ND PSC Case No. PU-12-190

6-Inch Natural Gas Residue Pipeline
Certificate of Corridor Compatibility Application

January 2013

HILAND

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Prepared by

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INTRODUCTION

Hiland Operating, LLC (Hiland Operating), submits this Certificate of Corridor Compatibility Application to the North Dakota Public Service Commission (Commission) for an approximately 6.5-mile-long, 6-inch natural gas residue pipeline project located in Burke and Divide Counties, North Dakota (the Project). The Project is located approximately 8.5 miles northwest of Powers Lake, North Dakota and transports pipeline quality natural gas from Hiland Operating's Norse natural gas processing plant (Norse Plant) near Powers Lake, North Dakota to a point of interconnection with a Williston Basin Interstate Pipeline Company (WBI) transmission.

In accordance with Chapter 49-22 of the North Dakota Century Code, Section 69-06-08-02 of the North Dakota Administrative Code, and the Commission's Energy Conversion and Transmission Facility Siting Guidelines, Hiland Operating provides the following information to support its request for a Certificate of Corridor Compatibility for the Project.

SECTION A DESCRIPTION OF PROPOSED FACILITY

A.1 DESCRIBE THE TYPE OF TRANSMISSION FACILITY ADDRESSED IN THIS APPLICATION. THE DESCRIPTION SHALL INCLUDE THE PURPOSE OF THE FACILITY AND THE TECHNOLOGY TO BE EMPLOYED

The Project consists of an underground line that transports pipeline quality natural gas. The line utilizes 6-inch steel pipeline. The 6.5-mile-long pipeline originates at the Norse Plant eight miles north and twelve miles west of Powers Lake, North Dakota, and terminates at an interconnect to WBI's transmission pipeline at the Hiland Operating-WBI Tap Site, approximately 8.5 miles northwest of Powers Lake, North Dakota. The Project is located in Burke and Divide Counties, North Dakota. Figure 1.A.1 shows the general location of the Project.

Surface facilities installed as part of the Project are limited to pipeline markers, rectifiers, a "pig" launcher/receiver and block valves. Some small fenced-in enclosures to house associated power and control systems are installed to allow valves to be operated remotely.

The Project enables the transportation of natural gas produced in northwestern North Dakota to local markets via WBI's Transmission System. The Project provides the needed capacity to transport increased production of processed natural gas from the Bakken and Three Forks formations.

The cost of the Project was $1.5 million.

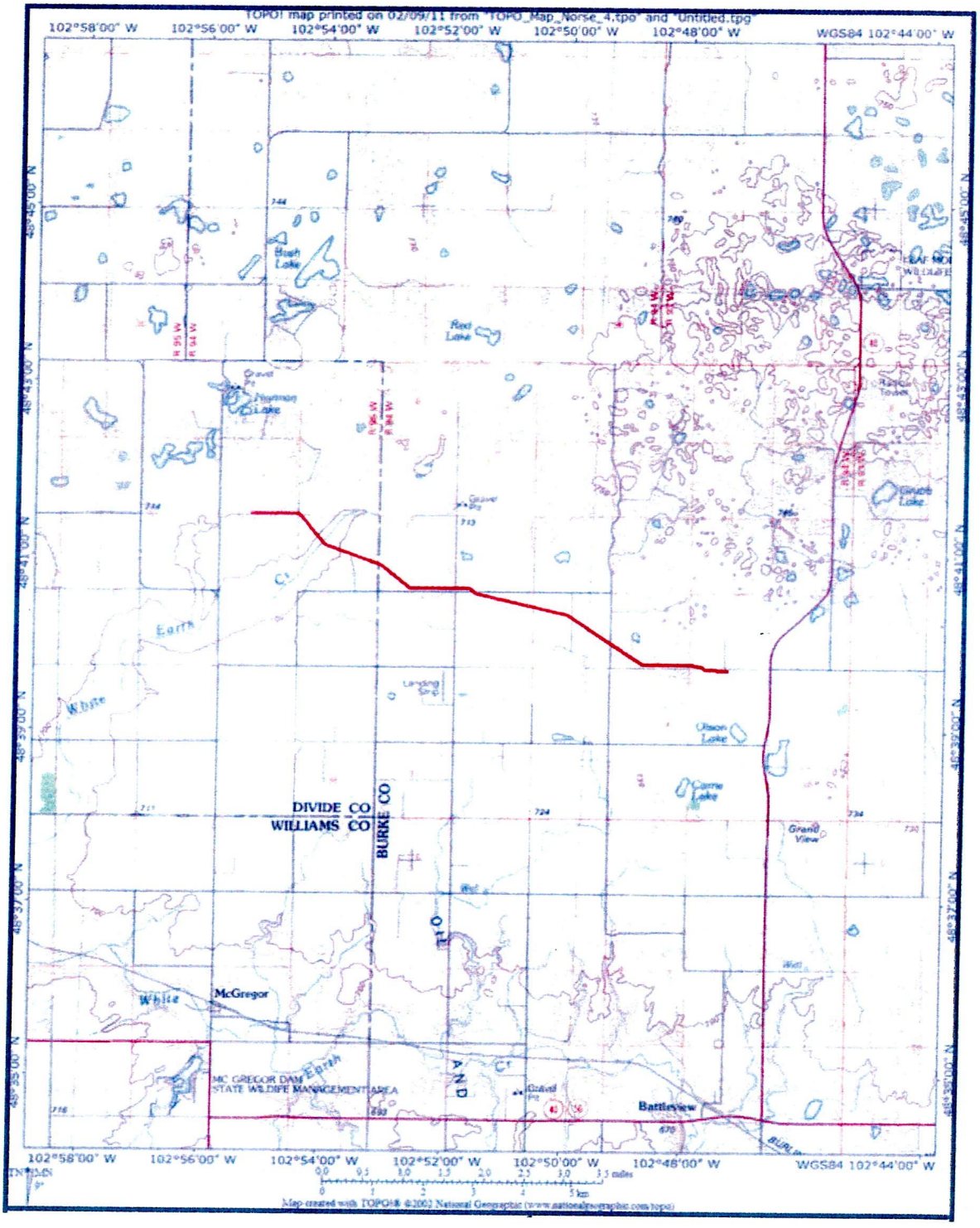

FIGURE 1.A.1 – General Project Location Map

A.2 DESCRIBE THE TYPE, SOURCE AND FINAL DESTINATION OF THE PRODUCT TO BE TRANSMITTED BY THE PROPOSED FACILITY

Hiland Operating's Norse Plant has a 25 million standard cubic feet per day capacity to purify and fractionate raw natural gas produced from oil fields in western North Dakota. The Norse Plant delivers pipeline-quality natural gas that can be used as fuel by residential, commercial and industrial consumers. As noted above, the Project enables transportation of natural gas via pipeline from the Norse Plant to a WBI transmission system sales point where it is delivered for in-state and possibly out-of-state sale.

A.3 PROVIDE A DESCRIPTION OF THE SIZE AND DESIGN OF THE PIPEINE FACILITY

A.3 (a) Width of the Right of Way

The Project right-of-way (ROW) was generally 125 feet wide to allow adequate room for topsoil separation, work equipment and pipe stringing. This ROW consists of both a permanent easement and temporary workspace, which was utilized only during construction and included material staging areas and temporary access roads. The ROW width was required to provide areas for prefabrication of a section of pipeline and storage of topsoil/subsoil material. To support construction activities, Hiland Operating temporarily used property at the Norse Plant as a contractor staging and pipe storage area. Hiland Operating used existing public roads to access the ROW, and did not modify roads or construct new permanent access roads.

Hiland Operating has acquired a 125-foot permanent easement for the Project, as well as for possible future liquid pipeline(s) installation. The permanent easement width was selected 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 additional lines, while minimizing potential damage to the existing line(s), if additional lines are installed in the future.

A.3 (b) Estimated Distances Between Surface Structures

The Project's pipeline is buried underground. Unlike power transmission lines with towers, only a few surface structures are associated with an underground pipeline system. In this case, the gas compressors are located at the natural gas plant, along with an associated pipeline "pig" launcher, block valves and pressure and flow controllers. A "pig" trap and isolation valves are installed at each of the Project's points of interconnection.

With the exception of pipeline markers, main line valve settings, and rectifiers and test stations associated with the cathodic protection systems, no surface structures were installed between the start and the end of the pipeline.

Estimated distances between surface structures along the route is 6.5 miles.

A.3 (c) Pipe Size

The Project involved the installation of 6-inch nominal diameter pipeline with a nominal wall thickness of 0.188 inches denoted as American Petroleum Institute (API) Code 5LX specification X52/X42 pipeline pipe. The maximum allowable operating pressure (MAOP) is

1200 pounds of pressure per square inch gauge (psig). The maximum temperature of the gas is 120°F which is within design parameters. However, the Project will typically operate between 60°F to 120°F.

The valves are 6-inch ANSI 300, flange end by flange end, full port, rising stem gate valves. These valves were manufactured in accordance with American Petroleum Institute (API) Standard 6D "API Specification for Steel, Gate, Plug, Ball and Check Valves for Pipeline Service." The MAOP of the valves is 1440 psig.

The steel pipeline utilized for the Project meets United States Department of Transportation (US DOT) regulations, specifically the design criteria outlined in 49 CFR Subpart 195.(C). The Project was constructed per 49 CFR Subpart 195(D), and will be operated and maintained per 49 CFR Subpart 195(F).

A.3 (d) Approximate Length of Facility

The Project required the installation of approximately 6.5 miles of pipe.

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

The Maximum Allowable Operating Pressure (MAOP) of the pipe is 1200 psig. The maximum temperature of the gas is 120°F which is within design parameters. However, the Project will typically operate at 1000 psig and between 60°F to 120°F.

A.3 (f) Maximum Design Flow Rate

The pipeline has a maximum capacity of 20 million standard cubic feet per stream day with a typical operating flow of volume of 10 to 20 million standard cubic feet per day.

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

The only compressor units associated with the Project are installed at the Norse Plant, located on the west end of the Project.

A.4 TIME SCHEDULE

Hiland Operating 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 2013 as part of this consolidated Certificate of Corridor Compatibility and Route Permit Application.

A.4 (b) Route Application

The Route Permit Application is being submitted in January 2013 as part of this consolidated Certificate of Corridor Compatibility and Route Permit Application.

A.4 (c) ROW Acquisition Date

ROW acquisition was completed in November 2008.

A.4 (d) Issuance of Certificate of Corridor Compatibility and Route Permit

A Certificate of Corridor Compatibility and a Route Permit for the Project are expected to be issued on or before January 31, 2013.

A.4 (e) Construction Start Date

Project construction began in November 2008.

A.4 (f) Construction Complete

Project construction was completed in March 2009.

A.4 (g) Test Operations

Test operations were performed in March 2009.

A.4 (h) In-Service Date

The in-service date for the Project was March 2009.

SECTION B STUDIES

Section 69-06-04-02(1)(b) of the North Dakota Administrative Code requires that a corridor's width be at least ten percent of the length of the proposed Project (i.e., 0.66 miles), but not less than one mile or greater than six miles wide unless approved by the Commission. A mile wide field corridor was studied.

Studies were undertaken to evaluate the Project's potential impacts to recreational, environmental and cultural resources. Specific study findings for the proposed corridor are discussed in detail in the Route Application (see Tab 3) and associated exhibits (see Tab 4). Significant features are depicted in Tab 4 on Figures 4.A.1a to 4.A.5a which are overlaid on an aerial photograph taken in 2010. The route is also presented superimposed on a USGS Topographic map as Figures 4.A.1b to Figure 4.A.5b in Tab 4. This information is also presented as shapefiles on the enclosed CD-ROM disk in Tab 7 suitable for viewing with ESRI's ArcGIS mapping software.

Hiland Operating engaged Keitu Engineers & Consultants, Inc. and Beaver Creek Archaeology, Inc. to perform the cultural resource siting studies for the Project.

Beaver Creek Archaeology, Inc. performed an archeological file search in June 2011 using a 2-survey, twice the construction ROW width, was performed in June 2011 on the entire 6.5 miles of the pipeline route.

Keitu Engineers & Consultants, Inc. conducted a database search using a 1-mile wide study corridor for all remaining items outlined as either exclusion or avoidance areas in the North Dakota Administrative Code along the pipeline route. Items reviewed included federal and state parks, protected and sensitive plant and animals as well as civil and social structures such as recreational areas and rural homes and farmsteads. In May 2011 a field study using a 1-mile wide study corridor was performed on the pipeline route.

SECTION C NEED FOR FACILITY

C.1 DESCRIBE THE NEED FOR THE FACILITY BASED ON CURRENT AND PROJECTED DEMAND FOR THE PRODUCT TRANSMITTED BY THE FACILITY, INCLUDING THE MOST RECENT SYSTEM STUDIES SUPPORTING THE ANALYSIS OF THE NEED

C.1 (a) Planned Use and Purpose

Raw natural gas produced at the well sites contains varying levels of sulfur compounds and other contaminates (including water) as well as varying heat content. This raw gas must either be flared or processed to meet standardized specifications prior to sale.

