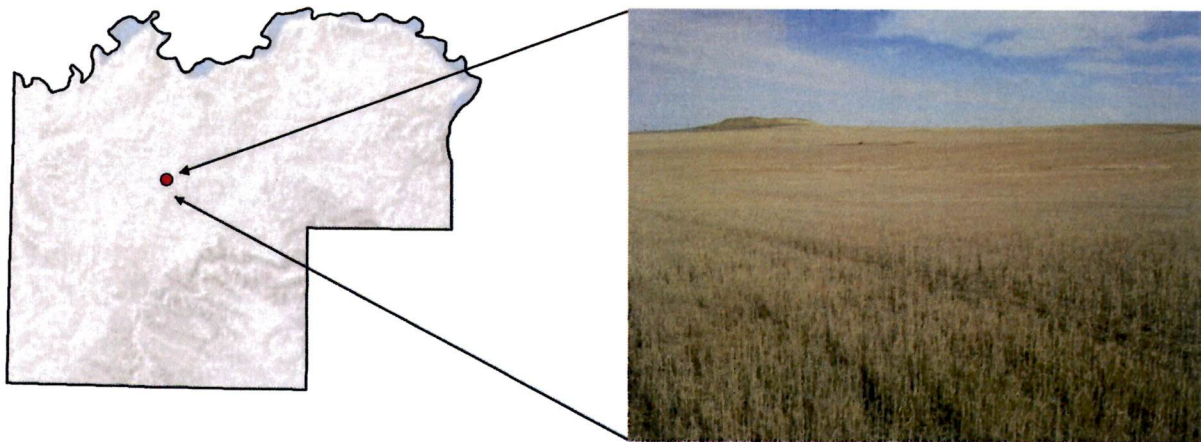


April 2014

**APPLICATION TO
NORTH DAKOTA PUBLIC SERVICE COMMISSION
FOR A CERTIFICATE OF SITE COMPATIBILITY**

LONESOME CREEK GAS PLANT

McKenzie County, North Dakota



ONEOK
ROCKIES MIDSTREAM

A SUBSIDIARY OF ONEOK PARTNERS, L.P.

22

PU-14-218
Exhibit 1

Filed: 6/30/2014

Pages: 116

1

ONEOK Rockies Midstream, L.L.C.



TABLE OF CONTENTS

INTRODUCTION 1

SECTION 1: DESCRIPTION 2

 1.1 Type 2

 1.2 Product 3

 1.3 Size and Design..... 3

 1.3.1 Gross Design Capacity..... 3

 1.3.2 Net Design Capacity 3

 1.3.3 Estimated Thermal Efficiency of the Energy Conversion Process and the Assumptions Upon Which the Estimate is Based 3

 1.4 Provide One Copy of the Design Data Reports Separate from the Application 3

 1.5 Time Schedule..... 3

 1.5.1 Certificate of Site Compatibility 3

 1.5.2 Land Acquisition 3

 1.5.3 Construction Start Date 3

 1.5.4 Construction Completion Date 3

 1.5.5 Test Operations 3

 1.6 Commercial Production Data for Lonesome Creek 4

 1.7 Estimated Cost of Construction..... 4

 1.8 Any Expansions or Additions..... 4

SECTION 2: STUDIES 5

 2.1 Study Area 5

 2.2 Site..... 5

 2.3 Environmental Analysis..... 5

 2.3.1 Natural Resource Inventory 5

 2.3.1.1 Botanical Inventory..... 6

 2.3.1.2 Tree/Sapling/Shrub Inventory..... 6

 2.3.1.3 Wetland and Waterbodies Inventory..... 6

 2.3.1.4 Wildlife Inventory..... 6

 2.3.2 U.S. Fish and Wildlife Service 6

 2.3.2.1 Federally Protected Species Review 6

 2.3.2.2 U.S. Fish and Wildlife Service Migratory Bird Treaty Consultation . 8

 2.3.3 U.S. Fish and Wildlife Service Managed Lands 8

 2.3.4 North Dakota Game and Fish Department..... 8

 2.3.5 North Dakota Parks and Recreation Department..... 8

 2.3.6 North Dakota State Historic Preservation Office..... 9

 2.3.7 North Dakota Department of Health 10

 2.3.7.1 NDDoH Air Quality 10

 2.3.7.2 NDDoH Pollution Discharge Elimination System..... 10

SECTION 3: NEED FOR FACILITY 12

 3.1 Analysis of Need Based on Present and Projected Demand, Including System Studies..... 12

 3.2 Description of Feasible Alternative Methods of Serving the Need 12

 3.3 ONEOK’s Most Recent 10-Year Plan 13

SECTION 4: LOCATION 14

4.1	Study Area	14
4.2	Identify and Map Criteria	14
4.3	Exclusion Area Inventory and Analysis.....	14
4.3.1	Federal Resource Review	15
4.3.2	State Resource Review.....	15
4.3.3	County Resource Review	15
4.3.4	Prime Farmland.....	15
4.3.5	Irrigated Farmland	16
4.3.6	Protected Species Resource Review.....	16
4.3.7	Critical Habitat for Protected Species.....	16
4.3.8	Areas in Proximity to ICBM Facilities.....	16
4.4	Avoidance Area Inventory and Analysis	16
4.4.1	Other Historical Resources Not Meeting Exclusion Area Criteria.....	17
4.4.2	Areas Within City Limits or Military Installation Boundaries	17
4.4.3	Areas Within Known 100-Year Floodplains	17
4.4.4	Areas of Known Geologic Instability.....	17
4.4.5	Woodlands and Wetlands/Waterbodies	17
4.4.6	Areas of Recreational Significance Not Categorized as Exclusion Areas	18
4.5	Factors to be Considered in Evaluating Applications and Designation of Sites, Corridors and Routes (Section 49-22-09, N.D.C.C.)	18
4.5.1	Selection Criteria.....	18
4.5.1.1	Agricultural Impact Assessment.....	18
4.5.1.2	Impact Upon the Availability and Adequacy of Local public services: 19	
4.5.1.3	The Impacts Upon:.....	20
4.5.2	Cumulative Effects of the Location of the Facility in Relation to Existing and Planned and Facilities and Other Industrial Development.....	21
4.6	Policy Criteria.....	22
4.6.1	Policies and Commitments to Limit Environmental Impact.....	22
4.6.2	Recycling of the Conversion Byproducts and Effluents	22
4.6.3	Energy Conservation through Location, Process and Design.....	22
4.6.4	Training and Utilization of Available Labor in This State for the General and Specialized Skills Required.....	22
4.6.5	Use of a Primary Energy Source or Raw Material Located Within the State	23
4.6.6	Nonrelocation of Residents	23
4.6.7	The Dedication of an Area Adjacent to the Facility to Land Uses Such As Recreation, Agriculture, or Wildlife Management.....	23
4.6.8	Economies of Construction and Operation	23
4.6.9	Secondary Uses of Appropriate Associated Facilities for Recreation and the Enhancement of Wildlife	23
4.6.10	Use of Citizen Coordinating Committees.....	23
4.6.11	A Commitment of a Portion of the Transmitted Product for Use in This State	24
4.6.12	Labor Relations	24
4.6.13	The Coordination of Facilities	24
4.6.14	Monitoring of Impacts.....	24
4.6.15	Problems Raised by Federal Agencies, Other State Agencies, and Local Entities.....	24

SECTION 5: MITIGATIVE MEASURES25
SECTION 6: LIST OF PREPARERS.....26

- Appendix A: Project Maps
- Appendix B: Engineering Documents
- Appendix C: Consultations
- Appendix D: Biology Report
- Appendix E: Cultural Resources Report
- Appendix F: 10 Year Plan

INTRODUCTION

ONEOK Rockies Midstream, L.L.C. (ONEOK) owns and operates natural gas gathering, processing and fractionation facilities in the Williston Basin area of North Dakota. ONEOK's facilities interconnect directly to the interstate natural gas pipeline grid, which serves markets in the Rocky Mountains, Midwest and California.

In the Williston Basin, ONEOK has extensive gas gathering pipeline networks, and multiple gas processing plants. Most of the wells connected to the facilities produce casinghead gas in association with crude oil. This casinghead gas is generally high in natural gas liquids (NGL) content, which are separated from the natural gas at the processing plants, fractionated into individual components and sold.

In response to the increased demand for the processing of natural gas, ONEOK proposes to construct the Lonesome Creek Gas Processing Plant (Lonesome Creek Plant or Plant) to address this regional need. ONEOK's plant would be located approximately 13 miles southwest of Watford City in McKenzie County.

ONEOK hereby submits to the North Dakota Public Service Commission (PSC or Commission) this application for a Certificate of Site Compatibility for its Lonesome Creek Plant Project.

This application provides the necessary information as stipulated by the North Dakota Century Code, Energy Conversion and Transmission Facility Siting Act, Chapter 49-22-08; and the PSC Administrative Code, Chapter 69-06-08-01 Energy Conversion Facility Siting Criteria.

The information presented in this application is organized into the following four main categories:

SECTION 1: DESCRIPTION

SECTION 2: STUDIES

SECTION 3: NEED FOR FACILITY

SECTION 4: LOCATION

To assist the Commission in its review of ONEOK's application, ONEOK has included with this application the information described in Section 49-22-09 of the Century Code, Factors to Consider in Evaluating Applications and Designation of Sites, Corridors, and Routes. This information is placed toward the end of Section 4, following the discussion of the Facility Siting Criteria.

SECTION 1: DESCRIPTION

1.1 Type

ONEOK's proposed Lonesome Creek Plant would be located approximately 13 miles southwest of Watford City, North Dakota. As proposed, the Plant would be constructed on a plot of approximately 160 acres located in the NE $\frac{1}{4}$, Section 36, Township 150 North, Range 101 West in McKenzie County, as depicted in the map included in Appendix A.

The Plant will have a process design capacity of 200 million standard cubic feet per day (MMscfd), utilizing a cryogenic turboexpander process. The facility will process associated natural gas from oil production wells connected to ONEOK's gathering system. The feed will be supplied to the proposed facility via ONEOK's gathering system, and once processed, the NGL product will be transferred to on-site storage tanks prior to being sold to an NGL pipeline. Residue gas, largely methane and ethane, will be transferred to the Northern Border Pipeline for transit on that system.

Once constructed, the Plant will occupy approximately 80 acres of the 160- acre plot; the remaining acreage will serve as stormwater outfall, vehicle parking, and unused space for potential future expansion.

Construction of the Plant will include the installation of underground piping, above ground piping, and above ground gas processing facilities. The major processing systems shall be located within the battery limits of the Plant. Starting from the inlet gas and following the process, these systems include the following:

- Inlet gas slug catchers;
- Inlet gas condensate pumping, filtration, and stabilization;
- Mole sieve dehydration
- NGL extraction (including refrigeration);
- High pressure residue gas compression;
- NGL product storage and pipeline pumps;
- Flare system
- Drain system;
- Plant control systems;
- Utility systems (electrical, instrument air, and heat medium)

A simplified engineering flow chart depicting the facility's process and an overview plot plan drawing showing the layout of the proposed processing equipment are included in Appendix B

1.2 Product

The Plant will produce an NGL mix stream containing products such as propane, butane, and natural gasoline, as well as pipeline grade natural gas, (a mixture of methane, ethane and carbon dioxide).

1.3 Size and Design

1.3.1 Gross Design Capacity

The Plant is designed with a nameplate capacity of 200 MMscfd. Appendix B includes a Design Data Report, which discusses the nameplate capacity in more detail.

1.3.2 Net Design Capacity

The net design capacity of the proposed Plant using a feed stream benchmark is 200 MMscfd less 3.4 MMscfd for utility natural gas.

1.3.3 Estimated Thermal Efficiency of the Energy Conversion Process and the Assumptions Upon Which the Estimate is Based

This not applicable to the process.

1.4 Provide One Copy of the Design Data Reports Separate from the Application

See Appendix B for complete Design Data Report.

1.5 Time Schedule

1.5.1 Certificate of Site Compatibility

ONEOK seeks a Certificate of Site Compatibility on or before June 12, 2014.

1.5.2 Land Acquisition

ONEOK is under contract to purchase an approximately 160.4-acre parcel from a private party for this project. The purchase agreement for this transaction is dated January 22, 2014 and closing is anticipated in the coming weeks.

1.5.3 Construction Start Date

ONEOK will begin construction of the Plant at the Site upon receipt of necessary authorizations. ONEOK anticipates that construction of the Plant will be initiated on or before July 1, 2014.

1.5.4 Construction Completion Date

ONEOK anticipates that Plant commissioning activities will begin in the fourth quarter of 2015, with the plant fully in service by the end of 2015. Site work including restoration may continue through summer 2016.

1.5.5 Test Operations

ONEOK anticipates that testing will be completed before the end of the fourth quarter of 2015.

1.6 Commercial Production Data for Lonesome Creek

<u>Product</u>	<u>Production</u>
Inlet Gas Rate	200 MMscfd
Mole Percent Ethane+	39%
Residue Gas Production	162 MMscfd
NGL Production	4,324,000 lbs/d
100 Percent Capacity Factor	Not applicable to this process

1.7 Estimated Cost of Construction

ONEOK estimates that the total cost of construction of the proposed Project will be approximately \$280 million.

1.8 Any Expansions or Additions

In the future, ONEOK may evaluate the addition of a second gas processing facility. Should an additional facility be proposed, its size and location will be dependent on commercial volumes, but could be of similar size and capacity of Lonesome Creek 1 and collocated on the same parcel of land.

SECTION 2: STUDIES

2.1 Study Area

The Study Area is defined by the approximately 1-mile-wide buffer area centered upon the 160-acre Site. The Site and the Study Area are depicted on the maps found in Appendix A: Project Maps. The environmental analysis was conducted for the entire Study Area.

2.2 Site

The Site is a 160-acre parcel as depicted in the maps found in Appendix A. A natural resource inventory was conducted that encompassed this entire parcel; resources inventoried included habitat analysis, wetland delineation, and tree/shrub inventory. Cultural resource field studies were also conducted throughout the entire parcel.

ONEOK initiated consultations with the Federal and state agencies identified below for the purpose of environmental resource assessment relative to the potential impacts associated with the siting and construction of the proposed Plant at this location. Refer to Appendix C for copies of these consultations.

- U.S. Fish and Wildlife Service (FWS);
- North Dakota Game and Fish Department (GFD);
- North Dakota Parks and Recreation Department (PRD);
- North Dakota State Historic Preservation Office (SHPO); and
- North Dakota Department of Health (NDDoH).

Consultations and field studies are summarized below.

2.3 Environmental Analysis

2.3.1 Natural Resource Inventory

ONEOK retained E3 Environmental L.L.C. (E3) to conduct a natural resource inventory of the Site. This inventory was conducted to study the presence or absence of protected species and critical habitat. Field studies included a wetland and waterbody survey and a tree/shrub inventory. The inventory and field studies were completed on March 13, 2014. A copy of the report can be found in Appendix D.

The Site is characterized as agricultural, with no trees or shrubs, and with no wetlands. One ephemeral stream is located within the Site.

2.3.1.1 Botanical Inventory

The Site is comprised of a single vegetative community. The Site is dominated by cultivated wheat (*Triticum aestivum*). Little bluestem (*Schizachyrium scoparium*), purple coneflower (*Echinacea purpurea*), smooth brome (*Bromus inermis*), crested wheat grass (*Agropyron cristatum*), tumble pigweed (*Amaranthus albus*), Kochia (*Kochia scoparia*), and Canada thistle (*Cirsium arvense*) are present along fence lines and hill crests too steep or rocky to cultivate.

2.3.1.2 Tree/Sapling/Shrub Inventory

No trees or shrubs were observed on the Site.

2.3.1.3 Wetland and Waterbodies Inventory

No wetlands were observed on the Site. One ephemeral stream was observed on the Site originating at the center of the Site and flowing northwest approximately 8.0 miles to its confluence with Lonesome Creek. United States Geologic Survey (USGS) topographic maps, National Hydrograph Data, and aerial photos indicate the presence of the ephemeral stream on the Site.

2.3.1.4 Wildlife Inventory

The wildlife observed on the Site are species commonly associated with agricultural communities. Various common avian and mammalian fauna were observed. No Federal or state species of concern were observed on the Site.

2.3.2 U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service (FWS) administer several natural resource programs designed to identify and protect various plant and animal species of special status including habitats deemed critical. ONEOK's efforts thus far to engage the FWS in consultation for purpose of identifying and addressing potential concerns are detailed in the following sections.

2.3.2.1 Federally Protected Species Review

Under the authority of the Endangered Species Act (ESA) of 1973, the FWS assesses wildlife populations for viability throughout their current and historic ranges. Those species that have been characterized as Threatened or Endangered Species as well as their critical habitats are managed by the FWS under the authority of the ESA.

E3 provided ONEOK technical assistance with protected species review and subsequent consultations with the FWS. A review of FWS published data identified the following listed species with the potential to occur within the study area:

- Interior least tern (*Sterna antillarum*) – Endangered
- Whooping crane (*Grus americana*) – Endangered
- Piping plover (*Charadrius melodus*) – Threatened
- Pallid sturgeon (*Scaphirhynchus albus*) – Endangered
- Gray wolf (*Canis lupus*) – Endangered

Least tern: The interior population(s) of the least tern has historically been associated with large river systems for breeding and migratory habitats. Breeding birds are known to breed in colonies utilizing sandbar habitat common to larger rivers. Regionally, the Missouri River, which is greater than 14 miles from the Site, is known to host remnant breeding populations of the terns. No terns or their habitat were observed on the Site.

Whooping crane: The whooping crane is a large-bodied marsh species that breeds primarily in Canada and winters in the Gulf of Mexico. This species has been closely studied and monitored in recent years due to its small population. North Dakota provides migratory habitat for the species, providing roosting and feeding opportunities during migration. This species prefers larger wetland complexes for roosting habitat, typically using adjacent uplands for foraging opportunities. The proposed project area is cultivated cropland which may act as a viable stopover area; however, no wetlands were observed. As such, the proposed project area is unlikely to support significant whooping crane migratory stopover habitat. Construction activities would likely serve as a deterrent, and once constructed the proposed facility would present a fairly prominent feature to be avoided relative to its surrounding landscape.

Piping plover: The piping plover is associated with shorelines along small alkaline lakes, large reservoir beaches, and river islands and adjacent sand pits. Breeding birds select wide beaches with highly clumped vegetation covering less than 25 percent of the area. Regionally, the Missouri River, which is greater than 14 miles from the Site, is known to host breeding populations of the plovers. It is unlikely that migrating piping plover would visit the project area during migration. The Site is not located within designated piping plover critical habitat.

Pallid sturgeon: The pallid sturgeon is known to occur in the Missouri River, which is located approximately 14 miles from the proposed project site. This species is sensitive to changes in water quality due to turbidity, water temperature, and flow. Due to project distance from known habitat, it is unlikely that Pallid sturgeon will be found at the Site. Best management practices will be implemented and a Storm Water Pollution Prevention Plan (SWPPP) will be developed for the project to minimize impacts to water quality. The proposed project is not anticipated to affect the water quality of the Missouri River.

Gray wolf: The gray wolf is a large carnivore that through conservation measures has experienced strong population recovery, particularly in the Great Lakes states of the upper Midwest. As populations rebound, individuals may break from packs to explore opportunities to establish packs in unoccupied territory. Roaming individuals can cover great distances without establishing viable breeding populations in previously unoccupied habitat(s). This species is not tolerant of human disturbance and will tend to avoid interaction with humans. The activities associated with construction and later Plant operations would likely serve as a deterrent to this species.

On March 18, 2014, on behalf of ONEOK, E3 submitted a letter to the FWS requesting comments and a concurrence of potential project-related impacts to federally-listed

species. The FWS responded on March 28, 2014 and concluded that the project will have no significant impacts to fish and wildlife resources, including federally-listed species. See Appendix C for a copy of the correspondence.

2.3.2.2 U.S. Fish and Wildlife Service Migratory Bird Treaty Consultation

The FWS is responsible for the protection of migratory birds; management of this responsibility has largely focused on protection of the birds while on their breeding grounds during the breeding season, defined by the FWS as February 1 through July 15. Cultivated land provides marginal habitat for breeding birds, and tilled fields typically lack the preferred vegetative cover necessary to provide suitable breeding habitat. The Site has been maintained as fallow wheat field during the 2014 breeding season, therefore it is unlikely that suitable breeding habitat for migratory birds is present.

On March 18, 2014, project specific consultations were initiated with the Bismarck, ND office of the FWS requesting concurrence that the proposed measures will adequately avoid and mitigate potential impacts to migratory birds. The FWS responded on March 28, 2014 and concluded that the project will have no significant impacts to general fish and wildlife resources. See Appendix C for a copy of the correspondence.

2.3.3 U.S. Fish and Wildlife Service Managed Lands

Conservation programs such as Waterfowl Production Areas (WPAs) and wetland and grassland easements represent an important tool used by the FWS to identify and manage high-quality wildlife habitat. A review of public records did not identify any of these FWS managed lands in the Study Area.

2.3.4 North Dakota Game and Fish Department

The North Dakota Game and Fish Department (GFD) has oversight of the State's game species and certain state managed lands (i.e.; PLOTS). On March 18, 2014, project specific consultations were initiated with the GFD requesting information on the absence/presence of State Conservation Priority Species and confirmation on the absence/presence of GFD PLOTS lands within the project Study Area and Site. The GFD responded on April 14, 2014 and concluded that there are no wildlife concerns or PLOTS lands within the project Study Area and Site. See Appendix C for a copy of the correspondence.

2.3.5 North Dakota Parks and Recreation Department

The North Dakota Parks and Recreation Department – Natural Resource Division (PRD) scope of authority and expertise covers recreation and biological resources (in particular rare species and ecological communities). The PRD also maintains a database comprised of the location and recorded occurrences of plant and animal species of special concern.

On March 18, 2014, project specific consultations were initiated with the PRD requesting confirmation of the absence of plant or animal species of concern or other

significant ecological communities are associated with the project Study Area and Site and State lands or management projects under the PRD jurisdiction within the Study Area or Site. The PRD responded on April 14, 2014 and concluded that there are no documented occurrences of any special status species or significant ecological communities within 1-mile of the Study Area and the project will not affect state park lands or Land and Water Conservation Fund recreation projects. See Appendix C for a copy of the correspondence.

2.3.6 North Dakota State Historic Preservation Office

The North Dakota State Historic Preservation Office (SHPO) is responsible for managing the historic and archaeological resources of the state. Metcalf Archeological Consultants, Inc. (Metcalf) was retained by E3 to survey the Site and report the results to the SHPO.

On March 10, 2014, Metcalf conducted a Class I Cultural Resources Literature Search of SHPO records to identify previously completed cultural resource investigations and previously recorded cultural resources within 1 mile of the Site. This search found that six (6) cultural resource investigations had previously been conducted within the search area. This research identified ten (10) previously recorded cultural resources located within 1 mile of the Site. These resources are comprised of two architectural sites, three historic sites, four prehistoric sites and one prehistoric isolate. The nearest resource is located approximately 0.75 miles north of the project Site and will not be impacted by the proposed project.

On March 12, 2014, Metcalf conducted a Class III Cultural Resource Inventory of the Site. Archaeologists completed a pedestrian survey supplemented with limited shovel testing of the 160-acre Site. A single, historic isolated find (IF) was identified by the Class III survey. This IF is considered not eligible for the National Register of Historic Places.

Metcalf prepared a Finding of No Historic Properties Affected Report that detailed results from the literature search and survey. See Appendix E for a copy of this report.

On April 7, 2014, on behalf of ONEOK, E3 submitted the survey report to the SHPO seeking concurrence with the results and recommendations of the report. The SHPO responded on April 11, 2014 and concurred with the conclusions and recommendations as presented. See Appendix C for a copy of the correspondence.

2.3.7 North Dakota Department of Health

The North Dakota Department of Health (NDDoH) administers regulatory programs which monitor and enforce compliance with state and federal laws related to air and water quality. ONEOK is currently engaged at various stages in the permitting process with the NDDoH with respect to air emissions and water discharges.

2.3.7.1 NDDoH Air Quality

The NDDoH administers the state's air quality protection programs. ONEOK is applying for the required permits for construction and operation of the new emission sources. Equipment such as electric-driven compressors, heat medium fluid heaters, storage vessels, flares, and other ancillary equipment could be regulated emission sources and will be included in the permit application required by NDDoH for the construction and operation of air emission sources.

ONEOK's design plans include incorporating the necessary control measures to reduce total emissions for the Plant and ascertain compliance with all state and federal rules. The estimated emission reduction and total estimated emissions for the Plant have not been finalized.

ONEOK will obtain an NDDoH Air Pollution Control Permit to Construct (APCPC) that will address net potential emissions from the Plant. The permit is required prior to initiation of construction of a new stationary emission source. Once the Plant is constructed and begins operations, ONEOK will notify the NDDoH to procure an Operating Permit for the Plant, as required.

2.3.7.2 NDDoH Pollution Discharge Elimination System

The North Dakota Pollution Discharge Elimination System (NDPDES) is the regulatory program that regulates water discharges. ONEOK will procure the following NDPDES permits from the NDDoH for regulated discharges associated with the construction and operation of the Plant.

Construction Stormwater: ONEOK will be seeking coverage under NDR10-0000 *Authorization to Discharge Under the North Dakota Pollutant Discharge Elimination System* general permit for construction sites as required when disturbing an area greater than five (5) acres during construction. A project-specific erosion control plan referred to as Storm Water Pollution Prevention Plan (SWPPP) will be prepared and maintained on-site for the duration of the project. ONEOK will properly implement the SWPPP which will be designed to manage run-off in a manner that will minimize exposure to chemicals, waste, or petroleum products as well as describing erosion control measures designed to minimize off-site transfer of sediments.

Construction site dewatering: ONEOK will be seeking coverage under NDG07-0000 *Authorization to Discharge Under the North Dakota Pollutant Discharge Elimination* a general permit for various temporary discharges including both construction site

dewatering and hydrostatic test water discharges. Site dewatering is required when groundwater infiltrated excavations (e.g., foundations and trenches) must be removed. Discharges are managed to minimize scouring and off-site transfer of sediments. Discharges are monitored and water quality samples will be collected, analyzed and reported as stipulated by the general permit.

Hydrostatic test water discharges: ONEOK will be seeking coverage under NDG07-0000 *Authorization to Discharge Under the North Dakota Pollutant Discharge Elimination* a general permit for various temporary discharges including both construction site dewatering and hydrostatic test water discharges.

Industrial discharges: ONEOK understands that the Plant will be exempt from a requirement to obtain an industrial discharge permit of stormwater. The Plant's SIC code is 1321, which is exempt from stormwater permit requirements. Additionally, ONEOK has developed no-contact facilities which are also eligible for exempt status, but require an NDDoH review of the facilities and stormwater control measures.

SECTION 3: NEED FOR FACILITY

3.1 Analysis of Need Based on Present and Projected Demand, Including System Studies

Technological advances in drilling and completion associated with horizontal wells currently employed in the Bakken Shale and Three Forks formations of the Williston Basin has dramatically increased hydrocarbon production in the area. In addition to technological advances, area drilling activity has increased measurably. Natural gas production in North Dakota reached a record high in June 2013 at 931 MMscfd, up nearly 4 percent from the previous month.

The increased production continues to be constrained by take away capacity for both crude and gas products. While near term demands associated with increased crude oil production can be readily addressed with the installation of tankage for temporary storage coupled with additional trucking or rail capacity to bring it to market, the associated natural gas production is typically lost to flaring until the required infrastructure is placed into service. The requisite infrastructure includes gathering systems and gas processing to refine the raw feed stock into commercial products. The function of the gas processing plant is to separate commercial grade methane (i.e.; natural gas) from NGLs such as butane, propane and ethane; and in turn prepare these products for delivery. A measurable increase in flaring activity was observed in April 2011, reaching a peak of 35.8 percent in September 2011. As of October 2013, the Oil and Gas Division of the North Dakota Industrial Commission's Department of Mineral Resources has reported that approximately 28 percent of the natural gas produced in North Dakota continues to be flared.

The rapid increase in gas production from Bakken and Three Forks wells has exceeded the limited processing capacity available at existing facilities, and construction of additional processing capacity is required to meet the demand of area producers. Absent the construction of additional processing capacity, gas produced in association with oil from these wells must be flared, which is a loss of revenue to the producers, royalty owners, and the state of North Dakota. In addition to environmental impacts, gas gathering and processing is a non-discretionary service that is required for the marketing and sale of natural gas produced in association with oil from these wells.

The Lonesome Creek Gas Plant has a design capacity of 200 MMscfd and will serve a geographic region encompassing approximately 3,000,000 acres, providing gas processing services for an estimated 2,400 wells.

3.2 Description of Feasible Alternative Methods of Serving the Need

A thorough analysis of all reasonable alternatives was conducted. Various factors were considered by ONEOK, including engineering, economic, and environmental factors in multidisciplinary and iterative fashion. This process identified the following alternatives.

