# North Dakota Public Service Commission
# Consolidated Application

## Certificate of Corridor Compatibility and Route Permit

## Divide Lateral Pipeline Project

Prepared for:
**Meadowlark Midstream Company, LLC**

Prepared by:
**E3 Environmental, L.L.C.**

April 2014


E3 ENVIRONMENTAL
*Enhancing Execution with Experience*

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## INTRODUCTION

Meadowlark Midstream Company, LLC (MMC) a wholly owned subsidiary of Summit Midstream Partners, LLC, owns and operates crude oil assets in North Dakota. MMC is planning the Divide Lateral Pipeline Conversion Project (Project). The proposed Project scope includes the conversion of the existing Divide Lateral gathering pipeline into a transmission pipeline. The transmission pipeline would transport oil from the planned Divide Pump Station (DPS), located in Divide County, to the existing Colt Rail Terminal (CRT) located in Williams County.

The existing pipeline is approximately 43.5 miles in length and crosses private and state land. The proposed Project would not result in a change in pipeline length or location. Ground disturbance will be minimal and confined to the planned DPS and existing CRT facility boundaries.

The conversion of the gathering pipeline to a transmission pipeline places the Project under the purview of the North Dakota Public Service Commission (PSC or Commission); as such, MMC submits to the Commission a single consolidated application for a Certificate of Corridor Compatibility and Route Permit for the Project.

The application provides the information required by:

- North Dakota Century Code, Energy Conversion and Transmission Facility Siting Act, Chapter 49-22-08; and
- North Dakota Administrative Code, Article 69-06-05, Transmission Facility Permit.

# SECTION 1: DESCRIPTION

## 1.1 TYPE AND SIZE OF FACILITY

### 1.1.1 TYPE

The Project would result in the conversion and operation of a crude oil transmission pipeline. The existing steel pipeline meets U.S. Department of Transportation (DOT) regulations, specifically the design, installation, pressure testing, operation and maintenance requirements as outlined in 49 Code of Federal Regulations (CFR) Part 195.

### 1.1.2 SIZE

The Project pipeline specifications are detailed below:

- One 8" Nominal Diameter Steel Pipe
  - API 5LB FBE/ARO Coated ERW pipe.
  - Wall Thickness of 0.322 inch.
  - Pipeline casings installed at State and US Highway crossings and Railroad crossings.
  - Maximum/Normal Operating Pressure: 1,480/1,300 pounds per square inch gauge (psig).
  - Maximum/Normal Throughput: 45,000/35,000 barrels per day (bpd)

The valves will be actuated, fail-safe, automated and controlled by both the local actuation and by a 24-hour MMC Control Center located in the City of Woodlands Texas. Please see Appendix A for engineering documents.

### 1.1.3 LENGTH

The proposed Project is approximately 43.5 miles in length.

## 1.2 PURPOSE OF FACILITY

The purpose of the Project is to transport crude oil between MMC's planned DPS and the existing CRT facilities. The addition of the DPS at the northern end of the existing pipeline will cause existing pipeline to fall under the definition of "transmission facility" under the North Dakota Transmission Facility Siting Act. The existing pipeline was previously considered a gathering facility.

MMC estimates that the Project will cost approximately $3.5 million to develop. The Project will include the conversion of an existing gathering pipeline to a 43.5 mile-long transmission pipeline.

## 1.3 LOCATION

The existing gathering pipeline is located in Williams and Divide Counties, North Dakota. The Project would result in a transmission pipeline originating in Divide County at the site of the planned DPS, located approximately 17 miles northwest of Alamo, ND. From the DPS the pipeline would extend in a south/southeasterly direction into Williams County to its terminus at the existing CRT, located north of Epping, ND. Please refer to the project maps provided in Appendix A.

## 1.4 ABOVEGROUND FACILITIES

The gathering line was constructed with four (4) block valves. These aboveground appurtenances were designed to and installed at locations meeting DOT regulations. Block valves allow for the isolation of select segments of the pipeline for inspection and maintenance purposes. To complete the Project two (2) additional block valves would be installed; the northern valve would be installed within the facility boundaries of the planned DPS. The southern valve would be installed at the CRT within the facility boundaries. No additional aboveground structures would be installed as a part of this Project. Project maps illustrating the location of the existing and planned block valves are contained in Appendix A.

## 1.5 PROJECT SCHEDULE

### 1.5.1 CERTIFICATE OF CORRIDOR COMPATIBILITY

MMC is seeking a Certificate of Corridor Compatibility in or before June 2014.

### 1.5.2 ROUTE PERMIT

MMC submitted an application for a Route Permit in April 2014 as part of this Consolidated Application for a Certificate of Corridor Compatibility and Route Permit.

MMC is seeking a Route Permit in or before June 2014.

### 1.5.3 CONSTRUCTION SCHEDULE

MMC has scheduled conversion activities to commence as early as the second quarter of 2014. All ground-disturbing construction activities associated with the Project will be within the boundaries of the planned DSP and existing CRT facilities. The conversion activities would take approximately four (4) weeks to complete. Commissioning activities will commence immediately after construction.

## SECTION 2: STUDIES

### 2.1 CORRIDOR

MMC selected the proposed corridor based upon several criteria designed to conform to the PSC's siting requirements and to avoid and minimize socioeconomic and environmental impacts, while maximizing the benefits to local resource developers in the Williston Basin. The location of existing assets was also considered during the selection process.

MMC evaluated the construction of new assets and new routing versus utilizing existing assets and infrastructure. MMC concluded the repurposing of the existing gathering pipeline would avoid the need for a large-scale construction project as such greatly reducing impacts to the environment and local infrastructure.

A benefit of this approach is to narrow the focus of supporting corridor studies to the minimum required while demonstrating to the Commission that state siting criteria can be satisfied within the constrained study area. The proposed corridor is a one-mile wide area centered upon the proposed Project alignment (*e.g.*, one-half mile on either side of the proposed Project alignment) (Corridor). The proposed Corridor is illustrated on the maps located in Appendix A.

A comprehensive desktop analysis of the Corridor included consultations with the federal and state agencies identified below. The results of this environmental analysis are summarized in Section 2.2: Environmental Desktop Analysis of this document. Records of consultations with the agencies listed below are provided in Appendix B.

- U.S. Fish and Wildlife Service (USFWS)
- U.S. Farm Service Agency (FSA)
- North Dakota Game and Fish Department (NDGFD)
- North Dakota Parks and Recreation-Natural Heritage Program (NDPRD)
- North Dakota State Lands Department (NDSLD)
- North Dakota State Preservation Office (NDSHPO)
- North Dakota Department of Health (NDDoH)

## 2.2 ENVIRONMENTAL DESKTOP ANALYSIS

### 2.2.1 WILDLIFE INVENTORY

Approximately 160 wildlife species are residents or seasonal visitors to the Missouri River ecosystem, and hundreds of native fish species live in the river and its tributaries. Some of the species commonly found in the Missouri River ecosystem include various mammals such as beaver, muskrat, eastern cottontail, elk, moose, mule deer, white-tailed deer, and pronghorn; various song birds; waterfowl species, such as Mallard and Canada Goose; upland birds, such as crows, woodpeckers, and Sharp-tailed Grouse; water birds, including grebes, plovers, and Yellow-headed Blackbirds; and various raptors, including Golden and Bald Eagles.

Agriculture (*e.g.*, cultivated crops or rangeland) is the primary land use throughout the Corridor. As such, modifications to the landscape to promote agricultural production have occurred. The most common landscape modifications result in the loss of natural habitats and typically include tilling of native grasslands as well as the modification of wetlands and waterbodies. These changes to the landscape influence the wildlife inhabiting the area.

The composition of mammals, birds, amphibians and reptiles that potentially occur in the Corridor are typical of a mixed grass, dry prairie system. While some species have increased with agricultural development, others have declined. The greatest degree of species richness is associated with native prairie, wetlands, prairie potholes and lakes, and the riparian corridor along waterways.

Species diversity associated with agricultural areas will be constrained by the lack of suitable native habitat and will often be limited to remnant habitats such as uncropped swales or incised watercourses. Species may also utilize marginal habitats adjacent to active agricultural field areas such as the edges of crop fields, road ditches, and on the uncut banks and beds of unimproved county roads. Quality wildlife habitat in the Corridor is limited and wildlife species composition reflects the extensively modified landscape.

MMC engaged federal and state agencies in consultations to identify potential occurrences of sensitive species or their critical habitats, refer to Appendix B for complete record of agency consultations.

### 2.2.2 WETLAND AND WATERBODIES ANALYSIS

To evaluate the location and extent of mapped wetlands and waterbodies within the Corridor a desktop analysis of aerial photography, National Hydrography Data set (NHD) and National Wetland Inventory (NWI) maps was completed. Desktop analysis identified 32 individual streams and approximately 671 NWI features within the Corridor. MMC commissions field studies to augment the desktop analysis, the field study results are discussed in the Route Permit Application.

### 2.2.3 TREE/SAPLING/SHRUB ANALYSIS

Desktop analysis of aerial photography was used to evaluate the location and extent of woody vegetation within the Corridor. Presence of woody cover was uncommon, and typically appeared to be either associated with a cultivated windrow feature or associated with farmsteads.

## 2.3 AGENCY CONSULTATIONS

### 2.3.1 U.S. FISH AND WILDLIFE SERVICE

The USFWS administers several programs designed to identify and protect special status plant and animal species and critical habitats. On behalf of MMC, E3 Environmental, LLC (E3) requested a review of the Corridor by the USFWS on March 6, 2014; a response for the USFWS is pending.

#### 2.3.1.1 FEDERALLY PROTECTED SPECIES REVIEW

The USFWS identifies and maintains a list of species and critical habitats that have been afforded protection by the Endangered Species Act (ESA.) The ESA provides a program for the conservation of threatened and endangered plants and animals and the critical habitats.

E3 reviewed USFWS published data and identified the following listed species and the potential for the species to occur within the Corridor.

- Whooping crane (*Grus americana*) – Endangered
- Interior least tern (*Sternula antillarum*) – Endangered
- Pallid sturgeon (*Scaphirhynchus albus*) – Endangered
- Gray wolf (*Canis lupus*) – Endangered
- Black-footed ferret (*Mustela nigripes*) – Endangered
- Piping plover (*Charadrius melodus*) – Threatened
- Piping plover-Designated Critical Habitat – Missouri River
- Western Prairie Fringed Orchid (*Platanthera praeclara*) – Threatened

E3 reviewed available information describing life history, critical habitats and conservation measures associated with each species, to assess the potential effects of the Project on these resources. The results of the assessment are provided below:

**Whooping crane:** The Aransas Wood Buffalo Population of Whooping Cranes engages in semi-annual migration through North Dakota. This flock breeds in the Wood Buffalo National Park in Alberta and Northwest Territories, Canada, and winters in the Aransas National Wildlife Refuge in Texas. This species has been closely studied and monitored in recent years due to its small, fragile population. North Dakota provides migratory habitat for the species, providing roosting and feeding opportunities during migration. During migration, the species is most closely associated with larger wetland complexes for roosting habitat, typically using adjacent uplands to forage. Desktop analysis did not identify any large wetland complexes within the Corridor.

**Interior least tern:** The interior population(s) of the least tern have 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 is known to host remnant-breeding populations of terns. The Project is approximately 12 miles north/northwest of the Missouri River and Lake Sakakewea; therefore is not anticipated to have no effect on the species.

**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 microhabitat diversity. Portions of the Missouri River are thought to provide

the required habitat for the pallid sturgeon though much of the habitat has been compromised due to channelization, installation of impoundments and altered flow regimes. The project is approximately 12 miles north/northwest of the Missouri River and Lake Sakakewea, and therefore will have no effect on the species.

**Gray wolf:** Historical records show wolf sightings are very rare within North Dakota. Sightings in proximity to the Project have been reported in the Killdeer Mountains in Dunn County. The Killdeer Mountains are about 60 miles to the southeast of the survey area. Most wolves in North Dakota are likely dispersed animals that originated in northern Minnesota, Riding National Park or Spruce Woods Reserve, Manitoba. Currently, wolves are not known to inhabit the Corridor. The proposed project will have no effect on the gray wolf.

**Black-footed ferret:** Black-footed ferrets were historically found in the southwest quarter of North Dakota. However, it is likely they have been extirpated from the state. Since the ferrets rely almost exclusively on prairie dogs for food and den sites, suitable black-footed ferret habitat is large prairie dog towns or complexes of towns in close proximity to each other.

The nearest population of black-footed ferrets is located 200 miles west of the Project area in the Charles M. Russell National Wildlife Refuge, near Glasgow, Montana. The nearest proposed area of reintroduction is 42 miles to the southwest of the proposed Project, on the Little Missouri National Grasslands, USFS Management Area 3.63, Black-Footed Ferret Reintroduction Habitat. No black-footed ferrets have been introduced into the Project area at this time. No historic prairie dog towns are in the Corridor. The proposed Project will have no effect on the black-footed ferret at this time.

**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. The piping plover's 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. No records of piping plovers or its critical habitat were documented by the USFWS to occur within the Corridor. The proposed Project will have no effect on piping plovers or designated critical habitat for the piping plover.

**Western Prairie Fringed Orchid:** The distribution of the western prairie fringed orchid in the Dakota Prairie Grasslands is limited to the Sheyenne National Grassland in southeastern North Dakota, approximately 270 miles southeast of the Project area. The proposed Project will have no effect on the western-fringed prairie orchid or its habitat.

#### 2.3.1.2 MIGRATORY BIRD TREATY ACT CONSULTATION

On March 6, 2014, E3, on behalf of MMC, initiated consultation with the USFWS with respect to several topics that fall under the purview of the USFWS including the Migratory Bird Treaty Act (MBTA). The management of MBTA concerns correspond with the regional timing associated with annual phenology of migratory species. In North Dakota, it is generally acknowledged MBTA species of concern may be present and active in North Dakota from February 1 through July 15 annually. If construction were to take place during this interval, MBTA mitigation may be required. The lack of any large-scale ground disturbance or construction activity, will allow MMC to mitigate impacts to MBTA species of concern. MMC will continue to consult with agencies as necessary regarding this subject and shall develop MBTA mitigation as required. Please see

Appendix B for related agency consultations and Section 5: Mitigative Measures of the Route Permit application for additional details regarding proposed mitigation.

#### 2.3.1.3 BALD AND GOLDEN EAGLES PROTECTION ACT CONSULTATION

The Bald and Golden Eagle Act (BGEA) prohibits anyone without a permit from taking a bald or golden eagle including their parts, nests or eggs. The BGEA defines "take" as to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb. The BGEA also addresses impacts resulting from human-induced alterations occurring around previously used nesting sites.

On March 6, 2014, E3, on behalf of MMC, initiated BGEA consultations with the USFWS seeking confirmation of presence or absence of known nesting locations for either eagle species within the Corridor.

#### 2.3.1.4 U.S. FISH AND WILDLIFE SERVICE MANAGED LANDS

The USFWS administers National Wildlife Refuges and Waterfowl Production Areas as well as wetland and grassland easements throughout North Dakota. No USFWS managed areas were identified within the Corridor based upon a review of information available in the public domain, including U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle maps, USGS PAD-US dataset, and the USFWS Information, Planning, and Conservation System (IPaC).

### 2.3.2 U.S. FARM SERVICE AGENCY

On March 6, 2014, E3, on behalf of MMC consulted with the local FSA office to confirm the presence or absence of Conservation Reserve Program (CRP) or Grassland Reserve Program (GRP) lands within the proposed Corridor. The FSA responded in a letter dated March 31, 2014 denying MMC's request for consultation. See Appendix B for a record of this communication.

### 2.3.3 NORTH DAKOTA GAME AND FISH DEPARTMENT

The NDGFD exercises oversight and management of the state's game species. On March 6, 2014, E3 initiated consultations with NDGFD and requested confirmation regarding the presence or the absence of both state-managed lands and wildlife concerns within the proposed Corridor. The NDGFD response was provided on April 2, 2014. The NDGF do not believe the Project will have any significant adverse effects on wildlife or wildlife habitat, including species of conservation priority, provided disturbed areas were reclaimed to pre-project conditions. See Appendix B for a copy of this correspondence.

### 2.3.4 NORTH DAKOTA PARKS AND RECREATION DEPARTMENT

The NDPRD Natural Resource Division's scope of authority and expertise covers recreation and biological resources (in particular rare species and ecological communities). The NDPRD also maintains a database comprised of the location and recorded occurrences of plant and animal species of special concern. The NDPRD authority includes management of state park lands and Land and Water Conservation Funded recreation projects.

No state managed parks or recreation areas were identified within the planning area based on review information available in the public domain, including U.S. Geological Survey (USGS) 7.5 minute topographic quadrangle maps and USGS PAD-US dataset.

On March 6 2014, E3 initiated consultations with NDPRD seeking confirmation regarding the presence or the absence of managed lands, ecological resources, rare species or their critical habitats within the Corridor.

On March 25, 2014, the NDPRD responded via letter stating that the Project does not affect NDPRD managed state park lands or Land and Water Conservation Fund recreation projects under NDPRD coordination. Additionally the NDPRD recommended that the Project be accomplished with minimal impacts and that all efforts be made to ensure that critical habitats or rare species are not disturbed. The NDPRD also recommends that all disturbed areas be restored with species native to the project area. Refer to Appendix B for a complete record of this consultation.

### 2.3.5 NORTH DAKOTA STATE LANDS DEPARTMENT

The NDSLD is in charge of managing surface acres and mineral interests held in trust for various schools and institutions. Based on review of publically available information, six (6) state trust lands are crossed by the Corridor.

On March 6, 2014, E3 initiated consultations with the NDSLD requesting comments regarding the presence of school trust lands within the Corridor; the NDSLD responded on March 7, 2014 confirming the presence of school trust lands within the Corridor. See Appendix B for a copy of this correspondence.

On March 6, 2014, E3 initiated consultations with the NDSLD requesting comments regarding the presence or absence of state mineral trust lands within the Corridor. The NDSLD responded on March 28, 2014 confirming mineral trust lands are present within the proposed Project Corridor as depicted in the consultation map. See Appendix B for a copy of this correspondence.

### 2.3.6 NORTH DAKOTA STATE HISTORIC PRESERVATION OFFICE

The SHPO is responsible for managing the historic and archaeological resources of the state; as such, the SHPO maintains records of all previously recorded cultural resources within the state. E3 commissioned Juniper, LLC to conduct a Class I or the Corridor. The Class I effort was completed in July of 2013 and identified 36 previously recorded historic properties and 24 cultural resource inventories that have been documented within a one-mile radius of the existing gathering pipeline or Corridor. The results of this Class I effort are documented in Appendix E for this Consolidated Application. To augment this Class I effort Juniper conducted a Class III field investigation, the details of this effort can be found in Appendix D and in the Route Permit.

### 2.3.7 NORTH DAKOTA DEPARTMENT OF HEALTH

The NDDoH administers programs regulating certain water discharges. As there are no new ground-disturbing construction activities planned for areas outside of the MMC facilities, the Project will not require agency approval with respect to water discharges.

The NDDoH administers the North Dakota Pollution Discharge Elimination System (NDPDES) a regulatory program that regulates and issues permits for water discharges, such as construction storm water, site dewatering and hydrostatic discharge permits.

**Construction Stormwater:** Coverage under the NDR10-0000 *Authorization to Discharge under the North Dakota Pollutant Discharge Elimination System* general permit for construction sites will not be required as the ground-disturbing activities associated with the Project will not exceed the permit threshold of one acre.

**Hydrostatic test water discharges:** No hydrostatic test discharges are planned in conjunction with the conversion Project activities.

# SECTION 3: NEED FOR FACILITY

## 3.1 ANALYSIS OF NEED BASED ON PRESENT AND PROJECTED DEMAND, INCLUDING SYSTEM STUDIES

The development of hydrocarbon production in the Williston Basin has increased significantly in recent years due to advancements in deep horizontal directional drilling techniques and subsequent oil extraction in the Bakken and Three Forks shale formations. Studies conducted by the North Dakota Department of Mineral Resources and the USGS in 2010 estimated mean undiscovered volumes of 3.65 billion barrels of recoverable crude oil reserves may be available in North Dakota's deep shale formations. From March of 2007 to March of 2013, oil production in North Dakota has surged by 564 percent. In March of 2007, North Dakota produced 118,000 barrels of oil per day. That figure has increased to 783,000 barrels per day in March of 2013. In 2007, North Dakota accounted for roughly 2.5 percent of all the oil produced in the United States. In 2013, North Dakota accounted for roughly 11 percent of all the oil produced in the country.

A major constraint in transporting hydrocarbons from North Dakota to distribution centers and eventual end users in the United States is the lack of pipeline capacity. To relieve the pipeline constraints, several projects have been planned to address the growing volumes of crude oil, natural gas and natural gas liquids. However, pipeline capacity is not expected to keep pace with production, leaving incremental volumes to find alternative transportation methods, primarily rail or other surface transportation alternatives.

Conversion of the existing gathering pipeline to a transmission pipeline will provide firm, reliable transport of 35,000 bpd between the planned DPS and existing CRT. From the CRT, the product will be shipped to end users throughout North Dakota, the United States and Canada.

## SECTION 4: CORRIDOR LOCATION AND CRITERIA EVALUATION

The information presented in this section was developed to demonstrate conformation with the Commission's siting criteria for transmission facilities. MMC has conducted a thorough inventory of the Corridor and evaluated the resources within it to assess the compatibility of the Project with the PSC's siting criteria. The following sections identify and discuss the presence or absence of siting criteria within the Corridor. Where siting criteria are identified, the location of each is shown on the maps in Appendix A.

### 4.1 CORRIDOR LOCATION

MMC has identified a preferred Corridor, which is a one-mile-wide area centered upon the existing gathering pipeline alignment. The selection of the proposed Corridor was a multi-disciplinary effort that included socio economic, environmental, logistics, engineering and financial considerations. The Corridor described in this application provides MMC with the opportunity to utilize existing and planned assets, minimizes landowner impacts, and minimizes environmental impacts.

MMC owns and operates assets in the region. The operation of these assets are conducted in a manner that maximizes the overall value of the resource, which benefits regional stakeholders (producers, royalty owners, and the state) through tax revenues. Furthermore, the Corridor was developed to take advantage of available transport capacity at the CRT.

MMC has initiated agency consultations, and performed internet-based research and desktop analysis of the Corridor. These efforts were augmented by site visits, including natural and cultural resource field surveys. These results are discussed in detail in the Route Permit application.

### 4.2 FACTORS TO BE CONSIDERED IN EVALUATING APPLICATIONS AND DESIGNATION OF CORRIDORS AND ROUTES (NDCC 49-22-09)

#### 4.2.1 FEASIBLE ALTERNATIVES TO THE PROPOSED CORRIDOR OR ROUTE

The Project will deliver an average of 35,000 bpd of crude oil from the planned DPS to the CRT. From the CRT the crude will be available for transport to markets throughout the United States. MMC identified and evaluated several project alternatives; however, none of these alternatives effectively satisfied the Project objective. These alternatives included:

- No Action Alternative;
- Trucking Alternative; and
- Greenfield Alternative.

**No Action Alternative:**

This alternative would leave the region constrained by limited transport capacity for safe and reliable transmission of crude oil products to markets. Overall, regional oil and gas production would continue to be constrained by the limited volume of product that could be shipped utilizing existing infrastructure, resulting in continued or increased flaring and/or curtailment of crude oil production. This alternative is not desirable. For these reasons, MMC rejected a *No Action Alternative*.

**Trucking Alternative:**

This alternative was reviewed and eliminated due to the volume of crude oil to be transported. The current gathering pipeline transports approximately 22,000 bpd; upon the completion of this conversion Project the resulting pipeline will have a maximum capacity of estimated 45,000 barrels or 1,890,000 gallons of crude. The capacity of the transmission line will be approximately 23,000 bpd greater than the existing gathering pipeline. The average load for a truck carrying crude oil is approximately 178 barrels (7,500 gallons) per truck. Thus, it will require 130 trucks per day, an average of 5.5 trucks every hour for 24 hours a day to transport the additional volume of product the current gathering line does not have capacity to transport to the CRT. This level of truck activity is not logistically feasible; it would cause an unacceptable amount of heavy vehicle traffic for the area's residents as well additional wear and tear on the infrastructure. Disruption in the trucking capacity due to seasonal load restrictions on roads, inclement weather, or road repairs would cause a delay in delivering this valuable resource to market. This alternative is not desirable; therefore, MMC rejected a *Trucking Alternative*.

**Greenfield Development Alternative:**

This alternative was reviewed and eliminated due to the higher costs, extended timelines, and increased ground disturbance associated with traditional pipeline construction relative to repurposing existing pipelines. In pursuing this option, MMC would have been required to strike new easements with landowners and to pinpoint and gain access to existing corridors for collocation. In addition, this alternative would increase environmental impacts associated with construction activities, and carries a risk of encountering cultural and natural resources along the route. For these reasons, MMC rejected a *Greenfield Development Alternative*.

### 4.2.2 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF NATURAL RESOURCES SHOULD THE PROPOSED CORRIDOR BE DESIGNATED

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

### 4.2.3 EXISTING PLANS OF THE STATE, LOCAL GOVERNMENT AND PRIVATE ENTITIES FOR OTHER DEVELOPMENTS AT OR IN THE VICINITY OF THE PROPOSED ROUTE

MMC is not aware of any other future development plans within or in close proximity to the Project.

### 4.2.4 PROBLEMS RAISED BY FEDERAL AGENCIES, OTHER STATE AGENCIES AND LOCAL ENTITIES

MMC has consulted with several federal and state agencies to identify possible environmental resources within the Corridor and any related agency concerns. Responding agencies had no such concerns, citing the lack of ground disturbance related to the Project.

## 4.3 EXCLUSION AREAS (NAC 69-06-08-02.1)

Exclusion areas are geographical areas that should be excluded from consideration when siting an energy transmission facility. A proposed Corridor may contain exclusion areas, but exclusion areas may not encompass more than 50 percent of the Corridor width at any point, unless there is no reasonable alternative. The following table and text identify and discuss exclusion areas identified within the Corridor.

| Exclusion Area | Within Corridor |
|---|---|
| **Federal** | |
| National Parks or Memorial Parks | No |
| Historic Sites, or Landmarks | No |
| Natural Landmarks or Monuments | No |
| Wilderness Areas | No |
| **State** | |
| Historic Sites, Monuments, or Historical Markers | No |
| Archaeological Sites | Yes |
| Parks | No |
| Nature Preserves | No |
| **County** | |
| Parks | No |
| Recreation Areas | No |
| Municipal Parks | No |
| **Other** | |
| Areas Critical to the Life Stages of Threatened and Endangered Animal or Plant Species | No |
| Areas where Animal or Plant Species that are Unique or Rare to this State would be Irreversibly Damaged | No |
| Areas within 1,200 feet of a geographic center of an intercontinental ballistic missile (ICBM) launch or launch control facility. | No |
| Areas within 30 feet on either side of a direct line between (ICBM) launch or launch control facilities to avoid microwave interference. | No |

### 4.3.1 FEDERAL RESOURCE REVIEW

MMC initiated consultations with various federal agencies and has conducted a comprehensive review of published information. MMC concluded no national or memorial parks, natural landmarks or monuments, or wilderness areas will be crossed or will be affected by the Project. Please refer to Section 2: Studies of this document for a comprehensive discussion of MMC's agency consultations and Appendix B for copies of the documents.

### 4.3.2 STATE RESOURCE REVIEW

MMC has confirmed through a combination of agency consultations, review of publicly available information and field studies the absence of state parks, historic sites, monuments, historical markers, or nature preserves within the proposed Corridor. Please refer to Section 2: Studies of this document for a comprehensive discussion of MMC's related consultations.

MMC commissioned a Class I Inventory of the Corridor. These efforts identified previously recorded historic properties and cultural resources. Please refer to Section 2: Studies of this document for a comprehensive discussion of MMC's related consultations, and Appendix E for the Cultural Resource Report. Mitigation details are discussed in Section 5: Mitigative Measures of the Route Permit Application.

### 4.3.3 COUNTY RESOURCE REVIEW

MMC has confirmed through a combination of agency consultations and review of publicly available information the absence of county parks or recreation areas, municipal parks, or parks owned by other subdivisions of government bodies within the proposed Corridor. Please refer to Section 2: Studies of this document for a comprehensive discussion of MMC's consultations and Appendix B for documentation of agency consultations.

### 4.3.4 AREAS CRITICAL TO THE LIFE STAGES OF THREATENED AND ENDANGERED ANIMAL OR PLANT SPECIES

MMC has conducted a comprehensive desktop review of the Corridor; these efforts were augmented with agency consultations and additional field surveys to confirm presence or absence of critical habitat.

Please refer to Appendix B for documentation of the agency consultations as well as Section 2: Route Analysis and Environmental Studies of the application for a Route Permit for details of the field studies.

### 4.3.5 AREAS WHERE ANIMAL OR PLANT SPECIES THAT ARE UNIQUE OR RARE TO THIS STATE WOULD BE IRREVERSIBLY DAMAGED

MMC has engaged in federal and state agency consultations, reviewed published information and conducted a desktop analysis of the Corridor to determine if areas of critical animal or plant habitat may occur. Based on these studies, MMC has confirmed the absence of protected species and/or their critical habitats. Please refer Appendix B for supporting documentation of agency consultations.

### 4.3.6 AREAS WITHIN 1,200 FEET OF THE GEOGRAPHIC CENTER OF AN ICBM LAUNCH OR LAUNCH CONTROL FACILITY

MMC conducted a review of publicly available information and concluded there are no ICBM launch or launch control facilities within the Corridor.

### 4.3.7 AREAS WITHIN 30 FEET ON EITHER SIDE OF A DIRECT LINE BETWEEN ICBM LAUNCH OR LAUNCH CONTROL FACILITIES TO AVOID MICROWAVE INTERFERENCE

MMC conducted a review of publicly available information and concluded there are no ICBM launch or launch control facilities within the Corridor.

## 4.4 AVOIDANCE AREAS (NAC 69-06-08-02.2)

Avoidance areas are geographic areas that shall not be considered in the routing of a transmission facility unless it is shown there is no reasonable alternative under the circumstances. A proposed corridor may contain avoidance areas, but may not encompass more than 50 percent of the corridor width at any point, unless there is no reasonable alternative. The following table and text identify and discuss avoidance areas within the proposed Corridor.

| Avoidance Area | Within Corridor |
|---|---|
| **Federal** | |
| Historic Districts | No |
| Wildlife Areas | No |
| Wild, Scenic or Recreational Rivers | No |
| Wildlife Refuges | No |
| Grasslands | No |
| **State** | |
| Wild, Scenic, or Recreational Rivers | No |
| Game Refuges or Game Management Areas | No |
| Forests or Forest Management Areas | No |
| Grasslands | No |
| **Other** | |
| Other Historic Resources not meeting Exclusion Areas criteria | No |
| Areas of Known Geologic Instability | No |
| Areas within 500-Feet of a Residence, School, or Place of Business | Yes |
| Reservoirs and Municipal Water Supplies | No |
| Water Sources for Organized Rural Water Districts | No |
| Irrigated Land (not applicable to underground facilities) | N/A |
| Areas of Recreational Significance which are not designated as Exclusion Areas | No |

### 4.4.1 FEDERAL RESOURCE REVIEW

MMC conducted a comprehensive review of publicly available information, and agency consultations of the proposed Corridor. This review indicated the absence of designated or registered historic districts, refuges, grasslands, and wild, scenic or recreational rivers within the Corridor. Please refer to Appendix B for documentation of agency consultation.

### 4.4.2 STATE RESOURCE REVIEW

MMC conducted a review of publicly available information and conducted agency consultations and concluded there are no designated or registered state game refuges, game management areas, management areas, forests, forest management lands, grasslands or wild, scenic, or recreational rivers within the Corridor. Please refer to Appendix B for documentation of agency consultation.

### 4.4.3 HISTORICAL RESOURCES NOT MEETING EXCLUSION AREA CRITERIA

MMC commissioned a Class I Cultural Resource Inventory of the Corridor. This study identified and confirmed the presence of historical resources within the Corridor. Please refer to Appendix B for related agency consultations and Appendix D for Cultural Resource Survey Report.

### 4.4.4 AREAS OF KNOWN GEOLOGIC INSTABILITY

A desktop review of the North Dakota Geological Survey (NDGS) landslide mapping identified that the southern 18 miles of the existing pipeline route are within the *Areas of Landslides, Williston 100K Sheet, North Dakota* map. No landslide mapping is available for the northern 26 miles of the Project. Landsides are concentrated in the southern portion of the Williston map sheet, within the Missouri River Valley and associated badlands topography. In the north half of the Williston Sheet, landslides are generally very small, only a few acres in size. The geomorphology of the Project area is gently rolling glacial topography, which is stable and not prone to slides. Topography susceptible to landslides does not occur in the Corridor furthermore no landslides have been recorded in the Corridor.

Additionally, North Dakota has not experienced an earthquake of sufficient magnitude to damage steel welded pipe or structural steel structures in recorded history. Sinkholes are known to occur in the region, but these are related to subsurface mining activities as opposed to limestone dissolution. According to review of North Dakota Public Service Commission abandon mine data, no mining activities are located in the Corridor.

### 4.4.5 AREAS WITHIN 500-FEET OF A RESIDENCE, SCHOOL OR PLACE OF BUSINESS

MMC utilized aerial photography to identify structures located within 500 feet of the proposed pipeline alignment. Ten (10) residences are located within 500 feet of the Project. MMC is in the process of obtaining landowner waivers from those residences within 500-feet of the Project. Executed landowner waivers can be found in Appendix F.

### 4.4.6 RESERVOIRS AND MUNICIPAL WATER SUPPLIES

MMC has confirmed the Corridor does not contain reservoirs or municipal water supply sources. The wells identified within the Corridor are used for domestic, stock or irrigation purposes however the majority were test holes. The maps in Appendix A depict the location of these resources.

### 4.4.7 WATER SOURCES FOR ORGANIZED RURAL WATER DISTRICTS

Desktop analysis confirmed the presence of 19 wells located within the Corridor. These wells are utilized for domestic, stock or irrigation purposes however the majority were test holes; the location of these wells are depicted on the maps in Appendix A.

### 4.4.8 IRRIGATED LAND

This criterion does not apply to underground transmission facilities; as such, it is not applicable to this Project.

### 4.4.9 AREAS OF RECREATIONAL SIGNIFICANCE WHICH ARE NOT DESIGNATED AS EXCLUSION AREAS

MMC has confirmed the Corridor does not contain any other areas of recreational significance.

## 4.5 SELECTION CRITERIA (NAC 69.06-08-02.3)

The selection criteria require assessment of the environmental impacts and alterations to land use that may result from the proposed Project. MMC has successfully avoided or minimized negative effects to the maximum extent practicable by limiting ground-disturbing activities to areas within MMC facility boundaries.

### 4.5.1 AGRICULTURAL IMPACT

**Agricultural Production:** The Project will not affect agricultural land in North Dakota. All ground-disturbing activities will occur within the fenced confines of the planned DPS and the existing CRT.

**Family Farms and Ranches:** The Project will not affect family farms or ranches in North Dakota. All ground-disturbing activities will occur within the fenced confines of the planned DPS and the existing CRT.

The Project will have no impact to lifestyle or farm/ranch operations as no construction activities will be taking place on private lands. Ground-disturbing activities will take place only within the confines of MMC facilities.

**Lands Suitable for Irrigation:** This section is not applicable to buried pipelines (69-06-08-02.2h).

**Surface Drainage:** As there are no ground-disturbing activities taking place outside of the MMC facilities, the planned conversion activities will result in no modification to existing surface drainage patterns.

**Ground Water:** Well data has been recorded by the State Water Commission for the Project area. Well data indicates that groundwater is located between 20-150 feet below the surface. The required tie-in excavations for the proposed Project are not anticipated to reach these depths as such no impact to ground water is anticipated.

### 4.5.2 THE IMPACTS UPON OTHER RESOURCES

**Noise-Sensitive Land Uses:** The Project is located in a rural setting, effectively isolating it from the majority of sensitive receptors. As the gathering pipeline has already been constructed and is, in-service the large-scale construction activities, which produce the most noise, have been completed. The proposed conversion Project will not have an impact on noise-sensitive land uses.

**Visual Effect on Adjacent Areas:** The proposed Project will include the installation of a block valve at the tie-in locations at the planned DPS and existing CRT facilities. These block valves are small aboveground features which will be installed within the footprint of each the facility. The visible piping and equipment are finished and maintained with a white painted surface. No other permanent aboveground features are to be installed as a part of the Project.

**Extractive and Storage Resources:** This Project will not affect any extractive or storage resources.

**Wetlands, Woodlands and Wooded Areas:** A comprehensive desktop review of published data, including aerial photography and NWI data, was conducted to assess the presence or absence of wetlands, woodlands and wooded areas. The review of the proposed Corridor confirmed the presence of these resources. MMC commissioned field surveys to identify and record the locations of these resources along the proposed Route.

Please refer to Section 2: Studies in this document for a comprehensive discussion of MMC's consultations, as well as Appendices C and D for copies of the consultations. Mitigation details are discussed in Section 5: Mitigative Measures of the Route Permit Application.

**Radio and Television Reception, and other Communication or Electronic Control Facilities:** MMC does not anticipate the Project will affect radio, television, or other electronic control facilities.

**Human Health and Safety:** MMC's corporate Health and Safety policy meets or exceeds federal and state laws, rules and regulations, and is enforced equally with respect to both MMC and contractor employees. The implementation of this policy promotes a safe and healthy workplace during construction and operation of all MMC's assets.

The design of the Project has incorporated the use of block valves at regular intervals. The purpose of the block valve is to segment the system and allow for the isolation of select portions of the system to facilitate maintenance in a safe and controlled manner. Additionally, in the event of an abnormal operating condition, block valves can be closed as necessary to prevent an uncontrolled release of crude oil. Finally, the operation of the pipeline will be monitored in accordance with DOT regulations.

**Animal Health and Safety:** The wildlife currently inhabiting the Corridor is common and is generally mobile. The local wildlife inhabitants will not be displaced by the Project with no measurable impact to the viability of these populations. No species of special concern are anticipated to experience direct impacts due to conversion or operation of the Project.

**Plant Life:** There will be no impacts to plant life associated with the conversion or operation of the pipeline. No species of special concern will be impacted by the Project.

## 4.6 POLICY CRITERIA

### 4.6.1 POLICIES AND COMMITMENTS TO LIMIT ENVIRONMENTAL IMPACT

MMC will comply with requirements contained in the Corridor Certificate and Route Permit. MMC will conduct its activities with the objectives of providing a healthful and safe workplace for its employees, and preventing accidents and environmental incidents. All persons and firms providing service to MMC are required to conduct their work in compliance with environmental conditions, permit authorizations, and applicable regulations, and will be held accountable for their actions in that regard. MMC 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.

### 4.6.2 LOCATION AND DESIGN

The existing gathering pipeline is located in Williams and Divide Counties, North Dakota. The Project would result in a transmission pipeline originating in Divide County at the site of the planned DPS, located approximately 17 miles northwest of Alamo, ND. From the DPS the pipeline would extend in a south/southeasterly direction into Williams County to its terminus at the existing CRT, located north of Epping, ND. Please refer to the project maps provided in Appendix A.

One (1) pipeline will be converted from a crude oil gathering pipeline to a crude oil transmission pipeline. To complete this conversion two-(2) block valves will be installed

at each terminus and the pressure of the pipeline will be increased to raise the throughput capacity. These above ground appurtenances will be installed within the facility boundaries of the planned DPS and existing CRT.

### 4.6.3 TRAINING AND UTILIZATION OF AVAILABLE LABOR IN THIS STATE FOR THE GENERAL AND SPECIALIZED SKILLS REQUIRED

The Project will require minimal labor with a variety of backgrounds ranging from general laborers and welders to inspectors and engineers. MMC will draw upon the local labor force to supply project personnel. The workforce is anticipated to reach a peak of approximately 50 personnel.

### 4.6.4 ECONOMIES OF CONSTRUCTION AND OPERATION

The Project represents a total investment of approximately $3.5 million to be spent in Williams and Divide County, North Dakota on the conversion of the pipeline and appurtenant facilities. Once in-service, the continued costs of maintenance and operation of the proposed pipeline are expected to be minimal.

### 4.6.5 USE OF CITIZEN COORDINATING COMMITTEES

Through its corporate presence in the region (local office in Stanley, ND), MMC has established and maintains a good relationship with the local community officials and the local population. These relationships provide multiple grass roots communication channels to inform local residents regarding the developments associated with the Project.

### 4.6.6 COMMITMENT OF A PORTION OF THE TRANSMITTED PRODUCT FOR USE IN THIS STATE.

The proposed Project will interconnect with planned and existing facilities. The products currently handled, transferred, and shipped at these facilities are currently delivered to markets located in and out of the state.

### 4.6.7 LABOR RELATIONS

MMC maintains positive labor relations with its staff and contract work force and does not anticipate encountering any adverse labor relations on this Project. The labor market in the region is generally supportive of the oil and gas industry.

### 4.6.8 THE COORDINATION OF FACILITIES

MMC owns and operates all of the affected facilities; thus, coordination will be seamless and executed from within MMC's internal management systems.

### 4.6.9 MONITORING OF IMPACTS

MMC has operated pipeline gathering and associated facilities in the area since February of 2013. Through these operations, MMC has established and maintained positive landowner and community relationships throughout the region. MMC's operations reflect its commitment to corporate citizenship standards founded on integrity. MMC will monitor landowner concerns, if any, through its Land Department and will respond to all reasonable concerns. Similarly, MMC will monitor community concerns and will respond to all reasonable concerns brought to its attention by local community leaders. MMC is currently in the process of selecting a primary contractor for the construction of the Project, and will coordinate with this contractor with respect to the oversight responsibilities for construction activities. Environmental responsibilities shall be coordinated in the same manner.

### 4.6.10 UTILIZATION OF EXISTING AND PROPOSED RIGHTS-OF-WAY AND CORRIDORS

Portions of the existing gathering pipeline are collocated with other utilities and roadway corridors.

### 4.6.11 OTHER EXISTING OR PROPOSED TRANSMISSION FACILITIES

The Divide Lateral Project was designed to transport a maximum of 45,000 bpd of product to the CRT for distribution throughout the United States and Canada. Market conditions and demand for transmission capacity will be taken into consideration when evaluating future development timing. MMC's 10-Year Plan can be found in Appendix E of this document.

# SECTION 5: MITIGATIVE MEASURES

## 5.1 LOCATION

The selection of the proposed Corridor was a multi-disciplinary effort, which included socio economic, environmental, logistics, engineering and financial considerations. The Corridor described in this application meets the siting criteria, minimizes Project length and utilizes planned and existing MMC's assets, avoiding the need to build additional assets and thereby minimizing collateral environmental impacts.

Landowner considerations also factored into the Corridor selection. The Project as proposed limits the number of potentially affected landowners and minimizes individual impacts to current land practices. Ground disturbance for the Project would be limited to that within MMC-operated facilities; no other landowners will be affected.

The proposed Corridor selection was influenced by environmental studies that suggested the area lacked sensitive features, such as critical wildlife habitat, major wetlands or waterbodies, or other unique environmental features. The proposed Corridor avoids all waterbody crossings, and will not have an impact on the surrounding natural environment.

MMC owns and operates other assets in the region. Planning and development of these assets are conducted in a manner that maximizes the benefits to the region's resources. The proposed Corridor and Route will allow MMC to draw upon planned and existing pipeline and facility assets in the region.

## 5.2 CONSTRUCTION

Construction of the proposed Project will be limited to the installation of block valves at the tie-in locations, and two (2) MLVs. All construction activities will take place on the proposed DPS and existing CRT properties.

Construction is estimated to require a total of 4 weeks. All ground-disturbing activities will take place within MMC-owned facilities.

## 5.3 OPERATION

Once converted and put into service, the proposed Project will operate continuously, delivering crude oil from MMC's DPS to the CRT. Normal pipeline operations are imperceptible to the public, as they are silent, buried and therefore not visible, and require only minimal aboveground activity. Standard operating procedures will conform to applicable DOT requirements, which include regular pipeline monitoring and periodic inspection; additionally, routine maintenance of the right-of-way will likely be required on a regular basis to remain in compliance.

## SECTION 6: LIST OF PREPARERS

**John Millar**

Vice President-Liquids Group
Summit Midstream

Mr. Millar is Vice President, Liquids Group for Summit Midstream and is responsible for developing liquid pipeline commercial opportunities and for managing Summit's liquid pipeline assets. Prior to joining Summit Midstream, Mr. Millar was Vice President and General Manager of Genesis Energy, L.P.'s pipeline, terminal, and trucking businesses, responsible for improving safety, operating efficiency, and service quality and for developing growth projects involving liquid pipeline facilities, marine terminals, rail facilities, and truck stations. Prior to joining Genesis, Mr. Millar held numerous positions in engineering, project management, field operations, control center operations, joint ventures, and business development for Chevron Pipe Line Company, EOTT Energy, Unocal Corporation, and Enbridge Energy Partners. Mr. Millar has over 28 years of experience in nearly all aspects of the oil pipeline industry and holds BS and MS degrees in Civil Engineering from the University of California and an MBA from the University of Houston. Mr. Millar is a licensed Civil Engineer in the State of California.

**William McCarthy, C.W.B.**
Senior Environmental Compliance Analyst
E3 Environmental, LLC, 871 West 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, in this role conducts, and coordinates field studies, agency consolations, mitigation and avoidance plans.

**Katie Schmidt, EIT**

Environmental Engineer and Senior Consultant
E3 Environmental, LLC, 871 West Jefferson Avenue, St. Paul, MN 55102

B.S. Civil Engineering with an emphasis in Environmental Engineering-Iowa State University. Ms. Schmidt is a Senior Environmental Consultant with 8 years of experience working with various energy assets and regulatory agencies. As a consultant, she has managed multiple pipeline projects supporting clients through the construction permitting and siting processes, which included coordination with various federal, state and local agencies.

**North Dakota Public Service Commission**

# Application for Route Permit

## Meadowlark Midstream Company, LLC

### Divide Lateral Pipeline Project

Prepared by:
**E3 Environmental, L.L.C.**

April 2014

E3 ENVIRONMENTAL
*Enhancing Execution with Experience*

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**APPENDICES**

**INTRODUCTION**

Meadowlark Midstream Company, LLC (MMC), a wholly owned subsidiary of Summit Midstream Partners, LLC, owns and operates crude oil assets in North Dakota. MMC is planning the Divide Lateral Pipeline Conversion Project (Project). The proposed Project scope includes the conversion of the existing Divide Lateral gathering pipeline into a transmission pipeline. The transmission pipeline would transport oil from the planned Divide Pump Station (DPS), located in Divide County, to the existing Colt Rail Terminal (CRT) located in Williams County.

The existing pipeline is approximately 43.5 miles in length and crosses private and state land. The proposed Project would not result in a change in pipeline length or location. Ground disturbance will be minimal and confined to the planned DPS and existing CRT facility boundaries.

The conversion of the gathering pipeline to a transmission pipeline places the Project under the purview of the North Dakota Public Service Commission (PSC or Commission); as such, MMC submits to the Commission a single consolidated application for a Certificate of Corridor Compatibility and Route Permit for the Project.

The application provides the requisite information as stipulated by:

- North Dakota Century Code, Energy Conversion and Transmission Facility Siting Act, Chapter 49-22-08.1 and,
- North Dakota Administrative Code, Chapter 69-06-05, Transmission Facility Permit.

# SECTION 1: DESCRIPTION

## 1.1 TYPE OF TRANSMISSION FACILITY

The Project would result in the conversion and operation of a crude oil transmission pipeline. The existing steel pipeline meets U.S. Department of Transportation (DOT) regulations, specifically the design, installation, pressure testing, operation and maintenance requirements as outlined in 49 Code of Federal Regulations (CFR) Part 195.

## 1.2 PURPOSE OF TRANSMISSION FACILITY

The purpose of the Project is to transport crude oil between MMC's planned DPS and the existing CRT facilities. The addition of the DPS at the northern end of the existing pipeline will cause existing pipeline to fall under the definition of "transmission facility" under the North Dakota Transmission Facility Siting Act. The existing pipeline was previously considered a gathering facility.

MMC estimates that the Project will cost approximately $3.5 million to develop. The Project will include the conversion of an existing gathering pipeline to a 43.5 mile-long transmission pipeline.

## 1.3 LENGTH, SIZE AND DESIGN OF PIPELINE FACILITY

### 1.3.1 LENGTH OF FACILITY

The existing gathering pipeline is approximately 43.5 miles in length. The proposed conversion activities will not affect the length of the existing pipeline.

### 1.3.2 PIPE SIZE

The Project pipeline specifications are detailed below:

- One 8" Nominal Diameter Steel Pipe
  - API 5LB FBE/ARO Coated ERW pipe.
  - Wall Thickness of 0.322 inch.
  - Pipeline casings installed at State and US Highway crossings and Railroad crossings.

### 1.3.3 OPERATING PRESSURE AND THROUGHPUT

The Project has been designed with the following design parameters listed below:

- Maximum/Normal Operating Pressure: 1,480/1,300 psig
- Maximum/Normal Throughput: 45,000/35,000 barrels per day (bpd)

## 1.4 ABOVEGROUND FACILITIES

The gathering line was constructed with four (4) block valves. These aboveground appurtenances were designed to and installed at locations meeting DOT regulations. Block valves are located approximately on every eight miles along the Route as specified by the DOT. Block valves allow for the isolation of select segments of the pipeline for inspection and maintenance purposes. To complete the Project two (2) additional block valves would be installed; the northern valve would be installed

within the facility boundaries of the planned DPS. The southern valve would be installed at the CRT within the facility boundaries. No additional aboveground structures would be installed as a part of this Project. Project maps illustrating the location of the existing and planned block valves are contained in Appendix A.

## 1.5 WIDTH OF RIGHT-OF-WAY

The existing gathering pipeline was constructed utilizing a 50-75 foot construction right-of-way (ROW). MMC maintains an average 35-foot permanent ROW along the entire length of the pipeline. The proposed Project will not require a construction ROW or affect MMC's current easement/ROW agreements.

## 1.6 LOCATION

The existing gathering pipeline is located in Williams and Divide Counties, North Dakota. The Project would result in a transmission pipeline originating in Divide County at the site of the planned DPS, located approximately 17 miles northwest of Alamo, ND. From the DPS the pipeline would extend in a south/southeasterly direction into Williams County to its terminus at the existing CRT, located north of Epping, ND. Please refer to the project maps provided in Appendix A.

## 1.7 PROJECT SCHEDULE

### 1.7.1 ROUTE PERMIT

MMC is seeking a Route Permit in or before June 2014.

### 1.7.2 CERTIFICATE OF CORRIDOR COMPATIBILITY

MMC submitted an application for a Certificate of Corridor Compatibility in April 2014 as part of this Consolidated Application for a Route Permit and Corridor of Compatibility.

### 1.7.3 CONSTRUCTION SCHEDULE

MM initiated construction of the gathering pipeline in July of 2013. Testing and commissioning activities were completed in November of 2013. Restoration activities were initiated in the fall of 2013 and are ongoing.

MMC has scheduled conversion activities to commence as early as the second quarter of 2014. All ground-disturbing construction activities associated with the Project will be within the boundaries of the planned DSP and existing CRT facilities. The conversion activities would take approximately four (4) weeks to complete. Commissioning activities will commence immediately after construction.

# SECTION 2: ROUTE ANALYSIS AND ENVIRONMENTAL STUDIES

## 2.1 PIPELINE ROUTE

The existing gathering pipeline route (Route) is approximately 43.5 miles long, and is located within Divide and Williams Counties, North Dakota. MMC evaluated the construction of new assets and new routing versus utilizing existing assets and infrastructure. MMC concluded the repurposing of the existing gathering pipeline would avoid the need for a large-scale construction project as such greatly reducing impacts to the environment and local infrastructure.

MMC evaluated the proposed Corridor (a 1-mile wide corridor centered upon the proposed Route, *i.e.*, one-half mile on either side of the proposed Route), as discussed in the application for a Certificate of Corridor Compatibility. This broad-based analysis confirmed the proposed pipeline Corridor was suitable and it would cause minimal environmental impacts, thus conforming to the Commission's siting criteria.

Once the Corridor was established, MMC studied routing alternatives and developed the Route, which satisfies the Project's objectives while also conforming to the Commission's siting requirements for a transmission route. In support of MMC'S Route selection, the analytical studies from the Corridor were refined and augmented with field studies. Field studies were conducted along the entire length of the Project by trained natural and cultural resource specialists in the summer of 2013. The survey corridor was 150-feet centered upon the Route. The survey corridor is depicted on the maps in Appendix A. The results of these field surveys are discussed in the following sections; complete survey reports can be found in Appendix C and D.

## 2.2 ROUTE ALTERNATIVES

The Project will deliver an average of 35,000 bpd of crude oil from the planned DPS to the CRT. From the CRT the crude will be available for transport to markets throughout the United States. MMC identified and evaluated several project alternatives; however, none of these alternatives effectively satisfied the Project objective. These alternatives included:

- No Action Alternative;
- Trucking Alternative; and
- Greenfield Alternative.

**No Action Alternative:**

This alternative would leave the region constrained by limited transport capacity for safe and reliable transmission of crude oil products to markets. Overall, regional oil and gas production would continue to be constrained by the limited volume of product that could be shipped utilizing existing infrastructure, resulting in continued or increased flaring and/or curtailment of crude oil production. This alternative is not desirable. For these reasons, MMC rejected a *No Action Alternative*.

**Trucking Alternative:**

This alternative was reviewed and eliminated due to the volume of crude oil to be transported. The current gathering pipeline transports approximately 22,000 bpd; upon the completion of this conversion Project the resulting pipeline will have a

maximum capacity of estimated 45,000 barrels or 1,890,000 gallons of crude. The capacity of the transmission line will be approximately 23,000 bpd greater than the existing gathering pipeline. The average load for a truck carrying crude oil is approximately 178 barrels (7,500 gallons) per truck. Thus, it will require 130 trucks per day, an average of 5.5 trucks every hour for 24 hours a day to transport the additional volume of product the current gathering line does not have capacity to transport to the CRT. This level of truck activity is not logistically feasible; it would cause an unacceptable amount of heavy vehicle traffic for the area's residents as well additional wear and tear on the infrastructure. Disruption in the trucking capacity due to seasonal load restrictions on roads, inclement weather, or road repairs would cause a delay in delivering this valuable resource to market. This alternative is not desirable; therefore, MMC rejected a *Trucking Alternative*.

**Greenfield Development Alternative:**

This alternative was reviewed and eliminated due to the higher costs, extended timelines, and increased ground disturbance associated with traditional pipeline construction relative to repurposing existing pipelines. In pursuing this option, MMC would have been required to strike new easements with landowners and to pinpoint and gain access to existing corridors for collocation. In addition, this alternative would increase environmental impacts associated with construction activities, and carries a risk of encountering cultural and natural resources along the route. For these reasons, MMC rejected a *Greenfield Development Alternative*.

## 2.3 ENVIRONMENTAL SURVEY.

Field surveys were conducted of a 150-foot wide survey corridor centered upon the gathering pipeline alignment. Initial natural resource and cultural resource surveys were conducted in the 3rd quarter of 2013. Subsequent natural resource survey was conducted in March of 2014.

### 2.3.1 NOXIOUS WEEDS

"Noxious weed" is a general term used to describe fast-spreading, non-native plant species in a given area. These species have adverse ecological and economic impacts doe to their ability to outcompete native plant species for habitat and resources. Field surveys concluded 16 percent of the Route passes through grassland and native grasslands comprise very little of the survey corridor. This altered environment is due to ground disturbance associated with agriculture. Approximately 81 percent of the Route passes through cropland or hayfield. Alien and invasive species dominate the previously disturbed land. Pastureland encompasses approximately 16.4 percent of the survey corridor and is found on steeper slopes, which are often-reclaimed cropland planted in non-native grasses and forbs, lands with a history of disturbance. Additionally, ditches along road rights-of-way have been planted in non-native grasses. The area within the survey corridor is comprised of oil well pads, gravel roads, State Highway and residential properties. As there are no ground-disturbing activities associated with this Project outside of planned or existing MMC facilities, there is no risk of furthering the spread of noxious weeds. Please see Appendix C for the complete Biological Assessment/Natural Resource Report, and Section 5 Mitigative Measures in the document for the proposed mitigation procedures.

### 2.3.2 TREE/SAPLING/SHRUB SURVEY

Field efforts documented that approximately half of the existing gathering pipeline shares other utility or road right-of-way, the other half crosses crop and pasture land. Ground disturbing activities associated with the planned conversion activities will occur within the facility boundaries of the planned DPS and existing CRT, as such no trees or shrubs will be removed as a part of the proposed Project.

### 2.3.3 WETLAND AND WATERBODIES SURVEY

The survey corridor was inventoried for wetland features. Field crews identified wetlands and waterbodies and recorded their boundaries. Appendix C contains the Biological Assessment/Natural Resource Report, which outlines the results of these field efforts.

#### 2.3.3.1 WETLAND SURVEY

Field surveys documented 48 wetland features throughout the survey corridor, of these 48 features only 18 were traversed by the gathering pipeline. Gathering pipeline construction was completed under U.S. Army Corps of Engineers Nationwide Permit #12 in a non-reporting/self-verification manner. Of these resources, none were recorded within the boundaries of the planned or existing MMC facilities. Conversion activities will be limited to the boundaries of these MMC facilities as such not impacts to wetlands or waterbodies are anticipated. Please see Appendix A for the mapped location of each feature, Appendix C contains the Biological Assessment/Natural Resource Report, which outlines the results of these field efforts.

#### 2.3.3.2 WATERBODIES SURVEY

Field studies included an inventory of waterbodies that occurred within the survey corridor. Survey personnel inventoried waterbodies (*e.g.*, ponds, creeks, streams) with a discernible ordinary high water mark (OHWM). The OHWM is a widely accepted physical characteristic used to identify features that are likely regulated by the U.S. Army Corps of Engineers. Field surveys documented 18 waterbody features throughout the survey corridor, of these 18 features only 16 were traversed by the gathering pipeline. Gathering pipeline construction was completed under U.S. Army Corps of Engineers Nationwide Permit #12 in a non-reporting/self-verification manner. Of these resources, none was recorded within the boundaries of the planned or existing MMC facilities. Conversion activities will be limited to the boundaries of these MMC facilities as such not impacts to wetlands or waterbodies are anticipated. Please see Appendix A for the mapped location of each feature, Appendix C contains the Biological Assessment/Natural Resource Report, which outlines the results of these field efforts.

### 2.3.4 WILDLIFE INVENTORY

Field surveys determined waterfowl and raptors were abundant within the survey corridor. Double created cormorant, ruddy dick, American coot, blue winged teal, American white pelican, eastern kingbird, horned lark, lark bunting, red-tailed hawk, Swainson's hawk, northern harrier, red-winged blackbird and common crow were either seen or heard during this survey. Other wildlife seen included green racer and black bullhead. The survey corridor was inventoried for sensitive species and their critical habitat. No threatened or endangered species or their critical habitat were observed by field biologists. Appendix C contains the Biological Assessment/Natural Resource Report, which outlines the results of these field efforts.

#### 2.3.4.1 FEDERALLY PROTECTED SPECIES SURVEY

Under authority of the Endangered Species Act (ESA), the U.S. Fish and Wildlife Service (USFWS) and the Fisheries Service division of the National Oceanic and Atmospheric Administration (NOAA) have identified and maintain a list of species and critical habitats that have been afforded protection under the ESA. The ESA also provides a program for the conservation of threatened and endangered plants and animals and the habitats in which they live.

On March 6, 2014, E3 Environmental, LLC (E3) requested a USFWS review of the Project, requesting information relating to the presence or absence of threatened and endangered species within the project area. The USFWS is pending.

MMC commissioned field studies to confirm the presence or absence of these species and/or their critical habitats along the proposed pipeline Route. The results of this assessment are provided below; refer to Appendix C, which contains the Biological Assessment/Natural Resource Report, which outlines the results of these field efforts.

**Whooping Crane:** During migration, the species is most closely associated with larger wetland complexes for roosting habitat, typically using adjacent uplands to forage. Project conversion activities will be not occur outside of the planned DPS and existing CRT. Suitable habitat for the whooping crane was not observed at these locations; as such, the Project is will have not affect to this species or its habitat.

**Piping Plover:** Field studies of the survey corridor identified areas of potentially suitable plover habitat. These locations were not located within the facility boundaries of the planned DPS or existing CRT. The proposed Project is not likely to affect this species.

**Interior Least Tern:** Field studies of the survey corridor confirmed the absence of suitable habitat or terns. The Project will have no effect on this species or its habitat.

**Bald Eagle:** Field studies confirmed the absence of nesting or roosting habitat within 0.5 miles of the centerline of the survey corridor.

**Golden Eagle:** Field studies confirmed the absence of nesting or roosting habitat within 0.5 miles of the centerline of the survey corridor.

### 2.3.5 NORTH DAKOTA STATE HISTORIC PRESERVATION OFFICE

The North Dakota State Historic Preservation Office (SHPO) is charged with managing the historic and archaeological resources of the state. MMC commissioned Juniper, LLC (Juniper), to conduct a Class I cultural resource inventory of the Corridor. This desktop analysis was completed in July 2013. The results noted 36 previously recorded historical properties and 24 cultural resources inventories within the Corridor.

