

**Brady Transmission Line
Brady Wind, LLC
Stark County, North Dakota**

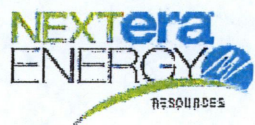
Public Service Commission Filings



December 2015

Prepared for:
Brady Wind, LLC
700 Universe Boulevard
Juno Beach, Florida 33408

Prepared by:
Tetra Tech, Inc.
350 Indiana Street, Suite 500
Golden, CO 80401



**Brady Transmission Line
Brady Wind, LLC
Stark County, North Dakota**

**Consolidated Application to the North Dakota Public Service
Commission for a Waiver or Reduction of Procedures and Time
Schedules and Certificate of Corridor Compatibility and Transmission
Facility Route Permit**



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1.0 INTRODUCTION

Brady Wind, LLC (Brady Wind or the Applicant), a wholly owned, indirect subsidiary of NextEra Energy Resources, LLC (NEER), is submitting this Application for a Certificate of Corridor Compatibility and Transmission Facility Route Permit to construct the Brady Transmission Line (Project). The Project consists of approximately 19 miles of a new 230-kilovolt (kV) overhead transmission line on private property in Stark County, North Dakota, as shown in **Figure 1**. The Project also includes a new 30-acre switchyard at the western terminus of the transmission line.

The Project would connect the proposed Brady Wind Energy Center to the Belfield to Rhame 230-kV transmission line in the southwest corner of the southeast quarter of Section 20 of Township 139 North, Range 98 West. The Brady Wind Energy Center is a proposed wind farm consisting of up to 87 wind turbine generators to be located in Stark County, North Dakota. The wind energy facility must be permitted separately, and Brady Wind submitted a separate Application for a Certificate of Site Compatibility to the North Dakota Public Service Commission (Commission) in December 2015.

NEER develops renewable energy projects and associated transmission lines throughout the United States and Canada. NEER is the largest generator of wind-powered electricity in North America, with nearly 11,300 megawatts (MW) of capacity in 19 states and Canada as of December 2014. In North Dakota specifically, NEER, through its affiliates, owns and operates 851 MW of wind generation and operates an additional 139 MW of wind generation. NEER designs, constructs, and operates its facilities in an environmentally sound and responsible manner. Attached as Appendix A, please find the sections from NextEra Energy, Inc.'s 2015 Corporate Responsibility Report that describe NextEra's environmental accountability, management, and stewardship policies that are intended to:

- Design, construct, operate and maintain our facilities in an environmentally sound and responsible manner;
- Prevent pollution, minimize waste, and conserve natural resources;
- Avoid, minimize and/or mitigate impacts to habitat and wildlife; and
- Engage stakeholders to build trust and partner toward common goals for environmental stewardship and protection.

1.1 Compliance with the Energy Conversion and Transmission Facility Siting Act

The North Dakota Energy Conversion and Transmission Facility Siting Act (Siting Act) requires applications for a Corridor Certificate and Route Permit to meet the criteria set forth in North Dakota Century Code (NDCC) Chapter 49-22 and North Dakota Administrative Code (NDAC) Article 69-06. Consistent with these requirements, the Applicant has located and designed the Project to minimize potential environmental impacts and utilize existing corridors, section lines, and gaps between crop fields to the extent practicable.

The Application presents information required by the Siting Act, including the consideration of the exclusion areas, avoidance areas, selection criteria, and policy criteria set forth in NDAC § 69-06-

08-02. In addition, transmission line design and technical information have been provided to allow a thorough evaluation of the proposed Project.

1.1.1 **Application Format**

This application generally follows the format set forth in the Commission Application Guidelines for a Certificate of Corridor Compatibility (Guidelines), promulgated pursuant to the Siting Act. Section 1 provides an overview of the Application. Section 2 requests waivers of certain procedures and time schedules. Sections 3 through 8 of the Application present the analyses of the Project and demonstrate how the Project is consistent with the Commission's statutes and regulations.

Table 1 outlines the information required to fulfill the requirements for an Application for a Certificate of Corridor Compatibility and Application for a Route Permit based on the Siting Act (NDCC Chapter 49-22) and NDAC Chapter 69-06, and identifies where these requirements are addressed in this Application.

Table 1. Certificate of Corridor Compatibility and Route Permit Checklist

Code and Subsection	Description	Application Section
	Section A. Description of the Facility	
NDCC § 49-22-08(a) NDCC § 49-22-08.1(a) NDAC §§ 69-06-05-01(2)(a)(1)-(3)	Type of facility proposed, purpose of the facility, and technology to be deployed	1.0, 3.2
NDAC §§ 69-06-05-01(2)(a)(4)-(6)	Type, source, and final destination of the product to be transmitted by the proposed facility.	3.1, 3.2
NDCC § 49-22-08(a) NDCC § 49-22-08.1(a) NDAC § 69-06-05-01(2)(a)(7)	The proposed size and design and any alternate size or design that was considered, including: (a) The width of right of way; (b) The approximate length of facility; (c) The estimated span length for electric facilities; (d) The anticipated type of structure for electric facilities; (e) The voltage for electric facilities; and (f) The requirement for and general location of any new associated facilities.	3.1, 3.2, 3.3, 3.4
NDAC § 69-06-05-01(2)(b)	The anticipated time schedule for accomplishing major events, including: (1) Obtaining the certification of corridor compatibility; (2) Obtaining the route permit; (3) Completing right-of-way acquisition; (4) Starting construction; (5) Completing construction; (6) Testing operations; and (7) Commencing operations.	3.5, Table 3
NDCC § 49-22-08(b) NDAC § 69-06-05-01(2)(c)	Section B. Studies - A copy of each evaluative study or assessment of the environmental impact of the proposed facility submitted to the agencies listed in section 69-06-01-05 and each response received.	Appendix B

Table 1. Certificate of Corridor Compatibility and Route Permit Checklist

Code and Subsection	Description	Application Section
NDCC § 49-22-08(c)	Section C. Need For Facility	4.0
NDAC § 69-06-05-01(2)(d)	An analysis of the need for the proposed facility based on present and projected demand for the product transmitted by the facility, including the most recent system studies supporting the analysis of the need.	4.1
NDAC § 69-06-05-01(2)(e)	A description of any feasible alternative methods of serving the need.	4.3
NDCC § 49-22-08(e) NDCC § 49-22-08.1(b)	Section D. Location	3.1, 3.2, 3.3, Table 2
NDAC §§ 69-06-05-01(2)(f), (g)	Select a study area, which includes the proposed corridor, of sufficient width to enable the Commission to evaluate the factors addressed in Section 49-22-09, NDCC. The width of a corridor must be at least ten percent of its length, but not less than one mile [1.61 kilometers] or greater than six miles [9.66 kilometers] unless another appropriate width is determined by the Commission.	3.3, Figures 1-3
NDCC § 49-22-08(h) NDCC § 49-22-08.1(c)	An evaluation of the proposed corridor/route with regard to the applicable criteria established pursuant to section 49-22-05.1: Except for transmission lines in existence before July 1, 1983, areas within five hundred feet [152.4 meters] of an inhabited rural residence must be designated avoidance areas. The five hundred foot [152.4 meter] avoidance area criteria for an inhabited rural residence may be waived by the owner of the inhabited rural residence in writing. The criteria may also include an identification of impacts and policies or practices which may be considered in the evaluation and designation process.	5.0, 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, Tables 4 – 7

Table 1. Certificate of Corridor Compatibility and Route Permit Checklist

Code and Subsection	Description	Application Section
NDCC § 49-22-08(h) NDCC § 49-22-08.1(c) NDAC § 69-06-05-01(2)(h)	A discussion of the factors in North Dakota Century Code section 49-22-09 to aid the commission's evaluation of the proposed route: <ol style="list-style-type: none"> 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. 2. The effects of new energy conversion and transmission technologies and systems designed to minimize adverse environmental effects. 3. The potential for beneficial uses of waste energy from a proposed energy conversion facility. 4. Adverse direct and indirect environmental effects which cannot be avoided should the proposed site or route be designated. 5. Alternatives to the proposed site, corridor, or route which are developed during the hearing process and which minimize adverse effects. 6. Irreversible and irretrievable commitments of natural resources should the proposed site, corridor, or route be designated. 7. The direct and indirect economic impacts of the proposed facility. 8. Existing plans of the state, local government, and private entities for other developments at or in the vicinity of the proposed site, corridor, or route. 9. The effect of the proposed site or route on existing scenic areas, historic sites and structures, and paleontological or archaeological sites. 10. The effect of the proposed site or route on areas which are unique because of biological wealth or because they are habitats for rare and endangered species. 11. Problems raised by federal agencies, other state agencies, and local entities. 	8.0
NDAC § 69-06-05-01(2)(i)	A discussion of the applicant's policies and commitments to limit the environmental impact of its facilities, including copies of board resolutions and management directives.	1.0, Appendix A
NDCC § 49-22-08(f) NDAC § 69-06-05-01(2)(j)	Identify and map the criteria that led to the proposed corridor location within the study area.	5.0, 5.1, 5.3, 5.4, 5.5, 5.6, 6.0, Tables 4–7, Figure 6
NDAC § 69-06-08-02	The following criteria must guide and govern the preparation of the inventory of exclusion and avoidance areas, and the corridor and route suitability evaluation process: <ol style="list-style-type: none"> 1. Exclusion areas; 2. Avoidance areas; 3. Selection criteria; 4. Policy criteria. 	5.0, 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, Tables 4–7
NDAC § 69-06-05-01(2)(k)	A discussion of the relative value of each criteria and how the applicant selected the proposed corridor location, giving consideration to all criteria and how the location, construction, and operation of the facility will affect each criteria.	5.0, 5.1, 5.2, 5.3, 5.4, 5.5, 5.6

Table 1. Certificate of Corridor Compatibility and Route Permit Checklist

Code and Subsection	Description	Application Section
NDCC § 49-22-08(g) NDCC § 49-22-08.1(d) NDAC § 69-06-05-01(2)(l)	Discuss the general mitigative measures that will be taken to minimize adverse impacts which result from the location, construction, and operation of the facility.	6.1, 6.2, 6.3
NDCC § 49-22-08.1(e)	A description of the right-of-way preparation and construction and reclamation procedures.	3.7
NDCC § 49-22-08.1(f)	A statement setting forth the manner in which: (1) The utility will inform affected landowners of easement acquisition, and necessary easement conditions and restrictions. (2) The utility will compensate landowners for easements, without reference to the actual consideration to be paid.	3.6
NDAC § 69-06-05-01(2)(m)	List the qualifications of the people in the various disciplines that contributed to the corridor location study.	9.0
NDAC §§ 69-06-05-01(2)(n), (o), (q)	Maps n. A map identifying the criteria that led to the proposed route location within the designated corridor and the location of any new associated facilities. Several different criteria may be shown on each map depending on the map scale and the density and nature of the criteria. o. An eight and one-half-inch by eleven-inch black and white map suitable for newspaper publication depicting the site area. q. Map and GIS requirements. The applicant shall provide information that is complete, current, presented clearly and concisely, and supported by appropriate references to technical and other written material available to the commission. Data must be submitted in the ESRI shape file or geodatabase format.	Figures 2, 3, and 6 A map for newspaper publication will be provided under separate cover. Shapefiles provided on CD.

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2.0 WAIVER OF PROCEDURES AND TIME SCHEDULES

The Applicant requests that the Commission waive certain procedures and reduce certain time schedules required by the Siting Act and in the Commission's regulations, to accomplish the actions requested herein. These include, but are not limited to:

1. Allow combination of the certificate of corridor compatibility application and route permit application processes into one application;
2. Waive, pursuant to NDCC §§ 49-22-07.2 and 49-22-13, and NDAC § 69-06-01-02 and Chapter 69-06-06, provisions of NDCC §§ 49-22-08(5), 49-22-08.1(5), 49-22-13, and NDAC § 69-06-01-02 that require separate filings of such applications, separate notices of such applications, separate hearings on such applications, separate orders on such applications; and certain procedures and time schedules as set forth in said statutes and rules;
3. Approve a corridor of 250 feet in width;
4. Hold one consolidated public hearing on this Application;
5. Find that the proposed facilities are of such design, length, location, and purpose that they will produce minimal adverse effects; and
6. Designate and approve the requested facilities as identified in this Application and issue the appropriate corridor certificate and route permit.

Chapter 69-06-06 of the NDAC requires that a request for waiver of procedures set forth a factual basis demonstrating that the proposed facility is of such length, design, location, or purpose that it will produce minimal adverse effects. As demonstrated herein, the environmental and cultural resource studies and reports commissioned by the Applicant demonstrate that there will be minimal adverse effects by construction and operation of this transmission line project. As a result, there is substantial justification for the requested waivers and/or reduction of time schedules and procedures.

The Applicant therefore respectfully requests that the Commission grant the requested waivers and/or reduction of procedures and time schedules, and render an expeditious decision approving the requested certificate of corridor compatibility and route permit.

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3.0 PROJECT DESCRIPTION

3.1 Project Location

The Project will connect the proposed Brady Wind Energy Center's collection substation in the southeast corner of 52nd Street SW and 109th Avenue SW (in the northwest quarter of Section 25 in Township 137 North, Range 96 West) with the existing Belfield to Rhame 230-kV transmission line owned and operated by Basin Electric Power Cooperative (Basin) in the southwest corner of the southeast quarter of Section 20, Township 139 North, Range 98 West (**Figure 2** and **Figure 3**). The Project is needed to inject energy generated by the Brady Wind Energy Center into the electric grid.

3.2 Project Design and Product Delivery

The approximately 19-mile, single-circuit, alternating current 230-kV transmission line will be constructed using steel monopole structures. The average height of the single-pole structures will range from 70 to 130 feet, depending on final engineering design (**Figure 4**). The span between structures will average 800 feet and will vary depending on geological or engineering constraints identified during final design. The typical easement that will be used during construction and maintained during the life of the Project, or right-of-way (ROW), is 150 feet wide. The total cost of constructing this transmission line and associated facilities is estimated at \$12 million.

Guyed structures will be required at approximately 12 turns. Depending on the angle, up to 16 guy wires may be required per turn, each up to 135 feet from the pole structure (**Figure 5**). Specialty structures and foundations may be required in certain circumstances.

The Project will allow the Brady Wind Energy Center to contribute approximately 150 MW of renewable energy to the power grid. The electric power (the "product" for purposes of this Application) will be delivered to Basin's energy grid pursuant to a Power Purchase Agreement (PPA) between Basin and Brady Wind.

The Project switchyard will be located on approximately 30 acres of land at the western terminus of the Project in the southwest corner of the southeast quarter of Section 20, Township 139 North, Range 98 West. All structures within the switchyard, including the control building, will be constructed in steel. The switchyard will be fenced.

The construction of the Project will occur within the Project Corridor identified in Section 3.3. The proposed Project route (centerline of proposed transmission line pole locations, or Project Route) was selected after addressing the factors identified in NDCC § 49-22-09 and pursuant to the criteria in NDAC § 69-06-08-02 and is depicted on **Figure 1**.

3.3 Project Corridor

The Project Corridor is the area surveyed for cultural resources, which is generally 250 feet in width, although the proposed Project ROW that will be acquired throughout the 19-mile length of the proposed Project Corridor will typically be only 150 feet in width.

The Applicant developed the Project Corridor based on identifying interested landowners between the proposed Brady Wind Energy Center collection substation and the existing Belfield to Rhame

230-kV transmission line. The Applicant also considered the exclusion and avoidance areas set forth in NDAC § 69-06-08-02 in selecting the Corridor. For example, the Applicant sought to avoid residential areas and recreation and cultural resources to the extent practicable (**Figure 6**). Documented archeological sites are discussed in Section 6.1.

The Project Corridor is rural and primarily composed of a mixture of cropland and grassland. It is located on privately owned land along existing roadways and section lines to the extent feasible. All land within the Project Corridor will be obtained by easement, with the exception of the 30-acre switchyard parcel, which will be purchased. The legal land descriptions for parcels within the Project Corridor are provided in **Table 2** and represented on **Figure 2** and **Figure 3**.

Table 2. Project Corridor Land Description

Township	Range	Sections
137N	98W	27-29, 34-36
137N	97W	25, 31-36
137N	96W	25-30, 32, 33

3.4 Project Route

The Applicant identified the Project Route for the Project within the Project Corridor after considering the exclusion and avoidance criteria outlined in NDAC § 69-06-08-02 (Section 5.0 of this Application) and after considering public and agency input as described in Section 7.0 of this Application.

The Project Route was selected based on several additional considerations, including:

- Minimizing total length and construction costs;
- Minimizing impacts on residents, including (but not limited to) displacement, noise, aesthetics, recreation, agricultural production, and public services;
- Consideration of effects on public health and safety;
- Offsetting existing ROW (roadway or other utility ROW) or section lines to minimize impacts on current land use and to comply with Stark County requirements;
- Minimizing effects on archaeological and historic resources;
- Minimizing effects on wetlands and surface waters; and
- Minimizing effects on wildlife, rare or endangered species, and unique natural resources.

Figure 6 identifies the proposed Project Route relative to the Project Corridor and exclusion and avoidance criteria. The legal descriptions of the Project Route location are the same as those for the Corridor provided in **Table 2** above.

3.5 Project Schedule

The preliminary Project schedule provided below in **Table 3** is based on information known as of the date of this filing. The operation date is dependent upon permitting, equipment deliveries, and

other development activities. The Applicant is targeting construction for May 2016, provided all pre-construction permits and approvals have been obtained.

Table 3. Estimated Project Schedule

Milestone	Date
Completion of Construction Easement Acquisition	November 2015
Final Transmission Line Design	February 2016
Material Procurement	February 2016
Certificate of Corridor Compatibility and Route Permit	April 2016
Construction Start	May 2016
Testing Operations	September 2016
In-Service Operations (Commissioning)	October 2016

3.6 Easement Acquisition

The Applicant has secured voluntary easements with landowners along the Project Route. The Applicant will compensate landowners for easements based on the land within the construction easement and for facilities (structures and guy wires) placed in the Project Route. The easement agreement describes easement conditions and restrictions. Land for the 30-acre switchyard will be purchased.

3.7 Project Construction

The Project Route passes primarily through agricultural and pasture land along existing road ROW and section lines, or along the edges of crop fields, to the extent feasible. Because there are very few obstructions within the Project Route, minimal ROW preparations will be necessary. In those few areas where there is tree and shrub growth, ROW clearing will include cutting and removal. Where practicable, trees and low-growing vegetation will not be removed if future growth will not interfere with the operation or maintenance of the line. There may be limited use of herbicides to remove or control the growth of vegetation in some areas. Herbaceous and smaller woody plants will not be disturbed, except for those that will be crushed unavoidably during structure installation.

Some structure locations may require soil analysis. Soil borings will be taken for the purpose of determining the soil properties for engineering analysis. These borings will be taken by an experienced geotechnical testing laboratory. The geotechnical drill rig will need access to the test sites.

The structures will be designed for installation at existing grades. Therefore, structure sites will not be graded or leveled, unless it is necessary to provide a reasonably level area for construction crews and equipment, such as digger/derrick trucks to auger holes for the structures, a crane for structure setting, and crew vehicles and bucket trucks for wire stringing and clipping operations.

All trees and tall shrubs will be removed from the 150-foot ROW. Vegetation will be monitored regularly and trimmed so that it does not exceed safety provisions. Ground disturbance will occur during the setting of structures. These disturbances will occur during the boring of the hole used for setting the pole. Pole borings will extend into the subsurface approximately 20 feet and be

approximately 5 feet in diameter. Boring equipment will be used to facilitate the installation of the transmission foundation. Soil removed during boring activities will be spread around the base of the pole.

The largest disturbance during installation of the transmission structures will occur during the excavation of the self-supporting dead-end foundations, if any are used (to be determined during final design). Foundations will extend into the subsurface approximately 25 to 30 feet and be approximately 7 feet in diameter. Boring equipment will be used to facilitate the installation of transmission foundations. The foundations will be constructed of reinforced concrete with pre-fabricated anchor bolt cases placed in the boreholes. Soil removed during boring activities will be sloped around the structure after installation or in adjacent upland areas.

The most noticeable impact on the Project Route will be land disturbance in the area of transmission structure construction to allow adequate room for operation of equipment. Following the structure installation, the entire disturbed area will be groomed and seeded, including replacement of trees and herbaceous vegetation off the transmission line ROW. The anticipated area of disturbance at each structure site during construction will be approximately 0.5 acre at each tower location.

After structures have been erected, conductors will be installed by establishing stringing setup areas within the ROW. These stringing setup areas will be located approximately every 2 miles along the route. Conductors will be installed between setup areas using a "controlled tension method," which ensures that the cable comes off the reel at a constant tension without backlashes. Conductor stringing operations will also require brief access to each structure to secure the conductor wires to the insulators or shield wire clamps once final line sag is established.

Stringing equipment generally consists of wire pullers, tensioners, conductor reels, shield wire reels, and stringing blocks. Stringing operations consist of pulling lightweight cables or ropes through the stringing sheaves located at every structure site. This cable or rope will be used to pull the conductors through the sheaves under sufficient tension to keep the conductor from coming into contact with the ground. Temporary guard or clearance poles will be installed over existing distribution or communication lines, streets, roads, highways, railways, or other obstructions after any necessary notifications are made and/or permits are obtained. This ensures that conductors will not obstruct traffic or come into contact with existing energized conductors or other cables, and protects the conductors from damage. Once a section of a line has been installed, temporary structures will be removed, holes backfilled, and the area of disturbance reseeded to produce the same cover that was removed.

Debris associated with the transmission line construction may include construction materials such as packaging material, insulator crates, conductor reels, and wrapping. This debris may also include excess excavated soil and removed vegetation. Materials with salvage value, including conductor reels, unused conductor and hardware, poles, and other materials, will be removed from the site for reuse. Excess soil and vegetation will be distributed along the transmission ROW, but will not be placed in wetlands or other aquatic resources. Solid waste will be temporarily stored within the ROW or within the temporary construction easements, and then transported to

appropriate disposal facilities. Debris will be disposed of in accordance with local, state, and federal regulations.

Temporary staging areas will be located within the ROW, and will be limited to the structure site areas for structure laydown and framing prior to structure installation. Disturbed areas will be restored to their original condition to the maximum extent practicable.

Construction tasks will include the following:

- **Pre-Construction:** Includes activities such as environmental, geotechnical, cultural, avian, micro-siting, engineering, design, land procurement, various utility studies, and major procurement.
- **Surveying:** Initial line-survey work, consisting of aerial photography, survey control, route centerline location, profile surveys, and access surveys.
- **Pole Structures:** Vegetation will be removed from a limited area at structure locations. Once any vegetation is removed, holes will be drilled for structures using a truck-mounted auger.
- **Delivery and Assembly:** The pole structures will be transported to the erection sites on flatbed trucks and assembled. The footings of each would be backfilled with one and a half inch rock and tamped into place to prevent structure movement or settling. Final structure assembly and hardware placement will be completed using cranes and bucket trucks.
- **Conductor Installation:** Following erection of all structures, conductor and ground wires will be installed. Conductor will be pulled and tensioned from several locations (approximately every 2 miles) along the Project Route. Heavy, truck-mounted winches that also carry reels of conductor and cable will be used for pulling and tensioning work. Sections of the line within 0.5 mile of potentially suitable stopover habitat for whooping cranes will be outfitted with bird flight diverters.

Post-construction reclamation activities will generally include the following:

- Cleaning up all construction sites, including removing and properly disposing of debris;
- Removing all temporary facilities, including staging areas;
- Employing appropriate erosion control measures; and
- Reseeding and replacing trees and shrubs as necessary in disturbed areas (due to construction activities) with vegetation like that which was removed, and restoring the areas to their original condition to the extent practicable. The Applicant will incorporate a tree replacement policy based on the Commission's Tree and Shrub Mitigation Specifications.

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4.0 NEED FOR FACILITY

4.1 Need Analysis

The proposed location of the Brady Wind Energy Center's collection substation is approximately 15 miles from the Belfield to Rhame transmission line. The Brady Wind transmission line is required to transmit the energy to Basin's grid. As discussed in Brady Wind's Application for a Certificate of Site Compatibility, in December 2014, Brady Wind signed a 30-year power purchase agreement with Basin for the Project. Pursuant to this agreement, Basin will purchase all of the electrical output generated by the Project for 30 years. The Project will help to increase the renewable portion of Basin's generating portfolio to more than 1,400 MW when combined with additional wind generation commitments made by Basin in 2013. The Project will help meet Basin member's energy needs while keeping member electricity rates low (Basin 2014).

Basin and the Applicant selected the point of interconnection based on Basin's needs for load injection. The proposed point of interconnection would allow the energy generated by the Brady Wind Energy Center to directly serve Basin's load in the area.

4.2 Description of Studies Developed

Final design of the Project is dependent upon several factors, including landowner input, on-site pre-construction surveys, and agency consultation. The Applicant identified the preliminary location of the Project Route and Project Corridor based on desktop analyses, site visits, and agency consultation. Results of environmental and cultural studies are discussed in Section 6.0.

4.3 No Action and Feasible Alternative Methods

As discussed in Section 4.1, the proposed location of the Brady Wind Energy Center's collection substation is approximately 15 miles from the Belfield to Rhame transmission line. Basin and the Applicant identified the proposed point of interconnection with the existing transmission line based on Basin's load injection needs. There is no existing infrastructure connecting the proposed location of the Brady Wind Energy Center to existing transmission. The location of the Brady Wind Energy Center was identified as an optimal site from wind resource, transmission, landowner participation, economic, and environmental perspectives. Therefore, there is no feasible alternative method to serving the facility need.

4.4 Ten-Year Plan

The Applicant will file a Ten-Year Plan with the Commission and the Stark County auditor by July 1, 2016.

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5.0 TRANSMISSION FACILITY CORRIDOR AND ROUTE CRITERIA

The Applicant evaluated a study area (1 mile on either side of the Project Route) to determine the best route for the Project. Within this study area, a 250-foot-wide Project Corridor was selected to meet the following exclusion, avoidance, and selection criteria, as described in NDAC § 69-06-08-02. The selection criteria were intended to minimize potential land use impacts and environmental impacts, as well as to minimize impacts to the public. Policy criteria relate to the applicant's policies regarding health, safety, labor relations, and coordination with other interests. In addition, design and construction limitations present in the Project Corridor were also factored into the Project Route.

The Applicant gathered data from several sources to identify the locations of exclusion and avoidance areas and to determine the potential impact of its proposed facility on selection criteria, including field surveys to identify occupied residences, wetlands and water features, and cultural resources. A computerized geographic information system (GIS) was utilized to compile and analyze most of the data. Specific sources included:

- North Dakota Natural Heritage Program dataset on sensitive species and habitats and state parks;
- North Dakota Game and Fish eagle nest data;
- U.S. Fish and Wildlife Service's National Wetland Inventory maps obtained in GIS format;
- Documented cultural resources identified through a Class I cultural resources inventory;
- Residences and homesteads within the corridor provided by a farmstead report from on-site land surveyors and land agents;
- Structures and other constraints (including extractable resources, cemeteries, and communication towers) derived from data obtained from the North Dakota GIS Hub, as well as aerial photo interpretation, discussion with landowners, and field verification; and
- Woodlands derived from National Land Cover Database data.

5.1 Exclusion Areas

In accordance with NDAC § 69-06-08-02(1), the geographical areas listed in **Table 4** shall be excluded in the consideration of a route for a transmission facility. Exclusion areas are mapped for the Project Area on **Figure 6**. There are six archeological sites within the Project Corridor; of these six, three are crossed by or adjacent to the Project Route. These sites will be avoided or spanned.

Table 4. Exclusion Areas

Exclusion Area	Present within 1-mile Study Area	Present within Project Corridor	Adjacent to Project Route	Proposed Buffer
Designated or registered national parks memorial parks; historic sites and landmarks; natural landmarks; monuments; and wilderness areas	No	No	No	No buffer is proposed because no features are identified within the Project Corridor.
Designated or registered state parks; historic sites; monuments; historical markers; archaeological sites; and nature preserves	Yes – 10 archaeological sites	Yes – 6 archaeological sites	Yes – 3 archaeological sites	All archeological sites will be avoided or spanned. National Register-eligible sites within the Project Corridor will be protected during construction to avoid impacts.
County parks and recreational areas; municipal parks; and parks owned or administered by other governmental subdivisions	No	No	No	No buffer is proposed because no features are identified within the Project Corridor.
Areas critical to the life stage of threatened or endangered animal or plant species	No designated critical habitat	No designated critical habitat	No designated critical habitat	No buffer is proposed because no features are identified within the Project Corridor.
Areas where animal or plant species that are unique or rare to this state would be irreversibly damaged	No	No	No	No buffer is proposed because no features are identified within the Project Corridor.
Areas within 1,200 feet of the geographic center of the intercontinental ballistic missile (ICBM) launch or launch control facility	No	No	No	No buffer is proposed because no features are identified within the Project Corridor.
Areas within thirty feet on either side of a direct line between ICBM launch or launch control facilities to avoid microwave interference	No	No	No	No buffer is proposed because no features are identified within the Project Corridor.

5.2 Avoidance Areas

In accordance with NDAC § 69-06-08-02(2), the Commission will not approve certain avoidance areas as a site for a transmission facility unless the applicant shows that under the circumstances there is no reasonable alternative. In determining whether an avoidance area should be designated for a transmission facility, the Commission may consider, among other things: the proposed management of adverse impacts; the orderly siting of facilities; system reliability and integrity; the efficient use of resources; and alternative sites. These avoidance areas are listed in **Table 5** and are also mapped for the Project Corridor on **Figure 6**.

One occupied residence is approximately 395 feet from the Project Corridor but 520 feet from the Project Route (**Table 5, Figure 6**). This residence belongs to a participating landowner with whom Brady Wind has a landowner agreement. Although this residence is more than 500 feet from the proposed Project Route, the landowner agreement includes a waiver of the 500-foot setback requirement in the event the transmission line is sited less than 500 feet from the residence.

Table 5. Avoidance Areas

Avoidance Area	Present within 1-mile Study Area	Present within Project Corridor	Adjacent to Project Route	Proposed Buffer
Designated or registered national historic districts; wildlife areas; wild, scenic or recreational rivers; wildlife refuges; and grasslands	No	No	No	No buffer is proposed because no features are identified within the Project Corridor.
Designated or registered state wild, scenic, or recreational rivers; game refuges; game management areas; forests, forest management lands; and grasslands	No	No	No	No buffer is proposed because no features are identified within the Project Corridor.
Historical resources which are not specifically designated as exclusion or avoidance areas	Yes – 1 historic farmstead	No	No	No buffer is proposed because no features are identified within the Project Corridor.
Areas which are geologically unstable	No	No	No	No buffer is proposed because no features are identified within the Project Corridor.
Within 500 feet of a residence, school, or place of business	N/A	Yes – 1 residence is within 395 feet of the Project Corridor but 520 feet from Project Route	No	The Applicant and landowner have entered into an agreement that includes a setback waiver.
Reservoirs and municipal water supplies	No	No	No	No buffer is proposed because no features are identified within the Project Corridor.
Water sources for organized rural water districts	No	No	No	No buffer is proposed because no features are identified within the Project Corridor.

Table 5. Avoidance Areas

Avoidance Area	Present within 1-mile Study Area	Present within Project Corridor	Adjacent to Project Route	Proposed Buffer
Irrigated land	No	No	No	No buffer is proposed because no features are identified within the Project Corridor.
Areas of recreational significance which are not designated as exclusion areas	Yes – 1 parcel enrolled in Private Lands Open to Sportsmen (PLOTS)	No	No	No buffer is proposed because no features are identified within the Project Corridor.

5.3 Selection Criteria

In accordance with NDAC § 69-06-08-02(3), adverse effects resulting from the location, construction, and maintenance of a transmission facility shall be minimized to the extent practicable, and shall be managed and maintained at an acceptable minimum. **Table 6** identifies the selection criteria for the Project Corridor and Route.

Table 6. Selection Criteria

Selection Criteria	Potential Adverse Effects
The impact upon agriculture:	
Agricultural Production	Areas within the construction easement may be disturbed during field surveys and construction, but will be restored as practicable and landowners will be compensated through an easement payment and for loss of agricultural production.
Family farms and ranches	See above.
Land which the owner can demonstrate has soil, topography, drainage, and an available water supply that cause the land to be economically suitable for irrigation	The Project Corridor is primarily crop land and pasture land. No irrigated lands were identified within the Project Corridor.
The impact upon:	
Sound-sensitive land uses	Following construction, there will be a minimal amount of sound from the transmission line as a result of corona effects. Corona effects occur when air molecules near conducting wire are ionized due to changes in the electric field intensity at the conductor surface. The noise is most noticeable when conductors are wet as a result of precipitation. For example, for another 230-kV transmission line, noise modeling estimated the corona audible to be 15 A-weighted decibels (dBA) in fair weather and 25 to 40 dBA in wet weather at the edges of the right-of-way (USDA Rural Utilities Service 2013).

Table 6. Selection Criteria

Selection Criteria	Potential Adverse Effects
The visual effect on the adjacent area	The proposed facility will be visible to landowners and travelers along roadways adjacent to the Project Route. Other transmission lines are present in the viewshed.
Extractive and storage resources	There are no extractive and storage resources identified within the Project Corridor, but there are two inactive sand and gravel pits within the 1-mile Study Area. With respect to potential future development, per landowner easement agreements, Brady Wind will coordinate with landowners to facilitate the compatibility of any future development of sand and gravel resources.
Wetlands, woodlands, and wooded areas	A wetland delineation was completed in November 2015; the Project will be built to avoid impacts to surface waters to the extent practicable. The wetland delineation report will be submitted upon completion. Permanent impacts to jurisdictional wetlands will be minimized as practicable. Economically important forestry resources are not found in the Project Corridor. A few small patches of trees are present as shelterbelts and in drainage ways and wetlands.
Radio and television reception, and other communication or electronic control facilities	Tall structures such as buildings, communication towers, transmission lines, and wind turbines can create minor obstructions to nearby communications systems. Television reception disruption is not anticipated.
Human health and safety	The proposed facility will be designed and constructed to meet or exceed the standards of the National Electrical Safety Code. Regular maintenance and inspections will be performed during the life of the facility to ensure its continued integrity. The nearest occupied residence is 395 feet from the Project Corridor and 520 feet from the Project Route, where electromagnetic fields will be at background levels. Safety precautions will be taken during construction and line installation.
Animal health and safety	Construction work will be coordinated with landowners to avoid impacts to livestock.
Plant life	The Applicant will avoid existing trees and shrubs as practicable. If impacts to trees and shrubs cannot be avoided, the individual trees/shrubs will be replaced according to the Commission's tree and shrub mitigation specifications. Temporarily disturbed areas will be reseeded.

5.4 Policy Criteria

In accordance with Section 69-06-08-02(4), the Commission will give preference to a proposed route that is established based on the following policies and practices with the intent to provide benefit to the area to the maximum extent practicable. **Table 7** summarizes the policy criteria for the Project Corridor and Project Route.

Table 7. Policy Criteria

Policy Criteria	Suitable Policy or Brady Wind Practice
Location and design	The Applicant has committed to minimizing and mitigating environmental impacts, following the National Electrical Safety Code requirements and policies, designing the system to efficiently transfer electricity, ensuring worker and public health and safety, and constructing facilities to most effectively and efficiently meet its delivery obligations.
Training and utilization of available labor in this state for the general and specialized skills required	The Applicant will use local qualified contractors to provide labor for the Project to the extent practicable.
Economies of construction and operation	The Applicant will use experienced local contractors to the extent practicable. The Applicant has evaluated feasible alternatives and selected a Project Route that minimizes the extent and impacts to the social, economic, and natural environment to the extent practicable.
Use of citizen coordinating committees	No citizen coordinating committees were used for the proposed Project Route or proposed Project Corridor, although an open house was held on November 4, 2015, to provide information on the associated wind energy facility and collect feedback from the local community. The Applicant has worked with landowners of properties for the Project to avoid or minimize impacts on landowners to the extent practicable.
A commitment of a portion of the transmitted product for use in this state	The Project will transmit energy from the Brady Wind Energy Center in Stark County, North Dakota, and injected into the Belfield to Rhame 230-kV line, and will be delivered into Basin's integrated system to serve electric customers in North Dakota.
Labor relations	No labor relations will be affected by the proposed 230-kV Project.
The coordination of facilities	Existing infrastructure was considered in the location of the Project Corridor, Project Route, and associated facilities. The use of existing infrastructure would not be feasible. The Applicant will avoid impacts to existing infrastructure, other than interconnecting with Basin's existing transmission line. Brady Wind will coordinate that interconnection with Basin.
Monitoring of impacts	The Applicant and the Engineering, Procurement, and Construction contractor will employ best management practices during construction to monitor soil impacts and segregate topsoil. A stormwater pollution prevention plan will be prepared for the Project.
Utilization of existing and proposed rights-of-way and corridors	The Applicant has routed the transmission line parallel to existing roadways and section lines to the extent practicable.
Other existing or proposed transmission facilities	The Applicant is open to utilizing or paralleling existing utility ROW when siting transmission line routes, as practicable.

5.5 Design and Construction Limitations

The location of the collection substation and the connection at the Belfield to Rhame transmission line has limited potential corridor locations by dictating the points of terminus for the Project. The Applicant further refined the location of the Project Corridor by identifying interested landowners in the area between the wind project and the interconnection point. Based on these factors, the Applicant selected a study area for the proposed Project of approximately 19 miles in length. The Project Route was chosen because it follows existing road ROWs and section lines, where practicable. Pursuant to NDAC § 69-06-05-01(2)(j), the proposed location of the Project is the most direct route that also minimizes impacts on the exclusion, avoidance, selection, and policy

criteria identified in Section 69-06-08-02. In the evaluation of the study area, the Applicant also considered topography, location of existing transmission facilities (lines and substations), land ownership, and economics. It was necessary to originate the Project at the proposed Brady Wind Energy Center collection substation in Section 25 of Township 137 North, Range 96 West and connect it to the Belfield to Rhame transmission line in Section 20, Township 139 North, Range 98 West.

5.6 Economic Considerations

There are several economic considerations in deciding where to route the Project. Overall, minimizing the length decreases the cost to construct the transmission line due to use of less material and ROW. Minimized length also reduces transmission line loss.

The Applicant has and will continue to take steps to minimize any economic damage that might be created by the proposed facility. Landowners will be compensated through an easement payment for any potential loss of land and agricultural production. The Project Route was chosen to follow as straight a line as possible with consideration given to willing landowner participation, constructability, exclusion areas, avoidance areas, and other selected areas.

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6.0 ENVIRONMENTAL ANALYSIS

In the evaluation of the study area, the Applicant considered, among other things, topography, location of existing transmission facilities (lines and substations), location of communities and airfields, location of water resources, land ownership, and economics.

Final design of the Project is dependent upon several factors, including landowner input, on-site pre-construction surveys, and agency consultation. The Applicant identified the preliminary location of the Project Route based on several desktop analyses, site visits, and agency consultation.

This section provides a summary of the environmental studies conducted for the Project Corridor and Project Route. Studies that have been completed include:

- Cultural Resources Inventory
- Desktop Analysis and Wetlands/Waters of the U.S. Reconnaissance Survey
- Whooping Crane Likelihood of Occurrence Report (Tetra Tech 2015)

Wetland and cultural resources surveys are underway; these reports will be submitted to the Commission once they are complete.

Each study is summarized below.

6.1 Cultural Resources Inventory

Tetra Tech performed a Class I Literature Review for the area of potential effects (APE) and for a 1-mile study area around the APE in July 2015. The file review was completed at the State Historical Society of North Dakota (SHSND). The APE is defined as the proposed 250-foot-wide Project Corridor that was surveyed for archaeological resources. The literature review identified one prehistoric site and two isolates (**Table 8**). An isolate is a location with five or fewer surface visible artifacts that, in the professional judgment of the archaeologist, is likely to be a limited surface expression of a former occupation area where most of the artifacts are still buried. Of these resources, one archaeological site, 32SK81 (prehistoric cultural material scatter), is within the APE. Avoidance of direct impacts to these sites is recommended, and Brady Wind intends to avoid direct impacts to significant sites.

The Class I Literature Review also identified two architectural resources and one architectural cultural resource lead (**Table 9**). Of these, one historic-age farmstead is within the APE. Brady Wind will avoid direct impacts to all of these sites.

Table 8. Previously Recorded Archaeological Sites and Isolates

Smithsonian Number	Resource Type	Description	Avoidance	Location
32SK81	Prehistoric	CM Scatter	Avoid direct impacts to site	Within APE
ISOLATES				
32SKx86	Prehistoric	--	No further management necessary.	Not within APE. Within 1 mile of APE.
32SKx324	Prehistoric	--	No further management necessary.	Not within APE. Within 1 mile of APE.

Note: CM = cultural material

Table 9. Previously Recorded Architectural Resources

Smithsonian Number	Resource Type	Description	Avoidance	Location
32SKx201	Euro-American – ca. 1900 to Present	Farmstead	Avoid direct impacts to site.	Within APE
32SK157	Euro-American – ca. 1900 to Present	Farmstead	Avoid direct impacts to site.	Not within APE. Within 1 mile of APE
32SKx85	Euro-American – ca. 1900 to Present	Farmstead	Avoid direct impacts to site.	Not within APE. Within 1 mile of APE

Tetra Tech conducted a Class III Intensive Cultural Resources Inventory of the APE to identify archaeological resources. The current pedestrian survey also investigated the status of the previously documented site and site leads in the direct effects APE.

Shovel probing may be utilized in areas where pedestrian survey cannot adequately assess the presence or absence of cultural materials due to poor surface visibility. Brady Wind and Tetra Tech coordinated with the SHSND on the appropriate scope and level of survey for the Project, and field survey procedures were approved by the SHSND on March 12, 2015. Once complete, the Class III Cultural Resources Inventory Report will be submitted to the SHSND for review and concurrence, and a summary will be provided to the Commission.

Avoidance buffers will be created for archaeological sites recorded during the pedestrian survey of the APE that are potential eligible for listing on the National Register of Historic Places. Brady Wind will avoid direct impacts to these sites.

An Unanticipated Discovery Plan will be prepared for the proposed Project outlining the procedure that would be followed to prepare for and address any unanticipated discoveries of cultural resources, including previously undiscovered archaeological sites and possible human remains. It will provide direction to on-site personnel and their consultants as to the proper procedure to follow in the event that unanticipated discoveries were to be made during construction of the Project. No significant impacts to cultural resources would, therefore, be anticipated from the proposed Project.

In the event that burials or cultural sites with Native American religious values are identified during construction of the proposed Project, work would immediately halt within 200 feet of the site and the site would be protected until the SHSND and the North Dakota Indian Affairs Commission are consulted, in addition to any involved Tribes that express interest in the Project and identify a potential impact.

If confirmed or potential human skeletal remains are discovered, the Stark County Sheriff's office will be contacted. The Sheriff will call the North Dakota State Forensic Examiner to determine if the remains are associated with a crime scene. If the remains are determined not to be part of an active crime scene or investigation, the North Dakota Chief Archaeologist will be contacted.

6.2 Wetlands/Waters of the U.S. Survey

A desktop analysis of aerial photography, topographical maps, National Wetlands Inventory, and National Hydrography Dataset identified five potential jurisdictional wetlands and 19 intermittent streams crossings within the Project Corridor.

Brady Wind conducted wetland delineations of U.S. Army Corps of Engineers (USACE) jurisdiction for the Project in October and November 2015. The delineations were conducted using the methodologies cited in the USACE Jurisdictional Determination Form Instruction Guidebook (USACE and EPA 2007), including the December 2, 2008 revised Rapanos guidance (EPA and USACE 2008). Seventeen wetland or waterbody features were delineated within the Project Corridor, including 11 wetlands, 4 streams, and 2 stock ponds. A wetland delineation report of findings will be provided upon completion.

6.3 Whooping Crane Likelihood of Occurrence

A desktop whooping crane likelihood assessment was completed in November 2015 for the Brady Wind Energy Center, including the proposed Project (Tetra Tech 2015). Although there is foraging and roosting habitat within the Project Area, the landscape-scale analysis concluded that the likelihood of whooping cranes occurring within the Project Area is low based on the location of the Project Area on the edge of the migration corridor. Sections of the transmission line that are within 0.5 mile of potentially suitable stopover habitat for whooping cranes will be outfitted with bird flight diverters per the Avian Power Line Interaction Committee (APLIC) (2012) recommendations to reduce risk of collision for whooping cranes and other birds.

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7.0 PUBLIC AGENCY COORDINATION AND IDENTIFICATION OF PERMITS AND APPROVALS

7.1 Agency Consultation

NDAC § 69-06-01-05 lists 27 state agencies or officers that are entitled to notice of the Applicant's proposed action. Letters describing the proposed Project were sent to the applicable agencies in August 2015. Copies of these letters and all responses received are included in **Appendix B**; a summary of the responses received as of November 2015 are presented below in **Table 10**.

Brady Wind will continue to meet with county officials as the Project moves forward and Brady Wind seeks any necessary local permits. Brady Wind also held a public open house in Scheffield, North Dakota, on November 4, 2015, to provide local residents the opportunity to meet the Project staff and discuss the Project.

Table 10. Summary of Agency Correspondence

Agency	Response Date	Response Summary
U.S. Army Corps of Engineers (USACE)	08/19/15	If a Section 10 and/or Section 404 permit is required, a permit application must be submitted to USACE. Nationwide Permit 12 requirements and general conditions were provided.
State Historical Society of North Dakota (SHSND)	08/21/15	Recommends Class I file search and Class III Intensive Cultural Resources Inventories for archaeological sites and historic structures.
North Dakota Geological Survey	08/24/15	There are economic coal deposits within or adjacent to the Project Area. The agency has not initiated a landslide mapping project within this area.
North Dakota Department of Health	08/26/15	The agency believes the environmental impacts of the Project will be minor. Fugitive dust emissions should be minimized during construction. Impacts to streams should be avoided and disturbed areas should be revegetated. Projects disturbing one or more acres must have a permit to discharge storm water runoff. Noise from construction activities can be minimized by ensuring that construction equipment is equipped with a working muffler. The agency believes the proposed activities are consistent with the State Implementation Plan for the Control of Air Pollution for the State of North Dakota.
North Dakota Parks and Recreation Department	08/31/15	No state park lands or Land and Water Conservation Fund lands are in the Project Area. There are several significant ecological communities documented in the Project Area. The agency recommends that any impacted areas be revegetated with species native to the Project Area.
North Dakota State Water Commission	09/04/15	There are floodplains in the Project Area. The online link for well locations was provided. There is Southwest Pipeline Project infrastructure in the area; contact information for the Southwest Water Authority was provided. All waste materials associated with the Project must be disposed of properly and not placed in floodway areas. No sole-source aquifers have been designated in North Dakota.

Table 10. Summary of Agency Correspondence

Agency	Response Date	Response Summary
North Dakota Game and Fish	09/25/15	Suggests use of U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines; recommends avoidance of wetland impacts and maintaining existing drainage patterns, and replacing wetlands that are affected. Requests burying of collection lines, marking overhead lines near streams or wetlands; recommends conducting aerial surveys for raptor nests prior to construction and implementing a ½ mile buffer around active eagle nest sites; recommends monitoring for avian and bat mortality, and requests GPS coordinates of turbines once Project is constructed.
U.S. Fish and Wildlife Service	None received to date	N/A
North Dakota Aeronautics Commission	None received to date	N/A
North Dakota Department of Agriculture	None received to date	N/A
North Dakota Indian Affairs Commission	None received to date	N/A
North Dakota Department of Transportation	None received to date	N/A
North Dakota Department of Trust Lands	None received to date	N/A

7.2 Potential Permits/Approvals

The federal and state permits or approvals that have been identified as potentially required for the construction and operation of the Project are shown in **Table 11**. Permits dependent on the final route and structure location will be applied for in spring 2016 prior to construction.

Table 11. Potential Permits and Approvals Required for Construction and Operation of the Project

Agency	Type of Approval	Status*	Need
Federal Approvals			
U.S. Army Corps of Engineers	Nationwide Permit 12 and 14	3	Wetland surveys were completed to ensure that the Project minimizes impacts to waters of the United States and stays below the pre-construction notification threshold.
U.S. Environmental Protection Agency	Spill Prevention, Control, and Countermeasure (SPCC)	2	Required if more than 1,320 gallons of oil are stored onsite at switchyard; may be incorporated into Wind Energy Center SPCC.
State of North Dakota			
North Dakota Public Service Commission (the Commission)	Certificate of Site Compatibility	1	Required for construction of generation facility over 0.5 megawatts in size.
	Certificate of Corridor Compatibility and Route Permit	1	Required for transmission lines over 115 kilovolts.

Table 11. Potential Permits and Approvals Required for Construction and Operation of the Project

Agency	Type of Approval	Status*	Need
State Historical Society of North Dakota (SHSND)	Concurrence with effect recommendations	1	Class I File Search is complete and a Class III Cultural Resources Inventory for archaeology is underway; the report will be submitted to SHSND for review when complete.
North Dakota Department of Health	National Pollutant Discharge Elimination System Permit: General Construction Storm Water	2	Required for disturbance of over 1 acre of land. Must prepare a Storm Water Pollution Prevention Plan.
Local Permits			
Stark County	Conditional Use Permit for the switchyard	2	Brady Wind will apply after submittal of this permit application.
Stark County	Floodplain Permit	3	Brady Wind will work with Stark County to determine if a floodplain permit is necessary if any poles are placed in floodplains.

* Status Explanation:

- 1 – Applied and/or Decision Pending
- 2 – Applying in Spring 2016
- 3 – Final Design will Determine Whether Permit/Approval is Needed

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8.0 FACTORS CONSIDERED

The Siting Act lists 11 factors to guide the Commission in the evaluation and designation of the corridor and route.

8.1 Public Health and Welfare, Natural Resources and the Environment

The preceding sections discuss the research and investigations relating to the effects of the proposed facility on public health and welfare, natural resources, and the environment. These effects and the proposed mitigation to minimize these effects are summarized in Section 6.0.

8.2 Technologies to Minimize Adverse Environmental Effects

The Applicant will utilize the most current technologies and construction technologies to minimize environmental impacts, including design and construction of the Project according to APLIC (2012) recommendations, avoidance of cultural resources, and minimization of impacts to wetlands and streams. In addition, the portions of the Project that are located within 0.5 mile of suitable whooping crane stopover habitat will be outfitted with bird diverters to minimize the likelihood of large birds such as cranes colliding with the line. A Bird and Bat Conservation Strategy (BBCS) is being prepared for the Brady Wind Energy Center and this Project.

8.3 Beneficial Uses of Waste Energy

This factor is not applicable to the Project.

8.4 Unavoidable Adverse Environmental Effects

The Project will introduce a new visual component into the landscape; however, the existing landscape in the vicinity of the Project Corridor already includes existing electrical distribution lines and radio towers. The Project Route is expected to impact approximately 30 acres of land during operation, assuming a 30-acre switchyard and 3 square feet per pole every 700 linear feet.¹

8.5 Alternatives to the Proposed Route

Other alternatives were considered for the Project Route within the area between the western terminus (Basin and the Applicant's preferred point of interconnection) and the eastern terminus (the location of the collection substation for the proposed Brady Wind Energy Center). The Applicant believes that the proposed location is the most viable route alternative based on landowner preferences, the fact that the Project Route follows existing road ROWs and section lines where practicable, and is the most direct route that also minimizes impacts on the exclusion, avoidance, selection, and policy criteria identified in NDAC § 69-06-08-02.

8.6 Irreversible and Irrecoverable Commitment of Natural Resources

Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that the use of these resources have on future generations. Irreversible effects primarily result from use or destruction of a specific resource that cannot be replaced within a reasonable timeframe. Irrecoverable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the action. There are few commitments

¹ A 3 square-foot pole every 700 feet for 19 miles is approximately 430 square feet, or less than 0.01 acre.

of resources associated with this Project that are irreversible and irretrievable, but these include those resources primarily related to construction.

Labor and natural resources will be used in the fabrication and preparation of construction materials. These materials are usually not retrievable. Construction resources that will be used include steel, aggregate resources, concrete, and hydrocarbon fuel. Each steel monopole structure requires the construction of a foundation approximately 5 feet wide and approximately 20 feet deep. During construction, vehicles will be traveling to and from the site, utilizing hydrocarbon fuels. These resources are not in short supply, and their use will not have an adverse effect on the availability of these resources. In addition, the anticipated economic benefits of the Project will balance the irretrievable commitment of resources resulting from the construction of the Project (see Section 8.5).

8.7 Direct and Indirect Economic Impact of the Proposed Transmission Facility

Economic impacts include impacts associated with the temporary disturbance of up to approximately 345 acres of land due to transmission structure installation, assuming the entire 150-foot-wide construction easement would be disturbed. Permanent impacts will be lower, at slightly more than 30 acres, primarily the switchyard and approximately 140 pole structures. In general, agricultural areas surrounding each transmission line structure can still be farmed, and landowner compensation will be established by individual easement agreements. Other direct and indirect economic impacts are generally positive, and may include spending for fuel, operating supplies, and other products and services that will benefit local businesses.

8.8 Existing Development Plans in the Vicinity of the Route

No conflicts are anticipated with existing state and local government and private entities' development plans. The Project Route was developed based on voluntary easement agreements with landowners.

8.9 Effects on Scenic and Cultural Resources

There are no designated recreational resources that would be affected by the Project. Section 6.1 describes the cultural resources inventory underway for the Project. No effects to potentially significant sites are anticipated.

8.10 Effects on Biological Resources

Biological resources within the Project Corridor and potential effects as a result of the Project are discussed in Sections 6.2 through 6.4. Effects will be avoided and minimized to the extent practicable. The transmission line will be designed and constructed following APLIC (2006) recommendations to minimize the risk of electrocution for birds, and portions of the Project that are within 0.5 mile of suitable stopover habitat for whooping cranes will be marked per APLIC recommendations (APLIC 2012) to minimize impacts to whooping cranes and other large birds. As stated in Section 8.2, a BBCS is being prepared for the Project.

8.11 Problems Identified by Agencies

Agency coordination and potential permits/approvals are discussed in Section 7.1 and Section 7.2, respectively. In general, the agencies that responded concluded that the proposed Project will have minimal adverse effects. A copy of agency response letters is included in **Appendix B**.

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9.0 QUALIFICATION OF CONTRIBUTORS

Name Project Role	Education and Professional Experience
MELISSA HOCHMUTH Project Manager, Development NextEra Energy Resources (NEER)	<p>Ms. Hochmuth joined NEER in August 2008 and serves as NEER’s lead developer for North Dakota. Melissa has over six years of experience in various roles with NEER. She spent five years in the environmental compliance and regulatory departments and began her role as lead developer for wind projects in North Dakota in October 2013. Melissa is responsible for managing and coordinating key functions of project development including site prospecting, meteorological tower deployment, financial analysis, land acquisition, contract negotiations including leases and obtaining all state, local, and environmental permits. Melissa holds a BA, Masters of Educational Administration and Law Degree from the University of Florida.</p>
KIMBERLY WELLS, PH.D. Environmental Services Project Manager NEER	<p>Dr. Wells has 15 years of environmental permitting experience including experience as both a consultant and environmental manager in the renewable industry. Her primary expertise is technically challenging and interdisciplinary projects on private and public land, with a focus on large environmental impact assessment and permitting projects with the National Environmental Policy Act (NEPA) and state equivalents; the ESA, the Clean Water Act, and associated natural resource laws. She is a certified wildlife biologist and wetland delineator, and obtained her BS in Natural Resource Management from the University of Arizona, her MS in Fisheries and Wildlife Ecology from Oklahoma State, and her PhD in Fisheries and Wildlife Sciences from the University of Missouri – Columbia. Dr. Wells is the environmental permitting manager for the Mid-Continent Region that includes North Dakota.</p>
JASON UTTON Director Development NEER	<p>Mr. Utton currently directs all wind energy development efforts in the Midwest ISO and PJM markets. Jason joined NEER in 2007. While with NEER, he has successfully developed over 500 MW of clean, renewable energy, which reflects a total company investment of over \$2.0B. Jason is the lead negotiator for all commercial contracts in North Dakota.</p>
CHRIS WESTRICK Sr. Project Manager Construction NEER	<p>Mr. Westrick is responsible for the management and oversight of early stage phases of project planning, engineering, and construction of wind projects. Duties also include budget development, contract execution, procurement, logistical planning, and ultimately transition to the construction execution team. Chris has over 10 years of experience in construction and project management.</p>
BRIAN BJELLA Attorney for Applicants Crowley Fleck PLLP	<p>Applicant’s counsel. J.D. and Bachelor’s degree, both from University of North Dakota.</p>
ANNE-MARIE GRIGER, AICP Project Manager Tetra Tech, Inc.	<p>Ms. Griger has 10 years of experience in environmental planning and permitting, including NEPA compliance, for large-scale infrastructure projects including wind energy generating facilities, solar energy facilities, and highways. She serves as Project Manager for wind energy projects in Kansas, North Dakota, South Dakota, and Texas. Master’s in Urban and Regional Planning and Bachelor’s degree in Environmental Policy and Planning, both from Virginia Tech.</p>

Name Project Role	Education and Professional Experience
SARAH MCCALL Senior Environmental Planner Tetra Tech, Inc.	<p>Ms. McCall has more than 12 years of experience as an environmental planner and natural resources specialist/policy analyst. Responsibilities have included project management and technical support of NEPA documents and other land use permits, focusing largely on renewable energy projects. Ms. McCall received her Master of Public Administration in Environmental Management at Indiana University, her Master of Science in Environmental Science at Indiana University, and her Bachelors of Science in Zoology at the University of Wisconsin.</p>
JAKE ENGELMAN GIS Analyst Tetra Tech	<p>Mr. Engelman prepared the application figures, impact calculations, and other GIS tasks in support of this permit application. He is a GIS specialist with four years of experience in environmental resource and utility planning projects. His skills include geographic information systems (GIS), cartographic and graphic design, remote sensing, natural and cultural environmental resource mapping, and global positioning system (GPS) data collection. He uses these skills to produce high-quality graphic products of proposed projects, ranging from generation scale utility projects to single parcel substations. Mr. Engelman received his Bachelors of Science in Geography at Minnesota State University-Mankato.</p>
ADAM HOLVEN Archaeologist Tetra Tech	<p>Mr. Holven led the Class I and Class III Cultural Resources Inventory for archaeology for the Project. He has extensive archaeological field experience, including large-scale multi-square mile cultural resource surveys for wind farms in North Dakota, South Dakota, and Minnesota. Mr. Holven obtained his Master's off Arts in Anthropology at Iowa State University, his Bachelors of Arts in Anthropology at University of Northern Iowa, and his Bachelors of Science in Geology at University of Northern Iowa.</p>
STEVE YARBROUGH Wetlands Biologist Tetra Tech	<p>Mr. Yarbrough led the wetlands delineation surveys for the Project. He is a certified professional ecologist with the Ecological Society of America and a director on the board of the Colorado Native Plant Society, and has 26 years of experience as a biologist and environmental scientist in the environmental consulting field. Mr. Yarbrough obtained his (Master of Arts in Biology at the University of Colorado, Denver, and his Bachelor of Arts in Environmental Studies at the University of Kansas.</p>

10.0 REFERENCES

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- Basin (Basin Electric Power Cooperative). 2014. Basin Electric signs contracts for wind generation. <http://www.basinelectric.com/News-Center/News-Articles/News-Releases/basin-electric-signs-contracts-for-wind-generation-.html>. Accessed October 16, 2015.
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- Tetra Tech. 2015. Whooping Crane Likelihood of Occurrence Report for the Brady Wind Energy Center. Prepared for NextEra Energy Resources, LLC. November 2015.
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- USDA (U.S. Department of Agriculture) Rural Utilities Service. 2013. Burlington-Wray 230-Kilovolt Transmission Project. Environmental Assessment. October 2013. Available online at: http://www.rd.usda.gov/files/UWP_CO47-Tri-State_Burlington-Wray_EA.pdf, accessed December 2015.

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11.0 DEFINITIONS

APE	area of potential effects
APLIC	Avian Power Line Interaction Committee
Applicant	Brady Wind, LLC
Basin	Basin Electric Power Cooperative
Brady Wind	Brady Wind, LLC
BBCS	Bird and Bat Conservation Strategy
Class I Cultural Resources Inventory	Existing data inventory – a large-scale review and compilation of known cultural resource data
Class III Cultural Resources Inventory	Field inventory to identify cultural resources that could be affected by project facilities within the Project Area
Commission	North Dakota Public Service Commission
Corridor Certificate	Certificate of Corridor Compatibility and Route Permit
GIS	Geographic information system
Guidelines	Commission Application Guidelines for a Certificate of Corridor Compatibility
kV	kilovolt
MW	megawatt
NEER	NextEra Energy Resources, LLC
NDAC	North Dakota Administrative Code
NDCC	North Dakota Century Code
PPA	Power Purchase Agreement
Project, the	Brady Transmission Line
ROW	right-of-way
SHSND	State Historical Society of North Dakota
Siting Act	North Dakota Energy Conversion and Transmission Facility Siting Act
USACE	U.S. Army Corps of Engineers












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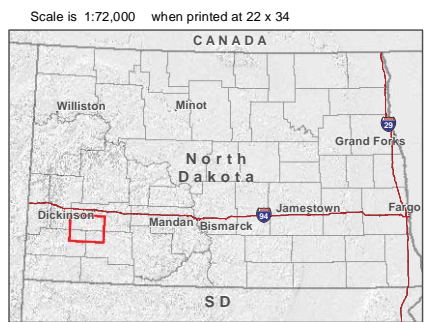
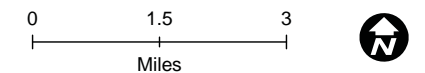
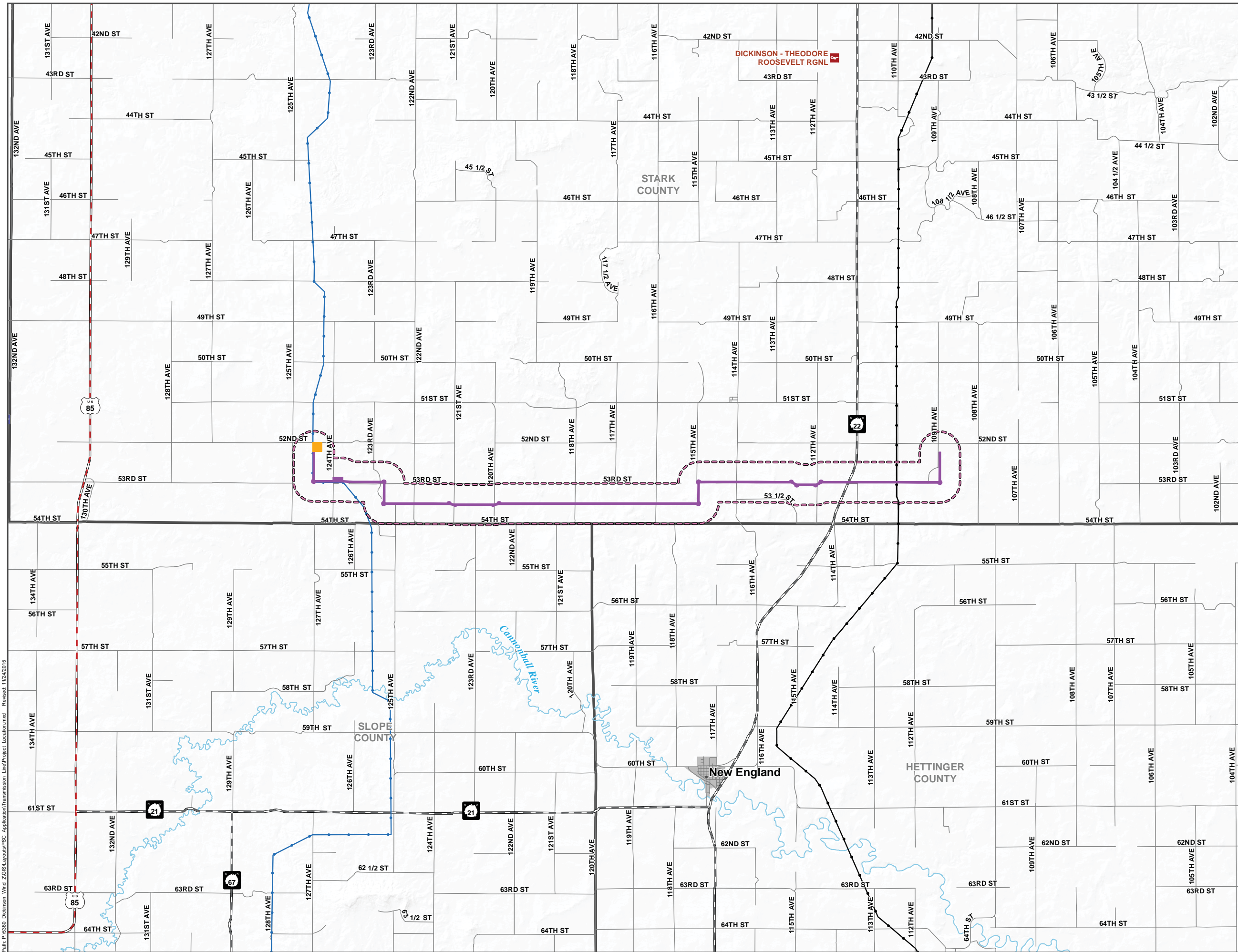
Figures

Brady Wind Transmission Line

Stark County, ND

Legend

-  Proposed Project Corridor (10/19/15)
-  Proposed Switchyard (08/13/15)
-  1-mile Study Area
-  County Boundary
-  Major River
-  Municipal Boundary
- Existing Electrical Transmission (Ventyx 2015)**
-  115kV Transmission Line
-  230kV Transmission Line
- Transportation (BTS 2013)**
-  Public Airport
-  U.S. Highway
-  State Highway















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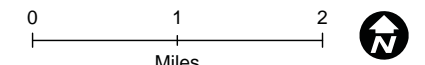
Figure 1: Project Location

Brady Wind Transmission Line

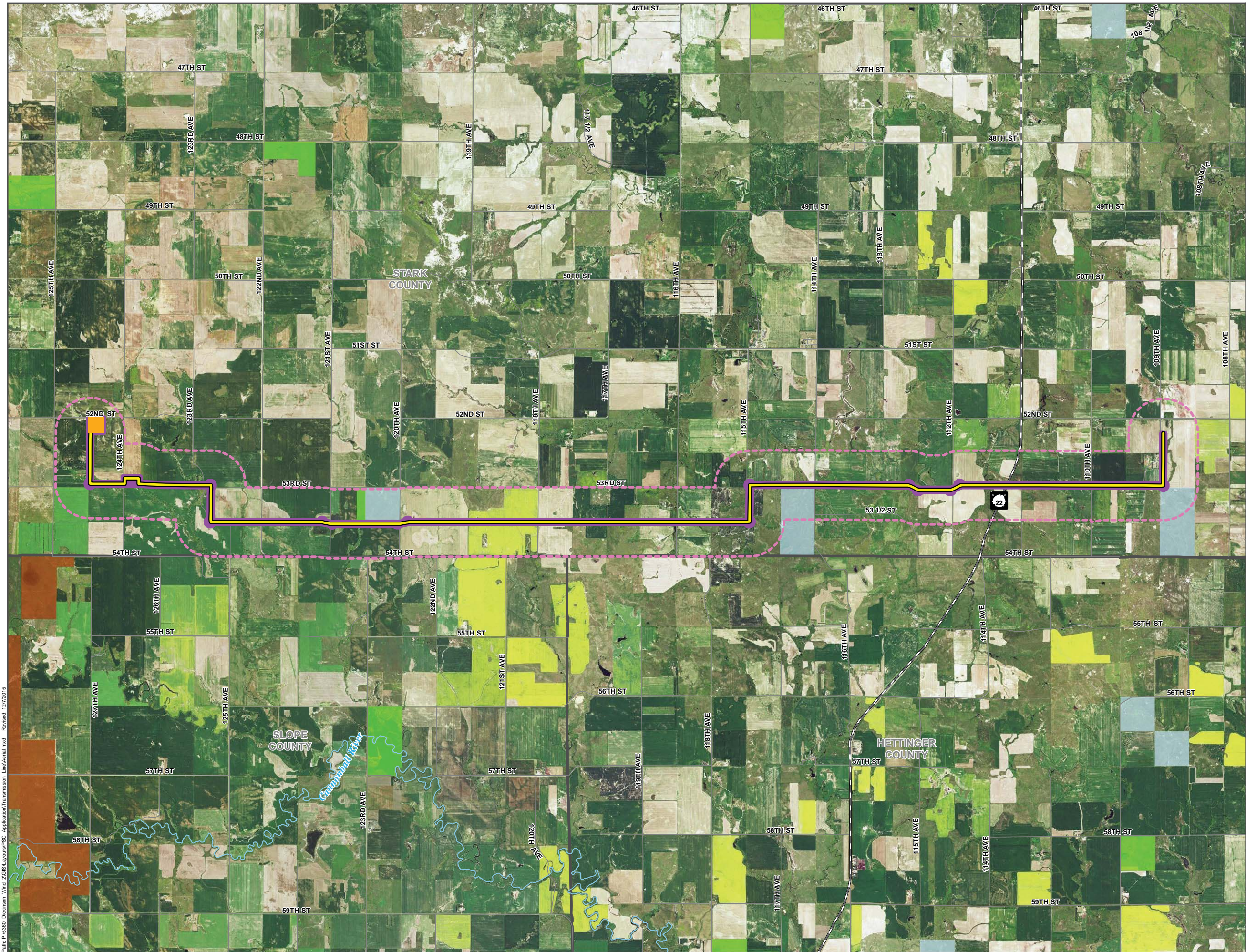
Stark County, ND

Legend

-  Proposed Route (10/16/15)
 -  Proposed Project Corridor (10/19/15)
 -  Proposed Switchyard (08/13/15)
 -  1-mile Study Area
 -  County Boundary
 -  Major River
 -  Municipal Boundary
- Transportation**
-  State Highway
 -  County Road
- Jurisdiction**
(ND GIS Hub 2014)
- Federal**
-  National Grassland
- State**
-  State Trust Land
- Other**
-  North Dakota Game & Fish Conservation PLOTS Recreational Easement (Private Land Open to Sportsmen)



Scale is 1:42,000 when printed at 22 x 34



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Figure 2: Project Corridor (Aerial)

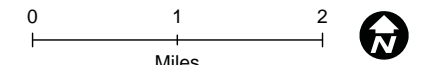
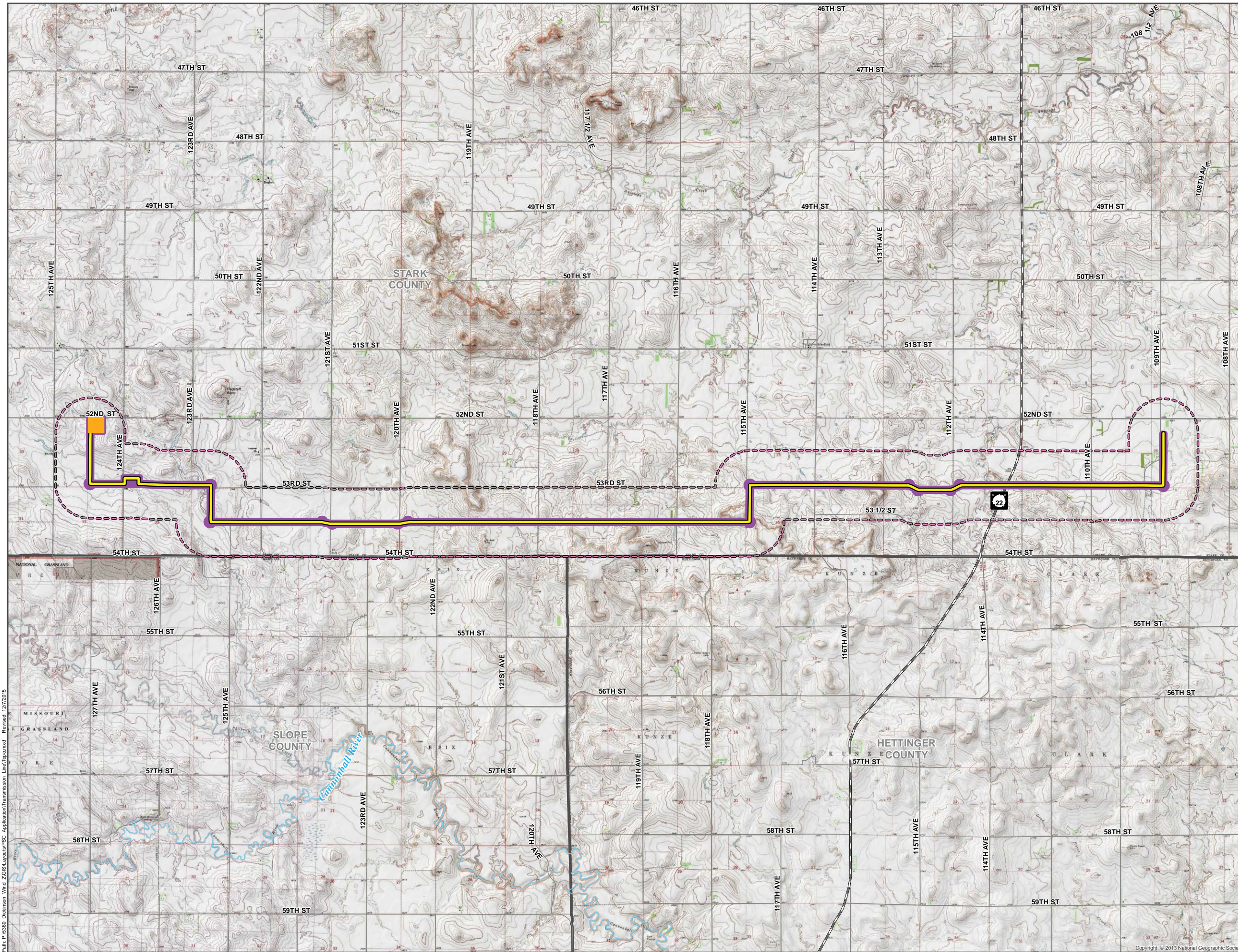
Brady Wind Transmission Line

Stark County, ND

Legend

- Proposed Route (10/16/15)
- Proposed Project Corridor (10/19/15)
- Proposed Switchyard (08/13/15)
- 1-mile Study Area
- County Boundary

*USGS Topo



Scale is 1:42,000 when printed at 22 x 34



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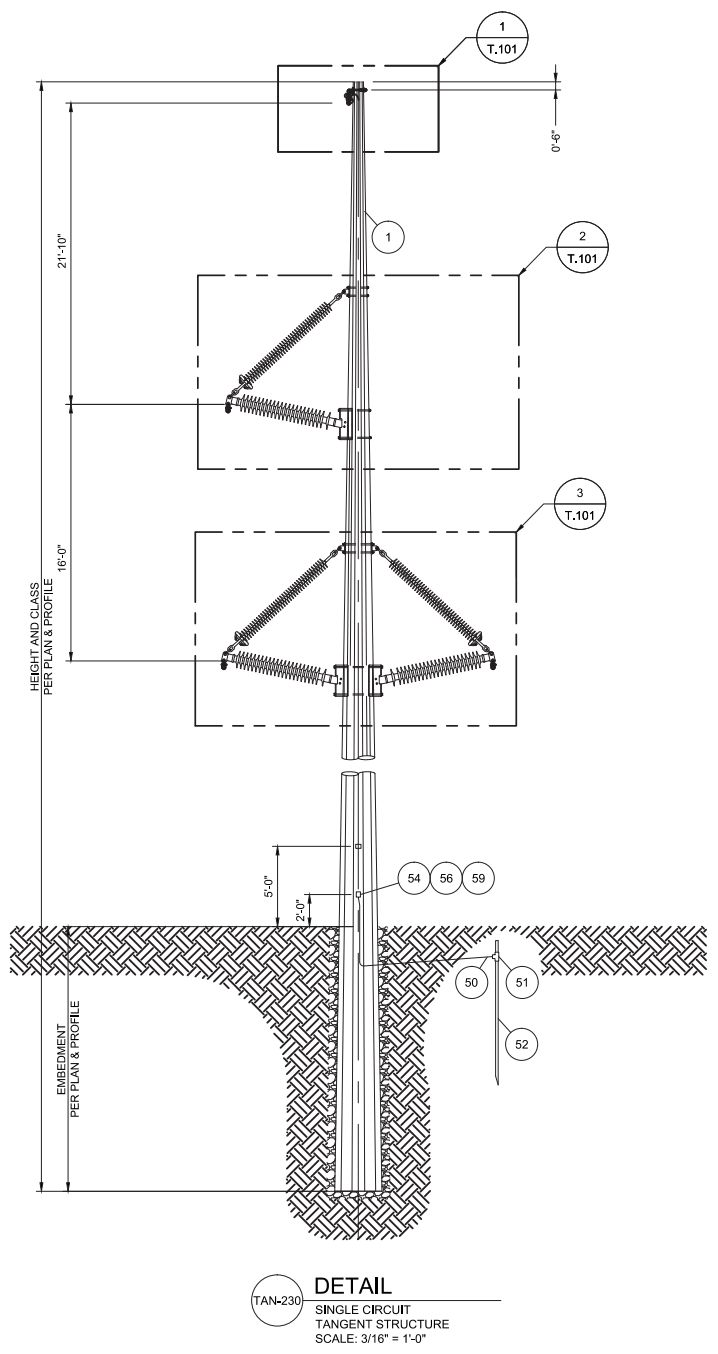
Copyright: © 2013 National Geographic Society

Figure 3: Project Corridor (Topographical)

REVISIONS

REV	DESCRIPTION	DSN	CHK	DATE
		DWN	APP	
		BJA	SMA	
A	ISSUED FOR REVIEW	BJA	SMA	02/03/15

TANGENT BILL OF MATERIAL MATERIAL REQUIRED THIS SHEET						
Item	QTY	Units	Manufacturer	Part No.	Description	Provided by
1	1	EA	TRINITY MEYER		POLE: STEEL, WOOD EQUIVALENT, HEIGHT AND CLASS AS SHOWN ON PLAN AND PROFILE DRAWING	OWNER
2	AS REQ'D	FT			CONDUCTOR: 1272 kcmil "BITTERN", 1.345" DIAMETER, 34,100 LB ULTIMATE STRENGTH, 1.434 LB/FT	OWNER
3	AS REQ'D	FT	SFPOC	SFSJ-J-4388	OPGW: 48 FIBER, 0.530" DIAMETER, 18,800 LB ULTIMATE STRENGTH, 0.365 LB/FT	OWNER
5	1	EA	ELECTROTEK	S-STRAP	S-STRAP: SEE DRAWING XXX FOR DIMENSIONS, WITH REQUIRED TERMINALS	OWNER
10	3	EA	MACLEAN	B211089AL99N-60	INSULATOR: BRACED POST, 230 kV	OWNER
14	1	EA	PREFORMED	4300109YC	SUSPENSION CLAMP: FOR 0.512" TO 0.536" DIAMETER OPGW, SINGLE, FIBERLIGN, INCLUDES Y-CLEVIS	OWNER
15	3	EA	ANDERSON	CFS-213-N	SUSPENSION CLAMP: FOR "BITTERN", ALUMINUM,	OWNER
19	1	EA	HUGHES BROS	2855.5-10-BCL	BRACKET: SHIELD WIRE SUPPORT, 5/8" DIAMETER, 10" LENGTH, 5/8" LINK CHAIN, MAX VERTICAL LOAD 5 KIP	OWNER
20	1	EA	ANDERSON	YCS-05	Y CLEVIS EYE: 20 KIP ULTIMATE LOAD, 3/4" PIN DIAMETER, 11/16" DIAMETER AND 5/8" WIDTH EYE	OWNER
21	3	EA	ANDERSON	YCS-22-90	Y CLEVIS EYE: 30 KIP ULTIMATE LOAD, 3/4" PIN DIAMETER, 11/16" DIAMETER AND 2 1/4" WIDTH EYE	OWNER
25	3	EA	PREFORMED	AR-0146	ARMOR RODS: FOR 1272 kcmil, 45/7 Strand, "BITTERN"	OWNER
30	12	EA			BOLT: 7/8" DIAMETER, LENGTH NOT SPECIFIED	CONTRACTOR
32	12	EA	LOK-MOR	ANCO	LOCKNUT: FOR 7/8" BOLT	CONTRACTOR
35	4	EA	HUGHES BROS	SW3-80-3/8	WASHER: SQUARE, FLAT, 3" X 3" FOR 7/8" BOLT	CONTRACTOR
36	8	EA	HUGHES BROS	RW2-80	WASHER: ROUND FOR 7/8" BOLT, 2" OUTSIDE DIAMETER	CONTRACTOR
40	3	EA	HUGHES BROS	2817-S-15	DEADEND TEE: 60,000 LB ULTIMATE STRENGTH, 6" HOLE SPACING, 15/16" MOUNTING HOLE, 15/16" CHAMFERED STEM HOLE	CONTRACTOR
50	AS REQ'D	FT			CONDUCTOR: COPPER, #2 AWG, 0.292" DIAMETER, 7-STRAND	CONTRACTOR
51	AS REQ'D	EA			CLAMP: COMPRESSION, FOR #2 AWG TO 1/2" DIAMETER GROUND ROD	CONTRACTOR
52	AS REQ'D	EA	HUBBELL	C611300	GROUND ROD: 1/2" DIAMETER X 10' LENGTH, COPPER	CONTRACTOR
54	2	EA			TERMINAL: FOR #2 AWG TO 2 HOLE NEMA PAD	CONTRACTOR
56	4	EA			BOLT: 1/2" DIAMETER, 2" LONG	CONTRACTOR
59	4	EA			WASHER: LOCKWASHER FOR 1/2" BOLT	CONTRACTOR



1 DETAIL
 T.101 SHIELD WIRE ATTACHMENT
 SCALE: 3/4" = 1'-0"

2 DETAIL
 T.101 BRACED POST ATTACHMENT
 SCALE: 3/8" = 1'-0"

3 DETAIL
 T.101 BRACED POST ATTACHMENT
 SCALE: 3/8" = 1'-0"

NOTES

1. USE GROUNDING PROCEDURE FOR INSTALLATION OF GROUNDING RODS. SEE DRAWING T.XXX
2. REFERENCE PLAN AND PROFILE DRAWINGS FOR REQUIRED STRUCTURE EMBEDMENTS.

SCALE VERIFICATION

THIS BAR IS 1 INCH IN LENGTH ON ORIGINAL DRAWING

IF IT'S NOT 1 INCH ON THIS SHEET ADJUST YOUR SCALES ACCORDINGLY

ORIGINAL DRAWING SIZE IS 24 x 36
TANGENT STRUCTURE ASSEMBLY DRAWING

DICKINSON TRANSMISSION LINE

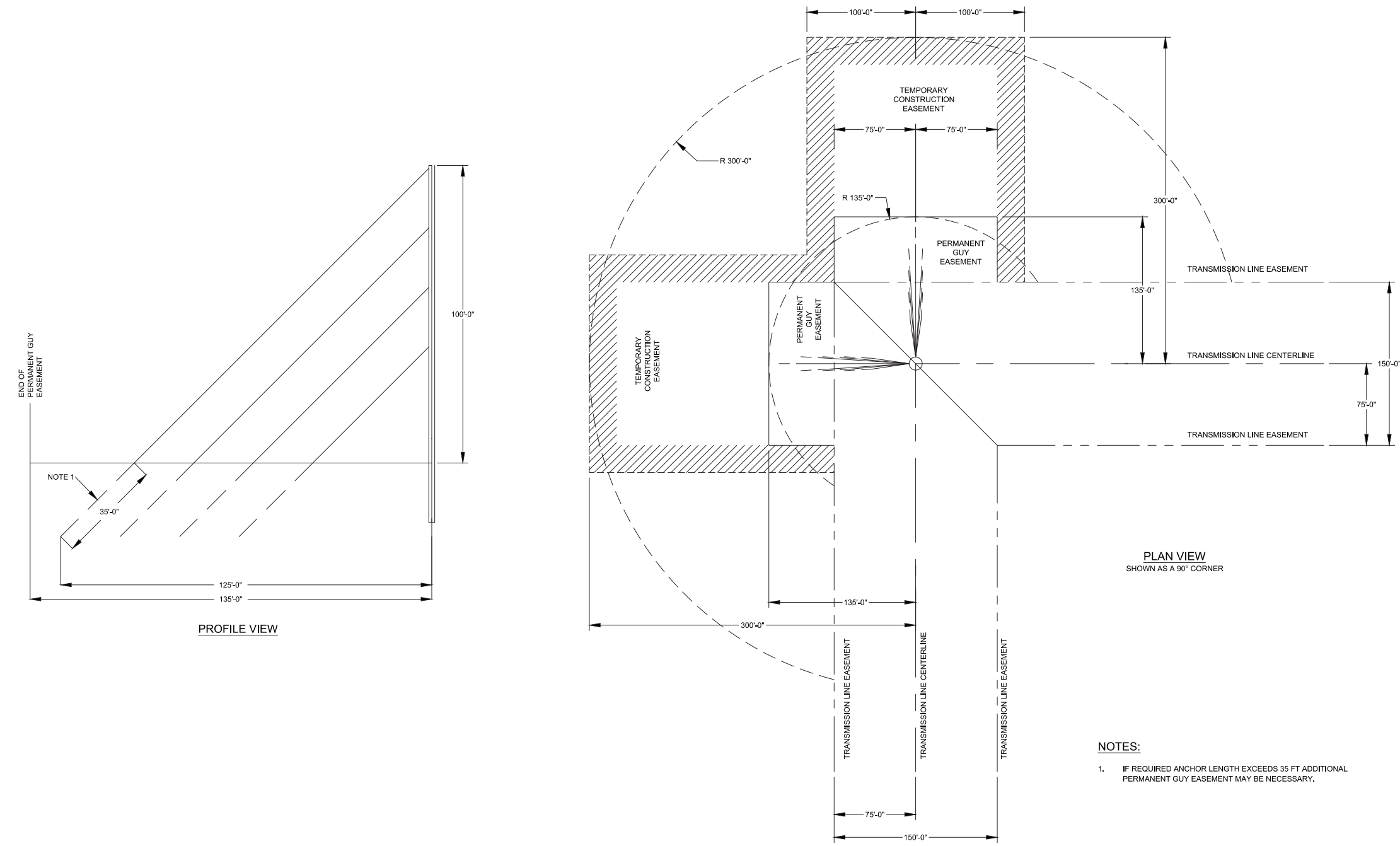


ISSUED FOR REVIEW

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ISSUE DATE	02/03/15	
CURRENT REVISION	A	
DESIGNED BY	B. AVERILL	
DRAWN BY	B. AVERILL	
CHECKED BY	S. ARNDT	
APPROVED BY	S. ARNDT	SHEET

Figure 4: Transmission Line Typical Structure

REVISIONS				
REV	DESCRIPTION	DSN	CHK	DATE
A	ISSUED FOR REVIEW	BJA BJA	SMA PMG	02/24/15



- NOTES:**
- IF REQUIRED ANCHOR LENGTH EXCEEDS 35 FT ADDITIONAL PERMANENT GUY EASEMENT MAY BE NECESSARY.