No Action Alternative: Overall regional production would continue to be constrained by gas processing capacity, resulting in increased flaring at well head and loss of natural resources. This alternative is not desirable.

Expansion of Existing Processing Facilities: ONEOK initially considered the expansion of its Grasslands Gas Plant located near Sydney, Montana in western McKenzie County. The Grasslands Plant was expanded from 60 MMscfd to 100 MMscfd in 2009 when Bakken formation wells were first drilled in the Elm Coulee Field in Richland County, Montana. However, ONEOK concluded that further expansion of the Grasslands Plant was uneconomical due to (1) a lack of sufficient space and limited capacity of peripheral equipment at the Grasslands Plant to accommodate further expansion, and (2) a lack of capacity in ONEOK's high pressure gathering system to deliver significant volumes of gas production from northern and eastern Williams County to the Grasslands Plant. The Grasslands Plant is approximately 70-80 miles from the area where the production is currently being developed, thus, this alternative is not desirable.

ONEOK also considered sending additional gas to the Garden Creek Gas Plant located near Watford City in McKenzie County. The Garden Creek Gas Plant is currently being expanded through the construction of two additional plants, each of which will provide 100MMscfd of additional processing capacity over the initial plant capacity of 100MMscfd. ONEOK concluded that further expansion was not feasible.

Alternative Plant Location: Alternative locations near the current site with different landowners, and with different parcels from the same landowner, were also considered but were found to have greater indirect impact to area resources as each alternative site considered would require installation of additional infrastructure (e.g., access roads, utilities, and delivery pipelines) and increased distance from ONEOK's existing gas gathering system which would deliver gas to the plant). This alternative is not desirable.

3.3 ONEOK's Most Recent 10-Year Plan

ONEOK's most recent 10-year plan was filed August 6, 2012 (PU-12-673) and is included as Appendix F. The Lonesome Creek 1 Plant was listed in the 10 year plan as a "Planned Facility" in Section C for proposed facilities to be constructed within 5 years. The Lonesome Creek 2 Plant was listed in the 10 year plan as a "Potential Facility" in Section C for proposed facilities to be constructed within 5 years.

SECTION 4: LOCATION

4.1 Study Area

ONEOK’s Study Area included a 1-mile-wide area surrounding the 160-acre Site as described in Appendix B. ONEOK initiated agency consultations, Geographic Information System mapping, internet based research and desktop analysis when conducting the resource inventory of the Site. These efforts were augmented with biological and cultural resource surveys of the Site.

4.2 Identify and Map Criteria

The information presented in this section was developed to demonstrate conformance with the Commission’s siting criteria for Energy Conversion Facilities. ONEOK has conducted a thorough inventory of the Study Area and evaluated the resources that occur within the Study Area and Site sufficiently to assess the compatibility of the Plant with the state’s siting criteria. The following sections identify and discuss the presence or absence of siting criteria within the Study Area or Site.

4.3 Exclusion Area Inventory and Analysis

Exclusion areas are geographic areas that should be excluded from consideration when siting an Energy Conversion Facility. The following table and text identify and discuss exclusion areas identified within the Study Area or Site.

Exclusion Area		Project Site	Within Study Area
Federal			
	National Parks or Memorial Parks	No	No
	Historic Sites, Districts, or Landmarks	No	No
	Natural Landmarks or Monuments	No	No
	Wilderness Areas or Wildlife Areas	No	No
	Wild, Scenic or Recreational Rivers	No	No
	Wildlife Refuges or Grasslands	No	No
State			
	Parks, Forest or Forest Management Lands	No	No
	Historic Sites, Monuments, or Historical Markers	No	No
	Archaeological Sites	No	No
	Grasslands	No	No
	Wild, Scenic or Recreational Rivers	No	No
	Game Refuges or Game Management Areas	No	No
	Management Areas	No	No
	Nature Preserves	No	No
County			
	Parks	No	No

Exclusion Area		Project Site	Within Study Area
	Recreation Areas	No	No
	Municipal Parks	No	No
Other			
	Parks or public lands held by other government entities.	No	No
	Prime Farmland	No	No
	Irrigated Farmland	No	No
	Critical habitat for protected species	No	No
	Areas within 1,200 feet of ICBM facilities	No	No

4.3.1 Federal Resource Review

Based upon a review of publicly available information, ONEOK has concluded that there are no national parks, memorial parks, historic sites and landmarks, monuments, or wilderness areas within the Study Area or Site. ONEOK has completed consultations with the appropriate federal agencies to confirm this conclusion. See Section 2 for a comprehensive discussion of ONEOK’s consultations.

4.3.2 State Resource Review

Based upon a review of field surveys and publicly available information, ONEOK has concluded that there are no state parks, historic sites, monuments, historical markers, archaeological sites, or nature preserves within the Study Area or Site. ONEOK has completed consultations with various agencies to confirm this conclusion. See Section 2 for a comprehensive discussion of ONEOK’s efforts.

4.3.3 County Resource Review

Based upon a review of publicly available information, ONEOK has concluded that there are no county parks, recreation areas, municipal parks, or parks owned by other subdivisions of government bodies within the Study Area or Site. ONEOK has completed consultations with various agencies to confirm this conclusion. See Section 2 for a comprehensive discussion of ONEOK’s efforts.

4.3.4 Prime Farmland

ONEOK conducted a review of published data to assess both the Study Area and Site for the presence of Prime Farmland. ONEOK has confirmed the absence of Prime Farmland within the Site and Study Area. However, analysis has confirmed the presence of Farmland of Statewide Importance in both the Site and Study Area. The Site encompasses approximately 19.4 acres of Farmland of Statewide Importance, while the Study Area encompasses an additional 334 acres. Generally, Farmland of Statewide Importance includes areas considered nearly Prime Farmland and has the potential to economically produce high yields of crops when treated and managed according to acceptable farming methods. North Dakota has an estimated 10,014,936 acres of Farmland of Statewide Importance and as such the 19.4 acre within the Project Site represents approximately 0.000194 percent of that total. Thus, the proposed

development of the Project will not impact Prime Farmland nor will it have a significant impact on Farmland of Statewide Importance when assessed on statewide basis.

4.3.5 Irrigated Farmland

ONEOK’s investigation found no evidence of irrigation within the Study Area or Site.

4.3.6 Protected Species Resource Review

ONEOK has conducted field surveys of the Site and reviewed published information and has concluded that there are no areas critical to the life stages of threatened or endangered animal or plant species within the Study Area or Site. ONEOK has initiated consultations with Federal and state agencies to confirm this conclusion. See Section 2 for a comprehensive discussion of ONEOK’s efforts.

4.3.7 Critical Habitat for Protected Species

Based upon consultations with agencies and surveys of the Site, ONEOK has confirmed the absence of critical habitat within the Study Area and Site. See Section 2 for a comprehensive discussion of ONEOK’s efforts.

4.3.8 Areas in Proximity to ICBM Facilities

Based upon information compiled by the University of Wyoming regarding current and historic missile site locations, which was comprised of both tabular data describing these sites and supported with additional aerial imagery for each Minot Air Force Base Minuteman Intercontinental Ballistic Missile (ICBM) site, ONEOK has confirmed the absence of ICBM facilities within 1,200 feet of the Site.

4.4 Avoidance Area Inventory and Analysis

Avoidance Area		Project Site	Within Study Area
Other			
	Other Historic Resources not meeting Exclusion Areas criteria	No	No
	Areas within City Limits or Military Installation Boundaries	No	No
	Areas within Known 100-Year Floodplains	No	No
	Areas of Known Geologic Instability	No	No
	Woodlands and Wetlands	No	Yes
	Areas of Recreational Significance not categorized as Exclusion Areas	No	No

4.4.1 Other Historical Resources Not Meeting Exclusion Area Criteria

ONEOK conducted a Class I study of the Study Area and Site, and conducted a Class III cultural resource survey of the Site; these studies confirmed the absence of historical resources. On April 7, 2014 ONEOK submitted survey results to the SHPO for review and comments seeking concurrence with this conclusion. On April 11, 2014, ONEOK received SHPO concurrence. See Section 2 for a comprehensive discussion of ONEOK's efforts.

4.4.2 Areas Within City Limits or Military Installation Boundaries

ONEOK has confirmed that the Study Area and Site are not located within city limits or within the boundaries of military installations.

4.4.3 Areas Within Known 100-Year Floodplains

Flood hazards are benchmarked with Federal Emergency Management Administration's (FEMA) 100-year floodplain analysis. Preliminary floodplain mapping has been completed by FEMA in McKenzie County. Analysis of the Site and Study Area determined that this area is located within the mapped Zone X (non-floodplain). Therefore, the Site and Study Area are not located within the 100-year or 500-year floodplain

4.4.4 Areas of Known Geologic Instability

There are no known areas of geological instability within the Study Area or Site. North Dakota has not experienced an earthquake of sufficient magnitude to damage welded steel piping or structural steel in recorded history. Sink holes are known to occur in North Dakota but are more closely related to mining activities and no evidence of mining or sink holes were identified. Finally, the potential for landslides was evaluated. Earth movement of this nature is closely associated with areas of great topographic relief, high gradient slopes, recent deposits that have yet to reach a stable angle of repose, or where underground water movement may create a slurry of rock and mud resulting in a subsidence. Analysis confirmed the absence of landside deposits within the Site. However, landslide deposits were identified within the Study Area. These deposits are located approximately 0.4 mile to the north of the Site and are associated with Hay Butte.

4.4.5 Woodlands and Wetlands/Waterbodies

Natural resource studies were augmented by GIS analysis and agency consultations when assessing woodland and wetland/waterbody resources of the Study Area. A comprehensive field survey of the entire Site was conducted on March 13, 2014, to assess the presence or absence of these features within the boundaries of the Site.

Woodlands associated with waterways and property/section lines occur within the Study Area, however, none were found on the Site. Four mapped wetlands, all less than 0.5 acres in size, were inventoried within the Study Area. No wetlands are mapped within the Site and none were observed on the Site during field surveys. An inventory of

waterbodies revealed several mapped features characterized as ephemeral streams within the Study Area. These waterbody features are consistent within the general topography of the area and are indicative of surface drainage patterns. Features of this type are not generally regulated. Field studies confirmed the presence of one ephemeral stream on the Site that originates at the center of the Site and flows northwest eventually reaching its confluence with Lonesome Creek approximately 8.0 miles away. Field evaluation of feature determined that it lacked the physical characteristics necessary to be considered a regulated waterway. See Appendix D for the natural resource studies and wetland/waterbody delineation report for this Site.

4.4.6 Areas of Recreational Significance Not Categorized as Exclusion Areas

No areas of recreational significance occur within the Study Area or Site.

4.5 Factors to be Considered in Evaluating Applications and Designation of Sites, Corridors and Routes (Section 49-22-09, N.D.C.C.)

4.5.1 Selection Criteria

The selection criteria require a study of environmental impacts and changes in land use that may result from the siting of the proposed facility. The results of this effort are presented below.

4.5.1.1 Agricultural Impact Assessment

Agricultural Production: The Plant will remove approximately 160 acres of tillable land from agricultural production. This parcel represents the minimum amount of surface area necessary to develop the gas processing capacity with current design specifications while maintaining minimum spacing requirements for the equipment, and installation of necessary peripheral equipment such as a flare, power substation, roads, and continually occupied office building.

Family Farms and Ranches: The property is being acquired through a purchase agreement negotiated by ONEOK and the landowner. The Site will be converted from a family farm/rangeland to an industrial use. The Site is approximately 0.9 mile from the nearest farm structures. No other impacts to family farms or ranches are anticipated.

Lands Suitable for Irrigation: Construction activity will not impact irrigated lands. Land that is most efficient for irrigation is relatively level and has soils that are well drained and highly permeable. The combination of topographic relief and soil characteristics at the Site indicate that the Site is not suitable for irrigation. No above-ground irrigation systems have been identified in the Study Area.

Surface Drainage: The existing surface drainage pattern at the Site is to the northwest to an unnamed intermittent tributary to Lonesome Creek. ONEOK has studied the site with respect to stormwater run-off management and has determined that the most effective means of controlling stormwater flows over the long-term will be to implement

certain engineered structural control measures to manage run-off from the Plant in combination with a passive system that utilizes the natural drainage of the undeveloped portions of the Site. This adjacent, undeveloped area will provide natural filtration of sediments and will reduce the volume and velocity of stormwater runoff.

Ground Water: The aquifers that underlay North Dakota are typically associated with two types of geologic formations, specifically bedrock and glacial drift. Bedrock aquifers in the area are known to occur from 3,000 to 5,000 feet below the surface, while glacial drift aquifers are known to occur at depths of from a few feet to up to 500 feet below the surface. Ground water suitable for domestic and livestock supplies in McKenzie County is available from three aquifer systems in semi-consolidated rocks of Late Cretaceous and Tertiary age. In McKenzie County, the Fox Hills and basal Hell Creek aquifer system is used as a source for livestock and domestic supplies. This aquifer system generally is 1,100 to 1,800 feet below land surface. Tertiary age aquifers are limited in use due to chlorides and dissolved solids. Ground water is also available from aquifers in unconsolidated sand and gravel of Quaternary age that is suitable for domestic, livestock, municipal, industrial, and irrigation uses. Six of these aquifers occur in McKenzie County; the Bennie Peer, Charbonneau, Cherry Creek, Little Missouri River, Tobacco Garden, and Yellowstone-Missouri aquifers. The proposed project is not located within any of these ground water resource areas.

In order to better understand soil characteristics in preparation for site grading and foundation design, a total of twentyone soil borings were conducted for the project ranging in depth from 31 to 51 feet. Water table was encountered in nine of the borings ranging in depth from 6.8 to 46 feet below surface. Most ground excavation associated with the project will generally be limited to depths no greater than 8 feet; as such, it is unlikely that the project would have significant or permanent impact on groundwater resources used for domestic, livestock, municipal, industrial, and irrigation water supply. ONEOK will be seeking a permit to install a ground water well to provide a source of water during construction and as a source of utility water to the office building after construction.

Agricultural Quality of the Cropland: Land acquired for the Plant will be permanently removed from agricultural production. No other impact to agricultural lands is anticipated.

4.5.1.2 Impact Upon the Availability and Adequacy of Local public services:

The potential impacts to local public services including law enforcement, fire department, health care, public schools, and recreational facilities are anticipated to be temporary in duration and minimal in their overall effect to existing programs and systems.

Construction activities are anticipated to occur over an 18 to 24 month period. During this period, there will be an influx of employees ranging from laborers, skilled trades,

technicians, engineering and environmental professionals. The work force will typically engage 250 individuals, with periods of peak activity where the workforce will increase to levels of up to 300 individuals for a period of up to 6 months.

Area resources may experience increased demand on services with the addition of construction workers temporarily residing in the area. The peak demands will likely occur in 2015. The most noticeable impact may be due to an increase in vehicle traffic associated with the Plant.

Prior to construction, ONEOK will coordinate with local health care providers and emergency responders to discuss emergency response coordination.

4.5.1.3 The Impacts Upon:

Local Institutions: Due to its proximity to the Site, Watford City, ND may see the greatest impact from the project. These impacts from facility construction will be temporary, as the majority of the construction will be completed by 2015. Once operational, the Plant will employ approximately 25 full time employees to operate the facility. Plant operations will engage local businesses and contractors to support the facility. Generally, the impacts will be beneficial to the local economy due to the addition of revenues from outside of the community being spent on goods and services locally. The beneficial impacts of the additional workforce associated with permanent workforce required to operate the facility will have long term benefits on the economy that are anticipated to be greater than the demands placed upon the institutions.

Noise-Sensitive Land Uses: There are no noise-sensitive resources located within 500 feet of the Site. ONEOK has identified the closest dwelling located within the Study Area as being located approximately 0.9 miles from the Site. The project has been sited approximately 13 miles southwest of Watford City in a rural setting, effectively isolating the project from the majority of sensitive receptors. Local residents may experience additional motor vehicle volumes on area roadways, but the noise associated with vehicles will be similar to existing background levels and occur largely during normal business hours.

Rural Residences and Businesses: The project is located approximately 13 miles from Watford City. Residents may experience additional traffic congestion and an increase in commerce in response to the influx of temporary workers purchasing goods and services. The Plant will likely benefit the local economy for both the near and long term.

Aquifers: Water demands during and after construction are anticipated to be minimal. A ground water well has been planned to provide water during construction and serve as utility water during operations. ONEOK expects the permitting process associated with siting the well will ensure that the resource will be sufficient to support the

anticipated demand without impacting other current or anticipated beneficial use of the resource.

Human Health and Safety: ONEOK promotes a safe and healthy workplace during construction and operations of all its assets. A corporate policy that meets or exceeds federal and state laws, rules and regulations is enforced and adhered to by all employees and contractors. ONEOK governs operations and construction activities with various safe work procedures designed to protect property and personnel and maintain regulatory compliance.

Animal Health and Safety: The wildlife currently inhabiting the Site are common and are generally mobile. The local wildlife inhabitants will be displaced by the project without a measurable impact to the viability of these populations. No species of special concern are anticipated to experience direct impacts due to construction or operation of the Plant.

Plant Life: The project will result in the loss of negligible amount of pasture land, when measured on a county- or state-wide basis. No species of special concern will be impacted by the project.

Temporary and Permanent Housing: The region has experienced increased demand for permanent and temporary housing as the result of the continued expansion of resource production. The area has witnessed this increased activity since the early 2000's and as a result has steadily increased lodging resources in response. The temporary work force is expected to be well aware of the situation and willing to accept non-traditional lodging opportunities such as work camps if necessary.

Temporary and Permanent Skilled and Unskilled Labor: Construction of the Lonesome Creek Plant will require a work force of approximately 250 to 300 temporary employees. The construction employees will be comprised of both skilled and unskilled personnel. Skilled labor will include craft workers such as operating engineers, iron workers, welders, electricians, carpenters and boilermakers. The unskilled workforce will be comprised of common laborers who work closely with the skilled trades.

Once the Plant is operational, it will require approximately 25 full-time employees. These personnel will be responsible for day-to-day operations, maintenance, and support of local gathering assets that supply the Plant.

4.5.2 Cumulative Effects of the Location of the Facility in Relation to Existing and Planned and Facilities and Other Industrial Development

ONEOK is not aware of any new planned facilities or industrial developments at the Site. The introduction of additional gas processing capacity may expose existing demand that may result in development of additional gathering capacity. Also a result of new

processing capacity, there may be development of additional take-away capacity to bring the product to market.

4.6 Policy Criteria

The Commission may give preference to an applicant that will maximize benefits that result from the adoption of the following policies and practices, and in proper case may require the adoption of such policies and practices. The Commission may also give preference to an applicant that will maximize interstate benefits.

4.6.1 Policies and Commitments to Limit Environmental Impact

ONEOK is committed to conducting its business in compliance with all applicable environmental laws and regulations. These laws, regulations and standards are designed to safeguard the environment, human health, wildlife, and natural resources. Our commitment to observe them faithfully is an integral part of our business and our values.

ONEOK will make environmental considerations contained in the permits and authorizations received for this project a priority. ONEOK will conduct its activities with the objectives of providing a healthful and safe workplace for our employees, preventing accidents and environmental incidents, and controlling emissions and wastes to below harmful levels.

All persons and firms providing service to ONEOK are required to conduct their work in compliance with environmental conditions, permit authorizations, and regulations, and will be held accountable for their actions in that regard.

4.6.2 Recycling of the Conversion Byproducts and Effluents

Not applicable to this type of project.

4.6.3 Energy Conservation through Location, Process and Design

The siting of the Plant in close proximity to wellhead and gathering systems reduces emissions associated with shipping raw feed gas over greater distances. Waste energy is generated in the expansion of cooled inlet gas to the cryo-thermal gas plant. The gas is first chilled to condense liquids. After separation, the temperature of the gas is then lowered further via the process of throttling expansion in the expander section of the turbo-expander. The expander is tied by an integral shaft to a compressor to compress gasses from the stabilizer overhead prior to the residue compressors. The mechanical efficiencies of the turbo-expanders can achieve 90 percent.

4.6.4 Training and Utilization of Available Labor in This State for the General and Specialized Skills Required

Gas plant construction is a specialized niche construction market and the labor force needed to build the Plant will be primarily comprised of a non-local workforce. The primary contractor will be a non-local contractor, supplying specialized skilled labor.

ONEOK will draw upon the local labor force to supply general laborers. The workforce is anticipated to reach a peak of approximately 300 personnel of which up to 10 percent could be drawn upon locally.

4.6.5 Use of a Primary Energy Source or Raw Material Located Within the State

The raw feed gas supplying the proposed Plant will be produced primarily in this State with some additional production being supplied from eastern Montana. The Plant products will be shipped to delivery points in State and also potentially transported out of state.

4.6.6 Nonrelocation of Residents

No residences shall be displaced or require relocation due to the Project.

4.6.7 The Dedication of an Area Adjacent to the Facility to Land Uses Such As Recreation, Agriculture, or Wildlife Management

ONEOK does not own property adjacent to the proposed Project suitable for recreation, agricultural, or wildlife management purposes. The current land use of properties adjacent to the Project is agricultural/range land (see Appendix B).

4.6.8 Economies of Construction and Operation

ONEOK has sited the plant to be near current and projected future development. The location will also take advantage of close proximity to existing infrastructure including electrical power, gathering and discharge pipelines. The Plant's location and design are clear examples of creating an economy of scale project concept, achieving additional production capacity in the most minimally intrusive and most efficient way possible, in terms of new infrastructure development.

4.6.9 Secondary Uses of Appropriate Associated Facilities for Recreation and the Enhancement of Wildlife

Construction of the Plant will result in the development of an industrial facility and a setting not typically suitable for recreational or wildlife application.

4.6.10 Use of Citizen Coordinating Committees

ONEOK has established and maintained a good relationship with the local residents through its presence operating gathering systems in the area. Through these relationships ONEOK has maintained several grass roots communication channels to inform local residents regarding the developments associated with the Plant. At the time of writing, ONEOK intends to meet both formally and informally with the following government and economic groups:

- Alex Township
- McKenzie County Commission
- McKenzie County Planning and Zoning Office
- Watford City Chamber of Commerce

ONEOK is currently engaged with the McKenzie County Planning and Zoning Office to modify the zoning designation of the Site from Agricultural to Industrial Use.

4.6.11 A Commitment of a Portion of the Transmitted Product for Use in This State

The raw feed gas supplying the proposed Plant will be produced primarily in this State with some additional production being supplied from eastern Montana.

4.6.12 Labor Relations

ONEOK does not anticipate encountering any adverse labor relations on this Project. The labor market in the Project area is supportive of the oil and gas industry.

4.6.13 The Coordination of Facilities

ONEOK is actively pursuing natural gas gathering and processing development projects in northwestern North Dakota. ONEOK will coordinate the construction of the Project with its other gas gathering construction projects. Coordinating construction activities will result in greater efficiencies by using much of the same labor pool and often the same construction equipment.

4.6.14 Monitoring of Impacts

ONEOK will coordinate with its primary contractor, Linde Process Plants, Inc., the oversight responsibilities for construction activities at the Site. Environmental responsibilities shall be coordinated in the same manner.

4.6.15 Problems Raised by Federal Agencies, Other State Agencies, and Local Entities

ONEOK has initiated consultations with several federal, state, and local authorities who have environmental oversight authority. The purpose of these consultations is the identification of potential natural resource issues related to the Plant. To date, responses have been received from all of the agencies contacted indicating that there will be no significant environmental impacts associated with the proposed project. ONEOK will remain responsive to agency input through construction, restoration and operations.

SECTION 5: MITIGATIVE MEASURES

ONEOK's commitment to minimize environmental impacts is a key mitigation element. As described previously, ONEOK's design took into consideration various elements to maximize efficiencies while minimizing impacts to the environment. This combination of actions effectively mitigates the impacts of the Plant.

SECTION 6: LIST OF PREPARERS

Russ Clark, P.E.

Project Engineer

ONEOK Partners, 100 W. Fifth Street, Tulsa, OK 74103

B.S. Chemical Engineering, Montana State University - Bozeman. Mr. Clark has worked as an engineer in the petroleum and natural gas industries for 10 years. As a process engineer, he has designed and overseen the implementation of several natural gas projects in the past two years. Mr. Clark is a licensed Professional Engineer by examination in the State of Colorado.

Peter Ruffenach

Project Engineer

ONEOK Partners, 100 W. Fifth Street, Tulsa, OK 74103

B.S. Mechanical Engineering, Northern Arizona University. Mr. Ruffenach has 8 years of professional experience. As an engineer in the petroleum and natural gas industry, he has designed and overseen multiple natural gas projects.

Joseph Soerries, P.E.

Project Manager

ONEOK Partners, 100 W. Fifth Street, Tulsa, OK 74103

B.S., Mechanical Engineering, University of Tulsa. Mr. Soerries has worked in many different positions in the petroleum and natural gas industries for over 30 Years. As a project manager, he has managed over 10 natural gas processing plants in the past twenty years. Since 1982, Mr. Soerries has been a licensed Professional Engineer by examination in the State of Oklahoma.

William McCarthy, C.W.B.

Senior Environmental Compliance Analyst

E3 Environmental, LLC, 871 Jefferson Avenue, St. Paul, MN 55102

M.S. Wildlife Biology, University of Minnesota – Twin Cities; and B.S. Wildlife Biology, Michigan State University. Mr. McCarthy is an environmental compliance analyst with 15 years of environmental consulting experience working with various energy assets and regulatory agencies. As a compliance analyst he has managed the environmental requirements for facility siting, pipeline routing, federal licensing, and various federal, state and local permits. Mr. McCarthy is a certified wildlife biologist and in this role conducts and coordinates field studies, agency consultations, mitigation and avoidance plans.

Jennifer Kamm

Environmental Consultant, Wetland Scientist
E3 Environmental, LLC, 871 Jefferson Avenue, St. Paul, MN 55102

B.S. Natural Resources and Environmental Studies/Minor in Forestry, University of Minnesota – Twin Cities. Ms. Kamm has also obtained a Professional Certification in her area of technical expertise, Wetland Delineation. Ms. Kamm has 10 years of professional experience involving Environmental Assessments, Environmental Impact Statements, Certificate of Site Compatibility Applications, Environmental Resource Permitting, Land Use Plans, Wildlife and Endangered Species Assessments, Wetland Delineations, Permit Applications, and Mitigation Plans.

Lindsey Danielson

GIS Analyst
E3 Environmental, LLC, 871 Jefferson Avenue, St. Paul, MN 55102

Graduate Certificate in Geographic Information Science, St. Mary's University of Minnesota; B.S. Geoscience: Geology, Winona State University. Ms. Danielson is also working toward a M.S. in Geographic Information Science at St. Mary's University of Minnesota with concentrations in Homeland Security/Emergency Management as well as Natural Resource Management. Ms. Danielson has almost 3 years of professional experience creating and editing data from various sources and formats. She excels at advanced cartography, data management, and spatial analysis.

Lucas Bicknell

Environmental Consultant
E3 Environmental, LLC, 871 Jefferson Avenue, St. Paul, MN 55102

B.S. Zoology: Fisheries and Wildlife Management, North Dakota State University; M.S. Environmental and Conservation Sciences, North Dakota State University. Mr. Bicknell has 1 year of professional experience involving environmental permitting and compliance, pipeline routing, regulatory review, permit applications, mitigation plans, and threatened and endangered species assessments.

Jennifer Wulffen, M.A.

