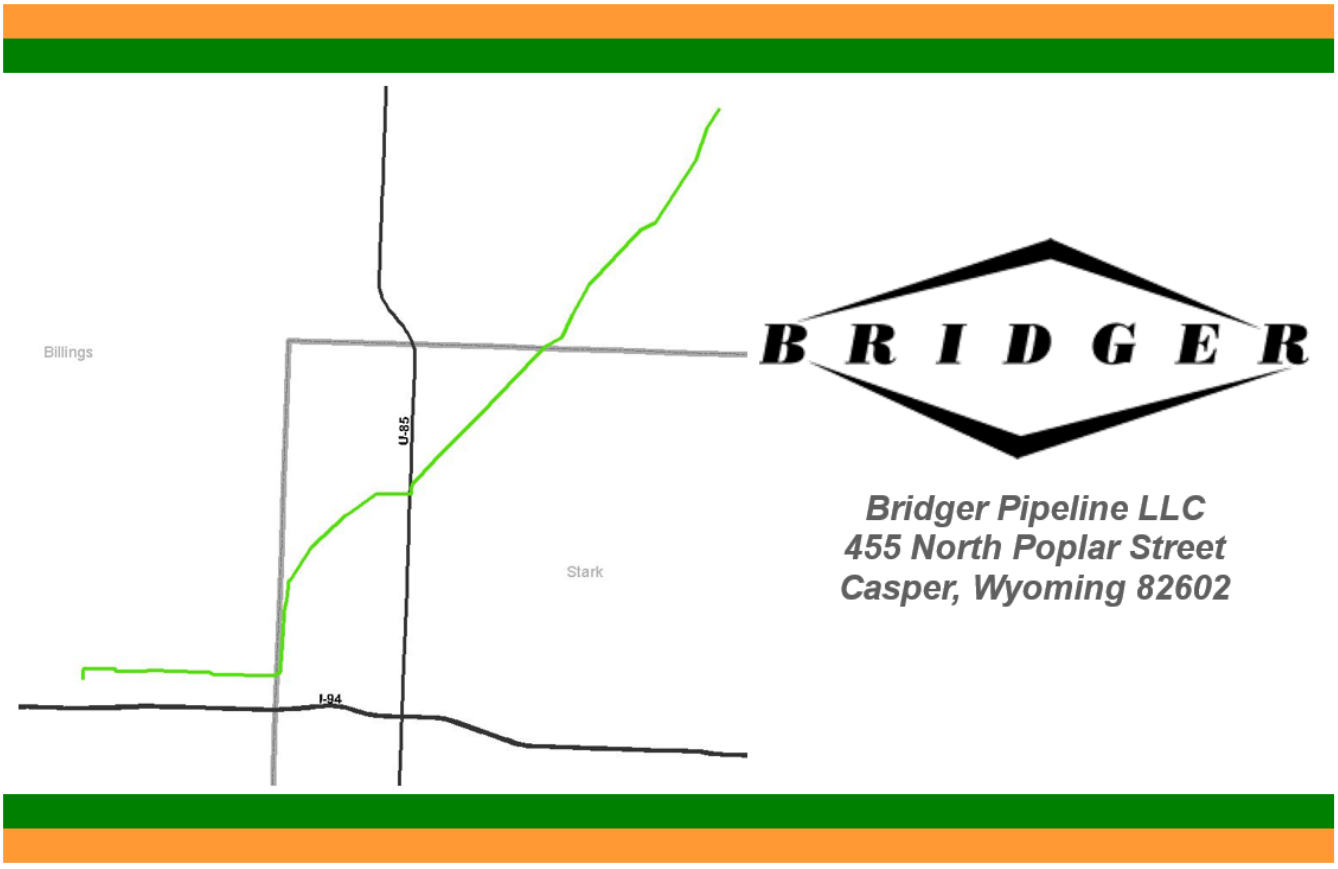
Heart River Pipeline
Billings and Stark Counties

Route Application



BRIDGER

Bridger Pipeline LLC
455 North Poplar Street
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January 2015

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SECTION A DESCRIPTION OF PROPOSED FACILITY

A.1 TYPE OF FACILITY

Bridger Pipeline LLC (Bridger) proposes to construct and operate a new 15-mile-long, 16-inch liquid petroleum pipeline (Project) that will interconnect with existing Bridger facilities at Skunk Hills Station and Fryburg Station with future delivery to Baker, MT. This system is currently connected to Bridger Pipeline's 12-inch Four Bears crude pipeline. The new section of pipeline parallels an existing Bridger 8-inch line from Skunk Hill Station to Fryburg Station and will be operationally integrated into the existing operations of Bridger.

In most cases, no additional right-of-way (ROW) will be required, as Bridger has multiple line rights in their existing ROW. Where new ROW is required, the ROW has been acquired from landowners adjacent to the existing Bridger ROW for its existing 8-inch pipeline. The pipeline will be buried underground. No new pumping facilities will be needed at this time within North Dakota. No new surface facilities will be installed in the State of North Dakota, other than pipeline markers, rectifiers, and block valves. Some small fenced-in enclosures to house associated power and control systems may be installed to allow some valves to be operated remotely.

The estimated cost of the Project is approximately $10.4 million.

A.2 PRODUCT

The new pipeline will provide needed capacity to transport increased production of petroleum from western North Dakota. This additional pipeline will increase the capacity of the system by 125,000 barrels per day (bpd) on an annual average. This product is subsequently delivered to Baker, MT.

Due to the increased volume of crude oil being transported through the existing pipeline, it is necessary for Bridger to install a parallel pipeline to increase the system capacity.

Although Bridger does not explicitly specify the type of crude it will transport; historically it is a sweet common stream system and will continue to accept sweet crude oil into its common stream. Bridger does not have any plans to accept any other crude other than sweet crude.

Generally, liquid pipelines are designed at a specified capacity for a known liquid. Most liquid pipelines transport a variety of different liquids. The change in fluid characteristics (density, viscosity, etc.) of the transported liquids will affect the capacity of the pipeline. Liquids are also batched in a pipeline generally in a repeatable sequence. Both fluid characteristics and batch sequence will affect the capacity of the pipeline.

A.3 SIZE AND DESIGN

a. Width of ROW;
b. Estimated distance between surface structures such as manholes or block valves;
c. Pipe size;
d. Approximate length of facility;
e. Maximum design operating pressure and temperature;
f. Maximum design flow rate; and
g. The number and general location of compressor or pumping stations

A.3 (a) Width of the ROW

Construction work space will be approximately 100 feet wide to allow adequate room for topsoil separation, work equipment and pipe stringing. Additional temporary work space may be necessary during construction in areas such as steep slopes and staging areas for streams, wetlands, and road crossings, for safety reasons, to provide an area for prefabrication of a section of pipeline, or for storage of top soil and subsoil material. Bridger also has access to the adjacent 50 feet of ROW from its existing line ROW.

In most cases, the Project will be installed 25 to 50 feet from the existing pipeline. By request, on US Forest Service land the Project will be placed 10 feet from the existing line. The distance has been established based on the following criteria:

- Provision of adequate space and line separation for future line maintenance, and
- Allowance of adequate space to facilitate construction of the 16-inch pipeline while minimizing potential damage to the existing lines.

A.3 (b) Estimated Distances between Surface Structures

Surface structures will be limited to pipeline markers and rectifier sites, which are part of the cathodic protection system.

A.3 (c) Pipe Size

The pipe to be installed will be 16-inch outside diameter, 0.312 inch wall meeting API 5L-X52 specifications with fusion bonded epoxy (FBE) coating.

The valves to be installed will be 16-inch 600# ANSI, flanged end, full port ball valves. These valves will be manufactured in accordance with API Standard 6D "API Specification for Steel, Gate, Plug, Ball and Check Valves for Pipeline Service".

Section line roads, highways and standing water will be horizontally directionally bored (HDD). To accommodate greater external loads, extra thick wall pipe with heavier FBE coating will be used. Bore pipe will be nominal 16-inch, 0.375 inch wall, API 5L-X52, w/ 14-16 mil FBE & 30 mil abrasion resistant overlay (ARO).

A.3 (d) Approximate Length of Facility

The Project is expected to install approximately 15 miles of pipe.

A.3 (e) Maximum Design Operating Pressure and Temperature

The estimated capacity of the Project will be 125,000 bpd. The maximum allowable operating pressure of this pipe will be 1440 psig. The maximum temperature of the petroleum will be 80°F.

A.3 (f) Maximum Design Flow Rate

The design flow rate of the Project is 125,000 bpd.

A.3 (g) The Number and General Location of Pumping Stations

Pumping units will be installed within Bridger's existing Fryburg or Skunk Hills Crude Station. No new mid-route stations will be necessary at this time.

A.4 TIME SCHEDULE

Bridger proposes to develop the Project on the following time schedule:

A.4 (a) Certificate of Corridor Compatibility

The Certificate of Corridor Compatibility Application is being submitted in January 2015 as part of this consolidated Certificate of Corridor Compatibility and Route Application. Approval is expected on or before March 31, 2015.

A.4. (b) Route Application

The Route Permit Application is being submitted in January 2015 as part of this consolidated Certificate of Corridor Compatibility and Route Application. Approval is expected on or before March 31, 2015.

A.4 (c) Route Permit

Expected on or before March 31, 2015.

A.4 (d). Construction Start Date

Proposed commencement date for construction is April 1, 2015.

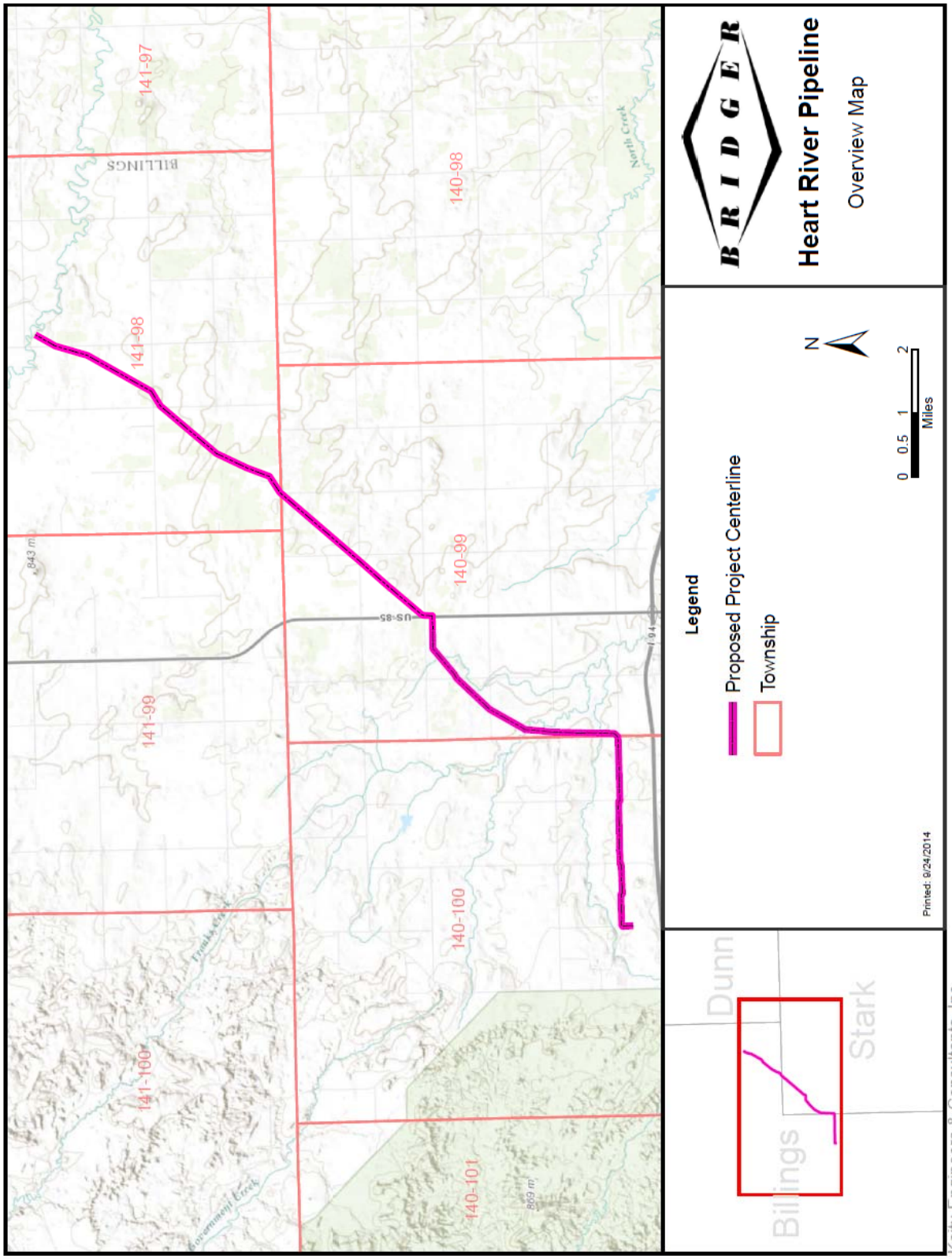
A.4 (e) Construction Complete

Estimated construction completion date is on or before July 31, 2015.

