

APPENDIX B
Ten-Year Plan

TEN-YEAR PLAN: 2017–2027
Arrow Field Services, LLC

January 2017

In accordance with Section 49-22-04 of the North Dakota Century Code and Chapter 69-06-02 of the North Dakota Administrative Code, Arrow Field Services, LLC (“Arrow”), submits the following Ten-Year Plan for years 2017 through 2027.

- (1) *A description of the general location, size, and type of all facilities to be owned or operated by the utility during the ensuing 10 years, as well as those facilities to be removed from service during the 10-year period.*

Arrow plans to construct an approximately 2.6-mile-long, 10-inch-diameter, welded steel residue gas transmission pipeline that will extend from a natural gas processing plant to a third-party transmission pipeline. Arrow also plans to construct an approximately 2.6-mile-long, 8-inch diameter, welded steel natural gas liquids (NGLs) transmission pipeline that will extend from the same natural gas processing plant to a third-party NGL facility. Both pipelines will be co-located in the same right-of-way (ROW). The proposed pipelines and associated surface facilities owned by Arrow are referred to as the Arrow NB Residue Gas Pipeline and the Bakken NGL Pipeline Project (Project). The Project is located approximately 7.5 miles southeast of Watford City, McKenzie County, North Dakota (Figure 1).

Arrow will submit a Consolidated Application for a Certificate of Corridor Compatibility and Route Permit requesting approval from the North Dakota Public Service Commission (the Commission) for construction of the two pipelines. The natural gas processing plant and the natural gas gathering system pipeline are not regulated by the Commission, but are mentioned herein for clarity and completeness.

Arrow does not currently have plans to remove any facilities from service during the 10-year period.

- (2) *An identification of the location of the tentative preferred site for all energy conversion facilities and the tentative location of all transmission facilities on which construction is intended to be commenced within the ensuing 5 years and such other information as may be required by the Commission. The site and corridor identification shall be made in compliance with the criteria published by the Commission pursuant to Section 49-22-05.1.*

Arrow has evaluated a study area for the Project to determine the best location for the placement of the corridor and route in order to meet the needs of the Project, while minimizing land use and environmental impacts, and taking into consideration landowner input and design and construction limitations. The selected location of the route within the corridor was made in compliance with Section 49-22-05.1 of the North Dakota Century Code. Arrow’s Consolidated Application for a Certificate of Corridor Compatibility and Route Permit, which will be filed with the Commission in January of 2017, will discuss the Project’s compliance with the Section 49-22-05.1 criteria in greater detail. Arrow continually assesses its pipeline system to meet

market demands but currently has no plans to construct additional transmission facilities within the next 5 years.

- (3) *A description of the efforts by the utility to coordinate the plan with other utilities so as to provide a coordinated regional plan for meeting the utility needs of the region.*

Arrow, in coordination with potential third-party natural gas and NGL recipients, evaluated natural gas and NGL gathering systems and processing plants and concluded that gathering natural gas and sending it to a facility to remove the NGLs would help reduce flaring and greenhouse gas emissions from oil and gas wells, improve regional natural gas capture systems, and enhance natural gas resource utilization by producing consumer-quality natural gas and collecting NGLs for subsequent use in a variety of manufacturing operations. Thus, the Project will enable Arrow to deliver residue gas and NGLs to third-party companies and will effectively improve the capture and utilization of oil and gas resources in the Williston Basin. The specific benefits of the Project are discussed further in Section 5 below.

With respect to the proposed Project, Arrow performed a centerline survey of the Project route, and based on that survey, Arrow identified all third-party entities/utilities that would be encountered (e.g., petroleum, water, electric). Arrow contacted each entity to obtain its respective crossing and encroachment guidelines and requirements. Arrow has incorporated these requirements into the Project design, and will work closely with each entity during construction and future operations and maintenance in order to safely construct and operate the Project around these adjacent utilities.

- (4) *A description of the efforts to involve environmental protection and land-use planning agencies in the planning process, as well as other efforts to identify and minimize environmental problems at the earliest possible stage in the planning process.*

Arrow has employed a qualified environmental consulting firm to conduct studies of and identify avoidance and exclusion areas within the proposed Project corridor and route, in accordance with Chapter 49-22 of the North Dakota Century Code and Chapter 69-06-08 of the North Dakota Administrative Code. Arrow has consulted with federal, state, and local agencies and officials regarding the Project, and to date, no environmental or land-use concerns have been identified that would preclude development of the Project along the route identified. Arrow has also developed an Environmental Mitigation Plan that outlines general construction-related mitigation measures to avoid or minimize impacts to natural and cultural resources from Project development.

- (5) *A statement of the projected demand for the service rendered by the utility for the ensuing 10 years and the underlying assumptions for the projection, with that information being as geographically specific as possible, and a description of the manner and extent to which the utility will meet the projected demands.*

Between 2009 and 2015, nonmarketed (i.e., flared and vented) natural gas production in the Williston Basin in North Dakota increased significantly—from approximately 26,876 to

106,590 million cubic feet per day.¹ This natural gas was flared and/or vented at the wellhead, due to inadequate gathering and processing systems and coverage. Oil and gas production is expected to increase in the next 10 years and the Project will help fulfill the need to provide additional collection and processing capabilities that will help maximize oil and gas resource development and utilization.