The Norse Plant produces pipeline grade natural gas, liquefied petroleum gas (LPG) (i.e., a propane and butane mixture), and natural gasoline liquid. The pipeline grade natural gas consists of primarily methane with some ethane and trace amounts of heavier petroleum compounds. The Project connects the Norse Plant to sale points via the existing WBI Transmission System.

C.1 (b) Statement Concerning Deviations from Most Recent 10-year Plan

Hiland Operating's Ten-Year Plan for 2012-2022 was filed with the Commission on June 28, 2012. The Project is consistent with that plan.

C.1 (c) Recent System Studies Supporting the Analysis of the Need

A copy of the Executive Summary of "The Williston Basin: Greasing the Gears for Growth in North Dakota" prepared by Bentek Energy, LLC under contract from the ND Pipeline Authority is presented in Tab 2 as Appendix 2.A. The 129-page report released July 25, 2012 predicts natural gas production could quintuple to some 3 billion cubic feet by 2025 in the Williston Basin, which includes the Dakotas and Montana.[1] The ND Industrial Commission requested the $120,000 study in March 2012 to forecast the state's future natural gas production potential.

Three key slides from the September 20, 2012 presentation of North Dakota Pipeline Authority Director Justin Kringstad to the ND Petroleum Council is presented in Tab 2 as Appendix 2.B. The slides outline the key findings from the July 2012 Bentek study. In both 2009 at the start of operation of the Norse Plant and in today's operating environment as depicted in the August 2012 production numbers, a significant gap remains between natural gas production and natural gas process capacity in the state. The 2012 data for open capacity at all the current operating gas plants is also presented. The demand for additional natural gas processing capacity is apparent from the data presented.

The state produced a record 155 billion cubic feet of natural gas in 2011, up from 37.1% from the year before.[2] At the end of August 2012, per the latest North Dakota Industrial Commission statistics, 33.3% of natural gas produced in North Dakota was flared as an unmarketable byproduct of oil production.[2]

[1] Bentek Energy, LLC. "The Williston Basin: Greasing the Gears for Growth in North Dakota;" July 25, 2012, page 4.
[2] NDIC. "North Dakota Monthly Gas Production and Sales."Available at: https://www.dmr.nd.gov/oilgas/stats/Gas1990ToPresent.pdf (accessed October 6, 2012).

C.2 ALTERNATIVES TO THE PROPOSED FACILITY

While it is generally accepted that pipeline transportation is the only practical alternative for transporting natural gas to and from a processing plant, Hiland Operating did consider and dismiss one alternative destination and an alternative pipe design/size. The route used for the pipeline route does represent the most direct route to the nearest transmission pipeline, with minor adjustments to accommodate efficient land use and landowner requests.

C.2 (a) Alternative Destination – Routing to Prairie Rose Pipeline

Pecan Pipeline (North Dakota), Inc., began operation of the Prairie Rose Pipeline in February 2010, which transports under-processed natural gas from its origin in Mountrail County to the Alliance Pipeline near Bantry, North Dakota. Selecting the Prairie Rose Pipeline as an interconnection point was dismissed for two reasons: (1) the full value of the processed natural gas produced at the Hiland Operating Plant would not be monetized by delivery into a "rich gas" system; and (2) the pipeline length would need to be expanded to over 70 miles in length with proportional increases in installation costs.

C.2 (b) Alternative Pipeline Design/Size

Alternatives were examined with respect to the size of the pipeline, but the 6-inch line is best suited to match the capacity of the Hiland Operating Plant and is the most economically suited to meet the shipping requirements of the Northern Border and WBI transmission pipelines.

SECTION D LOCATION

D.1 STUDY AREA

The Project area is located approximately 29 miles northwest of Stanley, 22 miles southeast of Crosby, 32 miles west of Kenmare and 18 miles north of Tioga in unincorporated rural Burke and Divide Counties, North Dakota.

D.2 MAP OF PROPOSED CORRIDOR

Since a consolidated application for a Certificate of Corridor Compatibility and a Route Permit is being submitted, maps (including U.S.G.S. Quad and Aerial Maps) of the proposed corridor and route for the Project can be found in Appendix 4.B of the Route Application (see Tab 4). The location of Exclusion and Avoidance Areas, as defined in Section 69-06-08-02 of the North Dakota Administrative Code, within the corridor are also depicted on the maps provided.

D.3 RELATIVE VALUE OF EACH OF THE CRITERIA

Since this application is part of a consolidated application for a Certificate of Corridor Compatibility and a Route Permit, these matters are discussed in Sections B.4, B.5 and B.6 of the Route Permit portion of the application (see Tab 3).

D.4 CRITERIA TO BE EVALUATED

Since this application is part of a consolidated application for a Certificate of Corridor Compatibility and Route Permit, the relative value of each of the criteria considered is discussed in Sections B.4, B.5 and B.6 of the Route Permit portion of the application (see Tab 3).

D.5 GENERAL MITIGATIVE MEASURES TO BE TAKEN

Since this application is part of a consolidated application for a Certificate of Corridor Compatibility and a Route Permit, the mitigative measures that Hiland Operating proposes to take with respect to the Project are discussed in Sections B.4, B.5 and B.6 of the Route Permit application (see Tab 3).

D.6 QUALIFICATIONS OF PERSONS CONTRIBUTING TO THE STUDY

The qualifications of the personnel who contributed to the corridor location study are:

(1) Kent Christopherson, Vice President/Chief Operations Officer - Hiland Operating, LP

Degrees: B.S. in Mining Engineering & Geology
South Dakota School of Mines and Technology
Masters of Business Administration
Nova Southeastern University

Qualifications: Certified Maintenance & Reliability Professional by the Society of Maintenance & Reliability Professionals

Experience: 33 years in petroleum transportation field

(2) Michael Higgins, Director Project Management – Hiland Operating, LLC

Degree: Bachelor of Business Administration, Kennedy Western University

Experience: 18 years experience in petroleum transportation field

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

Degrees: Bachelor of Science - Chemical Engineering, University of North Dakota
Masters in Management, University of Mary

Experience: 32 years experience in petroleum refining and fuels transportation field as well as regulatory affairs and compliance.

Professional License
Registered Professional Engineer: North Dakota, South Dakota, Montana

D.7 MAPS

D.7 (a) Map of Criteria Within Study Area

Since a consolidated application for a Certificate of Corridor Compatibility and a Route Permit is being submitted, the maps (including U.S.G.S. Quad and Aerial Maps) of the proposed corridor and route of the Project can be found in Appendix B of the Route Permit portion of the application (see Tab 4). The location of Exclusion and Avoidance Areas, as defined in Section 69-06-08-02 of the North Dakota Administrative Code, within the corridor are also depicted on the maps provided.

D.7 (b) Mylar Maps of Study Area

Use of Mylar® maps for recording and transmitting survey information has been replaced by geographic information systems (GIS) data management technology. A waiver request from this requirement is submitted in conjunction with this Consolidated Application.

The GIS software in current use by the Commission staff is ESRI's ArcGIS and companion software packages. A CD-ROM containing electronic copies of ArcGIS shapefiles outlining the proposed corridor has been included with this application in lieu of providing Mylar® map documentation and can be found in Tab 7.

ND PSC Case No. PU-12-190

6-inch Natural Gas Residue Pipeline
Pipeline Route Application

January 2013

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INTRODUCTION

Hiland Operating, LLC (Hiland Operating), submits this Route Permit Application to the North Dakota Public Service Commission (Commission) for an approximately 6.5-mile-long, 6-inch natural gas pipeline project located in Burke and Divide Counties, North Dakota (the Project). The Project is located northwest of Powers Lake, North Dakota and transports pipeline-quality natural gas from Hiland Operating's Norse natural gas processing plant (Norse Plant) near Powers Lake, North Dakota to a point of interconnection with a Williston Basin Interstate Pipeline Company (WBI) transmission pipeline.

In accordance with Chapter 49-22 of the North Dakota Century Code, Section 69-06-08-02 of the North Dakota Administrative Code, and the Commission's Energy Conversion and Transmission Facility Siting Guidelines, Hiland Operating provides the following information to support its request for a Route Permit for the Project.

SECTION A DESCRIPTION OF PROPOSED FACILITY

A.1 TYPE OF FACILITY

The Project consists of an underground pipeline that transports pipeline-quality natural gas. The line utilizes 6-inch steel pipe. The 6.5-mile-long pipeline originates at the Norse Plant eight miles north and twelve miles west of Powers Lake, North Dakota, and terminates at an interconnect to WBI's transmission pipeline at the Hiland Operating-WBI Tap Site, approximately 8.5 miles northwest of Powers Lake, North Dakota. The Project is located in Burke and Divide Counties, North Dakota. Figure 3.A.1 shows the location of the Project area.

Surface facilities installed as part of the Project include pipeline markers, rectifiers, a "pig" launcher/receiver, and block valves. Small, fenced-in enclosures housing associated power and control systems are installed to allow valves to be operated remotely.

The Project enables the transportation of natural gas produced in northwestern North Dakota to local markets via WBI's transmission pipelines. The Project provides needed capacity to transport increased production of processed natural gas from the Bakken and Three Forks formations.

The cost of constructing the Project was approximately $1.5 million.

A.2 PRODUCT

The Project transports pipeline quality natural gas (i.e., primarily methane with some ethane).

A.3 SIZE AND DESIGN

The Project involved the installation of 6-inch nominal diameter pipeline with a nominal wall thickness of 0.188 inches American Petroleum Institute (API) Code 5LX specification X52/X42 pipe. The maximum allowable operating pressure (MAOP) is 1200 pounds of pressure per square inch gauge (psig). The maximum temperature of the gas is 120°F which is within design parameters. The Project will typically operate between 60°F to 120°F.

The valves are 6-inch ANSI 300, flange end by flange end, full port, rising stem gate valves, manufactured in accordance with American Petroleum Institute (API) Standard 6D "API Specification for Steel, Gate, Plug, Ball and Check Valves for Pipeline Service." The MAOP of the valves is 1440 psig.

The steel pipe utilized meets United States Department of Transportation (US DOT) regulations, specifically the design criteria outlined in 49 CFR Subpart 195.(C). The Project was constructed per 49 CFR Subpart 195(D), and will be operated and maintained per 49 CFR Subpart 195(F).

A.4 TIME SCHEDULE

Hiland Operating proposes the following time schedule:

A.4 (a) Certificate of Corridor Compatibility

The Certificate of Corridor Compatibility Application is being submitted in January 2013 as part of this consolidated Certificate of Corridor Compatibility and Route Permit Application.

A.4 (b) Route Application

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A.4 (c) Issuance of Certificate of Corridor Compatibility and Route Permit

A Certificate of Corridor Compatibility and a Route Permit for the Project are expected to be issued on or before January 31, 2013.

A.4 (d) ROW Acquisition Date

ROW acquisition was completed in November 2008.

A.4 (e) Construction Start Date

Project construction began in November 2008.

A.4 (f) Construction Complete

Project construction was completed in March 2009.

A.4 (g) Test Operations

Test operations were performed in March 2009.

A.4 (h) In-Service Date

The in-service date for the Project was March 2011.