SCALE VERIFICATION
 THIS BAR IS 1 INCH IN LENGTH ON ORIGINAL DRAWING

 IF IT'S NOT 1 INCH ON THIS SHEET ADJUST YOUR SCALES ACCORDINGLY

ORIGINAL DRAWING SIZE IS 24 x 36

HEAVY ANGLE EASEMENT DRAWING

DICKINSON TRANSMISSION LINE



ISSUED FOR REVIEW

PROJECT NO.	20153924	T.901
ISSUE DATE	02/24/15	
CURRENT REVISION	A	
DESIGNED BY	B. AVERILL	
DRAWN BY	B. AVERILL	
CHECKED BY	S. ARNDT	
APPROVED BY	P. GRANT	SHEET --- of ---















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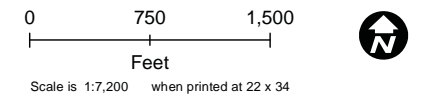
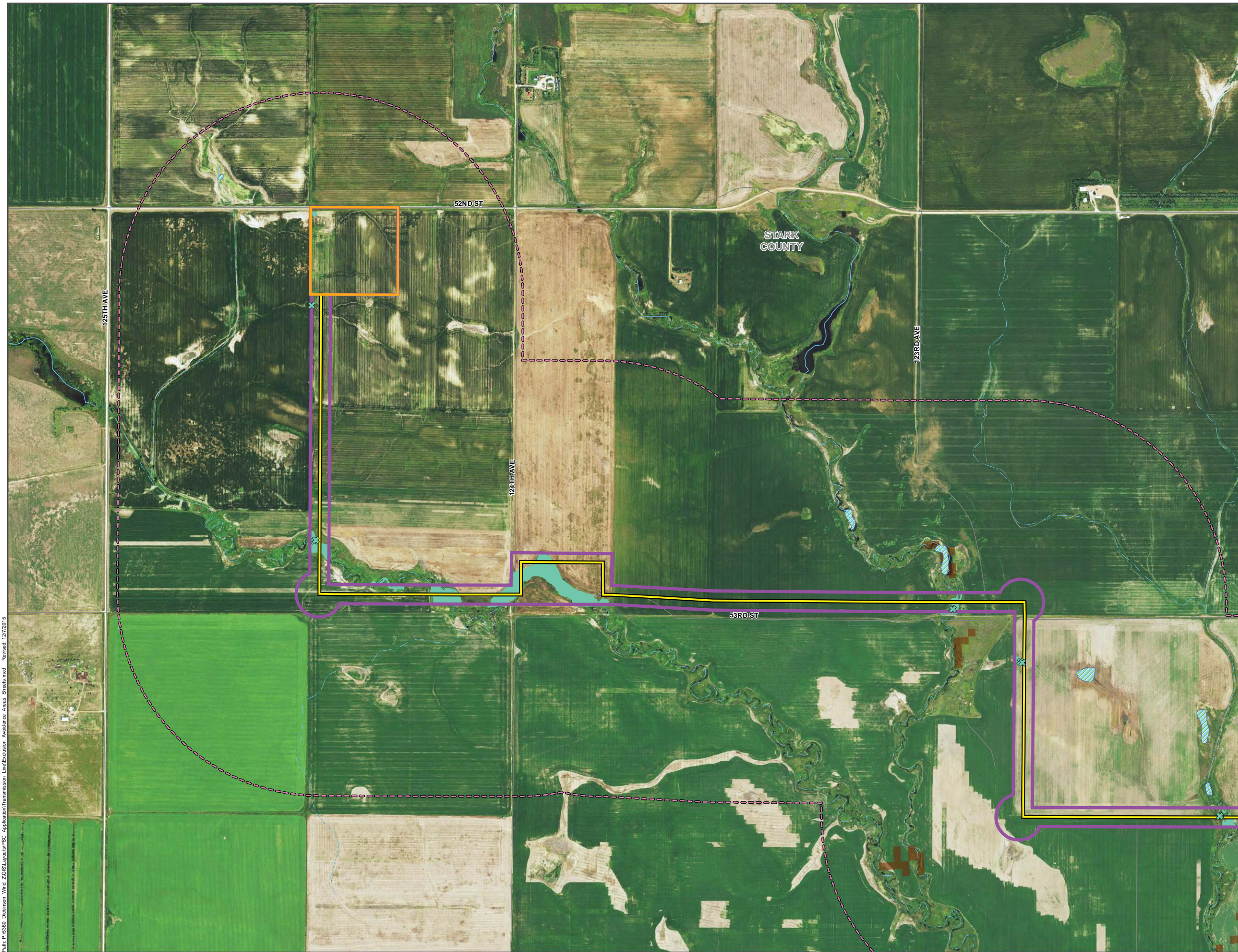
Figure 5: Heavy Angle Easement Drawing

Brady Wind Transmission Line

Stark County, ND

Legend

-  Proposed Route (10/16/15)
 -  Proposed Project Corridor (10/19/15)
 -  Proposed Switchyard (08/13/15)
 -  1-mile Study Area
 -  County Boundary
- Transportation**
-  State Highway
 -  County Road
- Avoidance Areas**
-  Historic Farmstead
 -  Occupied Residence - 500ft buffer
 -  North Dakota Game & Fish Conservation PLOTS Recreational Easement (Private Land Open to Sportsmen)
- Exclusion Areas**
Archeological Sites Not Shown Due to Confidentiality
- Selection Criteria**
NWI 2014, NLCD 2011
-  Field-verified Wetlands and Streams
 -  Field-verified Wetlands and Streams
 -  NWI Wetland
 -  NLCD Wooded Areas*
*Categories: 41, 42, 43, 90
















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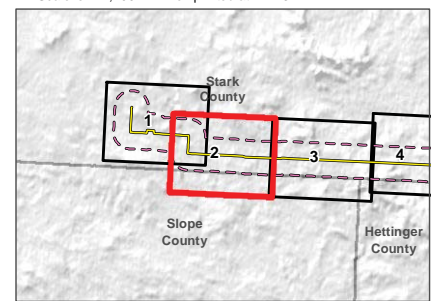
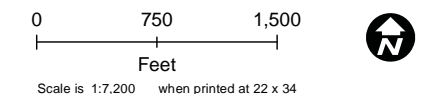
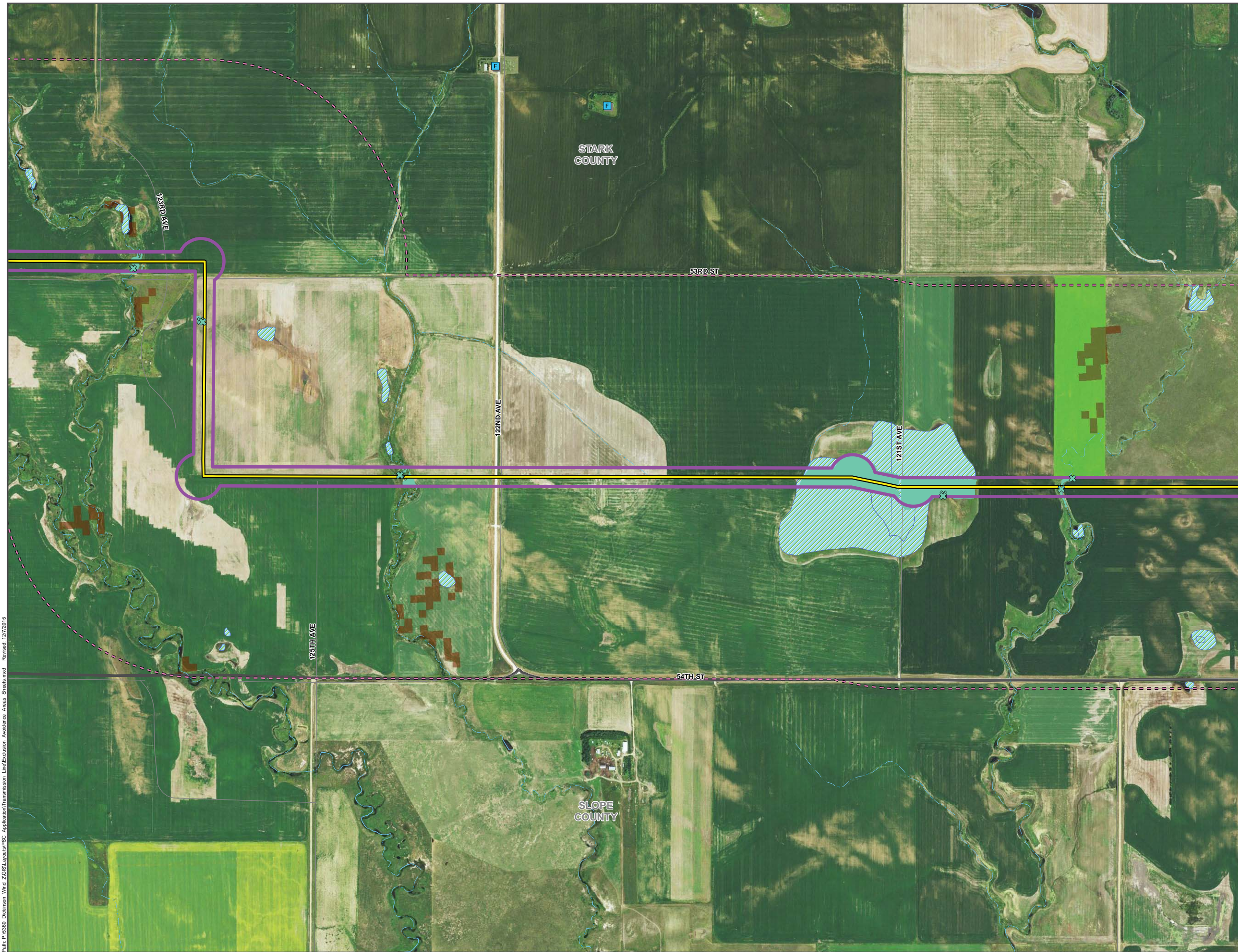
Figure 6: Exclusion and Avoidance Areas - Sheet 1

Brady Wind Transmission Line

Stark County, ND

Legend

-  Proposed Route (10/16/15)
 -  Proposed Project Corridor (10/19/15)
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 -  Field-verified Wetlands and Streams
 -  NWI Wetland
 -  NLCD Wooded Areas*
*Categories: 41, 42, 43, 90







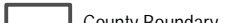

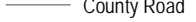


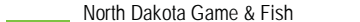

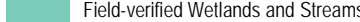

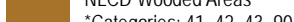
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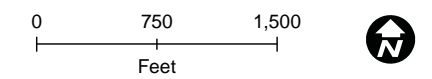
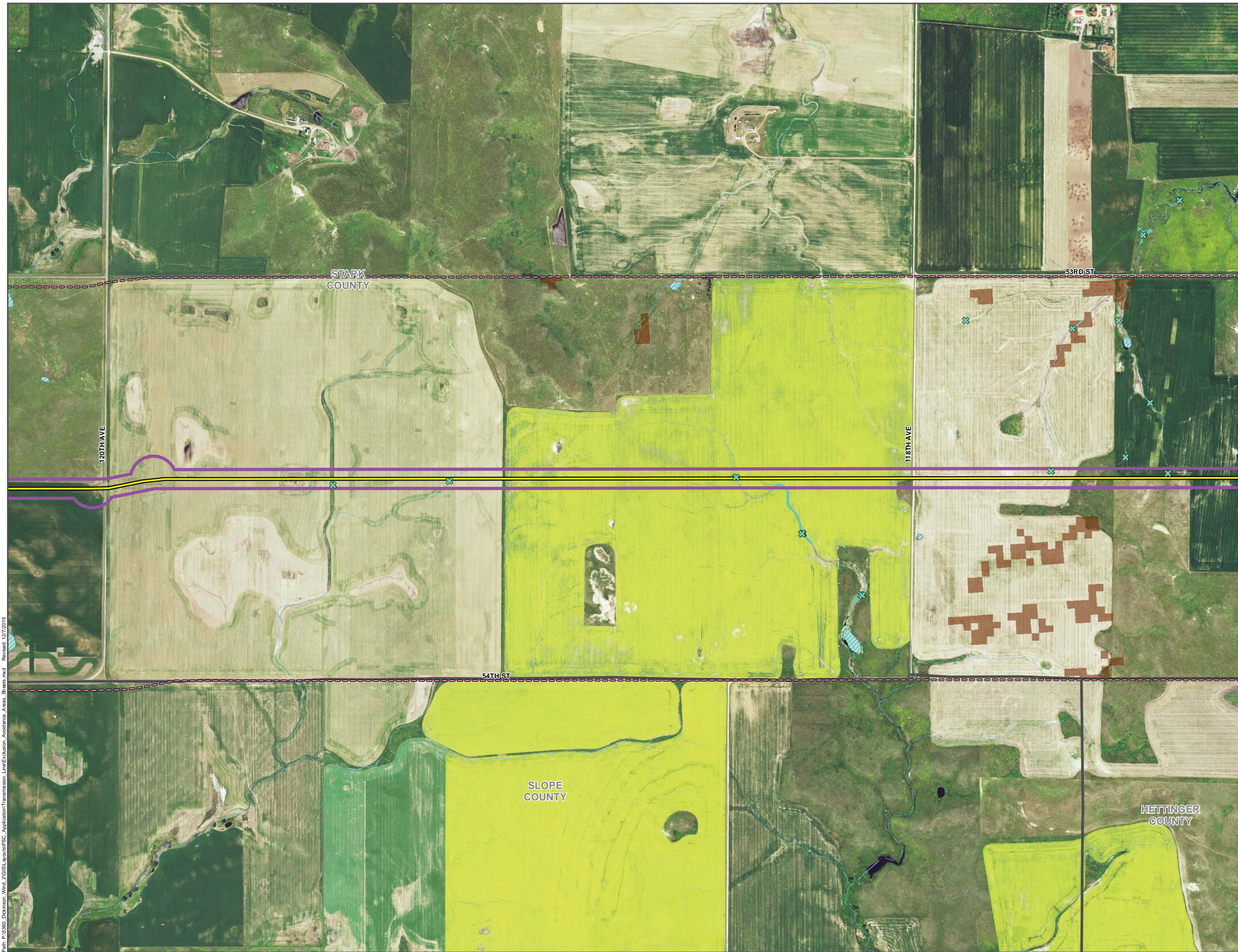
Figure 6: Exclusion and Avoidance Areas - Sheet 2

Brady Wind Transmission Line

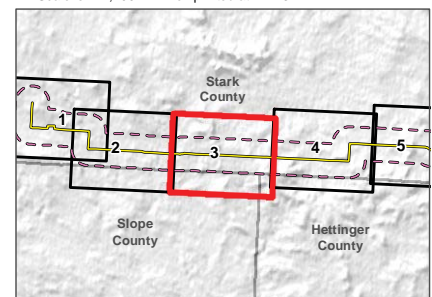
Stark County, ND

Legend

-  Proposed Route (10/16/15)
 -  Proposed Project Corridor (10/19/15)
 -  Proposed Switchyard (08/13/15)
 -  1-mile Study Area
 -  County Boundary
- Transportation**
-  State Highway
 -  County Road
- Avoidance Areas**
-  Historic Farmstead
 -  Occupied Residence - 500ft buffer
 -  North Dakota Game & Fish Conservation PLOTS Recreational Easement (Private Land Open to Sportsmen)
- Exclusion Areas**
Archeological Sites Not Shown Due to Confidentiality
- Selection Criteria**
NWI 2014, NLCD 2011
-  Field-verified Wetlands and Streams
 -  Field-verified Wetlands and Streams
 -  NWI Wetland
 -  NLCD Wooded Areas*
*Categories: 41, 42, 43, 90



Scale is 1:7,200 when printed at 22 x 34
















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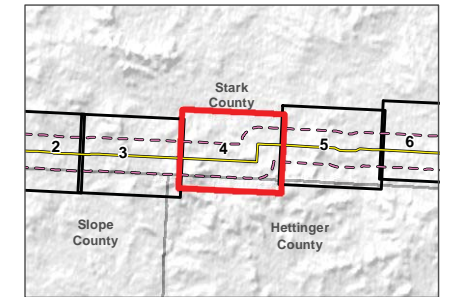
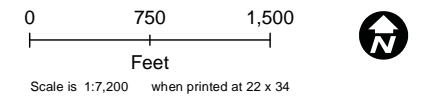
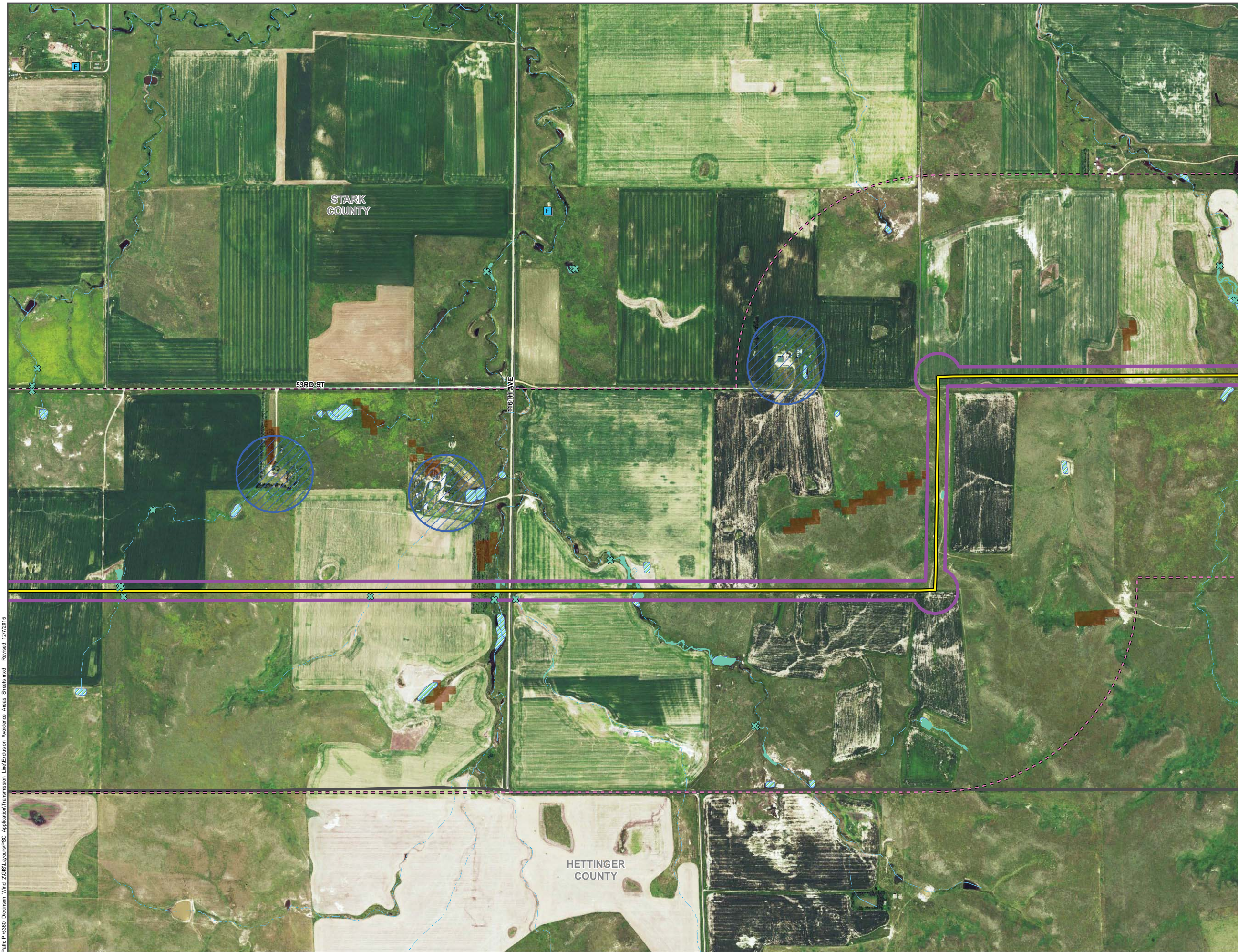
Figure 6: Exclusion and Avoidance Areas - Sheet 3

Brady Wind Transmission Line

Stark County, ND

Legend

-  Proposed Route (10/16/15)
 -  Proposed Project Corridor (10/19/15)
 -  Proposed Switchyard (08/13/15)
 -  1-mile Study Area
 -  County Boundary
- Transportation**
-  State Highway
 -  County Road
- Avoidance Areas**
-  Historic Farmstead
 -  Occupied Residence - 500ft buffer
 -  North Dakota Game & Fish Conservation PLOTS Recreational Easement (Private Land Open to Sportsmen)
- Exclusion Areas**
Archeological Sites Not Shown Due to Confidentiality
- Selection Criteria**
NWI 2014, NLCD 2011
-  Field-verified Wetlands and Streams
 -  Field-verified Wetlands and Streams
 -  NWI Wetland
 -  NLCD Wooded Areas*
*Categories: 41, 42, 43, 90

















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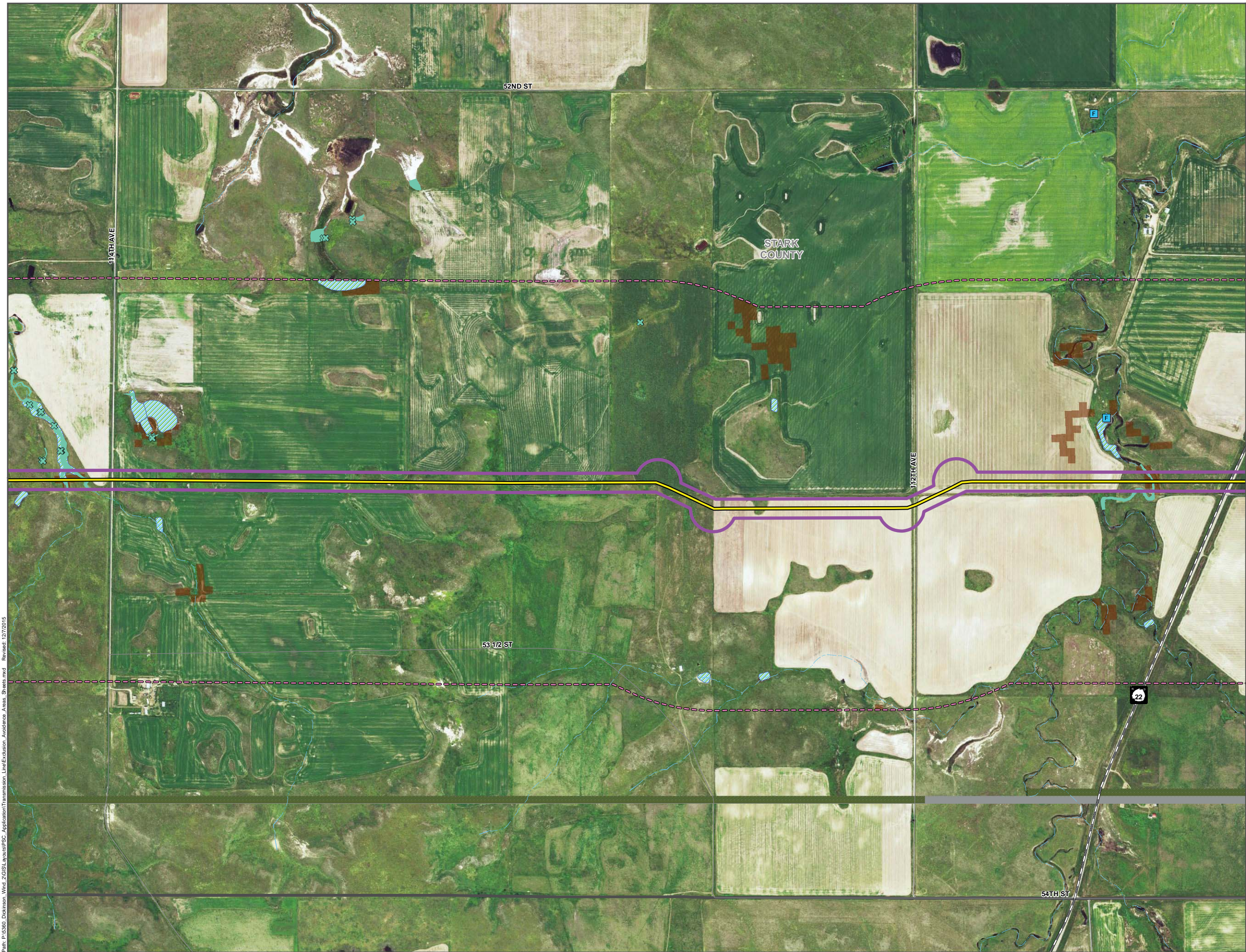
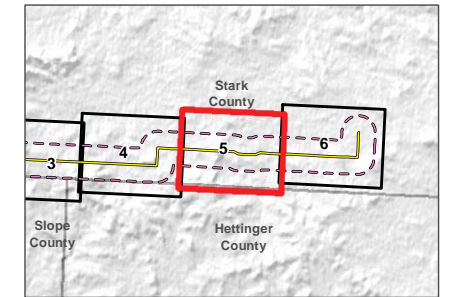
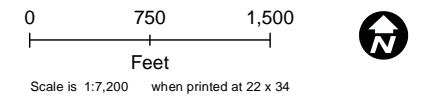
Figure 6: Exclusion and Avoidance Areas - Sheet 4

Brady Wind Transmission Line

Stark County, ND

Legend

-  Proposed Route (10/16/15)
 -  Proposed Project Corridor (10/19/15)
 -  Proposed Switchyard (08/13/15)
 -  1-mile Study Area
 -  County Boundary
- Transportation**
-  State Highway
 -  County Road
- Avoidance Areas**
-  Historic Farmstead
 -  Occupied Residence - 500ft buffer
 -  North Dakota Game & Fish Conservation PLOTS Recreational Easement (Private Land Open to Sportsmen)
- Exclusion Areas**
Archeological Sites Not Shown Due to Confidentiality
- Selection Criteria**
NWI 2014, NLCD 2011
-  Field-verified Wetlands and Streams
 -  Field-verified Wetlands and Streams
 -  NWI Wetland
 -  NLCD Wooded Areas*
*Categories: 41, 42, 43, 90

















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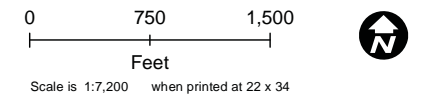
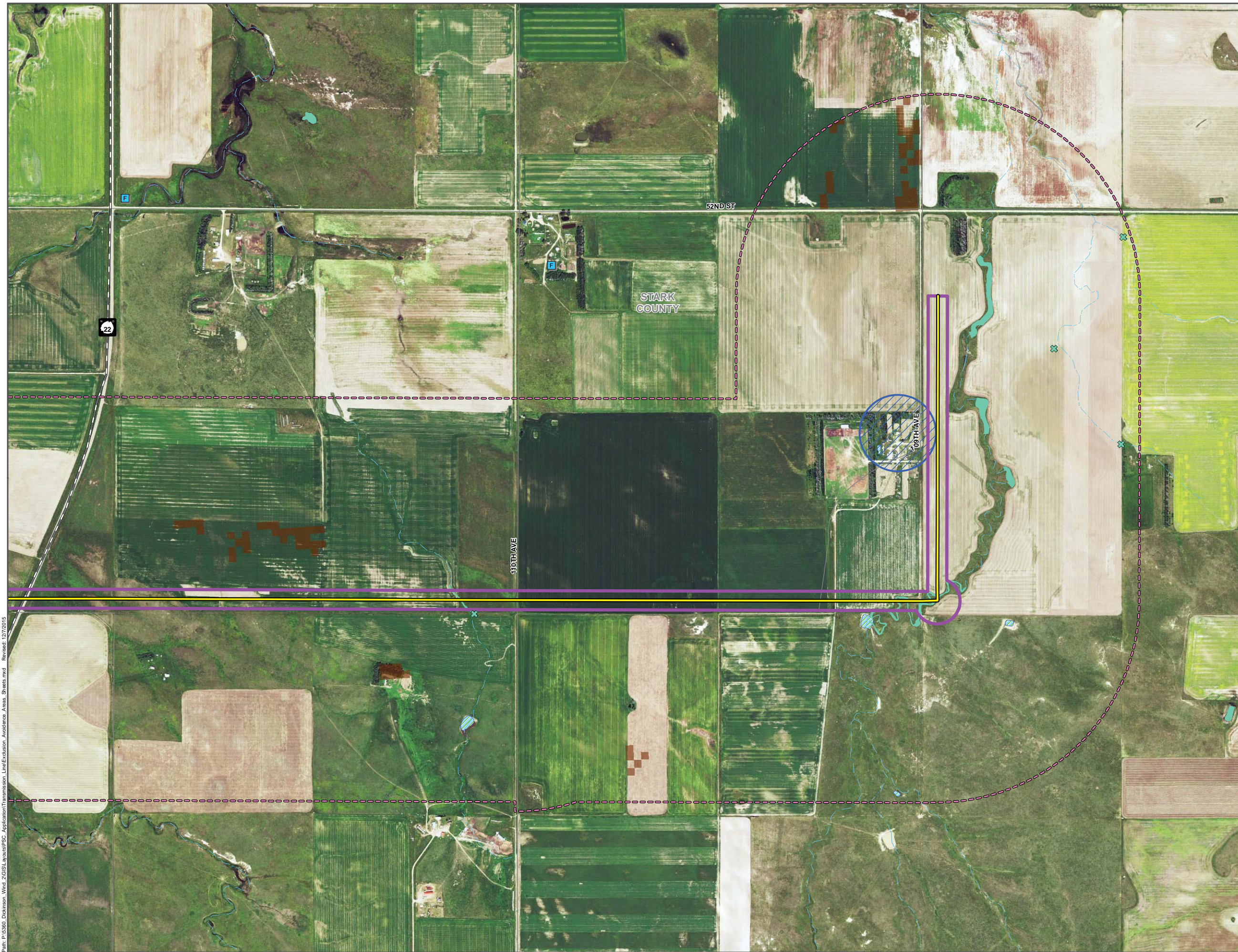
Figure 6: Exclusion and Avoidance Areas - Sheet 5

Brady Wind Transmission Line

Stark County, ND

Legend

-  Proposed Route (10/16/15)
 -  Proposed Project Corridor (10/19/15)
 -  Proposed Switchyard (08/13/15)
 -  1-mile Study Area
 -  County Boundary
- Transportation**
-  State Highway
 -  County Road
- Avoidance Areas**
-  Historic Farmstead
 -  Occupied Residence - 500ft buffer
 -  North Dakota Game & Fish Conservation PLOTS Recreational Easement (Private Land Open to Sportsmen)
- Exclusion Areas**
Archeological Sites Not Shown Due to Confidentiality
- Selection Criteria**
NWI 2014, NLCD 2011
-  Field-verified Wetlands and Streams
 -  Field-verified Wetlands and Streams
 -  NWI Wetland
 -  NLCD Wooded Areas*
*Categories: 41, 42, 43, 90



Path: P:\0360_Dickinson_Wind_2\GIS\Layouts\FSC_Application\Transmission_Line\Exclusion_Avoidance_Areas_Sheets.mxd. Revised: 12/7/2015

Figure 6: Exclusion and Avoidance Areas - Sheet 6

Appendix A
Excerpt of NextEra Energy, Inc.'s 2014 Corporate
Responsibility Report

2015 | CORPORATE RESPONSIBILITY
SUSTAINABILITY REPORT

**SOLVING AMERICA'S ENERGY CHALLENGES:
SUSTAINABLY AND RESPONSIBLY**



Our Story

At NextEra Energy, we're proud of the role we're playing in helping solve America's energy challenges and in creating a more affordable clean energy future ... sustainably and responsibly.

To us, being sustainable and responsible means respecting our environment, investing in customer value, sustaining and growing our communities, investing in our team, and growing shareholder value.

As we continue to pursue our vision of becoming America's clean energy leader, we do so with a commitment to ensuring we are providing benefits daily for our environment, our customers, our communities, our employees and our shareholders.

We're pleased you've taken the time to learn about the NextEra Energy story, and we invite you to join us in our journey to create a more affordable clean energy future we can all be proud of.

Delivering for OUR ENVIRONMENT



Highlights

1. NextEra Energy achieved its lowest-ever emissions rates of SO₂, NO_x and CO₂ in 2014 – rates that were 97-, 79- and 55-percent lower, respectively, than our industry's averages
2. We installed more than 1,600 MW of wind and solar power in 2014
3. We committed to interacting with nature in a positive manner and have developed wildlife protection programs to protect a number of species and their habitats, including eagles, kestrels, sea turtles, crocodiles, and ospreys

Environmental Stewardship

At NextEra Energy, we're committed to being an industry leader in environmental protection and stewardship. As citizens, we're all stakeholders of our earth's environment. As an energy company, we recognize that environmental protection and stewardship are essential to the way we do business and critical to the value we deliver for our stakeholders.

Our Environmental Policy establishes our core environmental expectations and provides actionable guidance for all employees as we strive to foster a culture of environmental excellence and challenge ourselves to continuously improve. The policy is incorporated in our Code of Business Conduct & Ethics and Supplier Code of Conduct, which apply to our employees and suppliers, respectively. Everyone at NextEra Energy understands that protecting the environment is a collective responsibility. It's why our senior executives are actively involved in our environmental accountability, management and stewardship programs that are intended to:

- Design, construct, operate and maintain our facilities in an environmentally sound and responsible manner;
- Prevent pollution, minimize waste and conserve natural resources;
- Avoid, minimize and/or mitigate impacts to habitat and wildlife; and
- Engage stakeholders to build trust and partner toward common goals for environmental stewardship and protection.

We want to be the first and best source of information for our stakeholders to learn about our environmental performance and programs. That's what it means to be the clean energy leader. And that's how we deliver for the environment.



The protection of our natural environment is a fundamental part of our goal to be America's clean energy leader. We are committed to meeting our energy needs, while protecting the air, water, land and wildlife, and our exceptional environmental performance record and clean energy portfolio demonstrate just how well we are doing. These commitments are important to our employees, customers and communities and are what further enable us to deliver outstanding value to our customers and shareholders.

-Randy LaBauve, vice president of environmental services

Toward Cleaner Air

At NextEra Energy, we're committed to being an industry leader in environmental protection and stewardship, and one of the key ways in which we've demonstrated this commitment is by making business decisions to invest in emissions-free and clean generation. This enables us to reduce our impact on the air we all breathe. In fact, NextEra Energy's generation fleet has significantly lower rates of emissions of CO₂, SO₂ and NO_x compared to the U.S. electric power industry as a whole.

At year-end 2014, NextEra Energy Resources was the world's largest generator of renewable energy from the wind and the sun. We ended 2014 with more than 11,400 megawatts of wind generation capacity and nearly 1,000 megawatts of solar generation capacity.

At FPL, we are continuing to modernize our fossil generation fleet by replacing older, inefficient oil-fired generation with state-of-the-art combined-cycle, natural gas generation. Since 2001, FPL's investments in clean, fuel-efficient power plants have saved customers more than \$7.5 billion in fuel costs and helped reduce the company's use of foreign oil by 99 percent. Because of these modernization efforts, FPL has been able to avoid more than 40 million barrels of oil, using less than 1 million barrels of oil for generation in 2014. These investments have also enabled FPL to significantly reduce power plant emissions rates and have prevented more than 85 million tons of carbon emissions to date. FPL now operates one of the most modern, clean, fuel-efficient and low-carbon generation fleets in the nation.

At NextEra Energy, we have positioned our business well to meet the challenges of new federal environmental regulations. We anticipate these new rules will significantly advance the need for low-emitting and zero-emitting electric generation. At NextEra Energy, we've positioned our business to manage the opportunities and risks presented by these new regulations while simultaneously lowering emissions.

Reducing Our Emissions

SO₂ Emissions Rate

NEXTERA ENERGY VS. INDUSTRY:

97% lower
SO₂ emissions rate*



*Source for Electric Sector: U.S. Department of Energy

*The environmental attributes of NextEra Energy's electric generating facilities, such as renewable energy credits, emissions reductions, offsets, allowances and the avoided emission of greenhouse gas pollutants, have been or likely will be sold or transferred to third parties, who are solely entitled to the reporting rights to any federal, state, foreign or voluntary trading program and to ownership of such environmental attributes.

NO_x Emissions Rate

NEXTERA ENERGY VS. INDUSTRY:



*Source for Electric Sector: U.S. Department of Energy

*The environmental attributes of NextEra Energy's electric generating facilities, such as renewable energy credits, emissions reductions, offsets, allowances and the avoided emission of greenhouse gas pollutants, have been or likely will be sold or transferred to third parties, who are solely entitled to the reporting rights to any federal, state, foreign or voluntary trading program and to ownership of such environmental attributes.

CO₂ Emissions Rate

NEXTERA ENERGY VS. INDUSTRY AVERAGE:

55% lower CO₂ emissions rate*



*Source for Electric Sector: U.S. Department of Energy

*The environmental attributes of NextEra Energy's electric generating facilities, such as renewable energy credits, emissions reductions, offsets, allowances and the avoided emission of greenhouse gas pollutants, have been or likely will be sold or transferred to third parties, who are solely entitled to the reporting rights to any federal, state, foreign or voluntary trading program and to ownership of such environmental attributes.



- In 2014, FPL brought into service its Riviera Beach Next Generation Clean Energy Center – one of the cleanest, most energy-efficient plants in the nation. Over its operational lifetime, the new, fuel-efficient plant is expected to provide FPL customers with hundreds of millions of dollars in fuel and other savings. This is part of FPL's focus on modernizing its power plant fleet by replacing oil-fired plants with clean, highly efficient, combined-cycle natural gas plants such as this one. It's also a big reason parent company NextEra Energy in 2014 recorded its lowest-ever air emissions rates.

In 2014, 97 percent of the power produced by NextEra Energy facilities was generated from a diverse mix of clean or renewable sources, including wind, solar, combined-cycle natural gas and nuclear. By implementing our strategy to become America's clean energy leader, we have been able to reduce our emissions rates of SO₂, NO_x and CO₂ by 98 percent, 93 percent and 33 percent, respectively, since 1990, while at the same time growing our generation fleet by approximately 274 percent.

FPL Powers Formula E Electric Race with Clean Solar Energy; Student Focus Garneres Statewide Honors

FPL powered the vehicles racing in the country's first-ever electric car race, held in downtown Miami in March 2015. Part of the FIA Formula E Championship, the Miami ePrix featured the highest class of competition for electrically powered racing cars.

"Our partnership with Formula E and the Miami ePrix is another example of our commitment to advancing zero-emissions solar energy and the use of electric vehicles in Florida," said Eric Silagy, president and CEO of FPL. "By the end of 2016, we will triple the energy we are able to produce from the sun, furthering our mission to provide low-cost, reliable and clean energy to our 4.8 million customers."

FPL announced its partnership with Formula E at its Martin Next Generation Solar Energy Center, along with famed race car driver Michael Andretti and drivers in the Miami ePrix. During the announcement event, electric race cars were charged with power generated from the Martin Next Generation Solar Energy Center, one of three solar power plants operated by FPL. Earlier in the year, FPL announced plans to install more than 1 million solar panels at three additional solar power plants by the end of 2016. These new plants, combined with community-based solar installations and other small-scale arrays that FPL is installing, would total more than 225 megawatts of new solar capacity. This would effectively triple FPL's solar capacity, which currently totals approximately 110 megawatts.

"The Formula E Miami ePrix is all about sharing our passion for electric vehicles," said Alejandro Agag, CEO of Formula E Holdings. "The race series is exciting, it's entertaining, and we hope it will turn the world's attention to the potential electric vehicles have to change the way we power transportation. We are pleased to partner with FPL – a company that shares our vision for powering the future with affordable, clean energy."

"It's an honor for us to have been selected as one of the 10 founding Formula E teams for the inaugural season," said Michael Andretti, chairman and CEO of Andretti Sports Marketing.

Formula E hosts races in 10 cities around the world, including London, Beijing, Monaco and Buenos Aires. The Miami ePrix was the first Formula E race in the United States.

Education tie is applauded

As part of its Formula E partnership, FPL also sponsored a student electric vehicle race. Students from schools throughout FPL's service area who are involved in science, technology, engineering and

math (STEM) programs assembled 10 electric kit cars. The student teams competed in the Formula E School Series, racing on the same track as the Miami ePrix. The grand prize was \$5,000, second-place \$2,500 and third-place \$1,500. All prizes support STEM or robotics initiatives of the winning school teams.

The effort was hailed by Miami-Dade County Public Schools Superintendent Alberto M. Carvalho, who chose FPL for the Florida Commissioner of Education's Corporate Business Recognition Award. "Miami-Dade County Public Schools and its students have benefitted tremendously from FPL's support of STEM initiatives," said Superintendent Carvalho. "Their commitment has enriched the learning environment by providing additional resources in our classrooms and giving students invaluable real-life learning experiences."

"We are proud of our long-time partnership with Miami-Dade County Public Schools and of the difference we are making in our classrooms," said Eric Silagy, president and CEO of FPL. "FPL is honored to be recognized for our involvement inside and outside the classroom. Together with the school district, we are making Miami an even better place to work and raise a family."

Wildlife and Habitat Preservation

At NextEra Energy, we're committed to being an industry leader in environmental protection and stewardship, and that includes wildlife and habitat protection. We have operations across the U.S. and Canada, so we are keenly aware of the potential impacts that existing and future operations may have to wildlife and their habitat. This is why we have environmental policies and programs in place at both the corporate and local levels to avoid and minimize these impacts and to address any remaining impacts through appropriate mitigation measures. Here's what we do:

- Before we build a power plant or other electric facilities, we work hard to make sure we understand the local ecosystem and what it takes to be a partner in its preservation and to be a good neighbor to all the species that live there.
- As part of that work, we consider the presence of any threatened or endangered species and the proximity to valuable wildlife corridors, wetlands or other ecologically important areas. We make efforts to avoid these areas entirely. If we can't do that, we seek to minimize and mitigate the impact of our developments to affected areas.
- Once a project is operating, we continue to monitor potential impacts to biodiversity that may occur. For example, at wind sites, we implement a voluntary Wildlife Response and Reporting System (WRRS) to monitor long-term avian and bat interactions. We also voluntarily adhere to the FWS Wind Energy Guidelines that were issued in 2012, and conduct a minimum of one year of formal post-construction mortality monitoring at all U.S. wind sites constructed after March 2012.
- In Ontario, our company complies with Ministry of Natural Resources guidance, which requires that we perform a minimum of three years of post-construction mortality monitoring for birds and bats, in addition to other project-specific monitoring conditions.

We have long adhered to numerous policies and programs to protect threatened and endangered species. We follow all federal and state regulations including the Endangered Species Act (ESA), which is administered by the U.S. Fish and Wildlife Service (FWS) and the U.S. National Marine Fisheries Service (NMFS). We also go above and beyond those regulations by making important contributions to protect a number of vulnerable species and habitat areas. Some examples of our wildlife-related programs are featured below.



- FPL has donated 130 concrete power poles to an artificial reef program managed by St. Lucie County, Florida. The poles provide additional habitat for marine life. Area fishing and diving businesses also benefit.

Eagle Nest Platforms



- For many centuries, eagles have represented strength, courage and power. That's been true not only in the U.S. ? where the bald eagle has been our national symbol since the late 1700s ? but in countries the world over.
- During early construction of NextEra Energy's Summerhaven Wind Energy Centre in Ontario in late 2012, Canada, a pair of eagles began building a new nest within the project area. For three years prior, the area had been monitored and no nest had been found.
- After consulting with the Ontario Ministry of Natural Resources and receiving their approval, we removed the tree and nest in January 2013 to eliminate a potential hazard to the eagles and to give the birds time to build a new nest or find another one prior to their breeding season.
- From early January through late February 2013, a team of experts installed five eagle platforms near the Lake Erie shoreline in the general vicinity of the original nest, but at a safe distance from the turbines, to provide alternative nesting sites for this pair of eagles and other pairs in the local eagle population.
- To our delight, a pair of eagles was documented to have successfully raised young in one of these nests in the summer of 2013. The eagles returned in 2014 and successfully raised two chicks.
- See the following website for more information, including photographs and a video of the eagles.

Nesting platform success in Florida



- Bald eagles are found in all 50 U.S. states, including throughout FPL's service territory in Florida.
- In the fall of 2013, a bald eagle built its nest on a 230-kV transmission line in Volusia County, Fla. To protect the nest and the eagles that would be raising their family in it, and because the surrounding area lacked viable nest trees, FPL for the first time ever constructed an independent pole and platform to provide the birds with a nearby nest location. With input from the Florida Fish and Wildlife Conservation Commission and

the U.S. Fish and Wildlife Service, the platform was designed to provide long-term support of the nest. Within 45 days of the nest transfer, a pair of eagles began to add onto and occupy the nest, and in 2014, a baby eaglet hatched in the nest!

Duette Preserve – Kestrel Boxes



- The colorful Southeastern American Kestrel is the smallest falcon in North America. Unfortunately, its numbers have dwindled so much that researchers cannot say how many of the threatened species still exist in Florida.
- In March 2013, while installing new, more storm-resilient power line poles and replacing old wooden poles in an area of its service territory, FPL identified an opportunity to assist the kestrel. Line workers attached kestrel boxes to four of the new poles - a first for the company - and also preserved the old wooden poles that contained inactive nests.
- In 2015, as FPL continues to upgrade the poles in this area of Kestrel habitat, we've included nest boxes on an additional 20 poles. We're also working with the Audubon Society toward a program to monitor the boxes for nesting success.

We're No. 1 in Wind

At NextEra Energy, we're the No. 1 owner of wind energy in North America. We operate approximately 11,400 MW of emissions-free wind energy, enough to power a city the size of Chicago - the "Windy City." Our wind program helps us deliver reliable and affordable energy to customers with a focus on environmental stewardship. Wind energy is an especially attractive source of electric power because:

- wind farms can be constructed quickly,
- they use no water and produce no solid waste or air emissions,
- there are no fuel costs because wind is free,
- many customers are requesting electricity produced only from renewables such as wind, and
- the price of wind energy is low and competitive with other forms of power generation.

NORTH AMERICA'S LARGEST GENERATOR OF WIND POWER

107 wind facilities

9,899 individual
wind turbines

19 U.S. states and
4 Canadian provinces

Avoided CO₂ emissions of
30 million tons
due to wind generation

In 2012, we set an aggressive goal for additions to our U.S. wind portfolio, and through diligence and hard work, we exceeded it. We commissioned roughly 1,500 MW of wind in the United States, a milestone no other company has ever achieved. In fact, we celebrated the commissioning of our 10,000th MW of wind at our 400-MW Limon Wind Project in Colorado in December 2012. Not only did this record building program result in 1,500 MW of zero-emissions generation, it also helped us

deliver for our communities by creating more than 3,000 construction jobs, 90 full-time jobs, and new tax revenue that state and local governments use to meet pressing community needs.

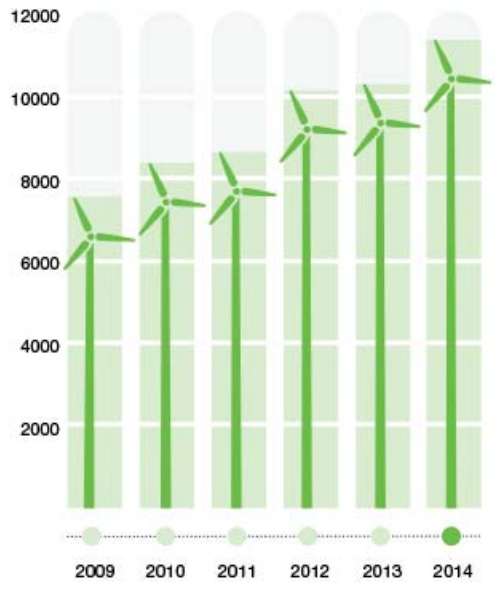
Roughly
1,500 MW
of wind
commissioned in 2012
— a milestone
no other company
has ever achieved

At NextEra Energy Resources, our wind portfolio grew in 2014 by approximately 1,300 MW, including facilities in Oklahoma, Colorado and Texas, as well as four wind sites in Ontario, Canada.

We now have wind projects in 19 states and four Canadian provinces, representing a total capital investment of more than \$20.1 billion and a fleet size that is comparable to the generation capacity of a top-15 utility.

WIND ENERGY PORTFOLIO

CUMULATIVE MW



- Enough emissions-free wind energy can be generated at our Vasco Wind Energy Center in California to power more than 19,500 homes.

Appendix B
Agency Notification Letters and Responses



August 14, 2015

Mr. Daniel Cimarosti
Regulatory Program Manager
U.S. Army Corps of Engineers Omaha District, North Dakota Regulatory Office
1513 South 12th Street
Bismarck, ND 58504

**Subject: Information Request for the Proposed Brady Wind Energy Center in
Hettinger and Stark Counties, ND**

Dear Mr. Cimarosti:

Tetra Tech has been contracted by NextEra Energy Resources, LLC to prepare an application for a Certificate of Site Compatibility for the proposed Brady Wind Energy Center (the Project), in accordance with North Dakota Century Code (NDCC) Section 49-22-07. As part of that application, we are conducting an investigation of property in Hettinger and Stark counties south of the city of Dickinson. This proposed Project would consist of approximately 150 megawatts (MW). The Project area shown in the attached figure is the primary focus of our investigation.

The Project would interconnect to the electrical grid via a 230-kV transmission line approximately 17 miles in length from the Project substation to the Belfield to Rhame 230-kV line approximately 20 miles southwest of the city of Dickinson. We will also prepare a separate application for a Certificate of Corridor Compatibility and Route Permit for the proposed transmission line.

The wind energy center would include portions of the following tracts:

County	Township	Range	Sections
Hettinger	136 N	96 W	3-9, 15-18
Hettinger	136 N	97 W	1-6, 8-13
Stark	137 N	95 W	1, 2, 9-16, 19-24, 27-34
Stark	137 N	96 W	23-36
Stark	137 N	97 W	25-29, 32-36

Mr. Cimarosti
U.S. Army Corps of Engineers Omaha District
August 14, 2015

The associated transmission line corridor includes the following tracts:

County	Township	Range	Sections
Hettinger	136 N	96 W	2-6
Hettinger	136 N	97 W	1-6
Slope	136 N	98 W	1-6
Slope	136 N	99 W	1-3
Stark	137 N	95 W	18-20, 29-32
Stark	137 N	96 W	11-36
Stark	137 N	97 W	13-36
Stark	137 N	98 W	13-36

Per Section 69-06-01-05 of the North Dakota Public Service Commission (PSC)'s administrative rules, we are consulting your agency for assistance in identifying concerns or issues within the boundaries of the tracts listed below that would influence a decision regarding the use of the land, as well as applicable permits that may be required from your office.

This information will be used to help guide Project development in a manner that identifies and avoids impacts to sensitive resources where practicable. We have sent similar query letters to other agencies including, but not limited to, the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, and North Dakota Game and Fish Department.

We would appreciate a response by September 30, 2015. Please contact me at (512) 213-8501 if you have any questions. Thank you for your assistance.

Respectfully submitted,



Anne-Marie Griger, AICP



August 14, 2015

Mr. Scott Davis
Executive Director
North Dakota Indian Affairs Commission
600 East Boulevard Avenue
1st Floor – Judicial Wing, Room #117
Bismarck, ND 58505

Subject: Information Request for the Proposed Brady Wind Energy Center in Hettinger and Stark Counties, ND

Dear Mr. Davis:

Tetra Tech has been contracted by NextEra Energy Resources, LLC to prepare an application for a Certificate of Site Compatibility for the proposed Brady Wind Energy Center (the Project), in accordance with North Dakota Century Code (NDCC) Section 49-22-07. As part of that application, we are conducting an investigation of property in Hettinger and Stark counties south of the city of Dickinson. This proposed Project would consist of approximately 150 megawatts (MW). The Project area shown in the attached figure is the primary focus of our investigation.

The Project would interconnect to the electrical grid via a 230-kV transmission line approximately 17 miles in length from the Project substation to the Belfield to Rhame 230-kV line approximately 20 miles southwest of the city of Dickinson. We will also prepare a separate application for a Certificate of Corridor Compatibility and Route Permit for the proposed transmission line.

The wind energy center would include portions of the following tracts:

County	Township	Range	Sections
Hettinger	136 N	96 W	3-9, 15-18
Hettinger	136 N	97 W	1-6, 8-13
Stark	137 N	95 W	1, 2, 9-16, 19-24, 27-34
Stark	137 N	96 W	23-36
Stark	137 N	97 W	25-29, 32-36

Mr. Davis
North Dakota Indian Affairs Commission
August 14, 2015

The associated transmission line corridor includes the following tracts:

County	Township	Range	Sections
Hettinger	136 N	96 W	2-6
Hettinger	136 N	97 W	1-6
Slope	136 N	98 W	1-6
Slope	136 N	99 W	1-3
Stark	137 N	95 W	18-20, 29-32
Stark	137 N	96 W	11-36
Stark	137 N	97 W	13-36
Stark	137 N	98 W	13-36

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This information will be used to help guide Project development in a manner that identifies and avoids impacts to sensitive resources where practicable. We have sent similar query letters to other agencies including, but not limited to, the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, and North Dakota Game and Fish Department.

We would appreciate a response by September 30, 2015. Please contact me at (512) 213-8501 if you have any questions. Thank you for your assistance.

Respectfully submitted,



Anne-Marie Griger, AICP



August 14, 2015

Dr. Terry Dwelle, M.D., M.P.H.T.M.
State Health Officer
North Dakota Department of Health
600 East Boulevard Avenue
Bismarck, ND 58505-0200

**Subject: Information Request for the Proposed Brady Wind Energy Center in
Hettinger and Stark Counties, ND**

Dear Dr. Dwelle:

Tetra Tech has been contracted by NextEra Energy Resources, LLC to prepare an application for a Certificate of Site Compatibility for the proposed Brady Wind Energy Center (the Project), in accordance with North Dakota Century Code (NDCC) Section 49-22-07. As part of that application, we are conducting an investigation of property in Hettinger and Stark counties south of the city of Dickinson. This proposed Project would consist of approximately 150 megawatts (MW). The Project area shown in the attached figure is the primary focus of our investigation.

The Project would interconnect to the electrical grid via a 230-kV transmission line approximately 17 miles in length from the Project substation to the Belfield to Rhame 230-kV line approximately 20 miles southwest of the city of Dickinson. We will also prepare a separate application for a Certificate of Corridor Compatibility and Route Permit for the proposed transmission line.

The wind energy center would include portions of the following tracts:

County	Township	Range	Sections
Hettinger	136 N	96 W	3-9, 15-18
Hettinger	136 N	97 W	1-6, 8-13
Stark	137 N	95 W	1, 2, 9-16, 19-24, 27-34
Stark	137 N	96 W	23-36
Stark	137 N	97 W	25-29, 32-36

Dr. Dwelle
North Dakota Department of Health
August 14, 2015

The associated transmission line corridor includes the following tracts:

County	Township	Range	Sections
Hettinger	136 N	96 W	2-6
Hettinger	136 N	97 W	1-6
Slope	136 N	98 W	1-6
Slope	136 N	99 W	1-3
Stark	137 N	95 W	18-20, 29-32
Stark	137 N	96 W	11-36
Stark	137 N	97 W	13-36
Stark	137 N	98 W	13-36

Per Section 69-06-01-05 of the North Dakota Public Service Commission (PSC)'s administrative rules, we are consulting your agency for assistance in identifying concerns or issues within the boundaries of the tracts listed below that would influence a decision regarding the use of the land, as well as applicable permits that may be required from your office.

This information will be used to help guide Project development in a manner that identifies and avoids impacts to sensitive resources where practicable. We have sent similar query letters to other agencies including, but not limited to, the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, and North Dakota Game and Fish Department.

We would appreciate a response by September 30, 2015. Please contact me at (512) 213-8501 if you have any questions. Thank you for your assistance.

Respectfully submitted,



Anne-Marie Griger, AICP



August 14, 2015

Mr. Lance D. Gaebe
Commissioner
North Dakota Department of Trust Lands
P. O. Box 5523
Bismarck, ND 58506-5523

Subject: Information Request for the Proposed Brady Wind Energy Center in Hettinger and Stark Counties, ND

Dear Mr. Gaebe:

Tetra Tech has been contracted by NextEra Energy Resources, LLC to prepare an application for a Certificate of Site Compatibility for the proposed Brady Wind Energy Center (the Project), in accordance with North Dakota Century Code (NDCC) Section 49-22-07. As part of that application, we are conducting an investigation of property in Hettinger and Stark counties south of the city of Dickinson. This proposed Project would consist of approximately 150 megawatts (MW). The Project area shown in the attached figure is the primary focus of our investigation.

The Project would interconnect to the electrical grid via a 230-kV transmission line approximately 17 miles in length from the Project substation to the Belfield to Rhame 230-kV line approximately 20 miles southwest of the city of Dickinson. We will also prepare a separate application for a Certificate of Corridor Compatibility and Route Permit for the proposed transmission line.

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Stark	137 N	96 W	23-36
Stark	137 N	97 W	25-29, 32-36

Mr. Gaebe
North Dakota Department of Trust Lands
August 14, 2015

The associated transmission line corridor includes the following tracts:

County	Township	Range	Sections
Hettinger	136 N	96 W	2-6
Hettinger	136 N	97 W	1-6
Slope	136 N	98 W	1-6
Slope	136 N	99 W	1-3
Stark	137 N	95 W	18-20, 29-32
Stark	137 N	96 W	11-36
Stark	137 N	97 W	13-36
Stark	137 N	98 W	13-36

Per Section 69-06-01-05 of the North Dakota Public Service Commission (PSC)'s administrative rules, we are consulting your agency for assistance in identifying concerns or issues within the boundaries of the tracts listed below that would influence a decision regarding the use of the land, as well as applicable permits that may be required from your office.

This information will be used to help guide Project development in a manner that identifies and avoids impacts to sensitive resources where practicable. We have sent similar query letters to other agencies including, but not limited to, the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, and North Dakota Game and Fish Department.

We would appreciate a response by September 30, 2015. Please contact me at (512) 213-8501 if you have any questions. Thank you for your assistance.

Respectfully submitted,



Anne-Marie Griger, AICP



August 14, 2015

Mr. Larry Gangl
District Engineer
North Dakota Department of Transportation, Dickinson District
1700 Third Avenue West, Suite 101
Dickinson, ND 58601-3009

Subject: Information Request for the Proposed Brady Wind Energy Center in Hettinger and Stark Counties, ND

Dear Mr. Gangl:

Tetra Tech has been contracted by NextEra Energy Resources, LLC to prepare an application for a Certificate of Site Compatibility for the proposed Brady Wind Energy Center (the Project), in accordance with North Dakota Century Code (NDCC) Section 49-22-07. As part of that application, we are conducting an investigation of property in Hettinger and Stark counties south of the city of Dickinson. This proposed Project would consist of approximately 150 megawatts (MW). The Project area shown in the attached figure is the primary focus of our investigation.

The Project would interconnect to the electrical grid via a 230-kV transmission line approximately 17 miles in length from the Project substation to the Belfield to Rhame 230-kV line approximately 20 miles southwest of the city of Dickinson. We will also prepare a separate application for a Certificate of Corridor Compatibility and Route Permit for the proposed transmission line.

The wind energy center would include portions of the following tracts:

County	Township	Range	Sections
Hettinger	136 N	96 W	3-9, 15-18
Hettinger	136 N	97 W	1-6, 8-13
Stark	137 N	95 W	1, 2, 9-16, 19-24, 27-34
Stark	137 N	96 W	23-36
Stark	137 N	97 W	25-29, 32-36

Mr. Gangl
North Dakota Department of Transportation, Dickinson District
August 14, 2015

The associated transmission line corridor includes the following tracts:

County	Township	Range	Sections
Hettinger	136 N	96 W	2-6
Hettinger	136 N	97 W	1-6
Slope	136 N	98 W	1-6
Slope	136 N	99 W	1-3
Stark	137 N	95 W	18-20, 29-32
Stark	137 N	96 W	11-36
Stark	137 N	97 W	13-36
Stark	137 N	98 W	13-36

Per Section 69-06-01-05 of the North Dakota Public Service Commission (PSC)'s administrative rules, we are consulting your agency for assistance in identifying concerns or issues within the boundaries of the tracts listed below that would influence a decision regarding the use of the land, as well as applicable permits that may be required from your office.

This information will be used to help guide Project development in a manner that identifies and avoids impacts to sensitive resources where practicable. We have sent similar query letters to other agencies including, but not limited to, the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, and North Dakota Game and Fish Department.

We would appreciate a response by September 30, 2015. Please contact me at (512) 213-8501 if you have any questions. Thank you for your assistance.

Respectfully submitted,



Anne-Marie Griger, AICP



August 14, 2015

Mr. Doug Goehring
Agriculture Commissioner
North Dakota Department of Agriculture
600 East Boulevard Avenue, Department 602
Bismarck, ND 58505-0020

Subject: Information Request for the Proposed Brady Wind Energy Center in Hettinger and Stark Counties, ND

Dear Mr. Goehring:

Tetra Tech has been contracted by NextEra Energy Resources, LLC to prepare an application for a Certificate of Site Compatibility for the proposed Brady Wind Energy Center (the Project), in accordance with North Dakota Century Code (NDCC) Section 49-22-07. As part of that application, we are conducting an investigation of property in Hettinger and Stark counties south of the city of Dickinson. This proposed Project would consist of approximately 150 megawatts (MW). The Project area shown in the attached figure is the primary focus of our investigation.

The Project would interconnect to the electrical grid via a 230-kV transmission line approximately 17 miles in length from the Project substation to the Belfield to Rhame 230-kV line approximately 20 miles southwest of the city of Dickinson. We will also prepare a separate application for a Certificate of Corridor Compatibility and Route Permit for the proposed transmission line.

The wind energy center would include portions of the following tracts:

County	Township	Range	Sections
Hettinger	136 N	96 W	3-9, 15-18
Hettinger	136 N	97 W	1-6, 8-13
Stark	137 N	95 W	1, 2, 9-16, 19-24, 27-34
Stark	137 N	96 W	23-36
Stark	137 N	97 W	25-29, 32-36

Mr. Goehring
North Dakota Department of Agriculture
August 14, 2015

The associated transmission line corridor includes the following tracts:

County	Township	Range	Sections
Hettinger	136 N	96 W	2-6
Hettinger	136 N	97 W	1-6
Slope	136 N	98 W	1-6
Slope	136 N	99 W	1-3
Stark	137 N	95 W	18-20, 29-32
Stark	137 N	96 W	11-36
Stark	137 N	97 W	13-36
Stark	137 N	98 W	13-36

Per Section 69-06-01-05 of the North Dakota Public Service Commission (PSC)'s administrative rules, we are consulting your agency for assistance in identifying concerns or issues within the boundaries of the tracts listed below that would influence a decision regarding the use of the land, as well as applicable permits that may be required from your office.

This information will be used to help guide Project development in a manner that identifies and avoids impacts to sensitive resources where practicable. We have sent similar query letters to other agencies including, but not limited to, the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, and North Dakota Game and Fish Department.

We would appreciate a response by September 30, 2015. Please contact me at (512) 213-8501 if you have any questions. Thank you for your assistance.

Respectfully submitted,



Anne-Marie Griger, AICP



August 14, 2015

Ms. Julie Hoff
Central Stark & Western Soil Conservation District
2948 4th Ave. West, Room "C"
Dickinson, ND 58601

Subject: Information Request for the Proposed Brady Wind Energy Center in Hettinger and Stark Counties, ND

Dear Ms. Hoff:

Tetra Tech has been contracted by NextEra Energy Resources, LLC to prepare an application for a Certificate of Site Compatibility for the proposed Brady Wind Energy Center (the Project), in accordance with North Dakota Century Code (NDCC) Section 49-22-07. As part of that application, we are conducting an investigation of property in Hettinger and Stark counties south of the city of Dickinson. This proposed Project would consist of approximately 150 megawatts (MW). The Project area shown in the attached figure is the primary focus of our investigation.

The Project would interconnect to the electrical grid via a 230-kV transmission line approximately 17 miles in length from the Project substation to the Belfield to Rhame 230-kV line approximately 20 miles southwest of the city of Dickinson. We will also prepare a separate application for a Certificate of Corridor Compatibility and Route Permit for the proposed transmission line.

The wind energy center would include portions of the following tracts:

County	Township	Range	Sections
Hettinger	136 N	96 W	3-9, 15-18
Hettinger	136 N	97 W	1-6, 8-13
Stark	137 N	95 W	1, 2, 9-16, 19-24, 27-34
Stark	137 N	96 W	23-36
Stark	137 N	97 W	25-29, 32-36

Ms. Hoff
Central Stark & Western Soil Conservation District
August 14, 2015

The associated transmission line corridor includes the following tracts:

County	Township	Range	Sections
Hettinger	136 N	96 W	2-6
Hettinger	136 N	97 W	1-6
Slope	136 N	98 W	1-6
Slope	136 N	99 W	1-3
Stark	137 N	95 W	18-20, 29-32
Stark	137 N	96 W	11-36
Stark	137 N	97 W	13-36
Stark	137 N	98 W	13-36

Per Section 69-06-01-05 of the North Dakota Public Service Commission (PSC)'s administrative rules, we are consulting your agency for assistance in identifying concerns or issues within the boundaries of the tracts listed below that would influence a decision regarding the use of the land, as well as applicable permits that may be required from your office.

This information will be used to help guide Project development in a manner that identifies and avoids impacts to sensitive resources where practicable. We have sent similar query letters to other agencies including, but not limited to, the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, and North Dakota Game and Fish Department.

We would appreciate a response by September 30, 2015. Please contact me at (512) 213-8501 if you have any questions. Thank you for your assistance.

Respectfully submitted,



Anne-Marie Griger, AICP



August 14, 2015

Mr. Edward C. Murphy
State Geologist
North Dakota Geological Survey
600 East Boulevard Avenue
Bismarck ND 58505-0840

**Subject: Information Request for the Proposed Brady Wind Energy Center in
Hettinger and Stark Counties, ND**

Dear Mr. Murphy:

Tetra Tech has been contracted by NextEra Energy Resources, LLC to prepare an application for a Certificate of Site Compatibility for the proposed Brady Wind Energy Center (the Project), in accordance with North Dakota Century Code (NDCC) Section 49-22-07. As part of that application, we are conducting an investigation of property in Hettinger and Stark counties south of the city of Dickinson. This proposed Project would consist of approximately 150 megawatts (MW). The Project area shown in the attached figure is the primary focus of our investigation.

The Project would interconnect to the electrical grid via a 230-kV transmission line approximately 17 miles in length from the Project substation to the Belfield to Rhame 230-kV line approximately 20 miles southwest of the city of Dickinson. We will also prepare a separate application for a Certificate of Corridor Compatibility and Route Permit for the proposed transmission line.

The wind energy center would include portions of the following tracts:

County	Township	Range	Sections
Hettinger	136 N	96 W	3-9, 15-18
Hettinger	136 N	97 W	1-6, 8-13
Stark	137 N	95 W	1, 2, 9-16, 19-24, 27-34
Stark	137 N	96 W	23-36
Stark	137 N	97 W	25-29, 32-36

Mr. Murphy
North Dakota Geological Survey
August 14, 2015

The associated transmission line corridor includes the following tracts:

County	Township	Range	Sections
Hettinger	136 N	96 W	2-6
Hettinger	136 N	97 W	1-6
Slope	136 N	98 W	1-6
Slope	136 N	99 W	1-3
Stark	137 N	95 W	18-20, 29-32
Stark	137 N	96 W	11-36
Stark	137 N	97 W	13-36
Stark	137 N	98 W	13-36

Per Section 69-06-01-05 of the North Dakota Public Service Commission (PSC)'s administrative rules, we are consulting your agency for assistance in identifying concerns or issues within the boundaries of the tracts listed below that would influence a decision regarding the use of the land, as well as applicable permits that may be required from your office.

This information will be used to help guide Project development in a manner that identifies and avoids impacts to sensitive resources where practicable. We have sent similar query letters to other agencies including, but not limited to, the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, and North Dakota Game and Fish Department.

We would appreciate a response by September 30, 2015. Please contact me at (512) 213-8501 if you have any questions. Thank you for your assistance.

Respectfully submitted,



Anne-Marie Griger, AICP



August 14, 2015

Merlan E. Paaverud, Jr.
Director
State Historical Society of North Dakota
612 East Boulevard Avenue
Bismarck, ND 58505

**Subject: Information Request for the Proposed Brady Wind Energy Center in
Hettinger and Stark Counties, ND**

Dear Mr. Paaverud:

Tetra Tech has been contracted by NextEra Energy Resources, LLC to prepare an application for a Certificate of Site Compatibility for the proposed Brady Wind Energy Center (the Project), in accordance with North Dakota Century Code (NDCC) Section 49-22-07. As part of that application, we are conducting an investigation of property in Hettinger and Stark counties south of the city of Dickinson. This proposed Project would consist of approximately 150 megawatts (MW). The Project area shown in the attached figure is the primary focus of our investigation.

The Project would interconnect to the electrical grid via a 230-kV transmission line approximately 17 miles in length from the Project substation to the Belfield to Rhame 230-kV line approximately 20 miles southwest of the city of Dickinson. We will also prepare a separate application for a Certificate of Corridor Compatibility and Route Permit for the proposed transmission line.

The wind energy center would include portions of the following tracts:

County	Township	Range	Sections
Hettinger	136 N	96 W	3-9, 15-18
Hettinger	136 N	97 W	1-6, 8-13
Stark	137 N	95 W	1, 2, 9-16, 19-24, 27-34
Stark	137 N	96 W	23-36
Stark	137 N	97 W	25-29, 32-36

Mr. Paaverud
State Historical Society of North Dakota
August 14, 2015

The associated transmission line corridor includes the following tracts:

County	Township	Range	Sections
Hettinger	136 N	96 W	2-6
Hettinger	136 N	97 W	1-6
Slope	136 N	98 W	1-6
Slope	136 N	99 W	1-3
Stark	137 N	95 W	18-20, 29-32
Stark	137 N	96 W	11-36
Stark	137 N	97 W	13-36
Stark	137 N	98 W	13-36

Per Section 69-06-01-05 of the North Dakota Public Service Commission (PSC)'s administrative rules, we are consulting your agency for assistance in identifying concerns or issues within the boundaries of the tracts listed below that would influence a decision regarding the use of the land, as well as applicable permits that may be required from your office.

This information will be used to help guide Project development in a manner that identifies and avoids impacts to sensitive resources where practicable. We have sent similar query letters to other agencies including, but not limited to, the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, and North Dakota Game and Fish Department.

We would appreciate a response by September 30, 2015. Please contact me at (512) 213-8501 if you have any questions. Thank you for your assistance.

Respectfully submitted,



Anne-Marie Griger, AICP



August 14, 2015

Mr. Todd Sando
State Engineer
North Dakota State Water Commission
900 East Boulevard, Dept. 770
Bismarck, ND 58505-0850

Subject: Information Request for the Proposed Brady Wind Energy Center in Hettinger and Stark Counties, ND

Dear Mr. Sando:

Tetra Tech has been contracted by NextEra Energy Resources, LLC to prepare an application for a Certificate of Site Compatibility for the proposed Brady Wind Energy Center (the Project), in accordance with North Dakota Century Code (NDCC) Section 49-22-07. As part of that application, we are conducting an investigation of property in Hettinger and Stark counties south of the city of Dickinson. This proposed Project would consist of approximately 150 megawatts (MW). The Project area shown in the attached figure is the primary focus of our investigation.

The Project would interconnect to the electrical grid via a 230-kV transmission line approximately 17 miles in length from the Project substation to the Belfield to Rhame 230-kV line approximately 20 miles southwest of the city of Dickinson. We will also prepare a separate application for a Certificate of Corridor Compatibility and Route Permit for the proposed transmission line.

The wind energy center would include portions of the following tracts:

County	Township	Range	Sections
Hettinger	136 N	96 W	3-9, 15-18
Hettinger	136 N	97 W	1-6, 8-13
Stark	137 N	95 W	1, 2, 9-16, 19-24, 27-34
Stark	137 N	96 W	23-36
Stark	137 N	97 W	25-29, 32-36

Mr. Sando
North Dakota State Water Commission
August 14, 2015

The associated transmission line corridor includes the following tracts:

County	Township	Range	Sections
Hettinger	136 N	96 W	2-6
Hettinger	136 N	97 W	1-6
Slope	136 N	98 W	1-6
Slope	136 N	99 W	1-3
Stark	137 N	95 W	18-20, 29-32
Stark	137 N	96 W	11-36
Stark	137 N	97 W	13-36
Stark	137 N	98 W	13-36

Per Section 69-06-01-05 of the North Dakota Public Service Commission (PSC)'s administrative rules, we are consulting your agency for assistance in identifying concerns or issues within the boundaries of the tracts listed below that would influence a decision regarding the use of the land, as well as applicable permits that may be required from your office.

This information will be used to help guide Project development in a manner that identifies and avoids impacts to sensitive resources where practicable. We have sent similar query letters to other agencies including, but not limited to, the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, and North Dakota Game and Fish Department.

We would appreciate a response by September 30, 2015. Please contact me at (512) 213-8501 if you have any questions. Thank you for your assistance.

Respectfully submitted,



Anne-Marie Griger, AICP



August 14, 2015

Mr. Kevin Shelley
Acting ND Field Supervisor
USFWS North Dakota Field Office
3425 Miriam Avenue
Bismarck, ND 58501-7926

Subject: Information Request for the Proposed Brady Wind Energy Center in Hettinger and Stark Counties, ND

Dear Mr. Shelley:

Tetra Tech has been contracted by NextEra Energy Resources, LLC to prepare an application for a Certificate of Site Compatibility for the proposed Brady Wind Energy Center (the Project), in accordance with North Dakota Century Code (NDCC) Section 49-22-07. As part of that application, we are conducting an investigation of property in Hettinger and Stark counties south of the city of Dickinson. This proposed Project would consist of approximately 150 megawatts (MW). The Project area shown in the attached figure is the primary focus of our investigation.

The Project would interconnect to the electrical grid via a 230-kV transmission line approximately 17 miles in length from the Project substation to the Belfield to Rhame 230-kV line approximately 20 miles southwest of the city of Dickinson. We will also prepare a separate application for a Certificate of Corridor Compatibility and Route Permit for the proposed transmission line.

The wind energy center would include portions of the following tracts:

County	Township	Range	Sections
Hettinger	136 N	96 W	3-9, 15-18
Hettinger	136 N	97 W	1-6, 8-13
Stark	137 N	95 W	1, 2, 9-16, 19-24, 27-34
Stark	137 N	96 W	23-36
Stark	137 N	97 W	25-29, 32-36

Mr. Shelley
USFWS North Dakota Field Office
August 14, 2015

The associated transmission line corridor includes the following tracts:

County	Township	Range	Sections
Hettinger	136 N	96 W	2-6
Hettinger	136 N	97 W	1-6
Slope	136 N	98 W	1-6
Slope	136 N	99 W	1-3
Stark	137 N	95 W	18-20, 29-32
Stark	137 N	96 W	11-36
Stark	137 N	97 W	13-36
Stark	137 N	98 W	13-36

Per Section 69-06-01-05 of the North Dakota Public Service Commission (PSC)'s administrative rules, we are consulting your agency for assistance in identifying concerns or issues within the boundaries of the tracts listed below that would influence a decision regarding the use of the land, as well as applicable permits that may be required from your office.

This information will be used to help guide Project development in a manner that identifies and avoids impacts to sensitive resources where practicable. We have sent similar query letters to other agencies including, but not limited to, the U.S. Army Corps of Engineers, State Historical Society of North Dakota, and North Dakota Game and Fish Department (NDGF).

NextEra Energy is developing the Project following the voluntary Final Land-Based Wind Energy Guidelines. Desktop habitat analyses for bats and whooping crane are underway as part of Tier 1 and Tier 2 assessments for the Project. Tier 3 assessments that are currently planned or underway for the Project include fall and spring avian migration surveys, biweekly eagle use surveys, raptor nest and grouse lek surveys, and bat acoustic monitoring.

We requested documented eagle nest locations in the vicinity of the Project Area from the NDGF in May 2015 and conducted a ground-based summer nest inventory in June 2015. There are no documented eagle nests within 3 miles of the Project Area. There is one occupied bald eagle nest approximately 3 miles east of the Project Area; one active and three inactive golden eagle nests are located approximately 7 miles from the Project Area.

We would appreciate a response by September 30, 2015. Please contact me at (512) 213-8501 if you have any questions. Thank you for your assistance.

Respectfully submitted,



Anne-Marie Griger, AICP



August 14, 2015

Mr. Terry Steinwand
Director
North Dakota Game and Fish Department
100 N. Bismarck Expressway
Bismarck, ND 58501-5095

Subject: Information Request for the Proposed Brady Wind Energy Center in Hettinger and Stark Counties, ND

Dear Mr. Steinwand:

Tetra Tech has been contracted by NextEra Energy Resources, LLC to prepare an application for a Certificate of Site Compatibility for the proposed Brady Wind Energy Center (the Project), in accordance with North Dakota Century Code (NDCC) Section 49-22-07. As part of that application, we are conducting an investigation of property in Hettinger and Stark counties south of the city of Dickinson. This proposed Project would consist of approximately 150 megawatts (MW). The Project area shown in the attached figure is the primary focus of our investigation.

The Project would interconnect to the electrical grid via a 230-kV transmission line approximately 17 miles in length from the Project substation to the Belfield to Rhame 230-kV line approximately 20 miles southwest of the city of Dickinson. We will also prepare a separate application for a Certificate of Corridor Compatibility and Route Permit for the proposed transmission line.

The wind energy center would include portions of the following tracts:

County	Township	Range	Sections
Hettinger	136 N	96 W	3-9, 15-18
Hettinger	136 N	97 W	1-6, 8-13
Stark	137 N	95 W	1, 2, 9-16, 19-24, 27-34
Stark	137 N	96 W	23-36
Stark	137 N	97 W	25-29, 32-36

Mr. Steinwand
North Dakota Game and Fish Department
August 14, 2015

The associated transmission line corridor includes the following tracts:

County	Township	Range	Sections
Hettinger	136 N	96 W	2-6
Hettinger	136 N	97 W	1-6
Slope	136 N	98 W	1-6
Slope	136 N	99 W	1-3
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Per Section 69-06-01-05 of the North Dakota Public Service Commission (PSC)'s administrative rules, we are consulting your agency for assistance in identifying concerns or issues within the boundaries of the tracts listed below that would influence a decision regarding the use of the land, as well as applicable permits that may be required from your office.

This information will be used to help guide Project development in a manner that identifies and avoids impacts to sensitive resources where practicable. We have sent similar query letters to other agencies including, but not limited to, the U.S. Army Corps of Engineers, State Historical Society of North Dakota, and North Dakota Game and Fish Department (NDGF).

NextEra Energy is developing the Project following the voluntary Final Land-Based Wind Energy Guidelines. Desktop habitat analyses for bats and whooping crane are underway as part of Tier 1 and Tier 2 assessments for the Project. Tier 3 assessments that are currently planned or underway for the Project include fall and spring avian migration surveys, biweekly eagle use surveys, raptor nest and grouse lek surveys, and bat acoustic monitoring.

We requested documented eagle nest locations in the vicinity of the Project Area from the NDGF in May 2015 and conducted a ground-based summer nest inventory in June 2015. There are no documented eagle nests within 3 miles of the Project Area. There is one occupied bald eagle nest approximately 3 miles east of the Project Area; one active and three inactive golden eagle nests are located approximately 7 miles from the Project Area.

We would appreciate a response by September 30, 2015. Please contact me at (512) 213-8501 if you have any questions. Thank you for your assistance.

Respectfully submitted,



Anne-Marie Griger, AICP



August 14, 2015

Mr. Larry Taborsky
Director
North Dakota Aeronautics Commission
P. O. Box 5020
Bismarck, North Dakota 58502-5020

Subject: Information Request for the Proposed Brady Wind Energy Center in Hettinger and Stark Counties, ND

Dear Mr. Taborsky:

Tetra Tech has been contracted by NextEra Energy Resources, LLC to prepare an application for a Certificate of Site Compatibility for the proposed Brady Wind Energy Center (the Project), in accordance with North Dakota Century Code (NDCC) Section 49-22-07. As part of that application, we are conducting an investigation of property in Hettinger and Stark counties south of the city of Dickinson. This proposed Project would consist of approximately 150 megawatts (MW). The Project area shown in the attached figure is the primary focus of our investigation.

The Project would interconnect to the electrical grid via a 230-kV transmission line approximately 17 miles in length from the Project substation to the Belfield to Rhame 230-kV line approximately 20 miles southwest of the city of Dickinson. We will also prepare a separate application for a Certificate of Corridor Compatibility and Route Permit for the proposed transmission line.

The wind energy center would include portions of the following tracts:

County	Township	Range	Sections
Hettinger	136 N	96 W	3-9, 15-18
Hettinger	136 N	97 W	1-6, 8-13
Stark	137 N	95 W	1, 2, 9-16, 19-24, 27-34
Stark	137 N	96 W	23-36
Stark	137 N	97 W	25-29, 32-36

Mr. Larry Taborsky
North Dakota Aeronautics Commission
August 14, 2015

The associated transmission line corridor includes the following tracts:

County	Township	Range	Sections
Hettinger	136 N	96 W	2-6
Hettinger	136 N	97 W	1-6
Slope	136 N	98 W	1-6
Slope	136 N	99 W	1-3
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Stark	137 N	96 W	11-36
Stark	137 N	97 W	13-36
Stark	137 N	98 W	13-36

Per Section 69-06-01-05 of the North Dakota Public Service Commission (PSC)'s administrative rules, we are consulting your agency for assistance in identifying concerns or issues within the boundaries of the tracts listed below that would influence a decision regarding the use of the land, as well as applicable permits that may be required from your office.

This information will be used to help guide Project development in a manner that identifies and avoids impacts to sensitive resources where practicable. We have sent similar query letters to other agencies including, but not limited to, the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, and North Dakota Game and Fish Department.

We would appreciate a response by September 30, 2015. Please contact me at (512) 213-8501 if you have any questions. Thank you for your assistance.

Respectfully submitted,



Anne-Marie Griger, AICP



August 14, 2015

Mr. Mark Zimmerman
Director
North Dakota Parks and Recreation Department
1600 E. Century Ave, Suite 3
Bismarck, ND 58503

**Subject: Information Request for the Proposed Brady Wind Energy Center in
Hettinger and Stark Counties, ND**

Dear Mr. Zimmerman:

Tetra Tech has been contracted by NextEra Energy Resources, LLC to prepare an application for a Certificate of Site Compatibility for the proposed Brady Wind Energy Center (the Project), in accordance with North Dakota Century Code (NDCC) Section 49-22-07. As part of that application, we are conducting an investigation of property in Hettinger and Stark counties south of the city of Dickinson. This proposed Project would consist of approximately 150 megawatts (MW). The Project area shown in the attached figure is the primary focus of our investigation.

The Project would interconnect to the electrical grid via a 230-kV transmission line approximately 17 miles in length from the Project substation to the Belfield to Rhame 230-kV line approximately 20 miles southwest of the city of Dickinson. We will also prepare a separate application for a Certificate of Corridor Compatibility and Route Permit for the proposed transmission line.

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Hettinger	136 N	97 W	1-6, 8-13
Stark	137 N	95 W	1, 2, 9-16, 19-24, 27-34
Stark	137 N	96 W	23-36
Stark	137 N	97 W	25-29, 32-36

Mr. Zimmerman
North Dakota Parks and Recreation Department
August 14, 2015

The associated transmission line corridor includes the following tracts:

County	Township	Range	Sections
Hettinger	136 N	96 W	2-6
Hettinger	136 N	97 W	1-6
Slope	136 N	98 W	1-6
Slope	136 N	99 W	1-3
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Stark	137 N	96 W	11-36
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Stark	137 N	98 W	13-36

Per Section 69-06-01-05 of the North Dakota Public Service Commission (PSC)'s administrative rules, we are consulting your agency for assistance in identifying concerns or issues within the boundaries of the tracts listed below that would influence a decision regarding the use of the land, as well as applicable permits that may be required from your office.

This information will be used to help guide Project development in a manner that identifies and avoids impacts to sensitive resources where practicable. We have sent similar query letters to other agencies including, but not limited to, the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, and North Dakota Game and Fish Department.

We would appreciate a response by September 30, 2015. Please contact me at (512) 213-8501 if you have any questions. Thank you for your assistance.

Respectfully submitted,










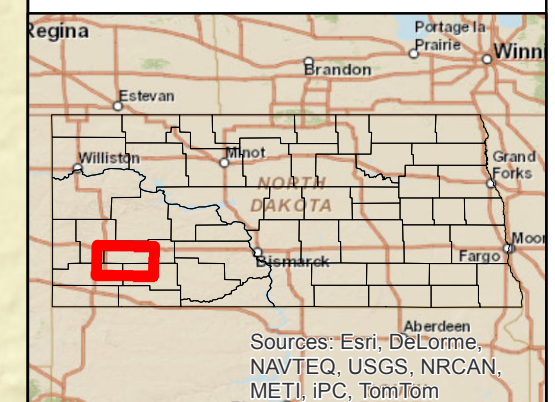
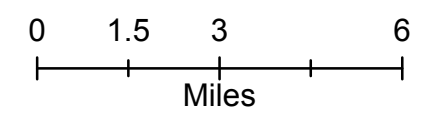
Anne-Marie Griger, AICP

Brady Wind Energy Center North Dakota

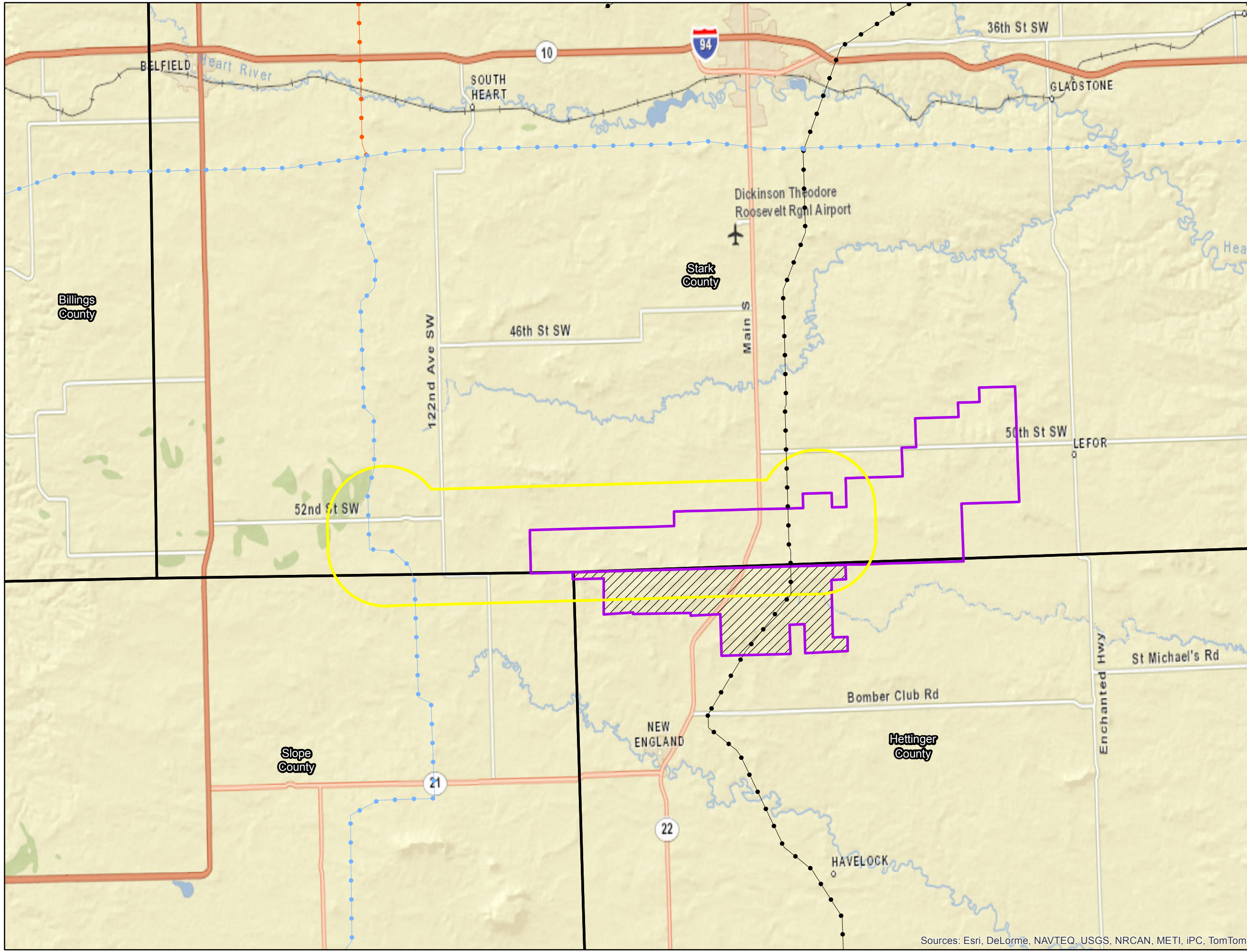
Project Location

Legend

-  Transmission Line Corridor
 -  Project Boundary
 -  Additional Area Under Consideration
 -  County Boundary
- Existing Electrical Transmission**
-  115kV Transmission Line
 -  230kV Transmission Line
 -  345kV Transmission Line



Sources: Esri, DeLorme, NAVTEQ, USGS, NRCAN, METI, iPC, TomTom



Sources: Esri, DeLorme, NAVTEQ, USGS, NRCAN, METI, iPC, TomTom

Griger, Anne Marie

From: Estabrook, Richard <Richard.Estabrook@nexteraenergy.com>
Sent: Thursday, September 17, 2015 11:36 AM
To: Quinnell, Susan L.
Cc: Wells, Kimberly; Griger, Anne Marie; Sexton, James
Subject: RE: Ethic farmsteads in southern Stark County, North Dakota

Susan,

Just following up on our 13 August call concerning the Ethnic Farmsteads in southern Stark County. The project now has a name (Brady) and a preliminary boundary and turbine layout, which I'm providing on the attached map. This map is based on a desktop evaluation that Tetra Tech conducted for the project area. Per our last conversation, we've now categorized the locations containing recorded Ethnic Farmsteads as "Extant" for those we know still contain standing structures; "Ruins" for those we have determined are no longer standing and should be considered archaeological resources; and "Further Research Required" for those locations where there could be some standing remains, but the exact condition of these locations could not be determined.

On our 13 August call, we discussed possible visual effects "APEs" (this project has no federal nexus) for a project site in the south Stark County area, and a 3-mile buffer was recommended. However, per your August 20 email regarding visual effects evaluation of industrial wind farms which generally have turbines in excess of 400 feet, a 2-mile radius around the individual turbines was suggested. Also suggested in your memo was creating a map, which I've attached, showing the preliminary turbine locations and project boundaries, and the locations of the recorded Ethnic Farmsteads. As there is a historic cemetery in the vicinity that may contain Iron Folk-Art monuments, we've included that location as well.

We would like to speak with you again on a conference call to discuss any modifications to the proposed Study Area ("APE") or other approaches we might undertake to evaluate potential visual effects to these (and any other) historic properties that could be in the project vicinity.

Would a follow-up call early next week be possible?

Cheers, Rich

Richard W. Estabrook, Ph.D. RPA
Environmental Services Project Manager - Archaeologist
NEXTera Energy Resources, LLC
561.691.3054 (office)
561.427.5483 (cell)
Richard.Estabrook@nexteraenergy.com



From: Quinnell, Susan L. [mailto:squinnell@nd.gov]
Sent: Tuesday, August 11, 2015 11:34 AM
To: Estabrook, Richard
Cc: Wells, Kimberly; Griger, Anne Marie; Sexton, James
Subject: RE: Ethic farmsteads in southern Stark County, North Dakota

This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email.

Any of those times are OK.

Susan Quinnell
Review and Compliance Coordinator
ND State Historic Preservation Office
State Historical Society of North Dakota
North Dakota Heritage Center
612 East Boulevard Avenue
Bismarck ND 58505-0830

701-328-3576
701-328-3710 FAX

From: Estabrook, Richard [<mailto:Richard.Estabrook@nexteraenergy.com>]
Sent: Tuesday, August 11, 2015 10:32 AM
To: Quinnell, Susan L.
Cc: Wells, Kimberly; Griger, Anne Marie; Sexton, James
Subject: RE: Ethic farmsteads in southern Stark County, North Dakota

Susan,

That's sounds good, although I'll be traveling out West those days. I'll be somewhere that I can jump on a call between 2-5 PM Central on Thursday and 11-3 Central on Friday. What time works best for you? If not, perhaps something first thing next week?

Cheers, Rich

Richard W. Estabrook, Ph.D. RPA
Environmental Services Project Manager - Archaeologist
NEXTera Energy Resources, LLC
561.691.3054 (office)
561.427.5483 (cell)
Richard.Estabrook@nexteraenergy.com



From: Quinnell, Susan L. [<mailto:squinnell@nd.gov>]
Sent: Tuesday, August 11, 2015 10:19 AM
To: Estabrook, Richard
Cc: Wells, Kimberly; Griger, Anne Marie; Sexton, James
Subject: RE: Ethic farmsteads in southern Stark County, North Dakota

This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email.

Sure, Thursday or Friday this week would work.

Susan Quinnell
Review and Compliance Coordinator

ND State Historic Preservation Office
State Historical Society of North Dakota
North Dakota Heritage Center
612 East Boulevard Avenue
Bismarck ND 58505-0830

701-328-3576
701-328-3710 FAX

From: Estabrook, Richard [<mailto:Richard.Estabrook@nexteraenergy.com>]
Sent: Monday, August 10, 2015 10:27 AM
To: Quinnell, Susan L.
Cc: Wells, Kimberly; Griger, Anne Marie; Sexton, James
Subject: Ethic farmsteads in southern Stark County, North Dakota

Susan,

NextEra Energy is looking at alternative locations in North Dakota in which to site a potential wind energy project. One of the locations being considered in is southern Stark and northern Hettinger counties. A preliminary records search conducted by Tetra Tech identified a number of late 19th – early 20th century ethic farmsteads in southern Stark County that were identified during a study entitled: *Ethnic Architecture in Stark County, North Dakota: A Historic Context* by Lon Johnson, Mark Hostetler and Alice Emerson circa 1991. Next Era is very much interested in avoiding historic properties whenever possible.