A.4 (f) In Service Date

Estimated in service date is on or before August 1, 2015.

FIGURE 3.1 – General Project Location Map



SECTION B LOCATION

B.1 APPLICANT'S POLICIES AND COMMITMENTS TO LIMIT ENVIRONMENTAL IMPACT

Bridger Pipeline LLC is a liquids pipeline operator that gathers and transports crude oil. Bridger Pipeline LLC owns and operates the Poplar System in eastern Montana, the Four Bears Pipeline System in North Dakota, the Parshall Gathering System and the Powder River System in Wyoming.

Belle Fourche Pipeline Company, Bridger Pipeline, LLC and Butte Pipeline Company are all part of the True Companies of Casper, Wyoming operating 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 1000 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 construction, restoration, and into full operation.

B.1.a Construction

The Project involves looping (i.e. laying a parallel section of pipeline) an existing 8-inch pipeline in existing or newly acquired ROW adjacent its existing line. Construction of the new 16-inch-diameter pipeline will result in temporary short-term impacts, but is not expected to result in significant long-term change to the environment.

Planning, design, construction, and restoration will incorporate the equipment and measures discussed in section B.6. Environmental Monitoring, in the form of ongoing environmental inspection, will be conducted during and following construction. Environmental inspectors will monitor compliance with required environmental protection measures, permit conditions, and specifications, and provide ongoing oversight for day-to-day issues that may arise during construction. The environmental inspectors will be trained and well-versed in the implementation of environmental best management practices during construction. Contract specifications will incorporate environmental protection and mitigation measures, and contractors will be expected to implement these measures in the field. Contractor training and Project orientation will also be provided by Bridger.

The majority of the proposed pipeline route is located on private land and landowner concerns will be addressed during all phases of construction including final restoration. Land agents assigned to the Project will work closely with landowners to the extent practicable, be responsive to issues that may arise during the course of the Project. Permission and all private land owners have already been obtained.

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 during the permitting process.

B.1.b Ongoing Pipeline Operation

The pipeline is 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 to the environment. The Company supplements the support from the existing internal environmental staff with engineering and environmental consultants as necessary to assure compliance with environmental regulations and applicable Company policy. Additional discussion on operations and safety is provided in section B.9.c.

B.1.c Energy Conservation Considerations

Installation of a 16-inch parallel line to the existing Skunk Hill to Fryburg pipeline section in Bridger's North Dakota pipeline network will add additional pipeline capacity on its system. The total crude petroleum throughput increase is expected to be proportionately higher than the energy usage (actual kilowatts per hour) increase.

However the key energy economic impact will be the substitution of the most energy efficient mode of crude oil transportation, e.g. pipeline for the least efficient mode of transportation, e.g. on-road transport via cargo tanker truck. Installing this new segment will open 125,000 bpd of capacity from an existing system which will be used to move crude oil to Bridger's Four Bears Pipeline System with ultimate delivery to Baker, MT.

Beyond the direct energy benefit of using a more efficient mode of transportation, energy conservation is a major concern at Bridger. Energy/power costs represent the largest single recurring expense in pipeline operation. Attention is continually being directed toward energy conservation.

Bridger's energy conservation goal is to minimize power/energy unit costs, through the implementation of internal programs directed at continuous improvement of energy utilization efficiency. The following provides a brief explanation of the programs reviewed during the Project development phase:

Pipeline Control Center

Bridger control operators are trained in applied hydraulics and pipeline control through the use of a computerized pipeline control simulation system. 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 and motors at a premium initial cost in an effort to conserve long range energy requirements. Specifically, a high polish is used on the pump impeller, and motors are custom designed for high efficiency. For example, a fully loaded 2,500 horsepower pump and motor unit, operating 300 days per year at 80% efficiency will consume 17 million kilowatt hours (kWh) of energy annually and sets a demand of 2,331 kW. Increasing the efficiency by only 1% translates into 170,000 kWh of energy savings. With this substantial potential for energy savings, it is desirable to optimize efficiency. 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, impeller changes are typically implemented for improved efficiency.

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.

Other energy efficiency programs being investigated for future implementation include:

- Enhancements to the pipeline control system to allow further energy use optimization;
- Coordination of our energy use between utilities for mutual benefit; and
- Improve pump efficiency by upgrading to geometrically optimized pump wear rings.

B.2. DISCUSS THE FACTORS LISTED IN SECTION 49-22-09 NDCC TO AID THE COMMISSION'S EVALUATION OF THE PROPOSED PIPELINE ROUTE

Factors which the North Dakota Public Service Commission (ND PSC or Commission) consider in evaluating the designation of corridors and routes include the following:

B.2.a. Available Research and Investigations Relating to the Effects of the Location, Construction, and Operation of the Proposed Facility on Public Health and Welfare, Natural Resources, and the Environment

A discussion of the effects of the location, construction, and operation of the pipeline on public health and welfare, natural resources, and the environment is included in section B.4. As well as the Application for Corridor Certificate presented in Tab 1. Research and investigation relating to these effects have included thorough cultural resource reviews, protected species and sensitive area reviews, and a field studies conducted during August and September 2014.

B.2.b. The Effects of New Energy Conversion and Transmission Technologies and Systems Designed 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 as described in section B.1.c above, Bridger is constantly evaluating new energy conservation technologies to reduce the energy consumed in its operations.

B.2.c The Potential for 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.

B.2.d Adverse Direct and Indirect Environmental Effects, Which Cannot be Avoided Should the Proposed Site or Route be Designated

Unavoidable adverse direct and indirect environmental effects may include short-term or temporary effects on vegetation, wildlife, agricultural operations, transportation, and noise levels as described in section B.4, however since construction is scheduled to begin and be completed on an accelerated timeline, impacts to agricultural operations will be minimal and impacts to transportation will be short-term. Bridger will implement thorough mitigation measures to minimize these impacts as described in its Environmental Mitigation Plan (EMP) presented as Tab 5 and Tab 6 in this consolidated application.

B.2.e Alternatives to the Proposed Site, Corridor or Route, Which are Developed During The Hearing Process and Which Minimize Adverse Effects

The pipeline corridor provides an established, direct route between Skunk Hills Station and Fryburg Station. This corridor was originally selected to avoid or minimize environmental and socioeconomic impact and largely parallels the existing Skunk Hills to Fryburg pipeline route. Use of this corridor takes advantage of Bridger's existing ROW, and mostly or in large part avoids the establishment of new permanent ROW and new severance on properties. No other corridor will offer these advantages over the pipeline route.

B.2.f Irreversible and Irretrievable Commitments of Natural Resources Should the Proposed Site, Corridor or Route be Designated

Bridger is installing the pipeline within a previously disturbed corridor and, therefore, minimal irreversible or irretrievable commitments of natural resources will result from the Project.

B.2.g The Direct and Indirect Economic Impacts of the Proposed Facility

The Project presents an optimization of new and existing pipeline capacity to meet the needs for additional liquid petroleum transportation to this region. Bridger's proposal represents an optimal use of new and existing pipelines on an existing route. Bridger's

shippers support Bridger's proposal to be an appropriate economical response to the need for additional capacity.

As described in the Application for Corridor Certificate presented as Tab 1 section C.1.a of this consolidated application, crude oil production in North Dakota has increased in recent years. Oil production in North Dakota is expected to continue to grow until 2025. The purpose of the Project is to provide "midstream" transportation alternatives for the expanding volumes of crude oil produced in North Dakota.

The cost of the Project in North Dakota will be approximately $10.4 million. Approximately 50+ construction workers will be hired from pipeline contractors, equipment contractors, suppliers, and regional testing firms. Forty to fifty percent of the labor force is expected to be hired from the regional labor pool. In addition, environmental consultants and safety, environmental, and construction inspectors will also be employed during the Project. During the months of preparation, construction, and testing, these workers will have a significant positive economic impact (e.g., payroll tax, local expenditures, sales tax) on Billings and Stark Counties.

Pipe and other materials for the expansion are all expected to be from U.S. and North American suppliers. Much of the materials and equipment needed for construction, including welding supplies, heavy equipment, electrical components, and building materials will be supplied from this region.

Bridger owns and operates a non-shipper-owned liquid hydrocarbon pipeline facility. Bridger does not own any of the crude petroleum or natural gas liquids transported in its pipeline system. Bridger does not determine markets or destinations for petroleum commodities. Bridger's business activity is to provide a service which is available to anyone tendering commodities for transportation pursuant to tariffs published and on file with the FERC and in accordance with their rules and regulations and the Interstate Commerce Act. Bridger attempts to anticipate the need for additional pipeline capacity by relying upon forecasts for throughput generated by shippers on the system.

B.2.h Existing Plans of the State, Local Government, and Private Entities for Other Developments at or in the Vicinity of the Proposed Site, Corridor, or Route

Bridger is not aware of other developments by state, local or governmental entities at or in the vicinity of the Project corridor.

Bridger is aware of another petroleum transmission system project recently completed in the vicinity, namely Bakken Oil Express, LLC's expansion of capacity within its pipeline by the addition of a 16 inch diameter pipeline from Killdeer, ND to the BOE Rail facility. Bakken Oil Express, LLC's project and Bridger's proposed Project are complimentary to each other. While Bakken Oil Express, LLC's project expands the available capacity for crude oil produced in North Dakota to be shipped via rail, Bridger's project is working to open capacity to ship North Dakota produced oil to more markets via pipeline.

B.2.i The Effect of the Proposed Site or Route on Existing Scenic Areas, Historic Sites And Structures, and Paleontological or Archaeological Sites

Metcalf Archaeological Consultants, Inc. was contracted by Keitu Engineers & Consultants, Inc. to conduct a cultural resource inventory to identify any significant sites. Metcalf Archaeological Consultants, Inc conducted a Class III level cultural resource inventory of approximately 220 acres from September 30, 2014 to October 4, 2014.

Metcalf Archaeological Consultants, Inc. identified and recorded two cultural resources. The two cultural resources, 32BI1130 and 32SKx379, are recommended *not significant* if evaluated against the criteria for inclusion in the National Register of Historic Places. Provided that the project's scope does not change, Metcalf Archaeological Consultants, Inc. recommends a finding of *No Significant Sites Affected* for the proposed undertaking as surveyed, mapped, and documented herein.

A copy of Metcalf Archaeological Consultants, Inc. report is presented as Tab 4 Attachment A.

B.2.j The Effect of the Proposed Route on Areas Which Are Unique Because of Biological Wealth or Because They are Habitats for Rare and Endangered Species

Contacts have been made with the North Dakota Game and Fish Department (NDGFD), the U.S. Fish and Wildlife Service (USFWS), the U.S. Forest Service (USFS), and the North Dakota Parks and Recreation Department's (NDPR) North Dakota Natural Heritage Inventory (NHI) system 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 NDGFD was provided with the proposed route. The NDGFD does not believe this project will have significant adverse effects on wildlife or wildlife habitat, including species of conservation priority, provided any unavoidable destruction or degradation of wetland acres is mitigated in kind, and disturbed areas are reclaimed to pre-project conditions.

The USFWS was provided with the proposed route and 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.

The USFS was provided with the proposed route and is currently under review. Areas that are analyzed by the USFS include federally listed endangered, threatened, candidate species, and noxious and invasive species, and USFS listed sensitive species. An Application for Transportation and Utility Systems and Facilities on Federal Lands (Standard Form 299) was also submitted to the USFS Medora Ranger District for the portion of the route that crosses the Little Missouri National Grasslands.

A field survey was conducted in September and October of 2014 using a 500-foot-wide corridor for botany and a 1-mile wide corridor for wildlife, in accordance with US Fish and Wildlife Service field study protocols. The results of this field study are presented in

Section B.4.i in the route permit application submitted as part of this consolidated permit application.

The North Dakota Natural Heritage Inventory System listed Species of Concern in the state that have been identified within the Project area (Section B.4.i). The field study concluded that the Project area is within safe distance from the species listed and will not have an effect on the species or their habitat.

B.2.k Problems Raised by Federal Agencies, Other State Agencies, and Local Entities

No problems or concerns other than those identified in section B.2.j have been raised by commenters or identified by Bridger, or its consultants.

B.3. IDENTIFY AND MAP CRITERIA LEADING TO PROPOSED PIPELINE ROUTE LOCATION WITHIN CORRIDOR

The following criteria, which include but are not limited to the criteria required by North Dakota Administrative Code Chapter 69-06-08-02, were considered in evaluating the location of the pipeline route: Exclusion and Avoidance Areas, Selection and Policy Criteria, Design and Construction Limitation, Economic Considerations, Human Environment, Soils, Vegetation/Wildlife, Land Use, Water Resources, and Cultural Resources. Each criteria is discussed in detail, including descriptions, potential impacts, and mitigation measures where appropriate are given in sections B.4, B.5, and B.6.

