
Route Permit Application

Prepared for
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Acronyms and Abbreviations

bbl/d	barrels per day
FBE	fusion bonded epoxy
FERC	Federal Energy Regulatory Commission
HSE	health, safety, and environment
IF	isolated find
MAOP	maximum allowable operating pressure
NGL	natural gas pipeline
NRHP	National Register of Historic Places
NWP	Nationwide Permit Program
psig	pounds per square inch gauge
ROW	right of way
SWPPP	Stormwater Pollution Prevention Plan
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service

Description of Transmission Facility

1.1 Introduction

Caliber Midstream Partners, L.P. (Caliber) submits this Route Permit Application to the North Dakota Public Service Commission (PSC or Commission) for an approximately 4.4-mile-long, 6-inch-diameter natural gas liquids (NGL) pipeline (the Project). The Project is located in McKenzie County, North Dakota, approximately 7 miles southeast of the town of Alexander. A map of the Project location is provided in Figure 1. The Project will transport NGL from the Hay Butte Gas Plant (Hay Butte Plant or the Plant) to the ONEOK Partners' Bakken NGL Pipeline.

In accordance with Chapter 49-22 of the North Dakota Century Code, Section 69-06-08-02 of the North Dakota Administrative Code, and the Commission's Energy Conversion and Transmission Facility Siting Guidelines, Caliber submits the following Route Permit Application for the Project.

Caliber is an independent energy infrastructure company that provides a full suite of midstream services to producers in the Bakken and Three Forks shale oil plays. Caliber's services include crude oil and natural gas gathering, transportation, treating, and processing; produced water transportation and disposal; and freshwater sourcing and transportation by pipeline linked to various points of supply. Caliber's assets are located in McKenzie and Williams Counties, North Dakota.

1.2 Type of Facility

The Project consists of a 4.4-mile, 6-inch-diameter NGL pipeline. The Project enables the transportation of NGL produced in northwestern North Dakota to markets via the ONEOK NGL transmission pipeline. The Project provides needed capacity to transport increased production of NGL from the Bakken and Three Forks formations.

The Project has been installed but is not operational. There are four additional pipelines (e.g., gathering and water pipelines) located within the same 100-foot right-of-way (ROW) as the Project. All five pipelines were constructed within one ROW because Caliber has agreements with the seven private landowners affected by the Project that required Caliber to install all pipelines simultaneously within one ROW. A complete list of landowners is included as Appendix B of the Corridor Compatibility Application.

Each of the five pipelines was installed at a depth and spacing that is consistent with industry standards. The first pipelines to be installed were gathering and water pipelines, which are specifically excluded from PSC jurisdiction by Chapter 49-22 of the North Dakota Century Code. Construction of the non-jurisdictional pipelines began in the summer of 2013. During the construction process, Caliber made the decision to install, within the same ROW, a pipeline capable of transporting NGL in the event the market would support the Project in the future. The Project was installed during the same construction time period so that it would not impact agricultural activities beginning in the spring of 2014.

1.3 Product Description

The Plant processes raw natural gas produced from the Bakken and Three Forks formations. The Plant's current capacity to produce NGLs is 1,200 barrels per day (bbl/d). Future expansion of the Plant has the potential to increase capacity to a nominal 2,100 bbl/d.

1.4 Facility Size and Design

The NGL pipeline is approximately 4.4 miles long and 6 inches in diameter. It has a nominal thickness of 0.250 inches in wall thickness. The maximum allowable operating pressure (MAOP) is 1,750 pounds per

square inch gauge (psig). The maximum design flow rate is a nominal 2,100 bbl/d. It is buried at a depth of 46 inches, consistent with industry standards.

During construction, the width of the Project right-of-way (ROW) was 100 feet, consisting of a 40-foot temporary workspace and a 60-foot permanent easement. The temporary workspace was used as an access road along the length of the pipeline and to store materials.

The Project alignment is parallel and adjacent to County roads, which were used to access the ROW during construction. The Project was constructed parallel and adjacent to County roads to minimize the need for new access roads that would result in additional impacts. Ten temporary two-track access roads were used to transport vehicles and equipment from the County roads to the ROW. Impacts from the two-track roads occurred on agricultural land that will be restored to pre-construction following Project construction.

The only surface structures associated with the Project are valves and pig launchers and receivers. These structures are located at the tie-in to Caliber's Hay Butte Plant and at the tie-in to ONEOK NGL pipeline. The ONEOK pipeline has an existing metering valve at the same location on ONEOK's ROW. The NGL pipeline was hydrostatic tested and is currently blind flanged at both ends.

1.5 Time Schedule

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

- The NGL pipeline was constructed from November 2013 to April 2014, and will be available for service in September 2014, pending PSC approval.
- The Certificate of Corridor Compatibility is expected to be issued in September 2014.
- The Route Permit is expected to be issued in September 2014.

Location

2.1 Internal Policies to Limit Environmental Impacts

Caliber believes firmly in being a good neighbor, both in the way that it does business and in how it designs, constructs, and operates pipelines and associated facilities. It is committed to maintaining an excellent health, safety, and environment (HSE) record in the communities where Caliber operates. Caliber strives to constantly improve operations to minimize surface impacts, operate in an environmentally responsible way, and be involved in communities in the Williston Basin through company support and employee engagement.

Protecting employees, contractors, landowners, local communities, and the environment is a top priority. Caliber works hard to continuously improve its operations, train employees and ensure that contractors operate with the highest health and safety standards. At the same time, Caliber is always working on ways to minimize the impact of projects to land, air, waterways, wildlife, and the communities where Caliber operates.

Caliber avoids or minimizes environmental impacts during the planning, design, and construction phases of project development by implementing the following policies and standard practices:

- Whenever possible, Caliber will minimize the amount of permanent impacts to land and water resources. The majority of impacts resulting from Caliber projects are temporary and short term.
- Whenever possible, Caliber will utilize existing public roads and existing staging areas to avoid or minimize impacts to undisturbed areas of land.
- Caliber incorporates comprehensive constraints analyses in every project during the planning stage. This ensures that known impacts to known resources are minimized to the greatest extent possible.
- Caliber's assets are constructed on private land to avoid impacts to public resources.

In addition, Caliber limits environmental impacts during project operation by implementing the following policies and standard practices:

- During operation, projects undergo regular environmental monitoring and inspection to ensure safe operation and to maintain compliance with all regulations and permit conditions.
- All operators receive extensive training to recognize and prevent unsafe conditions and potential environmental hazards.

2.2 Factors Listed in Chapter 49-22-09 of the North Dakota Century Code

1. *Available research and investigations relating to the effects of the location, construction, and operation of the proposed facility on public health and welfare, natural resources, and the environment.*

Caliber and its consultants conducted a comprehensive analysis of the Project corridor to determine potential impacts to public health and welfare, natural resources, and the environment. The results of this analysis are discussed in more detail in Section 2.4.

Various public databases were reviewed as part of this analysis, including the U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory; USFWS Critical Habitat Portal; National Atlas; Bureau of Land Management; North Dakota GIS Hub Data Portal; U.S. Department of Agriculture Natural Resources Conservation Service; and National Land Cover Dataset.

In addition to the desktop analysis, field surveys were conducted for the following resources within the Project area: wetlands and waterbodies, existing plant species, sensitive biological habitat, raptors and raptor nests, sensitive species, and cultural resources. These studies are discussed in more detail in Section 2 and Appendices C, D, and E of the Corridor Compatibility Application portion of this joint application.

2. *The effects of new energy conversion and transmission technologies and systems designed to minimize adverse environmental effects.*

Caliber has not employed any new transmission facility technologies in the development of the Project. However, the Project is located within the existing ROWs for gathering and produced water pipelines. Utilizing these existing ROWs minimizes adverse environmental impacts from the Project.

3. *The potential for beneficial uses of waste energy from a proposed energy conversion facility.*

The Project does not include an energy conversion facility and will not result in any usable waste energy.

4. *Adverse direct and indirect environmental effects which cannot be avoided should the proposed site or route be designated.*

Caliber implemented the various mitigation measures during the planning, design, and construction of the Project to minimize direct and indirect impacts that could potentially result from the Project. These mitigation measures are discussed in Section 2.5.

5. *Alternatives to the proposed site, corridor, or route which are developed during the hearing process and which minimize adverse effects.*

A discussion of potential alternatives considered for the project is included in Section 3.2 of the Corridor Compatibility Application portion of this joint application. Because the Project is located within the ROWs for existing gathering and produced water pipelines, the alternative routes would result in additional land disturbance and environmental impacts.

6. *Irreversible and irretrievable commitments of natural resources should the proposed site, corridor, or route be designated.*

Caliber minimized the amount of irreversible and irretrievable natural resources used during construction of the Project by co-locating Project pipelines with gathering and produced water pipelines. The Project also eliminates the need for tanker truck traffic on the roads in the vicinity of the Project by facilitating the transportation of NGL via pipeline instead of tanker trucks.

7. *The direct and indirect economic impacts of the proposed facility.*

The Project has resulted in several direct and indirect economic impacts to the region, including increased tax revenue, employment, and local spending. Caliber employed 30 to 50 workers during the construction of the Project, all of whom were North Dakota contractors. Each of the laborers received U.S. Department of Transportation (USDOT) Operator Qualification Training. This training will continue to benefit Project workers as they bring these qualifications to future job sites.

Tax revenue generated by the Project is expected to be in excess of \$1 million annually.

