

CERTIFICATE OF SITE COMPATIBILITY

Bill Sanderson Gas Processing Plant Project

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ACRONYMS AND ABBREVIATIONS

AOI	Areas of Influence
APE	Area of Potential Effect
Commission	North Dakota Public Service Commission
FEMA	Federal Emergency Management Administration
GIS	Geographic Information System
GMEC	Grouse Mountain Environmental Consultants
GSU	Garrison Study Unit
ICBM	Intercontinental Ballistic Missile
IPaC	Information for Planning and Consultation
NAIP	National Agriculture Imagery Program
MMscfd	million standard cubic feet per day
N.D.A.C	North Dakota Administrative Code
N.D.C.C	North Dakota Century Code
NGL	natural gas liquids
NHD	National Hydrologic Dataset
NRCS	National Resource Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
OE2	OE2 North LLC
OSHA	Occupational Safety and Health Administration
PEM	palustrine emergent
PSC	Public Service Commission
Project	Bill Sanderson Gas Processing Plant Project
RSV	recycle split vapor
SHPO	State Historic Preservation Office
SWCA	SWCA Environmental Consultants, Inc.
SWD	salt water disposal
T&E	Threatened and endangered
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VOC	volatile organic compound
XTO	XTO Energy, Inc. and its applicable affiliate(s)
WBD	Watershed Boundary Dataset
WOTUS	Waters of the United States
WSS	Wet Soils Survey

NORTH DAKOTA PUBLIC SERVICE COMMISSION SITING APPLICATION CHECKLIST

Citation	Criteria	Section
North Dakota Century Code		
49.22.1-03	Exclusion and avoidance areas – Criteria	4.3 and 4.4
49.22.1-06	Application for a certificate – Notice of Filing – Amendment Designation of a site or corridor	
	1. A description of the size and type of facility.	1.1 and 1.2
	2. A Summary of any studies that have been made of the environmental impact of the facility.	2.4 Appendices C and D
	3. A statement explaining the need for the facility.	3.1
	4. An identification of the location of the preferred site for any gas or liquid energy conversion facility.	3.1
	5. An identification of the location of the preferred corridor for any gas or liquid transmission facility.	N/A (separate application)
	6. A description of the merits and detriments of any location identified and a comprehensive analysis with supporting data showing the reasons why the preferred location is the best suited for the facility.	3.2
	7. A description of mitigative measures that will be taken to minimize all foreseen adverse impacts resulting from the location, construction, and operation of the proposed facility.	5.0
	8. An evaluation of the proposed site or corridor with regard to the applicable considerations set out in section 49.22.1-09 and the criteria established pursuant to section 49-22.1-03.	4.0
9. Any other information as the applicant considers relevant or the commission may require.	N/A	
49-22.1-09	Factors to be considered in evaluating applications and designation of sites, corridors, and routes.	
	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.	4.6.1
	2. The effects of new gas or liquid energy conversions and gas or liquid transmission technologies and systems designed to minimize adverse environmental effects.	4.6.1
	3. The potential for beneficial uses of waste energy from a proposed gas or liquid conversion facility.	N/A
	4. Adverse direct and indirect environmental effects that cannot be avoided should the proposed site or route to be designated.	4.5.1.1
	5. Alternatives to the proposed site, corridor, or route that are developed during the hearing process and which minimize adverse effects.	3.2
	6. Irreversible and irretrievable commitments of natural resources should the proposed site, corridor, or route be designated.	4.5.1.3
	7. The direct and indirect economic impacts of the proposed facility.	4.5.1.3

Citation	Criteria	Section
	8. Existing plans of the state, local government, and private entities for other developments at or in the vicinity of the propose site, corridor, or route.	4.5.2
	9. The effect of the proposed site or route on existing scenic areas, historic sites and structures, and paleontological or archaeological sites.	4.3
	10. The effect of the proposed site or route on areas that are unique because of biological wealth or because the site or route is a habitat for rare and endangered species.	4.3
	11. Problems raised by federal agencies, other state agencies, and local entities.	2.3
North Dakota Administrative Code		
69-06-08-01	Energy conversion facility siting criteria	
69-06-08-01(1)	Exclusion areas. Geographical areas that must be excluded in the consideration of a site for an energy conversion facility.	4.3 Table 1
69-06-08-01(3)	Avoidance areas. Geographical areas that may not be approved as a site for an energy conversion facility unless the applicant shows that under the circumstances there is no reasonable alternative.	4.4 Table 2
69-06-08-01(5)	Selection criteria. A site may be approved in an area only when it is demonstrated to the commission by the applicant that any significant adverse effects resulting from the location, construction, and operation of the facility in that area as they relate to the following, will be at an acceptable minimum, or that those effects will be managed and maintained at an acceptable minimum. The effects to be considered include:	4.5
	<ul style="list-style-type: none"> a) The impact upon agriculture <ul style="list-style-type: none"> (1) Agricultural production. (2) Family farms and ranches. (3) Land which the owner demonstrates has soil, topography, drainage, and an available water supply that cause the land to be economically suitable for irrigation. (4) Surface drainage patters and ground water flow patterns. (5) The agricultural quality of the cropland. 	4.5.1.1
	<ul style="list-style-type: none"> b) The impact upon the availability and adequacy of: <ul style="list-style-type: none"> (1) Law enforcement. (2) School systems and education programs. (3) Governmental services and facilities. (4) General and mental health facilities. (5) Recreational programs and facilities (6) Transportation facilities and networks. (7) Retail service facilities. (8) Utility services. 	4.5.1.2

Citation	Criteria	Section
	c) The impact upon: (1) Local institutions. (2) Noise-sensitive land uses. (3) Rural residences and businesses. (4) Aquifers. (5) Human health and safety. (6) Animal health and safety. (7) Plant life. (8) Temporary and permanent housing. (9) Temporary and permanent skilled and unskilled labor.	4.5.1.3
	d) The cumulative effects of the location of the facility in relation to existing and planned facilities and other industrial development.	4.5.2
69-06-08-01(6)	Policy criteria. The commission may give preference to an applicant that will maximize benefits that result from the adoption of the following policies and practices, and in a proper case may require the adoption of such policies and practices. The commission may also give preference to an applicant that will maximize interstate benefits. The benefits to be considered include:	4.6
	a. Recycling of the conversion byproducts and effluents.	4.6.2
	b. Energy conservation through location, process, and design.	4.6.3
	c. Training and utilization of available labor in this state for the general and specialized skills required.	4.6.4
	d. Use of a primary energy source or raw material located within the state.	4.6.5
	e. Not relocating residents.	4.6.6
	f. The dedication of an area adjacent to the facility to land uses such as recreation, agriculture, or wildlife management.	4.6.7
	g. Economies of construction and operation.	4.6.8
	h. Secondary uses of appropriate associated facilities for recreation and the enhancement of wildlife.	4.6.9
	i. Use of citizen coordinating committess.	4.6.10
	j. A commitment of a portion of the energy produced for use in this state.	4.6.11
	k. Labor relations.	4.6.12
	l. The coordination of facilities.	4.6.13
	m. Monitoring of impacts.	4.6.14

INTRODUCTION

OE2 North LLC (OE2) proposes to construct the Bill Sanderson Gas Processing Plant Project (Project or Plant) that will consist of a gas processing plant permitted under the North Dakota Public Service Commission (PSC) Certificate of Site Compatibility. The nameplate processing capacity of the Plant will be 250 million standard cubic feet of gas per day (MMscfd), which exceeds the PSC's processing capacity criteria and thus, defines the Plant as a gas or liquid energy conversion facility under North Dakota Century Code (N.D.C.C.) Section 49-22.1-01(6).