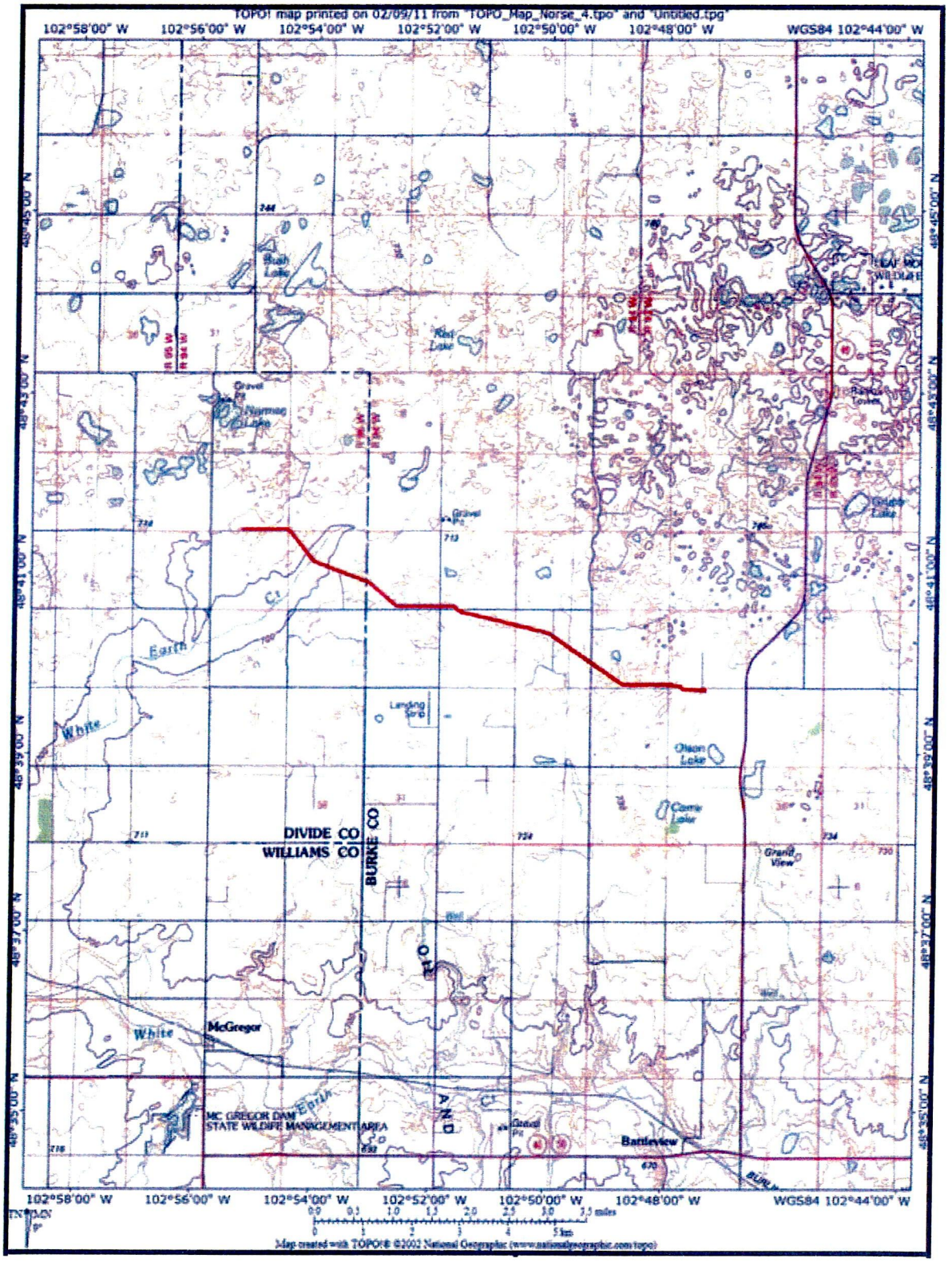


FIGURE 3.A.1 – Project Location Map

SECTION B LOCATION

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

Hiland Operating works to protect the environment, home to its employees and customers. Protection of the environment is an integral element of Hiland Operating's enterprises. Environmental protection efforts spanned every phase of the Project, from planning through construction, restoration, and into full operation.

B.1 (a) Construction

The Project involved laying a 6-inch steel pipeline in a newly acquired right-of-way (ROW) located in Burke and Divide Counties, North Dakota. Construction of the Project resulted in temporary short-term impacts, but is not expected to result in significant long-term change to the environment.

The permanent ROW is 50 feet wide. During construction, an additional 75 feet of temporary workspace was utilized for material staging and temporary access roads. To support construction activities, Hiland Operating also used property at the Norse Plant as a contractor staging and pipe storage area. Hiland Operating used existing public roads to access the construction ROW, and did not modify roads or create new permanent access roads. Hiland Operating acquired 50-foot-wide permanent easements for the Project, as well as potential future pipeline(s).

Planning, design, construction, and restoration incorporated the equipment and measures discussed in Section B.6. Ongoing environmental inspection has been conducted during and following construction. Environmental inspectors monitored for compliance with required environmental protection measures, and specifications, and provided ongoing oversight of day-to-day issues. Environmental inspectors were trained and well-versed in the implementation of environmental best management practices during construction. Contract specifications incorporated environmental protection and mitigation measures which were implemented in the field. Contractor training and project orientation was provided by Hiland Operating.

The Project route is located entirely on private land. Landowner concerns were addressed during all phases of construction, including final restoration. Land agents assigned to the Project worked closely with landowners and were responsive to issues that arose during the course of the Project.

B.1 (b) Ongoing Pipeline Operation

Hiland Operating 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 Project on the environment. Hiland Operating supplements the support of its existing internal environmental staff with engineering and environmental consultants as necessary to ensure compliance with regulations and applicable company policy. Additional information regarding operations and safety is provided in Section B.9 (c).

B.1 (c) Energy Conservation Considerations

Installation of the Project expanded Hiland Operating's service area while improving natural gas delivery destination options for system shippers.

Beyond the direct energy benefit of using an efficient mode of transportation (i.e., a pipeline), energy conservation is a major concern at Hiland Operating. Energy/power costs represent the largest single recurring expense in pipeline operation. Attention is continually being directed toward energy conservation. Hiland Operating'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.

Hiland Operating 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 compressors, thereby minimizing energy consumption. Operators have the capability to start and stop compressors and monitor pipeline operating conditions to assist in achieving an energy efficient operation.

B.2 DISCUSS THE FACTORS LISTED IN SECTION 49-22-09 OF THE NORTH DAKOTA CENTURY CODE TO AID THE COMMISSION IN ITS EVALUATION OF THE PROPOSED PROJECT ROUTE

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 Project on public health and welfare, natural resources, and the environment is included in Section B.4 below.

Record and database research relating to these effects included (1) conducting a Class I Cultural Resource Inventory, (2) reviewing the Water Well Inventory maintained by the North Dakota State Water Commission, (3) reviewing the 1978 Stream Evaluation Map of the State of North Dakota, (4) utilizing the United States Fish and Wildlife Service's (USFWS) Wetlands Mapper, and (5) utilizing the North Dakota Game and Fish Department's (NDGFD) Comprehensive Wildlife Conservation Strategy (CWCS) Database. In addition, site-specific information, such as the presence of occupied buildings, protected species and/or environmentally sensitive areas, was obtained during field studies conducted in May 2011.

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 Project design is consistent with existing pipeline technologies. However, horizontal directional drilling (HDD), widely referred to as directional drilling, was employed during this Project. HDD avoids the need for open cut trenches, thereby minimizing environmental impacts and eliminating ground level surface hazards. Hiland Operating utilized HDD for all hard surface and improved roads crossings.

B.2 (c) The Potential for Beneficial Uses of Waste Energy from a Proposed Energy Conversion Facility

The Project does not involve any new large-scale energy conversion facilities such as a coal-fired power plant or wind turbine(s). Gas Compressor powered pumps provide motive power. No usable waste energy will result from the Project.

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

Unavoidable adverse direct and indirect environmental effects included temporary construction-related effects on vegetation, wildlife, agricultural operations, transportation, and noise levels, as described in Section B.4 below. However, because construction was completed (1) outside of the prime growing season and (2) on an accelerated timeline, impacts to agricultural operations were minimal and impacts to transportation were short-term. Impacts on vegetation and wildlife were also minimal. Vegetation was removed from the ROW prior to construction, and the area was restored and re-seeded following construction. Wildlife may have temporarily avoided the ROW during construction, but no long-term impacts are anticipated. Noise level increases were associated only with construction, and the Project does not generate noise while in operation. In addition, Hiland Operating implemented thorough mitigation measures to minimize construction-related 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 that are Developed During the Hearing Process to Minimize Adverse Effects

The Project corridor and route were selected to avoid or minimize environmental, cultural resource, and socioeconomic impacts. In addition, the Project route was selected based on voluntary landowner participation and landowner input regarding the specific location of the Project. The route is described in Section B.3 and depicted in diagrams presented in Tab 4.

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

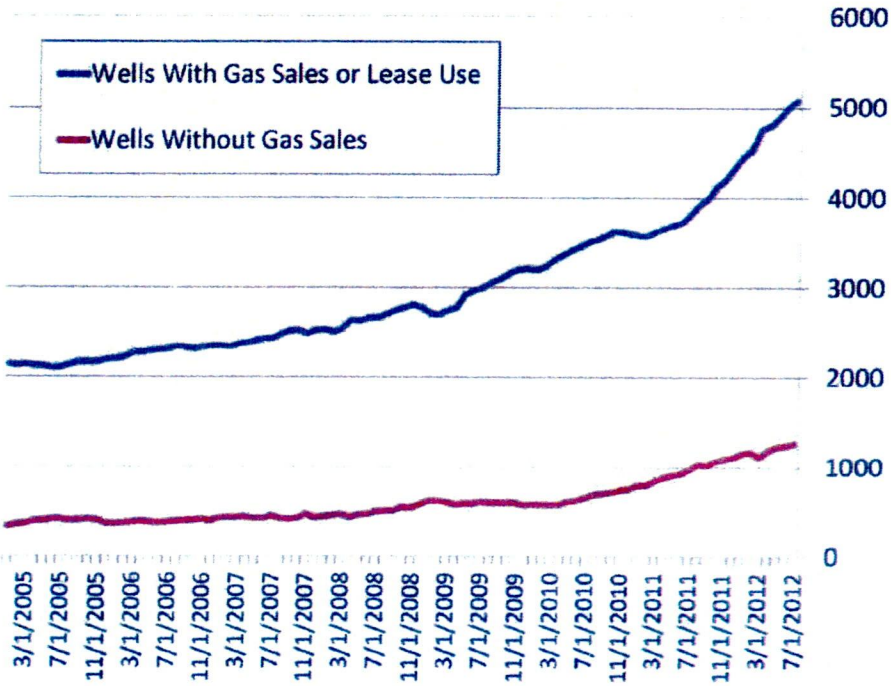
The Project required minimal irreversible or irretrievable commitments of natural resources. Steel was utilized for the pipeline, and petroleum fuel was required for construction equipment. In addition, the Project will also assist in transporting natural gas produced within northwestern North Dakota to consumers; thus, the Project reduces the amount of natural gas flared, and ensures that a natural resource is more efficiently utilized.

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

Application of horizontal drilling technology and steady and relatively historically high crude oil prices have resulted in a resurgence of oil drilling activity in North Dakota. Subsequently, the number of wells producing natural gas has increased, as displayed in Figure 3.B.1.

As of July 2012, natural gas production wells in the state numbered beyond 5000 while wells tied into gathering systems for processing and sale of the gas is less than 1300. And the difference between the two numbers continues to grow. [1]

Figure 3.B.1 ND Natural Gas Total Wells vs. Gathering System Connections[1]



In 2009 before the construction of the Project, the North Dakota Industrial Commission reported that 30% of natural gas produced in North Dakota was flared as an unmarketable byproduct of oil production. The most recent data reported for August 2012 shows this number to have climbed higher to 33%.[2]

The Hiland Operating, LLC Norse Plant and associated 6-inch Natural Gas Residue Pipeline provides additional means of processing natural gas produced in northwestern North Dakota. The Project, in turn, connected the Hiland Partners Plant to existing natural gas transmission systems via the WBI transmission pipelines, which transports the natural gas to sale points within and outside of the State of North Dakota. Hiland Operating's Project represented an optimal use of new and existing pipelines. Hiland Operating's shippers supported the Project as an economical response to the need for additional mid-stream pipeline transport capacity.

In addition to increasing the natural gas transmission capacity within North Dakota, the Project also provides other benefits. For example, the Project increased the tax base of Burke and Divide Counties. The Project offered job opportunities during construction of the Project that was filled with local contractors and/or personnel. Wages paid to non-local contractors and/or personnel likely benefited the regional economy through expenditures for supplies, lodging, fuel and other services.

[1] Kringstad, Justin. ND Pipeline Authority Presentation to the ND Petroleum Council, September 20, 2012.
[2] NDIC. "North Dakota Monthly Gas Production and Sales."Available at: https://www.dmr.nd.gov/oilgas/stats/Gas1990ToPresent.pdf (accessed October 6, 2012).

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

Over the past several years, the North Dakota Pipeline Authority has been working with producers and regional pipeline companies to address issues surrounding the safe transportation of crude oil and natural gas produced in the state. "The Williston Basin: Greasing the Gears for Growth in North Dakota" was published in July 2012 by Bentek Energy, LLC under funding from the North Dakota Pipeline Authority, providing an update regarding the State's natural gas current and forecasted production and projected infrastructure needs. The Executive Summary from the 129-page report is presented as Appendix A in Tab 2.

There are currently twenty traditional natural gas plants with comparable lateral transmission lines in operation in the State.

The North Dakota Pipeline Authority's report does not identify any planned natural gas pipelines in the vicinity of the Project's corridor or route. In addition, Hiland Operating is not aware of any existing plans by state, local government, or private entities with respect to natural gas pipeline development or any other planned development in the vicinity of the Project's corridor or route based on a review of publicly available documents, or inquiry of Burke and Divide County officials. However based on recent history, it is likely that expansion of crude oil and natural gas pipeline systems, as well as additional rural residential development, will continue to occur.