The ensuing Class III Cultural Resource Inventory of the survey corridor was completed by Juniper on July 10-14, 2013 In addition to the four previously recorded sites; two new historic properties were identified, recorded and documented. These include 32DV129, a farmstead barn, with an adjacent school and 32WI1388 an isolated farmhouse.

Juniper determined the four previously recorded historic properties would not be impacted by the gathering pipeline as no evidence of cultural resources were found within the Corridor. Juniper recommended 32DV129 as unevaluated as to its eligibility for the National Register of Historic Places (NRHP), no impacts were observed because of construction and remediation. Site 23WI1388 was recommended as not eligible for listing on the NRHP. Avoidance measures were not recommended, as no ground disturbing activities are associated with the conversion Project.

On February 12, 2014, MMC received concurrences of *No Significant Sites Affected* for the Project from the SHPO. Additionally on February 28, 2014, the SHPO provided concurrence of *No Significant Sites* determination for the project deviations described in Juniper's correspondence dated February 28, 2014.

Please refer to Appendix B for related agency consultations, and Appendix D for the Cultural Resources Reports.

### 2.3.6 U.S. FISH AND WILDLIFE SERVICE MANAGED LANDS

On March 6, 2014, E3 requested a USFWS review of the Project, requesting information relating to the presence or absence of USFWS managed land within the survey corridor. The USFWS response is pending.

# SECTION 3: NEED FOR FACILITY

## 3.1 ANALYSIS OF NEED BASED ON PRESENT AND PROJECTED DEMAND, INCLUDING SYSTEM STUDIES

The development of hydrocarbon production in the Williston Basin has increased significantly in recent years due to advancements in deep horizontal directional drilling techniques and subsequent oil extraction in the Bakken and Three Forks shale formations. Studies conducted by the North Dakota Department of Mineral Resources and the USGS in 2010 estimated mean undiscovered volumes of 3.65 billion barrels of recoverable crude oil reserves may be available in North Dakota's deep shale formations. From March of 2007 to March of 2013, oil production in North Dakota has surged by 564 percent. In March of 2007, North Dakota produced 118,000 barrels of oil per day. That figure has increased to 783,000 barrels per day in March of 2013. In 2007, North Dakota accounted for roughly 2.5 percent of all the oil produced in the United States. In 2013, North Dakota accounted for roughly 11 percent of all the oil produced in the country.

A major constraint in transporting hydrocarbons from North Dakota to distribution centers and eventual end users in the United States is the lack of pipeline capacity. To relieve the pipeline constraints, several projects have been planned to address the growing volumes of crude oil, natural gas and natural gas liquids. However, pipeline capacity is not expected to keep pace with production, leaving incremental volumes to find alternative transportation methods, primarily rail or other surface transportation alternatives.

Conversion of the existing gathering pipeline to a transmission pipeline will provide firm, reliable transport of 35,000 bpd between the planned DPS and existing CRT. From the CRT, the product will be shipped to end users throughout North Dakota, the United States and Canada.

# SECTION 4: SITING CRITERIA ANALYSIS

## 4.1 FACTORS TO BE CONSIDERED IN EVALUATING APPLICATIONS AND DESIGNATIONS OF SITES, CORRIDORS AND ROUTES (NDCC 49-22-09)

**Available Research and Investigation Relating to the Effects of the Location, Construction, and Operation of the Proposed Facility on Public Health and Welfare, Natural Resources and the Environment:**

The Route selection process identified and evaluated several options for routing this Project. These studies were designed to define a preferred route that achieves Project objectives, is technologically and economically feasible for construction and minimizes impacts to landowners and the environment.

Field studies were conducted to identify environmental, biological and cultural resources along the Route; the results of this effort are discussed in Section 2: Route Analysis and Environmental Studies and full reports are provided in Appendices C and D. The following sections detail the Project's affects to the Commission's siting criteria.

One (1) pipeline will be converted from a crude oil gathering pipeline to a crude oil transmission pipeline. To complete this conversion two-(2) block valves will be installed at each terminus and the pressure of the pipeline will be increased to raise the throughput capacity. These above ground appurtenances will be installed within the facility boundaries of the planned DPS and existing CRT. These valves will meet DOT regulations and will allow for the isolation of select segments of the pipeline for inspection, maintenance and repair.

**The Effects of New Energy Conversion and Transmission Technologies and Systems Designed to Minimize Adverse Environmental Effects:**

The Project does not include energy conversion or transmission technologies and systems that are specifically designed to minimize adverse environmental impacts. There will be no ground-disturbing activities outside of MMC-owned facilities.

**Adverse Direct and Indirect Environmental Effects which cannot be Avoided Should the Proposed Site or Route be Designated:**

Should the proposed Project be designated in the area and manner described herein, there will be no direct or indirect adverse environmental effects.

**Alternatives to the proposed corridor or route which are developed during the hearing process and which minimize adverse effects:**

MMC will fully participate in the hearing process and will address any alternatives developed during the hearing process, as applicable.

**Irreversible and irretrievable commitments of natural resources should the proposed corridor and route be designated:**

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

**Direct and Indirect Economic Impacts of the Proposed Facility:**

Construction of this Project will provide firm, reliable service for a maximum 45,000 bpd of crude oil and provide a critical transportation link between the planned DSP and the CRT for delivery to critical United States markets via railcar transportation.

**Existing Plans of the State, Local Government, and Private Entities for Other Developments at or in the Vicinity of the Proposed Route:**

MMC is not aware of any other future development plans within or in close proximity to the Project.

**The Effect of the Proposed Route on Existing Scenic Areas, Historic Sites and Structures and Paleontological or Archaeological Sites:**

MMC has commissioned Cultural Resource Class I and Class III inventories of the survey corridor. All related correspondence can be found in Appendix B and supporting documentation of field studies can be found in Appendix D.

Juniper, on behalf of MMC, initiated a Project review with experts who possess knowledge of North Dakota's paleontological resources; these consultations concluded there is one newly recorded Historic Property (32DV129), which was recommended as unevaluated as to its eligibility for the NRHP. Juniper reported the pipeline adjacent to the site was in place and no impacts were observed as a result of construction and remediation. Furthermore, correspondence with SHPO concurred with a "No Significant Sites" determination for the Project as described. Project-specific consultation with various federal, state and local agencies did not identify any scenic areas within the Route. All related correspondence can be found in Appendix B.

**The Effect of the Proposed Route on Areas Which are Unique Because of Biological Wealth or Because they are Habitats for Rare and Endangered Species:**

The proposed Project is not anticipated to result in permanent adverse impacts to the environment. Please see Section 2: Route Analysis and Environmental Studies for a comprehensive discussion of MMC'S efforts to identify sensitive environmental resources along the proposed Route. As there are no ground-disturbing construction activities taking place outside the confines of MMC properties, the Project will not result in impacts to listed or sensitive species or their habitats. See Appendix B for complete federal and state agency consultations. Detailed survey results can be found in Appendix C.

**Problems Raised by Federal Agencies, Other State Agencies and Local Entities:**

MMC has consulted with several federal and state agencies to identify possible environmental resources within the Corridor and any related agency concerns. Responding agencies had no such concerns, citing the lack of ground disturbance related to the Project.

MMC also commissioned field studies of the Route to identify locations of sensitive resources. As there are, no ground-disturbing activities related to the Project, impacts to these resources would be completely avoided. Further details regarding agency consultations and concerns can be found in the application for the Certificate of Corridor Compatibility, and avoidance, planning and mitigation measures are further

detailed in Section 5: Mitigative Measures of this application. See Appendix B for complete federal and state agency consultations. Detailed survey results can be found in Appendix C.

## 4.2 EXCLUSION AREAS (NAC 69-06-08-02.1)

Exclusion areas are geographical areas that should be excluded in the consideration of a route for a transmission facility. The following table and text identify and discuss exclusion areas identified along the proposed Route.

| Exclusion Area | Crossed by Proposed Route |
|---|---|
| **Federal** | |
| National Parks or Memorial Parks | No |
| Historic Sites or Landmarks | No |
| Natural Landmarks or Monuments | No |
| Wilderness Areas | No |
| **State** | |
| Historic Sites, Monuments, or Historical Markers; | No |
| Archaeological Sites | Yes |
| Parks | No |
| Nature Preserves | No |
| **County** | |
| Parks | No |
| Recreation Areas | No |
| Municipal Parks | No |
| **Other** | |
| Areas Critical to the Life Stages of Threatened or Endangered Animal or Plant Species | No |
| Areas where Animal or Plant Species that are Unique or Rare to this State would be Irreversibly Damaged | No |
| Areas within 1,200 feet of a geographic center of an intercontinental ballistic missile (ICBM) launch or launch control facility. | No |
| Areas within 30 feet on either side of a direct line between (ICBM) launch or launch control facilities to avoid microwave interference. | No |

### 4.2.1 FEDERAL RESOURCE REVIEW

MMC has initiated consultations with various federal agencies and has conducted a comprehensive review of published information. MMC has concluded no national parks, memorial parks, landmarks, natural landmarks, monuments, or wilderness areas will be affected by the Project.

### 4.2.2 STATE RESOURCE REVIEW

MMC has confirmed, through a combination of agency consultations, review of publicly available information and field studies, no state parks, historic sites, monuments, historical markers, or nature preserves are crossed by the proposed Route.

MMC commissioned a Class I Cultural Resource Inventory of the proposed Corridor and augmented the effort with a Class III Cultural Resource Inventory of the Route. The results of the Class III effort are summarized in Section 2.2.4. On February 12, 2014, MMC received concurrences of *No Significant Sites Affected* for the Project from the SHPO. Additionally on February 28, 2014, the SHPO provided concurrence of *No Significant Sites* determination for the project deviations described in Juniper's correspondence dated February 28, 2014. Please see Appendix B for related consultations, Appendix D for the Cultural Resources Report and Section 5: Mitigative Measures for a detailed discussion of proposed mitigation.

### 4.2.3 COUNTY RESOURCE REVIEW

MMC has confirmed through a combination of agency consultations, review of publicly available information and field studies the absence of county parks, county recreation areas, municipal parks, or parks owned by other subdivisions of government bodies within the proposed Route.

### 4.2.4 AREAS CRITICAL TO THE LIFE STAGES OF THREATENED AND ENDANGERED ANIMAL OR PLANT SPECIES

MMC has commissioned surveys of the proposed Route. The scope of the surveys included documentation of federally listed species identified during field surveys or evidence of their critical habitats. Emphasis was placed on those species identified through public domain research, as well as the results of Project-specific consultations conducted for the Corridor analysis. Field surveys determined suitable habitat for the piping plover is present within the survey corridor. However, because no ground disturbing activities are associated with the Project the habitat will remain undisturbed. The results of these field efforts are detailed in Section 2.3 and proposed mitigation is discussed in Section 5: Mitigative Measures.

### 4.2.5 AREAS WHERE ANIMAL OR PLANT SPECIES THAT ARE UNIQUE OR RARE TO THIS STATE WOULD BE IRREVERSIBLY DAMAGED

Based upon agency consultations and subsequent field surveys, the proposed Project would not result in irreversible impacts detrimental to species or their habitats. No ground-disturbing construction activities will be associated with the Project, and will avoid affecting unique or rare animal or plan species or their habitats.

### 4.2.6 AREAS WITHIN 1,200 FEET OF THE GEOGRAPHIC CENTER OF AN ICBM LAUNCH OR LAUNCH CONTROL FACILITY

MMC conducted a review of publicly available information and concluded there are no ICBM launch or launch control facilities within 1,200 feet of the Route.

### 4.2.7 AREAS WITHIN 30 FEET ON EITHER SIDE OF A DIRECT LINE BETWEEN ICBM LAUNCH OR LAUNCH CONTROL FACILITIES TO AVOID MICROWAVE INTERFERENCE

MMC conducted a review of publicly available information and concluded there are no ICBM launch or launch control facilities within 30-feet of the Route.

## 4.3 AVOIDANCE AREAS (NAC 69-06-08-02.2)

Avoidance areas are geographical areas that shall not be considered in the routing of a transmission facility unless, under the circumstances, it is shown there is no reasonable alternative. The following table and text identify and discuss avoidance areas crossed by the proposed Route.

| Avoidance Area | Crossed by Proposed Route |
|---|---|
| **Federal** | |
| Historic Districts | No |
| Wildlife Areas | No |
| Wild, Scenic or Recreational Rivers | No |
| Wildlife Refuges | No |
| Grasslands | No |
| **State** | |
| Wild, Scenic or Recreational Rivers | No |
| Game Refuges or Game Management Areas | No |
| Forests or Forest Management Lands | No |
| Grasslands | No |
| **Other** | |
| Historic Resources not meeting Exclusion Areas criteria | No |
| Areas of Known Geologic Instability | No |
| Areas within 500-Feet of a Residence, School, or Place of Business | Yes |
| Reservoirs and Municipal Water Supplies | No |
| Water Sources for Organized Rural Water Districts | No |
| Irrigated Land (not applicable to underground facilities) | N/A |
| Areas of Recreational Significance which are not designated as Exclusion Areas | No |

### 4.3.1 FEDERAL RESOURCE REVIEW

MMC conducted a comprehensive review of publicly available information and field studies of the survey corridor. This review indicated the absence of designated or registered historic districts, refuges, grasslands, and wild, scenic or recreational rivers in the survey corridor.

### 4.3.2 STATE RESOURCE REVIEW

MMC conducted a review of publicly available resources and concluded no designated or registered state wild, scenic or recreational rivers, game refuges, game management areas, management areas, forests, forest management lands, or grasslands are crossed by the survey corridor.

### 4.3.3 HISTORICAL RESOURCES NOT MEETING EXCLUSION AREA CRITERIA

MMC conducted a review of publicly available resources and concluded there are no historical resources within the survey corridor that meet the exclusion area criteria.

On February 12, 2014, MMC received concurrences of *No Significant Sites Affected* for the Project from the SHPO. Additionally on February 28, 2014, the SHPO provided concurrence of *No Significant Sites* determination for the project deviations described in Juniper's correspondence dated February 28, 2014. Please see Appendix B for related consultations, Appendix D for the Cultural Resources Report and Section 5: Mitigative Measures for a detailed discussion of proposed mitigation.

### 4.3.4 AREAS OF KNOWN GEOLOGIC INSTABILITY

There are no known areas of geological instability within the survey corridor. 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 was 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. No locations along the Route that can be characterized as unstable or prone to landslides.

### 4.3.5 AREAS WITHIN 500-FEET OF A RESIDENCE, SCHOOL OR PLACE OF BUSINESS

MMC utilized aerial photography to identify structures located within 500 feet of the proposed pipeline alignment. Ten (10) residences are located within 500 feet of the Project. MMC is obtaining landowner waivers from these residences and the executed waivers can be found in Appendix F.

### 4.3.6 RESERVOIRS AND MUNICIPAL WATER SUPPLIES

MMC has confirmed that the Project will not affect reservoirs or municipal water supply sources.

### 4.3.7 WATER SOURCES FOR ORGANIZED RURAL WATER DISTRICTS

MMC has confirmed the Route will not affect water sources utilized by organized rural water districts.

### 4.3.8 IRRIGATED LAND

This criterion does not apply to underground transmission facilities; as such, it is not applicable to this project.

### 4.3.9 AREAS OF RECREATIONAL SIGNIFICANCE WHICH ARE NOT DESIGNATED AS EXCLUSION AREAS

MMC has confirmed the Route does not traverse areas of recreational significance.

## 4.4 SELECTION CRITERIA (NAC 69-06-08-02.3)

The selection criteria require a study of environmental impacts and changes in land use that may result from the siting of the proposed Project. By avoiding ground-disturbing activities outside of MMC-owned facilities, MMC will avoid all negative effects with respect to the selection criteria.

### 4.4.1 AGRICULTURAL IMPACTS

**Agricultural Production:** The Project will not affect private land in North Dakota. All ground-disturbing activities will occur within the fenced confines of the planned DPS and the CRT, which are both owned and operated by MMC.

**Family Farms and Ranches:** As there are no ground-disturbing activities associated with the Project outside of MMC-owned facilities, there will be no impact to family farms and ranches.

Buried pipelines will not affect typical farm or ranch operations, and those areas directly impacted by gathering pipeline construction have been restored to their pre-construction condition.

The location of pipeline markers is defined under 49 CFR 195 for pipelines. MMC works with local landowners and county officials to ensure that pipeline markers are located where required but also in an acceptable location for these parties. These markers are to be placed in full view so that they are not accidentally damaged by nor cause damage to landowner or county equipment.

**Lands Suitable for Irrigation:** The proposed Project will not affect lands suitable for irrigation as all ground disturbing/construction activities will occur within the boundaries of planned or existing MMC facilities.

**Surface Drainage:** As there are no ground-disturbing activities taking place outside of MMC-owned facilities, there will be no change in surface drainage.

**Ground Water:** Well data has been recorded by the State Water Commission for the Project area. Well data indicates that groundwater is located between 20-150 feet below the surface. The required tie-in excavations for the proposed Project are not anticipated to reach these depths as such no impact to ground water is anticipated.

### 4.4.2 THE IMPACTS UPON OTHER RESOURCES

**Noise-Sensitive Land Uses:** The Project is located in a rural setting, effectively isolating it from the majority of sensitive receptors. As the gathering pipeline has already been constructed and is, in-service the large-scale construction activities, which produce the most noise, have been completed. The proposed conversion Project will not have an impact on noise-sensitive land uses.

**Visual Effect on Adjacent Areas:** The proposed Project will include the installation of a block valve at the tie-in locations at the planned DPS and existing CRT facilities. These block valves are small aboveground features which will be installed within the footprint of each the facility. The visible piping and equipment are finished and maintained with a white painted surface. No other permanent aboveground features are to be installed as a part of the Project.

**Extractive and Storage Resources:** This Project will not affect any extractive or storage resources.

**Wetlands, Woodlands, and Wooded Areas:** MMC commissioned field surveys to identify and record the locations of these resources along the proposed Route. The Project will not affect wetlands, woodlands or wooded areas as conversion/construction activities would occur with the planned DPS and existing CRT facility boundaries. Please refer to Section 2: Route Analysis and Environmental Studies in this document for a comprehensive discussion of MMC's consultations, as well as Appendices B and C for copies of the consultations. Mitigation details are discussed in Section 5: Mitigative Measures of this application.

**Radio and Television Reception, and other Communication or Electronic Control Facilities:** MMC does not anticipate that the Project will affect radio, television, or other electronic control facilities.

**Human Health and Safety:** MMC'S corporate policy meets or exceeds federal and state laws, rules and regulations. The policy is enforced and adhered to by all MMC'S employees and contractor employees. MMC utilizes procedures designed to protect property and personnel, and to maintain regulatory compliance, in its operations and construction activities. By implementing these policies and practices, MMC promotes a safe and healthy workplace during construction and operation of all its assets.

The design of the Project incorporates the use of valves at each pipeline terminus. The purpose of the valves is to allow for the isolation of a pipeline to facilitate maintenance in a safe and controlled manner. Additionally, in the event of an abnormal operating condition, valves can be closed as necessary to prevent an uncontrolled release of product.

**Animal Health and Safety:** The wildlife currently inhabiting the Route are common and generally mobile. As there will be no ground-disturbing construction activities outside of MMC facilities associated with the Project, there will be no impact on the local wildlife inhabitants. No species of special concern are anticipated to experience direct impacts due to the operation of the Project.

**Plant Life:** The Project will not result in the loss of agricultural or pastureland. No species of special concern will be impacted by the Project.

## 4.5 POLICY CRITERIA (NAC 69-06-08-02.4)

### 4.5.1 POLICIES AND COMMITMENTS TO LIMIT ENVIRONMENTAL IMPACT

MMC selects pipeline corridors and routes to minimize impact as required by the statutes, rules and regulations of the Commission. As appropriate, MMC may employ local environmental consultants and archaeologists to assist with planning. Local farmers may also be employed for restoring cropland to tillable condition following construction. MMC is proud of its safety record in the operation of facilities in North Dakota and is prepared to meet any emergency that should arise in order to minimize the impact of any pipeline failure.

### 4.5.2 LOCATION AND DESIGN

The existing gathering pipeline is located in Williams and Divide Counties, North Dakota. The Project would result in a transmission pipeline originating in Divide

County at the site of the planned DPS, located approximately 17 miles northwest of Alamo, ND. From the DPS the pipeline would extend in a south/southeasterly direction into Williams County to its terminus at the existing CRT, located north of Epping, ND. Please refer to the project maps provided in Appendix A.

One (1) pipeline will be converted from a crude oil gathering pipeline to a crude oil transmission pipeline. To complete this conversion two-(2) block valves will be installed at each terminus and the pressure of the pipeline will be increased to raise the throughput capacity. These above ground appurtenances will be installed within the facility boundaries of the planned DPS and existing CRT.

### 4.5.3 TRAINING AND UTILIZATION OF AVAILABLE LABOR IN THIS STATE FOR THE GENERAL AND SPECIALIZED SKILLS REQUIRED

The Project will require minimal labor with a variety of backgrounds ranging from general laborers and welders to inspectors and engineers. MMC will draw upon the local labor force to supply project personnel. The workforce is anticipated to reach a peak of approximately 50 personnel.

### 4.5.4 ECONOMIES OF CONSTRUCTION AND OPERATION

The Project represents a total investment of approximately $3.5 million to be spent in Williams and Divide County, North Dakota on the conversion of the pipeline and appurtenant facilities. Once in-service, the continued costs of maintenance and operation of the proposed pipeline are expected to be minimal.

### 4.5.5 USE OF CITIZEN COORDINATING COMMITTEES

Through its corporate presence in the region (local office in Stanley), MMC has established and maintains a good relationship with the local community officials and the local population. These relationships provide multiple grass roots communication channels to inform local residents regarding the developments associated with the Project.

### 4.5.6 COMMITMENT OF A PORTION OF THE TRANSMITTED PRODUCT FOR USE IN THIS STATE

The proposed Project will interconnect with planned and existing facilities. The products currently handled, transferred, and shipped at these facilities are currently delivered to markets located in and out of the state.

### 4.5.7 LABOR RELATIONS

MMC maintains positive labor relations with its staff and contract work force and does not anticipate encountering any adverse labor relations on this Project. The labor market in the region is generally supportive of the oil and gas industry.

### 4.5.8 THE COORDINATION OF FACILITIES

MMC owns and operates all of the affected facilities; thus, coordination will be seamless and executed from within MMC's internal management systems.

### 4.5.9 MONITORING OF IMPACTS

MMC has operated pipeline gathering and associated facilities in the area since February of 2013. Through these operations has established and maintained positive landowner and community relationships throughout the region. MMC's operations

reflect its commitment to corporate citizenship standards founded on integrity. MMC will monitor landowner concerns, if any, through its Land Department and will respond to all reasonable concerns. Similarly, MMC will monitor community concerns and will respond to all reasonable concerns brought to its attention by local community leaders. MMC is currently in the process of selecting a primary contractor for the construction of the Project, and will coordinate with this contractor with respect to the oversight responsibilities for construction activities. Environmental responsibilities shall be coordinated in the same manner.

### 4.5.10 UTILIZATION OF EXISTING AND PROPOSED ROW AND CORRIDORS

Approximately half of the gathering pipeline is collocated with other utilities and roadway right-of-way. The Project will utilize an existing gathering pipeline and convert it to a transmission asset by increasing the pressure and thus the throughput capacity of the pipeline.

### 4.5.11 OTHER EXISTING OR PROPOSED TRANSMISSION FACILITIES

### 4.5.12 OTHER EXISTING OR PROPOSED TRANSMISSION FACILITIES

The Divide Lateral Project was designed to transport a maximum of 45,000 bpd of product to the CRT for distribution throughout the United States and Canada. Market conditions and demand for transmission capacity will be taken into consideration when evaluating future development timing. MMC's Ten-Year Plan can be found in Appendix E.

# SECTION 5: MITIGATIVE MEASURES

## 5.1 LOCATION

The location of the proposed Route is a function of the locations of the planned DSP and the existing CRT, as well as the existing gathering pipeline. Utilizing the existing gathering pipeline and repurposing it as a transmission pipeline eliminates the need for a large-scale pipeline construction project thus minimizing impacts throughout the project area.

**Trees and shrubs:** MMC shall comply with the Commission's tree and shrub mitigation specifications. As there will be no ground-disturbing construction activities outside of MMC facilities associated with the Project, there will be no clearing or removal of trees or shrubs.

**Wetlands and Waterbodies:** As there will be no ground-disturbing construction activities outside of MMC facilities associated with the Project, no wetlands and waterbodies will be impacted.

**Migratory Bird Treaty Act:** MMC, in the interest of maintaining full compliance with the Migratory Bird Treaty Act (MBTA) consulted with the USFWS on March 6, 2014. Agency response is pending. However, given there will be no construction-related activities associated with the Project, MMC will avoid direct impacts to breeding birds

To mitigate potential adverse effects on nesting and breeding eagles, the USFWS generally recommends maintaining a nest buffer of at least 0.5 miles for any eagles nesting in the area. MMC will work with the USFWS as necessary if an eagle nest is identified within 0.5 miles of the proposed pipeline route.

**Cultural Resources**: On February 12, 2014 and February 28, 2014, MMC received concurrence of *No Significant Sites Affected* for the Project from the SHPO, provided there are no changes to the nature or location of the proposed Project. Resources identified during field surveys are summarized below. As there will be no ground-disturbing activities outside of MMC planned or existing facilities, no further mitigation for these sensitive resources is required.

## 5.2 CONSTRUCTION

No ground-disturbing activities will take place outside of the confines of the planned DSP and the exiting CRT. Conversion of the gathering lines to a fully functioning transmission line is estimated to require approximately four (4) weeks.

## 5.3 OPERATION

Once constructed and put into service, the proposed Project will operate continuously delivering crude oil from the proposed DSP to the existing CRT. Normal pipeline operations are imperceptible to the public, as they are silent, buried and therefore not visible, and require only minimal aboveground activity. Standard operating procedures will conform to DOT standards and requirements and as such, periodic inspection and maintenance of the right-of-way will be required.

**Noxious Weeds:** area within the survey corridor is comprised of oil well pads, gravel roads, State Highway and residential properties. As there are no ground-disturbing activities associated with this Project outside of planned or existing MMC facilities, the risk of furthering the spread of noxious weeds is minimal.

## SECTION 6: DESCRIPTION OF RIGHT-OF-WAY PREPARATION, CONSTRUCTION AND RECLAMATION PROCEDURES

No construction-related activities will take place outside of footprint of MMC'S properties at the planned DSP and the existing CRT. No new right-of-way clearing or development will be necessary; as such, there will be no surveying, staking, clearing, grading, trenching, pipe stringing, pipe bending, welding, coating, lowering in, tie-ins outside of those at the termini at the proposed DSP and CRT, backfilling, rough grading, or final restoration activities (*e.g.*, topsoil replacement, final grading, seeding and mulching).

# SECTION 7: EASEMENT, ACQUISITION, LANDOWNER NOTIFICATION AND EASEMENT COMPENSATION PLAN

## 7.1 LANDOWNER INFORMATION REGARDING EASEMENT ACQUISITION, AND NECESSARY EASEMENT CONDITIONS AND RESTRICTIONS

The Project is the conversion of existing gathering line into a crude oil transmission line. As such, no new easements and no additional acquisition of property or rights-of-way will be required.

## 7.2 COMPENSATION POLICY

MMC'S practice for determining landowner compensation for easements is based on research of comparable fair market pricing and prior experience negotiating easements locally. The Project will not require any additional landowner compensation.

## SECTION 8: LIST OF PREPARERS

**John Millar**

Vice President-Liquids Group
Summit Midstream

Mr. Millar is Vice President, Liquids Group for Summit Midstream and is responsible for developing liquid pipeline commercial opportunities and for managing Summit's liquid pipeline assets. Prior to joining Summit Midstream, Mr. Millar was Vice President and General Manager of Genesis Energy, L.P.'s pipeline, terminal, and trucking businesses, responsible for improving safety, operating efficiency, and service quality and for developing growth projects involving liquid pipeline facilities, marine terminals, rail facilities, and truck stations. Prior to joining Genesis, Mr. Millar held numerous positions in engineering, project management, field operations, control center operations, joint ventures, and business development for Chevron Pipe Line Company, EOTT Energy, Unocal Corporation, and Enbridge Energy Partners. Mr. Millar has over 28 years of experience in nearly all aspects of the oil pipeline industry and holds BS and MS degrees in Civil Engineering from the University of California and an MBA from the University of Houston. Mr. Millar is a licensed Civil Engineer in the State of California.

**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, in this role conducts, and coordinates field studies, agency consolations, mitigation and avoidance plans.

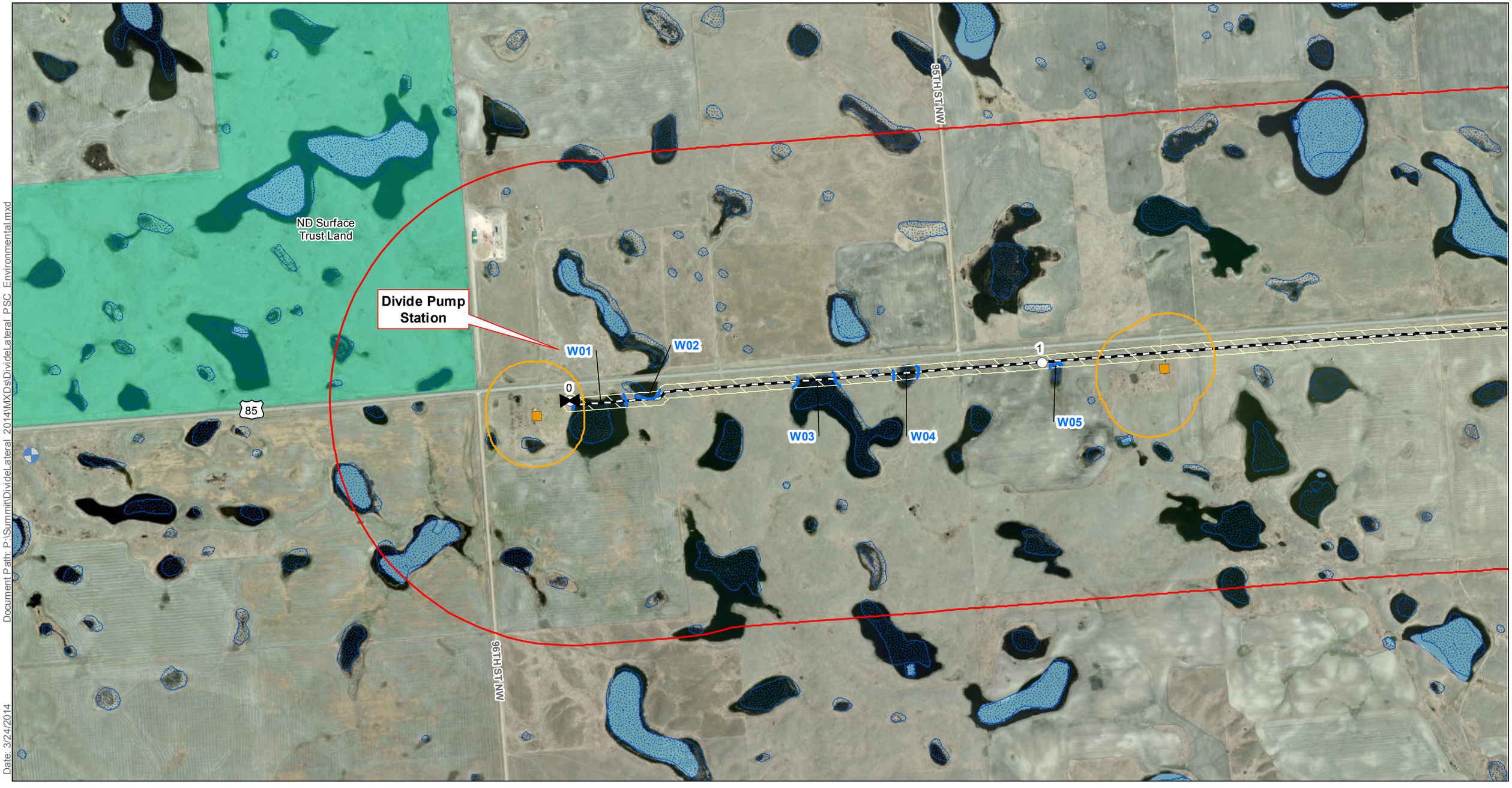
**Katie Schmidt, EIT**

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

B.S. Civil Engineering with an emphasis in Environmental Engineering-Iowa State University. Ms. Schmidt is a Senior Environmental Consultant with 8 years of experience working with various energy assets and regulatory agencies. As a consultant, she has managed multiple pipeline projects supporting clients through the construction permitting and siting processes, which included coordination with various federal, state and local agencies.

# Appendix A

Project Maps

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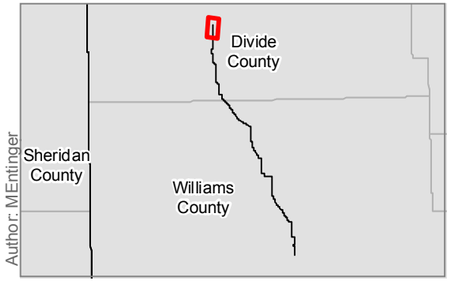
Date: 3/24/2014

Author: MEntinger




- Centerline
- Milepost
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- Valve (Planned)
- Inventory Corridor (150ft)
- Surveyed Wetland Border
- Corridor (1 mile)
- NHD Stream
- NHD Waterbody
- NWI Wetland
- NDWC Well
- Occupied Structure
- Occupied Structure 500ft Buffer
- Federal Land
- State Land

E3 Environmental
Enhancing Execution with Experience

0 500 1,000 2,000 Feet

1:12,000

Map not to scale, for environmental review purposes only.

# Meadowlark Midstream Company, LLC

Divide Lateral
Siting Criteria
Environmental Resources



Divide and Williams Counties, ND


Document Path: P:\Summit\DivideLateral_2014\MXDs\DivideLateral_PSC_Environmental.mxd

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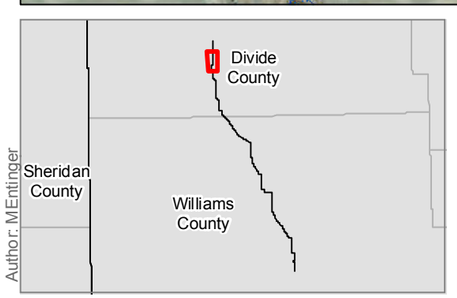
Author: MEntinger

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E3 Environmental — Enhancing Execution with Experience

0 500 1,000 2,000 Feet

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# Meadowlark Midstream Company, LLC

Divide Lateral
Siting Criteria
Environmental Resources



Divide and Williams Counties, ND

Divide County Waterfowl Production Area

ND Surface Trust Land

91ST ST NW

135TH AVE NW

85

W16

W17

W18

W19

W20

W21

5

6

7

90TH ST NW

88TH ST NW

85

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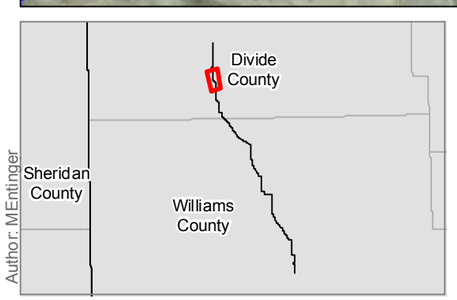


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# Meadowlark Midstream Company, LLC

Divide Lateral
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Environmental Resources



Divide and Williams Counties, ND

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Bureau of Land Management Lands

87TH ST NW

135TH AVE NW

ND Surface Trust Land

86TH ST NW

85

W21

W22

W23

W24

8

9

10

Divide County

Sheridan County

Williams County

Centerline

Milepost

Valve (Existing)

Valve (Planned)

Inventory Corridor (150ft)

Surveyed Wetland Border

Corridor (1 mile)

NHD Stream

NHD Waterbody

NWI Wetland

NDWC Well

Occupied Structure

Occupied Structure 500ft Buffer

Federal Land

State Land

E3 Environmental
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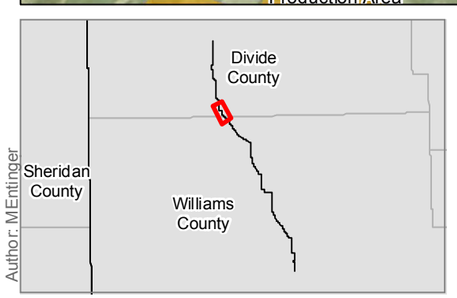


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E3 Environmental
Enhancing Execution with Experience

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# Meadowlark Midstream Company, LLC

Divide Lateral
Siting Criteria
Environmental Resources



Divide and Williams Counties, ND

Blue Ridge Wildlife Management Area

133RD AVE NW

61ST ST NW

14

15

16

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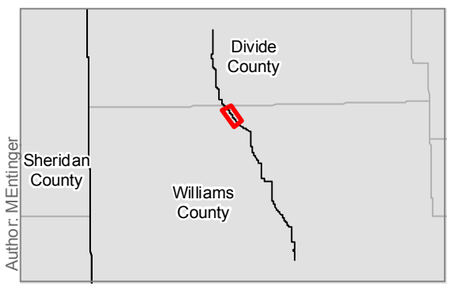


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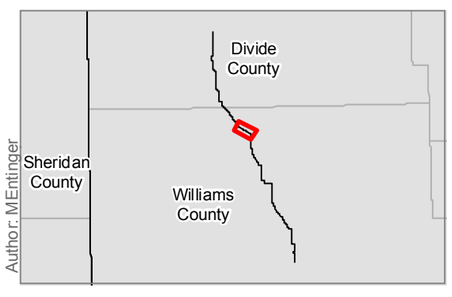


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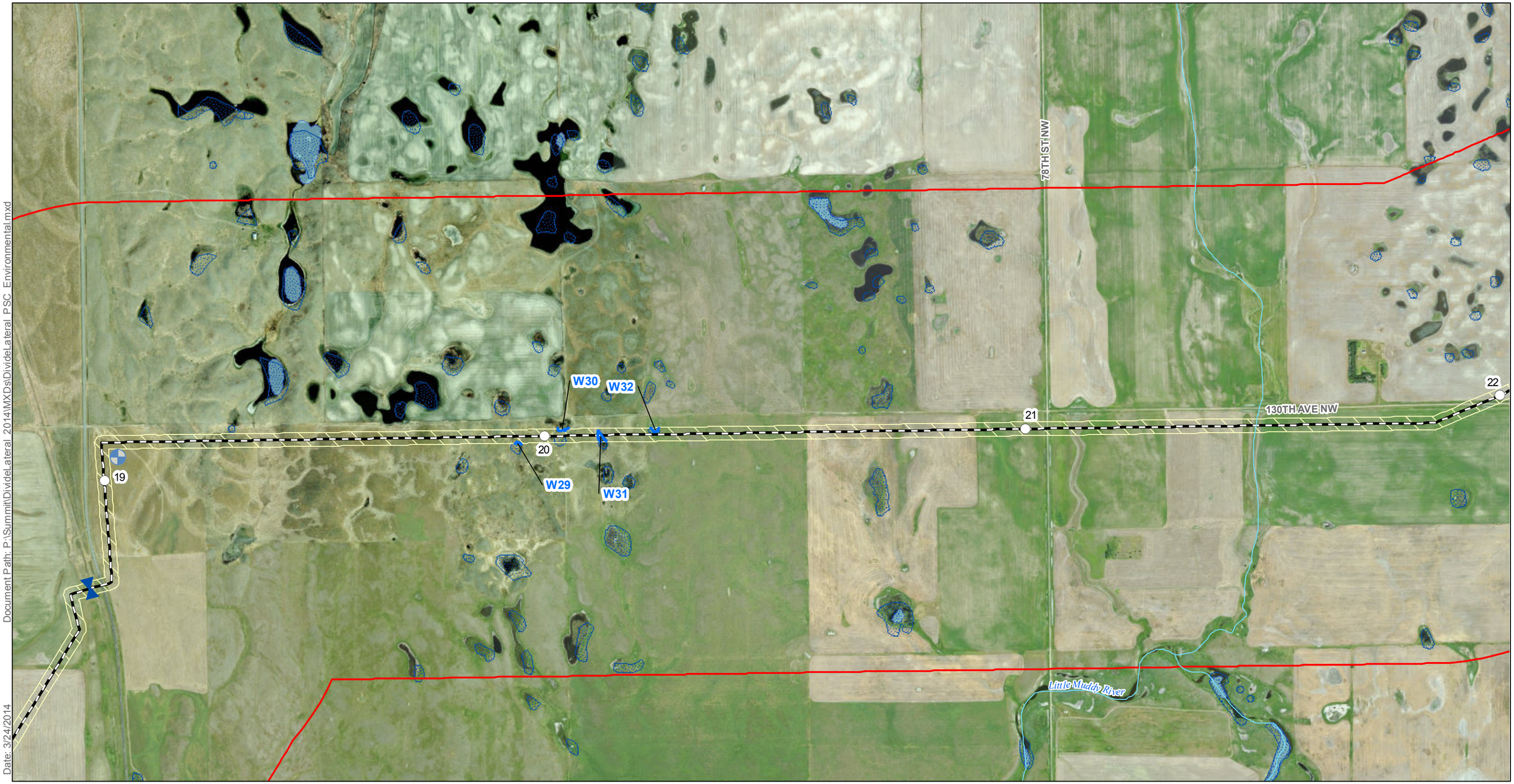
Divide and Williams Counties, ND

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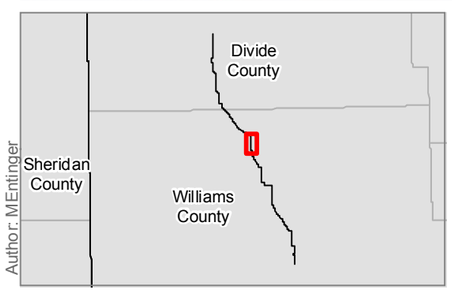


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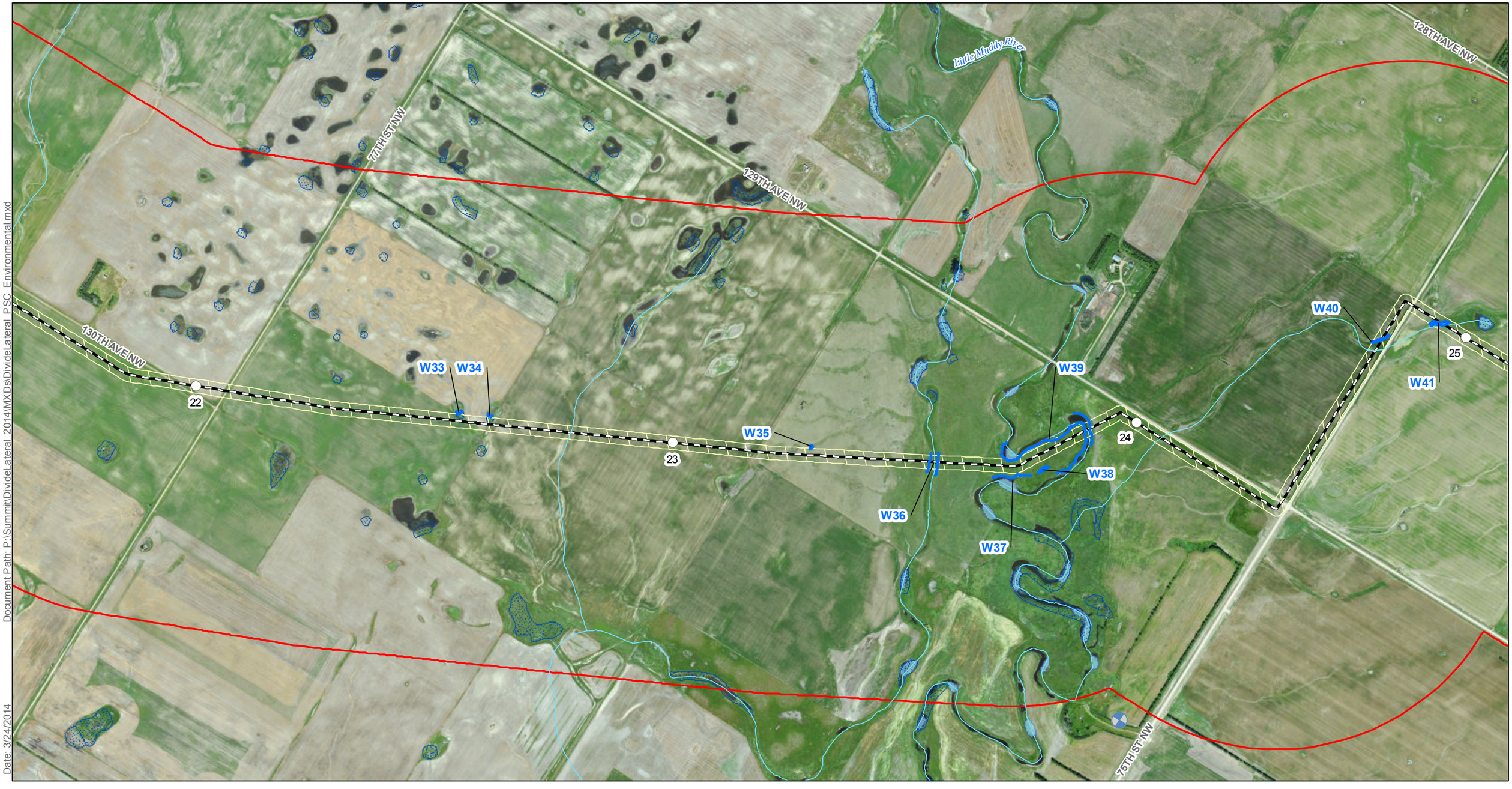
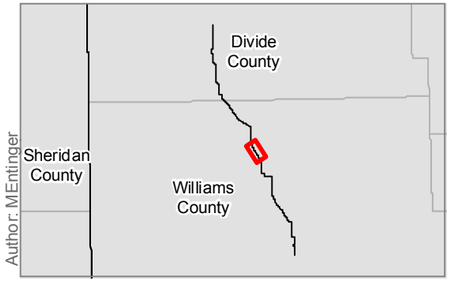
Divide and Williams Counties, ND




Centerline
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E3 Environmental
Enhancing Execution with Experience

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# Meadowlark Midstream Company, LLC

Divide Lateral
Siting Criteria
Environmental Resources



Divide and Williams Counties, ND

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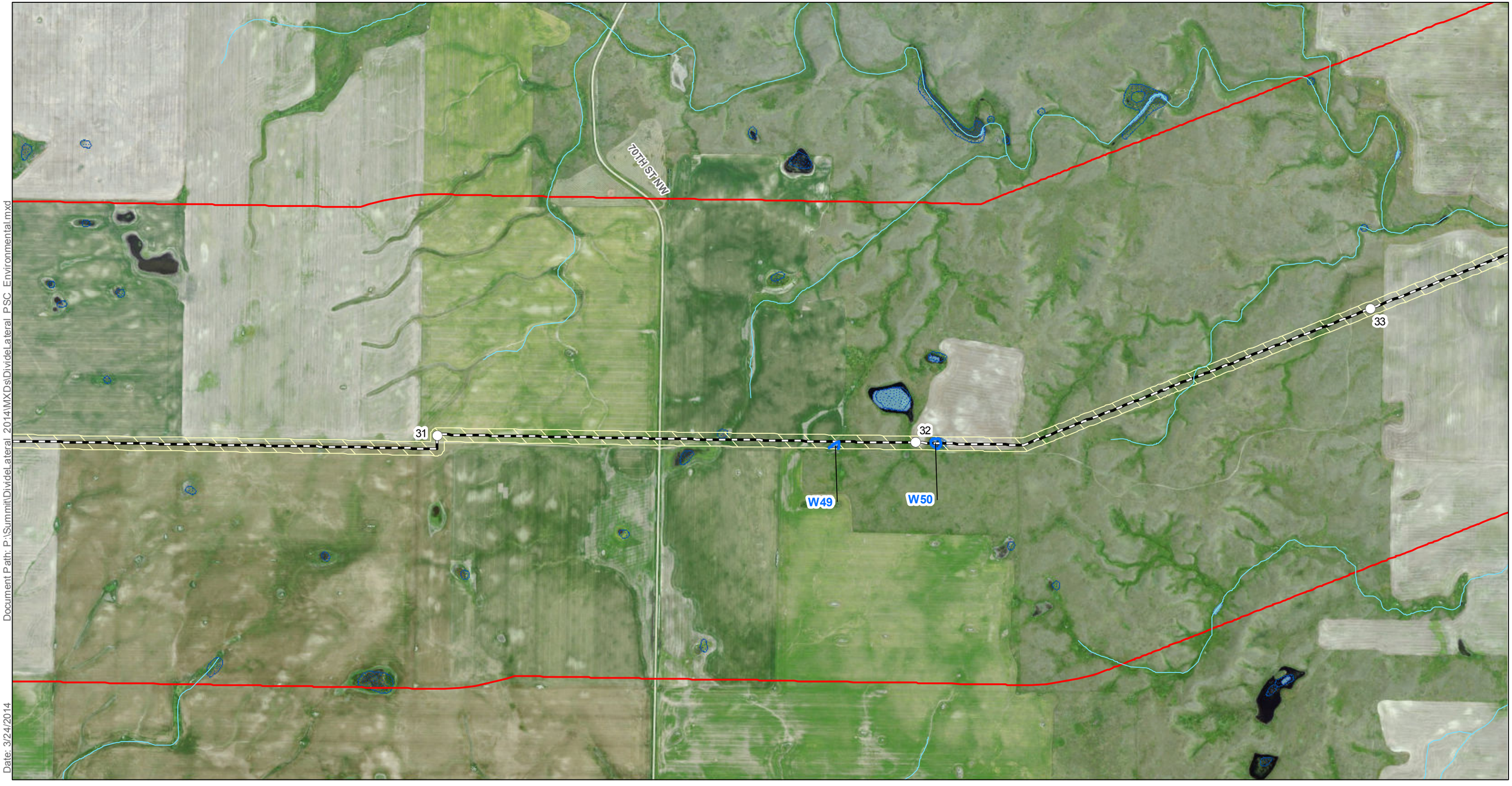
Divide and Williams Counties, ND

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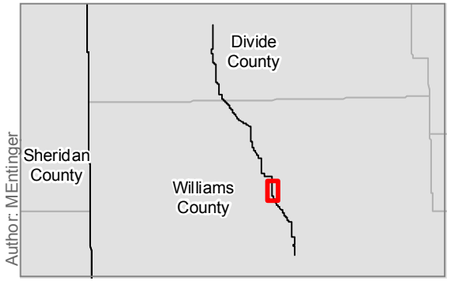


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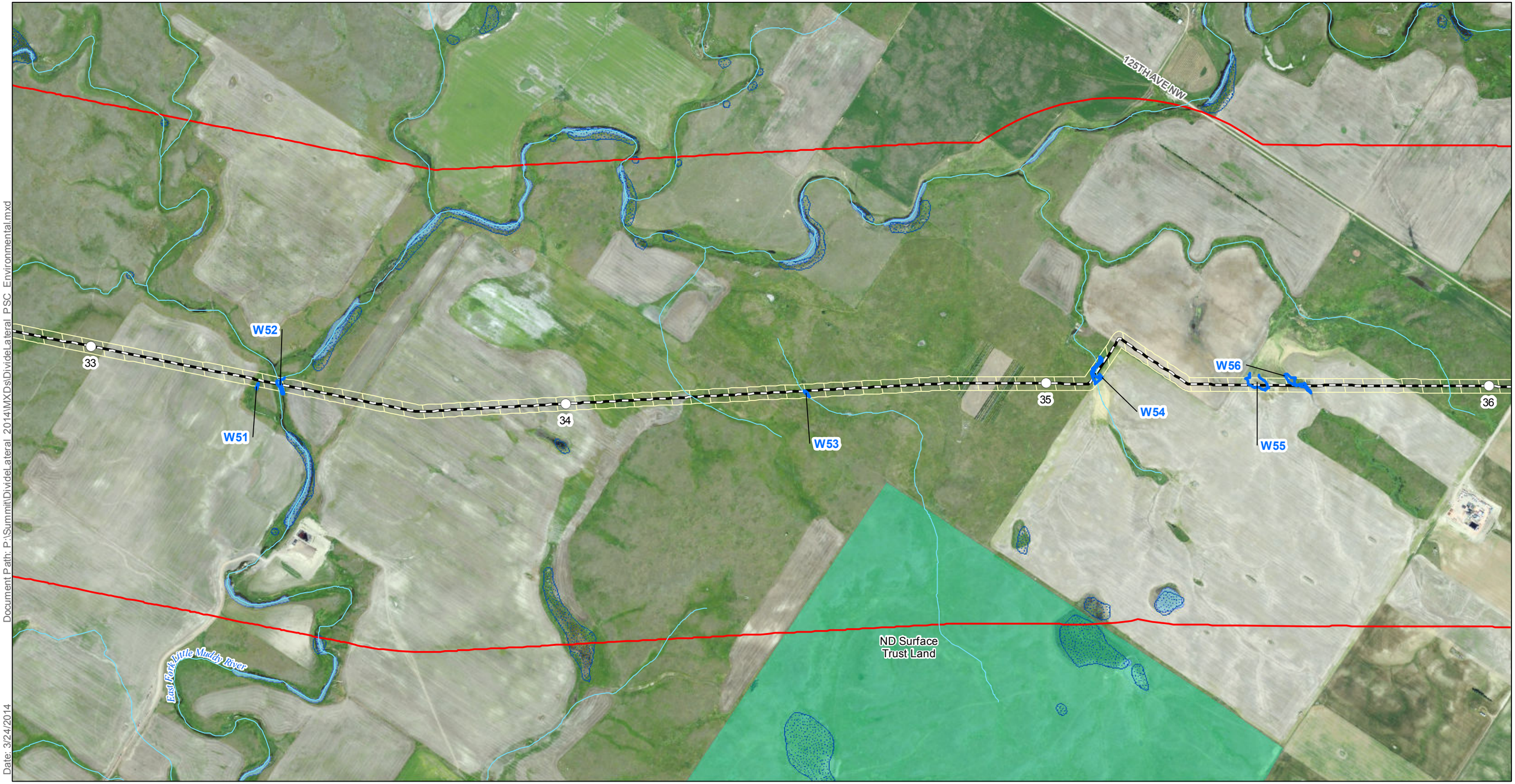
# Meadowlark Midstream Company, LLC

Divide Lateral
Siting Criteria
Environmental Resources



Divide and Williams Counties, ND

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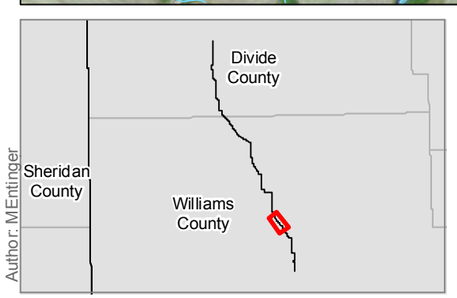


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Enhancing Execution with Experience

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# Meadowlark Midstream Company, LLC

Divide Lateral
Siting Criteria
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Divide and Williams Counties, ND

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East Fork Little Muddy River

125TH AVE NW

126TH AVE NW

65TH ST NW

128TH AVE NW

W57

W58

W59

W60

W61

W62

W63

W64

W65

36

37

38

39

2

Divide County

Sheridan County

Williams County

Centerline

Milepost

Valve (Existing)

Valve (Planned)

Inventory Corridor (150ft)

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Corridor (1 mile)

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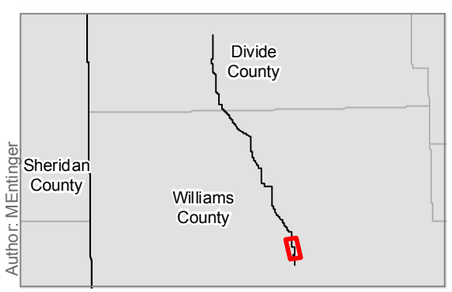


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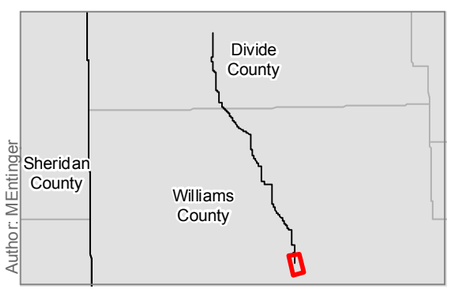


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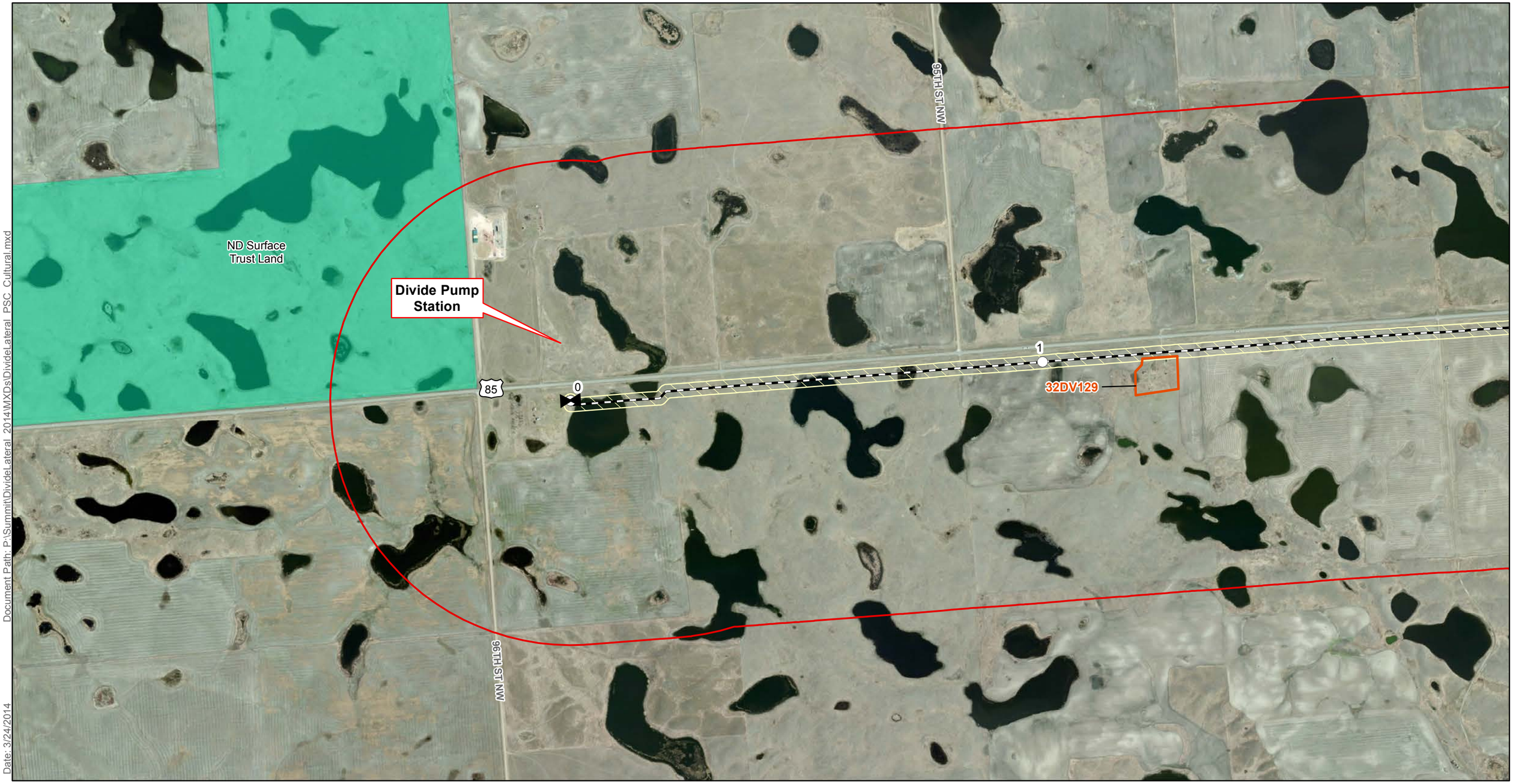
Divide and Williams Counties, ND

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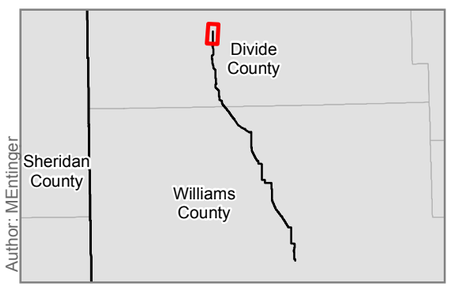


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- Inventory Corridor
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- File Search Isolated Find
- File Search Site Boundary
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E3 Environmental — Enhancing Execution with Experience

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# Meadowlark Midstream Company, LLC

Divide Lateral

Siting Criteria

Cultural Resources

**Page 1 of 16**

Divide and Williams Counties, ND

Divide County Waterfowl Production Area

93 1/2 ST NW

93RD ST NW

85

2

3

4

32DVx175

32DVx176

92ND ST NW

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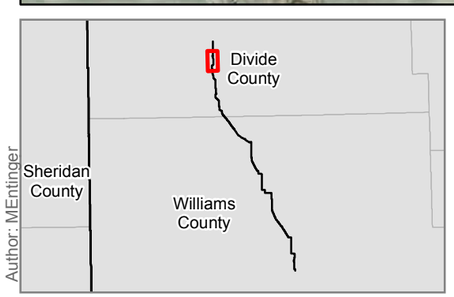


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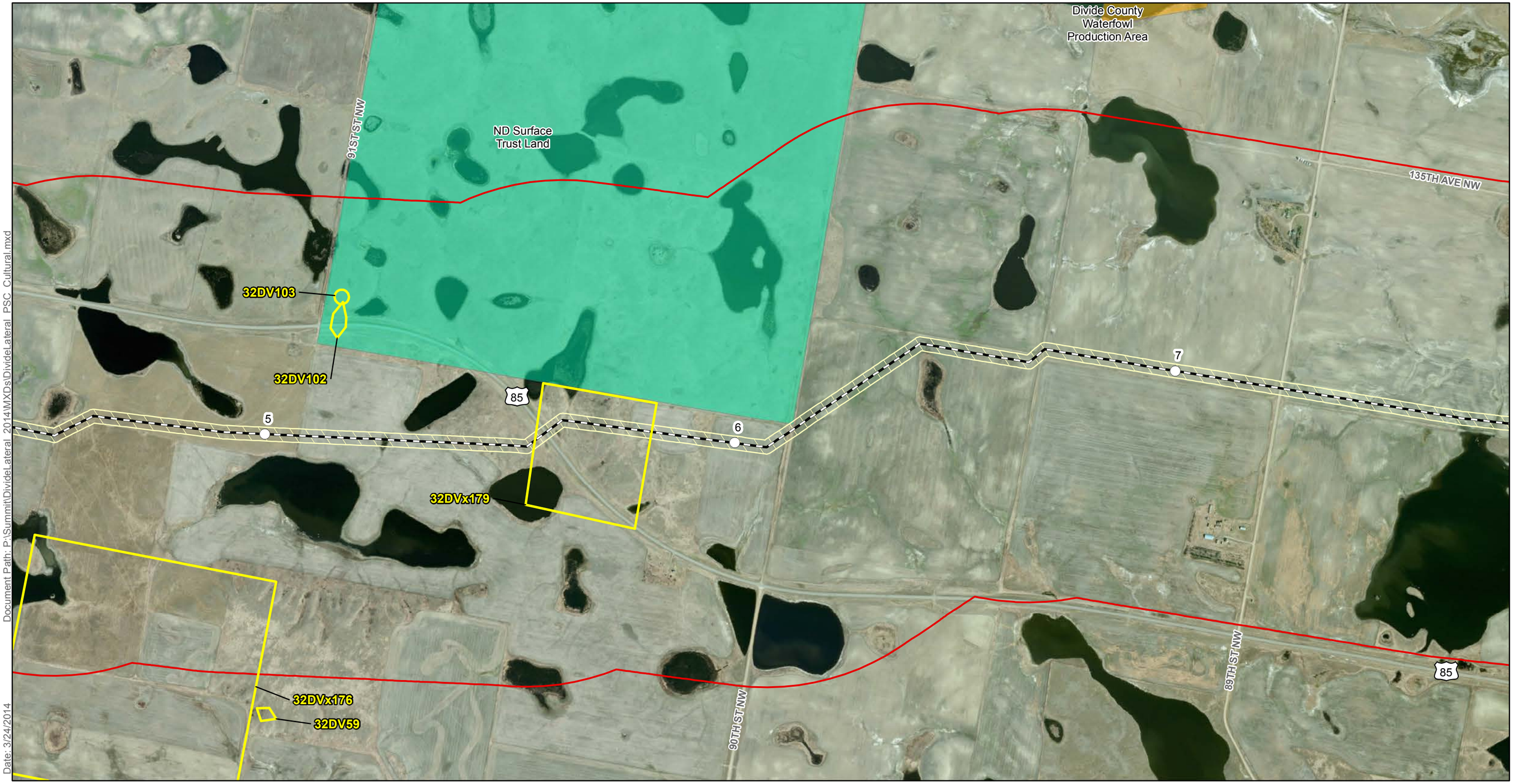
Divide Lateral
Siting Criteria
Cultural Resources



Divide and Williams Counties, ND

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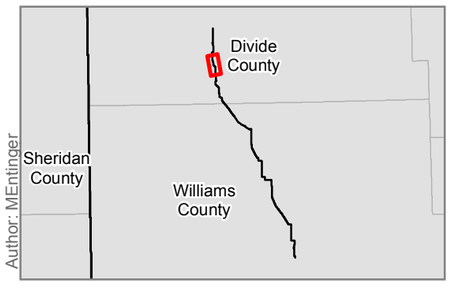


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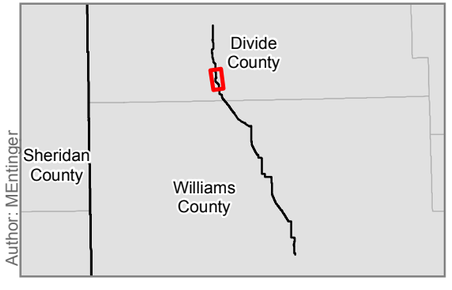


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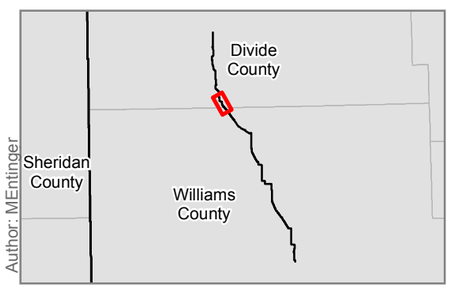


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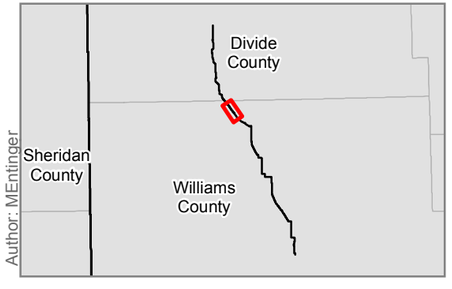
Date: 3/24/2014

Author: MEntinger

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- File Search Site Boundary
- Corridor (1 mile)
- Federal Land
- State Land

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Map not to scale, for environmental review purposes only.