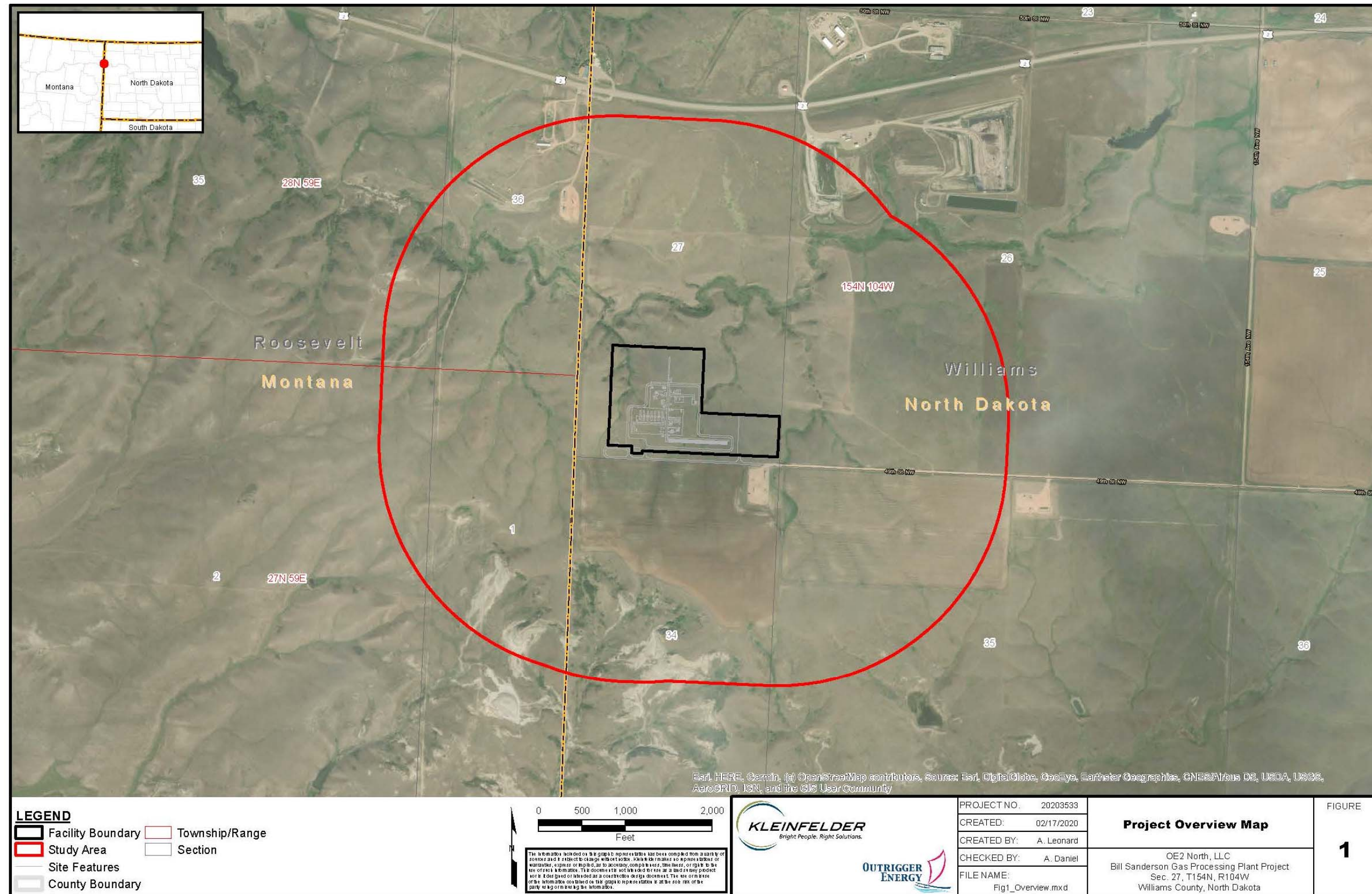
Upon completion of the project, OE2 will own and operate a gas gathering and processing system that will process raw wellhead gas produced from wells in Williams County and surrounding areas and deliver marketable natural gas and natural gas liquids (NGLs) to downstream markets. The Project will feed products into third-party interstate natural gas and NGL pipelines that service the Rocky Mountains, Midwest, and Gulf regions. The Project is both economically and environmentally beneficial for the state, as the Project will not only add valuable midstream services for exploration and production companies in the region, but also significantly reduce flaring and associated volatile organic compound (VOC) emissions in the state. At nameplate capacity, the Plant is expected to reduce state-wide VOC emissions by approximately 25,000 tons per year through such flaring reductions.

The Project will be located approximately 15 miles west of Williston, North Dakota, in Section 27, Township 154 North, Range 104 West, Williams County, North Dakota on a parcel owned by OE2 (henceforth referred to as the Project Site). The Project location is shown on **Figure 1, Project Overview Map**. The Project Study Area is a 0.5-mile buffer around the Project Site that encompasses Sections 26, 34, and 35, Township 154 North, Range 104 West in North Dakota (hereinafter referred to as the Study Area).

OE2 submits this application to the PSC and requests a Certificate of Site Compatibility for construction of the Project. This application provides the necessary information as required by N.D.C.C. Chapter 49-22.1, Energy Conversion and Transmission Facilities, and by the North Dakota Administrative Code (N.D.A.C.) Section 69-06-08-01, Energy Conversion Facility Siting Criteria.

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

- Section 1: Facility Description
- Section 2: Studies
- Section 3: Need for Facility
- Section 4: Energy Conversion Facility Siting Criteria



Esri, HERE, Garmin, (c) OpenStreetMap contributors, source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

LEGEND

- Facility Boundary
- Study Area
- Site Features
- County Boundary
- Township/Range
- Section



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PROJECT NO.	20203533
CREATED:	02/17/2020
CREATED BY:	A. Leonard
CHECKED BY:	A. Daniel
FILE NAME:	Fig1_Overview.mxd

Project Overview Map
OE2 North, LLC Bill Sanderson Gas Processing Plant Project Sec. 27, T154N, R104W Williams County, North Dakota

FIGURE
1



1.0 FACILITY DESCRIPTION

1.1 TYPE OF ENERGY CONVERSION FACILITY

The Plant will be utilized to convert unprocessed wellhead gas produced in the state to marketable natural gas and Y-grade NGLs. The Plant will include a slug catcher, a liquids stabilization system, a Recycle Split Vapor (RSV) cryogenic gas processing facility, and residue compression to boost the residue gas to interstate pipeline pressures. The Y-grade NGLs and residue gas from the facility will be sold into nearby transmission pipelines. OE2 has included the Site Plans and Equipment list for the Plant in **Appendix A**.