Would it be possible to speak with you about these resources via a conference call sometime soon? While it is entirely possible to avoid the physical footprint of these resources, we were concerned about potential secondary effects/visual concerns for these farmsteads.

If so, I can set something up with the folks at Tetra Tech and provide a call-in number.

Thanks in advance for your consideration.

Cheers, Rich

Richard W. Estabrook, Ph.D. RPA
Environmental Services Project Manager - Archaeologist
NEXTera Energy Resources, LLC
561.691.3054 (office)
561.427.5483 (cell)
Richard.Estabrook@nexteraenergy.com



Brady Wind Energy Center

Stark County, ND

Historic Structures

Legend

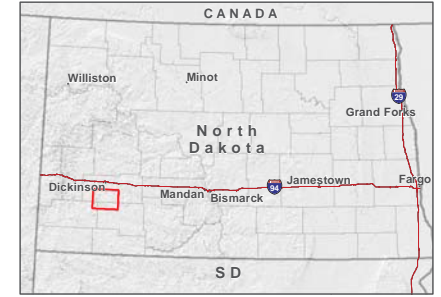
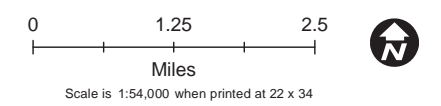
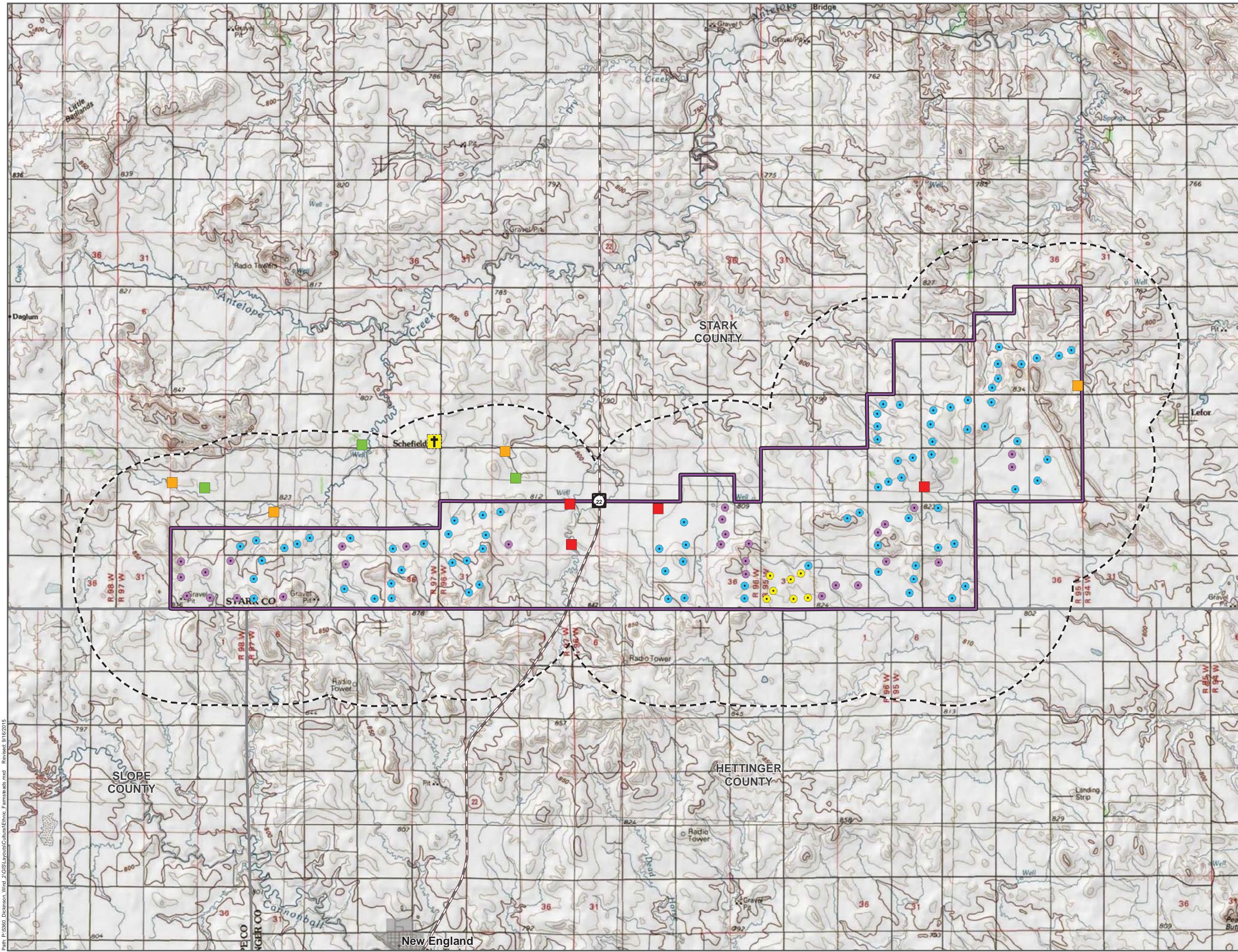
- Project Boundary (07/22/15)
- 2-mile Turbine Buffer
- Historic Cemetery

Turbine Layout (09/16/15)

- GE Xle 1.7515-103 Turbine
- GE Xle 1.7515-103 Turbine (Alt)
- GE Xle 1.79-100 Turbine

Ethnic Farmsteads Recommended as Eligible

- Still Extant
- Further Research Required
- In Ruins



Path: P:\580_Dickinson_Wind_2\GIS\Layouts\CulturalEthnic_Farmsteads.mxd Revised: 9/16/2015

Griger, Anne Marie

From: Quinnell, Susan L. <squinnell@nd.gov>
Sent: Thursday, September 17, 2015 11:55 AM
To: Estabrook, Richard
Cc: Wells, Kimberly; Griger, Anne Marie; Sexton, James
Subject: RE: Ethic farmsteads in southern Stark County, North Dakota

Hi Rich,

Thank you for the map. Regarding the visual APE two miles is good for this location, although we reserve the ability to set custom APE's depending on a project's proximity to very sensitive and outstanding cultural resources. A call next week would be welcome, except Monday Sept. 21st.

Best,

Susan Quinnell
Review and Compliance Coordinator
ND State Historic Preservation Office
State Historical Society of North Dakota
North Dakota Heritage Center
612 East Boulevard Avenue
Bismarck ND 58505-0830

701-328-3576
701-328-3710 FAX

From: Estabrook, Richard [mailto:Richard.Estabrook@nexteraenergy.com]
Sent: Thursday, September 17, 2015 11:36 AM
To: Quinnell, Susan L.
Cc: Wells, Kimberly; Griger, Anne Marie; Sexton, James
Subject: RE: Ethic farmsteads in southern Stark County, North Dakota

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August 26, 2015

Anne-Marie Griger, AICP
Tetra Tech, Inc.
8911 N. Capital of Texas Hwy, Bldg 2, Suite 2310
Austin, TX 78759

Re: Proposed Brady Wind Energy Center
Hettinger and Stark Counties, North Dakota

Dear Ms. Griger:

This department has reviewed the information concerning the above-referenced project submitted under date of August 14, 2015, with respect to possible environmental impacts.

This department believes that environmental impacts from the proposed construction will be minor and can be controlled by proper construction methods. With respect to construction, we have the following comments:

1. All necessary measures must be taken to minimize fugitive dust emissions created during construction activities. Any complaints that may arise are to be dealt with in an efficient and effective manner.
2. Care is to be taken during construction activity near any water of the state to minimize adverse effects on a water body. This includes minimal disturbance of stream beds and banks to prevent excess siltation, and the replacement and revegetation of any disturbed area as soon as possible after work has been completed. Caution must also be taken to prevent spills of oil and grease that may reach the receiving water from equipment maintenance, and/or the handling of fuels on the site. Guidelines for minimizing degradation to waterways during construction are attached.
3. Projects disturbing one or more acres are required to have a permit to discharge storm water runoff until the site is stabilized by the reestablishment of vegetation or other permanent cover. Further information on the storm water permit may be obtained from the Department's website or by calling the Division of Water Quality (701-328-5210). Also, cities or counties may impose additional requirements and/or specific best management practices for construction affecting their storm drainage system. Check with the local officials to be sure any local storm water management considerations are addressed.
4. Noise from construction activities may have adverse effects on persons who live near the construction area. Noise levels can be minimized by ensuring that construction equipment is

Anne-Marie Griger

2.

August 26, 2015

equipped with a recommended muffler in good working order. Noise effects can also be minimized by ensuring that construction activities are not conducted during early morning or late evening hours.

The department owns no land in or adjacent to the proposed improvements, nor does it have any projects scheduled in the area. In addition, we believe the proposed activities are consistent with the State Implementation Plan for the Control of Air Pollution for the State of North Dakota.

If you have any questions regarding our comments, please feel free to contact this office.

Sincerely,

A handwritten signature in black ink, appearing to read "L. David Glatt". The signature is fluid and cursive, with a large loop at the end.

L. David Glatt, P.E., Chief
Environmental Health Section

LDG:cc
Attach.



Construction and Environmental Disturbance Requirements

These represent the minimum requirements of the North Dakota Department of Health. They ensure that minimal environmental degradation occurs as a result of construction or related work which has the potential to affect the waters of the State of North Dakota. All projects will be designed and implemented to restrict the losses or disturbances of soil, vegetative cover, and pollutants (chemical or biological) from a site.

Soils

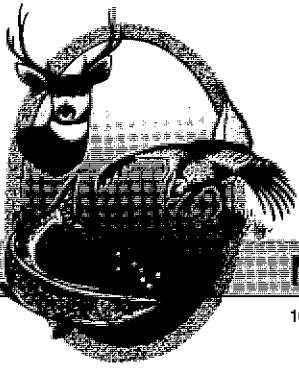
Prevent the erosion of exposed soil surfaces and trapping sediments being transported. Examples include, but are not restricted to, sediment dams or berms, diversion dikes, hay bales as erosion checks, riprap, mesh or burlap blankets to hold soil during construction, and immediately establishing vegetative cover on disturbed areas after construction is completed. Fragile and sensitive areas such as wetlands, riparian zones, delicate flora, or land resources will be protected against compaction, vegetation loss, and unnecessary damage.

Surface Waters

All construction which directly or indirectly impacts aquatic systems will be managed to minimize impacts. All attempts will be made to prevent the contamination of water at construction sites from fuel spillage, lubricants, and chemicals, by following safe storage and handling procedures. Stream bank and stream bed disturbances will be controlled to minimize and/or prevent silt movement, nutrient upsurges, plant dislocation, and any physical, chemical, or biological disruption. The use of pesticides or herbicides in or near these systems is forbidden without approval from this Department.

Fill Material

Any fill material placed below the high water mark must be free of top soils, decomposable materials, and persistent synthetic organic compounds (in toxic concentrations). This includes, but is not limited to, asphalt, tires, treated lumber, and construction debris. The Department may require testing of fill materials. All temporary fills must be removed. Debris and solid wastes will be removed from the site and the impacted areas restored as nearly as possible to the original condition.



"VARIETY IN HUNTING AND FISHING"

NORTH DAKOTA GAME AND FISH DEPARTMENT

100 NORTH BISMARCK EXPRESSWAY BISMARCK, NORTH DAKOTA 58501-5095 PHONE 701-328-6300 FAX 701-328-6352

September 25, 2015

Anne-Marie Griger, AICP
Tetra Tech, Inc.
8911 N. Capital of Texas Hwy
Bldg. 2, Suite #2310
Austin, TX 78759

Dear Ms. Griger:

RE: Proposed Brady Wind Energy Center
Hettinger & Stark Counties, North Dakota

The North Dakota Game and Fish Department has reviewed this project for wildlife concerns.

A primary concern with wind power development is the disturbance of native prairie associated with construction of turbines, access roads, and other associated facilities. We ask that work within native prairie be avoided to the extent possible. This could include micro-siting turbines onto adjacent previously disturbed land, locating access roads on existing section line trails rather than across undisturbed native prairie, etc. We also suggest the US Fish and Wildlife Service Land-Based Wind Energy Guidelines be implemented as appropriate during the development of this project.

The National Wetland Inventory indicates various wetlands located within the proposed project area. We recommend that any unavoidable wetland impacts be replaced in kind, above-ground appurtenances not be placed in wetland areas, and no alterations be made to existing drainage patterns.

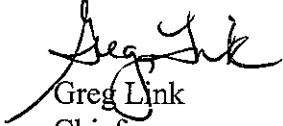
We ask that collection lines be buried whenever possible, and any necessary overhead lines be marked when placed over perennial streams or sited in close proximity to wetland complexes to minimize possible avian impacts. The publication "Reducing Avian Collisions with Power Lines: the State of the Art in 2012" provides a range of management options which can be used to reduce avian losses.

Aerial surveys should be conducted for raptor nests before construction begins. A ½-mile construction buffer should be implemented around active eagle nest sites (known occupied

within the past 5 years). Ms. Sandra Johnson, Conservation Biologist, can be contacted at 701-328-6327 for additional information on eagle nest sites in the state.

We also recommend that routine monitoring for avian and bat mortality be included as part of the facility maintenance plan for the life of the project. We would appreciate being kept informed as this project progresses, and if possible, we would like the GPS coordinates for each turbine after the site has been established.

Sincerely,

A handwritten signature in black ink, appearing to read "Greg Link". The signature is written in a cursive style with a large, sweeping initial "G".

Greg Link
Chief

Conservation & Communication Division

js



North Dakota Geological Survey

Edward C. Murphy - State Geologist

Department of Mineral Resources

Lynn D. Helms - Director

North Dakota Industrial Commission

<https://www.dmr.nd.gov/ndgs/>

August 24, 2015

Anne-Marie Griger
Tetra Tech, Inc
8911 N. Capital of Texas Highway, Bldg 2 Suite #2310
Austin, Texas 78759

RE: Brady Wind Energy Center, Hettinger and Stark Counties, ND

Dear Ms. Griger:

There are economic coal deposits within or adjacent to the area that you have outlined. Please see <https://www.dmr.nd.gov/ndgs/Coalmaps/dickinson/24Dickinson.asp> for coal maps of this area. The New England North Deposit covers portions of sections 5-11, 13-17, 22 and 23 in T136N, R97W and contains approximately 58 million tons of mineable coal. We have not initiated a landslide mapping project within this area.

Please contact me if you have any questions.

Sincerely,

Edward C. Murphy
State Geologist

ND Parks and Recreation Department

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

INVOICE

INVOICE NO: 0507
 DATE: 8/31/2015

Anne-Marie Griger
 Tetra-Tech, Inc
 8911 N Capital of Texas Hwy
 Bldg. 2 Suite #2310
 Austin, TX 78759

CONTACT	REFERENCE NO.	DATE SHIPPED	SHIPPED VIA	F.O.B. POINT	TERMS
K.Duttenhefner	NHI_2015_079	8/31/2015	USPS		

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
1	Data retrieval, data analysis, manual and computer searches, packaging and collection of data. Project: Brady Wind Energy Center in Hettinger and Stark Counties	\$ 60.00	\$ 60.00

SUBTOTAL	\$ 60.00
SALES TAX	
SHIPPING & HANDLING	
TOTAL DUE	\$ 60.00

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

THANK YOU FOR YOUR INTEREST IN RARE SPECIES CONSERVATION.

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



Jack Dalrymple, Governor
Mark A. Zimmerman, Director

1600 East Century Avenue, Suite 3
Bismarck, ND 58503-0649
Phone 701-328-5357
Fax 701-328-5363
E-mail parkrec@nd.gov
www.parkrec.nd.gov

August 31, 2015

Ms. Anne-Marie Griger
Tetra Tech, Inc
Bldg 2 Suite #2310
8911 N. Capital of Texas Hwy.
Austin, TX 78759

Re: Proposed Brady Wind Energy Center in Hettinger and Stark Counties

Dear Ms. Griger,

The North Dakota Parks and Recreation Department (the Department) has reviewed the above referenced proposed Brady Wind Energy Center in Hettinger and Stark Counties.

Our agency scope of authority and expertise covers recreation and biological resources (in particular rare plants and ecological communities). The project as defined does not affect state park lands that we manage or affect state Land and Water Conservation Fund (LWCF) project sites that we manage.

The North Dakota Natural Heritage biological conservation database has been reviewed to determine if any plant or animal species of concern or other significant ecological communities are known to occur within an approximate one-mile radius of the project area. Based on this review, we several plant, and animal species of concern and significant ecological communities documented within sections and in adjacent sections to project area. Please see the attached spreadsheet and map for more information on these occurrences.

Because this information is not based on a comprehensive inventory, there may be species of concern or otherwise significant ecological communities in the area that are not represented in the database. The lack of data for any project area cannot be construed to mean that no significant features are present. The absence of data may indicate that the project area has not been surveyed, rather than confirm that the area lacks natural heritage resources. Regarding any reclamation efforts, we recommend that any impacted areas be revegetated with species native to the project area.

It is our policy to charge requests for data services including data retrieval, data analysis, manual and computer searches, packaging and collection of data. An invoice for services provided has been enclosed.

We appreciate your commitment to rare plant, animal and ecological community conservation, management and inter-agency cooperation to date. For additional information please contact Kathy Duttonhefner (701-328-5370 or kgduttonhefner@nd.gov) of our staff. Thank you for the opportunity to comment on this proposed project.

Sincerely,

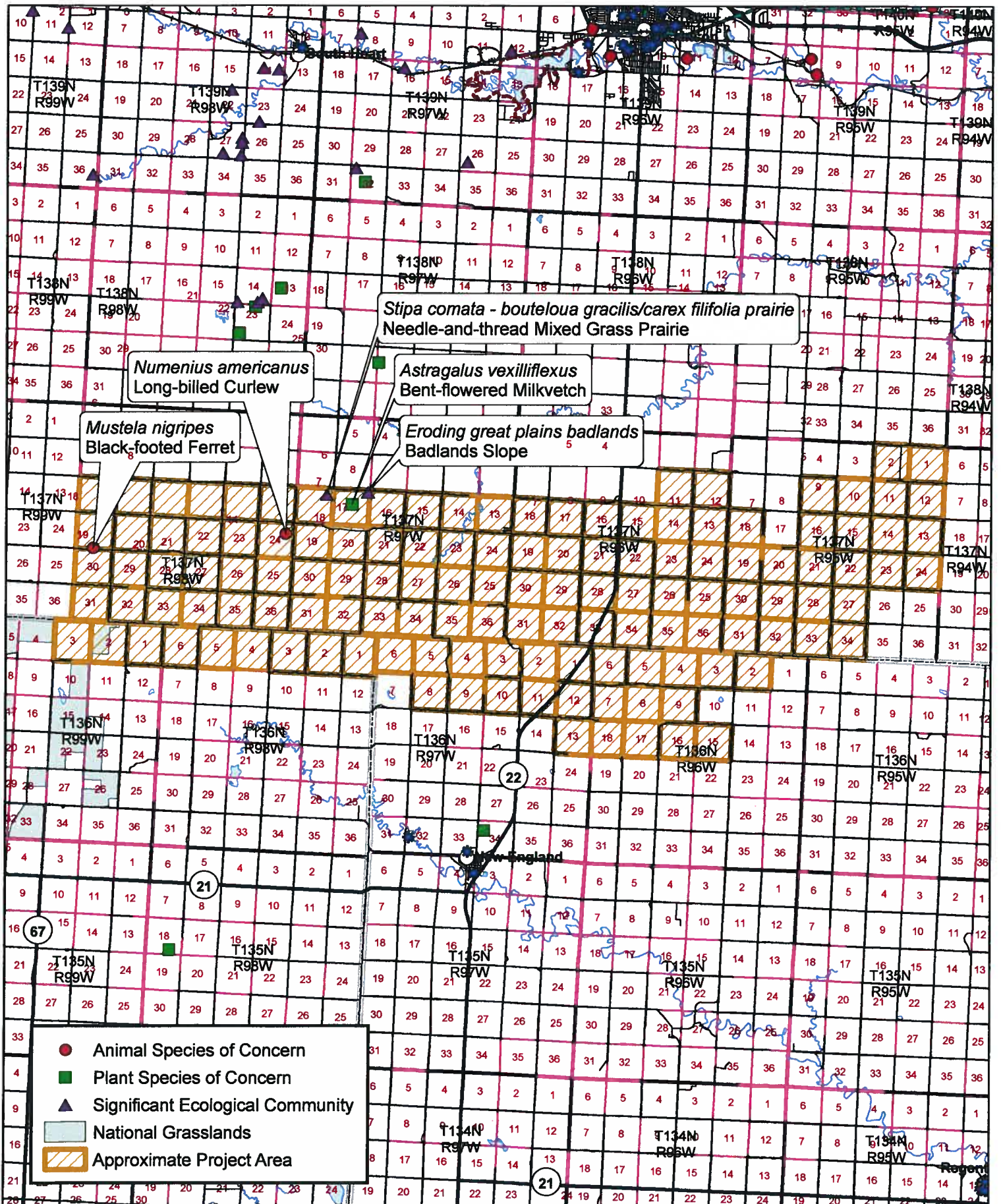


Kathy Duttonhefner, Coordinator
Natural Resources Division

R.USNDNHI*2015_079KD18.31.2015DL8.31.2015

.....
Play in our backyard!

North Dakota Parks and Recreation Department North Dakota Natural Heritage Inventory



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

State Scientific Name	State Common Name	State Rank	Global Rank	Federal Status	Township Range Section	County	Last Observation	Estimated Representation Accuracy	Precision
<i>Astragalus vexilliflexus</i>	Bent-flowered Milkvetch	S3	G4		137N097W - 17	Stark	1985-09-18		S
<i>Erodium cicutarium</i>	Red-stemmed Filifolium	S4	GNR		137N097W - 08; 137N097W - 16; 137N097W - 17	Stark	1985-09-18		S
<i>Mustela nigripes</i>	Black-footed Ferret	S1	G1	LE, XN	137N099W - 36; 137N098W - 29; 137N098W - 17; 137N098W - 31; 137N098W - 32; 137N098W - 30; 137N099W - 13; 137N099W - 25; 137N098W - 18; 137N099W - 24; 137N098W - 19; 137N098W - 20	Stark	1976	Low	M
<i>Numenius americanus</i>	Long-billed Curlew	S2	G5		137N099W - 24	Stark	1976-05		S
<i>Stipa comata</i> - <i>bouteloua gracilis</i> / <i>carex filifolia</i> prairie	Needle-and-thread Mixed Grass Prairie	S2	GNR		137N097W - 18	Stark	1985-09-18		S

North Dakota Natural Heritage Inventory Biological and Conservation Data Disclaimer

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

Estimated Representation Accuracy

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

Very high (>95%)

High (>80%, <= 95%)

Medium (>20%, <= 80%)

Low (>0%, <= 20%)

Unknown

(null) - Not assessed

Precision

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

S - Seconds: accuracy of locality mappable within a three-second radius; 100 meters from the centerpoint

M - Minute: accuracy of locality mappable within a one-minute radius; 2 km from the centerpoint

G - General: accuracy of locality mappable to map or place name precision only; 8 km from centerpoint

U - Unmappable



North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
701-328-2750 • TDD 701-328-2750 • FAX 701-328-3696 • INTERNET: <http://swc.nd.gov>

September 4, 2015

Anne-Marie Griger
Tetra Tech, Inc.
8911 N. Capital of Texas Hwy
BLDG 2 STE 2310
Austin, TX 78759

Dear Ms. Griger:

This is in response to your request for review of environmental impacts associated with the Brady Wind Energy Center project located in Hettinger and Stark Counties south of the city of Dickinson, ND. The project will include portions of the following tracts: in Hettinger County - Sections 3-9 and 15-18, Township 136 N, Range 96 W and Sections 1-6 and 8-13, Township 136 N, Range 97 W. In Stark County - Sections 1, 2, 9-16, 19-24, and 27-34, Township 137 N, Range 95 W; Sections 23-36, Township 137 N, Range 96 W; and Sections 25-29 and 32-36, Township 137 N, Range 97 W.

The proposed project has been reviewed by State Water Commission staff and the following comments are provided:

- There are floodplains identified and mapped where this proposed project is to take place. The areas are designated to be Zone A. North Dakota has no formal "permitting" authority as state entity in National Flood Insurance Program (NFIP) identified floodplain areas. The permitting is always done by the local entity, which has jurisdiction in the area in question. Please work closely with the two County Floodplain Administrator. The Floodplain Administrator for Hettinger County is: Ilene Hardmeyer; 336 Pacific Ave; Mott, ND 58646; 701-260-2452. The NFIP maps used to make this determination are: Panels #38041C0250D and 38041C0275D, Date 3/2/2012. The Floodplain Administrator for Stark County is: Bill Fahlsing; 66 Museum Drive W; Dickinson, ND 58601; 701-456-7605. The NFIP maps used to make this determination are: Panels #38089C0675E, 38089C0700E and 38089C0725E, Date 11/4/2010.
- The ND State Water Commission (Commission) maintains a network of observation/monitor water wells and the location of gaging stations throughout the state, and many are located close to public right-of-ways. The location information can be obtained from the Commission's website at: <http://swc.nd.gov>; then click on "Map and Data Resources"; and then click on "Map Services". Please inform the Water Appropriations Division of the Commission at 701-328-2754, if gaging stations or water wells may be affected by the project or accidentally damaged. A copy of the map is enclosed.
- There is Southwest Pipeline Project (SWPP) infrastructure in the area. Please contact the Southwest Water Authority at 701-225-0241 regarding SWPP infrastructure location.
- It is the responsibility of the project sponsor to ensure that local, state and federal agencies are contacted for any required approvals, permits, and easements.
- All waste material associated with the project must be disposed of properly and not placed in identified floodway areas.
- No sole-source aquifers have been designated in ND.

Thank you for the opportunity to provide review comments. If you have any questions, please call me at 701-328-4967.

Sincerely,


Linda Weispenning
Water Resource Planner

LW:dm/1570
Encl.

JACK DALRYMPLE, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
SECRETARY AND STATE ENGINEER



MAP SCALE 1" = 2000'



NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP
HETTINGER COUNTY,
NORTH DAKOTA
AND INCORPORATED AREAS

PANEL 250 OF 950
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
HETTINGER COUNTY, Incorporated Areas	380283	0250	D
NEW ENGLAND, CITY OF	380242	0250	D

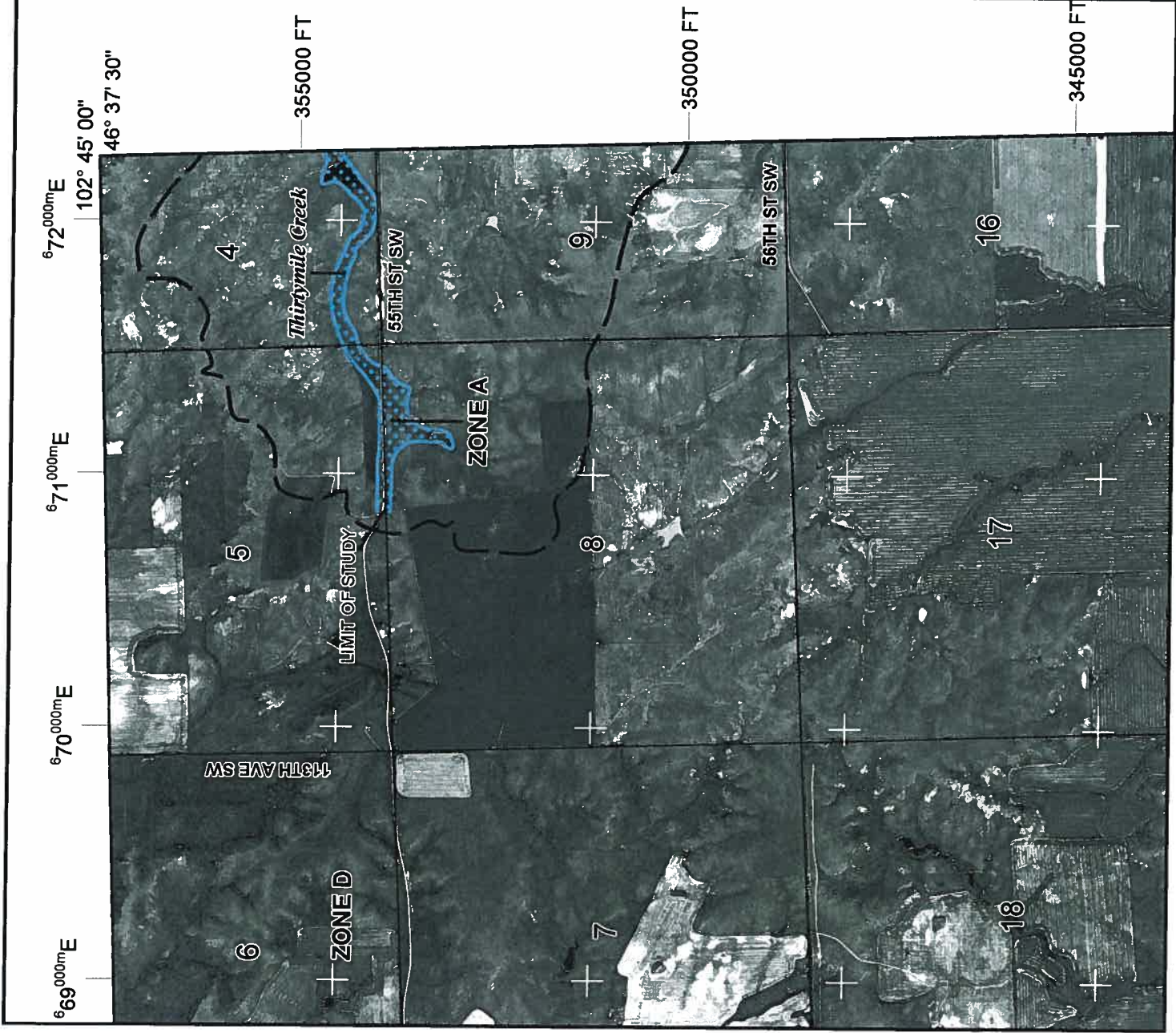
PANEL 0250D

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.



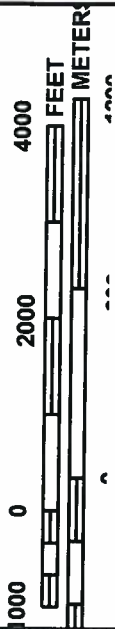
MAP NUMBER
38041C0250D
EFFECTIVE DATE
MARCH 2, 2012
Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov





MAP SCALE 1" = 2000'



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0275D

FIRM
FLOOD INSURANCE RATE MAP
HETTINGER COUNTY,
NORTH DAKOTA
AND INCORPORATED AREAS

PANEL 275 OF 950
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:
COMMUNITY HETTINGER COUNTY, Unincorporated Areas
NUMBER 380293
FIRM PANEL SUFFIX 0275 D

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.



MAP NUMBER
38041C0275D
EFFECTIVE DATE
MARCH 2, 2012
Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov





MAP SCALE 1" = 2000'



METE

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0675E

FIRM
FLOOD INSURANCE RATE MAP

STARK COUNTY,
NORTH DAKOTA
AND INCORPORATED AREAS

PANEL 675 OF 850
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:
NUMBER 386360
COMMUNITY STARK COUNTY
PANEL 0675
SUFFIX E

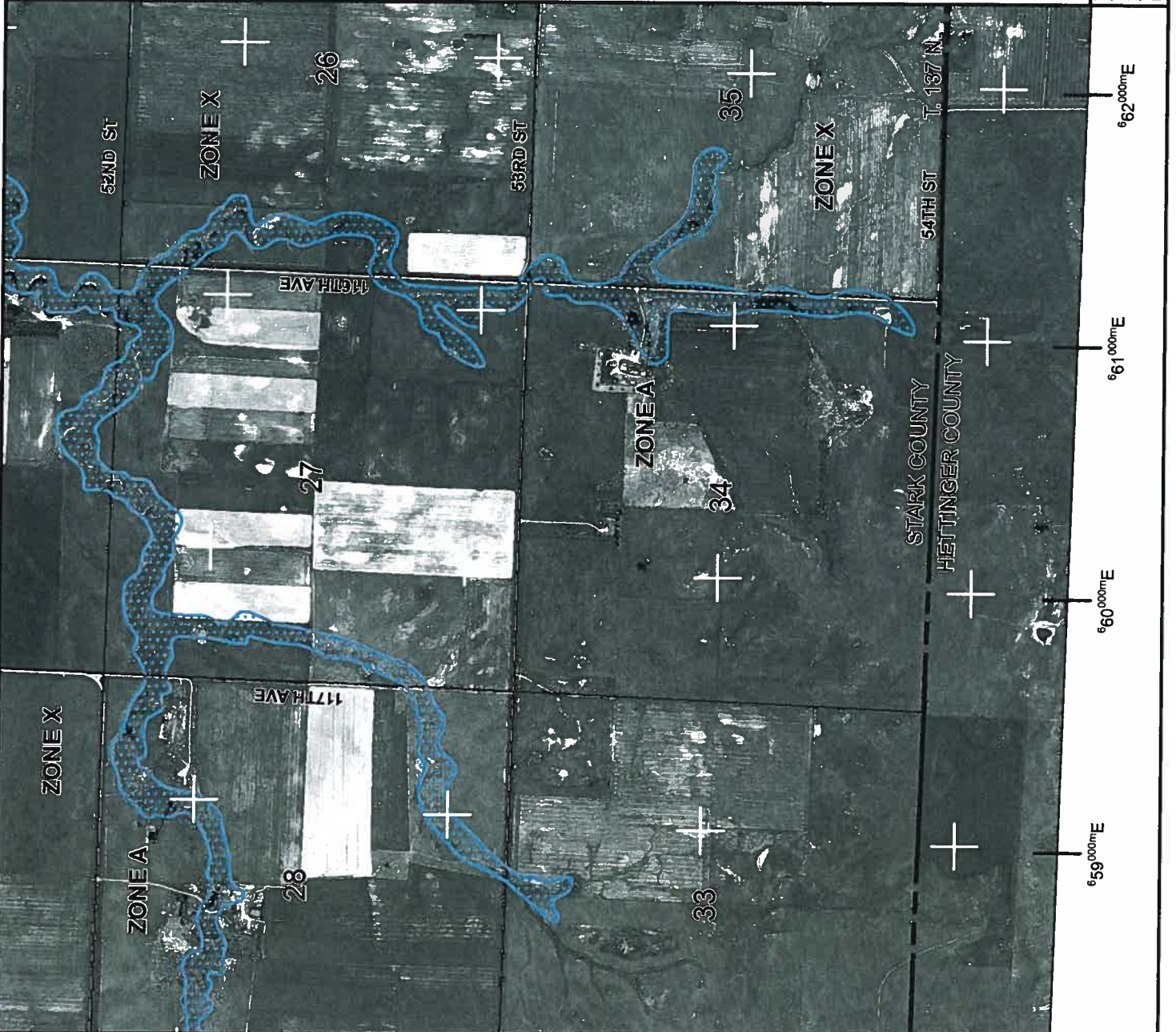
Notice to User: The Map Number shown below should be used when ordering maps for the subject community. The information shown above should be used on insurance applications for the subject community.



MAP NUMBER
38089C0675E
EFFECTIVE DATE
NOVEMBER 4, 2010

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov





MAP SCALE 1" = 2000'



METE

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0700E

FIRM FLOOD INSURANCE RATE MAP

STARK COUNTY,
NORTH DAKOTA
AND INCORPORATED AREAS

PANEL 700 OF 850
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:
COMMUNITY NUMBER 385369
STARK COUNTY
PANEL SUFFIX 0700
E

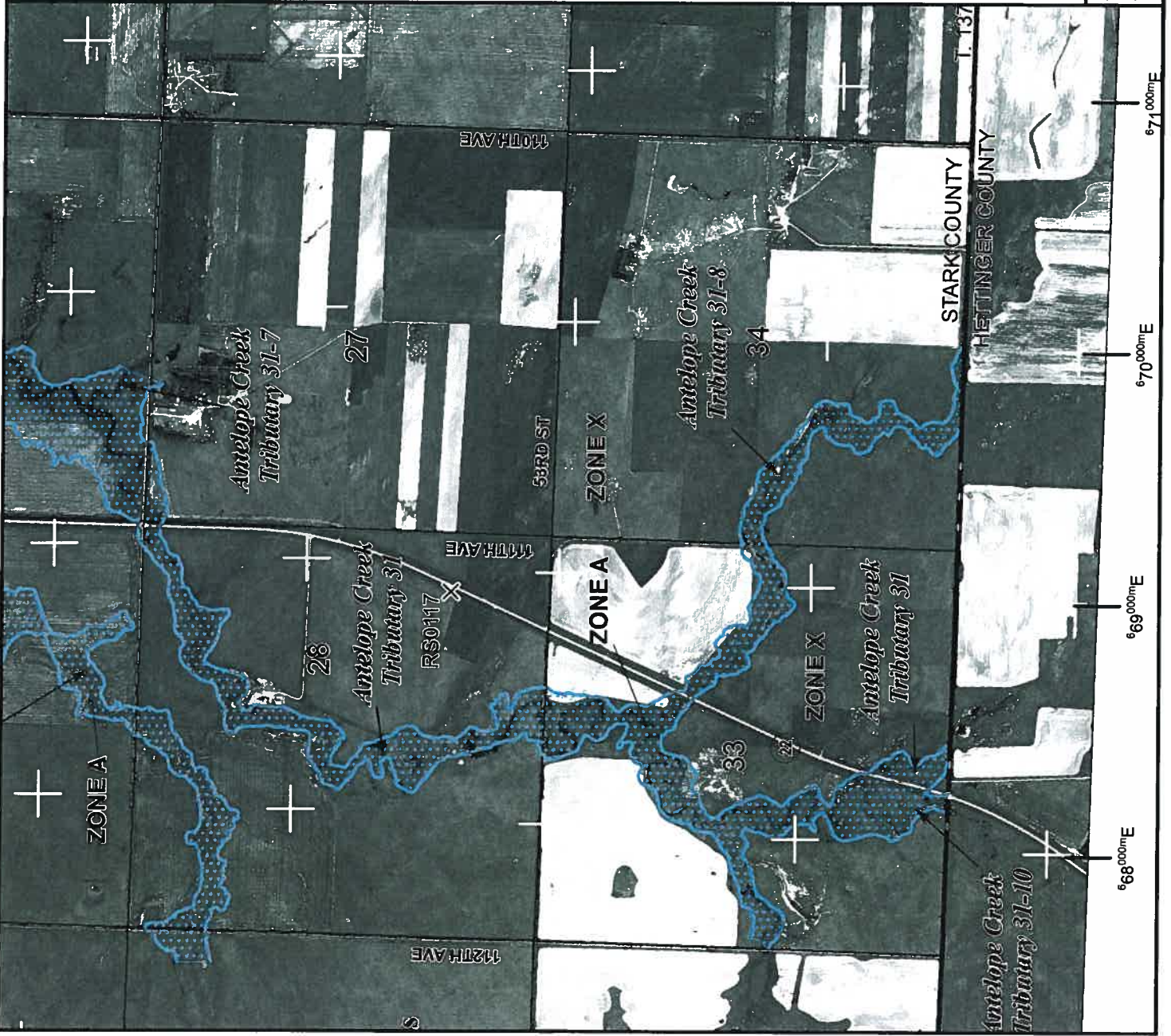
Notice to User: The Map Number shown below should be used when requesting a map for insurance applications for the subject community.



MAP NUMBER 38089C0700E
EFFECTIVE DATE NOVEMBER 4, 2010

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov





MAP SCALE 1" = 2000'



METE

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0725E

FIRM
FLOOD INSURANCE RATE MAP

STARK COUNTY,
NORTH DAKOTA
AND INCORPORATED AREAS

PANEL 725 OF 850
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY: STARK COUNTY
NUMBER: 385369
PANEL: 0725
SUFFIX: E

Notice to User: The Map Number shown below should be used when placing maps for insurance applications for the subject community.



MAP NUMBER
38089C0725E

EFFECTIVE DATE
NOVEMBER 4, 2010

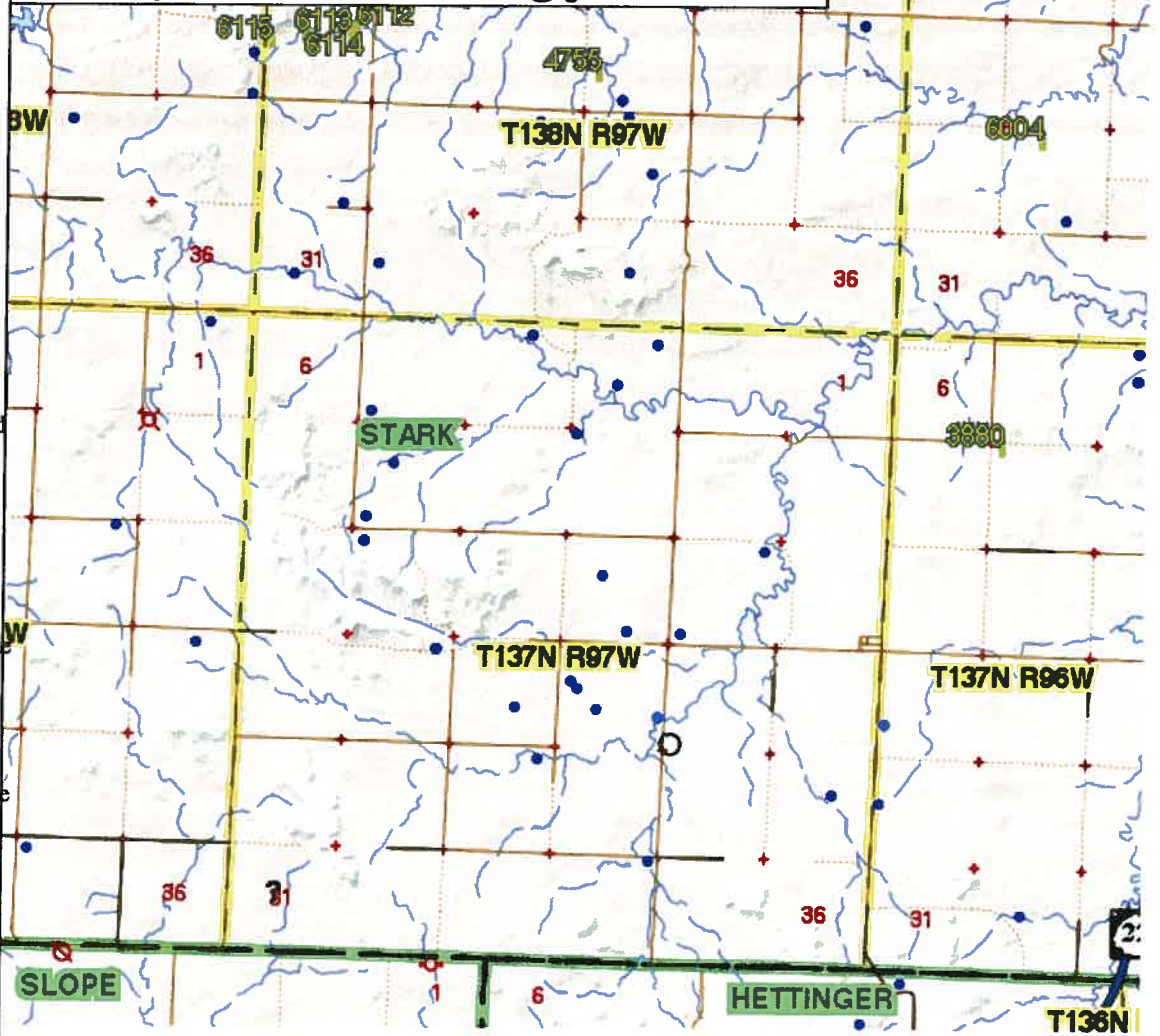
Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



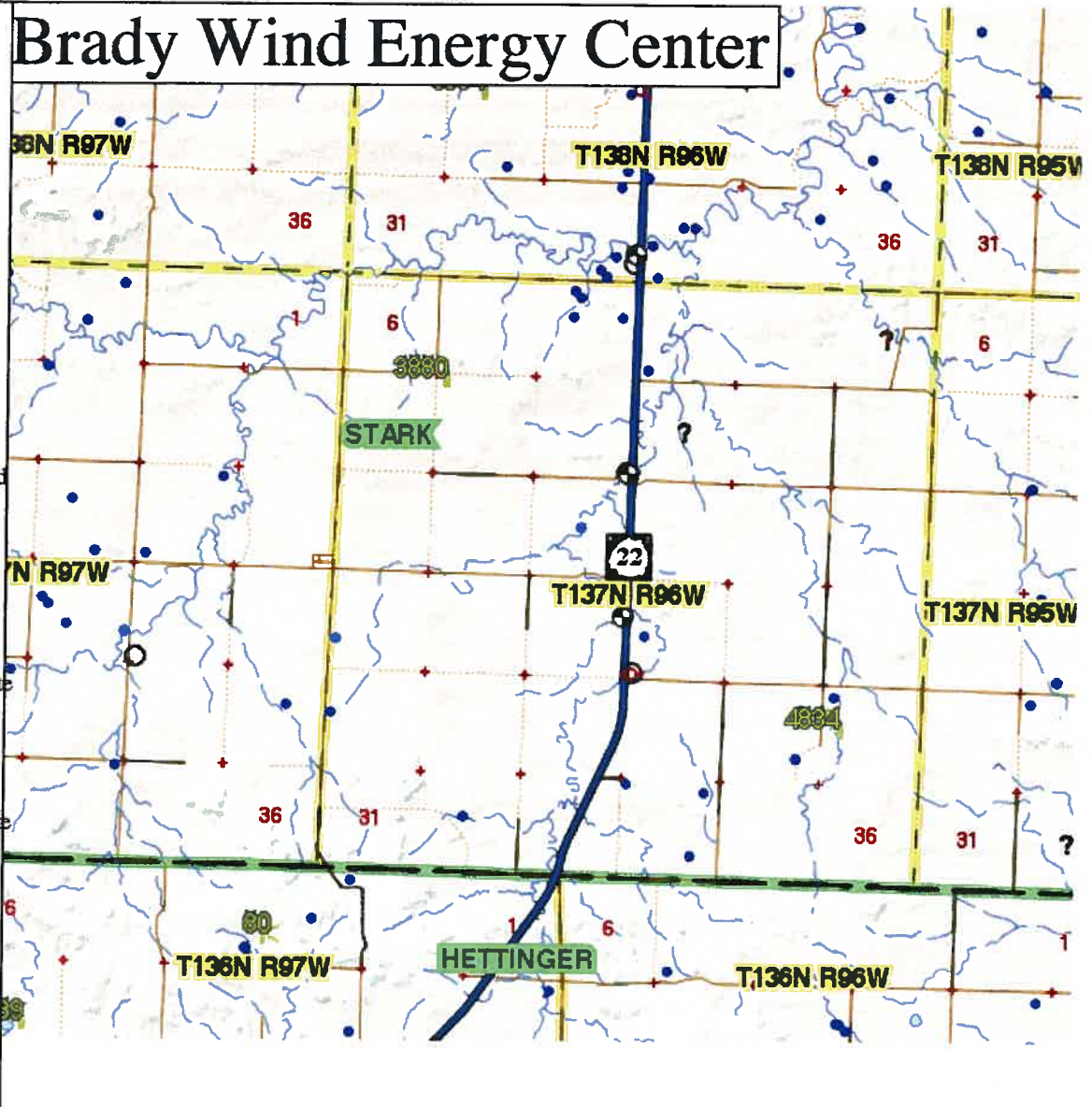
Brady Wind Energy Center

- ND Corporate Limits
- Tribal Lands
- Section Corners
- Townships_2
- County Boundaries1
- Driller Logs
- usgs_gages
- Domestic Well
- Industrial Well
- Irrigation Well
- Multi-Well Sample
- Municipal Well
- Observation Well
- Observation Well - Destroyed
- Observation Well - Plugged
- Observation Well - Recorder
- Production Well
- Rural Water Well
- Stock Well
- Surface Water Monitoring Site
- Test Hole
- Test Well
- Unknown
- Surface Water Monitoring Site
- Dams
- Approved
- Denied
- Hold
- Pending
- Withdrawn
- Permit Not Required
- dikes



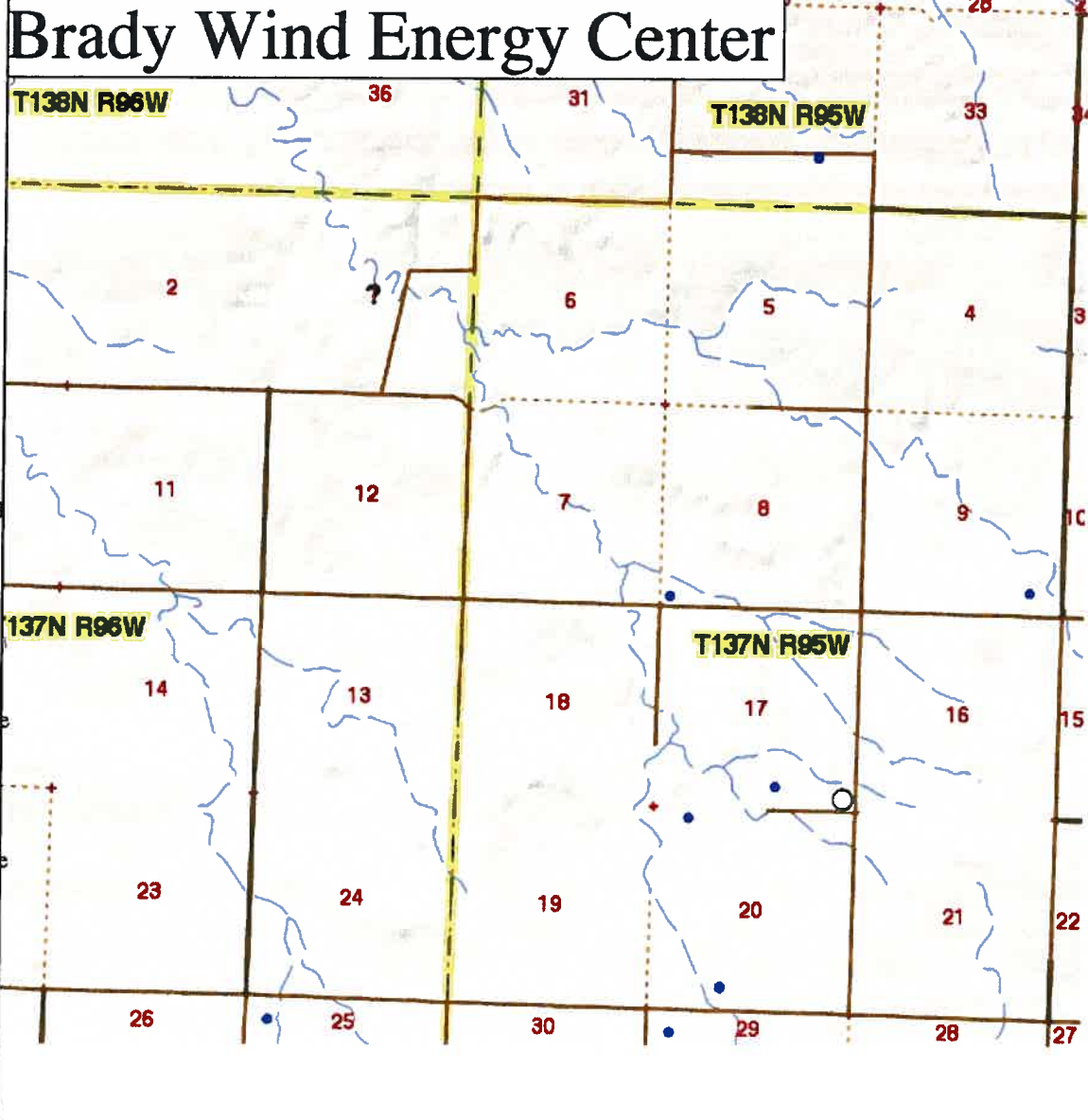
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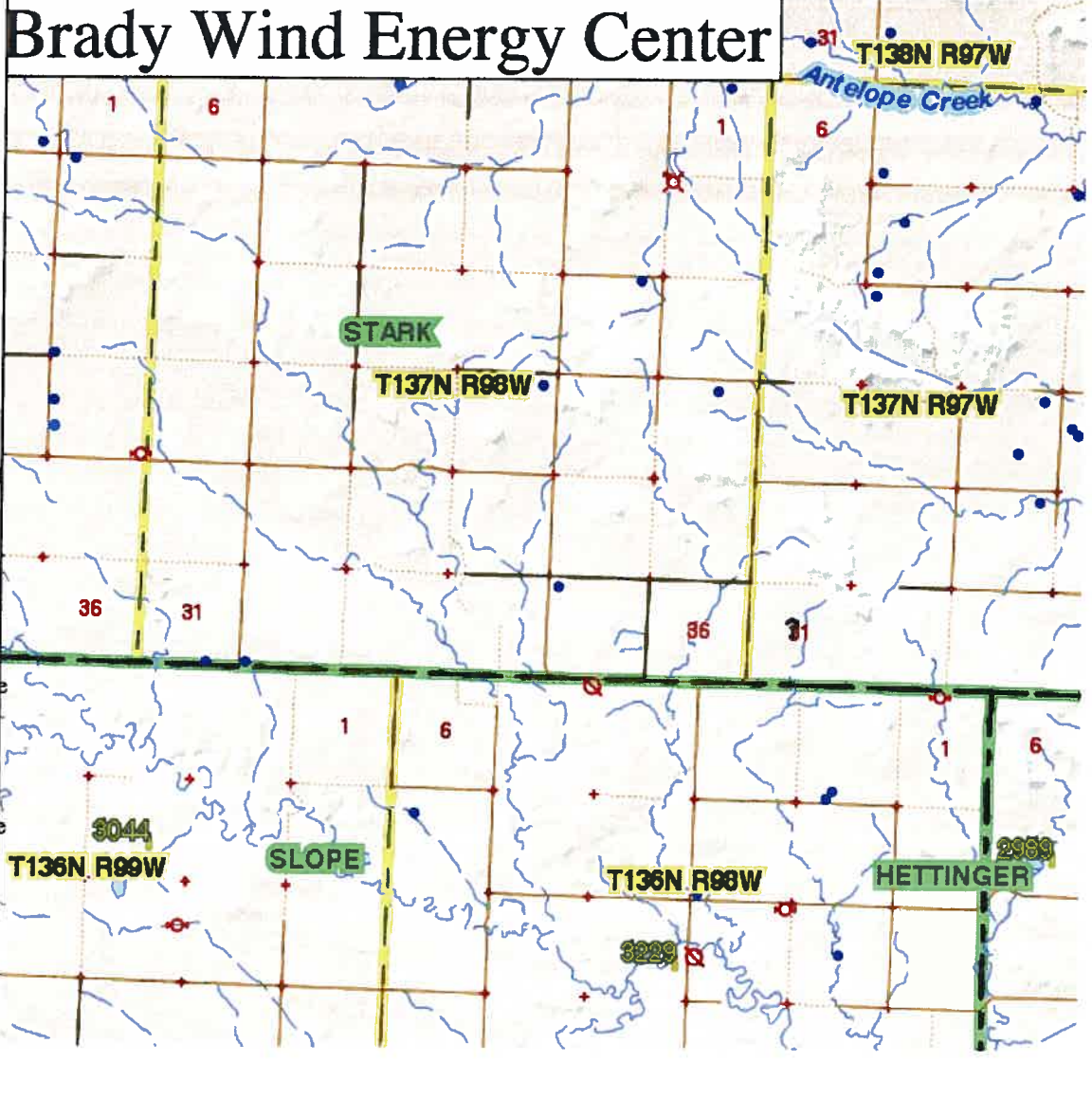
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Brady Wind Energy Center

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**STATE
HISTORICAL
SOCIETY
OF NORTH DAKOTA**

Jack Dalrymple
Governor of North Dakota

North Dakota
State Historical Board

Margaret Puetz
Bismarck - President

Gereld Gerntholz
Valley City - Vice President

Albert I. Berger
Grand Forks - Secretary

Calvin Grinnell
New Town

Diane K. Larson
Bismarck

Chester E. Nelson, Jr.
Bismarck

A. Ruric Todd III
Jamestown

Sara Otte Coleman
*Director
Tourism Division*

Kelly Schmidt
State Treasurer

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Secretary of State

Mark Zimmerman
*Director
Parks and Recreation
Department*

Grant Levi
*Director
Department of Transportation*

Claudia J. Berg
Director

Accredited by the
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of Museums since 1986

August 21, 2015

Ms. Anne-Marie Griger, AICP
Tetra Tech Inc
8911 N Capital of Texas Hwy, Building 2, Suite 2310
Austin, TX 78759

ND SHPO REF: 15-1414 ND PSC - NextEra Energy Resources, LLC Proposed Brady Wind Energy Center 230 kV transmission line in Stark, Hettinger and Slope Counties, North Dakota

Dear Ms. Griger,

Thank you for your preliminary information on ND SHPO Ref: 15-1414, the Brady Wind Energy Center and transmission line. As you know, there is potential for unrecorded and recorded cultural resource properties in a variety of physiographic settings in the overall project area. As a potential federal/state undertaking, we encourage early agency consultation as part of the review process. Early consultation should also include tribal nations, and North Dakota Indian Affairs.

We recommend a Class I (file search), a Class III survey by a permitted architectural historian for standing structures over 50 years old in the visual Area of Potential Effect (APE). That is within a 2 mile radius of individual turbine locations, but that APE may be modified larger or smaller, depending on those turbine locations. When the wind farm project develops to the point that turbine locations are defined, we would like to see a map of the turbine locations to see if there need to be any modifications to the APE. Susan Quinnell Review and Compliance Coordinator with ND SHPO will assist the permitted architectural historian with development of the visual APE, as each visual APE for large wind projects warrants individual review. Class III archeological (pedestrian) surveys will be warranted for all areas directly impacted by the project, including crane paths, access roads, staging areas, transmissions lines and turbine pads. As part of the Class III Inventory, NDCRS site updates should be submitted on all sites resurveyed. If the project APE changes, we will request additional inventories, surveys and consultation.

Thank you for the opportunity to review this project to date. We look forward to further review of cultural resource surveys and site forms, and updates as the project siting occurs. If you have any questions please contact Paul Picha, Chief Archaeologist (701) 328-3574 or Susan Quinnell, Review and Compliance Coordinator at (701) 328-3576, e-mail squinnell@nd.gov

Sincerely,

Claudia J. Berg, State Historic Preservation Officer (North Dakota) and Director State Historical Society of North Dakota



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
NORTH DAKOTA REGULATORY OFFICE
1513 SOUTH 12TH STREET
BISMARCK ND 58504-6640

August 19, 2015

North Dakota Regulatory Office

Ms. Anne-Marie Griger
Tetra Tech, Inc.
8911 ~~811~~ N. Capital of Texas Hwy, Bldg 2 Suite 2310
Austin, Texas 78759

Dear Ms. Griger:

This is in response to your letter dated August 14, 2015, requesting comments on NextEra Energy Resources' proposed Brady Wind Energy Center located in Hettinger and Stark Counties, North Dakota.

U. S. Army Corps of Engineers Regulatory Offices administer Section 10 of the Rivers and Harbors Act (Section 10) and Section 404 of the Clean Water Act (Section 404). A Section 10 permit would be required for work impacting navigable waters, this includes work over, through, or under Section 10 waters. Section 10 waters in North Dakota are the Missouri River (including Lake Sakakawea and Lake Oahe), Yellowstone River, James River (south of the railroad tracks in Jamestown, North Dakota), Bois de Sioux River, Red River of the North, and Upper Des Lacs Lake. A Section 404 permit would be required for the discharge of dredge or fill material (temporarily or permanently) in waters of the United States. Waters of the United States may include, but are not limited to, rivers, streams, ditches, coulees, lakes, ponds, and their adjacent wetlands. Fill material includes, but is not limited to, rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mines or other excavation activities and materials used to create any structure or infrastructure in waters of the United States.

Complete the enclosed application and mail it to the letterhead address if the project requires a Section 10/404 permit.

If we can be of further assistance or should you have any questions regarding our program, please do not hesitate to contact this office by letter or phone at (701) 255-0015.

Sincerely,

Daniel E. Cimarosti
Regulatory Program Manager
North Dakota

Enclosure

**Instructions for Preparing a
Department of the Army Permit Application**

Blocks 1 through 4. To be completed by Corps of Engineers.

Block 5. Applicant's Name. Enter the name and the E-mail address of the responsible party or parties. If the responsible party is an agency, company, corporation, or other organization, indicate the name of the organization and responsible officer and title. If more than one party is associated with the application, please attach a sheet with the necessary information marked Block 5.

Block 6. Address of Applicant. Please provide the full address of the party or parties responsible for the application. If more space is needed, attach an extra sheet of paper marked Block 6.

Block 7. Applicant Telephone Number(s). Please provide the number where you can usually be reached during normal business hours.

Blocks 8 through 11. To be completed, if you choose to have an agent.

Block 8. Authorized Agent's Name and Title. Indicate name of individual or agency, designated by you, to represent you in this process. An agent can be an attorney, builder, contractor, engineer, or any other person or organization. Note: An agent is not required.

Blocks 9 and 10. Agent's Address and Telephone Number. Please provide the complete mailing address of the agent, along with the telephone number where he / she can be reached during normal business hours.

Block 11. Statement of Authorization. To be completed by applicant, if an agent is to be employed.

Block 12. Proposed Project Name or Title. Please provide name identifying the proposed project, e.g., Landmark Plaza, Burned Hills Subdivision, or Edsall Commercial Center.

Block 13. Name of Waterbody. Please provide the name of any stream, lake, marsh, or other waterway to be directly impacted by the activity. If it is a minor (no name) stream, identify the waterbody the minor stream enters.

Block 14. Proposed Project Street Address. If the proposed project is located at a site having a street address (not a box number), please enter it here.

Block 15. Location of Proposed Project. Enter the latitude and longitude of where the proposed project is located. If more space is required, please attach a sheet with the necessary information marked Block 15.

Block 16. Other Location Descriptions. If available, provide the Tax Parcel Identification number of the site, Section, Township, and Range of the site (if known), and / or local Municipality that the site is located in.

Block 17. Directions to the Site. Provide directions to the site from a known location or landmark. Include highway and street numbers as well as names. Also provide distances from known locations and any other information that would assist in locating the site. You may also provide description of the proposed project location, such as lot numbers, tract numbers, or you may choose to locate the proposed project site from a known point (such as the right descending bank of Smith Creek, one mile downstream from the Highway 14 bridge). If a large river or stream, include the river mile of the proposed project site if known

Block 18. Nature of Activity. Describe the overall activity or project. Give appropriate dimensions of structures such as wing walls, dikes (identify the materials to be used in construction, as well as the methods by which the work is to be done), or excavations (length, width, and height). Indicate whether discharge of dredged or fill material is involved. Also, identify any structure to be constructed on a fill, piles, or float-supported platforms.

The written descriptions and illustrations are an important part of the application. Please describe, in detail, what you wish to do. If more space is needed, attach an extra sheet of paper marked Block 18.

Block 19. Proposed Project Purpose. Describe the purpose and need for the proposed project. What will it be used for and why? Also include a brief description of any related activities to be developed as the result of the proposed project. Give the approximate dates you plan to both begin and complete all work.

Block 20. Reasons for Discharge. If the activity involves the discharge of dredged and/or fill material into a wetland or other waterbody, including the temporary placement of material, explain the specific purpose of the placement of the material (such as erosion control).

Block 21. Types of Material Being Discharged and the Amount of Each Type in Cubic Yards. Describe the material to be discharged and amount of each material to be discharged within Corps jurisdiction. Please be sure this description will agree with your illustrations. Discharge material includes: rock, sand, clay, concrete, etc.

Block 22. Surface Areas of Wetlands or Other Waters Filled. Describe the area to be filled at each location. Specifically identify the surface areas, or part thereof, to be filled. Also include the means by which the discharge is to be done (backhoe, dragline, etc.). If dredged material is to be discharged on an upland site, identify the site and the steps to be taken (if necessary) to prevent runoff from the dredged material back into a waterbody. If more space is needed, attach an extra sheet of paper marked Block 22.

Block 23. Description of Avoidance, Minimization, and Compensation. Provide a brief explanation describing how impacts to waters of the United States are being avoided and minimized on the project site. Also provide a brief description of how impacts to waters of the United States will be compensated for, or a brief statement explaining why compensatory mitigation should not be required for those impacts.

Block 24. Is Any Portion of the Work Already Complete? Provide any background on any part of the proposed project already completed. Describe the area already developed, structures completed, any dredged or fill material already discharged, the type of material, volume in cubic yards, acres filled, if a wetland or other waterbody (in acres or square feet). If the work was done under an existing Corps permit, identify the authorization, if possible.

Block 25. Names and Addresses of Adjoining Property Owners, Lessees, etc., Whose Property Adjoins the Project Site. List complete names and full mailing addresses of the adjacent property owners (public and private) lessees, etc., whose property adjoins the waterbody or aquatic site where the work is being proposed so that they may be notified of the proposed activity (usually by public notice). If more space is needed, attach an extra sheet of paper marked Block 24.

Information regarding adjacent landowners is usually available through the office of the tax assessor in the county or counties where the project is to be developed.

Block 26. Information about Approvals or Denials by Other Agencies. You may need the approval of other federal, state, or local agencies for your project. Identify any applications you have submitted and the status, if any (approved or denied) of each application. You need not have obtained all other permits before applying for a Corps permit.

Block 27. Signature of Applicant or Agent. The application must be signed by the owner or other authorized party (agent). This signature shall be an affirmation that the party applying for the permit possesses the requisite property rights to undertake the activity applied for (including compliance with special conditions, mitigation, etc.).

DRAWINGS AND ILLUSTRATIONS

General Information.

Three types of illustrations are needed to properly depict the work to be undertaken. These illustrations or drawings are identified as a Vicinity Map, a Plan View or a Typical Cross-Section Map. Identify each illustration with a figure or attachment number.

Please submit one original, or good quality copy, of all drawings on 8½ x11 inch plain white paper (electronic media may be substituted). Use the fewest number of sheets necessary for your drawings or illustrations.

Each illustration should identify the project, the applicant, and the type of illustration (vicinity map, plan view, or cross-section). **While illustrations need not be professional (many small, private project illustrations are prepared by hand), they should be clear, accurate, and contain all necessary information.**

**U.S. ARMY CORPS OF ENGINEERS
APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT**
33 CFR 325. The proponent agency is CECW-CO-R.

*Form Approved -
OMB No. 0710-0003
Expires: 31-AUGUST-2013*

Public reporting for this collection of information is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of the collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters, Executive Services and Communications Directorate, Information Management Division and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.

PRIVACY ACT STATEMENT

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and/or instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE
--------------------	----------------------	------------------	------------------------------

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME First - Middle - Last - Company - E-mail Address -	8. AUTHORIZED AGENT'S NAME AND TITLE (agent is not required) First - Middle - Last - Company - E-mail Address -
6. APPLICANT'S ADDRESS: Address- City - State - Zip - Country -	9. AGENT'S ADDRESS: Address- City - State - Zip - Country -
7. APPLICANT'S PHONE NOS. w/AREA CODE a. Residence b. Business c. Fax	10. AGENTS PHONE NOS. w/AREA CODE a. Residence b. Business c. Fax

STATEMENT OF AUTHORIZATION

11. I hereby authorize _____ to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

SIGNATURE OF APPLICANT DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions)			
13. NAME OF WATERBODY, IF KNOWN (if applicable)		14. PROJECT STREET ADDRESS (if applicable)	
		Address	
15. LOCATION OF PROJECT Latitude: °N Longitude: °W		City -	State- Zip-
16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions)			
State Tax Parcel ID		Municipality	
Section -	Township -	Range -	

17. DIRECTIONS TO THE SITE

18. Nature of Activity (Description of project, include all features)

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards:

Type Amount in Cubic Yards	Type Amount in Cubic Yards	Type Amount in Cubic Yards
-------------------------------	-------------------------------	-------------------------------

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Acres
or
Linear Feet

23. Description of Avoidance, Minimization, and Compensation (see instructions)

24. Is Any Portion of the Work Already Complete? Yes No IF YES, DESCRIBE THE COMPLETED WORK

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list).

a. Address-

City - State - Zip -

b. Address-

City - State - Zip -

c. Address-

City - State - Zip -

d. Address-

City - State - Zip -

e. Address-

City - State - Zip -

26. List of Other Certificates or Approvals/Denials received from other Federal, State, or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED

* Would include but is not restricted to zoning, building, and flood plain permits

27. Application is hereby made for permit or permits to authorize the work described in this application. I certify that this information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

SIGNATURE OF APPLICANT

DATE

SIGNATURE OF AGENT

DATE

The Application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

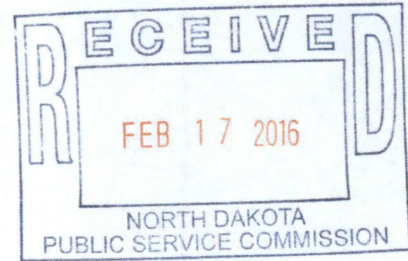
18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

Stephanie Dassinger
100 West Broadway, Suite 250
P.O. Box 2798
Bismarck, ND 58502-2798
701.223.6585
sdassinger@crowleyfleck.com

February 17, 2016

Hand Delivered

Mr. Darrell Nitschke
Executive Director
North Dakota Public Service Commission
600 E. Boulevard, Dept. 408
Bismarck, ND 58505-0480



Dear Mr. Nitschke:


In re: Brady Wind, LLC
230 kV Transmission Line
Stark County, North Dakota
PSC Case No. PU-15-797
Our File No. 35-218-026

Enclosed please find for filing 11 copies of the following documents for the Brady Wind I Project in Stark County, North Dakota:

1. Pole locations;
2. Switchyard diagram; and
3. Agency correspondence.

Please call should you have any questions.

Very truly yours,


Stephanie Dassinger

bw
Enc.
cc: Zachary Pelham (via mail)
Jerry Lein (via mail)

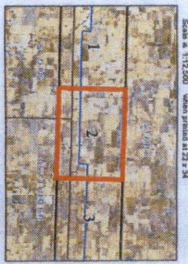
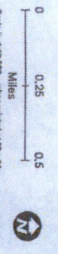


PRIVILEGED AND CONFIDENTIAL

Attorney-Client Communication/Attorney Work Product
Prepared at the Direction of Legal Counsel

**Brady Wind
Transmission Line**
Stark County, ND

- Legend**
- Proposed Structure Locations
 - Proposed Route
 - County Boundary
 - Major River
 - Transportation
 - State Highway
 - County Road
- *MAP 2015 Aerial Imagery





PRIVILEGED AND CONFIDENTIAL

Attorney-Client Communication/Attorney Work Product

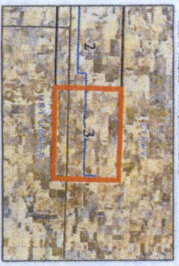
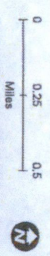
Prepared at the Direction of Legal Counsel

Brady Wind Transmission Line

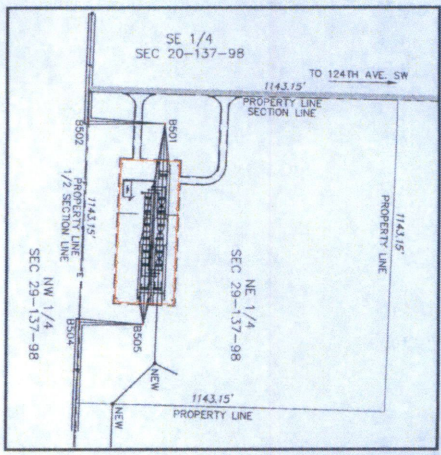
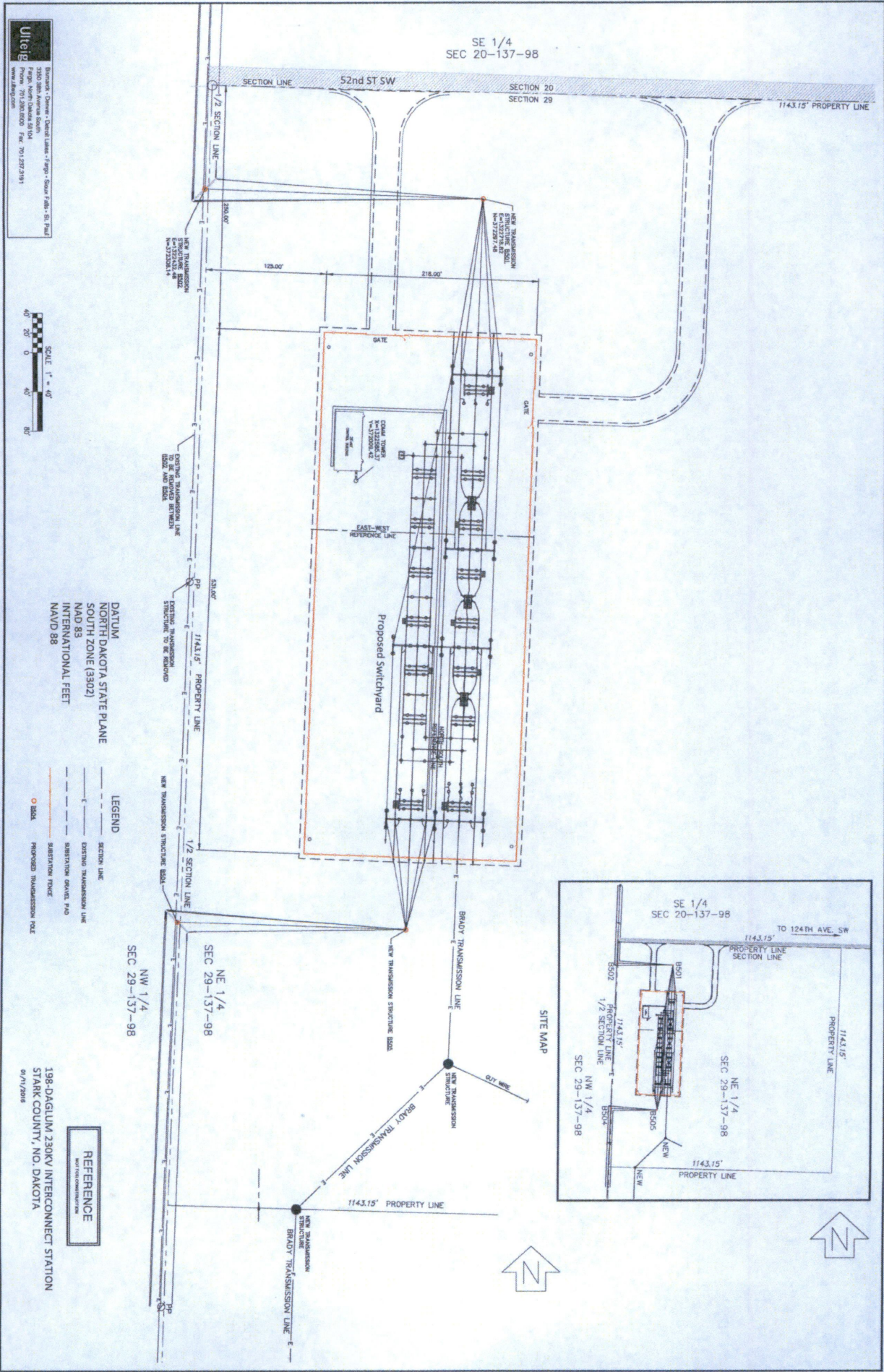
Stark County, ND

Legend

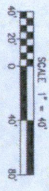
- Proposed Structure Locations
- Proposed Route
- County Boundary
- Major Road
- Major River
- Transportation
- Slide Highway
- County Road
- NAD 2011 Aerial Imagery



SE 1/4
SEC 20-137-98



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DATUM
 NORTH DAKOTA STATE PLANE
 SOUTH ZONE (3302)
 NAD 83
 INTERNATIONAL FEET
 NAVD 88

LEGEND
 SECTION LINE
 EXISTING TRANSMISSION LINE
 SUBSTATION GRADED PAD
 SUBSTATION FENCE
 PROPOSED TRANSMISSION POLE

REFERENCE
 198-DAGLUM 230KV INTERCONNECT STATION
 STARK COUNTY, NO. DAKOTA
 8/1/2018

USFWS

Griger, Anne Marie

From: Sue Kvas <sue_kvas@fws.gov>
Sent: Wednesday, January 20, 2016 8:10 AM
To: Griger, Anne Marie
Subject: RE: Project shapefiles for Brady, Brady II, and Oliver III

Hey Anne-Marie,

I reviewed your project area and there are no USFWS interests in the areas you provided.

Thanks,

Sue

Susan Kvas
Supervisory Fish and Wildlife Biologist
US Fish & Wildlife Service
Habitat and Population Evaluation Team – HAPET
3425 Miriam Ave.
Bismarck, ND 58503
Office : 701-355-8541

From: Griger, Anne Marie [mailto:Anne-Marie.Griger@tetrattech.com]
Sent: Tuesday, January 19, 2016 11:14 AM
To: sue_kvas@fws.gov
Subject: RE: Project shapefiles for Brady, Brady II, and Oliver III

Hello Sue,

Can you please let me know if you received this email from last week, or if you need me to re-send? I sent unzipped shapefiles.

Thank you,

Anne-Marie

From: Griger, Anne Marie
Sent: Monday, January 11, 2016 4:43 PM
To: 'sue_kvas@fws.gov' <sue_kvas@fws.gov>
Cc: Farmer, Chris <Chris.Farmer@tetrattech.com>; Wells, Kimberly (Kimberly.Wells@nexteraenergy.com) <Kimberly.Wells@nexteraenergy.com>; 'laura.nagy@dnvgl.com' <laura.nagy@dnvgl.com>; McCall, Sarah <Sarah.McCall@tetrattech.com>
Subject: Project shapefiles for Brady, Brady II, and Oliver III

Hello Sue,

Can you please confirm there are no easements or fee-title lands within or near the Brady, Brady II, and Oliver III project areas? Shapefiles of each are attached. I believe that there are no easements west of the Missouri River in North Dakota, but wanted to confirm.

Thank you,

Anne-Marie

Anne-Marie Griger, AICP | Senior Environmental Planner

Direct: 512. 213.8501

anne-marie.griger@tetrattech.com

Tetra Tech, Inc.

8911 N. Capital of Texas Hwy, Bldg 2 Suite # 2310

Austin, TX 78759

Griger, Anne Marie

From: Wells, Kimberly <Kimberly.Wells@nexteraenergy.com>
Sent: Tuesday, January 26, 2016 9:02 AM
To: Kevin Shelley (kevin_shelley@fws.gov) (kevin_shelley@fws.gov); Schumacher, John D.
Cc: Farmer, Chris; Griger, Anne Marie; McCall, Sarah; Nagy, Laura; Hochmuth, Melissa; Trumbauer, Mark; Wells, Kimberly
Subject: NextEra ND Wind Projects Meeting: Summary and Status Update

Kevin and John,

Happy New Year! Hope you both had a nice holiday break.

As a follow up to our meeting in December in Kevin's office, I am providing the following attachments per your suggestion:

- Draft meeting minutes for your review (Word document)
- Updated habitat maps for each of the three projects (Brady I/II combined and Oliver III) showing native prairie and forest cover (PDF files)
- Brief summary of methodology used for the desktop native prairie assessment followed by a field verification to support what is shown in maps (Word document)
- Updated shape files sets for each project for cross checking against your internal databases for skippers, whooping cranes, and Sprague's pipit occurrences (zipped shape files)

Note our minutes summarize the status of your suggestions including inquiries with your respective offices that have been completed or in progress. Our hearing with the PSC for Brady I has been scheduled for 3/2, so we would greatly appreciate receiving the results of your internal data base queries using these shape files as soon as possible. Chris Farmer with Tetra Tech will follow up with within the week to check in on that and discuss some of our questions regarding BBCS format and organization to address your suggestions.

Could you please confirm receipt of this email?

Thanks!

Kim

Kimberly Wells, Ph.D.
Environmental Services Project Manager
NEXtera Energy Resources, LLC
601 Travis Street, Suite 1900
Houston, TX 77002
713.951.5372 (office)
832.538.7935 (mobile)
Kimberly.Wells@NEE.com



NextEra North Dakota Projects – Brady I, Brady II, Oliver III
Meeting Summary
16 December, 2015

In attendance:

- Kevin Shelley, US Fish and Wildlife Service (USFWS)
- John Schumacher, ND Game and Fish (NDGF)
- Kim Wells, NextEra
- Melissa Hochmuth, NextEra
- Chris Farmer, Tetra Tech
- Laura Nagy, DNV GL

Handouts provided during meeting and via email:

- NEER ND Wind wildlife summary diligence 12112015.docx
- NEER Brady I map 12112015.pdf
- NEER Brady II map 12112015.pdf
- NEER Oliver III map 12112015.pdf

Attachments to the meeting summary:

- NEER Brady Wind I and II native prairie map
- NEER Oliver III native prairie map

Introductions:

The group gave introductions and then Kim and Melissa provided an overview of the Projects by walking through the NEER ND Wind Wildlife summary diligence document, which summarizes the due diligence completed, planned, and in progress for the Brady I, Brady II, and Oliver III Projects.

Brady I and II:

- Melissa provided a description of Brady and Brady II. These projects are adjacent (Brady I in Stark County and Brady II primarily in Hettinger County) approximately 15 miles south of the city of Dickinson.
- Each project is 150 MW.
 - Brady I ~ 87 turbines.
 - Brady II ~ 72 turbines.
 - Projects will share a 19 mile, above-ground transmission (gen-tie) line.
 - Brady I
 - PPA with Basin Electric
 - Stark County Conditional Use Permit received on December 22, 2015
 - Submitted the PUC application for the wind farm and transmission line in December 2015.

- Brady II also has a PPA with Basin electric.
- Both Brady I and Brady II are expected to be operational by the end of 2016.

Oliver III:

- The existing Oliver complex has two operating sites, Oliver I and Oliver II.
- Oliver III is the third phase of this project, proposed to construct an additional 100 MW approximately 10 miles southeast of the existing complex.
- Oliver III is currently negotiating a PPA and was previously permitted through the Public Service Commission in 2011, so there is a larger amount of due diligence for this site.

Brady I and II Discussion

Eagles:

- The group reviewed the location of the eagle nests within 10 miles of the project boundaries. Kevin identified that this is an area with wintering golden eagles.
- Kevin asked John if the state collects wintering eagle data. John responded that they do not.
- Chris identified that winter eagle data collection is ongoing.

Dakota Skipper:

- Kevin identified that the presence/absence county-level information in the listing decision may not capture the current understanding of skipper presence.
- Kevin said that USFWS has assembled a skipper database that contains data through 2013. This database is not currently publically available, but Kevin offered to assess the nearest skipper locations if NextEra would provide him with shapefile of the project.
- Kim agreed to provide these files and asked if he was aware of any skippers within the project counties. He said he did not believe they had skippers documented in these counties.
- Kevin suggested that NextEra take a landscape look at potential skipper habitat, including potential connectivity. He recommended that the analysis use a minimum patch size of ¼ acres, which is equivalent to 1/10 hectare. He suggested evaluation of potential skipper habitat as starting with a desktop analysis, then evaluate the vegetation present in the potential locations followed by skipper surveys, as appropriate.

PLOTS (Private Lands Open to Sportsmen):

- John explained that PLOTS is an access easement and that if a landowner enters into an agreement he or she needs to contact the department and identify the acreages being removed from the agreement. He said that most PLOTS were usually in place for one year; however, if they were paid access, there would be a pro-rated amount that would need to be paid back. The state keeps an accurate list of PLOTS areas on their website.

Site Visit

- Kim offered that NextEra would be happy to provide a tour of their existing facilities located ~20-25 min north of Bismarck.

Prairie Dogs and Black-footed Ferrets:

- Kevin asked if prairie dog towns were mapped and Kim responded that there haven't been systematic surveys to date.
- John said that the state maintains a GIS layer of prairie dog towns and that Sandra would be the point-of-contact for those data. The state historically kept an atlas of prairie dog towns, but this has not been as well maintained in the last 10 years.
- Kevin said that he was aware of some significant prairie-dog towns in the New England area, up to several thousand acres, that might come into play for foraging golden eagles. At one point, this area was considered for black-footed ferret reintroduction, but there were not enough land owners to get the acreage.
- Kevin said that there was an unconfirmed report of black-footed ferrets in 2012 close to Dickinson; however, they were not confirmed during follow up surveys by the USFWS.
- NDGF provided shapefiles of documented prairie dog colonies and burrowing owls in and near the projects. There is a 43-acre prairie dog colony in the northeast portion of the Brady project area that was observed as unoccupied in 2011 and an 18-ac colony north of the Brady project area that was also observed as unoccupied in 2011. All documented occupied prairie dog colonies and burrowing owls were located over 5 miles to the west of both Brady and Brady II (none were located in the vicinity of Oliver III).

Easements:

- Kevin asked if the maps addressed all of the existing easements held by the USFWS for grassland easements, particularly in the vicinity of Hettinger County Waterfowl Production Area (WPA).
- NextEra and Tetra Tech received confirmation from Sue Kvas at USFWS that there are no USFWS interests (easements or WPA) within the boundary of the three projects or within 10 miles, with the exception of the Hettinger County WPA within 10 miles of Brady II.

Sage grouse:

- Kevin identified that the projects are on the edge of the sage grouse range and would most likely be an issue for Brady I. He believed that the 10-mile buffer was likely within the historic, but not the current range.
- Kevin suggested that NextEra query Aaron Robinson of NDGF regarding current sage grouse locations.

Northern long-eared bats:

- Kevin asked if the group had Dr. Erin Gillam's report on northern long-eared bats because her studies confirmed northern long-eared bats in western North Dakota. Kim asked if Kevin could share her report. Kevin emailed the report to the group during the meeting.

Brady I and II as separate projects vs. a singular project:

- Kevin said that he didn't see differences in environmental issues between the two Brady projects and that he would find the review easier if it was all done as part of one analysis.

- Kim explained that the projects were separated because of the separate permitting and financing processes but that she would discuss the idea with her legal team to evaluate that option.

Oliver III Discussion:

Whooping crane:

- The group discussed that this project is closer to the center of the whooping crane corridor than the Brady projects.
- Kevin offered to review the project with respect to the whooping crane locations once he has the project shapefiles.

Northern long-eared bat:

- Kevin mentioned that because of the Mississippi River, the Oliver III project may have a higher probability of having northern long-eared bats than the other projects.

Sprague's pipet:

- Kevin said that USFWS has the listing decision for the Sprague's pipet and anticipates publishing a batch finding in the 1st quarter on 2016. He stated that USFWS will emphasize pre-listing considerations to avoid lethal or demographic consequences to unlisted species to avoid the need for additional listings.

BBCS Considerations

Items identified by Kevin as those that should be considered in the BBCS are as follows:

- Prairie obligate species
- Birds of conservation concern
- Northern long-eared bats
- Species found in post-construction mortality monitoring surveys
- Voluntary mitigation

Voluntary Considerations

- Kevin mentioned that if there appear to be potential impacts to species like prairie obligates; NextEra could consider a voluntary donation as compensatory mitigation.
- Options include USFWS conservation easements or potentially conservation banks, although these are in the early development. Kevin offered to put NextEra in touch with the person in charge of the easement program.
- Kim stated that she would be interested in talking with her to understand the cost and process so that NextEra could consider this for these or future projects.

Action Items (Current Status)

NextEra:

- Provide shapefiles of each project boundary and 10-mile buffer to USFWS and NDGFD (complete; sent on 01/11/16).
- Contact Sandra to get the prairie dog database and then evaluate prairie dog use in the vicinity of the project (complete; contacted on 01/11/16 and shapefiles received 01/20/16).
- Check to see if there are other easements near Hettinger WPA through NextEra's easement point person (complete; there are none, according to Sue Kvas at USFWS)
- Query Aaron Robinson regarding sage grouse locations (query sent on 01/11/16)
- Generate and share depiction of the grassland maps and forested areas for each project for landscape evaluation (transmitted with meeting summary)
- Have an internal discussion about the potential of separate or tiered BBCs (discussions in progress as of 01/11/16)

USFWS:

- Share Erin Gillam's report on northern long-eared bats – (completed)
- Review the project shape files for locations of whooping cranes and Sprague's pipits (pending)
- Provide contact for USFWS' easement program manager to NextEra (pending)

Native Prairie and Forest Cover Methods

January 26, 2016

The attached maps illustrate the forested areas in each project area, based on National Land Cover Database (NLCD) 2011 land cover, per U.S. Fish and Wildlife Service (USFWS) request. The maps also show the results of a native prairie habitat assessment prepared by Tetra Tech. The methodology of the assessment is described below.

NextEra Energy Resources, LLC (NextEra) contracted Tetra Tech, Inc. (Tetra Tech) to map potential habitat for the Dakota skipper (*Hesperia dacotae*) and Sprague's pipit (*Anthus spragueii*) at the proposed Brady Wind and Brady II Wind Energy Center project areas (project areas) in Stark and Hettinger counties, North Dakota. Potential habitat mapping consisted of two phases: desktop native prairie assessment and field verification surveys.

An initial desktop native prairie assessment of the proposed project areas was conducted in July of 2015. Areas that appeared to contain native prairie vegetation based on NLCD 2011 land cover, USDA cropland, and aerial imagery data were delineated.

A field verification survey of the proposed project areas was conducted on August 19, 2015 by a Tetra Tech biologist who visually assessed areas delineated as potential native prairie during the desktop habitat assessment. The survey was conducted from public rights of way and was intended to confirm the presence of native prairie and to classify the quality of potential Dakota skipper and/or Sprague's pipit habitat.

Classification of potential habitat for the Dakota skipper was based on several criteria described by USFWS (2014). Areas of native prairie were considered excellent or good potential Dakota skipper habitat if they:

- Contained a moderate or high diversity of native plant grass and forb species
- Included key plant species such as:
 - Little bluestem grass (*Schizachyrium scoparium*)
 - Sideoats grama (*Bouteloua curtipendula*)
 - Needlegrasses (e.g., *Hesperostipa* spp.)
 - Purple coneflower (*Echinacea angustifolia*)
 - upright prairie coneflower (*Ratibida columnifera*)
 - common gaillardia (*Gaillardia aristata*)
- Exhibited only moderate or light grazing
- Had relatively moderate or little encroachment by woody plant species

The main difference between areas classified as excellent versus good habitat for Dakota skipper was the relative diversity of native plant species (excellent habitat contained a high diversity of native plant species; good habitat contained a moderate diversity of native plant species); the presence of key plant species (excellent habitat contained key plant species; whereas, good quality habitat typically contained key plant species, but not in the abundance of excellent quality habitat); and grazing intensity (excellent habitat exhibited light or no grazing; whereas good quality habitat exhibited light to moderate grazing intensity).