8. *Existing plans of the state, local government, and private entities for other developments at or in the vicinity of the proposed site, corridor, or route.*

The Project area consists solely of private land, and there are no known plans by state or local government to develop land in the vicinity. There are four proposed well pads in the vicinity of the Project. It is expected that the Project will facilitate the transportation of NGL produced at these proposed well pads.

9. *The effect of the proposed site or route on existing scenic areas, historic sites and structures, and paleontological or archaeological sites.*

The Project will not affect any known scenic, historic, paleontological, or archaeological sites. No known cultural or historic resources are located within the Project ROW or the 1-mile-wide corridor. Alpine Archaeological Consultants, Inc. (Alpine) was contracted to conduct Class I and Class III Cultural Resource Inventories for the Project within a 100-foot-wide study area. The inventory resulted in the identification of one prehistoric isolated find (IF). The IF was likely impacted by the construction of the Project. However, because IFs are invariably unaffiliated with events, people, or construction of significance, and lack research potential, they are viewed as insignificant cultural resources and considered not eligible for listing in the National Register of Historic Places (NRHP). Alpine recommends that the IF is not eligible for inclusion in the NRHP.

10. *The effect of the proposed site or route on areas which are unique because of biological wealth or because they are habitats for rare and endangered species.*

Sunbird Biological Consultants (Sunbird) was contracted to conduct a habitat assessment, raptor nest survey, and sensitive species review of the Project area. Vegetation within the Project area is predominantly agricultural, with active and inactive fields. No active raptor nests were found within the 1-mile-wide study area. The potential for sensitive species to occur within the Project area was assessed by obtaining a list of sensitive species from the USFWS and North Dakota Game and Fish Department. Based on species habitat requirements and distributions, it is unlikely that federally listed threatened or endangered species would regularly occur within the Project area. No sensitive, threatened, or endangered species were identified during field surveys.

11. *Problems raised by federal agencies, other state agencies, and local entities.*

Staff that conducted biological and cultural field studies contacted the appropriate federal and state agencies. The Project has not resulted in any conflicts with federal, state, or local agencies.

2.3 Evaluation Criteria

Caliber considered the following evaluation criteria when evaluating potential routes for the Project:

- Exclusion and Avoidance Areas
- Selection and Policy Criteria
- Design and Construction Limitations
- Economic Considerations

The criteria used for the analysis are included in Section 69-06-08-02 of the North Dakota Administrative Code. These criteria are discussed in further detail in Section 2.4

Figures 1 through 4 (attached to this application) show the evaluation criteria in relation to the proposed Project route. Section 69-06-05-02 of the North Dakota Administrative Code requires that the study corridor width for a transmission facility be at least 10 percent of the facility length, but no less than 1 mile. For this reason, the study corridor for the Project is 1 mile wide.

2.4 Relative Value of Criteria

In accordance with Section 69-06-08-02 of the North Dakota Administrative Code, Caliber evaluated the potential environmental impact to each criterion resulting from the location, construction, and operation of the Project. This section provides an analysis of the existing conditions along the Project route and the potential impacts.

2.4.1 Exclusion and Avoidance Areas

As shown in Table 1, no exclusion or avoidance areas were identified within the 1-mile-wide Project Corridor.

TABLE 1
Selection Criteria

Criteria	Within Corridor	Within ROW	Notes
Exclusion Areas			
Designated or registered national: parks; memorial parks; historic sites and landmarks; natural landmarks; monuments; and wilderness areas ^c	None	None	
Designated or registered state: parks; historic sites; monuments; historical markers; archeological sites; nature preserves ^e	None	None	
County parks and recreational areas; municipal parks; and parks owned or administered by other governmental subdivisions ^h	None	None	
Areas critical to the life stages of threatened or endangered animal or plant species ^b	None	None	
Areas where animal or plant species that are unique or rare to this state would be irreversibly damaged ^b	None	None	
Areas within 1,200 feet of geographic center of an intercontinental ballistic missile launch facility ^h	None	None	
Areas within thirty feet on either side of a direct line between ICBM launch or launch control facility to avoid microwave interference ^h	None	None	
Avoidance Areas			
Designated or registered national: historic districts; wildlife areas; wild, scenic, or recreational rivers; wildlife refuges; and grasslands ^c	None	None	
Designated or registered state: wild, scenic, or recreational rivers; game refuges; game management areas; management areas; forests; forest management lands; and grasslands ^e	None	None	
Historical resources which are not specifically designated as exclusion or avoidance areas ^h	None	None	
Areas that are geologically unstable ^c	None	None	
Within five hundred feet of a residence, school, or place of business ^{e, h}	None	None	
Reservoirs and municipal water supplies ^e	None	None	
Water sources for organized rural water districts ^e	None	None	
Irrigated land ^{e, h}	None	None	
Areas of recreational significance which are not designated as exclusion areas ^h	None	None	
Other			
Wetlands ^{a, h}	Yes	Yes	Two wetlands are located within the ROW. One was bored to avoid impacts. Impacts to the other wetland are consistent

TABLE 1
Selection Criteria

Criteria	Within Corridor	Within ROW	Notes
Waterbodies ^{a, h}	Yes	Yes	with impacts authorized under Nationwide Permit 12. Two waterbodies are located within the ROW. One was bored to avoid impacts. Impacts to the other waterbody are consistent with impacts authorized under Nationwide Permit 12.

^a USFWS National Wetland Inventory

^b USFWS Critical Habitat Portal

^c National Atlas

^d Bureau of Land Management

^e North Dakota GIS Hub Data Portal

^f U.S. Department of Agriculture Natural Resources Conservation Service

^g National Land Cover Dataset

^h Ariel imagery and/or field surveys

2.4.2 Selection Criteria

To minimize adverse effects that may potentially result from the location, construction, operation, or maintenance of the Project, Caliber considered the following selection criteria when designing the proposed route:

Agriculture:

- **Agricultural production** – The construction Project did result in temporary impacts to agricultural land. However, Caliber has been able to restore all impacted agricultural land to pre-construction conditions. Where possible, the Project was constructed along property lines, so that the land was not segmented. Furthermore, the Project was constructed during winter so that it did not conflict with planting or harvesting activities. These measures ensure that adverse impacts to future agricultural production are minimized.
- **Family farms and ranches** – Caliber has worked diligently with all private land owners within the Project ROW to address concerns and clearly communicate potential impacts. The Project was constructed during the winter to ensure there would be no disruption to agricultural activities. Land ownership changes or property segmentation has not occurred as a result of the Project.
- **Land which the owner can demonstrate has soil, topography, drainage, and an available water supply that cause the land to be economically suitable for irrigation** – Irrigated lands were not adversely impacted as a result of the Project.
- **Surface drainage patterns and groundwater flow patterns** – Surface drainage and flow patterns were not permanently affected by the Project. All excavated areas were backfilled and graded to the original surface contours. During construction, sediment control devices were installed per the Project Stormwater Pollution Prevention Plan (SWPPP). To protect surface and groundwater, Caliber has developed a Pipeline Spill Response Plan that outlines spill response procedures, mitigation measures, emergency contacts, and notification requirements.
- **Sound-sensitive land uses** – The Project is not located within 500 feet of any residences or commercial uses, and no noise-related impacts are expected to occur as a result of the Project.

- **Visual effects on the adjacent area** – Surface structures associated with the Project are limited to valves and pig launchers and receivers located at the tie-in locations at either end of the pipeline. All visual impacts related to construction of the Project were short term and temporary.
- **Extractive and storage resources** – The Project will affect extractive and storage resources in the vicinity by facilitating the transportation of produced NGL.
- **Wetlands, woodlands, and wooded areas** – Caliber’s environmental consultant CH2M HILL contracted Hemlock Environmental Consulting, LLC (Hemlock) to conduct wetland, waterbody, and existing vegetation surveys within the Project area. Vegetation within the Project area is predominantly agricultural, consisting of active and fallow row-crop fields and pastures. Two potentially jurisdictional wetland areas were found within the Project area and 200-foot-wide survey corridor. These wetland areas were determined to be potentially jurisdictional, based on the presence of hydrophytic vegetation, hydric soil indicators, wetland hydrology, and a direct connection to downstream Navigable Waters of the U.S. During construction of the Project, one wetland location (Antelope Creek) was bored to avoid impacts completely. Open-cut construction within the other wetland location (an unnamed tributary) resulted in approximately 0.15 acre of wetland impact. This impact is consistent with coverage under the Nationwide Permit Program (NWP) of the Clean Water Act, specifically Nationwide Permit 12 – Utility Line Activities. Grading and rehabilitation of the impacted wetland were designed to adhere to the General Conditions of the NWP, including returning the area to preconstruction contours and maintaining flows.
- **Radio and television reception, and other communication or electronic control facilities** – The Project did not result in any adverse impacts or disruption of communication or electronic control facilities.
- **Human health and safety** - Caliber has a comprehensive safety program that covers both Caliber employees and associated contractors and field personnel. Caliber subscribes to ISNetworld in order to assist in maintaining safety, insurance, quality, and regulatory information on contractors and suppliers. The high standards pertaining to safety records allows Caliber to utilize only those contractors with acceptable safety records and proper insurance who have been vetted by the ISNetworld process. Additionally, Caliber contractors working on USDOT-regulated projects must be Operator Qualified for the particular task they are conducting. All operator training is conducted through Energy World Net, a USDOT-approved Operator Qualification and training company.

