 have been raised by commenters or identified by Bridger or its consultants.

7.12 Policies and Commitments to Limit Environmental Impact

Bridger Pipeline LLC is all part of the True Companies of Casper, Wyoming. True Companies operates pipeline systems in western North Dakota, eastern Montana and Wyoming. The True Companies have been family owned and operated since 1948, and now have over 1,000 employees in Wyoming, Colorado, Montana, North Dakota, Utah, Texas, Louisiana, Mississippi, New Mexico, Missouri, Oklahoma and Arizona.

Bridger works to protect the environment, home to its employees and customers. Protection of the environment is an integral element in the conduct of Bridger. Environmental protection efforts will span the entire Project, from planning through conversion, and into full operation.

The major causes of pipeline leaks in the United States are corrosion (both internal and external), excavation damage, pipe and weld failure, incorrect operations, or natural causes (e.g. floods or outside force). To prevent these categories of failures, Bridger will improve or maintain the Project to meet or exceed industry and governmental requirements and standards. Specifically the steel pipe meets US DOT Pipeline and Hazardous Material Safety Administration federal codes under 49 CFR Part 195 (referred to hereafter as PHMSA regulations) and follow standards issued by the American Society of Mechanical Engineers, National Association for Corrosion Engineers and API. As a safety factor, the Project is designed to withstand pressures over and above its normal operating pressures and will operate according to codes and regulations. All pipe is inspected and integrity-tested at the factory and transported per the highest technical standards. PHMSA conducts regularly scheduled field inspections of the pipeline facilities to ensure compliance with federal regulatory requirements, including the integrity testing of the pipeline through the use of internal inspection devices.

The pipeline will be subjected to careful testing to verify its integrity and compliance with specifications. The line is subjected to hydrostatic testing per DOT/PHMSA regulations to an accurate and safe maximum allowable operating pressure.

As previously mentioned, the pipeline will be maintained and inspected according to PHMSA regulations, industry codes and prudent pipeline operating techniques and will continue to be examined under the same scrutiny. All of Bridger's mainline liquids pipelines are externally coated to resist corrosion, internally inspected at regular intervals using in-line inspection technology, and equipped with a cathodic-protection system to prevent external corrosion. Bridger's cathodic protection system and internal inspection program were implemented prior to these techniques becoming a regulatory standard.

U.S. Department of Transportation PHMSA administers a comprehensive pipeline safety program. PHMSA's regulations address pipeline safety, design, construction, operation and maintenance. In

accordance with 49 C.F.R. Part 194, Bridger submits its Operated Systems Oil Spill Response Plan to PHMSA for review and approval.

Bridger takes spill response preparedness seriously and with the utmost diligence. In 2021, Bridger conducted four tabletop exercises and seven boom deployment exercises in North Dakota and is in the process to complete four tabletop exercises and seven boom deployment exercises in 2022. Local county emergency response teams are routinely invited to these exercises. In addition to Bridger's own response resources, Bridger is a charter member of the Sakakawea Area Spill Response LLC (spill cooperative). There are various annual One-Call/ Public Awareness training exercises that Bridger participates in. During those training exercise Bridger has the opportunity to further meet and greet with local/county responders.

The Bridger System ROWs are patrolled and inspected by air at least every three weeks but not less than 26 times per year to watch for abnormal conditions or dangerous activities, e.g., unauthorized excavation, along the routes of the lines. Bridger also conducts extensive public education and outreach programs that meet or exceed industry (API Recommended Practice 1162) and PHMSA (49 CFR 195.440) requirements concerning public awareness of pipelines and pipeline-safety matters. All Bridger lines are marked with signage and warnings, per federal regulations, at road and highway crossings, railroad crossings, and other locations to alert the public to the presence of underground lines and to provide information, contact numbers, and emergency data. Bridger's 10-year spill history can be found in Exhibit D.