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

Beaver Creek Archaeology of Mandan, North Dakota was engaged to review existing site file data maintained by the State Historical Society of North Dakota State Historic Preservation Office (SHPO) to determine if any portion of the Project route was surveyed previously for cultural resources. The file search was performed in June 2011 using a 2-mile wide study corridor for the entire route.

A Class III cultural resource pedestrian inventory was conducted on 100% of the pipeline route in June 2011 and a report was issued in June 2011. The study involved a field survey of an area 250 feet wide for a total Area of Potential Effect (APE) of 203 acres.

The file search revealed two sites (32DV27 & 32BK44) and 32 site leads within the study corridor. The sites are well outside of the APE and were not affected by the project. Eight site leads are located within the APE. However the exact locations cannot be determined as no detailed maps of the site leads exist. These site leads are all unevaluated CM Scatter and were not located during the Class III survey. No cultural resources were identified within the APE.

Based on the results of the Class I and III cultural resource inventories, a finding of "No Historic Properties Affected" has been issued by Beaver Creek Archaeology. The findings of all inventory studies have been consolidated and summarized in Figure 3.B.2, and presented in more detail on the route maps found in Tab 4, Figure 4.B.1a through Figure 4.B.3a.

The Class III Cultural Resources Inventory report prepared by Beaver Creek Archaeology is included in this application under Tab 4, Appendix I.

No scenic areas, historic sites and structures, or paleontological or archeological sites, other than those identified here in Section B.2 (i), have been identified by Hiland Operating or its consultants.

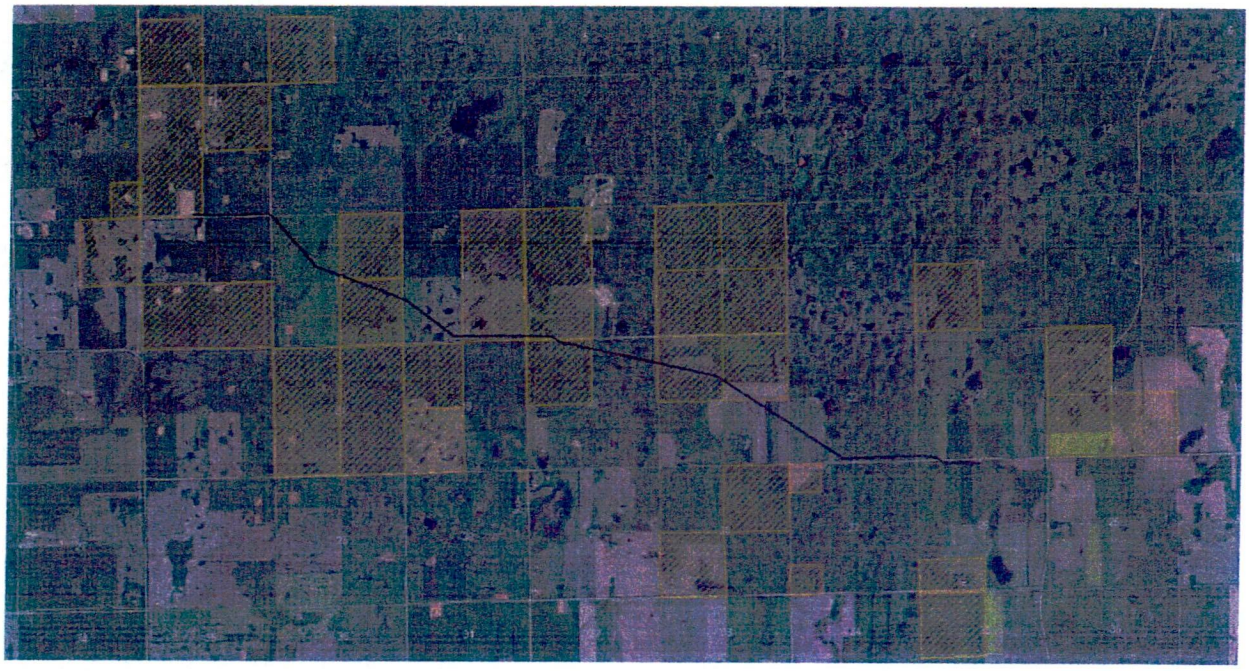


FIGURE 3.B.2 Project Class I Cultural Inventory Sites

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

The NDGFD, the USFWS, Lostwood Wetland Management District (WMD), and the North Dakota Parks and Recreation Department (NDPRD) were contacted to assist in identifying species and ecologically significant habitats within the Project corridor and along the Project route. Possible areas of concern discussed with these agencies included federally-listed endangered, threatened, candidate, sensitive, or watch species, state-listed protected species, and critical habitats.

The NDGFD does not believe the Project will have any significant adverse effects on wildlife or wildlife habitat provided any wetland areas impacted by construction activities are mitigated and disturbed areas are reclaimed to pre-project conditions.

The USFWS was provided with a map of the route, which it is currently reviewing.

The Lostwood WMD has no comments.

The North Dakota Natural Heritage Inventory System maintained by the NDPRD was reviewed for Species of Concern in the state that have been identified by prior field studies within the Project's corridor. A map was provided to the NDPRD for the analysis of each location of concern. This information was incorporated into the field training and reference information used during the biological field survey conducted in the study corridor in May of 2011. 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.

The only state-listed protected, candidate, or watch plant species identified during the biological field survey conducted in the study corridor in May 2011 was White Locoweed (*Oxytropis sericea*). No populations were identified within the construction corridor. 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.

The following state-listed protected, candidate, or watch wildlife species were identified during the biological field survey conducted in the study corridor in May 2011: Wilson's Phalarope (*Phalaropus tricolor*), Sharp-Tailed Grouse (*Tympanuchus phasianellus*), Northern Pintail (*Anas acuta*), Canvasback (*Aythya valisineria*), Horned Grebe (*Podiceps auritus*), Bobolink (*Dolichonyx oryzivorus*), Marbled Godwit (*Limosa fedoa*), and Northern Harrier (*Circus cyaneus*). No species were identified within the construction corridor. 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.

Because Project construction occurred outside of nesting, breeding, and migratory seasons, and the limited populations of sensitive plant species occurred well outside of the construction corridor, Hiland Operating's environmental consultants have concluded that the Project had no significant effect on unique areas of biological wealth or habitats for rare and endangered species.

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

No problems or concerns have been raised by federal agencies, state agencies, or local entities.

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

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

The Project route has been superimposed on both 2010 aerial photographic maps as well as USGS Quadrangle Topographic Maps that are presented in Tab 4 as Appendix 4.B, as well as electronically presented as ESRI ArcGIS software compatible data files in Tab 7.

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

In accordance with Section 69-06-08-02 of the North Dakota Administrative Code, the Project route was developed after consideration of its impact on humans and the environment. Alternative routes or options, which are discussed in Section C.2 of the Application for Certificate of Corridor Compatibility, are not preferable and will typically result in more significant impacts.

Underground pipeline installation minimizes potential impacts on human and animal welfare and aesthetics. Construction of the Project resulted in 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 Project route and the impacts or potential impacts of ROW preparation, construction practices, and operation and maintenance procedures.

B.4 (a) Exclusion and Avoidance Areas (North Dakota Administrative Code, Sections 69-06-08-02(1) and 69-06-08-02(2))

The Commission has identified certain sensitive or otherwise important environmental features that must be considered during the selection of a corridor and a route for transmission facilities. These features have been classified as either "Exclusion Areas" or "Avoidance Areas." As set forth in Section 69-06-08-02(1) of the North Dakota Administrative Code, Exclusion Areas are areas that are to be excluded from consideration for transmission facility routes, and may encompass only up to fifty percent of the width of transmission facility corridors unless there is no reasonable alternative. As set forth in Section 69-06-08-02(2) of the North Dakota Administrative Code, Avoidance Areas are areas that are not to be considered in the routing of a transmission facility unless it is shown that, under the circumstances, there are no reasonable alternatives, and may encompass only up to fifty percent of the width of transmission facility corridors unless there is no reasonable alternative.

Appendix 4.B (see Tab 4) contains maps depicting Exclusion and Avoidance Areas within the one-mile study corridor centered on the Project route. The Project route has been superimposed on both 2010 aerial photographic maps as well as USGS Quadrangle Topographic Maps.

B.4 (a)(1) Exclusion Areas

One type of Exclusion Area is located within the proposed corridor (*see* Table 3.B.1 below); however, no Exclusion Areas are crossed by the route, nor do any Exclusion Areas constitute more than 50% of the corridor width.

TABLE 3.B.1 – Exclusion Areas

Exclusion Area	Within Corridor	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	Yes	None	As noted in Section B.2.j, protected animal and plant species were identified within the study corridor, but no populations were identified within the construction zone.

B.4 (a)(2) Avoidance Areas

Two types of Avoidance Areas were identified within the Project corridor (*see* Table 3.B.2 below); however, the Avoidance Areas were not crossed by the Project route.

Two significant archeological sites are within the study corridor and are summarized in Section B.2 (j) and discussed in detail in the report in Tab 4 Appendix 4.A. The sites are in the corridor, but well outside of the construction ROW.

Six rural residences and/or farmhouses were identified within the Project corridor; however, the residences do not encompass more than fifty percent of the width of the corridor in any location. The closest rural residence to the Project is the Berg residence, which is located approximately 1100 feet away from the Project in Section 17, Township 160N, Range 94W.

TABLE 3.B.2 – Avoidance Areas

Avoidance Area	Within Corridor	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	None	None	
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	Yes	None	As noted in Section B.2.i, two significant archeological sites are within the study corridor, but well outside any area of disturbance by construction activities.
Areas that are geologically unstable	None	None	
Within five hundred feet [152.4 meters] of a residence, school, or place of business	Yes	None	The closest rural residence to the proposed Project route is the Berg residence, which is located approximately 1100 feet northeast of the Project
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 Administrative Code, Section 69-06-08-02(3))

The North Dakota Administrative Code specifies several selection criteria to be considered in designating a transmission corridor or route. Specifically, the Commission considers whether adverse effects from the location, construction, and maintenance of the facility as they relate to

the selection 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 Hiland Operating will implement to minimize these impacts are noted below and discussed in greater detail in Section B.6.

B.4 (b)(1) Agricultural Production.

The Project was installed within a new ROW in Divide and Burke Counties in northwestern North Dakota. The Project route crossed agricultural and pasture lands where crop and livestock production are the primary economic activity. The primary crops cultivated in the area include barley, wheat, and alfalfa.

Project construction did result in temporary effects on agricultural land use. Hiland Operating instituted appropriate management practices to restore all areas to pre-construction conditions, to the extent reasonably practicable.

Hiland Operating implemented mitigation measures to avoid spreading noxious weeds on reclaimed land. Species that are considered noxious weeds under North Dakota state law are list in Table 3.B.3. Noxious and invasive species that were recorded during field study and that are a concern on farm and pasture land are absinth wormwood, hoary cress, common burdock, field bindweed, leafy spurge, Canada thistle, musk thistle, spotted knapweed, sow thistle, and yellow sweetclover.

TABLE 3.B.3 – Noxious Weeds Listed Under North Dakota State Law

Common Name	Scientific Name	State Status	Burke County Status	Divide County Status	Impact
Baby's Breath	*Gypsophila paniculata*	Invasive			Displaces native vegetation. Reduces protein content of desirable grasses.
Bindweed: Field	*Convolvulus arvensis*	Invasive			Extremely difficult to control. The extensive root system and twine-like growth disrupts harvesting operations and replaces desirable vegetation.
Burdock: Common	*Arctium minus*	Invasive			Displaces important plant communities. Taint milk products if heavily grazed.
Cress: Hoary	*Cardaria draba*	Invasive			Displaces existing plant communities and associated wildlife.
Henbane: Black	*Hyoscyamus niger*	Invasive			Toxic to humans and animals. Replaces desirable native species.
Houndstongue	*Cynoglossum officinale*	Invasive			Displaces desirable plant communities, decreases grazing.
Knapweed: Diffuse	*Centaurea diffusa*	Noxious			May seriously reduce productive potential of infested rangelands.
Knapweed: Russian	*Acroptilon repens*	Noxious			Most distributed knapweed and most difficult to control. Inhibits growth in crop plants and other desirable plant species.
Knapweed: Spotted	*Centaurea maculosa*	Noxious			Reduces livestock and wildlife forage and increases surface water runoff, soil erosion, and stream sedimentation.