Caliber has a designated HSE Director in the Denver office, a field based HSE Specialist, and several Safety Inspectors in the field during projects. To date, Caliber has had zero recordable safety incidents in its construction and operations in North Dakota.
- **Animal health and safety** – A habitat assessment and raptor nest survey were conducted within the Project study area. Additionally, a review of sensitive species was conducted by obtaining a list of sensitive species from the USFWS and North Dakota Game and Fish Department. Based on species habitat requirements and distributions, it is unlikely that federally listed threatened or endangered species would regularly occur within the Project area. No sensitive species were observed during field surveys. No active raptor nests were observed within the 1-mile-wide Project corridor.
- **Plant life** – Plant life and vegetation was temporarily impacted by the Project during construction. All disturbed areas will be restored to pre-construction conditions. Table 2 provides a breakdown of land use and vegetation cover within the ROW. The ROW comprises primarily agricultural land (74 percent) and open or herbaceous land (14.3 percent). All impacted agricultural land will be restored so that landowners may continue to use the land for agricultural production. Non-agricultural land will be restored to pre-construction conditions and re-vegetated using native plant species.

TABLE 2

Land Use and Vegetation Impacts

Land Use/Vegetation Cover	ROW Acreage	Percent of ROW
Agricultural Land	42.2	74
Herbaceous	10.1	18
Open land	4.2	7
Shrub/Scrub	0.6	1
Deciduous Forest*	0.3	1

*No forested land was impacted by construction of the Project

2.4.3 Policy Criteria

Caliber implemented certain policies and practices during the design and construction of the Project, related to the categories listed below, that have resulted in benefits to the environment and community:

- **Location and design** – The Project pipeline corridor was chosen to minimize land disturbance and address landowner concerns.
- **Training and utilization of available labor in North Dakota for the general and specialized skills required** – Caliber employed 30 to 50 workers during the construction of the Project, all of whom were North Dakota contractors. Each of the laborers received USDOT Operator Qualification Training. This training will continue to benefit Project workers as they bring these qualifications to future job sites.
- **Economies of construction and operation** – By co-locating the Project with existing pipelines, Caliber has maximized construction efficiency and utilization of resources. One trench was excavated for the Project pipeline as well as four additional pipelines, eliminating the need for multiple excavations, land disruptions, expenditure of natural resources, increased equipment emissions, and other construction impacts.
- **Use of citizen coordinating committees** – Citizen coordinating committees were not used during the development of the Project. Consistent with the Pipeline Safety Improvement Act of 2002, Caliber developed a Pipeline Public Awareness Program to advise affected municipalities, school districts, businesses, and residents of the Project. Public awareness and understanding is a vital step in ensuring that impacts to sensitive resources are minimized or avoided and pipeline construction and operation occurs in a safe manner. Public awareness programs should illustrate that pipelines are the major transportation system for petroleum products and natural gas in the United States, describe how pipelines function, and explain the public’s responsibilities to help prevent damage to pipelines. This is an ongoing process that Caliber will continue to update over time, based on input from the community.
- **A commitment of a portion of the transmitted product for use in North Dakota** – Currently, there are no facilities in North Dakota that are capable of processing and utilizing NGL as feedstock for products such as petrochemicals. The natural gas produced in the vicinity of the Project is not consumer quality gas. It must first be processed at the Hay Butte Plant where NGL is removed. The NGL must be transported to facilities located in other states such as Texas that have facilities capable of processing the feedstock to be economically viable in the petrochemical industry. However, the consumer quality gas that remains following separation of NGL is used within North Dakota as a fuel source.
- **Labor relations** – Labor relations were not negatively affected by the Project. As discussed previously in this application, Caliber employed all North Dakota contractors for the construction of the pipeline.
- **The coordination of facilities** – The Project will facilitate increased coordination and efficiency of facilities in the vicinity. When the Project is operational, existing and future production wells will have

the capability to tie-in directly to the Project (and ultimately the ONEOK NGL pipeline). Without the Project, NGL produced in the vicinity would need to be transported to the nearest ONEOK NGL terminal via tanker truck (approximately 45 miles). Therefore, the Project is expected to reduce traffic congestion and traffic-related emissions in the area.

- **Monitoring of impacts** - Approximately 15 full-time inspectors were on-site during construction of the Project. The inspectors were responsible for monitoring pipe coating, welding, grading, foreign line crossings, and HSE tasks.
- **Utilization of existing and proposed ROW and corridors** – The Project was constructed within the existing Caliber ROW used for other pipelines such as gathering and produced water.
- **Other existing or proposed transmission facilities** – The Project will not affect other transmission facilities in the vicinity. The ONEOK pipeline is the only known NGL transmission pipeline with a 10-mile radius of the Project. Other pipelines in the vicinity typically transport products such as natural gas or crude oil. As a result, the Project will have the effect of eliminating the need for tanker trucks to transport NGL to the nearest ONEOK terminal, which is located approximately 45 miles from the Project in Sidney, Montana.

2.4.4 Design and Construction Limitations

Section 1 of this application contains information related to the design and construction of the Project.

2.4.5 Economic Considerations

See Section 2.2(7) of this Route Permit Application and Section 3 of the Corridor Compatibility Application.

2.5 Mitigation Measures

Caliber implemented the following mitigation measures during the planning, design, and construction of the Project:

- The Project ROW was designed to minimize land disturbance and appease landowner concerns over agricultural productivity. The Project ROW consists mainly of agricultural or open lands. Areas of sensitive vegetation, wetlands, and forested areas were avoided.
- Where feasible, wetlands and other sensitive areas were protected by a minimum 50-foot buffer or were avoided by boring underneath.
- Sediment control devices were installed per the Project SWPPP.
- Guidelines set forth in the Federal Energy Regulatory Commission (FERC) Upland Erosion Control, Revegetation, and Maintenance Plan (May 2013) were followed where applicable.
- Topsoil along the ROW was segregated, stored, and replaced to actual depth.
- All One Call and utility line identification activities were conducted prior to Project construction.
- Spill prevention, response, and mitigation procedures during construction activities were followed as described in the USDOT-mandated Caliber Midstream Pipeline Spill Response Plan.

2.6 Qualifications

The following individuals contributed to the corridor location study:

- David Scobel – Mr. Scobel has more than 15 years of experience in the oil and gas industry, including extensive work in gas gathering and processing from the business development, project design, cost, and construction management perspectives.
 - Company: Caliber

- Role: Chief Operating Officer
- Education: Bachelor of Science, Chemical and Petroleum Refining Engineering, Colorado School of Mines
- Ryan Stone – Mr. Stone is responsible for facilities and pipeline engineering, construction, operations, AFE preparation and budget planning. Prior to joining Caliber, Mr. Stone was a Project and Operations Engineer for Meritage Midstream Services, where he focused on engineering, construction, commissioning, and operations of the Eagle Ford Escondido and Cuervo Creek Gathering Systems, consisting of more than 185 miles of new gathering pipelines with multiple facilities and interconnects.
 - Company: Caliber
 - Role: Project Manager
 - Education: Bachelor of Science, Mechanical Engineering, Colorado School of Mines
- Katy Reagan - Ms. Reagan has developed a diverse technical and regulatory background through more than 12 years of experience executing and managing environmental projects. She has experience in various survey techniques for analyzing and monitoring natural resources. Ms. Reagan has experience in preparation of biological resource reports and other environmental documents in accordance with state and federal regulations.
 - Company: formerly CH2M HILL (at time of study); currently Sunbird Biological Consultants
 - Role: wetland/waterbody delineations, habitat surveys, raptor nest surveys
 - Education: Master of Science, Natural Resources Management; Bachelor of Science, Wildlife Biology
 - Professional Accreditation: Certified Wildlife Biologist
- Doug Anderson – Mr. Anderson is an environmental planner with experience in natural resources management, land use planning, environmental regulatory strategy, and permitting. His project experience has primarily focused on the siting and licensing/permitting of large-scale energy facilities and infrastructure such as natural gas pipelines, power plants, and renewable energy facilities.
 - Company: CH2M HILL
 - Role: constraints analysis
 - Education: Master of City and Regional Planning
- Jerry Fiore – Mr. Fiore has more than 26 years of civil and environmental engineering experience, specializing in environmental permitting strategies, air quality permitting, and environmental compliance. He has served in engineering positions in both consulting and private industry. Mr. Fiore has acted as project manager on many environmental projects including FERC and National Environmental Policy Act compliance, environmental and county permitting, air quality permitting, and due diligence audits.
 - Company: CH2M HILL
 - Role: environmental consultant Project Manager
 - Education: Bachelor of Science, Civil Engineering, Ohio State University
- Jack Pfertsh – Mr. Pfertsh is a registered Professional Archaeologist with 23 years of experience in archaeological excavation and cultural resource survey projects primarily carried out in the state of Colorado, New Mexico, North Dakota, Wyoming, and Utah. He is knowledgeable about current state and federal regulations governing field conduct and recordation of cultural resources. Mr. Pfertsh's responsibilities include quality control, office and field supervision, data analysis, and report preparation.
 - Company: Alpine Archaeological Consultants, Inc.
 - Role: cultural resources surveys
 - Education: Master of Art, Archaeology and Heritage; Bachelor of Art, Anthropology

2.7 Maps

A DVD containing all ESRI ArcGIS shapefiles is included as part of this application for Commission staff review. Project maps are attached with this Route Permit Application.

2.8 ROW Preparation, Construction, and Reclamation

During construction, Caliber followed the guidelines set forth in the Upland Erosion Control, Revegetation, and Maintenance Plan (FERC, May 2013), where applicable. Roads, drainages, wetlands, and other sensitive areas were protected by a minimum 50-foot-wide buffer or were avoided entirely by boring underneath, with the exception of one wetland, which was impacted consistent with impacts authorized under Nationwide Permit 12. Sediment control devices were installed per the SWPPP. Topsoil along the ROW was segregated, stored, and replaced to actual depth. Spill prevention, response, and mitigation procedures during construction activities were followed as described in the USDOT-mandated Caliber Midstream Pipeline Spill Response Plan.

