

# **Appendix B**

## **Badger Wind, LLC, Ten Year Plan**

**TEN YEAR PLAN: 2022-2032**

**Badger Wind, LLC**

**February 21, 2022**

In accordance with N.D.C.C. § 49-22-04 and N.D.A.C. Ch. 69-06-02, Badger Wind, LLC (“Badger Wind”), submits the following Ten Year Plan for years 2022 through 2032.

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

Badger Wind is a Delaware limited liability company, authorized to do business in the State of North Dakota. Badger Wind is constructing a wind energy conversion facility known as the Badger Wind Project (the “Project”). The Project would have a nameplate capacity of up to 251.6 megawatts (“MW”), with up to 250 MW delivered to the grid. The Project will be located in western Logan and McIntosh Counties, North Dakota. The Project will interconnect to the grid at Montana-Dakota Utilities Company’s (“MDU”) Wishek substation, located in McIntosh County, North Dakota. To interconnect the Project to the grid, Badger Wind will construct a 230 kilovolt (“kV”) generation interconnection line between the Project substation and the Wishek substation. The generation interconnection line will be less than one mile long and, therefore, will not be subject to the jurisdiction of the North Dakota Public Service Commission (“Commission”) as a “transmission facility.”

Badger Wind plans to submit a Conditional Use Permit application to Logan County in early 2022. McIntosh County has not enacted a zoning ordinance, so a zoning permit from McIntosh County is not required for the Project. Badger Wind also plans to submit a Certificate of Site Compatibility application to the Commission in early 2022. Badger Wind plans to begin constructing the Project as early as September 2022 and plans for the Project to be commercially operational as early as September 2023.

Other than the proposed Project, Badger Wind does not have any transmission or generation facilities located in North Dakota. The Project will have an estimated life of greater than 10 years. As such, Badger Wind does not have any plans to decommission any transmission or generation facilities within the timeframe of this plan.

- (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 five 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.*

As noted above, Badger Wind is developing the above-referenced Project, and proposes to have the Project in-service as early as September 2023. The proposed Project footprint is located in McIntosh and Logan Counties, North Dakota, approximately two miles from Wishek,

North Dakota. The Project will interconnect at MDU's Wishek substation, located in McIntosh County, North Dakota.

Badger Wind has retained qualified environmental consulting firms to evaluate the proposed Project site to ensure compliance with the Commission's siting criteria, including the exclusion and avoidance area criteria referenced in N.D.C.C. § 49-22-05.1 and identified in N.D.A.C. § 69-06-08-01. A map depicting the Project area is attached as **Exhibit A**.

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

Badger Wind is in the process of identifying an offtaker for the Project's output. Energy produced by the Project may help local or regional utilities to meet applicable renewable energy needs. Additionally, Badger Wind and the Midwest Independent System Operator ("MISO") are in the process of completing studies for the potential interconnection of the Project at MDU's Wishek substation. Badger Wind expects final study results in early 2022. Badger Wind is in discussions with MISO and MDU regarding the proposed interconnection and plans to enter into an interconnection agreement to facilitate Project interconnection to the MISO system.

- (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.*

Badger Wind has engaged the services of qualified environmental consulting firms to study and identify avoidance and exclusion areas within the proposed Project site, in accordance with N.D.C.C. Ch. 49-22 and N.D.A.C. Ch. 69-06-08. As discussed above, Badger Wind plans to submit a Conditional Use Permit application for the Project to Logan County in early 2022, and a Certificate of Site Compatibility application to the Commission in early 2022.

Additionally, Badger Wind has consulted with applicable local, state, and federal agencies and entities in connection with siting and development of the Project, including the United States Fish and Wildlife Service, the Federal Aviation Administration, the North Dakota Game and Fish Department, the State Historical Society of North Dakota, McIntosh County, and Logan County. Badger Wind will continue to coordinate with agencies and entities, as appropriate, throughout the development, construction, and operation of the Project.

- (5) *A statement of the projected demand for the service rendered by the utility for the ensuing ten 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.*

As discussed above, Badger Wind is in the process of identifying an offtaker for the Project's output. Badger Wind is actively marketing the Wind Project to a number of potential offtakers and may sell the power in the form of a power purchase agreement ("PPA"), directly on the merchant market, or the Project could be sold and directly owned and operated by a utility. As an independent power producer, Badger Wind is able to bid into a variety of markets.