1.2 SIZE AND DESIGN

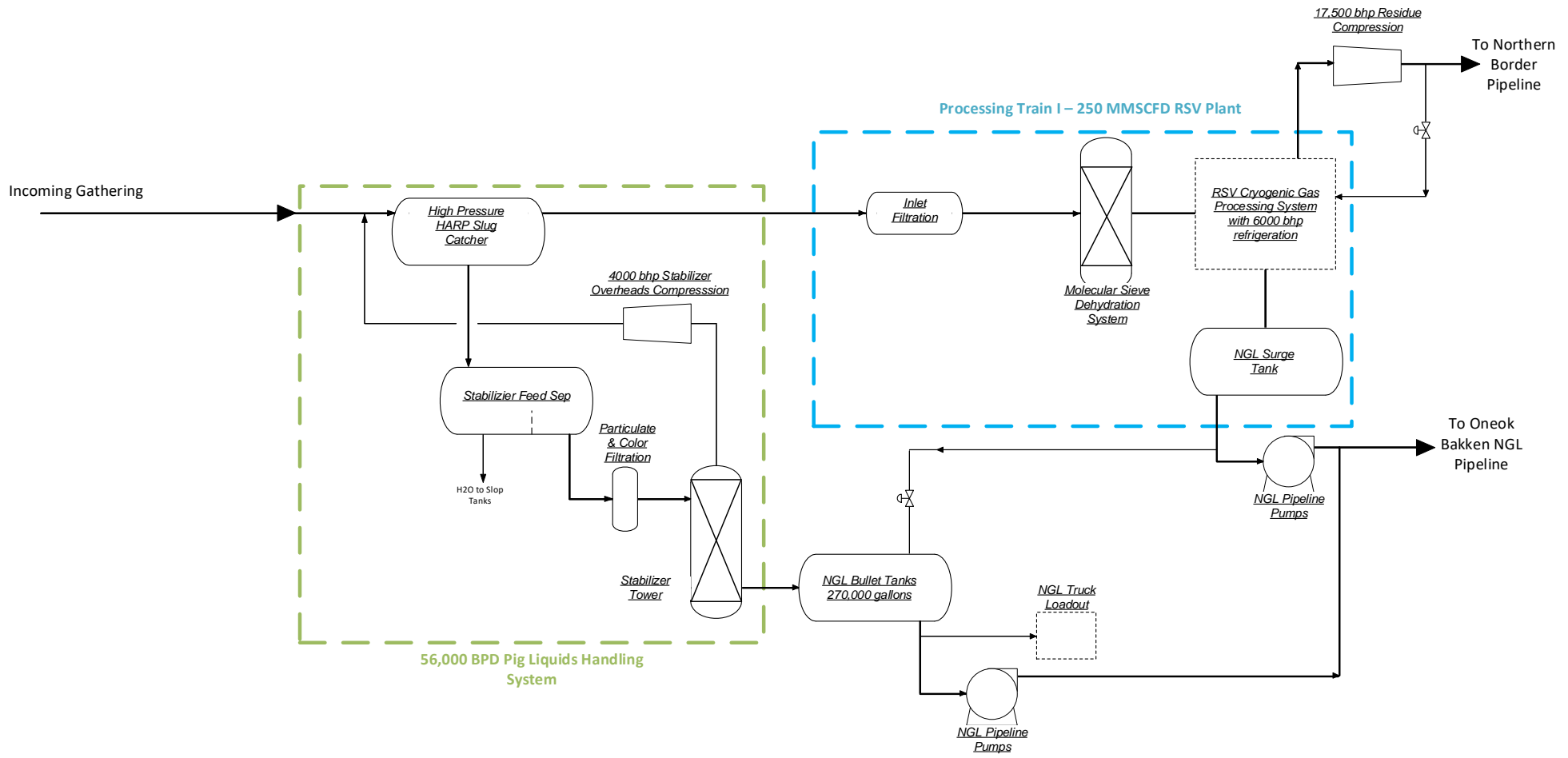
1.2.1 Gross Size Capacity

The Plant is composed of one process train with a nameplate capacity of 250 MMscfd. **Exhibit 1** on the following page provides the layout of the Plant.

1.2.2 Net Design Capacity

The net design capacity of the proposed Plant using the Sanderson influent stream is 250 MMscfd, less 5.3 MMscfd of utility fuel gas usage at the Plant.

Exhibit 1 – Bill Sanderson Gas Processing Plant



1.3 ESTIMATED THERMAL EFFICIENCY OF THE CONVERSION PROCESS AND THE ASSUMPTIONS ON WHICH THE ESTIMATE IS BASED

This item is not applicable to the proposed Project.

1.4 TIME AND SCHEDULE

1.4.1 Certificate of Site Compatibility

OE2 anticipates issuance of the Certificate of Site Compatibility by April 2020.

1.4.2 Land Acquisition

OE2 acquired the land in February 2020.

1.4.3 Construction Start Date

OE2 intends to begin the civil grading site work on the site by mid-April 2020.

1.4.4 Construction Completion Date

Construction of the Plant is anticipated to end by December 1, 2020.

1.4.5 Test Operations

Test operations at the new Plant is anticipated to take place December 1 through 5, 2020.

1.4.6 Commencing Commercial Production

OE2 anticipates commencing commercial production at the Plant by December 15, 2020.

1.4.7 Beginning Any Expansions or Additions

OE2 does not anticipate any expansion or additions to the Plant at this time.

1.5 COMMERCIAL PRODUCTION DATA FOR THE PLANT

The Plant is commercially justified through a long-term definitive gas gathering and processing agreement with XTO Energy, Inc. and its applicable affiliate(s) (XTO) to service XTO's production in Williams County, North Dakota. Through that arrangement, OE2 will provide midstream services to XTO that will allow XTO to capture its natural gas production from wells in the state instead of flaring such gas.

OE2 is also in negotiations with additional wellhead producers in the area, and intends to contract additional gas into the facility, thus bringing more North Dakota wellhead gas to market and further reducing flaring.

1.6 ESTIMATED COST OF CONSTRUCTION

The estimated cost of the Plant is \$150 million.

2.0 STUDIES

2.1 STUDY AREA

The Study Area is defined as the 39-acre Site and the approximately 0.5-mile-wide buffer area around the perimeter of the Site, as illustrated on **Figure 1**. Additional maps showing the proposed Project Site and other resources are included in **Appendix B**. The environmental analysis was conducted for the entire Study Area.

2.2 SITE

The Project comprises 39 acres of a 143-acre parcel owned by OE2. OE2 contracted Grouse Mountain Environmental Consultants (GMEC) to conduct desktop analyses for wildlife, cultural, and Waters of the United States (WOTUS) natural resources potentially impacted by the construction of the Plant. GMEC also conducted an on-site field assessment on January 29, 2020 to supplement findings from the offsite wetland assessment. In concurrence with the on-site field visit, GMEC also completed an assessment of wildlife resources. The findings of the desktop analysis and field surveys are summarized in **Section 2.4**, and the complete report is included as **Appendix C**.

A Class I cultural resource inventory was conducted to identify any previously recorded cultural resources within the Study Area. The results of the Class I inventory are summarized in **Section 2.5**, and the summary of what was sent to the State Historic Preservation Office (SHPO) is included as **Appendix D**.

2.3 FEDERAL, STATE, AND LOCAL AGENCY CONSULTATIONS

OE2 has sent out notification of the proposed Project to agencies on February 17, 2020. OE2 has requested that they respond with any questions or concerns by March 17, 2020. The following agencies received a letter notifying them of the Project and providing them with the Project Overview Map.

- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- Federal Aviation Administration
- North Dakota Game and Fish Department
- North Dakota Department of Agriculture
- North Dakota Parks and Recreation Department
- North Dakota Geological Survey
- North Dakota Department of Career and Technical Education
- North Dakota Energy Development Impact Office
- North Dakota State Historic Preservation Office
- North Dakota Indian Affairs Commission
- North Dakota Industrial Commission
- North Dakota Labor Department
- North Dakota Pipeline Authority
- North Dakota Department of Trust Lands

- North Dakota Department of Health
- North Dakota Department of Commerce
- North Dakota Department of Human Services
- North Dakota Department of Transportation
- North Dakota State Water Commission
- Job Service North Dakota
- North Dakota Attorney General
- North Dakota Office of the Governor
- Williams County Planning and Zoning Board of Commissioners

Copies of the Agency Correspondence are included in **Appendix E** of Application document. No responses have been received at the time of the filing of this application with the PSC.

2.3 ENVIRONMENTAL ANALYSIS

Resource assessments, both field and desktop, were performed based on the Commission's siting requirements. The Study Area is a 0.5-mile wide area centered on the Project Site.

OE2 performed the following resource assessments for the Project:

- A Class I Cultural Resource Inventory,
- A wetland and waterbody desktop evaluation, consultation and assessment for threatened and endangered species, and
- An on-site field assessment to supplement findings from the offsite wetland assessment. In concurrence with the on-site field visit, GMEC also completed an assessment of wildlife resources.

2.4.1 Natural Resources Inventory

2.4.1.1 Waters and Wetlands

Prior to conducting field surveys, GMEC conducted an offsite wetland and hydrology assessment using spatial layers from applicable state and federal agencies. Hydrologic watershed data was acquired from the U.S. Geological Survey (USGS) Watershed Boundary Dataset (WBD). Wetland data was obtained from the United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI; USFWS 2012b). Spatial data for rivers, streams, and tributaries were acquired from the USGS National Hydrologic Dataset (NHD). Soils data was acquired from the Natural Resources Conservation Service (NRCS) Wet Soils Survey (WSS; SSSNRCS- USDA 2020). NHD in combination with the WBD and NWI were overlaid with the Plant boundary and additional survey area in ArcGIS to assess potential areas of jurisdictional concern. However, as these datasets are based on aerial or satellite imagery and infrequently updated, they may not accurately represent resources on the ground. GMEC used the North Dakota NRCS's *State Guidance for Wetland Determinations Including State Offsite Methods* (NRCS 2017) and *Minnesota's USACE Guidance for Offsite Hydrology/Wetland Determinations* (USACE 2016) to delineate wetlands within these areas of concern. Imagery used for offsite assessments was acquired from the National Agriculture Imagery Program (NAIP) and representative of 2009-2010, 2012, and 2014-2019. WSS data was overlaid on these images to assess hydric soils. In areas where hydric soils were present, sample areas were delineated based on changes to vegetation

greenness or inundation during years of normal climatic conditions. GMEC calculated the climatic conditions for the 3 months prior to the month the imagery was taken for each year according to the procedure outlined in the NRCS *Hydrology Tools for Wetland Determination* (NRCS 1997) and using the NRCS WETS monthly precipitation data. GMEC determined wetland status of sample units by comparing hydric soils, whether the area had previously been classified as a wetland, and the percentage of images across years that had indicators of wetland hydrology (i.e. greener color tones in vegetation).