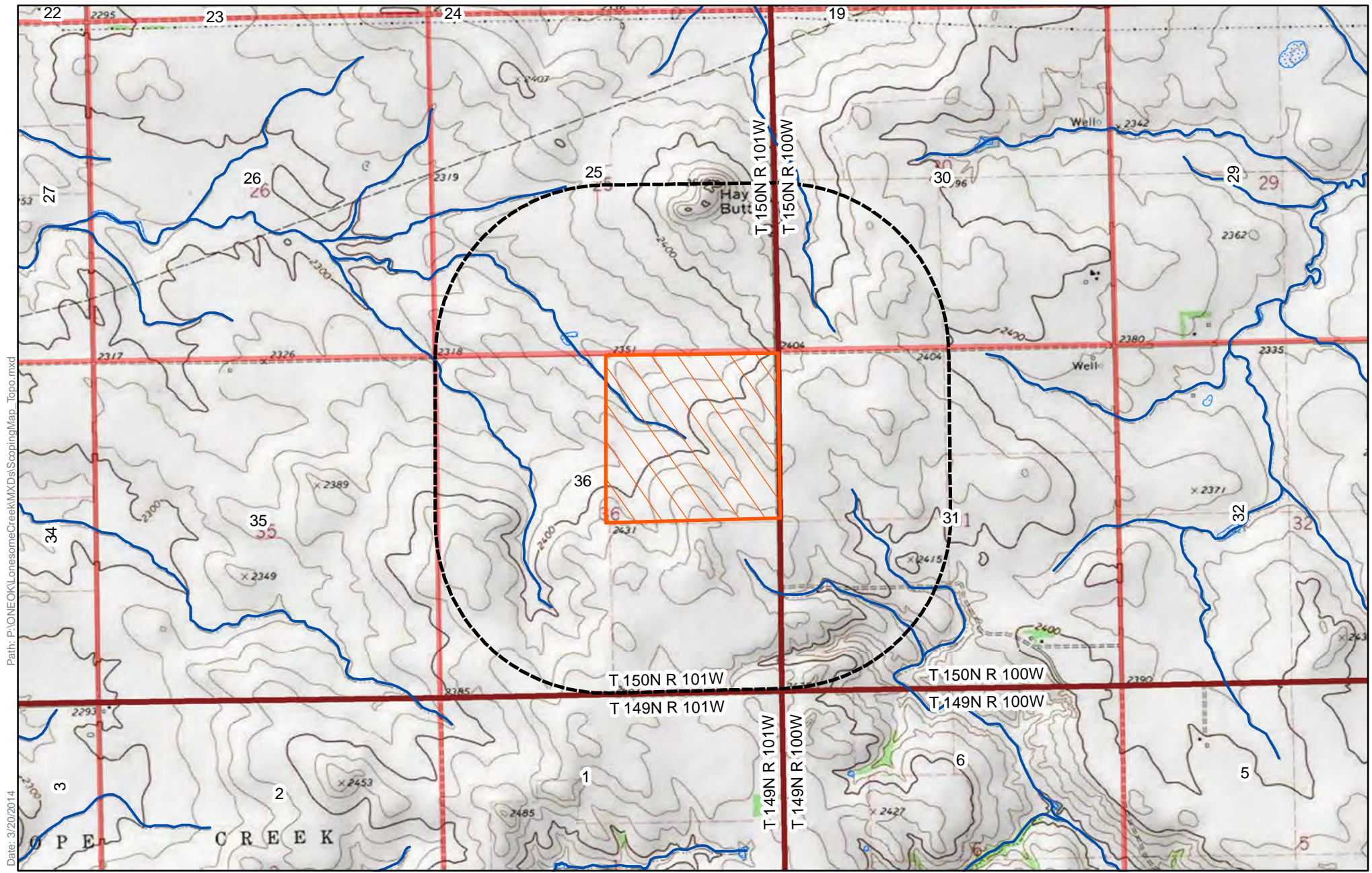
RPA - Project Director
Metcalf Archeological Consultants, Inc., PO Box 2154, Bismarck, ND 58502

M M.A. in Anthropology, Northern Illinois University in 2009. She studied Andean archaeology and worked in Peru for four field seasons before entering the field of Cultural Resource Management in the United States. She joined MAC in 2013 as a project director after working for several other cultural resource management firms. Her role as a project director includes project management, conducting field surveys, supervising archaeological crews, writing technical reports, working with clients and agencies, monitoring, and performing artifact analysis.

APPENDICES

Appendix A

Project Maps



Path: P:\ONEOK\LonesomeCreek\MXDs\ScopingMap_Topo.mxd

Date: 3/20/2014

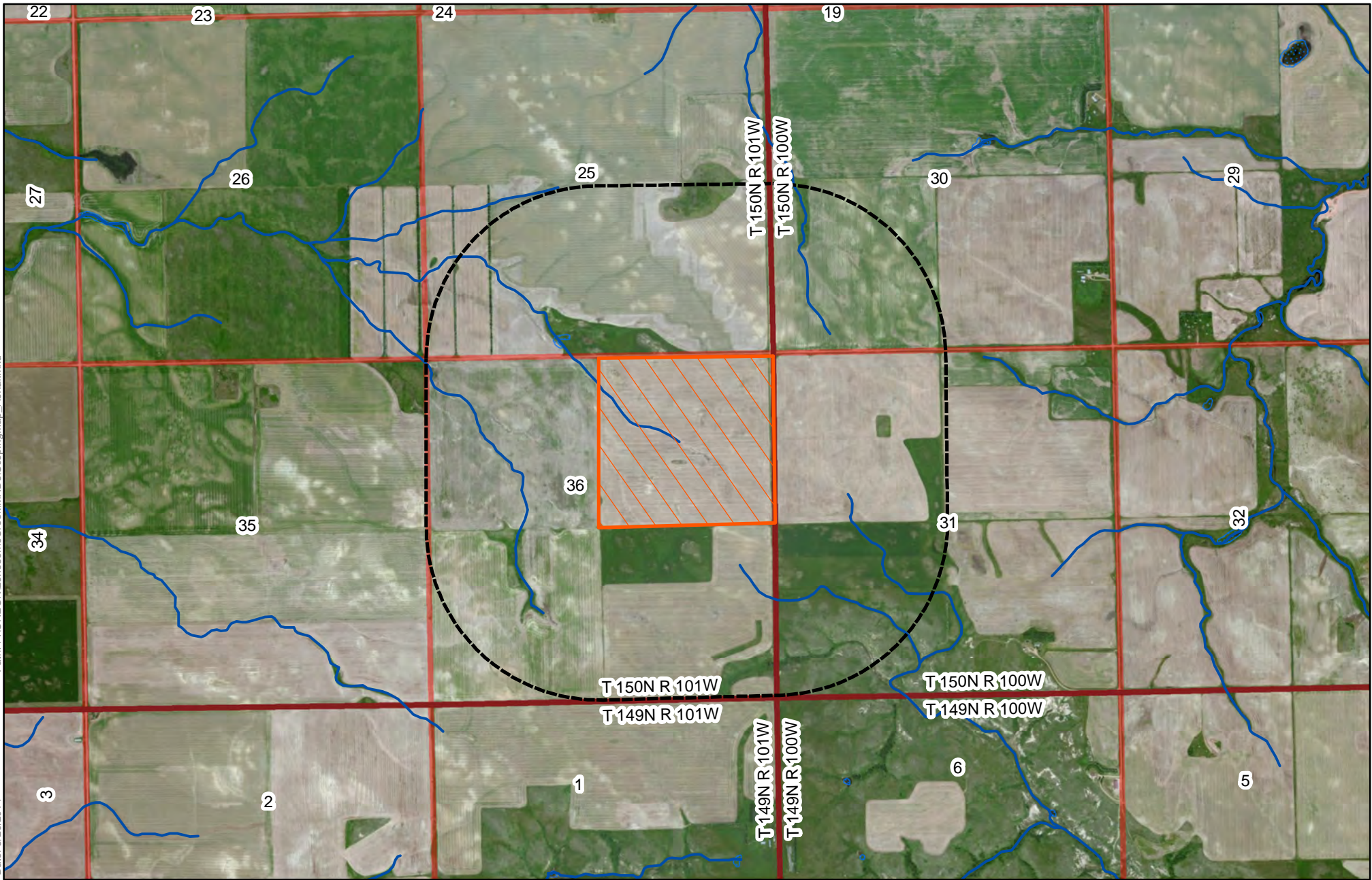
Author: LDanielson










ONEOK Rockies Midstream, L.L.C.

Lonesome Creek Gas Plant
Scoping Map

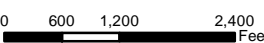
McKenzie County, North Dakota



	Lonesome Creek Plant Location
	Study Area
	NHD Waterbody
	NHD Waterway
	NWI Wetland

E3 ENVIRONMENTAL
Enhancing Education with Experience



1:24,000

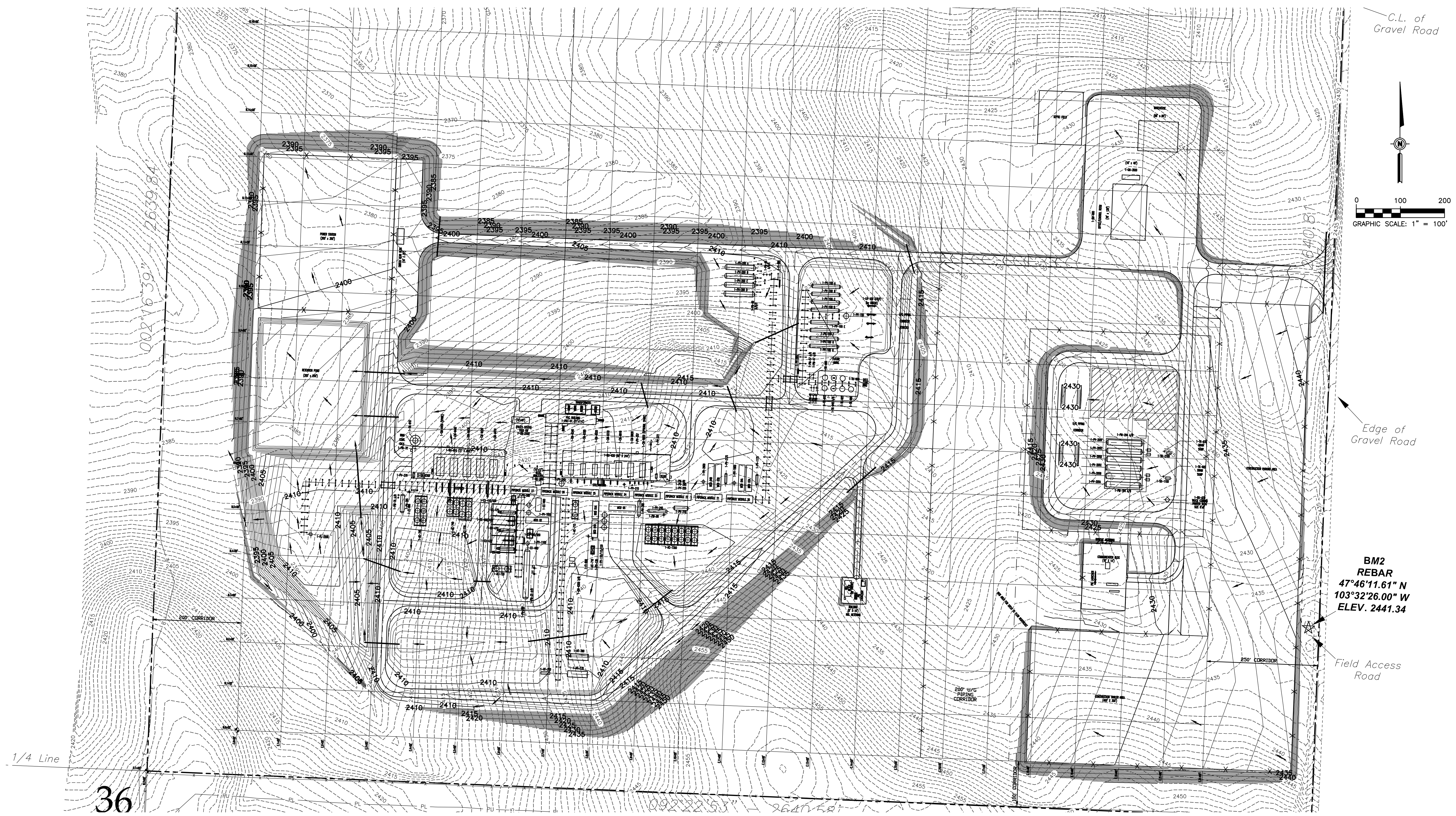
**ONEOK Rockies
Midstream, L.L.C.**

Lonesome Creek Gas Plant
Scoping Map

McKenzie County, North Dakota

Appendix B

Engineering Documents



1/4 Line
36

PRELIMINARY NOT FOR CONSTRUCTION

The reproduction, distribution and utilization of this document as well as the communication of its contents to others without express authorization is prohibited. Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or design. Refer to protection notice ISO16016



PROJECT NO. &AF2110A042
LPP DWG.

REVISIONS			
NO.	DATE	DESCRIPTION	BY

CHD	APRD	DATE	DESCRIPTION

DATE	BY	DESCRIPTION

DISCLOSURE STATEMENT:
This design/drawing is proprietary property of ONEOK, Inc. and ONEOK Partners, LP. This document is for evaluation purposes only. Any reproduction or other use is strictly prohibited unless authorized in writing by ONEOK or ONEOK Partners. This document shall be returned upon request.

ONEOK PARTNERS
ONEOK Rockies Midstream, L.L.C.

OVERALL GRADING PLAN
200 MMSCFD LIQUID RECOVERY UNIT
LONESOME CREEK GAS PLANT - TRAIN 1
McKENZIE COUNTY, ND

PROJECT DESIGN DATA

1.1 PLANT CAPACITY

Lonesome Creek is designed with a nameplate capacity of 200 MMSCFD to accommodate the forecasted gas composition shown below. The plant must have enough incremental capacity to accommodate intra-day flow swings of approximately – 50 MMSCFD. This and other design considerations are discussed further in the Project Design Philosophy document provided in Appendix 5.4.

1.2 FEED STREAM FLOWS & COMPOSITIONS

Raw associated gas from oil production wells is designed to enter the plant fence at a pressure between 550 and 1100 psig at a temperature between 40 F and 90 F. The inlet slug catcher is rated to handle a maximum of 200 MMSCFD of inlet gas flow at 1,100 psig (MAWP). Raw inlet gas is limited to 4 ppm Hydrogen Sulfide. For the purposes of design, refer to the table below:

Lonesome Creek Inlet Gas Composition

Components	Mol%	GPM
Nitrogen	2.079	
Carbon Dioxide	0.750	
Hydrogen Sulfide	0.000	
Methane	58.116	
Ethane	21.824	5.822
Propane	11.535	3.17
Iso-butane	1.101	0.3594
Butane	3.140	0.9874
Iso-pentane	0.471	0.1718
N-Pentane	0.653	0.2361
Hexane	0.199	0.144
Heptane	0.099	Included in Hexane GPM
Octane Plus	0.033	

Totals 100.000 Ethane + 10.89 GPM
Propane + 5.069 GPM

1.3 BATTERY LIMIT CONDITIONS

Inlet gas conditions at the plant inlet

	Design	Maximum	Minimum
Gas Volume (MMscfd)	200	250	50
Gas Pressure (psig)	600	1100	550
Temperature (°F)	80	90	40
Hydrogen Sulfide (ppm)	3.0	4.0	0.0
Water Content (lbs water/MMscf)	Saturated	Saturated	0.0

1.4. PRODUCT SPECIFICATIONS

1.4.1 NGL Product Specifications

Y-Grade Product	Design	Maximum	Minimum
Pipeline MAOP (psig)	1,440	1,440	N/A
Carbon dioxide to ethane liquid volume ratio	0.0035	0.0250	N/A
Methane to ethane liquid volume ratio	0.010	0.015	0.05
Methane vol% of total hydrocarbons	N/A	0.50	N/A
Vapor pressure at 100 °F (psig)	550	600	N/A
Copper Strip test at 100 °F	N/A	N/A	No. 1
Minimum product temperature (°F)	60	N/A	40
Maximum product temperature (°F)			
- Product with >= 65 mol% ethane	80	90	N/A
- Product with < 65 mol% ethane	100	110	N/A

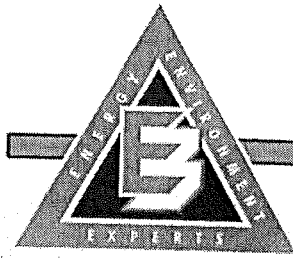
Natural Gasoline (Condensate)	Design	Maximum	Minimum
Reid Vapor Pressure at 100F	13.0	14.0	12.0
Liquid vol% of Propane	0.0	0.0	None
Liquid vol% of Butanes	3.0	6.0	1.5
Liquid vol% of Pentanes	N/A	N/A	40.0
Liquid vol% of Hexanes and heavier	N/A	50.0	N/A

1.4.2 Residue Gas Pipeline Specifications

	Design	Maximum
Pressure (psig)	1,440	1,650
Temperature (°F)	120	120
Water content (lbs/MMscf)	Nil	5.0
Hydrogen sulfide (ppm)	0.0	4.0
Gross higher heating value (BTU/ft ³)	N/A	1,200
Carbon dioxide (mol%)	0.0	2.0
Cricodentherm Temperature (°F)	N/A	20

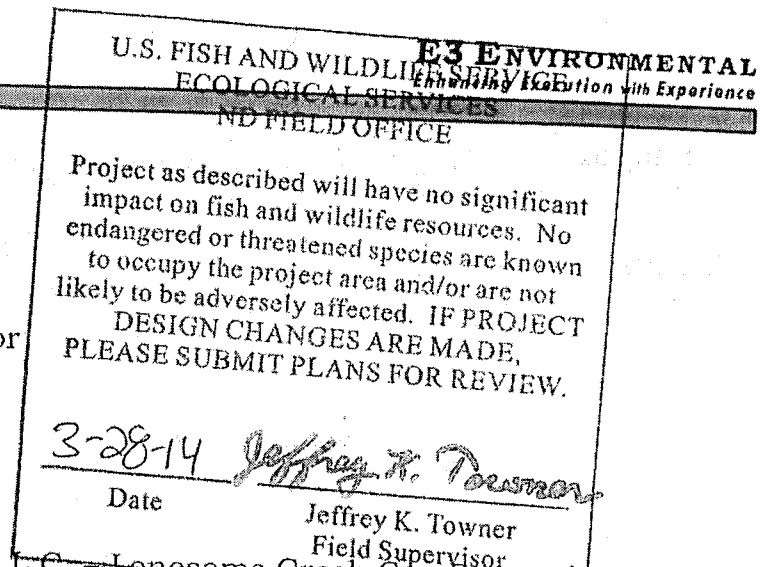
Appendix C

Consultations



March 18, 2014

Mr. Jeffrey Towner, Field Supervisor
U.S. Fish and Wildlife Service
North Dakota Field Office
3425 Miriam Avenue
Bismarck, ND 58501-7926



RE: ONEOK Rockies Midstream L.L.C. - Lonesome Creek Gas Processing Plant
Federally Listed Species, USFWS Managed Lands, and Migratory Bird
Consultation

ONEOK Rockies Midstream (ORM) is proposing to construct the Lonesome Creek Gas Processing Plant, in response to growing demand for gas processing capacity of natural gas liquids (NGL) produced in North Dakota. Site preparation and associated plant activities for the project under consideration would be initiated during the 3rd quarter of 2014 until the 1st quarter of 2016, requiring approximately 18 months to complete.

The Lonesome Creek Gas Processing Plant is located in the NE 1/4 of Section 36, Township 150N, and Range 101W in McKenzie County, North Dakota. A topographic map and aerial photograph depicting the project location are attached.

The purpose of this request is to compile U.S. Fish and Wildlife Service's (USFWS) comments on environmental topics that are relevant to the North Dakota Public Service Commission's siting requirements for Energy Conversion facilities. On February 20, 2014, E3 conducted a web-based consultation using USFWS's IPaC system. This request has been prepared to augment that effort and facilitate a thorough project review.

Federally Listed Species Analysis:

The results of the search on February 20, 2014 found the following:

- Whooping crane (*Grus americana*) - Endangered
- Piping plover (*Charadrius melodus*) - Threatened
- Least tern (*Sternula antillarum*) - Endangered
- Pallid sturgeon (*Scaphirhynchus albus*) - Endangered
- Gray wolf (*Canis lupus*) - Endangered
- Dakota skipper (*Hesperia dacotae*) - Proposed Threatened
- Sprague's pipit (*Anthus spagueii*) - Candidate

888.414.2048

871 Jefferson Avenue, St. Paul, MN 55102

www.go2e3.com

Arizona

Minnesota

North Dakota

Wisconsin

ONEOK Rockies Midstream
Lonesome Creek Gas Processing Plant
March 18, 2014



E3 ENVIRONMENTAL
871 Jefferson Avenue
St. Paul, MN 55102

E3 Environmental, LLC has been retained by ORM to provide environmental consulting support for this project. Should you have any questions or require additional information, please contact me at 651.282.0650 or wmcCarthy@go2e3.com.

Sincerely,

A handwritten signature in black ink, appearing to read 'William F. McCarthy'. The signature is written in a cursive, flowing style.

William F. McCarthy
Project Manager
E3 Environmental, LLC

Enclosures: Project map – USGS topographic map
Project aerial photograph

cc: Peter Ruffenach, ORM
E3 Project Files



March 18, 2014

Mr. Jeffrey Towner, Field Supervisor
U.S. Fish and Wildlife Service
North Dakota Field Office
3425 Miriam Avenue
Bismarck, ND 58501-7926

RE: ONEOK Rockies Midstream L.L.C. – Lonesome Creek Gas Processing Plant
Federally Listed Species, USFWS Managed Lands, and Migratory Bird
Consultation

ONEOK Rockies Midstream (ORM) is proposing to construct the Lonesome Creek Gas Processing Plant, in response to growing demand for gas processing capacity of natural gas liquids (NGL) produced in North Dakota. Site preparation and associated plant activities for the project under consideration would be initiated during the 3rd quarter of 2014 until the 1st quarter of 2016, requiring approximately 18 months to complete.

The Lonesome Creek Gas Processing Plant is located in the NE 1/4 of Section 36, Township 150N, and Range 101W in McKenzie County, North Dakota. A topographic map and aerial photograph depicting the project location are attached.

The purpose of this request is to compile U.S. Fish and Wildlife Service's (USFWS) comments on environmental topics that are relevant to the North Dakota Public Service Commission's siting requirements for Energy Conversion facilities. On February 20, 2014, E3 conducted a web-based consultation using USFWS's IPaC system. This request has been prepared to augment that effort and facilitate a thorough project review.

Federally Listed Species Analysis:

The results of the search on February 20, 2014 found the following:

Whooping crane (*Grus americana*) – Endangered
Piping plover (*Charadrius melodus*) – Threatened
Least tern (*Sternula antillarum*) – Endangered
Pallid sturgeon (*Scaphirhynchus albus*) – Endangered
Gray wolf (*Canis lupus*) – Endangered
Dakota skipper (*Hesperia dacotae*) – Proposed Threatened
Sprague's pipit (*Anthus spagueii*) - Candidate

E3 has reviewed the available data describing the life history, critical habitat, and conservation measures associated with each species to evaluate the potential effects of the project on these resources. The results of this analysis are as follows:

Whooping crane: The whooping crane is a large bodied marsh species that breeds primarily in Canada and winters in the Gulf of Mexico. This species has been closely studied and monitored in recent years due to its small population. North Dakota provides migratory habitat for the species, providing roosting and feeding opportunities during migration. This species prefers larger wetland complexes for roosting habitat, typically using adjacent uplands for foraging opportunities.

Project precautionary measures would be implemented if a whooping crane is sighted in or near the project area. ORM would voluntarily suspend all heavy equipment operation activities and notify the USFWS should a whooping crane be spotted within 0.5 mile of the project area. Heavy equipment activities would resume upon the departure of the individual(s). The project under consideration will not result in a loss of crane habitat. Construction activities would likely serve as a deterrent and once constructed the proposed facility would present a fairly prominent feature to be avoided relative to its surrounding landscape.

Piping plover: The piping plover is associated with shorelines along small alkaline lakes, large reservoir beaches, and river islands and adjacent sand pits. Breeding birds select wide beaches with highly clumped vegetation covering less than 25% of the area. Current breeding range on the Northern Great Plains extends south along major prairie rivers including the Yellowstone and Missouri, and in alkali wetlands including those in northeastern Montana and North Dakota. The proposed project will not result in a loss of piping plover habitat, as it is not located within/adjacent to preferred habitat.

Least tern: The interior population(s) of the least tern has historically been associated with large river systems for breeding and migratory habitats. Breeding birds are known to breed in colonies, utilizing sandbar habitat common to larger rivers. The Missouri River is known to host remnant breeding populations of terns, which is greater than 6.5 miles from the project site. The proposed project will not result in a loss of least tern habitat, as it is not located within/adjacent to preferred habitat

Pallid sturgeon: The pallid sturgeon preferred habitat includes the benthic environment associated with swift waters of large turbid, free-flowing rivers with braided channels, dynamic flow patterns, periodic flooding of terrestrial habitats, and requiring extensive micro habitat diversity. The species inhabits the Missouri and Mississippi Rivers from Montana to Louisiana. The proposed project will not result in a loss of pallid sturgeon habitat, as it is not located within/adjacent to preferred habitat.

Gray wolf: The gray wolf is a large carnivore that through conservation measures has experienced strong population recovery, particularly in the Great Lakes states of the upper Midwest. As populations rebound, individuals may break from packs to explore opportunities to establish packs in unoccupied territory. Roaming individuals can cover great distances without establishing viable breeding populations in previously unoccupied habitat(s). This species is not tolerant of human disturbance and will tend to avoid interaction with humans. The activities associated with construction and later plant operations would likely serve as a deterrent to this species. Therefore, this project will have no effect on the species.

Based upon this analysis it is concluded that the proposed project will not result in the taking of or adverse impact to these listed species. Species that USFWS has listed as “candidate” or populations identified as “experimental” are not yet considered threatened or endangered and were not included in this study. ORM request your comments regarding this analysis.

USFWS Managed Lands:

Conservation programs such as Waterfowl Production Areas and wetland and grassland easements represent an important tool used by USFWS to identify and manage high quality wildlife habitat. A review of public records failed to identify any of these USFWS managed lands in the project study area. ORM requests confirmation regarding the presence or absence of USFWS managed lands within the proposed study area.

Migratory Bird Consultation:

USFWS administers various wildlife related mandates of national concern including the Migratory Bird Treaty Act (MBTA). ORM understands that unlike the Endangered Species Act, the MBTA has no provisions for the allowance of a take and therefore compliance may best be achieved by avoiding or minimizing the potential to interact with migratory species during the active breeding season. ORM also understands that in North Dakota, the breeding season is typically defined as occurring annually from February 1 through July 15.

In recognition of these facts, ORM is considering construction during the 3rd quarter of 2014 and 1st quarter of 2016 and maintain an active construction site through plan commissioning and final restoration which is anticipated to occur approximately 18 months later. The proposed project schedule would take place during the 2014 and 2015 breeding seasons. However, ORM will enlist additional measures to avoid direct impacts to breeding birds, which may include surveys and/or habitat manipulation to deter nesting.

E3 Environmental, LLC has been retained by ORM to provide environmental consulting support for this project. Should you have any questions or require additional information, please contact me at 651.282.0650 or wmcCarthy@go2e3.com.