# Meadowlark Midstream Company, LLC

Divide Lateral
Siting Criteria
Cultural Resources

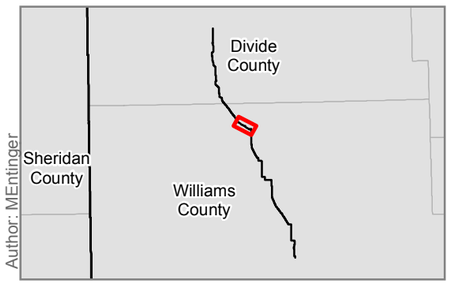


Divide and Williams Counties, ND


Document Path: P:\Summit\DivideLateral_2014\MXDs\DivideLateral_PSC_Cultural.mxd

Date: 3/24/2014

Author: MEntinger

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# Meadowlark Midstream Company, LLC

Divide Lateral
Siting Criteria
Cultural Resources



Divide and Williams Counties, ND

78TH ST NW

130TH AVE NW

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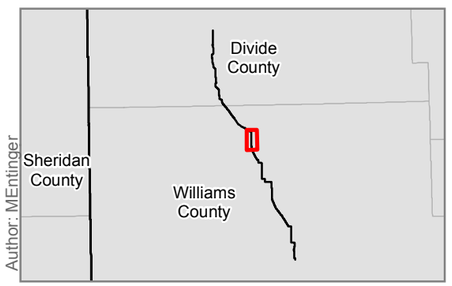
Document Path: P:\Summit\DivideLateral_2014\MXDs\DivideLateral_PSC_Cultural.mxd

Date: 3/24/2014

Author: MEntinger

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Cultural Resources



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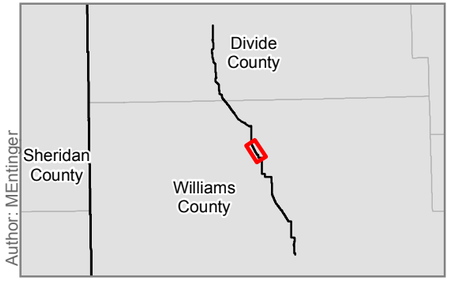


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Cultural Resources



Divide and Williams Counties, ND


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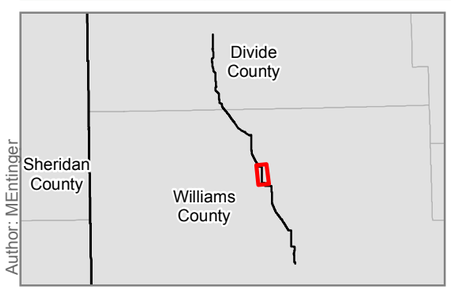


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E3 Environmental — Enhancing Execution with Experience

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# Meadowlark Midstream Company, LLC

Divide Lateral

Siting Criteria

Cultural Resources

**Page 10 of 16**

Divide and Williams Counties, ND


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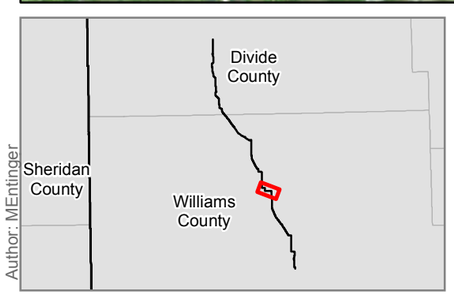
Date: 3/24/2014

Author: MEntinger

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E3 Environmental
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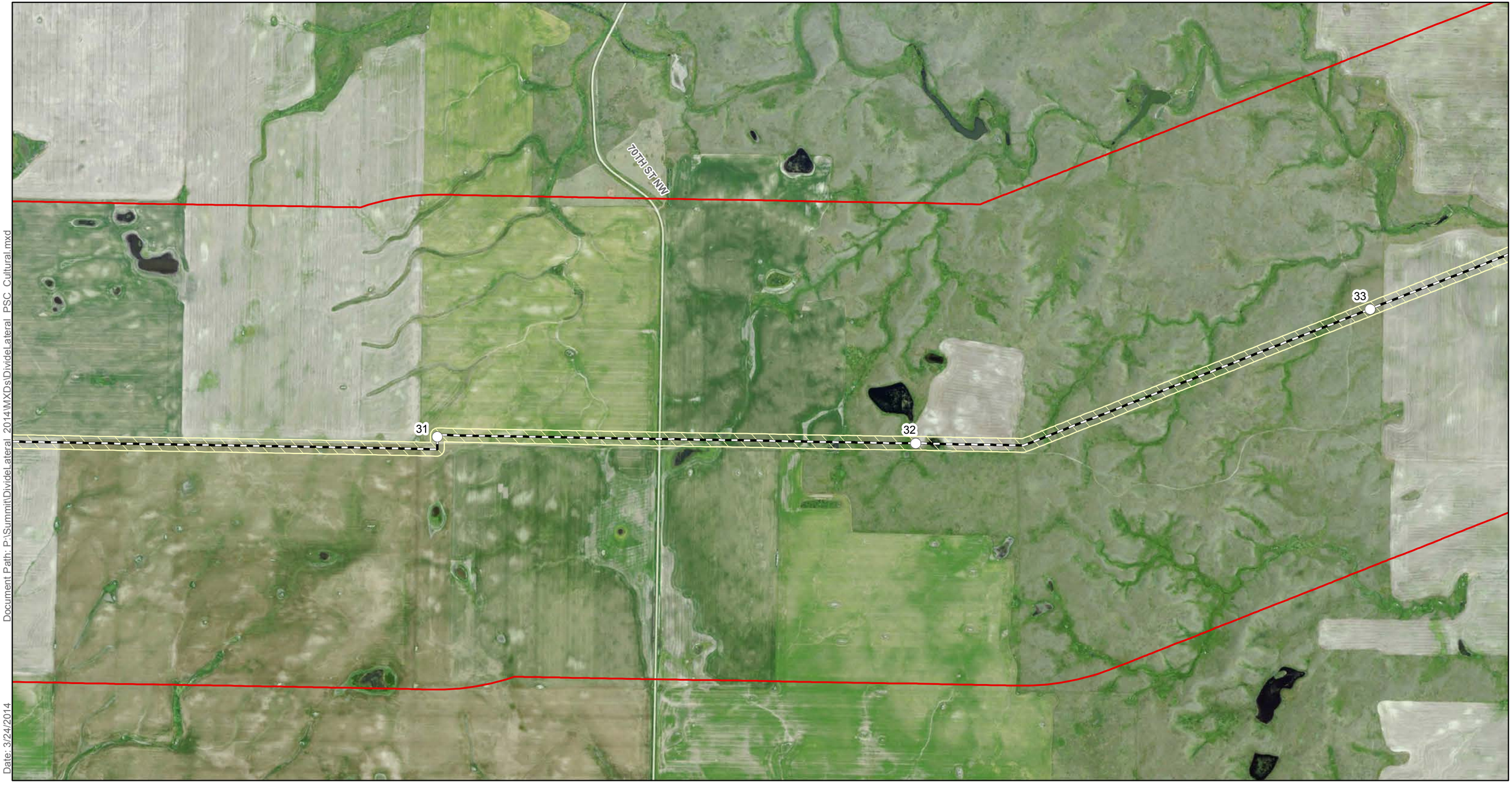
# Meadowlark Midstream Company, LLC

Divide Lateral
Siting Criteria
Cultural Resources



Divide and Williams Counties, ND

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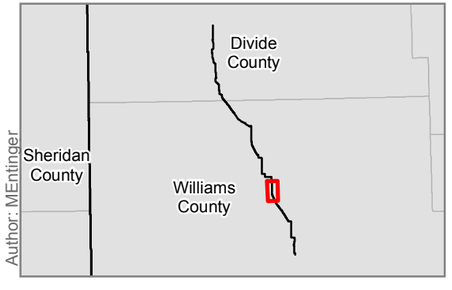
Author: MEntinger

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# Meadowlark Midstream Company, LLC

Divide Lateral
Siting Criteria
Cultural Resources



Divide and Williams Counties, ND


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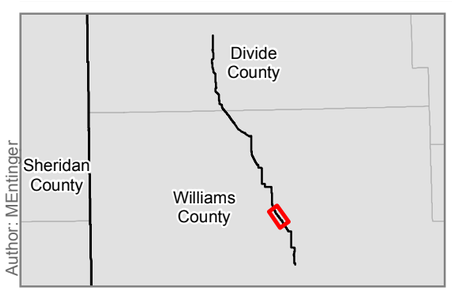


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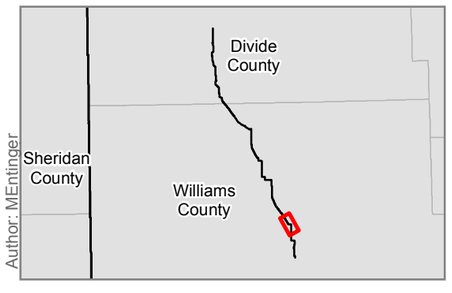


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Cultural Resources



Divide and Williams Counties, ND


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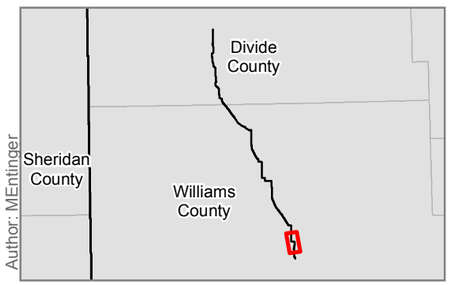


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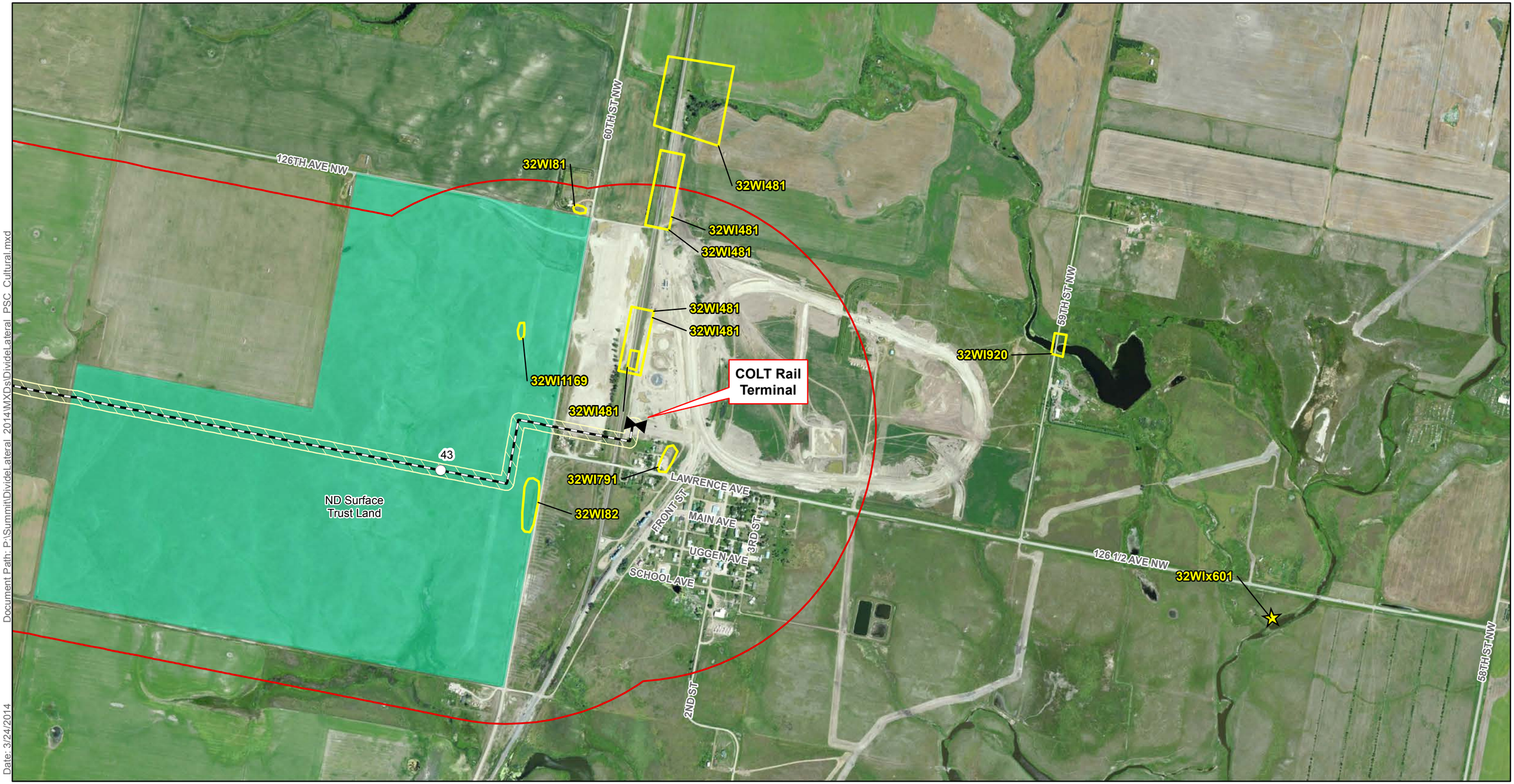
# Meadowlark Midstream Company, LLC

Divide Lateral
Siting Criteria
Cultural Resources



Divide and Williams Counties, ND

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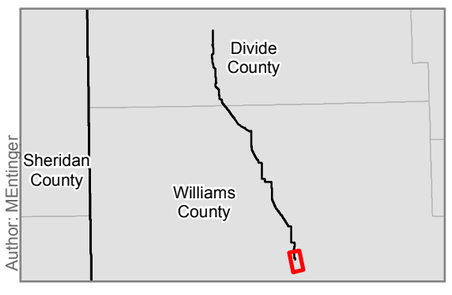
Author: MEntinger

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# Meadowlark Midstream Company, LLC

Divide Lateral

Siting Criteria

Cultural Resources



Divide and Williams Counties, ND

# Appendix B

Consultations

U.S. Fish and Wildlife Service

Consultation

## RECORD OF TELEPHONE CONVERSATION

| | |
|---|---|
| **Contact:** Jeffrey Towner, USFWS | |
| **Phone No:** (701) 250-4402 | |
| **Date:** 3/26/2014 | **Time:** 1:15pm |
| **Prepared By:** Lucas Bicknell | |
| **Subject:** Follow up call re: Consultation Request sent 3/6/2014 | |

Lucas Bicknell phone conversation with USWFS biologist. Consultation memo has been received and is with a biologist, however USFWS could not provide a timeline as to when the review would be complete, due to staff changes at the USFWS office. L. Bicknell will follow up in two weeks.

March 6, 2014

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

RE: Meadowlark Midstream Company, LLC – Divide Lateral Pipeline Project
State Conservation Priority Species Consultation, State Plots Land Review.

Meadowlark Midstream Company, LLC (MMC) has proposed the conversion of the Divide Lateral Pipeline to a crude oil transmission pipeline (Project). The Divide Lateral Pipeline covers a distance of approximately 43.5 miles commencing from its origin at the planned Divide Pump Station, extending in a south and southeasterly direction, terminating at the Colt Rail Terminal. All ground disturbing activities will be contained within existing facilities.

The proposed Project is described below and depicted on the attached maps.

In Divide County, North Dakota the pipeline crosses:

- Township 160N, Range 100W, Sections 4, 9, 16, 21, 22, 27 and 34
- Township 161N, Range 100W, Sections 2, 11, 14, 23, 26, and 35

In Williams County, North Dakota the pipeline crosses:

- Township 155N, Range 99W, Section 1
- Township 156N, Range 99W, Sections 1, 2, 12, 13, 24, 25, and 36
- Township 157N, Range 98W, Sections 30 and 31
- Township 157N, Range 99W, Sections 2, 11, 12, 13, 24, and 25
- Township 158N, Range 99W, Sections 4, 5, 9, 15, 16, 22, 27, 34, and 35
- Township 159N, Range 99W, Sections 19, 20, 29, and 32
- Township 159N, Range 100W, Sections 2, 3, 11, 12, 13, and 24

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 (PSC) siting requirements for Energy Transmission Facility Siting. Yellowfield Biological Surveys, LLC conducted a Biological Assessment for the project dated October, 2013. This request has been prepared to augment that effort and facilitate a thorough project review.

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St. Paul, MN 55102

**Federally Listed Species Analysis:**

The results of the biological assessment dated October, 2013 and review of the USFWS IPaC database on February 4, 2014 found the following:

**Federally Listed Species**
Whooping crane (*Grus americana*) – Endangered
Interior least tern (*Sternula antillarum*) – Endangered
Pallid sturgeon (*Scaphirhynchus albus*) – Endangered
Gray wolf (*Canis lupus*) – Endangered
Black-footed ferret (Mustela nigripes) – Endangered
Piping plover (*Charadrius melodus*) – Threatened
Designated Critical Habitat – Missouri River
Western Prairie Fringed Orchid (Platanthera praeclara) – Threatened

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. The proposed project will not result in a loss of crane habitat. Pipeline construction involves temporary impacts, with a post-construction restoration standard of restoring disturbed areas to their original pre-construction condition. Potential impacts are anticipated to be limited to the time period during active construction should it coincide with the spring migration period. Spring migration by the Aransas/Wood Buffalo population from the Texas Gulf Coast begins between the end of March and mid-April, with the last birds generally leaving Texas by the first of May. Experienced breeders are among the first to arrive in Canadian nesting areas in late April, with the rest of the birds arriving throughout the following 6-8 weeks.

Project precautionary measures would be implemented if a whooping crane is sighted in or near the project area. MMC 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 pipeline is a buried utility and will not have a direct impact on this species. As a result, the proposed pipeline would have **no effect** on the species.

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 in colonies, utilizing sandbar habitat common to larger rivers. Regionally the Missouri River is known to host remnant breeding populations of terns. The project is approximately 14 miles north of the Missouri River, and therefore will have **no effect** on the species.

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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. Portions of the Missouri River are thought to provide the required habitat for the pallid sturgeon though much of the habitat has been compromised due to channelization, installation of impoundments and altered flow regimes. The project is approximately 14 miles from the Missouri River and Lake Sakakewea, and therefore will have **no effect** on the species.

Gray wolf: Historical records show that wolf sightings are very rare within North Dakota. Sightings in proximity to the project have been reported in the Killdeer Mountains in Dunn County (Johnson 1999). The Killdeer Mountains are about 60 miles to the southeast of the survey area. Most wolves in North Dakota are likely dispersed animals that originated in northern Minnesota, Riding National Park or Spruce Woods Reserve, Manitoba. Currently, wolves are not known to inhabit the project area (Yellowfield, 2013). The proposed project will have **no effect** on the gray wolf.

Black-footed ferret: Black-footed ferrets were historically found in North Dakota, in the southwest quarter of North Dakota. However, it is likely that they have been extirpated from the state. Since the ferrets rely almost exclusively on prairie dogs for food and den sites, suitable black-footed ferret habitat is large prairie dog towns or complexes of towns in close proximity to each other.

The nearest population of black-footed ferrets is located 200 miles west of the Project area in the Charles M. Russell National Wildlife Refuge, near Glasgow, Montana. The nearest proposed area of reintroduction is 42 miles to the southwest of the proposed project, on the Little Missouri National Grasslands, USFS Management Area 3.63, Black-Footed Ferret Reintroduction Habitat. No black-footed ferrets have been introduced into the project area at this time. No historic prairie dog towns are in the project area (Yellowfield, 2013). Thus, the proposed project will have **no effect** on the black-footed ferret at this time.

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 project will intersect prairie pothole wetlands, some of which may be suitable alkali wetland *habitat*, particularly in low-water years. Total pipeline distance that intersects wetlands is less than one mile and shorelines and bars were not exposed during the field surveys due to high water. No records of piping plovers in the area were cited by the USFWS or North Dakota Parks and Recreation in consultations conducted for the biological assessment. No piping plovers were observed during field surveys for the Project (Yellowfield, 2013). The project is approximately 14 miles from the Missouri River. All construction will occur within the fence line of existing production plants. The

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proposed project will have **no effect** on piping plovers or designated critical habitat for the piping plover.

Western Prairie Fringed Orchid: The distribution of the western prairie fringed orchid in the Dakota Prairie Grasslands is limited to the Sheyenne National Grassland in southeastern North Dakota, approximately 270 miles southeast of the project area. The proposed project will have **no effect** on the western-fringed prairie orchid or its habitat.

**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. MMC 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). MMC 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. MMC also understands that in North Dakota, the breeding season is typically defined as occurring annually from February 1 through July 15.

E3 Environmental, LLC (E3) has been retained by MMC to provide environmental consulting support for this project. Should you have any questions or require additional information, please contact me at 651-282-0652 or kschmidt@go2e3.com.

Sincerely,

Katie Schmidt

Katie Schmidt, Senior Consultant
E3 Environmental, LLC
871 Jefferson Ave
St. Paul, MN 55102

Enclosures: Project map – USGS topographic
Project aerial photography

cc: E3 Project Files

Divide Pump Station

Divide County Waterfowl Production Area

Williams County Waterfowl Production Area

State Hwy 42

State Hwy 42

US Hwy 85

Lake Zahl National Wildlife Refuge

State Hwy 50

US Hwy 85

US Hwy 2

US Hwy 2

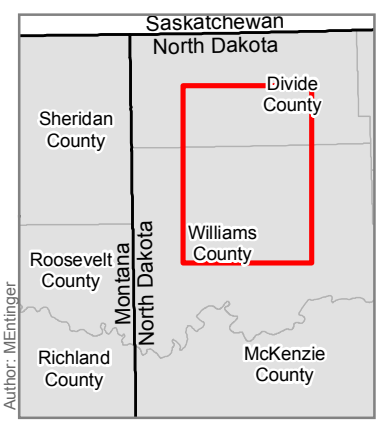
US Hwy 85

Colt Rail Terminal

Document Path: P:\Summit\DivideLateral_2014\MXDs\DivideLateral_AerialOverview_02042014.mxd

Date: 2/26/2014

Author: MEntinger




Pipeline

Valve

Corridor (1 Mile)

Federal Land

State Land

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Map not to scale, for environmental review purposes only.

# Meadowlark Midstream Company, LLC

## Divide Lateral Project

### Aerial Overview Map

Divide and Williams Counties, North Dakota

Divide Pump Station
US Hwy 85
State Hwy 42
State Hwy 50
US Hwy 2
Colt Rail Terminal
ROCK
ALEXANDRIA
BURG
PLUMER
FRAZIER
SIOUX TRAIL
SMOKY BUTTE
GARNET
FREDERICK
PALMER
DIVIDE CO
WILLIAMS CO
SCORIO
BLUE RIDGE
ROCK ISLAND
BIG STONE
HAZEL
ORTHELL
WINNER
ELLSVILLE
RAINBOW
NEW HOME

Saskatchewan
North Dakota
Divide County
Sheridan County
Williams County
Roosevelt County
Montana
North Dakota
Richland County
McKenzie County

Pipeline
Valve
Corridor (1 Mile)
Federal Land
State Land

E3 Environmental
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# Meadowlark Midstream Company, LLC

## Divide Lateral Project

### Topo Overview Map

Divide and Williams Counties, North Dakota

Author: MEntinger
Date: 2/26/2014
Document Path: P:\Summit\DivideLateral_2014\MXDs\DivideLateral_TopoOverview_02042014.mxd

U.S. Farm Service Agency

Consultation

USDA United States Department of Agriculture

FSA FARM SERVICE AGENCY

Divide County FSA Office
PO Box 269
Crosby, ND 58730-0269
Telephone: (701) 965-6001
Fax: (855) 353-9071

March 31, 2014

Katie Schmidt, EIT
E3 Environmental, LLC
871 Jefferson Avenue
St. Paul, Minnesota

Dear Ms, Schmidt,

This letter is in regards to your email request of March 6, 2014 in which you requested information regarding the location of CRP acreages in Williams and Divide County. This request has been assigned FOIA number 38-023-2014-000001.

Your request is being denied in full based on Exemption 6, 5 U.S.C. 552 (b)(6) unwarranted invasion of personal privacy and Exemption 3, 5 U.S..C. Section 552(b)(3) record specifically exempted from disclosure by Federal Statute, in this instance, Section 1619 (b) of the Food, Conservation and Energy Act of 2008 prohibits disclosure of information requested.

Appeals may be filed in writing to the Administrator, FSA at:

USDA/FSA
1400 Independence Ave. SW.
STOP 0501, Room 3086-S
Washington, DC 20250-0501.

Your appeal must be received by the Administrator within 45 days from the date of this letter and must state that it is an appeal for the above-described denial of a request made under FOIA. Please mark the envelope "FOIA APPEAL.

Sincerely,

Cliff Orgaard

Cliff Orgaard
County Executive Director

Cc: Corey Paryzek

## RECORD OF TELEPHONE CONVERSATION

| | |
|---|---|
| **Contact:** Corey Paryzek, Director, Farm Services Agency | |
| **Phone No:** (701) 572-6729 | |
| **Date:** 3/26/2014 | **Time:** 1pm |
| **Prepared By:** Lucas Bicknell | |
| **Subject:** Follow up call re: Consultation Request sent 3/6/2014 | |

Lucas Bicknell phone call with Corey Paryzek. C. Paryzek sent the consultation to State Office for the review; will follow up with them and get back to E3 regarding the status of their reply.

## Hannah Strong

**From:** Orgaard, Clifford - FSA, Crosby, ND <clifford.orgaard@nd.usda.gov>
**To:** Katie Schmidt
**Sent:** Thursday, March 06, 2014 2:33 PM
**Subject:** Read: MMC Divide Lateral Consultation Request-Farm Service Agency Managed Lands

Your message

To: Orgaard, Clifford - FSA, Crosby, ND
Subject: MMC Divide Lateral Consultation Request-Farm Service Agency Managed Lands
Sent: Thursday, March 06, 2014 2:31:25 PM (UTC-06:00) Central Time (US & Canada)

was read on Thursday, March 06, 2014 2:32:15 PM (UTC-06:00) Central Time (US & Canada).

## Hannah Strong

**From:** Katie Schmidt
**Sent:** Thursday, March 06, 2014 2:31 PM
**To:** corey.paryzek@nd.usda.gov; clifford.orgaard@nd.usda.gov
**Cc:** William McCarthy; Hannah Strong
**Subject:** MMC Divide Lateral Consultation Request-Farm Service Agency Managed Lands
**Attachments:** MMC_DivideLateral_ConsultationMaps_03062014_Reduced.pdf

Dear Mr. Paryzek,

Meadowlark Midstream Company, LLC (MMC) is planning to convert the Divide Lateral Pipeline from a gathering pipeline to a transmission pipeline. The existing gathering pipeline is approximately 43.5 miles long and originates in Divide County at the planned Divide Pump Station located approximately 17 miles northwest of Alamo, ND. From the Divide Pump Station the pipeline extends in a south/southeasterly direction into Williams County to its terminus at the existing Colt Rail Terminal located north of Epping, ND.

Ground disturbance for this project will be minimal and will occur only within the boundaries of the existing facilities at each terminus.

The proposed Project is described below and depicted on the attached maps.

In Divide County, North Dakota the pipeline crosses:

- Township 160N, Range 100W, Sections 4, 9, 16, 21, 22, 27 and 34
- Township 161N, Range 100W, Sections 2, 11, 14, 23, 26, and 35

In Williams County, North Dakota the pipeline crosses:

- Township 155N, Range 99W, Section 1
- Township 156N, Range 99W, Sections 1, 2, 12, 13, 24, 25, and 36
- Township 157N, Range 98W, Sections 30 and 31
- Township 157N, Range 99W, Sections 2, 11, 12, 13, 24, and 25
- Township 158N, Range 99W, Sections 4, 5, 9, 15, 16, 22, 27, 34, and 35
- Township 159N, Range 99W, Sections 19, 20, 29, and 32
- Township 159N, Range 100W, Sections 2, 3, 11, 12, 13, and 24

The purpose of this correspondence is to request a review of the proposed Project corridor (see attached) for the presence of lands that are enrolled in the Farm Service Agency's Conservation Reserve Program (CRP) or Grassland Reserve Program. This information will be included in a North Dakota Public Service Commission application for the Project.

E3 Environmental, LLC (E3) has been retained by MMC to provide environmental consulting support for this Project. Should you have any questions or require additional information, please contact me at 651-282-0652 or kschmidt@go2e3.com.

Sincerely,

**Katie Schmidt, EIT**

**Senior Consultant**
E3 Environmental, LLC
kschmidt@go2e3.com
O: 651.282.0652
M: 651.216.6881
871 Jefferson Avenue
St. Paul, MN 55102
www.go2e3.com

Divide Pump Station

Divide County Waterfowl Production Area

Williams County Waterfowl Production Area

State Hwy 42

State Hwy 42

US Hwy 85

Lake Zahl National Wildlife Refuge

State Hwy 50

US Hwy 85

US Hwy 2

US Hwy 2

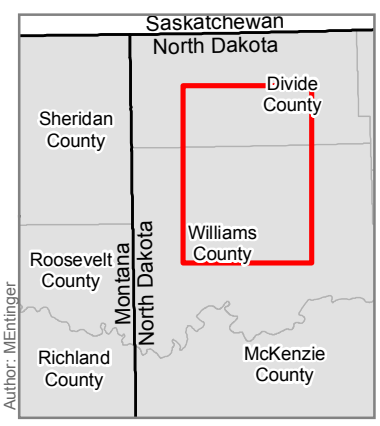
US Hwy 85

Colt Rail Terminal

Document Path: P:\Summit\DivideLateral_2014\MXDs\DivideLateral_AerialOverview_02042014.mxd

Date: 2/26/2014

Author: MEntinger




Pipeline

Valve

Corridor (1 Mile)

Federal Land

State Land

E3 Environmental
Enhancing Execution with Experience

N

0 1 2 4 Miles

1:175,000

Map not to scale, for environmental review purposes only.

# Meadowlark Midstream Company, LLC

## Divide Lateral Project

### Aerial Overview Map

Divide and Williams Counties, North Dakota

Divide Pump Station
US Hwy 85
State Hwy 42
State Hwy 50
US Hwy 2
Colt Rail Terminal
ROCK
ALEXANDRIA
BURG
PLUMER
FRAZIER
SIOUX TRAIL
SMOKY BUTTE
GARNET
FREDERICK
PALMER
DIVIDE CO
WILLIAMS CO
SCORIO
BLUE RIDGE
ROCK ISLAND
BIG STONE
HAZEL
ORTHELL
WINNER
ELLSVILLE
RAINBOW
NEW HOME

Saskatchewan
North Dakota
Divide County
Sheridan County
Williams County
Roosevelt County
Montana
North Dakota
Richland County
McKenzie County

Pipeline
Valve
Corridor (1 Mile)
Federal Land
State Land

E3 Environmental
Enhancing Execution with Experience

0 1 2 4 Miles

N

1:175,000

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# Meadowlark Midstream Company, LLC

## Divide Lateral Project

### Topo Overview Map

Divide and Williams Counties, North Dakota

Author: MEntinger
Date: 2/26/2014
Document Path: P:\Summit\DivideLateral_2014\MXDs\DivideLateral_TopoOverview_02042014.mxd

North Dakota Game and Fish Department

Consultation

"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 2, 2014

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

Dear Ms. Schmidt:

RE: Meadowlark Midstream Company — Divide Lateral Pipeline Project

Meadowlark Midstream Company, LLC is planning to convert the existing 43.5 mile Divide Lateral Pipeline from a gathering pipeline to a transmission pipeline.

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, provided disturbed areas were reclaimed to pre-project conditions after construction.

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,

Steve Dyke

(for) Greg Link
Chief
Conservation & Communication Division

js

## RECORD OF TELEPHONE CONVERSATION

| | |
|---|---|
| **Contact:** Steve Dyke, ND Game and Fish | |
| **Phone No:** (701) 328-6331 | |
| **Date:** 3/27/2014 | **Time:** 9am |
| **Prepared By:** Lucas Bicknell | |
| **Subject:** Follow up call re: Consultation Request sent 3/6/2014 | |

Lucas Bicknell received call from Steve Dyke at NDGAF. They expect to issue response on April 1, 2014.

## RECORD OF TELEPHONE CONVERSATION

| | |
|---|---|
| **Contact:** Greg Link, ND Game and Fish | |
| **Phone No:** (701) 328-6331 | |
| **Date:** 3/26/2014 | **Time:** 1:05pm |
| **Prepared By:** Lucas Bicknell | |
| **Subject:** Follow up call re: Consultation Request sent 3/6/2014 | |

L. Bicknell left message with G. Link re: confirmation of receipt of consultation memo and status of agency review.

3/6/2014

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

Dear Mr. Link,

RE: Meadowlark Midstream Company – Divide Lateral Pipeline Project
State Conservation Priority Species Consultation, State Plots Land Review.

Meadowlark Midstream Company, LLC (MMC) is planning to convert the Divide Lateral Pipeline from a gathering pipeline to a transmission pipeline. The existing gathering pipeline is approximately 43.5 miles long and originates in Divide County at the planned Divide Pump Station located approximately 17 miles northwest of Alamo, ND. From the Divide Pump Station the pipeline extends in a south/southeasterly direction into Williams County to its terminus at the existing Colt Rail Terminal located north of Epping, ND.

The proposed Project is described below and depicted on the attached maps.

In Divide County, North Dakota the pipeline crosses:

- Township 160N, Range 100W, Sections 4, 9, 16, 21, 22, 27 and 34
- Township 161N, Range 100W, Sections 2, 11, 14, 23, 26, and 35

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- Township 155N, Range 99W, Section 1
- Township 156N, Range 99W, Sections 1, 2, 12, 13, 24, 25, and 36
- Township 157N, Range 98W, Sections 30 and 31
- Township 157N, Range 99W, Sections 2, 11, 12, 13, 24, and 25
- Township 158N, Range 99W, Sections 4, 5, 9, 15, 16, 22, 27, 34, and 35
- Township 159N, Range 99W, Sections 19, 20, 29, and 32
- Township 159N, Range 100W, Sections 2, 3, 11, 12, 13, and 24

The purpose of this correspondence is twofold: to request a review of the proposed Project 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 pipeline corridor (see attached). This information will be included in a North Dakota Public Service Commission application for the Project.

E3 ENVIRONMENTAL
871 Jefferson Avenue
St. Paul, MN 55102

E3 Environmental, LLC (E3) has been retained by MMC to provide environmental consulting support for this Project. Should you have any questions or require additional information, please contact me at 651-282-0652 or kschmidt@go2e3.com.

Sincerely,

Katie Schmidt

Katie Schmidt, Senior Consulant
E3 Environmental, LLC
871 Jefferson Ave
St. Paul, MN 55102

Enclosures: Project map

cc:
E3 Project Files

Divide Pump Station

Divide County Waterfowl Production Area

Williams County Waterfowl Production Area

State Hwy 42

State Hwy 42

US Hwy 85

Lake Zahl National Wildlife Refuge

State Hwy 50

US Hwy 85

US Hwy 2

US Hwy 2

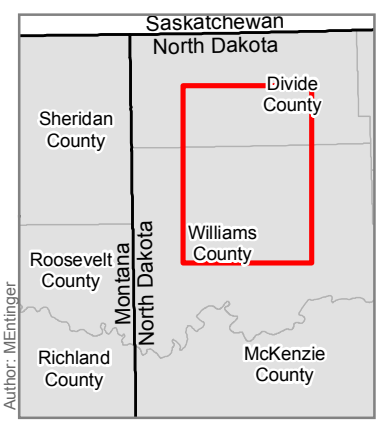
US Hwy 85

Colt Rail Terminal

Document Path: P:\Summit\DivideLateral_2014\MXDs\DivideLateral_AerialOverview_02042014.mxd

Date: 2/26/2014

Author: MEntinger




Pipeline

Valve

Corridor (1 Mile)

Federal Land

State Land

E3 Environmental
Enhancing Execution with Experience

N

0 1 2 4 Miles

1:175,000

Map not to scale, for environmental review purposes only.

# Meadowlark Midstream Company, LLC

## Divide Lateral Project

### Aerial Overview Map

Divide and Williams Counties, North Dakota

Divide Pump Station
US Hwy 85
State Hwy 42
State Hwy 50
US Hwy 2
Colt Rail Terminal
ROCK
ALEXANDRIA
BURG
PLUMER
FRAZIER
SIOUX TRAIL
SMOKY BUTTE
GARNET
FREDERICK
PALMER
DIVIDE CO
WILLIAMS CO
SCORIO
BLUE RIDGE
ROCK ISLAND
BIG STONE
HAZEL
ORTHELL
WINNER
ELLSVILLE
RAINBOW
NEW HOME

Saskatchewan
North Dakota
Divide County
Sheridan County
Williams County
Roosevelt County
Montana
North Dakota
Richland County
McKenzie County

Pipeline
Valve
Corridor (1 Mile)
Federal Land
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E3 Environmental
Enhancing Execution with Experience

0 1 2 4 Miles

N

1:175,000

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# Meadowlark Midstream Company, LLC

## Divide Lateral Project

### Topo Overview Map

Divide and Williams Counties, North Dakota

Author: MEntinger
Date: 2/26/2014
Document Path: P:\Summit\DivideLateral_2014\MXDs\DivideLateral_TopoOverview_02042014.mxd

North Dakota Parks and Recreation Department

Consultation

Jack Dalrymple, 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

March 25, 2014

Katie Schmidt
E3 Environmental, LLC
871 Jefferson Ave.
St. Paul, MN 55102

Re: Meadowlark Midstream Company, LLC – Divide Lateral Pipeline Project

Dear Ms. Schmidt:

The North Dakota Parks and Recreation Department (the Department) has reviewed the above referenced project for the proposed Divide lateral Pipeline Project in Divide County.

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 several documented occurrences in our database adjacent to 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 kgduttenhefner@nd.gov). Thank you for the opportunity to comment on this proposed project.

Sincerely,

Kathy Duttenhefner, Coordinator
Natural Resources Division

R.USNDNHI*2014-0052KD3/25/2014DD3.25.2014

# ND Parks and Recreation Department

***ND Natural Heritage Inventory***
1600 East Century Ave., Suite 3
Bismarck, ND 58503-0649
(701) 328-5370 FAX: (701) 328-5363

# INVOICE

**INVOICE NO: 0203**
**DATE: 3/25/2014**

Katie Schmidt

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

| CONTACT | REFERENCE NO. | DATE SHIPPED | SHIPPED VIA | F.O.B. POINT | TERMS |
|---|---|---|---|---|---|
| K.Duttenhefner | NHI_2014-0052 | 3/25/2014 | USPS | | |

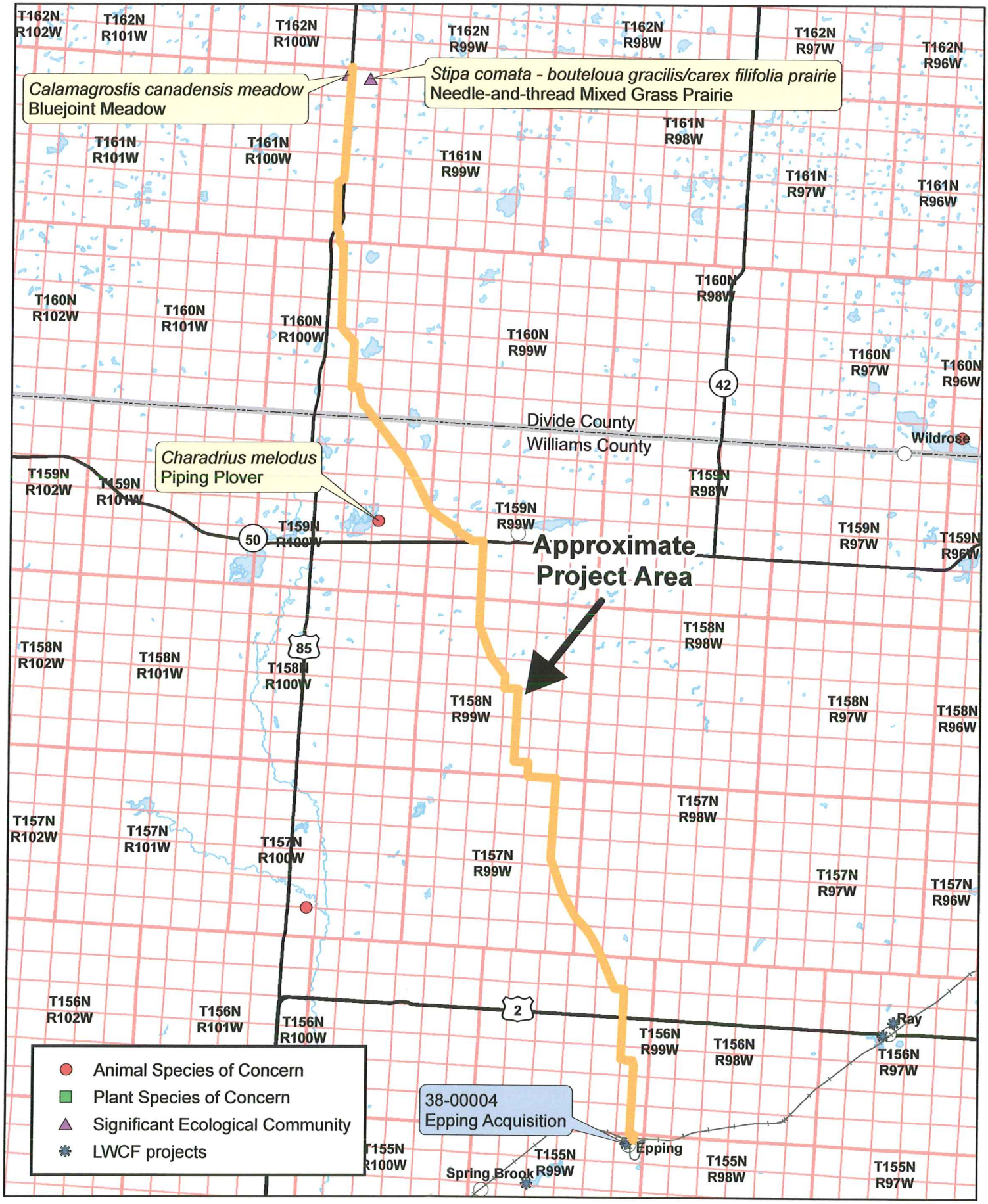
| QUANTITY | DESCRIPTION | UNIT PRICE | AMOUNT |
|---|---|---|---|
| 1 | Data retrieval, data analysis, manual and computer searches, packaging and collection of data.<br><br>Project: Meadowlark Midstream Company – Divide Lateral<br><br>Pipeline Project | $ 60.00 | $ 60.00 |
| | | SUBTOTAL | $ 60.00 |
| | | SALES TAX | |
| | | SHIPPING & HANDLING | |
| | | **TOTAL DUE** | $ 60.00 |

Make all checks payable to: ND Parks and Recreation Department
If you have any questions concerning this invoice, call: Kathy Duttenhefner, (701) 328-5370

**THANK YOU FOR YOUR INTEREST IN RARE SPECIES CONSERVATION.**

| Entry Event | Fund | Dept. | Project | Activity |
|---|---|---|---|---|
| 463021 | 398 | 1508 | OR15082 | 15082 |

# North Dakota Parks and Recreation Department
# North Dakota Natural Heritage Inventory




March 2014

North Dakota Natural Heritage Inventory
Rare Animal and Plant Species and Significant Ecological Communities

| State Scientific Name | State Common Name | State Rank | Global Rank | Federal Status | Township Range Section | County | Last Observation | Estimated Representation Accuracy | Precision |
|---|---|---|---|---|---|---|---|---|---|
| Calamagrostis canadensis meadow | Bluejoint Meadow | S2S3 | GNR | | 161N100W - 02 | Divide | 1985-07-01 | | S |
| Charadrius melodus | Piping Plover | S1S2 | G3 | LE,LT | 159N100W - 23 | Williams | 1996-06-08 | Medium | S |
| Stipa comata - bouteloua gracilis/carex filifolia prairie | Needle-and-thread Mixed Grass Prairie | S2 | GNR | | 161N100W - 01 | Divide | 1985-07-01 | | S |

## North Dakota Natural Heritage Inventory Biological and Conservation Data Disclaimer

The quantity and quality of data collected by the North Dakota Natural Heritage Inventory are dependent on the research and observations of many individuals and organizations. In most cases, this information is not the result of comprehensive or site-specific field surveys; many natural areas in North Dakota have never been thoroughly surveyed, and new species are still being discovered. For these reasons, the Natural Heritage Inventory cannot provide a definite statement on the presence, absence, or condition of biological elements in any part of North Dakota. Natural Heritage data summarize the existing information known at the time of the request. Our data are continually upgraded and information is continually being added to the database. This data should never be regarded as final statements on the elements or areas that are being considered, nor should they be substituted for on-site surveys.

### Estimated Representation Accuracy

Value that indicates the approximate percentage of the Element Occurrence Representation (EO Rep) that was observed to be occupied by the species or community (versus buffer area added for locational uncertainty). Use of estimated representation accuracy provides a common index for the consistent comparison of EO reps, thus helping to ensure that aggregated data are correctly analyzed and interpreted.

Very high (>95%)
High (>80%, <= 95%)
Medium (>20%, <= 80%)
Low (>0%, <= 20%)
Unknown
(null) - Not assessed

### Precision

A single-letter code for the precision used to map the Element Occurrence (EO) on a U.S. Geological Survey (USGS) 7.5' (or 15') topographic quadrangle map, based on the previous Heritage methodology in which EOs were located on paper maps using dots.

S - Seconds: accuracy of locality mappable within a three-second radius; 100 meters from the centerpoint
M - Minute: accuracy of locality mappable within a one-minute radius; 2 km from the centerpoint
G - General: accuracy of locality mappalbe to map or place name precision only; 8 km from centerpoint
U - Unmappable

## RECORD OF TELEPHONE CONVERSATION

| | |
|---|---|
| **Contact:** Kathy Duttenhefner, ND Park and Recreation Department | |
| **Phone No:** (701) 328-5370 | |
| **Date:** 3/26/2014 | **Time:** 1:10pm |
| **Prepared By:** Lucas Bicknell | |
| **Subject:** Follow up call re: Consultation Request sent 3/6/2014 | |

L. Bicknell left phone message with K. Duttenhefner re: confirmation of receipt of consultation memo and status of agency review.

March 6, 2014

Ms. Duttenhefner,
North Dakota Department of Parks and Recreation
1600 East Century Avenue, Suite 3
Bismarck, ND 58503-0649

RE: Meadowlark Midstream Company – Divide Lateral Pipeline Project
State Conservation Priority Species Consultation, State Plots Land Review.

Meadowlark Midstream Company, LLC (MMC) is planning to convert the Divide Lateral Pipeline from a gathering pipeline to a transmission pipeline. This existing gathering pipeline is approximately 43.5 miles long and originates in Divide County at the site for the planned Divide Pump Station located approximately 17 miles northwest of Alamo, ND. From the Divide Pump Station location the pipeline extends in a south/southeasterly direction into Williams County to its terminus at the existing Colt Rail Terminal located north of Epping, ND. All ground disturbing activities will be contained within existing facilities.

The proposed Project is described below and depicted on the attached maps.

In Divide County, North Dakota the pipeline crosses:

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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 Transmission Facility Siting. It is our understanding that the Department administers the following state programs:

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

E3 ENVIRONMENTAL
871 Jefferson Avenue
St. Paul, MN 55102

We request a review of the proposed corridor and route (see attached map) for the presence or absence of any lands, projects and/or sensitive species that fall under the purview of these programs, with the understanding that all ground disturbing activities will be contained within existing facilities.

E3 Environmental, LLC has been retained by MMC to provide environmental consulting support for this project. Should you have any questions or require additional information, please contact me at 651-282-0652 or kschmidt@go2e3.com.

Sincerely,

Katie Schmidt

Katie Schmidt, Senior Consultant
E3 Environmental, LLC
871 Jefferson Ave
St. Paul, MN 55102

Enclosures: Project map

cc:
E3 Project Files

Divide Pump Station

Divide County Waterfowl Production Area

Williams County Waterfowl Production Area

State Hwy 42

State Hwy 42

US Hwy 85

Lake Zahl National Wildlife Refuge

State Hwy 50

US Hwy 85

US Hwy 2

US Hwy 2

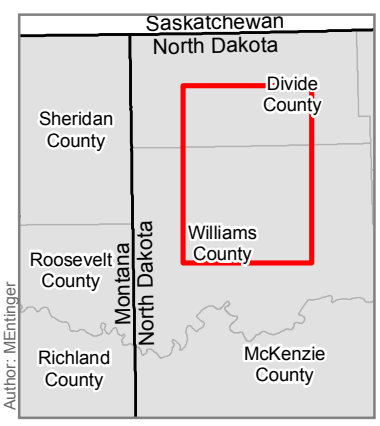
US Hwy 85

Colt Rail Terminal

Document Path: P:\Summit\DivideLateral_2014\MXDs\DivideLateral_AerialOverview_02042014.mxd

Date: 2/26/2014

Author: MEntinger




Pipeline

Valve

Corridor (1 Mile)

Federal Land

State Land

E3 Environmental
Enhancing Execution with Experience

N

0 1 2 4 Miles

1:175,000

Map not to scale, for environmental review purposes only.

# Meadowlark Midstream Company, LLC

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GARNET
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PALMER
DIVIDE CO
WILLIAMS CO
SCORIO
BLUE RIDGE
ROCK ISLAND
BIG STONE
HAZEL
ORTHELL
WINNER
ELLSVILLE
RAINBOW
NEW HOME

Saskatchewan
North Dakota
Divide County
Sheridan County
Williams County
Roosevelt County
Montana
North Dakota
Richland County
McKenzie County

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E3 Environmental
Enhancing Execution with Experience

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Divide and Williams Counties, North Dakota

Author: MEntinger
Date: 2/26/2014
Document Path: P:\Summit\DivideLateral_2014\MXDs\DivideLateral_TopoOverview_02042014.mxd

North Dakota State Lands Department-School Trust Lands Consultation

## Hannah Strong

**From:** Haupt, Michael L. <mhaupt@nd.gov>
**Sent:** Friday, March 07, 2014 7:56 AM
**To:** Katie Schmidt
**Cc:** William McCarthy; Hannah Strong
**Subject:** RE: MMC-Divide Lateral Conversion Project Consultation Request-State School Trust Lands

Katie,

Good morning! The Trust granted Meadowlark two easements along the pipeline corridor including SE4 16-160-100 Divide County (ROW#6687) and W2, SE4 36-156-99 Williams County (ROW#6688). The easement was for one 8 inch diameter steel oil pipeline. If something has changed Meadowlark must contact Trust Lands. Let me know if you have questions. Thanks.

*Michael L. Haupt*
Land Management Professional, CPRM
North Dakota Department of Trust lands
1707 Nth 9th Street
Bismarck ND 58506-5523
701-328-1916
mhaupt@nd.gov



---

**From:** Katie Schmidt [mailto:KSchmidt@go2e3.com]
**Sent:** Thursday, March 06, 2014 1:58 PM
**To:** Haupt, Michael L.
**Cc:** William McCarthy; Hannah Strong
**Subject:** MMC-Divide Lateral Conversion Project Consultation Request-State School Trust Lands

Dear Mr. Haupt,

Meadowlark Midstream Company, LLC (MMC) is planning to convert the Divide Lateral Pipeline from a gathering pipeline to a transmission pipeline. The existing gathering pipeline is approximately 43.5 miles long and originates in Divide County at the planned Divide Pump Station located approximately 17 miles northwest of Alamo, ND. From the Divide Pump Station the pipeline extends in a south/southeasterly direction into Williams County to its terminus at the existing Colt Rail Terminal located north of Epping, ND.

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- Township 159N, Range 99W, Sections 19, 20, 29, and 32
- Township 159N, Range 100W, Sections 2, 3, 11, 12, 13, and 24

The purpose of this correspondence is to request a review of the proposed project corridor (see attached) for the presence or absence of State School Trust Lands. This information will be included in a North Dakota Public Service Commission application for the Project.

E3 Environmental (E3) has been retained by MMC to provide environmental permitting support for this Project. Should you have any questions or require additional information, please contact me at 651-282-0652 or kschmidt@go2e3.com.

Sincerely,

**Katie Schmidt, EIT**
**Senior Consultant**
E3 Environmental, LLC
kschmidt@go2e3.com
O: 651.282.0652
M: 651.216.6881
871 Jefferson Avenue
St. Paul, MN 55102
www.go2e3.com

## Hannah Strong

**From:** Katie Schmidt
**Sent:** Thursday, March 06, 2014 1:58 PM
**To:** mhaupt@nd.gov
**Cc:** William McCarthy; Hannah Strong
**Subject:** MMC-Divide Lateral Conversion Project Consultation Request-State School Trust Lands
**Attachments:** MMC_DivideLateral_ConsultationMaps_03062014_Reduced.pdf

Dear Mr. Haupt,

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- Township 157N, Range 98W, Sections 30 and 31
- Township 157N, Range 99W, Sections 2, 11, 12, 13, 24, and 25
- Township 158N, Range 99W, Sections 4, 5, 9, 15, 16, 22, 27, 34, and 35
- Township 159N, Range 99W, Sections 19, 20, 29, and 32
- Township 159N, Range 100W, Sections 2, 3, 11, 12, 13, and 24

The purpose of this correspondence is to request a review of the proposed project corridor (see attached) for the presence or absence of State School Trust Lands. This information will be included in a North Dakota Public Service Commission application for the Project.

E3 Environmental (E3) has been retained by MMC to provide environmental permitting support for this Project. Should you have any questions or require additional information, please contact me at 651-282-0652 or kschmidt@go2e3.com.

Sincerely,

**Katie Schmidt, EIT**
**Senior Consultant**
E3 Environmental, LLC
kschmidt@go2e3.com

O: 651.282.0652
M: 651.216.6881
871 Jefferson Avenue
St. Paul, MN 55102
www.go2e3.com

Divide Pump Station

Divide County Waterfowl Production Area

Williams County Waterfowl Production Area

State Hwy 42

State Hwy 42

US Hwy 85

Lake Zahl National Wildlife Refuge

State Hwy 50

US Hwy 85

US Hwy 2

US Hwy 2

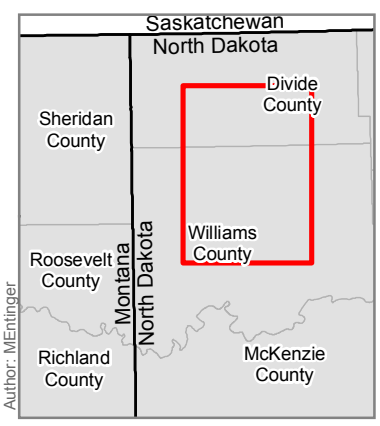
US Hwy 85

Colt Rail Terminal

Document Path: P:\Summit\DivideLateral_2014\MXDs\DivideLateral_AerialOverview_02042014.mxd

Date: 2/26/2014

Author: MEntinger




Pipeline

Valve

Corridor (1 Mile)

Federal Land

State Land

E3 Environmental
Enhancing Execution with Experience

N

0 1 2 4 Miles

1:175,000

Map not to scale, for environmental review purposes only.