To supplement the offsite determination, GMEC conducted a field assessment on January 29, 2020. Due to the time of year and snow cover present, wetland delineation in accordance with the Great Plains Regional Supplement to the Corp of Engineers Wetland Delineation Manual protocols to assess jurisdictional boundaries (USACE 2010) and assessment of OHWM/bed and bank features were not possible in the field. However, GMEC biologists were able to identify major vegetation along the drainages and overall topography to assist in offsite assessments.

During the initial desktop analysis, NWI-designated wetlands were identified within the northern half of the parcel boundary (Lot 3 and NESE, Section 27, T154N-R104W). These wetlands are classified as intermittent riverine wetlands and are associated with an intermittent tributary of Little Muddy Creek. The proposed Plant footprint does not overlap these mapped NWI wetlands. Additionally, one NWI wetland extends into the additional survey area to the south (NWNW Section 35, T154N-R104W). No NWI or NHD mapped data was present within the southern portion of the Plant parcel boundary; however, two distinct channels running south to north are visible on aerial imagery (see Figure B-4 in **Appendix B**). These channels will be referred to throughout as the western drainage and the eastern drainage (as labeled on Figure B-4 in **Appendix B**). Although these drainages are not identified within the NHD or NWI datasets, spatial data shows evidence of a high water table and potential water pooling.

Analysis of antecedent precipitation for each year of NAIP imagery showed 6 years of normal climatic conditions, 2 years that were wetter than normal, and 1 year that was drier than normal. According to WSS data, hydric soils were not present within the corresponding Map Unit for the western drainage within the southern portion of the parcel boundary. The ground assessment of the drainage in question indicated steep slopes were present along the extent of the reach and would likely not allow for significant water accumulation and associated wetland formation before draining directly into the intermittent drainage downstream. Additionally, the majority of vegetation present within the drainage was woody upland vegetation visible above the snow cover, a strong indication that no wetlands were associated with this drainage. As such, an offsite wetland was not conducted for the western most drainage of concern.

WSS data identified the Map Unit encompassing the eastern drainage as having potential for hydric soils. GMEC identified 16 sampling units using wetland indicators on aerial imagery during years of normal. During initial analysis, four units were determined not to be wetlands, as they showed indications of wet signatures in less than half of the images from “normal” years (Sampling Units 12 and 14-16; see table included in full report in **Appendix C**). Ground surveys indicated that the wet signatures in 11 units were an artefact of patches of western snowberry (*Symphoricarpos occidentalis*; an upland shrub) producing deep color tone differences in the imagery (Sampling Units 1-11; see table included in full report in **Appendix C**). Based on the

vegetation that was identified during the onsite field assessment, it is likely that western snowberry and other upland plants comprise the majority of the vegetative cover within this eastern drainage (see the report included in **Appendix C**), eliminating the potential for classification as wetland sites. However, at one of these sites (Sampling Unit 9), the snowberry was located on the edge of a potential depression with facultative vegetation (*Rosa spp.*, *Deschampsia caespitosa*) present. One other site lacked western snowberry but still showed indicators of wet signatures in greater than 80 percent of the imagery from “normal” years (Sampling Unit 13). The same facultative plants were identified in this sampling unit, suggesting some level of water tolerance. Due to snow cover and frozen ground conditions, GMEC biologists were unable to dig soil pits to assess the presence of hydric soils at this site. Based on this analysis, 14 sampling units have been classified as not a wetland and two units (Sampling Units 9 and 13) have been classified as “unknown” features due to the presence of facultative vegetation. However, a complete inventory of vegetation and analysis of hydric soils and hydrology indicators during the growing season may verify that these areas are not wetlands.

2.4.1.2 Threatened and Endangered Species

GMEC used the USFWS’s Information for Planning and Consultation (IPaC) to assess potential impacts to threatened and endangered (T&E) species within the Project Area. IPaC identifies any designated critical habitat within the area as well as any species potentially affected based on the location of their historical ranges and Areas of Influence (AOI). If a species is identified as potentially affected but no critical habitat is present, it does not necessarily imply suitable habitats associated with that species are present within the Project Area. The IPaC pulled for this Project lists six species as potentially affected by activities within the Project Area: Northern long-eared bat (*Myotis septentrionalis*), Least Tern (*Sterna antillarum*), Piping Plover (*Charadrius melodus*), Red Knot (*Calidris canutus rufa*), Whooping Crane (*Grus americana*), and Pallid sturgeon (*Scaphirhynchus albus*).

The Northern long-eared bat is primarily associated with mature forests with large decaying or partially dead trees during the breeding season and caves or mines during winter hibernation. The Least Tern nests near water, using primarily riverine sandbars or salt flats from low tide during the breeding season in the interior U.S. The majority of Piping Plovers in the Great Plains use shorelines along small, alkaline lakes. Suitable habitat includes large beaches with highly clumped vegetation that provides low overall cover. Red Knots require elevated ridges and slopes near wetlands and lakes where food is abundant during the breeding season and winter in coastal areas, such as tidal flats, estuaries, or bays. Pallid sturgeon are large river obligates that require year-round water flows. Whooping Cranes nest in dense emergent vegetation around shallow ponds, wet prairies, or freshwater marshes. During spring and fall migration, the Aransas/Wood Buffalo population of Whooping Cranes use marshes, salt flats, lagoons, barrier islands, palustrine wetlands as well as stubble/grain fields and cropland adjacent to or near wetland features. During the wetland survey conducted January 29, 2020, GMEC biologists assessed potential suitable habitat for relevant T&E species within the Project Area.

No currently defined critical habitats are located within the Plant Project Area and no birds of conservation concern are expected. Further, no suitable habitats for Northern long-eared bat, Least Tern, Piping Plover, Red Knot, or Pallid sturgeon were identified within the Project Area.

The Project is currently located within the area in which 85 percent of migratory sightings of Whooping Crane are recorded for the Aransas/Wood Buffalo population; however, the Plant Project Area is located outside of the central flyway and in an area where no e-bird sightings of Whooping Cranes have been reported during migration. While the adjacent parcels of interest located within sections 34 and 35 T154N-R104W currently encompass cropland, no critical stopover habitats are designated nearby. Field surveys indicated that small wetlands may be present in the northern portion of the parcel boundary, within 1 kilometer (km) of the cropland. However, the use of the Plant Project Area by Whooping Cranes as a stopover during migration is unlikely. Therefore, it is assumed that the Project would have no effect on T&E species.

2.4.1.3 Soils

Four different soil types are present within the Project Site (USDA 2019). According to the NRCS, the soil composition of the site is as follows:

- Vida-Zahill loams (2 to 8 percent slopes) cover approximately 51 percent of the property
- Zahill loam (15 to 60 percent slopes) covers approximately 30 percent of the property
- Williams-Bowbells loams (3 to 6 percent slopes) cover approximately 17 percent of the property
- Zahill-Vida loams (4 to 15 percent slopes) cover the remaining property area

Each of the loams are characterized as a fine-loamy till, made up dominantly of nonhydic soils, and well-drained. Each of the soils are somewhat susceptible to water erosion and not susceptible to flooding or wind erosion.

Furthermore, the Williams-Bowbells loams soil is classified as a farmland of statewide importance. According to the United States Department of Agriculture (USDA), farmland of statewide importance is generally characterized as an area that nearly meets the criteria for prime farmland and that economically produce high yields of crops when treated and managed with acceptable farming methods (USDA 2002). Some areas may produce as high a yield as prime farmland if conditions are favorable. The criteria used in defining and delineating these areas are determined by appropriate state and federal agencies.