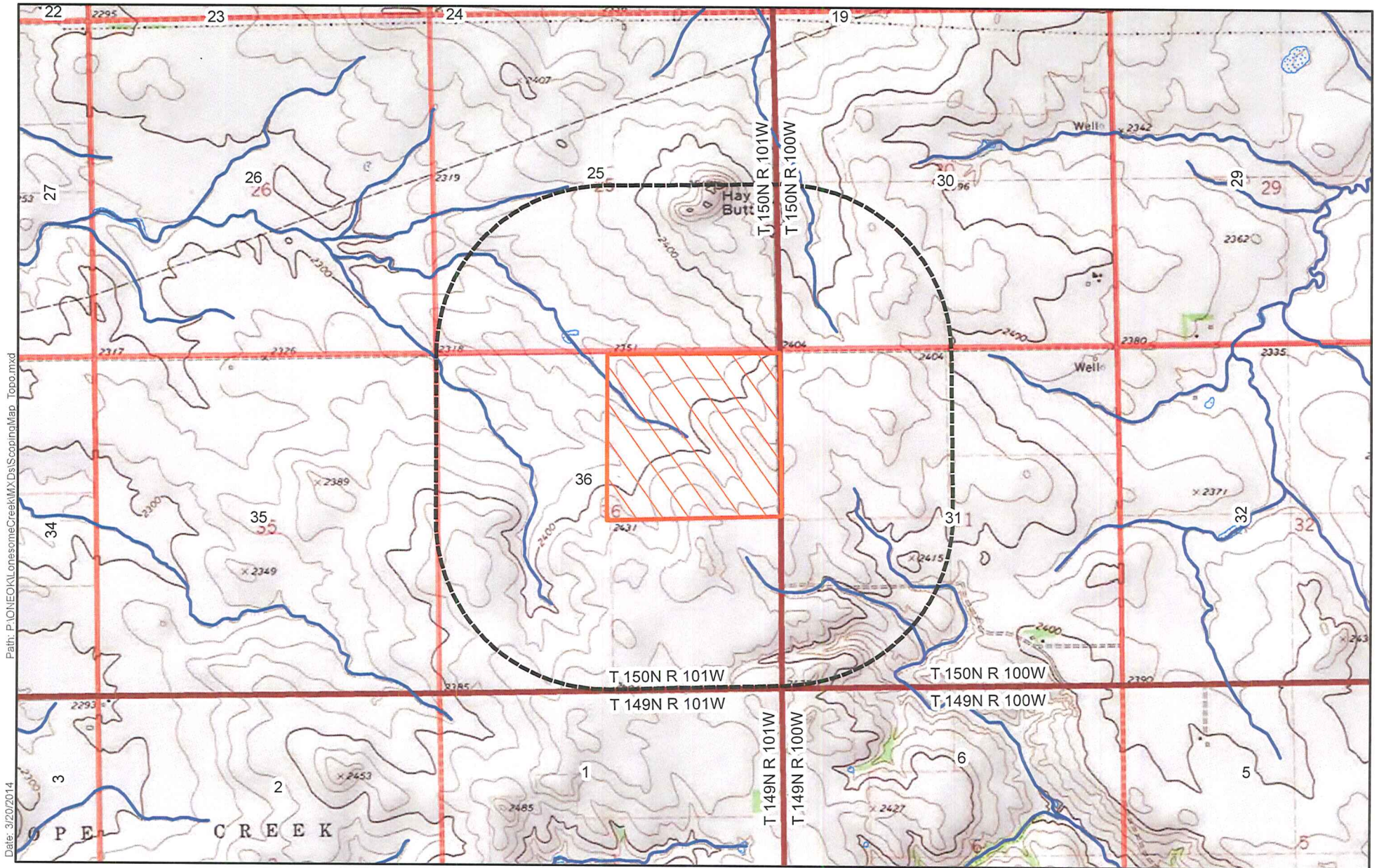
Sincerely,



William F. McCarthy
Project Manager
E3 Environmental, LLC

Enclosures: Project map – USGS topographic map
Project aerial photograph

cc: Peter Ruffenach, ORM
E3 Project Files



Path: P:\ONEOK\LonesomeCreek\MX\Dis\ScopingMap_Topo.mxd

Date: 3/20/2014

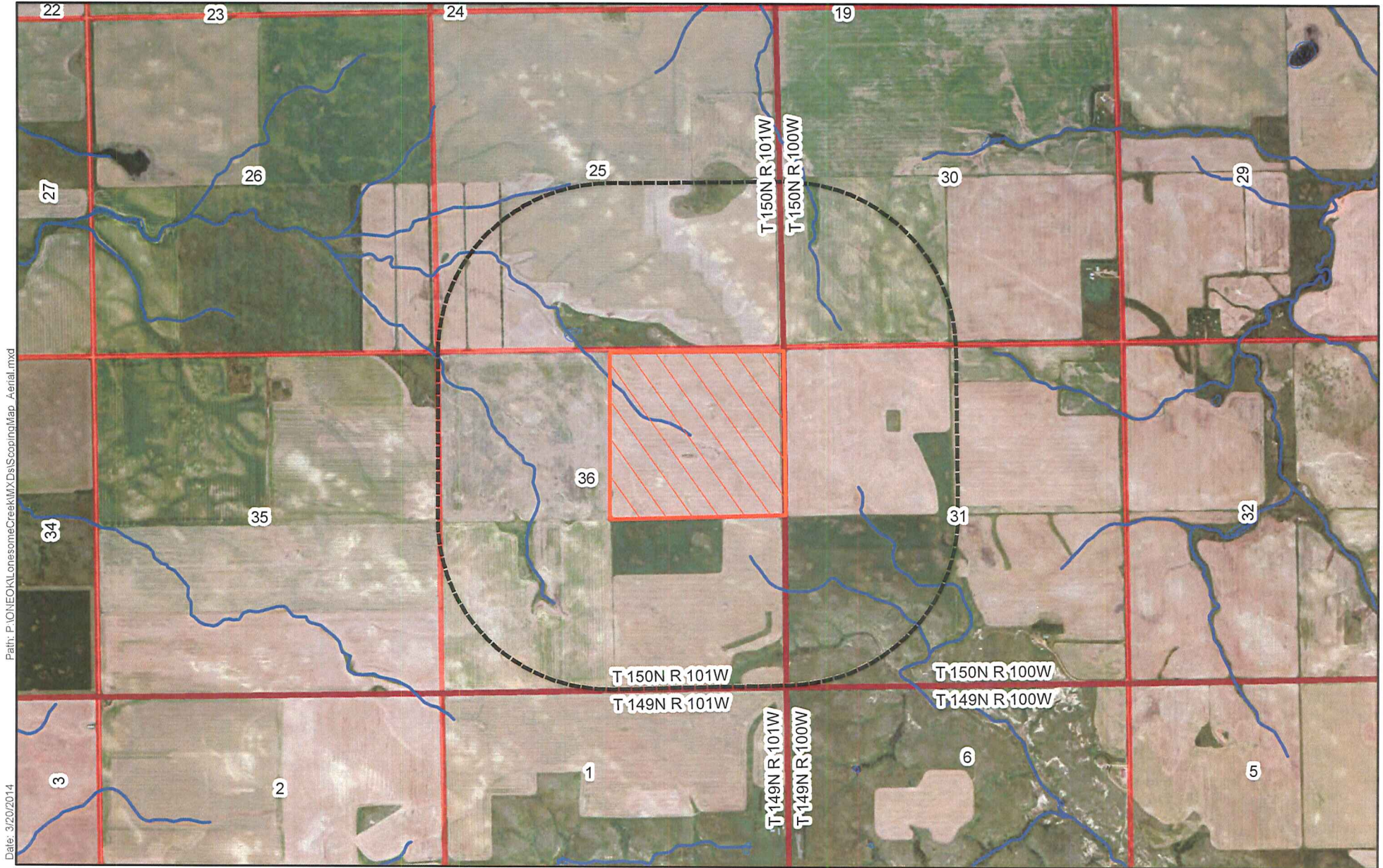
Author: LDanielson



**ONEOK Rockies
Midstream, L.L.C.**

Lonesome Creek Gas Plant
Scoping Map

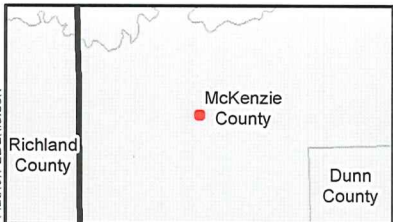
McKenzie County, North Dakota








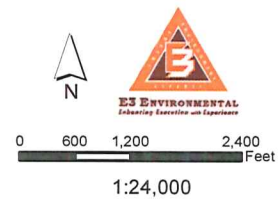
Path: P:\01\EO\K\LonesomeCreek\MXDs\ScopingMap_Aerial.mxd

Date: 3/20/2014

Author: L.Danielson



-  Lonesome Creek Plant Location
-  Study Area
-  NHD Waterbody
-  NHD Waterway
-  NWI Wetland



**ONEOK Rockies
Midstream, L.L.C.**

Lonesome Creek Gas Plant
Scoping Map

McKenzie County, North Dakota



Jack Dabrymple, Governor
Mark A. Zimmerman, Director

1600 East Century Avenue, Suite 3
Bismarck, ND 58503-0649
Phone 701-328-5357
Fax 701-328-5363
E-mail parkrec@nd.gov
www.parkrec.nd.gov

April 14, 2014

William F. McCarthy
E3 Environmental, LLC
871 Jefferson Ave.
St. Paul, MN 55102

Re: ONEOK Rockies Midstream LLC Lonesome Creek Gas Processing Plant

Dear Mr. McCarthy,

The North Dakota Parks and Recreation Department (the Department) has reviewed the above referenced project for the proposed construction of the Lonesome Creek Gas Processing Plant in McKenzie County, North Dakota.

Our agency scope of authority and expertise covers recreation and biological resources (in particular rare plants and ecological communities). The project as defined does not affect state park lands that we manage or Land and Water Conservation Fund recreation projects that we coordinate.


The North Dakota Natural Heritage biological conservation database has been reviewed to determine if any plant or animal species of concern or other significant ecological communities are known to occur within an approximate one-mile radius of the project area. Based on this review, there are no documented occurrences in our database within project area. Because this information is not based on a comprehensive inventory, there may be species of concern or otherwise significant ecological communities in the area that are not represented in the database. The lack of data for any project area cannot be construed to mean that no significant features are present. The absence of data may indicate that the project area has not been surveyed, rather than confirm that the area lacks natural heritage resources.

The Department recommends that the project be accomplished with minimal impacts and that all efforts be made to ensure that critical habitats not be disturbed in the project area to help secure rare species conservation in North Dakota. Regarding any reclamation efforts, we recommend that any impacted areas be revegetated with species native to the project area.

It is our policy to charge for data services including data retrieval, data analysis, manual and computer searches, packaging and collection of data. An invoice for services provided has been enclosed.

We appreciate your commitment to rare plant, animal and ecological community conservation, management and inter-agency cooperation to date. For additional information please contact me at (701-328-5370 or kgduttenehfeiner@nd.gov). Thank you for the opportunity to comment on this proposed project.

Sincerely,


Kathy Duttenehfeiner, Coordinator
Natural Resources Division

R.USNDNHI*2014-0076KD4/14/2014KD4.20.2014

.....
Play in our backyard!



March 18, 2014

Kathy Duttonhefner
North Dakota Parks and Recreation
1600 East Century Avenue, Suite 3
Bismarck, ND 58503-0649

RE: ONEOK Rockies Midstream L.L.C. – Lonesome Creek Gas Processing Plant
Natural Heritage Inventory Review Request

Dear Ms. Duttonhefner,

ONEOK Rockies Midstream (ORM) is proposing to construct the Lonesome Creek Gas Processing Plant, in response to growing demand for gas processing capacity of natural gas liquids (NGL) produced in North Dakota. Site preparation and associated plant activities for the project under consideration would be initiated during the 3rd quarter of 2014 until the 1st quarter of 2016, requiring approximately 18 months to complete.

The Lonesome Creek Gas Processing Plant is located in the NE 1/4 of Section 36, Township 150N, and Range 101W in McKenzie County, North Dakota. A topographic map and aerial photograph depicting the project location are attached.

The purpose of this request is to compile the North Dakota Parks and Recreation Department's (Department) comments on environmental topics that are relevant to the North Dakota Public Service Commission's siting requirements for Energy Conversion facilities. It is our understanding that the Department administers the following state programs:

- State Park Lands
- Land and Water Conservation Fund
- Natural Heritage Inventory

We request a review of the area the project under consideration would take place (see attached maps) for the presence or absence of any lands, projects, and sensitive species that fall under the purview of these programs.



E3 Environmental, LLC has been retained by ORM to provide environmental consulting support for this project. Should you have any questions or require additional information, please contact me at 651.282.0650 or wmcCarthy@go2e3.com.

Sincerely,

William F. McCarthy, CWB
Project Manager
E3 Environmental, LLC

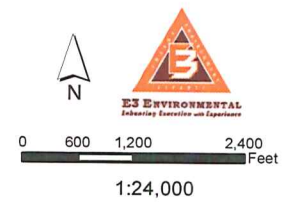
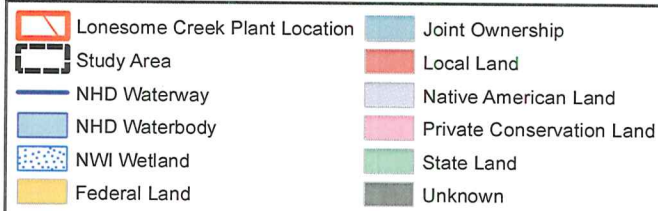
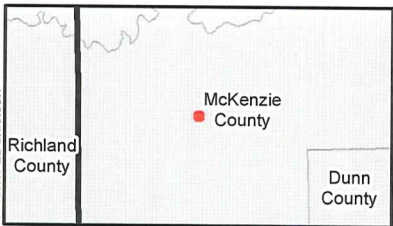
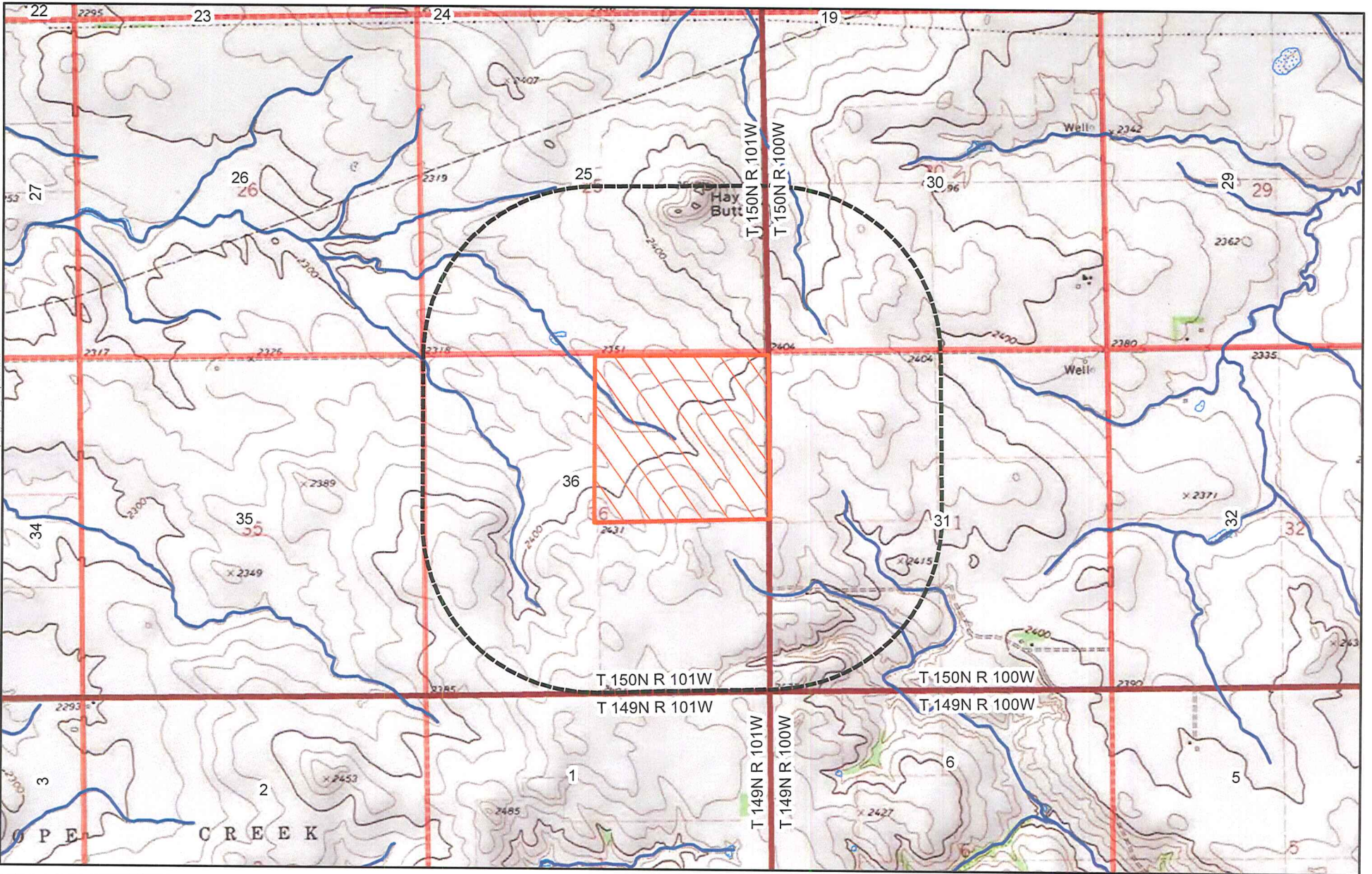
Enclosures: Project map USGS topographic map
Project aerial photograph

cc: Peter Ruffenach, ORM
E3 Project Files

Path: P:\ONEOK\LonesomeCreek\MX\DelScopingMap_Topo.mxd

Date: 3/20/2014

Author: LDanielson



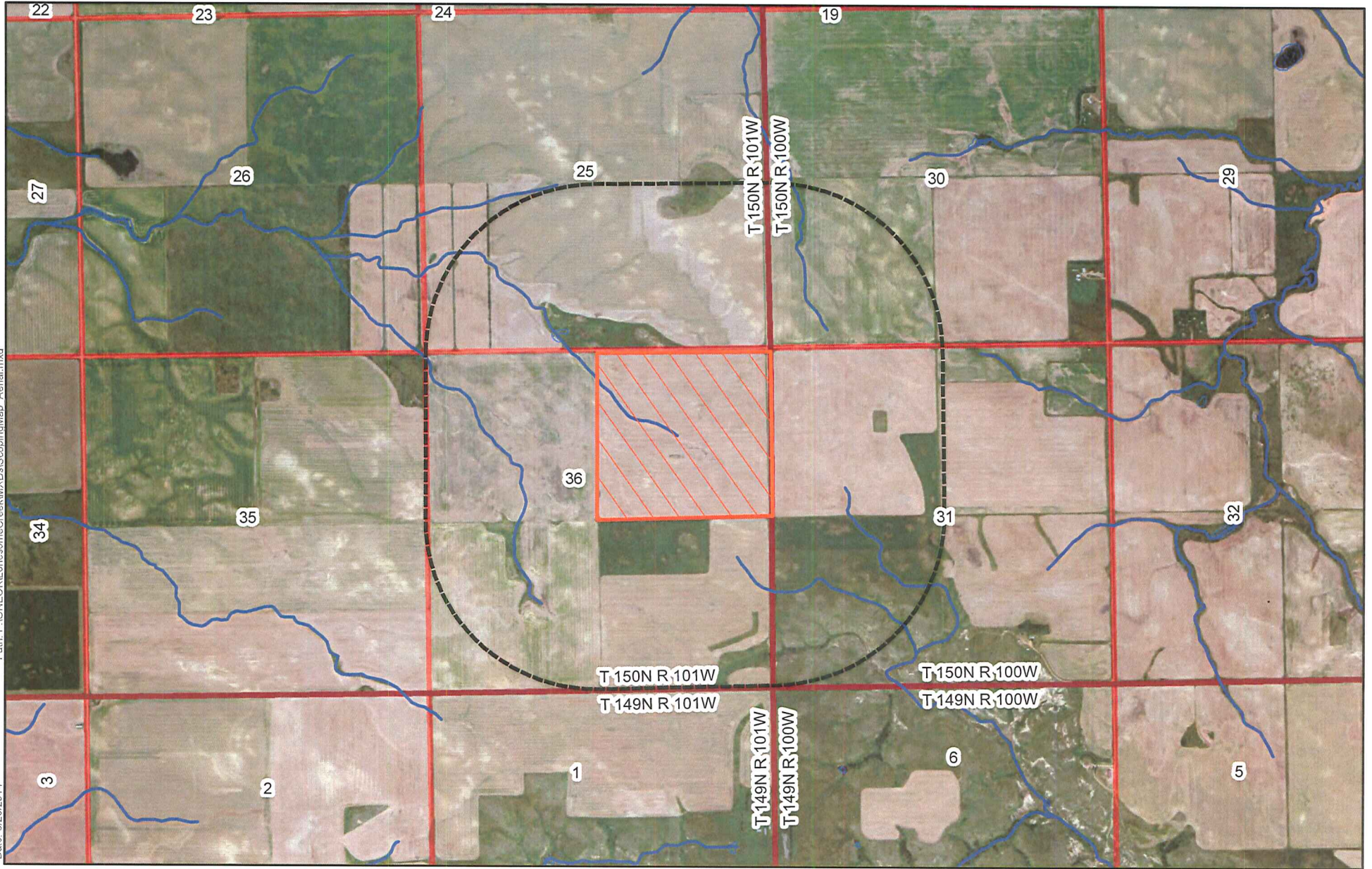
**ONEOK Rockies
Midstream, L.L.C.**

Lonesome Creek Gas Plant
Scoping Map

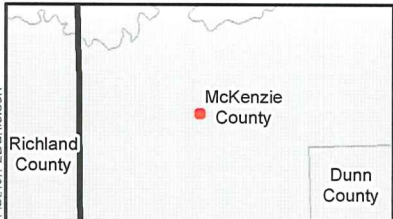
McKenzie County, North Dakota

Path: P:\ONEOK\LonesomeCreek\MXDs\ScopingMap_Aerial.mxd

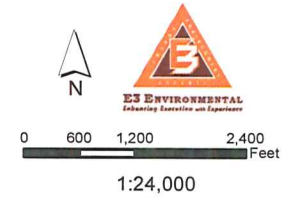
Date: 3/20/2014



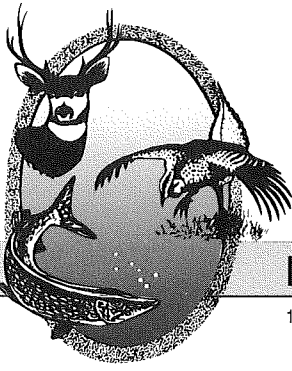
Author: L.Danielson



- Lonesome Creek Plant Location
- Study Area
- NHD Waterbody
- NHD Waterway
- NWI Wetland



**ONEOK Rockies
Midstream, L.L.C.**
Lonesome Creek Gas Plant
Scoping Map
McKenzie County, North Dakota



"VARIETY IN HUNTING AND FISHING"

NORTH DAKOTA GAME AND FISH DEPARTMENT

100 NORTH BISMARCK EXPRESSWAY BISMARCK, NORTH DAKOTA 58501-5095 PHONE 701-328-6300 FAX 701-328-6352

April 14, 2014

William F. McCarthy, CWB
Project Manager
E3 Environmental, LLC
871 Jefferson Avenue
St. Paul, MN 55102

Dear Mr. McCarthy:

RE: ONEOK Rockies Midstream LLC — Lonesome Creek Gas Processing Plant

ONEOK Rockies Midstream is proposing to construct the Lonesome Creek Gas Processing Plant in McKenzie County, North Dakota. The project is in response to growing demand for gas processing capacity of natural gas liquids produced in the state.

The North Dakota Game and Fish Department (NDGF) has reviewed this project for wildlife concerns. We do not believe it will have any significant adverse effects on wildlife or wildlife habitat, including species of conservation priority, based on the information provided.

Private Lands Open To Sportsmen (PLOTS) is a public access program which cost-shares with private landowners to help conserve fish and wildlife habitat. PLOTS lands are not owned or managed by the NDGF. Information regarding PLOTS locations is available at <http://gf.nd.gov/hunting/private-land-open-sportsmen>. This page is updated to reflect changes as PLOTS tracts are added or removed.

Sincerely,

A handwritten signature in black ink that reads "Greg Link". The signature is written in a cursive, flowing style.

Greg Link
Chief
Conservation & Communication Division

js



March 18, 2014

Mr. Greg Link, Division Chief
Conservation and Communication Division
North Dakota Game and Fish Department
100 N. Bismarck Expressway
Bismarck, ND 58501-5095

RE: ONEOK Rockies Midstream L.L.C. – Lonesome Creek Gas Processing Plant
State Conservation Priority Species Consultation, State Plots Land Review.

ONEOK Rockies Midstream (ORM) is proposing to construct the Lonesome Creek Gas Processing Plant, in response to growing demand for gas processing capacity of natural gas liquids (NGL) produced in North Dakota. Site preparation and associated plant activities for the project under consideration would be initiated during the 3rd quarter of 2014 until the 1st quarter of 2016, requiring approximately 18 months to complete.

The Lonesome Creek Gas Processing Plant is located in the NE 1/4 of Section 36, Township 150N, and Range 101W in McKenzie County, North Dakota. A topographic map and aerial photograph depicting the project location are attached.

The purpose of this correspondence is twofold: to request a review of the area on which the project under consideration would take place for presence or absence of State Conservation Priority Species; and to request confirmation of the presence or absence of North Dakota Game and Fish Department PLOTS Lands within the proposed development (see attached).

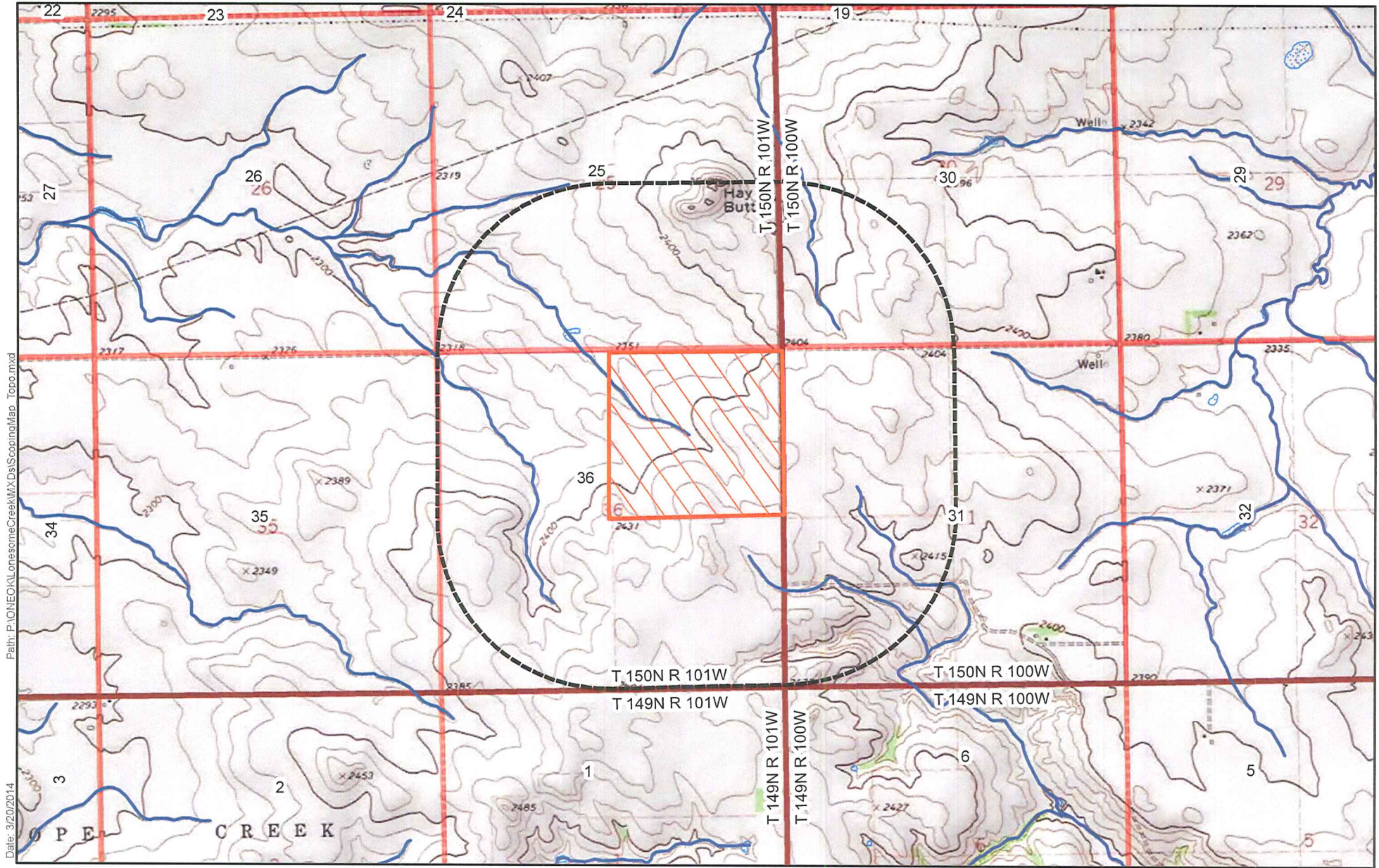
E3 Environmental, LLC has been retained by ORM to provide environmental consulting support for this project. Should you have any questions or require additional information, please contact me at 651.282.0650 or wmcCarthy@go2e3.com

Sincerely,

William F. McCarthy, CWB
Project Manager
E3 Environmental, LLC

Enclosures: Project map – USGS topographic map
Project aerial photograph

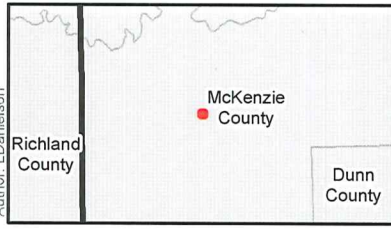
cc: Peter Ruffemach, ORM
E3 Project Files



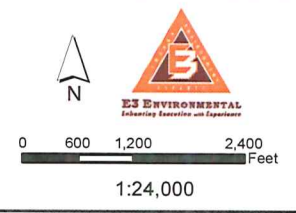
Path: P:\ONEOK\LonesomeCreek\MX Dsi\Scoping\Map_Topo.mxd

Date: 3/20/2014

Author: LDanielson



- | | |
|-------------------------------|---------------------------|
| Lonesome Creek Plant Location | Joint Ownership |
| Study Area | Local Land |
| NHD Waterway | Native American Land |
| NHD Waterbody | Private Conservation Land |
| NWI Wetland | State Land |
| Federal Land | Unknown |



**ONEOK Rockies
Midstream, L.L.C.**

Lonesome Creek Gas Plant
Scoping Map

McKenzie County, North Dakota



**STATE
HISTORICAL
SOCIETY
OF NORTH DAKOTA**

Jack Dalrymple
Governor of North Dakota

April 11, 2014

North Dakota
State Historical Board

Mr. William McCarthy, CWB
E3 Environmental, LLC
871 Jefferson Avenue
St. Paul, MN 55102

Calvin Grinnell
New Town - President

A. Ruric Todd III
Jamestown - Vice President

NDSHPO REF.: 14-0907 PSC Case #PU-2-790? "E3 Environmental, LLC's
Lonesome Creek Gas Plant: A Class III Cultural Resource Inventory in McKenzie
County, North Dakota" in portions of [T150N R101W Section 36]

Margaret Puetz
Bismarck- Secretary

Albert I. Berger
Grand Forks

Gereld Gerntholz
Valley City

Dear Mr. McCarthy,

Diane K. Larson
Bismarck

We reviewed NDSHPO REF.: 14-0907 PSC Case #PU-2-790(?) "E3 Environmental,
LLC's Lonesome Creek Gas Plant: A Class III Cultural Resource Inventory in
McKenzie County, North Dakota," and find the report acceptable. We concur with a
"No Significant Sites" determination for the project, provided the project remains as
described and mapped in the above-captioned MAC report.