Classification of potential Sprague's pipit habitat was based on criteria compiled from Ranchers Stewardship Alliance, Inc. (2014) and Western USFWS (2015). During the field verification surveys, areas of native prairie were considered potential Sprague's pipit habitat for if they:

- Included a predominance of native vegetation and/or a mix of native and non-native grasses and forbs of medium height (10-30 cm)
- Had low cover of trees or shrubs (<20 percent cover)
- Contained a medium density of vegetation (bare ground <30 percent)
- Did not contain high cover of litter
- Were not fragmented with cropland or linear features such as roads (Ranchers Stewardship Alliance, Inc. 2014)
- Were equal to or greater than 65 hectares (160 acres) in size; this characteristic was determined using GIS following field verification surveys (Western and USFWS 2015).

The main difference between areas classified as unlikely and potential Sprague's pipit habitat was the polygon size (potential habitat included grassland areas equal to or greater than 65 hectares [160 acres]) (Western and USFWS 2015); as well as the vegetation structure and composition (potential habitat had low tree and shrub cover, little bare ground and was not dominated by invasive plant species).

Key differences between Dakota skipper and Sprague's pipit habitat include:

- Polygon size: Sprague's pipit requires larger areas of intact grassland
- Presence of key plant species: Dakota skipper habitat typically require the presence of key plant species

Due to revisions in the proposed project areas following field verification surveys, not all portions of the proposed project areas were assessed via desktop in July. A desktop native prairie assessment was conducted in October and December 2015 for the expanded portions of the proposed project areas.

The attached figure displays the areas of excellent, good and potential habitat for Dakota skipper and Sprague's pipit within the proposed project areas based on desktop assessment and field verification surveys. Areas on the figures classified "Not Surveyed" include:

- Areas that could not be classified during field verification surveys due to lack of access or visibility
- Areas added to the Project Area after the field verification surveys took place that could not be classified based on desktop assessment only

References

Ranchers Stewardship Alliance, Inc. 2014. Vegetation Heterogeneity Indicators for Sprague's Pipit (*Anthus spragueii*) Habitat on Native Prairie Managed by Livestock Grazing, Preliminary. Prepared by Renny W. Grilz, P.Ag., Prairie Conservation Services. Aberdeen, SK.

USFWS. 2014. Endangered and Threatened Wildlife and Plants; Threatened Species Status for Dakota Skipper and Endangered Species Status for Poweshiek Skipperling. Final Rule. October 24, 2014.

Western and USFWS. 2015. Programmatic Biological Assessment for the Upper Great Plains Region Wind Energy Program. Western Area Power Administration and the U.S. Fish and Wildlife Service. April 2015.

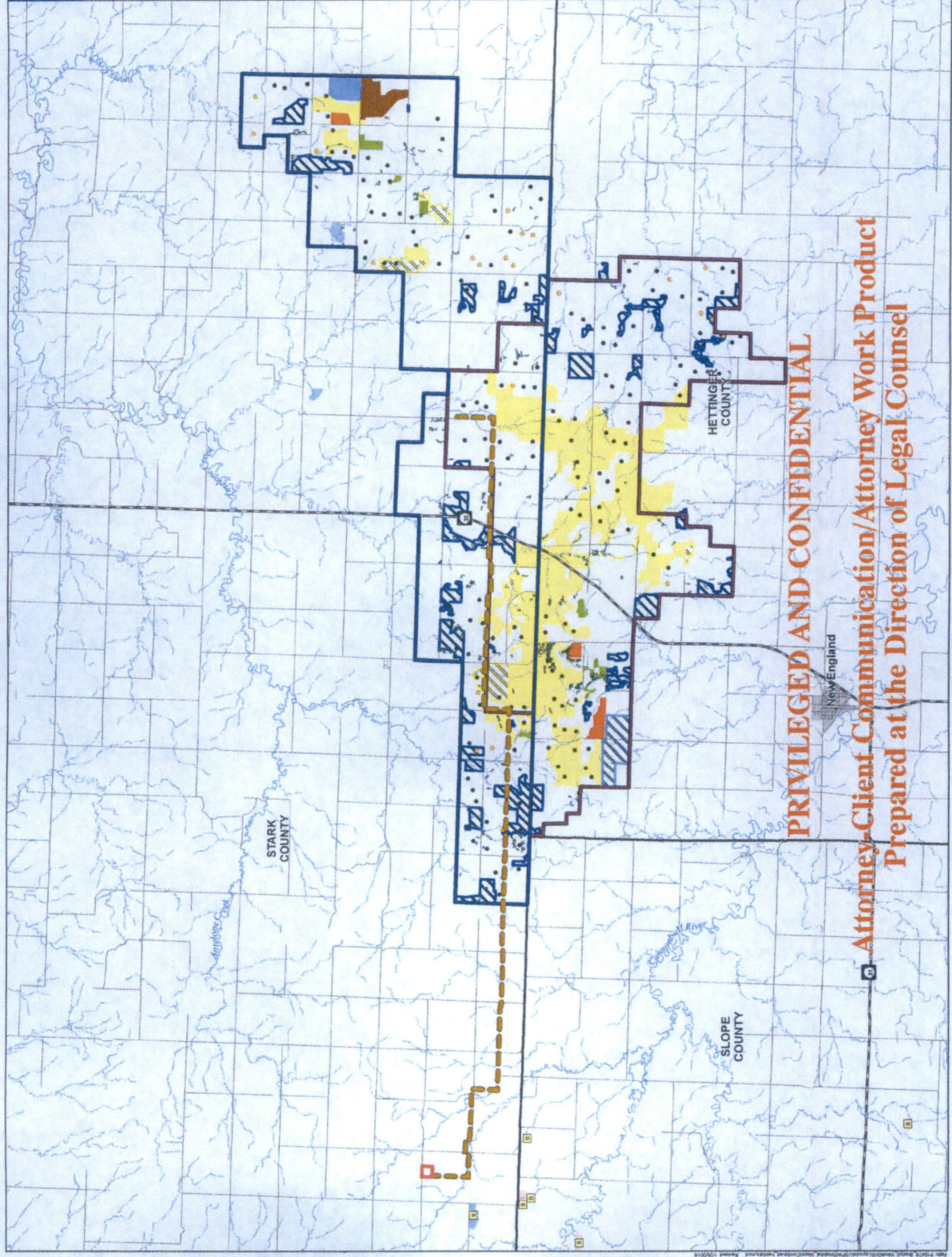
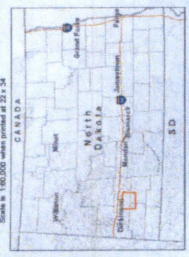
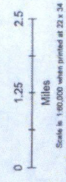
**Brady /Brady II
Wind Energy Center**

Hettinger and Stark Counties, ND

**Dakota Skipper &
Sprague's Pipit Habitat**

Legend

- Proposed Brady Wind Farm Boundary
- Proposed Brady II Wind Farm Boundary
- Proposed Brady Transmission Line
- Proposed Brady Switchyard Boundary
- Proposed Turbine Location
- Alternative Turbine Location
- Borrowing Owl (Occupied)
- Prairie Dog Colony (Occupied 2011)
- Prairie Dog Colony (Unoccupied 2011)
- Field Verified Habitat**
- Excellent - Dakota Skipper / Possible - Sprague's Pipit
- Excellent - Dakota Skipper Only
- Good/Potential - Both Species
- Good/Potential - Dakota Skipper Only
- Good/Potential - Sprague's Pipit Only
- Desktop Habitat Assessment Only
- Good/Potential - Both Species
- Good/Potential - Dakota Skipper Only
- Good/Potential - Sprague's Pipit Only
- Not Surveyed
- NLCD
- NLCD Forested Area
- Hydrology (MND 2014)
- Perennial Stream
- Intermittent Stream



PRIVILEGED AND CONFIDENTIAL
Attorney-Client Communication/Attorney Work Product
Prepared at the Direction of Legal Counsel

NewEngland

11/20/2011 1:54 PM C:\Users\jbrady\Documents\Brady Wind Farm\GIS\Map_Series\Map_Series_Slope County.mxd



January 29, 2016

Mr. Kevin Shelley
Acting ND Field Supervisor
USFWS North Dakota Field Office
3425 Miriam Avenue
Bismarck, North Dakota 58501-7926

Subject: Information Request for the Proposed Brady Wind Energy Center in Stark County, ND – Revised Project Area

Dear Mr. Shelley:

This letter is to update the Project area discussed in a letter to you dated August 14, 2015. Tetra Tech has been contracted by NextEra Energy Resources, LLC to prepare an application for a Certificate of Site Compatibility for the proposed Brady Wind Energy Center (the Project), in accordance with North Dakota Century Code (NDCC) Section 49-22-07. As part of that application, we are conducting an investigation of property in Stark County south of the city of Dickinson. This proposed Project would consist of approximately 150 megawatts (MW). The Project area shown in the attached figure is the primary focus of our investigation.

The Project would interconnect to the electrical grid via a 230-kV transmission line approximately 19 miles in length from the Project substation to the Belfield to Rhame 230-kV line approximately 20 miles southwest of the city of Dickinson. We will also prepare a separate application for a Certificate of Corridor Compatibility and Route Permit for the proposed transmission line.

The wind energy center would include portions of the following tracts:

Township	Range	Sections
137 N	95 W	1, 2, 9-16, 19-24, 27-34
137 N	96 W	19-36
137 N	97 W	25-29, 32-36
138 N	95 W	35, 36

The associated transmission line corridor includes the following tracts:

Township	Range	Sections
137N	98W	27-29, 34-36
137N	97W	25, 31-36
137N	96W	25-30, 32, 33

Per Section 69-06-01-05 of the North Dakota Public Service Commission (PSC)'s administrative rules, we are consulting your agency for assistance in identifying concerns or issues within the boundaries of the tracts listed below that would influence a decision regarding the use of the land, as well as applicable permits that may be required from your office.

January 29, 2016
Page 2

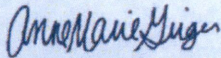
This information will be used to help guide Project development in a manner that identifies and avoids impacts to sensitive resources where practicable. We have sent similar query letters to other agencies including, but not limited to, the U.S. Army Corps of Engineers, State Historical Society of North Dakota, and North Dakota Game and Fish Department (NDGF).

NextEra Energy is developing the Project following the voluntary Final Land-Based Wind Energy Guidelines. Desktop habitat analyses for bats and whooping crane are underway as part of Tier 1 and Tier 2 assessments for the Project. Tier 3 assessments that are currently planned or underway for the Project include fall and spring avian migration surveys, biweekly eagle use surveys, raptor nest and grouse lek surveys, and bat acoustic monitoring.

We requested documented eagle nest locations in the vicinity of the Project Area from the NDGF in May 2015 and conducted a ground-based summer nest inventory in June 2015, a fall nest inventory in November 2015, and a nest survey is currently underway in January 2016. There are no documented eagle nests within 3 miles of the Project Area.

We would appreciate a response by February 29, 2016. Please contact me at (512) 213-8501 if you have any questions. Thank you for your assistance.

Respectfully submitted,



Anne-Marie Griger, AICP
Tetra Tech, Inc
8911 N. Capital of Texas Hwy, Bldg 2 Suite # 2310
Austin, TX 78759



TETRA TECH

Agency List for Brady PSC Application Inquiry Letters

Mr. Kyle C. Wanner
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Bismarck, North Dakota 58502-5020

Mr. Doug Goehring
Agriculture Commissioner
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600 East Boulevard Avenue, Department 602
Bismarck, North Dakota 58505-0020

Dr. Terry Dwelle, M.D., M.P.H.T.M.
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North Dakota Department of Health
600 East Boulevard Avenue
Bismarck, North Dakota 58505-0200

Mr. Larry Gangl
District Engineer
North Dakota Department of Transportation, Dickinson District
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Dickinson, ND 58601-3009

Mr. Lance D. Gaebe
Commissioner
North Dakota Department of Trust Lands
P. O. Box 5523
Bismarck, North Dakota 58506-5523

Mr. Todd Sando
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North Dakota State Water Commission
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Bismarck, North Dakota 58505-0850

Mr. Edward C. Murphy
State Geologist
North Dakota Geological Survey
600 East Boulevard Avenue
Bismarck ND 58505-0840

Mr. Scott Davis
Executive Director
North Dakota Indian Affairs Commission
600 East Boulevard Avenue
1st Floor – Judicial Wing, Room #117
Bismarck, North Dakota 58505

Mr. Mark Zimmerman
Director
North Dakota Parks and Recreation Department
1600 E. Century Ave, Suite 3
Bismarck, North Dakota 58503
Ms. Julie Hoff
Central Stark & Western Soil Conservation District
2948 4th Ave. West, Room "C"
Dickinson, ND 58601

Claudia J. Berg
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State Historical Society of North Dakota
612 East Boulevard Avenue
Bismarck, ND 58505

Mr. Daniel Cimarosti
Regulatory Program Manager
U.S. Army Corps of Engineers Omaha District, North Dakota Regulatory Office
1513 South 12th Street
Bismarck, ND 58504

Mr. Kevin Shelley
Acting ND Field Supervisor
USFWS North Dakota Field Office
3425 Miriam Avenue
Bismarck, North Dakota 58501-7926

Mr. Terry Steinwand
Director
North Dakota Game and Fish Department
100 N. Bismarck Expressway
Bismarck, ND 58501-5095



RECORD OF CONVERSATION

TO: Kevin Shelley, USFWS

PHONE #: 701-250-4402

FROM: Chris Farmer

DATE: 02/03/2016

TIME: 1521

SUBJECT: Brady WCS Outline

CONVERSATION: – I called Mr. Shelley to obtain his feedback on the Brady Wildlife Conservation Strategy Outline, sent to him for comment on Friday, January 29. He was away at a meeting, so I left a message on his voicemail asking that he return my call to discuss the outline today or tomorrow.

Griger, Anne Marie

From: Kevin Shelley <kevin_shelley@fws.gov>
Sent: Wednesday, February 03, 2016 3:50 PM
To: Farmer, Chris
Cc: Kim Wells; Griger, Anne Marie
Subject: RE: Brady Wind Project
Attachments: Brady WCS Outline_USFWS comments20160103.docx

Chris; I performed a cursory review and have a few comments for you and the other to contemplate in reply to your vmessage earlier today. I'll be in the Office both Th and Fr this week if you would like to discuss. More ideas may come to mind as I get more time to think critically, but a few ideas came to mind from my insights from other similar efforts.

Thank you for the opportunity. K

Kevin Shelley, ND State Supervisor
U.S. Fish and Wildlife Service
Ecological Services
3425 Miriam Ave.
Bismarck, ND 58501
Office: 701.250.4402 Mobile: 701.989.4233

From: Farmer, Chris [mailto:Chris.Farmer@tetrattech.com]
Sent: Friday, January 29, 2016 4:21 PM
To: Kevin Shelley
Cc: Kim Wells; Griger, Anne Marie
Subject: Brady Wind Project

Hi Kevin,

We have developed the attached outline of the Wildlife Conservation Strategy for the Brady Wind Energy Project based on the Region 6 outline and our meeting with you in December. I am hoping you can find some time to review it over the next few days, then I would like to call you near the middle of next week to gather feedback before working it into our WCS effort. Please let me know when might be a good time to follow-up with you.


-Chris

Chris Farmer, Ph.D. | National Discipline Lead - Biology

Associate Editor, *Journal of Raptor Research*
Direct: 215.702.4121 | Main: 215.702.4000 | Cell: 617.834.8761
Chris.Farmer@tetrattech.com

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One Oxford Valley, Suite 200 | Langhorne, PA 19047 | www.tetrattech.com

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 **Think Green - Not every email needs to be printed.**



TETRA TECH

RECORD OF CONVERSATION

TO: Kevin Shelley, USFWS

PHONE #: 701-250-4402

FROM: Chris Farmer

DATE: 02/05/2016

TIME: 1703

SUBJECT: Brady WCS Outline

CONVERSATION: – I called Mr. Shelley to discuss his comments on the Brady Wildlife Conservation Strategy Outline. I contacted his voicemail, and I left a message indicating I will attempt to contact him regarding his comments on Monday. I also reminded him that we would like to learn any results of his comparison of the Project Boundary to the Service's location database for Dakota skippers and whooping cranes.



RECORD OF CONVERSATION

TO: Kevin Shelley, USFWS

PHONE #: 701-355-8512

FROM: Chris Farmer

DATE: 02/08/2016

TIME: 1302

SUBJECT: Brady Wind Energy Project

CONVERSATION: – I called Mr. Shelley to discuss his comments on the Brady Wildlife Conservation Strategy Outline and to check on the status of USFWS action items from the meeting of December 16, 2015.

Mr. Shelley acknowledged that he has received Brady Project shapefiles from Anne-Marie Griger and intends to compare them to the USFWS databases of locations for whooping cranes and Dakota skipper. He has not yet made those comparisons, however, he will do so as soon as possible for the whooping crane. Regarding the Dakota skipper, he informed me that he had requested the most recent location database from the USFWS Region 3 office, but that it was not yet available to him. Update reports from ESA Section 10 permittees were due to Region 3 on January 31, 2016, and they were still updating the database. Mr. Shelley was doubtful that any update would be received prior to the Brady Project PSC meeting on March 2, 2016.

The discussion then turned to his input regarding the Wildlife Conservation Strategy outline Brady Wind shared with him on January 29, 2016. With respect to area-sensitive species, he told me that the North Dakota Field Office used to have a list of species it considered area sensitive on its website, but he was not sure whether it was still there since the website was migrated to a new host a few months ago. He suggested that we check for the list on the website, and if we cannot find it, contact him to request the list, which he feels should form the starting point for consideration of area sensitive species. He suggested that NDGF may also have some area-sensitive species information available in the recent update of its Wildlife Action Plan.

Regarding his comments on the definition of impact, he requested that we arrange a meeting or conference call involving USFWS and NDGF to discuss how this could be defined for the Project. His focus is on identifying and avoiding/minimizing impacts that have demographic consequences for species sensitive to anthropogenic influences. We discussed the difficulty of monitoring for demographic impacts within the scope of wind farm monitoring, and he suggested that engaging in a larger conversation would be the most productive path going forward. Mr. Shelley suggested that he would like additional future conversation involving Brady and the agencies as the Project Wildlife Conservation Strategy is developed.

I thanked Mr. Shelley for engaging with Brady Wind on this Project and told him that I would discuss next steps with Brady Wind. The call ended at 13:31 Eastern time.

CJF

NDGF

Griger, Anne Marie

From: Robinson, Aaron C. <acrobinson@nd.gov>
Sent: Wednesday, February 03, 2016 10:14 PM
To: Griger, Anne Marie
Subject: RE: Grouse info for Brady, Brady II and Oliver III projects

Anne – I looked through our database and the areas where you have the wind farms proposed do not overlap with our grouse census blocks. That does not mean that there are no grouse leks in the area, we just don't have the man power to survey the entire state. My recommendation would be to allow me to help design a survey protocol for both these areas. The oliver block it in prime grouse habitat and the Brady block is also in good sharp-tail habitat. Please give me a call so we can discuss this further.

Regards,
Aaron

Aaron Robinson

Upland Game Management Supervisor
North Dakota Game and Fish
225 30th Ave. SW
Dickinson, ND 58601
Cell: 701-290-1370
acrobinson@nd.gov
www.gf.nd.gov

From: Griger, Anne Marie [mailto:Anne-Marie.Griger@tetrattech.com]
Sent: Monday, January 11, 2016 3:37 PM
To: Robinson, Aaron C. <acrobinson@nd.gov>
Cc: Farmer, Chris <Chris.Farmer@tetrattech.com>; 'laura.nagy@dnvgl.com' <laura.nagy@dnvgl.com>; Wells, Kimberly (Kimberly.Wells@nexteraenergy.com) <Kimberly.Wells@nexteraenergy.com>; McCall, Sarah <Sarah.McCall@tetrattech.com>
Subject: Grouse info for Brady, Brady II and Oliver III projects

Hello Aaron,

As follow up from a meeting that John Schumacher attended with our client NextEra, I would like to request information you have regarding sage grouse locations in Hettinger and Stark counties. I have attached shapefiles that show two project boundaries (Brady and Brady II), plus a 10-mile buffer around each. If you also have locations of other known grouse or grouse leks in the vicinity of these areas or near the Oliver III project in Morton and Oliver counties (shapefiles also attached), we would appreciate that information as well.

Thank you,

Anne-Marie
Anne-Marie Griger, AICP | Senior Environmental Planner
Direct: 512. 213.8501
anne-marie.griger@tetrattech.com

Tetra Tech, Inc.
8911 N. Capital of Texas Hwy, Bldg 2 Suite # 2310
Austin, TX 78759

USACE



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
NORTH DAKOTA REGULATORY OFFICE
1513 SOUTH 12TH STREET
BISMARCK ND 58504-6640

February 2, 2016

North Dakota Regulatory Office

[NWO-2016-0188-BIS]

Ms. Anne-Marie Griger
Tetra Tech, Inc.
8911 N. Capital of Texas Highway
Building 2, Suite # 2310
Austin, Texas 78759

Dear Ms. Griger:

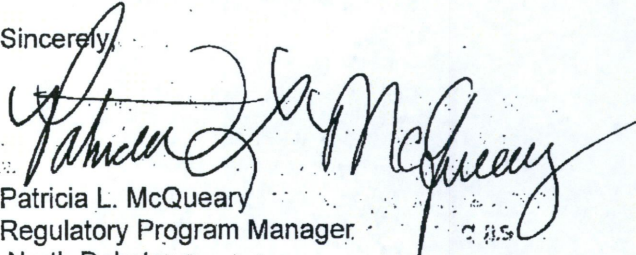
This is in response to your letter dated January 29, 2016, requesting comments on the proposed Brady Wind Energy Center with a revised project area. The revised project is located in multiple sections, townships and ranges of Stark County, North Dakota.

U. S. Army Corps of Engineers Regulatory Offices administer Section 10 of the Rivers and Harbors Act (Section 10) and Section 404 of the Clean Water Act (Section 404). A Section 10 permit would be required for work impacting navigable waters, this includes work over, through, or under Section 10 waters. Section 10 waters in North Dakota are the Missouri River (including Lake Sakakawea and Lake Oahe), Yellowstone River, James River (south of the railroad tracks in Jamestown, North Dakota), Bois de Sioux River, Red River of the North, and Upper Des Lacs Lake. A Section 404 permit would be required for the discharge of dredge or fill material (temporarily or permanently) in waters of the United States. Waters of the United States may include, but are not limited to, rivers, streams, ditches, coulees, lakes, ponds, and their adjacent wetlands. Fill material includes, but is not limited to, rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mines or other excavation activities and materials used to create any structure or infrastructure in waters of the United States.

If the project requires a Section 10/404 permit, a permit application and instructions for completion may be found at <http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/ObtainPermit.aspx>. If you do not have access to a computer, you may call this office and request a copy of the permit application and instructions be sent to you.

If we can be of further assistance or should you have any questions regarding our program, please do not hesitate to contact this office by letter or phone at (701) 255-0015.

Sincerely,


Patricia L. McQueary
Regulatory Program Manager
North Dakota

SHSND



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HISTORICAL
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February 5, 2016

Ms. Anne-Marie Griger, AICP
Tetra Tech Inc
8911 N Capital of Texas Hwy, Building 2, Suite 2310
Austin, TX 78759

**ND SHPO REF: 15-1414 ND PSC - NextEra Energy Resources, LLC Proposed Brady
Wind Energy Center in Stark County, North Dakota**

Dear Ms. Griger,

Thank you for your updated information on ND SHPO Ref: 15-1414, the Brady Wind Energy Center. As you know, there is potential for unrecorded and recorded cultural resource properties in a variety of physiographic settings in the overall project area. As a potential federal/state undertaking, we encourage early agency consultation as part of the review process. Early consultation should also include tribal nations, and North Dakota Indian Affairs as well as consideration for scenic areas (NDCC Section 49-22-09).

We recommend a Class I (file search), a Class III survey by a permitted architectural historian for standing structures over 50 years old in the visual Area of Potential Effect (APE). That is within a 2 mile radius of individual turbine locations. When the wind farm project develops to the point that turbine locations are defined, we would like to see a map of the turbine locations to see if there need to be any modifications to the APE. Susan Quinnell Review and Compliance Coordinator with ND SHPO will assist the permitted architectural historian with development of the visual APE, as each visual APE for large wind projects warrants individual review. Class III archeological (pedestrian) surveys will be warranted for all areas directly impacted by the project, including crane paths, access roads, staging areas, transmissions lines and turbine pads. As part of the Class III Inventory, NDCRS site updates should be submitted on all sites resurveyed. If the project APE changes, we will request additional inventories, surveys and consultation.

Thank you for the opportunity to review this project to date. We look forward to further review of cultural resource surveys and site forms, and updates as the project siting occurs. If you have any questions please contact Paul Picha, Chief Archaeologist (701) 328-3574 or Susan Quinnell, Review and Compliance Coordinator at (701) 328-3576, e-mail squinnell@nd.gov

Sincerely,

Claudia J. Berg, State Historic Preservation Officer (North Dakota) and Director State
Historical Society of North Dakota

ND DEPARTMENT OF TRUST LANDS

Griger, Anne Marie

From: Haupt, Michael L. <mhaupt@nd.gov>
Sent: Monday, February 15, 2016 10:21 AM
To: Griger, Anne Marie
Subject: Proposed Brady Wind Energy Center in Stark County and Brady II Wind Energy Center in Hettinger and Stark Counties

Anne-Marie,

Good morning! The Board of University and School Lands (Land Board) through its agency, the Department of Trust Lands (DTL) manages approximately 710,000 acres of land in North Dakota. The management of these lands by the Land Board was established by the enabling act and the ND State Constitution. The Land Board as the trustee is obligated to manage these lands to produce income for the common schools and 12 other trust funds. The Land Board has balanced land management concerns with its fiduciary responsibilities.

The ND School Trust has surface ownership on the W2 36-137-96, E2 36-137-97, NE4 36-137-98 Stark County Stark County that lie within the proposed project area. Tetra Tech or NextEra Energy can submit an online application on our web site at <https://land.nd.gov/surface/Right-of-Way.aspx>, in order to request review of any projects proposed for these tracts. Let me know if you have questions. Thanks.

Michael L. Haupt

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

Note: You can track the real time status of your right-of-way application 24/7 at <http://www.land.nd.gov/surface/right-of-way.aspx> using either the ROW number or by entering at least the first three letters of the company name. By checking this site you can find the name, telephone number and email address of the person working on the application as well as its current status in real time.

Brady Wind Energy Center — Stark County, North Dakota



Wetlands and other Waters of the United States Delineation Report

January 2016

Prepared for:



Prepared by:



350 Indiana Street, Suite 500, Golden, CO, 80401

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Appendix 2: Wetland Determination Data Forms

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Appendix 5: USACE Nationwide Permits General and Regional Conditions

Appendix 6: Best Management Practices

1. Introduction

This report describes the results of a wetland and other waters of the United States (WoUS) delineation performed in support of the Brady Wind Energy Center (Project). Field surveys were completed October through November 2015. The Project includes the construction of wind turbines and an associated transmission line in Stark County, North Dakota.

The content of this report presents the methodology, results, and conclusions of wetland and other WoUS delineation and stream identification activities completed on November 24, 2015. There is an additional 80 acres of areas that remain to be surveyed due to alignment changes in facility design since the survey was completed. These layout changes are primarily due to avoid impacts to wetland and archeological features. These areas will be surveyed when weather permits. Because Brady Wind, LLC (Brady Wind) has committed to avoiding and minimizing impacts to potentially jurisdictional features, if any additional features are delineated in the previously unsurveyed areas, the Project design will be revised to avoid and minimize impacts to these features with the goal of not exceeding the 0.10-acre threshold of permanent wetland impacts which would trigger the need for a PCN.

1.1 Project Description and Location

Brady Wind, a wholly-owned, indirect subsidiary of NextEra Energy Resources, LLC (NEER), is proposing to construct the Project in southern Stark County, North Dakota (**Figure 1**). The Project area is the location within which Brady Wind has negotiated easements with landowners, and encompasses approximately 30,213 acres (47 square miles).

The Project will have a nameplate capacity of approximately 150 megawatts (MW), consisting of up to 87 wind turbines using both General Electric (GE) 1.715 MW Xle and GE 1.79 MW Xle wind turbine generators. Additional facilities include access roads, underground electrical collection systems and cabling, a collection substation, an operation and maintenance (O&M) building, meteorological towers, a construction laydown area, and a temporary turbine storage area (**Figure 2**). The Project also includes an approximately 19-mile, 230-kilovolt (kV) overhead transmission line and a switchyard to connect the Project to the Belfield to Rhame 230-kV transmission line, in Section 29 of Township 137 North, Range 98 West, approximately 19 miles southwest of the city of Dickinson and will transmit power into the Basin Electric Power Cooperative (Basin) transmission system. The switchyard will include a microwave tower, a control building, and four new transmission poles to interconnect to Basin's existing Belfield to Rhame Transmission Line. Temporary crane paths will be used to transport construction cranes in the Project area to erect turbines during construction.

1.2 Ecoregional Setting

The Project is located entirely in the Northwestern Great Plains Missouri Plateau level III ecoregion of North Dakota (Chapman 2001). Characteristic physiography in this region includes rolling plains with isolated sandstone buttes. Vegetation communities in this region are mainly composed of short prairie grasses with very few trees. The predominant land use in the Project consists of agricultural fields and pastureland, along with riparian areas dominated by cottonwood woodland. Tributary streams in the Project area drain north to the Heart River.

1.3 Regulatory Setting

1.3.1 Federal Regulations

All discharges of dredged or fill material into jurisdictional waters of the U.S., that result in permanent or temporary losses of WoUS, are regulated by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA). The USACE regulates projects in navigable waters under Section 10 of the Rivers and Harbors Act.

Under USACE and U.S. Environmental Protection Agency (EPA) regulations, wetlands are defined as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.” In non-tidal waters, the lateral extent of USACE jurisdiction is determined by the ordinary high water mark, which is defined as the “line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” (33 CFR 328[e]).

Depending upon the level of impacts to the jurisdictional features, a preconstruction notification (PCN) and an approved jurisdictional determination (JD) by the USACE may be necessary for the Project. For permanent impacts less than 0.1 acre, no PCN would be required. If impacts to jurisdictional waters cannot be avoided, the Project will require permitting under the CWA § 404 program administered by USACE. The North Dakota USACE office recommends consultation on wind farm projects that may exceed these thresholds to determine the need and/or type of permitting. Brady Wind has committed to avoiding and minimizing impacts to potentially jurisdictional features with the goal of not exceeding the 0.10-acre threshold of permanent wetland impacts which would trigger the need for a PCN.

1.3.2 New CWA Rule

The State of North Dakota is currently involved in litigation concerning the new CWA rule that went into effect August 28, 2015. In lieu of the decision on the new rule, as it may be resolved in

the state of North Dakota, the USACE will default to the preexisting definition for “waters of the United States” under Section 404 of the CWA (33 CFR 328.3(a), as follows:

1. *All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;*
2. *All interstate waters including interstate wetlands;*
3. *All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:*
 - i. *Which are or could be used by interstate or foreign travelers for recreational or other purposes; or*
 - ii. *From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or*
 - iii. *Which are used or could be used for industrial purpose by industries in interstate commerce;*
4. *All impoundments of waters otherwise defined as waters of the United States under the definition;*
5. *Tributaries of waters identified in paragraphs (a)(1)-(4) of this section;*
6. *The territorial seas;*
7. *Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a)(1)(6) of this section.*
8. *Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the EPA. Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 123.11(m) which also meet the criteria of this definition) are not waters of the United States.*

A comparison of the Clean Water Act's old rule, proposed new rule, and final new rule is provided in Table 1.

With respect to the CWA and the types of jurisdictional wetlands and other WoUS defined in the existing old rule, proposed new rule, and final new rule (Table 1), Brady Wind has taken a conservative approach and will avoid to the greatest extent practicable permanently impacting potentially jurisdictional wetlands and other WoUS.

Table 1. Comparison of Old, Proposed New, and Final New CWA Rule

Subject	Old Rule	Proposed Rule	New Rule (Under Injunction)
Navigable Waters	Jurisdictional	Jurisdictional	Jurisdictional
Interstate Waters	Jurisdictional	Jurisdictional	Jurisdictional
Territorial Seas	Jurisdictional	Jurisdictional	Jurisdictional
Impoundments	Jurisdictional	Jurisdictional	Jurisdictional
Tributaries to Traditional Navigable Waters	Did not define tributary	Defined tributary for the first time as water features with bed, banks and ordinary high water mark, and flow downstream.	Same as proposal except wetlands and open waters without beds, banks and high water marks will be evaluated for adjacency.
Adjacent Wetlands/Water	Included wetlands adjacent to traditional navigable waters, interstate waters, the territorial seas, impoundments, or tributaries.	Included all waters adjacent to jurisdictional waters, including waters in riparian area or floodplain, or with surface or shallow subsurface connection to jurisdictional waters	Includes waters adjacent to jurisdictional waters within a minimum of 100 feet and within the 100-year floodplain to a maximum of 1,500-feet of the ordinary high water mark.
Isolated or "Other" Waters	Included all other waters the use, degradation or destruction of which could affect interstate or foreign commerce.	Included "other waters" where there was a significant nexus to traditionally navigable water, interstate water or territorial sea.	Includes specific waters that are similarly situated: Prairie potholes, Carolina and Delmarva bays, pocosins, western vernal pools in California, and Texas coastal prairie wetlands when they have a significant nexus. Includes waters with a significant nexus within the 100-year floodplain of a traditional navigable water, interstate water, or the territorial seas, as well as waters with a significant nexus within 4,000 feet of jurisdictional waters.
Exclusions to the definition of "Waters of the US"	Excluded waste treatment systems and prior converted cropland.	Categorically excluded those in old rule and added two types of ditches, groundwater, gullies, rills and non-wetland swales.	Includes proposed rule exclusions, expands exclusion for ditches, and also excludes constructed components for Municipal Separate Storm Water Sewer System (MS4s) and water delivery/reuse and erosional features.
Source: EPA (2015) Factsheet-Clean Water Rule.			

1.3.3 State Regulations

The North Dakota State Water Commission – Office of the State Engineer (Commission) is the regulatory body that permits actions in wetlands in the state of North Dakota. The Commission issues three types of permits: a Drain Permit, a Wetland Restoration Permit, and a Wetland Creation Permit. The State does not have a permit requirement for fill placed in a wetland.

The Drain Permit is issued for projects that drain ponds, sloughs, lakes, wetlands, or any similar series which has a watershed greater than 80 acres. The Wetland Restoration Permit is required for projects that restore wetlands less than the size of the original wetland. A Wetland Creation Permit is required for projects creating wetlands capable of storing more than 25 acre-feet.

The Project does not meet the criteria for any of the three permits. Therefore, no State permit for wetlands is required for this Project.

1.3.4 Stark County Regulations

Stark County requires a floodplain permit for development in the floodplain.

2. Wetland Determination/Delineation Methods

The following sections briefly describe the methods used for this series of wetland determinations.

2.1 Desktop Methodology

Tetra Tech conducted a desktop analysis of the Project area to identify potential jurisdictional WoUS. Desktop analysis used the following sources of information, as described in this section.

The U.S. Fish and Wildlife Service (USFWS) online Wetlands Mapper tool (USFWS 2015) depicts mapped wetlands as part of the National Wetland Inventory (NWI) Program. The NWI dataset identified 15 wetlands in the Project area. NWI wetland polygons situated in the Project area are depicted in **Figure 3: Sheet Maps 1–18 of Appendix 1**.

The U.S. Geological Survey (USGS) produces the National Hydrography Dataset (NHD) that identifies perennial and intermittent streams, ponds, and lakes. The online database NHD Viewer tool (USGS 2015a) was queried for the Project area. The query found 43 NHD features that intersect proposed Project infrastructure. Ten features were identified as waterbodies (ponds, lakes, and impoundments), 27 intermittent streams, and six artificial paths (man-made water ways) in the Project area. No perennial stream features were identified in the Project area. The USGS also is responsible for topographic mapping (USGS 2015b). The field team used topographic maps during the field work to enhance the ability to identify and delineate probable

surface water sites including streams, ponds, and reservoirs located near planned Project infrastructure.

The U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) is the source for hydric soils information. These data are available online via the Web Soil Survey tool (USDA-NRCS 2015). Data were obtained for the Project area and were used to cross-check against field sites that were initially observed to exhibit wetland or surface water conditions. Hydric soils were identified in the Project area associated with NWI and NHD mapped features. Additionally, the Web Soil Survey was queried for drainage class across the Project area. No soils with a classification of poorly drained were documented for the Project area.

The USDA-Farm Service Bureau (2015) produces current high-quality aerial photography through the National Agricultural Imagery Program (NAIP). This aerial photography was used to further refine the field delineation for wetlands and other surface waterbodies within the Project area.

2.2 Desktop Results

The Desktop Analysis identified locations where proposed Project features (turbines, collection lines, access roads, or transmission line poles) intersected possible wetlands or other WoUS features. Remote sensing data are not precise, however, and Tetra Tech wetland scientists determined that a field reconnaissance was required to determine the precise locations and boundaries of wetlands and other WoUS located in the Project area.

2.3 Floodplains

A desktop analysis of mapped floodplains was conducted for the Project area. Approximately three percent of the Project Area is within 100-year floodplains (Figure 3). These areas occur along the small streams and drainages that are tributaries to Antelope Creek, the Cannonball River and Thirtymile Creek. The 100-year floodplain is defined as the area that will be inundated by a flood event having a one percent chance of occurring in any given year.

Based on the current Project layout, one access road, four transmission line poles, a temporary laydown area, and underground collection lines cross floodplains. Coordination is underway with the Stark County Floodplain Administrator to secure a Floodplain Development Permit.

2.4 Turbine Micrositing

Tetra Tech wetland scientists participated in a site visit with a Project team consisting of engineers, land surveyors, and cultural resource specialists to determine the optimal locations for wind turbines within the Project area. The objective of the micrositing is to identify areas that may have adverse impacts to sensitive environmental areas including wetlands and other WoUS. Where possible, wind turbines were re-located or eliminated during the micrositing process to avoid impacts to wetlands or other WoUS.

2.5 Wetland Delineations

The field delineations for this study were performed October 22 through 26, and November 17 through 23, 2015. A discussion of wetland delineation methodology follows in the next subsection. The delineations were conducted in areas where proposed Project infrastructure intersected areas identified during the desktop analysis. In order to provide flexibility for potential Project design changes, The survey corridor included a 350-foot radius around proposed turbine locations, a 250-ft corridor around proposed access roads, a 150-foot corridor around proposed collection lines, an 80-foot wide corridor around proposed crane paths, and a 350-foot corridor along the proposed transmission line route. **Table 2** below provides the estimated temporary and permanent disturbance areas by infrastructure type provided by Brady Wind.

Table 2. Project Impact Assumptions

Project Component	Temporary Construction Disturbance	Permanent Disturbance (Operation)
Wind Turbines ^a	4.5 acres per turbine	0.2 acres per turbine
Access Roads ^b	50 feet wide per linear foot of road	16 feet wide per linear foot of road
Collection Lines ^c	50 feet wide per linear foot	12 feet x 8 feet for each junction box
O&M Facility	5 acres	5 acres
Collection Substation	8 acres	8 acres
Construction Laydown Area ^d	22 acres	0 acres
Meteorological Towers ^e	1.25 acres per tower	5 sq. feet per tower
Turbine Storage Area ^f	40 acres	0 acres
Temporary Crane Paths	80 feet wide per linear foot	0 acres
Transmission Line	1.4 acres per pole	38.5 sq. feet per pole
Switchyard	0 acres	2.7 acres

a Construction impacts assumed a 250-foot construction radius around the turbine, which equates to approximately 4.5 acres per turbine. Impacts during operation account for a 40-foot x 100-foot gravel pad with a 15-foot buffer, or 0.2 acres per turbine.

b Easement width necessary for construction based on turbine types. Temporary and permanent impacts represent a conservative estimate of disturbance. Roads required to support crane access to turbines during operation would remain up to 38 feet wide; other access roads may be built at 16 feet or reduced later to 16 feet. Access road impacts also assume all proposed roads are new access roads and do not consider improvements to existing roads separately.

c Where collection lines run parallel to access roads, the respective impact buffers generally do not overlap.

d Assumes one 22-acre laydown area.

e Area of impact is 1.25 acres per guyed tower during installation. Once installed, each tower has a 1 square-foot base plate and four 1 square-foot anchor points, or 5 square feet per tower.

f Assumes one 40-acre turbine storage area.

2.5.1 Wetland Delineation Methodology

Wetland delineation for the Project followed methodology contained in the USACE *Wetland Delineation Manual* (USACE 1987) and the *Regional Supplement to the USACE Wetland Delineation Manual: Great Plains Region (Version 2.0)* (USACE 2010). The delineation process was utilized to document dominant vegetation, soils, and hydrology in areas of interest (i.e., areas with potential intersections between planned Project infrastructure and potential wetland ecosystems). For a site to be considered a wetland, there must be positive indication of dominance by hydrophytic vegetation, hydric soils, and characteristic wetland hydrology. In normal conditions, if a sample plot lacks any of these three criteria, it is considered upland. To determine these three variables, the field team typically designated paired sample plots, placed at discrete (typically less than 25 feet) distances from one another—one to represent wetland conditions, the other to represent uplands. Each sample plot featured a hand-dug soil pit averaging 20 inches in depth. The sample plot included nested concentric sampling rings for vegetation cover and species identification, as follows:

- Herbaceous vegetation was identified within a 5-foot radius of the sample plot center
- Sapling/shrub vegetation was identified within a 15-foot radius of the sample plot center
- Trees and woody vines were documented within a 30-foot radius of the sample plot center

In cases where wetlands were assessed outside of the growing season or when a wetland boundary was difficult to assess, Tetra Tech conservatively mapped the wetland boundaries to ensure no potential wetland areas were missed.

2.5.1.1 Hydrophytic Vegetation

The dominant vegetation at each sample plot was keyed to species level and each species was assigned a wetland indicator status using *The National Wetland Plant List* (Lichvar 2014). The field team used the *Flora of the Great Plains* (McGregor 1986) as the field taxonomic reference for keying unknown plant species.

Hydrophytic vegetation, or plants that are indicators of wetlands, include those species designated obligate (OBL), facultative wetland (FACW), or facultative (FAC). As a general rule, hydrophytes dominate a sample plot when greater than 50 percent of the evaluated species are OBL, FACW, or FAC. Upland plants include those listed with facultative upland (FACU), or upland (UPL) status. **Table 3** provides descriptions of these indicators.

Table 3. Wetland Indicator Status

Indicator Status	Occurrence in Wetlands
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Obligate (OBL)	Almost always occur in wetlands under natural conditions (estimated probability >99%).
Facultative Wetland (FACW)	Usually occur in wetlands (estimated probability 67%-99%), but occasionally found in non-wetlands (estimated probability 1%-33%).
Facultative (FAC)	Equally likely to occur in wetlands or non-wetlands (estimated probability 34%-66%).
Facultative Upland (FACU)	Usually occur in non-wetlands (estimated probability 67%-99%), but occasionally found in wetlands (estimated probability 1%-33%).
Upland (UPL)	Almost always occur in non-wetlands under natural conditions (estimated probability >99%).
Not Listed (NL)	Not Listed plants are assumed to be UPL as defined in the user notes for the WMC 2014 Regional Plant List.

2.5.1.2 Cowardin Classification

Wetlands were classified according to *Classification of Wetlands and Deepwater Habitats in the United States* (Cowardin et al. 1979) during the field survey. The classification system, also known as the Cowardin Classification, was developed as a tool to aid in distinguishing the different types of wetlands. Wetlands found in the Project area were all identified as palustrine (non-tidal) emergent wetlands (PEM). Emergent wetlands consist of erect and rooted wetland plants.

2.5.1.3 Wetland Soils

Soil from each soil pit was evaluated for hue, value, and chroma in each observable horizon using Munsell *Soil Color Charts* (Gretag 2009). Each soil horizon was also checked for texture and for the presence of redoximorphic features, depleted matrix, saturation, and other specific criteria used to document hydric conditions. Each paired wetland and upland soil pit was mapped using a Trimble Geo 7X handheld GPS with sub-meter accuracy.

2.5.1.4 Wetland Hydrology

Hydrology was analyzed for primary and secondary wetland indicators. Primary wetland indicators included visible inundation, soil saturation, water marks, drift lines, sediment deposits, and drainage patterns in wetlands. Secondary wetland indicators of wetland hydrology included observable features such as oxidized root channels associated with living roots, water-stained leaves, soil cracks, and local soil survey data. Once established, the soil pits were left open a sufficient amount of time to allow the apparent high water table, if present, to stabilize.

2.5.1.5 Wetland Determination Data Forms

Sample plots that exhibited qualifying characteristics of hydrophytic vegetation, hydric soils, and wetland hydrology were identified as wetlands. A Wetland Determination Data Form, specific to the Great Plains Region, was completed for each paired wetland and upland sample plot. The wetland determination data forms are included as Appendix 2.

2.5.1.6 Wetland Mapping

A wetland delineation was conducted to identify the transitional area between wetland and upland conditions. Wetland scientists accomplished the delineation by walking the outer limit of visibly identifiable wetland vegetation between the paired wetland and upland sample plots recording the path with a Trimble Geo 7X GPS. The Trimble Geo 7X GPS unit provides an estimated 3-foot (1-meter) survey accuracy (post-processing). The field-collected data were plotted as a map layer using geographic information system (GIS) software. Photographs of select wetlands are provided in the photo log included as Appendix 4.

2.6 Assessment of Other WoUS

Non-wetland WoUS are regulated under the CWA for the placement of dredged or fill materials. The desktop analysis and field surveys identified other WoUS including ephemeral, intermittent, and perennial streams and ponds.

2.6.1 Surface Water Assessment Methodology

Stream and pond features were mapped along their ordinary high water marks (OHWM). The USACE regulations define “ordinary high water mark” as:

... that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Once the OHWM was observed in the field by the team, the Trimble Geo 7X GPS unit was used to map this line where it would be crossed by planned elements of Project infrastructure. For streams, a data form was completed in the field documenting stream ID, date of survey, investigators names, channel features, flow characteristics, substrate description, watershed features, the presence of aquatic vegetation and macroinvertebrates.

3. Wetlands and Other WoUS Delineation Results

3.1 Wetlands Impacted by Project Infrastructure

A total of 39 wetlands were delineated in the survey corridor. Of these delineated wetlands, 30 would be impacted by currently planned Project infrastructure and nine would not be impacted, but were delineated in order to document their locations in case the Project design changes in the future. The nine wetlands are either within the survey corridor but outside of the planned Project footprint, or they were previously in the Project footprint but the layout has since been modified to avoid impacts. See Section 3.2 for wetlands that were delineated but are currently not being impacted by the Project. Narratives including the dominate wetland vegetation along with

its indicator status, hydric soil indicator, and hydrology indicator for these delineated wetlands are provided below. Table 4 summarizes the delineated wetlands, the likely jurisdictional status, and the approximate acreage of each feature.

3.1.1 Wetland 1A

Wetland 1A was delineated within the transmission line survey corridor in five segments following an NHD intermittent stream flowline that leads to the Cannonball River, south of the Project area. The five segments are connected as one wetland complex with portions of the wetland outside the transmission line survey corridor. Vegetation in the wetland plot was dominated by prairie cordgrass (*Spartina pectinata*, FACW). Soils in the wetland sample plot qualified for the hydric soil indicator Redox Dark Surface (F6). It included oxidized rhizospheres on living roots in 8 percent of the soil profile were observed. The wetland is likely a jurisdictional WoUS because of its location on an NHD flowline that flows into the Cannonball River.

3.1.2 Wetland 2A

Wetland 2A was delineated within the transmission line corridor and is located approximately ¼ mile west of 122nd Avenue SW between 53rd street SW and 54th Street SW. Vegetation in the wetland plot was dominated by prairie cordgrass (*Spartina Pectinata*, FACW), and soils were observed to be a silty clay loam that qualified for the hydric soil indicator Redox Dark Surface (F6). The delineated wetland area intersects a large NWI mapped wetland, and the proposed transmission line survey corridor. Saturation is visible on aerial imagery and oxidized rhizospheres were observed on living roots. The nearest NHD intermittent stream flowline is about 1,200 feet away, and the wetland is likely isolated. Therefore, the wetland does not likely meet the definition of a jurisdictional WoUS.

3.1.3 Wetland 4A

Wetland 4A was delineated within the transmission line corridor and is located halfway between 53rd Street SW and 54th Street SW on the east side of 121st Avenue. It intersects the transmission line survey corridor and was delineated on an NWI mapped wetland polygon. Vegetation in the wetland sample plot was dominated by soybean crop and foxtail barley (*Hordeum jubatum*, FACW). Soils in the wetland plot were a clay loam and a sandy clay loam which qualified for the hydric soil indicator Redox Dark Surface (F6). Oxidized rhizospheres on living roots were observed to exist throughout the soil profile. An NHD mapped stream flows from this polygon to the north and into cropland on the west side of 121st Avenue. No streams were noted to flow from the wetland, and the wetland is located in a soybean field; therefore, the wetland appears isolated and does not likely meet the definition of a jurisdictional WoUS.

3.1.4 Wetland 2B

Wetland 2B is located on the northwest side of 54th Street SW and 104th Avenue SW, in a crane path leading to Turbines 60 and 61. The wetland is located in an NWI mapped partially drained

PEM wetland area, approximately 406 feet south of an NHD mapped intermittent stream. The wetland is located in a plowed agricultural field and therefore had problematic vegetation. Despite its problematic vegetation the soils were consistent with the Depleted Dark Surface (F7) hydric soil indicator. This wetland is not likely a jurisdictional WoUS because of its location in prior converted cropland.

3.1.5 Wetland 3B

Wetland 3B is located approximately 2,000 feet northeast of the intersection of 107th avenue SW and 54th street SW and is intersected by a proposed collection line. The wetland was delineated as a linear-shaped wetland that runs southeast to northwest on top of an NHD intermittent stream. The wetland is not located in a NWI wetland mapped area; however, there are several NWI mapped wetland polygons on the NHD flowline to the northeast and southwest. This flowline does not continue to a TNW, so this wetland is likely isolated. This wetland is likely not a jurisdictional wetland because of its lack of connectivity to another WoUS.

3.1.6 Wetland 4B

Wetland 4B is located approximately 1,000 feet west of the Turbine 51 immediately north of a proposed crane path. This feature was mapped to show its proximity to Project infrastructure for avoidance purposes.

3.1.7 Wetland 6B

Wetland 6B is located on 108th Avenue SW, north of 54th street SW on a proposed crane path near Turbine 48. Dominant vegetation in the wetland area included broadleaf cattail (*Typha latifolia*, OBL), foxtail barley (*Hordeum jubatum*, FACW), and spikerush (*Eleocharis palustris*, OBL). Soil in the wetland pit met the criteria for Depleted Below Dark Surface (A11) as well as Redox Dark Surface (F6), and oxidized rizospheres on living roots were noted. The wetland is not located in close proximity to any NHD intermittent stream flowlines and is likely isolated. The wetland is also located on two agricultural fields that would likely qualify as prior converted cropland. Therefore, this wetland is not likely a jurisdictional WoUS.

3.1.8 Wetland 8B

Wetland 8B is located between 115th Ave SW and 114th Ave SW near Turbine 21. The wetland is intersected by a proposed collection line, crane path, and transmission line. The wetland follows a linear depression in an NHD flowline. Dominant vegetation within the wetland area included threesquare (*Schoenoplectus pungens*, OBL) and woolly sedge (*Carex pellita*, OBL). Soils in the wetland sample pit qualified for the Redox Dark Surface (F6) hydric soil indicator and 2 inches of surface water was observed. This PEM wetland intersects both planned access road ROW on the north side of the delineated wetland and planned transmission line survey corridor on the south side of the wetland. The wetland is likely a jurisdictional WoUS because of its location on an NHD flowline.

3.1.9 Wetland 9B

Wetland 9B is located on the east side of 114th avenue and is intersected by proposed crane path that leads to Turbine 22. Dominant vegetation in the wetland area included spikerush (*Eleocharis palustris*, OBL), with 70 percent cover. Soil in the wetland sample column met the criteria for the hydric soil indicator Depleted Below Dark Surface (A11), and was noted to be moist at 3 inches below ground surface. Surface soil cracks were observed. A manmade stock pond was noted to the south of the wetland, which had no outlet. The delineated portion of the wetland is located within an NWI mapped polygon. No streams were identified in close proximity to the wetland, and the wetland is not located near NHD flowlines; and is therefore likely isolated. This wetland does not likely meet the definition of a jurisdictional WoUS.

3.1.10 Wetland 1C

Wetland 1C is located along the east side of the access road leading south to Turbine 50. The feature is located within a proposed collection line and crane path. The wetland was identified in a plowed field with limited vegetation cover. Vegetation in the wetland was dominated by cattails (*Typha latifolia*) with only 15 percent cover. Soils were identified using hydric soil indicator Redox Dark Surface (F6) because redox concentrations comprised 5 percent of the soil matrix. Hydrology was identified by the presence of a salt crust as well as oxidized rhizospheres on living roots and geomorphic position. The wetland is located in an agricultural field and likely does not meet the definition of a jurisdictional WoUS because of its location in a prior-converted cropland.

3.1.11 Wetland 2C

Wetland 2C is located approximately 1,800 feet east of Turbine 83 along the proposed collection line alignment. The wetland is located in active cropland with recently tilled soils. The dominant vegetation in the wetland was foxtail barley (*Hordeum jubatum*) comprising 25 percent of the plot. The soils were problematic for determining the hydric indicator in this wetland because of recent tilling. The nearest adjacent wetland (Wetland 3C) had similar soils and it is assumed this wetland would have similar hydric soils without the recent disturbance. The soils were saturated within the upper 12 inches at the time of sampling providing a hydrology indicator. The wetland likely does not meet the definition of a jurisdictional WoUS because of its location in a prior-converted cropland.

3.1.12 Wetland 3C

Wetland 3C is located approximately 1,600 feet west of Turbine 84 intersecting a proposed collection line alignment and crane path. The wetland is located in shallow draw within active croplands. Stream feature 2C bisects the wetland. The dominant vegetation in the wetland was comprised of cattails (*Typha latifolia*) and reed canarygrass (*Phalaris arundinacea*). The hydric soil indicator was Redox Dark Surface (F6) because redox concentrations comprising 5 percent of the soil matrix in the upper 12 inches of soil was present. The hydrology indicators identified included a Dry-season Water Table, Saturation in the upper 12 inches of the soil pit, and a salt

crust. This wetland likely meets the definition of a jurisdictional WoUS because of its close proximity to a channel with a well-defined bed and bank that runs north and eventually into the Heart River.

3.1.13 Wetland 4C

Wetland 4C is located approximately 1.3 miles north of Turbine 86 intersecting the proposed collection line alignment. The wetland is located in a cropland with a larger wetland complex immediately adjacent to the south. The dominant vegetation were cattails (*Typha latifolia*). Redox Dark Surface (F6) was identified as the hydric soil indicator. Hydrology indicator consisted of saturation beginning in the upper 12 inches and the presence of a salt crust. This wetland likely meets the definition of a jurisdictional WoUS because it is adjacent to a larger wetland complex with a nexus to an intermittent or perennial water feature that eventually flows into the Heart River.

3.1.14 Wetland 5C

Wetland 5C is located approximately 890 feet east of Turbine 70 intersecting the proposed collection line alignment. The wetland forms in a lowland area that forms an undefined drainage. Immediately to the south and downgradient is a small pond. The dominant vegetation is prairie cordgrass (*Spartina pectinata*). Soils and hydrology were not observed at this location because the ground was frozen at the time of sampling. This feature was determined to be a wetland based on similar features in the area and through best professional judgement by the wetland scientist. The wetland likely meets the definition of a jurisdictional WoUS because it has a nexus with a perennial water feature that flows into the Heart River, a TNW.

3.1.15 Wetland 6C

Wetland 6C, located approximately 1,700 feet southeast of Turbine 85 intersecting the proposed crane path alignment, is formed within an active cropland. The feature is adjacent to a historic drainage system that has been modified from regular agricultural use and is no longer present. The dominant vegetation in the feature was foxtail barley (*Hordeum jubatum*). Soils and hydrology were not observed at this location because the ground was frozen at the time of sampling. This feature was determined to be a wetland based on similar features in the area and through best professional judgement by the wetland scientist. The wetland likely does not meet the definition of a jurisdictional WoUS because of its location in a prior-converted cropland.

3.1.16 Wetland 7C

Wetland 7C, located approximately 1,650 feet southeast of Turbine 64 intersecting the proposed crane path alignment is formed in an active cropland. The vegetation in the area had been recently tilled. The dominant vegetation in the wetland was cattails (*Typha latifolia*). Soils were not observed at this location because the ground was frozen at the time of sampling. Hydrology was identified by a visible salt crust. This feature was determined to be a wetland based on similar features in the area and through best professional judgement by the wetland scientist. The

wetland likely does not meet the definition of a jurisdictional WoUS because of its location in a prior-converted cropland.

3.1.17 Wetland 2D

Wetland 2D, located approximately 1,550 feet southwest of Turbine 57 intersecting the proposed collection line alignment, is formed in a depressional area surrounded by active croplands. The dominant vegetation in the wetland was foxtail barley (*Hordeum jubatum*). The hydric soil indicator was Depleted Matrix (F3). The hydrology indicator present in the wetland was Oxidized Rhizospheres on Living Roots. The wetland likely meets the definition of a jurisdictional WoUS because it has a nexus with the Heart River, a TNW.

3.1.18 Wetland 5E

Wetland 5E, located approximately 1,000 feet east of Turbine 10 intersecting the proposed collection line and crane path alignments, is formed in a depressional area associated with a historic drainage feature surrounded by active croplands. The dominant vegetation was prairie cordgrass (*Spartina pecinata*). The hydric soil indicator was a Depleted Matrix (F3). Hydrology was identified by Oxidized Rhizospheres in Living Roots and Drainage Patterns. The wetland likely meets the definition of a jurisdictional WoUS because it has a nexus with the Heart River, a TNW.

3.1.19 Wetland 6E

Wetland 6E, located approximately 2,000 feet east of Turbine 3 intersecting the proposed collection line alignment, is formed in a valley bottom surrounded by active croplands. Up gradient, there is a man-made pond that likely drains downslope to aid in the formation of this feature. The dominant vegetation in the wetland was cattails (*Typha latifolia*). The hydric soil indicator was a Depleted Matrix (F3). Hydrology was identified by Drainage Patterns and the FAC-Neutral test. The wetland likely meets the definition of a jurisdictional WoUS because it has a nexus with the Heart River, a TNW.

3.1.20 Wetland 7E

Wetland 7E, located approximately 750 southeast of Turbine 5 intersecting the proposed collection line alignment, is formed in a valley bottom in what was likely a historic drainage feature. The surrounding land use is active croplands. Up gradient to the east is a pond that drains into the feature. Wetland 10F (discussed below) is downgradient of Wetland 7E, but is part of the same wetland complex. The dominant vegetation in the wetland is Baltic rush (*Juncus balticus*). The hydric soil indicator was a Depleted Matrix (F3). Hydrology was identified by Oxidized Rhizospheres in Living Roots, Drainage Patterns and the FAC-Neutral test. The wetland likely meets the definition of a jurisdictional WoUS because it has a nexus with the Heart River, a TNW.

3.1.21 Wetland 8E

Wetland 8E, located approximately 1,400 feet west of Turbine 14 intersecting the proposed collection line alignment, is a fringe wetland abutting an agricultural use pond. This wetland may be considered part of the same wetland complex as Wetland 9E (discussed below). The dominant vegetation in the wetland is Baltic rush (*Juncus balticus*). The hydric soil indicator was a Depleted Matrix (F3). Hydrology was identified by the presence of Oxidized Rhizospheres in Living Roots. The wetland likely meets the definition of a jurisdictional WoUS because it has a nexus with the Heart River, a TNW.

3.1.22 Wetland 9E

Wetland 9E, located approximately 2,700 feet east of Turbine 9 intersecting the proposed collection line and crane path alignments, is formed in a valley bottom in what was likely a historic drainage feature. This wetland may be considered part of the same wetland complex as Wetland 8E (discussed above). The dominant vegetation in the wetland is prairie cordgrass (*Spartina pecinata*). The hydric soil indicator was a Depleted Matrix (F3). Hydrology was identified by the presence of Oxidized Rhizospheres in Living Roots. The wetland likely meets the definition of a jurisdictional WoUS because it has a nexus with the Heart River, a TNW.

3.1.23 Wetland 10E and 10E Continued

Wetland 10E and 10E Continued are part of the same wetland complex located approximated 1,000 feet northeast of Turbine 16 intersecting the collection line and transmission line alignments. The dominant vegetation in the wetland is prairie cordgrass (*Spartina pecinata*). The hydric soil indicator was Depleted Matrix (F3). Hydrology was identified by the presence of Oxidized Rhizospheres in Living Roots and Drainage Patterns. The wetland likely meets the definition of a jurisdictional WoUS because it has a nexus with the Heart River, a TNW.

3.1.24 Wetland 2F

Wetland 2F, located approximately 1,600 feet east of Turbine Alt2 intersecting the proposed collection line alignment, is formed in a historic drainage channel. The dominant vegetation in the wetland is Dudley's rush (*Juncus dudleyi*). The hydric soil indicator was a Depleted Matrix (F3). Hydrology was identified by the presence of Oxidized Rhizospheres in Living Roots. The wetland likely meets the definition of a jurisdictional WoUS because it has a nexus with the Heart River, a TNW.

3.1.25 Wetland 3F

Wetland 3F, located approximately 1,500 feet west of Turbine 23 intersecting the proposed collection line alignment, is formed in a depressional area downgradient from an agricultural pond. The dominant vegetation in the wetland is Baltic rush (*Juncus balticus*). The hydric soil indicator was a Depleted Matrix (F3). Hydrology was identified by the presence of Oxidized Rhizospheres

in Living Roots. The wetland likely meets the definition of a jurisdictional WoUS because it has a nexus with the Heart River, a TNW.

3.1.26 Wetland 5F

Wetland 5F, located approximately 1,240 feet southeast of Turbine 21 intersecting the proposed collection line alignment, is formed in a historic drainage feature surrounded by active cropland. Wetland 8B (discussed above) is part of this wetland complex. The dominant vegetation in the wetland is prairie cordgrass (*Spartina pecinata*). The hydric soil indicator was a Depleted Matrix (F3). Hydrology was identified by the presence of Oxidized Rhizospheres in Living Roots and Drainage Patterns. The wetland likely meets the definition of a jurisdictional WoUS because it has a nexus with the Heart River, a TNW.

3.1.27 Wetland 9F

Wetland 9F, located approximately 1,450 feet west of Turbine 17 intersecting the proposed crane path alignment, is formed in a historic drainage feature surrounded by cropland. The dominant vegetation in the wetland is prairie cordgrass (*Spartina pecinata*). The hydric soil indicator was a Depleted Matrix (F3). Hydrology was identified by the presence of Oxidized Rhizospheres in Living Roots and Drainage Patterns. The wetland likely meets the definition of a jurisdictional WoUS because it has a nexus with the Heart River, a TNW.

3.1.28 Wetland 10F

Wetland 10F, located approximately 1,200 feet south of Turbine 5 intersecting the proposed crane path alignment, is formed in a historic drainage surrounded by croplands. Wetland 7E (discussed above) is part of the same wetland complex. The dominant vegetation in the wetland is prairie cordgrass (*Spartina pecinata*). The hydric soil indicator was a Depleted Matrix (F3). Hydrology was identified by the presence of Oxidized Rhizospheres in Living Roots and Drainage Patterns. The wetland likely meets the definition of a jurisdictional WoUS because it has a nexus with the Heart River, a TNW.

3.1.29 Wetland 1G

Wetland 1G, located approximately 2,200 feet northwest of Turbine 16 along the transmission line survey corridor, is formed in a historic drainage feature. The dominant vegetation in the wetland is prairie cordgrass (*Spartina pecinata*). Soils were not observed at this location because the ground was frozen at the time of sampling. Hydrology was identified by the presence of surface water, Drainage Patterns and Geomorphic Position. The wetland likely meets the definition of a jurisdictional WoUS because it has a nexus with a perennial water feature that flows into a Traditional Navigable Water (TNW).

3.1.30 Wetland Switchyard

A small wetland is located in the northwest corner of the switchyard. Vegetation in the wetland plot was dominated by prairie cordgrass (*Spartina pectinata*, FACW). Soils in the wetland sample plot qualified for the hydric soil indicator Redox Dark Surface (F6). It included oxidized rhizospheres on living roots in 8 percent of the soil profile were observed. The wetland is located within agricultural crop land and, therefore, does not likely meet the definition of a jurisdictional WoUS.

3.2 Wetlands Currently not Impacted by Project Infrastructure

3.2.1 Wetland 3A

Wetland 3A is located approximately ¼ mile south of 53rd street SW, approximately ¾ miles west of 122nd Avenue SW on the transmission line survey corridor. It is a PEM wetland dominated by barnyardgrass (*Echinochloa crus-galli*, FAC), with 40 percent cover; and Mexican fireweed (*Bassia scoparia*, FACU), with 20 percent cover. The vegetation was noted to be altered due to plowing. Soils in the wetland column met the criteria for the hydric soil indicator Redox Dark Surface (F6) and iron deposits were observed in the soil. The wetland is located within agricultural crop land and, therefore, does not likely meet the definition of a jurisdictional WoUS.

3.2.2 Wetland 5A

Wetland 5A is located on the north side of 53rd Street SW approximately ¾ miles east of 122nd Avenue SW. The wetland intersects the proposed transmission line survey corridor. The vegetation community was dominated by prairie cordgrass (*Spartina pectinata*, FACW). Soils in the wetland column were a silt clay that were consistent with the hydric soil indicator Redox Dark Surface (F6) and Depleted Below Dark Surface. The wetland had a water table at 14 inches and was saturated an inch above. Additionally, inundation was visible on aerial imagery. There are several NWI mapped wetlands on the NHD flowline located north and south of Wetland 5A, but the wetland was not delineated on any of these NWI wetlands. This wetland likely meets the definition of a jurisdictional WoUS because of its close proximity to a channel with a well-defined bed and bank that runs north and eventually into the Heart River.

3.2.3 Wetland 6A

Wetland 6A is located on the south side of the transmission line survey corridor approximately 1,700 feet to the east of 118th Avenue SW. The vegetation community was dominated by canola crop and wheat crop, and was therefore noted to be problematic for determining the hydrophytic wetland status. Soils in the wetland column exhibited a profile consistent with the hydric soil indicator Redox Dark Surface (F6). Although primary hydrology indicators were not observed, saturation is visible on aerial imagery and drainage patterns were noted. The wetland is a linear feature that was delineated on an NHD flowline that runs south from the transmission line survey

corridor. The NHD flowline has several mapped NWI wetlands to the south of Wetland 6A, but eventually dissipates into a cropland and does not likely have connectivity to a TNW. Additionally, the wetland is located in a canola field. Therefore, the wetland does not likely fit the definition of a jurisdictional WoUS because of its location in prior converted cropland.

3.2.4 Wetland 7A

Wetland 7A is located approximately 1,500 feet north of Turbine 13. Vegetation in the wetland sample plot was dominated by barnyardgrass (*Echinochloa crus-gali*, FAC), with 40 percent cover. Soils in the wetland sample column were consistent with the hydric soil indicator Redox Dark Surface (F6). Iron deposits, surface soil cracks, and drainage patterns were all observed in the wetland sample plot. The wetland is located in an agricultural field and, therefore, likely does not meet the definition of a jurisdictional WoUS because of its location in a prior-converted cropland.

3.2.5 Wetland 1B

Wetland 1B is located on the northwest corner of 53rd Street Southwest and 10th Avenue Southwest. This wetland is a roadside ditch located upgradient from an NHD mapped intermittent stream 64 feet to the north of the wetland. The wetland is located outside of any NWI mapped wetlands. The wetland is also located approximately 30 feet from the manmade pond delineated as Pond 3B. This pond has a channel visible on aerial imagery that runs to the east and into the NHD intermittent stream. The wetland was dominated by prairie cordgrass (*Spartina pectinata*, FACW), broadleaf cattail (*Typha latifolia*, OBL), and woolly sedge (*Carex pellita*, OBL), and therefore passed the dominance test and rapid test for hydrophytic vegetation. Soils qualified for the Depleted Matrix (F3) hydric soil indicator, and the soil was saturated at 4 inches. The wetland continues on the east side of 10th Ave SW, but was not delineated because it is outside the Project survey area. This wetland is likely a jurisdictional WoUS because of its potential for connectivity to the adjacent pond and NHD intermittent stream.

3.2.6 Wetland 5B

Wetland 5B is located between 106th Avenue SW and 105th Avenue SW on the south side of 52nd St SW. The wetland is a linear feature delineated on a mapped NHD intermittent stream flowline. The length of the wetland is approximately 1,500 feet long, and the majority of it is located within the access road ROW leading to Turbine 53. Dominant vegetation in the wetland sample plot included one tree, plains cottonwood (*Populus deltoides*, FAC) and one herbaceous plant, reed canarygrass (*Phalaris arundinacea*, FACW). Soils in the wetland met the criteria for the hydric soil indicators Thick Dark Surface and Redox Dark Surface (F6). Oxidized rhizospheres were noted on living roots. Although a water table was not observed, the soil was noted to be moist throughout the sample plot column. This wetland likely meets the definition of a jurisdictional WoUS because of its close proximity to a larger stream that can be seen on aerial imagery.

3.2.7 Wetland 7B

Wetland 7B is located approximately 1100 feet north of 52nd Street SW, northeast of the laydown area and outside of the Project infrastructure. Wetland 7B was delineated to show its proximity to Project infrastructure for avoidance purposes.

3.2.8 Wetland 10B

Wetland 10B is located between 114th Avenue and 115th Avenue south of 52nd street near Turbine number 24. The wetland was noted to have a white precipitate on the soil surface, likely representing an alkaline depression. Vegetation within the wetland sample plot included Nutall's alkalaigrass (*Puccinellia nutalliana*, OBL) and saltgrass (*Distichis spicata*, FACW), but was noted to have a dense community of red swampfire (*Salicornia rubra*, OBL) in the middle of the wetland. The soils in the wetland column met the criteria for Depleted Matrix (F3), and was saturated from the surface. The wetland was delineated as part of an NWI mapped wetland, but is not located near NHD intermittent stream flowlines, and is likely isolated. The wetland does not likely meet the definition of a jurisdictional WoUS.

3.2.9 Wetland 7F

Wetland 7F, located approximately 1,900 feet south of Turbine 22 immediately north of the collection line alignment, is formed in a depressional area adjacent to an agricultural pond. This feature was delineated because of its proximity to the proposed Project infrastructure. The dominant vegetation in the wetland is prairie cordgrass (*Spartina pectinata*). The hydric soil indicator was a Depleted Matrix (F3). Hydrology was identified by the presence of Oxidized Rhizospheres in Living Roots, Inundation Visible on Aerial Imagery, and Geomorphic Position. The wetland likely meets the definition of a jurisdictional WoUS because it has a nexus with the Heart River, a TNW.

Table 4. Wetlands in the Project Area

Wetland Number	Approximate Acreage	Latitude	Longitude	Likely Jurisdictional Status¹	Sheet Map Number	Project Infrastructure Surveyed Area
1A	1.223	46.6466710	-103.0729796	Jurisdictional	1	Transmission Line Pole 120 – temporary disturbance 0.428 acres
1A	0.026	46.6453231	-103.0712008	Jurisdictional	1	Transmission Line Pole 118 – temporary disturbance 0.012 acres
1A	0.539	46.6453044	-103.0693146	Jurisdictional	1	Transmission Line Pole 117 – temporary disturbance 0.007 acres
1A	1.916	46.6449296	-103.0664211	Jurisdictional	1	Transmission Line Pole 116 – temporary disturbance 0.220 acres
1A	7.475	46.6453261	-103.0612342	Jurisdictional	1	Transmission Line Pole 115 – temporary disturbance 0.418 acres
2A	0.603	46.6369797	-103.0256136	Jurisdictional	2	Transmission Line Pole 98 – temporary disturbance 0.155 acres
3A	0.124	46.6426909	-103.0365269	Non-jurisdictional	1	None, but within Transmission Line Survey Corridor
4A	16.002	46.6369143	-103.0006664	Non-jurisdictional	2	Transmission Line Pole # 89, 90, and 91 – temporary disturbance 3.652 acres, permanent disturbance 0.018 acres
5A	0.789	46.6446700	-103.0398923	Jurisdictional	1	None, but within Transmission Line Survey Corridor
6A	0.770	46.6360574	-102.9430240	Non-jurisdictional	4	None
7A	0.368	46.6377440	-102.9151156	Non-jurisdictional	4	None, but within Transmission Line Survey Corridor
1B	0.086	46.6462361	-102.6429567	Non-jurisdictional	15	None
2B	3.958	46.6365530	-102.6525312	Non-jurisdictional	12	Crane Path

**2016 Wetland and Other WoUS Delineation Report
Brady Wind Energy Center — Stark County, North Dakota**

Wetland Number	Approximate Acreage	Latitude	Longitude	Likely Jurisdictional Status¹	Sheet Map Number	Project Infrastructure Surveyed Area
3B	1.281	46.6348726	-102.6982821	Non-jurisdictional	12	Collection Line
4B	0.057	46.6373444	-102.7000201	Jurisdictional	12	Crane Path
5B	0.931	46.6575795	-102.6757335	Jurisdictional	13	Construction Easement
6B	9.911	46.6344430	-102.7270068	Non-jurisdictional	10	Collection Line & Crane Path
7B	0.405	46.6623161	-102.7795580	Jurisdictional	9	None
8B	2.818	46.6466152	-102.8557874	Jurisdictional	5	Transmission Line Pole 41 – temporary disturbance 0.283 acres Collection Line & Crane Path
9B	0.131	46.6481118	-102.8516732	Non-jurisdictional	5	Crane Path
10B	0.361	46.655698	-102.836915	Non-jurisdictional	7	Construction Easement
1C	0.730	46.6364083	-102.7048631	Non-jurisdictional	10	Collection Line & Crane Path
2C	0.213	46.6756390	-102.6543736	Non-jurisdictional	13	Collection Line
3C	0.872	46.6774454	-102.6501590	Jurisdictional	13	Collection Line & Crane Path
4C	0.755	46.6756648	-102.6309659	Jurisdictional	16	Collection Line
5C	0.211	46.6964757	-102.6314843	Jurisdictional	17	Collection Line
6C	0.641	46.6776221	-102.6344758	Non-jurisdictional	14	Crane Path
7C	2.145	46.6824716	-102.6677631	Non-jurisdictional	16	Crane Path
2D	0.933	46.6372727	-102.6712598	Jurisdictional	12	Collection Line
5E	0.242	46.6329886	-102.9396345	Jurisdictional	4	Collection Line & Crane Path
6E	0.081	46.6427696	-102.9282479	Jurisdictional	4	Collection Line
7E	0.053	46.6471548	-102.9231883	Jurisdictional	4	Collection Line
8E	0.108	46.6488298	-102.8915799	Jurisdictional	5	Collection Line
9E	0.204	46.6487720	-102.8957948	Jurisdictional	5	Collection Line & Crane Path
10E	0.773	46.6380000	-102.8886652	Jurisdictional	5	Collection Line & Transmission Line Pole # 56 – temporary disturbance 0.114 acres
10E	0.077	46.6357523	-102.8870402	Jurisdictional	5	Collection Line
2F	0.656	46.6538750	-102.8419884	Jurisdictional	7	Collection Line

Wetland Number	Approximate Acreage	Latitude	Longitude	Likely Jurisdictional Status ¹	Sheet Map Number	Project Infrastructure Surveyed Area
3F	0.202	46.6544776	-102.8398677	Jurisdictional	7	Collection Line
5F	0.075	46.6459906	-102.8561978	Jurisdictional	5	Collection Line
7F	0.102	46.6466759	-102.8506080	Jurisdictional	6	None
9F	0.082	46.6324720	-102.8818428	Jurisdictional	5	Crane Path
10F	0.289	46.6460694	-102.9247737	Jurisdictional	4	Crane Path
1G	0.518	46.6373772	-102.8953703	Jurisdictional	5	Transmission Line Pole 59 – temporary disturbance 0.180 acres
Switchyard	0.081	46.6586180	-103.0732972	Non-jurisdictional	1	Switchyard Pole – temporary disturbance 0.081 acres

1 Note that only the USACE can render an approved Jurisdictional Determination (JD). The likely jurisdictional status listed in Table 2 only reflect Tetra Tech's understanding of Jurisdictional Waters of the United States. Without a USACE rendered jurisdictional determination, impacts should be avoided to these wetlands.

3.3 Other WoUS Results

3.3.1 Streams

Wetland scientists mapped 14 stream crossings within the surveyed areas of proposed Project infrastructure (Table 5). All of these streams were noted to be tributaries to streams that eventually flow into Antelope Creek, and eventually into the Heart River, which is a TNW. Stream crossings 1B, 2B, and 3B are located within the temporary disturbance area for proposed transmission line poles; stream crossing 3B is also within the temporary disturbance area for a proposed collection line. Stream crossing 4B is within the temporary disturbance area of a proposed crane path. Stream crossings 2D, 3D, and 4D are within the temporary disturbance areas of proposed collection lines and crane paths. The remaining field delineated streams were mapped outside of the temporary disturbance areas of any elements of Project infrastructure.

Table 5. Streams Observed in the Project Area

Stream Number	Stream Name	Acres	Latitude	Longitude	Flow Regime	Likely Jurisdictional Status ¹	Sheet Map Number	Project Infrastructure Surveyed Area
1B	Unnamed tributary of Antelope Creek	1.743	46.6447239	-102.7482279	Ephemeral	Jurisdictional	10	Transmission Line Pole 6 – temporary disturbance 0.236 acres
2B	Unnamed tributary of Antelope Creek	0.041	46.6450523	-102.7717620	Ephemeral	Jurisdictional	8	Transmission Line Pole 7 – temporary disturbance 0.170 acres
3B	Unnamed tributary of	1.230	46.6446389	-102.7995388	Intermittent	Jurisdictional	8	Collection Line & Transmission Line

**2016 Wetland and Other WoUS Delineation Report
Brady Wind Energy Center — Stark County, North Dakota**

Stream Number	Stream Name	Acres	Latitude	Longitude	Flow Regime	Likely Jurisdictional Status ¹	Sheet Map Number	Project Infrastructure Surveyed Area
	Antelope Creek							Pole #23 – temporary disturbance 0.095
4B	Unnamed tributary of Antelope Creek	0.426	46.635302	-102.885421	Intermittent	Jurisdictional	12	Crane Path
4B	Unnamed tributary of Antelope Creek	0.263	46.63139	-102.881293	Intermittent	Jurisdictional	5	None
5B	Unnamed tributary of Antelope Creek	0.283	46.632057	-102.871737	Ephemeral	Jurisdictional	5	None
1C	Unnamed tributary of Antelope Creek	0.014	46.6345331	-102.8927092	Ephemeral	Jurisdictional	5	None
2C	Unnamed tributary of Antelope Creek	0.002	46.676904	-102.65004	Intermittent	Jurisdictional	13	Collection Line
2D	Unnamed tributary of Antelope Creek	0.472	46.6494258	-102.7431141	Ephemeral	Jurisdictional	10	None
2D	Unnamed tributary of Antelope Creek	1.001	46.6517412	-102.7444856	Ephemeral	Jurisdictional	10	None, but Construction Easement
2D	Unnamed tributary of Antelope Creek	1.910	46.6558585	-102.7444040	Ephemeral	Jurisdictional	11	Collection Line & Crane Path
3D	Unnamed tributary of Antelope Creek	0.563	46.6377121	-102.6827472	Ephemeral	Jurisdictional	12	Collection Line & Crane Path
4D	Unnamed tributary of Antelope Creek	0.023	46.6742969	-102.6805641	Ephemeral	Jurisdictional	13	Collection Line & Crane Path
1G	Unnamed tributary of Antelope Creek	0.321	46.6367252	-102.9914035	Ephemeral	Jurisdictional	3	None, but within Transmission Line Survey corridor

¹ Note that only the USACE can render an approved Jurisdictional Determination (JD). The likely jurisdictional status listed in Table 5 only reflect Tetra Tech's understanding of Jurisdictional Waters of the United States. Without a USACE rendered jurisdictional determination, impacts should be avoided to these streams.

The flow regime of a stream describes how often it contains flowing water. Perennial streams contain flowing water for the whole year. Intermittent streams flow in response to both precipitation

events and from spring sources; this flow is typically not year-long. Ephemeral streams flow only in response to precipitation events and, as such, they are more often dry than flowing. The bank-full width was measured as the average width of the stream where it was to be crossed by planned elements of the Project infrastructure. **Appendix 3** contains full field data sheets for the streams recorded during field reconnaissance.

3.3.2 Ponds

Ten ponds were observed during field surveys (Table 6). These ponds were, or are, currently used in support of agricultural land. The likely jurisdictional status of each pond was determined based on connectivity to a stream feature that drains into a TNW. Ponds 1A and 2A are located within the temporary disturbance area for transmission line poles. Pond 2B is within the temporary disturbance area for a crane path. The remaining field delineated ponds were mapped outside of the temporary disturbance areas of any elements of Project infrastructure.

Table 6. Ponds Observed in the Project Area

Pond Number	Acres	Latitude	Longitude	Likely Jurisdictional Status ¹	Sheet Map Number	Project Infrastructure Surveyed Area
1A	0.228	46.637133	-102.888054	Jurisdictional	18	Transmission Line Pole 56 with a temporary disturbance 0.020
2A	0.082	46.640792	-102.87222	Non-jurisdictional	5	Transmission Line Pole 49 with a temporary disturbance 0.046
1B	0.379	46.700481	-102.628909	Jurisdictional	17	None, but within the Construction Easement
2B	1.013	46.701599	-102.611094	Jurisdictional	17	Crane Path
3B	0.329	46.646213	-102.643305	Jurisdictional	145	None
4B	0.323	46.63575	-102.699618	Jurisdictional	12	None
5B	0.632	46.634805	-102.883598	Jurisdictional	5	None
6B	0.335	46.632546	-102.873049	Jurisdictional	5	None
1C	0.053	46.696224	-102.631433	Jurisdictional	17	None
1D	0.355	46.640924	-102.731651	Jurisdictional	10	None

¹ Note that only the USACE can render an approved Jurisdictional Determination (JD). The likely jurisdictional status listed in Table 6 only reflect Tetra Tech's understanding of Jurisdictional Waters of the United States. Without a USACE rendered jurisdictional determination, impacts should be avoided to these streams.

3.4 Upland Features

3.4.1 Swales

Several swale features were observed during field reconnaissance. Swales are linear or curvilinear depressional features that naturally collect overland flows from surrounding uplands. Many of the swale locations that were mapped by the field team were initially investigated because the desktop analysis identified NHD-mapped intermittent and perennial streams at these locations. Upon field observation, the locations marked as swales were determined to lack defined beds, banks, and scoured channels. They did not contain wetland plants, but instead, were generally vegetated with upland species. They are non-jurisdictional and do not need to be avoided.

4. Conclusions and Recommendations

Sixty-seven delineated feature crossings are shown on the sheet maps included as Appendix 1, Figure 3. These 68 features include 44 wetlands, 14 streams, and 10 ponds. Twelve features were mapped in previous alignments and are now outside of the temporary disturbance areas. Additionally, four features occur in the construction easement. Wetlands or other WoUS that occur in construction easements should be flagged and avoided. The remaining 42 delineated feature crossings occur within temporary disturbance areas for the transmission line, collection lines, crane paths, or the switchyard. The wetlands or other WoUS features are discussed by infrastructure impacts below.

4.1 Transmission Line

Impacts to wetlands or other WoUS from the transmission line are anticipated to be limited to the placement of transmission line poles. Based on the current layout, 15 delineated features intersect the temporary disturbance area for transmission line pole locations: two ponds, three streams, and 10 wetlands. Wetlands and other WoUS should be avoided by spanning whenever possible, and by minimizing the temporary disturbance during pole installation. The proposed temporary disturbance for each transmission line pole is 250 feet by 250 feet (1.4 acres). Brady Wind plans to place matting down to protect potential impacts to the wetlands. Wetlands and other WoUS protected by matting would not be considered a temporary disturbance.

Additionally, three of the transmission line poles (#89, 90, and 91) would be placed in Wetland 4A (Figure 3, Sheet 2). The installation of a transmission line pole would be considered a permanent impact to a potential jurisdictional feature. The total permanent disturbance for each pole location is estimated to be 0.006 acres. The total permanent disturbance for Wetland 4A would be 0.018 acres. This is below the PCN limit of 0.1 acres of permanent disturbance. Based on the proposed placement of protective matting in the wetlands during construction and the permanent disturbance of less than 0.1 acre, no PCN or permit would likely be required.

4.2 Collection Lines

Twenty-one features are intersected by proposed collection lines. The installation of collection lines is typically considered a temporary disturbance. USACE recommends the installation of collection lines using a direct bury technique. This process is not regulated by the USACE and is therefore not subject to permitting. If this technique is not available, installation of the collection lines by trenching is regulated under the 404 permitting process because it causes the temporary placement of dredged material in jurisdictional features. Brady Wind has committed to boring under the delineated features where they intersect with collection lines (**Figure 3**). Boring under jurisdictional features is also not regulated by the USACE and therefore, no PCN or permit would likely be required.

4.3 Crane Paths

Crane paths may be considered a temporary disturbance if deep ruts or mechanical damage to soils results in alterations to the topography or functionality. It is recommended that matting be utilized to protect any jurisdictional feature prior to crossing. No PCN or permit would be required for crossing jurisdictional features if matting is employed and no impacts are created.

4.4 Switchyard

One wetland less than 0.1 an acre is located in the 30-acre switchyard parcel. The switchyard layout was designed to avoid the wetland (**Figure 3**). In addition if impacts to the wetland occur during construction, the feature is below the minimum permitting threshold. No PCN or permit would likely be required for impacts to this wetland. Brady Wind has indicated that a fence will be installed around the wetland during construction to prevent temporary impacts to the wetland.

4.5 USACE Permitting

Based on the estimated permanent and temporary impacts to wetlands and other WoUS from the proposed Project, a CWA Section 404 permit is not required. If no permit is required but temporary impacts are necessary, the USACE would likely require the action follow the General and Regional Conditions of the applicable nationwide permits (NWP) included in Appendix 5. NWP #12 – Utility Line Activities and NWP #14 Linear Transportation Activities are the two permits that likely may apply to the proposed Project. NWP 12 applies to projects that install power transmitting infrastructure; NWP 14 was established for road projects. The USACE in particular emphasizes the following measures to minimize impacts to wetlands or other WoUS:

- The use of mats or other measures to minimize soil disturbance in jurisdictional areas.
- Ensure no temporary fills remain in the jurisdictional areas
- Any affected jurisdictional areas be returned to pre-construction contours and the affected areas be revegetated

Tetra Tech also recommends Brady Wind follow best management practices (BMPs) included as Appendix 6 during construction of the Project to further avoid and minimize impacts to wetlands and other WoUS. The following bullet points summarize some of the BMPs in Appendix 6 which are specific to wetlands and other WoUS:

- BMP-6: avoid and/or minimize impacting drainage features such as ditches, culverts, levees, tiles, terraces.
- BMP-13: identify, avoid, and/or minimize adverse impacts to wetlands and waterbodies, including placing structure foundations below the OHWM of WoUS.
- BMP-16: access road construction should minimize impacting streams.
- BMP-22: all permanent or temporary crossings of waterbodies should be designed to maintain low flows for aquatic species movement and designed to function during high flows.
- BMP-25: work within WoUS should occur during periods of low flow or no flow.