B.4. RELATIVE VALUE AND EFFECTS UPON EACH CRITERION INCLUDING LOCATION, CONSTRUCTION, AND OPERATION OF THE FACILITY

In accordance with Chapter 69-06-08-02, the pipeline route has been developed after consideration of its impact on humans and the environment. Adverse effects of construction of the pipeline are substantially minimized by using the existing Bridger ROW. Alternative routes or options, which are discussed in Tab 1 section C.2 of the Application for Corridor Certificate, are not preferable and will typically result in more significant impacts.

Underground pipeline installation minimizes potential impacts on human or animal welfare and aesthetics. Construction of the new pipeline will cause temporary disruption to the environment, but will not result in long-term changes to the environment. The following is a general analysis of the existing human and natural environment along the pipeline route and the potential impacts of pipeline ROW preparation, construction practices, and operation and maintenance procedures.

B.4.a Exclusion and Avoidance Areas (North Dakota Rules Chapter 69-06-08-02.1 and 69-06-08-02.2)

The ND PSC has identified certain sensitive or otherwise important environmental features that must be considered during the selection of a route for transmission facilities. These features have been classified as either “Exclusion Areas” or “Avoidance Areas.” As defined in North Dakota Rules Chapter 69-06-08-02.1 and 69-06-08-02.2, Exclusion Areas are areas that are to be excluded from consideration for energy conversion sites and transmission facility routes. Avoidance Areas are areas not to be

considered in the routing of a transmission facility unless it is shown that, under the circumstances, there are no reasonable alternatives. Exclusion and Avoidance areas are shown in Tables 3.1 and 3.2 below.

No Exclusion Areas are located within the study corridor (see Table 3.1 below).

One Avoidance Areas was identified within the study corridor (see Table 3.2 below). The Project crosses a portion of the Little Missouri National Grasslands. A Standard Form 299 (SF-299) Application was submitted to the USFS Medora Ranger District for approval for the portion of the route that crosses the Little Missouri National Grasslands.

Tab 4 Appendix B contains maps depicting Exclusion and Avoidance Areas along the pipeline route.

TABLE 3.1 – Exclusion Areas

Exclusion Area	Within Study Area	Crossed By Route	Description of Exclusion Area and Proposed Buffer
Designated or registered national: parks; memorial parks; historic sites and landmarks; natural landmarks; monuments; and wilderness areas	None	None	
Designated or registered state: parks; historic sites; monuments; historical markers; archeological sites; nature preserves	None	None	
County parks and recreational areas; municipal parks; and parks owned or 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 that are unique or rare to this state would be irreversibly damaged	None	None	
Areas within one thousand two hundred feet of the geographic center of an intercontinental ballistic missile (ICBM) launch or launch control facility	None	None	

Exclusion Area	Within Study Area	Crossed By Route	Description of Exclusion Area and Proposed Buffer
Areas within thirty feet on either side of a direct line between intercontinental ballistic missile (ICBM) launch and launch control facilities to avoid microwave interference.	None	None	

TABLE 3.2 – Avoidance Areas

Avoidance Area	Within Study Area	Crossed By Route	Description of Avoidance Area and Proposed Buffer
Designated or registered national: historic districts; wildlife areas; wild, scenic, or recreational rivers; wildlife refuges; and grasslands	Yes	Yes	An SF-299 Application was submitted to the USFS Medora Ranger District for approval for the portion of the route that crosses the Little Missouri National Grasslands
Designated or registered state: wild, scenic, or recreational rivers; game refuges; game management areas; management areas; forests; forest management lands; and grasslands	None	None	
Historical resources which are not specifically designated as exclusion or avoidance areas	None	None	
Areas that are geologically unstable	None	None	
Within five hundred feet [152.4 meters] of a residence, school, or place of business	None	None	
Reservoirs and municipal water supplies	None	None	
Water sources for organized rural water districts	None	None	
Irrigated land	None	None	
Areas of recreational significance which are not designated as exclusion areas	None	None	

B.4.b Selection Criteria (North Dakota Rules Chapter 69-06-08-02.3)

State of North Dakota Rules specify several selection criteria to be considered in designating a pipeline corridor or route. Specifically, the ND PSC 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. Potential impacts, as they relate to each of the selection criteria, are discussed below. Measures Bridger will implement to minimize these impacts are noted below and discussed in greater detail in section B.6.

B.4.b. (1) Impact on Agriculture.

The Project will be installed mostly within, or adjacent to, Bridger's existing pipeline ROW in Billings and Stark Counties in western North Dakota. A significant quantity of the pipeline route will cross agricultural and pasture lands where crop and livestock production are the extensive economic activity. The primary crops cultivated in the area include wheat, grain, corn, and alfalfa.

Agricultural Production

The Project will generate temporary effects on agricultural land use such as landscape modifications and an introduction of noxious weeds and invasive species when agricultural areas are reclaimed. Bridger will take appropriate management practices to restore all areas to the land owners' satisfaction. Bridger will also implement mitigation requirements to avert the infestation of noxious weeds on reclaimed land. Species that are considered noxious weeds under North Dakota state law are provided in the table below. These noxious weeds will out-compete desirable forbs and grasses in pastures, fields, and native grasslands, reducing biodiversity. Noxious weeds that have been recorded in the county and that are a concern on farm and pasture land are absinth wormwood, field bindweed, leafy spurge, Canada thistle, spotted knapweed, yellow toadflax, Dalmatian toadflax, and saltcedar. Noxious weeds listed under North Dakota state law are shown in Table 3.3.

TABLE 3.3 – Noxious Weeds Listed Under North Dakota State Law

Species	Habitat	Impact
Absinth Wormwood	Generally found on dry soils in pastures, cropland, farmsteads, shelterbelts, roadsides, fence rows and waster areas. Infestation occurs on over-grazed or disturbed areas.	Reported to contaminate the milk produced by cattle. Species inhibits grow in desirable forage.
Dalmatian Toadflax	Most competitive in drought prone areas. Often found in soils varying from coarse gravels to sandy loams. Establishes on rangelands, pastures, disturbed areas, and roadsides.	Unpalatable to livestock and will flourish over native species. No record of occurrence in the county.

Species	Habitat	Impact
Leafy Spurge	Species adapts to a variety of habitats such as river banks, floodplains, slopes, open woodlands, roadsides, and grasslands. Species commonly associates itself with invasive such as Kentucky bluegrass and smooth brome.	Contains milky latex which causes oral and digestive irritation in cattle. The plant also replaces desirable forage.
Purple Loosestrife	Establishes in wetland habitats.	Quickly displaces native wetland vegetation and has the potential to cause a severe impact on wildlife. Roots of the plant can cause obstruction of water flow in ditches in canals.
Saltcedar	Occurs in moist areas, along lakes and waterways. Often associated with cottonwoods. Alkali, saline, and drought tolerant	Displaces native vegetation by releasing salts to inhibit the growth of vegetation.
Diffused Knapweed	Occurs in excessively grazed and disturbed areas.	No known occurrences in the county.
Russian Knapweed	Occurs in poorly drained, saline, or alkaline soils. Establishes is cultivated land, alfalfa fields, pastures, waste sites, and along roadsides and ditches.	Most distributed knapweed and most difficult to control. Inhibits growth in crop plants and other desirable plant species.
Spotted Knapweed	Establishes on roadsides, construction sites, overgrazed land, and waterways. Adapts best in semi-arid areas.	Reduces livestock and wildlife forage and increases surface water runoff, soil erosion, and stream sedimentation.
Canada Thistle	Occurs in stream banks, long ditches, roadsides, cultivated fields, pastures, construction sites, and other disturbed areas.	Displaces desirable plant species and is unpalatable to livestock. Infestations decreases land value for crop production and grazing.
Musk Thistle	Occurs on pastures, rangelands, disturbed sites, grain fields, stream banks, and soils with high sand content.	Corrupt pastures and reduce grazing in the vicinity. Currently inhabits in the northeast corner of ND.
Yellow Toadflax	Yellow toadflax occurs in a wide range of habitats but is limited by wet or dark conditions. The plant is often found in well-drained, relatively coarse textured soils.	Often displaces desirable forage plants on rangeland and is generally avoided by cattle.
Information provided by the North Dakota Department of Agriculture		

The pipeline will be installed at a depth that is equivalent to the depth of other pipelines within the Project route and at a depth that exceeds the typical tillage depth. Therefore, the pipeline will not interfere with normal agricultural operations on cropland after construction is complete.

Above-ground facilities that may be located on cropland are limited to pipeline appurtenances such as valves, line markers, and cathodic protection rectifiers. Therefore, minimal long-term loss of farmland use is expected. Construction activities will not significantly affect the factors such as soil quality, growing season, or moisture supply that are considered in determining whether land is prime farmland.

Following construction, agricultural lands will be returned to preconstruction uses to the optimum extent practicable.

Family Farms and Ranches

The construction activity will not alter the patterns of landownership or create long-term disruptions of family farming operations. The construction zone will be within or adjacent to an existing ROW. Easement payments will be beneficial to landowners within the route and with schedule permitting. 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 amended 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.

Construction activity can create short-term disruption to livestock operations, and inconvenience to farm activities. Possible impacts include removal or damage of fences, gates, and private roads. Bridger will work to minimize construction interference while in operation. Temporary access routes will be made to allow for livestock and farm equipment to mobilize as needed. Temporary fences and gates will be constructed as necessary to prevent livestock from entering into the construction zone, where injury is a potential occurrence. The Project will be conducted in a timely matter and upon completion, fences, gates, and roads will be restored to the landowner's satisfaction.

Lands Suitable for Irrigation

Pursuant to Section 69-06-08-012(h) of the North Dakota Administrative Code, this criterion does not apply to underground transmission facilities such as the proposed pipeline. No above-ground facilities will be constructed on irrigated land.

Surface Drainage Patterns

Construction of the Project will not alter surface drainage patterns. Streams, swales, ditches, and other natural drains will be restored to preconstruction contours after construction is complete. The pipe will be installed beneath drainage ditches in a manner that will not interfere with flow or future maintenance efforts by landowners or the drainage authority. Mitigation measures will include installation of the pipe at a sufficient depth to avoid being encountered by drain cleaning equipment, or installing concrete slabs above the pipe but below the grade of the ditch.

Groundwater Flow Patterns

Groundwater moves under the influence of gravity from areas of higher potential (recharge) to areas of lower potential (discharge). The rate of ground-water flow is

indicated as only a few feet per year in the principal aquifers. Information concerning groundwater is generally available in or can be estimated from North Dakota county groundwater resource studies. The groundwater flow patterns from aquifer systems in the Project area that contain usable water are summarized as follows:

Within the Project area, the Sentinel Butte-Tongue River aquifer system is the most common water well. Most groundwater uses are intended for public, domestic, livestock and industrial purposes. The closest city to the Project area is Belfield, ND. The City receives its water supply from the Southwest Water Authority pipeline which is fed by the Missouri River (Lake Sakakawea). The city is not supplied by an aquifer system but retains wells from the Sentinel Butte aquifer system in case of emergency.

In Stark County, the Tongue River, Fox Hills and Hell Creek aquifer system's gradient is south to north at about 19 ft/mi. In Slope County, the Fox Hills aquifer system gradient is southwest to northeast at about 25 ft/mi to 10 ft/mi. In Billings County, the Sentinel Butte, Bullion Butte, Slope, Cannonball and Ludlow aquifer systems have a general movement from south to north with an average hydraulic gradient of 10 ft/mi. Further aquifer details are provided in B.4.k Water Resources-Groundwater.

Groundwater flow could potentially be altered by pipeline construction through blasting and trenching activities. No exposed bedrock or areas of shallow bedrock will be encountered, therefore blasting is not anticipated. Trenching could temporarily disturb the level of groundwater and increase the sediment in the groundwater. However, given the shallow depth of construction activities and the relatively deep location of the area's aquifers, installation of the proposed pipeline is not expected to have a significant effect on regional groundwater flow patterns.

Groundwater could be affected with the potential for accidental discharges of regulated materials, such as fuel, lubricants, and coolants used during construction. Bridger's Environmental Mitigation Plan (EMP) located in Tab 5 and supporting diagrams in Tab 6 outline precautions to be taken to prevent sedimentation or other materials from entering the water supplies in the area. Project contractors will be expected to have a current oil Spill Prevention Control and Countermeasure (SPCC) plan and implement it fully if the facility contains an aggregate oil storage capacity above 1320 gallons, consistent with US Environmental Protection Agency requirements outlined in 40 CFR 112. Regardless of the total storage capacity, no bulk oil storage facilities will be sited within 100 feet of surface water.

A description of Bridger's pipeline protection and emergency response procedures for pipeline operations and maintenance is provided in section B.9.c.

B.4.b. (2) Impact of Noise Sensitive Land Uses.

No sensitive noise receptors such as schools or hospitals are located in the vicinity of the Project. During construction, residences in close proximity to the construction spread will experience short-term increases in construction-related noise. The heavy construction equipment needed to construct the pipeline will generate short-term increases in ambient noise levels. Typical bulldozers, backhoes, and side booms used to install large-diameter pipelines generate between 80 to 90 decibels within 50 feet of

the equipment. Increases in ambient noise levels due to heavy equipment operation will be limited to the period of construction, typically during daylight hours.