Chester E Nelson, Jr.
Bismarck

Thank you for the opportunity to review this project. If you have questions please
contact Susan Quinnell at squinnell@nd.gov or (701) 328-3576.

Sara Otte Coleman
*Director
Tourism Division*

Kelly Schmidt
State Treasurer

Sincerely,

Alvin A. Jaeger
Secretary of State

Mark Zimmerman
*Director
Parks and Recreation
Department*

Merlan E. Paaverud, Jr.
Director, State Historical Society of North Dakota

Grant Levi
*Director
Department of Transportation*

Merlan E. Paaverud, Jr.
Director

Accredited by the
American Alliance
of Museums since 1986

COPY





**STATE
HISTORICAL
SOCIETY
OF NORTH DAKOTA**

Jack Dalrymple
Governor of North Dakota

April 11, 2014

North Dakota
State Historical Board

Mr. William McCarthy, CWB
E3 Environmental, LLC
871 Jefferson Avenue
St. Paul, MN 55102

Calvin Grinnell
New Town - President

A. Ruric Todd III
Jamestown - Vice President

Margaret Puetz
Bismarck - Secretary

**NDSHPO REF.: 14-0907 PSC Case #PU-2-790? "E3 Environmental, LLC's
Lonesome Creek Gas Plant: A Class III Cultural Resource Inventory in McKenzie
County, North Dakota" in portions of [T150N R101W Section 36]**

Albert I. Berger
Grand Forks

Gereld Gerntholz
Valley City

Diane K. Larson
Bismarck

Dear Mr. McCarthy,

We reviewed NDSHPO REF.: 14-0907 PSC Case #PU-2-790(?) "E3 Environmental, LLC's Lonesome Creek Gas Plant: A Class III Cultural Resource Inventory in McKenzie County, North Dakota," and find the report acceptable. We concur with a "No Significant Sites" determination for the project, provided the project remains as described and mapped in the above-captioned MAC report.

Chester E Nelson, Jr.
Bismarck

Sara Otte Coleman
*Director
Tourism Division*

Thank you for the opportunity to review this project. If you have questions please contact Susan Quinnell at squinnell@nd.gov or (701) 328-3576.

Kelly Schmidt
State Treasurer

Sincerely,

Alvin A. Jaeger
Secretary of State

Mark Zimmerman
*Director
Parks and Recreation
Department*

Merlan E. Paaverud, Jr.
Director, State Historical Society of North Dakota

Grant Levi
*Director
Department of Transportation*

Merlan E. Paaverud, Jr.
Director

*Accredited by the
American Alliance
of Museums since 1986*



4/7/2014

Mr. Paul R. Picha, Chief Archeologist
State Historical Society of North Dakota
Archeology & Historic Preservation Division
612 East Boulevard Avenue
Bismarck, North Dakota 58505-0830

RE: ONEOK Rockies Midstream, L.L.C., Lonesome Creek Gas Processing Plant
NE 1/4 of Section 36, Township 150N, and Range 101W, McKenzie County, ND

Mr. Picha,

Enclosed is the *Lonesome Creek Gas Plant: A Class III Cultural Resource Inventory in McKenzie County, North Dakota* in hard copy and digital CD format. ONEOK Rockies Midstream (ORM) is proposing to construct the Lonesome Creek Gas Processing Plant (LCGP), in response to growing demand for gas processing capacity of natural gas liquids (NGL) produced in North Dakota. The LCGP is located in the NE 1/4 of Section 36, Township 150N, and Range 101W in McKenzie County, North Dakota.

The enclosed report documents the results of a Class I and Class III inventory conducted for the project. No cultural resources were found within the project area. It is recommended that the project be granted a determination of *No Historic Properties Affected* and *No Significant Sites Affected*. Please notify E3 of the results of your review at the address listed below.

E3 Environmental, LLC has been retained by ORM to provide environmental consulting support for this project. Metcalf Archaeological Consultants, Inc. (MAC) provided Cultural Resource support for the project. Should you have any technical questions please contact Jennifer Wulffen, with MAC, at 701.258.1215. Should you have project related questions please contact me at 651.282.0650 or wmcCarthy@go2e3.com

Sincerely,

William F. McCarthy, CWB
Project Manager
E3 Environmental, LLC

Enclosures: *Lonesome Creek Gas Plant: A Class III Cultural Resource Inventory in McKenzie County, North Dakota*, hard copy and CD

cc: Peter Ruffemach, ORM
E3 Project Files

Appendix D

Natural Resource Report



E3 ENVIRONMENTAL
Enhancing Execution with Experience

**Natural Resource and Wetland / Waterbody
Determination Report, Lonesome Creek Gas Plant
Project, McKenzie County, North Dakota**

Prepared for:

ONEOK Rockies Midstream, L.L.C.

Prepared by:

E3 Environmental, L.L.C.

March 18, 2014



ONEOK
ROCKIES MIDSTREAM

A SUBSIDIARY OF ONEOK PARTNERS, L.P.

**Natural Resources and Wetland/Waterbody Determination Report
ONEOK Rockies Midstream, L.L.C.
Lonesome Creek Gas Plant Project
McKenzie County, North Dakota**

Prepared for:
ONEOK Rockies Midstream, L.L.C.

Prepared by:

Jennifer Kamm
Environmental Consultant

Reviewed by:

Bill McCarthy
Certified Wildlife Biologist/President

E3 Environmental, L.L.C.
871 West Jefferson Avenue
St. Paul, Minnesota 55102
(651)282-0650

March 18, 2014

TABLE OF CONTENTS

SECTION 1: Summary.....	1
SECTION 2: Methods.....	1
SECTION 3: Results	2
3.1 General Landscape Characterization	2
3.2 Wetlands.....	4
3.3 Waterbodies	4
3.4 Vegetation	4
3.4.1 Woody Trees and Saplings.....	5
3.5 Soils.....	5
3.5.1 Chama	5
3.5.2 Cabba	5
3.5.3 Sen	5
3.5.4 Grail.....	6
3.5.5 Vebar	6
3.5.6 Dooley	6
3.6 Wildlife and Threatened and Endangered Species	7
3.6.1 Wildlife Observed	8
3.6.1.1 Federally Protected Species Review.....	8
3.6.2 Migratory Bird Treaty Act/Bald and Golden Eagle Protection Act	10
3.6.2.1 Bald Eagle (<i>Haliaeetus leucocephalus</i>).....	10
3.6.2.2 Golden Eagle (<i>Aquila chrysaetos</i>).....	10
SECTION 4: Conclusions and Recommendations.....	11

LIST OF TABLES

Table 1. Climate Data

Table 2. Soils

Table 3. Observed Wildlife

LIST OF APPENDICES

Appendix

A: Topographic Map and Aerial Photograph

B: USDA Soil Survey Map

C: Site Photos

SECTION 1: Summary

E3 Environmental, LLC (E3) conducted a natural resources, wetlands and waterbody, and sensitive plant and wildlife analysis on the behalf of ONEOK Rockies Midstream (ORM), for the proposed Lonesome Creek Gas Plant (LCGP) Project.

ORM's proposed Lonesome Creek Gas Plant Project is located approximately 25 miles southeast of Williston, North Dakota. As proposed, the facility would be constructed on a 160 acre plot located in the NE ¼, Section 36, Township 150 North, Range 101 West in McKenzie County, as depicted in the map included in Appendix A. The project area is privately owned and is currently in agricultural production.

The LCGP would provide the region with additional gas processing capacity. Once constructed the LCGP will occupy approximately 80 acres of the 160 acre Site; the remaining acreage will serve as stormwater outfall, vehicle parking, and unused space for potential future expansion.

This natural resource and wetland/waterbody evaluation report is prepared to supplement ORM's submittal to the North Dakota Public Service Commission (PSC or Commission) application for a Certificate of Site Compatibility for the LCGP.

SECTION 2: Methods

E3 reviewed the Project area and a 1-mile surrounding study area for this natural resource and wetland/waterbody evaluation report. Literature reviewed included U.S. Geological Survey (USGS) 7.5 minute topographic quadrangle maps; US Fish and Wildlife National Wetlands Inventory (NWI) maps; US Geological Survey National Hydrograph Data (NHD); US Geological Survey GAP Landcover mapping, and current and historical aerial photographs of the project area using Google Earth. The US Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) web soil survey, and the National Oceanic and Atmospheric Administration (NOAA) National Climate Data Center was also reviewed. The US Fish and Wildlife Service Information, Planning, and Conservation System was accessed on February 20, 2014 to determine whether any threatened and endangered species, designated critical habitat, or other natural resources of concern may be present within the Project and study area.

The presence/absence of wetlands was identified in the field using routine on-site delineation methods in accordance with the USACE *Wetlands Delineation Manual* (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0)* (USACE 2010). The Project is within the Northern Great Plains Land Resource Region F. These criteria include characterization of vegetation, hydrology and soils at the site. Wetlands are defined by the USACE as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." For an area to be delineated as a regulated wetland, the vegetative, hydrologic and soil characteristics must be consistent with federal classification criteria. More than 50 percent of the vegetative cover must consist of obligate and facultative wetland species. There must be evidence of periodic or permanent ground inundation and the soils must exhibit hydric characteristics.

Delineation of ordinary high water marks (OHWM) was conducted in accordance with the *Ordinary High Water Mark Delineation Manual for Section 404 Waters* (Harris County Flood Control Board, 2005). Delineation of the OHWM in both riverine and lake settings includes assessment of vegetation, soils, hydrology and physical indicators. The USACE defines ordinary high water mark as: “that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

The USACE *National Wetlands Plant List* was used to describe the taxonomy of wetland plants surveyed and their wetland indicator status. Determination of wetland type is based on the classification system developed by Cowardin et al. (1979).

The location and boundaries of wetland and waterbody features identified by E3 during field surveys were recorded in the field using a Trimble Geoexplorer 6000 which typically achieves accuracy within 2 feet. Topographic maps and aerial photos of the area surveyed are included in Appendix A. USDA NRCS Soil Maps are included in Appendix B. Representative site photos of the site are included in Appendix C.

SECTION 3: Results

3.1 General Landscape Characterization

The proposed Project is within the USDA NRCS Major Land Resource Area (MLRA) 54, Rolling Soft Shale Plain. An MLRA is a broad geographic area that is characterized by a particular pattern of soils, climate, water resources, vegetation and land use.

The Project area can be further defined by its location within the Northwestern Great Plains (Level III) ecoregion. The Northwestern Great Plains is characterized as a semiarid rolling plain of shale, siltstone, and sandstone punctuated by occasional buttes and badlands. Native shortgrass prairie persists in areas of steep or broken topography. Native prairie has been largely replaced by dryland farming of spring wheat, alfalfa, barley, oats and sunflowers and by pasture for cattle grazing throughout most of the ecoregion.

Within the Northwestern Great Plains ecoregion, the Project is within the Missouri Plateau (Level IV) ecoregion. The Missouri Plateau ecoregion was largely unaffected by glaciation and retains its original soils and complex stream drainage pattern. Physiography of the Missouri Plateau is described as moderately dissected, level to rolling plains with isolated sandstone buttes. This area is underlain by soft, calcareous shales, siltstones and sandstones of the Tertiary Fort Union Formation and the Fox Hills and Hell Creek Units. The principal source of ground water in the area is in these rocks. Impermeable Cretaceous shale underlies these aquifers.

McKenzie County climate is semi-arid to subhumid and continental. The county is usually warm in summer with frequent spells of hot weather and occasional cool days. The county is very cold in winter, when arctic air frequently surges over the area. The county has 95-130 mean annual frost free days. In winter, the average temperature is 13 degrees F. In summer the average temperature is 72 degrees F. The mean air temperature min/max for January is -3/21 and July 55/83 degrees F.

Mean annual precipitation is 15-17 inches. Most of the precipitation falls during the warm period with about 80 percent falling April through September. It is normally heaviest in late spring and early summer. The average seasonal snowfall is about 35 inches. On average, 43 days of the year have at least 1 inch of snow on the ground. Winter snowfall is normally not too heavy, and it is blown into drifts, so that much of the ground is free of snow. National Weather Service data for the Williston, North Dakota monitoring station recorded precipitation totals for the period from August 2013 to March 15th 2015 to be 8.18 inches as described in Table 1 below. The normal precipitation average for this time period is 6.09. For this time period, rainfall was 2.09 inches above normal. The National Weather Service Drought Severity Index for the period ending March 15th, 2014 is +3.0 to +3.9 which is described as a “very moist spell.”

**Table 1. National Weather Service
 Monthly Recorded Rainfall at Williston, North Dakota**

Month	Recorded Precipitation (inches)	Normal Precipitation (inches)	Difference (inches)
August 2013	2.17	1.45	0.72
September 2013	1.90	1.06	0.84
October 2013	2.07	0.92	1.15
November 2013	0.35	0.65	-0.30
December 2013	1.07	0.62	0.45
January 2014	0.18	0.59	-0.41
February 2014	0.26	0.39	-0.13
March 1-15	0.18	0.41	-0.23
Total	8.18	6.09	2.09

Source: National Oceanic and Atmospheric Administration (2014)

3.2 Wetlands

National Wetland Inventory (NWI) mapping for the area does not indicate the presence of wetlands within the Site. The nearest mapped wetland is a palustrine emergent, temporarily flooded, impounded (PEMAh) wetland approximately 0.1-mile northwest of the Site. The USGS topographic quadrangle map and current and historic aerial photographs do not indicate the presence of wetlands within the Project area. The USGS Web Soil survey was accessed to identify soils within the Project area. No soils within the project area are listed as hydric soils. Soils within the Project area are described in Soils Section 3.5. Field investigations conducted on March 13th, 2014 confirmed that no wetlands are present within the project area. The Site is comprised of a single vegetative community dominated by cultivated wheat (*Triticum aestivum*). Little bluestem (*Schizachyrium scoparium*), purple coneflower (*Echinacea purpurea*), smooth brome (*Bromus inermis*), crested wheat grass (*Agropyron cristatum*), tumble pigweed (*Amaranthus albus*), Kochia (*Kochia scoparia*), and Canada thistle (*Cirsium arvense*) are present along fence lines and hill crests too steep or rocky to cultivate. Maps showing topography, NWI mapping and aerial photographs are included in Appendix A.

3.3 Waterbodies

The Project area is within the Lonesome Creek watershed. One ephemeral stream (STR1) is within the Project area originating at the center of the Site and flowing northwest approximately 8.0 miles to its confluence with Lonesome Creek. Average width of the OHWM is one foot wide. Depth of water was approximately two inches deep. Hydrophytic vegetation was not present within or adjacent to the stream. NHD mapping shows that this stream is a 305(b) assessed waterbody. According to NHD data, this stream is not impaired for sediment, nutrients or pathogens and no total daily maximum loads (TMDLs) have been assigned to this stream. Additionally, no 303(d) impaired waters are located within the watershed.

The proposed LCGP will be located within the southern half of the site. Impacts to STR1, located within the north half of the site, would therefore be avoided. Ephemeral drainages are non-jurisdictional by definitions outlined in the *Ordinary High Water Mark Delineation Manual for Section 404 Waters* (1995). However, the USACE has final authority on jurisdictional status. Maps showing the location of the ephemeral stream STR1, topography, NHD and NWI mapping and aerial photographs are included in Appendix A. A photo of the ephemeral stream STR1 is included as Figure 5 in Appendix C.

3.4 Vegetation

Natural prairie vegetation within the region consists of western wheatgrass, needleandthread, green needlegrass, and blue grama. Little bluestem, prairie sandreed, and sideoats grama are important species on shallow soils. Prairie rose, leadplant, and patches of western snowberry are interspersed throughout the area. Green ash, chokecherry, and buffaloberry occur in draws and narrow valleys.

The Site is currently in agricultural production as cultivated cropland. At the time of field surveys the site was planted in wheat (*Triticum aestivum*). A description of vegetation observed during field surveys is provided in Section 3.2 Wetlands. Review of aerial photographs of the Site dating 1995 to present show the Site to be cultivated

cropland. USGS GAP Landcover mapping designates the Site and approximately 80 percent of the study area to be cultivated cropland. A small parcel of land adjacent to the south boundary of the Site and southeast of the Site are mapped as Northwestern Great Plains Mixedgrass Prairie. Review of aerial photography shows the parcel on the south boundary to be mowed for hay.

3.4.1 Woody Trees and Saplings

The Site is occupied by cultivated cropland. No trees, saplings or shrubs are present on the Site. Woody vegetation within the study area is sparse and limited to woody draws and ravines associated with drainage ways.

3.5 Soils

The dominant soil orders in this Project and study area are Mollisols and Entisols. The soils have a frigid soil temperature regime, an ustic soil moisture regime, and mixed or smectitic mineralogy. They are shallow to very deep, generally somewhat excessively drained to moderately well drained, and loamy or clayey. Calciustolls (Chama series) and Ustorthents (Cabba series) formed in residuum and/or colluvium on uplands (USDA, 2006).

The following soil component descriptions represent the most prevalent soil series found within the Site.

3.5.1 Chama

The Chama series consists of well drained soils formed in materials weathered from soft siltstone, mudstone and shale on uplands. These soils are moderately deep to soft siltstone, mudstone or shale. These soils are moderately or moderately slowly permeable. Runoff is medium to rapid. Slope ranges from 0 to 45 percent. Soils are cropped to small grains, which are mostly wheat; a significant acreage is in rangeland. The native vegetation is principally western wheatgrass, needleandthread and blue grama (NRCS 2014).

3.5.2 Cabba

The Cabba series consists of shallow, well drained soils that formed in residuum or colluvium derived from semiconsolidated, loamy sedimentary beds. These soils are on hills, escarpments, and sedimentary plains. Runoff is very low to high depending on slope. Slopes are 2 to 70 percent. Used as rangeland. The potential native vegetation is mainly little bluestem, western wheatgrass, needleandthread, prairie sandreed, bluebunch wheatgrass, green needlegrass, plains muhly, forbs, and shrubs (NRCS 2014).

3.5.3 Sen

The Sen series consists of well drained, moderately permeable soils that formed in calcareous siltstone or shale. They are moderately deep to soft bedrock. These soils are on upland plains and have slope of 0 to 25 percent. Runoff is slow, medium or rapid. Soils are cropped to small grains in a crop-summer fallow rotation. Native vegetation is mid and short prairie grasses as green needlegrass, needleandthread, western wheatgrass, blue grama and a variety of forbs (NRCS 2014).

3.5.4 Grail

The Grail series consists of deep and very deep, well or moderately well drained, moderately slow or slowly permeable soils that formed in alluvium. These soils are on terraces, fans, swales and foot slopes on uplands and have slope ranging from 0 to 15 percent. Runoff is negligible to medium depending on slope. Most areas are used for cultivated crops such as wheat, oats, and barley. Native vegetation includes mixed grasses such as western wheatgrass, big bluestem, green needlegrass, and needleandthread (NRCS 2014).

3.5.5 Vebar

The Vebar series consists of well drained, moderately deep, moderately rapidly permeable soils that formed in residuum weathered from soft calcareous sandstone. These soils are on uplands and have slope ranging from 0 to 65 percent. Runoff is negligible to medium depending on slope. Soils are cropped to corn and small grains. Some is used for hay or pasture. Native grasses are needleandthread and prairie sandreed (NRCS 2014).

3.5.6 Dooley

The Dooley series consists of very deep, well drained soils that formed in alluvium or eolian material 20 to 40 inches deep over glacial till or lacustrine deposits. These soils are on uplands and lacustrine areas. Slopes are 0 to 15 percent with slow runoff.

The Table 2 below summarizes slope, flood frequency, ponding frequency, and hydric rating of the soils within the Site as mapped by the USDA Web Soil Survey. A soils map for the Site is included in Appendix B.

Table 2. Soils

Map Unit Symbol	Map Unit Name	Percent Slope	Acres/ Percent Area	Flood/Ponding Frequency	Hydric Conditions
33	Belfield-Grail silty clay loam	0-2	6.02/3.8	None	Not Hydric
33B	Belfield-Savage silty clay loam	2-6	7.65/4.8	None	Not Hydric
46C	Dooley-Zahl complex	6-9	0.09/0.1	None	Not Hydric
46D	Dooley-Zahl Complex	9-15	11.61/7.3	None	Not Hydric
52B	Reeder-Farnuf loams	3-6	0.72/0.5	None	Not Hydric
52C	Reeder-Cabba loams	6-9	1.03/0.6	None	Not Hydric
53C	Chama-Cabba-Sen silt loams	6-9	54.19/34.3	None	Not Hydric
53D	Cabba-Chama-Sen silt loams	9-15	61.77/39.1	None	Not Hydric
63C	Vebar-Tally Complex	6-9	11.07/7.0	None	Not Hydric
70B	Regent-Savage silty clay loams	3-6	4.03/2.5	None	Not Hydric

Source: USDA Web Soil Survey (2014).

3.6 Wildlife and Threatened and Endangered Species

Some of the common wildlife species that may occur in the area are white-tailed deer, mule deer, pronghorn antelope, red fox, coyote, white-tailed jackrabbit, prairie dog, ring-necked pheasant, gray partridge, sharp-tailed grouse, ducks, and geese. The species of fish in the area include rainbow trout, walleye, smallmouth bass, bluegill, yellow perch, and northern pike. However, fishing is limited mainly to rivers and impoundments.

The US Fish and Wildlife Service (USFWS) Information, Planning, and Conservation System (IPaC) was accessed on February 20, 2014 to obtain information regarding the presence of threatened and endangered species in McKenzie County, North Dakota. This information does not represent a comprehensive survey, but rather acknowledges the past and/or current presence of listed species.

The 160 acre Site currently consists entirely of cultivated cropland. An ephemeral stream flows through the Site originating at the center and flowing northwest approximately 8 miles to its confluence with Lonesome Creek.

3.6.1 Wildlife Observed

During the field survey, E3 ecologists observed three bird species and two mammal species (Table 3). These are species that use agricultural lands, grasslands and the associated habitat in the survey area. Wildlife may be affected both directly by incidents with construction equipment (nest or den destruction) or indirectly through fragmentation of habitat or introduction of noxious weeds as a result of construction activities.

Table 3. Observed Wildlife

Common Name	Scientific name	Observed Type
Ring-necked pheasant	<i>Phasianus colchicus</i>	Primary and Secondary
Western meadowlark	<i>Sturnella neglecta</i>	Primary
English house sparrow	<i>Passer domesticus</i>	Primary
Mule deer	<i>Odocoileus hemionus</i>	Secondary
American badger	<i>Taxidea taxus</i>	Secondary

3.6.1.1 Federally Protected Species Review

Under the authority of the Endangered Species Act, the FWS assesses wildlife populations for viability throughout their current and historic ranges. Species characterized as Threatened or Endangered and their critical habitats are identified and managed under the FWS ESA program. A review of the FWS published data identified the following listed species with the potential to occur within the study area:

Interior Least tern (*Sterna antillarum*) – Endangered

Whooping crane (*Grus americana*) – Endangered

Piping plover (*Charadrius melodus*) – Threatened

Pallid sturgeon (*Scaphirhynchus albus*) – Endangered

Gray wolf (*Canis lupus*) – Endangered

E3 Environmental has reviewed the available data describing the life history, critical habitat, and conservation measures associated with each species to evaluate the potential effects of the project on these resources, the results of this analysis is as follows:

Interior least tern: The interior population(s) of the least tern has historically been associated with large river systems for breeding and migratory habitats. Breeding birds are known to breed colonies, utilizing sandbar habitat common to larger rivers. In North Dakota, the least tern is found primarily on the Missouri River from Garrison Dam south to Lake Oahe, and on the Missouri and Yellowstone Rivers upstream of Lake Sakakwea (USFWS 1990, 2010). No terns or their habitat were observed on the Site or within the study area.

Effects Determination: No Effect.

Whooping crane: The whooping crane is a large bodied marsh species that breeds primarily in Canada and winters in the Gulf of Mexico. This species has been closely studied and monitored in recent years due to its small population. North Dakota provides migratory habitat for the species, providing roosting and feeding opportunities during migration. This species prefers larger wetland complexes for roosting habitat, typically using adjacent uplands for foraging opportunities. The proposed Project area consists of cultivated cropland. As such, the proposed Project area could support whooping crane migratory stopover as a source for upland forage. Construction activities would likely serve as a deterrent, and once constructed the proposed facility would present a fairly prominent feature to be avoided relative to its surrounding landscape.

Effects Determination: May Affect, Is Not Likely to Adversely Affect.

Piping plover: The piping plover is associated with shorelines along small alkaline lakes, large reservoir beaches, and river islands and adjacent sand pits. Breeding birds select wide beaches with highly clumped vegetation covering less than 25% of the area. Regionally the Missouri River, 13 miles from the Project Site, is known to host breeding populations of the plovers. It is unlikely that migrating piping plover would visit the project area during migration. The project Site is not located within designated piping plover critical habitat.

Effects Determination: No Effect.

Pallid sturgeon: The pallid sturgeon is known to occur in the Missouri River below Fort Peck Dam to the headwaters of Lake Sakakawea. North Dakota Game and Fish have caught and released pallid sturgeon in nets in Lake Sakakawea between New Town and Van Hook. The Project area is within the Lonesome Creek watershed. Lonesome Creek flows northwest to its confluence with the Yellowstone River which then joins the Missouri River approximately 8 miles to the north of this confluence. This species is sensitive to changes in water quality due to turbidity, water temperature, and flow. Construction activities, hydrostatic testing, and plant operations will use best management practices to avoid potential pollution from adversely affecting water quality.

Effects Determination: No Effect.

Gray wolf: The gray wolf is a large carnivore that through conservation measures has experienced strong population recovery, particularly in the Great Lakes states of the upper Midwest. As populations rebound, individuals may break from packs to explore opportunities to establish packs in unoccupied territory. Roaming individuals can cover great distances without establishing viable breeding populations in previously unoccupied habitat(s). This species is not tolerant of human disturbance and will tend to avoid interaction with humans. The activities associated with construction and later plant operations would likely serve as a deterrent to this species.

Effects Determination: No Effect.

3.6.2 Migratory Bird Treaty Act/Bald and Golden Eagle Protection Act

Construction activities will be scheduled to avoid periods of critical reproductive or migratory activities of listed species. To the extent practicable, construction will be scheduled for late summer or fall/early winter so as not to disrupt migratory birds during the breeding season (February 1 to July 15 generally, for Interior least terns and Piping plovers the breeding season extends through August 31) (USFWS 2011).

If construction schedules cannot avoid the above described breeding season, migratory bird habitat may be degraded outside of the breeding season by mowing and/or clearing and grubbing to discourage nesting and the habitat would be maintained in this degraded state until construction is completed. If the work is proposed to take place during the breeding season or at any other time which may result in the take of migratory birds, their eggs, or active nests, all practicable measures will be implemented to avoid take, such as suspending construction where necessary and maintaining adequate buffers to protect the birds until the young have fledged.

3.6.2.1 Bald Eagle (*Haliaeetus leucocephalus*)

Federal Status: Delisted in 2007; protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act

Effects of Project: No adverse effects anticipated

The bald eagle feeds on fish and carrion and typically roosts in large trees near a water source. Bald eagle nesting habitat is typically mature stands of conifer or cottonwood trees in association with rivers, streams, reservoirs, lakes, or any significant body of water. Bald eagles are uncommon in North Dakota and are usually observed along the Missouri River and Yellowstone River. Bald eagles frequently migrate through the grassland habitats. Suitable nesting and roosting habitat is not available in the Project area. Therefore, no adverse effects to bald eagles are anticipated.

3.6.2.2 Golden Eagle (*Aquila chrysaetos*)

Federal Status: Unlisted; protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Effects of the Project: No adverse effects anticipated.

No golden eagles were observed during the field surveys. The golden eagle prefers habitat characterized by open prairie, plains, and forested areas. Usually, golden eagles can be found near badland cliffs, which provide suitable nesting habitat. Suitable nesting and foraging habitat was not found within the survey area. No










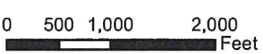
primary or secondary indication of golden eagle presence, including nests, was observed in or near the survey area during the field survey.

SECTION 4: Conclusions and Recommendations

1. No wetlands will be impacted by the project.
2. No native or natural vegetation is present within the project area.
3. No threatened or endangered species or their critical habitat that are known to occur in McKenzie County are likely to be detrimentally impacted by construction activities.
4. Construction activities will be scheduled to avoid periods of critical reproductive or migratory activities of listed species. If construction schedules cannot avoid the above described breeding season, migratory bird habitat may be degraded outside of the breeding season by mowing and/or clearing and grubbing to discourage nesting and the habitat would be maintained in this degraded state until construction is completed.