Common Name	Scientific Name	State Status	Burke County Status	Divide County Status	Impact
Loosestrife: Purple	*Lythrum salicaria*	Noxious			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.
Medic: Black	*Medicago lupulina*	Invasive			Aggressively displaces desirable plant communities, causes bloating in cattle.
Rocket: Dame's	*Hesperis matronalis*	Invasive			Aggressively displaces native vegetation.
Saltcedar	*Tamarix chinensis T. parviflora T. ramosissima*	Noxious			Displaces native vegetation by releasing salts to inhibit the growth of vegetation.
Spurge: Leafy	*Euphorbia esula*	Noxious			Contains milky latex which causes oral and digestive irritation in cattle. The plant also replaces desirable forage.
Sweetclover: Yellow	*Melilotus officinalis*	Invasive			Degrades native grasslands and reduces biodiversity.
Tansy: Common	*Tanacetum vulgare*	Invasive	Noxious		Displaces native vegetation desirable plant species. Spreads quickly
Thistle: Canada	*Cirsium arvense*	Noxious			Displaces desirable plant species and is unpalatable to livestock. Infestations decrease land value for crop production and grazing.
Thistle: Musk	*Carduus nutans*	Noxious			Corrupts pastures and reduces grazing in the vicinity.
Toadflax: Dalmatian	*Linaria genistifolia*	Noxious			Unpalatable to livestock and will flourish over native species.
Toadflax: Yellow	*Linaria vulgaris*	Noxious			Displaces existing plant communities and associated wildlife. Corrupts pasture lands and reduces grazing.
Wormwood: Absinth	*Artemisia absinthium*	Noxious			Reported to contaminate the milk produced by cattle. Species inhibits growth of desirable forage.

Hiland Operating required that construction equipment be cleaned before arriving on site to prevent the introduction of undesirable species to the Project area. Hiland Operating implemented the following mitigation measures when undesirable species were found within the construction ROW:

- Hiland Operating made an effort to prevent the spread of noxious weed seeds during clearing and grading activities, and used straw mulch and seed mix that are free of noxious weed seed to re-vegetate the ROW. Contractors and inspectors received information to help them identify noxious weeds. Hiland Operating also provided training to its environmental inspectors regarding identifying and preventing the spread of undesirable species.

- During pre-construction walkovers, environmental inspectors flagged and documented areas containing noxious weeds. The construction crews were informed of these areas. Hiland Operating instructed the contractors to minimize the amount of construction equipment and limit the number of passes by this equipment through infested areas. Construction mats were used to minimize the transport of weed seed or plant material via construction equipment.

- Equipment and construction mats were cleaned immediately after passing through infested areas. Cleaning consisted of removing large soil clods and/or plant parts from the equipment and construction mats using shovels and brooms and, when necessary, washing the equipment with water or cleaning using compressed air. Soil and water from cleaning activities were not allowed to flow to non-infested areas.

- Final seeding was initiated within 24 hours of final grading, so long as there were appropriate weather and soil conditions, to prevent the establishment of noxious weed seeds that may have been present in the existing seed bed.

The pipeline was installed at a depth that exceeds the typical tillage depth. Therefore, the pipeline did not interfere with normal agricultural operations on cropland after construction. Construction operations were conducted after the 2008 harvest season and prior to the 2009 growing season. Therefore, minimal disruption to agricultural production occurred.

Above-ground facilities on cropland are limited to line markers, cathodic protection rectifiers, and test stations which can be sited within fence lines. Therefore, the Project resulted in minimal long-term loss of farmland use. Hiland Operating consulted with landowners to place above-ground appurtenances in areas that cause the least amount of disturbance to landowner operations.

Approximately 33 percent (27 acres) of the 81 acres of the Project route crosses prime farmlands, as classified by the Natural Resource Conservation Service (NRCS) (*see* Table 3.B.6). This total includes prime farmland and land that would be considered prime farmland if drained. Prime farmland is defined as land with the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops. Construction activities did 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 were returned to pre-construction conditions to the extent reasonably practicable.

B.4 (b)(2) Family Farms and Ranches

The Project did not alter the pattern of land ownership or create long-term disruptions of family farming operations. Easement payments are beneficial to landowners within the route and no significant interference with farming operations occurred. Equipment traversed only landowner-approved access routes to minimize disruption to soil, drainage, and crops. Hiland Operating's crop loss compensation program compensated landowners for any crop damage caused by construction. Hiland Operating will also compensate landowners for crop damage that results from future pipeline maintenance and repairs.

Construction activity can cause short-term disruption of livestock operations and can inconvenience farm activities. Possible impacts include removal or damage of fences, gates, and private roads. Hiland Operating worked to minimize construction interference. Temporary access across the ROW was provided to allow for livestock and farm equipment movement, as needed. Temporary fences and gates were constructed as necessary to prevent livestock from entering into the construction zone. The Project was constructed in a timely matter and, upon completion, fences, gates, and roads were restored to pre-construction conditions, to the extent reasonably practicable.

B.4 (b)(3) Lands Suitable for Irrigation

The Project did not impact irrigated lands.

B.4 (b)(4) Surface Drainage Patterns

Construction of the Project did not alter surface drainage patterns. Streams, swales, ditches, and other natural drains were restored to pre-construction contours after construction was complete, to the extent reasonably practicable. The pipeline was 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 included the 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.

B.4 (b)(5) Groundwater Flow Patterns

Groundwater suitable for domestic and livestock supplies in Burke County may be available from several minor aquifer systems. The Columbus aquifer is a buried east-west trending valley located in the northern portion of the county at depths generally greater than 225 feet. The Lignite City aquifer in northwest Burke County has an estimated 3,100 acre-feet of water available for pumping. The outwash and alluvial deposits in the Little Knife River and White Earth River valleys may contain groundwater suitable for domestic and livestock use.

Groundwater suitable for domestic and livestock supplies in Divide County may be available from the following aquifer systems: the buried Yellowstone channel, Skjermo Lake, Grenora, Wildrose, and West Wildrose. The buried Yellowstone channel aquifer occurs at depths ranging from 97 to 496 feet below surface in the Project area. The Skjermo Lake aquifer is located in northwestern Divide County and may be as shallow as 4 feet below surface. The Grenora and Wildrose aquifers are low yield aquifers in Divide County. The West Wildrose aquifer provides

groundwater for irrigation from depths of approximately 100 feet in the southeastern part of the county.

As described in Section B.4 (g), no exposed bedrock or areas of shallow bedrock were encountered during Project construction. Therefore, blasting activities were not performed.

Due to the shallow depth of construction activities and the relatively deep location of the area's aquifers, installation of the Project did not have a significant effect on regional groundwater flow patterns.

The use of regulated materials, such as fuel, lubricants, and coolants during construction could present a potential for accidental discharges, which could affect groundwater. Hiland Operating's Environmental Mitigation Plan (EMP) (see Tab 5 and supporting diagrams in Tab 6) outlines precautions to be taken to prevent sedimentation or other materials from entering the water supplies in the area. Project contractors are 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 can be sited within 100 feet of surface water.

A description of Hiland Operating's pipeline protection and emergency response procedures for pipeline operations and maintenance is provided in Section B.9 (c).

B.4 (b)(6) Impact on Noise Sensitive Land Uses

No residences are located within 500 feet of the Project. No other 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 experienced short-term increases in construction-related noise. The heavy construction equipment needed to construct the Project generated short-term increases in ambient noise levels. Increases in ambient noise levels due to heavy equipment operation were limited to the period of construction, typically during daylight hours.

No noise is generated by the Project during normal operations. No new pump stations were installed, and no noise increases at existing pump stations (located only at the Norse Plant) occurred.

B.4 (b)(7) Impact on Visual Effect on the Adjacent Area

Above-ground facilities that were constructed as part of the Project include mainline valves, line markers, cathodic protection equipment, and test stations. Mainline valves were sited at existing above-ground facility sites. Other than these permanent above-ground facilities, the Project resulted in only short-term visual effects related to construction activities.

B.4 (b)(8) Impact on Extractive and Storage Resources

No extractive or storage resources were identified that would be affected by the Project. Efforts have been employed to avoid current or planned oil extraction facilities along the route.

B.4 (b)(9) Impact on Wetlands and 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 to restore all areas of disturbed wetland vegetation.

Waterbody crossings are described by legal description in Table 3.B.4 below.

TABLE 3.B.4 – Project Wetland and Waterbody Crossings

Name	Crossing Length (ft)	Location	Trees Established
Burke County			
Wetland	65	T160N R94W Section 23	NO
Wetland	70	T160N R94W Section 22	NO
Wetland	105	T160N R94W Section 21	NO
Wetland	160	T160N R94W Section 20	NO
Wetland	70	T160N R94W Section 18	NO
Wetland	85	T160N R94W Section 18	NO
Divide County			
White Earth Creek	55	T160N R95W Section 13	NO
Wetland	35	T160N R95W Section 12	YES
Wetland	85	T160N R95W Section 11	NO
Wetland	200	T160N R95W Section 11	YES
Wetland	170	T160N R95W Section 11	NO

B.4 (b)(10) Impact on Woodlands and Wooded Areas

Tree rows and woody areas occur in limited amounts as isolated islands or rows throughout the Project area. The Project crossed through wooded areas on rangeland and in wetland areas. Impacts to trees were avoided to the extent practicable in a manner compatible with safe operation, maintenance, and inspection of the pipeline. It may have been necessary to clear some mature trees during construction; however, Hiland Operating did and will continue to work with the appropriate state agencies and private landowners to determine appropriate replacement measures following construction.

While a pre-construction tree count was not conducted, a North Dakota based environmental consulting firm was engaged to estimate the number of trees likely removed by the Project. This estimate will be provided to the Commission. Hiland Operating expects to satisfy the requirements of the Commission's tree and shrub mitigation specifications regarding replacement of trees and shrubs impacted by the Project.

B.4 (b)(11) 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 occurred as a result of the Project.

B.4 (b)(12) Impact on Human Health and Human Safety

During construction, residences and businesses in close proximity to construction activities were exposed to short-term increases in construction-related noise and dust. The construction ROW and access roads near residential areas were watered down to control dust during construction in instances of excessive dust. After construction was completed, measures to stabilize and re-vegetate the ROW were taken promptly to prevent further dust emissions.

The heavy construction equipment needed to install the pipeline generated unavoidable short-term increases in ambient noise levels. Increases in ambient noise levels due to equipment operation were limited to the period of construction and were generally limited to daylight hours. No noise is generated by the Project during normal operations.

No residences or other occupied structures were razed due to construction. Although developers will have to abide by state and/or local ordinances and easement restrictions, future residential developments are not precluded by the Project. Construction may have temporarily restricted access to residences along the Project route. When this was the case, Hiland Operating either limited the time such restrictions were in place or made arrangements to accommodate the landowner's access needs.

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 or weld failure, incorrect operations, or natural causes (e.g., floods or outside force). To prevent these categories of failures, Hiland Operating has constructed and will maintain the Project to meet or exceed industry and governmental requirements and standards. Specifically, the steel pipe utilized meets US DOT Pipeline and Hazardous Material Safety Administration (PHMSA) federal codes under 49 CFR Part 195 (referred to hereafter as PHMSA regulations), and construction methods followed standards issued by the American Society of Mechanical Engineers, National Association for Corrosion Engineers and API. As a safety measure, the pipeline is designed to withstand pressures over and above its normal operating pressures and will operate according to all applicable laws, rules, and regulations. All pipe was inspected and integrity-tested at the factory and transported per the highest technical standards. All pipe was manufactured with fusion-bonded epoxy coating to protect against corrosion. The actual installation of the pipeline and all construction and testing records were subject to regulatory inspection, including by PHMSA inspectors. PHMSA will also conduct regularly scheduled field inspections of the Project to ensure compliance with federal regulatory requirements, including the integrity testing of the pipeline through the use of internal inspection devices.

The Project was subjected to careful testing to verify integrity and compliance with specifications. PHMSA regulations require that at least 10% of the field welds be inspected using radiological (i.e., X-ray) and/or other non-destructive testing such as checking coating integrity. Initially, Hiland Operating performed X-ray inspections of 100% of the welds. Only after adequate performance had been established based on statistically significant data, and each of the Project's welders had demonstrated proper weld material handling, was a reduction in the percentage of welds inspected considered; however, the percentage of welds inspected never fell below the requisite 10%.

Additional Project inspections included internal inspection of the entire length of the pipeline using a tool known as a caliper pig, and hydrostatically testing the pipeline to determine the MAOP. The Project was placed into service only after inspection to verify compliance with all construction standards and requirements.

The Project will be maintained and inspected according to PHMSA regulations, industry codes, and prudent pipeline operating techniques. All of Hiland Operating's 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.

The Hiland System rights-of-ways that are designated Class 1 are patrolled via foot patrol annually. Road crossings are inspected via foot patrol semi-annually. These inspections are to verify that no abnormal conditions or dangerous activities, e.g., unauthorized excavation, have taken place along the routes of the lines.

Hiland Operating 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. All Hiland Operating pipelines 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. Hiland Operating meets, and often exceeds, these requirements so that human error in construction and operation is avoided.