2.4.2 Cultural Resources Inventory

OE2 engaged GMEC to conduct a Class I file search at the State Historical Society of North Dakota (SHSND) on January 27, 2020 for Sections 27, 34, and 35 Township 154 North Range 104 West. Because this was a preliminary Class I, the proposed project is characterized as a Fee action.

The records search through the SHSND revealed there are no previously recorded sites or isolated resources within the Project Area. Further, there have been no previous inventories conducted within the Project Area boundaries. However, five previous inventories have occurred within a 1-mile indirect Area of Potential Effect (APE) where eight sites and one isolated resource were identified. There are no cultural heritage sites listed on the National Register of Historic Places (NRHP) and no historic Districts within the Study Area or the 1-mile indirect APE.

A review of the Federal Land Patent Records for Sections 27 and 34 indicate seven patents were issued between 1910 and 1926 (US DOI BLM 2019). The patents during this time are generally

ranching and grazing allotments. All seven patents were issued under either the 1880 Indian Trust Patent or the 1865 Indian Fee Patent. This suggests the area has been under private ownership through the 19th and 20th centuries with low to moderate settlement in the general area. A preliminary online search of the patent holder names revealed none of the names listed on the Federal Land Patent records are connected to or associated with events that have made a significant contribution to the broad patterns of history or are associated with the lives of persons significant in the past (Criterion A or B of the NRHP).

The Project Area is within the Missouri River Drainage system and the Garrison Study Unit (GSU). This study unit has produced diagnostic artifacts dating to Clovis times roughly 13,000 bp. The natural setting of rivers, tributary stream valleys, and upland grasslands offered reliable big game and vegetative resources for hunting and gathering peoples. As of 2015, there is one site recorded for every 1.9 square miles in the GSU, ranking second in site density in North Dakota. Typical sites identified in the GSU include stone circles, cairns, and rock features which account for over half of the archaeological sites recorded.

Information that was sent to the SHPO summarizing the Class I records review is included as **Appendix D**. Additionally, and Unanticipated Discovery Plan that OE2 will follow when constructing the Project is included as **Appendix F**.

3.0 NEED FOR FACILITY

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

Based on historical production data from the North Dakota Oil and Gas Division, state-wide flaring has increased over 8 times from November of 2009 to November of 2019, as the pace of horizontal drilling and production has out-paced the ability of midstream companies such as OE2 to effectively bring wellhead gas to market. This Project will drastically improve the ability of OE2's upstream customers to economically continue oil and gas production in the Williams County and surrounding areas of the state, while maximizing stewardship of the environment and the state's mineral reserves through reduced wellhead flaring.

3.2 DESCRIPTION OF FEASIBLE ALTERNATIVE METHODS OF SERVING THE NEED

Gas processing through cryogenic processes is a well-known and common method of segregating the rich wellhead natural gas of North Dakota into marketable products. Oil and gas exploration and production has outpaced midstream development in gathering and processing, which has resulted in wellhead flaring across the state. More gathering and processing systems such as the proposed project are required to serve the need of producers across the state.

Siting gathering and processing systems requires striking a balance between different and sometimes conflicting criteria. The content throughout this application aims to address the merits and detriments of the OE2 Project Site with analysis and data supporting why it is the best suited location for this facility. OE2 evaluated multiple sites within North Dakota and Montana before deciding to move forward on this Site. The primary geographic location evaluation criteria centered around proximity to the following (this is not intended to be an exhaustive list, nor is it in a specific order):

- Customers' production
- Product market outlets
- Pipeline takeaway capacity
- Federal, state and local regulatory requirements
- Environmental considerations (ie: topography, soils, hydrology, wildlife, cultural)
- Sparsely populated area with willing stakeholders and appropriate setbacks
- Utility access
- Road access
- Cost feasibility

Ultimately the need to be near customers' production in Williams County and to access specific pipeline outlets for product takeaway drove the decision to locate within Williams County, North Dakota or Roosevelt County, Montana. If locating in Williams County, ND, the county land use regulations require a rezone to Heavy Industrial and a Conditional Use Permit, both of which have strict criteria and a lengthy process to obtain approval. Both of those processes, along with multiple other county and local approvals, are currently underway for this Site. This Site is in the only area in North Dakota which maintains proximity to OE2 customers and outlets yet would be eligible for a rezone and conditional use permit based on Williams County criteria. Other sites

evaluated that could meet the county land use criteria are too close to residences and too far from the customers or product outlets. The land OE2 purchased for this Site not only fits the commercial need and county land use criteria but is also in a remote area with property owners in support of the Project. The Site provides the opportunity to utilize existing ridgelines and other topography to limit impacts to surrounding farms' viewshed and mitigate any concerns regarding noise or lighting. The Project use is consistent with other industrial uses surrounding the Site including a landfill, electric transmission, transmission pipeline corridors, communications towers, and oil and gas production facilities. OE2 has ensured good road and utility access through coordination with surrounding landowners, tenant farmers, township boards, county officials, and local utilities.

4.0 ENERGY CONVERSION FACILITY SITING CRITERIA

The information presented in this section demonstrates conformance with the PSC’s siting criteria for Energy Conversion Facilities, as promulgated in N.D.A.C. § 69-06-08-01.

4.1 STUDY AREA

OE2’s Study Area includes a 0.5-mile buffer surrounding the approximately 39-acre Plant Site, as shown on the Figures included in **Appendix B**. OE2 initiated agency correspondence, geographic information system (GIS) mapping, internet-based research, and a desktop analysis when conducting the resource inventory of the Study Area. These efforts were augmented by a natural resources survey of the Site. See Section 2 for additional information regarding the environmental analysis performed for the Project Site.

4.2 IDENTIFY AND MAP CRITERIA

OE2 has conducted a thorough inventory of the Study Area and evaluated the resources that occur within the Site and Study Area to assess the compatibility of the Plant with the state’s Siting Criteria. The following sections identify and discuss the presence or absence of siting criteria within the Site or Study Area.

4.3 EXCLUSION AREA INVENTORY AND ANALYSIS

Exclusion areas are geographic areas that should be excluded from consideration when siting an Energy Conversion Facility, as specified in N.D.A.C. § 69-06-08-01(1). Table 1 and the following sections identify and discuss exclusion areas within the Study Area or Site.

Table 1 – Exclusion Areas

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

Exclusion Area	Within Project Site	Within Study Area
Other		
Parks or Public Lands Held by Other Government Entities	No	No
Prime Farmland	No	No
Irrigated Farmland	No	No
Critical Habitat for Protected Species	No	No
Areas within 1,200 feet of ICBM Facilities or 30' of ICBM Lines	No	No

4.3.1 Federal Exclusion Areas

Based on a review of publicly available information, OE2 has concluded that no national parks, memorial parks, historic sites and landmarks, monuments, or wilderness areas are within the Site or Study Area. OE2 provided Project notification to the appropriate federal agencies to offer the opportunity to review and confirm this conclusion, as discussed in Section 2.3.

4.3.2 State Exclusion Areas

Based on a review of field surveys, publicly available information, and agency correspondence, OE2 has concluded that no state parks, historic sites, monuments, historical markers, archaeological sites, or nature preserves are within the Site or the Study Area.

4.3.3 County Exclusion Areas

Based on a review of publicly available information, OE2 has concluded that no Williams County parks, recreation areas, municipal parks, or parks owned by other governmental bodies are within the Site or Study Area. OE2 provided Project notification to various agencies to offer the opportunity to review and confirm this conclusion, as discussed in Section 2.3.

4.3.4 Prime Farmland

OE2 conducted a review of published data to assess both the Site and Study Area for the presence of Prime Farmland. OE2 confirmed that no Prime Farmland is present on the Site.

This analysis also evaluated Farmland of Statewide Importance. Generally, Farmland of Statewide Importance includes areas considered nearly Prime Farmland and has the potential to produce economically high yields of crops when treated and managed according to acceptable farming methods. This analysis concluded that approximately 17 percent (6.63 acres) of the Site is comprised of Farmland of Statewide Importance, however most of the soil classes on the site have severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing. Current use of the Site is as seasonal cattle grazing pasture. Grazing on the surrounding acreage will be able to continue while OE2 site is under construction as well as after it is operational.