Appendix A
Site Maps



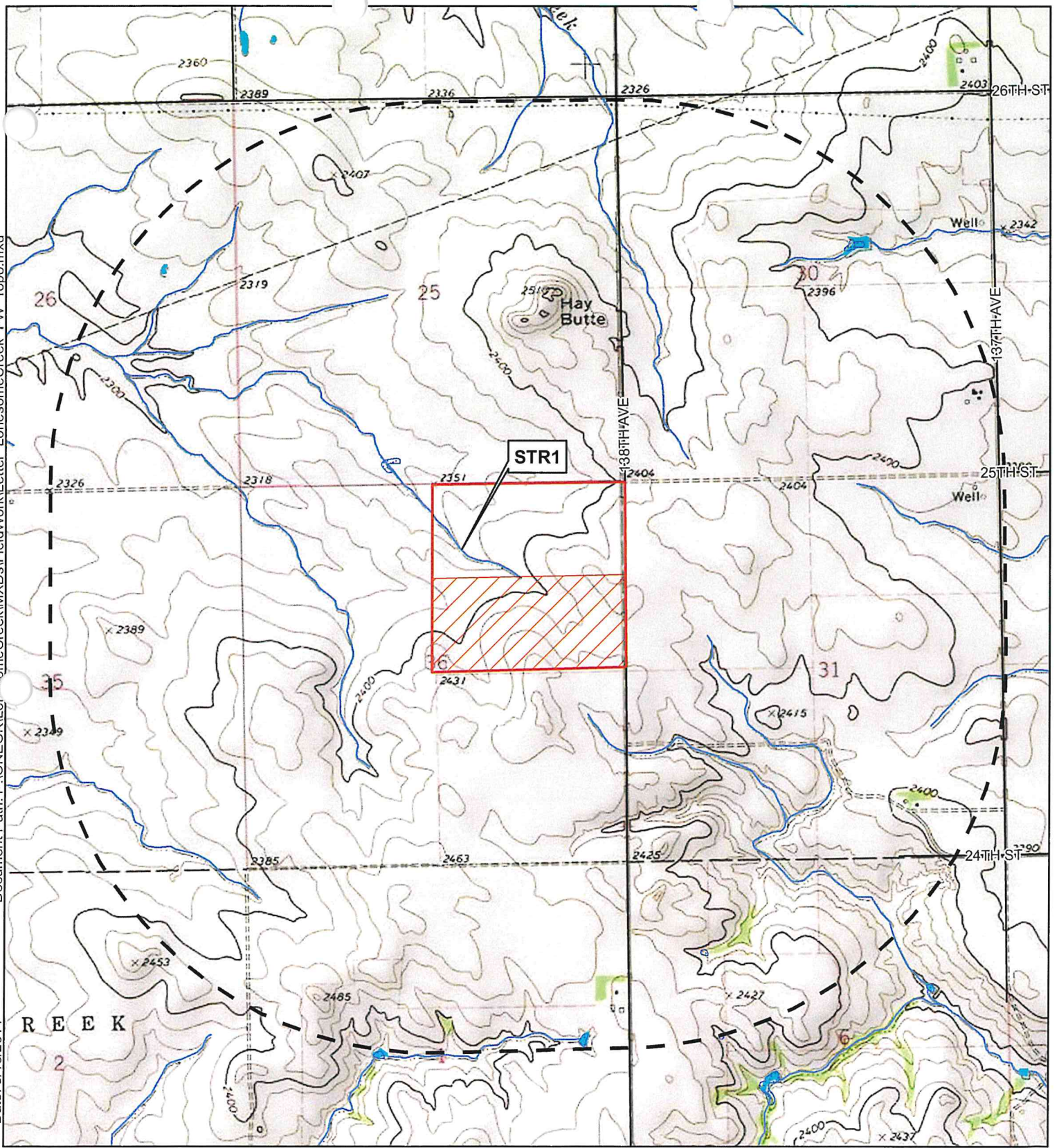
	Lonesome Creek Plant Location	   <small>A SUBSIDIARY OF ONEOK PARTNERS, L.P.</small>
	Construction Area	
	1 Mile Study Area	
	NWI Wetland	
	NHD Waterbody	
	NHD Flowline	
 1:22,000		

**ONEOK Rockies
Midstream, L.L.C.**

Lonesome Creek Gas Plant


Aerial Photograph

McKenzie County, ND



- Lonesome Creek Plant Location
- Construction Area
- 1 Mile Study Area
- NWI Wetland
- NHD Waterbody
- NHD Flowline

N


ONEOK
 ROCKIES MIDSTREAM
A SUBSIDIARY OF ONEOK PARTNERS, L.P.

0 500 1,000 2,000
 Feet
 1:22,000

**ONEOK Rockies
Midstream, L.L.C.**

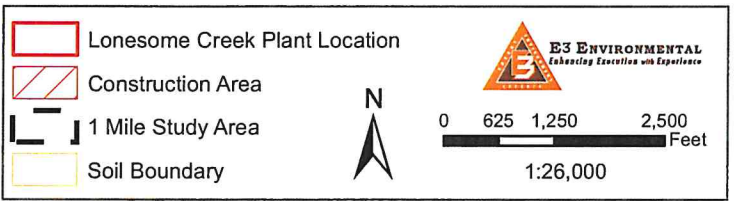
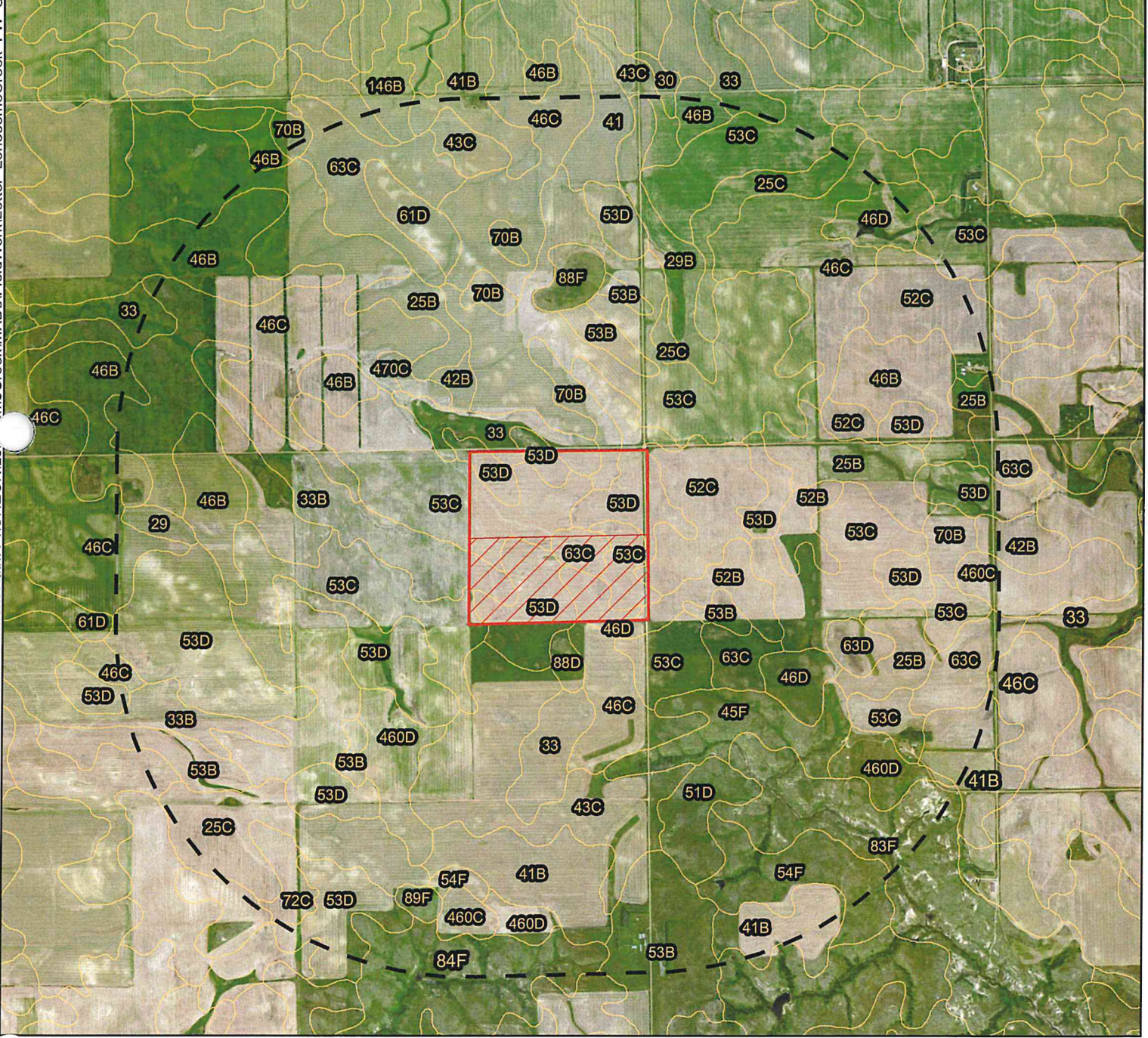
Lonesome Creek Gas Plant

Topographic Map

McKenzie County, ND

Appendix B
Soil Survey Map

MUSYM	MU NAME	MUSYM	MU NAME	MUSYM	MU NAME
29	Savage silty clay loam, 0 to 2 percent slopes	45F	Zahl-Cabba-Maschetah complex, 3 to 70 percent slopes	53D	Cabba-Chama-Sen silt loams, 9 to 15 percent slopes
30	Lawther silty clay, 0 to 2 percent slopes	460C	Zahl-Williams-Cabba complex, 6 to 9 percent slopes	54F	Cabba-Sen-Chama silt loams, 15 to 70 percent slopes
33	Belfield-Grail silty clay loams, 0 to 2 percent slopes	460D	Zahl-Cabba-Williams complex, 9 to 15 percent slopes	61D	Beisigl-Flasher loamy fine sands, 6 to 15 percent slopes
41	Williams-Bowbells loams, 0 to 3 percent slopes	46B	Dooley-Zahl complex, 3 to 6 percent slopes	63C	Vebar-Flasher complex, 6 to 9 percent slopes
46B	Dooley fine sandy loam, 0 to 6 percent slopes	46C	Dooley-Zahl complex, 6 to 9 percent slopes	63D	Vebar-Flasher-Tally complex, 9 to 15 percent slopes
25B	Farnuf loam, 2 to 6 percent slopes	46D	Dooley-Zahl complex, 9 to 15 percent slopes	70B	Regent-Savage silty clay loams, 3 to 6 percent slopes
25C	Farnuf loam, 6 to 9 percent slopes	470C	Zahl-Tally-Williams complex, 6 to 9 percent slopes	72C	Moreau-Wayden silty clays, 6 to 9 percent slopes
29B	Savage silty clay loam, 2 to 6 percent slopes	51D	Amor-Cabba loams, 9 to 15 percent slopes	83F	Cabba-Badland, outcrop complex, 9 to 70 percent slopes
33B	Belfield-Savage silty clay loams, 2 to 6 percent slopes	52B	Reeder-Farnuf loams, 3 to 6 percent slopes	84F	Cabba-Chama-Havrelon silt loams, 3 to 70 percent slopes
41B	Williams-Bowbells loams, 3 to 6 percent slopes	52C	Reeder-Cabba loams, 6 to 9 percent slopes	88D	Brandenburg-Searing-Dogtooth complex, 6 to 15 percent slopes
42B	Williams-Zahl loams, 3 to 6 percent slopes	53B	Chama-Sen-Cabba silt loams, 3 to 6 percent slopes	88F	Brandenburg-Cabba-Dogtooth complex, 15 to 70 percent slopes
43C	Williams-Zahl loams, 6 to 9 percent slopes	53C	Chama-Cabba-Sen silt loams, 6 to 9 percent slopes	89F	Brandenburg-Cabba-Badland, outcrop complex, 9 to 70 percent slopes



ONEOK Rockies Midstream, L.L.C.
 Lonesome Creek Gas Plant
 Soil Map
 McKenzie County, ND

Appendix C
Site Photos

Site Photos



**Figure 1. Northeast quadrant of site facing east from 25th Street.
Trees in background are just outside of site.**



Figure 2. Northeast quadrant of site facing south from 25th Street.



Figure 3. Northeast quadrant of site facing west from 25th Street.



Figure 4. Southwest corner of site facing northeast. Ephemeral stream in midground, Hay Butte in background.

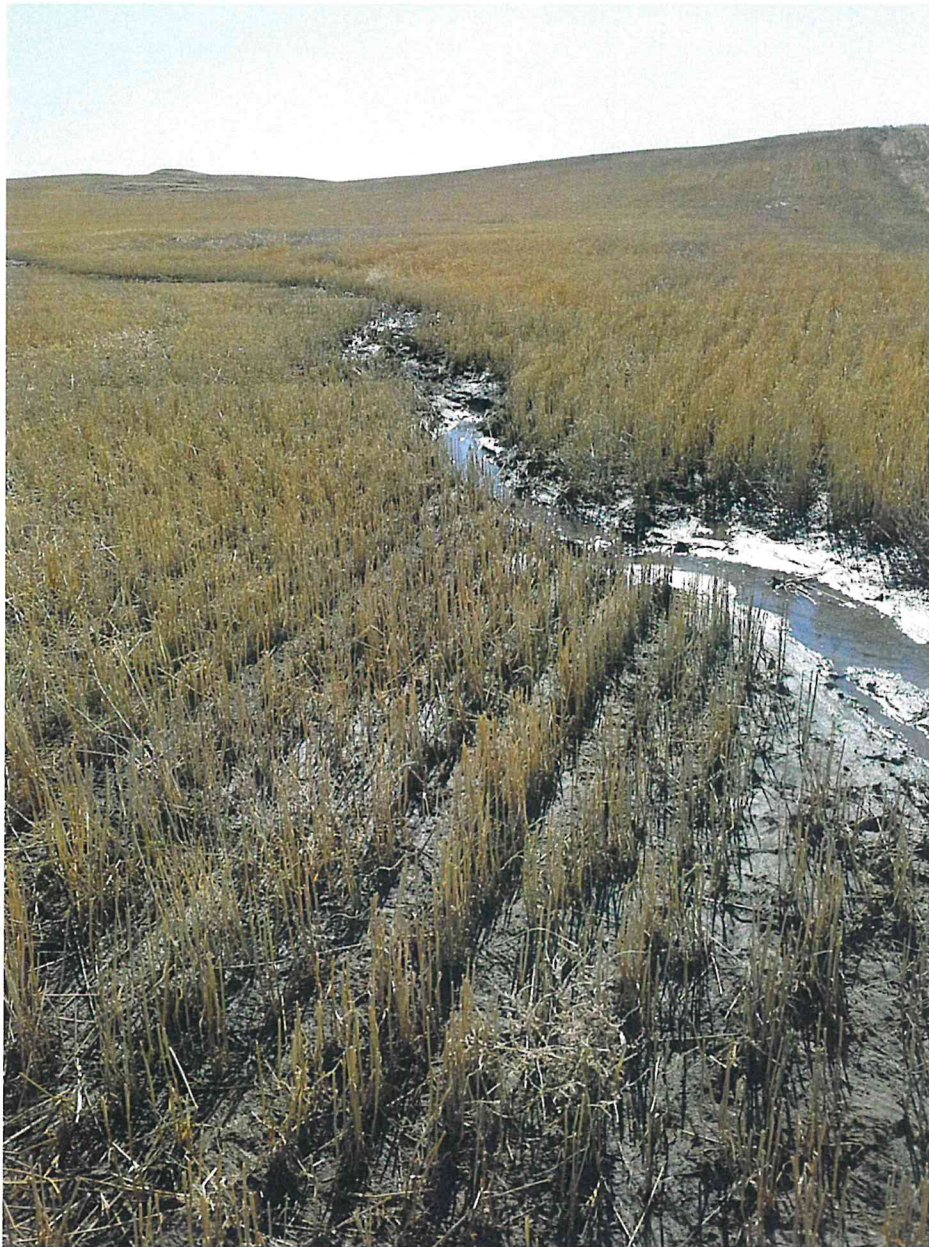


Figure 5. Ephemeral stream originates at center of site and flows northwest.

Appendix E

Cultural Resource Report

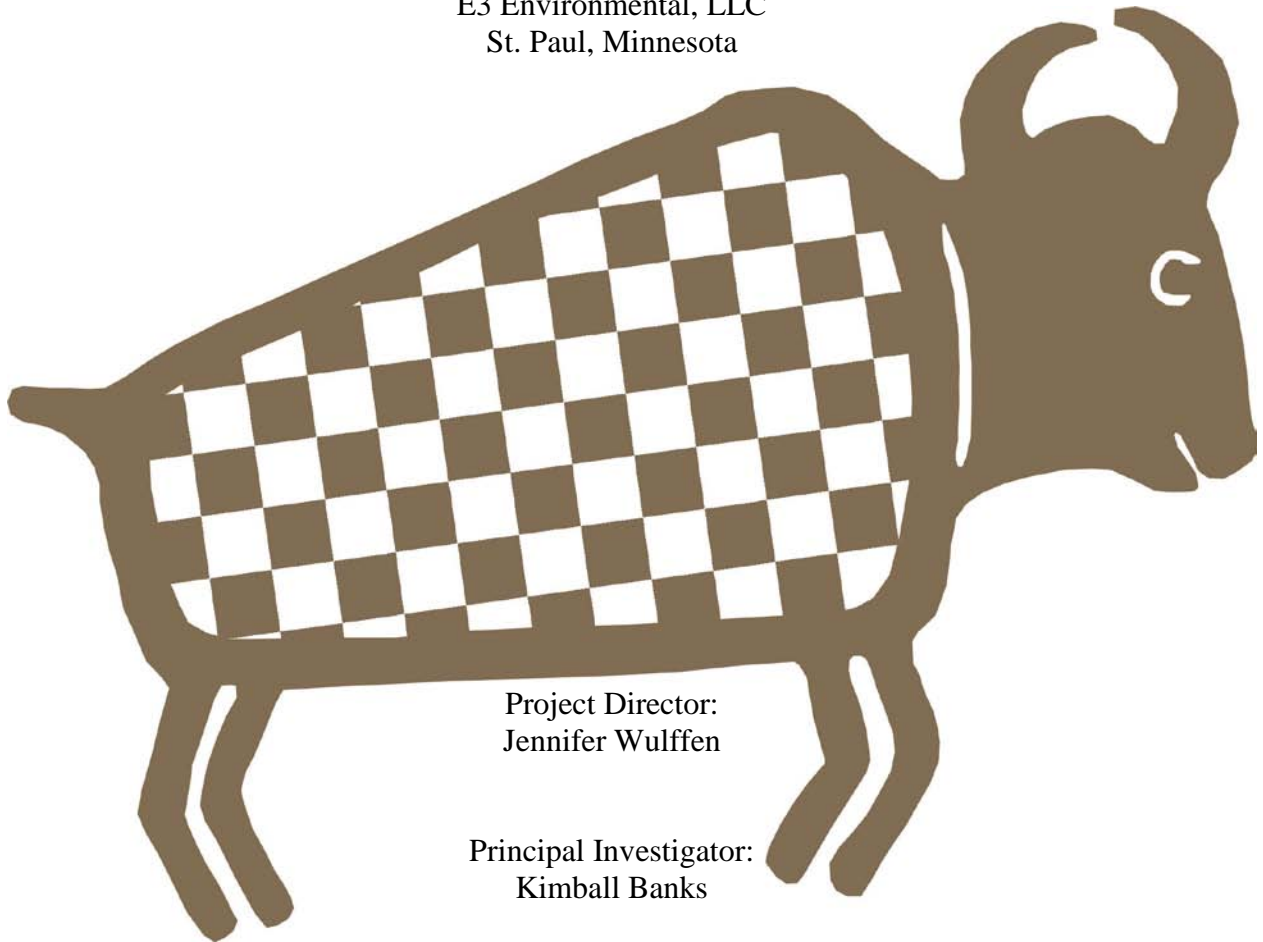
MANUSCRIPT DATA RECORD FORM

1. Manuscript Number:
2. SHPO Reference #:
3. Author(s): Elizabeth France and Jennifer Wulffen
4. Title: E3 Environmental, LLC's Lonesome Creek Gas Plant: A Class III Cultural Resource Inventory in McKenzie County, North Dakota
5. Report Date: March 2014
6. Number of Pages: 11
7. Type: I
8. Acres: 160 Acres
9. Legal Location(s):

County	TWP	R	SEC	SU
McKenzie	150N	101W	36	YE

E3 ENVIRONMENTAL, LLC'S
LONESOME CREEK GAS PLANT:
A CLASS III CULTURAL RESOURCE INVENTORY IN
MCKENZIE COUNTY, NORTH DAKOTA

Prepared for:
E3 Environmental, LLC
St. Paul, Minnesota



Project Director:
Jennifer Wulffen

Principal Investigator:
Kimball Banks

Prepared by:
Elizabeth France and Jennifer Wulffen
Metcalf Archaeological Consultants, Inc.
Bismarck, North Dakota

March 2014

Locational information for archaeological and historic sites is protected under North Dakota Century Code § 55-02-07. All reports (Class I, II, III, Testing, or Data Recovery) or any loose maps that will be distributed outside the agency or client should not contain site locational information. Site locational information includes the location of a site on a topographic map or aerial photographs, the location of a site in tables, such as Township, Range, and Section, or photograph of sites. It is acceptable to mention the Smithsonian Trinomial designation SITS # (e.g., 32EM0123) as this does not contain locational information, other than state and county.



Metcalf
Archaeological
Consultants, Inc.

ABSTRACT

On March 12, 2014, archaeologists from Metcalf Archaeological Consultants, Inc. conducted a Class III, pedestrian, cultural resource inventory of a 160 acre block for the proposed Lonesome Creek Gas Plant, located in McKenzie County, North Dakota. E3 Environmental, LLC. requested the inventory in anticipation of the construction of a natural gas plant. Archaeologists recorded one historic isolated find, 32MZx1385, consisting of two pieces of abandoned farm equipment. This isolated find is considered *not eligible* for the National Register of Historic Places. The discrete physical expression of five or fewer artifacts represents very limited past activity at this location and thus is unlikely to yield significant information regarding history or prehistory. A finding of *No Historic Properties Affected* (36CFR800.4[d][1]) is recommended for this undertaking as surveyed, mapped, and documented herein.



TABLE OF CONTENTS

Abstract	ii
List of Figures	iii
List of Tables	iii
List of Maps	iii
Introduction.....	4
The Undertaking	4
The Undertaking Location	4
Project Setting.....	6
Files Search.....	7
Field Methods	2
Results.....	2
Recommendations.....	4
References Cited.....	4

LIST OF FIGURES

Figure 1: ND map showing the general location of the project area.	4
Figure 2: Overview of the APE looking east (Image 595).	6
Figure 3: Plan view of general GSV at the center of the APE (Image 597).	7
Figure 4: Overview of IF at 32MZx1385 facing northeast (Image 600).	2
Figure 5: Close-up view of the handmade bolts in 32MZx1385 (Image 603).....	3
Figure 6: Overview of 32MZx1385 facing south (Image 601).....	3

LIST OF TABLES

Table 1: Site Files Search Results - E3 - Lonesome Creek Gas Plant.....	8
Table 2: Manuscript Files Search Results - E3 - Lonesome Creek Gas Plant.....	8

LIST OF MAPS

Map 1: The location of the project APE, cultural resources, and surveys depicted on the USGS 7.5' Rawson (1972).....	5
----------------------------------------------------------------------------------------------------------------------	---

INTRODUCTION

E3 Environmental, LLC (E3), intends to construct a gas plant in McKenzie County, North Dakota. E3 contacted Metcalf Archaeological Consultants, Inc. (MAC) to conduct a Class III cultural resource inventory of the undertaking area of potential effects (APE). At the time of this work, there is no federal agency involved in the project. This inventory will provide the information necessary for E3 and/or any potential overseeing federal agency to comply with the National Historic Preservation Act (NHPA), as amended, and its implementing regulations, 36CFR Part 800. The objective was to locate any cultural resources within the undertaking APE, to determine whether they qualify for inclusion on the National Register of Historic Places (NRHP), and to assess the effects of this undertaking on those that do qualify for the NRHP. Field personnel included Jennifer Wulffen (Project Director), Laura Evilsizer, and Lynsee Langsdon. The inventory took place on March 12, 2014.

THE UNDERTAKING

The undertaking is for the proposed construction of a natural gas plant. The Lonesome Creek Gas Plant will be located within a 160 acre block, the entirety of which was subject to a Class III pedestrian inventory.

THE UNDERTAKING LOCATION

The APE is located west of Arnegard, in McKenzie County, North Dakota (Figure 1). The legal description is T. 150N, R. 101W in the northeast quarter of Section 36. The APE is depicted on the relevant portion of the USGS 7.5' Rawson (1972) quadrangle map (Map 1).

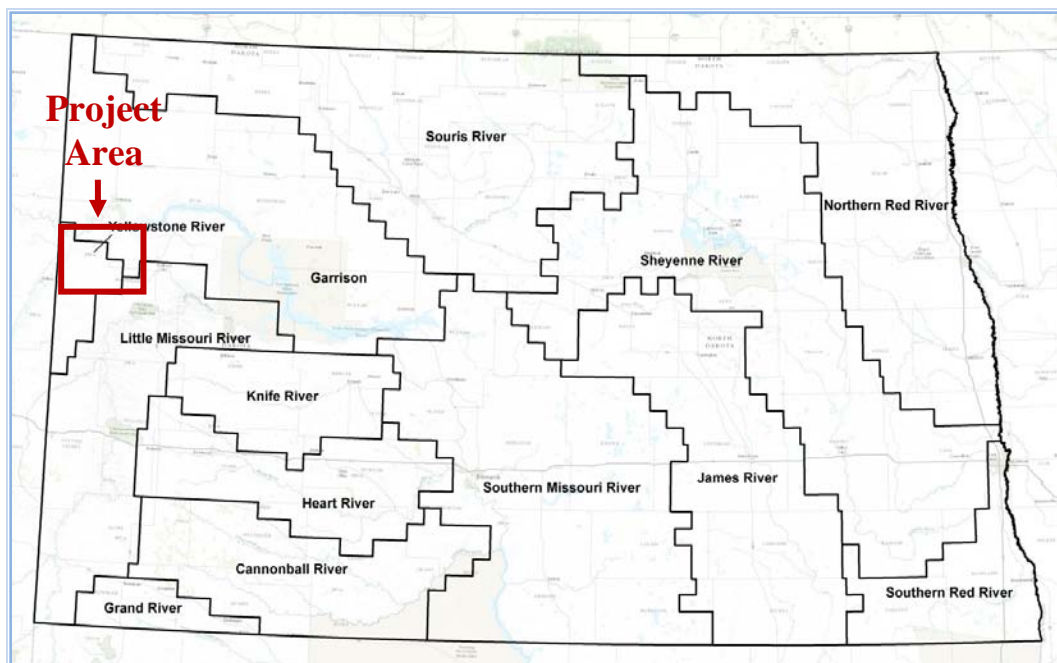
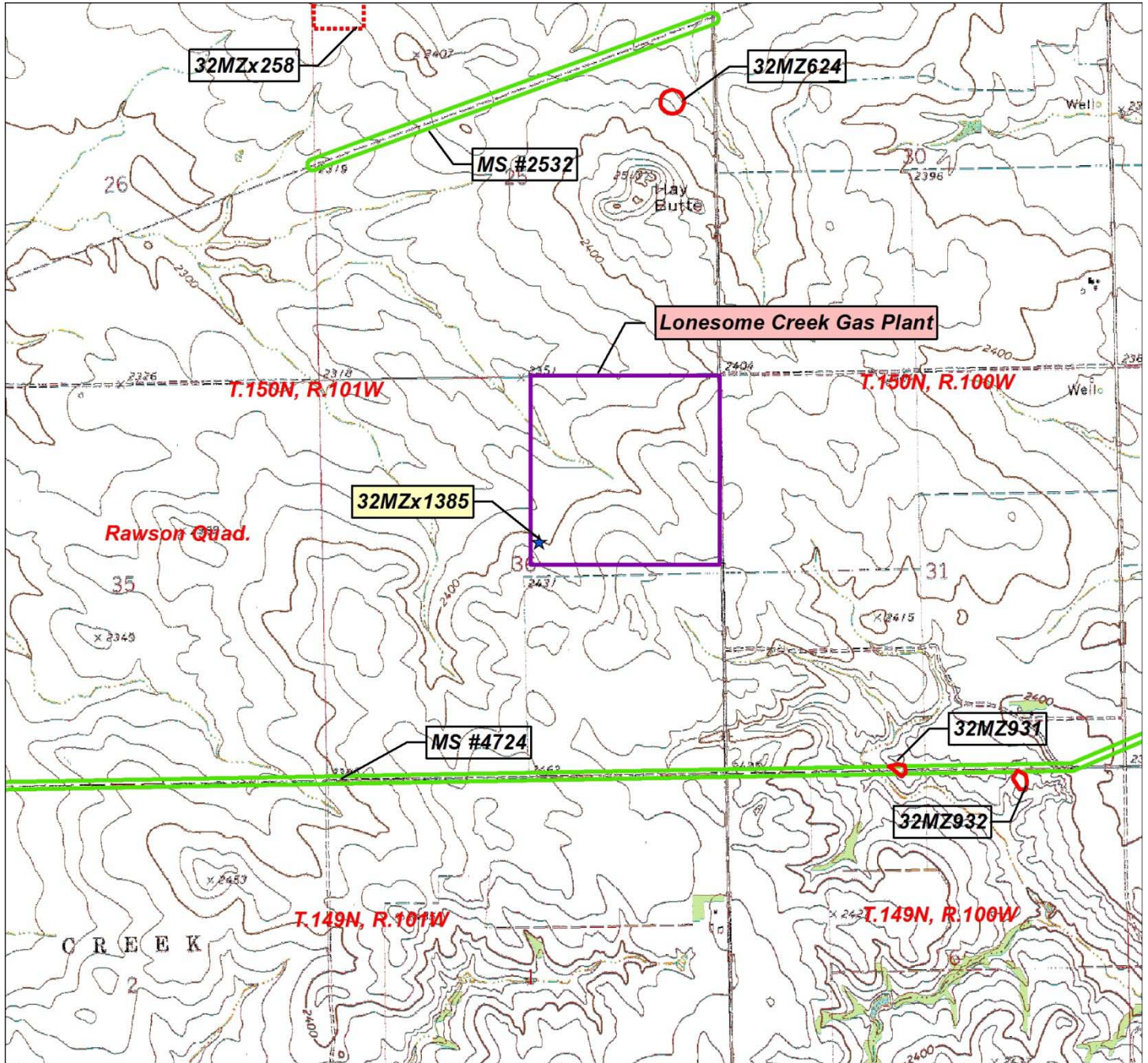


Figure 1: ND map showing the general location of the project area.