Hiland Operating's Ten-Year Pipeline Accident Record

Based on a search of the U.S. Coast Guard's National Response Center incident database for the last ten years in North Dakota, there have been 61 reported pipeline incidents, 13 involving natural gas on either gathering systems or transmission pipelines. A total of 168 incidents were reported for all modes of transportation and all materials during the same period. None of the incidents involved Hiland Operating.[1]

B.4 (b)(13) Impact on Animal Health and Safety

Construction activity within the Project area had temporary impacts on domestic animals and wildlife. The clearing of vegetation temporarily reduced cover, nesting, and foraging habitat for some species. Small, slower moving species may have been lost during construction. However, species will generally move into adjacent habitats, away from the disturbance area. Once habitat alterations were reclaimed, wildlife reestablished within the area.

Pipeline trenching activities and associated spoil piles resulted 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

[1] U.S. Coast Guard National Response Center Database retrieved February 8, 2011.

crossings were kept open, providing crossing access for wildlife. During construction, Hiland Operating erected temporary fencing, as necessary, to keep livestock and wildlife away from the pipeline trench, and minimize the length of time the trench was left open.

B.4 (b)(14) Impact on Plant Life

All areas where vegetation was removed were re-vegetated in accordance with applicable county agency standards and landowner requests. There were no permanent impacts to vegetation.

Neither sensitive plant species nor native prairie areas were identified within the Project's 125-foot wide construction ROW.

B.4 (c) Policy Criteria (North Dakota Administrative Code, Section 69-06-08-02(4))

The Commission may give preference to an applicant that will maximize benefits resulting from the adoption of policies and practices identified in Section 69-06-08-02(4) of the North Dakota Administrative Code. These policies, and the extent to which the Project aligns with or reinforces these policies, are discussed further below.

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

Hiland Operating believes that the Project utilizes an optimal alignment. No designated Exclusion or Avoidance Areas were crossed by the route.

The Project included the installation of a 6-inch nominal diameter pipeline with a nominal wall thickness of 0.188 inches denoted as API Code 5LX specification X52/X42 pipeline pipe. The MAOP is 1200 pounds of pressure per square inch gauge (psig). The valves installed are 6-inch ANSI 300, flange end by flange end, full port, rising stem gate valves. These valves were manufactured in accordance with API Standard 6D "API Specification for Steel, Gate, Plug, Ball and Check Valves for Pipeline Service." The MAOP of the valve is 1440 psig.

The steel pipe installed meets US DOT criteria outlined in 49 CFR § 195.11. The Project was constructed per 49 CFR § 195.200, and is operated and maintained per 49 CFR § 195.400.

The Project is designed and 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

During construction of the facility, skilled and unskilled labor, both local and non-local, was employed by Hiland Operating or by the general contractor selected to construct the pipeline. Hiland Operating 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 simulations, emergency exercises, welding certification tests, and other functions required to continue safe pipeline operation and maintenance.

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 Hiland Operating's delivery obligations. Refer to section B.2 (g) of this Application and section C.2 of the Application for a Certificate of Corridor Compatibility.

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

Hiland Operating does not believe that a Citizen Coordinating Committee is necessary for the Project, since the Project was constructed in an area of the state where crude gathering and transmission pipelines already exist and, as such, the public is familiar with the permitting, construction, and operation of pipeline facilities.

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

The Project receives deliveries of refined natural gas produced in northwestern North Dakota. The Project provides pipeline transportation of natural gas to local markets via WBI's transmission pipeline. The Project provides the needed capacity to transport increased production of processed natural gas from the Bakken and Three Forks formations.

B.4 (c)(6) Labor Relations

The Project did not have any effect on labor relations within the State of North Dakota.

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

The Norse Plant has a 25 million standard cubic feet per day capacity to purify and fractionate raw natural gas produced from oil fields in western North Dakota. The Norse Plant, along with this Project, delivers pipeline-quality natural gas that can be used as fuel by residential, commercial, and industrial consumers. The line will connect to a WBI transmission pipeline.

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

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

B.4 (c)(9) Utilization of Existing and Proposed Rights-of-way and Corridors

The Project was constructed in a new 125-foot wide construction ROW. Hiland has acquired 50-foot permanent easements for the Project, as well as possible future pipeline installation.

Hiland Operating acquired the right to utilize additional temporary workspace from the landowners, where necessary, during construction. The use of unauthorized workspace was prohibited without the landowner's and Hiland Operating's approval. In all cases, the amount of additional temporary workspace utilized was kept to the minimum necessary to safely conduct work. Temporary workspace was not restricted by or subject to permanent easement restrictions upon completion of construction.

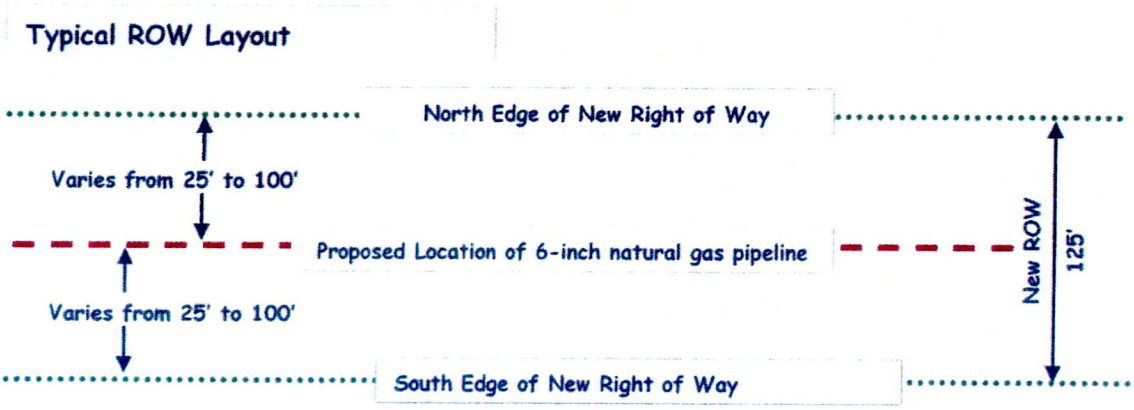


FIGURE 3.B.3 – Typical Right-of-Way Configuration

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

No other transmission facilities are proposed to move natural gas from the Norse Plant either by pipeline or rail. Other transmission facilities that exist are located significantly farther away than 6.5 miles, the length of this Project.

B.4 (d) Design and Construction Limitations

See Section A.3 of the Certificate of Corridor Compatibility Application (*see* Tab 1).

B.4 (e) Economic Considerations

See Section B.2 (g) of this Route Permit Application and Section C of the Certificate of Corridor Compatibility Application (*see* Tab 1).

B.4 (f) Human Environment

The Project area is sparsely populated and farming is the predominant economic activity. The pipeline route crosses 13 parcels of land owned by 9 different landowners. The route does not pass through parks or recreational areas.

The Project route does not pass within 500 feet of a residence. The route also does not pass through parks or recreational areas.

The entire Project route is located on private land, and landowner concerns were addressed during all phases of construction, including final restoration. Land agents assigned to the Project

worked closely with landowners and were responsive to issues that arose during the course of the Project to the extent practicable. Hiland Operating has finalized easement agreements with all landowners along the route.

The pipeline does not transect any Federal highways. Of the seven county roads crossed, all are improved county roads (i.e., gravel). The pipeline crosses one gravel private/oil road.

Gravel roads were HDD. Through traffic was not disrupted during the boring process. Two of the trails were open cut. The open cut trails were temporarily disrupted during the Project.

Road crossings for the route are summarized in Table 3.B.5.

All roads and section line crossings were subject to review and approval by the County Engineer and County Commissions. Applications were submitted and permits obtained for the road crossings prior to the start of construction.

TABLE 3.B.5 – Project Road Crossings

Legal Description	Coordinates	Road Name	Description of Road
Burke County			
West Section 17 T160N R94W	48.677361 -102.864889	101st Ave NW	Gravel Road
North Section 20 T160N R94W	48.676722 -102.859778	87th St NW	Gravel Road
West Section 21 T160N R94W	48.673833 -102.842917	100th Ave NW	Seldom Used Trail
West Section 22 T160N R94W	48.666944 -102.821083	99th Ave NW	Gravel Road
North Section 26 T160N R94W	48.66225 -102.795306	86th St NW	Gravel Road
Divide County			
South Section 11 T160N R95W	48.691583 -102.915667	Oil Lease Road	Gravel
West Section 12 T160N R95W	48.691389 -102.907778	103th Ave NW	Gravel
South Section 12 T160N R95W	48.691306 -102.907444	88th St NW	Two Track Vegetated

B.4 (g) Terrain and Geology

The Project area in Divide County lies within the glaciated area of the Missouri Plateau section of the Great Plains province characterized by thin drift except for valley fill. It contains large tracts of steep-sided hills and depressions. Major drainages include Long Creek and unintegrated drainage to prairie pot-holes.

The Project Area in Burke County lies within the Coteau du Missouri district of the glaciated Missouri Plateau section of the Great Plains. The Coteau du Missouri district is an area of relatively youthful stagnation moraine and end moraine characterized by steep-sided hills and

depressions. Drainage on the Coteau du Missouri is generally of the nonintegrated type to prairie pot-holes.

The area includes rocks of the Paleozoic, Mesozoic, and Cenozoic eras that dip south toward the center of the Williston basin. The Paleozoic rocks are mostly marine carbonates and evaporates. The Mesozoic and Cenozoic rocks are generally clastics, with most of the Mesozoic rocks being marine shales. A few thin deposits of Late Tertiary and Quaternary brown quartzite river gravels are present in the area. Late Tertiary-Quaternary topography in the Project area was formed by the two major drainage systems of the northeastward flowing preglacial Missouri and Yellowstone Rivers.

The Project crosses the bed of the Missouri Plateau, characterized by low relief and gentle slopes interrupted by buttes and ridges. Surface elevations along the route range from 2441 feet MSL near the eastern junction at the Hiland Operating-WBI Tap Site, to 2290 feet MSL near the western connection at the Norse Plant according to a 24K USGS TOPO map.

B.4 (h) Soils

Detailed soil characteristics along the Project route were identified and assessed using the Soil Survey Geographic database (SSURGO; U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), 2003). 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 (USDA, NRCS 1995). The SSURGO database was used to define soil characteristics along the Project route in Burke and Divide 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.

Burke and Divide Counties lie within the Northern & Southern Dark Brown Glaciated Plains (Major Land Resource Areas 53A & 53B) of the Northern Great Plains Spring Wheat Region. The Project area lies within the Glaciated Missouri Plateau Section of the Great Plains Province.

Wind erosion may be a hazard on most of the soils in the Project area. It is severe on the coarse textured and moderately coarse textured soils. These are primarily the Beisigl, Dooley, and Tally soils. Cabba soil has a relatively high content of lime, making it susceptible to wind erosion in the spring if it has been bare throughout the winter. Because of freezing and thawing, soil structure can break down, resulting in aggregates that are susceptible to movement. Nearly all soils can be damaged by wind erosion if they are not protected by residue.

Water erosion is a hazard on gently rolling and steeper soils, such as Beisigl, Cabba, Flasher, Williams, and Zahl. The hazard is greatest when the surface is bare; therefore, the precautions outlined in the EMP found in Tab 5 were implemented to minimize impacts.

The Project area consists of predominately a silty to sandy loam mixed soil, which is well suited for cropland. Tables 3.B.6, 3.B.7, and 3.B.8 list the soil associations, the approximate crossing length of each soil association, and provide a summary of soil limitations for the pipeline route. Approximately 33 percent of the soils crossed by the Project route (27 acres of the 81 acres within the pipeline route) are NRCS-classified prime farmland, provided there is sufficient artificial drainage to remove excess surface water.

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 will expose soils to water and wind and increase the potential for erosion. Analysis of State Soil Geographic (STATSGO) data indicates that some soils in the Project area are susceptible to erosion by wind. Soil erosion by water is also common along the Project route. During construction, the effects of erosion by water on steep slopes were mitigated by the use of silt fences and other erosion control measures as described in Hiland Operating's EMP (see Tab 5).

TABLE 3.B.6 – Project Area Soil Characteristics

County	Total Project Acres	Prime Farmland	Hydric Soils	Highly Erodible		Shallow to Bedrock
				Water	Wind	(<6")
			Acres[a] (%)			
Burke	58	18 (31)	58 (99)	40 (69)	40 (69)	3 (5)
Divide	23	9 (39)	20 (87)	10 (43)	10 (43)	1 (4)

[a] Acreage is based on a 100-foot wide construction right-of-way and does not include access roads, temporary extra work space, or areas of open water, and does not account for reduced right-of-way widths in wetlands and forested areas.