Utilities and other customers seeking to diversify and build their energy generation portfolios are attracted to wind energy projects because of long-term, fixed, competitive pricing, environmental benefits and existing and potential renewable energy policies. Thus, the Project could help satisfy local, regional, or even national renewable energy demands.

Locally, in 2021, the North Dakota Legislature enacted a statutory provision adopting a low-emission technology initiative, which establishes a goal that the “agricultural, forestry, natural resources, and working land of the United States should provide energy from low-emission technology and continue to produce safe, abundant, and affordable food, fuel, feed, and fiber.”<sup>1</sup> As used in this initiative, low-emission technology includes, among others, wind. Additional renewable resources will be needed to meet the low-emission technology initiative.

Also, in 2010, the North Dakota Department of Commerce, EmPower ND Commission, published the Comprehensive State Energy Policy 2010-2025, which recommended a capacity of wind generation up to 5,000 MW by 2020.<sup>2</sup> The state had a total of 3,989 MW of installed wind capacity at the end of 2020.<sup>3</sup> With improving technology and falling costs, utilities are beginning to include renewable energy projects in their resource plans as long-term economic energy and capacity resources. In North Dakota, excellent wind resources create high capacity factor generation, reducing the cost/megawatt hour (“MWh”). In general, alternative energy sources provide lower costs per MW-hour than conventional sources.<sup>4</sup>

A need also exists for renewable energy produced in North Dakota to meet state renewable portfolio standards. Eleven of the MISO states currently have either mandated or voluntary renewable portfolio standards or policies.<sup>5</sup> Under current state standards, total United States renewable portfolio standard demand will increase from 310 terawatt hours (“TWh”) in 2019<sup>6</sup> to 630 TWh in 2030.<sup>7</sup> Given existing renewable energy capacity, an additional 250 TWh

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<sup>1</sup> See N.D.C.C. § 17-01-01.

<sup>2</sup> North Dakota Department of Commerce. Undated. EmPower North Dakota. Comprehensive State Energy Policy 2010-2025. Accessed online January 26, 2022. Retrieved from [https://www.business.nd.gov/uploads/3/empower\\_nd2010.pdf](https://www.business.nd.gov/uploads/3/empower_nd2010.pdf).

<sup>3</sup> U.S. Department of Energy. 2021. Land-Based Wind Market Report. Accessed online January 26, 2022. Retrieved from <https://www.energy.gov/eere/wind/wind-market-reports-2021-edition>.

<sup>4</sup> Lazard, *Lazard’s Levelized Cost of Energy Analysis – Version 14.0* (October 2020), at 2. Accessed online January 26, 2022. Retrieved from <https://www.lazard.com/media/451419/lazards-levelized-cost-of-energy-version-140.pdf>.

<sup>5</sup> National Conference of State Legislatures, *State Renewable Portfolio Standards and Goals* (Apr. 17, 2020), <https://www.ncsl.org/research/energy/renewable-portfolio-standards.aspx>; MTEP18 MISO Transmission Enhancement Plan, at 182. Accessed online January 26, 2022. Retrieved from <https://cdn.misoenergy.org/MTEP18%20Full%20Report264900.pdf>.

<sup>6</sup> See Lawrence Berkeley National Laboratory, *U.S. Renewable Portfolio Standards 2019 Annual Status Report* (July 2019), at 24. Retrieved from [https://eta-publications.lbl.gov/sites/default/files/rps\\_annual\\_status\\_update-2019\\_edition.pdf](https://eta-publications.lbl.gov/sites/default/files/rps_annual_status_update-2019_edition.pdf).