North Dakota has an estimated 9,761,025 acres of Prime Farmland and an estimated 10,063,663 acres of Farmland of Statewide Importance. As such, the acreages within the Project Site represent approximately 0.0 percent and 0.000074 percent of the total Farmland of Statewide Importance in North Dakota. Thus, the proposed development of the Site will have a negligible

impact on Prime Farmland or Farmland of Statewide Importance when assessed on a state-wide basis.

4.3.5 Irrigated Farmland

OE2’s investigation found no evidence of irrigation within the Site or Study Area. Construction activity will not impact irrigated lands. Land that is most efficient for irrigation is relatively level and has soils that are well drained and highly permeable. The combination of topographic relief and soil characteristics at the Site indicate that the Site and surrounding areas are not suitable for irrigation. The Study Area is comprised of non-irrigated cultivated lands and grazing pasture. Current use of the Site is as seasonal cattle grazing pasture. The Site soils’ Irrigated Capability Class range from 3-7 indicating severe limitations that reduce the choice of plants or that may be unsuitable for cultivation and restrict their use mainly to grazing.

4.3.6 Protected Species Resources

Based on field surveys of the Site by qualified biologists and review of published information, no areas critical to the life stages of threatened or endangered animal or plant species are within the Site or Study Area. In addition to field studies, OE2 has provided Project notification to federal and state agencies to offer the opportunity to review and confirm this conclusion. See Section 2.3 for a comprehensive discussion of OE2’s efforts.

4.3.7 Critical Habitat for Protected Species

OE2 has confirmed the absence of critical habitat within the Site or Study Area. See Section 2.3 for a comprehensive discussion of OE2’s efforts.

4.3.8 Areas in Proximity to ICBM Facilities

OE2 has confirmed that there are no Intercontinental Ballistic Missiles (ICBM) facilities located within 1,200 feet of the Site.

4.4 AVOIDANCE AREAS INVENTORY AND ANALYSIS

Avoidance areas are geographic areas that may not be approved as a site for an energy conversion facility unless the applicant shows that under the circumstances there is no reasonable alternative, as specified in N.D.A.C. § 69-06-08-01(3). Table 2 and the following sections identify and discuss avoidance areas within the Study Area or Site and no direct lines between ICBM launch or launch control facilities exist within the Site.

Table 2 – Avoidance Areas

Avoidance Area	Within Project Site	Within Study Area
Other Historical Resources Not Meeting Exclusion Area Criteria	No	No
Areas within City Limits or Military Installation Boundaries	No	No
Areas within Known 100-year Floodplain	No	No
Areas of Known Geologic Instability	No	No
Woodlands or Wetlands	No	Yes
Areas of Recreational Significance Not Categorized as Exclusion Areas	No	No

4.4.1 Other Historical Resources Not Meeting Exclusion Area Criteria

OE2 commissioned a Class I study of the Site and Study Area and has determined that the Site contains no registered sites and has not been previously field surveyed for cultural resources.

4.4.2 Areas Within City Limits or Military Installation Boundaries

OE2 has confirmed, based on publicly available information, that the Site and Study Area are not located within city limits or within the boundaries of military installations.

4.4.3 Areas Within Known 100-Year Floodplains

Flood hazards are benchmarked with Federal Emergency Management Administration's (FEMA) 100-year floodplain analysis. There is no FEMA floodplain mapping for Williams County, therefore OE2 has determined that the Site and Study Area are not located within the 100-year or 500-year floodplain.

4.4.4 Areas of Known Geologic Instability

No known areas of geologic instability are within the Site or Study Area. North Dakota has not experienced an earthquake of sufficient magnitude to damage welded steel piping or structural steel in recorded history. Sinkholes are known to occur in North Dakota but are more closely related to mining activities and no evidence of mining or sinkholes was identified. A desktop analysis indicated that no landslide deposits are located in the Site or Study Area (Carlson 1985). See Figure B-5, **Appendix B** for the Surficial Geology of the Project Area.

4.4.5 Woodlands and Wetlands

Natural resource studies of the Study Area and Site used GIS analytical capabilities. Field studies of the Site were also used to enhance assessment of the physical characteristics of the Site. A field survey of the entire Site was completed on January 29, 2020, to assess the presence or absence of these features within the boundaries of the Site. Site conditions were not suitable for surveys as there was 100 percent snow coverage present. The Site was evaluated for the presence of trees, saplings, or shrubs. No woody vegetation was identified on the Site, and woody vegetation in the surrounding Study Area is sparse and limited to woody draws and ravines associated with drainage ways.

There is an NHD mapped intermittent stream within the Study Area to the north of the proposed Site in Section 27 that also contain mapped NWI wetlands. The proposed Project Site does not overlap these mapped features. Additionally, there are two drainages (the western drainage and the eastern drainage) that were identified within the Site and Study Area that are not mapped by NHD or NWI that were evaluated in the offsite and onsite field survey.

4.4.6 Areas of Recreational Significance Not Categorized as Exclusion Areas

No areas of recreational significance not categorized as exclusion areas occur within the Site or Study Area.

4.5 FACTORS TO BE CONSIDERED IN EVALUATING APPLICATIONS AND DESIGNATIONS OF SITES, CORRIDORS, AND ROUTES (N.D.C.C § 49.22.1-09)

4.5.1 Selection Criteria (N.D.A.C. § 69-06-08-01(5))

The selection criteria require a study of environmental impacts and changes in land use that may result from the siting of the proposed facility. A site may be approved in an area only when it is demonstrated to the Commission by the applicant that any significant adverse effects resulting from the location, construction, and operation of the facility in that area as they relate to the following, will be at an acceptable minimum, or that those effects will be managed and maintained at an acceptable minimum. OE2 has successfully avoided or minimized these effects to the maximum extent practicable, which in all cases is at or below an acceptable minimum. The results of this effort are presented below.

4.5.1.1 Agricultural Impact Assessment

Agricultural Production: Land for the Plant will be temporarily removed from agricultural production until the Plant is no longer needed, is decommissioned, and the land is reclaimed. No other impact to agricultural lands is anticipated. Current use of the Site is as seasonal cattle grazing pasture. Grazing on the surrounding acreage will be able to continue while OE2 site is under construction as well as after it is operational. OE2 has coordinated with the family that farms and grazes the areas surrounding the Site to ensure all agricultural activities are able to continue without interruption.

Family Farms and Ranches: The property was acquired through a fee purchase that will allow the previous owner to allocate additional capital and time to more productive agricultural lands than the Site. The Site will be converted from agricultural/rangeland to industrial use. No other impacts to family farms or ranches are anticipated, and OE2 is in communication with surrounding landowners and farming/ranching lessees to ensure that.

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

Surface Drainage: The Site is within the Lower Little Muddy Creek (HUC-12 [100600050704]) subwatershed of the Missouri-Poplar basin. Aerial images show two distinct channels running south to north (labeled as the western drainage and the eastern drainage on project mapping) located within the Study Area and Site. These drainages are not NHD mapped but have been evaluated and incorporated into a grading and drainage layout designed to avoid negative impacts on drainage patterns.

Ground Water Flow: The Site is located within the Northwest Rural Water District and Western Area Water Supply. Water demands during and after construction are anticipated to be minimal and purchased commercially.

Agricultural Quality of the Cropland: A portion of the land acquired for the Plant will be temporarily removed from current use as seasonal grazing pasture. No other impact to agricultural

lands is anticipated. The National Commodity Crop Productivity Index ratings for the Site indicate the combination of soil, site, and climate are unfavorable for crop production at this location.

4.5.1.2 Impact on the Availability and Adequacy of Local Public Services

The potential impacts to local public services including law enforcement, fire department, health care, public schools, and recreational facilities are anticipated to be temporary in duration and minimal in their overall effect to existing programs and systems. Construction activities are anticipated to occur over an 8-month period. During this period, there will be an influx of employees ranging from laborers, skilled tradespeople, technicians, and engineering and environmental professionals. The work force will typically engage 80 individuals, with periods of peak activity where the work force will increase to levels of up to 260 individuals for a period of up to 2 months.