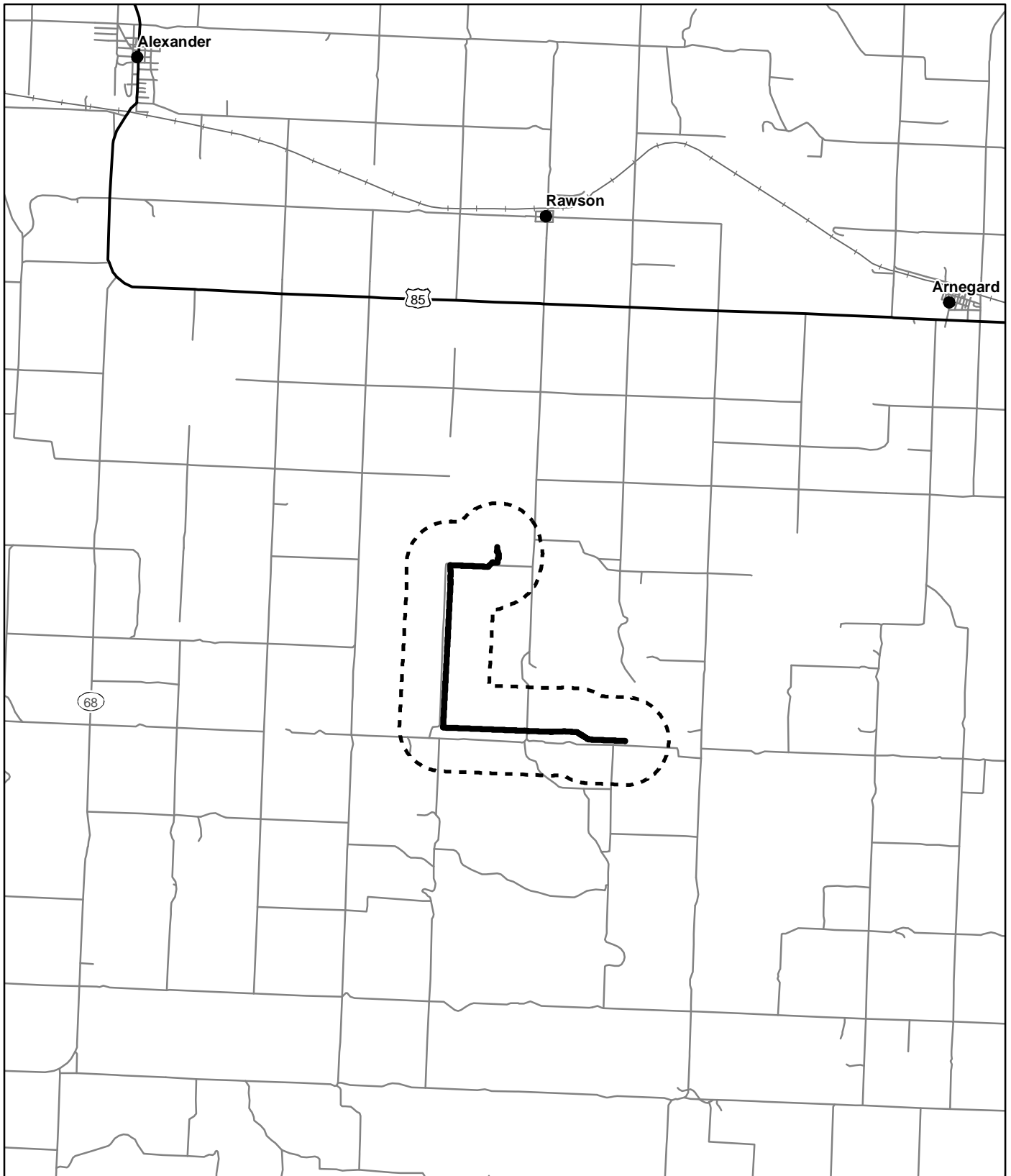
All weld integrity was subjected to non-destructive testing (x-ray), with field supervision from a Caliber welding inspector. All welding records are retained, and weld maps were created. USDOT-approved coatings were applied to all welds, and pipe joints were coated with factory-coated fusion bonded epoxy (FBE). For cathodic protection, a secondary corrosion preventative system will be installed within 1 year from when the pipeline begins service.

Alignment sheets used during the construction of the Project area included as Appendices A and B.

2.9 Land Owner Coordination and Compensation

Local Caliber land agents negotiated easement and ROW agreements with each fee landowner and explained the type of pipeline proposed to be installed. Each of the seven landowners was informed about the construction process and operating procedures and was also made aware of any potential impacts that could result from the Project. Caliber informed landowners concerning the proposed depth of each line and showed them the proposed location of the line on a map and often in the field using surveyed stakes. Caliber also marked the location of the line in the field with line markers upon completion of construction. Each landowner was compensated on a price-per-rod basis for use of the easement and ROW.

Figures

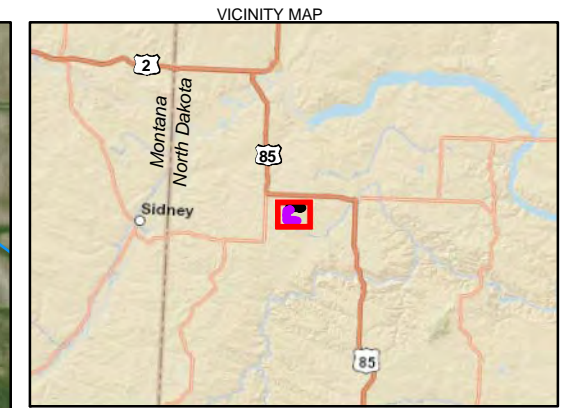
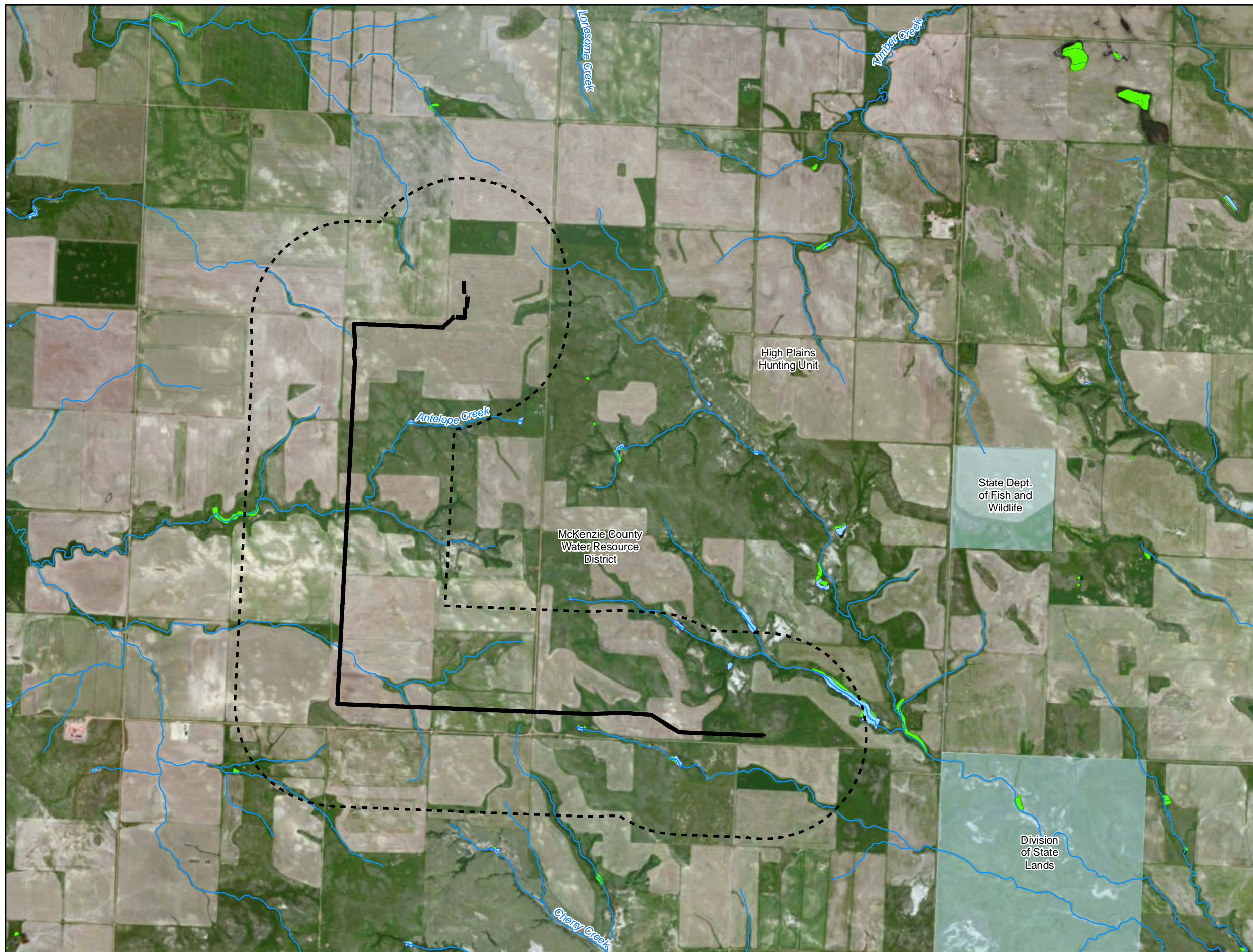