<sup>7</sup> Lawrence Berkeley National Laboratory, *U.S. Renewable Portfolio Standards, 2021 Status Update* (February 2021), at 25. Retrieved from [https://eta-publications.lbl.gov/sites/default/files/rps\\_status\\_update-2021\\_early\\_release.pdf](https://eta-publications.lbl.gov/sites/default/files/rps_status_update-2021_early_release.pdf).

increase in renewable resources will be required to meet demand through 2030.<sup>8</sup> In addition, the regional transmission grid is being expanded to deliver wind generation in a cost-effective manner; specifically, MISO's Multi-Value Project ("MVP") Portfolio is expected to enable 41 million megawatt hours ("MWh") of wind energy per year to meet renewable energy mandates and goals.<sup>9</sup>

In addition to traditional local and regional utility demand for wind energy, a growing number of corporations are turning to renewable energy to save money on energy and meet sustainability goals. Corporate customers either purchase renewable energy directly or obtain renewable benefits and cost savings through financially settled contracts, sometimes called virtual PPAs. In addition, many utilities are creating "green tariffs," which allow customers to purchase up to 100 percent renewable energy from the utility.<sup>10</sup>

Beyond the growing demand from utilities, corporations such as Apple, Google and Facebook, along with many others, have recently set goals to obtain 100 percent of their energy from renewables. These clean energy goals fuel the demand for corporate renewables procurement and subsequent PPAs. According to Wood Mackenzie's report titled an "*Analysis of Commercial and Industrial Wind Energy Demand in the United States*," the United States is "at the beginning stage of a corporate renewables procurement boom," with approximately "85 gigawatts of renewable energy demand" from the "largest U.S. companies" alone through 2030.<sup>11</sup> Another Wood Mackenzie report titled "*US Corporate Procurement of Wind and Solar 2020*" lists 2019 as "the largest year for megawatts of annual wind and solar C&I capacity additions and the largest year on record for new wind and solar C&I PPAs signed." These growth trends are expected to continue, and 2020 saw an immense demand for C&I renewable energy PPAs. Similarly, according to a 2019 research report, corporate contracts accounted for 22 percent of 2018 PPAs for renewables in the United States.<sup>12</sup> Further, the buyers are not just large corporations; smaller companies are entering into aggregated purchasing models and further driving additional market expansion.<sup>13</sup>

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<sup>8</sup> Lawrence Berkeley National Laboratory, U.S. Renewable Portfolio Standards, 2021 Status Update (February 2021), at 27.

<sup>9</sup> MTEP 18 MISO Transmission Enhancement Plan, at 42.