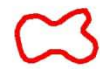
Metcalf Archaeological Consultants, Inc.



Prehistoric Site Lead



Multi-component Site



Prehistoric Site



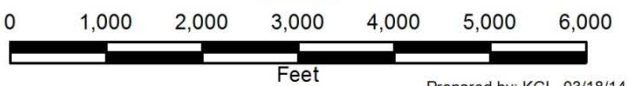
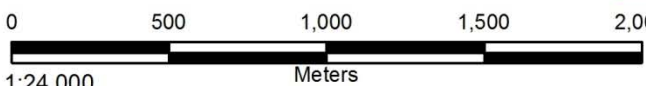
Historic/Architectural Isolated Find



Project APE



Survey



Prepared by: KGL, 03/18/14

Map 1: The location of the project APE, cultural resources, and surveys depicted on the USGS 7.5' Rawson (1972).

PROJECT SETTING

Physiographically, the APE is located within the McKenzie Upland of the Great Plains Physiographic Region (Bluemle 2000). Archaeologically, the proposed undertaking is in the Yellowstone River Study Unit (Unit #13) as defined in the *North Dakota Comprehensive Plan for Historic Preservation: Archeological Component* (SHSND 2008). Overviews of the area's physiography and archaeology are summarized in these references.

The physiography of the area is characterized by rolling plains, except in the badlands and near various buttes (Bluemle 2000). The terrain is generally slightly rolling with stretches of native prairie and consists primarily of agricultural fields (Figures 2-3). The APE was located within a cultivated field, fallow at the time of survey and wet from recent snowmelt. Overall ground surface visibility (GSV) was between 0 and 40 percent. The soil is a 10YR 4/3 silt with approximately 30 percent gravel.



Figure 2: Overview of the APE looking east (Image 595).

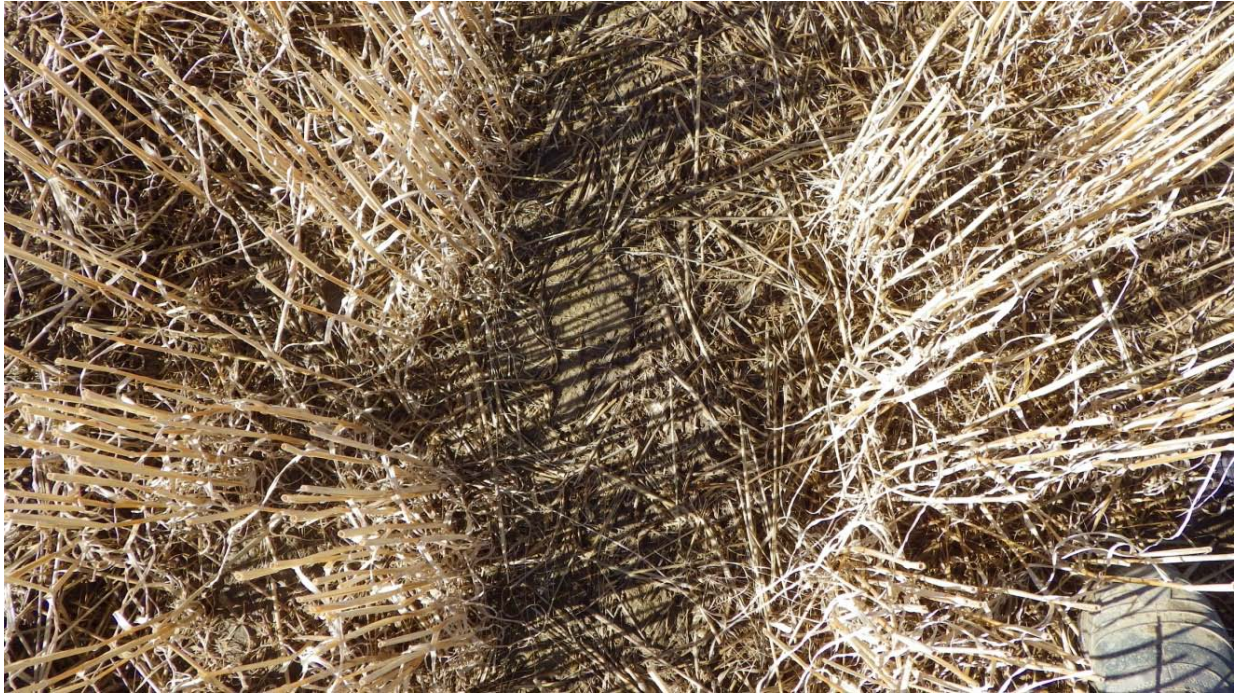


Figure 3: Plan view of general GSV at the center of the APE (Image 597).

FILES SEARCH

On March 10, 2014, prior to the Class III inventory, MAC staff Kimberly Troendle, searched the site and manuscript files at the State Historical Society of North Dakota (SHSND). The objective was to determine if any cultural resources have been recorded or if any cultural resource inventories have been conducted within the APE and the surrounding one mile radius. The results of the search are documented in Tables 1 and 2.

The search revealed that 10 cultural resources have been recorded in the search area. These resources include two architectural sites, three historic sites, four prehistoric sites, and one prehistoric isolate. The nearest site, 32MZ624, is a prehistoric site located approximately 0.75 miles north of the proposed APE; it will not be impacted by the proposed undertaking.

The search also revealed that six cultural resource inventories have taken place in the search area. These projects included four pipeline projects and two transmission line projects. None of the surveys are in close proximity to the APE.



T/R-Section	SITS #	Site Type & Description	Recorder, Date	MS #
150/101-25	32MZ0624	Archaeological-cultural material scatter- faunal remains, fire cracked rock, projectile point, chipped stone	Keller, 1982	2532, 3455
	32MZ1557	Architectural-windmill, Historic-depression, foundation, machinery, cultural material scatter- glass, metal, wood	Fandrich, 2001	
	32MZ1561	Historic-Linear WAPA Transmission Line	Fandrich, 2001; Kinsey, 2012	
	32MZx0258	Archaeological-isolated find: projectile point	Hetland, 1982	
150/101-26	32MZ1557	Architectural-windmill, Historic-depression, foundation, machinery, cultural material scatter- glass, metal, wood	Fandrich, 2001	2532, 13318
	32MZ1561	Historic-Linear WAPA Transmission Line	Fandrich, 2001; Kinsey, 2012	
150/101-35	No Sites			4316, 4724
150/101-36	No Sites			4724
150/100-30	32MZ1561	Historic-Linear WAPA Transmission Line	Fandrich, 2001; Kinsey, 2012	3455, 8884
150/100-31	32MZ0931	Archaeological-cultural material scatter – faunal remains, fire cracked rock, chipped stone	Floodman, 1988	4724
149/101-01	No Sites			4724
149/101-02	No Sites/No Surveys			
149/100-06	32MZ0931	Archaeological-cultural material scatter – faunal remains, fire cracked rock, chipped stone	Floodman, 1988	4724
	32MZ0932	Archaeological-cultural material scatter – chipped stone	Floodman, 1988	

MS #	Reference
2532	Ecology and EnvironMent, Inc. 1982 Cultural Resource Survey of the Proposed Lateral “B” Pipeline for the North Dakota System in McKenzie County, North Dakota
3455	Root, M. 1983 Archeology of the Northern Border Pipeline, North Dakota: Volume 2, Parts. 1-3 Survey and Background Information, McIntosh, Emmons, Morton, Stark, Mercer, Dunn, McKenzie, and Williams Counties, North Dakota
4316	Borchert, J. 1987 The Red Wing Creek Extension Cultural Resources Inventory, McKenzie County, North Dakota (U-W#1010)
4724	Floodman, M. 1988 A Cultural Resources Inventory of the Proposed Northern Border Connection Pipeline McKenzie County, North Dakota Volume I and II
8884	Fandrich, B. 2004 Williston to Charlie Creek: A Cultural Resource Inventory Along the Western Area Power Administration 115kV Transmission Line from the Williston Substation to the Charlie Creek Substation, Williams and McKenzie Counties, North Dakota.
13318	Bailly, D. and W. Bluemle 2012 Addendum to: Basin’s Lonesome Creek Station: A Class III Cultural Resource Inventory in McKenzie County, North Dakota

FIELD METHODS

The inventory conformed to *North Dakota SHPO Guidelines Manual for Cultural Resource Inventory Projects* (SHSND 2012). The inventory employed a pedestrian transect methodology with transects spaced no more than 15 meters apart. This methodology was used to inventory the entire undertaking APE.

During the course of an inventory, MAC archaeologists use hand-held GPS units to map APE boundaries, take representative digital photographs, and maintain detailed field notes. In accordance with MAC procedural guidelines when encountering a cultural resource, archaeologists photograph the resource(s), record measurements [resource(s), feature(s), area], take detailed notes, complete a North Dakota Cultural Resources Survey (NDCRS) form, create a field sketch map, and record information via a hand-held GPS unit. Copies of all photos, NDCRS forms, maps, GPS data, and field notes are on file at the MAC Bismarck office.

RESULTS

A single resource, historic isolated find (IF) 32MZx1385 was identified during the inventory (Figure 4). The IF is a decayed piece of farm equipment, possibly a wagon, containing rotting wood beams and rusted metal. Two rusted metal items are handmade bolts (Figure 5). The equipment sits north of a field clearing of large rocks at the western edge of the APE and field boundary (Figure 6).

IFs are generally considered *not eligible* for the NRHP given that the discrete physical expression of five or fewer artifacts represents very limited past activity and the location exhibits little or no potential to contain buried cultural material.



Figure 4: Overview of IF at 32MZx1385 facing northeast (Image 600).



Figure 5: Close-up view of the handmade bolts in 32MZx1385 (Image 603).



Figure 6: Overview of 32MZx1385 facing south (Image 601).



Metcalf
Archaeological
Consultants, Inc.

RECOMMENDATIONS

Isolated find 32MZx1385 is considered *not eligible* for the NRHP. Metcalf Archaeological Consultants, Inc. recommends a finding of *No Historic Properties Affected* (36CFR800.4[d][1]) for the proposed undertaking as surveyed, mapped, and documented herein.

REFERENCES CITED

Bluemle, J. P.

2000 *The Face of North Dakota* 3rd Edition. Education Series 26. North Dakota Geological Survey. Bismarck, North Dakota.

State Historical Society of North Dakota (SHSND)

2008 *The North Dakota Comprehensive Plan for Historic Preservation: Archeological Component*. <http://history.nd.gov/hpforms.html>.

2012 *North Dakota SHPO Guidelines Manual for Cultural Resource Inventory Projects*. <http://history.nd.gov/hp/PDFinfo/ND%20SHPO%20Guidelines%20Manual.pdf>.

Appendix F

10-Year Plan

CROWLEY FLECK PLLP
ATTORNEYS AT LAW

John W. Morrison
400 East Broadway, Suite 600
P.O. Box 2798
Bismarck, ND 58502-2798
Office: 701.223.6585
Direct: 701.224.7534
jmorrison@crowleyfleck.com

RECEIVED

August 6, 2012

AUG 06 2012

Hand Delivered

PUBLIC SERVICE COMMISSION

Mr. Darrell Nitschke
Executive Secretary
North Dakota Public Service Commission
600 East Boulevard Avenue
Dept. 408
Bismarck, ND 58505-0480

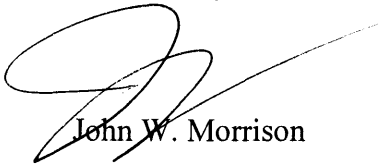
In re: ONEOK Rockies Midstream, LLC
Ten-Year Plan

Dear Mr. Nitschke:

Enclosed for filing are the original and ten copies of ONEOK Rockies Midstream, LLC's ten-year plan and exhibits.

If you have any questions, please feel free to contact me. Thank you.

Very truly yours,



John W. Morrison

lh
enc.

cc: Michael Dailey (via e-mail)

1

PU-12-673 Filed: 8/6/2012 Pages: 17
2012 Ten year plan

BILLINGS BISMARCK BOZEMAN HELENA KALISPELL

CROWLEY FLECK LLP ATTORNEYS AT LAW

ONEOK Rockies Midstream, L.L.C.

John Morrison

ONEOK Rockies Midstream, LLC ("ORM") hereby submits our ten-year plan pursuant to North Dakota Century Code § 49-22-04 and North Dakota Administrative Code Chapter 69-06-02.

SECTION A: Existing Energy Conversion Facilities

Part I – Grasslands Plant

1. Location: ORM owns and operates an existing energy conversion facility at our Grasslands Gas Plant facility (formerly named McKenzie Gas Plant) located in Township 148 North, Range 105 West Section 36 in McKenzie County near Sidney, MT. A map showing the location of the site is attached hereto as **EXHIBIT "A"**.

2. Type and Capacity:

The plant cryogenically processes the casing head gas, generally high in natural gas liquids (NGLs), after the acid gas component and moisture have been removed from the gas. The raw NGLs are then fractionated into purity products that include propane, iso-butane, normal butane and natural gasoline. The separated products are then sold via truck at the facility or transported via pipeline to an offsite railcar loading facility.

 - a. Product Type: Natural Gas and separated NGLs
 - b. Plant Property Area: 160 acres (SE/4 of Section 36)
 - c. Plant Inlet Gas Rate: 100 MMscfd
 - d. Maximum Design Operating Pressure: 720 psig
 - e. Residue Gas Production: 81 MMscfd
 - f. Compressor specifications, including type, horsepower, output pressure and capacity:

- i. Ten 1,500 high pressure (HP) inlet/residue compressors
 - ii. Two 1,250 HP inlet/residue compressors
 - iii. Two 800 HP refrigeration compressors
 - iv. One 1,000 HP acid gas compressor
 - v. One 1,500 HP acid gas compressor
- Total compression horsepower: 21,600 HP
- g. NGL Production: 1,882,000 lbs/d
 - h. Plant in-service date: December 1980

This existing energy conversion facility is not committed to be retired in the next ten years.

Part II – Garden Creek Plant

1. Location: ORM owns and operates an existing energy conversion facility at our Garden Creek Gas Plant. It is located in Township 151 North, Range 98 West, Section 35 in McKenzie County near Watford City, ND. A map showing the location of the site is attached hereto as **EXHIBIT “B”**.

2. Type and Capacity:

The plant cryogenically processes casing head gas, which is generally high in natural gas liquids (NGLs), after the moisture has been removed from the gas. The separated Y-grade NGL product is sold via truck at the facility or transported via pipeline to an offsite railcar loading facility while the natural gas is transported via pipeline to an interstate natural gas pipeline system. A gathering system compressor station is on the site and operates independently of the gas plant.

- a. Product Type: Natural Gas and separated NGLs
- b. Plant Property Area: 80 acres (S1/2SE1/4 of Section 35)
- c. Plant Inlet Gas Rate: 100 MMscfd
- d. Maximum Design Operating Pressure: 1550 psig
- e. Residue Gas Production: 81 MMscfd
- f. Compressor specifications, including type, horsepower, output pressure and capacity:
 - i. Five 3,000 HP high pressure residue compressors
 - ii. Two 200 HP regeneration gas compressors
 - iii. Three 2500 HP refrigeration compressors
 - iv. Two 350 HP stabilizer overhead gas compressors

Total compression horsepower: 23,600 HP
- g. NGL Production: 2,170,000 lbs/d
- h. Plant in-service date: December 2011

This existing energy conversion facility is not committed to be retired in the next ten years.

SECTION B: Energy Conversion Facilities Under Construction

Part I – Stateline 1 and Stateline 2

1. Location: ORM has received a Certificate of Site Compatibility for the Stateline 1 and 2 Gas Plant facilities (PSC Case PU-10-666). This site will have 2 separate 100 MMscfd processing trains (Stateline 1 and Stateline 2) located in Township 155 North, Range 103 West, Section 21, SW/4 in Williams County near Williston, ND. A map showing the location of the site is attached hereto as **EXHIBIT “C”**.

2. Type and Capacity:

The plants will cryogenically process casing head gas, generally high in natural gas liquids (NGLs), after the moisture has been removed from the gas. The separated Y-grade NGL product will be sold via pipeline to an offsite railcar loading facility while the natural gas will be transported via pipeline to an interstate natural gas pipeline system.

 - a. Product Type: Natural Gas and separated NGLs
 - b. Plant Property Area: 160.3 acres (SW/4 of Section 21)
 - c. Plant Inlet Gas Rate: 200 MMscfd (100 MMscfd each plant)
 - d. Maximum Design Operating Pressure: 1650 psig
 - e. Residue Gas Production: 156 MMscfd (78 MMscfd each plant)
 - f. Compressor specifications, including type, horsepower, output pressure and capacity:
 - i. Four 3,000 HP high pressure residue compressors at each plant
 - ii. Two 150 HP regeneration gas compressors at each plant
 - iii. Three 3,000 HP refrigeration compressors at each plant
 - iv. Two 600 HP stabilizer overhead gas compressors at each plant
 - v. One spare 3,000 HP high pressure residue compressor at Stateline 2 only
 - g. Total compression horsepower: 48,000 HP for both plants
 - g. NGL Production: 5,948,000 lbs/d (2,974,000 lbs/d each plant)
 - h. Anticipated Plant in-service date: Stateline 1: Third Quarter 2012, Stateline 2: First Half 2013

SECTION C: Proposed Energy Conversion Facilities on Which Construction is Intended Within the Ensuing Five Years

Part I – Garden Creek II

1. Location: ORM has filed a Notice of Intent (NOI) for a new energy conversion facility adjacent to its existing Garden Creek Plant. It is located in Township 151 North, Range 98 West, Section 35 in McKenzie County near Watford City, ND. A map showing the location of the site is attached hereto as **EXHIBIT “B”**.

2. Type and Capacity:

The plant cryogenically processes casing head gas, which is generally high in natural gas liquids (NGLs), after the moisture has been removed from the gas. The separated Y-grade NGL product is sold via truck at the facility or transported via pipeline to an offsite railcar loading facility while the natural gas is transported via pipeline to an interstate natural gas pipeline system. A gathering system compressor station is on the site and operates independently of the gas plant.

- a. Product Type: Natural Gas and separated NGLs
- b. Plant Property Area: 80 acres (N1/2SE1/4 of Section 35)
- c. Plant Inlet Gas Rate: 100 MMscfd
- d. Maximum Design Operating Pressure: 1550 psig
- e. Residue Gas Production: 81 MMscfd
- f. Compressor specifications, including type, horsepower, output pressure and capacity:
 - i. Five 3,000 HP high pressure residue compressors
 - ii. Two 200 HP regeneration gas compressors
 - iii. Three 2500 HP refrigeration compressors
 - iv. Two 350 HP stabilizer overhead gas compressorsTotal compression horsepower: 23,600 HP
- g. NGL Production: 2,170,000 lbs/d
- h. Plant in-service date: Third Quarter 2014

This existing energy conversion facility is not committed to be retired in the next ten years.

If producer drilling activity in the Bakken/Three Forks continues at current levels, ORM anticipates it may need to build additional natural gas processing capacity in Western North Dakota sometime within the five year period.

SECTION D: Proposed Energy Conversion Facilities During the Next Ten-Year Time Period

If producer drilling activity in the Bakken/Three Forks continues at current levels, ORM anticipates it may need to build additional natural gas processing capacity in Western North Dakota sometime within the ten year period.

SECTION E: Existing Transmission Facilities (Electric)

ORM has no existing electrical transmission facilities.

SECTION F: Existing Transmission Facilities (Pipeline)

Part I – Fort Buford

1. Location. ORM owns and operates a natural gas transmission pipeline originating at the Grasslands Gas Plant (formerly named McKenzie Gas Plant) in Township 148 North, Range 105 West, Section 36 in McKenzie County and proceeding north-northeast to a point of intersection with the gas pipeline facilities of Northern Border Pipeline Company

in Township 151 North, Range 103 West, Section 4 in McKenzie County. It is permitted under PSC Corridor Certificate 53 and Route Permit 60. A system map showing the location of the pipeline is attached hereto as **EXHIBIT "D"**.

2. Type and Capacity. The design specifications for this facility are as follows:
 - a. Product Type: Natural gas and natural gas constituents
 - b. Length of Facility in Miles: Approximately 30 miles
 - c. Pipe Size: 10.75 inches
 - d. Maximum Design Operating Pressure: 1450 psig
 - e. Maximum Design Flow Rate: 55 MMscfd
 - f. Compressor or pumping station specifications, including type, horsepower, output pressure and capacity: None – compression to move product through the line is the plant recompression located at the Grasslands Plant site.
 - g. Minimum Cover Over Pipe: 48 inches
3. In-Service Date for Pipeline: January 31, 1993
4. Retirement. There is no projected retirement date during the next ten-year period for this pipeline.

Part II - Riverview

1. Location. ORM owns and operates a natural gas liquids pipeline for the transportation of propane and butane originating at the Grasslands Gas Plant (formerly named McKenzie Gas Plant) in Township 148 North, Range 105 West, Section 36 in McKenzie County, and proceeding due west and then along the southern boundary line of the SE/4 of Section 35, continuing on the south boundary line of the SW/4 of Section 35 moving northwesterly through the SW/4 of Section 35, angling through Section 34, Township 148 North, Range 105 West, McKenzie County. At this point the line crosses the state line into Montana where it terminates near Sidney, Montana. It is permitted under PSC Corridor Certificate 63 and Route Permit 73. A system map showing the location of the pipeline is attached hereto as **EXHIBIT "E"**.
2. Type and Capacity. The design specifications for this facility are as follows:
 - a. Product Type: Propane and butane
 - b. Length of Facility in Miles: Approximately 2 miles in North Dakota (total line length is approximately 11 miles including the Montana portion)
 - c. Pipe Size: 4.50 inches
 - d. Maximum Design Operating Pressure: 1200 psig
 - e. Maximum Design Flow Rate: Propane – 272 GPM under intake pressure of 595 psi and end of line pressure of 250 psi; Butane – 265 GPM under intake pressure of 535 psi and end of line discharge pressure of 125 psi
 - f. Compressor or pumping station specifications, including type, horsepower, output pressure and capacity: None – Injection pressure at the Grasslands Plant site is adequate to move the product through the pipeline.
 - g. Minimum Cover Over Pipe: 48 inches

3. In-Service Date for Pipeline. October 1, 1986
4. Retirement. There is no projected retirement date during the next ten-year period for this pipeline.

Part III – Garden Creek NGL Pipeline

1. Location: ORM owns and operates a natural gas liquids pipeline for the transportation of field grade NGLs originating at the Garden Creek Gas Plant in Township 151 North, Range 98 West, Section 35 in McKenzie County, and proceeding due west and south to Township 150 N, Range 99 West, Section 17 to bypass Watford City, then south and west to angle into existing pipeline corridors in Township 148 North, Range 103 West, travel south and west to pass near the Grasslands Gas Plant and through Section 34, Township 148 North, Range 105 West, McKenzie County. At this point the line crosses the state line into Montana where it terminates near Sidney, Montana. A system map showing the location of the pipeline is attached hereto as **EXHIBIT “F”**.
2. Type and Capacity. The design specifications for this facility are as follows:
 - a. Product Type: Y-Grade NGLs (Ethane, propane, butane and iso-butane mix, and pentanes and heavier NGLs)
 - b. Length of Facility in Miles: 54.2 miles (total line length is approximately 63.2 miles including the Montana portion)
 - c. Pipe Size: 10.75 inches
 - d. Maximum Design Operating Pressure: 1440 psig
 - e. Maximum Design Flow Rate: 700 gpm
 - f. Pumping station specifications, including type, horsepower, output pressure and capacity: None – Injection pressure at the Garden Creek Gas Plant site is adequate to move the product through the pipeline.
 - g. Minimum Cover Over Pipe: 48 inches
3. In-Service Date for Pipeline. December 2011
4. Retirement. There is no projected retirement date during the next ten-year period for this pipeline.

Part IV – Stateline NGL Pipeline

1. Location: ORM received a Certificate of Corridor Compatibility and Route Certificate for a natural gas liquids (NGL) line going from the Stateline 1 & 2 facility, currently under construction, in Township 155 North, Range 103 West, Section 21 in Williams County, and proceeding due west and south to Township 153N, Range 104W, Section 10. At this point the line will cross the state line into Montana where it will terminate near Sidney, Montana. A system map showing the proposed location of the pipeline is attached hereto as **EXHIBIT “G”**.

2. Type and Capacity. The design specifications for this facility are as follows:
 - a. Product Type: Y-Grade NGLs (Ethane, propane, butane and iso-butane mix, and pentanes and heavier NGLs)
 - b. Length of Facility in Miles: 12.4 miles (total line length is approximately 53.4 miles including the Montana portion)
 - c. Pipe Size: 10.75 inches
 - d. Maximum Design Operating Pressure: 1440 psig
 - e. Maximum Design Flow Rate: 700 gpm
 - f. Pumping station specifications, including type, horsepower, output pressure and capacity: None – Injection pressure at the Stateline Gas Plant site is adequate to move the product through the pipeline.
 - g. Minimum Cover Over Pipe: 48 inches
3. Projected In-Service Date for Pipeline: September, 2012

SECTION G: Proposed Transmission Facilities on Which Construction is Intended Within the Ensuing Five Years (Electric)

ORM has no proposed electric transmission facilities on which construction is intended within the ensuing five years.

SECTION H: Proposed Transmission Facilities on Which Construction is Intended Within the Ensuing Five Years (Pipeline)

If producer drilling activity in the Bakken/Three Forks continues at current levels, it is possible that ORM may need to build additional natural gas liquids transportation capacity in Western North Dakota sometime within the five year period.

SECTION I: Proposed Transmission Facilities during the Next Ten-Year Time Period (Electric and Pipeline)

If producer drilling activity in the Bakken/Three Forks continues at current levels, it is possible that ORM may need to build additional natural gas liquids transportation capacity in Western North Dakota sometime within the ten year period.

SECTION J: Regional Coordination

ORM has a significant regional presence in the Williston Basin. In conjunction with the above-mentioned Grasslands Gas Plant, ORM operates approximately 4,600 miles of natural gas gathering lines along with associated compression. There are approximately 189 ORM employees in the Williston Basin at field offices in Grasslands, Belfield and Williston. Due to growth in the Williston Basin, ORM management continually evaluates staffing requirements associated with the forecasted growth and required facilities and will make the appropriate staffing adjustments to safely and efficiently operate these

facilities. These facilities, which are the subject of this plan, would be under the control of these well-qualified people.

ORM has very limited regional coordination with other processors of associated natural gas and NGLs due to confidentiality concerns and potential antitrust issues. ORM does, of course, coordinate with producers in the areas its gathering systems serve by discussing potential connections with planned and existing wells and local gathering systems. ORM is a member of a number of trade associations including the Pipeline Association for Public Awareness, North Dakota Petroleum Council, American Gas Association and the Gas Processors Association.