No noise is generated along the ROW during normal operation of the pipeline. No additional pump stations or noise increases at the pump station are proposed as part of the Project in North Dakota.

B.4.b. (3) Impact on Visual Effect on the Adjacent Area.

The only aboveground facilities that will be constructed in North Dakota as part of the Project are pipeline appurtenances such as mainline valves, line markers, and cathodic protection equipment. Mainline valves will be sited at existing aboveground facility sites. Other than these permanent above ground facilities, the Project will result in only short-term visual effects related to construction activities.

B.4.b. (4) Impact on Extractive and Storage Resources.

No extractive or storage resources were identified which would be affected by the Project.

B.4.b. (5) Impact on Water bodies.

Impacts to water bodies were avoided to the extent practicable in a manner compatible with safe operation, maintenance, and inspection of the pipeline. Efforts have been made and will continue to be made to restore all areas of disturbed wetland vegetation. The route contains 8 creek or drainage pathway crossings, one river crossing (Heart River), and three wetland crossings. Waterbody crossings by legal description are described in Table 3.4 below. Three wetland areas were identified within the proposed pipeline route, as identified in the National Wetlands Inventory posted by the USFWS. The majority of water crossings on the route will be horizontally directionally drilled (HDD) to reduce environmental impacts.

Pipeline construction by creeks will be conducted in accordance with applicable regulatory requirements. No creek will be permanently drained or filled as part of the Project, and effects on creeks are expected to be short-term and minor. Bridger will restore the area as close to its previous state and naturally functioning condition as possible.

Unsaturated wetlands may be revegetated with a temporary cover crop if specified by permitting agencies. No fertilizer, lime, or mulch would be applied in wetlands. The long-term operation and maintenance of the pipeline will not have adverse effects on wetland function or value.

Table 3.4 – Project Waterbody Crossings

Name and Distance	Location
Billings County	
Wetland	NENE S34 T140N R100W
Drainage Pathway	SWNW S32 T141N R98W
Drainage Pathway	NWNW S23 T141N R98W
Drainage Pathway	NESW S29 T141N R98W
Drainage Pathway	SESE S16 T141N R98W
Stark County	
Drainage Pathway	NWSW S30 T140N R99W
Heart River	NWSW S19 T140N R99W
Unnamed	NENW S17 T140N R99W
Unnamed	SWSW S9 T140N R99W
Wetland	SWSW S9 T140N R99W
Drainage Pathway	SWNE S3 T140N R99W
Wetland	SWNW S19 T140N R99W

B.4.b. (6) Impact on Woodlands and Wooded Areas.

Tree rows occur in limited amounts throughout the Project area. Wooded habitat provides shelter and safety for a number of wildlife species. Any trees will be protected to the extent practicable in a manner compatible with safe operation, maintenance, and inspection of the pipeline. Impacts on wooded areas due to construction activity are anticipated to be temporary. It may be necessary to clear some mature trees during construction. However, Bridger will work with the appropriate state agencies to identify efficient restoration measures following construction. Trees containing raptor nests will be avoided.

B.4.b.(7) Impact on Radio and Television Reception, and Other Communication of Electronic Control Facilities.

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

B.4.b.(8) Impact on Human Health and Human Safety.

Bridger is a liquids pipeline operator that owns and operates the Poplar System in eastern Montana, the Four Bears Pipeline System in North Dakota, the Parshall Gathering System and the Powder River System in Wyoming.

Bridger, Belle Fourche Pipeline Co, and Butte Pipeline Company are all part of the True Companies of Casper, Wyoming operating in western North Dakota, eastern Montana and Wyoming. By building and operating this extensive network, Bridger has become

experienced in managing construction and operating pipeline systems that protect the public's health and safety.

Causes of and Prevention of Accidents on Pipelines

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 construct and maintain the Project to meet or exceed industry and governmental requirements and standards. Specifically the steel pipe will meet U.S. Department of Transportation Pipeline and Hazardous Material Safety Administration (PHMSA) 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 American Petroleum Institute (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. All of the pipe will be manufactured with fusion-bonded epoxy coating to protect against corrosion. The actual installation of the pipeline and all construction and testing records will be subject to regulatory inspection, including by PHMSA inspectors. PHMSA also 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.

Once installed, the pipeline will be subjected to careful testing to verify its integrity and compliance with specifications. Such testing will include checking coating integrity, examining by X-ray 100% of field welds (over and above the 10% required by regulations), internally inspecting the entire length of each line by using an in-line inspection tool known as a caliper pig, and hydrostatically testing the line to qualify the maximum allowable operating pressure. The pipeline will be placed into service only after inspection to verify compliance with all construction standards and requirements are met.

This new pipeline, as well as the existing pipelines in this same ROW, are maintained and inspected according to PHMSA regulations, industry codes and prudent pipeline operating techniques. 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.

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 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, navigable rivers, and other locations to alert the public to the

presence of underground lines and to provide information, contact numbers, and emergency data.

Pipeline workers and contractors performing critical tasks are qualified under OSHA 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 avoided.

Bridger Ten Year Pipeline Accident Record

Bridger has had only one reportable accident in North Dakota in the past 10 years. A spill resulted from a broken fitting at the Fryburg Station. Over the remainder of Bridger's system in Wyoming and Montana, there have been 9 other accidents that were reportable in that time period.

B.4.b. (9) Impact on Animal Health and Safety.

Construction activity within the Project area is expected to have temporary impacts on domestic animals and wildlife. The clearing of vegetation will temporarily reduce cover, nesting, and foraging habitat for some species. Small, slower moving species may even be lost during construction. However, species will generally establish into adjacent habitats, away from the disturbance area. Once habitat alterations are reclaimed, it is expected that wildlife habitat will reestablish within the area.

Pipeline 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, existing public roads, farm lanes, and livestock crossings will be kept open, providing crossing access.

B.4.b. (10) Impact on Plant Life.

During construction operations, vegetation will be removed within the Project ROW and where extra workspace is needed. Trees and shrubs that are cleared will be reestablished once construction activity is complete. All areas where vegetation will be removed will be reestablished to regulation standards from county agencies and satisfaction of landowners. Permanent impacts on vegetation are not anticipated.

B.4.c Policy Criteria (North Dakota Rules Chapter 69-06-08-02.4)

The ND PSC may give preference to an applicant that will maximize benefits resulting from the adoption of policies and practices of the ND PSC. These policies, and the extent to which the Project aligns with or reinforces these policies, are described below.

B.4.c. (1) Location and Design.

Bridger believes that the Project has been placed in the optimal alignment. Mitigation measures will be implemented to avoid or minimize potential adverse impacts on Avoidance/Exclusion Areas crossed. Further, the alignment is generally on or adjacent

to Bridger's pipeline ROW, minimizing the need for new ROW and the environmental and human impacts associated with a new route.

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

B.4.c. (2) Training and Utilization of Available Labor in this State for the General and Specialized Skills Required.

No training of local labor is anticipated as a direct result of this pipeline expansion. During construction of the facility, skilled and unskilled labor, both local and non-local workers will be employed by Bridger or by the General Contractor selected to construct this pipeline.

B.4.c. (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. Refer to section B.2.g of this Application and section C.2 of the Application for Corridor Certificate.

B.4.c. (4) Use of Citizen Coordinating Committees.

No Citizen Coordinating Committee is anticipated as a result of the Project. Bridger believes a Citizen Coordinating Committee is not appropriate for this type of project given that the pipeline will be installed in a ROW adjacent to an existing pipeline ROW.

B.4.c. (5) Commitment of a Portion of the Transmitted Product for Use in this State.

The crude oil transported by the proposed Project will be from production in northwestern North Dakota. The Project will provide the needed capacity to transport increased production of crude oil from the Bakken and Three Forks formations. Adding additional pipeline capacity in North Dakota will help assure the best overall value is obtained for North Dakota's crude oil.

B.4.c. (6) Labor Relations.

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

B.4.c. (7) Coordination of Facilities.

Both the existing 8-inch line and proposed new 16-inch line and their associated pumping, control and operating systems will be used in conjunction with each other to optimize system capacity.

B.4.c. (8) Monitoring of Impacts.

Bridger believes that construction-related impacts will be adequately mitigated throughout the Project route by the use of best management practices, good construction techniques, and environmental inspection. Therefore, long-term monitoring

of impacts directly related to the Project is not anticipated. Following the installation of the pipeline, a thorough inspection will be performed to ensure restoration efforts have been successful.

B.4.c. (9) Utilization of Existing and Proposed ROWs and Corridors.

In most cases, ROW is not required as Bridger has multiple line rights. Where additional ROW is required, easements has been acquired from landowners adjacent to the existing Bridger ROW for its existing 8-inch pipeline. Generally the ROW has a width of 100 feet for construction and 50 feet of permanent ROW.

All pipe will be transported directly from yards in Williston or Dickinson, so no new pipe storage facilities are necessary. No private access roads have been identified at this time. Bridger will acquire additional workspace from the landowners where necessary; use of unauthorized workspace is prohibited without the landowner and Bridger's approval. In all cases, the size of additional temporary workspace will be kept to the minimum necessary to safely conduct work. Temporary working areas will not be restricted by or subject to permanent easement restrictions upon completion of construction.

B.4.c. (10) Other Existing and Proposed Transmission Facilities.

Bridger is aware of another petroleum transmission system project currently underway in the vicinity, namely Bakken Oil Express, LLC's expansion of capacity within its pipeline by the addition of a 16 inch diameter pipeline from Killdeer, ND to the BOE Rail facility. Bakken Oil Express, LLC's project and Bridger's proposed Project are complimentary to each other. While Bakken Oil Express, LLC's project expands the available capacity for crude oil produced in North Dakota to be shipped via rail, Bridger's project is working to open capacity to ship North Dakota produced oil to more markets via pipeline.

No specific Transmission Facilities are planned for the next five years.

No specific Transmission Facilities are planned for the next ten years. However, given the intense drilling and production activity in our service area of Western North Dakota and the demand for crude oil transportation by pipeline, major new pipeline projects by Bridger are likely.

B.4.d Design and Construction Limitations

See section A.3 of the Application for Corridor Certificate.

B.4.e Economic Considerations

See section B.2.g of this route application and section C of the Application for Corridor Certificate found in Tab 1.

B.4.f Human Environment

The Project area is sparsely populated and farming is the predominant economic activity. The proposed route crosses land owned by 21 different landowners. The proposed pipeline route does not pass within 500 feet of any rural residences. The route does not pass through parks or recreational areas.

The majority of the proposed pipeline route is located on private land, and landowner concerns will be addressed during all phases of construction including final restoration. Land agents assigned to the Project will work closely with landowners to the extent practicable, be responsive to issues that may arise during the course of the Project. Permission from all private land owners has already been obtained.

The Project crosses a portion of the Little Missouri National Grasslands. An SF-299 Application was submitted to the USFS Medora Ranger District for approval for the portion of the route that crosses the Little Missouri National Grasslands.

The pipeline will transect US 85 approximately 3.5 miles north of the junction with I-94. The ND Department of Transportation (DOT) has been contacted for comment on this crossing. Of the remaining roads, 10 are improved roads (i.e. gravel), seven are two track trails, and four are section lines only (with no road).

All road crossings associated with the Project will be bored. Use of these facilities will not be disrupted as a result of the Project. All roads and section line crossings are subject to review and approval by the County Engineer and County Commission. Applications will be submitted and permits obtained for the road crossings before start of construction. Road crossings for the route are summarized in Table 3.5.