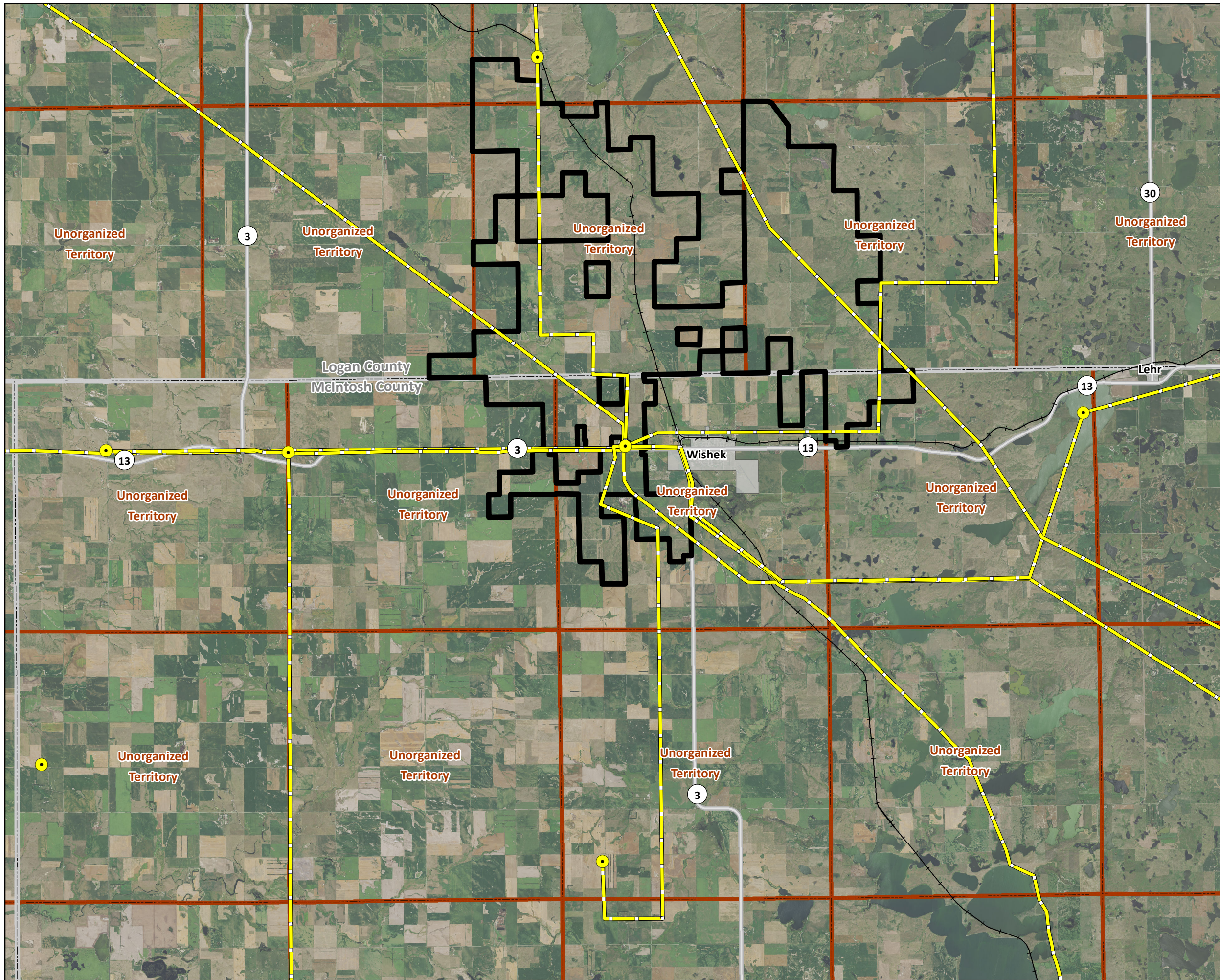
<sup>10</sup> U.S. Environmental Protection Agency – Green Power Partnership. Guide to Purchasing Green Power. Chapter 4. Available online at [https://www.epa.gov/sites/default/files/2016-01/documents/purchasing\\_guide\\_for\\_web.pdf](https://www.epa.gov/sites/default/files/2016-01/documents/purchasing_guide_for_web.pdf).

<sup>11</sup> Wood Mackenzie, *Corporates usher in new wave of US wind and solar growth* (Aug. 20, 2019). Accessed online January 26, 2022. Retrieved from <https://www.woodmac.com/our-expertise/focus/Power--Renewables/corporates-usher-in-new-wave-of-u.s.-wind-and-solar-growth/>.









<sup>12</sup> Emma Foehringer Merchant, *Corporate Renewables Procurement Accounted for Nearly a Quarter of All Deals in 2018* (Feb. 5, 2019). Accessed online January 26, 2022. Retrieved from <https://www.greentechmedia.com/articles/read/corporate-renewables-procurements-quarter-ppa-2018>.

<sup>13</sup> Emma Foehringer Merchant, *2018 Was Record Year for Corporate Clean Energy Contracts* (Jan. 31, 2019). Accessed online January 26, 2022. Retrieved from <https://www.greentechmedia.com/articles/read/reports-confirm-a-record-year-for-corporate-clean-energy-contracts#gs.nxat51>.

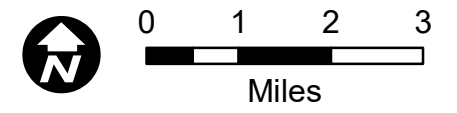
In summary, the renewable energy produced by Badger Wind's proposed Project will be positioned to help meet local renewable energy initiatives/goals, the regional need for renewable energy, and national C&I customer demand.



**Legend**

-  Existing Substation
-  Existing Transmission Line
-  Project Area
-  State Road
-  Railroad
-  City/Village
-  Township
-  County

Source: National Agriculture Imagery Program (2020)



The information contained on this map is proprietary and confidential. The use or disclosure of this information by you to third parties is prohibited by law and may give rise to civil or criminal liability.

**Badger Wind, LLC**  
2/16/2022

**Exhibit A**  
**Project Area**  
Logan and McIntosh Counties, North Dakota