Area resources may experience increased demand on services with the addition of construction workers temporarily residing in the area. Provided timely receipt of authorizations to construct, the peak demands will occur in 2020. The most noticeable impact may be due to an increase in vehicle traffic associated with the Plant construction activities. OE2 is currently working with surrounding landowners, tenant farmers, the County, and the Township to ensure that a temporary traffic increase does not result in negative impacts to the road infrastructure or the surrounding farms. Prior to construction, OE2 will coordinate with local health care providers and emergency responders to discuss emergency response coordination. Additionally, OE2 has included a copy of their Emergency Action Plan (EAP) for the Plant as **Appendix G** to this Application document.

4.5.1.3 Potential Impacts

Local Institutions: Due to its proximity to the Site, Williston, North Dakota, may see the greatest impact from the Project. These impacts from facility construction will be temporary, as construction will occur over a period of approximately 8 months. To operate the Plant, OE2 will hire 12 new full-time employees. Plant operations will engage local businesses and contractors to support the facility. Generally, the impacts will be beneficial to the local economy due to the addition of revenues from outside of the community being spent on goods and services locally. The beneficial impacts of the additional workforce associated with permanent workforce required to operate the facility will have long-term benefits on the economy that are anticipated to be greater than the demands placed on the institutions.

Noise-Sensitive and Light-Sensitive Land Uses: No noise-sensitive or light-sensitive resources, including residences, schools, hospitals, or care facilities are located within 500 feet of the Site. The Project has been sited approximately 15 miles west of Williston in a rural setting adjacent to existing industrial and oil & gas uses, effectively isolating the Project from the majority of sensitive receptors. Local residents may experience additional motor vehicle volumes on area roadways, but the noise associated with vehicles will be similar to existing background levels and will occur largely during normal business hours.

Rural Residences and Businesses: The Project is located approximately 15 miles from Williston. The nearest rural residence is approximately 1.2 miles northeast of the Site and the nearest business (a landfill) is 8 miles Northeast of the Site. OE2 plans to utilize existing

topography and grading design to minimize the visibility of the site from the nearest residences. Residents may experience additional traffic and an increase in commerce in response to the influx of temporary workers purchasing goods and services. OE2 is currently working with surrounding landowners, tenant farmers, the County, and the Township to ensure that a temporary traffic increase does not result in negative impacts to the road infrastructure or the surrounding farms. The nearby oil & gas wells and the Landfill, which specializes in oil field waste disposal, could directly benefit from the Plant location. The Plant will likely benefit the local economy for both the near and long term.

Aquifers: The sedimentary rocks that contain aquifers which underlay Williams County are divided into the rocks of pre-Cretaceous age, Dakota Group of Cretaceous Age, Fox Hills and Hell Creek Group of Cretaceous Age, Fort Union Group of Tertiary age, and the glacial drift of Quarternary age. The glacial drift of Quarternary age contain the only aquifers that are presently of economic importance and are suitable for domestic, livestock, municipal, industrial, and irrigation uses. These glacial drift aquifers with available groundwater consist of the Little Muddy, Ray, Grenora, Wildrose, West Wildrose, Trenton, and Hoffland aquifers which range from 0 – 225 feet below land surface. The proposed Project is not located within any of these groundwater resource areas. The nearest surficial aquifer is the Trenton Aquifer located approximately 9 miles to the south/southwest of the Site (North Dakota State Water Commission MapService 2020).

Human Health and Safety: OE2 promotes a safe and healthy workplace during construction and operations of all its assets. A corporate policy that meets or exceeds federal and state laws, rules, and regulations is enforced and adhered to by all employees and contractors. OE2 governs operations and construction activities with safe work procedures designed to protect property, persons, and the environment while maintaining regulatory compliance. Safety inspectors will be onsite throughout active construction and an OE2 employee will oversee safety upon operation of the Project.

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

Plant Life: The Project will result in the loss of a negligible amount of pastureland comprised of native grasses, when measured on a county- or state-wide basis. No species of special concern will be impacted by the Project.

Temporary and Permanent Housing: The region has experienced increased demand for permanent and temporary housing as the result of the continued expansion of resource production. The area has witnessed this increased activity since the early 2000s and as a result has steadily increased lodging resources in response. The temporary workforce often mobilizes with trailers and fifth wheels in addition to some requiring rental properties and hotel/motel lodging. OE2 already has existing relationships and availability with Williston hotels and camps. All employees and contractors are well aware of the situation and willing to accept non-traditional lodging opportunities if necessary.

Temporary and Permanent Skilled and Unskilled Labor: Construction of the Plant will require an average work force of approximately 80 with a maximum expected of 260 temporary

employees. The construction employees will be comprised of both skilled and unskilled personnel. Skilled labor will include craft workers such as operating engineers, iron workers, welders, electricians, carpenters, and boilermakers. The unskilled workforce will be comprised of common laborers who work closely with the skilled trades.

Once the Plant is operational, it will require approximately 12 full-time employees. These personnel will be responsible for day-to-day operations and maintenance of the Plant.

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

The site is located adjacent to an existing industrial zoned use along Highway 2 currently being utilized as a landfill which specializes in oil field waste processing and disposal. Several oil & gas production facilities exist within the Study Area in all directions. OE2 is not involved in any of those adjacent uses and is unaware of any planned expansions but is coordinating with the owners of those facilities to ensure their road access or future plans are not impeded by Plant construction. OE2 will have two pipelines under 5 miles in length associated with this Plant which will file separate applications to the PSC as applicable. Both of those pipelines utilize existing corridors and will parallel existing infrastructure. OE2 is also coordinating with Lower Yellowstone Rural Electric Cooperative for the build-out of utility electric power for the facility, including a substation located on the Site and 2 miles of associated powerline that will utilize existing corridors and parallel existing infrastructure as well.

4.6 POLICY CRITERIA

4.6.1 Policies and Commitments to Limit Environmental Impact

OE2 recognizes its responsibility to environmental stewardship and strives for excellence in environmental performance. OE2 is committed to strict compliance with all governmental regulations, applicable industry standards and corporate policies related to the environment. OE2's commitment to environmental stewardship includes:

- Training on environmental regulation, control, and best management practices for employees.
- Implementation of robust mechanical integrity measures to ensure equipment is well maintained.
- Emissions tracking measures to verify compliance.
- Unique engineering solutions to minimize or eliminate emissions from operating equipment.
- Regular leak detection surveys.
- Review of contractor practices ensuring compliance with OE2 standards.
- Relationships with response contractors in order to respond quickly to any release from an OE2 system.

OE2 determines, evaluates and mitigates the environmental impacts of its business during project planning, implementation, operation and decommissioning. OE2 is dedicated to preserving the environment in which it operates and maintaining its reputation as a good neighbor and a valued asset to the communities in which it conducts business and in which its employees live and work.

4.6.2 Recycling of the Conversion Byproducts and Effluents

Byproducts from the conversion process include heat, air emissions, and wastewater. Heat, where possible, will be used through heat integration through the facility to minimize the use of utility fuel gas, and has been thoroughly considered in the process design for the facility. OE2 routinely employs hot-cold process exchangers in the stabilization and cryogenic portions of the plant to minimize utility use.

Air emissions will be mitigated as such to comply with all applicable state and federal air permitting requirements. An air permit application has been filed with the North Dakota Department of Environmental Quality (NDDEQ) for a true-minor source permit. Emissions will be tracked on a weekly or monthly basis as required to ensure permit compliance.

Wastewater from the facility will be stored in lined steel-tanks, prior to transfer to nearby saltwater disposal (SWD) injection facilities. OE2 expects to produce no more than 50 barrels (BBL) of wastewater per day.

4.6.3 Energy Conservation Through Location, Process, and Design

The process utilizes well-known thermodynamic properties of the wellhead gas to cool and process raw, untreated gas into sellable products. The RSV process will be self-contained within the Plant location. All products will be sold from that location.

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

OE2 intends to hire 12 full-time employees for operation of the Plant. OE2 intends to use a mix of employees with previous operational experience and those with no previous midstream experience. If no experience is obtained, OE2 intends to hire students from Bismarck State College with a 2-year petroleum technologies degree, or a similar level of education.