TABLE 3.B.7 – Project Area Topsoil Depths and Slope Classes

County	Total Project Acres	Topsoil Depth (Inches)[a]				Slope Class (%)				
		0-6	>6-12	>12-18	>18	0-6	>6-9	>9-15	>15-30	>30
		Acres[b] (%)								
Burke	58	3 (5)	0 (--)	25 (43)	30 (52)	25 (43)	16 (28)	6 (10)	0 (--)	12 (21)
Divide	23	1 (4)	1 (4)	10 (43)	10 (43)	16 (70)	3 (13)	1 (4)	0 (--)	2 (9)

[b] Defined as depth to soil restrictive layer
[a] Acreage is based on a 100-foot wide construction right-of-way and does not include access roads, temporary extra workspace, or areas of open water, and does not account for reduced right-of-way widths in wetlands and forested areas.

TABLE 3.B.8 – Project Area Prime Agricultural Land Topsoil Depths

County	Total Project Acres	Topsoil Depth (Inches)[a]			
		0-6	>6-12	>12-18	<18
		Acres[b] (%)			
Burke	18	0 (--)	0 (--)	4 (22)	14 (78)
Divide	9	0 (--)	0 (--)	8 (89)	1 (11)

[b] Defined as depth to soil restrictive layer
[a] Acreage is based on a 100-foot wide construction right-of-way and does not include access roads, temporary extra workspace, or areas of open water, and does not account for reduced right-of-way widths in wetlands and forested areas.

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

Project construction resulted in the temporary removal of vegetation and the exposure of soil. These actions resulted in minor temporary erosion. The re-vegetation of these areas using native species mitigated these concerns.

Heavy equipment used to construct the Project may have caused soil compaction along the ROW. Soils were tilled with a chisel plow or other deep-tillage equipment to loosen the soil to the extent reasonably practicable. 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 to wildlife and plant species. Information was gathered from a variety of sources to compile the existing conditions of plant, wildlife, and critical habitats within the proposed corridor. Sources included field surveys, literature reviews, and personal communications with the NDGF, the USFWS, and the NDPRD (which provided information regarding the ND National Heritage Inventory). Field surveys were conducted on foot and via ATV. Field data was collected with Trimble GEOXT 2005 and GEOXH 2008 Series GPS handhelds and photographs were taken along the entire length of the route.

Analysis within the corridor included a complete inspection for species of concern, habitat components required to support species of concern, noxious weeds, and wetlands. The survey area was expanded to encompass nearby areas that may have been impacted by the Project. Plant species, noxious weeds, and wildlife species were identified in the field and mapped. Any unknown species were collected and later identified using state-wide literature. Personal communications and knowledge of species and species habitat were used to make a determination regarding the potential effects of the Project.

B.4 (i)(1) Vegetation

Botany surveys were performed along the approximately 6.5-mile-long Project route in Burke and Divide Counties during May of 2011. The Project route crosses terrain consisting of pasture land, cropland and wetlands. Blue grama, crested Wheatgrass, green foxtail, Kentucky bluegrass, little bluestem, needle-and-thread, sideoats gama, smooth brome, and western wheatgrass were primarily found on prairie flats. Forbs established within the mixed-grass prairie include alfalfa, American licorice, coneflower, curlycup gumweed, dandelion, field sagewort, fringed sagewort, goatsbeard, goldenrod, hairy goldenaster, Indian breadroot, milkweed, prairie rose, pricklypear cactus, Russian thistle, silver leaf scurfpea, silver sagebrush, sunflower, white prairie aster, and yarrow.

Plant communities established in wetlands include cattail, scouring rush, curly dock, western dock, common reed, prairie cordgrass, and reed canarygrass. Two areas of sensitive plant species were observed within the entire survey corridor. No areas of sensitive plant species were observed in the construction ROW. See Appendix 4.D.1 – North Dakota Plant Species of Concern.

The primary impact was the removal of vegetation in the ROW during construction activity.

In areas that required revegetation, Hiland Operating specified appropriate seed mixes, application rates, and seeding dates, taking into account the recommendations of appropriate state and federal agencies.

B.4 (i)(2) Wildlife

Wildlife surveys were performed along the 6.5 mile proposed pipeline route in Burke and Divide Counties during May 2011. Keitu environmental field surveyors conducted a thorough inspection of private land consisting of cropland, rangeland, and wetland environment.

Common wildlife identified in the survey corridor included moose, ground squirrels, porcupines, jackrabbits, white tail deer, songbirds, migratory waterfowl, and raptors.

Species identified under the NDGF CWCS included lark bunting, northern harrier and sharp-tailed grouse. See Appendix 4.D.2 – North Dakota Wildlife Species of Concern. A sharp-tailed grouse nest was identified approximately 1200 feet north of the Project. 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.

The Project has had no significant effects on the State Sensitive Species for North Dakota. Construction activity began in the fourth quarter of 2008 and continued through the first quarter of 2009. Construction operations occurred after the breeding season when migratory species were unlikely to be impacted. Based on the size of the Project and the timing of construction, the Project's effect on habitat is not anticipated to alter a species population.

B.4 (j) Land Use

Approximately 56% of Burke and Divide Counties is cropland, 36% is privately owned native grassland, 2% is urban land, and 3% is other land. Specific to the Project area, agricultural production is the predominant land use. Approximately 57% is cropland or pasture, 42% is native rangeland, and 1% is industrial land. The Project is not located within any city limits or urban areas.

The primary crops cultivated in the area include wheat, grain, and alfalfa. The Project resulted in temporary impacts on agricultural land use. Landowners were compensated for crop loss or reduced yields caused by construction of the Project. No permanent crop loss occurred. Deep tillage was implemented as necessary to mitigate effects of soil compaction.

The only industrial area crossed by the Project route is at each end of the Project where it connects into an existing pipeline and the Norse Plant. The Project route runs in the vicinity of, and sometimes adjacent to, existing oil well sites. Although developers will have to abide by state and/or local ordinances and easement restrictions, future residential developments will not be precluded by the Project. After installation of the pipeline, disturbed areas were restored to pre-construction conditions to the extent reasonably practicable, and generally reverted to pre-construction uses. No long-term change in land use is anticipated.

B.4 (k) Water Resources

B.4 (k)(1) Ground Water

The Columbus aquifer has the greatest potential for development for domestic and livestock supplies in Burke County. The most permeable sections of the aquifer could yield about 200 gallons per minute. Wells installed in the outwash, glaciofluvial, and valley-fill deposits that are

scattered throughout the county may yield 10 to 350 gallons per minute. Water quality varies greatly. Water low in dissolved solids generally is of a very hard calcium bicarbonate type, while water high in dissolved solids is generally of a very hard sodium sulfate type and too saline for human consumption. Sulfate concentrations of test wells ranged from 315 to 1,500 parts per million (ppm).

Ground water suitable for domestic and livestock supplies in Divide County is potentially available from buried sand and gravel deposits in the ancestral Yellowstone River channel that extends across the central part of the county. Test drilling indicates that well yields of more than 500 gallons per minute are obtainable from these deposits. Water is generally very hard and of a calcium bicarbonate type. In the Project area the southern unit of this aquifer system contains four aquifers, the largest of which is named Aquifer C. This aquifer has a total thickness of 89 feet and the coefficient of transmissibility may be as much as 250,000 gallons per day per foot. A water sample from this aquifer contained a calcium sodium sulfate type water with 1,378 ppm dissolved solids, 170 ppm calcium, 250 ppm sodium, and 580 ppm sulfate.

No sub-surface injection of water occurred during construction of the Project. Any released water was discharged to surface water. Discharges were in compliance with the requirements of the general NPDES permit issued by the ND Department of Health – Environmental Section.

The Project has not impacted North Dakota ground water quality.

B.4 (k)(2) Surface Waters

Topographic maps and current aerial photos were reviewed to identify streams, rivers, and lakes crossed by the Project route. A pedestrian field survey was also conducted in May of 2011 to characterize any surface waters and wetlands that are crossed by the Project route (See Table 3.B.4).

The Project crosses White Earth Creek. Pipeline construction near surface waters was conducted in accordance with applicable regulatory requirements. No creek was permanently drained or filled as part of the Project, and effects on creeks were short-term and minor. Hiland restored the construction ROW as close to its previous state and naturally functioning condition as practicable.

B.4 (k)(3) Wetlands

Hiland Operating, through its consultants, conducted field wetland delineations to identify wetlands crossed by the Project route. This wetland delineation, in conjunction with aerial photo-based alignment sheets and USGS topographic maps identifying US Corps of Engineers waters of concern within North Dakota, were used to identify wetlands along the Project route as well as within the one mile wide study corridor. Wetlands were identified within the Project's corridor and are listed by legal description in Table 3.B.4.

B.4 (k)(4) Water Use

The Project does not significantly affect water use patterns. Following construction, drains, swales, and flowages were restored to pre-construction conditions to the extent practicable to minimize disruption of water resources.

B.4 (k)(5) Surface Water Runoff

Construction-related effects on surface waters were primarily related to sedimentation from uncontrolled erosion of disturbed areas. Much of the Project route is level or only gently sloping, which limits the potential for runoff effects. Because the ROW was restored to pre-construction conditions, area runoff following construction generally reflects surrounding land use.

Hiland Operating obtained 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. Hiland Operating's EMP describes best management practices. Hiland Operating, its general contractor, and Project subcontractors implemented measures to minimize off-site erosion from site storm water runoff. These practices protected surface water and soil resources within the Project area. Hiland Operating's EMP was included in the construction specifications for the Project and enforced by one or more environmental inspectors during construction.

B.4 (k)(6) Discharges to Surface Waters

No discharge occurred to the waters of the state. The Project conducted a hydrotest of the system using natural gas.

B.4 (k)(7) Protection from Fuel Spills

Motorized construction equipment utilized for the Project was powered by gasoline- or diesel-fueled engines. Fuel for construction vehicles was used and stored consistent with regulations of the US Environmental Protection Agency set forth in 49 CFR § 195.112 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 occurred at one area, the contractor was required to prepare and implement a oil spill prevention, control, and countermeasure (SPCC) plan in accordance with 49 CFR § 195.112, including having the plan reviewed and certified as adequate by a registered professional engineer. The 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.

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

B.4 (l) Cultural Resources

See discussion in Sections B.2 (i) and B.4 (a)(1).

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

A discussion regarding potential impacts and mitigation measures relevant to these six criteria is provided in Section B.4. Below is a discussion of additional mitigation measures employed by Hiland Operating.

B.6 MITIGATION MEASURES

B.6 (a) Measures to Preserve the Human Environment

Hiland Operating required its construction contractor to clean up personal litter, bottles and paper deposited by ROW preparation and construction crews on a daily basis. Waste and scrap produced during Project construction was removed and properly disposed of in accordance with applicable regulations prior to the completion of construction.

Hiland Operating minimized noise and dust resulting from construction near residences to the maximum extent practicable.

Hiland Operating obtained applicable permits for road crossings from Burke and Divide Counties. Hiland Operating also obtained permission from all owners of private roads, including oil lease roads, to cross said roads. Temporary signs were posted at each crossing as appropriate to alert motorists of construction activity. Gravel roads were bored, minimizing interference with traffic flow caused by construction activities.

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

Hiland Operating restored the area affected by Project construction to pre-construction condition to the extent reasonably practicable. Restoration was compatible with the safe operation, maintenance, and inspection of the Project.

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

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

B.6 (c) Measures to Protect Soils

Hiland Operating implemented temporary and permanent erosion control measures as specified in the EMP (Tab 5 and Tab 6). The EMP was included in contract documents and enforced throughout construction.

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

To minimize potential impacts on soil productivity, topsoil was segregated during trench excavation in agricultural land, unsaturated wetlands, and other areas where soil productivity is an important consideration. Topsoil in cropland was removed to the depth of cultivation or a maximum depth of 12 inches from the trench and spoil storage area and stored separately from the trench spoil. After the trench was backfilled, topsoil was returned to its approximate original location. Compaction of agricultural soils was minimized by restricting construction activities during periods of prolonged rainfall. Where unacceptable levels of compaction could have occurred in agricultural lands, deep tillage equipment was utilized to loosen the soil to the extent reasonably practicable.

Hiland Operating retained 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

Hiland Operating cleared the ROW to the extent necessary to assure suitable access for construction, safe operation, and maintenance of the Project.

Utilizing the measures discussed in Section B.4 (b)(1) above, Hiland Operating and its contractors effectively controlled or limited the spread of invasive plant species through control treatments and avoided existing populations where possible. Treatments were initiated prior to pipeline construction to lessen the potential for this activity to disperse propagules along the freshly disturbed route. Monitoring and treatment are conducted on an annual basis to ensure a high degree of control and maximize treatment effectiveness.

In areas that required permanent revegetation, Hiland Operating specified 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 was allowed to re-vegetate after construction depending on arrangements with the landowner. Consequently, significant changes in cover types did not occur.

Hiland Operating took appropriate precautions to protect livestock and crops during construction. Operation of the Project is not anticipated to significantly affect terrestrial wildlife, fisheries resources, or other aquatic species. Shelter belts and trees were protected and restored by Hiland Operating to the extent practicable in a manner compatible with the safe operation, maintenance, and inspection of the Project.