LEGEND
 — Proposed NGL Route
 - - - 1-mile Study Corridor



0 0.5 1 2
 Miles

Figure 1
Project Location Map
Caliber Midstream
Mckenzie County, ND



- LEGEND**
- Proposed NGL Route
 - 1-mile Study Corridor
 - NWI Wetland
 - Stream
 - Waterbody
- Surface Ownership**
- State Land

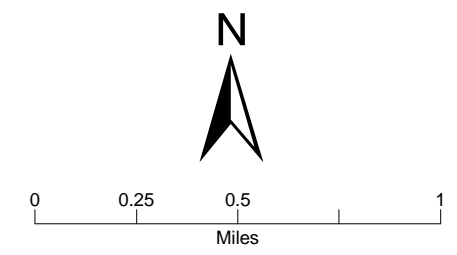
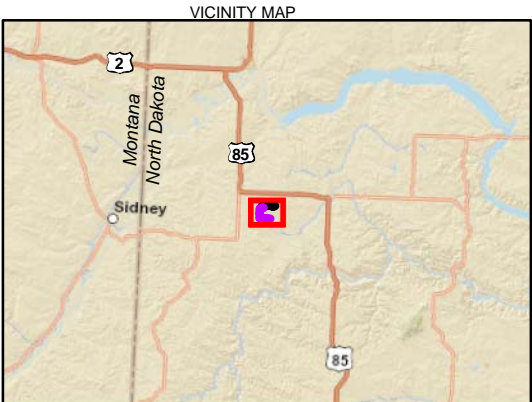
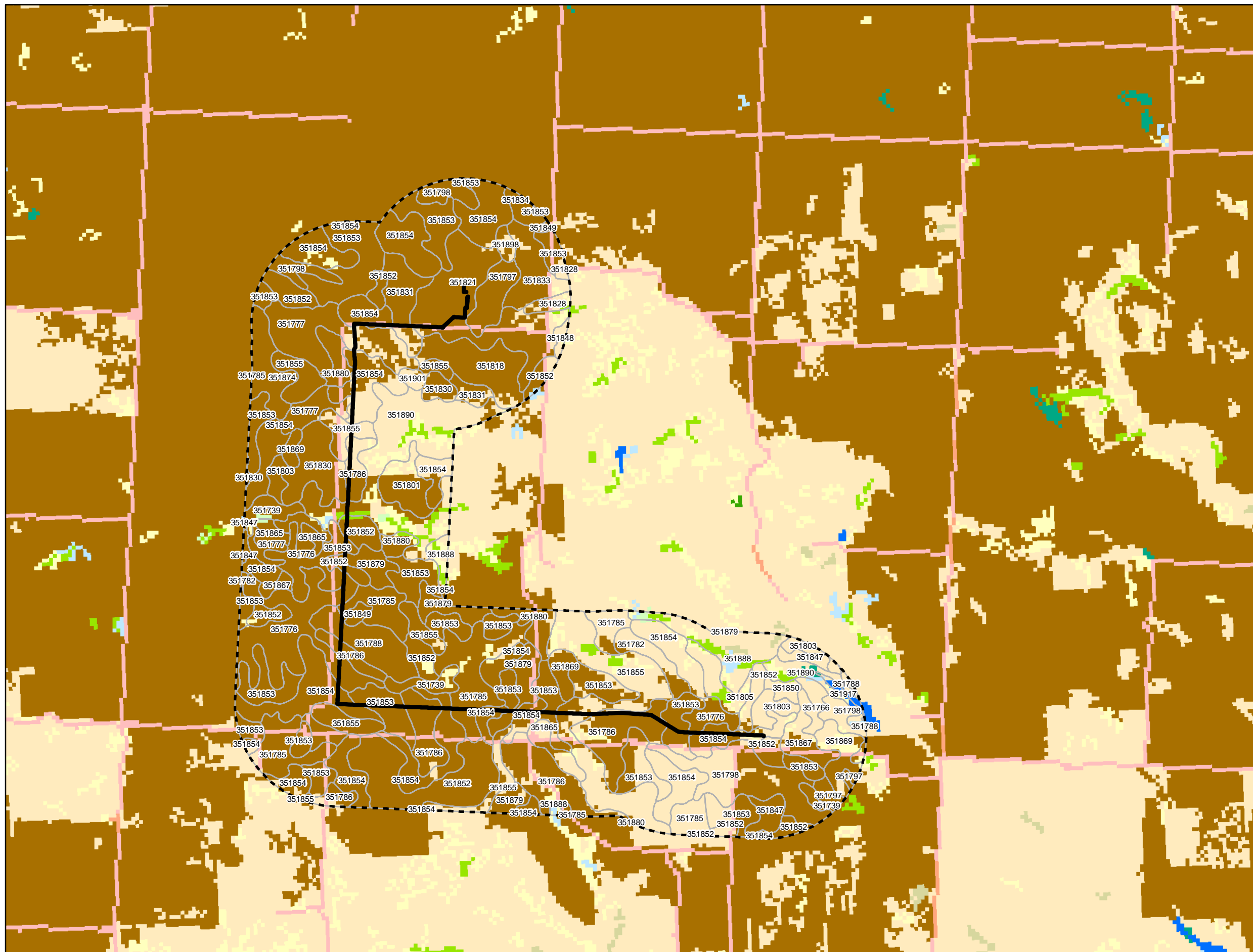


FIGURE 2
Constraints Map
 Caliber Midstream
 McKenzie County, ND



LEGEND

- Proposed NGL Route
- 1-mile Study Corridor
- Soil Map Unit

Landcover (NLCD, 2011)

- Open Water
- Developed, Open Space
- Developed, Low Intensity
- Developed, Medium Intensity
- Developed, High Intensity
- Barren Land
- Deciduous Forest
- Evergreen Forest
- Mixed Forest
- Shrub/Scrub
- Herbaceous
- Hay/Pasture
- Cultivated Crops
- Woody Wetlands
- Emergent Herbaceous Wetlands

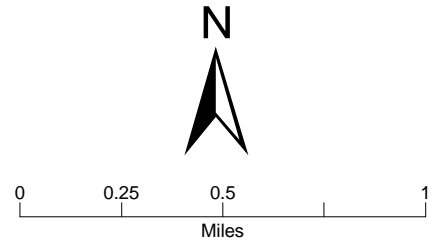
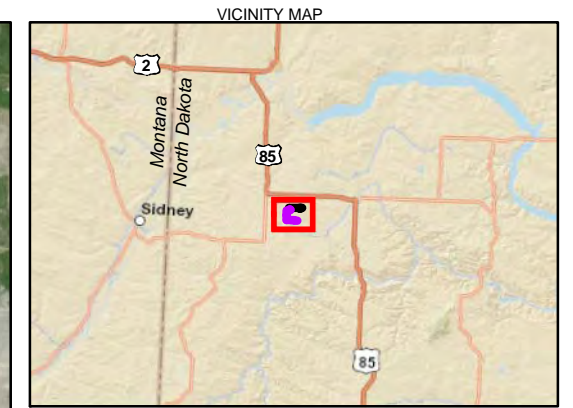





FIGURE 3
Land Use, Vegetation and Soils Map
 Caliber Midstream
 Mckenzie County, ND



- LEGEND**
-  Proposed NGL Route
 -  1-mile Study Corridor
 - Zoning**
 -  Agriculture