Table 3.5 – Project Road Crossings

Legal Description	Coordinates	Road Name	Description of Road
Billings County			
SENE S16 T141N R98W	47° 01' 56.5" N 103° 05' 46.76"W	123rd Avenue	Gravel
NENE S21 T141N R98W	47° 1'26.14"N 103° 5'59.57"W	27th Street	Two Track
SWSW S21 T141N R98W	47° 0'34.19"N 103° 6'46.39"W	28th Street	Gravel
NENE S29 T141N R98W	47° 0'27.06"N 103° 7'2.70"W	124th Avenue	Two Track
SESW S29 T141N R98W	46°59'42.01"N 103° 7'59.15"W	29th Street	Two Track
SENE S31 T141N R98W	46°59'18.42"N 103° 8'19.03"W	125th Avenue	Two Track
SWSE S31 T141N R98W	46°58'49.84"N 103° 8'51.05"W	30th Street	Gravel
NENE S35 T141N R100W	46°54'17.16"N 103°15'8.90"W	133rd Avenue	Gravel
SESE S26 T140N R100W	46°54'18.33"N 103°15'10.74"W	35th Street SW	Gravel
SESE S27 T140N R100W	46°54'18.47"N 103°16'25.06"W	134th Avenue	Gravel
SESE S27 T140N R100W	46°54'18.23"N 103°16'25.66"W	35th Street SW	Two Track
SWSW S27 T140N R100W	46°54'18.34"N 103°17'40.09"W	135th Avenue	Section Line (No Road)
SESE S28 T140N R100W	46°54'17.31"N 103°17'41.26"W	35th Street SW	Section Line (No Road)
Stark County			
SESE S4 T140N R99W	46°57'53.46"N 103°10'6.13"W	129th Avenue	Two Track
SESE S4 T140N R99W	46°57'47.67"N 103°10'13.92"W	31st Street	Gravel
SWSW S9 T140N R99W	46°56'55.46"N 103°11'21.08"W	32nd Street SW	Gravel
NENE S17 T140N R99W	46°56'54.36"N 103°11'22.67"W	130th Avenue/ Highway 85	Paved
SENE S18 T140N R99W	46°56'29.09"N 103°12'38.75"W	131th Avenue SW	Gravel
SWSE S18 T140N R99W	46°56'3.07"N 103°13'16.36"W	33rd Street SW	Two Track
NWNW S30 T140N R99W	46°55'10.70"N 103°13'47.27"W	34th Street / Talkington Rd	Section Line (No Road)
SWSW S30 T140N R99W	46°54'18.54"N 103°13'51.44"W	35th Street SW	Gravel
NWNW S31 T140N R99W	46°54'17.48"N 103°13'52.78"W	132nd Avenue	Section Line (No Road)

B.4.g Terrain and Geology

The pipeline route in Stark and Billings Counties is in the glaciated Missouri Plateau section of the Great Plains Physiographic Province in western North Dakota. The Missouri Plateau is characterized by low relief and gentle slopes interrupted by buttes and ridges. In the glaciated section the drift is generally thin except for valley fill so the topography reflects the pre-glacial topography.

The pipeline route is located entirely in the Williston Basin; a large elliptical depression bounded by the Canadian Shield (northeast), Alberta Shelf (northwest), Black Hills (southeast), and Wisconsin Dome (southwest). The Williston Basin covers about 300,000 square miles. The Williston Basin is a structurally simple basin, deepest at its center (16,000 ft below the surface near Williston, ND) becoming shallower and thinner towards its edges.

The pipeline route primarily traverses bedrock geology consisting of silt sand, clay, sandstone, and lignite of the Sentinel Butte Formation, a member of the Tertiary Fort Union Group. Surface elevations along the route range from approximately 2450 feet to 2650 feet.

B.4.h Soils

Detailed soil characteristics along the pipeline route were identified and assessed using the Soil Survey Geographic database (SSURGO). The SSURGO database is a digital version of the original county soil surveys developed by the NRCS for use with geographic information systems (GIS). It provides the most detailed level of soils information for natural resource planning and management. The mapping scale in the Project area is 1:20,000, with a minimum delineation size of 4.0 acres. SSURGO is linked to an attribute database that gives the proportionate extent of the component soils and their properties for each map unit. The SSURGO database was used to define soil characteristics along the pipeline route in Stark and Billings Counties. SSURGO attribute data consist of physical properties, chemical properties, and interpretive groupings. Attribute data apply to the whole soil (e.g., listed hydric, prime farmland soils, slope class) as well as to layer data for soil horizons (e.g., texture, permeability). The soil attribute data can be used in conjunction with spatial data to describe the soils in a particular area.

The entire Project area is classified as moderate susceptibility to landsliding and low incidence. The USGS classifies low incidence as an area where less than 1.5% of the area is anticipated to be impacted by landslide. Low incidence is the classification with the smallest potential impact. Based on the USGS classification and the predominately low sloping land, as the majority of the Project area is less than 6% slope, landsliding is not anticipated.

The Project area lies within the Glaciated Missouri Plateau Section of the Great Plains physiographic Province. The soils in the Project area range from having course sandy loams to fine silty loams; while encompassing other various silt and clay loams.

Potential temporary effects on soil resources include the loss of soil productivity due to erosion, soil mixing, or soil compaction. Soil disturbances associated with clearing, grading and trenching expose soils to water and wind, increasing the potential for erosion. Soil erosion by water is also common along the pipeline route. During construction, the effects of erosion by water on steep slopes will be mitigated by use of silt fence and other erosion control measures as described in the Environmental Mitigation Plan (see Tab 5).

Wind erosion may be a hazard on soils in the Project area. It is severe on the coarse textured and moderately coarse textured soils. They are susceptible to wind erosion in the spring if they have been bare throughout the winter. Because of freezing and thawing, soil structure can break down, resulting in aggregates that are susceptible to movement. This can also cause fine textured soils which have a severe wind erosion hazard. The southern half of the Project area where fine sandy loams and loamy fine sands are predominant is more susceptible to wind erosion. Nearly all soils can be damaged by wind erosion if they are not protected by residue. However, following the Environmental Mitigation Plan (Tab 5) and re-vegetating the area will help to minimize wind erosion.

Water erosion is a hazard on gently rolling and steeper soils. The hazard is greatest when the surface is bare therefore the precautions outlined in the Environmental Mitigation Plan found in Tab 5 will be implemented to minimize impacts. However due to the relatively flat terrain and gentle slopes of the Project area, this impact is anticipated to be minimal.

Soil productivity could potentially be affected if topsoil were to become mixed with subsoil during construction. To minimize this potential in agricultural land and other areas where soil productivity is an important concern, topsoil will be segregated during trench excavation. In cropland, topsoil will be removed to a maximum depth of 12 inches from the trench and soil storage area unless otherwise requested by the landowner. Topsoil will be stored separately from the trench spoil and will be returned to its approximate original location after the trench is backfilled.

Project construction will cause temporary removal of vegetation and result in temporary exposure of soil. These actions may result in some minor temporary erosion. Re-vegetation of disturbed areas, with native species, will mitigate these concerns.

Heavy equipment used to construct the pipeline may cause soil compaction along the ROW. Soils may be tilled with a chisel plow or other deep-tillage equipment to loosen the soil to the reasonable satisfaction of the landowner. Because the soils of the Project area generally have a high shrink-swell potential, compaction will correct itself over time as the soil goes through wet-dry and freeze-thaw cycles.

B.4.i Vegetation and Wildlife

Investigations were conducted on potential impacts the Project could inflict upon wildlife and plant species. Information was gathered from a variety of sources to compile the existing conditions of plant and wildlife within the proposed route. These sources included field surveys, literature, and personal communications with the NDGF, the

USFWS, and the ND Parks and Recreational Department (The ND National Heritage Inventory). Field surveys were conducted on foot and via ATV. Field data was collected with a Trimble GEOXH 6000 GPS and photographs were taken along the entire length of the proposed route. If species locations were unknown or state-wide, literature, personal communications, and knowledge of species and species habitat were used to make a justified determination on the potential effects that may occur from the Project.

Vegetation

Botany surveys were performed along the 15 mile proposed pipeline route in Billings and Stark County, during September of 2014. Two surveyors conducted a thorough inspection of private and federal land, which consisted of cropland, rangeland, and pastureland.

The Project route crosses predominantly agricultural land, which is discussed in detail in sections B.4.b (1) and B.4.j. Crested Wheatgrass and Smooth brome were primarily found in abundance throughout the majority of the route. Other grasses that were commonly identified was: Japanese brome, Kentucky bluegrass, and western wheatgrass. Other vegetation often found established in the Project area include alfalfa, common yarrow, curly dock, curlycup gumweed, field sagewort, fringed sagewort, heath aster, prairie coneflower, prairie rose, purple coneflower, Siberian elm, silver-leaf scurfpea, wavyleaf thistle, western snowberry, and yellow sweetclover.

Noxious weeds that were identified on the survey were field bindweed and Canada thistle. Field bindweed occurrences were primarily along access roads, field edges, and well pads. Canada thistle was found in small populations spread throughout rangeland and pastures.

The proposed pipeline will run adjacent to shelterbelts at certain points along the route. Due to the distance from the construction corridor, potential impacts are unlikely to occur. However, Bridger will restore any tree row to the land owner's agreement, in the event the Project would disturb it during construction operation.

There were no sensitive, threatened, or endangered plant species detected in the survey corridor. A list of current ND Sensitive Botany Species is attached in Appendix Tab 4.D - ND Plant SOC. In areas that require revegetation, Bridger will specify appropriate seed mixes, application rates, and seeding dates, taking into account the recommendations of appropriate state and federal agencies.

The primary impact is expected to be the removal of vegetation in the ROW during construction activity. Additional vegetation may be removed in areas where extra workspace is required, such as a road or waterbody crossings. Spread of noxious weeds that are currently established along the route is addressed in section 1.13 of Tab 5, Environmental Mitigation Plan for the Project.

Wildlife

Common terrestrial wildlife identified in the Project area include black-tailed prairie dog, blue-winged teal, mallard, mourning dove, northern harrier, and ringneck pheasant.

Raptors

An aerial raptor survey is anticipated to be conducted in the winter of 2015 to supplement ground raptor surveys that occurred in the fall of 2014 to locate any raptors as well as suitable nests. The survey methods for the 2015 survey will be to follow the USFWS technical guidance on inventory and monitoring protocols. Three surveyors (seated in rear-left, rear-right and front-left positions of the helicopter) will thoroughly examine the area within the 2-mile-wide survey corridor along the ROW to locate currently active or inactive raptor nests. Complete coverage of the ROW will be obtained by traversing the ROW centerline in a perpendicular manner while visually scanning all areas of potential nesting habitat, and to provide complete coverage of the 2-mile corridor. A second pass will be conducted in a similar manner in the opposite direction to get full field of view and line of sight in all possible raptor nest locations. If a possible nest is discovered, the helicopter would slow to a hover, at a distance great enough to prevent flushing and in the shortest amount of time needed to determine the condition, type of nest, contents, and obtain accurate GPS location coordinates. Nesting habitat along the survey corridor included: shelterbelts, grassland and riparian areas. Winter timing of the survey will facilitate locating nests in deciduous trees before "leaf out" has occurred. Heavily wooded areas are within the survey area and multiple passes will be taken when necessary. Only nests large enough to support raptors will be recorded during the survey.

The North Dakota raptor species of concern detailed by the NHI with potential to be located in Stark and Billings Counties include the following: northern harrier and Swainson's hawk, merlin, prairie falcon, turkey vulture, American peregrine falcon, and the burrowing owl.

The following state-listed Species of Conservation Priority, USFS Sensitive, and BLM Sensitive species were identified in the study corridor during the survey conducted in the fall of 2014: Golden Eagle (Aquila *chrysaetos*), and Swainson's Hawk (*Buteo swainsoni*).

Even though raptors of concern were spotted during the survey, due to the range of these raptors it is not uncommon for one to be seen at a distance greater than one mile from their nests, making it quite probable that the raptor species of concern seen during the survey were in fact nesting outside the corridor. Nesting behavior was not observed anywhere inside the survey corridor.

The findings of the winter 2015 aerial raptor survey will be supplemented to this application as soon as that information is available.

All trees containing empty nests will be avoided during construction. Findings are reported on the appropriate plate in Appendix 4.B in Tab 4, as well as electronically presented as ESRI ArcGIS software compatible data files in Tab 7.

Prairie Dogs

One prairie-dog town was located while conducting the wildlife survey, and is located outside of the construction corridor. Prairie dog towns support a large community of

wildlife species and are prone to disruption by construction projects. The black-footed ferret also inhabits prairie dog colonies. Although there have been no records of this species in the state for many decades, disruptions of prairie dog colonies should be avoided to prevent any impact on habitat or potential occurrences. The proposed route does not invade any prairie dog towns and there should be no effect to this species or its habitat. Measures will be taken to avoid all prairie dog towns during construction.

Agency Review

Contact has been made with the NDGFD, USFWS, and North Dakota Parks and NDPR to identify known occurrences of state and federally listed threatened or endangered species and critical habitat located along the proposed route. Analysis is currently being undertaken by all departments. A complete list of North Dakota sensitive wildlife species is located in Appendix Tab 4.D – ND Wildlife SOC.

The NHI data was reviewed for species of concern and significant ecological communities that exist in the Project area. The information below was provided by the NDPR, Bismarck office.