B.6 (e) Measures to Protect Land Use

Hiland Operating obtained and complied with applicable county permits regulating zoning and land use. These permits include a Pipeline Utility Permit and a Road Crossing Permit. Hiland Operating will retain one or more environmental inspectors to monitor compliance with environmental conditions of county permits.

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

The Project pipeline was installed at a minimum depth of 48 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 a particular site.

Shelter belts and trees were avoided by Hiland Operating to the extent possible in a manner compatible with the safe operation, maintenance, and inspection of the Project.

B.6 (f) Measures to Protect Water Resources

Hiland Operating's EMP describes best management practices that were implemented to minimize off-site erosion from surface water runoff, and protect water and soil resources within the Project area.

No additives to discharge water were permitted without written approval from Hiland Operating, in accordance with the applicable permits. Environmental inspectors monitored compliance with permits. Where appropriate, water was 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

Beaver Creek Archaeology of Mandan, North Dakota was engaged to review existing site file data maintained by the State Historical Society of North Dakota State Historic Preservation Office (SHPO) to determine if any portion of the Project route was surveyed previously for cultural resources. The file search was performed in June 2011 using a 2-mile wide study corridor for the entire route.

A Class III cultural resource pedestrian inventory was conducted on 100% of the proposed pipeline route in June 2011 and a report was issued in June 2011. The study involved a field survey of an area 250 feet wide for a total Area of Potential Effect (APE) of 203 acres.

The file search revealed two sites (32DV27 & 32BK44) and 32 site leads within the study corridor. The sites are well outside of the APE and were not affected by the project. Eight site leads are located within the APE. However the exact locations cannot be determined as no detailed maps of the site leads exist. These site leads are all unevaluated CM Scatter and were not located during the Class III survey. No cultural resources were identified within the APE.

Based on the results of the Class I and III cultural resource inventories, a finding of "No Historic Properties Affected" has been issued by Beaver Creek Archaeology. The findings of all inventory studies have been consolidated and summarized in Figure 3.B.2, and presented in more detail on the route maps found in Tab 4, Figure 4.B.1a through Figure 4.B.3a.

B.7 QUALIFICATIONS OF PERSONS CONTRIBUTING TO THE STUDY

The qualifications of the personnel who contributed to the route application include:

(1) Kent Christopherson, Vice President/Chief Operations Officer – Hiland Partners, LP

Degree: Bachelor of Science – Mining Engineering & Geology, South Dakota School of Mines and Technology
Master of Business Administration – Nova Southeastern University

Experience: 33 years in petroleum transportation field

Qualifications: Certified Maintenance & Reliability Professional by the Society of Maintenance & Reliability Professionals, Certified Lubrication Specialist by the Society of Tribologists & Lubrication Engineers

(2) Michael S. Higgins, Director-Project Management – Hiland Operating, LLC

Degree: Bachelor Business Administration – Kennedy Western University

Experience: 18 years in petroleum transportation field

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

Degree: Bachelor of Science - Chemical Engineering, University of North Dakota
Masters in Management, University of Mary

Experience: 32 years experience in petroleum refining and fuels transportation field as well as regulatory affairs and compliance.
Professional License
Registered Professional Engineer: North Dakota, South Dakota, Montana

(4) Jeremiah Trnka, Staff Engineer (Environmental) – Keitu Engineers & Consultants, Inc.

Degree: Master of Environmental Engineering, Washington State University
Bachelor of Fisheries and Wildlife Biology, University of North Dakota

Experience: 2 years experience in regulatory affairs and 2 years experience with North Dakota Game and Fish

Other Training: Intro to ArcGIS I and II, and Field GIS/GPS Mapping -- South Dakota School of Mines & Technology

(5) Heather Jandt, Specialist (Biology) – Keitu Engineers & Consultants, Inc.

Degree: Bachelor of Science, Major Biology, Dickinson State University

Experience: 5 years experience in regulatory affairs and compliance.

Other Training: Western Missouri State University – Global Positioning and Mapping
US Army Corps of Engineers Wetland Delineation Training

(6) Michael Pederson, Staff Consultant – Keitu Engineers & Consultants, Inc.

Degree: Bachelor of Science Natural Resource Mgmt Minor: Zoology/Range Science
North Dakota State University

Experience: 6 years experience in field technical services and regulatory affairs

Other Training: Emphasis: Biotic Resources

(7) Kristi Eng, Staff Consultant – Keitu Engineers & Consultants, Inc.

Degree: Bachelor of Science in Biology / Minor in Environmental Studies
University of North Carolina - Wilmington

Experience: 4 years experience in regulatory affairs and legal support services

Other Training: Conservation Biology, Tree and Foliage, US Army Corps of Engineers
Wetland Delineation Training

B.8 MAPS

See Tab 4, Figure 4.B, for the Project Mapbook and Tab 7 for ESRI software "shapefiles."

B.9 OTHER MATTERS

The information provided below is in accordance with North Dakota Century Code Sections 49-22-08.1(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 DOT regulations subject to the jurisdiction of the PHMSA, which has 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 followed standard techniques employed by other projects installed in North Dakota, such as Dakota Gasification Company's 14-inch CO_2 pipeline and the Enbridge Pipeline North Dakota, LLC's pipeline projects. Essentially an outdoor assembly line, the major steps of ROW preparation, pipeline construction, and reclamation typically include: (1) survey and staking of the right-of-way; (2) clearing; (3) front-end grading; (4) right-of-way 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; and (19) restoration and re-vegetation.

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

Before construction, Hiland Operating crews surveyed and staked the centerline and exterior boundaries of the construction ROW. The exterior boundary stakes mark the limit of approved disturbance areas, which were maintained throughout the construction period. The North Dakota One Call system was utilized to identify and mark the locations of underground utilities in the construction corridor. During this period, equipment involved in Project construction was moved onto the ROW using existing roads for access wherever practicable.

B.9 (a)(2) Clearing

Hiland Operating cleared the 125-foot-wide ROW of shrubs and trees. The clearing crew typically mowed, chipped, mulched and/or hauled off all non-merchantable timber. Burning of non-merchantable wood was allowed when the contractor had obtained the necessary permits and approvals. All merchantable timber was property of Hiland Operating unless other arrangements were made with the landowner.

B.9 (a)(3) Grading

Following clearing, the surface was graded to provide a relatively smooth working surface and a safe working area.

B.9 (a)(4) Topsoil Stripping

Topsoil was stripped and segregated in agricultural areas, cropland, hayfields, pasture, residential areas, and other areas as requested by the landowner along the Project route in accordance with Hiland Operating's EMP. In unsaturated wetlands, a maximum of 12 inches of surficial soils was also stripped from the trench areas. Topsoil was stripped to the depth of cultivation or a depth of 12 inches, whichever was greater.

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

Once the topsoil had been stripped and stockpiled, the route was resurveyed and staked.

B.9 (a)(6) Pipe Stringing

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

B.9 (a)(7) Pipe Bending

A pipe-bending machine bent individual joints of pipe to the desired angle to accommodate natural ground contours or pipeline alignment. In certain areas, prefabricated fittings were used where field bending was not practicable.

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

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

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

Final welds were 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 was complete, Hiland Operating compared the as-built condition and length of the pipeline with construction drawings. Documents were 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

PHMSA regulations require that at least 10% of the field welds be inspected using radiological (i.e., X-ray) and/or other non-destructive testing, such as checking coating integrity. Hiland Operating engaged a third-party inspection service provider meeting PHMSA certification requirements to perform X-ray inspections of 100% of the welds. After adequate performance had been established based on statistically significant data, and each of the Project's welders had demonstrated proper weld material handling, a reduction in the percentage of welds inspected was considered; however, the percentage of welds inspected never fell below the requisite 10%. When welds were deemed inadequate, appropriate repairs were made consistent with PHMSA regulations and re-inspected. Inspection records were cross-referenced against the final "as-built" footage of the pipeline.

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

The pipe was delivered with a factory coating of fusion-bonded epoxy or similar material to prevent corrosion. Hiland Operating applied coating at welded joints and electronically inspected the pipeline coating before the pipe was lowered into the trench.

B.9 (a)(13) Trenching

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

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

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

After welding and coating were completed and the trench was excavated, the pipe was lowered into the trench by side-boom tractors.

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

A survey of the final location of the pipeline was made.

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

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

Construction debris, including wooden supports, welding rods, containers, brush, trees, or refuse of any kind, was not permitted in the backfill. If an excessive amount of rocks was present in the backfill, the pipeline was 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, Hiland Operating tested the pipe pneumatically in accordance with the PHMSA regulations to ensure that the system was capable of operating at the design pressure. The testing process involved filling a segment of the pipeline with natural gas and maintaining a prescribed pressure for a specified amount of time.

B.9 (a)(18) Cleanup

Cleanup involved removing construction debris (including litter generated by construction crews and excess rock) and replacing fences removed during construction. In addition, extraneous material that would impede seed bed preparation was removed from the ROW. Fences that were removed to install the pipeline were reconstructed across the ROW.

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

Following installation and final cleanup of the Project construction area, original grade and contours were restored to the extent practicable and temporary and permanent erosion controls were installed. Disturbed areas were re-vegetated in accordance with permit requirements, agency input, and site-specific landowner requests.

B.9 (b) Landowner Issues

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

Hiland Operating has finalized easement agreements with all landowners along the proposed route. Construction occurred after the 2008 harvest and prior to the 2009 planting season, minimizing impacts to agriculture.

A brief description of the Project was mailed to landowners and all known tenant farmers. Hiland Operating is committed to giving landowners complete information about the Project and keeping them informed throughout the lifetime of the Project. Hiland Operating personally contacted landowners to discuss methods of calculating damage settlements and 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 regarding the Project. In addition to landowners, all known tenant farmers in the construction area were notified of the Project. A list of landowners and tenants who have been contacted regarding the Project is provided in Tab 4, Appendix 4.C.

B.9 (c) Operations and Safety

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

Hiland Operating's Control Center is monitored 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 Supervisory Control and Data Acquisition (SCADA) telemetry system provides 24-hour monitoring of the pipeline and pump operations, including pressures, temperatures, and flow rates. The SCADA system enhances immediate response capability to any potential problems. The Project was 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. Hiland Operating 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

Hiland Operating has an aggressive program to educate excavators and the public about the presence of the Project and prevent damage to the Project from excavating equipment. Hiland Operating has joined and supports the North Dakota One-Call system.

The pipeline is protected from corrosion in a number of ways. The pipeline is covered with a protective coating. In addition, the pipeline is under a cathodic protection system, as required by PHMSA regulations.

B.9 (c)(4) Inspections

Hiland Operating conducts routine inspections of the Project 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 readings and, where possible, line current readings. Additionally, each rectifier and anode groundbed 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 are taken, if needed.

Hiland Operating 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 Hiland System rights-of-ways which are designated Class 1 are inspected via foot patrol bi-annually. Road crossings are inspected via foot patrol semi-annually. These inspections are to verify that no abnormal conditions or dangerous activities, e.g., unauthorized excavation, have taken place along the routes of the lines.

Isolating valves are checked at least twice per year to ensure proper operation. Other components of the Project, such as tanks and pump stations are also routinely inspected.

Hiland Operating periodically inspects the pipeline internally with a tool called a caliper pig. These devices travel through the inside of the pipeline and either mechanically, ultrasonically, or magnetically examine the condition of the pipe using on-board computers. Results of the inspection are analyzed, and the pipe is manually inspected to verify preliminary findings. Repairs are conducted where necessary.

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 Hiland Operating's compliance with applicable government regulations. The PHMSA routinely inspects Hiland Operating's written procedures, records, and facilities.

B.9 (c)(5) Maintenance

Many other maintenance activities are performed on the Project. Hiland Operating has a comprehensive preventative maintenance program that meets and, in many cases exceeds, minimum federal safety standards set forth in PHMSA regulations, including 49 CFR Part 195. When facilities are added or replaced, there are comprehensive standards for their design and

installation in both Hiland Operating 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

Hiland Operating 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

Hiland Operating conducts a public education program to ensure that the affected public (i.e., those who work and live near the Project), excavators, local public officials, and emergency responders can recognize and avoid or respond to a pipeline emergency. Hiland Operating has also been active at the local, county, and state levels in emergency response planning and joint training/exercises to prepare all potential responders to deal with emergencies.

The Project 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 Project route.

B.9 (c)(8) Emergency Preparedness

Hiland Operating's operating and maintenance practices are aimed at preventing emergencies on the Project. However, it is imperative that Hiland Operating be prepared to respond to an emergency should one occur. In addition to preventative activities described above, Hiland Operating'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. SPCC plans were prepared for all North Dakota transportation and non-transportation related storage and use facilities with aggregate storage capacities in excess of 1320 gallons. The emergency response plan was submitted and approved by PHMSA as required by 49 CFR Part 194.

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