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







Appendix 1: Figures

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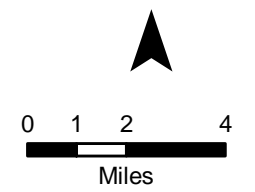
**Figure 1
Project Vicinity**

Brady Wind Energy Center
Stark County, North Dakota

Legend

-  Proposed Project Area
-  Proposed Transmission Line (1/14/16)
- Existing Transmission Lines**
 -  115kV Transmission Line
 -  230kV Transmission Line
 -  345kV Transmission Line
- Transportation**
 -  Public Airport
 -  Private Airport
 -  Interstate
 -  Highway
 -  Major Road
 -  Railroad
 -  County Boundary
 -  Urban Area

N



















CANADA



**Figure 2
Project Location**

Brady Wind Energy Center
Stark County, North Dakota

Legend

-  Proposed Project Area
- Proposed Project Infrastructure**
-  Turbines (11/6/15)
-  Transmission Poles (1/21/16)
-  Met Tower (11/11/15)
-  Transmission Line (1/14/16)
-  Collection Lines (12/14/15)
-  Service Roads (12/14/15)
-  Laydown Areas (10/27/15)
-  O&M Building (8/13/15)
-  Substation (8/13/15)
-  Switchyard (8/13/15)
-  Crane Paths (11/20/15)
-  County Boundary
-  Stream/River
-  Major Road
-  Local Road

N



0 0.5 1 2

Miles

CANADA

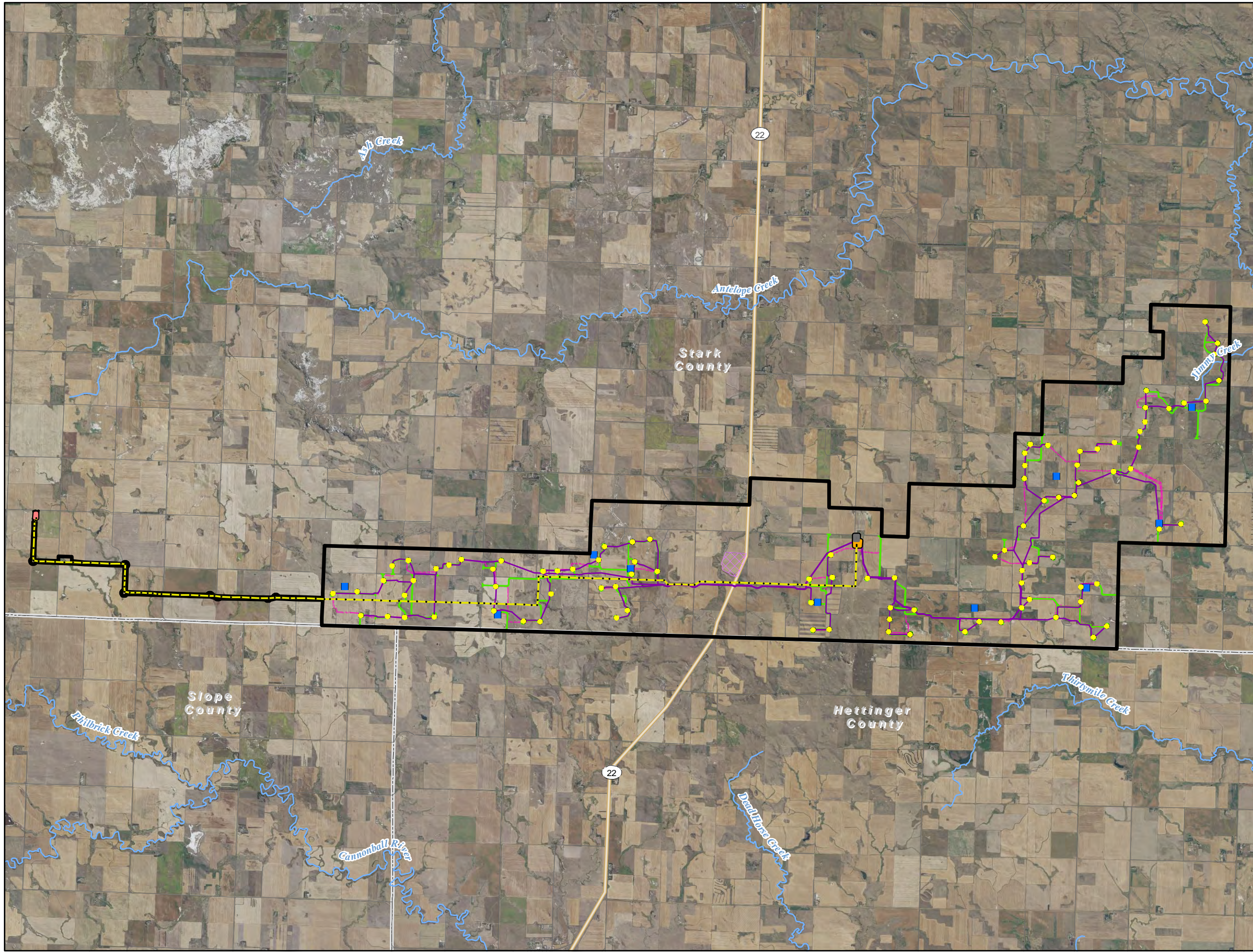




























Figure 3
Project Area Detail
Sheet 1 of 18

Brady Wind Energy Center
 Stark County, North Dakota

Legend

-  Proposed Project Area
-  County Boundary
-  Major Road
- Proposed Project Infrastructure**
-  Turbines (11/6/15)
-  Transmission Poles (1/21/16)
-  Met Tower (11/11/15)
-  Transmission Line (1/14/16)
-  Bore Locations (12/14/15)
-  Collection Lines (12/14/15)
-  Service Roads (12/14/15)
-  Laydown Areas (10/27/15)
-  O&M Building (8/13/15)
-  Substation (8/13/15)
-  Switchyard (8/13/15)
- Desktop Analysis Data**
-  Crane Paths (11/20/15)
-  Temporary Disturbance Area
-  NHD Stream or Waterbody
-  NWI Wetland
-  Hydric Soils
-  100-year Flood Zone
- Field Delineated Features**
-  Swale
-  Upland
-  Pond
-  Stream
-  Swale
-  Wetland

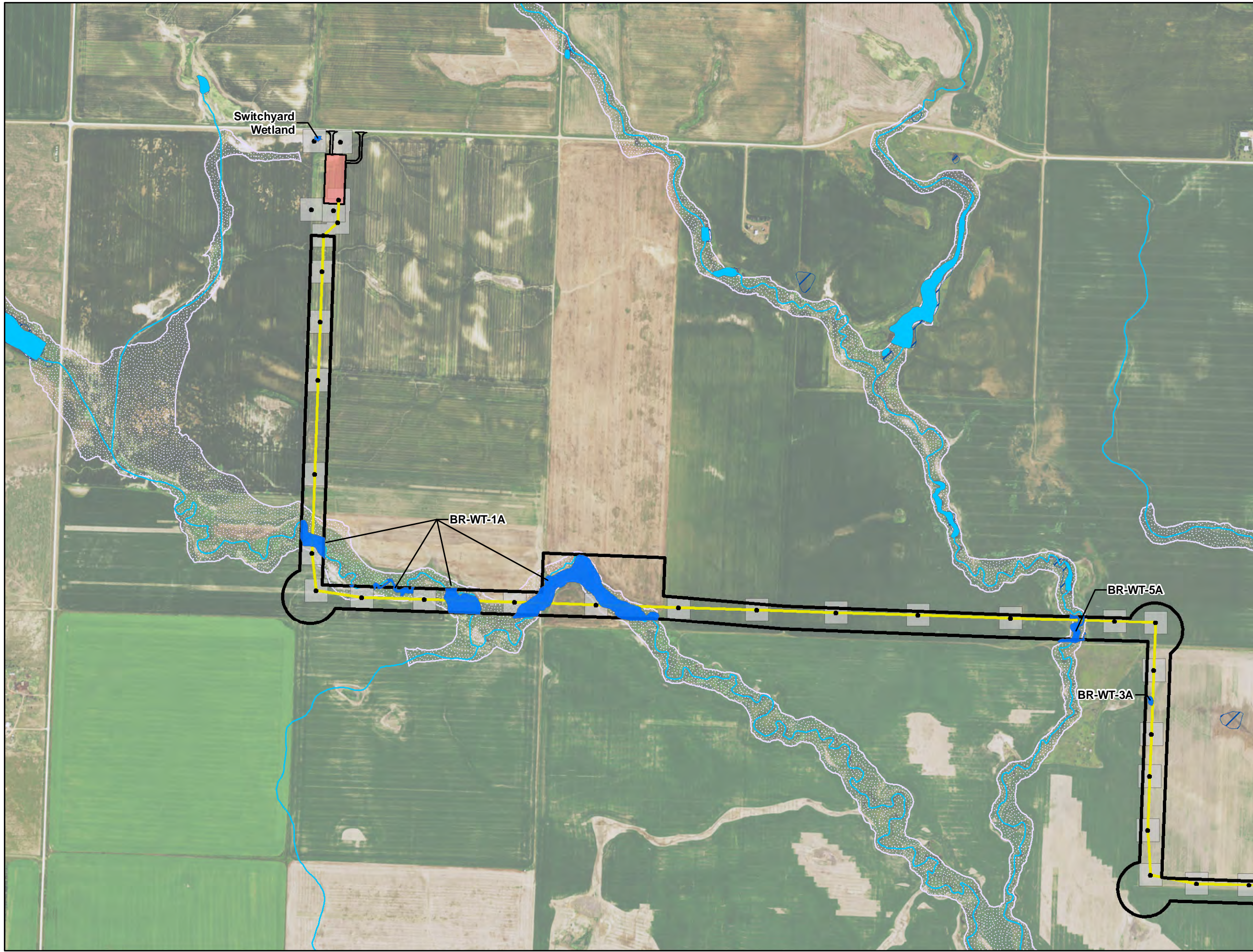
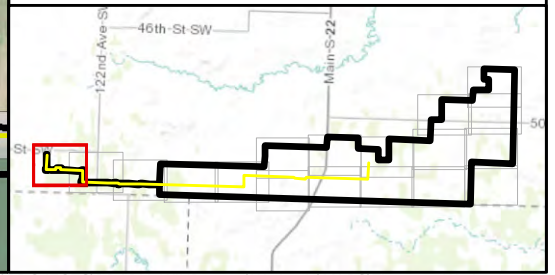
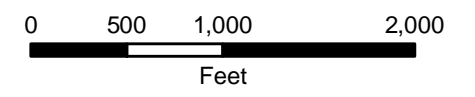




























Figure 3
Project Area Detail
Sheet 2 of 18

Brady Wind Energy Center
 Stark County, North Dakota

Legend

-  Proposed Project Area
-  County Boundary
-  Major Road
- Proposed Project Infrastructure**
-  Turbines (11/6/15)
-  Transmission Poles (1/21/16)
-  Met Tower (11/11/15)
-  Transmission Line (1/14/16)
-  Bore Locations (12/14/15)
-  Collection Lines (12/14/15)
-  Service Roads (12/14/15)
-  Laydown Areas (10/27/15)
-  O&M Building (8/13/15)
-  Substation (8/13/15)
-  Switchyard (8/13/15)
- Desktop Analysis Data**
-  Crane Paths (11/20/15)
-  Temporary Disturbance Area
-  NHD Stream or Waterbody
-  NWI Wetland
-  Hydric Soils
-  100-year Flood Zone
- Field Delineated Features**
-  Swale
-  Upland
-  Pond
-  Stream
-  Swale
-  Wetland

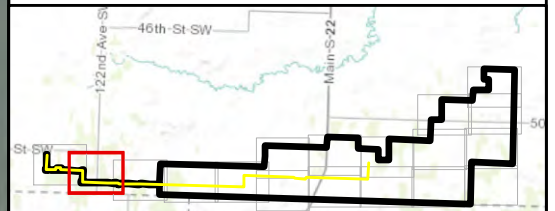
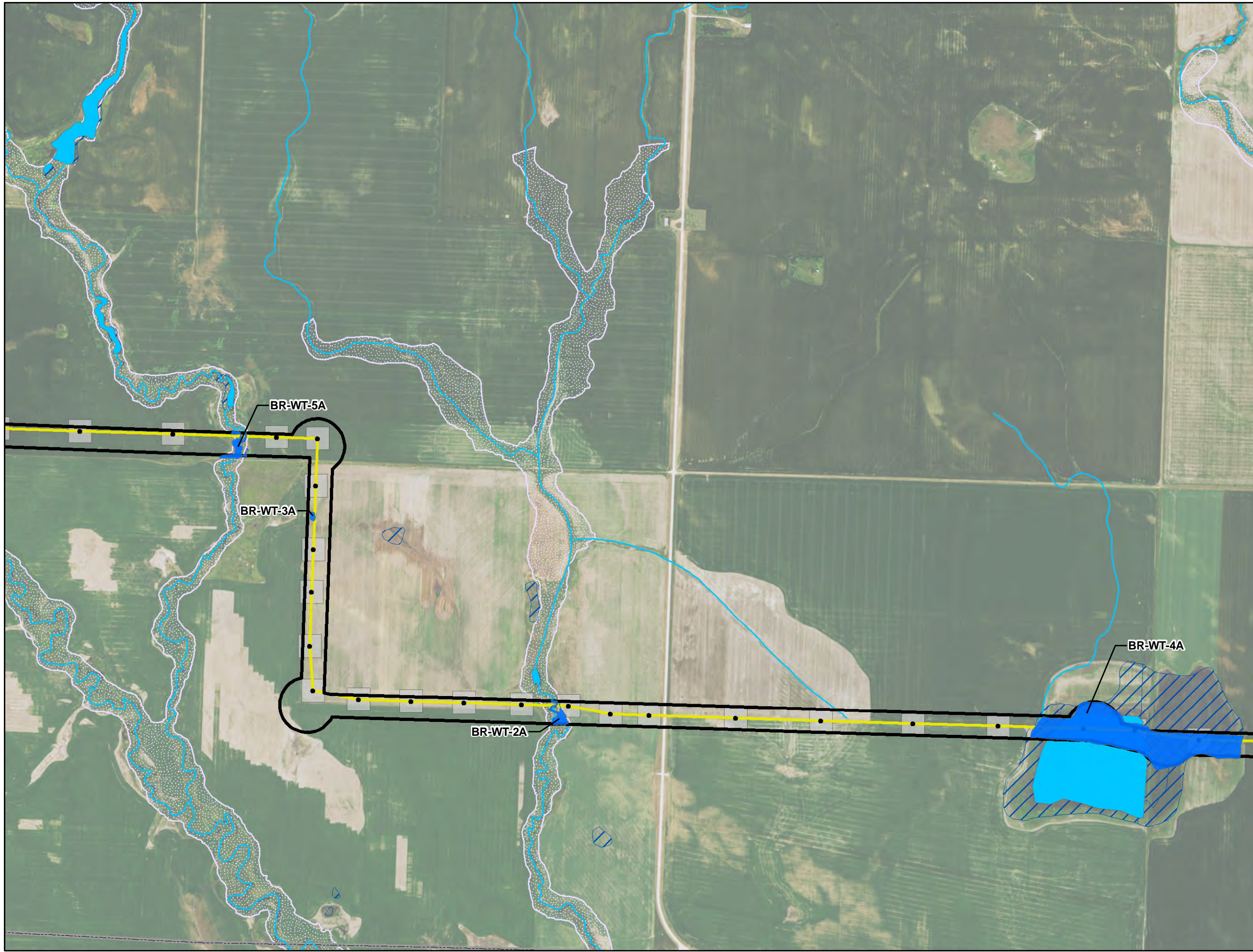




























Figure 3
Project Area Detail
Sheet 3 of 18

Brady Wind Energy Center
 Stark County, North Dakota

Legend

-  Proposed Project Area
-  County Boundary
-  Major Road
- Proposed Project Infrastructure**
-  Turbines (11/6/15)
-  Transmission Poles (1/21/16)
-  Met Tower (11/11/15)
-  Transmission Line (1/14/16)
-  Bore Locations (12/14/15)
-  Collection Lines (12/14/15)
-  Service Roads (12/14/15)
-  Laydown Areas (10/27/15)
-  O&M Building (8/13/15)
-  Substation (8/13/15)
-  Switchyard (8/13/15)
- Desktop Analysis Data**
-  Crane Paths (11/20/15)
-  Temporary Disturbance Area
-  NHD Stream or Waterbody
-  NWI Wetland
-  Hydric Soils
-  100-year Flood Zone
- Field Delineated Features**
-  Swale
-  Upland
-  Pond
-  Stream
-  Swale
-  Wetland

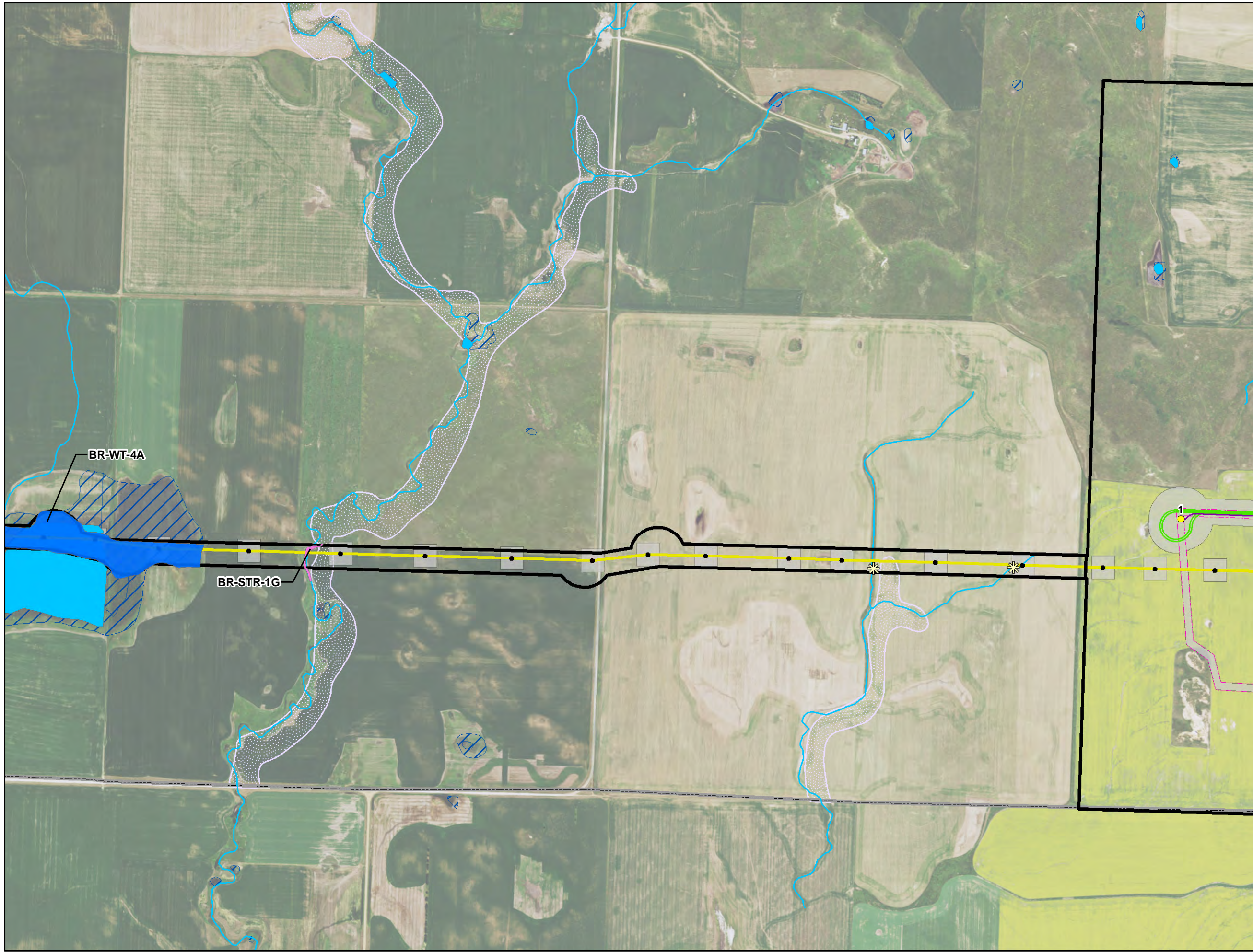
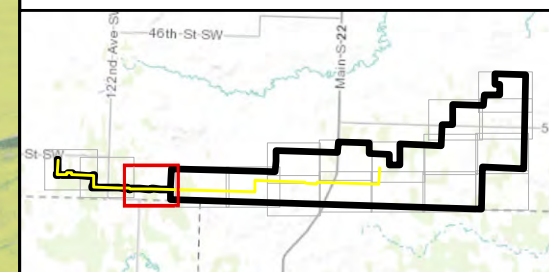
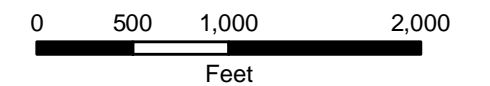




























Figure 3
Project Area Detail
Sheet 4 of 18

Brady Wind Energy Center
 Stark County, North Dakota

Legend

-  Proposed Project Area
-  County Boundary
-  Major Road
- Proposed Project Infrastructure**
-  Turbines (11/6/15)
-  Transmission Poles (1/21/16)
-  Met Tower (11/11/15)
-  Transmission Line (1/14/16)
-  Bore Locations (12/14/15)
-  Collection Lines (12/14/15)
-  Service Roads (12/14/15)
-  Laydown Areas (10/27/15)
-  O&M Building (8/13/15)
-  Substation (8/13/15)
-  Switchyard(8/13/15)
- Desktop Analysis Data**
-  Crane Paths (11/20/15)
-  Temporary Disturbance Area
-  NHD Stream or Waterbody
-  NWI Wetland
-  Hydic Soils
-  100-year Flood Zone
- Field Delineated Features**
-  Swale
-  Upland
-  Pond
-  Stream
-  Swale
-  Wetland

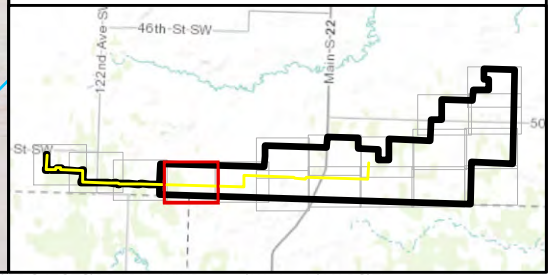
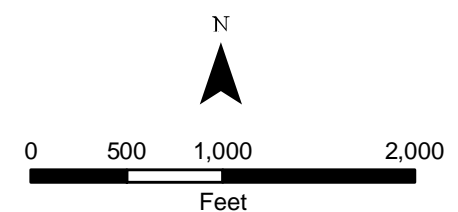
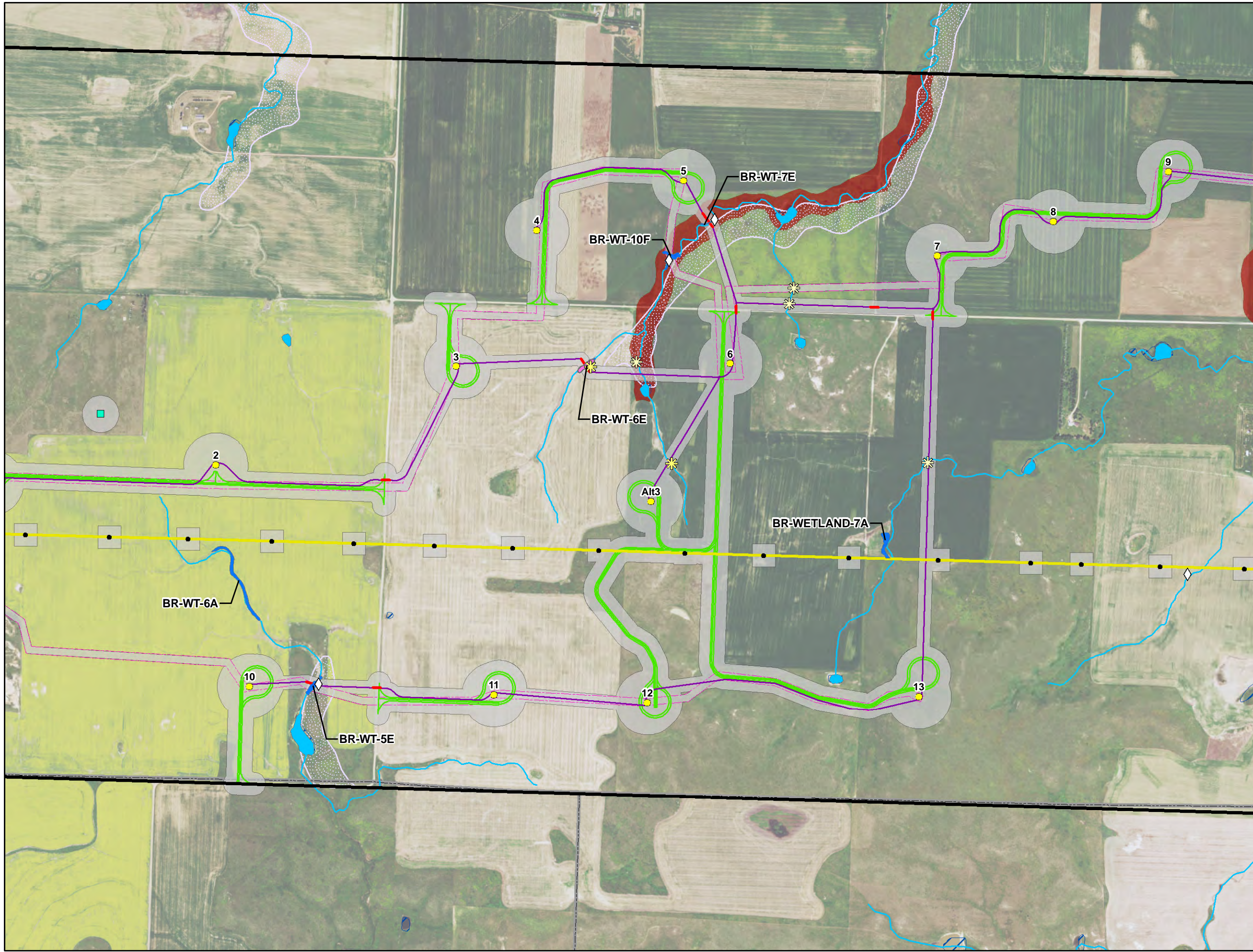
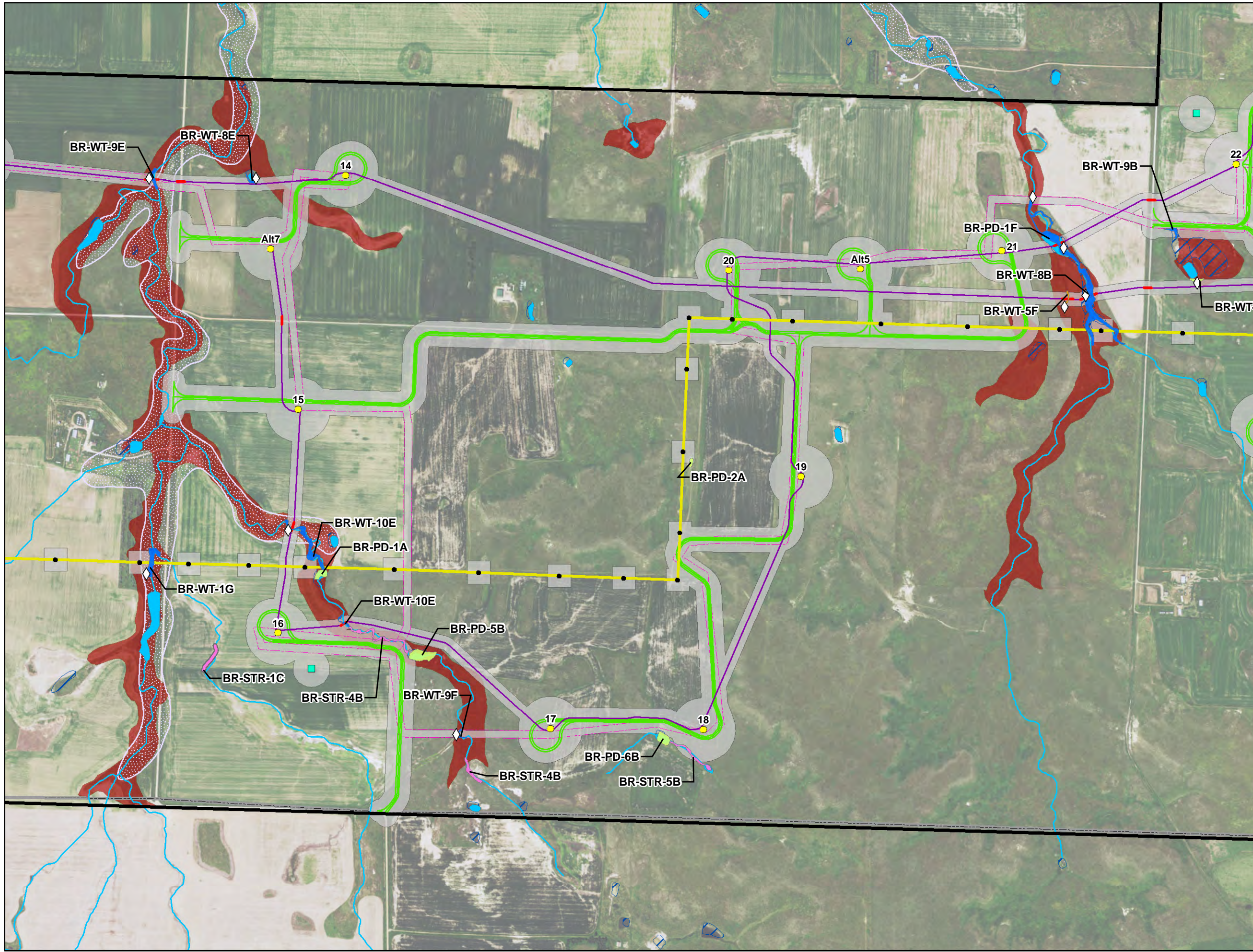


Figure 3
Project Area Detail
Sheet 5 of 18

Brady Wind Energy Center
 Stark County, North Dakota



- Legend**
- Proposed Project Area
 - County Boundary
 - Major Road
 - Proposed Project Infrastructure**
 - Turbines (11/6/15)
 - Transmission Poles (1/21/16)
 - Met Tower (11/11/15)
 - Transmission Line (1/14/16)
 - Bore Locations (12/14/15)
 - Collection Lines (12/14/15)
 - Service Roads (12/14/15)
 - Laydown Areas (10/27/15)
 - O&M Building (8/13/15)
 - Substation (8/13/15)
 - Switchyard (8/13/15)
 - Desktop Analysis Data**
 - Crane Paths (11/20/15)
 - Temporary Disturbance Area
 - NHD Stream or Waterbody
 - NWI Wetland
 - Hydic Soils
 - 100-year Flood Zone
 - Field Delineated Features**
 - Swale
 - Upland
 - Pond
 - Stream
 - Swale
 - Wetland

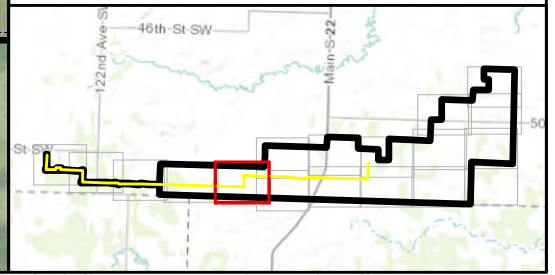
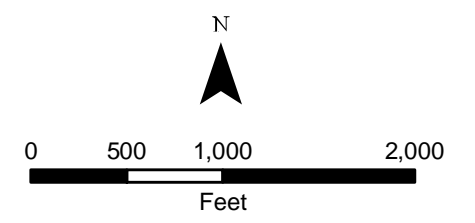
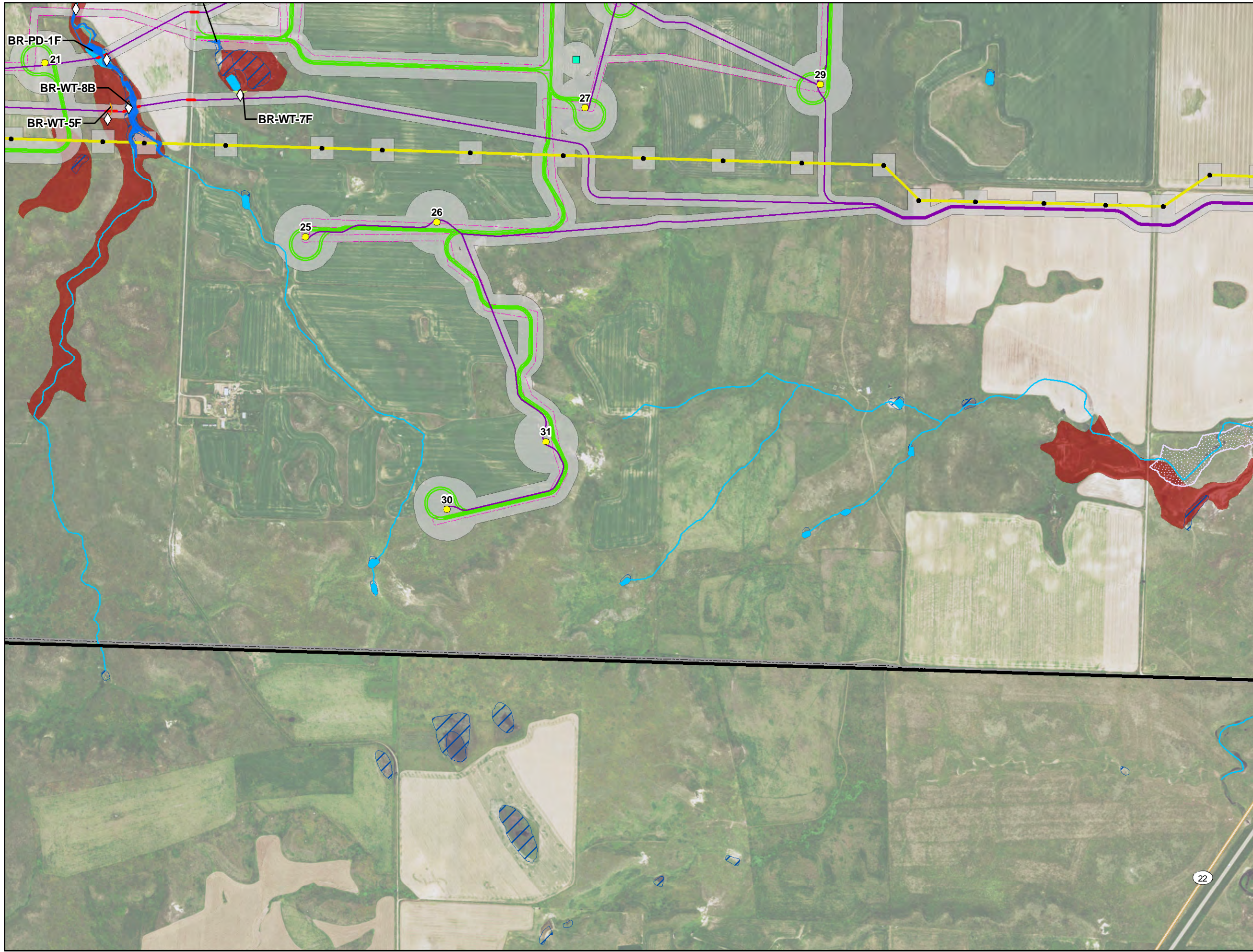


Figure 3
Project Area Detail
Sheet 6 of 18

Brady Wind Energy Center
 Stark County, North Dakota



Legend

- Proposed Project Area
- County Boundary
- Major Road
- Proposed Project Infrastructure**
- Turbines (11/6/15)
- Transmission Poles (1/21/16)
- Met Tower (11/11/15)
- Transmission Line (1/14/16)
- Bore Locations (12/14/15)
- Collection Lines (12/14/15)
- Service Roads (12/14/15)
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- O&M Building (8/13/15)
- Substation (8/13/15)
- Switchyard (8/13/15)
- Desktop Analysis Data**
- Crane Paths (11/20/15)
- Temporary Disturbance Area
- NHD Stream or Waterbody
- NWI Wetland
- Hydric Soils
- 100-year Flood Zone
- Field Delineated Features**
- Swale
- Upland
- Pond
- Stream
- Swale
- Wetland

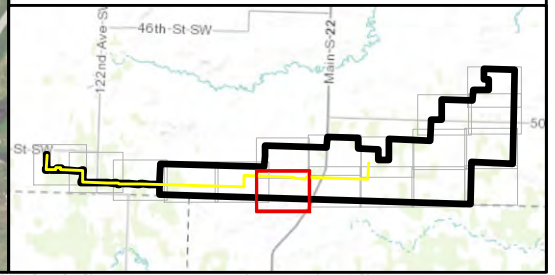
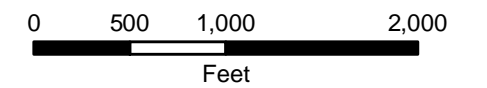




























Figure 3
Project Area Detail
Sheet 7 of 18

Brady Wind Energy Center
 Stark County, North Dakota

Legend

-  Proposed Project Area
-  County Boundary
-  Major Road
- Proposed Project Infrastructure**
-  Turbines (11/6/15)
-  Transmission Poles (1/21/16)
-  Met Tower (11/11/15)
-  Transmission Line (1/14/16)
-  Bore Locations (12/14/15)
-  Collection Lines (12/14/15)
-  Service Roads (12/14/15)
-  Laydown Areas (10/27/15)
-  O&M Building (8/13/15)
-  Substation (8/13/15)
-  Switchyard (8/13/15)
- Desktop Analysis Data**
-  Crane Paths (11/20/15)
-  Temporary Disturbance Area
-  NHD Stream or Waterbody
-  NWI Wetland
-  Hydric Soils
-  100-year Flood Zone
- Field Delineated Features**
-  Swale
-  Upland
-  Pond
-  Stream
-  Swale
-  Wetland

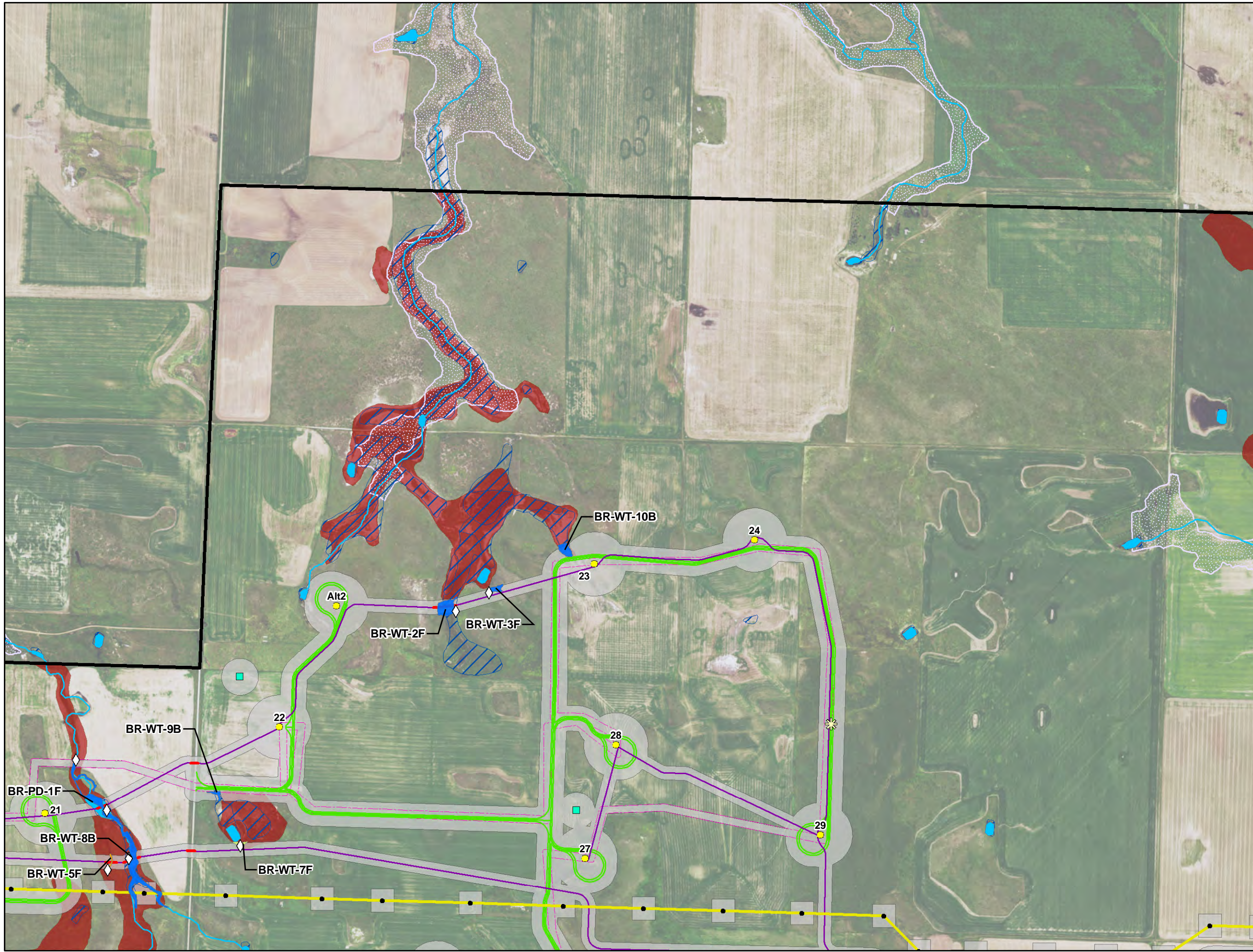
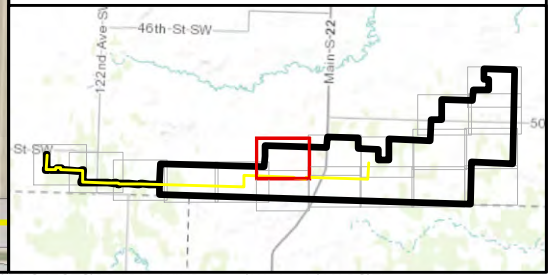
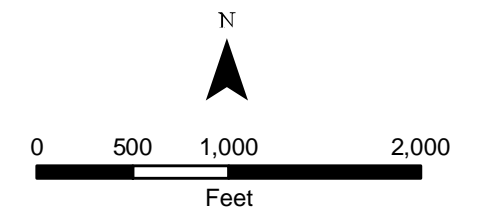




























Figure 3
Project Area Detail
Sheet 8 of 18

Brady Wind Energy Center
 Stark County, North Dakota

Legend

-  Proposed Project Area
-  County Boundary
-  Major Road
- Proposed Project Infrastructure**
-  Turbines (11/6/15)
-  Transmission Poles (1/21/16)
-  Met Tower (11/11/15)
-  Transmission Line (1/14/16)
-  Bore Locations (12/14/15)
-  Collection Lines (12/14/15)
-  Service Roads (12/14/15)
-  Laydown Areas (10/27/15)
-  O&M Building (8/13/15)
-  Substation (8/13/15)
-  Switchyard(8/13/15)
- Desktop Analysis Data**
-  Crane Paths (11/20/15)
-  Temporary Disturbance Area
-  NHD Stream or Waterbody
-  NWI Wetland
-  Hydic Soils
-  100-year Flood Zone
- Field Delineated Features**
-  Swale
-  Upland
-  Pond
-  Stream
-  Swale
-  Wetland

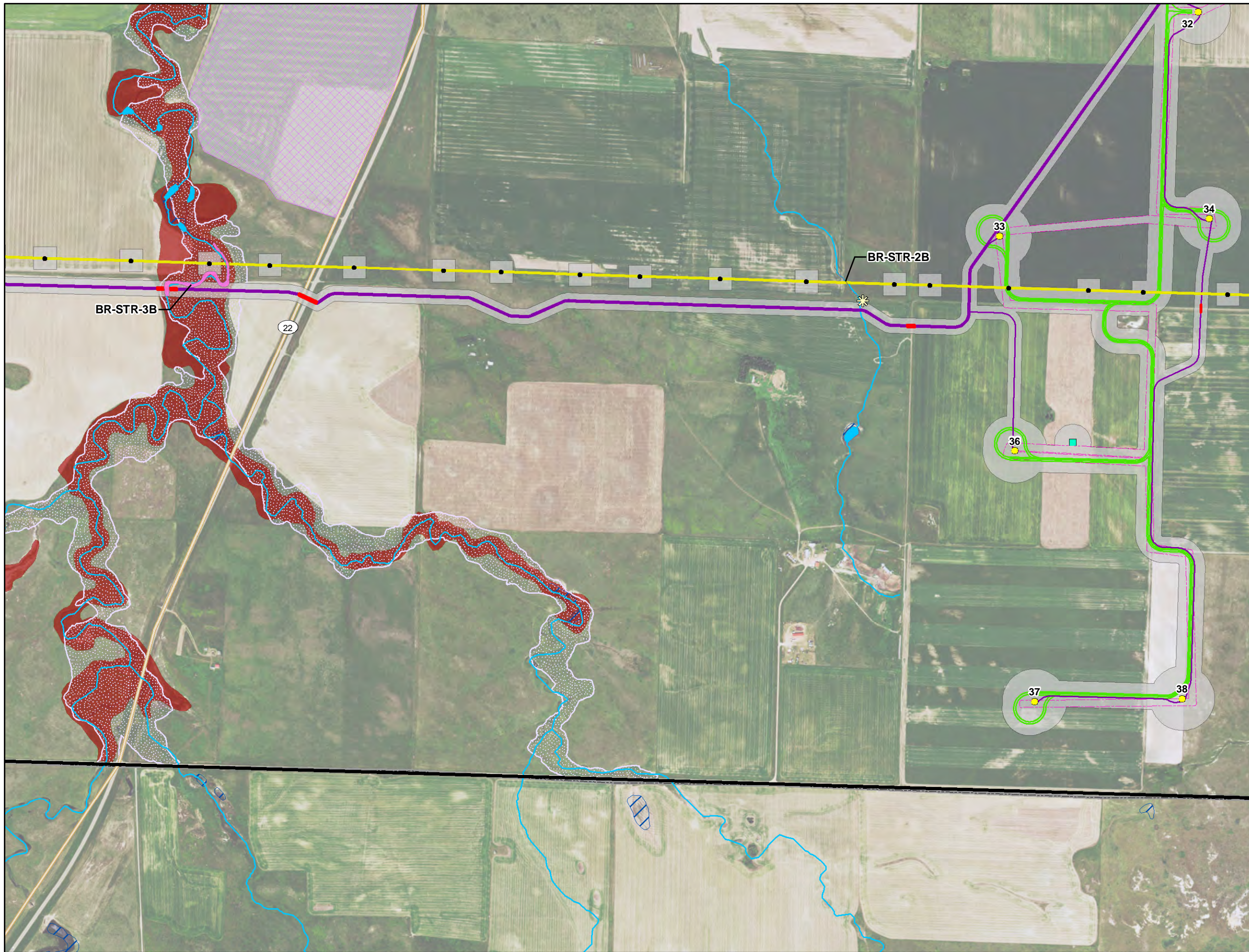
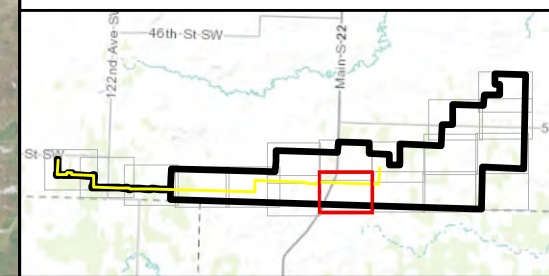
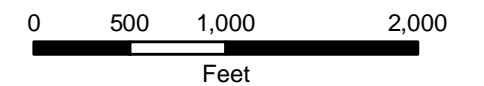




























Figure 3
Project Area Detail
Sheet 9 of 18

Brady Wind Energy Center
 Stark County, North Dakota

Legend

-  Proposed Project Area
-  County Boundary
-  Major Road
- Proposed Project Infrastructure**
-  Turbines (11/6/15)
-  Transmission Poles (1/21/16)
-  Met Tower (11/11/15)
-  Transmission Line (1/14/16)
-  Bore Locations (12/14/15)
-  Collection Lines (12/14/15)
-  Service Roads (12/14/15)
-  Laydown Areas (10/27/15)
-  O&M Building (8/13/15)
-  Substation (8/13/15)
-  Switchyard (8/13/15)
- Desktop Analysis Data**
-  Crane Paths (11/20/15)
-  Temporary Disturbance Area
-  NHD Stream or Waterbody
-  NWI Wetland
-  Hydric Soils
-  100-year Flood Zone
- Field Delineated Features**
-  Swale
-  Upland
-  Pond
-  Stream
-  Swale
-  Wetland

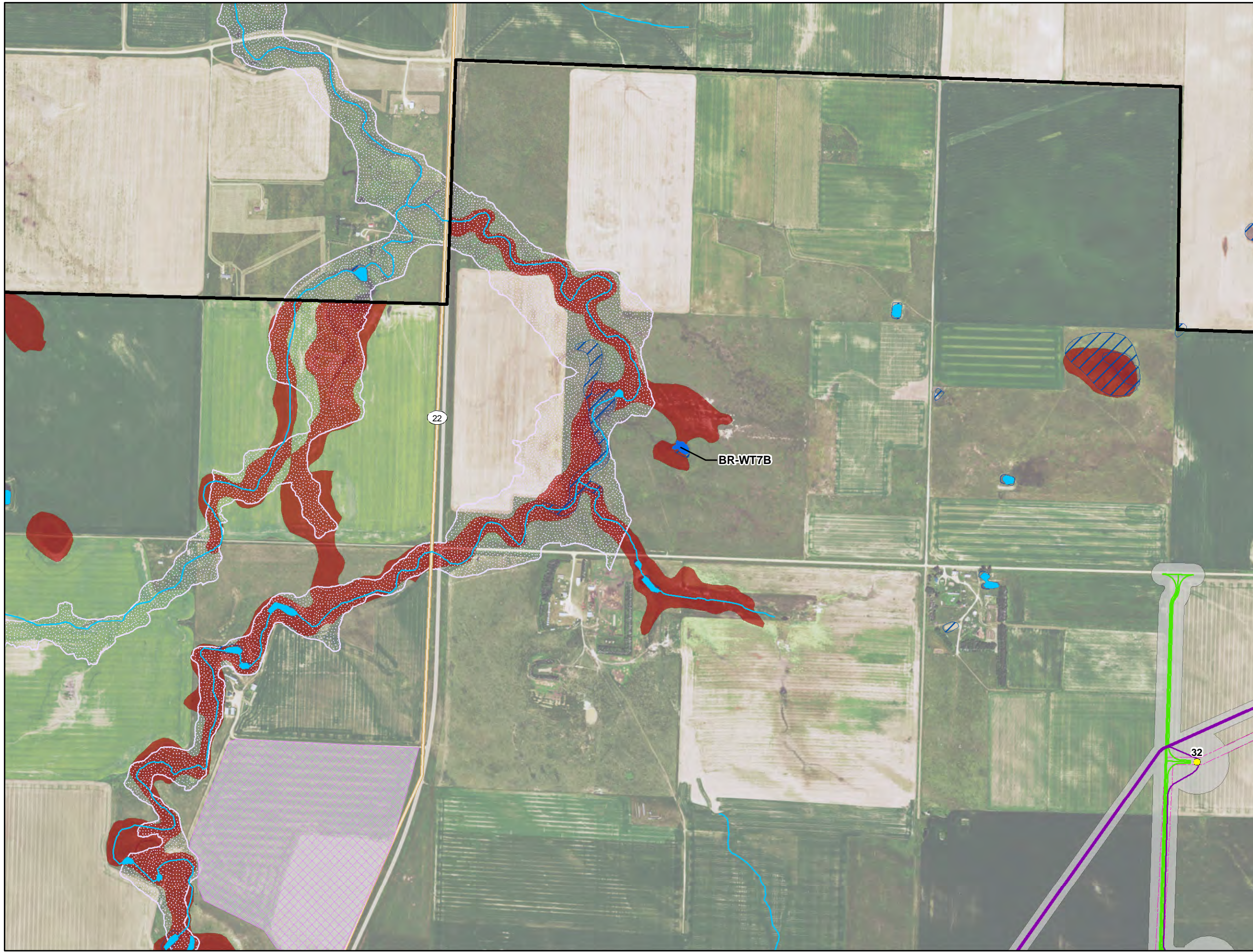
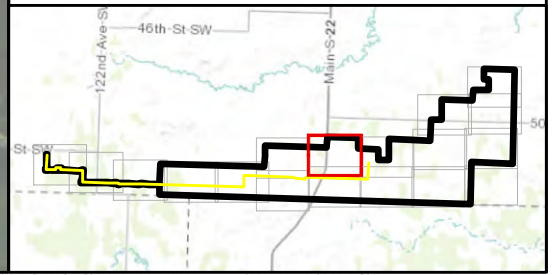
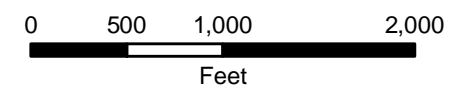




























Figure 3
Project Area Detail
Sheet 10 of 18

Brady Wind Energy Center
 Stark County, North Dakota

Legend

-  Proposed Project Area
-  County Boundary
-  Major Road
- Proposed Project Infrastructure**
-  Turbines (11/6/15)
-  Transmission Poles (1/21/16)
-  Met Tower (11/11/15)
-  Transmission Line (1/14/16)
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-  O&M Building (8/13/15)
-  Substation (8/13/15)
-  Switchyard(8/13/15)
- Desktop Analysis Data**
-  Crane Paths (11/20/15)
-  Temporary Disturbance Area
-  NHD Stream or Waterbody
-  NWI Wetland
-  Hydic Soils
-  100-year Flood Zone
- Field Delineated Features**
-  Swale
-  Upland
-  Pond
-  Stream
-  Swale
-  Wetland

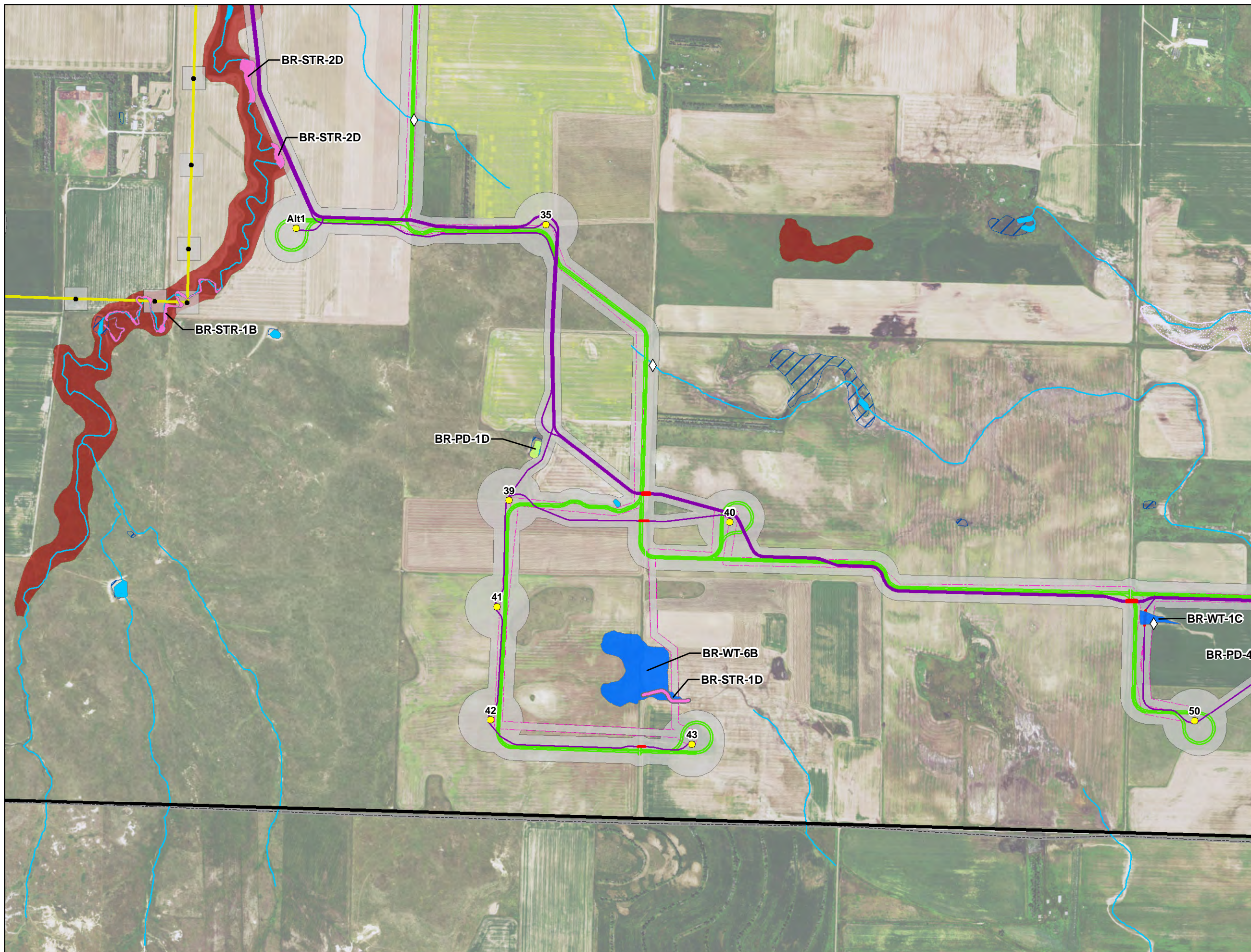
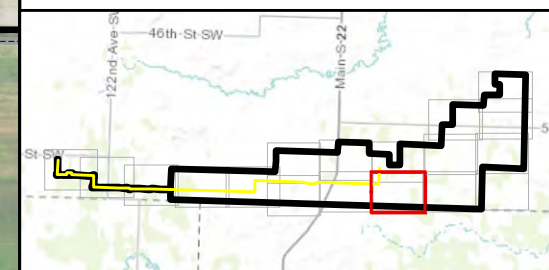
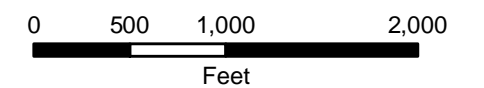




























Figure 3
Project Area Detail
Sheet 11 of 18

Brady Wind Energy Center
 Stark County, North Dakota

Legend

-  Proposed Project Area
-  County Boundary
-  Major Road
- Proposed Project Infrastructure**
-  Turbines (11/6/15)
-  Transmission Poles (1/21/16)
-  Met Tower (11/11/15)
-  Transmission Line (1/14/16)
-  Bore Locations (12/14/15)
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-  Substation (8/13/15)
-  Switchyard (8/13/15)
- Desktop Analysis Data**
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-  Temporary Disturbance Area
-  NHD Stream or Waterbody
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-  Hydric Soils
-  100-year Flood Zone
- Field Delineated Features**
-  Swale
-  Upland
-  Pond
-  Stream
-  Swale
-  Wetland

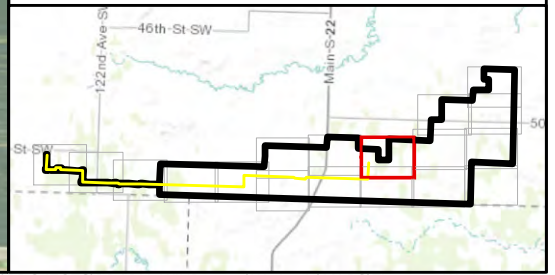
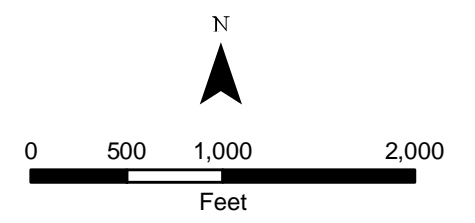




























Figure 3
Project Area Detail
Sheet 12 of 18

Brady Wind Energy Center
 Stark County, North Dakota

Legend

-  Proposed Project Area
-  County Boundary
-  Major Road
- Proposed Project Infrastructure**
-  Turbines (11/6/15)
-  Transmission Poles (1/21/16)
-  Met Tower (11/11/15)
-  Transmission Line (1/14/16)
-  Bore Locations (12/14/15)
-  Collection Lines (12/14/15)
-  Service Roads (12/14/15)
-  Laydown Areas (10/27/15)
-  O&M Building (8/13/15)
-  Substation (8/13/15)
-  Switchyard(8/13/15)
- Desktop Analysis Data**
-  Crane Paths (11/20/15)
-  Temporary Disturbance Area
-  NHD Stream or Waterbody
-  NWI Wetland
-  Hydic Soils
-  100-year Flood Zone
- Field Delineated Features**
-  Swale
-  Upland
-  Pond
-  Stream
-  Swale
-  Wetland

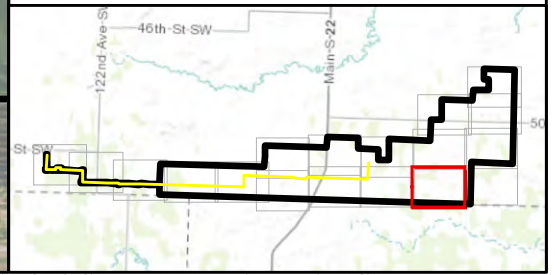
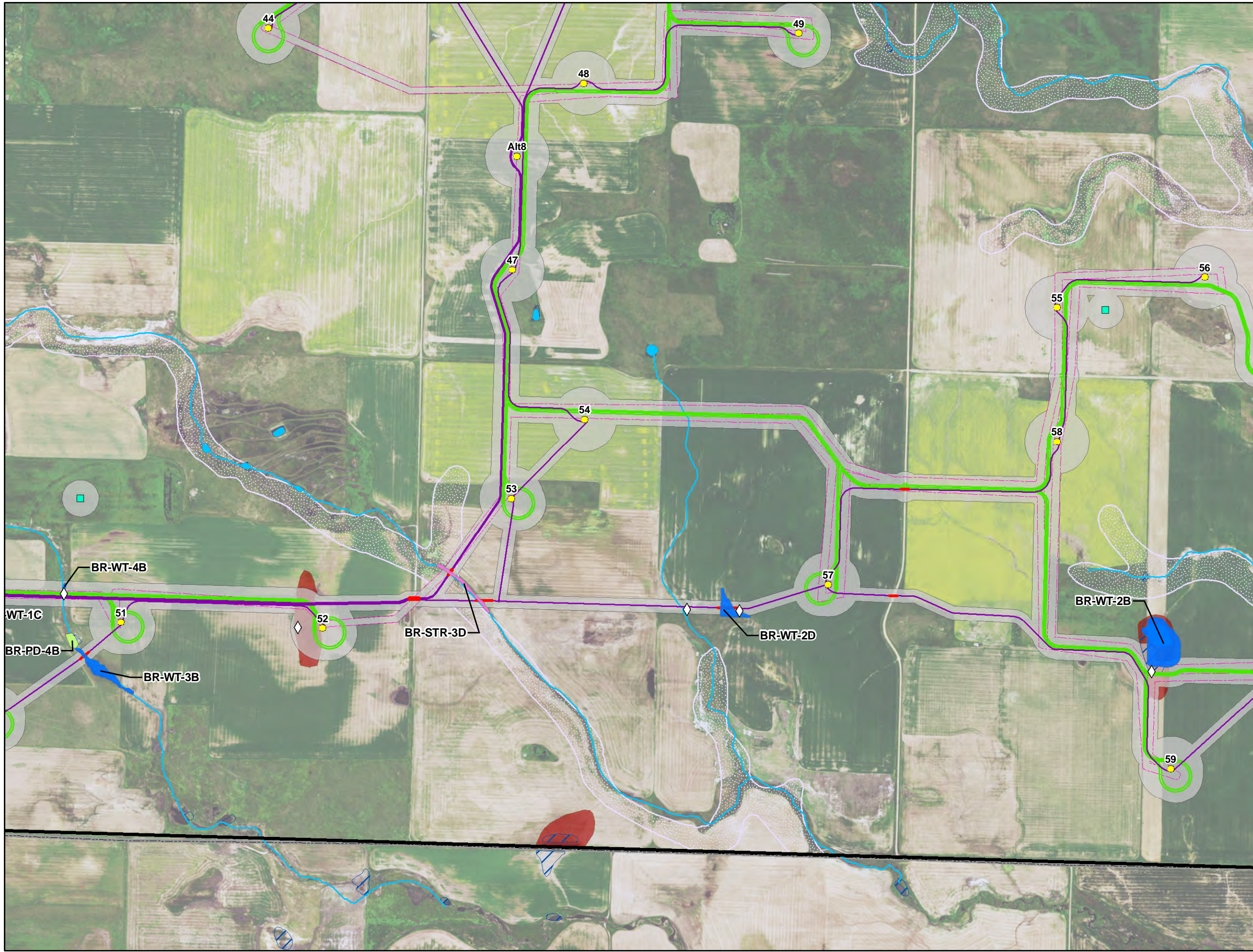
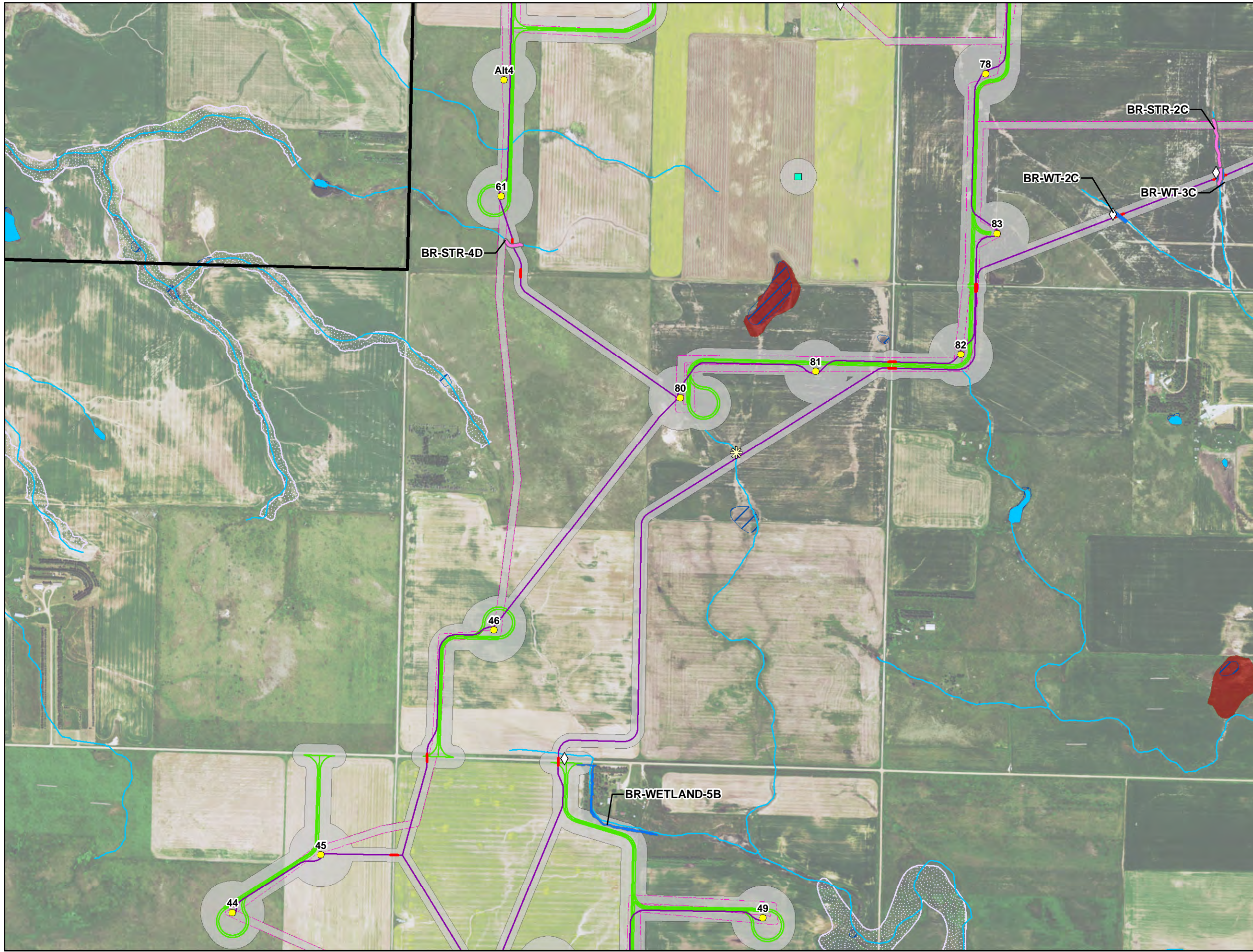


Figure 3
Project Area Detail
Sheet 13 of 18

Brady Wind Energy Center
 Stark County, North Dakota



- Legend**
- Proposed Project Area
 - County Boundary
 - Major Road
 - Proposed Project Infrastructure**
 - Turbines (11/6/15)
 - Transmission Poles (1/21/16)
 - Met Tower (11/11/15)
 - Transmission Line (1/14/16)
 - Bore Locations (12/14/15)
 - Collection Lines (12/14/15)
 - Service Roads (12/14/15)
 - Laydown Areas (10/27/15)
 - O&M Building (8/13/15)
 - Substation (8/13/15)
 - Switchyard (8/13/15)
 - Desktop Analysis Data**
 - Crane Paths (11/20/15)
 - Temporary Disturbance Area
 - NHD Stream or Waterbody
 - NWI Wetland
 - Hydic Soils
 - 100-year Flood Zone
 - Field Delineated Features**
 - Swale
 - Upland
 - Pond
 - Stream
 - Swale
 - Wetland

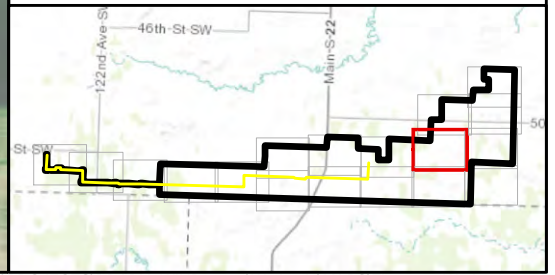
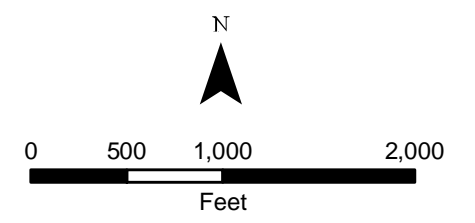




























Figure 3
Project Area Detail
Sheet 14 of 18

Brady Wind Energy Center
 Stark County, North Dakota

Legend

-  Proposed Project Area
-  County Boundary
-  Major Road
- Proposed Project Infrastructure**
-  Turbines (11/6/15)
-  Transmission Poles (1/21/16)
-  Met Tower (11/11/15)
-  Transmission Line (1/14/16)
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-  Collection Lines (12/14/15)
-  Service Roads (12/14/15)
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-  Substation (8/13/15)
-  Switchyard (8/13/15)
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-  NHD Stream or Waterbody
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-  Hydric Soils
-  100-year Flood Zone
- Field Delineated Features**
-  Swale
-  Upland
-  Pond
-  Stream
-  Swale
-  Wetland

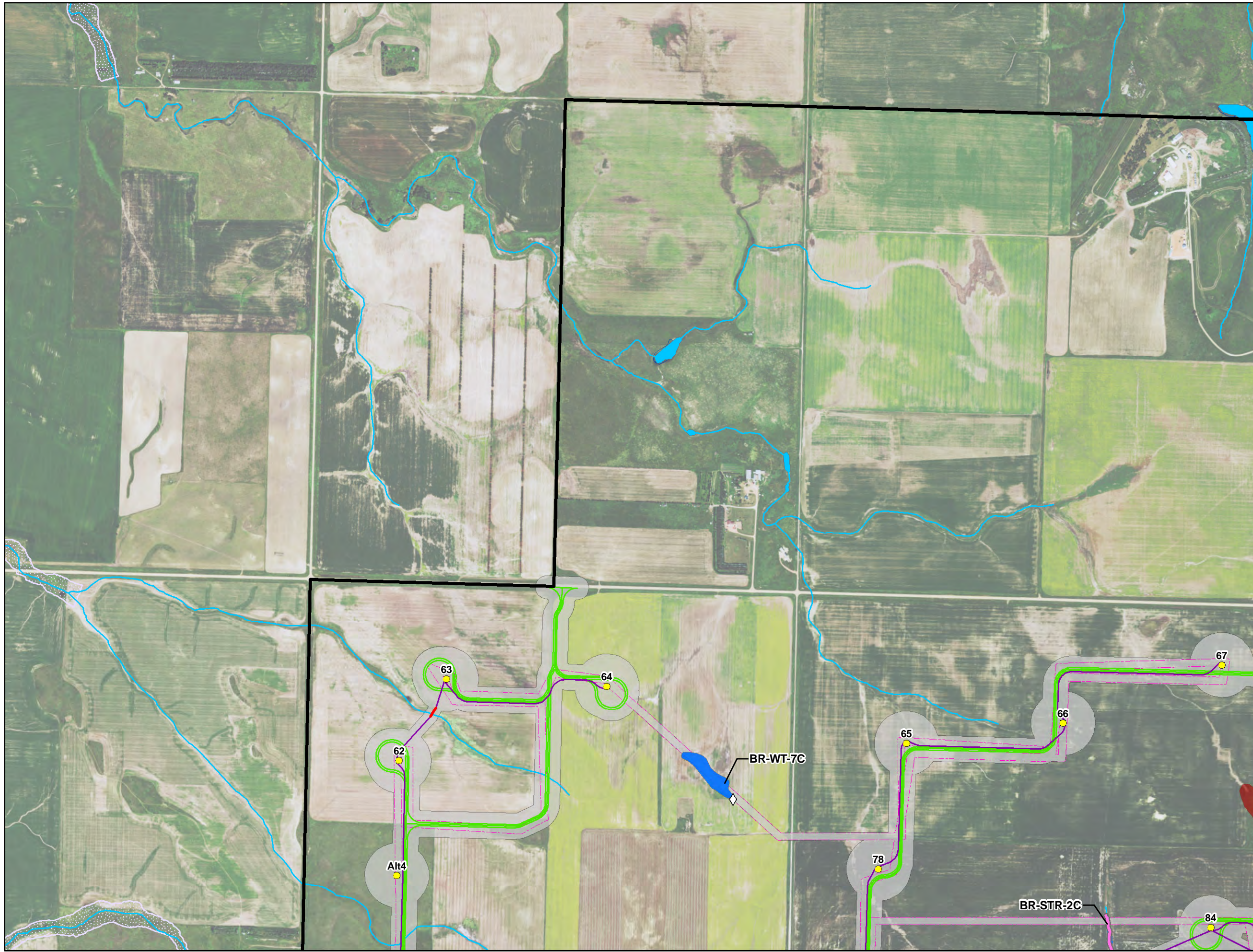
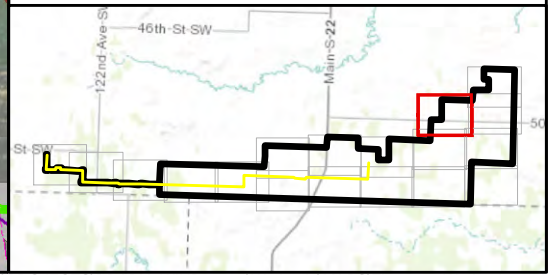
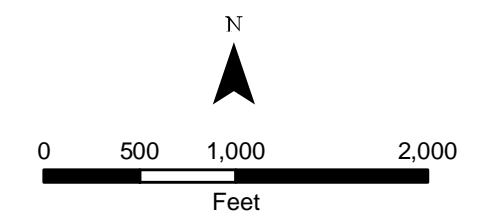




























Figure 3
Project Area Detail
Sheet 15 of 18

Brady Wind Energy Center
 Stark County, North Dakota

Legend

-  Proposed Project Area
-  County Boundary
-  Major Road
- Proposed Project Infrastructure**
-  Turbines (11/6/15)
-  Transmission Poles (1/21/16)
-  Met Tower (11/11/15)
-  Transmission Line (1/14/16)
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-  100-year Flood Zone
- Field Delineated Features**
-  Swale
-  Upland
-  Pond
-  Stream
-  Swale
-  Wetland

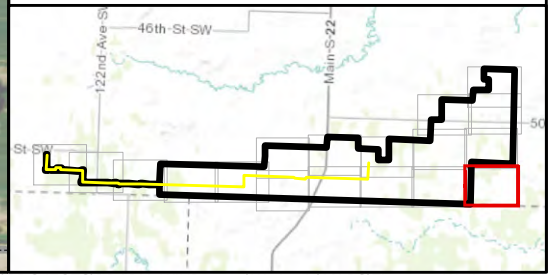
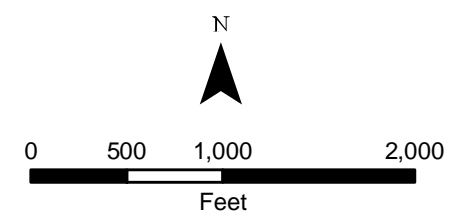




























Figure 3
Project Area Detail
Sheet 16 of 18

Brady Wind Energy Center
 Stark County, North Dakota

Legend

-  Proposed Project Area
-  County Boundary
-  Major Road
- Proposed Project Infrastructure**
-  Turbines (11/6/15)
-  Transmission Poles (1/21/16)
-  Met Tower (11/11/15)
-  Transmission Line (1/14/16)
-  Bore Locations (12/14/15)
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-  Service Roads (12/14/15)
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-  O&M Building (8/13/15)
-  Substation (8/13/15)
-  Switchyard(8/13/15)
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-  Crane Paths (11/20/15)
-  Temporary Disturbance Area
-  NHD Stream or Waterbody
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-  Hydic Soils
-  100-year Flood Zone
- Field Delineated Features**
-  Swale
-  Upland
-  Pond
-  Stream
-  Swale
-  Wetland

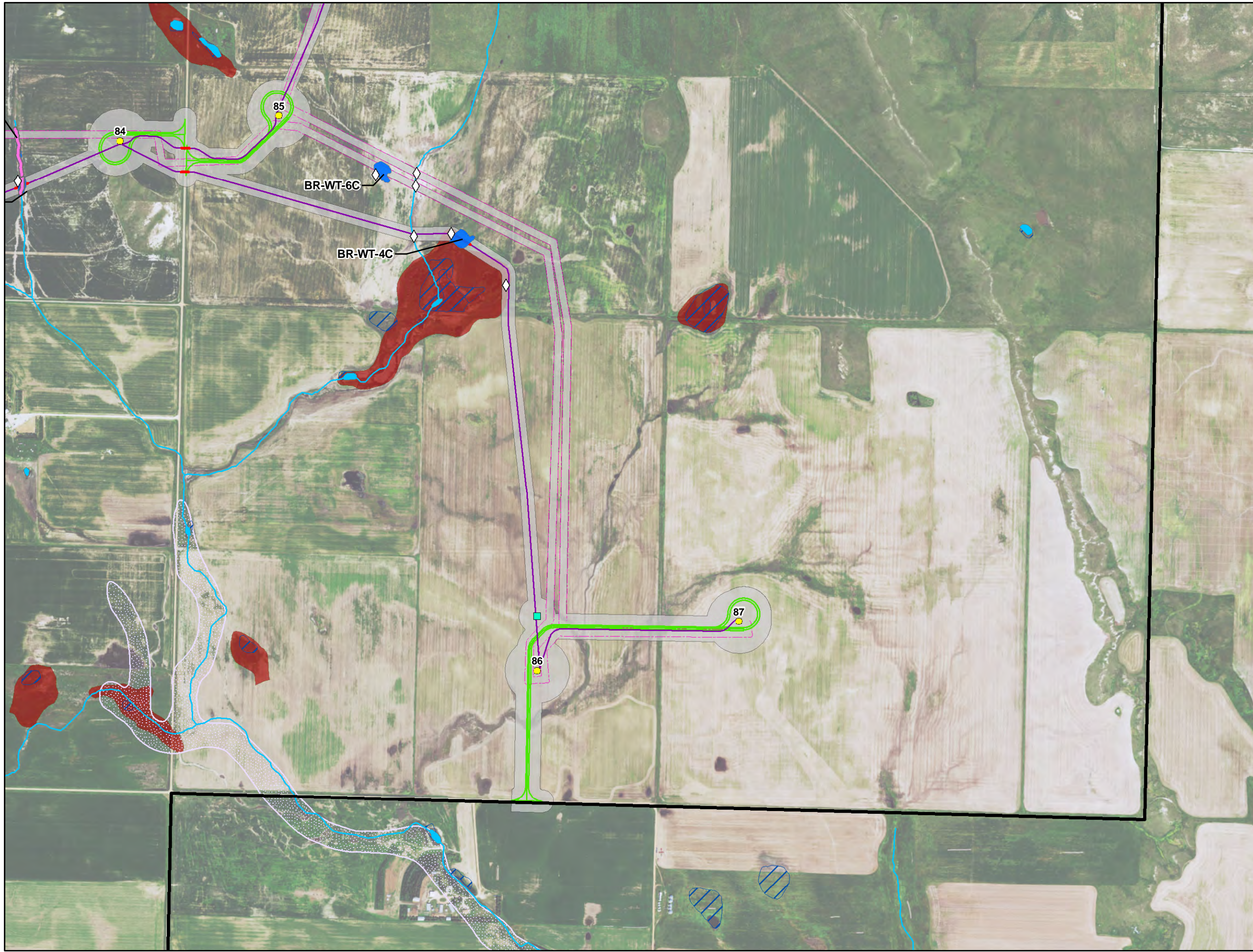
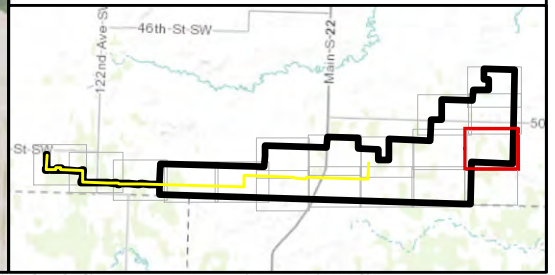
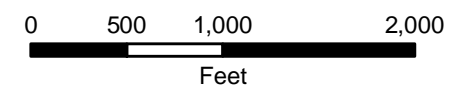




























Figure 3
Project Area Detail
Sheet 17 of 18

Brady Wind Energy Center
 Stark County, North Dakota

Legend

-  Proposed Project Area
-  County Boundary
-  Major Road
- Proposed Project Infrastructure**
-  Turbines (11/6/15)
-  Transmission Poles (1/21/16)
-  Met Tower (11/11/15)
-  Transmission Line (1/14/16)
-  Bore Locations (12/14/15)
-  Collection Lines (12/14/15)
-  Service Roads (12/14/15)
-  Laydown Areas (10/27/15)
-  O&M Building (8/13/15)
-  Substation (8/13/15)
-  Switchyard(8/13/15)
- Desktop Analysis Data**
-  Crane Paths (11/20/15)
-  Temporary Disturbance Area
-  NHD Stream or Waterbody
-  NWI Wetland
-  Hydric Soils
-  100-year Flood Zone
- Field Delineated Features**
-  Swale
-  Upland
-  Pond
-  Stream
-  Swale
-  Wetland

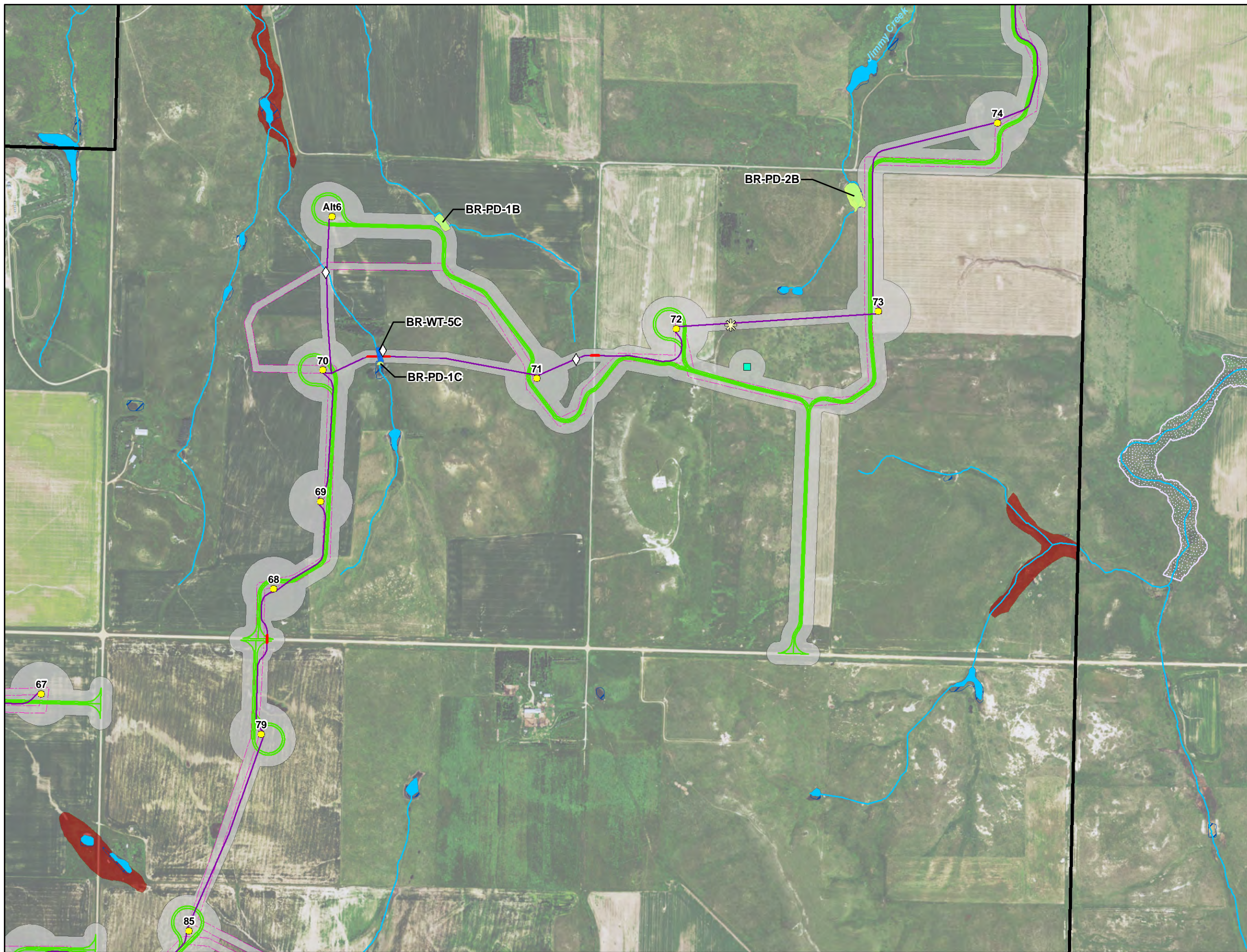
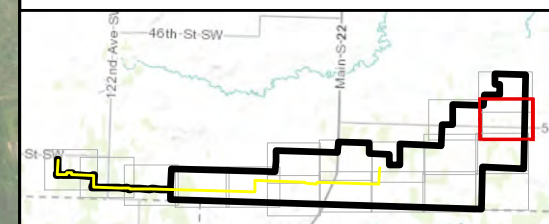
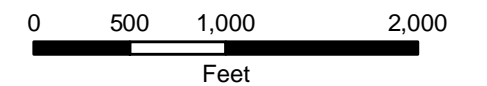


























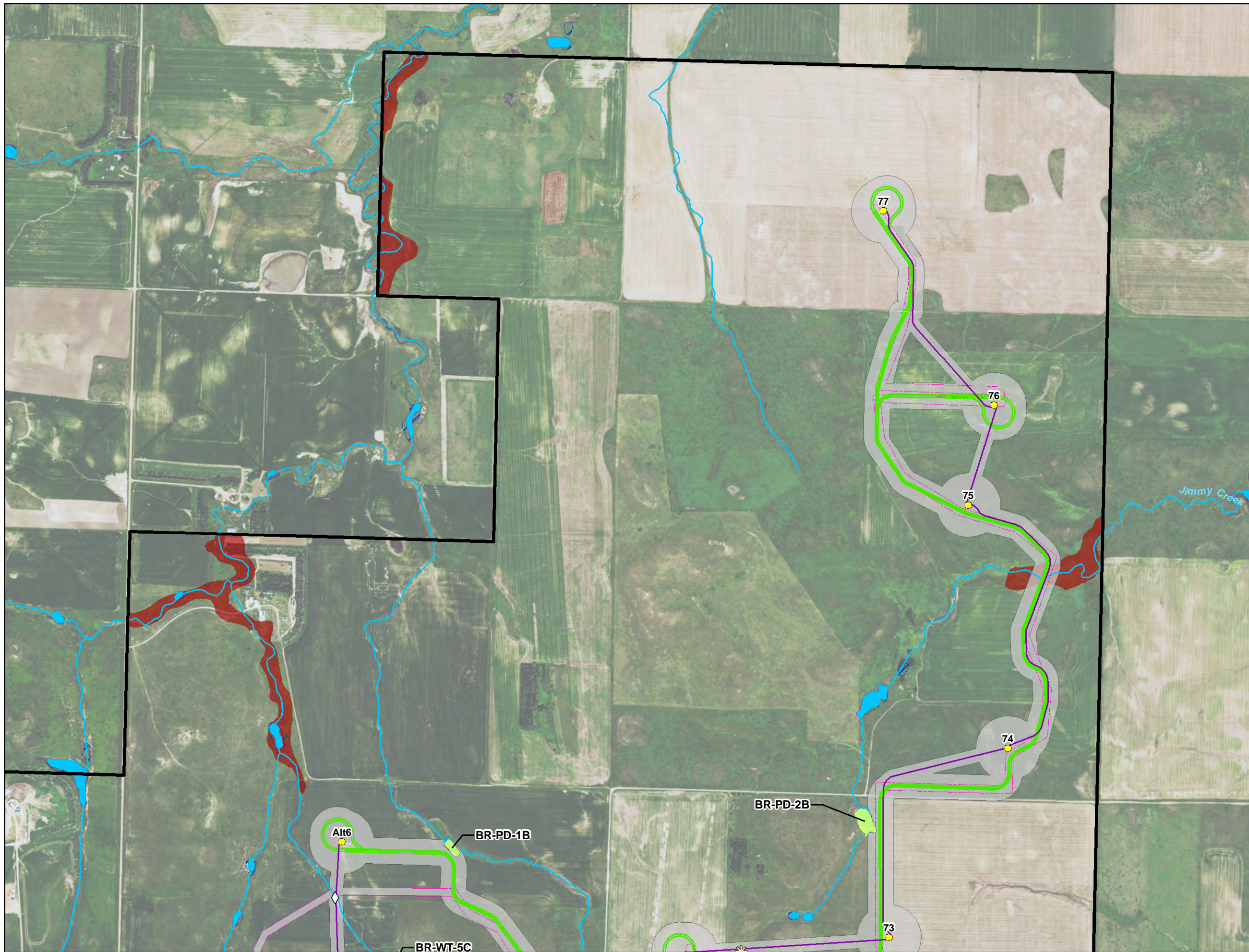
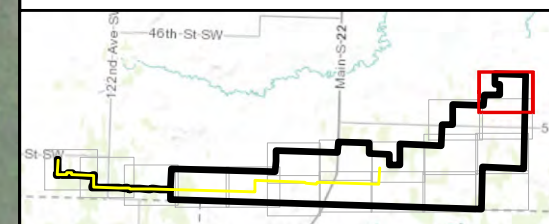
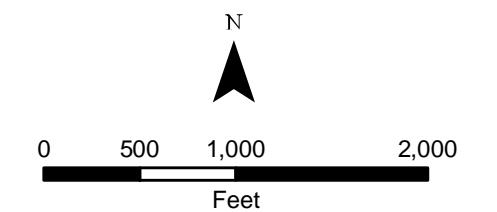


Figure 3
Project Area Detail
Sheet 18 of 18

Brady Wind Energy Center
 Stark County, North Dakota

Legend

-  Proposed Project Area
-  County Boundary
-  Major Road
- Proposed Project Infrastructure**
-  Turbines (11/6/15)
-  Transmission Poles (1/21/16)
-  Met Tower (11/11/15)
-  Transmission Line (1/14/16)
-  Bore Locations (12/14/15)
-  Collection Lines (12/14/15)
-  Service Roads (12/14/15)
-  Laydown Areas (10/27/15)
-  O&M Building (8/13/15)
-  Substation (8/13/15)
-  Switchyard (8/13/15)
- Desktop Analysis Data**
-  Crane Paths (11/20/15)
-  Temporary Disturbance Area
-  NHD Stream or Waterbody
-  NWI Wetland
-  Hydric Soils
-  100-year Flood Zone
- Field Delineated Features**
-  Swale
-  Upland
-  Pond
-  Stream
-  Swale
-  Wetland



Appendix 2:

Wetland Determination Data Forms

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WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> (MLRA 72 & 73 of LRR H)	

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No _____
--	--

Remarks: _____

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> (where tilled)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> (where not tilled)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations: Surface Water Present? Yes _____ No _____ Depth (inches): _____ Water Table Present? Yes _____ No _____ Depth (inches): _____ Saturation Present? Yes _____ No _____ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No _____
---	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: _____

Remarks: _____

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____
 Water Table Present? Yes _____ No _____ Depth (inches): _____
 Saturation Present? Yes _____ No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16)
- (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____
 Water Table Present? Yes _____ No _____ Depth (inches): _____
 Saturation Present? Yes _____ No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____
 Water Table Present? Yes _____ No _____ Depth (inches): _____
 Saturation Present? Yes _____ No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p>___ Histosol (A1)</p> <p>___ Histic Epipedon (A2)</p> <p>___ Black Histic (A3)</p> <p>___ Hydrogen Sulfide (A4)</p> <p>___ Stratified Layers (A5) (LRR F)</p> <p>___ 1 cm Muck (A9) (LRR F, G, H)</p> <p>___ Depleted Below Dark Surface (A11)</p> <p>___ Thick Dark Surface (A12)</p> <p>___ Sandy Mucky Mineral (S1)</p> <p>___ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p>___ 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p>___ 1 cm Muck (A9) (LRR I, J)</p> <p>___ Coast Prairie Redox (A16) (LRR F, G, H)</p> <p>___ Dark Surface (S7) (LRR G)</p> <p>___ High Plains Depressions (F16)</p> <p style="padding-left: 40px;">(LRR H outside of MLRA 72 & 73)</p> <p>___ Reduced Vertic (F18)</p> <p>___ Red Parent Material (TF2)</p> <p>___ Very Shallow Dark Surface (TF12)</p> <p>___ Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</p>
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<p>Restrictive Layer (if present):</p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric Soil Present? Yes _____ No _____</p>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	
<p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p>___ Surface Water (A1)</p> <p>___ High Water Table (A2)</p> <p>___ Saturation (A3)</p> <p>___ Water Marks (B1)</p> <p>___ Sediment Deposits (B2)</p> <p>___ Drift Deposits (B3)</p> <p>___ Algal Mat or Crust (B4)</p> <p>___ Iron Deposits (B5)</p> <p>___ Inundation Visible on Aerial Imagery (B7)</p> <p>___ Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p>___ Salt Crust (B11)</p> <p>___ Aquatic Invertebrates (B13)</p> <p>___ Hydrogen Sulfide Odor (C1)</p> <p>___ Dry-Season Water Table (C2)</p> <p>___ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)</p> <p>___ Presence of Reduced Iron (C4)</p> <p>___ Thin Muck Surface (C7)</p> <p>___ Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Surface Water Present? Yes _____ No _____ Depth (inches): _____</p> <p>Water Table Present? Yes _____ No _____ Depth (inches): _____</p> <p>Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____</p>	<p>Wetland Hydrology Present? Yes _____ No _____</p>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p>(LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</p>
<p>Restrictive Layer (if present):</p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric Soil Present? Yes _____ No _____</p>

Remarks: _____

HYDROLOGY

Wetland Hydrology Indicators:

<p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
<p>Field Observations:</p> <p>Surface Water Present? Yes _____ No _____ Depth (inches): _____</p> <p>Water Table Present? Yes _____ No _____ Depth (inches): _____</p> <p>Saturation Present? Yes _____ No _____ Depth (inches): _____ (includes capillary fringe)</p>	<p>Wetland Hydrology Present? Yes _____ No _____</p>	<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:</p>
<p>Remarks: _____</p>		

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____
 Water Table Present? Yes _____ No _____ Depth (inches): _____
 Saturation Present? Yes _____ No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)
<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No _____
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
Field Observations: Surface Water Present? Yes _____ No _____ Depth (inches): _____ Water Table Present? Yes _____ No _____ Depth (inches): _____ Saturation Present? Yes _____ No _____ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) **(LRR F)**
- 1 cm Muck (A9) **(LRR F, G, H)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**
- 5 cm Mucky Peat or Peat (S3) **(LRR F)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____
Water Table Present? Yes _____ No _____ Depth (inches): _____
Saturation Present? Yes _____ No _____ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16)
- (MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16)
- (LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3)
- (where not tilled)**
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3)
- (where tilled)**
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present?
(includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____
 Water Table Present? Yes _____ No _____ Depth (inches): _____
 Saturation Present? Yes _____ No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> (MLRA 72 & 73 of LRR H)	

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No _____
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> (where tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface Water Present? Yes _____ No _____ Depth (inches): _____ Water Table Present? Yes _____ No _____ Depth (inches): _____ Saturation Present? Yes _____ No _____ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No _____
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16)
- (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____
 Water Table Present? Yes _____ No _____ Depth (inches): _____
 Saturation Present? Yes _____ No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____
 Water Table Present? Yes _____ No _____ Depth (inches): _____
 Saturation Present? Yes _____ No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H) <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
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Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No _____
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators:		
<u>Primary Indicators (minimum of one required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
Field Observations: Surface Water Present? Yes _____ No _____ Depth (inches): _____ Water Table Present? Yes _____ No _____ Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____	Wetland Hydrology Present? Yes _____ No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16)
- (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____
Water Table Present? Yes _____ No _____ Depth (inches): _____
Saturation Present? Yes _____ No _____ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16)
(MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16)
(LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3)
(where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3)
(where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____
 Water Table Present? Yes _____ No _____ Depth (inches): _____
 Saturation Present? Yes _____ No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16)
- (MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16)
- (LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3)
- (where not tilled)**
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3)
- (where tilled)**
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____
 Water Table Present? Yes _____ No _____ Depth (inches): _____
 Saturation Present? Yes _____ No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	³ Indicators of hydrophytic vegetation and
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	wetland hydrology must be present,
	unless disturbed or problematic.