# Meadowlark Midstream Company, LLC

## Divide Lateral Project

### Aerial Overview Map

Divide and Williams Counties, North Dakota

Divide Pump Station
US Hwy 85
State Hwy 42
State Hwy 50
US Hwy 2
Colt Rail Terminal
ROCK
ALEXANDRIA
BURG
PLUMER
FRAZIER
SIOUX TRAIL
SMOKY BUTTE
GARNET
FREDERICK
PALMER
DIVIDE CO
WILLIAMS CO
SCORIO
BLUE RIDGE
ROCK ISLAND
BIG STONE
HAZEL
ORTHELL
WINNER
ELLSVILLE
RAINBOW
NEW HOME

Saskatchewan
North Dakota
Divide County
Sheridan County
Williams County
Roosevelt County
Montana
North Dakota
Richland County
McKenzie County

Pipeline
Valve
Corridor (1 Mile)
Federal Land
State Land

E3 Environmental
Enhancing Execution with Experience

0 1 2 4 Miles

N

1:175,000

Map not to scale, for environmental review purposes only.

# Meadowlark Midstream Company, LLC

## Divide Lateral Project

### Topo Overview Map

Divide and Williams Counties, North Dakota

Author: MEntinger
Date: 2/26/2014
Document Path: P:\Summit\DivideLateral_2014\MXDs\DivideLateral_TopoOverview_02042014.mxd

North Dakota State Lands Department-Mineral Trust Lands Consultation

**From:** Bayley, Keith W. [kbayley@nd.gov]
**Sent:** Friday, March 28, 2014 8:12 AM
**To:** Lucas Bicknell
**Cc:** Nelson, Diane M.
**Subject:** RE: MMC Divide Lateral Consultation Request-ND State Mineral Trust Lands

Lucas,

We agree that the attached plat fairly represents the approximate location of the pipeline route as indicated by E3 Environmental and the proximity of mineral interests managed by this office to that pipeline, for use in a filing with the PSC in the state of North Dakota.

Keith Bayley
Land Professional
ND Department of Trust Lands
701.328.1912
kbayley@nd.gov

**From:** Lucas Bicknell [mailto:LBicknell@go2e3.com]
**Sent:** Thursday, March 27, 2014 4:13 PM
**To:** Bayley, Keith W.
**Subject:** RE: MMC Divide Lateral Consultation Request-ND State Mineral Trust Lands

Keith,

I have extracted the files. Please let me know if you need anything further. Our email is up and running again, thanks again for your patience.

**Lucas Bicknell**
**Associate Consultant**
E3 Environmental, LLC
lbicknell@go2e3.com
O: 651.282.0644



**From:** Lucas Bicknell [mailto:lucas.bicknell@gmail.com]
**Sent:** Thursday, March 27, 2014 4:08 PM
**To:** Lucas Bicknell
**Subject:** Fwd: MMC Divide Lateral Consultation Request-ND State Mineral Trust Lands

On Thu, Mar 27, 2014 at 2:58 PM, Bayley, Keith W. <kbayley@nd.gov> wrote:

Will you zip the file then it will go through our firewall.

**From:** Lucas Bicknell [mailto:lucas.bicknell@gmail.com]
**Sent:** Thursday, March 27, 2014 2:15 PM
**To:** Bayley, Keith W.
**Subject:** MMC Divide Lateral Consultation Request-ND State Mineral Trust Lands

Keith,

I apologize for the delay. Unbeknownst to us, we've had server issues today and just now got flooded with notifications that no emails have actually gone out.

I've reattached the GIS layer you requested, both files are in the **NAD1983_UTM_Zone_13N** coordinate system.

I will follow up with you before the end of the day to ensure you have received this email. Please feel free to respond to me at lucas.bicknell@gmail.com with any questions or concerns you may have.

Thank you for your patience,
Lucas

**Lucas Bicknell**
**Associate Consultant**
E3 Environmental, LLC
lbicknell@go2e3.com
O: 651.282.0644

**From:** Lucas Bicknell
**Sent:** Thursday, March 27, 2014 9:38 AM
**To:** 'Bayley, Keith W.'
**Cc:** Katie Schmidt
**Subject:** RE: MMC Divide Lateral Consultation Request-ND State Mineral Trust Lands
Good morning Keith,

Attached please find the GIS layer of the pipeline route and corridor. Please let me know if you have any questions or need any further information.

Thank you,

Lucas

**Lucas Bicknell**
**Associate Consultant**
E3 Environmental, LLC
lbicknell@go2e3.com
O: 651.282.0644
**From:** Bayley, Keith W. [mailto:kbayley@nd.gov]
**Sent:** Thursday, March 27, 2014 7:30 AM
**To:** Lucas Bicknell

**Cc:** Katie Schmidt
**Subject:** RE: MMC Divide Lateral Consultation Request-ND State Mineral Trust Lands

Lucas,

Do you have a GIS layer of the pipeline route and what is the corridor definition (i.e. feet either side of the actual location of the pipeline)?

Keith

**From:** Lucas Bicknell [mailto:LBicknell@go2e3.com]
**Sent:** Wednesday, March 26, 2014 4:21 PM
**To:** Bayley, Keith W.
**Cc:** Katie Schmidt
**Subject:** MMC Divide Lateral Consultation Request-ND State Mineral Trust Lands

Mr. Bayley,

I am writing in reply to our telephone conversation on 3/26/2014 regarding the presence of Mineral Trust Lands within Meadowlark Midstream Company's (MMC) proposed Divide Lateral Gathering Pipeline corridor. In response to your request, I have revised the section list below to include only those sections which intersect the survey corridor and contain Mineral Surface Lands.

Per review of Mineral Trust Lands data (dated 3/11/2014) accessed at www.land.nd.gov, the results of this search concluded that the following sections intersect Mineral Trust Lands:

In Williams County, North Dakota:
- Township 156N, Range 99W Section 24 (N2) and 36
- Township 158N, Range 99W Sections 16, 34 (SW4) and 36 (SW4)

In Divide County, North Dakota:
- Township 161N, Range 100W, Section 36 (SW4)
- Township 160N, Range 100W Section 4, 9 (W2), 16, 21 (SE4) and 34 (SW4)

Any Surface Tract presence indicated in these sections will be in addition to the presence of Mineral Trust Lands. I have included the quarter sections to assist in your review.

The purpose of this consultation is to seek your concurrence with this analysis. For your convenience, please refer to the attached map which depicts the Project corridor as well as the sections containing Mineral Trust Lands.
E3 has been retained by MMC to provide environmental consulting support for this project. Should you have any questions or require additional information, please contact Katie Schmidt at 651-282-0652 or kschmidt@go2e3.com.

Sincerely,

**Lucas Bicknell**
**Associate Consultant**

E3 Environmental, LLC
lbicknell@go2e3.com
O: 651.282.0644
871 Jefferson Avenue
St. Paul, MN 55102
www.go2e3.com

## RECORD OF TELEPHONE CONVERSATION

| | |
|---|---|
| **Contact:** Keith Bayley, ND Department of Trust Lands | |
| **Phone No:** 701.328.1912 | |
| **Date:** 3/26/2014 | **Time:** ~2:30pm |
| **Prepared By:** Lucas Bicknell, Associate Consultant | |
| **Subject:** Follow up on Consultation Memo sent to Agency on 3/6/2014 | |

L. Bicknell phone conversation with K. Bayley. Per Mr. Bayley, the sections sent in the original consultation letter contained Surface Tracts as well as Mineral Trust Lands. L. Bicknell sent a revised consultation memo and map which definitively include Mineral Trust Lands, although some Surface Tracts might be present in those sections as well.

## Hannah Strong

**From:** Katie Schmidt
**Sent:** Monday, March 10, 2014 11:17 AM
**To:** Bayley, Keith W.
**Cc:** Hannah Strong
**Subject:** RE: MMC Divide Lateral Consultation Request-ND State Mineral Trust Lands

We have also sent our consultation letter to Michael Haupt with the School Trust lands and I know that MMC obtained easements from the School Land group for the construction of the original gathering line.

**Katie Schmidt, EIT**
**Senior Consultant**
E3 Environmental, LLC
kschmidt@go2e3.com
O: 651.282.0652
M: 651.216.6881



---

**From:** Bayley, Keith W. [mailto:kbayley@nd.gov]
**Sent:** Monday, March 10, 2014 10:57 AM
**To:** Katie Schmidt
**Subject:** RE: MMC Divide Lateral Consultation Request-ND State Mineral Trust Lands

Katie,

The tracts in green identified as "State Land" appear to be state ownership of surface tracts and not mineral ownership. Do you know if this is the case?

Keith

---

**From:** Katie Schmidt [mailto:KSchmidt@go2e3.com]
**Sent:** Monday, March 10, 2014 10:11 AM
**To:** Bayley, Keith W.
**Cc:** Hannah Strong
**Subject:** RE: MMC Divide Lateral Consultation Request-ND State Mineral Trust Lands

Keith,

Good morning. Yes, per the NDCC 69-06-08-02 Transmission Facility Corridor and Route Criteria, we are required to evaluate and document if the Project will impede upon ND PSC specified Exclusion or Avoidance areas. These areas include designated or registered state lands. As such we typical include these tracts on our application maps and provide discussion in the text portion of the application as to if the project impedes on any of these areas and the steps taken if necessary to satisfy the state agency impacted.

I hope this answers your question if not please feel free to give me a call to discuss further.

Katie

**Katie Schmidt, EIT**
**Senior Consultant**
E3 Environmental, LLC
kschmidt@go2e3.com
O: 651.282.0652
M: 651.216.6881



---

**From:** Bayley, Keith W. [mailto:kbayley@nd.gov]
**Sent:** Monday, March 10, 2014 8:57 AM
**To:** Katie Schmidt
**Subject:** FW: MMC Divide Lateral Consultation Request-ND State Mineral Trust Lands

Katie,

Is the inclusion of state owned mineral tracts in the PSC filing a requirement of the filing?

Keith Bayley
Land Professional
ND Department of Trust Lands
701.328.1912
kbayley@nd.gov

---

**From:** Nelson, Diane M.
**Sent:** Friday, March 07, 2014 1:29 PM
**To:** Bayley, Keith W.
**Subject:** FW: MMC Divide Lateral Consultation Request-ND State Mineral Trust Lands

I received this yesterday afternoon. How do you want these handled?

---

**From:** Katie Schmidt [mailto:KSchmidt@go2e3.com]
**Sent:** Thursday, March 06, 2014 2:30 PM
**To:** Nelson, Diane M.
**Cc:** William McCarthy; Hannah Strong
**Subject:** MMC Divide Lateral Consultation Request-ND State Mineral Trust Lands

Ms. Nelson,

Meadowlark Midstream Company, LLC (MMC) is planning to convert the Divide Lateral Pipeline from a gathering pipeline to a transmission pipeline. The existing gathering pipeline is approximately 43.5 miles long and originates in Divide County at the planned Divide Pump Station located approximately 17 miles northwest of Alamo, ND. From the Divide Pump Station the pipeline extends in a south/southeasterly direction into Williams County to its terminus at the existing Colt Rail Terminal located north of Epping, ND.

Ground disturbance for this project will be minimal and will occur only within the boundaries of the existing facilities at each terminus.

The proposed Project is described below and depicted on the attached maps.

In Divide County, North Dakota the pipeline crosses:

- Township 160N, Range 100W, Sections 4, 9, 16, 21, 22, 27 and 34
- Township 161N, Range 100W, Sections 2, 11, 14, 23, 26, and 35

In Williams County, North Dakota the pipeline crosses:

- Township 155N, Range 99W, Section 1
- Township 156N, Range 99W, Sections 1, 2, 12, 13, 24, 25, and 36
- Township 157N, Range 98W, Sections 30 and 31
- Township 157N, Range 99W, Sections 2, 11, 12, 13, 24, and 25
- Township 158N, Range 99W, Sections 4, 5, 9, 15, 16, 22, 27, 34, and 35
- Township 159N, Range 99W, Sections 19, 20, 29, and 32
- Township 159N, Range 100W, Sections 2, 3, 11, 12, 13, and 24

E3 has accessed www.land.nd.gov to review the proposed Project corridor for the presence of State Mineral Trust Lands. The results of this search concluded that the following sections intersect State Lands:

- Township 156N, Range 99W Section 24 and 36
- Township 158N, Range 99W Sections 16, 34 and 36
- Township 161N, Range 100W Section 36
- Township 160N, Range 100W Section 4, 16, 21 and 34

The purpose of this consultation is to seek your concurrence with this analysis. This information will be included in a North Dakota Public Service Commission application for the Project. For your convenience, please refer to the attached map which depicts the Project corridor.

E3 has been retained by MMC to provide environmental consulting support for this project. Should you have any questions or require additional information, please contact me at 651-282-0652 or kschmidt@go2e3.com.

Sincerely,

**Katie Schmidt, EIT**
**Senior Consultant**
E3 Environmental, LLC
kschmidt@go2e3.com
O: 651.282.0652
M: 651.216.6881
871 Jefferson Avenue
St. Paul, MN 55102
www.go2e3.com

## Hannah Strong

**From:** Katie Schmidt
**Sent:** Monday, March 10, 2014 10:11 AM
**To:** Bayley, Keith W.
**Cc:** Hannah Strong
**Subject:** RE: MMC Divide Lateral Consultation Request-ND State Mineral Trust Lands

Keith,

Good morning. Yes, per the NDCC 69-06-08-02 Transmission Facility Corridor and Route Criteria, we are required to evaluate and document if the Project will impede upon ND PSC specified Exclusion or Avoidance areas. These areas include designated or registered state lands. As such we typical include these tracts on our application maps and provide discussion in the text portion of the application as to if the project impedes on any of these areas and the steps taken if necessary to satisfy the state agency impacted.

I hope this answers your question if not please feel free to give me a call to discuss further.

Katie

**Katie Schmidt, EIT**
**Senior Consultant**
E3 Environmental, LLC
kschmidt@go2e3.com
O: 651.282.0652
M: 651.216.6881




---

**From:** Bayley, Keith W. [mailto:kbayley@nd.gov]
**Sent:** Monday, March 10, 2014 8:57 AM
**To:** Katie Schmidt
**Subject:** FW: MMC Divide Lateral Consultation Request-ND State Mineral Trust Lands

Katie,

Is the inclusion of state owned mineral tracts in the PSC filing a requirement of the filing?

Keith Bayley
Land Professional

ND Department of Trust Lands
701.328.1912
kbayley@nd.gov

**From:** Nelson, Diane M.
**Sent:** Friday, March 07, 2014 1:29 PM
**To:** Bayley, Keith W.
**Subject:** FW: MMC Divide Lateral Consultation Request-ND State Mineral Trust Lands

I received this yesterday afternoon. How do you want these handled?

**From:** Katie Schmidt [mailto:KSchmidt@go2e3.com]
**Sent:** Thursday, March 06, 2014 2:30 PM
**To:** Nelson, Diane M.
**Cc:** William McCarthy; Hannah Strong
**Subject:** MMC Divide Lateral Consultation Request-ND State Mineral Trust Lands

Ms. Nelson,

Meadowlark Midstream Company, LLC (MMC) is planning to convert the Divide Lateral Pipeline from a gathering pipeline to a transmission pipeline. The existing gathering pipeline is approximately 43.5 miles long and originates in Divide County at the planned Divide Pump Station located approximately 17 miles northwest of Alamo, ND. From the Divide Pump Station the pipeline extends in a south/southeasterly direction into Williams County to its terminus at the existing Colt Rail Terminal located north of Epping, ND.

Ground disturbance for this project will be minimal and will occur only within the boundaries of the existing facilities at each terminus.

The proposed Project is described below and depicted on the attached maps.

In Divide County, North Dakota the pipeline crosses:

- Township 160N, Range 100W, Sections 4, 9, 16, 21, 22, 27 and 34
- Township 161N, Range 100W, Sections 2, 11, 14, 23, 26, and 35

In Williams County, North Dakota the pipeline crosses:

- Township 155N, Range 99W, Section 1
- Township 156N, Range 99W, Sections 1, 2, 12, 13, 24, 25, and 36
- Township 157N, Range 98W, Sections 30 and 31
- Township 157N, Range 99W, Sections 2, 11, 12, 13, 24, and 25
- Township 158N, Range 99W, Sections 4, 5, 9, 15, 16, 22, 27, 34, and 35
- Township 159N, Range 99W, Sections 19, 20, 29, and 32
- Township 159N, Range 100W, Sections 2, 3, 11, 12, 13, and 24

E3 has accessed www.land.nd.gov to review the proposed Project corridor for the presence of State Mineral Trust Lands. The results of this search concluded that the following sections intersect State Lands:

- Township 156N, Range 99W Section 24 and 36
- Township 158N, Range 99W Sections 16, 34 and 36
- Township 161N, Range 100W Section 36
- Township 160N, Range 100W Section 4, 16, 21 and 34

The purpose of this consultation is to seek your concurrence with this analysis. This information will be included in a North Dakota Public Service Commission application for the Project. For your convenience, please refer to the attached map which depicts the Project corridor.

E3 has been retained by MMC to provide environmental consulting support for this project. Should you have any questions or require additional information, please contact me at 651-282-0652 or kschmidt@go2e3.com.

Sincerely,

**Katie Schmidt, EIT**
**Senior Consultant**
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kschmidt@go2e3.com
O: 651.282.0652
M: 651.216.6881
871 Jefferson Avenue
St. Paul, MN 55102
www.go2e3.com

## Hannah Strong

**From:** Katie Schmidt
**Sent:** Thursday, March 06, 2014 2:30 PM
**To:** dianenelson@nd.gov
**Cc:** William McCarthy; Hannah Strong
**Subject:** MMC Divide Lateral Consultation Request-ND State Mineral Trust Lands
**Attachments:** MMC_DivideLateral_ConsultationMaps_03062014_Reduced.pdf

Ms. Nelson,

Meadowlark Midstream Company, LLC (MMC) is planning to convert the Divide Lateral Pipeline from a gathering pipeline to a transmission pipeline. The existing gathering pipeline is approximately 43.5 miles long and originates in Divide County at the planned Divide Pump Station located approximately 17 miles northwest of Alamo, ND. From the Divide Pump Station the pipeline extends in a south/southeasterly direction into Williams County to its terminus at the existing Colt Rail Terminal located north of Epping, ND.

Ground disturbance for this project will be minimal and will occur only within the boundaries of the existing facilities at each terminus.

The proposed Project is described below and depicted on the attached maps.

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- Township 157N, Range 98W, Sections 30 and 31
- Township 157N, Range 99W, Sections 2, 11, 12, 13, 24, and 25
- Township 158N, Range 99W, Sections 4, 5, 9, 15, 16, 22, 27, 34, and 35
- Township 159N, Range 99W, Sections 19, 20, 29, and 32
- Township 159N, Range 100W, Sections 2, 3, 11, 12, 13, and 24

E3 has accessed www.land.nd.gov to review the proposed Project corridor for the presence of State Mineral Trust Lands. The results of this search concluded that the following sections intersect State Lands:

- Township 156N, Range 99W Section 24 and 36
- Township 158N, Range 99W Sections 16, 34 and 36
- Township 161N, Range 100W Section 36
- Township 160N, Range 100W Section 4, 16, 21 and 34

The purpose of this consultation is to seek your concurrence with this analysis. This information will be included in a North Dakota Public Service Commission application for the Project. For your convenience, please refer to the attached map which depicts the Project corridor.

E3 has been retained by MMC to provide environmental consulting support for this project. Should you have any questions or require additional information, please contact me at 651-282-0652 or kschmidt@go2e3.com.

Sincerely,

**Katie Schmidt, EIT**
**Senior Consultant**
E3 Environmental, LLC
kschmidt@go2e3.com
O: 651.282.0652
M: 651.216.6881
871 Jefferson Avenue
St. Paul, MN 55102
www.go2e3.com

Divide Pump Station

Divide County Waterfowl Production Area

Williams County Waterfowl Production Area

State Hwy 42

State Hwy 42

US Hwy 85

Lake Zahl National Wildlife Refuge

State Hwy 50

US Hwy 85

US Hwy 2

US Hwy 2

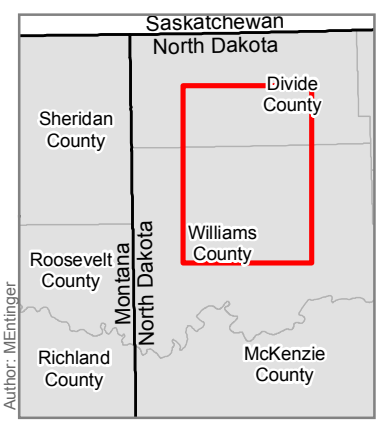
US Hwy 85

Colt Rail Terminal

Document Path: P:\Summit\DivideLateral_2014\MXDs\DivideLateral_AerialOverview_02042014.mxd

Date: 2/26/2014

Author: MEntinger




Pipeline

Valve

Corridor (1 Mile)

Federal Land

State Land

E3 Environmental
Enhancing Execution with Experience

N

0 1 2 4 Miles

1:175,000

Map not to scale, for environmental review purposes only.

# Meadowlark Midstream Company, LLC

## Divide Lateral Project

### Aerial Overview Map

Divide and Williams Counties, North Dakota

Divide Pump Station
US Hwy 85
State Hwy 42
State Hwy 50
US Hwy 2
Colt Rail Terminal
ROCK
ALEXANDRIA
BURG
PLUMER
FRAZIER
SIOUX TRAIL
SMOKY BUTTE
GARNET
FREDERICK
PALMER
DIVIDE CO
WILLIAMS CO
SCORIO
BLUE RIDGE
ROCK ISLAND
BIG STONE
HAZEL
ORTHELL
WINNER
ELLSVILLE
RAINBOW
NEW HOME

Saskatchewan
North Dakota
Divide County
Sheridan County
Williams County
Roosevelt County
Montana
North Dakota
Richland County
McKenzie County

Pipeline
Valve
Corridor (1 Mile)
Federal Land
State Land

E3 Environmental
Enhancing Execution with Experience

0 1 2 4 Miles

N

1:175,000

Map not to scale, for environmental review purposes only.

# Meadowlark Midstream Company, LLC

## Divide Lateral Project

### Topo Overview Map

Divide and Williams Counties, North Dakota

Author: MEntinger
Date: 2/26/2014
Document Path: P:\Summit\DivideLateral_2014\MXDs\DivideLateral_TopoOverview_02042014.mxd

**Email and Phone Communications Log**
**Statelands - Mineral Trust Lands**

**3/28/2014:** Email received by L. Bicknell from K. Bayley concurring that E3 information accurately reflects the location of Mineral Lands. K. Bayley email included plat of project corridor.

**3/27/2014:** Email request from K. Bayley for a GIS layer including the pipeline route and corridor footprint. L. Bicknell emailed this at 9:30am. This email was re-sent at 2:15pm due to server errors.

**3/26/2014:** L. Bicknell phone conversation with K. Bayley. Per Mr. Bayley, the sections sent in the original consultation letter contained Surface Tracts as well as Mineral Trust Lands. L. Bicknell sent a revised consultation memo and map which definitively include Mineral Trust Lands, although some Surface Tracts might be present in those sections as well.

**3/10/2014:** K. Bayley emailed stating state-owned tracts in question are surface tracts, not mineral tracts. K. Schmidt replied that a consultation letter had also been sent to M. Haupt with School Trust Lands to verify ownership/easements.

**3/10/2014:** Email from K. Bayley requesting confirmation that state owned mineral tracts are required by PSC Application. K. Schmidt email to K. Bayley confirming PSC requirement.

**3/6/2014:** Consultation memo sent to agency.

North Dakota State Historic Preservation Office
Consultation

STATE HISTORICAL SOCIETY OF NORTH DAKOTA



February 28, 2014

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

**NDSHPO REF.: 14-0659A PSC (no case number), Summit Midstream Energy Divide Lateral Crude Petroleum Gathering Pipeline two small pipeline deviations in [T159N R99W Section 29 and T158N R99 Section 27] Williams County, North Dakota**

Dear Ms. Schmidt,

We reviewed NDSHPO REF.: 14-0659A PSC (no case number), Summit Midstream Energy Divide Lateral Crude Petroleum Gathering Pipeline two small pipeline deviations in [T159N R99W Section 29 and T158N R99 Section 27] Williams County, North Dakota. We concur with a "No Significant Sites" determination for the project deviations as described in Juniper correspondence dated February 28, 2014, provided the deviations remain as described and mapped in that e-mailed correspondence.

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

Sincerely,

Merlan E. Paaverud, Jr.
State Historic Preservation Officer (North Dakota)
and
Director, State Historical Society of North Dakota

STATE HISTORICAL SOCIETY OF NORTH DAKOTA



February 12, 2014

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

**NDSHPO REF.: 14-0659 PSC "Summit Midstream Energy Divide Lateral Crude Petroleum Gathering Pipeline: Class III Cultural Resource Inventory, Divide and Williams Counties, North Dakota"**

Dear Ms. Schmidt,

We reviewed NDSHPO REF.: 14-0659 PSC "Summit Midstream Energy Divide Lateral Crude Petroleum Gathering Pipeline: Class III Cultural Resource Inventory, Divide and Williams Counties, North Dakota," and find the report acceptable.

We concur with a "No Significant Sites" determination for the project as described in your correspondence dated February 7, 2014, provided Farmstead Site 32DV129 has no further disturbance, and provided the project remains as described and mapped in the above-captioned report.

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.

Sincerely,

Merlan E. Paaverud, Jr.
State Historic Preservation Officer (North Dakota)
and
Director, State Historical Society of North Dakota

2/7/2014

Ms. Susan Quinnel
Review and Compliance Coordinator
State Historical Society of North Dakota
Archeology & Historic Preservation Division
612 East Boulevard Avenue
Bismarck, ND 58505-0830

RE: Summit Midstream Energy – Divide Lateral Pipeline Project
Class III Cultural Resource Inventory Report

Dear Ms. Quinnel,

Summit Midstream Energy (Summit) is proposing the Divide Lateral Pipeline Project (Project). The Project entails the conversion of an existing 45.5 mile crude oil gathering line into a transmission line. This line, located in Williams and Divide County, originates near Epping and ties into an existing facility approximately 10 miles south of the city of Colgan, North Dakota. This line was previously constructed and is currently in service. The conversion of this gathering line into a transmission pipeline places the Project under the purview of the North Dakota Public Service Commission

E3 Environmental, LLC (E3), on behalf of Summit, submits the enclosed report entitled *Summit Midstream Energy – Divide Lateral Crude Petroleum Gathering Pipeline: Class III Cultural Resource Inventory (Report).* This Report, prepared by Juniper, LLC, documents the cultural resource inventory of the Project.

During the inventory, two newly recorded historic properties were recorded:

- 32DV129: Historic – Farmstead, barn, and schoolhouse
- 32WI1388: Historic – Farmhouse

Four previously recorded historic properties were re-identified and revisited for the project:

- 32DVx96: Prehistoric – CM Scatter
- 32DVx97: Prehistoric – CM Scatter
- 32DVx99: Prehistoric – CM Scatter
- 32DVx179: Prehistoric – CM Scatter

During the inventory, two new historic properties (32DV129, a farmstead, barn, and school; 32WI1388, an isolated farmhouse) were identified, recorded, and documented. The portion of the pipeline adjacent to 32DV129 was constructed prior to the survey and no impacts to the site were observed. Site 32DV129 is currently unevaluated for the NRHP and should be avoided by any further development in the area of the site. Site 32WI1388 is recommended *not eligible* for the NRHP with no further work recommended as part of this Project. If the planned construction activities are

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871 Jefferson Avenue
St. Paul, MN 55102

confined within the staked construction right-of-way, there will be no impact to 32WI1388.

In addition to the newly recorded resources, four previously recorded site leads (all cultural material scatters) lie within or in close proximity to the inventoried corridor (i.e. 150-foot corridor centered upon the Project alignment). No evidence of these site leads were noted within the inventoried project corridor. The management recommendations for the discussed resources are presented in the attached Report.

Provided that the construction activities are confined to the staked construction right-of-way, the management recommendations detailed in the attached report for the six discussed resources are implemented, and because none of the other previously recorded sites are within or directly adjacent to the Project's survey corridor, it is recommended that a determination of *No Historic Properties Adversely Affected* be granted for the Project to proceed as planned.

Please notify E3 of the results of your review at the address listed below. Should you have any technical questions regarding the evaluation, please contact Mr. John Morrison, Juniper, LLC, the principal cultural resource investigator, at 701-400-3575. Should you have any project related questions or require additional information, please contact me at 651-282-0652 or by email at kschmidt@go2e3.com.

Sincerely,

Katie Schmidt

Katie Schmidt, Consultant
E3 Environmental, LLC
871 Jefferson Ave
St. Paul, MN 55102

Enclosures:

Summit Midstream Energy – Divide Lateral Crude Petroleum Gathering Pipeline: Class III Cultural Resource Inventory Report (2 Copies)

cc: Jason Panek, Summit Midstream Energy
John Morrison, Juniper, LLC
E3 Project Files

# Appendix C

Biological Assessment/Natural Resource Report

# DIVIDE LATERAL
# CRUDE PETROLEUM GATHERING PIPELINE

# BIOLOGICAL ASSESSMENT

Divide and Williams Counties, North Dakota
T161N-R100W, T160N-R100W, T159N-R100W, T159N-R99W, T158N-R99W, T157N-R99W, T157N-R98W, T156N-R98W

**Prepared for:**
Summit Midstream Energy

**By:**
David Schmoller Yellowfield Biological Surveys, LLC
October 9, 2013

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# ABSTRACT

Yellowfield Biological Surveys, LLC, investigated the natural resources of a proposed 45.5 mile crude petroleum gathering pipeline for Summit Midstream Energy. The project is located in Divide and Williams Counties, ND. Existing conditions were documented and recommendations were provided to assist the US Fish and Wildlife Service (FWS) to determine if the proposed activities adhered to the management intent of the FWS. Approximately 19 miles of the proposed 45.5 mile pipeline follow right-of-way along highway, county roads, and section line roads. An additional 4 miles follows quarter-section roads. The remaining 22.5 miles of proposed pipeline travels is not associated with transportation corridors and crosses agricultural fields. The vast majority of the area has been converted to *cropland*, planted in wheat or other cereals or cut for hay; about 81% or 37 miles of the proposed pipeline route passes through cropland or hayfield. The remaining 16.4% or 8.5 miles of the pipeline corridor is in *pasture land*. One mile of this is within the right-of-way along Highway 85. All disturbed land is dominated by alien and invasive species. The road right-of-ways are planted in smooth brome (*Bromus inermis*). Croplands contain a wide variety of alien species. Pastures and native grasslands contain blue grama (*Bouteloua gracilis*), green needlegrass (*Stipa viridula*), needle-and-thread (*Stipa comata*), western snowberry (*Symphoricarpos occidentalis*) and western wheatgrass (*Pascopyrum (Agropyron) smithii*) but have a strong presence of alien species. No listed species were observed in this survey. The project may affect one Threatened species, one Designated Critical Habitat, two Candidate Species, and one North Dakota Species of Concern. It will have no effect on the remaining species. Overall, the project may affect individual specimens or habitat patches, but it is not likely to adversely affect and is not expected to contribute to a trend toward federal listing or elevated federal listing or loss of viability to the population or species. Best management practices should be used during activities to minimize disturbances and reduce effects. These include: Horizontal Directional Drilling techniques when crossing wetlands, avoid construction activities during critical reproductive or migratory activities of listed species and prevent or contain chemical spills and erosion.

# INTRODUCTION

## PROPOSED ACTIVITIES

Summit Midstream Energy is proposing a 45.5-mile crude petroleum gathering pipeline in Williams and Divide Counties, starting approximately 10 miles south of Colgan, North Dakota, running in a south and southeasterly direction, and terminating at Epping, North Dakota. Details are in ***Appendix A, Maps.*** The purpose of this biological assessment is to review the proposed pipeline in sufficient detail to determine to what extent the pipeline and its construction may affect any listed threatened, endangered or candidate species or their designated critical habitat. This biological assessment is prepared in accordance with legal requirements set forth under the Endangered Species Act, Sections 4(b)(2) (16 USC 1533) and 7 (16 USC 1536 (c)), and follows the standards established in 50 CFR Part 402-Interagency Cooperation-Endangered Species Act of 1973, as amended. Other legislation that has a bearing on this assessment include: the Migratory Bird Treaty Act (16 U.S.C. 703 et seq.), the Bald and Golden Eagle Protection Act (16 U.S.C. 2342352352), the National Environmental Policy Act (42 U.S.C. 4321 et seq.), Executive Order 11990 "Protection of Wetlands" and Executive Order 13186 "Responsibilities of Federal Agencies to Protect Migratory Birds". Details about the project are contained in ***Table 1.***

### THREATENED, ENDANGERED, CANDIDATE SPECIES AND DESIGNATED CRITICAL HABITAT

**ENDANGERED**
Interior least tern *(Sterna antillarum)*
Whooping crane *(Grus Americana)*
Pallid sturgeon *(Scaphirhynchus albus)*
Gray wolf *(Canis lupus)*
Black-footed ferret *(Mustela nigripes)*
**THREATENED**
Piping plover *(Charadrius melodus)*
**CANDIDATE**
Sprague's Pipit *(Anthus spragueii)*
Dakota Skipper *(Hesperia dacotae)*
**DESIGNATED CRITICAL HABITAT**
Piping plover *(Charadrius melodus) – Missouri River*
**NORTH DAKOTA SPECIES OF CONCERN**
Flathead Chub *(Platygobio gracilis)*
Sturgeon Chub *(Macrhybopsis galida)*
Paddlefish *(Polyodon spathula)*
**OTHER SPECIES**

Bald Eagle *(Haliaeetus leucocephalus)*
Golden Eagle *(Aquila chrysaetos)*

***Table 1. Project Details***

| | |
|---|---|
| Company | Summit Midstream Energy |
| Company contact | Jason Panek |
| Project name | Divide Lateral Project |
| Project type | Crude Petroleum Gathering Pipeline |
| Legal description | T161N-R100W, T160N-R100W, T159N-R100W, T159N-R99W, T158NR99W, T157N-R99W, T157N-R98W, T156N-R98W |
| County | Divide and Williams, ND |
| USGS quadrangles | All 48103-TF-024: Epping C3; Spring Brook C4; Epping NW D4; Alamo E4; Appam E5; Smoky Butte F5; Colgan SE G5 |
| National Wetland Inventory Maps | Same as above |
| Date of survey | July 13-16 and August 13, 2013 |
| Project footprint | 75 foot wide corridor, 45.5 miles long |
| Start and end times | July 1 to November 30, 2013 |
| Construction access | Along existing roadways and landowner two-track trails |
| Staging laydown areas | All construction will be within existing 75-foot pipeline corridor |
| Construction equipment and techniques | Backhoes, trackhoes, dozers, and HDD rigs; open trench and HDD |
| Permanent versus temporary impacts | Permanent: None. Temporary: Surface disturbance of the pipeline route, taking 400 acres of farm land out of production through construction |
| If temporary how long | Project completed in 4 months; reclamation to begin immediately and shall continue until frozen conditions exist, to be completed as necessary in 2014. |
| Whether the project is growth inducing | No, this project is in response to current drilling activities |
| Whether the project is part of a larger plan or project | Yes, it is related to gathering activities |
| Whether other projects are interrelated or interdependent | This line is related to well-head tie-in activities |

# METHODS

## RESEARCH AND CONSULTATION

These references were reviewed: **1)** US Fish and Wildlife Service (FWS) list of threatened and endangered species that could occur in North Dakota (FWS 2008). **2)** FWS list of threatened and endangered species and designated critical habitat that could occur within the project area (FWS 2011). **3)** FWS list of species of concern and background information and habitat needs (FWS 1995). **4)** Recovery plans, status surveys, and species descriptions for the listed species. **5)** The North Dakota Parks and Recreation Department (NDPR) was contacted, requesting historic and potential occurrences of listed species in the project area. No response had occurred as of the writing of this report. **6)** US Forest Service (USFS) rare species database.

Other information was obtained from FWS National Wetlands Inventory Data, US Geological Survey topographic maps, and aerial photographs and personal knowledge of the region.

Prior to the field work, wildlife characteristics and their habitats were studied to aid in field recognition.

## AREA SURVEYED

The *survey area* comprised a 125' corridor on each side of the proposed 45.5-mile crude petroleum gathering pipeline, an area of approximately 1380 acres. This was an area of more intensive, on-ground survey. The *analysis area* extended one mile on each side of the pipeline, an area of approximately 58240 acres. This was an area of more general, often remote survey. The area was surveyed on July 13-16 and August 13, 2013, by David Schmoller, Amy Schmoller, and James Nauertz.

## FIELD INSPECTION

Field surveys were conducted along the corridor to determine the presence or absence of listed species and habitat and to evaluate habitat suitability. Surveys also targeted wetland boundaries, marking jurisdictional wetlands that came within the survey corridor. Surveys were conducted on foot, by All-Terrain-Vehicle and by automobile. Survey stations, or *observation points*, were located along the proposed crude petroleum gathering pipeline and at sites with habitat that indicated a higher probability of containing listed birds, mammals, or fish. Survey intensity was intuitive meander. Observations were aided by binocular, spotting scope, and 32-power digital camera. Aerial photographs and historical records were used to guide the survey track.

Other features were assessed within the project area, such as transportation, utility, oilfield, and agricultural developments. These observations were aided by aerial photographs.

Global Positioning System equipment (Garmin 60CSx) was used to record site and feature locations. A photographic record of the project corridor was created.

## DETERMINATIONS

Wetlands boundaries were determined according to the *Federal Manual for Identifying and Delineating Jurisdictional Wetlands*. Soil pit data is contained in ***Table 2***.

An evaluation, called a Biological Assessment, was made as to the direct and cumulative effect of the proposed activities on **1) endangered species**, **2) threatened species, 3) candidate threatened or endangered species,** and **4) designated critical habitat**. This determination was based upon research and field inspection and the evidence they gave of the presence or absence of the species and potential habitat within the project area. For each species, the determinations were one of the following:

1) No effect.
2) Is not likely to adversely affect: May affect individuals or habitat, but is not likely to adversely affect or contribute to a loss of viability to the population or species.
3) Is likely to adversely affect: Will affect individuals or habitat and is likely to adversely affect, with a consequence that the action may contribute to a loss of viability to the population or species.
4) Is not likely to jeopardize a proposed species/adversely modify proposed critical habitat.
5) Is likely to jeopardize a proposed species/adversely modify proposed critical habitat.
6) Beneficial effect.

The concern is whether the project would contribute to a trend toward federal listing or cause a loss of viability to the population or species.

# ACTION AREA

## CRUDE PETROLEUM GATHERING PIPELINE ROUTE

Approximately 19 miles of the proposed 45.5 mile crude petroleum gathering pipeline follow right-of-way (ROW) along highway, county roads, and section line roads. An additional 4 miles follows quarter-section roads. The remaining 22.5 miles of pipeline travels cross-country, over cropland and pasture. A map of the pipeline route is contained in ***Appendix A -Maps***.

## GEOLOGY

Geologically, the survey area is within the Missouri Slope Uplands. The surface geology in most of Williams and all of Divide Counties in the project area is the Glaciated Missouri Plateau Section of the Great Plains Province. This section is characterized by glacial drift of the Pleistocene Coleharbor Group; a veneer of igneous and metamorphic Precambrian to Paleozoic glacial erratics, deposited during the Pleistocene Wisconsinan glacial event. In southern

Williams County along the Missouri River and in a few small locations in Divide County, the surface geology where the glacial drift is absent presents Paleocene mudstone and siltstone of the Sentinel Butte formation and the underlying Tongue River (formerly Bullion Creek) formation. Along the waterways in floodplains and terraces is more recent Holocene erosional debris. The dominant landforms in Divide County are large areas of knob and kettle topography, dotted with hundreds of shallow, prairie lakes and poorly integrated drainage, the result of dead-ice moraines throughout the county. Other common landforms are ground moraines, sheet moraines, meltwater channels, and ice-restricted lake plains. The poor drainage and semi-arid climate result in sodium sulfate, or alkali deposits in low-lying depressions. Williams County is similar to Divide County but has more ground and sheet moraines than dead-ice moraines, hence fewer lakes and more integrated drainage. As a result, well developed creek systems are in Williams County, such as the Little Muddy River, which intersects the proposed pipeline at two points. The Wisconsinian glacial event extended to the Missouri River along the border of McKenzie and Williams Counties, altering the course and depth of the Missouri River. After glaciation, the Missouri River and its major tributaries adjusted to the lowered base level of the Missouri River, exposing the Sentinel Butte and Tongue River formations, which appear as badlands and rugged river breaks along the Missouri River.

## VEGETATION

The project area lies within two Ecoregions: the Missouri River Breaks Ecoregion and the Missouri Plateau Ecoregion. This project is located within the mixedgrass prairie province. Prior to settlement, the project area was dominated by mixedgrass prairie in the uplands, wooded draws in the breaks along the Missouri River, and floodplain forest and willow thickets on the flats along the Missouri River and Little Muddy Creek.

**Disturbance:** What exists today is a drastically altered landscape. Within the project area, the vast majority of the uplands, tablelands, level basins and floodplains have been converted to *cropland*, planted in wheat or other cereals or cut for hay. About 81% or 37 miles of the proposed pipeline route passes through cropland or hayfield ***(Figure 1)***. Thus, total cropped area is estimated to be 47350 acres. The *ditches* along the road ROW have been planted in non-native grasses. Other disturbances in the analysis area include: 7 **oil well pads** covering about 37 acres, about 150 miles of **gravel roads** covering about 900 acres, 10.4 miles of **State Highway** covering about 252 acres, and 36 **residential properties** in the analysis area, in varying states of occupation, covering approximately 300 acres. Thus, the additional disturbed acreage in the 58,240-acre analysis area is roughly 1,489 acres or 2.6%. Thus, total disturbed area is an estimated 48,840 acres, or 83.6% of the analysis area. The remaining 16.4% or 8.5 miles of the pipeline corridor is in *pasture land*. One mile of this is within the ROW along Highway 85. Pastures are found on steeper slopes, often reclaimed cropland planted in non-native grasses and forbs, lands with a history of disturbance.

Alien and invasive species in the **hayfields** include alfalfa (*Medicago sativa*) and yellow sweet clover (*Melilotus officinalis*). **Fallow fields and disturbed soils** are dominated by all manner of invasives including green foxtail (*Setaria viridis*), fat hen (*Chenopodium album*), redroot pigweed (*Amaranthus retroflexus*), kochia (*Kochia scoparia*), catnip (*Nepeta cataria*), perennial sowthistle (*Sonchus arvensis*), curled dock (*Rumex crispus*), black bindweed (*Polygonum convolvulus*), biennial wormwood (*Artemisia biennis*), pale smartweed (*Polygonum lapathifolium*), and marshelder (*Iva xanthifolia*) ***(Figure 2)***. **Ditches** contain smooth brome (*Bromus inermis*), crested wheatgrass (*Agropyron cristatum*), yellow sweetclover, Russian thistle (*Salsola iberica*), giant ragweed (*Ambrosia trifida*) kochia (*Kochia scoparia*), and Kentucky bluegrass (*Poa pratensis*). **Reclaimed grassland** contains smooth brome and crested wheatgrass.

**Native Vegetation Communities:** Very little of the pipeline corridor could be characterized as native grassland ***(Figure 3)***. Only 16% of the total route passes through grassland and most of it is a relic of mixed grass prairie, has been affected by crop and hay operations and has a strong component of crested wheatgrass and smooth brome. Wooded draws are extremely rare in the corridor and most woody vegetation is in windbreaks between wheat fields and around homesteads.

The numerous wetlands in the survey corridor exhibit varying states of alteration. Some appear to be in a relatively pristine condition. Most have shorelines that have been plowed or grazed and are dominated by alien species

***(Figure 4)***. Many are farmed wetlands, with furrows throughout ***(Figure 5)***. The proposed pipeline intersects 67 of these wetlands.

The native plant community types seen in the vicinity of the project are below (Faber-Langendoen, 2001):

1) *Stipa comata -Bouteloua gracilis -Carex filifolia* Herbaceous Vegetation
2) *Schizachyrium scoparium -Bouteloua curtipendula -Hesperostipa spartea* -(*Pascopyrum smithii*) Herbaceous Vegetation
3) *Hesperostipa comata -Bouteloua gracilis -Carex filifolia* Herbaceous Vegetation
4) Prairie Wetlands such as wet swales or intermittent creek bottoms that contained hydrophytic species such as Baltic rush (*Juncus balticus*)

**Upland grasslands** contain blue grama (*Bouteloua gracilis*), needle-and-thread (*Stipa comata*), green needlegrass (*Stipa viridula*), red three-awn (*Aristida purpurea*), purple coneflower (*Echinacea angustifolia*), threadleaf sedge (*Carex filifolia*), western snowberry (*Symphoricarpos occidentalis*), western wheatgrass (*Pascopyrum (Agropyron) smithii*) and little bluestem (*Andropogon scoparius*). **Sideslopes**, or steeper gradients along ravines creek bottoms and wooded draws have little bluestem (*Andropogon scoparius*), prairie sandreed (*Calamovilfa longifolia*), and ground juniper (*Juniperus horizontalis*). **Wetland** species, found within lakes, ponds, swamps, and creek bottoms, included common cattail (*Typha latifolia*), Baltic rush, redosier dogwood (*Cornus sericea*), inland saltgrass (*Distichlis spicata*), Kentucky bluegrass (*Poa pratensis*), foxtail barley (*Hordeum jubatum*), common mint (*Mentha arvensis*), northern reedgrass (*Calamagrostis stricta*), water smartweed (*Polygonum amphibium*), curled dock (*Rumex crispus*), Mexican dock (*Rumex triangulivalvis*), hardstem bulrush (*Schoenoplectus acutus*), river bulrush (*Schoenoplectus fluviatilis*), Canada thistle (*Cirsium arvense*), arumleaf arrowhead (*Sagittaria cuneata*), prairie cordgrass (*Spartina pectinata*), Richardson's pondweed (*Potamogeton richardsonii*). Some of these plants were dominant at each soil pit that indicated a wetland.

## WILDLIFE

Waterfowl and raptors were abundant in the survey corridor. Bird species seen or heard during this survey included double-crested cormorant, ruddy duck, American coot, blue winged teal, American white pelican, eastern kingbird, horned lark, lark bunting, red-tailed hawk, Swainson's hawk, northern harrier, red-winged blackbird, and common crow. Other wildlife seen included green racer and black bullhead ***(Figure 6)***.

## FEATURES

Cattle grazing occurs in the survey area on reclaimed and native grasslands. Fence lines delineate pastures. Stock dams and tanks were uncommon due to the abundant prairie wetlands.

***Table 2. Soil Pit Data***

| PIT | WET? | DEPTH | TO H20 | PLOWLINE | A HORIZON | DEPTH | B HORIZON | DEPTH | INDICATORS |
|---|---|---|---|---|---|---|---|---|---|
| 1 | NO | 18" | None | To 18" | ALL 10YR4/2 | 18" | None | None | None |
| 2 | NO | 20" | None | To 20" | ALL 5Y4/2 | 20" | None | None | None |
| 3 | YES | 20" | None | None | ALL 10YR2/2 | 20" | None | None | Sulfidic, saturated in root zone; hydro plants>50% |
| 4 | NO | 20" | None | None | 2.5Y2.5/1 | 8" | 2.5Y4/3 | 8-16" | None |
| 5 | NO | 20" | None | To 20" | ALL 2.5Y2.5/1 | 20" | None | None | None |
| 6 | YES | 18" | 18" | None | 2.5Y2.5/1 | 17" | 2.5Y4/2 | 17-18" | Sulfidic, saturated in root zone; hydro plants>50% |
| 7 | NO | 20" | None | None | 2.5Y2.5/1 | 20" | None | None | None; floodplain soil |
| 8 | NO | 20" | None | None | 2.5Y2.5/1 | 8" | 2.5Y4/3 | 10-20" | None |
| 9 | NO | 20" | None | None | 2.5Y2.5/1 | 8" | 2.5Y4/3 | 10-20" | None |
| 10 | NO | 20" | None | None | 2.5Y2.5/1 | 8" | 2.5Y4/3 | 10-20" | None, dry site |

***Figure 1.*** Orange stakes and tire tracks mark route as it passes through wheat/barley fields. View is to SE near 68th St. NW.

***Figure 2.*** Alien invasive weeds massing on edges of cornfield. Amaranth, giant ragweed, kochia, sow thistle are visible. View is to SW near Little Muddy River.

***Figure 3.*** Native grassland at Site 7 with green needlegrass, and blue grama. Orange line marks pipeline route. View is to SE.

***Figure*** 4**.** Seasonal wetland in midst of wheatfield with alien invasive emergent plants. Stakes mark pipeline route. View to SE.

***Figure*** 5**.** Seasonal plowed wetland, with previous year's wheat stalks. View to E.


***Figure 6.*** Some of the species seen in this survey.

# SPECIES ACCOUNTS

The following evaluation is being made to facilitate the FWS decision making process. The existing conditions documented below may assist FWS personnel to determine if the proposed activities appropriately adhere to the overall management intent of the FWS. A summary of the evaluation is found in ***Table 3, Effects Summary.***

## GENERAL

Design criteria are provided to avoid potential future effects unless there is a 'no effect' determination. If there are no adverse effects now or in the future, no avoidance measures are necessary.

## ENDANGERED SPECIES

### *Gray Wolf (Canis lupus)*

Historical records show that wolf sightings are very rare within North Dakota. From 1981 to 1992, 10 wolves were killed in the Dakotas, five of them in 1991-92 (Licht 1992). One was shot in Dunn County in 1992, a den was discovered in the Turtle Mountains in 1994, and another was shot in Traill County in 2011. Additional sightings have been reported in the Killdeer Mountains in Dunn County (Johnson 1999). The Killdeer Mountains are about 60 miles to the southeast of the survey area. Most wolves in North Dakota are likely dispersed animals that originated in northern Minnesota, Riding National Park or Spruce Woods Reserve, Manitoba. Currently, wolves are not known to inhabit the project area. The proposed project will have **no effect** on the gray wolf.

### *Black-footed Ferret (Mustela nigripes)*

Black-footed ferrets were historically found in North Dakota, in the southwest quarter. It is likely that they have been extirpated from the state. The Black-footed Ferret Recovery Plan (FWS 1988) lists the need to reintroduce ferrets into suitable habitat. Since they rely almost exclusively on prairie dogs for food and den sites, suitable Black-footed ferret habitat is large prairie dog towns or complexes of towns in close proximity to each other.

The nearest population of Black-footed Ferret is 200 miles to the west in the Charles M. Russell National Wildlife Refuge. The nearest proposed area of reintroduction is 42 miles to the southwest of the proposed project, on the Little Missouri National Grasslands, USFS Management Area 3.63, Black-Footed Ferret Reintroduction Habitat. No black-footed ferrets have been introduced into this area at this time. No historic prairie dog towns are in the project area. Thus, the proposed project will have **no effect** on the black-footed ferret at this time.

### *Interior Least Tern (Sterna antillarum)*

**Locations:** According to the FWS recovery plan, "interior least terns breed in the Mississippi and Rio Grande River Basins from Montana to Texas and from eastern New Mexico and Colorado to Indiana and Louisiana. From late April to August they occur primarily on barren to sparsely vegetated riverine sandbars, dike field sandbar islands, sand and gravel pits, and lake and reservoir shorelines" (FWS 1990; page ii). Essential breeding habitat in North Dakota for interior least tern is found along "about 192 km [119 miles] of the Missouri River from Garrison Dam to the mouth of the Cannonball River south of Bismarck, and about 29 km [18 miles] of the Yellowstone River in North Dakota from the Montana border to the river's confluence with the Missouri River. A few interior least terns nest on islands, shorelines and sandbars along the reservoir, Lake Oahe, an impoundment on the Missouri River in North and South Dakota. In Montana, breeding interior least terns recently have been recorded on the Yellowstone River, and on the Missouri River between Fort Peck Reservoir and North Dakota" (FWS 1990; page 3). Suitable riverine breeding habitat is "sparsely vegetated sand and gravel bars within a wide unobstructed river channel, or salt flats along lake shorelines. Nesting locations usually are at the higher elevations and away from the water's edge" (FWS 1990; page 20) and occur during periods of normal to low flows. No records of interior least terns in the analysis area were cited by the FWS or NDPR. No terns were observed in this survey.

**Habits:** Interior least terns nest for 4 to 5 months, arriving in late April to early June and departing by early September. They show strong breeding site fidelity and a small home range. Human presence has been shown to reduce reproductive success. While Interior least terns subsist on a diet that includes numerous species of small fish, they also feed on crustaceans, insects, mollusks and annelids.

**Threats:** The conversion of the Missouri River from a braided river with numerous channels, sandbars, oxbows, and pools to a single, narrow, relatively uniform navigation channel has eliminated much of the tern's habitat. In addition, reservoirs have submerged hundreds of miles of habitat, captured clay, silt and sand that build sandbars downstream, and produced discharges that fail to mimic those that occurred naturally. Other threats include surface or water contaminants, as by chemical spills, and vehicular and human traffic on beach habitat.

**Project:** The proposed project is 14 miles to the north of the Missouri River (Lake Sakakawea) at its nearest point.

**Potential Effects:** The proposed project will have **no effect** on interior least terns.

### *Pallid Sturgeon (Scaphirhynchus albus)*

**Locations:** The pallid sturgeon is known only to occur in the Missouri and Yellowstone Rivers. It requires large rivers with swift and free-flowing, turbid, warmwater habitat with diverse and fluctuating structure. This diverse structure includes braiding, floodplains, oxbows, backwaters, sloughs, chutes, side channels, islands, sandbars snags, cutbanks, and organic debris. Most recent records show the pallid sturgeon in or near North Dakota in the following locations:

> From the Missouri River between the Marias River and Ft. Peck Reservoir in Montana; between Ft. Peck Dam and Lake Sakakawea (near Williston, North Dakota); within the lower 113 km (70 mi) of the Yellowstone River to downstream of Fallon, Montana (FWS 1993; page 5).

**Habits:** Historically, spawning migrations occurred during the two periods of spring floodflows; April, when snowmelt from the Great Plains entered the river system and late May and June when snowmelt from the Rocky Mountains entered the river system. The sturgeon spawns from June to August. It is surmised that the sturgeon spawns over rough rock or gravel substrate found in the relatively swift waters in the main channel of the Missouri River. Suspended sediment provides essential cover for hatchlings and small sturgeon and maintains food sources adapted to turbid waters. Diet includes immature aquatic invertebrates and fish, primarily cyprinids.

**Threats:** Reservoirs along the Missouri River have been the primary threat to pallid sturgeon. This has **1)** altered the river dimensions, **2)** altered patterns of water velocity, discharge, depth, and temperature, **3)** blocked fish movement, **4)** reduced turbidity and organic debris, **5)** reduced bed roughness, and **6)** inundated spawning and nursing areas. Approximately 36% of riverine habitat on the mainstem of the Missouri River has been lost due to the construction of six reservoirs and another 40% has been lost to channelization. As a result, most suitable spawning and forage habitat has been lost. In turn, reproduction of the pallid sturgeon the Missouri or Yellowstone Rivers had not been documented for decades. In recent years, some reproduction has been observed, a result of habitat restoration (Krentz 1997, FWS 2000, USGS 2007).

**Project:** The proposed project is 14 miles to the north of the Missouri River (Lake Sakakawea) at its nearest point.

**Potential Effects:** The proposed project will have **no effect** on pallid sturgeon.

### *Whooping Crane (Grus americana)*

**Locations:** According to the Canadian Wildlife Service (CWS) and the FWS recovery plan, "areas characterized by wetland mosaics appear to provide the most suitable stopover habitat." Migration patterns show that the "cranes primarily used shallow, seasonally and semipermanently flooded palustrine wetlands for roosting, and various cropland and emergent wetlands for feeding." This includes the large reservoir margins in the Dakotas. Riverine habitats are also used by the cranes during migration, roosting on "submerged sandbars in wide, unobstructed channels that are isolated from human disturbance" (CWS FWS 2007; page 18). No cranes were seen in this survey.

**Migration:** According to the FWS recovery plan, the Aransas-Wood Buffalo whooping crane population (AWBP) migrates "southeasterly through Alberta, Saskatchewan, and eastern Manitoba, stopping in southern Saskatchewan for several weeks in fall migration before continuing migration into the United States. They migrate through the Great Plains states of eastern Montana, North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, and Texas. Their spring migration is more rapid and they simply reverse the route followed in fall." They spend three months of the year in migration (CWS FWS 2007; page 13).

On average, the AWBP depart from Aransas National Wildlife Refuge (ANWR) in Texas between March 25 and April 15. The northward migration is normally completed in 2-4 weeks. Normally, the autumn migration of AWBP from Wood Buffalo National Park (WBNP) in Alberta begins in mid-September. Birds linger in northern Saskatchewan for 2-4 weeks then make a rapid migration to their wintering grounds at the ANWR, usually covering the distance in a week. Cranes have lingered in North Dakota into November. Winter storms play a role in migration timing.

Typically, nesting pairs arrive in WBNP in late April, lay eggs from late April to mid-May, and hatching occurs in late May to mid-June. The cranes remain in WBNP for the remainder of the summer.

**Threats:** Threats to whooping cranes include: **1)** Damage to staging areas and breeding wetlands as a result of drought, cattle grazing, contaminated runoff, and agricultural disturbance; and **2)** loss of migration habitat due to widespread draining of prairie pothole wetlands and diversions of major river systems. Whooping cranes have shown an aversion to human activity, responding negatively to aircraft and humans on foot. This aversion may limit their ability to obtain food resources and weaken individuals and the social structure.

**Project:** The proposed project is 14 miles to the north of the Missouri River (Lake Sakakawea) at its nearest point.

**Potential Effects:** The proposed project will have **no effect** on whooping cranes.

## THREATENED SPECIES

### *Piping Plover (Charadrius melodus)*

**Locations:** Piping plovers spend spring and summer months in North Dakota, breeding and raising young. Breeding, nesting, and foraging habitat occur in North Dakota on open, sparsely vegetated, gravel to sandy beaches and bars along the Missouri and Yellowstone Rivers. About 15% of the plovers in North Dakota are found along the Missouri River from the Garrison Dam south to the mouth of the Cannonball River and along the Yellowstone River in McKenzie County. The remaining 85% of plovers in North Dakota can be found on alkali wetlands on the Missouri Plateau.

**Habits:** The FWS has reported that the piping plover's breeding season is from April 1 to August 31. Piping plovers spend 3-4 months in North Dakota, arriving from the third week in April to the second week in May. Hatching begins in late May and continues into June. The adult birds begin to abandon nests as early as mid-July and normally, all piping plovers have left by early August. Some have stayed at the breeding grounds into September. Juveniles depart a few weeks later and normally, all have left by late August. Breeding site fidelity is variable from region to region, suggesting the need for variable nest sites. Piping plovers feed on small invertebrates including worms, fly larvae, beetles, crustaceans, mollusks.

**Threats:** As with interior least terns, the conversion of the Missouri River from a braided river with numerous channels, sandbars, oxbows, and pools to a single, narrow, relatively uniform navigation channel has eliminated much of the plover's habitat. Reservoirs have submerged hundreds of miles of habitat, captured clay, silt and sand that build sandbars downstream, and produced discharges that fail to mimic those that occurred naturally. Other threats to piping plovers include surface or water contaminants, as by chemical spills, vehicular and human traffic on beach habitat, and vegetation encroachment which provides cover for predators. On alkaline wetlands, plover are threatened by cattle trampling, wetland drainage and chemical contaminants.

**Potential effects from project:** Construction activities will occur during the breeding season of the piping plover. The proposed project is 14 miles to the north of the Missouri River (Lake Sakakawea) at its nearest point. Along most of its length, the project will intersect numerous prairie pothole wetlands, some of which may be suitable alkali wetland *habitat*, particularly in low-water years. Shorelines and bars were not exposed during the survey due to high water. These lakes are various permanent and seasonal waters, palustrine wetlands under the Cowardin Wetland Classification System. The proposed pipeline has a narrow footprint, a corridor approximately 50 feet wide. Approximately 19 miles of the proposed 45.5 mile pipeline follow ROW along highway, county roads, and section line roads. An additional 4 miles follows quarter-section roads. The remaining 22.5 miles of road travel cross-country, over cropland and pasture. Total pipeline distance that intersects wetlands is less than one mile.

Effects upon known plover *individuals* are uncertain; no records of plovers in the area were cited by the FWS or NDPR. No plovers were seen in this survey. Adverse effects upon individuals are unlikely.

**Design Criteria to avoid potential future effects**
Best management practices should be used during activities to minimize disturbances and reduce effects as much as possible.