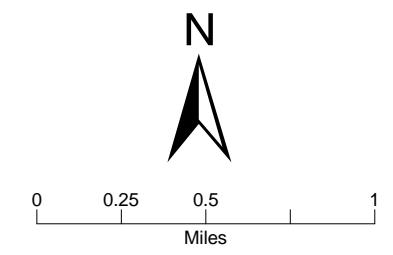
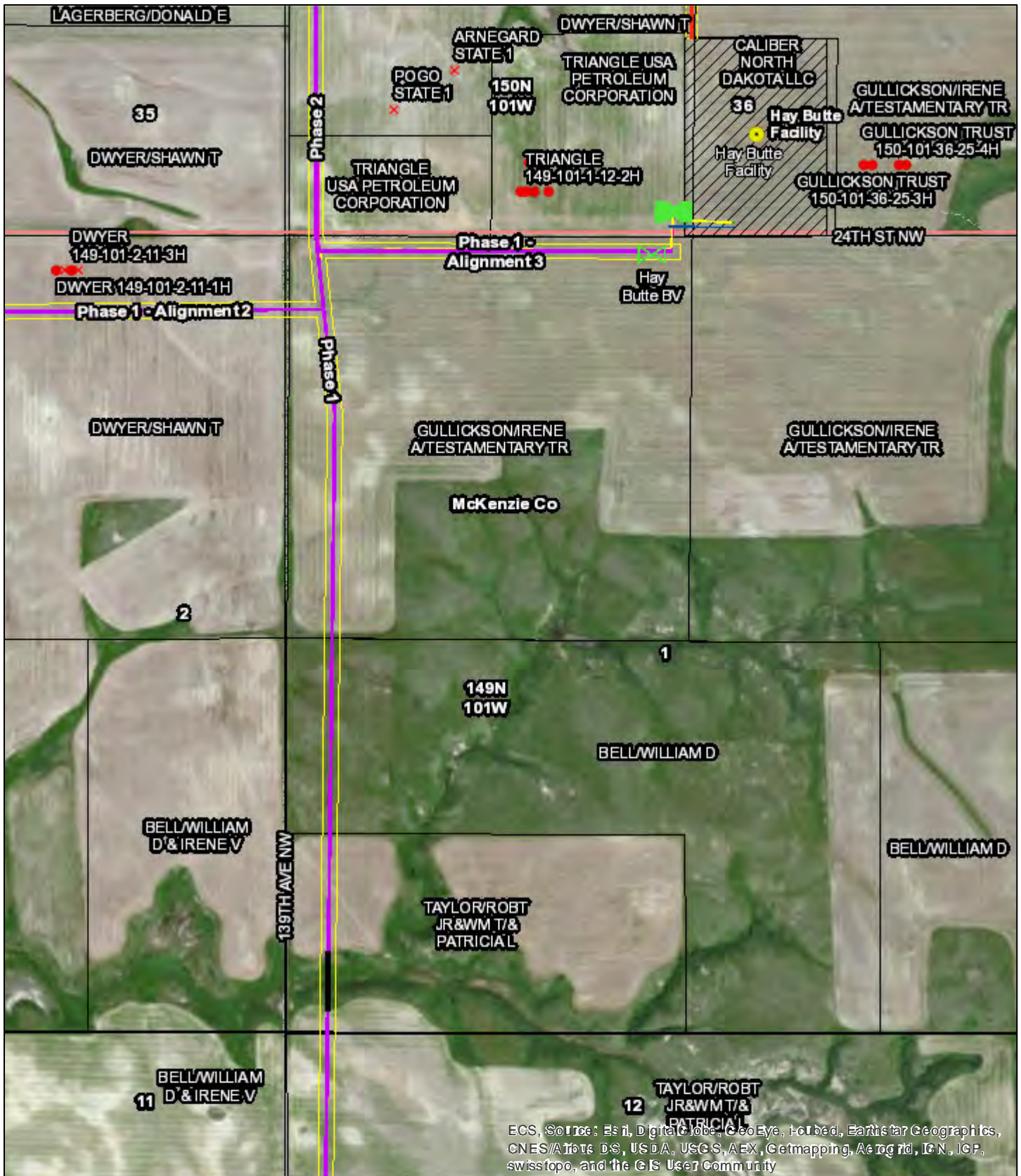


FIGURE X
Zoning Map
 Caliber Midstream
 Mckenzie County, ND

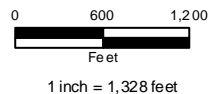
Appendix A – Route Map

Caliber Midstream - NGL 6" Pipeline & Hay Butte Gas Plant



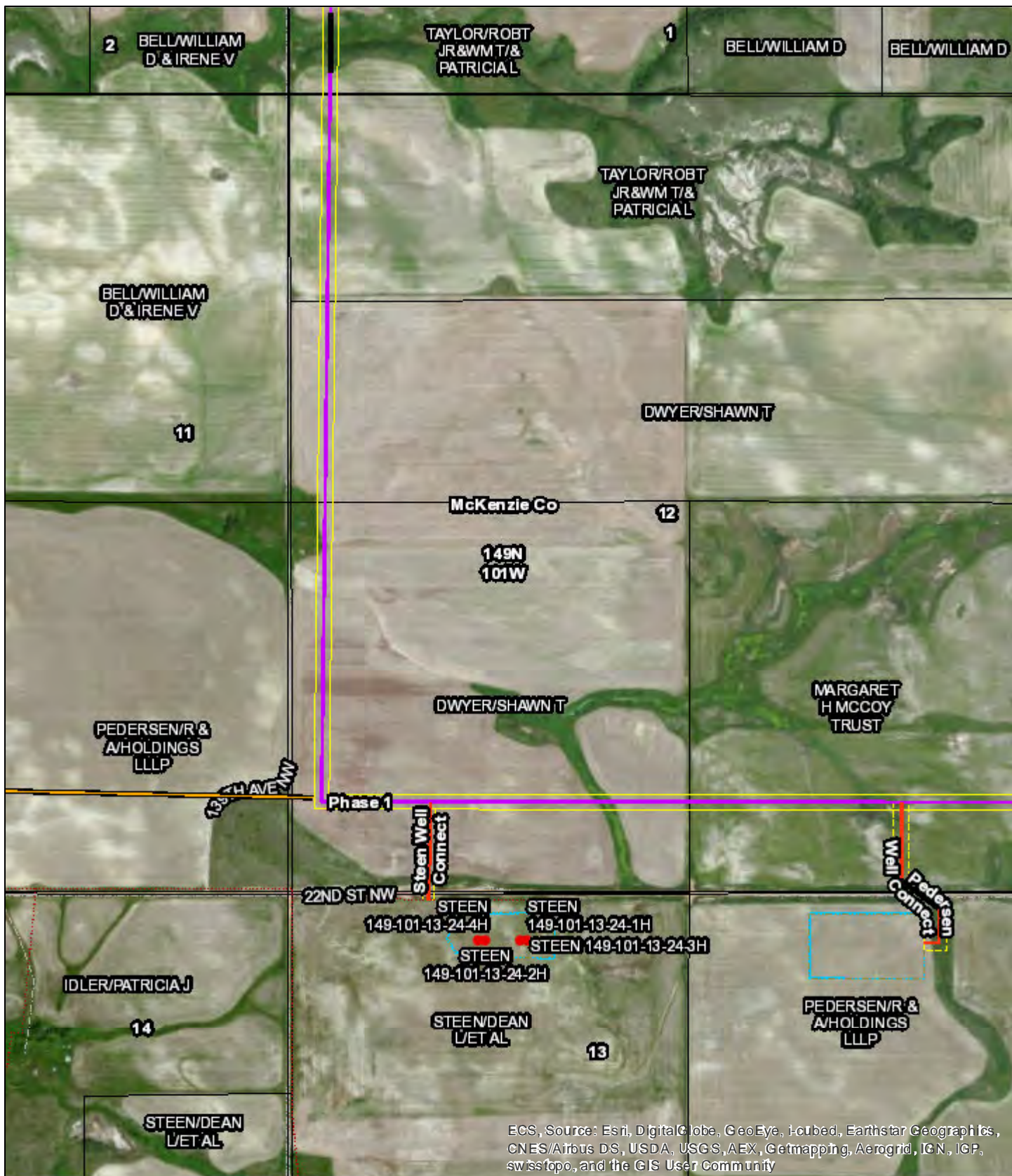
Legend

- | | | | |
|------------------|-----------------|---------------|----------|
| Comment | Subsurface | Inactive (MT) | Proposed |
| Conceptual Route | Active SWD (MT) | Active (ND) | |
| Facility | Active SWD (ND) | Inactive (ND) | |
| Block | Active (MT) | Bore | |