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No _____
--	---

Remarks: _____

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> (where tilled)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> (where not tilled)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations: Surface Water Present? Yes _____ No _____ Depth (inches): _____ Water Table Present? Yes _____ No _____ Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____	Wetland Hydrology Present? Yes _____ No _____
---	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: _____

Remarks: _____

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16)
- (MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16)
- (LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3)
- (where not tilled)**
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3)
- (where tilled)**
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____
 Water Table Present? Yes _____ No _____ Depth (inches): _____
 Saturation Present? Yes _____ No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____
 Water Table Present? Yes _____ No _____ Depth (inches): _____
 Saturation Present? Yes _____ No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____
 Water Table Present? Yes _____ No _____ Depth (inches): _____
 Saturation Present? Yes _____ No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
 - Coast Prairie Redox (A16) (LRR F, G, H)
 - Dark Surface (S7) (LRR G)
 - High Plains Depressions (F16)
 - (LRR H outside of MLRA 72 & 73)
 - Reduced Vertic (F18)
 - Red Parent Material (TF2)
 - Very Shallow Dark Surface (TF12)
 - Other (Explain in Remarks)
- ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____
 Water Table Present? Yes _____ No _____ Depth (inches): _____
 Saturation Present? Yes _____ No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)	

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No _____
--	--

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	
<u>Primary Indicators (minimum of one required; check all that apply)</u>	<u>Secondary Indicators (minimum of two required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	(where tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface Water Present? Yes _____ No _____ Depth (inches): _____ Water Table Present? Yes _____ No _____ Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____	Wetland Hydrology Present? Yes _____ No _____
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____
 Water Table Present? Yes _____ No _____ Depth (inches): _____
 Saturation Present? Yes _____ No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____
 Water Table Present? Yes _____ No _____ Depth (inches): _____
 Saturation Present? Yes _____ No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____
 Water Table Present? Yes _____ No _____ Depth (inches): _____
 Saturation Present? Yes _____ No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____
 Water Table Present? Yes _____ No _____ Depth (inches): _____
 Saturation Present? Yes _____ No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum	(Plot size: _____)			
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum	(Plot size: _____)			
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum	(Plot size: _____)			
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Hydrophytic Vegetation Present? Yes _____ No _____				
Remarks: _____ _____ _____				

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
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- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____
 Water Table Present? Yes _____ No _____ Depth (inches): _____
 Saturation Present? Yes _____ No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16)
- (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____
 Water Table Present? Yes _____ No _____ Depth (inches): _____
 Saturation Present? Yes _____ No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> (MLRA 72 & 73 of LRR H)	

Restrictive Layer (if present):	Hydric Soil Present? Yes _____ No _____
Type: _____ Depth (inches): _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	
<u>Primary Indicators (minimum of one required; check all that apply)</u>	<u>Secondary Indicators (minimum of two required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> (where tilled)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
<input type="checkbox"/> Salt Crust (B11)	
<input type="checkbox"/> Aquatic Invertebrates (B13)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> (where not tilled)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:	Wetland Hydrology Present? Yes _____ No _____
Surface Water Present? Yes _____ No _____ Depth (inches): _____ Water Table Present? Yes _____ No _____ Depth (inches): _____ Saturation Present? Yes _____ No _____ Depth (inches): _____ (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____
 Water Table Present? Yes _____ No _____ Depth (inches): _____
 Saturation Present? Yes _____ No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: _____ _____ _____				

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No _____
--	--

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		
<u>Primary Indicators (minimum of one required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations: Surface Water Present? Yes _____ No _____ Depth (inches): _____ Water Table Present? Yes _____ No _____ Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____	Wetland Hydrology Present? Yes _____ No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR F)**
- ___ 1 cm Muck (A9) **(LRR F, G, H)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR F)**

- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils³:

- ___ 1 cm Muck (A9) **(LRR I, J)**
- ___ Coast Prairie Redox (A16) **(LRR F, G, H)**
- ___ Dark Surface (S7) **(LRR G)**
- ___ High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)

- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____
 Water Table Present? Yes _____ No _____ Depth (inches): _____
 Saturation Present? Yes _____ No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: _____

WETLAND DETERMINATION DATA FORM—Great Plains Region

Project/Site: Brady Wind I		City/County: Dickinson/Stark	Sampling Date: 10/22/15
Applicant/Owner: Nextera		State: North Dakota	Sampling Point: BR-UP-1A
Investigator(s): K Brimacombe, A Bensted		Section, Township, Range: Sections 28 and 33, T137N, R98W	
Landform (hillslope, terrace, etc.): terrace		Local relief (concave, convex, none) none	Slope (%): 1
Subregion (LRR): LRR F	Lat: 46.6469093	Long: -103.0731592	Datum: 84
Soil Map Unit Name:		NWI Classification: none	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)			
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "normal circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If necessary, explain any answers in Remarks.)			
SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Is the Sampled Area within a Wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Remarks: plot			

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. n/a				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	0 (A)
2.				Total Number of Dominant Species Across All Strata:	1 (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	0 (A/B)
4.				Prevalence Index worksheet:	
		= Total Cover		<u>Total % Cover of:</u>	<u>Multiply by:</u>
Sapling/Shrub Stratum (Plot size: 15')				OBL species	x 1 =
1. n/a				FACW species	x 2 =
2.				FAC species	x 3 =
3.				FACU species	x 4 =
4.				UPL species	x 5 =
5.				Column Totals: (A)	(B)
		= Total Cover		Prevalence Index = B/A =	
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators:	
1. Bromus inermis	100	yes	UPL	<input type="checkbox"/>	1. Rapid Test for Hydrophytic Vegetation
2.				<input type="checkbox"/>	2. Dominance Test is >50%
3.				<input type="checkbox"/>	3. Prevalence Index is ≤3.0 ¹
4.				<input type="checkbox"/>	4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.				<input type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7.					
8.					
9.					
	100	= Total Cover			
Woody Vine Stratum (Plot size: 30')				Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
1. n/a					
		= Total Cover			
% Bare Ground in Herb Stratum: 0					
Remarks:					

WETLAND DETERMINATION DATA FORM—Great Plains Region

SOIL

Sampling Point: BR-UP-1A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10 Yr 4/2	100	none				clay loam	roots
4-17	10 YR 4/2	100	none				clay loam	

¹ Type: C=Concentration; D=Depletion; RM=Reduced Matrix; CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining; M=Matrix

Hydric Soil Indicators: (applicable to all LRRs, unless otherwise noted.)				Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/>	Histosol (A1)	<input type="checkbox"/>	Sandy Gleyed Matrix (S4)	<input type="checkbox"/>	1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/>	Histic Epipedon (A2)	<input type="checkbox"/>	Sandy Redox (S5)	<input type="checkbox"/>	Coast Prairie Redox A16) (LRR F, G, H)
<input type="checkbox"/>	Black Histic (A3)	<input type="checkbox"/>	Stripped Matrix (S6)	<input type="checkbox"/>	Dark Surface (S7) (LRR G)
<input type="checkbox"/>	Hydrogen Sulfide (A4)	<input type="checkbox"/>	Loamy Mucky Mineral (F1)	<input type="checkbox"/>	High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
<input type="checkbox"/>	Stratified Layers (A5) (LRR F)	<input type="checkbox"/>	Loamy Gleyed Matrix (F2)	<input type="checkbox"/>	Reduced Vertic (F18)
<input type="checkbox"/>	1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/>	Depleted Matrix (F3)	<input type="checkbox"/>	Red Parent Material (TF2)
<input type="checkbox"/>	Depleted Below Dark Surface (A11)	<input type="checkbox"/>	Redox Dark Surface (F6)	<input type="checkbox"/>	Very Shallow Dark Surface (TF12)
<input type="checkbox"/>	Thick Dark Surface (A12)	<input type="checkbox"/>	Depleted Dark Surface (F7)	<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>	Sandy Mucky Mineral (S1)	<input type="checkbox"/>	Redox Depressions (F8)	<input type="checkbox"/>	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/>	2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/>	High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)		
<input type="checkbox"/>	5 cm Mucky Peat or Peat (S3) (LRR F)				

Restrictive Layer (if present):		Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Type:	hardpan		
Depth (inches):	14		
Remarks:			

HYDROLOGY

Wetland Hydrology Indicators:					
Primary Indicators (minimum of one required; check all that apply)			Secondary Indicators (minimum of two required)		
<input type="checkbox"/>	Surface Water (A1)	<input type="checkbox"/>	Salt Crust (B11)	<input type="checkbox"/>	Surface Soil Cracks (B6)
<input type="checkbox"/>	High Water Table (A2)	<input type="checkbox"/>	Aquatic Invertebrates (B13)	<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/>	Saturation (A3)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)	<input type="checkbox"/>	Drainage Patterns (B10)
<input type="checkbox"/>	Water Marks (B1)	<input type="checkbox"/>	Dry-Season Water Table (C2)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where tilled)
<input type="checkbox"/>	Sediment Deposits (B2)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where not tilled)	<input type="checkbox"/>	Crayfish Burrows (C8)
<input type="checkbox"/>	Drift Deposits (B3)	<input type="checkbox"/>	Presence of Reduced Iron (C4)	<input type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/>	Algal Mat or Crust (B4)	<input type="checkbox"/>	Thin Muck Surface (C7)	<input type="checkbox"/>	Geomorphic Position (D2)
<input type="checkbox"/>	Iron Deposits (B5)	<input type="checkbox"/>	Other (Explain in Remarks)	<input type="checkbox"/>	FAC-Neutral Test (D5)
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)			<input type="checkbox"/>	Frost-Heave Hummocks (D7) (LRR F)
<input type="checkbox"/>	Water-Stained Leaves (B9)				

Field Observations:			Water Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Surface Water Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Water Table Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:				
Remarks:				

WETLAND DETERMINATION DATA FORM—Great Plains Region

Project/Site: Brady Wind I		City/County: Stark	Sampling Date: 10/22/15
Applicant/Owner: Nextera		State: North Dakota	Sampling Point: BR-UP-1B
Investigator(s): S Yarbrough, R Sparhawk		Section, Township, Range:	
Landform (hillslope, terrace, etc.): roadside ditch		Local relief (concave, convex, none) concave	Slope (%): 5
Subregion (LRR): F	Lat: 46.64597	Long: -102.643	Datum: 84
Soil Map Unit Name: Belfield-Grail Clay Loams, 0-2% slopes		NWI Classification: not mapped	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)			
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "normal circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If necessary, explain any answers in Remarks.)			
SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Is the Sampled Area within a Wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Remarks: Photo 8016 (overview; near the head of a roadside ditch)			

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. n/a				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	0 (A)
2.				Total Number of Dominant Species Across All Strata:	2 (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	0 (A/B)
4.				Prevalence Index worksheet:	
		= Total Cover		<u>Total % Cover of:</u>	<u>Multiply by:</u>
Sapling/Shrub Stratum (Plot size: 15')				OBL species	x 1 =
1. n/a				FACW species	x 2 =
2.				FAC species	x 3 =
3.				FACU species 50	x 4 = 200
4.				UPL species 50	x 5 = 250
5.				Column Totals: 100 (A)	450 (B)
		= Total Cover		Prevalence Index = B/A =	450/100 = 4.5
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators:	
1. Bromus inermis	50	yes	UPL	<input type="checkbox"/>	1. Rapid Test for Hydrophytic Vegetation
2. Poa compressa	50	yes	FACU	<input type="checkbox"/>	2. Dominance Test is >50%
3.				<input type="checkbox"/>	3. Prevalence Index is ≤3.0 ¹
4.				<input type="checkbox"/>	4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.				<input type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7.					
8.					
9.					
	100	= Total Cover			
Woody Vine Stratum (Plot size: 30')				Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. n/a					
		= Total Cover			
% Bare Ground in Herb Stratum: 0					
Remarks: No wetland species present					

WETLAND DETERMINATION DATA FORM—Great Plains Region

SOIL

Sampling Point: BR-UP-1B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10 YR 3/3	100					loam	
5-20	2.5 YR 4/4	100					clay loam	
¹ Type: C=Concentration; D=Depletion; RM=Reduced Matrix; CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining; M=Matrix								
Hydric Soil Indicators: (applicable to all LRRs, unless otherwise noted.)						Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/>	Histosol (A1)		<input type="checkbox"/>	Sandy Gleyed Matrix (S4)		<input type="checkbox"/>	1 cm Muck (A9) (LRR I, J)	
<input type="checkbox"/>	Histic Epipedon (A2)		<input type="checkbox"/>	Sandy Redox (S5)		<input type="checkbox"/>	Coast Prairie Redox A16) (LRR F, G, H)	
<input type="checkbox"/>	Black Histic (A3)		<input type="checkbox"/>	Stripped Matrix (S6)		<input type="checkbox"/>	Dark Surface (S7) (LRR G)	
<input type="checkbox"/>	Hydrogen Sulfide (A4)		<input type="checkbox"/>	Loamy Mucky Mineral (F1)		<input type="checkbox"/>	High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)	
<input type="checkbox"/>	Stratified Layers (A5) (LRR F)		<input type="checkbox"/>	Loamy Gleyed Matrix (F2)		<input type="checkbox"/>	Reduced Vertic (F18)	
<input type="checkbox"/>	1 cm Muck (A9) (LRR F, G, H)		<input type="checkbox"/>	Depleted Matrix (F3)		<input type="checkbox"/>	Red Parent Material (TF2)	
<input type="checkbox"/>	Depleted Below Dark Surface (A11)		<input type="checkbox"/>	Redox Dark Surface (F6)		<input type="checkbox"/>	Very Shallow Dark Surface (TF12)	
<input type="checkbox"/>	Thick Dark Surface (A12)		<input type="checkbox"/>	Depleted Dark Surface (F7)		<input type="checkbox"/>	Other (Explain in Remarks)	
<input type="checkbox"/>	Sandy Mucky Mineral (S1)		<input type="checkbox"/>	Redox Depressions (F8)		<input type="checkbox"/>	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/>	2.5 cm Mucky Peat or Peat (S2) (LRR G, H)		<input type="checkbox"/>	High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)				
<input type="checkbox"/>	5 cm Mucky Peat or Peat (S3) (LRR F)							
Restrictive Layer (if present):						Hydric Soil Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Type: Depth (inches):								
Remarks: Photo 8015 (closeup from soil plot). No indicators of hydric soil conditions.								

HYDROLOGY

Wetland Hydrology Indicators:								
Primary Indicators (minimum of one required; check all that apply)					Secondary Indicators (minimum of two required)			
<input type="checkbox"/>	Surface Water (A1)		<input type="checkbox"/>	Salt Crust (B11)		<input type="checkbox"/>	Surface Soil Cracks (B6)	
<input type="checkbox"/>	High Water Table (A2)		<input type="checkbox"/>	Aquatic Invertebrates (B13)		<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/>	Saturation (A3)		<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)		<input type="checkbox"/>	Drainage Patterns (B10)	
<input type="checkbox"/>	Water Marks (B1)		<input type="checkbox"/>	Dry-Season Water Table (C2)		<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where tilled)	
<input type="checkbox"/>	Sediment Deposits (B2)		<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where not tilled)		<input type="checkbox"/>	Crayfish Burrows (C8)	
<input type="checkbox"/>	Drift Deposits (B3)		<input type="checkbox"/>	Presence of Reduced Iron (C4)		<input type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/>	Algal Mat or Crust (B4)		<input type="checkbox"/>	Thin Muck Surface (C7)		<input type="checkbox"/>	Geomorphic Position (D2)	
<input type="checkbox"/>	Iron Deposits (B5)		<input type="checkbox"/>	Other (Explain in Remarks)		<input type="checkbox"/>	FAC-Neutral Test (D5)	
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)					<input type="checkbox"/>	Frost-Heave Hummocks (D7) (LRR F)	
<input type="checkbox"/>	Water-Stained Leaves (B9)							
Field Observations:					Water Hydrology Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Surface Water Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):					
Water Table Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):					
Saturation Present? (includes capillary fringe)		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):					
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:								
Remarks: No primary or secondary indicators for wetland hydrology								

WETLAND DETERMINATION DATA FORM—Great Plains Region

Project/Site: Brady Wind I		City/County: Dickinson/Stark	Sampling Date: 10/23/15
Applicant/Owner: Nextera		State: North Dakota	Sampling Point: BR-UP-2A
Investigator(s): K Brimacombe, A Bensted		Section, Township, Range: Section 34 T137N, R98W	
Landform (hillslope, terrace, etc.): hillslope		Local relief (concave, convex, none) slightly convex	Slope (%): 1
Subregion (LRR): LRR F	Lat: 46.6371195	Long: -103.0260280	Datum: 84
Soil Map Unit Name:		NWI Classification: none	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)			
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "normal circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If necessary, explain any answers in Remarks.)			
SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Is the Sampled Area within a Wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Remarks:			

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. n/a				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	0 (A)
2.				Total Number of Dominant Species Across All Strata:	1 (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	0 (A/B)
4.				Prevalence Index worksheet:	
		= Total Cover		<u>Total % Cover of:</u>	<u>Multiply by:</u>
Sapling/Shrub Stratum (Plot size: 15')				OBL species	x 1 =
1. n/a				FACW species	x 2 =
2.				FAC species 5	x 3 = 15
3.				FACU species	x 4 =
4.				UPL species 90	x 5 = 450
5.				Column Totals: 95 (A)	465 (B)
		= Total Cover		Prevalence Index = B/A =	465/95 = 4.9
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators:	
1. Bromus inermis	90	yes	UPL	<input type="checkbox"/>	1. Rapid Test for Hydrophytic Vegetation
2. Rumex crispus	5	no	FAC	<input type="checkbox"/>	2. Dominance Test is >50%
3. Cirsium spp.	5	no	unk	<input type="checkbox"/>	3. Prevalence Index is ≤3.0 ¹
4.				<input type="checkbox"/>	4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.				<input type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7.					
8.					
9.					
	100	= Total Cover			
Woody Vine Stratum (Plot size: 30')				Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
1. n/a					
		= Total Cover			
% Bare Ground in Herb Stratum: 0					
Remarks:					

WETLAND DETERMINATION DATA FORM—Great Plains Region

SOIL

Sampling Point: BR-UP-2A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10 YR 2/1	100		0			silty clay	lots of roots
5-13	10 YR 3/2	95	10 YR 6/8	5	C	M/PL	loam	

¹ Type: C=Concentration; D=Depletion; RM=Reduced Matrix; CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining; M=Matrix

Hydric Soil Indicators: (applicable to all LRRs, unless otherwise noted.)				Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/>	Histosol (A1)	<input type="checkbox"/>	Sandy Gleyed Matrix (S4)	<input type="checkbox"/>	1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/>	Histic Epipedon (A2)	<input type="checkbox"/>	Sandy Redox (S5)	<input type="checkbox"/>	Coast Prairie Redox A16) (LRR F, G, H)
<input type="checkbox"/>	Black Histic (A3)	<input type="checkbox"/>	Stripped Matrix (S6)	<input type="checkbox"/>	Dark Surface (S7) (LRR G)
<input type="checkbox"/>	Hydrogen Sulfide (A4)	<input type="checkbox"/>	Loamy Mucky Mineral (F1)	<input type="checkbox"/>	High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
<input type="checkbox"/>	Stratified Layers (A5) (LRR F)	<input type="checkbox"/>	Loamy Gleyed Matrix (F2)	<input type="checkbox"/>	Reduced Vertic (F18)
<input type="checkbox"/>	1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/>	Depleted Matrix (F3)	<input type="checkbox"/>	Red Parent Material (TF2)
<input type="checkbox"/>	Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/>	Redox Dark Surface (F6)	<input type="checkbox"/>	Very Shallow Dark Surface (TF12)
<input type="checkbox"/>	Thick Dark Surface (A12)	<input type="checkbox"/>	Depleted Dark Surface (F7)	<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>	Sandy Mucky Mineral (S1)	<input type="checkbox"/>	Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/>	2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/>	High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)		
<input type="checkbox"/>	5 cm Mucky Peat or Peat (S3) (LRR F)				

Restrictive Layer (if present):		Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Type:			
Depth (inches):			
Remarks:			

HYDROLOGY

Wetland Hydrology Indicators:					
Primary Indicators (minimum of one required; check all that apply)			Secondary Indicators (minimum of two required)		
<input type="checkbox"/>	Surface Water (A1)	<input type="checkbox"/>	Salt Crust (B11)	<input type="checkbox"/>	Surface Soil Cracks (B6)
<input type="checkbox"/>	High Water Table (A2)	<input type="checkbox"/>	Aquatic Invertebrates (B13)	<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/>	Saturation (A3)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)	<input type="checkbox"/>	Drainage Patterns (B10)
<input type="checkbox"/>	Water Marks (B1)	<input type="checkbox"/>	Dry-Season Water Table (C2)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where tilled)
<input type="checkbox"/>	Sediment Deposits (B2)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where not tilled)	<input type="checkbox"/>	Crayfish Burrows (C8)
<input type="checkbox"/>	Drift Deposits (B3)	<input type="checkbox"/>	Presence of Reduced Iron (C4)	<input type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/>	Algal Mat or Crust (B4)	<input type="checkbox"/>	Thin Muck Surface (C7)	<input type="checkbox"/>	Geomorphic Position (D2)
<input type="checkbox"/>	Iron Deposits (B5)	<input type="checkbox"/>	Other (Explain in Remarks)	<input type="checkbox"/>	FAC-Neutral Test (D5)
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)			<input type="checkbox"/>	Frost-Heave Hummocks (D7) (LRR F)
<input type="checkbox"/>	Water-Stained Leaves (B9)				

Field Observations:			Water Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Surface Water Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Water Table Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:				
Remarks:				

WETLAND DETERMINATION DATA FORM—Great Plains Region

Project/Site: Brady Wind I		City/County: Dickinson/Stark	Sampling Date: 10/23/15
Applicant/Owner: Nextera		State: North Dakota	Sampling Point: BR-UP-3A
Investigator(s): K Brimacombe, A Bensted		Section, Township, Range: Section 34 T137N R98W	
Landform (hillslope, terrace, etc.): hillslope		Local relief (concave, convex, none) convex	Slope (%): 1
Subregion (LRR): LRR F	Lat: 46.6426012	Long: -103.0363328	Datum: 84
Soil Map Unit Name:		NWI Classification: none	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)			
Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "normal circumstances" present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If necessary, explain any answers in Remarks.)			
SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Is the Sampled Area within a Wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Remarks: Upland sample plot located in wheat field.			

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. n/a				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	0 (A)
2.				Total Number of Dominant Species Across All Strata:	1 (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	0 (A/B)
4.				Prevalence Index worksheet:	
		= Total Cover		<u>Total % Cover of:</u>	<u>Multiply by:</u>
Sapling/Shrub Stratum (Plot size: 15')				OBL species	x 1 =
1. n/a				FACW species	x 2 =
2.				FAC species	x 3 =
3.				FACU species	x 4 =
4.				UPL species	x 5 =
5.				Column Totals: (A)	(B)
		= Total Cover		Prevalence Index = B/A =	
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators:	
1. Triticum aestivum	65	yes	NI	<input type="checkbox"/>	1. Rapid Test for Hydrophytic Vegetation
2. Bassia scoparia	10		FACU	<input type="checkbox"/>	2. Dominance Test is >50%
3. Amaranthus sp.	5			<input type="checkbox"/>	3. Prevalence Index is ≤3.0 ¹
4. Setaria sp.	5			<input type="checkbox"/>	4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.				<input type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7.					
8.					
9.					
	85	= Total Cover			
Woody Vine Stratum (Plot size: 30')				Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. n/a					
		= Total Cover			
% Bare Ground in Herb Stratum: 15					
Remarks:					

WETLAND DETERMINATION DATA FORM—Great Plains Region

SOIL

Sampling Point: BR-UP-3A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10 YR 3/2	100					silty clay loam	
6-13	5 Y 4/1	100					clay	
¹ Type: C=Concentration; D=Depletion; RM=Reduced Matrix; CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining; M=Matrix								
Hydric Soil Indicators: (applicable to all LRRs, unless otherwise noted.)						Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/>	Histosol (A1)		<input type="checkbox"/>	Sandy Gleyed Matrix (S4)		<input type="checkbox"/>	1 cm Muck (A9) (LRR I, J)	
<input type="checkbox"/>	Histic Epipedon (A2)		<input type="checkbox"/>	Sandy Redox (S5)		<input type="checkbox"/>	Coast Prairie Redox A16) (LRR F, G, H)	
<input type="checkbox"/>	Black Histic (A3)		<input type="checkbox"/>	Stripped Matrix (S6)		<input type="checkbox"/>	Dark Surface (S7) (LRR G)	
<input type="checkbox"/>	Hydrogen Sulfide (A4)		<input type="checkbox"/>	Loamy Mucky Mineral (F1)		<input type="checkbox"/>	High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)	
<input type="checkbox"/>	Stratified Layers (A5) (LRR F)		<input type="checkbox"/>	Loamy Gleyed Matrix (F2)		<input type="checkbox"/>	Reduced Vertic (F18)	
<input type="checkbox"/>	1 cm Muck (A9) (LRR F, G, H)		<input type="checkbox"/>	Depleted Matrix (F3)		<input type="checkbox"/>	Red Parent Material (TF2)	
<input type="checkbox"/>	Depleted Below Dark Surface (A11)		<input type="checkbox"/>	Redox Dark Surface (F6)		<input type="checkbox"/>	Very Shallow Dark Surface (TF12)	
<input type="checkbox"/>	Thick Dark Surface (A12)		<input type="checkbox"/>	Depleted Dark Surface (F7)		<input type="checkbox"/>	Other (Explain in Remarks)	
<input type="checkbox"/>	Sandy Mucky Mineral (S1)		<input type="checkbox"/>	Redox Depressions (F8)		<input type="checkbox"/>	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/>	2.5 cm Mucky Peat or Peat (S2) (LRR G, H)		<input type="checkbox"/>	High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)				
<input type="checkbox"/>	5 cm Mucky Peat or Peat (S3) (LRR F)							
Restrictive Layer (if present):								
Type:	compacted clay		Hydric Soil Present?			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Depth (inches):	13							
Remarks:								

HYDROLOGY

Wetland Hydrology Indicators:								
Primary Indicators (minimum of one required; check all that apply)					Secondary Indicators (minimum of two required)			
<input type="checkbox"/>	Surface Water (A1)		<input type="checkbox"/>	Salt Crust (B11)		<input type="checkbox"/>	Surface Soil Cracks (B6)	
<input type="checkbox"/>	High Water Table (A2)		<input type="checkbox"/>	Aquatic Invertebrates (B13)		<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/>	Saturation (A3)		<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)		<input type="checkbox"/>	Drainage Patterns (B10)	
<input type="checkbox"/>	Water Marks (B1)		<input type="checkbox"/>	Dry-Season Water Table (C2)		<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where tilled)	
<input type="checkbox"/>	Sediment Deposits (B2)		<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where not tilled)		<input type="checkbox"/>	Crayfish Burrows (C8)	
<input type="checkbox"/>	Drift Deposits (B3)		<input type="checkbox"/>	Presence of Reduced Iron (C4)		<input type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/>	Algal Mat or Crust (B4)		<input type="checkbox"/>	Thin Muck Surface (C7)		<input type="checkbox"/>	Geomorphic Position (D2)	
<input type="checkbox"/>	Iron Deposits (B5)		<input type="checkbox"/>	Other (Explain in Remarks)		<input type="checkbox"/>	FAC-Neutral Test (D5)	
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)					<input type="checkbox"/>	Frost-Heave Hummocks (D7) (LRR F)	
<input type="checkbox"/>	Water-Stained Leaves (B9)							
Field Observations:								
Surface Water Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Depth (inches):		Water Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Water Table Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Depth (inches):					
Saturation Present? (includes capillary fringe)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Depth (inches):					
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:								
Remarks:								

WETLAND DETERMINATION DATA FORM—Great Plains Region

Project/Site: Brady Wind I		City/County: Stark	Sampling Date: 10/24/15
Applicant/Owner: Nextera		State: North Dakota	Sampling Point: BR-UP-3B
Investigator(s): S Yarbrough, R Sparhawk		Section, Township, Range:	
Landform (hillslope, terrace, etc.): toe of slope		Local relief (concave, convex, none) concave	Slope (%): 3
Subregion (LRR): F	Lat: 46.6348685	Long: -102.6977547	Datum: 84
Soil Map Unit Name:		NWI Classification:	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)			
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "normal circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If necessary, explain any answers in Remarks.)			
SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Is the Sampled Area within a Wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Remarks: Active pasture. Photos 8045 (S) and 8046 (W)			

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. n/a				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	0 (A)
2.				Total Number of Dominant Species Across All Strata:	1 (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	0 (A/B)
4.				Prevalence Index worksheet:	
		= Total Cover		<u>Total % Cover of:</u>	<u>Multiply by:</u>
Sapling/Shrub Stratum (Plot size: 15')				OBL species	x 1 =
1. n/a				FACW species	x 2 =
2.				FAC species 5	x 3 = 15
3.				FACU species 95	x 4 = 380
4.				UPL species	x 5 =
5.				Column Totals: 100 (A)	395 (B)
		= Total Cover		Prevalence Index = B/A =	395/100 = 3.95
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators:	
1. Pascopyrum smithii	95	yes	FACU	<input type="checkbox"/>	1. Rapid Test for Hydrophytic Vegetation
2. Rumex crispus	<5	no	FAC	<input type="checkbox"/>	2. Dominance Test is >50%
3.				<input type="checkbox"/>	3. Prevalence Index is ≤3.0 ¹
4.				<input type="checkbox"/>	4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.				<input type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7.					
8.					
9.					
		= Total Cover			
Woody Vine Stratum (Plot size: 30')				Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. n/a					
		= Total Cover			
% Bare Ground in Herb Stratum:					
Remarks: Upland pasture. Active grazing. Photo 8044.					

WETLAND DETERMINATION DATA FORM—Great Plains Region

SOIL

Sampling Point: BR-UP-3B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10 YR 3/1						silt loam	
14-20	10 YR 4/2						silt loam	

¹ Type: C=Concentration; D=Depletion; RM=Reduced Matrix; CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining; M=Matrix

Hydric Soil Indicators: (applicable to all LRRs, unless otherwise noted.)				Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/>	Histosol (A1)	<input type="checkbox"/>	Sandy Gleyed Matrix (S4)	<input type="checkbox"/>	1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/>	Histic Epipedon (A2)	<input type="checkbox"/>	Sandy Redox (S5)	<input type="checkbox"/>	Coast Prairie Redox A16) (LRR F, G, H)
<input type="checkbox"/>	Black Histic (A3)	<input type="checkbox"/>	Stripped Matrix (S6)	<input type="checkbox"/>	Dark Surface (S7) (LRR G)
<input type="checkbox"/>	Hydrogen Sulfide (A4)	<input type="checkbox"/>	Loamy Mucky Mineral (F1)	<input type="checkbox"/>	High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
<input type="checkbox"/>	Stratified Layers (A5) (LRR F)	<input type="checkbox"/>	Loamy Gleyed Matrix (F2)	<input type="checkbox"/>	Reduced Vertic (F18)
<input type="checkbox"/>	1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/>	Depleted Matrix (F3)	<input type="checkbox"/>	Red Parent Material (TF2)
<input type="checkbox"/>	Depleted Below Dark Surface (A11)	<input type="checkbox"/>	Redox Dark Surface (F6)	<input type="checkbox"/>	Very Shallow Dark Surface (TF12)
<input type="checkbox"/>	Thick Dark Surface (A12)	<input type="checkbox"/>	Depleted Dark Surface (F7)	<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>	Sandy Mucky Mineral (S1)	<input type="checkbox"/>	Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/>	2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/>	High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)		
<input type="checkbox"/>	5 cm Mucky Peat or Peat (S3) (LRR F)				

Restrictive Layer (if present):		Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Type:	Depth (inches):		

Remarks: There are no indicators of hydric soil at this location. Photo 8047 (closeup).

HYDROLOGY

Wetland Hydrology Indicators:					
Primary Indicators (minimum of one required; check all that apply)			Secondary Indicators (minimum of two required)		
<input type="checkbox"/>	Surface Water (A1)	<input type="checkbox"/>	Salt Crust (B11)	<input type="checkbox"/>	Surface Soil Cracks (B6)
<input type="checkbox"/>	High Water Table (A2)	<input type="checkbox"/>	Aquatic Invertebrates (B13)	<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/>	Saturation (A3)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)	<input type="checkbox"/>	Drainage Patterns (B10)
<input type="checkbox"/>	Water Marks (B1)	<input type="checkbox"/>	Dry-Season Water Table (C2)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where tilled)
<input type="checkbox"/>	Sediment Deposits (B2)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where not tilled)	<input type="checkbox"/>	Crayfish Burrows (C8)
<input type="checkbox"/>	Drift Deposits (B3)	<input type="checkbox"/>	Presence of Reduced Iron (C4)	<input type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/>	Algal Mat or Crust (B4)	<input type="checkbox"/>	Thin Muck Surface (C7)	<input type="checkbox"/>	Geomorphic Position (D2)
<input type="checkbox"/>	Iron Deposits (B5)	<input type="checkbox"/>	Other (Explain in Remarks)	<input type="checkbox"/>	FAC-Neutral Test (D5)
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)			<input type="checkbox"/>	Frost-Heave Hummocks (D7) (LRR F)
<input type="checkbox"/>	Water-Stained Leaves (B9)				

Field Observations:			Water Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Surface Water Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Water Table Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: aerial photography is available for this site.

Remarks: There are no positive primary or secondary indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM—Great Plains Region

Project/Site: Brady Wind I		City/County: Dickinson/Stark	Sampling Date: 10/24/15
Applicant/Owner: Nextera		State: North Dakota	Sampling Point: BR-UP-4A
Investigator(s): K Brimacombe, A Bensted		Section, Township, Range: Section 36 T137N R98W	
Landform (hillslope, terrace, etc.): hillslope		Local relief (concave, convex, none) convex	Slope (%): 1
Subregion (LRR): LRR F	Lat: 46.6364326	Long: -102.9977443	Datum: 84
Soil Map Unit Name:		NWI Classification: none	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)			
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "normal circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If necessary, explain any answers in Remarks.)			
SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Is the Sampled Area within a Wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Remarks:			

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. n/a				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	0 (A)
2.				Total Number of Dominant Species Across All Strata:	1 (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	0 (A/B)
4.				Prevalence Index worksheet:	
		= Total Cover		Total % Cover of:	Multiply by:
Sapling/Shrub Stratum (Plot size: 15')				OBL species	x 1 =
1. n/a				FACW species	x 2 =
2.				FAC species	x 3 =
3.				FACU species	x 4 =
4.				UPL species	x 5 =
5.				Column Totals: (A)	(B)
		= Total Cover		Prevalence Index = B/A =	
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators:	
1. Glycine max (soybean)	85	yes	NI	<input type="checkbox"/>	1. Rapid Test for Hydrophytic Vegetation
2. unidentifiable grass	10	no		<input type="checkbox"/>	2. Dominance Test is >50%
3.				<input type="checkbox"/>	3. Prevalence Index is ≤3.0 ¹
4.				<input type="checkbox"/>	4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.				<input type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7.					
8.					
9.					
	95	= Total Cover			
Woody Vine Stratum (Plot size: 30')				Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. n/a					
		= Total Cover			
% Bare Ground in Herb Stratum: 5					
Remarks: Plot located in plowed soybean field.					

WETLAND DETERMINATION DATA FORM—Great Plains Region

SOIL

Sampling Point: BR-UP-4A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-7	7.5 YR 3/2	100					clay loam	
7-13	10 YR 4/4	60					clay loam	
7-13	10 YR 3/1	40						
13-16	2.5 Y 5/4	95					sandy clay loam	
13-16	10 YR 3/2	5						

¹ Type: C=Concentration; D=Depletion; RM=Reduced Matrix; CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining; M=Matrix

Hydric Soil Indicators: (applicable to all LRRs, unless otherwise noted.)				Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/>	Histosol (A1)	<input type="checkbox"/>	Sandy Gleyed Matrix (S4)	<input type="checkbox"/>	1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/>	Histic Epipedon (A2)	<input type="checkbox"/>	Sandy Redox (S5)	<input type="checkbox"/>	Coast Prairie Redox A16) (LRR F, G, H)
<input type="checkbox"/>	Black Histic (A3)	<input type="checkbox"/>	Stripped Matrix (S6)	<input type="checkbox"/>	Dark Surface (S7) (LRR G)
<input type="checkbox"/>	Hydrogen Sulfide (A4)	<input type="checkbox"/>	Loamy Mucky Mineral (F1)	<input type="checkbox"/>	High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
<input type="checkbox"/>	Stratified Layers (A5) (LRR F)	<input type="checkbox"/>	Loamy Gleyed Matrix (F2)	<input type="checkbox"/>	Reduced Vertic (F18)
<input type="checkbox"/>	1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/>	Depleted Matrix (F3)	<input type="checkbox"/>	Red Parent Material (TF2)
<input type="checkbox"/>	Depleted Below Dark Surface (A11)	<input type="checkbox"/>	Redox Dark Surface (F6)	<input type="checkbox"/>	Very Shallow Dark Surface (TF12)
<input type="checkbox"/>	Thick Dark Surface (A12)	<input type="checkbox"/>	Depleted Dark Surface (F7)	<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>	Sandy Mucky Mineral (S1)	<input type="checkbox"/>	Redox Depressions (F8)	<input type="checkbox"/>	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/>	2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/>	High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)		
<input type="checkbox"/>	5 cm Mucky Peat or Peat (S3) (LRR F)				

Restrictive Layer (if present):		Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Type:			
Depth (inches):			
Remarks:			

HYDROLOGY

Wetland Hydrology Indicators:					
Primary Indicators (minimum of one required; check all that apply)			Secondary Indicators (minimum of two required)		
<input type="checkbox"/>	Surface Water (A1)	<input type="checkbox"/>	Salt Crust (B11)	<input type="checkbox"/>	Surface Soil Cracks (B6)
<input type="checkbox"/>	High Water Table (A2)	<input type="checkbox"/>	Aquatic Invertebrates (B13)	<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/>	Saturation (A3)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)	<input type="checkbox"/>	Drainage Patterns (B10)
<input type="checkbox"/>	Water Marks (B1)	<input type="checkbox"/>	Dry-Season Water Table (C2)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where tilled)
<input type="checkbox"/>	Sediment Deposits (B2)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where not tilled)	<input type="checkbox"/>	Crayfish Burrows (C8)
<input type="checkbox"/>	Drift Deposits (B3)	<input type="checkbox"/>	Presence of Reduced Iron (C4)	<input type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/>	Algal Mat or Crust (B4)	<input type="checkbox"/>	Thin Muck Surface (C7)	<input type="checkbox"/>	Geomorphic Position (D2)
<input type="checkbox"/>	Iron Deposits (B5)	<input type="checkbox"/>	Other (Explain in Remarks)	<input type="checkbox"/>	FAC-Neutral Test (D5)
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)			<input type="checkbox"/>	Frost-Heave Hummocks (D7) (LRR F)
<input type="checkbox"/>	Water-Stained Leaves (B9)				

Field Observations:			Water Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Surface Water Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Water Table Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:				
Remarks:				

WETLAND DETERMINATION DATA FORM—Great Plains Region

Project/Site: Brady Wind I		City/County: Dickinson/Stark	Sampling Date: 10/24/15
Applicant/Owner: Nextera		State: North Dakota	Sampling Point: BR-UP-5A
Investigator(s): K Brimacombe, A Bensted		Section, Township, Range: Section 27 T137N R98W	
Landform (hillslope, terrace, etc.): hillslope		Local relief (concave, convex, none) convex	Slope (%): 1-2
Subregion (LRR): LRR F	Lat: 46.6445252	Long: -103.0399967	Datum: 84
Soil Map Unit Name:		NWI Classification: none	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)			
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "normal circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If necessary, explain any answers in Remarks.)			
SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Is the Sampled Area within a Wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Remarks:			

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. n/a				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	0 (A)
2.				Total Number of Dominant Species Across All Strata:	1 (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	0 (A/B)
4.				Prevalence Index worksheet:	
		= Total Cover		<u>Total % Cover of:</u>	<u>Multiply by:</u>
Sapling/Shrub Stratum (Plot size: 15')				OBL species	x 1 =
1. n/a				FACW species	x 2 =
2.				FAC species	x 3 =
3.				FACU species	x 4 =
4.				UPL species	x 5 =
5.				Column Totals: (A)	(B)
		= Total Cover		Prevalence Index = B/A =	
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators:	
1. Bromus inermis	98	yes	UPL	<input type="checkbox"/>	1. Rapid Test for Hydrophytic Vegetation
2. Cirsium spp	2		unk	<input type="checkbox"/>	2. Dominance Test is >50%
3.				<input type="checkbox"/>	3. Prevalence Index is ≤3.0 ¹
4.				<input type="checkbox"/>	4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.				<input type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7.					
8.					
9.					
	98	= Total Cover			
Woody Vine Stratum (Plot size: 30')				Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. n/a					
		= Total Cover			
% Bare Ground in Herb Stratum: 0					
Remarks:					

WETLAND DETERMINATION DATA FORM—Great Plains Region

SOIL

Sampling Point: BR-UP-5A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10 YR 2/2	100	none				clay	calcium concentrates
10-16	10 YR 4/2	100	none				clay	
¹ Type: C=Concentration; D=Depletion; RM=Reduced Matrix; CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining; M=Matrix								
Hydric Soil Indicators: (applicable to all LRRs, unless otherwise noted.)						Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/>	Histosol (A1)			<input type="checkbox"/>	Sandy Gleyed Matrix (S4)		<input type="checkbox"/>	1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/>	Histic Epipedon (A2)			<input type="checkbox"/>	Sandy Redox (S5)		<input type="checkbox"/>	Coast Prairie Redox A16) (LRR F, G, H)
<input type="checkbox"/>	Black Histic (A3)			<input type="checkbox"/>	Stripped Matrix (S6)		<input type="checkbox"/>	Dark Surface (S7) (LRR G)
<input type="checkbox"/>	Hydrogen Sulfide (A4)			<input type="checkbox"/>	Loamy Mucky Mineral (F1)		<input type="checkbox"/>	High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
<input type="checkbox"/>	Stratified Layers (A5) (LRR F)			<input type="checkbox"/>	Loamy Gleyed Matrix (F2)		<input type="checkbox"/>	Reduced Vertic (F18)
<input type="checkbox"/>	1 cm Muck (A9) (LRR F, G, H)			<input type="checkbox"/>	Depleted Matrix (F3)		<input type="checkbox"/>	Red Parent Material (TF2)
<input type="checkbox"/>	Depleted Below Dark Surface (A11)			<input type="checkbox"/>	Redox Dark Surface (F6)		<input type="checkbox"/>	Very Shallow Dark Surface (TF12)
<input type="checkbox"/>	Thick Dark Surface (A12)			<input type="checkbox"/>	Depleted Dark Surface (F7)		<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>	Sandy Mucky Mineral (S1)			<input type="checkbox"/>	Redox Depressions (F8)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/>	2.5 cm Mucky Peat or Peat (S2) (LRR G, H)			<input type="checkbox"/>	High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)			
<input type="checkbox"/>	5 cm Mucky Peat or Peat (S3) (LRR F)							
Restrictive Layer (if present):						Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Type:								
Depth (inches):								
Remarks:								

HYDROLOGY

Wetland Hydrology Indicators:									
Primary Indicators (minimum of one required; check all that apply)					Secondary Indicators (minimum of two required)				
<input type="checkbox"/>	Surface Water (A1)			<input type="checkbox"/>	Salt Crust (B11)		<input type="checkbox"/>	Surface Soil Cracks (B6)	
<input type="checkbox"/>	High Water Table (A2)			<input type="checkbox"/>	Aquatic Invertebrates (B13)		<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/>	Saturation (A3)			<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)		<input type="checkbox"/>	Drainage Patterns (B10)	
<input type="checkbox"/>	Water Marks (B1)			<input type="checkbox"/>	Dry-Season Water Table (C2)		<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where tilled)	
<input type="checkbox"/>	Sediment Deposits (B2)			<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where not tilled)		<input type="checkbox"/>	Crayfish Burrows (C8)	
<input type="checkbox"/>	Drift Deposits (B3)			<input type="checkbox"/>	Presence of Reduced Iron (C4)		<input type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/>	Algal Mat or Crust (B4)			<input type="checkbox"/>	Thin Muck Surface (C7)		<input type="checkbox"/>	Geomorphic Position (D2)	
<input type="checkbox"/>	Iron Deposits (B5)			<input type="checkbox"/>	Other (Explain in Remarks)		<input type="checkbox"/>	FAC-Neutral Test (D5)	
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)			<input type="checkbox"/>			Frost-Heave Hummocks (D7) (LRR F)		
<input type="checkbox"/>	Water-Stained Leaves (B9)								
Field Observations:						Water Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Surface Water Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):						
Water Table Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):						
Saturation Present? (includes capillary fringe)		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):						
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:									
Remarks:									

WETLAND DETERMINATION DATA FORM—Great Plains Region

Project/Site: Brady Wind I		City/County: Stark	Sampling Date: 10/24/15
Applicant/Owner: Nextera		State: North Dakota	Sampling Point: BR-UP-5B
Investigator(s): S Yarbrough, R Sparhawk		Section, Township, Range:	
Landform (hillslope, terrace, etc.): terrace		Local relief (concave, convex, none) none	Slope (%): 0
Subregion (LRR): F	Lat: 46.65729	Long: -102.677	Datum: 84
Soil Map Unit Name:		NWI Classification:	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)			
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "normal circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If necessary, explain any answers in Remarks.)			
SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Is the Sampled Area within a Wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Remarks: Photo 8060			

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. Populus deltoides	15	yes	FAC	Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	2 (A)
2. Picea pungens	5	yes	FAC	Total Number of Dominant Species Across All Strata:	4 (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	50 (A/B)
4.				Prevalence Index worksheet:	
	20	= Total Cover		<u>Total % Cover of:</u>	<u>Multiply by:</u>
Sapling/Shrub Stratum (Plot size: 15')			OBL species	x 1 =	
1. n/a			FACW species	x 2 =	
2.			FAC species 20	x 3 = 60	
3.			FACU species 20	x 4 = 80	
4.			UPL species 80	x 5 = 400	
5.			Column Totals: 120 (A)	540 (B)	
		= Total Cover	Prevalence Index = B/A =	540/120 = 4.5	
Herb Stratum (Plot size: 5')			Hydrophytic Vegetation Indicators:		
1. Bromus inermis	80	yes	UPL	<input type="checkbox"/>	1. Rapid Test for Hydrophytic Vegetation
2. Phleum pratense	20	yes	FACU	<input type="checkbox"/>	2. Dominance Test is >50%
3.				<input type="checkbox"/>	3. Prevalence Index is ≤3.0 ¹
4.				<input type="checkbox"/>	4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.				<input type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7.					
8.					
9.					
	100	= Total Cover			
Woody Vine Stratum (Plot size: 30')			Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (clearly fails Prevalence test)	
1. n/a					
		= Total Cover			
% Bare Ground in Herb Stratum: 0					
Remarks:					

WETLAND DETERMINATION DATA FORM—Great Plains Region

SOIL

Sampling Point: BR-UP-5B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10 YR 2/2	100					silt loam	
5-11	10 YR 3/2	100					silt loam	
11-20	10 YR 3/2	98	10 YR 4/6	2	C	M	clay	
¹ Type: C=Concentration; D=Depletion; RM=Reduced Matrix; CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining; M=Matrix								
Hydric Soil Indicators: (applicable to all LRRs, unless otherwise noted.)						Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/>	Histosol (A1)		<input type="checkbox"/>	Sandy Gleyed Matrix (S4)		<input type="checkbox"/>	1 cm Muck (A9) (LRR I, J)	
<input type="checkbox"/>	Histic Epipedon (A2)		<input type="checkbox"/>	Sandy Redox (S5)		<input type="checkbox"/>	Coast Prairie Redox A16) (LRR F, G, H)	
<input type="checkbox"/>	Black Histic (A3)		<input type="checkbox"/>	Stripped Matrix (S6)		<input type="checkbox"/>	Dark Surface (S7) (LRR G)	
<input type="checkbox"/>	Hydrogen Sulfide (A4)		<input type="checkbox"/>	Loamy Mucky Mineral (F1)		<input type="checkbox"/>	High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)	
<input type="checkbox"/>	Stratified Layers (A5) (LRR F)		<input type="checkbox"/>	Loamy Gleyed Matrix (F2)		<input type="checkbox"/>	Reduced Vertic (F18)	
<input type="checkbox"/>	1 cm Muck (A9) (LRR F, G, H)		<input type="checkbox"/>	Depleted Matrix (F3)		<input type="checkbox"/>	Red Parent Material (TF2)	
<input type="checkbox"/>	Depleted Below Dark Surface (A11)		<input type="checkbox"/>	Redox Dark Surface (F6)		<input type="checkbox"/>	Very Shallow Dark Surface (TF12)	
<input type="checkbox"/>	Thick Dark Surface (A12)		<input type="checkbox"/>	Depleted Dark Surface (F7)		<input type="checkbox"/>	Other (Explain in Remarks)	
<input type="checkbox"/>	Sandy Mucky Mineral (S1)		<input type="checkbox"/>	Redox Depressions (F8)		<input type="checkbox"/>	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/>	2.5 cm Mucky Peat or Peat (S2) (LRR G, H)		<input type="checkbox"/>	High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)				
<input type="checkbox"/>	5 cm Mucky Peat or Peat (S3) (LRR F)							
Restrictive Layer (if present):						Hydric Soil Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Type:								
Depth (inches):								
Remarks: Photo 8061. Minor redox at 11" bgs. Does not meet hydric indicator F6.								

HYDROLOGY

Wetland Hydrology Indicators:								
Primary Indicators (minimum of one required; check all that apply)					Secondary Indicators (minimum of two required)			
<input type="checkbox"/>	Surface Water (A1)		<input type="checkbox"/>	Salt Crust (B11)		<input type="checkbox"/>	Surface Soil Cracks (B6)	
<input type="checkbox"/>	High Water Table (A2)		<input type="checkbox"/>	Aquatic Invertebrates (B13)		<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/>	Saturation (A3)		<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)		<input type="checkbox"/>	Drainage Patterns (B10)	
<input type="checkbox"/>	Water Marks (B1)		<input type="checkbox"/>	Dry-Season Water Table (C2)		<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where tilled)	
<input type="checkbox"/>	Sediment Deposits (B2)		<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where not tilled)		<input type="checkbox"/>	Crayfish Burrows (C8)	
<input type="checkbox"/>	Drift Deposits (B3)		<input type="checkbox"/>	Presence of Reduced Iron (C4)		<input type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/>	Algal Mat or Crust (B4)		<input type="checkbox"/>	Thin Muck Surface (C7)		<input type="checkbox"/>	Geomorphic Position (D2)	
<input type="checkbox"/>	Iron Deposits (B5)		<input type="checkbox"/>	Other (Explain in Remarks)		<input type="checkbox"/>	FAC-Neutral Test (D5)	
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)					<input type="checkbox"/>	Frost-Heave Hummocks (D7) (LRR F)	
<input type="checkbox"/>	Water-Stained Leaves (B9)							
Field Observations:					Water Hydrology Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Surface Water Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):					
Water Table Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):					
Saturation Present? (includes capillary fringe)		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):					
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:								
Remarks: No primary or secondary indicators of wetland hydrology.								

WETLAND DETERMINATION DATA FORM—Great Plains Region

Project/Site: Brady Wind I		City/County: Dickinson/Stark	Sampling Date: 10/25/15
Applicant/Owner: Nextera		State: North Dakota	Sampling Point: BR-UP-6A
Investigator(s): K Brimacombe, A Bensted		Section, Township, Range: Section 32 T137N R97W	
Landform (hillslope, terrace, etc.): hillslope		Local relief (concave, convex, none) convex	Slope (%): 1
Subregion (LRR): LRR F	Lat: 46.6352536	Long: -102.9425760	Datum: 84
Soil Map Unit Name:		NWI Classification: none	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)			
Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "normal circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If necessary, explain any answers in Remarks.)			
SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Is the Sampled Area within a Wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Remarks: Wetland located in plowed canola/wheat field.			

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. n/a				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	0 (A)
2.				Total Number of Dominant Species Across All Strata:	2 (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	0 (A/B)
4.				Prevalence Index worksheet:	
		= Total Cover		Total % Cover of:	Multiply by:
Sapling/Shrub Stratum (Plot size: 15')				OBL species	x 1 =
1. n/a				FACW species	x 2 =
2.				FAC species	x 3 =
3.				FACU species	x 4 =
4.				UPL species	x 5 =
5.				Column Totals: (A)	(B)
		= Total Cover		Prevalence Index = B/A =	
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators:	
1. Triticum aestivum	60	yes	NI	<input type="checkbox"/>	1. Rapid Test for Hydrophytic Vegetation
2. Canola (Brassica sp.)	40	yes	NI	<input type="checkbox"/>	2. Dominance Test is >50%
3.				<input type="checkbox"/>	3. Prevalence Index is ≤3.0 ¹
4.				<input type="checkbox"/>	4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.				<input type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7.					
8.					
9.					
	100	= Total Cover			
Woody Vine Stratum (Plot size: 30')				Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. n/a					
		= Total Cover			
% Bare Ground in Herb Stratum: 0					
Remarks: plowed canola/wheat field					

WETLAND DETERMINATION DATA FORM—Great Plains Region

SOIL

Sampling Point: BR-UP-6A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10 YR 3/2	100	none				sandy loam	

¹ Type: C=Concentration; D=Depletion; RM=Reduced Matrix; CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining; M=Matrix

Hydric Soil Indicators: (applicable to all LRRs, unless otherwise noted.)				Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/>	Histosol (A1)	<input type="checkbox"/>	Sandy Gleyed Matrix (S4)	<input type="checkbox"/>	1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/>	Histic Epipedon (A2)	<input type="checkbox"/>	Sandy Redox (S5)	<input type="checkbox"/>	Coast Prairie Redox A16) (LRR F, G, H)
<input type="checkbox"/>	Black Histic (A3)	<input type="checkbox"/>	Stripped Matrix (S6)	<input type="checkbox"/>	Dark Surface (S7) (LRR G)
<input type="checkbox"/>	Hydrogen Sulfide (A4)	<input type="checkbox"/>	Loamy Mucky Mineral (F1)	<input type="checkbox"/>	High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
<input type="checkbox"/>	Stratified Layers (A5) (LRR F)	<input type="checkbox"/>	Loamy Gleyed Matrix (F2)	<input type="checkbox"/>	Reduced Vertic (F18)
<input type="checkbox"/>	1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/>	Depleted Matrix (F3)	<input type="checkbox"/>	Red Parent Material (TF2)
<input type="checkbox"/>	Depleted Below Dark Surface (A11)	<input type="checkbox"/>	Redox Dark Surface (F6)	<input type="checkbox"/>	Very Shallow Dark Surface (TF12)
<input type="checkbox"/>	Thick Dark Surface (A12)	<input type="checkbox"/>	Depleted Dark Surface (F7)	<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>	Sandy Mucky Mineral (S1)	<input type="checkbox"/>	Redox Depressions (F8)	<input type="checkbox"/>	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/>	2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/>	High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)		
<input type="checkbox"/>	5 cm Mucky Peat or Peat (S3) (LRR F)				

Restrictive Layer (if present):		Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Type:			
Depth (inches):			
Remarks:			

HYDROLOGY

Wetland Hydrology Indicators:					
Primary Indicators (minimum of one required; check all that apply)			Secondary Indicators (minimum of two required)		
<input type="checkbox"/>	Surface Water (A1)	<input type="checkbox"/>	Salt Crust (B11)	<input type="checkbox"/>	Surface Soil Cracks (B6)
<input type="checkbox"/>	High Water Table (A2)	<input type="checkbox"/>	Aquatic Invertebrates (B13)	<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/>	Saturation (A3)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)	<input type="checkbox"/>	Drainage Patterns (B10)
<input type="checkbox"/>	Water Marks (B1)	<input type="checkbox"/>	Dry-Season Water Table (C2)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where tilled)
<input type="checkbox"/>	Sediment Deposits (B2)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where not tilled)	<input type="checkbox"/>	Crayfish Burrows (C8)
<input type="checkbox"/>	Drift Deposits (B3)	<input type="checkbox"/>	Presence of Reduced Iron (C4)	<input type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/>	Algal Mat or Crust (B4)	<input type="checkbox"/>	Thin Muck Surface (C7)	<input type="checkbox"/>	Geomorphic Position (D2)
<input type="checkbox"/>	Iron Deposits (B5)	<input type="checkbox"/>	Other (Explain in Remarks)	<input type="checkbox"/>	FAC-Neutral Test (D5)
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)			<input type="checkbox"/>	Frost-Heave Hummocks (D7) (LRR F)
<input type="checkbox"/>	Water-Stained Leaves (B9)				

Field Observations:			Water Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Surface Water Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Water Table Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Remarks:

WETLAND DETERMINATION DATA FORM—Great Plains Region

Project/Site: Brady Wind I		City/County: Stark	Sampling Date: 10/24/15
Applicant/Owner: Nextera		State: North Dakota	Sampling Point: BR-UP-6B
Investigator(s): S Yarbrough, R Sparhawk		Section, Township, Range:	
Landform (hillslope, terrace, etc.): hillslope		Local relief (concave, convex, none) none	Slope (%): 5-10
Subregion (LRR): F	Lat: 46.63344	Long: -102.727	Datum: 84
Soil Map Unit Name: Belfield - Daglum		NWI Classification:	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)			
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "normal circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If necessary, explain any answers in Remarks.)			
SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Is the Sampled Area within a Wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Remarks:			

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:		
1. n/a				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	0 (A)	
2.				Total Number of Dominant Species Across All Strata:	2 (B)	
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	0 (A/B)	
4.				Prevalence Index worksheet:		
		= Total Cover		<u>Total % Cover of:</u>	<u>Multiply by:</u>	
Sapling/Shrub Stratum (Plot size: 15')				OBL species	x 1 =	
1. n/a				FACW species	x 2 =	
2.				FAC species	x 3 =	
3.				FACU species 50	x 4 = 200	
4.				UPL species 50	x 5 = 250	
5.				Column Totals: 100 (A)	450 (B)	
		= Total Cover		Prevalence Index = B/A =	450/100 = 4.5	
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators:		
1. Poa compressa	50	yes	FACU	<input type="checkbox"/>	1. Rapid Test for Hydrophytic Vegetation	
2. Bromus inermis	50	yes	UPL	<input type="checkbox"/>	2. Dominance Test is >50%	
3.				<input type="checkbox"/>	3. Prevalence Index is ≤3.0 ¹	
4.				<input type="checkbox"/>	4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
5.				<input type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)	
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
7.						
8.						
9.						
	100	= Total Cover				
Woody Vine Stratum (Plot size: 30')				Hydrophytic Vegetation Present?		
1. n/a						<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
		= Total Cover				
% Bare Ground in Herb Stratum: 0						
Remarks: No wetland plants present. Photo 8065 (closeup of smooth brome).						

WETLAND DETERMINATION DATA FORM—Great Plains Region

SOIL

Sampling Point: BR-UP-6B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10 YR 3/2	100					silt loam	
¹ Type: C=Concentration; D=Depletion; RM=Reduced Matrix; CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining; M=Matrix								
Hydric Soil Indicators: (applicable to all LRRs, unless otherwise noted.)						Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/>	Histosol (A1)		<input type="checkbox"/>	Sandy Gleyed Matrix (S4)		<input type="checkbox"/>	1 cm Muck (A9) (LRR I, J)	
<input type="checkbox"/>	Histic Epipedon (A2)		<input type="checkbox"/>	Sandy Redox (S5)		<input type="checkbox"/>	Coast Prairie Redox A16) (LRR F, G, H)	
<input type="checkbox"/>	Black Histic (A3)		<input type="checkbox"/>	Stripped Matrix (S6)		<input type="checkbox"/>	Dark Surface (S7) (LRR G)	
<input type="checkbox"/>	Hydrogen Sulfide (A4)		<input type="checkbox"/>	Loamy Mucky Mineral (F1)		<input type="checkbox"/>	High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)	
<input type="checkbox"/>	Stratified Layers (A5) (LRR F)		<input type="checkbox"/>	Loamy Gleyed Matrix (F2)		<input type="checkbox"/>	Reduced Vertic (F18)	
<input type="checkbox"/>	1 cm Muck (A9) (LRR F, G, H)		<input type="checkbox"/>	Depleted Matrix (F3)		<input type="checkbox"/>	Red Parent Material (TF2)	
<input type="checkbox"/>	Depleted Below Dark Surface (A11)		<input type="checkbox"/>	Redox Dark Surface (F6)		<input type="checkbox"/>	Very Shallow Dark Surface (TF12)	
<input type="checkbox"/>	Thick Dark Surface (A12)		<input type="checkbox"/>	Depleted Dark Surface (F7)		<input type="checkbox"/>	Other (Explain in Remarks)	
<input type="checkbox"/>	Sandy Mucky Mineral (S1)		<input type="checkbox"/>	Redox Depressions (F8)		<input type="checkbox"/>	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/>	2.5 cm Mucky Peat or Peat (S2) (LRR G, H)		<input type="checkbox"/>	High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)				
<input type="checkbox"/>	5 cm Mucky Peat or Peat (S3) (LRR F)							
Restrictive Layer (if present):								
Type:			Hydric Soil Present?			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Depth (inches):								
Remarks: Photo 8066 (closeup). No indicators for hydric soil conditions.								

HYDROLOGY

Wetland Hydrology Indicators:								
Primary Indicators (minimum of one required; check all that apply)					Secondary Indicators (minimum of two required)			
<input type="checkbox"/>	Surface Water (A1)		<input type="checkbox"/>	Salt Crust (B11)		<input type="checkbox"/>	Surface Soil Cracks (B6)	
<input type="checkbox"/>	High Water Table (A2)		<input type="checkbox"/>	Aquatic Invertebrates (B13)		<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/>	Saturation (A3)		<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)		<input type="checkbox"/>	Drainage Patterns (B10)	
<input type="checkbox"/>	Water Marks (B1)		<input type="checkbox"/>	Dry-Season Water Table (C2)		<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where tilled)	
<input type="checkbox"/>	Sediment Deposits (B2)		<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where not tilled)		<input type="checkbox"/>	Crayfish Burrows (C8)	
<input type="checkbox"/>	Drift Deposits (B3)		<input type="checkbox"/>	Presence of Reduced Iron (C4)		<input type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/>	Algal Mat or Crust (B4)		<input type="checkbox"/>	Thin Muck Surface (C7)		<input type="checkbox"/>	Geomorphic Position (D2)	
<input type="checkbox"/>	Iron Deposits (B5)		<input type="checkbox"/>	Other (Explain in Remarks)		<input type="checkbox"/>	FAC-Neutral Test (D5)	
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)					<input type="checkbox"/>	Frost-Heave Hummocks (D7) (LRR F)	
<input type="checkbox"/>	Water-Stained Leaves (B9)							
Field Observations:					Water Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Surface Water Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):					
Water Table Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):					
Saturation Present? (includes capillary fringe)		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):					
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:								
Remarks: No primary or secondary indicators of wetland hydrology.								

WETLAND DETERMINATION DATA FORM—Great Plains Region

Project/Site: Brady Wind I		City/County: Dickinson/Stark	Sampling Date: 10/25/15
Applicant/Owner: Nextera		State: North Dakota	Sampling Point: BR-UP-7A
Investigator(s): K Brimacombe, A Bensted		Section, Township, Range: Sections 33 and 34 T137N R97W	
Landform (hillslope, terrace, etc.): hillslope		Local relief (concave, convex, none) convex	Slope (%): 1
Subregion (LRR): LRR F	Lat: 46.6374630	Long: -102.9150220	Datum: 84
Soil Map Unit Name:		NWI Classification: none	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)			
Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "normal circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If necessary, explain any answers in Remarks.)			
SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Is the Sampled Area within a Wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Remarks: Vegetation disturbed - plowed soybean field.			

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. n/a				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	0 (A)
2.				Total Number of Dominant Species Across All Strata:	1 (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	0 (A/B)
4.				Prevalence Index worksheet:	
		= Total Cover		Total % Cover of:	Multiply by:
Sapling/Shrub Stratum (Plot size: 15')				OBL species	x 1 =
1. n/a				FACW species	x 2 =
2.				FAC species	x 3 =
3.				FACU species	x 4 =
4.				UPL species	x 5 =
5.				Column Totals: (A)	(B)
		= Total Cover		Prevalence Index = B/A =	
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators:	
1. Soybean (Glycine max)	80	yes	NI	<input type="checkbox"/>	1. Rapid Test for Hydrophytic Vegetation
2. Cirsium arvense	15	no	FACU	<input type="checkbox"/>	2. Dominance Test is >50%
3. Setaria spp.	2	no	varies	<input type="checkbox"/>	3. Prevalence Index is ≤3.0 ¹
4.				<input type="checkbox"/>	4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.				<input type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7.					
8.					
9.					
	97	= Total Cover			
Woody Vine Stratum (Plot size: 30')				Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. n/a					
		= Total Cover			
% Bare Ground in Herb Stratum: 3					
Remarks:					

WETLAND DETERMINATION DATA FORM—Great Plains Region

SOIL

Sampling Point: BR-UP-7A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10 YR 3/1	100					sandy clay loam	
¹ Type: C=Concentration; D=Depletion; RM=Reduced Matrix; CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining; M=Matrix								
Hydric Soil Indicators: (applicable to all LRRs, unless otherwise noted.)						Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/>	Histosol (A1)			<input type="checkbox"/>	Sandy Gleyed Matrix (S4)		<input type="checkbox"/>	1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/>	Histic Epipedon (A2)			<input type="checkbox"/>	Sandy Redox (S5)		<input type="checkbox"/>	Coast Prairie Redox A16) (LRR F, G, H)
<input type="checkbox"/>	Black Histic (A3)			<input type="checkbox"/>	Stripped Matrix (S6)		<input type="checkbox"/>	Dark Surface (S7) (LRR G)
<input type="checkbox"/>	Hydrogen Sulfide (A4)			<input type="checkbox"/>	Loamy Mucky Mineral (F1)		<input type="checkbox"/>	High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
<input type="checkbox"/>	Stratified Layers (A5) (LRR F)			<input type="checkbox"/>	Loamy Gleyed Matrix (F2)		<input type="checkbox"/>	Reduced Vertic (F18)
<input type="checkbox"/>	1 cm Muck (A9) (LRR F, G, H)			<input type="checkbox"/>	Depleted Matrix (F3)		<input type="checkbox"/>	Red Parent Material (TF2)
<input type="checkbox"/>	Depleted Below Dark Surface (A11)			<input type="checkbox"/>	Redox Dark Surface (F6)		<input type="checkbox"/>	Very Shallow Dark Surface (TF12)
<input type="checkbox"/>	Thick Dark Surface (A12)			<input type="checkbox"/>	Depleted Dark Surface (F7)		<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>	Sandy Mucky Mineral (S1)			<input type="checkbox"/>	Redox Depressions (F8)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/>	2.5 cm Mucky Peat or Peat (S2) (LRR G, H)			<input type="checkbox"/>	High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)			
<input type="checkbox"/>	5 cm Mucky Peat or Peat (S3) (LRR F)							
Restrictive Layer (if present):						Hydric Soil Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Type:	hardpan			Depth (inches):				
Remarks:								

HYDROLOGY

Wetland Hydrology Indicators:									
Primary Indicators (minimum of one required; check all that apply)					Secondary Indicators (minimum of two required)				
<input type="checkbox"/>	Surface Water (A1)			<input type="checkbox"/>	Salt Crust (B11)		<input type="checkbox"/>	Surface Soil Cracks (B6)	
<input type="checkbox"/>	High Water Table (A2)			<input type="checkbox"/>	Aquatic Invertebrates (B13)		<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/>	Saturation (A3)			<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)		<input type="checkbox"/>	Drainage Patterns (B10)	
<input type="checkbox"/>	Water Marks (B1)			<input type="checkbox"/>	Dry-Season Water Table (C2)		<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where tilled)	
<input type="checkbox"/>	Sediment Deposits (B2)			<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where not tilled)		<input type="checkbox"/>	Crayfish Burrows (C8)	
<input type="checkbox"/>	Drift Deposits (B3)			<input type="checkbox"/>	Presence of Reduced Iron (C4)		<input type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/>	Algal Mat or Crust (B4)			<input type="checkbox"/>	Thin Muck Surface (C7)		<input type="checkbox"/>	Geomorphic Position (D2)	
<input type="checkbox"/>	Iron Deposits (B5)			<input type="checkbox"/>	Other (Explain in Remarks)		<input type="checkbox"/>	FAC-Neutral Test (D5)	
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)			<input type="checkbox"/>			Frost-Heave Hummocks (D7) (LRR F)		
<input type="checkbox"/>	Water-Stained Leaves (B9)								
Field Observations:					Water Hydrology Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Surface Water Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):						
Water Table Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):						
Saturation Present? (includes capillary fringe)		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):						
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:									
Remarks:									

WETLAND DETERMINATION DATA FORM—Great Plains Region

Project/Site: Brady Wind I		City/County: Stark	Sampling Date: 10/25/15
Applicant/Owner: Nextera		State: North Dakota	Sampling Point: BR-UP-7B
Investigator(s): S Yarbrough, R Sparhawk		Section, Township, Range:	
Landform (hillslope, terrace, etc.): lowland, pasture		Local relief (concave, convex, none) none	Slope (%): 2
Subregion (LRR): F	Lat: 46.66209	Long: -102.78	Datum: 84
Soil Map Unit Name:		NWI Classification:	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)			
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "normal circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If necessary, explain any answers in Remarks.)			
SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Is the Sampled Area within a Wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Remarks: Adjacent to Kettle pond. It is in a pasture. Relatively flat topography.			

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. n/a				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	1 (A)
2.				Total Number of Dominant Species Across All Strata:	2 (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	50 (A/B)
4.				Prevalence Index worksheet:	
		= Total Cover		<u>Total % Cover of:</u>	<u>Multiply by:</u>
Sapling/Shrub Stratum (Plot size: 15')				OBL species	x 1 =
1. n/a				FACW species 50	x 2 = 100
2.				FAC species	x 3 =
3.				FACU species 50	x 4 = 200
4.				UPL species	x 5 =
5.				Column Totals: 100 (A)	300 (B)
		= Total Cover		Prevalence Index = B/A =	300/100 = 3.0
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators:	
1. Poa pratensis	50	yes	FACU	<input type="checkbox"/>	1. Rapid Test for Hydrophytic Vegetation
2. Hordeum jubatum	50	yes	FACW	<input type="checkbox"/>	2. Dominance Test is >50%
3.				<input type="checkbox"/>	3. Prevalence Index is ≤3.0 ¹
4.				<input type="checkbox"/>	4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.				<input type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7.					
8.					
9.					
	100	= Total Cover			
Woody Vine Stratum (Plot size: 30')				Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. n/a					
		= Total Cover			
% Bare Ground in Herb Stratum: 0					
Remarks: Vegetation is marginal with a 50/50 split between FACU and FACW. We fail with soils and hydrology.					

WETLAND DETERMINATION DATA FORM—Great Plains Region

SOIL

Sampling Point: BR-UP-7B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10 YR 3/1	100					clay loam	
¹ Type: C=Concentration; D=Depletion; RM=Reduced Matrix; CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining; M=Matrix								
Hydric Soil Indicators: (applicable to all LRRs, unless otherwise noted.)						Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/>	Histosol (A1)			<input type="checkbox"/>	Sandy Gleyed Matrix (S4)		<input type="checkbox"/>	1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/>	Histic Epipedon (A2)			<input type="checkbox"/>	Sandy Redox (S5)		<input type="checkbox"/>	Coast Prairie Redox A16) (LRR F, G, H)
<input type="checkbox"/>	Black Histic (A3)			<input type="checkbox"/>	Stripped Matrix (S6)		<input type="checkbox"/>	Dark Surface (S7) (LRR G)
<input type="checkbox"/>	Hydrogen Sulfide (A4)			<input type="checkbox"/>	Loamy Mucky Mineral (F1)		<input type="checkbox"/>	High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
<input type="checkbox"/>	Stratified Layers (A5) (LRR F)			<input type="checkbox"/>	Loamy Gleyed Matrix (F2)		<input type="checkbox"/>	Reduced Vertic (F18)
<input type="checkbox"/>	1 cm Muck (A9) (LRR F, G, H)			<input type="checkbox"/>	Depleted Matrix (F3)		<input type="checkbox"/>	Red Parent Material (TF2)
<input type="checkbox"/>	Depleted Below Dark Surface (A11)			<input type="checkbox"/>	Redox Dark Surface (F6)		<input type="checkbox"/>	Very Shallow Dark Surface (TF12)
<input type="checkbox"/>	Thick Dark Surface (A12)			<input type="checkbox"/>	Depleted Dark Surface (F7)		<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>	Sandy Mucky Mineral (S1)			<input type="checkbox"/>	Redox Depressions (F8)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/>	2.5 cm Mucky Peat or Peat (S2) (LRR G, H)			<input type="checkbox"/>	High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)			
<input type="checkbox"/>	5 cm Mucky Peat or Peat (S3) (LRR F)							
Restrictive Layer (if present):				Hydric Soil Present?			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Type: Depth (inches):								
Remarks: Calcic concentrations in a dark formation. No positive indication for hydric soils.								

HYDROLOGY

Wetland Hydrology Indicators:									
Primary Indicators (minimum of one required; check all that apply)					Secondary Indicators (minimum of two required)				
<input type="checkbox"/>	Surface Water (A1)			<input type="checkbox"/>	Salt Crust (B11)		<input type="checkbox"/>	Surface Soil Cracks (B6)	
<input type="checkbox"/>	High Water Table (A2)			<input type="checkbox"/>	Aquatic Invertebrates (B13)		<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/>	Saturation (A3)			<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)		<input type="checkbox"/>	Drainage Patterns (B10)	
<input type="checkbox"/>	Water Marks (B1)			<input type="checkbox"/>	Dry-Season Water Table (C2)		<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where tilled)	
<input type="checkbox"/>	Sediment Deposits (B2)			<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where not tilled)		<input type="checkbox"/>	Crayfish Burrows (C8)	
<input type="checkbox"/>	Drift Deposits (B3)			<input type="checkbox"/>	Presence of Reduced Iron (C4)		<input type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/>	Algal Mat or Crust (B4)			<input type="checkbox"/>	Thin Muck Surface (C7)		<input type="checkbox"/>	Geomorphic Position (D2)	
<input type="checkbox"/>	Iron Deposits (B5)			<input type="checkbox"/>	Other (Explain in Remarks)		<input type="checkbox"/>	FAC-Neutral Test (D5)	
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)			<input type="checkbox"/>			Frost-Heave Hummocks (D7) (LRR F)		
<input type="checkbox"/>	Water-Stained Leaves (B9)								
Field Observations:				Water Hydrology Present?			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Surface Water Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):						
Water Table Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):						
Saturation Present? (includes capillary fringe)		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):						
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:									
Remarks: No primary or secondary indicators of wetland hydrology.									

WETLAND DETERMINATION DATA FORM—Great Plains Region

Project/Site: Brady Wind I		City/County: Stark	Sampling Date: 10/25/15
Applicant/Owner: Nextera		State: North Dakota	Sampling Point: BR-UP-8B
Investigator(s): S Yarbrough, R Sparhawk		Section, Township, Range:	
Landform (hillslope, terrace, etc.): shoulder of slope		Local relief (concave, convex, none) convex	Slope (%): 5
Subregion (LRR): F	Lat: 46.64554	Long: -102.855	Datum: 84
Soil Map Unit Name:		NWI Classification:	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)			
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "normal circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If necessary, explain any answers in Remarks.)			
SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Is the Sampled Area within a Wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Remarks:			

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. n/a				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	0 (A)
2.				Total Number of Dominant Species Across All Strata:	4 (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	0 (A/B)
4.				Prevalence Index worksheet:	
		= Total Cover		Total % Cover of:	Multiply by:
Sapling/Shrub Stratum (Plot size: 15')				OBL species	x 1 =
1. Artemisia frigida	5	yes		FACW species	x 2 =
2.				FAC species	x 3 =
3.				FACU species	x 4 =
4.				UPL species	x 5 =
5.				Column Totals: (A)	(B)
		= Total Cover		Prevalence Index = B/A =	
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators:	
1. Bromus inermis	50	yes	UPL	<input type="checkbox"/>	1. Rapid Test for Hydrophytic Vegetation
2. Poa compressa	30	yes	FACU	<input type="checkbox"/>	2. Dominance Test is >50%
3. Juncus interior	20	yes	FACU	<input type="checkbox"/>	3. Prevalence Index is ≤3.0 ¹
4.				<input type="checkbox"/>	4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.				<input type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7.					
8.					
9.					
	100	= Total Cover			
Woody Vine Stratum (Plot size: 30')				Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1.					
		= Total Cover			
% Bare Ground in Herb Stratum: 0					
Remarks:					

WETLAND DETERMINATION DATA FORM—Great Plains Region

SOIL

Sampling Point: BR-UP-8B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10 YR 3/3	100						
8-20	10 YR 5/4	100						
¹ Type: C=Concentration; D=Depletion; RM=Reduced Matrix; CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining; M=Matrix								
Hydric Soil Indicators: (applicable to all LRRs, unless otherwise noted.)						Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/>	Histosol (A1)		<input type="checkbox"/>	Sandy Gleyed Matrix (S4)		<input type="checkbox"/>	1 cm Muck (A9) (LRR I, J)	
<input type="checkbox"/>	Histic Epipedon (A2)		<input type="checkbox"/>	Sandy Redox (S5)		<input type="checkbox"/>	Coast Prairie Redox A16) (LRR F, G, H)	
<input type="checkbox"/>	Black Histic (A3)		<input type="checkbox"/>	Stripped Matrix (S6)		<input type="checkbox"/>	Dark Surface (S7) (LRR G)	
<input type="checkbox"/>	Hydrogen Sulfide (A4)		<input type="checkbox"/>	Loamy Mucky Mineral (F1)		<input type="checkbox"/>	High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)	
<input type="checkbox"/>	Stratified Layers (A5) (LRR F)		<input type="checkbox"/>	Loamy Gleyed Matrix (F2)		<input type="checkbox"/>	Reduced Vertic (F18)	
<input type="checkbox"/>	1 cm Muck (A9) (LRR F, G, H)		<input type="checkbox"/>	Depleted Matrix (F3)		<input type="checkbox"/>	Red Parent Material (TF2)	
<input type="checkbox"/>	Depleted Below Dark Surface (A11)		<input type="checkbox"/>	Redox Dark Surface (F6)		<input type="checkbox"/>	Very Shallow Dark Surface (TF12)	
<input type="checkbox"/>	Thick Dark Surface (A12)		<input type="checkbox"/>	Depleted Dark Surface (F7)		<input type="checkbox"/>	Other (Explain in Remarks)	
<input type="checkbox"/>	Sandy Mucky Mineral (S1)		<input type="checkbox"/>	Redox Depressions (F8)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
<input type="checkbox"/>	2.5 cm Mucky Peat or Peat (S2) (LRR G, H)		<input type="checkbox"/>	High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)				
<input type="checkbox"/>	5 cm Mucky Peat or Peat (S3) (LRR F)							
Restrictive Layer (if present):								
Type:						Hydric Soil Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Depth (inches):								
Remarks: No indication of hydric soils.								

HYDROLOGY

Wetland Hydrology Indicators:								
Primary Indicators (minimum of one required; check all that apply)					Secondary Indicators (minimum of two required)			
<input type="checkbox"/>	Surface Water (A1)		<input type="checkbox"/>	Salt Crust (B11)		<input type="checkbox"/>	Surface Soil Cracks (B6)	
<input type="checkbox"/>	High Water Table (A2)		<input type="checkbox"/>	Aquatic Invertebrates (B13)		<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/>	Saturation (A3)		<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)		<input type="checkbox"/>	Drainage Patterns (B10)	
<input type="checkbox"/>	Water Marks (B1)		<input type="checkbox"/>	Dry-Season Water Table (C2)		<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where tilled)	
<input type="checkbox"/>	Sediment Deposits (B2)		<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where not tilled)		<input type="checkbox"/>	Crayfish Burrows (C8)	
<input type="checkbox"/>	Drift Deposits (B3)		<input type="checkbox"/>	Presence of Reduced Iron (C4)		<input type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/>	Algal Mat or Crust (B4)		<input type="checkbox"/>	Thin Muck Surface (C7)		<input type="checkbox"/>	Geomorphic Position (D2)	
<input type="checkbox"/>	Iron Deposits (B5)		<input type="checkbox"/>	Other (Explain in Remarks)		<input type="checkbox"/>	FAC-Neutral Test (D5)	
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)					<input type="checkbox"/>	Frost-Heave Hummocks (D7) (LRR F)	
<input type="checkbox"/>	Water-Stained Leaves (B9)							
Field Observations:								
Surface Water Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		Water Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Water Table Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):					
Saturation Present? (includes capillary fringe)		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):					
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:								
Remarks: No primary or secondary indicators of wetland hydrology present.								

WETLAND DETERMINATION DATA FORM—Great Plains Region

Project/Site: Brady Wind I		City/County: Stark	Sampling Date: 10/25/15
Applicant/Owner: Nextera		State: North Dakota	Sampling Point: BR-UP-9B
Investigator(s): S Yarbrough, R Sparhawk		Section, Township, Range:	
Landform (hillslope, terrace, etc.): shoulder of depression		Local relief (concave, convex, none) none	Slope (%): 0
Subregion (LRR): F	Lat: 46.64809	Long: -102.852	Datum: 84
Soil Map Unit Name:		NWI Classification:	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)			
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "normal circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If necessary, explain any answers in Remarks.)			
SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Is the Sampled Area within a Wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Remarks:			

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. n/a				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	0 (A)
2.				Total Number of Dominant Species Across All Strata:	1 (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	0 (A/B)
4.				Prevalence Index worksheet:	
		= Total Cover		<u>Total % Cover of:</u>	<u>Multiply by:</u>
Sapling/Shrub Stratum (Plot size: 15')				OBL species	x 1 =
1. n/a				FACW species	x 2 =
2.				FAC species 10	x 3 = 30
3.				FACU species 90	x 4 = 360
4.				UPL species	x 5 =
5.				Column Totals: 100 (A)	390 (B)
		= Total Cover		Prevalence Index = B/A =	390/100 = 3.9
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators:	
1. Pascopyrum smithii	90	yes	FACU	<input type="checkbox"/>	1. Rapid Test for Hydrophytic Vegetation
2. Rumex crispus	10	no	FAC	<input type="checkbox"/>	2. Dominance Test is >50%
3.				<input type="checkbox"/>	3. Prevalence Index is ≤3.0 ¹
4.				<input type="checkbox"/>	4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.				<input type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7.					
8.					
9.					
		= Total Cover			
Woody Vine Stratum (Plot size: 30')				Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. n/a					
		= Total Cover			
% Bare Ground in Herb Stratum: 0					
Remarks:					

WETLAND DETERMINATION DATA FORM—Great Plains Region

SOIL

Sampling Point: BR-UP-9B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10 YR 2/1	100					silt loam	
¹ Type: C=Concentration; D=Depletion; RM=Reduced Matrix; CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining; M=Matrix								
Hydric Soil Indicators: (applicable to all LRRs, unless otherwise noted.)						Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/>	Histosol (A1)			<input type="checkbox"/>	Sandy Gleyed Matrix (S4)		<input type="checkbox"/>	1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/>	Histic Epipedon (A2)			<input type="checkbox"/>	Sandy Redox (S5)		<input type="checkbox"/>	Coast Prairie Redox A16) (LRR F, G, H)
<input type="checkbox"/>	Black Histic (A3)			<input type="checkbox"/>	Stripped Matrix (S6)		<input type="checkbox"/>	Dark Surface (S7) (LRR G)
<input type="checkbox"/>	Hydrogen Sulfide (A4)			<input type="checkbox"/>	Loamy Mucky Mineral (F1)		<input type="checkbox"/>	High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
<input type="checkbox"/>	Stratified Layers (A5) (LRR F)			<input type="checkbox"/>	Loamy Gleyed Matrix (F2)		<input type="checkbox"/>	Reduced Vertic (F18)
<input type="checkbox"/>	1 cm Muck (A9) (LRR F, G, H)			<input type="checkbox"/>	Depleted Matrix (F3)		<input type="checkbox"/>	Red Parent Material (TF2)
<input type="checkbox"/>	Depleted Below Dark Surface (A11)			<input type="checkbox"/>	Redox Dark Surface (F6)		<input type="checkbox"/>	Very Shallow Dark Surface (TF12)
<input type="checkbox"/>	Thick Dark Surface (A12)			<input type="checkbox"/>	Depleted Dark Surface (F7)		<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>	Sandy Mucky Mineral (S1)			<input type="checkbox"/>	Redox Depressions (F8)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/>	2.5 cm Mucky Peat or Peat (S2) (LRR G, H)			<input type="checkbox"/>	High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)			
<input type="checkbox"/>	5 cm Mucky Peat or Peat (S3) (LRR F)							
Restrictive Layer (if present):						Hydric Soil Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Type:								
Depth (inches):								
Remarks: No evidence to support hydric soils. Soil is dark but no redox (Mollic).								