Construction activities and the project footprint have the potential to disturb nesting piping plover. This survey was conducted to confirm the presence or absence active nest sites within 0.5 miles of the project. Had any active nest sites been discovered, these mitigations would have occurred: Active nests would be flagged and a 0.5 mile buffer area between construction activities and active nest site would be established and maintained per FWS recommendations. Regardless of the presence or absence of active nests, these mitigations will occur: To minimize impacts, horizontal directional drilling (HDD) will be used to install the pipelines under wetlands ponds, lakes, creeks, rivers, wet meadows, marshes -encountered along the ROW of the proposed project. The HDD waterbody crossing technique is a low impact crossing technique that is preferred by the Army Corps of Engineers (COE) and the North Dakota Department of Health. This drilling method minimizes potential impacts to the resources and downstream water quality. Based upon aerial photography the HDD equipment and materials will be staged and operating from a point that will maintain the minimum 0.5 buffer from potential nesting habitat.

During construction activities, there is the potential for chemical spill, such as fuel or hydraulic fluid for equipment used in construction, and excess erosion, which may directly impact plovers in the vicinity and food sources in alkali lakes. The developer will implement a Spill Prevention, and Containment and Countermeasure Plan (SPCC) for this project. Project personnel shall be trained to the procedures for addressing a potential release event. Typical equipment used for construction is drill rigs, trucks and excavator equipment. Fuels used for this equipment are diesel, kerosene, military aviation kerosene and gasoline. Each machine has a capacity between 6,000 to 12,000 gallons. Lubricants used onsite will be less than 500 gallons. Coolants on site typically are less than 100 gallons. Spill response equipment (e.g., spill kits) shall be on site of the appropriate type to manage a potential release. Project personnel shall be oriented to the location and contents of kit and shall be trained to appropriate response measures.

The FWS recommends that construction activities avoid the dates from *February 1 to August 31*. The FWS recommends that, to protect all listed migratory birds that occur in the project area, construction activities are limited to *late summer or fall/early winter* (FWS 2011 letter).

Thus, the proposed project **may have effects** upon individuals, but it is not likely to adversely affect and is not expected to contribute to a trend toward higher federal listing or loss of viability to the population or species.

For details, see the commentary by the FWS contained under ***Discussion - Recommended Design Criteria***.

### *Western Prairie Fringed Orchid (Platanthera praeclara)*

The distribution of the western prairie fringed orchid in the Dakota Prairie Grasslands is limited to the Sheyenne National Grassland in southeastern North Dakota, some 270 miles to the southeast. The proposed project will have **no effect** on the western-fringed prairie orchid or its habitat.

## CANDIDATE SPECIES

### *Dakota Skipper (Hesperia dacotae)*

**Habitat:** The Dakota skipper can survive only on high quality, native, undisturbed tall grass and mid-grass prairie. In North Dakota, these sites include ungrazed, native prairie with little bluestem, needle-and-thread and purple coneflower and dry, upland prairie dominated by little and big bluestems, needlegrass, purple coneflower (*Echinacea purpurea*), pale purple coneflower (*Echinacea pallida*), prairie coneflowers (*Ratibida colmnifera*), and blanketflower (*Gaillardia aristata*). It is also found in association with harebell (*Campanula rotundifolia*), white prairie clover (*Dalea candida*), fleabanes (*Erigeron*), black-eyed Susans (*Rudbeckia hirta*), and evening primrose (*Oenothera serrulata*). It appears to prefer purple coneflower and, to a lesser extent, harebell as nectar sources. They are not found on habitats dominated by exotic plant species. The FWS states:

> Dakota skipper populations have declined historically due to widespread conversion of native prairie for agriculture and other uses. This has left remaining Dakota skipper populations isolated from one another in relatively small areas of remnant native prairie. States and Canadian provinces in the original range of Dakota skipper have each lost 85%-99% of their historical tallgrass prairie and 72%-99.9% of their historical mixed-grass prairie. This has left isolated fragments of native prairie, only some of which are suitable for Dakota skippers. Dakota skippers are sensitive to several types of artificial and natural disturbances and are almost always absent from remnant prairies that are overgrazed or otherwise degraded. Because of this sensitivity, the historical persistence of Dakota skippers may have depended on the vastness of the prairie and the availability of immigrants to repopulate areas in which the species had been eliminated by disturbances, such as fire or intensive bison grazing (FWS 2007; page 1).

A reliable indicator of possible presence of Dakota skipper in western North Dakota is rolling upland prairie with both Needle-and-Thread and Purple Coneflower (Royer 2003). Royer recorded three sightings of the butterfly in McKenzie County: 1) Two populations in northern McKenzie County, 30 miles east of the project area. A total of three butterflies were seen in these two populations. 2) One population in southern McKenzie County near Eagle Nest Butte, 42 miles to the east of the project area. This population is small and vulnerable, covering 10 acres of prairie. These sightings constitute the westernmost known populations of the species in the US (Royer 2005). The majority of the populations occur in McHenry, Ransom, Eddy and Richland counties, at their closest, 120 miles to the east.

**Habits:** Pupation takes about 10 days and occurs in mid-June to early July. Males emerge as adults about five days before females. They mate during this flight period, which lasts a maximum of about three weeks (USFWS 2002).

**Project:** The proposed pipeline has a small footprint: a narrow trench occupying a corridor 50 feet wide that would be filled and reclaimed by surrounding vegetation. Approximately 19 miles of the proposed 45.5 mile pipeline follow ROW along highway, county roads, and section line roads. An additional 4 miles follows quarter-section roads. The remaining 22.5 miles of road travel cross-country, over cropland and pasture. About 15 miles of this cross-country route is through crop and hay fields. The remaining 7.5 miles of this cross-country route pass through 9 blocks of relatively native mixed-grass prairie. These parcels have inclusions of non-native vegetation. Elsewhere, communities of *Stipa comata/Echinacea angustifolia* are extremely uncommon. No Dakota skippers were observed in this survey. Due to the sensitivity of the species to disturbance, the presence of some native grassland parcels, the project **may have effects** upon individuals. However, the location of the project outside of the extreme westernmost populations indicates that it will not likely contribute to a trend toward federal listing or loss of viability to the population or species.

**Design Criteria to avoid potential future effects**
Best management practices should be used during activities to minimize disturbances and reduce effects as much as possible.

### *Sprague's Pipit (Anthus spragueii)*

**Basis:** A 2010 status review found that "listing Sprague's Pipit as threatened or endangered is warranted, but that listing the species at this time is precluded by the need to complete other listing actions of a higher priority" (FWS 2010; page 56,028). The FWS and NDPR did not present any records of Sprague's pipit in the analysis area.

**Locations:** Sprague's pipit is fairly common locally on the Northwestern Drift Plain, Missouri Coteau, Coteau Slope, and Little Missouri Slope. It is uncommon and local on the Northeastern Drift Plain, Southern Drift Plain, and Missouri Slope. Nine sightings of territorial males or pairs were recorded up to 1972 in McKenzie County and 12 were recorded across the Missouri River in Mountrail County. Three were heard in northern McKenzie County in the spring of 2010 (Schmoller 2010), in four locations in the spring of 2011 (Schmoller 2011), and two locations in the spring of 2013 (Schmoller 2013). The USFS reports that 'there have been various observations of Sprague's pipit throughout the general area' (USFS 2010). In 2002, a sighting of a nesting Sprague's pipit was recorded in T150N-R103W-S11, NE. They are solitary and secretive birds, difficult to observe. Identification is more likely by

sound than sight.

**Habits:** Migration occurs between April and October. In Montana, fall migration normally begins at the end of August. Breeding activity is from late April to early September, peaking from early May to August. Some speculate that the species rears two broods each year. Nestlings have been recorded as late as August 2 in North Dakota. The latest recorded singing male in North Dakota was on September 6. The latest recorded migratory Sprague's pipit in Montana was in October.

Their breeding range is from north-central Montana through North Dakota, south to north-central South Dakota. Breeding occurs in April and May. Breeding territory serves for nesting and feeding. Their diet consists primarily of arthropods. In North Dakota it has been observed to be in short grasses on elevated sites. In Montana, nest sites tended to be in medium height native grasses with have fewer forbs, clubmosses, or shrubs. Site fidelity is low.

In southern Saskatchewan, edge-to-area ratios tend to be low, the birds had a 50% probability of occurring on patches greater than 360 acres, and were not seen on patches smaller than 70 acres. Regarding general habitat requirements, Deschant makes these comments:

> Sprague's Pipits use grasslands of intermediate height and sparse to intermediate vegetation density. Although they will use exotic vegetation, they are significantly more abundant in, and prefer, native prairie. Other habitat features required include low visual obstruction, moderate litter cover, and little or no woody. Vegetation in dry lake bottoms and alkali lake borders can also be suitable for Sprague's Pipits. In Alberta native grassland, Sprague's Pipits preferred areas with moderate cover diversity, moderate grass height and height variation, and moderate to high grass to forb ratio. Within grazed mixed-grass areas in North Dakota, abundance of Sprague's Pipits was positively associated with percent clubmoss (*Selaginella densa*) cover and plant communities dominated by native grass (*Stipa, Bouteloua, Koeleria*, and *Schizachyrium*). Abundance was negatively associated with percent grass cover, litter depth, density of low-growing shrubs, vegetation density, and with plant communities dominated by Kentucky bluegrass (*Poa pratensis*) and native grass. In areas not occupied by Sprague's Pipits, percent grass cover, litter depth, and vegetation density were greater than in areas where Sprague's Pipits were present. Strongest vegetational predictors of the presence of Sprague's Pipit were decreasing bare ground and decreasing litter depth (Deschant 2001; page 1).

The FWS makes the following statement regarding habitat requirements:

> Sprague's Pipits have a strong negative response to exotic grasses. Consequently, the introduction of Eurasian plant species has had a negative effect on Sprague's Pipit populations. In Manitoba, Sprague's Pipits were significantly more abundant in native prairie than in introduced vegetation. Singing males were two to three times more abundant in native grass than in crested wheatgrass (*Agropyron cristatum*) and four to 25 times more abundant in native grass than in brome-dominated grassland in south-central. They were more than twice as abundant in native grass than crested wheatgrass or absent from crested wheatgrass in southern Alberta sites. Greater Sprague's Pipit densities were significantly correlated with native grasses at Lostwood NWR in North Dakota. Exotic plant species planted for the Conservation Reserve Program and for nesting cover for waterfowl are generally not used by Sprague's Pipits (FWS 2010; page 19).

**Threats:** Pipits are threatened by degradation or loss of native prairie habitat by cropland conversion, high-intensity grazing, tree planting, shrub encroachment, and fragmentation. Loss of suitable vegetation structure has been shown to reduce pipit density. Non-native reclaimed grasslands with suitable vegetation structure will be used, but their numbers are lower than those found in native grasslands. Energy development has a negative correlation with pipit abundance; it has been shown to decrease within 300 meters of oil wells. Predation is a prime threat to breeding success of pipits.

**Potential effects from project:** No pipits were seen or heard during this survey. Some suitable habitat was

encountered.

The proposed pipeline has a small footprint: a narrow trench occupying a corridor 50 feet wide that would be filled and reclaimed by surrounding vegetation. Approximately 19 miles of the proposed 45.5 mile pipeline follow ROW along highway, county roads, and section line roads. An additional 4 miles follows quarter-section roads. The remaining 22.5 miles of road travels cross-country, over cropland and pasture. About 15 miles of this cross-country route is through crop and hay fields. The remaining 7.5 miles of this cross-country route pass through 9 blocks of relatively native mixed-grass prairie, suitable habitat for Sprague's pipit. These parcels have inclusions of non-native vegetation. These parcels face fragmentation during pipeline construction. Elsewhere, communities of *Stipa comata/Echinacea angustifolia* are extremely uncommon, as the remainder of the pipeline corridor passes through cropland, hayfield, and an occasional wetland. There is the potential for chemical spill, such as fuel or hydraulic fluid for equipment used in construction, and excess erosion, which may directly impact pipits and food sources. Construction activities may disturb Pipits.

**Design Criteria to avoid potential future effects**
Best management practices should be used during activities to minimize disturbances and reduce effects as much as possible.

While this habitat will be fragmented during and shortly after construction, revegetation of the pipeline corridor will occur, minimizing the fragmentation. As designed, most of the pipeline construction would occur within previously disturbed habitat: cropland, hayfields, and road and highway ROW. The project will not add any significant fragmentation to the landscape.

During construction activities, there is the potential for chemical spill, such as fuel or hydraulic fluid for equipment used in construction, and excess erosion, which may directly impact plovers in the vicinity and food sources in alkali lakes. The developer will implement an SPCC for this project. Project personnel shall be trained to the procedures for addressing a potential release event. Typical equipment used for construction is drill rigs, trucks and excavator equipment. Fuels used for this equipment are diesel, kerosene, military aviation kerosene and gasoline. Each machine has a capacity between 6,000 to 12,000 gallons. Lubricants used onsite will be less than 500 gallons. Coolants on site typically are less than 100 gallons. Spill response equipment (e.g., spill kits) shall be on site of the appropriate type to manage a potential release. Project personnel shall be oriented to the location and contents of kits and shall be trained to appropriate response measures.

The FWS recommends that construction activities avoid the dates from *February 1 to August 31*. The FWS recommends that, to protect all listed migratory birds that occur in the project area, construction activities are limited to *late summer or fall/early winter* (FWS 2011 letter).

Thus, the proposed project **may have effects** upon individuals, but it is not likely to contribute to a trend toward federal listing or loss of viability to the population or species.

For details, see the FWS recommendations contained under ***Discussion - Recommended Design Criteria***.

## DESIGNATED CRITICAL HABITAT

### *Piping Plover (Charadrius melodus)*

**Habitat:** According to the FWS recovery plan, critical habitat for the piping plover in North Dakota includes:

**1)** On prairie alkali lakes and wetlands, the physical primary constituent elements include—**a)** shallow, seasonally to permanently flooded, mixosaline to hypersaline wetlands with sandy to gravelly, sparsely vegetated beaches, salt-encrusted mud flats, and/or gravelly salt flats; **b)** springs and fens along edges of alkali lakes and wetlands; and **c)** adjacent uplands 200 ft (61 m) above the high water mark of the alkali lake or wetland.

2) On rivers the physical primary constituent elements include—sparsely vegetated channel sandbars, sand and gravel beaches on islands, temporary pools on sandbars and islands, and the interface with the river.
3) On reservoirs the physical primary constituent elements include—sparsely vegetated shoreline beaches, peninsulas, islands composed of sand, gravel, or shale, and their interface with the water bodies (FWS 2002; page 57,643).

Research has provided details regarding favored piping plover habitat. The FWS Designation of Critical Habitat makes these observations about plovers nesting on the Missouri River:

> [Plovers] use reservoir shorelines and large dry, barren sandbars in wide, open channel beds. Along these rivers, plovers often nest near endangered interior least terns (*Sterna antillarum*). Vegetative cover on nesting islands is usually less than 25 percent…Average vegetation height ranged from 2 to 11 in (6 to 29 cm) and the majority of the plovers (63 percent) nested in areas where vegetation was less than 4 in (10 cm)…[Plovers] select a higher nest site, away from the water's edge, when available. For nesting, piping plovers evidently seek habitats with wide horizontal visibility, protection from terrestrial predators, isolation from human disturbance, low likelihood of inundation, and nearby feeding habitat…Open, wet, sandy areas provide feeding habitat for plovers on river systems and throughout most of the species' nesting range (FWS 2002; page 57,640).

**Potential effects from project:** The proposed project is 14 miles to the north of the Missouri River (Lake Sakakawea) at its nearest point. Along most of its length, the project will intersect numerous prairie pothole wetlands, some of which may be suitable alkali wetland *habitat*, particularly in low-water years. Shorelines and bars were not exposed during the survey due to high water. These lakes are various permanent and seasonal waters, palustrine wetlands under the Cowardin Wetland Classification System. The proposed pipeline has a narrow footprint, a corridor approximately 50 feet wide. Approximately 19 miles of the proposed 45.5 mile pipeline follow ROW along highway, county roads, and section line roads. An additional 4 miles follows quarter-section roads. The remaining 22.5 miles of road travels cross-country, over cropland and pasture. About 15 miles of this cross-country route is through crop and hay fields. The remaining 7.5 miles of this cross-country route pass through 9 blocks of relatively native mixed-grass prairie. Total pipeline distance that intersects wetlands is less than one mile.

**Design Criteria to avoid potential future effects**
Best management practices should be used during activities to minimize disturbances and reduce effects as much as possible.

To minimize impacts, HDD will be used to install the pipelines under wetlands - ponds, lakes, creeks, rivers, wet meadows, marshes - encountered along the ROW of the proposed project. The HDD waterbody crossing technique is a low impact crossing technique that is preferred by the COE and the North Dakota Department of Health. This drilling method minimizes potential impacts to the resources and downstream water quality. Based upon aerial photography the HDD equipment and materials will be staged and operating from a point that will maintain the minimum 0.5 buffer from potential nesting habitat.

During construction activities, there is the potential for chemical spill, such as fuel or hydraulic fluid for equipment used in construction, and excess erosion, which may directly impact plover habitat. The developer will implement a Spill Prevention, and Containment and Countermeasure Plan (SPCC) for this project. Project personnel shall be trained to the procedures for addressing a potential release event. Typical equipment used for construction is drill rigs, trucks and excavator equipment. Fuels used for this equipment are diesel, kerosene, military aviation kerosene and gasoline. Each machine has a capacity between 6,000 to 12,000 gallons. Lubricants used onsite will be less than 500 gallons. Coolants on site typically are less than 100 gallons. Spill response equipment (e.g., spill kits) shall be on site of the appropriate type to manage a potential release. Project personnel shall be oriented to the location and contents of kits and shall be trained to appropriate response measures.

The FWS recommends that construction activities avoid the dates from *February 1 to August 31*. The FWS recommends that, to protect all listed migratory birds that occur in the project area, construction activities are limited to *late summer or fall/early winter* (FWS 2011 letter).

Thus, the proposed project the project **may have effects** upon individuals, but it is not likely to adversely affect and is not expected to contribute to a trend toward higher federal listing or loss of viability to the population or species.

For details, see the commentary by the FWS contained under ***Discussion - Recommended Design Criteria***.

## NORTH DAKOTA SPECIES OF CONCERN

### *Flathead Chub (Platygobio gracilis)*

The flathead chub is usually found in swift flowing, turbid large creeks and rivers and their tributaries with sand to fine gravel bottoms. Although it is usually found in the main channel and in lower reaches of tributaries to plains rivers, rarely it has been found in relatively clear, still pools of water with gravel to bedrock bottoms and in side channels and backwaters. The diet includes small insects, invertebrates, and plant material. It congregates near the bottom of pools amidst tree roots, macrophytes and woody debris. It is believed that it spawns between May and August. It is suspected that it migrates into smaller streams to spawn, but this is not a certainty. It is believed that it spawns in response to floods.

The primary threat to flathead chub is the extensive modification of rivers by reservoirs. On the Missouri River alone, approximately one-third of the flowing water habitat required by flathead chubs has been lost to impoundments. Dams also decrease turbidity, which serves to protect flathead chub from predators. Also, impoundments reduce the length of free flowing rivers needed to suspend the non-adhesive, semi-buoyant flathead chub eggs long enough to hatch and fry long enough to develop the ability to swim. Dams also prevent populations from accessing the remainder of the watershed. Other threats include pollution by animal wastes, groundwater removal for agriculture and industry – which may change a permanent stream to an intermittent stream - and coalbed methane production – which injects water into the waterway, changing an intermittent stream into a permanent stream, often changing the temperature and chemistry in the process.

Potential habitat may exist within the project area in the Little Muddy River. There are two intersections of this river and the proposed pipeline, at wetlands 38 and 52 (Maps C16 and 23). There is some marginal habitat at crossings at the upper reaches of the Little Muddy River as well (Maps C28 and C29). There is an historic record of flathead chubs from the Missouri River 24.5 miles to the southwest of the proposed pipeline.

**Design Criteria to avoid potential future effects**
Best management practices should be used during activities to minimize disturbances and reduce effects as much as possible. It is recommended that construction activities occur between August and May, to avoid flathead chub spawning between the months of May and August.

To minimize impacts, horizontal directional drilling (HDD) will be used to install the pipelines under wetlands - ponds, lakes, creeks, rivers, wet meadows, marshes -encountered along the ROW of the proposed project. The HDD waterbody crossing technique is a low impact crossing technique that is preferred by the COE and the North Dakota Department of Health. This drilling method minimizes potential impacts to the resources and downstream water quality.

During construction activities, there is the potential for chemical spill, such as fuel or hydraulic fluid for equipment used in construction, and excess erosion, which may directly impact flathead chubs and habitat in Little Muddy Creek. The developer will implement an SPCC for this project. Project personnel shall be trained to the procedures for addressing a potential release event. Typical equipment used for construction is drill rigs, trucks and excavator equipment. Fuels used for this equipment are diesel, kerosene, military aviation kerosene and gasoline. Each machine has a capacity between 6,000 to 12,000 gallons. Lubricants used onsite will be less than 500 gallons.

Coolants on site typically are less than 100 gallons. Spill response equipment (e.g., spill kits) shall be on site of the appropriate type to manage a potential release. Project personnel shall be oriented to the location and contents of kits and shall be trained to appropriate response measures.

Thus, the proposed project may have effects upon individual flathead chubs and/or their habitat, but it is not likely to adversely affect and is not expected to contribute to a trend toward higher federal listing or loss of viability to the population or species.

For details, see the commentary by the FWS contained under ***Discussion - Recommended Design Criteria***.

### *Sturgeon Chub (Macrhybopsis galida)*

The sturgeon chub is a lithophile, an obligate of living in turbid, swift flowing, sandy rivers over substrate of small gravel and coarse sand, especially at heads of islands or exposed sandbars. It is endemic to the mainstream and large tributaries to the Missouri River and the large tributaries of the Mississippi River south of St. Louis. Its historical range included the Missouri, Little Missouri, and Yellowstone Rivers. Its current range in ND is the Yellowstone River, Little Missouri River, and the Missouri River upstream from Lake Sakakawea and the Yellowstone River. The FWS reports that it "has been extirpated from approximately 800 miles of the Missouri River that has been converted to reservoir habitat" (FWS 2001; page 2). However, recent collections have shown that the sturgeon chub is more widespread and abundant than believed. In one study, almost a third of the catch at the confluence of the Yellowstone and Missouri Rivers in North Dakota were sturgeon chub (Welker 2001). As a result, it was removed from the FWS Candidate Species list in 2001, where it had been since 1995.

Little is known about the biology of the sturgeon chub. It is believed that they reproduce in June and July. They are highly adapted to life in turbid waters.

Threats include 'habitat and flow alterations from dams, diversions, irrigation operations and riparian development.' Approximately '36 percent of the mainstem Missouri River habitat has been transformed into reservoir, 40 percent of the river downstream of the dams has been channelized, and 24 percent of the river habitat has been altered by flow modifications, hypolimnetic releases, and reduced turbidity levels' (FWS 2001; page 8). Population fragmentation, low stream flows, and coalbed natural gas development all pose threats.

It is highly unlikely that any potential habitat exists within the project area in the Little Muddy River. There are two intersections of this river and the proposed pipeline, at wetlands 38 and 52 ***(Maps C16 and 23)***. There is some marginal habitat at crossings at the upper reaches of the Little Muddy River as well ***(Maps C28 and C29)***. There is an historic record of sturgeon chub from the Missouri River 23 miles to the southwest of the proposed pipeline.

In view of the absence of habitat and the design criteria described under Flathead Chub, the proposed project will have **no effect** upon sturgeon chub or its habitat.

### *Paddlefish (Polyodon spathula)*

Approximately 30-35000 paddlefish exist today, mostly in two populations, the Fort Peck Stock and the Yellowstone/Sakakawea Stock. They prefer turbid, free flowing, naturally fluctuating rivers rich in zooplankton, but will occupy impoundments with access to spawning sites. Paddlefish spawn in rivers over bars of gravel to sand during periods of high-water, typically in May and June. They feed by filtering zooplankton. Commonly, they are found in slow-moving waters of side channels and river-lakes.

Threats include dam and reservoir construction, dredging and channelization of rivers, and drawdowns for irrigation and industry. These may reduce turbidity, flow rates, and springtime flooding, essential for spawning.

Suitable habitat does not exist within the project area. The proposed project is 14 miles to the north of the Missouri River (Lake Sakakawea) at its nearest point. The nearest historic record of paddlefish from the Missouri River is 24.5 miles to the southwest of the proposed pipeline. In view of the absence of habitat and the design criteria described under Flathead Chub, the proposed project will have **no effect** upon paddlefish or its habitat.

## OTHER SPECIES

### *Bald Eagle (Haliaeetus leucocephalus)*

Bald eagles prefer large, supercanopy trees with sturdy horizontal branches for nesting and winter roosting and a clear flight path to water. Most often these are cottonwoods found along larger rivers such as the Missouri, Little Missouri, or Yellowstone. Such habitat for breeding pairs is very rare in the project area. An occasional large tree can be found along the Little Muddy River and some old homesteads or windbreaks. However, there are no known bald eagle nest sites or communal winter roost sites within the one-mile radius. No bald eagles or large nests in tall trees were seen during the field surveys. Information about known bald eagle sites within the project area was not received by the FWS or NDPR at the time of the composition of this Biological Assessment. The proposed project will have **no effect** on the bald eagles or their habitat.

### *Golden Eagle (Aquila chrysaetos)*

Suitable golden eagle habitat is very rare within the project area. Badland outcrops are not present. Large trees are only occasional, scattered along the Little Muddy River, old homesteads or windbreaks. No golden eagles or large nests in tall trees were seen during the field surveys. Information about known bald eagle sites within the project area was not received by the FWS or NDPR at the time of the composition of this Biological Assessment. The proposed project will have **no effect** on the golden eagles or their habitat.

# DISCUSSION

## CONDITIONS

**Agricultural versus Native Vegetation:** The proposed crude petroleum gathering pipeline passes through an altered environment, the majority of which has seen ground disturbance for agriculture. About 81% or 37 miles of the proposed pipeline route passes through cropland or hayfield. Thus, total cropped area out of the 58,240-acre analysis area is estimated to be 47,350 acres. The *ditches* along the road ROW have been planted in non-native grasses. Other disturbances in the analysis area include: 7 **oil well pads** covering about 37 acres, about 150 miles of **gravel roads** covering about 900 acres, 10.4 miles of **State Highway** covering about 252 acres, and 36 **residential properties** in the analysis area, in varying states of occupation, covering approximately 300 acres. Thus, the additional disturbed acreage in the 58,240-acre analysis area is roughly 1489 acres or 2.6%. Thus, total disturbed area is an estimated 48,840 acres, or 83.6% of the analysis area. The remaining 16.4% or 8.6 miles of the pipeline corridor is in *pasture land*. One mile of this is within the ROW along Highway 85. Pastures are found on steeper slopes, often reclaimed cropland planted in non-native grasses and forbs, lands with a history of disturbance.

All disturbed land is dominated by alien and invasive species. In the hayfields, these include alfalfa (*Medicago sativa*) and yellow sweet clover (*Melilotus officinalis*). The remaining disturbed areas are characterized by smooth brome (*Bromus inermis*), crested wheatgrass (*Agropyron cristatum*), yellow sweetclover, Russian thistle (*Salsola iberica*), giant ragweed (*Ambrosia trifida*) kochia (*Kochia scoparia*), and Kentucky bluegrass (*Poa pratensis*).

The vast majority of the Little Muddy River corridor has been impacted by the agriculture in the vicinity; its shorelines are dominated by invasives, mainly smooth brome.

**Right-of-Way versus Cross County Route:** Approximately 19 miles of the proposed 45.5 mile crude petroleum gathering pipeline follow ROW along highway, county roads, and section line roads. An additional 4 miles follows the ROW along quarter-section roads. Of this, only one mile is within relatively native grassland; the remainder falls within agricultural lands.

The remaining 22.5 miles of pipeline travels cross-country, over cropland and pasture. About 15 miles of this cross-country route is through crop and hay fields. The remaining 7.5 miles of this cross-country route passes through 9 blocks of relatively native mixed-grass prairie.

## SPECIES AFFECTED

The project may affect one **Threatened** species, two **Candidate** Species, one **Designated Critical Habitat,** and one **North Dakota Species of Concern**. It will have no effect on the remaining species. Overall, the project may affect individual specimens or habitat patches, but it is not likely to adversely affect and is not expected to contribute to a trend toward elevated federal listing or loss of viability to the population or species.

***Table 3. Effects Summary***

| SPECIES | | | | EFFECT | | |
|---|---|---|---|---|---|---|
| | NONE[1] | MAY[2] | WILL[3] | UNLIKELY[4] | LIKELY[5] | BENEFIT[6] |
| **ENDANGERED** | | | | | | |
| Gray wolf *(Canis lupus)* | X | | | | | |
| Black-footed ferret *(Mustela nigripes)* | X | | | | | |
| Whooping crane *(Grus americana)* | X | | | | | |
| Interior least tern *(Sterna antillarum)* | X | | | | | |
| Pallid sturgeon *(Scaphirhynchus albus)* | X | | | | | |
| **THREATENED** | | | | | | |
| Piping plover *(Charadrius melodus)* | | | | X | | |
| Western prairie fringed orchid *(Platanthera praeclara)* | X | | | | | |
| **CANDIDATE** | | | | | | |
| Dakota Skipper (*Hesperia dacotae*) | | | | X | | |
| Sprague's pipit *(Anthus spragueii)* | | | | X | | |
| **DESIGNATED CRITICAL HABITAT** | | | | | | |
| Piping plover habitat | | | | X | | |
| **NORTH DAKOTA SPECIES OF CONCERN** | | | | | | |
| Flathead Chub (*Platygobio gracilis*) | | | | X | | |
| Sturgeon Chub (*Macrhybopsis galida*) | X | | | | | |
| Paddlefish (*Polyodon spathula*) | X | | | | | |
| **OTHER SPECIES** | | | | | | |
| Bald Eagle (*Haliaeetus leucocephalus*) | X | | | | | |
| Golden Eagle (*Aquila chrysaetos*) | X | | | | | |

[1] no effect at this time.

[2] may affect individuals or habitat, but is not likely to adversely affect or contribute to a trend toward elevated federal listing or cause a loss of viability to the population or species.

[3] will affect individuals or habitat and is likely to adversely affect, with a consequence that the action may contribute to a trend toward elevated federal listing or cause a loss of viability to the population or species.

[4] Is not likely to jeopardize a proposed species/adversely modify proposed critical habitat.

[5] Is likely to jeopardize a proposed species/adversely modify proposed critical habitat.

[6] Beneficial effect.

## EFFECTS

Since the settlement of the northern Great Plains, urbanization, agriculture and industry have altered the nature of much of the landscape. The original integrated ecosystem has been fragmented, reformatted, or eliminated. This has resulted in relatively small contiguous units of land, whether in native vegetation, agriculture, or commercial, residential, or industrial development. These communities are often at opposing purposes.

In addition to the intensive sodbusting that has occurred in the project area over the decades, fencing, roads, powerlines, oil, gas and water pipelines, well pads, storage facilities and other commercial, industrial, and residential developments have produced hundreds of miles of linear disturbances and hundreds of acres of area disturbances within the project vicinity. The addition of the proposed crude petroleum gathering pipeline would increase the linear disturbances by about 45.5 miles; area disturbances would increase by about 275.5 acres, assuming a 50-foot wide disturbance zone along the pipeline.

The pipeline and its construction are expected to have *minimal effects or impacts*. These effects would be small in comparison to the effects of other transportation, energy, and agricultural developments that have occurred or are occurring throughout the survey area. The primary reason is that nearly all of the pipeline would be constructed within previously disturbed habitats, mainly agricultural fields and road ROW. The pipeline and its construction would have an insignificant impact in these zones. Where it crosses native grasslands, there will be an attempt to revegetate the corridor with native vegetation. Some native revegetation will occur naturally. The pipeline by in large avoids contact with wetlands, either by bypass or HDD. What few wetlands are contacted are largely plowed wetlands, already in cultivation but unplanted during this high-water year.

While this project has a relatively narrow footprint and passes through a disturbed zone for the vast majority of its length, repeated disturbances and an accumulation of individual impacts could eventually result in an adverse cumulative impact on the habitat and/or populations of rare species. Cumulative effects to natural populations may include the introduction of non-native plant species, habitat fragmentation, loss of corridors, decreased vegetative structure, decreased floristic diversity, reduction of populations or habitat below critical threshold levels, or elimination of populations or habitat. In turn, some of these cumulative effects would accelerate other adverse conditions. For example, habitat fragmentation accelerates the decline of a habitat below critical threshold levels.

## RECOMMENDED DESIGN CRITERIA

Yellowfield Biological Surveys, LLC, recommends the approval of this project with incorporation of the design criteria below:

Generally, best management practices should be conducted in a manner to avoid or minimize cumulative effects to natural plant and animal populations. This can produce major improvements in the ecological outcomes. In general, the best management practice is to limit disturbances as much as possible. This has several benefits: It reduces habitat fragmentation and noxious weed opportunities. It maintains suitable habitat, vegetative structure and floristic diversity.

The FWS provides these standard guidelines for projects in western ND (FWS 2011):

**1)** Construction activities should avoid periods of critical reproductive or migratory activities of listed species. ***Table 4, Listed Species and Habitat Sensitivity Periods*** describes potential construction windows. Should this not be possible, alternative dates ***may be acceptable*** under certain conditions. With regard to migratory birds (Piping plover, Interior least tern, Whooping crane, Sprague's pipit:

> To the extent practicable, schedule construction 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 least terns and piping plovers the breeding season extends through August 31) (FWS 2011; page 3).

In the event the schedule cannot be followed:

> If the construction above cannot be honored, migratory bird habitat can be degraded outside of the breeding season by mowing and/or clearing and grubbing to discourage nesting, and the habitat is 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, the Service recommends that the project proponent implement all practicable measures to avoid take, such as suspending construction where necessary and maintaining adequate buffers to protect the birds until the young have fledged (FWS 2011; page 3).

With regard to Sprague's pipit, the FWS guidelines allow a late summer start-up. Pipits normally depart in late-August.

**2)** Clean equipment. While noxious weeds are likely to remain a threat in the grasslands on private and public lands, care can be taken to control further spread of invasive species into the area by cleaning equipment. This is important in this project because the proposed waterline would travel through so much disturbed habitat, creating a greater potential for distribution of non-native species during construction.

**3)** Weed spraying. Isolated weed patches should be treated with herbicide prior to disturbances.

**4)** Weed monitoring. Because of the threat of noxious weeds, periodic monitoring of weed populations should be made to determine the need for biological or chemical control measures.

**5)** Avoid wooded draws.

**6)** Avoid wetlands. Effects on vegetative structure can be reduced by avoiding woody plants and wetland areas. The FWS letter adds these details:

- Make *no stream channel alterations* or changes in drainage patterns.
- Locate construction to *avoid placement of fill in wetlands* along the route.
- *Replace unavoidable loss of wetland habitat* by restoring an equal acreage of functionally restoring equivalent wetland habitat (FWS 2011; pages 3-4).

**7)** Reclamation. Floristic diversity can be aided by reclamation practices such as the restoration of topographical diversity, uneven distribution of topsoil, and avoidance of planting aggressive cultivars. Reclamation of the site should follow specifications set forth by federal and state authorities. The FWS letter adds these details:

- *Reseed disturbed upland areas* with native plant species immediately after construction to reduce erosion.
- Avoid construction in native prairie, if possible, and reseed disturbed native prairie with a comparable native grass and forb seed mixture.
- The FWS recommends *planting a diverse mixture of native cool and warm season grasses* and forbs. Recent research has suggested that a more diverse mix, including numerous forb species, is not only ecologically beneficial but is also more weed resistant, allowing for less intensive management and chemical use. In essence, the more species included in a mixture, the higher the probability of providing competition to resist invasion by nonnative plants. The *seed source should be as local as possible,* preferably collected from the nearby native prairie. Obtain seed stock from nurseries within 250 miles of the project area to ensure the particular cultivars are well-adapted to the local climate. The Natural Resources Conservation Service (NRCS) compiles a list of vendors in North Dakota that supply conservation seed and plants. Additional information on native grasses and forbs may be found at the NRCS Bismarck Plant Materials Center (FWS 2011; pages 3-4).

**8)** Where possible, use HDD rather than open trench construction when crossing wetlands.

**9)** Erosion control. Install and maintain appropriate erosion control measures to reduce sedimentation and water quality degradation of wetlands and streams near the project area. Silt fencing between wetland or aquatic communities or drainageways and the construction zone can provide some protection.

**10)** Chemical spill prevention and containment.

For added protection, a field biologist could be onsite during the August construction to monitor for listed species. Any future sightings of listed in the project area should be reported to the NDPR and FWS.

***Table 4. Listed Species and Habitat Sensitivity Periods.***

| SPECIES | MONTH | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
| **ENDANGERED** | | | | | | | | | | | | |
| Gray wolf *(Canis lupus)* | | | | | | | | | | | | |
| Black-footed ferret *(Mustela nigripes)* | | | | | | | | | | | | |
| Interior least tern *(Sterna antillarum)* | | | | | | | | | | | | |
| Pallid sturgeon *(Scaphirhynchus albus)* | | | | | | | | | | | | |
| Whooping crane *(Grus Americana)* | | | | | | | | | | | | |
| **THREATENED** | | | | | | | | | | | | |
| Piping plover *(Charadrius melodus)* | | | | | | | | | | | | |
| **CANDIDATE** | | | | | | | | | | | | |
| Sprague's Pipit *(Anthus spragueii)* | | | | | | | | | | | | |
| **DESIGNATED CRITICAL HABITAT** | | | | | | | | | | | | |
| Piping plover – *Missouri River* | | | | | | | | | | | | |

## LIMITATIONS

Despite the survey and research efforts, findings and determinations are not absolute nor are they infallible. The fact remains that absence of evidence does not constitute evidence of absence. At times, field surveys do not necessarily coincide with prime survey windows, such as best plant phenology, bird breeding season, or adult flight of butterflies. Mobile species might not be in the survey area or in open view at the time of the survey. Objects or weather conditions may obscure the species or impair visibility. In many cases, a given species may have a wide tolerance for habitats, while in other cases the habitat required by a species has not been closely studied and therefore has been vaguely identified. This makes it difficult to anticipate whether a species will occur on an area or not. Evidence may be limited by the conditions under which it is gathered and determinations are as limited as the evidence upon which they are based.

# SELECTED REFERENCES


Alderfer, Jonathan. 2006. *Complete Birds of North America*. National Geographic Society, Washington, DC.

Canadian Wildlife Service and U.S. Fish and Wildlife Service. 2007. *International recovery plan for the whooping crane.* Ottawa: Recovery of Nationally Endangered Wildlife (RENEW), and U.S. Fish and Wildlife Service, Albuquerque, New Mexico. 162 pp.

Dechant, J. A., M. L. Sondreal, D. H. Johnson, L. D. Igl, C. M. Goldade, M. P. Nenneman, and B. R. Euliss. 1998 (revised 2001). *Effects of management practices on grassland birds: Sprague's Pipit.* Northern Prairie Wildlife Research Center, Jamestown, ND. 15 pp.

Faber-Langendoen, D., editor. 2001. *Plant communities of the Midwest: Classification in an ecological context.* Association for Biodiversity Information, Arlington, VA. 61 pp.

Federal Interagency Committee for Wetland Delineation. 1989. *Federal Manual for Identifying and Delineating Jurisdictional Wetlands.* US Army Corps of Engineers, US Environmental Protection Agency, US Fish and Wildlife Service, and USDA Soil Conservation Service, Washington, D.C. Cooperative technical publication. 76 pp.

Jennings, B., T.T. Cable, and R. Burrows. 2005. *Birds of the Great Plains.* Lone Pine Publishing, Auburn, WA.

Johnson, J. R. and G. E. Larson. 1999. *Grassland Plants of South Dakota and the Northern Great Plains.* South Dakota State University, Brookings.

Jones, S. L. 2010. *Sprague's Pipit (Anthus spragueii) conservation plan*. U.S. Department of Interior, Fish and Wildlife Service, Washington, D.C.

Knox, J. J. Jr., et al. 1983. *Mammals of the Northern Great Plains.* University of Nebraska Press, Lincoln.

Krentz, Steven 1997. *1997 Summary Report of Work Conducted by the Missouri River FWMAO on Missouri and Yellowstone Rivers -Pallid Sturgeon.* Rpt # MRFAO97-03. US Fish and Wildlife Service. Bismarck, ND. 6pp.

McGregor, R.L., et al. 1986. *Flora of the Great Plains.* University Press of Kansas, Lawrence.

Schmoller, David. 2010. *McKenzie Rural Water District Phase II Waterline Improvements Supplemental Report 2.* August 23, 2010. Yellowfield Biological Surveys, Woodruff, WI.

Schmoller, David. 2011. *McKenzie Rural Water District Phase II Waterline Improvements Supplemental Report 3.* June 7, 2011. Yellowfield Biological Surveys, Woodruff, WI.

Schmoller, David. 2013. *Biological Evaluation/Biological Assessment NPC Sand Creek Federal.* Yellowfield Biological Surveys, Woodruff, WI.

Stewart, Robert E. 1975. *Breeding Birds of North Dakota.* Northern Prairie Wildlife Research Center. Jamestown, North Dakota.

Thayer, Peter. 2010. *Birds of North America E-Field Guide Viewer*. Thayer Birding Software, LLC, Naples, FL.

U.S. Fish and Wildlife Service. 1988. *Great Lakes and Northern Great Plains Piping Plover Recovery Plan.* US Fish and Wildlife Service, Twin Cities, MN. 160 pp.

U.S. Fish and Wildlife Service. 1988. *Black-footed Ferret Recovery Plan*. US Fish and Wildlife Service, Denver, CO. 154 pp.

U.S. Fish and Wildlife Service. 1990. *Recovery plan for the interior population of the least tern (Sterna antillarum)*. U.S. Fish and Wildlife Service, Twin Cities, Minnesota. 90 pp.

U.S. Fish and Wildlife Service. 1993. *Pallid Sturgeon Recovery Plan*. U.S. Fish and Wildlife Service, Bismarck, North Dakota. 55 pp.

U.S. Fish and Wildlife Service. 2000. "New Hope for the Pallid Sturgeon". *Endangered Species Bulletin*. U.S. Fish and Wildlife Service.

U.S. Fish and Wildlife Service. 2001. *Updated Status Review of Sicklefin and Sturgeon Chub in the United States.* United States Department of the Interior, U.S. Fish and Wildlife Service, Region 6. Denver, Colorado

U.S. Fish and Wildlife Service. 2002. *Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Northern Great Plains Breeding Population of the Piping Plover; Final Rule*. CFR Doc. 2002– 21625.

U.S. Fish and Wildlife Service. 2008. *Endangered, Threatened, Proposed and Candidate Species, North Dakota Counties.* US Fish and Wildlife Service, Washington.

U.S. Fish and Wildlife Service. 2007. *Dakota Skipper (Hesperia dacotae*) Fact Sheet. US Fish and Wildlife Endangered Species Midwest Region. US Fish and Wildlife Service. April 2007.

U.S. Fish and Wildlife Service. 2010. *Endangered and Threatened Wildlife and Plants; 12-Month Finding on a Petition to List Sprague's Pipit as Endangered or Threatened Throughout Its Range.* CFR Doc. 2010–22967. US Fish and Wildlife Service, Twin Cities, MN.

U.S. Fish and Wildlife Service. 2011. *Federal Threatened, Endangered, and Candidate Species and Designated Critical Habitat Found in Williams County, North Dakota.* US Fish and Wildlife Service, Bismarck, ND.

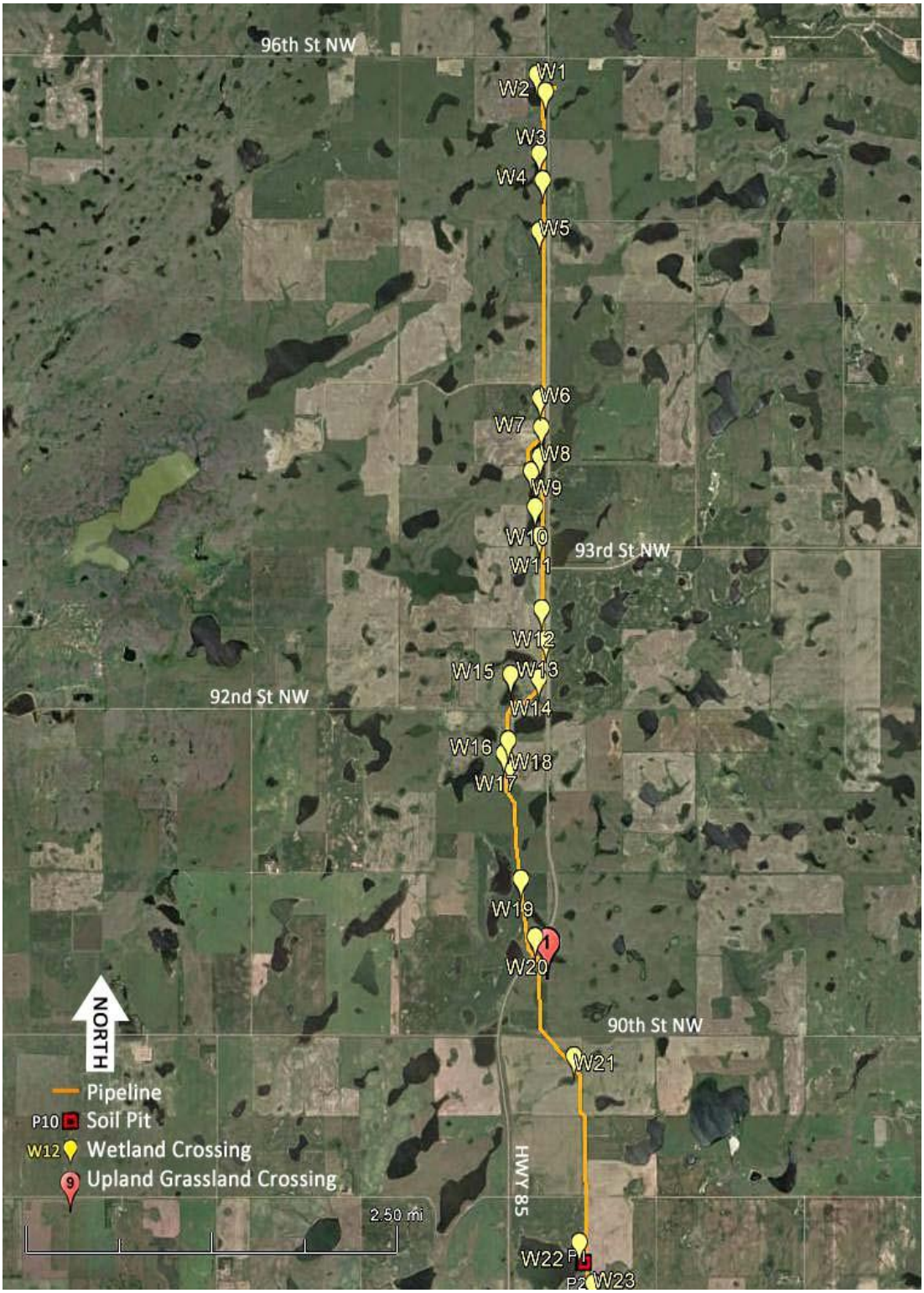
U.S. Fish and Wildlife Service. 2012. *Comments on Williston Wastewater Treatment Improvements*. Letter to Advanced Engineering and Environmental Services, dated March 22, 2011.

U.S. Forest Service. 2010. *Personal correspondence concerning rare species observation request.* From Jeff Ingalls, Dakota Prairie Grasslands Wildlife Biologist, to David Schmoller, dated June 21, 2010.

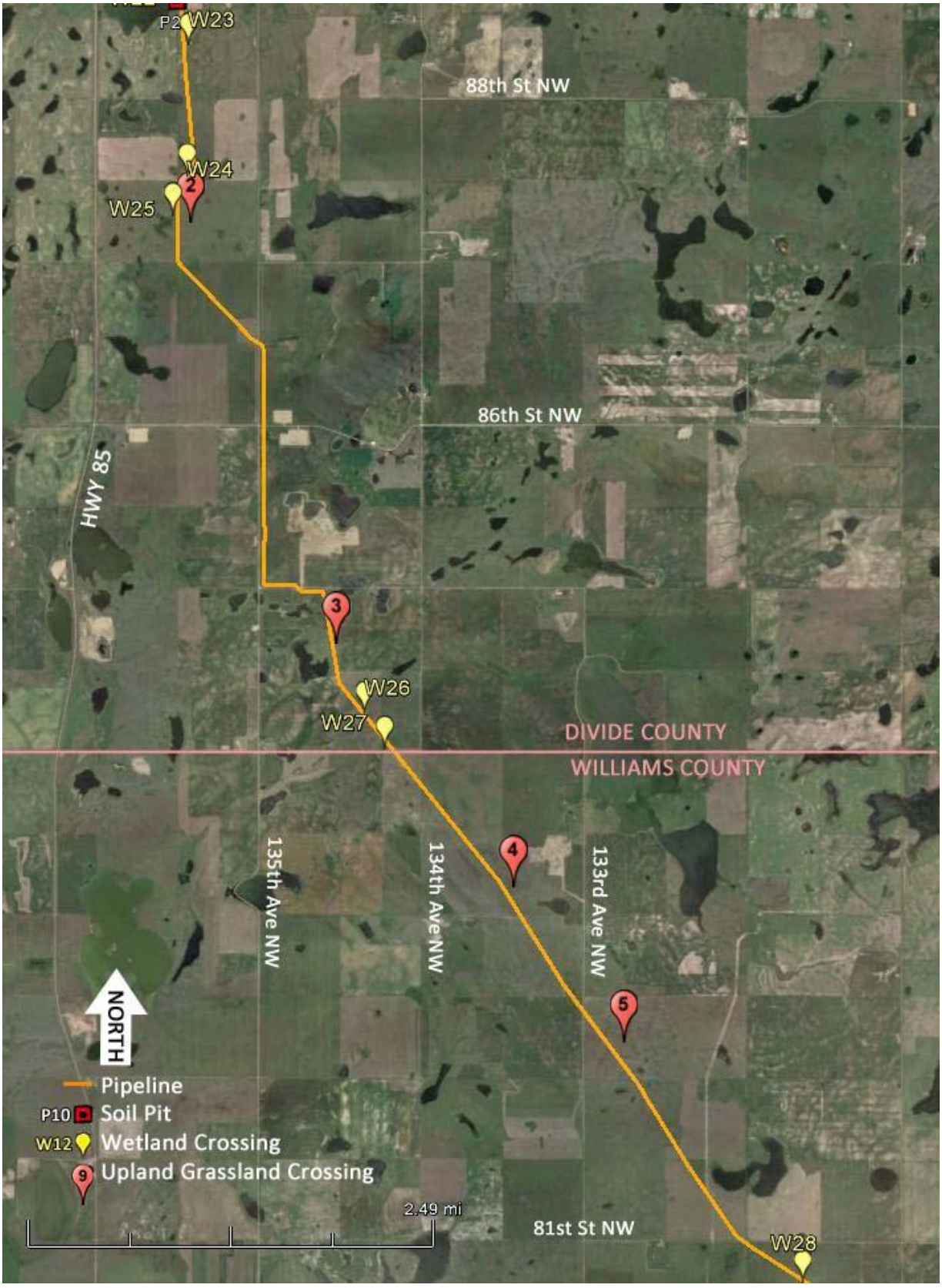
U.S. Geological Survey. 2007. *Sturgeon Research Update: Confirmed Pallid Sturgeon Spawning in the Missouri River in 2007.* USGS Fact Sheet 2007-3053.