svest
2014

Caliber Midstream - NGL 6" Pipeline

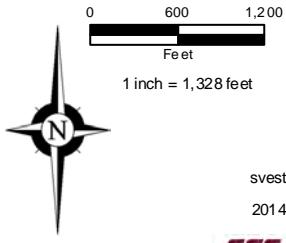


ECS, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

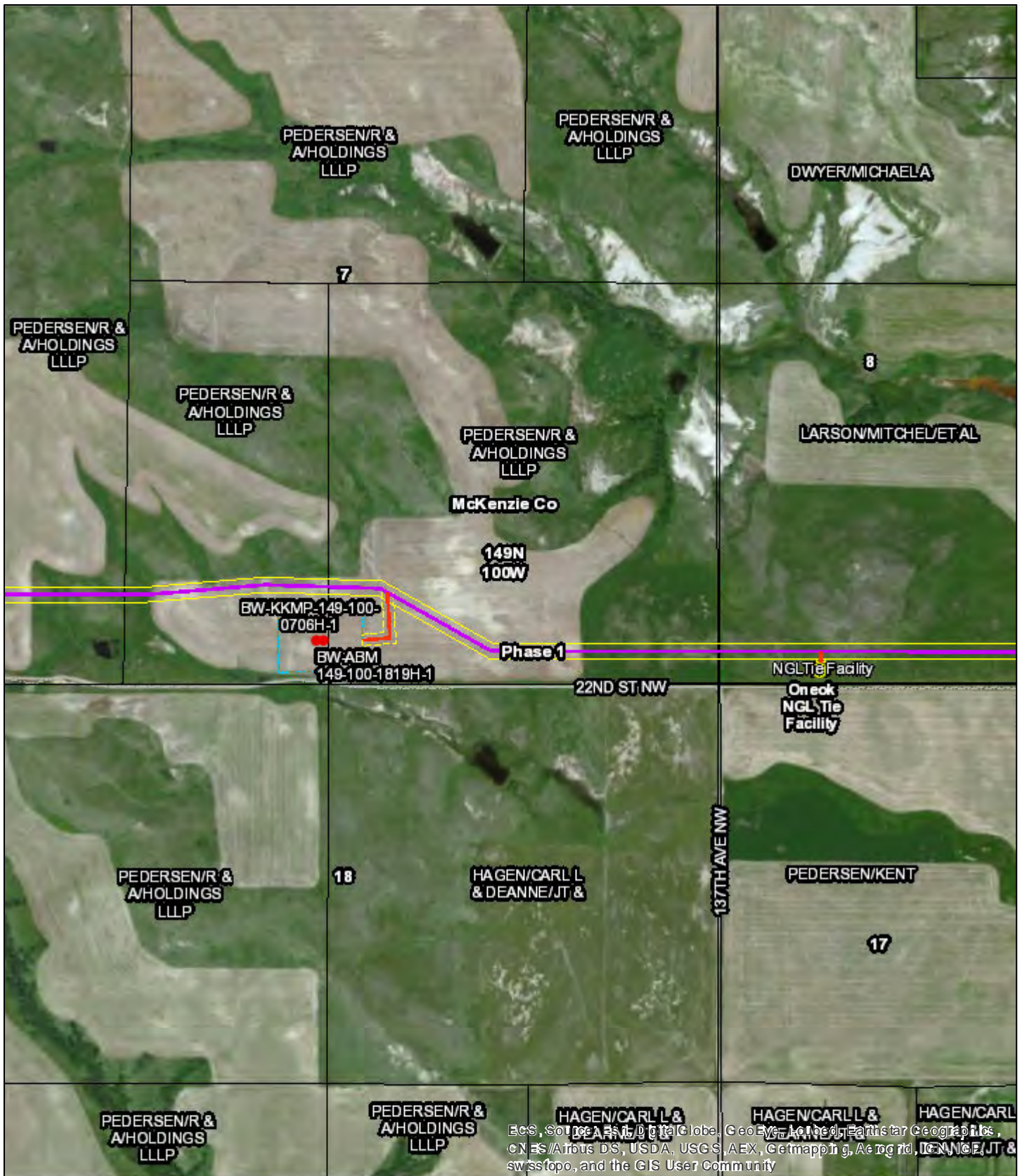


Legend

- | | | | |
|------------------|-----------------|---------------|----------|
| Comment | Subsurface | Inactive (MT) | Proposed |
| Conceptual Route | Active SWD (MT) | Active (ND) | |
| Facility | Active SWD (ND) | Inactive (ND) | |
| Block | Active (MT) | Bore | |

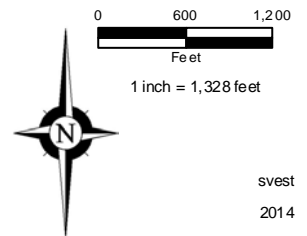


Caliber Midstream - NGL 6" Pipeline & ONEOK Tie In



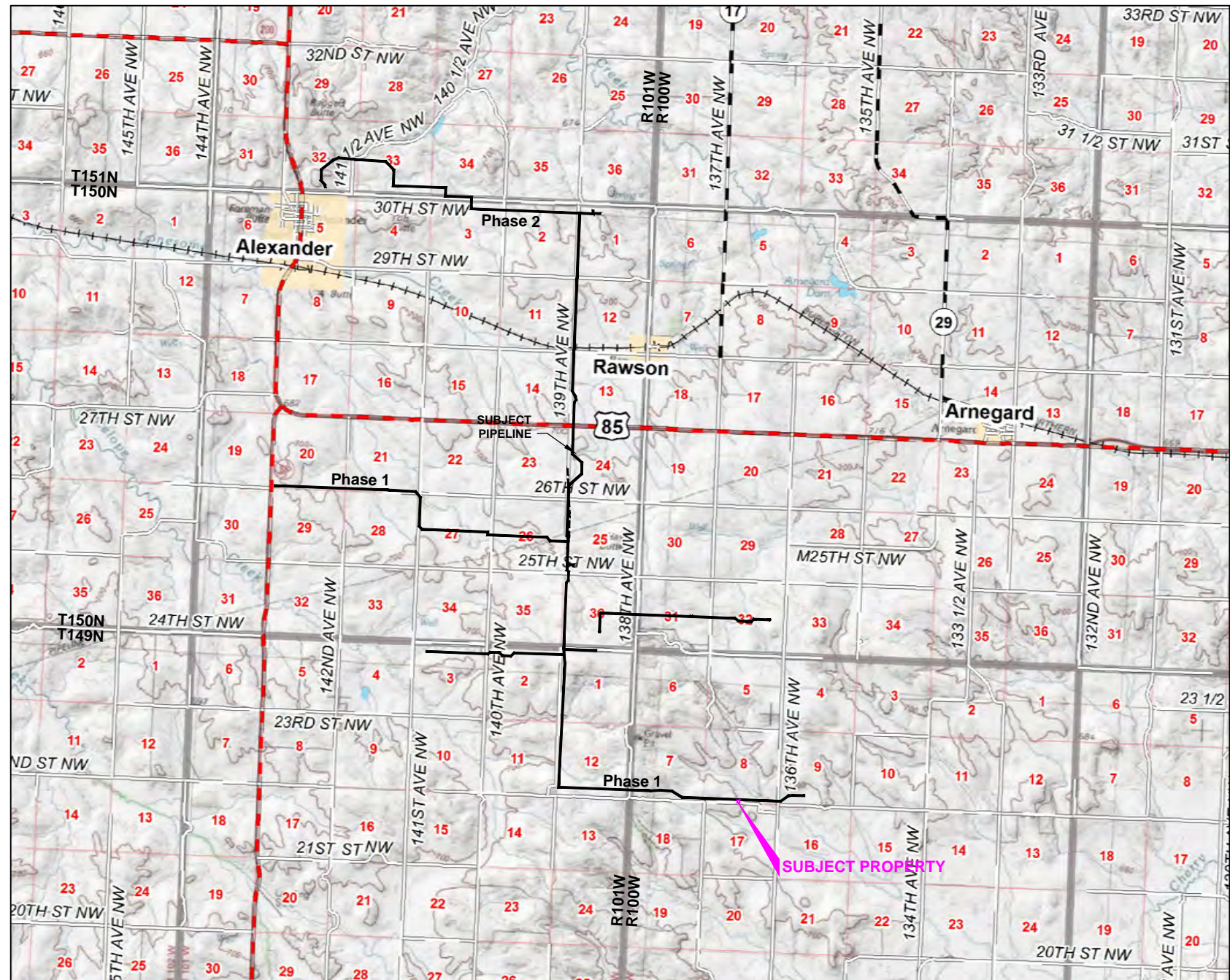
Legend

- | | | | |
|------------------|-----------------|---------------|----------|
| Comment | Subsurface | Inactive (MT) | Proposed |
| Conceptual Route | Active SWD (MT) | Active (ND) | |
| Facility | Active SWD (ND) | Inactive (ND) | |
| Block | Active (MT) | Bore | |



Appendix B – Alignment Sheet for ONEOK Tie-in

**Rawson Gathering System
Caliber to Oneok NGL Tie-in**
100' x 100' Facility Easement
SW1/4, Section 8, T149N R100W,
5th P.M., McKenzie County, North Dakota

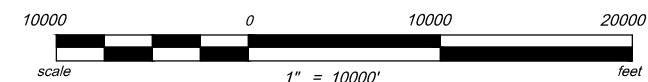


VICINITY MAP

Horizontal Datum: State Plane Coordinate System
Zone: 3301 North Dakota North
NAD83(2011) U.S. Survey Foot
Vertical Datum: NAVD88(GEIOD12A) GNSS Derived
*Distances are Grid Distances
Combined Scale Factor = 0.99978560
Grid Distance X 1.00021445 = Ground Distance

Notes:

1. All underground utilities depicted hereon are based upon field survey locations of marked utility lines per an 811 utility location request. The surveyor cannot attest or certify to the actual location, existence, size, type, condition or use of said underground utilities.
2. Date of Survey October 2013.



Surveying & Drafting Services By:



ERICKSON CONTRACT SURVEYING
333 10th Ave. SE Sidney, Montana
Office 406-482-6606 / Fax 406-482-6600