Pipeline workers and contractors performing critical tasks are qualified under Occupational Safety and Health Administration safety standards and PHMSA "operator qualification" rules and are subjected to federal drug and alcohol testing requirements. Bridger meets, and often exceeds, these requirements so that human error in construction and operation is minimized.

8 MITIGATION MEASURES

During the initial construction kickoff meeting the contractor will advise contractors of federal and state environmental requirements they are to follow and sensitive areas they need to be aware of. Construction meetings will be held with crews each morning, the crews will be reminded if there are sensitive or areas that need extra mitigations measures that they will be working near that day. Workers will be periodically reminded by team leads in accordance with the contractor's notification protocols.

Avoidance areas will be marked on maps provided to construction personnel and will be flagged and marked with fence. Maps will include any areas that require buffers and timing restrictions. Areas that are not listed as Avoidance area but are of important nature such as noxious weeds will be marked with flags, and/or flagged lathe.

8.1 Measures to Preserve the Human Environment

Bridger requires its construction contractors to clean up and dispose of any trash deposited during ROW preparation and by construction crews on a daily basis. Waste and scrap produced during construction is always removed and properly disposed of in accordance with applicable regulations prior to the completion of construction.

Bridger minimizes noise and dust resulting from construction near residences to the maximum extent practicable.

Bridger will obtain all applicable permits for road crossings from McKenzie County. Bridger will also obtain permission from all owners of private roads, including oil lease roads, to cross said roads. Temporary signs will be posted at each crossing as appropriate to alert motorists of construction activity. Improved roads will be bored, minimizing interference with traffic flow caused by construction activities.

8.2 Measures to Protect Terrain and Geological Resources

Bridger will restore the area affected by construction to pre-construction contours to the greatest extent practicable. Measures such as slope breakers, erosion control blankets, and re-vegetation may be employed to maintain the stability of slopes along the ROW. No crown of backfill material will be left over the trench in wetlands.

Restoration following construction will be compatible with the safe operation, maintenance, and inspection of the Project.

Fuel and all other hazardous materials will be stored in accordance with the requirements of the contractor's SPCC Plan, if applicable. The SPCC Plan will describe response, containment, and cleanup measures. However, even for small quantities of oil-based liquids, containers and fueled equipment will not be stored within 100 feet of surface water.

8.3 Measures to Protect Soils

During construction or maintenance activities, temporary erosion and sedimentation control measures may include installation of silt fence, straw bales, slope breakers, trench breakers, erosion control fabric and mulch, in any areas of the Project deemed susceptible to soil erosion.

Erosion will be controlled through the use of best management practices and implemented as part of the Project's storm water pollution prevention plan.

Construction is scheduled to begin in 2022. Concern has been expressed previously by the ND Public Service Commission for Fall / Winter operations, specifically the ability to segregate topsoil from subsoil after the ground freezes. If construction commences while ground conditions remain frozen, best management practices will be employed to promote proper soil segregation.

A baseline soil analysis study was not conducted for the Project. During construction of the Project, topsoil depth will be assessed in-field by experienced construction personnel. Heavy equipment operators will be competent in the practice of properly segregating topsoil from subsoil. Additionally, construction crews will be supervised by personnel experienced in topsoil and subsoil segregation and able to identify topsoil.

8.4 Measures to Protect Vegetation and Wildlife

Bridger and its contractors will effectively control or limit the spread of invasive plant species through control treatments and avoiding existing populations where possible. Treatments will be initiated prior to

activity to disperse propagules in the area of disturbance. Monitoring and treatment should then be conducted on an annual basis to ensure a high degree of control and maximize treatment effectiveness.

Bridger will take appropriate precautions to protect livestock and crops affected by maintenance and inspection of this project. Operation of the pipeline is not anticipated to significantly affect terrestrial wildlife, fisheries resources, or other aquatic species.

Shelter belts and trees will be protected by Bridger to the extent possible in a manner compatible with the safe operation, maintenance, and inspection of the pipeline.