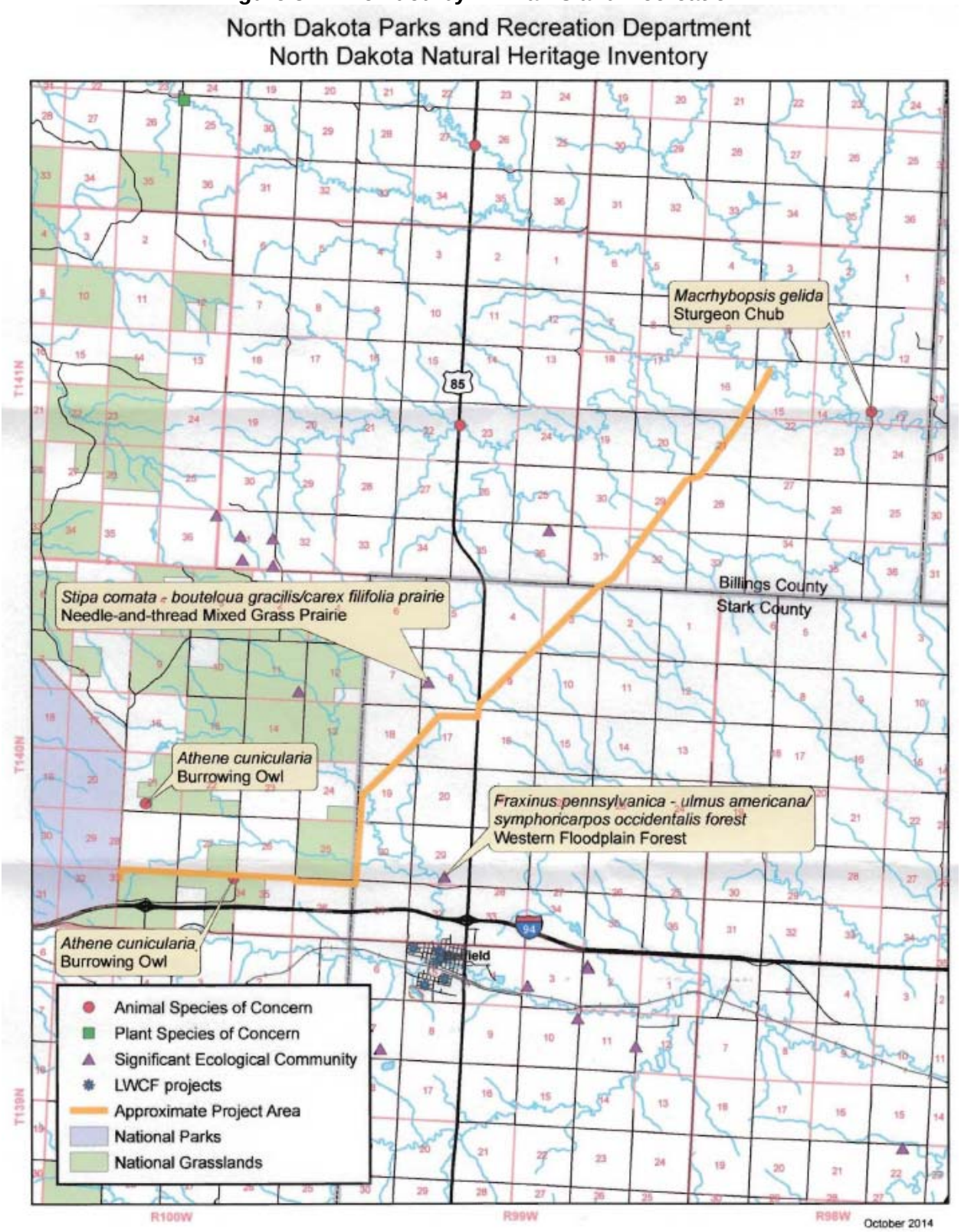
The NHI biological conservation database has been reviewed to determine if any plant or animal species of concern or other significant ecological communities are known to occur within an approximate one-mile radius of the project area. Based on this review, we one animal species of concern and several significant ecological communities documented within sections and in adjacent sections to project area. We defer any additional comments regarding animal species to the ND Game and Fish Department and/or the USFWS. Please see Figure 3.2 for more information on these occurrences.

The species and habitat listed above are out of the Project corridor and will not be impacted by disturbances that construction activity could create.

Impacts from the Project and human activity during construction will create no significant effects to the ND Sensitive Species of ND. The proposed construction activity is scheduled to begin in spring 2015 and runs primarily along land that has been previously disturbed and reclaimed due to agriculture, livestock and wildlife grazing, access roads, and oil and gas activity. The Project may impact habitat. However, it is unlikely that the effect will be significant enough to alter a species population due it already occurring where there's been similar activity.

A full list of survey data for all species can be found in Tab 7.

Figure 3.2: Provided by ND Parks and Recreation



B.4.j Land Use

Agricultural production is the predominant land use along the Project route. The primary crops cultivated in the area include wheat, grain, corn, and alfalfa. The Project will have only a temporary effect on agricultural land use. Crop production will be temporarily disrupted in cases where the construction period overlaps with the growing season. Landowners will be compensated for crop loss or reduced yields caused by construction of the pipeline. Deep tillage or other measures will be implemented as necessary to mitigate effects of soil compaction.

The Project is not located within any city limits or urban areas. The only industrial area crossed by the pipeline route is at both ends of the pipeline loop where the line connects into existing pipeline junctions or pipeline terminal. Construction and operation of the pipelines will preclude future unrelated industrial development on lands occupied by the permanent maintained ROW; however, as previously noted, the Project will be located on or adjacent to existing ROW; therefore, impacts to land use are anticipated to be minimal. Furthermore, after installation of the pipeline, disturbed areas will be restored to preconstruction conditions to the extent practicable, and will generally revert to preconstruction uses. No long-term change in land use is anticipated.

B.4.k Water Resources-Ground Water

Within the Stark and Billings counties groundwater uses are intended for public, domestic, livestock and industrial purposes. Most all 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 and Hell Creek Formations and in the Cannonball, Ludlow, Tongue River, and Sentinel Butte Formations. Maximum potential yields of these aquifers range from around 50 gal/min to as much as 300 gal/min. The water from these aquifers are commonly soft to very hard and contain sodium bicarbonate.

The closest city to the Project area is Belfield, ND. The City receives its water supply from the Southwest Water Authority pipeline which is fed by Lake Sakakawea.

No sub-surface injection of water is expected for this Project. Any released water will be discharged to surface water, and subject to the requirements of the general NDPDES permit issued by the ND Department of Health – Environmental Section.

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

Water Resources-Surface Waters

Topographic maps and current aerial photos were reviewed to identify streams, rivers, and lakes crossed by the pipeline route.

No lakes or ponds were identified in the route of the proposed pipeline.

The route contains 12 wetland, waterbody, or drainage pathway crossings. Crossings are described in Table 3.4 in section B.4.b. (5).

Pipeline construction by creeks will be conducted in accordance with applicable regulatory requirements. No creek will be permanently drained or filled as part of the Project, and effects on creeks are expected to be short-term and minor. Bridger will restore the area as close to its previous state and naturally functioning condition as possible.

The pipeline route also crosses several drainage ditches and draws which channel water to the listed waterbodies; however the slope of these areas prevent the accumulation of water and the establishment of hydroponic plants. The proposed pipeline route does not cross any lakes or ponds. No state or federally designated wild or scenic rivers are crossed by the route. Waterbodies crossed by the Project are listed in Table 3.4.

Appropriate erosion control measures will be used during installation to reduce sediment transport into waterbodies and wetlands. Implementation of the measures described in Bridger's EMP will provide adequate protection to water resources during construction.

Waterbody crossings are planned to be constructed using either horizontal directional drill (HDD) or open-cut construction techniques, with most waterbodies crossed by the HDD method. In a wet trench crossing, backhoes excavate a trench in the waterbody channel, leaving "hard plugs" of soil in place on each bank of the crossing. When the trench has been excavated and the crossing section fabricated, the hard plugs are removed and the pipe segment is moved into place. The newly installed pipeline is welded in place and the trench is backfilled with native materials or as required by applicable permits.

Construction across waterbodies will require authorization by the U.S. Army Corps of Engineers (ACE). Bridger will be obtaining necessary authorization for water crossings in wetlands and construction will be conducted in accordance with applicable permit conditions.

Temporary, incremental increases in sediment load can be expected downstream of open-cut waterbody crossings during the excavation and backfilling phases of construction. Additionally, some incremental increase in surface run-off sedimentation may be expected to occur at each of the crossings due to the close proximity of exposed soils. No significant or long-term increase in sedimentation is expected from construction of the waterbody crossings.

Wetlands

Aerial photos and USGS topographic maps identifying US Corps of Engineers waters of concern within North Dakota were used to identify wetlands along the Project route. Wetlands identified are included in Table 3.4 and listed by legal description.

Impact on Wetlands

Construction in wetlands will require authorization by the U.S. Army Corps of Engineers (ACE). Bridger will be obtaining necessary authorization for wetland crossings and work in wetlands will be conducted in accordance with applicable permit conditions.

For water and wetland crossings which are not bored, construction in unsaturated wetlands, topsoil will be segregated from the trench line to preserve natural sources of seed and rootstock. During trenching, water quality of inundated wetlands will be temporarily affected due to the suspension of sediments and organic matter. After the trench is backfilled, the topsoil will be replaced to facilitate the natural re-vegetation process. The long-term operation and maintenance of the pipeline will not have adverse effects on wetland function or value.

Construction of the Project will not result in the permanent drainage or filling of wetlands. Bridger will implement the measures identified in its EMP to minimize adverse effects on wetlands during construction and restore wetlands following construction. Effects on wetlands are therefore expected to be short-term and minor.

Water Use

The Project will not significantly affect water use patterns. Following construction, drains, swales, and flowages will be restored to preconstruction conditions to the extent practicable to minimize disruption of water resources.

The Project will require temporary appropriations of water (likely surface water) for use in the hydrostatic testing of the newly installed pipeline. Additionally, some temporary trench dewatering will be required, particularly during road bores. No significant effect on existing and future water uses is anticipated.

Discharge of water used to hydrostatically test the new pipeline is not expected to have an impact on the environment or receiving waters. The discharge is regulated by the North Dakota Department of Health under a North Dakota Pollutant Discharge Elimination System (NDPDES) general permit issued specifically for temporary dewatering activities including hydrostatic testing and trench dewatering (Permit No. NDG-070000).

Surface Water Runoff

Potential construction-related effects on surface waters are primarily related to sedimentation from uncontrolled erosion of disturbed areas. Much of the pipeline route is level or only gently sloping, which limits the potential for runoff effects. Because the ROW will be restored to preconstruction conditions, area runoff following construction will generally reflect surrounding land use.

Bridger will obtain authorization under a general permit for Storm Water Discharges Associated with Construction Activity from the North Dakota Department of Health, which implements a federal program under the Clean Water Act. Bridger's EMP, which was developed in part to meet requirements of this permit, describes best management practices Bridger, its General Contractor and Project subcontractors will implement to minimize off-site erosion from site storm water runoff. These practices will protect surface water and soil resources within the Project area. Bridger's EMP will be included in the construction specifications for the Project and enforced by one or more environmental inspectors during construction.

Discharges to Surface Waters

During construction, point source wastewater discharge will be generated from hydrostatically testing the new pipeline prior to placing it in service. Discharges will also occur as needed for trench dewatering during construction. The North Dakota Department of Public Health has developed a General Permit (Permit No. NDG-070000) which authorizes the discharge of waters related to temporary dewatering and hydrostatic testing. Bridger will obtain authorization for construction-related discharges and will conduct trench dewatering and hydrotest water discharges in a manner consistent with the NDPDES General Permit.

Testing and discharge is anticipated to be consistent with past practices and experience. Discharges of hydrostatic test water typically are controlled discharges directly to the ground surface or occasionally into Waters of the State. Specific discharge point(s) for hydrostatic test water for the pipeline have not been determined at this time. In most cases, it is anticipated that this water will be acquired from several of the rivers crossed by the pipeline route and discharged back to the original source. The NDPDES permit specifies that discharge water must be free from process and other wastewater discharge.

Protection from Fuel Spills

Construction equipment should be expected to be self-propelled and/or motorized and are expected to be powered by gasoline or diesel fueled engines. Fuel for construction vehicles will be used and stored consistent with regulations of the US Environmental Protection in 49 CFR 112 for areas with at least 1320 gallons of aggregate storage capacity and/or consistent with the National Fire Protection Association Code 395 for storage and handling of petroleum-based fuels in isolated and/or remote areas. If more than 1320 gallons of oil storage occurs at one area, the contractor will be required to prepare and implement an oil spill prevention, control and countermeasure (SPCC) plan in accordance with 49 CFR 112 including having the plan reviewed and certified as adequate by a registered professional engineer licensed by the State of North Dakota. A SPCC Plan outlines required secondary containment measures to be installed around bulk storage containers (i.e. tanks and drums) as well as other oil-handling areas such as unloading and dispensing areas. The Plan also describes response, containment, and cleanup measures. Training requirements of impacted employees are also outlined.

Contractors will be required to provide trained personnel, appropriate equipment and materials to contain and clean up spills of fuel, lubricating oil or hydraulic fluid that result from equipment failure when working in or near wetlands or surface water bodies.

Storage of bulk fuels will not be allowed within 100 feet of an open waterway.

B.4.l Cultural Resources

Metcalf Archaeological Consultants, Inc. (Metcalf) was contracted by Keitu Engineers & Consultants, Inc. to conduct a cultural resource inventory to identify any significant sites. Metcalf conducted a Class III level cultural resource inventory of approximately 220 acres from September 30, 2014 to October 4, 2014.

Metcalf identified and recorded two cultural resources. The two cultural resources, 32BI1130 and 32SKx379, are recommended *not significant* if evaluated against the criteria for inclusion in the National Register of Historic Places. Provided that the project's scope does not change, Metcalf recommends a finding of *No Significant Sites Affected* for the proposed undertaking as surveyed, mapped, and documented herein.

A copy of Metcalf report is presented as Tab 4 Attachment A.