# APPENDIX A. MAPS

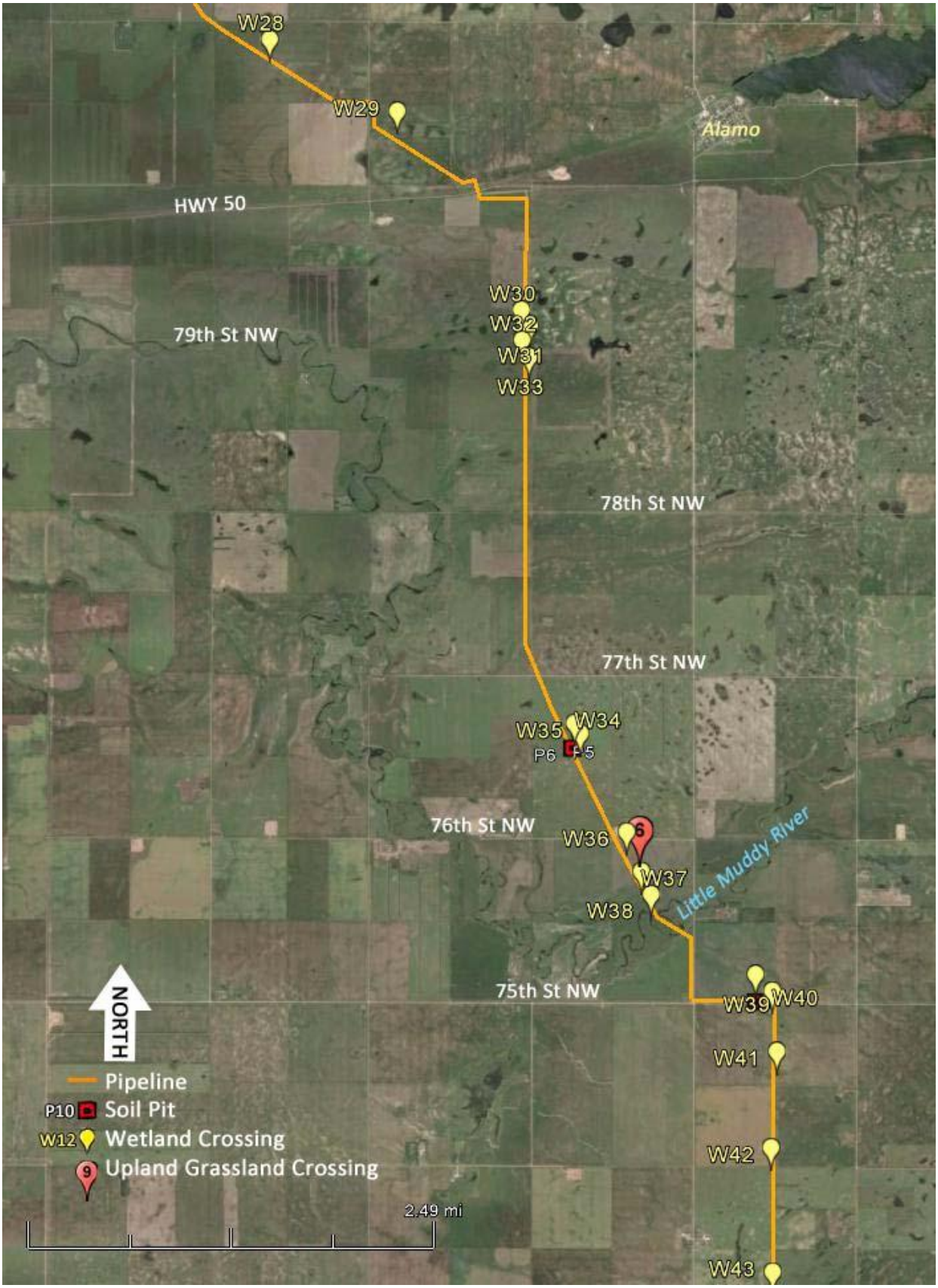
## A.1. OVERVIEW 1 -FROM NORTH END TO 89TH STREET NW



## A.2. OVERVIEW 2. FROM 88TH STREET NW TO 81ST STREET NW

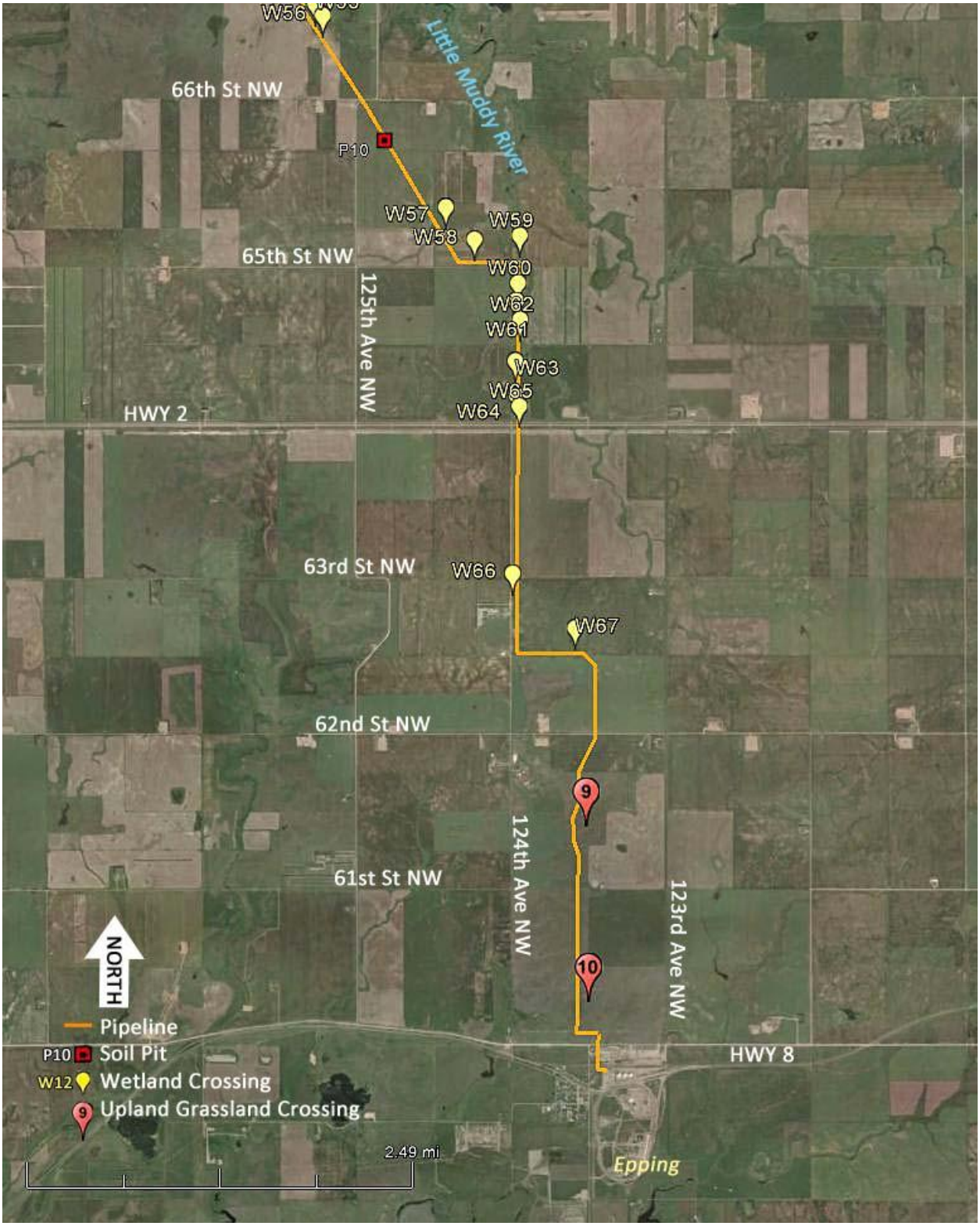


## A.3. OVERVIEW 3. FROM 81ST STREET NW TO 74TH STREET NW



## A.4. OVERVIEW 4. FROM 73RD STREET NW TO 66TH STREET NW

## A.5. OVERVIEW 5. FROM 66TH STREET NW TO SOUTH END

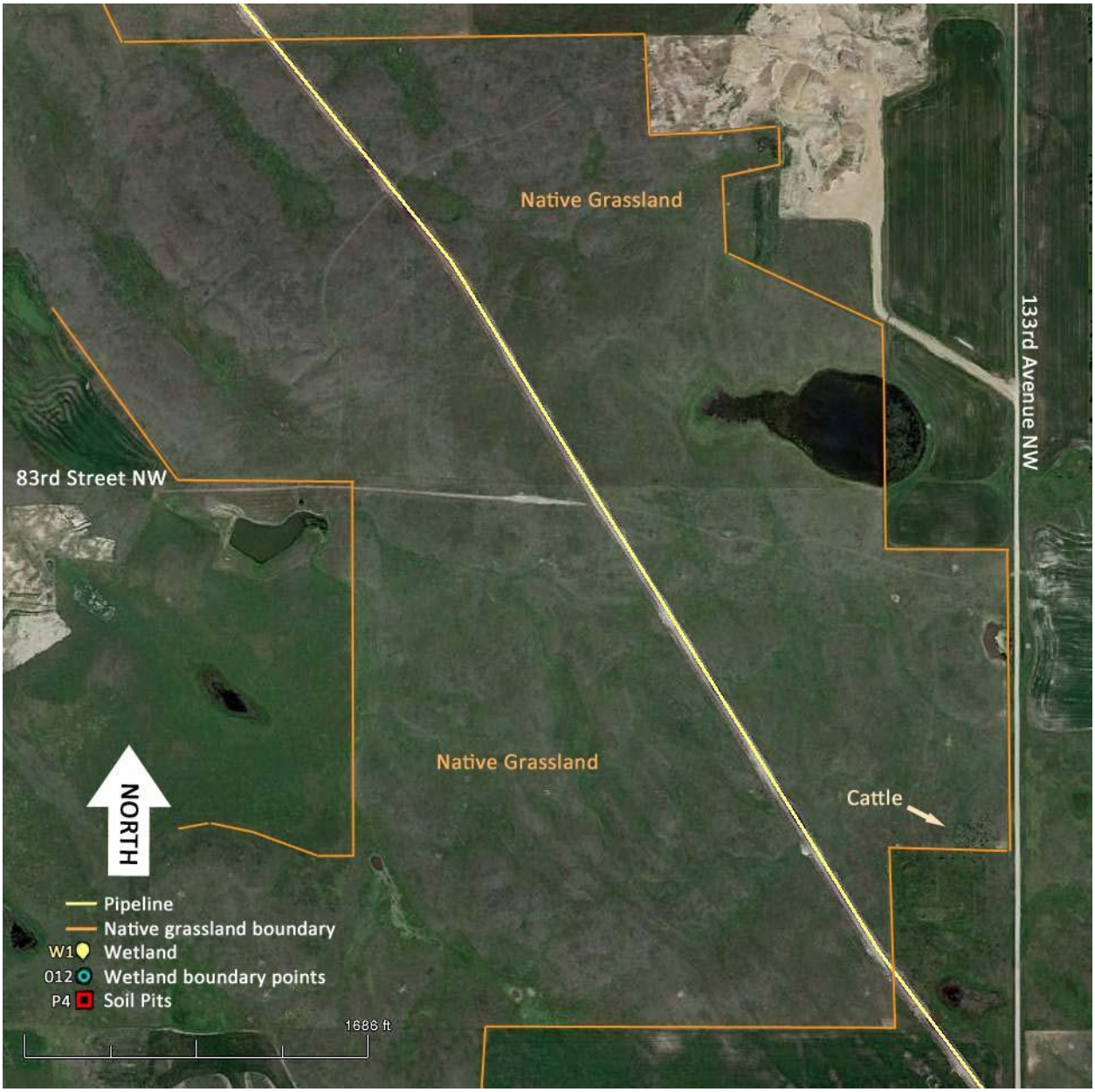


## B.1. NATIVE GRASSLAND CROSSING 1

## B.2. NATIVE GRASSLAND CROSSING 2

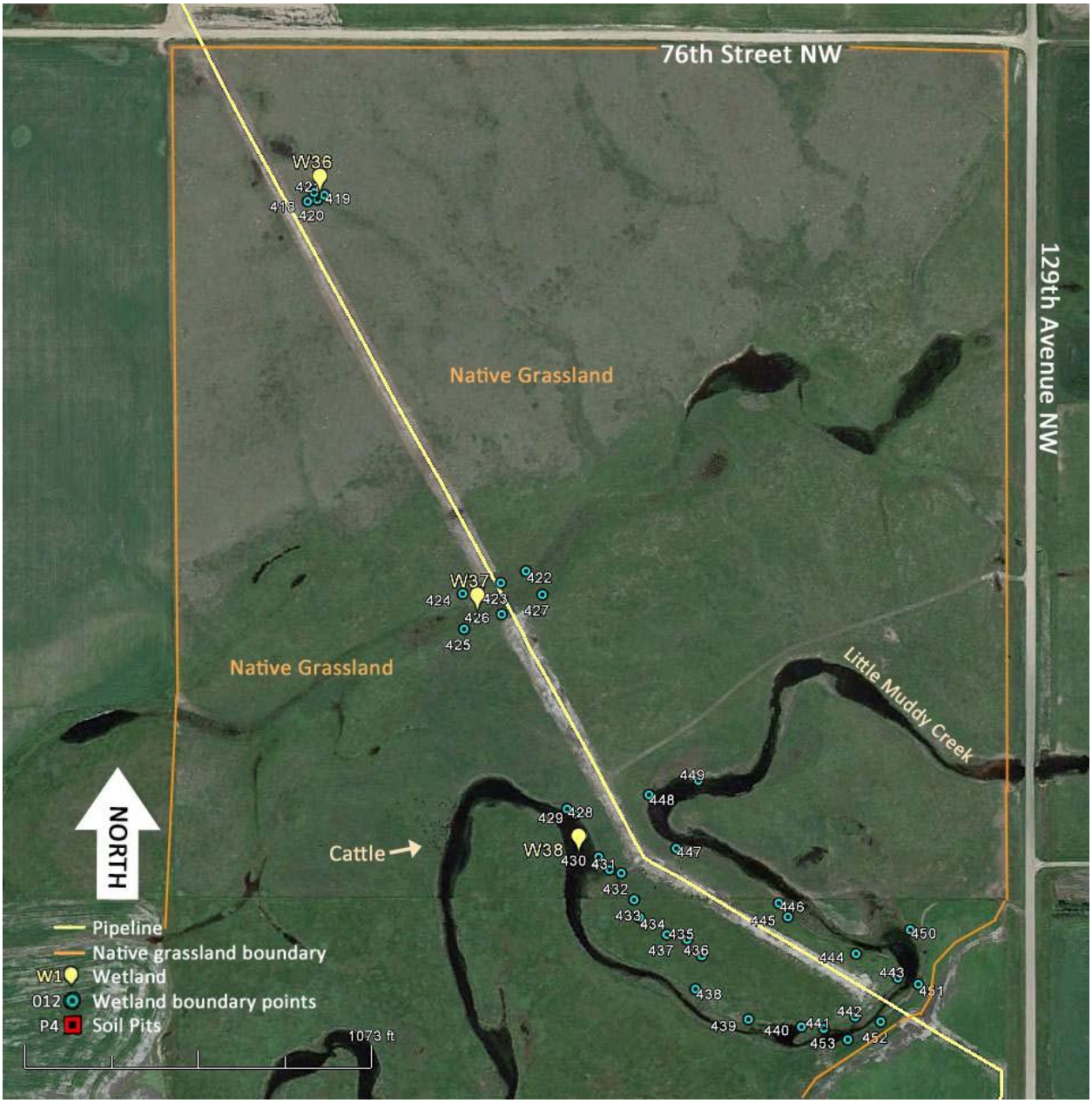
## B.3. NATIVE GRASSLAND CROSSING 3

## B.4. NATIVE GRASSLAND CROSSING 4

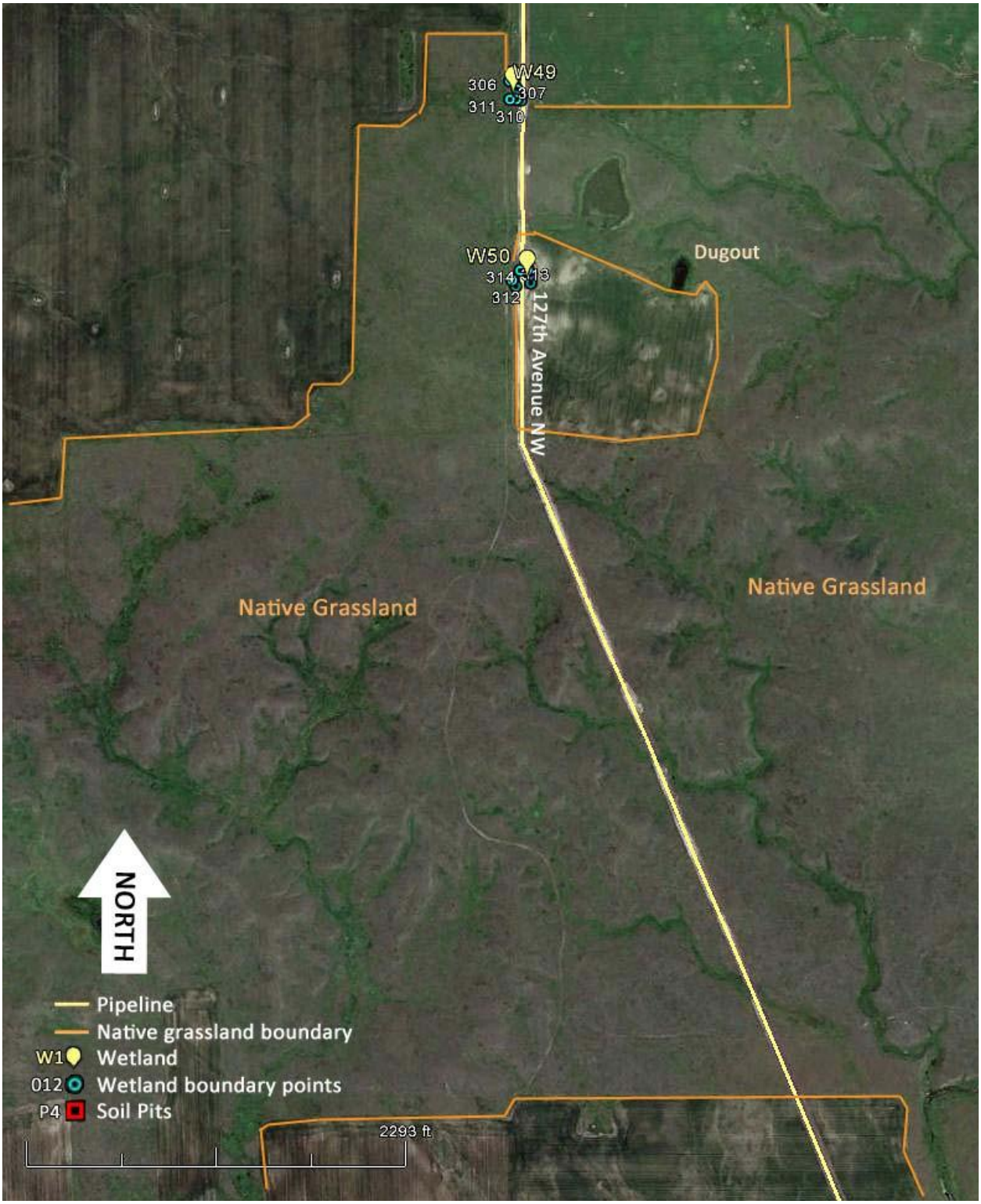


## B.5. NATIVE GRASSLAND CROSSING 5

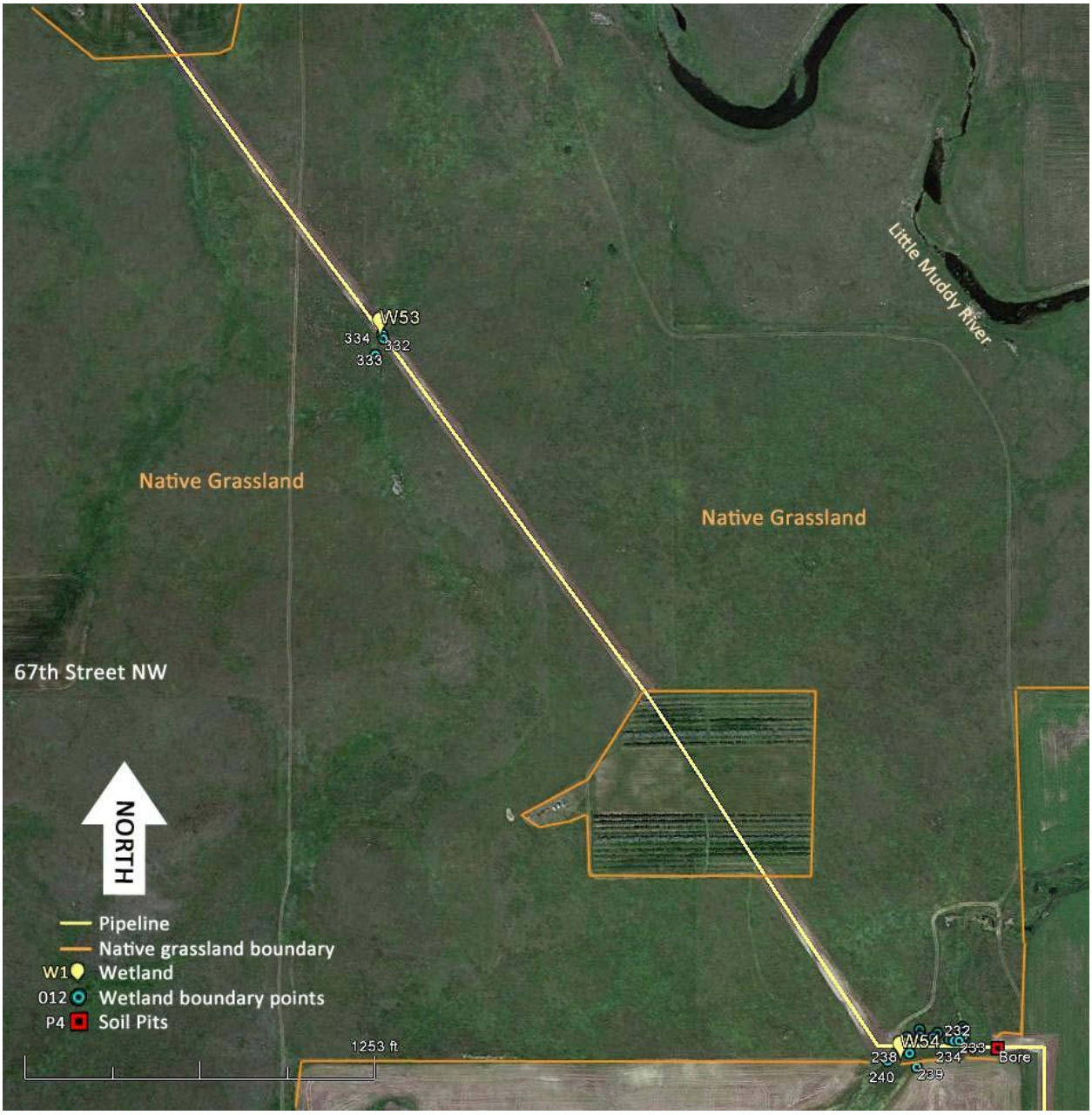
## B.6. NATIVE GRASSLAND CROSSING 6



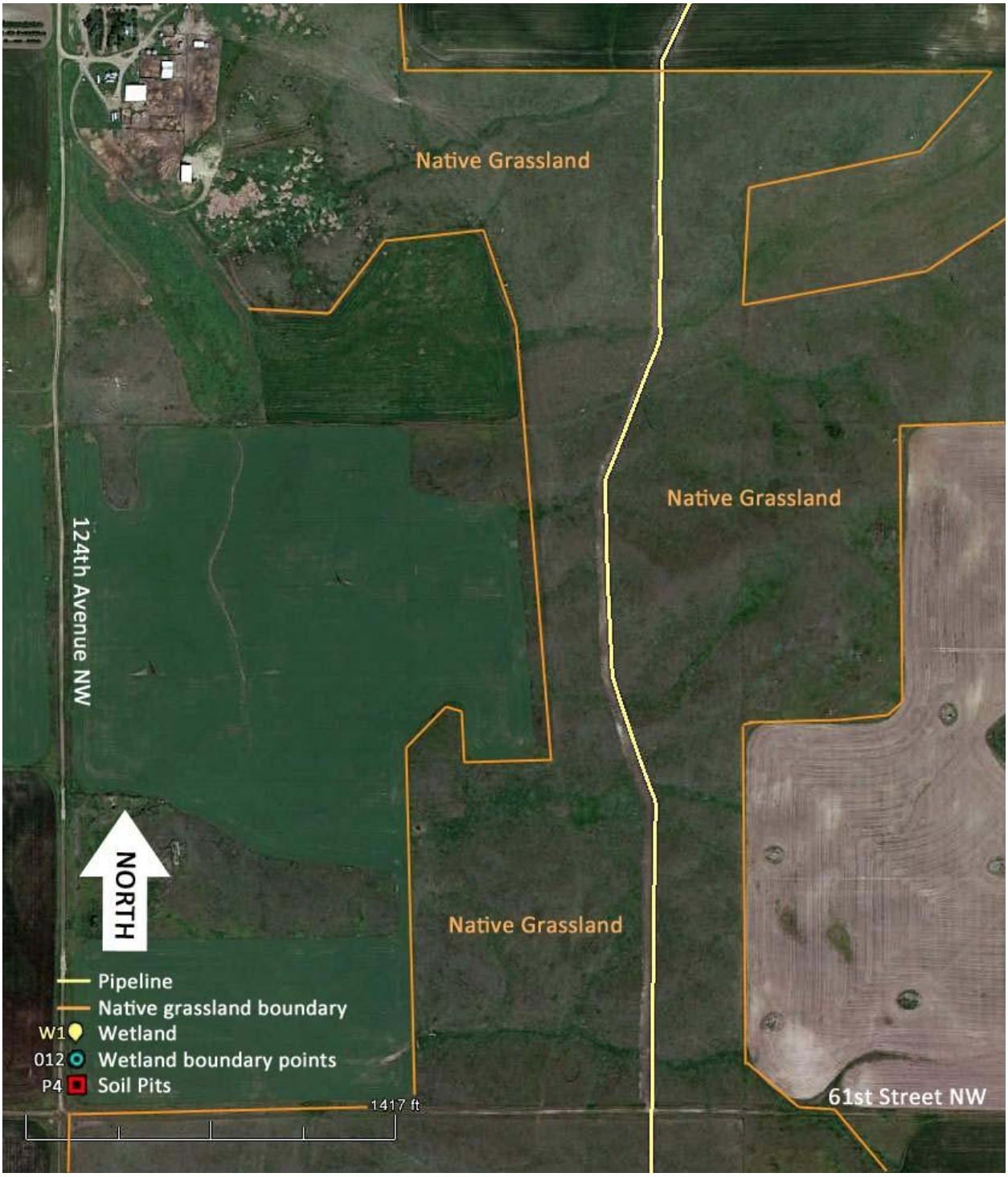
## B.7. NATIVE GRASSLAND CROSSING 7



## B.8. NATIVE GRASSLAND CROSSING 8

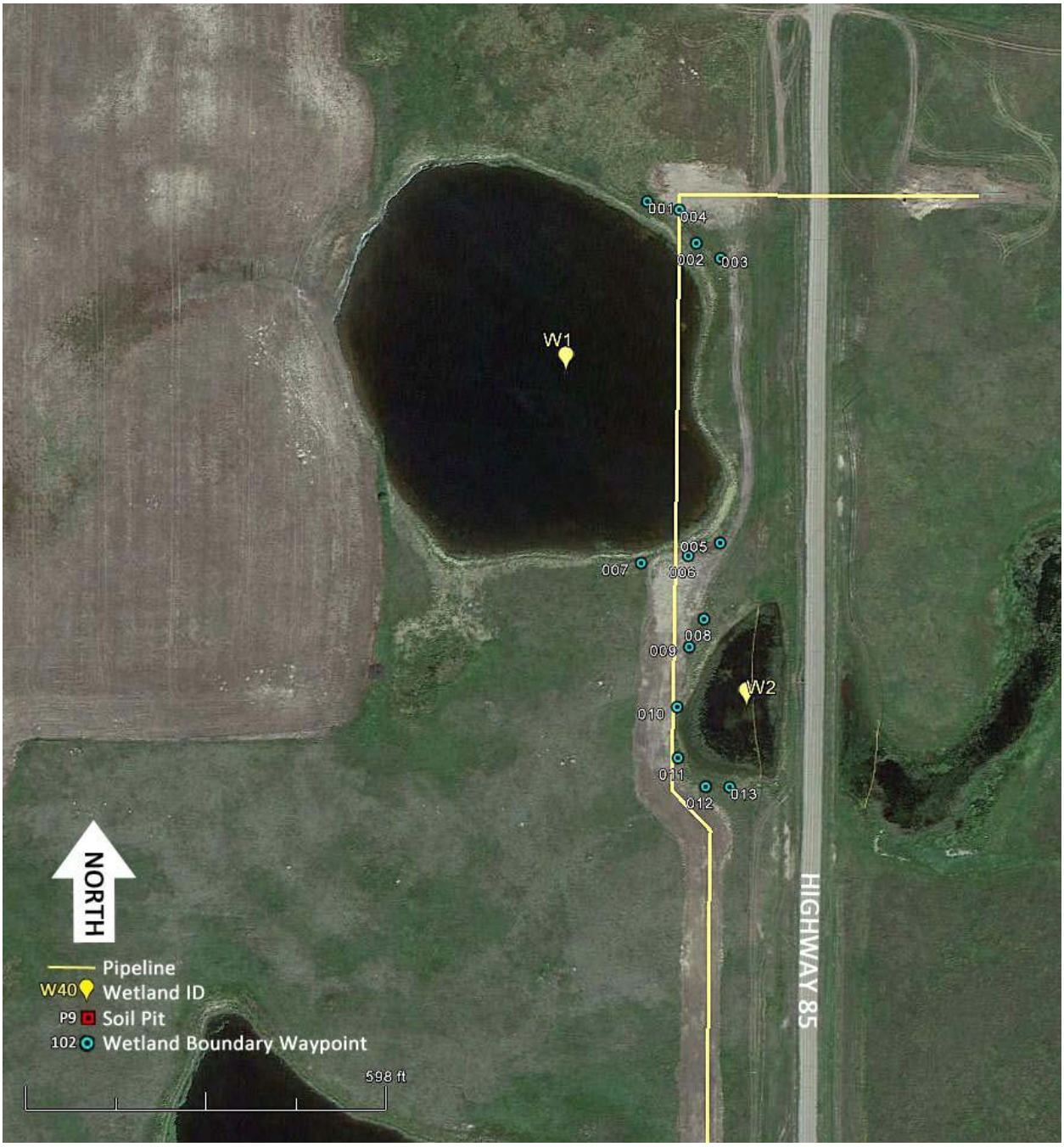


## B.9. NATIVE GRASSLAND CROSSING 9



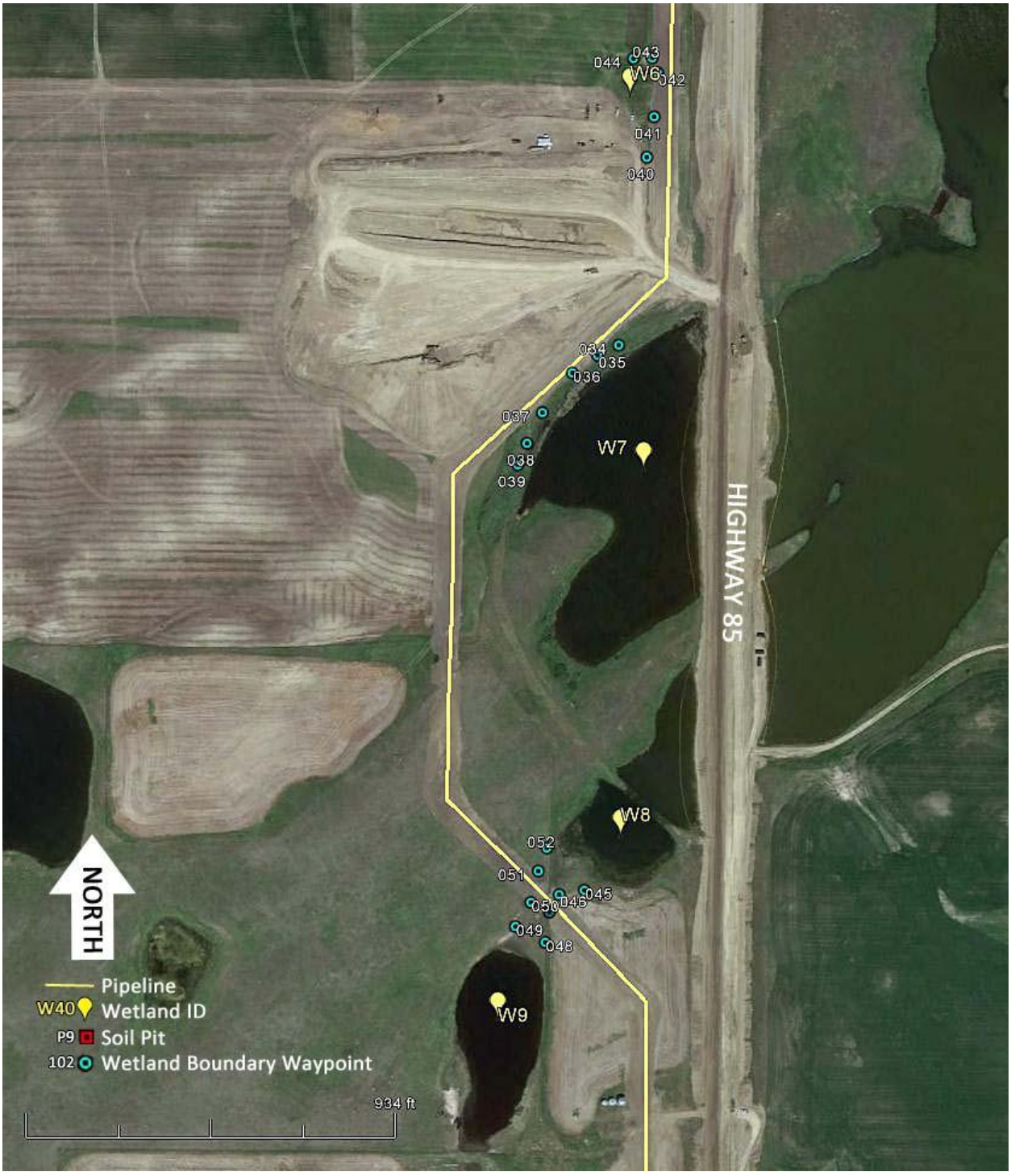
## B.10. NATIVE GRASSLAND CROSSING 10

## C.1. WETLAND CROSSING 1-2



## C.2. WETLAND CROSSING 3-5

## C.3. WETLAND CROSSING 6-9



## C.4. WETLAND CROSSING 10-11

## C.5. WETLAND CROSSING 12-15

## C.6. WETLAND CROSSING 16-18

## C.7. WETLAND CROSSING 19

## C.8. WETLAND CROSSING 20

## C.9. WETLAND CROSSING 21

## C.10. WETLAND CROSSING 22-23

## C.11. WETLAND CROSSING 24-25

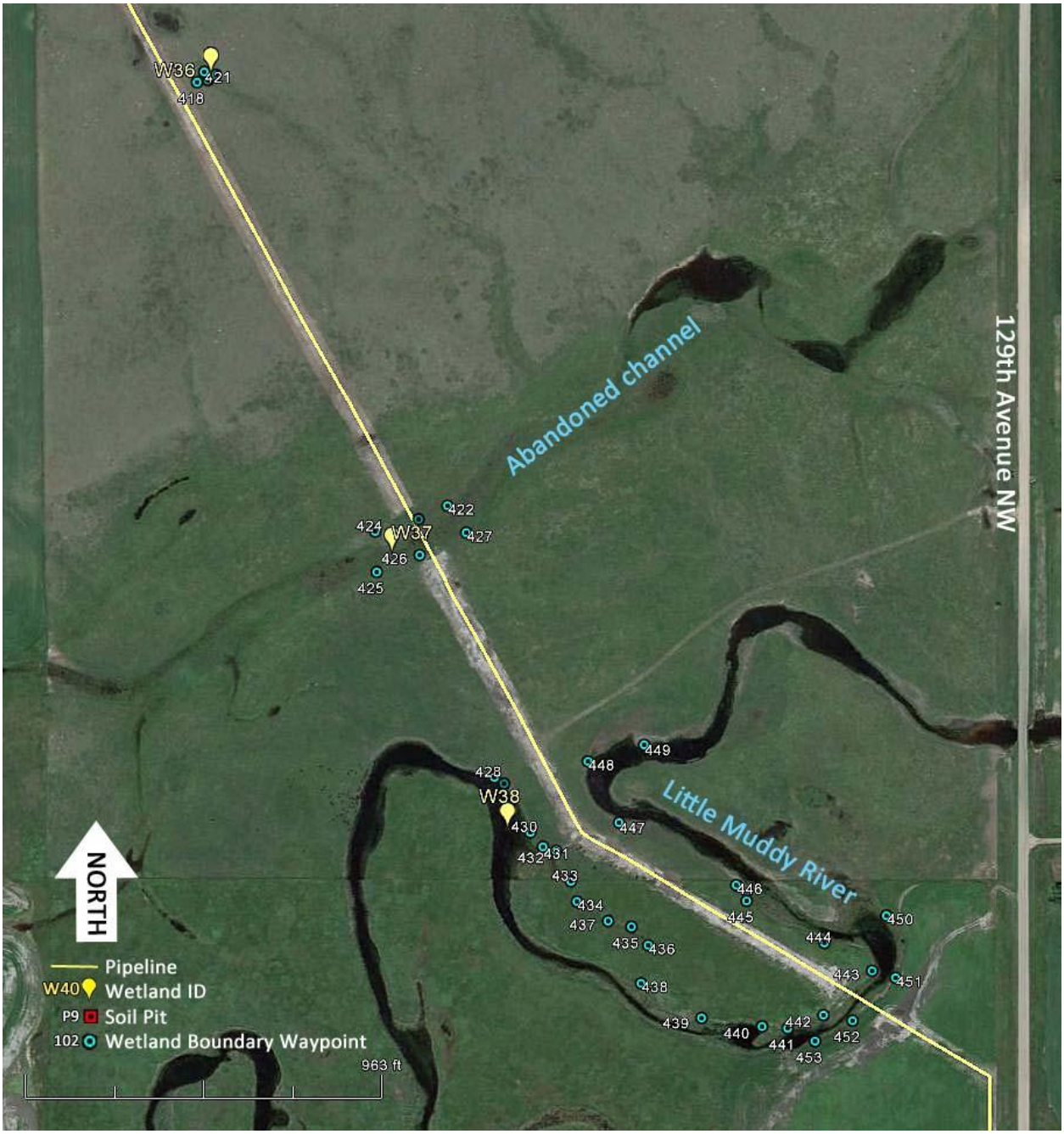
## C.12. WETLAND CROSSING 26-27

## C.13. WETLAND CROSSING 29

## C.14. WETLAND CROSSING 30-33

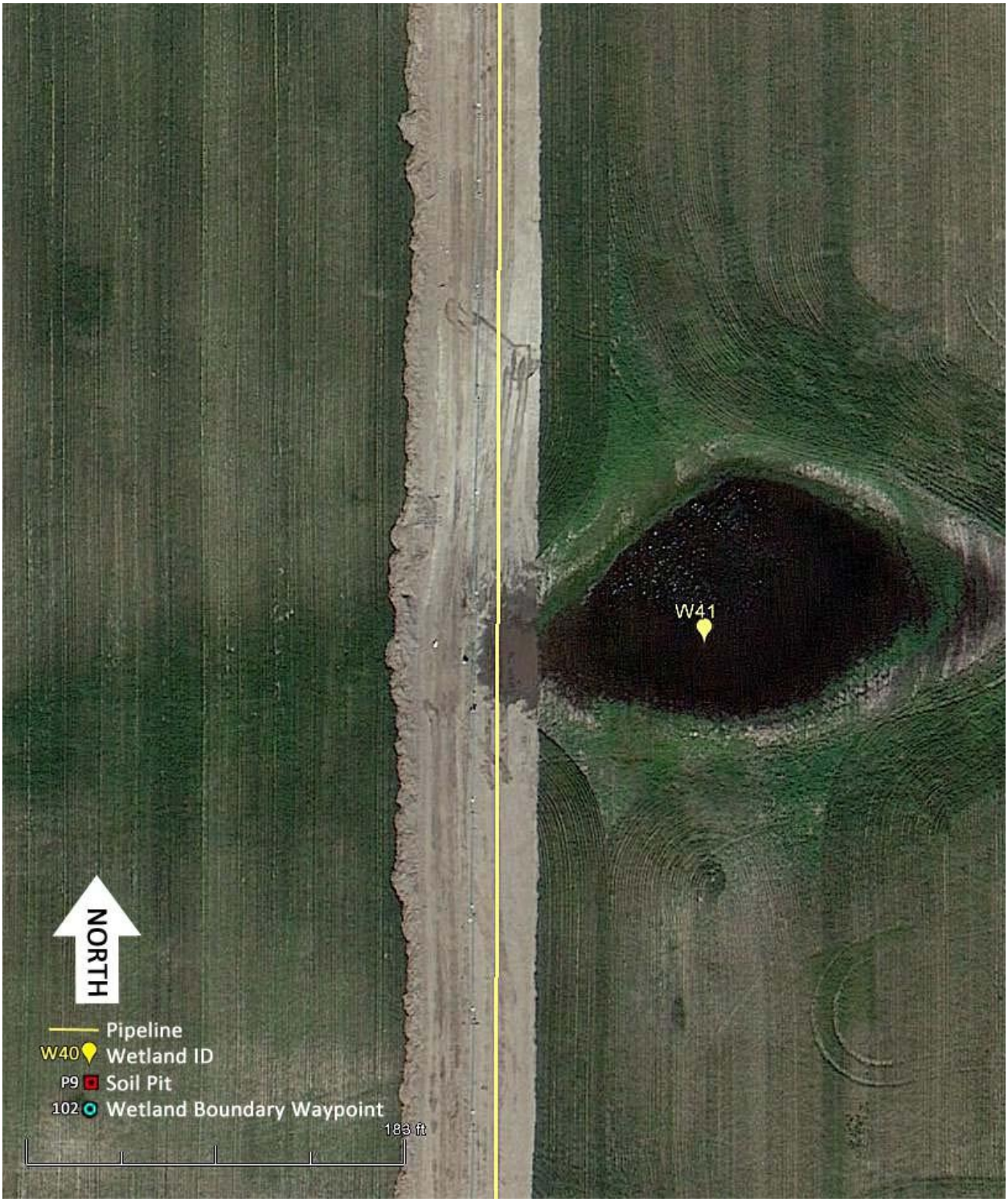
## C.15. WETLAND CROSSING 34-35

## C.16. WETLAND CROSSING 36-38



## C.17. WETLAND CROSSING 39-40

## C.18. WETLAND CROSSING 41



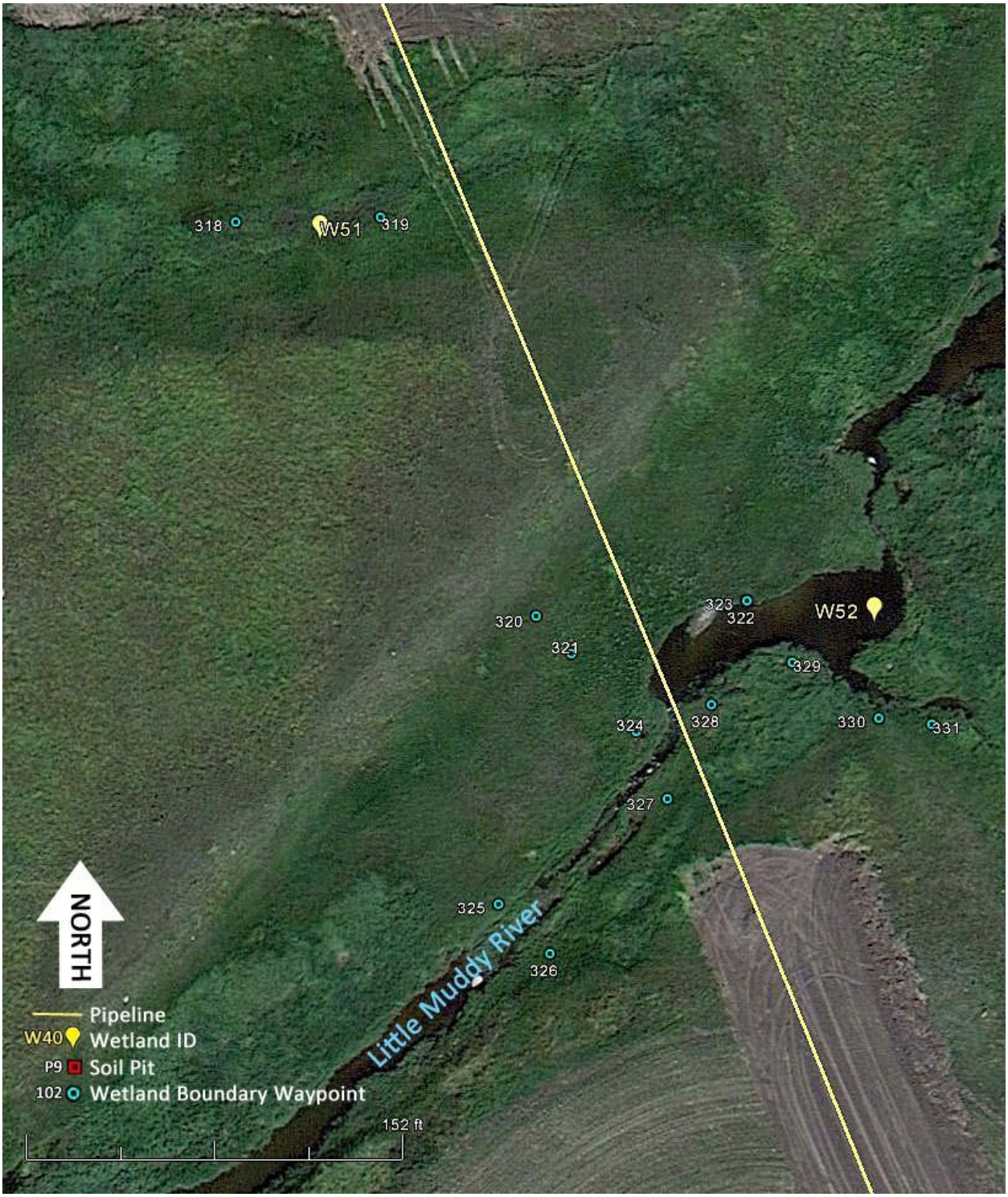
## C.19. WETLAND CROSSING 42

## C.20. WETLAND CROSSING 43-45

## C.21. WETLAND CROSSING 46-48

## C.22. WETLAND CROSSING 49-50

## C.23. WETLAND CROSSING 51-52



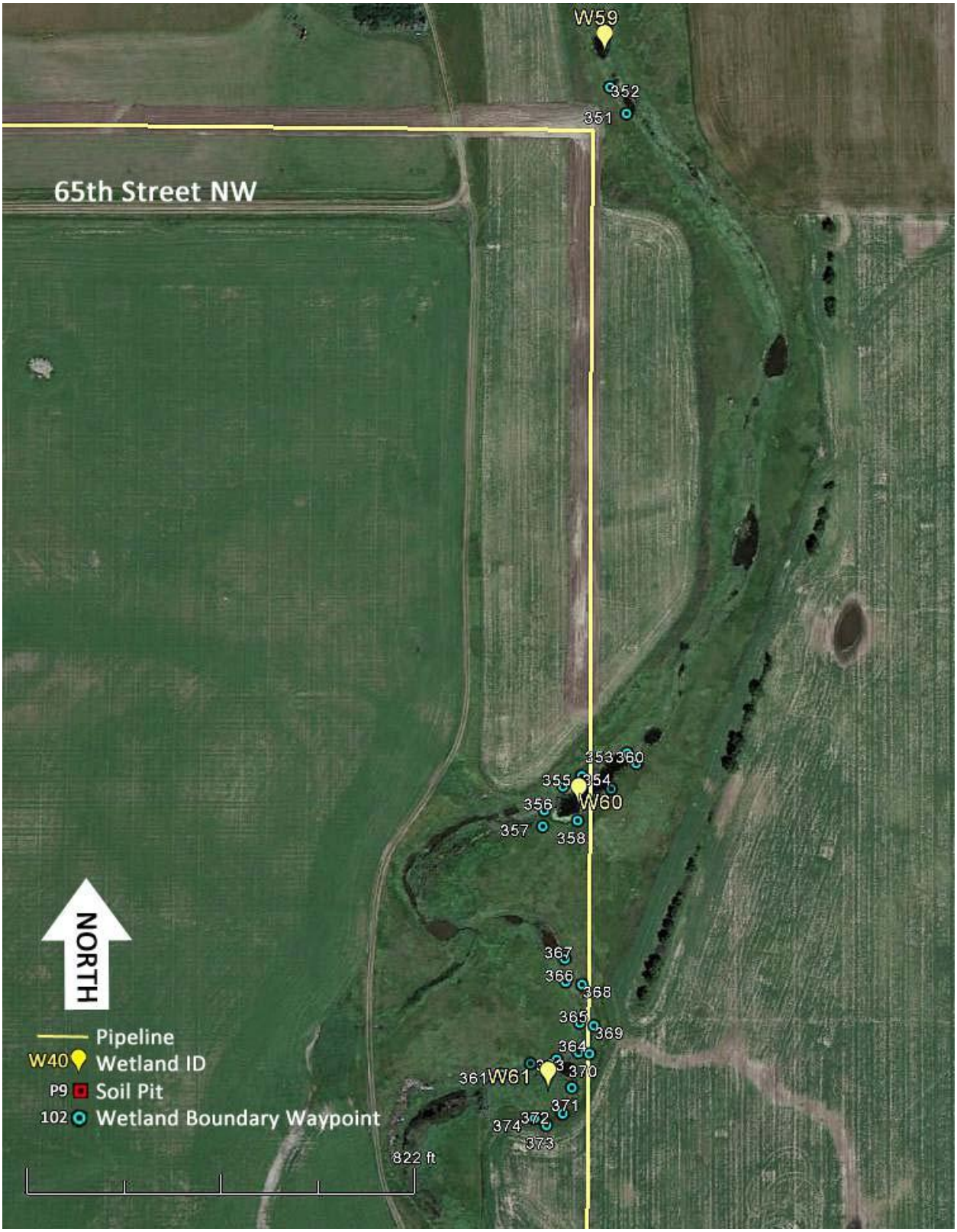
## C.24. WETLAND CROSSING 53

## C.25. WETLAND CROSSING 54

## C.26. WETLAND CROSSING 55-56

## C.27. WETLAND CROSSING 57-58

## C.28. WETLAND CROSSING 59-61



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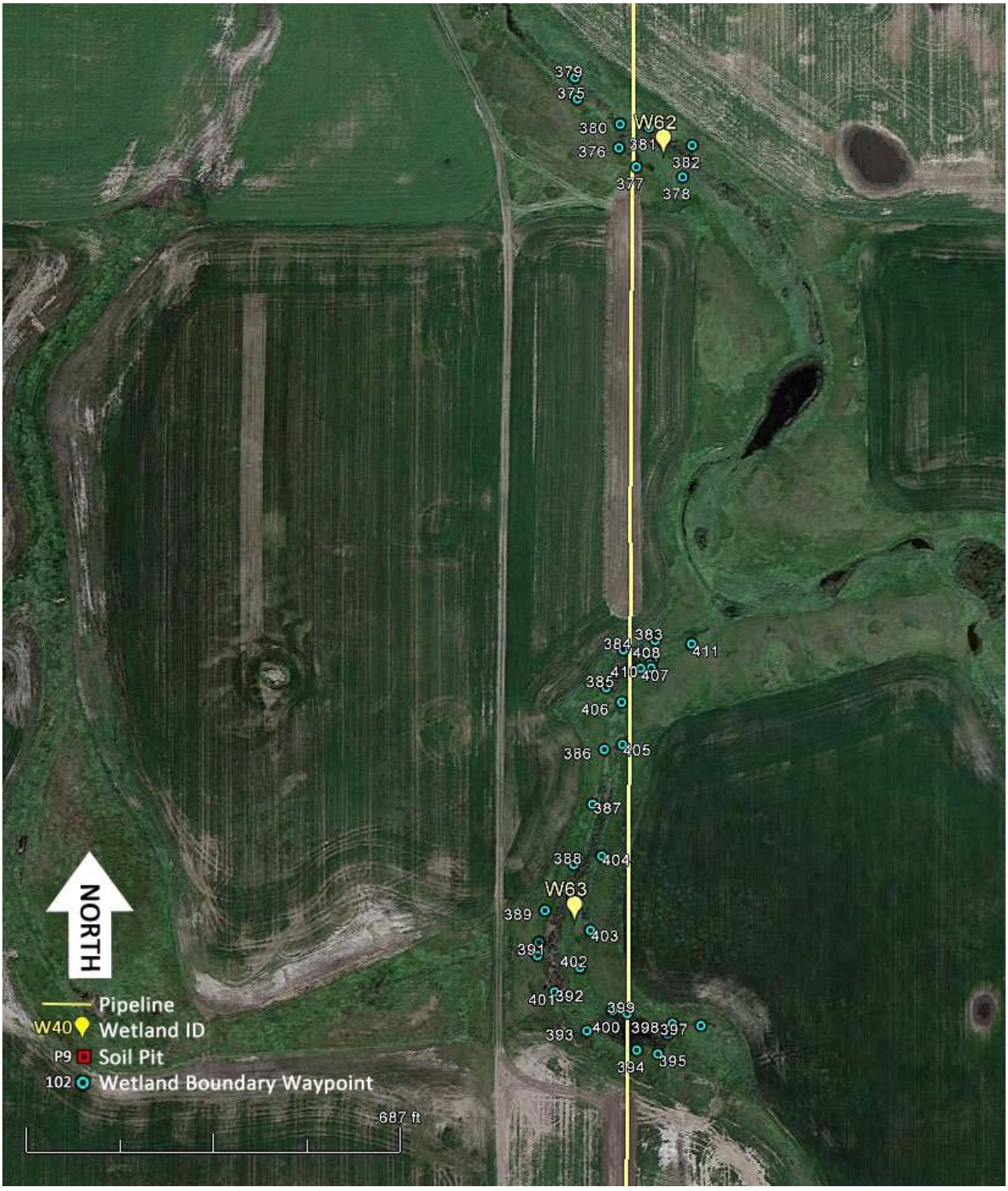

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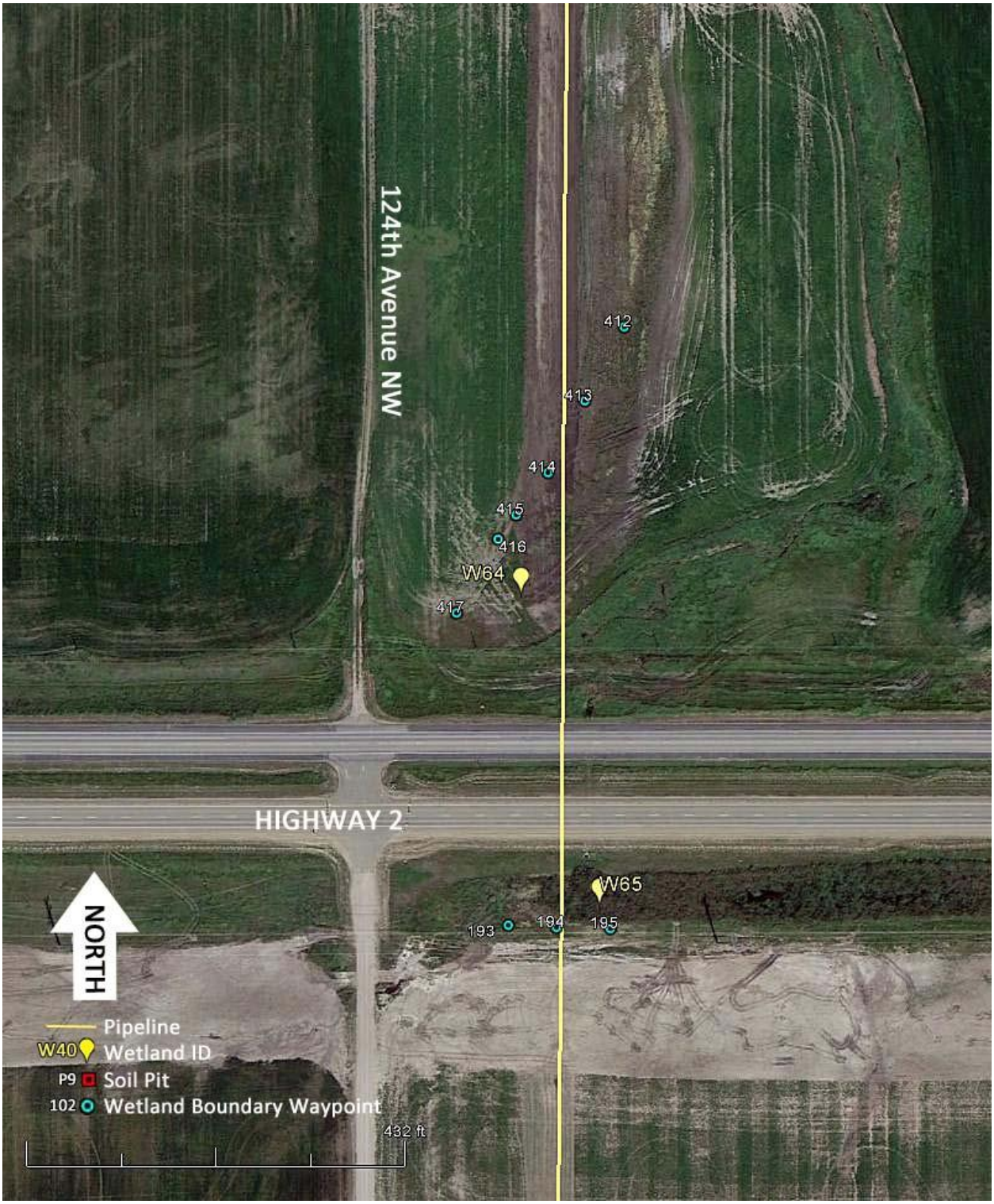

## C.31. WETLAND CROSSING 66

## C.32. WETLAND CROSSING 67

# Wetland / Waterbody Determination Report

## Divide Lateral Pipeline Conversion Project

### Williams and Divide Counties, North Dakota

Prepared for:

**Meadowlark Midstream Company, LLC**

Prepared by:

**E3 Environmental, L.L.C.**

March 18, 2014

E3 ENVIRONMENTAL

*Enhancing Execution with Experience*

**Wetland/Waterbody Determination Report**
**Meadowlark Midstream Company, L.L.C.**
**Divide Lateral Pipeline Conversion Project**
**Williams and Divide County, North Dakota**

Prepared for:
Meadowlark Midstream Company, 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

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**LIST OF TABLES**



**LIST OF APPENDICES**

## SECTION 1: Summary

E3 Environmental, LLC (E3) conducted a targeted wetlands/waterbody analysis on behalf of Meadowlark Midstream Company, L.L.C. (MMC), for the proposed Divide Lateral Pipeline Conversion Project. The proposed Project scope includes the conversion of the existing Divide Lateral gathering pipeline into a transmission pipeline. The proposed transmission pipeline would connect the planned Divide Pump Station (DPS), located in Divide County, to the existing Colt Rail Terminal (CRT) located in Williams County.

The conversion of this gathering line into a transmission pipeline places the Project under the purview of the North Dakota Public Service Commission (PSC or Commission). This wetland/waterbody analysis is prepared to supplement MMC's submittal to the Commission a single consolidated application for a Certificate of Corridor Compatibility and Route Permit for the Project.

## SECTION 2: Methods

E3 conducted wetland/waterbody field surveys on two targeted locations for the project (Site 1 and Site 2). These Sites required field delineations at this time because alignment modifications during construction had occurred. These surveys, combined with previous surveys for the project provide complete coverage of the pipeline. Site 1 is located from pipeline Milepost 18.8 to Milepost 19.1, in Section 29, Township 159 North, Range 99 West. Site 2 is located from pipeline Milepost 26.8 to Milepost 26.9 in Section 27, Township 158 North, Range 99 West.

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 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 circumstanced 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 are included in Appendix C.

## SECTION 3: Results

### 3.1 General Landscape Characterization

The surveyed Sites are within the USDA NRCS Major Land Resource Area (MLRA) 53A and 53B Northern and Central Dark Brown Glaciated Plains. 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 Glaciated Plains (Level III) ecoregion. The Northwestern Glaciated Plains mark the westernmost extent of continental glaciation with the rise in elevation along the eastern boundary defining the beginning of the Great Plains. The morainal landscape of the region has significant surface irregularity and high concentrations of wetlands. Land use is transitional between the intensive dryland farming to the east and the predominance of cattle ranching and farming to the west.

Within the Northwestern Glaciated Plains ecoregion, the Project is within the Dark Brown Glaciated Plains (Level IV) ecoregion which has well defined drainage systems and fewer wetlands compared to the more recently glaciated Missouri Coteau Slope to the east. This region is considered a transition zone to the drier regions to the west. Physiography of the Dark Brown Glaciated Plains is described as level to gently rolling

plains sloping to the Missouri River. In the survey area, approximately 30 meters of Quaternary glacial till overlies Tertiary sandstone and shale of the Sentinel Butte Formation.

Williams County climate is semi-arid. 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 11 degrees F. In summer the average temperature is 70 degrees F. The mean air temperature min/max for January is 0/20 and July 55/70 degrees F. mean annual precipitation is 14-16 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, 71 days of the year have at least 1 inch of snow on the ground.

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 shown 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)

### 3.1.1 Vegetation

Native vegetation within the survey area is predominantly Northwestern Great Plains Mixedgrass Prairie. Native prairie vegetation 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. However, much of the area has been converted to agricultural production with spring wheat and other small grains being the primary cultivated crop. A description of vegetation observed during field surveys is provided in Section 3.2 Wetlands.

### 3.1.2 Soils

The dominant soil order present in this survey area is Mollisols. The soils have a frigid soil temperature regime, an ustic and aquic soil moisture regimes. The following soil component descriptions represent the most prevalent soil series found within the Sites.

#### 3.1.2.1 Site 1

**Wabek – Lehr complex, 2-6 percent slopes**

The Wabek series consists of very deep, excessively drained, rapidly and very rapidly permeable soils formed in sand and gravel glaciofluvial deposits. These soils are on outwash plains, beach ridges, terraces and terrace escarpments and have slope of 0 to 45 percent. Runoff is negligible to low depending on slope.

The Lehr series consists of very deep, somewhat excessively drained soils shallow to sand and gravel. They formed in loamy alluvium over sand and gravel. Permeability is moderate or moderately rapid in the upper part and rapid or very rapid in the substratum. These soils are on outwash plains and stream valley terraces and have slopes ranging from 0 to 25 percent.

#### 3.1.2.2 Site 2

**Parnell silty clay loam, 0-1 percent slopes**

The Parnell series consists of very deep, very poorly drained and poorly drained soils that formed in water-sorted sediments from glacial drift in depressions, swales and drainageways on glacial moraines. These soils have slow permeability. Slopes range from 0 to 3 percent. Mean annual precipitation is about 20 inches; and mean annual air temperature is about 41 degrees F.

**Zahl-Williams-Zahill complex, 6-9 percent slopes**

The Zahl series consists of very deep, well drained, moderately slow or slowly permeable soils that formed in calcareous glacial till. These soils are on glacial till plains, moraines and valley side slopes and have slopes of 1 to 60 percent. Mean annual air temperature is 40 degrees F, and mean annual precipitation is 14 inches.

The Williams series consists of very deep, well drained, moderately slow or slowly permeable soils formed in calcareous glacial till. These soils are on glacial till plains and moraines and have slope of 0 to 35 percent. Mean annual air temperature is about 40 degrees F, and mean annual precipitation is about 14 inches.

The Zahill series consists of very deep, well drained soils that formed in till. These soils are on till plains, hills, moraines and escarpments. Slopes are 0 to 65 percent.

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 | Depth to Watertable | Flood/ Ponding Frequency | Hydric Rating |
|---|---|---|---|---|---|
| C877B | Wabek-Lehr complex | 2-6 | >200 cm | None/None | Not Hydric |
| C3A | Parnell silty clay loam | 0-1 | 6 cm | None/Frequent | Hydric |
| C135C | Zahl-Williams-Zahill complex | 6-9 | >200 cm | None/None | Not Hydric |

*Source*: USDA Web Soil Survey (2014).

## 3.2 Wetlands

### 3.2.1 Site 1

National Wetland Inventory (NWI) mapping for the area does not indicate the presence of wetlands within the Site. The USGS topographic quadrangle map and current and historic aerial photographs do not indicate the presence of wetlands within this area. The USGS Web Soil survey was accessed to identify soils within the Project area. Soils within the Site are mapped as Wabek loam. Wabek loam is excessively drained and not listed as a hydric soil. 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 smooth brome (*Bromus inermis*) and crested wheat grass (*Agropyron cristatum*). Soils were frozen within 2 inches of the surface at the time of survey, therefore soil profile and hydrology could not be field verified. The USDA soil survey indicates that the depth to watertable is greater than 200 centimeters (cm) and that there is no flooding or ponding on the Site. Maps showing topography, NWI mapping and aerial photographs are included in Appendix A. The USDA NRCS soil survey map is included in Appendix B.

### 3.2.2 Site 2

National Wetland Inventory (NWI) mapping for the area indicates the presence of a palustrine emergent seasonally flooded wetland within the Site. Current and historic aerial photographs dating from present to 1995 indicate the presence of wetlands within this area. The USGS Web Soil survey was accessed to identify soils within the Project area. Soils within the project area are listed as Parnell silty clay loam which is listed as a hydric soil. Soils within the Project area are described in Soils Section 3.5. Field investigations conducted on March 13th, 2014 confirmed the presence of wetlands. Vegetation within the wetland was dominated by cattails (*Typha latifolia*), reed canary grass (*Phalaris arundinacea*), sedges (*Carex spp.*) and curly dock (*Rumex crispus*). Adjacent upland areas were dominated by smooth brome (*Bromus inermis*) and little bluestem (*Schizachyrium scoparium*). Soils within the project area had been recently trenched, however analysis of excavated soils indicated that soils likely met criteria for hydric soil indicator A12, Thick Dark Surface. The upper layer was greater than 12 inches thick, had a matrix color of 10YR2/1 and was underlain by a layer with a matrix color of 10YR6/1 with 5% redox concentrations of iron masses with a color 7.5YR 5/8. Soils were saturated to the surface on the fringe with standing water present in the interior.

**Table 3. Wetlands**

| Feature ID | USACE Jurisdiction | Wetland Within 150 ft. Corridor (Acre) | Temporary Wetland Impact Area at Block Valve | Temporary Wetland Impact Linear Distance in Corridor (Feet) |
|---|---|---|---|---|
| WET1 | Jurisdictional | 1.07 | 0.12 | 150 |

*The USACE has final authority on the jurisdictional status of a wetland.

## 3.3 Streams

### 3.3.1 Site 1

Site 1 is within the Cottonwood Lake watershed which is a closed basin. USGS topographic maps, NWI and NHD mapping does not indicate the presence of perennial, intermittent or ephemeral streams within the Site. Field surveys confirmed that no waterbodies are present within the Site. Maps showing topography, NHD and NWI mapping and aerial photographs are included in Appendix A. Site photos are included in Appendix C.

### 3.3.2 Site 2

Site 1 is within an unnamed watershed HUC 101101020403. Drainage within the watershed flows southwest to the East Fork Little Muddy River. USGS topographic maps, NWI and NHD mapping do not indicate the presence of perennial, intermittent or ephemeral streams within the Site. Field surveys confirmed that no perennial,

intermittent or ephemeral streams are present within the Site. Maps showing topography, NHD and NWI mapping and aerial photographs are included in Appendix A.

### 3.4 Woody Trees and Saplings

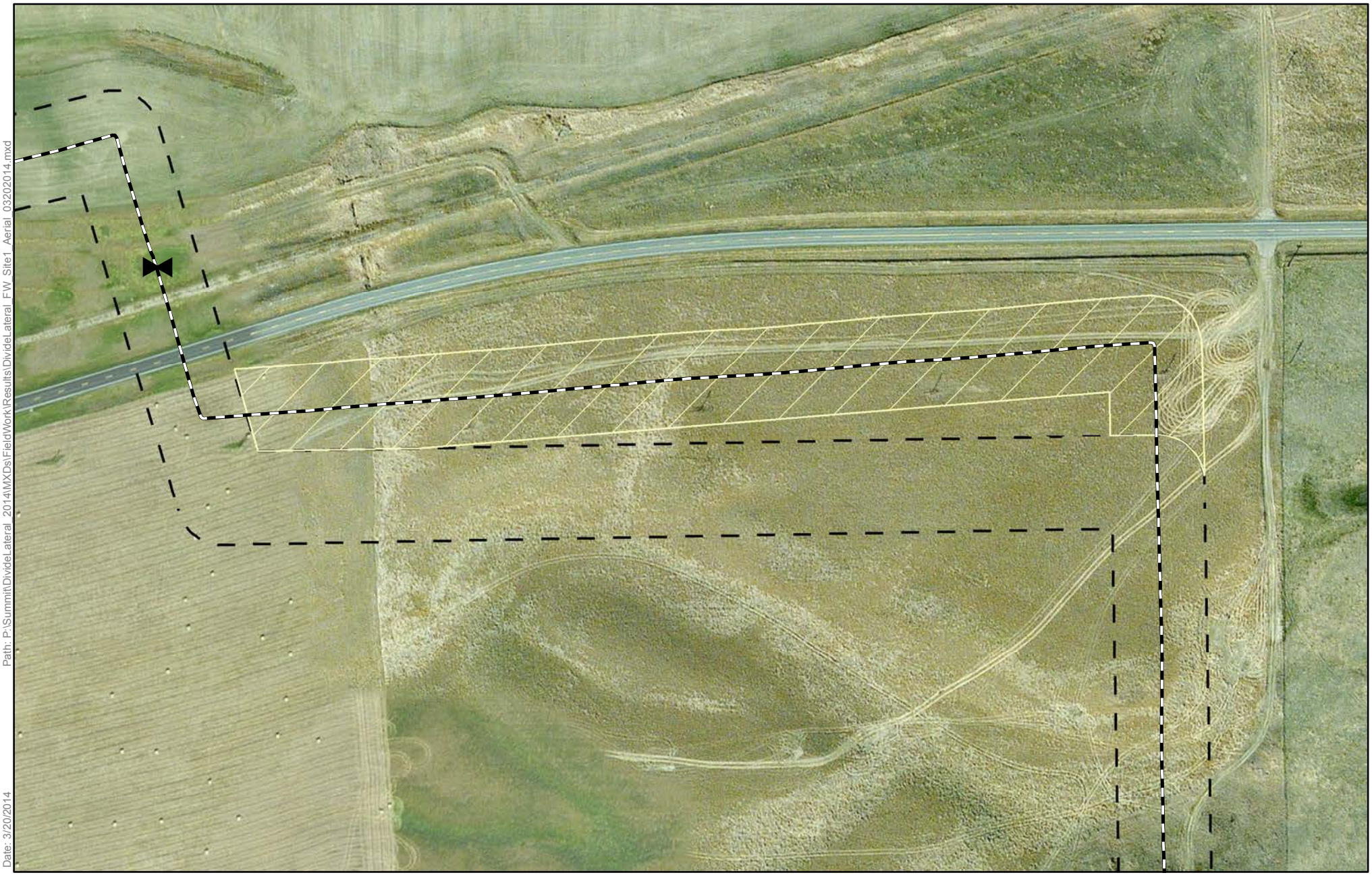
No trees, saplings or shrubs are present on Site 1 or Site 2. Woody vegetation within the region is sparse and limited to woody draws and ravines associated with drainage ways.