HYDROLOGY

Wetland Hydrology Indicators:									
Primary Indicators (minimum of one required; check all that apply)					Secondary Indicators (minimum of two required)				
<input type="checkbox"/>	Surface Water (A1)			<input type="checkbox"/>	Salt Crust (B11)		<input type="checkbox"/>	Surface Soil Cracks (B6)	
<input type="checkbox"/>	High Water Table (A2)			<input type="checkbox"/>	Aquatic Invertebrates (B13)		<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/>	Saturation (A3)			<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)		<input type="checkbox"/>	Drainage Patterns (B10)	
<input type="checkbox"/>	Water Marks (B1)			<input type="checkbox"/>	Dry-Season Water Table (C2)		<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where tilled)	
<input type="checkbox"/>	Sediment Deposits (B2)			<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where not tilled)		<input type="checkbox"/>	Crayfish Burrows (C8)	
<input type="checkbox"/>	Drift Deposits (B3)			<input type="checkbox"/>	Presence of Reduced Iron (C4)		<input type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/>	Algal Mat or Crust (B4)			<input type="checkbox"/>	Thin Muck Surface (C7)		<input type="checkbox"/>	Geomorphic Position (D2)	
<input type="checkbox"/>	Iron Deposits (B5)			<input type="checkbox"/>	Other (Explain in Remarks)		<input type="checkbox"/>	FAC-Neutral Test (D5)	
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)			<input type="checkbox"/>			Frost-Heave Hummocks (D7) (LRR F)		
<input type="checkbox"/>	Water-Stained Leaves (B9)								
Field Observations:					Water Hydrology Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Surface Water Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):						
Water Table Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):						
Saturation Present? (includes capillary fringe)		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):						
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:									
Remarks: No primary or secondary indicators of wetland hydrology.									

WETLAND DETERMINATION DATA FORM—Great Plains Region

Project/Site: Brady Wind I		City/County: Stark	Sampling Date: 10/25/15
Applicant/Owner: Nextera		State: North Dakota	Sampling Point: BR-UP-10B
Investigator(s): S Yarbrough, R Sparhawk		Section, Township, Range:	
Landform (hillslope, terrace, etc.): sloping uplands		Local relief (concave, convex, none)	Slope (%): 5
Subregion (LRR): F	Lat: 46.65562	Long: -102.837	Datum: 84
Soil Map Unit Name:		NWI Classification:	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)			
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "normal circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If necessary, explain any answers in Remarks.)			
SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Is the Sampled Area within a Wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Remarks: pasture			

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. n/a				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	(A)
2.				Total Number of Dominant Species Across All Strata:	(B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	(A/B)
4.				Prevalence Index worksheet:	
		= Total Cover		Total % Cover of:	Multiply by:
Sapling/Shrub Stratum (Plot size: 15')				OBL species	x 1 =
1. n/a				FACW species	x 2 =
2.				FAC species	x 3 =
3.				FACU species 15	x 4 = 60
4.				UPL species 80	x 5 = 400
5.				Column Totals: 95 (A)	460 (B)
		= Total Cover		Prevalence Index = B/A =	460/95 = 4.84
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators:	
1. Bromus inermis	80	yes	UPL	<input type="checkbox"/>	1. Rapid Test for Hydrophytic Vegetation
2. Poa compressa	15	no	FACU	<input type="checkbox"/>	2. Dominance Test is >50%
3. Unknown aster (ericoides?)	5	no	?	<input type="checkbox"/>	3. Prevalence Index is ≤3.0 ¹
4.				<input type="checkbox"/>	4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.				<input type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7.					
8.					
9.					
	100	= Total Cover			
Woody Vine Stratum (Plot size: 30')				Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. n/a					
		= Total Cover			
% Bare Ground in Herb Stratum: 0					
Remarks:					

WETLAND DETERMINATION DATA FORM—Great Plains Region

SOIL

Sampling Point: BR-UP-10B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-9	10 YR 3/1	100					silt loam	
9-20	10 YR 3/3	100					silty clay	
¹ Type: C=Concentration; D=Depletion; RM=Reduced Matrix; CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining; M=Matrix								
Hydric Soil Indicators: (applicable to all LRRs, unless otherwise noted.)						Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/>	Histosol (A1)		<input type="checkbox"/>	Sandy Gleyed Matrix (S4)		<input type="checkbox"/>	1 cm Muck (A9) (LRR I, J)	
<input type="checkbox"/>	Histic Epipedon (A2)		<input type="checkbox"/>	Sandy Redox (S5)		<input type="checkbox"/>	Coast Prairie Redox A16) (LRR F, G, H)	
<input type="checkbox"/>	Black Histic (A3)		<input type="checkbox"/>	Stripped Matrix (S6)		<input type="checkbox"/>	Dark Surface (S7) (LRR G)	
<input type="checkbox"/>	Hydrogen Sulfide (A4)		<input type="checkbox"/>	Loamy Mucky Mineral (F1)		<input type="checkbox"/>	High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)	
<input type="checkbox"/>	Stratified Layers (A5) (LRR F)		<input type="checkbox"/>	Loamy Gleyed Matrix (F2)		<input type="checkbox"/>	Reduced Vertic (F18)	
<input type="checkbox"/>	1 cm Muck (A9) (LRR F, G, H)		<input type="checkbox"/>	Depleted Matrix (F3)		<input type="checkbox"/>	Red Parent Material (TF2)	
<input type="checkbox"/>	Depleted Below Dark Surface (A11)		<input type="checkbox"/>	Redox Dark Surface (F6)		<input type="checkbox"/>	Very Shallow Dark Surface (TF12)	
<input type="checkbox"/>	Thick Dark Surface (A12)		<input type="checkbox"/>	Depleted Dark Surface (F7)		<input type="checkbox"/>	Other (Explain in Remarks)	
<input type="checkbox"/>	Sandy Mucky Mineral (S1)		<input type="checkbox"/>	Redox Depressions (F8)		<input type="checkbox"/>	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/>	2.5 cm Mucky Peat or Peat (S2) (LRR G, H)		<input type="checkbox"/>	High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)				
<input type="checkbox"/>	5 cm Mucky Peat or Peat (S3) (LRR F)							
Restrictive Layer (if present):						Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Type: Depth (inches):								
Remarks: No indicators for hydric soil. No redox.								

HYDROLOGY

Wetland Hydrology Indicators:								
Primary Indicators (minimum of one required; check all that apply)					Secondary Indicators (minimum of two required)			
<input checked="" type="checkbox"/>	Surface Water (A1)		<input type="checkbox"/>	Salt Crust (B11)		<input type="checkbox"/>	Surface Soil Cracks (B6)	
<input type="checkbox"/>	High Water Table (A2)		<input type="checkbox"/>	Aquatic Invertebrates (B13)		<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/>	Saturation (A3)		<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)		<input type="checkbox"/>	Drainage Patterns (B10)	
<input type="checkbox"/>	Water Marks (B1)		<input type="checkbox"/>	Dry-Season Water Table (C2)		<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where tilled)	
<input type="checkbox"/>	Sediment Deposits (B2)		<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where not tilled)		<input type="checkbox"/>	Crayfish Burrows (C8)	
<input type="checkbox"/>	Drift Deposits (B3)		<input type="checkbox"/>	Presence of Reduced Iron (C4)		<input type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/>	Algal Mat or Crust (B4)		<input type="checkbox"/>	Thin Muck Surface (C7)		<input type="checkbox"/>	Geomorphic Position (D2)	
<input type="checkbox"/>	Iron Deposits (B5)		<input type="checkbox"/>	Other (Explain in Remarks)		<input type="checkbox"/>	FAC-Neutral Test (D5)	
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)					<input type="checkbox"/>	Frost-Heave Hummocks (D7) (LRR F)	
<input type="checkbox"/>	Water-Stained Leaves (B9)							
Field Observations:						Water Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Surface Water Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):					
Water Table Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):					
Saturation Present? (includes capillary fringe)		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):					
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:								
Remarks: No primary or secondary indicators for wetland hydrology.								

WETLAND DETERMINATION DATA FORM—Great Plains Region

Project/Site: Brady Wind I		City/County: Dickinson/Stark	Sampling Date: 10/22/15
Applicant/Owner: Nextera		State: North Dakota	Sampling Point: BR-WT-1A
Investigator(s): K Brimacombe, A Bensted		Section, Township, Range: Sections 28 and 33, T137N, R98W	
Landform (hillslope, terrace, etc.): valley bottom		Local relief (concave, convex, none) concave	Slope (%): 1
Subregion (LRR): LRR F	Lat: 46.6468870	Long: -103.0732440	Datum: 84
Soil Map Unit Name:		NWI Classification: none	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)			
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "normal circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If necessary, explain any answers in Remarks.)			
SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Remarks: Boundary delineated based on topography and vegetation although patches of upland Bromus inermis occur throughout wetlands, but with hydric soil depressional PEM, generally followed a swale-like channel.			

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. n/a				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	1 (A)
2.				Total Number of Dominant Species Across All Strata:	1 (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	100 (A/B)
4.				Prevalence Index worksheet:	
		= Total Cover		<u>Total % Cover of:</u>	<u>Multiply by:</u>
Sapling/Shrub Stratum (Plot size: 15')				OBL species	x 1 =
1. n/a				FACW species	x 2 =
2.				FAC species	x 3 =
3.				FACU species	x 4 =
4.				UPL species	x 5 =
5.				Column Totals: (A)	(B)
		= Total Cover		Prevalence Index = B/A =	
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators:	
1. Spartina pectinata	75	yes	FACW	<input type="checkbox"/>	1. Rapid Test for Hydrophytic Vegetation
2. Polygonum spp.	15	no	varies	<input checked="" type="checkbox"/>	2. Dominance Test is >50%
3.				<input type="checkbox"/>	3. Prevalence Index is ≤3.0 ¹
4.				<input type="checkbox"/>	4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.				<input type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7.					
8.					
9.					
	90	= Total Cover			
Woody Vine Stratum (Plot size: 30')				Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. n/a					
		= Total Cover			
% Bare Ground in Herb Stratum: 10					
Remarks:					

WETLAND DETERMINATION DATA FORM—Great Plains Region

SOIL

Sampling Point: BR-WT-1A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10 YR 3/1	85	10 YR 3/4	15	C	PL/M	clay loam	roots
5-17.5	10 YR 3/1	95	10 YR 3/6	5	C	M	clay loam	

¹ Type: C=Concentration; D=Depletion; RM=Reduced Matrix; CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining; M=Matrix

Hydric Soil Indicators: (applicable to all LRRs, unless otherwise noted.)				Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/>	Histosol (A1)	<input type="checkbox"/>	Sandy Gleyed Matrix (S4)	<input type="checkbox"/>	1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/>	Histic Epipedon (A2)	<input type="checkbox"/>	Sandy Redox (S5)	<input type="checkbox"/>	Coast Prairie Redox A16) (LRR F, G, H)
<input type="checkbox"/>	Black Histic (A3)	<input type="checkbox"/>	Stripped Matrix (S6)	<input type="checkbox"/>	Dark Surface (S7) (LRR G)
<input type="checkbox"/>	Hydrogen Sulfide (A4)	<input type="checkbox"/>	Loamy Mucky Mineral (F1)	<input type="checkbox"/>	High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
<input type="checkbox"/>	Stratified Layers (A5) (LRR F)	<input type="checkbox"/>	Loamy Gleyed Matrix (F2)	<input type="checkbox"/>	Reduced Vertic (F18)
<input type="checkbox"/>	1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/>	Depleted Matrix (F3)	<input type="checkbox"/>	Red Parent Material (TF2)
<input type="checkbox"/>	Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/>	Redox Dark Surface (F6)	<input type="checkbox"/>	Very Shallow Dark Surface (TF12)
<input type="checkbox"/>	Thick Dark Surface (A12)	<input type="checkbox"/>	Depleted Dark Surface (F7)	<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>	Sandy Mucky Mineral (S1)	<input type="checkbox"/>	Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/>	2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/>	High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)		
<input type="checkbox"/>	5 cm Mucky Peat or Peat (S3) (LRR F)				

Restrictive Layer (if present):		Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Type: none	Depth (inches):		
Remarks:			

HYDROLOGY

Wetland Hydrology Indicators:					
Primary Indicators (minimum of one required; check all that apply)			Secondary Indicators (minimum of two required)		
<input type="checkbox"/>	Surface Water (A1)	<input type="checkbox"/>	Salt Crust (B11)	<input type="checkbox"/>	Surface Soil Cracks (B6)
<input type="checkbox"/>	High Water Table (A2)	<input type="checkbox"/>	Aquatic Invertebrates (B13)	<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/>	Saturation (A3)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/>	Drainage Patterns (B10)
<input type="checkbox"/>	Water Marks (B1)	<input type="checkbox"/>	Dry-Season Water Table (C2)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where tilled)
<input type="checkbox"/>	Sediment Deposits (B2)	<input checked="" type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where not tilled)	<input type="checkbox"/>	Crayfish Burrows (C8)
<input type="checkbox"/>	Drift Deposits (B3)	<input type="checkbox"/>	Presence of Reduced Iron (C4)	<input type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/>	Algal Mat or Crust (B4)	<input type="checkbox"/>	Thin Muck Surface (C7)	<input checked="" type="checkbox"/>	Geomorphic Position (D2)
<input type="checkbox"/>	Iron Deposits (B5)	<input type="checkbox"/>	Other (Explain in Remarks)	<input checked="" type="checkbox"/>	FAC-Neutral Test (D5)
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)			<input type="checkbox"/>	Frost-Heave Hummocks (D7) (LRR F)
<input type="checkbox"/>	Water-Stained Leaves (B9)				

Field Observations:			Water Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Surface Water Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Water Table Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Oxidized rhizospheres on living roots from 0-5", 8% of soil profile

WETLAND DETERMINATION DATA FORM—Great Plains Region

Project/Site: Brady Wind I		City/County: Stark	Sampling Date: 10/22/15
Applicant/Owner: Nextera		State: North Dakota	Sampling Point: BR-WT-1B
Investigator(s): S Yarbrough, R Sparhawk		Section, Township, Range:	
Landform (hillslope, terrace, etc.): roadside ditch		Local relief (concave, convex, none) concave	Slope (%): 1
Subregion (LRR): F (Northern Great Plains)	Lat: 46.64603	Long: -102.643	Datum: 84
Soil Map Unit Name: Belfield Grail Clay Loams, 0-2% slopes		NWI Classification: not mapped	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)			
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "normal circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If necessary, explain any answers in Remarks.)			
SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Remarks: Photos 8013 (NNE overview photo); 8011 (sedge closeup)			

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. n/a				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	3 (A)
2.				Total Number of Dominant Species Across All Strata:	3 (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	100 (A/B)
4.				Prevalence Index worksheet:	
		= Total Cover		<u>Total % Cover of:</u>	<u>Multiply by:</u>
Sapling/Shrub Stratum (Plot size: 15')				OBL species	x 1 =
1. n/a				FACW species	x 2 =
2.				FAC species	x 3 =
3.				FACU species	x 4 =
4.				UPL species	x 5 =
5.				Column Totals: (A)	(B)
		= Total Cover		Prevalence Index = B/A =	
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators:	
1. <i>Spartina pectinata</i>	20	yes	FACW	<input checked="" type="checkbox"/>	1. Rapid Test for Hydrophytic Vegetation
2. <i>Typha latifolia</i>	30	yes	OBL	<input checked="" type="checkbox"/>	2. Dominance Test is >50%
3. <i>Carex pellita</i>	40	yes	OBL	<input type="checkbox"/>	3. Prevalence Index is ≤3.0 ¹
4.				<input type="checkbox"/>	4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.				<input type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7.					
8.					
9.					
	90	= Total Cover			
Woody Vine Stratum (Plot size: 30')				Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. n/a					
		= Total Cover			
% Bare Ground in Herb Stratum: 10					
Remarks: Palustrine emergent species dominate					

WETLAND DETERMINATION DATA FORM—Great Plains Region

SOIL

Sampling Point: BR-WT-1B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10 YR 2/2	100					clay loam	
6-20	10 YR 5/2	85	7.5 YR 5/8	15	C	M/PL	silty clay	
¹ Type: C=Concentration; D=Depletion; RM=Reduced Matrix; CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining; M=Matrix								
Hydric Soil Indicators: (applicable to all LRRs, unless otherwise noted.)						Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/>	Histosol (A1)			<input type="checkbox"/>	Sandy Gleyed Matrix (S4)		<input type="checkbox"/>	1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/>	Histic Epipedon (A2)			<input type="checkbox"/>	Sandy Redox (S5)		<input type="checkbox"/>	Coast Prairie Redox A16) (LRR F, G, H)
<input type="checkbox"/>	Black Histic (A3)			<input type="checkbox"/>	Stripped Matrix (S6)		<input type="checkbox"/>	Dark Surface (S7) (LRR G)
<input type="checkbox"/>	Hydrogen Sulfide (A4)			<input type="checkbox"/>	Loamy Mucky Mineral (F1)		<input type="checkbox"/>	High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
<input type="checkbox"/>	Stratified Layers (A5) (LRR F)			<input type="checkbox"/>	Loamy Gleyed Matrix (F2)		<input type="checkbox"/>	Reduced Vertic (F18)
<input type="checkbox"/>	1 cm Muck (A9) (LRR F, G, H)			<input checked="" type="checkbox"/>	Depleted Matrix (F3)		<input type="checkbox"/>	Red Parent Material (TF2)
<input checked="" type="checkbox"/>	Depleted Below Dark Surface (A11)			<input type="checkbox"/>	Redox Dark Surface (F6)		<input type="checkbox"/>	Very Shallow Dark Surface (TF12)
<input type="checkbox"/>	Thick Dark Surface (A12)			<input type="checkbox"/>	Depleted Dark Surface (F7)		<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>	Sandy Mucky Mineral (S1)			<input type="checkbox"/>	Redox Depressions (F8)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/>	2.5 cm Mucky Peat or Peat (S2) (LRR G, H)			<input type="checkbox"/>	High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)			
<input type="checkbox"/>	5 cm Mucky Peat or Peat (S3) (LRR F)							
Restrictive Layer (if present):						Hydric Soil Present?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Type: Depth (inches):								
Remarks: White precipitate on soil surface. Moist at 4" in sample plot. Photo 8014 (soil matrix)								

HYDROLOGY

Wetland Hydrology Indicators:									
Primary Indicators (minimum of one required; check all that apply)					Secondary Indicators (minimum of two required)				
<input type="checkbox"/>	Surface Water (A1)			<input checked="" type="checkbox"/>	Salt Crust (B11)		<input type="checkbox"/>	Surface Soil Cracks (B6)	
<input type="checkbox"/>	High Water Table (A2)			<input type="checkbox"/>	Aquatic Invertebrates (B13)		<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/>	Saturation (A3)			<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)		<input type="checkbox"/>	Drainage Patterns (B10)	
<input checked="" type="checkbox"/>	Water Marks (B1)			<input type="checkbox"/>	Dry-Season Water Table (C2)		<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where tilled)	
<input type="checkbox"/>	Sediment Deposits (B2)			<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where not tilled)		<input type="checkbox"/>	Crayfish Burrows (C8)	
<input type="checkbox"/>	Drift Deposits (B3)			<input type="checkbox"/>	Presence of Reduced Iron (C4)		<input type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/>	Algal Mat or Crust (B4)			<input type="checkbox"/>	Thin Muck Surface (C7)		<input checked="" type="checkbox"/>	Geomorphic Position (D2) (Photo 8012)	
<input type="checkbox"/>	Iron Deposits (B5)			<input type="checkbox"/>	Other (Explain in Remarks)		<input type="checkbox"/>	FAC-Neutral Test (D5)	
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)					<input type="checkbox"/>	Frost-Heave Hummocks (D7) (LRR F)		
<input checked="" type="checkbox"/>	Water-Stained Leaves (B9)								
Field Observations:					Water Hydrology Present?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Surface Water Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):						
Water Table Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):						
Saturation Present? (includes capillary fringe)		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth (inches): 4						
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:									
Remarks: Roadside ditch. Adjacent to manmade pond BR-Pond-3B. Wetland exists on the east side of the road also, but it is outside the survey corridor.									

WETLAND DETERMINATION DATA FORM—Great Plains Region

Project/Site: Brady Wind I		City/County: Dickinson/Stark	Sampling Date: 10/23/15
Applicant/Owner: Nextera		State: North Dakota	Sampling Point: BR-WT-2A
Investigator(s): K Brimacombe, A Bensted		Section, Township, Range: S34 T137N R98W	
Landform (hillslope, terrace, etc.): valley bottom		Local relief (concave, convex, none) concave	Slope (%): 1
Subregion (LRR): LRR F	Lat: 46.6371391	Long: -103.0259856	Datum: 84
Soil Map Unit Name:		NWI Classification: none	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)			
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "normal circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If necessary, explain any answers in Remarks.)			
SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Remarks: Boundary delineated generally using vegetation and topography. PEM depressional wetland that generally followed a swale/channel. Wetland extends to north (outside survey corridor) and south (into no-access parcel).			

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. n/a				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	1 (A)
2.				Total Number of Dominant Species Across All Strata:	1 (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	100 (A/B)
4.				Prevalence Index worksheet:	
		= Total Cover		<u>Total % Cover of:</u>	<u>Multiply by:</u>
Sapling/Shrub Stratum (Plot size: 15')				OBL species	x 1 =
1. n/a				FACW species	x 2 =
2.				FAC species	x 3 =
3.				FACU species	x 4 =
4.				UPL species	x 5 =
5.				Column Totals: (A)	(B)
		= Total Cover		Prevalence Index = B/A =	
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators:	
1. <i>Spartina pectinata</i>	95	yes	FACW	<input checked="" type="checkbox"/>	1. Rapid Test for Hydrophytic Vegetation
2. <i>Rumex crispus</i>	3		FAC	<input checked="" type="checkbox"/>	2. Dominance Test is >50%
3. <i>Bromus inermis</i>	2		UPL	<input type="checkbox"/>	3. Prevalence Index is ≤3.0 ¹
4.				<input type="checkbox"/>	4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.				<input type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7.					
8.					
9.					
	100	= Total Cover			
Woody Vine Stratum (Plot size: 30')				Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. n/a					
		= Total Cover			
% Bare Ground in Herb Stratum: 0					
Remarks: patches					

WETLAND DETERMINATION DATA FORM—Great Plains Region

SOIL

Sampling Point: BR-WT-2A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10 YR 3/1	85	5 YR 3/4	15	C	M/PL	silty clay loam	lots of roots
4-10	10 YR 3/1	85	5 YR 3/4	15	C	M/PL	silty clay loam	
10-11	10 YR 4/1	85	5 YR 3/4	15	C	M/PL	silty clay loam	
11-13	10 YR 3/1	85	5 YR 3/4	15	C	M/PL	silty clay loam	
13-16	10 YR 3/1	85	5 YR 3/4	15	C	M/PL	silty clay loam	
¹ Type: C=Concentration; D=Depletion; RM=Reduced Matrix; CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining; M=Matrix								
Hydric Soil Indicators: (applicable to all LRRs, unless otherwise noted.)						Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/>	Histosol (A1)			<input type="checkbox"/>	Sandy Gleyed Matrix (S4)		<input type="checkbox"/>	1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/>	Histic Epipedon (A2)			<input type="checkbox"/>	Sandy Redox (S5)		<input type="checkbox"/>	Coast Prairie Redox A16) (LRR F, G, H)
<input type="checkbox"/>	Black Histic (A3)			<input type="checkbox"/>	Stripped Matrix (S6)		<input type="checkbox"/>	Dark Surface (S7) (LRR G)
<input type="checkbox"/>	Hydrogen Sulfide (A4)			<input type="checkbox"/>	Loamy Mucky Mineral (F1)		<input type="checkbox"/>	High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
<input type="checkbox"/>	Stratified Layers (A5) (LRR F)			<input type="checkbox"/>	Loamy Gleyed Matrix (F2)		<input type="checkbox"/>	Reduced Vertic (F18)
<input type="checkbox"/>	1 cm Muck (A9) (LRR F, G, H)			<input type="checkbox"/>	Depleted Matrix (F3)		<input type="checkbox"/>	Red Parent Material (TF2)
<input type="checkbox"/>	Depleted Below Dark Surface (A11)			<input checked="" type="checkbox"/>	Redox Dark Surface (F6)		<input type="checkbox"/>	Very Shallow Dark Surface (TF12)
<input type="checkbox"/>	Thick Dark Surface (A12)			<input type="checkbox"/>	Depleted Dark Surface (F7)		<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>	Sandy Mucky Mineral (S1)			<input type="checkbox"/>	Redox Depressions (F8)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/>	2.5 cm Mucky Peat or Peat (S2) (LRR G, H)			<input type="checkbox"/>	High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)			
<input type="checkbox"/>	5 cm Mucky Peat or Peat (S3) (LRR F)							
Restrictive Layer (if present):								
Type:	0					Hydric Soil Present?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Depth (inches):								
Remarks:								

HYDROLOGY

Wetland Hydrology Indicators:									
Primary Indicators (minimum of one required; check all that apply)					Secondary Indicators (minimum of two required)				
<input type="checkbox"/>	Surface Water (A1)			<input type="checkbox"/>	Salt Crust (B11)		<input type="checkbox"/>	Surface Soil Cracks (B6)	
<input type="checkbox"/>	High Water Table (A2)			<input type="checkbox"/>	Aquatic Invertebrates (B13)		<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/>	Saturation (A3)			<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)		<input type="checkbox"/>	Drainage Patterns (B10)	
<input type="checkbox"/>	Water Marks (B1)			<input type="checkbox"/>	Dry-Season Water Table (C2)		<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where tilled)	
<input type="checkbox"/>	Sediment Deposits (B2)			<input checked="" type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where not tilled)		<input type="checkbox"/>	Crayfish Burrows (C8)	
<input type="checkbox"/>	Drift Deposits (B3)			<input type="checkbox"/>	Presence of Reduced Iron (C4)		<input checked="" type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/>	Algal Mat or Crust (B4)			<input type="checkbox"/>	Thin Muck Surface (C7)		<input checked="" type="checkbox"/>	Geomorphic Position (D2)	
<input type="checkbox"/>	Iron Deposits (B5)			<input type="checkbox"/>	Other (Explain in Remarks)		<input checked="" type="checkbox"/>	FAC-Neutral Test (D5)	
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)					<input type="checkbox"/>	Frost-Heave Hummocks (D7) (LRR F)		
<input type="checkbox"/>	Water-Stained Leaves (B9)								
Field Observations:									
Surface Water Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Depth (inches):		Water Hydrology Present?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Water Table Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Depth (inches):						
Saturation Present? (includes capillary fringe)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Depth (inches):						
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:									
Remarks:									

WETLAND DETERMINATION DATA FORM—Great Plains Region

Project/Site: Brady Wind I		City/County: Stark	Sampling Date: 10/22/15
Applicant/Owner: Nextera		State: North Dakota	Sampling Point: BR-WT-2B
Investigator(s): S Yarbrough, R Sparhawk		Section, Township, Range:	
Landform (hillslope, terrace, etc.): prairie pothole		Local relief (concave, convex, none) concave	Slope (%): 5
Subregion (LRR): F	Lat: 46.63654	Long: -102.652	Datum: 84
Soil Map Unit Name: Heil Silty Clay Loam, 0-1% slopes		NWI Classification: PEMAd	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)			
Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> significantly disturbed? (but it is normal) ←		Are "normal circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If necessary, explain any answers in Remarks.)			
SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Remarks: Plowed field. It is mapped by NWI as a relatively large, partially drained, PEM wetland.			

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. n/a				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	0 (A)
2.				Total Number of Dominant Species Across All Strata:	0 (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	0 (A/B)
4.				Prevalence Index worksheet:	
		= Total Cover		Total % Cover of:	Multiply by:
Sapling/Shrub Stratum (Plot size: 15')				OBL species	x 1 =
1. n/a				FACW species	x 2 =
2.				FAC species	x 3 =
3.				FACU species	x 4 =
4.				UPL species	x 5 =
5.				Column Totals: (A)	(B)
		= Total Cover		Prevalence Index = B/A =	
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators:	
1. Rumex sp. (perhaps Rumex crispus)	≤2			<input type="checkbox"/>	1. Rapid Test for Hydrophytic Vegetation
2.				<input type="checkbox"/>	2. Dominance Test is >50%
3.				<input type="checkbox"/>	3. Prevalence Index is ≤3.0 ¹
4.				<input type="checkbox"/>	4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.				<input checked="" type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7.					
8.					
9.					
		= Total Cover			
Woody Vine Stratum (Plot size: 30')				Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> ? <input type="checkbox"/> No
1. n/a					
		= Total Cover			
% Bare Ground in Herb Stratum: 98					
Remarks: Plowed field. There are remnant plant parts that appear to be a species of Rumex - potentially hydrophytic. Problematic for vegetation.					

WETLAND DETERMINATION DATA FORM—Great Plains Region

SOIL

Sampling Point: BR-WT-2B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10 YR 2/2	100					loam	plowed
5-8	10 YR 2/2	100					loam	unplowed
8-17	10 YR 2/2	65	5 YR 5/6	35	C	M	loam	
17-20	10 YR 3/2	60	5 YR 5/6	40	C	M	clay loam	

¹ Type: C=Concentration; D=Depletion; RM=Reduced Matrix; CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining; M=Matrix

Hydric Soil Indicators: (applicable to all LRRs, unless otherwise noted.)				Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/>	Histosol (A1)	<input type="checkbox"/>	Sandy Gleyed Matrix (S4)	<input type="checkbox"/>	1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/>	Histic Epipedon (A2)	<input type="checkbox"/>	Sandy Redox (S5)	<input type="checkbox"/>	Coast Prairie Redox A16) (LRR F, G, H)
<input type="checkbox"/>	Black Histic (A3)	<input type="checkbox"/>	Stripped Matrix (S6)	<input type="checkbox"/>	Dark Surface (S7) (LRR G)
<input type="checkbox"/>	Hydrogen Sulfide (A4)	<input type="checkbox"/>	Loamy Mucky Mineral (F1)	<input type="checkbox"/>	High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
<input type="checkbox"/>	Stratified Layers (A5) (LRR F)	<input type="checkbox"/>	Loamy Gleyed Matrix (F2)	<input type="checkbox"/>	Reduced Vertic (F18)
<input type="checkbox"/>	1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/>	Depleted Matrix (F3)	<input type="checkbox"/>	Red Parent Material (TF2)
<input type="checkbox"/>	Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/>	Redox Dark Surface (F6)	<input type="checkbox"/>	Very Shallow Dark Surface (TF12)
<input type="checkbox"/>	Thick Dark Surface (A12)	<input type="checkbox"/>	Depleted Dark Surface (F7)	<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>	Sandy Mucky Mineral (S1)	<input type="checkbox"/>	Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/>	2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/>	High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)		
<input type="checkbox"/>	5 cm Mucky Peat or Peat (S3) (LRR F)				

Restrictive Layer (if present):		Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Type:	Depth (inches):		
Remarks:			

HYDROLOGY

Wetland Hydrology Indicators:					
Primary Indicators (minimum of one required; check all that apply)			Secondary Indicators (minimum of two required)		
<input type="checkbox"/>	Surface Water (A1)	<input type="checkbox"/>	Salt Crust (B11)	<input type="checkbox"/>	Surface Soil Cracks (B6)
<input type="checkbox"/>	High Water Table (A2)	<input type="checkbox"/>	Aquatic Invertebrates (B13)	<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/>	Saturation (A3)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)	<input type="checkbox"/>	Drainage Patterns (B10)
<input type="checkbox"/>	Water Marks (B1)	<input type="checkbox"/>	Dry-Season Water Table (C2)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where tilled)
<input type="checkbox"/>	Sediment Deposits (B2)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where not tilled)	<input type="checkbox"/>	Crayfish Burrows (C8)
<input type="checkbox"/>	Drift Deposits (B3)	<input type="checkbox"/>	Presence of Reduced Iron (C4)	<input checked="" type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/>	Algal Mat or Crust (B4)	<input type="checkbox"/>	Thin Muck Surface (C7)	<input checked="" type="checkbox"/>	Geomorphic Position (D2)
<input type="checkbox"/>	Iron Deposits (B5)	<input type="checkbox"/>	Other (Explain in Remarks)	<input type="checkbox"/>	FAC-Neutral Test (D5)
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)			<input type="checkbox"/>	Frost-Heave Hummocks (D7) (LRR F)
<input type="checkbox"/>	Water-Stained Leaves (B9)				

Field Observations:			Water Hydrology Present?	<input checked="" type="checkbox"/> Yes (probable) <input type="checkbox"/> No
Surface Water Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Water Table Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Obvious depressional feature in large farm field. More or less circular to oval in shape.

WETLAND DETERMINATION DATA FORM—Great Plains Region

Project/Site: Brady Wind I		City/County: Dickinson/Stark	Sampling Date: 10/23/15
Applicant/Owner: Nextera		State: North Dakota	Sampling Point: BR-WT-3A
Investigator(s): K Brimacombe, A Bensted		Section, Township, Range: S34 T137N R98W	
Landform (hillslope, terrace, etc.): toe slope		Local relief (concave, convex, none) none	Slope (%): 0.5
Subregion (LRR): LRR F	Lat: 46.6426356	Long: -103.0364435	Datum: 84
Soil Map Unit Name:		NWI Classification: none	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)			
Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "normal circumstances" present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If necessary, explain any answers in Remarks.)			
SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Remarks: Small slope PEM wetland in plowed field			

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. n/a				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	1 (A)
2.				Total Number of Dominant Species Across All Strata:	2 (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	50 (A/B)
4.				Prevalence Index worksheet:	
		= Total Cover		Total % Cover of:	Multiply by:
Sapling/Shrub Stratum (Plot size: 15')				OBL species	x 1 =
1. n/a				FACW species	x 2 =
2.				FAC species 40	x 3 = 120
3.				FACU species 20	x 4 = 80
4.				UPL species	x 5 =
5.				Column Totals: 60 (A)	200 (B)
		= Total Cover		Prevalence Index = B/A =	200/60 = 3.3
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators:	
1. Echinochloa crus-galli *	40	yes	FAC	<input type="checkbox"/>	1. Rapid Test for Hydrophytic Vegetation
2. Bassia scoparia	20	yes	FACU	<input type="checkbox"/>	2. Dominance Test is >50%
3. Amaranthus sp.	3			<input type="checkbox"/>	3. Prevalence Index is ≤3.0 ¹
4. Aster sp.	3			<input type="checkbox"/>	4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.				<input checked="" type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7.					
8.					
9.					
	66	= Total Cover			
Woody Vine Stratum (Plot size: 30')				Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. n/a					
		= Total Cover			
% Bare Ground in Herb Stratum: 34					
Remarks: * potential E. murruta. E. murruta is FACW.					
Plowed field has altered natural plant community that would exist. Area now dominated by invasive weedy species. Plot/wetland meets hydric soil and hydrology wetland criteria.					

WETLAND DETERMINATION DATA FORM—Great Plains Region

SOIL

Sampling Point: BR-WT-3A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10 YR 2/1	95	2.5 YR 2.5/3	5	C	M	sandy clay	
5-13	10 YR 3/3	100					clay	

¹ Type: C=Concentration; D=Depletion; RM=Reduced Matrix; CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining; M=Matrix

Hydric Soil Indicators: (applicable to all LRRs, unless otherwise noted.)				Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/>	Histosol (A1)	<input type="checkbox"/>	Sandy Gleyed Matrix (S4)	<input type="checkbox"/>	1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/>	Histic Epipedon (A2)	<input type="checkbox"/>	Sandy Redox (S5)	<input type="checkbox"/>	Coast Prairie Redox A16) (LRR F, G, H)
<input type="checkbox"/>	Black Histic (A3)	<input type="checkbox"/>	Stripped Matrix (S6)	<input type="checkbox"/>	Dark Surface (S7) (LRR G)
<input type="checkbox"/>	Hydrogen Sulfide (A4)	<input type="checkbox"/>	Loamy Mucky Mineral (F1)	<input type="checkbox"/>	High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
<input type="checkbox"/>	Stratified Layers (A5) (LRR F)	<input type="checkbox"/>	Loamy Gleyed Matrix (F2)	<input type="checkbox"/>	Reduced Vertic (F18)
<input type="checkbox"/>	1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/>	Depleted Matrix (F3)	<input type="checkbox"/>	Red Parent Material (TF2)
<input type="checkbox"/>	Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/>	Redox Dark Surface (F6)	<input type="checkbox"/>	Very Shallow Dark Surface (TF12)
<input type="checkbox"/>	Thick Dark Surface (A12)	<input type="checkbox"/>	Depleted Dark Surface (F7)	<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>	Sandy Mucky Mineral (S1)	<input type="checkbox"/>	Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/>	2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/>	High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)		
<input type="checkbox"/>	5 cm Mucky Peat or Peat (S3) (LRR F)				

Restrictive Layer (if present):		Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Type:	compacted clay		
Depth (inches):	13		
Remarks:			

HYDROLOGY

Wetland Hydrology Indicators:					
Primary Indicators (minimum of one required; check all that apply)			Secondary Indicators (minimum of two required)		
<input type="checkbox"/>	Surface Water (A1)	<input type="checkbox"/>	Salt Crust (B11)	<input type="checkbox"/>	Surface Soil Cracks (B6)
<input type="checkbox"/>	High Water Table (A2)	<input type="checkbox"/>	Aquatic Invertebrates (B13)	<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/>	Saturation (A3)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)	<input type="checkbox"/>	Drainage Patterns (B10)
<input type="checkbox"/>	Water Marks (B1)	<input type="checkbox"/>	Dry-Season Water Table (C2)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where tilled)
<input type="checkbox"/>	Sediment Deposits (B2)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where not tilled)	<input type="checkbox"/>	Crayfish Burrows (C8)
<input type="checkbox"/>	Drift Deposits (B3)	<input type="checkbox"/>	Presence of Reduced Iron (C4)	<input checked="" type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/>	Algal Mat or Crust (B4)	<input type="checkbox"/>	Thin Muck Surface (C7)	<input checked="" type="checkbox"/>	Geomorphic Position (D2)
<input checked="" type="checkbox"/>	Iron Deposits (B5)	<input type="checkbox"/>	Other (Explain in Remarks)	<input type="checkbox"/>	FAC-Neutral Test (D5)
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)			<input type="checkbox"/>	Frost-Heave Hummocks (D7) (LRR F)
<input type="checkbox"/>	Water-Stained Leaves (B9)				

Field Observations:			Water Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Surface Water Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Water Table Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM—Great Plains Region

Project/Site: Brady Wind I		City/County: Stark	Sampling Date: 10/24/15
Applicant/Owner: Nextera		State: North Dakota	Sampling Point: BR-WT-3B
Investigator(s): S Yarbrough, R Sparhawk		Section, Township, Range:	
Landform (hillslope, terrace, etc.): swale or drainage		Local relief (concave, convex, none) concave	Slope (%): 1
Subregion (LRR): F	Lat: 46.6347880	Long: -102.6977999	Datum: 84
Soil Map Unit Name:		NWI Classification:	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)			
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "normal circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If necessary, explain any answers in Remarks.)			
SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Remarks: Photo 8038 (SW)			

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. n/a				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	1 (A)
2.				Total Number of Dominant Species Across All Strata:	1 (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	100 (A/B)
4.				Prevalence Index worksheet:	
		= Total Cover		Total % Cover of:	Multiply by:
Sapling/Shrub Stratum (Plot size: 15')				OBL species	x 1 =
1. n/a				FACW species 80	x 2 = 160
2.				FAC species 5	x 3 = 15
3.				FACU species	x 4 =
4.				UPL species	x 5 =
5.				Column Totals: 85 (A)	175 (B)
		= Total Cover		Prevalence Index = B/A =	175/85 = 2.06
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators:	
1. Juncus balticus	75	yes	FACW	<input checked="" type="checkbox"/>	1. Rapid Test for Hydrophytic Vegetation
2. Rumex crispus	<5	no	FAC	<input checked="" type="checkbox"/>	2. Dominance Test is >50%
3. Hordeum jubatum	<5	no	FACW	<input checked="" type="checkbox"/>	3. Prevalence Index is ≤3.0 ¹
4.				<input type="checkbox"/>	4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.				<input type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7.					
8.					
9.					
		= Total Cover			
Woody Vine Stratum (Plot size: 30')				Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. n/a					
		= Total Cover			
% Bare Ground in Herb Stratum: 20 (standing water)					
Remarks: Photo 8043 (SSE)					

WETLAND DETERMINATION DATA FORM—Great Plains Region

SOIL

Sampling Point: BR-WT-3B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10 YR 3/1	100					silt loam	
5-14	10 YR 3/1	90	10 YR 4/6	10	C	M/PL	silt loam	
¹ Type: C=Concentration; D=Depletion; RM=Reduced Matrix; CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining; M=Matrix								
Hydric Soil Indicators: (applicable to all LRRs, unless otherwise noted.)						Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/>	Histosol (A1)		<input type="checkbox"/>	Sandy Gleyed Matrix (S4)		<input type="checkbox"/>	1 cm Muck (A9) (LRR I, J)	
<input type="checkbox"/>	Histic Epipedon (A2)		<input type="checkbox"/>	Sandy Redox (S5)		<input type="checkbox"/>	Coast Prairie Redox A16) (LRR F, G, H)	
<input type="checkbox"/>	Black Histic (A3)		<input type="checkbox"/>	Stripped Matrix (S6)		<input type="checkbox"/>	Dark Surface (S7) (LRR G)	
<input type="checkbox"/>	Hydrogen Sulfide (A4)		<input type="checkbox"/>	Loamy Mucky Mineral (F1)		<input type="checkbox"/>	High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)	
<input type="checkbox"/>	Stratified Layers (A5) (LRR F)		<input type="checkbox"/>	Loamy Gleyed Matrix (F2)		<input type="checkbox"/>	Reduced Vertic (F18)	
<input type="checkbox"/>	1 cm Muck (A9) (LRR F, G, H)		<input type="checkbox"/>	Depleted Matrix (F3)		<input type="checkbox"/>	Red Parent Material (TF2)	
<input type="checkbox"/>	Depleted Below Dark Surface (A11)		<input checked="" type="checkbox"/>	Redox Dark Surface (F6)		<input type="checkbox"/>	Very Shallow Dark Surface (TF12)	
<input type="checkbox"/>	Thick Dark Surface (A12)		<input type="checkbox"/>	Depleted Dark Surface (F7)		<input type="checkbox"/>	Other (Explain in Remarks)	
<input type="checkbox"/>	Sandy Mucky Mineral (S1)		<input type="checkbox"/>	Redox Depressions (F8)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
<input type="checkbox"/>	2.5 cm Mucky Peat or Peat (S2) (LRR G, H)		<input type="checkbox"/>	High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)				
<input type="checkbox"/>	5 cm Mucky Peat or Peat (S3) (LRR F)							
Restrictive Layer (if present):								
Type:						Hydric Soil Present?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Depth (inches):								
Remarks: Photos 8048 and 8049 showing redox								

HYDROLOGY

Wetland Hydrology Indicators:								
Primary Indicators (minimum of one required; check all that apply)					Secondary Indicators (minimum of two required)			
<input checked="" type="checkbox"/>	Surface Water (A1)		<input type="checkbox"/>	Salt Crust (B11)		<input type="checkbox"/>	Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/>	High Water Table (A2)		<input type="checkbox"/>	Aquatic Invertebrates (B13)		<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/>	Saturation (A3)		<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)		<input type="checkbox"/>	Drainage Patterns (B10)	
<input type="checkbox"/>	Water Marks (B1)		<input type="checkbox"/>	Dry-Season Water Table (C2)		<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where tilled)	
<input type="checkbox"/>	Sediment Deposits (B2)		<input checked="" type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where not tilled)		<input type="checkbox"/>	Crayfish Burrows (C8)	
<input type="checkbox"/>	Drift Deposits (B3)		<input type="checkbox"/>	Presence of Reduced Iron (C4)		<input checked="" type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/>	Algal Mat or Crust (B4)		<input type="checkbox"/>	Thin Muck Surface (C7)		<input checked="" type="checkbox"/>	Geomorphic Position (D2)	
<input type="checkbox"/>	Iron Deposits (B5)		<input type="checkbox"/>	Other (Explain in Remarks)		<input type="checkbox"/>	FAC-Neutral Test (D5)	
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)					<input type="checkbox"/>	Frost-Heave Hummocks (D7) (LRR F)	
<input type="checkbox"/>	Water-Stained Leaves (B9)							
Field Observations:								
Surface Water Present?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth (inches): 2		Water Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Water Table Present?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth (inches): 12					
Saturation Present? (includes capillary fringe)		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth (inches): 0					
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: aerial photography available								
Remarks: Photo 8042 (geomorphic position)								

WETLAND DETERMINATION DATA FORM—Great Plains Region

Project/Site: Brady Wind I		City/County: Dickinson/Stark	Sampling Date: 10/24/15
Applicant/Owner: Nextera		State: North Dakota	Sampling Point: BR-WT-4A
Investigator(s): K Brimacombe, A Bensted		Section, Township, Range: S36 T137N R98W	
Landform (hillslope, terrace, etc.): depression in ag field		Local relief (concave, convex, none) concave	Slope (%): 1
Subregion (LRR): LRR F	Lat: 46.6365033	Long: -102.9977182	Datum: 84
Soil Map Unit Name:		NWI Classification: PEMA	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)			
Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "normal circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If necessary, explain any answers in Remarks.)			
SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Remarks: Vegetation disturbed due to agricultural production. Sample plot located within soybean field.			

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. n/a				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	1 (A)
2.				Total Number of Dominant Species Across All Strata:	2 (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	50 (A/B)
4.				Prevalence Index worksheet:	
		= Total Cover		Total % Cover of:	Multiply by:
Sapling/Shrub Stratum (Plot size: 15')				OBL species	x 1 =
1. n/a				FACW species	x 2 =
2.				FAC species	x 3 =
3.				FACU species	x 4 =
4.				UPL species	x 5 =
5.				Column Totals: (A)	(B)
		= Total Cover		Prevalence Index = B/A =	
Herb Stratum * (Plot size: 5')				Hydrophytic Vegetation Indicators:	
1. Glycine max (soybean)	50	yes	NI	<input type="checkbox"/>	1. Rapid Test for Hydrophytic Vegetation
2. Hordeum jubatum	20	yes	FACW	<input type="checkbox"/>	2. Dominance Test is >50%
3. Potentilla norvegica	15	no	FAC	<input type="checkbox"/>	3. Prevalence Index is ≤3.0 ¹
4. Beckmannia syzigachne	5	no	OBL	<input type="checkbox"/>	4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. Bidens spp.	5	no	varies	<input checked="" type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7.					
8.					
9.					
	95	= Total Cover			
Woody Vine Stratum (Plot size: 30')				Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. n/a					
		= Total Cover			
% Bare Ground in Herb Stratum: 5					
Remarks: * Plowed field; vegetation primarily soybean and other unidentifiable plants. Both wetland hydrology and hydric soil criteria observed. This indicates if vegetation was not altered, hydrophytic vegetation would likely exist.					

WETLAND DETERMINATION DATA FORM—Great Plains Region

SOIL

Sampling Point: BR-WT-4A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10 YR 3/1	85	5 YR 4/6	15	C	M	clay loam	
6-10	10 YR 2/1	85	5 YR 3/4	15	C	M/PL	clay loam	
10-16	10 YR 3/1	75	5 YR 5/8	15	C	M	silty clay loam	
10-16	10 YR 3/1		5 YR 5/4	10	C	M	silty clay loam	

¹ Type: C=Concentration; D=Depletion; RM=Reduced Matrix; CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining; M=Matrix

Hydric Soil Indicators: (applicable to all LRRs, unless otherwise noted.)				Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/>	Histosol (A1)	<input type="checkbox"/>	Sandy Gleyed Matrix (S4)	<input type="checkbox"/>	1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/>	Histic Epipedon (A2)	<input type="checkbox"/>	Sandy Redox (S5)	<input type="checkbox"/>	Coast Prairie Redox A16) (LRR F, G, H)
<input type="checkbox"/>	Black Histic (A3)	<input type="checkbox"/>	Stripped Matrix (S6)	<input type="checkbox"/>	Dark Surface (S7) (LRR G)
<input type="checkbox"/>	Hydrogen Sulfide (A4)	<input type="checkbox"/>	Loamy Mucky Mineral (F1)	<input type="checkbox"/>	High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
<input type="checkbox"/>	Stratified Layers (A5) (LRR F)	<input type="checkbox"/>	Loamy Gleyed Matrix (F2)	<input type="checkbox"/>	Reduced Vertic (F18)
<input type="checkbox"/>	1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/>	Depleted Matrix (F3)	<input type="checkbox"/>	Red Parent Material (TF2)
<input type="checkbox"/>	Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/>	Redox Dark Surface (F6)	<input type="checkbox"/>	Very Shallow Dark Surface (TF12)
<input type="checkbox"/>	Thick Dark Surface (A12)	<input type="checkbox"/>	Depleted Dark Surface (F7)	<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>	Sandy Mucky Mineral (S1)	<input type="checkbox"/>	Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/>	2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/>	High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)		
<input type="checkbox"/>	5 cm Mucky Peat or Peat (S3) (LRR F)				

Restrictive Layer (if present):		Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Type:	Depth (inches):		
Remarks:			

HYDROLOGY

Wetland Hydrology Indicators:					
Primary Indicators (minimum of one required; check all that apply)			Secondary Indicators (minimum of two required)		
<input type="checkbox"/>	Surface Water (A1)	<input type="checkbox"/>	Salt Crust (B11)	<input type="checkbox"/>	Surface Soil Cracks (B6)
<input type="checkbox"/>	High Water Table (A2)	<input type="checkbox"/>	Aquatic Invertebrates (B13)	<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/>	Saturation (A3)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)	<input type="checkbox"/>	Drainage Patterns (B10)
<input type="checkbox"/>	Water Marks (B1)	<input type="checkbox"/>	Dry-Season Water Table (C2)	<input checked="" type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where tilled)
<input type="checkbox"/>	Sediment Deposits (B2)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where not tilled)	<input type="checkbox"/>	Crayfish Burrows (C8)
<input type="checkbox"/>	Drift Deposits (B3)	<input type="checkbox"/>	Presence of Reduced Iron (C4)	<input checked="" type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/>	Algal Mat or Crust (B4)	<input type="checkbox"/>	Thin Muck Surface (C7)	<input checked="" type="checkbox"/>	Geomorphic Position (D2)
<input type="checkbox"/>	Iron Deposits (B5)	<input type="checkbox"/>	Other (Explain in Remarks)	<input type="checkbox"/>	FAC-Neutral Test (D5)
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)			<input type="checkbox"/>	Frost-Heave Hummocks (D7) (LRR F)
<input type="checkbox"/>	Water-Stained Leaves (B9)				

Field Observations:			Water Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Surface Water Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Water Table Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Remarks:

WETLAND DETERMINATION DATA FORM—Great Plains Region

Project/Site: Brady Wind I		City/County: Stark	Sampling Date: 10/24/15
Applicant/Owner: Nextera		State: North Dakota	Sampling Point: BR-WT-4B
Investigator(s): S Yarbrough, R Sparhawk		Section, Township, Range:	
Landform (hillslope, terrace, etc.):		Local relief (concave, convex, none)	Slope (%):
Subregion (LRR): F	Lat:	Long:	Datum: 84
Soil Map Unit Name:		NWI Classification:	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)			
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "normal circumstances" present? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If necessary, explain any answers in Remarks.)			
SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input type="checkbox"/> No		Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Wetland Hydrology Present? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Remarks:			

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1.				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	(A)
2.				Total Number of Dominant Species Across All Strata:	(B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	(A/B)
4.				Prevalence Index worksheet:	
			= Total Cover	<u>Total % Cover of:</u>	<u>Multiply by:</u>
Sapling/Shrub Stratum (Plot size: 15')				OBL species	x 1 =
1.				FACW species	x 2 =
2.				FAC species	x 3 =
3.				FACU species	x 4 =
4.				UPL species	x 5 =
5.				Column Totals: (A)	(B)
			= Total Cover	Prevalence Index = B/A =	
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators:	
1.				<input type="checkbox"/>	1. Rapid Test for Hydrophytic Vegetation
2.				<input type="checkbox"/>	2. Dominance Test is >50%
3.				<input type="checkbox"/>	3. Prevalence Index is ≤3.0 ¹
4.				<input type="checkbox"/>	4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.				<input type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7.					
8.					
9.					
			= Total Cover		
Woody Vine Stratum (Plot size: 30')				Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input type="checkbox"/> No	
1.					
			= Total Cover		
% Bare Ground in Herb Stratum:					
Remarks:					

WETLAND DETERMINATION DATA FORM—Great Plains Region

SOIL

Sampling Point: BR-

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
¹ Type: C=Concentration; D=Depletion; RM=Reduced Matrix; CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining; M=Matrix								
Hydric Soil Indicators: (applicable to all LRRs, unless otherwise noted.)						Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/>	Histosol (A1)		<input type="checkbox"/>	Sandy Gleyed Matrix (S4)		<input type="checkbox"/>	1 cm Muck (A9) (LRR I, J)	
<input type="checkbox"/>	Histic Epipedon (A2)		<input type="checkbox"/>	Sandy Redox (S5)		<input type="checkbox"/>	Coast Prairie Redox A16) (LRR F, G, H)	
<input type="checkbox"/>	Black Histic (A3)		<input type="checkbox"/>	Stripped Matrix (S6)		<input type="checkbox"/>	Dark Surface (S7) (LRR G)	
<input type="checkbox"/>	Hydrogen Sulfide (A4)		<input type="checkbox"/>	Loamy Mucky Mineral (F1)		<input type="checkbox"/>	High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)	
<input type="checkbox"/>	Stratified Layers (A5) (LRR F)		<input type="checkbox"/>	Loamy Gleyed Matrix (F2)		<input type="checkbox"/>	Reduced Vertic (F18)	
<input type="checkbox"/>	1 cm Muck (A9) (LRR F, G, H)		<input type="checkbox"/>	Depleted Matrix (F3)		<input type="checkbox"/>	Red Parent Material (TF2)	
<input type="checkbox"/>	Depleted Below Dark Surface (A11)		<input type="checkbox"/>	Redox Dark Surface (F6)		<input type="checkbox"/>	Very Shallow Dark Surface (TF12)	
<input type="checkbox"/>	Thick Dark Surface (A12)		<input type="checkbox"/>	Depleted Dark Surface (F7)		<input type="checkbox"/>	Other (Explain in Remarks)	
<input type="checkbox"/>	Sandy Mucky Mineral (S1)		<input type="checkbox"/>	Redox Depressions (F8)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
<input type="checkbox"/>	2.5 cm Mucky Peat or Peat (S2) (LRR G, H)		<input type="checkbox"/>	High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)				
<input type="checkbox"/>	5 cm Mucky Peat or Peat (S3) (LRR F)							
Restrictive Layer (if present):						Hydric Soil Present?		<input type="checkbox"/> Yes <input type="checkbox"/> No
Type:								
Depth (inches):								
Remarks:								

HYDROLOGY

Wetland Hydrology Indicators:								
Primary Indicators (minimum of one required; check all that apply)					Secondary Indicators (minimum of two required)			
<input type="checkbox"/>	Surface Water (A1)		<input type="checkbox"/>	Salt Crust (B11)		<input type="checkbox"/>	Surface Soil Cracks (B6)	
<input type="checkbox"/>	High Water Table (A2)		<input type="checkbox"/>	Aquatic Invertebrates (B13)		<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/>	Saturation (A3)		<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)		<input type="checkbox"/>	Drainage Patterns (B10)	
<input type="checkbox"/>	Water Marks (B1)		<input type="checkbox"/>	Dry-Season Water Table (C2)		<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where tilled)	
<input type="checkbox"/>	Sediment Deposits (B2)		<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where not tilled)		<input type="checkbox"/>	Crayfish Burrows (C8)	
<input type="checkbox"/>	Drift Deposits (B3)		<input type="checkbox"/>	Presence of Reduced Iron (C4)		<input type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/>	Algal Mat or Crust (B4)		<input type="checkbox"/>	Thin Muck Surface (C7)		<input type="checkbox"/>	Geomorphic Position (D2)	
<input type="checkbox"/>	Iron Deposits (B5)		<input type="checkbox"/>	Other (Explain in Remarks)		<input type="checkbox"/>	FAC-Neutral Test (D5)	
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)					<input type="checkbox"/>	Frost-Heave Hummocks (D7) (LRR F)	
<input type="checkbox"/>	Water-Stained Leaves (B9)							
Field Observations:					Water Hydrology Present?		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Surface Water Present?		<input type="checkbox"/> Yes <input type="checkbox"/> No	Depth (inches):					
Water Table Present?		<input type="checkbox"/> Yes <input type="checkbox"/> No	Depth (inches):					
Saturation Present? (includes capillary fringe)		<input type="checkbox"/> Yes <input type="checkbox"/> No	Depth (inches):					
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:								
Remarks:								

WETLAND DETERMINATION DATA FORM—Great Plains Region

Project/Site: Brady Wind I		City/County: Dickinson/Stark	Sampling Date: 10/24/15
Applicant/Owner: Nextera		State: North Dakota	Sampling Point: BR-WT-5A
Investigator(s): K Brimacombe, A Bensted		Section, Township, Range: S27 T137N R98W	
Landform (hillslope, terrace, etc.): drainage between hillslopes		Local relief (concave, convex, none) convex	Slope (%): 1
Subregion (LRR): LRR F	Lat: 46.6445100	Long: -103.0399614	Datum: 84
Soil Map Unit Name:		NWI Classification: none	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)			
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "normal circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If necessary, explain any answers in Remarks.)			
SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Remarks: PEM wetland located in linear low point between rolling hills (farmed). Approximately 20% open water at time of sampling and 2% of mapped wetland includes upland isolated patches of Bromus inermis.			

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. n/a				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	1 (A)
2.				Total Number of Dominant Species Across All Strata:	1 (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	100 (A/B)
4.				Prevalence Index worksheet:	
		= Total Cover		<u>Total % Cover of:</u>	<u>Multiply by:</u>
Sapling/Shrub Stratum (Plot size: 15')				OBL species	x 1 =
1. n/a				FACW species	x 2 =
2.				FAC species	x 3 =
3.				FACU species	x 4 =
4.				UPL species	x 5 =
5.				Column Totals: (A)	(B)
		= Total Cover		Prevalence Index = B/A =	
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators:	
1. Spartina pectinata	85	yes	FACW	<input type="checkbox"/>	1. Rapid Test for Hydrophytic Vegetation
2. Hordeum jubatum	10	no	FACW	<input checked="" type="checkbox"/>	2. Dominance Test is >50%
3. unknown aster	5	no	--	<input type="checkbox"/>	3. Prevalence Index is ≤3.0 ¹
4.				<input type="checkbox"/>	4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.				<input type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7.					
8.					
9.					
		= Total Cover			
Woody Vine Stratum (Plot size: 30')				Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. n/a					
		= Total Cover			
% Bare Ground in Herb Stratum: 0					
Remarks:					

WETLAND DETERMINATION DATA FORM—Great Plains Region

SOIL

Sampling Point: BR-WT-5A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10 YR 3/1	90	10 YR 3/4	10	C	M/PL	silt clay	lots of roots
5-8	10 YR 3/1	90	10 YR 3/4	10	C	M/PL	silt clay	
8-13	10 YR 3/2	100					silt clay	
13-18	10 YR 4/1	95	10 YR 3/4	5	C	M	silt clay	

¹ Type: C=Concentration; D=Depletion; RM=Reduced Matrix; CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining; M=Matrix

Hydric Soil Indicators: (applicable to all LRRs, unless otherwise noted.)				Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/>	Histosol (A1)	<input type="checkbox"/>	Sandy Gleyed Matrix (S4)	<input type="checkbox"/>	1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/>	Histic Epipedon (A2)	<input type="checkbox"/>	Sandy Redox (S5)	<input type="checkbox"/>	Coast Prairie Redox A16) (LRR F, G, H)
<input type="checkbox"/>	Black Histic (A3)	<input type="checkbox"/>	Stripped Matrix (S6)	<input type="checkbox"/>	Dark Surface (S7) (LRR G)
<input type="checkbox"/>	Hydrogen Sulfide (A4)	<input type="checkbox"/>	Loamy Mucky Mineral (F1)	<input type="checkbox"/>	High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
<input type="checkbox"/>	Stratified Layers (A5) (LRR F)	<input type="checkbox"/>	Loamy Gleyed Matrix (F2)	<input type="checkbox"/>	Reduced Vertic (F18)
<input type="checkbox"/>	1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/>	Depleted Matrix (F3)	<input type="checkbox"/>	Red Parent Material (TF2)
<input type="checkbox"/>	Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/>	Redox Dark Surface (F6)	<input type="checkbox"/>	Very Shallow Dark Surface (TF12)
<input type="checkbox"/>	Thick Dark Surface (A12)	<input type="checkbox"/>	Depleted Dark Surface (F7)	<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>	Sandy Mucky Mineral (S1)	<input type="checkbox"/>	Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/>	2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/>	High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)		
<input type="checkbox"/>	5 cm Mucky Peat or Peat (S3) (LRR F)				

Restrictive Layer (if present):		Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Type:	Depth (inches):		
Remarks:			

HYDROLOGY

Wetland Hydrology Indicators:					
Primary Indicators (minimum of one required; check all that apply)			Secondary Indicators (minimum of two required)		
<input type="checkbox"/>	Surface Water (A1)	<input type="checkbox"/>	Salt Crust (B11)	<input type="checkbox"/>	Surface Soil Cracks (B6)
<input type="checkbox"/>	High Water Table (A2)	<input type="checkbox"/>	Aquatic Invertebrates (B13)	<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/>	Saturation (A3)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)	<input type="checkbox"/>	Drainage Patterns (B10)
<input type="checkbox"/>	Water Marks (B1)	<input checked="" type="checkbox"/>	Dry-Season Water Table (C2)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where tilled)
<input type="checkbox"/>	Sediment Deposits (B2)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where not tilled)	<input type="checkbox"/>	Crayfish Burrows (C8)
<input type="checkbox"/>	Drift Deposits (B3)	<input type="checkbox"/>	Presence of Reduced Iron (C4)	<input type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/>	Algal Mat or Crust (B4)	<input type="checkbox"/>	Thin Muck Surface (C7)	<input checked="" type="checkbox"/>	Geomorphic Position (D2)
<input type="checkbox"/>	Iron Deposits (B5)	<input type="checkbox"/>	Other (Explain in Remarks)	<input checked="" type="checkbox"/>	FAC-Neutral Test (D5)
<input checked="" type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)			<input type="checkbox"/>	Frost-Heave Hummocks (D7) (LRR F)
<input type="checkbox"/>	Water-Stained Leaves (B9)				

Field Observations:			Water Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Surface Water Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Water Table Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth (inches): 14		
Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth (inches): 13		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Surface water present in wetland but not at plot.

WETLAND DETERMINATION DATA FORM—Great Plains Region

Project/Site: Brady Wind I		City/County: Stark	Sampling Date: 10/24/15
Applicant/Owner: Nextera		State: North Dakota	Sampling Point: BR-WT-5B
Investigator(s): S Yarbrough, R Sparhawk		Section, Township, Range:	
Landform (hillslope, terrace, etc.): swale		Local relief (concave, convex, none) concave	Slope (%): 1
Subregion (LRR): F	Lat: 46.65743	Long: -102.677	Datum: 84
Soil Map Unit Name: Grail - Savage		NWI Classification: none mapped	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)			
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "normal circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If necessary, explain any answers in Remarks.)			
SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Remarks: Photos 8054 (SE); 8055 (N)			

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. Populus deltoides	10	yes	FAC	Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	3 (A)
2. Picea pungens	<5	yes	FAC	Total Number of Dominant Species Across All Strata:	3 (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	100 (A/B)
4.				Prevalence Index worksheet:	
		= Total Cover		Total % Cover of:	Multiply by:
Sapling/Shrub Stratum (Plot size: 15')				OBL species	x 1 =
1. n/a				FACW species 100	x 2 = 200
2.				FAC species 15	x 3 = 45
3.				FACU species	x 4 =
4.				UPL species	x 5 =
5.				Column Totals: 115 (A)	245 (B)
	100	= Total Cover		Prevalence Index = B/A =	245/115 = 2.13
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators:	
1. Phalaris arundinacea	100	yes	FACW	<input type="checkbox"/>	1. Rapid Test for Hydrophytic Vegetation
2.				<input checked="" type="checkbox"/>	2. Dominance Test is >50%
3.				<input checked="" type="checkbox"/>	3. Prevalence Index is ≤3.0 ¹
4.				<input type="checkbox"/>	4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.				<input type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7.					
8.					
9.					
	100	= Total Cover			
Woody Vine Stratum (Plot size: 30')				Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. n/a					
		= Total Cover			
% Bare Ground in Herb Stratum: 0					
Remarks: Other areas in this long thin swale wetland have Typha latifolia, Phleum pratense, Eleocharis palustris, Rumex crispus, Spartina pectinata, Poa sp., Pascopyrum smithii, Bromus inermis, and Hordeum jubatum.					

WETLAND DETERMINATION DATA FORM—Great Plains Region

SOIL

Sampling Point: BR-WT-5B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10 YR 2/1	100					silt loam	
4-14	10 YR 3/1	95	7.5 YR 4/6	5	C	M/PL	clay loam	moist
14-20	2.5 Y 5/2	80	10 YR 4/6	15	C	M	clay	moist
			Gley1 2.5/N	5	C	M	clay	
¹ Type: C=Concentration; D=Depletion; RM=Reduced Matrix; CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining; M=Matrix								
Hydric Soil Indicators: (applicable to all LRRs, unless otherwise noted.)						Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/>	Histosol (A1)			<input type="checkbox"/>	Sandy Gleyed Matrix (S4)		<input type="checkbox"/>	1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/>	Histic Epipedon (A2)			<input type="checkbox"/>	Sandy Redox (S5)		<input type="checkbox"/>	Coast Prairie Redox A16) (LRR F, G, H)
<input type="checkbox"/>	Black Histic (A3)			<input type="checkbox"/>	Stripped Matrix (S6)		<input type="checkbox"/>	Dark Surface (S7) (LRR G)
<input type="checkbox"/>	Hydrogen Sulfide (A4)			<input type="checkbox"/>	Loamy Mucky Mineral (F1)		<input type="checkbox"/>	High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
<input type="checkbox"/>	Stratified Layers (A5) (LRR F)			<input type="checkbox"/>	Loamy Gleyed Matrix (F2)		<input type="checkbox"/>	Reduced Vertic (F18)
<input type="checkbox"/>	1 cm Muck (A9) (LRR F, G, H)			<input type="checkbox"/>	Depleted Matrix (F3)		<input type="checkbox"/>	Red Parent Material (TF2)
<input type="checkbox"/>	Depleted Below Dark Surface (A11)			<input checked="" type="checkbox"/>	Redox Dark Surface (F6)		<input type="checkbox"/>	Very Shallow Dark Surface (TF12)
<input checked="" type="checkbox"/>	Thick Dark Surface (A12)			<input type="checkbox"/>	Depleted Dark Surface (F7)		<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>	Sandy Mucky Mineral (S1)			<input type="checkbox"/>	Redox Depressions (F8)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/>	2.5 cm Mucky Peat or Peat (S2) (LRR G, H)			<input type="checkbox"/>	High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)			
<input type="checkbox"/>	5 cm Mucky Peat or Peat (S3) (LRR F)							
Restrictive Layer (if present):						Hydric Soil Present?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Type: Depth (inches):								
Remarks: Photos 8056 (soil closeup); 8057 (soil on shovel)								

HYDROLOGY

Wetland Hydrology Indicators:									
Primary Indicators (minimum of one required; check all that apply)					Secondary Indicators (minimum of two required)				
<input type="checkbox"/>	Surface Water (A1)			<input type="checkbox"/>	Salt Crust (B11)		<input type="checkbox"/>	Surface Soil Cracks (B6)	
<input type="checkbox"/>	High Water Table (A2)			<input type="checkbox"/>	Aquatic Invertebrates (B13)		<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/>	Saturation (A3)			<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)		<input type="checkbox"/>	Drainage Patterns (B10)	
<input type="checkbox"/>	Water Marks (B1)			<input type="checkbox"/>	Dry-Season Water Table (C2)		<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where tilled)	
<input type="checkbox"/>	Sediment Deposits (B2)			<input checked="" type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where not tilled)		<input type="checkbox"/>	Crayfish Burrows (C8)	
<input type="checkbox"/>	Drift Deposits (B3)			<input type="checkbox"/>	Presence of Reduced Iron (C4)		<input checked="" type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/>	Algal Mat or Crust (B4)			<input type="checkbox"/>	Thin Muck Surface (C7)		<input checked="" type="checkbox"/>	Geomorphic Position (D2)	
<input type="checkbox"/>	Iron Deposits (B5)			<input type="checkbox"/>	Other (Explain in Remarks)		<input checked="" type="checkbox"/>	FAC-Neutral Test (D5)	
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)						<input type="checkbox"/>	Frost-Heave Hummocks (D7) (LRR F)	
<input type="checkbox"/>	Water-Stained Leaves (B9)								
Field Observations:						Water Hydrology Present?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Surface Water Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):						
Water Table Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):						
Saturation Present? (includes capillary fringe)		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches): moist						
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:									
Remarks: Photos 8058 (SE); 8059 (N) = geomorphic shots									

WETLAND DETERMINATION DATA FORM—Great Plains Region

Project/Site: Brady Wind I		City/County: Dickinson/Stark	Sampling Date: 10/25/15
Applicant/Owner: Nextera		State: North Dakota	Sampling Point: BR-WT-6A
Investigator(s): K Brimacombe, A Bensted		Section, Township, Range: S32 T137N R97W	
Landform (hillslope, terrace, etc.): swale		Local relief (concave, convex, none) concave	Slope (%): 1
Subregion (LRR): LRR F	Lat: 46.6352618	Long: -102.9425254	Datum: 84
Soil Map Unit Name:		NWI Classification: none, but mapped as NHD channel	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)			
Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "normal circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If necessary, explain any answers in Remarks.)			
SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Remarks: Relatively indistinct swale in plowed canola field. Problematic vegetation but hydric soils and hydro indicators present. Topography used to map wetland.			

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. n/a				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	0 (A)
2.				Total Number of Dominant Species Across All Strata:	2 (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	0 (A/B)
4.				Prevalence Index worksheet:	
		= Total Cover		<u>Total % Cover of:</u>	<u>Multiply by:</u>
Sapling/Shrub Stratum (Plot size: 15')				OBL species	x 1 =
1. n/a				FACW species	x 2 =
2.				FAC species	x 3 =
3.				FACU species	x 4 =
4.				UPL species	x 5 =
5.				Column Totals: (A)	(B)
		= Total Cover		Prevalence Index = B/A =	
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators:	
1. Canola (Brassica rapa?)	50	yes	NI	<input type="checkbox"/>	1. Rapid Test for Hydrophytic Vegetation
2. Triticum aestivum	50	yes	NI	<input type="checkbox"/>	2. Dominance Test is >50%
3.				<input type="checkbox"/>	3. Prevalence Index is ≤3.0 ¹
4.				<input type="checkbox"/>	4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.				<input checked="" type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7.					
8.					
9.					
	100	= Total Cover			
Woody Vine Stratum (Plot size: 30')				Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1.					
		= Total Cover			
% Bare Ground in Herb Stratum: 0					
Remarks: Sample plot located in plowed canola wheat field. However, hydric soils and hydrology indicators present. Plot also located in topographical low point.					

WETLAND DETERMINATION DATA FORM—Great Plains Region

SOIL

Sampling Point: BR-WT-6A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10 YR 2/1	100					sandy loam	
6-18	10 YR 3/1	15	5 YR 3/3	85	C	M	sandy loam	
18-20	10 YR 5/1	15	7.5 YR 5/8	85	C	M		

¹ Type: C=Concentration; D=Depletion; RM=Reduced Matrix; CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining; M=Matrix

Hydric Soil Indicators: (applicable to all LRRs, unless otherwise noted.)				Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/>	Histosol (A1)	<input type="checkbox"/>	Sandy Gleyed Matrix (S4)	<input type="checkbox"/>	1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/>	Histic Epipedon (A2)	<input type="checkbox"/>	Sandy Redox (S5)	<input type="checkbox"/>	Coast Prairie Redox A16) (LRR F, G, H)
<input type="checkbox"/>	Black Histic (A3)	<input type="checkbox"/>	Stripped Matrix (S6)	<input type="checkbox"/>	Dark Surface (S7) (LRR G)
<input type="checkbox"/>	Hydrogen Sulfide (A4)	<input type="checkbox"/>	Loamy Mucky Mineral (F1)	<input type="checkbox"/>	High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
<input type="checkbox"/>	Stratified Layers (A5) (LRR F)	<input type="checkbox"/>	Loamy Gleyed Matrix (F2)	<input type="checkbox"/>	Reduced Vertic (F18)
<input type="checkbox"/>	1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/>	Depleted Matrix (F3)	<input type="checkbox"/>	Red Parent Material (TF2)
<input type="checkbox"/>	Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/>	Redox Dark Surface (F6)	<input type="checkbox"/>	Very Shallow Dark Surface (TF12)
<input type="checkbox"/>	Thick Dark Surface (A12)	<input type="checkbox"/>	Depleted Dark Surface (F7)	<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>	Sandy Mucky Mineral (S1)	<input type="checkbox"/>	Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/>	2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/>	High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)		
<input type="checkbox"/>	5 cm Mucky Peat or Peat (S3) (LRR F)				

Restrictive Layer (if present):		Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Type:	Depth (inches):		
Remarks:			

HYDROLOGY

Wetland Hydrology Indicators:					
Primary Indicators (minimum of one required; check all that apply)			Secondary Indicators (minimum of two required)		
<input type="checkbox"/>	Surface Water (A1)	<input type="checkbox"/>	Salt Crust (B11)	<input type="checkbox"/>	Surface Soil Cracks (B6)
<input type="checkbox"/>	High Water Table (A2)	<input type="checkbox"/>	Aquatic Invertebrates (B13)	<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/>	Saturation (A3)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/>	Drainage Patterns (B10)
<input type="checkbox"/>	Water Marks (B1)	<input type="checkbox"/>	Dry-Season Water Table (C2)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where tilled)
<input type="checkbox"/>	Sediment Deposits (B2)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where not tilled)	<input type="checkbox"/>	Crayfish Burrows (C8)
<input type="checkbox"/>	Drift Deposits (B3)	<input type="checkbox"/>	Presence of Reduced Iron (C4)	<input checked="" type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/>	Algal Mat or Crust (B4)	<input type="checkbox"/>	Thin Muck Surface (C7)	<input checked="" type="checkbox"/>	Geomorphic Position (D2)
<input type="checkbox"/>	Iron Deposits (B5)	<input type="checkbox"/>	Other (Explain in Remarks)	<input type="checkbox"/>	FAC-Neutral Test (D5)
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)			<input type="checkbox"/>	Frost-Heave Hummocks (D7) (LRR F)
<input type="checkbox"/>	Water-Stained Leaves (B9)				

Field Observations:			Water Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Surface Water Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Water Table Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Hydrology did not exhibit primary hydrology indicators, however, sample plots dug outside of growing season. Sampling during growing season recommended to confirm hydrology.

WETLAND DETERMINATION DATA FORM—Great Plains Region

Project/Site: Brady Wind I		City/County: Stark	Sampling Date: 10/24/15
Applicant/Owner: Nextera		State: North Dakota	Sampling Point: BR-WT-6B
Investigator(s): S Yarbrough, R Sparhawk		Section, Township, Range:	
Landform (hillslope, terrace, etc.):		Local relief (concave, convex, none) concave	Slope (%): 1
Subregion (LRR): F	Lat: 46.63377	Long: -102.726	Datum: 84
Soil Map Unit Name:		NWI Classification:	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)			
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "normal circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If necessary, explain any answers in Remarks.)			
SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Remarks: Photos 8067 (veg closeup); 8068 (wetland vegetation). The majority of this somewhat large palustrine emergent wetland is farmed, so the true margins are hard to map!			

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. n/a				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	3 (A)
2.				Total Number of Dominant Species Across All Strata:	3 (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	100 (A/B)
4. American plum outside 30' (36')				Prevalence Index worksheet:	
		= Total Cover		<u>Total % Cover of:</u>	<u>Multiply by:</u>
Sapling/Shrub Stratum (Plot size: 15')				OBL species	50
1. n/a				FACW species	50
2.				FAC species	x 3 =
3.				FACU species	x 4 =
4.				UPL species	x 5 =
5.				Column Totals:	100 (A)
		= Total Cover			150 (B)
				Prevalence Index = B/A =	150/100 = 1.5
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators:	
1. Typha latifolia	20	yes	OBL	<input checked="" type="checkbox"/>	1. Rapid Test for Hydrophytic Vegetation
2. Hordeum jubatum	50	yes	FACW	<input checked="" type="checkbox"/>	2. Dominance Test is >50%
3. Eleocharis palustris	30	yes	OBL	<input checked="" type="checkbox"/>	3. Prevalence Index is ≤3.0 ¹
4.				<input type="checkbox"/>	4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.				<input type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7.					
8.					
9.					
	100	= Total Cover			
Woody Vine Stratum (Plot size: 30')				Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. n/a					
		= Total Cover			
% Bare Ground in Herb Stratum: 0					
Remarks: There is also Rumex crispus, Echinochloa crus-galli, Juncus interior					

WETLAND DETERMINATION DATA FORM—Great Plains Region

SOIL

Sampling Point: BR-WT-6B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10 YR 3/2	95	7.5 YR 4/6	5	C	M/PL	silt loam	moist
6-20	2.5 Y 4/2	60	2.5 YR 5/3	30	C	M	clay loam	moist
			7.5 YR 4/6	10	C	M		moist

¹ Type: C=Concentration; D=Depletion; RM=Reduced Matrix; CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining; M=Matrix

Hydric Soil Indicators: (applicable to all LRRs, unless otherwise noted.)				Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/>	Histosol (A1)	<input type="checkbox"/>	Sandy Gleyed Matrix (S4)	<input type="checkbox"/>	1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/>	Histic Epipedon (A2)	<input type="checkbox"/>	Sandy Redox (S5)	<input type="checkbox"/>	Coast Prairie Redox A16) (LRR F, G, H)
<input type="checkbox"/>	Black Histic (A3)	<input type="checkbox"/>	Stripped Matrix (S6)	<input type="checkbox"/>	Dark Surface (S7) (LRR G)
<input type="checkbox"/>	Hydrogen Sulfide (A4)	<input type="checkbox"/>	Loamy Mucky Mineral (F1)	<input type="checkbox"/>	High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
<input type="checkbox"/>	Stratified Layers (A5) (LRR F)	<input type="checkbox"/>	Loamy Gleyed Matrix (F2)	<input type="checkbox"/>	Reduced Vertic (F18)
<input type="checkbox"/>	1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/>	Depleted Matrix (F3)	<input type="checkbox"/>	Red Parent Material (TF2)
<input checked="" type="checkbox"/>	Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/>	Redox Dark Surface (F6)	<input type="checkbox"/>	Very Shallow Dark Surface (TF12)
<input type="checkbox"/>	Thick Dark Surface (A12)	<input type="checkbox"/>	Depleted Dark Surface (F7)	<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>	Sandy Mucky Mineral (S1)	<input type="checkbox"/>	Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/>	2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/>	High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)		
<input type="checkbox"/>	5 cm Mucky Peat or Peat (S3) (LRR F)				

Restrictive Layer (if present):		Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Type:	Depth (inches):		
Remarks: Moist soil throughout column			

HYDROLOGY

Wetland Hydrology Indicators:					
Primary Indicators (minimum of one required; check all that apply)			Secondary Indicators (minimum of two required)		
<input type="checkbox"/>	Surface Water (A1)	<input type="checkbox"/>	Salt Crust (B11)	<input type="checkbox"/>	Surface Soil Cracks (B6)
<input type="checkbox"/>	High Water Table (A2)	<input type="checkbox"/>	Aquatic Invertebrates (B13)	<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/>	Saturation (A3)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)	<input type="checkbox"/>	Drainage Patterns (B10)
<input type="checkbox"/>	Water Marks (B1)	<input type="checkbox"/>	Dry-Season Water Table (C2)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where tilled)
<input type="checkbox"/>	Sediment Deposits (B2)	<input checked="" type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where not tilled)	<input type="checkbox"/>	Crayfish Burrows (C8)
<input type="checkbox"/>	Drift Deposits (B3)	<input type="checkbox"/>	Presence of Reduced Iron (C4)	<input checked="" type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/>	Algal Mat or Crust (B4)	<input type="checkbox"/>	Thin Muck Surface (C7)	<input checked="" type="checkbox"/>	Geomorphic Position (D2)
<input type="checkbox"/>	Iron Deposits (B5)	<input type="checkbox"/>	Other (Explain in Remarks)	<input checked="" type="checkbox"/>	FAC-Neutral Test (D5)
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)			<input type="checkbox"/>	Frost-Heave Hummocks (D7) (LRR F)
<input type="checkbox"/>	Water-Stained Leaves (B9)				

Field Observations:			Water Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Surface Water Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Water Table Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Depth (inches):		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: At this sample plot location, there is a defined channel, but not over most of this wetland.

WETLAND DETERMINATION DATA FORM—Great Plains Region

Project/Site: Brady Wind I		City/County: Dickinson/Stark	Sampling Date: 10/25/15
Applicant/Owner: Nextera		State: North Dakota	Sampling Point: BR-WT-7A
Investigator(s): K Brimacombe, A Bensted		Section, Township, Range: Sections 33 and 34, T137N, R97W	
Landform (hillslope, terrace, etc.): drainage between hillslopes		Local relief (concave, convex, none) convex	Slope (%): 1-2
Subregion (LRR): LRR F	Lat: 46.6374050	Long: -102.9150753	Datum: 84
Soil Map Unit Name:		NWI Classification: none	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)			
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "normal circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If necessary, explain any answers in Remarks.)			
SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Remarks: Meandering swale PEM wetland between two plowed soybean fields. Extends to NNW outside of survey corridor. Wetland mapped using topography and vegetation.			

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. n/a				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	1 (A)
2.				Total Number of Dominant Species Across All Strata:	1 (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	100 (A/B)
4.				Prevalence Index worksheet:	
		= Total Cover		<u>Total % Cover of:</u>	<u>Multiply by:</u>
Sapling/Shrub Stratum (Plot size: 15')				OBL species	x 1 =
1. n/a				FACW species	x 2 =
2.				FAC species	x 3 =
3.				FACU species	x 4 =
4.				UPL species	x 5 =
5.				Column Totals: (A)	(B)
		= Total Cover		Prevalence Index = B/A =	
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators:	
1. Echinochloa crus-gallii	40	yes	FAC	<input type="checkbox"/>	1. Rapid Test for Hydrophytic Vegetation
2. Rumex sp.	15			<input checked="" type="checkbox"/>	2. Dominance Test is >50%
3. Typha sp.	15			<input type="checkbox"/>	3. Prevalence Index is ≤3.0 ¹
4. Eleocharis sp.	15			<input type="checkbox"/>	4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. Medicago sativa	2		UPL	<input type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)
6. Hordeum jubatum	2		FACW	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7.					
8.					
9.					
	89	= Total Cover			
Woody Vine Stratum (Plot size: 30')				Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
1. n/a					
		= Total Cover			
% Bare Ground in Herb Stratum: 11					
Remarks: Typha, Eleocharis, and Rumex not identifiable to sp. due to time of year.					

WETLAND DETERMINATION DATA FORM—Great Plains Region

SOIL

Sampling Point: BR-WT-7A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-15	10 YR 2/2	80	2.5 YR 3/6	20	C	M/PL	sandy clay loam	

¹ Type: C=Concentration; D=Depletion; RM=Reduced Matrix; CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining; M=Matrix

Hydric Soil Indicators: (applicable to all LRRs, unless otherwise noted.)				Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/>	Histosol (A1)	<input type="checkbox"/>	Sandy Gleyed Matrix (S4)	<input type="checkbox"/>	1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/>	Histic Epipedon (A2)	<input type="checkbox"/>	Sandy Redox (S5)	<input type="checkbox"/>	Coast Prairie Redox A16) (LRR F, G, H)
<input type="checkbox"/>	Black Histic (A3)	<input type="checkbox"/>	Stripped Matrix (S6)	<input type="checkbox"/>	Dark Surface (S7) (LRR G)
<input type="checkbox"/>	Hydrogen Sulfide (A4)	<input type="checkbox"/>	Loamy Mucky Mineral (F1)	<input type="checkbox"/>	High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
<input type="checkbox"/>	Stratified Layers (A5) (LRR F)	<input type="checkbox"/>	Loamy Gleyed Matrix (F2)	<input type="checkbox"/>	Reduced Vertic (F18)
<input type="checkbox"/>	1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/>	Depleted Matrix (F3)	<input type="checkbox"/>	Red Parent Material (TF2)
<input type="checkbox"/>	Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/>	Redox Dark Surface (F6)	<input type="checkbox"/>	Very Shallow Dark Surface (TF12)
<input type="checkbox"/>	Thick Dark Surface (A12)	<input type="checkbox"/>	Depleted Dark Surface (F7)	<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>	Sandy Mucky Mineral (S1)	<input type="checkbox"/>	Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/>	2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/>	High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)		
<input type="checkbox"/>	5 cm Mucky Peat or Peat (S3) (LRR F)				

Restrictive Layer (if present):		Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Type:			
Depth (inches):			
Remarks:			

HYDROLOGY

Wetland Hydrology Indicators:					
Primary Indicators (minimum of one required; check all that apply)			Secondary Indicators (minimum of two required)		
<input type="checkbox"/>	Surface Water (A1)	<input type="checkbox"/>	Salt Crust (B11)	<input checked="" type="checkbox"/>	Surface Soil Cracks (B6)
<input type="checkbox"/>	High Water Table (A2)	<input type="checkbox"/>	Aquatic Invertebrates (B13)	<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/>	Saturation (A3)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/>	Drainage Patterns (B10)
<input type="checkbox"/>	Water Marks (B1)	<input type="checkbox"/>	Dry-Season Water Table (C2)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where tilled)
<input type="checkbox"/>	Sediment Deposits (B2)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where not tilled)	<input type="checkbox"/>	Crayfish Burrows (C8)
<input type="checkbox"/>	Drift Deposits (B3)	<input type="checkbox"/>	Presence of Reduced Iron (C4)	<input type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/>	Algal Mat or Crust (B4)	<input type="checkbox"/>	Thin Muck Surface (C7)	<input type="checkbox"/>	Geomorphic Position (D2)
<input checked="" type="checkbox"/>	Iron Deposits (B5)	<input type="checkbox"/>	Other (Explain in Remarks)	<input type="checkbox"/>	FAC-Neutral Test (D5)
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)			<input type="checkbox"/>	Frost-Heave Hummocks (D7) (LRR F)
<input type="checkbox"/>	Water-Stained Leaves (B9)				

Field Observations:			Water Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Surface Water Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Water Table Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Iron deposits on surface 5 YR 4/6. Wetland located in drainage feature mapped by NHD.

WETLAND DETERMINATION DATA FORM—Great Plains Region

Project/Site: Brady Wind I		City/County: Stark	Sampling Date: 10/25/15
Applicant/Owner: Nextera		State: North Dakota	Sampling Point: BR-WT-7B
Investigator(s): S Yarbrough, R Sparhawk		Section, Township, Range:	
Landform (hillslope, terrace, etc.): Kettle pond depressional		Local relief (concave, convex, none) concave	Slope (%): 2
Subregion (LRR): F	Lat: 46.66219	Long: -102.78	Datum: 84
Soil Map Unit Name: Harriet-Regan		NWI Classification: yes	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)			
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "normal circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If necessary, explain any answers in Remarks.)			
SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Remarks: Isolated (Kettle)			

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. n/a				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	2 (A)
2.				Total Number of Dominant Species Across All Strata:	2 (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	100 (A/B)
4.				Prevalence Index worksheet:	
		= Total Cover		Total % Cover of:	Multiply by:
Sapling/Shrub Stratum (Plot size: 15')				OBL species 40	x 1 = 40
1. n/a				FACW species 40	x 2 = 80
2.				FAC species	x 3 =
3.				FACU species	x 4 =
4.				UPL species	x 5 =
5.				Column Totals: 80 (A)	120 (B)
		= Total Cover		Prevalence Index = B/A =	120/80 = 1.5
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators:	
1. Eleocharis palustris	40	yes	OBL	<input checked="" type="checkbox"/>	1. Rapid Test for Hydrophytic Vegetation
2. Hordeum jubatum	40	yes	FACW	<input checked="" type="checkbox"/>	2. Dominance Test is >50%
3.				<input checked="" type="checkbox"/>	3. Prevalence Index is ≤3.0 ¹
4.				<input type="checkbox"/>	4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.				<input type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7.					
8.					
9.					
		= Total Cover			
Woody Vine Stratum (Plot size: 30')				Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1.					
		= Total Cover			
% Bare Ground in Herb Stratum: 20					
Remarks:					

WETLAND DETERMINATION DATA FORM—Great Plains Region

SOIL

Sampling Point: BR-WT-7B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10 YR 4/1	90	7.5 YR 4/6	10	C	M/PL	clay loam	

¹ Type: C=Concentration; D=Depletion; RM=Reduced Matrix; CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining; M=Matrix

Hydric Soil Indicators: (applicable to all LRRs, unless otherwise noted.)				Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/>	Histosol (A1)	<input type="checkbox"/>	Sandy Gleyed Matrix (S4)	<input type="checkbox"/>	1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/>	Histic Epipedon (A2)	<input type="checkbox"/>	Sandy Redox (S5)	<input type="checkbox"/>	Coast Prairie Redox A16) (LRR F, G, H)
<input type="checkbox"/>	Black Histic (A3)	<input type="checkbox"/>	Stripped Matrix (S6)	<input type="checkbox"/>	Dark Surface (S7) (LRR G)
<input type="checkbox"/>	Hydrogen Sulfide (A4)	<input type="checkbox"/>	Loamy Mucky Mineral (F1)	<input type="checkbox"/>	High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
<input type="checkbox"/>	Stratified Layers (A5) (LRR F)	<input type="checkbox"/>	Loamy Gleyed Matrix (F2)	<input type="checkbox"/>	Reduced Vertic (F18)
<input type="checkbox"/>	1 cm Muck (A9) (LRR F, G, H)	<input checked="" type="checkbox"/>	Depleted Matrix (F3)	<input type="checkbox"/>	Red Parent Material (TF2)
<input type="checkbox"/>	Depleted Below Dark Surface (A11)	<input type="checkbox"/>	Redox Dark Surface (F6)	<input type="checkbox"/>	Very Shallow Dark Surface (TF12)
<input type="checkbox"/>	Thick Dark Surface (A12)	<input type="checkbox"/>	Depleted Dark Surface (F7)	<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>	Sandy Mucky Mineral (S1)	<input type="checkbox"/>	Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/>	2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/>	High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)		
<input type="checkbox"/>	5 cm Mucky Peat or Peat (S3) (LRR F)				

Restrictive Layer (if present):		Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Type:			
Depth (inches):			
Remarks:			

HYDROLOGY

Wetland Hydrology Indicators:					
Primary Indicators (minimum of one required; check all that apply)			Secondary Indicators (minimum of two required)		
<input type="checkbox"/>	Surface Water (A1)	<input type="checkbox"/>	Salt Crust (B11)	<input type="checkbox"/>	Surface Soil Cracks (B6)
<input type="checkbox"/>	High Water Table (A2)	<input type="checkbox"/>	Aquatic Invertebrates (B13)	<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/>	Saturation (A3)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)	<input type="checkbox"/>	Drainage Patterns (B10)
<input type="checkbox"/>	Water Marks (B1)	<input type="checkbox"/>	Dry-Season Water Table (C2)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where tilled)
<input type="checkbox"/>	Sediment Deposits (B2)	<input checked="" type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where not tilled)	<input type="checkbox"/>	Crayfish Burrows (C8)
<input type="checkbox"/>	Drift Deposits (B3)	<input type="checkbox"/>	Presence of Reduced Iron (C4)	<input checked="" type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/>	Algal Mat or Crust (B4)	<input type="checkbox"/>	Thin Muck Surface (C7)	<input checked="" type="checkbox"/>	Geomorphic Position (D2)
<input type="checkbox"/>	Iron Deposits (B5)	<input type="checkbox"/>	Other (Explain in Remarks)	<input checked="" type="checkbox"/>	FAC-Neutral Test (D5)
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)			<input type="checkbox"/>	Frost-Heave Hummocks (D7) (LRR F)
<input type="checkbox"/>	Water-Stained Leaves (B9)				

Field Observations:			Water Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Surface Water Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Water Table Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth (inches): 0		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Remarks:

WETLAND DETERMINATION DATA FORM—Great Plains Region

Project/Site: Brady Wind I		City/County: Stark	Sampling Date: 10/25/15
Applicant/Owner: Nextera		State: North Dakota	Sampling Point: BR-WT-8B
Investigator(s): S Yarbrough, R Sparhawk		Section, Township, Range:	
Landform (hillslope, terrace, etc.): channel, floodplain		Local relief (concave, convex, none) concave	Slope (%): 1
Subregion (LRR): F	Lat: 46.64549	Long: -102.855	Datum: 84
Soil Map Unit Name:		NWI Classification:	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)			
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "normal circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If necessary, explain any answers in Remarks.)			
SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Remarks: Palustrine emergent wetland in what amounts to a wide stream channel. More wetland than stream in character.			