SECTION K: Environmental Information

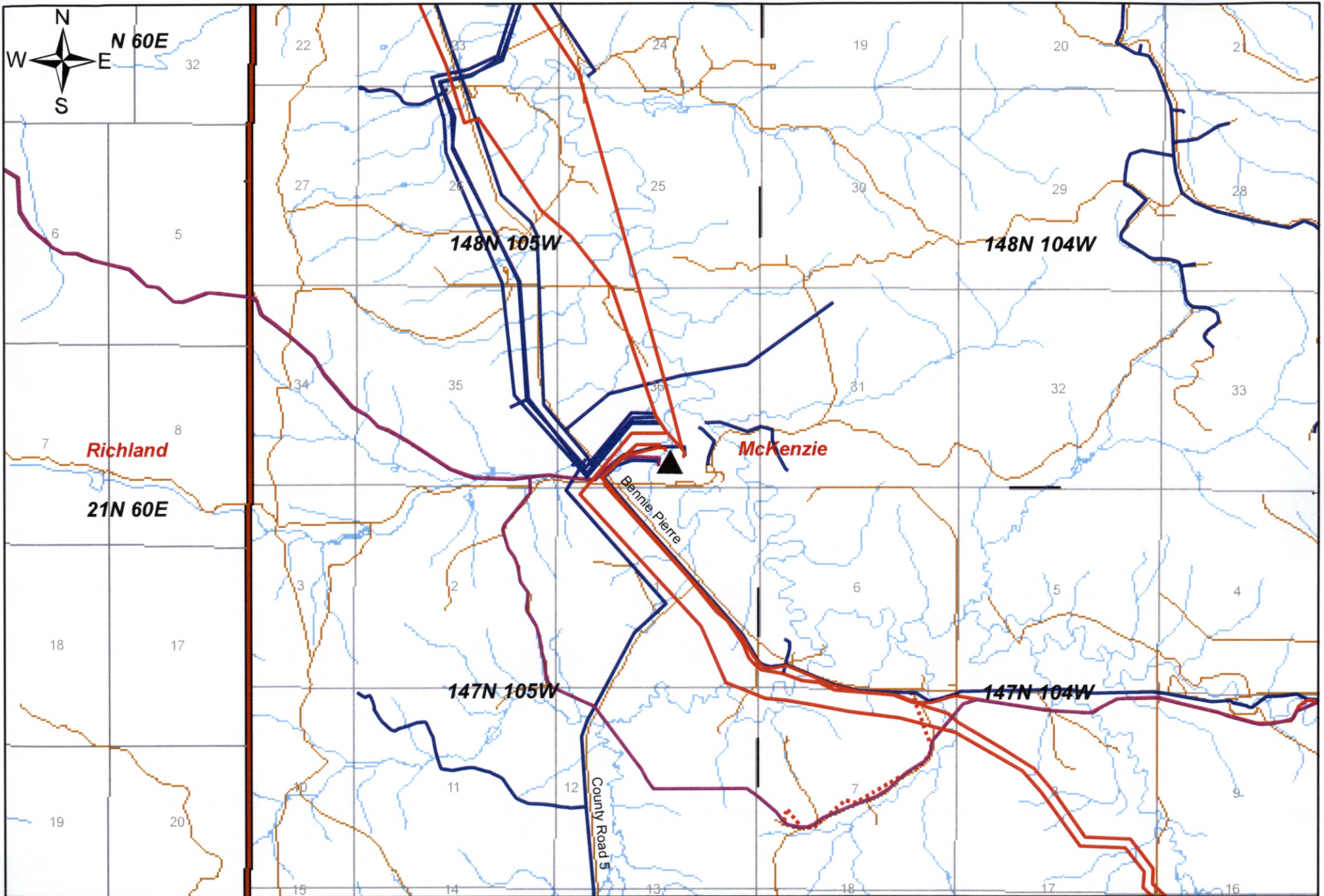
ORM has developed ongoing working relationships with the U.S. Forest Service, the Bureau of Land Management, the North Dakota Public Service Commission, the North Dakota Department of Health and the North Dakota Water Commission, in an effort to ensure regulatory compliance. ORM continues to develop detailed risk collaborations with the Local Emergency Planning Commissions. ORM has established a strong safety record and is well prepared to meet any emergency and mitigate the impact of a pipeline failure.

ORM is also committed to environmental compliance during project execution. ORM has implemented construction Storm Water Pollution Prevention Plans (SWPPP) for its gathering pipelines, the Garden Creek Gas Plant and the Stateline 1 and 2 Gas Plants. The Garden Creek Gas Plant has received its air permit as a synthetic minor source from the North Dakota Department of Health. The Stateline 1 and 2 Gas Plants have received its air permit together as a single minor source. ORM has also adopted an anticipatory findings plan for archeological items that may be discovered during the installation of pipeline or gas plant sites. This has been submitted to the State Historical Preservation Office for approval.

SECTION L: Projected Demand for Service

Drilling activity in three counties where ORM has significant gathering facilities (Dunn, McKenzie, and Williams Counties) has dramatically increased, with the rig count in these counties increasing from 35 rigs in on December 31, 2009 to 215 rigs as of June 29, 2012. Drilling activity in the counties where ORM has significant gathering facilities (Dunn, McKenzie, Golden Valley, Billings, and Williams Counties) has dramatically increased and ORM estimates that gas production associated with the Bakken and Three Forks oil production will increase significantly beyond existing processing capacity. Without additional gathering and processing facilities, the amount of flared gas or curtailed production will increase significantly.

Additional processing plants and/or natural gas liquids pipelines may be necessary if the oil and gas drilling in these counties continues at current levels or increases beyond the current rig activity.

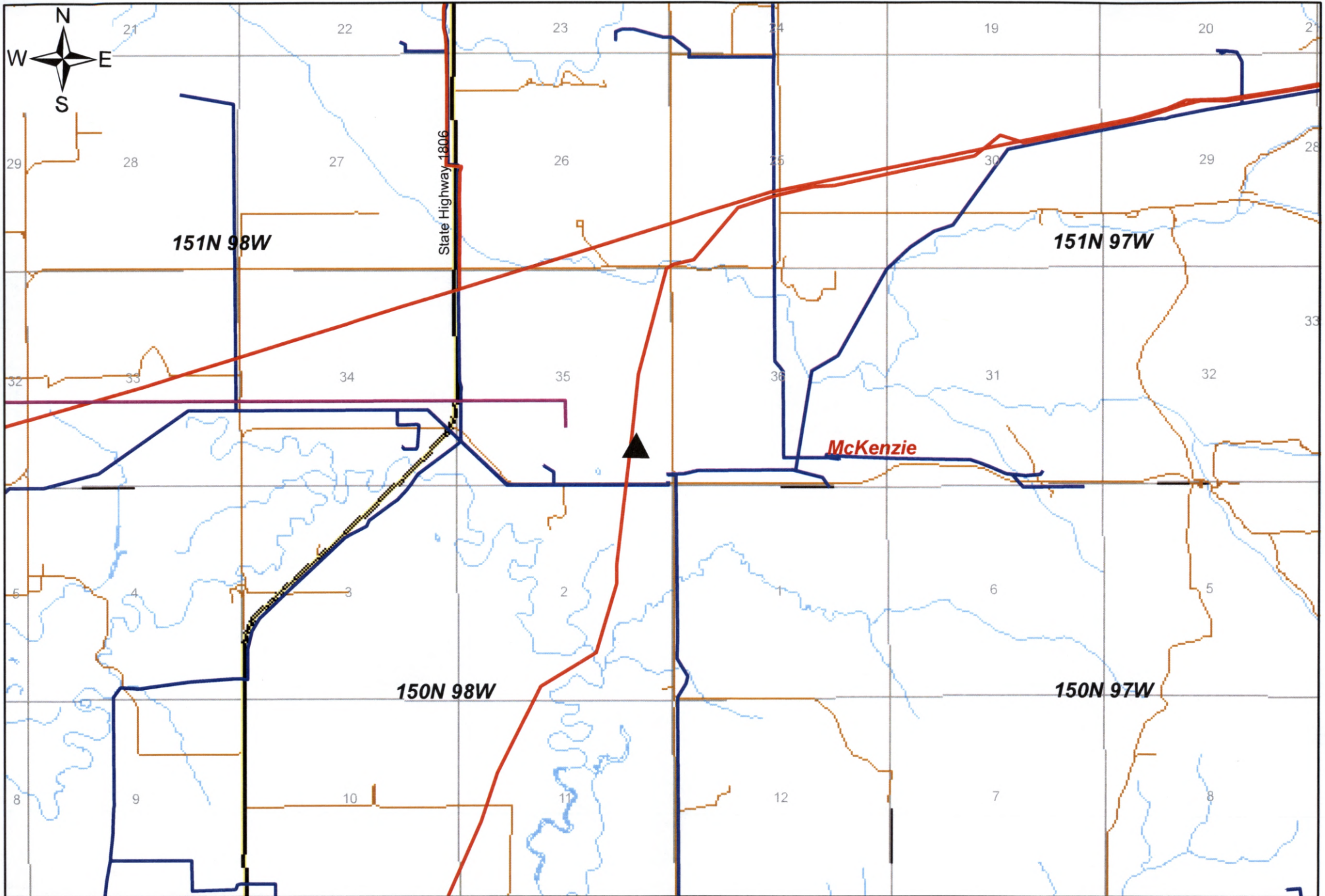


Grasslands Gas Plant

Exhibit "A"



NOTE: This map has been compiled and printed by ONEOK Partners from available information delineated thereon. ONEOK does not assume responsibility or liability for any reliance thereon. RECIPIENT AGREES NOT TO COPY, DIGITIZE OR DISTRIBUTE THIS MAP WITHOUT CONSENT FROM ONEOK PARTNERS.

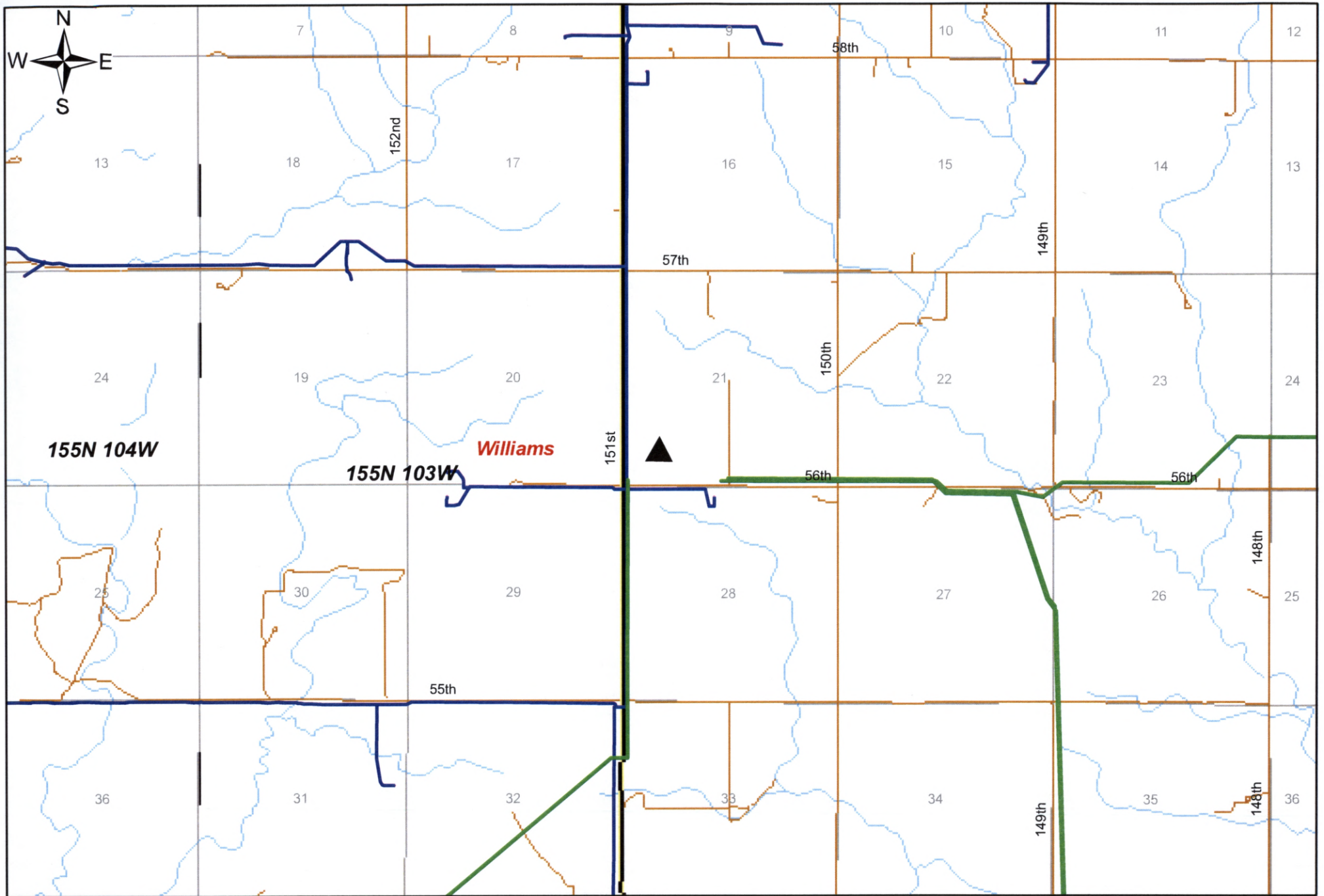


Garden Creek Gas Plant

Exhibit "B"



NOTE: This map has been compiled and printed by ONEOK Partners from available information delineated thereon. ONEOK does not assume responsibility or liability for any reliance thereon. RECIPIENT AGREES NOT TO COPY, DIGITIZE OR DISTRIBUTE THIS MAP WITHOUT CONSENT FROM ONEOK PARTNERS.

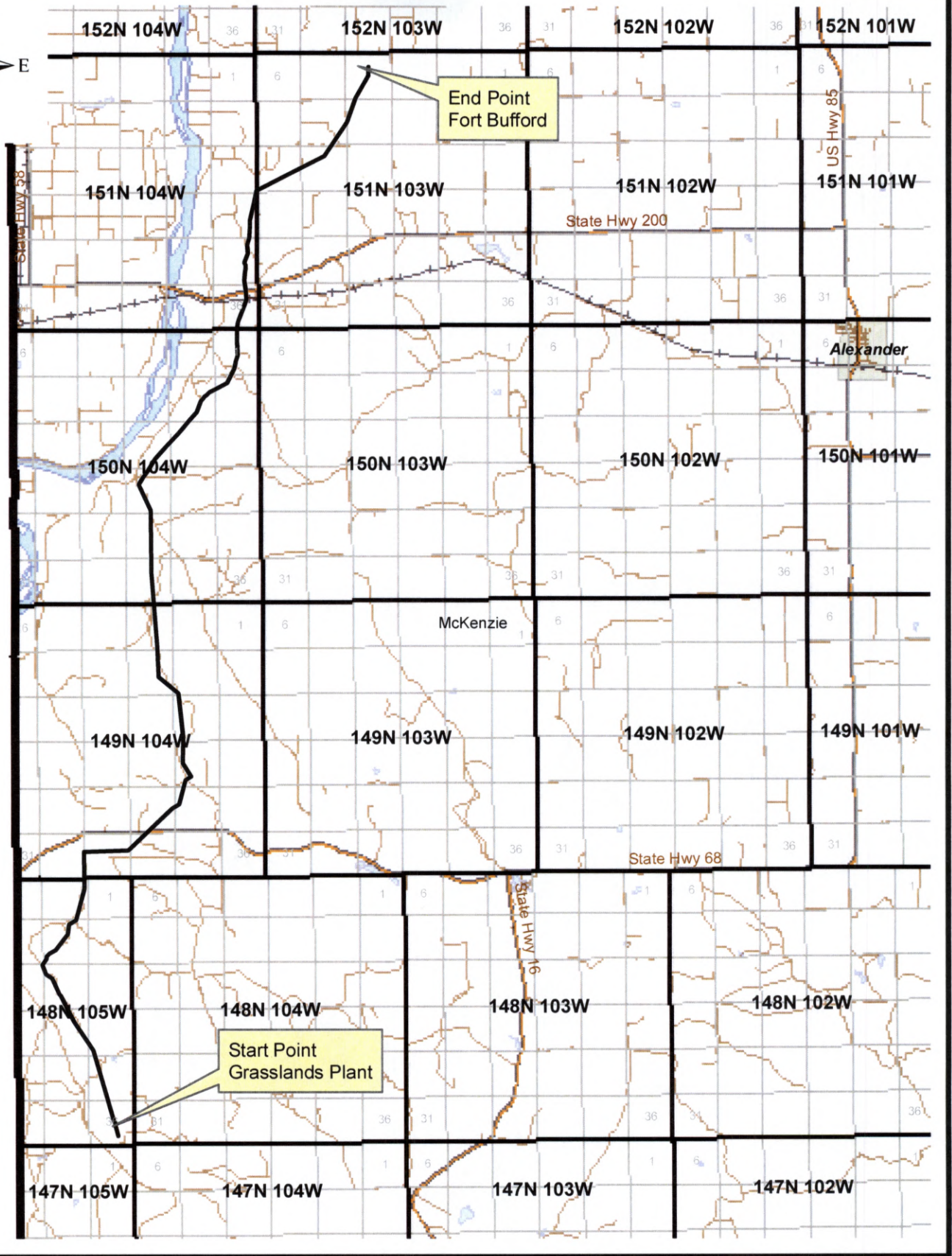


Stateline 1 & 2 Gas Plant

Exhibit "C"



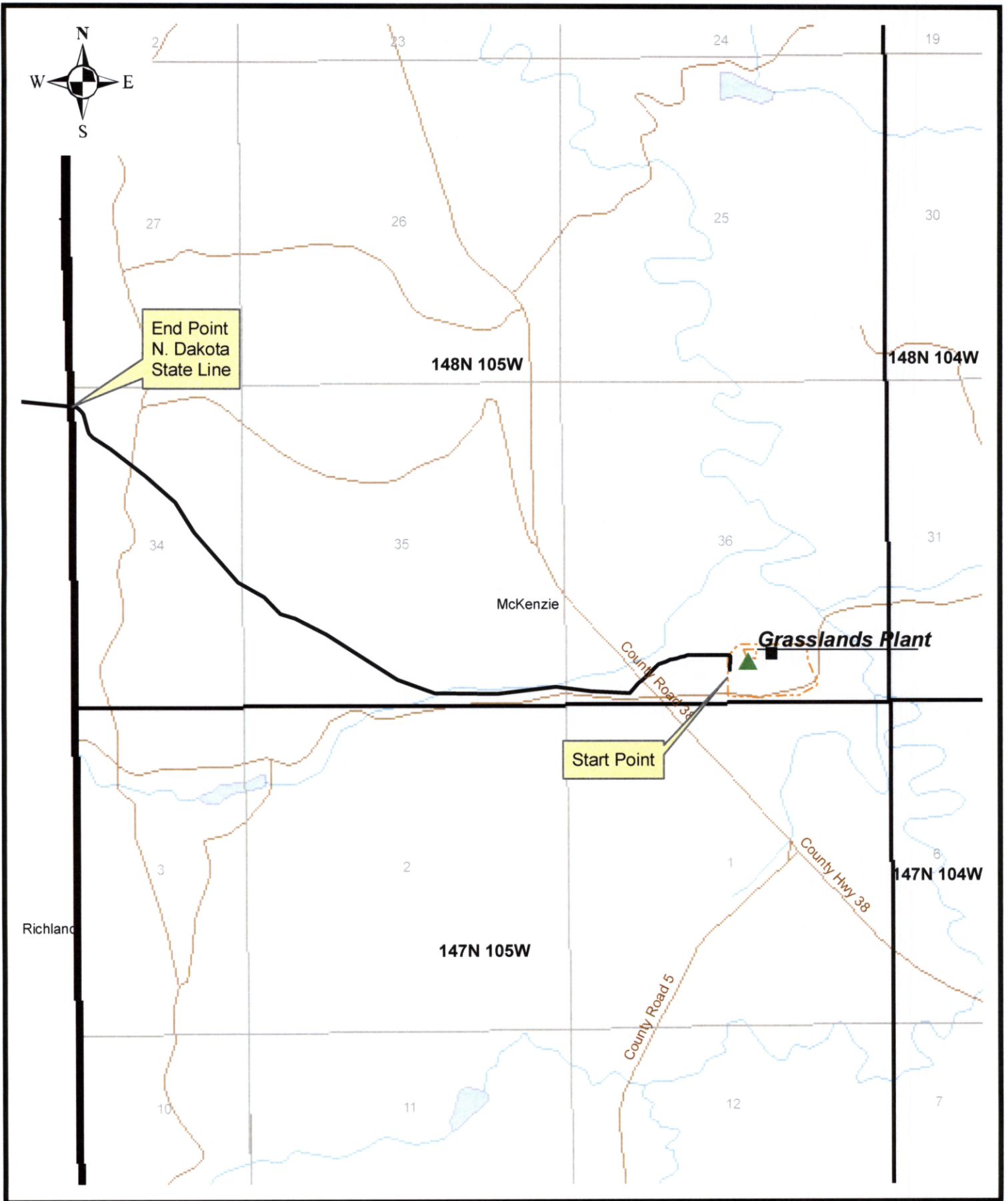
NOTE: This map has been compiled and printed by ONEOK Partners from available information delineated thereon. ONEOK does not assume responsibility or liability for any reliance thereon. RECIPIENT AGREES NOT TO COPY, DIGITIZE OR DISTRIBUTE THIS MAP WITHOUT CONSENT FROM ONEOK PARTNERS.



Fort Bufford Pipeline

Exhibit "D"

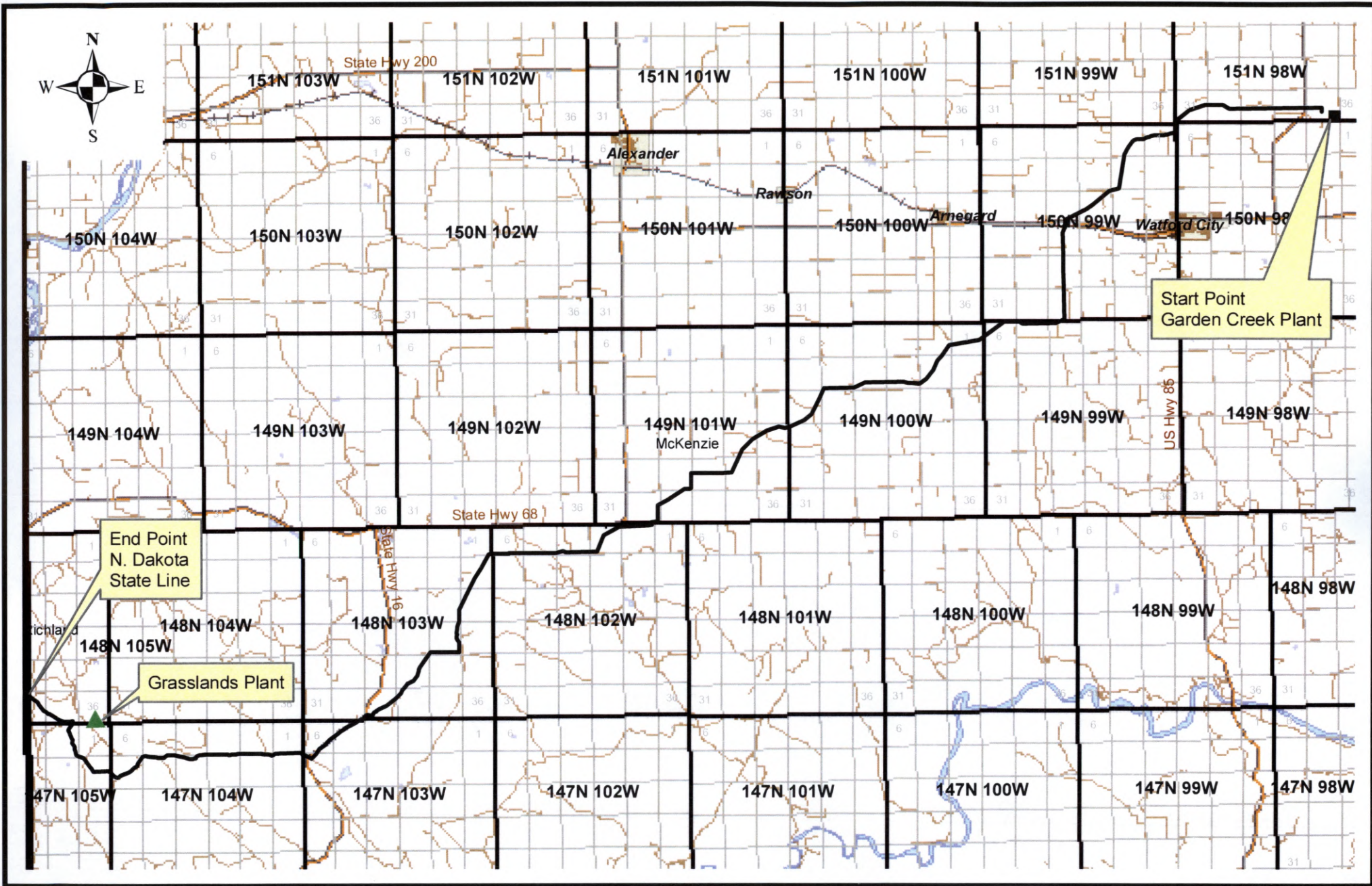




Riverview Pipeline

Exhibit "E"

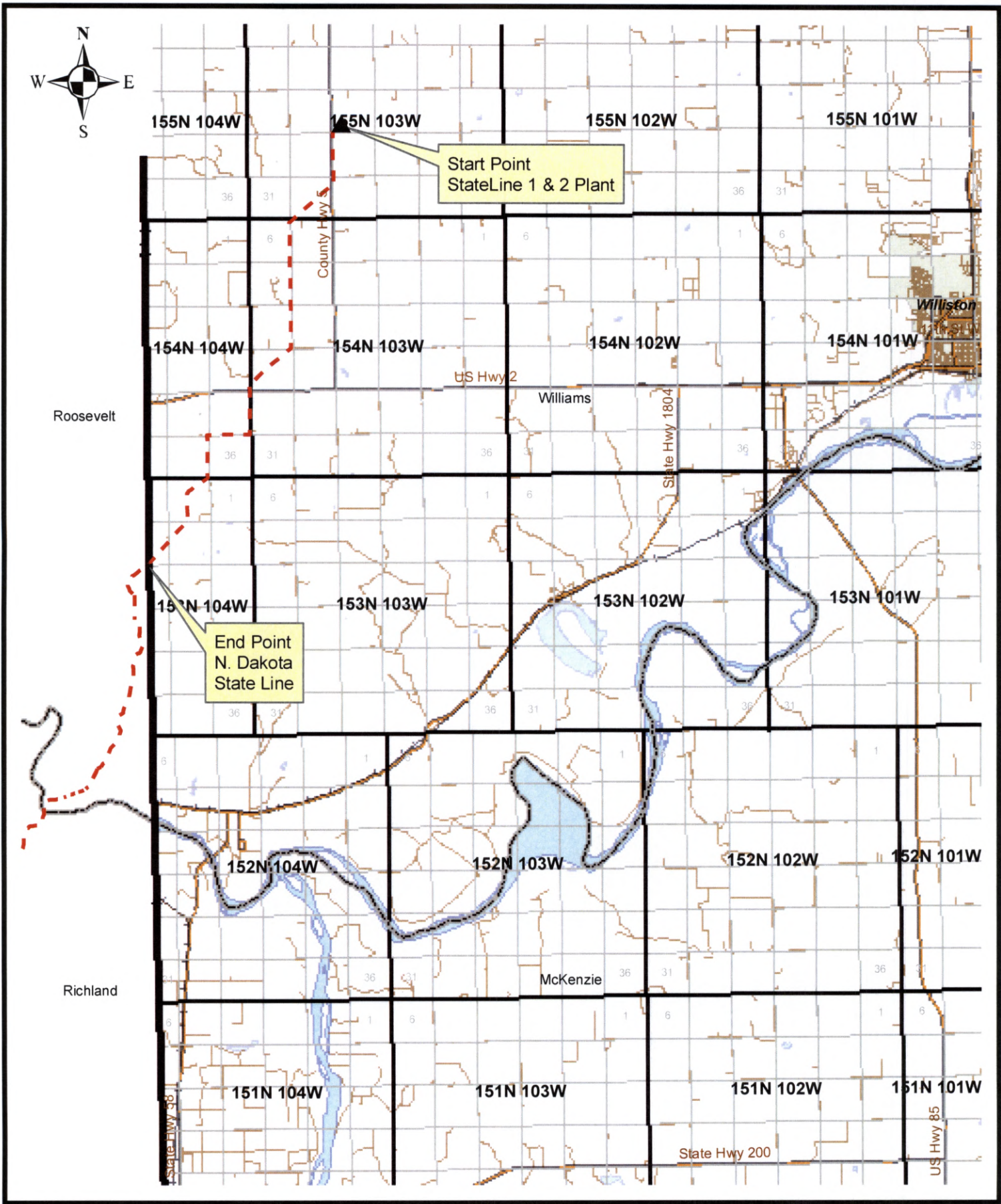




Garden Creek Pipeline

Exhibit "F"





Stateline Pipeline

Exhibit "G"