## SECTION 4: Conclusions and Recommendations

1. E3 ecologists determined that no wetlands or streams (perennial, intermittent or ephemeral) are present within Site 1.
2. No streams (perennial, intermittent or ephemeral) are present within Site 2.
3. Approximately 1.07 acre of palustrine emergent seasonally flooded wetland was present in the survey area of Site 2.
4. Approximately 0.12 acre of wetland may be temporarily impacted by block valve construction activities.

# Appendix A

# Site Maps



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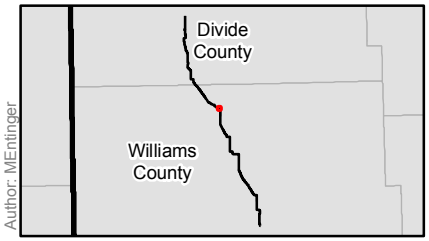
Author: MEntinger




Divide Lateral (02.04.2014)

Block Valve

Wetland Field Survey

2014 Survey Corridor

Previous Survey Corridor

N

E3 Environmental

0 100 200 400 Feet

1:2,500

**Meadowlark Midstream Company, LLC**

Divide Lateral Project

Aerial Photo

Site 1

Williams County, ND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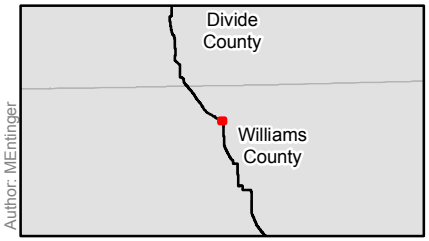
Date: 3/20/2014

Author: MEntinger




- Divide Lateral (02.04.2014)
- Block Valve
- Wetland Field Survey
- 2014 Survey Corridor
- Previous Survey Corridor

N

E3 Environmental
Enhancing Execution with Experience

0 125 250 500 Feet

1:4,000

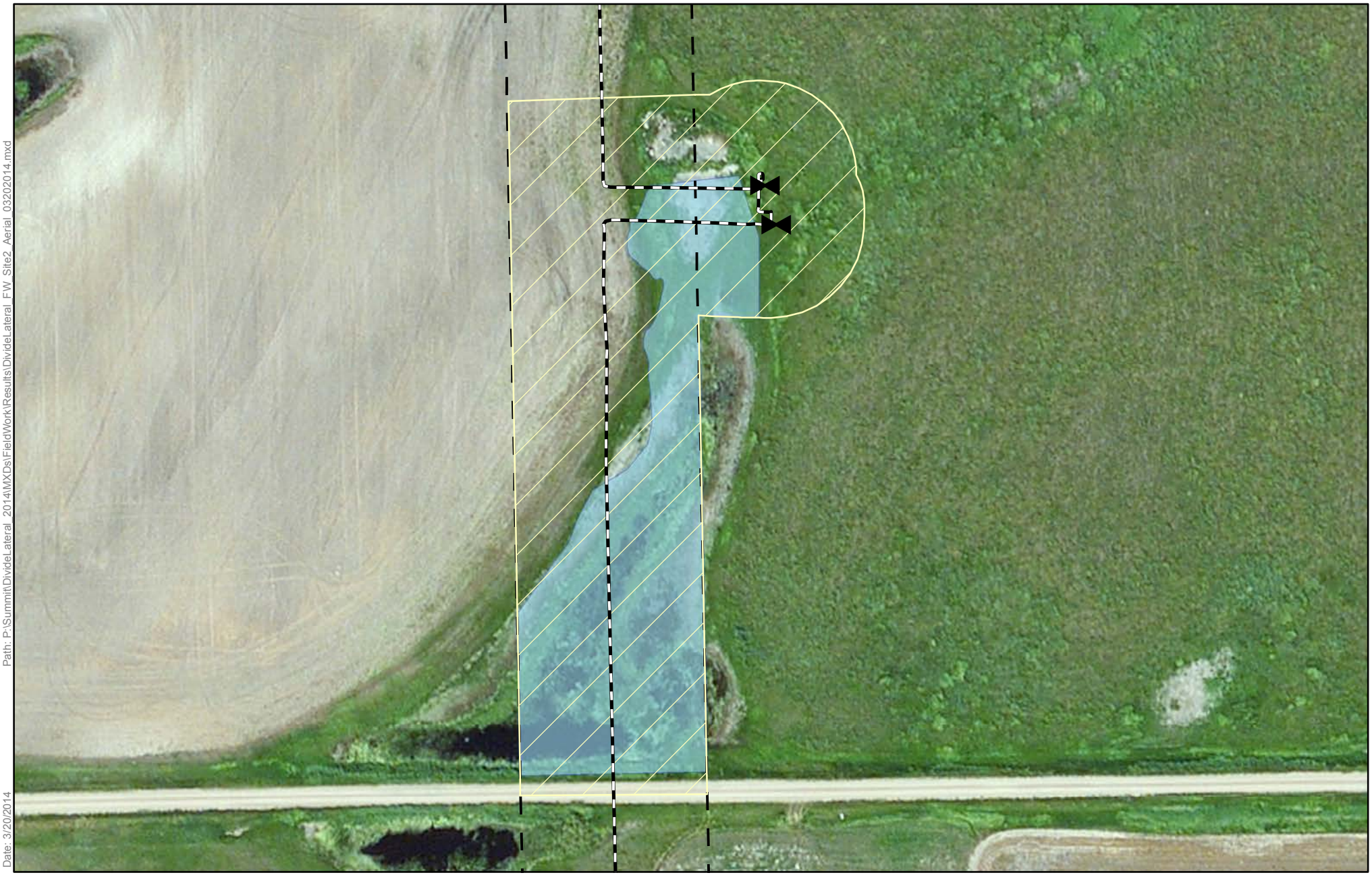
**Meadowlark Midstream Company, LLC**

Divide Lateral Project

USGS Topo

Site 1

Williams County, ND



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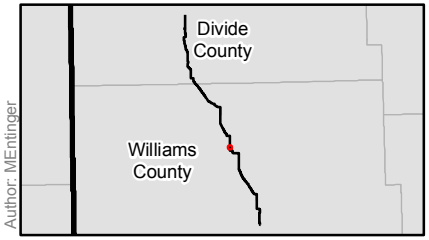


Divide Lateral (02.04.2014)

Block Valve

Wetland Field Survey

2014 Survey Corridor

Previous Survey Corridor

N

E3 Environmental

0 50 100 200 Feet

1:1,250

**Meadowlark Midstream Company, LLC**

Divide Lateral Project

Aerial Photo

Site 2

Williams County, ND


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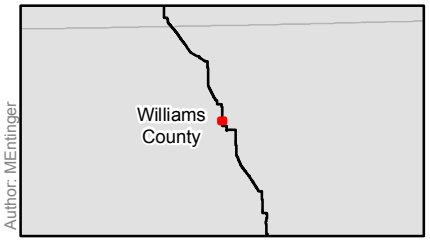
Date: 3/20/2014

Author: MEntinger




- Divide Lateral (02.04.2014)
- Block Valve
- Wetland Field Survey
- 2014 Survey Corridor
- Previous Survey Corridor

N

E3 Environmental
Enhancing Execution with Experience

0 125 250 500 Feet

1:4,000

**Meadowlark Midstream Company, LLC**

Divide Lateral Project

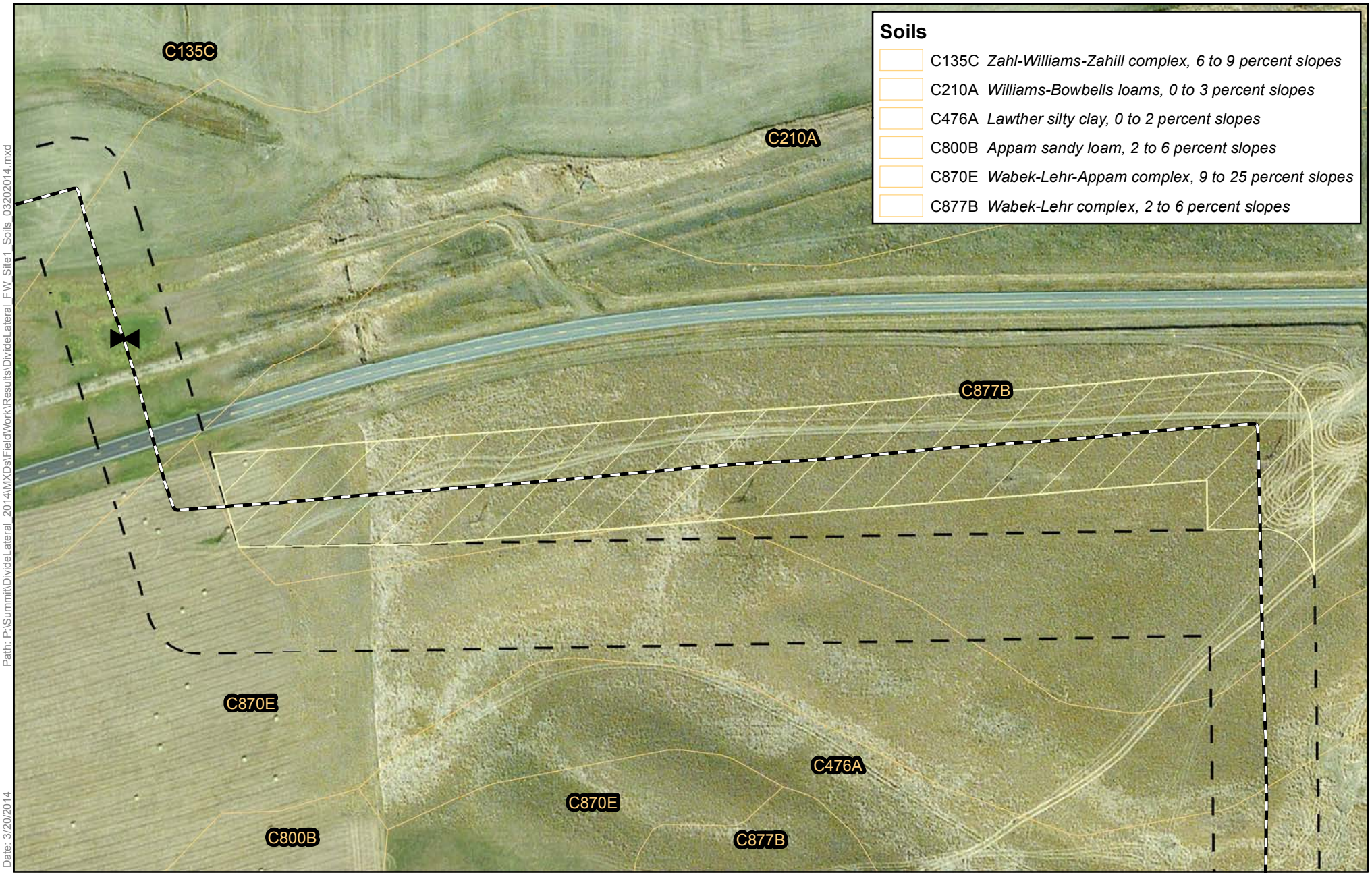
USGS Topo

Site 2

Williams County, ND

# Appendix B

# Soil Survey Map




**Soils**

- C135C *Zahl-Williams-Zahill complex, 6 to 9 percent slopes*
- C210A *Williams-Bowbells loams, 0 to 3 percent slopes*
- C476A *Lawther silty clay, 0 to 2 percent slopes*
- C800B *Appam sandy loam, 2 to 6 percent slopes*
- C870E *Wabek-Lehr-Appam complex, 9 to 25 percent slopes*
- C877B *Wabek-Lehr complex, 2 to 6 percent slopes*

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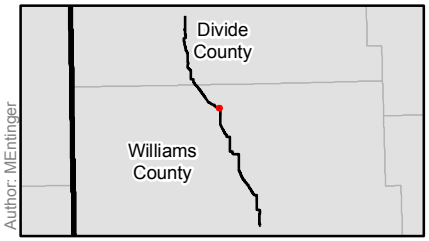



- Divide Lateral (02.04.2014)
- Block Valve
- Wetland Field Survey
- 2014 Survey Corridor
- Previous Survey Corridor

N

E3 Environmental
Enhancing Execution with Experience

0 75 150 300 Feet

1:2,200

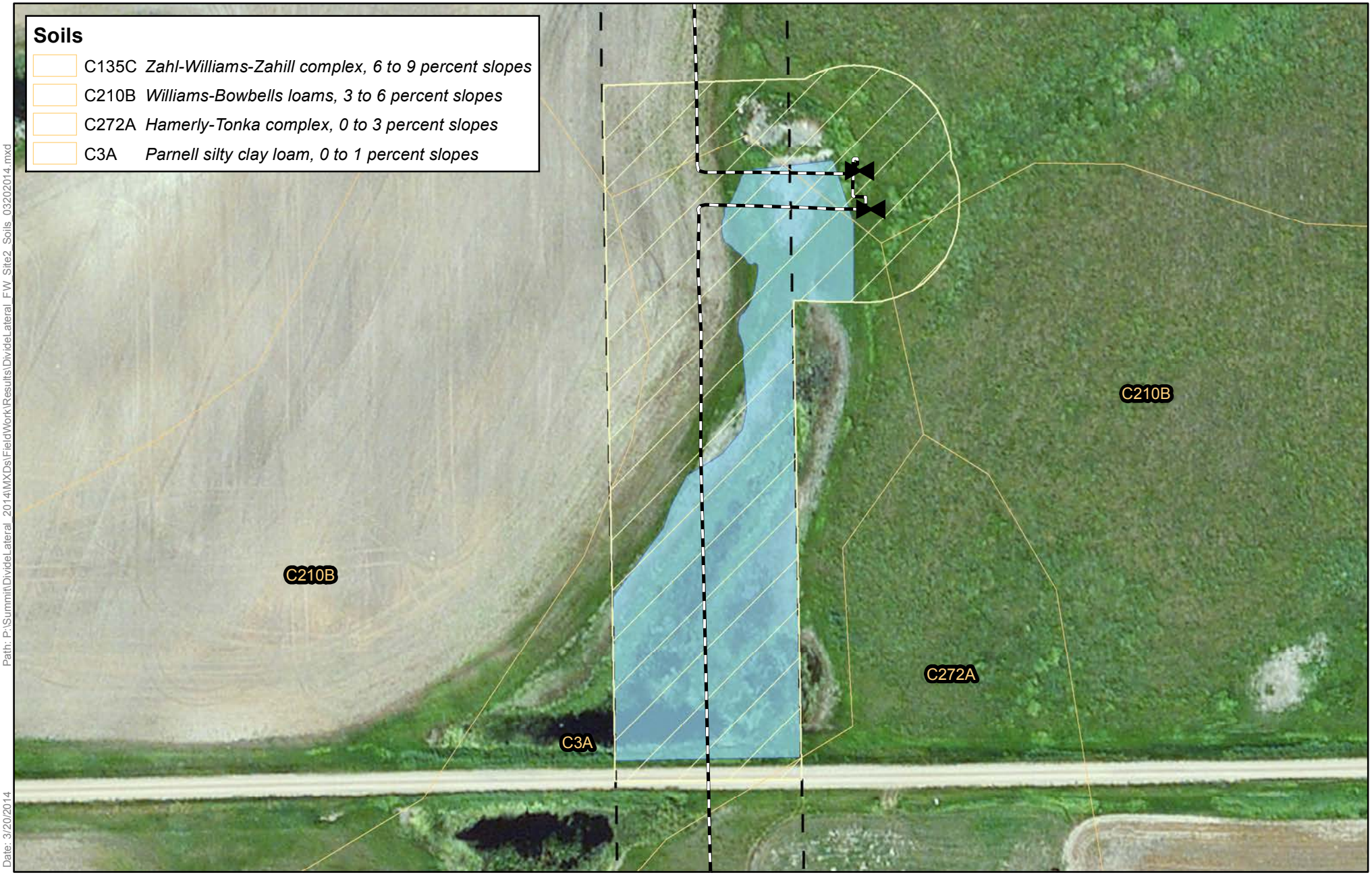
**Meadowlark Midstream Company, LLC**

Divide Lateral Project

Soils

Site 1

Williams County, ND

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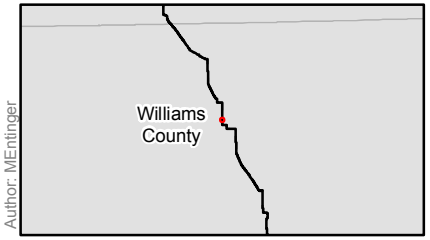


Divide Lateral (02.04.2014)

Block Valve

Wetland Field Survey

2014 Survey Corridor

Previous Survey Corridor

N

E3 Environmental

0 50 100 200 Feet

1:1,250

**Meadowlark Midstream Company, LLC**

Divide Lateral Project

Soils

Site 2

Williams County, ND

# Appendix C

# Site Photos

E3 ENVIRONMENTAL
871 Jefferson Avenue
St. Paul, MN 55102

## Site Photos

**Figure 1. Site 2 facing north from 73rd Street.**

**Figure 2. Site 2 facing north from 73rd Street.**

# Appendix D

Cultural Resources Report

JUNIPER

# SUMMIT MIDSTREAM ENERGY DIVIDE LATERAL CRUDE PETROLEUM GATHERING PIPELINE:

## CLASS III CULTURAL RESOURCE INVENTORY, DIVIDE AND WILLIAMS COUNTIES, NORTH DAKOTA

**Prepared For:**
E3 Environmental, LLC
St. Paul, Minnesota

**Principal Investigator:**
John G. Morrison

**Prepared By:**
Ryan Swanson
Juniper, LLC
Bismarck, North Dakota

**Report of Investigation: 192** **August 2013**

1111 W. Highland Acres Rd., Bismarck, ND 58501 | O: (701) 223-6306 | C: (701) 400-3575 | Juniper, LLC

**MANUSCRIPT DATA RECORD FORM**

1. Manuscript Number:
2. SHPO Reference #:
3. Author(s): Ryan Swanson
4. Title: Summit Midstream Energy Divide Lateral Crude Petroleum Gathering Pipeline: Class III Cultural Resource Inventory, Divide and Williams Counties, North Dakota
5. Report Date: August 2013
6. Number of Pages: 37
7. Type I, T, E, O: I
8. Acres: 792
9. Legal Location(s) with Historic Context Study Unit(s):

| County | TWP | R | SEC | SU |
|---|---|---|---|---|
| Divide | 161 | 100 | 1, 2, 11, 14, 23, 26, 35 | GA |
| | 160 | 100 | 4, 9, 16, 21, 22, 27, 34 | GA |
| Williams | 159 | 100 | 2, 3, 11-13, 24 | GA |
| | 159 | 99 | 19, 20, 29, 32 | GA |
| | 158 | 99 | 4, 5, 9, 15, 16, 22, 27, 34, 35 | GA |
| | 157 | 99 | 2, 11-13, 24, 25 | GA |
| | 157 | 98 | 30-33 | GA |
| | 156 | 99 | 1, 2, 12, 13, 24, 25, 36 | GA |
| | 155 | 99 | 1 | GA |

# Summit Midstream Energy
# Divide Lateral Crude Petroleum Gathering Pipeline:
## Class III Cultural Resource Inventory, Divide and Williams Counties, North Dakota

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

Principal Investigator:
John G. Morrison

Prepared By:
Ryan Swanson
Juniper, LLC
Bismarck, North Dakota

August 2013

## ABSTRACT

E3 Environmental, LLC contacted Juniper, LLC, to conduct a Class III Cultural Resource Inventory for 44 miles (792 acres) of the Summit Midstream Energy Divide Lateral Project. The proposed undertaking consists of the development of a 150' wide construction corridor for the placement of a crude petroleum gathering pipeline in Divide and Williams Counties, North Dakota.

A review of the State Historical Society of North Dakota's (SHSND) site and manuscript files noted 36 previously recorded historic properties and 24 cultural resource inventories within a one mile radius of the proposed construction corridor. All but four of the previously recorded historic properties are outside the Class III inventoried corridor. A total of 792 acres were inventoried to SHSND Class III standards (SHSND 2012).

During the inventory for the proposed crude petroleum gathering pipeline, two new historic properties (32DV129, a farmstead, barn, and school; 32WI1388, an isolated farmhouse) were identified, recorded, and documented. Site 32DV129 is recommended as unevaluated for the National Register of Historic Places. Site 32WI1388 is recommended as *not eligible* for the NRHP. The portion of the pipeline corridor that lies adjacent to 32DV129 was already in place at the time the site was recorded. No impacts to the site were observed. The portion of the pipeline adjacent to 32WI1388 had yet to be constructed at the time of recording. The farmhouse is located 30' west of the staked corridor. If construction activities are confined within the staked area, the farmhouse at 32WI1388 will not be impacted.

Provided the management recommendations at each of the sites are implemented, Juniper recommends a finding of *No Historic Properties Effected* for the undertaking.

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## INTRODUCTION

E3 Environmental, LLC, (E3) contacted Juniper, LLC, to conduct a Class III Cultural Resource Inventory for the Summit Midstream Divide Lateral Project. The undertaking consists of the development of a 44 mile crude petroleum gathering pipeline in Divide and Williams Counties, North Dakota (Figure 1 - Figure 8). A 150' wide corridor centered on the proposed centerline of the pipeline was inventoried for cultural materials. A total of 792 acres were inventoried to State Historical Society of North Dakota (SHSND) Class III standards (SHSND 2012).

Juniper archaeologists Ryan Swanson (Project Archaeologist) and Tim D. Goggin (Project Archaeologist) conducted the Class III Cultural Resource Inventory from July 10 to 14, 2013. During the inventory, two historic farmsteads were identified, recorded, and documented. A review of the SHSND's site and manuscript files noted 36 previously recorded historic properties and 24 cultural resource inventories within a one mile radius of the proposed corridor (Table 1 and Table 2). All but four of the previously recorded historic properties are outside the inventoried corridor.

Discussions of the previously recorded properties and the two newly recorded historic properties are included in the RESULTS and SUMMARY AND MANAGEMENT RECOMMENDATIONS sections of the document. The entirety of the forms, illustrations, maps, field notes, and photographic records relevant to the undertaking are on file at the Juniper office in Bismarck, North Dakota.

## ENVIRONMENTAL SETTING

The proposed pipeline corridor is located within North Dakota's archaeological Garrison Study Unit (GSU). The cultural study unit is defined and delineated in the *North Dakota Comprehensive Plan for Historic Preservation: Archaeological Component* (SHSND 2008:6.1 - 6.8). The SHSND 2008 document presents a generalized description/overview of the physiographic and cultural setting for the study units, along with information on the previous research within the study units. A project specific description of the environmental setting is presented below based on the review of aerial photographs of the project area, our general knowledge of the area, and our field observations.

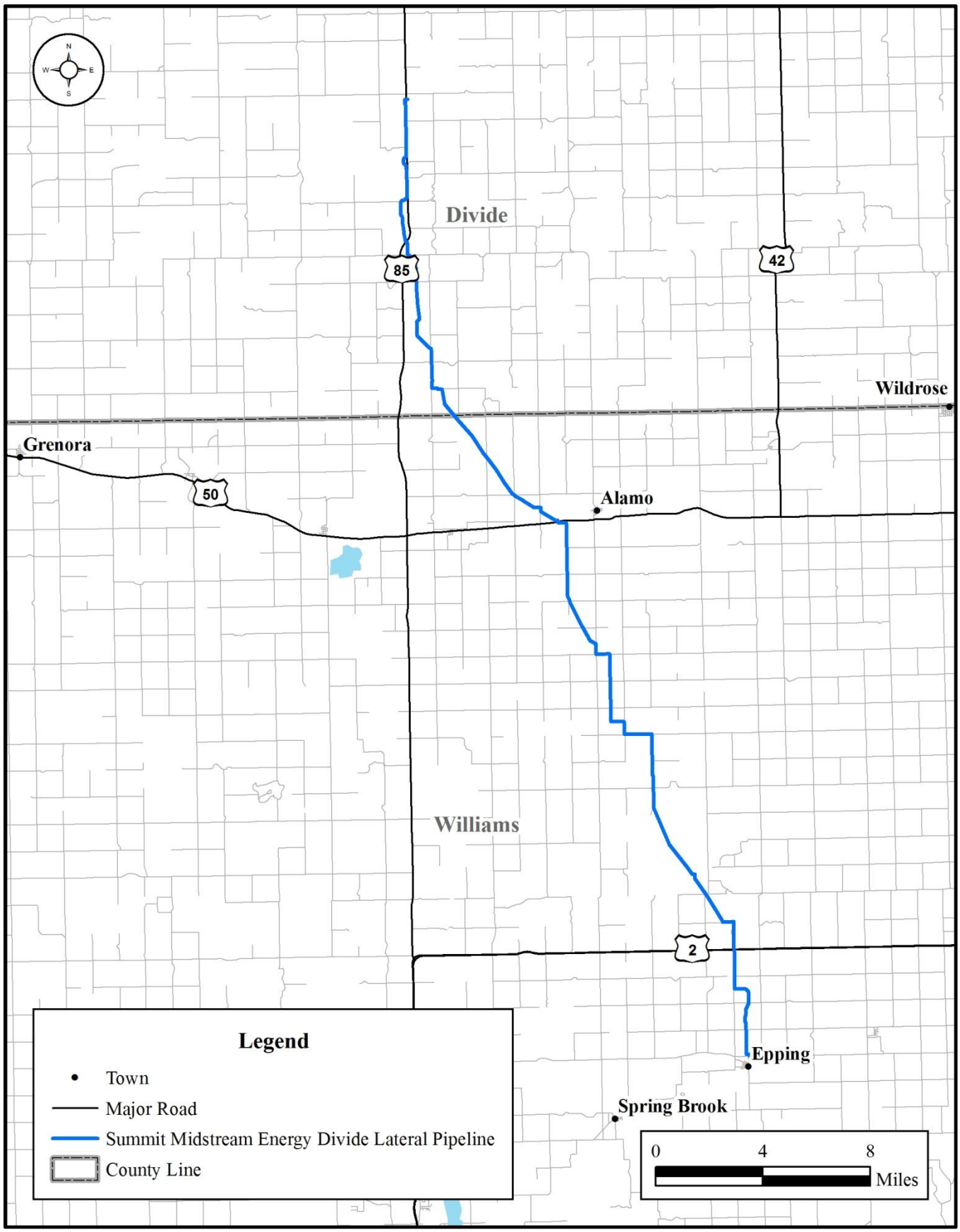


**Figure 1:** Regional location of the proposed undertaking in Divide and Williams Counties, North Dakota.

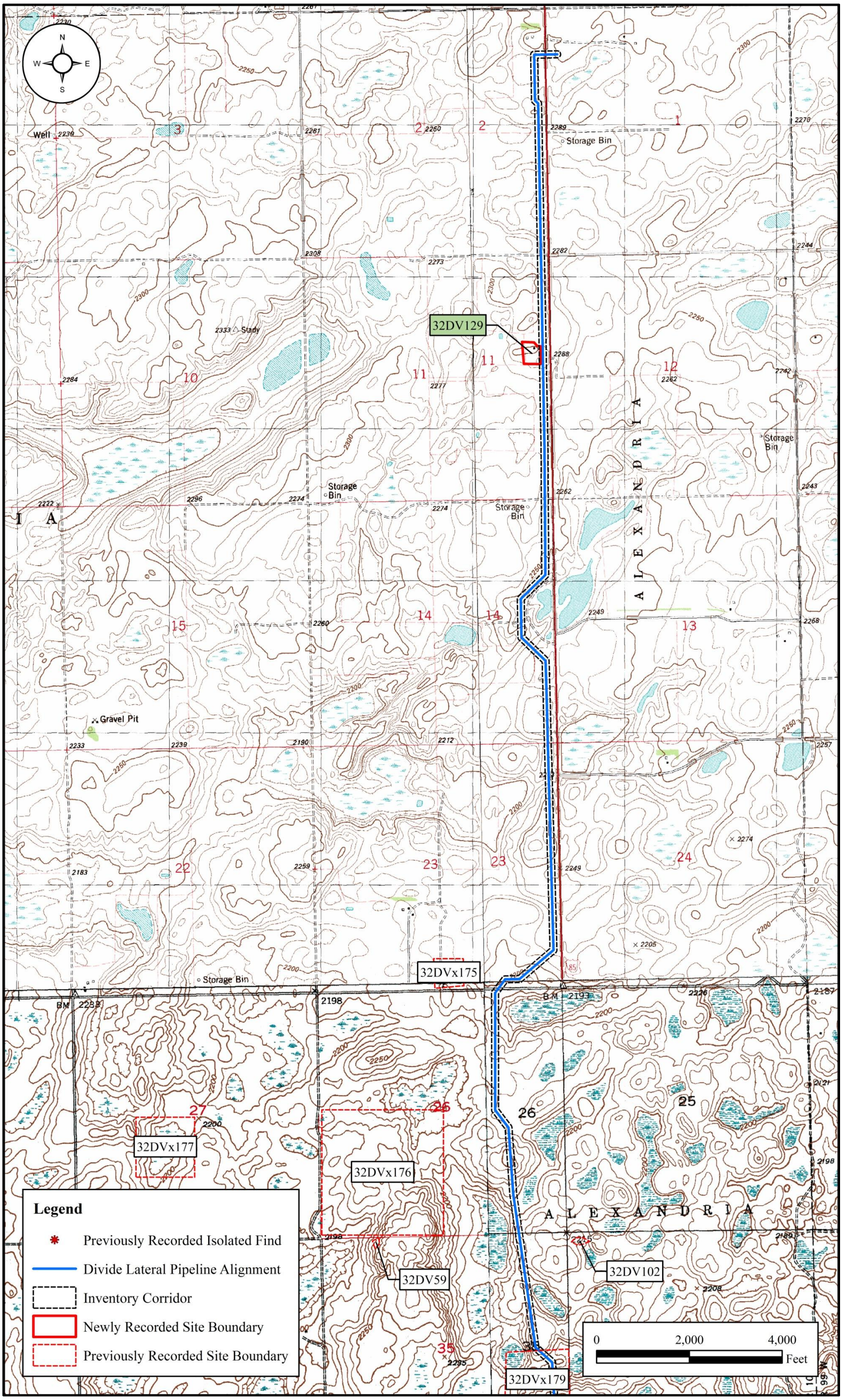


**Figure 2:** Overview (1 of 7) of the Divide Lateral Inventory Corridor with previously recorded cultural resources (white label) and newly recorded resources (green label) noted, as depicted on the USGS 7.5' Alexandria, Colgan SE, Stady and Smoky Butte quadrangles.

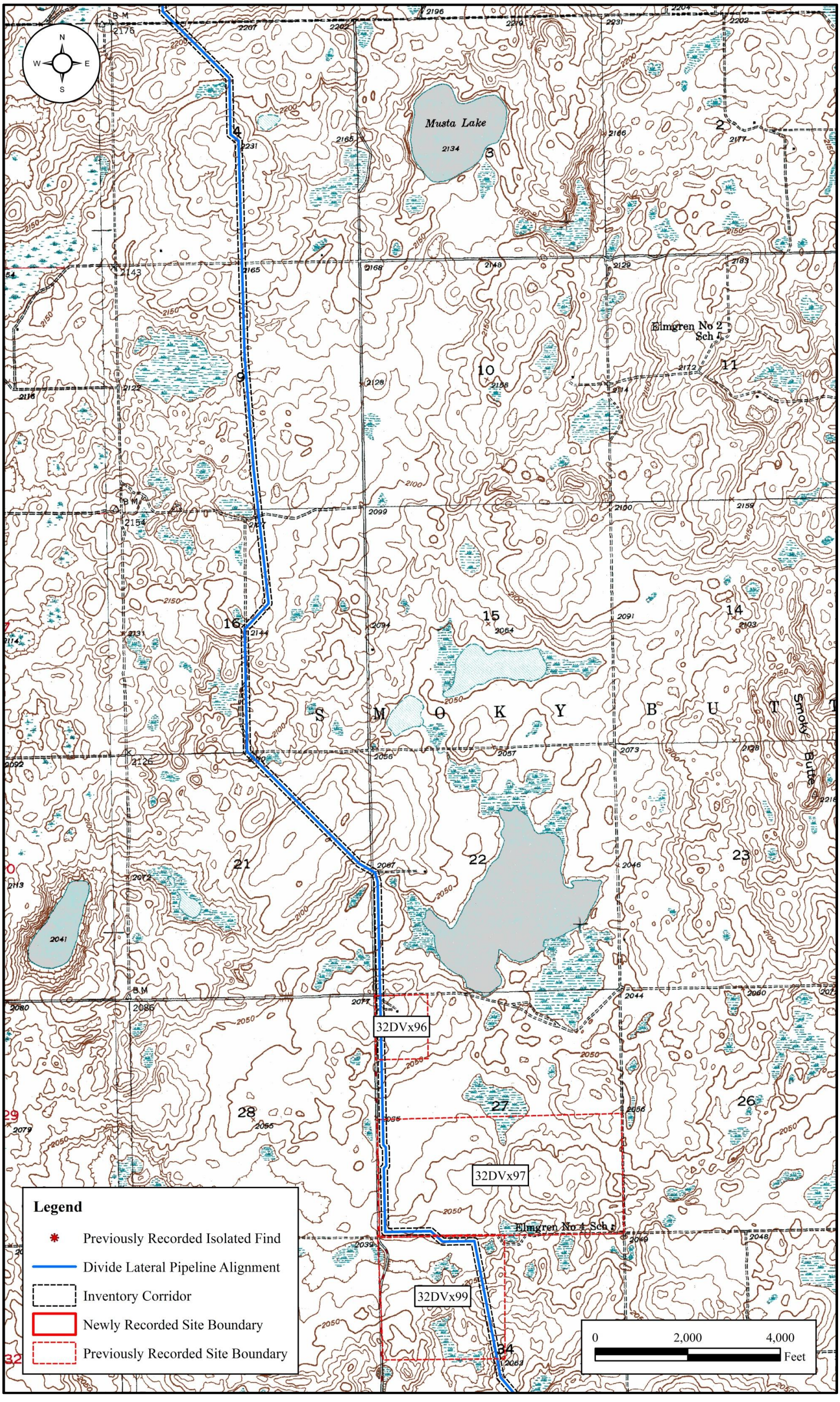


**Figure 3:** Overview (2 of 7) of the Divide Lateral Inventory Corridor with previously recorded cultural resources, as depicted on the USGS 7.5' Smoky Butte and Stady quadrangles.

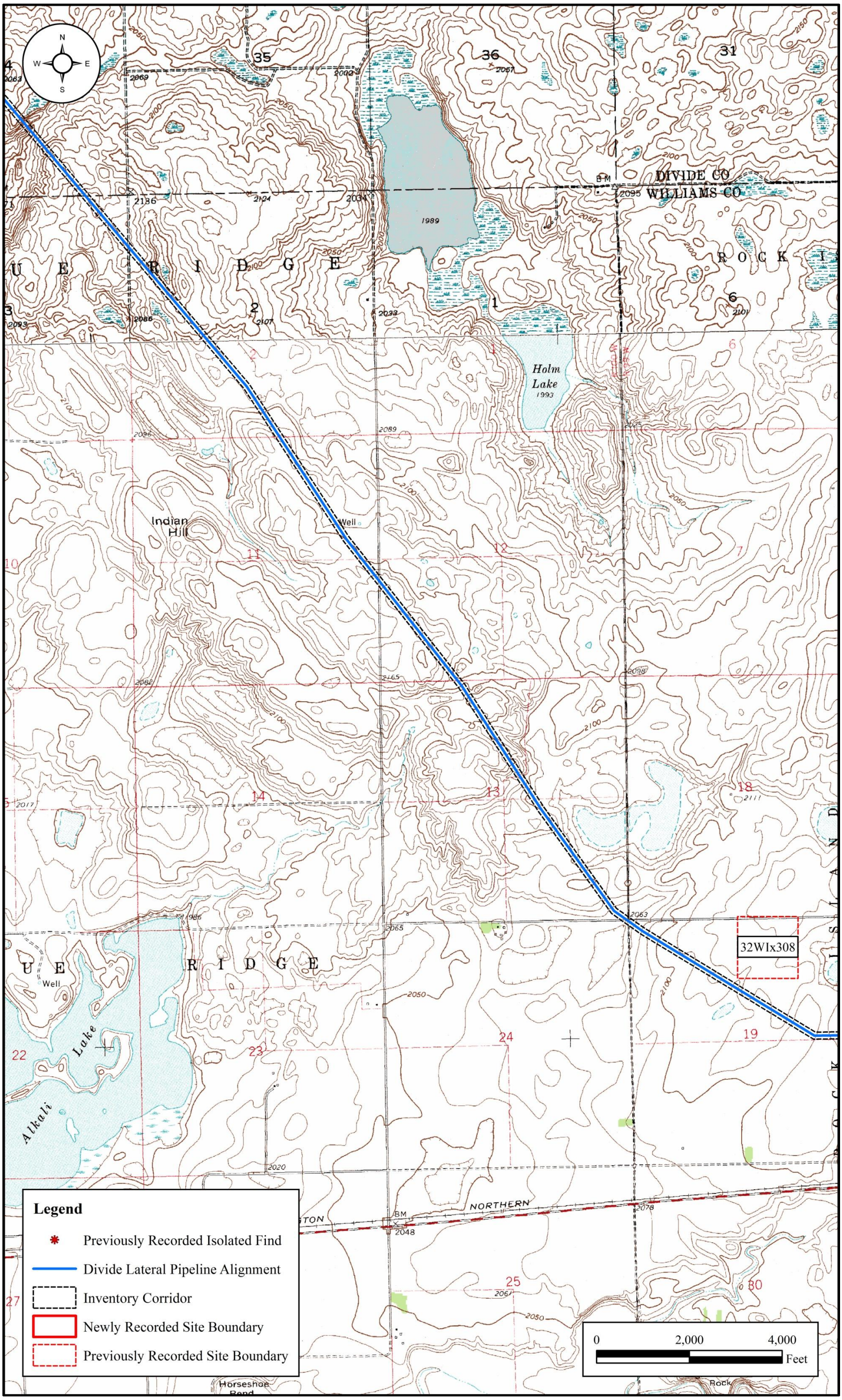


**Figure 4:** Overview (3 of 7) of the Divide Lateral Inventory Corridor with previously recorded cultural resources as depicted on the USGS 7.5' Appam and Smoky Butte quadrangles.

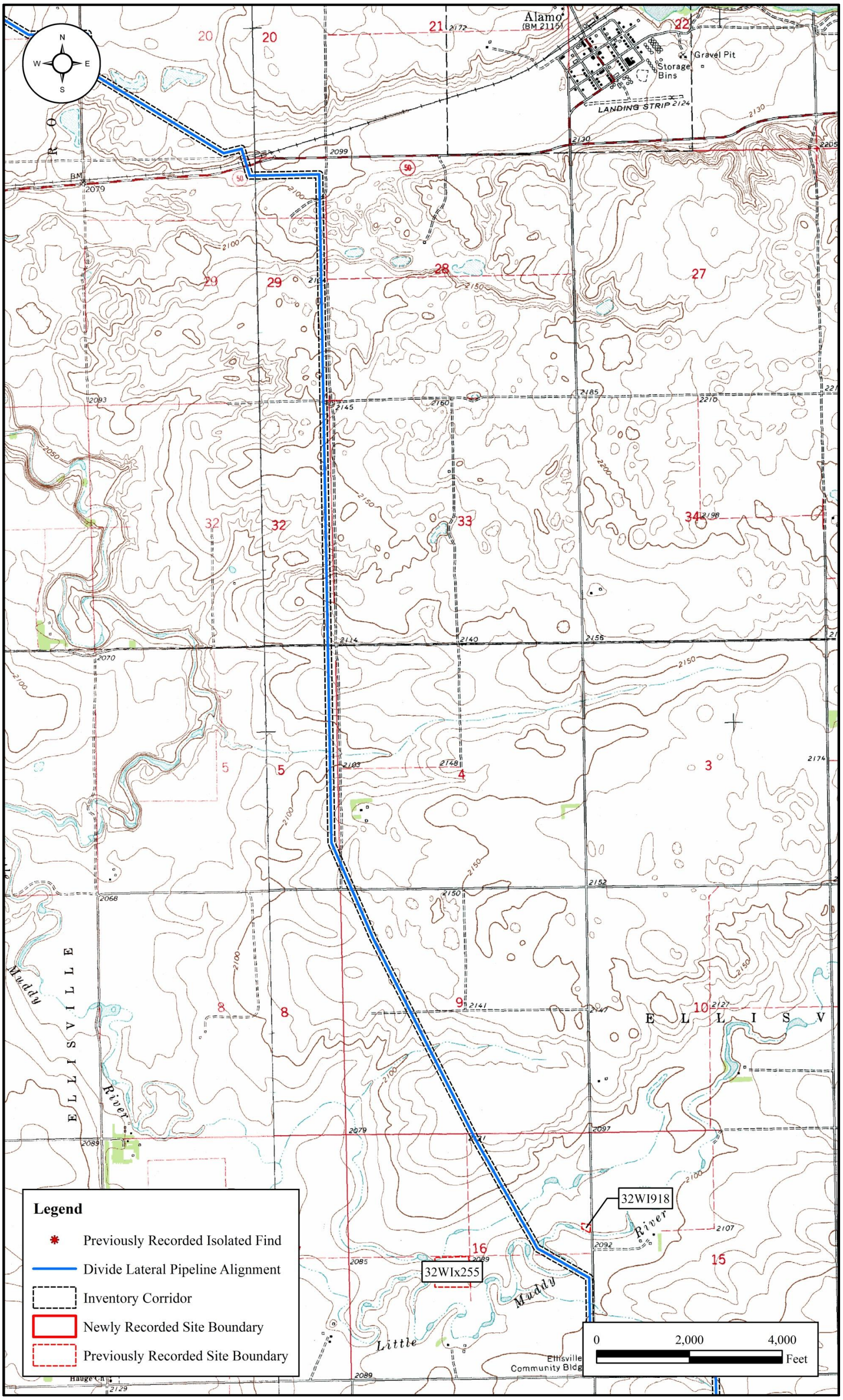


**Figure 5:** Overview (4 of 7) of the Divide Lateral Inventory Corridor with previously recorded cultural resources as depicted on the USGS 7.5' Alamo and Appam quadrangles.

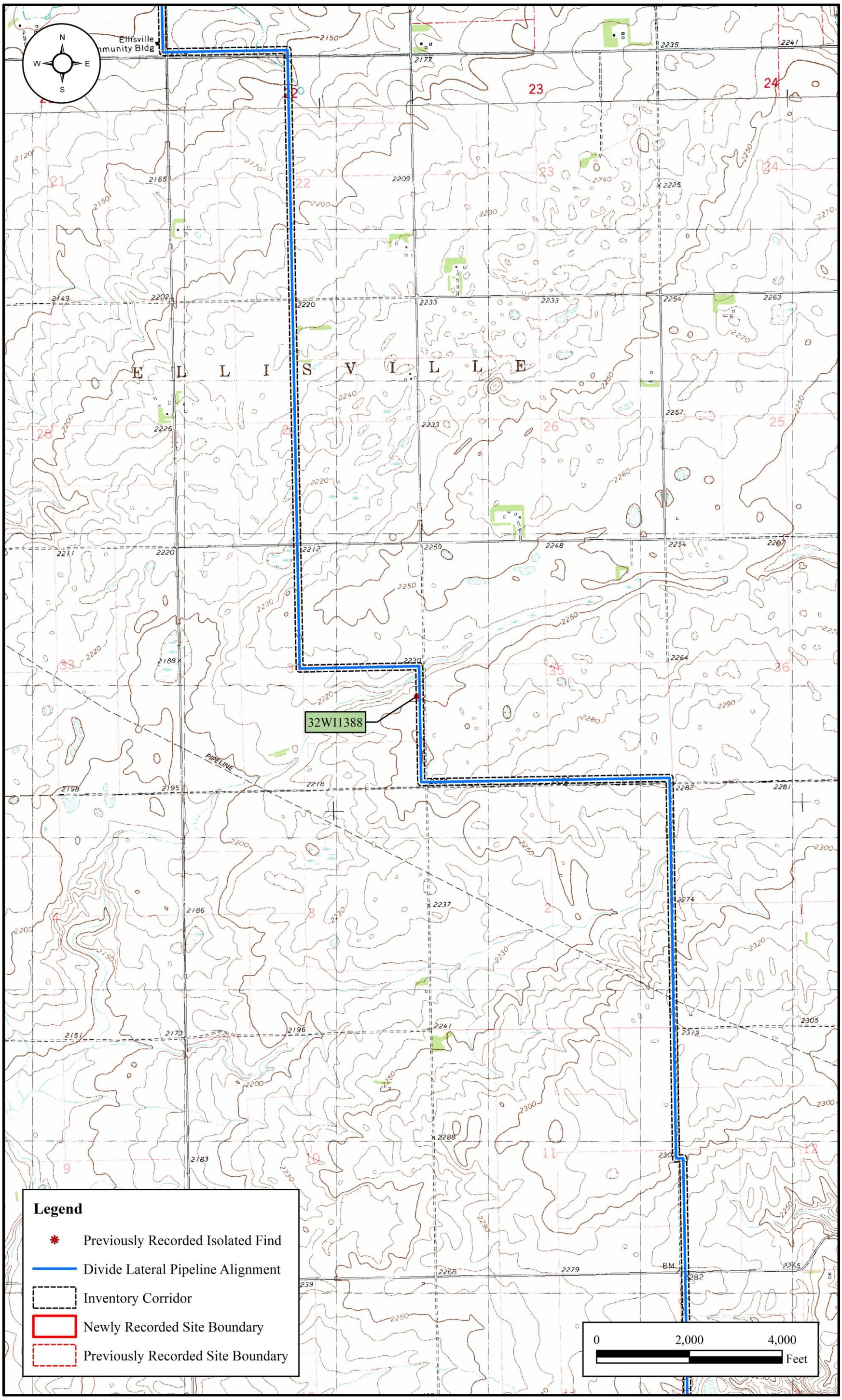


**Figure 6:** Overview (5 of 7) of the Divide Lateral Inventory Corridor with newly recorded resource (green box) as depicted on the USGS 7.5' Alamo and Epping NW quadrangles.

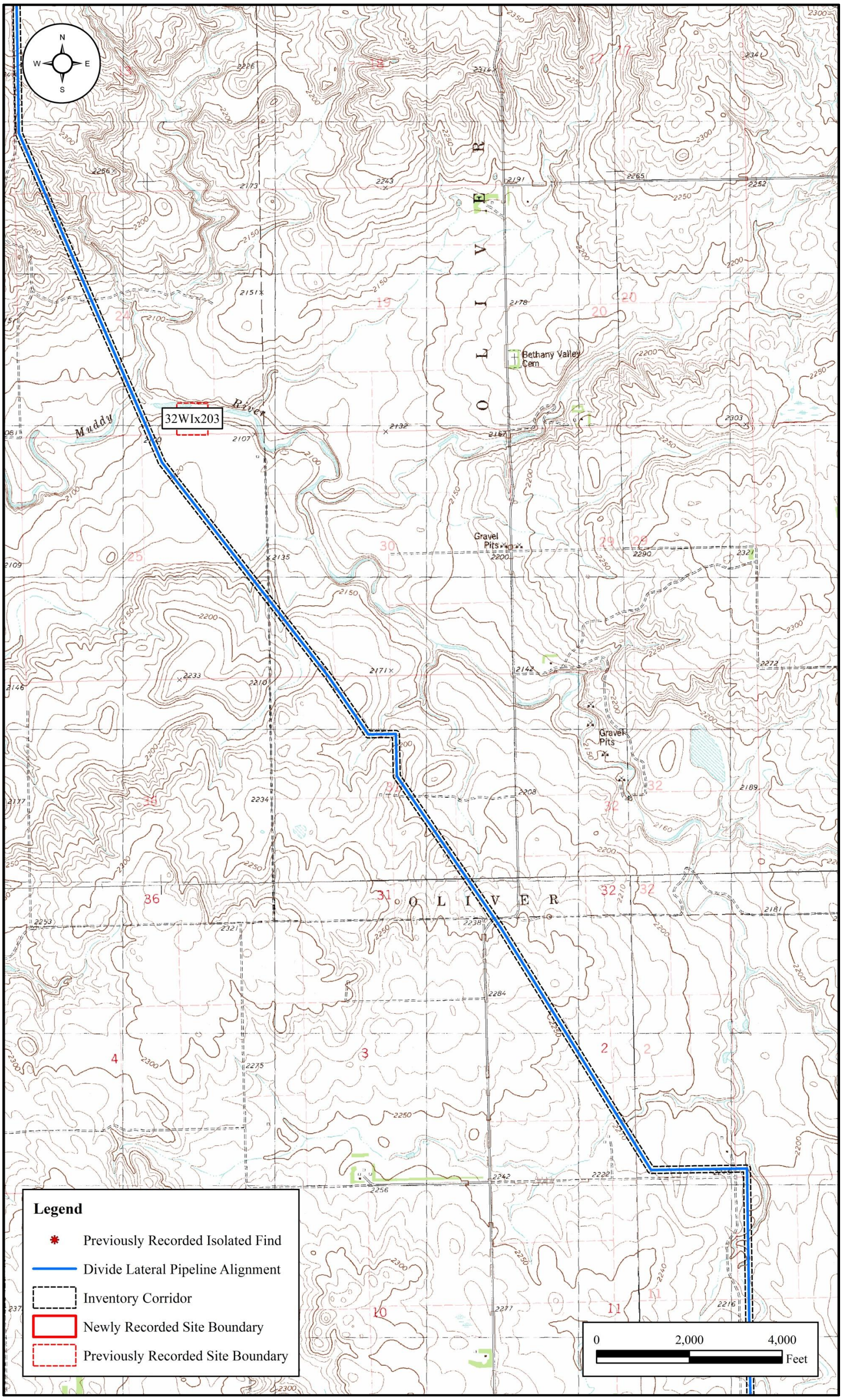


**Figure 7:** Overview (6 of 7) of the Divide Lateral Inventory Corridor with previously recorded cultural resources as depicted on the USGS 7.5' Epping NW, Epping NE, Epping and Spring Brook quadrangles.

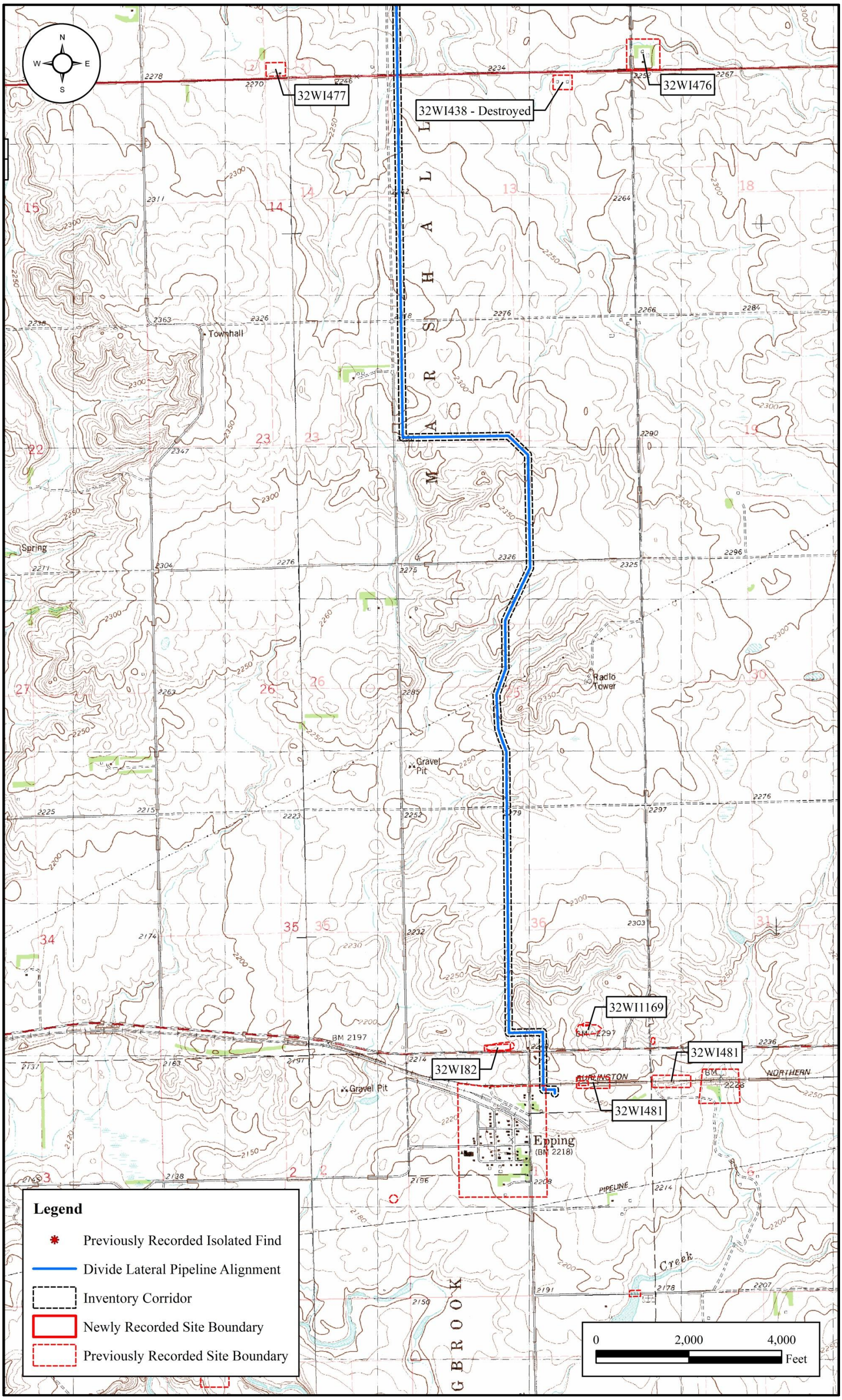


**Figure 8:** Overview (7 of 7) of the Divide Lateral Inventory Corridor with previously recorded cultural resources as depicted on the USGS 7.5' Epping and Spring Brook quadrangles.

## Topography

The Garrison Study Unit lies within the glaciated Missouri Plateau Subsection of the Missouri Plateau Section of the Great Plains Physiographic Province. Missouri River valley portions of the Study Unit are included in the Missouri River Trench District. Most of the study unit is made up of Missouri Coteau and Coteau Slope terrain. Land outside of the Missouri River Trench beyond the east bank of the river is part of an unnamed district of the Glaciated Missouri Plateau Subsection (SHSND 2008).

The landscape of the crude petroleum pipeline corridor is fairly uniform, broken up by occasional, small kettle lakes and ponds that resemble wetlands more than discrete bodies of water as well as moderately to deeply incised drainages (Figure 10). Holocene deposition in this area is variable but is generally thinly mantled over late Pleistocene gravels and clay deposits. This relatively flat landscape is mostly being used for either crop lands (Figure 9 and Figure 10) or pasture for grazing (Figure 11).

**Figure 9:** Overview of the Summit Midstream Energy Divide Lateral pipeline corridor in Section 11, T. 161 N., R. 100 W., Divide County. View is to the north. The pipeline is in place at this location and remediation activities were in progress at the time of survey.

**Figure 10:** Overview of construction activity within the project corridor and adjacent agricultural fields. Photograph taken in Section 9, T. 160 N., R. 100 W., view to the south.

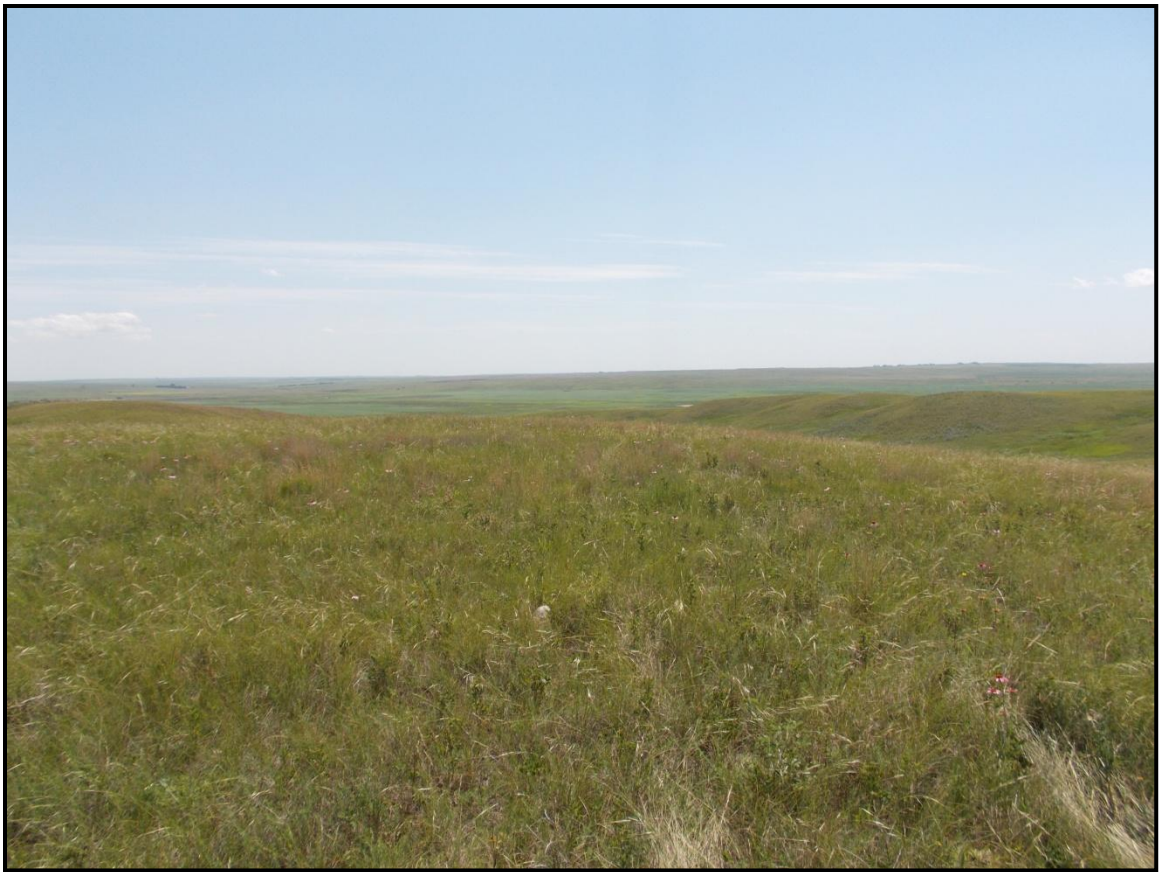

**Figure 11:** Overview of pasture land within and directly adjacent to the project corridor. Photograph taken in Section 19, T. 157 N., R. 99 W., view to the south.

## Flora

The vegetation regimes present today are not necessarily the ones that would have been present in the prehistoric past: agriculture, the introduction of non-native species, and modern development have altered the flora present within the landscape.

Approximately 40% of the project corridor lies within pasture lands (Figure 11). The remaining portions of the crude petroleum pipeline pass through agricultural fields (wheat, corn, canola, etc.), just outside of or within the corridor (Figure 9 and Figure 10).

Ground surface visibility (GSV) within the project corridor averaged 40%. Numerous rodent burrows, road cutbanks, and other areas of increased visibility were also intensively investigated for evidence of buried cultural materials that may not have a surface expression.