¹ See U.S. Energy Information Administration, *Nonmarketed Natural Gas in North Dakota Still Rising Due to Higher Total Production*, <http://www.eia.gov/todayinenergy/detail.php?id=15511#> (last visited Jan. 17, 2017).

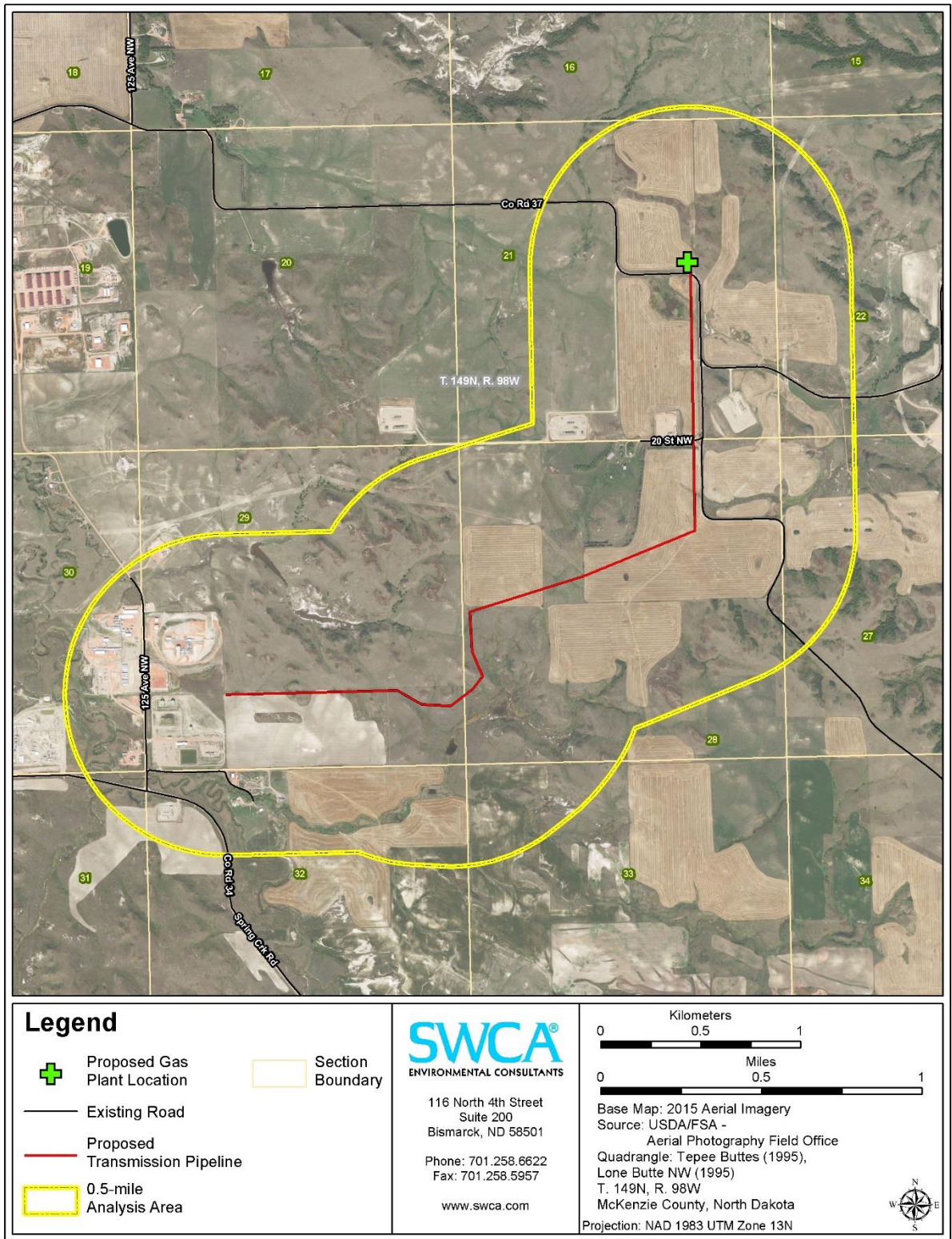


Figure 1. Arrow NB Residue Gas Pipeline and Arrow Bakken NGL Pipeline Study Area.

STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION

Case No. PU-17-__

IN THE MATTER OF THE FILING OF A TEN-
YEAR PLAN BY ARROW FIELD SERVICES,
LLC

CERTIFICATE OF SERVICE

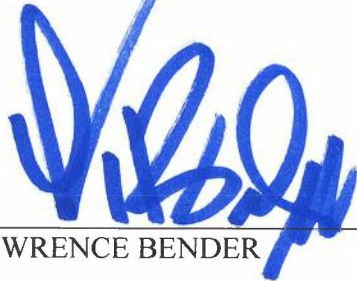
Lawrence Bender, being first duly sworn, does depose and state that on January 20th,
2017, the following document was served:

Ten-Year Plan: 2017–2027

by placing a true and correct copy of said document in an envelope addressed as follows:

Ms. Linda Sivhovec
McKenzie County Auditor
201 5th Street, Suite 543
Watford City, North Dakota 58854

and depositing the same, with postage prepaid, in the United States mail at Bismarck, North
Dakota.



LAWRENCE BENDER