Past surveys in the near vicinity of this Project location had positively confirmed the presence of the butterfly. A Dakota skipper survey was conducted in June/July 2020, one Dakota Skipper was positively identified within one kilometer of the Project centerline. The following USFS and USFWS approved mitigation measures will be undertaken by Bridger before and after the construction of the proposed project:

- Area with confirmed presence will avoid surface disturbance.
- Have suitable response equipment/spill trailer at the site on standby for immediate response, should it be required.
- Avoid all construction activities within ¼ mile of any suitable vegetative habitat regardless of confirmed presence during the adult flight season of June 10 to July 15 each year.
- Actively mitigate dust from construction activities.
- If construction occurs within the adult flight season, a biologist familiar with designated wildlife and sensitive plant species mark the boundaries of potential habitat with visual barriers such as snow fence or wooden stakes prior to start of construction activities. No "buffer" or set back will be required.

The USFS has designated a utility corridor for the Project which includes suitable vegetative habitat for the Dakota skipper. As a result, avoidance of all specified vegetation within the proposed USFS utility corridor is not feasible. An Environmental Assessment and an updated Biological Assessment were completed and have been approved by the USFS and USFWS.

Best management practices will be employed as necessary to control dust emissions. Project related traffic speeds will be controlled on the construction right-of-way and along unimproved roads. Dust abatement techniques on unpaved or un-vegetated areas or other areas susceptible to wind erosion will be utilized as necessary and as determined by Bridger. No separate Dust Control Plan will be filed due to Bridger's commitments discussed above and in Section 8.1.

If an occupied raptor or migratory bird nest is spotted during construction, a construction buffer zone will be required. The length of the buffer zone will be dependent on the species identified, consistent USFWS guidance.

A sharp-tailed grouse lek survey completed in April 2020 confirmed four leks were present within the Study Area. Bridger will not construct within 1 mile (line-of-sight) of an active lek from March 1 – June 15 per USFS requirements.

8.5 Measures to Protect Land Use Permits

Bridger will obtain and comply with applicable land use permitting requirements for any necessary maintenance or future construction activities.

9 DEVELOPMENT

9.1 Present and Future Natural Resource Development in the Area

Bridger has consulted with federal, state, and local agencies regarding the Project. As a result of these consultations, Bridger was not made aware of any current or future developments of natural resources in the area that would affect the proposed Project.

10 QUALIFICATIONS OF PREPARERS

The qualifications of the personnel who contributed to the consolidated application are as follows:

(1) Tad True, Vice President – Bridger Pipeline LLC

Degree: Bachelor of Business Administration, University of Notre Dame
Experience: 14-year experience in petroleum transportation field

(2) Robert Stamp, Commercial/Engineering Supervisor – Bridger Pipeline LLC

Degree: Bachelor of Mechanical Engineering, Valparaiso University
Experience: 29-year experience in petroleum transportation field as well as regulatory affairs and compliance.
Professional License
Registered Professional Engineer: Wyoming and Colorado

(3) Ken Dockweiler, Director – Land, Government, and Compliance - Bridger Pipeline LLC

Experience: 29-year experience in petroleum transportation field with 18 years focused in regulatory affairs and compliance.

(4) Kathleen Spilman, Managing Director – Keitu Engineers & Consultants, Inc.

Degrees: Bachelor of Science - Chemical Engineering, University of North Dakota Masters in Management, University of Mary
Experience: 40-year experience in petroleum refining and fuels transportation field as well as regulatory affairs and compliance.
Professional License
Registered Professional Engineer: North Dakota, Montana

(5) Karine Finken, Project Manager — Keitu Engineers & Consultants, Inc.

Degree: Bachelor of Science – Natural Resource Management, University of Minnesota - Crookston
Experience: 8-years' experience in natural resource management

(6) Jaimee Antognazzi, Operations Manager - Keitu Engineers & Consultants, Inc.

Degree: Bachelor of Science – Environmental Health, Dickinson State University
Experience: 12 years' experience in regulatory affairs and compliance.
Professional Certification: Certified Safety Professional