All operators will be trained through a blend of external and internal training programs in order to meet Occupational Safety and Health Administration (OSHA) Process Safety Management programs and internal requirements. Operators will work under the direction of a local Plant Manager and Plant Foreman.

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

The primary objective of the Plant will be to convert un-marketable raw wellhead gas into marketable products, for export out of the facility and for use in other residential and commercial areas. The Plant will burn some utility fuel gas, as processed by the Plant, for the purposes of compression of the gas up to transmission pressures.

4.6.6 Non-Relocation of Residents

No residences shall be displaced or require relocation due to the Project. The nearest residence is 1.2 miles away. Residence locations and their viewsheds were considered prior to selecting the site and OE2 consulted with nearby landowners in advance of its decision to purchase the property for the Site.

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

Of the 143 acres OE2 owns, 39 acres for the Plant will be temporarily removed from agricultural production until the plant is no longer needed, is decommissioned, and the land is reclaimed. The remaining 104 acres of the land adjacent to the Plant will be utilized as cattle grazing pasture. Grazing on the surrounding acreage will be able to continue while OE2 site is under construction as well as while it is operational. OE2 has coordinated with the family that farms and grazes the areas surrounding the Site to ensure all agricultural activities are able to continue without interruption.

4.6.8 Economies of Construction and Operation

OE2's Plant will allow XTO and other customers to get their gaseous wellhead products to market. The Plant will also help reduce flaring in the state.

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

There are no appropriate associated facilities suitable for recreation or enhancement of wildlife.

4.6.10 Use of Citizen Coordinating Committees

Outrigger has engaged potential stakeholders individually as well as through organized channels including but not limited to the Round Prairie Township board, the City of Williston, the Williams County Planning and Zoning Committee, the Williams County Water Board, and the Williams County Commissioners. Additional outreach by OE2 to solicit feedback and support local coordination is planned for the duration of the Project.

4.6.11 A Commitment of a Portion of the Energy Produced for Use in this State

A portion of the product gas will be utilized for compression and heating at the plant. The balance of the products will be sold to transmission pipelines, with interconnectivity to local natural gas distribution lines, refineries, and fractionation facilities. Local demand for propane, natural gasoline, and natural gas are all expected to be supplied through the Plant. Excess products not demanded locally will be exported from the state by third-party interstate transmission pipelines.

4.6.12 Labor Relations

OE2 does not anticipate encountering any adverse labor relations on this Project. The labor market in the Study Area is supportive of the oil and gas industry.

4.6.13 Coordination of Facilities

OE2 is coordinating with the owners of surrounding facilities to ensure their road access or future plans are not impeded by Plant construction. OE2 will have two pipelines associated with this Plant which will utilize existing corridors and will parallel existing infrastructure. OE2 is also coordinating with Lower Yellowstone Rural Electric Cooperative for the build-out of utility electric power for the facility, including a substation located on the OE2 Site, and 2 miles of associated powerline that will utilize existing corridors and parallel existing infrastructure as well. OE2 works closely with the pipeline operators it delivers products into and the customers it processes gas for

to ensure all parties are aligned and coordinating for the responsible development of those resources.

4.6.14 Monitoring of Impacts

OE2 will retain inspection oversight either directly or through a third party to ensure compliance with all applicable rules, regulations, and permit/certificate conditions. Inspection services will be retained throughout the Project construction and ultimately transition to operation staff, inclusive of environmental responsibilities.

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

OE2 has solicited engagement with all applicable stakeholders including federal, state, and local authorities who have various forms of oversight authority. To date, no responses have been received from the 23 agencies contacted; OE2 does not anticipate any significant impacts associated with the proposed Project (see **Section 2.3** and **Appendix E**).

OE2 will remain responsive to agency input throughout construction, restoration, and operation of the Project.

5.0 MITIGATION MEASURES

OE2's commitment to minimize environmental impacts is a key mitigation element. As described previously, OE2's design took into consideration various elements to maximize efficiencies while minimizing impacts to the environment. This combination of actions effectively mitigates the impacts of the Plant.

OE2 in design has sought to minimize health and safety impacts for the public as well, hence the rural setting and proposed summer and fall construction months. OE2 will strive to minimize construction duration and associated impacts to surrounding areas. OE2 also routinely engages with local stakeholders and surrounding property owners to ensure OE2 maintains its status as a good neighbor in the community, while also meeting or exceeding all local, state, and federal environmental, health and safety requirements.

6.0 LIST OF PREPARERS

Andrew Perdue, OE2 – Director of Operations and Engineering

Mr. Perdue has 10 years' experience in all aspects of oil and gas midstream development, including facility siting, environmental permitting, engineering, construction, commissioning, and operations. This experience includes the front-end development, construction, and safe commissioning and operation of (4) gas processing facilities while employed at OE2. Mr. Perdue is a trained OSHA PSM facilitator and has served as the lead engineer and project manager for hundreds of miles of pipeline projects, has installed over 20,000 horsepower (hp) of compression, and has managed the construction and operation of over 150 MMscfd of processing capacity.

Education

M.S. Chemical Engineering, Colorado School of Mines, 2011

B.S. Chemical Engineering, Colorado School of Mines, 2010

Nanette Elzinga, PE, Kleinfelder – Project Manager III

Ms. Elzinga has more than 31 years of experience in environmental permitting and review of pipeline and transmission projects, National Environmental Policy Act (NEPA) documentation, environmental construction services, and remediation. Ms. Elzinga's pipeline experience includes compiling Federal Energy Regulatory Commission (FERC) Resource Reports, preparing Environmental Assessments (EA) and Environmental Impact Statements (EIS), preparing Spill Prevention, Control, and Countermeasure (SPCC) Plans, Facility Response Plans, and Emergency Response plans, as well as environmental compliance activities.

Education

B.S. Mechanical Engineering, Bucknell University, 1988

Registration

Registered Professional Engineer: CO, WY, UT, AZ, NM, TX, MN

Annie Daniel, Kleinfelder – Project Professional

Ms. Daniel has 12 years' experience in environmental studies and environmental project permitting and coordination. This experience includes FERC pipeline and facility permitting, NEPA coordination and support, and environmental planning and permitting for energy projects. She specializes in federal, state, and local permitting for projects as well as coordination and communication with agencies on behalf of clients.

Education

M.S. Environmental Policy and Management, University of Denver, 2013

B.A. English, Colorado State University, 2008

Katie Taylor, GMEC – Lead Wildlife Biologist

Ms. Taylor has 9 years of experience working in the wildlife field. Her direct work experience includes applied field work and research for universities, private industry, and federal and state agencies. Ms. Taylor has worked on research projects involving raptors, grouse species, songbirds, wolves, and various species of ungulates throughout the continental U.S. More specifically, she has 5 years of experience conducting surveys in accordance with BLM wildlife survey protocols for nesting raptors, sage-grouse and sharp-tailed grouse leks, mountain plover, and other sensitive species in Wyoming. In addition, Ms. Taylor has experience in wildlife data management and GIS support for the Bureau of Land Management – Buffalo Field Office. Ms. Taylor has also completed wetland delineation training and has experience with wetland determinations and working with the USACE for hydrology determinations.

Education

M.S. Rangeland Ecology, University of Wyoming, 2014

B.S. Biology, Seattle Pacific University, 2009

Kirstie Lawson, GMEC – Wildlife Biologist

Ms. Lawson has over 6 years of experience working in the wildlife field. With a focus on grouse research, Ms. Lawson’s background also includes conducting research and surveys for mesocarnivores, songbirds, and raptors in the U.S. and Canada. Her previous work has required interacting with various stakeholders, including private landowners, government agencies, and industry.

Education

M.S. Biology, University of British Columbia Okanagan, 2018

B.S. Wildlife Biology, University of Montana, 2012

Gregory Shedd, GMEC – Biologist

Mr. Shedd has over 15 years of combined experience in the wildlife field. His primary experience is private consulting in Wyoming and surrounding states performing surveys, monitoring and applied research for various stakeholders including private landowners, government agencies, and industry. Mr. Shedd has completed wetland delineation training and has conducted wetland determinations for over 10 years.

Education

B.S. Wildlife Biology, Unity College, 2002

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