Date Surveyed: October, 2013

Surveyed By: MF/AH

Drawing Date: October, 2013

Drawn By: D. Smith

Checked By: K. McCauley

Revision No.: _____

Revision Date: _____

ECS Project #

2013-14-010

Coversheet

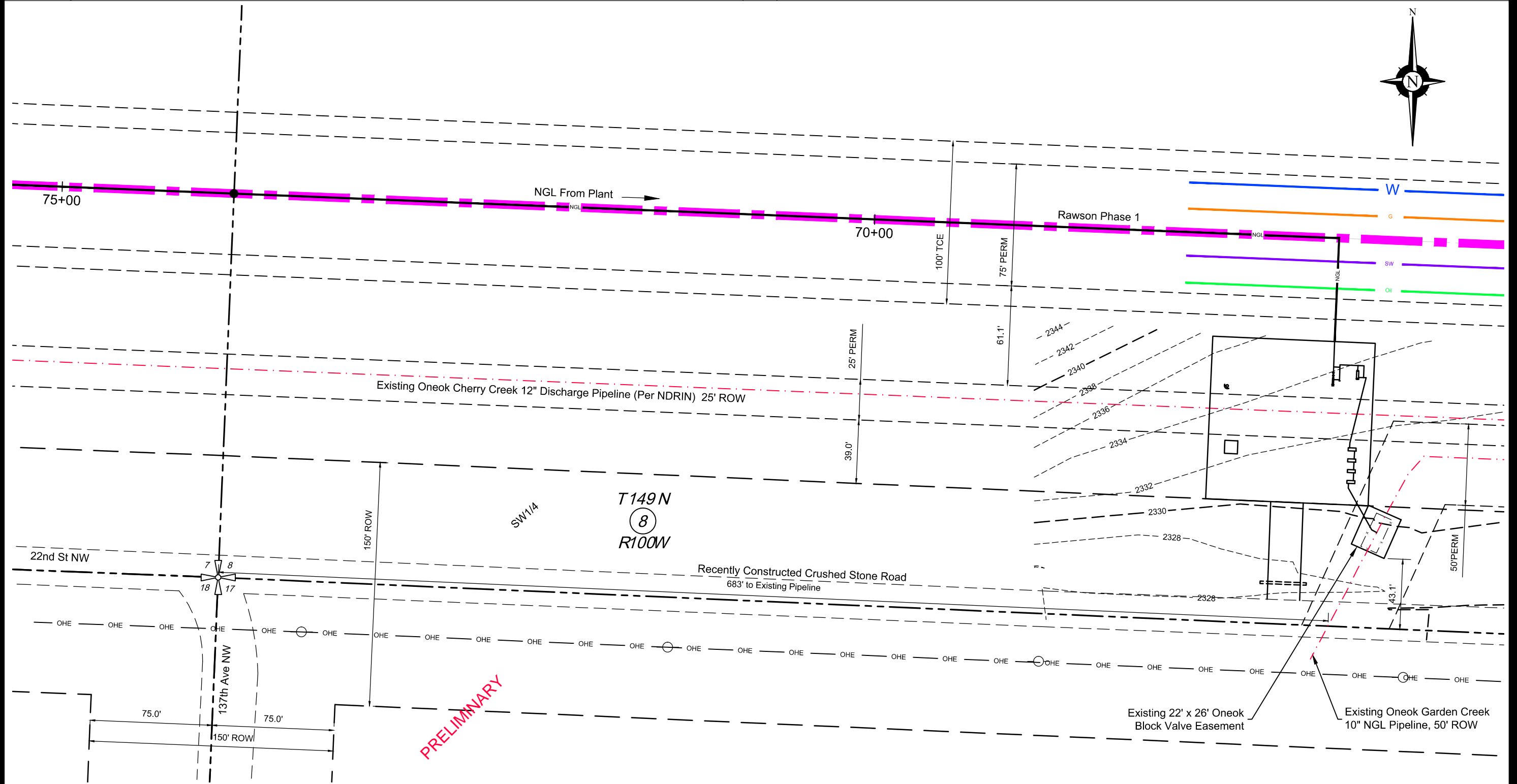


Know what's below
Call before you dig.
MT - 1-800-424-5555
ND - 1-800-795-0555



Rawson Gathering System
Caliber to Oneok
NGL Tie-in

Size & Type of Pipe	Length



PRELIMINARY

Surveying & Drafting Services By:

ERICKSON CONTRACT SURVEYING
333 10th Ave. SE Sidney, Montana
Office 406-482-6606 / Fax 406-482-6600

ECS Project #	2013-14-010
Drawing Date:	10-14-2013
Drawn By:	D. Smith
Checked by:	K. McCauley

LEGEND:

Proposed Block Valve	Section Corner	Alignment
Proposed Bore	Quarter Corner	Section Line
CTP test station	Benchmark	Quarter Line
Alignment PI		Sixteenth Line
Utility Pole		Fence Line
Well		UGC — Underground Elec
Valve		UGT — Underground Comm
		OHE — Overhead Electric
		Existing Pipeline

SCALE:
1" = 60' HORIZ.
1" = 12' VERT.

REFERENCE DRAWINGS

Aerial Image USDA FSA 1M CIRCA, 10-26-2012

SURVEY DATUM

Horizontal Datum: State Plane Coordinate System
Zone: 3301 North Dakota North
NAD83(2011) U.S. Survey Foot
Vertical Datum: NAVD88(GEoid12A) GNSS Derived
*Distances are Grid Distances
Combined Scale Factor = 0.99978560
Grid Distance X 1.00021445 = Ground Distance

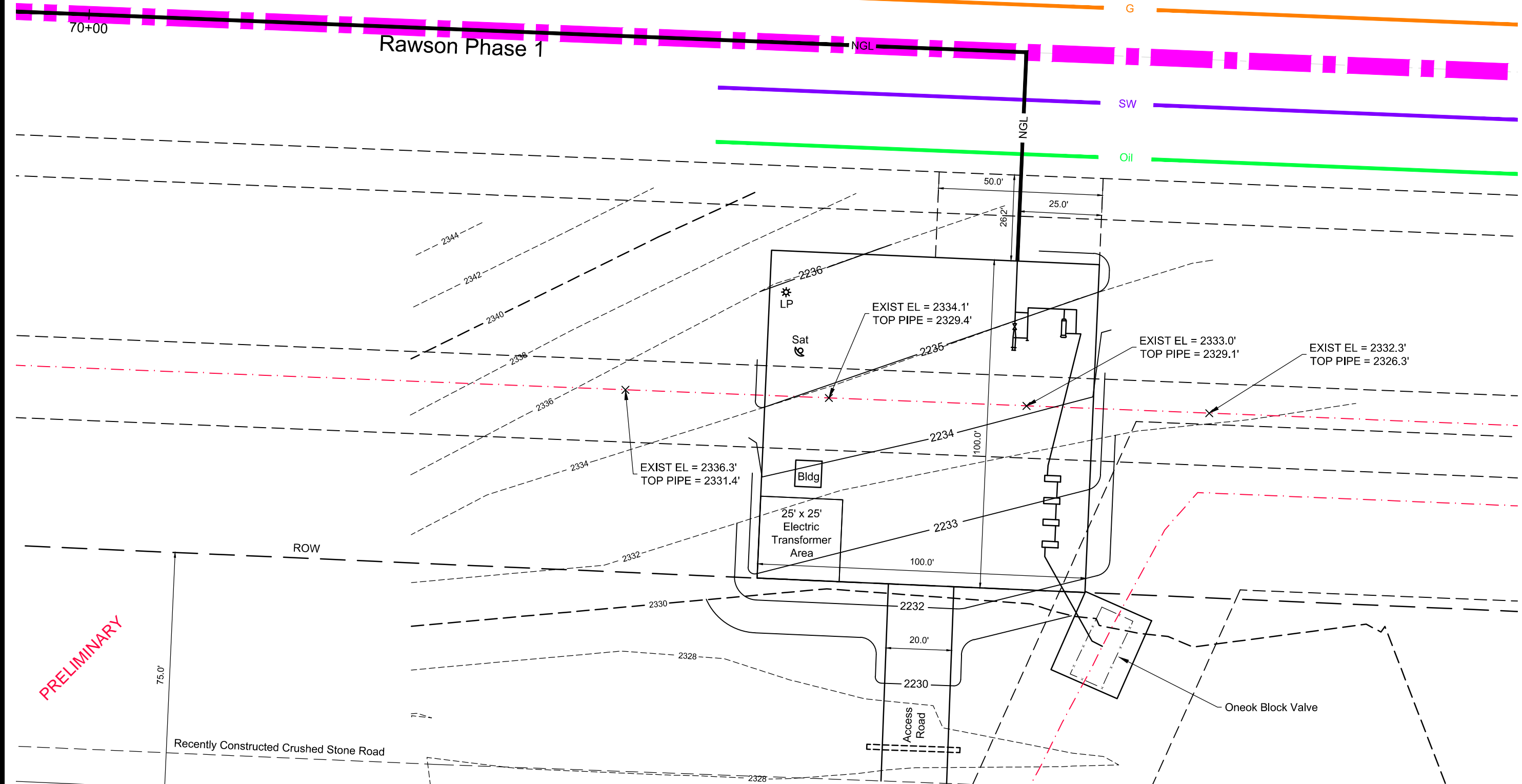
Rawson Phase 1 Pipeline Layout Schematic

Temp. Const. Esmt.		
Permanent ROW		
12" Oil (Steel)	Oil	
8" Saltwater (Fiber Spar)	SW	
Proposed 4" or 6" Steel NGL Line	NGL	
8" Gas (Future)	G	
8" Fresh Water (Poly)	W	
Permanent ROW		
Temp. Const. Esmt.		

Rawson Gathering System
Caliber to Oneok NGL Tie-in

SW1/4, Sec. 8, T149N, R100W,
5th P.M. McKenzie Co., North Dakota

Sheet 1



PRELIMINARY

Surveying & Drafting Services By:

ECS INC.
ERICKSON CONTRACT SURVEYING
333 10th Ave. SE Sidney, Montana
Office 406-482-6606 / Fax 406-482-6600

ECS Project #	2013-14-010
Drawing Date:	10-14-2013
Drawn By:	D. Smith
Checked by:	K. McCauley

LEGEND:

	Proposed Block Valve		Alignment
	Proposed Bore		Section Line
	CTP test station		Quarter Line
	Alignment PI		Sixteenth Line
	Utility Pole		Fence Line
	Well		Underground Elec
	Valve		Underground Comm
	Section Corner		OHE Overhead Electric
	Quarter Corner		Existing Pipeline
	Benchmark		

SCALE:
1" = 30' HORIZ.
1" = 6' VERT.

REFERENCE DRAWINGS

Aerial Image USDA FSA 1M CIRCA, 10-26-2012

SURVEY DATUM

Horizontal Datum: State Plane Coordinate System
Zone: 3301 North Dakota North
NAD83(2011) U.S. Survey Foot
Vertical Datum: NAVD88(GEoid12A) GNSS Derived
*Distances are Grid Distances
Combined Scale Factor = 0.99978560
Grid Distance X 1.00021445 = Ground Distance

Rawson Phase 1 Pipeline Layout Schematic

Temp. Const. Esmt.		
Permanent ROW		
12" Oil (Steel)		
8" Saltwater (Fiber Spar)		
Proposed 4" or 6" Steel NGL Line		
8" Gas (Future)		
8" Fresh Water (Poly)		
Permanent ROW		
Temp. Const. Esmt.		

**Rawson Gathering System
Caliber to Oneok NGL Tie-in**

SW1/4, Sec. 8, T149N, R100W,
5th P.M. McKenzie Co., North Dakota

Site Plan