B.5. THE CRITERIA TO BE EVALUATED SHALL INCLUDE AT A MINIMUM ALL OF THE FOLLOWING, WHICH ARE WITHIN THE DESIGNATED CORRIDOR:

- Exclusion Areas;
- Avoidance Areas;
- Selection criteria;
- Policy criteria;
- Design and construction limitations; and
- Economic considerations

Complete descriptions, potential impacts, and mitigation measures relevant to the six criteria cited above are provided in section B.4 in conjunction with the descriptions of potential impacts. Below is a discussion of additional measures Bridger will employ.

B.6. MITIGATION MEASURES

B.6.a Measures to Preserve the Human Environment

Bridger will require its construction contractor to clean up on a daily basis personal litter, bottles and paper deposited by ROW preparation and construction crews. Waste and scrap that is the product of pipeline construction will be removed and properly disposed of in accordance with applicable regulations before construction is completed.

To the maximum extent practicable, Bridger will minimize noise and dust resulting from construction near residential areas.

Bridger will obtain applicable permits prior to conducting road crossings from the county where applicable. Permission will also be obtained from all owners of private roads. Temporary signs will be posted at each crossing as appropriate to alert motorists of construction activity. Paved roads will be bored which will minimize interference with traffic flow caused by construction activities, and as required by state and county regulations.

B.6.b Measures to Protect Terrain and Geological Resources

Bridger will, to the maximum extent practicable, restore the area affected by pipeline construction to the natural conditions that existed immediately before construction of the pipeline. Restoration will be compatible with the safe operation, maintenance, and inspection of the pipeline.

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

Fuel and all other hazardous materials will be stored in accordance with the requirements Contractor's oil SPCC Plan, if applicable. A SPCC Plan describes 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.

B.6.c Measures to Protect Soils

Bridger will implement temporary and permanent erosion control measures as specified in the EMP (Tab 5 and Tab 6). The EMP will be included in contract documents and enforced as such throughout the Project.

Temporary erosion and sedimentation control measures may include installation of silt fence, straw bales, slope breakers, trench breakers, erosion control fabric and mulch.

To minimize potential impacts on soil productivity, topsoil will be segregated during trench excavation in agricultural land, unsaturated wetlands, and if applicable, other areas where soil productivity is an important consideration. Unless otherwise requested by the landowner, topsoil in cropland will be removed to a maximum depth of 12 inches from the trench and spoil storage area and stored separately from the trench spoil. After the trench is backfilled, topsoil will be returned to its approximate original location. Compaction of agricultural soils will be minimized by restricting construction activities during periods of prolonged rainfall. Where unacceptable levels of compaction occur in agricultural lands, deep tillage, a chisel plow or other deep tillage equipment will be utilized to loosen the soil to the reasonable satisfaction of the landowner.

Bridger will retain environmental inspectors to monitor the contractor's compliance with applicable requirements to protect soil resources during construction of the Project.

B.6.d Measures to Protect Vegetation and Wildlife

Bridger will clear the ROW to the extent necessary to assure suitable access for construction, safe operation, and maintenance of the pipeline.

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 pipeline construction to lessen the potential for this activity to disperse propagules along the freshly disturbed route. Monitoring and treatment should then be conducted on an annual basis to ensure a high degree of control and maximize treatment effectiveness.

In areas that require permanent revegetation, Bridger will specify appropriate seed mixes, application rates, and seeding dates, taking into account recommendations of appropriate state and federal agencies and landowner requests. In non-agricultural

areas, vegetation cleared from extra workspace will be allowed to revegetate after construction depending on arrangements with the landowner. Consequently, significant changes in cover types are not anticipated.

After completion of waterbody crossings, Bridger will revegetate disturbed stream banks in accordance with the EMP and requirements of applicable state or federal permits. During construction in unsaturated wetlands, topsoil will be segregated from the trench line to preserve natural sources of seed and rootstock. After the trench is backfilled, the topsoil will be replaced to facilitate the natural re-vegetation process.

Bridger will take appropriate precautions to protect livestock and crops affected by construction. 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 and restored by Bridger to the extent practicable in a manner compatible with the safe operation, maintenance, and inspection of the pipeline.

B.6.e Measures to Protect Land Use Permits

Bridger will obtain and comply with applicable county permits regulating zoning and land use. These permits are limited road and utility permits. Bridger will retain one or more environmental inspectors to monitor compliance with environmental conditions of county permits.

Bridger will repair surface drains disturbed during ROW preparation, construction and maintenance activities. Bridger will repair private roads and farm lanes damaged when moving equipment or when obtaining access to the ROW. Bridger will repair or replace fences and gates removed or damaged as a result of ROW preparation, construction or maintenance activities.

The Project will be installed at a minimum depth of 36 inches from the surface contour to minimize the potential for environmental damage resulting from deep tillage activities unless modified to accommodate special construction issues at the site.

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.

B.6.f Measures to Protect Water Resources

Bridger will obtain applicable permits for crossing wetlands and waterbodies and for water appropriations related to hydrostatic testing and trench dewatering. Environmental inspectors will monitor compliance with applicable waterbody and wetland protection requirements during construction of the facilities.

Measures to protect water resources have been discussed to some extent in section B.4.k and in previous mitigation sections on soils (see section B.6.c) and vegetation and wildlife (see section B.6.d). Bridger's EMP describes these measures in detail, and contains illustrations of how sediment control devices are typically installed at waterbody crossings. Additionally, Bridger will maintain a 10-foot-wide vegetative buffer until the actual crossing of the waterbody takes place. Temporary sediment control measures

such as silt fence installed at each crossing will minimize the introduction of sediment into waterbodies during construction and minimize the movement of spoil and sediment from surface runoff during and after construction. Permanent erosion control measures, such as vegetation and installation of slope breakers, will effectively stabilize riparian zones. Bridger will stabilize stream banks disturbed during construction using methods as directed by applicable state and/or federal permits.

For open-cut crossings, “hard plugs” of soil prevent the flow of water from the waterbody into the adjacent trench and the migration of sediment from the adjacent trench into the waterbody. After the pipe is installed, the trench will be backfilled in such a manner to restore the natural contours of the waterbody to the extent practicable. Directional drilling of the rivers and creeks will minimize construction-related disturbance of this river because in-stream trenching and backfilling will not be necessary.

Wetland crossings will be conducted in accordance with applicable regulatory requirements. If construction mats or timbers are placed in wetlands to support equipment, they will be removed after construction is completed. In order to maintain surface water hydrology within wetlands, preconstruction contours will be restored and no crown will be left over the trench. If there is a potential for a wetland to be drained by trenching, trench plugs will be installed as needed at the edge of a wetland. In unsaturated wetlands, topsoil will be replaced to facilitate the natural revegetation process.

Bridger’s Environmental Mitigation Plan (EMP) specify several measures to protect wetlands and waterbodies from pollution during construction by fuels or other hazardous materials. The EMP also specifies that equipment must be refueled at least 100 feet from waterbodies. If due to site-specific conditions there is no practical alternative, the contractor must implement site-specific protective measures and containment procedures described in the contractor’s SPCC Plan. Contractors will be required to provide trained personnel, appropriate equipment and materials to contain and clean up spills of fuel, lubricating oil or hydraulic fluid that result from equipment failure when working in or near wetlands or surface water bodies.

Water appropriations for hydrostatic testing will be conducted in accordance with applicable permits. Bridger will conduct trench dewatering and hydrostatic test discharges in a manner consistent with the NDPDES General Permit. Bridger’s EMP describes best management practices that will be implemented to minimize off-site erosion from surface water runoff, and protect water and soil resources within the Project area.

Much of the concerns associated with the quality of the water being discharged are addressed by the fact that no additives to the water are permitted unless written approval is received from Bridger and applicable permits authorize such additives.

Environmental Inspectors will monitor compliance with permits. Where appropriate, water will be discharged into an energy dissipation and/or filtering device to remove sediment and to reduce the erosive energy of the discharge.

B.6.g Measures to Protect Cultural Resources

Provided that the scope of the project does not change, Metcalf recommends a finding of *No Significant Sites Affected* for the proposed undertaking as surveyed, mapped, and documented herein. Metcalf recommends that the project proceed as planned if the above conditions are met. If there are any changes to the area of potential effect, additional cultural resource investigations may be necessary prior to construction. If landowner permission is granted for survey in the areas that currently lack permissions, these areas will also need cultural resource investigations prior to construction. If any cultural materials are encountered during construction, work should be halted and a qualified archaeologist and interested tribes contacted to evaluate the find.

A copy of Metcalf Archaeological Consultants, Inc. report is presented as Tab 4 Attachment A.

An "Unanticipated Discovery Plan" has been developed should unexpected artifacts be uncovered during Project construction. The plan has been approved by the SHPO.

Unanticipated Discovery Plan

In order to minimize the potential for the accidental discovery of cultural resources, Bridger conducted intensive pedestrian inventories along the entire proposed Project route. To ensure that Bridger maintains full and complete compliance with all Federal and State regulations concerning the protection of cultural resources, an Unanticipated Discovery Plan has been prepared for the Project. Construction may result in the discovery of unanticipated cultural resources, or of cultural resources in areas where they were not expected to occur.

All inspectors have the responsibility to monitor the construction of sites for potential archaeological remains throughout construction. If, during the course of construction, sites for potential cultural resources are identified, the inspector will immediately stop tasks in the vicinity of the potential find and make work stoppage recommendations to the Construction inspector. Should a work stoppage authority be deemed necessary, Bridger will notify the SHPO and will inform the archaeological consultant who will survey the site and provide an immediate verbal report to Bridger and the SHPO. Bridger will continue to consult with the SHPO as per the requirements of Section 106 of the National Historic Preservation Act (NHPA). The contact is:

Paul R Picha, Chief Archeologist
North Dakota State Historic Preservation Office
State Historical Society of North Dakota
612 East Boulevard Avenue
Bismarck, North Dakota 58505-0830
(701) 328-3574

If the unanticipated discovery is determined to be not eligible for inclusion on the NRHP, Bridger will proceed with the Project following written concurrence from the SHPO. If the site is determined to be potentially eligible for inclusion on the NRHP, additional work such as a Determination of Eligibility of Data Recovery will be performed as

required/approved by the SHPO. Further work at the site will be suspended until all criteria of Section 106 of the NHPA and other Federal and State regulations have been successfully completed.

If human remains and/or a burial are encountered, these remains, features and any associated artifacts shall be left undisturbed, work at the site of discovery shall cease immediately, and the site shall be secured from further trespass. Bridger shall immediately contact the SHPO and local law enforcement and shall not resume work at the site until further notice from the SHPO per North Dakota Century Code, Section 23-06-27 – Protection of human burial sites, human remains and burial goods, and North Dakota Administrative Code, Chapter 40-02-03 – Protection of Prehistoric and Historic Human Burial Sites, Human Remains, and Burial Goods.

Under no circumstances will human remains be removed from the site without completing all coordination processes with the local law enforcement agency, medical examiner, the SHPO and Native American representatives, as appropriate. Further work at the site will be suspended until all criteria of Section 106 of the NHPA and other related state and Federal regulations have been successfully completed.

B.7. QUALIFICATIONS OF PERSONS CONTRIBUTING TO THE STUDY

See Tab 1 section D.6 of the Application for Corridor Certificate.

B.8. MAPS

U.S.G.S. Quad and Aerial Maps of the Project can be found in Appendix B of the route application presented in Tab 4. Maps of the North Dakota Public Service Commission Exclusion and Avoidance Areas with the route of the Project are also attached as Tab 4 Appendix B of the route permit portion of the application.

The GIS software in current use by the North Dakota Public Service Commission staff is ESRI's ArcGIS and companion software packages. A CD-ROM containing electronic copies of ArcGIS shapefiles resulting from the field survey has been included with this application (see Tab 7).

B.9. OTHER MATTERS

The information provided below is in accordance with North Dakota Century Code 49-22-08.1 Sections 1.e, 1.f, and 1.g.

B.9.a Right-of-Way Preparation, Construction and Reclamation Procedures

Critical safety aspects of pipeline installation are governed by US Department of Transportation regulations subject to the jurisdiction of its Pipeline and Hazardous Material Safety Administration (PHMSA) which had tended to standardize installation techniques. The advance of technology has introduced significant improvements in the techniques and equipment available to install underground pipe lines, reducing both the time required and the size or "footprint" of impact.

Construction of the pipeline will follow standard techniques employed by other projects installed in North Dakota. Essentially an outdoor assembly line, the major steps typically include (1) survey and staking of the ROW; (2) clearing; (3) front-end grading; (4) ROW topsoil stripping; (5) pipeline route staking; (6) pipe stringing; (7) pipe bending; (8) pipe alignment and initial weld; (9) fill and cap with final weld; (10) as built footage; (11) x-ray inspection and weld repair; (12) coating field welds and coating inspection; (13) Trenching; (14) lowering pipe into trench; (15) as-built survey; (16) pad, backfill to rough grade; (17) hydrostatic testing and system tie-in; (18) clean-up; (19) restoration and re-vegetation.