## Fauna

It can also be said that the types and distributions of faunal species present in the project area today do not necessarily reflect those of the past. While the following list is not exhaustive of the fauna present, it represents the species most likely to have been encountered during historic or prehistoric times. The region would have been home to diverse large and small mammals as well as some birds, amphibians, and reptiles. In the past, people would have commonly encountered bison (*Bison bison*), elk (*Cervus canadensis*), antelope (*Antilocapra americana*), as well as mule and white tail deer (*Odocoileus* sp.). In addition, wolf (Canis lupus), coyote (*Canis latrans*), jack rabbits (*Lepus* sp.), badger (*Taxidea taxus*), beaver (*Castor canadensis*), and prairie dogs (*Cynomys ludovicianus*) would have been present, as well as raptors, songbirds, and gamebirds.

The previously free-flowing Missouri River and its many tributaries would have provided homes to various species of fish (northern pike, perch, and suckers), different types of waterfowl, (ducks, geese, etc.,) amphibians, and reptiles. The various wetlands and smaller bodies of water would have also provided significant habitat for waterfowl in the project area. These water sources would have served to draw in and concentrate the faunal resources.

## RESEARCH GOALS AND EVALUATION OF RESEARCH

In accordance with the National Historic Preservation Act (NHPA [Public Law 89-665]), the project area was inventoried to locate and identify any cultural resources within the area of potential affect. An additional goal of the survey was to allow E3 to plan the development to avoid any significant cultural resources. The overall goal of this inventory has been achieved as the historic properties that were recorded can be avoided by the development.

## LITERATURE REVIEW

A literature review of the SHSND's site and manuscript files was conducted by Elizabeth E. Anderson of Juniper in July 2013. The review of the SHSND's site and manuscript files noted 36 previously recorded historic properties and 24 cultural resource inventories within a one mile radius of the proposed corridor. The results of the literature review are presented in Table 1 and Table 2. Four of the previously recorded historic properties, 32DVx96, 32DVx97, 32DVx99 and 32DVx179, lie within or immediately adjacent to the inventoried corridor (marked in red text below). These three properties are discussed in detail in the RESULTS section of the document.

**Table 1: Results of the Site, Site Lead, and Isolated Find Files Search**

| Sect-Twp/Rng | SITS# | Type | Recorder/Date | Manuscript # |
|---|---|---|---|---|
| 3-160/100 | No Historic Properties Recorded | | | |
| 4-160/100 | No Historic Properties Recorded | | | 12923, 13329 |
| 5-160/100 | No Historic Properties Recorded | | | 13329 |
| 8-160/100 | No Historic Properties Recorded | | | 13329 |
| 9-160/100 | No Historic Properties Recorded | | | 12923, 13329 |
| 10-160/100 | No Historic Properties Recorded | | | 12923 |
| 15-160/100 | No Historic Properties Recorded | | | 12923 |
| 16-160/100 | No Historic Properties Recorded | | | 13329 |
| 17-160/100 | No Historic Properties Recorded | | | 13329 |
| 20-160/100 | No Historic Properties Recorded | | | 13329 |
| 21-160/100 | No Historic Properties Recorded | | | 13329 |
| 22-160/100 | No Historic Properties Recorded | | | 5904 |
| 26-160/100 | No Historic Properties Recorded | | | 8271 |
| 27-160/100 | 32DVx0096 | Archaeological - CMS | Benson 1980 | 8271 |
| | 32DVx0097 | Archaeological - CMS | Benson 1980 | |
| 28-160/100 | No Historic Properties Recorded | | | 13329 |
| 33-160/100 | 32DV00126 | Archaeological - Cairn | Bluemle 2012 | 7575, 14022 |
| | 32DV00127 | Archaeological - Cairn | Bluemle 2012 | |
| 34-160/100 | 32DVx1380 | Archaeological - CMS | Benson 1980 | |
| | 32DVx0099 | Archaeological - CMS | Benson 1980 | |
| 35-160/100 | No Historic Properties Recorded | | | 8271 |
| 36-160/100 | 32DVx0100 | Archaeological - CMS | Benson 1980 | 12923 |
| | 32DVx0101 | Archaeological - CMS | Benson 1980 | |
| 6-161/99 | No Historic Properties Recorded | | | |
| 31-161/99 | No Historic Properties Recorded | | | |
| 1-161/100 | No Historic Properties Recorded | | | 13329 |
| 2-161/100 | No Historic Properties Recorded | | | 13329 |
| 3-161/100 | No Historic Properties Recorded | | | |
| 10-161/100 | No Historic Properties Recorded | | | |
| 11-161/100 | No Historic Properties Recorded | | | 13329 |
| 12-161/100 | No Historic Properties Recorded | | | 13329 |
| 13-161/100 | No Historic Properties Recorded | | | 13329 |
| 14-161/100 | No Historic Properties Recorded | | | 13329 |
| 15-161/100 | No Historic Properties Recorded | | | |

| Table 1: Results of the Site, Site Lead, and Isolated Find Files Search | | | | |
|---|---|---|---|---|
| **Sect-Twp/Rng** | **SITS#** | **Type** | **Recorder/Date** | **Manuscript #** |
| 22-161/100 | 32DVx0174 | Archaeological - CMS | Benson 1980 | |
| 23-161/100 | 32DVx0175 | Archaeological - CMS | Benson 1980 | 13329 |
| 24-161/100 | No Historic Properties Recorded | | | 7, 13329 |
| 25-161/100 | No Historic Properties Recorded | | | 13329 |
| 26-161/100 | 32DVx0176 | Archaeological - CMS | Benson 1980 | 12923, 13329 |
| | 32DVx0406 | Archaeological - CMS | Mandelko 2011 | |
| 27-161/100 | 32DVx0178 | Archaeological - CMS | Benson 1980 | 12923 |
| 34-161/100 | No Historic Properties Recorded | | | 12923 |
| 35-161/100 | 32DV0059 | Archaeological - SC | Mandelko 2010 | 12923, 13329 |
| | 32DVx0179 | Archaeological - CMS | Benson 1980 | |
| 36-161/100 | 32DV0102 | Archaeological - SC | Mitchell 2012 | 13329 |
| | 32DV0103 | Archaeological - SC | Mitchell 2012 | |
| 31-162/99 | No Historic Properties Recorded | | | |
| 34-162/100 | No Historic Properties Recorded | | | |
| 35-162/100 | No Historic Properties Recorded | | | 13329 |
| 36-162/100 | No Historic Properties Recorded | | | 13329 |
| 6-155/98 | No Historic Properties Recorded | | | 9856, 12472, 12688 |
| 7-155/98 | No Historic Properties Recorded | | | |
| 1-155/99 | 32WI0791 | Archaeological - Farmstead | Martin/Fiege 1987 | 4540, 9856, 10128, 11942, 11987, 12472, 12688 |
| 2-155/98 | No Historic Properties Recorded | | | 9856 |
| 11-155/99 | 32WIx0136 | Archaeological - CMS | Benson 1980 | |
| 12-155/99 | 32WI00920 | Archaeological - Bridge | Huftstetler/ McCormick 2000 | 10128, 13844 |
| | 32WIx0601 | Archaeological - Bridge Column | Cox/Plunk 2012 | |
| 6-156/98 | No Historic Properties Recorded | | | |
| 7-156/98 | No Historic Properties Recorded | | | 8670, 2528 |
| 18-156/98 | No Historic Properties Recorded | | | 8670, 9483, 10798 |
| 19-156/98 | No Historic Properties Recorded | | | |
| 30-156/98 | No Historic Properties Recorded | | | |
| 31-156/98 | 32WI0081 | Archaeological - Multiple Features | Borchert 1981 | 3251, 9856, 11987 |
| | 32WIx0613 | Archaeological - Farmstead | Trnka 2013 | |
| 1-156/99 | No Historic Properties Recorded | | | |
| 2-156/99 | No Historic Properties Recorded | | | |
| 3-156/99 | No Historic Properties Recorded | | | |
| 4-156/99 | No Historic Properties Recorded | | | |
| 10-156/99 | 32WI0478 | Archaeological - Farmstead | Mitchell 2002 | 2528, 8670, 11942 |
| 11-156/99 | 32WI0477 | Archaeological - Farmstead | Mitchell 2002 | 8388, 8670, 11942 |
| 12-156/99 | No Historic Properties Recorded | | | 8670, 11942 |

| Table 1: Results of the Site, Site Lead, and Isolated Find Files Search | | | | |
|---|---|---|---|---|
| **Sect-Twp/Rng** | **SITS#** | **Type** | **Recorder/Date** | **Manuscript #** |
| 13-156/99 | 32WI0438 | Archaeological - Multiple Structures | Mitchell 2000 | 8670, 10798 |
| 14-156/99 | No Historic Properties Recorded | | | 8670, 10798 |
| 23-156/99 | No Historic Properties Recorded | | | 11942 |
| 24-156/99 | No Historic Properties Recorded | | | |
| 25-156/99 | No Historic Properties Recorded | | | 11942 |
| 26-156/99 | No Historic Properties Recorded | | | 11942 |
| 35-156/99 | No Historic Properties Recorded | | | 3251, 9856 |
| 36-156/99 | 32WI0082 | Archaeological - Scattered Debris | Borchert 1983 | 3251, 9856, 11987 |
| | 32WI1169 | Archaeological – Stone Circle | Smith/Leroy 2011 | |
| 18-157/98 | No Historic Properties Recorded | | | |
| 19-157/98 | No Historic Properties Recorded | | | |
| 29-157/98 | No Historic Properties Recorded | | | |
| 30-157/98 | No Historic Properties Recorded | | | |
| 31-157/98 | No Historic Properties Recorded | | | |
| 32-157/98 | No Historic Properties Recorded | | | |
| 33-157/98 | No Historic Properties Recorded | | | |
| 1-157/99 | No Historic Properties Recorded | | | |
| 2-157/99 | No Historic Properties Recorded | | | |
| 3-157/99 | No Historic Properties Recorded | | | |
| 4-157/99 | No Historic Properties Recorded | | | |
| 11-157/99 | No Historic Properties Recorded | | | |
| 12-157/99 | No Historic Properties Recorded | | | |
| 13-157/99 | No Historic Properties Recorded | | | |
| 14-157/99 | No Historic Properties Recorded | | | |
| 22-157/99 | No Historic Properties Recorded | | | |
| 23-157/99 | No Historic Properties Recorded | | | |
| 24-157/99 | 32WIx0203 | Archaeological - CMS | Benson 1980 | |
| 25-157/99 | No Historic Properties Recorded | | | |
| 26-157/99 | No Historic Properties Recorded | | | |
| 36-157/99 | No Historic Properties Recorded | | | |
| 3-158/99 | No Historic Properties Recorded | | | 8271 |
| 4-158/99 | No Historic Properties Recorded | | | |
| 5-158/99 | No Historic Properties Recorded | | | |
| 6-158/99 | No Historic Properties Recorded | | | |
| 8-158/99 | No Historic Properties Recorded | | | 10128 |
| 9-158/99 | No Historic Properties Recorded | | | |
| 10-158/99 | No Historic Properties Recorded | | | 5920, 8271, 10128 |
| 14-158/99 | No Historic Properties Recorded | | | |
| 15-158/99 | 32WI0918 | Archaeological - Bridge | Huftstetler/ McCormick 2000 | 8271, 10128 |

| Table 1: Results of the Site, Site Lead, and Isolated Find Files Search | | | | |
|---|---|---|---|---|
| **Sect-Twp/Rng** | **SITS#** | **Type** | **Recorder/Date** | **Manuscript #** |
| 16-158/99 | 32WI0918 | Archaeological - Bridge | Huftstetler/ McCormick 2000 | 8271, 10128 |
| | 32WIx0255 | Archaeological - CMS | Benson 1980 | |
| 17-158/99 | No Historic Properties Recorded | | | 8271 |
| 20-158/99 | No Historic Properties Recorded | | | 8271 |
| 21-158/99 | No Historic Properties Recorded | | | |
| 22-158/99 | No Historic Properties Recorded | | | 8271 |
| 23-158/99 | No Historic Properties Recorded | | | |
| 25-158/99 | No Historic Properties Recorded | | | |
| 26-158/99 | No Historic Properties Recorded | | | |
| 27-158/99 | No Historic Properties Recorded | | | |
| 28-158/99 | No Historic Properties Recorded | | | |
| 33-158/99 | No Historic Properties Recorded | | | |
| 34-158/99 | No Historic Properties Recorded | | | |
| 35-158/99 | No Historic Properties Recorded | | | |
| 36-158/99 | 32WIx0256 | Archaeological - CMS | Benson 1980 | |
| 7-159/99 | No Historic Properties Recorded | | | 13684 |
| 16-159/99 | No Historic Properties Recorded | | | 8271 |
| 17-159/99 | No Historic Properties Recorded | | | |
| 18-159/99 | No Historic Properties Recorded | | | |
| 19-159/99 | No Historic Properties Recorded | | | |
| 20-159/99 | No Historic Properties Recorded | | | |
| 21-159/99 | No Historic Properties Recorded | | | 8271,10697 |
| 25-159/99 | 32WIx0308 | Archaeological - Post Office | Benson 1980 | |
| 28-159/99 | No Historic Properties Recorded | | | |
| 29-159/99 | No Historic Properties Recorded | | | |
| 30-159/99 | No Historic Properties Recorded | | | 10128 |
| 31-159/99 | No Historic Properties Recorded | | | |
| 32-159/99 | No Historic Properties Recorded | | | |
| 33-159/99 | No Historic Properties Recorded | | | |
| 1-159/100 | No Historic Properties Recorded | | | |
| 2-159/100 | No Historic Properties Recorded | | | |
| 3-159/100 | No Historic Properties Recorded | | | |
| 4-159/100 | No Historic Properties Recorded | | | |
| 10-159/100 | No Historic Properties Recorded | | | |
| 11-159/100 | No Historic Properties Recorded | | | |
| 12-159/100 | No Historic Properties Recorded | | | 13684 |
| 13-159/100 | No Historic Properties Recorded | | | 13684 |
| 14-159/100 | No Historic Properties Recorded | | | |
| 23-159/100 | No Historic Properties Recorded | | | |
| 24-159/100 | No Historic Properties Recorded | | | 13684 |
| 25-159/100 | 32WI0481 | Archaeological - Railroad Tracks | Macy 2012 | 10128, 13684 |

| Table 1: Results of the Site, Site Lead, and Isolated Find Files Search | | | | |
|---|---|---|---|---|
| **Sect-Twp/Rng** | **SITS#** | **Type** | **Recorder/Date** | **Manuscript #** |
| | 32WI0915 | Archaeological - Bridge | Huftstetler/ McCormick 2000 | |

CMS=Cultural Material Scatter, SC=Stone Circle

| Table 2: Results of the Manuscript File Search | |
|---|---|
| **Manuscript #** | **Reference** |
| 7 | Bauxar, J.<br>1947 *Preliminary Appraisal of the Archeological and Paleontological Resources of Crosby Reservoir, Divide County, North Dakota.* |
| 2528 | Perkl B., et al.<br>2001 *Cultural Resources Investigations Along U.S. Highway 2 in Ward, Mountrail, and Williams Counties, North Dakota Vol. I and II.* |
| 3251 | Kuehn, D. and J. Borchert<br>1984 *Archaeological Investigations Along the Portal Beaver Lodge to Alexander Pipeline Williams and McKenzie Counties, ND.* |
| 4540 | Fiege M., et al.<br>1988 *Final Report of Reconnaissance Surveys in Williston, Kenmare, and Eight Smaller Communities in Mountrail, Williams, Ward, and Renville Counties in Northwestern ND.* |
| 5904 | Kinny J., et al.<br>1992 *Results of the 1991-1992 Class III Cultural Resource Inventory of Selected Bureau of Land Management Tracts, Divide, McHenry, Williams, Pierce, McKenzie, Ward, Benson, Grant, Sheridan, and McLean Co., North Dakota Vol. I & II.* |
| 5920 | Johnson M., et al.<br>1992 *Historic Bridges in North Dakota.* |
| 7575 | Hecker, T.<br>1938 *Survey of Indian Trails and Campsites in Divide County North Dakota Townships 160, 161, 162, 163 and Fractional Township164 North Ranges 95, 96, 97, 98, 99, 100, 101, 102, and Part of Range 103, all West of 5th P.M.* |
| 8271 | Bluemle, W.<br>2002 *Four NCC Exchanges: A Class II & Class III Cultural Resources Inventory, Burke, Divide, Williams, and Mountrail Counties, ND.* |
| 8388 | Wiltberger, C.<br>2002 *Archaeological Evaluations of 26 Sites Along U.S. Highway 2 in Mountrail and Williams Counties, ND Vol. I and II and Architectural History Evaluations for Sites 32WD20 and 32WI477 in Ward and Williams Counties, ND Vol. III.* |
| 8670 | Perkl B., et al.<br>2001 *Cultural Resource Investigations Along U.S. Highway 2 in Ward, Mountrail, and Williams Counties, North Dakota Vol. I and II.* |
| 9483 | Wermers, G.<br>2005 *ROW-156 Class III Inventory Report, Williams Co., ND.* |

| Table 2: Results of the Manuscript File Search | |
|---|---|
| **Manuscript #** | **Reference** |
| 9856 | Harty J., et al.<br>2006 *Enbridge Pipelines (North Dakota) LLC, North Dakota Pipeline Expansion Project: A Class II and III Cultural Resource Inventory and Evaluative Testing of Three Sites, Williams Co., ND.* |
| 10128 | Hufstetler, M. and J. Goff<br>2005 *Historic Bridges in North Dakota 2004 Revision*. |
| 10697 | Lowry, K.<br>2008 *Cultural Resources Inventory for Northwest Communication Cooperative's Alamo Guyed Communication Tower, Williams Co., ND T159N, R99W, Sec 21*. |
| 10798 | Hiemstra, D. and A. Barth<br>2008 *Williston to Tioga: A Class III Cultural Resource Inventory for a Proposed 230kV Transmission Line in Williams and Mountrail Counties, ND.* |
| 11942 | Bluemle, W.<br>2004 *Williams Rural Water Association 2003-2004: A Class II & Class III Cultural Resources Inventory in Williams Co., ND.* |
| 11987 | Smith, N.<br>2011 *A Class I and Class III Cultural Resource Inventory of the Rangeland Energy COLT Connector Pipeline, Williams Co., ND.* |
| 12472 | Leroy A., et al.<br>2011 *Addendum to the Class I and Class III Cultural Resource Inventory of the Rangeland Pipeline COLT Connector Pipeline, Williams, Co., ND.* |
| 12688 | Leroy, A. and S. Lechert<br>2011 *A Class I and Class III Cultural Resource Inventory of the Rangeland Terminals COLT Hub, Williams Country, North Dakota.* |
| 12923 | Mandelko S., et al<br>2011 *Vantage Pipeline: A Class III Cultural Resource Inventory in Divide and Williams Counties, North Dakota and Appendices A-E.* |
| 13329 | Morgan K., et al.<br>2012 *US Highway 85, NDDOT 7-085(069)216, PCN 19842: A Class III Cultural Resource Investigation in Williams and Divide Counties, North Dakota.* |
| 13684 | Altizer K, et al.<br>2012 *A Class I and Class III Cultural Resource Inventory of the ONEOK Rockies Midstream Crosby Discharge Pipeline, Williams and Divide Counties, North Dakota.* |
| 13844 | Reinhardt D.<br>2012 *A Class I and Class III Cultural Resource Inventory of the Epping Industrial and Residential Development Project, Williams County, North Dakota*. |
| 14022 | Wermers, G.<br>2013 *DV-1031 Class III Inventory Report.* |

## FIELD METHODS

Juniper archaeologists Ryan Swanson (Project Archaeologist) and Tim D. Goggin (Project Archaeologist) conducted the Class III Cultural Resource Inventory for the Summit Midstream Energy Divide Lateral Project consisting of a 44 mile petroleum pipeline corridor from July 10 to 14, 2013. The corridor was inventoried using a 150' wide inventory corridor. A total of 792 acres were inventoried to SHSND Class III standards (2012).

The inventory of the corridor was conducted by the archaeologists walking parallel pedestrian transects spaced no more than 20 meters apart to cover the 150' wide corridor. Special attention was given to areas of increased GSV that were within areas of otherwise lower GSV, and exposures of subsurface sediments, including but not limited to cut banks, the road surface and ruts, rodent burrows, ant mounds, and other erosional features found within the area of potential effect.

If an artifact or feature was encountered during the survey, the location was marked with a pinflag and the area around the artifact or feature was intensively inspected to locate any other associated artifacts or features. Based on the number and types of artifacts or features noted during the search, the grouping was determined to be either an isolated find, site lead, or a site using the following criteria:

> *An isolated find is considered to be a location of five or fewer artifacts and identified by the archaeologist(s) as representing an area of very limited past activity may be recorded as an isolated find. In all cases of identifying a location of an isolated find the archaeologist(s) should consider whether the location has good or better potential to contain buried artifacts. In such cases consideration should be given to recording the location as a site lead* (SHSND 2012:17).

A site lead is defined using one of two criteria, with considerations:

> *(1) A location reported by a landowner or other non professional as containing cultural resources. These locations are considered to be site leads until such time as a qualified archaeologist or architectural historian can determine whether the site is an isolated find or site.*
>
> *(2) A location consisting of five or fewer surface visible artifacts is in the professional judgment of the archaeologist(s) likely to be only a limited surface expression of a former occupation where most of the artifacts are not visible (i.e., still buried).*
>
> *Consideration should be given by the principal investigator, the lead agency and the SHPO as to whether a site lead location should be examined more closely, possibly by subsurface investigations prior to a determination of No Historic Properties Affected or No Adverse Effect* (SHSND 2012:17).

Sites are defined as such:

> *A cultural resource site is defined as a location of past human activity that took place over 50 years ago and left physical traces of the activity in the form of (1) an intact cultural feature (2) five or more artifacts found within about 60 m of each other, and/or (3) an intact subsurface cultural deposit regardless of the number of artifacts* (SHSND 2012:17).

After the resource was adequately defined, the appropriate site, site lead, or isolated find forms and other documentation were completed. The additional documentation included plotting the resource on a USGS, 7.5' topographic map, photographing the resource, and generating a sketch map using a mapping grade Trimble Juno SB correctable GPS unit.

## RESULTS

Four previously recorded site leads are located within or in close proximity to the inventoried corridor. During the inventory of the proposed crude petroleum pipeline corridor, two new historic properties (32DV129, a farmstead, barn, with adjacent school; 32WI1388, an isolated farmhouse) were identified, recorded, and documented. A table summarizing the results of the inventory and the management recommendations for each of the properties is also provided in the SUMMARY AND MANAGEMENT RECOMMENDATIONS portion of this document.

### Previously Recorded Historic Properties

#### 32DVx96

Site Lead 32DVx96 was recorded by Benson in 1980 as a prehistoric cultural material (CM) scatter in the NW/NW of Section 27, T. 160 N., R. 100 W. (Figure 3 and Figure 12). The site lead is unevaluated in terms of its eligibility for the National Register of Historic Places (NRHP). The pipeline corridor should not impact the site lead as no evidence of a CM scatter was observed within the portion of the inventoried area that falls within the site boundary. No further work is recommended for this historic property as part of this project.

#### 32DVx97

Site Lead 32DVx97 was recorded by Benson in 1980 as a prehistoric CM scatter in the S½ of Section 27, T. 160 N., R. 100 W. (Figure 3 and Figure 12). The site lead is unevaluated in terms of its eligibility for the NRHP. The pipeline corridor should not impact the site lead as no evidence of a CM scatter was observed within the portion of the inventoried area that falls within the site boundary. No further work is recommended for this historic property as part of this project.

#### 32DVx99

Site Lead 32DVx99 was recorded by Benson in 1980 as a prehistoric CM scatter in the NW of Section 34, T. 160 N., R. 100 W. (Figure 3 and Figure 12). The site lead is unevaluated in terms of its eligibility for the NRHP. The pipeline corridor should not impact the site lead as no evidence of a CM scatter was observed within the portion of the inventoried area that falls within the site boundary. No further work is recommended for this historic property as part of this project.

#### 32DVx179

Site Lead 32DVx179 was recorded by Benson in 1980 as a prehistoric CM scatter in the NE/SE of Section 35, T. 161 N., R. 100 W. (Figure 2 and Figure 13). The site lead is unevaluated in terms of its eligibility for the NRHP. The pipeline corridor should not impact the site lead as no evidence of a CM scatter was observed within the portion of the inventoried area that falls within the site boundary. No further work is recommended for this historic property as part of this project.

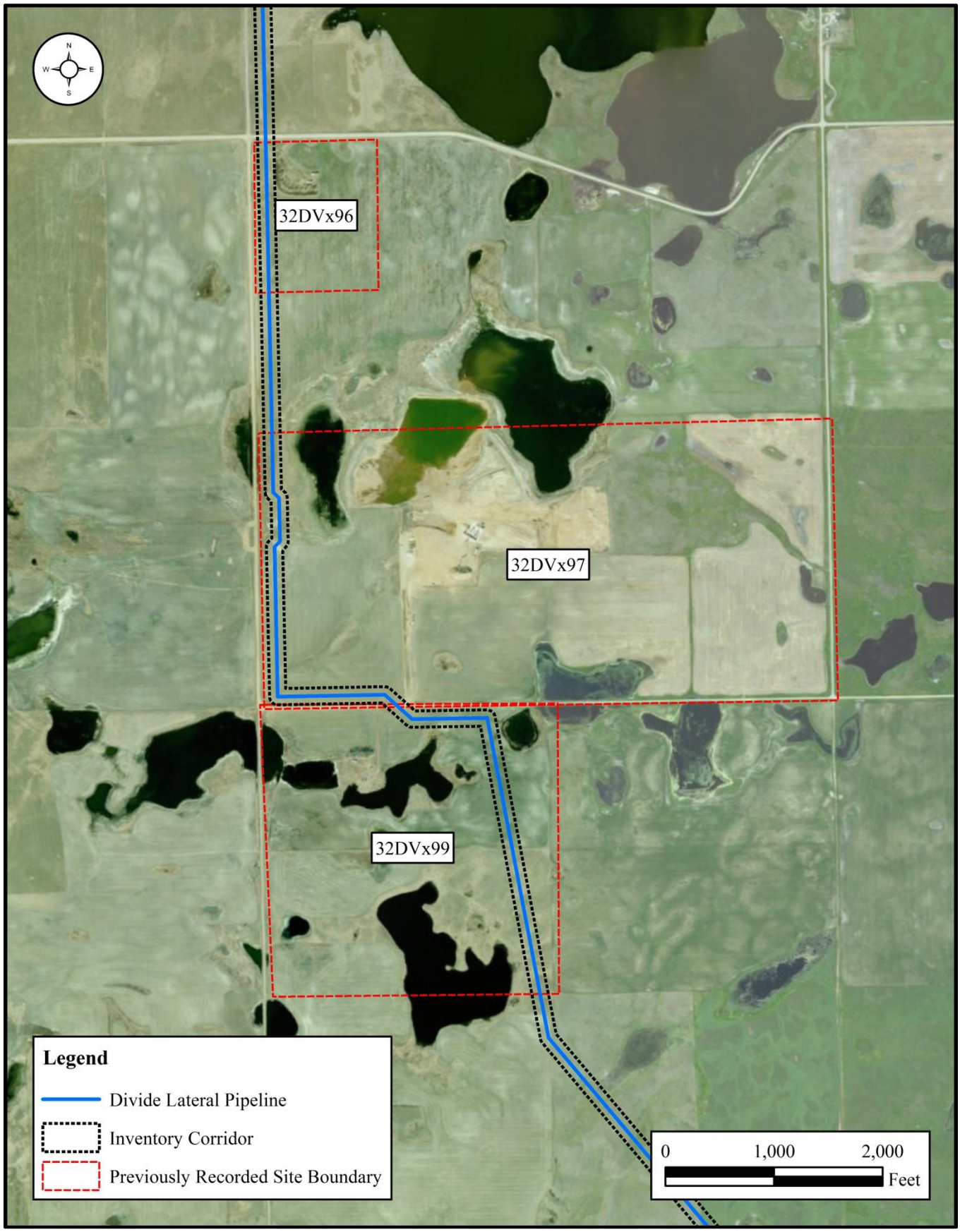


**Figure 12:** Sites 32DVx96, 32DVx97 and 32DVx99 in Sections 27 and 34, T. 160 N., R. 100 W. as depicted on the NAIP 2012 aerial photograph of Divide County.

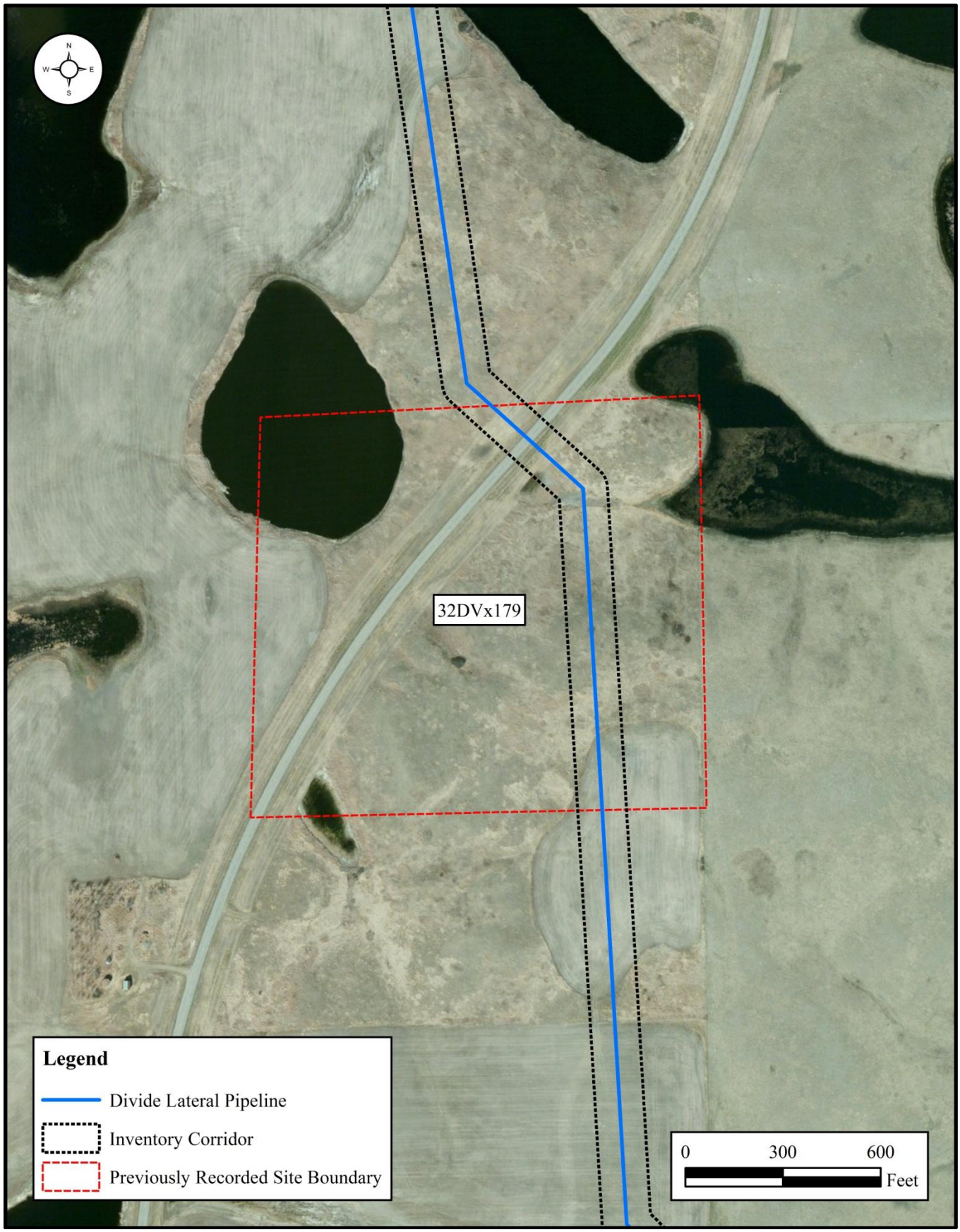


**Figure 13:** Site 32DVx179 in Section 35, T. 161 N., R. 100 W. depicted on the NAIP 2012 aerial photograph of Divide County.

**Newly Recorded Historic Properties**

32DV129

Site 32DV129 is a historic farmstead consisting of a farmhouse, barn, and adjacent school in Section 11, T. 161 N., R. 100 W., (Figure 2, Figure 14 - Figure 21). Feature 1 is a modest, one-story, wood-framed farmhouse. The building has weathered, wood, shiplap siding with corner boards. Within roof gables the surface is clad in wood shingles. The structure has two pedestrian entrances: the offset main entrance is on the east elevation; the rear door is on the west elevation. The front, paneled door is in a state of decay and missing paneling below the lock rail. The rear door appears to be a slab door replacement. The building also has seven window openings: two on the east elevation, three on the west elevation and one each on the north and south. Most window glass has been lost but the frames retained. The building has a gable roof with gable-end rakes, exposed rafter tails, and eaves brackets. A majority of the roofing material - split wood shingles - is extant but in a state of degradation, exposing sheathing. The roof ridge is treated with lead flashing which is in a state of deterioration; one lead ball end cap is still extant on the north gable ridge. There is a small, offset, brick chimney along the roof ridge. During survey of Feature 1, some of the interior of the house was visible through open windows and doors. Interior walls are clad in painted 1" X 6" milled lumber and the floors treated in formica/linoleum. Window and door surrounds are in good condition and some interior doors have been retained. The remains of an electrical service is located on the west side and two-prong outlets are located within the structure.

Feature 2 is a simple, wood-framed barn on poured concrete footings with coarse aggregate. The building is clad in shiplap boarding which is heavily weathered and deteriorated. Corner boards and rakes are in a deteriorated condition and missing in some areas. The structure has one pedestrian entrance along the east side and two gable openings along the north and south sides. The building has a gable roof and retains some split wood shingles although many have been lost and the sheathing is exposed in several areas. The rear elevation shows early signs of structural failure. The interior (visible through door openings) has been subdivided with 2" x 6" milled planks to create three stalls for livestock.

Feature 3 is a wood-framed, single-room schoolhouse. The building is clad in clapboard which is deteriorated and missing in a few areas along the south and eastern walls which are exposed to the prevailing weather. Corner boards and rakes are in a deteriorated condition and missing in some areas. The structure contains ten openings: one pedestrian entrance into an entryway/foyer from a lean-to foyer on the south elevation, one round, gable opening, a pair of two-light windows and single window opening on the south elevation, four window openings on the west elevation, and three window openings on the north elevation; some windows are covered in plywood. The entrance appears to have been altered, with the original entrance to the school most likely located on the south elevation. Evidence of its infill and the insertion of windows is visible. This alteration may have occurred at the time the lean-to addition was constructed to create the existing entrance, which faces east. This entrance contains the remnants of a wood paneled door of domestic appearance.

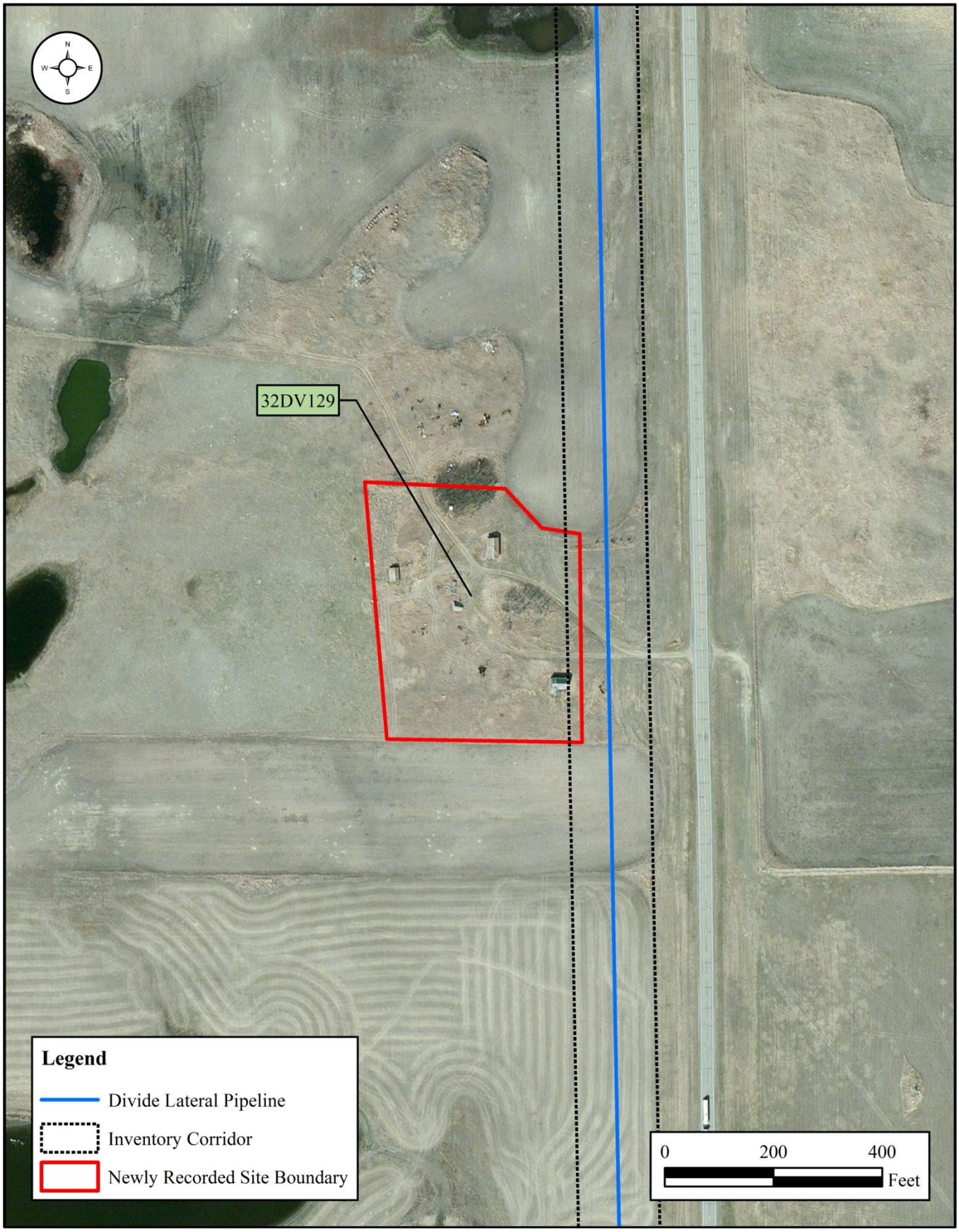


**Figure 14:** Newly recorded Site 32DV129 in Section 11, T. 161 N., R. 100 W., as depicted on the NAIP 2012 aerial photograph of Divide County.

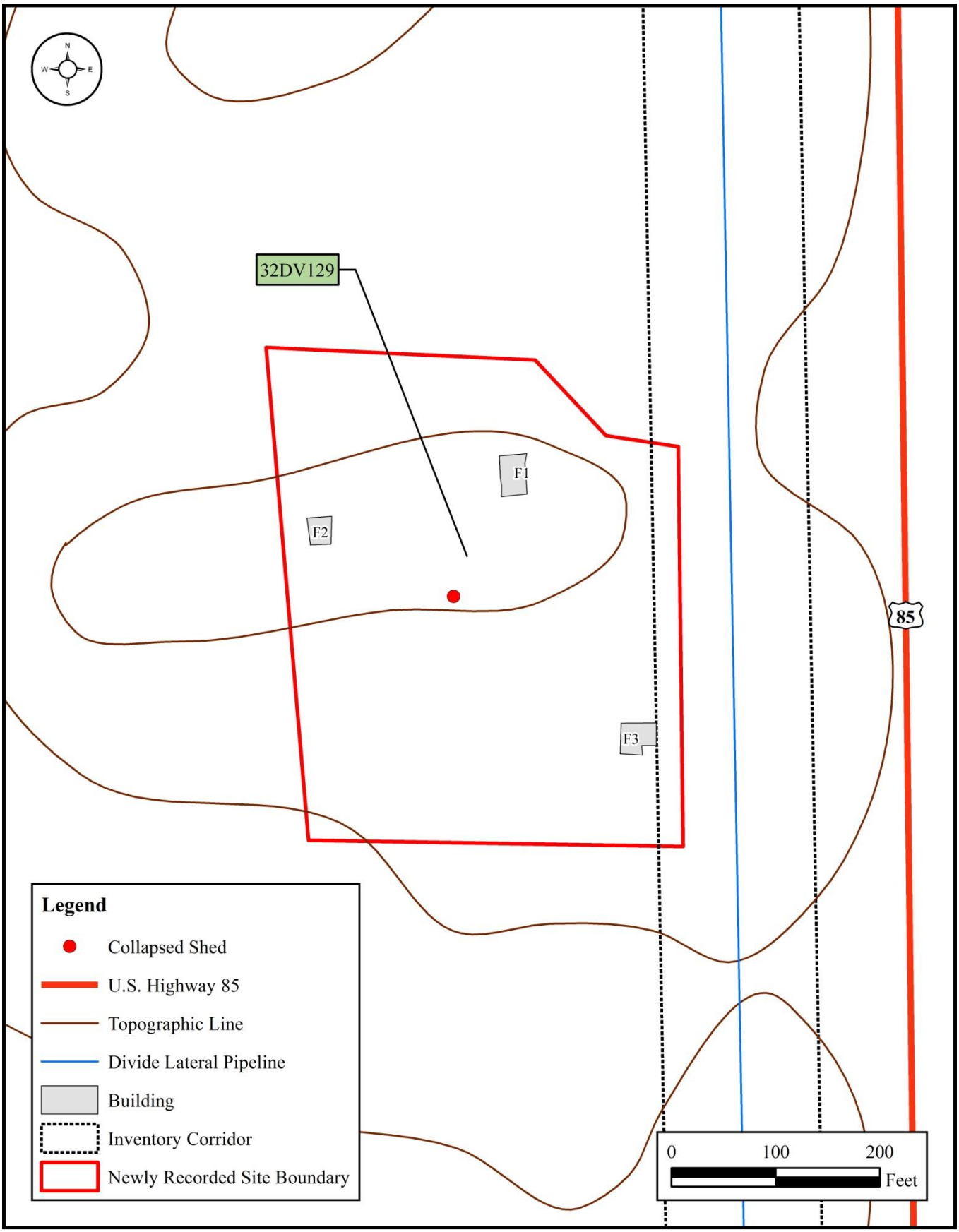


**Figure 15:** Sketch map of newly recorded Site 32DV129 in Section 11, T. 161 N., R. 100 W., Divide County.

**Figure 16:** Overview of school and barn (left center) at 32DV129, view to the northwest.

**Figure 17:** Overview of collapsed wooden structure at 32DV129 with farmhouse in background, view to the northeast.

**Figure 18:** Overview of barn at 32DV129, view to west.

**Figure 19:** Overview of the inside of the barn at 32DV129.

**Figure 20:** Overview of the schoolhouse which displays that the entrance has been infilled and a shed (lean-to) foyer added to accommodate the new, east-facing door is visible.

**Figure 21:** Interior of the former schoolhouse. Note chalkboards, deteriorating lathe and plaster, and wood-frame partition which are likely to have been constructed at a later date.

The schoolhouse has a gable roof and retains some evidence of split wood shingles although most have been lost and the sheathing is exposed. Some remnants of tar paper were observed on the portion of the roof facing north and away from the prevailing weather. No chimney was observed. The building is showing signs of structural failure at its rear elevation.

The interior of the schoolhouse was visible through openings. Chalkboards were observed along the east and south walls. A crude wood frame constructed of 2" x 6" milled planks running north to south has been installed at the midpoint of the single room. It is clad to shoulder height with more 2" x 6" milled planks in a possible attempt to repurpose the school into a granary. Lathe and plaster walls and ceiling are in a state of deterioration and, in some areas, collapse. The interior space is littered with debris from building's the deterioration, older storm windows, and garbage likely brought in from off-site.

A deed search was not performed as the portion of the pipeline adjacent to the site was in place and no impacts were observed as a result of construction and remediation. While the historical associations are not known, the schoolhouse has the potential to form part of a thematic nomination for one-room schoolhouses in North Dakota. Without extensive historical research, the site is recommended as unevaluated as to its eligibility for the NRHP. Further development in the area of the site should avoid the standing structures, or if further development may impact the site, the site should be evaluated for inclusion to the NRHP.

32WI1388

32WI1388 is a historic farmhouse with no associated features or structures in Section 34, T. 158 N., R. 99 W., Williams County (Figure 6, Figure 22 - Figure 27). The site is a simple, wood-framed farmhouse on a concrete foundation. The building is clad in clapboard which is deteriorated and missing in a few area along the south and eastern walls which are exposed to the prevailing weather. Corner boards and rakes are in a deteriorated condition and missing in some areas. The structure contains seven openings: two pedestrian entrances along the east and south sides, two window openings on the east side, one window opening on the south side, one window opening on the west side and one window opening on the north side. The building has a gable roof and retains some split wood shingles although most have been lost. This dwelling has been extended at some point in the historic period. The original core of the building may have been the two most southerly bays on the long elevation. The additions to the north and west are of compatible materials and design; they were likely early alterations. The interior was visible through openings at the time of survey. The presence of deteriorated lathe and plaster in the southern and western wings indicate that these may be the earliest parts of the dwelling. The northern wing is treated with horizontal wood boards.

The farmhouse is in poor condition and its integrity is impacted by the lack of any associated structures or buildings. While its historical associations are unknown, its lack of architectural distinction and the lack of associated buildings to define the site as a farmstead indicate that the farmhouse is unlikely to reveal information important in history. Therefore, the site is recommended as *not eligible* for the NRHP with no further work required. The farmhouse is 30' from the extent of construction disturbance as staked at the time of the survey. If construction activities are confined within the staked corridor, there will be no impact to the site.


**Figure 22:** Newly recorded Site 32WI1388 in Section 34, T. 158 N., R. 99 W., as depicted on the NAIP 2012 aerial photograph of Williams County.

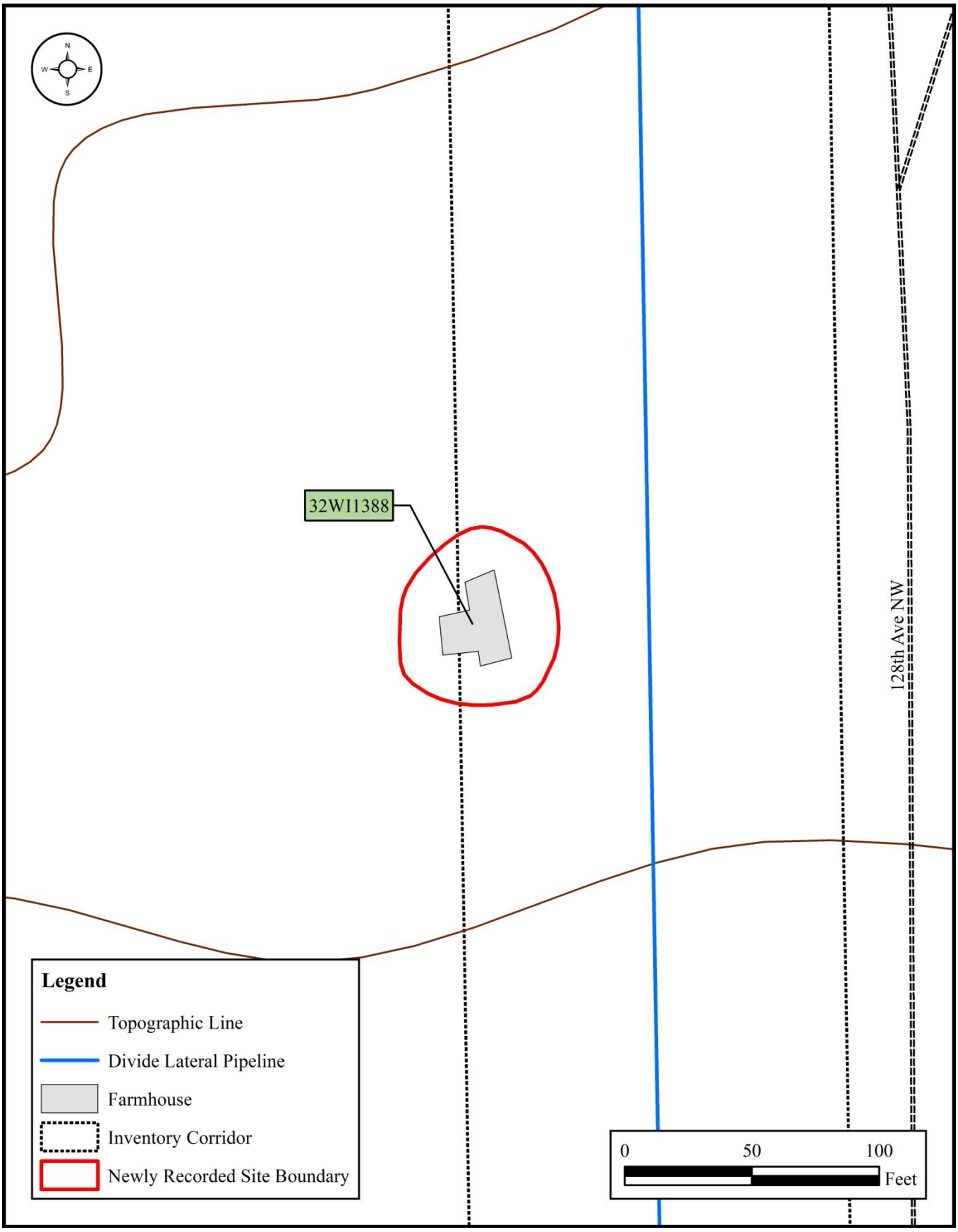


**Figure 23:** Sketch map of newly recorded Site 32WI1388 in Section 34, T. 158 N., R. 99 W., Williams County.

**Figure 24:** Overview of isolated farmhouse at 32WI1388, view to the west.

**Figure 25:** South elevation of the farmhouse at 32WI1388. Note crude junction of roof slopes between wings.

**Figure 26:** Overview of isolated farmhouse at 32WI1388, view to the south.

**Figure 27:** Interior of farmhouse at 32WI1388 from primary entrance, view to the west.

## SUMMARY AND MANAGEMENT RECOMMENDATIONS

E3 contacted Juniper to conduct a Class III Cultural Resource Inventory of a 44 mile petroleum pipeline as part of the Summit Midstream Energy Divide Lateral Project. The inventory lies within Divide and Williams Counties. A total of 792 acres were inventoried to Class III standards.

During the inventory for the pipeline corridor, two new historic properties (32DV129, a farmstead, barn, and school; 32WI1388, an isolated farmhouse) were identified, recorded, and documented. The portion of the pipeline adjacent to 32DV129 was constructed prior to the survey and no impacts to the site were observed. Site 32DV129 is currently unevaluated for the NRHP and should be avoided by any further development in the area of the site. Site 32WI1388 is recommended *not eligible* for the NRHP with no further work recommended as part of this project. If the planned construction activities are confined within the staked construction corridor, there will be no impact to 32WI1388.

In addition to the newly recorded resources, four previously recorded site leads (all cultural material scatters) lie within or in close proximity to the inventoried corridor. No evidence of these site leads were noted within the inventoried project corridor. The management recommendations for the discussed resources are presented below in Table 3.

Provided that the construction activities are confined within the staked corridor, the management recommendations for the six discussed resources are implemented, and because none of the other previously recorded sites are within or directly adjacent to the project's APE, Juniper recommends a finding of *No Historic Properties Effected* for the undertaking as described in this document.

**Table 3: Summary of Historic Properties Discussed**

| SITS # | Site Type | NRHP Status | In/Out Corridor | Management Recommendation |
|---|---|---|---|---|
| **Previously Recorded Historic Properties:** | | | | |
| 32DVx96 | Prehistoric - CM Scatter | UN | In | No Further Work |
| 32DVx97 | Prehistoric - CM Scatter | UN | In | No Further Work |
| 32DVx99 | Prehistoric - CM Scatter | UN | In | No Further Work |
| 32DVx179 | Prehistoric - CM Scatter | UN | In | No Further Work |
| **Newly Recorded Historic Properties:** | | | | |
| 32DV129 | Historic - Farmstead, Barn, and Schoolhouse | UN | In | Avoidance |
| 32WI1388 | Historic - Farmhouse | NE | In | No Further Work |

CM=Cultural Material, NE=Not Eligible, UN=Unevaluated

## REFERENCES CITED

State Historical Society of North Dakota (SHSND)

2012 *North Dakota SHPO Guidelines Manual For Cultural Resource Inventory Projects Revised Edition.* Produced by, and available at the Division of Archaeology and Historic Preservation, State Historical Society of North Dakota, Bismarck.

2008 *The North Dakota Comprehensive Plan for Historic Preservation: Archaeological Component.* Produced by and available at the Archaeology and Historic Preservation Division, State Historical Society of North Dakota, Bismarck.

# Appendix E

10-Year Plan

Meadowlark Midstream Company, LLC ("Meadowlark") hereby submits its ten-year plan pursuant to North Dakota Century Code § 49-22-04.

**Introduction**

Meadowlark plans to convert the existing Divide Lateral Oil Pipeline (described below) from a gathering pipeline to a transmission pipeline in conjunction with the addition of the Divide Pump Station (described below) to the Divide Lateral Oil Pipeline, which will cause the length of the Divide Lateral Pipeline downstream of the new Divide Pump Station to be a liquid transmission facility under North Dakota Century Code § 49-22-03.12. Installation of the Divide Pump Station is necessary to address demands for service from new customers by increasing the volume of crude oil that can be transported via the Divide Lateral Oil Pipeline. Once the Divide Pump Station is installed, the Divide Lateral Oil Pipeline will be Meadowlark's first transmission facility in North Dakota subject to the provisions of North Dakota Century Code § 49-22-04.

SECTION A: Existing Facilities[1]

Divide Lateral Oil Pipeline

1. Location: Originates in Divide County at the Divide Pump Station site, which is approximately 17 miles northwest of Alamo, North Dakota. From that location, the Divide Lateral Oil Pipeline extends in a south/southeasterly direction into Williams County to its terminus at the existing Colt Rail Terminal ("Colt Hub") located north of Epping, North Dakota. A map showing the location of the Divide Lateral Oil Pipeline is attached hereto as **EXHIBIT "A."**

2. Type and Capacity:
   a. Product Type: Crude oil
   b. Length of Facility: 43.5 miles
   c. Pipe Size: 8.625" diameter, 0.322" wall thickness
   d. Maximum Design Operating Pressure: 1440
   e. Maximum Design Flow Rate: 45,000 barrels per day
   f. Pump Station Specifications: Field gathering injection pumps move product to Colt Hub.
   g. Minimum Cover Over Pipe: 36"
   h. In Service Date: October 2013.

The Divide Lateral Oil Pipeline is not committed to be retired in the next ten years.

SECTION B: Intended Construction of Transmission Facilities During the Next Five Years

Little Muddy Interconnection Pipeline

[1] The Divide Lateral Oil Pipeline currently exists, but will not qualify as a transmission facility under North Dakota Century Code § 49-22-03.12 until installation of the Divide Pump Station.

1. Location: Meadowlark intends to construct, and will seek a route permit for, an approximately 15 mile long pipeline (the "Little Muddy Interconnection Pipeline") beginning in close proximity to the Colt Hub and ending at North Dakota Pipeline Company LLC's ("NDPC") Little Muddy Station located approximately 10.5 miles northwest of Epping, North Dakota, where it will interconnect with NDPC's interstate pipeline. A map showing the anticipated location of the Little Muddy Interconnection Pipeline is attached hereto as **EXHIBIT "A."**

SECTION C: Proposed Transmission Facilities During the Next Ten-Year Time Period

See Section B, above.

SECTION D: Regional Coordination

While Meadowlark coordinates with producers in North Dakota by discussing potential connections with planned and existing wells, Meadowlark has very limited regional coordination with other midstream companies in North Dakota due to confidentiality concerns and potential antitrust issues.

SECTION E: Environmental Information

Meadowlark monitors regulatory developments and has developed working relationships with the U.S. Fish and Wildlife Service, the Bureau of Land Management, the North Dakota Industrial Commission, the North Dakota Public Service Commission, and the North Dakota Department of Health, in an effort to ensure regulatory compliance. Meadowlark continues to develop detailed risk collaborations with local emergency planning groups.

Meadowlark selects pipeline corridors and routing to minimize impact as required by the statutes and rules and regulations of the Public Service Commission. When desirable, Meadowlark may employ local environmentalists and archaeologists to assist with planning. Meadowlark is well prepared to meet any emergency and mitigate the impact of a pipeline failure.

SECTION F: Projected Demand for Service

Drilling activity in the counties where Meadowlark has gathering facilities (Williams and Divide Counties) has dramatically increased, and Meadowlark estimates that gas and crude oil production will increase, resulting in an increased demand for both gas and crude oil gathering services.

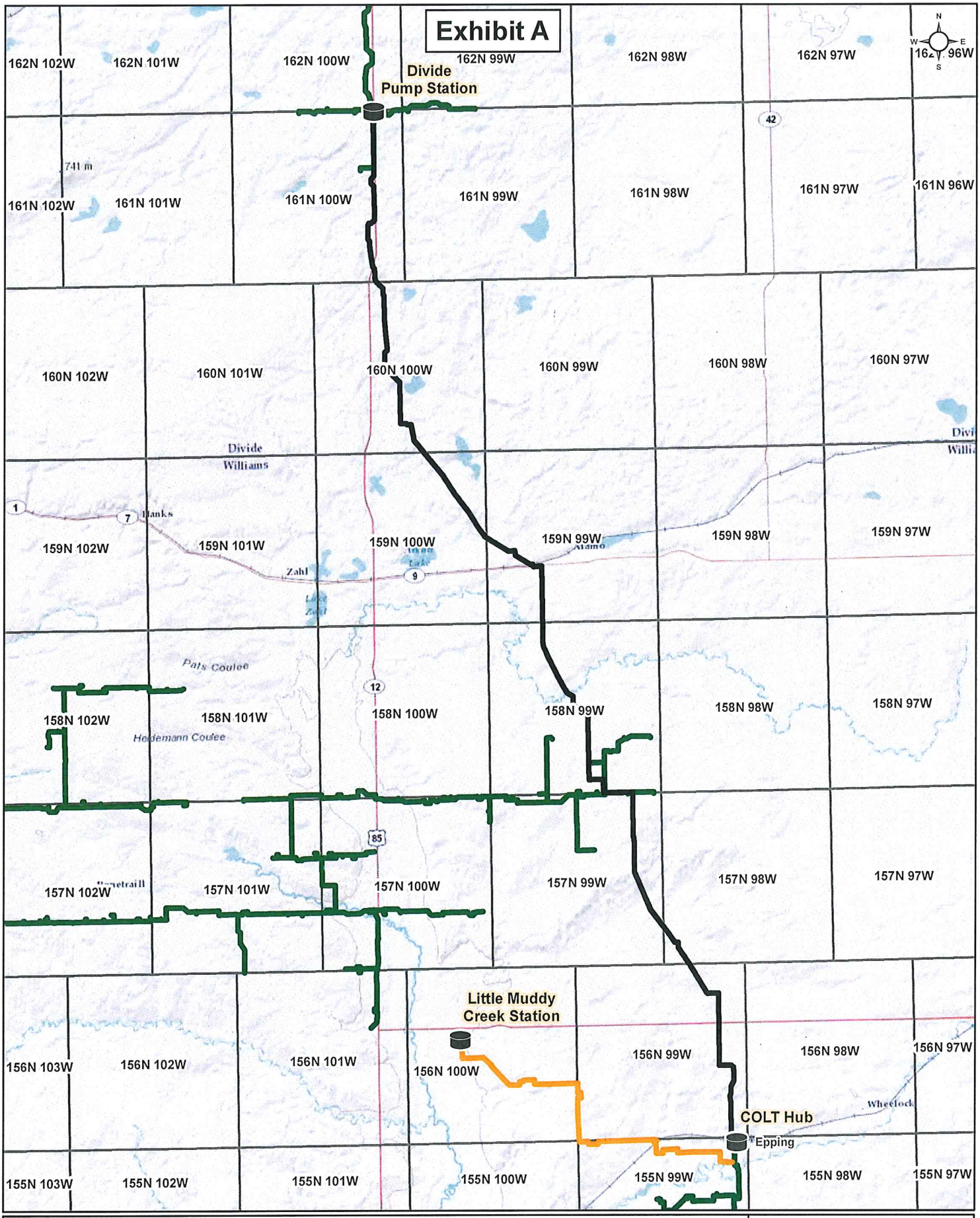
Exhibit A
Divide Pump Station
Little Muddy Creek Station
COLT Hub
Epping
Wheelock
Divide
Williams
Hanks
Zahl
Lake Zahl
Alamo
Pats Coulee
Hedemann Coulee
Stonetrail
162N 102W
162N 101W
162N 100W
162N 99W
162N 98W
162N 97W
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155N 99W
155N 98W
155N 97W
Legend
Little Muddy Interconnection Pipeline
Divide Lateral Oil Pipeline
Meadowlark Gathering Lines
SUMMIT MIDSTREAM
0 1.25 2.5 5 Miles

# Appendix F

Landowner Waivers

Fully executed landowner waivers are pending.  Executed waivers will be provided to the ND PSC upon receipt.