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. n/a				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	4 (A)
2.				Total Number of Dominant Species Across All Strata:	4 (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	100 (A/B)
4.				Prevalence Index worksheet:	
		= Total Cover		Total % Cover of:	Multiply by:
Sapling/Shrub Stratum (Plot size: 15')				OBL species 50	x 1 = 50
1. n/a				FACW species 50	x 2 = 100
2.				FAC species	x 3 =
3.				FACU species	x 4 =
4.				UPL species	x 5 =
5.				Column Totals: 100 (A)	150 (B)
		= Total Cover		Prevalence Index = B/A =	150/100 = 1.5
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators:	
1. Schoenoplectus pungens	20	yes	OBL	<input checked="" type="checkbox"/>	1. Rapid Test for Hydrophytic Vegetation
2. Juncus balticus	30	yes	FACW	<input checked="" type="checkbox"/>	2. Dominance Test is >50%
3. Spartina pectinata	20	yes	FACW	<input checked="" type="checkbox"/>	3. Prevalence Index is ≤3.0 ¹
4. Carex pellita	30	yes	OBL	<input type="checkbox"/>	4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.				<input type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7.					
8.					
9.					
	100	= Total Cover			
Woody Vine Stratum (Plot size: 30')				Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. n/a					
		= Total Cover			
% Bare Ground in Herb Stratum: 0					
Remarks:					

WETLAND DETERMINATION DATA FORM—Great Plains Region

SOIL

Sampling Point: BR-WT-8B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10 YR 2/1	65	7.5 YR 4/6	15	C	M/PL	silt	
			10 YR 4/1	10	D	M		
			Gley 1 2.5/N	10	C	M		
¹ Type: C=Concentration; D=Depletion; RM=Reduced Matrix; CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining; M=Matrix								
Hydric Soil Indicators: (applicable to all LRRs, unless otherwise noted.)						Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/>	Histosol (A1)		<input type="checkbox"/>	Sandy Gleyed Matrix (S4)		<input type="checkbox"/>	1 cm Muck (A9) (LRR I, J)	
<input type="checkbox"/>	Histic Epipedon (A2)		<input type="checkbox"/>	Sandy Redox (S5)		<input type="checkbox"/>	Coast Prairie Redox A16) (LRR F, G, H)	
<input type="checkbox"/>	Black Histic (A3)		<input type="checkbox"/>	Stripped Matrix (S6)		<input type="checkbox"/>	Dark Surface (S7) (LRR G)	
<input type="checkbox"/>	Hydrogen Sulfide (A4)		<input type="checkbox"/>	Loamy Mucky Mineral (F1)		<input type="checkbox"/>	High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)	
<input type="checkbox"/>	Stratified Layers (A5) (LRR F)		<input type="checkbox"/>	Loamy Gleyed Matrix (F2)		<input type="checkbox"/>	Reduced Vertic (F18)	
<input type="checkbox"/>	1 cm Muck (A9) (LRR F, G, H)		<input type="checkbox"/>	Depleted Matrix (F3)		<input type="checkbox"/>	Red Parent Material (TF2)	
<input type="checkbox"/>	Depleted Below Dark Surface (A11)		<input checked="" type="checkbox"/>	Redox Dark Surface (F6)		<input type="checkbox"/>	Very Shallow Dark Surface (TF12)	
<input type="checkbox"/>	Thick Dark Surface (A12)		<input type="checkbox"/>	Depleted Dark Surface (F7)		<input type="checkbox"/>	Other (Explain in Remarks)	
<input type="checkbox"/>	Sandy Mucky Mineral (S1)		<input type="checkbox"/>	Redox Depressions (F8)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
<input type="checkbox"/>	2.5 cm Mucky Peat or Peat (S2) (LRR G, H)		<input type="checkbox"/>	High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)				
<input type="checkbox"/>	5 cm Mucky Peat or Peat (S3) (LRR F)							
Restrictive Layer (if present):						Hydric Soil Present?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Type:								
Depth (inches):								
Remarks: soil plot within narrow flood								

HYDROLOGY

Wetland Hydrology Indicators:								
Primary Indicators (minimum of one required; check all that apply)					Secondary Indicators (minimum of two required)			
<input checked="" type="checkbox"/>	Surface Water (A1)		<input type="checkbox"/>	Salt Crust (B11)		<input type="checkbox"/>	Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/>	High Water Table (A2)		<input type="checkbox"/>	Aquatic Invertebrates (B13)		<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/>	Saturation (A3)		<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)		<input checked="" type="checkbox"/>	Drainage Patterns (B10)	
<input type="checkbox"/>	Water Marks (B1)		<input type="checkbox"/>	Dry-Season Water Table (C2)		<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where tilled)	
<input type="checkbox"/>	Sediment Deposits (B2)		<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where not tilled)		<input type="checkbox"/>	Crayfish Burrows (C8)	
<input type="checkbox"/>	Drift Deposits (B3)		<input type="checkbox"/>	Presence of Reduced Iron (C4)		<input checked="" type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/>	Algal Mat or Crust (B4)		<input type="checkbox"/>	Thin Muck Surface (C7)		<input checked="" type="checkbox"/>	Geomorphic Position (D2)	
<input type="checkbox"/>	Iron Deposits (B5)		<input type="checkbox"/>	Other (Explain in Remarks)		<input checked="" type="checkbox"/>	FAC-Neutral Test (D5)	
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)					<input type="checkbox"/>	Frost-Heave Hummocks (D7) (LRR F)	
<input type="checkbox"/>	Water-Stained Leaves (B9)							
Field Observations:					Water Hydrology Present?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Surface Water Present?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth (inches): 2					
Water Table Present?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth (inches): 0					
Saturation Present? (includes capillary fringe)		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth (inches): 0					
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:								
Remarks:								

WETLAND DETERMINATION DATA FORM—Great Plains Region

Project/Site: Brady Wind I		City/County: Stark	Sampling Date: 10/25/15
Applicant/Owner: Nextera		State: North Dakota	Sampling Point: BR-WT-9B
Investigator(s): S Yarbrough, R Sparhawk		Section, Township, Range:	
Landform (hillslope, terrace, etc.): depression		Local relief (concave, convex, none) concave	Slope (%): 1
Subregion (LRR): F	Lat: 46.64806	Long: -102.852	Datum: 84
Soil Map Unit Name:		NWI Classification:	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)			
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "normal circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If necessary, explain any answers in Remarks.)			
SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Remarks: Pasture land. Stock pond to the south.			

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:		
1.				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	1 (A)	
2.				Total Number of Dominant Species Across All Strata:	1 (B)	
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	100 (A/B)	
4.				Prevalence Index worksheet:		
			= Total Cover	Total % Cover of:	Multiply by:	
Sapling/Shrub Stratum (Plot size: 15')				OBL species	70	x 1 = 70
1. n/a				FACW species	20	x 2 = 40
2.				FAC species		x 3 =
3.				FACU species		x 4 =
4.				UPL species		x 5 =
5.				Column Totals:	90 (A)	110 (B)
			= Total Cover	Prevalence Index = B/A =		110/90 = 1.22
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators:		
1. Eleocharis palustris	70	yes	OBL	<input checked="" type="checkbox"/>	1. Rapid Test for Hydrophytic Vegetation	
2. Hordeum jubatum	10	no	FACW	<input checked="" type="checkbox"/>	2. Dominance Test is >50%	
3. Juncus balticus	10	no	FACW	<input checked="" type="checkbox"/>	3. Prevalence Index is ≤3.0 ¹	
4.				<input type="checkbox"/>	4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
5.				<input type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)	
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
7.						
8.						
9.						
			90	= Total Cover		
Woody Vine Stratum (Plot size: 30')				Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
1. n/a						
			= Total Cover			
% Bare Ground in Herb Stratum: 10						
Remarks: clearly dominated by creeping spikerush						

WETLAND DETERMINATION DATA FORM—Great Plains Region

SOIL

Sampling Point: BR-WT-9B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10 YR 2/2	95	10 YR 5/6	5	C	M	clay loam	
10-20	10 YR 5/2	85	10 YR 3/2	15			clay	

¹ Type: C=Concentration; D=Depletion; RM=Reduced Matrix; CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining; M=Matrix

Hydric Soil Indicators: (applicable to all LRRs, unless otherwise noted.)				Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/>	Histosol (A1)	<input type="checkbox"/>	Sandy Gleyed Matrix (S4)	<input type="checkbox"/>	1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/>	Histic Epipedon (A2)	<input type="checkbox"/>	Sandy Redox (S5)	<input type="checkbox"/>	Coast Prairie Redox A16) (LRR F, G, H)
<input type="checkbox"/>	Black Histic (A3)	<input type="checkbox"/>	Stripped Matrix (S6)	<input type="checkbox"/>	Dark Surface (S7) (LRR G)
<input type="checkbox"/>	Hydrogen Sulfide (A4)	<input type="checkbox"/>	Loamy Mucky Mineral (F1)	<input type="checkbox"/>	High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
<input type="checkbox"/>	Stratified Layers (A5) (LRR F)	<input type="checkbox"/>	Loamy Gleyed Matrix (F2)	<input type="checkbox"/>	Reduced Vertic (F18)
<input type="checkbox"/>	1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/>	Depleted Matrix (F3)	<input type="checkbox"/>	Red Parent Material (TF2)
<input checked="" type="checkbox"/>	Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/>	Redox Dark Surface (F6)	<input type="checkbox"/>	Very Shallow Dark Surface (TF12)
<input type="checkbox"/>	Thick Dark Surface (A12)	<input type="checkbox"/>	Depleted Dark Surface (F7)	<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>	Sandy Mucky Mineral (S1)	<input type="checkbox"/>	Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/>	2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/>	High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)		
<input type="checkbox"/>	5 cm Mucky Peat or Peat (S3) (LRR F)				

Restrictive Layer (if present):		Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Type:			
Depth (inches):			
Remarks:			

HYDROLOGY

Wetland Hydrology Indicators:					
Primary Indicators (minimum of one required; check all that apply)			Secondary Indicators (minimum of two required)		
<input type="checkbox"/>	Surface Water (A1)	<input type="checkbox"/>	Salt Crust (B11)	<input checked="" type="checkbox"/>	Surface Soil Cracks (B6)
<input type="checkbox"/>	High Water Table (A2)	<input type="checkbox"/>	Aquatic Invertebrates (B13)	<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/>	Saturation (A3)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)	<input type="checkbox"/>	Drainage Patterns (B10)
<input type="checkbox"/>	Water Marks (B1)	<input type="checkbox"/>	Dry-Season Water Table (C2)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where tilled)
<input type="checkbox"/>	Sediment Deposits (B2)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where not tilled)	<input type="checkbox"/>	Crayfish Burrows (C8)
<input type="checkbox"/>	Drift Deposits (B3)	<input type="checkbox"/>	Presence of Reduced Iron (C4)	<input checked="" type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/>	Algal Mat or Crust (B4)	<input type="checkbox"/>	Thin Muck Surface (C7)	<input checked="" type="checkbox"/>	Geomorphic Position (D2)
<input type="checkbox"/>	Iron Deposits (B5)	<input type="checkbox"/>	Other (Explain in Remarks)	<input checked="" type="checkbox"/>	FAC-Neutral Test (D5)
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)			<input type="checkbox"/>	Frost-Heave Hummocks (D7) (LRR F)
<input type="checkbox"/>	Water-Stained Leaves (B9)				

Field Observations:			Water Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Surface Water Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Water Table Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Moist at 3"

WETLAND DETERMINATION DATA FORM—Great Plains Region

Project/Site: Brady Wind I		City/County: Stark	Sampling Date: 10/25/15
Applicant/Owner: Nextera		State: North Dakota	Sampling Point: BR-WT-10B
Investigator(s): S Yarbrough, R Sparhawk		Section, Township, Range:	
Landform (hillslope, terrace, etc.): depression		Local relief (concave, convex, none)	Slope (%): 2
Subregion (LRR): F	Lat: 46.65565	Long: -102.837	Datum: 84
Soil Map Unit Name:		NWI Classification:	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)			
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "normal circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If necessary, explain any answers in Remarks.)			
SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Remarks: Alkaline depression. Obvious white precipitate on the soil surface.			

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. n/a				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	2 (A)
2.				Total Number of Dominant Species Across All Strata:	2 (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	100 (A/B)
4.				Prevalence Index worksheet:	
		= Total Cover		Total % Cover of:	Multiply by:
Sapling/Shrub Stratum (Plot size: 15')				OBL species 40	x 1 = 40
1. n/a				FACW species 20	x 2 = 40
2.				FAC species	x 3 =
3.				FACU species	x 4 =
4.				UPL species	x 5 =
5.				Column Totals: 60 (A)	80 (B)
		= Total Cover		Prevalence Index = B/A =	80/60 = 1.33
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators:	
1. Puccinellia nuttalliana	25	yes	OBL	<input checked="" type="checkbox"/>	1. Rapid Test for Hydrophytic Vegetation
2. Distichlis spicata	20	yes	FACW	<input checked="" type="checkbox"/>	2. Dominance Test is >50%
3. Schoenoplectus pungens	5	no	OBL	<input checked="" type="checkbox"/>	3. Prevalence Index is ≤3.0 ¹
4. Triglochin maritima	5	no	OBL	<input type="checkbox"/>	4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. Salicornia rubra	5	no	OBL	<input type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7.					
8.					
9.					
	60	= Total Cover			
Woody Vine Stratum (Plot size: 30')				Hydrophytic Vegetation Present?	
1. n/a				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
		= Total Cover			
% Bare Ground in Herb Stratum: 40					
Remarks: Salicornia rubra seems to be the dominant plant out in the middle section of the wetland.					

WETLAND DETERMINATION DATA FORM—Great Plains Region

SOIL

Sampling Point: BR-WT-10B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10 YR 4/1	80	5 YR 3/4	20	C	M/PL	clay	
3-10	10 YR 5/6	60	10 YR 6/1	40			clay	
10-15	2.5 Y 5/2	90	7.5 YR 4/6	10			clay	

¹ Type: C=Concentration; D=Depletion; RM=Reduced Matrix; CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining; M=Matrix

Hydric Soil Indicators: (applicable to all LRRs, unless otherwise noted.)				Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/>	Histosol (A1)	<input type="checkbox"/>	Sandy Gleyed Matrix (S4)	<input type="checkbox"/>	1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/>	Histic Epipedon (A2)	<input type="checkbox"/>	Sandy Redox (S5)	<input type="checkbox"/>	Coast Prairie Redox A16) (LRR F, G, H)
<input type="checkbox"/>	Black Histic (A3)	<input type="checkbox"/>	Stripped Matrix (S6)	<input type="checkbox"/>	Dark Surface (S7) (LRR G)
<input type="checkbox"/>	Hydrogen Sulfide (A4)	<input type="checkbox"/>	Loamy Mucky Mineral (F1)	<input type="checkbox"/>	High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
<input type="checkbox"/>	Stratified Layers (A5) (LRR F)	<input type="checkbox"/>	Loamy Gleyed Matrix (F2)	<input type="checkbox"/>	Reduced Vertic (F18)
<input type="checkbox"/>	1 cm Muck (A9) (LRR F, G, H)	<input checked="" type="checkbox"/>	Depleted Matrix (F3)	<input type="checkbox"/>	Red Parent Material (TF2)
<input type="checkbox"/>	Depleted Below Dark Surface (A11)	<input type="checkbox"/>	Redox Dark Surface (F6)	<input type="checkbox"/>	Very Shallow Dark Surface (TF12)
<input type="checkbox"/>	Thick Dark Surface (A12)	<input type="checkbox"/>	Depleted Dark Surface (F7)	<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>	Sandy Mucky Mineral (S1)	<input type="checkbox"/>	Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/>	2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/>	High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)		
<input type="checkbox"/>	5 cm Mucky Peat or Peat (S3) (LRR F)				

Restrictive Layer (if present):		Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Type:			
Depth (inches):			
Remarks:			

HYDROLOGY

Wetland Hydrology Indicators:					
Primary Indicators (minimum of one required; check all that apply)			Secondary Indicators (minimum of two required)		
<input type="checkbox"/>	Surface Water (A1)	<input checked="" type="checkbox"/>	Salt Crust (B11)	<input type="checkbox"/>	Surface Soil Cracks (B6)
<input type="checkbox"/>	High Water Table (A2)	<input type="checkbox"/>	Aquatic Invertebrates (B13)	<input checked="" type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/>	Saturation (A3)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)	<input type="checkbox"/>	Drainage Patterns (B10)
<input type="checkbox"/>	Water Marks (B1)	<input type="checkbox"/>	Dry-Season Water Table (C2)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where tilled)
<input type="checkbox"/>	Sediment Deposits (B2)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3) (where not tilled)	<input type="checkbox"/>	Crayfish Burrows (C8)
<input type="checkbox"/>	Drift Deposits (B3)	<input type="checkbox"/>	Presence of Reduced Iron (C4)	<input checked="" type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/>	Algal Mat or Crust (B4)	<input type="checkbox"/>	Thin Muck Surface (C7)	<input checked="" type="checkbox"/>	Geomorphic Position (D2)
<input type="checkbox"/>	Iron Deposits (B5)	<input type="checkbox"/>	Other (Explain in Remarks)	<input checked="" type="checkbox"/>	FAC-Neutral Test (D5)
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)			<input type="checkbox"/>	Frost-Heave Hummocks (D7) (LRR F)
<input type="checkbox"/>	Water-Stained Leaves (B9)				

Field Observations:			Water Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Surface Water Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Water Table Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth (inches):		
Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth (inches): 0		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Remarks:

Appendix 3: Stream Data Forms

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GENERAL ID					
Stream ID BR-STR-1B		Stream Name:			
Lat: 46.6447239		Long: -102.7482279		Date: 10/25/15	
Project Name: Brady Wind I			Client: Nextera		
Investigators: S Yarbrough, R Sparhawk					
Flow Regime: ephemeral		Water Type: NRPW		Photo ID: 2015-10-25 09.39.11.jpg	
CHANNEL FEATURES					
Estimate Measurements			Stream Erosion		
Top of Bank Width (feet):		.18 ft average	Stream Erosion:		Moderate
Top of bank Height (feet):			Artificial, Modified, or Channelized:		No
LB (feet):		3	Dam Present:		No
RB (feet):		2	Sinuosity:		High
Water Depth (in.):		0	Gradient:		Flat (0.5-100ft) to Moderate (2-100 ft)
Water Width (feet):		0			
High Water Mark (feet):		3 (not clear; perhaps 1 ft)			
FLOW CHARACTERISTICS					
Water Present:		No water present, stream bed dry		Proportion of Reach Represented by Stream Morphology Types:	
Velocity:		N/A	Riffle (%):	Pool (%):	Run (%):
Turbidity:		N/A			
		Other:			
SUBSTRATE COMPONENTS					
Inorganic Substrate Components—Should add to 100%			Organic Substrate Components—Does not necessarily add to 100%		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Reach
Bedrock			Vegetated	Sticks, wood, coarse plant materials (CPOM)	100
Boulder	> 256mm (10")		Muck–Mud	Black, very fine grain organic	
Cobble	64–256mm (2.5"–10"		Marl	Grey, shell fragments	
Gravel	2–64mm (0.1"–2.5")				
Sand	0.06–2mm (gritty)				
Silt	0.004–0.06mm				
Clay	< 0.004mm (slick)				
WATERSHED FEATURES					
Predominant Surrounding Land Use:		<input type="checkbox"/> Forest <input type="checkbox"/> Field/Pasture <input checked="" type="checkbox"/> Agricultural (wheat field on either side) <input type="checkbox"/> Commercial		<input type="checkbox"/> Industrial <input type="checkbox"/> Residential Other:	
Indicate the dominant type:		<input type="checkbox"/> Trees <input type="checkbox"/> Shrubs		<input checked="" type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous	
Canopy Cover:		Open			
Floodplain Width:		Narrow (less than 16 ft)	Wetland Present:		Wetland ID:
			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No*		
AQUATIC VEGETATION					
Indicate the dominant type and record the dominant species present:					
<input type="checkbox"/> Rooted emergent		<input type="checkbox"/> Rooted submergent		<input type="checkbox"/> Rooted floating	
<input type="checkbox"/> Floating algae		<input type="checkbox"/> Attached algae		<input checked="" type="checkbox"/> None	
MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OBSERVATIONS AND NOTES					
<p>* But there are very minor pockets of sedge and Equisetum within the OHWM (channel bottom). These pockets are very spread out and small.</p> <p>Deer, pheasant, badger (deep holes in field)</p> <p>American plum and snowberry on the banks. Dominated by smooth brome.</p>					

GENERAL ID					
Stream ID BR-STR-2B		Stream Name:			
Lat: 46.6451352		Long: -102.7986368		Date: 10/25/15	
Project Name: Brady Wind I			Client: Nextera		
Investigators: S Yarbrough, R Sparhawk					
Flow Regime: ephemeral		Water Type: NRPW		Photo ID: 2015-10-25 10.30.18.jpg	
CHANNEL FEATURES					
Estimate Measurements			Stream Erosion		
Top of Bank Width (feet):		4	Stream Erosion:		Moderate
Top of bank Height (feet):			Artificial, Modified, or Channelized:		Yes (farmed field)
LB (feet):		1	Dam Present:		No
RB (feet):		1	Sinuosity:		Low
Water Depth (in.):		0	Gradient:		Flat (0.5-100ft)
Water Width (feet):		0			
High Water Mark (feet):		0.5			
FLOW CHARACTERISTICS					
Water Present:		No water present, stream bed dry		Proportion of Reach Represented by Stream Morphology Types:	
Velocity:		N/A	Riffle (%):	Pool (%):	Run (%):
Turbidity:		N/A			
		Other:			
SUBSTRATE COMPONENTS					
Inorganic Substrate Components—Should add to 100%			Organic Substrate Components—Does not necessarily add to 100%		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Reach
Bedrock			Detritus	Sticks, wood, coarse plant materials (CPOM)	20
Boulder	> 256mm (10")		Muck–Mud	Black, very fine grain organic	
Cobble	64–256mm (2.5"–10")		Marl	Grey, shell fragments	
Gravel	2–64mm (0.1"–2.5")	10			
Sand	0.06–2mm (gritty)	30			
Silt	0.004–0.06mm	30			
Clay	< 0.004mm (slick)	30			
WATERSHED FEATURES					
Predominant Surrounding Land Use:		<input type="checkbox"/> Forest <input type="checkbox"/> Field/Pasture <input checked="" type="checkbox"/> Agricultural <input type="checkbox"/> Commercial		<input type="checkbox"/> Industrial <input type="checkbox"/> Residential Other:	
Indicate the dominant type:		<input type="checkbox"/> Trees <input type="checkbox"/> Shrubs		<input type="checkbox"/> Grasses <input checked="" type="checkbox"/> Herbaceous	
Canopy Cover:		Open			
Floodplain Width:		Narrow (less than 16 ft)	Wetland Present:		Wetland ID:
			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
AQUATIC VEGETATION					
Indicate the dominant type and record the dominant species present:					
<input type="checkbox"/> Rooted emergent		<input type="checkbox"/> Rooted submergent		<input type="checkbox"/> Rooted floating	
<input type="checkbox"/> Free floating		<input type="checkbox"/> Attached algae		<input type="checkbox"/> None	
<input type="checkbox"/> Floating algae					
MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OBSERVATIONS AND NOTES					
This is a flax field. Channel is very narrow.					

GENERAL ID					
Stream ID BR-STR-3B		Stream Name:			
Lat: 46.6353035		Long: -102.8854268		Date: 10/25/15	
Project Name: Brady Wind I			Client: Nextera		
Investigators: S Yarbrough, R Sparhawk					
Flow Regime: Intermittent		Water Type: NRPW		Photo ID: 2015-10-25 11.35.07.jpg	
CHANNEL FEATURES					
Estimate Measurements			Stream Erosion		
Top of Bank Width (feet):		16	Stream Erosion:		Moderate
Top of bank Height (feet):			Artificial, Modified, or Channelized:		No
LB (feet):		3	Dam Present:		No (perhaps downstream)
RB (feet):		3	Sinuosity:		Medium
Water Depth (in.):		6 (standing water)		Gradient:	
Water Width (feet):		5		Flat (0.5-100ft)	
High Water Mark (feet):		2			
FLOW CHARACTERISTICS					
Water Present:		Standing water		Proportion of Reach Represented by Stream Morphology Types:	
Velocity:		N/A	Riffle (%):	Pool (%):	Run (%):
Turbidity:		Slightly turbid			
		Other:			
SUBSTRATE COMPONENTS					
Inorganic Substrate Components—Should add to 100%			Organic Substrate Components—Does not necessarily add to 100%		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Reach
Bedrock			Detritus	Sticks, wood, coarse plant materials (CPOM)	5
Boulder	> 256mm (10")		Muck—Mud	Black, very fine grain organic	
Cobble	64–256mm (2.5"–10"		Marl	Grey, shell fragments	
Gravel	2–64mm (0.1"–2.5")				
Sand	0.06–2mm (gritty)				
Silt	0.004–0.06mm	50			
Clay	< 0.004mm (slick)	50			
WATERSHED FEATURES					
Predominant Surrounding Land Use:		<input type="checkbox"/> Forest <input type="checkbox"/> Field/Pasture <input checked="" type="checkbox"/> Agricultural <input type="checkbox"/> Commercial		<input type="checkbox"/> Industrial <input type="checkbox"/> Residential Other:	
Indicate the dominant type:		<input type="checkbox"/> Trees <input type="checkbox"/> Shrubs		<input checked="" type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous	
Canopy Cover:		Open			
Floodplain Width:		Choose an item.	Wetland Present:	<input checked="" type="checkbox"/> Yes * <input type="checkbox"/> No	Wetland ID:
AQUATIC VEGETATION					
Indicate the dominant type and record the dominant species present:					
<input type="checkbox"/> Rooted emergent		<input type="checkbox"/> Rooted submergent		<input type="checkbox"/> Rooted floating	
<input type="checkbox"/> Floating algae		<input type="checkbox"/> Attached algae		<input checked="" type="checkbox"/> Free floating algae bloom	
		<input type="checkbox"/> None			
MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OBSERVATIONS AND NOTES					
* narrow fringe of sedges and spikerush Twin culverts 3' CMPs Spartina pectinata Eleocharis palustris					

GENERAL ID					
Stream ID BR-STR-4B		Stream Name:			
Lat: 46.6313896		Long: -102.8812929		Date: 10/25/15	
Project Name: Brady Wind I			Client: Nextera		
Investigators: S Yarbrough, R Sparhawk					
Flow Regime: intermittent		Water Type: NRPW		Photo ID: 2015-10-25 16.35.39.jpg	
CHANNEL FEATURES					
Estimate Measurements			Stream Erosion		
Top of Bank Width (feet):		14	Stream Erosion:		Moderate
Top of bank Height (feet):			Artificial, Modified, or Channelized:		Yes
LB (feet):		2.5	Dam Present:		Yes (just upstream at stock pond BR-POND-5B)
RB (feet):		1.5	Sinuosity:		Medium
Water Depth (in.):		3	Gradient:		Flat (0.5-100ft)
Water Width (feet):		6			
High Water Mark (feet):		0.75			
FLOW CHARACTERISTICS					
Water Present:		Standing water	Proportion of Reach Represented by Stream Morphology Types:		
Velocity:		N/A	Riffle (%):	Pool (%):	Run (%):
Turbidity:		Clear			
		Other:			
SUBSTRATE COMPONENTS					
Inorganic Substrate Components—Should add to 100%			Organic Substrate Components—Does not necessarily add to 100%		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Reach
Bedrock			Detritus	Sticks, wood, coarse plant materials (CPOM)	5
Boulder	> 256mm (10")		Muck–Mud	Black, very fine grain organic	
Cobble	64–256mm (2.5"–10")		Marl	Grey, shell fragments	
Gravel	2–64mm (0.1"–2.5")				
Sand	0.06–2mm (gritty)				
Silt	0.004–0.06mm	40			
Clay	< 0.004mm (slick)	60			
WATERSHED FEATURES					
Predominant Surrounding Land Use:		<input type="checkbox"/> Forest <input type="checkbox"/> Field/Pasture <input checked="" type="checkbox"/> Agricultural (wheat adjacent) <input type="checkbox"/> Commercial		<input type="checkbox"/> Industrial <input type="checkbox"/> Residential Other:	
Indicate the dominant type:		<input type="checkbox"/> Trees <input type="checkbox"/> Shrubs		<input checked="" type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous	
Canopy Cover:		Open			
Floodplain Width:	Narrow (less than 16 ft)	Wetland Present:	<input checked="" type="checkbox"/> Yes narrow fringe (3' wide) <input type="checkbox"/> No	Wetland ID:	
AQUATIC VEGETATION					
Indicate the dominant type and record the dominant species present:					
<input checked="" type="checkbox"/> Rooted emergent	<input type="checkbox"/> Rooted submergent	<input type="checkbox"/> Rooted floating		<input type="checkbox"/> Free floating	
<input type="checkbox"/> Floating algae	<input type="checkbox"/> Attached algae	<input type="checkbox"/> None			
MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OBSERVATIONS AND NOTES					

GENERAL ID					
Stream ID BR-STR-5B		Stream Name:			
Lat: 46.6320567		Long: -102.8717375		Date: 10/25/15	
Project Name: Brady Wind I			Client: Nextera		
Investigators: S Yarbrough, R Sparhawk					
Flow Regime: ephemeral		Water Type: NRPW		Photo ID: 2015-10-25 17.22.06.jpg	
CHANNEL FEATURES					
Estimate Measurements			Stream Erosion		
Top of Bank Width (feet):		14	Stream Erosion:		None
Top of bank Height (feet):			Artificial, Modified, or Channelized:		No
LB (feet):		2	Dam Present:		Yes (just below)
RB (feet):		3.5	Sinuosity:		Low
Water Depth (in.):		0	Gradient:		Flat (0.5-100ft) to Moderate (2ft-100ft)
Water Width (feet):		0			
High Water Mark (feet):		--			
FLOW CHARACTERISTICS					
Water Present:		No water present, stream bed dry		Proportion of Reach Represented by Stream Morphology Types:	
Velocity:		N/A	Riffle (%):	Pool (%):	Run (%):
Turbidity:		N/A			
		Other:			
SUBSTRATE COMPONENTS					
Inorganic Substrate Components—Should add to 100%			Organic Substrate Components—Does not necessarily add to 100%		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Reach
Bedrock			Detritus	Sticks, wood, coarse plant materials (CPOM)	fully vegetated
Boulder	> 256mm (10")		Muck–Mud	Black, very fine grain organic	
Cobble	64–256mm (2.5"–10")		Marl	Grey, shell fragments	
Gravel	2–64mm (0.1"–2.5")				
Sand	0.06–2mm (gritty)				
Silt	0.004–0.06mm	50			
Clay	< 0.004mm (slick)	50			
WATERSHED FEATURES					
Predominant Surrounding Land Use:		<input type="checkbox"/> Forest <input checked="" type="checkbox"/> Field/Pasture <input type="checkbox"/> Agricultural <input type="checkbox"/> Commercial		<input type="checkbox"/> Industrial <input type="checkbox"/> Residential Other:	
Indicate the dominant type:		<input type="checkbox"/> Trees <input type="checkbox"/> Shrubs		<input checked="" type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous	
Canopy Cover:		Open			
Floodplain Width:		Narrow (less than 16 ft)	Wetland Present:		Wetland ID:
			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
AQUATIC VEGETATION					
Indicate the dominant type and record the dominant species present:					
<input checked="" type="checkbox"/> Rooted emergent (very minimal)		<input type="checkbox"/> Rooted submergent		<input type="checkbox"/> Rooted floating	
<input type="checkbox"/> Floating algae		<input type="checkbox"/> Attached algae		<input type="checkbox"/> Free floating	
		<input type="checkbox"/> None			
MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OBSERVATIONS AND NOTES					

GENERAL ID					
Stream ID BR-STR-1C		Stream Name: Unnamed			
Lat: 46.6345331		Long: -102.8927092		Date: 11/17/2015	
Project Name: Brady Wind I			Client: Nextera		
Investigators: J. Rodriguez, C. Sandow					
Flow Regime: Ephemeral		Water Type:		Photo ID:	
CHANNEL FEATURES					
Estimate Measurements			Stream Erosion		
Top of Bank Width (feet):		2	Stream Erosion:		None
Top of bank Height (feet):			Artificial, Modified, or Channelized:		No
LB (feet):		2	Dam Present:		No
RB (feet):		2	Sinuosity:		Low
Water Depth (in.):		N/A	Gradient:		Flat (0.5-100ft)
Water Width (feet):		N/A			
High Water Mark (feet):		2			
FLOW CHARACTERISTICS					
Water Present:		No water present, stream bed dry		Proportion of Reach Represented by Stream Morphology Types:	
Velocity:		N/A	Riffle (%): 0	Pool (%): 0	Run (%): 0
Turbidity:		N/A			
		Other:			
SUBSTRATE COMPONENTS					
Inorganic Substrate Components—Should add to 100%			Organic Substrate Components—Does not necessarily add to 100%		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Reach
Bedrock			Detritus	Sticks, wood, coarse plant materials (CPOM)	10
Boulder	> 256mm (10")		Muck–Mud	Black, very fine grain organic	
Cobble	64–256mm (2.5"–10")		Marl	Grey, shell fragments	
Gravel	2–64mm (0.1"–2.5")				
Sand	0.06–2mm (gritty)				
Silt	0.004–0.06mm	100			
Clay	< 0.004mm (slick)				
WATERSHED FEATURES					
Predominant Surrounding Land Use:		<input type="checkbox"/> Forest <input type="checkbox"/> Field/Pasture <input checked="" type="checkbox"/> Agricultural <input type="checkbox"/> Commercial		<input type="checkbox"/> Industrial <input type="checkbox"/> Residential Other:	
Indicate the dominant type:		<input type="checkbox"/> Trees <input type="checkbox"/> Shrubs		<input type="checkbox"/> Grasses <input checked="" type="checkbox"/> Herbaceous	
Canopy Cover:		N/A			
Floodplain Width:	Narrow (less than 16 ft)	Wetland Present:	<input type="checkbox"/> Yes but fails soil test <input checked="" type="checkbox"/> No	Wetland ID:	
AQUATIC VEGETATION					
Indicate the dominant type and record the dominant species present:					
<input type="checkbox"/> Rooted emergent	<input type="checkbox"/> Rooted submergent	<input type="checkbox"/> Rooted floating	<input type="checkbox"/> Free floating		
<input type="checkbox"/> Floating algae	<input type="checkbox"/> Attached algae	<input checked="" type="checkbox"/> None			
MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OBSERVATIONS AND NOTES					
No water in stream bed. Obvious channelized streambed in middle of agricultural field. No wildlife present at time of sampling.					

GENERAL ID					
Stream ID BR-STR-1G		Stream Name: Unnamed			
Lat: 46.6367252		Long: -102.9914035		Date: 11/19/2015	
Project Name: Brady Wind I			Client: Nextera		
Investigators: K. Brimacombe, A. Lortie					
Flow Regime: Ephemeral		Water Type: NRPW		Photo ID:	
CHANNEL FEATURES					
Estimate Measurements			Stream Erosion		
Top of Bank Width (feet):		7	Stream Erosion:		None
Top of bank Height (feet):			Artificial, Modified, or Channelized:		No
LB (feet):		3.5	Dam Present:		No
RB (feet):		3.5	Sinuosity:		Medium
Water Depth (in.):		N/A	Gradient:		Flat (0.5-100ft)
Water Width (feet):		N/A			
High Water Mark (feet):					
FLOW CHARACTERISTICS					
Water Present:		No water present, stream bed dry		Proportion of Reach Represented by Stream Morphology Types:	
Velocity:		N/A	Riffle (%): 0	Pool (%): 0	Run (%): 0
Turbidity:		N/A			
		Other:			
SUBSTRATE COMPONENTS					
Inorganic Substrate Components—Should add to 100%			Organic Substrate Components—Does not necessarily add to 100%		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Reach
Bedrock			Detritus	Sticks, wood, coarse plant materials (CPOM)	
Boulder	> 256mm (10")		Muck–Mud	Black, very fine grain organic	
Cobble	64–256mm (2.5"–10")	5	Marl	Grey, shell fragments	
Gravel	2–64mm (0.1"–2.5")				
Sand	0.06–2mm (gritty)				
Silt	0.004–0.06mm	5			
Clay	< 0.004mm (slick)	90			
WATERSHED FEATURES					
Predominant Surrounding Land Use:		<input type="checkbox"/> Forest <input type="checkbox"/> Field/Pasture <input checked="" type="checkbox"/> Agricultural <input type="checkbox"/> Commercial		<input type="checkbox"/> Industrial <input type="checkbox"/> Residential Other:	
Indicate the dominant type:		<input type="checkbox"/> Trees <input type="checkbox"/> Shrubs		<input checked="" type="checkbox"/> Grasses <input checked="" type="checkbox"/> Herbaceous	
Canopy Cover:		N/A			
Floodplain Width:		Moderate (15-30 ft)	Wetland Present:		Wetland ID:
			<input type="checkbox"/> Yes but fails soil test <input checked="" type="checkbox"/> No		
AQUATIC VEGETATION					
Indicate the dominant type and record the dominant species present:					
<input type="checkbox"/> Rooted emergent		<input type="checkbox"/> Rooted submergent		<input type="checkbox"/> Rooted floating	
<input type="checkbox"/> Free floating		<input checked="" type="checkbox"/> None			
<input type="checkbox"/> Floating algae		<input type="checkbox"/> Attached algae			
MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OBSERVATIONS AND NOTES					
Channel was 70% vegetated in transmission line corridor.					

GENERAL ID					
Stream ID BR-STR-2C		Stream Name: Unnamed			
Lat: 46.676904		Long: -102.65004		Date: 11/19/2015	
Project Name: Brady Wind I			Client: Nextera		
Investigators: J. Rodriguez, C. Sandow					
Flow Regime: Intermittent		Water Type:		Photo ID:	
CHANNEL FEATURES					
Estimate Measurements			Stream Erosion		
Top of Bank Width (feet):		10	Stream Erosion:		None
Top of bank Height (feet):			Artificial, Modified, or Channelized:		No
LB (feet):		1.5	Dam Present:		No
RB (feet):		1.5	Sinuosity:		Low
Water Depth (in.):		N/A	Gradient:		Flat (0.5-100ft)
Water Width (feet):		N/A			
High Water Mark (feet):		30			
FLOW CHARACTERISTICS					
Water Present:		Standing water	Proportion of Reach Represented by Stream Morphology Types:		
Velocity:		N/A	Riffle (%): 0	Pool (%): 0	Run (%): 0
Turbidity:		N/A			
		Other:			
SUBSTRATE COMPONENTS					
Inorganic Substrate Components—Should add to 100%			Organic Substrate Components—Does not necessarily add to 100%		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Reach
Bedrock			Detritus	Sticks, wood, coarse plant materials (CPOM)	20
Boulder	> 256mm (10")		Muck—Mud	Black, very fine grain organic	
Cobble	64–256mm (2.5"–10")		Marl	Grey, shell fragments	
Gravel	2–64mm (0.1"–2.5")				
Sand	0.06–2mm (gritty)				
Silt	0.004–0.06mm	50			
Clay	< 0.004mm (slick)	50			
WATERSHED FEATURES					
Predominant Surrounding Land Use:		<input type="checkbox"/> Forest <input type="checkbox"/> Field/Pasture <input checked="" type="checkbox"/> Agricultural <input type="checkbox"/> Commercial		<input type="checkbox"/> Industrial <input type="checkbox"/> Residential Other:	
Indicate the dominant type:		<input type="checkbox"/> Trees <input type="checkbox"/> Shrubs		<input checked="" type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous	
Canopy Cover:		N/A			
Floodplain Width:		Moderate (15-30 ft)	Wetland Present:	<input type="checkbox"/> Yes but fails soil test <input type="checkbox"/> No	Wetland ID: BR-WT-3C
AQUATIC VEGETATION					
Indicate the dominant type and record the dominant species present:					
<input checked="" type="checkbox"/> Rooted emergent		<input type="checkbox"/> Rooted submergent	<input type="checkbox"/> Rooted floating	<input type="checkbox"/> Free floating	
<input type="checkbox"/> Floating algae		<input type="checkbox"/> Attached algae	<input type="checkbox"/> None		
MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OBSERVATIONS AND NOTES					

GENERAL ID					
Stream ID BR-STR-2D		Stream Name: Unnamed			
Lat: 46.6494258		Long: -102.65004		Date: 11/19/2015	
Project Name: Brady Wind I			Client: Nextera		
Investigators: S. Ryan, C. Carver					
Flow Regime: Ephemeral		Water Type:		Photo ID:	
CHANNEL FEATURES					
Estimate Measurements			Stream Erosion		
Top of Bank Width (feet):		25	Stream Erosion:		None
Top of bank Height (feet):			Artificial, Modified, or Channelized:		Yes
LB (feet):		6	Dam Present:		Yes
RB (feet):		1.5	Sinuosity:		High
Water Depth (in.):		N/A	Gradient:		Flat (0.5-100ft)
Water Width (feet):		N/A			
High Water Mark (feet):		30			
FLOW CHARACTERISTICS					
Water Present:		No water present, stream bed dry		Proportion of Reach Represented by Stream Morphology Types:	
Velocity:		N/A	Riffle (%): 0	Pool (%): 0	Run (%): 0
Turbidity:		N/A			
		Other:			
SUBSTRATE COMPONENTS					
Inorganic Substrate Components—Should add to 100%			Organic Substrate Components—Does not necessarily add to 100%		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Reach
Bedrock			Detritus	Sticks, wood, coarse plant materials (CPOM)	
Boulder	> 256mm (10")		Muck–Mud	Black, very fine grain organic	
Cobble	64–256mm (2.5"–10")		Marl	Grey, shell fragments	
Gravel	2–64mm (0.1"–2.5")				
Sand	0.06–2mm (gritty)	100			
Silt	0.004–0.06mm				
Clay	< 0.004mm (slick)				
WATERSHED FEATURES					
Predominant Surrounding Land Use:		<input type="checkbox"/> Forest <input type="checkbox"/> Field/Pasture <input checked="" type="checkbox"/> Agricultural <input type="checkbox"/> Commercial		<input type="checkbox"/> Industrial <input type="checkbox"/> Residential Other:	
Indicate the dominant type:		<input type="checkbox"/> Trees <input type="checkbox"/> Shrubs		<input checked="" type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous	
Canopy Cover:		N/A			
Floodplain Width:		Wide (over 30 ft)	Wetland Present:	<input type="checkbox"/> Yes but fails soil test <input checked="" type="checkbox"/> No	Wetland ID:
AQUATIC VEGETATION					
Indicate the dominant type and record the dominant species present:					
<input type="checkbox"/> Rooted emergent		<input type="checkbox"/> Rooted submergent	<input type="checkbox"/> Rooted floating		<input type="checkbox"/> Free floating
<input type="checkbox"/> Floating algae		<input type="checkbox"/> Attached algae	<input checked="" type="checkbox"/> None		
MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OBSERVATIONS AND NOTES					
Meandering stream that enters collection line in 3 locations from the west. Stream bed is vegetated in many areas. Banks are wide and gently sloping to a max depth of ~8 feet. Two earthen dams modify stream flow. Both dams contain 24" culverts. Dams most likely act as a form of flood control. Possibly historical ditched or modified.					

GENERAL ID					
Stream ID BR-STR-3D		Stream Name: Unnamed			
Lat: 46.6377121		Long: -102.6827472		Date: 11/20/2015	
Project Name: Brady Wind I			Client: Nextera		
Investigators: S. Ryan, C. Carver					
Flow Regime: Ephemeral		Water Type: NRPW		Photo ID:	
CHANNEL FEATURES					
Estimate Measurements			Stream Erosion		
Top of Bank Width (feet):		20	Stream Erosion:		None
Top of bank Height (feet):			Artificial, Modified, or Channelized:		No
LB (feet):		0.5	Dam Present:		No
RB (feet):		0.5	Sinuosity:		Low
Water Depth (in.):		N/A	Gradient:		Flat (0.5-100ft)
Water Width (feet):		N/A			
High Water Mark (feet):					
FLOW CHARACTERISTICS					
Water Present:		No water present, stream bed dry		Proportion of Reach Represented by Stream Morphology Types:	
Velocity:		N/A	Riffle (%): 0	Pool (%): 0	Run (%): 0
Turbidity:		N/A			
		Other:			
SUBSTRATE COMPONENTS					
Inorganic Substrate Components—Should add to 100%			Organic Substrate Components—Does not necessarily add to 100%		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Reach
Bedrock			Detritus	Sticks, wood, coarse plant materials (CPOM)	
Boulder	> 256mm (10")		Muck–Mud	Black, very fine grain organic	
Cobble	64–256mm (2.5"–10")		Marl	Grey, shell fragments	
Gravel	2–64mm (0.1"–2.5")				
Sand	0.06–2mm (gritty)				
Silt	0.004–0.06mm	100			
Clay	< 0.004mm (slick)				
WATERSHED FEATURES					
Predominant Surrounding Land Use:		<input type="checkbox"/> Forest <input type="checkbox"/> Field/Pasture <input checked="" type="checkbox"/> Agricultural <input type="checkbox"/> Commercial		<input type="checkbox"/> Industrial <input type="checkbox"/> Residential Other:	
Indicate the dominant type:		<input type="checkbox"/> Trees <input type="checkbox"/> Shrubs		<input checked="" type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous	
Canopy Cover:		N/A			
Floodplain Width:		Wide (over 30 ft)	Wetland Present:	<input type="checkbox"/> Yes but fails soil test <input checked="" type="checkbox"/> No	Wetland ID:
AQUATIC VEGETATION					
Indicate the dominant type and record the dominant species present:					
<input type="checkbox"/> Rooted emergent		<input type="checkbox"/> Rooted submergent	<input type="checkbox"/> Rooted floating		<input type="checkbox"/> Free floating
<input type="checkbox"/> Floating algae		<input type="checkbox"/> Attached algae	<input checked="" type="checkbox"/> None		
MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OBSERVATIONS AND NOTES					
Stream crosses two interconnect routes. NHD-mapped. Planted corn above both banks. Stream continues (open) in both directions.					

GENERAL ID					
Stream ID BR-STR-4D		Stream Name: Unnamed			
Lat: 46.6742969		Long: -102.6805641		Date: 11/20/2015	
Project Name: Brady Wind I			Client: Nextera		
Investigators: S. Ryan, C. Carver					
Flow Regime: Ephemeral		Water Type: NRPW		Photo ID:	
CHANNEL FEATURES					
Estimate Measurements			Stream Erosion		
Top of Bank Width (feet):		5	Stream Erosion:		Moderate
Top of bank Height (feet):			Artificial, Modified, or Channelized:		No
LB (feet):		0.5	Dam Present:		No
RB (feet):		0.5	Sinuosity:		Medium
Water Depth (in.):		N/A	Gradient:		Flat (0.5-100ft)
Water Width (feet):		N/A			
High Water Mark (feet):					
FLOW CHARACTERISTICS					
Water Present:		No water present, stream bed dry		Proportion of Reach Represented by Stream Morphology Types:	
Velocity:		N/A	Riffle (%): 0	Pool (%): 0	Run (%): 0
Turbidity:		N/A			
		Other:			
SUBSTRATE COMPONENTS					
Inorganic Substrate Components—Should add to 100%			Organic Substrate Components—Does not necessarily add to 100%		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Reach
Bedrock			Detritus	Sticks, wood, coarse plant materials (CPOM)	
Boulder	> 256mm (10")		Muck–Mud	Black, very fine grain organic	
Cobble	64–256mm (2.5"–10")		Marl	Grey, shell fragments	
Gravel	2–64mm (0.1"–2.5")				
Sand	0.06–2mm (gritty)				
Silt	0.004–0.06mm	100			
Clay	< 0.004mm (slick)				
WATERSHED FEATURES					
Predominant Surrounding Land Use:		<input type="checkbox"/> Forest <input checked="" type="checkbox"/> Field/Pasture <input type="checkbox"/> Agricultural <input type="checkbox"/> Commercial		<input type="checkbox"/> Industrial <input type="checkbox"/> Residential Other:	
Indicate the dominant type:		<input type="checkbox"/> Trees <input type="checkbox"/> Shrubs		<input type="checkbox"/> Grasses <input checked="" type="checkbox"/> Herbaceous	
Canopy Cover:		N/A			
Floodplain Width:		Wide (over 30 ft)	Wetland Present:	<input type="checkbox"/> Yes but fails soil test <input checked="" type="checkbox"/> No	Wetland ID:
AQUATIC VEGETATION					
Indicate the dominant type and record the dominant species present:					
<input type="checkbox"/> Rooted emergent		<input type="checkbox"/> Rooted submergent	<input type="checkbox"/> Rooted floating		<input type="checkbox"/> Free floating
<input type="checkbox"/> Floating algae		<input type="checkbox"/> Attached algae	<input checked="" type="checkbox"/> None		
MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OBSERVATIONS AND NOTES					
Flows northwest toward impounded pond.					

Appendix 4: Representative Photos

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Photo 1: View to the typical swale. This feature has no defined bed or banks and no scoured channel, and is therefore not a wetland.



Photo 2: View to the southwest of typical upland. An NHD flowline was mapped in this location, but this feature has no channel that exhibits wetland or other WoUS traits.



Photo 3: View to the south of Pond 2A. This feature likely collects several inches of water after seasonal precipitation events and should not be used for construction.



Photo 4: View to the northeast of Wetland 2A. This feature exhibited several patches of prairie cord grass and was saturated on aerial imagery. The wetland extends to the north and south of the survey area; however it is contained to the linear depressional area that runs north to south.



Photo 5: View to the northwest of Wetland 3A. This wetland is a small toe slope wetland located in an agricultural field. The wetland was observed to have problematic vegetation because the plant community had been altered. The wetland sample plot does meet the Hydric soil and wetland hydrology tests, and was therefore formally delineated and should be avoided for construction.



Photo 6: View to the northwest of Wetland 4A. This wetland is partially located in a soybean field and therefore exhibits problematic vegetation. The entire wetland is enclosed in a depression in an area that has been disturbed by agricultural practices.



Photo 7: View to the northeast of Wetland 5A. Approximately 20 percent of the wetland had open water at the time of sampling. This entire area mapped as wetland likely collects substantial amounts of water during the rainy season, and should not be used for construction.



Photo 8: View facing northwest of Wetland 6A. This wetland is located in the topographical low point of a swale that runs through a plowed canola field.



Photo 9: View facing North of Wetland 7A. The wetland was dominated by barnyard grass and was located in a linear depression. Wetland sampling determined that the area to the south of wetland was upland, and that the wetland was isolated to the north side of the transmission line survey corridor.



Photo 10: View to the northeast of Wetland 1B. This wetland is located in a roadside ditch. And continues outside the survey area on the other side of the road.



Photo 12: View to the southwest of Wetland 3B, with several inches of water in the center of the mapped wetland area.



Photo 13: View to the north of Wetland 5B. This wetland was dominated by reed canary grass, a FACW plant.



Photo 14: Wetland 6B. A slightly depressional wetland with a mix of native and non-native wetland plants.



Photo 15: Wetland 1C. A depressional wetland in a recently plowed field.



Photo 16: Wetland 3C. A depressional wetland in a recently plowed field. Cattails in the center-right of photo are obligate wetland plants.



Photo 17: Wetland 5C. A wetland adjacent to Pond 1C.



Photo 18: Wetland 7C. A depressional wetland in a recently plowed field. A distinct salt crust has formed on the surface of the soil which is a hydrology indicator.



Photo 19: Wetland 1C. A depressional wetland in a recently plowed field.



Photo 20: Stream 1C. A typical narrow ephemeral stream feature in an agricultural field. There is a distinct vegetation change from the fields and the channel.



Photo 21: Stream 2D. A typical narrow ephemeral stream feature in a grassland. The stream channel is overgrown with the surrounding vegetation.



Photo 23: Pond 1D. A typical pond likely used for agricultural purposes.

Appendix 5: USACE Nationwide Permits General and Regional Conditions

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Nationwide Permit General Conditions

Note:

To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of [33 CFR 330.1](#) through 330.6 apply to every NWP authorization. Note especially [33 CFR 330.5](#) relating to the modification, suspension, or revocation of any NWP authorization.

1. *Navigation.* (a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.
2. *Aquatic Life Movements.* No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species.
3. *Spawning Areas.* Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. *Migratory Bird Breeding Areas.* Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. *Shellfish Beds.* No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

6. *Suitable Material.* No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

7. *Water Supply Intakes.* No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. *Adverse Effects From Impoundments.* If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. *Management of Water Flows.* To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. *Fills Within 100-Year Floodplains.* The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. *Equipment.* Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. *Soil Erosion and Sediment Controls.* Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

13. *Removal of Temporary Fills.* Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. *Proper Maintenance.* Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. *Single and Complete Project.* The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. *Wild and Scenic Rivers.* No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

17. *Tribal Rights.* No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

18. *Endangered Species.* (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which “may affect” a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address ESA compliance for the NWP activity, or whether additional ESA consultation is necessary.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that might be affected by the proposed work or that utilize the designated critical habitat that might be affected by the proposed work. The district engineer will determine whether the proposed activity “may affect” or will have “no effect” to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or

critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have “no effect” on listed species or critical habitat, or until Section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWP.

(e) Authorization of an activity by a NWP does not authorize the “take” of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with “incidental take” provisions, etc.) from the U.S. FWS or the NMFS, The Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word “harm” in the definition of “take” means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide web pages at <http://www.fws.gov/> or <http://www.fws.gov/ipac> and <http://www.noaa.gov/fisheries.html> respectively.

19. *Migratory Birds and Bald and Golden Eagles.* The permittee is responsible for obtaining any “take” permits required under the U.S. Fish and Wildlife Service's regulations governing compliance with the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act. The permittee should contact the appropriate local office of the U.S. Fish and Wildlife Service to determine if such “take” permits are required for a particular activity.

20. *Historic Properties.* (a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address section 106 compliance for the NWP activity, or whether additional section 106 consultation is necessary.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register

of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see [33 CFR 330.4\(g\)](#)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of Section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties on which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

(d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see [36 CFR 800.3\(a\)](#)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that section 110k of the NHPA ([16 U.S.C. 470h-2\(k\)](#)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. *Discovery of Previously Unknown Remains and Artifacts.* If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect

the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. *Designated Critical Resource Waters.* Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWP 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWP 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 31, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

23. *Mitigation.* The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse effects of the proposed activity are minimal, and provides a project-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of [33 CFR part 332](#).

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in minimal adverse effects on the aquatic environment.

(2) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

(3) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of [33 CFR 332.4\(c\)\(2\)-\(14\)](#) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see [33 CFR 332.3\(k\)\(3\)](#)).

(4) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided.

(5) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream rehabilitation, enhancement, or preservation, to ensure that the activity results in minimal adverse effects on the aquatic environment.

(e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the restoration or establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to establish a riparian area

on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or establishing a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(g) Permittees may propose the use of mitigation banks, in-lieu fee programs, or separate permittee-responsible mitigation. For activities resulting in the loss of marine or estuarine resources, permittee-responsible compensatory mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

24. *Safety of Impoundment Structures.* To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. *Water Quality.* Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see [33 CFR 330.4\(c\)](#)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. *Coastal Zone Management.* In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see [33 CFR 330.4\(d\)](#)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. *Regional and Case-By-Case Conditions.* The activity must comply with any regional conditions that may have been added by the Division Engineer (see [33 CFR 330.4\(e\)](#)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its

section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. *Use of Multiple Nationwide Permits.* The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

29. *Transfer of Nationwide Permit Verifications.* If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

“When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.”

(Transferee)

(Date)

30. *Compliance Certification.* Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

(a) A statement that the authorized work was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

(b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by [33 CFR 332.3\(1\)\(3\)](#) to confirm that the permittee secured the appropriate number and resource type of credits; and

(c) The signature of the permittee certifying the completion of the work and mitigation.

31. *Pre-Construction Notification—(a) Timing.* Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction

notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 20 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see [33 CFR 330.4\(f\)](#)) and/or Section 106 of the National Historic Preservation (see [33 CFR 330.4\(g\)](#)) has been completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in [33 CFR 330.5\(d\)\(2\)](#).

(b) *Contents of Pre-Construction Notification:* The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed project;

(3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause, including the anticipated amount of loss of water of the United States expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for

compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(4) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

(5) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse effects are minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and

(7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

(c) *Form of Pre-Construction Notification:* The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

(d) *Agency Coordination:* (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

(2) For all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States, for NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300 linear feet of intermittent and ephemeral stream bed, and for all NWP 48 activities that require pre-construction notification, the district engineer will immediately provide (e.g., via email, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure the net adverse environmental effects to the aquatic environment of the proposed activity are minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at [33 CFR 330.5](#).

(3) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(4) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

**2012 Nationwide Permits
Regional Conditions
Omaha District
State of North Dakota**

The following Nationwide Permit regional conditions will be used in the State of North Dakota. Regional conditions are placed on Nationwide Permits to ensure projects result in less than minimal adverse impacts to the aquatic environment and to address local resources concerns.

Wetlands Classified as Peatlands – Revoked for Use

All Nationwide Permits, with the exception of 3, 5, 20, 32, 38 and 45, are revoked for use in peatlands in North Dakota.

Peatlands are saturated and inundated wetlands where conditions inhibit organic matter decomposition and allow for the accumulation of peat. Under cool, anaerobic, and acidic conditions, the rate of organic matter accumulation exceeds organic decay. Peatlands can be primarily classified into ombrotrophic bogs and minerotrophic fens; the latter subdivided into poor, moderate-rich, and extreme-rich fens, each with distinctive indicator species, community physiognomy, acidity, alkalinity, and base cation content.

Wetlands Classified as Peatlands – Pre-construction Notification Requirement

For Nationwide Permits 3, 5, 20, 32, 38, and 45 permittees must notify the Corps in accordance with General Condition 31 (Notification) prior to initiating any regulated activity impacting peatlands in North Dakota.

Waters Adjacent to Natural Springs – Pre-construction Notification Requirement

For all Nationwide Permits permittees must notify the Corps in accordance with General Condition No. 31 (Notification) for regulated activities located within 100 feet of the water source in natural spring areas in North Dakota. For purposes of this condition, a spring source is defined as any location where there is artesian flow emanating from a distinct point at any time during the growing season. Springs do not include seeps and other groundwater discharge areas where there is no distinct point source.

Missouri River, including Lake Sakakawea and Lake Oahe within the State of North Dakota – Pre-construction Notification Requirement

For all Nationwide Permits permittees must notify the Corps in accordance with General Condition No. 31 (Notification) prior to initiating any regulated activity in the Missouri River, including Lake Sakakawea and Lake Oahe, within the State of North Dakota.

Borrow Site Identification – All Nationwide Permits

The permittee is responsible for ensuring that the Corps is notified of the location of any borrow site that will be used in conjunction with the construction of the authorized activity so that the Corps may evaluate the site for potential impacts to aquatic resources, historic properties, and endangered species. For projects where there is another lead Federal agency, the permittee shall provide the Corps documentation indicating that the lead Federal agency has complied with the National Historic Preservation Act and Endangered Species Act for the borrow site. The permittee shall not initiate work at the borrow site in conjunction with the authorized activity until approval is received from the Corps.

Counter-sinking Culverts and Associated Riprap – All Nationwide Permits

That culverts and riprap proposed to be installed within waters of the United States listed as Class III or higher on the 1978 Stream Evaluation Map for the State of North Dakota shall be installed one foot below the natural streambed. The 1978 Stream Evaluation Map for the State of North Dakota can be accessed on the North Dakota Regulatory Office's website at: http://www.nwo.usace.army.mil/Portals/23/docs/regulatory/ND/gen/nd_streams_readable.pdf

REGIONAL CONDITIONS APPLICABLE TO SPECIFIC NATIONWIDE PERMITS

Nationwide Permit 7 – Outfall Structures and Associated Intake Structures and Nationwide Permit 12 – Utility Line Activities

Intake Structures - Intake screens with a maximum mesh opening of 1/4-inch must be provided, inspected annually, and maintained. Wire, Johnson-like, screens must have a maximum distance between wires of 1/8-inch. Water velocity at the intake screen shall not exceed ½-foot per second.

Pumping plant sound levels will not exceed 75 dB at 50 feet.

Intakes located in Lake Sakakawea, above river mile 1519, are subject to the following conditions:

- The intakes shall be floating.
- At the beginning of the pumping season, the intake shall be placed over water with a minimum depth of 20 feet.
- If the 20-foot depth is not attainable, then the intake shall be located over the deepest water available.
- If the water depth falls below six feet, the intake shall be moved to deeper water or the maximum intake velocity shall be limited to ¼ foot per second.

Intakes located in Lake Sakakawea, below river mile 1519, and in the Missouri River below Garrison Dam are subject to the following conditions:

- The intakes shall be submerged.
- At the beginning of the pumping season, the intake will be placed at least 20 vertical feet below the existing water level.
- The intake shall be elevated 2 to 4 feet off the bottom of the river or reservoir bed.
- If the 20-foot depth is not attainable, then the intake velocity shall be limited to ¼-foot per second with the intake placed at the maximum practicable attainable depth.

Nationwide Permit 11 – Temporary Recreational Structures - Boat Docks

- a. If future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.
- b. No boat dock shall be located on a sandbar or barren sand feature located in or along the banks of the Missouri River.
- c. The farthest point riverward on the dock located on the Missouri River proper shall not exceed a total length of 30 feet from the ordinary high water line found along the high bank out into the River. Information Note: Issuance of this permit does not supersede authorization required by the North Dakota State Engineer's Office.
- d. Any boat dock located on the Missouri River shall be anchored to the top of the high bank.
- e. Any boat dock located within an excavated bay or marina off the main river channel may be anchored to the bay or marina bottom with spuds.

Nationwide Permit 13 - Bank Stabilization

Permittees must notify the Corps in accordance with General Condition No. 31 (Notification) prior to initiating any regulated activity within the State of North Dakota.

Nationwide Permit 23 - Approved Categorical Exclusions

Permittees must notify the Corps in accordance with General Condition No. 31 (Notification) prior to initiating any regulated activity within the State of North Dakota. In addition to information required by General Condition 31, permittees must identify the approved categorical exclusion that applies and provide documentation that the project fits the categorical exclusion.

Nationwide Permit 27 - Aquatic Habitat Restoration, Establishment and Enhancement Activities

Permittees must notify the Corps in accordance with General Condition No. 31 (Notification) prior to initiating any regulated activity within the State of North Dakota.

GENERAL CONDITIONS (REGIONAL ADDITIONS)

General Condition 3- Spawning Areas

No regulated activity within waters of the United States listed as Class III or higher on the 1978 Stream Evaluation Map for the State of North Dakota or on the North Dakota Game and Fish Department's website as a North Dakota Public Fishing Water shall occur between 15 April and 1 June. No regulated activity within the Red River of the North shall occur between 15 April and 1 July. North Dakota Public Fishing Waters can be accessed at: <http://gf.nd.gov/fishing/where-to-fish>. The 1978 Stream Evaluation Map for the State of North Dakota can be accessed on the North Dakota Regulatory Office's website at: http://www.nwo.usace.army.mil/Portals/23/docs/regulatory/ND/gen/nd_streams_readable.pdf.

General Condition 6 – Suitable Material

Permittees are reminded that General Condition No. 6 prohibits the use of unsuitable material. In addition, organic debris, some building waste, and materials excessive in fines are not suitable material. Specific verbiage on prohibited materials can be accessed on the North Dakota Regulatory Office's website at: <http://www.nwo.usace.army.mil/Portals/23/docs/regulatory/ND/gen/prohibitionpnJuly2011.pdf>.

General Condition 9 - Management of Water Flows

Permittees are reminded that water flow management addressed in General Condition 9 is applicable to all aspects of a permitted project, including temporary features.

General Condition 31 – Pre-construction Notification

Prospective permittees should be aware that a **field delineation** may be required for applications where notification is required in accordance with General Condition 31 and/or mitigation may be required. The Corps 1987 Wetland Delineation Manual and applicable Regional Supplements to the Manual can be accessed on the North Dakota Regulatory Office's website at: <http://www.nwo.usace.army.mil/Missions/RegulatoryProgram/NorthDakota.aspx> .

Appendix 6: Best Management Practices

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Best Management Practices – Brady Wind Energy Center

<u>Reference Number</u>	<u>Measure</u>
<u>BMP-1</u>	Minimize clearing vegetation within the ROW, consistent with applicable federal, state, and local regulations.
<u>BMP-2</u>	Vegetation removed during clearing should be disposed of according to federal, state, and local regulations.
<u>BMP-3</u>	Any herbicides used during construction and operations and maintenance should be applied according to label instructions and any federal, state, and local regulations.
<u>BMP-4</u>	Restrict vehicular travel to the ROW and other established areas within the construction, access, or maintenance easement(s).
<u>BMP-5</u>	Roads not otherwise needed for maintenance and operations should be restored to preconstruction conditions. Restoration practices may include decompacting, recontouring, and re-seeding. Roads needed for maintenance and operations should be retained.
<u>BMP-6</u>	Avoid and/or minimize damage to drainage features and other improvements such as ditches, culverts, levees, tiles, and terraces; however, if these features or improvements are inadvertently damaged, they should be repaired and or restored.
<u>BMP-7</u>	Emergency and spill response equipment should be kept on hand during construction.
<u>BMP-8</u>	Restrict the refueling and maintenance of vehicles and the storage of fuels and hazardous chemicals within at least 100 feet from wetlands, surface waterbodies, and groundwater wells, or as otherwise required by federal, state, or local regulations.
<u>BMP-9</u>	Minimize compaction of soils and rutting through appropriate use of construction equipment (e.g., low ground pressure equipment and temporary equipment mats).
<u>BMP-10</u>	Provide sanitary toilets convenient to construction; these should be located greater than 100 feet from any stream or tributary or to any wetland. These facilities should be regularly serviced and maintained; waste disposal should be properly manifested. Employees should be notified of sanitation regulations and should be required to use sanitary facilities.
<u>BMP-11</u>	Identify environmentally sensitive vegetation (e.g., wetlands, protected plant species, riparian areas, and large contiguous tracts of native prairie) and avoid and/or minimize impacts to these areas.

<u>BMP-12</u>	Identify and implement measures to control and minimize the spread of non-native invasive species and noxious weeds.
<u>BMP-13</u>	Identify, avoid, and/or minimize adverse effects to wetlands and waterbodies. Do not place structure foundations within the Ordinary High Water Mark (OHWM) of Waters of the United States (wetlands or streams).
<u>BMP-14</u>	Establish streamside management zones within 50 feet of both sides of intermittent and perennial streams and along margins of bodies of open water where removal of low-lying vegetation is minimized.
<u>BMP-15</u>	Selectively apply herbicides within streamside management zones.
<u>BMP-16</u>	Construct access roads to minimize disruption of natural drainage patterns including perennial, intermittent, and ephemeral streams.
<u>BMP-17</u>	Locate spoil piles from foundation excavations and electrical collection line trenches outside of streamside management zones.
<u>BMP-18</u>	Dewatering should be conducted in a manner designed to prevent soil erosion (e.g., through discharge of water to vegetated areas and/or the use of flow control devices).
<u>BMP-19</u>	Design infrastructure to avoid adverse changes to the base flood elevation within the 100-year floodplain.
<u>BMP-20</u>	Minimize fill for access roads and structure foundations within 100-year floodplains to avoid adverse changes to the base flood elevation.
<u>BMP-21</u>	Excavated trenches that are to be backfilled should separate the upper 12 inches of topsoil from the rest of the excavated material. The topsoil should be used as the final backfill.
<u>BMP-22</u>	All permanent and temporary crossings of waterbodies should be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of aquatic species. The crossings would also be constructed to withstand expected high flows. The crossings would not restrict or impede the passage of normal or high flows. Permanent structure placement within a Water of the United States will require permitting from the US Army Corps of Engineers.
<u>BMP-23</u>	Where tree removal is necessary in the ROW, this removal should be accomplished at ground level leaving root wads in place to aid in the stabilization of soils.

<u>BMP-24</u>	Appropriate sediment and erosion controls should be used to prevent erosion and to minimize the release of sediment from the project area to Waters of the U.S. These sediment and erosion controls should be installed prior to any land disturbance associated with construction and should be regularly inspected and maintained in effective operating condition for the duration of the construction phase. Additional erosion and sediment control measures should be further addressed in a Stormwater Management Plan.
<u>BMP-25</u>	To the extent practicable, work within Waters of the U.S. should occur during periods of low or no flow.
<u>BMP-26</u>	The movement of crews and equipment should be limited to the project area or construction easement, including access routes.
<u>BMP-27</u>	Construction staging and laydown areas should be located and arranged in a manner to avoid trees and vegetation and to minimize visual impacts to the extent practicable.

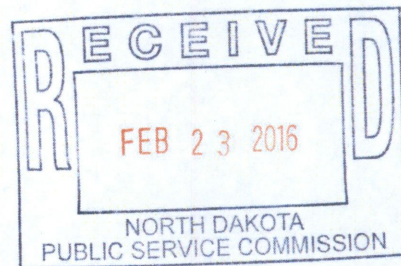
CROWLEY | FLECK PLLP
ATTORNEYS

Stephanie Dassinger
100 West Broadway, Suite 250
P.O. Box 2798
Bismarck, ND 58502-2798
701.223.6585
sdassinger@crowleyfleck.com

February 23, 2016

Hand Delivered

Mr. Darrell Nitschke
Executive Director
North Dakota Public Service Commission
600 E. Boulevard, Dept. 408
Bismarck, ND 58505-0480




Dear Mr. Nitschke:

In re: Brady Wind, LLC
230 kV Transmission Line
Stark County, North Dakota
PSC Case No. PU-15-797
Our File No. 35-218-026

Enclosed is a check in the amount of \$40,000.00 for the additional filing fee of the Brady Wind transmission line and NextEra Resources' letter documenting the supplemental fee.

Please call should you have any questions.

Very truly yours,


Stephanie Dassinger

bw
Enc.
cc: Zachary Pelham (via mail)
Jerry Lein

23 PU-15-797 Filed: 2/23/2016 Pages: 2
Updated investment estimate

BILLINGS BISMARCK BOZEMAN BUTTE CASPER CHEYENNE H

CROWLEYFLECK.COM

Brady Wind, LLC

Stephanie Dassinger, Crowley Fleck, PLLP



February 23, 2016

Darrell Nitschke
Executive Secretary
North Dakota Public Service Commission
600 E. Boulevard, Dept. 408
Bismarck, ND 58505-0480

Dear Mr. Nitschke:

Enclosed please find a check payable to the North Dakota Public Service Commission that serves as a supplemental application fee to the fee originally submitted for the Brady Wind, LLC Application for a Certificate of Corridor Compatibility and Route Permit.

We have updated our original cost estimate to include the proposed switchyard to be built in association with the transmission line. The cost associated with this switchyard was previously included in the fee calculation for the Brady Wind, LLC Application for a Certificate of Site Compatibility; however, it is more appropriately associated with the application for the transmission line. The estimated cost of the Brady Wind, LLC transmission line is \$20.5 million. Pursuant to NDCC 49-22-22, the application fee for a certificate of corridor compatibility and route permit is \$5,000 for each \$1 million of investment in the facility, but not more than \$100,000. Brady Wind, LLC originally provided \$60,000, and now provides an additional \$40,000 to complete the \$100,000 filing fee. Please feel free to contact me with any questions.

Regards,

A handwritten signature in black ink, appearing to read "MH", with a long horizontal flourish extending to the right.

Melissa Hochmuth
Project Director

Cc: Jerry Lein, North Dakota Public Service Commission

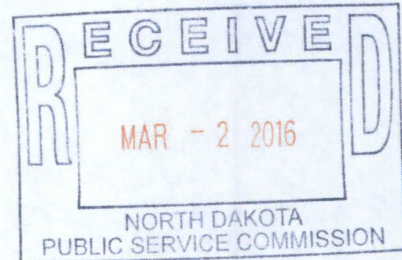
CROWLEY | FLECK PLLP
ATTORNEYS

Stephanie Dassinger
100 West Broadway, Suite 250
P.O. Box 2798
Bismarck, ND 58502-2798
701.223.6585
sdassinger@crowleyfleck.com

March 2, 2016

Hand Delivered

Mr. Darrell Nitschke
Executive Director
North Dakota Public Service Commission
600 E. Boulevard, Dept. 408
Bismarck, ND 58505-0480



Dear Mr. Nitschke:

In re: Brady Wind, LLC
230 kV Transmission Line
Stark County, North Dakota
PSC Case No. PU-15-797
Our File No. 35-218-026

Enclosed please find for filing 11 copies of SHPO's concurrence letter for the Brady transmission line archeology report for the Brady Wind Transmission Line matter.

Please call should you have any questions.

Very truly yours,

A handwritten signature in blue ink that reads "Steph Dassinger".

Stephanie Dassinger

bw
Enc.

cc: Zachary Pelham (via mail)
Jerry Lein
Matthew T. Collins (via mail)

40

PU-15-797 Filed: 3/2/2016
SHPO concurrence letter

Pages: 3

BILLINGS BISMARCK BOZEMAN BUTTE CASPER CHEYENI

CROWLEYFLECK.COM

Brady Wind, LLC

Stephanie Dassinger, Crowley Fleck, PLLP



**STATE
HISTORICAL
SOCIETY
OF NORTH DAKOTA**

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Governor of North Dakota

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Tourism Division

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Mark Zimmerman
Director
Parks and Recreation
Department

Grant Levi
Director
Department of Transportation

Claudia J. Berg
Director

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of Museums since 1986

March 2, 2016

Adam C. Holven
Senior Archaeologist/Cultural Resources Project Manager
Tetra Tech
2001 Killebrew Drive
Suite 141
Bloomington, MN 55425

ND SHPO Ref: 16-0735 PSC Case No. PU-15-797 Next Era Energy Resources, LLC/Brady Wind, LLC "Class III Cultural Resource Inventory Brady Transmission Line, Stark County, North Dakota"

Dear Mr. Holven,

We reviewed ND SHPO Ref: 16-0735 PSC Case No. PU-15-797 Next Era Energy Resources, LLC/Brady Wind, LLC "Class III Cultural Resource Inventory Brady Transmission Line, Stark County, North Dakota," and find the report acceptable.

We agree with your Table 7: Summary of Recommendations for Avoidance and shovel probing for Pole 42, (page 35 copy enclosed).

Thank you for the opportunity to review this project to date. We look forward to the final report on remaining testing. Please include the ND SHPO reference number listed above in any further correspondence for this specific project. If you have any questions, please contact either Paul Picha at (701) 328-3574 or ppicha@nd.gov or Susan Quinnell at (701) 328-3576 or squinnell@nd.gov.

Sincerely,

Claudia J. Berg
Director, State Historical Society of North Dakota

Table 7: Summary of Recommendations for Avoidance

Site No.	Map Reference & Location	Resolutions	Eligibility Determination and Summary
32SK81	Figure 3B and Figure 4-A12 West of Pole 21	Avoid impacting the artifact scatter and erect a snow fence along the site boundary	Since no formal evaluation of significance has been conducted, it is Tetra Tech's opinion that the site should be considered undetermined for the NRHP at this time. Avoidance is recommended for this site.
32SK1158	Figure 4 - A10 Between Poles 39 and 40	Avoid impacting the farmstead and erect a snow fence along the site boundary	Since no formal evaluation of significance has been conducted, it is Tetra Tech's opinion that the site should be considered undetermined for the NRHP at this time. Avoidance is recommended for this site.
32SK1163	Figure 4 - A9 Pole 51	Avoid impacting the stone pile and erect a snow fence along the 50 ft (15.2 m) avoidance buffer	Since no formal evaluation of significance has been conducted, it is Tetra Tech's opinion that the site should be considered undetermined for the NRHP at this time. Avoidance is recommended for this site.
32SK1164	Figure 4 - A10 Northwest of Pole 42	Avoid impacting the cairn and erect a snow fence along the 100 ft (30.5 m) avoidance buffer	Since no formal evaluation of significance has been conducted, it is Tetra Tech's opinion that the site should be considered undetermined for the NRHP at this time. Avoidance is recommended for this site.
32SK427	Figure 4 - A10 Pole 42	Shovel probing at the findspot and at 5 to 10 m (16.4 to 32.8 ft) radials	Since the site lead is located in the construction impact area for Pole 42, shovel probing is recommended to determine the presence/absence of subsurface archaeological deposits before an eligibility statement and recommendation of avoidance is determined.
32SK1166	Figure 4 - A10 Between Poles 43 and 44	Avoid impacting the stone pile and erect a snow fence along the 50 ft (15.2 m) avoidance buffer	Since no formal evaluation of significance has been conducted, it is Tetra Tech's opinion that the site should be considered undetermined for the NRHP at this time. Avoidance is recommended for this site.

STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION

Brady Wind, LLC
230 kV Transmission Line – Stark County
Siting Application

Case No. PU-15-797

CERTIFICATION RELATING TO ORDER PROVISIONS
TRANSMISSION FACILITY SITING

I am John DiDonato, a representative of Brady Wind, LLC ("Company") with authority to bind the Company to requirements to be set forth by the Commission in its Order and I certify the following:

1. Company understands and agrees that any Certificate of Corridor Compatibility or Route Permit issued by the Commission will be subject to the conditions and criteria set forth in Chapter 49-22 of the North Dakota Century Code and Chapter 69-06-08 of the North Dakota Administrative Code, and that Company shall be responsible for compliance with this order and conditions and criteria set forth in the applicable laws and rules.
2. Company agrees to comply with the rules and regulations of all other agencies having jurisdiction over any phase of the transmission facility including all city, township, and county zoning regulations.
3. Company understands and agrees that it shall obtain all other necessary licenses and permits, and shall provide copies of all licenses and permits to the Commission prior to construction activity associated with the transmission facility that requires said license or permit.
4. Company understands and agrees that any Certificate of Corridor Compatibility or Route Permit issued by the Commission is subject to suspension or revocation and may, in an appropriate and proper case, be suspended or revoked for failure to comply with the Commission's order, the conditions and criteria of the certificate or subsequent modification, or failure to comply with the applicable statutes, rules, regulations, standards, and permits of other state or federal agencies.
5. Company agrees to maintain records that will demonstrate that it has complied with the requirements of the Commission's order issuing a Certificate of Corridor Compatibility or Route Permit, and that it will preserve these records for Commission inspection at any reasonable time upon reasonable notice.
6. Company understands and agrees that the authorizations granted by any Certificate of Corridor Compatibility or Route Permit issued by the Commission for

the transmission facility are subject to modification by order of the Commission if deemed necessary to protect further the public or the environment.

Construction:

7. Company agrees to hold a preconstruction conference prior to commencement of any construction, which must include a Company representative, its construction supervisor, and a representative of Commission Staff, to ensure that Company fully understands the conditions set forth in the Commission's order.
8. Company understands and agrees that all cultural resource mitigation plans must be submitted to the North Dakota State Historic Preservation Office and approved prior to the start of any fieldwork and construction activity in the affected area.
9. Company understands and agrees that topsoil removal will begin when the Commission's third-party construction inspector is present at the Project site to observe that topsoil is properly removed and kept segregated from subsoil until replacement occurs. Company shall establish the date and time for the Commission's third-party construction inspector's topsoil removal oversight in the preconstruction conference.
10. Company agrees to inform the Commission and the Commission's third-party construction inspector of its intent to start construction on the transmission facility prior to the commencement of construction. Once construction has started, Company shall keep the Commission and the Commission's third-party construction inspector updated on construction activities on a monthly basis.
11. Company understands and agrees that all topsoil, up to 12 inches, or topsoil to the depth of cultivation, whichever is greater, over and along trench areas where cuts will be made, must be carefully stripped and segregated from the subsoil. Any area on which excavated subsoil will be placed must also be stripped of topsoil. The stripped topsoil must not be stockpiled in natural drainages, and must be protected from water erosion. Care must be taken to protect topsoil from unnecessary compaction by heavy machinery. Unless otherwise approved by the Commission, topsoil must be removed before topsoil freezes in the late fall/ early winter to the point that frost inhibits proper soil segregation. After backfilling with subsoil is completed, any excess subsoil must be placed over the excavation area, blending the grade into existing topography. Topsoil must be replaced over areas from which it was stripped only after the subsoil is replaced.
12. Company understands and agrees that all buried facility crossings of graded roads must be bored unless the responsible governing agency specifically permits Company to open cut the road.

13. Company understands and agrees that staging areas or equipment shall not be located on land owned by a person other than Company unless otherwise negotiated with landowners.
14. Company understands and agrees that if any cultural resource, paleontological site, archeological site, historical site, or grave site is discovered during construction, it must be marked, preserved and protected from further disturbances until a professional examination can be made and a report of such examination is filed with the Commission and the State Historical Society.
15. Company understands and agrees that construction must be suspended when weather conditions are such that construction activities will cause irreparable damage to roads or land, unless adequate protection measures are taken by Company.
16. Company understands and agrees that the Commission has authority to stop Project construction activities in the event of a probable violation of the siting laws, siting rules, or applicable Commission Orders if, in the opinion of the Commission, construction activities are likely to result in irreparable or significant harm.

Restoration and Maintenance:

17. Company understands and agrees that it shall, as soon as practicable upon the completion of the construction of the transmission facility, restore the area affected by the activities to as near as is practicable to the condition as it existed prior to the beginning of construction.
18. Company understands and agrees that all pre-existing township and county roads and lanes used during construction must be repaired or restored to a condition that is equal to or better than the condition prior to the construction of the transmission facility and that will accommodate their previous use, and that areas used as temporary roads or working areas during construction must be restored to their original condition.
19. Company understands and agrees that reclamation, fertilization, and reseeding is to be done according to the Natural Resources Conservation Service recommendations, unless otherwise specified by the landowner and approved by the Commission.
20. Company will fulfil its obligation for reclamation and maintenance of the approved transmission facility right-of-way, transmission facility, and associated facilities continuing throughout the life of the transmission facility.

21. Company will repair all fences and gates removed or damaged during all phases of construction and operation of the transmission facility.
22. Company will repair or replace all drainage tile broken or damaged as a result of construction and operation of the transmission facility.
23. Company agrees to comply with the Tree and Shrub Mitigation Specifications, attached.
24. Company understands and agrees that it shall work with landowners and residents to mitigate any increase in television and residential radio interference that results from the construction of the transmission facility.
25. Company understands and agrees that it shall remove all waste that is a product of construction and operation, restoration, and maintenance of the site, and properly dispose of it on a regular basis.
26. Company understands and agrees that it shall provide any necessary safety measures for traffic control or to restrict public access to the transmission facility.

Communication with Landowners and PSC:

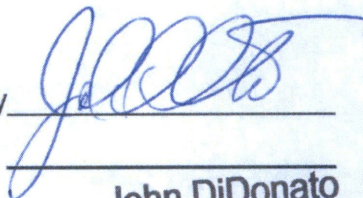
27. Company understands and agrees that, prior to beginning construction of the transmission facility at a location, it shall send a letter to each landowner with whom an easement was executed for that location specifying the name and phone number of the company representative who is responsible for receiving and resolving landowner issues for the life of the easement.
28. Company understands and agrees that it will file with the commission the name and phone number of the current company representative who is responsible for receiving and resolving landowner issues for the transmission facility. The company will update this information whenever there is a change to the current company representative for the life of all easements for the transmission facility.
29. Upon request, Company agrees to provide the Commission with engineering design drawings of the transmission facility prior to construction.
30. Company understands and agrees that it shall advise the Commission as soon as reasonably possible of any extraordinary events which take place at the site of the transmission facility, including injuries to any person.
31. Company agrees to report to the Commission, as soon as reasonably possible, the presence in the permit area of any critical habitat or threatened or endangered

species of which Company becomes aware and which were not previously reported to the Commission.

32. Company understands and agrees that it shall inform the Commission in writing of any plans to modify the transmission facility or of any plans to modify the site plan for the transmission facility.
33. Company agrees to provide the Commission with both an electronic and a paper copy of the corridor approved by the Commission and the facility design specifications for the construction of the transmission facility showing the location of the transmission facility as built, and will provide this information within 3 months of the completion of the construction. Company also agrees to provide an electronic version of the corridor approved by the Commission and the facility design specifications for the construction of the transmission facility showing the location of the transmission facility as built that can be imported into ESRI GIS mapping software within 3 months of the completion of the construction. This electronic map data must be referenced to the North Dakota coordinate system of 1983, North and/or South zones US Survey feet (NAD 83) UTM Zone 13N or 14N feet (NAD 83), or geographic coordinate system (WGS 84) feet. The vertical data must be in the appropriate vertical datum for the coordinate system used. All submissions must specify the datum in which the data was developed.
34. Company shall notify the Commission as soon as reasonably possible if any damage, as defined by North Dakota Century Code Chapter 49-23, occurs to underground facilities during construction conducted under the certificate or permit issued in this proceeding. In the event of any damage to underground facilities, Company shall suspend construction in the vicinity of the damage until compliance with One-Call Excavation Notice System requirements under North Dakota Century Code Chapter 49-23 has been determined.

Dated this 4th day of March, 2016.

BRADY WIND, LLC

By 
Its John DiDonato
Vice President

STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION

Brady Wind, LLC
Brady Wind Energy Center – Stark County
Siting Application

Case No. PU-15-690

Brady Wind, LLC
230 kV Transmission Line – Stark County
Siting Application

Case No. PU-15-797

Tree and Shrub Mitigation Specifications

Inventory

1. Trees and shrubs anticipated to be cleared, including those that are considered invasive species or noxious weeds (e.g., *Caragana arborescens*, *Elaeagnus angustifolia*, *Rhamnus cathartica*, *Tamarix chinensis*, *T. parviflora*, *T. ramosissima*, *Ulmus pumila*), must be inventoried before cutting. The inventory must record the location, number, and species of trees and shrubs.
2. In windbreaks, shelterbelts and other planted areas, trees or shrubs anticipated to be cleared, regardless of size, must be inventoried for replacement.
3. In native growth areas, trees anticipated to be cleared that are 1 inch diameter at breast height (dbh) or greater must be inventoried for replacement.
4. In native growth areas, shrubs anticipated to be cleared in the permanent right-of-way must be inventoried for replacement.
5. In native growth areas outside the permanent right-of-way, shrubs must be cut flush with the surface of the ground, taking care to leave the naturally occurring seed bank and root stock intact. If soil disturbance is necessary, the native topsoil must be preserved and replaced after construction. Shrubs must be allowed to regenerate naturally where native topsoil is preserved and replaced. Where native topsoil is not preserved and replaced, shrubs anticipated to be cleared must be inventoried for replacement.

6. In native growth areas, trees and shrubs may be inventoried by actual count or by a sampling method that will properly represent the woody vegetation population. A sampling plan developed by the company, filed with the North Dakota Public Service Commission (Commission) and approved prior to the start of construction must define the sampling method to be used for trees, for tall shrubs and for low shrubs. The data from the sample plots must be extrapolated to the total acreage of the wooded area to be cleared to determine the species and quantity of trees and shrubs to be replaced.

Clearing for Construction

7. Trees and shrubs must be selectively cleared, leaving mature trees and shrubs intact where practical.
8. The maximum width of clear cuts through windbreaks, shelterbelts and all other wooded areas is 50 feet, unless otherwise approved by the Commission.
9. If the area of trees or shrubs actually cleared differs from the area inventoried, the difference in number of trees and shrubs to be replaced must be noted on the inventory.

Replacement

10. Prior to tree and shrub replacement, documentation identifying the number and variety of trees and shrubs removed, as well as the mitigation plan for the proposed number, variety, type, location and date of replacement plantings, must be filed with the Commission for approval.
11. Two 2-year-old saplings must be planted for every one tree removed. Two shrubs (stem cuttings) must be planted for every one shrub removed.
12. Except in the case of invasive or noxious species, trees and shrubs must be replaced by the same species or similar species, suitable for North Dakota growing conditions as recommended by the North Dakota Forest Service.

Invasive or noxious species must be replaced by similar non-invasive or non-noxious species suitable for North Dakota growing conditions as recommended by the North Dakota Forest Service.

13. Tree and shrub replacement must not be conducted within a 20 to 30 foot wide path over the pipeline to facilitate visual inspections of the right-of-way in accordance with U.S. Department of Transportation safety regulations.
14. Landowners must be given the option of having replacement trees and shrubs planted on the landowner's property, either on or off the right-of-way. The landowner must also be given the opportunity to waive those options in writing in order to have replacement trees and shrubs planted off the landowner's property.
15. At the conclusion of the project, documentation identifying the actual number, variety, type, location and date of the replacement plantings must be filed with the Commission.
16. Tree and shrub replacements must be inspected annually, in September, for three years. The first annual inspection must be at least one year from the anniversary date of the original plantings. A report of each annual inspection must be submitted to the Commission by October 1 of each year, documenting the condition of plantings and any woodlands work completed as of September of each year. If after the third annual report the survival rate is less than 75%, the Commission may order additional planting(s).