B.9.a. (1) Survey and Staking

Before construction, Bridger crews will survey and stake the centerline and exterior boundaries of the construction ROW. The exterior boundary stakes will mark the limit of approved disturbance areas, which will be maintained throughout the construction period. The North Dakota One Call system will be contacted to identify and mark the locations of underground utilities in the construction corridor. During this period, equipment involved in pipeline construction will be moved onto the ROW using existing roads for access wherever practicable.

B.9.a. (2) Clearing

Bridger will clear the 75-foot-wide construction ROW and additional temporary extra workspaces of shrubs and trees. The clearing crew will typically mow, chip, mulch and/or haul off all non-merchantable timber. Burning of non-merchantable wood may be allowed when the contractor has obtained the necessary permits and approvals. All merchantable timber will be property of Bridger unless other arrangements are made with the landowner.

B.9.a. (3) Grading

Following clearing, grading of the ground surface may be done to provide a relatively smooth working surface and a safe working area. Typically, a 10-footwide buffer will be left relatively undisturbed, except where grading is needed for bridge installation, at waterbody crossings until immediately before the pipelines are installed across the waterbody. Where necessary, grading of the adjacent 50 foot of ROW to accommodate staging equipment and materials will also occur.

Temporary bridges will be installed at waterbodies, except for drainage ditches, intermittent waterbodies, and other non-fisheries water, along the pipeline route to provide temporary access for equipment traveling along the construction ROW. In addition, temporary erosion control measures will be installed in accordance with Bridger's Environmental Mitigation Plan (EMP). See Tab 5 and the drawings presenting in Tab 6 for additional details.

B.9.a. (4) Topsoil Stripping

Topsoil will be stripped and segregated in agricultural areas, cropland, hayfields, pasture, residential areas, and other areas as requested by the landowner along the pipeline route in accordance with Bridger's EMP. In unsaturated wetlands, a maximum of 12 inches of surficial soils will also be stripped from the trench areas. Topsoil will be stripped to a maximum depth of 12 inches in cultivated lands.

B.9.a. (5) Pipeline Route Staking

Once the topsoil has been stripped and stockpiled, the route will be resurveyed and the pipeline route staked.

B.9.a. (6) Pipe Stringing

Before excavating pipeline trenches, individual joints of pipe will be strung along the construction ROW and arranged to be accessible to construction personnel. This operation typically involves specially designed stringing trucks to deliver pipe from pipe yards to the ROW. Small portable cranes and/or side-boom tractors are used to unload the stringing trucks and place pipe along the ROW.

B.9.a. (7) Pipe Bending.

A mechanical pipe bending machine will bend individual joints of pipe to the desired angle to accommodate natural ground contours or pipeline alignment. In certain areas, prefabricated fittings will be used where field bending is not practicable.

B.9.a. (8) Pipe Alignment and Initial Weld

After stringing and bending are complete, pipe sections will be aligned and placed on temporary supports located adjacent to the proposed trench locations. Pipe ends will be attached to each other using short welds.

B.9.a. (9) Fill and Cap Segment Welds

Final welds will be completed around the entire circumference of the pipe joints in compliance with applicable industry standards and PHMSA requirements.

B.9.a. (10) As-built Footage

Once welding is complete, Bridger will compare the as-built condition and length of the pipe with construction drawings. Documents will be edited to reflect impacts of field decisions as well as final locations of lateral tie-in points, other pipeline apertures and cathodic protection connections.

B.9.a. (11) X-Ray Inspection and Weld Repair

A third-party inspection service provider meeting US DOT certification requirements will be engaged to inspect all field-welds, both visually and radiographically. When welds are deemed inadequate, appropriate repairs will be made consistent with US DOT PHMSA regulations trenches in accordance with PHMSA regulations and re-inspected. Inspection records will be cross referenced against the final "as-built" footage of the pipeline.

B.9.a. (12) Coating and Coating Inspection of Field Welds

The pipe is typically delivered with a factory coating of fusion-bonded epoxy or similar material to prevent corrosion. Bridger will apply coating at welded joints and will electronically inspect the pipeline coating before the pipe is lowered into the trench.

B.9.a. (13) Trenching

Backhoes and/or ditching machines will be used to excavate trenches in accordance with PHMSA regulations, which require a minimum thirty inches of cover for normal excavations and 18 to 30 inches of cover in rocky areas. The trench walls will generally be kept vertical to the extent practicable and the trenches will typically be 4 to 8 feet wide, but may be wider in less stable or saturated soils.

Where trench dewatering is needed, water will be discharged directly to the ground if there is adequate vegetation along the ROW to filter the water effectively. Where vegetation is sparse or absent, or in environmentally sensitive areas (e.g., adjacent to waterbodies or wetlands), straw bale dewatering structures or suitable filtering alternatives will be used to minimize siltation in adjacent waterbodies.

B.9.a. (14) Lowering Pipe Into Trench.

After welding and coating are completed and the trench is excavated, the pipe will be lowered into the trench by side-boom tractors.

B.9.a. (15) As-built Survey

A survey of the final location of the pipeline will be made.

B.9.a. (16) Pad and Backfill to Grade.

Bladed equipment or a specially designed backfilling machine will be used to backfill the trench to the approximate ground surface elevation. This generally consists of replacing the material excavated from the trench. In areas where topsoil has been segregated, subsoil will be replaced first, and topsoil will be spread uniformly on top. Directly above the pipeline, an excess of soil or "crown" will be placed to allow for future settling, excluding wetlands.

Construction debris, including wooden supports, welding rods, containers, brush, trees, or refuse of any kind, will not be permitted in the backfill. If an excessive amount of rocks are present in the backfill, the pipeline will be protected with rock shield or similar protective coating and/or backfilled with clean padding prior to backfilling with the rocky material.

B.9.a. (17) Hydrostatic Testing.

After backfilling, Bridger will hydrostatically test the pipelines in accordance with the PHMSA regulations to ensure that the system is capable of operating at the design pressure. The testing process will involve filling a segment of the pipeline with water and maintaining a prescribed pressure for a specified amount of time.

The length of individual test segments will be determined by topography and water availability. Water withdrawals used to fill and test the pipelines will be consistent with state regulations and Bridger's EMP. Bridger will obtain hydrostatic test water from major waterbodies crossed by the pipeline and/or municipal sources along the pipeline route. Adequate flow will be maintained to protect aquatic life and allow for downstream uses. The test water will be discharged through energy dissipation devices to the ground surface or to a nearby waterbody. These discharges will be done in accordance with Bridger's EMP and permits issued by the state agencies.

B.9.a. (18) Cleanup.

After the backfilling is completed, Bridger will re-grade and restore work areas as nearly as practicable to the original contour of the land. Fences that are removed to install the pipelines will be reconstructed across the ROW.

B.9.a. (19) Restoration and Revegetation.

Following installation and final cleanup of the pipeline construction area, original grade and contours will be restored to the extent practicable and temporary and permanent erosion controls will be installed. Disturbed areas will be revegetated in accordance to permit requirements, and site-specific landowner requests.

B.9.b Landowner Issues

B.9.b. (1) Procedures for Landowner Relations.

Landowners have already been contacted in person, by telephone and/or by mail to secure permission for the new pipeline ROW adjacent to Bridger's current pipeline ROW. They have been advised to expect pipeline construction to begin in 2014 and that survey crews will be working along the pipeline route.

All necessary permits have been acquired. Bridger is committed to giving landowners complete information about the Project and keeping them informed throughout

construction. Bridger has already contacted landowners to discuss methods of damage settlements, tenant's rights, and to address any unique property concerns.

B.9.b. (2) List of Landowners.

By use of county records, a current list of landowners was generated and used to contact residents and will also be used for future personal contacts. In addition to landowners, all known tenant farmers in the construction area have been notified of the Project. A list of landowners and tenants is attached as Tab 4 Appendix 4.C.

B.9.c Operations and Safety

B.9.c. (1) Pipeline Operation and Control.

The Bridger pipeline system is controlled via the Casper Control Center located in Casper, Wyoming.

The Control Center is manned by pipeline operators 24 hours a day. The Control Center also serves as an emergency center to receive calls from employees, the public or public officials reporting unusual conditions or pipeline failures.

A telemetry (SCADA) system provides 24-hour monitoring of the pipeline and pump operations, including pressures, temperatures and flow rates. This telemetry system enhances immediate response capability to any potential problems. The pipeline is also designed to accommodate an instrumented internal inspection device to detect and record the type and location of corrosion or other defects for long-term monitoring of the pipeline integrity.

B.9.c. (2) Communications Capabilities.

Land-lines and satellite communications are used to exchange the necessary computerized data for pipeline monitoring and control. Bridger uses cellular phones as needed, to facilitate personnel communications during operation, maintenance, or emergency activities.

B.9.c. (3) Protection of the Pipe from Damage.

Bridger has an aggressive program in educating excavators and the public about the presence of the pipeline and preventing damage to the pipeline from excavating equipment. Bridger has joined and strongly supports the North Dakota One-Call system and other one-call systems in the states where they exist.

The pipeline is protected from corrosion in a number of ways. Pipelines are covered with a protective coating. In addition, all buried or submerged metallic structures (pipeline systems) are under a cathodic protection system, as required by PHMSA regulations.

B.9.c. (4) Inspections.

Bridger conducts routine inspections of the pipeline and facilities to determine that the system is operating properly, in compliance with PHMSA regulations.

Each calendar year (not to exceed a 15-month interval), the cathodic protection system is monitored by taking pipe/structure-to-soil and line current (where possible) readings. Additionally, each rectifier and anode ground bed used to impose cathodic protection on the pipeline is inspected to ensure proper operation. Repairs and adjustments to the cathodic protection system are either made during the annual survey or during later maintenance activities. At least six times per year, each rectifier and critical cathodic protection interference bond to foreign structures is inspected and corrective measures taken, if needed.

Bridger also periodically evaluates the effectiveness of its cathodic protection system by conducting supplemental close interval surveys (e.g., close interval pipe to soil, etc.) of the system.

The pipeline route is patrolled by air at least 26 times per year to inspect the surface conditions of land on or adjacent to the pipeline ROW. Line walking inspection of the ROW is sometimes used to supplement aerial inspections in congested areas. This inspection also assists in identifying unknown construction or other unsafe activity on the pipeline ROW.

Isolating valves are checked at least twice per year to ensure proper operation. In the event of a leak, it is important for valves to close properly to isolate the section of pipeline and minimize the amount of petroleum that may escape. Other components of the pipeline, such as tanks and pump stations are also routinely inspected.

Bridger began a program in the 1980s of periodically inspecting the pipeline internally with an electronic inspection tool – called “instrument pigs.” These devices travel through the inside of the pipeline and either mechanically, ultrasonically, or magnetically examine the condition (dents, gouges, corrosion, or cracks) of the pipe by on-board computers. Results of the inspection are then analyzed, and the pipe inspected to verify preliminary findings and then repaired as required.

All overpressure safety devices capable of limiting, regulating, controlling, and/or relieving operating pressures are inspected and tested to ensure the device is in good mechanical condition and functioning properly.

Periodically, government officials inspect Bridger’s compliance with applicable government regulations. Inspections of Bridger’s written procedures, records, and facilities are routinely conducted by the PHMSA.

B.9.c. (5) Maintenance.

Many other maintenance activities are performed on the pipeline and related facilities. Bridger has a comprehensive preventative maintenance program that meets and, in many cases exceeds, minimum federal safety standards set forth PHMSA regulations,

including 49 CFR Part 195. When facilities are added or replaced, there are comprehensive standards for their design and installation in both Bridger procedure manuals and contract specifications. Repair pipe is pre-tested and other components used to repair the pipeline meet national standards and regulatory requirements. Other procedures, such as welding procedures, movement of the pipe, coating repair, corrosion control, and tank maintenance are all guided by written procedures which have been reviewed by the PHMSA inspectors.

B.9.c. (6) Training of Personnel.

Bridger 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 the PHMSA under 49 CFR 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 review of job performance, periodic pipeline control system simulators, emergency exercises, welding certification tests, and other functions required to continue safe pipeline operation and maintenance.

B.9.c. (7) Public Awareness Program.

Bridger conducts a public education program to ensure that the affected public (those who work and live along the pipeline), excavators, local public officials, and emergency units of government are aware of how to recognize and avoid or respond to a pipeline emergency. Bridger has also been active at the local, county, and state level in emergency response planning and joint training/exercises to prepare all potential responders to deal with emergencies.

The pipeline route is marked at all public road and railway crossings (at a minimum) to increase the public's awareness of the underground pipeline. Additional markings are posted at valves, other pipeline facilities, and stations along the pipeline route.

B.9.c. (8) Emergency Preparedness.

Bridger's operating and maintenance practices are aimed at preventing emergencies on the pipeline. However, it is imperative that Bridger be prepared to respond to an emergency should one occur. In addition to preventative activities described above, Bridger's emergency response program includes pre-planning, equipment staging, notifications, and emergency and leak containment procedures and engaging the services of area contract spill responders.